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OFFICIAL GAZETTE

UNITED STATES PATENT OFFICE

VOL. 119

NOV. - DEC.

1905

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OFFICIAL GAZETTE

OF THE

UNITED STATES PATENT OFFICE.

VOLUME CXIX

NOVEMBER 7 TO DECEMBER 26, INCLUSIVE,

1905.

WASHINGTON:
GOVERNMENT PRINTING OFFICE
1906.

CONTENTS.

ERRATA FOR VOLUME CXIX OF THE OFFICIAL GAZETTE.

ANNOUNCEMENTS—VOLUME CXIX.

DISCLAIMERS—VOLUME CXIX.

TEXT OF THE OFFICIAL GAZETTE, NOVEMBER 7 TO DECEMBER 26, 1905.

INDEX TO THE DECISIONS OF THE COMMISSIONER OF PATENTS AND OF THE UNITED STATES COURTS IN PATENT CASES.

DIGEST OF DECISIONS OF THE COMMISSIONER OF PATENTS AND OF THE UNITED STATES COURTS IN PATENT CASES.

INDEX OF PATENTS AND PATENTEES FOR THE MONTHS OF NOVEMBER AND DECEMBER, 1905.

ERRATA.

302,622, page 46, in heading, assignment, name of assignee, for "American Break Shoe and Foundry Company" read *American Brake Shoe & Foundry Company*.

303,654, page 55, seventh claim, line 9, for the word "positive" read *positively*.

304,286, page 426, sixth claim, line 5, for the clause "a seat-spring supported on said arch" read *a seat spring-supported on said arch*.

305,023, page 752, in heading, assignment, before residence of assignee insert *and one-fourth to Louise J. Ward*.

305,195, page 823, first claim, lines 2 and 3, second claim, lines 2 and 3, third claim, lines 2 and 3, fourth claim, lines 2 and 3, fifth claim, lines 2 and 3, sixth claim, lines 2 and 3, seventh claim, lines 2 and 3, eighth claim, lines 2 and 3, ninth claim, line 3, tenth claim, line 3, eleventh claim, line 1, twelfth claim, line 1, thirteenth claim, line 1, fourteenth claim, lines 1 and 4, fifteenth claim, lines 1, 6, and 7, sixteenth claim, lines 1 and 6, and seventeenth claim, lines 1, 3, and 6, for "presser" read *pressor*.

305,196, page 823, in heading, title of invention, for "Fluid-Presser" read *Fluid-Pressor;* first claim, lines 2 and 4, second claim, lines 2 and 6, and page 824, third claim, lines 2 and 7, fourth claim, line 1, and fifth claim, line 1, for "presser" read *pressor*.

305,197, page 824, in heading, title of invention, for "Air-Presser" read *Air-Pressor;* first claim, lines 1, 3, and 4, second claim, lines 1, 2, 3, 4, and 6, and third claim, lines 1, 2, and 4, for "presser" read *pressor*.

305,198, page 824, in heading, title of invention, for "Air-Presser" read *Air-Pressor;* first claim, lines 1, 3, and 6, second claim, lines 1 and 7, third claim, lines 1 and 5, fourth claim, lines 1 and 8, fifth claim, lines 1 and 3, sixth claim, lines 1, 3, and 5, and seventh claim, lines 1, 3, 5, and 7, for "presser" read *pressor*.

305,202, page 871, in heading, assignment, name of assignee, for "The Firm of W. C. Heraeus" read *The Firm of W. C. Heraeus*.

305,918, page 1161, in heading, name of patentee, for "Thilo Kroeber" read *Thilo Kröber*.

306,640, page 1497, in heading, assignment, for "assignor of one-third to William J. Gallagher" read *assignor of three-fourths to William J. Gallagher*.

307,406, page 1873, in heading, assignment, name of assignee, for "Ivins, Dietz and Metzger Company" read *Ivins, Dietz and Metzger Company*.

308,065, page 2243, ninth claim, line 2, and tenth claim, line 2, strike out the hyphen between the words "collar" and "carrying."

308,442, page 2413, in heading, assignment, for "assignors" read *said Ferguson assignor*.

308,612, page 2486, in heading, after residence of patentee insert *assignor to The W. G. Browne Manufacturing Company, Kingston, N. Y., a corporation of New York*.

47,523, (Registered Trade-Marks,) page 334, in heading, name of registrant, for "The Goldsmith Joseph Feiss Co." read *The Goldsmith, Joseph, Feiss Co.*

ANNOUNCEMENTS—VOL. CXIX.

Page.

AMENDMENTS—
Rule 73 1590
APPLICATIONS—
Condition of pending 2, 344, 656, 968, 1264, 1590, 1928, 2240
When complete 2239
ATTORNEYS—
Order—Disbarring Will Downs 1
John A. Harris 655
Wayland Knowlton 1
James A. Martindill 343
Robert McKinstry 343
Charles H. Minshall 655
Robert C. Taylor 967
Orestes B. Wright 967
CORRESPONDENCE WITH THE PATENT OFFICE 1
FOREIGN PATENTS—
Rule 29 ..... 1263, 1928, 2240
INDEXES TO PERIODICALS 343
MAIL-MATTER—
Regulations relating thereto 1589
PHOTOGRAPHIC COPIES OF DRAWINGS 1927
PRINTED COPIES OF PATENTS, PRICE OF 1, 343, 656, 968, 1264, 1589
TRADE-MARK RULES—
Amendment of 966, 967
TRADE-MARKS, REGISTRATION APPLIED FOR—
Publication of 2, 344, 967, 1263, 1589, 1927, 2239

DISCLAIMER.

Page.

Matthew S. Eylar 655

OFFICIAL GAZETTE

OF THE

UNITED STATES PATENT OFFICE.

NOVEMBER—DECEMBER, 1905.

Patents Nos. 803,526 to 804,196.

THE OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 119—No. 1. TUESDAY, NOVEMBER 7, 1905. PRICE—$5 per year.

CONTENTS.

	Page.
ISSUE OF NOVEMBER 7, 1905	1
ATTORNEYS	1
PRINTED COPIES OF PATENTS	1
CORRESPONDENCE	1
APPLICATIONS UNDER EXAMINATION	2
TRADE-MARKS	2
PATENTS GRANTED	3
REISSUES	207
DESIGNS	304
TRADE-MARKS—REGISTRATION APPLIED FOR	309
TRADE-MARKS—REGISTERED	329
LABELS	336
PRINTS	336
COMMISSIONER'S DECISIONS—	
Newell v. Rose	337
Ex parte Read	337
Struble v. Young	338
Ex parte Gauntlet, Benoit, and Nicaut	338
Royce v. Kempshall	338
Votey v. Gally	339
Ex parte American Separator Company	339
Ex parte Beckett	340
Ex parte Listman Mill Company	340
The Robert Smith Ale Brewing Company v. Bradleston & Woers	341

ISSUE OF NOVEMBER 7, 1905.

Patents	661—No. 803,526 to No. 804,196,	inclusive.
Designs	19—No. 37,640 to No. 37,658,	inclusive.
Trade-Marks	144—No. 47,410 to No. 47,553,	inclusive.
Labels	21—No. 12,445 to No. 12,465,	inclusive.
Prints	10—No. 1,472 to No. 1,481,	inclusive.
Reissues	11—No. 12,395 to No. 12,405,	inclusive.
Total issue	866	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	....	Nevada	1	....
Alaska Territory	....	....	New Hampshire	2	1
Arizona Territory	....	....	New Jersey	23	4
Arkansas	....	....	New Mexico Ter'y	....	1
California	26	3	New York	112	23
Colorado	7	....	North Carolina	2	....
Connecticut	17	3	North Dakota	1	....
Delaware	....	....	Ohio	40	11
District of Columbia	3	....	Oklahoma Terit'y	1	....
Florida	5	5	Oregon	1	....
Georgia	6	4	Pennsylvania	48	15
Hawaii Territory	....	....	Porto Rico	....	....
Idaho	....	....	Rhode Island	6	3
Illinois	56	13	South Carolina	....	....
Indian Territory	2	....	South Dakota	2	....
Indiana	15	3	Tennessee	3	3
Iowa	20	3	Texas	6	....
Kansas	6	....	Utah	2	1
Kentucky	4	6	Vermont	4	1
Louisiana	7	4	Virginia	5	3
Maine	1	3	Washington	6	3
Maryland	1	2	West Virginia	5	....
Massachusetts	46	10	Wisconsin	20	4
Michigan	23	1	Wyoming	....	....
Minnesota	12	6	U. S. Army	....	....
Mississippi	1	2	U. S. Navy	1	....
Missouri	20	4			
Montana	1	1	Total to citizens of the United States	555	161
Nebraska	4	1			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	1	....	Netherlands	3	....
Austria-Hungary	4	....	Newfoundland	....	....
Belgium	2	....	New South Wales	1	....
Brazil	....	....	New Zealand	2	....
British West Indies	....	....	Norway	....	....
Canada	8	....	Persia	....	....
Cape Colony	....	....	Queensland	....	....
Chile	....	....	Roumania	....	....
China	....	....	Russia	....	....
Costa Rica	....	....	San Salvador	....	....
Cuba	....	....	Scotland	....	....
Denmark	1	....	South Africa	....	....
Ecuador	....	....	Spain	....	....
England	27	....	Sweden	3	....
France	11	....	Switzerland	2	....
Germany	21	....	Transvaal, South Africa	....	....
India	....	....	Victoria	....	....
Ireland	3	....	Western Australia	....	....
Italy	1	....			
Japan	....	....	Total to citizens of foreign countries	86	....
Java	....	....			
Mexico	....	....			

Attorneys.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 3, 1905.

This Office has been advised by the Secretary of the Interior of the disbarment of the following attorneys from practice before the Department or any Bureau thereof: Will Downs, Alma, Nebr., September 15, 1905; Wayland Knowlton, Belfast, Me., October 27, 1905.

C. M. IRELAN,
Chief Clerk.

Printed Copies of Patents.

A printed copy of the complete specification and drawings of any patent published herein can be obtained for five cents.

Correspondence.

1. Communications to the Patent Office must be addressed to the Commissioner of Patents.

2. A double correspondence with the inventor and an assignee, or with a principal and his attorney, or with two attorneys cannot generally be allowed.

3. The assignee of the entire interest of an invention is entitled to hold the correspondence with the Office.

4. Letters by the Office which are unwilling in official propriety will be expunged from the files. Communications to the Office in violation of the requirements of decorum and courtesy will not be responded to or will be returned.

5. Separate letters must be written about each subject for record, and all letters for patents, caveats, trade-marks, appeals, or other distinct subjects of correspondence.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business October 31, 1905.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
	Under one month.			
362	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Oct. 18	Sept. 19	338
307	V. Fine Arts, Bookbinding, Harvesters, Jewelry, and Music.	Oct. 17	Sept. 1	290
276	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Oct. 17	Aug. 21	471
281	I. Tillage, etc., Fences, and Railway Draft Appliances.	Oct. 16	Sept. 13	224
254	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Oct. 16	Sept. 9	369
255	XVII. Linotyping, Printing, Matrix-Making.	Oct. 14	July 11	372
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Oct. 13	Sept. 6	303
178	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Oct. 13	Sept. 5	303
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Oct. 12	July 13	513
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Oct. 10	Aug. 21	213
142	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Oct. 10	July 1	630
218	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Oct. 4	Sept. 8	314
167	XXIX. Coopering, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools.	Oct. 4	Aug. 15	309
222	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Oct. 2	Aug. 15	304
	Between one and two months.			
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Sept. 27	Aug. 30	413
295	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Sept. 27	Aug. 12	276
282	X. Carriages and Wagons	Sept. 27	July 26	698
269	IV. Bridges, Conveyors, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Sept. 25	Sept. 14	404
179	XVI. Telegraphy and Telephony	Sept. 25	Aug. 16	252
225	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Sept. 25	Aug. 4	326
297	XVIII. Steam-Engineering, etc	Sept. 21	Aug. 11	404
279	XXIII. Accounting, Coin-Handling, Horology, Measurers, Registers, Optics, Signals, Time Occupation Illustrative.	Sept. 6	Aug. 9	245
197	XIX. Baths, Chairs, Furniture, Stoves and Table Articles, Stove Furniture.	Sept. 6	July 22	462

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
229	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Sept. 5	June 15	883
	Between two and three months.			
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, Sewerage, and Water Distribution.	Aug. 19	May 15	944
307	XIV. Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Metal Personal Wear, Making, Nut and Bolt Locks, Sheet-Metal Ware, Making, Tools, Wire-Working.	Aug. 16	Aug. 3	313
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufacturing, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Aug. 16	July 10	533
184	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Aug. 15	July 3	722
220	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Aug. 10	Aug. 3	542
276	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Aug. 2	July 13	520
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Aug. 2	July 3	510
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Aug. 1	May 25	656
312	VII. Velocipedes, Clutches, Fire-Escapes, Games and Toys, Ladders, Mechanical Motors, and Paper Manufactures.	Aug. 1	May 15	676
	Between three and four months.			
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	July 18	Apr. 3	705
113	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	July 6	June 6	670
215	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 3	July 20	551
123	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing-Machines.	July 3	May 8	577
262	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	July 1	May 26	597

Total number of applications awaiting action 13,294

Room No.	Trade-Marks, Designs, Labels and Prints.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
159	*Between one and two months.*			
	Trade-Marks	Sept. 28	Aug. 10	2704
	Under one month.			
	Designs	Oct. 18	Oct. 12	45
	Labels and Prints	Oct. 27	Oct. 27	20

Trade-Marks.

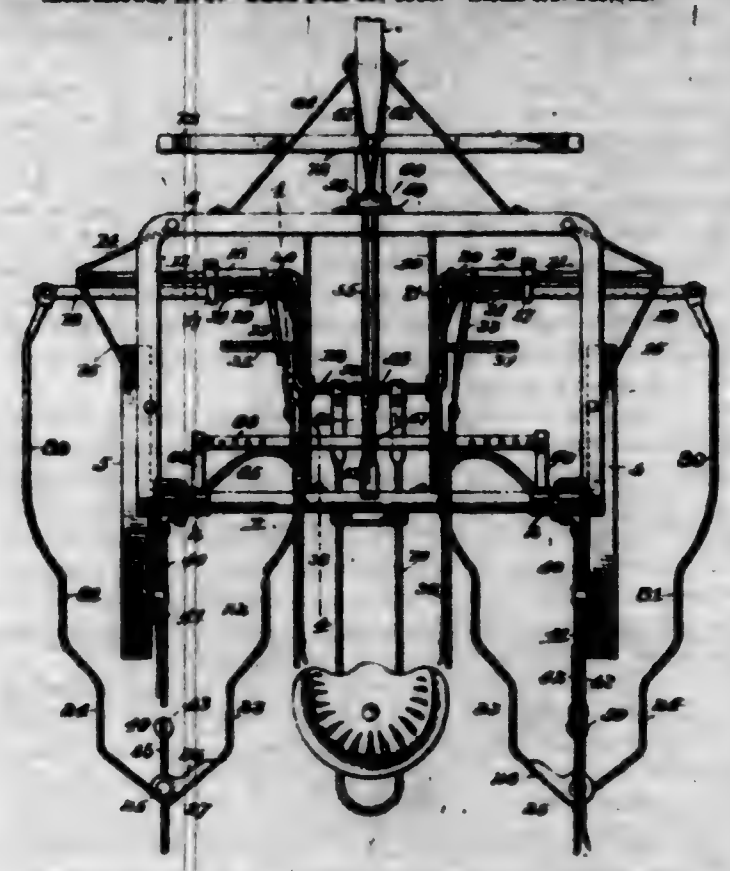
The publication of trade-marks under the act of February 20, 1905, in the OFFICIAL GAZETTE, commenced May 2, 1905, and will appear in each weekly number of the GAZETTE thereafter.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment therefor.

PATENTS

GRANTED NOVEMBER 7, 1905.

803,536. AGRICULTURAL IMPLEMENT. SAMUEL L. ALLEN, Moorestown, N. J. Filed Feb. 13, 1905. Serial No. 245,841.



Claim.—1. In an agricultural implement, substantially triangular tool-carrying frames, tools carried by two sides of said frame, said sides being pivoted at their apices and levers having connection with one of said sides of each frame for varying the widths of said frames during the operation of the machine.

2. In an agricultural implement, a main supporting-frame, a tool-carrying frame comprising two sections hinged together at one end, means for supporting the other ends of said frames on the main frame, and a lever having connection with said frame for increasing or diminishing the width of each tool-carrying frame during the operation of the machine.

3. In an agricultural implement, a main frame adapted to carry the supporting-wheels, tool-carrying frames comprising side bars hinged together at one end and surrounding the supporting-wheels, means for supporting the front ends of each tool-frame on the main frame, and levers connected with one of said bars of each frame for increasing or diminishing the width of the said tool-carrying frames during the operation of the machine.

4. In combination, a main frame adapted to carry the supporting-wheels, a substantially triangular tool-carrying frame comprising side bars hinged together at their rear ends, a stationary pivotal connection between one of said side bars and the supporting-frame, and a movable pivotal connection between the other side bar and the supporting-frame, for the purpose described.

5. In combination, a main frame, a tool-frame comprising side bars hinged together at their rear ends, a stationary pivotal connection between one of said side bars and the supporting-frame, a movable pivotal connection between the other side bar and the supporting-frame, and mechanism for imparting lateral movement to this side bar, for the purpose described.

6. In combination with the supporting-frame, a tool-frame comprising two side bars hinged together at their rear ends, the said side bars being spaced at their front ends, a fixed pivoted connection for the front end of one side bar, and means for moving the other side bar laterally to increase the width of the tool-frame, substantially as described.

7. In combination, a main supporting-frame, a tool-frame comprising two side bars hinged together at their rear ends, a stationary pivoted connection between the front end of one side bar and the supporting-frame, a laterally-movable slide carried by the supporting-frame, a pivoted connection between the other side bar and the said slide and means for moving the said slide laterally, for the purpose described.

8. In combination, a main supporting-frame adapted to carry the wheels, tool-carrying frames hinged at their rear ends and adapted to surround the wheels, a transversely-disposed bar carried by the main frame, a slide arranged on said bar, connections between said slide and one of the side bars of the tool-carrying frame, and means within the control of the operator for moving the said slide to adjust the width of the tool-carrying frames.

9. In combination, a main frame adapted to carry the supporting-wheels, tool-carrying frames comprising two sections hinged together at their rear ends, a transversely-disposed bar supported in the forward portion of the main frame, a slide carried by said bar, a bar adjustably connected to said slide having its outer end connected to the outer side bar of the tool-carrying frame, and means within the control of the operator for moving the slide for adjusting the width of the tool-frame.

10. In combination, a main frame adapted to carry the supporting-wheels, a transversely-disposed frame-rod supported on the main frame in the forward portion of the machine, tool-carrying frames hinged at their rear ends and adapted to surround the wheels, a slide carried by the transversely-disposed frame-bars, a bar adjustably connected at one end to the slide and having its outer end connected to the outer side bar of the tool-carrying frame, lever mechanism connected with the slide on the transverse frame-rod and an operating-handle connected to the lever mechanism for the purpose described.

11. The combination with the main frame, of a transversely-disposed frame supported on the main frame, collars rigidly secured on the transverse frame-bar, tool-carrying frames hinged at their rear ends having their inner side bars pivoted to the collars on the frame-rods, slides loosely mounted on the said bars rigidly connected at their inner ends to the said slides and extending outwardly substantially parallel to the frame-rod having their outer ends pivotally connected to the outer side of the tool-carrying frames, lever mechanism carried by the supporting-frame, and operating-lever connected to said lever mechanism, substantially as described.

12. In combination, a main supporting-frame, transversely-disposed frame-bar carried by the main frame having an arch in its central portion, rigid collars carried by the lower portions of the said frame-bar, slides arranged on said frame-bar, laterally-extending bars secured to the said slides, means for adjusting the said bars, tool-carrying frames comprising two sections hinged at their rear ends having their inner side bars pivoted to the collars carried by the frame-rods and having their outer side bars pivotally connected to the adjustable bars carried by the slides, and lever mechanism for moving the slides to increase or diminish the width of the tool-carrying frames, substantially as described.

13. In combination with the supporting-frame and wheels a pivoted tool-carrying frame comprising side bars pivoted to the main frame at one end, the said side bars being elevated at their forward ends above the plane of their rear portions, for the purpose substantially as described.

14. The combination with the wheel-pivots, pivot-bars, a transverse frame-bar for supporting the pivot-bars, a substantially U-shaped frame having its end connected to the said frame-bar adjacent its ends, and braces connecting the pivot-bars and the U-shaped frame, substantially as described.

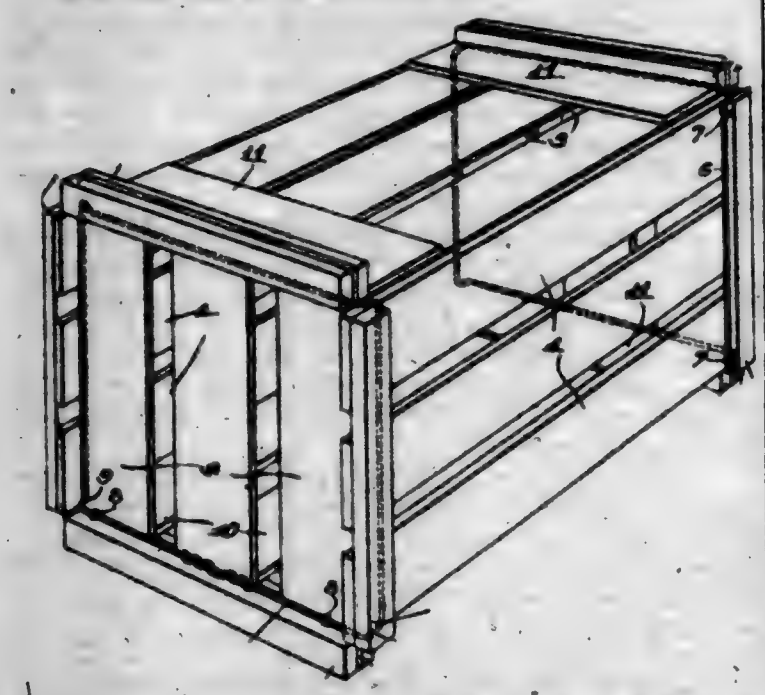
15. The combination with the wheel-pivots of a main supporting-frame comprising a transverse bar, clamping devices carried by said bar in which the wheel-pivots are journaled, a substantially U-shaped frame extending forwardly from said bar having its ends secured thereto, brace-rods connecting the wheel-pivots and the U-

shaped frame and intermediate braces connecting the transverse frame-bar and the front section of the U-shaped bar, substantially as described.

16. The combination with the main frame, the pivot-bars swiveled therein, tool-carrying frames pivotally mounted on the main frame, operating-levers having connections with the tool-frames, operating-levers for each tool-frame for regulating the width of said frames, and a lever for tilting the entire supporting-frame, for the purpose substantially as described.

17. A pivot-wheel riding-cultivator comprising in combination, a main frame, a lever mechanism for tilting the same, a pair of tool-supporting frames, a lever mechanism for raising and lowering each tool-frame, and lever mechanism connected with each tool-frame whereby the sides of either of said frames may be adjusted during the operation of the machine to suit the width of the rows, substantially as described.

808,587. FOLDABLE CRATE. ELIAS H. AVERILL, Newaygo, Mich. Filed Jan. 7, 1905. Serial No. 240,071.



Claim.—1. A crate having opposite ends and two opposite sides permanently connected and capable of being folded at the joints between the sides and ends, cleats upon the inner faces of the ends of the crate, and removable sides having their ends externally lapped by the respective end cleats and provided with external cleats gripped between the end cleats of the crate.

2. A crate comprising opposite ends and two opposite permanent sides, bands embracing and rigidly connected to the sides in planes substantially parallel with the ends and rigidly connected thereto, the bands being pliable to permit folding of the sides and ends, and removable sides to brace the crate in its set-up condition.

3. A crate comprising opposite permanent sides, ends interposed between the sides and disposed inwardly from the extremities thereof, bands embracing the end portions of the sides in substantial parallelism with the sides and rigidly connected thereto and to the ends, the bands being bendable at points between the sides and the ends to permit of the latter being forced outwardly, and removable sides exceeding in length the initial space between the ends of the crate and capable of being inserted between said ends to force the latter outwardly.

4. A crate comprising two permanent sides, ends interposed between the sides and spaced inwardly from the extremities thereof, bands embracing and rigidly connected to the end portions of the sides in substantial parallelism with the ends with portions lying across the outer faces of the ends and rigidly connected thereto, portions of the bands between the sides and the ends being bendable to permit of the ends being forced outwardly, and removable sides exceeding in length the initial space between the ends of the crate and capable of being inserted between said ends to force the same outwardly.

5. A crate comprising two permanent sides, ends interposed between the sides and disposed inwardly of the extremities thereof, bands embracing the end portions of the sides and rigidly connected thereto and to the ends, portions of the bands between the sides and the ends being bendable to permit of the ends being forced outwardly, opposite cleats upon the inner faces of each end, and a pair of removable sides exceeding in length the initial space between the ends of the crate and capable of being inserted between the ends to force the same outwardly, each removable side having opposite cleats disposed inwardly from the respective ends to bear against the inner faces of corresponding cleats of the ends of the crate.

6. A crate comprising a pair of permanent sides, ends interposed between the sides inwardly from the extremities thereof and projected beyond the opposite edges of the sides, bands embracing the end portions of the sides and lying across the projected portions of the ends and also rigidly connected to the sides and the ends, the portions of the bands between the sides and the ends being bendable to permit of the ends being forced outwardly, and a pair of removable sides exceeding in length the initial space between the ends of the crate and capable of being inserted therebetween to force the same outwardly.

7. A crate comprising a pair of permanent sides having external terminal cleats, ends interposed between the sides and located inwardly from the extremities thereof, each end being projected beyond the opposite edges of the sides and provided upon its projected portions with inner and outer cleats, bands embracing the sides and located in the angle between said sides and the inner faces of the cleats thereof, portions of the band lying across the outer face of the end in the angles between said end and the outer cleats thereof, the bands being rigidly connected to the sides and the ends, and removable sides exceeding in length the initial space between the ends and capable of being introduced between the ends to force the same outwardly, each removable side having external transverse cleats spaced inwardly from the ends thereof for engagement with the inner faces of corresponding end cleats.

8. A crate comprising ends, two opposite permanent sides, bands embracing the end portions of the sides in planes substantially parallel with those of the ends and connected to the sides and the ends, said bands forming hinges to foldably connect the sides and ends, and removable sides exceeding the initial distance between the ends and capable of being inserted between the same to force them outwardly, the bands capable of bending during the insertion of the removable sides to permit yielding of the ends and to frictionally bind the removable sides between the ends of the crate.

9. A crate comprising opposite ends, two opposite permanent sides, bendable connections between the sides and the ends, and two opposite removable sides exceeding in length the initial distance between the ends and capable of being forced in between the latter, the bendable connections between the ends and the sides permitting of the ends being forced outwardly by the insertion of the removable sides.

808,588. MACHINE FOR MAKING AND BOXING MATCHES. GEORGE A. BARBER, New Haven, Conn., assignor, by mesne assignments, to The Diamond Match Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 5, 1899. Serial No. 726,362.

Claim.—1. In a match-machine, the combination of a carrier having a continuous motion past the splint-receiving point, such carrier having means for holding splints in rows, and splint-feeding mechanism having means for moving the latter in the direction of motion of the carrier, substantially as described.

2. In a match-machine, the combination of a carrier for match-splints, a cutter for cutting off the splints, means for giving said cutter a movement transverse to the first-mentioned movement and in the direction of the length of the splints across the material from which the splints are formed and also a movement toward such carrier, substantially as described.

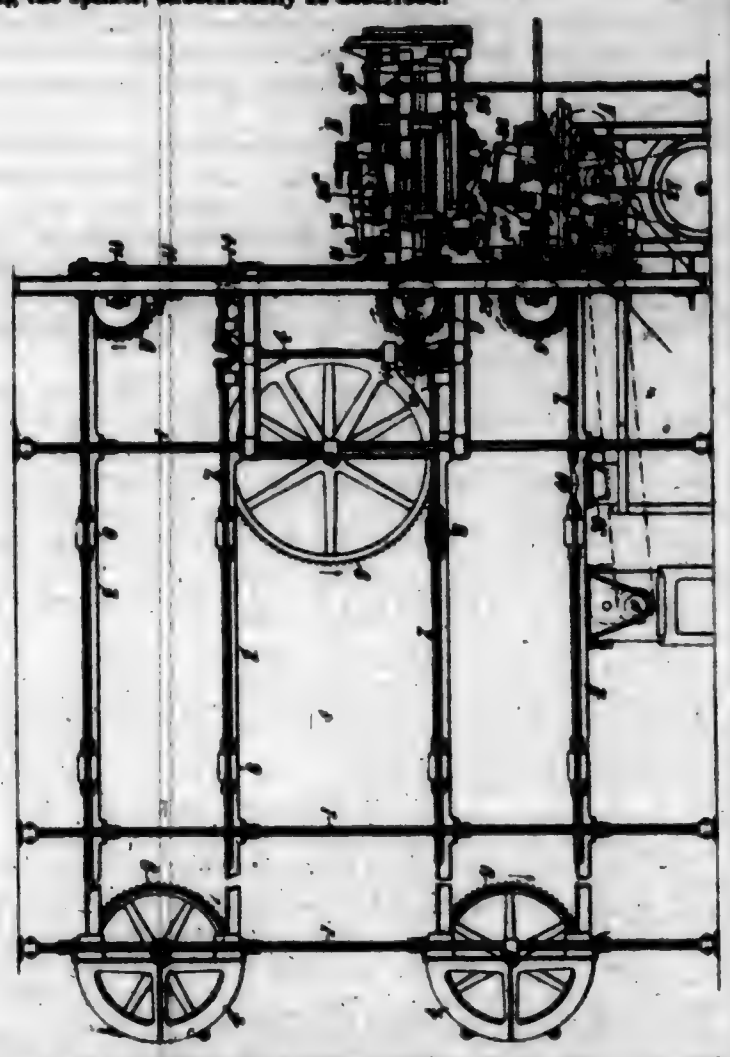
3. In a match-machine, the combination of a carrier for match-splints, a cutter for cutting off the splints, and means for giving to said cutter, in addition to its severing movement, a movement transverse to the first-mentioned movement and in the direction of the length of the splints, to feed the splints, substantially as described.

4. In a match-machine, the combination of a carrier for match-splints, a cutter for cutting off the said splints, and means for giving to such cutter, in addition to its severing movement, a movement transverse to the first-mentioned movement and in the direction of the length of the splints, to feed the splints to the carrier, substantially as described.

5. In a match-machine, the combination of a cutter for cutting off match-splints, a carrier having holders for splints, and means for giving to said cutter, in addition to its severing movement, a movement transverse to the first-mentioned movement and in the direction of the length of the splints to place the splints in position to be held by said holders, substantially as described.

6. In a machine for making matches, the combination with means for feeding a row of extended match-strips in the direction of

their length, of a cutter, means for moving said cutter at predetermined intervals across the path of the advancing strips, to cut off match-splints therefrom, and at the same time in the direction of travel of the same, and a carrier having means for receiving and holding the splints, substantially as described.



7. In a machine for making matches, the combination with means for feeding a series of extended match-strips in the direction of their length, of a cutter adapted to divide said strips into splints suitable for matches, means for moving said cutter at predetermined intervals across the path of the advancing strips and, at the same time, in the direction of and at the same rate of travel as the strips, and a carrier having means for receiving and holding the splints, substantially as described.

8. In a machine for making matches, the combination with means for feeding a row of extended match-strips in the direction of their length, of a cutter, means for simultaneously reciprocating and oscillating said cutter at predetermined intervals whereby it is moved vertically across the line of strips and at the same time horizontally in the direction of movement of said strips, and a carrier having means for receiving and holding the splints, substantially as described.

9. In a machine for making matches, the combination with means for feeding stock in a suitable path, of a cutter extending across said stock and adapted to sever match-splints therefrom, means for moving said cutter through and along the path of travel of said stock and back again, the forward movement of the cutter being accelerated upon the severance of the splints thereby initially to its return for a successive operation, and a carrier for receiving and holding the splints thus severed, substantially as described.

10. In a machine for making matches, the combination with means for feeding a series of extended match-strips along a suitable path, of a cutter adapted to divide said strips into match-splints, means for moving said cutter through and along the path of travel of the said strips, and back again, the forward movement of the cutter being accelerated upon the severance of the splints from said strips initially to the return of the cutter for a successive operation, and a carrier for receiving and holding the splints thus severed, substantially as described.

11. In a machine for making matches, the combination with a continuously-traveling carrier, and means for feeding a series of extended match-strips in a path at right angles, or substantially so, to the carrier, of a cutter adapted to divide said strips into match-splints, means for imparting a compound movement to said cutter including reciprocation in a path intersecting that of the strips and movement in the direction of travel of the strips and back again, the forward movement of the cutter being accelerated when it has passed through said strips, substantially as described.

12. In a machine for making matches, the combination with means for feeding a series of extended match-strips in a suitable path, of a cutter extending across said strips and adapted to divide the same into match-splints, means for moving said cutter through and along the path of travel of said strips and back again, and a carrier into which the splints are thrust by the action of the cutter, substantially as described.

13. In a match-machine, the combination with means for feeding stock in a suitable path, of a pivoted frame, a cutter movable in guides carried by the frame, means for oscillating said frame in the direction of movement of said stock and back again, means for reciprocating the cutter into and from said stock during the oscillation of the frame whereby match-splints are severed from the said stock, and a carrier into which the splints are thrust by the action of the cutter, substantially as described.

14. In a match-machine, the combination of means for feeding match-strips in a suitable path, a pivoted frame, a cutter adapted to slide in guides carried by said frame, means for oscillating said frame in the direction of movement of the said strips and back again, means for reciprocating the cutter into and from said strips during the oscillation of the frame whereby match-splints are severed from said strips, and a carrier into which the match-splints are thrust by the action of the cutter, substantially as described.

15. In a match-machine, the combination with means for feeding long lengths of match-strips in a suitable path, of a pivoted frame, a head adapted to slide on bars or guides forming a part of said frame, a cutter secured to said head, levers connected to the frame, and cams for oscillating the frame through said levers, whereby the frame is caused to move in the direction of travel of the match-strips and back again, levers connected with the sliding head, cams for reciprocating the head through the levers connected therewith, whereby the cutter is caused to move into and from the strips to sever match-splints therefrom during the oscillation of said frame, and a carrier into which the splints are inserted by the action of the cutter, substantially as described.

16. In a match-machine, the combination of a continuously-moving carrier for match-splints, means for feeding splints to said carrier, and means independent of the carrier and feeding means for giving to the splints a movement in the direction of motion of said carrier, substantially as described.

17. In a match-machine, the combination of a carrier for match-splints, means for bringing one end of said splints in connection with said carrier, and means for bearing upon and giving the opposite ends of said splints a motion in the direction of movement of said carrier, substantially as described.

18. In a match-machine, the combination of a carrier for match-splints, means for bringing one end of the splints in connection with said carrier, means independent of said carrier for bodily bearing upon and giving the opposite end of the splints a motion in the direction of movement of said carrier, and means for forcing the splints into a position where they are held and carried by said carrier, substantially as described.

19. In a machine for making matches, the combination with means for feeding a series of extended match-strips, a cutter for dividing said strips into splints of predetermined length, a traveling carrier for the splints, and a guide movable in the direction of motion of the carrier and back again and adapted to bear upon and deflect the severed splints from the line of movement of the advancing strips, substantially as described.

20. In a match-machine, the combination of a carrier having means for holding match-splints, a guide for directing the splints into said holders, means for moving bodily said guide to impart to the splints a movement in the direction of motion of said carrier, and a splint-cutting knife, substantially as described.

21. In a machine for making matches, the combination with a series of continuously-moving carrier-bars, and means for feeding a series of extended match-strips, of a cutter for dividing the said strips into splints, a guide for bearing upon and directing the advancing ends of the splints into perforations in the carrier-bars, and means for bodily moving the guide so as to deflect the opposite ends of the splints out of the plane of the advancing strips, substantially as described.

22. In a machine for making matches, the combination with means for feeding a series of extended match-strips, of a cutter for dividing said strips into splints of predetermined length, perforated carrier-bars, a staggerer or guide for directing the advancing ends of the strips into two rows of perforations in the carrier-bars, and means

for bodily moving the staggerer to cause it to bear upon and deflect the opposite ends of the splints out of the line of movement of the advancing strips, substantially as described.

25. In a match-machine, the combination of a traveling carrier having means for holding match-splints, a splint-cutting knife to cut the strips into splints, a guide for directing the splints into said holders, means for moving said guide in the direction of motion of the carrier and back again, to impart to the rearward ends of the splints a movement in the direction of motion of said carrier, and means for bodily moving said splint-cutting knife to force the splints into such holders, substantially as described.

26. In a match-machine, the combination of a carrier having means for holding match-splints, a splint-cutting knife, a guide for directing the splints longitudinally into said holders, means for moving said guide to impart to the splints a movement in the direction of motion of such carrier, and means for bodily moving said splint-cutting knife to force the splints longitudinally into such holders, substantially as described.

27. In a machine for making matches, the combination with a series of continuously-moving carrier-bars, and means for feeding a series of extended match-strips, of a cutter for dividing the strips into splints, a staggerer for directing the ends of the strips into alternately-disposed perforations in adjacent rows in the carrier-bars, and means for imparting to the cutter an accelerated side movement toward the carrier-bars whereby the splints, when severed from the stock, will be forced into the perforations in the carrier-bars, substantially as described.

28. In a machine for making matches, the combination with a series of continuously-moving carrier-bars, and means for feeding a series of extended match-strips, of a guide through which the strips pass to the carrier-bars, a cutter adapted to cut the strips at predetermined intervals as they issue from said guide, a staggerer for directing adjacent strips alternately to two rows of perforations in the carrier-bars, and means for moving the staggerer to deflect the ends of the splints therein out of the plane of the advancing stock, substantially as described.

29. In a machine for making matches, the combination with a series of continuously-moving carrier-bars, a guide, and means for feeding extended match-strips through the same to the carrier-bars, of a cutter capable of both vertical and side movements, and a movable guide for deflecting the splints out of the plane of the advancing stock and located between the cutter and the carrier-bars, substantially as described.

30. In a match-machine the combination of carrier-bars, and means for feeding match-splints to said bars, of a guide-plate constructed to receive a row of parallel match-splints and properly direct them into several rows of holes in the carrier-bars, each of the guiding-surfaces of which guide-plate has a lateral exit, substantially as and for the purpose described.

31. In a machine, of the kind described, the combination of carrier-bars, and means for feeding match-splints to said bars, of a guide-plate constructed to receive a row of parallel match-splints and properly direct them into several rows of holes in the carrier-bars, the guiding-surfaces of which guide-plate have lateral exits on the same side of the guide-plate, substantially as described.

32. In a match-machine, the combination with a carrier having means for receiving and holding splints in parallel rows, means for feeding splints to said carrier, a guide for the splints on the way to the carrier formed with a plurality of sets of splint-channels, one set extending in a direct line toward the carrier, substantially at right angles to the same, and the other set inclined with reference to the first set so as to guide the splints to a different point in the carrier, and means for moving said guide in the direction of motion of the carrier and back again, substantially as described.

33. In a match-machine, the combination with carrier-bars and means for feeding match-splints to the same, of a guide-plate formed with a plurality of sets of guiding-channels which are inclined to each other and whose receiving ends are in the same plane, and means for moving said guide-plate in the direction of motion of the carrier and back again, substantially as described.

34. In a match-machine, the combination of carrier-bars, means for feeding match-splints to said bars, a guide-plate having a plurality of guiding-channels for the match-splints, and means for oscillating the receiving end of the guide-plate, substantially as and for the purpose described.

35. In a match-machine, the combination with the carrier-bars and the means for feeding match-strips to the same, of a guide-plate supported on trunnions parallel to the carrier-bars and formed with channels or grooves which diverge from its receiving edge to deflect the strips of a single row into two rows of perforations in the carrier-bars, and a rod actuated by a cam and connected with the said guide-plate for oscillating the same, substantially as set forth.

36. In a machine for making matches, the combination of mechanism for feeding extended match-strips, a guide through which said strips pass, a continuously-moving carrier, a movable guide for directing the ends of the strips into perforations therein, and a cutter located between the first-mentioned guide and the movable guide, as set forth.

37. In a machine for making matches, the combination with means for continuously feeding a strip of veneer, of rotary cutter-heads driven at a high speed and adapted to cut the veneer into parallel strips, the cutter-heads being located on opposite sides of and at different points along the veneer, a carrier, a reciprocating means for dividing up the strips into splints of proper length for matches and moving the splints longitudinally to carry their ends into perforations in the carrier, as set forth.

38. In a machine for making matches, the combination with means for continuously feeding a strip of veneer, of rotary cutters driven at a high speed and located on opposite sides of, and at different points along, the veneer and adapted to cut the veneer into parallel strips, a bed-plate opposite each cutter over which the veneer passes, a series of carriers, a reciprocating cutter for dividing up the strips into splints of proper length for matches and moving the splints longitudinally to carry their ends into perforations in the carriers, as set forth.

39. In a match-machine, the combination with devices for depositing matches in boxes, of box-engaging fingers, and means for imparting to said fingers an orbital movement whereby said fingers will be caused to engage with and advance the boxes, substantially as and for the purpose described.

40. In a match-machine, the combination with devices for depositing matches in boxes, of a frame carrying box-engaging fingers, and means for imparting to said frame and fingers an orbital movement, whereby said fingers will be caused to engage with and advance the boxes, substantially as and for the purpose described.

41. In a match-machine, the combination with the devices for depositing matches in boxes, of means for feeding a series of boxes to given points on a table, frames carrying fingers, and means for imparting to said frames an intermittent orbital movement, whereby said fingers will be caused to engage with and advance the boxes to the box-filling mechanism, as set forth.

42. In a match-machine, the combination of an arm carrying box-engaging fingers, a cam, means on said arm for engaging such cam, and means for giving said cam and arm motion with relation to each other, whereby the box-engaging fingers are given an orbital motion to engage with and advance the boxes, substantially as and for the purpose described.

43. In a match-machine, the combination of box-filling mechanism, an arm carrying box-engaging fingers, a path-cam, a projection on said arm for engaging said cam, and means whereby said projection is caused to travel around said cam, whereby said box-engaging fingers are caused to engage and advance said boxes, substantially as and for the purpose described.

44. In a match-machine, the combination of box-filling mechanism, box-engaging fingers, an arm carrying said fingers and having a projection thereon, a part having an internal cam-surface, a spring-pressed switch within the space inclosed by the cam-surface, and a sleeve for guiding such arm and causing its projection to travel around the cam-surface, thus giving said fingers a motion to engage and advance the boxes, substantially as and for the purpose described.

45. In a match-machine, the combination of box-filling mechanism, box-engaging fingers, an arm carrying said fingers and having a projection thereon, a part having an internal cam-surface, a spring-pressed switch within the space inclosed by the cam-surface, an oscillating sleeve for guiding such arm and causing its projection to travel around the cam-surface, thus giving said fingers a motion to engage and advance the boxes, and a spring tending to force said projection on the arm toward the wall of the cam where the switch is placed, substantially as and for the purpose described.

46. In a match-machine, the combination with the devices for carrying and discharging the matches, a chute through which the matches drop into boxes, and a series of reciprocating troughs for receiving the matches as they are detached from the carriers and depositing them in the chute, of a series of guide-plates extending between the reciprocating troughs through the chute and into the boxes beneath the same, and means for raising the said plates to permit the removal and substitution of boxes, as set forth.

47. In a match-machine, the combination with devices for de-

positing matches in boxes, of box-feeding mechanism, and a tripping device controlling the action of the box-feeding mechanism and dependent for operation upon the accumulation of a predetermined quantity of matches in the boxes, substantially as and for the purpose described.

46. In a match-machine, the combination with devices for depositing matches in boxes, of box-removing mechanism, and a tripping device controlling the action of the box-removing mechanism and dependent for operation upon the accumulation of a predetermined quantity of matches in the boxes, substantially as and for the purpose described.

47. In a match-machine, the combination with devices for depositing matches in boxes, of box-feeding mechanism, a tripping device controlling the same and dependent for operation upon the accumulation of a predetermined quantity of matches in the boxes, and supports for receiving the filled boxes and depositing them on a conveyer, substantially as and for the purpose described.

48. In a match-machine, the combination of box-filling mechanism, box-feeding devices, box-removing devices, trip mechanism by which the box-feeding devices are caused to deliver the filled box to the box-removing devices, said trip mechanism being dependent for operation upon the accumulation of a predetermined quantity of matches in the boxes, and mechanism which is operated at regular intervals and which gives the feeding movement to the box-feeding devices, substantially as and for the purpose described.

49. In a match-machine, the combination with the devices for depositing matches in boxes, of box-feeding mechanism, an automatic tripping device controlling the same and dependent for operation upon the accumulation of a predetermined quantity of matches in the boxes, and supports for receiving the filled boxes and depositing them on a conveyer, and adapted to go through their cycle of movement at regular intervals, as set forth.

50. In a match-machine, the combination with the devices for depositing the matches into boxes, of a reciprocating plunger entering the boxes at intervals, a tripping device operated by the plunger, when the boxes are filled to a predetermined level, and box-feed mechanism controlled in its operation by said tripping device, as set forth.

51. In a match-machine, the combination with the devices which carry and discharge the matches and a reciprocating conveyer for receiving charges of matches and transferring them to boxes, of a reciprocating plunger adapted to descend into the boxes at intervals while they are being filled, and a tripping mechanism set in operation by the stoppage of the plunger when the boxes are filled to a predetermined level, as set forth.

52. In a machine for making matches, the combination with a series of continuously and uniformly moving carrier-bars, of ejecter-pins for detaching matches from the bars, a support for said pins, and means for reciprocating in a rectilinear path and at the same time oscillating the said support as set forth.

53. In a machine for making matches, the combination with a series of continuously-moving carrier-bars, of a frame supporting a plate, pins set in said plate, a cam for reciprocating the frame in a rectilinear path toward and away from the carrier-bars, and a cam for oscillating the frame, whereby the pins will be caused to eject the matches from perforations in the carrier-bars, and at the same time move with the bars, as set forth.

54. In a match-machine, the combination with a series of continuously-moving match-carrying plates, a frame, the forward end of which carries a series of ejecter-pins, a second frame capable of oscillation and supporting the first frame, means for reciprocating the first frame in a rectilinear path and means for oscillating the second frame, substantially as and for the purpose described.

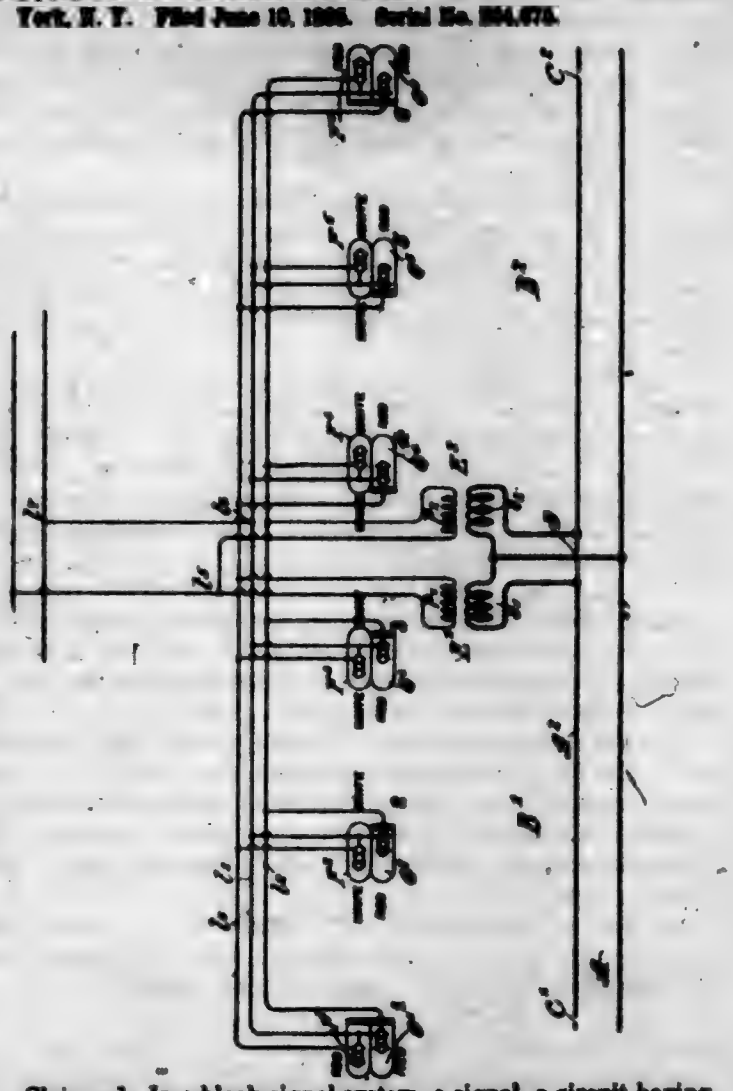
55. In a match-machine, the combination with a series of continuously-moving match-carrying plates, a frame, the forward end of which carries a series of ejecter-pins, a second frame mounted within the first so as to be capable of oscillation, and supporting by a sliding connection the forward end of the outer frame, a rotary shaft, a cam thereon which oscillates the inner frame, and other cams which reciprocate the outer frame in a rectilinear path, as set forth.

56. In a match-machine, the combination with the devices for depositing matches in boxes, of a traveling belt and supports for transferring the boxes from the positions in which they receive the matches and depositing them on the belt by a motion in the direction of movement of said belt, and means for imparting to said supports an accelerated motion, as and for the purpose set forth.

57. In a match-machine, the combination with the devices for depositing matches into boxes, of a conveyer, and supports for transferring the boxes from the positions in which they receive the matches and depositing them on the conveyer, the said supports being movable for such purpose through the arc of a circle, the latter end of said movement being substantially tangent to the line of movement of the conveyer, and means for imparting to said supports an accelerated motion, as and for the purpose set forth.

58. In a match-machine, the combination of one or more rock-shafts, box-holding fingers supported from sleeves splined on said shafts, springs tending to move said sleeves relative to each other, cams on said sleeves, cams with which said cams on the sleeves coact to cause the box-holding fingers to move in opposition to said springs, and means for changing the relative location of the two sets of cams, whereby the box-holding fingers are opened and closed as the shaft is rocked, substantially as and for the purpose described.

803,539. BLOCK-SIGNAL SYSTEM. CHARLES E. BENNETT, New York, N. Y. Filed June 10, 1905. Serial No. 264,675.



Claim.—1. In a block-signal system, a signal, a circuit having means for displaying said signal when the current varies therein, a step-down transformer having its primary in said circuit, and means actuated by a passing train for closing the secondary circuit of said transformer.

2. In a block-signal system, a circuit including a display-signal and the primary of a step-down transformer, and a circuit including the secondary of said transformer adapted to be closed by a passing train.

3. In a block-signal system, a circuit including the primary of a transformer and display-signals in series with said transformer and in multiple arc with one another, and a separate circuit including the secondary of said transformer adapted to be closed by a passing train.

4. In a block-signal system, a transformer having a step-down ratio of substantially ten to one, a signal device included in series with the primary of said transformer, and a circuit including the secondary of the transformer arranged to be closed by a passing train.

5. A block-signal system comprising a track divided into sections, each section being subdivided into a pair of subsections, a pair of transformers in each block having their terminals connected to the rails of the subsections, and two sets of display-signals including signals in both subsections in each set, included in circuits through the primaries of said transformers.

6. A block-signal system comprising insulated track-sections, and transformers having their secondaries in circuits which include the rails of said track-sections, and a circuit including two signal devices at the respective ends of a block-section in circuit with the primary of its transformer.

7. A block-signal system comprising a track divided into a plurality of insulated sections, a step-down transformer connected to change the rails of a section with a comparatively low alternating potential difference, and signals included in circuit with the high-potential primary of the said transformer.

8. A block-signal system comprising a track having insulated sections, a step-down transformer connected to impress a low alternating potential difference between the rails of a section, and a signal included in the primary of said transformer.

9. In a block-signal system, a track having insulated blocks or sections each divided into a plurality of subsections, a pair of transformers connected to maintain each of said subsections at a low alternating potential difference, a set of signals disposed along the entire section and included in the primary of one transformer, and a second set of signals also disposed along the entire section included in the primary of the other transformer.

10. In a block-signal system, an insulated track-section, a step-down transformer connected to impress a low alternating potential difference between the rails of said section, a plurality of signals arranged in multiple with one another and in series with the primary of said transformer, some of said signals displaying danger and some safety indications.

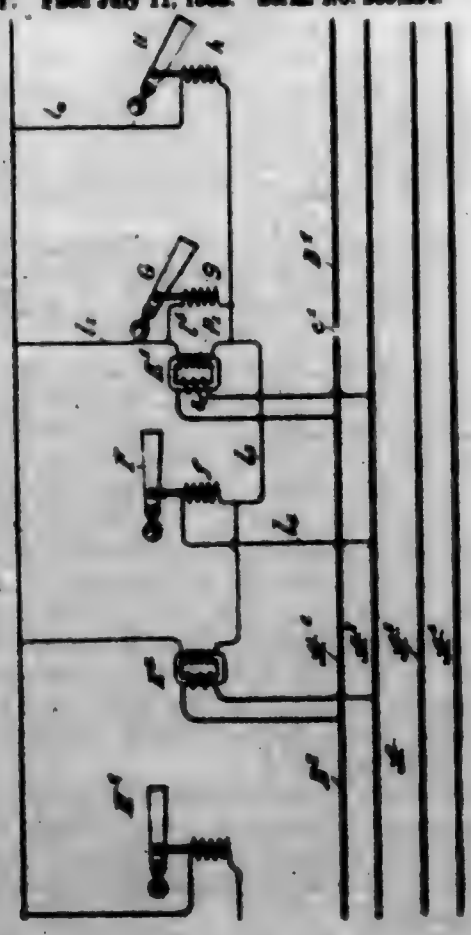
11. In a block-signal system, a block-section having a danger-signal at each end each included in the primary of a separate transformer, subsections within the block or section, and connections from the transformers to the subsections whereby the secondary of the transformer for either signal is short-circuited by a train entering the other end of the block.

12. In a block-signal system, an insulated track-section, a signal arranged at each end of said track-section and included in the primary circuits of separate transformers, a plurality of additional signals disposed along the track-section and divided into two groups or sets also included in series with the primaries of said transformers, and means actuated by a passing train for short-circuiting the secondaries of said transformers.

13. In a block-signal system, means for displaying signals at both ends of a track-section operated by an alternating current, a step-down transformer having its primary winding in series with said alternating-current circuit, and means actuated by a passing train for short-circuiting the secondary winding.

14. In a block-signal system, means operated by an alternating current for displaying a signal at each end of a track-section, a step-down transformer having its primary winding in series with the circuit including said means, and means operable by a train entering the block for closing the circuit through the secondary of said transformer.

808,540. BLOCK-SIGNAL SYSTEM. CHARLES R. BENNETT, New York, N. Y. Filed July 11, 1905. Serial No. 269,294.



Claim.—1. In a block-signal system, a transformer having a primary circuit including a caution and a danger signal, and a secondary circuit adapted to be closed by a passing train.

2. In a block-signal system, a danger-signal and a caution-signal, a transformer, and means operated by a change in the current strength in the primary of said transformer for displaying said signal, and means operated by a passing train for closing the secondary of said transformer.

3. In a block-signal system, a circuit including the primary of a transformer in which is impressed a constant alternating voltage, a signal-circuit in shunt with said primary, a second signal-circuit in series with said primary, and means actuated by a passing train for varying the load on said transformer.

4. In a block-signal system, a transformer having a constant alternating voltage impressed in its primary winding and having its secondary circuit adapted to be closed by a passing train, and signals which are related to said primary circuit to simultaneously give safety and danger indications in different blocks.

5. In a block-signal system, a transformer, a shunt-circuit for the primary winding of said transformer including a pair of signals, a signal in series with said primary, and means for applying a load to said transformer.

6. In a block-signal system, a pair of transformers having a constant alternating voltage impressed in their primary windings, signals adapted to be actuated by current changes in said primary windings, and a track-section having different points of its length connected to the secondaries of the respective transformers.

7. In a block-signal system, a series of motor-generators arranged to impress a constant alternating voltage in a single line-wire or circuit, a series of transformers having primary windings in multiple across the mains of said circuit and between the motor-generators, and signals operated by current variations in said primary windings.

8. In a block-signal system, a step-down transformer having a shunt-circuit across its primary adapted to operate a caution-signal, a second signal in series with said primary and first-named signal, and means actuated by a passing train for imposing a load on said transformer.

9. In a block-signal system, a step-down transformer having its primary in shunt with a home and a caution signal and its secondary connected to the respective rails of a block-section.

10. In a block-signal system, a transformer having its primary arranged to operate a signal by current variations therein, and arranged to display an additional signal in the opposite way to said first-named signal, and means on each of said signals for automatically setting them to danger when the current is open or short-circuited at any point.

11. In a block-signal system, a transformer having a primary adapted to operate home and caution signals, and to simultaneously actuate a telltale-signal in a manner opposite to that of the first-named signals by current variations therein, and means for varying the loads on said transformer.

12. In a block-signal system, a step-down transformer having a shunt-circuit across its primary winding, a home and a caution signal in shunt with one another and with said primary winding adapted to be actuated by current variations therein, and means for imposing a load on said transformer.

13. In a block-signal system, a step-down transformer, a signal in shunt with the primary of said transformer, a telltale-signal in series with the primary of said transformer, and a block-section having its rails connected to the secondary of said transformer.

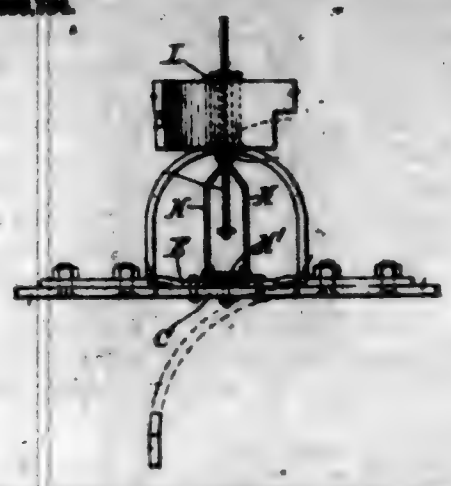
14. In a block-signal system, a series of alternators arranged to impress a constant alternating voltage in a single line-wire or circuit, a series of transformers having primary windings in multiple across the mains of said circuit and between the alternators, and signals operated by current variations in said primary windings.

808,541. BROMO-LECITHIN AND PROCESS OF MAKING SAME. PETER BRESSLER, Berlin, Germany, assignor to Action Gesellschaft für Anilin Fabrikation, Berlin, Germany. Filed July 28, 1904. Serial No. 218,624. (Specimens.)

Claim.—1. The process of manufacturing bromo-lecithin which consists in treating lecithin with bromin at a moderate temperature.

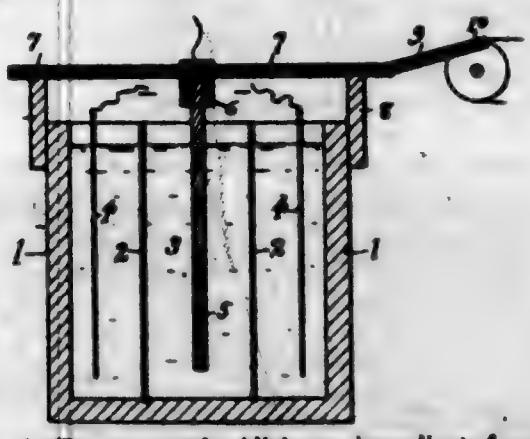
2. The new bromo-lecithin being a nearly colorless mass, resembling wax, soluble in chloroform, alcohol and ether, sparsely soluble in acetone, hardly soluble in water, being easily saponified when heated with alcoholic soda-lye and which is split up less readily than lecithin by the action of the digestive organs of the human body.

808,542. SWITCH. Gaston Bertier, Buenos Ayres, Argentina, assignor to Charles A. MacDonald, Chicago, Ill. Filed Mar. 15, 1905. Serial No. 250,134.



Claim.—In a switch, the combination of two fixed track-sections with an interval between them, a straight movable track-section pivotally supported in the interval, a curved movable switch-section, and an elbow-crank lever on which the curved switch-section is mounted on a link from said lever to the movable straight-track section, so that both sections are simultaneously operated by the movement of the elbow-crank lever.

808,543. ELECTROLYTIC PROCESS USING INSOLUBLE ANODES. Ambrose G. Betts, Troy, N. Y. Filed Feb. 10, 1905. Serial No. 245,834.



Claim.—1. The process of oxidizing an ingredient of a solution, substantially free from halogen ions, which consists in electrolyzing the solution with an insoluble anode, while producing relative motion between said anode and solution sufficient to materially facilitate the continuous oxidation of the said ingredient by the liberated anions, and to substantially continuously prevent the evolution of oxygen-containing gas at the anode.

2. The process of oxidizing, in a solution practically free from halogen ions, a metallic salt of polybasic acid, which consists in electrolyzing the solution with an insoluble anode, while producing relative motion between said anode and solution sufficient to materially facilitate the continuous oxidation of the said salt, and to substantially continuously prevent the evolution of oxygen-containing gas at the anode.

3. The process of oxidizing in solution a ferrous salt of a polybasic acid to ferric salt, which consists in electrolyzing the solution with an insoluble anode, while producing relative movement between said anode and solution sufficient to materially facilitate the continuous conversion of said ferrous salt to ferric salt, and to substantially continuously prevent the evolution of oxygen-containing gas at the anode.

4. The process of oxidizing in solution ferrous salt to ferric salt, which consists in electrolyzing the solution with an insoluble anode, and giving the anode sufficient motion through the solution to materially facilitate the continuous conversion of the ferrous salt to ferric salt.

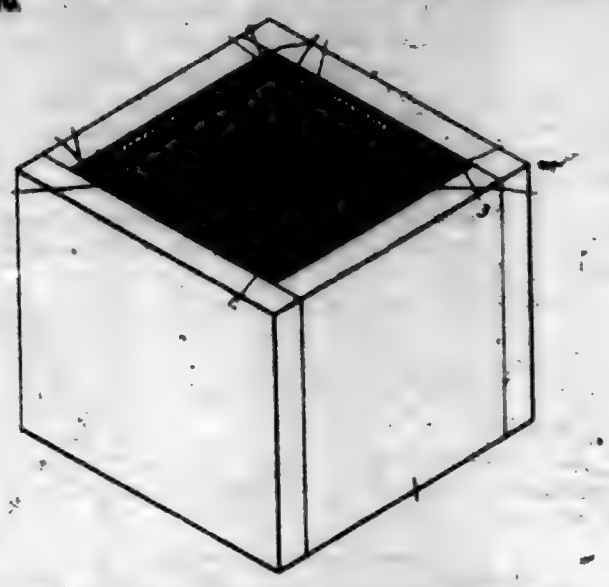
5. The process of oxidizing in solution a ferrous salt of a polybasic acid to ferric salt, which consists in electrolyzing the solution with a carbon anode, and giving the anode sufficient motion through the solution to materially facilitate the continuous conversion of ferrous salt to ferric salt.

6. The process of converting in solution ferrous salt to ferric salt and depositing a metal from said solution simultaneously, which consists in electrolyzing the solution with an insoluble anode and a suitable cathode, and moving the anode through the solution.

7. The process of converting ferrous salt in solution to ferric salt and simultaneously depositing copper from the solution, which consists in electrolyzing the solution with an insoluble anode moving through the solution, and with a suitable cathode.

8. The process of converting in solution ferrous to ferric sulfate, and removing copper from the solution which consists in electrolyzing the solution with an insoluble anode moving through the solution, and with a suitable cathode.

808,544. APPARATUS FOR REFINING LEAD BY ELECTROLYSIS. Ambrose G. Betts, Troy, N. Y. Filed Mar. 15, 1904. Serial No. 198,770.



Claim.—1. In an apparatus for refining metal by electrolysis the combination with a cathode, an anode and an electrolyte adapted to dissolve metal from the anode and electrodeposit the same; of a containing-vat having its inner surface formed of a metal capable of being dissolved in said electrolyte and of a potential intermediate between that of the cathode and that of the anode.

2. In an apparatus for refining lead by electrolysis, the combination with a copper-lined tank; of an anode of lead to be refined, a cathode, and an electrolyte adapted to dissolve lead from said anode and to electrodeposit the same upon the cathode.

3. In an apparatus for refining lead by electrolysis, the combination with an electrolytic tank having an interior continuous copper surface formed in whole or in part of electrodeposited copper; of an anode of lead to be refined, a cathode, and an electrolyte adapted to dissolve lead from said anode and to electrodeposit the same upon the cathode.

4. In an apparatus for refining lead by electrolysis, the combination with an electrolytic tank having a lining of copper plates soldered together along their contiguous edges with their soldered connections electroplated with copper; of an anode of lead to be refined, a cathode, and an electrolyte adapted to dissolve lead from said anode and to electrodeposit the same upon the cathode.

5. In an apparatus for refining lead by electrolysis, the combination with an electrolytic tank having a copper lining painted with insulating material; of an anode of lead to be refined, a cathode, and an electrolyte adapted to dissolve lead from said anode and to electrodeposit the same upon the cathode.

808,545. FOOT-WARMER. Charles H. Bosch, Jackson, Mich., assignor, by mesne assignments, to Metal Stamping Company, Jackson, Mich., a Corporation of Michigan. Filed Apr. 14, 1904. Serial No. 203,004.



Claim.—1. A foot-warmer comprising a flattish heat-retaining pad or block having a suitable handle, and a U-shaped case therefor adapted to act as a spring to clasp or embrace said pad.

2. A foot-warmer comprising a doubled or U-shaped thin-metal case mounted on supporting-legs which hold it in inclined po-

sition with one flat side uppermost, and a flattish heat-retaining pad or block tightly but removably mounted in said case.

3. A stand for a heating-pad as herein described, comprising a U-shaped or doubled metal case, and end strips to which the metal is attached also folded under the case and bent into supporting-legs.

4. A foot-warmer comprising a heating-pad and an inclosing case therefor adapted as a spring to clasp or embrace the pad.

5. A foot-warmer comprising a doubled or U-shaped case having legs to support it in inclined position and a removable heating pad or block adapted to rest in said case.

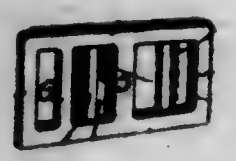
6. A stand for a heating-pad comprising a metal case to receive the pad, said case having end strips attached to its edges and bent under the same into supporting-legs, and a carpet or covering having its edges engaged between the said edges and strips.

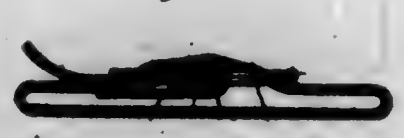
7. A stand for a heating-pad comprising a doubled or U-shaped metal case, end strips to which the edges of the metal are attached also folded under the case and bent into supporting-legs, and a carpet or covering for the upper side of the case, having its side edges secured between the edges of the case and said strips, its rear edge secured in the rear edge of the case which is folded thereover, and its front edge secured in a doubled strip extending between the end strips.

8. A heating-pad consisting of a metal shell having a filling of solidified plastic heat-retaining material, a bail, and fastenings for the bail comprising loops engaging its ends and inserted through slits in the shell and having their ends spread and embedded in the plastic filling.

9. A stand for a heating-pad comprising U-shaped strips connected by a cover for the pad and having their lower ends bent under into supporting-legs.

808,546. BUCKLE. ROYL A. BROWN, Ashland, Ohio, assignor of one-half to George E. Lewis, Mansfield, Ohio. Filed Dec. 21, 1904. Serial No. 237,264.





Claim.—1. A buckle comprising a main frame having cross-bars, an auxiliary frame, a serrated cross-bar upon the auxiliary frame projecting into the path of one of the cross-bars of the main frame, and longitudinally-extending means integral with the central part of one of the frames and overlapping a cross-bar of the other frame to hold the frames together in slidable relation.

2. A buckle comprising a main frame having cross-bars, an auxiliary frame, a serrated cross-bar upon the auxiliary frame projecting into the path of one of the cross-bars of the main frame, and a projection integral with a cross-bar of one of the frames and overlapping a cross-bar of the other frame to hold the frames in sliding relation.

3. A buckle and a strap comprising a main frame having cross-bars, an auxiliary frame, a serrated cross-bar upon the auxiliary frame projecting into the path of one of the bars of the main frame, and a projection integral with a cross-bar of one of the frames and overlapping a cross-bar of the other frame to hold the frames in sliding relation, and the strap looped at one end about the projection, its bar, and the overlapped bar.

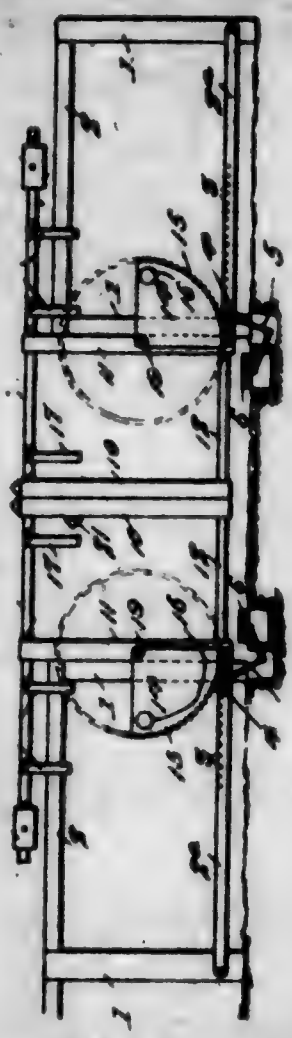
808,547. GATE. GEORGE S. BUCK, Kalispell, Mont., assignor of one-half to John G. Buck, Kalispell, Mont. Filed Mar. 2, 1905. Serial No. 248,127.

Claim.—1. In a device of the character described, a pivoted trackway, a gate, a circular support mounted on the gate and riding in the trackway, means carried by the gate for adjusting its weight on the support, and means for elevating the trackway.

2. In a device of the character described, a pivoted trackway, a gate, a support mounted on the gate and adapted to ride on the trackway, a guide for gate, depending straps on the gate embracing the guide, and means for elevating the trackway.

3. In a device of the character described, a pivoted trackway, a gate, a strip on the gate extending beyond a side thereof, a support for the gate engaging the trackway, a guide for the gate, straps depending from the strip and engaging the guide, an adjustable weight on the strip, and means for elevating the trackway.

4. In a device of the character described, a pivoted trackway, a gate, a support for the gate engaging the trackway, a weight on said support, a guide for the gate, and straps carried by the gate and engaging said guide, and means for elevating the trackway.

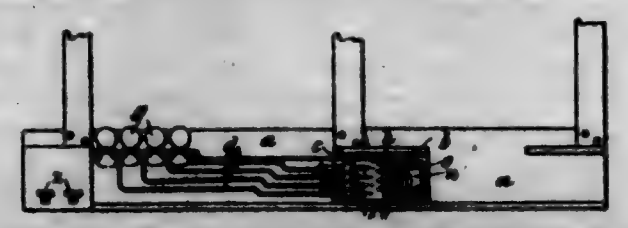


5. In a device of the character described, a sliding gate, a strip on the gate extending beyond a side thereof, a guide for the gate, and straps depending from the strips and engaging the guide.

6. In combination, a pivoted track, a gate slidable thereon when the track is elevated, a vehicle-track comprising a boxing, a lever pivoted within the boxing, a connection between the lever and trackway, a cover bearing on the lever, and means for holding the gate against movement unless the track is elevated.

7. In combination, a pivoted track, a gate slidable thereon when the trackway is elevated, a vehicle-track, comprising a boxing, a lever pivoted within the boxing a connection between the lever and trackway, and a cover for the boxing bearing on the lever.

808,548. MUSIC-LEAF TURNER. GEORGE S. BUDGE, Auckland, New Zealand. Filed May 24, 1904. Serial No. 209,454.



Claim.—1. In music-leaf turners, a vertical base-plate, a vertical spindle mounted in front thereof, a number of arms loosely pivoted one above the other on such spindle, spring-clips on the free ends of such arms, springs connected to the arms so as to keep them normally turned over to one side, catches mounted upon a vertical rod upon the other side of the spindle and formed with outwardly-extending teeth portions adapted to engage with and retain the arms when turned across, and with tail extensions, springs between the face of the base-plate and the extensions and pressing such outward, a vertical spindle mounted in front of the extensions and formed with pallet projections upon it, which, as the spindle is rotated, are adapted to engage with and press upon the tail extensions of the catches in turn, and means whereby such spindle may be intermittently rotated, and for varying the degree of movement thereof, substantially as specified.

2. In music-leaf turners, a vertical base-plate, a vertical spindle mounted in front thereof, a number of arms loosely pivoted one above the other on such spindle, spring-clips on the free ends of such arms, springs connected to the arms so as to keep them normally turned over to one side, catches mounted upon a vertical rod upon

the other side of the spindle and formed with outwardly-extending tooth portions, and with tail extensions, a vertical spindle mounted adjacent the extensions and formed with pallet projections upon it, a ratchet-wheel secured upon the top of the pallet-spindle, a sliding rod extending longitudinally along the base-plate, a pawl on the end of the sliding rod engaging with the teeth of the ratchet-wheel, a bell-crank lever pivoted to the base-plate one arm of which is connected to the sliding rod, a hanging plate suspended from the other arm of the bell-crank lever, depressions formed on each edge of the hanging plate and finger-pieces hinged to the base-plate and resting in each depression, said finger-pieces giving the rod different degrees of movement, substantially as herein specified.

808,549. **SHOVEL-PLOW.** Robert L. Bennett, Estelline, Ga. Filed May 2, 1905. Serial No. 258,703.



Claim.—1. In combination with a plow-beam, of a plow-foot consisting of a pair of bars embracing the beam at their upper ends, a transverse bolt passing through the bars and the beam, said bars having their upper extremities bent rearward and downward below the beam and then upward across the rear end of the beam, those upper extensions embracing the beam and being provided with a series of holes, another bolt passed through a pair of these holes and the intermediate beam, and handles attached to the beam at a point between said two bolts, substantially as set forth.

2. In combination with a plow foot or standard composed of a pair of separated bars, of a rub-iron or shoe attached to the lower ends thereof, said shoe embracing the lower ends of the bars and having a rear extension extending upward along the back of the plow-foot and provided with a vertical series of perforations, and a plow-shovel bolted to the front of the plow-foot, its securing-bolt passing back through one of the perforations in said upward extension.

3. In combination with a plow-beam and a plow foot or standard, of a rub-iron or shoe detachably attached to the lower extremity of the plow-foot, said rub-iron consisting of a socket embracing the lower end of the standard, a part d^4 of the socket extending upward and lying against the front of the plow-foot and another part d extending upward and lying against the back edge of the standard and provided with a vertical series of perforations, and a plow-shovel lying against the front part d^4 and having its securing-bolt passed through one of the perforations in the rear part, for the purpose set forth.

4. In combination with a plow-beam carrying a depending plow-foot, this plow-foot comprising a pair of separated bars, of a rub-iron embracing the lower separated ends of the plow-foot and consisting of a front part d^4 lying against the front side of the plow-foot, a rear upward extension d provided with bolt-holes, and a connecting web portion d^3 lying between the separated bars of the plow-foot, a bolt passing through the bars of the plow-foot and a web portion, and a plow-shovel lying against said front part d^4 and having its securing-bolt passing between the bars of the plow-foot and through one of the holes in the upwardly-extending part d, substantially as set forth.

808,550. **SUBMERGED-SCREEN SIZER AND SEPARATOR.** John H. Callow, Salt Lake City, Utah. Filed Feb. 18, 1905. Serial No. 245,927.

Claim.—1. In a submerged-screen sizing apparatus, the combination with the tank and screen supported therein, of means for imparting a differential reciprocating shaking motion to the screen in a horizontal direction, a relief area provided at the middle portion of the screen, means for increasing the escape of surplus water above the screen-cloth, means for discharging material tending to block said relief area, and means for keeping material to be screened off of said relief area except under abnormal conditions of feed.

2. In a submerged-screen sizing apparatus, the combination with a tank adapted to contain water, of a carrying-frame hung wholly within the tank and buoyantly supported on the surface of the water therein, a screen-frame and screen connected to the carrying-frame within the tank and submerged slightly below the surface of the water, means for imparting a differential reciprocating shaking motion to the carrying-frame in the tank in a horizontal direction, means for maintaining a constant degree of submergence of the screen, means for supplying any lack of water below the screen from the surface water above the screen, and means for permitting the free discharge of air beneath the screen.



3. In a submerged-screen sizing apparatus, the combination with a tank adapted to contain water, of a carrying-frame hung wholly within the tank and buoyantly supported on the surface of the water therein, a screen-frame and screen connected to the carrying-frame within the tank and submerged slightly below the surface of the water, means for imparting a differential reciprocating shaking motion to the carrying-frame in the tank in a horizontal direction, means for delivering material to be screened to one end of the screen, means for maintaining the water at a substantially uniform level in the tank and below the delivering end of the screen, and means for permitting the free discharge of air from beneath the screen.

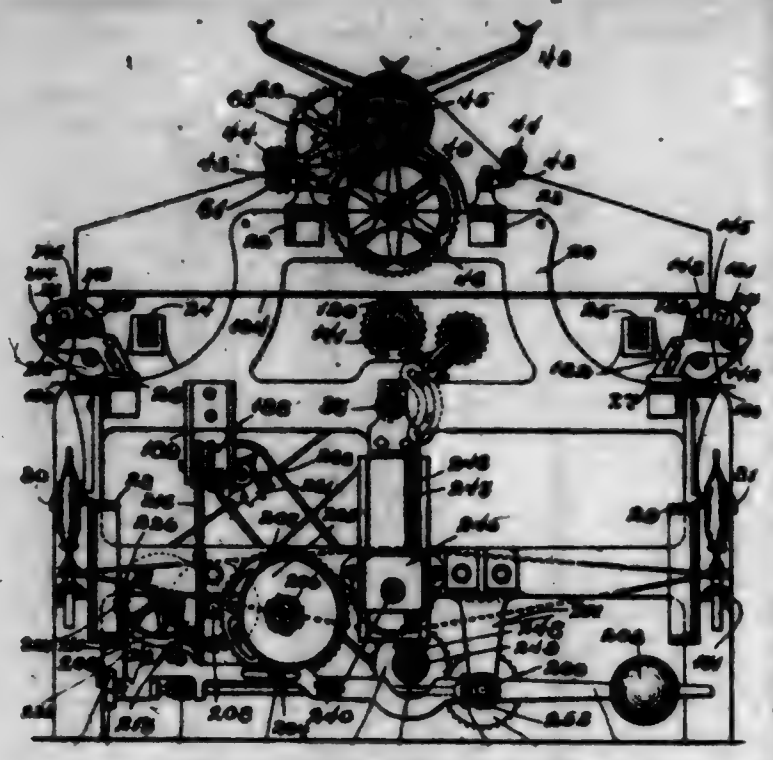
4. In a submerged-screen sizing apparatus, the combination with a tank adapted to contain water, of a carrying-frame hung wholly within the tank and buoyantly supported on the surface of the water therein, a screen-frame and screen connected to the carrying-frame within the tank and submerged slightly below the surface of the water, means for imparting a differential reciprocating shaking motion to the carrying-frame in the tank in a horizontal direction, an inclined lip at the discharge end of the screen above the level of the water in the tank and over which the over-size ore passes from the screen, a weir arranged beneath said lip with a space between the top of the weir and the lip, permitting free discharge of air and surface water under the screen-cloth, means for maintaining a constant degree of submergence of the screen, and means for supplying any lack of water below the screen from the surface water above the screen.

808,551. **SPINNING-MACHINE.** Malcolm Campbell, Boston, Mass. Filed June 24, 1901. Serial No. 66,015.

Claim.—1. A spinning-machine having a ring, a rotary spindle, builder mechanism, spindle-driving mechanism, and means supported independently of said builder mechanism and controlled by the latter, whereby the position of said spindle-driving mechanism is automatically controlled.

2. A spinning-machine having a ring and a traveler, a rotary spindle, a reciprocatory spindle-rail, means for reciprocating the same, a spindle-driving drum, and means independent of said former means for adjusting said drum simultaneously with said rail.

3. A spinning-machine comprising a plurality of spindles, a spindle-rail, builder mechanism for raising and lowering said rail, a spindle-driving drum, and means supported independently of said builder mechanism and controlled thereby, whereby the position of said spindle-driving drum is automatically controlled.



4. A spinning-machine comprising a ring and traveler, a spindle, a spindle-rail, builder mechanism for raising and lowering said rail, a spindle-driving drum, and means independent of and actuated by said builder mechanism for adjusting said drum.

5. A spinning-machine having a reciprocating spindle-rail, means for raising and lowering the same, a spindle-driving drum, bearings therefor supported independent of said rail-reciprocating means, and means for raising and lowering said bearings as said spindle-rail is raised or lowered.

6. A spinning-machine having a reciprocating spindle-rail, a spindle-driving drum, bearings for said drum, and automatically-actuated screw mechanism for raising or lowering said bearings, and said drum, as the spindle-rail is raised or lowered.

7. A spinning-machine having a reciprocatory spindle-rail, builder mechanism for actuating said rail, said mechanism including a lever, a spindle-driving drum, and mechanism independent of said former mechanism and operated by said lever for raising and lowering said drum.

8. A spinning-machine having a spindle-driving drum, a builder mechanism, including a worm-shaft, and means independent of said builder mechanism and operated by said worm-shaft for automatically raising and lowering said drum.

9. A spinning-machine comprising a spindle-rail, means for moving said spindle-rail, a spindle-driving drum, means for adjusting the latter, a builder mechanism independent of said drum-adjusting means and connected with said rail-moving means, and means for simultaneously actuating said builder mechanism and said drum-adjusting means.

10. A spinning-machine comprising a spindle-rail, means for moving said spindle-rail, a spindle-driving drum, means for adjusting said drum, and a builder mechanism having provisions for simultaneously actuating said spindle-rail-moving means and said drum-adjusting means, said mechanism including a shaft geared both to the spindle-rail-moving means, and to the drum-adjusting means.

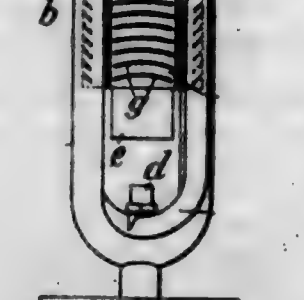
11. A spinning-machine comprising a spindle-rail, means for moving said spindle-rail, a spindle-driving drum, means for adjusting said drum, and a builder mechanism having provisions for simultaneously actuating said spindle-rail-moving means and said drum-adjusting means, said mechanism including a shaft geared both to the spindle-rail-moving means, and to the drum-adjusting means, a lever carrying said shaft and devices for effecting a rotation of said shaft.

12. A spinning-machine having delivery-rolls, a twister-head, drawing-rolls, and interchangeable elliptical and plain gearing whereby said drawing-rolls may be rotated either at a uniform speed by the plain gearing or at an intermittently accelerated and retarded speed by the elliptical gearing.

13. A spinning-machine having a twister-head, delivery-rolls, means including an automatic clutch for intermittently actuating said delivery-rolls, drawing-rolls, and mechanism including elliptical gears for actuating said drawing-rolls, said parts being arranged and related whereby said elliptical gears impart an accelerated movement to said drawing-rolls when the delivery-rolls are letting off the roving.

14. In combination, two separated rolls geared together to rotate in the same direction, a loose roll supported by said rolls, and adapted to coact with one of them, and a rod in such relation to the rolls, that said removable roll may be moved to inoperative position upon said rod and one of the first said rolls.

808,552. CARD AND PHOTOGRAPH HOLDER. ANDREW S. CARLSON, Clearfield, Pa. Filed Apr. 20, 1905. Serial No. 256,023.



Claim.—1. A card and picture holder made from a single strip of metal bent to form a U-shaped base, and perpendicular clips on the two arms of the base intermediate the ends of said arms, substantially as shown and described.

2. A card and picture holder made from a single strip of metal bent to form a U-shaped base, and perpendicular loops comprising clips on the arms of said base intermediate the ends of said arms to receive the card or picture, substantially as shown and described.

3. A card or picture holder made from a single strip of metal bent in its middle to form a straight portion, the two ends extended on parallel lines, then bent upwardly and back to form two loops comprising clips, and the extremities formed with loops on the same plane as the parallel portions, substantially as shown and described.

4. A card or picture holder made from a single strip of metal bent on each side of its middle to form a straight portion, the two ends extended backwardly, then bent forwardly on parallel lines, then bent to form perpendicular loops comprising clips, and the extremities of said strip of metal formed with loops on the same plane as the parallel portions, substantially as shown and described.

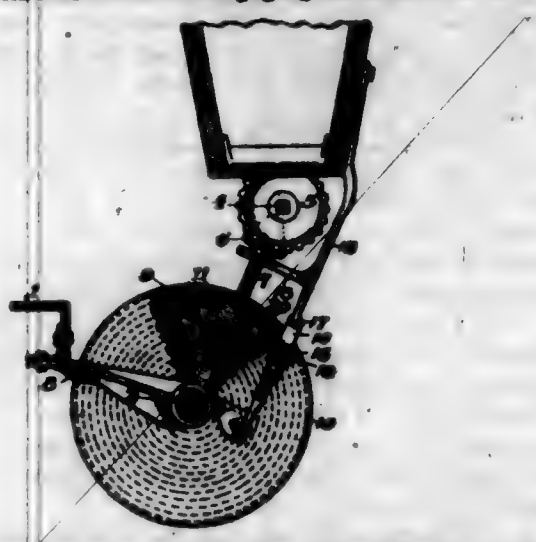
808,553. PETROLEUM-BURNER. SVEN CARLSON, Stockholm, Sweden. Filed Feb. 17, 1905. Serial No. 246,076.

Claim.—A hydrocarbon-burner consisting of an upright tube provided with separate slits whose walls extend in planes inclined upward from the axis of the tube, the middle portions of the slit being slightly higher than the end portions.

808,554. SPEED-CHANGING MECHANISM FOR GRAIN-DRILLS. HENRY J. CASE, Owosso, N. Y., assignor to International Harvester Company, a Corporation of New Jersey. Filed May 13, 1905. Serial No. 260,282.

Claim.—1. In a change-speed mechanism for grain-drills, the combination of a frame member, an axle, an axle-bearing secured to said frame member, a disk mounted on the axle and provided with concentric rows of teeth on the surface thereof, a shaft mounted ad-

jacent said disk and parallel therewith, a pinion slidably mounted on said shaft and adapted to mesh with the teeth on said disk, and having a circumferential channel on the hub thereof means for adjusting said pinion on the shaft comprising a bar mounted parallel with the shaft and secured to said axle-bearing, a sleeve adjustably mounted on said bar, a hollow stem integral with said sleeve, a spring-pressed detent mounted in said hollow stem and having one end engaging with said bar, a hand-wheel rotatably mounted upon the opposite end of said detent and having a cam-surface engaging with an opposing cam-surface on said hollow stem, and a forked arm integral with said sleeve and engaging said channel.



2. In a change-speed mechanism for grain-drills, the combination of a frame member, an axle, an axle-bearing secured to said frame member, a disk mounted on the axle and provided with concentric rows of teeth on the surface thereof, a shaft mounted adjacent to said disk and parallel therewith, a pinion slidably mounted on said shaft and adapted to mesh with the teeth on said disk, means for adjusting the pinion on the shaft comprising a bar mounted parallel with the shaft and having a toothed surface longitudinally disposed relative to the shaft, a sleeve adjustably mounted on said bar and supporting said pinion, a hollow stem integral with said sleeve, a spring-pressed detent mounted in said hollow stem and having one end engaging with said toothed surface, a hand-wheel rotatably mounted upon the opposite end of said detent and having a cam-surface engaging with an opposing cam-surface on said hollow stem.

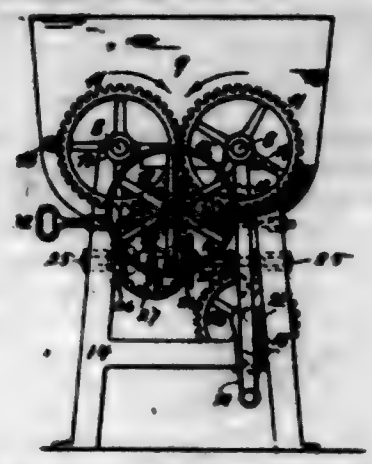
3. In a change-speed mechanism for grain-drills, the combination of a frame member, an axle, an axle-bearing secured to said frame member, a distributer-shaft, a bevel-gear secured to said distributer-shaft, a disk mounted on said axle and provided with concentric rows of teeth on the surface thereof, a shaft mounted adjacent said disk and parallel with the toothed surface thereof, a pinion slidably mounted on said shaft and adapted to mesh with the teeth on said disk, a second pinion mounted on said shaft and meshing with the bevel-wheel on the distributer-shaft, means for adjusting said first-mentioned pinion on its shaft, comprising a bar mounted parallel with the shaft and having a toothed surface longitudinally disposed relative to the shaft, a forked arm integral with said bar and operative to hold said second pinion in engagement with the bevel-wheel on the distributer-shaft, a sleeve adjustably mounted on said bar and adjustably supporting said first-named pinion, a hollow stem integral with said sleeve, a spring-pressed detent mounted in said hollow stem and having one end engaging with said toothed surface, and means for releasing said detent.

808,555. MIXING-MACHINE. HENRY C. CHAMBERS, Cincinnati, Ohio, assignor to Superior Tool & Supply Co., Cincinnati, Ohio, a Firm. Filed Apr. 24, 1905. Serial No. 257,089.

Claim.—1. In a mixing-machine, the combination of a trough, trunnion-journals on opposite sides thereof, supports for them, a lifter-rod attached with one of its ends to one of the sides of the trough and means to actuate this rod in a manner to raise or lower the trough on its journals.

2. In a mixing-machine, the combination of a trough provided with agitating devices, trunnion-journals on opposite sides thereof, frames on which they are supported, a lifter-rod attached with one of its ends to the side of the trough, a crank-arm supported on the machine-frame and connected with its free end to the other end of the lifter-rod and means to rotate this crank-arm in a manner to cause the lifter-rod to raise or lower the trough on its journals.

3. In a mixing-machine, the combination of a trough provided with agitating devices, trunnion-journals on opposite sides thereof, frames on which they are supported, a lifter-rod attached with one end to the side of the trough, a crank-arm, a shaft on which it is supported, a worm-wheel mounted on this shaft, a worm to rotate the same and means to actuate the worm.



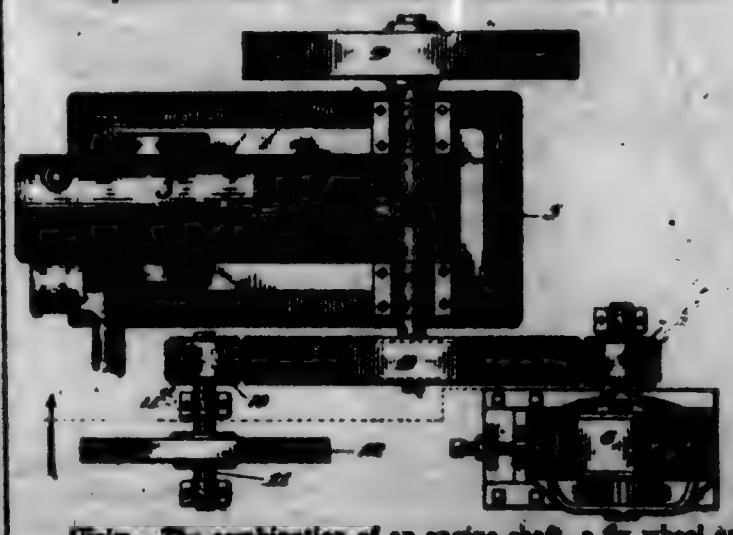
4. In a mixing-machine, the combination of a trough provided with agitating devices, trunnion-journals on opposite sides thereof, frames on which they are supported a lifter-rod attached to one of the sides of the trough, mechanism operating to actuate this rod to swing the trough on its journals, means to start the operation of this mechanism, a slidable handle-rod to manipulate these means supports for it, in which it moves and complementary projections on this rod and on the trough whereby the motion of this latter is automatically stopped.

5. In a mixing-machine, the combination of a trough, two sets of agitating devices, shafts on which they are carried and the ends of which shafts are mounted in opposite sides of the trough, means to rotate these shafts, trunnion-journals projecting from opposite sides of the trough, a machine-frame on which they are supported, a tilting rod attached with one of its ends to one end of one of the agitator-shafts which for such purpose is extended beyond the trough and mechanism to actuate this tilting rod.

6. In a mixing-machine, the combination of a trough, two sets of agitating devices, shafts on which they are carried and the ends of which shafts are mounted in opposite sides of the trough, through and beyond which they project, means to rotate these shafts, the extended end of one of them forming trunnion-journals, a machine-frame on which they are supported, a tilting rod attached with one of its ends to the extended end of the other agitator-shaft and means to actuate this tilting rod.

7. In a mixing-machine, the combination of a trough, agitating devices carried therein, engaging gear-wheels to operate them, trunnion-journals on opposite sides of the trough, a machine-frame on which they are supported, tilting mechanism to swing the trough on these journals, a driving-shaft 28 for this tilting mechanism a gear-wheel 29 mounted on it, a pinion simultaneously in mesh with this gear-wheel and with one of the gear-wheels of the agitating devices, thus simultaneously operating these latter and shaft 28 an intermediate clutch device whereby the operation of the driving-shaft for the tilting device may be interrupted and started at will and means to manipulate this clutch device.

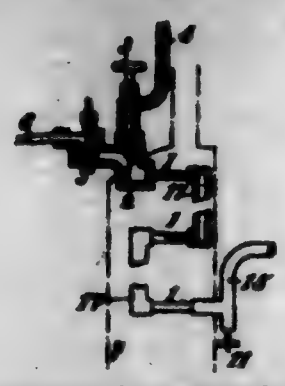
808,556. POWER DRIVING MECHANISM. JAMES A. CHAPPIE, Chicago, Ill., assignor to Fairbanks, Morse & Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 30, 1903. Serial No. 91,333.



Claim.—The combination of an engine shaft, a fly wheel and pulley thereon, a driven shaft, a supplemental shaft, a fly wheel and

a pulley thereon much smaller than the engine pulley, and a belt connecting said supplemental pulley to the driven shaft, partly engaging and being frictionally driven by the engine pulley, whereby the supplementary fly wheel rotates faster than the engine fly wheel and pulley and acts as an equalizing governor between the engine pulley and the frictionally driven machine.

808,557. PROCESS OF GENERATING GAS. CHARLES H. CLAUSEN, Argenteuil, France, assignor to Compagnie du Carburateur Clausen, Paris, France. Filed May 25, 1903. Serial No. 158,632.

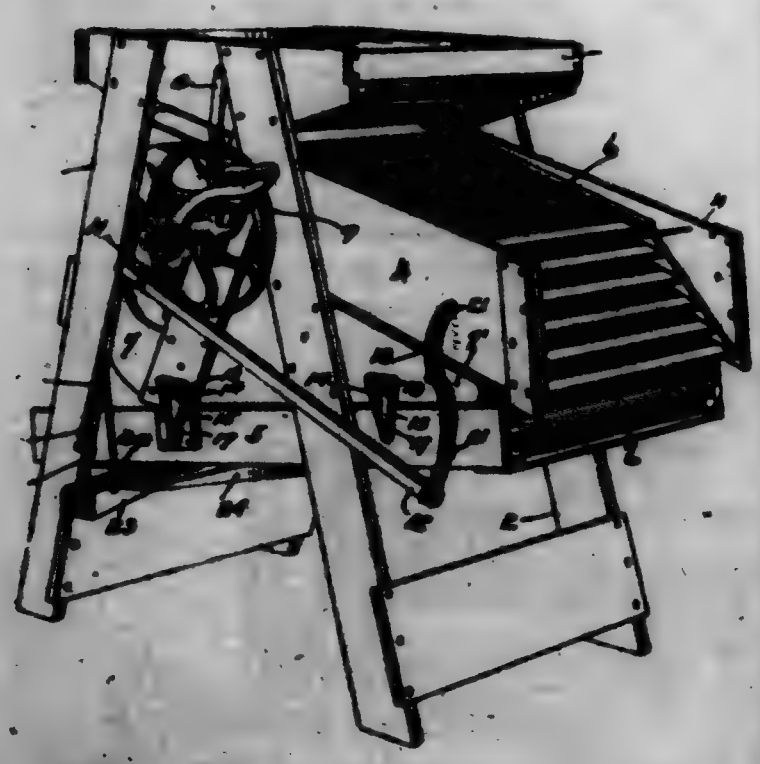


Claim.—1. The process of converting hydrocarbonaceous liquids into combustible gases which consists in heating the liquid in circulation sufficiently to cause vaporization and dissociation, and mixing and causing to circulate therewith, during heating and in the absence of steam other than that found in the products of combustion, gaseous products of combustion which are rich in carbonic acid and inert gases, substantially as and for the purpose set forth.

2. The process of converting hydrocarbonaceous liquids into combustible gases which consists in heating the liquid in circulation sufficiently to cause vaporization and dissociation, and mixing and causing to circulate therewith, during heating and in the absence of steam other than that found in the products of combustion, uncooled gaseous products of combustion which are rich in carbonic acid and inert gases, substantially as and for the purpose set forth.

3. The process of converting hydrocarbonaceous liquids into combustible gases, which consists in heating the liquid in circulation sufficiently to cause vaporization and dissociation, and mixing and causing to circulate therewith during heating, burnt gases consisting of the exhaust gases from internal-combustion motors, substantially as and for the purpose set forth.

808,558. FANNING-MILL. ANDREW V. CLELAND, Minneapolis, Minn. Filed Aug. 22, 1904. Serial No. 221,220.



Claim.—1. The combination, with a frame and an oscillating sieve-shoe and means for operating the same, of hanger-plates having a plurality of pivot-pin holes at one end and adjustably connected by means of said holes to said shoe, and said plates having a connection at the other end with said frame that is adapted to impart a jolting, jarring action to said shoe when it is oscillated, substantially as described.

2. The combination, with a fanning-mill, of a sieve-shoe, plates provided with a plurality of pivot-holes at one end, pivot-pins fitting said holes and adjustably connecting said plates to said shoe, the opposite ends of said plates being provided with slots, fixed pins adapted to enter said slots and allow a rocking movement of said plates thereon, and means for oscillating said shoe.

3. In a fanning-mill, the combination, with the sieve-shoes 4 and 5 and the fan-casing 7 arranged between them, of plates having longitudinal slots in their upper ends adapted to receive fixed bins on said fan-casing, the lower ends of said plates being pivotally attached to said shoe 5 whereby when said shoe is oscillated a jarring, jolting action will be imparted thereto, and means for oscillating said shoe.

4. In a fanning-mill, the combination, with side delivery-spouts, of a bell-crank, a pitman-rod, rods connecting the arms of said bell-crank with said pitman-rod and said spouts, whereby a longitudinal movement will be imparted to said spouts when said rod is operated, sieve-shoes connected with said pitman-rod and operating in a direction substantially at right angles to the movement of said spout.

5. In a fanning-mill, the combination, with pivotally-supported shoes and a fan-casing having horns projecting between said shoes, of bars having tapered studs fitting within sockets in said shoes, and intermediate pivotal supports on said horns, and a rod threaded at each end and provided with nuts and connecting said intermediate pivots through said horns, and means for oscillating said bars, substantially as described.

6. The combination, with a fanning-mill, of a sieve-shoe, plates provided with pivot-holes at one end, pivot-pins fitting said holes and connecting said plates to said shoe, the opposite ends of said plates being provided with slots, fixed pins adapted to enter said slots and allow a rocking movement of said plates thereon, and means for oscillating said shoe.

808,559. CONSTRUCTION OF FIREPROOF BRICK FLOORS. OTTOMAR CRACCIUS, Halle-an-der-Saale, Germany, assignor to Richard Faber, Formsteinbau, near Magdeburg, Germany. Filed Dec. 11, 1901. Serial No. 85,357.



Claim.—Ceilings or floors composed of hollow bricks connected longitudinally by sleeves fitted into the hollows of the bricks and having wires stretched longitudinally and transversely across the ceilings or floors, said wires being embedded in the binding-mortar at or near the lower edges of the bricks, substantially as described.

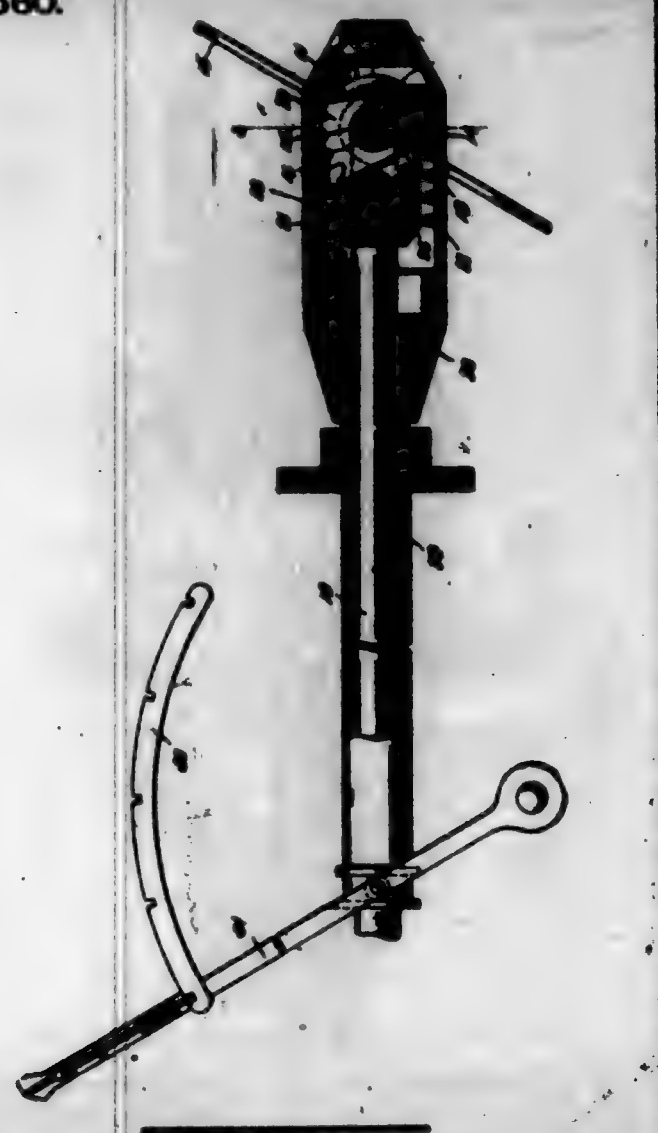
808,560. REVERSING PROPELLER. EVERETT B. CUSHMAN and LESLIE S. CUSHMAN, Lincoln, Nebr. Filed June 24, 1905. Serial No. 266,242.

Claim.—1. In a screw-propeller, a shaft, a recessed head-block at the end of the shaft, propeller-blades having interengaging stems extending through said block, gear-segments carried by the stems, a longitudinally-movable casing surrounding the head-block and slotted for the passage of the stems, and racks carried by the casing and intermeshing with the gear-segments.

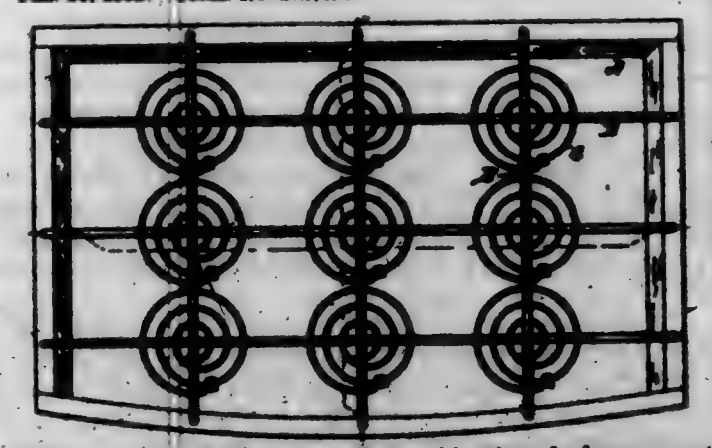
2. In a screw-propeller, a shaft, a recessed head-block at the end of the shaft, propeller-blades having stems extending through openings in the head-block, gear-segments secured to said stems and serving to prevent longitudinal displacement of the same, and a longitudinally-movable slotted casing surrounding said head-block and having racks with which the gear-segments intermesh.

3. In a screw-propeller, the combination with a shaft, of a recessed head-block at the end of the shaft, propeller-blades having interfitting stems extending through the head-block, gear-segments secured to the stems and arranged within the recessed portion of the head-block, the gear-teeth of the segments being disposed at diametrically opposite points with respect to the axis of the shaft, a sectional casing surrounding the shaft and slotted for the passage of said stems, a bolt connecting the outer ends of the casing-sections, a cap member secured to and connecting the inner ends of said sections, said cap extending around the shaft, a sleeve secured to the shaft, a sleeve-adjusting means, and racks carried by the casing and intermeshing with the teeth of the gear-segments.

808,560.



808,561. SPRING. FRANK P. D'ARCY, Kalamazoo, Mich. Filed Jan. 11, 1902. Serial No. 89,602.



Claim.—In a spring structure, the combination of a frame; a set of rods arranged in said frame; a second set of rods arranged transversely to the said first-mentioned rods and having kinks therein to engage the same at their points of intersection; conical springs having kinks in their bottom coils on their quarters, adapted to engage said rods and interwoven therewith by being arranged over one of said rods and under its intersecting rod, the ends of said bottom coils of said springs being free so that they may be engaged with said rods by a twisting movement of the springs, for the purpose specified.

808,562. FLUE-CLEANER. SIMEON W. DEAN, Fort Erie, Canada, assignor of one-half to The Sherwood Manufacturing Company, Buffalo, N. Y., a Corporation of New York. Filed Mar. 1, 1905. Serial No. 247,999.



Claim.—1. In a tube or flue cleaner, the combination with a piston and means for causing reciprocation thereof, of a rapper or hammer moved as an entirety by said piston, and a casing provided with a guideway having straight and curved portions forming continuations of each other, in which the hammer or rapper is adapted to travel.

2. In a tube or flue cleaner, the combination with a piston and means for causing reciprocation thereof, of a curved rapper or hammer, a flexible connection or joint between the rapper or hammer and the piston, said rapper or hammer being moved as an entirety by said piston, and a casing provided with a guideway having straight and curved portions constituting continuations of each other in which the hammer or rapper travels, and said curved portion of the guideway being of substantially the curvature of the hammer.

3. In a tube or flue cleaner, the combination with a piston and means for causing reciprocation thereof, of a curved rapper or hammer connected to and moved by the piston as an entirety, and a casing provided with a guideway having a curved portion in which the hammer is adapted to travel, and a curved wear-plate constituting a facing for the wall of said curved portion of the guideway.

4. In a tube or flue cleaner, the combination with a piston or rod, of a hammer or rapper adapted for movement as an entirety, links pivotally connecting the hammer and the rod, and a block interposed between the rod and the hammer and bearing against them.

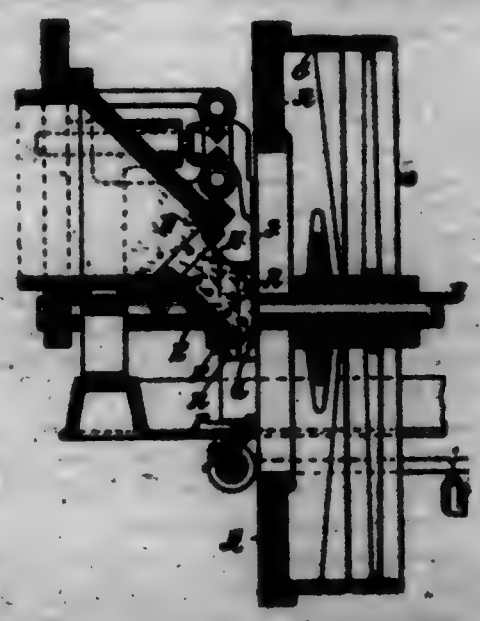
5. In a tube or flue cleaner, the combination with a piston or rod, of a hammer or rapper adapted for movement as an entirety, links pivoted to the hammer and the rod and located in separate arrangements, and a block having curved faces matching and bearing against similar portions on the rod and hammer, said block being loosely positioned between the hammer and rod and between the links.

6. In a flue-cleaner, a circularly-curved hammer whose head is adapted to project at right angles to the surface of the flue-cleaner, a circularly-curved die upon which said hammer rides, and means for actuating the said hammer.

7. In a flue-cleaner, a circularly-curved hammer whose head is adapted to project at right angles to the surface of the flue-cleaner, a circularly-curved die upon which the said hammer rides, a piston adapted to travel upon the axis of the said flue-cleaner, a piston-rod, means for actuating the said piston, and a link connection between said hammer and said piston-rod comprising two plates which at one of their ends are each pivoted to the said piston-rod and at their opposite ends are each pivoted to the said hammer, an intermediate block inserted between said plates which bears directly against said hammer at one end and mediately against said piston-rod at its opposite end.

8. In a flue-cleaner, a circularly-curved hammer whose head is adapted to project at right angles to the surface of the flue-cleaner, a circularly-curved die upon which said hammer rides, a piston adapted to travel upon the axis of the flue-cleaner, means for actuating the said piston, a piston-rod, a driving-plate secured to the end of said piston-rod and a link connection between said hammer and said piston-rod comprising two plates which at one of their ends are each pivoted to the said piston-rod and at their opposite ends are each pivoted to the said hammer, an intermediate block inserted between said plates which bears directly against said hammer at one end and directly against the said driving-plate at the opposite end.

808,563. CLAY-CLEANING DEVICE. HERMANN DEMMERN, Charlottenburg, Germany. Filed Sept. 19, 1902. Serial No. 124,002.



Claim.—1. The combination of a rotary annular disk, a support for a column of clay adjacent to the face of said disk and forming

therewith a slit, a reciprocating clearing device traversing said slit, and means forming receptacles arranged at the ends of the slit, substantially as set forth.

2. The combination of a rotary annular disk, a support for a column of clay adjacent to the face of said disk and forming therewith a slit, a knife located at a distance from the column of clay for removing the clay from the face of the disk, a reciprocating clearing device traversing said slit, and means forming receptacles arranged at the ends of the slit, substantially as set forth.

3. The combination of a rotary annular disk, a support for a column of clay adjacent to the face of said disk and forming therewith a slit, a reciprocating clearing device movable from end to end of the slit, and means forming valved receptacles arranged at the ends of the slit, substantially as set forth.

4. The combination of a rotary annular disk, a support for the column of clay adjacent to the face of said disk and forming therewith a slit, a reciprocating clearing device movable from end to end of the slit, side extensions, each with a movable side normally at a distance from said column of clay and forming an opening with the bottom of said extension, whereby a wall of the matter removed from the clay is formed between such column of clay and said movable side and opening, substantially as set forth.

5. The combination of a rotary annular disk, a support for the column of clay adjacent to the face of said disk and forming therewith a slit, a knife located at a distance from the column of clay for removing the clay from the face of the disk, a reciprocating clearing device movable from end to end of the slit, side extensions, each having its side at a distance from said column of clay and forming an opening with the bottom of said extension, whereby a wall of the matter removed from the clay is formed between said column of clay and said side and opening, substantially as set forth.

6. The combination of a rotary annular disk, a support for the column of clay adjacent to the face of said disk and forming therewith a slit, a knife located at a distance from the column of clay for removing the clay from the face of the annulus, a reciprocating clearing device movable from end to end of the slit, side extensions, each with a movable side normally at a distance from said column of clay and forming an opening with the bottom of said extension, whereby a wall of the matter removed from the clay is formed between such column of clay and said movable side and opening, substantially as set forth.

7. In a clay-cleaning device, the combination of a rotary disk, a support for a column of clay adjacent the face of said disk and forming therewith a slit, a reciprocating clearing device traversing said slit, a lower support at each end of said slit and forming a lateral continuation of the bottom wall thereof, and a movable wall forming with said support a receptacle for matter removed from the clay by by said clearing device and adapted to be forced outward by the pressure of such matter.

808,564. AIR-BRAKE MECHANISM. JOHN DULLARDEE, San Francisco, Cal. Filed Oct. 6, 1904. Serial No. 227,422.

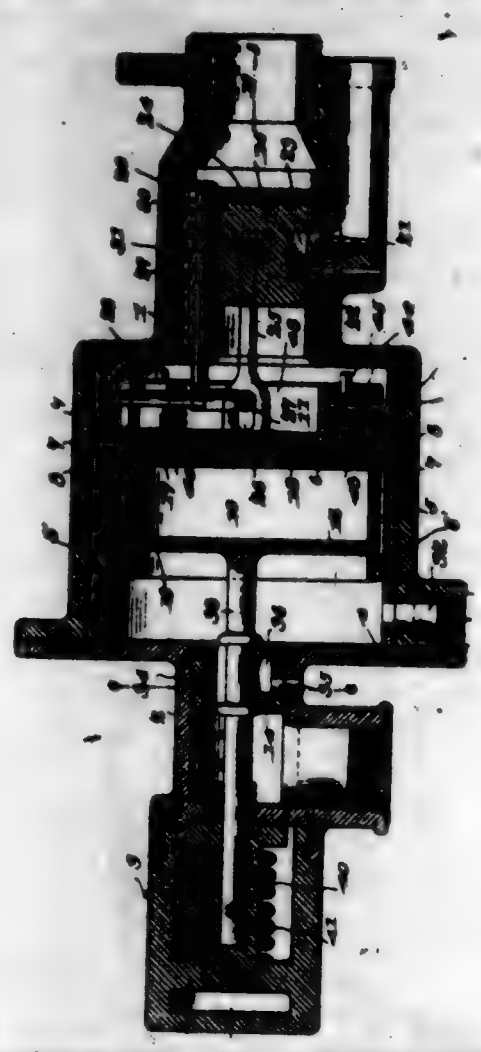
Claim.—1. In air-brake mechanism, a triple valve movable to auxiliary-reservoir-recharging and brake-cylinder-pressure-retaining position under full-release pressure, and an auxiliary means having a fixed limit of operative movement for automatically moving the valve to brake-cylinder-exhaust position under reduction of said pressure.

2. In air-brake mechanism, a recharging triple valve having a main valve movable beyond brake-cylinder-exhaust position under full-release pressure, and an auxiliary means having a fixed limit of operative movement for returning said valve to brake-cylinder-exhaust position when the pressure is reduced.

3. In air-brake systems, a main valve movable under full-release pressure to a position beyond brake-cylinder exhaust, a main piston movable under the same pressure to auxiliary-reservoir-recharging position, and means for returning the valve to brake-cylinder-exhaust position on equalization of the pressure, while the piston still maintains feed position.

4. A recharging triple valve movable under excess pressure to blank the brake-cylinder port, and an auxiliary means having a fixed limit of operative movement for moving the valve to brake-cylinder-exhaust position on reduction of such pressure.

5. In air-brake mechanism of that type in which the brakes are set by the reduction of train-pipe pressure and equalization of auxiliary-reservoir pressure into the brake-cylinder, a main valve having an excess movement beyond brake-cylinder-exhaust position, and returnable to brake-cylinder-exhaust position on reduction of train-pipe pressure, and an auxiliary means for insuring such return movement.



6. In a recharging triple valve, a main valve movable to auxiliary-reservoir-recharging and brake-cylinder-pressure-retaining position under full-release pressure, and a spring for restoring the valve to brake-cylinder-release position, said spring being placed under stress when the parts are subjected to full-release pressure.

7. In a triple valve, a main valve, a graduating-valve, means for moving the main valve to brake-cylinder blanking, and auxiliary-reservoir-recharging position when subjected to full-release pressure, and a spring for restoring the main valve to brake-cylinder-exhaust position when relieved from full-release pressure.

8. In triple-valve mechanism, a casing having a valve-guiding groove and provided with a valve-seat, a main valve disposed in said seat, a graduating-valve carried by the main valve, and guided partly by said groove, and independent operating mechanisms for the two valves.

9. In a triple-valve mechanism, a main valve, a graduating-valve, a piston connected to the graduating-valve and provided with a cylinder, a second piston arranged within the cylinder and connected to the main valve, pockets arranged within the second piston, spring-pressed pins disposed in said pockets and adapted to engage against portions of the fixed casing when the parts are moved to recharging position, said springs serving to move the pistons and valves to release position on the reduction of train-pipe pressure.

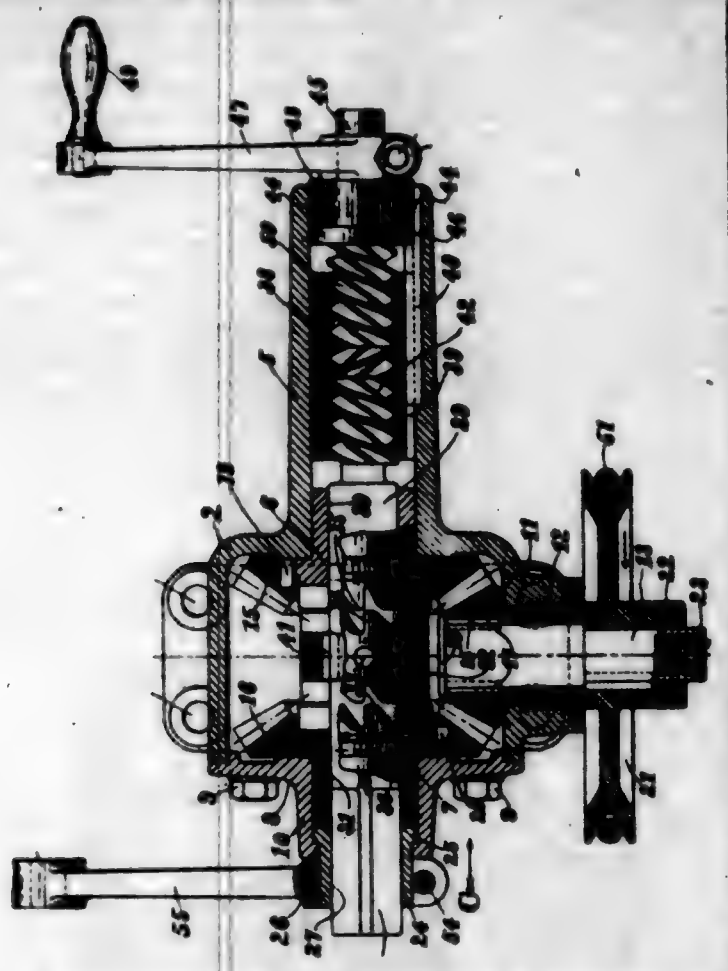
808,565. MECHANICAL MOVEMENT. AUGUSTO DINA, West Hoboken, N. J., assignor of one-half to Alfred Adamson, Dobbs Ferry, N. Y. Filed Nov. 25, 1904. Serial No. 234,338.

Claim.—1. The combination in clutch-reversing mechanism with a slidable clutch member, of means synchronously slidable and rotatable coaxial with said slidable clutch member for automatically returning said slidable clutch member to its idle position when moved therefrom, all combined and operating together substantially as described.

2. The combination in power-driven clutch-reversing mechanism with a slidable double-ended clutch member, of means synchronously slidable and rotatable coaxial with said slidable clutch member for automatically returning said slidable clutch member to its idle position when moved therefrom, all combined and operating together substantially as described.

3. The combination in a gear-and-clutch reversing mechanism with a slidable clutch member, of a reciprocatable nut, a screw in engagement with one end of said nut for reciprocating the same and a screw on the clutch member in engagement with the other end of

said nut for reciprocation thereby, all combined and operating together substantially as described.



4. The combination of a pair of oppositely-disposed clutch members, means for rotating them in opposite directions, a double-ended clutch member between said oppositely-disposed clutch members for engagement with either thereof, means coaxial with said clutch members for moving said double-ended clutch member into engagement with either of the oppositely-disposed clutch members and means also coaxial with said clutch members for automatically removing said double-ended clutch member from engagement therewith, all combined and operating together substantially as described.

5. The combination of a pair of oppositely-disposed clutch members 6, 7, means for rotating them in opposite directions, a double-ended clutch member disposed between said clutch members for engagement with either thereof, a slidable nut 38, an actuating-screw 45 for engagement therewith, said double-ended clutch member having a threaded extension for engagement with the slidable nut, all combined and operating together substantially as described.

6. The combination in power-driven clutch-reversing mechanism with oppositely-disposed clutch members rotatable in opposite directions, a slidable double-ended clutch member between said oppositely-disposed clutch members for engagement therewith, of means synchronously slidable and rotatable coaxial with the clutch members for automatically releasing said double-ended clutch member from engagement with either of said oppositely-disposed clutch members whenever the double-ended clutch member is in engagement therewith.

7. The combination of opposite clutch members 6, 7, bevel-gears 15, 16 thereon respectively, bevel-gear 14 in engagement with gears 15, 16, double clutch member 32 for engagement with clutch members 6, 7, slidable nut 38, actuating-screw 45, threaded member 42 on clutch member 32 in engagement with nut 38, all combined and operating together substantially as described.

8. The combination, with power-actuated reversing mechanism, of means for communicating to said mechanism from hand-initiated movements, power-actuated movements corresponding in direction and amount with the hand-initiated movements.

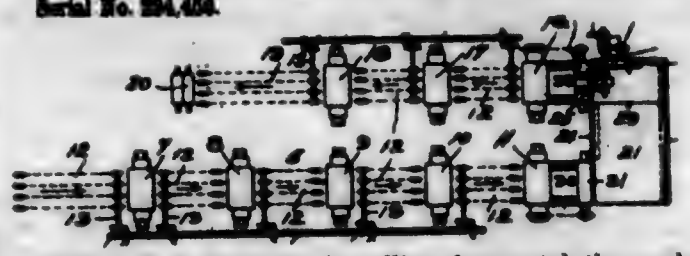
9. The combination, with gear-and-clutch power-actuated reversing mechanism, of means for communicating to said mechanism from hand-initiated angular movements power-actuated angular movements corresponding in direction with, and proportionate in amount to the hand-initiated angular movements.

10. The combination with power-actuated reversing mechanism of means comprising a slidable nut 38, actuating-screw 50 and actuated screw 42 for communicating to said mechanism from hand-initiated movements, power-actuated movements corresponding in direction and intensity with the hand-initiated movements, all combined and operating together substantially as described.

803,566. CORE COMPOUND. RALPH DITTY, Cleveland, Ohio, assignor to Buckeye Milling Co., Cleveland, Ohio, a Corporation. Filed Jan. 6, 1905. Serial No. 239,704.

Claim.—A core composition consisting of flour, gypsum, sawdust, salt, and dextrine, in substantially the proportions stated.

803,567. APPARATUS FOR ROLLING SHEET AND TIN PLATE. PERCY E. DONHAM, Columbus, Ind. Filed Sept. 14, 1904. Serial No. 224,454.



Claim.—1. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged side by side and so as to feed in opposite directions, and a matching device located at the exit side of the first set and entrance side of the second set and arranged to receive the plates from the first set, move the same sidewise into line with the second set and deliver the same rear end foremost to said second set, said matcher being provided with suitable stop mechanism and having that portion thereof in line with the second set of rolls inclined toward the rear.

2. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged side by side and so as to feed in opposite directions, and a matching device located at the exit side of the first set and entrance side of the second set and arranged to receive the plates from the first set, move the same sidewise against a stop in line with the second set and then deliver the same to said second set rear end foremost, said matcher being provided with suitable stops for squaring up the rear ends of the plates and having that portion thereof in line with the second set of rolls inclined toward the rear.

3. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged side by side and so as to feed the plates in opposite directions, and a matching device extending from the exit side of the first set to the entrance side of the second set and having a double downward inclination from the horizontal, whereby the plates are moved sidewise with reference to the direction in which they are received and are moved backward with reference to said direction, said matcher being provided with suitable stop mechanism.

4. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged side by side and so as to feed the plates in opposite directions, and a matching device located on the exit side of the first set and entrance side of the second set and having a double downward inclination from the horizontal, said matcher being provided with side and end stops adjacent to the second set of rolls, whereby the plates will slide sidewise from the first set of reducing-rolls into line with the second set of reducing-rolls with their edges against the side stop, and then slide endwise toward said second set of reducing-rolls with their end edges against the end stop.

5. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged side by side and so as to feed the plates in opposite directions and being located at different levels, and a matching device located at the exit side of the first set and entrance side of the second set and having a double downward inclination with its higher end in proximity to the rolls at the higher level and its lower end in proximity to the rolls at the lower level, said matcher having a side stop in position to act as a guide for directing the plates into the second set of reducing-rolls and also having retractable stops in front of said second set of reducing-rolls, and means for retracting said last stops, whereby the plates will slide downwardly against the side stop and in position for entering the second set of rolls and will then move endwise against the retractable stops for squaring up their rear end edges.

803,568. APPARATUS FOR ROLLING SHEET AND TIN PLATE. PERCY E. DONHAM, Pittsburg, Pa. Filed Mar. 17, 1905. Serial No. 250,688.

Claim.—1. In apparatus for rolling sheet metal, the combina-

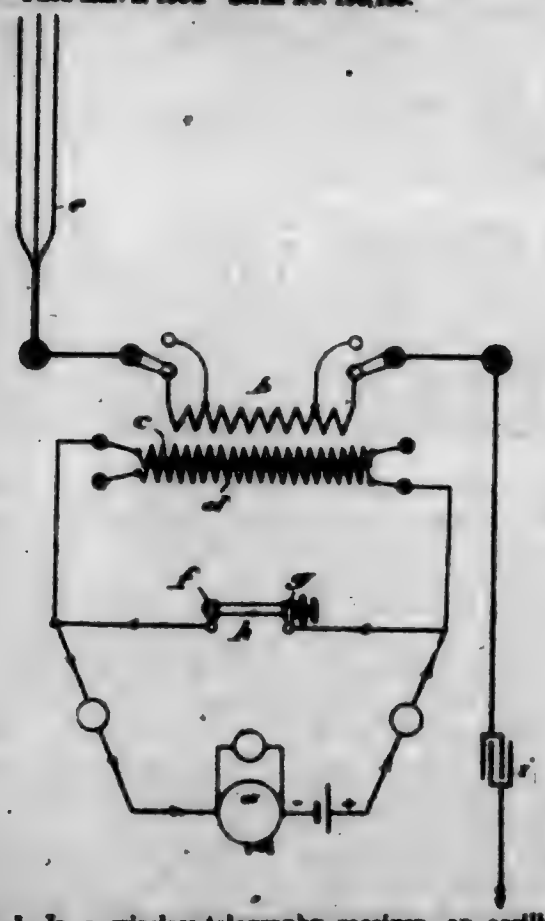
tion of two sets of reducing-rolls, a matching device located between said sets of rolls, a stop at the delivery end of said matcher, and power mechanism for raising the rear end of said matcher and bringing the latter into position to deliver to the second set of reducing-rolls.



2. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls, a matching device located between said sets of rolls and pivoted adjacent to its delivery end, a retractable stop at the delivery end of said matcher, and power mechanism for raising the rear end of the matcher.

3. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls, a matching device located between said sets of rolls and pivoted forward of its delivery end, suitable stop mechanism in said matcher, and power mechanism for raising the receiving end of said matcher.

808,569. INDUCTION-TRANSFORMER FOR WIRELESS-TELEGRAPHY RECEIVING-STATIONS. Eugène Ducretet, Paris, France. Filed Mar. 2, 1904. Serial No. 196,122.

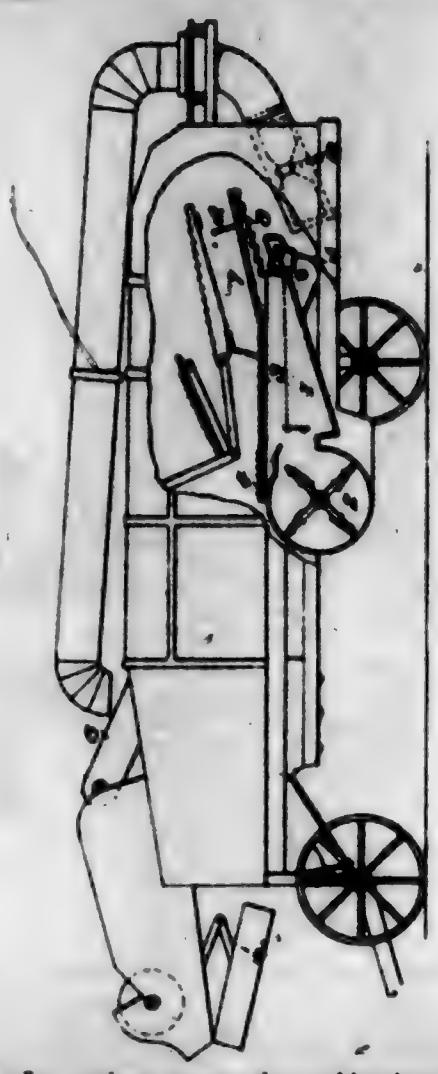


Claim.—1. In a wireless-telegraphy receiver, an oscillation-transformer comprising a single primary and a plurality of secondary windings insulated from each other, each secondary winding having a free extremity.

2. In a wireless-telegraphy receiver, an oscillation-transformer comprising a single primary and a plurality of secondary windings parallel to and insulated from each other, each secondary winding having a free extremity, a receiving device connected with one end of the primary, and a ground-wire connected with the opposite end of said primary.

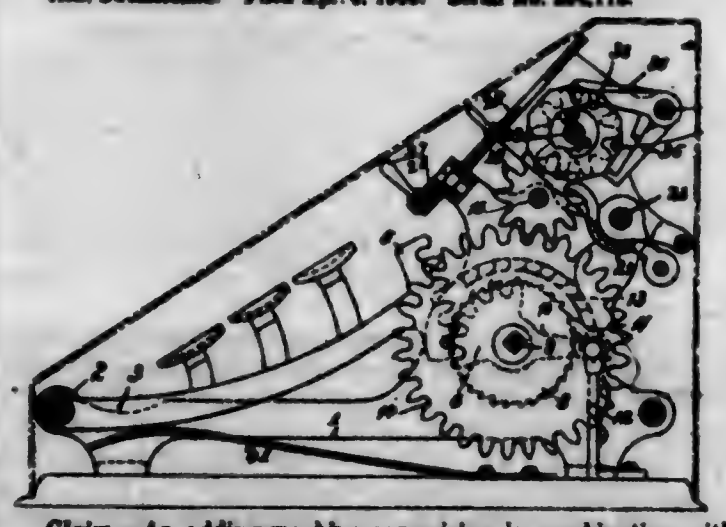
3. In a wireless-telegraphy receiver, an oscillation-transformer comprising a single primary and a plurality of secondary windings parallel to and insulated from each other, each secondary winding having a free extremity, a receiving device connected with one end of the primary, a ground-wire connected with the opposite end of each primary, and a condenser interposed in the ground-wire connection.

808,570. CHAFFER ATTACHMENT FOR GRAIN-SEPARATORS. Alvey D. Dunkelberg, Manhattan, Kans. Filed Dec. 16, 1904. Serial No. 236,965.



Claim.—In a grain-separator, the combination of a main chaffer, an auxiliary chaffer arranged for simultaneous movement therewith, a bottom or deflector arranged below said auxiliary chaffer and having its upper surface stepped, and its front end extended over the tailings-spout of the shoe, and a flexible closure connected at one end to the deflector and at its opposite end to the rear end of the tailings-spout of the shoe, substantially as set forth.

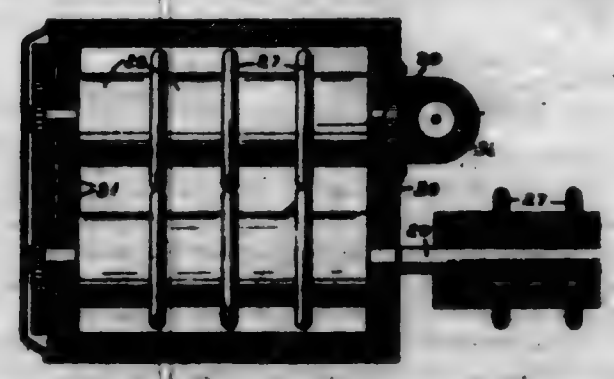
808,571. ADDING-MACHINE. Rafael Bauer, Zürich, Switzerland, assignor to Aktien-Gesellschaft Fürstenländische Industrie, Zürich, Switzerland. Filed Apr. 6, 1905. Serial No. 254,175.



Claim.—An adding-machine comprising in combination with the frame of the machine and key-levers pivoted to a rigid axle in the front end of the frame, a rack at the end of each key-lever, an axle revolubly mounted in the frame of the machine, catch-wheels keyed to said axle and toothed segments loosely mounted on the hubs of said catch-wheels and engaging with the racks of the corresponding key-levers, arms rearwardly projecting from one of each toothed segments, a spring-influenced pawl for each ratchet-wheel linked to said frame and engaging with the corresponding ratchet-wheel, an abutment-piece with abutments of various lengths arranged above the ratchet-wheels, a large toothed wheel at the right-hand end of the revolubie axle, an axle revolubly mounted in the upper end of the frame, a small spur-wheel keyed to said upper axle and gearing with

the large toothed wheel of the lever-axle, two pairs of double wheels loosely mounted on the upper axle, each consisting of a toothed wheel and a ratchet-wheel, spring-catches one for each ratchet-wheel fixed to the frame of the machine, a carriage movably pivoted in the upper end of the frame, a revoluble axle above the pivot of the carriage, ten sleeves keyed to said axle, spring-catches for braking said sleeves, number-disks, one on each sleeve, toothed wheels with ten teeth one on each sleeve and cams one on each sleeve, an axle movably located in the upper end of the carriage, hooked levers one for each sleeve rigidly fixed to said upper axle, and brakes one for each sleeve loosely mounted on said upper axle and abutting with their rearward shorter arms against the corresponding hooked levers, a stop-pin on the zero-point of each number-disk, a spring-catch at the right-hand end of the upper axle, a disk keyed to the right-hand end of the lower axle of the carriage provided with an incision for the spring-catch, blade-springs one below each key-lever and a hand-wheel at the left-hand side of the pivot of the carriage, substantially as described and shown and for the purpose set forth.

808,572. COTTON-PICKING MACHINE. WILLIAM B. ROBINSON, Memphis, Tenn. Filed Apr. 11, 1905. Serial No. 255,021.



Claim.—1. In a cotton-picking machine, a flexible conduit, means for creating a suction in said conduit, a cotton-picker carried by the end of the flexible conduit and embodying a pair of rollers having parts turning inwardly in contact with one another and spaced apart between said parts, and a flexible shaft for transmitting motion to said cotton-picker.

2. In a cotton-picking machine, the combination with the conduit, of a pair of rollers directing the cotton into the conduit and having parts turning inwardly in contact with one another and spaced apart between said parts.

3. In a cotton-picking machine, the combination with the conduit, of a pair of rollers directing the cotton into the conduit and each having a plurality of yielding disks, each disk turning in contact with a disk on the other roller.

4. In a cotton-picking machine, the combination with a flexible conduit and a flexible shaft, of a pair of rollers driven by the flexible shaft and carried by the conduit, each roller having yielding parts extending completely around it and turning continuously in contact with like parts on the other.

5. In a cotton-picking machine, the combination with a flexible conduit and a flexible shaft, of a pair of rollers driven by the flexible shaft and carried by the conduit, each roller having yielding disks turning inwardly in contact with like yielding disks on the other, and washers or collars spacing the disks apart.

6. The combination with the vehicle, of an open-mesh receptacle supported in an elevated position thereon and having a discharge-opening at its bottom, a pair of lateral conduits extending from the vehicle near its rear end, lateral shafts also extending from the vehicle, flexible conduits arranged in pairs spaced from one another and communicating with the lateral conduits, flexible shafts arranged in pairs and connected with the lateral shafts, means for driving the lateral shafts, a fan for each lateral conduit causing a suction therein, and connections between each fan and the receptacle.

7. In a cotton-picker, a pair of rollers having parts extending completely around them and turning continuously in contact with one another and spaced apart between said parts and means for creating a suction on one side of said rollers.

8. In a cotton-picker, a pair of rollers having yielding portions extending completely around them and turning continuously in contact with one another and means for creating a suction on one side of said rollers.

9. In a cotton-picker, a pair of rollers having yielding portions extending completely around them and turning continuously in contact with one another and spaced apart between said yielding portions and means for creating a suction on one side of said rollers.

10. In a cotton-picker, a pair of rubber disks turning in contact with one another and means for creating a suction on one side of said disks.

11. In a cotton-picker, two sets of yielding disks turning in contact with one another, the disks of each set being spaced apart.

12. In a cotton-picker, a casing, a pair of shafts journaled in said casing and geared together, yielding disks mounted on said shafts and turning in contact with one another, and washers spacing apart the disks on the same shaft.

808,573. CAPTIVE OBSERVATION-BALLOON APPARATUS. REUBEN B. BUDAKE, Jr., Kansas City, Mo., assignor of one-half to Chandler C. Abbott, Kansas City, Mo. Filed May 24, 1904. Serial No. 209,891.



Claim.—1. In an apparatus of the character described, the combination of a balloon, a rod rigidly depending therefrom, a car rigidly secured to the lower end of said rod, a parachute surrounding the rod and having its upper end bearing a rigid and substantially air-tight relation to the rod, and means for holding the parachute collapsed around the rod with a yielding pressure.

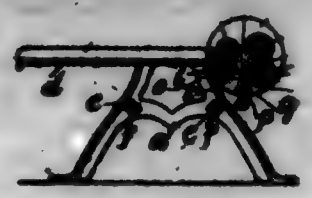
2. In an apparatus of the character described, the combination of a balloon, a rod rigidly depending therefrom, a car rigidly secured to the lower end of said rod, a parachute surrounding the rod and having its upper end bearing a rigid and substantially air-tight relation to the rod, a sleeve fitting slidingly on the rod, connections between said sleeve and the parachute, and means for locking the sleeve yieldingly to and near the lower end of the rod.

3. In an apparatus of the character described, the combination of a balloon, a rod rigidly depending therefrom, a car rigidly secured to the lower end of said rod, a collar secured rigidly on the rod, downwardly-diverging braces rigidly connecting said collar with the car, a parachute fitting around said braces and having its upper end bearing a fixed and substantially air-tight relation to the collar, ribs for and within the parachute and pivoted at their upper ends to said collar, a sleeve slidingly mounted on the rod, braces pivotally connecting said ribs and said sleeve, and means for yieldingly locking the sleeve to and near the lower end of said rod.

4. In an apparatus of the character described the combination of a conical balloon disposed horizontally and provided with a vane at its rear or butt end, a rod depending rigidly from the balloon, a car rigidly secured to said rod and extending parallel with the balloon and having its front end tapered and pointing in the same direction as the balloon, a plate swiveled on said rod, cables extending divergently downward from said plate, drums attached to the lower ends of said cables, means to rotate said drums, and means to lock them against rotation.

808,574. STAMP-SEPARATOR. CHARLES J. PARSONS, West County, Conn., assignor to Singer Manufacturing Company, Hartford, Conn., a Corporation of Connecticut. Filed May 3, 1901. Serial No. 58,134.

Claim.—1. The combination, in a stamp-separator, with two pairs of rollers suitably journaled, of means to drive one pair of rollers at a greater speed than the other pair.



2. The combination, in a stamp-separator, with a pair of cylindrical rollers suitably journaled, of a coacting pair of conical rollers also suitably journaled.

3. The combination, in a stamp-separator, of a pair of cylindrical rollers, a pair of conical rollers, all of said rollers being suitably journaled, and means to drive one pair of rollers faster than the other pair.

4. The combination, in a stamp-separator, with a pair of cylindrical rollers and a coacting pair of conical rollers all suitably mounted, of means to adjust one roller of each pair in relation to the other roller of the same pair.

5. The combination, in a stamp-separator, with fixed and movable bearings, of a pair of cylindrical rollers and a coacting pair of conical rollers, one roller of each pair being journaled in the fixed bearings and the other roller of each pair being journaled in the movable bearings.

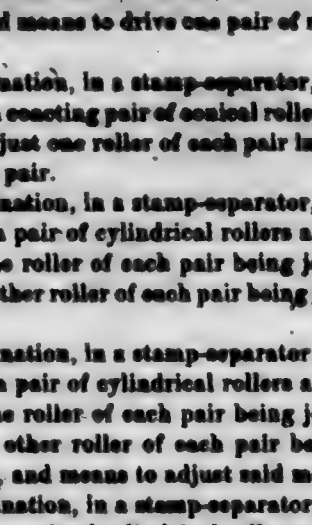
6. The combination, in a stamp-separator, with fixed and movable bearings, of a pair of cylindrical rollers and a coacting pair of conical rollers, one roller of each pair being journaled in the fixed bearings and the other roller of each pair being journaled in the movable bearings, and means to adjust said movable bearings.

7. The combination, in a stamp-separator, with a suitable support and table, of a pair of cylindrical rollers mounted adjacent one edge of said table, a pair of conical rollers remotely mounted relative to the first, and means to actuate the conical rollers faster than the cylindrical rollers.

8. The combination, in a stamp-separator, with a suitably-supported plate, of a pair of cylindrical rollers mounted adjacent one edge of such plate, and a coacting pair of conical rollers mounted adjacent the opposite edge of said plate.

9. The combination, in a stamp-separator, of a suitable support and table, a pair of normally contacting cylindrical rollers mounted adjacent one edge of said table, a coacting pair of normally contacting conical rollers remotely mounted relative to the first, and a plate between the bites of the said pairs of rollers.

808,575. **POST-OFFICE FURNITURE.** MARCELLUS S. FIELD, Boston, Mass. Filed Mar. 24, 1905. Serial No. 251,761.



Claim.—1. In post-office furniture, a table, and a routing-case above the table, said routing-case having shelves and partitions for the shelves supported independently thereof.

2. In post-office furniture, a desk or table and a routing-case associated therewith, said routing-case comprising shelves, and partitions dividing the shelves into compartments, each shelf and the corresponding partition being independently supported and movable relatively to each other.

3. In post-office furniture, a desk or table, and a routing-case associated therewith, said routing-case having a shelf and partitions dividing said shelf into compartments, said shelf being movable relatively to the partitions.

4. In post-office furniture, a desk or table and a routing-case associated therewith, said routing-case including a shelf and partitions dividing the shelf into compartments, said shelf being movable toward and from the front of the case relatively to the partitions.

5. In post-office furniture, a desk or table and a routing-case associated therewith, said routing-case comprising a shelf having a back-stop, and partitions dividing said shelf into compartments, said shelf and partitions being movable relatively to each other.

6. In post-office furniture, a desk or table, a routing-case associated therewith, said routing-case including side boards and shelves supported thereby, and inclined guideways sustained by said table on which said routing-case is slidably mounted.

808,576. **BUCKLE.** THEODORE H. FRIEDL, New York, N. Y., assignor to himself and Henry W. Fiebel, copartners trading as Fiebel, Hessler & Co., New York, N. Y. Filed June 14, 1905. Serial No. 265,184.



Claim.—1. The combination with a buckle comprising a frame and a gripping-tongue, of an ornament and detachable offsetting connecting means for the ornament and buckle, whereby the ornament is detachably carried by the buckle offset at a distance in front of the gripping-tongue so as to permit the material of the belt to be passed between the ornament and the gripping-tongue.

2. The combination with a buckle comprising a frame and a gripping-tongue, of an ornament and detachable offsetting connecting means for the ornament and the gripping-tongue of the buckle, whereby the ornament is detachably carried by the gripping-tongue offset at a distance in front of the gripping-tongue so as to permit the material of the belt to be passed between the ornament and the gripping-tongue.

3. A buckle comprising a frame and a gripping-tongue, the gripping-tongue being provided with ornament registering and engaging means, and an ornament having arms cooperative with such registering and engaging means and offset at a distance in front of the gripping-tongue to permit the material of a belt to be passed between the ornament and the tongue.

4. A buckle comprising a frame and a gripping-tongue pivotally connected together, the frame having two cross-bars, and the tongue being adapted to grip a belt against one of the cross-bars of the frame, and the tongue having a part located in proximity to the other cross-bar of the frame and projecting in advance of the rear face of such cross-bar when the tongue is in gripping position, such part being located between the two cross-bars of the frame.

5. A buckle comprising a frame and a gripping-tongue pivotally connected together, the frame having two cross-bars, and the tongue being adapted to grip a belt against one of the cross-bars of the frame, and the tongue having a part located in proximity to the other cross-bar of the frame and projecting in advance of the rear face of such cross-bar when the tongue is in gripping position and also having a part adapted to grip the belt against the last-mentioned cross-bar of the frame through a portion of the width of the belt.

6. A buckle comprising a frame and a gripping-tongue pivotally connected together, the frame having two cross-bars and the tongue having a long arm adapted to grip a belt against one of the cross-bars of the frame and having a short arm provided with a part located in proximity to the other cross-bar of the frame and in advance of the rear face of such cross-bar when the tongue is in gripping position, such part being located between the two cross-bars of the frame.

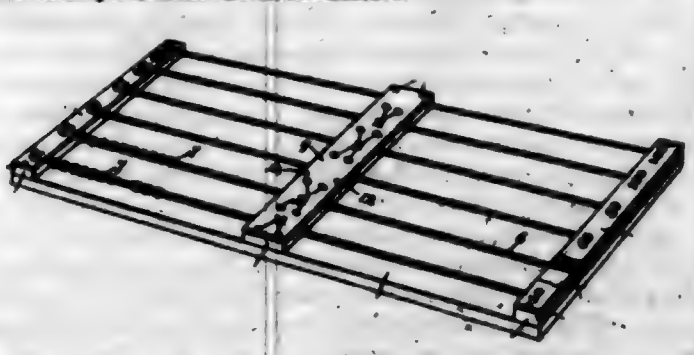
7. A buckle comprising a frame and a gripping-tongue pivotally connected together, the frame having two cross-bars and the tongue having a long arm adapted to grip a belt against one of the cross-bars of the frame and having a short arm provided with a part located in proximity to the other cross-bar of the frame and in advance of the rear face of such cross-bar when the tongue is in gripping position and having also on such short arm thereof a part adapted to grip the belt against the frame through a portion of the width of the belt.

8. A buckle comprising a frame and a gripping-tongue pivotally connected together, the tongue being adapted to grip a belt in proximity to one end of the belt, a plate provided with means for adjustably gripping the belt in proximity to the other end of the belt, and hooking engaging means upon the gripping tongue and plate, the plate being of such length as to extend from the hooked engaging point to a point adapted to fulcrum against the buckle and from such point a substantial further longitudinal distance so as to utilize outward pressure at the end remote from the hooked engaging point to assist the grip of the tongue.

9. A belt-engaging plate having a handle at one end thereof and part of hooked engaging means at the other end thereof and provided with belt-engaging slots, in combination with a buckle having a belt-gripping tongue, such tongue being provided with the counterpart of the hooked engaging means so located that outward pressure at the handle end of the plate assists the grip of the tongue.

10. A buckle comprising a frame and a gripping-tongue pivotally connected together, the frame having a gripping-ledge at one end thereof and the tongue having a long arm adapted to grip a belt against the ledge and the tongue having a short arm provided with a forwardly-extending belt-engaging projection in proximity to the other end of the frame and of smaller length than the width of the belt and also having upper and lower end lugs extending in rear of such end of the frame.

808,577. GAME-COUNTER. TRACE S. FORD, Marshalltown, Iowa. Filed May 15, 1905. Serial No. 260,131.



Claim.—1. A game-counter comprising a base, battens secured thereto and provided with recesses, guides having their terminals seated in the recesses, counters arranged upon the guides, and keepers secured to the terminal battens and having downturned flanges to cover the ends of the guides.

2. A game-counter comprising a two-part base, battens secured thereto and provided with recesses, guides having their terminals seated in the recesses, counters arranged upon the guides, and keepers secured to the terminal battens and having downturned flanges to cover the ends of the guides.

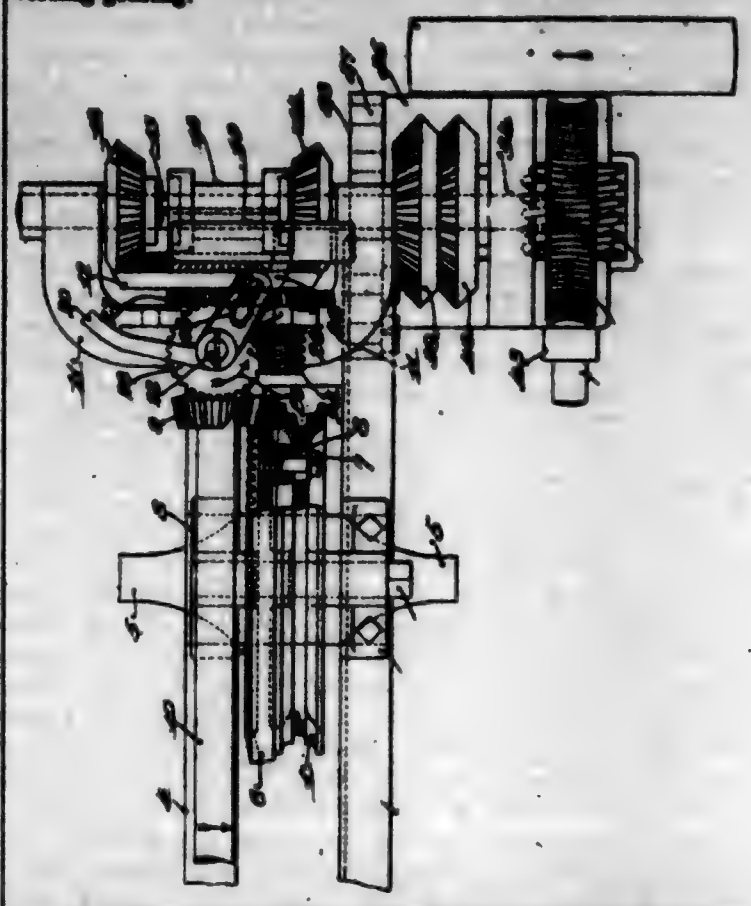
3. A game-counter comprising a base, terminal and intermediate battens combined therewith, the latter batten being provided with pegging-holes and the former with seats or recesses, guides passing through the intermediate batten and having their terminals disposed in the seats or recesses, and keepers, bearing numbers, secured to the terminal battens and having downturned flanges to cover the ends of the guides.

808,578. TUBE-SCRAPER-DRIVING MECHANISM FOR FUEL-ECONOMIZERS. HENRY B. FREEMAN, Dedham, Mass., assignor to B. F. Sturtevant Company, Boston, Mass., a Corporation of Massachusetts. Filed Dec. 29, 1904. Serial No. 238,762.

Claim.—1. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing mechanism directly connected to said shaft for driving said shaft alternately in opposite directions, a driving-pulley, and reducing-gearing between the driving-pulley and reversing mechanism acting to substantially reduce the speed of the reversing mechanism.

2. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing directly connected to said shaft for driving said shaft alternately in opposite directions comprising clutches controlling the direction of rotation of said shaft, mechanism for actuating said clutches to reverse the direction of rotation of said shaft, a driving-pulley, and reducing-gearing between the driving-pulley and the reversing-gearing acting to substantially reduce the speed of the reversing-gearing.

3. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing directly connected to said shaft for driving said shaft alternately in opposite directions comprising clutches controlling the direction of rotation of said shaft, mechanism for actuating said clutches to reverse the direction of rotation of said shaft, a driving-pulley, a worm driven thereby, a worm-gear driven by the worm, and connections for transmitting the motion of the worm-gear to the reversing-gearing.



4. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing for driving said shaft alternately in opposite directions, a driving-pulley and suitable connections for driving said reversing-gearing, a frame comprising a bracket in which the driving-pulley is mounted, and means for securing the bracket in either of two positions to cause the axis of the pulley to extend in either of two directions at right angles to each other.

5. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing for driving said shaft alternately in opposite directions, a driving-pulley and suitable connections for driving said reversing-gearing, a support for the pulley and means for securing said support in different positions to cause the axis of the pulley to extend in different directions.

6. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing for driving said shaft alternately in opposite directions, a driving-pulley, a frame comprising a bracket in which the driving-pulley is mounted, means for securing said bracket in either of two positions to cause the axis of the pulley to extend in either of two directions at right angles to each other, two intermediate shafts, one of which drives the reversing-gearing and the other of which is driven by the driving-pulley and is mounted in said bracket, bevel-gears secured to said intermediate shafts and arranged to intermesh when said bracket is in one position, and means for connecting said intermediate shafts end to end when the bracket is in the other position.

7. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing for driving said shaft alternately in opposite directions, a reversing member acting upon said gearing to reverse the direction of rotation of said shaft, a driving-pulley and suitable connections for driving said reversing-gearing, and mechanism separate from the gearing connecting the shaft and chain-pulley and driven from said reversing-gearing for actuating said reversing member.

8. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing for driving said shaft alternately in opposite directions, a reversing member acting upon said gearing to reverse the direction of rotation of said shaft, a driving-pulley and suitable connections for driving said reversing-gearing, mechanism driven from said reversing-gearing for actuating said reversing member, and means

permitting an arrangement of said mechanism to properly actuate the reversing member when the driving-pulley is rotated in either direction.

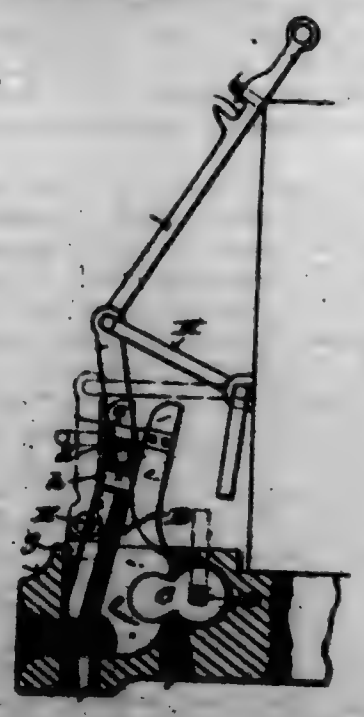
9. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing for driving said shaft alternately in opposite directions, a driving-pulley and suitable connections for driving said reversing-gearing, a reversing member acting upon said gearing to reverse the direction of rotation of said shaft, mechanism driven from said reversing-gearing for actuating said reversing member comprising a worm and worm-gear, and a frame provided with two bearings for said worm arranged to allow the worm to be placed in mesh with either side of said worm-gear whereby said reversing member may be properly actuated when the driving-pulley is rotated in either direction.

10. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing for driving said shaft alternately in opposite directions, a reversing-lever acting upon said gearing to reverse the direction of rotation of said shaft, arms mounted upon a common pivot and extending upon opposite sides of the reversing-lever, and connections between said arms and the reversing-gearing for actuating the arms, each of said arms being provided with a series of bolt-holes arranged to register successively with the corresponding holes in the other arm when the arms are adjusted toward and from each other.

11. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft geared thereto, reversing-gearing for driving said shaft alternately in opposite directions, a reversing-lever acting upon said gearing to reverse the direction of rotation of said shaft, arms mounted upon a common pivot and extending upon opposite sides of the reversing-lever, one of said arms being extended over the other and being adjustable about said pivot, means for securing said arms together, and connections between said arms and the reversing-gearing for actuating the arms.

12. A tube-scraper-driving mechanism for fuel-economizers, having, in combination, a chain-pulley, a shaft, geared thereto, reversing-gearing for driving said shaft alternately in opposite directions, a driving-pulley, a worm-shaft driven thereby, a bracket provided with journal-boxes integral therewith in which the worm-shaft is mounted, cylindrical bushings in the journal-boxes, a worm keyed to the worm-shaft between the journal-boxes, a worm-gear meshing with the worm, and connections for transmitting the motion of the worm-gear to the reversing-gearing.

808,579. CAR-COUPLING. John A. Fredell, Warren, Wis. Filed July 18, 1905. Serial No. 269,941.



Claim.—1. In a car-coupling, the combination of a draw-head provided with a longitudinal recess the bottom of which is curvilinear back of a coupling-pin aperture therein, a crank-controlled link-regulating lever having a curved lower end that rocks upon the curvilinear bottom portion of said recess, a coupling-pin, a hanger in pivotal connection with the same, a hanger-guide attached to the aforesaid lever, and lever mechanism in connection with said hanger.

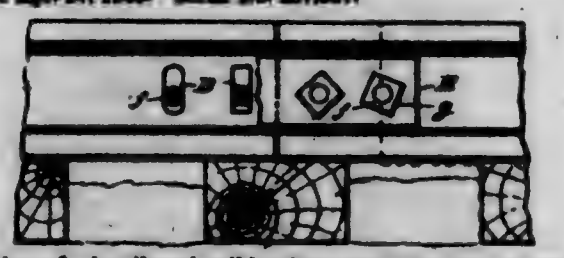
2. In a car-coupling, the combination of a draw-head provided with a longitudinal recess, the bottom of which is curvilinear back of a coupling-pin aperture therein, a crank-controlled link-regulating lever having rocking support on the curvilinear bottom portion of the draw-head recess, a coupling-pin, a hanger in pivotal connection with the pin and provided with inwardly-extending shoulders, a hanger-guide in the form of a yoke attached to the aforesaid lever in the upward path of the hanger-shoulders, and lever mechanism in connection with said hanger.

3. In a car-coupling, the combination of a draw-head provided with a longitudinal recess the bottom of which is curvilinear back of a coupling-pin aperture therein, a crank-controlled link-regulating lever having rocking support on the curvilinear bottom portion of the draw-head recess, a coupling-pin, a hanger in pivotal connection with the pin and provided with a notch, a hanger-guide in the form of a yoke attached to the aforesaid lever in the path of the joint of said pin and hanger to be engageable with the hanger-notch when the aforesaid pin is lifted, and lever mechanism in connection with said hanger.

4. In a car-coupling, the combination of a draw-head provided with a longitudinal recess the bottom of which is curvilinear back of a coupling-pin aperture therein, a crank-controlled link-regulating lever in rocking contact with the curvilinear bottom portion of the draw-head recess, a coupling-pin, a hanger in pivotal connection with the pin, a hanger-guide attached to the aforesaid lever, a bell-crank lever in connection with the hanger to extend beyond a side of the car to which the draw-head is connected, another hanger-controlling lever provided with a notch, and a guide-yoke for the latter lever attachable to said car adjacent to the top of same.

5. In a car-coupling, the combination of a draw-head provided with a longitudinal recess the bottom of which is curvilinear back of a coupling-pin aperture therein, a crank-controlled link-regulating lever in rocking contact with the curvilinear bottom portion of the draw-head recess, a coupling-pin, a hanger in pivotal connection with the pin and provided with a notch, a hanger-guide in the form of a yoke attached to the aforesaid lever in the path of laterally-extended pivot-shoulders of the hanger and engageable with the hanger-notch when said coupling-pin is lifted, a bell-crank lever in connection with said hanger to extend beyond a side of the car to which the draw-head is connected, another hanger-controlling lever provided with a notch, and a guide-yoke for the latter lever attachable to said car adjacent to the top of same.

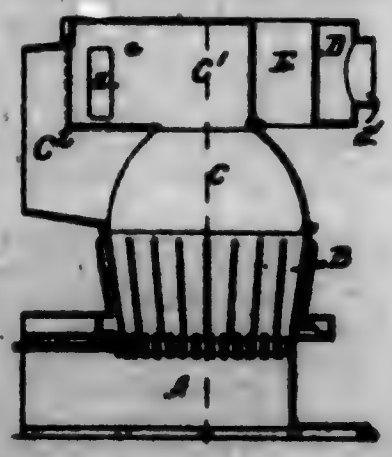
808,580. RAILROAD-RAIL. Emile C. Gentzel, Jeannette, La. Filed Apr. 27, 1905. Serial No. 257,587.



Claim.—1. A railroad-rail having vertically-oblong eyes in combination with fish-plates and cross-bolts, said bolts being adapted to pass through said eyes, for the purpose specified.

2. In a railroad-track having fish-plates and bolts to join the ends of its rails, vertically-oblong bolt-holes through said rails to permit vertical movement of said bolts therein, substantially as described.

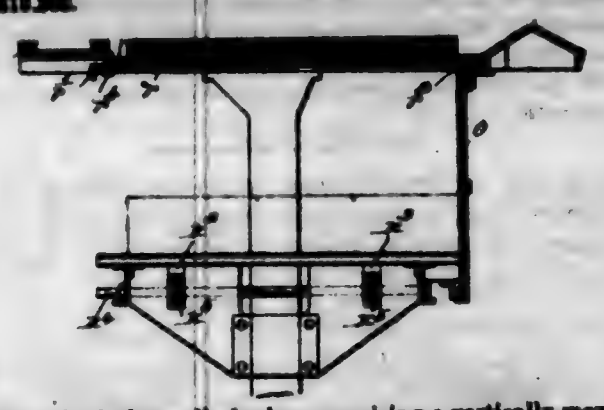
808,581. FURNACE. Edward G. Gemmer, Erie, Pa. Filed Feb. 11, 1904. Serial No. 193,181.



Claim.—In a furnace, the combination of a fire-box B; a dome C arranged on the fire-box and forming the combustion-chamber, said

dome contracting toward its upper end; the gas-dome C' arranged on the dome C, said gas-dome being smaller than the combustion-dome C; a radiator arranged around the gas-dome C' with an air-space between the gas-dome and the body of the radiator, the body of the radiator being above the combustion-dome C, a door-passage extending laterally from the dome C and extending up into the radiator; and a passage c connecting the gas-dome with said door-passage, said door-passage c being connected through openings d at the sides of the passage with the radiator.

808,582. PAPER-FEEDING MACHINE. EBENEZER GOULDING, Boston, Mass., assignor, by mesne assignments, to United Printing Machinery Company, a Corporation of Maine. Filed Aug. 3, 1904. Serial No. 219,262.



Claim.—1. A sheet-pile feeder comprising a vertically-movable pile-carrying platform, means for gradually raising said platform to place and maintain the upper end of the pile in delivery position until the pile is partially exhausted, means located between the pile and said platform and adapted to be sustained by a fixed portion of the machine, whereby the partially-exhausted pile may be held in elevated position while the said platform is withdrawn from beneath the partially-exhausted pile.

2. A sheet-pile feeder comprising a vertically-movable pile-carrying platform, means for gradually raising said platform to place and maintain the upper end of the pile in delivery position until the pile is partially exhausted, means adapted to be placed temporarily between the pile and said platform and sustained by a fixed portion of the machine, whereby the partially-exhausted pile may be held in elevated position while the said platform is withdrawn from beneath the partially-exhausted pile.

3. A sheet-pile feeder comprising a vertically-movable pile-carrying platform, means for gradually raising said platform to place and maintain the upper end of the pile in delivery position until the pile is partially exhausted, means located between the pile and said platform but below the surface of said platform and adapted to be sustained by a fixed portion of the machine, whereby the partially-exhausted pile may be held in elevated position while the said platform is withdrawn from beneath the partially-exhausted pile.

4. A sheet-pile feeder comprising a vertically-movable pile-carrying platform, means for gradually raising said platform to place and maintain the upper end of the pile in delivery position until the pile is partially exhausted, means adapted to be placed between the pile and said platform but below the surface of said platform and sustained by a fixed portion of the machine, whereby the partially-exhausted pile may be held in elevated position while the said platform is withdrawn from beneath the partially-exhausted pile.

5. A sheet-pile feeder comprising a vertically-movable pile-carrying platform, means adapted to be slipped beneath the partially-exhausted pile in its elevated position and connected with a fixed portion of the machine, whereby the platform may be withdrawn from beneath the partially-exhausted pile.

6. A sheet-pile feeder comprising a vertically-movable pile-carrying platform, a grid adapted to be slipped beneath the partially-exhausted pile in its elevated position and connected with a fixed part of the machine, whereby the platform may be withdrawn from beneath the partially-exhausted pile.

7. A sheet-pile feeder comprising a vertically-movable pile-carrying platform, a grid located between the pile and said platform, but below the surface of said platform, and adapted to be connected with a fixed part of the machine, whereby the platform may be withdrawn from beneath the partially-exhausted pile.

8. A sheet-pile feeder comprising a vertically-movable pile-carrying platform, longitudinal grooves in the upper surface of the said platform, bars adapted to be slipped in the said grooves beneath the partially-exhausted pile in its elevated position and connected with a fixed portion of the machine, whereby when the platform is withdrawn from beneath the partially-exhausted pile the said pile will be supported by the bars.

9. A sheet-pile feeder comprising a vertically-movable pile-carrying platform, longitudinal grooves in the upper surface of the said platform, bars connected to form a grid and adapted to be slipped in the said grooves beneath the partially-exhausted pile in its elevated position and connected with a fixed portion of the machine, whereby when the platform is withdrawn from beneath the partially-exhausted pile the said pile will be supported by the grid.

10. A sheet-feeding table, a sheet-pile feeder located beneath the said sheet-feeding table and comprising a pile-carrying platform, means for giving vertical movement to the pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, means to hold a partially-exhausted pile of sheets in feeding position above the sheet-feeding table while the pile-carrying platform is withdrawn from beneath the partially-exhausted pile.

11. A sheet-feeding table, a sheet-pile feeder located beneath the said sheet-feeding table and comprising a pile-carrying platform, means for giving vertical movement to the pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, means to hold a partially-exhausted pile of sheets in feeding position above the sheet-feeding table while the pile-carrying platform is withdrawn from beneath the partially-exhausted pile, and a sheet-feeding apparatus located on the sheet-feeding table and resting upon the pile of sheets.

12. A sheet-feeding table, a sheet-pile feeder located beneath the said sheet-feeding table and comprising a pile-carrying platform, means for giving vertical movement to the pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, means to hold a partially-exhausted pile of sheets in feeding position above the sheet-feeding table while the pile-carrying platform is withdrawn from beneath the partially-exhausted pile, and a sheet-feeding apparatus located on the sheet-feeding table and resting on and supported by the pile of sheets.

13. A sheet-feeding table, a sheet-pile feeder located beneath the said sheet-feeding table and comprising a pile-carrying platform, means for giving vertical movement to the pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, means removably connected with the sheet-feeding table and adapted to hold the partially-exhausted pile of sheets in feeding position above the sheet-feeding table while the pile-carrying platform is withdrawn from beneath the partially-exhausted pile.

14. A sheet-feeding table, a sheet-pile feeder located beneath the said sheet-feeding table and comprising a pile-carrying platform, means for giving vertical movement to the pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, means to hold a partially-exhausted pile of sheets in feeding position above the sheet-feeding table while the pile-carrying platform is withdrawn from beneath the partially-exhausted pile, and a guide for the forward edge of the pile of sheets.

15. A sheet-feeding table, a sheet-pile feeder located beneath the said sheet-feeding table and comprising a pile-carrying platform, means for giving vertical movement to the pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, means to hold a partially-exhausted pile of sheets in feeding position above the sheet-feeding table while the pile-carrying platform is withdrawn from beneath the partially-exhausted pile, and a collapsible guide for the front edge of the pile of sheets.

16. A sheet-feeding table, a sheet-pile feeder located beneath the said sheet-feeding table and comprising a pile-carrying platform, means for giving vertical movement to the pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, means to hold a partially-exhausted pile of sheets in feeding position above the sheet-feeding table while the pile-carrying platform is withdrawn from beneath the partially-exhausted pile, and a collapsible guide for the front edge of the pile of sheets connected at its upper end to the frame of the machine and at its lower end to the pile-carrying platform.

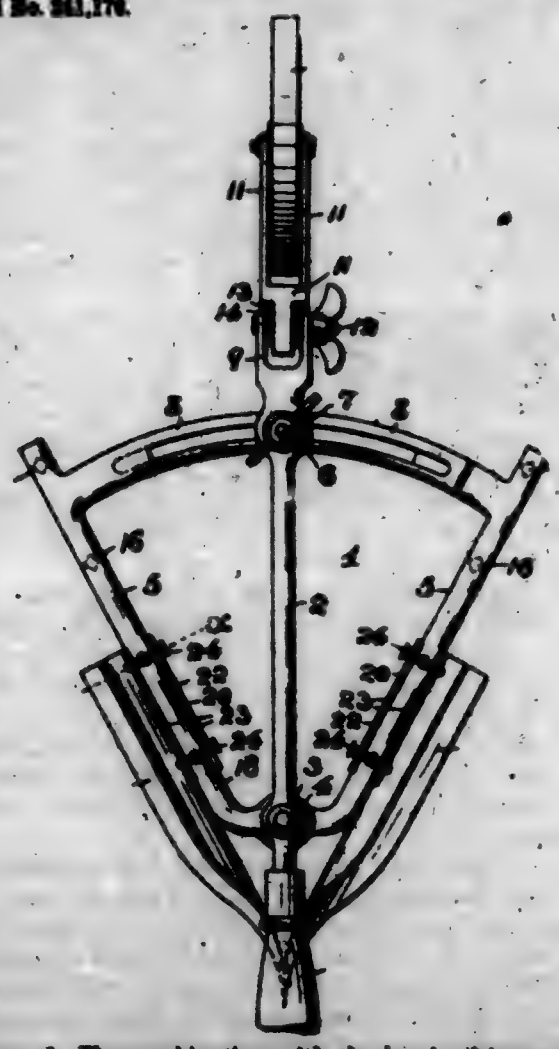
17. A sheet-feeding table, a sheet-pile feeder located beneath the said sheet-feeding table and comprising a pile-carrying platform, means for laterally adjusting said pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, means to hold a partially-exhausted pile of sheets in feeding position above the sheet-feeding table while

the pile-carrying platform is withdrawn from beneath the partially-exhausted pile.

18. A sheet-feeding table, a sheet-pile feeder located beneath the said sheet-feeding table and comprising a pile-carrying platform provided with grooves therein, means for giving vertical movement to the pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, bars adapted to be slipped within the said grooves in the pile-carrying platform and removably connected to the sheet-feeding table in order to hold the partially-exhausted pile of sheets in feeding position above the sheet-feeding table while the pile-carrying platform is withdrawn from beneath the partially-exhausted pile.

19. A sheet-feeding table, a sheet-pile feeder located beneath the sheet-feeding table and comprising a sheet-carrying platform in its upper surface, means for giving vertical movement to the pile-carrying platform, an aperture in the sheet-feeding table to allow of the passage of a pile of sheets upward therethrough, a grid comprising a series of connected bars adapted to be slipped into the grooves in the pile-carrying platform and to be connected with the sheet-feeding table, whereby the partially-exhausted pile of sheets may be held in feeding position above the sheet-feeding table while the pile-carrying platform is withdrawn from beneath.

808,583. CULTIVATING-TOOL. GEORGE F. HALL, Jersey City, N. J., assignor to Leo Alexander, New York, N. Y. Filed Jan. 16, 1905. Serial No. 241,170.



Claim.—1. The combination with the hand-cultivator having series of cultivating-teeth flaring from the longitudinal central axis of the cultivator, and a central handle, of moldboards or shares arranged on the outer sides of said series of teeth and removable therefrom, meeting at the angle formed by the series and extending along the outer sides of said teeth covering the same, substantially as and for the purposes set forth.

2. The combination with the handled cultivating-tool having flaring series of cultivating-teeth, of flaring moldboards arranged and secured upon the outer side of some of the teeth and meeting at the angle formed thereby said moldboards being held from displacement by said cultivating-teeth, substantially as set forth.

3. The combination with the handled center bar, the flaring and toothed arms 5, 5, the slotted arms 6, 6, and the clamps 4, 7, admitting a movement of the center bar and handle with respect to the flaring arms, substantially as set forth.

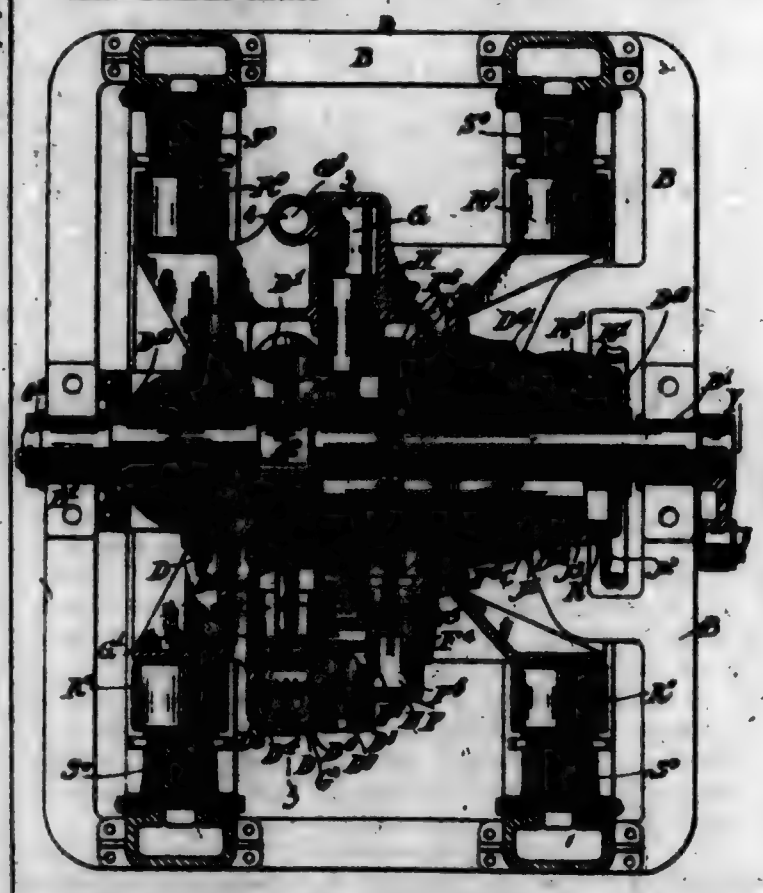
4. The combination, with the center bar having cultivating-arms provided with teeth 16, a handle at one end arranged at an obtuse angle in elevation and in line therewith in plan, and at the end opposite said handle having forks, of an interchangeable part separably secured in said fork, substantially as set forth.

5. In combination with the cultivator having teeth, the moldboards having castings with perforations or openings for said teeth, and means for holding said casting on said cultivator, substantially as set forth.

6. In combination with the cultivator having flaring and toothed arms 5, of grooved castings having moldboards secured thereto, the arms being held in said grooves, substantially as set forth.

7. The combination with the hand-cultivator having a handle, a center bar in line with said handle and in elevation at an obtuse angle thereto, said handle being secured at one end of said center bar, of flaring arms at the opposite sides of said center bar and having cultivating-teeth, said flaring arms having overlapping members for adjustment of the flaring arms for changing the relative positions of the cultivator teeth, and means for securing said overlapping members in their adjusted positions upon said center bar, substantially as set forth.

808,584. FLUID-PRESSURE POWER-TRANSMISSION APPARATUS. JOHN W. HALL, Brixton, England, assignor to Hall's Transmission Gear Syndicate, Limited, London, England. Filed Mar. 14, 1905. Serial No. 247,766.



Claim.—1. In a power-transmitting device the combination of a shaft, extending entirely through the device, and a rotary casing, constituting the driving and driven members, a pressure-creating device, such as a pump, having one of its elements connected with the driven member and its codperating element connected with the driving member, an adjuster in controllable communication with the pressure-creating device or pump and controlling the movement of the driven member with means for varying the relative capacities of the pressure-creating device or pump and the adjuster.

2. In a power-transmitting device the combination of a shaft, extending entirely through the device, and a rotary casing, constituting the driving and driven members, a pressure-creating device, such as a pump, having one of its elements connected with the driven member and its codperating element connected with the driving member, an adjuster in controllable communication with the pressure-creating device or pump and controlling the movement of the driven member with means for varying the relative capacities of the pressure-creating device or pump and the adjuster, and a power device the rotor element of which is carried by one of said members of the transmitting device.

3. In a power-transmitting device, the combination of a rotary shaft, extending entirely through the device, and a rotary casing, constituting the driving and driven members, a pressure-creating device such as a pump having one of its elements connected with the driven member and its codperative element connected with the driving member, an adjuster in controllable communication with the

pressure-creating device or pump and controlling the movement of the driven member with means for varying the relative capacities of the pressure-creating device or pump and the adjuster, a magnetic rotor element on one of said members and a magnetic stator element coacting therewith.

4. In a power-transmitting mechanism the combination of a rotary shaft, extending entirely through the device, and a rotary working-fluid casing constituting the driving and driven members, a fluid-pressure-creating device such as a pump one element of which is operatively connected with the shaft and the cooperating element of which is movable and connected with the casing, a fluid-pressure adjuster, in controllable communication with said pressure-creating device, the parts of which adjuster are relatively adjustable to vary its mechanical advantage and possessing an element operatively connected to and movable in unison with the said cooperating element of the pressure-creating device, whereby a given torque set up by the driving member can be transformed into torque of different values exerted upon the driven member, by the joint connection of the pressure-creating device and adjuster and the body of working fluid within them.

5. In a power-transmitting mechanism the combination of a rotary shaft, extending entirely through the device, and a rotary working-fluid casing constituting the driving and driven members of a fluid-pressure-creating device such as a pump, one element of which is operatively connected with the shaft and the cooperating element of which is movable and connected with the casing, a fluid-pressure adjuster in controllable communication with the pressure-creating device, the parts of which adjuster are relatively adjustable to vary its mechanical advantage and possessing an element operatively connected to and movable in unison with the said cooperating element of the pressure-creating device, whereby a given torque set up by the driving member can be transformed into torque of different values exerted upon the driven member, by the joint connection of the pressure-creating device and adjuster and the body of working fluid within them, and a power device having a rotor element and a stator element to coact therewith substantially as described.

6. In a power-transmitting mechanism the combination of a rotary shaft, extending entirely through the device, a rotary working-fluid casing, a pressure-creating device such as a pump, one element of which is operatively connected with the shaft and the cooperating element of which is movable and connected with the casing, a fluid-pressure adjuster having two cooperating elements one of its elements being connected with the casing, a relatively fixed but adjustable crank-shaft with which the other element of the adjuster is operatively connected, and a duct or ducts connecting the pump and adjuster.

7. In a power-transmitting mechanism the combination of a rotary shaft, extending entirely through the device, a rotary working-fluid casing, a pressure-creating device such as a pump, one element of which is operatively connected with the shaft and the cooperating element of which is movable and connected with the casing, a fluid-pressure adjuster having two cooperating elements one of its elements being connected with the casing, a relatively fixed but adjustable crank-shaft with which the other element of the adjuster is operatively connected, a duct or ducts connecting the pump and adjuster, a magnetic rotor element on said casing and a magnetic stator element coacting therewith substantially as described.

8. In a power-transmitting mechanism the combination of a rotary shaft, extending entirely through the device, a rotary casing, a pressure-creating device such as a pump one element of which is operatively connected with the shaft and the cooperating element of which is movable and connected with the casing, a fluid-pressure adjuster having two cooperating elements one of its elements being connected with the casing, a relatively fixed but adjustable crank-shaft with which the other element of the adjuster is operatively connected, a duct or ducts connecting the pump and adjuster, and a power device having a rotor element on said casing and a stator element coacting therewith substantially as described.

9. In a power-transmitting mechanism the combination of a rotary shaft, extending entirely through the device, a rotary casing, a fluid-pressure-creating device, such as a pump, one element of which is operatively connected to the shaft and the cooperating element of which is movable and connected with the casing, a fluid-pressure adjuster having two cooperating elements, one of its elements being connected with the casing, a relatively fixed but adjustably-movable crank-shaft with which the other element of the adjuster is operatively connected, a duct extending from the pump to the adjuster and a controlling-valve in the duct.

10. In a power-transmitting mechanism the combination of a rotary shaft, extending entirely through the device, a rotary casing, a fluid-pressure-creating device such as a pump one element of which is operatively connected to the shaft and the cooperating element of which is movable and connected with the casing, a fluid-pressure adjuster having two cooperating elements, one of its elements being connected with the casing, a relatively fixed but adjustably-movable crank-shaft with which the other element of the adjuster is operatively connected, a duct extending from the pump to the adjuster, a controlling-valve in the duct, a magnetic rotor element on the casing and a magnetic stator element coacting therewith, substantially as described.

11. In a power-transmitting mechanism the combination of a rotary shaft, extending entirely through the device, a rotary casing, a fluid-pressure-creating device such as a pump one element of which is operatively connected to the shaft and the cooperating element of which is movable and connected with the casing, a fluid-pressure adjuster having two cooperating elements, one of its elements being connected with the casing, a relatively fixed but adjustably-movable crank-shaft with which the other element of the adjuster is operatively connected, a duct extending from the pump to the adjuster, a controlling-valve in the duct, a power device having a rotor element on the casing and a stator element coacting therewith, substantially as described.

12. In a power-transmitting mechanism the combination of a rotary liquid-holding casing, a rotary shaft extending entirely through the device, a pump-piston, a cylinder therefor, an adjuster-cylinder, a piston therefor, said casing having a conduit connecting the pump-cylinder and the adjuster-cylinder and rotating around a given axis, a fluid-power-transmitting agent in said cylinders and conduits, whereby the driving-piston drives the liquid and by liquid-pressure exerts force against the casing, the traverse of one of said pistons being adjustable to vary the movement of the liquid, substantially as described.

13. In a power-transmitting mechanism the combination of a rotary shaft extending entirely through the device, a pump-piston, a cylinder therefor, an adjuster-cylinder, a piston therefor, a liquid-holding casing having a conduit connecting the pump-cylinder and the adjuster-cylinder and rotating around a given axis, a magnetic rotor element R', a magnetic stator element S' to coact therewith, a fluid-power-transmitting agent in said cylinders and conduits whereby the driving-piston drives the liquid and by liquid-pressure exerts force against the casing, the traverse of one of said pistons being adjustable to vary the movement of the liquid, substantially as described.

14. In a power-transmitting mechanism the combination of a rotary shaft, extending entirely through the mechanism, a pump-piston, a cylinder therefor, an adjuster-cylinder, a piston therefor, a liquid-holding shell having a conduit connecting the cylinders and rotating around a given axis, a power device having a rotor element and a stator element to coact therewith, a fluid-power-transmitting agent in the cylinders and conduits, whereby the driving-piston drives the liquid and by liquid-pressure exerts force against the shell the traverse of one of said pistons being adjustable to vary the movement of the liquid, substantially as described.

15. In a power-transmitting mechanism the combination of a plurality of companion driving-pistons and a separate cylinder for each, all connected to rotate in unison, a plurality of separate adjuster-cylinders rotating in unison with the pump-cylinders, a piston for each adjuster-cylinder, conduits extending from the driving-cylinders to the adjuster-cylinders a distribution-valve for each adjuster-cylinder, and a shaft extending entirely through the mechanism.

16. In a power-transmitting mechanism the combination of a plurality of companion driving-pistons and a separate cylinder for each, all connected to rotate in unison, a plurality of separate adjuster-cylinders rotating in unison with the pump-cylinders, a piston for each adjuster-cylinder, conduits extending from the driving-cylinders to the adjuster-cylinders a distribution-valve for each adjuster-cylinder, a shaft extending entirely through the mechanism, a magnetic rotor element R' and a magnetic stator element S' coacting therewith, substantially as described.

17. In a power-transmitting mechanism the combination of a plurality of companion driving-pistons and a separate cylinder for each, all connected to rotate in unison, a plurality of separate adjuster-cylinders rotating in unison with the pump-cylinders, a piston for each adjuster-cylinder conduits extending from the driving-cylinders to the adjuster-cylinders a distribution-valve for each adjuster-cylinder, a shaft extending entirely through the mechanism, and a power device having a rotor element and a coacting stator element, substantially as described.

18. In a power-transmitting mechanism in which the power-transmitting agent is a fluid, the combination with a series of recip-

reciprocatory driving-pistons of a rotary shaft extending entirely through the mechanism and operatively connected with the pistons, cylinders for the pistons, a series of reciprocatory adjuster-pistons, cylinders for the adjuster-pistons, having a maximum capacity equal to the pump-cylinders, by varying which capacity the speed can be varied from maximum to nothing, and a single rotary shell integral with and connecting all of said cylinders and having ducts connecting said cylinders.

17. In a power-transmitting mechanism in which the power-transmitting agent is a fluid, the combination with a series of reciprocatory driving-pistons of a rotary shaft extending entirely through the mechanism and operatively connected with the pistons, cylinders for the pistons, a series of reciprocatory adjuster-pistons, cylinders for the adjuster-pistons, having a maximum capacity equal to the pump-cylinders, by varying which capacity the speed can be varied from maximum to nothing, a single rotary shell integral with and connecting all of said cylinders and having ducts connecting said cylinders, a magnetic rotor element and a magnetic stator element coacting therewith, substantially as described.

20. In a power-transmitting mechanism in which the power-transmitting agent is a fluid the combination with a series of reciprocatory driving-pistons, of a shaft extending entirely through the mechanism and operatively connected with the pistons, cylinders for the pistons, a series of reciprocatory adjuster-pistons, cylinders for the adjuster-pistons, having a maximum capacity equal to the pump-cylinders, by varying which capacity the speed can be varied from maximum to nothing, a single rotary shell integral with and connecting all of said cylinders and having ducts connecting said cylinders, and means for rotating the shell, substantially as described.

21. In a power-transmitting mechanism in which the power-transmitting agent is a fluid, the combination with a series of reciprocatory driving-pistons, of a cranked shaft extending entirely through the mechanism and operatively connected with the pistons, cylinders for the pistons, a series of reciprocatory adjuster-pistons, cylinders for the adjuster-pistons of equal maximum capacity to the pump-cylinders, an adjustable crank with which the pistons of the adjuster-cylinders are connected, and a single rotary shell integral with and connecting all of said cylinders and having ducts connecting said cylinders.

22. In a power-transmitting mechanism in which the power-transmitting agent is a fluid, the combination with a series of reciprocatory driving-pistons, of a cranked shaft extending entirely through the mechanism and operatively connected with the pistons, cylinders for the pistons, a series of reciprocatory adjuster-pistons, cylinders for the adjuster-pistons, an adjustable crank with which the pistons of the adjuster-cylinders are connected, a single rotary shell integral with and connecting all of said cylinders and having ducts connecting said cylinders, a magnetic rotor element on said shell and a magnetic stator element coacting therewith.

23. In a power-transmitting mechanism in which the power-transmitting agent is a fluid, the combination with a series of reciprocatory driving-pistons of a cranked shaft extending entirely through the mechanism and operatively connected with the pistons, cylinders for the pistons, a series of reciprocatory adjuster-pistons, cylinders for the adjuster-pistons, an adjustable crank with which the pistons of the adjuster-cylinders are connected, a single rotary shell integral with and connecting all of said cylinders and having ducts connecting said cylinders and a power device having a rotor element on said shell and a stator element coacting therewith.

24. In a power-transmitting mechanism in which the power-transmitting agent is a fluid, the combination of a reciprocatory driving-piston and a reciprocatory adjuster-piston and cylinders of equal capacities, for said pistons, a single rotary shell integral with and connecting the cylinders of said pistons and having ducts for the passage of fluid between the cylinders and between the casing and the cylinders, a shaft extending entirely through the mechanism and beyond each side of the shell, and a distribution-valve for controlling the passage of fluid, substantially as described.

25. In a power-transmitting mechanism in which the power-transmitting agent is a fluid, the combination of a reciprocatory driving-piston and a reciprocatory adjuster-piston and cylinders of equal capacities, for said pistons, a single rotary shell integral with and connecting the cylinders of said pistons and having ducts for the passage of fluid between the cylinders and between the casing and the cylinders, a shaft extending entirely through the mechanism and beyond each side of the shell, a magnetic rotor element on the shell and a magnetic stator element coacting therewith, and a distribution-valve for controlling the passage of fluid, substantially as described.

26. In a power-transmitting mechanism in which the power-transmitting agent is a fluid, the combination of a reciprocatory driving-piston and a reciprocatory adjuster-piston and cylinders having equal capacities for said pistons, a single rotary shell integral with and connecting the cylinders of said pistons and having ducts for the passage of fluid between the cylinders and between the casing and the cylinders, a shaft extending entirely through the mechanism and beyond each side of the shell, a power device having a rotor element and a coacting stator element and a distribution-valve for controlling the passage of fluid through the cylinders, substantially as described.

27. In a power-transmitting apparatus the combination of a rotary driving-casing, a driven shaft extending entirely through the mechanism and beyond each side of the casing, a pump operatively connected with the shaft, an adjuster communicating with the pump and having one of its elements connected with the casing, an adjustable crank-shaft with which the cooperating element of the adjuster is connected, and a valve controlling the passage of fluid from the pump to the adjuster.

28. In a power-transmitting apparatus the combination of a rotary driving-casing, a driven shaft extending entirely through the mechanism and beyond each side of the casing and a pump operatively connected with the shaft, an adjuster communicating with the pump and having one of its elements connected with the casing, an adjustable crank-shaft with which the cooperating element of the adjuster is connected, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric controlling the operation of the valve, and a connection between the crank-shaft and the eccentric whereby the correlation of the valve with the adjuster is maintained.

29. In a power-transmitting apparatus the combination of a rotary driving-casing, a driven shaft extending entirely through the mechanism and beyond each side of the casing and a pump operatively connected with the shaft, an adjuster communicating with the pump and having one of its elements connected with the casing, an adjustable crank-shaft with which the cooperating element of the adjuster is connected, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric controlling the operation of the valve, a connection between the crank-shaft and the eccentric whereby the correlation of the valve with the adjuster is maintained, a magnetic rotor element on the casing and a magnetic stator element coacting therewith substantially as described.

30. In a power-transmitting apparatus the combination of a rotary driving-casing, a driven shaft extending entirely through the mechanism and beyond each side of the casing, a pump operatively connected with the shaft, an adjuster communicating with the pump and having one of its elements connected with the casing, an adjustable crank-shaft with which the cooperating element of the adjuster is connected, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric controlling the operation of the valve, a connection between the crank-shaft and the eccentric whereby the correlation of the valve with the adjuster is maintained, and a power device having a rotor element on said casing and a stator element coacting therewith substantially as described.

31. In a power-transmitting device the combination of a cranked driven shaft extending entirely through the device, means at both ends of the shaft for transmitting the power to its destination, a rotary casing, a pressure-creating device, such as a pump, having one of its elements connected with the casing and its cooperating element connected with the shaft, and an adjuster actuated by the pressure-creating device or pump and controlling the movement of the driven member with means for varying the relative capacities of the pressure-creating device or pump and the adjuster to vary the speed from maximum to nothing.

32. In a power-transmitting apparatus the combination of a cranked driven shaft extending entirely through the apparatus and adapted to transmit the power to its destination from both its ends, a relatively fixed crank-shaft a rotary casing having pump and adjuster-cylinders of equal maximum capacity therein, a circulating system including the pump, adjuster-cylinder, and center of the casing, and pump and adjuster-pistons connected respectively with the cranked driven shaft and the relatively fixed crank-shaft.

33. In a power-transmitting apparatus the combination of a cranked driven shaft extending entirely through the apparatus and adapted to transmit the power to its destination from both its ends, a relatively fixed crank-shaft a rotary casing having pump and adjuster-cylinders therein, a circulating system including the pump, adjuster-cylinder, and center of the casing, pump and adjuster-pistons connected respectively with the cranked driven shaft and the relatively fixed crank-shaft, a magnetic rotor element F' and a magnetic stator element F' in coact therewith.

34. In a power-transmitting apparatus, the combination of a cranked driven shaft extending entirely through the apparatus and

adapted to transmit the power to its destination from both its ends, a relatively fixed crank-shaft, a rotary casing having pump and adjuster-cylinders therein, a circulating system including the pump, adjuster-cylinder, and center of the casing, pump and adjuster-pistons connected respectively with the cranked driven shaft and the relatively fixed crank-shaft, and a power device having a rotor element on the casing and a stator element coacting therewith.

36. In a power-transmitting apparatus the combination of a cranked shaft extending entirely through the apparatus, a pump operated by the shaft, a power and speed adjuster, an adjustable crank with which one of the elements of the adjuster is connected, and a system of ducts connecting the pump and adjuster.

38. In a power-transmitting apparatus the combination of a cranked shaft extending entirely through the apparatus, a pump operated by the shaft, a power and speed adjuster, an adjustable crank with which one of the elements of the adjuster is connected, a system of ducts connecting the pump and adjuster, a magnetic rotor element and a magnetic stator element coacting therewith substantially as described.

37. In a power-transmitting apparatus the combination of a cranked shaft extending entirely through the apparatus, a pump operated by the shaft, a power and speed adjuster, an adjustable crank with which one of the elements of the adjuster is connected, a system of ducts connecting the pump and adjuster, a power device having a rotor element and a stator element coacting therewith, substantially as described.

39. In a power-transmitting apparatus the combination of a rotary casing and a cranked shaft extending entirely through the apparatus beyond each side of the casing both being arranged in coincident axial alinement, a pump, and a power and speed adjuster in said casing, a connection between one of the pump elements and the shaft, an adjustable crank and a connection between one of the adjuster elements and the adjustable crank, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating said valve, and a connection between said eccentric and said adjuster-crank.

39. In a power-transmitting apparatus the combination of a rotary casing, a cranked shaft extending entirely through the apparatus beyond each side of the casing both being arranged in coincident axial alinement, a pump, and a power and speed adjuster in said casing, a connection between one of the pump elements and the shaft, an adjustable crank and a connection between one of the adjuster elements and the adjustable crank, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating said valve, a connection between said eccentric and said adjuster-crank, a magnetic rotor element on the casing and a magnetic stator element coacting therewith substantially as described.

40. In a power-transmitting apparatus the combination of a rotary casing, a cranked shaft extending entirely through the apparatus beyond each side of the casing, both being arranged in coincident axial alinement, a pump and a power and speed adjuster in said casing, a connection between one of the pump elements and the shaft, an adjustable crank, a connection between one of the adjuster elements and the adjustable crank, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating said valve a connection between said eccentric and said adjuster-crank, and a power device having a rotor element and a stator element to coact therewith substantially as described.

41. In a power-transmitting apparatus the combination of a casing, a shaft extending entirely through the apparatus and beyond each side of the casing, both arranged in coincident axial alinement, a pump and power and speed adjuster in said casing, a connection between one of the pump elements and the shaft, an adjustable crank, a connection between one of the adjuster elements and the adjustable crank, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating said valve, and an operating mechanism for the valve controlled by the movement of the adjustable crank.

42. In a power-transmitting apparatus the combination of a casing, a shaft extending entirely through the apparatus and beyond each side of the casing, both arranged in coincident axial alinement, a pump and power and speed adjuster in said casing, a connection between one of the pump elements and the shaft, an adjustable crank, a connection between one of the adjuster elements and the adjustable crank, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating said valve, and operating mechanism for the valve controlled by the movement of the adjustable crank, and a power device having a rotor element on the casing and a stator element to coact therewith.

44. In a power-transmitting apparatus the combination of a rotary fluid-holding casing, a cranked shaft extending entirely through the mechanism and beyond each side of the casing, both arranged in coincident axial alinement, a pump and a power and speed adjuster in said casing, a connection between one of the pump elements and the shaft, a second shaft an adjustable crank on the second shaft in the casing, a connection between one of the adjuster elements and the adjustable crank a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating said valve, a connection between the valve-operating mechanism and the adjustable crank-operating mechanism, the valve-eccentric being adjustable relatively to the adjustable crank.

45. In a power-transmitting apparatus the combination of a rotary fluid-holding casing, a cranked shaft extending entirely through the mechanism and beyond each side of the casing both arranged in coincident axial alinement, a pump and a power and speed adjuster in said casing, a connection between one of the pump elements and the shaft, a second shaft an adjustable crank on the second shaft in the casing, a connection between one of the adjuster elements and the adjustable crank, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating said valve, a connection between the valve-operating mechanism and the adjustable crank-operating mechanism, the valve-eccentric being adjustable relatively to the adjustable crank, a magnetic rotor element on the casing and a magnetic stator element coacting therewith, substantially as described.

46. In a power-transmitting apparatus the combination of a rotary casing, a cranked shaft extending entirely through the mechanism and beyond each side of the casing, both arranged in coincident axial alinement, a pump and a power and speed adjuster in said casing, a connection between one of the pump elements and the shaft, an adjustable crank, a connection between one of the adjuster elements and the adjustable crank, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating said valve, a connection between the valve-operating mechanism and the adjustable crank-operating mechanism, a power device having a rotor element connected with the casing and a stator element to coact therewith, substantially as described.

47. In a power-transmitting apparatus the combination of a rotary casing, a cranked shaft extending entirely through the casing, a pump in said casing having its piston connected with the shaft, an adjuster in said casing embodying a piston, an adjustable crank connected with the adjuster-piston, fluid-circulating passages connecting the pump and the adjuster and the center of the casing, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating the valve, and connections between the said eccentric and the adjuster-crank.

48. In a power-transmitting apparatus the combination of a rotary casing, a cranked shaft extending entirely through the casing, a pump in said casing having its piston connected with the shaft, an adjuster in said casing embodying a piston, an adjustable crank connected with the adjuster-piston, fluid-circulating passages connecting the pump and the adjuster and the center of the casing, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating the valve, connections between the said eccentric and the adjuster-crank, a magnetic rotor element on the casing and a magnetic stator element coacting therewith.

49. In a power-transmitting apparatus the combination of a rotary casing, a cranked shaft extending entirely through the casing, a pump in said casing having its piston connected with the shaft, an adjuster in said casing embodying a piston, an adjustable crank connected with the adjuster-piston, fluid-circulating passages connecting the pump and the adjuster and the center of the casing, a valve controlling the passage of fluid from the pump to the adjuster, an eccentric for operating the valve, connections between the said eccentric and the adjuster-crank, and a power device having a rotor element on the casing and a stator element to coact therewith.

50. In a power-transmitting mechanism the combination of a rotary casing, a cranked shaft extending entirely through the casing, a fluid-pressure-creating device such as a pump, one element of which is operatively connected with the casing and a compensative ele-

ment of which is movable and connected with the shaft, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which the coöperating element of the adjuster is connected, a valve controlling the passage of motive fluid from the pump to the adjuster, an eccentric controlling the operation of said valve, a pivot-pin on which the eccentric is rotatable, and a connection between the adjuster crank-shaft and the eccentric, whereby the angular advance of the eccentric is maintained constant in relation to the virtual crank of the adjuster.

51. In a power-transmitting mechanism the combination of a rotary casing, a cranked shaft extending entirely through the casing, a fluid-pressure-creating device such as a pump, one element of which is operatively connected with the casing and the coöperative element of which is movable and connected with the shaft, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable cranked shaft with which the coöperating element of the adjuster is connected, a valve controlling the passage of motive fluid from the pump to the adjuster, an eccentric controlling the operation of said valve, a pivot-pin on which the eccentric is rotatable, a connection between the adjuster crank-shaft and the eccentric whereby the angular advance of the eccentric is maintained constant in relation to the virtual crank of the adjuster, a magnetic rotor element on the casing and a magnetic stator element coacting therewith.

52. In a power-transmitting mechanism the combination of a rotary casing, a cranked shaft extending entirely through the casing, a fluid-pressure-creating device such as a pump, one element of which is operatively connected with the casing and a coöperative element of which is movable and connected with the shaft, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which the coöperating element of the adjuster is connected, a valve controlling the passage of motive fluid from the pump to the adjuster, an eccentric controlling the operation of said valve, a pivot-pin on which the eccentric is rotatable, a connection between the adjuster crank-shaft and the eccentric, whereby the angular advance of the eccentric is maintained constant in relation to the virtual crank of the adjuster, and a power device having a rotor element on the casing and a coacting stator element.

53. In a power-transmitting mechanism the combination of a rotary casing and a shaft extending entirely through the casing, a fluid-pressure-creating device such as a pump, one element of which is operatively connected with the casing and the coöperating element of which is movable and connected with the shaft, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which the said coöperating element of the adjuster is connected, a valve controlling the passage of motive fluid from the pump to the adjuster, an eccentric controlling the operation of said valve, a pivot-pin on which the eccentric is rotatable, and an operative connection between the adjuster crank-shaft and the eccentric substantially as described.

54. In a power-transmitting mechanism the combination of a rotary casing a shaft extending entirely through the casing, a fluid-pressure-creating device such as a pump, one element of which is operatively connected with the casing and the coöperating element of which is movable and connected with the shaft, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which the said coöperating element of the adjuster is connected, a valve controlling the passage of motive fluid from the pump to the adjuster, an eccentric controlling the operation of said valve, a pivot-pin on which the eccentric is rotatable, an operative connection between the adjuster crank-shaft and the eccentric, and means at both ends of the shaft for transmitting the power to its destination, substantially as described.

55. In a power-transmitting mechanism the combination of a rotary casing and a shaft extending entirely through the casing, a fluid-pressure-creating device such as a pump, one element of which is operatively connected with the casing and the coöperating element of which is movable and connected with the shaft, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which the said coöperating element of the adjuster is connected, a valve controlling the passage of motive fluid from the pump to the adjuster, an eccentric controlling the operation of said valve, a pivot-pin on which the eccentric is rotatable, an operative connection between the adjuster crank-shaft and the eccentric, a magnetic rotor element attached to the casing and a magnetic stator element coacting therewith substantially as described.

56. In a power-transmitting device the combination of a rotary casing, a cranked shaft extending entirely through the casing and centrally thereof, means at both ends of the shaft for transmitting the power to its destination, a pump-cylinder, an adjuster-cylinder having the same capacity as the pump-cylinder, a coöperating element for the pump connected with the shaft, means for varying the relative capacities of the pressure-creating cylinder and the adjuster, a valve for controlling the passage of fluid to and from the cylinders and the center of the casing and means for rotating the casing substantially as described.

57. In a power-transmitting mechanism the combination of a rotary casing a shaft extending entirely through the casing, a fluid-pressure-creating device, such as a pump, one element of which is operatively connected with the shaft and the coöperating element of which is movable and connected with the casing, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which that coöperating element of the adjuster is connected a valve controlling the passage of motive fluid from the pump to the adjuster, an internally-toothed eccentric ring controlling the operation of the valve, a pinion gearing with the teeth of said ring, an operating-shaft for the said pinion, and an operative connection between the adjuster crank-shaft and the pinion-operating shaft, substantially as described.

58. In a power-transmitting mechanism, the combination of a rotary casing a shaft extending entirely through the casing, a fluid-pressure-creating device, such as a pump, one element of which is operatively connected with the shaft and the coöperating element of which is movable and connected with the casing, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which that coöperating element of the adjuster is connected, a valve controlling the passage of motive fluid from the pump to the adjuster, an internally-toothed eccentric ring controlling the operation of the valve, a pinion gearing with the teeth of said ring, an operating-shaft for the pinion, an operative connection between the adjuster crank-shaft and the pinion-operating shaft, and a power device having a rotor element on the casing and a coacting stator element, substantially as described.

59. In a power-transmitting mechanism, the combination of a rotary casing, a shaft extending entirely through the casing, a fluid-pressure-creating device, such as a pump, one element of which is operatively connected with the shaft and the coöperating element of which is movable and connected with the casing, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which the said coöperating element of the adjuster is connected, a valve controlling the passage of motive fluid from the pump to the adjuster, an internally-toothed eccentric ring controlling the operation of the valve, a pinion gearing with the teeth of said ring, an operating-shaft for the pinion, and an operative connection between the adjuster crank-shaft and the pinion-operating shaft.

60. In a power-transmitting mechanism the combination of a rotary casing, a shaft extending entirely through the casing, a fluid-pressure-creating device, such as a pump, one element of which is operatively connected with the shaft and the coöperating element of which is movable and connected with the casing, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which the said coöperating element of the adjuster is connected, a valve controlling the passage of motive fluid from the pump to the adjuster, an internally-toothed eccentric ring controlling the operation of the valve, a pinion gearing with the teeth of said ring, an operating-shaft for the pinion, and an operative connection between the adjuster crank-shaft and the pinion-operating shaft.

61. In a power-transmitting mechanism the combination of a rotary casing, a shaft extending entirely through the casing, a fluid-pressure-creating device, such as a pump, one element of which is operatively connected with the shaft and the coöperating element of which is movable and connected with the casing, a fluid-pressure power and speed adjuster having one of its elements connected with the casing, a coöperating element of the adjuster, a relatively fixed but adjustable crank-shaft with which that coöperating element of the adjuster is connected, a valve controlling the passage of motive

fluid from the pump to the adjuster, an internally-toothed concentric ring controlling the operation of the valve, a pinion gearing with the teeth of said ring, an operating-shaft for the pinion, an operative connection between the adjuster crank-shaft and the pinion-operating shaft, an electric rotor element attached to the casing, and a stator element coacting therewith, substantially as described.

808,585. PAPER-CLIP. JOSHUA B. HALE, Providence, R. I., assignor, by mesne assignments, to Ring Paper Clip Company, a Corporation of Rhode Island. Filed Oct. 17, 1904. Serial No. 228,781.



Claim.—1. A paper-clip formed of a single piece of wire coiled upon itself to form a plurality of clamping members each of said members having a projection, each projection and the end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire.

2. A paper-clip formed of a single piece of wire coiled upon itself to form a plurality of clamping members, each of said members having a projection, each projection and the free end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said clamping members being connected by a chordal bridge forming a stiffening saddle-piece.

3. A paper-clip formed of a single piece of wire coiled upon itself to form a plurality of clamping members, each of said members having converging tangentially-arranged portions forming a projection, each projection and the free end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire.

4. A paper-clip formed of a single piece of wire coiled upon itself to form a plurality of clamping members, each of said members having converging tangentially-arranged portions forming a projection, each projection and the free end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said clamping members being connected by a chordal bridge forming a stiffening saddle-piece.

5. A paper-clip formed of a single piece of wire coiled upon itself to form a plurality of clamping members, each of said members having a projection, each projection and the free end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said clamping members being each provided with irregular or indenting portions.

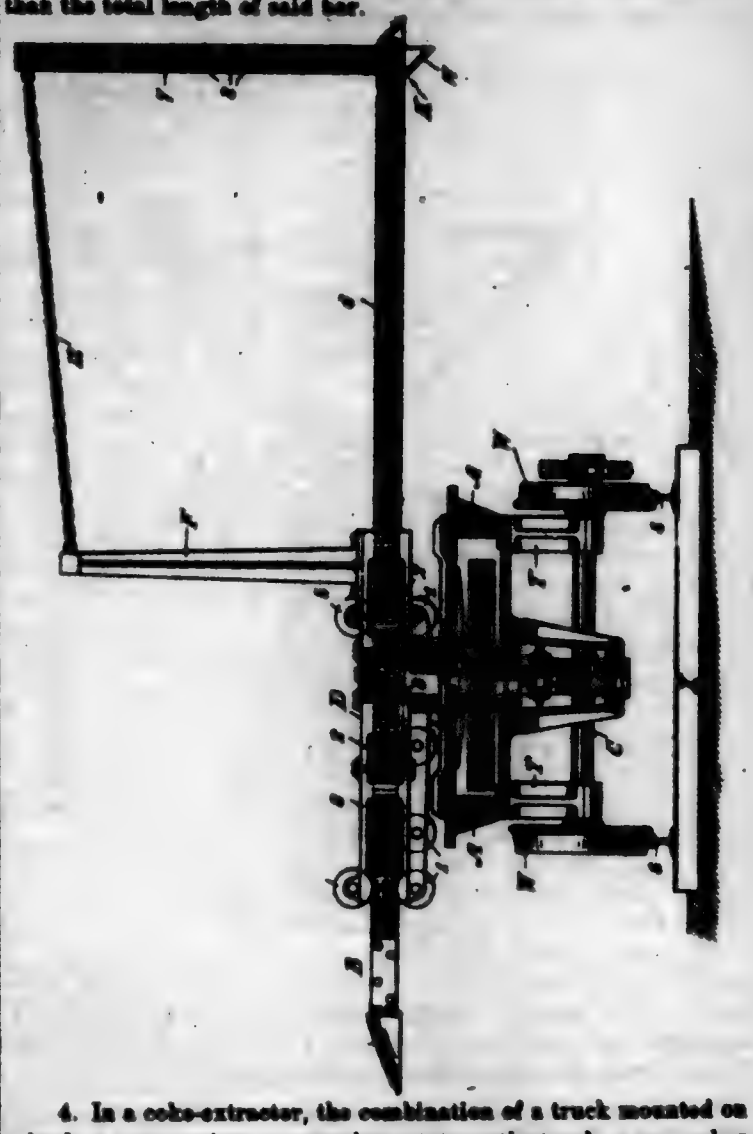
6. A paper-clip formed of a single piece of wire coiled upon itself to form a plurality of clamping members, each of said members having a projection, each projection and the free end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said projections being provided with oppositely-arranged knurled or indenting surfaces.

808,586. COKE-EXTRACTOR. JOHN S. HAM, Covington, Va., assignor to Covington Machine Company, a Corporation of Virginia. Filed Apr. 4, 1903. Serial No. 151,167.

Claim.—1. In a coke-extractor, the combination of a truck mounted on wheels, a ram-carriage arranged to rotate on the truck and a ram or bar arranged to move horizontally therein, the rear end of which is composed of parts joined together so that the ram is rigid at the end toward the coke-oven, and rigid or flexible at the outer end as may be desired.

2. In a coke-extractor the combination of a truck mounted on wheels, a ram-carriage, arranged to rotate on the truck, a ram or bar arranged to move horizontally therein, the rear end of which is composed of parts joined together so that the ram is rigid at the end toward the coke-oven, and rigid or flexible at the outer end as may be desired, and means for deflecting the end of said bar from a right line so that the bar may be retracted in a space which is less than the total length of the bar.

3. In a coke-extractor, the combination of a truck mounted on wheels, a ram-carriage arranged to rotate on the truck and a ram or bar arranged to move horizontally therein, the rear end of which is composed of a plurality of parts each connected by articulate joints so arranged that they are rigidly connected when the bar is being advanced or retracted or in its horizontal position; and when desired one or more portions may be retracted in a space which is less than the total length of said bar.



4. In a coke-extractor, the combination of a truck mounted on wheels, a ram-carriage arranged to rotate on the truck, a ram or bar arranged to move horizontally therein, the rear end of which is composed of articulate parts so arranged as to form a rigid bar while the bar is being advanced or retracted and means substantially as described for deflecting the rear end of the bar from a right line on the articulate joints.

5. In a coke-extractor, a ram or bar arranged to slide in a suitable carriage rotating on the frame of the machine, composed of two separate parts connected by an articulate joint so arranged that they are rigidly connected when the bar is being advanced or retracted and one portion may be raised or lowered with respect to the other when the bar is retracted.

6. In a coke-extractor, the combination of a truck mounted on wheels, a ram-carriage arranged to rotate on the truck, a ram or bar arranged to move horizontally therein, composed of two articulate parts so engaging as to form a rigid bar while the bar is being advanced or retracted, and means substantially as described for raising or lowering the extremity of the bar on the articulate joint when the bar is retracted.

7. In a coke-extractor, the combination of a truck mounted on wheels, a ram-carriage arranged to rotate on the truck, a ram or bar arranged to move horizontally therein, composed of two articulate parts so engaging as to form a rigid bar while the bar is advanced or retracted, and means substantially as described for raising or lowering the extremity of the bar on the articulate joint when the bar is retracted, and for causing the bar to become rigid when the operation of the machine recommences.

8. In a coke-extractor, the combination of a suitable ram-carriage, a ram or bar arranged to move horizontally therein, composed of two articulate parts, so engaging as to form a rigid bar while the bar is being advanced or retracted, a post fixed to the ram-carriage and of appropriate height, and a chain attached at one end to the post and at the other end to the movable end of the bar for raising the same.

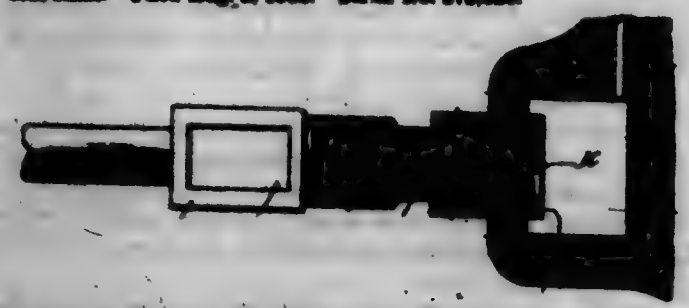
808,587. DRESSING APPARATUS. ROBERT G. HANSOM, San Francisco, Cal. Filed Jan. 19, 1904. Serial No. 189,704.

Claim.—1. In combination with a floating dredge-hull, a chain of buckets carried thereby and projecting below the dredge-hull, a pump, and a hydraulic monitor upon the hull, substantially as, and for the purposes set forth.



2. In combination with a dredge-hull, a chain of buckets projecting below said hull, a pump, and a hydraulic monitor mounted upon said hull and connected to said pump, and adjustable relatively to said hull, substantially as and for the purposes set forth.

808,588. PUMP FOR MOLTEN METAL. HANS C. HANSEN, Newton, Mass. Filed Aug. 5, 1905. Serial No. 272,822.



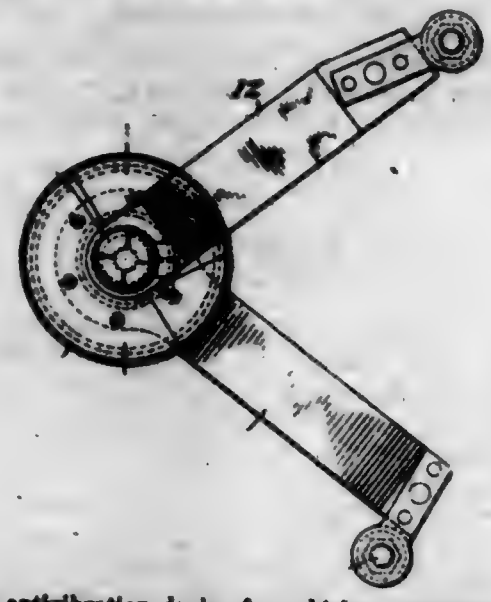
Claim.—A piston for a molten-metal pump consisting of a metal rod having a tapered end and a continuous metal sleeve having an exterior cylindrical surface constituting the effective piston-surface and having a bore tapered to correspond with the tapered end, the angle of the taper of the two parts being such that they are firmly held together by frictional contact alone, whereby the effective diameter of the piston may be increased by forcing the sleeve upon the tapered end to cause the expansion of the metal of the sleeve.

808,668. ANTIVIBRATION DEVICE FOR VEHICLES. EDWARD V. HAMPSON, New York, N. Y. Filed Oct. 1, 1904. Serial No. 226,962.

Claim.—1. In a vehicle, comprising running-gear, a suspended portion and elastic supporting means between said running-gear and suspended portion, an antivibration device comprising non-elastic means for permitting of a limited free movement of the supporting means, but which operates to retard the recoil thereof beyond the limit of free movement, substantially as described.

2. In a vehicle comprising running-gear, a suspended portion and elastic supporting means between said running-gear and suspended portion, a frictionally-operated antivibration device, which, while permitting of a limited free movement of said supporting means, operates to retard the movement thereof beyond the limit of free movement, substantially as described.

3. In a vehicle comprising running-gear, a suspended portion and elastic supporting means between said running-gear and suspended portion, a non-elastic antivibration device which, while permitting free movement of said supporting means to a limited extent, operates to retard the recoil thereof beyond that point, and means for adjusting the resistance of the retarding means, substantially as described.



4. An antivibration device for vehicles comprising a friction device and an arm for operating the same, said arm being capable of a limited movement without operating said friction device, substantially as described.

5. An antivibration device for vehicles comprising a friction device and a plurality of arms attached thereto, one of said arms adapted to move on said device to a limited extent without operating the friction device, substantially as described.

6. An antivibration device for vehicles comprising a friction device possessing a plurality of arms one of which is connected to the suspended body of said vehicle and the other to the running-gear, one of said arms being adapted to have a limited movement upon said friction device, without operating same, substantially as described.

7. An antivibration device for vehicles comprising two connected members, movable relatively to each other and a friction substance between said members, an arm rigidly secured to one of said members and a second arm adapted after a limited amount of free motion to engage projections on the other member and to move said member, substantially as described.

8. An antivibration device for vehicles employing a supporting-spring between the parts relatively movable to each other, said antivibration device comprising frictional means between the parts, which provide a yielding resistance to movement, and retard the action of the spring and means whereby the parts of the vehicle may have a slight movement relative to each other without operating the said frictional means, substantially as described.

9. An antivibration device comprising friction-disks rotatable around a common center, a fixed arm secured to one of said disks and a second arm mounted so as to have a limited free movement but to engage and operate the other of said disks beyond this limited movement, and means for securing the friction-disks in operative position, substantially as described.

10. An antivibration device comprising friction-disks rotatable around a common center, a fixed arm secured to one of said disks and a second arm mounted so as to have a limited free movement but to engage and operate the other of said disks beyond this limited movement, and adjustable means for securing the friction-disks in contact with each other, substantially as described.

11. An antivibration device comprising a recessed friction-disk, a second disk adapted to be seated in said recess, means for adjustably clamping the friction-disks in operative position, an operating-arm rigidly secured to one of said disks and a second arm mounted adjacent to the other of said disks and adapted to have a limited free movement but to engage lugs on said disk and move the same when operated beyond said limit of movement, substantially as described.

12. An antivibration device comprising a recessed friction-disk, a second disk located within said recess, friction material located between said disks, adjustable clamping means comprising a bolt and nut, friction material interposed between said nut and one of said disks an operating-arm rigidly secured to one of said disks and a second arm mounted adjacent to the other of said disks and having a limited free movement with respect thereto, but adapted to operate the disk beyond the limit of such free movement, substantially as described.

808,590. NURSING-BOTTLE. FERDINAND HERR, Superior, Wis. Filed Feb. 11, 1905. Serial No. 245,327.



Claim.—1. A nursing-bottle having its neck provided with a channel of a contour to allow an adjustable quantity of air to enter the interior of the bottle and an attached nipple while the contents of the former is being withdrawn.

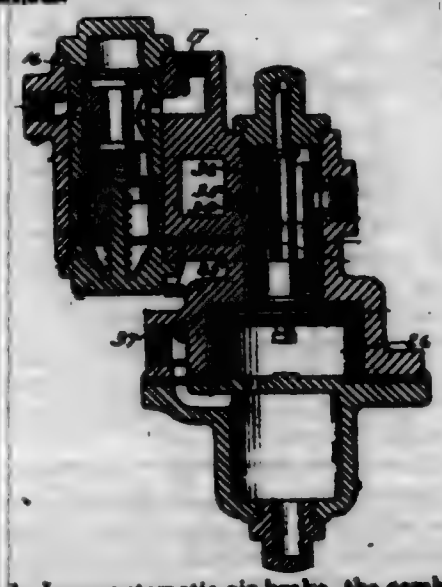
2. A nursing-bottle having its neck provided with a channel which gradually decreases in depth from the mouth of the bottle toward the shoulder thereof.

3. A nursing-bottle having its neck provided with an approximately V-shaped channel which gradually decreases in depth from the mouth of the bottle toward the shoulder.

4. A nursing-bottle having its neck provided with an approximately V-shaped channel which gradually decreases in depth and width from the mouth of the bottle toward the shoulder.

5. A nursing-bottle having its mouth-rim intersected by a channel that gradually decreases in depth toward the shoulder.

808,591. DOUBLE-HEADING VALVE DEVICE FOR AIR-BRAKES. HERBERT T. HERR, Roanoke, Va., and WALTER V. TURNER, Wilkinsburg, Pa., assignors to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Feb. 2, 1904. Serial No. 191,845.



Claim.—1. In an automatic air-brake, the combination with a main reservoir and train-pipe, of a normally closed valve device for controlling communication from the main reservoir to the train-pipe, and means actuated by an increase of train-pipe pressure for opening said communication.

2. In an automatic air-brake, the combination with a main reservoir and train-pipe, of a valve for controlling communication from the main reservoir to the train-pipe, a piston or movable abutment exposed on its opposite sides to fluid-pressure for actuating said valve, and means operated by an increase of train-pipe pressure for varying the pressure on one side of said abutment.

3. In an automatic air-brake, the combination with a main reservoir and train-pipe, of a valve for controlling communication from the main reservoir to the train-pipe, a piston or movable abutment exposed on its opposite sides to fluid-pressure for actuating said valve, and means operated by an increase of train-pipe pressure for releasing fluid under pressure from one side of said abutment.

4. In an automatic air-brake, the combination with a main reservoir and train-pipe, of a valve for controlling communication from the main reservoir to the train-pipe, a piston or movable abutment exposed on its opposite sides to pressure from the main reservoir for actuating said valve, and means operated by an increase of train-pipe pressure for releasing fluid under pressure from one side of said abutment.

5. In an automatic air-brake, the combination with a main reservoir and train-pipe, of a valve for controlling communication from the main reservoir to the train-pipe, a piston exposed on one side to pressure from the main reservoir, means for permitting a leakage past said piston, and means operated by an increase of train-pipe pressure for releasing fluid under pressure from the opposite side of said piston.

6. In an automatic air-brake, the combination with a main reservoir, train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of a valve for controlling communication from the main reservoir to the train-pipe, a piston exposed on its opposite sides to fluid-pressure for actuating said valve, and means operated by an increase of train-pipe pressure for releasing fluid under pressure from one side of said piston to the auxiliary reservoir.

7. In an automatic air-brake, the combination with a main reservoir, train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of a valve for controlling communication from the main reservoir to the train-pipe, a piston exposed on its opposite sides to fluid-pressure for actuating said valve, and means operated by the triple valve for releasing fluid under pressure from one side of said piston to the auxiliary reservoir.

8. In an automatic air-brake, the combination with a main reservoir, train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of a valve for controlling communication from the main reservoir to the train-pipe, a piston exposed on one side to fluid under pressure from the main reservoir, means for permitting a leakage past said piston, and means operated by the triple valve for opening communication from the chamber on the opposite side of said piston to the auxiliary reservoir.

9. In an automatic air-brake, the combination with a main reservoir and train-pipe, of a valve for controlling communication from the main reservoir to the train-pipe, a piston subject to opposing fluid-pressures for actuating said valve, a release-passage leading from the chamber on one side of said piston, a triple-valve device having a piston operated by variations in train-pipe pressure, a main slide-valve actuated by said triple piston and having a port for communicating with said release-passage, and a graduating-valve movable with respect to the main slide-valve and operated by the piston for controlling the release-port through the said main valve.

10. In an automatic air-brake, the combination with a main reservoir and train-pipe and a feed-valve device for regulating the flow from the main reservoir to the train-pipe, of a normally closed cut-off-valve device for controlling communication from the train-pipe chamber of the feed-valve device to the train-pipe, and means operated by an increase of train-pipe pressure for opening said cut-off valve.

11. In an automatic air-brake, the combination with a main reservoir and train-pipe and a feed-valve device for regulating the flow from the main reservoir to the train-pipe, of a cut-off valve for controlling communication from the train-pipe chamber of the feed-valve device to the train-pipe, a piston subject to opposing fluid-pressures for actuating said cut-off valve, and means operated by an increase of train-pipe pressure for releasing fluid under pressure from one side of said piston.

12. In an automatic air-brake, the combination with a main reservoir, train-pipe, engineer's brake-valve, feed-valve device and cut-out cock, of a cut-off valve for controlling communication through a by-pass around the cut-out cock, a piston for actuating said cut-off valve, and means operated by an increase of train-pipe pressure for varying the pressure upon one side of said piston.

13. In an air-brake, the combination with a main reservoir and train-pipe, of a valve for controlling communication from the main reservoir to the train-pipe, a movable abutment for actuating said valve, and fluid-pressure-operated valve mechanism for controlling the pressure on one side of said abutment.

14. In an air-brake, the combination with a main reservoir and train-pipe, of a valve for controlling communication from the main reservoir to the train-pipe, a movable abutment for actuating said valve, and a valve mechanism operated by the opposing fluid-pressures of the train-pipe and a reservoir for controlling the pressure on one side of said abutment.

808,592. HONGARD DYE AND PROCESS OF MAKING SAME. WILHELM HEINEMANN and OTTO SIMMER, Berlin, Germany, assignors to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Filed Feb. 25, 1901. Serial No. 135,324. (Specimens.)

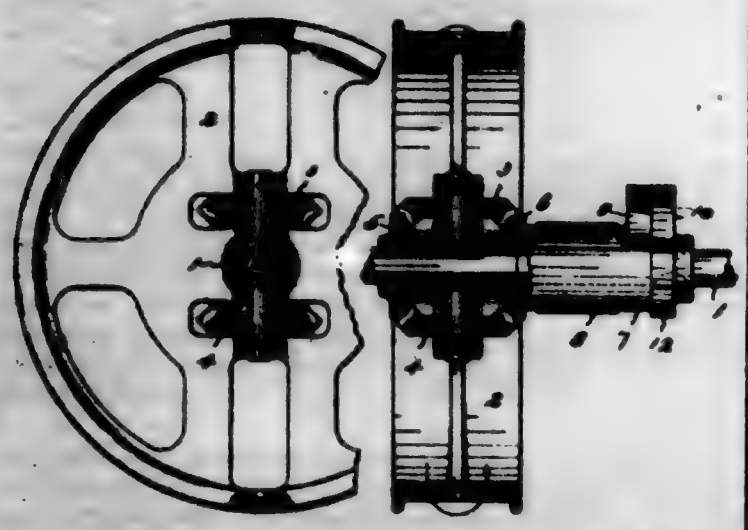
Claim.—1. The herein-described process of manufacturing new azo coloring-matters by combining with a naphthol compound the diazo compound of a hereinbefore-defined derivative of the or-

the amidophenol, having in the para position to the OH group the group NHR_1R_2, R_1 meaning an alkyl group, and in the ortho position to the OH group a hydrogen atom, chlorin, the sulfonic or carboxylic group.

2. As new products the azo coloring-matters deriving from the diazo compound of a hereinbefore-defined derivative of the ortho-amidophenol and obtained by the combination of such a diazo compound with a naphthol component; these coloring-matters being in the shape of the sodium salt brown to black powders, soluble in water with a red to Bordeaux-red coloration, turning to blue by the addition of caustic-soda lye; soluble in concentrated sulfuric acid of 66° with a violet coloration, which solution is partly precipitated by the addition of ice, the precipitation having a yellow-red to brown-red coloration; dyeing wool from an acid-bath brown-red shades, which are changed to a deep black by a subsequent treatment with oxidizing chromium compounds, these shades being distinguished by a very great fastness to washing, milling, potting and the action of light.

3. As a new product the coloring-matter derived from para-amido-ortho-amidophenol-ortho-sulfonic acid and beta-naphthol, which in the shape of the sodium salt is a black powder, soluble in water with a Bordeaux-red coloration turning to purre blue by addition of caustic-soda lye, soluble in concentrated sulfuric acid of 66° with a red-violet coloration which separates a brown-red precipitation by the addition of ice; dyeing wool from an acid-bath brown-red shades which are changed to a deep black by a subsequent treatment with chromium compounds, acting as oxidizing agents, substantially as described.

808,593. VARIABLE-SPEED MECHANISM. EDMUND HILL, Norwalk, Conn. Filed Feb. 17, 1905. Serial No. 246,029.



Claim.—1. A variable-speed mechanism having a shaft, a pulley loosely mounted directly on the shaft, four bevel-gears within the pulley, one gear being permanently fixed to the shaft, another being loose on the shaft, and the other two being mounted on the pulley and each meshing with both the fixed and loose gears, means for connecting the loose gear with the shaft, and means for holding the loose gear immovable and disconnected from the shaft, substantially as specified.

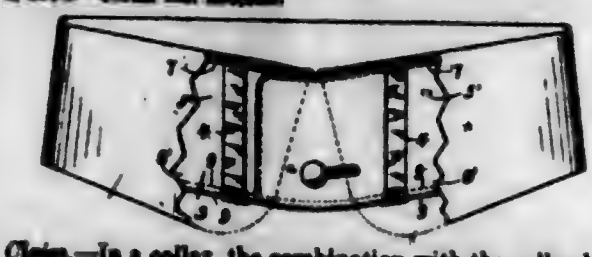
2. A variable-speed mechanism having a driven shaft a pulley loose on the driven shaft, gears, one gear being fixed to the shaft, another being loose on the shaft and provided with a brake whereby it may be held immovable, and two being mounted on the pulley, and a ratchet-and-pawl mechanism for connecting the loose gear with the shaft, substantially as specified.

3. A variable-speed mechanism having a driven shaft a pulley loose on the driven shaft, gears within the pulley, one gear being fixed to the shaft, another being loose on the shaft, a ratchet-and-pawl mechanism for connecting the loose gear with the shaft, a brake for holding the loose gear immovable, and means for setting the brake, substantially as specified.

4. A variable-speed mechanism having a driven shaft a pulley loose on the driven shaft, gears within the pulley, one gear being fixed to the shaft, another being loose on the shaft, the latter gear having a brake-drum and a pawl, a ratchet-disk secured to the shaft and adapted to be engaged by the pawl, and a brake adapted to be applied to the drum for holding the loose gear immovable, substantially as specified.

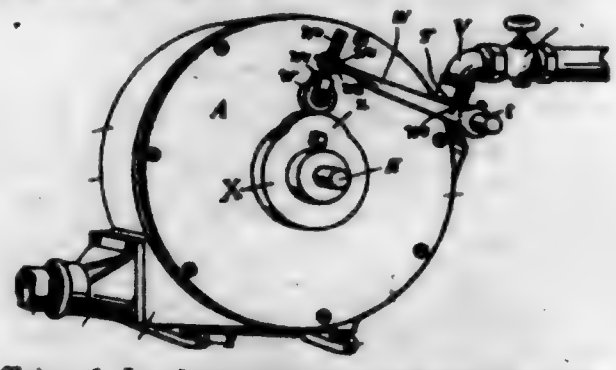
5. A variable-speed mechanism having a driven shaft a pulley loose on the driven shaft, gears within the pulley, two of said gears being mounted so as to rotate on their axes and revolve with the pulley, another gear being fixed to the driven shaft and another being loose on the driven shaft, the latter gear being attached to a brake-drum, a brake adapted to be applied to and released from the drum, and a ratchet and pawl adapted to connect the brake-gear with the shaft when the brake is released, substantially as specified.

808,594. COLLAR. FLORA HOUSEWORTH, Racine, Wis. Filed Mar. 4, 1904. Serial No. 196,888.



Claim.—In a collar, the combination with the collar-band having its upper and lower edges composed of a plurality of layers or thicknesses, of straps arranged transversely of the collar-band and forming necktie-loops and having their upper and lower ends inserted between the layers or thicknesses of the collar-band, and stitch-lines securing the layers or thicknesses of the collar-bands together and the opposite ends of the loop-straps between the layers and to the innermost layers.

808,595. FLUID-MOTOR. JOHANN HOFMANN, West Covington, Ky., assignor of one-half to Harry F. Bullinger, Covington, Ky. Filed Jan. 2, 1904. Serial No. 187,562.



Claim.—1. In a fluid-motor, the combination of a shell, a fluid-wheel, a shaft for the latter journaled in the shell, a cam guide-wheel X on said shaft, an inlet-valve having a rocking valve-stem t, a lever W secured to said rocking valve-stem, an antifriction-roller w riding said guide-wheel, a stem w' having a threaded end w^2 for said roller, the free end of said lever having an aperture through which the said threaded end takes, nuts w^3 w^4 screwing about said threaded end at top and bottom of said free end of said lever, a spring w^5 coiled about said stem t and the rocking axis of said lever and having an end w^6 bent over said lever, constructed and operating substantially as and for the purpose specified.

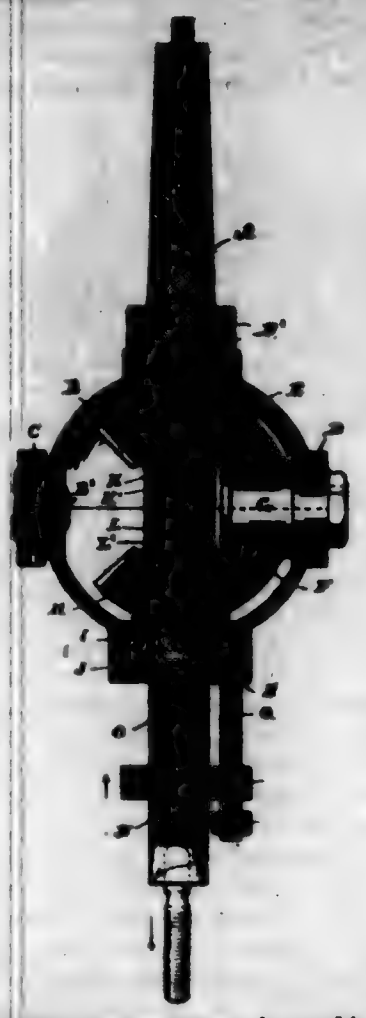
2. In a fluid-motor, the combination of a pair of shells arranged side by side, a fluid-wheel for each, a shaft for the latter journaled in the shells, a cam guide-wheel X on said shaft, an inlet-valve having a rocking valve-stem t for each shell, said valve-stems having coincident rocking axes and having a telescopic connection t^2 between them for permitting relative longitudinal movement of said valve-stems, and a lever W secured to one of said rocking valve-stems, said valve-stems having connection for causing simultaneous rocking of said valve-stems, the free end of said lever carrying an antifriction-roller w riding said guide-wheel, substantially as described.

808,596. TAPPING ATTACHMENT. GUSTAV H. HOLLE, Fairfield, Conn. Filed May 12, 1904. Serial No. 207,733.

Claim.—1. In a tapping-fixture, the combination with a driving-spindle having a conical recess, of a sleeve in alinement with said spindle with a conical recess, gear connections for driving the sleeve from the spindle, a shank intermediate of the spindle and sleeve having conical surfaces to frictionally engage either, a rotatable tap-carrier attached to said shank, means for automatically shifting the shank and carrier to engage and disengage it from the clutch-face of either the spindle or sleeve to rotate the carrier in opposite directions.

2. In a tapping-fixture, the combination with a driven spindle and a sleeve, each provided with a socket and connected to rotate oppositely from each other, a shank adapted to frictionally engage either, a tap-carrier attached to the shank, a collar mounted upon said carrier and adapted to be fed longitudinally therewith, an ad-

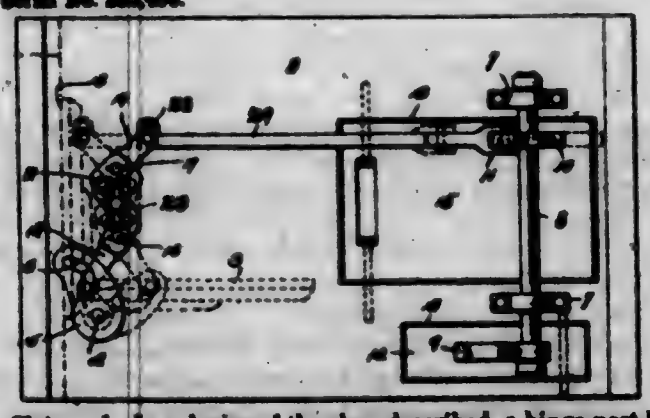
justable stop for the engagement of said collar whereby the carrier and shank are operated longitudinally to shift its engagement from the spindle to the sleeve.



3. In a reversible tapping-fixture, the combination with a driving-spindle, of gear and sleeve connections whereby the latter may be driven in a direction opposite to the spindle, a tap-carrier bearing a shank for engagement with both said driving-spindle and sleeve, a collar threadably engaged by the carrier in a manner to be moved longitudinally therewith and means for limiting the amount of movement of the collar in a way to shift the position of the carrier and change its engagement from the spindle to the sleeve to reverse its rotary movement.

4. In a reversible tapping-fixture, the combination with a tap-carrier and means for rotating the same in opposite directions, of a collar threadably engaged with said carrier adapted to be carried longitudinally thereon, a guide-rod for the collar, stops upon the rod to limit the movement of the collar and shift the position of the carrier to change its connections and direction of rotation.

808,597. DEVICE FOR OPERATING FURNACE-DOORS, GATES, &c. Joseph S. Hoch, Steelton, Pa. Filed Mar. 16, 1905. Serial No. 250,496.



Claim.—1. In a device of the class described, a hinge-post having a lever provided with a cam-slot, a rock-shaft having upwardly-extending treadle-supporting arms and a downwardly-extending arm, a lever having a lug engaging the cam-slot in the lever connected with the hinge-post, a secondary lever, an intermediate pivotally-supported link transmitting motion between the cam-slot-engaging lever and the secondary lever, and a connecting-rod provided at one end with a slot engaging a lug near the free end of the secondary lever and having its opposite end connected with the downwardly-extending arm of the rock-shaft.

2. In a device of the class described, a rock-shaft, oppositely-beveled upwardly-extending arms connected with said rock-shaft at an angle to each other, treadles supported hingedly at opposite sides of the rock-shaft and having their free ends supported upon the bevel arms, a hinge-post carrying a door or gate, and means for transmitting motion from the rock-shaft to said hinge-post.

3. In a device of the class described, a rock-shaft, oppositely-beveled upwardly-extending arms connected with said rock-shaft at an angle to each other, treadles supported hingedly at opposite sides of the rock-shaft and having their free ends supported upon the bevel arms, a hinge-post carrying a door or gate, a lever upon said hinge-post having a cam-slot formed therein, and means for transmitting motion to said lever from the rock-shaft; said means including a connecting-rod having one end connected with an arm extending downwardly from the rock-shaft and provided with a slot at the other end, a pair of suitably-supported levers having lugs engaging the slots in the connecting-rod and in the hinge-post lever respectively, and an intermediate link operatively engaging and connecting said levers.

808,598. NEEDLE-BATH APPARATUS. Samuel J. Jackson, New York, N. Y. Filed Oct. 26, 1904. Serial No. 230,111.



Claim.—1. A needle-bath apparatus comprising a plurality of oppositely-bowed, vertically-swinging spraying-arms journaled one above the other, said arms being movable to assume a horizontal position for use whereby to provide an open cage-like structure in which a bather may stand and to assume a substantially vertical position when not in use, and a supply-pipe with which said spraying-arms communicate.

2. A needle-bath apparatus comprising a plurality of spraying-sections journaled one above the other, each section consisting of a vertically-swinging arm having spraying-apertures throughout substantially its length, said arms being movable to assume a horizontal position for use whereby to provide an open cage-like structure in which a bather may stand and to assume a substantially vertical position when not in use, and a supply-pipe with which said spraying-arms communicate.

3. In a portable needle-bath apparatus of the character described, a plurality of horizontally-journaled vertically-swinging spraying members arranged one above the other and adapted when in position for use to assume a substantially horizontal position whereby to provide a cage-like structure in which a bather may stand and when not in use to be swung vertically to cause the sections to assume a substantially vertical position, and means for detachably connecting the apparatus to a suitable support.

4. A needle-bath apparatus comprising a vertically-arranged pipe, a plurality of vertically-swinging spraying-sections journaled one above the other and movable to a horizontal position for use, and to a substantially vertical position when not in use, each section comprising oppositely-disposed arms, said sections forming when low-

end into horizontal position a cage-like structure to receive a bather.

5. A needle-bath apparatus comprising a vertical pipe, a plurality of vertically-swinging spraying-sections journaled one above the other on said pipe and movable downwardly to assume a position in a horizontal plane and means to limit the downward movement of said sections.

6. In an apparatus of the character described, a vertical pipe, a plurality of oppositely-bowed vertically-swinging spraying-arms journaled one above the other on said pipe and adapted to assume a horizontal position for use whereby to provide an open cage-like structure in which a bather may stand and to assume a substantially vertical position when not in use, a shower attachment connected to the upper end of said vertical pipe and disposed above the center of said cage-like structure, and separate valves for controlling the flow of water to said spraying-arms and said shower.

7. A needle-bath apparatus, comprising a vertical pipe, a plurality of horizontally-arranged journals arranged one above the other on said pipe, a vertically-swinging spraying-section carried by each journal, said section comprising two pipe members, curved toward each other in the same plane and each member having one end secured to an end of said journal.

8. A needle-bath apparatus, embodying in its construction a supply-pipe, and a vertically-swinging spraying-section journaled on said pipe, said spraying-section comprising oppositely-bowed arms each having spraying-apertures throughout substantially its length, and said section being movable to assume a horizontal position for use and a substantially vertical position when not in use.

9. A needle-bath apparatus comprising a vertical pipe, a plurality of spraying-sections journaled one above the other on said pipe, each section comprising oppositely-arranged spraying-arms, each having one end secured to the journal and the opposite ends spaced apart from each other, the journal being so disposed as to permit the sections to be swung into a horizontal plane for use.

10. In a needle-bath apparatus, the combination of a vertical pipe, a plurality of vertically-swinging spraying-sections journaled on said pipe one above the other and means for connecting said sections whereby they may be moved simultaneously.

11. In a needle-bath apparatus, the combination of a vertical pipe, a plurality of vertically-swinging spraying-sections journaled on said pipe one above the other and flexible connections connecting said sections whereby they may be swung simultaneously.

12. In a needle-bath apparatus, the combination of a plurality of vertically-swinging spraying-sections comprising pipe members and flexible connections connecting said members whereby the sections may be swung in a vertical direction simultaneously.

13. In an apparatus of the character described, a supply-pipe, a horizontally-arranged turning plug journaled in said pipe, and a spraying-arm extending outward from each end of the said plug and movable therewith, said arms being bowed in opposite directions and each having spraying-apertures throughout substantially its entire length, the arrangement of said arms being such that they may be moved to and supported in a horizontal position for use and also caused to assume a substantially vertical position when not in use.

14. In a needle-bath apparatus, the combination of a vertical pipe, a plurality of vertically-swinging spraying-sections journaled one above the other on the pipe and arranged to be swung into a horizontal position for use and means to support said sections when in horizontal position, whereby to provide a cage-like structure in which a bather may stand.

15. In a needle-bath apparatus, a vertical pipe, horizontally-disposed turning plugs disposed on said pipe and arranged one above the other and a curved spraying-arm secured to the opposite ends of each plug, said arms being movable to a horizontal position to form a cage-like structure to receive a bather.

808,599. ROTARY ENGINE. WILLIAM F. JUDSON and JOHN J. PEER, Brooklyn, N. Y. Filed Jan. 5, 1905. Serial No. 239,868.

Claim.—1. A rotary engine, comprising a casing, an irregularly-shaped chamber therein, an abutment rotatably mounted in the center of said chamber and bearing against the sides thereof and thereby dividing said chamber into a plurality of supplemental chambers, a piston slidably mounted in said chambers and extending on either or both sides thereof and bearing against the opposite surface of said first-named chamber and said supplemental chambers, a valve in communication with each of said supplemental chambers, an exhaust in communication with each of said supplemental chambers, and means for operating said valves, substantially as shown and described.

2. A rotary engine, comprising a casing, an abutment rotatably mounted therein, a plurality of piston-chambers around said abutment, an inlet-port and an outlet-port for each of said piston-chambers, a valve controlling each of said inlet-ports, a piston slidably mounted in said abutment and extending entirely therethrough, and means for operating said valves, substantially as shown and described.



3. A rotary engine, comprising a casing, an abutment rotatably mounted therein, a plurality of piston-chambers around said abutment, the central plane of each of said piston-chambers being directly opposite the plane of division of two other of said piston-chambers and said abutment bearing against said points of division, a piston in said abutment extending therethrough and adapted to operate in each of said piston-chambers, an inlet and an outlet port for each of said chambers, a valve controlling each of said inlet-ports, and means for operating each of said valves successively, substantially as shown and described.

4. A rotary engine, comprising a casing, an abutment rotatable therein, a piston slidable in said abutment, a plurality of said piston-chambers about said abutment, an inlet-port and an exhaust-port for each of said piston-chambers, a valve controlling each of said inlet-ports, a shaft secured to each of said valves, a crank-arm on each of said shafts, a disk in operative connection with said abutment, an annular plate adjustably connected to said disk and forming concentric grooves between the same and said disk, and said crank-arms being provided with a projecting member operating in said grooves, substantially as shown and described.

5. In a rotary engine, comprising a casing, a rotatable abutment, a slidable piston therein, piston-chambers in which said piston operates and valves for said piston-chambers; devices for operating each of said valves successively comprising a disk in operative connection with said abutment, a cam-groove formed therein, a crank-arm secured to each of said valves and operating in said cam-groove, and means for regulating the lengths of said grooves, substantially as shown and described.

6. A rotary engine, comprising a casing, an abutment rotatable therein, a piston extending through said abutment, a plurality of piston-chambers about said abutment and in which said piston is adapted to operate, the central plane of each of said piston-chambers being opposite the line of division of two others of said piston-chambers, substantially as shown and described.

7. In a rotary engine, a casing provided with an irregularly-shaped chamber therein and the diameter of which through the center thereof is the same in any direction, and an abutment rotatable in said casing and dividing said chamber into a plurality of piston-chambers, substantially as shown and described.

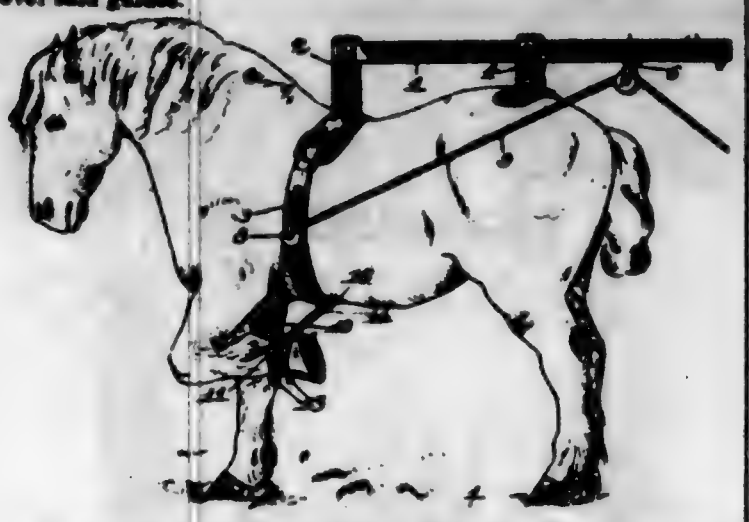
8. In a rotary engine, a casing provided with an irregularly-shaped chamber, an abutment rotatable in said casing and dividing said chamber into a plurality of piston-chambers, and a piston slidable through the center of said abutment and bearing against the opposite walls of said piston-chambers, substantially as shown and described.

808,600. ANIMAL-STOCK. JOHN H. KENDALL, Effingham, Ill., assignor, by mesne assignments, of one-half to John William D. Mayes and Richard D. Dugan, Effingham, Ill. Filed Nov. 16, 1904. Serial No. 233,021.

Claim.—1. An animal-stock comprising a bar having guides and adapted to be supported above the animal, saddle-frames supporting said bar, a securing-band for one of said frames, and a rope adapted to be attached to one of the legs of the animal, and passed over the guides upon said band and bar.

2. An animal-stock, comprising a bar, a saddle-frame secured to the forward end of said bar, a second saddle-frame secured to the bar at a point about midway of the length of the bar, a rope-guide adjacent to the rear end of the bar, a securing-band for the forward end-

dle-frame, a rope-guide on said band, and a rope adapted to pass over said guides.



3. An animal-stock comprising a rigid bar adapted to be supported above the back of an animal, a saddle-frame secured to the front portion of said bar, a securing-band therefor, a second saddle-frame supported upon said bar at about midway the length of the bar, a rope-guide adjustably secured upon the rear portion of the bar, a guide on the securing-band of the forward saddle-frame, and a rope passing over said guides and provided at its ends with fastening devices.

4. An animal-stock comprising a rigid bar, saddle-frames depending therefrom, a surcingle for securing the forward one of said saddle-frames upon an animal, means for elevating and supporting the legs of the animal, and a guard pivotally secured upon the surcingle in position to embrace the fore leg of the animal.

5. The combination with a bar, and saddle-frames depending therefrom, of a surcingle for securing the forward one of said saddle-frames upon an animal, means for elevating and supporting the legs of the animal, and a guard comprising arms adapted to embrace opposite sides of the fore leg of the animal, said guard being movably secured upon the surcingle.

6. The combination with a leg-supporting device, of a band adapted to be secured around the body of an animal, and a guard having a swiveled connection with said band to adapt the guard to be turned to either side of the animal, and provided with arms for engaging one foot of the animal.

7. An animal-stock having spaced front and rear saddles, and hoof-supporting means carried thereby, the saddles being movably mounted to adapt them to the portions of the body of the animal with which they come in contact.

8. An animal-stock having front and rear saddles, a connecting-bar supported thereby, said saddles having yielding connection with the bar to adapt them to the portions of the body of the animal with which they come in contact, and hoof-supporting means carried by the bar.

9. An animal-stock having front and rear saddles one of which is provided with a girth, a connecting-bar on which said saddles are pivotally connected, and hoof-supporting means carried by the bar.

10. An animal-stock having front and rear saddles, and hoof-supporting means including a bar connecting the saddles and pivotally mounted upon one of them.

11. An animal-stock having front and rear saddles, and hoof-supporting means including a bar with which the saddles have pivotal connection.

12. An animal-stock having front and rear saddles, hoof-supporting means including a bar pivotally mounted upon the front saddle, and means for adjustably securing the rear saddle to said bar.

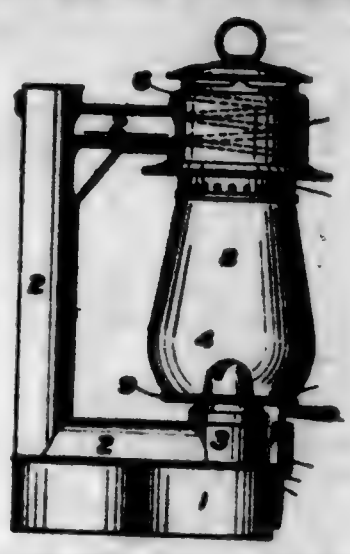
808,601. PROCESS OF TREATING ANODE-SLIMES. EDWARD F. KERN, Lansingburg, N. Y., assignor to Anson G. Betts, Lansingburg, N. Y. Filed Mar. 27, 1905. Serial No. 252,226.

Claim.—1. The process of treating anode-slime consisting in oxidizing metallic arsenic and antimony by heating with access of air, volatilizing arsenic as arsenious acid, and converting antimony into oxid, and extracting antimony from the resulting product with a suitable solvent.

2. The process of treating anode-slime consisting in oxidizing metallic arsenic and antimony, volatilizing arsenic as arsenious acid, and converting antimony to oxid, extracting copper from the product with an acid, and extracting antimony from the residue with a suitable solvent.

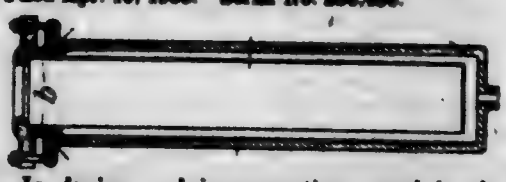
3. The process of treating anode-slime consisting in mixing it with sulfuric acid, roasting with air access, extracting copper from the product with a solution containing sulfuric acid, and extracting antimony from the residue with a suitable solvent.

808,602. GLOBE-LIFT FOR WALL-LAMPS. DAVID C. KLEIN, Rochester, N. Y., assignor to The Pritchard-Strong Company, Rochester, N. Y. Filed July 21, 1905. Serial No. 270,042.



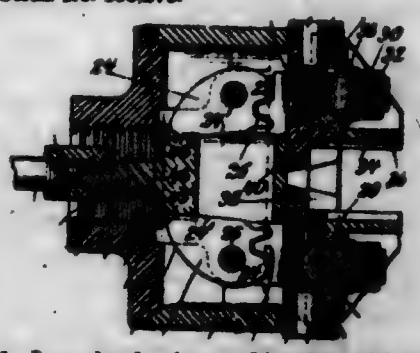
Claim.—In a globe-lifting device, a lamp-frame, a globe-plate, spring means for holding the globe down upon the globe-plate, a bracket attached to the frame of the lamp beneath the globe-plate and having guide-openings, a guide-bar connected to the globe-plate and adapted to move in said openings and having a notch for engagement with the edge of one of said guide-openings to maintain the globe-plate and globe in their elevated positions.

808,603. METHOD OF PRODUCING LIQUID-TIGHT JOINTS FOR IMPREGNATING WOOD. GUSTAV KRON, Copenhagen, Denmark. Filed Apr. 19, 1905. Serial No. 256,496.



Claim.—In dyeing and impregnating wood in the shape of trunks or blocks, a method of producing a liquid-tight joint between the wood and the dyeing or impregnating vessel, characterized by casting a readily-solidifying material in the shape of a ring around the trunk or block which is subsequently forced together with the ring against the rim or wall of the vessel.

808,604. CHUCK. PHILIP F. KNOX, New York, N. Y. Filed May 7, 1902. Serial No. 106,276.



Claim.—1. In a chuck, the combination with its casing of perforated sliding jaws guided upon the same, separate clamping parts, bolts passing through the clamping parts and through the perforations in the jaws, cam-pieces integral with said bolts, and mechanism for actuating said cams.

2. In a chuck, the combination with its casing, of perforated sliding jaws guided upon the same, separate clamping parts, bolts passing through the clamping parts and through the perforations in the jaws, cam-pieces integral with said bolts placed on one side of said sliding jaws and screw-thread arrangement on the opposite side of said jaws for holding said cam-pieces in contact with said jaws, and means for actuating said cam-pieces.

3. In a chuck, the combination with its casing, of perforated sliding jaws guided upon the same and comprising sliding parts and separate clamping parts, screw-bolts passing through said jaws and

through the clamping parts for confining the clamping parts in contact with the sliding parts, cam-pieces, said bolts being connected with said cam-pieces, and means for actuating said jaws.

4. In a chuck, the combination with its casing, of perforated sliding jaws guided upon the same, separate clamping parts, cam-pieces integral with screw-bolts which pass through the clamping parts and the perforations in said jaws, screws inserted in said sliding jaws and engaging with screw-threaded perforations in aforesaid bolts for adjusting the positions of said cam-pieces with reference to the axis of the chuck, and means for actuating said cam-pieces.

5. In a chuck, the combination with its casing, of sliding jaws guided upon the same toward and away from the axis of the chuck, surfaces on said jaws facing said axis being made slanting outward toward the face of the chuck.

6. In a chuck, the combination with its casing comprising a suitable divided face-plate, of sliding jaws guided upon said casing in the rear of said face-plate, said face-plate being provided with outward-flaring slots, and the surfaces on the jaws facing the axis of the chuck being made slanting outward.

808,605. PULLEY. LAURENCE S. LACKMAN, New York, N. Y. Filed Apr. 28, 1904. Serial No. 205,231.



Claim.—1. A wheel or pulley, comprising in combination a hub formed in separate coöperating sections, spokes secured to each section of said hub, rectangular open portions extending from the rim to the center being provided in the arrangement of said spokes on each section of the hub, whereby both said rectangular open portions of the sections of the wheel may be slipped over a shaft and arranged side by side, the parts of the wheel being so arranged that the continuous spokes fall opposite the rectangular open portions of the opposite coöperating section when the parts of the wheel are assembled.

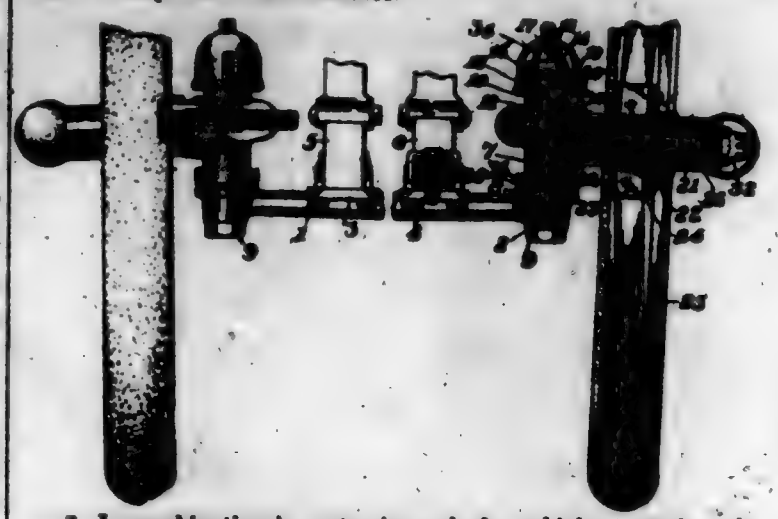
2. A wheel or pulley, comprising in combination a hub formed of a plurality of sections, and spokes secured to each of said sections, each part of the hub and spokes secured thereto forming a side of the wheel having a rectangular open portion extending from the rim to the center of the wheel, whereby both of said rectangular open portions of the wheel-sections may be slipped over a shaft, the arrangement of spokes being such that when the two coöperating portions of the wheel are assembled side by side, the solid continuous spokes fall opposite the rectangular open portions of the coöperating section of the wheel, and the sections of the hub coöperate to form a complete hub.

3. A sheet-metal wheel or pulley provided with a hub and a rim and having sheet-metal spokes in the form of thin flat stripe secured with their flat sides against each side of the hub and extending from opposite points on the rim and arranged at an angle to each other, the intersecting points of the spokes falling outside of the center of the wheel, and the spokes at each side of the hub being placed, some directly against the hub, and some crosswise on top of said spokes, said spokes being connected to the rim, and means for connecting them to the hub at their points of intersection.

808,606. STEERING-AXLE FOR VEHICLES. FRED A. LAW, Hartford, Conn., assignor to Electric Vehicle Company, Jersey City, N. J., a Corporation of New Jersey. Filed May 16, 1902. Serial No. 107,699.

Claim.—1. A steering mechanism comprising a main body portion, vertical pivot members separately made and fixedly secured to said main body portion by one end only and having their other end unattached, axle members mounted upon said vertical pivots and readily removable over one end thereof, means for controlling the relative positions of said last-named axle members.

2. An axle comprising a main body portion formed in a single piece, axle members pivoted thereto, pivots for said last-named axle members separately made and secured to the main axle portion projecting from the upper side thereof, said pivoted members having an unsupported upper end, and means for controlling the relative position of said pivoted axle members.



3. In combination in a steering-axle for vehicles, a main axle portion, vertical pivots secured thereto projecting entirely from the upper side, pivoted stub-axles, bearings arranged between the pivoted stub-axles and the vertical pivots, and means coöperating with the stub-axles for completely inclosing and surrounding said bearings in an oil-tight casing.

4. In a steering-axle for vehicles, a main axle member, pivoted axle members providing a wheel-bearing, a vertical pivot projecting upwardly from the main axle, and an antifriction-bearing arranged between the pivoted axle members and the upper end of the vertical pivot and adapted to bear the loads of the main axle portion.

5. In a steering-axle for vehicles, a main axle member, vertical pivots secured to said axle member, wheel-supporting axles provided with bearing portions coöperating with said pivots, antifriction thrust-bearings arranged between the pivoted axle members and the vertical pivot and unsupported in any direct way by the main axle member, means for inclosing said bearing portions, said vertical pivots secured to said axle member in manner whereby said wheel-supporting axles are removable from said pivots without disconnecting the latter from the main axle member.

6. In a steering-axle for vehicles, a main axle portion, pivoted bearings extending above said axle portion provided at their upper end with a thrust-plate independent of the main axle portion, wheel-supporting axles mounted to oscillate on said pivoted bearings, and provided with thrust-cones coöperating with thrust-plates upon the pivots, means for adjusting the thrust-bearing and means for completely inclosing the thrust and pivot bearings.

7. In combination with an axle member provided with pivot-bearings, wheel-supporting axles mounted upon the pivot-bearings, thrust-bearings adapted to suspend the load intermediate of the main axle and the wheel-supporting axle members, and a wheel-hub surrounding the axle-supporting pivot and provided with caps inclosing the wheel-bearings and caps for inclosing the thrust and pivot bearings.

8. In combination with a main axle, a separately-fashioned and rigidly-attached pivot projecting upwardly therefrom, a stub-axle encircling said pivot and carried thereon by a plain bearing, an antifriction-bearing at the upper end of said pivot remote from the point of attachment of said pivot to the main axle member, a collar and locking means for the upper end of said pivot coöperating with said antifriction-bearing.

9. In combination with a main axle member, separate pivots upwardly projecting and fixedly attached at the extremities thereof, stub-axles on said pivots, spring-seats on the main axle and springs attached to said seats and at their extremities attached to a portion of the superimposed vehicle, said point of attachment and said stub-axle centers lying substantially in the same horizontal plane, as and for the purpose described.

10. In an axle construction for vehicles, a main axle member extending from side to side of the vehicle, stub-axles pivoted at the ends of said main axle member, springs attached to said main axle member and to a portion of a superimposed body or frame, said latter point of attachment and axis of the stub-axles being in substantially the same horizontal plane.

11. In combination in a steering-axle for vehicles a substantially vertical pivot extending freely upward from the main axle portion and fixedly attached at one end only, a stub-axle adapted to carry a road-wheel and having a hub mounted to oscillate on said vertical pivot, a removable shoulder or collar secured wholly by said pivot and not supported by the main axle, a casing attached to said stub-axle hub and completely inclosing the upper end of said pivot.

12. In combination in a steering-axle for vehicles, a main axle or supporting member, a substantially vertical pivot, a secondary or oscillating stub-axle comprising axle end and hub portion, said hub having a close-fitting bearing upon said pivot permitting oscillation, means for preventing movement of said stub-axle longitudinally of said pivot, said pivot and support cooperating whereby the pivot is rigidly held in a substantially vertical position without additional brace or securing means.

803,607. **BOAT OR SHIP.** CHARLES P. LEAVITT, Miami, Fla., assignor of two-thirds to Arvid P. Curry, Miami, Fla. Filed Feb. 9, 1905. Serial No. 244,920.



Claim.—1. A ship or boat of substantially parabolic spindle form, comprising a hull and a superstructure, each composed of a plurality of staves arranged side by side, and rods extending transversely of the hull and superstructure and constituting the sole means for holding the staves together in assembled relation.

2. A ship or boat of substantially parabolic spindle form, comprising a hull and a superstructure, said boat having a cabin, and the intermediate part of the superstructure constituting a roof for the cabin and being mounted for rising and falling motion.

3. A ship or boat of substantially parabolic spindle form comprising a hull and a superstructure, the boat having a cabin and the intermediate part of the superstructure constituting a roof for the cabin, and means supported by the hull and connected with the intermediate part of the superstructure for raising the same.

4. A ship or boat of substantially parabolic spindle form, comprising a hull and a superstructure, the boat or ship having a cabin, and the intermediate part of the superstructure constituting a roof for said cabin, windlasses supported by the hull, and means adapted to be wound on the windlasses and connected with the intermediate part of the superstructure for raising the same.

5. A ship or boat of substantially parabolic spindle form comprising a hull and a superstructure, and also having a cabin, the intermediate part of the superstructure constituting a roof for the cabin, divided bulkheads in the ship or boat, one section of each being connected with the intermediate part of the superstructure and the other part with the hull, and means for raising said intermediate part of the superstructure.

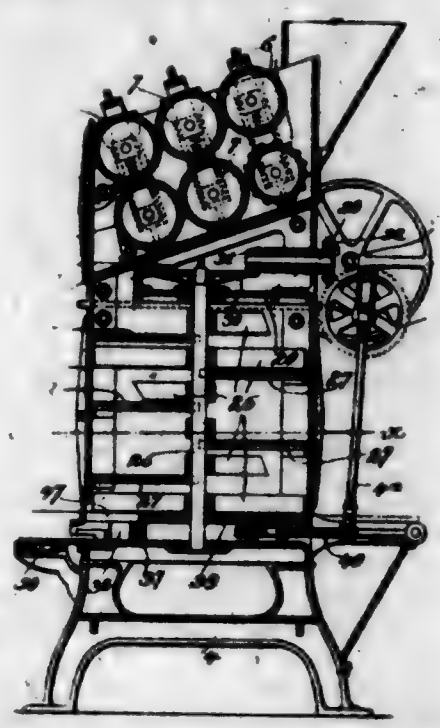
6. A ship or boat hull composed of a plurality of staves arranged side by side, each of parabolic spindle form, the intermediate staves having their ends squared, and the outer staves being pointed, and rods extending transversely of the hull for holding the staves in assembled condition to present a water-tight hull.

7. A ship or boat constructed of a plurality of staves of parabolic spindle form, arranged side by side, and rods extending transversely of the staves and constituting the sole means for holding them assembled to present the desired structure.

8. A ship or boat hull composed of a plurality of staves of parabolic spindle form, arranged side by side, and means for holding the staves together to present a hull of water-tight construction.

9. A ship or boat hull composed of a plurality of staves of parabolic spindle form, arranged side by side, and rods extending transversely of the hull and constituting the sole means for holding the staves assembled to present a hull of water-tight construction.

803,608. **PEAT-MACHINE.** THOMAS H. LEAVITT, Boston, Mass. Filed Mar. 7, 1904. Serial No. 196,816.



Claim.—1. In a peat-machine, means to rub the crude peat thereby to break up its cellular structure and partially expel the air therefrom, said means including a plurality of pairs of rubbing-rolls, and means to drive positively the rolls of each pair at a different speed, and a kneading mechanism to receive the peat from the rolls and operating to completely expel the air therefrom and develop its plastic properties.

2. In a peat-machine, a plurality of pairs of rubbing-rolls each pair comprising an upper and a lower roll, the rolls of successive pairs being progressively nearer together, means for operatively connecting together the upper rolls of all the pairs, means for connecting together the lower rolls of the pairs, and means for driving the upper rolls of the pairs independently of the lower rolls and at different speeds.

3. In a peat-machine, a plurality of pairs of rubbing-rolls, the rolls of successive pairs being progressively nearer together, means to drive the rolls of any pair at different speeds and the rolls of successive pairs at a progressively-increasing speed, and a kneading mechanism to receive the peat from said rolls said kneading mechanism comprising a plurality of perforated shelves and rotating blades to rub the peat over said shelves.

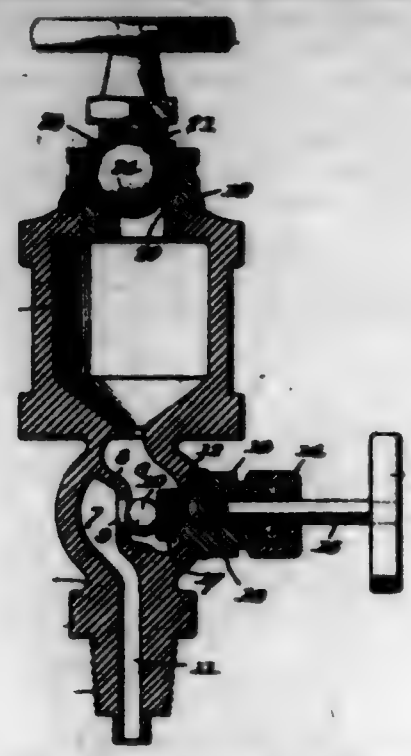
4. In a peat-machine, means to rub the crude peat thereby to break up its cellular structure and partially expel the air therefrom, said means including a plurality of pairs of rubbing-rolls, and means to drive positively the rolls of each pair at a different speed, combined with a kneading mechanism to receive the peat from the rolls and completely expel the air therefrom and develop its plastic properties, said kneading mechanism comprising a plurality of perforated shelves or partitions, and rotary blades operable in close proximity to said partitions and operating to rub the peat over said partitions.

803,609. **LUBRICATOR.** FRANK W. LEIDECKER, Marietta, Ohio, assignor to Leidecker Gauge Company, Marietta, Ohio. Filed Mar. 27, 1905. Serial No. 252,202.

Claim.—1. A lubricant-receptacle having an exit-passage, an approximately vertical wall in said passage having an aperture forming a valve-seat, a ball-valve adapted to engage said seat, and means, capable of regulation, for supporting said ball-valve in the unseated position to which it normally gravitates.

2. A lubricant-receptacle having an exit-passage, an approximately vertical wall in said passage having an aperture forming a

valve-seat, a ball-valve adapted to engage said seat on the flow of lubricant, and means for forcing said valve to its seat.



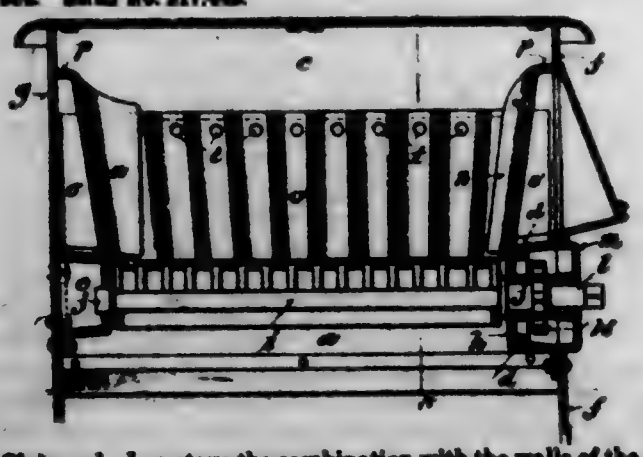
3. A lubricant-receptacle having an exit-passage, an approximately vertical wall in said passage having an aperture forming a valve-seat, a ball-valve adapted to engage said seat, and means for supporting said ball-valve in the unseated position to which it normally gravitates and for forcing said valve to its seat.

4. A lubricant-receptacle having an exit, and a valve of greater specific gravity than the lubricant in the receptacle and movable laterally to an obstructing position in the exit by the passage of lubricating material therethrough in a downward direction.

5. A steam-tight lubricant-receptacle having an exit constituting also an inlet for steam under pressure, an approximately vertical wall in the way constituting said exit and inlet said wall having an aperture constituting a valve-seat, a ball-valve adapted to engage said seat and normally occupying an unseated position on the lubricant side of the wall, and means for forcing said valve to its seat.

6. A steam-tight lubricant-receptacle having an exit-way constituting also an inlet for steam under pressure, an approximately vertical wall in said way, said wall having an aperture constituting a valve-seat, and a ball-valve adapted to engage said seat and normally occupying an unseated position on the lubricant side of the wall.

808,610. STOVE. ALBERT J. LINDEMANN and CHRISTIAN H. SWENDE, Milwaukee, Wis., assignors to A. J. Lindemann and Hoverson Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed July 21, 1904. Serial No. 217,448.

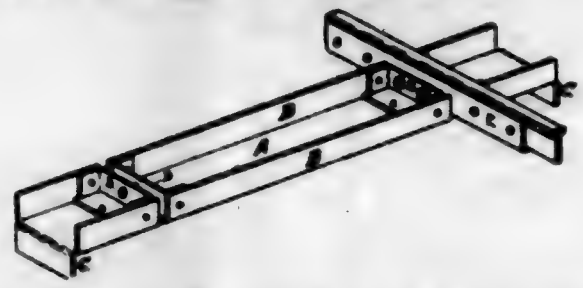


Claim.—1. In a stove the combination with the walls of the fire-chamber, of grate-supporting castings attached to the end walls of said chamber, the front-end wall and casting having corresponding openings through them, a bearing-piece removably fitted in and normally closing the opening in the front-end casting, and grate-bars fitted to turn in the rear-end casting and in said bearing-piece with which they are removable through the opening in said front-end casting, substantially as described.

2. In a stove the combination with the fire-chamber, of grate-supporting castings attached to the end walls of said chamber, the front-end wall and casting having corresponding openings through them, a bearing-piece removably fitted in and normally closing the opening in the front-end casting, rocking grate-bars having trunnions at their ends fitted to turn in the rear-end casting and in said bearing-piece with which they are removable through the opening in the front-end casting, the front trunnions being provided with removable intermeshing gears and one of said trunnions being extended to receive a shaking-handle, and a removable cover having an opening through which the extended trunnion normally projects, substantially as described.

3. In a stove the combination with the walls of the fire-chamber, of grate-supporting castings attached to the end walls of said chamber, the front casting having an opening through it of sufficient size to admit of the insertion and removal of the grate therethrough, a bearing-piece removably fitted in and normally closing the opening in said front casting, and a grate supported at the ends by said rear casting and by said bearing-piece, with which it is removable through the opening in the front casting, substantially as described.

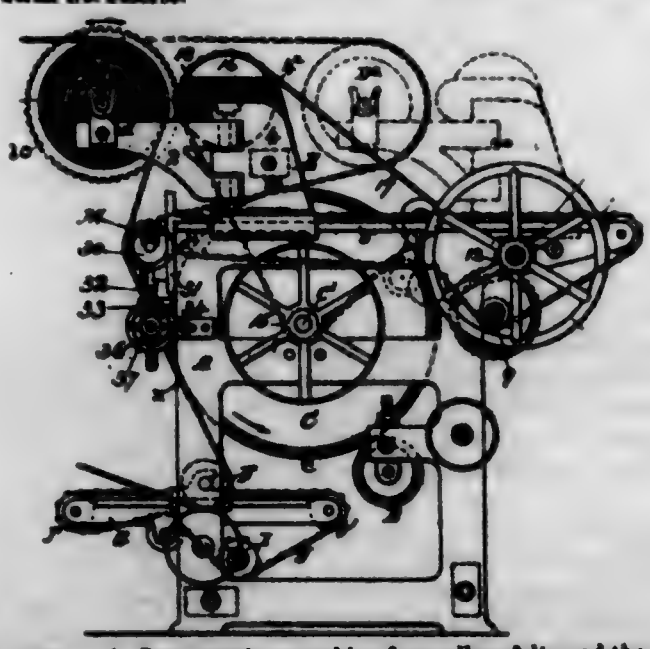
808,611. METALLIC RAILWAY-TIE. ROBERT H. LUTZ, Rotterdam, N. Y. Filed July 26, 1905. Serial No. 271,562.



Claim.—1. A metallic railway-tie in the form of a trough with the ends of the bottom turned downward and notches cut in the sides adapted to receive the rail, metallic plates secured to the bottom of the trough forming the bed-piece for the rail to rest upon, plates attached to the sides of the trough on each side of the openings forming channels of sufficient width for the rail to rest in and adapted to be attached by bolts to the rail, substantially as described

2. A metallic railway-tie in the form of a trough, the bottom of the trough forming the bed-piece of the tie, notches cut in the sides adapted to receive the rail, and a fish-plate adapted to rest in said notches and cover the bottom and both sides of a rail constructed without any lower flanges, the fish-plate forming a channel for the rail to rest in and adapted to be bolted to the sides of the rail, substantially as described.

808,612. CLOTH-NAPPING MACHINE. EDWIN H. MARBLE, Worcester, Mass., assignor to Curtis & Marble Machine Company, Worcester, Mass., a Corporation of Massachusetts. Filed Feb. 18, 1905. Serial No. 245,813.



Claim.—1. In a napping-machine for endless felts and the like; the combination of a napping-cylinder, a draft-roll, and means for shifting said draft-roll bodily to a forward or rearward position in relation to the napping-cylinder, to afford a direct-draft contact with said draft-roll operative either at a first contact or for a second contact of the fabric with the face of the cylinder.

2. In a napping-machine, the combination of a napping-cylinder, a draft-roll, supports for said draft-roll, shiftable to bring said draft-roll to forward or rearward positions in relation to the cylinder,

and means for operating said draft-roll at either position of its adjustment.

3. In a napping-machine for endless fabrics, comprising a napping-cylinder; a transferable draft-roll movable along a plane tangential to a circle that is concentric with the circle of the napping-cylinder, for locating said draft-roll to operate by direct-draft contact at different positions, so as to produce a final contact directly from said draft-roll, with either one, or two, contacts of the cloth fabric on the napping-cylinder.

4. In a napping-machine for endless fabrics, in combination with the napping-cylinder and draft-roll, a transversely-movable carriage having the draft-roll bearings and draft-roll mounted thereon, guideways for said carriage extending across the top of the machine-frame, means for effecting movement of said carriage along the guideways, and means for operating said draft-roll adjustable with the movement of the carriage, for the purpose set forth.

5. In a napping-machine, the combination of the napping-cylinder, the cylinder-supporting frame having guideways thereon, a carriage movable on said guideways, the draft-roll mounted in bearings supported upon said carriage, operating means for driving said draft-roll, drag-chains attached to said carriage, front and rear chain-guiding sheaves, a shaft provided with sprocket-wheels that respectively engage said chains, and a hand-wheel and connections for rotating said shaft.

6. In a napping-machine for endless fabrics, the combination, of a draft-contact roll, an adjustable support for its bearings, means for moving the same along a determined line to carry the draft-contact roll to a second contact position, an adjustably-supported directing-roll, an adjustably-supported bottom contact-roll, the napping-cylinder, and means for rotating said draft-contact roll in connection with the napping-cylinder.

7. In a napping-machine of the character described, the combination, of the napping-cylinder, the draft-roll, means for shifting said draft-roll for operation at a forward or rearward position in relation to the napping-cylinder, means for rotating said draft-roll from the cylinder-shaft, comprising suitable gearing, sprocket-wheels, and a drive-chain belt; and automatic take-up mechanism for maintaining uniform tension of said drive-chain belt when the position of the draft-roll is shifted.

8. In a napping-machine of the character described, the combination, with the napping-cylinder, its shaft provided with a sprocket-wheel, the movable draft-roll carriage, the draft-roll rotatable in bearings mounted on said carriage, and the draft-roll-actuating gear or sprocket; of the draft-roll-operating drive-chain, and a take-up device therefor, comprising a pivotally-fulcrumed angle-lever, one arm of said lever carrying a roll that acts against said drive-chain, its other arm controlled by a counterweight, substantially as set forth.

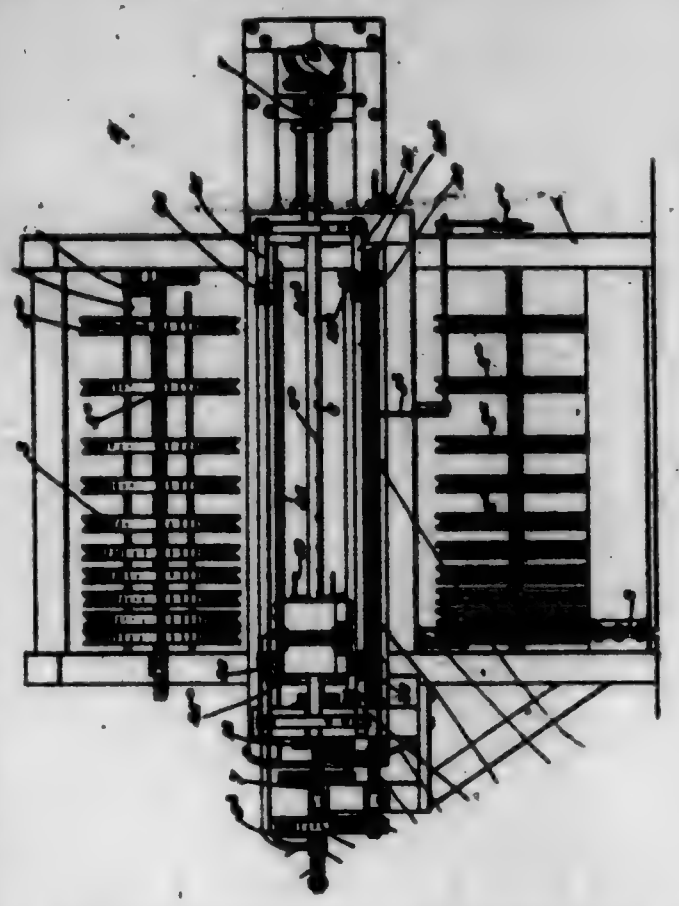
9. In a napping-machine for endless felts and the like, the combination, of a rotatable napping-cylinder, a transversely-adjustable bottom contact-roll; means for adjusting the position of said bottom contact-roll, an intermediate directing-roll, bearings for said directing-roll, adjustably supported in connection with the frame, an overhead draft-roll, a transversely-movable carriage having said draft-roll mounted in bearings thereon, guideways for said carriage along the top of the frame, and means for moving said carriage along the guideways to carry the draft-roll from a forward to a rearward position, and vice versa, in relation to the napping-cylinder.

10. In a napping-machine for endless felts and the like, the combination, with the napping-cylinder, its supporting end frames, the overhead draft-roll, the draft-roll carriage movable on guides upon said end frames, and a bottom contact-roll; of the removable directing-roll, bearings for said directing-roll movably mounted upon guides fixed on the front of said end frames, and means for separately moving each bearing, comprising a screw, a geared nut, and hand-actuated nut-operating gearing, whereby independent regulation and adjustment of the respective ends of said directing-roll is effected, all substantially as and for the purposes set forth.

808,613. WIRE-WEAVING MACHINE. WILLIAM H. MASON, Leesburg, Ohio. Filed Nov. 9, 1904. Serial No. 232,022.

Claim.—1. In a wire-weaving machine, the combination with strand-wire carriers, a shuttle carrying a bobbin-wire twister and operating devices therefor, a notched bar for moving the shuttle from strand-wire to strand-wire, means for reciprocating said bar, and mechanism for automatically operating the twisting devices to twist the bobbin-wire about the strand-wire.

2. In a wire-weaving machine, the combination with strand-wire carriers, a shuttle carrying a bobbin-wire twister and operating devices therefor, a notched bar for moving the shuttle from strand-wire to strand-wire, means for reciprocating and turning said bar, and mechanism for automatically operating the twisting devices to twist the bobbin-wire about the strand-wires.



3. In a wire-weaving machine, the combination with strand-wire carriers, a shuttle carrying a bobbin-wire twister and operating devices therefor, a bar angular in cross-section having its edges provided with pawl-engaging notches, means for reciprocating and rotating said bar, and a pawl on the shuttle to be engaged by said bar.

4. In a wire-weaving machine, the combination with strand-wire carriers, a shuttle carrying a bobbin-wire twister and operating devices therefor, a bar angular in cross-section having its edges provided with two reversely-acting series of pawl-engaging notches spirally disposed on said edges, means for reciprocating and rotating said bar, a double pawl on the shuttle to be engaged by said bar, and means for automatically moving the proper end of said pawl into position to be engaged by one of the series of notches on said bar when the shuttle arrives at the end of its movement across the machine.

5. In mechanism for moving a wire-shuttle, a bar having a spirally-disposed series of shuttle-engaging notches, and means for both reciprocating and rotating said bar.

6. In mechanism for moving a wire-shuttle, a bar having two spirally-disposed series of reversely-acting shuttle-engaging notches, and means for both reciprocating and rotating said bar.

7. In mechanism for moving a wire-shuttle, a reciprocated bar to move a shuttle with a step-by-step motion having a spirally-disposed series of shuttle-engaging notches, and means for rotating said bar when not moving the shuttle and holding said bar from rotation when moving the shuttle.

8. In mechanism for moving a wire-shuttle, a reciprocated bar to move the shuttle with a step-by-step motion having two spirally-disposed series of reversely-acting shuttle-engaging notches, and means for rotating said bar when not moving the shuttle and holding said bar from rotation when moving the shuttle.

9. In mechanism for moving a wire-shuttle and operating wire-twisting devices therein, a reciprocated bar to move the shuttle with a step-by-step motion having two spirally-disposed series of reversely-acting shuttle-engaging notches, means for rotating said bar when not moving the shuttle and holding said bar from rotation when moving the shuttle, and means for operating the twisting devices of the shuttle in the intervals of the step-by-step motion of the shuttle.

10. In mechanism for moving a wire-shuttle and operating wire-twisting devices therein, a reciprocated bar to move the shuttle with a step-by-step motion having two spirally-disposed series of reversely-acting shuttle-engaging notches, means for rotating said bar when not moving the shuttle and for holding said bar from rotation when moving the shuttle, means for operating the twisting devices of the shuttle in the intervals of its step-by-step motion, and means for

latching the shuttle-frame from reverse movement at the end of each of its step-by-step movements.

11. In mechanism for moving a wire-shuttle and operating a wire-twisting device therein, a reciprocated bar to move the shuttle with a step-by-step motion having two spirally-disposed series of reversely-acting shuttle-engaging notches, means for rotating said bar when not moving the shuttle and for holding said bar from rotation when moving the shuttle, means for operating the twisting devices of the shuttle in the intervals of its step-by-step movements, and means for locking the twisting device during the step-by-step movements of the shuttle.

12. In a wire-weaving machine, the combination of a shuttle carrying a bobbin-wire-twisting device, a notched reciprocating and rotating bar for moving the shuttle with a step-by-step motion, and a rotary bar with respect to which the shuttle moves for operating the twisting mechanism therein, gearing between said bars, and a main operating-shaft with gearing connected therewith for effecting the reciprocation of the notched bar and the rotation of both bars.

13. In a wire-weaving machine, the combination of a shuttle carrying a bobbin-wire-twisting device, a notched reciprocating and rotating bar for moving the shuttle with a step-by-step motion, and a rotary bar with respect to which the shuttle moves for operating the twisting mechanism therein, gearing between said bars, and a main operating-shaft with gearing connected therewith for effecting the reciprocation of the notched bar and the intermittent rotation of both bars.

14. In a wire-weaving machine, the combination of a shuttle carrying a bobbin-wire-twisting device, a notched reciprocating bar for moving the shuttle with a step-by-step motion, and a rotary bar with respect to which the shuttle moves for operating the twisting mechanism therein, gearing between said bars, a main operating-shaft with gearing connected therewith for effecting the reciprocation of the notched bar and the rotation of both bars, a power-shaft, gearing between the power-shaft and the aforesaid main shaft, clutching devices for connecting and disconnecting the power-shaft and the aforesaid main operating-shaft, and means operative by the shuttle for automatically operating said clutches.

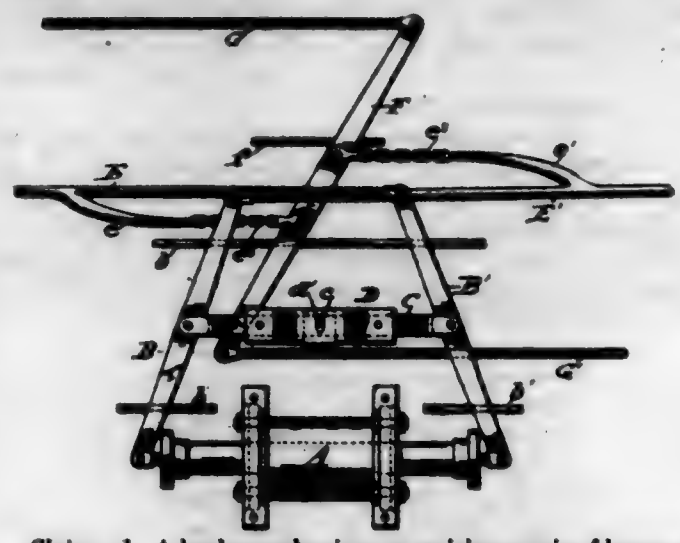
15. In a wire-weaving machine, the combination of a shuttle carrying a bobbin-wire-twisting device, a notched reciprocating rod for moving the shuttle with a step-by-step motion, a rotary bar with respect to which the shuttle moves for operating the twisting mechanism therein, gearing between said bars, a main operating-shaft with gearing connected therewith for effecting the reciprocation of the notched bar and the rotation of both bars, a power-shaft, gearing between the power-shaft and the aforesaid main shaft, clutching devices operative to connect and disconnect the power-shaft and the aforesaid main operating-shaft, and a clutching device operative to connect and disconnect the means for rotating the said rods.

16. In a wire-weaving machine, the combination of a shuttle carrying a bobbin-wire-twisting device, a notched reciprocating rod for moving the shuttle with a step-by-step motion, a rotary bar with respect to which the shuttle moves for operating the twisting mechanism therein, gearing between said bars, a main operating-shaft with gearing connected therewith for effecting the reciprocation of the notched bar and the rotation of both bars, a power-shaft, gearing between the power-shaft and the aforesaid main shaft, a clutching device operative by the shuttle for disconnecting the power-shaft and the aforesaid main operating-shaft, and a clutching device for connecting the means for rotating the said rods operative by the shuttle.

17. In a wire-weaving machine, the combination of a shuttle carrying a bobbin-wire-twisting device, a notched reciprocating rod for moving the shuttle with a step-by-step motion, a rotary bar with respect to which the shuttle moves for operating the twisting mechanism therein, gearing between said bars, a main operating-shaft with gearing connected therewith for effecting the reciprocation of the notched bar and the rotation of both bars, a power-shaft, gearing between the power-shaft and the aforesaid main shaft, clutching devices operative by the shuttle for disconnecting the power-shaft and the aforesaid main operating-shaft, and a clutching device for connecting the means for rotating the said rods also operative by the shuttle, said clutching device being adapted to permit a stroke of the shuttle-moving rod without the same being turned prior to the operation of the devices for rotating said rod.

18. In a wire-weaving machine, the combination with a bobbin-wire-twister frame, of a straight one-part spindle to receive the bobbin-wire hinged directly at one end to the twister-frame, and a yielding spring-latch also on the twister-frame adapted to engage and hold the other free movable end of said spindle, substantially as shown and described.

808,614. CAR-BRAKE. HENRY E. HELLER, Lancaster, Pa., assignor of one-third to John W. Holman and one-third to Charles V. Rote, Lancaster, Pa. Original application filed Apr. 26, 1904. Serial No. 204,662. Divided and this application filed Nov. 26, 1904. Serial No. 234,454.



Claim.—1. A brake mechanism comprising a pair of levers pivotally supported intermediate their ends, each connected at one side of its pivot with a truck or brake lever and connected together at the opposite side of their pivots by a brake-cylinder having two cores or pistons working therein, each pivoted to one of said levers and adapted to move in opposite directions in applying the brakes together with a hand-operated floating lever having suitable connections with said equalizing and truck or brake levers for applying the brakes by hand.

2. A brake mechanism comprising a pair of levers pivotally supported intermediate their ends, each connected at one side of their pivotal supports with a truck or brake lever and connected together at the opposite side of said supports through a brake-cylinder having two cores or pistons, each connected with one of said levers and movable in opposite directions toward each other in applying the brakes together with a floating lever having a flexible connection on each side of its center with one of the connections between one of said equalizing-levers and truck or brake lever and another connection at the same side with a brake-staff.

3. A brake mechanism comprising a pair of levers pivotally supported intermediate their ends, each connected at one side of their pivotal supports with a truck or brake lever and connected together at the opposite side of said supports through a brake-cylinder having an unobstructed central opening therethrough and two cores or pistons having a reciprocating movement in said opening and each connected with one of said levers and movable in opposite directions toward each other in applying the brakes said intermediate support of said equalizing-levers consisting of a strut mounted on a rigid support with provision to permit sufficient play or movement thereof to compensate for variations in the distance between the pivotal supports of the equalizing-levers and the ends of the reciprocating cores, in different positions of the latter.

4. A brake mechanism comprising a pair of equalizing-levers pivotally supported intermediate their ends to a transversely-arranged strut pivotally supported at or about its center; each lever being connected at one side of the strut with a truck or brake lever and at the other side thereof connected together through a brake-cylinder having two cores or pistons working therein each connected with one of said levers and movable in opposite directions in applying the brakes.

5. A brake mechanism comprising a pair of equalizing-levers each pivotally supported intermediate its ends to a strut which is pivotally supported at or about its center, each lever being connected at one side of the strut with a truck or brake lever and the two levers connected together at the other side of the strut through a brake-cylinder having an unobstructed central opening and two cores or pistons working therein, each connected with one of said equalizing-levers and adapted to move in opposite directions in applying the brakes.

6. In combination, the equalizing-levers, each pivoted intermediate its ends to a strut which is pivoted transversely of the plane of said levers, a brake-cylinder having two oppositely-movable reciprocating cores each having its outer end pivotally connected with an arm of one of said equalizing-levers, the other arms of said equalizing-levers being connected with the truck or brake levers at opposite ends of the car.

7. A brake mechanism comprising a pair of levers pivotally supported intermediate their ends and connected together at one

side of their pivots by a brake-cylinder having two cores or pistons working therein, each pivoted to one of said levers and adapted to move in opposite directions in applying the brakes, each of said levers being connected on the opposite side of their pivots with a truck or brake lever, the latter connections each having a branch extending therefrom with a flexible terminal, and a floating lever connected with one of said flexible terminals on each side of its center, the opposite arms of said floating levers being connected with brake-staffs at opposite ends of the car.

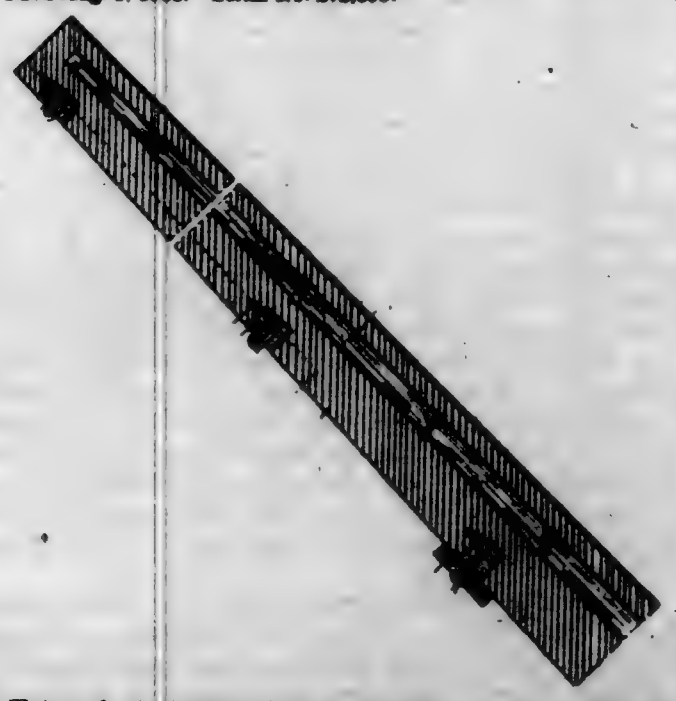
8. A brake mechanism comprising a pair of equalizing-levers each pivoted intermediate its ends to a strut and connected together at one side of the strut by a solenoid having two cores working therein, each core having its outer end pivoted to one of said levers and adapted to approach each other in applying the brakes, each of said levers being connected on the opposite side of said strut with a truck or brake lever by connections each having a branch with a flexible terminal portion, and a floating lever connected at each side of its center with one of said terminals and having its opposite arms connected with brake-staffs at opposite ends of the car.

9. In combination with the intermediately pivotally supported equalizing-levers, and the solenoid having two cores pivotally connecting said levers at one side of the pivots of the latter, a floating lever located between and in the same general plane of said equalizing-levers and having its opposite arms connected with brake-staffs at opposite ends of the car, bifurcated rods connecting a truck or brake lever at each end of the car with one of said equalizing-levers and with said floating lever on one side of its center, the latter connections having flexible portions therein to permit the floating and equalizing levers to operate either simultaneously or independently of each other in applying the brakes.

10. In combination with the equalizing-levers and means for automatically operating them, the hand-operated floating lever and bibranched connections extending from said levers in opposite directions to the truck or brake levers; each of said bibranched connections having one branch secured to an arm of one of said equalizing-levers and another branch secured to said floating lever at one side of its center, one of said branches being flexible, substantially as described.

11. A brake mechanism comprising a pair of equalizing-levers each pivotally supported intermediate its ends and connected at one side of its pivotal support with a truck or brake lever, a brake-cylinder with oppositely-movable cores or pistons connecting said equalizing-levers on the opposite side of said pivotal supports, and a floating lever having a flexible connection on each side of its center with one of the connections between one of said equalizing-levers and a brake or truck lever and connection at the same side with a brake-staff.

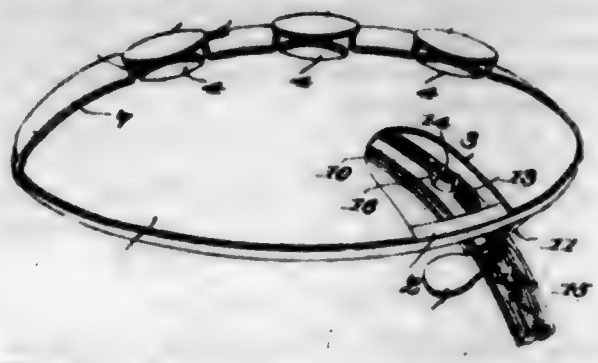
803,615. CEMENT FENCE-POST. Asa Moler, Iowa City, Iowa. Filed Aug. 3, 1905. Serial No. 272,589.



Claim.—1. An improved post comprising a number of longitudinally-arranged cornstalks and a cementitious composition surrounding the cornstalks and filling the spaces between them.

2. A fence-post comprising a cement body portion and a series of staple or nail receiving devices therein each comprising a series of layers of asbestos paper arranged side by side to receive staples or nails between said layers at the surface of the post where they are exposed, and a brace for each of said staple or nail receiving devices embedded in the post adjacent to said staple or nail receiving device.

803,616. HORSE-BONNET. Charles S. Moore, Fort Pierce, Fla. Filed May 8, 1905. Serial No. 259,493.



Claim.—1. A horse-bonnet comprising a concavo-convex body, an arched cross-bar having its ends extending upwardly and connected to the body, and means for connecting the cross-bar to the headstall of a bridle.

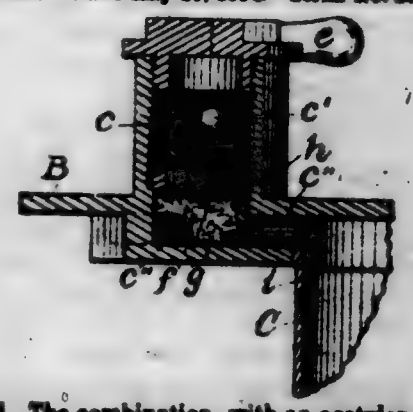
2. A horse-bonnet having a series of ventilating-openings, a bar secured across the bonnet with intermediate portions arched to span the openings, and covers supported upon the arched portions of the bar above the openings and of greater diameters than the latter.

3. A horse-bonnet comprising a concavo-convex body provided at opposite sides with ear-openings and a series of ventilating-openings disposed longitudinally of the body, a stiffening-ring secured to the peripheral edge of the body, covers supported above the openings and of greater diameters than said openings, an arched cross-bar extending across the under side of the body in rear of the ear-receiving openings, and fastenings carried by the cross-bars for connecting the same to the headstall of a bridle.

4. A horse-bonnet comprising a body, an arched cross-bar connected to the under side of the body and provided with laterally-directed brace members to rest upon the head of the horse, and means for connecting the cross-bar to the headstall of a bridle.

5. A horse-bonnet comprising a body, an arched cross-bar connected to the under side of the body, a lower arched cross-bar coöperating with the first-mentioned cross-bar to form a clamp, the ends of the lower cross-bar being extended laterally and formed into braces to rest upon the top of a horse's head, and adjustable fastenings connecting the two cross-bars to clamp the same upon the headstall of a bridle.

803,617. ACETYLENE-GAS APPARATUS. Frank M. Moore, Westfield, Mass. Filed May 20, 1904. Serial No. 208,571.



Claim.—1. The combination, with an acetylene-gas apparatus, of an eduction-chamber having a gas-outlet and internally-screw-threaded walls, a perforated plug screw-threaded to engage the screw-threaded walls of said eduction-chamber and adapted to be adjusted therein, and a filling of asbestos or similar material between the inlet-opening to the eduction-chamber and said plug, the latter being located between the outlet-opening from the eduction-chamber and said filling and arranged to compress such filling.

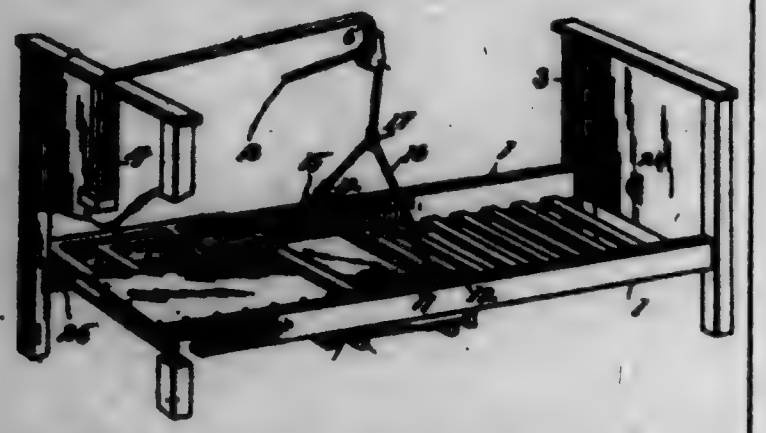
2. The combination, with an acetylene-gas apparatus, of an eduction-chamber, a filling of asbestos or similar material in said eduction-chamber, a perforated screw-plug arranged to confine such filling therein, and a strainer between the filling and such screw-plug.

803,618. SELF-CLOSING FIREPROOF DOOR. Richard D. Hunford, West Philadelphia, Pa. Filed Mar. 16, 1905. Serial No. 250,242.

Claim.—A self-closing fireproof door comprising a plurality of metallic strips having their adjacent edges overlapping, links passing through the overlapping edges of the strips and thereby flexibly connecting said strips, the bottom strip being made heavier than the other strips, an axle journaled in brackets and to which the upper strip of the foldable door is connected, the metallic guide-strips in which the door slides, a ratchet-wheel arranged upon one end of the axle, a spring-actuated pawl for engaging said ratchet-wheel, a cable connected to said pawl, and having a weight upon its lower end, said cable having one or more fusible sections arranged therein, as and for the purpose described.



808,619. INVALID-BED. Ellen McMahan, Six Points, Pa. Filed May 1, 1905. Serial No. 258,526.



Claim.—1. In a bed, the combination with fixed and removable bottom-sections and a sectional mattress supported thereby, of movable supports for the removable section, side rails supporting the fixed bottom-sections and the movable supports, a back-frame movably connected to the side rails and normally resting upon one of the mattress-sections, and an adjustable support for the back-frame.

2. In a bed, the combination with side rails and a bed-bottom having a removable section; of rotatable brackets connected to the side rails and adapted to support the removable section, a back-frame hinged upon the side rails and adapted to rest thereon, and an adjustable support for the back-frame.

3. In a bed, the combination with side rails; of a bed-bottom supported thereby and having a removable section, rotatable brackets connected to the side rails and adapted to support the removable section, means for rotating the brackets, hangers depending from the bed-bottom at opposite sides of the removable portion, and a shelf adapted to be supported by the hangers.

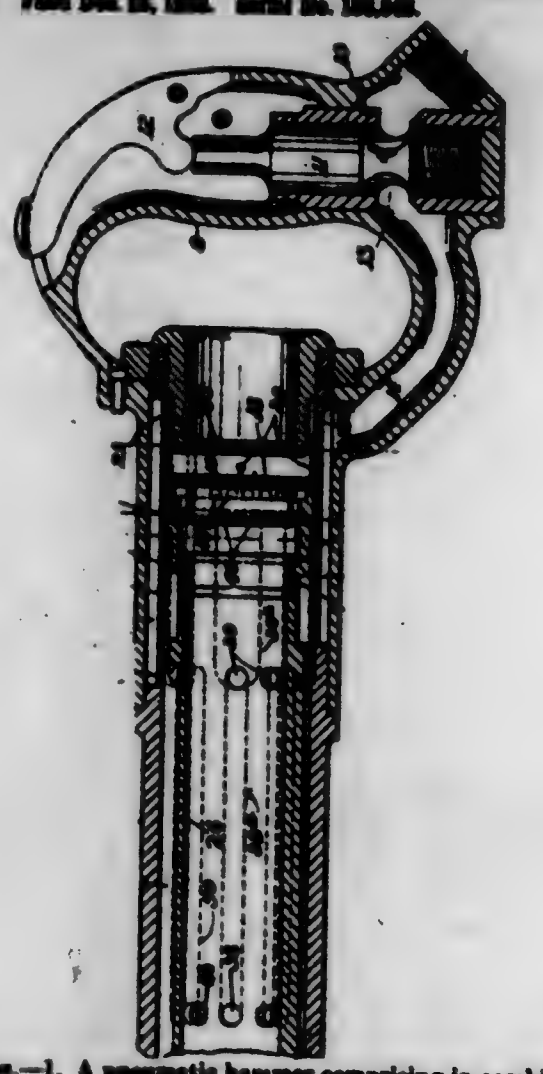
4. The combination with a bed comprising side rails and a head and a foot board; of a sectional bed-bottom supported by the side rails and having a removable portion, rotatable brackets connected to the side rails for supporting the removable portion, a swinging arm connected to the headboard, an operating device supported by the arm and engaging the ends of the removable portion, and depending brackets secured to the bed-bottom adjacent its removable portion.

808,620. PROSPECTOR'S PICK AND AX. James McMahon, Revelstoke, Canada. Filed Aug. 12, 1904. Serial No. 220,476.



Claim.—A mining implement comprising a head having a pick on one side, said head formed with a perforation between its sides for a handle, and a recess parallel with said perforation and terminating in a ledge provided with a perforation, an insertible member having a portion engaged in said recess and seated upon said ledge, and a fastening member entered from the under side of said ledge and threaded into the portion of the said insertible member seated on said ledge, said fastening member being disposed substantially parallel with the handle of the implement, as and for the purpose specified.

808,621. PNEUMATIC HAMMER. Allen J. Pagan, Beloit, Wis., assignor to Fairbanks, Morse & Co., Chicago, Ill., a Corporation of Illinois. Filed Dec. 26, 1903. Serial No. 186,042.



Claim.—1. A pneumatic hammer comprising in combination a cylinder, a piston, a main valve located at the rear of said cylinder and controlling certain ports and passages for admission of fluid pressure to said piston and exhaust of pressure therefrom, and a supplementary valve at the forward end of said cylinder controlling the exhaust from such forward end and in itself controlled by fluid pressure admitted to and exhausted by means of the main valve.

2. A double valve pneumatic hammer comprising in combination a cylinder, a piston, a main valve, and a supplementary valve, said supplementary valve being independently fluid pressure actuated, in both directions substantially as described.

3. A pneumatic hammer comprising in combination a piston, a cylinder within which said piston operates, and a main distributing valve located at the rear end of the piston chamber, said valve being provided with three pressure areas acted on by admission or exhaust of motive fluid intermittently governed through ports controlled by said piston to operate the valve, substantially as described.

4. A pneumatic hammer comprising in combination a piston, a cylinder within which said piston operates, and a main distributing valve located at the rear end of the piston chamber, said valve being provided with three pressure areas to which motive fluid is intermittently admitted through ports controlled by said piston, and an auxiliary valve located near the forward end of the piston chamber and controlling the exhaust ports in advance of the piston, substantially as described.

5. A fluid pressure impact tool comprising in combination a cylinder, a piston, a valve located near the forward end of said cylinder, and means co-operating with said valve, whereby when the tool is removed from the work the air pressure will act to force the valve to the rear and cause the piston to cushion and thus prevent the piston from striking the tool, substantially as described.

808,622. TURBINE. Edward T. Pellatt, London, England. Filed Mar. 19, 1904. Serial No. 198,682.

Claim.—1. A fluid-pressure turbine comprising a series of moving rings alternating with a series of stationary rings, ports provided in said respective rings, said ports being so arranged and determined that the ports in any three consecutive rings are never in communication at one time, substantially as described.



2. A fluid-pressure turbine comprising a series of moving rings alternating with a series of stationary rings, ports in the respective stationary and moving rings so arranged and determined that the ports in any three consecutive rings are never in communication at one time the number of ports in the first ring being exceeded by the number in the next, substantially as described.

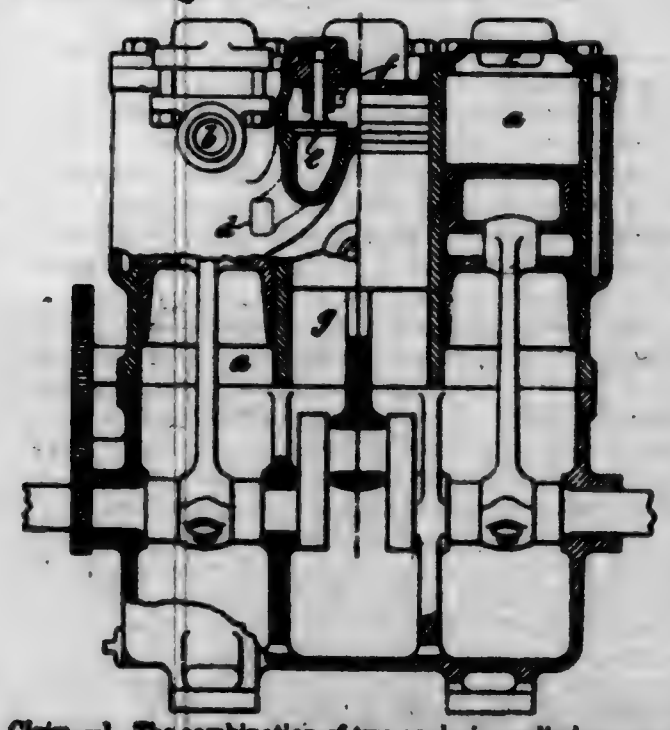
3. A fluid-pressure turbine consisting of a series of moving rings alternating with a series of stationary rings, ports provided in such respective rings, said ports being so arranged and determined that the ports in any three consecutive rings are never in communication at one time, said ports increasing in depth in the direction of the course of the motive fluid through the turbine, substantially as described.

4. A fluid-pressure turbine consisting of a casing having annular grooves in its interior circumference, a rotating cylinder in said casing having annular grooves in its external circumference, a series of rings projecting inwardly from said casing having projections on their peripheries engaging with the grooves in the cylinder, and a series of rings on the cylinder projecting outwardly therefrom and having projections on their peripheries engaging the grooves in the casing, said rings on the cylinder alternating with the rings on the casing.

5. A steam-turbine in which alternate stationary and moving rings are employed having corresponding V-shaped ports therein, the ports in the rings at one end being reversely arranged whereby the turbine may be reversed.

6. A steam-turbine comprising a conically-shaped hub having rings thereon, the periphery of said rings being in the same horizontal plane, a casing surrounding said hub having a cylindrical interior and rings on the interior of said casing, said rings being of gradually-increasing length, said rings having ports therein.

808,628. EXPLOSION-ENGINE. EDWARD T. POLLARD, London, England. Filed Oct. 28, 1904. Serial No. 230,207.



Claim.—1. The combination of two explosion-cylinders, an expansion-cylinder, ports in the explosion-cylinders uncovered at the end of the outstroke, passages connecting the ports to the rear of the expansion-cylinder, and non-return valves in the passages, substantially as described.

2. The combination of two explosion-cylinders, an exhaust-valve for each cylinder, an expansion-cylinder, an exhaust-valve opening from this cylinder, ports in the explosion-cylinders uncovered at the end of the outstroke, passages connecting the ports to the rear of the expansion-cylinder, and non-return valves in the passages, substantially as described.

3. The combination of two explosion-cylinders, an exhaust-valve for each cylinder, means for opening these valves alternately every revolution, an expansion-cylinder, an exhaust-valve opening from this cylinder, means for opening this last-mentioned valve every revolution, ports in the explosion-cylinders uncovered at the end of the outstroke, passages connecting the ports to the rear of the expansion-cylinder, and non-return valves in the passages, substantially as described.

808,634. TOILET-PAPER HOLDER. CHARLES E. POPE, South Hadley, Mass. Filed Apr. 26, 1904. Serial No. 204,782.



Claim.—1. A holder for toilet-paper consisting of a casing of rhombic form having its bottom inclined and having an opening therethrough, with ledges or rests for the toilet-paper at opposite sides of said opening.

2. A toilet-paper holder consisting of a casing provided with an inclined bottom having a transverse opening dividing said bottom into separated ledges or supports which lie in the same inclined plane.

3. The combination with a package composed of a series of superposed sheets, each sheet having folds of unequal length, said sheets being arranged with the narrower folds uppermost, of a casing for said package having a slot coinciding with the transverse marginal free edge of said narrower fold, and retaining-ledges on the opposite sides of the slot, said ledges lying in the same inclined plane and being parallel with said transverse free edge of said narrower fold.

4. The combination with a package of sheets folded into wide and relatively narrow sections, said sheets being superposed with their narrow sections uppermost, of a casing for said sheets having a wall to be secured in a vertical position and a bottom inclined upwardly from said wall and having a transverse slot, the sheets being arranged in the casing with the marginal edges of the narrow sections in registration with the slot and directed toward the highest point of the inclined bottom, so that said marginal edge is permitted to drop through the slot.

5. A toilet-paper holder consisting of a casing comprising a vertical back, opposite end walls, a bottom having an opening therein and ledges or toilet-paper supports at opposite sides of such opening, and having a front wall of less height than the back and end walls; and an angular cover for the casing, hinged at a front lower portion thereof and adapted to close the open-formed front and top of the casing.

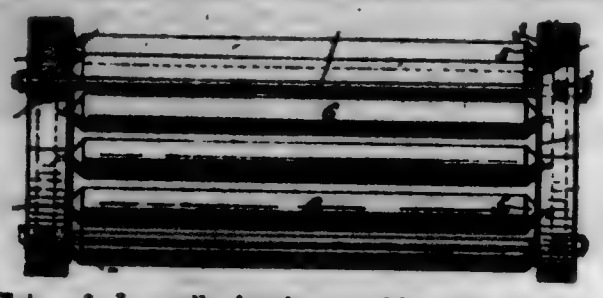
6. A toilet-paper holder consisting of a casing comprising a vertical back, opposite end walls, a bottom having an opening therein and ledges or toilet-paper supports at opposite sides of such opening, and having a front wall of less height than the back and end walls; and an angular cover for the casing having extension ear-lugs at opposite end portions thereof to engage the casing ends at the front lower portions thereof, and adapted to close the front and top of the casing.

7. A toilet-paper holder consisting of a casing comprising a vertical back, opposite end walls, a bottom having an opening therein and ledges or toilet-paper supports at opposite sides of such opening, and having a front wall of less height than the back and end walls; and an angular cover for the casing, hinged at a front lower portion thereof to swing about a horizontal axis, and adapted to close the front and top of the casing, and having flanges to overlap at the front and top marginal portions of the casing ends.

8. A toilet-paper holder consisting of a rectangular casing having its bottom downwardly and rearwardly inclined, having an open-

lug through said bottom with ledges or toilet-paper supports at the front and rear of said opening, and having an opening between the rear edge of the rear ledge and the back of the casing, for the purposes set forth.

808,825. ROLLER-BEARING. WILLIAM F. REYNOLDS and HENRY J. TRAYNER, Belfast, Ireland. Filed July 28, 1904. Serial No. 218,549.



Claim.—1. In a roller-bearing, cup-like casings, rods securing the casings in position, said casings having apertures, plates within the casings, and movable on the rods, said plates having a plurality of apertures, pins on the plates engaging the apertures of the casings, springs interposed between the casings and the plates and rollers having their ends mounted in the apertures of the plates.

2. In a roller-bearing, casings, rods securing the casings in position, plates within the casings and movable longitudinal of the rods independent of the casings, means for preventing rotary movement of the plates independent of the casings, and rollers mounted on the plates.

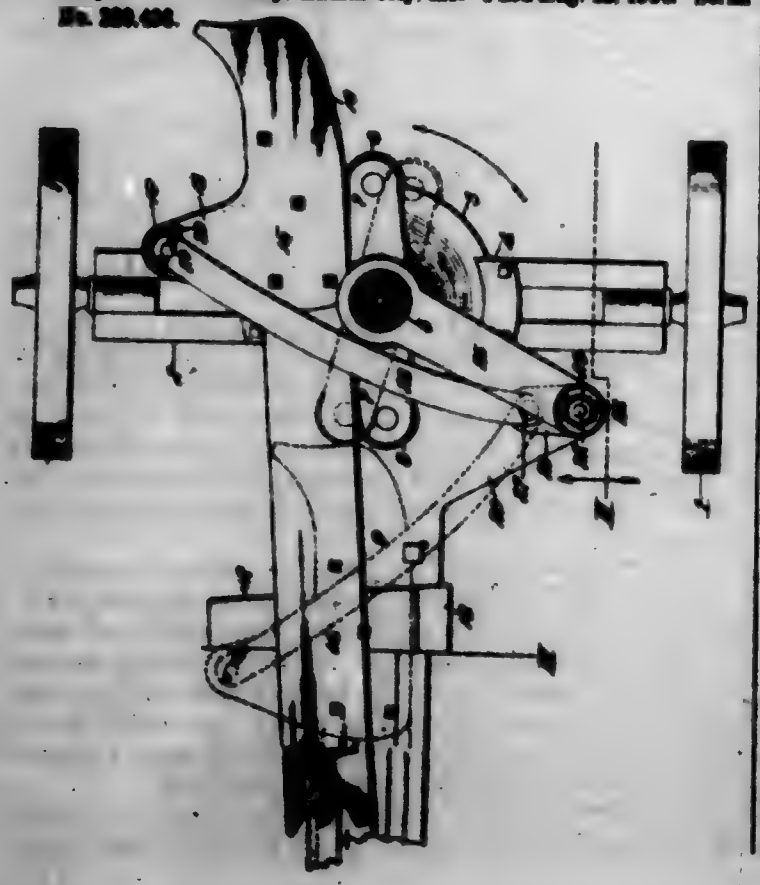
3. In a roller-bearing, casings, rods securing the casings in position, plates within the casings and movable longitudinal of the rods independent of the casings, means for preventing rotary movement of the plates independently of the casings, rollers mounted on the plates and means for preventing uneven rotation between the ends of the rollers.

4. In a roller-bearing, casings suitably secured and positioned plates movably held within the casings, said plates having a plurality of apertures and rollers having their ends mounted in the apertures of the plates.

5. In a roller-bearing, casings, stay-rods securing said casings in position, plates within the casings, and mounted on the rods, said plates having a plurality of apertures, springs interposed between the casings and the plates and rollers having their ends mounted in the apertures of the plates.

6. In a roller-bearing, cup-like casings, stay-rods securing the casings in position, plates within the casings and movable on the rods, said plates having a plurality of apertures, springs embracing the rods and interposed between the plates and the base of the casings and rollers having their ends mounted in the apertures of the washers.

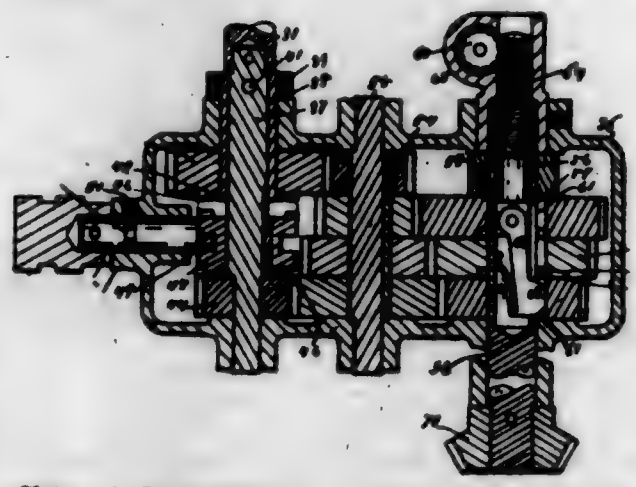
808,826. BALING-PRESS. GEORGE B. RIGGS, Kansas City, Mo., assignor to A. P. Marty, Kansas City, Mo. Filed Aug. 12, 1904. Serial No. 220,426.



Claim.—1. A baling-press, comprising a base-plate having a laterally-projecting lug, an upright power-shaft suitably journaled and provided with a trip lever-arm, a brace mounted on the shaft and substantially parallel and rigidly connected to the outer end of said lug, a reciprocatory plunger-beam adapted to project forward beyond the power-shaft at the side of the same opposite from said lug, a head for said plunger-beam having a lug projecting outwardly therefrom, a link between the trip lever-arm and the brace, and a similar link below the trip lever-arm; said links being pivotally connected at their opposite ends to the lug on the plunger-beam and the rigid connection between the power-shaft and the lug of the base-plate.

2. A baling-press, comprising a base-plate having a rearwardly-projecting extension and a laterally-projecting lug provided with an upwardly-projecting boss, a plunger-beam support having an upwardly-projecting trip-off lug, a power-shaft suitably journaled and provided with a trip lever-arm for horizontal movement, a plunger-beam resting on said plunger-beam support and adapted to project forwardly beyond the power-shaft at the side of the latter opposite from said boss, a head for said plunger-beam having a lug projecting laterally therefrom, and links pivotally connecting said boss and plunger-beam-head lug above and below the trip lever-arm.

808,827. SPEED-CHANGING DEVICE. SHERMAN C. SCHAUER, Cincinnati, Ohio, assignor to Cincinnati Machine Tool Company, Cincinnati, Ohio, a Copartnership. Filed Nov. 11, 1904. Serial No. 232,272.



Claim.—1. In combination, a rotative spindle, an adjustable head, a speed-changing device mounted thereon, gear mechanism arranged to transmit rotary motion thereto from the spindle, rack-and-pinion mechanism arranged to move the spindle longitudinally, and gear mechanism arranged to transmit motion thereto from said device.

2. The combination of two rotative shafts, respective series of idle gears thereon, a clutch mechanism arranged to turn either gear of one series with its shaft, a rack-and-pinion mechanism, a key movable thereby to turn either gear of the other series with its shaft, and a cone of gears arranged to turn in unison one gear thereof meshing only with a corresponding idle gear in one series another gear thereof meshing only with a corresponding idle gear of the other series, and one gear thereof meshing with a corresponding idle gear in each series.

3. The combination of two shafts journaled in fixed bearings, a series of different-sized gears mounted idly on each shaft, an eccentric-pin, a clutch mechanism actuated thereby to turn with one shaft either gear thereon, a rack-and-pinion mechanism, a key actuated thereby to turn with the other shaft either gear thereon an intermediate shaft, different-sized gears thereon arranged to turn in unison and to mesh with corresponding gears in either of the said series.

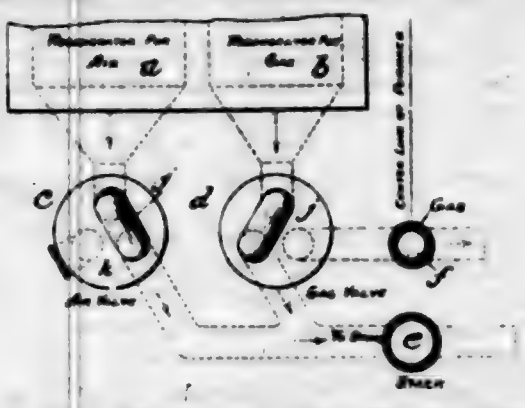
4. The combination of two rotative shafts, a series of idle gears on each, an eccentric-pin, a clutch mechanism actuated thereby to turn either of one series of gears with its shaft, a rack-and-pinion mechanism, a key actuated thereby to turn either of the other series of gears with its shaft, an intermediate shaft, a series of gears thereon arranged to turn in unison and to mesh with corresponding gears in either of said series of idle gears.

5. The combination of two shafts journaled in fixed bearings, a series of idle gears on each shaft, an eccentric-pin, clutch mechanism actuated thereby to turn either gear of one series with its shaft, a rack-and-pinion mechanism, a key actuated thereby to turn either gear of the other series with its shaft, and means independent of either shaft arranged to transmit the motion to either gear of one series from either gear of the other series.

6. The combination of a rotative spindle, a gear mounted at a fixed point, a shaft splined therein, gear mechanism arranged to transmit motion to said gear from the spindle, a speed-changing device adjustable in relation to said gear and actuated by said shaft, rack-and-pinion mechanism arranged to move the spindle longitudinally, and means arranged to transmit motion thereto from said device.

7. The combination of a driven shaft, a series of idle gears thereon graduated in size, a rack-and-pinion mechanism provided with a handle, a key movable thereby to turn either gear with its shaft, a driving-shaft, a series of idle gears thereon, a knob, a clutch mechanism actuated thereby to turn either gear of the latter series with its shaft, an intermediate rotative shaft, gears secured thereon to turn in unison and mesh with corresponding idle gears of the series.

808,628. REVERSING-VALVE FOR SMELTING AND OTHER FURNACES. [illegible], Sharon, Pa. Filed June 27, 1904. Serial No. 214,869.



Claim.—1. In combination, in a valve of the class described, a basin, or receptacle containing a sealing medium, a vertically-movable rotary member, a shaft extending vertically therefrom, a collar loose on the shaft, a head on the shaft above the collar, said collar having pins extending out therefrom, a lever engaging the pins for operating the collar, a counterbalance-lever pivoted on the same pins with the operating-lever and extending in the opposite direction therefrom, and means for rotating the shaft, substantially as described.

2. In combination in a valve of the class described, a basin or receptacle for a sealing medium, a rotary member fitted to said receptacle, and having a flue, a shaft extending from said rotary member, a segment on the shaft, an elongated gear meshing with the segment, a shaft for turning the elongated gear, and means for raising and lowering the said rotary member, substantially as described.

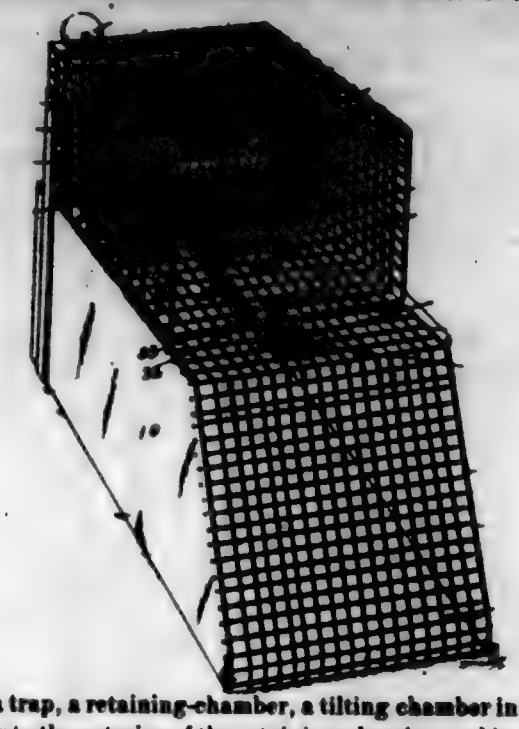
3. In combination, in a valve of the class described, a basin or receptacle containing a sealing medium and a rotary member consisting of a plate having a flue which is arched laterally at its middle portion to be partly cylindrical at said portion and at its ends is partly spherical, the lower wall of said flue being formed by a part of the plate and a fire-brick lining for the said flue, substantially as described.

4. In combination, in a valve of the class described, a basin containing a sealing medium, a rotary member comprising a plate cast with a flue which is made up of a middle portion partly cylindrical and with end portions partly spherical, said flue connecting circular openings through the said plate, which circular openings are surrounded on the lower side of the plate with circular flanges cast with the plate, and a fire-clay lining within the cylindrical and spherical portions of the flue, substantially as described.

5. In combination, in a reversing-valve of the class described, a basin containing a sealing medium, a plate extending over the said basin and provided with two independent flues, each partly cylindrical in its middle portion and partly spherical at its ends, and each connecting a pair of circular openings through the said plate and provided with fire-brick lining, the said plate having circular flanges on its lower side extending about the openings, substantially as described.

808,629. TRAP. FERDINAND H. SCHULTZ, Troyner, Iowa. Filed Mar. 2, 1905. Serial No. 248,222.

Claim.—1. In a trap, a retaining-chamber, a tilting chamber in one position leading to the exterior of the retaining-chamber and in the other position leading to the interior of it, means for automatically locking the tilting chamber at its upper limit of movement, and a sliding pin forming a portion of the locking mechanism which when removed allows the tilting chamber to be tilted upwardly by the operator to remove the animals from the interior of the retaining-chamber.



2. In a trap, a retaining-chamber, a tilting chamber in one position leading to the exterior of the retaining-chamber and in the other position leading to the interior of it, means for automatically locking the tilting chamber at its upper limit of movement, means operated by the weight of an animal to swing the tilting chamber to its lower limit of movement, and a sliding pin forming a portion of the locking mechanism which when removed allows the tilting chamber to be tilted upwardly by the operator to remove the animals from the interior of the chamber.

3. In a trap, a retaining-chamber, a tilting chamber in one position leading to the exterior of the retaining-chamber and in the other position leading to the interior of it, means for automatically locking the tilting chamber at its upper limit of movement, a bait-shelf at the inner end of the tilting chamber, and a sliding pin forming a portion of the locking mechanism which when removed allows the tilting chamber to be tilted upwardly by the operator to remove the animals from the interior of the retaining-chamber.

4. A tilting chamber made of screen-wire having an open front therein, a screen approach forming the front of the retaining-chamber and leading into the tilting chamber when it is at its upper limit of movement, adjustable means for automatically swinging the trap from its lower limit of movement, means for automatically locking the tilting chamber at its upper limit of movement, means designed to be operated by the weight of an animal for releasing the locking mechanism and allowing the weight of the animal to swing the tilting chamber to its lower limit of movement and provide an egress for the animal into the retaining-chamber, and a sliding pin forming a portion of the locking mechanism which, when removed from its inner limit of movement allows the tilting chamber to be swung upwardly to provide access to the interior of the retaining-chamber.

808,630. UMBRELLA. ABRAHAM SELIGSOHN, Munich, Germany. Filed Nov. 3, 1904. Serial No. 231,230.

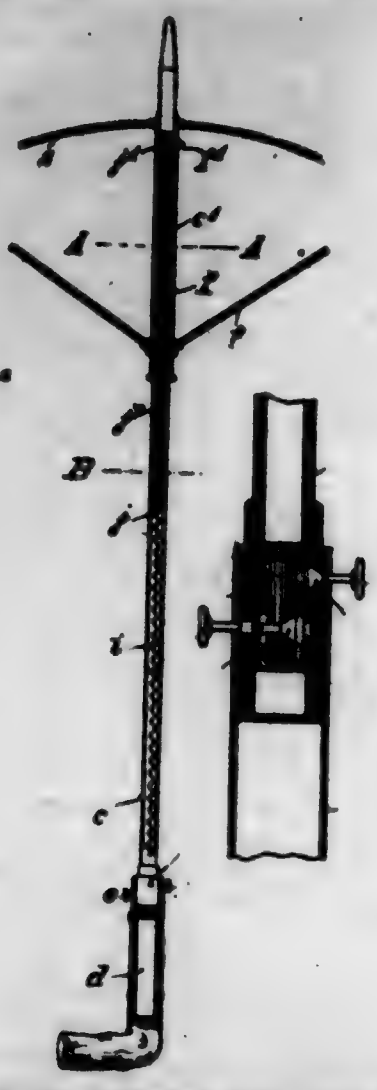
Claim.—1. In an umbrella, the combination, with a holder for fluid under pressure, and a cylinder connected therewith, of a piston in the cylinder arranged to be acted upon by said fluid, a connection between the piston and the runner of the umbrella, and means for controlling the action of the pressure fluid.

2. In an umbrella, the combination, with a holder for fluid under pressure arranged in the handle of the umbrella, and a cylinder connected therewith, of a piston in the cylinder arranged to be acted upon by said fluid, a connection between the piston and the runner of the umbrella, and a valve for controlling the action of the pressure fluid.

3. In an umbrella, the combination, with a holder for fluid under pressure arranged in the handle of the umbrella, a hollow umbrella-stick communicating with the holder, a piston within said hollow stick, a connection between the piston and the runner of the umbrella, and a valve controlling the flow of the fluid under pressure from the holder to the hollow stick.

4. In an umbrella, the combination, with a holder for fluid under pressure arranged in the handle of the umbrella, a hollow umbrella-stick communicating with the holder, a piston arranged within the stick, a connection between the piston and the runner of the umbrella, a valve controlling the passage of the pressure fluid from

the holder to the stick, and means for exhausting the pressure fluid from the stick.



5. In an umbrella, the combination, with a holder for fluid under pressure arranged in the handle of the umbrella, a hollow umbrella-stick communicating with the holder, a piston arranged in the hollow stick, a connection between the piston and the runner of the umbrella, a valve controlling the passage of the pressure fluid from the holder to the hollow stick to open the umbrella, means for exhausting the pressure fluid from the hollow stick to the atmosphere, and means for closing the umbrella when the pressure fluid is exhausted.

6. In an umbrella, the combination, with a handle having an interior cavity forming a holder for fluid under pressure, and an umbrella-stick provided with a longitudinal cylindrical cavity communicating with the hollow handle, of a piston arranged within the hollow handle, a connection between the piston and the runner of the umbrella whereby the reciprocation of the piston will open and close the umbrella, a double valve arranged between the holder in the handle and the piston in the stick, means for operating said valve to permit the passage of the pressure fluid from said holder into the hollow stick below the piston to open the umbrella, means for operating said valve to exhaust the pressure fluid from the hollow stick to the open air to permit the closing of the umbrella, and a spring connecting the piston with a fixed support to close the umbrella when the pressure fluid is exhausted.

808,631. RETAINER-CLASP. John A. Sherman, Worcester, Mass. Filed Aug. 22, 1904. Serial No. 221,731.

Claim.—1. A fastener having a base to rest on the surface of the material to which the fastener is to be secured; means for securing said base to said material, and two tongues connected with the base, said tongues being superposed and substantially parallel with each other, the upper tongue extending out beyond the end of the other.

3. A fastener for envelop-flaps, or the like, comprising two superposed tongues, attaching members for each of said tongues, said tongues mounted thereon, to lie, when in disengaging position, substantially parallel to the plane of the material to which the attaching members are attached, and one of said tongues being reversely foldable in fastening.

4. A fastener for envelop-flaps, or the like, comprising two superposed tongues attaching members for each of said tongues, said tongues mounted thereon, to lie, when in disengaging position, substantially parallel to the plane of the material to which the attaching members are attached, one of said tongues being longer than the other and reversely foldable in fastening.

808,632. COMPOSITION FOR LAYING AND ABSORBING DUST. Reinhold Simon, Chicago, Ill. Filed Dec. 22, 1904. Serial No. 238,232.

Claim.—1. The herein-described composition of matter containing a fluid oily substance, chlorid of sodium in a granular state, in which the oily substance is absorbed, and a finely-divided porous oil-absorbent free from resinous material.

2. The herein-described composition of matter containing an oily substance, granulated chlorid of sodium, and cement.

3. The herein-described composition of matter containing a fluid oily substance, an oil-absorbent therefor consisting of a soluble salt in a granulated form, a porous oil-absorbent in a finely-divided form, and sand, all mixed together in a dry granular mass free from resinous material.

4. The herein-described composition of matter containing an oily substance, an oil-absorbent therefor consisting of a soluble salt, a porous oil-absorbent in a finely-divided state, sand, and sawdust.

5. The herein-described composition of matter consisting of granular chlorid of sodium, an oily substance, cement, silica and sawdust.

6. The herein-described composition of matter for laying and absorbing dust containing a granulated, porous oil-absorbent, chlorid of sodium in a dry state, and a fluid oily substance with which the oil-absorbent and chlorid of sodium are impregnated, mixed together in a granular state and free from resinous material.

7. The herein-described composition of matter for laying and absorbing dust containing soluble salt free from moisture, sawdust, and an oily substance.

8. The herein-described composition of matter for laying and absorbing dust containing soluble salt, sawdust and oil, all mixed together in a dry granular mass.

9. The herein-described composition of matter for laying and absorbing dust containing soluble salt in a dry state, silica and a fluid oil, all mixed together in a dry granular mass free from resinous material.

10. The herein-described composition of matter for laying and absorbing dust containing soluble salt in a dry state, oil and cement, all mixed together in a dry granular mass.

808,633. SASH-WEIGHT. Edward B. Smith, New York, N. Y., assignor to American Brass Shoe and Foundry Company, Jersey City, N. J., a Corporation of New Jersey. Filed May 24, 1905. Serial No. 261,895.



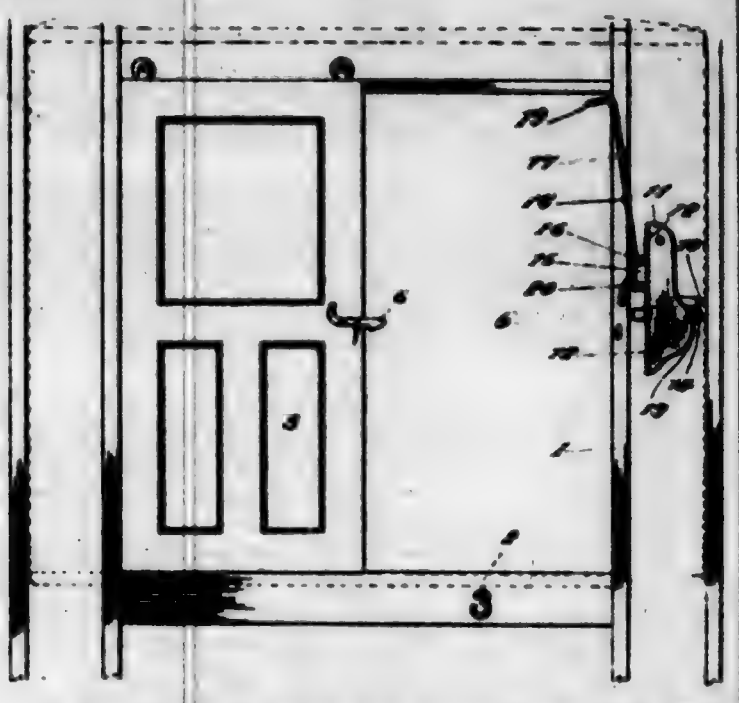
Claim.—1. A sectional sash-weight, each section consisting of a body portion having at one end a lug and at the opposite end a recess, said lug being beveled and elliptical in form, said recess at the opposite end being beveled and formed with restricted ends or entrances thereto, substantially as described.

2. A sectional sash-weight, each section consisting of a body portion having one end restricted in thickness and provided with an elliptical beveled lug, the opposite end of the section being also restricted in thickness in which is formed a rounded, beveled recess extending entirely across said end and having restricted entrances thereto, substantially as described.

3. A sectional sash-weight, each section consisting of a body portion having one end provided with a beveled elliptical lug, the greatest diameter of said lug being lengthwise of the body, the opposite end of said body being provided with a recess crosswise thereof, said recess at the central portion thereof being beveled and enlarged, substantially as described.

808,634. SAFETY DEVICE FOR ELEVATORS. James W. Smith, Jr., Dodsville, Kans., assignor of one-half to Wm. Winn, Dodsville, Kans. Filed Apr. 24, 1905. Serial No. 257,202.

Claim.—1. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a lock member upon the casing for holding the door closed, a dog carried by the car for actuating the lock member aforesaid to permit opening of the door, and means upon the casing for preventing movement of the dog when the door is open.



2. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a lock member upon the casing for holding the door closed, a dog carried by the car for actuating the lock member aforesaid to permit opening of the door, and spring-actuated means upon the casing for preventing movement of the dog when the door is open.

3. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a lock member upon the casing for holding the door closed, a dog carried by the car for actuating the lock member aforesaid to permit opening of the door, and means governed by the door for preventing movement of the dog when the door is open.

4. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a lock member upon the casing for holding the door closed, a dog carried by the car and having a cam for actuating the lock member aforesaid to permit opening of the door, and means upon the casing for preventing movement of the dog when the door is open.

5. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a lock member upon the casing for holding the door closed, a dog carried by the car for actuating the lock member aforesaid to permit opening of the door, a door-opener, and means carried by the door-opener for preventing movement of the dog after the door is opened.

6. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a lock member upon the casing for holding the door closed, a dog carried by the car for actuating the lock member aforesaid to permit opening of the door, a door-opener, and a movable plate carried by the door-opener to engage the dog and prevent movement thereof after the door is opened.

7. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a lock member upon the casing for holding the door closed, a dog carried by the car for actuating the lock member aforesaid to permit opening of the door, a door-opener comprising a spring-actuated bar arranged to force the door open, and means carried by the door-opener for preventing movement of the dog after the door is opened.

8. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a spring-actuated lock member upon the casing for holding the door closed, a dog carried by the car for actuating the lock member aforesaid to permit opening of the door, and means upon the casing for preventing movement of the dog when the door is open.

9. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a catch for the door, a lock member upon the casing and normally engaging said catch to prevent operation thereof, a dog carried by the car and adapted to engage the lock member, and a door-opener cooperating with the dog.

10. In a safety device for elevators, the combination of the shaft-casing, the car mounted therein, a door, a catch for the door, a lock member upon the casing and normally engaging said catch to prevent operation thereof, a dog carried by the car and adapted to engage the lock member, a door-opener comprising a pivoted bar arranged to force the door open, a spring for actuating said bar, and a toothed sliding member carried by the bar to engage the dog.

11. In a safety device for elevators, the combination of the shaft-casing, the car movable therein, the door, means for preventing opening of the door except when the car reaches the landing, and an automatically-operating door-opener for preventing movement of the car when the door is open, and permitting movement of the car when the door is closed.

808,685. FAN ATTACHMENT FOR BICYCLES. DIEDERICH STAELKUT, New York, N. Y. Filed July 13, 1904. Serial No. 216,394.



Claim.—1. An attachment for bicycles, comprising two perforated brackets, a rod run through the perforations of said brackets so as to rotate therein, a set-screw and collar for adjusting the rod and holding it in position, a small drive-wheel mounted adjustably between the said brackets upon the said rod in contact with a running wheel of the bicycle to transmit motion and a fan mounted on the upper end of said rod substantially as set forth.

2. An attachment for bicycles, comprising two perforated brackets, a rod run through the perforations of said brackets so as to rotate therein, a collar and set-screw adjustably holding the rod in position, a small driving-wheel mounted between the said perforated brackets upon the said rod in adjustable contact with a running wheel of the bicycle to transmit motion and a fan mounted on top of the said rod and held in position by a screw 10 substantially as set forth.

808,686. MILK-COOLER. PETER L. STEEN, Canton, Mich. Filed July 10, 1905. Serial No. 269,022.



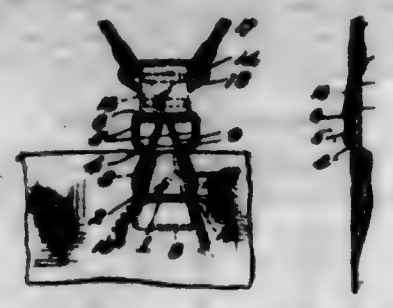
Claim.—1. A cooler for milk-cans comprising a tube threaded at the lower end and having a head slidable into and out of the neck of the can, and a internally-extending base-piece resting on the bottom of the can and having a threaded tube into which said tube screws.

2. The combination with a milk-can, of a tubular cooler which rests on the bottom of the can and has an enlarged portion at the head fitting within the neck of the can, and a cover having a depending flange which fits snugly between the said enlarged portion and the neck of the can.

808,687. GARMENT-SUPPORTER CLASP. FLETCHER A. DUDLEY, Jr., Muskogee, Ind. Ter. Filed Nov. 6, 1904. Serial No. 231,660.

Claim.—1. In a device of the character described, the combination of a rear member having a bottom cross-piece, forwardly-projecting and inwardly-turned hooks at the ends of the same, and up-

wardly-converging arms rising from said hooks and occupying a plane forward of said cross-piece, and a front member bearing a sliding relation with the rear member and comprising upwardly-converging arms to occupy the plane between the cross-piece and upwardly-projecting arms of the rear member; said upwardly-converging arms of the front member having external cavities interlocked with said hooks and pressing yieldingly outward against the same.

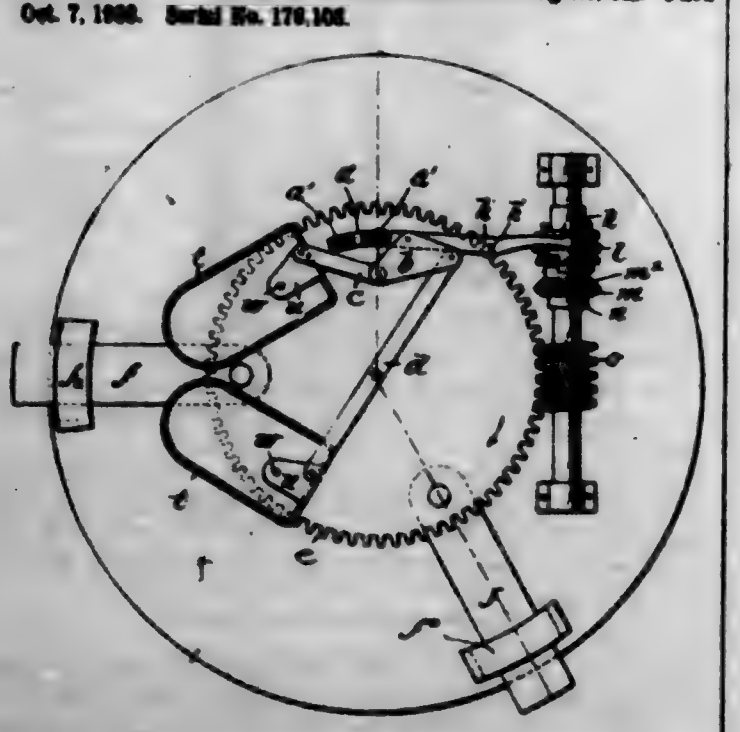


3. In a device of the character described, the combination of a rear member having a bottom cross-piece, forwardly-projecting and inwardly-turned hooks at the ends of the same, upwardly-converging arms rising from said hooks and occupying a plane forward of said cross-piece, rearwardly and outwardly diverging shoulders at the upper ends of said arms, upwardly-projecting arms at the rear and outer ends of said shoulder, and a cross-piece uniting the upper ends of said arms, a front member bearing a sliding relation with the rear member and comprising upwardly-converging arms to occupy the plane between the first-named cross-piece and upwardly-projecting arms of the rear member and rearward of said shoulders and pressing outward against the hooks and shoulders of said rear member, and having a cross-piece above said upwardly-converging arms, a support connected to said cross-piece, and a flexible connection connecting the upper cross-pieces of the members.

3. A fastening device, comprising a rear member, embracing a bottom cross-piece, forwardly-disposed hooks at the ends of the same, and upwardly-converging arms at the inner ends of the hooks, in combination with a front member embracing a bottom cross-piece, and upwardly-converging arms rising from the ends of said cross-piece and adapted to lie in the plane between the cross-piece and converging arms of the first-named member, and provided with external cavities to engage the hooks of the first-named member.

4. A fastening device, comprising a rear member, embracing a bottom cross-piece, forwardly-disposed hooks at the ends of the same, and upwardly-converging arms at the inner ends of the hooks, in combination with a front member embracing a bottom cross-piece, upwardly-converging arms rising from the ends of said cross-piece and adapted to lie in the plane between the cross-piece and converging arms of the first-named member and provided with external cavities to engage the hooks of the first-named member, a flexible connection between the members to permit of independent movement thereof, and a support for the front member.

803,689. SAFE. HERBERT C. STOCKWELL, Los Angeles, Cal. Filed Oct. 7, 1903. Serial No. 176,105.



Claim.—1. In a safe having a curvilinear door, sliding bolts for locking and unlocking the same, interior bolt-operating mechanism, mechanism leading to the exterior of the safe, means for connecting and disconnecting said mechanisms, and means for preventing the disconnecting of said mechanisms until the bolts have been moved to their fully-locked positions.

2. In a safe having a curvilinear door and sliding bolts for locking and unlocking the same, interior bolt-operating mechanism, mechanism leading to the exterior of the safe, means for connecting and disconnecting said mechanisms, a lock for controlling said connection and disconnection, and means for preventing the operation of said lock and the disconnection of said mechanisms until the bolts have been moved to their fully-locked position substantially as and for the purposes set forth.

3. In a safe having a circular door and radial sliding bolts, an oscillating disk to which said bolts are pivoted, a shaft for oscillating said disk, a counter-shaft projecting through the door, gearing for connecting said shafts, a clutch for controlling the connection, a lock for controlling the clutch, and an arresting device for preventing the operation of the lock and the clutch while the door-bolts are unlocked.

4. In a safe, having a circular door and radial bolts, a bolt-operating disk, means including a clutch for moving said disk, a combination-lock, a clutch-shifter lever connected therewith, and an arresting device carried by said disk for preventing any movement of said lever before the door-bolts are fully locked.

5. In combination with a safe, its door, and its bolt-operating mechanism, substantially as described, and with a clutch included in said bolt-operating mechanism, of a combination-lock, a clutch-shifter lever connected thereto, and an adjustable stop for arresting the said lever, substantially as and for the purposes set forth.

6. In a safe of the character described, a movable bolt-operating disk, a clutch a combination-lock and a pivoted clutch-shifter lever controlled thereby, in combination with a stop carried by the bolt-operating disk and arranged in such relation to the clutch-shifter lever as to prevent any movement of said lever while the safe is unlocked and while it is being locked.

7. In a safe of the character described, a movable bolt-operating disk, a clutch a combination-lock and a pivoted clutch-shifter lever controlled thereby, in combination with an adjustable stop carried by the bolt-operating disk, and arranged in such relation to the clutch-shifter lever as to prevent any movement of said lever while the safe is unlocked and while it is being locked.

8. In a safe of the character described, the combination with the movable bolt-operating disk, clutch-shifter lever, and combination-lock, of a stop having a pin-and-slot connection with said disk and located in proximity to said lever; whereby in unlocking the safe said stop will ride under the clutch-shifting lever, and will remain there until the completion of the reverse or locking motion of said disk has been fully completed.

803,689. THERMOMETER. CHARLES J. TAGLIABUE, Brooklyn, N. Y. Filed Oct. 6, 1904. Serial No. 227,234.



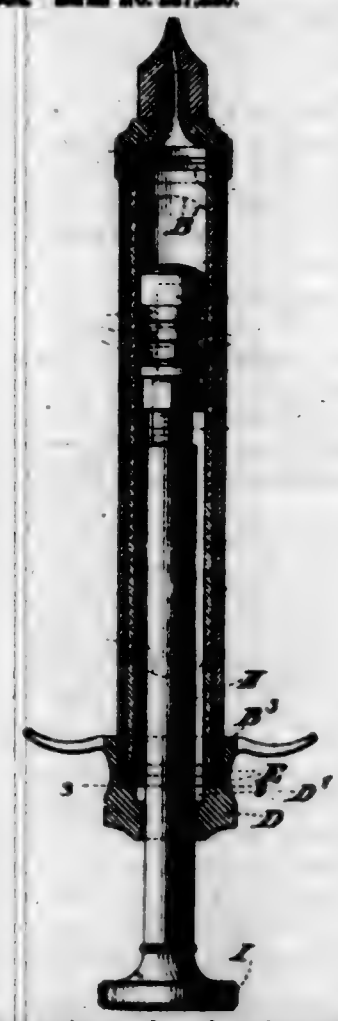
Claim.—1. The combination with a thermometer, of a tubular securing device through which said thermometer is arranged to pro-

ject, said securing device being provided with a flange, a cap adapted for engagement with the securing device on one side of the flange against which said cap abuts, for securing said device and the thermometer together, and a protecting-case into which the thermometer is adapted to be inserted when not in use, said case being arranged to engage the securing device, on the other side of said flange against which said case abuts when in position.

2. The combination with a thermometer having a bead at one end, of a thimble adapted to be slipped on the thermometer and having its bore enlarged at one end to receive said bead, both ends of the thimble being screw-threaded, a washer contained between the bead and the thimble, a cap screwed on one end of the thimble and engaging the beaded end of the thermometer, and a case screwed on the other end of the thimble.

3. The combination of a thermometer, a case therefor, a flexible member connected with said case at the end opposite to that at which the thermometer enters said case and an attaching device for securing said flexible member to the thermometer opposite to the bulb.

803,640. **SYRINGE.** CHARLES J. TAGLIABUE, Brooklyn, N. Y. Filed Oct. 6, 1904. Serial No. 227,235.

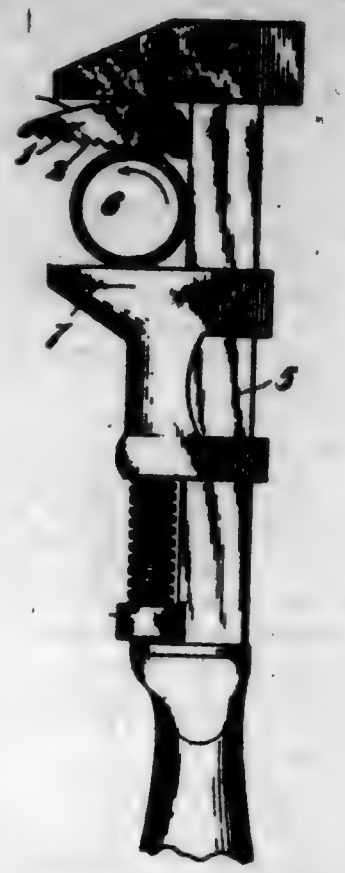


Claim.—1. In a syringe, a barrel, a piston-rod movable therein and provided with a reduced portion, a nut screwed on said reduced portion, a second still further reduced portion, a head secured to said second-named reduced portion, and a series of alternately-arranged expansible and non-expansible rings surrounding the said second-named reduced portion between the nut and the head, said expansible rings being adapted to engage the inside of the barrel.

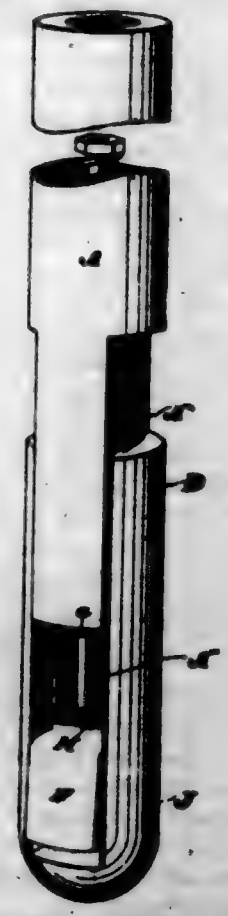
2. In a syringe, a barrel, a piston-rod movable therein and provided with a reduced portion screw-threaded in one direction, a nut screwed on said reduced portion, a second still further reduced portion screw-threaded in the opposite direction, a head screwed upon said second-named reduced portion, and a series of alternately-arranged expansible and non-expansible rings surrounding said second-named reduced portion between the said nut and the head, said expansible rings being adapted to engage the inside of the barrel.

803,641. **WRENCH PIPE-JAW.** HERMISON THOMPSON, Cambridge, and THOMAS A. BROWN, Toronto, Canada. Filed Aug. 3, 1904. Serial No. 219,434.

Claim.—As an improved article of manufacture, a portable insertible wrench-jaw the same comprising a member one face curved and provided with serratiems in a portion of its surface only, the opposite face being plane and serrated, the said member having its curved surface formed on an irregular curve with its greatest thickness at a point between the shank of the wrench and the point of contact of the object to be operated upon, substantially as and for the purpose specified.



803,642. **UNDERREAMER.** WILLIAM J. TRAVERS, Fullerton, Cal. Filed May 2, 1904. Serial No. 206,060.



Claim.—1. An underreamer comprising a stock having a central bore therein, the said bore being provided with a spring-engaging shoulder; a yoke-supporting bolt in said bore having a bearing-head adapted to engage the upper end of a spiral spring surrounding the same and an aperture in the lower end thereof for the reception of a key, the said aperture adapted to register with openings on the yoke for the reception of said key on said bolt, a spiral spring surrounding said bolt and adapted to hold the bolt in an elevated position, the said stock being provided with guideways for the reception and operation of cutter-supporting yoke; a cutter-supporting yoke being provided with longitudinal recesses having dovetail grooves therein for the reception and engagement therewith of the longitudinal lugs on the stock, the said yoke having at the top thereof oper-

form for the reception of a yoke-supporting key; a yoke-supporting key in said aperture and in said bolt; cutters slidably mounted in bearings in said yoke and in said stock.

2. In an underreamer of the character herein described a yoke therefor, longitudinal bearing-faces with dovetail recesses therein and adapted to receive and engage dovetail lugs on the stock and provided at its upper end with apertures for the reception of the yoke-supporting key; a stock having dovetail lugs adapted to enter recesses in the yoke; and a yoke-supporting key in said aperture.

3. In an underreamer of the character herein described having a stock A with a central bore therein and cutter-engaging lugs *a* thereon, and a cutter-carrying yoke B slidably mounted on the stock and having grooves B' therein to slidably engage lugs on the stock, cutters F, having longitudinal grooves *f* therein for the reception of the lugs *a* on the stock and provided with longitudinal lugs F' adapted to enter grooves provided therefor in the yoke substantially as herein shown and described.

4. In an underreamer of the character herein described a stock provided with longitudinal depressions on both sides of the lower end, and having on those two sides bearing-faces provided with longitudinal dovetail yoke-engaging lugs extending along said bearing-faces and having a transverse slot therethrough for the reception of a yoke-supporting key; a downwardly-projecting extension on the end of the said stock forming a bearing-face for cutters; a cutter-supporting yoke having a central bore for the reception of a yoke-supporting bolt and a spiral spring thereon; a yoke-supporting bolt and spiral spring therein; the said yoke having a transverse opening therethrough for the reception of a yoke-supporting key, a yoke-supporting key therein.

5. In an underreamer of the character herein described having a stock and a cutter-supporting yoke provided with a transverse opening for a supporting-key, the lower wall of said opening being provided with a bolt-engaging thread adapted to register with a like thread in the yoke-supporting key; a yoke-supporting key D to removably secure the yoke to the stock, the said key being provided with a screw-threaded recess for the reception of a locking-bolt L; a locking-bolt L in the screw-threaded opening between the key and the yoke.

6. In an underreamer of the character herein described having a cutter-supporting yoke with a return-bend at its lower end, inclined shoulders G on the return-bend their inclined surfaces forming bearing-faces for the engagement with bearing-faces on the cutters and adapted to spread the lower end of the cutters apart in combination with reaming-cutters substantially as herein shown and described.

7. In a reamer, such as herein described comprising the stock A having a central bore; a yoke B slidably mounted therein, cutters workably secured in said yoke, and provided with means to secure said cutters in workable engagement with said yoke, the said yoke being provided on its bottom return end with inclined cutter-bearing shoulders adapted when the yoke is in its upward position to spread the cutters apart; a yoke-supporting bolt in the bore of said stock and provided with resilient means to hold said bolt in its elevated position; and means to secure said bolt to said yoke.

8. In an underreamer of the character herein described; a stock provided with a central bore therein; a yoke-supporting bolt in said bore; a spiral spring surrounding said bolt the lower end resting on an offset shoulder in said bore, the upper end engaging a head on said bolt, the said stock being provided with longitudinal yoke-bearing faces and having dovetail lugs extending along said bearing-faces adapted to enter recesses in the yoke; a yoke adapted to pass up on either side of the stock and having stock-bearing faces adapted to slidingly engage the said faces on the stock; longitudinal dovetail recesses adapted to receive and slidingly engage the dovetail lugs on the bearing-faces of the stock; a yoke-supporting key extending through transverse apertures in the upper projecting end of the yoke and through an aperture in said bolt.

9. In an underreamer provided with a body portion or stock having a central bore therein; a yoke slidably mounted thereon over a portion of the length of the stock, cutters workably mounted in the yoke and adapted to be thrown into their extended operative position when the yoke is moved upward on the stock; a spiral spring in said central bore for engagement with a yoke-carrying bolt and adapted to hold the same in an elevated position; a yoke-carrying bolt in said spring workably connected with the yoke substantially as herein shown and described.

10. In an underreamer of the character herein described provided with cutters of the character herein shown; means to spread the cutters apart into their operative position when removed from the casing comprising a spring-operated bolt in the bore of the stock; a key connecting said bolt with a yoke; a stock having on its lower extension inclined cutter-bearing shoulders; a yoke workably mounted on said stock and having upturned inclined shoulders.

11. In an underreamer of the character herein described the combination of the stock A; a yoke B slidably mounted thereon; means to hold said yoke in its elevated position on said stock, comprising a yoke-supporting bolt E, a spiral spring C surrounding said bolt and adapted to hold the same in its elevated position; a key D transversely mounted in said stock and having a longitudinal movement therein, the said key passing through the said bolt, the projecting ends extending through apertures B' in the upper end of the yoke; cutters F loosely mounted in the return-bend of said yoke and provided with longitudinal lugs F' to hold the same in said yoke; means to spread the cutters into their extended position when the yoke assumes its elevated position, comprising inclined shoulders A''' on the downward extension A'''' of said stock; an inclined bearing-shoulder G in the return-bend of said yoke, substantially as herein shown and described.

808,648. TRAVELING APRON OR CONVEYER. ISAAC TROLLEY, Grantham, England. Filed Dec. 20, 1904. Serial No. 237,653.

Claim.—1. A traveling apron or conveyer, having its ends provided with means for engaging connecting devices, each of said ends being provided with a flap adapted to cover the space between the ends of said apron, whereby said flaps may be so arranged that the uppermost flap will trail in whichever direction the apron is driven, substantially as described.

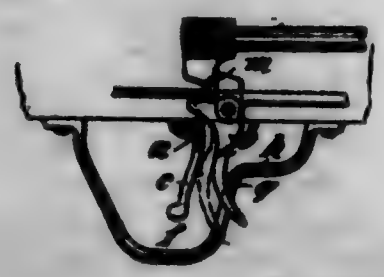
2. A traveling apron or conveyer having its ends provided with opposite attaching devices for engaging connecting devices, and a plurality of connecting devices, each provided at one end with means for detachably engaging the said attaching devices, and at the other end with means for adjustably engaging said attaching devices, whereby said connecting devices may be reversed to enable them to trail in whichever direction the apron is driven, substantially as described.

3. A traveling apron or conveyer having its ends provided with oppositely-arranged buckles, a series of connecting-straps each provided at one end with a hook to detachably engage one of said buckles, and at the other end with a series of holes to adjustably engage the opposite buckle whereby said straps may be reversed to enable them to trail in whichever direction the apron is driven, substantially as described.

4. A traveling apron or conveyer having its ends provided with oppositely-arranged buckles, a series of connecting-straps each provided at one end with a hook to detachably engage one of said buckles, and at the other end with a series of holes to adjustably engage the opposite buckle whereby said straps may be reversed to enable them to trail in whichever direction the apron is driven, and a flap connected to each end of the apron and extending over the said straps and the space between the ends of said apron, substantially as described.

5. A traveling apron or conveyer having its ends provided with oppositely-arranged attaching devices, reversible adjustable connecting devices for engaging opposite attaching devices, and a flap secured to each end of the apron and extending over said connecting devices and the space between the ends of said apron, substantially as described.

808,644. TRIGGER ARRANGEMENT OF FIREARMS. STANISLAUS TOMISSIA, Trieste, Austria-Hungary. Filed Apr. 18, 1904. Serial No. 203,703.



Claim.—1. In trigger mechanism for hand-firearms, the combination with a trigger finger-piece, of a supporting-bar arranged in proximity to the trigger finger-piece, the latter extending below the said supporting-bar and said bar having its forwardly-directed face formed to coincide with the front face of the finger-piece and forming

an artificial rest for the finger of the marksman as and for the purpose specified.

2. In trigger mechanism for hand-firearms, the combination with a trigger finger-piece, of a supporting-bar arranged in proximity to the trigger finger-piece, the latter extending below the said supporting-bar and said bar having its forwardly-directed face formed to coincide with the front face of the finger-piece and forming an artificial rest for the finger of the marksman, one of said elements being slotted for the passage through the slot of the other element.

3. In trigger mechanism for hand-firearms, the combination with a trigger finger-piece, of a supporting-bar arranged immediately behind the trigger finger-piece and provided with a slot to admit of the passage of the finger-piece on firing, the said supporting-bar having its forwardly-directed face formed to coincide with the front face of the finger-piece and forming an artificial rest for the finger of the marksman as specified.

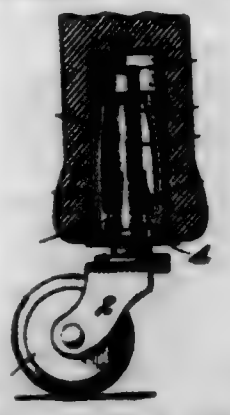
4. In trigger mechanism for hand-firearms, the combination with a trigger finger-piece, of a supporting-bar arranged in proximity to the trigger finger-piece, said bar being adjustable toward and from the finger-piece, the latter extending below the supporting-bar and said bar having its forwardly-directed face formed to coincide with the front face of the finger-piece and forming an artificial rest for the finger of the marksman as and for the purpose specified.

5. In trigger mechanism for hand-firearms, the combination with a trigger finger-piece, of a supporting-bar arranged in proximity to the trigger finger-piece, the latter extending below the said supporting-bar and said bar having its forwardly-directed face formed to coincide with the front face of the finger-piece and forming an artificial rest for the finger of the marksman and a trigger-guard having a bend or neck *g*, *h*, that is formed by a part of the guard more or less parallel to the barrel and another part more or less parallel to the supporting-rod.

6. In trigger mechanism for hand-firearms, the combination with a trigger finger-piece, of a supporting-bar arranged in proximity to the said finger-piece and having its forwardly-directed face formed to coincide with the front face of the finger-piece and forming an artificial rest for the finger of the marksman.

7. In trigger mechanism for hand-firearms, the combination with a trigger finger-piece, of a supporting-bar arranged in proximity to the said finger-piece and having its forwardly-directed face formed to coincide with the front face of the finger-piece and forming an artificial rest for the finger of the marksman, the percussion-bolt, a sear-spring rest mounted on one of the trigger-surfaces and comprising an adjustably-arranged screw, and an extension on the percussion-bolt nut adapted to coöperate with the said screw.

808,643. CASTER. FRANK B. UPTON, St. Louis, Mo. Filed Nov. 10, 1904. Serial No. 232,663.



Claim.—1. A caster comprising a roller, a mounting therefor, and fastening means comprising an expansible member and means to expand said member by relative bodily movement of said expansible member and expanding means.

2. A caster comprising a roller, a mounting therefor, and fastening means comprising an expansible member, longitudinally movable with respect to said mounting, and means, longitudinally immovable with respect to said mounting, to expand said expansible member.

3. A caster comprising a roller, a roller-frame, a stem secured to said roller-frame, a wedge-shaped member secured to said stem, and an expansible member movably mounted on said stem and engaging said wedge-shaped member whereby said expansible member may be expanded.

4. A caster comprising a roller, a mounting therefor, and fastening means comprising an expansible member conforming to the shape of the socket in which it is to be placed and a relatively movable wedge-shaped member to expand said expansible member.

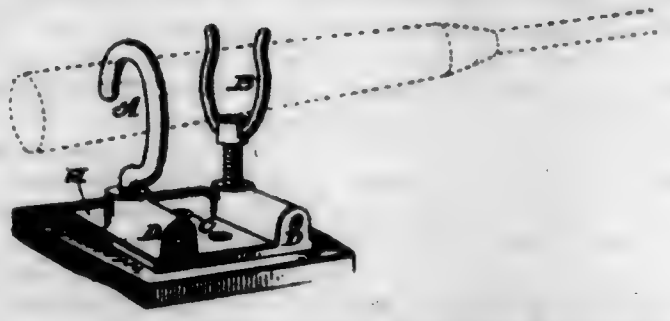
5. A caster comprising a roller, a mounting therefor, and fastening means comprising an expansible member, means to expand said member, and means to engage the walls of a socket in which the expansible member is to be placed whereby relative movement of said member and said means may be caused by the weight of the object containing the socket.

6. A caster comprising a roller, a mounting therefor, and fastening means on said mounting and comprising an expansible bifurcated member having outwardly-extending projections at the ends of its bifurcations and a disk provided with inclined members located between and in engagement with the ends of the bifurcations of said expansible member.

7. A caster comprising a roller, a roller-frame, a stem on said frame, a member provided with an inclined surface rotatably mounted on said frame, an expansible member rotatably mounted on said stem and arranged to engage said inclined surface, and means to prevent relative rotation of said members.

8. A caster comprising a roller, a mounting therefor, and fastening means comprising an expansible member and rigid means to expand said member by relative movement of said expansible member and expanding means.

808,646. DEVICE FOR HOLDING FISH-RODS. WILLIAM J. WALTON, Rock Island, Ill. Filed Dec. 13, 1904. Serial No. 236,626.



Claim.—1. In a fishing-rod holder, the combination of a curved seat member and forked clamp with a base-plate provided with two screw-threaded bosses adapted to receive the curved seat member and forked clamp interchangeably.

2. In a fishing-rod holder, the combination of a base-plate and two screw-threaded pole-engaging members mounted in said base-plate by means of which the pole may be adjusted in angular elevation.

3. In a fishing-rod holder, the combination of two pole-engaging members with a base member having two sets of threaded apertures for interchangeable arrangement of said pole-engaging members.

4. In a fishing-rod holder the combination of a base-plate provided with screw-threaded sockets, a curved seat member and a forked clamp, threaded into said sockets.

808,647. PROCESS OF MORDANTING WITH MAGNESIUM COMPOUNDS. WILLIAM WARD, Stalybridge, England, assignor to Calico Printers' Association Limited, Manchester, England. Filed Jan. 4, 1905. Serial No. 239,516.

Claim.—1. The herein-described process of mordanting consisting in fixing an insoluble magnesium salt on vegetable fibers and then dyeing with substantive colors, substantially as described.

2. The herein-described process of mordanting consisting in fixing an insoluble magnesium hydroxid on vegetable fibers and then dyeing with substantive colors, substantially as described.

808,648. COUPLING DEVICE. HERBERT H. WILLIAMS, New York, N. Y. Filed Jan. 6, 1902. Serial No. 88,565.



Claim.—1. A coupling device for pressure systems comprising a pair of coupling-heads each of said heads having independent conduits which terminate in concentric ports, and means for de-

tachably connecting the heads of each pair with the corresponding ports in register, substantially as described.

2. A coupling device for pressure systems comprising a pair of coupling-heads each of said heads having independent conduits which terminate in concentric ports, packing surrounding said ports, and means for detachably connecting the heads of each pair with the corresponding ports in register, substantially as described.

3. A coupling device for pressure systems comprising a pair of coupling-heads said heads having independent conduits which terminate in concentric ports, suitable packing surrounding the ports, cut-off valves in corresponding ports of each head, means for detachably connecting the heads with corresponding ports in register, means whereby the valves are opened when the heads are connected, and means for closing the valves when the heads are disconnected, substantially as described.

4. A coupling device for pressure systems comprising a pair of coupling-heads said heads having independent conduits which terminate in concentric ports, suitable packing surrounding the ports, cut-off valves in the inner ports of each head, means for detachably connecting the heads with corresponding ports in register, means whereby the valves are opened when the heads are connected, and means for closing the valves when the heads are disconnected, substantially as described.

5. A coupling device for pressure systems comprising a pair of coupling-heads each of said heads having a conduit terminating in an annular port, and a second conduit terminating in a port which is located within the annular port, means for detachably securing the heads together with corresponding ports in register, and means for securing a tight joint between the ports, substantially as described.

6. A coupling device for pressure systems comprising a pair of coupling-heads each of said heads having a conduit terminating in an annular port, and a second conduit terminating in a port which is located within the annular port, an automatically-operating cut-off valve located in said second port, means for detachably connecting the heads with corresponding ports in register, and means for securing a tight joint between the ports, substantially as described.

7. A coupling device for pressure systems comprising a pair of coupling-heads, independent conduits in each head said conduits terminating in suitable ports, means for detachably connecting the heads with corresponding ports in register, and suitable leakage-ports whereby the leakage from one conduit is prevented from entering another conduit, substantially as described.

8. A coupling device for pressure systems comprising a pair of coupling-heads, independent conduits in each head said conduits terminating in suitable ports, means for detachably connecting the heads with corresponding ports in register, and leakage-ports tapping the space between corresponding ports, substantially as described.

9. A coupling device for pressure systems comprising a pair of heads, independent conduits in each of said heads, said conduits terminating in suitable ports, means for detachably connecting the heads with corresponding ports in register, means for insuring a tight joint between the ports, and suitable leakage-ports whereby the leakage from one conduit is prevented from entering another conduit, substantially as described.

10. In a pressure system for railway-train service, the combination with a plurality of pipe-lines parts of which are carried by each of the cars, of a coupling-head having independent conduits one for each pipe-line said conduits terminating in suitable concentric ports, flexible connections between the conduits and the pipes, means made operative by an axial movement for detachably connecting corresponding heads on adjacent cars with corresponding ports in register, said flexible connections being constructed to sustain the heads in position with the coupling-axis at an angle to the line of movement of the train, substantially as described.

11. In a pressure system for railway-train service, the combination with a plurality of pipe-line parts of the lines being carried by the several cars of the train, of a coupling-head common to said pipe-lines, said head having an independent conduit for each line-pipe, each conduit terminating in a suitable port, said ports being concentric and means for detachably connecting the coupling-heads of adjacent cars so that corresponding ports are in register and so that the meeting faces of the heads lie in substantially vertical planes, substantially as described.

12. In a pressure system for railway-train service, the combination with a plurality of pipe-lines parts of the lines being carried by the several cars of the train, of a coupling-head common to said pipe-lines, said head having an independent conduit for each line-pipe, each conduit terminating in a suitable port, said ports being concentric means for detachably connecting the coupling-heads of adjacent cars so that corresponding ports are in register and so that the meeting faces of the heads lie in substantially vertical planes, and flexible connections between the line-pipes and the conduits, substantially as described.

13. In a pressure system for railway-train service, the combination with a plurality of pipe-lines, parts of the lines being carried by each of the cars, of a coupling-head common to the line-pipes of each car said heads having an independent conduit for each line-pipe, each conduit terminating in a suitable port, said ports being concentric flexible connections between the line-pipes and said conduits, said connections being arranged to sustain the coupling-faces of the heads of adjacent cars in substantially vertical position, and means for detachably securing the heads of adjacent cars together, substantially as described.

14. In a pressure system for railway-train service, the combination with a plurality of pipe-lines, parts of said lines being carried by each car, of a coupling-head which is common to the line-pipes of each car said head having independent conduits one for each line-pipe said conduits terminating in suitable ports, said ports being concentric flexible pipes connecting the line-pipes with the conduits in the heads, said pipes being arranged to support the heads in such position that when the heads of adjacent cars are coupled the sway of the train will not tend to uncouple them, and means for detachably connecting the heads of adjacent cars together, substantially as described.

15. In a pressure system for railway-train service, the combination with a plurality of pipe-lines, parts of said lines being carried by each car, of a coupling-head having independent conduits one for each line-pipe said conduits terminating in suitable ports, flexible pipes connecting the line-pipes with the conduits in the heads said flexible pipes being of different lengths, and means for detachably connecting the heads of adjacent cars, with corresponding ports in register, substantially as described.

16. In a pressure system for railway-train service, the combination with a plurality of pipe-lines parts of said lines being carried by each car, of a coupling-head having an independent conduit for each line-pipe said conduits terminating in suitable ports, flexible pipes connecting the pipes on the car with the conduits, said flexible pipes having their points of connection with the train-pipes lying in different horizontal planes and their points of connection with the head lying in different vertical planes cutting the car, and means for detachably connecting the heads of adjacent cars with corresponding ports in register, substantially as described.

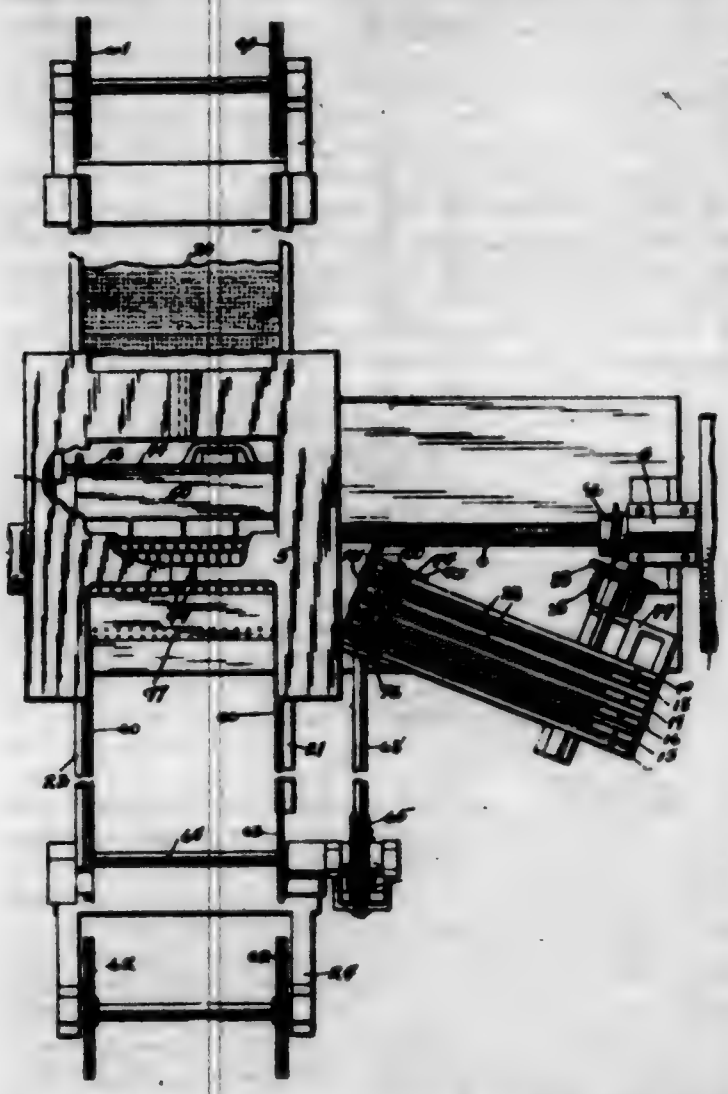
17. In a pressure system for railway-train service, the combination with a plurality of pipe-lines parts of said lines being carried by each car, of a coupling-head having an independent conduit for each line-pipe said conduits terminating in suitable ports, flexible pipes of different lengths connecting the pipes on the car with the conduits, said flexible pipes having their points of connection with the train-pipes lying in different horizontal planes and their points of connection with the head lying in different vertical planes cutting the car, and means for detachably connecting the heads of adjacent cars with corresponding ports in register, substantially as described.

18. In a pressure system for railway-train service, the combination with a plurality of pipe-lines parts of said lines being carried by each car, of a coupling-head having independent conduits, one for each line-pipe said conduits terminating in suitable ports, flexible pipes connecting the pipes on the car with the conduits, said flexible pipes at their points of connection with the train-pipes being substantially superposed and at their points of connection with the head being substantially side by side, and means for detachably connecting the heads of adjacent cars with corresponding ports in register, substantially as described.

19. In a pressure system for railway-train service, the combination with a plurality of pipe-lines parts of said lines being carried by each car, of a coupling-head having independent conduits one for each line-pipe said conduits terminating in suitable ports, flexible pipes of different lengths connecting the pipes on the car with the conduits said flexible pipes at their points of connection with the train-pipes being substantially superposed and at their points of connection with the head being substantially side by side, and means for detachably connecting the heads of adjacent cars with corresponding ports in register, substantially as described.

808,648. MACHINE FOR CUTTING AND STICKING MATCH-SPLINTS. WILLIAM H. WILLIAMS, Evergreen Park, Ill., assignor, by mesne assignments, to Diamond Match Company, a Corporation of Illinois. Filed May 12, 1900. Serial No. 715,883.

Claim.—1. In a match-machine, the combination with means for cutting a row of match-splints, of means for feeding material from which the match-splints are to be cut to said means for cutting match-splints, and means permitting the varying of the angle at which such feeding takes place, substantially as and for the purpose described.



2. In a match-machine, the combination with a cutter for cutting a row of match-splints, of a trough through which blocks may be fed to such cutter, and means permitting varying of the angle at which such feeding takes place, substantially as and for the purpose described.

3. In combination with splint-cutting mechanism, a feed-table over which the material for the splints is fed to the cutting mechanism, that is movable to change the angle of the line of feed of the splint material with reference to the cutting mechanism, and a guideway for the splint material whose width is adjustable.

4. In a match-machine, the combination with a cutter for cutting a row of match-splints, of a feed-trough therefor, such feed-trough having sides that are pivoted, substantially as and for the purpose described.

5. In a match-machine, the combination with a cutter, of a feed-trough therefor, comprising a plate adjacent such cutter, and bars forming sides for the feed-trough, said bars being pivoted to such plate, substantially as and for the purpose described.

6. In a match-machine, the combination with a cutter, of a feed-trough therefor, comprising a plate adjacent such head, and bars forming the sides and bottom of said trough, such bars being pivoted to said plate, substantially as and for the purpose described.

7. In a match-machine, the combination with a cutter, a feed-trough, and a feed mechanism therefor, both the feed-trough and the feed mechanism being adjustable to vary their angles to the cutter-head, substantially as and for the purpose described.

8. In a match-machine, the combination with a cutter, of a feed-trough therefor, comprising a plate adjacent such cutter, bars forming the sides and bottom of said trough, such bars being pivoted to said plate, and separate means for feeding carried by two or more of said bars, substantially as and for the purpose described.

9. In a match-machine, the combination with a cutter, of a feed-trough therefor, comprising angularly-adjustable bars forming the bottom of such trough, and feed-chains movable in grooves in the tops of said bars, substantially as and for the purpose described.

10. In a match-machine, the combination with a cutter, of a feed-trough, comprising a plate, and a series of adjustable bars pivoted to such plate, a series of feed-chains mounted to travel on said bars, and a driving-shaft for such feed-chains and adjustable to correspond to the adjustments of said bars, substantially as and for the purpose described.

11. In a match-machine, the combination with a cutter, of a feed-trough therefor comprising a stationary plate adjacent such cutter, and bars forming the sides and bottom of said trough, such bars being pivoted to said plate, feed-chains carried by such bars, a shaft extending transversely of such bars, and drive-wheels for said feed-chains, such drive-wheels being movable along said shaft, such shaft being adjustable around an axis that is perpendicular to said trough, substantially as and for the purpose described.

12. In a match-machine, the combination with a cutter, of a feed-trough therefor, comprising a stationary plate adjacent such cutter, and bars forming the sides and bottom of said trough, such bars being pivoted to said plate, feed-chains carried by such bars, a shaft extending transversely of such bars, and drive-wheels for said feed-chains, such drive-wheels being movable along said shaft, such shaft being adjustable around an axis that is perpendicular to said trough, and separate means for adjusting the tension of each of such chains, substantially as and for the purpose described.

13. In a match-machine, the combination with a cutter-head, of cutters mounted in recesses in the lower side of such head, a plate covering said cutters and recesses, a backer, movable on the lower side of such plate, said backer having an upwardly-extending shoulder to engage the lower sides of such cutters, and a support for the lower side of said backer, substantially as and for the purpose described.

14. In a match-machine, the combination with a cutter-head, adapted to cut splints, of a guide for the rearward side of the splints, and means for reciprocating such guide longitudinally of the splints and independently of said cutter-head, substantially as and for the purpose described.

15. In a match-machine, the combination with a cutter-head, adapted to cut splints, of a laterally-immovable guide for the splints, such guide being adapted to support the splints on the side opposite to the cutter-head, and means for causing said guide to move with the splints, substantially as and for the purpose described.

16. In a match-machine, the combination with a cutter-head adapted to cut splints, of a laterally-immovable guide for the splints such guide being adapted to support the splints on the side opposite to the cutter-head, and means for reciprocating said guide longitudinally of the splints and independently of the cutter-head, substantially as and for the purpose described.

17. In a match-machine, the combination with a cutter-head adapted to cut splints, such head being provided with a guideway above the cutters for guiding the splints on the side toward such head, of a laterally-immovable guide for the opposite side of the splints, and means for causing said guide to move with the splints, substantially as and for the purpose described.

18. In a match-machine, the combination with a cutter-head adapted to cut splints, such head being provided with a guideway above the cutters for guiding the splints on the side toward such head, of a laterally-immovable guide for the opposite side of the splints, and means for reciprocating said last-mentioned guide independently of such cutter-head, substantially as and for the purpose described.

19. In a match-machine, the combination with a cutter-head adapted to cut splints, such head being provided with a guideway above the cutters for guiding the splints on the side toward such head, of a laterally-immovable guide for the opposite side of the splints, and means for reciprocating said last-mentioned guide independently of such cutter-head, through a distance less than the reciprocation of said cutter-head, substantially as and for the purpose described.

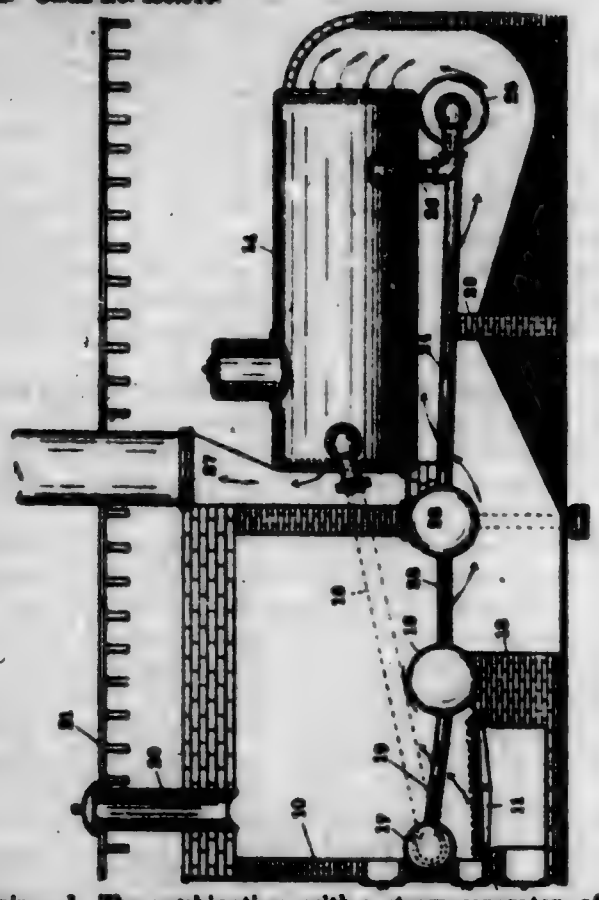
20. In a match-machine the combination with a cutter-head adapted to cut splints, such head being provided with a guideway above the cutters for guiding the splints on the side toward such head, of a laterally-immovable guide for the opposite side of the splints, and means for reciprocating said last-mentioned guide independently of such cutter-head, through a distance less than the reciprocation of said cutter-head, and so timed that such guide engages the splints before they are entirely lifted above the block from which they are cut, substantially as and for the purpose described.

21. In a match-machine, the combination of a continuously-moving splint-carrier, and splint cutting and inserting means having a movement only to and from the carrier, said cutting and inserting means including a row of cutters within which one end of a row of splints cut thereby, is held during the insertion of the opposite end

of the row in the traveling carrier, such latter end during its insertion moving with and in the same direction as the carrier.

28. In a match-machine, the combination of a continuously-moving carrier for splints having rows of rigid-walled splint-receiving holes, and splint cutting and inserting means moving in a direction only toward and from the carrier, said cutting and inserting means including a row of cutters within which one end of a row of splints cut thereby, is held during the insertion of the opposite end of the row in the traveling carrier, such latter end during its insertion moving with and in the same direction as the carrier.

803,650. REFUSE-BURNER. FREDERICK G. WHELOCK, Indianapolis, Ind., assignor to Sanitary Reduction and Construction Company, Boston, Mass., a Corporation of Massachusetts. Filed Dec. 4, 1903. Serial No. 183,916.



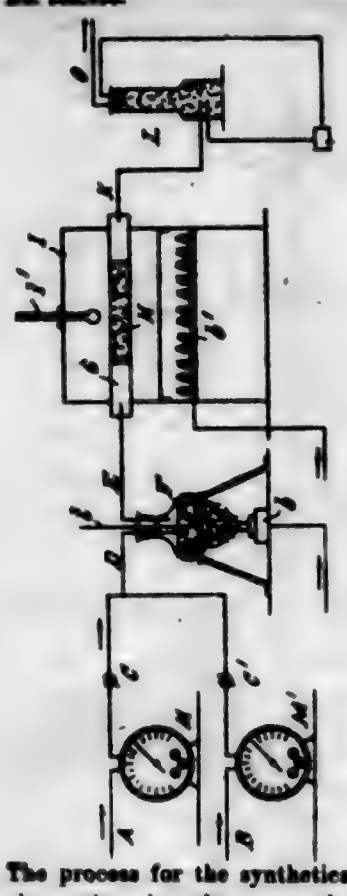
Claim.—1. The combination, with a steam-generator, of fuel-receiving grate-bars, a pair of transverse water-drums arranged above said grate-bars one at each end, connection between the forward drum and the generator, tubes connecting said drums above the grate-bars to form a refuse-receiver, a second pair of transverse water-drums located beneath the generator one near each end thereof, water-tubes connecting the forward one of said drums with the adjacent drum at the rear end of the grate-bars, water-tubes connecting said last-mentioned pair of drums beneath the generator, a bridge-wall extending up to said water-tubes at an intermediate point, and an inclosing setting, whereby the gases from the fire on the grate-bars must pass upward between the refuse-receiving water-tubes from thence over the water-drum to the rear, thence downward between the next series of water-tubes, beneath the succeeding water-drum, thence upward between the succeeding series of water-tubes, over the fire-wall, downward between said series of water-tubes, thence beneath the rear water-drum, and from thence through the generator, substantially as and for the purpose set forth.

2. The combination of, fuel-receiving grate-bars, a bridge-wall at the rear of said grate-bars, three transverse water-drums, one above the front end of the grate, one at the rear end of the grate upon the bridge-wall, and the other behind the second drum, a baffle-wall arranged above the third drum, and water-tubes connecting said drums and forming a support for refuse above the fuel-grate.

803,651. PROCESS OF MAKING AMMONIA BY SYNTHESIS. HERMAN C. WEATHERSTEIN, Westminster, London, England, assignor to The Electrolyte-Wolfenstein Process Syndicate, Limited, London, England, a Corporation of England. Filed Aug. 15, 1902. Serial No. 169,119.

Claim.—The process of producing ammonia by synthesis, which consists in passing a mixture of air and gas containing hydrogen and saturated with steam heated to a temperature between 300° centigrade and 400° centigrade, substantially as described.

803,652. PROCESS OF MAKING AMMONIA BY SYNTHESIS. HERMAN C. WEATHERSTEIN, London, England, assignor to The Chemicals Proprietary Company, Limited, London, E. C., England. Filed May 4, 1903. Serial No. 155,955.



Claim.—1. The process for the synthetical production of ammonia consisting in passing air and steam, and a reducing-gas, heated to a temperature between 300° and 400° centigrade and preferably to about 350° centigrade over iron offering a large surface and intimate contact and preferably heated to the same temperature.

2. The process for the synthetical production of ammonia consisting in alternately passing air together with a small quantity of a reducing-gas, and steam, all heated to a temperature between 300° and 400° centigrade and preferably to about 350° centigrade over iron offering a large surface and intimate contact, and preferably also heated to the same temperature.

803,653. PROCESS OF MAKING AMMONIA BY SYNTHESIS. HERMAN C. WEATHERSTEIN, London, England, assignor to The Chemicals Proprietary Company Limited, London, E. C., England. Filed May 4, 1903. Serial No. 155,954.

Claim.—1. The process for the synthetical production of ammonia consisting in passing air and steam heated to a temperature between 300° and 400° centigrade and preferably to about 350° centigrade over iron offering a large surface and intimate contact and preferably heated to the same temperature.

2. The process for the synthetical production of ammonia consisting in alternately passing air and steam, heated to a temperature between 300° and 400° centigrade and preferably to about 350° centigrade over iron offering a large surface and intimate contact, and preferably also heated to the same temperature.

803,654. FILLING-EXHAUSTION-INDICATING MECHANISM FOR LOOMS. EVERETT S. WOOD and JONAS KNITTNER, Hopedale, Mass., assignors to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 26, 1905. Serial No. 262,161.



Claim.—1. In a filling-exhaustion-indicating mechanism for looms, the combination with a feeler adapted to intermittingly impinge upon and be moved by means in the shuttle, and an actuator mounted on and movable relatively to the feeler, of means to effect such relative movement of said actuator when the feeler passes a predetermined distance into the shuttle, an instrumentality the actuation whereof is caused by or through the feeler upon such change in the position of the actuator, and means to lock the actuator in its changed position until actuation of said instrumentality is assured.

2. In a filling-exhaustion-indicating mechanism for looms, the combination with a yieldingly-sustained feeler adapted to be impinged upon and intermittingly moved by the filling in the shuttle, an actuator mounted on and movable relatively to the feeler, and an operatively-connected hunter to engage the shuttle and effect such relative movement of the actuator when the filling in the shuttle is substantially exhausted, of an instrumentality the actuation whereof is caused by or through the feeler upon such change in the position of the actuator, and means to positively lock the actuator in its changed position until the actuation thereof is assured.

3. In a filling-exhaustion-indicating mechanism for looms, the combination with a feeler adapted to intermittingly impinge upon and be moved by means in the shuttle, and an actuator mounted on and movable relatively to the feeler, of an instrumentality whose actuation is effected by or through the actuator when operative, means to render the actuator operative when the feeler passes a predetermined distance into the shuttle, and means to automatically lock the actuator in operative position independently of said instrumentality until the actuation thereof has been assured.

4. In a filling-exhaustion-indicating mechanism for looms, the combination with a yieldingly-sustained feeler adapted to be impinged upon and intermittingly moved by the filling in the shuttle, an actuator mounted on and movable relatively to the feeler, and means to engage the shuttle and effect such relative movement of the actuator when the filling in the shuttle is substantially exhausted, of an instrumentality the actuation whereof is caused by or through the feeler upon such change in the position of the actuator, and means to positively lock the actuator in such changed position until the actuation thereof has been initiated.

5. In a filling-exhaustion-indicating mechanism for looms, two connected members relatively movable in parallelism, one of which is moved by impingement upon the filling within the shuttle and the other relatively to the first-named member by impingement upon the shuttle when the filling is exhausted to a predetermined extent, an instrumentality the operation of which is effected by or through the filling-actuated member and which is dependent upon the relative movement of the shuttle-actuated member, and means to positively retain said latter member in its changed position long enough to insure the actuation of said instrumentality.

6. In a filling-exhaustion-indicating mechanism for looms, two connected members relatively movable in parallelism, one of which is moved by impingement upon the filling within the shuttle and the other relatively to the first-named member by impingement upon the shuttle when the filling is exhausted to a predetermined extent, an actuator on the first-named member operatively positioned by the relative movement of the shuttle-actuated member, an instrumentality the actuation of which is caused by coöperation with the actuator when operatively positioned, and means to automatically lock the actuator in such operative position independently of said instrumentality and until actuation thereof is initiated.

7. In a filling-exhaustion-indicating mechanism for looms, two connected members relatively movable in parallelism, one of which is moved by impingement upon the filling within the shuttle and the other relatively to the first-named member by impingement upon the shuttle when the filling is exhausted to a predetermined extent, an actuator on the first-named member operatively positioned by the relative movement of the shuttle-actuated member, an instrumentality the actuation of which is caused by coöperation with the actuator when operatively positioned, means to positive lock the actuator in such operative position when moved thereinto by or through relative movement of the shuttle-actuated member, and a separate device to release the actuator when actuation of said instrumentality has been effected.

8. In a filling-exhaustion-indicating mechanism for looms, two connected and relatively movable members one of which is moved by impingement upon the filling in the shuttle and the other relatively to the first-named member by impingement upon the shuttle when the filling is substantially exhausted, an actuator on the first-named member and rendered operative by relative movement of the shuttle-actuated member, an instrumentality whose actuation is effected by coöperation with the operatively-positioned actuator, means to lock the actuator when so positioned, and a positively-acting device to release the actuator when actuation of said instrumentality has been effected.

9. In a filling-exhaustion-indicating mechanism for looms, the combination with a yieldingly-sustained feeler adapted to be impinged upon and intermittingly moved by the filling in the shuttle, a normally inoperative actuator thereon, means to move the actuator into operative position when the filling in the shuttle is substantially exhausted, an instrumentality the actuation of which is effected by coöperation with the operatively-positioned actuator, and means independent of said instrumentality to lock the actuator in operative position and retain it in such position until the actuation of said instrumentality is assured.

10. In a filling-exhaustion-indicating mechanism for looms, the combination with a yieldingly-sustained feeler adapted to be impinged upon and intermittingly moved by the filling in the shuttle, a movable actuator thereon, means to move it into operative position when the filling in the shuttle is substantially exhausted, an instrumentality, including a controller adapted to coöperate with the actuator when the latter is operatively positioned, to effect a change in the operation of the loom, and means independent of the controller to lock the actuator in operative position in engagement with the controller and to retain it locked until the actuation of said instrumentality has been initiated by or through the controller.

11. In a loom, a shuttle to contain a supply of filling, filling-replenishing mechanism, and means to control the time of its operation, combined with a reciprocating feeler, an actuator pivotally mounted thereon, filling-induced movement of the feeler preventing coöperation of the actuator and said controlling means until predetermined exhaustion of the filling in the shuttle, and means to operatively position the actuator and immediately lock the same in operative position upon such exhaustion of the filling.

12. A controlling mechanism for looms, having two members adapted to be impinged upon, one member being movable upon and in parallelism with the other member, an actuator mounted on the latter member, means for impinging on the said member to thereby move it and the actuator, means, when exhaustion of the filling in the shuttle permits, for impinging first on the other member, moving it longitudinally and operatively positioning the actuator, whereby movement of said actuator in unison with the member on which it is mounted will cause the actuation of the controlling mechanism, and separate means to automatically lock the actuator in operative position.

13. In filling-exhaustion-indicating mechanism for looms, in combination, a feeler adapted to intermittingly impinge upon and be moved by means within the shuttle, a member mounted on the feeler and adapted to be moved longitudinally on and in parallelism with the feeler when the latter passes a predetermined distance into the shuttle, an actuator on the feeler and operatively positioned by such longitudinal movement of said member, means to lock said actuator when operatively positioned, a transmitter, a relatively movable controller therefor, and a cam on one and a coöperating follower on the other, the movement of the actuator into operative position causing it to coöperate with the controller to act through the cam and follower connection to effect a positive and definite movement of the transmitter, the locking of the actuator being effected simultaneously with its movement into operative position independently of the controller.

14. In filling-exhaustion-indicating mechanism for looms, in combination, a feeler adapted to intermittingly impinge upon and be moved by means within the shuttle, a member mounted on the feeler, and adapted to be moved longitudinally on and in parallelism with the feeler when the latter passes a predetermined distance into the shuttle, an actuator on the feeler and operatively positioned by such longitudinal movement of said member, means acting contemporaneously with operative positioning of the actuator to lock it in such position, a transmitter, a relatively movable controller having a positive, sliding connection therewith, to positively effect its movement, the movement of the feeler causing coöperation of the operatively-positioned actuator and the controller to thereby effect the operation of the transmitter, locking of the actuator being effected independently of the controller, and means to release the actuator after the operation of the transmitter.

15. In a loom, means to control its operation, including a transmitter, and a positively-coöperating controller, combined with a member adapted to be moved longitudinally by the impingement thereon of the shuttle, a feeler to intermittingly engage the filling in the shuttle and prevent longitudinal movement of said member until exhaustion of the filling to a predetermined extent, an actuator on the feeler, connections between the actuator and said member whereby longitudinal movement of the latter effects coöperation of the actuator and controller, to cause the operation of the controlling means for the loom by or through the transmitter, and means independent of the controller to lock the actuator in operative position.

16. In filling-exhaustion-indicating mechanism for looms, two connected and relatively movable members one of which is moved by impingement upon the filling within the shuttle and the other longitudinally on the first-named member by impingement on the shuttle upon predetermined exhaustion of filling therein, mechanism the

operation of which is effected through the longitudinal movement of the shuttle-actuated member, a transmitter intermediate such mechanism and said connected members, a controller operatively connected with the transmitter, a hooked actuator on the filling-actuated member and overhanging the controller, longitudinal movement of the shuttle-actuated member causing the actuator to cooperate with and move the controller, and means independent of the latter to lock said actuator in cooperating position with the controller until movement thereof to operate the transmitter has been effected.

17. In filling-exhaustion-indicating mechanism for looms, a yieldingly-sustained feeler adapted to intermittingly impinge upon and be moved by the filling in the shuttle, a member slidably mounted on the feeler and adapted to be moved longitudinally thereon when the feeler passes a predetermined distance into the shuttle, an actuator fulcrumed on the feeler, means intermediate the slidable member and the actuator to operatively position the latter and lock it in such position by or through longitudinal movement of said member relatively to the feeler, and an instrumentality the actuation whereof is effected by or through cooperation with said actuator when operatively positioned.

18. In filling-exhaustion-indicating mechanism for looms, a yieldingly-sustained feeler adapted to intermittingly impinge upon and be moved by the filling in the shuttle, a member slidably mounted on the feeler and adapted to be moved longitudinally thereon when the feeler passes a predetermined distance into the shuttle, an adjustable hunter on said member, an actuator fulcrumed on the feeler, means intermediate said slidable member and the actuator to operatively position the latter and lock it in such position upon longitudinal movement of the said member on the feeler, and an instrumentality the actuation whereof is effected by or through cooperation with the operatively-positioned actuator.

19. In filling-exhaustion-indicating mechanism for looms, a yieldingly-sustained feeler adapted to intermittingly impinge upon and be moved by the filling in the shuttle, a member mounted on the feeler and movable relatively thereto in parallelism therewith, an adjustable hunter on said member, to impinge upon the shuttle and effect such relative movement of said member when the filling is substantially exhausted, an actuator movably mounted on the feeler, a positively-acting connection between the actuator and said hunter-carrying member, to operatively position the actuator when said member is moved by impingement of the hunter on the shuttle, and an instrumentality the actuation whereof is effected by cooperation with the operatively-positioned actuator.

20. In filling-exhaustion-indicating mechanism for looms, a yieldingly-sustained feeler adapted to intermittingly impinge upon and be moved by the filling in the shuttle, a member slidably mounted on the feeler and adapted to be moved longitudinally thereon by impingement on the shuttle when the filling is substantially exhausted, an actuator carried by the feeler and operatively positioned by or through shuttle-induced movement of said member, means to lock the actuator in operative position simultaneously with such positioning, whereby temporary disengagement of the shuttle and the member actuated thereby cannot release the actuator, and an instrumentality, including a controller, the actuation whereof is effected by or through cooperation of the operatively-positioned actuator and the controller.

21. In a loom provided with filling-replenishing mechanism, and controlling means therefor, including a movable controller, a longitudinally-movable, yieldingly-sustained feeler adapted to intermittingly engage and be moved by the filling in the shuttle, a shuttle-hunting member mounted on the feeler and movable longitudinally thereon by impingement on the shuttle when the filling is substantially exhausted, a hooked actuator fulcrumed on the feeler and having a depending foot provided with a cam-face having positioning and locking portions, a lever-like device pivoted on the feeler and operatively connected at one end with the shuttle-hunting member, the opposite end of said device cooperating with the cam-face on the actuator-foot, the actuator overhanging the controller and normally clearing the same, longitudinal movement of the hunting member on the feeler rocking said device to cause its end to first wipe over the operating portion of the cam-face, to thereby operatively position the actuator to cooperate with the controller, and then to engage the locking portion of the cam-face and hold the actuator in its operative position.

22. In filling-exhaustion-indicating mechanism for looms, a longitudinally-slotted feeler having a hunting thereon, an actuator pivotally mounted on the feeler and having a foot depending through the slot, the feeler intermittingly impinging upon and being moved by the filling in the shuttle, a hunter member slidable in the hearing in parallelism with the feeler, to impinge upon the shuttle and be held in its bearing upon substantial exhaustion of the filling, a bell-crank lever fulcrumed in the feeler-slot and operatively connected at one end with the hunter member, to be rocked by shuttle-induced movement of said member, the opposite end of said bell-crank cooperating with the foot of the actuator, to operatively position the same and lock it in such position when the hunter member rocks the bell-crank, and an instrumentality whose actuation is effected by or through cooperation with the operatively-positioned actuator as the feeler is moved by impingement upon the substantially exhausted filling in the shuttle.

23. In a loom, means to control its operation, said means including a transmitter and a cooperating controller, combined with a feeler adapted to intermittingly engage and be moved by the filling in the shuttle, an actuator mounted on the feeler and when operatively positioned acting through the controller to move the transmitter, and means to automatically move the actuator into operative position, and lock it when so positioned, when the filling in the shuttle is exhausted to a predetermined extent.

24. A mechanical filling-exhaustion-indicating mechanism, comprising a yielding feeler having a normally inoperative actuator thereon provided with a cam extension, a lever carried by the feeler and cooperating with said extension, means to rock said lever when the filling is substantially exhausted, to act upon the cam extension and operatively position and then lock the actuator, and a transmitter adapted to be actuated by or through the operatively-positioned actuator when moved by and in unison with the feeler.

25. A mechanical filling-exhaustion-indicating mechanism, comprising a feeler adapted to be impinged upon by means in the shuttle, an overhanging hooked actuator pivoted on the feeler, a lever mounted on the latter and adapted to be moved relatively thereto when the filling in the shuttle has been exhausted to a predetermined extent, an instrumentality, including a normally quiescent controller lying beneath the actuator, to be actuated by cooperation of the controller and actuator, and a cam portion on the actuator with which the lever cooperates, movement of the lever relatively to the feeler acting through said cam portion to operatively position said actuator with respect to the controller and lock it in such position, to cause movement of the controller by or through movement of the feeler.

26. In a loom, means, including a feeler, to indicate filling exhaustion and adapted to cause the operation of filling-replenishing mechanism, and means carried by the feeler to lock said indicating means in operating condition when such condition is effected by or through predetermined exhaustion of the filling.

27. In a loom, mechanism to indicate filling exhaustion and adapted to control the operation of the loom, and means, acting automatically upon predetermined exhaustion of the filling, to lock said indicating mechanism in operative condition until the control of the operation of the loom is assured.

28. In a filling-exhaustion-indicating mechanism for looms, a feeler adapted to intermittingly impinge upon and be moved by means in the shuttle, an actuator mounted on and movable relatively to the feeler from inoperative to operative position, and means operative upon exhaustion of the filling to a predetermined extent to lock the actuator in its operative position.

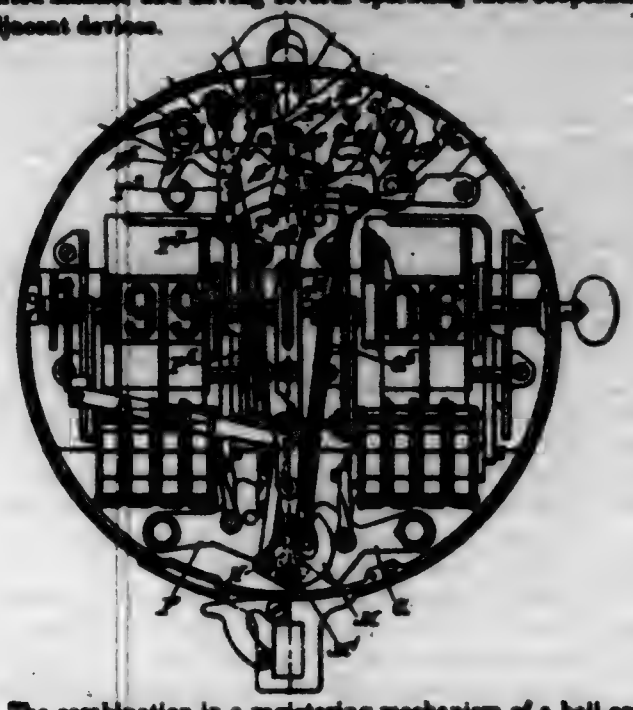
29. In a loom, filling-replenishing mechanism and means to control the time of its operation, combined with a reciprocating feeler having movably mounted thereon an actuator for said means, said actuator being rendered operative upon exhaustion of the filling to a predetermined extent, and means to lock the actuator when operatively positioned.

30. In a loom, mechanism to indicate filling exhaustion and adapted to control the operation of the loom, a locking instrumentality to assure the operation of the controlling means through said mechanism upon predetermined exhaustion of the filling, and means to release the locking instrumentality after the operation of the controlling means has been initiated.

31. In a loom, a shuttle to contain a supply of filling, mechanism to indicate filling exhaustion and adapted to control the operation of the loom, including a feeler to intermittingly impinge upon and be moved by means in the shuttle, a member mounted on and adapted to be moved in parallelism with the feeler, when the filling is exhausted to a predetermined extent, and means to prevent the indicating mechanism from operating after the lay has passed a given point in its path of movement.

808,655. BELL MECHANISM FOR REGISTERS. ARTHUR H. WESTGARD, Chicago, Ill., assignor to The International Register Company, Chicago, Ill., a Corporation of Illinois. Original application filed Sept. 27, 1901, Serial No. 76,742. Divided and this application filed Apr. 23, 1903. Serial No. 153,654.

Claim.—1. The combination in a register of a bell-hammer arm, a lever for operating said hammer-arm, oscillating about the same center, a dog carried by said lever and adapted to engage the hammer-arm and release it at the end of the stroke, said dog free to move in a limited manner and having several operating-faces cooperating with adjacent devices.



2. The combination in a registering mechanism of a bell-operating mechanism, comprising a hammer-arm, a hammer-lever, a hammer-dog mounted thereon so as to have a limited movement, a safety-dog provided with a controlling-spring and adapted to engage said hammer-lever, said safety-dog engaging the hammer-dog at a predetermined point, so as to insure its proper operation.

3. The combination in a registering mechanism of a hammer-arm, a hammer-lever, oscillating about the same center, and a hammer-dog adapted to connect said lever and arm during a portion of the movement of the hammer-lever.

4. The combination in a registering mechanism of a hammer-arm, a hammer-lever, oscillating about the same center, a hammer-dog adapted to connect said lever and arm during a portion of the movement of the hammer-lever, and a positive knock-off or release for said hammer-dog adapted to disengage it from the hammer-arm.

5. The combination in a registering mechanism of a hammer-arm, a hammer-lever, a hammer-dog loosely mounted on said hammer-lever, said hammer-dog adapted to engage the hammer lever and arm so that they will move together, a stop against which said hammer-dog is moved so as to release the hammer-arm, and an engaging device adapted to move said dog from its released to its engaging position.

6. The combination in a registering mechanism of a hammer-arm, a hammer-lever, a hammer-dog loosely mounted on said hammer-lever, said hammer-dog adapted to engage the hammer lever and arm so that they will move together, a stop against which said hammer-dog is moved so as to release the hammer-arm, an engaging device adapted to move said dog from its released to its engaging position, and a safety-dog associated with said hammer-lever, the hammer-dog provided with an engaging face or part adapted to engage said safety-dog during the first part of its forward movement, so as to be held in its operative position thereby.

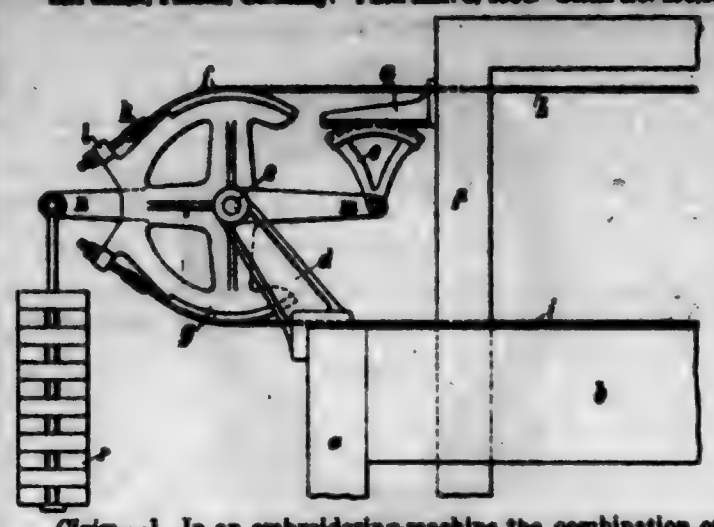
7. The combination in a registering mechanism of a hammer-arm, a hammer-lever, a safety-dog for preventing the backward movement of said hammer-lever, a hammer-dog mounted on the hammer-lever and adapted to engage the hammer-arm, and means for simultaneously releasing the hammer-arm and safety-dog.

8. The combination in a registering mechanism of two complete bell-ringing mechanisms, each having a single actuating-spring associated therewith, and a third intermediate spring adapted to control the remaining parts.

9. The combination in a registering mechanism of two complete bell-ringing mechanisms, each having a single actuating-spring associated therewith, an intermediate safety-dog common to both mechanisms and provided with a single controlling-spring, and means for simultaneously releasing the bell-hammer and the safety-dog.

10. The combination in a registering mechanism of two complete bell-ringing mechanisms, each having a single actuating-spring associated therewith, an intermediate safety-dog common to both mechanisms and provided with a single controlling-spring, means for simultaneously releasing the bell-hammer and the safety-dog, and a positive knock-off or release for the bell-hammers.

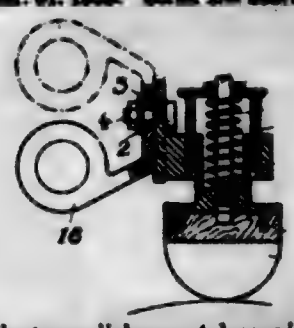
808,656. EMBROIDERY-FRAME-SUSPENSION DEVICE. Ernst Saxl, Plauen, Germany. Filed Mar. 3, 1904. Serial No. 196,203.



Claim.—1. In an embroidering-machine the combination of a frame, rocking levers supporting said frame and provided with oppositely-disposed pairs of arms, metallic straps or wires connecting said arms, securing synchronous movement of said levers, and tension devices for said wires.

2. In an embroidering-machine the combination of a frame, shafts located at opposite ends of said frame, levers mounted on said shafts having oppositely-projecting segments, metallic straps or wires connecting said segments, tension devices on said segments for said straps or wires, said levers having devices supporting the frame, and a counterweight for said frame.

808,657. COLLECTOR-POLISHER. Oscar Schoockelt, Dresden, Germany. Filed Mar. 31, 1905. Serial No. 253,174.



Claim.—1. In collector-polishers, a telescoping carrier, a spring interposed between the telescoping sections of said carrier, means to regulate the compression of said spring, polishing material carried by said carrier, and means for securing said carrier to a part of a machine, substantially as and for the purpose set forth.

2. In collector-polishers, a telescoping carrier, a spring interposed between the telescoping sections of said carrier, means to regulate the compression of said spring, polishing material carried by said carrier, and adjustable means for securing said carrier to a part of a machine, substantially as and for the purpose set forth.

3. In collector-polishers, a rotating carrier, a supply of polishing material held on said spindle and adapted to be fed through a slit in said carrier, means for adjustably securing said rotating carrier to a part of a machine, and means for rotating said roller and said spindle independently of one another, substantially as and for the purpose set forth.

4. In a device of the character described, a body member, a polishing member, a rod on said polishing member projecting through said body member, and a spring arranged on said rod and bearing against said body member and said polishing member.

5. In a device of the type set forth, a body member, a polishing member, a telescoping connection between said body and polishing members, one of the sections of said telescoping connection being threaded in said body member.

6. In a device of the type set forth, a body member, a polishing member, a third member threaded in said polishing member, and a rod connecting said polishing member with said third-named member.

7. In a device of the character described, a body member, a polishing member, a third member adjustably connected with said body member, and means connecting said polishing member with said third member and capable of movement independent thereof.

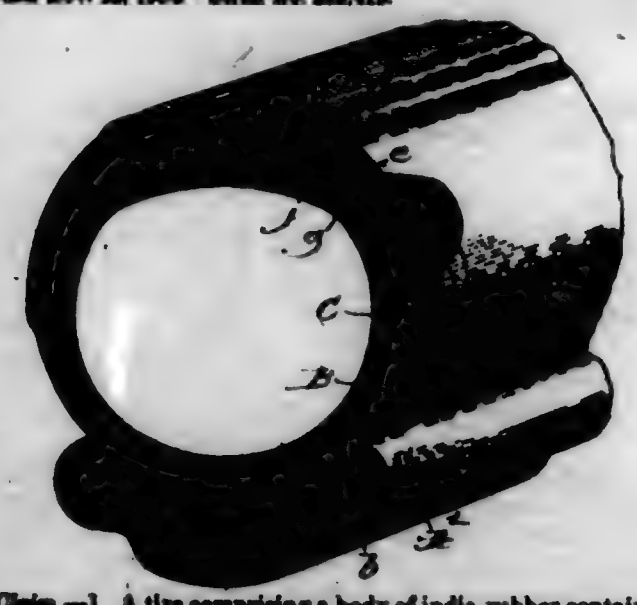
808,658. CTULB-TILE. Arthur S. Allen, Brookline, Mass. Filed Sept. 9, 1904. Serial No. 223,510.

Claim.—1. A tire comprising a body of india-rubber containing a fabric composed of intermeshed wire coils and locking means to retain the coils in their intermeshed condition.



3. A tire comprising a body of india-rubber containing a fabric composed of wire coils and a filling applied to the interstices between the wire coils and vulcanized before being applied to the body of the tire, the filling of said fabric being vulcanized with the wire into the body of the tire.

808,659. PNEUMATIC TIRE. ARTHUR S. ALLEN, Brookline, Mass. Filed Nov. 13, 1894. Serial No. 528,413.



Claim.—1. A tire comprising a body of india-rubber containing a layer of intermeshed oppositely-wound united wire coils embedded therein, the coils crossing said body transversely of its length.

2. A tire composed of a body of india-rubber containing a series of intermeshed oppositely-wound wire coils the wire at the side of one coil entering the spaces between the wire of a contiguous coil thus intermeshing the coils, and locking means extended through said intermeshed wire coils and holding the coils in intermeshed condition.

3. A tire provided with a plurality of layers of intermeshed wire coils, means for retaining the wire coils intermeshed, the wire coils of each layer of fabric crossing the tire transversely, the individual wire coils of one layer crossing the individual wire coils of the other layer.

808,660. PUNCHING AND SHEARING MACHINE. CHARLES A. BENNETT, Cambridge City, Ind. Filed Nov. 22, 1904. Serial No. 233,469.



Claim.—1. In a punching and shearing machine, the combination, substantially as set forth, of a table, a lower shear-blade carried thereby, a gate, an upper shear-blade carried by the gate and coöperating with the lower shear-blade, a series of dies carried by the table in front of the lower shear-blade, a punch-holder secured against the face of the gate and arranged for movement to and from operative position, and punches carried by the punch-holder to coöperate with the dies.

2. In a punching and shearing machine, the combination, substantially as set forth, of a table, a lower shear-blade carried thereby, a gate having a downwardly-presenting shoulder on its face, an upper shear-blade carried by the gate and coöperating with the lower shear-blade, a series of dies carried by the table in front of the lower shear-blade, a punch-holder hinged against the face of the gate and having a shoulder engaging the shoulder of the gate and arranged for pivotal movement to and from operative position, and punches carried by the punch-holder to coöperate with the dies.

3. In a punching and shearing machine, the combination, substantially as set forth, of a table, a lower shear-blade carried thereby, a gate having a downwardly-presenting shoulder on its face, an upper shear-blade carried by the gate and coöperating with the lower shear-blade, a series of dies carried by the table in front of the lower shear-blade, a punch-holder secured against the face of the gate and having a shoulder engaging the shoulder of the gate and arranged for movement to and from operative position, bolts securing the punch-holder against the face of the gate and arranged at an angle so as to draw said shoulders into contact, and punches carried by the punch-holder to coöperate with the dies.

4. In a punching and shearing machine, the combination, substantially as set forth, of a table, a lower shear-blade carried thereby, a gate having a downwardly-presenting shoulder on its face, an upper shear-blade carried by the gate and coöperating with the lower shear-blade, a series of dies carried by the table in a groove in front of the lower shear-blade, a punch-holder secured against the face of the gate and having a shoulder engaging the shoulder of the gate and arranged for movement to and from operative position, and punches carried by the punch-holder to coöperate with the dies.

5. In a punching and shearing machine, the combination, substantially as set forth, of a table carrying a lower shear-blade at its rear edge and provided with a first longitudinal groove forward of said shear-blade and a second longitudinal groove forward of the first one, a gate having a downwardly-presenting shoulder on its face, an upper shear-blade carried by the gate and coöperating with the lower shear-blade, a series of dies seated in the first-mentioned groove in the table, set-screws through the partition between the two grooves in the table, a punch-holder secured against the face of the gate and having a shoulder engaging the shoulder of the gate and arranged for movement to and from operative position, and punches carried by the punch-holder to coöperate with the dies.

6. In a punching and shearing machine, the combination, substantially as set forth, of a table carrying a lower shear-blade at its rear edge and provided with a first longitudinal groove forward of said shear-blade and a second longitudinal groove forward of the first one, a gate having a downwardly-presenting shoulder on its face, an upper shear-blade carried by the gate and coöperating with the lower shear-blade, a series of dies seated in the first-mentioned groove in the table, set-screws through the partition between the two grooves in the table, bolts for securing the lower shear-blade to the table having nuts in the second groove thereof, a punch-holder secured against the shoulder of the gate and arranged for movement to and from operative position, and punches carried by the punch-holder to coöperate with the dies.

7. In a punching and shearing machine, the combination, substantially as set forth, of a table carrying a lower shear-blade at its rear edge, a gate, an upper shear-blade secured to the gate and projecting below the same, a block separably secured to the gate at the rear of the upper shear-blade, and a strut extending between said block and upper shear-blade.

8. In a punching and shearing machine, the combination, substantially as set forth, of a table carrying a lower shear-blade at its rear edge, a gate, an upper shear-blade secured to the gate and projecting below the same, a block separably secured to the gate at the rear of the upper shear-blade, and an adjustable strut extending between said block and upper shear-blade.

9. In a punching and shearing machine, the combination, substantially as set forth, of a table carrying a lower shear-blade at its rear edge, a gate, an upper shear-blade secured to the gate and projecting below the same, a block separably secured to the gate at the rear of the upper shear-blade, and an adjustable screw-strut extending between said block and upper shear-blade.

10. In a punching and shearing machine, the combination, substantially as set forth, of a table carrying a lower shear-blade at its rear edge, a gate, an upper shear-blade secured to the gate and projecting below the same and having its lower edge at an angle to the

table, a block projecting downwardly from the gate at the rear of the lower end of the upper shear-blade, and a strut extending between said block and the upper shear-blade.

11. In a sheet-metal-working machine, the combination, substantially as set forth, of a table, a lower shear-blade carried thereby, a gate, an upper shear-blade separably mounted on the gate and cooperating with the lower shear-blade, tool-holding devices provided in the table forward of said upper shear-blade, and a tool-holder secured against the face of the gate and arranged for movement to and from operative position thereon.

12. The combination of a table, a shear-blade carried thereby, a die carried by said table, a reciprocable gate, a shear-blade carried thereby, a punch-holder carried by said gate, and means for moving said punch-holder out of operative position.

13. The combination of a table, a shear-blade carried thereby, a die carried by said table, a reciprocable gate, a shear-blade carried thereby, a punch-holder pivoted to said gate, and a latch for retaining said punch-holder in inoperative position.

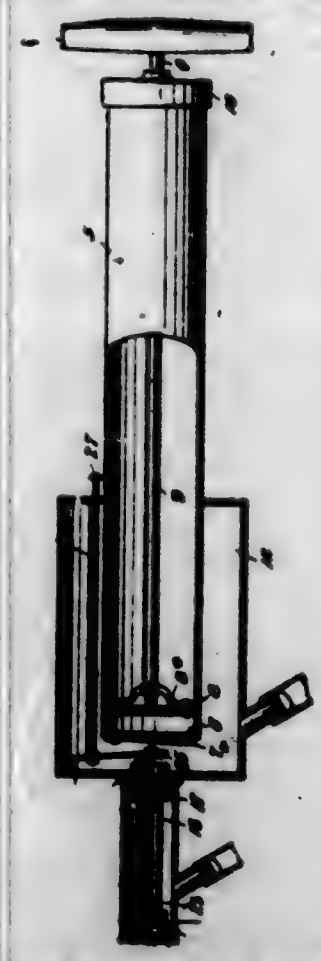
14. The combination of a table, a shear-blade carried thereby, a die carried by said table, a reciprocable gate, a shear-blade carried thereby, a punch-holder, pivotal connections between said punch-holder and said gate, and additional means for securing said punch-holder to said gate in operative position.

15. The combination of a table, a shear-blade carried thereby, a die carried by said table, a reciprocable gate, a shear-blade carried thereby, a punch-holder pivoted to said gate, a bolt for securing said punch-holder to said gate in an operative position, and a latch for retaining said punch-holder in inoperative position.

16. The combination of a table, a shear-blade thereon, a plurality of dies carried by said table, a reciprocable gate, a shear-holder carried thereby, a punch-holder movably mounted on said gate, a shoulder on said gate, and a member on said punch-holder adapted to engage said shoulder.

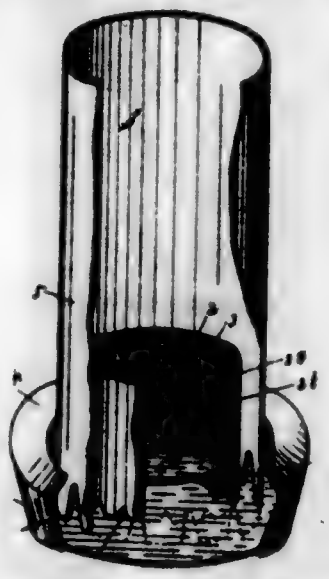
17. The combination of a table, a shear-blade thereon, a plurality of dies carried by said table, a reciprocable gate, a shear-holder carried thereby, a punch-holder movably mounted on said gate, a shoulder on said gate, and clamping means for securing engagement between said shoulder and said corresponding member on the punch-holder.

808,661. POISON-DISTRIBUTER. PETTER BRANDT, Chicago City, Minn. Filed Feb. 3, 1905. Serial No. 243,220.



Claim.—In a spraying device, the combination with a liquid-containing tank, of an air-reservoir and a water-chamber, rigidly attached the one to the other, and in communication with said tank, a tubular air-delivery stem leading outward from said air-reservoir through said water-chamber, a spraying-head closing the outer ends of said water-chamber and of said delivery-stem, and having a discharge-orifice, and in communication with the interior of said water-chamber, a slide-valve working in said spraying-head and having an air-passage opening into said delivery-stem, a valve-stem extending from said valve into said air-reservoir, said water-chamber, air-passage and valve-stem concentrically arranged and said valve-stem having at its inner extremity a second valve for closing said air-delivery stem, a spring-arm connected to said valve-stem, and an operating-rod extending from said spring-arm to the exterior of the device, substantially as described.

808,662. ORCHARD-HEATER. CHARLES S. BROWN and FRANK M. BRIMHALL, Utica, N. Y. Filed Sept. 8, 1903. Serial No. 172,851.



Claim.—1. The combination in a heating device of the character described, of a shallow pan, a circular wick-basket of comparatively large diameter adapted to be set into the pan on the bottom thereof, and having a closed outer wall and perforate or netting inner wall, and a capillary material in the wick-basket, substantially as set forth.

2. The combination in a heating device of the character described of a shallow pan, a circular wick-basket of comparatively large diameter closed near the bottom, and adapted to be set into the pan on the bottom thereof, and having a closed outer wall above the plane of said closure in the basket, and a perforate or netting inner wall, and a capillary material in the wick-basket, substantially as set forth.

3. The combination in a heating device of the character described of a shallow pan of comparatively large diameter, a circular wick-basket of greater height than the depth of the pan, having at its upper end a closed outer wall and on the inner side a perforated or netting wall and adapted to set into the pan on the bottom thereof and easily removable therefrom, and a capillary material in the wick-basket between the walls, substantially as set forth.

4. The combination in a heating device of the character described of a shallow pan of comparatively large diameter, open at the top, a circular wick-basket adapted to be set into the pan on the bottom thereof through said opening, a capillary material in the wick-basket and a draft-tube adapted to set over the wick-basket into the pan on the bottom thereof, having openings at or near the lower end, the draft-tube and wick-basket being readily separable from the pan, substantially as set forth.

808,663. METALLIC-CAR CONSTRUCTION. THOMAS R. BROWN, New York, N. Y., assignor to American Car & Foundry Company, St. Louis, Mo., a Corporation of New Jersey. Filed May 20, 1905. Serial No. 261,454.

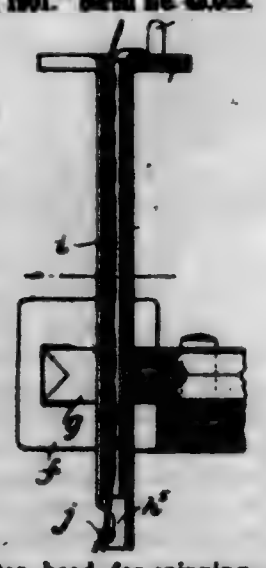
Claim.—1. The combination with a plate-girder side having its top edge bent at right angles to the body portion to form a flange, a stake riveted to the plate-girder side and having its upper end bent at right angles to and secured to the flange of the plate-girder side, and a channel whose web is secured to the top face of the flange of the plate-girder side and whose flanges depend; substantially as described.

2. The combination with a plate-girder side having an outwardly-disposed flange at its upper edge and an outwardly-disposed flange at its lower edge, a stake having a pressed rib extending from the lower edge to a point below the upper edge, a flat extension on the end of the stake and secured above the rib and having a right-angularly-extended portion connected to the outwardly-disposed

flanges on the upper edge, and a channel connected to the upper flange of the plate-girder side and having its flanges depending; substantially as described.



808,664. SPINNING-MACHINE. Malcolm Campbell, Boston, Mass. Filed Jan. 12, 1901. Serial No. 43,038.



Claim.—1. A twister-head for spinning-machines having a gripper, a drawing-out device, and provisions for the lateral insertion of the yarn, in combination with a driver engaging the rear portion of the head.

2. A twister-head for spinning-machines having a gripper, a drawing-out device, and provisions for the lateral insertion of the yarn in the threading operation, and provisions for preventing the displacement of the yarn after it has been threaded into the head.

3. A twister-head for spinning-machines, comprising a slotted tube and means for closing the slot.

4. A twister-head for spinning-machines comprising a slotted tube and a slotted bushing rotatable therein.

5. A twister-head for spinning-machines, comprising a slotted tube having an opening at its lower end, the walls of which constitute a gripper and having a drawing-out device at the other end.

6. A twister-head for spinning-machines comprising a tube having a transverse slot at its lower end to receive the yarn and constitute a gripper and having an eccentric projection at the other end to constitute a drawing-out device.

7. A twister-head for spinning-machines comprising a tube having a drawing-out device at its upper end, and having a longitudinal slot laterally enlarged at its lower end the walls of the enlargement constituting a gripper, and a finger projecting across said enlargement.

8. A twister-head for spinning-machines comprising a tube having an aperture in its side near its lower end, and a finger projecting across said aperture and having a free end.

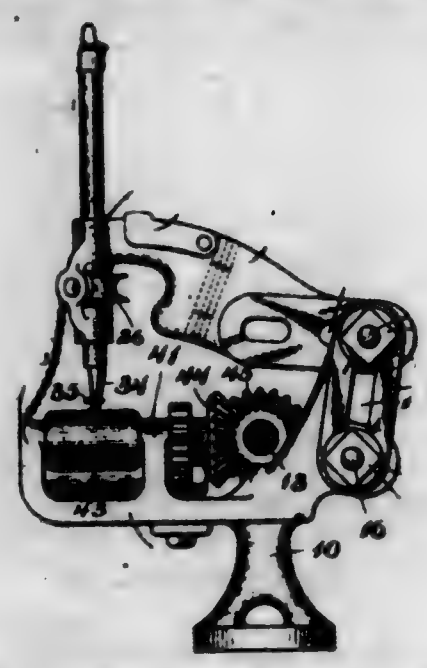
9. In combination, a twister-head having a slot for the lateral insertion of the yarn, and a separable two-part bearing for said head, the parts being separated to form a slot.

10. A twister-head for spinning-machines comprising a rotary tube provided with an open slot of fixed width for the lateral insertion of the yarn, and a slotted bushing held frictionally and rotatably within said tube.

11. A twister-head for spinning-machines comprising a slotted rotatable tube, and a slotted bushing rotatably held therein and having a laterally-projecting finger for rotating it.

12. A twister-head for spinning-machines having an eccentric yarn-gripper, and a finger projecting across said gripper and having a free end.

808,665. SPINNING OR TWISTING MACHINE. Malcolm Campbell, Boston, Mass. Filed Sept. 13, 1901. Serial No. 75,154.



Claim.—1. A spinning or twisting machine having a twister-head, and lower drawing-rolls, with provisions whereby the yarn may be passed laterally into operative relation to said twister-head and said lower drawing-rolls.

2. A spinning or twisting machine having a twister-head with provisions for the lateral insertion of the yarn, and drawing-rolls having separated bearings for permitting the lateral insertion of the yarn between said rolls.

3. A spinning or twisting machine having a slotted twister-spindle in combination with separable drawing-rolls arranged therebelow.

4. A spinning or twisting machine having a pair of peripherally-coacting drawing-rolls, intermeshing pinions carried by said rolls, and separated bearings for said rolls, the bearings of one roll being mounted in a swinging member of a laterally-arranged support, whereby said rolls and pinions are held in engagement by gravity.

5. A spinning or twisting machine having separable drawing-rolls, a slotted twister-spindle, and means for simultaneously putting the said rolls and the said spindle out of action.

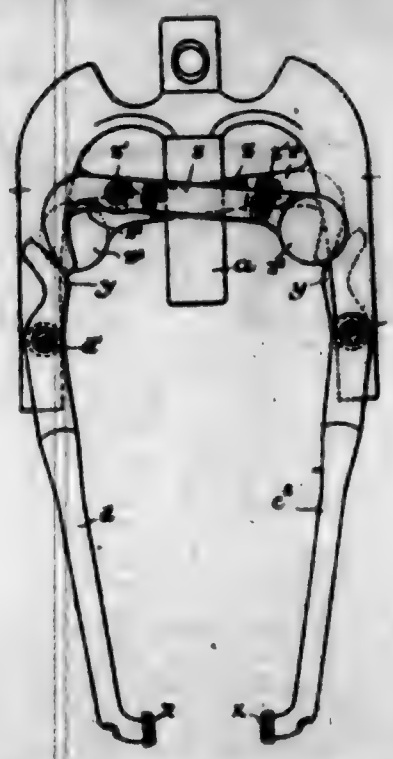
808,666. FLIER FOR ROVING-MACHINES. Malcolm Campbell, Boston, Mass. Filed Jan. 3, 1902. Serial No. 88,230.

Claim.—1. A flier for roving-machines having a finger whose free end is adapted to rest upon the bobbin or the yarn thereon, and variable leverage mechanism for counterbalancing the increased centrifugal force as the free end of the finger moves outward, due to an increased accumulation of yarn on the bobbin.

2. A flier for roving-machines having a finger whose free end is adapted to rest upon the bobbin or the yarn thereon, and a differential pressure device exerting a variable leverage on said finger whereby the pressure of the free end of said finger on the yarn on the bobbin remains constant irrespective of the depth of the yarn on the bobbin.

3. A flier for roving-machines having a pivoted finger whose free end is adapted to rest upon the bobbin or the yarn thereon, and a differential pressure device arranged across the top of the flier and engaging said finger, the point of contact between said device and said finger varying as the free end of the finger moves outward

4. A flier for roving-machines having a finger whose free end is adapted to rest upon the bobbin or the yarn thereon, and a weighted lever engaged with said finger, with provisions whereby the leverage of said finger on said weighted lever decreases as the free end of the finger moves outward from the center of the bobbin.



5. A flier for roving-machines having a finger whose free end is adapted to rest upon the bobbin or the yarn thereon, and a weighted lever having a fixed pivotal relation to said finger but having a point of contact with said finger which approaches the pivot of said lever as the free end of said finger moves outward.

6. A flier having an arm, a finger pivoted on said arm, and a weighted lever pivoted on said arm and having a point of contact which approaches the lever-pivot as the free end of the finger moves outward.

7. A flier having an arm, a finger pivoted on said arm, and a lever pivoted on the arm having a weight at its free end, said finger bearing against the weighted lever.

8. A flier having a pivoted finger and a pivoted weighted lever extending across the top of the flier, said finger engaging said lever lifting the weight thereon as said finger moves outward.

9. A flier for roving-machines having a pivoted finger whose free end is adapted to rest upon the bobbin or the yarn thereon, and movable means, moving toward or from the center of gravity coincidently with the said finger to balance the same.

10. A flier for roving-machines having a finger whose free end is adapted to rest upon the bobbin or the yarn thereon and to move outward as the yarn accumulates, and means attached to the flier diametrically opposite the said finger and having provisions for moving toward or from the center of gravity coincidently with the movement of the said finger for counterbalancing the same.

11. A flier for roving-machines having two opposite pivoted arms which are counterparts of each other, and a finger pivoted to each arm whereby its tip is adapted to rest upon the bobbin or the yarn thereon, said fingers being counterparts of each other and adapted to simultaneously move toward or from the center of gravity, whereby the flier is balanced.

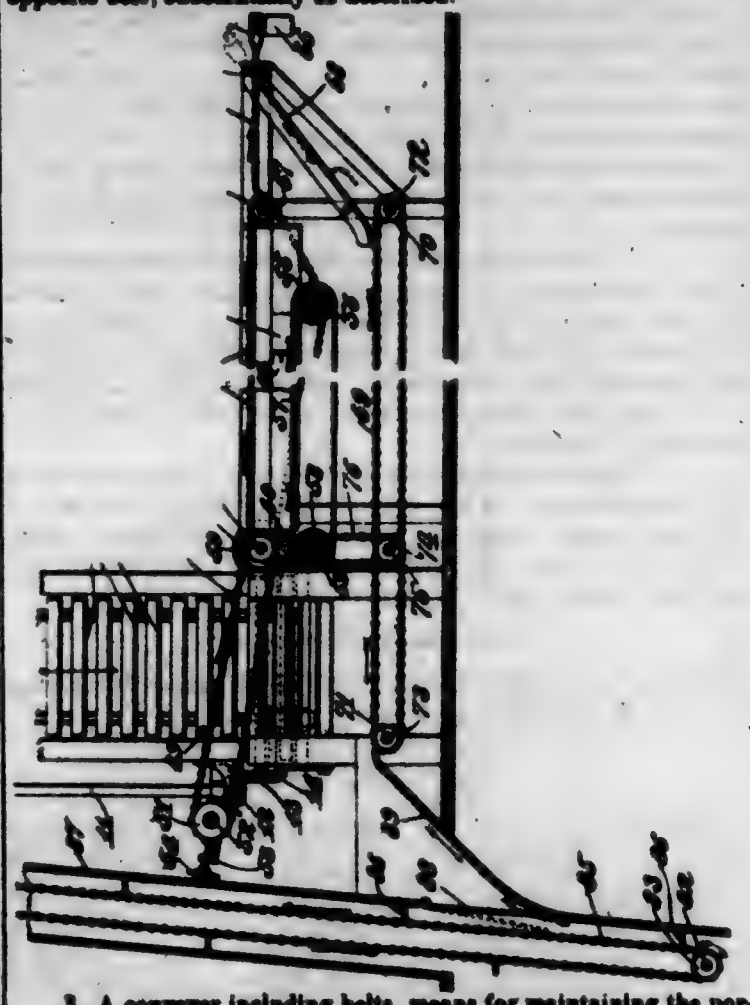
12. A flier for roving-machines having oppositely-disposed similar arms, a finger pivoted to each arm, and means for engaging one end of each arm for counterbalancing the increased centrifugal force as the other end of each finger moves outward, each arm and finger and each counterbalancing means being similar to the other arm, finger, and counterbalancing means respectively.

13. A flier for roving-machines having a pivoted pressure-finger with provisions for engaging one end of said finger, whereby the flier is balanced irrespective of the movement of said finger relative to the center of gravity.

808,667. CONVEYER. JOSEPH L. GAUDET, Kansas City, Mo., assignor to North American Biscuit Company, Jersey City, N. J., a Corporation of New Jersey. Filed Feb. 23, 1905. Serial No. 247,564.

Claim.—1. A conveyer having parallel series of pan-seats, and means for regulating the distance between the series of pan-seats; substantially as described.

2. A conveyer including belts, means for maintaining the portion of one of the belts parallel with the other belt opposite it, means for regulating the distance between the parallel portions of said belts, said means comprising a shoe arranged longitudinally and in rear of one of the belts, and means for moving the shoe toward the opposite belt; substantially as described.



3. A conveyer including belts, means for maintaining the portion of one of the belts parallel with the other belt opposite it, means for regulating the distance between the parallel portions of said belts, said means comprising a shoe arranged longitudinally and in rear of one of the belts, and means for moving the shoe toward the opposite belt including a rock-shaft, an arm on the rock-shaft, and a connection between the arm and the shoe; substantially as described.

4. A conveyer including belts, means for maintaining the portion of one of the belts parallel with the other belt opposite it, means for regulating the distance between the parallel portions of said belts, said means comprising a shoe arranged longitudinally and in rear of one of the belts, and means for moving the shoe toward the opposite belt including a rock-shaft, an arm on the rock-shaft, a connection between the arm and the shoe, and a lever loosely mounted on said rock-shaft and adapted to engage a projection rigid on said rock-shaft whereby the shaft may be rocked; substantially as described.

5. The combination with a frame, of two conveyer-belts each having portions parallel with each other, means for regulating the distance between the parallel portions of said belts, said means having a plurality of adjustments; substantially as described.

6. In a conveyer, means for lowering pans, a horizontal conveying mechanism, a transfer for automatically removing the pans from the first-named means to a horizontally-movable means, a return-conveyer beneath the horizontally-movable means, means for automatically transferring the pans from the horizontally-movable means to the return-conveyer, and a hoist; substantially as described.

7. A device of the class described including a horizontally-movable conveyer, a return-conveyer below the first-named conveyer, a weighted tiltable table at the end of the first-named conveyer for transferring articles therefrom to the second-mentioned conveyer, and inclined guides adjacent to the tiltable table and terminating adjacent to and above the second-mentioned conveyer; substantially as described.

8. In a device of the class described, a vertical conveyer for lowering pans, a horizontal conveyer adjacent thereto, a transfer-conveyer for transferring the pans from the vertical conveyer to the horizontal conveyer, a scrap-belt below the horizontal conveyer, and a deflector extending transversely across the scrap-belt; substantially as described.

9. In a device of the class described, the combination with a

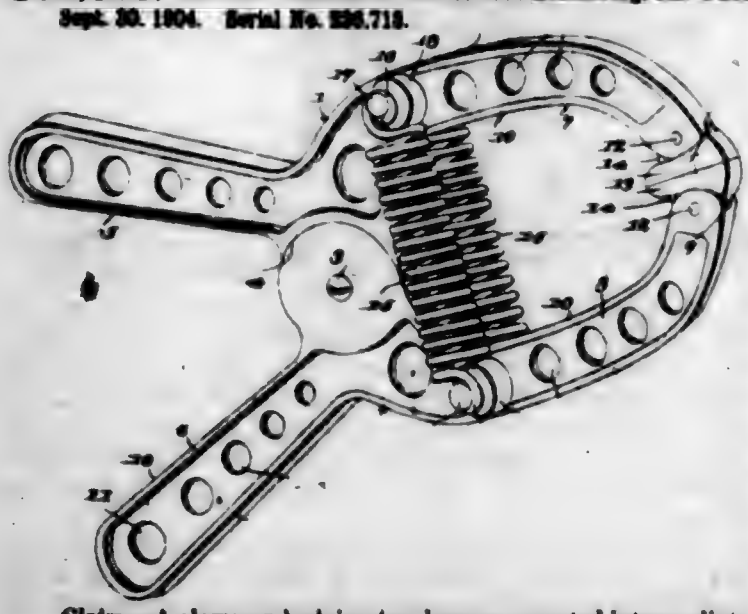
vertical conveyer, a horizontal conveyer, a transfer-conveyer coöperating with the two conveyers, a return-conveyer below the horizontal conveyer, means for automatically transferring articles from the horizontal conveyer to the return-conveyer, a hoist, and means whereby articles may be transferred from the return-conveyer to the hoist; substantially as described.

10. In a device of the class described, the combination with a vertical conveyer, a horizontal conveyer, a transfer-conveyer coöperating with the two conveyers, a return-conveyer below the horizontal conveyer, means for automatically transferring articles from the horizontal conveyer to the return-conveyer, a second vertical conveyer, and means whereby articles may be transferred from the return-conveyer to the second vertical conveyer; substantially as described.

11. The combination with a vertical conveyer, a horizontal conveyer, a scrap-belt below the horizontal conveyer, a deflecter across the scrap-belt, a return-belt, a tiltable table at the end of the horizontal conveyer for transferring articles to the return-belt, a second vertical conveyer, and means whereby articles may be automatically transferred from the return-belt to the second vertical conveyer; substantially as described.

12. A conveyer including a return-belt, a vertical conveyer, a casing inclosing the vertical conveyer and provided with a hinged door, and a chute coöperating with the return-belt and the vertical conveyer, said chute communicating with the casing through the opening closed by said door; substantially as described.

803,668. CLAMP. WILLIAM H. CLENDENNEN, Healdsburg, Cal. Filed Sept. 30, 1904. Serial No. 226,718.



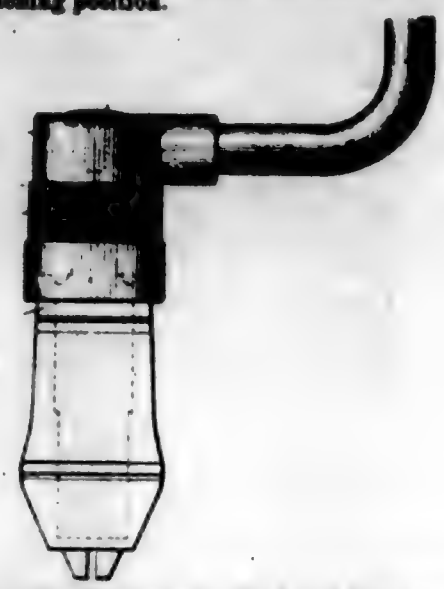
Claim.—A clamp embodying two levers connected intermediate of their ends, the levers being curved inward on one side of the joint and on the opposite side being bent outward, said levers comprising in cross-section a web having side flanges at its edges and being perforated to secure strength in both directions and also lightness, pivoted jaws carried by the terminals of the curved portions of the levers, integral tests also carried by the curved portions and projecting laterally from each side thereof and formed with enlarged bases, and coiled springs having their terminal whirls in engagement with the tests and held out of contact with each other of the test-bases.

803,669. BIT-BRACE. HARRIS J. COOK, New Britain, Conn., assignor to Stanley Rule & Level Company, New Britain, Conn., a Corporation of Connecticut. Filed Sept. 22, 1904. Serial No. 225,425.

Claim.—1. In a tool of the character described, a driving part, a driven part, a bearing to take the end thrust of one part against the other a cam-surface on one of said parts, a clutch-roller between said cam-surface and the adjacent surface of the other part whereby when said parts are rotated in one direction relatively to each other they will be interlocked by said clutch-roller, and a longitudinally-movable manually-operated means to engage said clutch-roller and block it out of its operative clutching position.

2. In a tool of the character described, a driving part, a driven part, an end bearing therefor to take the thrust thereof a hub on the driving part, a surrounding wall on the driven part, a double cam-surface on said hub said cam-surfaces being oppositely inclined, a pair of clutch-rolls, a single spring engaging both of said rolls for normally causing said rolls to move away from each other and toward the higher parts of the cam-surfaces and longitudinally-movable blocking-out devices arranged to coact with said clutch-rollers.

3. In a tool of the character described, a driving part, a driven part, a hub, a bearing to take the end thrust thereof a wall on the latter surrounding said hub, two clutch-rollers thereon and means to cause both of said clutch-rollers to simultaneously engage the driving and driven part to interlock the same and longitudinally-movable means to block out either of said clutch-rolls and hold it out of its operative clutching position.



4. In a tool of the character described, a driving part, a driven part, a cam-surface on one of said parts, a clutch-roller between said cam-surface and the adjacent surface of the other part whereby when said parts are rotated in one direction relatively to each other they will be interlocked by said clutch-roller, and a longitudinally-movable blocking-out device arranged to coact with said roller and anti-friction-balls arranged between the driving and driven member and arranged to take the end thrust of one of said members against the other.

5. In a tool of the character described, a driving part, a driven part, a hub on the driving part, a surrounding wall on the driven part, a double cam-surface on said hub said cam-surfaces being oppositely inclined, a pair of clutch-rolls, a single spring for normally causing said rolls to move away from each other and toward the higher parts of the cam-surfaces and longitudinally-movable blocking-out devices arranged to coact with said clutch-rollers, and anti-friction-balls between the driving and driven parts and at the end of the hub on the driving part and arranged to take the end thrust of said hub.

6. In a tool of the character described, a driving part, a driven part, a hub on the driving part, an end bearing to take the thrust of said hub a surrounding wall on the driven part, a double cam-surface on said hub said cam-surfaces being oppositely inclined, a pair of clutch-rolls, a single expansion-spring for normally causing both of said rolls to move away from each other and toward the higher parts of the cam-surfaces and longitudinally-movable blocking-out devices arranged to coact with said clutch-rollers.

7. In a tool of the character described, a driving part, a driven part, a hub, an end bearing, a wall on the driven part surrounding said hub, two clutch-rollers and a single spring to cause both of said clutch-rollers to simultaneously engage the driving and driven part to interlock the same and longitudinally-movable blocking-out devices to displace either of said clutch-rolls and hold it out of its operative clutching position, and a controlling-sleeve coacting directly with said blocking-out devices.

803,670. EAVES-TROUGH. CLAY CRAWFORD, Toledo, Ohio. Filed Aug. 6, 1904. Serial No. 219,722.

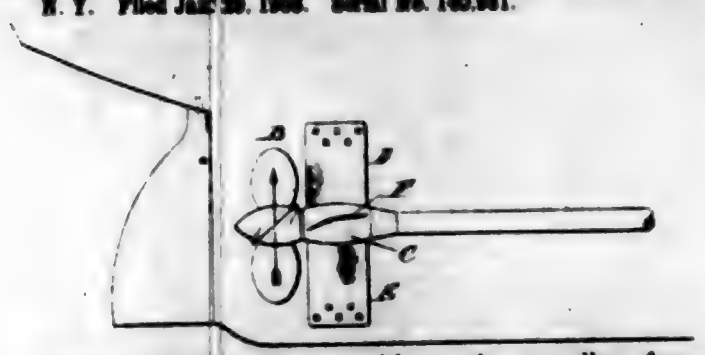


Claim.—1. An eaves-trough comprising a gutter extended at its inner edge to form a securing portion upon the roof and an integral perforated cover over the gutter adapted to receive thereon the flow from the roof substantially as described.

2. An eaves-trough comprising a gutter extended at the inner edge to form a securing portion on the roof, and an integral perforated cover joined at both edges to the gutter, substantially as described.

3. A roof-gutter comprising a strip of sheet metal bent into tubular form said strip having one of its margins extended to engage the roof, the opposite side of the tube being extended to project beyond the eaves, said tube being flattened at top to form an inclined cover for the gutter and pendent dripping-points in the trough leading from apertures through the cover.

808,671. MARINE PROPELLER. CHARLES G. CURTIS, New York, N. Y. Filed Jan. 20, 1906. Serial No. 296,931.



Claim.—1. The combination with a marine propeller, of curved or inclined stationary guide-blades located in front of the propeller and radiating from the propeller-shaft, substantially as set forth.

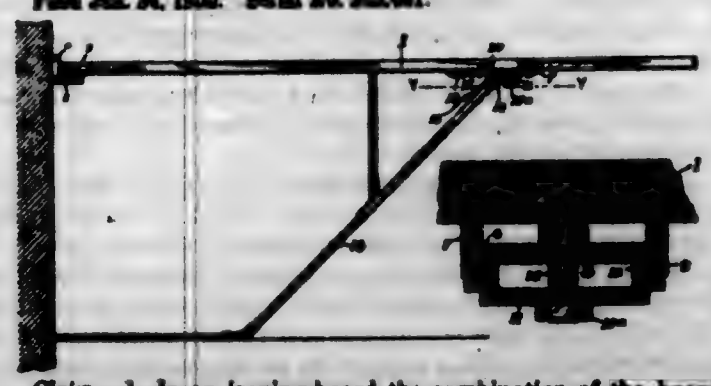
2. The combination with a marine propeller, of curved or inclined stationary guide-blades located in front of the propeller and projecting radially from the stern-bearing of the propeller-shaft, substantially as set forth.

3. The combination with a marine propeller, of curved or inclined stationary guide-blades located in front of the propeller and incorporated in or secured to the struts which support the stern-bearing of the propeller-shaft, substantially as set forth.

4. The combination with a marine propeller, of curved or inclined stationary guide-blades located in front of the propeller and incorporated in or secured to the struts which support the stern-bearing of the propeller-shaft, and one or more additional guide-blades projecting outwardly from the said bearing, substantially as set forth.

5. The combination with two propellers on the same shaft, of curved or inclined stationary guide-blades located between the propellers, substantially as set forth.

808,672. IRONING-BOARD. LESLIE M. DARROW, Stockton, Cal. Filed Jan. 24, 1906. Serial No. 297,081.



Claim.—1. In an ironing-board the combination of the board proper, means for securing said board to a wall, a notched plate secured to the bottom of said board at any desired place, a suitable support having an adjustable plate secured to its upper end, said plate being provided with outwardly-projecting tongues, said tongues being adapted to fit into the notched plate aforesaid, and means for holding said tongues in engagement with said notches, as set forth.

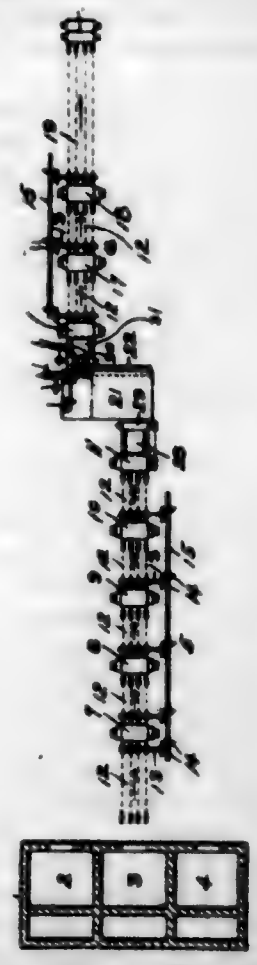
2. In a device of the kind described the combination of the board proper, means for securing said board to a wall, the slotted plate 6 secured to the under side of said board at a suitable place, said plate being provided with notches 10, and a support pivotally secured in one set of said notches, as set forth.

3. In a device of the kind described the combination of the board proper, means for securing said board to a wall, the slotted plate 6 secured to the under side of said board and provided with notches 10, the support 16, the plate 17 secured to the upper end of said support, the tongues 20 on said plate 17, said tongues engaging with the notches 10, and means for securing said tongues in said notches, as set forth.

4. In a device of the kind described the combination of a board proper, means for securing said board to a wall, the plate 6 provided with the rim 7, the slot 8, and the side pieces 9 having notches 10, the plate 11 adjustably secured to the plate 6 by means of the bolt 15 and nut 15', the shoulder 14 on said plate 11, the lugs 13 projecting from said shoulder 14, the support 16, the plate 17 secured to the top thereof, the tongues 20 on said plate 17, said tongues being adapted to fit into the notches 10 and be held in position by means of the lugs 13, as set forth.

5. In a device of the kind described the combination of a board proper, means for securing said board to a wall, the support 16, the plate 17 secured to the top thereof, said plate being provided with the slots 18 in which are inserted the screws 19, the tongues 20 on the upper end of said plate, and means for pivotally securing said tongues to the under side of the said board, as set forth.

808,678. APPARATUS FOR ROLLING SHEET AND TIN PLATE. PERCY E. DONNER, Columbus, Ind. Filed Sept. 14, 1904. Serial No. 224,458.



Claim.—1. In apparatus for rolling sheet metal, the combination of two continuous trains each consisting of two or more pairs of rolls arranged in tandem, said trains being parallel but out of line with each other, and a matching device located at the exit end of the first train and entrance end of the second train and arranged to receive the plates from one train and deliver the same to the other train, said matcher being provided with suitable side-stop mechanism in line with the second train.

2. In apparatus for rolling sheet metal, the combination of two continuous reducing-trains each consisting of two or more pairs of rolls arranged in tandem, said trains being parallel but out of line with each other, and a matching device located at the exit end of the first train and entrance end of the second train and arranged to receive the plates from one train and deliver the same to the other train, said matcher being provided with suitable front-stop mechanism and suitable side-stop mechanism in line with the second train.

3. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other, and a matching device located at the exit side of the first set and entrance side of the second set of rolls and arranged to receive the plates from one set of rolls and deliver the same to the other set of rolls, said matcher being provided with suitable side-stop mechanism in line with the second train and end-stop mechanism arranged to match the side and end edges of the plates.

4. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other, and a matching device located at the exit side of the first set and entrance side of the second set of rolls and arranged to receive

the plates from one set of rolls and deliver the same to the other set of rolls, said matcher being provided with a stop for squaring up the ends of the plates and also with a stop for squaring up the side edges of the plates, said last-named stop being arranged to act as a guide for the second set of rolls.

5. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other, and a matching device located at the exit side of the first set and entrance side of the second set of rolls and having a double downward inclination from the horizontal, whereby the plates are moved downwardly in the direction in which they are to be fed to the second set of rolls and also sidewise with reference to said direction, said matcher being provided with suitable stop mechanism.

6. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other, and a matching device located at the exit side of the first set and entrance side of the second set of rolls and having a double downward inclination from the horizontal, whereby the plates are moved downwardly in the direction in which they are to be fed to the second set of rolls and also sidewise with reference to said difection, said matcher being provided with a stop for squaring up the end edges of the plates and also with a guide or stop for squaring up the side edges of the plates.

7. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other and located at different levels, and a matching device located at the exit side of the first set and entrance side of the second set of rolls and having a double downward inclination with its higher end in proximity to the rolls at the higher level and its lower end in proximity to the rolls at the lower level, whereby the plates are caused to move downwardly in the direction in which they are to be fed to the second set of rolls and also sidewise with reference to said direction, said matcher having a suitable stop to limit the endwise movement of the plates and also a suitable stop to limit the sidewise movement thereof.

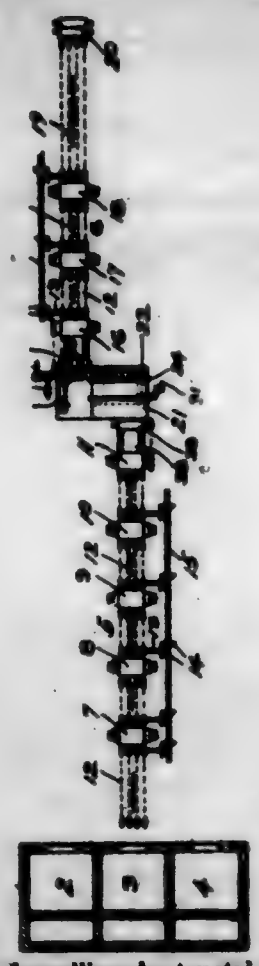
8. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other and located at different levels, and a matching device located at the exit side of the first set and entrance side of the second set of rolls and having a double downward inclination with its higher end in proximity to the rolls at the higher level and its lower end in proximity to the rolls at the lower level, whereby the plates are caused to move downwardly in the direction in which they are to be fed to the second set of rolls and also sidewise with reference to said direction, said matcher having a suitable stop to limit the endwise movement of the plates and also a suitable stop arranged to act as a guide for the second set of reducing-rolls and in position to have the plate side edges impinged against the same.

9. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other, and a matching device located at the exit side of the first set and entrance side of the second set of rolls and having a double downward inclination from the horizontal, whereby the plates are moved downwardly in the direction in which they are to be fed to the second set of rolls and sidewise with reference to said direction, a suitable stop to limit the sidewise movement of the plates, and a suitable stop for limiting the endwise movement of the plates, that portion of the last-named stop at the lower end of the matcher being retractable.

808,674. APPARATUS FOR ROLLING SHEET AND TIN PLATE. PERRY B. DONNER, Columbus, Ind. Filed Sept. 14, 1904. Serial No. 224,422.

Claim.—1. In apparatus for rolling sheet metal, the combination of two continuous reducing-trains each consisting of two or more pairs of rolls arranged in tandem, said trains being parallel but out of line with each other, and a matching device located at the exit end of the first train and entrance end of the second train and arranged to receive the plates from one train and deliver the same to the other train, said matcher being provided with suitable end-stop mechanism, and with a pusher having an extended engagement with the sides of the plates for moving the plates sidewise into line with the second reducing-train.

2. In apparatus for rolling sheet metal, the combination of two continuous reducing-trains each consisting of two or more pairs of rolls arranged in tandem, said rolls being parallel but out of line with each other, and a matching device located at the exit end of the first train and entrance end of the second train and arranged to receive the plates from one train and deliver the same to the other train, said matcher being provided with suitable end-stop mechanism and suitable side-stop mechanism in line with the second train, and with a pusher having an extended engagement with the sides of the plates for moving the plates sidewise into line with the second reducing-train.



3. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other, and a matching device located at the exit end of the first train and entrance end of the second train, said matching device being provided with a stop to limit the endwise movement of the plates and match up their ends, a stop at the side of the matching mechanism and in position to act as a guide or gage for the second set of reducing-rolls, and a pusher having an extended engagement with the sides of the plates for moving the plates sidewise against said side stop, thereby to match up their side edges.

4. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other and located at different levels, and a matching device located at the exit end of the first train and the entrance end of the second train and having a downward inclination from the horizontal, a stop located at the end of said matcher and a pusher having an extended engagement with the sides of the plates for moving the plates sidewise into line with the second set of rolls.

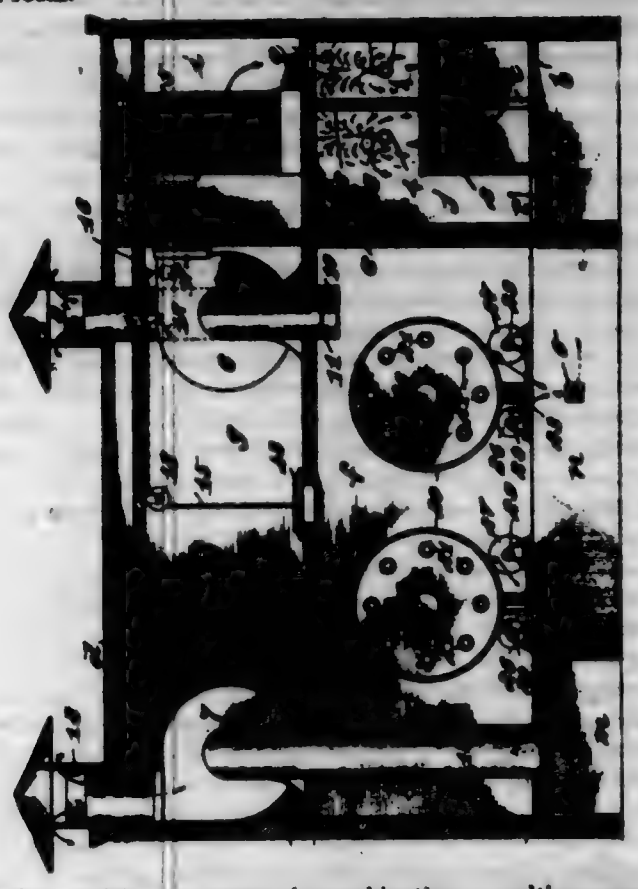
5. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other and located at different levels, and a matching device located at the exit end of the first train and entrance end of the second train and having a downward inclination from the horizontal, a stop at the lower end of said matcher, a stop at the side of the matcher and in position to act as a guide or gage for the second set of reducing-rolls, and a pusher having an extended engagement with the sides of the plates for moving them sidewise against said side stop.

6. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls arranged parallel but out of line with each other and located at different levels, a matching device located at the exit end of the first train and entrance end of the second train and having an inclination downwardly from the horizontal, a stop at the lower forward end of said matcher, that portion of said stop in front of the second set of reducing-rolls being retractable and the remaining portion thereof being stationary, and means for moving the plates sidewise into line with the second set of rolls.

808,675. MALTING APPARATUS. JOHN P. DONNELLY, Chicago, Ill. Filed Apr. 18, 1903. Serial No. 153,183.

Claim.—1. In a malting apparatus, in combination, a malting-room; a malt-receptacle therein; means for supplying air to said room; and means controlled by the air-pressure in the malting-room for regulating the air-supply to said room.

2. In a malting apparatus, in combination, a malting-room; a malt-receptacle therein; means for supplying air to said room; means for positively withdrawing air from said room; and means controlled by the air-pressure in the malting-room for regulating the air-supply to said room.



3. In a malting apparatus, in combination, a malting-room; a malt-receptacle therein; means for supplying air to said room; an air-outlet from said room so situated as to pass the air through the grain being treated; and means controlled by the air-pressure in the malting-room for regulating the air-supply to said room.

4. In a malting apparatus, in combination, a malting-room; a malting-drum therein; a blower for supplying air to said room; means for passing air from the malting-room to the blower; and an exhaust-fan connected with said malting-drum so as to pass the air of the room through the grain being treated.

5. In a malting apparatus, in combination, a malting-room; a malt-receptacle therein; a blower for supplying air to said room; an exhaust-fan adapted to pass the air from said room through the grain being treated; and a diaphragm moved by the pressure of air within the malting-room to regulate the supply of air to the blower.

6. In a malting apparatus, in combination, a malting-room; a malting-drum therein; a blower for supplying air to said room and for withdrawing air from said room; an air-inlet tunnel communicating with said room; an air-outlet tunnel communicating with said malting-drum; and an exhaust-fan having connection with said outlet-tunnel for withdrawing air from the malting-room through said malting-drum.

7. In a malting apparatus, in combination, a malting-room; a malting-drum therein; a blower for supplying air to said room and for withdrawing it therefrom; means for attemperating the air; an inlet-tunnel communicating with the malting-room; an outlet-tunnel communicating with said malting-drum; and an exhaust-fan connected with said outlet-tunnel for withdrawing air from said room through said malting-drum.

8. In a malting apparatus, in combination, a malting-room; a malt-receptacle therein; a blower for supplying air to said room; means for tempering the air; means for purifying and cooling the air; an inlet-tunnel and an outlet-tunnel; an exhaust-fan having connection with said outlet-tunnel; and means controlled by the air-pressure in the malting-room for regulating the air-supply to said blower.

9. In a malting apparatus, in combination, a malting-room; a malt-receptacle therein; a blower for supplying air to said room; means for tempering the air; means for purifying and cooling the air; an inlet-tunnel and an outlet-tunnel; an exhaust-fan having connection with said outlet-tunnel; and a diaphragm controlled by the air-pressure in the room for regulating the air-supply to said room.

10. In a malting apparatus, in combination, a malting-room; a malt-receptacle therein; a blower for supplying air to said room; means for tempering the air; means for purifying and cooling the air; an inlet-tunnel and an outlet-tunnel; an exhaust-fan having connection with said outlet-tunnel; a diaphragm adapted to be moved by the air-pressure in the malting-room; a damper for regulating the admission of air to said blower; and a connection between said diaphragm and said damper.

11. In a malting apparatus, in combination, a malting-room; a malt-receptacle therein; a blower for supplying air to said room; an auxiliary intake-pipe for said blower in communication with said malting-room; a damper for said auxiliary intake-pipe; and an outlet for the air from said room.

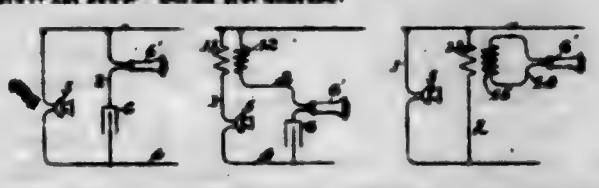
12. In a malting apparatus, in combination, a malting-room; a malting apparatus in said room, having an air-inlet communicating with the air in said room; means for withdrawing foul air from said malting apparatus; and means for withdrawing pure air from and returning it to said room.

13. In a malting apparatus, in combination, a malting-room; a malting-drum in said room adapted to admit air from said room to its interior; and means for supplying air to said room, the room having an air-outlet communicating with the air-supplying means and an air-outlet communicating with the interior of said drum.

14. In a malting apparatus, in combination, a malting-room; a malting-drum in said room adapted to admit air from said room to its interior; and means for supplying air under pressure to said room to maintain a pressure therein somewhat greater than normal atmospheric pressure, the room having an air-outlet communicating with the air-supplying means, and an air-outlet communicating with the interior of said drum.

15. In a malting apparatus, in combination, a malting-room; a malting-drum in said room adapted to admit air from said room to its interior; means for supplying air to said room; means for attemperating and purifying said air; an air-outlet for the pure air in said room, which outlet communicates with the air-supplying means; and another air-outlet from said room communicating with the interior of said drum.

808,676. **TELEPHONY.** FRANCIS W. DUNMAR, Chicago, Ill. Filed Nov. 18, 1904. Serial No. 233,429.



Claim.—1. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors of substantially the same impedance in bridge between the two sides of the line, one conductor including a condenser, a receiver subject to current in said conductor, the other conductor including a variable and high resistance transmitter including carbon granules, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

2. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, said conductors being of substantially the same impedance, a receiver subject to current in one conductor, the other conductor including a high and variable resistance transmitter that includes carbon granules, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

3. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, a receiver subject to current in one conductor, the other conductor including a high and variable resistance transmitter that includes carbon granules, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

4. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors of substantially the same impedance

in bridge between the two sides of the line, one conductor including a condenser, a receiver subject to current in said conductor, the other conductor including a variable and high resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

5. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the two sides of the line, one conductor including a condenser, a receiver subject to current in said conductor, the other conductor including a variable and high resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

6. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the two sides of the line, one conductor including a condenser, a receiver subject to current in said conductor, the other conductor including a variable and high resistance transmitter including carbon granules, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

7. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, a receiver subject to current in one conductor, the other conductor including a high and variable resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

8. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors of substantially the same impedance in bridge between the two sides of the line, one conductor including a condenser, a receiver subject to current in said conductor, the other conductor including a high-resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

9. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the two sides of the line, one conductor including a condenser, a receiver subject to current in said conductor, the other conductor including a high-resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

10. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, said conductors being of substantially the same impedance, a receiver subject to current in one conductor, the other conductor including a high-resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

11. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors of substantially the same impedance in bridge between the sides of the line, a receiver subject to current in one conductor, the other conductor being of high variable resistance and including a transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

12. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, a receiver subject to current in one conductor, the other conductor being of high variable resistance and including a transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

13. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, a receiver subject to current in one conductor, and the other conductor including a high-resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

14. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors of substantially the same impedance in bridge between the two sides of the line, one conductor including a condenser, a receiver subject to current in said conductor, the other conductor including a variable-resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

15. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors of substantially the same impedance in bridge between the two sides of the line, one conductor including a condenser, a receiver subject to current in said conductor, the other conductor including a variable-resistance transmitter including carbon granules, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

16. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors of substantially the same impedance in bridge between the two sides of the line, one conductor including a condenser, a receiver subject to current in said conductor, the other conductor including a transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

17. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors of substantially the same impedance in bridge between the sides of the line, a receiver subject to current in one conductor, the other conductor being of variable resistance and including a transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

18. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, said conductors being of substantially the same impedance, a receiver subject to current in one conductor, the other conductor including a variable-resistance transmitter that includes carbon granules, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

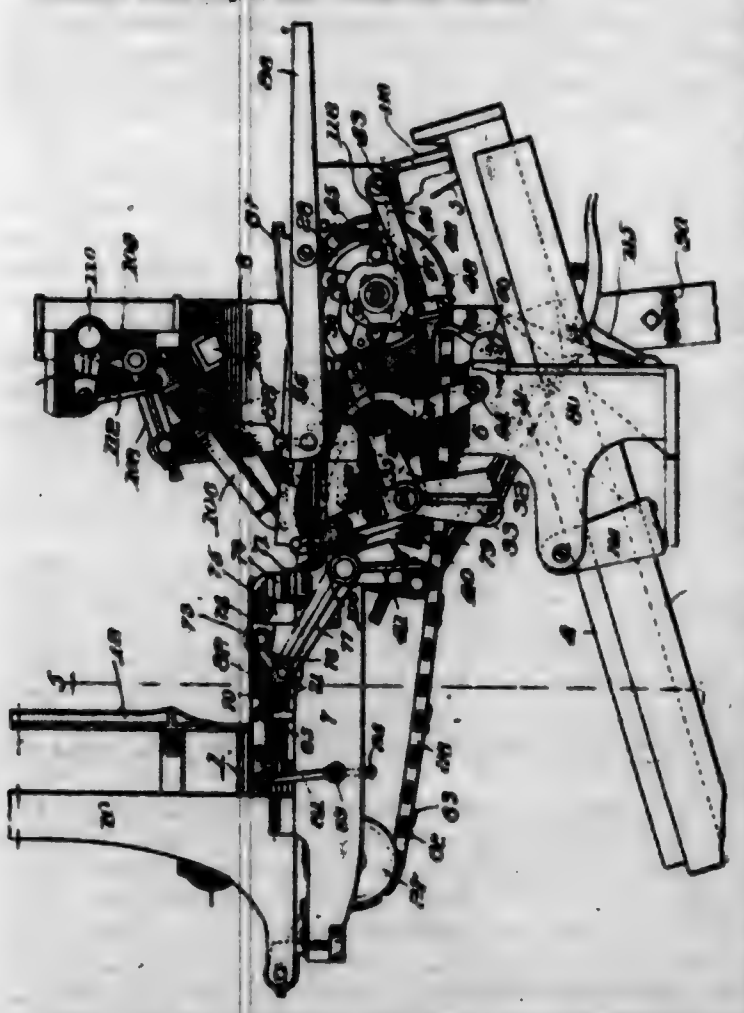
19. A common-battery telephone-exchange system having lines

extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, said conductors being of substantially the same impedance, a receiver subject to current in one conductor, the other conductor including a high and variable resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

20. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, said conductors being of substantially the same impedance, a receiver subject to current in one conductor, the other conductor including a variable-resistance transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

21. A common-battery telephone-exchange system having lines extending from subscribers' stations to an exchange and there connected in circuit with battery, each subscriber's station being equipped with two conductors in bridge between the sides of the line, said conductors being of substantially the same impedance, a receiver subject to current in one conductor, the other conductor including a transmitter, and a switch-hook serving operatively metallically to connect and disconnect the sides of the telephone-line at the subscriber's station and operatively metallically to connect the transmitter with and disconnect it from the telephone-line, substantially as described.

803,677. ADDRESSING-MACHINE. JOSEPH S. DUNCAN, Chicago, Ill., assignor to Addressograph Company, Chicago, Ill., a Corporation of Illinois. Filed May 7, 1904. Serial No. 206,994.



Claim.—1. In an addressing-machine, the combination of a belt-carrier, a stock of printing devices supported on the carrier, and feeding-dogs on the carrier arranged to move the lowermost printing device in the stock forward to printing position, said dogs being constructed to partly support the stock while moving the lowermost device from the stock.

2. In an addressing-machine, the combination of a belt-carrier composed of a pair of link chains, a stock of printing devices, and feeding-dogs on the carrier arranged to move the addressing devices one by one to printing position, said dogs having rearward projections to partly support the stock while the dogs are moving the lowermost device from the stock.

3. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier, and throw-out means to prevent the beginning of another step until the carrier has completed a full step in its movement.

4. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier, and means for disengaging said operating means to prevent the beginning of another step until the carrier has completed a full step in its movement.

5. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier comprising a sprocket-wheel, a finger for turning said wheel, and means for disengaging the finger from the wheel to prevent the beginning of another step until the carrier has completed a full step in its movement.

6. In an addressing-machine, the combination of a belt-carrier, and means for intermittently operating said carrier comprising a sprocket-wheel, a finger for turning said sprocket-wheel, and an arm for disengaging the finger from the wheel to prevent the beginning of another step until the carrier has completed a full step in its movement.

7. In an addressing-machine, the combination of a belt-carrier, and means for intermittently operating said carrier comprising a sprocket-wheel, studs at the side of the wheel, a finger arranged to engage the studs to turn the wheel, and a throw-out arm in the path of movement of the studs to prevent the beginning of another step until the carrier has completed a full step in its movement.

8. In an addressing-machine, the combination of a belt-carrier, and means for intermittently operating said carrier comprising a sprocket-wheel, studs at the side of said wheel, a rocking arm, and a spring-pressed finger pivotally mounted on the arm and arranged to engage said studs to turn the sprocket-wheel.

9. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier comprising a sprocket-wheel, studs at the side of said wheel, a rocking arm, a finger carried by said arm and arranged to engage the studs to turn said wheel, and an arm arranged to prevent the finger from engaging the stud until by its engagement with the preceding stud it has moved the wheel and caused the carrier to complete a full step in its movement.

10. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier comprising a wheel, studs at the side of the wheel, and a device for engaging one of said studs to lock the wheel and the carrier during the printing operation.

11. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier comprising a wheel, studs at the side of said wheel, and a locking-arm provided with a socket to receive one of said studs to lock the wheel and carrier during the printing operation.

12. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier comprising a wheel, studs at the side of said wheel, and a locking device adapted to engage one of said studs to prevent forward movement of the wheel and comprising a spring-buffer.

13. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier comprising a wheel, studs at the side of the wheel, and a locking device comprising an arm, a buffer on said arm, and a supplemental arm arranged to receive one of said studs between itself and the buffer to lock the wheel.

14. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier comprising a wheel, studs at the side of the wheel, and a locking device comprising a buffer, an arm arranged to receive one of the studs between itself and said buffer, and a spring connecting the buffer and said arm.

15. In an addressing-machine, the combination of a belt-carrier, means for intermittently operating said carrier comprising a wheel, studs at the side of the wheel, and a locking device comprising a pivoted arm, a spring-buffer carried by the arm, and means for holding the spring-buffer in the path of movement of said studs to engage one of said studs to lock the wheel.

16. In an addressing-machine, the combination of means for moving printing devices one at a time from a stock into printing position, a tiltable magazine for holding the stock of printing devices, a movable front for said magazine, and means for automatically closing said front when the magazine is moved from tilted to upright position.

17. In an addressing-machine, the combination of means for moving printing devices one at a time from a stock into printing position, a tiltable magazine for holding the stock of printing devices,

a movable front for said magazine, hinges connecting the front to the magazine, one of said hinges being adapted to lock the front in open or closed positions, means for unlocking the front when the magazine is being moved from tilted to upright positions, and means for automatically closing the front after it is unlocked.

18. In an addressing-machine, the combination of means for moving printing devices one at a time from a stack into printing position, a tiltable magazine for holding the stack of printing devices, a movable front for said magazine, hinges connecting the front of the magazine, one of said hinges being adapted to lock the front in open or closed positions, means for unlocking the front when the magazine is being moved from tilted to upright positions, and a spring for closing the front after it is unlocked.

19. In an addressing-machine, the combination of means for moving printing devices one at a time from a stack into printing position, a tiltable magazine for holding the stack of printing devices, a movable front for the magazine, hinges connecting the front to the magazine, one of said hinges being adapted to lock the front in open or closed positions, an arm for holding the magazine in upright or tilted positions and adapted to be engaged by the pintle of the locking-hinge to unlock the front during the movement of the magazine from tilted to upright positions, and a spring for automatically closing the front after it is unlocked.

20. In an addressing-machine, the combination of a magazine for holding a stack of printing devices, a belt-carrier, feeding-dogs on the carrier arranged to move the lowermost printing device in the stack forward to printing position, said dogs being constructed to partly support the stack while moving the lowermost device from the stack, and the lower inner edge of the front of the magazine being beveled to permit a printing device to move forward before it rests entirely upon the carrier.

21. In an addressing-machine, the combination of a magazine for holding a stack of printing devices, a belt-carrier, feeding-dogs on the carrier arranged to move the lowermost printing device in the stack forward to printing position, said feeding-dogs being spaced apart lengthwise of the carrier to provide just sufficient space therebetween to accommodate a printing device, rearward projections on said dogs to partly support the stack while the dogs are moving the lowermost device from the stack, and a beveled lower inner edge at the front of the magazine to permit the printing device above the lowermost device to move forward slightly while the lowermost device is being fed from the stack.

22. In an addressing-machine, a carrier for moving the printing devices one by one from a stack and comprising a pair of link chains, feeding-dogs forming part of the chains and spaced apart lengthwise thereof to engage the printing devices, and a rearwardly-extending projection on each feeding-dog to make with the following feed-dog just sufficient space to receive a printing device and to partly support the stack while the lowermost device is being moved therefrom.

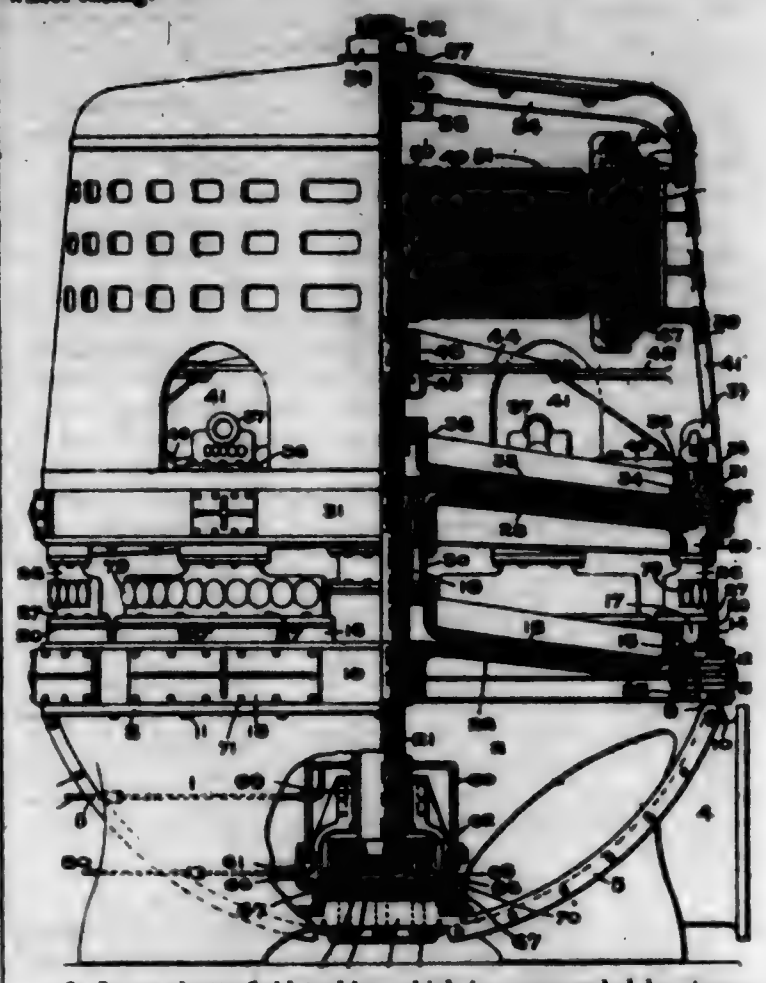
23. In an addressing-machine, a carrier for moving the printing devices one by one from a stack and comprising a pair of link chains, feeding-dogs forming part of the chains and spaced apart lengthwise thereof to engage the printing devices, and a rearwardly-extending projection on each feeding-dog having an inclined upper face.

24. In an addressing-machine, a magazine for holding the printing devices, a carrier for moving the printing devices from the magazine to printing position, feeding-dogs on the carrier, rearwardly-extending projections on the dogs provided with inclined upper faces, and an inclined lower inner edge at the bottom of the front of the magazine.

808,678. TURBINE. WILLIAM L. R. EMMET, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 12, 1902. Renewed Apr. 6, 1904. Serial No. 201,918.

Claim.—1. In a compound elastic-fluid turbine, the combination of stages working at different pressures and arranged one above the other, with the high-pressure stage at the top, a row of wheel-buckets for each stage mounted on the same shaft, a nozzle or passage for delivering fluid to the high-pressure stage, a second nozzle or passage for delivering fluid to a stage of lower pressure, a single bearing which supports the weight of the moving parts, and a guide-bearing located adjacent to the first-mentioned bearing and within the wheel-casing.

2. In an elastic-fluid turbine, which is compounded by stages, the combination of stages working at different pressures and arranged one above the other, with the high-pressure stage at the top, a compound wheel for each stage, a nozzle attached to the head of the casing for delivering fluid to a portion only of the first stage, a second nozzle or passage for delivering fluid to a succeeding stage, a single bearing which sustains the weight of the moving parts, and a guide-bearing located adjacent to the first-mentioned bearing within the wheel-casing.



3. In an elastic-fluid turbine which is compounded by stages, the combination of stages working at different pressures and arranged one above the other with the high-pressure stage at the top, a wheel for each stage, a separator between adjacent wheels, a nozzle or discharge-passage which delivers high-pressure fluid to the first stage, a second nozzle or discharge-passage carried by the separator which receives fluid from the first stage and discharges it into a lower-pressure stage, the general direction of fluid-flow being downward, a dynamo-electric machine, a vertical shaft which is common to all the stages and the revolving element of the dynamo-electric machine, and a bearing which sustains the weight of the shaft and of the parts affixed thereto and extending into the wheel-casing.

4. In a turbo-generator, the combination of a base containing an enlarged chamber, a cylindrical wheel-casing mounted on the top of the base and inclosing the wheels, a frame for the generator, which rests on and is supported by the wheel-casing, a vertical shaft, a bearing for the shaft, supported by the base, bucket-wheels mounted on the shaft, and a revolving element for the generator, which is also carried by the shaft.

5. In a compound elastic-fluid turbine, the combination of horizontal bucket-wheels, a nozzle supported by the head of the casing which discharges motive fluid to a portion only of one of the bucket-wheels, a second nozzle carried by a separator which receives motive fluid from one wheel and delivers it to another wheel, a vertical shaft which carries the wheels, a casing which inclosed the wheels, and horizontal separators that separate the wheels one from the other.

6. A compound elastic-fluid turbine wherein are combined two or more wheel-chambers arranged one above the other, a vertical shaft passing centrally through said wheel-chambers, two or more wheels mounted upon said shaft within said wheel-chambers, axial-flow buckets carried by said wheels, and two or more nozzles cooperating with and located in axial alinement with the buckets in the two or more wheel-chambers respectively and connected to receive the elastic fluid in succession, substantially as set forth.

7. A compound elastic-fluid turbine wherein are combined two or more wheel-chambers arranged one above the other, a vertical shaft passing centrally through said wheel-chambers, two or more wheels mounted upon said shaft within said wheel-chambers, two or more sets of axial-flow buckets carried by said wheels in each of said wheel-chambers, one or more sets of stationary intermediate buckets in each of said wheel-chambers, and two or more nozzles cooperating with and located in axial alinement with the buckets in the two or more wheel-chambers respectively and connected to receive the elastic fluid in succession, substantially as set forth.

8. In a compound elastic-fluid turbine, the combination of a nozzle located at the upper end of the machine which is supported by the head of the wheel-casing and arranged to discharge the motive fluid downwardly, two or more separate bucket-wheels situated one below the other, the high-pressure wheel being located at the top, a casing for the wheels, which contains an enlarged chamber at the bottom into which the low-pressure wheel discharges, a vertical shaft which carries the wheels, and a bearing for the shaft, that is carried by and extends into the casing.

9. In a compound elastic-fluid turbine, the combination of a nozzle or discharge-passage located at the upper end of the machine and arranged to discharge the motive fluid downwardly, two or more separate bucket-wheels situated one below the other, the high-pressure wheel being located at the top, a casing for the wheels, which contains an enlarged chamber at the bottom into which the low-pressure wheel discharges, a vertical shaft which carries the wheels, a dynamo-electric machine having its revolving element carried by the shaft, a bearing which sustains the weight of the wheels and the revolving element of the dynamo-electric machine and is itself supported by the casing, and a guide-bearing for the shaft located adjacent to the first-mentioned bearing and within the casing.

10. In a compound elastic-fluid turbine, the combination of separate wheel-compartments arranged one above the other and working at different pressures, a compound wheel in each of the compartments, a nozzle or passage which discharges motive fluid to a portion only of the wheel in the high-pressure compartment, another nozzle carried by a separator between wheel-compartments which discharges motive fluid to a greater portion of a wheel in a compartment of lower pressure, the general direction of flow of the fluid being downward, a chambered base acting as a support for the casing forming the wheel-compartment into which the last wheel discharges, a vertical shaft which carries the wheels, a step-bearing for the shaft, which is located in and is supported by the chambered base, and a guide-bearing for the shaft also located within the chambered base.

11. In a compound elastic-fluid turbine, the combination of bucket-wheels arranged one above the other, a vertical shaft which carries the wheels, a cylindrical inclosing casing, separators between the wheels, extending from the casing to the shaft, nozzles or passages for discharging the motive fluid against the successive wheels in such manner that the general direction of flow is substantially parallel to the shaft, a dynamo-electric machine resting on the cylindrical casing and occupying a vertical position and having its revolving element mounted on the shaft, and a bearing which supports the weight of the shaft and parts affixed thereto, which is mounted on the casing.

12. In an elastic-fluid turbine, the combination of independent wheels, rows of buckets mounted on each wheel, one above the other, which are acted upon successively by the motive fluid, a cylindrical casing which inclosses the buckets, nozzles or passages which are carried by the casing and discharge motive fluid in a downward direction against the buckets, a valve-chest for supplying the nozzles or passages, which is mounted on the casing, a vertical shaft which carries the wheels, and a step-bearing which is inclosed by the casing and supports the shaft, the said bearing being removable from the outside of the casing and acting to prevent the entrance of air or the escape of motive fluid at the point of support.

13. In an elastic-fluid turbine, the combination of circular rows of buckets arranged to be acted upon successively by the motive fluid, a casing which inclosses the buckets, expanding nozzles which direct the motive fluid downward against the first row of buckets, other nozzles in line with the first, which receive fluid after it is discharged from the first row of buckets and direct it downward against another row, a separator between adjacent bucket-wheels extending from the shaft to a point beyond the periphery of the wheel and carrying nozzles, a dynamo-electric machine occupying the same vertical plane as the turbine, a vertical shaft which carries the rotating elements of the turbine and dynamo-electric machine, a bearing for the shaft, which supports the entire weight of the revolving structure, and a steady bearing located above the turbine and between it and the dynamo-electric machine.

14. In a turbine, the combination of a revolving element, a second casing therefor, a casing containing a chamber which receives the motive fluid after it is discharged from the revolving element, a bearing for supporting the said element, which is entirely within the chamber in the casing, and means for preventing the lubricant supplied to the bearing from mingling with the steam.

15. In an elastic-fluid turbine, the combination of a wheel having rows of buckets, a casing therefor, intermediate buckets located between the rows of wheel-buckets, a base supporting the casing and containing a chamber into which the exhaust from the wheel discharges, a bearing which is mounted within the chamber, and means located outside of the base for adjusting the wheel-buckets relative to the intermediate buckets.

16. In a turbine, the combination of a casing, a revolving member mounted therein, a base containing a vacuum-chamber, a bearing which is entirely within the vacuum-chamber, and means for adjusting said bearing from a point outside of the base.

17. In an elastic-fluid turbine, the combination of a chambered base, a wheel-casing mounted thereon, a wheel having radial buckets located within the second casing and arranged to discharge its exhaust downward into the chamber in the base, a detachable disk situated above the wheel and supported by the wheel-casing, a nozzle for discharging fluid axially to the wheel, a second wheel situated above the first, a second detachable disk situated above the second wheel, and nozzles for discharging motive fluid axially to the second wheel.

18. In an elastic-fluid turbine, the combination of a base having an exhaust-chamber formed therein, a plurality of bucket-wheels situated one above the other, means for inclosing the wheels mounted on the base and opening into said chamber whereby the latter receives the exhaust from the last wheel, a disk for separating adjacent wheels, a disk acting as a cover for the wheel-inclosing means, segmental intermediate buckets located between the wheel-buckets, and expanding sectionalized nozzles delivering motive fluid to the wheel-buckets.

19. In an elastic-fluid turbine, the combination of a plurality of bucket-wheels mounted one above the other, means inclosing the wheels, a disk for separating adjacent wheels supported by said means, a plurality of sets of expanding sectionalized nozzles for each wheel, detachable intermediate buckets arranged in segmental groups and also supported by said means, a disk situated above the wheel-inclosing means and supported thereby, and a dynamo-support mounted on the upper end of the wheel-inclosing means.

20. In a staged turbine of the vertical type, the combination of a main shaft, a plurality of wheels mounted thereon, one above the other, the high-pressure wheel being located at the upper end and the low-pressure at the lower end, a chambered base which receives the exhaust from the low-pressure wheel, a bearing for the lower end of the shaft that is mounted in the chamber, means for preventing oil from the bearing mingling with the exhaust in the chamber, and separate sets of nozzles which discharge jets of motive fluid to the high and low pressure wheels.

21. In an elastic-fluid turbine, the combination of a chambered base, a wheel-casing mounted thereon, a bucket-wheel, a disk which is supported by the wheel-casing and is provided with openings near the periphery, and sectionalized expanding nozzles for delivering fluid to the wheel which register with the openings in the disk.

22. As an article of manufacture, a turbine-base comprising a two-part structure having a chamber formed therein, the line of division being in a plane at right angles to the base, flanges formed on the adjacent faces of the parts whereby they are bolted together, a finished upper surface which acts as a support for the turbine parts, and supports for holding the base in position.

23. In a turbine, the combination of a two-part casing constituting a vacuum-chamber, the line of division of the casing being at right angles to the base, a revolving member, and a casing which surrounds the revolving member and is secured to the two-part casing.

24. In a turbine, the combination of a base having a finished face, a casing mounted thereon having openings, intermediate buckets mounted in the openings, and a revolving bucket-wheel in operative relation to the intermediate buckets.

25. In a turbine, the combination of a base, a casing mounted thereon having openings in the upper face, and nozzles which are mounted in the openings.

26. In a turbine, the combination of a base, a casing mounted thereon having openings formed therein of different characters, intermediate buckets mounted in the openings of one character, and nozzles mounted in the openings of another character.

27. In a turbine, the combination of a base, a casing mounted thereon comprising a casing which rests on the base, and a disk having nozzle-openings near its periphery, and nozzles mounted in the openings.

28. In a turbine, the combination of a disk having openings near the periphery, a casing which is clamped thereto and is also provided with openings, a bucket-wheel, a second disk which is mounted on the casing and is also provided with openings, intermediate buckets for the openings, and nozzles for the openings in the second disk.

29. In an elastic-fluid turbine, the combination of a base containing a chamber, a casing situated above and supported by the base and having openings in its upper face, and sectionalized ex-

passing-nozzles which are supported by the casing and register with said openings.

30. In a turbine having two or more stages, the combination of a casing for each stage, standards for uniting the casings, which standards also serve to convey the motive fluid, and valves which are mounted in the standards.

31. In a turbine, the combination of a base, a casing for the last stage mounted on the base, and a casing for the preceding stage mounted on the casing of the last stage.

32. In a turbine having more than one stage, the combination of a base, a casing for the last stage mounted on the base, a casing for the preceding stage, standards extending between one stage-casing to the other for securing them in place, and passages formed in the standards for carrying the motive fluid from one casing to another.

33. In a turbine, the combination of a base containing a chamber, a wheel-casing which is mounted on the base and is closed to the atmosphere but opens directly into the chamber in the base, a wheel which is mounted in the casing and freely delivers the motive fluid to the chamber, a shaft, a step-bearing therefor located within the chamber, means for preventing the lubricant supplied to the bearing from mingling with the exhaust, and means external to the casing for adjusting the vertical height of the wheel.

34. In a turbine, the combination of two or more casings, each containing a wheel, with standards having top and bottom flanges which are bolted to the casings, the said standards each having a fluid-passage which is larger at one end than the other, and valves which are mounted in the enlarged end of the standards.

35. In a turbine, the combination of a casing, a cover for the casing having an opening formed therein, a removable valve-support which is secured to the outside of the cover and registers with the opening, and an expanding-nozzle that is carried by the valve-support.

36. In combination, a casing containing openings, detachable nozzles mounted in the openings, steam connections, and bolts which pass through the nozzles and steam connections for securing them to the casing.

37. In a turbine, the combination of a base, a casing mounted thereon, a second casing mounted above the first, standards located near the edge of the casings for uniting them, and a sleeve which surrounds the turbine-shaft and supports the casings at that point.

38. In a turbine, the combination of a casing, a cover having an opening formed near its periphery and a shoulder which engages the casing, a detachable support that registers with and covers the opening, and a nozzle that is secured to the support and is removable therewith.

39. In a turbine, the combination of a casing having an upwardly-extending hub, a second casing having a downwardly-extending hub, a shaft for the revolving member, and a support which surrounds said shaft.

40. In a turbine, the combination of a casing comprising a disk and rim for respectively supporting the nozzles and intermediates, and a disk located below the rim and provided with unrestricted openings, which openings are located adjacent to the nozzles and receive fluid therefrom.

41. In a turbine, the combination of a casing which incloses the bucket-wheel, steam connections, a dynamo-electric machine, and a casing therefor which is mounted on the turbine-casing and is provided with openings whereby the steam connections are rendered accessible.

42. In a turbine, the combination of a wheel-casing, a casing for a dynamo-electric machine mounted thereon and provided with flanges which are bolted to the wheel-casing, a shaft which is common to the turbine and dynamo, and a steady bearing mounted in the casing of the dynamo-electric machine.

43. In a turbine, the combination of a wheel having a solid body with an enlarged flange, a casing for the wheel comprising two disks which are separable with respect to each other and are in close proximity to the wheel-body, the object being to reduce the volume of the chamber formed thereby, intermediates, and a rim or ring which incloses the chamber and also supports the intermediates.

44. In a turbine, the combination of a wheel having a peripheral grooved flange with detachable buckets arranged in groups and mounted in said groove.

45. In a turbine, the combination of a wheel having a grooved peripheral flange, a plurality of detachable bucket-segments, each segment having a number of buckets formed integral therewith, and means for retaining the segments in place.

46. In a turbine, the combination of a wheel having a flange which extends parallel with its axis and is provided with a plurality of grooves, and detachable segments mounted in the grooves, each of said segments being provided with a plurality of integrally-formed buckets, the buckets in the several rows gradually increasing in depth.

47. In a turbine, the combination of a wheel having a grooved periphery, segmental bucket-carrying pieces mounted therein, bolts for retaining the segments, and a covering for each ring of buckets.

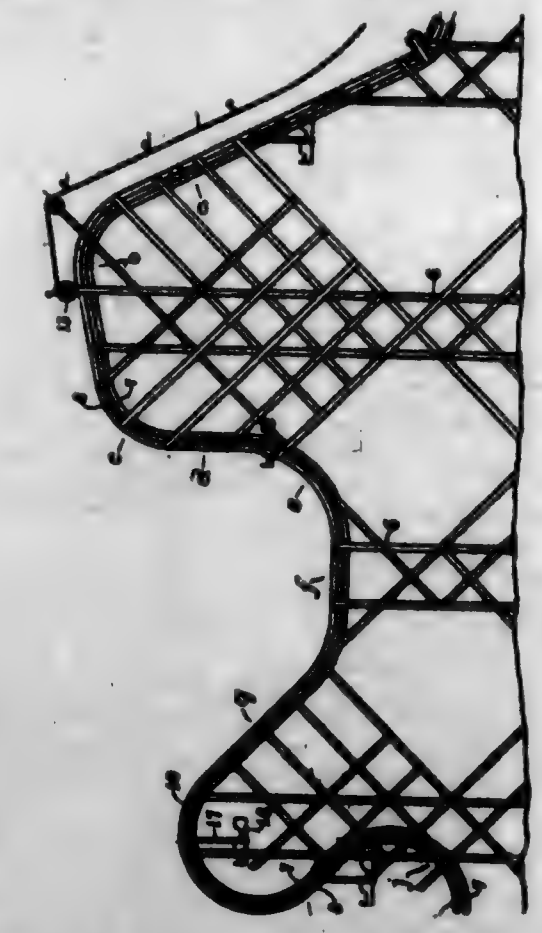
48. In a turbine, the combination of a flanged wheel, detachable segments each containing a plurality of integrally-formed buckets, and means passing through the flange for securing the segments to the wheel.

49. In an elastic-fluid turbine, the combination of a shell that is provided with an opening, a nozzle which is situated in said opening, a valve-support which is secured to the outside of the shell at a point adjacent to the opening, means for securing the nozzle to the valve-support, and a valve located within the support for regulating the action of the nozzle.

50. In an elastic-fluid turbine, the combination of a wheel having grooves formed therein which assist in holding and alining the buckets, detachable segments mounted in the grooves and provided with buckets, the segments being separated in the direction of flow, means for attaching the segments to the wheel, and intermediate buckets located between the wheel-buckets and serving to reverse the direction of the motive fluid as it passes from one bucket in a segment to another.

51. In a turbine, the combination of a wheel or support having buckets mounted thereon, said buckets being provided with segmental bases or supports arranged end to end, each base or support being integral with and common to a plurality of buckets, segmental covers for the buckets arranged end to end, means for securing the covers in place, and devices for separately securing the bucket-segments so that they can be individually applied to and removed from the wheel or support.

803,679. PLEASURE-RAILWAY. HENRY S. RENEW, Cambridge, Mass., assignor of one-tenth to Charles F. A. Smith, Boston, Mass. Filed Aug. 21, 1905. Serial No. 275,042.



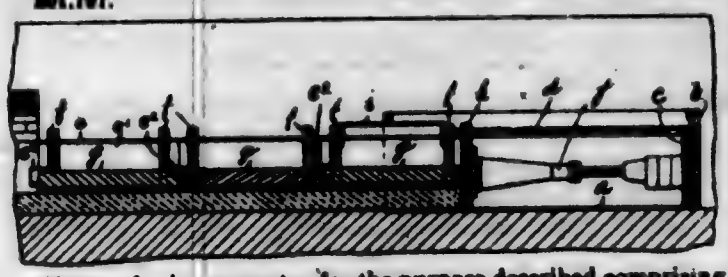
Claim.—1. In a pleasure-railway, a track having a downward-extending portion in combination with a truck adapted to run on the track and fall through the downward-extending portion.

2. In a pleasure-railway, a track provided with a vertical portion in combination with a truck having a car swinging therefrom so that when the truck drops down the vertical portion the car remains in a horizontal position.

3. In a pleasure-railway, a track provided with a diagonally backward extending portion in combination with a truck having a car swinging from its shaft and so arranged that the car can revolve around the truck as the truck follows the contour of the track.

4. In a pleasure-railway, a truck having sections thereof laid so that a truck passing over it will roll up, roll down, drop down, roll forward, and roll rearward upside down, in combination with a truck provided with an axle connecting one pair of wheels, a car swinging downward from the axle, studs extending inward from the other pair of wheels and bars connecting the studs and axle and all so arranged that the car always remains in nearly a horizontal position as the truck passes over the truck, substantially as shown and described.

808,680. DEVICE FOR FORMING CONCRETE SEWERS. ROBERT R. EVANS, Haverhill, Mass. Filed Mar. 24, 1905. Serial No. 251,797.



Claim.—1. An apparatus for the purpose described comprising an outer mold, an inner mold, and longitudinal supports on said outer mold for holding the inner mold in a position therein to provide an intervening filling-space, the rear end of said outer mold being open to permit the outer mold to be moved longitudinally out of engagement with the inner mold, substantially as described.

2. An apparatus for the purpose described comprising an outer mold, an inner mold, and longitudinal supports on said outer mold for holding the inner mold in a position therein to provide an intervening filling-space, the rear end of said outer mold being open to permit the outer mold to be moved longitudinally out of engagement with the inner mold, a movable partition for closing the forward end of said filling-space, and means acting against said partition for moving the outer mold forwardly, substantially as described.

3. An apparatus for the purpose described comprising an outer mold having longitudinal tracks, an inner mold adapted to be supported on said tracks in different longitudinal positions to provide an intervening filling-space, the rear end of said outer mold being open to permit the same to be moved longitudinally to carry said tracks out of engagement with the inner mold, substantially as described.

4. An apparatus for the purpose described comprising an outer mold, an inner mold, and longitudinal supports on said outer mold for holding the inner mold in a position therein to provide an intervening filling-space, the rear end of said outer mold being open to permit the outer mold to be moved longitudinally out of engagement with the inner mold, a movable partition adapted to engage the forward end of said inner mold and to close the forward end of said filling-space simultaneously, and means for simultaneously pressing said partition rearwardly and said outer mold forwardly, substantially as described.

5. An apparatus for the purpose described comprising an outer mold and an inner mold, said outer mold being open at its upper side to permit introduction of the inner mold therein vertically, and open at its rear end to permit it to be withdrawn from beneath the inner mold while the latter is stationary, supports on said outer mold for holding the inner mold in different longitudinal positions therein, to provide an intervening filling-space, a movable partition for closing the forward end of said space, and means acting against said partition for moving the outer mold forwardly, substantially as described.

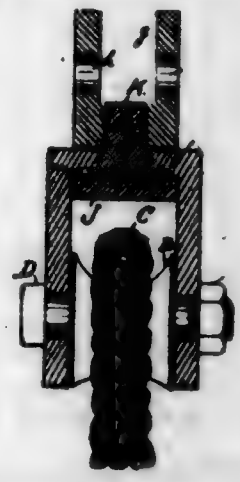
6. An apparatus for the purpose described comprising an outer mold having longitudinal tracks, an inner mold adapted to be supported on said tracks in different longitudinal positions to provide an intervening filling-space, and locking means for holding the inner mold from vertical movement with relation to the outer mold while in such position, said locking means permitting relative longitudinal movement of said molds, substantially as described.

7. An apparatus for the purpose described comprising an outer mold and an inner mold, said outer mold being open at its rear end and having an abutment-head secured to its forward end and a pair of longitudinally-extending tracks on its inner sides, transversely-extending arms on said inner mold adapted to rest on said tracks and to support the same in a position to provide a filling-space between said molds, means for holding the inner mold from vertical movement while in said position, a transverse partition adapted to engage the forward end of the inner mold and to close the forward end of said space, said partition being movable longitudinally of the outer mold, and a jack for simultaneously engaging said partition and said abutment-head, substantially as described.

8. An apparatus for the purpose described comprising an outer mold, a series of inner molds, each of materially less length than said outer mold, and having abutting ends, said outer mold being open at its upper side to permit introduction of the inner molds therein vertically and open at its rear end to permit it to be withdrawn from beneath the inner molds, means for supporting one or more of the inner molds within the outer mold in a position to provide an intervening filling-space, a movable partition engaging the forward end of the foremost inner mold, and closing the adjacent end of said space, and means, simultaneously engaging said partition and said outer mold, for moving the latter forwardly, substantially as described.

9. An apparatus for the purpose described comprising an outer mold and a series of inner molds of materially less length than said outer mold, longitudinal tracks at each side of said outer mold for supporting the inner molds therein to provide an intervening filling-space, said outer mold being open at its upper side to permit the inner molds to be lowered therein to rest on said tracks, and open at its rear end to permit it to be withdrawn from beneath the inner molds, movable locking devices for holding the inner molds from vertical movement with relation to the outer mold, and means for moving the outer mold forwardly, substantially as described.

808,681. HOISTING APPARATUS. PATRICK J. FARRY, Albany, N. Y. Filed Feb. 9, 1905. Serial No. 244,839.



Claim.—1. In a hoisting apparatus; a yoke; a thimble secured therein; a plate; a bolt secured thereto; a yoke to which said bolt is secured; a hoisting-block; a means for securing the tail of said hoisting-block to said last-mentioned yoke, substantially as described.

2. In a hoisting apparatus; a yoke; a thimble secured therein; a bolt passing through one end of said yoke; a second yoke to which said bolt is secured, substantially as described.

3. In a hoisting apparatus; a yoke; a thimble secured therein; a plate; a bolt connected with said plate; a series of friction-balls; a second yoke to which said bolt is secured, substantially as described.

4. In a hoisting device, two yokes; a cable secured to one of said yokes; a hoisting-block to which the other of said yokes is secured; a means for connecting said yokes, in such a manner that they may rotate upon each other.

5. In a hoisting apparatus; two yokes; a cable secured to one of said yokes; a hoisting-block secured to the other of said yokes; a swivel connection between said yokes, substantially as described.

6. In a hoisting apparatus; two yokes; a cable connected with one of said yokes; a plate; a series of friction-balls and a bolt connecting said yokes, forming an antifriction engagement between the two, substantially as described.

7. In a hoisting apparatus; a yoke; a cable secured thereto; a plate; a series of friction-balls placed between the plate and one end of said yoke; a second yoke carrying a bolt adapted to engage said plate, substantially as described.

808,682. BALL-BEARING CASTER. EDWARD W. FISHBURNE, Roanoke, Va., assignor of one-fourth to Ormond Humphreys, one-eighth to J. L. Colwell, and one-fourth to S. W. Holstein, Roanoke, Va. Filed Sept. 20, 1904. Serial No. 225,759.

Claim.—1. A device of the class described, comprising a spindle having an upper bearing portion and a lower threaded portion, said spindle being longitudinally adjustable to raise and lower the article to which the device is applied, a sleeve or bushing fitted on the spindle, a bearing-nut engaging the threaded portion of the spindle and having a socket receiving the lower end of the sleeve or bushing, and a lock-nut engaging the bearing-nut.

3. A device of the class described, comprising a spindle having an upper bearing portion and a lower threaded portion, said spindle being longitudinally adjustable to raise and lower the article to which the device is applied, a sleeve or bushing fitted on the upper bearing portion and provided at its lower end with a ball-race, a bearing-nut engaging the threaded portion of the spindle and adjustable thereon and provided with a ball-race, antifriction-balls arranged in the said races, and means for locking the bearing-nut in its adjustment.



8. A device of the class described, comprising a spindle having an upper smooth bearing portion and a lower threaded portion, said spindle being longitudinally adjustable to raise and lower the article to which the device is applied, a sleeve or bushing fitted on the smooth portion of the spindle and provided at its lower end with an outwardly-extending flange having a ball-race, a bearing-nut engaging the threaded portion of the spindle and having a ball-race and provided with a flange forming a socket to receive the lower end of the sleeve or bushing, antifriction-balls arranged in the said ball-races, and a lock-nut arranged on the threaded portion of the spindle and engaging the bearing-nut.

808,688. CHECKREIN AND HOLDER FOR SAME. ADAM E. FRITZ, Hannibal, Mo. Filed Dec. 22, 1894. Serial No. 527,889.



Claim.—1. The combination with a frame-piece securable to a harness-saddle and provided with a horizontal slot vertically wider at one end than at the other, of a checkrein slidable in said slot and having a series of studs or stops adapted to pass through the wide part of the slot and to engage the edges of the narrow part of the slot and thus hold the horse's head at various elevations.

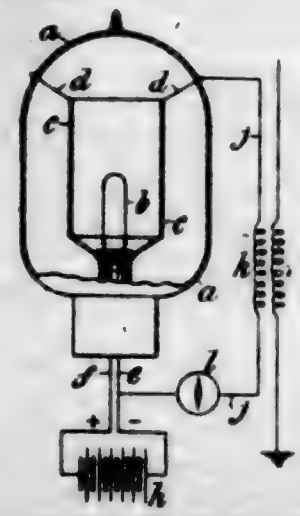
2. The combination with a frame-piece securable to a harness-saddle and provided with a horizontal slot vertically wider at one end than at the other, of a checkrein slidable in said slot and having a series of studs or stops adapted to engage the edges of the narrow part of the slot and to pass through the wide part of it, and a notch in the rear of the frame-piece adjacent the narrow part of the slot, to engage the studs and prevent accidental side motion of the checkrein into the wide part of the slot.

3. The combination with a frame-piece securable to the harness-saddle and provided with a horizontal slot vertically wider at one end than at the other, of a checkrein slidable in said slot and having a series of studs or stops adapted to engage the edges of the narrow part of the slot and to pass through the wide part of it, a notch in the rear of the frame-piece adjacent to the narrow part of the slot, and a rearward projection at the side of said notch nearest to the wide part of the slot, to engage the studs and prevent accidental motion of the rein into the wide part of the slot.

4. The combination with a frame-piece securable to a harness-saddle and provided with a horizontal slot vertically wider at one end than at the other, of a checkrein slidable therein and having a series of studs or stops adapted to engage the edges of the narrow part of the slot and to pass through the wide part of it, notches in the rear edges adjacent to the narrow part of the slot to prevent accidental side motion of the checkrein into the wide part of the slot; said narrow part of the slot having one of its sides formed of a pivoted locking-piece, which in its normal position makes the slot as narrow as possible, but which will yield in a rearward direction so as to widen the slot, so that the rein may be given more and more tension by pulling its various studs to the rear of the locking-piece and let them lodge in the notches, and so that the tension may be reduced by moving the rein into the wide part of the slot and release it more or less before engaging it again with the said notches.

5. The combination with a frame-piece adapted to be secured to the saddle of a harness and having a horizontal slot wider in one end than in the other, of a checkrein comprising a flat strap slidable in said slot and having a longitudinal central row of studs or stops adapted to engage the edges of the narrow part of the slot and to pass through the wide part of it; rearward projections at the edges of the slot to engage the studs and prevent accidental motion of the rein into the wide part of the slot; said wide part of the slot having the notches 16 for the studs to pass through, so as to avoid making the frame-piece unnecessarily large.

808,884. INSTRUMENT FOR CONVERTING ALTERNATING ELECTRIC CURRENTS INTO CONTINUOUS CURRENTS. JOHN A. FLEMING, London, England, assignor to Marconi Wireless Telegraph Company of America, a Corporation of New Jersey. Filed Apr. 19, 1905. Serial No. 256,453.



Claim.—1. The combination of a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for heating one of the conductors, and a circuit outside the vessel connecting the two conductors.

2. The combination of a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for passing an electric current through one of the conductors, and a circuit outside the vessel connecting the two conductors.

3. The combination of a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for heating one of the conductors, a circuit outside the vessel connecting the two conductors, means tending to produce an alternating current in the circuit, and means for detecting a continuous current in it.

4. The combination of a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for passing an electric current through one of the conductors, a circuit outside the vessel connecting the two conductors, means tending to produce an alternating current in the circuit, and means for detecting a continuous current in it.

5. The combination of a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for passing a continuous electric current through one of the conductors, and a circuit outside the vessel connecting the two conductors.

6. The combination of a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for passing a continuous electric current through one of the conductors, a circuit outside the vessel connecting the two conductors, means tending to produce an alternating current in the circuit, and means for detecting a continuous current in it.

7. The combination of a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for heating one of the conductors, a circuit outside the vessel connecting the two conductors, an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth, and means for detecting a continuous current in the circuit.

8. The combination of a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for passing an electric current through one of the conductors, a circuit outside the two conductors, an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth, and means for detecting a continuous current in the circuit.

9. The combination of a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for passing a continuous electric current through one of the conductors, a circuit outside the vessel connecting the two conductors, an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth, and means for detecting a continuous current in the circuit.

10. The combination of a vacuous vessel, a carbon filament in the vessel, a metallic cylinder surrounding but not touching the filament, means for heating the filament, and a circuit outside the vessel connecting the filament to the cylinder.

11. The combination of a vacuous vessel, a carbon filament in the vessel, a metallic cylinder surrounding but not touching the filament, means for passing an electric current through the filament, and a circuit outside the vessel connecting the filament to the cylinder.

12. The combination of a vacuous vessel, a carbon filament in the vessel, a metallic cylinder surrounding but not touching the filament, means for heating the filament, a circuit outside the vessel connecting the filament to the cylinder, means tending to produce an alternating current in the circuit, and means for detecting a continuous current in it.

13. The combination of a vacuous vessel, a carbon filament in the vessel, a metallic cylinder surrounding but not touching the filament, means for passing an electric current through the filament, a circuit outside the vessel connecting the filament to the cylinder, means tending to produce an alternating current in the circuit, and means for detecting a continuous current in it.

14. The combination of a vacuous vessel, a carbon filament in the vessel, a metallic cylinder surrounding but not touching the filament, means for passing a continuous electric current through the filament, and a circuit outside the vessel connecting the filament to the cylinder.

15. The combination of a vacuous vessel, a carbon filament in the vessel, a metallic cylinder surrounding but not touching the filament, means for passing a continuous electric current through the filament, a circuit outside the vessel connecting the filament to the cylinder, means tending to produce an alternating current in the circuit, and means for detecting a continuous current in it.

16. The combination of a vacuous vessel, a carbon filament in the vessel, a metallic cylinder surrounding but not touching the filament, means for heating the filament, a circuit outside the vessel connecting the filament to the cylinder, an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth, and means for detecting a continuous current in the circuit.

17. The combination of a vacuous vessel, a carbon filament in the vessel, a metallic cylinder surrounding but not touching the filament, means for passing an electric current through the filament, a circuit outside the vessel connecting the filament to the cylinder, an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth, and means for detecting a continuous current in the circuit.

18. The combination of a vacuous vessel, a carbon filament in the vessel, a metallic cylinder surrounding but not touching the filament, means for passing a continuous electric current through the filament, a circuit outside the vessel connecting the filament to the cylinder, an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth, and means for detecting a continuous current in the circuit.

19. The combination of two vacuous vessels, two conductors adjacent to but not touching each other in each vessel, means for heating one of the conductors in each vessel, two coils of a differential galvanometer, one coil being connected to the heated conductor in one vessel and the other coil being connected to the unheated conductor in the other vessel, a connection between the other pair of conductors, a connection between the coils, and a circuit connecting the two latter connections.

20. The combination of two vacuous vessels, two conductors adjacent to but not touching each other in each vessel, means for passing an electric current through and so heating one of the conductors in each vessel, two coils of a differential galvanometer, one coil being connected to the heated conductor in one vessel and the other coil being connected to the unheated conductor in the other vessel, a connection between the other pair of conductors, a connection between the coils, and a circuit connecting the two latter connections.

21. The combination of two vacuous vessels, two conductors adjacent to but not touching each other in each vessel, means for passing a continuous electric current through and so heating one of the conductors in each vessel, two coils of a differential galvanometer, one coil being connected to the heated conductor in one vessel and the other coil being connected to the unheated conductor in the other vessel, a connection between the other pair of conductors, a connection between the coils, and a circuit connecting the two latter connections.

22. The combination of two vacuous vessels, two conductors adjacent to but not touching each other in each vessel, means for heating one of the conductors in each vessel, two coils of a differential galvanometer, one coil being connected to the heated conductor in one vessel and the other coil being connected to the unheated conductor in the other vessel, a connection between the other pair of conductors, a connection between the coils, a circuit connecting the two latter connections, and means tending to produce an alternating current in the circuit.

23. The combination of two vacuous vessels, two conductors adjacent to but not touching each other in each vessel, means for passing an electric current through and so heating one of the conductors in each vessel, two coils of a differential galvanometer, one coil being connected to the heated conductor in one vessel and the other coil being connected to the unheated conductor in the other vessel, a connection between the other pair of conductors, a connection between the coils, a circuit connecting the two latter connections, and means tending to produce an alternating current in the circuit.

24. The combination of two vacuous vessels, two conductors adjacent to but not touching each other in each vessel, means for passing a continuous electric current through and so heating one of the conductors in each vessel, two coils of a differential galvanometer, one coil being connected to the heated conductor in one vessel and the other coil being connected to the unheated conductor in the other vessel, a connection between the other pair of conductors, a connection between the coils, a circuit connecting the two latter connections, and means tending to produce an alternating current in the circuit.

25. The combination of two vacuous vessels, a carbon filament in each vessel, a metallic cylinder in each vessel, surrounding but not touching the filament, means for heating the filaments, two coils of a differential galvanometer one coil being connected to the filament in one vessel and the other coil being connected to the cylinder in the other vessel, a connection between the other cylinder and filament, a connection between the coils, and a circuit connecting the two latter connections.

26. The combination of two vacuous vessels, a carbon filament in each vessel, a metallic cylinder in each vessel, surrounding but not touching the filament, means for passing an electric current through the filaments, two coils of a differential galvanometer one coil being connected to the filament in one vessel and the other coil being connected to the cylinder in the other vessel, a connection between the other cylinder and filament, a connection between the coils, and a circuit connecting the two latter connections.

27. The combination of two vacuous vessels, a carbon filament in each vessel, a metallic cylinder in each vessel, surrounding but not touching the filament, means for passing a continuous electric current through the filaments, two coils of a differential galvanometer one coil being connected to the filament in one vessel and the other coil being connected to the cylinder in the other vessel, a connection between the other cylinder and filament, a connection between the coils, and a circuit connecting the two latter connections

28. The combination of two vacuous vessels, a carbon filament in each vessel, a metallic cylinder in each vessel, surrounding but not touching the filament, means for heating the filaments, two coils of a differential galvanometer one coil being connected to the filament in one vessel and the other coil being connected to the cylinder in the other vessel, a connection between the other cylinder and filament, a connection between the coils, a circuit connecting the two latter connections, and means tending to produce an alternating current in the circuit.

29. The combination of two vacuous vessels, a carbon filament in each vessel, a metallic cylinder in each vessel, surrounding but not touching the filament, means for passing an electric current through the filaments, two coils of a differential galvanometer one coil being connected to the filament in one vessel and the other coil being connected to the cylinder in the other vessel, a connection between the other cylinder and filament, a connection between the coils, a circuit connecting the two latter connections, and means tending to produce an alternating current in the circuit.

30. The combination of two vacuous vessels, a carbon filament in each vessel, a metallic cylinder in each vessel, surrounding but not touching the filament, means for passing a continuous electric current through the filaments, two coils of a differential galvanometer one coil being connected to the filament in one vessel and the other

coil being connected to the cylinder in the other vessel, a connection between the other cylinder and filament, a connection between the coils, a circuit connecting the two latter connections, and means tending to produce an alternating current in the circuit.

31. The combination of two vacuous vessels, two conductors adjacent to but not touching each other in each vessel, means for heating one of the conductors in each vessel, two coils of a differential galvanometer, one coil being connected to the heated conductor in one vessel and the other coil being connected to the unheated conductor in the other vessel, a connection between the other pair of conductors, a connection between the coils, a circuit connecting the two latter connections, and an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth.

32. The combination of two vacuous vessels, two conductors adjacent to but not touching each other in each vessel, means for passing an electric current through and so heating one of the conductors in each vessel, two coils of a differential galvanometer, one coil being connected to the heated conductor in one vessel and the other coil being connected to the unheated conductor in the other vessel, a connection between the other pair of conductors, a connection between the coils, a circuit connecting the two latter connections, and an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth.

33. The combination of two vacuous vessels, two conductors adjacent to but not touching each other in each vessel, means for passing a continuous electric current through and so heating one of the conductors in each vessel, two coils of a differential galvanometer, one coil being connected to the heated conductor in one vessel and the other coil being connected to the unheated conductor in the other vessel, a connection between the other pair of conductors, a connection between the coils, a circuit connecting the two latter connections, and an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth.

34. The combination of two vacuous vessels, a carbon filament in each vessel, a metallic cylinder in each vessel, surrounding but not touching the filament, means for heating the filaments, two coils of a differential galvanometer one coil being connected to the filament in one vessel and the other coil being connected to the cylinder in the other vessel, a connection between the other cylinder and filament, a connection between the coils, a circuit connecting the two latter connections, and an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth.

35. The combination of two vacuous vessels, a carbon filament in each vessel, a metallic cylinder in each vessel, surrounding but not touching the filament, means for passing an electric current through the filaments, two coils of a differential galvanometer one coil being connected to the filament in one vessel and the other coil being connected to the cylinder in the other vessel, a connection between the other cylinder and filament, a connection between the coils, a circuit connecting the two latter connections, and an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth.

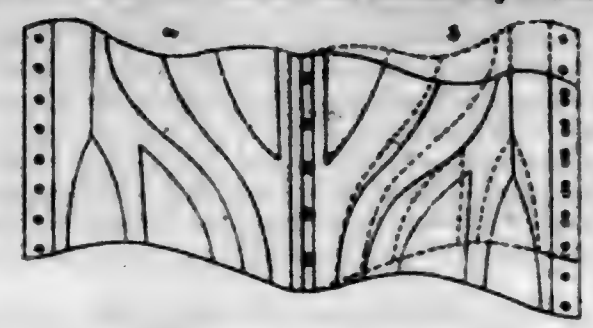
36. The combination of two vacuous vessels, a carbon filament in each vessel, a metallic cylinder in each vessel, surrounding but not touching the filament, means for passing a continuous electric current through the filaments, two coils of a differential galvanometer one coil being connected to the filament in one vessel and the other coil being connected to the cylinder in the other vessel, a connection between the other cylinder and filament, a connection between the coils, a circuit connecting the two latter connections, and an induction-coil having its secondary winding in the circuit and its primary winding connected to an aerial wire and earth.

37. At a receiving-station in a system of wireless telegraphy employing electrical oscillations of high frequency a detector comprising a vacuous vessel, two conductors adjacent to but not touching each other in the vessel, means for heating one of the conductors, a circuit outside of the vessel connecting the two conductors, means for detecting a continuous current in the circuit, and means for impressing upon the circuit the received oscillations.

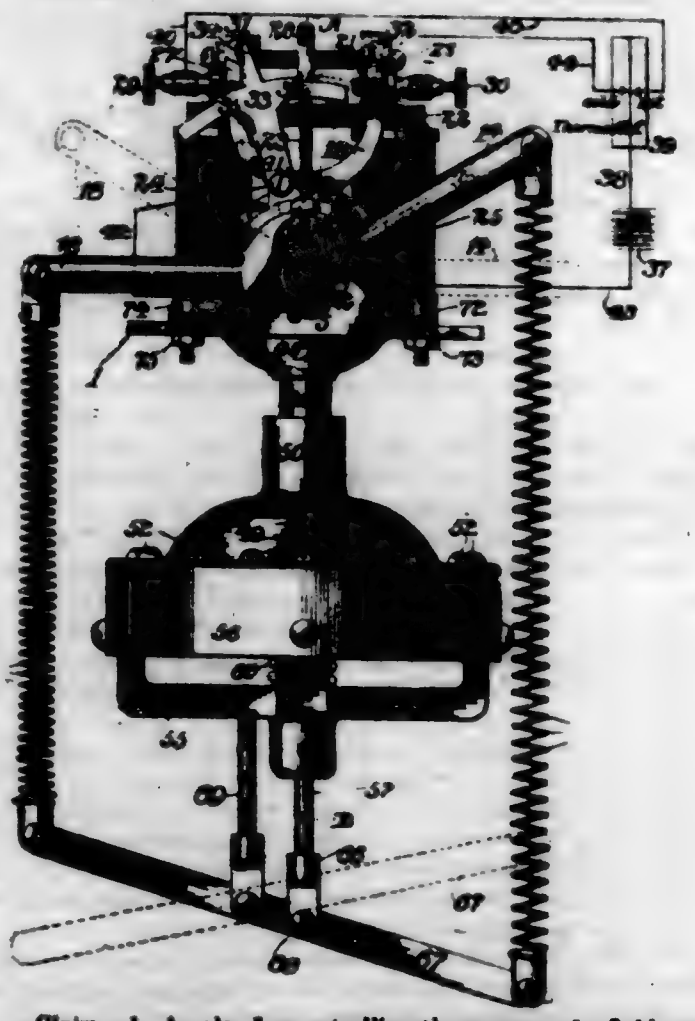
803,685. CORSET AND OTHER ARTICLES OF COUNTERPART CONSTRUCTION. CHARLES H. FROST, Jackson, Mich. Filed Apr. 28, 1904. Serial No. 205,661.

Claim.—1. A corset or other article of counterpart construction having the right half thereof made of cloth whose component yarns or threads are spun or twisted in the reverse direction to that of the yarns or threads composing the cloth of the left half, substantially as described.

2. A corset or other article of counterpart construction having the right half thereof made of cloth whose component yarns or threads are spun or twisted in the reverse direction to that of the yarns or threads composing the cloth of the left half, and whose loom pattern or design is the reverse or opposite of the loom pattern or design of the cloth used in the left half, substantially as described.



803,686. FLUID-PRESSURE CONTROLLER. GEORGE W. PECK and ALBERT H. CARVER, Chicago, Ill. Filed Mar. 10, 1900. Serial No. 8,171.



Claim.—1. A valve for controlling the passage of a fluid under pressure, in combination with two coiled springs adapted to alternately exert tension on the valve to move it in opposite directions, fluid-pressure-actuated mechanism, a fulcrumed lever connected to the ends of such springs, a rod reciprocated by said fluid-pressure-actuated mechanism and connected to the lever at one side of its fulcrum-point whereby a movement of the rod in one direction shifts the position of the lever to elongate one spring and shorten the other and vice versa.

2. A valve for controlling the passage of a fluid under pressure, in combination with two coiled springs alternately exerting tension on the valve to move it in opposite directions, a movable abutment-spring pressed in one direction, said valve admitting pressure against such abutment to move it against the tension of its spring, a lever connected at its ends to the ends of the coiled springs, and a rod reciprocated by the abutment and connected to such lever to alternately elongate one spring or the other and to shorten one or the other according to the movement or position of the rod.

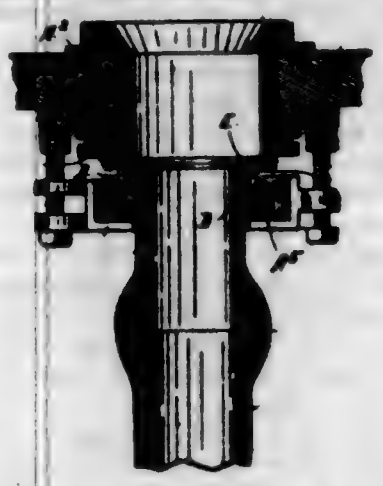
3. A device for controlling pressure, comprising a valve governing ports and passages communicating respectively with the system, with the atmosphere and with a source of fluid-pressure supply, a casing also communicating with the passage to the system, a movable abutment therein, two coiled springs connected to opposite sides of the valve to move it in opposite directions when one or the other is put under tension, a lever fulcrumed on said casing and connected at

its ends to the ends of the springs and a rod moved by the abutment and connected to such lever to alternately cause one or the other spring to exert tension.

4. A valve for controlling the passage of a fluid under pressure to operate thermostatically-controlled devices, in combination with two coiled springs connected at their similar ends to opposite sides of the valve, a pivoted lever connected at its ends to the other ends of the springs, a movable abutment also operated by fluid under pressure controlled by such valve, a rod reciprocated by the abutment and connected to the lever at one side of its pivotal point to distend either one of the springs and release the other whereby tension is exerted on the valve in the direction of such distended spring, catch mechanism adapted to normally hold the valve against such tension and a thermostat controlling said mechanism.

5. A valve for controlling the passage of a fluid under pressure to operate thermostatically-controlled devices and having two arms projecting from its opposite sides, coiled springs one of which is connected at one end to the outer end of each arm, a movable abutment also operated by pressure controlled by such valve, a lever connected at its ends to the other ends of such springs, a rod reciprocated by the abutment and connected to the lever to distend either one or the other of the springs according to its position, and catch mechanism normally holding the valve against the tension exerted upon it by the distended spring.

808,687. PIPE-COUPLING. JESSE A. GROTEWOHL, Denver, Colo. Filed July 22, 1904. Serial No. 217,641.



Claim.—1. The combination with two parts to be coupled of two clamping members respectively applied to the said parts, a lock-nut for holding one of the clamping members in place upon one of the parts to be connected, a divided ring applied to the other part and engaging a flange formed on the last-named part, and a second clamping member having a flange engaging the said ring, and stud-bolts for connecting the two clamping members.

2. The combination with a tank having an opening, a sleeve mounted on the tank and protruding through said opening, a clamping-ring surrounding said sleeve and provided with threaded openings, a nut applied to the sleeve and screwed against the clamping-ring to hold the latter in place, a packing-washer engaging the edge of the said sleeve, a pipe-section engaging said washer, a ring surrounding the pipe-section and engaging the top flange formed thereon, and a second clamping member acting on the ring and provided with openings, and stud-bolts passing through the openings of the second clamping member and entering the threaded openings of the first-named clamping member.

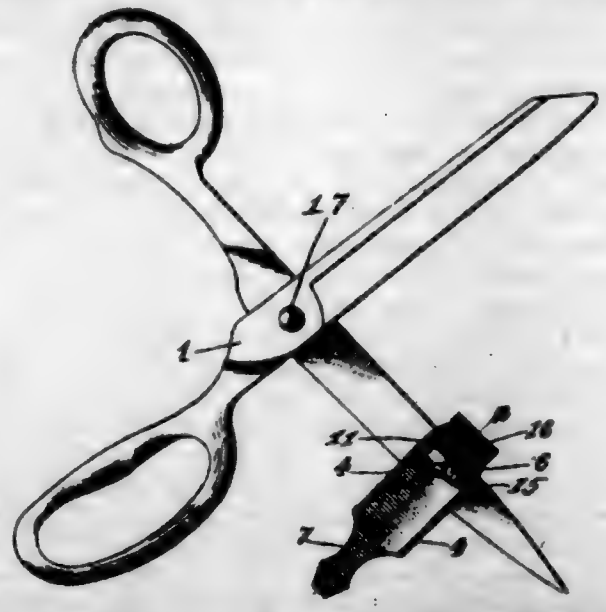
3. The combination with the two parts to be connected, of a clamping member mounted on one of the parts, suitably secured in place and provided with threaded openings, a divided clamping member surrounding the other part, a divided ring interposed between the divided clamping member and the upper extremity of one of the parts to be connected, the said upper part being provided with an exteriorly-bent flange, a packing-washer interposed between the two parts to be connected, the divided clamping member being provided with openings, and stud-bolts passed through the openings of the divided clamping member and entering the threaded openings of the first-named clamping member, substantially as described.

808,688. SHOE-DISPLAY FIXTURE. FRANCIS J. GROSS and JULIUS H. ALTENBURGER, San Francisco, Cal. Filed Dec. 21, 1904. Serial No. 237,748.

Claim.—A shoe-display fixture comprising a mirror, means for supporting the same, and a support holding the shoe above the mirror at a sufficient height therefrom to permit the under side of the sole to be seen reflected in the mirror, substantially as described.



808,689. SCISSORS-SHARPENER. WILLIAM A. HARVEY and JOHN HARVEY, Scranton, Pa., assignors of one-sixth to William J. Hand, Scranton, Pa. Filed July 28, 1904. Serial No. 218,566.

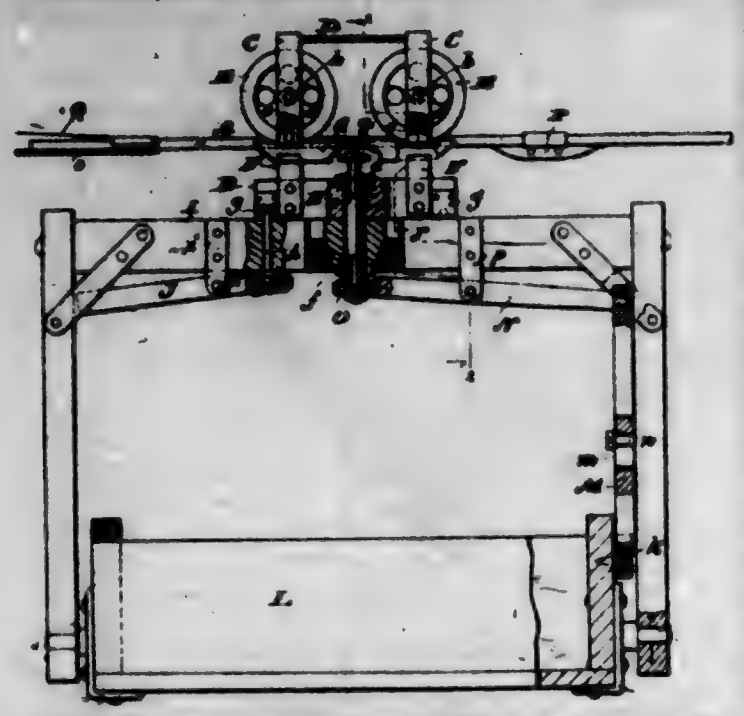


Claim.—1. A scissors-sharpener comprising a blank having a central portion, a pair of lateral side ears at an angle to the central portion, and an outwardly-inclined end plate extending from that face of the central portion from which the lateral ears project; and a sharpening medium secured to the inclined end plate and extending beyond the opposite face of the central portion.

2. A scissors-sharpener comprising a blank having a central portion, a pair of lateral side ears at an angle to the central portion, and an outwardly-inclined end plate having a recess on each side and a cut-away portion on one side below the recess and extending from that face of the central portion from which the lateral ears project; a gib fitting in the recesses in the end plate; and a file held by said gib on the outwardly-inclined end plate so as to project from the opposite face of the central plate.

3. In a scissors-sharpener, the combination with a frame comprising a central portion, a tongue in the plane of and integral with said central portion, laterally-extending ears on each side of the central portion, an inclined end plate integral with the front edge of the central portion, each side of the end plate having a recess, a cut-away portion in one of the sides of said plate below said recess, of a gib having hooked ends constructed to pass through the recesses in the side of said plate, a set-screw secured in said gib and impinged against said plate, and a file clamped to said plate by means of the hooked ends of said gib.

808,690. ELEVATED CARRIER. MATHEW HEER, Calumet, Wis. Filed July 29, 1905. Serial No. 271,597.



Claim.—1. An elevated carrier comprising a traveler, a bail in swivel connection with the traveler, means for latching the bail rigid with said traveler, a dump-box hung in said bail, and means for latching the dump-box bottom down.

2. In an elevated carrier comprising a traveler, a sleeve constituting a rigid portion of the traveler, a bail loose on the sleeve, a dump-box hung in the bail, and means for latching the dump-box bottom down.

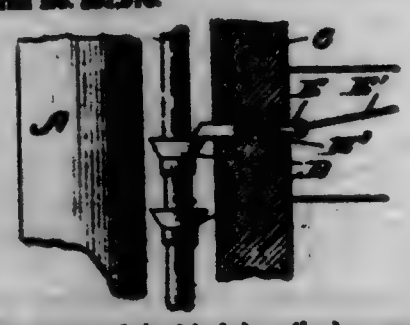
3. An elevated carrier comprising a traveler, a sleeve constituting a rigid portion of the traveler, a bail loose on the sleeve, a lever-controlled pin guided in the bail to have engagement with said traveler, a dump-box hung in the bail, and means for latching the dump-box bottom down.

4. An elevated carrier comprising a traveler, a bail in connection with the traveler, a dump-box hung in the bail and provided with a keeper, a latch in connection with said bail for engagement with the keeper, a lever attached to the aforesaid bail, and a pin arranged in connection with the lever to extend upward through the bail and traveler for contact with a depressing device in its path.

5. An elevated carrier comprising a traveler consisting of a lower block, bows fastened at their lower ends to the block, trolley-wheels mounted in the bows, plates fastened to said block opposite the lower straight portions of the bows, and a slide in connection with said bows to normally close the gaps between the same and the plates.

6. An elevated carrier comprising a traveler having an automatically-adjustable switch-gap closer, a bail in swivel connection with the traveler, a latch for holding the bail rigid with said traveler, a dump-box hung in the bail, a keeper on the box, a lever-controlled latch engageable with the keeper, and a pin in connection with the lever to extend upward through the aforesaid bail and traveler for contact with a depressing device in its path.

808,691. GATE. JOHN G. HANSEN, Iowa Falls, Iowa. Filed Mar. 28, 1905. Serial No. 252,979.



Claim.—1. A device of the kind described comprising a standard, a gate pivotally mounted and vertically movable on the standard, fixed collars on the standard, and a spring-pressed bolt adapted to engage the collars.

2. A device of the kind described comprising a standard, eyes vertically movable on the standard, a gate carried by the eyes, fixed collars arranged on the standard between the eyes, and a spring-pressed bolt adapted to engage the collars.

3. A gate of the kind described comprising a standard, fixed collars on the standard, a gate pivotally and movably carried by the standard, a spring-pressed bolt carried by the gate adapted to engage the collars, a lever pivoted to the gate and a cable connecting the lever and the bolt.

4. A device of the kind described comprising gate-posts, a gate vertically movable between the said posts, means for locking the gate in an adjusted position with respect to its distance above the ground, a vertical guide carried by one of the posts, and a pivoted catch carried by the gate and adapted to normally rest in the guideway, and to slide vertically in the guideway.

808,692. SOCKET-WRENCH. CHARLES E. HILL, Cleveland, Ohio. Filed Nov. 14, 1904. Serial No. 232,880.



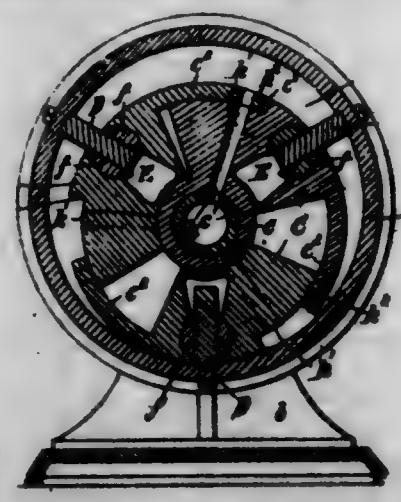
Claim.—1. In an adjustable socket-wrench, the combination of a casing; a rotatable handle having a portion intermediate of its ends reduced in cross-section; a sleeve journaled upon such reduced portion of said handle and having screw-threaded engagement with said casing; a member connected with said handle, contained within said casing and longitudinally movable of the latter upon the rotation of said handle; and jaws pivotally secured to said member, constructed to open or close upon the longitudinal movement of the latter, and forming a nut-engaging member.

2. In an adjustable socket-wrench, the combination of a casing; a handle; a sleeve journaled upon the latter and having screw-threaded engagement with said casing; a member having screw-threaded engagement with said handle, contained within said casing, and provided with a socket in its outer end; two jaws pivoted in said socket, forming a nut-engaging member, and adapted to open or close upon the movement of said first-mentioned member relatively to said handle; and means tending to open said jaws independently of said movement.

3. In an adjustable socket-wrench, the combination of a casing; a member lying within said casing; means connected to said casing and member and constructed to actuate the latter longitudinally of the former; and jaws connected to said member, adapted to be opened or closed by the longitudinal movement of the latter, forming a nut-engaging member, and so tapered upon their inner faces that their inner and outer surfaces lie substantially parallel.

4. In an adjustable socket-wrench, the combination of a casing; a rotatable handle connected therewith; a member longitudinally movable of said casing and handle, upon the rotation of the latter, said member contained within said casing and provided with a socket; two jaws connected together in said socket by a pivot-pin, and forming a nut-engaging member; a removable member fitted into said casing and adapted to hold said pivot-pin in place; a spring intermediate of said jaws and tending to hold the same open; and a tapering jaw-slide connected to said casing and limiting the opening movement of said jaws.

808,693. ROTARY ENGINE. WILLIAM H. HOFFMAN, Buffalo, N. Y. Filed Mar. 25, 1905. Serial No. 251,994.



Claim.—1. In a rotary engine or the like, the combination of a cylinder and a core rotatable in the same direction about different axes, said core comprising sections which approach and recede from each other during the revolution of the core, pistons fixed to one of said rotatable parts and loosely connected to the other part, and means for admitting fluid to and exhausting it from the space between the core and cylinder, substantially as set forth.

2. In a rotary engine or the like, the combination of a cylinder and a core rotatable in the same direction about different axes, said core comprising sections which approach and recede from each other during the revolution of the core, pistons fixed to said cylinder and movably connected to said core-sections, and means for admitting fluid to and exhausting it from the space between the core and cylinder, substantially as set forth.

3. In a rotary engine or the like, the combination of a cylinder and a core rotatable in the same direction about different axes, said core comprising sections which oscillate relative to each other about their axis of rotation, pistons fixed to said cylinder and each having a sliding and rocking connection with one of said core-sections, and means for admitting fluid to and exhausting it from the space between the core and cylinder, substantially as set forth.

4. In a rotary engine or the like, the combination of a cylinder and a core rotatable in the same direction about different axes, said core comprising sector-shaped sections which oscillate relative to each other about their axis of rotation and each of which has a segmental extension overlapping the adjacent section, pistons fixed to said cylinder and movably connected to said core-sections, and means for admitting fluid to and exhausting it from the space between the core and cylinder, substantially as set forth.

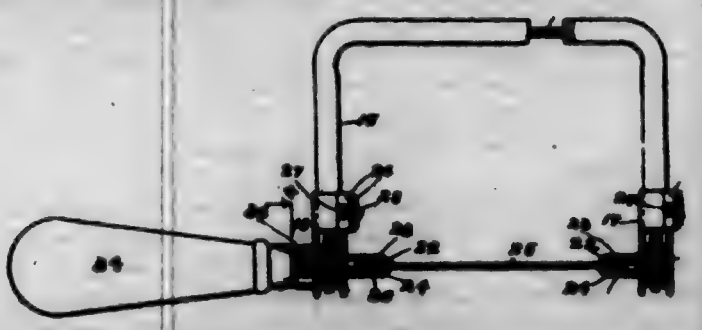
5. In a rotary engine or the like, the combination of a cylinder and a core rotatable in the same direction about different axes, said core comprising sections which approach and recede from each other during the revolution of the core, pistons fixed to said cylinder and extending into pockets in said core-sections, segmental cylindrical blocks which are confined in correspondingly-shaped seats in each core-section on opposite sides of and bear against the piston, and means for admitting fluid to and exhausting it from the space between the core and cylinder, substantially as set forth.

6. In a rotary engine or the like, the combination of a rotary cylinder, a core arranged eccentrically in said cylinder and comprising separate sections, a stationary journal eccentric to the axis of the cylinder on which said core-sections are mounted to rotate with the cylinder and oscillate relative to each other, pistons connected to the cylinder and to each of said core-sections, and means for admitting fluid to and exhausting it from the space between the core and cylinder, substantially as set forth.

7. In a rotary engine or the like, the combination of a cylinder and a core which rotate in the same direction about different axes, said core comprising sections which oscillate relative to each other about their axis of rotation, and each core-section consisting of halves, means for pressing said halves of the core-sections against opposite heads of the cylinder, pistons connecting said cylinder and core-sections, and means for admitting fluid to and exhausting it from the space between the cylinder and core, substantially as set forth.

8. In a rotary engine or the like, the combination of a rotary cylinder, a journal arranged eccentrically in the cylinder, a core in the cylinder comprising sections provided with bearing-rings mounted side by side on said eccentric journal whereby said core-sections can rotate with the cylinder and also oscillate relative to each other on said eccentric journal, pistons secured to said cylinder and connected with said core-sections, and means for admitting fluid to and exhausting it from the space between the cylinder and the core, substantially as set forth.

808,694. SCROLL-SAW. ARTHUR JOHNS, Chicago, Ill. Filed Mar. 3, 1904. Serial No. 196,307.



Claim.—1. In a scroll-saw, the combination with a hollow frame forked at each end and having bearings through the forks; of shafts journaled in said bearings, means leading through the frame and connecting the shafts at points within the forks to cause said shafts to turn in unison, a handle projecting from one shaft, and means connected with this shaft only for permitting its free oscillation to a limited extent and for positively preventing it from turning farther than said limit.

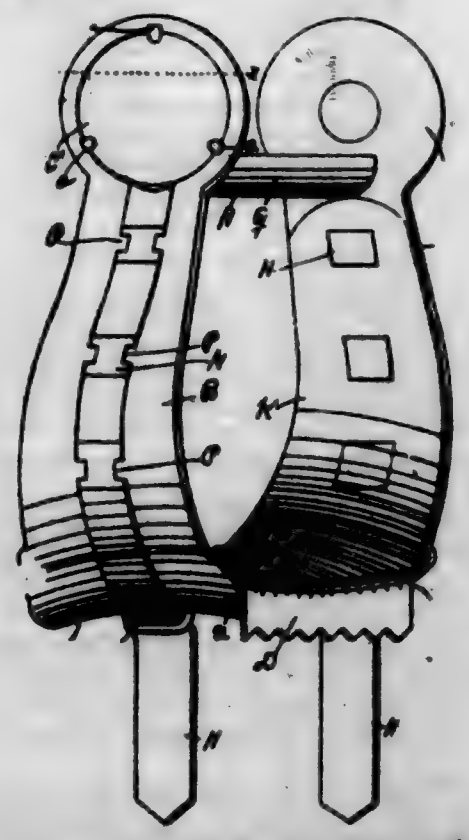
2. In a scroll-saw, the combination with a hollow frame forked at each end and having bearings through the forks; of shafts journaled in said bearings, a pulley on each shaft between the prongs of the fork, an endless cable passing through the frame and wound around said pulleys, a handle projecting from one shaft, and means connected with this shaft only for permitting its free oscillation to a limited extent and for positively preventing it from turning farther than said limit.

3. In a scroll-saw, the combination with a hollow frame forked at each end and having bearings through the forks; of shafts journaled in said bearings, a pulley on each shaft between the prongs of the fork, an endless cable passing through the frame and wound around said pulleys, a handle projecting from one shaft, and means connected with the pulley on the handle-shaft for permitting its free oscillation to a limited extent and positively preventing it from turning farther than said limit.

4. In a scroll-saw, the combination with a hollow frame forked at each end and having bearings through the forks; of shafts journaled in said bearings, a pulley on each shaft between the prongs of the fork, an endless cable passing through the frame and wound around said pulleys, a handle projecting from one shaft, and means connected with the pulley on the handle-shaft and operated automatically by the cord of the cable for permitting its free oscillation to a limited extent and positively preventing it from turning farther than said limit.

5. The combination with a hollow frame, of a forked bearing-clip located at each end thereof, the prongs of one of said clips having on their adjacent surfaces oppositely-inclined recesses, a shaft journaled in each of said clips and one of said shafts having a handle to turn the same, a pulley mounted on the handle-shaft between the prongs of the clip thereof and having a longitudinal groove, a locking-slide movably located in said groove and having at each of its ends a beveled prong, a pulley mounted on the other shaft between the prongs of its bearing-clip, a cable connecting and wound around the pulleys and supported by the frame, and a saw engaging the inner ends of the shafts, substantially as described.

808,695. STIRRUP. CHARLES J. B. KELLNER, Fort Worth, Tex., and EPHRAIM M. TURNER, Denver, Colo. Filed Feb. 27, 1902. Serial No. 95,971.



Claim.—1. A stirrup containing in a single casting the sides and tread-bar and the supporting-bar, each side having a slot therein and lugs projecting from the walls of the slot toward the central part thereof, the lugs not being as thick as the sides of the stirrup and some of the lugs being flush with the outer surface of the sides and some of the lugs being flush with the inner surface of the sides.

2. In a stirrup provided with suitable sides and a bottom; a supporting-bar integral with said sides having a bearing-groove in the under side thereof, said sides having openings therethrough registering with said groove for the purpose set forth.

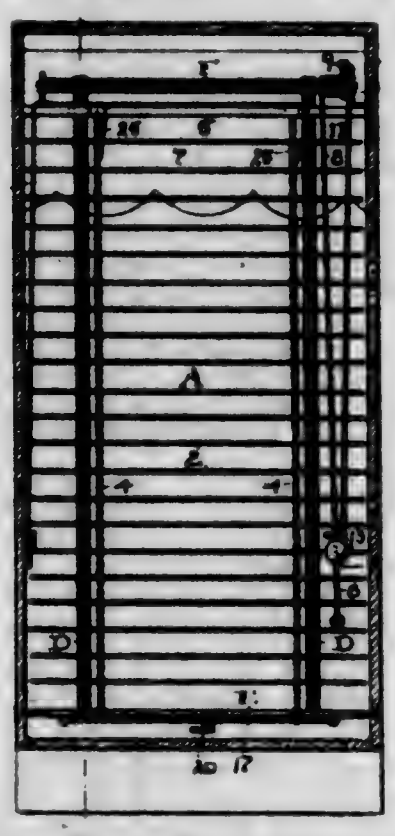
3. A stirrup having a supporting-bar provided with a groove on

the under side thereof, sides integral with said bar and having openings therethrough registering with said groove, and a strap placed in said groove and running through said sides and constituting a bearing for stirrup-leathers.

4. In a stirrup provided with suitable sides and a supporting-bar; said bar having a groove in the under side thereof and said sides having slots therein and openings therethrough registering with said groove, a lining for said stirrup and means for securing said lining in place consisting of a strap mounted in said groove and running through said openings and laced in said lining, and suitable lugs projecting from the walls of said slots for holding said lining and said strap in line with said side.

5. In a stirrup provided with suitable sides and a supporting-bar, said bar having a groove in the under side thereof and said sides having slots therein and openings therethrough registering with said groove; a lining for said stirrup and means for securing said lining in place consisting of a strap mounted in said groove and running through said openings and passed back and forth through said lining and lugs for holding said strap and lining in line with said sides.

808,696. COMBINED AWNING AND BLIND. JACOB LANG, Cleveland, Ohio. Filed Feb. 15, 1905. Serial No. 245,380.



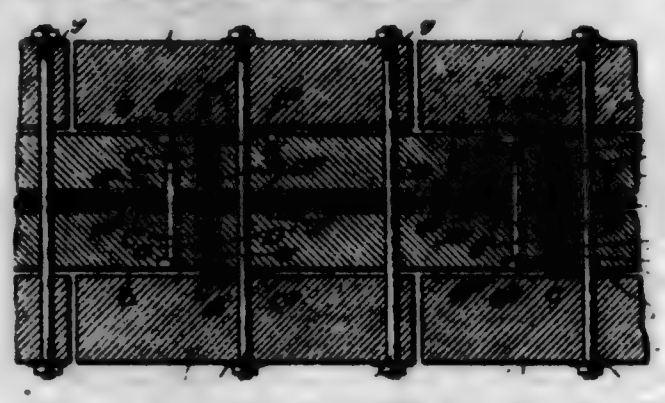
Claim.—1. In a combined window blind and awning, a support, chains suspended therefrom in pairs, cross-links between pairs of chains and blades supported by said links, a bottom plate and flexible stripe fastened thereto, a roller for said stripe and means to rotate said roller, locking-bolts mounted on said bottom plate, and pivoted brace-rods carried by said plate and adapted to make an awning of said blind.

2. In a combined window blind and awning, a support and flexible hangers suspended therefrom, a series of blades carried by said hangers at uniform distances apart, flexible stripe to raise said blades and hangers together, a roller for said stripe, pawl-and-ratchet mechanism for said roller to prevent back rotation thereof, a cord spirally wound upon said roller to rotate the same, a cord to release said pawl-and-ratchet mechanism, and a hand member attached to one of said cords and freely engaged to run upon the other cord.

3. In a combined window blind and awning, a support and pairs of chains suspended therefrom, links connecting each pair of chains at intervals, blades supported upon said links, openings with side slots in said blades, flexible stripe passing through said openings, a bottom plate attached to the lower end of said stripe, means to raise said plate to gather up said blades one by one, and a pair of awning brace-rods pivotally mounted upon said bottom plate.

4. In a combined window blind and awning, a hooded support and chains suspended therefrom, blades supported at uniform distances apart on said chains, a bottom plate and flexible stripe attached thereto, a roller for said stripe mounted on said support, a pawl-and-ratchet mechanism for holding said roller against rotation, a cord spirally wound upon said roller to rotate the same, a cord suspended from said pawl-and-ratchet mechanism adapted to release said roller for rotation, a hand member attached to one of said cords and free to run upon the other cord, and a pair of pivoted awning-braces mounted upon said bottom plate.

808,697. WOOD SHEET-PILING. ANDREW LANGHUST, Chicago, Ill. Filed Aug. 12, 1904. Serial No. 220,621.



Claim.—1. In a wooden sheet-piling, a section thereof comprising two or more wooden planks clamped together, the vertical edges of said section provided with metal pieces adapted to engage with the metal pieces on the adjacent sections.

2. In a wooden sheet-piling, a section thereof comprising wooden planks clamped together to form tongue-and-groove joints with the adjacent section, the vertical edges of said section provided with metal pieces adapted to engage with the metal pieces on the adjacent sections.

3. In a wooden sheet-piling, a section thereof comprising a plurality of wooden planks clamped together, the edges of said planks provided with metal strips, each of said strips having a portion adapted for engagement to the wooden planks and another portion extending at an angle therefrom to engage the metal strip on the adjacent section.

4. In a wooden sheet-piling, a section thereof comprising four wooden strips bolted together side by side, the edges of the two inner strips projecting beyond the edges of the two outer strips so that a tongue-and-groove connection is formed, the edges of the inner strips being provided with angle-bars having their flanges spaced from the edge of the wooden strips to form recesses whereby the metal strips can engage those of the adjacent section.

5. In a wooden sheet-piling, a section comprising parallel wooden planks, metal pieces secured to the vertical edges of the section adapted to engage with metal pieces on adjacent sections, a tie-plate interposed between said planks, and fastening devices rigidly uniting said planks and tie-plate to the metal pieces at each side of the section.

808,698. SKATE. JOHN B. MARTIN, Somerville, Mass. Filed Jan. 3, 1905. Serial No. 239,366.

Claim.—1. In a skate, a runner, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner when in use and provided with means to grip the edges of the sole of a boot or shoe, an independent heel-sustainer also pivoted on the runner and provided with means to grip the heel, and means operatively connecting said sole-sustainer and heel-sustainer to cause them to clamp the sole and heel of a shoe.

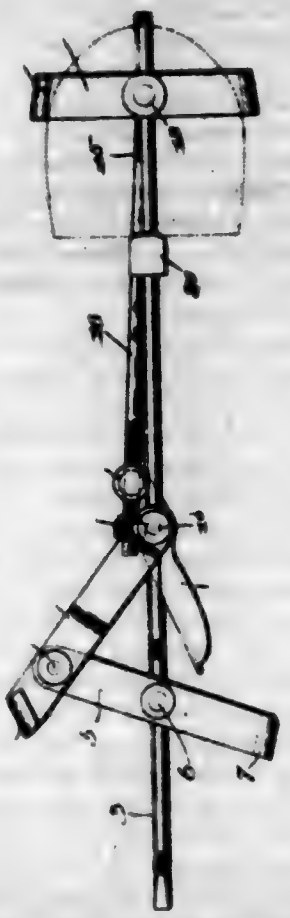
2. In a skate, a runner, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner when in use and provided with means to grip the edge of a sole, a sliding fulcrum-block operatively connected with said sole-sustainer, and a lever connected to said fulcrum-block for sliding the latter longitudinally of the runner and thereby clamping the sole-sustainer to the sole of a shoe.

3. In a skate, a runner, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner, and provided with means to grip the edge of a sole, a sliding fulcrum-block operatively connected to said sole-sustainer, independent heel-clamping means, and a lever connected to the sliding fulcrum-block and said heel-clamping means.

4. In a skate, a runner provided with means to sustain and engage the heel of a boot or shoe, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner when in use, and a lever joining the means for engaging the heel with the sole-sustainer, movement of the lever in one direction serving to fix the skate to the boot or shoe.

5. In a skate, a runner, a sole-sustainer comprising a member

pivotally mounted between its ends on and crossing the runner and provided with means to grip the edge of a sole, a sliding fulcrum-block operatively connected to said sole-sustainer, an independent heel-sustainer having means to grip the heel of a shoe, and a clamping-lever operatively connected to both the sliding block and the heel-sustainer.



6. In a skate, a runner, a pivoted sole-sustainer provided with means to grip the edge of a sole, a heel-sustainer slidably mounted between its ends on and crossing the runner when in clamping position, and a clamping-lever operatively connecting the sole-sustainer and the heel-sustainer

7. In a skate, a runner provided at its upper edge with a sole-sustainer comprising a member pivoted between its end to and crossing the runner when in use, said sole-sustainer when not in use being adapted to fold into the plane of the runner.

8. In a skate, a runner, a sole-sustainer comprising a member pivotally mounted between its ends on and crossing the runner and provided with means to grip the edge of a sole, a sliding fulcrum-block operatively connected with said sole-sustainer, a heel-sustainer pivoted to, and slidably mounted on the runner and crossing the same when in clamping position, a clamping-lever, and operative connections between said lever and both the sliding fulcrum-block and heel-sustainer.

9. In a skate, a runner, a sole-sustainer comprising a member pivoted between its ends to said runner and crossing the same when in use, a sliding fulcrum-block operatively connected with the sole-sustainer, a fixed stop to engage the breast of a heel, a sliding heel-sustainer, and a clamping-lever operatively connected to both the sliding fulcrum-block and heel-sustainer.

10. In a skate, a runner provided with a sole-sustainer comprising a member pivoted between its ends to and crossing said runner when in use, a heel-sustainer pivoted between its ends to and crossing the runner when in use, said sole-sustainer and heel-sustainer being foldable into the plane of the runner when not in use.

11. In a skate, a runner, a sole-sustainer comprising a bar pivoted between its ends to the runner and having a clip or ear at one end, a second bar pivoted to the other end of the first-named bar, said second bar also having a clip or ear to engage the sole of a shoe, a sliding fulcrum-block pivotally connected with said second bar, and means to slide said block longitudinally of the runner thereby to clamp the sole of a shoe between said clips or ears.

12. In a skate, a runner, a sole-sustainer comprising a bar pivoted between its ends to the runner and having a clip or ear at one end, a second bar pivoted to the other end of the first-named bar, said second bar also having a clip or ear to engage the sole of a shoe, a sliding fulcrum-block pivotally connected with said second bar, and means to slide said block longitudinally of the runner thereby to clamp the sole of a shoe between said clips or ears, combined with heel-clamping means.

13. In a skate, a runner, a sole-sustainer comprising a bar pivoted between its ends to the runner and having an ear at one end to engage the sole of a shoe, and a second bar pivoted to the first-named bar, said second bar also having an ear to engage the sole of a shoe, a sliding fulcrum-block to which the second bar is jointed, a clamping-lever pivoted to said fulcrum-block, a sliding heel-sustainer, operative connections between said heel-sustainer and clamping-lever, and a fixed stop to engage the breast of the heel.

14. In a skate, a runner, a pivot-pin secured thereto, a sole-sustainer including a bar resting on the runner and loosely mounted on said pivot-pin, said bar having depending flanges, the lower portions of which are shaped to form foot portions to bear against said pivot-pin.

15. In a skate, a runner, a pivot-pin secured thereto, a sole-sustainer including a bar resting on the runner and loosely mounted on said pivot-pin, said bar having depending flanges, the lower portions of which are shaped to form foot portions to bear against said pivot-pin, said foot-portions having openings to embrace said pivot-pin.

16. In a skate, a runner, a pivoted sole-sustainer and a heel-sustainer comprising a bar having means to grip the heel of a shoe, a pivot-pin carried by the runner and on which said bar turns, said bar having depending flanges, the lower portions of which are shaped to constitute foot portions to bear against said pivot-pin.

17. In a skate, a runner, a pivoted sole-sustainer, and a heel-sustainer comprising a bar having means to grip the heel of a shoe, a pivot-pin carried by the runner and on which said bar turns, said bar having depending flanges, the lower portions of which are shaped to constitute foot portions to bear against said pivot-pin, said foot portions embracing said pivot-pin.

18. In a skate, a runner, a sole-sustainer comprising a member pivoted between its ends to the runner and having a clip or ear at one end, a second member pivoted to the other end of the first-named member and having a clip or ear to engage the sole of a boot or shoe, and means connected to one of said members to move the members that the clips thereon shall clamp between them the edges of the sole of a boot or shoe.

19. In a skate, a sole-sustainer having ears to engage a shoe-sole, a heel-sustainer also having ears to engage a shoe-heel, said sole-sustainer and heel-sustainer each comprising a member pivoted between its ends to and crossing the runner when in use.

20. In a skate, a runner, a pivot-pin embracing said runner, a sole-sustainer comprising a bar mounted on said pivot-pin and crossing the runner and having at one end an ear, a second bar pivoted on the opposite end of said first-named bar and having at one of its ends an ear, a sliding fulcrum-block connected with an arm of said second bar, means to guide and sustain said fulcrum-block loosely and slide the said fulcrum-block forwardly toward the front end of said skate causing the ears to be separated that they may be made to receive between them the sole of a shoe.

21. A skate comprising a runner, a sole-sustainer and a heel-sustainer each comprising a member pivotally mounted between their ends on the runner, means to move said sustainers relatively longitudinally of the runner, said sustainers crossing the runner when open for use and constructed to be closed to occupy a position substantially parallel with the runner when folded in the plane of and above the runner.

22. In a skate, a sole-sustainer having ears to engage a shoe-sole, a heel-sustainer also having ears to engage a shoe-heel, said sole-sustainer and heel-sustainer comprising a member pivoted between its ends to and crossing the runner when in use, both said sustainers when not in use being foldable into the plane of and above the runner.

23. In a skate, a runner, a heel breast-gage, a heel-clamp comprising a member pivoted between its ends to and above the runner and crossing the same when in use, and means to move one of said parts toward the other to clamp the skate to the heel.

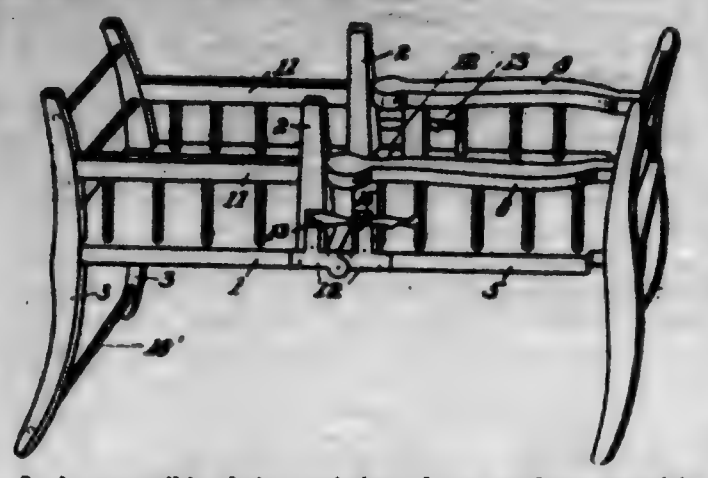
24. In a skate, a runner, a saddle fitting both sides of the runner, and a split pin embracing the runner and carried by the saddle.

25. In a skate, a runner having a top and bottom bar with a space between, a saddle embracing the top bar and contacting with the under side thereof, and a split pin straddling said bar mounted in said saddle and slidable therewith on said top bar.

26. In a skate, a runner provided at its upper edge with a sole-sustainer, said sole-sustainer comprising a member pivoted between its ends to and crossing the runner when in use, and being foldable above the runner and into the plane thereof when not in use.

803,699. CONVERTIBLE CHAIR. DAVID T. MATTHEW, Tacoma, Wash. Filed Mar. 31, 1905. Serial No. 253,253.

Claim.—1. A convertible chair consisting of two sections comprising bottom parts hinged together so as to be capable of being arranged one on the other, and end frames extending above and below said bottom parts, one of said end frames being movable through the other when said sections are folded together.



2. A convertible chair consisting of two sections comprising bottom parts hinged together, end frames secured to said sections and extending above and below the same, and a removable frame extending along one side edge of said section and being removably connected to said end frames.

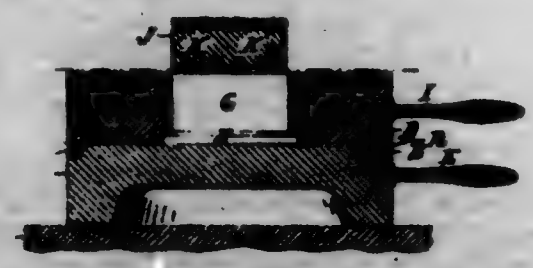
3. A convertible chair consisting of two sections comprising bottom parts hinged together at one edge, end frames secured to said sections and extending above and below the same, and side sections secured to the first-named sections at the opposite side edges of said bottom parts, substantially as and for the purpose specified.

4. A convertible chair consisting of two sections comprising bottom parts foldable one on the other, said bottom parts when unfolded alining to form a settee, and end frames extending above and below said bottom parts, the opposite sides of said bottom parts and said end frames when said sections are inverted forming a crib, and sides for the crib carried by said sections.

5. A convertible chair consisting of two sections comprising bottom parts hinged together, said sections when unfolded having their bottom parts alined, a pivoted catch carried by one section, a keeper secured to the other section for engagement by said catch, and end frames secured to said bottom parts and extending above and below the same, the upper portions of said frames serving as arms when the sections are unfolded and the lower portions thereof forming supporting-legs.

6. A convertible chair consisting of two sections, one of said sections comprising a bottom part provided at its inner end with legs and at its outer end with a frame which extends above and below said bottom part, the other section comprising a bottom part hinged to the inner end of the first-named bottom part, a frame secured to the outer end of the last-named section, said last-named frame fitting in the first-named frame when the sections are folded, and means for locking said sections in their unfolded position.

808,700. MOLDING APPARATUS. WILLIAM P. HEINTZ, Newark, N. J. Filed Nov. 12, 1904. Serial No. 232,402.



Claim.—1. A press-mold formed of a cup provided with a depending flange, and a base provided with a rabbet to receive such flange, said cup and base being adapted to be moved relative to each other without changing the form of the mold.

2. A press-mold formed of a cup provided with a depending annular flange, and a base provided with an annular rabbet to receive such flange, said cup and base being adapted to be rotated relative to each other without changing the form of the mold.

3. A press-mold combining a recessed, open-bottomed cup, and a base with a continuous, unbroken face extending beneath and beyond the cup-opening and adapted to present new portions of its face beneath said cup-opening without changing the form of or producing any opening in the bottom of the mold.

4. A press-mold combining a recessed, open-bottomed cup, a base, rotatably connected therewith and having a continuous, unbroken face extending beneath and beyond the cup-opening and adapted to present new portions of its face beneath said cup-opening without changing the form of or producing any opening in the bottom of the mold.

5. The combination in a press-mold of a base provided with a circumferential, annular rabbet and a smooth upper face, a cup provided with a circumferential, depending, annular flange and a mold with downwardly and outwardly flared sides, and a plunger provided with grooves or recesses in its face, substantially as described.

6. The combination in a press-mold of a base provided with a circumferential, annular rabbet and a smooth upper face, a cup provided with a circumferential, depending, annular flange and a mold with downwardly and outwardly flared sides, and a plunger provided with grooves or recesses in its face, the cup and base being movable in relation to each other without thereby changing the form of the mold, substantially as described.

7. The combination, in a molding apparatus, of a mold-press provided with a recessed plunger, and a coöperating, recessed upsetting-die.

8. The combination, in a molding apparatus, of a mold-press provided with a recessed plunger, and a coöperating upsetting-die provided with inwardly-tapering recesses.

9. The combination, in a molding apparatus, of a mold-press provided with a recessed plunger, and a coöperating upsetting-die provided with an inwardly-tapering recess, of an exterior opening equal to the embracing outline of two of the plunger-recesses.

10. The combination, in a molding apparatus, of a mold-press provided with a plunger having a plurality of molding-recesses therein, and a coöperating upsetting-die provided with a plurality of inwardly-tapering recesses each having an exterior opening equal to the embracing outline of two adjacent plunger-recesses.

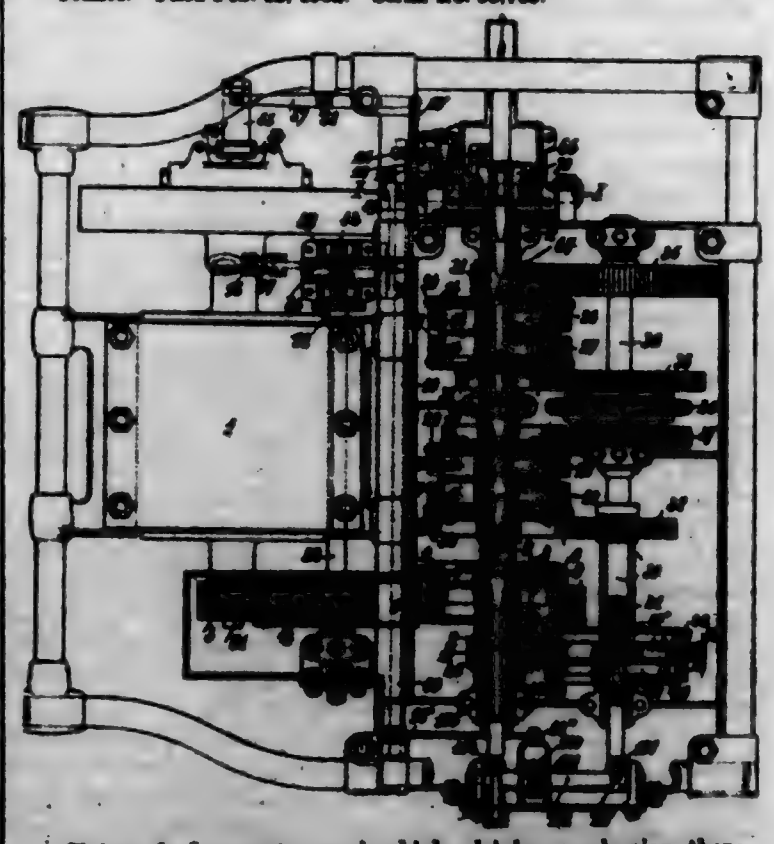
11. The combination, in a molding apparatus, of a mold-press provided with a recessed plunger having two pairs of relatively converging molding-grooves therein, and a coöperating upsetting-die provided with two inwardly-tapering recesses each having an exterior opening equal to the outline of one pair of the plunger-recesses.

12. In a molding apparatus an upsetting-die provided with inwardly-tapering recesses in its face.

13. The combination, in a molding apparatus, of a mold-press provided with a recessed member, and a coöperating upsetting-die provided with inwardly-tapering recesses.

14. The combination, in a molding apparatus, of a mold-press provided with a recessed member, and a coöperating, recessed upsetting-die.

808,701. VARIABLE-SPEED GEARING. LÉANDRE MIEY, Paris, France. Filed Feb. 13, 1902. Serial No. 93,769.



Claim.—1. In a motor road-vehicle, driving mechanism therefor; a plurality of gearings for imparting different speeds respectively to the vehicle; motor-driven means for throwing the gearings into operation; and means automatically operated by changes in the

speed of the driving mechanism for controlling the action of the motor-driven means in throwing the gearings into operation.

2. In a motor road-vehicle, driving mechanism therefor; a plurality of gearings for imparting different speeds respectively to the vehicle; motor-driven means for throwing the gearings into operation; and centrifugal mechanism driven by the driving mechanism and operating by centrifugal force to automatically control the action of the motor-driven means in throwing the gearings into operation.

3. In a motor road-vehicle, driving mechanism therefor; a plurality of gearings each for imparting a different speed from the driving mechanism to the vehicle; controlling means for throwing said gearings into operation; motor-driven means for actuating said gearing-controlling means; connections through which the motor-driven actuating means operate the gearing-controlling means to throw a higher or a lower speed gearing into action; and means automatically operated by changes in the speed of the driving mechanism for throwing said connections into and out of operation.

4. In a motor road-vehicle, driving mechanism therefor; a plurality of gearings each for imparting a different speed from the driving mechanism to the vehicle; controlling means for throwing said gearings into operation; motor-driven means for actuating said gearing-controlling means; connections through which the motor-driven actuating means operate the gearing-controlling means to throw a higher or a lower speed gearing into action; and centrifugal mechanism driven by the driving mechanism and operating by centrifugal force to automatically throw said connections into and out of operation.

5. In a motor road-vehicle, driving mechanism therefor; a plurality of gearings each for imparting a different speed from the driving mechanism to the vehicle; controlling means for throwing said gearings into operation; continuously-operating motor-driven means for actuating said gearing-controlling means; connections through which the motor-driven actuating means operate the gearing-controlling means to throw a higher or a lower speed gearing into action; and means automatically operated by changes in the speed of the driving mechanism for intermittently throwing said connections into operation.

6. In a motor road-vehicle, driving mechanism therefor; a plurality of gearings each for imparting a different speed from the driving mechanism to the vehicle; controlling means for throwing said gearings into operation comprising a toothed rod; a sleeve about said rod; connections for continuously oscillating said sleeve from the driving mechanism; two pawls mounted on the sleeve adapted to engage the teeth on the rod to impart movement thereto in opposite directions respectively; movable stops for throwing the pawls into position to engage the teeth on the rod to move the latter with the sleeve; and centrifugal mechanism driven by the driving mechanism and acting by centrifugal force to automatically move said stops into and out of their active positions.

7. In a motor road-vehicle, driving mechanism therefor; a plurality of gearings each for imparting a different speed from the driving mechanism to the vehicle; controlling means for throwing said gearings into operation comprising a toothed rod, a sleeve about said rod, connections for continuously oscillating said sleeve from the driving mechanism, two pawls mounted on the sleeve adapted to engage the teeth on the rod to impart movement thereto in opposite directions respectively, movable stops for throwing the pawls into position to engage the teeth on the rod to move the latter with the sleeve; centrifugal mechanism driven by the driving mechanism and acting by centrifugal force to automatically move said stops into and out of their active positions; and means controlled by the operator for moving one of said stops into active position independently of the action of the centrifugal mechanism to cause the corresponding pawl to move the rod to throw a higher-speed gearing out of operation and a lower-speed gearing into operation.

8. In a motor road-vehicle, driving mechanism therefor; a plurality of gearings for imparting different speeds respectively from the driving mechanism to the vehicle; a clutch for connecting the driving mechanism with and disconnecting it from the gearings; means under control of the operator for throwing said clutch to its inactive position and for simultaneously causing the lowest-speed gearing to be thrown into action.

9. In a motor road-vehicle, driving mechanism, a driving-shaft from which the vehicle is driven, a clutch-shaft adapted to be connected to and disconnected from the driving mechanism at the will of the operator, a plurality of gearings each for imparting a different speed from said clutch-shaft to the driving-shaft and each comprising a gear-wheel loose on the clutch-shaft when the corresponding gearing is inactive, friction-clutches on the clutch-shaft one for connecting each gear-wheel to said shaft each clutch comprising outwardly or radially movable members for forcing the friction-surfaces into contact, and means for forcing said members outwardly to throw any clutch and the corresponding gearing into action.

10. In a motor road-vehicle, driving mechanism, a driving-shaft from which the vehicle is driven, a clutch-shaft adapted to be connected to and disconnected from the driving mechanism at the will of the operator, a plurality of gearings each for imparting a different speed from said clutch-shaft to the driving-shaft and each comprising a gear-wheel fast on the driving-shaft with a gear-wheel loose on the clutch-shaft when the corresponding gearing is inactive, friction-clutches on the clutch-shaft one for connecting each clutch-shaft gear-wheel to said shaft, friction-clutches on the clutch-shaft one for connecting each gear-wheel to said shaft each clutch comprising outwardly or radially movable members for forcing the friction-surfaces into contact, and means for forcing said members outwardly to throw any clutch and the corresponding gearing into action.

11. In a motor-vehicle, the combination with driving mechanism therefor; of connections from said driving mechanism for imparting forward or backward movements to the vehicle, and means for decreasing the speed of the vehicle all under control of a single operating device accessible to the operator; and automatically-operating means for varying the speed of the vehicle.

12. In a motor road-vehicle, driving mechanism therefor; a plurality of gearings each for imparting a different speed of forward movement from the driving mechanism to the vehicle; gearing for imparting backward movement from the driving mechanism to the vehicle; friction-clutches one between the driving mechanism and the forward-movement gearings and another between said mechanism and the backward-movement gearing; a controlling device accessible to the operator; and connections actuated upon progressive movement of said controlling device in one direction for bringing the forward-movement gearings successively into operation until the lowest-speed gearing is reached, and then throwing the clutch to the forward-movement gearings out of operation and the clutch to the backward-movement gearing into operation.

13. In a motor road-vehicle, driving mechanism therefor; a driving-shaft from which the vehicle is driven, a clutch-shaft, a plurality of gearings each for imparting a different speed of movement from said clutch-shaft to the driving-shaft and each comprising a gear-wheel on the clutch-shaft, clutches one for connecting each gear-wheel to the shaft, a clutch for connecting the driving mechanism with said clutch-shaft; a controlling device accessible to the operator and connections actuated upon progressive movement of said controlling device in one direction for bringing the gearings successively into operation until the lowest-speed gearing is reached and for then operating the clutch for disconnecting the driving mechanism from the gearings.

14. In a motor road-vehicle, driving mechanism, a driving-shaft from which the vehicle is driven, an intermediate shaft, a plurality of gearings each for imparting a different speed of rotation from said intermediate shaft to the driving-shaft, a clutch controlling the operation of the intermediate shaft by the driving mechanism, a controlling device accessible to the operator and connections actuated upon progressive movement of said controlling device in one direction for bringing the gearings successively into operation until the lowest-speed gearing is reached and for then operating the clutch to disconnect the driving mechanism and the intermediate shaft.

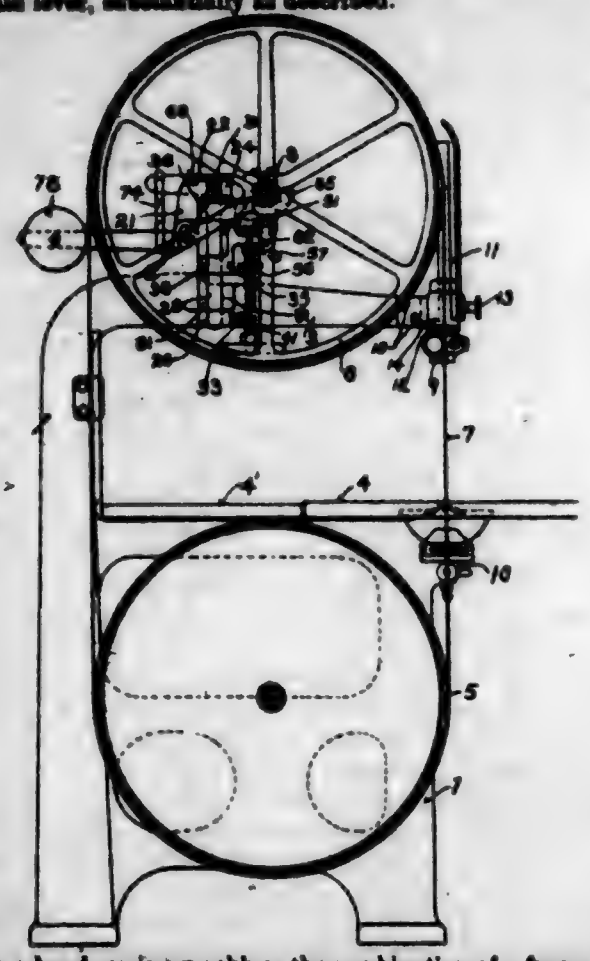
803,702. BAND SAWING-MACHINE. JOHN J. MEYERS, Cincinnati, and THEODORE C. PROUT, Carthage, Ohio, assignors to J. A. Fay & Egan Company, Cincinnati, Ohio, a Corporation of West Virginia. Filed Mar. 27, 1905. Serial No. 252,264.

Claim.—1. In a band scroll-saw, the combination of a double gooseneck-frame, a table under the goosenecks of said frame, with a light-spoke wheel above having supporting and sliding connections with both said goosenecks, and a heavy solid-webbed wheel below.

2. In a band sawing-machine, the combination of a double, superposed gooseneck-frame, a stock-supporting table under the goosenecks of said frame, and an upper saw-wheel saddle having supporting connection with both said goosenecks, substantially as described.

3. In a band sawing-machine, the combination of a double, superposed gooseneck-frame, a stock-supporting table under the goosenecks of said frame, an upper saw-wheel saddle having supporting connection with both said goosenecks, and means for adjusting said saddle up and down, said saddle laterally straddling a gooseneck and taking into its horizontal plane.

4. In a band sawing-machine, the combination of a double, superposed goosenock-frame comprising a main column, an upper saw-wheel-supporting saddle, rods between the upper lateral extensions of the goosenecks of said frame forming sliding supporting connection for said saddle, means for adjusting said saddle up and down, said saddle laterally straddling a goosenock for taking into horizontal plane with said goosenock during adjustment of said saddle, a knife-edge bar mounted on said saddle and distanced farther from said main column than said rods, an upper saw-wheel bearing-supporting lever pivoted on said knife-edge bar between said main column and the bearing carried by said lever, and means for tensioning said lever, substantially as described.



5. In a band sawing-machine, the combination of a frame having an upper lateral extension supporting a band-saw guide at its outer end, a standard thereon open at its side toward said outer end, an upper saw-wheel-supporting saddle, means for supporting and adjusting said saddle at said open side, said saddle having a groove at its bottom extending longitudinally of said extension, the walls of said groove taking about said extension during adjustment of said saddle, substantially as described.

6. In a band sawing-machine, the combination of a primary goosenock-frame and a stock-supporting table located in the opening of said goosenock-frame, said goosenock-frame comprising a primary column and a primary lateral extension, a secondary goosenock superposed on said primary goosenock-frame, an upper saw-wheel-supporting saddle and rods therefor having supporting connection with and located between said goosenecks, said saddle projected toward the free end of said primary goosenock from said secondary goosenock, and said secondary goosenock being located upon said primary goosenock adjacent to the column of the latter.

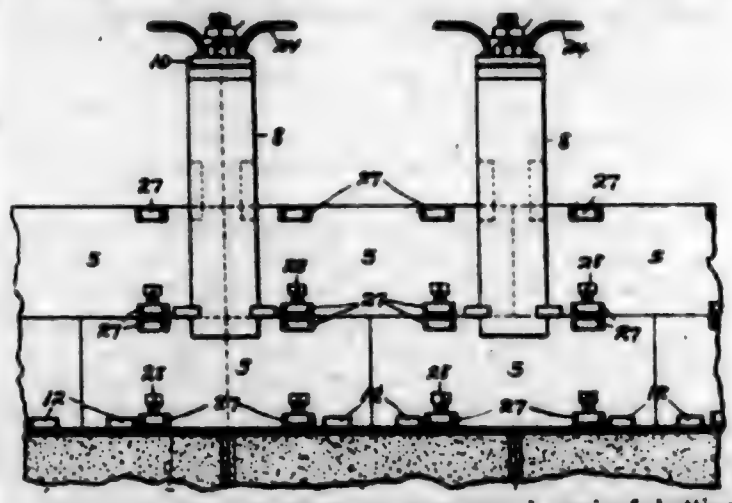
7. In a band sawing-machine, the combination of a double superposed goosenock-frame, rods between the upper lateral extensions of said goosenecks, an upper saw-wheel-supporting saddle on said rods, means for adjusting said saddle, said saddle having a groove at its bottom, the walls of said groove taking horizontally to the side of the lower one of said upper lateral extensions during adjustment of said saddle, substantially as described.

8. In a band sawing-machine, the combination of a primary goosenock-frame and stock-supporting table located in the opening of said goosenock-frame, said goosenock-frame comprising a primary column and a primary lateral extension, a secondary goosenock superposed on said primary goosenock-frame, an upper saw-wheel-supporting saddle and rods therefor having supporting connection with and located between said goosenecks, said saddle projected toward the free end of said primary goosenock from said secondary goosenock, and said secondary goosenock being located upon said primary goosenock adjacent to the column of the latter, a knife-edge bar, means for adjusting said knife-edge bar on said saddle, an upper saw-wheel-bearing-supporting lever pivoted on said knife-edge bar, means for tensioning said lever, and an adjusting-screw for said saddle having threaded connection with said primary lateral extension under said knife-edge bar, substantially as described.

9. In a band sawing-machine, the combination of a double superposed goosenock-frame, rods secured between the upper lateral extensions of said goosenecks, an upper saw-wheel-supporting saddle, said saddle having depending bearings at the sides thereof for said rods, and means for adjusting said saddle for bringing said bearings into horizontal plane with the lower one of said upper lateral extensions, substantially as described.

10. In a band scroll-sawing machine, the combination of a frame comprising a column having a plurality of lateral extensions, a stock-supporting table under said lateral extensions, an upper saw-wheel-supporting saddle, means for adjusting said saddle up and down, rod-bearings on said extensions and said saddle, rods therein, said saddle straddling an extension for bringing its bearings into horizontal plane with said extension.

803,708. DEVICE FOR BUILDING CONCRETE WALLS. DAVID A. MILAM, Kansas City, Mo. Filed Apr. 1, 1905. Serial No. 253,267.



Claim.—1. In a device for the purpose named, a pair of abutting outside mold-plates, a pair of abutting inside mold-plates, an outside and an inside upright, covering respectively the junctions of the outside and the inside mold-plates, a bifurcated seat-plate lying transversely in or upon a wall, one end thereof engaging the outside upright, and being adapted to be removed from the wall in the direction of its length, and a cross-bar connecting the upper end of the outside upright to the upper end of the inside upright; substantially as described.

2. In a device for the purpose named, a lower series of mold-plates, an upper series of similar superposed mold-plates, each mold-plate being provided with two outwardly-projecting lugs near its lower edge, set-screws arranged head upwardly in said ears, two outwardly-projecting lugs near the top of each mold-plate, said screws of the upper series being adapted to engage the upper lugs of the lower series, for leveling the mold-plates longitudinally of the wall; substantially as described.

3. In a device for the purpose named, the combination of an outer and an inner upright, a cross-bar rigidly secured to the upper end of the outer upright, a second cross-bar adjustably secured to said cross-bar, a screw projecting upwardly from the top of the inner upright, a flanged nut mounted on said screw, a handle fixed on said nut and spaced above the flange, the last-named cross-bar being engaged between the flange and the handle, and hook-lugs secured to the inner faces of said uprights for engaging the upper edges of the mold-plates; substantially as described.

4. In a device for the purpose named, a plurality of outside mold-plates, a plurality of inside mold-plates, the lower edges of said plates being provided with recesses, and a bifurcated seat-plate adapted to be inserted through said recesses for holding said plates in contact longitudinally.

5. In a device for the purpose named, a plurality of outside mold-plates, a plurality of inside mold-plates, the lower edges of said plates being provided with recesses, a bifurcated seat-plate passing through said recesses and embedded in the material of the wall, said seat-plate having two inwardly-directed notches in its ends, an upright S having its lower end held by said notches, an inside upright passing between the arms of the seat-plate in contact with the junction of two inside mold-plates, and a wedge inserted between the last-named upright and the body of the seat-plate, for the purpose specified.

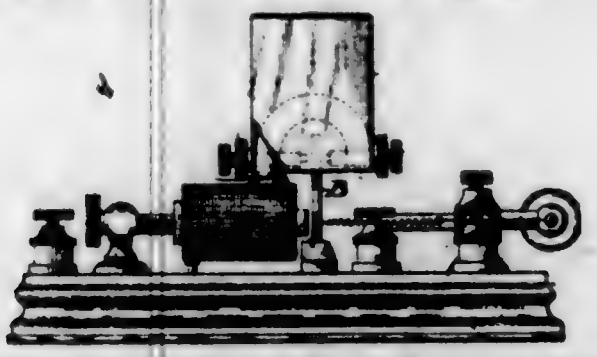
6. In a device for the purpose named, a plurality of inside mold-

plates, a plurality of outside mold-plates, an upright contacting with the junction of two inside plates, said last-named upright having a transverse bar secured to its upper end across the mold, an upper transverse bar adjustably secured thereto, said upper bar having a circular opening therein, an upwardly-extending screw projecting from the first-named upright, a nut 19 mounted thereon, a portion of said nut lying within said opening, said nut having a shoulder upon which said upper bar rests, a nut screwed upon said nut 19, above said bar, and means for turning said nut 19, for the purpose specified.

7. In a device for the purpose named, the inside uprights, provided with the hooks 15, in combination with the abutting mold-plates, said hooks engaging the upper edges of said plates, for the purpose specified.

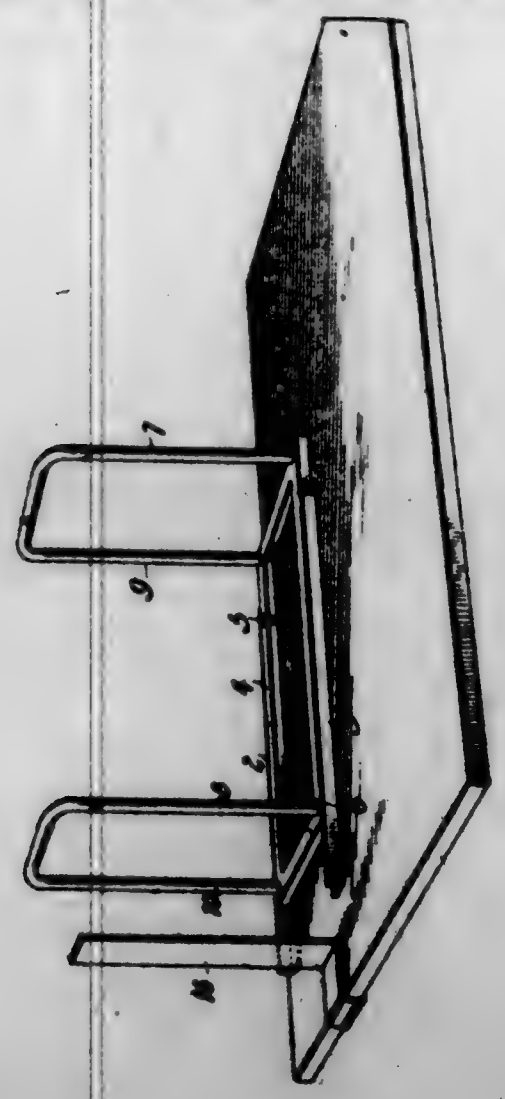
8. In a device for the purpose named, a pair of tapered keying members 12, each provided with a longitudinal row of bolt-holes, and a cross-piece connecting said members together adjacent one end thereof; the outer ends of the keying members being provided with notches for the reception of an upright staying member; substantially as described.

803,704. **TELEGRAPHIC SOUNDER.** FRANK H. MILLER, Washington, D. C. Filed Feb. 18, 1905. Serial No. 246,203.



Claim.—In combination with the sounding-post, contact-screws and jam-nuts of an ordinary relay, a sounding-box fitted over the post, having notches to receive the contact-screws, and clamped in engagement with the post by the jam-nuts.

803,705. **BINDER FOR LEAVES.** RICHARD D. MILLER, Spokane, Wash., assignor of one-third to Don C. Anderson and one-third to Ernst Wiesse, Spokane, Wash. Filed Mar. 10, 1905. Serial No. 249,470.

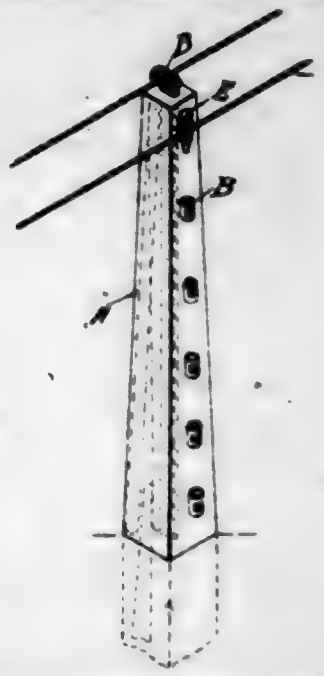


Claim.—1. A binder for leaves slotted to allow of a change of position, said binder consisting of a back, a frame slidably mounted on said back to be shifted to different positions thereon, leaf-holding elements carried by said frame, and a stop arranged to be engaged by the leaves to aline the latter after change of position.

2. A binder for leaves which are slotted to allow of a change of position, said binder consisting of a back, a frame mounted on said back to be shifted to different positions thereon, pins and transfer-wires commonly mounted on said frame, and a leaf-stop on said back.

3. A binder for leaves consisting of a back, pins and transfer-wires having interlocking engagement, said pins and wires being commonly mounted to be shifted in position along said back.

803,706. **CEMENT-POST FASTENER.** HENRY MCMASTER, Detroit, Mich. Filed Aug. 10, 1904. Serial No. 220,216.

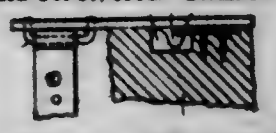


Claim.—1. The combination with the cementitious body material of a fence-post, of a plurality of fastenings consisting of sections of metallic bands bent upon themselves and having their inner ends hooked, of slots in the opposite ends, of shoulders on the inner portion of the slots terminating outside of the cementitious body against which the fence-wires are kinked by means of the fastening-pins, substantially as described.

2. In a concrete fence-post the combination with the cementitious body material, of a plurality of flattened key-shaped metal portions having inwardly-projecting slots at their outer or bent ends, the opposite ends of the key-shaped metal portions being hooked, the shoulders at the inner portion of said slots disposed outside of the face of the post, of pins in front of the wires inserted in said slots of sufficient diameter to kink said wires, substantially as described.

3. In a fence-fastening the combination of longitudinal stays or reinforcements, of a looped and slotted portion on the upper end of one of said stays, of one or more looped and slotted clips secured to the longitudinal reinforcements, substantially as described.

803,707. **GRAIN-DOOR FOR RAILWAY-CARS.** KNUTE OSEL, St. Paul, Minn. Filed Oct. 17, 1904. Serial No. 228,588.



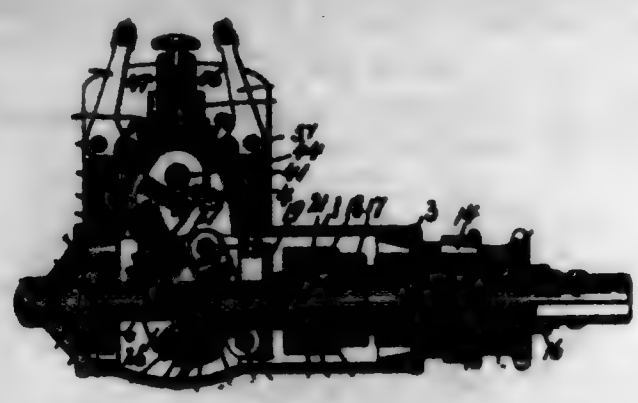
Claim.—1. The combination with a car formed with a door-frame, a slidably-supported door of less width than the door-opening, a pair of plates having slidable hinge connection with straps secured in the inner faces of the sides of the door-frame, whereby said plates may be lifted to pass over a threshold, means for holding said plates extending into the door-opening, and means for holding said plates locked against the inner faces of the door-frame.

2. The combination with a car formed with a door-frame and a slidably-supported hinged door of less width than the door-opening, a pair of plates having slidable hinge connection with straps secured in the inner faces of the sides of the door-frame, and catches carried by said plates and the inner faces of the door-frame so constructed as to be interlocked by the raising of said plates.

3. The combination with a car formed with a door-frame, of a slidably-supported hinged door of less width than the door-opening,

a pair of plates having slidable hinge-support in the inner faces of the door-frame, cooperating catches carried by said plates and the inner faces of said door-frame whereby the plates may be lifted to swing over the threshold or to carry the catches into interlocking position, and latches pivotally supported on the door adjacent to said plates cooperating with openings in the frame alongside said plates.

808,708. MASSAGING IMPLEMENT. ALVAH U. PATCHEN, Syracuse, N. Y. Filed Apr. 16, 1904. Serial No. 203,377.



Claim.—1. In a massaging implement, the combination with a rotary shaft, of a collar rotatable with the shaft and tiltable axially, means to tilt the collar, a sliding beater-support connected to and actuated by the collar, and a rocking brush-support connected to and actuated by the beater-support.

2. In a massaging implement, the combination with a rotary shaft, a tiltable collar, rotating with the shaft, a non-rotatable ring on the collar, and a rocking brush-support operatively connected to and actuated by said ring.

3. In a massaging implement, the combination with a rotary shaft, a tiltable collar mounted upon and rotating with the shaft, a non-rotatable element movable axially of and actuated by said collar, and a pair of brush-supports operatively connected to and actuated by said element toward and from each other.

4. In a massaging implement, the combination with a rotary shaft, a tiltable collar mounted on and rotating with the shaft, an axially-movable sleeve on the shaft and connected to the collar to tilt the same, a non-rotatable ring on the collar, a reciprocatory member connected to and actuated by the ring, a beater on said member, and a brush-support movable in a different direction from that of the beater and actuated by said member.

5. In a massaging implement, the combination with a rotary shaft, a tiltable collar mounted on and rotating with the shaft, an axially-movable sleeve on the shaft and connected to the collar to tilt the same, a non-rotatable ring on the collar, a reciprocatory member connected to and actuated by the ring, a pair of oscillatory brushes moving in unison and operatively connected to and actuated by the collar.

808,709. TICKLER. JOHN B. PERRETT, Chicago, Ill., assignor to James B. Pirie, Chicago, Ill. Filed Sept. 26, 1904. Serial No. 225,080.

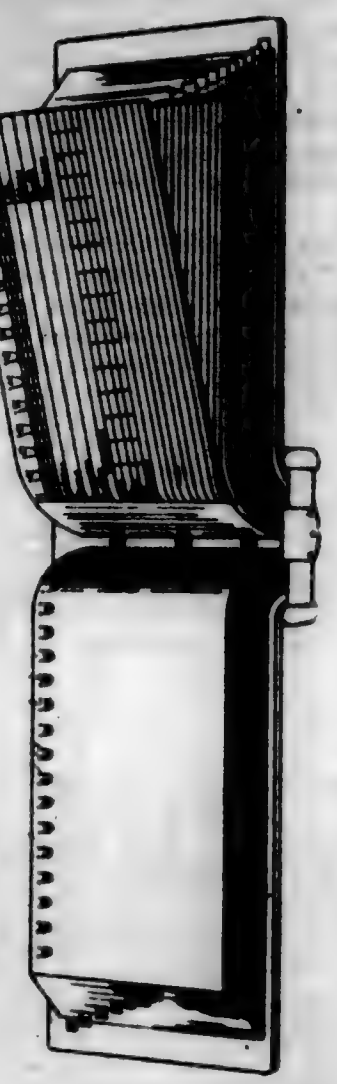
Claim.—1. In a tickler, a leaf or analogous member provided along one of its edges with a plurality of indicating-tabs, each provided with an indicating-mark and adapted to be moved so as to project beyond the edge of the leaf to expose said mark.

2. In a tickler, a leaf or analogous member provided adjacent but interiorly of its edge with a plurality of indicating-tongues, each provided with an indicating-mark, and each adapted to be moved so as to project beyond the edge of the leaf to expose said date, for the purpose described.

3. In a tickler, a leaf or analogous member provided adjacent but within its edge with a series of perforations outlining a plurality of indicating-tongues each with a perforated side remote from the edge of the leaf and each longer than its distance from the edge and adapted to be broken away from the leaf-body around said outline and folded to project the free end beyond the edge of the leaf.

4. A tickler comprising a leaf or analogous member provided adjacent but within its edge with a tongue having a free or unsecured side remote from the edge and provided with an indicating-mark at its free side and foldable at its attached side to project said free side beyond the edge of the leaf to expose said mark.

5. A tickler comprising a leaf or analogous member provided adjacent but interiorly of its edge with a plurality of perforations outlining inwardly-projecting tongues, each provided with an indicating-mark and adapted to be broken away from the leaf-body around said outline and folded at its attached side to project said tongue and mark beyond the leaf edge.



6. An index leaf or card provided with an integral tab struck out from the body thereof within but adjacent its marginal edge with a free side remote from the edge and an attached side between said free side and said leaf edge, whereby said tongue or tab may be folded at its attached side to project said free side beyond the leaf edge.

7. An index leaf or card provided adjacent but within its marginal edge with a weakened line outlining three sides of an indicating tab or tongue adapted to be broken loose from the main body around said outline, the attached or remaining side being between the leaf edge and the remote side of the tab, whereby said tab when folded upon said attached side projects beyond the edge of the leaf or card, substantially as described.

8. An index-leaf provided with an integral index-tab formed from the body of the leaf wholly inside of the marginal boundaries of the latter and made separable therefrom by means of a weakened line or cut outlining and extending around the tab except across that side adjacent to that margin of the leaf beyond which the index-tab projects when folded back.

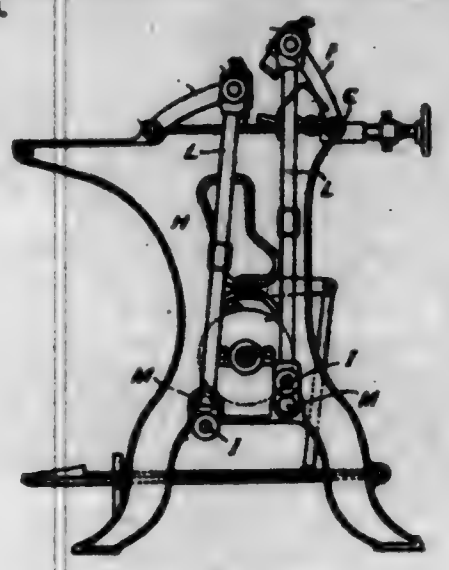
9. An index leaf or card, provided adjacent its margin with a tab normally extending inwardly from its attached side and resting wholly within the margins of the sheet but foldable along its attached side to project beyond the margin of the sheet.

10. A tickler, comprising in combination with a leaf or analogous member, a flexible number-bearing tab thereon resting normally wholly within the marginal edges of the sheet, the secured end of said tab being outermost and adjacent the margin of the sheet and the tab foldable at its attached end to project the free end beyond the edge of the sheet.

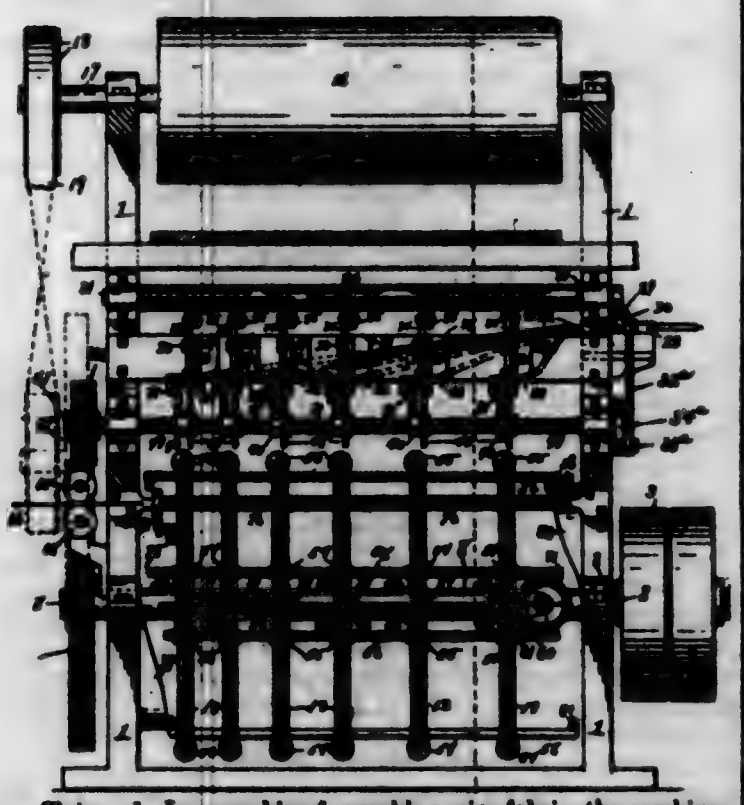
808,710. MACHINE FOR CUTTING BLOCK-SOLES. GEORGE GUARNEY, Saugus, Mass., assignor of one-half to James R. Carret, Lexington, Mass. Filed May 10, 1904. Serial No. 207,207.

Claim.—In a sole-block-cutting machine, a beam movable from and toward the cutting-beam; a knife-carrier extending parallel with said beam; and means for positively securing the carrier to the beam in any position to which it may be adjusted; the knife-carrier being provided with a pivot mounted eccentrically in a bushing in the beam and held non-rotatively on said pivot; and a clampable mechanism for swinging the knife-carrier on its pivot.

808,710.



808,711. MACHINE FOR MAKING WIRE FABRIC. GEORGE A. RAYMOND, Adrian, Mich., assignor of one-half to Lee B. Millard, Adrian, Mich. Filed June 24, 1904. Serial No. 213,922.



Claim.—1. In a machine for making wire fabric, the combination of the means for introducing the tie-wires and forming them into loops, means for feeding the longitudinal wires into the machine to lie in the loops of the tie-wires, means for introducing the transverse wires across the longitudinal wires in the loops of the tie-wires, and means for wrapping the ends of the tie-wires around the longitudinal wires in opposite directions.

2. In a machine for making wire fabric, the combination with the rotary wheels adapted to receive the longitudinal wires, means for feeding the tie-wires to said wheels and looping said tie-wires, means for introducing the transverse wires through the loops of the tie-wires, means for directing the longitudinal wires through the loops of the tie-wires across the transverse wires, and means for wrapping the ends of the loop around one of the crossed wires.

3. In a machine for making wire fabric, the combination of the rotary agents carrying the tying mechanism, means for introducing the tie-wires to said rotary agents in short straight lengths and forming said tie-wires into loops, means for introducing the transverse wires through the loops of the tie-wires, means for directing the longitudinal wires through the loop of the tie-wires across the transverse wires, and means for wrapping the terminals of said loops around one of the crossed wires in opposite directions.

4. In a machine for weaving wire fabric, the combination with the rotary agents adapted to receive the longitudinal wires, rotary heads in said agents through which the longitudinal wires are adapted to pass, means for presenting the tie-wires to said rotary agents and looping said tie-wires between said rotary heads which engage the terminals thereof, means for introducing the transverse wires through the loops of the tie-wires, means for introducing the longitudinal wires through the loops of the tie-wires across the transverse wires, and means for rotating said heads to wrap the terminals of the loop around one of the crossed wires.

5. In a machine for weaving wire fabric, the combination with the grooved wheels adapted to receive the longitudinal wires, rotary heads in said wheels, slotted to also receive said wires, means for introducing the tie-wires in short straight lengths between said rotary heads and looping said tie-wires, means for introducing the transverse and longitudinal wires through the loops of the tie-wires, gears for driving said rotary heads, racks for driving said gears, and means for operating said racks.

6. In a machine for weaving wire fabric, the combination of the rotary grooved wheels around which the longitudinal wires are adapted to pass, opposed slotted rotary heads mounted in said wheels, means for severing the tie-wires, presenting them in straight lengths to the rotary heads and looping said tie-wires between said heads, slotted pinions for driving said heads, reciprocatory racks engaging said pinions, means for introducing the longitudinal and transverse wires through the loops of the tie-wires, the longitudinal wires passing through the slotted heads and pinions, means for shifting said racks to rotate said heads and wind the terminals of the loops around the crossed wires.

7. In a machine for weaving wire fabric, the combination of the rotary wheels adapted to receive the longitudinal wires; of the slotted rotary heads through which said wires are adapted to pass, the rotary feeding-arm adapted to present the tie-wires between said rotary heads in the form of loops, means upon said heads for engaging the terminals of the tie-wires, means for introducing the transverse and longitudinal wires through the loops of the tie-wires, and means for rotating said heads in opposite directions to wrap the terminals of the tie-wires around one of the crossed wires.

8. In a machine for weaving wire fabric, the combination with the rotary wheels adapted to receive the longitudinal wires, of the slotted rotary heads through which said wires pass, means for severing the tie-wires, carrying-arms and fingers adapted to engage the severed tie-wires and present them between said rotary heads, means for actuating said fingers to cause them to engage and release said wires, means for introducing the longitudinal and transverse wires through the loops of said tie-wires, and means for rotating said heads to wrap the terminals of the tie-wires around the crossed wires.

808,712. APPARATUS FOR INTRODUCING WATER TO PRESSURE-RECEPTACLES. ERNEST A. REEVE, Worcester, Mass., assignor to Charles F. Brown, trustee, Reading, Mass. Filed May 5, 1904. Serial No. 206,614.

Claim.—1. The combination of a boiler, a source furnishing elastic fluid at a pressure higher than that of the boiler, means for accumulating feed-water, and means controlled by the level of the accumulated water for automatically and periodically admitting the higher pressure to the surface of the feed-water to force the latter into the boiler.

2. In an apparatus of the character described, a steam-generator, a receptacle, means for accumulating a body of water of condensation from the steam supplied by said generator, and means controlled by the accumulation of said water for automatically introducing the same at intervals into said receptacle.

3. In an apparatus of the character described, a high-pressure steam-generator, a low-pressure steam-generator, a return-conduit connecting said generators, and an automatic return-trap in said conduit.

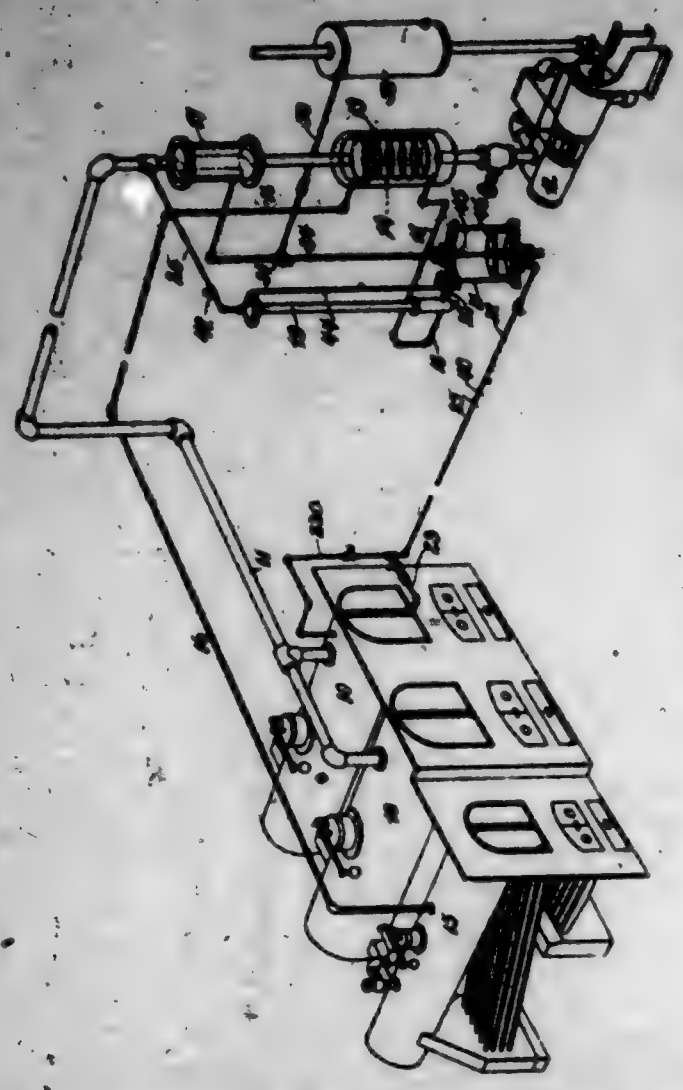
4. In an apparatus of the character described, high and low pressure generators for supplying superheating and working steam respectively, a superheater having chambers in connection with the respective generators, a return-conduit connecting the high-pressure chamber with the low-pressure generator, and an automatic return-trap in said conduit.

5. In an apparatus of the character described, high-pressure and low-pressure steam-generators, a chamber for collecting water of condensation from the low-pressure steam-supply, and means to automatically place said chamber periodically into connection with the high-pressure generator.

6. In an apparatus of the character described, high-pressure and low-pressure steam-generators, a chamber for collecting water of condensation from the low-pressure supply and having a return connection with the low-pressure generator, a conduit connecting said chamber with the high-pressure generator, and an automatic trap in said conduit.

7. In an apparatus of the character described, high-pressure and low-pressure generators, a chamber having an outlet to the low-pressure generator and a water-supplying inlet, a conduit independ-

end of said inlet connecting the high-pressure generator with said chamber, and an automatic trap in said conduit.



8. In an apparatus of the character described, a steam-generator, a receptacle, a chamber connected with the latter and having an inlet, an automatic check-valve controlling said inlet, and means to automatically place said chamber periodically in connection with said generator.

9. In an apparatus of the character described, a chamber having an inlet, a pressure-controlled check-valve controlling said inlet, a float whose descent opens said valve, an outlet from the chamber, a second inlet thereto, and an automatic steam-trap controlling the inflow through said second inlet.

10. In an apparatus of the character described, high-pressure and low-pressure steam-generators, a collecting-chamber having inlets from the steam-lines of both generators and an outlet to the low-pressure generator, an automatic steam-trap controlling the high-pressure inlet, a pressure-controlled check-valve controlling the low-pressure inlet, and a float in said chamber whose descent opens said valve.

11. In an apparatus of the character described, high-pressure and low-pressure generators, a superheater having chambers in respective connection with the steam-lines from said generators, a collecting-chamber having an inlet from the low-pressure steam-line and a second inlet from the high-pressure superheater-chamber, a return-outlet from said collecting-chamber to the low-pressure generator, and an automatic trap in the second inlet connection.

12. In an apparatus of the character described, high-pressure and low-pressure steam-generators, a superheater having chambers in respective connection with the steam-lines of said generators, a condensation-return line from the low-pressure steam-line to the low-pressure generator, a collecting-chamber in said return-line, and means to automatically and periodically place the high-pressure steam-line in connection with said collecting-chamber.

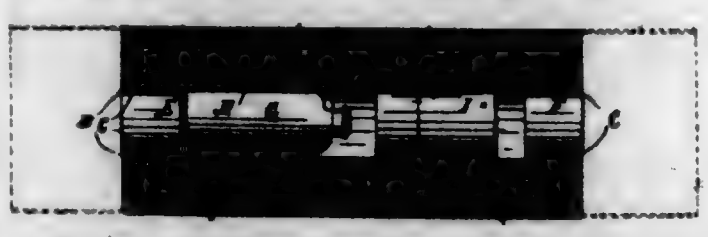
13. In an apparatus of the character described, high-pressure and low-pressure steam-generators, a superheater having chambers in respective connection with the steam-lines of said generators, a condensation-return line from the low-pressure steam-line to the low-pressure generator, a collecting-chamber in said return-line, means to automatically and periodically place the high-pressure steam-line in connection with said collecting-chamber, and a pressure and level-controlled valve controlling the inlet to said collecting-chamber from the low-pressure steam-line.

14. In an apparatus of the character described, high-pressure and low-pressure steam-generators, a superheater having chambers in the steam-lines from the respective generators, a condensation-separator in the low-pressure steam-line between the generator and superheater, a condensation-return line connecting said separator with the low-pressure generator, a collecting-chamber in said return-line, a second collecting-chamber for the condensation from the high-pressure superheater-chamber, and means to automatically and periodically connect said collecting-chambers.

15. In an apparatus of the character described, high-pressure and low-pressure steam-generators, a collecting-chamber for the high-pressure and low-pressure waters of condensation having an outlet to the low-pressure generator, level-actuated means in said chamber for controlling the inlet thereto for low-pressure condensation, a second collecting-chamber for high-pressure condensation anterior to the first said collecting-chamber, and level-controlled means for periodically exhausting said second chamber between predetermined maximum and minimum levels.

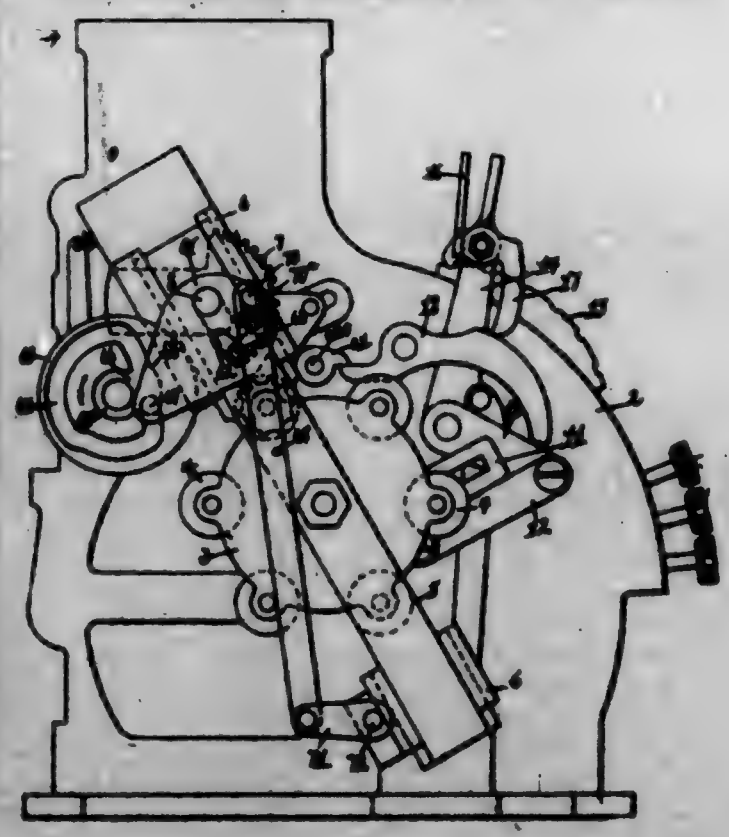
16. In an apparatus of the character described, high-pressure and low-pressure steam-lines, an automatic return-trap in the high-pressure line having a controlling-chamber, means for alternately sealing and unsealing said chamber by fluctuation in the quantity of high-pressure condensation, and a leakage-outlet from said chamber to the low-pressure steam-line.

803,713. ROOFING-PACKAGE. Herbert H. Reynolds, Grand Rapids, Mich. Filed Sept. 30, 1904. Serial No. 226,714.



Claim.—The combination with a roll of flexible roofing material having a central receptacle directly formed thereby and extending entirely therethrough, of a flexible covering applied around the said roll and having its ends folded against and projected into the openings at each end of the roll, the latter having the wall of the receptacle adjacent to the ends provided with an adhesive coating for securing the inwardly-projected ends of the flexible covering, and a plug inserted in each end of the roll against the inwardly-projected end of the flexible covering at the point where the plug is inserted, and secured to the covering by an adhesive material, the plugs at opposite ends of the roll completely closing the receptacle and adapting the latter to receive roofing accessories.

803,714. CASH-REGISTER. Robert H. Rogers, Dayton, Ohio, assignor to National Cash Register Company, Jersey City, N. J., a Corporation of New Jersey. Filed Mar. 31, 1904. Serial No. 201,916.



Claim.—1. In a machine of the character described, the combination with an operating mechanism, a plurality of counters adapted to be brought separately into operative relation thereto, a movable support for said counters operatively connected with the said operating mechanism, and means for setting any one of the counters for coöperation with the operating mechanism; of means for disabling the counter-support operating connections at will to prevent the set counter from moving into coöperative relation with the operating mechanism, said means comprising manipulative devices for setting the parts, and also being so constructed that the actual displacement in the connections ensues as an accompaniment to an operation of the machine.

2. In a machine of the character described, the combination with a driving mechanism differentially operable according to the amount set up, a plurality of counters designed to separately coöperate with said mechanism, a carrier for said counters adjustable to position any one of them for coöperation with the driving mechanism, a support for said carrier movable to take the set counter into and out of coöperative relation with the driving mechanism, and connections between said support and the latter mechanism for moving it back and forth in each operation of the machine; of means for disabling said connections at will, said means comprising manipulative devices for setting the parts, and also being so constructed that the actual displacement in the connections ensues as an accompaniment to an operation of the machine.

3. In a machine of the character described, the combination with a driving mechanism differentially operable according to the amount set up, a plurality of counters designed to separately coöperate with said mechanism, a carrier for said counters adjustable to position any one of them for coöperation with the driving mechanism, a support for said carrier movable to take the set counter into and out of coöperative relation with the driving mechanism, and connections between said support and the latter mechanism for moving it back and forth in each operation of the machine, said connections comprising a cam compounded with the driving mechanism and a vibratory member coöperating with said cam and with said support and adjustable into and out of coöperative relation with the former; of means, including manipulative devices, for destroying the coöperative relation between the said vibratory member and its cam at will.

4. In a machine of the character described, the combination with a driving mechanism differentially operable according to the amount set up, a plurality of counters designed to separately coöperate with said mechanism, a carrier for said counters adjustable to position any one of them for coöperation with the driving mechanism, a support for said carrier movable to take the set counter into and out of coöperative relation with the driving mechanism, and connections between said support and the latter mechanism for moving it back and forth in each operation of the machine, said connections comprising a rotary cam compounded with the driving mechanism and having effective and ineffective runways, and a lever having a projection engaging the cam and a slot-and-pin connection with the counter-support; of means for shifting the said lever out of coöperative relation with the effective runway of the cam substantially as and for the purpose described.

5. In a machine of the character described, the combination with a driving mechanism differentially operable according to the amount set up, a plurality of counters designed to separately coöperate with said mechanism, a carrier for said counters adjustable to position any one of them for coöperation with the driving mechanism, a support for said carrier movable to take the set counter into and out of coöperative relation with the driving mechanism, and connections between said support and the latter mechanism for moving it back and forth in each operation of the machine, said connections comprising a rotary disk having concentric and cam grooves merging into each other and a lever with a projection engaging the grooves and a slot-and-pin connection with the counter-support; of means for shifting said lever out of coöperative relation with the cam-grooves, substantially as and for the purpose described.

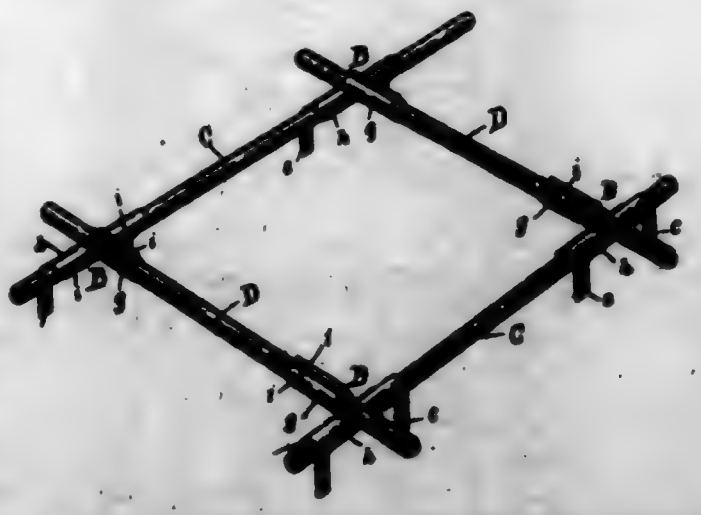
6. In a machine of the character described, the combination with a driving mechanism differentially operable according to the amount set up, a plurality of counters designed to separately coöperate with said mechanism, a rotary carrier for said counters adjustable to position any one of them for coöperation with the driving mechanism, a sliding support for said carrier movable to take the set counter into and out of coöperative relation with the driving mechanism, and connections between said support and the latter mechanism for moving it back and forth in each operation of the machine, said connections comprising a rotary disk having concentric and cam grooves merging into each other and a lever with a projection engaging said grooves and an angular slot-and-pin connection with the sliding counter-support; of means for shifting said lever to throw its projection into the concentric groove of the rotary disk at will.

7. In a machine of the character described, the combination with a driving mechanism differentially operable according to the amount set up, a plurality of counters designed to separately coöperate with said mechanism, a rotary carrier for said counters adjustable to position any one of them for coöperation with the driving mechanism, a sliding support for said carrier movable to take the set counter into and out of coöperative relation with the driving mechanism, and connections between said support and the latter mechanism for moving it back and forth in each operation of the machine, said connections comprising a rotary disk having concentric and cam grooves merging into each other and a lever with a projection engaging said grooves and an angular slot-and-pin connection with the sliding counter-support; of means for shifting said lever to throw its projection into the concentric groove of the rotary disk at will, said means comprising a rock-shaft, a link cranked thereto and having a slot-and-pin connection with the said lever, manipulative devices for imparting an initial movement to said rock-shaft, and devices compounded with the driving mechanism for imparting a final movement to said shaft substantially as and for the purpose described.

8. In a cash-register the combination with a plurality of counters and actuating mechanism therefor, of means for predetermining which counter shall be operated, an operating mechanism, a throw-out device operated by said operating mechanism for preventing the operation of such predetermined counter, and a manipulative device for preparing for the operation of the throw-out device by the operating mechanism.

9. In a cash-register, the combination with a plurality of counters and an actuating mechanism therefor, of a movable support for said counters, means for moving any desired counter into engagement with its actuating mechanism, means for predetermining which counter shall thus be operated, an operating mechanism, a throw-out device operated by said operating mechanism for preventing the predetermined counter from being carried into engagement with its actuating mechanism, and a manipulative device for causing said operating mechanism to operate said throw-out device.

803,715. METAL CLAMP FOR CROSS-RODS. JOHN C. RUSSELL, Toledo, Ohio. Filed Nov. 14, 1904. Serial No. 232,695.



Claim.—1. A clamp having integral portions bent to form two rod-receiving members disposed at a right angle to each other the receiving-openings of which are disposed in intersecting planes, and supporting means projecting from one of said members, substantially as described.

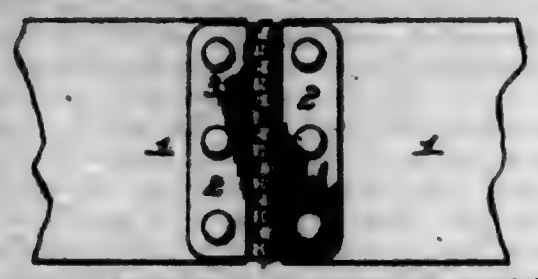
2. A sheet-metal clamp for reinforced concrete construction work, comprising integral portions bent to lock the intersecting portions of crossed reinforcing-rods together, and tongues projecting therefrom below the plane of the crossing rods to act as an elevating support therefor.

3. A clamp having integral rod-receiving portions disposed in intersecting planes and flanges provided at the edges of each rod-receiving portion to form tool-gripping surfaces.

4. A clamp of the class described, comprising integral rod-receiving portions substantially U shape in cross-section and disposed in intersecting planes, and an obliquely-disposed flange formed on the edges of said portions to provide gripping-surfaces for a compressing-tool.

5. A clamp of the class described having portions bent to form two rod-receiving portions disposed in intersecting planes and the surface edges of said portions crimped to form a tool-gripping surface, and integral tongues adapted to act as a support for the clamp, substantially as described.

808,716. BELT-FASTENER. JAMES P. EAGLE, Trenton, Mass. Filed Oct. 17, 1904. Serial No. 228,089.



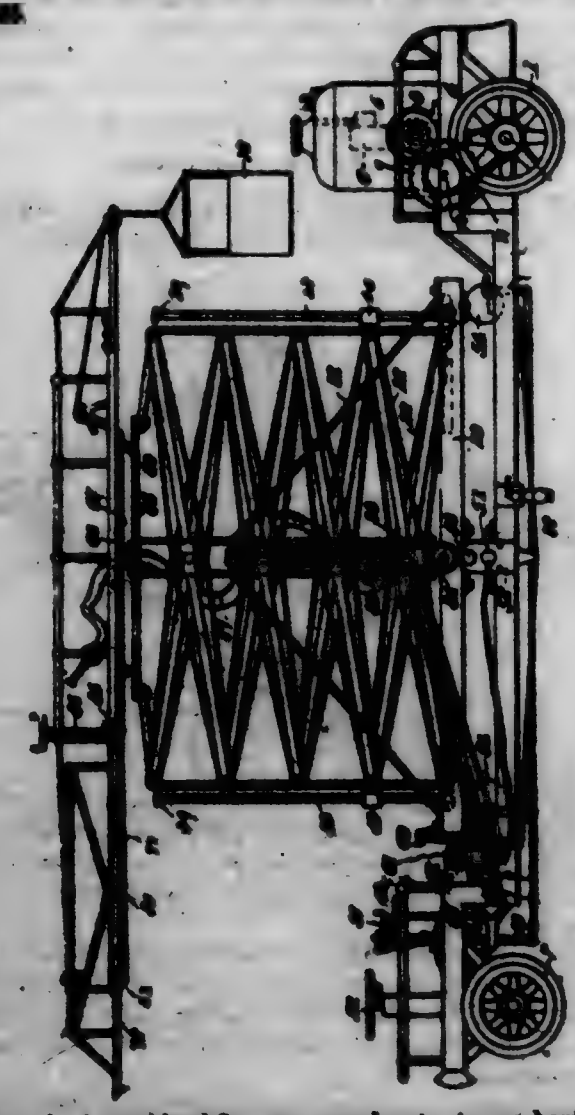
Claim.—1. A belt-fastener, comprising two rigid leaves or wings, and a yieldable pintle or hinge-pin connecting them.

2. A belt-fastener, comprising two rigid leaves or wings, and a yieldable rawhide pintle or hinge-pin connecting them.

3. A belt-fastener, comprising two rigid wings or leaves adapted to be riveted to the ends of a belt, eyes at the edges of said rigid wings or leaves located in alinement, and a yieldable pintle located in said alined eyes.

4. A belt-fastener, comprising two metal plates adapted to be riveted to the respective ends of a belt, tongues at the edges of said plates bent to form eyes interposed between each other and located in alinement, and a yieldable pintle in said alined eyes.

808,717. COMBINED FIRE-ESCAPE AND WATER-TOWER. CARL SCHWARZ, Franklin township, Houghton county, Mich., and WILLIAM C. BRYANT, Brooklyn, N. Y. Filed Aug. 1, 1904. Serial No. 218,085.



Claim.—1. A combined fire-escape and water-tower, having an extension-tower composed of lazy-tongs levers, a platform upon which said tower is mounted, means to raise and lower said tower arranged upon the sides of said tower and platform, upright guides movably mounted upon the front and rear of said tower-platform, and flexible connections between the tower and said guides.

2. In a combined fire-escape and water-tower, an extension-tower, means for raising and lowering said tower, comprising vertically-arranged screw-threaded shafts, nuts fitted to and movable upon said shafts and connected with the lower members of said tower, and power appliances for rotating said shafts, combined with lateral braces swiveled to said nuts and adapted to be raised and lowered thereby when the tower is operated.

3. In a combined fire-escape and water-tower, an extension-tower, means for raising and lowering said tower, comprising vertically-arranged screw-threaded shafts, nuts fitted to and movable upon said shafts and connected with the lower members of said tower, and power appliances for rotating said shafts, combined with lateral braces swiveled to said nuts and adapted to be raised and lowered thereby when the tower is operated, and guy-ropes connected with said braces for retaining them in position of use.

4. In a combined fire-escape and water-tower, an extension-tower, means for raising and lowering said tower, comprising vertically-arranged screw-threaded shafts, nuts fitted to and movable upon said shafts and connected with the lower members of said tower, and power appliances for rotating said shafts, combined with lateral braces swiveled to said nuts and adapted to be raised and lowered thereby when the tower is operated, guy-ropes connected with said braces for retaining them in position of use, and means for controlling and securing said guy-ropes.

5. In a combined fire-escape and water-tower, a truck, and a tower platform or base pivoted upon said truck and provided with pin-rollers, combined with eccentrics arranged opposite said pin-rollers at opposite ends of the platform, a connecting-rod common to and directly connecting both of said eccentrics, and an operating-lever pivoted directly to said rod to actuate said rod to adjust the said eccentrics simultaneously for purposes of leveling the platform and the superposed tower.

6. In a combined fire-escape and water-tower, a truck, a tower platform or base pivoted upon said truck, means to tilt the said platform, and a clamping mechanism for holding the tower in given position comprising a segmental shoe secured to the tower-platform, a cooperating eccentric mounted upon the truck, and means to operate said eccentric.

7. In a combined fire-escape and water-tower, an extension-tower, a turn-table mounted thereon, an extension-bridge on the turn-table, the extension member of the bridge having a toothed rack, and the fixed member of the bridge having a pinion arranged at its outer end engaging said rack, and antifriction devices applied between the extension member and the fixed member, a power appliance arranged upon the turn-table, and gearing connecting said power appliance and pinion for operating the extension member.

808,718. MACHINE FOR THE MANUFACTURE OF EXCELSIOR WRAPPERS AND PADS. HELON F. SHADDUCK, Sheboygan, Wis., assignor to Excelsior Wrapper Company, Sheboygan, Wis. Filed Nov. 23, 1904. Serial No. 234,703.

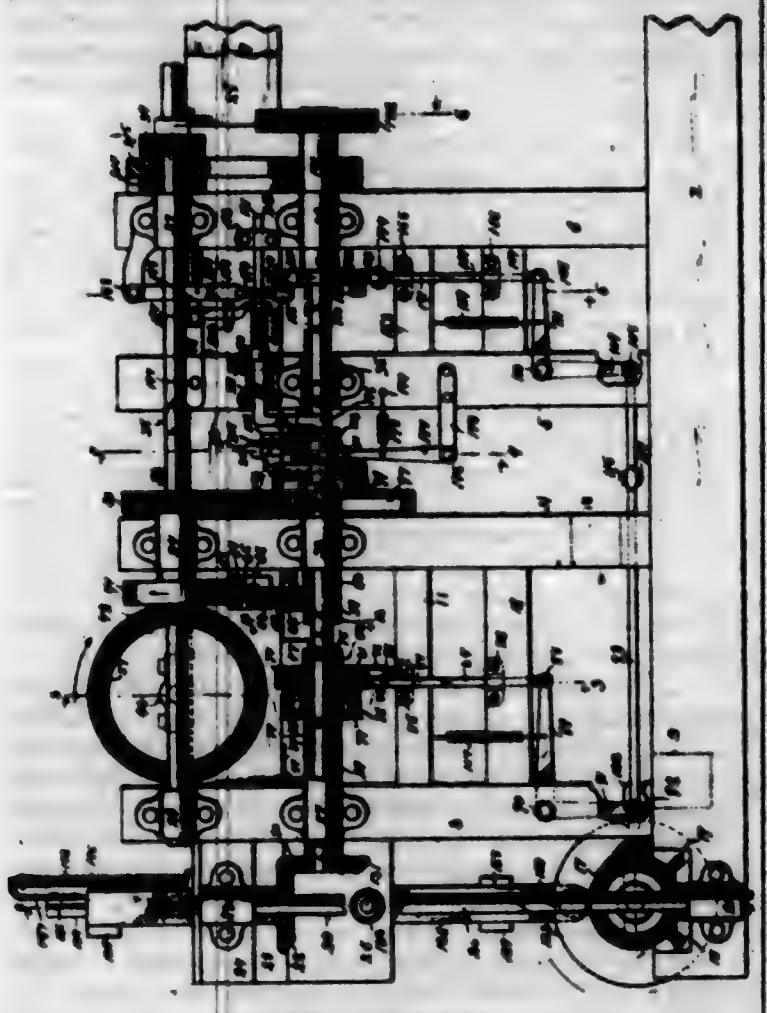
Claim.—1. In a machine for the manufacture of excelsior wrappers and pads, the combination of a continuous drive and feed mechanism, a clutch-controlled cutting mechanism comprising a suspended oscillative sash-frame carrying a shear-knife, a sash reciprocative in said frame with which it is oscillative, and a shear-knife carried by the sash; clutch-controlled mechanism for actuating the cutting mechanism, and means for intermittent automatic clutching and unclutching of said cutting mechanism with respect to the drive mechanism.

2. In a machine for the manufacture of excelsior wrappers and pads, the combination with a suitable frame and continuously-moving drive-shaft and feed mechanism, of cutting mechanism and gearing and shafts for operating the same at intervals, a sectional shaft, having a compensating coupling and clutch members for uniting its sections, pinions on said drive-shaft, and on said sectional shaft in mesh with each other, gearing connecting said sectional shaft with one of the before-named shafts, and mechanism for moving the clutch-sections together at predetermined intervals.

3. In a machine for the manufacture of excelsior wrappers and pads, the combination with a suitable frame, and continuously-moving drive-shaft and feed mechanism, of cutting mechanism, and a sectional shaft for operating same at intervals, a clutch member made fast on one section of said shaft, and an intermeshing clutch member made fast on a sleeve sliding on said shaft-section, an annular curved walled groove on said sleeve, a pin in engagement with said groove, a friction-saddle fast on said shaft-section, and a friction-disk on said drive-shaft for engagement with said friction-saddle.

4. In a machine for the manufacture of excelsior wrappers and

pads, the combination with a suitable frame, and continuously-moving drive-shaft and feed mechanism, of cutting mechanism and a crank-disk and a sectional shaft for operating same at intervals, a cam-disk on said shaft; a trip-pin on said disk, clutch mechanism and compensating coupling for uniting the sections of said shaft at intervals, a push-rod for uniting the clutch mechanism, a lever carrying a roller for engagement with said trip-pin for actuating said push-rod, a series of levers and connecting mechanism for locking the compensating coupling and the crank-disk against motion while the sectional shaft is at rest, and gearing connecting with the drive-shaft for uniting the sections of the sectional shaft, and for unlocking the said locked parts, and operating the cutting mechanism at intervals.



808,719. BANKER. THOMAS O. SHARP, Roxboro, N. C., assignor to Sharp and Tucker, Roxboro, N. C., a Copartnership. Filed Feb. 16, 1905. Serial No. 245,872.

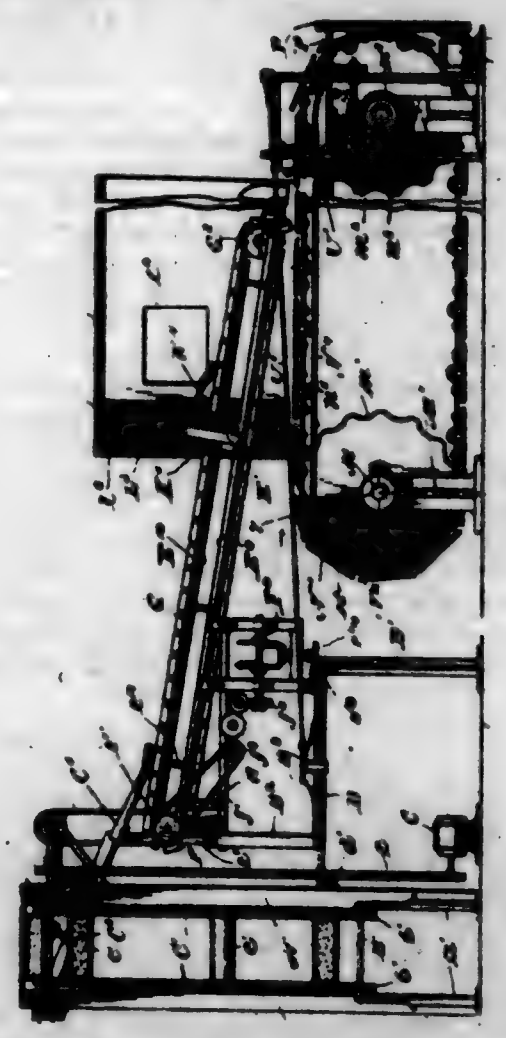


Claim.—1. In a banker of the character described, a suitable frame comprising beams crossing each other and braces having their ends resting on the beams near their ends, the opposite ends of the said braces converging and contacting, a cap on the ends of the braces having bearings, a stem rotatable in the cap and between the contacting portions of the braces and a suitable platform carried by the same.

2. In a banker of the character described, a base comprising beams and braces, the said beams having interlocking joints and an aperture extending through the interlocking sections of the beams, a block seated in one of the beams at the point of intersection, the said block being provided with a threaded aperture aliming with the aperture of the beams, a stem threaded in the block and guided by the braces, a cap on the ends of the braces through which the stem extends, a clamp carried by the cap and adapted to hold the stem against rotation and a platform carried by the stem.

3. In a banker of the character described, a base comprising crossed beams with braces having their ends lying on the beams with their upper ends converging and abutting, the said upper ends being recessed to form a bearing, a stem rotatable between the braces and having its lower end rotatable in a bearing in the cross-beams, means for preventing rotation of the stem, means for adjusting the position of the stem and a suitable platform carried by the stem.

808,720. COMBINED CONVEYER AND LEER. FRANK A. SHUNK, Streator, Ill. Filed Feb. 14, 1902. Renewed Apr. 9, 1904. Serial No. 203,443.



Claim.—1. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, and mechanism for automatically moving the delivery end of said conveyer step by step transversely across said belt as the articles of ware are delivered therefrom.

2. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, and mechanism for automatically moving the conveyer across the leer step by step as the articles of ware are delivered from the conveyer.

3. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, mechanism for automatically moving the conveyer across the leer step by step as the articles of ware are delivered from the conveyer, and means for automatically reversing the direction of movement of the conveyer upon the completion of its traverse across the leer in each direction.

4. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, mechanism for automatically moving the delivery end of said conveyer step by step transversely across said belt as the articles of ware are delivered therefrom, and means actuated by each article on the conveyer as it passes a given point for putting into operation said mechanism.

5. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, mechanism for automatically moving the conveyer across the leer step by step as the articles of ware are delivered from the conveyer, and means actuated by each article on the conveyer as it passes a given point for putting into operation said mechanism.

6. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, and automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt.

7. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, a frame for supporting said conveyer pivoted at one end and terminating at its other end within said leer, and automatic means for swinging said frame step by step about its pivot after the delivery of each article into the leer.

8. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, a frame for supporting the conveyer pivoted at one end, a platform upon which the frame is movably supported intermediate of its ends, a rack fixed upon said platform, a gear-wheel carried by the conveyer-frame and meshing with said rack, and means for intermittently imparting rotary motion to said gear-wheel and thereby through its engagement with said rack moving said frame laterally about its pivot.

9. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, a frame for supporting the conveyer pivoted at one end, a platform upon which the frame is movably supported intermediate of its ends, a rack fixed upon said platform, a gear-wheel carried by the conveyer-frame and meshing with said rack, and means actuated by each article on the conveyer as it passes a given point for imparting rotary motion to said gear-wheel and thereby through its engagement with said rack moving said frame laterally about its pivot.

10. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, a frame for supporting the conveyer pivoted at one end, a platform upon which the frame is movably supported intermediate of its ends, a rack fixed upon said platform, a gear-wheel carried by the conveyer-frame and meshing with said rack, means actuated by each article on the conveyer as it passes a given point for imparting rotary motion to said gear-wheel and thereby through its engagement with said rack moving said frame laterally about its pivot, and means for reversing the direction of rotation of said gear-wheel when the conveyer completes its traverse across the leer in each direction.

11. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, a frame for supporting the conveyer pivoted at one end, a platform upon which the frame is movably supported intermediate of its ends, a rack fixed upon said platform, a vertical shaft journaled upon said frame, a gear-wheel fixed upon said shaft and in mesh with said rack, a second gear-wheel also fixed upon said shaft, a pair of gear-wheels having teeth only on opposite halves of their peripheries adapted to alternately engage the teeth on said second gear-wheel, a shaft upon which said pair of gear-wheels are fixed, and means for intermittently rotating said last-mentioned shaft whereby the conveyer is swung step by step across the leer first in one direction and then in the other direction.

12. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, a frame for supporting the conveyer pivoted at one end, a platform upon which the frame is movably supported intermediate of its ends, a rack fixed upon said platform, a vertical shaft journaled upon said frame, a gear-wheel fixed upon said shaft and in mesh with said rack, a second gear-wheel also fixed upon said shaft, a pair of gear-wheels having teeth only on opposite halves of their peripheries adapted to alternately engage the teeth on said second gear-wheel, a shaft upon which said pair of gear-wheels are fixed, and means actuated by each article on the conveyer as it passes a given point imparting a rotary motion to said last-mentioned shaft whereby the conveyer is swung step by step across the leer first in one direction and then in the other direction.

13. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, a frame for supporting the conveyer pivoted at one end, a platform upon which the frame is movably supported intermediate of its ends, a rack fixed upon said platform, a vertical shaft journaled upon said frame, a gear-wheel fixed upon said shaft and in mesh with said rack, a second gear-wheel also fixed upon said shaft, a pair of gear-wheels having teeth only on opposite halves of their peripheries adapted to alternately engage the teeth on said second gear-wheel, a shaft upon which said pair of gear-wheels are fixed, a constantly-running power-shaft, and a clutch actuated by each article on the conveyer as it passes a given point for rotatably connecting said second shaft to said power-shaft whereby the conveyer is swung step by step across the leer first in one direction and then in the other.

14. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, mechanism for automatically moving the delivery end of the conveyer step by step transversely across said belt as the articles of ware are delivered thereon, and means for automatically moving said belt longitudinally upon the completion of the movement of the delivery end of the conveyer across the belt.

15. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, mechanism for automatically moving the delivery end of the conveyer step by step transversely across said belt as the articles of ware are delivered thereon, and operative connections between said conveyer and belt for moving the latter longitudinally with respect to the leer upon the completion of each transverse movement of the conveyer across the belt.

16. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, mechanism for automatically moving the delivery end of the conveyer step by step transversely across said belt as the articles of ware are delivered thereon, a motor for moving said belt, a clutch for operatively connecting said motor to said belt, and means operated by said conveyer upon the completion of each transverse movement thereof for actuating said clutch.

17. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt, means for reversing the direction of movement of said frame, and operative connections between said frame and belt for moving the latter longitudinally with respect to the leer when the direction of movement of the frame is reversed.

18. The combination with the leer, of a belt movable longitudinally within the leer, a conveyer for carrying the ware to and delivering it upon said belt, a frame for supporting the conveyer pivoted at one end, a platform upon which the frame is movably supported, a meshed rack and gear-wheel supported by said platform and frame, and means for intermittently imparting rotary motion to said gear-wheel and thereby through its engagement with said rack moving said frame laterally about its pivot.

19. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt, a platform upon which said frame is movably supported, and means for moving said belt controlled by the movement of said frame relatively to said platform.

20. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt, a platform upon which said frame is movably supported, a motor for moving said belt, and means operated by the relative movement between said frame and platform for rendering said motor effective to move said belt.

21. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt, a platform upon which said frame is movably supported, a lever pivotally mounted upon said platform, connections between said lever and said frame whereby movement of the latter oscillates said lever, and means controlled by said lever for moving said belt.

22. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt, means for reversing the direction of movement of said frame, a lever pivotally mounted upon said platform, stops on said frame into

the path of movement of which one end of said lever extends whereby said lever is oscillated when the direction of movement of said frame is reversed, and means controlled by said lever for moving said belt.

23. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swining said frame step by step about its pivot after the delivery of each article upon the belt, means for reversing the direction of movement of said frame, a lever pivotally mounted upon said platform, stops on said frame into the path of movement of which one end of said lever extends whereby said lever is oscillated when the direction of movement of said frame is reversed, a motor for imparting movement to said belt, a clutch for operatively connecting said motor to said belt, and an operative connection between said lever and said clutch.

24. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt, means for reversing the direction of movement of said frame, a lever pivotally mounted upon said platform, stops on said frame into the path of movement of which one end of said lever extends and whereby said lever is oscillated when the direction of movement of said frame is reversed, a bell-crank lever mounted upon said frame, flexible connections leading to one arm of said bell-crank lever from said first lever at points on opposite sides of its fulcrum, a motor for imparting movement to said belt, and clutch for operatively connecting said motor to said belt, and operative connections between the other arm of said bell-crank lever and said clutch.

25. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt, a lever pivotally mounted upon said platform one end of which engages said frame, a motor for moving said belt and connections interposed between said lever and motor for rendering the latter operative to move said belt.

26. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt, a bell-crank lever pivoted on said platform, connections extending to one arm of said bell-crank lever from said first lever at points at opposite sides of its fulcrum, a motor for moving said belt, and a connection extending from the other arm of said bell-crank lever for rendering said motor operative to move said belt.

27. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, mechanism for automatically moving the conveyer across the leer as the articles of ware are delivered therefrom, a sliding door closing the end of said leer and having an opening through which the conveyer extends, and connections between said door and the conveyer whereby the door is moved laterally by the conveyer.

28. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, mechanism for automatically moving said conveyer step by step across said belt, guides supported at the end of said conveyer and projecting beyond the delivery end thereof.

29. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, mechanism for automatically moving the conveyer across the leer step by step as the articles of ware are delivered from the conveyer, means for automatically reversing the direction of movement of the conveyer upon the completion of its traverse across the leer in each direction, guides movable with said conveyer and projecting beyond the delivery end thereof, and means for automatically reversing the positions of said guides when the direction of movement of the conveyer is reversed.

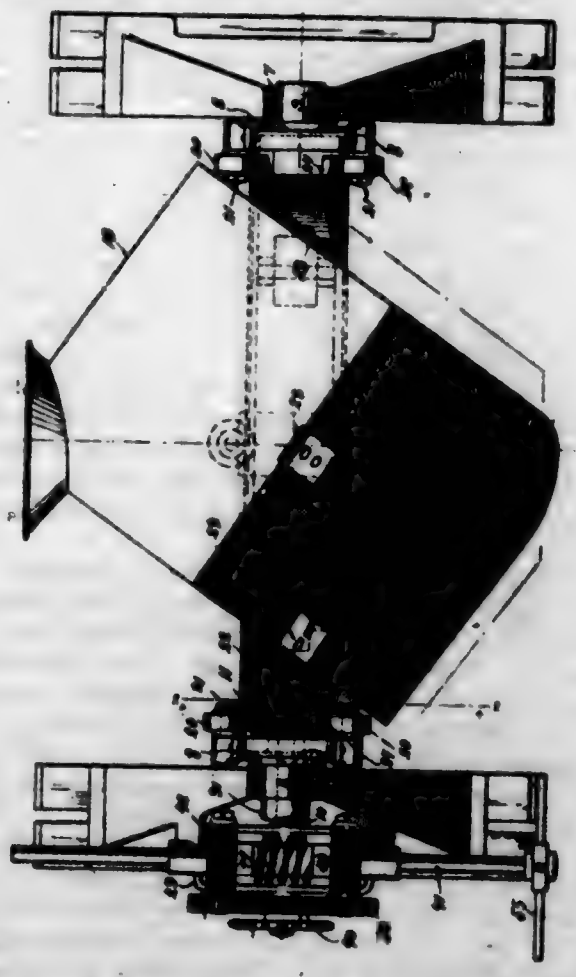
30. The combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, mechanism for automatically moving the conveyer across the leer step by step as the articles of ware are delivered from the conveyer, means for automatically reversing the direction of movement of the conveyer upon the completion of the traverse across the leer in each direction, swinging guides supported at either side of the delivery end of the conveyer, and means for automatically projecting said guides forwardly and laterally according to the direction of movement of the conveyer.

31. The combination with a leer, of a belt movable therethrough, a conveyer for carrying the ware to be annealed to and delivering it upon said belt, a frame for supporting said conveyer pivoted at one end and terminating at its other end adjacent to the upper surface of said belt, automatic means for swinging said frame step by step about its pivot after the delivery of each article upon the belt, means for reversing the direction of movement of said frame, a sliding bar guided upon said frame the ends of which extend laterally beyond the frame, guides pivotally secured to either side of the lower end of said frame, pivotal connections between said guides and said bar whereby one guide is projected forwardly and the other guide laterally.

32. In a device of the character described, the combination with a leer, of a conveyer extending into the leer for delivering articles of ware thereinto, a pair of endless carriers for delivering articles to the conveyer, holders for the articles of ware supported by the carriers and so arranged that articles are delivered alternately upon the conveyer from the carriers.

33. The combination with a leer, of a belt movable therethrough, a conveyer for delivering articles of ware upon said belt, means for pivotally supporting said conveyer at one end, means for swinging said conveyer about its pivot, a pair of endless conveyers for delivering articles upon said conveyer at points adjacent to its pivotal support.

808,721. MIXING-MACHINE. THOMAS L. SMITH, Milwaukee, Wis., assignor to The T. L. Smith Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Aug. 28, 1903. Serial No. 171,283.



Claim.—1. In a mixing-machine, the combination of a mixing-receptacle, means for rotating said receptacle, a frame in which the receptacle is revolubly mounted, said frame provided with projecting trunnions supported in suitable bearings, a gear-wheel mounted fast on one of the trunnions, a gear member engaging said gear-wheel, right and left hand spiral worm-wheels on the shaft of the gear member, an oscillatory frame having shafts mounted therein and geared together, worm-gears on two of said shafts and normally out of engagement with the worm-wheels, means for driving one of the shafts, means for oscillating the oscillatory frame, whereby, when oscillated in one direction, one of the worm-gears thereof is brought into engagement with one of the worm-wheels, and when oscillated in the opposite direction the other of the worm-gears is brought into engagement with the other worm-wheel, and a spring-actuated pin normally engaging the frame so as to hold said frame at such position that both worm-gears thereof are out of mesh with the worm-

wheels, and said pin automatically disengaging the frame when said frame is oscillated in one direction, and automatically engaging the frame when the frame is brought back to normal position.

2. In a mixing-machine, the combination of a mixing-receptacle, means for rotating said receptacle, a frame in which the receptacle is revolubly mounted, said frame provided with projecting trunnions supported in suitable bearings, a gear-wheel mounted fast on one of the trunnions, a gear member engaging said gear-wheel, right and left hand spiral worm-wheels on the shaft of the gear member, an oscillatory frame having shafts mounted therein and geared together, worm-gears on two of said shafts and normally out of engagement with the worm-wheels, means for driving one of the shafts, and means for oscillating the oscillatory frame, whereby when oscillated in one direction one of the worm-gears thereof is brought into engagement with one of the worm-wheels, and when oscillated in the opposite direction the other of the worm-gears is brought into engagement with the other worm-wheel.

3. In a mixing-machine, the combination of a mixing-receptacle, means for rotating said receptacle, a frame in which the receptacle is revolubly mounted, said frame provided with projecting trunnions supported in suitable bearings, a gear-wheel mounted fast on one of the trunnions, a gear member engaging said gear-wheel, right and left hand spiral worm-wheels on the shaft of the gear member, an oscillatory frame having shafts mounted therein and geared together, worm-gears on two of said shafts and normally out of engagement with the worm-wheels, means for driving one of the shafts, means for releasably holding the oscillatory frame in a position in which the two worm-gears thereof are out of engagement with the worm-wheels, and means for oscillating the oscillatory frame, whereby when oscillated in one direction one of the worm-gears thereof is brought into engagement with one of the worm-wheels, and when oscillated in the opposite direction the other of the worm-gears is brought into engagement with the other worm-wheel.

4. In a mixing-machine, the combination of a mixing-receptacle, a frame in which the receptacle is revolubly mounted, said frame provided with projecting trunnions supported in suitable bearings, a gear-wheel fast on one of the trunnions, a gear member engaging said gear-wheel, right and left hand spiral worm-wheels on the shaft of the gear member, an oscillatory frame having shafts mounted therein and geared together, worm-gears on two of said shafts, and normally out of engagement with the worm-wheels, means for oscillating the oscillatory frame, whereby when oscillated in one direction one of the worm-gears thereof is brought into engagement with one of the worm-wheels, and when oscillated in the opposite direction the other of the worm-gears is brought into engagement with the other worm-wheel, a driving-shaft, mechanism between the driving-shaft and the receptacle for rotating said receptacle, and mechanism between the driving-shaft and one of the shafts of the oscillatory frame and adapted for transferring the rotation of the driving-shaft to said shaft of the oscillatory frame.

5. In a mixing-machine, the combination of a receptacle provided with means for charging and discharging the same, a ring or annulus around the receptacle and provided with teeth forming an annular rack, a tiltable frame in which the receptacle is revolubly supported, said frame provided with projecting trunnions mounted rotatably in suitable bearings, one of said trunnions being tubular, a shaft extending through the tubular trunnion and provided on its inner end with a gear-wheel engaging the annular rack-bar of the ring or annulus, and means for rotating said shaft.

6. In a mixing-machine, the combination of a receptacle provided with means for charging and discharging the same, a ring or annulus around the receptacle and provided with teeth forming an annular rack, a tiltable frame in which the receptacle is revolubly supported, said frame provided with projecting trunnions mounted in suitable bearings, one of said trunnions being tubular, a wheel mounted fast on one of the trunnions, means engaging the wheel to rotate it in opposite directions, and a rotatable shaft extending through the tubular trunnion and provided on its inner end with a gear-wheel engaging the annular rack.

7. In a mixing-machine, the combination of a receptacle provided with means for charging and discharging the same, a ring or annulus around the receptacle and provided with teeth forming an annular rack, a tiltable frame in which the receptacle is revolubly supported, said frame provided with projecting trunnions mounted in suitable bearings, and one of said trunnions being tubular, a wheel mounted fast on the tubular trunnion, a shaft passing through the tubular trunnion and provided on its inner end with a gear-wheel engaging the rack, and mechanism between said shaft and the wheel of the trunnion, and adapted for rotating said trunnion-wheel in opposite directions.

8. In a mixing-machine, the combination of a receptacle provided with means for charging and discharging the same, a ring or annulus around the receptacle and provided with teeth forming an annular rack, a tiltable frame in which the receptacle is revolubly supported, said frame provided with projecting trunnions mounted in suitable bearings, one of said trunnions being tubular, a gear-wheel mounted fast on the tubular trunnion, a driving-shaft passing through the tubular trunnion and provided on its inner end with a gear-wheel engaging the rack, a shaft below the tubular trunnion and having a gear-wheel mounted thereon engaging the gear-wheel of said tubular trunnion, and said shaft also having oppositely-spiraled worm-wheels mounted thereon, an oscillatory frame, shafts mounted therein and geared together, two of said shafts carrying worm-gears normally out of engagement with the worm-wheels, means for oscillating said oscillatory frame so as to bring one or the other of its worm-gears into engagement with one or the other of the worm-wheels, and means between the driving-shaft and one of the shafts of the oscillatory frame and adapted for rotating said shaft of the oscillatory frame.

9. In a mixing-machine, the combination of a tiltable frame, a mixing-receptacle revolubly supported therein, a ring or annulus, of channel form in cross-section, and arranged around the receptacle, supporting-rolls journaled in the bottom of the tiltable frame and engaging the ring between the flanges thereof, and a plurality of pairs of rolls engaging against the outer faces of the flanges of the ring.

10. In a mixing-machine, the combination of a tiltable frame, a mixing-receptacle revolubly supported therein, a ring or annulus, of channel form in cross-section and arranged around the receptacle, supporting-rolls journaled in the bottom of the tiltable frame and engaging the ring between the flanges thereof, a plurality of pairs of rolls engaging against the outer faces of the flanges of the ring, and a roll journaled in the upper portion of the tiltable frame and engaging the ring between the flanges thereof.

11. In a mixing-machine, the combination of a tiltable frame, a mixing-receptacle revolubly supported therein, a ring or annulus, of channel form in cross-section, and arranged around the receptacle, the inner face of one of the flanges thereof provided with teeth forming an annular rack, supporting-rolls journaled in the bottom of the tiltable frame and engaging the ring between the flanges thereof, and means engaging the annular rack to rotate the receptacle.

12. In a mixing-machine, the combination of a tiltable frame, a mixing-receptacle revolubly supported therein, and having an opening concentric or substantially so with the axis of rotation thereof, a ring or annulus, of channel form in cross-section, and arranged around the receptacle, and rollers bearing against the outer sides of the flanges of the ring, and so disposed that when said receptacle is tilted so as to bring its opening uppermost, the rolls will receive the contact or bearing of the ring and thereby support the receptacle in such tilted position.

13. In a mixing-machine, the combination of a tiltable frame, a mixing-receptacle revolubly supported therein, and having an opening concentric or substantially so with the axis of rotation thereof, the said receptacle having a plurality of plane surfaces inclined to the axis of rotation, a ring or annulus arranged around the receptacle, and of channel form in cross-section, and rolls bearing against the outer sides of the flanges of the ring, and so disposed that when said receptacle is tilted so as to bring its opening uppermost, the rolls will receive the contact or bearing of the ring and thereby support the receptacle in such tilted position.

14. In a mixing-machine, the combination of a mixing-receptacle provided with means for charging and discharging the same, a tiltable frame in which the receptacle is revolubly supported, said frame provided with projecting trunnions journaled in suitable bearings, and one of said trunnions having a gear-wheel mounted thereon, a shaft provided with a gear-wheel meshing with the gear-wheel of the trunnion, and means for rotating the shaft in either direction.

15. In a mixing-machine, the combination of a mixing-receptacle of polyhedric form, having one opening for feed and discharge concentric, or substantially so, with the axis of revolution, a tiltable frame in which the receptacle is revolubly supported, and means for tilting the frame to any position in the entire circle of its revolution.

16. In a mixing-machine, the combination of a mixing-receptacle having one clear and unobstructed opening for feed and discharge, concentric, or substantially so, with the axis of revolution, a tiltable frame in which the receptacle is revolubly supported, means for tilting the frame to any position in the entire circle of its revolution, whereby the receptacle may be filled from any point above it and discharged either from the right-hand side, or the left-hand side of the machine.

17. In a mixing-machine, the combination of a mixing-receptacle, means for imparting to said receptacle a continuous rotation, a tiltable frame revolubly supporting such receptacle, means for tilting said frame to any position in the entire circle of its revolution, and means for holding said frame in any position.

18. In a mixing-machine, the combination of a mixing-receptacle, a tiltable frame revolubly supporting said mixing-receptacle, means for tilting said frame to any position in the entire circle of its revolution, and means for continually revolving said receptacle while in any tilted position, or while moving from one position to another.

19. In a mixing-machine, the combination of a mixing-receptacle, a tiltable frame revolubly supporting said receptacle, means for tilting said frame to any position in the entire circle of its revolution, means for revolving said receptacle while in any tilted position, or while moving from one position to another, and means for supporting and centering said mixing-receptacle, enabling it to be so revolved while in any tilted position whatever.

20. In a mixing-machine, the combination of a mixing-receptacle, a tiltable frame revolubly supporting said mixing-receptacle, means for tilting said frame to any position in the entire circle of its revolution, means for continually revolving said receptacle while in any tilted position, or while moving from one position to another, and a system of rollers so supporting and centering said mixing-receptacle, to enable said receptacle to be so revolved while in any tilted position whatever.

21. In a mixing-machine, the combination of a mixing-receptacle, a tiltable frame revolubly supporting said mixing-receptacle, means for tilting said frame to any position in the entire circle of its revolution, means for continually revolving said receptacle while in any tilted position, or while moving from one position to another, and a set of supporting or centering rollers, and guiding or edge rollers, adapted to enable the mixing-receptacle to be revolved while in any tilted position whatever.

22. In a mixing-machine, the combination of a mixing-receptacle, a tiltable frame revolubly supporting said receptacle, means for tilting said frame to any position in the entire circle of its revolution, means for continually revolving said receptacle while in any tilted position, or while moving from one position to another, a set of supporting or centering rollers, and two sets of guiding or edge rollers, adapted to enable the mixing-receptacle to be revolved while in any tilted position whatever.

23. In a mixing-machine, the combination of a polyhedric mixing-receptacle, a tiltable frame supporting said receptacle, means for tilting said frame to any position in the entire circle of its revolution, a gear attached to the periphery of said receptacle, and means for applying power to said gear in any position of said receptacle and tiltable frame.

24. In a mixing-machine, the combination of a polyhedric mixing-receptacle, a tiltable frame supporting said receptacle, means for tilting said frame to any position in the entire circle of its revolution, a gear attached to the periphery of said receptacle, said gear having supporting-surfaces and guiding-surfaces whereby said receptacle is completely centered and guided, and means for applying the power to said gear in any position of said receptacle and tiltable frame.

25. In a mixing-machine, the combination of a polyhedric mixing-receptacle, a tiltable frame supporting said receptacle, means for tilting said frame to any position in the entire circle of its revolution, a circular toothed rack disposed around the middle of said receptacle, a bevel-pinion engaging said toothed rack and journaled in the tilting axis, and means for connecting said pinion with the source of power.

26. In a mixing-machine, the combination of a polyhedric mixing-receptacle, a tiltable frame supporting said receptacle, means for tilting said frame to any position in the entire circle of its revolution, a circular toothed rack on the periphery of said mixing-receptacle, and provided with supporting and guiding surfaces whereby the said receptacle is completely centered and guided, a bevel-pinion engaging said toothed rack and journaled in the tilting axis, and means for connecting said pinion with the source of power.

27. In a mixing-machine, the combination of a mixing-receptacle, a tiltable frame supporting said receptacle, means for tilting said frame in either direction to any position in the entire circle of its revolution, a gear on said receptacle and provided with supporting and guiding surfaces, and a system of rollers mounted in said tiltable frame and completely centering and guiding said gear in any position.

28. In a mixing-machine, the combination of a mixing-receptacle having one clear and unobstructed opening for feed and discharge, concentric or substantially so, with the axis of revolution, a tiltable frame supporting said receptacle, means for tilting said frame either to the right or to the left of the loading-point, a gear on said mixing-receptacle, and means for applying power to said gear in any position of said frame and receptacle.

29. In a mixing-machine, the combination of a mixing-receptacle having one clear and unobstructed opening for feed and discharge concentric, or substantially so, with the axis of revolution, a tiltable frame supporting said receptacle, means for tilting said frame either to the right or to the left of the loading-point, a gear on said mixing-receptacle and having supporting-surfaces and guiding-surfaces whereby said receptacle is completely centered and guided, and means for applying power to said gear in any position of said frame and receptacle.

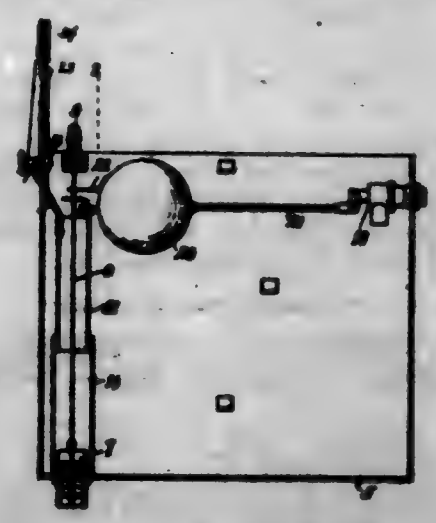
30. In a mixing-machine, the combination of a mixing-receptacle having one clear and unobstructed opening for feed and discharge concentric or substantially so, with the axis of revolution, a tiltable frame supporting said receptacle, means for tilting said frame either to the right or to the left of the loading-point, a gear disposed around the middle of said receptacle, and means for applying power to said gear in any position of said receptacle and tiltable frame.

31. In a mixing-machine, the combination of a mixing-receptacle having one clear and unobstructed opening for feed and discharge concentric, or substantially so, with the axis of revolution, a tiltable frame supporting said receptacle, means for tilting said frame either to the right or to the left of the loading-point, a gear on the largest diameter of said receptacle, and means for applying power to said gear in any position of said frame and receptacle.

32. In a mixing-machine, the combination of a mixing-receptacle having one clear and unobstructed opening for feed and discharge concentric, or substantially so, with the axis of revolution, a tiltable frame supporting said receptacle, means for tilting said frame either to the right or to the left of the loading-point, a circular toothed rack disposed around the middle of said receptacle, a bevel-pinion engaging said toothed rack and journaled in the tilting axis, and means for connecting said pinion with the source of power.

33. In a mixing-machine, the combination of a mixing-receptacle having one clear and unobstructed opening for feed and discharge concentric, or substantially so, with the axis of revolution, a tiltable frame supporting said receptacle, means for tilting said frame either to the right or to the left of the loading-point, a circular toothed rack on the periphery of said mixing-receptacle and provided with supporting and guiding surfaces, whereby the said receptacle is completely centered and guided, a bevel-pinion engaging said toothed rack and journaled in the tilting axis, and means for connecting said pinion with the source of power.

808,722. **LIQUID-DISCHARGING TANK.** Thomas L. Smith, Milwaukee, Wis., assignor to The T. L. Smith Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed July 28, 1904. Serial No. 217,262.



Claim.—1. The combination of a liquid-containing tank provided with a discharge-opening, telescoping tube-sections within the liquid-containing tank, one of said sections communicating, within the liquid-containing tank, with the discharge-opening, and means for telescopically adjusting one of the tube-sections within the other, whereby the inlet-opening of said adjusted tube-section is brought at a greater or less distance below the normal level of the liquid in the tank.

2. The combination of a liquid-containing tank provided with a

discharge-opening, telescoping tube-sections within the liquid-containing tank, one of said sections communicating, within the liquid-containing tank, with the discharge-opening, means for telescopically adjusting one of the tube-sections within the other, whereby the inlet-opening of said adjusted tube-section is brought at a greater or less distance below the normal level of the liquid in the tank, and means for holding said adjusted tube-section releasably in adjusted position.

3. The combination of a liquid-containing tank provided with a discharge-opening, telescoping tube-sections within the liquid-containing tank, one of said sections communicating, within the liquid-containing tank, with the discharge-opening, an arm extending from one of said tube-sections, said arm, when raised or lowered, bringing the inlet-opening of the tube-section to which it is connected at a greater or less distance below the normal level of the liquid in the tank, and means for holding said arm releasably in adjusted position.

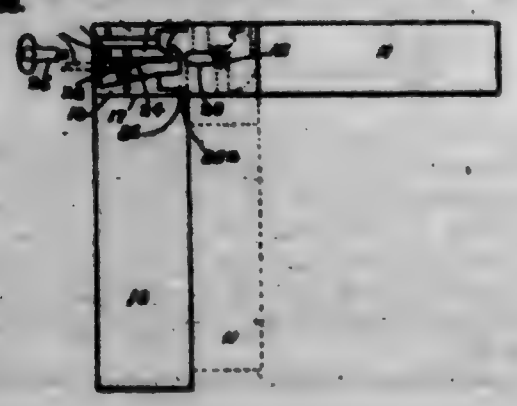
4. The combination of a liquid-containing tank provided with a discharge-opening, telescoping tube-sections within the liquid-containing tank, one of said sections communicating, within the liquid-containing tank, with the discharge-opening, an arm extending from one of said tube-sections, said arm when raised or lowered bringing the inlet-opening of the tube-section to which it is connected at a greater or less distance below the normal level of the liquid in the tank, a clamping-bar engaging the adjusting-arm, and means for causing said clamping-bar to engage the adjusting-arm so as to hold said arm releasably in adjusted position.

5. The combination of a liquid-containing tank provided with a discharge-opening, a valve for controlling said discharge-opening, a flexible device connected to said valve and carrying a button, float-ball-controlled inlet-valve mechanism, and a projection from the float-ball, said projection, when the flexible device is pulled and the outlet-valve thereby opened, adapted to be acted upon by the button carried by the flexible device whereby the inlet-valve mechanism is held at a closed position, and when the flexible device is released and the outlet-valve thereby seated, the inlet-valve is opened to admit a quantity of liquid into the tank to replace the liquid discharged therefrom.

6. The combination, of a liquid-containing tank provided with a discharge-opening, a valve for controlling said opening, means for operating the said valve to open and close the discharge-opening, telescoping tube-sections within the liquid-containing tank, one of said sections surrounding the discharge-valve, and means for telescopically adjusting one of the tube-sections within the other, whereby the inlet-opening of said adjusted tube-section is brought at a greater or less distance below the normal level of the liquid in the tank.

7. The combination of a liquid-containing tank provided with a discharge-opening, a valve for controlling said discharge-opening, telescoping tube-sections, one of said sections surrounding the discharge-valve, means for telescopically adjusting one of said tube-sections within the other, whereby the inlet-opening of said adjusted tube-section is brought to a greater or less distance below the normal level of the liquid in the tank, a flexible device connected to the discharge-valve and passing through the telescoping tubes, said flexible device carrying a button, float-ball-controlled inlet-valve mechanism, and a projection from the float-ball, said projection, when the flexible device is pulled and the outlet-valve thereby opened, adapted to be acted upon by the button carried by the flexible device, whereby the inlet-valve mechanism is held at a closed position, and when the flexible device is released and the outlet-valve thereby seated, the inlet-valve is opened to admit a quantity of liquid into the tank to replace the liquid discharged therefrom.

808,723. CARPENTER'S AND JOINER'S FOLDING SQUARE. William Simms, Jr., Chicago, Ill. Filed Mar. 30, 1905. Serial No. 253,102.

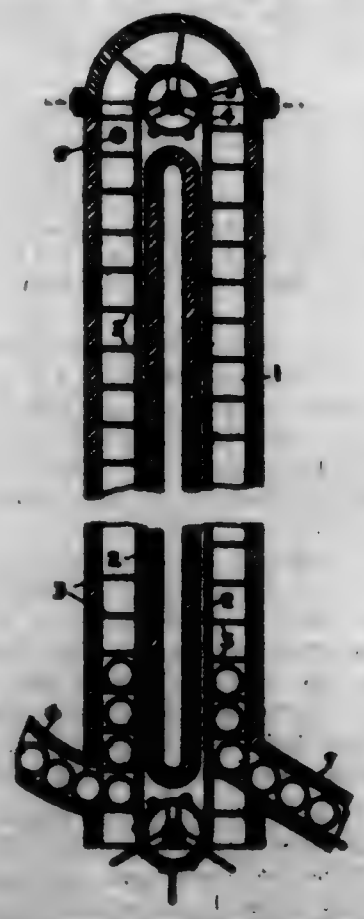


Claim.—1. A folding square comprising two members, one of said members having at one of its ends a recess and a lateral extension provided with an opening, transverse enlargements on the recessed part of said member spaced apart and formed to provide recesses for the locking-lever and inner portion of the other member, a spring-actuated lever fulcrumed in one of said recesses and having in its inner portion a beveled notch, the other member recessed on each of its sides to provide a tongue having an elongated opening, extensions on the free end of the tongue, one of said extensions having on its upper edge a recess to receive a portion of the upper transverse enlargement and on its lower edge a beveled tooth to engage the notch of the lever, a removable plate secured on said enlargements, and a pivot in the elongated opening of said tongue, substantially as described.

2. A folding square comprising two members, one of said members having at one of its ends a recess and a lateral extension provided with an opening, transverse enlargements on the recessed part of said member spaced apart and formed to provide recesses for the locking-lever and inner portion of the other member, a spring-actuated lever fulcrumed in one of said recesses and having in its inner portion a beveled notch, the other member recessed on each of its sides to provide a tongue having an elongated opening, extensions on the free ends of the tongue to fit in the other recesses formed by said enlargements, one of said extensions having on its lower edge a beveled tooth to engage the notch of the lever, a removable plate secured on said enlargements, and a pivot in the elongated opening of said tongue, substantially as described.

3. A folding square comprising two members, one of said members having at one of its ends a recess and a lateral extension provided with an opening, transverse enlargements on the recessed part of said member spaced apart and formed to provide recesses for the locking-lever and inner portion of the other member, a spring-actuated lever fulcrumed in one of said recesses and having in its inner portion a beveled notch, the other member recessed on each of its sides to provide a tongue having an elongated opening, extensions on the free end of the tongue, one of said extensions having on its upper edge a recess to receive a portion of the upper transverse enlargement and on its lower edge a beveled tooth to engage the notch of the lever, a removable plate secured on said enlargements, a spring-pressed dog pivoted near the outer end of the lever, and a pivot in the elongated opening of said tongue, substantially as described.

808,724. COOKING APPARATUS FOR CANS. Franklin F. Stetson, Los Angeles, Cal. Filed Jan. 24, 1905. Serial No. 242,296.

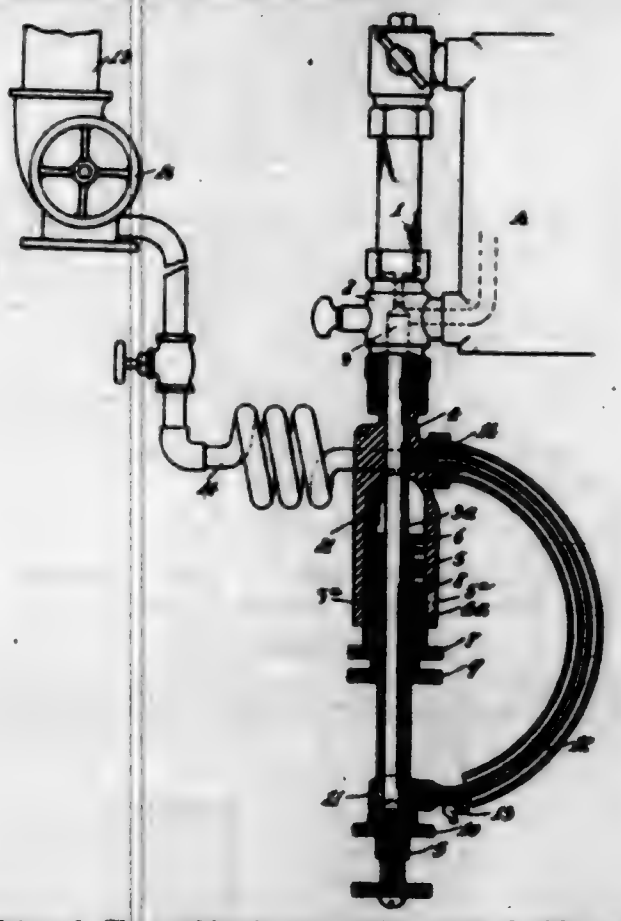


Claim.—1. In an apparatus of the character described, a cooking-chamber for cans comprising a conduit returning upon itself, closed at the top and open only adjacent to the ends at the bottom, an endless carrier in said conduit, a steam-pipe discharging steam

into the conduit near the top, means for feeding cans into one member of the conduit near the bottom and means for discharging cans from the other member of the conduit near the bottom, substantially as described.

2. In an apparatus of the character described, a cooking-chamber for cans closed at the top and open only adjacent to the bottom, an endless carrier in said chamber, a steam-pipe discharging steam into the chamber near the top, means for feeding cans into one side of the chamber near the bottom and means for discharging cans from the other side of the chamber near the bottom, substantially as described.

803,725. **AUTOMATIC VALVE-ACTUATOR.** CHARLES A. SULLIVAN, Windsor, Canada, and EDWARD J. WOODSON, Detroit, Mich. Filed Apr. 22, 1905. Serial No. 256,789.



Claim.—1. The combination of a casing provided with a valve-seat, a valve therein adapted to interrupt the flow of a liquid therethrough when it is on its seat, a Bourdon tube firmly connected to said casing at one of its ends and having its other end engaging the end of said valve, a spring to counteract the straightening of said tube, and means for adjusting the tension of said spring, substantially as described.

2. The combination of a casing provided with a chamber in the end thereof, having the walls at its outer end screw-threaded, a part extending into said chamber adapted to be moved to and fro longitudinally therein and provided with a flange at its inner end, a Bourdon tube fixedly connected to said casing and adjustably connected to said movable member, a sleeve-nut surrounding said movable member and engaging with the screw-threads upon the wall of said chamber, a spring bearing upon said flange and said sleeve-nut, an adjusting-nut surrounding said part and provided with screw-threads engaging with screw-threads in the interior wall of said sleeve-nut, there being lugs upon said part adapted to strike against said adjusting-nut to limit the motion of said part, substantially as described.

3. The combination of a casing provided with a valve-seat, a valve adapted to seat thereon, a Bourdon tube fixedly connected to one of said parts and adjustably connected to the other of said parts, a spring tending to counteract the straightening of said tube, and means for directly adjusting the tension of said spring, substantially as described.

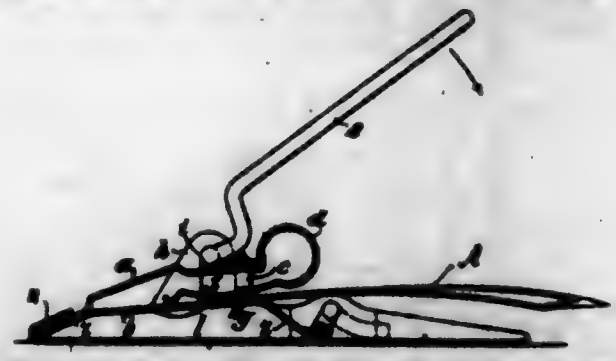
803,726. **STOCK-RELEASING DEVICE.** BENJAMIN TRAIL, Walla Walla, Wash. Filed June 6, 1905. Serial No. 263,806.

Claim.—1. The combination with a series of stalls, of an oscillatory rod or shaft extending transversely therethrough, an arm or projection upon said rod in each of said stalls, an operating-lever upon one end of said rod, a locking-spring to coact with said lever, and flexible stock-fastening or tying connections passed through guide-openings upon the frames of said stalls and provided with loops to engage the arms upon said shaft.



2. The combination with a plurality of series of parallel stalls, of oscillatory shafts or rods extending through said series and transversely with respect to said stalls, projections upon said shafts in said stalls, an operating-lever upon one of said shafts, gearing between said shafts to cause them to move together, a flat locking-spring having a seat to receive said lever, and flexible stock-fastening or tying connections passed through guide-openings in the frames of said stalls and provided with loops or eyes to engage the projections upon said shafts, substantially as described.

803,727. **PAPER PERFORATOR OR PUNCH.** ANDREAS TENGWALL, Helsingborg, Sweden. Filed Mar. 11, 1904. Serial No. 197,603.



Claim.—1. In a paper-punch the combination with a plate having a hole for the punch of a second spring-plate which carries the punch and whose end is bent back so as to form a spring which bears on the first plate and means for actuating the punch.

2. In a paper-punch the combination with a plate having a hole for the punch of a second spring-plate which carries the punch and whose end is bent back so as to form a spring which bears on the first plate and is made with a hole in it for the punch to pass through and means for actuating the punch.

3. In a paper-punch the combination with a stationary plate having a hole for the punch of a second spring-plate which carries the punch a spring extending backward from the end of the said spring-plate and having its free end bearing on the first plate and means for actuating the punch.

4. In a paper-punch the combination with a plate having a hole for the punch of a second spring-plate which carries the punch and is fastened at one end to the first plate and whose other end is bent back so as to form a spring which bears on the first plate and means for actuating the punch.

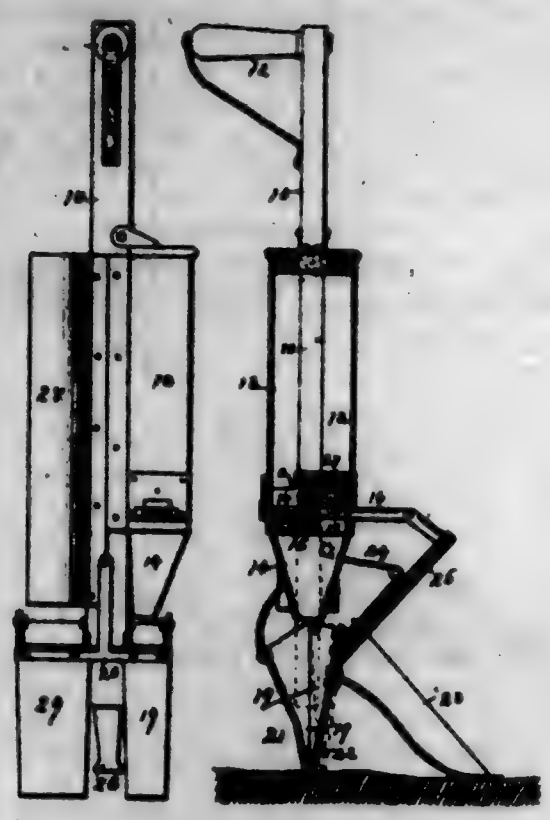
5. In a paper-punch the combination of a stationary punch-plate with hole therein, a second plate fastened to the punch-plate, a spring extending backward from the end of the said plate and having its free end bearing on the first plate, a punch on the second plate and means for operating the punch, substantially as described.

6. In a paper-punch the combination of a sole-plate a hollow punch-plate forming a receptacle for punched paper, a spring punch-carrier fastened to the punch-plate and having a rearwardly-bent spring having its free end bearing on the punch-plate, a punch adapted to work through holes in the spring and the punch-plate, and means for operating the punch, substantially as described.

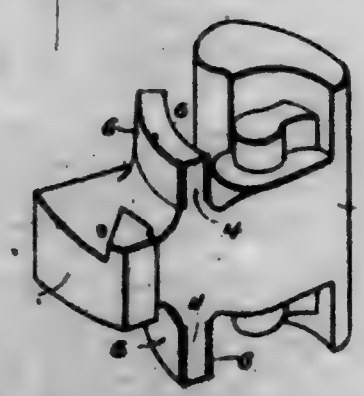
7. In a paper-punch, the combination of a sole-plate having some of its edges turned upwardly, a punch-plate with turned-down edges and adapted to form in conjunction with the sole-plate a receptacle for punched-out paper, a spring punch-carrier arranged above the punch-plate, a punch, and means for operating the punch, substantially as described.

803,728. **POTATO-PLANTER AND FERTILIZER-DROPPER.** EDWARD THOMPSON, Westonia, Wis., assignor of one-half to James H. Larson, Westonia, Wis. Filed Nov. 7, 1904. Serial No. 231,781.

Claim.—An implement for measuring and depositing fertilizing material and seed-potatoes in the ground simultaneously by the downward thrust of the machine comprising an upright having a handle at its top, a reservoir having a slide-valve in its bottom and a port in the valve adapted for admitting fertilizer material, a fixed valve-seat having a port, a funnel-shaped extension of the reservoir below the slide-valve and fixed valve-seat, a frame fixed to the lower end of the upright, two pockets composed of two parts and one part fixed to the frame and to the lower end of the upright and the other part pivotally connected with the lower end of the upright, a foot fixed to the pivoted part of the pocket, a spring fixed to the pivoted part of the pocket and to the upright, an arm fixed to the pivoted part of the pocket to extend upward and connected with the end of the slide-valve by a link, an open-ended tube fixed to the upright for conveying potatoes into the pocket under it, all arranged and combined to operate in the manner set forth for the purposes stated.



808,729. COUPLING. JAMES THEIS and JAMES O. THEIS, Columbus, Ohio. Filed July 5, 1905. Serial No. 268,762.



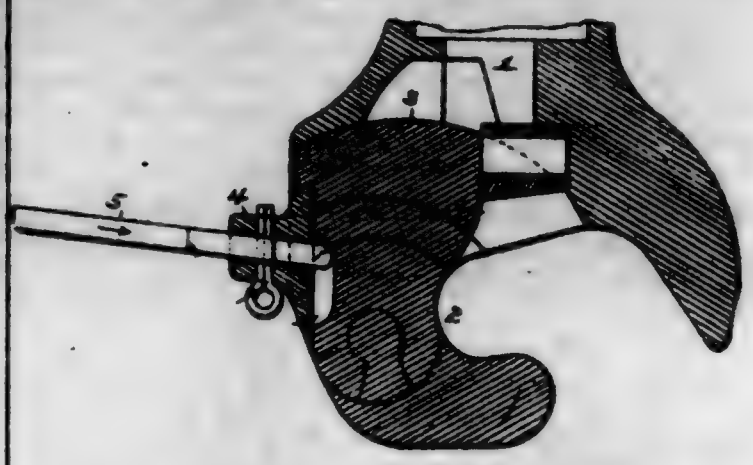
Claim.—1. The combination with a coupling-head and a pivoted knuckle therein, of plates between the knuckle-tail and the coupling-head to sustain the wear.

2. The combination with a coupling-head and a pivoted knuckle therein, of a tail on the knuckle, curved webs on the knuckle-tail to enter corresponding grooves in the head, and steel plates cast into the webs and walls of the grooves to sustain the wear.

3. The combination with a coupling-head, and a pivoted knuckle therein, of a tail on the knuckle, curved webs on the upper and lower faces of the tail to enter corresponding grooves in the head, and steel plates cast into the knuckle and head and forming the front and rear wearing-faces of the webs and grooves.

808,730. COUPLING. JAMES O. THEIS, Columbus, Ohio. Filed July 6, 1905. Serial No. 268,895.

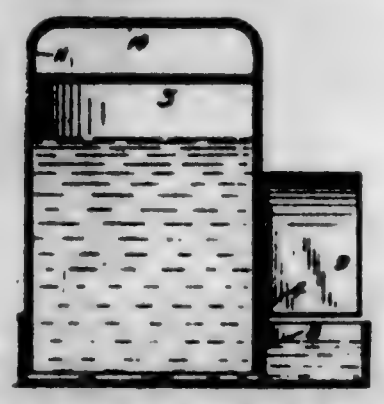
Claim.—1. The combination with a coupling-head and a pivoted knuckle therein, of a rod, rigid from end to end, attached to the coupling-head and having a limited movement through the wall thereof, whereby a longitudinal movement of said rod will position the coupling-head, or throw the knuckle open by the engagement of the free end of said rod with the tail of the knuckle.



2. The combination with a coupling-head, a knuckle pivoted therein, and a tail on the knuckle having a recess in its rear wall, of a rod or bar having limited movement through the wall of the head and projecting laterally therefrom, said rod or bar having a free rounded end to engage in the recess of the knuckle-tail and throw the knuckle open when the latter has been unlocked.

3. The combination with a coupling-head and a pivoted knuckle therein having a tail on its inner end, of a sleeve in the wall of the head, a rod or bar in said sleeve having a slot therein, and a pin through the sleeve and slot of the bar.

808,731. DRINKING-FOUNTAIN. JOHN H. TOMLINSON, Detroit, Mich. Filed July 24, 1905. Serial No. 271,096.



Claim.—1. A device of the character described, comprising a base-pan having communicating compartments, a reservoir adapted to be inverted in one of said compartments, and a hood upon said reservoir to guard the other compartment of said base-pan, substantially as described.

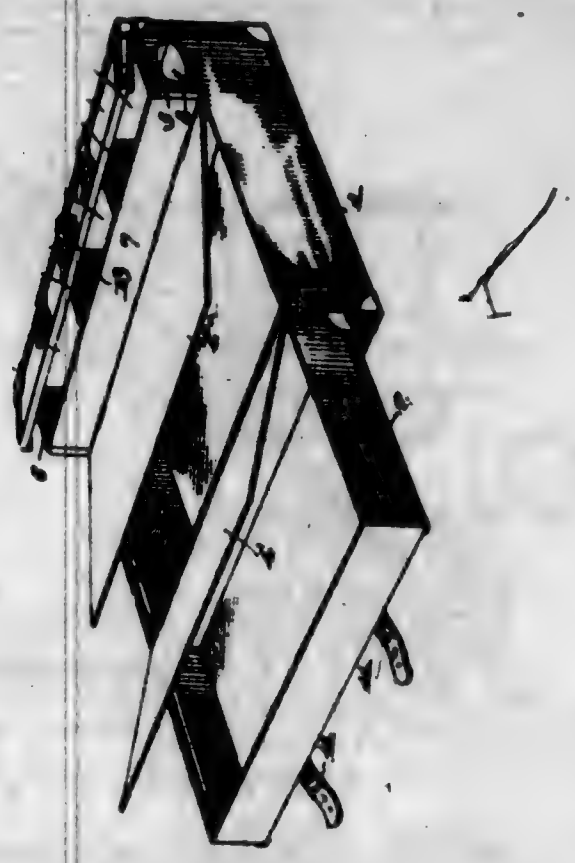
2. A device of the character described, comprising a base-pan having communicating compartments, a reservoir adapted to be inverted in one of said compartments, a band upon said reservoir to engage the upper edge of said pan and support said reservoir, means for retaining said reservoir in said pan, and a hood upon said reservoir adapted to guard the other compartment of said base-pan, substantially as described.

3. A drinking-fountain comprising a base-pan having communicating compartments, a reservoir having an open end adapted to project into one of said compartments, a head upon said reservoir to engage the top of said pan and support said reservoir, studs upon said reservoir, spring-catches upon said pan adapted to engage said studs, a handle upon said reservoir, and a hood upon said reservoir adapted to guard the other compartment of said pan, substantially as described.

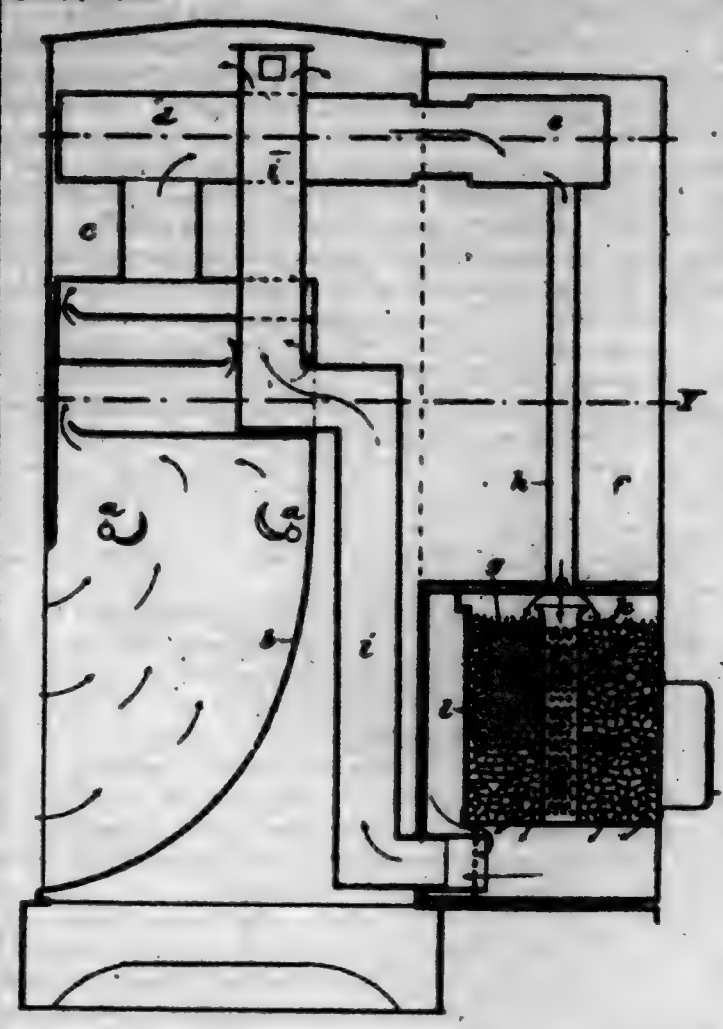
808,732. DRESS-SUIT CASE. CHARLES B. TURNER, Macon, Ga. Filed Jan. 27, 1905. Serial No. 242,999.

Claim.—1. A dress-suit case comprising a body-section having one side vertically extended to form a rigid supplemental section, a lid for the supplemental section carried by the body-section, and a lid-section hinged to the body-section and having its height equal to that of the supplemental section, whereby when the body and lid sections are closed a flat surface is presented on that side of the case on which the lid of the supplemental section is located.

2. A dress-suit case comprising a body-section having one side vertically extended to form a rigid supplemental section, a lid hinged to the body-section and covering the supplemental section, a second section of height equal to the supplemental section, and a lock having one of its elements carried by the lid of the supplemental section and its other element by the second section.



808,784.



808,783. GARMENT. JOHN H. VAN ORDEN, Newark, N. J., assignor to Van Orden Corset Company, a Corporation of New Jersey. Filed Nov. 15, 1902. Serial No. 131,894.

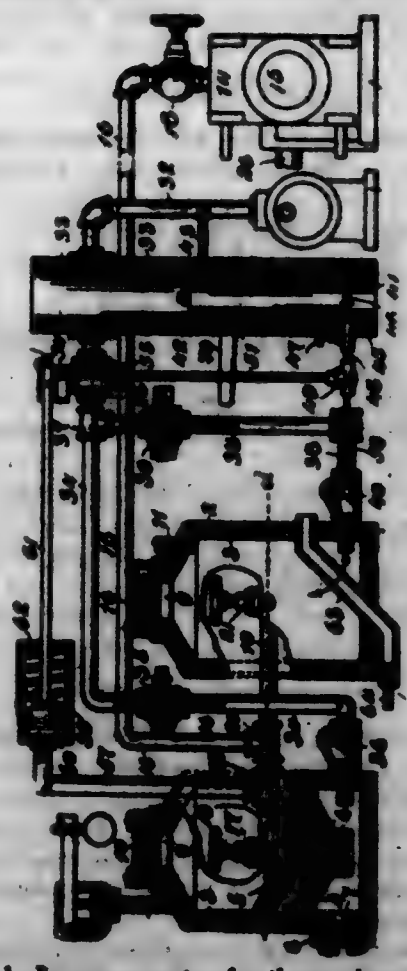


Claim.—As a new article of manufacture, a garment, comprising a close-fitting, sleeveless, bust-supporting member, having eyes, and a loose outer member, or garment, hanging straight from the shoulders of the bust member, and secured thereto only on top of the shoulders, but free therefrom otherwise, to permit unrestricted play of the arms of the wearer, as herein set forth.

808,784. GAS-STOVE. ARIE VERWEY, Rotterdam, Netherlands. Filed Jan. 6, 1905. Serial No. 239,612.

Claim.—A gas-stove having a chamber in its upper portion for collecting the combustion-gases, a vessel adapted to contain gas-absorption material situated in the lower part of the stove, a connection from the collection-chamber to said vessel and a draft-tube f connected to the bottom of said vessel and extending upwardly through the collecting-chamber for drawing the gases from the collecting-chamber through the material in the vessel to the top of the stove.

808,785. APPARATUS FOR THE PRODUCTION OF MECHANICAL ENERGY AND HEAT. GEORGE J. WEBER and CHARLES H WEBER, Kansas City, Mo. Filed Feb. 28, 1903. Serial No. 145,548.



Claim.—1. In an apparatus for the production of mechanical energy, the combination with a combustion-chamber in which the products of combustion are held under pressure, of an air-injecting means connected with the combustion-chamber, a valve controlling said air-injecting means, a fuel-supply connected with the said combustion-chamber, a valve controlling said fuel-supply, a cylinder connected with the combustion-chamber, a piston movable in one direction by the pressure from the combustion-chamber, means for

resisting movement of the said piston in said direction, and means by which movement of the piston controls the said two valves.

2. In an apparatus for the production of mechanical energy, the combination with a combustion-chamber in which the products of combustion are held under pressure, of an air-injecting means, connected with the combustion-chamber, a valve controlling said air-injecting means, a fuel-supply connected with the combustion-chamber, a valve controlling said fuel-supply, a cylinder connected with the combustion-chamber, a piston movable in said cylinder in one direction by the pressure from the combustion-chamber, a spring for resisting movement of the said piston in said direction, and means by which movement of the piston controls the said two valves.

3. In an apparatus for the production of mechanical energy and heat, the combination with means for effecting combustion of fuel under substantially uniform pressure, of means for converting portions of the products of combustion thus formed into mechanical energy, and means, actuated by the said mechanical energy and controlled by the pressure of the products of combustion not converted into mechanical energy, for replacing with fresh products of combustion those converted, thus retaining a continuous supply of the products of combustion under pressure.

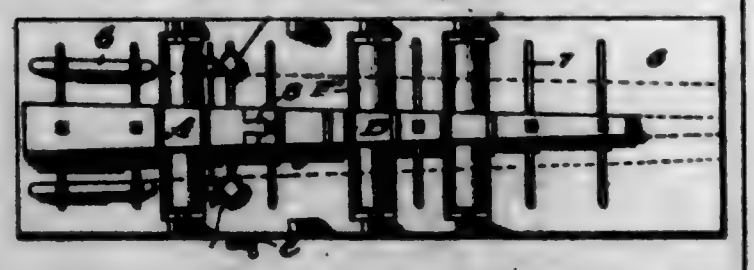
4. The combination with means for effecting combustion of fuel under substantially uniform pressure, of means for converting the products of combustion thus formed into mechanical energy, and means actuated by said energy and regulated by the pressure of the products of combustion for supplying air to the burning fuel.

5. The combination with means for effecting continuous combustion of fuel under substantially uniform pressure, of means for converting the products of combustion thus formed into mechanical energy, and means controlled by the pressure of the products of combustion for regulating the combustion of the fuel.

6. The combination with means for effecting continuous combustion of fuel under substantially uniform pressure, of an engine, means for propelling the engine by the products of combustion, and means actuated by the engine and regulated by the pressure of the products of combustion for continuing combustion of the fuel.

7. The combination with a combustion-chamber, of means for effecting continuous combustion of fuel therein under substantially uniform pressure, an engine, means for propelling the engine by the products of combustion formed in the combustion-chamber, and means actuated by the engine and regulated by the pressure in the combustion-chamber for continuing combustion of the fuel in the combustion-chamber.

808,736. WORK-GUIDE FOR PLANING-MACHINES. LEROY A. WORTHEN, Coleman, Wis. Filed Nov. 3, 1904. Serial No. 231,216.



Claim.—1. In a planing-machine, the combination with a bed and cutters, of a work-guide formed in sections which are separably connected at their ends to each other and have opposite guide-faces.

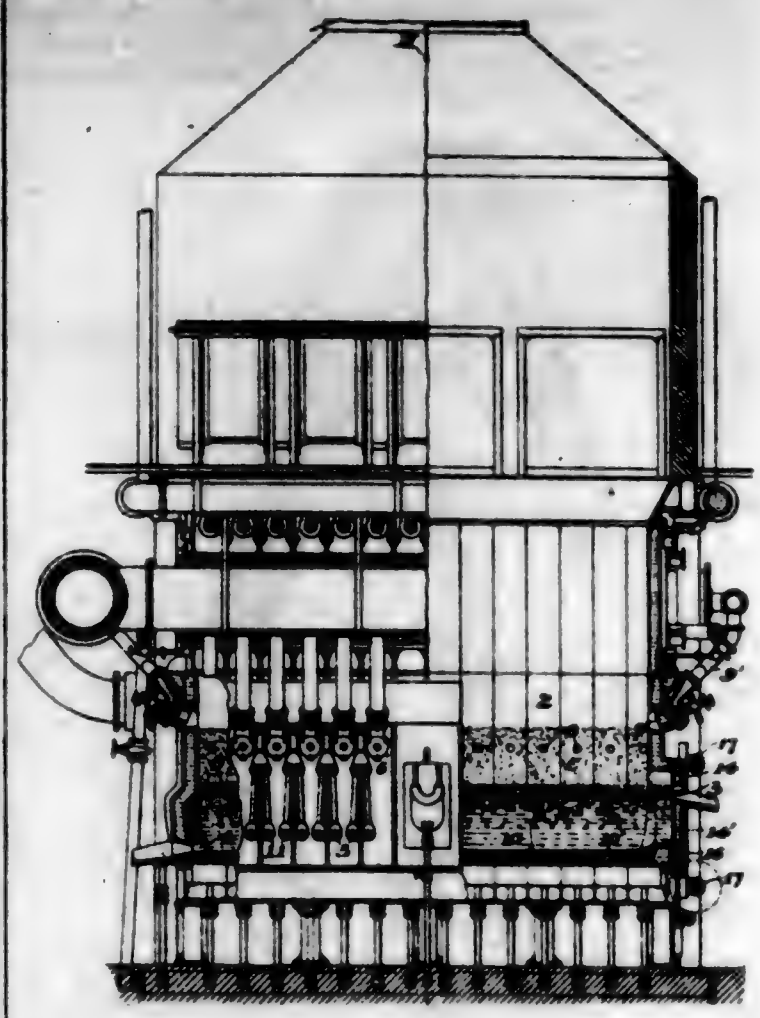
2. In a planing-machine, the combination with the bed and laterally-adjustable cutters, of a work-guide formed in separable sections and having interlocking ends and two opposite guide-faces.

808,737. FURNACE FOR SMELTING ORE. RALPH RAMSAUER, Pittsburg, Pa. Filed Apr. 9, 1904. Serial No. 202,203.

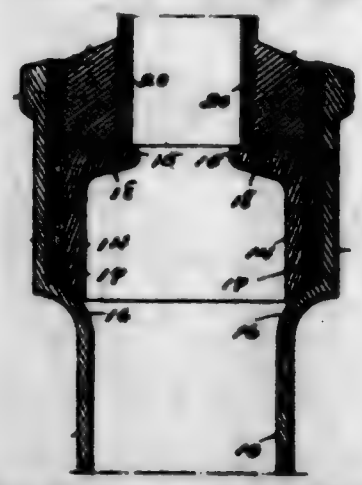
Claim.—1. A matte-furnace having converting-tuyeres near the bottom, smelting-tuyeres at a higher level, connections extending from the converting and smelting tuyeres to a source of air under pressure, and a burner supplying heat above the smelting-tuyeres; substantially as described.

2. A matte-furnace having a slag-outlet, converting-tuyeres below the slag-outlet, smelting-tuyeres above the same, connections extending from the converting and smelting tuyeres and supplying thereto air under pressure, and a burner supplying heat above the smelting-tuyeres; substantially as described.

3. A matte-furnace having converting-tuyeres near the bottom adapted to play into a clean body of molten matte, smelting-tuyeres above adapted to play into a fluxing charge, connections extending from the converting and smelting tuyeres and supplying thereto air under pressure, and a burner supplying heat above the smelting-tuyeres; substantially as described.



808,738. LEAD AND IRON PIPE JOINT. FRANK H. BAKER, Oskaloosa, Iowa. Filed Dec. 5, 1904. Serial No. 235,845.



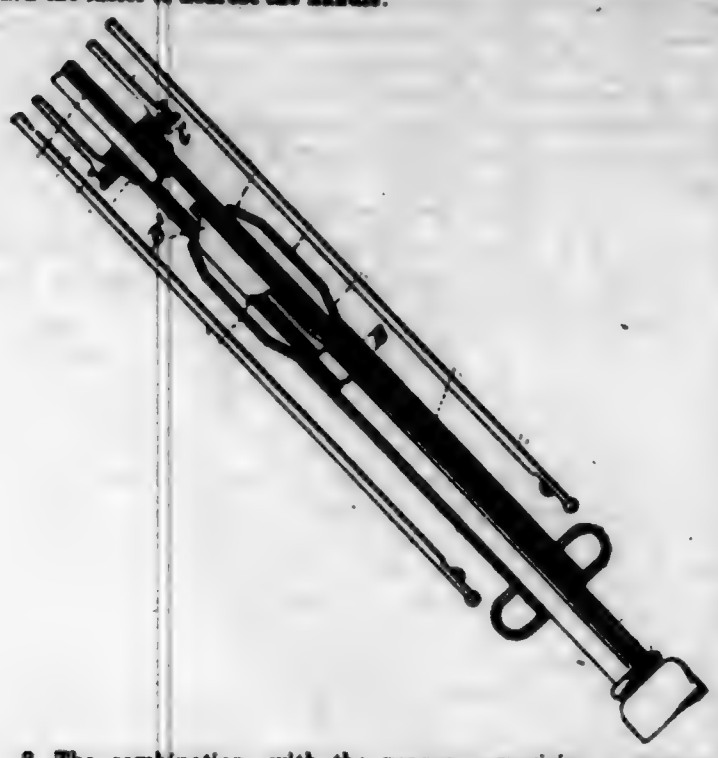
Claim.—1. In a pipe-joint, a metal ring having an interior flange at its top and the top surface of the flange provided with one or more continuous concaves or grooves, a lead pipe expanded at its end and fitted on the top of said flange and a metal pipe enlarged in diameter at its end, combined as set forth, for the purposes stated.

2. In a pipe-joint, a metal pipe having an extension at its end of enlarged diameter, a metal ring having an annular flange at its top projecting inward and concaved on its top surface and a metal ring having a double curve on its bottom edge in the said extension to produce an annular chamber and the end of a lead pipe fitted in said chamber, for the purposes stated.

3. A lead and hard-metal pipe joint comprising a metal pipe having an enlarged extension at its end, a metal ring having an interior flange at its top, a metal bushing above the top of said flange, a lead pipe distended at its end and clasped fast between the metal bushing and the flange of said ring, filling in the lower part and packing in the upper part of the annular chamber produced by the enlarged extension of the metal pipe, the flanged metal ring and metal bushing, arranged and combined as and for the purposes stated.

808,739. UMBRELLA. ALFRED H. RAMSBOTTOM and NATHAN D. INGRAM, New York, N. Y.; said Ingram assignor to said Ramsbottom. Filed Apr. 26, 1904. Serial No. 204,502.

Claim.—1. The combination of the rod and the catch thereon, the runner-crown mounted to slide on the rod, the runner-sleeve connected with said crown and having a slot to receive the said catch, the catch-operator surrounding the runner-sleeve and movable lengthwise thereof, and the rib-tip holder connected with said catch-operator to move therewith, said runner-sleeve extending toward the handle through and beyond the rib-tip holder and being of such length as to cover the rod between the handle and the rib-tip holder when the latter is nearest the handle.

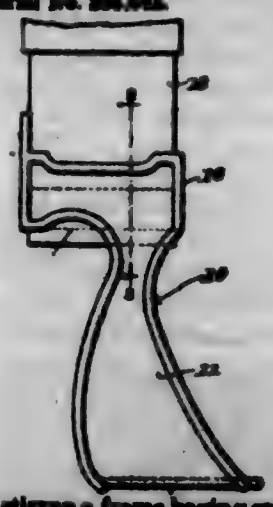


2. The combination, with the runner comprising a runner-crown and a runner-sleeve, of the rod on which said runner is mounted to slide, the catch for holding the runner, the catch-operator surrounding the runner-sleeve and movable lengthwise thereof, and the rib-tip holder connected with said catch-operator to move therewith, said runner-sleeve extending toward the handle through and beyond the rib-tip holder and being of such length as to cover the rod between the handle and the rib-tip holder when the latter is nearest the handle.

3. The combination, with the runner comprising a runner-crown and a runner-sleeve, of the rod on which said runner is mounted to slide, the catch for holding the runner, the rib-tip holder movable lengthwise on the runner-sleeve, and the catch-operator connected with the rib-tip holder and engaging that part of the catch which holds the runner, said catch-operator being located between the rib-tip holder and the runner-crown, and the rib-tip holder being located between the catch-operator and the handle.

4. The combination of the umbrella-rod, the sliding runner having a sleeve of such length that its end will lie adjacent to the handle when the umbrella is closed, the catch for holding the umbrella in the closed position, the catch-operator movable on the runner-sleeve and engaging the holding or retaining portion of the catch, and the rib-tip holder located between the catch-operator and the handle and connected with the catch-operator to move therewith.

808,740. STIRRUP. FREDERICK W. BAUER, Dallas, Tex. Filed Apr. 20, 1905. Serial No. 256,042.

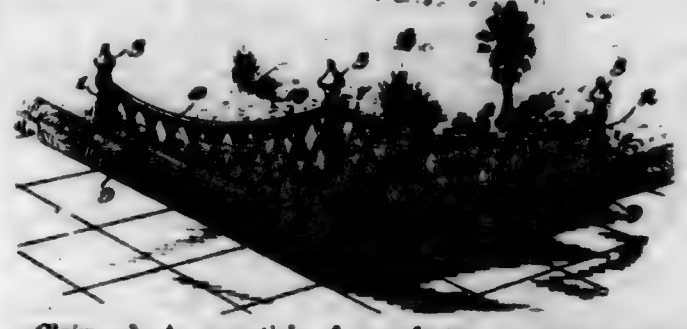


Claim.—1. In a stirrup a frame having spaced sides converging toward the forward edges, and a tread connecting said sides and provided with a heel-receiving recess in its rear side.

2. In a stirrup, a frame comprising spaced sides connected at one end by a transverse tread and converging toward the other end, spaced plates connecting said converging side portions at front and rear, and with the forward plate extended above the side portions of the frame and a strap-bar connecting said plates between said side portions.

3. A stirrup comprising spaced sides, a tread connecting the lower ends of the sides, plates carried by the upper ends of the sides and extending forwardly therefrom, front and rear plates connecting corresponding ends of the side plates, and a strap-bar extending between the front and rear plates, the front plate extending above the other plates to form a strap-engaging stop.

808,741. CORNER SHIELD OR PROTECTOR. OLE CARLSON, DeKalb, Ill. Filed Feb. 14, 1905. Serial No. 245,630.

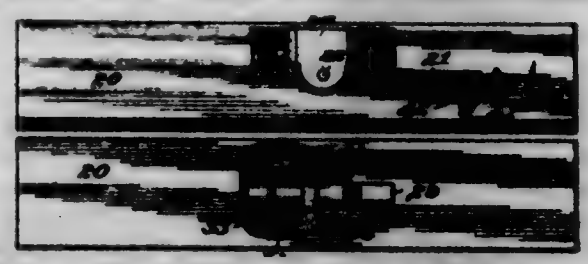


Claim.—1. As an article of manufacture, a corner-protecting appliance comprising a corner-post 7 and end posts 1 and 2, said corner-post being of greater length than the end posts, members 8 and 9 interposed between said corner-post and the end posts, said members 8 and 9 being tubular, split, collar-like members 11 having lugs 14 adapted to receive the ends of said tubular members 8 and 9, flanges formed integral with said collar-like members 11, means coöperating with said flanges adapted to secure said collar-like members fixedly to the posts, and additional means to anchor said posts in the ground, all combined substantially as set forth.

2. In a device of the character described, the combination with a post; of a split collar surrounding the post and having integral flanges at its ends, lugs projecting from and integral with the collar for engaging tubular sections, and means engaging the flanges for clamping the collar upon the post.

3. The combination with end and an intermediate post and tubular sections interposed upon the posts, of split collars surrounding the posts, integral flanges at the ends of the collars, means engaging the flanges for clamping the collars upon the posts, and integral lugs extending from the collars and projecting into the ends of and adapted to support the tubular sections.

808,742. FASTENER FOR WINDOW-SASHES. MARTIN J. CARTER, St. Louis, Mo. Filed Nov. 23, 1904. Serial No. 234,045.



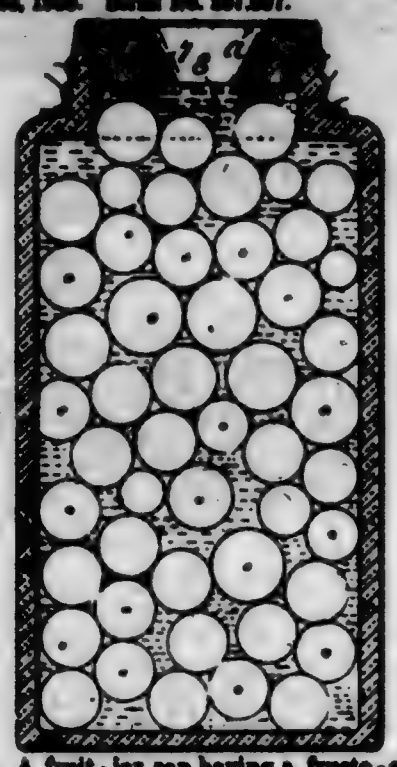
Claim.—1. In a sash-fastener, a base-plate having notches in its edges, a casing having ribs engaging with the notches in said base-plate, a locking-bar pivoted at one end between said base-plate and said casing and provided with a curved face at its free end, a bracket provided with a cam-face for engaging with the curved face on said locking-bar, and a latch pivoted on said bracket to engage with said locking-bar and having its under face beveled to ride over the locking-bar when the latter is moved toward said cam-face.

2. In a sash-fastener, a pivoted locking-bar provided with a curved face at its free end, a bracket comprising two interlocking members, a cam-face on said bracket for engaging with the curved face of said locking-bar, and a latch pivoted between the interlocking members of said bracket and having a beveled under face to ride over said locking-bar when the latter is moved toward said cam-face.

3. In a sash-fastener, a base-plate having notches in its edges, a casing having ribs engaging with the notches in said base-plate, a locking-bar pivoted at one end between said base-plate and said casing and provided with a curved face at its free end, a bracket cam-

joining two interlocking members, a cam-face on said bracket for engaging with the curved face of said locking-bar, and a latch pivoted between the interlocking members of said bracket and having a hooked under face to ride over said locking-bar when the latter is moved toward said cam-face.

803,743. FRUIT-JAR CAP. WILLIAM P. COLEMAN, Lebanon, Pa. Filed June 23, 1905. Serial No. 266,677.



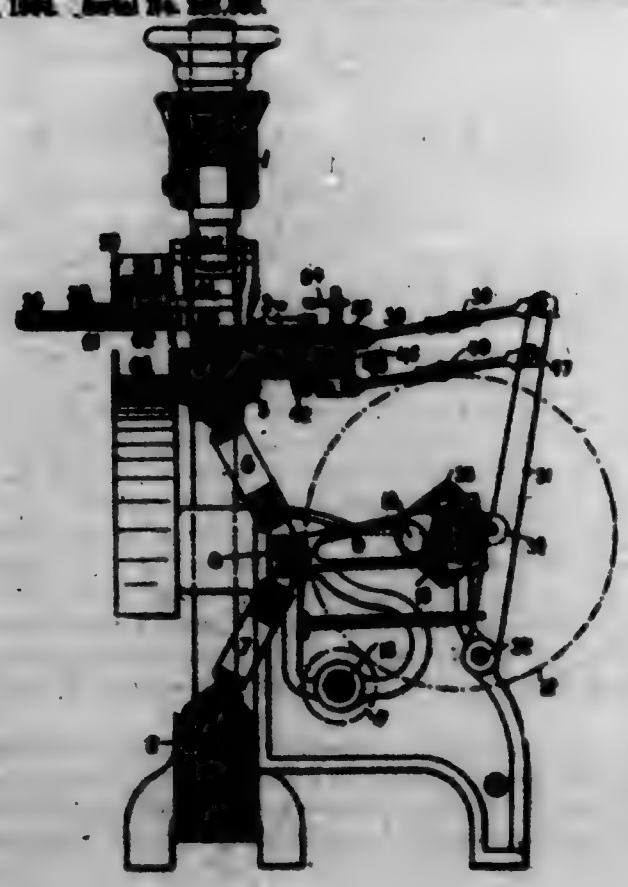
Claim.—1. A fruit-jar cap having a fruto-conical immerser therein, the latter provided with a central opening to give access to all parts of the cap for cleansing.

2. An immerser for fruit-jars having an annular flange at its upper end, a fruto-conical or converging side wall provided with a terminal opening at its lower end, for the purpose described.

3. A fruit-jar cap, in combination with an immerser provided with an opening at its lower end and having an annular flange at its upper end to bear against one wall of the cap, and a converging side wall, substantially as described.

4. In a fruit-jar cap, the combination of a cap having an outwardly-extending base-flange and an immerser secured therein and provided with an upper annular flange, and converging side walls having a terminal opening, substantially as described.

803,744. MACHINE FOR COMPRESSING HEELS FOR BOOTS AND SHOES. JOHN V. COLLINS, Northampton, England. Filed Dec. 30, 1904. Serial No. 238,606.



Claim.—In a heel-compressing machine of the kind herein referred to and in combination with the rising and falling middle beam thereof, the half-molds for compressing the heel carried by said beam, a table carried by said beam, a magazine on said table adapted to carry the heels in a pile one above another, an arm adapted to move to and fro on the table and to push the bottom heel of the pile forward, carriers or clips arranged above the half-molds and adapted to receive and hold the heel when it is pushed forward from the magazine, a slide carried and guided by said middle beam, and on which the heel is compressed, means for moving said slide to and fro as the beam rises and falls, fingers carried by said slide and adapted to open the carriers or clips when the slide is moved under the heel which is carried by said clips, said parts being constructed and arranged for joint operation in the manner and substantially as set forth.

803,745. APPARATUS FOR ROLLING SHEET AND TIN PLATE. PERCY H. DOHNER, Columbus, Ind. Filed Sept. 14, 1904. Serial No. 224,455.



Claim.—1. In apparatus for rolling sheet metal, the combination of two sets of rolls, a matching device located between said rolls and having a downward inclination, a stop at the lower end of said matcher, and means for elevating the delivery end of said matcher into position to deliver to the second set of rolls.

2. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls, a matching device located between said rolls and provided with suitable stop mechanism, and means for elevating the delivery end of said matcher into position to feed to the second set of reducing-rolls.

3. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls, a matching device located between said rolls and having a downward inclination from the horizontal and pivoted at its higher end, a stop at the lower end of said matcher, and power mechanism for raising the lower end of the matcher into position to deliver to the second set of reducing-rolls.

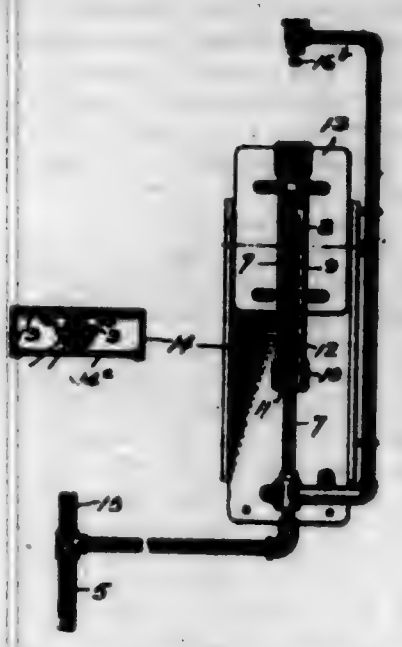
4. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls, a matcher located between said rolls and provided with suitable stop mechanism, said matcher being pivoted at one end, and means for elevating the opposite end of said matcher to bring the delivery end thereof into position to feed to the second set of reducing-rolls.

5. In apparatus for rolling sheet metal, the combination of two sets of reducing-rolls, a matcher located between said rolls, stop mechanism for limiting the forward movement of the plates in said matcher, and mechanism for elevating the forward end of the matcher to the level of the second set of reducing-rolls.

803,746. AIR-BRAKE RELEASE AND SIGNAL VALVE. FRANK H. DUTTWEILER, Hazelville, Pa. Filed May 6, 1905. Serial No. 259,162.

Claim.—1. In air-brake apparatus, the combination of a brake-cylinder and its triple valve, and controlling-valve mechanism having a connection with the brake-cylinder and with the triple-valve exhaust-port and arranged on one position to open the triple-valve exhaust-port to the atmosphere, in another position to open the

brake-cylinder to the atmosphere, and in a third position to keep both closed.



2. In air-brake apparatus, the combination of a brake-cylinder and its triple valve, and a controlling-valve provided with a casing having one port connected to the triple-valve exhaust-port, another port connected to the brake-cylinder, and a valve in said casing arranged to connect either of said ports with the atmosphere or to keep both closed.

3. In air-brake apparatus, the combination of a brake-cylinder and its triple valve, of a signal-cylinder connected to said brake-cylinder, and controlling-valve mechanism connected to the brake-cylinder and to the triple-valve exhaust-port and arranged in one position to open the triple-valve exhaust-port to the atmosphere, in another position to open the brake-cylinder to the atmosphere, and in a third position to keep both closed.

4. In air-brake apparatus, the combination of a brake-cylinder and its triple valve, a signal-cylinder, a pipe connecting the same with the brake-cylinder, and a controlling-valve having a casing provided with one port connected to said signal-pipe and another port connected to the triple-valve exhaust-port, and a valve in said casing arranged to connect either of said ports with the atmosphere or keep both closed.

5. In air-brake apparatus, the combination of a train-pipe, a brake-cylinder and its triple valve, and controlling-valve mechanism having connections to said brake-cylinder and with said train-pipe and arranged in one position to connect the brake-cylinder to the atmosphere, in another position to connect the train-pipe to the atmosphere, and in a third position to keep both connections closed.

6. In an air-brake apparatus, the combination of a train-pipe, a brake-cylinder and its triple valve, and controlling-valve mechanism having connection with the train-pipe and with the triple-valve exhaust-port and arranged in one position to connect the train-pipe to the atmosphere, in another position to connect the triple-valve exhaust-port with the atmosphere, and in a third position to keep both connections closed.

7. In air-brake apparatus, the combination of a train-pipe, a brake-cylinder and its triple valve, and controlling-valve mechanism having connection with the train-pipe, with the brake-cylinder and with the triple-valve exhaust-port, and arranged in one position to connect the train-pipe to the atmosphere and keep the other connections closed, in a second position to connect the brake-cylinder to the atmosphere and keep the train-pipe connection closed, in a third position to connect the triple-valve exhaust-port with the atmosphere and keep the other connections closed, and in a fourth position to keep all of said connections closed.

8. The combination with a brake-cylinder, of a signal including a hollow piston connected to the brake-cylinder, a cylinder movable thereon, and a signal operated by said movable cylinder.

9. The combination with a brake-cylinder, of a signal including a hollow piston connected to said brake-cylinder, a cylinder movable on said piston, and a target carried by said movable cylinder.

10. The combination with a brake-cylinder, of a signal arranged for operation by brake-cylinder pressure, a branch pipe from the signal-pipe, and a release-valve in said branch pipe.

11. The combination with a brake-cylinder, of a signal-cylinder, a signal operated by said cylinder, a pipe connecting the brake-cylinder and signal-cylinder, and a release-valve connected to said pipe.

12. An air-brake signal and release device, comprising a hollow piston arranged at one end for connection to a brake-cylinder, a cylinder fitting over the other end of said piston, a spring arranged to move said cylinder onto said piston, and a signal arranged to be operated by said cylinder.

13. An air-brake signal and release device, comprising a hollow piston arranged at one end for connection with a brake-cylinder, a cylinder fitting over the other end of said piston, and a target carried by said cylinder.

14. An air-brake signal and release device, comprising a cylinder arranged to be connected to said brake-cylinder, a target connected to said cylinder, and a casing in which said cylinder and target are housed.

15. An air-brake signal and release device, comprising a stationary hollow piston, a signal-pipe connected to said hollow piston, a movable cylinder, a target connected to said movable cylinder, a branch pipe from the signal-pipe, and a release-valve in said branch pipe.

16. In an air-brake system the combination of a brake-cylinder, a relief-valve connected to said cylinder, and means moved by brake-cylinder pressure and arranged on excess movement to cause the automatic opening of the relief-valve.

17. In an air-brake system the combination of a brake-cylinder, a relief-valve connected to said cylinder, and a cylinder and piston connected to brake-cylinder and arranged on excessive movement to cause the automatic opening of the relief-valve.

18. In an air-brake system the combination of a brake-cylinder, a relief-valve connected to said cylinder and provided with a stem, and a cylinder and piston connected to the brake-cylinder and arranged on excessive pressure to contact with the relief-valve stem and open the same.

19. In an air-brake system the combination of a brake-cylinder, a relief-valve connected to said cylinder, a signal device arranged to be moved by brake-cylinder pressure and arranged upon excessive movement to cause the automatic opening of the relief-valve.

20. In an air-brake system the combination of a brake-cylinder, a relief-valve connected to said cylinder, and a signal cylinder and piston connected to the brake-cylinder and arranged on excessive pressure to cause the automatic opening of the relief-valve.

803,747. CAR-AXLE BOX. ALBERT G. ELVIN, Franklin, Pa. Filed May 13, 1905. Serial No. 260,240.



Claim.—1. The combination of an axle-box having lugs on its top at each side of its front face, a lid adapted to cover the front opening of the box and having a tubular lug on its top, and a pivot-pin passing freely through the lug of the lid and having a conical head fitting in, and abutting against the end wall of, a corresponding recess in one of the lugs of the box.

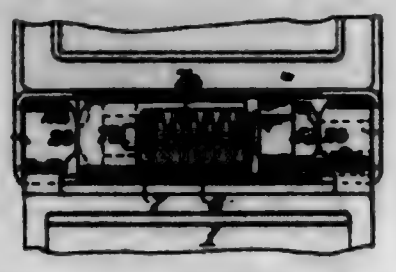
2. The combination of an axle-box having lugs on its top on each side of its front face, a lid adapted to cover the front opening of the box and having a tubular lug on its top, a pivot-pin passing freely through the lug of the lid and fixed in the lugs of the box, dogs fitting freely on the pin and having squared stems engaging corresponding sockets in the lug of the lid, there being coöperating inclines on the outer faces of the dogs and the adjacent faces of the lugs of the box, and a spring interposed between and bearing on the inner ends of the dogs.

3. The combination of an axle-box having lugs on its top on each side of its front face, a lid adapted to cover the front opening of the box and having a tubular lug on its top, a pivot-pin passing freely through the lug of the lid and fixed in the lugs of the box, dogs fitting freely on the pivot-pin and having squared stems engaging corresponding sockets in the lug of the lid, there being coöperating engaging surfaces on the adjacent faces of the dogs and the lugs of the box, composed of alternated inclines and flats, and a spring interposed between and bearing on the inner ends of the dogs.

4. A dog for self-closing axle-box lids having a central cylindrical bore, a squared stem projecting from one of its ends, and a cam-face composed of alternated inclined and flat surfaces on its opposite end.

803,748. CAR-AXLE BOX. ALBERT G. ELVIN, Franklin, Pa. Filed Oct. 6, 1905. Serial No. 281,567.

Claim.—1. The combination of an axle-box having lugs on its top at each side of its front face, a lid adapted to cover the front opening of the box and having a tubular lug on its top, dogs having flat-sided bodies fitting corresponding sockets in the lug of the lid and fitting freely in the lugs of the box, there being coöperating engaging surfaces on the adjacent faces of the dogs and the lugs of the box, composed of alternated inclines and flats, and a spring interposed between and bearing on the inner ends of the dogs.

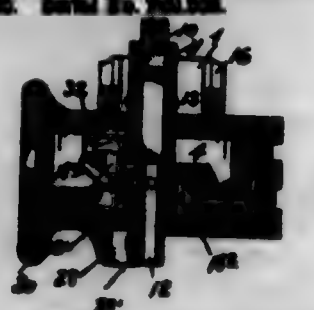


2. The combination of an axle-box having lugs on its top at each side of its front face, a lid adapted to cover the front opening of the box, said lid having a tubular lug on its top, provided with a longitudinal opening, the end portions or extensions of which are narrower than the main portion, dogs having flat-sided bodies fitting corresponding sockets in the lug of the lid, and a helical spring, of such dimensions as to be capable, when compressed, of being passed through the wider portion of the opening in the slot of the lid, and which is interposed between and bears on the inner ends of the dogs.

3. The combination of an axle-box having lugs on its top at each side of its front face, a lid adapted to cover the front opening of the box, said lid having a tubular lug on its top provided with a longitudinal opening, the end portions or extensions of which are narrower than the main portion, dogs having flat-sided bodies fitting corresponding sockets in the lug of the lid, a helical spring, of such dimensions as to be capable, when compressed, of being passed through the wider portion of the opening in the slot of the lid, and which is interposed between and bears on the inner ends of the dogs, and a cover-plate closing the longitudinal opening of the lug of the lid.

4. A dog for self-closing axle-box lids, having a flat-sided body, a cylindrical stem projecting from one end of the body, and a cam-face composed of alternated inclined and flat surfaces on the end of the body adjoining the stem.

808,749. CAR-COUPLING. ELMER O. EVANS, Burlington, Iowa. Filed Jan. 12, 1905. Serial No. 240,926.



Claim.—1. The combination of the draw-head 1, the draw-bar 2, extending from the rear end of said draw-head, the right-hand side of said draw-head provided with an opening 25, and two perforated bearings 21; a knuckle 20, pivoted in said bearings; a locking-arm 19, extending from said knuckle, provided on its rear part with a projection 24', to pass through said first-mentioned opening, and a partly-circular wall 24, and on its rear face, a recess 22, leaving a wall 23'; a half-circle lower projection 28, extending from the lower face of the lower wall of the draw-head provided with a half-circle recess 28', said half-circle recess extending upwardly, forming a circular perforation 29, in said wall, said recess and perforation provided with an upwardly-extending spiral groove 34; a bolt 30, its lower end working in last-mentioned perforation, and its upper end in a recess 35, in the upper wall; a pin 33, extending from the surface of said bolt 30, and working in said spiral groove 34; an arm 31, extending horizontally from said bolt, and working in the hollow of the draw-head, adapted to work against the partly-circular wall 24, on the rear face of the locking-arm 19; an arm 32, extending horizontally from the upper end of said bolt, and on the inside of the hollow of the draw-head; a block 18, extending inwardly from the opposite jaw of the draw-head, provided with an undercut recess for the accommodation of the locking-arm; a vertical perforation 18' in said block 18, having an annular groove 18², with two recesses 18³, in the upper wall of said groove; a curved horn 18⁴, extending from the free end of said block 18, and resting under the last-mentioned arm 32, of the above-mentioned bolt 30; a locking-pin 12, having in its upper end a slot 15, and near its middle two projections 12', working in said annular groove 18²; a hood 10, working through a square perforation 9, in the upper wall of the draw-head, and over the head of said locking-pin; legs 17, extending downwardly and forwardly from the lower end of said hood 10, and resting on the face of last-mentioned block 18, said hood secured to said locking-pin by a bolt 13, passing through the slot of said locking-pin, and perforations in said draw-head, substantially as shown and described and for the purposes set forth.

2. The combination of the draw-head, having an upper and lower perforated bearing; a draw-bar extending from the rear end of said draw-head; a knuckle, pivoted in said bearings; a locking-arm, extending from said knuckle, provided on its front face with a recess, leaving a wall; a half-circle lower projection, extending from the lower face of the lower wall of said draw-head, provided with a half-circle recess, said half-circle recess extending upwardly, forming a circular perforation in said wall, said recess and perforation provided with an upwardly-extending spiral groove; a bolt, its lower end working in last-mentioned perforation, and its upper end in a recess in the upper wall; a pin, extending from the surface of said bolt, and working in said spiral groove; an arm, extending horizontally from said bolt, and working in the hollow of the draw-head, adapted to work against the partly-circular wall on the rear face of the locking-arm; an arm, extending horizontally from the upper end of said bolt, and on the inside of the hollow of the draw-head; a block, extending inwardly from the opposite jaw of the draw-head, provided with an undercut recess for the accommodation of the locking-arm, and a vertical perforation, having an annular groove, with two recesses in the upper wall of said groove; a curved horn, extending from the free end of said block, and resting under the last-mentioned arm of the above-mentioned bolt; a locking-pin, having in its upper end a slot, and near its middle two projections, working in said annular groove; a hood, working through a perforation in the upper wall of the draw-head, and over the head of said locking-pin, said hood secured to said locking-pin, by a bolt passing through the slot of said locking-pin, and perforation in said draw-head, substantially as shown and described and for the purposes set forth.

3. The combination of the draw-bar; the draw-head, secured to the front end thereof, and having in its wall an opening; a knuckle, hinged in the front end of said draw-head; a locking-arm, extending from said knuckle rearwardly into the hollow of said draw-head; a projection, extending from the rear part of said locking-arm, and adapted to pass through said opening; a bolt, journaled vertically in said draw-head, and having an arm working against the rear face of said locking-arm, and adapted to throw the locking-arm inwardly and open the knuckle, when said arm is turned inwardly, with a block and locking-pin adapted to turn said arm inwardly.

4. The combination of a draw-bar; a head secured to the front end thereof; a knuckle and locking-arm, hinged in the front end of said draw-head; a bolt, vertically journaled in said draw-head, and having a lower arm to throw said locking-arm outwardly, and operate the knuckle, with means for rotating said bolt, substantially as shown and described and for the purposes set forth.

5. The combination of a draw-bar; a draw-head, secured to the front end thereof; a block, adapted to lock the locking-arm of the knuckle, said block provided with an annular groove; a slotted locking-pin, passing down through said draw-head in said block, and secured therein by a projection working in said annular groove, said locking-pin adapted to raise and lower said block, and thereby lock and unlock the locking-arm; a hood, passing up through the upper wall of the draw-head, fitting over the other end of said locking-pin, and provided with legs, passing downwardly and resting on the upper face of said block, and thereby keeping it down, substantially as shown and described and for the purposes set forth.

808,750. SIGN. GUSTAVE J. FREY, Rochester, N. Y., assignor of one-half to Thomas E. Lovis, Rochester, N. Y. Filed Jan. 20, 1905. Serial No. 241,911.



Claim.—1. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and of different color and cemented together, one of such sheets comprising a character exhibited in such sign.

2. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and cemented together by means of a cement comprising a solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

3. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and cemented together by means of a cement comprising a latent solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

4. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and of different color and cemented together, one of such sheets comprising a character exhibited in such sign.

5. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and cemented together by means of a cement comprising a solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

6. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and cemented together by means of a cement comprising a latent solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

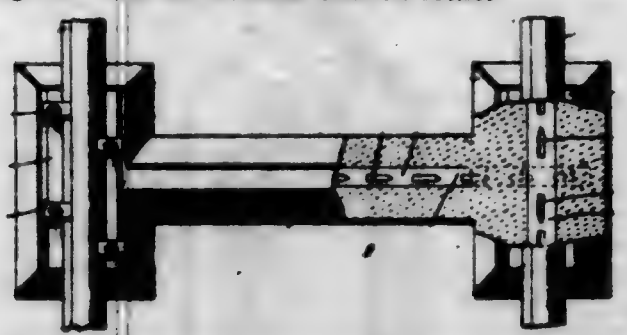
7. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and of different color and cemented together by means of a cement comprising a solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

8. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and of different color and cemented together by means of a cement comprising a latent solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

9. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and of different color and cemented together by means of a cement comprising a solvent in such sheets, one of such sheets comprising a character exhibited of such sign.

10. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and of different color and cemented together by means of a cement comprising a latent solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

808,751. **COMPOSITE RAILROAD-TIE.** HUGH J. FISHER, Chicago, Ill. Filed Mar. 20, 1905. Serial No. 250,859.



Claim.—1. A concrete railroad-tie having embedded lengthwise therein a metal bar having at the ends dropped portions with upwardly-projecting tongues, and an intermediate raised portion with downwardly-projecting tongues.

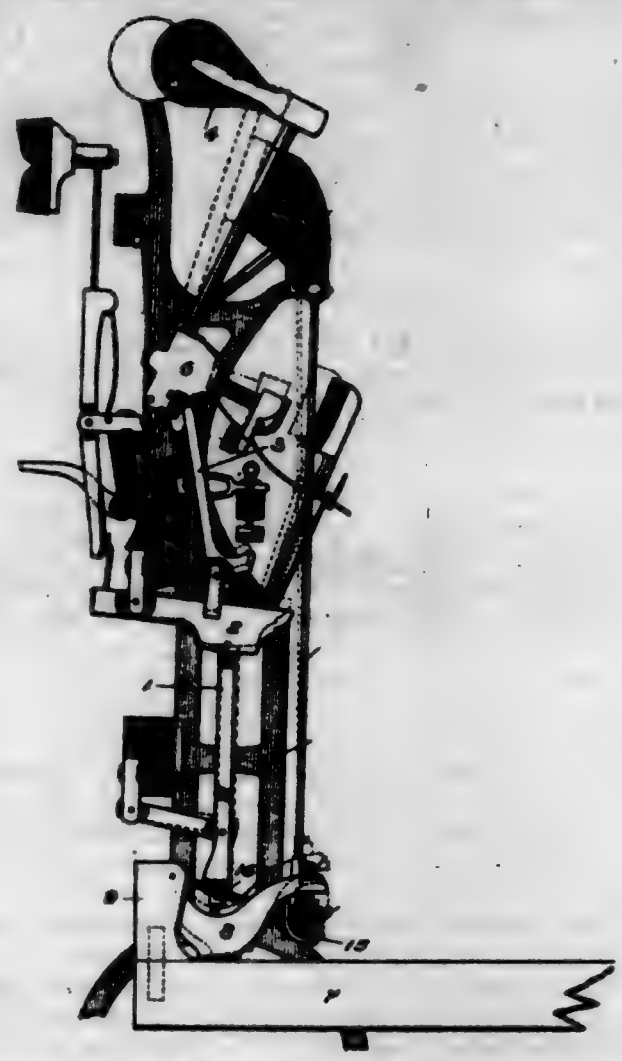
2. A concrete railroad-tie having enlarged ends on which the rails rest, a metal bar embedded in said tie and connecting the said ends and having projecting tongues, and metal cross-bars embedded in said ends and having projecting tongues.

3. The combination with a tie having thereon a block on which a rail rests, of clips which engage the base of the rail and have shoulders depending over the edge of the block, and means to secure the clips to the tie.

4. The combination with a concrete tie having laterally-extending blocks at the ends thereof, of bars embedded in the body of the tie and having ends spread laterally in said blocks.

808,752. **PIANO-ACTION.** OTTO CRAFT, Toronto, Canada, assignor of one-half to William James Richardson, Toronto, Canada. Filed Mar. 13, 1904. Serial No. 198,794.

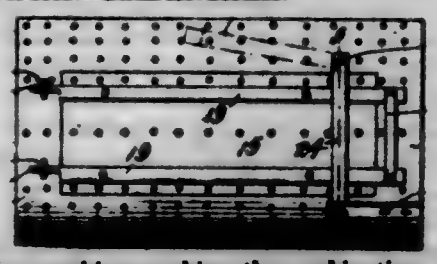
Claim.—1. In upright-piano actions, the combination of a hammer, hammer-rail, jack, wippen, abstract, key and means for moving said rail and hammer into pianissimo position, with a lever extending from its pivot toward the front of the key, normally resting thereon and supporting the lower end of said abstract, a lifting-bar under the free end of the said lever and a rod which is connected to the said hammer-rail and supports the said lifting-rail, being provided with a part which passes externally under the said lifting-rail without requiring the perforation of the latter in order that the movement of the hammer-rail into pianissimo position may lift the said lever, abstract, wippen and jack, thereby keeping the jack in touch with the hammer-rail at all times substantially as set forth.



2. In upright-piano actions, the combination of a hammer, hammer-rail, jack, wippen, abstract, key and means for moving said rail and hammer into pianissimo position, with a lever supporting the lower end of said abstract and normally resting on the top of said key, a lifting-rail arranged under the free end of the said lever, and means for connecting the said hammer-rail to the said lifting-rail, said means including a hook which passes under the latter rail, this rail being imperforate and not attached to said hook substantially as and for the purpose set forth.

3. In upright-piano actions, the combination of a hammer, hammer-rail, jack, wippen, abstract, key and means for moving the said rail and hammer into pianissimo position, with a lever supporting the lower end of said abstract, a lifting-rail under the free end of the said lever and a connecting-rod which is attached at its upper end to said hammer-rail, provided at its lower end wth a hook extending under the lifting-rail and made adjustable in length at will, the said rod and hook being altogether external to said lifting-bar and without attachment thereto, the said bar being imperforate, substantially as set forth.

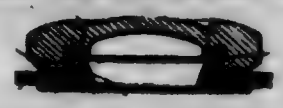
808,753. **WASHING-MACHINE.** JAMES J. GREEN, Houston, Tex. Filed June 1, 1905. Serial No. 262,292.



Claim.—In a washing-machine, the combination of a rotary cylinder of reticulate material, a removable cover for said cylinder, fastening-strips upon said cover having reduced portions at one end and a connecting-bar at their opposite ends, staples upon said casing to be engaged by the reduced portions of said strips, a latch pivoted

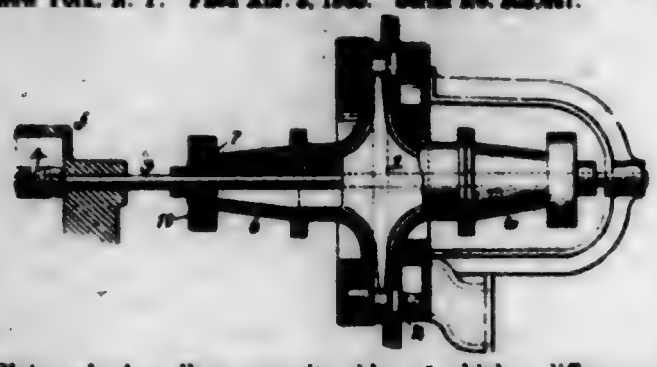
upon said cylinder and adapted to be swung transversely across said strips and said cover, and a keeper upon said cylinder having an undercurved portion at one of its ends adapted to be engaged by the resilient end of said latch, substantially as described.

808,754. BUTTON. GEORGE F. GROVE and ARTHUR J. GROVE, Halesowen, England. Filed July 12, 1904. Serial No. 216,268.



Claim.—A push-button front formed of hoof or horn or other non-metallic substance having a dome-shaped recess in its rear face, a sheet-metal ring having an upwardly and outwardly extending groove therein embedded in said front and surrounding said recess, and an eyelet having a conical ring part which is secured in the groove in the ring and spread therein.

808,755. OBTURATOR FOR FLEXIBLE SHAFTS. ALBERT H. GUY, Trenton, N. J., assignor to Delaval Steam Turbine Company, New York, N. Y. Filed Apr. 3, 1905. Serial No. 253,467.



Claim.—1. A wall on opposite sides of which a difference of fluid-pressure exists and having an opening, a flexible shaft extending through said opening and means for preventing leakage of said fluid around said shaft and between said shaft and said wall, due to deflection of said shaft.

2. In an elastic-fluid motor a casing, a rotating member therein, a flexible shaft on which said member is fixed extending through a wall of said casing, and means for preventing leakage of elastic fluid around said shaft and between said shaft and said wall, due to deflection of said shaft.

3. The combination of a flexible shaft, a wall through which said shaft passes, a member supported on said shaft and operating when said shaft is rotated to cause a deflection thereof, a disk in which said shaft is free to rotate and means for maintaining a tight joint between a face of said disk and said wall.

4. The combination of a flexible shaft, a wall through which said shaft passes, a member supported on said shaft and operating when said shaft is rotated to cause a deflection thereof, a disk in which said shaft is free to rotate, means for preventing the rotation of said disk and means for maintaining a tight joint between a face of said disk and said wall.

5. A casing, a rotary member therein, a flexible shaft on which said member is fixed extending through a wall of said casing, bearings for said shaft external to said casing, and means not rotating with said shaft interposed between said shaft and said casing-wall for maintaining a close joint between said parts during all positions of said shaft while in rotation.

6. An elastic-fluid turbine-wheel, a casing therefor, a flexible shaft supporting said wheel and extending through the walls of said casing, bearings for said shaft external to said casing, and means not rotating with said shaft interposed between said shaft and said casing-wall for maintaining a close joint between said parts during all positions of said shaft while rotated by said wheel.

7. A casing, a rotary member therein, a continuous flexible shaft on which said member is fixed, extending through the opposite walls of said casing, bearings for said shaft external to said casing and means not rotating with said shaft interposed between said shaft and said casing-walls for maintaining a close joint between said parts during all positions of said shaft while in rotation.

8. A rotary motor-wheel, a casing therefor, a flexible shaft on which said wheel is fixed and extending through a wall of said casing, a bearing for said shaft outside of said casing, means not rotating with said shaft interposed between said shaft and said casing-wall for maintaining a close joint between said parts during all positions of said shaft while in rotation, and on the opposite side of said bearing and carried by said shaft, a power-transmitting gear.

9. The combination of a casing, a flexible shaft extending through a wall thereof, a disk surrounding said shaft and a flexible diaphragm interposed between a face of said disk and said wall.

10. The combination of a casing, a flexible shaft extending through a wall thereof, a disk surrounding said shaft and a flexible diaphragm secured to said casing and interposed between a face of said disk and said wall.

11. The combination of a casing, a flexible shaft extending through a wall thereof, a disk, a hub carrying said disk and loose on said shaft and a flexible annular diaphragm seated in a groove on said hub and interposed between a face of said disk and said wall.

12. The combination of a casing, a flexible shaft extending through a wall thereof, a disk surrounding said shaft and a flexible diaphragm interposed between the outer face of said disk and said wall: the said wall having an opening in front of said disk.

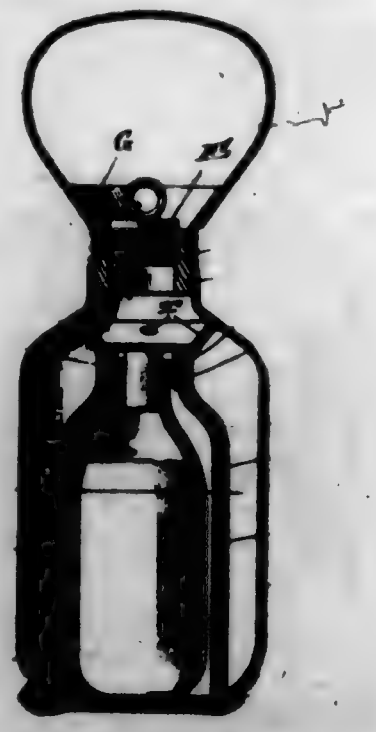
13. The combination of a casing, a flexible shaft extending through a wall thereof, a disk surrounding said shaft and a flexible diaphragm formed of a plurality of thin sheets interposed between a face of said disk and said wall.

14. The combination of a casing, a rotary flexible shaft extending through a wall thereof, a disk surrounding said shaft, a flexible diaphragm interposed between a face of said disk and said wall, and means for preventing the rotation of said diaphragm by said shaft.

15. The combination of a casing, a rotary flexible shaft extending through a wall thereof, a disk surrounding said shaft, a flexible diaphragm formed of a plurality of thin sheets interposed between a face of said disk and said wall, and means for preventing displacement of said sheets with respect to one another.

16. The combination of a casing, a rotary flexible shaft extending through a wall thereof, a disk surrounding said shaft and a diaphragm formed of a plurality of semi-annular thin sheets superposed to break joints interposed between a face of said disk and said wall.

808,756. NURSING-BOTTLE WARMER. BERTHA L. GWYNER, Sumpter, Oreg. Filed July 26, 1904. Serial No. 218,275.

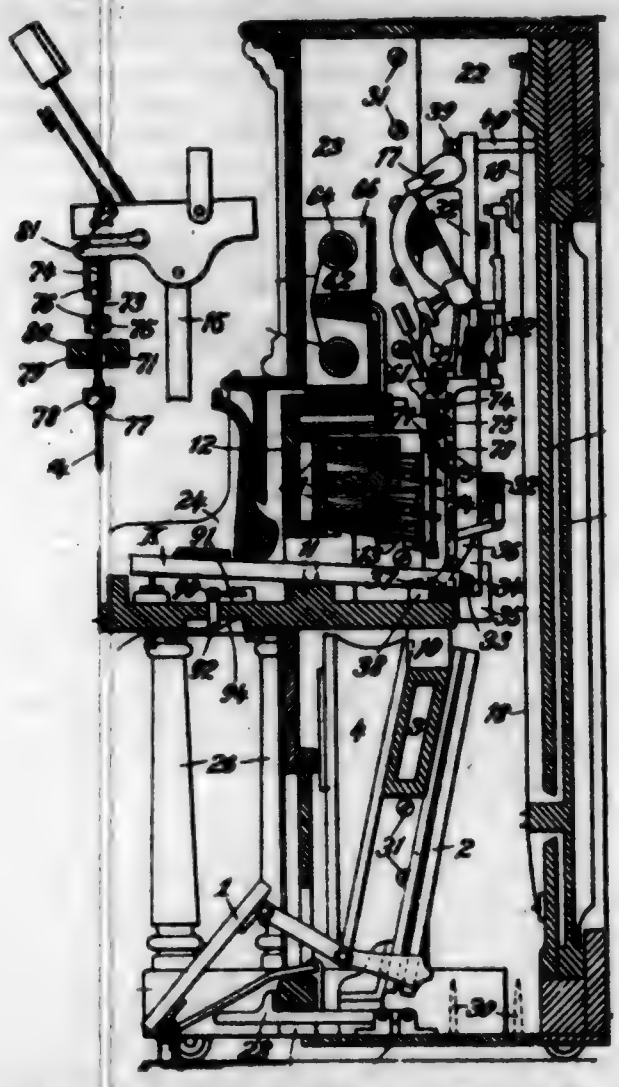


Claim.—A hot-water bag for holding nursing-bottles comprising a receptacle having an inner and outer wall, with a space intervening between the same for the reception of hot water, a door hinged to the lower portion of the bag and adapted to close the space surrounded by the inner wall of the receptacle, the upper portion of the inner wall of the bag being contracted and outwardly flaring above the contracted part, a transverse partition at the base of said flaring portion of the inner wall, and against which the cork of a bottle held within the inclosure formed by the inner wall is adapted to contact, said contracted part of the inner wall designed to hold the neck of the bottle from movement against the inner surrounding wall of the bag, as set forth.

808,757. MANUALLY OR MECHANICALLY OPERATED PIANO. JOSEPH HAYTHORN, New York, N. Y., assignor to Hardman Peck & Company, New York, N. Y., a Corporation. Filed Sept. 22, 1904. Serial No. 225,422.

Claim.—1. A manually or mechanically operated musical in-

strument having wind-inducing devices and pneumatically-operative sound-producing devices and provided within its key-table with an air passage or channel in the line of communication between said wind-inducing devices and sound-producing devices



2. A manually or mechanically operated musical instrument having a key-table, sound-producing devices, wind-inducing devices below the key-table, and valved striking-pneumatics above the key-table adapted to operate the sound-producing devices; said key-table being recessed to form an interior air passage or channel in the line of communication between the wind-inducing devices and the wind-chest of the striking-pneumatics.

3. A mechanical musical instrument having sound-producing devices, striking-pneumatics, and abstracts operated by the pneumatics and actuating the sound-producing devices, said abstracts having stops, combined with a relatively fixed rail or part to which said stops are adapted for limiting movement of the sound-producing devices.

4. A mechanical musical instrument having sound-producing devices, striking-pneumatics, and abstracts operated by the pneumatics and actuating the sound-producing devices, said abstracts having adjustable stops, combined with a relatively fixed rail or part to which said stops are adapted for limiting movement of the sound-producing devices.

5. A mechanical musical instrument having sound-producing devices, striking-pneumatics, and abstracts operated by the pneumatics and having heads or parts adapted for adjustment to take up lost motion between the pneumatics and the sound-producing devices operated by the abstracts; said abstracts also having stops, combined with a relatively fixed rail or part to which said stops are adapted for limiting movement of the sound-producing devices.

6. A mechanical musical instrument having sound-producing devices, striking-pneumatics, and abstracts operated by the pneumatics and having heads or parts adapted for adjustment to take up lost motion between the pneumatics and the sound-producing devices operated by the abstracts; said abstracts also having adjustable stops, combined with a relatively fixed rail or part to which said stops are adapted for limiting movement of the sound-producing devices.

7. A mechanical musical instrument having sound-producing devices, striking-pneumatics, and abstracts operated by the pneumatics and provided with two adjustable parts, one adapted to take up lost motion and the other adapted for limiting movement of the sound-producing devices.

8. A manually or mechanically operated piano having an action including wippens and also having striking-pneumatics, and abstracts operated by the pneumatics and acting directly upon the wippens; said abstracts having stops combined with a relatively fixed rail or part to which said stops are adapted for limiting movement of the piano-action.

9. A manually or mechanically operated piano having an action including wippens and also having striking-pneumatics, and abstracts operated by the pneumatics and acting directly upon the wippens; said abstracts having adjustable stops combined with a relatively fixed rail or part to which said stops are adapted for limiting movement of the piano-action.

10. A manually or mechanically operated piano having an action including wippens and also having striking-pneumatics, and abstracts operated by the pneumatics and having heads or parts acting directly upon the wippens and adapted for adjustment to take up lost motion; said abstracts also having stops combined with a relatively fixed rail or part to which said stops are adapted for limiting movement of the piano-action.

11. A manually or mechanically operated piano having an action including wippens and also having striking-pneumatics, and abstracts operated by the pneumatics and having heads or parts acting directly upon the wippens and adapted for adjustment to take up lost motion; said abstracts also having adjustable stops combined with a relatively fixed rail or part to which said stops are adapted for limiting movement of the piano-action.

12. A mechanical musical instrument having sound-producing devices and striking-pneumatics provided at their movable walls with elastic fingers, and abstracts operated by said fingers and adapted to actuate the sound-producing devices; said abstracts having heads or parts adapted for adjustment to take up lost motion between the pneumatics and the sound-producing devices.

13. A mechanical musical instrument having sound-producing devices and striking-pneumatics provided at their movable walls with elastic fingers, and abstracts operated by said fingers and adapted to actuate the sound-producing devices; said abstracts having stops combined with a relatively fixed rail or part to which said stops are adapted to limit movement of the sound-producing devices.

14. A mechanical musical instrument having sound-producing devices and striking-pneumatics provided at their movable walls with elastic fingers, and abstracts operated by said fingers and adapted to actuate the sound-producing devices; said abstracts having adjustable stops combined with a relatively fixed rail or part to which said stops are adapted to limit movement of the sound-producing devices.

15. A mechanical musical instrument having sound-producing devices and striking-pneumatics provided at their movable walls with elastic fingers, and abstracts operated by said fingers and having heads or parts adapted for adjustment to take up lost motion; said abstracts also having adjustable stops combined with a relatively fixed rail or part to which said stops are adapted to limit movement of the sound-producing devices.

16. A manually or mechanically operated piano having an action including wippens; and provided with striking-pneumatics having elastic fingers on their movable walls, and abstracts operated by said fingers and acting directly upon the wippens for operating the piano-action; said abstracts having stops combined with a relatively fixed rail or part to which said stops are adapted to limit movement of the piano-action.

17. A manually or mechanically operated piano having an action including wippens; and provided with striking-pneumatics having elastic fingers on their movable walls, and abstracts operated by said fingers and acting directly upon the wippens for operating the piano-action; said abstracts having adjustable stops combined with a relatively fixed rail or part to which said stops are adapted to limit movement of the piano-action.

18. A manually or mechanically operated piano having an action including wippens; and provided with striking-pneumatics having elastic fingers on their movable walls, and abstracts operated by said fingers and acting directly upon the wippens for operating the piano-action; said abstracts having adjustable heads or parts adapted to take up lost motion between the elastic fingers of the pneumatics and the wippens, and said abstracts also having adjustable stops combined with a relatively fixed rail or part to which said stops are adapted to limit movement of the piano-action.

19. A manually or mechanically operated piano having grouped above the keyboard and in front of the piano-action which includes wippens, the following devices; a wind-chest, valved pneumatics held thereto, and abstracts guided for operation by the pneumatics and acting directly upon the wippens and having stops adapted to the abstract-guide for limiting movement of the piano-action.

20. A manually or mechanically operated piano having grouped

above the keyboard and in front of the piano-action which includes wippens, the following devices; a wind-chest, valved pneumatics held thereto, and abstracts guided for operation by the pneumatics and acting directly upon the wippens and having stops adapted to the abstract-guide for limiting movement of the piano-action; said wind-chest, pneumatics and abstracts being together removable from the instrument-case.

21. The combination with a main wind-chest beneath the key-table, and a striking-pneumatic wind-chest above said table, of a trunk 10 opening to the main wind-chest, a trunk 11 opening to the pneumatic wind-chest, and a channel 9 formed in the thickness of the key-table and communicating with the trunks 10, 11, substantially as described.

22. The divisible piano-case comprising a rear section 22 containing the string-frame and sounding-board and having upper and lower supports normally sustaining the piano-action; and a front section 23 carrying a pneumatic-action comprising opposite ends overlapping the ends of the rear section and having a fixed bottom board 29, screws 31 fastening the ends of the two case-sections together, and screws 30 holding the bottom of the front case-section to the ends of the rear case-section; the action-frame in the rear-section having support on vertically-detachable rests or blocks on the key-table in the front section.

23. The combination with the piano-action having wippens 16, of striking-pneumatics 13, a guide-rail 71, abstracts 14 coupled to the pneumatics and moving in the guide-rail and acting directly upon the wippens, and provided with adjustable stops 78 adapted to the rail 71 for limiting movement of the piano-action.

24. The combination with the piano-action having wippens 16, of striking-pneumatics 13, a guide-rail 71, abstracts 14 coupled to the pneumatics and moving in the guide-rail and having adjustable heads 74 acting directly upon the wippens and providing for taking up lost motion; said abstracts also having adjustable stops 78 adapted to the rail 71 for limiting movement of the piano-action

25. In a mechanical musical instrument, sound-producing devices, pneumatics, and abstracts operated by the pneumatics and adapted to actuate the sound-producing devices; said abstracts having a screw-thread 77 and a stop 78 adjustable on said thread, combined with the abstract guide-rail 71, having an opening 79, admitting the thread 77 when the stop 78 strikes the guide-rail.

26. In a mechanical musical instrument, the striking-pneumatic wind-chest having a common air-chamber 46 and removable front and top walls 49, 57, and removable upper partition 50, said parts 49, 50 having coincident passages 51, said part 49 also having diaphragms 48 adapted to actuate secondary valves of the striking-pneumatics, and said part 50 having primary valves 58 adapted for operation by diaphragms 59 at passages leading to the tracker and music-sheet; the relative arrangement of parts being adapted to give easy access to the primary and secondary valves and their actuating-diaphragms, substantially as described.

27. In a mechanical musical instrument, the combination of the instrument-case, striking-pneumatics, a wind-chest therefor, plates 55 fastened to the instrument-case, and screws 54 fitted in said plates and bearing on the wind-chest.

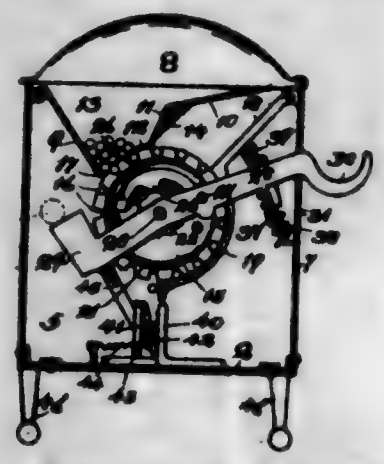
28. In a mechanical musical instrument, the combination of the instrument-case, the striking-pneumatics, the wind-chest therefor, plates 55 fixed to the instrument-case, screws 54 fitted in said plates and bearing on the wind-chest, and lock-nuts 59 fitted on the screws and adapted to the plates.

29. In a mechanical musical instrument, the combination of the instrument-case, striking-pneumatics, a wind-chest therefor, plates 55 fixed to the instrument-case, screws 54 fitted in said plates and bearing on the wind-chest, and bolts 56 held to the front of the wind-chest and adapted to engage the case.

30. In a mechanical musical instrument, the combination of an action comprising keys and a key-table below the keyboard, pneumatically-operated devices for engaging said action, a rail 90 hinged to the key-table at 91, a plunger 92 fitted in the key-table and a slide 93 having an inclined face 94, adapted to the plunger and movable on the key-table for lifting the plunger 92 and raising the rail 90 to lock the keys.

808,758. COMBINED CIGAR-CUTTER AND MATCH-LIGHTER. WILLIAM F. HEMMESH, Chicago, Ill. Filed Apr. 1, 1905. Serial No. 253,220.

Claim.—1. In a device of the class described, a feed-cylinder provided with grooves for the reception of matches, a hopper in suitable proximity to the feed-cylinder and having one of its walls hinged and held by gravity in contact with the feeding-cylinder, a casing provided with a slot for the discharge of matches, a lever adapted to actuate the feeding-cylinder and provided on its end with a knife for simultaneously cutting a cigar and discharging a match, a fixed plate below the feeding-cylinder and in line with its point of discharge, a hinged plate adapted to clamp a match-head against the fixed plate, and an arm abutting against the hinged plate for normally holding the two plates in clamped position and allowing the hinged plate to be brought back out of clamped position for the reception of a match between the plates, substantially as described.



2. In a device of the class described, the combination of a casing provided with a slot for the discharge of matches, a fixed plate inwardly extending on one side of the slot, a movable plate inwardly extending on the other side of the slot, means for normally retracting the movable plate, a feeding mechanism adapted to successively discharge matches between the plates when in a retracted position, a lever adapted on its forward stroke to actuate the feeding mechanism to discharge a match between the plates, and provided with an arm adapted on its return stroke to abut against the movable plate and clamp the head of the discharged match between the plates preparatory to its withdrawal from the slot, substantially as described.

3. In a device of the class described, the combination of a casing provided in its front face with a concavity having therein a slot for the projection of a match-stem, a receptacle for matches within the casing, a cylinder extending from front to rear of the casing and provided with grooves for the reception of matches, a curved wall surrounding a portion of the cylinder and terminating at its lower end in line with the slot in the concavity for allowing the matches to fall into the groove and outwardly project from the casing, and plates inwardly extending from the slot, one of the plates being held under tension against the other plate for striking a match during its withdrawal from the slot, substantially as described.

4. In a device of the class described, the combination of a casing provided at its lower front edge with a concavity having therein a vertically-extending slot, a feeding-cylinder located above the slot and having its axis extending from front to rear of the casing, and provided with channels for the reception of matches, a pivotal mounting for the cylinder, a lever pivoted to the pivotal mounting and terminating at its inner end in a knife for clipping the ends of cigars, a ratchet and dog operated by the lever for moving the cylinder to successively discharge the matches deposited in the channels to allow the ends of the matches to outwardly project from the slot in the concavity, a fixed plate inwardly extending on one side of the slot, a movable plate inwardly extending on the other side of the slot, a spring for retracting the movable plate to allow for the deposit of a match, and an arm on the lever adapted to abut against the movable plate to compress the plates prior to the withdrawal of a match, substantially as described.

808,759. MEANS FOR REDUCING FRICTION LOSS IN TURBINES. FRANZ HERLES and JOSEF HOVAK, Prague, Austria-Hungary. Filed Nov. 12, 1904. Serial No. 232,495.



Claim.—1. In combination with a wheel rotated by fluid, rotatable walls therefor loosely mounted on the hub of the wheel.

2. In combination with a wheel rotated by fluid, walls therefor loosely mounted on the hub of the wheel and movable independently thereof.

3. In combination with a wheel rotated by fluid, rotatable walls therefor loosely mounted on the hub of the wheel, and means for rotating the walls.

4. In combination with a wheel rotated by fluid, rotatable walls therefor loosely mounted on the hub of the wheel, the edges of the walls overlapping the periphery of the wheel.

5. In combination with a wheel rotated by fluid, rotatable walls therefor loosely mounted on the hub of the wheel, the edges of the walls being rounded.

6. In combination with a wheel rotated by fluid, rotatable walls therefor loosely mounted on the hub of the wheel, and rotatable connections between the rotating walls.

7. In combination with a wheel rotated by fluid, rotatable walls therefor loosely mounted on the hub of the wheel to either side of the wheel.

8. In combination with a wheel rotated by fluid, a series of rotatable disks arranged to either side of the wheel and movable independent thereof.

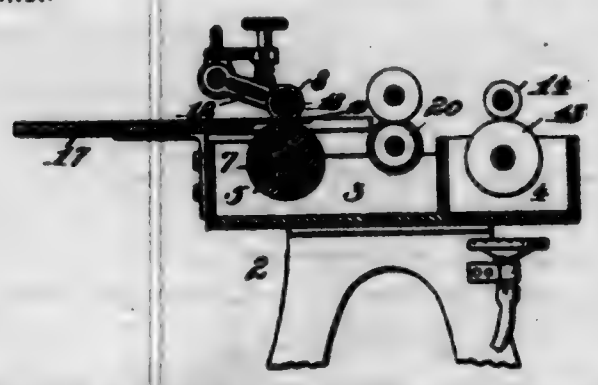
9. In combination with a wheel rotated by fluid, a series of rotatable disks arranged to either side of the wheel and movable independent thereof, the opposing faces of the disks of each series being suitably spaced.

10. In combination with a wheel rotated by fluid, a series of rotatable disks arranged to either side of the wheel and movable independently thereof, and blades carried by the outer disk of each series.

11. In combination with a wheel rotated by fluid, a series of rotatable disks arranged to either side of the wheel and movable independently thereof, and blades connecting the outer disks of each series.

12. In combination with a wheel rotated by fluid, a series of rotatable disks arranged to either side of the wheel and movable independently thereof, said disks of each series being adapted to rotate at different speeds.

808,760. GLUING-MACHINE. FREDERICK J. HEYBACH, Savannah, Ga., assignor of one-half to Morehouse Manufacturing Company, Savannah, Ga., a Corporation of Georgia. Filed Dec. 20, 1904. Serial No. 237,737.



Claim.—1. In a machine of the class described, a glue-applying roll and a pressure-roll, arranged to receive between them a blank, combined with means for holding a part of the blank which passes between the rolls out of contact with the glue-applying roll, a second glue-applying roll operative to apply glue to that part of the blank which was held out of contact with the first-mentioned glue-applying roll, a pressure-roll coöperative with the second glue-applying roll, and tanks for containing cold and hot glue and to receive the respective glue-applying rolls.

2. In a machine of the class described, a glue-applying roll, a pressure-roll coöperative therewith and having a circumferential groove, the two rolls being arranged to receive between them a blank, means for holding a part of the blank which passes between the rolls in said groove, a second glue-applying roll operative to apply glue to that part of the blank which was held out of contact with the first-mentioned glue-applying roll, a pressure-roll coöperative with the second glue-applying roll, and tanks for containing cold and hot glue and to receive the respective glue-applying rolls.

3. In a machine of the class described, a cold-glue-applying roll and a pressure-roll coöperating to receive between them a blank, means for holding a part of the blank which passes between the rolls out of contact with the glue-applying roll, and means for applying hot glue to that part of the blank which was held out of contact with the first-mentioned glue-applying roll.

4. In a machine of the class described, a glue-applying roll and a pressure-roll arranged to receive between them a blank, the pressure-roll having a circumferential groove, and a finger supported independently of the rolls for holding a part of the blank which passes between the rolls out of contact with the glue-applying roll.

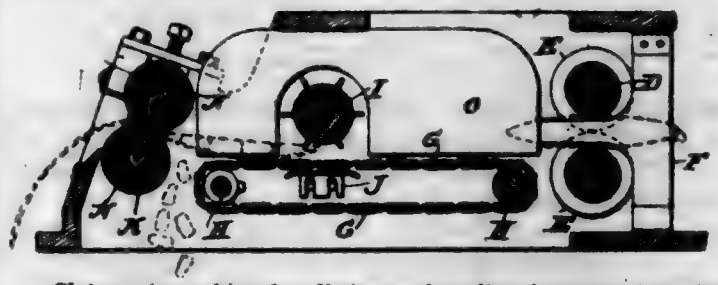
5. In a machine of the class described, a cold-glue-applying roll and a pressure-roll arranged to receive between them a blank, means for holding a part of the blank which passes between the rolls out of contact with the cold-glue-applying roll, means for rendering pliant that part of the blank which was held out of contact with the cold-glue-applying roll, and means for applying hot glue to the pliant part of the blank.

6. In a machine of the class described, means for applying cold glue to a blank, means for rendering pliant a part of the blank, and means for applying hot glue to the pliant part of the blank.

7. In a machine of the class described, means for applying cold glue to a blank, means for holding a part of the blank which passes under the action of the glue-applying means out of the range of action thereof, and means for applying hot glue to that part of the blank which was held out of the range of action of the first-mentioned glue-applying means.

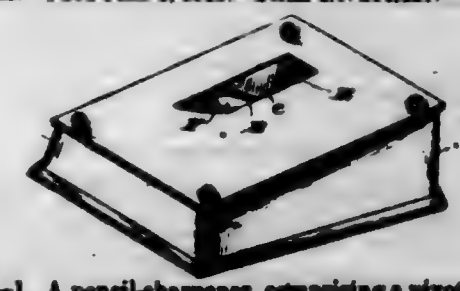
8. In a machine of the class described, means for applying cold glue to a blank, means for holding a part of the blank which passes under the action of the glue-applying means out of the range of action thereof, means for rendering pliant that part of the blank held out of the range of action of the cold-glue-applying means, and means for applying hot glue to the pliant part of the blank.

808,761. MECHANISM FOR SLITTING AND PEELING BANANAS. ALONZO HICKS, West New Brighton, N. Y. Filed Mar. 15, 1904. Serial No. 198,207.



Claim.—A machine for slitting and peeling bananas, including in combination, a frame, a slitting-knife set perpendicularly thereof, a set of horizontal gripping-rolls behind the knife revolubly mounted in the frame, a horizontal traveling platform arranged behind the gripping-rolls, a wheel revolubly supported by the frame above the platform, and provided with means for marking the split fruit, a resistance-plate fixed below the platform and opposite the marking-wheel, and a set of squeezing-rolls revolubly mounted in the frame and situated behind the marking-wheel.

808,762. PENCIL-SHARPENER. WILLIAM B. HOPKINS, Cincinnati, Ohio. Filed June 6, 1905. Serial No. 264,627.



Claim.—1. A pencil-sharpener, comprising a pivoted cutter free to turn on its pivot by the engagement of the pencil with the cutter and an obliquely-lying pencil-guide.

2. A pencil-sharpener, comprising a pivoted disk and an obliquely-lying pencil-guide said disk being free to turn under the pressure of the pencil thereon.

3. A pencil-sharpener, comprising a revoluble cutter, and a support for the latter, having an opening for a pencil that has pencil-guiding surfaces that are oblique with reference to the cutter.

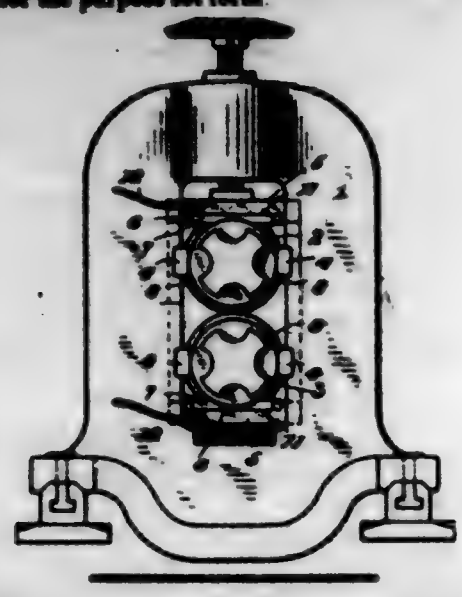
4. A pencil-sharpener, comprising a box having an opening, and a disk-form cutter pivoted within the box, and having a portion of its edge exposed by said opening, the direction of the opening being oblique relative to the cutter.

5. A pencil-sharpener, comprising a revoluble cutter, a support for said cutter, antifriction-bearings between the cutter and the support, and an oblique pencil-guide.

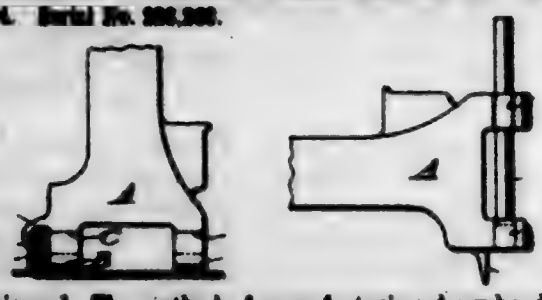
6. A pencil-sharpener, comprising a revoluble cutter, an oblique pencil-guide, and a lateral pencil-supporting surface adjacent the edge of the cutter.

808,763. BEARING FOR THE ROLLS OF ROLLING-MILLS. JOHN T. HOSKINS, Norristown, Pa. Filed Oct. 14, 1903. Serial No. 176,566.

Claim.—Bearings for the rolls of rolling-mills consisting of supporting-blocks formed with recesses adapted to receive "bearing-brasses" and with open-sided fluid grooves or channels; bearing-brasses adapted to be seated within the recesses in the supporting-blocks and to constitute closures of the fluid grooves or channels therein; and a suitable connecting-conduit between the fluid grooves or channels and a supply of water or other cooling agent, substantially as and for the purpose set forth.



808,764. MANUFACTURE OF DRAW-HEADS FOR RAILROAD-COUPLINGS. WILLIAM L. JACOBY, Maywood, Ill. Filed Oct. 13, 1904. Serial No. 228,228.



Claim.—1. The method of manufacturing draw-heads for railroad-couplers which consists in casting the head of malleable metal and with an integral projecting tongue D, extending from the casting adjacent to the lower pivot pin-hole, then perfecting the pin-holes by forcing a tool through them, and then bending said tongue so that its ends will extend beneath the lower pin-hole.

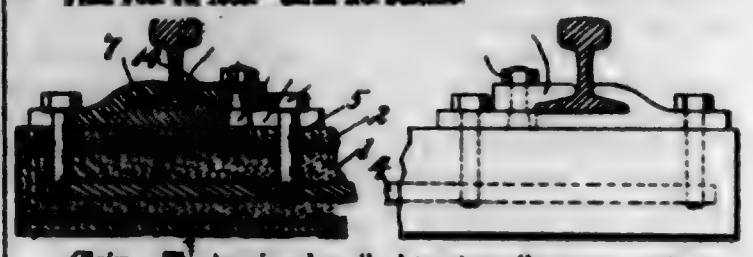
2. The herein-described blank for manufacturing draw-heads for railroad-couplers, consisting of the casting A of malleable metal formed with pin-holes therein, and having an integral projection *d* on the under side of the blank adjacent to the lower hole, said projection being adapted to be bent laterally beneath the hole and form a step for the pin.

808,765. SHADE AND CURTAIN HOLDER. JOHN O. KRIEGBAUM, Ryan, Iowa. Filed Mar. 21, 1905. Serial No. 251,205.



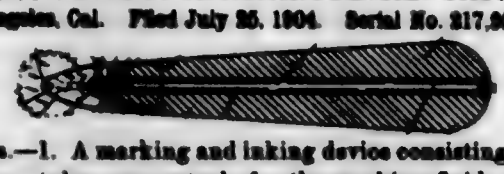
Claim.—In a shade and curtain holder, the combination of the sections 1 and 2, the rigid loop at the inner end of section 1 and engaging the section 2, the slidable loop 4 engaging the sections 1 and 2, the end extensions 5, the brackets 6 attached thereto and comprising the outwardly-extending arms 7 provided with the V-shaped sockets 8, the lugs 10 at the lower extremities of the brackets provided with apertures, the supporting extensions 12 provided with the openings 13 and having the slots extending from the openings, supporting-fastenings adapted to pass through the openings 13, and the rearwardly-pressed portions 15 at opposite sides of the slots in the supporting extensions 12, for the purpose specified.

808,766. RAILWAY-TIE. ELMER C. LAWTON, Lawtons, N. Y. Filed Feb. 14, 1905. Serial No. 245,898.



Claim.—The herein-described track-rail support and clamping appliance comprising the supporting tie or base 1 having suitable metallic reinforcing members, in combination with a rail-base proper or plate 6 having slots in each end substantially as specified, and also having a rail-securing lip or extension 7 and an auxiliary clamping member 14; a clamping-bolt provided with a conical head to fit the contiguous slot in the base-plate and means to lock said base-plate in union with the tie whereby the track-rail will be held against lateral movement, all combined substantially as specified and for the purpose set forth.

808,767. MARKING OR TRACING DEVICE. PIUS P. LINAGHER, Los Angeles, Cal. Filed July 25, 1904. Serial No. 217,951.



Claim.—1. A marking and inking device consisting of a handle containing a tube or receptacle for the marking fluid, the rotating pointed marking-wheel, the marking-fluid-transmitting roller operating in connection with the marking fluid and with the points of the marking-wheel, said roller being carried in the spring, said spring having a projecting end for being pressed against by the finger of the operator, the spring, the ink or coloring-matter slight indented recesses in the roller, all operating in the manner and for the purposes substantially as set forth.

2. A combination with the marking and inking device consisting of a handle containing a tube or receptacle for the marking fluid, the rotating pointed marking-wheel, the marking-fluid-transmitting roller, the spring with projecting end carrying said roller, the ferrule attached to the handle, the spring-bearings wherein the pointed marking-wheel is carried, said spring being fastened within said ferrule, all in the manner and for the purposes hereinbefore described.

808,768. STEAMBOAT. JEREMIAH LOCKWOOD, Sullivan, Ind. Filed Mar. 23, 1905. Serial No. 251,043.



Claim.—In a boat of the character described, the combination with two hulls, each formed independent of the other and of air-tight construction, of a deck connecting said hulls together and holding the same spaced apart curved bars at the bow and stern to form gratings, a superstructure forming a paddle-wheel box on said deck, independently-mounted paddle-wheels arranged in said paddle-box to turn between said hulls, a removable cover arranged over each of said wheels, cranks arranged on the ends of said paddle-wheel shafts, connecting-rods connecting said cranks together, engines arranged on said deck, links to connect the piston-rods of said engines to said connecting-rods whereby said paddle-wheels are simultaneously driven, and boilers arranged on said deck to supply steam to said engines, substantially as described.

808,769. MOP-HEAD. EDGAR O. LOMBER, Los Angeles, Cal. Filed Feb. 17, 1905. Serial No. 245,786.



Claim.—In a mop-head, two substantially T-shaped members pivotally secured together, each of which is semitubular in cross-section to form a shank and a jaw, each jaw being provided with teeth and each shank with perforated ears, the edge of one of the shanks being slitted in front of its ears to form shoulders to bear against the ears of the other member, the ears to the rear of said slits being bent inward to fit between the ears of the other member, a pivot through said perforations, and a coil-spring around said pivot with its ends in engagement with the respective shanks of the two members.

808,770. LEVELING INSTRUMENT. EVERETT M. LOW, New York, N. Y. Filed Jan. 20, 1904. Serial No. 189,881.



Claim.—1. A receptacle containing a fluxive substance, a level-vial in and pivoted to said receptacle, at a point in the length of said level-vial between its center and one end, the free end of said level-vial being supported by the buoyant force of said fluxive substance, as and for the purpose set forth.

2. An elongated receptacle containing a fluxive substance, a level-vial in and pivoted to one end of said receptacle, at any point in the length of said level-vial between its center and one end, and having its free end movable in a vertical plane and supported by said fluxive substance; the bubble in said level-vial indicating when the base of the receptacle and the surface of the fluxive substance are parallel substantially as described.

3. Two connected receptacles containing a liquid, free to flow from one receptacle to the other and a level-vial actuated by the movement of said liquid, the bubble in said level-vial indicating when the base of the receptacles is parallel with the surface of the liquid in said receptacles.

4. Two connected receptacles containing a liquid, a level-vial in one of said receptacles, one end of said level-vial having a pivotal connection with said receptacle, the free end of said level-vial being supported by the liquid in the receptacle and free to move in a vertical plane, with the rise and fall of the liquid as it flows from one receptacle to the other.

5. A receptacle containing a fluxive substance and a level-vial actuated by said fluxive substance, the bubble in said level-vial indicating when the surface of said fluxive substance is in normal relation with said receptacle, substantially as described.

6. The combination of a receptacle containing a liquid, a level-vial in said receptacle and having a connection therewith by which one end of said level-vial is movable in a vertical plane, substantially as described.

7. An elongated receptacle containing a liquid, a level-vial in said receptacle and pivoted to it, at or near one end of said receptacle, said level-vial being pivoted at any point in its length between its center and one end, its free end being capable of a movement in a vertical plane; said free end of the level-vial being supported by the buoyant force of the liquid in said receptacle, in such a manner that when the pivotal point of the level-vial and the liquid in said receptacle are in normal relation, the bubble in said level-vial stands at the center of the level-vial as indicated by its central graduation, and any change from the normal relation of the said pivotal point and said liquid will cause the bubble in the level-vial to move away from the center of the level-vial toward the pivotal end or toward the free end of the level-vial, according to whether the liquid falls or rises in its relation to said pivotal point, by the lowering or raising of one end of said elongated receptacle, as and for the purpose described.

8. In a leveling instrument the combination of a receptacle containing a liquid, a level-vial in said receptacle, pivoted at one end and supported by said pivot and by the buoyant force of the liquid in said receptacle, and a plunger for displacing said liquid and adjusting its height as and for the purpose set forth.

9. In a leveling instrument the combination of the base-plate A, the receptacle B, the receptacle C, the liquid D, the level-vials f^3, and f^4, and the plunger b^7, as and for the purpose set forth.

10. The combination of the receptacle B, the receptacle C, the tube d^3, the liquid D, and the level-vials f^3 and f^4 substantially as described.

11. The combination of the receptacle B, the receptacle C, the tube d^3, the liquid D, the tube c' and the level-vials f^3 and f^4 substantially as described.

808,771. INCANDESCENT GAS-BURNER. JAMES MALLOL, Birmingham, England. Filed Dec. 29, 1904. Serial No. 238,807.



Claim.—1. An incandescent gas-burner having an open-top parallel-sided tubular mixing-chamber the perforated inverted-cup-shaped tip fitting and held in the tubular mixing-chamber by friction, the central downwardly-projecting core fixed to said tip, the wheel-like part fixed to the bottom of the core and fitting in the tubular mixing-chamber, and the wire-gauze part 21 extending from the bottom of the core above the wheel to the lower edge of the tip, all for the purposes and substantially as described.

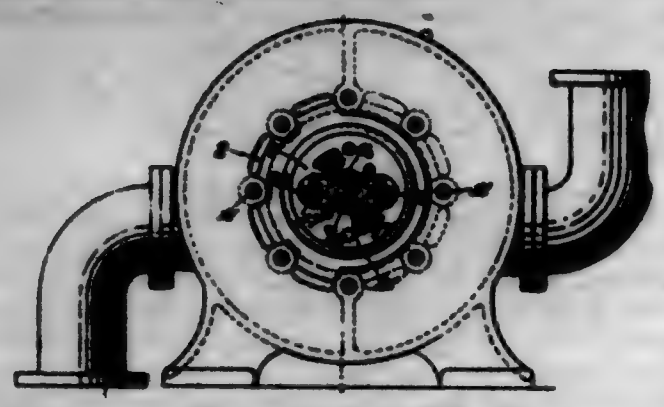
2. In a device of the class described, a burner-tip having a plurality of elongated slits therein arranged tangential to a circle of smaller diameter than the diameter of the tip and made to overlap one another, said slits being wide near the periphery of the tip and narrowed down at the ends near the center of the tip, substantially as described.

808,772. ROTARY PUMP AND THE LIKE. FRANK MARSUMS, Jr., New York, N. Y. Filed Mar. 21, 1904. Serial No. 199,676.

Claim.—1. A device or apparatus of the character specified, having a rotating piston-body in a chamber and provided with radially-projecting pistons each being thickest near its base and having truncated ends, an abutment in a chamber adjacent to that of the piston-body and provided with piston-recesses engaged by said pistons, the piston-recesses being each of substantially uniform width and of such depth as to leave clearances *c* not occupied by the engaging pistons and being connected by diametrically-disposed ports, and gears connecting the piston-body and abutment for driving.

2. A device or apparatus of the character specified, having a chambered cylinder, a rotating piston-body in one of the chambers and provided with radially-projecting pistons, rotating abutments in the other chambers and driven positively from the piston-body, said abutments having in them piston-recesses each of substantially uni-

form width, engaged by said pistons, each thickest near its base, with convex-curved sides and truncated ends, the abutments having ports 23 extending from a clearance *c* in one recess to a similar clearance *c* in the opposite recess, and said cylinder having ducts 24 in its walls into which open successively said ports.



3. A device or apparatus of the character specified, comprising an outer casing, having in it an induction-chamber and inlet and an eduction-chamber and outlet, a cylinder mounted in bearings at its middle and ends in said casing, said cylinder having in it chambers and induction and eduction ports thereto, heads on the casing providing bearings for the ends of said cylinder, a piston-body with radial pistons rotatably mounted in one of the said chambers, abutments rotatably mounted in the adjacent chambers, and having piston-recesses to engage said pistons, and bearings in the said heads for the rotating parts.

4. A device or apparatus for the purpose specified, having a hollow outer casing provided with an inlet and an outlet for a fluid, and a partition dividing its interior into induction and eduction chambers, heads fitted and secured on said casing, a chambered cylinder mounted in bearings in said casing, means for positioning said cylinder accurately in the casing, a rotating piston-body with pistons, and a rotating abutment with piston-recesses, mounted in the respective chambers in said cylinder.

5. A rotary pump, comprising a casing 1, having induction and eduction chambers, an inlet and an outlet for the liquid, heads 8 and 10 secured to the ends of said casing, a chambered cylinder 7, having bearings at its middle and ends in said casing and recessed bearings at its respective ends in the said heads, positioning-pins 13 in the heads and engaging holes in the cylinder, a rotating piston-body in the cylinder and provided with a shaft, rotating abutments in the cylinder and provided with shafts, gears 18 on said shafts through which the piston-body drives the abutments, and a flanged box 12, secured to the head 10, said box providing bearings for the shafts and housing said gearing.

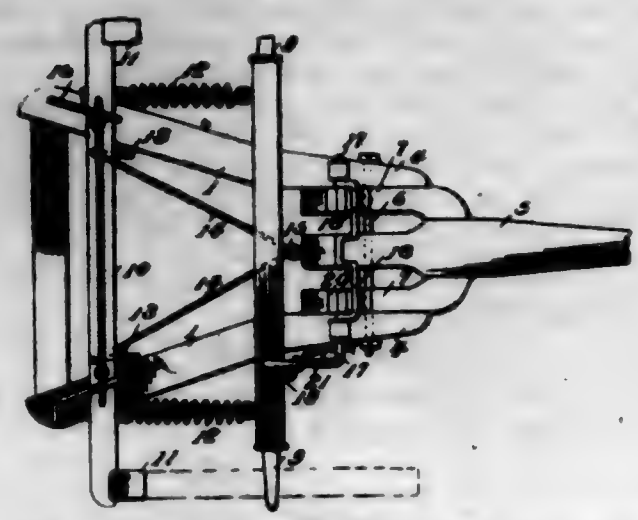
6. A rotary pump, provided with chambers for the rotating parts and having in its walls ducts 24, said pump having a rotating piston-body in one of said chambers provided with radially-projecting, truncated pistons 21, with convex sides and widest near their bases, and having in another chamber a rotating abutment with piston-recesses 22 each with nearly parallel non-radial sides and having clearance-spaces *c*, the said spaces being connected by cross-ports 23, substantially as set forth.

7. A rotary pump or the like, having a rotating piston-body provided with a truncated piston 21, widest near its base with convex sides, a rotating abutment having in it a recess 22 to be engaged by the piston, said recess having a substantially uniform width throughout its depth, and gears connecting the said piston-body and abutment for driving.

8. A rotary pump or the like, having a rotating piston-body provided with pistons 21, each being widest near its base and with a truncated end, a rotating abutment having in it recesses 22 to be engaged by the said pistons the solid parts between the recesses being widest at their outer ends and gears connecting the said piston-body and abutment for driving.

9. A device or apparatus of the character specified, having a chambered cylinder, a rotating piston-body in one of the chambers and provided with radially-projecting pistons, each piston being thickest near its base with truncated ends, and rotating abutments in the other chambers and driven positively from the piston-body, said abutments having in them piston-recesses engaged by said pistons, the solid parts between the recesses being widest at their outer ends the abutments having ports 23 extending from a clearance *c* in one recess to a similar clearance *c* in the opposite recess, and said cylinder having ducts 24 in its walls which open successively into the said ports 23, and ports 24', leading from said ducts 24 substantially as and for the purpose set forth.

808,773. WAGON-BRAKE. CLAUDE M. MADDOX, Doyle, Ind. Ter. Filed Dec. 13, 1904. Serial No. 236,794.



Claim.—1. In a vehicle, the combination of a supporting-truck, an axle thereon, wheels, a brake-beam movably mounted upon the truck, shoes secured to said brake-beam, springs connecting the brake-beam with the axle, a draft-tongue having sliding connection with the truck, levers pivoted to the truck and having an end portion thereof in engagement with the brake-beam, connections between the opposite ends of the levers and the rear end of the tongue, a shaft mounted transversely of the truck, cranks projected from the shaft between its ends, and a lever extending from one end of the shaft, the tongue being provided with a plurality of transverse recesses to receive the cranks of the shaft when the latter are engaged with the tongue.

2. In a vehicle, the combination of a supporting-truck, an axle thereon, wheels, a brake-beam movably mounted upon the truck, shoes secured to said brake-beam, means normally tending to hold said shoes in engagement with the wheels, a draft-tongue having sliding connection with the truck, levers pivoted to the truck and engaging the brake-beam adjacent the ends thereof, connections between said levers and the rear end of the tongue, a shaft mounted transversely of the truck, engaging members projected from the shaft for coöperation with the tongue, and means for actuating the shaft.

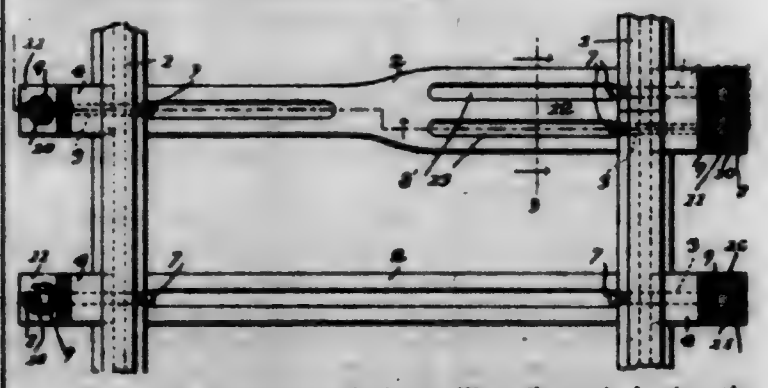
808,774. PROCESS OF MAKING DIALKYL-MALONYL-UREA. FRITZ MAYER, Mayence, Germany. Filed Apr. 15, 1905. Serial No. 255,232.

Claim.—1. The process of preparing dialkylmalonylurea which consists in causing a chemical reaction between a biuret and a dialkylmalonylhalide.

2. The process of preparing dialkylmalonylurea which consists in causing a chemical reaction between a biuret and a dialkylmalonyl chlorid.

3. The process of preparing diethylmalonylurea which consists in causing a chemical reaction between a biuret and diethylmalonyl chlorid.

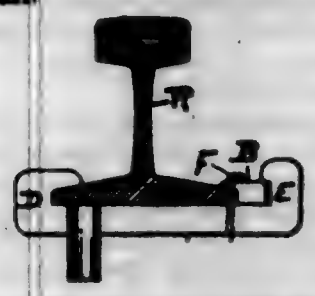
808,775. RAILROAD-TIE. GEORGE T. MURPHY, Piedmont, W. Va. Filed July 3, 1905. Serial No. 268,189.



Claim.—The herein-described metallic railway-tie having the undercut enlargements at its ends, on its upper side, to receive the outer base-flanges of the track-rails, the longitudinal slots in the intermediate portion of the tie, the bolt-openings through the undercut enlargements and having their inner ends horizontal and communicating with the said slots and their outer portions inclined upwardly and extending to the ends of the tie, said ends of the tie presenting inclined upwardly-converging faces, the bent bolts in the said openings having the hooks at their inner ends to engage the in-

ner base-flanges of the rails, and the nuts on the outer, inclined portions of the said bolts and bearing on the inclined end faces of the tie.

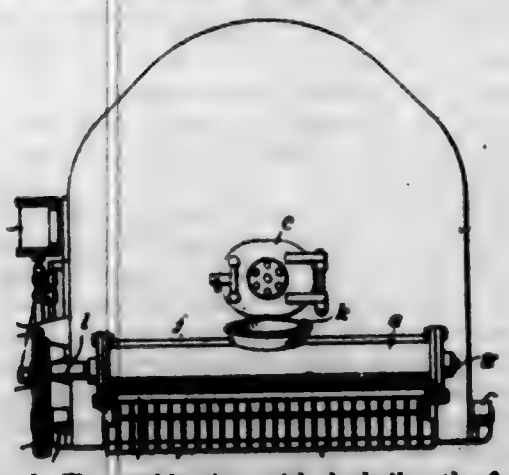
808,776. RAIL-CLAMP. JEREMIAH MURRAY, Utica, N. Y., assignor, by mesne assignments, of one-half to The National Railway Materials Company, a Corporation of New York. Filed Mar. 17, 1905. Serial No. 250,681.



Claim.—1. In a rail-clamp the combination of a wedge for the rail on one side thereof with means at or near the other side thereof for increasing the action of said wedge by the turning movement of the rail.

2. In a rail-clamp the combination of a wedge for the rail with means for increasing the action of the wedge which consists of a shoulder adapted to hold the clamp against longitudinal movement and allow it to turn thereabout said wedge and said shoulder being at opposite sides of said rail.

808,777. MECHANICAL STOKER. ELLIOTT MCCONNELL, Easton, Md. Filed Dec. 22, 1904. Serial No. 287,577.



Claim.—1. The combination, with the boiler, the fire-box having a fire-door along the rear of the fire-box, of a fuel-retort along the rear of and outside the fire-box and communicating along its length with the fire-door, means to introduce fuel to the retort, and a right-hand feed-screw and a left-hand feed-screw within the retort to distribute the fuel along the rear of the grate, substantially as described.

2. The combination, with the boiler, the fire-box having the fire-door along the rear of the fire-box, of a fuel-retort along the rear of and outside the fire-box and communicating along its length with the fire-door, means for introducing fuel to the central portion of the retort, a right-hand feed-screw within the retort at one end thereof and a left-hand feed-screw within the retort at the other end thereof, whereby the fuel is conveyed from the central portion of the retort toward the opposite ends thereof and distributed along the rear of the grate, substantially as described.

3. The combination, with the boiler and the fire-box, a grate within the fire-box, means to cause said grate to travel longitudinally of the fire-box, a fuel-retort at the rear of and extending transversely of the fire-box and grate and above the level of the grate, means to introduce fuel to the retort, a right-hand feed-screw and a left-hand feed-screw within the retort for distributing the fuel along the rear portion of the grate, substantially as described.

4. The combination, with the boiler and the fire-box, a grate within the fire-box; means to cause said grate to travel longitudinally of the fire-box, a fuel-retort at the rear of and extending transversely of the fire-box and grate and above the level of the grate, means to introduce fuel to the central portion of the retort, a right-hand feed-screw within the retort at one end thereof and a left-hand feed-screw within the retort at the other end thereof, whereby the fuel is conveyed from the central portion of the retort toward the opposite ends thereof and distributed along the rear portion of the grate, substantially as described.

5. The combination, with the boiler, the fire-box having the fire-door along the rear of the fire-box, of a fuel-retort along the rear of and outside the fire-box and communicating along its length with the fire-door, means for introducing fuel to the retort, a shaft within the retort, a right-hand feed-screw and a left-hand feed-screw on the shaft, and means to turn the shaft, substantially as described.

6. The combination, with the boiler, the fire-box having the fire-door along the rear of the fire-box, of a fuel-retort along the rear of and outside of the fire-box and communicating along its length with the fire-door, means for introducing fuel to the central portion of the retort, a shaft within the retort, a right-hand feed-screw on one end of the shaft, a left-hand feed-screw on the other end of the shaft, and means to turn the shaft.

7. The combination, with the boiler, the fire-box having the fire-door along the rear of the fire-box, of a fuel-retort along the rear of and outside the fire-box and communicating along its length with the fire-door, means for introducing fuel to the retort, a right-hand feed-screw and a left-hand feed-screw on the shaft, whereby, when the shaft turns, the screws feed and distribute the fuel along the rear end of the fire-box, means to turn the shaft and means to distribute the fuel longitudinally within the fire-box, substantially as described.

8. The combination, with the boiler, the fire-box having the fire-door along the rear of the fire-box, of a fuel-retort along the rear of and outside the fire-box and communicating along its length with the fire-door, means for introducing fuel to the retort, a right-hand feed-screw and a left-hand feed-screw within the retort, a traveling grate within the fire-box, and means to turn the feed-screws and move the grate, substantially as described.

9. The combination, with the boiler, the traveling grate, and the fire-box having a fire-door along the rear of the fire-box and above the level of and of substantially the width of the grate, a fuel-retort extending along the fire-door, means for introducing fuel to the central portion of the retort, a right-hand feed-screw within the retort at one end thereof, a left-hand feed-screw within the retort at the other end thereof, and means to turn the feed-screws and move the grate longitudinally of the fire-box.

10. The combination, with the boiler, the fire-box having the fire-door along the rear of the fire-box, of a fuel-retort along the rear of and outside the fire-box and communicating along its length with the fire-door, means for introducing fuel to the retort, a shaft within the retort, a right-hand feed-screw and a left-hand feed-screw on the shaft, shafts extending laterally of the fire-box, an endless grate extending about the last-named shafts, and means to drive one of the grate-shafts and the screw-shaft substantially as described.

11. The combination, with the boiler, the fire-box having the fire-door along the rear of the fire-box, of a fuel-retort along the rear of and outside of the fire-box and communicating along its length with the fire-door, means for introducing fuel to the central portion of the retort, a shaft within the retort, a right-hand feed-screw on one end of the shaft, a left-hand feed-screw on the other end of the shaft, shafts extending laterally of the fire-box, one at the front end, and the other at the rear end thereof, an endless grate extending about the last-named shafts, a main driving-shaft, a motor for actuating the main driving-shaft, driving connections from the main driving-shaft to the screw-shaft, and driving connections from the main driving-shaft to one of the grate-shafts, substantially as described.

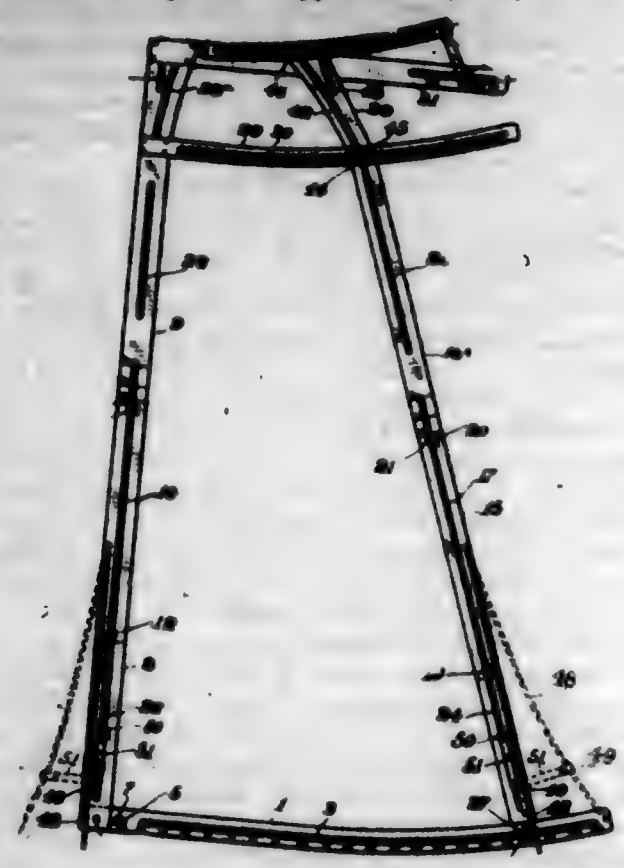
12. The combination, with the boiler, the fire-box having a fire-door back of the grate, and a grate within the fire-box, of means to cause the grate to travel longitudinally of the fire-box, the fire-door extending longitudinally of the rear wall of the fire-box and of substantially the width of the grate, a fuel-retort on the exterior of the fire-box extending alongside of and communicating with the fire-door, means to introduce fuel to the central portion of the retort, and mechanism within the retort adapted to convey the fuel in opposite directions from the central portion of the retort and distribute it laterally along the rear end of the grate, substantially as described.

13. The combination, with the boiler, the fire-box having a fire-door back of the grate, and a grate within the fire-box, of means to cause the grate to travel longitudinally of the fire-box, the fire-door extending longitudinally of the rear wall of the fire-box and of substantially the width of the grate, a fuel-retort on the exterior of the fire-box extending alongside of and communicating with the fire-door, means to transfer the fuel from the retort through the fire-door to the fire-box and distribute it laterally along the rear end of the grate, substantially as described.

808,778. CHART FOR DRAFTING WOMEN'S SKIRTS. WILLIAM MCDOUGALL, New York, N. Y. Filed Nov. 10, 1904. Serial No. 232,216.

Claim.—1. A skirt-chart, comprising front and back edge adjustable strips, bottom adjustable strips having a hinged connection

with the front edge strips, waist and hip size strips rigidly secured to the upper front edge strip, the pivoted waist-line strip, the link pivoted to the waist-line strip and adjustably connected with the waist-size strip, and the hip-link adjustably connected with the waist-line strip and with the hip-size and upper back edge strips.



2. A skirt-chart comprising vertically-disposed and adjustably-connected strips at the front and back edges, adjustably-connected strips at the bottom edge having at one end a hinged connection with one of the front edge strips and at the other end an adjustable connection with one of the back edge strips, the immovable hip and waist size strips, the pivoted waist-line strip, adjustable connections between the waist-size and waist-line strips whereby the waist-line may be determined by a fixed waist size, and adjustable connections between the waist-line, hip-size and adjacent back edge strips, whereby the relative waist and hip measurements may be determined.

3. In a skirt-chart, the combination with the adjustably-connected strips for laying out the side and bottom edges, of the fixed waist-size strip, the pivoted waist-line strip, and adjustable connections between said waist-size and waist-line strips whereby the adjustment of the waist-line strip may be effected simultaneously with the adjustment according to the waist size.

4. In a skirt-chart, the combination with the adjustably-connected strips for laying out the side and bottom edges, of the fixed hip-size strip, the pivoted waist-line strip, means for adjusting the waist-line strip, and an adjustable connection between the waist-line, hip-size and adjacent back edge strips, whereby the relative waist and hip measurements may be determined.

5. In a skirt-chart, the combination of the slotted adjustable front and back edge strips, the adjustable bottom edge curved strips provided with curved slots and having a hinged connection with the lower front edge strip, and an adjustable connection with the lower back edge strip, the rigid hip-size strip having a curved slot, the rigid waist-size strip having a straight slot, the curved waist-line strip provided with a curved slot and pivoted at one end to a stationary part of the chart, the link pivoted at one end to the free extremity of the waist-line strip and loosely connected at the other end with a set-screw which is capable of adjustment through the slot in the waist-size strip, and the slotted hip-link provided at its upper end with a set-screw which is adjustable through the curved slot in the waist-line strip, while a set-screw carried by the upper back edge strip extends through one of the slots in said hip-link and also through the curved slot in the hip-size strip and is adjustable along this last-named slot.

6. A skirt-chart having slotted adjustable front and back edge strips and provided with flexible wires secured at their upper ends to the lowermost of these strips at each edge, and adjustable connections between said strips and wires whereby the latter may be extended or drawn inwardly.

7. A chart of the character described comprising adjustable front and back portions, an adjustable bottom portion movably connected thereto, means rigidly secured to the front portion for indicating waist and hip sizes, a waist-line strip, and means for adjusting said strip in relation to the waist-size-indicating means.

8. A skirt-chart comprising an adjustable measuring device, a waist-size-indicating device rigidly connected thereto, a waist-line strip, and means for adjustably connecting said strip with the waist-size-indicating device.

9. In a device of the character described, the combination with a non-adjustable waist-size-indicating strip; of a waist-line strip pivoted thereto, and means for securing said strip in a desired relation with said waist-size-indicating strip.

10. In a device of the character described, the combination with a waist-size-indicating strip, of a waist-line strip pivoted thereto, an adjusting-link movably connected to the waist-line strip, and means for adjustably securing said link to the waist-size-indicating strip.

11. In a device of the character described, the combination with a front portion, of hip and waist size indicating strips rigidly secured to said front portion, a waist-line strip movably connected to the waist-size-indicating strip, and means for adjusting said waist-line strip to a desired relation with the waist-size-indicating strip.

12. In a device of the character described, the combination with a front strip, hip and waist size indicating strips rigidly secured to the front strip, of a back strip adjustably connected to the waist-size-indicating strip, a waist-line strip adjustably connected to the waist-size-indicating strip, and an adjustable connection between the waist-size-indicating strip and the waist-line strip.

13. A device of the character described having front and back portions, a flexible connection fixedly secured at one end to one of said portions, means for adjusting the other end of the connection from or toward the portion to which it is secured, and means connecting said front and back portions.

14. A device of the character described having front and back portions, flexible connections fixedly secured at one end to said portions, adjusting devices fixedly secured to the connections and movably mounted on the front and back portions, means for locking the adjusting devices in adjusted positions, and means connecting said front and back portions.

15. In a device of the character described, the combination of front and back portions, means connecting said portions, resilient members, respectively, rigidly secured at one end to each of said front and back portions, and means for adjusting said members.

16. In a device of the character described, the combination of front and back portions, means connecting the lower parts of said front and back portions, waist and hip size indicating means connecting the upper parts of said front and back portions, waist-line-indicating means carried by said waist-size-indicating means, and flare-outlining means carried by one of said portions.

803,779. **FOLDING BED.** HARRY D. PARLIER, Des Moines, Iowa, assignor of one-half to H. G. Hilton, Des Moines, Iowa. Filed June 3, 1905. Serial No. 263,866.



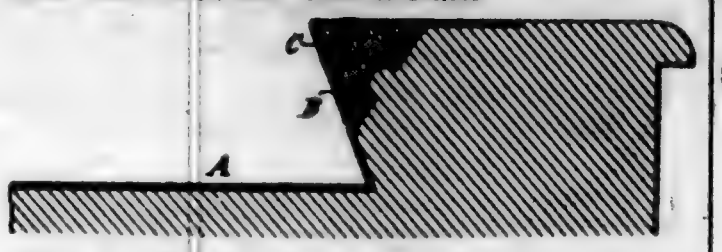
Claim.—1. A folding bed comprising head and foot members provided with upright side portions, lazy-tong side members pivotally secured to said upright side portions intermediate of the ends of the latter, a flexible mattress having its ends connected with said head and foot members, and adjustable tightening devices extending from the lower end or ends of one or more of said upright side portions to said lazy-tong members, whereby said mattress is held taut.

2. A folding bed comprising head and foot members provided with upright side portions, lazy-tong side members pivotally secured to said upright side portions intermediate of the ends of the latter, parallel bars uniting said lazy-tong members, a hook pivoted adjacent one of said bars and adapted to engage the adjacent bar, a flexible mattress having its ends connected with said head and foot members, and adjustable tightening devices extending from the lower end

or ends of one or more of said upright side portions to said lazy-tong members, whereby said mattress is held taut.

3. A folding bed comprising lazy-tong side members, head and foot members to which said side members are pivoted, said head and foot members being provided with upright sides, a brace pivoted to said lazy-tong members adjacent said head member and connected with the head member, a flexible mattress uniting said brace and the upper end of said foot member, and flexible tightening devices extending from said lazy-tong members to said brace and foot members respectively.

808,780. BILLIARD-CUSHION. JOHN S. PATTERSON, Revere, Mass. Filed Feb. 28, 1905. Serial No. 247,979.



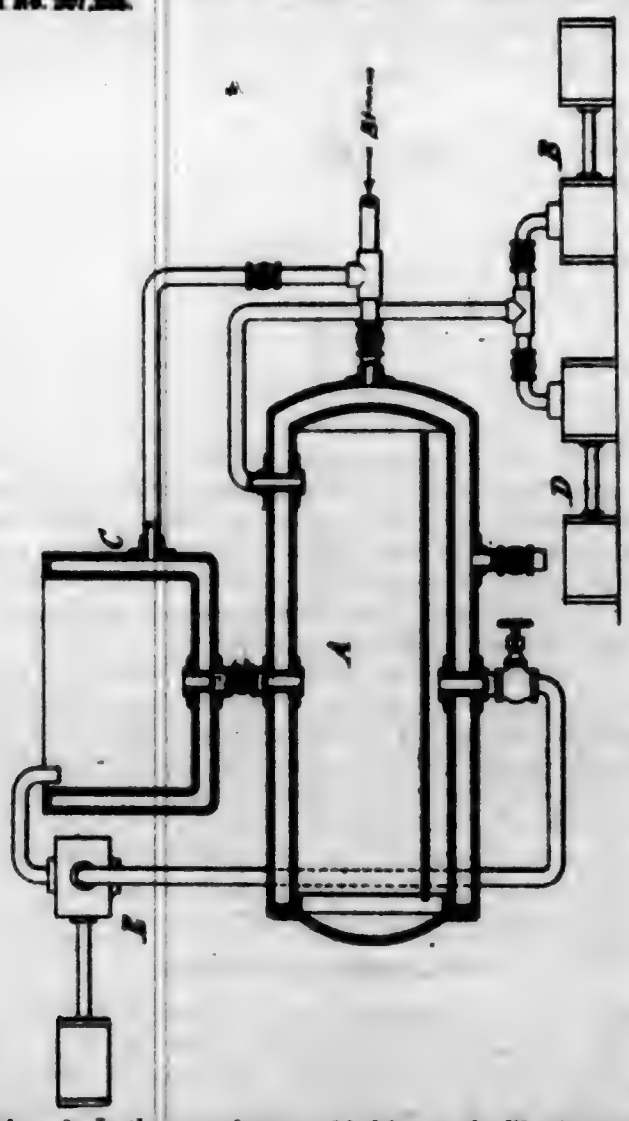
Claim.—1. A billiard-cushion having a longitudinal cavity with a filling therein of elastic material under longitudinal tension.

2. A billiard-cushion having a longitudinal cavity with a filling therein of elastic material confined therein under longitudinal tension and transverse compression.

3. A billiard-cushion having a longitudinal cavity with a filling therein of elastic rubber, normally of greater cross-section than said cavity, and confined therein under transverse compression.

4. A billiard-cushion having a longitudinal cavity lined with fibrous material, and a filling therein of solid elastic material confined therein under transverse compression.

808,781. PROCESS OF MANUFACTURING BELTING OR THE LIKE. JOHN S. PATTERSON, Revere, Mass. Filed June 27, 1905. Serial No. 267,326.



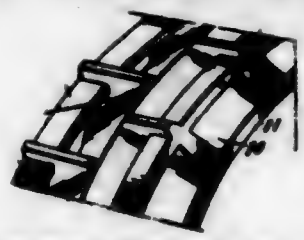
Claim.—1. In the manufacture of belting or the like from textile fabrics, the process which consists in subjecting the fabric to the action of a vacuum, applying a filling material thereto, relieving the vacuum, drawing off the filling material, and again subjecting the fabric to the action of a vacuum, whereby to remove any excess of material.

2. In the manufacture of belting or the like from textile fabrics, the process which consists in subjecting the fabric to the action of a vacuum, applying a filling material thereto, and subsequently vulcanizing such material.

3. In the manufacture of belting or the like from textile fabrics, the process which consists in subjecting the fabric to the action of a vacuum, applying a filling material thereto, and subsequently stretching said fabric and heating it while in its stretched condition.

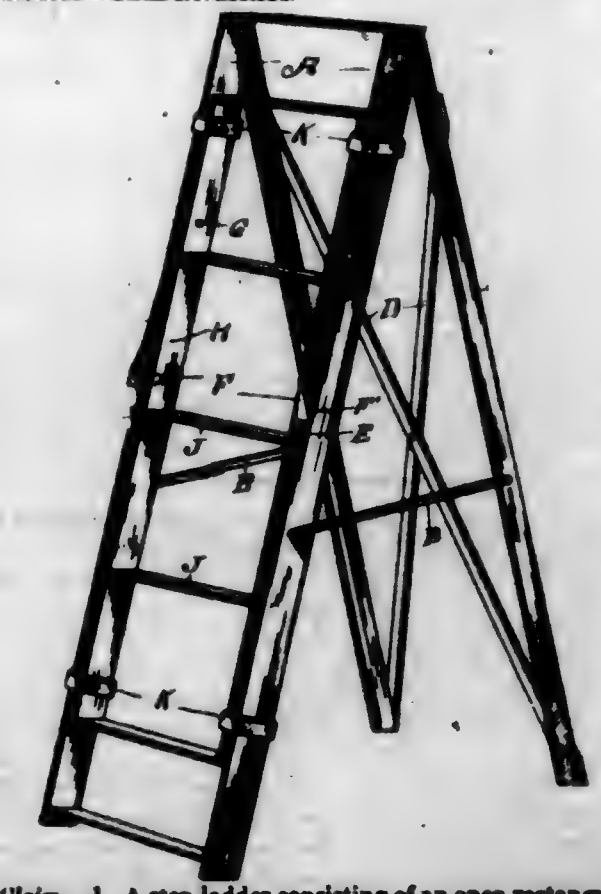
4. In the manufacture of belting or the like from textile fabrics, the process which consists in subjecting the fabric to the action of a vacuum, applying a filling material thereto, and subsequently applying a rubber cover to said fabric, stretching the belt thus formed, and vulcanizing it while in its stretched condition.

808,782. TRACTION-WHEEL. MARTIN PETERSON, Laurens, Iowa. Filed Dec. 27, 1904. Serial No. 238,458.



Claim.—An improved traction-wheel comprising a main tread portion tapered in both directions from its center laterally and toward the axial line of the wheel, transverse ribs formed integral with the tread portion extending from the central line of the tread portion laterally in opposite directions, their outer edges substantially parallel with the axial line of the wheel and spaced apart from the main tread portion of the wheel, those on one side of the tread portion arranged between those of the opposite sides and two supplemental tread portions running around the wheel formed integral with the said transverse ribs, their outer side edges flush with the outer side edges of the ribs, their outer faces spaced apart from the outer faces of the ribs and substantially in line with the outer face of the center of the tread portion and their inner side faces spaced apart a considerable distance from the center of the main tread portion.

808,783. STEP-LADDER. FRANK PFEIFER and THOMAS G. STEELE, Chippewa Falls, Wis.; said Pfeifer assignor to said Steele. Filed Mar. 23, 1905. Serial No. 251,851.

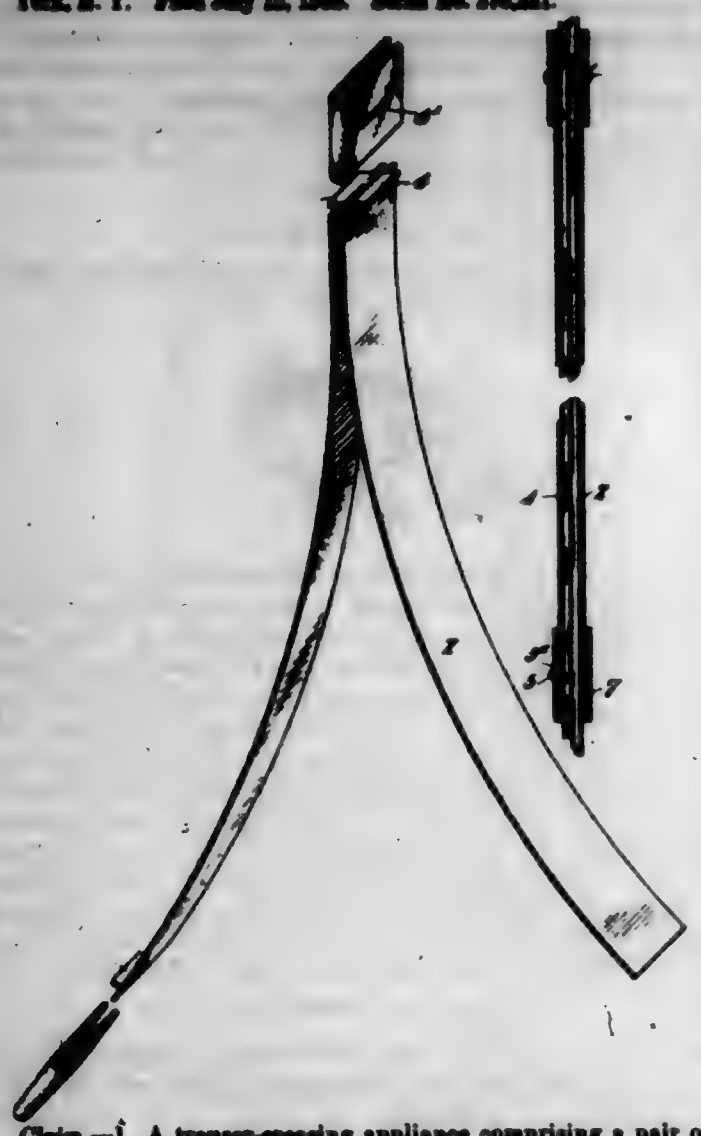


Claim.—1. A step-ladder consisting of an open rectangular section, a hinged prop or support for said section, a movable section fitted within the rectangular section and having a series of steps, and means for adjustably securing the movable section within the rectangular section.

2. A step-ladder, consisting of an open rectangular stationary section having a rack formed on its vertical bars, a sliding and ad-

jointable step-ladder section fitting within the stationary section, and pivoted dogs carried by the sliding section to engage the rocks and secure said sliding section at the desired adjustment.

808,784. TROUSERS-CREASER. ALFRED W. PROCTOR, New York, N. Y. Filed July 12, 1905. Serial No. 269,321.



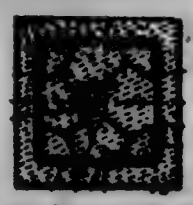
Claim.—1. A trouser-creasing appliance comprising a pair of jaws or blades of curved form whereby they may be impelled toward one another throughout their length, and means for maintaining them in gripping relation.

2. A trouser-creasing appliance comprising a pair of curved jaws or blades adapted to be placed over the usual crease of a pair of trousers, and maintained in gripping relation thereon by their own resiliency.

3. A trouser-creasing appliance comprising a pair of curved spring-blades, and a pair of holders or supports for maintaining said blades in pressing relation to the crease of a pair of trousers.

4. A trouser-creasing appliance comprising a pair of curved spring-blades, a U-shaped holder or support fastened to each of said blades at one end thereof, and a second U-shaped holder or support fastened to the other end of one of said blades.

808,785. CEMENT FENCE-POST. JUDSON E. PORTERFIELD, Des Moines, Iowa. Filed Mar. 2, 1905. Serial No. 248,742.

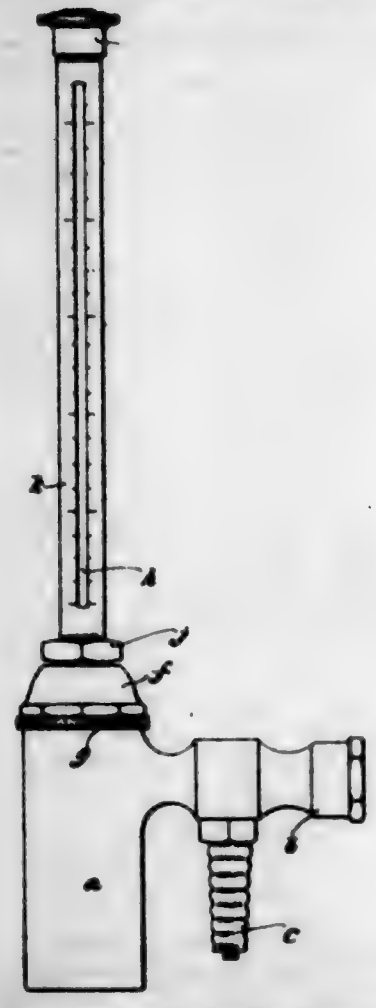


Claim.—1. In a post, the combination of four longitudinally-arranged angle-bars, straps secured to the end portions thereof rigidly securing them in position spaced apart, a central angle-bar, means for supporting the central angle-bar in position between the corner-bars and a plastic substance surrounding the frame and filling the spaces between the angle-bars.

2. In a post, the combination of four angle-bars, straps riveted to the end portions thereof forming a rectangular frame, the angle-bars thereof spaced apart, a central angle-bar within the rectangular frame formed by the corner angle-bars, wires connected with the corner angle-bars supporting the central angle-bar in position, said central angle-bar provided with an opening, a plastic substance surrounding the metal frame and filling the spaces between the angle-bars and provided with an opening in line with the opening in the central angle-bar.

3. A post comprising four angle-bars, straps riveted to the end portions thereof forming a rectangular frame, the angle-bars thereof spaced apart, a central angle-bar within the rectangular frame formed by the corner angle-bars, wires connected with the corner angle-bars supporting the central angle-bar in position, said central angle-bar provided with openings, a plastic substance surrounding the metal frame and filling the spaces between the angle-bars and provided with openings in line with the openings in the central angle-bar and fence-wire fastenings extended through the openings in the central angle-iron and the plastic substance.

808,786. MERCURY PRESSURE-GAGE. HARRY C. RANSHOUSE, Philadelphia, Pa. Filed Apr. 29, 1905. Serial No. 257,094.



Claim.—1. In a mercury-gage comprising a casting consisting of a tubular base forming a mercury-chamber and having formed integral therewith and projecting laterally therefrom a member having a passage through it and communicating with said chamber a screening device fitted to said passage, a nozzle and its complemental check-valve fitted to the lateral member and an indicator-tube rising from the base, substantially as described.

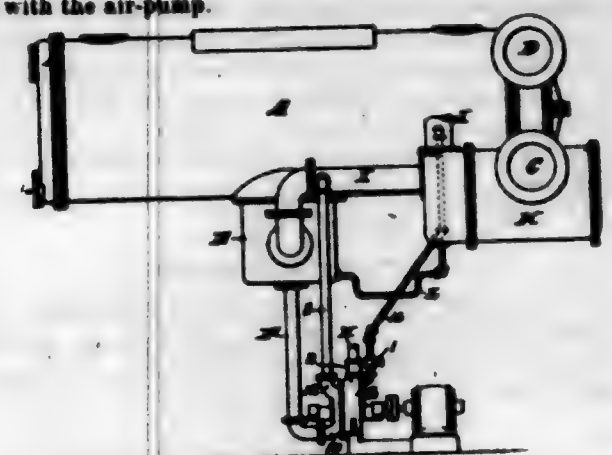
2. A mercury-gage comprising a casting consisting of a tubular base forming a mercury-chamber and having formed integral therewith and projecting from its upper portion a lateral member having a straight passage through it and communicating with said chamber, a screening device one end of which is fitted to the passage of the lateral member and the other end of which is located within the mercury-chamber, a nozzle and its complemental check-valve fitted to the lateral member, a cap having threaded engagement with the base and an indicator-tube supported by said cap, substantially as described.

808,787. CONDENSER SYSTEM. FREDERICK RAY, East Orange, N. J., assignor to Henry R. Worthington, New York, N. Y., a Corporation of New Jersey. Filed Aug. 6, 1904. Serial No. 219,668.

Claim.—1. The combination with a condenser, of a centrifugal or turbine discharge-pump connected to said condenser and means for removing air from the pump-suction.

2. The combination with a condenser, of a centrifugal or turbine discharge-pump connected to said condenser, an air-pump, and an air-pipe connecting the centrifugal or turbine pump-suction with the air-pump.

3. The combination with a condenser and an air-pump for removing air from the condenser separately from the discharge-water, of a centrifugal or turbine discharge-pump connected to the condenser, and an air-pipe connecting the centrifugal or turbine pump-suction with the air-pump.



4. The combination with a surface condenser, of a centrifugal or turbine pump connected to said condenser for withdrawing the condensed water, and means for removing air from the pump-suction.

5. The combination with a surface condenser, of a centrifugal or turbine pump connected to said condenser for withdrawing the condensed water, an air-pump, and an air-pipe connecting the centrifugal or turbine pump-suction with the air-pump.

6. The combination with a surface condenser, of an air-pump connected to said condenser for withdrawing air separately from the condensed water, a centrifugal or turbine pump connected to the condenser for withdrawing the condensed water, and an air-pipe connecting the centrifugal or turbine pump-suction with the air-pump.

7. The combination with a surface condenser, of an air-pump connected to said condenser for withdrawing air separately from the condensed water, an air-cooler or supplementary condenser through which the air passes on its way to the air-pump, a centrifugal or turbine pump connected to the condenser for withdrawing the condensed water, and an air-pipe connecting the centrifugal or turbine pump-suction with the air-pump.

8. The combination with a condenser, of a centrifugal or turbine discharge-pump connected to said condenser, and an air-pipe connected to the pump-delivery for withdrawing air collected on the delivery side of the pump.

9. The combination with a condenser, of a centrifugal or turbine discharge-pump connected to said condenser, an air-pipe for withdrawing air from the pump-suction, and an air-pipe for removing air collected on the delivery side of the pump.

10. The combination with a condenser, of a centrifugal or turbine discharge-pump connected to said condenser, an air-pump, and air-pipes connecting the centrifugal or turbine pump suction and delivery with the air-pump for withdrawing air from the pump-suction and removing air collected on the delivery side of the pump.

11. The combination with a condenser, of an air-pump for removing air from the condenser separately from the condensed water, a centrifugal or turbine discharge-pump connected to said condenser, an air-pump, and air-pipes connecting the centrifugal or turbine pump suction and delivery with the air-pump for withdrawing air from the pump-suction and removing air collected on the delivery side of the pump.

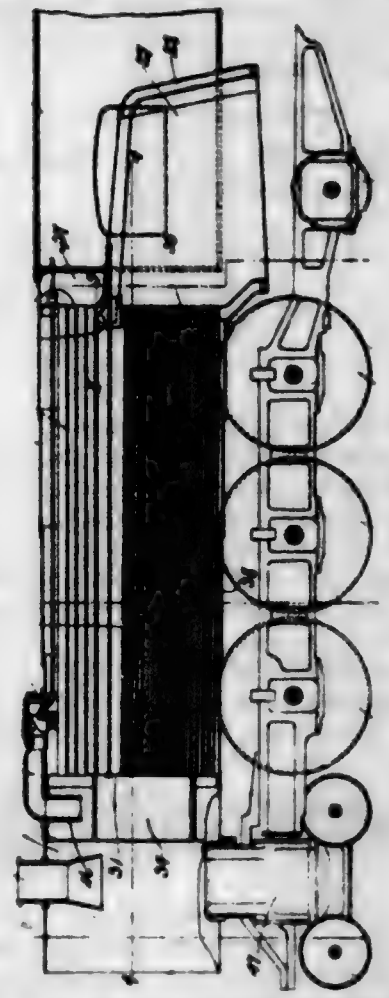
12. The combination with a condenser, of a centrifugal or turbine discharge-pump connected to said condenser, a baffle in the pump-suction, an air-passage from the pump-suction above the baffle for the escape of air from the pump-suction, and an air-pump connected to said passage

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808,788. LOCOMOTIVE-BOILER. ROBERT A. REEVE, Worcester, Mass., assignor to Charles F. Brown, trustee, Reading, Mass. Filed Jan. 6, 1905. Serial No. 239,573.

Claim.—1. A locomotive comprising track-wheels, a fire-box having a grate portion wider than the gage of the wheels and upwardly-convergent sides, a pressure-retaining tubular shell, means forming a vaporizing-space within said shell conforming in side outline to the fire-box and occupying the lower middle portion of the shell, vaporizing-tubes in said vaporizing-space, additional tubes within the shell outside of said vaporizing-space, and means whereby the fire-box gases are caused to traverse said vaporizing and additional tubes successively.

2. A locomotive comprising track-wheels, a fire-box at the rear end widened at the grate portion thereof laterally beyond the width between wheels and having water-legged sides converging upwardly, a tubular pressure-retaining boiler-shell, upwardly-converging partitions within said shell and attached to the bottom thereof, said partitions including between them a vaporizing-space connected with the water-legs of the fire-box, vaporizing-tubes in said space, additional fire-tubes within the tubular shell, and means whereby the fire-box gases are caused to traverse said vaporizing-tubes and said additional tubes successively.



3. A locomotive-boiler comprising a tubular pressure-retaining shell, partitions within said shell attached to the bottom thereof and including between them a vaporizing-space extending substantially to the bottom of the shell, a series of vaporizing fire-tubes in said space, a series of preheating-tubes in the spaces on both sides of said vaporizing-space, a fire-box at one end of the shell, and means whereby the gases therefrom are caused to traverse first the vaporizing-tubes and later the preheating-tubes.

4. A locomotive-boiler comprising a pressure-retaining outer shell, means within said shell forming a vaporizing-space extending substantially to the bottom of the shell and two preheating-spaces on opposite sides of said vaporizing-space, an equalizing-channel connecting said preheating-spaces, vaporizing and preheating tubes in the vaporizing-space and the preheating-spaces respectively, superheating-tubes in the steam-space within said shell above the vaporizing and preheating spaces, a fire-box, and means whereby the gases therefrom are caused to traverse the vaporizing, superheating, and preheating tubes in successive order.

5. A locomotive-boiler comprising a pressure-retaining outer shell, means forming a vaporizing-space in the lower middle portion thereof and including upwardly-convergent longitudinal partitions occupying said lower portion and provided with free upper edges, vaporizing-tubes in said space, preheating-tubes in the side spaces between the outer shell and said partitions, and superheating-tubes in the upper part of the shell above the vaporizing and preheating tubes.

6. A locomotive comprising track-wheels, a fire-box having a grate portion wider than the gage of said wheels and upwardly-convergent sides, a pressure-retaining shell, means forming a vaporizing-space within said shell conforming in side outline to the fire-box and occupying the lower middle portion of the shell, vaporizing-tubes in said space, preheating-tubes in the side spaces between the shell and said partitions, superheating-tubes in the upper part of the shell, and means whereby the gases from the fire-box are caused to traverse said vaporizing, superheating and preheating tubes in the order named.

7. A locomotive-boiler comprising a main shell of substantially circular section inclosing the water and steam spaces and having internal tubular structure close to its upper wall, a steam-dome having a body composed of a single casting secured to the edges of an opening in said shell and integrally formed with a throttle-valve seat and with a portion of the steam-pipe extending over said shell to connect with the cylinders; a throttle-valve mounted on said casting, and a cover removably secured to said casting.

8. A boiler of the locomotive type comprising a pressure-retaining shell, a vaporizing-chamber within the same, preheating-chambers within said shell on opposite sides of the vaporizing-chamber, and a cross-connection or water-channel between the upper portions of said preheating-chambers.

808,789. FENCE-POST. JOHN M. C. RENFRO, Middletown, Mo. Filed Aug. 10, 1905. Serial No. 273,545.



Claim.—In a fence-post, the combination of a cross-bar resting upon the surface of the ground, a post rising from said bar, a block on the bottom of the bar and embedded in the ground, an anchor embedded in the ground, and wires formed with a loop in which the anchor is placed, said wires being twisted to draw the loop tightly around the anchor, and said wires also being extended to and over the ends of the aforesaid cross-bar and thence to the post, and made fast thereto.

808,790. WRENCH. WILLIAM J. RYAN, Worcester, Mass. Filed Aug. 6, 1902. Renewed Apr. 11, 1905. Serial No. 255,011.



Claim.—1. In a wrench, the combination with a handle provided with an opening having one end closed by a removable cap, said handle having one end thereof formed into a rigid jaw, said opening having one of its ends reduced to provide a shoulder, of a shank provided with a groove and slidably mounted within the handle, said shank being provided with a movable jaw, means mounted in the reduced end of the opening to project the shank to space the jaws, the inward movement of the movable jaw being limited by the engagement of the shoulder by the shank, a dog fulcrumed upon the handle and adapted to engage the shank to retain the movable jaw in its adjusted position, and a spring carried by the dog and adapted to engage the inner wall of the groove to retain the dog in engagement with the shank.

2. In a wrench, the combination with a handle provided with an opening and having one end thereof formed into a rigid jaw, said opening having one end thereof reduced to provide a shoulder, of a shank provided with a longitudinal slot, a groove, a movable jaw and a projection on its lower end, a spring mounted in the reduced portion of the opening and adapted to engage the projection to normally retain the shank projected to space the jaws, a pin carried by the handle and adapted to pass through the slot to limit the extreme outward movement of the movable jaw, the inward movement of the jaw being limited by the engagement of the shoulder by the shank, a dog adapted to engage the shank to retain the movable jaw in its adjusted position, and a spring carried by the dog and adapted to engage the inner wall of the groove to retain the dog in engagement with the shank.

3. In a wrench, the combination with a handle provided with a longitudinal opening and having one end thereof formed into a rigid jaw, of a shank slidably mounted in said opening, and provided with a movable jaw and a longitudinal slot and a groove, said shank being also provided with serrations, a pin passing through the slot to limit the outward movement of the shank, a spring mounted in the opening to normally retain the shank projected to space the jaws, an inverted-T-shaped dog fulcrumed in a similar slot in the handle and having the head thereof provided with a lip to engage one of the serrations, and a leaf-spring secured to the dog and adapted to engage the inner wall of the groove.

4. In a wrench, the combination with a handle provided with an opening and having one end thereof formed into a rigid jaw, said opening having one end thereof reduced to provide a shoulder, of a shank provided with a longitudinal slot, serrations, a groove, a movable jaw and a projection on its lower end, a spring mounted in the reduced portion of the opening and adapted to engage the projection to normally retain the shank projected to space the jaws, a pin carried by the handle and adapted to pass through the slot to limit the extreme outward movement of the movable jaw, the inward movement of the jaw being limited by the engagement of the shoulder by the shank, an inverted-T-shaped dog fulcrumed in a similar slot in the handle and having the head thereof provided with a lip to engage one of the serrations, and a leaf-spring secured to the dog and adapted to engage the inner wall of the groove.

808,791. SIGHTING ATTACHMENT FOR FIREARMS. WILLIAM P. SHATTUCK, Minneapolis, Minn., assignor of one-half to Alfred F., Pillsbury, Charles S. Pillsbury, and John S. Pillsbury, Jr., Minneapolis, Minn. Filed Aug. 27, 1904. Serial No. 222,280.



Claim.—1. A sighting device for firearms comprising, in combination, a suitable plate fitted to and adapted to be grasped and held in the mouth of the user and means connecting said plate with the rear portion of the firearm.

2. The combination, with a firearm, of a plate fitted to and adapted to be grasped and held in the mouth of the user of the firearm, and a slidable connection between said plate and said firearm.

3. The combination, with a suitable firearm, of a plate fitted to and adapted to be grasped and held in the mouth of the user of the firearm, and an adjustable connection between said plate and said firearm.

4. The combination, with a suitable firearm, of a plate fitted to and adapted to be grasped and held in the mouth of the user of the firearm, and means connecting said plate with the firearm and preventing the recoil of the firearm being communicated to said plate.

5. The combination, with a suitable firearm, of a plate provided upon its surfaces with impressions made by the teeth of the user, and means connecting said plate with the firearm, for the purpose set forth.

6. A sighting device provided with a plate fitted to and adapted to be held in the mouth of the user, for the purpose set forth.

7. A sighting-guide fitted to and adapted to be held in the mouth of the user, and a yielding connection between said guide and the device that is to be sighted.

808,792. PROCESS OF UTILIZING FURNACE-FLUE DUST. SAMUEL B. SCHLAGER, Buffalo, N. Y. Filed Mar. 25, 1905. Serial No. 251,694.

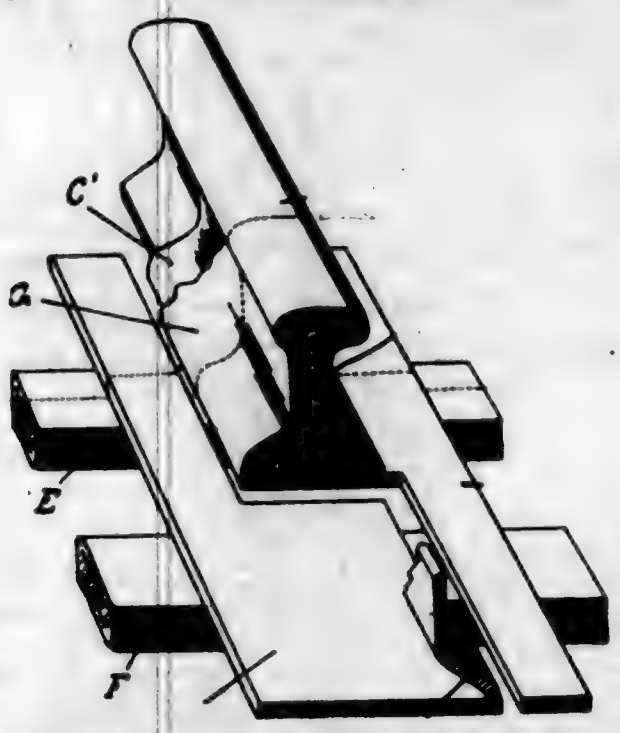
Claim.—1. The process of utilizing blast-furnace-flue dust, which consists in mixing flue-dust and coal in substantially the proportions of flue-dust produced by a furnace and the amount of coal consumed by said furnace, and then coking the mixture.

2. The process of utilizing blast-furnace-flue dust, which consists in mixing the same with coal, the proportion of flue-dust being from three to five per cent. of the weight of the coal, and then coking the mixture.

808,793. INSULATED RAIL-JOINT. REUBEN W. SMITH, Bryn Mawr, Pa. Filed May 26, 1905. Serial No. 262,262.

Claim.—1. In an insulated rail-joint, the combination with the

rails and sleepers, of a two-part bed-plate, each part supporting one rail end on the sleepers on both sides of the joint without contact with its corresponding part, insulating-strips applied to one side of each rail, splice-bars joining said rails on each side, each splice-bar conforming to the contour of the webs and bases of the rails and having an offset for one-half its length corresponding to the thickness of said insulating-strips, connecting-bolts for said splice-bars and means for insulating the same therefrom, substantially as described.

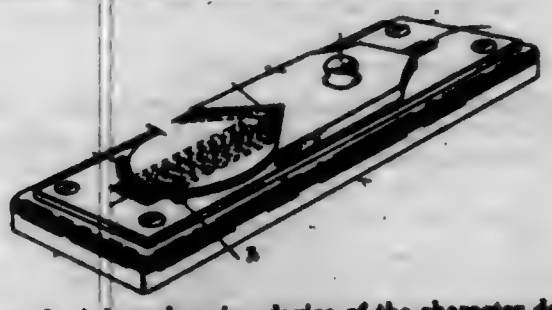


2. An insulated rail-joint, consisting of the combination with the rails and sleepers, of a two-part bed-plate, each part supporting one rail end on the sleepers on both sides of the joint without contact with its corresponding part, sheathing-pieces applied to one side of each rail, insulating-strips overlying said sheathing-pieces, splice-bars joining said rails on each side, each splice-bar conforming to the contour of the webs and bases of the rails and having an offset for one-half its length corresponding to the combined thickness of said sheathing-piece and insulating-strip, connecting-bolts for said splice-bars and means for insulating the same therefrom, substantially as described.

3. In an insulated rail-joint, the combination with the rails and sleepers, of a bed-plate formed in two sections, each section affording one rail end the support of the sleepers on both sides of the meeting-point of said rails, without contact with its corresponding section, substantially as described.

4. An insulated rail-joint consisting of the combination with the rails, of a bed-plate supporting each rail end, each bed-plate being adapted to afford its rail end a support on both sides of the meeting-point of said rail ends, without contact with its corresponding bed-plate, substantially as set forth.

808,794. LENS-CLAMPING DEVICE. JOHN H. STARBUCK, Pittsfield, Mass. Filed Sept. 3, 1904. Serial No. 223,214.



Claim.—1. A lens-clamping device of the character described comprising a base-plate, fixed and movable abutments to hold the lens on said plate, and a scale applied to that part of the plate beneath the lens comprising lines parallel with the line of movement of the movable abutment to indicate spaces laid off on either side of the longitudinal center line of the lens.

2. A lens-clamping device of the character described comprising a base-plate, two fixed abutments, and a sliding abutment in said plate, a spring to normally press the sliding abutment toward the fixed abutments to clamp a lens between them, and a scale applied to that part of the plate covered by the lens to indicate spaces laid off on either side of the longitudinal axis of the lens.

808,795. ELECTRIC HEATING DEVICE. GEORGE B. STEVENS, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Feb. 15, 1904. Serial No. 193,713.



Claim.—1. A resistance unit comprising a resistance-ribbon edgewise wound, having successive turns in close mechanical relation to an insulating-film, and an insulating-support forming a permanent part of the unit adapted to be attached to a rheostat or heater frame.

2. A resistance unit comprising a helix of edgewise-wound resistance material having its successive turns in close mechanical relation and separated by refractory insulation, and a clamping-frame insulated from the ribbon and preventing displacement of its turns, said frame having a conformation adapted for attachment to a heater or rheostat frame.

3. A resistance unit consisting of a helix of edgewise-wound resistance-ribbon having its turns in close mechanical relation and separated by refractory insulation, terminals in conductive relation to the ribbon at different points of its length, and an insulating supporting-frame.

4. A resistance unit comprising a helix of edgewise-wound resistance-ribbon having its respective turns in close mechanical relation to a separating-film of refractory insulation, a rod or frame extending through the helix, and nuts on the rod engaging clamping-washers bearing on the ends of the helix.

5. A resistance unit comprising an edgewise-wound coil having a refractory non-conductor between successive turns, and terminals having an annular surface engagement with the coil and a lateral projection for circuit connections.

6. A resistance unit comprising an edgewise-wound coil having a refractory film insulation and a washer-like terminal held in firm contact with the coil, said terminal having an integral terminal extension.

7. A resistance unit comprising an edgewise-wound ribbon having a refractory film insulation between successive turns, and a clamping-frame supporting the coil and holding it under compression, said unit having means for attachment to a rheostat or heater structure.

8. A resistance unit comprising an edgewise-wound ribbon having a refractory film insulation binding the coil-turns together, and a clamping-frame forming part of the unit holding the coil from warping.

9. A resistance unit comprising a helix of edgewise-wound ribbon and a washer-like terminal in lateral engagement on both faces with the ribbon, said washer having a lateral projection for making circuit connections.

10. A resistance unit comprising a helix of edgewise-wound ribbon and a washer-like terminal having wings to embrace opposite faces of a ribbon-turn.

11. A resistance unit comprising a helix of edgewise-wound ribbon and a washer-like terminal inserted between the ribbon-turns, said terminal having an integral projection perforated to form circuit connections.

12. A resistance unit formed of a helix of resistance material, and a terminal held under compression in engagement with several turns.

13. A resistance unit comprising a helix of edgewise-wound resistance-ribbon having a refractory insulating-spacer between turns, a bolt extending through the helix, and clamping-nuts on the bolt.

14. A resistance unit comprising a helix of edgewise-wound re-

distance-ribbon having a refractory insulating-spacer between the several turns, a clamp-frame extending through the helix, and nuts and insulating-washers for holding the coil under pressure.

15. A resistance unit comprising an edgewise-wound helix of conducting-ribbon having a refractory film insulation between turns, a rigid supporting-tube, a core having threaded ends, and clamp-nuts mounted on the core and compressing the ends of the helix.

16. A resistance unit comprising an edgewise-wound helix of conducting-ribbon one layer deep, having its turns insulated by a heat-refractory insulating-film, and a clamping-frame supporting the helix, said frame having extensions for mounting the unit.

17. A resistance unit comprising an edgewise-wound helix of conducting-ribbon one layer deep, having a refractory film insulation, a central core clamping the ribbon-turns together, the ends of the coil being open to permit free radiation.

18. A resistance unit comprising an edgewise-wound helix of conducting-ribbon one layer deep, having a refractory insulation and a central core or support of non-magnetic heat-conducting material.

19. A resistance unit, consisting of a helical insulated conductor having its turns continuously forced together to form a rigid tube.

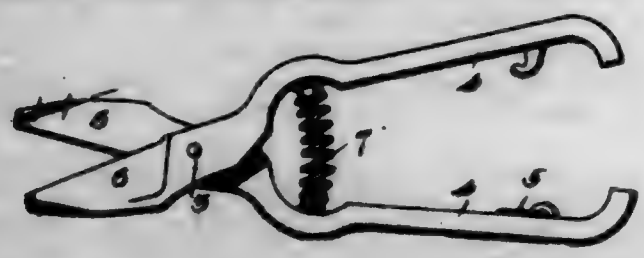
20. A resistance unit comprising a rigid tube consisting of helical resistance material having insulation interposed between adjacent turns of said helix, and means adapted and arranged to continuously force the turns of said helix together.

21. A resistance unit comprising a rigid tube consisting of a flat strip of resistance material wound in helical formation with the plane of its broad side transverse to the longitudinal axis of the helix, insulation interposed between the helical turns of said material, and means adapted and arranged to force the turns of said material and insulation together.

22. A resistance unit, comprising a rigid tube consisting of insulated resistance material wound in substantially helical formation, a bolt passing longitudinally through said helix and separated therefrom by an air-space, and a nut carried upon one end of said bolt and adapted to continuously force the turns of said helix together between said nut and the head of said bolt.

23. A resistance unit comprising a flat strip of resistance material wound in helical formation with the plane of its broad side transverse to the longitudinal axis of the helix, insulation interposed between the helical turns of said material, a bolt passing longitudinally through said helix and separated therefrom by an air-space, and a nut carried upon one end of said bolt and acting to continuously force the turns of said helix together between said nut and the head of said bolt to form a rigid tube.

808,796. FRUIT-CLIPPER. Charles F. Stassney, Riverside, Cal. Filed Apr. 6, 1905. Serial No. 254,165.



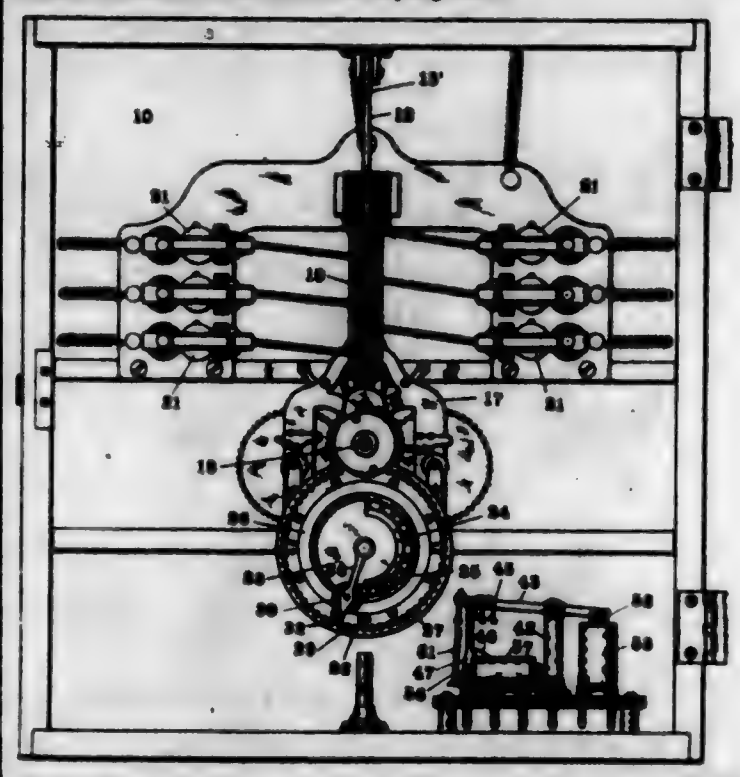
Claim.—1. A fruit-clipper comprising a pair of pivotally-connected shear members provided at one side of the pivot with cutting-blades, each having a rearwardly-deflected tip to produce a blunt nose.

2. A fruit-clipper comprising a pair of pivotally-connected shear members provided at one side of the pivot with cutting-blades, each blade having a rearwardly-deflected tip producing a blunt nose, and a guard-lug arranged on the back side of the blade and lying in the concavity at the rear side of and beyond the deflected tip.

3. A fruit-clipper comprising a pair of pivotally-connected shear members provided at one side of the pivot with cutting-blades, each blade having its tip bent or deflected rearwardly on a curved line to produce a curved blunt nose, and a guard-lug arranged on the back side of the blade and partially filling the concavity at the rear side of and beyond the deflected tip, said guard-lug having its outer surface merging into the outer surface of the nose, and also into the rear face of the blade.

808,797. WATCHMAN'S TIME-RECORDER. James Sullivan, Indianapolis, Ind., assignor to The Indianapolis Watchman Clock Company, Indianapolis, Ind., a Corporation of Indiana. Filed Nov. 9, 1903. Serial No. 180,490.

Claim.—1. In a watchman's time-recorder, the combination, with a suitable time-train having a dial-carrying arbor and a contact-carrying arbor and its contact member, of a pair of coaxial superimposed rings surrounding said contact-carrying arbor and separated by a suitable insulation, contact-points carried by the forward ring in position to be engaged by the contact member of the contact-carrying arbor, and contact-points carried by the rear ring and extended through the forward ring in position to be engaged by said contact member of the contact-carrying arbor.



2. In a watchman's time-recorder, the combination, with a suitable time-train having a dial-carrying arbor and a contact-carrying arbor and its contact member, of a pair of concentric superimposed rings surrounding said contact-carrying arbor and separated from each other by suitable insulation, the forward one of said rings being provided with a plurality of openings some of which are adapted to receive contact-pins, and the rear one of said rings being provided with perforations which aline with some of the perforations in the forward ring, the said perforations in the rear ring being adapted to receive contact-pins inserted therein through the alined openings of the forward ring, and a contact member carried by the contact-carrying arbor for engaging the contact-pins of the rings.

808,798. INCANDESCENT MANTLE. Adolphe I. van Vriesland, Scheveningen, Netherlands. Filed June 1, 1905. Serial No. 263,356.

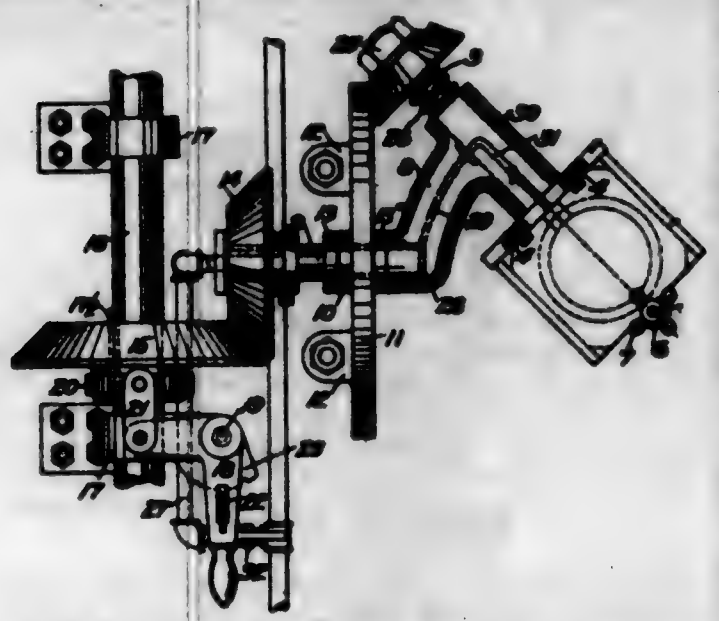


Claim.—As an article of manufacture, a mantle for incandescent gas-lighting purposes having weft-threads *a* and warp-threads *b*, said threads being treated with an incandescing material, said warp-threads *b* being arranged in pairs, said pairs of warp-threads being separated from each other, the weft-threads *a* passing over every alternate warp-thread *b* and under every alternate warp-thread *b*, one of said warp-threads of each pair of warp-threads crossing over upon its fellow warp-thread between each successive weft-thread *a*, said weft-threads *a* being separated from each other in such manner that open meshes are formed by the said weft and warp threads and said threads are held in their proper relative positions during the treatment of the fabric, and uniformity of the meshes of the incandescing material insured after the burning out of the fabric.

808,799. HOLLOW PATTERN-FORMING MACHINE. Fred A. Voeller, Tipton, Indiana. Filed Apr. 27, 1904. Serial No. 205,202.

Claim.—1. The combination with a driven shaft, of a second shaft having a fluid-duct therein; an arm attached to said driven shaft, adapted to revolubly support the shaft last mentioned at an angle to said driven shaft; means for rotating said second-mentioned shaft upon its own axis while revoluble with said driven shaft; a mold attached to said secondly-mentioned shaft having a fluid-duct

connecting its interior with the fluid-duct of said secondly-mentioned shaft; and connections between the duct in said secondly-mentioned shaft and a fluid-supply under pressure.



2. The combination with a driven shaft having a fluid-duct therein, of a second shaft having a fluid-duct therein; an arm attached to said driven shaft, adapted to revolubly support the shaft last mentioned at an angle to said driven shaft, and having a fluid-duct that connects the ducts in said shafts; means for rotating said second-mentioned shaft upon its own axis while revoluble with said driven shaft; a mold attached to said secondly-mentioned shaft having a fluid-duct connecting its interior with the fluid-duct of said secondly-mentioned shaft; and connections between the duct in said driven shaft and a fluid-supply under pressure.

808,800. **POLISHING-BELT DEFLECTOR.** EDWIN W. H. BAILEY, Amesbury, Mass. Filed Dec. 8, 1904. Serial No. 235,918.

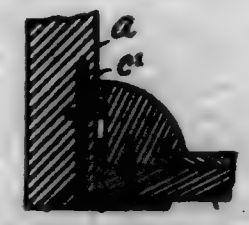


Claim.—1. A deflecting device for a polishing-belt having a hand-support, and a belt-engaging face of materially less width than the belt, adapted to engage the inner side of the belt between its edges and its supporting-pulleys, substantially as described.

2. A deflecting device for a polishing-belt, consisting of a flexible plate having a hand-support, and a belt-engaging face, adapted to engage the inner side of the belt between its edges and its supporting-pulleys, substantially as described.

3. A deflecting device for a polishing-belt, consisting of a transversely and longitudinally flexible plate having a hand-support, and a belt-engaging face, adapted to engage the inner side of the belt between its edges and its supporting-pulleys, substantially as described.

808,801. **VEHICLE-BODY.** SAMUEL R. BAILEY, Amesbury, Mass. Filed July 12, 1905. Serial No. 269,262.



Claim.—1. In combination with the panel of a vehicle-body, a reinforcing-iron disposed against one side thereof and having a series of integral tongues extending into said panel, and a series of securing devices extending transversely in said panel and through said tongues, substantially as described.

2. In combination with the panel of a vehicle-body, a reinforcing-iron disposed against one side thereof and having a series of integral tongues extending into said panel, and a series of securing devices extending from the bottom edge of the panel transversely therein and through said tongues, substantially as described.

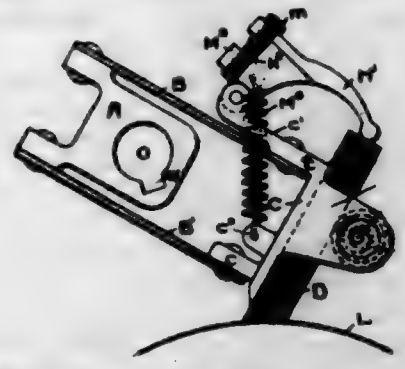
3. In combination with the panel of a vehicle-body, a reinforcing-iron disposed against one side thereof and having a series of integral tongues extending into said panel, and a series of securing devices extending from the bottom edge of the panel transversely therein, said iron being connected to said securing devices at intermediate points in the latter, substantially as described.

4. In combination with the panel of a vehicle-body, a reinforcing-iron disposed against one side thereof and having a series of integral tongues extending into said panel, and a series of nails passing from the bottom edge of the panel transversely therein, through and a suitable distance above said tongues, substantially as described.

808,802. **BRAZING COMPOUND.** JOHN W. BALL, Woodbine, W. Va. Filed June 14, 1905. Serial No. 265,274.

Claim.—A brazing compound consisting of the following ingredients by weight: muriatic acid six parts, zinc one and one-half parts, water two parts, and pulverized borax one part.

808,803. **BRUSH-HOLDER.** NORMAN C. BARNETT, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Mar. 22, 1902. Serial No. 99,161.



Claim.—1. In a brush-holder, the combination with a stationary support, of a brush-carrier, resilient arms connecting said carrier with said support, said arms being in a plane substantially at right angles with the axis of the commutator, and an automatic spring feeding device for the brush mounted on the carrier.

2. In a brush-holder, the combination with a movable brush-carrier, of an adjustable spring-follower for varying the pressure on the brush, and means for maintaining said pressure constant irrespective of minor irregularities in the commutator-surface.

3. In a brush-holder, a spring-supported spring-follower for the brush.

4. In a brush-holder, a spring-supported brush-carrier, and a spring-follower mounted on said carrier.

5. In a brush-holder, a brush-carrier, a spring-follower for the brush, and a spring-support for the carrier whose tension reacts against that of the follower.

6. In a brush-holder, the combination with the brush, of two reacting spring-actuated devices for producing a pressure on said brush, and means for varying said pressure.

7. In a brush-holder, a brush-carrier, a brush relatively movable with respect to said carrier, a follower, a spring for forcing said follower against said brush, and means for regulating the pressure with which said follower bears against said brush comprising a block to which one end of said spring is attached, and a screw for varying the position of the block.

8. In combination, a brush-carrier, a follower, a spring tending to move the follower with respect to the brush-carrier, means for regulating the tension given to the follower by the spring comprising a block to which one end of the spring is connected, and a screw for moving said block.

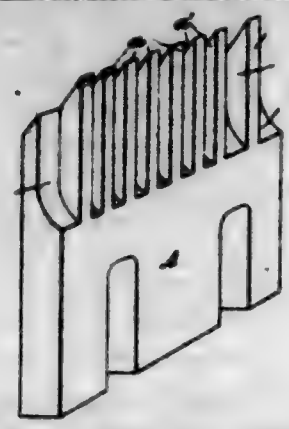
9. In a brush-holder, a pivoted follower, a block slidingly mounted on said follower, a spring connected to said block for moving said follower against the brush, and a screw for moving said block relative to said follower.

10. In a brush-holder, a movable brush, a pivoted follower bearing against said brush, a block slidingly mounted on said follower, a spring connected to said block and operating to hold the follower against the brush, and a screw for moving the block to vary the distances from the pivotal point of the follower.

11. In a brush-holder, a pivoted follower, a tension-spring, means for connecting the spring to the follower at different distances from the pivotal point comprising a member movably connected to the follower to which the spring is attached, and a screw for moving said movable member.

12. In combination, a brush-carrying member, a follower member, a block movably connected to one of said members, a spring connecting the other of said members and the block, and a screw for moving said block.

803,804. CUTTER-BLADE. PAUL F. BOLTON, Sarnbro Junction, Canada. Filed Mar. 10, 1904. Serial No. 197,650.



Claim.—1. As a new article of manufacture, interrelated cutter-blades one of which has cutter-blades of equal width, spaced unequal distances apart and the other of which has cutter-blades spaced equal distances apart and of unequal width.

2. In apparatus for cutting interlocking tongues and grooves the combination with a facing-cutter blade comprising a body provided with a series of cutters separated by spaces, and a space, wider than the space between said series of cutters, at one end of said cutter-blade, and two spaces, wider than the space between said series of cutters, at the other end of said cutter-blade, and separated from each other by a cutter-blade, of an interrelated base-cutter blade comprising a body provided with a series of cutters separated by spaces, and a cutter wider than the said series of cutters at one end of said cutter-blade, and two cutters, wider than the said series of cutters at the other end of said cutter-blade, and separated from each other by a space.

3. A cutter-blade for grooving lumber having a wide cutter at one end and two wide cutters, of equal width to the first-named cutter, at the other end and a series of narrower intermediate cutters, all the cutters being spaced apart a distance equal to the width of said intermediate cutters.

4. In an apparatus for cutting interlocking tongues and grooves in lumber, the combination of two blades interrelated in the production of an article, one cutter-blade having a plurality of teeth of equal width and an additional tooth equal in width to one of said plurality of teeth but differently spaced, the other cutter-blade having a plurality of teeth of equal width spaced equal distances apart and a plurality of teeth of greater width than the first-named teeth, and spaced apart the same distance as the spacing of the first-named teeth.

803,805. MECHANICAL STOKER. MORRIS B. BRENNEN, Columbus, Ohio. Filed Feb. 20, 1905. Serial No. 246,250.

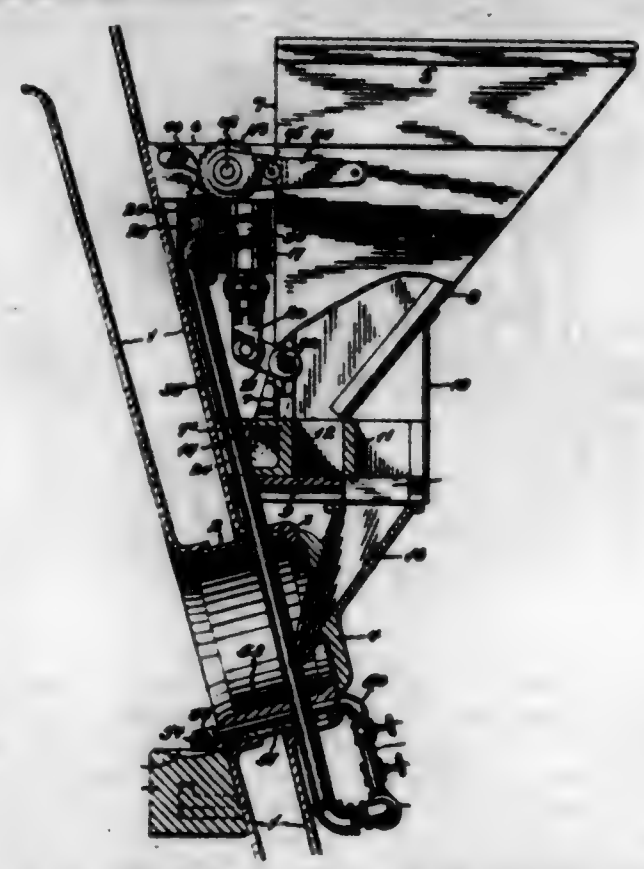
Claim.—1. In a mechanical stoker, a combustion-chamber, fuel-receiving means located within said chamber, and means for distributing fuel from said receiving means, said distributing means being located within the combustion-chamber and adapted to throw fuel to all parts of the fuel-bed of the said chamber.

2. In a mechanical stoker, a combustion-chamber, fuel-receiving means located within the said chamber, means for distributing fuel from the said receiving means, said distributing means being located within the combustion-chamber and adapted to throw fuel to all parts of the fuel-bed of said chamber and means for regulating the distribution of fuel to any part of the said fuel-bed.

3. In a mechanical stoker, a combustion-chamber, fuel-receiving means located within the said chamber and a cluster of differently-directed fluid-pressure jets located within the combustion-chamber and adapted to throw fuel to all parts of the fuel-bed of the said chamber.

4. In a mechanical stoker, a combustion-chamber, a fuel-receiving table located within the said chamber, means for conveying fuel to the said table and fluid-pressure means located within the combustion-chamber and adapted to throw fuel to all parts of the fuel-bed of the said chamber.

5. In a mechanical stoker, a combustion-chamber, fuel-receiving means located within the said chamber, means for feeding fuel to the said fuel-receiving means and fluid-pressure means located within the combustion-chamber and adapted to throw fuel to all parts of the fuel-bed of the said chamber, the said fluid-pressure means being controlled by the operation of the said feeding means.



6. In a mechanical stoker, a combustion-chamber, fluid-pressure means for distributing fuel therein, means for delivering fuel to said fuel-distributing means, means for controlling the delivery of fuel to the fuel-distributing means, and fluid-pressure means for operating said controlling means, adapted to supply fluid to the fluid-pressure-distributing means.

7. In a mechanical stoker, a combustion-chamber, fuel-receiving means, fluid-pressure means for distributing fuel from said receiving means, means for feeding fuel to said fuel-receiving means, and fluid-operated means for operating the said feeding means, said fluid-operated means being adapted to supply fluid intermittently to the fluid-pressure fuel-distributing means.

8. In a mechanical stoker, the combination with a furnace, of a fuel-containing compartment, a fuel-distributing device, a ram for delivering fuel from the compartment to the distributing device, and a fluid-operated device connected with the ram for operating the same and adapted to supply fluid to the distributing device at intervals.

9. In a mechanical stoker, the combination with a furnace, of a fuel-containing compartment, a fuel-distributing device, a ram for delivering fuel from the compartment to the distributing device, a fluid-operated device connected to the ram for operating the same and adapted to supply fluid to the distributing device at intervals, and means for controlling the operation of the said fluid-operated device.

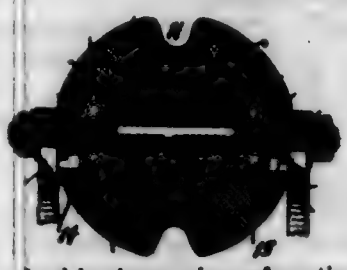
10. In a mechanical stoker, the combination with a furnace, of a fuel-containing compartment, a fuel-distributing device, means for feeding fuel from the compartment to the distributing device, a fluid-operated device connected to the feeding means for operating the same and adapted to supply fluid to the distributing device at intervals, and means for controlling the supply of fluid to the said last-named device.

11. In a mechanical stoker, the combination with a furnace, of a fuel-containing compartment, a fuel-distributing device, means for conveying fuel from the compartment to the distributing device, and a fluid-operated device connected with the fuel-conveying means for operating the same and adapted to supply fluid to the distributing device at intervals.

12. In a mechanical stoker, the combination with a furnace, of a fuel-containing compartment, a fuel-distributing device, means for conveying fuel from the compartment to the distributing device, a fluid-operated device connected with the fuel-conveying means for operating the same and adapted to supply fluid to the distributing device at intervals, and means for controlling the operation of the said fluid-operated device.

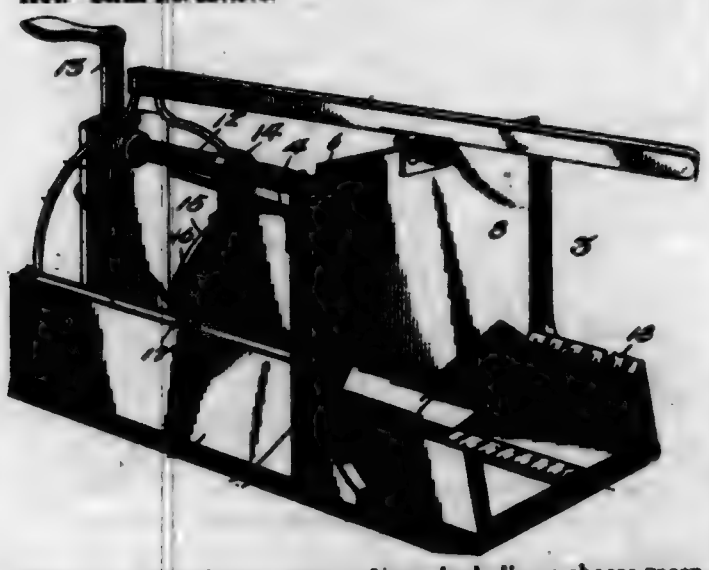
803,806. TROLLEY-WHEEL. EMMA ENGEL, West Hoboken, N. J. Filed July 20, 1904. Serial No. 217,269.

Claim.—1. A trolley-wheel having a circumferential groove for receiving the trolley-wire, the said wheel having a spherical surface so as to eliminate sharp corners on the periphery of the wheel at the sides of the said groove and for strengthening the wheel at this point.



2. A trolley-wheel having a circumferential groove for receiving the trolley-wire, the said wheel having a spherical periphery and provided with a centrally-arranged chamber for containing a supply of lubricant, an axle extending centrally through the wheel transverse to the trolley-wire groove and roller-bearings located entirely within the wheel interposed between the wheel and the axle and communicating with the lubrication-chamber.

803,807. CHEESE-CUTTER. WILLIAM B. BURKE, Ashland, Ky., assignor of one-third to Ulysses S. Prince, Ashland, Ky. Filed Oct. 7, 1904. Serial No. 227,570.



Claim.—1. In a cheese-cutter, a frame including a cheese-receptacle, an operating-screw journaled in the frame above the receptacle, an operating-crank carried at one end of the screw, a pressure-head operatively engaged with the screw for movement back and forth longitudinally of the receptacle, guides provided at the forward end of the receptacle, a cutting-blade slidably arranged in the guides to intersect the receptacle, an operating-lever pivotally connected with the blade, and a bail pivoted to the lever and the frame.

2. In a cheese-cutter, a cutting member, means for advancing a cheese beneath the cutter, a plurality of graduated scales designed to enter into play severally for determining the advance of the cheese beneath the cutter, and devices automatically controlled by the size of the cheese for indicating the scale to be brought into play.

3. In a cheese-cutter, a cheese-receptacle, a cutting member, means for advancing a cheese in the receptacle, a plurality of scales designed to be brought into play severally for determining the advance of the cheese, a pair of clamping members for partly embracing the cheese, and devices controlled by the contraction and expansion of the clamping members for indicating the particular scale to be brought into play.

4. In a cheese-cutter, a movable cutting-blade, a pair of clamping members designed to partly embrace a cheese and provided with inclined portions, a plurality of scales adapted to be brought into play severally for determining the adjustment of the cheese beneath the cutter, and a movable member acting in conjunction with the inclined portions of the clamping members for indicating the particular scale to be brought into play.

808,808. PANTALOON-STRETCHER. SAMUEL F. CARY, Mount Vernon, Ohio. Filed Jan. 31, 1905. Serial No. 243,695.

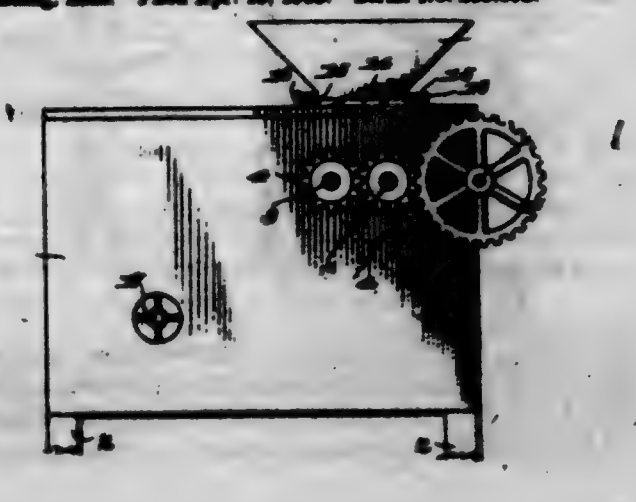
Claim.—1. In a pantaloon-stretcher, a standard in two portions hinged at their adjacent ends, means for detachably locking said standard portions in longitudinal alinement, clamp members rigidly connected to the free ends of said standard portions and provided with elongated apertures at one end, movable clamp members hinged to the opposite ends of the rigid clamp members and provided with laterally-extending terminals for passing through said elongated apertures when the clamp members are closed.



2. In a pantaloon-stretcher, a standard in two portions hinged at their adjacent ends, means for detachably locking said standard portions in longitudinal alinement, clamp members rigidly connected to the free ends of said standard portions and provided with elongated apertures at one end, movable clamp members hinged to the opposite ends of the rigid clamp members, clamp-bolts movably supported in the free ends of said movable clamp members and provided with laterally-extending terminals for passing through said elongated apertures when the clamp members are closed, and springs supporting said bolts yieldably in extended position.

3. In a pantaloon-stretcher, a standard in two portions hinged at their adjacent ends, means for detachably locking said standard portions in longitudinal alinement, clamp members rigidly connected to the free ends of said standard portions and provided with elongated apertures at one end, movable clamp members hinged to the opposite ends of the rigid clamp members, sockets at the free ends of said movable clamp members, clamp-bolts passing through said movable clamp members and the sockets disposed thereon and provided with spaced shoulders upon opposite sides of said movable clamp members and of said sockets and provided with transversely-extending feet at one end for passing through said elongated apertures in said rigid clamp members, and springs seated in said sockets and bearing against the adjacent shoulder on said bolt.

808,809. PEA-HULLING MACHINE. WILLIAM C. CONNERY, Pendling, Miss. Filed Apr. 13, 1905. Serial No. 255,262.



Claim.—1. In a machine of the class described, a breast comprising a frame separate from the casing of the huller, and a plurality of ribs connected with opposite members of the frame and having free ends overlapping or crossing each other.

2. In a machine of the class described, a casing having an opening, a pair of toothed cylinders mounted for rotation beneath said opening, and a breast comprising a plurality of ribs, and frame-bars connecting said ribs, said bars being supported detachably upon the casing adjacent to the sides of the opening and the free ends of said ribs being extended between the cylinders.

3. In a machine of the class described, a casing having an opening, a pair of toothed cylinders mounted for rotation beneath said opening, and a breast comprising a plurality of ribs, and frame-bars connecting said ribs, said bars being supported upon the casing adjacent to the sides of the opening and the free ends of said ribs being extended between the cylinders and crossed or overlapped.

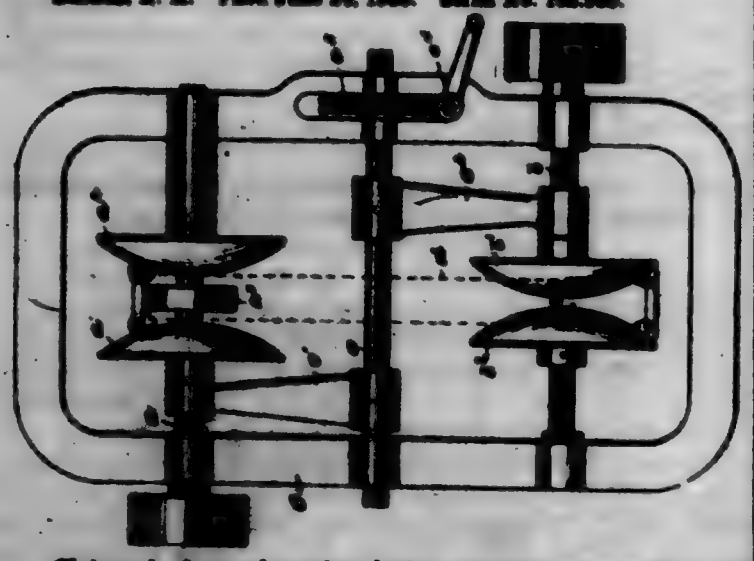
4. In a machine of the class described, a casing having an opening in the deck thereof, a pair of toothed cylinders mounted for rotation beneath said opening, a breast comprising a plurality of ribs, and frame-bars connecting the same, said frame-bars being supported detachably upon the casing of the machine and a hopper having converging sides and provided with end pieces supported upon the upper edges of the sides of the casing.

5. In a machine of the class described, a casing, a pair of cylinders mounted for rotation in said casing and geared together, teeth upon said cylinders disposed in annular series, the teeth upon one cylinder being disposed intercurrently with those upon the other cylinder and the annular series of teeth upon the two cylinders being disposed in registry with each other, and a breast supported above the toothed cylinders and consisting of a plurality of ribs, suitably connected and spaced apart, the free ends of said ribs being extended into the spaces between the annular series of teeth upon the cylinders.

6. In a machine of the class described, a casing, a pair of cylinders mounted for rotation in said casing and geared together, teeth upon said cylinders disposed in annular series, the teeth upon one cylinder being disposed intercurrently with those upon the other cylinder and the annular series of teeth upon the two cylinders being disposed in registry with each other, and a breast supported above the toothed cylinders and consisting of a plurality of ribs, suitably connected and spaced apart, the free ends of said ribs being extended into the spaces between the annular series of teeth upon the cylinders and crossed or overlapped.

7. In a machine of the class described, a casing having openings in the deck, in the bottom, and in one end thereof, an inclined plane extending from the bottom opening to the lower edge of the opening in the end of the casing, a pair of toothed cylinders mounted for rotation above said inclined plane and beneath the opening in the deck of the casing, a breast comprising a plurality of ribs suitably connected and spaced apart, said breast being supported upon the deck of the casing with the ribs extending through the opening therein for coöperation with the toothed cylinders, a hopper supported above the breast and having converging sides spaced from the ribs, and a fan supported for rotation within the casing.

808,810. SPEED-CHANGING DEVICE. George A. Coffin, Exeter, N. H. Filed June 24, 1903. Serial No. 162,985.

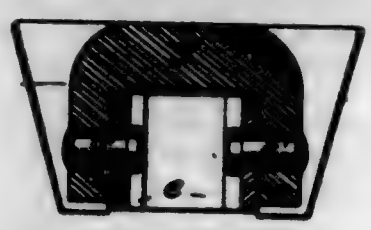


Claim.—1. A speed-varying device comprising expansible pulleys having spherically-convex active faces, the shafts on which said pulleys are mounted, and the belt connecting said pulleys, substantially as described.

2. A speed-varying device comprising expansible pulleys having spherically-convex active faces, the shafts on which said pulleys are mounted, the belt connecting said pulleys, and means for expanding and contracting said pulleys whereby the driving diameters are increased and diminished.

3. A speed-varying device comprising expansible pulleys having spherically-convex active faces, the shafts on which said pulleys are mounted, and the belt connecting said pulleys having cup-shaped contact-surfaces whose curvature is the same as the curvature of said disks.

808,811. POWER-TRANSMISSION DEVICE. George A. Cuttin, Exeter, N. H. Filed Aug. 14, 1903. Serial No. 169,488.



Claim.—1. In a variable-speed power-transmission device in combination the shafts, a positive driving-pulley on one shaft, an expansible frictional pulley on the other shaft, and a belt coöperating with said pulleys and provided with pairs of oppositely-arranged contact members adapted for coöperation with said expansible pulley.

2. In a variable-speed power-transmission device the shafts, a positive driving-pulley mounted on one shaft and an expansible frictional driving-pulley mounted on the other shaft and having spherically-convex driving-faces, and a suitable belt coöperating with said pulleys and provided with contact members having spherically-concave driving-faces adapted to coact with the said expansible pulley.

3. In a variable-speed power-transmission device the combination with the driving and driven shafts, and the driving-pulleys mounted thereon and having means for varying the driving ratio, of a rail pivotally supported at a point between its ends underlying the upper run of the belt, substantially as described and for the purposes set forth.

4. In a power-transmission device the combination with the driving and driven shafts, and the pulleys mounted thereon, of a driving-belt comprising a shoe recessed to fit over the chain and adapted to be secured to the side links thereof, substantially as described.

5. In a power-transmission device the combination with the driving and driven shafts, and the pulleys mounted thereon, of a driving-belt comprising a shoe recessed to fit over the chain and adapted to be secured to the side links thereof, a portion of each side of the shoe being cut away to form two active faces, substantially as described.

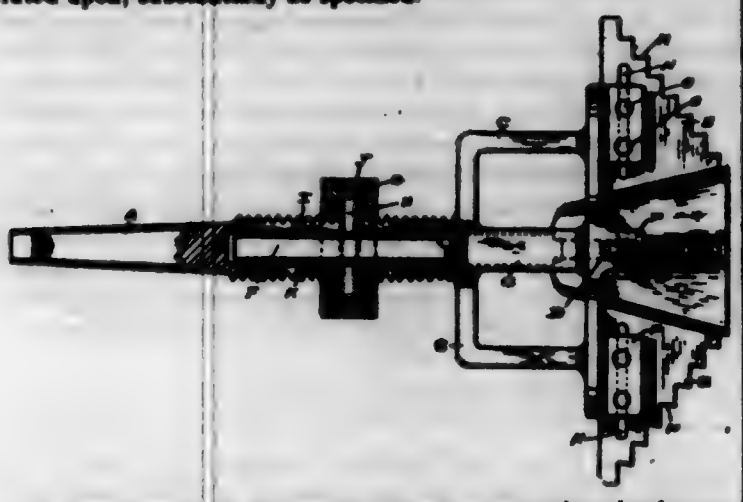
6. In a variable-speed or power-transmission device the combination with the driving and driven shafts, a sprocket secured to one of said shafts and adjustable disks secured to the other shaft, of a driving-belt comprising a chain adapted to coöperate with said sprocket, and contact-shoes recessed to fit over said chain and adapted to be secured thereto, each side of said shoes having two active faces for coöperation with said disks.

7. In a variable-speed or power-transmission device the combination with the driving and driven shafts, a sprocket secured to one of said shafts and adjustable disks secured to the other shaft, of a driving-belt comprising a chain adapted to coöperate with said sprocket, and contact-shoes recessed to fit over said chain and adapted to be secured thereto, each side of said shoes having two active faces for coöperation with said disks, said active faces being shaped to fit closely upon said disks.

808,812. CHUCK FOR GRINDING JOINT-RINGS. William A. Davidson, Milwaukee, Wis. Filed Oct. 6, 1904. Serial No. 227,747.

Claim.—1. In a ring-chuck, the combination of an operating-shank; provided with a screw-threaded surface; and a longitudinal slot; a nut operating on said screw-threaded surface; a plurality of jaw-supporting brackets rigidly supported from said shank; a plurality of radial clamping-jaws slidably supported from said brackets and having inwardly-converging bearing ends; a central shank slidably supported within said operating-shank and provided with diverging bearings adapted to contact with the inwardly-converging bearing ends of said clamping-jaws; a radial pin rigidly affixed at its center to said central shank and having its respective ends protruding therefrom through the longitudinal slot of said shank and adapt-

ed to engage within the annular recess of said nut, whereby as said nut is turned forwardly, said clamping-jaws are relieved from contact with said diverging bearings, and whereby as said nut is turned in the opposite direction, said diverging bearings are brought into operative contact with said clamping-jaws and the latter are forced outwardly into clamping engagement with the joint-rings to be operated upon, substantially as specified.



2. In a ring-check, the combination of an operating-shank; provided with a screw-threaded surface; and a longitudinal slot; a nut operating on said screw-threaded surface; a plurality of jaw-supporting brackets rigidly supported from said shank; a plurality of radial clamping-jaws slidably supported from said brackets and having inwardly-converging bearing ends; a central shank slidably supported within said operating-shank and provided with diverging bearings adapted to contact with the inwardly-converging bearing ends of said clamping-jaws; a radial pin rigidly affixed at its center to said central shank and having its respective ends protruding therefrom through the longitudinal slot of said shank and adapted to engage within the annular recess of said nut, whereby as said nut is turned forwardly, said clamping-jaws are relieved from contact with said diverging bearings, and whereby as said nut is turned in the opposite direction, said diverging bearings are brought into operative contact with said clamping-jaws and the latter are forced outwardly into clamping engagement with the joint-rings to be operated upon, substantially as specified.

803,813. RAIL-JOINT CHAIR. WILLIAM B. DAVIS, Popes Ferry, Ga. Filed July 13, 1905. Serial No. 269,267.



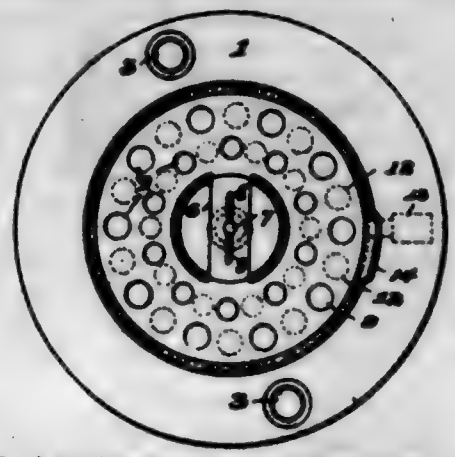
Claim.—1. A rail-joint comprising, a box provided with a longitudinal opening, abutting rail ends disposed within the opening, a fish-plate disposed within the opening and between the rail and the boxing, and means whereby a lateral movement of the fish-plate produces a clamping strain between the fish-plate and the box and between the fish-plate and the rail.

2. A rail-joint comprising, abutting rail ends, a fish-plate spanning the joint and provided along its lower edge with an outturned flange wedge-shaped in cross-section, and a box embracing the rails and fish-plate and presenting a bearing-surface for cooperation with the wedge-shaped flange.

3. A rail-joint comprising, abutting rail ends, a fish-plate spanning the joint and provided along its longitudinal edges with outturned flanges wedge-shaped in cross-section, and a box embracing the rails and fish-plate and presenting bearing-surfaces for cooperation with the wedges of the flanges.

4. A rail-joint comprising, abutting rail ends, a fish-plate spanning the joint and provided along its longitudinal edges with outturned flanges wedge-shaped in cross-section, a box with a longitudinal opening embracing the rails and fish-plate and presenting bearing-surfaces for cooperation with the wedges of the flanges, and means for moving the fish-plate laterally within the box and into gripping contact with the rail and the bearing-surfaces of the box.

803,814. SINK-STRAINER. EDWARD S. DOTTY, Chicago, Ill. Filed Feb. 6, 1905. Serial No. 244,488.



Claim.—1. A combination sink-strainer and valve comprising a main strainer-plate provided with strainer-openings, a valve-plate provided with strainer-openings arranged to be moved into and out of register with the openings in said main plate, a convexed spring member arranged concentrically with said plates and engaging the same around a concentrically-disposed line removed from the center thereof, and a screw securing said parts together in operative position.

2. A combination sink-strainer and valve comprising a main strainer-plate provided with strainer-openings, a valve-plate provided with strainer-openings arranged to be moved into and out of register with the openings in said main plate, a convexed, cup-like member of spring material mounted concentrically upon said plates and engaging the same around its periphery with a sealing effect, and a screw securing said parts together in operative relation to each other.

3. A combination sink-strainer and valve comprising a main strainer-plate provided with strainer-openings, a valve-plate provided with strainer-openings adapted to be moved into and out of register with the openings in said main plate, one of said plates being provided with an integrally-formed, centrally-disposed, struck-out portion offset from the plane of the plate-body, and a screw member connecting said parts and concentrically disposed relative to said offset portion, whereby the latter exerts a holding tension upon said screw member.

4. A combination sink-strainer and valve comprising a main strainer-plate having strainer-openings therein, a valve-plate with strainer-openings adapted to be moved into and out of register with the openings in said main plate, one of said plates being provided with a central offset portion, said offset portion being provided with a central aperture with slots extending therefrom, whereby said aperture can be expanded and a connecting member passing through said plates and into gripped engagement with said expandible aperture.

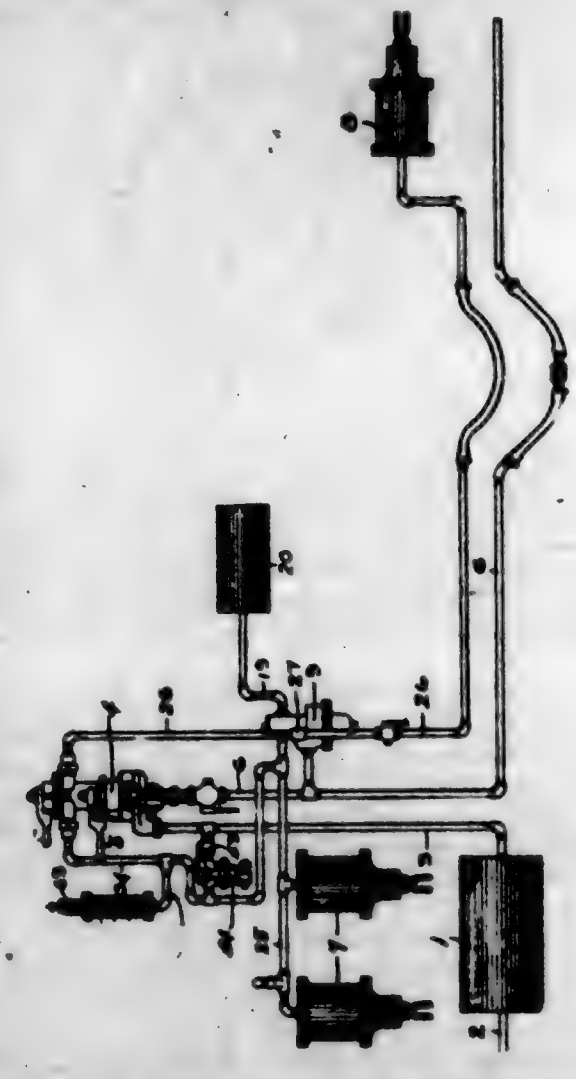
5. In a sink-strainer, a main strainer-plate provided with a concentric circumferentially-extending bead-like formation having interruptions forming shoulders, a valve-plate with a central opening fitting over said bead-like formation and having projecting lugs working in said interruptions and serving to limit the oscillatory movement of said valve-plate, and means for securing said main plate and said valve-plate operatively together.

6. In a sink-strainer, a main strainer-plate provided with a concentric opening having a downwardly-depending flange member threaded interiorly to receive a hose-coupling, a valve-plate provided with a central opening registering with said main plate-opening and having a portion arranged to be engaged by said hose-coupling, said plates provided with strainer-openings adapted to be moved into and out of register with each other, a cap or cover for said central openings when in normal working order, and means for securing said parts together in operative relation.

7. A combination sink-strainer and valve comprising a main strainer-plate provided with a central depressed portion with strainer-openings and a circumferentially-extending [illegible], a valve-plate seated in said depressed portion and having strainer-openings therethrough adapted to be moved into and out of register with the

openings in said malh plate and also having a thumb-piece engaging said indent, a cup-like spring member mounted upon said plates, one of said plates being provided with a centrally-disposed member offset from the plane of the plate-body and provided with an aperture, and a connecting member through said parts, substantially as and for the purpose described.

808,815. AIR-BRAKE SYSTEM. FRANK H. DUKESMITH, Mortville, Pa. Filed May 6, 1905. Serial No. 259,180.



Claim.—1. In an air-brake system, the combination of a main reservoir, a driver-brake cylinder, a tender-brake cylinder, a triple valve connected to both of said cylinders, a train-pipe connected to said triple valve, an engineer's valve connecting the train-pipe and main reservoir, and a driver-brake-control valve arranged to connect the driver-brake cylinder to the atmosphere.

2. In an air-brake system, the combination of a main reservoir, a driver-brake cylinder, a tender-brake cylinder, a triple valve connected to both of said cylinders, a train-pipe connected to said triple valve, an engineer's valve connecting the train-pipe and main reservoir, and a driver-brake-control valve connected to the exhaust from said triple valve.

3. In an air-brake system, the combination of a main reservoir, a driver-brake cylinder, a tender-brake cylinder, a triple valve connected to both of said cylinders, a train-pipe connected to the triple valve, an engineer's valve connecting the train-pipe and main reservoir, and a driver-brake-control valve connected to the exhaust from the triple valve and having connections to the driver-brake cylinder.

4. In an air-brake system, the combination of a main reservoir, a train-pipe, an engineer's valve connecting said reservoir and train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting the auxiliary reservoir and driver-brake cylinder, connections between the tender-brake cylinder and exhaust-port of the triple valve, and a driver-brake-control valve arranged to connect the exhaust-port of the triple valve with the atmosphere.

5. In an air-brake system, the combination of a main reservoir, a train-pipe, an engineer's valve connecting the main reservoir and train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting said auxiliary reservoir and said brake-cylinders, and a driver-brake-control valve connected to the exhaust-port of the triple valve and arranged to connect the said exhaust-port with the atmosphere or close the same.

6. In an air-brake system, the combination of a main reservoir, a train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting the auxiliary reservoir and said brake-cylinders, and driver-brake-control-valve mechanism connected to the exhaust port of the triple valve and to the driver-brake cylinder and arranged to connect both the driver-brake cylinder and triple-valve-exhaust port with the atmosphere.

7. In an air-brake system, the combination of a main reservoir, a train-pipe, an engineer's valve connecting said main reservoir and train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting said auxiliary reservoir and driver-brake cylinder, and driver-brake control-valve mechanism arranged to connect the driver-brake cylinder with the tender-brake cylinder, or either thereof with the atmosphere.

8. In an air-brake system, the combination of a main reservoir, a train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting said auxiliary reservoir and brake-cylinders, and driver-brake-control-valve mechanism arranged to connect the driver-brake cylinder with the triple-valve-exhaust port or both thereof with the atmosphere.

9. In an air-brake system, the combination of a main reservoir, a train-pipe, an engineer's valve connecting said main reservoir and train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting said auxiliary reservoir and driver-brake cylinder, connections between the tender-brake cylinder and the exhaust-port of the triple valve, and driver-brake-control-valve mechanism arranged to connect the driver-brake cylinder with the tender-brake cylinder, or either thereof with the atmosphere.

10. In an air-brake system, the combination of a main reservoir, a train-pipe, an engineer's valve connecting said main reservoir and train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting said auxiliary reservoir and driver-brake cylinder, connections between the tender-brake cylinder and the exhaust-port of the triple valve, and driver-brake-control-valve mechanism arranged to connect the driver-brake cylinder with the exhaust-port of the triple valve, or both thereof with the atmosphere.

11. In an air-brake system, the combination of a main reservoir, a train-pipe, an engineer's valve connecting said main reservoir and train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting the auxiliary reservoir and driver-brake cylinder, connections between the tender-brake cylinder and the exhaust-port of the triple valve, and driver-brake-control-valve mechanism arranged to connect said driver-brake cylinder and tender-brake cylinder, or connect the exhaust-port of the triple valve with the atmosphere.

12. In an air-brake system, the combination of a main reservoir, a driver-brake cylinder, a tender-brake cylinder, a triple valve connected to both of said cylinders, a train-pipe connected to the triple valve, an engineer's valve connecting the train-pipe and main reservoir, and a signal device connected to the driver-brake cylinder.

13. In an air-brake system, the combination of a main reservoir, a train-pipe, an engineer's valve connecting the main reservoir and train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting the auxiliary reservoir and driver-brake cylinder, connections between the tender-brake cylinder and the exhaust-port of the triple valve, driver-brake-control-valve mechanism arranged to connect the driver-brake cylinder with the tender-brake cylinder, or to connect the driver-brake cylinder with the atmosphere, and a signal device connected to the driver-brake cylinder.

14. In an air-brake system, the combination with the main reservoir, a train-pipe, an engineer's valve connecting the reservoir and train-pipe, a driver-brake cylinder, a tender-brake cylinder, an auxiliary reservoir, a triple valve connecting the auxiliary reservoir and driver-brake cylinder, driver-brake-control-valve mechanism connected to the brake-cylinder and to the exhaust from said triple valve, a direct air connection from the main reservoir to the driver-brake cylinder, and a valve in said connection.

15. In an air-brake system, the combination of a main reservoir, a train-pipe, an engineer's valve connecting said reservoir and train-pipe, a driver-brake cylinder, an auxiliary reservoir, a triple valve connecting said auxiliary reservoir and driver-brake cylinder, driver-brake-control-valve mechanism connected to the exhaust-port of said triple valve and to the driver-brake cylinder, a direct air connection from said main reservoir to the driver-brake cylinder, a pressure-reducing valve in said connection, and a valve in said connection.

16. In an air-brake system, the combination of a driver-brake cylinder, a relief-valve connected to the brake-cylinder and located

in position to act as signal to the engineer, and means moved by the brake-cylinder pressure and serving on excess movement to cause the opening of said relief-valve.

17. In an air-brake system, the combination of a brake-cylinder, a cylinder and piston connected to said cylinder and having its movable element provided with a relief-vent, a valve normally closing said vent, and a fixed stop in the path of said movable element and arranged on excess movement to open said valve.

18. In an air-brake system, the combination of a brake-cylinder, a cylinder connected thereto, a piston and hollow piston-rod in said cylinder, a valve arranged to close the opening in said hollow piston-rod, and having a projecting portion and a fixed stop in the path of said projecting portion and against which it will start on excessive movement.

808,816. INSULATING MATERIAL. William L. R. Emmet, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 24, 1900. Serial No. 37,594.

[redacted]

Claim.—1. An electric insulating material composed of multiple layers of an absorbent refractory insulating material united by films of vegetable oil, each of said films being baked hard on one of said layers.

2. An electric insulating material composed of a plurality of sheets of asbestos and layers of oxidized linseed-oil baked hard on the several sheets and serving to unite them.

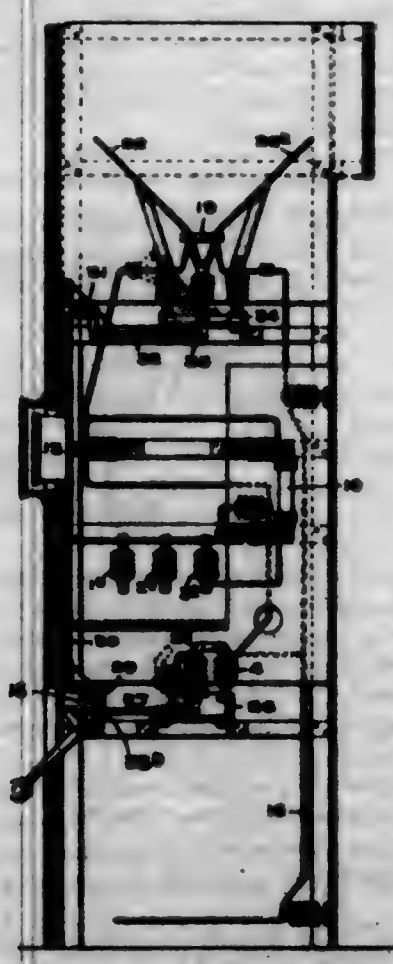
3. An electric insulating material, composed of asbestos coated with a hardened compound of linseed-oil and gum-copal.

4. An electric insulating material, composed of sheets of asbestos united by intervening layers of hard oxidized vegetable varnish.

5. An electric insulating material, composed of sheets of fibrous refractory material united by an oxidized compound of linseed-oil and gum-copal.

6. The method of making an insulating material, which consists in dipping sheets of asbestos paper into a compound of boiled linseed-oil, gum-copal and a suitable flux, air-drying said sheets, piling them together, subjecting them to heat and pressure to consolidate them, and then baking the composite sheet thus formed.

808,817. CIRCUIT-BREAKER. Richard B. Field, Stevenage, England, assignor to General Electric Company, a Corporation of New York. Filed Mar. 17, 1903. Serial No. 148,174.



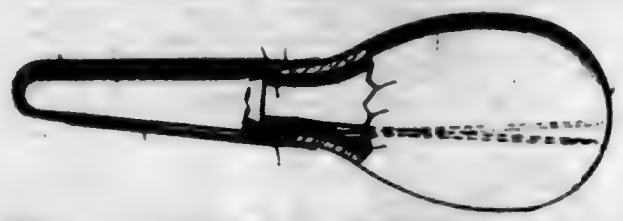
Claim.—1. An electric switch comprising a shunt in parallel to the switch-terminals, a pair of diverging conductors, a contact normally bridging their proximate ends, and means for laterally shifting the contact to draw an arc between the conductors after the switch-terminals have separated.

2. An electric switch comprising a shunt in parallel to the switch-terminals, a pair of diverging conductors, a movable contact normally bridging their proximate ends, an operating-handle for the switch, and a lost-motion connection between the operating-handle and the contact whereby said contact is shifted to form an arc between the conductors after the switch-terminals have separated.

3. An electric switch comprising a shunt in parallel to the switch-terminals, a pair of upwardly-diverging fixed conductors, a contact normally bridging the conductors at their proximate ends, and means for shifting the contact to form an arc from one fixed conductor to the other after the switch-terminals have separated.

4. An electric switch comprising a plurality of main terminals, a plurality of shunts in parallel relation severally to different pairs of said main terminals, a common operating-handle for simultaneously operating the movable main terminals, a pair of upwardly-diverging conductors for each shunt, means for starting an arc on the several shunt-conductors, and operating means for said starting means comprising a lost-motion connection with said handle whereby the arcs are started after the switch-terminals have separated.

808,818. DARNING-LAST. William G. Fleeson, Williamstown, N. J. Filed Jan. 16, 1905. Serial No. 241,205.

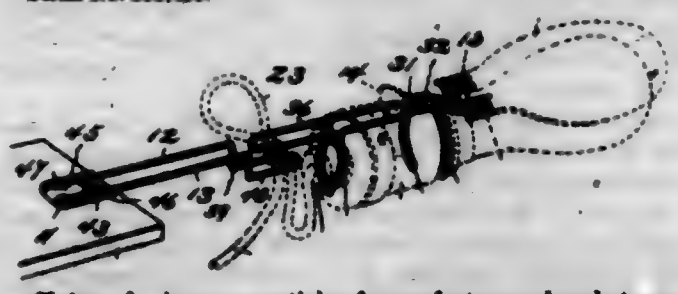


Claim.—1. A darning-last comprising a body portion of a handle, said handle comprising a pair of finger-darning lasts, one nested within the other, the outer tubular last being of greater diameter than that of the inner last.

2. A darning-last comprising a body portion, and a handle, said handle comprising a pair of elongated finger-darning lasts inclosed one within the other, the outer tubular last being of greater diameter than the inner last and one of said lasts being detachable from the body independent of the other.

3. A darning-last comprising a body portion, and a pair of finger-lasts detachably engaged with the body and one nested within the other, the outer last being of greater diameter than the inner last and adapted for disengagement from the body independently of the inner last.

808,819. BRACKET-ARM FOR INCANDESCENT ELECTRIC LAMPS. Hiram L. Gete, Marshalltown, Iowa. Filed May 17, 1904. Serial No. 208,490.



Claim.—1. As a new article of manufacture, a bracket-arm for incandescent electric lamps, comprising a member having one end provided with means for detachably engaging a suitable support, its other end provided with means for holding a lamp-shield, and its intermediate portion provided with means for engaging a lamp-socket and with a clip element for engaging alternate bights of surplus conductor-wire.

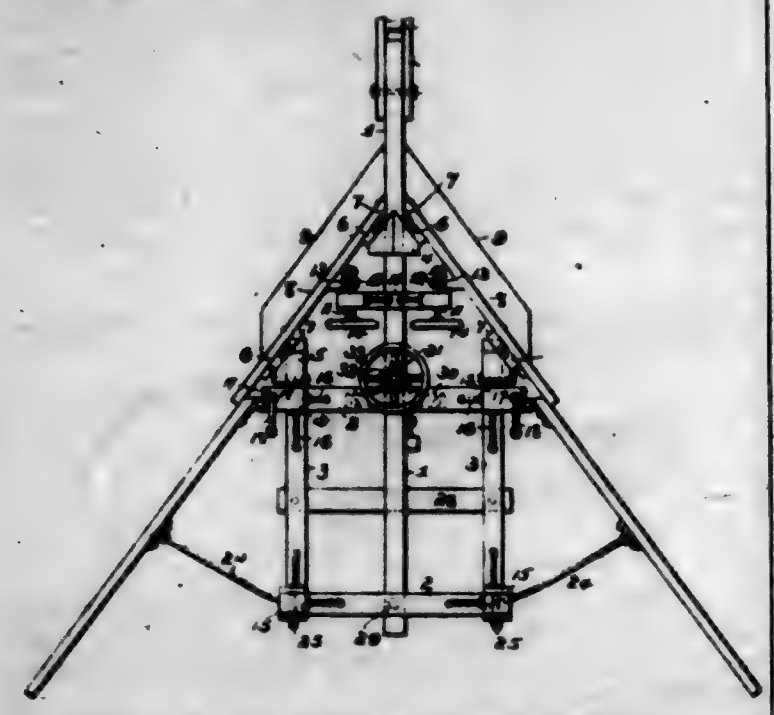
2. As a new article of manufacture, a bracket-arm for incandescent electric lamps, consisting of a member having one end provided with means for detachably engaging a suitable support, its other end provided with means for holding a lamp-shield, and its intermediate portion provided with means for engaging a lamp-socket and with an insulated clip element for engaging alternate bights of surplus conductor-wire.

3. As a new article of manufacture, a bracket-arm for incandescent electric lamps, formed from a single piece of resilient wire bent upon itself to present parallel legs, the terminals of which are formed into clip elements to engage a globe-shield, and the intermediate portions being formed into lamp-socket-engaging arms, and into

overlapping loops forming steps to engage the switch-key of the lamp-socket.

4. As a new article of manufacture, a bracket-arm for incandescent electric lamps formed from a single piece of resilient wire bent upon itself to present parallel legs, the terminals of which are formed into clip elements to engage a globe-shield, and the intermediate portions being formed into lamp-socket-engaging arms, into overlapping loops forming steps to engage the switch-key of the lamp-socket, and into clip elements to engage alternate bights of surplus conductor-wire.

803,820. SNOW-PLOW. HOWARD GRIMM, Keeseville, N. Y. Filed Mar. 13, 1905. Serial No. 249,767.



Claim.—1. In a snow-plow, the combination of a central runner, plows secured to opposite sides thereof, and side runners at both sides of the central runner, said side runners connected together and having a lateral pivotal movement for steering the plow.

2. In a snow-plow, the combination of a central runner, a platform thereon, posts on the central runner and platform, guides on said posts, plows located at both sides of the central runner, and bars on said plows movable vertically in said guides, and means for adjusting the plows vertically.

3. In a snow-plow, the combination of a runner located in line with the longitudinal axis of the machine, plows attached to said runner, and a steering-sled movably connected with said runner.

4. In a snow-plow, the combination with a central runner, and a platform thereon, of a steering-sled pivoted to the platform, a curved rack on said steering-sled, a vertical shaft on the platform, a pinion on the shaft meshing with the curved rack, and a hand-wheel on said shaft.

5. In a snow-plow, the combination with a central runner, plows supported thereby, and a platform centred on said runner, of a steering-sled below the platform, a king-pin pivotally connecting the rear ends of the platform and sled, a curved rack on the front end of the sled, a vertical shaft on the platform, a pinion on said shaft meshing with the curved rack, and a hand-wheel on said shaft.

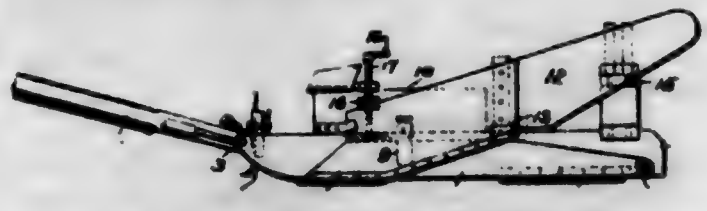
6. In a snow-plow, the combination with a central runner, plows supported thereby, and a platform secured on said runner, of a steering-sled beneath the platform, pivoted thereto, and comprising two runners, one located at each side of the central runner, downwardly-projecting guide-blades on the sled-runners, and means for changing the angle of the steering-sled to change the direction of movement of the snow-plow.

7. In a snow-plow, the combination with a central runner, and a platform secured thereon, of plows at opposite sides of the central runner, adjusting-screws on the platform adjacent to the rear ends of the plows, brackets adjustable vertically on the screws by turning the latter, and wings having removable hinged connection with said brackets.

8. In a snow-plow, the combination with a central runner, and a platform thereon, of plows at opposite sides of the central runner, adjustable supports on the platform adjacent to the rear ends of the plows, wings hinged to said supports, posts on the rear portions of the platform having slots therein, brace-rods secured to the wings and projecting through said slots in the posts, and means for securing the rods at various adjustments in the post-slots to vary the angle of the wings.

9. In a snow-plow, the combination of plows, and a sled supporting the same, comprising three normally parallel runners, two of which are constructed to be moved simultaneously to vary the direction of movement of the sled.

803,821. SNOW-PLOW. HOWARD GRIMM, Keeseville, N. Y. Filed Apr. 26, 1905. Serial No. 257,502.



Claim.—1. The combination with a sled, of auxiliary runners connected therewith, means for adjusting said auxiliary runners up and down, and plows secured to and movable with said auxiliary runners.

2. The combination with a sled, of auxiliary runners pivoted at their rear ends to the sled, plows secured to the forward ends of the auxiliary runners, and means for adjusting said auxiliary runners up and down.

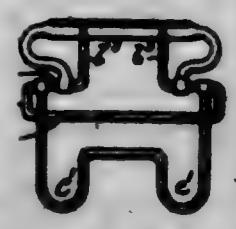
3. The combination with a sled, of auxiliary runners pivoted at their rear ends to the sled, plows carried by the forward ends of the auxiliary runners, a frame on the sled, means on said frame for guiding the auxiliary runners, and means on the frame for moving the auxiliary runners vertically.

4. The combination with a sled, of auxiliary runners pivoted at their rear ends to the sled, plows carried by the forward ends of the auxiliary runners, a frame on the sled, overhanging tongues secured to the frame and guiding vertical movement of the auxiliary runners, and screws supported by the frame and constructed to adjust the auxiliary runners and plows vertically.

5. In a snow-plow, the combination with a sled and a front scraper carried thereby, of auxiliary runners located at the sides of the sled and pivoted at their rear ends thereto, plows secured to the forward ends of the auxiliary runners and movable with the latter, a frame on the sled, and adjusting-screws carried by the frame and connected with the auxiliary runners.

6. In a snow-plow, the combination with a sled, and a front scraper carried thereby, of auxiliary runners located at the sides of the sled and pivotally secured at their rear ends thereto, plows secured to the forward ends of the auxiliary runners and movable therewith, a frame on the sled, screws mounted on the sides of the frame and connected at their lower ends to the auxiliary runners, crank-arms on the upper ends of the screws, and wings carried by the sled at the rear ends of the plows.

803,822. BUCKLE. THOMAS S. HALEY, West Haven, Conn., assignor to The Wire Novelty Manufacturing Company, West Haven, Conn., a Corporation of Connecticut. Filed Feb. 20, 1905. Serial No. 246,299.



Claim.—1. An article of the character described comprising a buckle-loop, a tongue member, and a button-loop frame hinged to the hinge-bar of the tongue member, substantially as described.

2. An article of the character described comprising a buckle-loop, a tongue member, and a button-loop frame having its side members passing back of the base-bar of the tongue and hinged to the hinge-bar thereof.

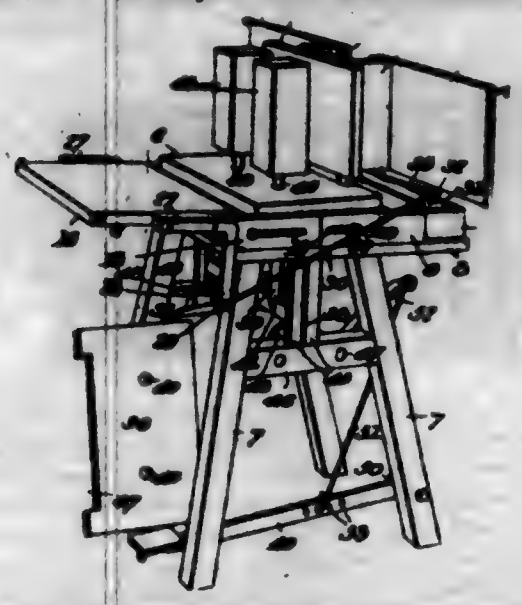
3. An article of the character described comprising a buckle-loop, a tongue member having the usual base-bar, hinge-bar and teeth, a button-loop frame hinged to the hinge-bar of the tongue and provided with button-loops with their mouths adjacent to said base-bar.

4. An article of the character described comprising a buckle-loop, a tongue member having the usual base-bar, hinge-bar and teeth, and a button-loop frame hinged to the hinge-bar of said tongue member and having one or more button-loops, the base-bar

of said tongue member forming a guard to prevent the disengagement of the buttons from the loops, substantially as described.

5. In an article of the character described the combination with a buckle comprising the loop and tongue members each having a base-bar, said members being hinged together in the usual manner, of a button-loop frame hinged to said buckle above the base-bar of one of said members and extending below said base-bar.

808,823. CEMENT-BLOCK MACHINE. JOHN I. HANCOCK, Lee-tonshire, N. Y. Filed Sept. 3, 1904. Serial No. 223,203.



Claim.—1. In a machine for forming hollow concrete building-blocks, the combination with a frame, of a mold supported by said frame, a removable bottom board for said mold, a core-ejector passing through openings in said bottom board and provided with terminal sockets, detachable core members engaging the sockets in said core-ejector, and means for operating the ejector to thereby elevate said core members.

2. In a machine for forming hollow concrete building-blocks, the combination with a supporting-frame, of a mold, an adjustable frame slidably mounted on the supporting-frame, a standard secured to said sliding frame and forming the rear wall of the mold, end walls pivoted to said standard, a sliding frame to which the front wall of the mold is connected, means for securing said sliding frames in adjusted position, and a pivotal connection between the front and end walls of the mold whereby the opening movement of the former will be imparted to the latter.

3. In a machine for forming hollow concrete building-blocks, the combination with a frame, of a mold, guides secured to the frame, a transversely-disposed bar mounted for vertical movement on said guides, tubes secured to the bars and provided with terminal sockets, core members disposed within the mold and detachably engaging said terminal sockets, a cam-lever arranged beneath the transverse bar, and means for operating said cam-lever to thereby elevate the core members.

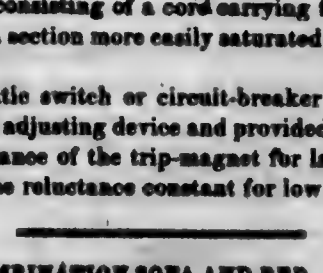
4. In a machine for forming hollow concrete building-blocks the combination with a supporting-frame, of a mold, an adjustable frame slidably mounted on the supporting-frame and carrying the rear and end walls of the mold, a sliding frame to which the front wall of the mold is secured, a threaded rod engaging both sliding frames for adjusting said frames to vary the distance between the front and rear walls of the mold, and means for securing said sliding frames in adjusted position.

5. In a machine for forming hollow concrete building-blocks, the combination with a supporting-frame, of a mold, an adjustable frame slidably mounted on the supporting-frame and carrying the rear and end walls of the mold, a sliding frame to which the front wall of the mold is secured, a threaded rod engaging both frames for adjusting said frames to vary the distance between the front and rear walls of the mold, angular-disposed brackets secured to said front and end walls, and rods connecting the brackets whereby the opening movement of the front of the mold will be imparted to the end walls of the latter.

808,824. DIE FOR MAKING AUGER-BITS. CHARLES C. HIATT, Wilmington, Ohio. Filed Sept. 24, 1904. Serial No. 226,526.

Claim.—1. A die for auger-bits, comprising two members each formed with registering concavities, one of said members comprising two or more blocks, said blocks having portions of the concavities formed along the edges of their meeting faces.

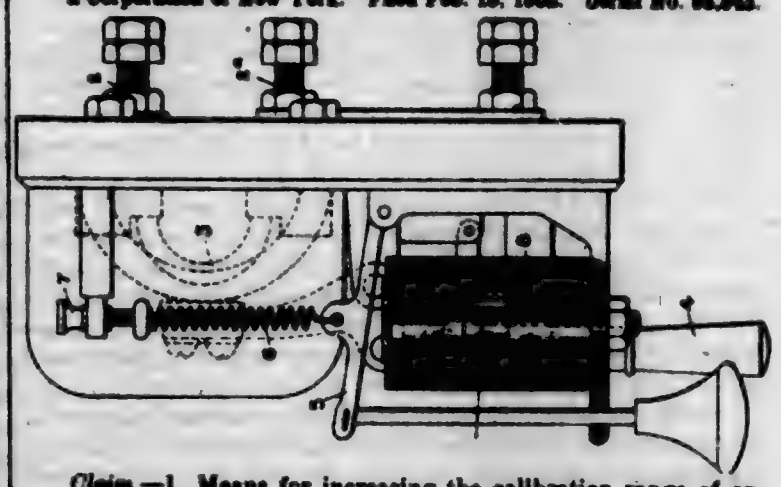
2. A die for auger-bits, comprising two members each formed with registering concavities, one of said members comprising two or more blocks, said blocks having portions of the concavities formed along the edges of their meeting faces, and means for holding the blocks in registration with each other.



3. A die for auger-bits, comprising two members each formed with registering concavities and each member comprising two or more blocks, said blocks having portions of the concavities formed along the edges of their meeting faces.

4. A die for auger-bits, comprising two members each formed with registering concavities, one of said members comprising two or more elongated blocks each having along one of its edges half-concavities adapted to register with each other when the blocks are placed side by side.

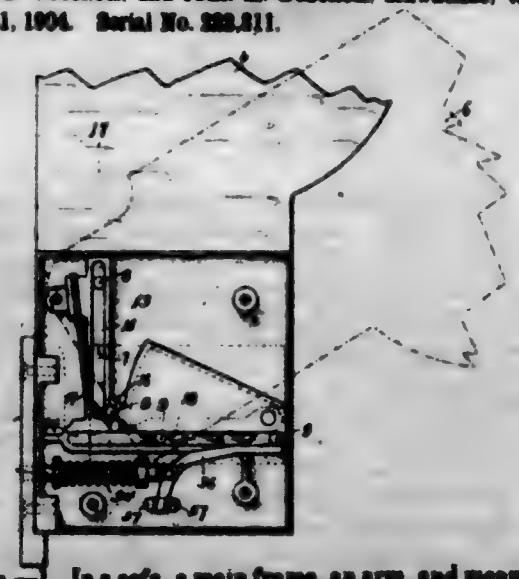
808,825. TRIP-COIL FOR CIRCUIT-BREAKERS. JOHN D. HILLIARD, Jr., Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 13, 1902. Serial No. 93,843.



Claim.—1. Means for increasing the calibration range of an automatic switch, consisting of a core carrying the actuating magnetic flux, having a section more easily saturated than the rest of the core.

2. An automatic switch or circuit-breaker containing a calibrating-spring and adjusting device and provided with means for increasing the reluctance of the trip-magnet for large current values and maintaining the reluctance constant for low current values.

808,826. COMBINATION SOFA AND BED. GUSTAV H. HOLMES, AXEL O. BOUTROS, and JOHN M. BOUTROS, Milwaukee, Wis. Filed Aug. 31, 1904. Serial No. 222,211.



Claim.—1. In a sofa, a main frame, an arm, and means for hinging and securing the arm in place on the frame, comprising two pins at a distance apart on one end of the arm, a plate opposite said pins fixed in the main frame and provided with a horizontal and a vertical slot, the vertical slot having a terminal laterally-extending recess at the lower end into which slots said pins enter and are movable, and a spring adapted to hold the pin of the vertical slot yieldingly in the recess.

2. In a sofa, a main frame, an arm, and means for hinging and securing the arm adjustably in place on the frame, comprising two pins at a distance apart on one end of the arm, a plate opposite said pins fixed to the main frame and provided with a horizontal and a vertical slot into which the pins enter and are movable, and a latch having a tooth or teeth adapted to engage the pin in the horizontal slot, releasably.

3. In a sofa, a main frame, an arm, and means for hinging and securing the arm adjustably in place on the frame, comprising two pins at a distance apart on the end of the arm, a plate opposite said pins fixed to the main frame and provided with a horizontal and a vertical slot, into which slots said pins enter and are movable, and a latch having a tooth or teeth adapted to engage the pin in the horizontal slot releasably, and another tooth or teeth adapted to be contacted by said pin when moved laterally whereby the latch is lifted temporarily out of the path of the pin.

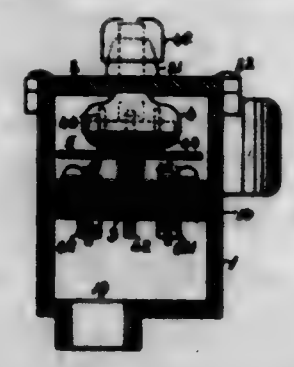
4. In a sofa and bed, the combination with a main frame, of a seat, and means for pivoting the seat in the main frame so that it can be turned over on the frame bottom up, comprising plates on the frame opposite the ends of the seat each plate being provided with a straight slot and a projecting pin, plates on the ends of the seat each plate being provided with a curved slot and a pin, the pins on the frame-plates entering the slots on the seat-plates, and the pins on the seat-plates entering the slots on the frame-plates, substantially as described.

5. In a sofa and bed, the combination with a main frame, of a seat, means pivoting the seat in the main frame so that it can be turned over on the frame bottom up, and a spring-held yielding stop on the frame adapted to engage and hold the seat against further turning in one direction, and an incline on the seat to be contacted by the pin whereby the pin is pushed out of the path of the seat when the seat is turned over in the other direction.

6. In a sofa and bed, the combination with a main frame and a movable arm, of a seat, and means for pivoting the seat in the main frame so that it can be turned over on the frame bottom up, a spring-actuated bolt mounted on the main frame adapted to engage the seat when turned over for a bed and hold it releasably against further turning, and a withdrawing-lever pivoted to the bolt and arranged to be actuated and held by a pin on the movable arm.

7. In a sofa-bed, an overturning seat, a mattress fitting to the bed-frame, and a folding flap on the end of the mattress having a stiffening device located and secured in and about the margin thereof.

808,827. RAILWAY-SWITCH-STAND CONTACT-BOX. WILLIAM J. HUGHES, Levis, Canada. Filed May 5, 1905. Serial No. 259,855.



Claim.—1. The combination of a contact-box having legs, a cover thereto provided with a flanged neck, and an opening at the lower end to admit circuit-wires, an insulating-plate provided with contact-points and binding-posts, a spring-controlled contact-spring, an insulated yoke connected with the contact-spring, and passing through the flanged neck of the cover, and a cap thereto, as described.

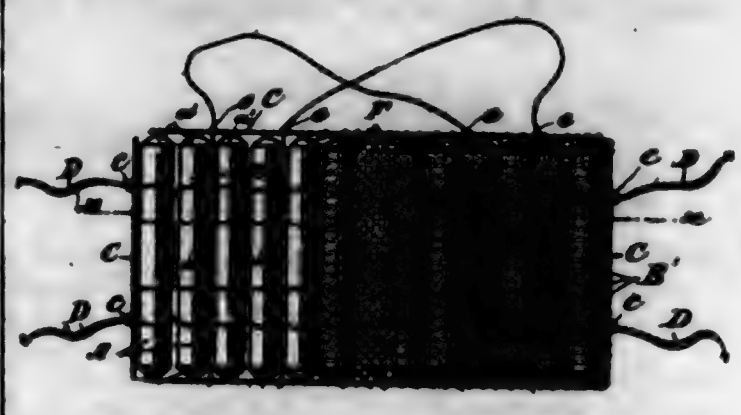
2. The combination of a contact-box with a flanged neck on the upper end, a spring-controlled contact-spring having insulated connection with a yoke passing through the flanged neck, a cap on the top of the yoke surrounding the flanged neck and insulated contact-points with binding-posts beneath the ends of said contact-spring.

3. The combination of a contact-box with a flanged neck on its upper end, a yoke passing through the flanged neck having a cap on the top surrounding said neck, a spring-controlled contact-spring with an insulated connection to the said yoke and contact-points beneath the contact-spring set in an insulating-plate with binding-posts to said points, and an arm provided with a cap adapted to descend over the cap of the yoke and depress the contact-spring to close the circuit, as described.

4. In a contact-box a flanged opening in its upper end combined with a reciprocating contact-spring-operating member provided with a cup surrounding said flanged opening.

5. In a contact-box, a cover having an opening with a flanged neck rising therefrom, combined with a contact-spring-depressing device provided with a cup surrounding the said neck.

808,828. LIFE-PRESERVER. WILLIAM H. HUMPHREY, New York, N. Y. Filed Apr. 14, 1905. Serial No. 255,529.



Claim.—1. In a life-preserver, the combination with a series of closed metallic tubular members, of a netting body for holding the various members in place, the length of said tubular members being substantially equal to the space between the upper and lower edges of said body, and cords or straps for securing the preserver upon the person, the netting being of a yielding nature to permit the tubular members to move endwise relatively to each other, substantially as set forth.

2. In a life-preserver, the combination with a series of tubular buoyant members and a netting body serving to hold the series of buoyant members in place, of a marginal cord disposed around said body and interlooped with the loops around the edges and ends thereof, and the body cords or straps supported by said marginal cord, the length of said tubular members being substantially equal to the space between the upper and lower edges of said body, the netting being of a yielding nature to permit the tubular members to move endwise relatively to each other, substantially as and for the purposes set forth.

3. In a tubular member for a life-preserver, the combination with individually air-tight end sections of the tubular members, of an intermediate sleeve for uniting them and the whole hermetically sealed, substantially as shown and described.

4. In a life-preserver, the combination with a body composed of netting and provided with a series of pockets, and a marginal cord disposed around said body and interlooping with the loops around the edges and ends thereof, of a series of sheet-metal tubular members each hermetically sealed and arranged in said pockets, the length of said tubular members being substantially equal to the space between the upper and lower edges of said body, and body and shoulder cords arranged to secure the preserver to the body of the user and support it from his shoulder, the netting being of a yielding nature to permit the tubular members to move endwise relatively to each other, substantially as described.

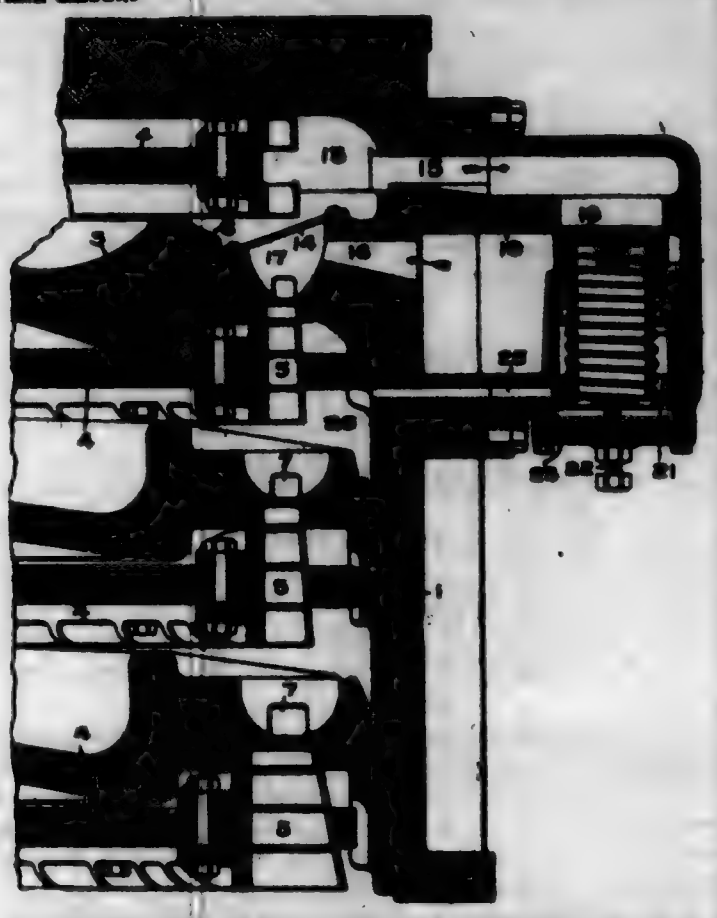
5. The herein-described life-preserver, comprising a series of metallic tubular members hermetically sealed and protected as set forth, a netting body for holding the series of members in place formed from netting and provided with pockets for reception of such members, the length of said tubular members being substantially equal to the space between the upper and lower edges of said body, and means for applying and securing the preserver to and upon the person of the user, the netting being of a yielding nature to permit the tubular members to move endwise relatively to each other, substantially as set forth.

808,829. RELIEF MECHANISM FOR ELASTIC-FLUID TURBINES. CESAR JURISCHKA, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 23, 1902. Serial No. 124,602.

Claim.—1. A multistage turbine, containing a diaphragm or wall, wheels and discharging devices, in combination with a valve which opens under a predetermined pressure on a diaphragm and discharges motive fluid from one stage into another.

2. A multistage turbine, including a wall or diaphragm between stages, in combination with discharging devices which are normally inactive, and a valve which opens under predetermined conditions and discharges fluid into the said devices.

3. A multistage turbine, comprising a wall or diaphragm between stages, and nozzles for supplying fluid to the wheels, in combination with a valve which opens and discharges motive fluid from one stage to another when the nozzles are incapable of handling the requisite amount of fluid and the pressure on a diaphragm exceeds a certain amount



4. A turbine comprising a casing and a diaphragm or wall for separating it into stages, in combination with a passage leading from one stage and into another, and an automatic valve situated outside of the casing for controlling the flow of fluid through the passage.

5. A turbine comprising a casing and a diaphragm or wall for separating it into stages, in combination with a passage leading from one stage and into another, an automatic valve for controlling the flow of fluid through the passage, and a passage which communicates with the space back of the valve and also with a stage of lower pressure than the first for assisting to balance the valve.

6. A turbine comprising two or more stages, each stage containing a bucket-wheel, nozzles which are in open communication with one stage and discharge motive fluid therefrom against the wheel of the adjacent stage, in combination with auxiliary nozzles which are situated between stages and are closed to the stage of higher pressure, and means for supplying fluid to the auxiliary nozzles under predetermined conditions.

7. In a multistage turbine, the combination of bucket-wheels, main nozzles which are in open communication with one stage and discharge into another, auxiliary nozzles arranged to discharge fluid into the same stage as the main nozzles, a means closing the auxiliary nozzles against the fluid-supply of said stage, and a valve which controls the supply of fluid to said auxiliary nozzles.

8. A multistage turbine, in combination with valves which control the passage of fluid from one stage to another, and operate successively under changes in pressure.

9. A multistage turbine, in combination with a plurality of valves which control the passage of fluid from one stage to another and operate successively under changes in pressure, and auxiliary devices each of which receives fluid from a valve

10. In a turbine, the combination of a sectional casing, containing a wheel-compartment, a main nozzle carried by one section of the casing, which is in open communication with the wheel-compartment, an auxiliary nozzle carried by another section which is closed to the wheel-compartment, and a valve which automatically opens and discharges fluid into the auxiliary nozzle when the pressure in the compartment exceeds a predetermined amount.

11. A multistage turbine comprising a casing, bucket-wheels and separate chambers therefor, and nozzles for discharging fluid against the buckets, in combination with a by-pass valve for discharging fluid from one wheel-casing to another, and a casing for the by-pass valve which is attached to the main turbine-casing.

12. An elastic-fluid turbine comprising bucket-wheels, a diaphragm or wall for separating one wheel from another, and devices for discharging fluid against the wheels, in combination with a plurality of auxiliary nozzles or nozzle-sections, and a by-pass valve which opens when the pressure in one wheel-compartment exceeds a predetermined amount and discharges fluid from said compartment through all of the auxiliary nozzles or nozzle-sections.

13. An elastic-fluid turbine which is divided into stages and is provided with means for discharging fluid from one stage to another, in combination with a valved conduit separate from the normal working path of the motive fluid through which the fluid is discharged when the pressure in a given stage exceeds a predetermined amount.

14. An elastic-fluid turbine which is divided into stages and is provided with a nozzle for discharging fluid from one stage to another, in combination with a second nozzle normally inactive, and a valved conduit separate from the normal working path of the fluid which discharges fluid into the second nozzle when the pressure in a given stage exceeds a predetermined amount

15. An elastic-fluid turbine divided into stages and provided with main nozzles or discharging devices, in combination with auxiliary nozzles or discharging devices which are normally inactive, and discharge into a stage of lower pressure, and a conduit separate from the normal path of the working fluid which discharges to the auxiliary nozzles.

16. An elastic-fluid turbine which is divided into stages and is provided with buckets and fluid-discharging devices, in combination with successively-operating valves which respond automatically to variations in shell-pressure.

17. An elastic-fluid turbine which is divided into stages and is provided with means for discharging fluid from one stage to another, in combination with conduits separate from the normal working path of the motive fluid, and valves for the conduits which are adjusted to operate successively.

18. An elastic-fluid turbine comprising a wheel-casing made in sections with main nozzles carried by one section of the casing, and normally idle auxiliary nozzles which are carried by a different section.

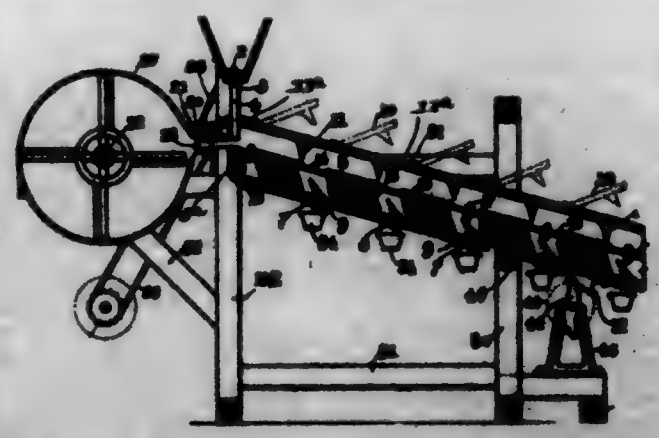
19. In an elastic-fluid turbine operating by stage expansion, a series of automatic valves between two wheel-compartments which are adapted to operate successively to admit pressure to the succeeding stage, when the fluid-supply to the turbine varies.

20. In an elastic-fluid turbine operating to fractionally abstract the velocity of the fluid-pressure, wheel-compartments, passages forming conduits between said compartments, and a series of automatic valves to interrupt the flow of fluid through said passages which successively open and close sensitive to a varying internal pressure.

21. In an elastic-fluid turbine operating by stage expansion, a plurality of normally closed passages which when opened form conduits for the fluid between stages, means to normally close said passages to create definite pressures in the several stage-compartments, which pressures automatically maintain themselves by controlling means to open said passages

22. In an elastic-fluid turbine operating by stage expansion and having a plurality of passages between stages, a separate stage-pressure-actuated valve for each passage.

808,880. ORE-CONCENTRATOR. JAMES J. KENNEDY, Goldfield, Ohio. Filed Dec. 10, 1904. Serial No. 236,537.



Claim.—1. In an ore-concentrator, a sluice-box, means for delivering ore thereto at a point near its bottom, and means for supplying air to the box in a plane above that of the feed of the ore and toward the top of the box.

2. In an ore-concentrator, a sluice-box, means for supplying ore thereto at a point near its bottom, means for supplying air to the box in a plane above that of the feed of the ore and toward the top of the box, and means for deflecting the current of air.

3. In an ore-concentrator, a sluice-box, reciprocatory agitators therein, means for discharging ore in the path of movement of the agitators, and means for supplying air to the box above the operative plane of the agitators and toward the top of the box.

4. In an ore-concentrator, a vibratory sluice-box, reciprocatory agitators arranged therein, riffles disposed between the agitators, means for supplying ore to the box at the operative plane of the agitators, means for supplying air to the sluice-box above the operative plane of the agitators and toward the top of the box, and deflectors arranged in the path of travel of the ore.

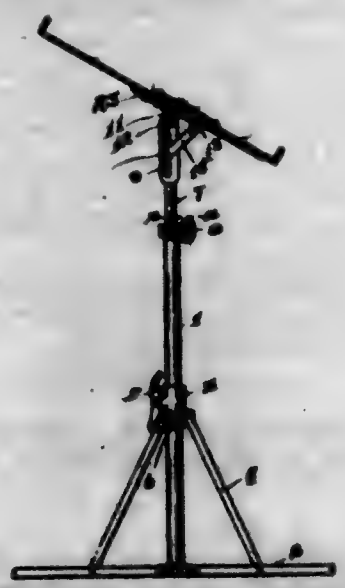
5. In an ore-concentrator, the combination with an inclined sluice-box and riffles and agitating mechanism arranged therein, of blast mechanism discharging into the sluice-box above the agitators, and doors arranged in the top of the sluice-box and carrying air-deflectors.

6. In an ore-concentrator, the combination with a vibratory inclined sluice-box carrying riffles, of reciprocatory agitators arranged therein, blast mechanism coacting with the sluice-box and discharging above the agitators air-deflectors arranged above the agitators, and means for supplying divided bulks of ore to the sluice-box.

7. In an ore-concentrator, the combination with a sluice-box, of a hopper containing stirring mechanism, a plurality of tubes communicating with the hopper and discharging near the bottom of the sluice-box, reciprocatory agitators disposed within the sluice-box, means for imparting vertical vibratory movement to the sluice-box, blast mechanism coacting with the sluice-box, and air-deflectors arranged within the sluice-box and in the line of the discharge of air in the blast mechanism.

8. In an ore-concentrator, the combination with a sluice-box, and mechanism for vibrating the same, of doors arranged in the top of the sluice-box and carrying air-deflectors, riffles secured to the bottom of the sluice-box, separable sections disposed in front of the riffles and means for holding the same combined with the bottom of the sluice-box, reciprocatory agitators disposed between the riffles, blast mechanism discharging in the plane of the deflectors, and means for supplying ore to the sluice-box below the discharge from the blast mechanism.

808,831. MUSIC-STAND. ALBERT KRAPFF, Hamilton, Ohio. Filed June 21, 1905. Serial No. 266,287.

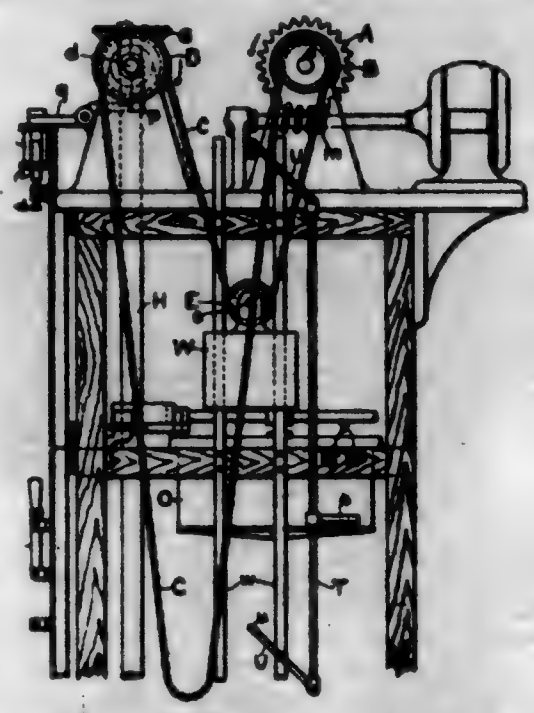


Claim.—1. In a drum-holder, a standard, having a guideway in its upper end, a bracket pivoted to said end, a clamp having a sliding engagement with said guideway, a link pivoted to said clamp and bracket, a finger longitudinally adjustable on the bracket, fingers pivoted to said bracket, and toggles connecting said pivoted fingers pivotally with the bracket, substantially as specified.

2. In a drum-holder, a bracket, a finger longitudinally adjustable thereon, a finger pivoted to the bracket, on each side of the sliding finger, and toggles pivotally connecting an intermediate portion of each of the pivoted fingers to the bracket, whereby the fingers may be adjusted so that their outer ends may form a bearing for the periphery of the drum and the fingers may be folded together parallel, substantially as described.

808,889. MOTOR-OPERATED SWITCH. WESLEY R. LANE, Fitchburg, Mass., assignor to Stanley Electric Manufacturing Company, Pittsfield, Mass., a Corporation of New Jersey. Filed Feb. 14, 1905. Serial No. 245,648.

Claim.—1. In combination, a motor, a shaft arranged to be driven thereby, a second shaft, a switch member arranged to be operated thereby, a weight supported between said shafts, means for energizing said motor to raise said weight, a catch for restraining the second shaft, and means for releasing said catch to permit the movement of the second shaft under the influence of said weight.



2. In combination, an electric motor, a weight arranged to be raised by said motor and thereby to store up the power delivered by said motor, a switch member, connections between said member and said weight whereby a plurality of operations of said member are obtained by the descent of said weight, and means for controlling the descent of said weight.

3. In combination, an electric motor, a weight arranged to be raised by said motor and thereby to store up the power delivered by said motor, a switch member, connections between said member and said weight whereby a plurality of operations of said member are obtained by the descent of said weight, means for controlling the descent of said weight, and automatic means for starting and stopping said motor at certain positions of said weight.

4. In combination, a weight, an electric motor, connections between said motor and said weight whereby the operation of the motor raises said weight, means controlled by said weight for starting and stopping said motor, a switch member, connections between said switch member and said weight whereby a plurality of operations of said member are obtained by the descent of said weight, and means for controlling the descent of said weight to operate the switch member as desired.

5. In combination, a switch member, means for applying to said member a constant force tending to operate said member, restraining means for said member, means for releasing said member to permit its operation by said force, an electric motor arranged when energized to renew said force, and automatic means for energizing said motor before the number of operations of said member obtainable from said force are exhausted.

6. In combination, an electric motor, a switch member, connecting means between said motor and said member adapted to store up the power delivered by said motor whereby a plurality of operations of said member may be obtained from a single operation of said motor, and automatic means for energizing said motor after a plurality of operations of said member, said connecting means being adapted to provide a surplus number of operations of said member if the motor fails to operate when energized.

7. In combination, an electric motor, a switch member, and mechanical connections between said motor and said member adapted to store up the power delivered by said motor whereby a plurality of operations of said member may be obtained from a single operation of said motor, said connecting means being adapted to permit the operation of said member at any instant regardless of the operation of said motor.

8. In combination, a switch member, means for mechanically storing power for a plurality of operations of said member, operative connections between said storing means and said member, a motor arranged to renew said power, and means for utilizing said power to operate said switch member regardless of the operation of said motor.

9. In combination, a switch member, means for mechanically

storing power for a plurality of operations of said member, operative connections between said storing means and said member, a motor arranged to renew said power, and automatic means for energizing said motor before said power is exhausted.

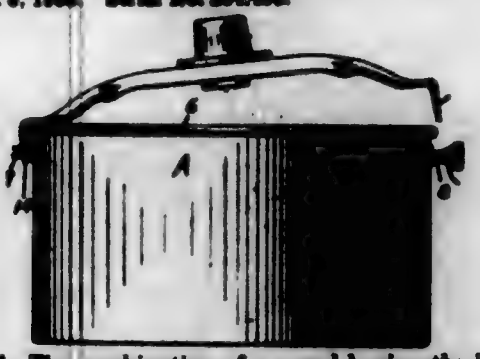
10. In combination, an electric motor, a weight arranged to be raised by said motor, a switch member, connections between said member and said weight whereby a plurality of operations of said member are obtained by the descent of said weight, means for controlling the descent of said weight, and a switch in the circuit of said motor controlled by said weight.

11. In combination, an electric motor, a weight arranged to be raised by said motor, a switch member, connections between said member and said weight whereby a plurality of operations of said member are obtained by the descent of said weight, means for controlling the descent of said weight, and automatic means for energizing said motor before said weight reaches the lowest limit of its travel.

12. In combination, two rotatable shafts, a weight, operative connections between said weight and said shafts whereby said weight tends to rotate said shafts, an electric motor arranged to drive one of said shafts to raise said weight, a switch member arranged to be operated by the second shaft, a catch for said second shaft, and means for releasing said catch to permit the operation of said member.

13. In combination, two rotatable shafts, a sprocket-wheel on each shaft, an endless chain supported from said sprockets, a weight supported by said chain, a motor arranged to drive one shaft, a switch member arranged to be operated by the second shaft, a catch for the second shaft, and means for releasing said catch.

808,883. MIXING-VESSEL. Joseph P. Lake, New Britain, Conn., assignor to Landers, Frary & Clark, New Britain, Conn., a Corporation. Filed Apr. 8, 1905. Serial No. 254,492.



Claim.—1. The combination of a vessel having the keeper-pin and diametrically opposite screw-threaded stud and nut, with a shaft-bearing top piece having downwardly-turned ears at each end, one of which is perforated to receive the said keeper-pin, and the other of which is slotted to pass over the said stud and be engaged by the said nut.

2. The combination of a vessel having an outwardly-projecting rim, a keeper-pin on one side of the vessel and a diametrically opposite screw-threaded stud and nut, with a shaft-bearing top piece having at one end a downwardly-turned and perforated ear for engaging the said keeper-pin and the hooked lugs for engaging the rim of the vessel, the said top piece having at its opposite end the slotted ear for engagement with the said stud and nut.

808,884. CONTROL SYSTEM. Gano W. Landis, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 17, 1905. Serial No. 255,857.

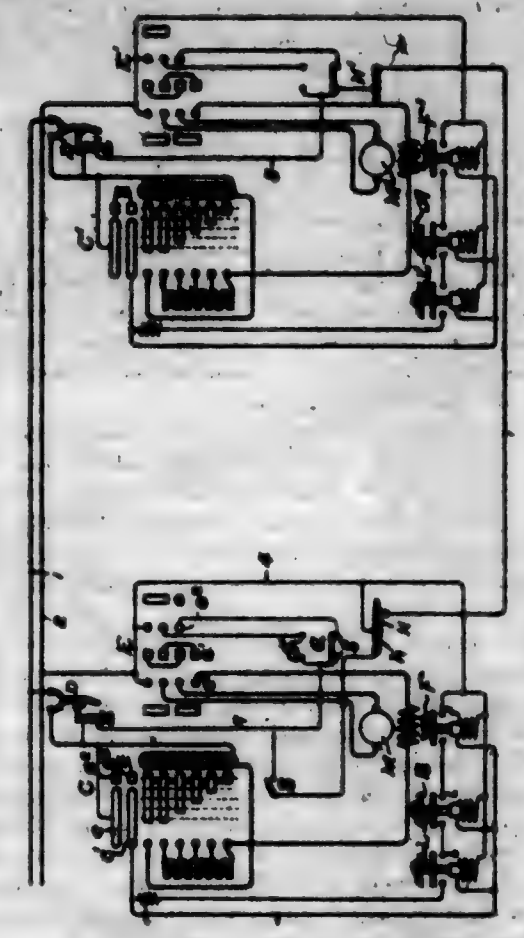
Claim.—1. In combination, a part to be moved, a lock therefor, a motor, a motor-controller, a lock for said motor-controller, and means controlled by the lock for the part to be moved for releasing said controller-lock.

2. In combination, a part to be moved, a lock therefor, a motor-controller, a lock for said motor-controller, and means for releasing the controller-lock when the lock for the part to be moved is in its retracted position.

3. In combination, a motor, a brake therefor, a controller, a lock for preventing the controller from completing the motor-circuit, and means controlled by said brake for releasing the lock.

4. In combination, a motor, a brake therefor, a controller, a lock for preventing the controller from completing the motor-circuit, and means for releasing said lock when the brake is in its retracted position.

5. In combination, a part to be moved, a lock therefor, a motor, a motor-controller, means controlled by the controller in moving from its "off" position to its circuit-closing position for releasing said lock, a stop for preventing the controller from passing into the circuit-closing position, and means controlled by said lock for retracting said stop.



6. A controller comprising brake-controlling contacts and motor-controlling contacts, a stop for normally preventing the controller from closing the motor-controlling contacts, and an electromagnet for controlling said stop.

7. A controller comprising a rotatable member having brake-controlling contacts and motor-controlling contacts, cooperating contacts so arranged that the brake-circuit is closed before the motor-circuit, a stop which normally prevents the controller from moving to the motor-circuit-closing position, and electromagnetic controlling means for said stop.

8. In combination, a part to be moved, a lock therefor, a motor, a controller having lock-controlling and motor-controlling positions, a stop which normally prevents the controller from assuming the motor-controlling position, and means controlled by said lock for rendering said stop inoperative.

9. In combination, a part to be moved, a lock therefor, a motor, a controller comprising a rotatable member having lock-controlling and motor-controlling contacts, cooperating contacts so arranged that the lock-circuit is closed before the motor-circuit, means for normally preventing said controller from closing the motor-circuit, and means controlled by said lock for rendering said controller operative to close the motor-circuit.

10. In combination, a part to be moved, a lock therefor, a motor, a controller, a lock for limiting the movement of said controller, electromagnetic releasing means for said locks, means controlled by the controller for energizing the releasing means for the first lock, and means controlled by the first lock for energizing the releasing means for the other lock.

11. In combination, a part to be moved, a lock therefor, a motor, a motor-controller, a stop for preventing said motor-controller from closing the motor-circuit, an electromagnet for controlling said stop, and a switch for controlling said electromagnet associated with said lock.

12. In combination, a part to be moved, a lock therefor, a motor, a motor-controller, a stop for preventing said motor-controller from closing the motor-circuit, an electromagnet for controlling said stop, and a switch associated with said lock for completing a circuit through said electromagnet when the lock is retracted.

13. In combination, a part to be moved, a lock therefor, a motor, a controller comprising lock-controlling contacts and motor-controlling contacts, the arrangement being such that the lock-controlling contacts are closed before the motor-controlling contacts, a stop for preventing the motor-controlling contacts from closing, an electromagnet for controlling said stop, and means controlled by

said lock when in its retracted position for energizing said electromagnet.

14. In a system of control, a pair of members to be moved, separate motive and control apparatus therefor including means controlled by each member for rendering its motive apparatus inoperative at predetermined points, and means for automatically stopping one of said members at an intermediate point when it precedes the other member to said point.

15. In a system of bridge control, a pair of bridge-leaves, separate control apparatus for each leaf, and means for automatically stopping one of said leaves at an intermediate point in its closing movement when it has preceded the other leaf to said point.

16. In a system of bridge control, a pair of bridge-leaves, separate motive and control apparatus for each leaf including means controlled by each leaf for stopping its motive apparatus when the leaf is in full-open or in full-closed position, and means for stopping the motive apparatus of one of said leaves at an intermediate point when it precedes the other leaf to that point.

17. In a system of bridge control, a pair of bridge-leaves, separate motive apparatus for each leaf, means for rendering the motive apparatus of each leaf inoperative when the leaves reach their full-open or full-closed positions, means for automatically stopping one leaf at a predetermined point in its closing movement, and means for bringing the other leaf to rest at said point only when it is the first to reach said point.

18. In a system of bridge control, a pair of bridge-leaves, separate motors for operating said leaves, a circuit-breaker arranged in the circuit of the operating-motor for one of said leaves, tripping means for said circuit-breaker, a normally open and a normally closed switch controlling said tripping means, and operative connections between said switches and the bridge-leaves whereby each switch is actuated when its respective bridge-leaf approaches a predetermined angle, the arrangement being such that the circuit-breaker is tripped when both switches are closed, whereby the motor-circuit of one leaf is opened and the leaf stopped at an intermediate point when the leaves descend in a certain order.

808,833. INCANDESCENT GAS-MANTLE. CHARLES M. LUNGREN, Bayonne, N. J., assignor to The Safety Car Heating & Lighting Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 12, 1904. Serial No. 220,476.



Claim.—1. A mantle having a crown of graduated thickness.

2. A mantle having a fastening end hardened with respect to the body thereof.

3. A mantle having one end thereof hardened with respect to the body thereof.

4. A mantle having a thickened crown or free end and a fastening end hardened with respect to the body thereof.

5. A mantle having its several parts proportioned in thickness to the stress to which they are subjected in use and having one end thereof hardened with respect to the body thereof.

6. An incandescent gas-mantle having a free end and a supporting end, the thickness of the mantle at the free end being greater than at the body portion thereof, and having the material thereof at the supporting end hardened with respect to that of the body thereof.

7. A mantle having the fabric upon which its crown is formed of a maximum thickness in the center and of decreasing thickness toward the sides thereof.

8. A mantle having the fabric upon which its crown is formed of a maximum thickness in the center and of decreasing thickness toward the sides thereof, the fastening end of said mantle being hardened.

9. A pendent mantle the thickness of the free end of which is at a maximum at the center thereof and is graded in thickness laterally with respect to said point.

10. A pendent mantle having a closed free end of a thickness greater than the body thereof.

11. A globular mantle having a closed free end, the fabric upon which said mantle is formed being of a maximum thickness at the center of said free end and of a thickness graded laterally with respect to said central point.

12. In combination, a spool having an annular groove in the sides thereof and a pendent mantle tied to said spool within said annular groove, the closed free end of said mantle being of a thickness greater than that of the body thereof.

13. In combination, a spool having an annular groove in the sides thereof and a mantle tied to said spool within said annular groove, the closed free end of said mantle being of a thickness greater than that of the body thereof and the fastening end of said mantle being hardened.

14. In combination, a spool having an annular groove in the sides thereof and a pendent mantle tied to said spool within said annular groove, the portion of said mantle adjacent to said spool being hardened with respect to the remainder thereof.

15. In combination, a spool having an annular groove in the sides thereof and a pendent mantle tied to said spool within said annular groove, the closed free end of said mantle being of a thickness greater than that of the body thereof, and the fastening end of said mantle being hardened.

808,836. VAPOR ELECTRIC APPARATUS. ALEXANDER D. LOWE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 13, 1904. Serial No. 207,841.



Claim.—1. In a vapor electric apparatus, the combination of a rotatable container, electrodes therefor, and a conductor connecting said electrodes and adapted when the container is rotated to break connection at both electrodes.

2. In a vapor electric apparatus, the combination of a container, electrodes therefor, a supply-circuit, a switch-handle for simultaneously rotating said container and closing said supply-circuit, and starting means responsive to said rotation.

3. In a vapor electric apparatus, the combination of a container, electrodes therefor, a supply-circuit, means for simultaneously rotating said container and closing said supply-circuit, and starting means responsive to said rotation.

4. In a vapor electric apparatus, the combination of a container, electrodes therefor, and a conductor connecting said electrodes, the ends of said conductor being staggered with respect to each other.

5. In a vapor electric apparatus, the combination of a container, electrodes therefor, and a filament connecting said electrodes, the ends of said filament being staggered with respect to each other.

6. In a vapor electric apparatus, the combination of a container electrodes therefor, and a conductor connecting said electrodes and adapted when the container is moved to break connection with said electrodes simultaneously.

7. In a vapor electric apparatus, the combination of a container, electrodes therefor, and a filament connecting said electrodes and adapted when the container is moved to break connection with said electrodes discontinuously.

8. In a vapor electric apparatus, the combination of a container, electrodes therefor, and a conductor connecting said electrodes and adapted when the container is moved to be disconnected from both electrodes.

808,887. GAS-LIGHT. THOMAS MAGUIRE, New York, N. Y., assignor to Star Lamp Company, New York, N. Y. Filed July 5, 1904. Serial No. 215,254.



Claim.—1. In a gas-burner of the class described a yielding support adapted both to serve at different elevations and to relieve concussions, comprising a short slide M engaged loosely on a fixed gas-pipe and a long arm M′ rigidly connected thereto adapted to be set free by tilting and to be instantly shifted to different levels and to hold itself at different heights all substantially as herein specified.

2. In a gas-burner of the class described a yielding support adapted both to serve at different elevations and to relieve concussions, comprising a short slide M engaged loosely on a fixed gas-pipe and a long arm M′ rigidly connected thereto adapted to be set free by tilting and to be instantly shifted to different levels and to hold itself at different heights thereon, in combination with a flexible hose C forming a pendent loop arranged to supply the gas at a wide range of elevation all substantially as herein specified.

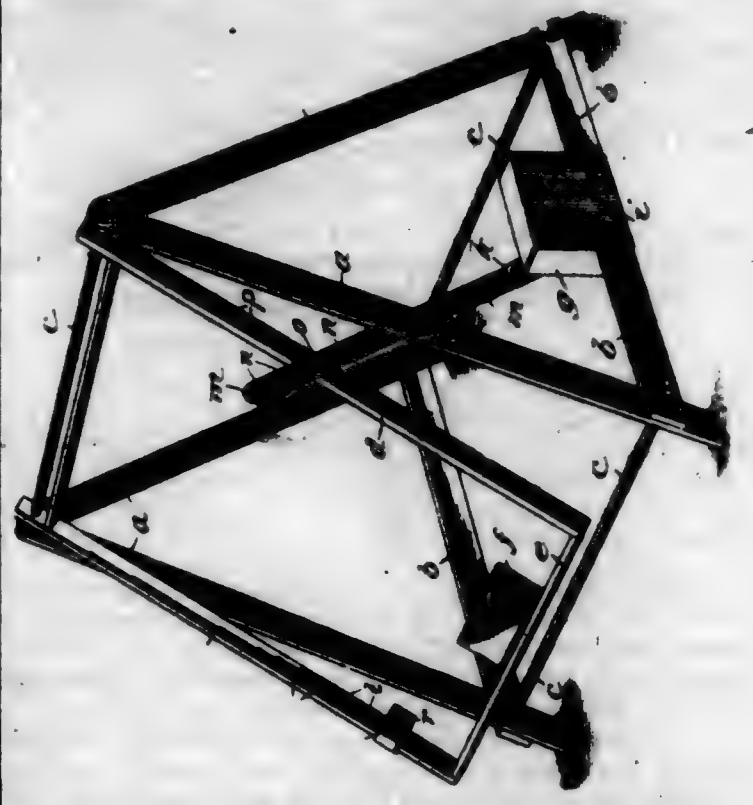
3. In a gas-burner of the class described a yielding support adapted both to serve at different elevations and to relieve concussions, comprising a short slide M engaged loosely on a fixed gas-pipe and a long arm M′ rigidly connected thereto adapted to be set free by tilting and to be instantly shifted to different levels and to hold itself at different heights thereon, in combination with a flexible hose C forming a pendent loop a support A adapted to serve also as an ordinary burner and locking means b′ for engaging and disengaging relatively to the latter all substantially as herein specified.

4. In a gas-burner of the class described a yielding support adapted both to serve at different elevations and to relieve concussions, comprising a short slide M engaged loosely on a fixed gas-pipe and a long arm M′ rigidly connected thereto adapted to be set free by tilting and to be instantly shifted to different levels and to hold itself at different heights thereon, in combination with a flexible hose C forming a pendent loop and with a binding-screw M³ adapted to make the holding more secure when required all substantially as herein specified.

5. In a gas-burner of the class described a yielding support adapted both to serve at different elevations and to relieve concussions, comprising a short slide M engaged loosely on a fixed gas-pipe and a long arm M′ rigidly connected thereto adapted to be set free by tilting and to be instantly shifted to different levels and to hold itself at different heights thereon in combination with a flexible hose C forming a pendent loop and with a cock-body carrying stops F and G and a cock-plug H having an arm H′ to play against such stops all arranged for joint operation substantially as herein specified.

6. In a gas-burner of the class described a yielding support adapted both to serve at different elevations and to relieve concussions, comprising a short slide M engaged loosely on a fixed gas-pipe and a long arm M′ rigidly connected thereto adapted to be set free by tilting and to be instantly shifted to different levels and to hold itself at different heights thereon, in combination with a flexible hose C forming a pendent loop and with a cock-body carrying stops F and G and a cock-plug H having an arm H′ arranged to play against such stops provisions by the eccentrically-set head G′ for adjusting the position of the stop G and means for holding such stop reliably in adjustment all substantially as herein specified.

808,888. TOY SWING. GEORGE H. HILLER, Chicago, Ill. Filed Jan. 26, 1905. Serial No. 243,748.



Claim.—1. The combination with a swing having suspension-bars, of a pitman jointedly connected with one of said bars, said pitman being in a substantially vertical position when the swing is at rest, and a motor having a crank connected with the lower end of the said pitman, said crank being adjusted to extend downwardly in alinement with said pitman when the latter is in a common plane with said suspension-bars, whereby said crank may serve to reciprocate said pitman in opposite directions, first upon one and then upon the opposite side of the normal plane of rest of the swing.

2. The combination of a swing having suspension-bars, of a pitman jointedly connected to one of said bars near the upper end of the latter and extending downwardly, said swing being in the plane of said bars when the latter are at rest, a crank connected with the lower end of said pitman, the axis of said crank being in alinement with the vertical plane of the swing when the latter is at rest, while the crank-arm is in its lowermost position, and means for actuating said crank whereby a complete revolution of the crank may occur upon each side of the vertical plane of the swing.

3. The combination with a swing of a vertically-disposed pitman having its upper end jointedly connected with one of the bars of the swing below the upper end of the latter, means for reciprocating said pitman from its lower end, and an adjustable weight upon one of the bars of said swing for varying the speed of its oscillations.

4. The combination with a swing having the usual suspension-bars of a pitman arranged to stand normally in a substantially upright position when the swing is at rest, a wrist-pin for connecting said pitman to one of said suspension-bars below the point of suspension of the latter, means for varying the relative position of said wrist-pin, and means connected with the lower end of said pitman for reciprocating the same.

808,889. KEY-RING. ARTHUR H. HUMMEL, Hartford, Conn. Filed May 22, 1905. Serial No. 261,090.

Claim.—1. A key-ring having a part under tension, and also having a perforation, and a device offset from and carried by said part under tension, and arranged normally to enter the perforation and form a compartment in which a selected key may be retained.

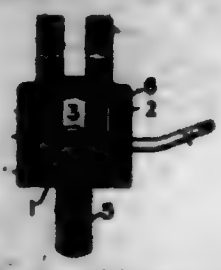
2. A key-ring having a seat in one part thereof, and a pin carried by and offset from another part thereof, said pin being under tension, and arranged normally to enter the seat and retain a selected key in position.



3. A key-ring comprising a wire loop having a perforation in one of its arms; a spring-actuated plunger located between the separated ends of said wire loop; and a retaining-pin offset from and carried by said plunger, and arranged normally to enter the perforation.

4. A key-ring comprising a wire loop having a perforation transversely in one of its arms; a spring-actuated plunger having recesses for receiving the ends of said wire loop; and a retaining-pin, one end of which is secured to the plunger, and the other end of which is adapted to enter said perforation.

803,840. COUPLING DEVICE. DAVID MILLER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 14, 1903. Serial No. 173,048.

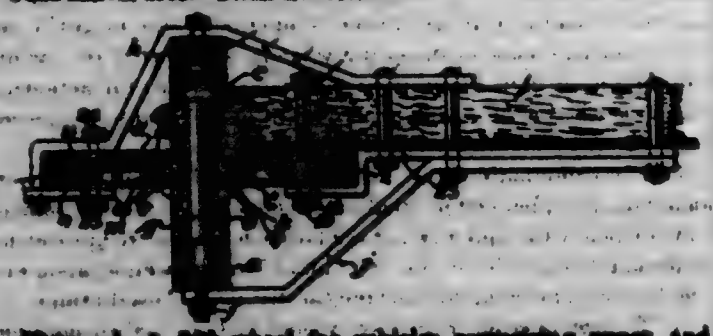


Claim.—1. A coupling comprising two members, one having a longitudinal slot provided with an enlarged cylindrical end, and the other having a socket to fit over the slotted member, and a rotatable cylindrical pin transverse to said socket, flattened to pass through said slot, and rotatable in said enlarged end.

2. A coupling comprising two members, one having a longitudinal slot provided with an enlarged end, a transverse pin carried by the other member and flattened to pass through said slot, and rotatable to engage with said enlarged end, interlocking portions on the pin and the member which carries it, and a spring for causing said portions to interlock.

3. A coupling comprising two members, one having a longitudinal slot provided with an enlarged end, a transverse pin carried by the other member and flattened to pass through said slot, and rotatable to engage with said enlarged end, a lug on the pin, a notch in the member which carries it, and a spring urging said lug into said notch when the pin has been engaged with the slotted member.

803,841. FIFTH-WHEEL. WILLIAM B. MINCHIN, Philadelphia, Pa. Filed Mar. 8, 1905. Serial No. 249,689.



Claim.—1. A fifth-wheel for vehicles comprising upper and lower members, one or both of which is provided with annular flattened ridges, one of said ridges located near the center of the fifth-wheel and the other of said ridges located near the periphery of the fifth-wheel, there being a groove formed in one of the opposing bearing-faces of each of said bearings, thereby forming two bearings having opposing bearing-surfaces that are flat except for the provision of said grooves, which form a permanently-open space for the reception of a lubricant.

2. In a wagon-gear, in combination, the perch, the fifth-wheel comprising upper and lower members and located beneath the perch, the perch-plate secured to the perch and underlying the fifth-wheel, and a bolt extending through the fifth-wheel near its periphery and secured at one end to the perch and at the other end to the perch-plate.

3. In a wagon-gear, in combination, the perch, the fifth-wheel underlying the perch, the perch-plate secured to the perch throughout a part of its length, the inner end of the perch-plate extending downwardly along the periphery of the fifth-wheel and horizontally beneath the fifth-wheel, and a bolt extending through the fifth-wheel and secured at one end to the perch and at the other end to the perch-plate.

4. In a wagon-gear, in combination, the perch, the fifth-wheel underlying the perch and having an upper and lower member the latter being cut away, a bolt secured to the perch at its upper end and extending through the upper member and the cut-away portion of the lower member, the part of the bolt extending through the cut-away part of the lower member being shouldered, and a perch-plate secured to the perch and extending downwardly along the periphery of the fifth-wheel and horizontally beneath the fifth-wheel and secured to the bolt, the shouldered portion of the bolt resting on said perch-plate.

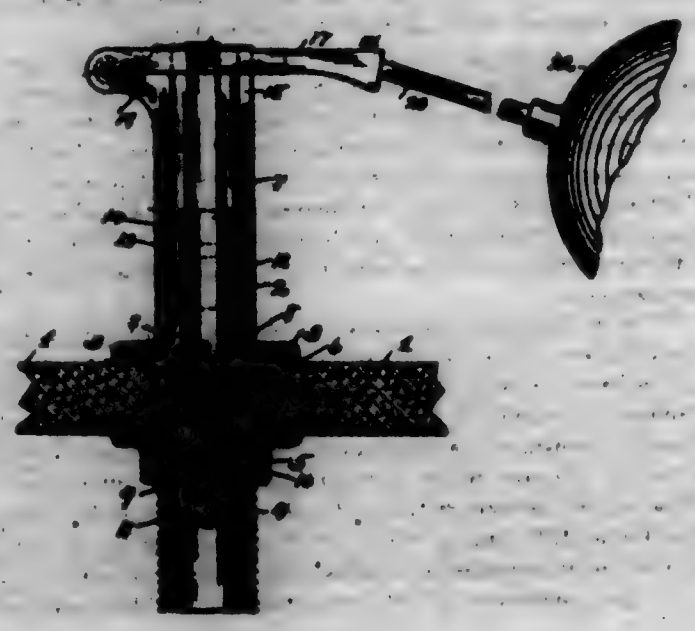
5. In a wagon-gear, in combination, a fifth-wheel comprising upper and lower members having opposing bearing-surfaces near their peripheries, the perch, a bolt extending through both members of the fifth-wheel and secured at one end to the perch, and a perch-plate secured to the perch and to which the other end of said bolt is secured, one of said fifth-wheel members being cut away inside and parallel with its bearing-surface, said bolt extending through such cut-away portion.

6. In a wagon-gear, in combination, the axle, the perch, the king-bolt, the fifth-wheel comprising upper and lower members having two pairs of opposing bearing-surfaces located respectively near the king-bolt and near the periphery of the fifth-wheel, one of said members being cut away inside and parallel with its outer bearing-surface, a bolt extending through said cut-away portion and also through the other member and supported at both ends from the perch.

7. In a wagon-gear, in combination, the axle, the perch, the king-bolt, the fifth-wheel comprising upper and lower members having two pairs of opposing bearing-surfaces located respectively near the king-bolt and near the periphery of the fifth-wheel, one of said members being cut away inside and parallel with its outer bearing-surface, a bolt extending through said cut-away portion and also through the other member and supported at both ends from the perch, and a stay secured to the perch and extending under the axle and secured to the king-bolt.

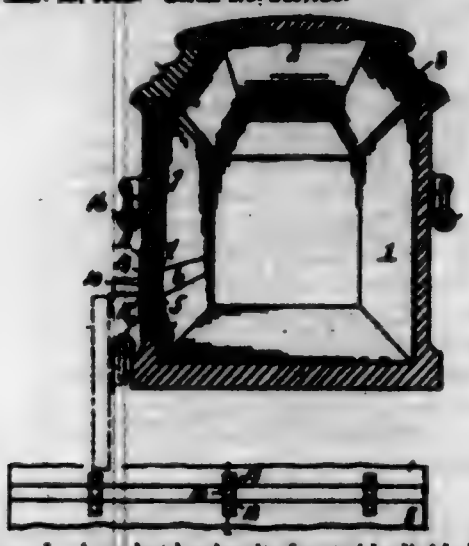
8. In a wagon-gear, in combination, the axle, the perch, the fifth-wheel comprising upper and lower members, the king-bolt extending through the centers of said members, one of said members having two annular grooves of relatively large and small diameters respectively and located respectively, on its opposing face, close to the king-bolt and close to the periphery of the fifth-wheel respectively, a bolt extending through both of said members, one of which is cut away between said grooves to receive the bolt and permit the member to turn, a perch-plate secured to the perch, said bolt being secured at one end to the perch and at the other end to the supporting-bar, and a stay secured to the perch and extending under the axle and secured to the king-bolt.

803,843. WATER-INLET VALVE FOR FLUSH-TANKS. BELTON MORRIS and CLARENCE RAHAHAN, Pittsburg, Pa. Filed Dec. 17, 1904. Serial No. 237,261.



Claim.—An automatic inlet-valve for flush-tanks, comprising the shell 2, having a longitudinal bore contracted or reduced to form a bearing 12, and provided with a second bearing 10 below, a means for attaching said shell to the tank and to the water-supply pipe, a centrally-arranged tube 7 and integral guide-bar 9, slidably mounted in said bearings, said tube being open at the top and having perforations at the base, an adjustable stop 11 on said guide-bar to limit and regulate the vertical movement of said tube, a packing 13 arranged about said tube, a threaded nut 14 to confine said packing, a lever 17 loosely connected to the top of the tube, said lever being fulcrumed at one end and provided with a float at the other, all arranged and combined for service, substantially as and for the purpose described.

803,843. **BURIAL-CASKET.** CHARLES B. MYERS, Detroit, Mich. Filed Mar. 13, 1905. Serial No. 249,720.



Claim.—1. A casket having its front side divided longitudinally into a relatively narrow portion and a relatively wide portion, there being a remaining fixed portion of said side extending some distance above the base, a hinged member joining said wide and narrow portions of the side to said fixed remaining portion, and stops to support the narrow portion of the side in a horizontal plane and the wide portion in a vertical plane parallel with and adjacent to the face of the casket.

2. A casket having its side divided longitudinally into a relatively narrow and a relatively wide section, a hinge member having stop-shoulders thereon joining said sections and uniting them to the fixed portion of the side, the stop-shoulders of the hinge member being adapted to arrest the narrow section in a horizontal position, and the wide section in a depending vertical position parallel with the face of the casket.

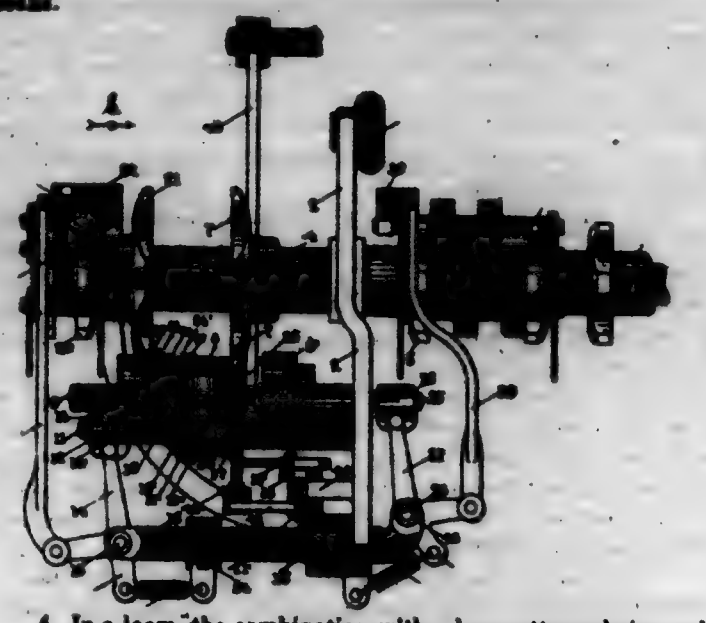
3. A casket having its front side divided longitudinally into a relatively narrow portion and a relatively wide portion, there being a remaining fixed portion of said side extending some distance above the base, a hinge member joining said wide and narrow portions of the side to said fixed remaining portion having stop-shoulders thereon to support the narrow portion in a horizontal plane and the wide portion in a vertical plane parallel with and adjacent to the face of the casket, and the handles secured to said relatively wide portion and adapted to lie in the space between the face thereof and the face of the fixed portion of the side.

803,844. **LOOM PATTERN-CHAIN MECHANISM.** BENJAMIN P. McGUNNEGLE, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed May 27, 1905. Serial No. 262,502.

Claim.—1. In the pattern-chain mechanism of a loom, the combination with a pin-wheel and star-wheel and a longitudinally-sliding shaft, of a forked arm engaging a pin-wheel and loosely mounted on said shaft, a collar loose on said shaft, and a spring intermediate said forked arm and said collar.

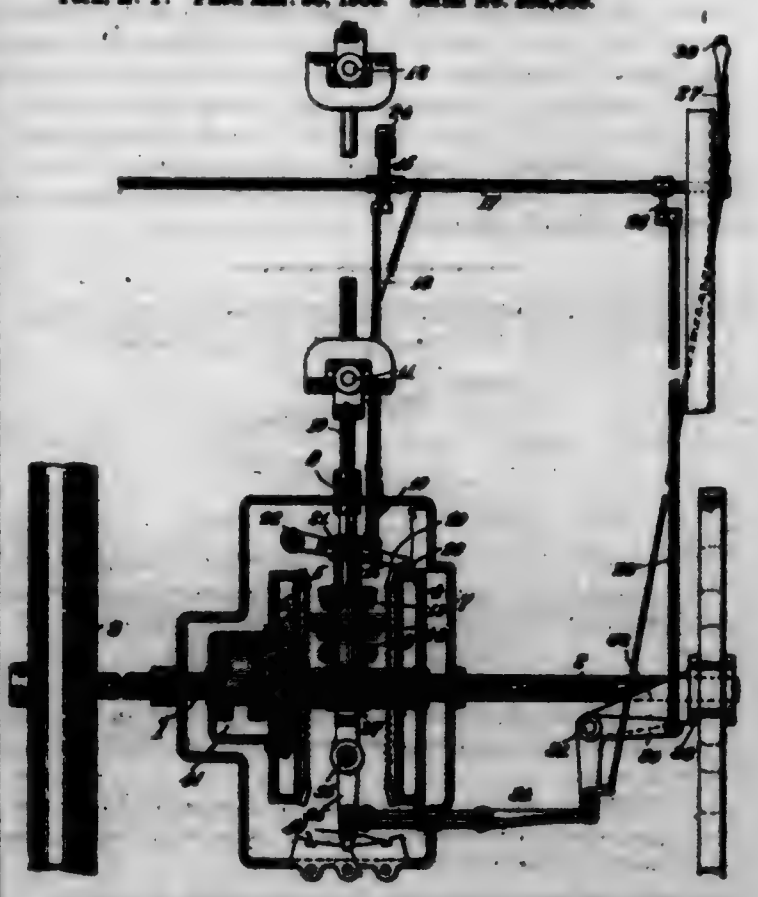
2. In a loom, the combination with the box pattern-chain, the multiplier pattern-chain, and intermediate connections, and pin-wheel and star-wheel mechanism, of means for moving the pin-wheel of the box pattern-chain mechanism out of engagement with its star-wheel, to stop the box pattern-chain at any desired time without stopping the multiplier pattern-chain.

3. In a loom, the combination with the box pattern-chain, the multiplier pattern-chain, and intermediate connections, and pin-wheel and star-wheel mechanism, of means for moving the pin-wheel of the box pattern-chain mechanism out of engagement with its star-wheel, to stop the box pattern-chain at any desired time without stopping the multiplier pattern-chain, said means comprising a longitudinally-moving shaft, a forked arm engaging the hub of the pin-wheel and loosely mounted on said shaft, a fast and a loose collar on said shaft, an expansible spring confined between said hub and said loose collar, and mechanism for operating said means.



4. In a loom, the combination with a box pattern-chain, and a multiplier pattern-chain, and pin-wheel and star-wheel mechanism, and a forked arm engaging the pin-wheel of the box pattern-chain mechanism, said arm loosely mounted on a longitudinally-sliding shaft, and said shaft, a collar loose thereon, and a spring intermediate said collar and forked arm, of mechanism connected with said forked arm to move it, and move the pin-wheel engaged by it, out of engagement with its star-wheel, to stop the box pattern-chain.

803,845. **TRANSMISSION-GEARING.** CHARLES B. HEAL, New York, N. Y. Filed Mar. 30, 1905. Serial No. 252,203.



Claim.—1. In transmission-gearing, the combination with gearing elements comprising driving and driven bevel-gears, the latter comprising a plurality of gears of different diameters upon the same shaft, of means for moving one of the said elements with respect to the other in directions both longitudinal and transverse of the axis of rotation of the driving-gear element.

2. In transmission-gearing, the combination with oppositely-disposed bevel-gears, and a bevel driving-gear arranged between them at right angles thereto, of a shaft for said driving-gear, means for moving said driving-gear longitudinally along said shaft, and means for moving said shaft and said gear laterally toward and away from the first said bevel-gears.

3. In transmission-gearing, the combination with a plurality of bevel-gears facing in the same direction and a bevel driving-gear arranged at right angles thereto, of a shaft for said driving-gear, means for moving said driving-gear longitudinally along said shaft, and means for moving said shaft and said gear laterally toward and away from the first said bevel-gears.

4. In transmission-gearing, the combination with a plurality of bevel-gears facing in the same direction, a bevel-gear oppositely disposed thereto, and a bevel driving-gear arranged between the said oppositely-disposed gears, of a shaft for said driving-gear, means for moving said driving-gear longitudinally along said shaft, and means for moving said shaft and said gear laterally toward and away from the first said bevel-gears.

5. In transmission-gearing, the combination with a plurality of bevel driven gears, and a plurality of bevel driving-gears arranged at right angles thereto, of a shaft for said driving-gears, means for moving said driving-gears longitudinally along said shaft, and means for moving said shaft and said gears thereon, laterally toward and away from the said driven gears.

6. In transmission-gearing, the combination with a plurality of bevel driven gears, a gear-box inclosing said bevel-gears, a shaft mounted in bearings in said box, and a bevel driving-gear mounted upon said shaft, of means for moving said driving-gear along said shaft, and means for moving said gear-box, with said driving gear and shaft, longitudinally of the axis of said driven gears.

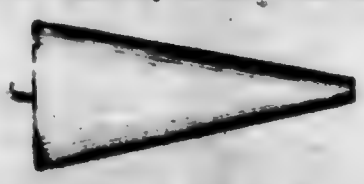
7. In transmission-gearing, the combination with a plurality of bevel driven gears, a shaft therefor, a gear-box mounted to slide upon said shaft and inclosing said bevel-gears, a shaft mounted in bearings in said box at right angles to the first said shaft, and a bevel driving-gear mounted upon said last-named shaft, of means for moving said driving-gear longitudinally along the shaft upon which it is mounted, and means for sliding the gear-box longitudinally along its shaft

8. In transmission-gearing, the combination with a driving and driven gears, of means for moving one with relation to the other in directions both longitudinal and transverse of the axis of rotation of the driving-gear, and positive locking means for locking the parts in the positions to which they are moved.

9. In transmission-gearing, the combination with a plurality of bevel driven gears, a gear-box inclosing said bevel-gears, a shaft mounted in bearings in said box, and a bevel driving-gear mounted upon said shaft, of means for moving said driving-gear along said shaft, means for moving said gear-box, with said driving gear and shaft, longitudinally of the axis of said driven gears, and a latch engaging said gear-box for positively locking same in the various positions to which it is adjusted

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808,846. PROCESS FOR MAKING CANDLES. JULIUS PEREIRA. New York, N. Y. Filed May 11, 1905. Serial No. 259,967



Claim.—1. The herein-described method of making candles, which consists in dipping the wicks thereof successively to varying depths in a bath of the material of which the candle-body is to be formed.

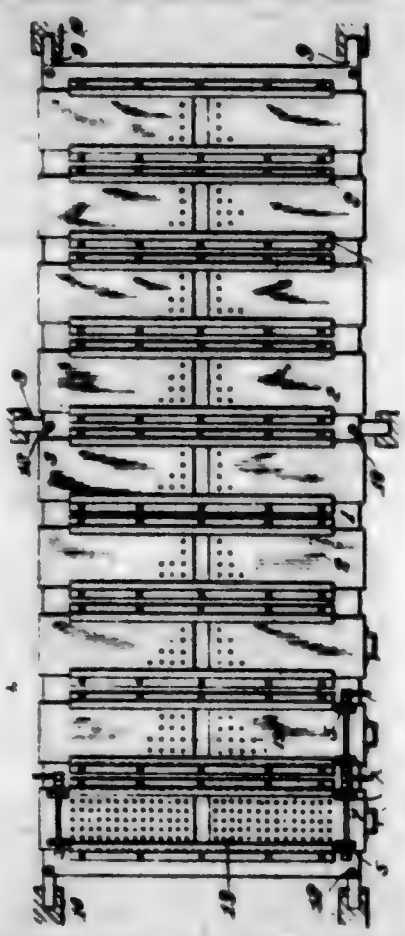
2. The herein-described process of making candles, which consists in submerging the wicks thereof in, and withdrawing the same from, a bath of material of which the candle-body is to be formed, at varying speeds.

3. The herein-described process of making candles by the dipping process, which consists in dipping the wicks to varying depths, and withdrawing them at varying speeds.

808,847. APPARATUS FOR MAKING CANDLES. JULIUS PEREIRA. New York, N. Y. Filed May 11, 1905. Serial No. 259,968.

Claim.—1. In an apparatus of the class described, the combination with a table or board arranged horizontally, and adapted to be vertically reciprocated, of a plurality of movable perforated plates for said table arranged to receive wicks in their perforations, and clamps for clamping the plates against the under face of the table, whereby the ends of the wicks protruding through the perforations, may be clamped between the upper face of the plates and the under face of the table.

2. In an apparatus of the class described, the combination with a table or board arranged horizontally, and adapted to be vertically reciprocated, of a plurality of perforated slides, guides for said slides arranged to receive wicks in their perforations arranged beneath the table, and clamping devices for the slides arranged to clamp them against the under face of the table, whereby the ends of the wicks protruding through the perforations in the slides may be clamped between the upper face of the slides and the under face of the table.

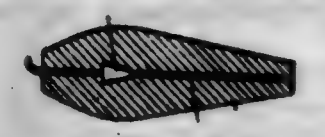


3. In an apparatus of the class described, the combination with a table or board arranged horizontally, and adapted to be vertically reciprocated, of a plurality of perforated slides, guides for said slides arranged to receive wicks in their perforations arranged at an inclination beneath said table, and clamping devices for the slides arranged to clamp them against the under face of the table, whereby the ends of the wicks protruding through the perforations in the slides may be clamped between the upper face of the slides and the under face of the table.

4. In an apparatus of the class described, the combination with a table or board arranged horizontally and adapted to be vertically reciprocated, said table or board provided with a pad of yielding material, of a perforated plate for said table, and means for pressing it against said pad.

5. In an apparatus of the class described, the combination with a table or board arranged horizontally and adapted to be vertically reciprocated, of a perforated plate, and adjustable means for pressing said plate against the under side of the table and clamping it in such position, whereby wick ends protruding through the perforations in said plate will be securely held between the plate and the under side of said table or board.

808,848. CANDLE AND CANDLE-WICK. JULIUS PEREIRA, New York, N. Y. Filed May 11, 1905. Serial No. 259,969.



Claim.—1. A candle made by the dipping process, having a larger diameter intermediate its ends than at its ends, and having a wick provided with an inflammable projection at about the said point of larger diameter.

2. A candle having a wick provided with an inflammable protuberance intermediate its ends, and a swelled body portion surrounding said protuberance.

3. A candle having a wick provided with an inflammable protuberance intermediate its ends.

4. In a candle, the combination with the body portion thereof and the wick thereof, of a button upon said wick inclosed by the body portion, said button composed of an inflammable material.

808,849. VEHICLE-WHEEL BEARING. HENRY C. PETERSEN, San Francisco, Cal. Filed June 28, 1905. Serial No. 267,372.



Claim.—1. A ball-bearing for vehicle-wheels, said bearing consisting of independent ring-cups fixed to the ends of the wheel-hub, an interior hollow cone inclosing the axle-spindle collar, another cone fixed to the nut which fits the outer end of the spindle and balls revoluble between the respective pairs of cups and cones.

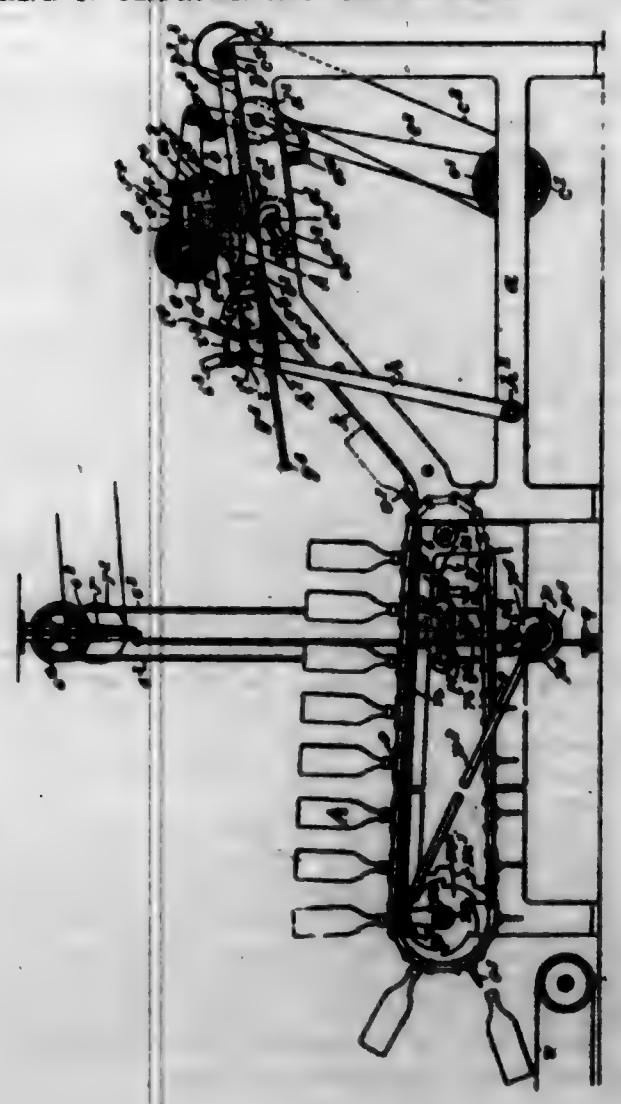
2. In a ball-bearing for vehicle-wheels, collars having annular channels in their inner ends, and concave interior surfaces forming annular ball-bearing cups, and a wheel-hub having bands upon its ends said bands fitting and secured in the annular channels of the cups.

3. In a ball-bearing for vehicle-wheels, a hub having bands upon the ends, annularly-channeled rings fitting and secured to the bands said rings having their interior surfaces formed into cup-bearings for balls, and flat disks at the inner ends of the cups fitting against the hub ends and centrally bored to admit the axle-spindle.

4. In a vehicle-wheel bearing, a hub having bands fixed to the ends, annularly-channeled ring-cups fitting and secured to the bands, with disks fitting against the hub ends, a hollow cone fitting the axle-spindle collar and secured thereto, a nut screwed upon the end of the spindle and an inner ball-bearing cone fixed to the nut, adjustable therewith, and coincident with the ring-cup at the outer end of the hub

5. In a ball-bearing for vehicle-wheels, collars having annular channels in their inner ends, and concave interior ball-bearing cups, bands upon the wheel-hub, to which said ball-cups are fixed, an axle-spindle extending through the hub, having a nut at its outer end and a collar on its inner end, ball-bearing cones fixed to the nut and to the collar respectively, and dust-including disks inclosing the collar and bearings said disks having lugs by which they are secured to the wheel-hub.

808,850. BOTTLE-WASHING MACHINE. JOHN A. PRINCE, New York, N. Y. Filed Nov. 28, 1904. Serial No. 234,753.

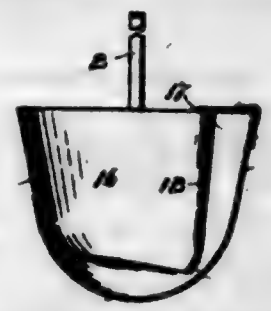


Claim.—1. A bottle-washing machine provided with rotatable feed-rollers, means for moving a bottle along the same, a fixed rail extending across the rollers, spring-influenced pressure-rollers suspended from the rail in vertical alinement with the feed-rollers, and a brush journaled to lie transversely of the feed-rollers, substantially as specified.

2. A bottle-washing machine provided with a carriage, rods secured thereto, levers engaging the rods, a sleeve rotatably supported by the carriage, a pipe connected to the levers, a nozzle on the pipe, and a brush on the nozzle that passes into the sleeve, substantially as specified.

3. A bottle-washing machine provided with a carriage, headed rods secured thereto, perforated levers engaging the rods, springs mounted on the rods between carriage and levers, a sleeve supported by the carriage, a pipe connected to the levers, a nozzle on the pipe, and a brush on the nozzle that passes into the sleeve, substantially as specified.

808,851. FEED-BAG. EDWARD PYLE, Lincoln, Nebr. Filed June 23, 1904. Serial No. 213,786.



Claim.—1. A feed-bag comprising a bottom and front and rear walls, the rear wall curved horizontally in cross-section and its lower end curved inwardly and downwardly toward the bottom of the feed-bag, and said rear wall having its lateral edges attached from top to bottom to the feed-bag, and a hopper having a rear wall integral with the bottom of said feed-bag, substantially as described.

2. A feed-bag provided with a rear wall, a flexible bottom, a hopper with a flexible rear wall integral with said bottom, substantially as described.

3. A feed-bag provided with a bottom of flexible material, a hopper with a flexible wall and a body portion of rigid material, substantially as described.

4. A feed-bag provided with a flexible bottom, a body portion of rigid material having apertures in its front wall, and its rear wall curved inwardly at the lower end, and a flexible hopper substantially as described.

5. A feed-bag provided with a feed-chamber, a hopper having a flexible rear wall, designed to be moved to accelerate the delivery of feed to the feed-chamber, substantially as described.

6. A feed-bag provided with a hopper, a flexible bottom connected to said hopper, designed to be pressed upon and accelerate the delivery of feed from said hopper, substantially as described.

808,852. METAL-AND-CONCRETE CONSTRUCTION. CHARLES L. RATHBONE, Rochester, N. Y. Filed June 3, 1904. Serial No. 210,972.



Claim.—1. The combination of a body of concrete, and, embedded therein, a continuous strengthening member consisting of a single rod bent into a series of non-helical loops whose ends cross.

2. The combination of a body of concrete, and, embedded therein, a single rod bent into a series of similar non-helical loops whose ends cross.

3. The combination of a body of concrete, and, embedded therein, a single rod bent into a series of non-helical loops whose ends cross and are turned through an angle with reference to the line of the connecting portions between the loops.

4. The combination of a body of concrete, and, embedded therein, a single rod bent into a series of non-helical loops whose ends cross and a separate strengthening-wire attached to said rod.

5. The combination of a body of concrete, and, embedded therein, a single rod bent into a series of similar non-helical loops whose ends cross and a separate strengthening-wire attached to said rod.

6. The combination of a body of concrete, and, embedded therein, a single rod bent into a series of loops whose ends cross and are turned through an angle with reference to the line of the connecting

portions between the loops and a separate strengthening-wire attached to said rod.

7. The combination of a body of concrete, and, embedded therein, a continuous strengthening member consisting of a single rod bent into a series of loops whose ends cross and a separate strengthening-wire adjacent to the connecting portions between said loops and attached to said connecting portions.

8. The combination of a body of concrete, and, embedded therein, a single rod bent into a series of similar loops whose ends cross and a separate strengthening-wire adjacent to the connecting portions between said loops and attached to said connecting portions.

9. The combination of a body of concrete, and, embedded therein, a single rod bent into a series of loops whose ends cross and are turned through an angle with reference to the line of the connecting portions between the loops and a separate strengthening-wire adjacent to the connecting portions between said loops and attached to said connecting portions.

10. The combination of a body of concrete, and, embedded therein, a single rod bent into a series of loops whose ends cross, certain of said loops being bent at an angle to others of said loops and a separate strengthening-wire adjacent to the connecting portions between said loops and attached to said connecting portions.

808,853. BRUSH-HOLDER. ELMER G. ELMER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 28, 1904. Serial No. 200,168.



Claim.—1. A current-collecting or contact device comprising a number of brush-holder units connected together end to end.

2. A current-collecting or contact device comprising a number of brush-holder units connected together end to end, each of said units being angularly adjustable with respect to its neighbor.

3. A current-collecting or contact device comprising a support and brush-holder unit rigidly secured to said support, and one or more brush-holder units carried by said first-mentioned brush-holder unit.

4. A current-collecting or contact device comprising a number of units arranged end to end in a series, and means for adjustably securing each of said units to an adjacent unit.

5. A current-collecting or contact device comprising a number of brush-holder units, a support, means for securing one of said units to said support, and means for securing the other of said units to the first-mentioned unit.

6. In combination, a support, a brush-holder unit, means for securing said unit to said support, a second brush-holder unit, and means for securing said second brush-holder unit to the first-mentioned brush-holder unit.

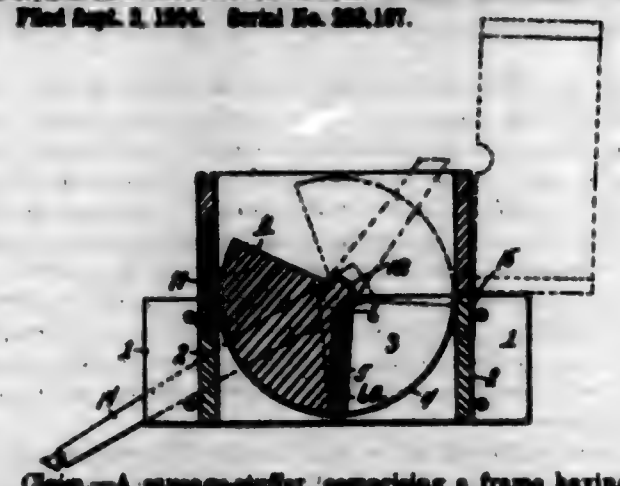
7. In combination, a cylindrical contact-surface, a cooperating contact device comprising a plurality of brush-holder units connected together in a series extending circumferentially along said contact-surface, and a brush for each of said units movably supported therein.

8. In combination, a cylindrical contact-surface, a cooperating contact device comprising a series of brush-holder units connected together and extending circumferentially about said contact-surface, and a brush movably supported in each of said units.

9. In combination, a cylindrical contact-surface, and a cooperating contact device comprising a plurality of separable brush-holder units connected together in a series extending circumferentially along said contact-surface.

10. In combination, a cylindrical contact-surface, and a cooperating contact device comprising a series of separable brush-holder units connected together and extending circumferentially about said contact-surface.

808,854. SAUSAGE-STUFFER. SAMUEL EMELIN, Detroit, Mich. Filed Sept. 2, 1904. Serial No. 223,197.



Claim.—A sausage-stuffer, comprising a frame having a concaved receptacle therein, a transverse partition dividing said receptacle and having an opening in the lower corner thereof, a gate hinged in said opening to swing from side to side, a discharge-spout communicating with said opening across which said gate swings to direct the sausage from the divisions of the receptacle into said spout, a segmental block mounted to rock from side to side and successively occupy the divisions of the receptacle to force the sausage therefrom, the dividing-partition being movable laterally to allow it to tilt and permit the pressure-face of said block to come into full contact therewith, and means for oscillating said block.

808,855. PROCESS OF DYEING INDIGO RESISTS. JULIUS EMERT, Hagen, Germany. Filed Feb. 2, 1903. Serial No. 141,707. (Specimens.)

Claim.—1. The process herein described for producing indigo goods, which consists in impregnating the goods with an agent acting as a reducer, printing with an ordinary paste resist commonly used for printing blue, applying indigo color, reducing said color, and then washing the goods, substantially as set forth.

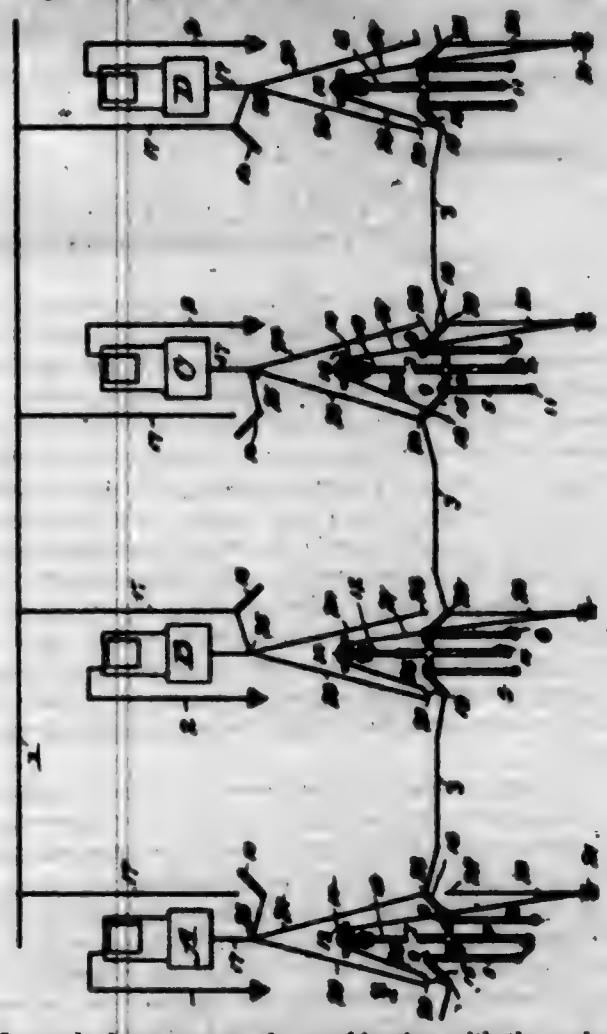
2. The process herein described for producing indigo goods, which consists in impregnating the goods with an agent acting as a reducer, printing with an ordinary paste resist commonly used for printing blue, applying indigo color, reducing said color, then dyeing said goods, and then washing the goods, substantially as set forth.

808,856. TELEPHONE SYSTEM. WILLIAM A. ERICSSON, South Kortright, N. Y. Filed Feb. 18, 1904. Serial No. 194,209.

Claim.—1. The herein-described telephone system comprising the combination with the main line and suitable phones thereon, of a secondary line and devices to break the circuit between the main line and the phones, a lever and means carried thereby to complete the circuit between any two of the phones and the secondary line and simultaneously lock the intervening phones from connection therewith, substantially as set forth.

2. In a telephone system, the combination with the main line and suitable phones thereon, of a secondary line, suitable switches to make and break the circuit between the main line and the phones, a pull-rod having means connected therewith adapted to complete the circuit between any two of the phones and the secondary line and at the same time lock the pull-rods of the intervening phones, whereby the intervening phones will be prevented from using the secondary line but permitting said secondary line to be used at either side of said two phones, substantially as set forth.

3. The herein-described telephone system, comprising the combination with the main call-line having suitable phones thereon, of a secondary line, a main pull-rod having a cross-head, auxiliary pull-rods cooperating with said main pull-rods whereby the circuit of said secondary line may be completed upon one side of the phone and disconnected upon the opposite side thereof, substantially as set forth.



4. In a telephone system, the combination with the main line having suitable phones thereon, of a secondary line, a switching mechanism adapted to break the circuit between the main line and the phone, a pull-rod carried by each phone having auxiliary rods cooperating therewith, said auxiliary rods having switch-arms pivotally connected thereto adapted to make and break the circuit between the phones and the secondary line when said pull-rods are operated, substantially as set forth.

5. In a telephone system, the combination with the main line having suitable phones thereon, of a secondary line and means to connect any two of said phones with the secondary line and lock the intervening phones therefrom, comprising a main pull-rod 4 having a cross-bar near its inner end, auxiliary pull-rods 5 and 6 having inwardly-extending ends adapted to extend into the path of said cross-bar, switch-arms pivotally secured to the inner ends of said rods 5 and 6 adapted to direct said secondary line from one contact-point to another, and means to automatically engage the inner end of said main pull-rod whereby said main pull-rod and auxiliary rods will be held against outward movement, substantially as and for the purpose set forth.

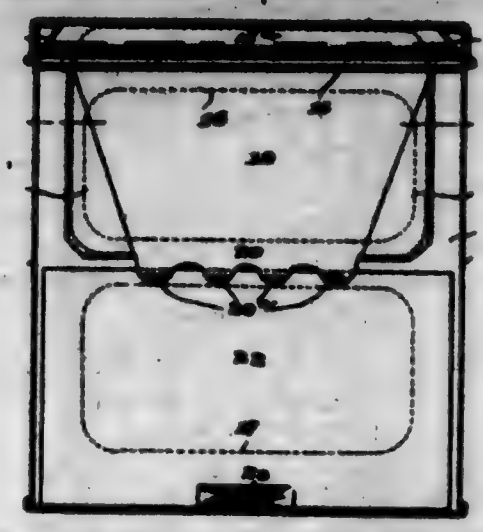
808,857. MANUFACTURE OF BROOMS AND BRUSHES. SAMUEL G. ROSEMAN, Auckland, New Zealand. Filed Aug. 30, 1904. Serial No. 223,522.



Claim.—1. A brush consisting of wires twisted together, fiber held between said wires, and a handle, said wires being bent so as to form a frame and means for removably securing the ends of the wire to the handle, substantially as described.

2. A brush consisting of wires twisted together, and bent so as to form a frame, fibers held between the wires, a socket into which the ends of the wires are placed and a handle fitting in said socket and holding the wires therein between itself and the socket, substantially as described.

808,858. DISPLAY-CAN. JOHN SCHRADER, Buffalo, N. Y., assignor to National Biscuit Company, Jersey City, N. J., a Corporation of New Jersey. Filed Apr. 10, 1905. Serial No. 254,704.



Claim.—1. A display-can of the character described having upper and lower openings in its front wall and removable plates covering said openings, the lower marginal portion of the upper plate being formed as an inwardly-bent inclined lip overlapping the upper marginal portion of the lower plate and wedging the same against the margin of the opening, and means for holding said overlapping plate in position, substantially as described.

2. A display-can of the character described having upper and lower openings in its front wall, a removable transparent plate in rear of said lower opening, and a removable name-plate behind said upper opening, the lower marginal portion of said upper plate being formed as an inwardly-bent inclined lip overlapping the upper marginal portion of the lower plate and wedging the latter against the margin of the opening, and guides engaging the ends of said name-plate, substantially as described.

3. A display-can of the character described having upper and lower panel-openings in its front wall formed with inwardly-turned edges, a removable glass plate in rear of said lower opening, and a removable sheet-metal name-plate behind said upper opening, the lower marginal portion of said upper plate being formed as an inwardly-bent inclined lip overlapping the upper marginal portion of the lower plate and wedging the latter against the margin of the opening, and guides secured to the inner side of said front wall behind the ends of the upper panel-opening and engaging the ends of said sheet-metal plate, substantially as described.

4. A display-can of the character described having upper and lower openings in its front wall and removable plates covering said openings, the lower margin of the upper plate being formed as an inwardly-bent inclined lip having a scalloped lower edge overlapping the upper margin of the lower plate and contacting the same at a plurality of points, and guides engaging said upper panel-plate and holding the same in position, substantially as described.

808,859. SHAPING-MACHINE. ISAAC J. SHIPLEY, Toledo, Ohio. Filed July 6, 1905. Serial No. 268,858.

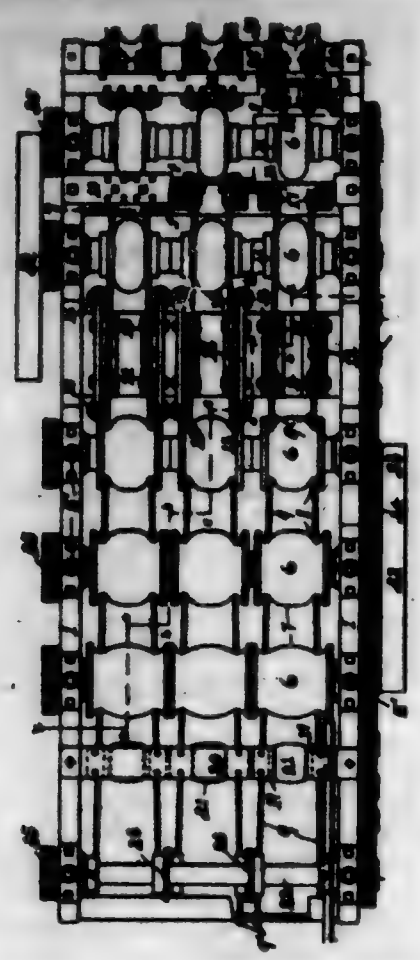
Claim.—1. In a shaping-machine, the combination with a series of consecutive pairs of rolls having differentially-shaped forming-surfaces varying progressively and by easy stages to conjointly form a trough member, and a pair of mandrels passing between the rolls of the several pairs, of an idler-roll mounted in advance of the first pair of rolls to hold the work to the mandrels and give the initial formation thereto preparatory to its being engaged by the first pair of rolls.

2. In a shaping-machine, the combination with a series of consecutive pairs of rolls having their forming-surfaces differentially shaped to progressively vary by easy stages, of a work-supporting roll mounted to turn loosely on an eccentric bushing in front of the final pair of rolls and shaped to conform to the lower roll of said final pair.

3. In a shaping-machine, the combination with a series of consecutive pairs of rolls having their forming-surfaces differentially shaped to progressively vary by easy stages, of an idler-roll mounted in advance of the first pair of rolls to give the initial form to the work, and a work-supporting roll loosely mounted on an adjustable eccentric bushing in front of the final pair of rolls and shaped to correspond to the lower roll of the last pair.

4. In a shaping-machine, the combination with a series of consecutive pairs of rolls having their forming-surfaces differentially

shaped to progressively vary by easy stages, of a work-supporting roll adjustably mounted in front of the final pair of rolls, and adjustably-mounted pressure-rollers coacting with the work-supporting roll to hold the work in place thereon.



5. In a shaping-machine, a series of consecutive pairs of differentially-shaped forming-rolls, bead-forming mandrels disposed between the coacting surfaces of the rolls of the several pairs, a series of differentially-shaped rollers turning on vertical axes and a series of differentially-shaped pairs of rollers turning on horizontal axes coacting with said mandrels to progressively complete the forming of the bead around the same.

6. In a shaping-machine, the combination with shaping-mandrels, of a series of consecutive pairs of rolls disposed to shape the work about said mandrels, a portion of said pairs of rolls having loose circumferential collars mounted on one roll in position to coact with the mandrels and a portion of said pairs having circumferential collars mounted on both rolls in position to coact with the mandrels.

7. In a trough-forming machine, a series of successive pairs of rolls, the pairs of rolls being shaped progressively and having trough-body and bead forming portions circumferentially formed thereon, the central half of the body-forming portions of the coacting rolls being approximately the point of grip of the work the remaining surface being formed with a slight clearance whereby the work is gripped rigidly only at its central portion, shaping-mandrels disposed between the bead-forming portions of the rolls of the several pairs, and collars loosely mounted on a portion of the rolls to coact with the mandrels and forming the bead-forming portions thereof.

8. In a trough-forming machine, a mandrel, a series of pairs of differentially-shaped rolls, coacting with said mandrel to progressively form a trough by easy stages, a portion of said rolls having loose rings or collars forming the portions thereof coacting with the mandrel.

9. The combination with a fixed element, of a rotatable shaping-roll having peripheral contact with said fixed element, said roll having a ring or collar mounted to turn loosely thereon and forming the surface portion of the roll in contact with said element.

10. The combination with a pair of shaping-rolls, and a fixed element disposed between and cooperating with the shaping-surfaces of said rolls, of a ring or collar mounted on each roll to turn loosely thereon and forming the surface portions thereof cooperating with the element to shape the work.

803,860. BOTTLE-CLOSURE. CHARLES C. SMITH, Cape Charles, Va. Filed Feb. 13, 1905. Serial No. 245,482.

Claim.—1. A bottle provided with a passage adjacent to one side thereof, a valve-seat in said passage and a valve adapted to seat in said valve-seat removably secured to the inner wall of said passage.

2. A bottle provided with a passage communicating with the neck and following the side of bottle, a valve-seat disposed within the lower end of the passage, a valve within the passage, and means adjacent the upper end of the passage to prevent the valve being ejected from the passage.



3. A bottle provided with a passage communicating with the neck and following the side of the bottle, a constriction in the walls of the passage to form a valve-seat adjacent the lower end thereof, a valve within the passage adapted to cooperate with the valve-seat, means adjacent the upper end of the passage adapted to prevent the ejection of the valve from the passage without preventing the flow of a fluid around the valve when at the upper end of the passage.

4. A bottle provided with a passage circular in cross-section throughout the greater part of its length communicating with the neck and following the dome of the bottle, a constriction in said passage adapted to form a valve-seat adjacent the lower end thereof, a ball of a diameter approximating the diametrical size of the passage, to cooperate with the valve-seat, a lug adjacent the upper end of the passage adapted to prevent the ejection of the ball therefrom, without preventing the flow of a fluid around the ball when at the upper end.

5. A bottle provided with a passage for filling and emptying the bottle, a valve-seat in said passage, and a valve detachably secured within the passage and capable of being disconnected to move freely within the passage and to cooperate with the valve-seat.

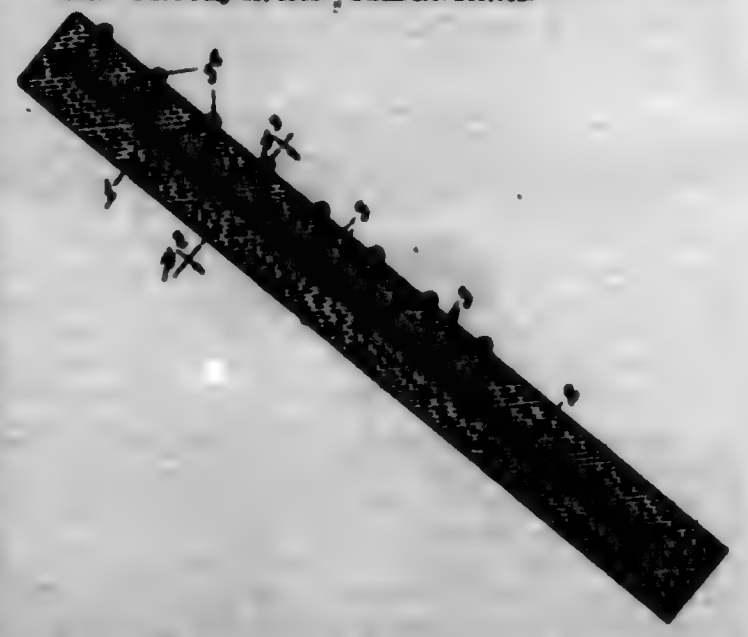
6. A bottle provided with a passage adapted for filling and emptying the bottle, a valve-seat in said passage, a valve breakably secured to the inner sides of said passage and adapted when disengaged to cooperate with the valve-seat and close the passage.

7. A bottle-closure provided with a passage circular in cross-section throughout the greater part of its length communicating with the neck and following the dome of the bottle and provided at its lower end with a valve-seat, a ball diametrically approximating the size of the passage and breakably secured to the sides thereof adjacent the upper end and capable upon being disengaged from the sides of the passage of cooperating with and closing the valve-seat, and retaining means disposed in the upper end of the passage to prevent the ejection of the ball therefrom.

8. A bottle provided with a closure breakably cemented to the walls of the filling-passage.

9. A bottle-closure comprising a valve breakably secured to the walls of the filling-passage and capable when broken away of closing the bottle.

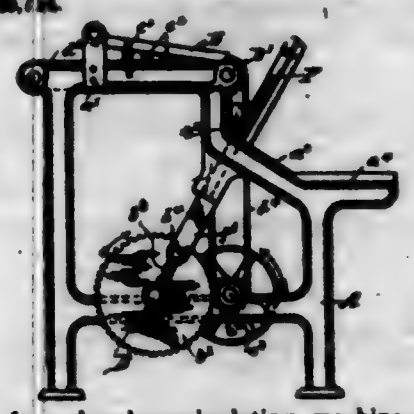
803,861. CONCRETE FENCE-POST. CARVER STUBBS, Norwood, Minn. Filed July 15, 1905. Serial No. 269,792.



Claim.—The combination with a concrete body 1 of a fence-post, of a metallic rod or core 2 embedded within and extending longitu-

dinally of said post, and the wire 3 bent to form a succession of loops, coiled about said rod at intervals, with each loop projecting from one face of the concrete body to form a series of eyes 3', said rods, loops and eyes lying in the same vertical plane, substantially as described.

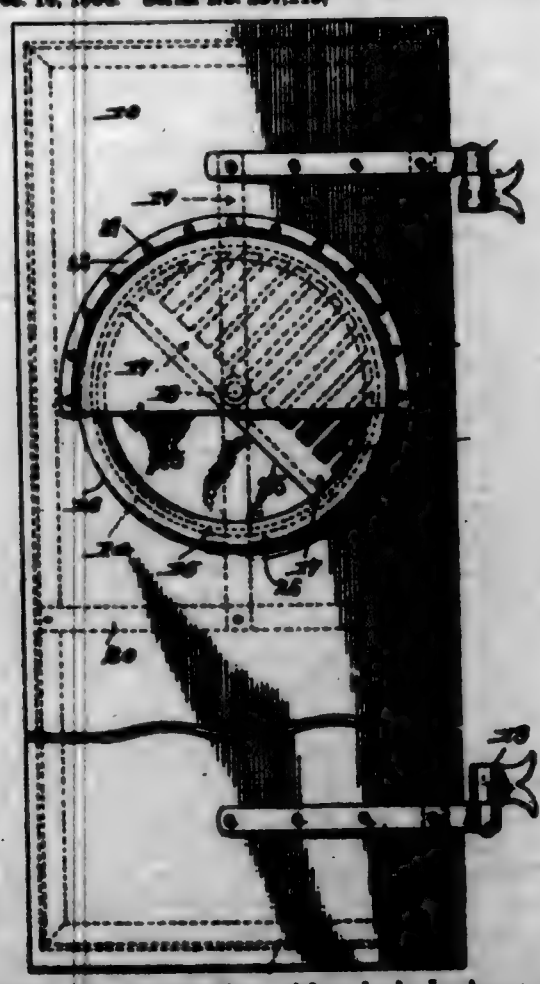
808,862. DOUGH-SHAPING MACHINE. FRANK STERNER, Chicago, Ill., assignor to Phil F. Carroll, Joliet, Ill. Filed Jan. 12, 1905. Serial No. 240,714.



Claim.—1. In a dough-manipulating machine, a dough-conveyer, pressure means arranged above the conveyer and adapted to bear on the dough, means for receiving the dough from the conveyer, said means consisting of a fixed element and a reciprocating element, the latter arranged at an angle to the fixed element and forming therewith a trough-shaped receptacle for the dough and said reciprocating element adapted to release the dough from the receptacle in the manner described, means for operating the conveyer and means for operating the reciprocating element.

2. In a dough-manipulating machine, a dough-conveyer, pressure means yieldingly mounted above the conveyer and adapted to bear on the dough, means for receiving the dough from the conveyer said means consisting of a fixed vertically-arranged element and a reciprocating element arranged at an acute angle to the fixed element and forming therewith a trough-shaped receptacle for the dough, means for operating said conveyer and means for operating the reciprocating element.

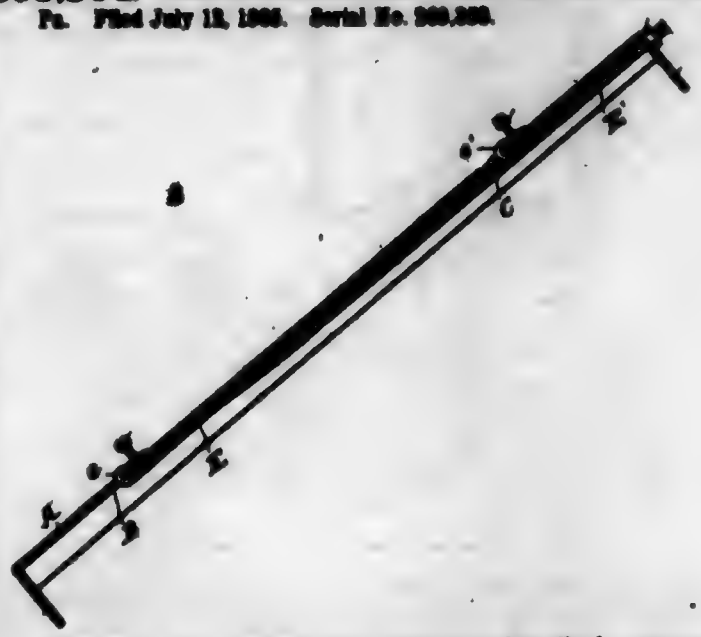
808,883. DOOR-VENTILATOR. LOUIS ULRICH, Brooklyn, N. Y. Filed Dec. 16, 1904. Serial No. 237,113.



Claim.—1. The combination with a body having a substantially circular opening therein, of a cross-bar secured diametrically across the opening and offset at one side of the body, an open rectangular frame rotatable in the opening and having a diametric cross-bar centrally pivoted to the cross-bar of the body, a grating provided in the rotatable frame at one side of the cross-bar, and a transparent plate carried within the frame at the other side of the cross-bar, and a hood carried by the body independently of the rotatable frame and embracing substantially one-half of the latter.

2. The combination of a body having a circular aperture, an annular frame mounted for rotation in said aperture and provided with a transverse central bar having a longitudinal channel on one side and with spaced grate-bars at the other side, and with an outwardly-projecting flange bearing against one side of the body adjacent to the aperture, a transparent member extending between said frame and transverse bar and bearing by one edge in the channel in the same, a brace-bar connected at the ends to the opposite side of said body, a pivot-bolt connecting said transverse bar to said brace.

808,864. METAL RAILWAY-TIE. JAMES WARREN, Washington, Pa. Filed July 12, 1905. Serial No. 269,269.



Claim.—1. In a device of the character described, a two-part fastening-bar each part having an engaging head, and a single securing device uniting the two parts, substantially as described.

2. In a device of the character described, a two-part fastening-bar each part having an engaging head, and having half-round portions and a single nut securing the two parts together, substantially as described.

3. In a device of the character described, the combination with a tie-plate having openings and adapted to support the rails of a two-part fastening-bar having engaging heads for the rails, and a single securing device uniting the two parts together and serving as an adjusting device for the fastening-bar, substantially as described.

4. In a device of the character described, the combination with a tie-plate having openings and adapted to support the rails, of fastening-bars each having heads adapted to project through the openings and engage the rails on opposite sides of their feet, and adjusting devices for said fastening-bars arranged at opposite ends of the tie-plate, substantially as described.

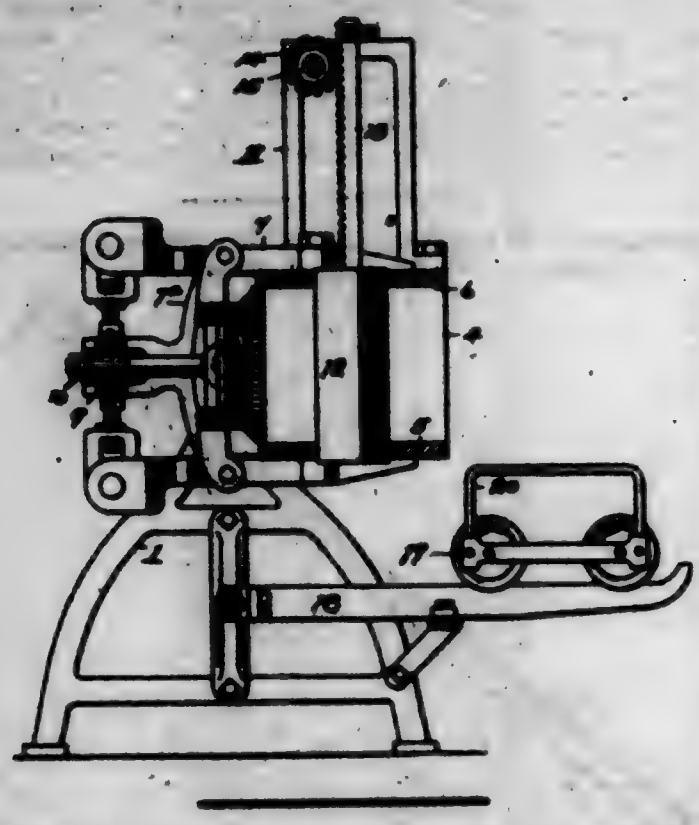
5. In a device of the character described, the combination with a tie-plate having openings and having abutments at its ends, of a pair of fastening-bars each fastening-bar comprising two parts having engaging heads, and securing devices uniting the two parts, said securing devices also serving as adjusting devices whereby the two parts of the fastening-bars may be adjusted with relation to each other and the two bars be adjusted in relation to each other, substantially as described.

6. In a device of the character described, the combination with a tie-plate having two series of openings in its upper surface and having bent ends forming abutments, of a pair of fastening-bars each bar comprising two parts having heads adapted to engage the same side of the two rails and to be adjusted with relation to each other, securing devices for securing the two parts in their adjusted relation, and means for adjusting the two bars from opposite ends of the tie-plate, substantially as described.

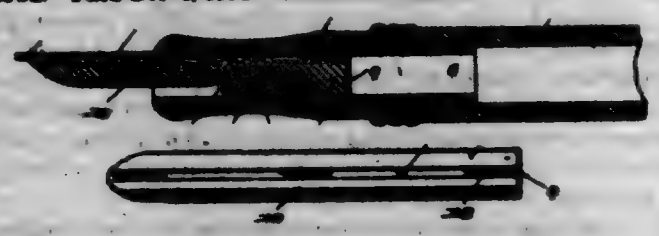
808,865. CEMENT-BLOCK MACHINE. DANIEL W. WELLER, Phoenixville, Pa. Filed June 21, 1905. Serial No. 266,202.

Claim.—A machine for making hollow cement blocks comprising a frame, a pivotally-mounted and evenly-balanced body, a forming-box composed of movable members, carried by said pivoted body, cores adapted to enter said box from the rear, a rack formed on each of said cores, a gear-wheel engaging said rack, a four-armed

crank pivoted centrally at the rear of the box, four adjustable screw-rods 8 connected at one end to said crank and at the other end one to each of the four movable box members, a hand operating-lever secured to said crank and adapted to turn said crank and thereby open and close the said box members simultaneously, and a trunk, mounted on a trunk formed on said frame, adapted to receive the contents of said box, substantially as described.



803,866. FOUNTAIN-PEN FEED. WILLIAM A. WELTY, Waterloo, Iowa. Filed Dec. 6, 1904. Serial No. 235,692.



Claim.—1. A feeding device for fountain-pens comprising a solid elongated plug or body portion provided with an integral longitudinal extension defining a transverse shoulder at the bottom of the plug, said plug and extension being provided with a longitudinal ink-delivery channel having a transverse opening communicating therewith at a point adjacent one end of the plug, there being a constricted longitudinal air-vent extending from the transverse shoulder and communicating with said opening at the bottom of the plug.

2. A feeding device for fountain-pens comprising a solid elongated plug or body portion provided with an integral extension of the same width as the body portion and defining a transverse shoulder at the bottom of the plug, said plug and extension being provided with a longitudinal ink-delivery channel of uniform width and depth and having a single transverse opening communicating therewith at a point adjacent one end of the plug, there being a constricted longitudinal air-vent extending from the transverse shoulder and communicating with said opening at the bottom of the plug.

803,867. SAND-CAP FOR VEHICLE-WHEELS. WILLIAM R. WHITNEY, Bay City, Tex. Filed May 25, 1905. Serial No. 262,350.



Claim.—1. A sand-guard for vehicles made from a single sheet of metal and comprising a hood portion conforming to the hub and merging into a neck portion conforming substantially to the axle and embracing the same and with depending arms embracing the axle from opposite sides and supporting the guard thereon by the inherent resiliency of the arms.

2. A sand-guard for vehicle-hubs comprising a single sheet of metal embodying a hood portion conforming to and covering the inner end of the hub and merging into a neck portion having spring-arms removably engaging the axle upon opposite sides and adjacent to the hub.

803,868. GOLD-SAVING APPARATUS. WILLIAM D. BARNEY, Tonopah, Nev. Filed Mar. 30, 1905. Serial No. 252,482.



Claim.—1. In a gold-saving apparatus, the combination of a tank divided transversely into three water-containing compartments, an open-ended amalgamating-cylinder rotatable in said tank, the ends of said cylinder communicating with the end compartments of the tank, means for rotating the cylinder and conveyer means operating in the cylinder.

2. In a gold-saving apparatus, the combination of a tank divided transversely into three water-containing compartments, an open-ended amalgamating-cylinder rotatable in said tank, the ends of said cylinder communicating with the end compartments of the tank, means for rotating the cylinder and conveyer means operating in the cylinder, said conveyer means including an eccentrically-disposed agitator.

3. In a gold-saving apparatus, the combination of a tank divided transversely into a plurality of water-containing compartments, an amalgam-cylinder in the tank and extending into a plurality of said compartments, said cylinder having an inlet at one end and an outlet at the other, means for rotating the cylinder, a cylindrical agitator in the cylinder, means for rotating the agitator and a spiral conveyer operating in the agitator.

4. In a gold-saving apparatus, the combination of a tank divided transversely into a plurality of water-containing compartments, an amalgam-cylinder in the tank and extending into a plurality of the compartments and having a feed-inlet at one end and a discharge-outlet at the other, an eccentrically-arranged cylindrical agitator in the cylinder, a conveyer in the agitator and means for operating the agitator, the cylinder and the conveyer simultaneously.

5. In a gold-saving apparatus, a tank having end compartments and an intermediate compartment, an amalgam-cylinder extending across said intermediate compartment and opening into said end compartments, the portion of the cylinder in said intermediate compartment adapted to be submerged to prevent leak from the end compartments around the cylinder, a cylindrical agitator in said amalgam-cylinder, a conveyer in the agitator, and means for giving the cylinder, the agitator and the conveyer a coördinate movement.

6. In a gold-saving apparatus, the combination of a tank having end compartments, and an intermediate water-containing compartment, a hollow amalgam-cylinder extending across said intermediate compartment and opening into the end compartments, the portion of said cylinder in the intermediate compartment being submerged to prevent leak from the end compartments around the cylinder, means for revolving the cylinder and means for causing material to progress through the cylinder.

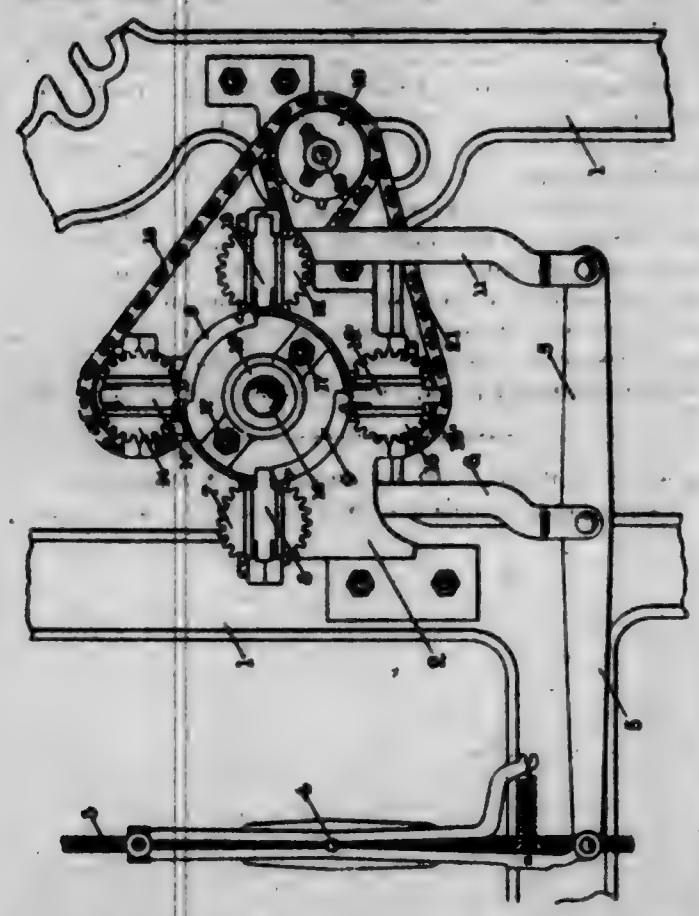
7. In a gold-saving apparatus, the combination of a horizontally-disposed rotatable amalgam-cylinder having an ingress-opening at one end and an egress-opening at the other end, an eccentrically-disposed cylindrical agitator passing through the cylinder, said agitator being perforated and having peripheral ribs, a spiral conveyer extending through the agitator, means for operating the amalgam-cylinder and said conveyer in the same direction and means for operating the agitator in the opposite direction.

8. In a gold-saving apparatus, the combination of a horizontally-disposed amalgam-cylinder having ingress and egress openings at opposite ends, an eccentrically-disposed cylindrical agitator extending through the amalgam-cylinder and projecting beyond the discharge end thereof, a conveyer in the agitator, means for revolving the cylinder and the agitator in opposite directions.

9. In a gold-saving apparatus, the combination of a tank, a horizontally-disposed amalgam-cylinder supported to rotate in said tank and having ingress and egress openings at opposite ends, a cylindrical agitator extending through the cylinder and supported to rotate independently thereof, a screw conveyer operating in the agitator and means for rotating the cylinder, the agitator and the conveyer.

10. In a gold-saving apparatus, the combination of a tank, a horizontally-disposed amalgam-cylinder supported to rotate in said tank and having ingress and egress openings at opposite ends, a rotary cylindrical agitator extending through the cylinder supported in the ends of the tank and rotatable independently of the cylinder, said agitator having a cylindrical sleeve projection at one end passing through the end of the tank, a screw conveyer journaled concentrically with the agitator and having its shaft passing through said sleeve, means exterior to the tank to operate the agitator and conveyer, and means for operating the amalgam-cylinder in unison with the agitator and conveyer.

808,869. SHUTTLE-BOX MOTION FOR LOOMS. HENRY BARNSLEY, Providence, R. I., assignor to Crompton & Knowles Loom Works, Worcester, Mass., a Corporation of Massachusetts. Filed Dec. 10, 1904. Serial No. 236,575.



Claim.—1. In a shuttle-box motion, the combination with a driven master-gear, having two or more tooth-segments, of mutilated pinions operated by said gear, connections from some of said pinions to shuttle-box levers on one end of the loom, and said box-levers, and connections from some of said pinions to a rotary shaft, and said rotary shaft, and connections therefrom to shuttle-box levers on the other end of the loom, and said box-levers substantially as shown and described.

2. The combination with a shuttle-box motion at one end of a loom, of a shaft to transmit motion to the shuttle-boxes at the opposite end of the loom, an adjustable eccentric connected with said shaft, and connections therefrom to the operating-lever of the shuttle-boxes, substantially as shown and described.

3. The combination with a shuttle-box motion at one end of a loom, and connections therefrom to rotary shafts, of said shafts, to transmit motion to the shuttle-boxes at the opposite end of the loom, said shafts placed one within the other, and connections from said shafts to the operating-levers of the shuttle-boxes, substantially as shown and described.

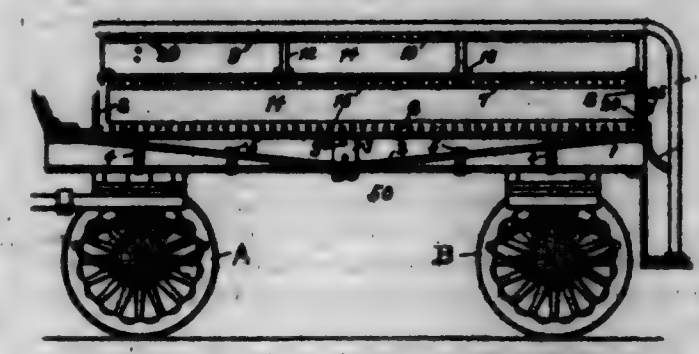
4. In a shuttle-box motion, a plurality of master-gears, with one or more tooth-segments thereon, mutilated pinions operated by said gears, some of said pinions having a sprocket-wheel connected therewith, two shafts placed one within the other, chains intermediate said sprocket-wheels and shafts, an adjustable eccentric connected with one of said shafts, and connections therefrom to the operating-levers of the shuttle-boxes and said levers, a crank connected with the other shaft, and connections therefrom to the operating-levers of the shuttle-boxes, and said levers, substantially as shown and described.

5. In a shuttle-box motion, a plurality of master-gears, with one or more tooth-segments thereon, mutilated pinions operated by said gears, two shafts, one within the other, connections intermediate said shafts and said pinions, an adjustable eccentric connected with one of said shafts, and connections therefrom to the operating-levers of the shuttle-boxes and said levers, a crank connected with the other shaft, and connections therefrom to the operating-levers of the shuttle-boxes and said levers, substantially as shown and described.

6. In a box-motion of the class described, two mutilated pinions, connections therefrom to two rotary shafts, to rotate the shafts, and said shafts and connections from said shafts to the levers of the box-motion on the opposite end of the loom and said levers, substantially as shown and described.

7. In a shuttle-box motion, the combination with a supporting-shaft of a mutilated pinion, and a rotary shaft to transmit motion to the shuttle-boxes at the opposite end of the loom, of connections intermediate said mutilated pinion and said shaft, substantially as shown and described.

808,870. HOSE-WAGON. ROBERT B. BROWN, Creston, Iowa. Filed Nov. 21, 1904. Serial No. 233,736.



Claim.—1. A hose-wagon body having two sides and a bottom, each side composed of a channel-iron side sill, an angle-iron bar secured to the said side sill, the lateral flange of said bar extending inward and the vertical flange extending upward, another angle-iron bar located above the first bar and having its lateral flange extending outward, struts connecting said angle-iron bars together, a tubular top rail having a vertical flange extending downward and located above the upper angle-iron bar, and brackets secured to the upper angle-bar and to the flange of the tubular rail; of metal sides secured to the inner side of the vertical flanges of the angle-bars and the tubular top rail, and a metal bottom secured to the lateral flanges of the lower angle-iron bars, all substantially as set forth.

2. A hose-wagon body comprising two sides and a bottom, said sides diverging toward the rear end of the body, and vertical retaining-wedges secured on the inside of said sides, for the purpose set forth.

3. In a hose-wagon comprising two sides and a bottom, said sides diverging toward the rear end of the body, and hose-retaining wedges fastened on the said sides, for the purpose set forth.

4. In a hose-wagon comprising two sides and a bottom, said sides diverging toward their rear ends, and a plurality of retaining-wedges secured on each side, as set forth.

5. In a hose-wagon, comprising two sides and a bottom, hose-retaining wedges fastened on the inner side of said sides, said wedges being beveled from the side of the body inward and rearward, substantially as and for the purpose set forth.

6. In a hose-wagon body, a metal bottom therefor, longitudinal slats secured on said bottom, an intervening space between the slats, a transverse trough at the rear end of said bottom, and a roller above said trough, as set forth.

7. In a hose-wagon body, a metal bottom therein, longitudinal slats secured on said bottom, a transverse trough across the rear end of said bottom, a footboard at the rear end of the body, a vertical tubular hand-rail extending upward through said footboard, and a conduit connecting said trough with said hand-rail, for the purpose set forth.

8. In a hose-wagon body constituting two sides and a bottom, a trough at the rear end of said bottom, a tubular hand-rail at the rear end of the said body, and a conduit connecting the trough with said hand-rail, for the purpose set forth.

9. In a hose-wagon body, a metal bottom therefor, a trough

formed on one end of said bottom and a conduit extending downward therefrom, and a guard above said trough, all for the purpose set forth.

10. In a hose-wagon body, the metal side sills having two lateral flanges and a truss interposed between said lateral flanges, and means to fasten the truss therein, substantially as described.

11. In a hose-wagon, the side sills composed of channel-iron with two lateral flanges, a longitudinal truss secured at its ends to the upper flange, and the middle portion of the truss converging down toward the lower flange, and a strut interposed between the truss and said upper flange.

12. In a hose-wagon, the metal side sills having two lateral flanges remotely apart, a metal truss interposed between said flanges, and fastened at its ends to the upper flange, strut-bolts secured to the lower flange and to the truss and adapted to tighten the truss, as set forth.

13. In a hose-wagon body, the metal side sills having two lateral flanges remotely apart, a metal truss interposed between said flanges, said truss fastened at its ends to the ends of the upper flange, strut-bolts attached to the lower flange and to said truss and adapted to draw the middle part of the truss toward the lower flange, substantially as described.

14. In a hose-wagon body, the metal side sills having a lateral flange and a vertical flange extending downward, a longitudinal truss secured at its ends to the under side of said lateral flange, and a strut interposed between the truss and the lateral flange and fastened to said vertical flange, substantially as set forth.

15. The side sills constituting two longitudinal members remotely apart, a truss interposed between said members, and a tension-bolt secured to one of said members and engaging a recess provided on the truss, a beveled bar on said tension-bolt and bearing against the truss, said bar beveled on the side next to the truss, substantially as and for the purpose set forth.

16. In a hose-wagon body, a metal truss attached at its ends to the side of said body, strut-bolts secured to the body and extending through said truss, and a beveled bar on said bolts next to the truss, said bar beveled on the side next to the truss, all for the purpose set forth.

17. The combination in a hose-wagon body, of brackets fastened on the sides of said body and extending upward, a horizontal tubular rail located above said brackets, and a vertical flange formed on said rail and extending downward and fastened to said brackets, as set forth.

18. The combination with a hose-wagon body, of brackets fastened on the sides thereof and extending upward, a horizontal tubular rail having a projecting flange formed thereon and fastened to said brackets, and sheet-metal sides fastened to said flange.

19. The combination with a hose-wagon body, of a horizontal tubular side rail supported on uprights on the side of said body, projecting flanges formed on said rail and extending downward, and a sheet-metal side fastened at its top edge to said flange.

20. The combination with a hose-wagon body, constituting two sides and a bottom, of uprights on said sides, horizontal circular side rails secured on said uprights, and flanges on said rails and extending downward, said sides secured to said flanges, for the purpose set forth.

21. In a hose-wagon body constituting two sides and a bottom, the combination of longitudinal slats secured on the bottom of the body and an intervening space between each slat to form a channel, said channel diverging toward the rear end of said body, as set forth.

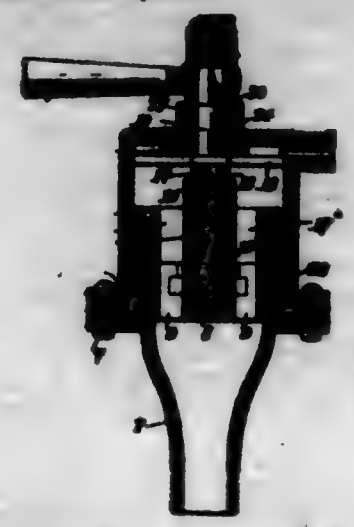
22. The tubular side rails having a vertical flange extending downward therefrom, sheet-metal sides secured to said flanges, and a seat secured between said sides and below said side rails.

23. In a hose-wagon constituting two sides, the combination of a tubular rail provided on each of said sides, a vertical flange formed on each rail and extending downward, transverse connection between said rails, and a seat secured between and below said flanged rails, as set forth.

24. In a hose-wagon constituting two sides, the combination of a tubular rail provided on each of said sides, a projecting flange formed on each rail, and a seat attached to said flanges.

808,871. LOCOMOTIVE-BLOWER VALVE. EDGAR S. BROOKS and CHARLES A. E. VANDEGAR, Roanoke, Va. Filed July 17, 1905. Serial No. 270,252.

Claim.—1. A locomotive-blower valve comprising a casing, a rotary valve arranged therein, and a valve-seat provided with downwardly-discharging ports for passage of steam without the casing, and upwardly-discharging ports to effect balancing of the valve, the casing being circumferentially enlarged to form a passage-way for the steam through the latter ports.
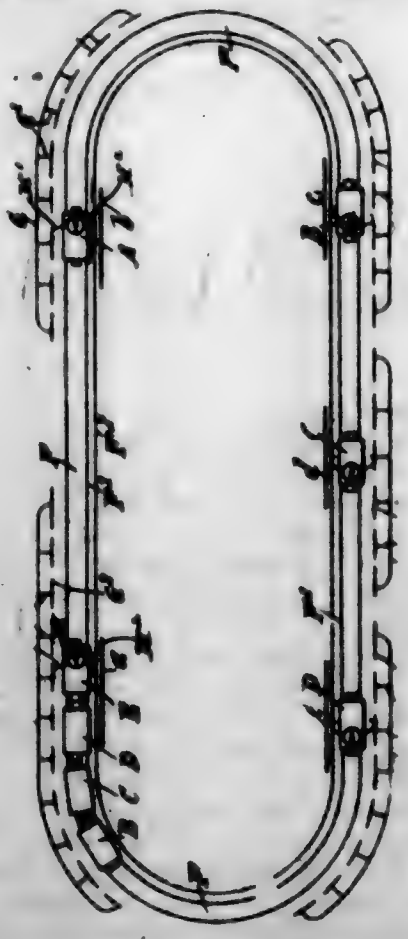


2. A locomotive-blower valve comprising a casing provided with a steam inlet and outlet, a rotary valve arranged in the casing and provided with ports, and a valve-seat having escape-ports and upwardly-discharging ports to balance the valve.

3. A locomotive-blower valve comprising a casing provided with a steam-inlet and steam-outlet, a rotary valve arranged in the casing and provided with a pair of ports, and a valve-seat provided with two pair of ports, two of which are adapted to register with those of the valve, and the other two being provided with lateral steam-receiving ducts.

4. A locomotive-blower valve comprising a casing provided with a steam-inlet and steam-outlet, a rotary valve arranged in the casing and provided with a pair of ports, and a valve-seat provided with two pair of ports, one pair of which is adapted to register with those of the valve and the other pair being provided with lateral steam-receiving ducts, the interior of the casing being circumferentially enlarged to form a passage-way for the steam to the said ducts

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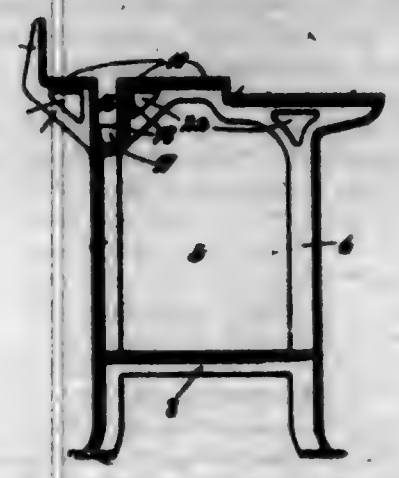
808,872. SIGNALING ON RAILWAYS, TRAMWAYS, &c. JOHN BROWN, Dunmurry, Ireland. Filed Oct. 4, 1901. Serial No. 77,857.



Claim.—In a system of working railways, tramways and the like, the combination with a train traveling between the stations of the system and a station to which the train is approaching, of an indicating device on each car of the train, an indicating device on a car standing at the station which the train is approaching, a main electrical supply-conductor, a conductor of high resistance arranged adjacent to each station and extending in both directions, as described

a series of contact-shoes electrically connected with each of said high-resistance conductors, a return conductor or rail and brushes connecting the indicating device on each car with the high-resistance conductors and the main supply-conductor.

803,873. BENCH-LEG. ROBERT S. BROWN, New Britain, Conn., assignor to The New Britain Machine Company, New Britain, Conn., a Corporation of Connecticut. Filed Sept. 21, 1904. Serial No. 225,242.



Claim.—1. A work-bench comprising a table, and bench-legs each having uprights, a flanged top to which said table is secured, and a pocket for the reception of a stringer.

2. A work-bench comprising bench-legs, each having a top with a depressed portion; heavy planking inserted in said depressed portion; and planking secured to the top of each leg adjacent to said depressed portion, and being flush with said heavy planking.

3. A work-bench comprising a table, legs having pockets provided with vertical cross-ribs; and stringers secured in said pockets, and bearing against said cross-ribs.

4. A bench-leg comprising united standards, and a top to which the table is secured, said bench-leg having a pocket in line with one of the standards for the reception of stringers.

5. A bench-leg comprising a pair of united standards having inwardly-extending longitudinal ribs, a top having a depressed portion and a pocket in line with one of the standards, and a backboard-support projecting vertically from an end of said top.

6. A bench-leg comprising standards of angular shape in cross-section, a brace, also of angular shape in cross-section, uniting said standards, a flanged top, having a pocket in line with one of the standards, and a vertical backboard-support projecting from the rear end of said top.

7. A bench-leg comprising standards of T shape in cross-section, the stems of the T facing inward, a T-shaped brace uniting the standards, the stem of the T projecting downward, and a top provided with perforated ears, a depressed portion, and a pocket in line with one of the standards for the reception of a stringer.

8. A bench-leg comprising vertical T-shaped standards a T-shaped brace uniting the standards, a flanged top provided with a pocket in line with one of the standards and having a vertical cross-rib, a broad overhang at the rear end of the top, and a flange extending vertically from the end of the overhang.

9. A bench-leg comprising T-shaped uprights, a T-shaped brace uniting said uprights, a flanged top depressed for a part of its length in its forward portion to accommodate heavy planking, a pocket in the top, and extending into one of the standards, and a projection rising from the top at one side of the pocket, and serving as a backboard-support.

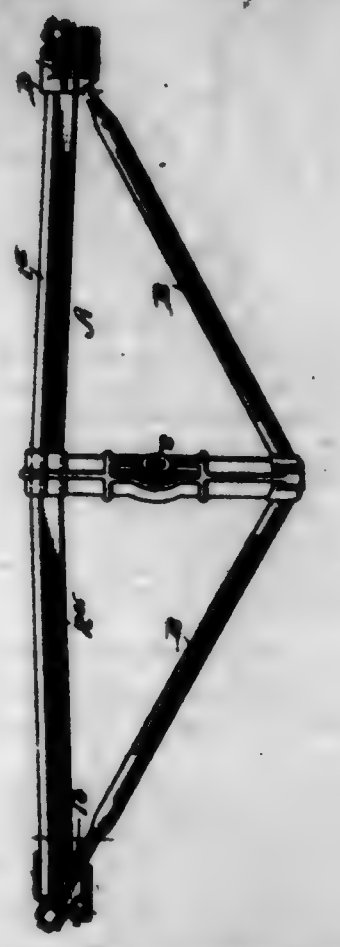
803,874. BRAKE-BEAM. HARRY C. BUSHOW and CHARLES P. RYDER, Chicago, Ill. Filed Jan. 12, 1905. Serial No. 240,860.

Claim.—1. In a brake-beam, the combination with brake-heads, of a strut, a compression member having flanges extending at an angle to each other, and a tension member having ends which include a flange of said compression member between them.

2. In a brake-beam, the combination with brake-heads, of a strut, a compression member having a single flange in the plane of the truss, and a tension member having ends which include said flange between them.

3. In a brake-beam, the combination with brake-heads, of a strut, a compression member having a flange transversely of and a flange in the plane of the truss, and a tension member having forked ends which include the flange in the plane of the truss.

4. In a brake-beam, the combination with brake-heads, of a strut, a compression member of T cross-section, and a tension member having forked ends which include a flange of the compression member between them.



5. In a brake-beam, the combination with a compression member, a tension member and a strut, of end caps, and brake-heads relatively movable both longitudinally and transversely with respect to said end caps, said end caps and brake-heads having integral therewith means for causing said end caps and brake-heads to firmly engage each other, said means extending laterally in the direction of length of the compression member.

6. In a brake-beam, the combination with a compression member, a tension member and a strut, of end caps and brake-heads each having a plurality of laterally-extending lugs and groove connections between them, said tension member being interposed between such laterally-extending connections.

7. In a brake-beam, the combination with suitable beam members, of end caps and brake-heads each having engaging corresponding inclined faces extending laterally in the direction of length of the compression member.

8. In a brake-beam, the combination with a compression member, a tension member and a strut, of end caps provided each with channels and lugs extending laterally in the direction of length of the compression member, and brake-heads having complementary members adapted to rigidly engage the channels and lugs of said end caps.

9. In a brake-beam, the combination with brake-heads, of a strut, a compression member of T cross-section, and a tension member having forked ends integral therewith which include a flange of the compression member.

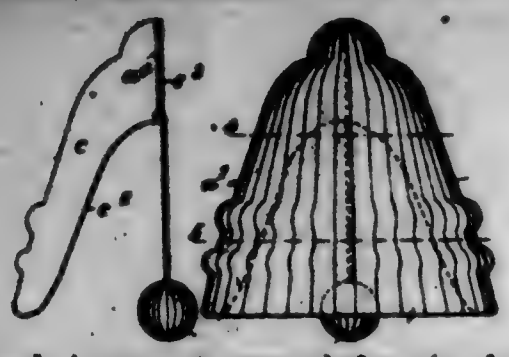
10. In a brake-beam, the combination with a strut, of a compression member having a flange in the plane of the truss and a flange extending transversely thereto, a tension member having forked ends integral therewith which include a flange of the compression member between them, end caps for the said compression and tension members, and brake-heads engaging said end caps, said end caps and said brake-heads having engaging inclined faces.

11. In a brake-beam, the combination with a tension member, end caps and strut, of a compression member of T cross-section having a flange extending inwardly toward the tension member, and brake-heads independent of said end caps.

12. In a brake-beam, the combination with a compression member having flanges perpendicular to each other, of a strut, a tension member, end caps secured to said compression member by said tension member, and brake-heads independent of and rigidly engaging said end caps.

13. A brake-head for brake-beams, said head having inclines upon the rear face thereof extending laterally in a direction transverse to the shoe-receiving face of said head.

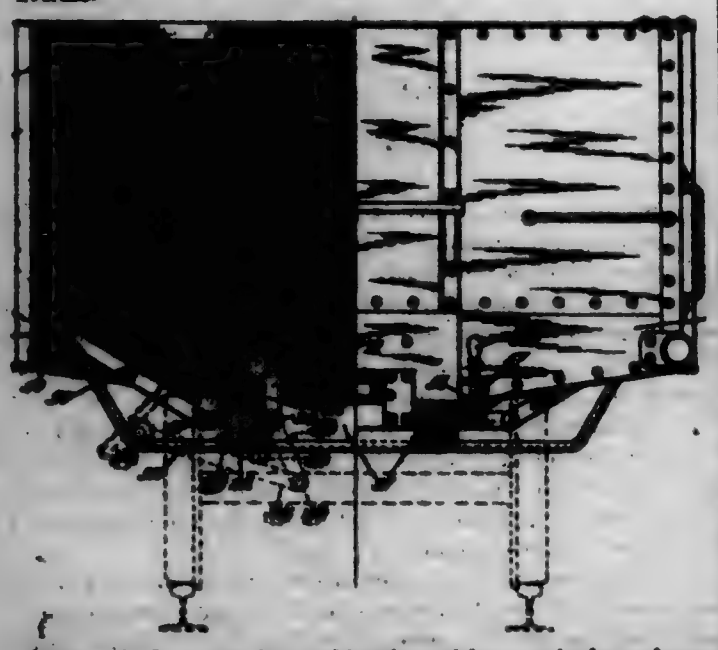
808,875. ORNAMENT. BENJAMIN BERGER, New York, N. Y. Filed Sept. 21, 1905. Serial No. 279,055.



Claim.—1. An ornament composed of a series of strips each having an upright edge along which the strips are foldably connected, an outer edge and an inner edge inclined to the upright edge, and means for connecting together the strips alternately along their outer and inner contiguous edges, substantially as described.

2. An ornament composed of a series of strips each having an upright edge along which the strips are foldably connected, an outer edge and an inner edge inclined to the upright edge, and means for connecting together the strips along their outer edges and alternately along the top and bottom of their inner edges, substantially as specified.

808,876. MECHANISM FOR OPERATING CAR-FLOOR DOORS. ARTHUR CAMPBELL, Chicago, Ill. Filed Aug. 16, 1905. Serial No. 274,420.



Claim.—1. In a car, in combination with a car body or frame having a normally load-carrying door hinged thereto, adapted to swing to a different position to discharge the load; a shaft journaled parallel to the hinge of the door, means for rotating said shaft, a crank-arm on said shaft, a crank-pin on said crank-arm, a bell-crank pivoted in a line parallel to the axes of the hinges of said door and said shaft, a link connecting said crank-arm with one of said bell-crank arms, a rod having one end pivotally connected to the second arm of said bell-crank normally in approximately a straight line therewith, the opposite end of said rod being guided along a cam-track and connected to a mechanism which engages the car-door which is to be moved.

2. In a car, in combination with a car body or frame having a normally load-carrying door hinged thereto, adapted to swing to a different position to discharge the load; a shaft journaled parallel to the hinge of the door, means for rotating said shaft, a crank-arm on said shaft, a crank-pin on said crank-arm, a bell-crank pivoted in a line parallel to the axes of the hinges of said door and said shaft in such a position that one of its arms is approximately parallel to the crank-arm on the shaft, a link connecting said crank-arm and said bell-crank arm at approximately a right angle to each, a rod having one end pivotally connected to the second arm of said bell-crank normally in approximately a straight line therewith, the opposite end of said rod being guided along a cam-track and connected to mechanism which engages the car-door which is to be moved.

3. In a car, in combination with a car body or frame having a normally load-carrying door hinged thereto, adapted to swing to a different position to discharge the load; a shaft journaled parallel to the hinge of the door, means for rotating said shaft, a crank-arm on said shaft, a crank-pin on said crank-arm, a bell-crank pivoted in a line parallel to the axes of the hinges of said door and said shaft, a link connecting said crank-arm with one of said bell-crank arms, a rod having one end pivotally connected to the second arm of said bell-crank normally in approximately a straight line therewith, the opposite end of said rod being connected to a mechanism which engages the car-door which is to be moved, a roller carried by said rod and a cam-track on which said roller is adapted to travel as the door is opened or closed said cam being so shaped that when the load-door is closed the roller is on a portion of the track so shaped as to assist in locking the foregoing mechanism and door as described.

4. In a car, in combination with a car body or frame having a normally load-carrying door hinged thereto, adapted to swing to a different position to discharge the load; a shaft journaled parallel to the hinge of the door, means for rotating said shaft, a crank-arm on said shaft, a crank-pin on said crank-arm, a bell-crank pivoted in a line parallel to the axes of the hinges of said door and said shaft in such a position that one of its arms is approximately parallel to the crank-arm on the shaft, a link connecting said crank-arm and said bell-crank arm at approximately a right angle to each, a rod having one end pivotally connected to the second arm of said bell-crank normally in approximately a straight line therewith, the opposite end of said rod being connected to mechanism which engages the car-door which is to be moved, a roller carried by said rod and a cam-track on which said roller is adapted to travel as the door is opened or closed, said cam being so shaped that when the load-door is closed the roller is on a portion of the track so shaped as to assist in locking the foregoing door and mechanism as described.

5. In a car, having a longitudinal girder or girders a plurality of cross-bearers intersecting the same and a plurality of normally load-carrying floor-doors between the cross-bearers pivoted on axes parallel to the longitudinal center line of the car a shaft running longthwise of the car journaled on the cross-bearers near the door-hinges, a pair of crank-arms each with a common crank-pin between them on said shaft, between each pair of cross-bearers, where there is a floor-door to be moved; a bell-crank pivoted on each cross-bearer with one arm adjacent to the crank-arms on said shaft, a link connecting said crank-pin and said crank-arm, a shaft bodily movable crosswise of the car below the door to be opened and closed, rollers on said shaft bearing on the under side of the floor-door, other rollers on said shaft adapted to travel in a cam, a cam for said last-mentioned rollers mounted below the plane of said car-floor and a rod connected to the second arm of said bell-crank and to said shaft, said second bell-crank arm and said rod being in approximately a straight line when the door is closed.

6. In a car, having a longitudinal girder or girders a plurality of cross-bearers intersecting the same and a plurality of normally load-carrying floor-doors between the cross-bearers pivoted on axes parallel to the center line of the car; a shaft running longthwise of the car journaled on the cross-bearers near the door-hinges, two pairs of crank-arms each with a common crank-pin between them on said shaft between each pair of cross-bearers where there is a floor-door to be moved; a bell-crank pivoted on the cross-bearers with one arm approximately parallel to the adjacent crank-arm upon the shaft a link connecting said crank-pins and bell-crank arms at approximately a right angle to each, a shaft bodily movable crosswise of the car below the door to be operated, rollers on said shaft bearing on the under side of said floor-door, other rollers on said shaft adapted to travel in a cam-track, a cam-track below the plane of the car-floor in which said last-mentioned rollers are adapted to travel and a rod connected to the second arm of said bell-crank and to said shaft said bell-crank arm and said rod being in approximately a straight line when the door is closed.

808,877. IMPLEMENT FOR IMPARTING VIBRATORY IMPACTS. JOSEPH H. CRAIG, Cleveland, Ohio. Filed June 15, 1903. Serial No. 161,466.



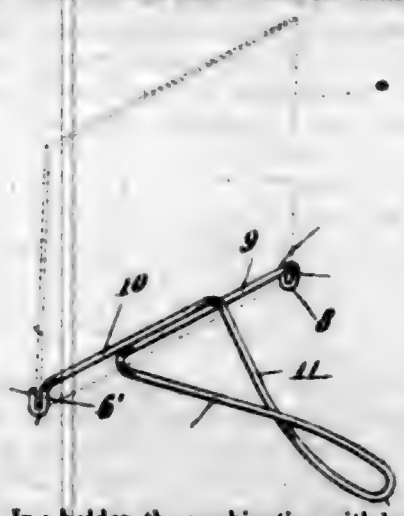
Claim.—1. In an implement for imparting vibratory impact, the combination of a cylinder having closed ends and having a permanently-open inlet-port at one end, an inlet-port and an exhaust-port, and a plunger having a small-area end face exposed to the permanently-open inlet-port and a large-area end face having an inlet and an exhaust channel opening through it and formed with a circumferential inlet-channel and a circumferential exhaust-channel

respectively connected to said channels and respectively registering with the inlet-port and exhaust-port at opposite ends of its throw.

2. In an implement for imparting vibratory impact, the combination of a cylinder having one end closed and formed at the other end with a smaller-diameter neck having openings in its end and a socket for the attachment of the vibration instrument and said cylinder having a permanently-open inlet-port at the neck end and an inlet-port and an exhaust-port, and a plunger having a neck at one end sliding in the cylinder-neck and a circumferential inlet-channel registering at one end of the throw with the inlet-port and communicating with a channel-opening through the large-area face of the plunger and a circumferential exhaust-channel registering at the other end of the throw with the exhaust-port and communicating with a channel opening through the large-area face of the plunger.

3. In an implement for imparting vibratory impact, the combination of a cylinder 1 having neck 2 and socket 6, and formed with a lateral neck 8 and inlet-ports 16 and 21 and exhaust-port 22, a handle 9 in said neck, and a plunger 14 having a neck 15 and formed with a circumferential inlet-channel 17 having channels 19 and 20 and a circumferential exhaust-channel 18 having a channel 23.

803,878. CARD AND MERCHANDISE HOLDER. CHARLES O. CHAPIN, Lombard, Ill., assignor to Chapin Manufacturing Company, Chicago, Ill. Filed Nov. 28, 1904. Serial No. 234,348.



Claim.—1. In a holder, the combination with back-supports for supporting the back of the article to be held, holding-loops formed integral with said back-supports and extending at right angles therefrom, and a back-rest, substantially as described.

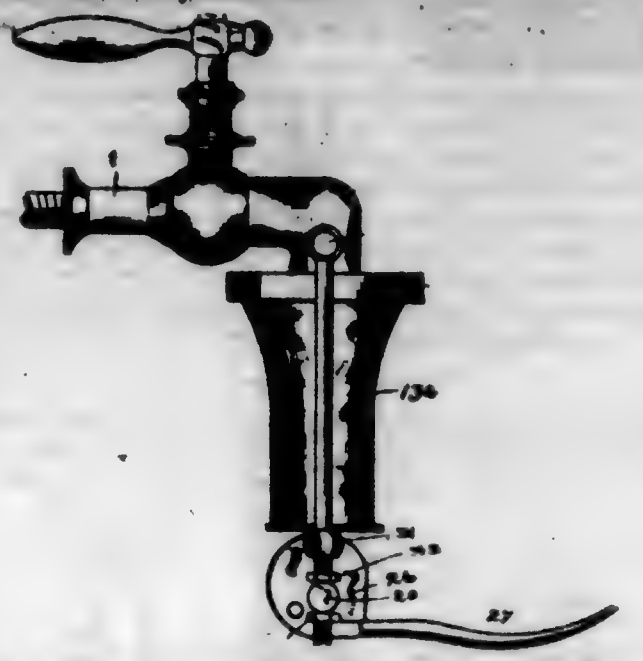
2. In a holder, the combination with the back-supports for supporting the article to be held, of loops for holding said article, and the back-rest bent in the form of a loop, the wire of said loop being crossed, substantially as described.

3. In a holder, the combination with holding-loops adapted to be adjusted for various-sized cards, the back-supports for supporting the back of the card in whatever adjustment the loops may be placed, and the back extensions crossing each other and forming a rest in the shape of a loop, substantially as described.

803,879. FILLING DEVICE FOR GLASSES. JOHN F. CHRISTIN, Chicago, Ill. Filed Dec. 28, 1904. Serial No. 238,671.

Claim.—1. In filling devices for glasses, the combination of a faucet provided in its end with an air-chamber open at its lower end and closed against the escape of air elsewhere, a flat sealing-head outwardly projecting from the faucet, a sealing-ring secured to the under face of the flat head and surrounding the open mouth of the air-chamber, arms rigidly secured to and depending from the studs, a filling-tube passing through the air-chamber in the faucet, a platform slidably mounted between the arms, a cross-rod extending between the arms, a cam pivoted thereto and adapted to abut against the platform, and a lever for operating the cam the air-chamber having a sufficient capacity to allow the air driven out from the glass to be compressed into the chamber, substantially as described.

2. In filling devices for glasses, the combination of a faucet provided in its end with an air-chamber open at its lower end and closed against the escape of air elsewhere, a flat sealing-head outwardly projecting from the faucet, a sealing-ring secured to the under face of the flat head and surrounding the open mouth of the air-chamber, arms rigidly secured to and depending from the studs, a filling-tube passing through the air-chamber in the faucet, a platform slidably mounted between the arms, and means for raising and lowering the platform to bring the rim of a glass into contact with the sealing-ring, the air-chamber having a sufficient capacity to allow the air driven out from the glass to be compressed into the chamber substantially as described.



3. In filling devices for glasses, the combination of an L-shaped faucet provided in its vertical section with an air-chamber open at its lower end and having a sufficient capacity to allow the air driven out from the glass to be compressed into the chamber, a filling-tube passing through the air-chamber, a flat sealing-head secured to the faucet near its end and provided in its under face with a recess, a sealing-ring entered into the recess and surrounding the open mouth of the air-chamber, an inner bushing adapted to bear against the inner rim of the ring, an outer collar provided with a lip to bear against the outer rim of the ring, studs outwardly projecting from the faucet, arms rigidly secured to and depending from the studs and screw-threaded at their lower ends, a platform provided with arms terminating in collars slidably mounted on the depending arms, a cross-rod adjustably mounted on the screw-threaded ends of the depending arms, nuts for vertically adjusting the cross-rod, a cam pivoted on the cross-rod and adapted to bear against the under face of the platform, and a lever for moving the cam, substantially as described.

4. In filling devices for glasses, the combination of a faucet having secured thereto a sealing-head and having a filling-tube passing therethrough, a sealing-ring secured to the under face of the sealing-head, studs outwardly projecting from the faucet, arms depending from the studs and screw-threaded at their lower ends, inwardly-projecting arms slidably mounted on the side arms and connected at their inner ends by a platform, a supporting cross-bar formed in two sections, one of the sections being provided with a recess and the other with a stud entered thereinto, leaving a connecting portion of less diameter than the remainder of the sectional bar, a cam pivotally mounted on the reduced connecting portion and positioned between the remaining portions of enlarged diameter and adapted to abut against the platform for raising the same, and nuts entered onto the screw-threaded ends of the depending side arms for regulating the position of the supporting cross-bar, substantially as described.

803,880. DEVICE FOR USE IN CONNECTION WITH VELOCITY-METERS. EDWARD S. COLE, Upper Montclair, N. J. Filed July 3, 1904. Serial No. 215,294.

Claim.—1. The combination with a pair of tubes adapted for use in connection with meters for flowing streams, of means for connecting said tubes together, the tubes being rotatable relatively to said means, and a spring for holding the tubes against rotation, substantially as described.

2. The combination with a pair of tubes provided with bent ends, of a yoke connecting the tubes together, the tubes being rotatable relatively to the yoke and provided with grooves, and a spring carried by the yoke and adapted to engage said grooves, substantially as described.

3. The combination with a pair of tubes, of supporting or holding means therefor, and means for spreading or separating the tubes from one another to cause them to bind in the holding means, substantially as described.

4. The combination with a pair of tubes, of a pair of plates on said tubes, said plates being pivoted together, and means for swinging the plates apart so as to spread the tubes, substantially as described.

5. The combination with a pair of tubes, of a pair of plates 16 and 17 carried thereby, said plates being pivoted together at 18, and a rod 19 provided with a projection 20, said rod being carried by one of the plates and arranged to act upon the other to separate the tubes, substantially as described.



6. The combination with a main or conduit, of a pair of tubes provided with bent ends adapted for insertion therein, a tubular member attached to the conduit and provided with means for supporting or holding the tubes, the latter being independently rotatable, whereby they can be turned to swing their bent ends inwardly, and the tubular member having an orifice of such size that the tubes with their ends turned in can be drawn or passed through it, whereby the tubes can be inserted in and withdrawn from the main or conduit through such tubular member, substantially as described.

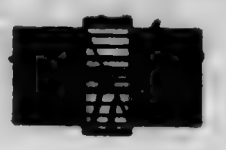
7. The combination with a main or conduit, of a pair of tubes provided with bent ends, means for connecting the ends of the tubes together, a plug 1 connected with the main or conduit, a detachable member 3 detachably connected with the plug 1 and supporting the tubes, the latter being independently rotatable, whereby their bent ends can be turned in and the aperture or orifice of the plug 1 being of such size as to permit the passage of the tubes with their ends turned in, through it, and means for locking the tubes against rotation, substantially as described.

8. A device of the class specified, comprising a pair of tubes having bent ends providing orifices, means for connecting the ends of said tubes together, a member 3 adapted for attachment and detachment to the main or an attaching member thereon, the tubes being independently rotatable, and means for locking the tubes against rotation, substantially as described.

9. A device of the class specified, comprising a pair of independently-rotatable tubes having bent ends forming orifices, a yoke connecting said tubes together near their bent ends, a spring carried by said yoke and adapted to engage the tubes to hold them against rotation, the tubes being provided with means for engaging the spring, an attaching member 3, a clamp consisting of clamping members 12, 12, and an adjusting-screw 13 for clamping the tubes against rotation, and vanes 15, 15, on said tubes, substantially as described.

10. A device of the class specified, comprising a pair of independently-rotatable tubes having bent ends and provided with grooves, a yoke connecting said tubes together near their bent ends, a spring carried by said yoke and adapted to engage the grooves in said tubes, a clamping device for engaging the other ends of the tubes and locking them against rotation, an attaching member 3, and a spreading device consisting of plates 16 and 17 mounted loosely on the tubes and pivoted together at one end, and a rod 19 having a handle 22 extended through the member 3 and provided with a projection 20 adapted to act against one of the plates 16, 17, said rod being connected with the other plate, substantially as described.

908,881. SELF-SOLDERING THERMAL PROTECTOR. FRANK B. COOK, Chicago, Ill. Filed Mar. 28, 1904. Serial No. 200,171.



Claim.—1. In a thermal cut-out for electric circuits, the combination of a cylindrical piece of resistance material flattened at each end, an annular groove in the resistance material, a series of holes in the said groove, a metallic ring placed in the said groove, heat-susceptible material in the said holes and adapted to hold the said ring in a fixed position, means for securing the device in a fixed position, and means for engaging the said ring and thereby turning same, when the heat-susceptible material is softened.

2. In a thermal protector for electric circuits, the combination of a cylindrical piece of homogeneous resistance material flattened at each end thereof, an annular groove in the resistance material midway between the flattened ends, a series of holes in the bottom of the said groove, a metallic ring in the said groove, a series of teeth on the said ring, a diagonal split in the said ring adapted to allow the latter to be sprung in the said groove, heat-susceptible material in the said holes and adapted to hold the said ring from turning in the said groove, spring means adapted to engage the said flattened ends of the resistance material and thereby hold the protector in a fixed position, and a circuit-controlling spring adapted to engage a tooth of the said ring and to turn the latter within the said groove, upon the passage of an abnormally large current through the protector, and thereby open the circuit, substantially as described.

3. In a thermal cut-out for electric circuits, the combination of a cylindrical piece of graphite flattened at each end thereof, an annular groove in the said graphite, a series of holes in the said groove, a metallic ring placed in the said groove, heat-susceptible material in the said holes and adapted to hold the said ring in a fixed position, means for securing the device in a fixed position, and means for engaging the said ring and thereby turning same, when the heat-susceptible material is softened.

4. In a thermal protector for electric circuits, the combination of a cylindrical piece of graphite flattened at each end thereof, an annular groove in the graphite midway between the flattened ends, a series of holes in the bottom of the said groove, a metallic ring in the said groove, a series of teeth on the said ring, a diagonal split in the said ring adapted to allow the latter to be sprung in the said groove, heat-susceptible material in the said holes and adapted to hold the said ring from turning in the said groove, spring means adapted to engage the said flattened ends of the graphite and thereby hold the protector in a fixed position, and a circuit-controlling spring adapted to engage a tooth of the said ring and to turn the latter within the said groove, upon the passage of an abnormally large current through the protector, and thereby open the circuit, substantially as described.

5. In a thermal protector for electric circuits, a piece of resistance material, a conductor surrounding the resistance material, indentures in the resistance material, heat-susceptible material in the said indentures for normally holding the said conductor from turning, and means for engaging the said conductor to turn same upon the resistance material when the heat-susceptible material is softened.

6. In a thermal protector for electric circuits, a piece of resistance material, an annular groove in the resistance material encircling same, a conductor in the said groove, indentures in the said groove, heat-susceptible material in the said indentures for normally holding the said conductor from moving, and means for engaging the said conductor to move same upon the resistance material when the heat-susceptible material is softened.

7. In a thermal protector for electric circuits, a piece of homogeneous resistance material, an annular groove in the resistance material encircling same midway between the ends thereof, a conducting-ring in the said groove, indentures in the said groove, heat-susceptible material in the said indentures for normally holding the ring from turning, a series of engaging devices on the said ring, and circuit-controlling means for engaging an engaging device to turn the said ring upon the resistance material when the heat-susceptible material is softened.

8. In a thermal protector for electric circuits, a piece of resistance material, an annular groove in the resistance material encircling same midway between the ends thereof, a conducting-ring in the said groove, indentures in the said groove, heat-susceptible material in the said indentures for normally holding the ring from turning, and means for engaging the said ring to turn same upon the resistance material when the heat-susceptible material is softened.
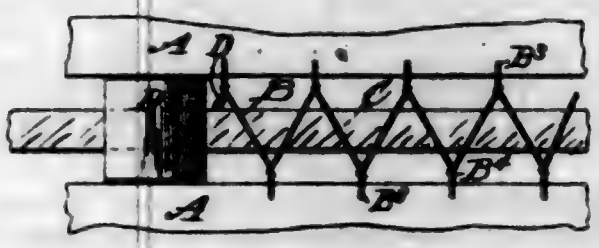
9. In a thermal protector for electric circuits, a piece of resistance material, indentures in the resistance material, a conducting-ring encircling the resistance material, heat-susceptible material in the said indentures for normally holding the ring from turning, a series of engaging devices on the said ring, and means for engaging an engaging device to turn the said ring upon the resistance material when the heat-susceptible material is softened.

10. In a thermal protector for electric circuits, a piece of graphite for inclusion in the circuit, a conductor surrounding the graphite, indentures, in the graphite, heat-susceptible material in the indentures for normally holding the said conductor from turning, and means for engaging the said conductor to turn same upon the graphite when the heat-susceptible material is softened.

11. In a thermal protector for electric circuits, a piece of graphite, an annular groove in the graphite encircling same midway between the ends thereof, a ring in the said groove, indentures, or the like, in the said groove, heat-susceptible material in the said indentures for normally holding the ring from turning, a series of engaging devices on the said ring, and means for engaging an engaging device to turn the said ring upon the graphite when the heat-susceptible material is softened, the cooling of the heat-susceptible material after operation again securing the said ring to the graphite for another operation.

12. In an electrical circuit-protector of the character described, resistance material for producing heat, a groove in the resistance material, a conductor carried by the groove and encircling the resistance material, heat-susceptible material normally holding the said conductor in the said groove, and means for turning the said conductor upon the resistance material when the heat-susceptible material is softened.

808,882. TRIMMING. DAVID B. COON, Troy, N. Y., assignor to Coon Brothers, Troy, N. Y., a Firm. Filed June 28, 1905. Serial No. 267,442.

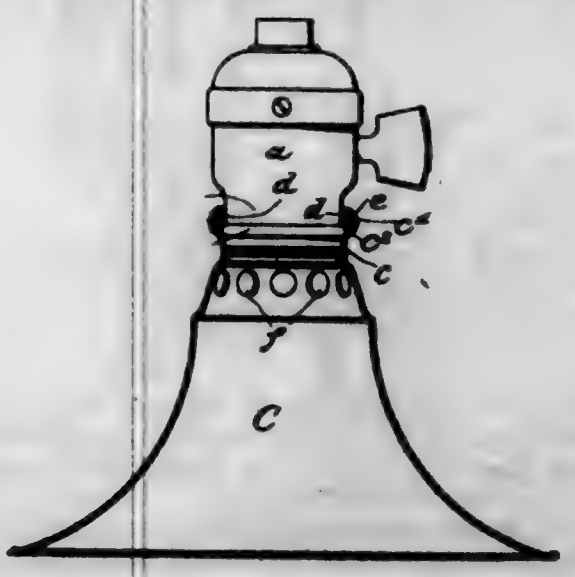


Claim.—1. A trimming comprising adjacent pieces of fabric, an insertion-piece disposed between the edges thereof, and stitching passing through said edges and across opposite sides of said insertion-piece to support the same intermediate of the edges of the adjacent fabric.

2. A trimming comprising adjacent pieces of fabric, an insertion-piece disposed between the same, and a thread stitched through the edges of said fabric and also intermediate of the edges and said piece at opposite sides thereof.

3. A trimming comprising adjacent pieces of fabric, a cord or strand disposed between the same and parallel thereto, and a faget-stitch extending diagonally of the cord and between the adjacent fabric, one stitch thereof being disposed intermediate of the cord and the adjacent fabric at each side of the cord.

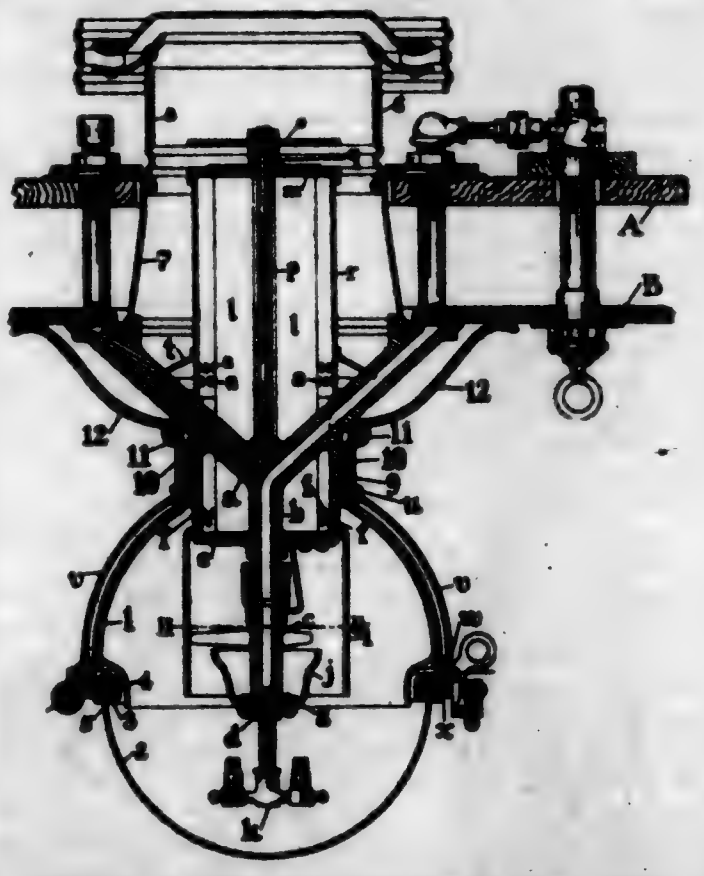
808,883. INCANDESCENT-LAMP-SHADE HOLDER. JOHN H. DALE, New York, N. Y. Filed Dec. 20, 1904. Serial No. 237,942.



Claim.—1. The combination with a lamp-socket having a neck portion and an annular external bead, of a shade having a neck portion adapted to fit on the socket-neck portion and having an internal-grooved portion at the end of the neck, whose end diameter is larger than its neck portion, to pass over the said socket-bead, and a coil-spring located in the shade-grooved portion arranged to engage the socket-bead when the members are connected and force the bead into engagement with the groove portion adjacent the neck.

2. The combination with an incandescent-lamp socket, comprising a cylindrical portion having a circumferential bead, of a shade having a hollow cylindrical portion for receiving said socket to a point beyond said bead and having an internal annular groove of larger area than the bead, and a helical spring having tangentially-disposed helices within said groove for engaging said bead.

808,884. LAMP. ROBERT M. DIXON, East Orange, N. J., assignor to Safety Car Heating & Lighting Company, a Corporation of New Jersey. Filed June 15, 1903. Serial No. 161,494.



Claim.—1. In a lamp, the combination of a series of independent elongated flues or chimneys, a tubular casing located below the said chimneys and adapted to deliver products of combustion thereto, and a burner device located below the said chimneys and delivering products of combustion into the casing.

2. In a lamp, the combination of a series of independent elongated flues or chimneys, a tubular casing located below the said chimneys and adapted to deliver products of combustion thereto, a burner device located below the said chimneys and delivering products of combustion into the casing i, and a cup-shape reflector located below the chimneys and within the periphery of the casing.

3. In a lamp, the combination of a series of flues or chimneys, a casing located below the said chimneys and adapted to deliver products of combustion thereto and an inverted-cup-shape reflector located within the said casing at a sufficient distance below the flues to leave a considerable free unobstructed space between the top of the reflector and the lower ends of the flues.

4. In a lamp, the combination of a ring or bezel x, a clamping-ring 3 having an outturned lip located within the said ring or bezel x and a globe 2 having an inturned lip adapted to be held between the outturned lip of the ring 3 and the ring or bezel x substantially as and for the purposes described.

5. In a lamp, the combination of a main frame or support, a gasway suspended therefrom, a burner suspended from the gasway, a plurality of elongated flues or chimneys supported by the main frame or support and located above the burner, a casing intervening between the burner-cluster and the draft tubes or flues, and a translucent inclosure for the burner and casing, the space within the translucent inclosure around the burner and the casing being entirely unobstructed.

6. In a lamp, the combination of a body-casting having its lower portion of substantially tubular form and externally screw-threaded

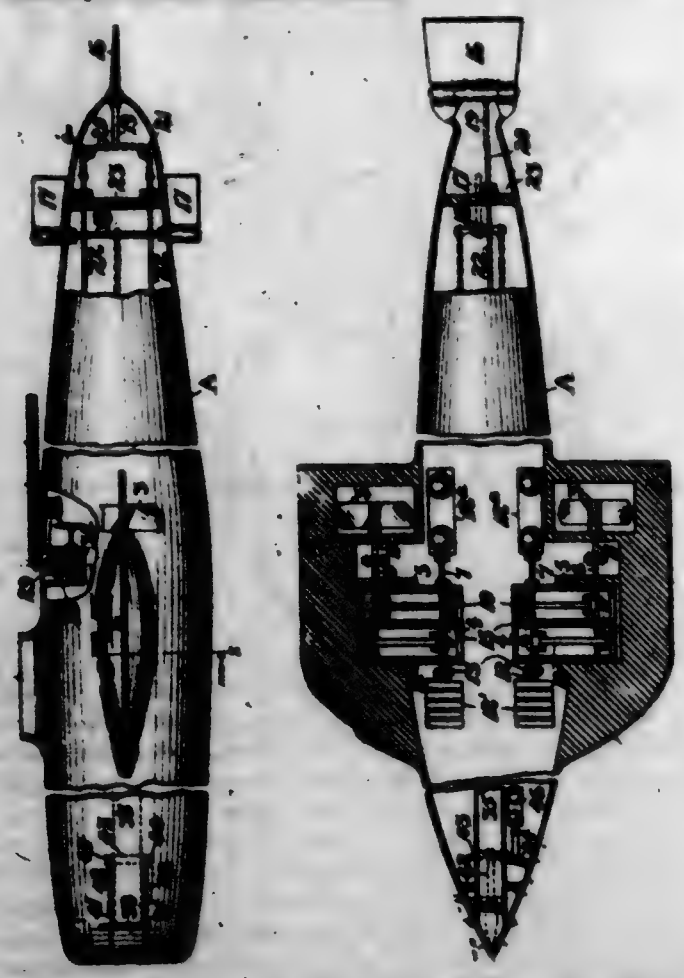
and an internally-screw-threaded annular support a surrounding and screwed over the said body-casting and provided with depending supporting-arms for a globe.

7. In a lamp, the combination of a series of independent elongated flues or chimneys, a reflector i located below the said chimneys and adapted to deliver products of combustion thereto, a cluster of burners located below the said chimneys and delivering their products of combustion into the reflector i.

8. In a lamp, the combination of draft-producing means, a tubular casing below the draft-producing means, a cup-shaped reflector coöperating with the said tubular casing and a burner below the tubular casing and a translucent inclosure inclosing the burner, reflector and casing, the space within the translucent inclosure around the burner, reflector and casing being entirely unobstructed.

9. In a lamp, the combination of a series of independent elongated flues or chimneys, a tubular casing located below the said flues or chimneys and adapted to deliver products of combustion thereto, a burner device located below the said chimneys and delivering products of combustion into the casing and a cup-shaped reflector located below the chimneys and a translucent inclosure for the casing, cup-shaped reflector and burner device, the space within the translucent inclosure around the casing being entirely unobstructed.

908,885. SUBMARINE BOAT. HALVOR O. HIAPE, U. S. Navy. Filed Sept. 12, 1904. Serial No. 224,105.



Claim.—1. In a submarine boat or vessel, the combination of a hull, laterally-disposed hydroplanes beneath the surface of the water, propellers arranged at the sides of the vessel, said hydroplanes being chambered and removable crank-cases in the chambers of said hydroplanes and accessible from inside the hull, connections between said crank-cases, the propellers and a source of power.

2. The combination in a submarine boat or vessel of a hull, laterally-disposed hydroplanes having chambers extending beyond the lines of the hull, removable crank-cases in said chambers, propellers at each side of the hull, propeller-shafts therefor, a crank-shaft in each of said crank-cases, detachable connections between said crank-shafts and their respective propeller-shafts, and connections between said crank-shafts and a source of power.

3. In a submarine boat or vessel, the combination of a propelling and steering means, of an air-tube pivoted in the body of the vessel, means for causing said tube to stand at various angles relative to the axis of the vessel, and air-passages in said tube connecting through water-tight connections with the interior of the vessel.

4. In a submarine boat or vessel, the combination with suitable propelling means of an air-tube having a plurality of air-passages extending longitudinally through it, said tube pivoted in the body of the vessel, connections between the air-passages of the tube and the interior of the vessel, and means for turning said tube about its pivots.

5. In a submarine boat or vessel, the combination with suitable propelling means of an air-tube having a plurality of air-passages extending longitudinally through it, said tube pivoted in the body of the vessel, connections between the air-passages of the tube and the interior of the vessel, means for turning said tube about its pivots, said means including a segmental rack on the tube and a worm engaging said rack.

6. In a submarine boat or vessel, the combination with suitable steering and propelling means of an air-tube pivoted in the vessel and adapted to be projected outwardly from the vessel, said tube having a plurality of air-passages, and a plurality of air connections and valved connections through the pivots of the tube between said air-passages and the interior of the vessel.

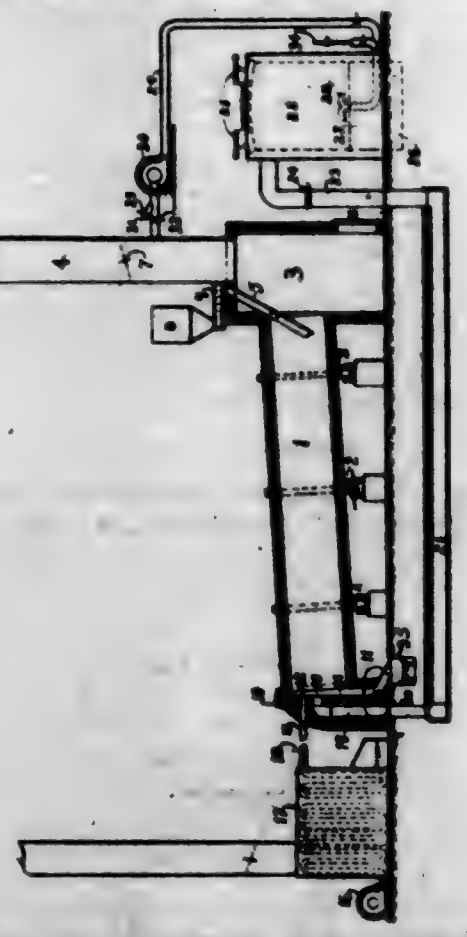
7. In a submarine boat or vessel having suitable propelling and steering means of a torpedo-tube opening beneath the surface of the water, a closure for the mouth of said tube, said closure comprising a pair of hinged, oppositely-operating jaw-plates having rearward extensions, and means engaging said extensions for operating the said jaw-plates in unison from the interior of the vessel.

8. In a submarine boat or vessel having suitable steering and propelling means, a torpedo-tube and a closure for the outer end of said tube, said closure comprising two plates hinged at opposite sides of the vessel and having rearward extensions, said plates adapted to close over the end of the tube, and means engaging said extensions for operating said plates in unison.

9. In a submarine boat having suitable steering and propelling means, a torpedo-tube opening at the prow of the vessel, a closure for said tube, said closure comprising two hinged jaws coöperating to fold over the end of the tube, said jaws having rearward extensions, and means for operating said extensions from the interior of the vessel to open and close the jaws simultaneously.

10. In a submarine boat having suitable steering and propelling means, a torpedo-tube opening at the prow of the vessel, a closure for said tube, said closure comprising two hinged jaws coöperating to fold over the end of the tube, said jaws having slotted crossed rearward extensions, and means for operating said extensions from the interior of the vessel to open and close the jaws simultaneously.

908,886. TREATMENT OF IRON ORES, &c. CARLETON ELLIS, New York, N. Y. Filed June 5, 1905. Serial No. 263,889.



Claim.—1. Process for reducing iron ores which consists in treating a progressively-advancing stream of the ore with a flame of high heat intensity and in interposing between said flame and ore a flame or current of a reducing character.

2. Process for manufacturing metallic iron which consists in treating a progressively-advancing stream of finely-divided ore with

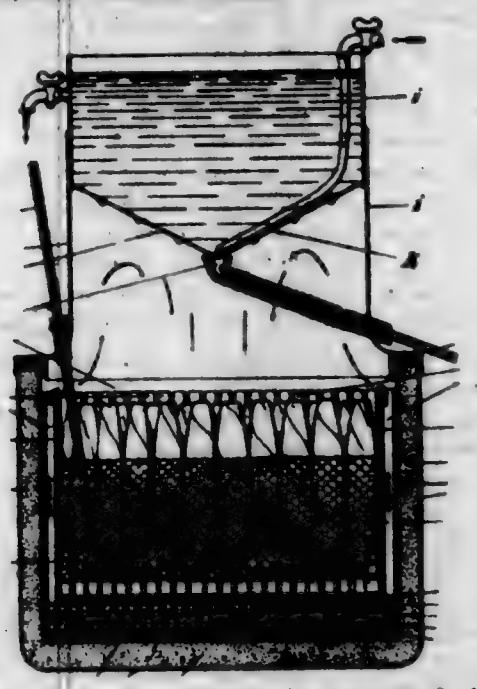
a high-temperature flame, and in interposing between said high-temperature flame a stratum of a reducing-gas.

3. Process for manufacturing metallic iron which consists in treating a progressively-advancing stream of finely-divided ore with a high-temperature flame, and in interposing between said high-temperature flame a stratum of producer-gas.

4. Process for manufacturing metallic iron which consists in subjecting an ore of iron to a flame of high heat intensity and in interposing between said flame and ore a flame or current of a reducing character.

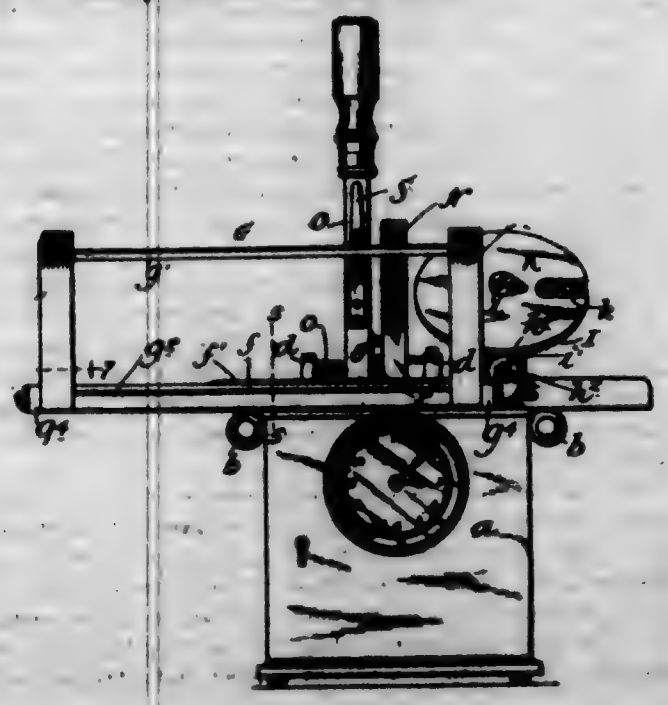
5. Process for manufacturing iron which consists in subjecting an ore of iron in combination with a flux to a flame of high heat intensity and in interposing between said flame and ore a flame or current of a reducing character.

808,887. PROCESS OF REMOVING NICOTIN FROM ARTICLES MADE OF TOBACCO. ADOLF FALK, Vienna, Austria-Hungary. Filed Feb. 8, 1902. Serial No. 141,461.



Claim.—A process for reducing the amount of nicotin contained in tobacco by means of a slow dry distillation, consisting in suspending the articles to be treated in a substantially closed vessel, protecting them from the heat radiating from the interior walls of the vessel, gradually heating the lower part of the vessel and its contents to a maximum of 150° to 193° Celsius according to the kind and dimensions of the articles to be treated and for the purpose of freeing the tobacco from its moisture and nicotin, cooling the upper side of the vessel so that the rising vapor will be condensed thereon, draining the condensed liquid from the upper side of the vessel to the exterior and continuing the operation until the nicotin has been removed to the desired extent.

808,888. TIME-RECORDER. WILBUR I. FOLLETT, New York, N. Y. Filed Apr. 26, 1905. Serial No. 257,422.



Claim.—1. A card time-recorder comprising the combination of a time-card holder normally standing in an upright position to receive a card and adapted to be rocked to the plane of printing, means for so rocking it and means for making an impression upon the contained card when the holder is depressed.

2. A card time-recorder, comprising printing-wheels, a pivoted card-holder, adapted to be rocked to bring a contained card to the printing-plane, and movable platen for their making an impression upon the card.

3. A card time-recorder comprising the combination of a pivoted time-card holder normally standing in an upright position and adapted to be rocked to the plane of printing, means for so rocking it and a spring-actuated printing-hammer tripped to deliver its blow when the holder is in printing position.

4. A card time-recorder comprising the combination of a time-card holder normally standing in an upright position and adapted to be depressed to the plane of printing, means for so depressing it, a printing-hammer, its actuating-spring, means whereby the tension of the spring is increased as the card-holder is moved to the printing-plane, and means for tripping the hammer.

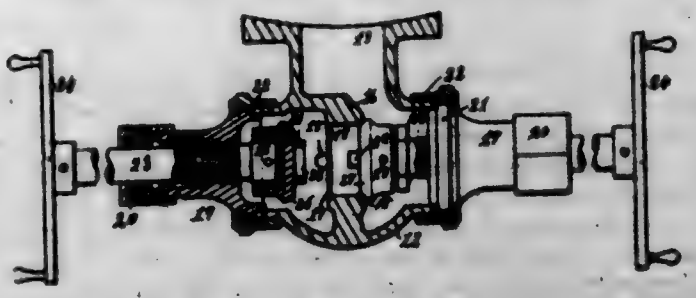
5. A card time-recorder comprising the combination of a card-holder standing normally in an upright position and adapted to be depressed to the plane of printing, a spring whose reaction returns the card-holder to normal position, a rocking hand-bar having a spring acting to depress the card-holder, a spring whose reaction restores the hand-bar to normal position, a printing-hammer, its actuating-spring, and means whereby on depression of the hand-bar the hammer is tripped when the card-holder is in the printing-plane.

6. A card time-recorder comprising the combination of a card-holder standing normally in an upright position and adapted to be depressed to the plane of printing, a spring whose reaction returns the card-holder to normal position, a rocking hand-bar having a spring acting to depress the card-holder, a spring whose reaction restores the hand-bar to normal position, a printing-hammer, its actuating-spring, means whereby the tension of the hammer-spring is increased as the hand-bar is rocked to depress the card-holder, and means for tripping the hammer when the card-holder is in the printing-plane.

7. A card time-recorder comprising the combination of a card-holder standing normally in an upright position and adapted to be depressed to the plane of printing, a spring whose reaction returns the card-holder to normal position, a rocking hand-bar having a spring acting to depress the card-holder, a spring whose reaction restores the hand-bar to normal position, a printing-hammer, its actuating-spring, means whereby the tension of the hammer-spring is increased as the hand-bar is rocked to depress the card-holder, means for tripping the hammer when the card-holder is in the printing-plane, and means whereby the hand-bar in returning to normal position by the reaction of its spring carries the hammer to normal position.

8. A card time-recorder comprising the combination of a pivoted card-holder, a spring holding it in normal position, means for rocking the holder into printing position, a spring-actuated hammer and means for tripping the hammer when the holder is in printing position.

808,889. THROTTLE-VALVE. CHARLES H. FOX, Cincinnati, Ohio, assignor to The Ahrens Fire Engine Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Apr. 29, 1905. Serial No. 257,969.



Claim.—1. A throttle-valve formed with a steam-passage and provided with two valve-disks mounted on the respective stems and movable independently thereby in opposite directions to close the passage.

2. A throttle-valve formed with a circular passage and provided with valve-disks swiveled on respective stems in registration with the passage and with each other and on opposite sides of the passage, said disks being movable independently with the respective stems in opposite directions to close the passage.

3. In a throttle-valve, a body formed with a partition having a

circular passage therethrough, valve-stems adjustably supported on opposite sides of the partition in the axial line of the passage, and valve-disks swiveled on the respective stems and independently movable thereby in opposite directions to close the passage.

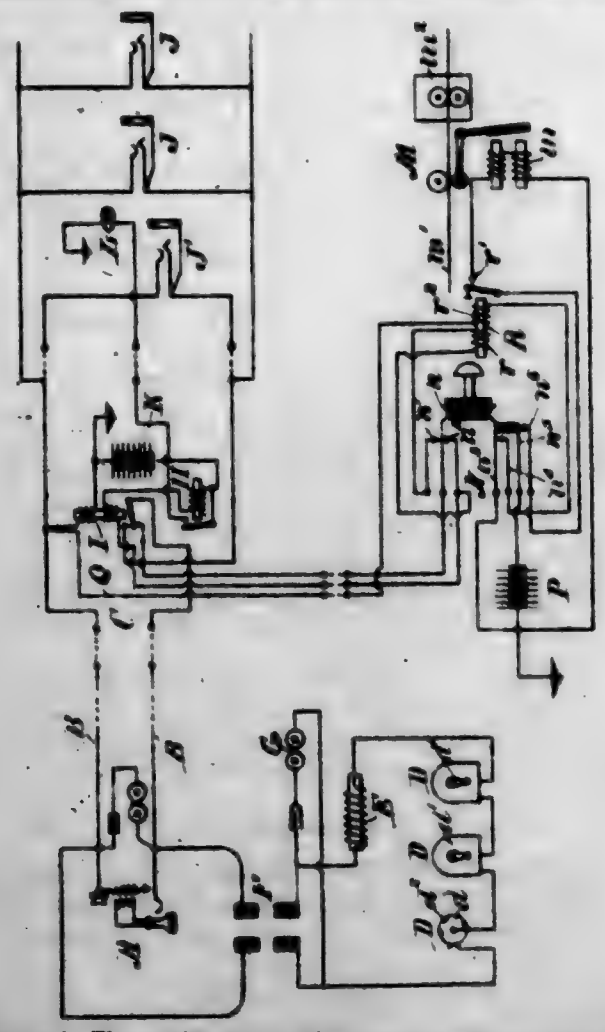
4. In a throttle-valve, independently-adjustable valve-disks arranged to close opposite ends of a steam-passage formed in an interposed partition, said disks being formed with nuts on their respective opposing faces, one of said nuts being larger than the other and formed with a recess, for the purpose specified.

5. In a throttle-valve, similar valve-disks swiveled on stems and movable thereby toward each other and formed with nuts on their respective opposite faces, the one having a central recess adapted to loosely inclose the other nut.

6. In a throttle-valve, the combination with a body, a partition having a circular passage, a stem adjustable toward one side of the partition and a valve-disk thereon in registration with the passage, of an additional stem independently adjustable toward the opposite side of the partition, and a valve-disk thereon in registration with the passage.

7. A throttle-valve provided with oppositely-extended valve-stems, each being independently adjustable in the same line and provided with a crank on one end and a valve-disk on the other end adapted to close the valve when the crank is turned, and brackets secured at fixed points to support the respective stems.

808,880. TELEPHONE NIGHT-WATCH SYSTEM. WILLIAM GROELLE, Rochester, N. Y. Filed Oct. 17, 1904. Serial No. 228,322.



Claim.—1. The combination with a telephone-line leading from a subscriber's station to a central exchange, of watchman's signaling apparatus located at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of said subscriber's telephone instrument, a watchman's time recorder at the central exchange, and means controlled by said signaling apparatus and acting through the telephone-line-signal equipment of said central exchange, for operating said recording device.

2. The combination with a telephone-line leading from a subscriber's station to a central exchange, of watchman's signaling apparatus located at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of said subscriber's telephone instrument, a watchman's time-recorder at the central exchange, and means controlled by said signaling apparatus acting in conjunction with the telephone-line-signal apparatus at said exchange, for operating said recording device.

3. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling apparatus located at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of said subscriber's telephone instrument, a signal-recording device at the central exchange, and means controlled by said signaling apparatus and operated by current from the telephone-line-signaling-current source, for operating said recording device.

4. The combination with a telephone-line leading from a subscriber's station to a central exchange, of a signaling apparatus located at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of said subscriber's telephone instrument, a signal-recording device at the central exchange, and a relay controlled by said signaling apparatus and operated by current from the telephone-line-signaling-current source, for operating said recording device.

5. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling apparatus at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of the subscriber's telephone instrument, a signal-recording device at the central exchange, means controlled by said signaling apparatus and operated by current from the telephone-line-signaling-current source for operating said recording device, and means for sustaining the action of said recorder-operating means when the line-signal circuit of said exchange is broken in answering a telephone-line call.

6. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling apparatus located at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of said subscriber's telephone instrument, a signal-recording device at the central exchange, a relay controlled by said signaling apparatus and operated by current from the telephone-line-signaling-current source, for operating said recording device, and means for sustaining the action of said relay when the line-signal circuit of said exchange is broken in answering a telephone-line call.

7. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling apparatus located at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of said subscriber's telephone instrument, a signal-recording device at the central exchange, and a relay controlled by said signaling apparatus and normally energized by current from the telephone-line-signaling-current source.

8. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling apparatus located at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of said subscriber's telephone instrument, a signal-recording device at the central exchange, a relay controlled by said signaling apparatus and operated by current from the telephone-line-signaling-current source, and means arranged to connect said relay normally in series with said signaling apparatus and source of line-signaling current.

9. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling apparatus located at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of said subscriber's telephone instrument, a signal-recording device at the central exchange, a relay controlled by said signaling apparatus and operated by current from the telephone-line-signaling-current source, and means arranged to connect said relay normally in series with said signaling apparatus and source of said telephone-line-signaling current, and means to maintain the action of said relay when the telephone-line-signal circuit is broken in answering a line-call.

10. The combination with a telephone-line leading from a subscriber's station to a central exchange, of watchman's signaling apparatus and an auxiliary line call-signal device located at the subscriber's station, means to connect said signaling apparatus and call-signal device across the telephone-line independently of the subscriber's telephone instrument, a watchman's time-recorder at said exchange, means at said exchange controlled by said signaling apparatus and operating in conjunction with the line-signal equipment of said exchange for operating said time-recorder, the said auxiliary line-signal device adapted to be operated by regular line-call apparatus of said exchange.

11. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling apparatus located at the subscriber's station, means to connect said signal devices across the telephone-line independently of the subscriber's telephone instrument, a signal-recording device at the central exchange, a relay for operating said recording device, a line telephone-signal battery at said exchange, means to connect said relay normally in

circuit with said battery through the windings of the line-signal and cut-off relays and through the signaling apparatus at the subscriber's station without interfering with the telephone-service of the line, and means for sustaining the action of said relay when the circuit of the telephone-line-signal current is broken in answering a line-call.

12. The combination with a telephone-line leading from a subscriber's station to a central exchange, of a plurality of circuit-interrupting series-connected signaling devices located at said subscriber's station, means to connect said signaling apparatus across said telephone-line independently of said subscriber's telephone instrument, a watchman's time-recorder at the central exchange, and means controlled by said signaling devices and operated by current from the telephone-line-signal-current source and acting through the telephone-line equipment of said central exchange for operating said recording device.

13. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling devices located at said subscriber's station, means to connect said signaling devices across said telephone-line independently of the subscriber's telephone instrument, a signal-recording device at the central exchange and a source of current for operating the same, a relay for controlling the operation of said recording device, said relay adpted to be normally excited by current from the line-signaling-current source at said exchange and to be excited by current from the cord-circuit of said exchange when the line-signaling circuit is broken by the insertion of the operator's plug in the answer-jack, and an operator's switch device adapted and arranged to maintain the normal line-signal circuit, to connect the windings of said recorder-relay in their respective circuits and to connect the recorder-operating current to said recorder-relay, substantially as described.

14. The combination with a telephone-line leading to a central exchange, of signaling means located at a distance from said exchange and arranged to be connected across the telephone-line independent of a subscriber's telephone instrument, a signal-receiving device located at said central exchange, and means adapted and arranged to be connected in circuit with the said signaling means and the telephone-line-signaling circuit, for controlling said signal-receiving device.

15. The combination with a telephone-line leading to a central exchange, of signaling means located at a distance from said exchange and arranged to be connected in the telephone-line circuit independent of a subscriber's telephone instrument, a signal-receiving device located at said central exchange, a relay at the exchange for operating said signal-receiving device, said relay connected in the line-signal circuit, operated by current from the line-signal-current source and controlled by said distant signaling means.

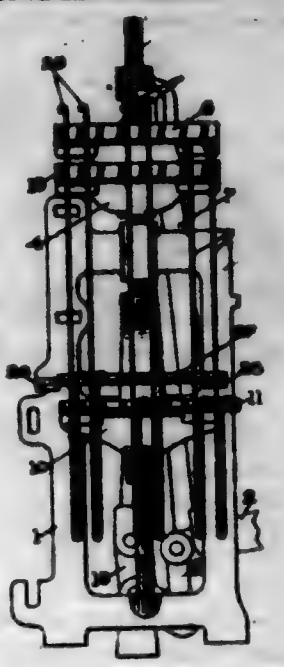
16. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling means located at the subscriber's station, a retarding-coil also located at said subscriber's station in circuit with said signaling means, means to connect said signaling means and retarding-coil across said telephone-line independent of the subscriber's telephone instrument, a signal-receiving device at the central exchange, and means controlled by said signaling means and operated by current from the telephone-line-signaling-current source at said exchange, for operating said signal-receiving device.

17. The combination with a telephone-line leading from a subscriber's station to a central exchange, of signaling means located at the subscriber's station independent of the subscriber's telephone instrument, a signal-receiving device, a source of current and a relay for operating the same at said central exchange, a source of telephone-line-signaling current also at said exchange, means to connect said relay in circuit with said source of telephone-line-signaling current and said signaling means at said subscriber's station over the telephone-circuit and through the windings of the exchange-signal relays, for operating said relay, without interfering with the telephone-service of the line.

808,891. JACQUARD MECHANISM FOR LOOMS. HERMAN OBER, Providence, R. I., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed June 20, 1904. Serial No. 213,207.

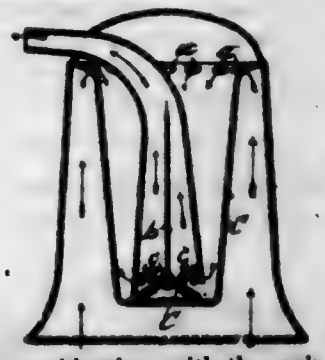
Claim.—1. In a jacquard mechanism, the combination with the top griff and bottom griff, having a rising-and-falling motion, of an additional griff, located below the top griff, and having a rising-and-falling motion of a less degree than the top griff, substantially as shown and described.

2. In a jacquard mechanism, an additional griff located between the top griff and bottom griff, and having a rising-and-falling motion, substantially as shown and described.



3. In a jacquard mechanism, the combination with the top griff and bottom griff, having a rising-and-falling motion, of an additional griff located below the top griff, and having a rising-and-falling motion, and a stationary plate located above the bottom griff, substantially as shown and described.

808,892. AURIPHONE. ROBERT W. GOMM, Syracuse, N. Y. Filed Apr. 18, 1905. Serial No. 256,257.



Claim.—1. The combination, with the main shell, of a reverberant shell attached at the periphery of its rear end to the main shell adjacent to the closed end thereof and provided thereat with a series of perforations and having its opposite end closed, an inwardly-extending spindle attached to the center of the closed end of the reverberant shell, and the transmitting-tube disposed in proximity to said spindle as set forth.

2. The combination, with the main shell, of the reverberant shell having the periphery of its rear end corresponding to the interior of the main shell and attached thereto and provided with perforations thereat and having its front end closed and formed with an inward depression, an inwardly-extending spindle attached to the center of the said depression, and the transmitting-tube disposed in proximity to said spindle as set forth and shown.

3. The combination, with the main shell, and transmitting-tube, of the reverberant shell closed at its front end and communicating at its rear end with the main shell, an inwardly-extending spindle attached to the closed end of the reverberant shell, and a diaphragm attached to said spindle as set forth.

4. The combination, with the main shell and transmitting-tube, of the reverberant shell closed at its front end and attached at the periphery of its rear end to the main shell and provided thereat with a circumferential row of perforations, an inwardly-extending spindle attached to the center of the closed end of the reverberant shell, a diaphragm attached to said spindle, and a forwardly-tapering shell interposed between the reverberant shell and transmitting-tube and attached at the periphery of its rear end to the main shell adjacent to the crown thereof substantially as set forth.

808,893. FILLING ATTACHMENT. ERNEST H. GUAS, Chicago, Ill. Filed Dec. 20, 1904. Serial No. 238,094.

Claim.—1. A filling device comprising a casing provided with fluid inlet and outlet ports connected by a water-passage, and with air inlet and outlet ports connected by an air-passage, a single valve

seat arranged between said air inlet and outlet ports and between said water inlet and outlet ports, and a reciprocating valve arranged to engage said seats so as to close communication between said ports.

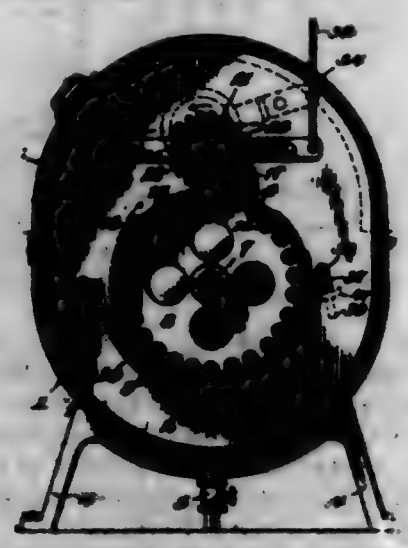


2. The combination with a casing provided with a valve-chamber and with water and air passages, of a valve adapted to simultaneously close said water and said air passages, said air-passage connecting with said valve-chamber and said valve-stem being provided with longitudinal and transverse air-passages also connecting with said valve-chamber.

3. The combination with a casing provided with a valve-chamber and with water and air passages, of a single valve-seat disposed across said passages a reciprocating valve adapted to simultaneously close said air and water passages, said air-passage communicating with said valve-chamber when the valve is open, the structure being provided with an air-vent leading from said valve-chamber.

4. A filling device, comprising a casing provided with fluid inlet and outlet ports connected by a water-passage, and with air inlet and outlet ports connected by an air-passage, a single valve-seat arranged between said air inlet and outlet ports and between said water inlet and outlet ports, a reciprocating valve arranged to engage said seat so as to close communication between said ports, said fluid-passage between said fluid-inlet port and said valve-seat being constricted to a cross-area less than the minimum cross-area between said point of constriction and said fluid-outlet port.

803,894. WASHING-MACHINE. JAMES P. GORDON, Florence, Colo. Filed Dec. 31, 1901. Serial No. 87,317.



Claim.—1. In a washing-machine, the combination of a rotatable clothes-cylinder having a drive-wheel, a swinging frame which is capable of movement toward and away from the clothes-cylinder, a rotatable rubbing-cylinder carried by the frame, means for adjustably swinging the frame upon its pivotal support, a gear carried by one of the journals of the rubbing-roller, another gear mounted upon the pivotal support of the swinging frame and in mesh with the gear on the rubbing-roller, and an operative connection between the drive-wheel and the gear on the pivotal support of the swinging frame.

2. In a washing-machine, the combination with a casing, of a rotatable clothes-cylinder mounted within the casing and having one journal projected exteriorly thereof, a drive-wheel upon said journal, a shaft mounted in the opposite side of the casing and provided at one end with a gear adjacent to the drive-wheel, an operative connection between the drive-wheel and said gear, a swinging frame pivoted upon the shaft, a rotatable rubbing-roller mounted upon the swinging frame in operative relation to the clothes-cylinder and having one of its journals projected outwardly through the adjacent side of the casing, said side of the casing having an arcuate slot struck from the shaft as a center and receiving the projected journal of the rubbing-roller, a gear upon the projected journal of the rubbing-roller and in mesh with the first-mentioned gear, and means for adjustably swinging the frame upon its pivotal support.

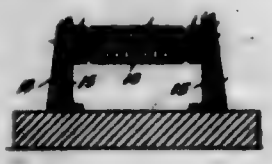
3. In a washing-machine, the combination with an open-work clothes-cylinder, of a clothes-holding device comprising opposite flexible members provided with terminal cylinder-engaging fastenings adapted to engage the cylinder at any point, and cross-bars connecting the flexible members.

4. In a washing-machine, the combination with an open-work clothes-cylinder, of a clothes-holding device comprising opposite flexible members, terminal hooks carried thereby at each end thereof for engaging the cylinder at any point, and cross-bars connecting said members.

5. As a new article of manufacture, a clothes-holding device for cylinder washing-machines, comprising opposite flexible members, terminal cylinder-engaging fastenings carried by said members, and cross-bars connecting the members.

6. As a new article of manufacture, a clothes-holding device for cylinder-machines, comprising opposite flexible ropes or cords, hooks at each end of the device for engaging a cylinder at any point, and cross-bars connecting the ropes and comprising opposite longitudinal members provided with semicylindrical seats embracing the ropes, and fastenings piercing the opposite end portions of the members and clamping the latter upon the ropes.

803,895. KNIFE-SWITCH. BIRD M. GRATRILL, Chicago, Ill. Filed Mar. 11, 1905. Serial No. 249,525.



Claim.—1. In a knife-switch, jaws for making contact with the knives, each composed of an outer rigid standard and an inner spring-blade, in combination with an insulated coiled spring pressing outwardly against the blades of both jaws.

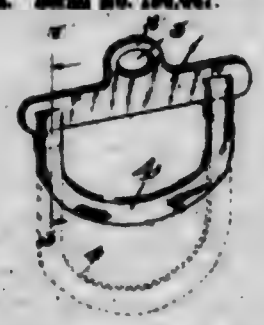
2. In a knife-switch, hinges each composed of an outer rigid standard, an inner spring-blade, and a uniting-pivot, and an insulated coiled spring pressing outwardly against the blades of both hinges.

3. In a knife-switch, jaws and hinges each having rigid members and yielding inner members, an outwardly-acting coiled spring between the jaws and an outwardly-acting coiled spring between the hinges.

4. In a knife-switch, the combination with the yielding members of the jaws for making the contacts with the knives, of a coiled spring, an insulated tube and insulating-blocks, supported between the yielding members and the blocks being pressed against such members by the spring

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803,896. NECKTIE-HOLDER. JAMES M. GWIN, Chicago, Ill. Filed Feb. 19, 1904. Serial No. 194,447.



Claim.—1. A device of the class specified, comprising a clip provided with means whereby it can be attached to the collar-button, and also provided with side extensions extending on opposite sides of said means of attachment, and an elastic loop arranged below said side extensions and attached to the outer ends thereof, substantially as described.

2. A device of the class specified, comprising a clip 1 provided with a closed aperture for attaching the clip to the collar-button and constructed with side extensions extending to the sides of said aperture, and an elastic band 4 forming a loop below the clip and having its ends attached to the outer ends of said side extensions, substantially as described.

3. A necktie-holder comprising a clip 1 having a projection 2 provided with an aperture 3, and an elastic band 4 having its ends secured to the opposite ends of the clip, substantially as described.

808,897. SPRING-CLIP. JOSEPH B. HALL, Providence, R. I., assignor, by mesne assignments, to Ring Paper Clip Company, a Corporation of Rhode Island. Filed Nov. 25, 1904. Serial No. 234,317.



Claim.—1. A paper-clip formed of a single piece of wire bent to form a plurality of clamping members, each of said members having a projection, each projection and the end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said free ends terminating inside of the frame.

2. A paper-clip formed of a single piece of wire coiled in a substantially circular shape and forming a plurality of clamping members, each of said members having a projection, each projection and the end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said free ends terminating inside of the coil.

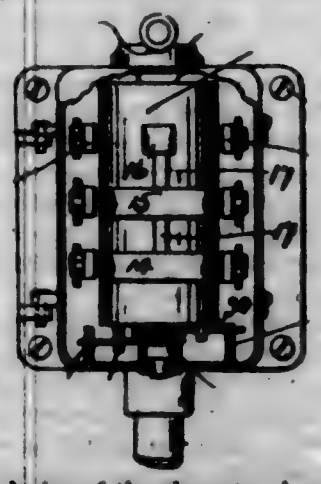
3. A paper-clip formed of a single piece of wire bent to form a frame with a plurality of clamping members, each of said members having a projection, each projection and the end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said free ends terminating inside of the frame, said clamping members being connected by a chordal bridge forming a stiffening saddle-piece.

4. A paper-clip formed of a single piece of wire coiled in a substantially circular shape and forming a plurality of clamping members, each of said members having a projection, each projection and the end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said free ends terminating inside of the coil, said clamping members being connected by a chordal bridge forming a stiffening saddle-piece.

5. A paper-clip formed of a single piece of wire bent to form a plurality of clamping members, each of said members having a projection, each projection and the end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said free ends terminating inside of the frame, said clamping members being each provided with an irregular or roughened engaging surface.

6. A paper-clip formed of a single piece of wire bent to form a plurality of clamping members, each of said members having a projection, each projection and the end of the wire nearest to said projection as measured along the wire, lying on opposite sides, respectively, of a diametrical plane bisecting the distance between the free ends of the wire, said free ends terminating inside of the frame, said clamping members being connected by a chordal bridge forming a stiffening saddle-piece, said clamping members being also each provided with an irregular or roughened engaging surface.

808,898. ELECTRIC SWITCH. ARTHUR E. HANDY, Providence, R. I., assignor to Rhode Island Elevator and Machine Company, Providence, R. I., a Corporation of Rhode Island. Filed Oct. 20, 1904. Serial No. 229,263.



Claim.—1 A device of the character described comprising a cylinder provided with main contact-strips and a smaller auxiliary contact-strip, means for rotating said cylinder, pivoted contact-fingers intercepting the path of movement of said strips, and means for automatically disengaging said auxiliary contact-strip from its contact-finger.

2. A device of the character described comprising a casing, a cylinder mounted therein and provided with main contact-strips and an auxiliary contact-strip, means for rotating said cylinder, pivoted contact-fingers intercepting the path of movement of said strips, a coil-spring having projecting ends, and pins carried by said cylinder and adapted to engage the projecting ends of said spring, whereby said auxiliary strip is automatically disengaged from its contact-finger.

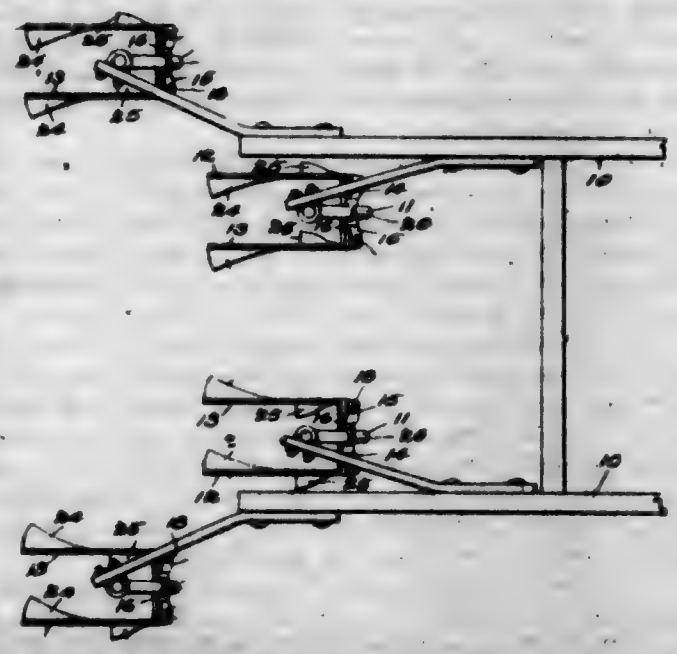
3. A device of the character described comprising a casing, a cylinder provided with main contact-strips and a smaller auxiliary contact-strip, means for rotating said cylinder, lugs mounted in said casing in juxtaposition with said strips, contact-fingers pivotally mounted in said lugs, and means for automatically disengaging said auxiliary contact-strip from its contact-finger.

4. A device of the character described comprising a casing, a cylinder provided with main contact-strips and a smaller auxiliary contact-strip, means for rotating said cylinder, lugs mounted in said casing in juxtaposition with said strips, spring-pressed contact-fingers pivotally mounted in said lugs, means for limiting the movement of said contact-fingers, and means for automatically disengaging said auxiliary contact-strip from its contact-finger.

5. A device of the character described comprising a casing, a cylinder provided with main contact-strips and a smaller auxiliary contact-strip, means for rotating said cylinder, pivoted contact-fingers intercepting the path of movement of said strips, means for limiting the movement of said fingers, and means for automatically disengaging said auxiliary contact-strip from its contact-finger.

6. A device of the character described comprising a casing provided with a locking-lug, a cylinder mounted in said casing and provided with main contact-strips and a smaller auxiliary contact-strip, a spring-pressed handle secured to said cylinder and adapted to engage said lug, pivoted contact-fingers intercepting the path of movement of said strips, and means for automatically disengaging said auxiliary contact-strip from its contact-finger.

808,899. CULTIVATOR-BLADE. JAMES S. HARLOW, Hay, Tex. Filed Aug. 7, 1905. Serial No. 273,103.



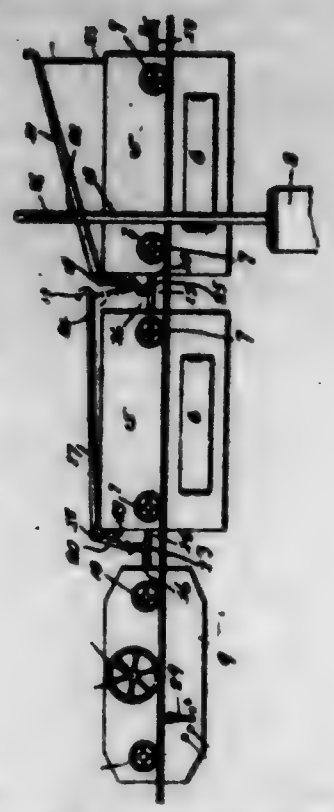
Claim.—1. A cultivator-blade formed of a blank sheet of metal wider at the rear end than at the forward end and with a V-shaped notch cut transversely in the lower edge, the metal being curved laterally at its lower edge and oppositely on opposite sides of the notch and having its lower edges reduced to a cutting edge.

2. In a cultivator, gangs of blades arranged in pairs and each formed of a blank sheet of metal wider at the rear end than at the forward end and with a V-shaped notch cut transversely in the lower edge, the metal being curved laterally at its lower edge and oppositely on opposite sides of the notch and having its lower edges reduced to a cutting edge, the said gangs being arranged to throw soil in opposite directions.

808,900. MAIL-DELIVERY APPARATUS. BARNETT W. HARRIS, Waveland, Ind. Filed Mar. 2, 1905. Serial No. 248,207.

Claim.—1. In a transportation system, the combination of a track having stations, a train of cars, and means for automatically

and successively detaching the cars and arresting the same at the successive stations.



2. In a transportation system, the combination with a track having stations, of a train made up of a motor-car and trailers successively coupled thereto, and means to automatically uncouple and arrest successive cars at their respective stations.

3. In a transportation system, the combination of a track having stations, catching devices for the respective stations, a train of cars successively coupled together, and means carried by each car for engagement with the catching device of one of the stations to uncouple said car and stop the same at said station.

4. In a transportation system, the combination of a track having stations, a train of successively-coupled cars traveling thereon, catching devices for the respective stations, an uncoupling device carried by each car, and a normally elevated lever fulcrumed upon the car and connected to the uncoupling device and having a portion arranged to be depressed by the catching device and thereby actuating the uncoupling device.

5. In a transportation system, the combination of a track having stations, a train of successively-coupled cars traveling upon the track, uncoupling means for each car including a yieldable trip having a hook, and a catching device for each station located in the path of one of the trips for contact therewith to actuate the uncoupling means and to engage the hook of the trip to arrest the car.

6. In a transportation system, the combination of a track having stations, catching devices for the stations, a train of successively-coupled cars traveling upon the track, uncoupling means carried by each car, a yieldable trip carried by each car in coöperative relation with the uncoupling means and disposed for engagement with one of the catches, means to normally hold each trip in an inoperative position, and means controlled by each trip for releasing the next adjacent trip when moved by one of the catching devices.

7. In a transportation system, the combination of a track having stations, catching devices for the stations, a train of cars traveling upon the track, couplers for the cars, yieldable trip devices carried by the respective cars for engagement with respective catching devices, means extending between each trip device and the adjacent coupler to hold the trip device in an inactive position, and means actuated by the movement of each trip device when engaged with one of the catches to simultaneously release the coupler and free the adjacent trip.

8. In a transportation system, the combination of a track having stations, catching devices provided for the respective stations, a train of cars traveling upon the track, couplers for the successive cars, uncoupling devices for the couplers, a spring-pressed upwardly-inclined trip-lever fulcrumed upon each car for contact with one of the catching devices, means extending between the trip and the adjacent coupler to hold the trip in an inactive position, and a pivotal arm actuated by the lever for simultaneously actuating the adjacent uncoupling device and releasing the next adjacent trip-lever.

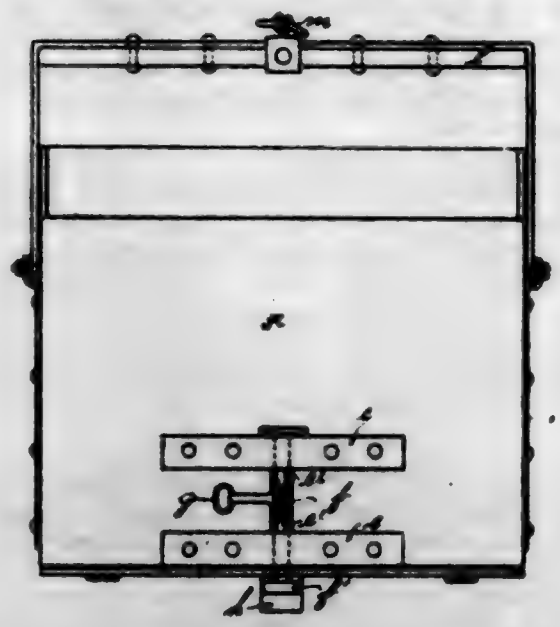
9. In a transportation system, the combination of a track having stations, a train of cars traveling upon the track, catching devices located at the respective stations and yieldable in the return direction only of the train, and means carried by each car for engagement with one of the catching devices to uncouple and arrest said car, the catching devices being yieldable to permit the return of the train.

10. In a transportation system, the combination of a track having stations, a train of successively-coupled cars including a motor having a reversing device, means to successively uncouple and arrest the cars at their respective stations beginning with the rearmost car, and a trip located at one end of the track in the path of the reversing device to automatically actuate the latter and reverse the motor, the cars being free at the successive stations to be returned to the initial end of the track by the return of the motor.

11. In a transportation system, the combination of a track having stations, catching devices for the stations, a train of successively-coupled cars traveling upon the track, each coupler consisting of a socketed member upon one car, an arrow-headed member carried by the other car for engagement with the socket, and a locking-pin carried by the socket for engagement with the arrow-headed member, a lever fulcrumed upon the top of the car, means to yieldably elevate the same into position for engagement with one of the catching devices, a pendent arm carried by the lever, and a finger carried by the arm and engaging the locking-pin to move the latter out of engagement with the arrow-headed member when the lever is depressed by contact with the catching device.

12. In a transportation system, the combination with a pair of cars, one of the cars being provided with a socketed coupler member, a locking-pin carried by the said coupler member, an arrow-headed coupler member carried by the other car to enter the socketed member and be engaged by the locking-pin, a lever fulcrumed upon the top of each car and provided at its forward end with a pendent arm disposed in front of the car, a finger carried by the lower end of the arm for engagement with the adjacent locking-pin, a flexible connection depending from the rear end of the lever, and a link carried by the flexible connection to receive the arrow-headed member when engaged with the socketed member and capable of being automatically drawn therefrom when the cars are uncoupled by the depression of the lever.

803,901. EXCAVATING-BUCKET. WILLIAM HEYWOOD, Cincinnati, Ohio. Filed Mar. 27, 1905. Serial No. 252,377.



Claim.—1. An excavating-bucket comprising top, bottom, sides and end, the end provided with reinforcing-strips and being hinged at its lower side, a hasp secured to the end, a latch secured to the bucket top and adapted to take through said hasp and lock the end in place, a bail secured to the bucket sides and provided with rings or hooks, and reinforcing-strips secured to the bucket sides to prevent the collapsing of the bail and the bucket sides, substantially as shown and for the purpose described.

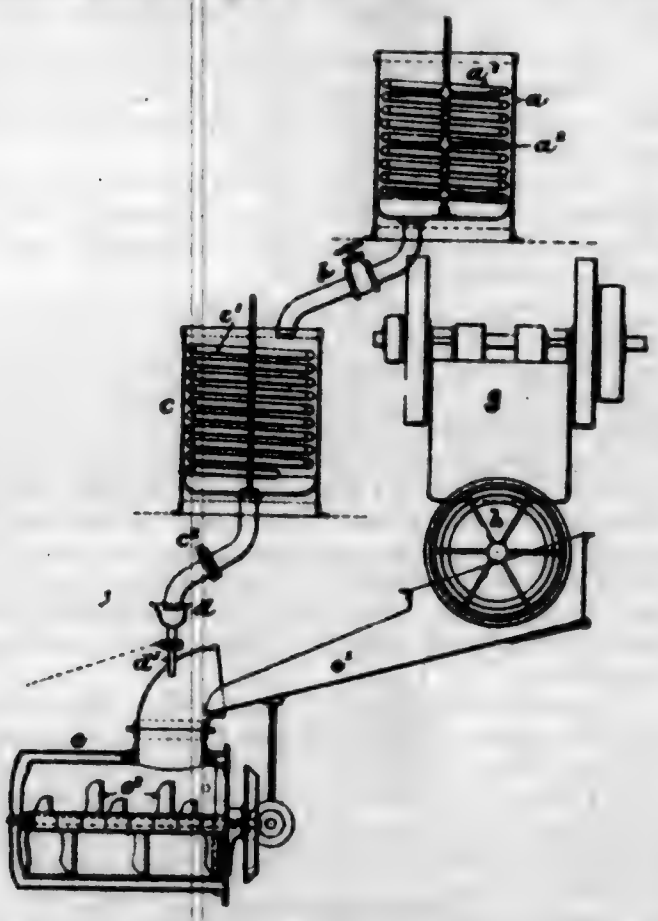
2. An excavating-bucket having a top, bottom, sides and end, the sides sloping away from the bottom toward the top, the end hinged at its bottom to the bucket bottom, the straps of said hinges extending along the outside of said bottom to form runners, a latch secured to the top of the bucket and engaging with top of the end whereby the same is normally held in place, a bail having the width of the bucket secured to the sides thereof, substantially as shown and described.

3. An excavating-bucket having its sides sloping away from the bottom toward the top at the forward open end thereof, the rear

end being provided with a flap hinged at its bottom, said flap provided with a hasp extending beyond its top, a latch secured to the bucket top and taking through said hasp, means secured to said flap whereby the bucket may be tilted, runners secured along the bucket bottom, and means whereby the bucket may be drawn and lifted, substantially as shown and described.

4. An excavating-bucket having its sides sloping away from the bottom toward the top at the forward open end, the rear end being provided with a flap hinged at its bottom to the bottom of the bucket, a reinforcing-strap secured to said flap and forming a part of the hinge, a latch secured to the bucket top and engaging with the free end of the flap, straps or runners secured along the bucket bottom and forming parts of the hinge, one of said runners or straps extending beyond the rear end of the bucket and provided with a clevis or ring, means secured to the flap whereby the bucket may be tilted, a bail secured to the sides of the bucket and diagonal straps secured to the bucket sides and providing pivotal points for the bail, substantially as shown and for the purpose described.

808,902. **TAR MACADAM AND METHOD OF PREPARING SAME.** EDGAR P. HOOLEY, Nottingham, England, assignor to Tarmac, Limited, Spring Vale, England. Filed Nov. 3, 1902. Serial No. 129,948.



Claim.—1. The process of preparing tar macadam consisting in mixing coating material with newly-solidified hot slag that is to be coated, both the material to be coated and the coating material being at a high temperature throughout the process, as set forth.

2. The process of preparing tar macadam consisting in mixing coating material with newly-solidified hot slag that is to be coated, the coating material being at a temperature of about 212° Fahrenheit previous to mixing, which temperature is substantially maintained throughout the process.

3. Tar macadam consisting of newly-solidified hot slag and tarring material which have been thoroughly mixed while at a high temperature, substantially as described.

4. Tar macadam consisting of newly-solidified hot slag and tarring material which have been thoroughly mixed while at a high temperature the tarring material having penetrated the new hot slag, substantially as described.

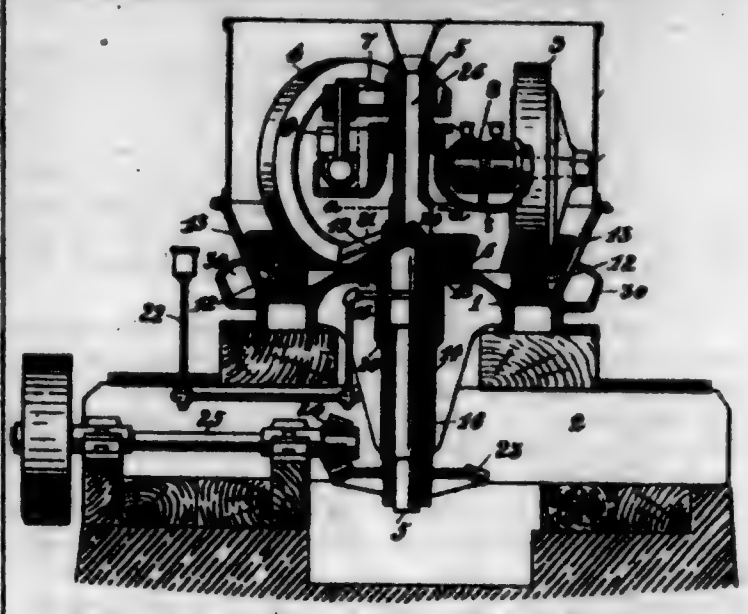
5. Tar macadam consisting of newly-solidified hot slag, tar and pitch which have been thoroughly mixed while at a high temperature, substantially as described.

6. Tar macadam consisting of newly-solidified hot slag, tar, pitch and Portland cement, which have been thoroughly mixed while at a high temperature, substantially as described.

7. Tar macadam consisting of newly-solidified hot slag, tar, pitch, Portland cement and resin, which have been thoroughly mixed while at a high temperature, substantially as described.

8. Tar macadam consisting of newly-solidified hot slag, tar, pitch, Portland cement and resin, which have been thoroughly mixed while at a high temperature, the coating ingredients being in the proportions specified.

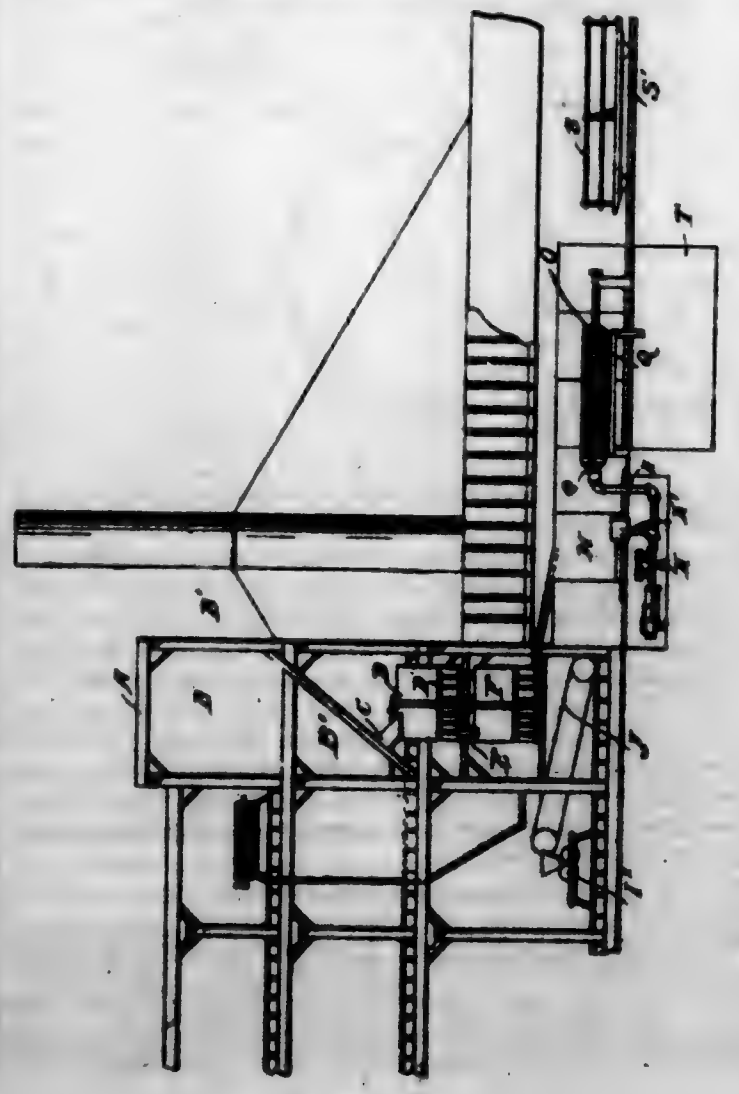
808,903. **ORE-CRUSHING MACHINE.** GEORGE JOHNSTON, San Francisco, Cal. Filed Dec. 26, 1894. Serial No. 532,196.



Claim.—1. In a roller crushing-machine of the character described, a pan, a die-ring therein, a sleeve depending centrally from the bottom of said pan, a rotary shaft within and sustained wholly by said sleeve, means for rotating said shaft from the bottom, and rotary crushing-rollers, rolling on said die-ring and actuated by said shaft, substantially as specified.

2. In a roller crushing-machine of the character described, a pan, a die-ring therein, a sleeve depending centrally from said pan, a rotary shaft within and sustained wholly by said sleeve, said shaft being hollow and provided with lateral passages delivering on a fixed conical apron, means for rotating said shaft from the bottom, and rotary crushing-rollers, rolling on said die-ring and actuated by said shaft, substantially as specified.

808,904. **METHOD OF HYDRATING LIME.** JOHN G. JONES, Carthage, N. Y. Filed Mar. 13, 1905. Serial No. 249,939.



Claim.—1. A method of hydrating lime, consisting in slaking burnt lime with an excess of water, separating a large percentage of the water from the lime, and afterward passing the latter through a moist-air drier, as set forth.

2. A method of hydrating lime consisting in slaking burnt lime with an excess of water, separating a large percentage of the water from the lime by pressure, and afterward passing the latter through a moist-air drier, as set forth.

3. A method of hydrating lime, consisting in slaking burnt lime with an excess of water, then forcing the lime in a semifluid state through a filter-press to relieve same of a large percentage of water, and afterward passing the lime through a moist-air drier, as set forth.

4. A method of hydrating lime, consisting in slaking burnt lime with an excess of water, then forcing the lime, in a semifluid state into a filter-press and applying pressure thereto forming the lime into cakes and afterward passing the cakes through a moist-air drier, as set forth.

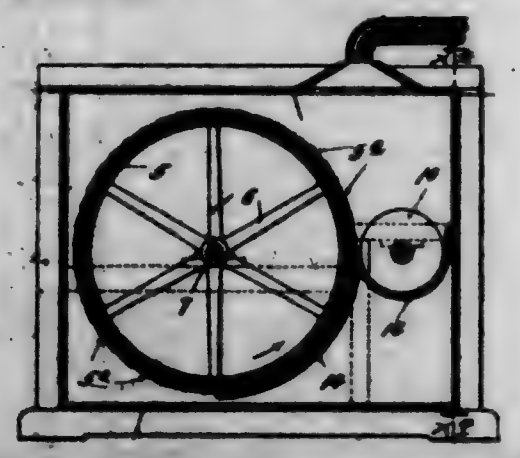
5. A method of hydrating lime, consisting in slaking burnt lime with an excess of water, forcing the lime in a semifluid state into a filter-press, applying pressure to the latter to relieve the lime of a large percentage of its water, forcing air through the cakes of lime formed in the press, and afterward passing the cakes through a moist-air drier, as set forth.

6. A method of hydrating lime, consisting of slaking burnt lime with an excess of water, forcing the lime, in a semifluid state into a filter-press, applying pressure to the latter to relieve the lime of a large percentage of water, afterward passing the cakes of lime formed in the press, through a moist-air drier to dry and bleach the lime, as set forth.

7. A method of hydrating lime, consisting in slaking burnt lime with an excess of water, forcing the lime in a semifluid state into a filter-press, applying pressure to the latter to relieve the lime of a large percentage of its water forming a saturated solution of lime utilized for slaking the burnt lime, and afterward passing the lime as it issues from the press, through a moist-air drier, as set forth.

8. A method of hydrating lime, consisting in slaking burnt lime with an excess of water, forcing the lime into a filter-press and applying pressure to the latter to relieve the lime of a large percentage of its water, passing the lime formed into cakes in the filter-press, through a moist-air drier to dry and bleach the lime, and afterward reducing the latter to pondered form, as set forth.

808,905. GRAIN-CLEANER. ANDREW KJELLGREN, Minneapolis, Minn. Filed Sept. 6, 1902. Serial No. 122,202.



Claim.—The combination with an inclosing case, of a drum rotatively mounted therein, and provided with a roughened periphery, a conveyer-trough extending within the said case longitudinally of the said drum and with one side open and so located that the material in said trough will engage directly with the periphery of said drum above the bottom of said trough, a conveyer working with the said trough for conveying the material longitudinally of said drum and in direct contact with the roughened periphery thereof, said case providing a chamber above said conveyer, and means rotating said drum in a direction to cause its upwardly-moving peripheral portion to directly engage the material in said trough and to throw the same in a shower into the chamber above said trough and conveyer, substantially as described.

808,906. SUB-MERGIBLE BOAT. HENRY A. KNOWE and EDWARD G. WILLIAMS, Brooklyn, N. Y. Filed Feb. 8, 1904. Serial No. 192,972.

Claim.—The cutter having an opening therein, a headed screw-bolt passed up through said opening, a ring on said screw-bolt above the cutter, a receptacle having an aperture to receive the said ring, and a handle screwed upon said bolt at the outside of the receptacle and formed with a head larger in diameter than that of the said ring, substantially as described.



808,907. LENS FOR EYEGLASSES. WILLIAM E. KNOWT, Dexter, Me., assignor of one-third to Robert F. Jean, Dexter, Me. Filed May 11, 1905. Serial No. 259,977.



Claim.—1. In a lens for eyeglasses, the combination with a long-distance field or vision, and a short-distance field or vision arranged to one side thereof and extending above the major axis of the long-distance lens; substantially as described.

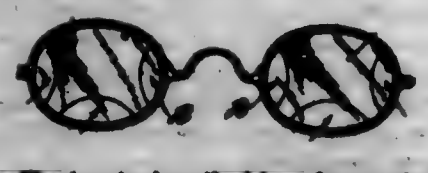
2. In a lens for eyeglasses, the combination with a lens focalized for long distances, and a lens for short distances located to one end of the long-distance lens and extending above and below the major axis thereof; substantially as described.

3. The herein-described lens for eyeglasses, the same comprising a reading vision or field 1 located in the lower portion of the lens, an intermediate vision or field 2 located at one side of the lens, and a long-distance vision or field 3 constituting the remaining portion of the lens; substantially as described.

4. The herein-described lens for eyeglasses, the same comprising a reading vision or field 1 located in the lower portion of the lens, an intermediate vision or field 2 extending at one side of the lens above the major axis thereof, said field or vision 2 thence extending laterally over the field or vision 1, said laterally-extending portion being below the major axis of the lens, and a long-distance field or vision 3 constituting the remaining portion of the lens; substantially as described.

5. In a lens for eyeglasses, the combination with a long-distance field or vision, and a short-distance field or vision arranged to one side thereof whereby when the wearer's line of sight is directed obliquely said line, with respect to one eye, will pass through the short-distance field or vision, and the line of sight from the other eye will pass through the long-distance field or vision; substantially as described.

808,908. LENS FOR EYEGLASSES. WILLIAM E. KNOWT, Dexter, Me., assignor of one-third to Robert F. Jean, Dexter, Me. Filed May 11, 1905. Serial No. 259,978.

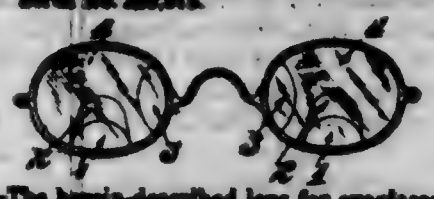


Claim.—1. The herein-described lens for eyeglasses, the same consisting of a lens having a short reading field or vision, located in the lower portion of the lens, intermediate fields or visions located at the ends of the lens and extending above the major axis thereof, and a long-distance field or vision constituting the major portion of the lens above its major axis; substantially as described.

2. The herein-described lens for eyeglasses, the same consisting of a short-distance field or vision 1, an intermediate field or vision 2 whose central portion is arranged below the major axis of the lens and whose ends extend above the major axis of the lens, and a long-distance field or vision constituting the principal portion of the lens above its major axis; substantially as described.

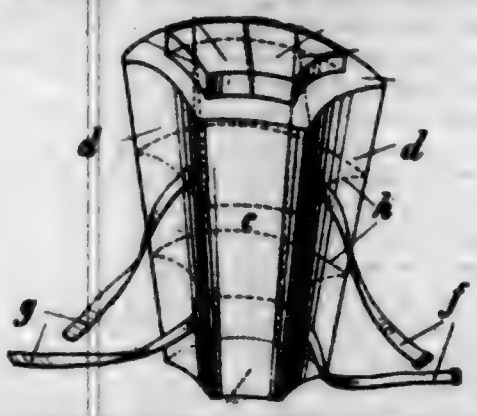
3. The herein-described lens for eyeglasses, the same consisting of a lens having a short reading field or vision located in the lower portion of the lens, intermediate fields or visions located at the ends of the lens, and a long-distance field or vision constituting the major portion of the lens above its major axis; substantially as described.

808,909. LENS FOR EYEGLASSES. William E. Ehrig, Dexter, Me., assignor of one-third to Robert F. Jess, Dexter, Me. Filed May 11, 1905. Serial No. 259,973.



Claim.—The herein-described lens for eyeglasses comprising a short reading field or vision 1 located in the lower portion of the lens, an intermediate field or vision 2 located above the field 1 and focalized at a walking distance, a field or vision 3 located at the inner end of the lens and focalized at a point between the fields 1 and 2, and a long-distance vision or field 4 comprising the major portion of the lens above its major axis; substantially as described.

808,910. FLOATING DEVICE. Leo Lehmann, Breslau, Germany. Filed July 20, 1904. Serial No. 217,494.



Claim.—A floating device comprising two ends, one thereof being smaller than the other, a convex top, a concave bottom of less width than said top, two concave side members connecting said top and bottom, said top, bottom and sides being connected to said ends, straps connected to said sides, partitions forming compartments within said device, and means of access to said device.

808,911. ROCK-CUTTING DRILL-BIT. John G. Letsch, Denver, Colo. Filed Sept. 2, 1903. Serial No. 171,653.

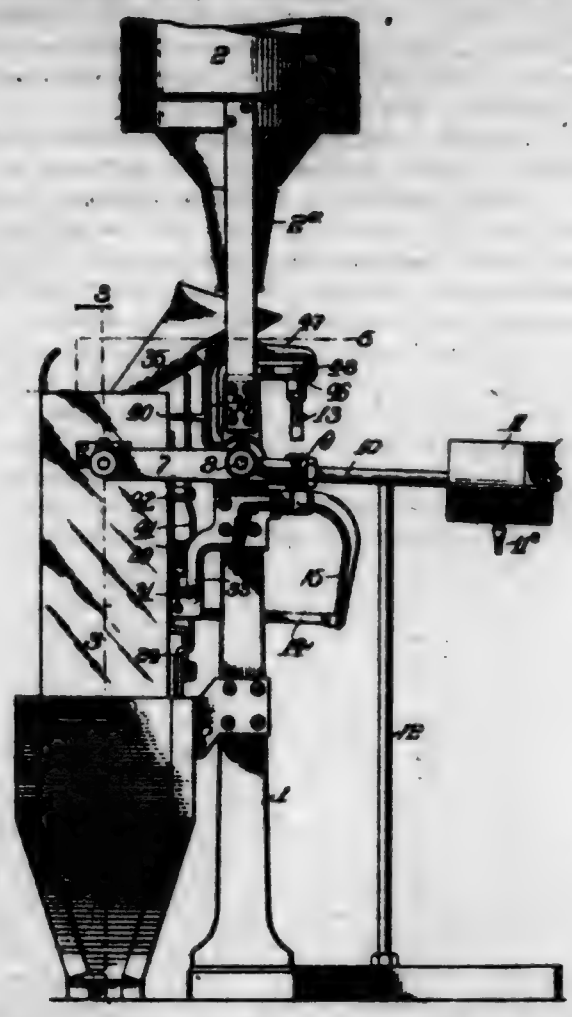


Claim.—1. A drill-bit, comprising a cylindrical hub, a series of radial cutters projecting from the end of said hub, leaving intermediate, triangular fillets, said cutters having their edges substantially in one plane, and a series of spaced, longitudinal ribs on the periphery of said hub, said ribs having parallel sides and being in alinement with and constituting integral, rearward extensions of said cutters, and the rectangular hub-spaces between said ribs being in alinement with said fillets.

2. A drill, comprising an apertured bit and a tubular striking-bar, said bit having a taper socket and said bar having a taper end fitting said socket but not extending to its bottom, whereby said bit is frictionally held on said bar but a continuous passage for fluid is provided, said bit comprising a cylindrical hub, a series of radial cutters projecting from the end of said hub, leaving intermediate, triangular fillets, said cutters having their edges substantially in one plane, and a series of spaced, longitudinal ribs on the periphery of said hub, said ribs having parallel sides and being in alinement with and constituting integral, rearward extensions of said cutters, and the rectangular hub-spaces between said ribs being in alinement with said fillets.

808,912. AUTOMATIC WEIGHING-MACHINE. George W. Letterer, Flint, Mich., assignor to Frank R. Hooper, Flint, Mich. Filed May 26, 1903. Serial No. 159,805.

Claim.—1. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments always open at their upper ends but alternately closed and opened at their lower ends, connected closures in the lower ends of the buckets, and pivoted and shiftable means for delivering to one or the other of the buckets a constant supply or stream of the article to be weighed, said means consisting of a spout pivoted laterally of the hopper and provided with projections 40, and a pivoted lever rocked by the movements of the hopper and cooperating with said projections to automatically shift the spout.



2. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments always open at their upper ends but alternately closed and opened at their lower ends, and pivoted and shiftable means for delivering to one or the other of the buckets a constant supply or stream of the article to be weighed, said means consisting of a spout pivoted laterally of the hopper with its delivery end extending into the plane of the hopper, a frame supporting the spout and rocking on a vertical axis, and means actuated by the weight of the contents of the buckets for emptying the latter and automatically shifting said frame and its spout to deliver said stream into the buckets alternately.

3. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments always open at their upper ends but alternately closed and opened at their lower ends, and pivoted and shiftable means for delivering to one or the other of the buckets a constant supply or stream of the article to be weighed, said means consisting of a spout secured to a frame and pivoted laterally of the hopper, and means arranged on one side of the hopper and controlled by the movements thereof for automatically shifting the frame and its spout.

4. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments always open at their upper ends but alternately closed and opened at their lower ends, and pivoted and shiftable means for delivering to one or the other of the buckets a constant supply or stream of the article to be weighed, said means consisting of a spout secured to a frame and pivoted laterally of the hopper, and a lever pivoted on one side of the hopper and rocked by the movements of the hopper to automatically shift the spout.

5. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments always open at their upper ends but alternately closed and opened at their lower ends, and pivoted and shiftable means for delivering to one or the other of the buckets a constant supply or stream of the article to be weighed, said means consisting of a spout pivoted laterally of the hopper and provided with projections 40, and a pivoted lever rocked by the movements of the hopper and cooperating with said projections to automatically shift the spout.

6. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments always open

at their upper ends but alternately closed and opened at their lower ends, and pivoted and shiftable means for delivering to one or the other of the buckets a constant supply or stream of the article to be weighed, said means consisting of a spout pivoted laterally of the hopper, a lever pivoted on one side of the hopper and coöperating with the spout to shift it, closures for the bottoms or lower ends of the buckets arranged to be alternately opened and closed, means for controlling the operation of said closures, and a swinging plate rocked by the movements of said closures and operatively connected with said controlling means and with said lever.

7. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments, movable bottoms or closures for the lower ends of said buckets, means for locking the bottoms in one position or the other, comprising a pair of latches pivotally connected with the bottoms, and a pair of pivoted dogs for tripping said means to unlock the bottoms when the weighing-hopper is moved by the weight of its contents.

8. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments, movable bottoms or closures for the lower ends of said buckets, means for locking the bottoms in one position or the other, comprising a pair of latches pivotally connected with the bottoms and reciprocated thereby, a main frame in which the hopper is mounted, and dogs pivoted on opposite sides of said frame for tripping said locking means.

9. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments, movable bottoms or closures for the lower ends of said buckets, means for locking the bottoms in one position or the other, said means comprising a pair of latches operating to lock the bottoms alternately and carried by and operatively connected with said bottoms, and means comprising a pair of pivoted dogs coöperating with said latches.

10. An automatic weighing-machine comprising means for delivering a supply or stream of the article to be weighed, a weighing hopper or receptacle, a main frame, a substantially U-shaped scale-beam comprising a cross-bar and parallel arms, said beam, having its parallel arms pivoted to the main frame and pivotally connected to said hopper and having a rod on its cross-bar connecting said arms, adjustable weights on said rod, a spout, a pivoted frame carrying said spout and mounted to rock on a vertical axis in the main frame, means for actuating said pivoted frame, and means actuated by the weight of the contents of the hopper for emptying the same.

11. An automatic weighing-machine comprising means for delivering a supply or stream of the article to be weighed, a weighing hopper or receptacle, a main frame, a substantially U-shaped scale-beam comprising a cross-bar and parallel arms, said beam having its parallel arms pivoted to the main frame and pivotally connected to said hopper and having a rod on its cross-bar connecting said arms, adjustable weights on said rod, a spout, a pivoted frame carrying said spout and mounted to rock on a vertical axis in the main frame, a hook-shaped projection 48 on the spout-frame, an extension-frame from the main frame and having a quadrant portion 45 having springs 46 with which said projection 48 coöperates, and an adjustable stop 13 depending from said extension-frame and coöperating with the scale-beam; substantially as described.

12. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments always open at their upper ends but alternately closed and opened at their lower ends, and pivoted and shiftable means for delivering to one or the other of the buckets a constant supply or stream of the article to be weighed, said means comprising a shiftable spout, a frame pivoted on a vertical axis and supporting the spout, and means controlled by the weight of the contents of the buckets for emptying the latter and shifting the spout.

13. An automatic weighing-machine comprising means for delivering a supply or stream of the article to be weighted, a weighing hopper or receptacle, a main frame, a substantially U-shaped scale-beam having its parallel arms pivoted to the main frame and pivotally connected to said hopper and having a rod on its cross-bar connecting said arms, adjustable weights on said rod, a spout, a pivoted frame carrying said spout and mounted to rock on a vertical axis in the main frame, a hook-shaped projection 48 on the spout-frame, an extension-frame from the main frame and having a quadrant portion 45 having springs 46 with which said projection 48 coöperates, an adjustable stop 13 depending from said extension-frame and coöperating with said rod, and an upright post or rod 12 extending from the base of the main frame and arranged to stop the downward movement of said rod and scale-beam; substantially as described.

14. An automatic weighing-machine comprising a stationary hopper adapted to afford a supply or stream of the article to be weighed, a movable weighing-hopper having two buckets or compartments, an inclined shiftable spout arranged between said hoppers and pivoted laterally of the weighing-hopper but with its delivery end arranged to deliver the stream into the particular bucket presented, bottoms or closures for said buckets movable in unison, a pair of locking-latches for alternately locking the bottoms, a plate connected and movable with the bottoms and on which the latches are pivoted, and a rocking lever forming an operating connection between the spout and the plate, and means for controlling the latches in the movements of the weighing-hopper.

15. An automatic weighing-machine comprising a stationary supply-hopper adapted to afford a supply or stream of the article to be weighed, a movable weighing-hopper having two buckets or compartments, a shiftable spout arranged between said hoppers and laterally of the weighing-hopper and adapted to divert the stream from one bucket to the other, a frame supporting the spout and provided with projections, bottoms for said buckets movable in unison to close one bucket and open the other, locking mechanism controlled by the movements of the weighing-hopper for locking and holding such bottoms in their adjusted or shifted positions, and means for shifting the spout from the filled to the empty bucket when the filled bucket is opened and comprising a rocking lever or arm actuated by said movable bottoms and engaging said projections.

16. In an automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments always open at their upper ends but alternately closed and opened at their lower ends, and means for delivering to one or the other of the buckets a supply or stream of the article to be weighed comprising a pivoted frame arranged to be rocked in unison with the opening and closing of the lower ends of the buckets, an inclined spout connected at its lower end with said frame and adapted to receive and to deliver the material to the buckets alternately, an arm connected with said pivoted frame and a pair of flat springs coöperating with said arm for holding the latter and the pivoted frame and its spout in their different shifted positions.

17. An automatic weighing-machine comprising a stationary supply-hopper adapted to afford a supply or stream of the article to be weighed, a movable weighing-hopper having two buckets or compartments, a shiftable spout arranged between said hoppers and pivoted laterally of the weighing-hopper and adapted to divert the stream from one bucket to the other, bottoms for said buckets movable in unison, resilient means for imparting a yielding pressure to the spout and tending to hold the latter in its adjusted positions, and means controlled by the contents of the buckets for actuating such bottoms and simultaneously shifting the spout from the filled to the empty bucket.

18. An automatic weighing-machine comprising a stationary supply-hopper adapted to afford a supply or stream of the article to be weighed, a movable weighing-hopper having two buckets or compartments, a shiftable spout arranged between said hoppers and adapted to divert the stream from one bucket to the other, bottoms for said buckets movable in unison to alternately close one bucket and open the other, a locking device operatively connected to said bottoms and adapted to lock them in one position or the other, and means comprising a pair of dogs for tripping the locking device when the weighing-hopper is moved by the weight of its contents said dogs being pivoted and spring-pressed into the path of movement of the locking devices.

19. An automatic weighing-machine comprising a stationary supply-hopper adapted to afford a supply or stream of the article to be weighed, a movable weighing-hopper having two buckets or compartments, a shiftable spout arranged between said hoppers and adapted to divert the stream from one bucket to the other, bottoms for said buckets movable in unison to alternately close one bucket and open the other, a locking device carried by and operatively connected to said bottoms and adapted to lock them in one position or the other, a main frame in which the weighing-hopper is mounted, and pivoted dogs arranged on opposite sides of said frame for tripping the locking device.

20. An automatic weighing-machine comprising a stationary supply-hopper adapted to afford a supply or stream of the article to be weighed, a movable weighing-hopper having two buckets or compartments, a shiftable spout arranged between said hoppers and adapted to divert the stream from one bucket to the other, bottoms for said buckets movable in unison to alternately close one bucket and open the other, a pair of latches operating alternately for locking the bottoms in one position or the other and operatively connected to said bottoms, and means comprising a pair of dogs for tripping the operated latch when the weighing-hopper is moved by the weight of its contents.

21. An automatic weighing-machine comprising a stationary supply-hopper adapted to afford a supply or stream of the article to be weighed, a movable weighing-hopper having two buckets or compartments, a shiftable spout arranged between said hoppers and adapted to divert the stream from one bucket to the other, bottoms for said buckets movable in unison to alternately close one bucket and open the other, a pair of laterally-movable notched latches operatively connected to said bottoms and arranged to be operated alternately for locking the bottoms in one position or the other, projections located on one side of the weighing-hopper and adapted to be engaged by said latches, and means for tripping the operated latch when the weighing-hopper is moved by the weight of its contents.

22. An automatic weighing-machine comprising a stationary supply-hopper adapted to afford a supply or stream of the article to be weighed, a movable weighing-hopper having two buckets or compartments, a shiftable spout arranged between said hoppers and adapted to divert the stream from one bucket to the other, bottoms for said buckets movable in unison to alternately close one bucket and open the other, a pair of laterally-movable notched latches operatively connected to said bottoms and arranged to be operated alternately for locking the bottoms in one position or the other, a pair of guide-fingers located on one side of the weighing-hopper and arranged to guide the latches and engage their notches, and means for tripping the operated latch when the weighing-hopper is moved by the weight of its contents.

23. An automatic weighing-machine comprising a main frame, a movable weighing-hopper pivoted thereto and provided with a pair of buckets or compartments, a spout for delivering the article to be weighed into the hopper, a pivoted frame for supporting the spout, automatically-movable bottoms for the buckets, an oscillating plate connected with said bottoms, and a rocking lever actuated by said plate and operatively connected with said pivoted frame to rock the latter.

24. An automatic weighing-machine, comprising a main frame, a movable weighing-hopper pivoted thereto and provided with a pair of buckets or compartments, a shiftable spout arranged to be rocked to supply the article to be weighed to one bucket or the other, automatically-movable bottoms for said buckets, an oscillating frame connected and movable with said bottoms, and a lever pivoted intermediate its length to the hopper and operatively connected at its ends with said oscillating frame and the spout.

25. An automatic weighing-machine comprising a main frame, a movable weighing-hopper pivoted thereto and provided with a pair of buckets or compartments, a shiftable spout pivoted in said frame and arranged to be oscillated to divert the article to be weighed from one bucket to the other, automatically-movable bottoms for said buckets, an oscillating frame or plate connected to said bottoms, a lever pivoted to one side of the weighing-hopper and at one end operatively connected to said oscillating frame, and fingers on the spout between which the other end of the lever operates.

26. An automatic weighing-machine comprising a weighing-hopper provided with two buckets or compartments, mechanism for emptying the buckets alternately when filled to the desired weight, an oscillating spout controlled by said emptying mechanism for delivering the article to be weighed from one bucket to the other, and springs for holding the spout to its oscillated or shifted position with a yielding pressure.

27. An automatic weighing-machine comprising a weighing-hopper provided with two buckets or compartments, mechanism for emptying the buckets alternately when filled to the desired weight, an oscillating spout controlled by said emptying mechanism for delivering the article to be weighed from one bucket to the other, a main frame in which said hopper and spout are mounted, said frame having a quadrant-shaped portion, flat springs on such portion, and an arm extending from said spout and arranged to press upon said springs, whereby the spout is held with a frictional resistance.

28. In an automatic weighing-machine, a scale-beam having a weight 11 provided with means for securing nicety of adjustment, the same comprising a member 11^a arranged to screw upon the end of said weight and a set-screw for securing said weight and member in adjusted positions, in combination with a weighing-hopper coöperating with said beam, and means for automatically filling and emptying the weighing-hopper.

29. An automatic weighing-machine comprising a weighing-hopper having two buckets or compartments, an inclined spout pivoted toward its outer end at a point extraneous of the hopper and at one side of the same to deliver a stream of the article to be weighed into the hopper, a frame pivoted on a vertical axis and supporting the spout, and means controlled by the contents of the buckets for emptying the latter and actuating the spout.

30. An automatic weighing-machine comprising a main frame, a weighing-hopper mounted therein and having two buckets or compartments, an inclined spout pivoted toward its outer end on said frame and at one side of the hopper to deliver an article therein, a frame pivoted on a vertical axis and supporting the spout, and means controlled by the contents of the buckets for emptying the latter and actuating the spout.

31. An automatic weighing-machine comprising a main frame, a weighing-hopper mounted therein and having two buckets or compartments, a rocking frame mounted on said main frame and provided with an arm or finger 48 having a frictional resistance with the main frame, a spout on the rocking frame, and means controlled by the contents of the buckets for emptying the latter and actuating the spout.

32. An automatic weighing-machine comprising a main frame, a weighing-hopper mounted therein and having two buckets or compartments, a rocking frame mounted on said main frame and provided with an arm or finger 48, stops on the main frame arranged to be contacted by said arm to limit the movements of the rocking frame, a spout mounted on the rocking frame and arranged to deliver an article to the hopper, and means controlled by the contents of the buckets for emptying the latter and actuating the spout.

33. An automatic weighing-machine comprising a main frame, a weighing-hopper mounted therein and having two buckets or compartments, a rocking frame mounted on said main frame and provided with an arm or finger 48, stops on the main frame arranged to be contacted by said arm to limit the movements of the rocking frame, a spout mounted on the rocking frame and arranged to deliver an article to the hopper, means for imparting a frictional resistance to the movements of the rocking frame comprising spring 46 arranged to press against said arm 48, and means controlled by the contents of the buckets for emptying the latter and actuating the spout.

34. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments, bottoms for said buckets movable in unison, a plate 24 connected with said buckets, latches 25, 26 pivoted to the plate and adapted to alternately engage the hopper, and means for tripping the latches.

35. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments, bottoms for said buckets movable in unison, a plate 24 connected with said buckets, latches 25, 26 pivoted to the plate and adapted to alternately engage the hopper, and dogs 31, 32, for tripping the latches.

36. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments, bottoms for said buckets movable in unison, a plate 24 connected with said buckets, latches 25, 26, pivoted to the plate, fingers 29, 30, arranged on the hopper and with which such latches coöperate, and dogs 31, 32 for tripping the latches.

37. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments, bottoms for said buckets movable in unison, a plate 24 connected with said buckets, latches 25, 26, pivoted to the plate, means for tripping the latches, a shiftable spout for delivering an article to the hopper and means for shifting such spout comprising a pivoted arm 41 operatively connected at one end with the spout and at its other end with said plate 24.

38. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments, bottoms for said buckets movable in unison, a plate 24 connected with said buckets, latches 25, 26 pivoted to the plate, means for tripping the latches, a shiftable spout for delivering an article to the hopper and means for shifting such spout comprising a pivoted arm 41 operatively connected at one end with the spout and having a stud 43 at its other end, said plate 24 having a slot to receive said stud.

39. An automatic weighing-machine comprising a movable weighing-hopper having two buckets or compartments, bottoms for said buckets movable in unison, a plate 24 connected with said buckets, latches 25, 26, pivoted to the plate, means for tripping the latches, a shiftable spout for delivering an article to the hopper and means for shifting such spout comprising, in connection with projecting fingers 40 on the spout, a pivoted arm 41 whose upper end extends between said fingers 40 and whose lower end is operatively connected with the plate 24.

40. An automatic weighing-machine comprising means for delivering a supply or stream of the article to be weighed, a movable weighing-hopper having a vertical partition 18 dividing such hopper into two buckets or compartments and provided at its lower end with the two branches or flanges 19, separate bottoms 20, 21, formed as a single structure and pivoted on the hopper at a point below said flanges 19, locking mechanism for said bottoms, a pivoted

spout, an outputting-pinion 24 connected with the bottoms and operatively connected with said locking mechanism and spout.

808,913. MEANS OF SUSPENDING INCANDESCENT-LAMP MANTLES. CHARLES H. LUNDELL, Bayonne, N. J., assignor to The Safety Car Heating & Lighting Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 13, 1904. Serial No. 220,472.



Claim.—1. In combination, a conduit, a mantle, a member upon which said mantle is mounted, and means adapted resiliently to suspend said member from said conduit and to cushion the vertical movement thereof with respect to said conduit in both directions.

2. In combination, a conduit, a mantle, a member to which said mantle is secured, resilient suspending means secured to said member, and means upon said conduit adapted to take into and slightly impede the relative movement of the same in one direction and impede the relative movement to a greater extent in the other direction.

3. In combination, a conduit, a mantle, a member to which said mantle is secured, resilient suspending means secured to said member, and means upon said conduit adapted to engage said resilient means and permit a substantially free relative movement of the same in one direction and restrict relative movement in the other direction.

4. In combination, a gas-nozzle, a mantle, a member to which said mantle is secured, resilient suspending means secured to said member, and means upon said nozzle adapted to engage said resilient means and slightly impede the relative movement of the same in one direction and impede the relative movement to a greater extent in the other direction.

5. In combination, a supporting member, a mantle, a member upon which said mantle is mounted, and an asbestos packing between said supporting member and said last-mentioned member said packing projecting over and under parts upon the supporting member and being adapted to support the latter upon said supporting member and to cushion its vertical movement in both directions.

6. In combination, a conduit, a mantle, a metallic member secured to said conduit, and means adapted resiliently to suspend said mantle from said metallic member said metallic member being provided with a plurality of projections taking into said resilient suspending means.

7. In combination, a gas-nozzle, a mantle, a member to which said mantle is secured, a metallic member secured to said gas-nozzle, and resilient suspending means interposed between said first-mentioned member and said metallic member said resilient means projecting over and under certain parts upon said supporting member and adapted to suspend the former upon the latter and to cushion its vertical movement in both directions.

8. In combination, a supporting member, a metallic member secured to said supporting member, a mantle, and a refractory, resilient connection adapted to support said mantle upon said metallic member and to cushion its vertical movement in both directions, said metallic member being provided with a plurality of points taking into said resilient connection.

9. In combination, a conduit, a mantle, a member to which said mantle is secured, refractory, fibrous means secured upon its outer sides to said member, and means upon said conduit adapted to take into the inner surface of said fibrous means and support said first-mentioned member upon said conduit.

10. In combination, a gas-nozzle, a metallic member secured to said gas-nozzle, a mantle, a member upon which said mantle is mounted and having an annular recess in which said mantle is secured, and refractory, resilient means interposed between said gas-nozzle and said second member and engaged by said metallic member and adapted to suspend said second member from said metallic member.

11. In combination, a conduit, a mantle, a member to which said mantle is secured, and an asbestos packing between said conduit and said member, said parts being so positioned as to have a slightly-impeded relative movement in one direction and to impede movement in the opposite direction to a greater degree.

12. In combination, a supporting member, a mantle, a member to which said mantle is secured, and resilient means secured to and laterally supported by said second-mentioned member adapted to suspend the same from said supporting member.

13. In combination, a supporting member, a metallic member secured thereto, a mantle, a member to which said mantle is secured, and resilient, suspending means secured to said last-mentioned member and adapted to support the same upon said metallic member said metallic member being provided with a plurality of points taking into said resilient suspending means.

14. In combination, a support, a mantle, and a connection between the two adapted to slightly impede relative movement in one direction and to impede to a greater extent such movement in the other and to cushion the relative vertical movement thereof in both directions.

15. In combination, a mantle, a support, a member upon which said mantle is mounted and a fibrous connection between the latter two adapted to slightly impede relative movement in one direction and to impede to a greater degree such movement in the opposite direction.

16. In combination, a mantle, a support, a member upon which said mantle is mounted and a refractory, fibrous connection between the latter two adapted to permit slightly-impeded relative movement in one direction and to impede to a greater extent such movement in the other direction.

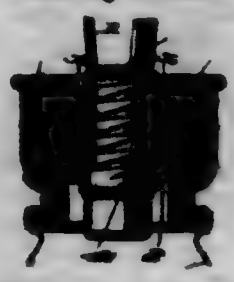
17. In combination, a mantle, a support, a member upon which said mantle is mounted and a refractory, fibrous connection between the latter two adapted to permit a substantially free assemblage of the same and to impede their separation.

18. In combination, a supporting member, a mantle, a member upon which said mantle is mounted, and an asbestos packing upon the lateral portions of said supporting member and projecting over and under parts upon said supporting member and interposed between the same and said second-mentioned member and adapted to support the latter upon said supporting member and to cushion the movement of the same in all directions.

19. In combination, a mantle, a hollow member upon which said mantle is secured, a supporting member projecting into said hollow member, a plurality of layers of asbestos packing secured within said hollow member and between the same and said supporting member, and means upon said supporting member engaging said asbestos packing.

20. In combination, a mantle, a spool upon which said mantle is mounted, a plurality of layers of asbestos packing secured within and laterally supported by said spool, and a metallic member secured to the lower portion of said supporting member and provided with a plurality of points adapted to take into said asbestos packing, said packing projecting over and under parts upon said supporting member and being adapted to cushion the movement of said spool in all directions.

808,914. MEANS OF SUSPENDING INCANDESCENT-LAMP MANTLES. CHARLES H. LUNDELL, Bayonne, N. J., assignor to The Safety Car Heating & Lighting Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 13, 1904. Serial No. 220,473.



Claim.—1. In combination, a mantle-supporting member, a supporting member, and resilient means interposed between said members, one of said members having thereon a part threaded into said resilient means.

2. In combination, a mantle-supporting member, a gas-conducting member, and resilient means interposed between said members, one of said members having thereon a part threaded into said resilient means.

3. In combination, a mantle-supporting member, a supporting member, and resilient means interposed between said members, said

second-mentioned member having thereon a part threaded into said resilient means.

4. In combination, a mantle-supporting member, a supporting member, and resilient fibrous means interposed between said members, one of said members having thereon a part threaded into said resilient means.

5. In combination, a mantle-supporting member, a supporting member, and asbestos packing interposed between said members, one of said members having thereon a part threaded into said packing.

6. In combination, a mantle-supporting member, a supporting member, a metallic member secured to said second-mentioned member, and resilient means interposed between said first and second mentioned members, said metallic member being threaded into said resilient means.

7. In combination, a mantle-supporting member, a supporting member, fibrous incombustible means interposed therebetween, and a metallic member secured to said second-mentioned member, said last-mentioned member being threaded into said combustible means.

8. In combination, a mantle-supporting member, a gas-conducting member protruding through the same, and resilient means interposed between said members, one of said members having thereon a part threaded into said resilient means.

9. In combination, a mantle, a mantle-supporting member, and a member upon which said mantle-supporting member is resiliently mounted adapted to project flame against said mantle said resilient mounting being adapted to cushion the vertical movement of said mantle-supporting member in both directions.

10. In combination, a mantle-supporting member, a member protruding through said mantle-supporting member, and resilient fibrous means interposed between said members and adapted to support the former upon the latter.

11. In combination, a mantle, mantle-supporting means, a member adapted to project a flame against said mantle, and resilient refractory means interposed between said mantle-supporting means and said last-mentioned member and adapted to support the former upon the latter said last-mentioned member having a part thereon threaded into said resilient refractory means.

12. In combination, a mantle, a ring to which said mantle is directly secured, a flame-nozzle adapted to project flame against said mantle and projecting through said ring, and an asbestos packing interposed between said flame-nozzle and said ring and adapted to prevent the passage of gas therebetween and resiliently support said ring upon said flame-nozzle.

13. In combination, a mantle-supporting member, a flame-nozzle and resilient means interposed between said members, one of said members having a threaded connection with said resilient means.

14. In combination, a mantle-supporting member, a flame-nozzle, and resilient fibrous refractory means interposed between said member and said flame-nozzle, said flame-nozzle having a threaded connection with said resilient means.

15. In combination, a mantle, a mantle-supporting member, a flame-nozzle adapted to project a flame against said mantle, and an asbestos packing interposed between said ring and said flame-nozzle, said flame-nozzle having a threaded connection with said asbestos packing.

16. In combination, a mantle, a mantle-supporting member to which said mantle is directly secured, a flame-nozzle projecting through said mantle-supporting member and adapted to project a flame against said mantle, a metallic member secured to said flame-nozzle and having a thread formed upon the outer surface thereof, and an asbestos packing interposed between said metallic member and said mantle-supporting member, the thread upon said metallic member engaging said asbestos packing.

17. In combination, a mantle-supporting member, a second supporting member, and fibrous means interposed between said members, one of said members having a threaded part engaging said fibrous means.

18. In combination, a mantle-supporting member, a supporting member, and fibrous means interposed between said members, one of said members having a part provided with a toothed thread engaging said fibrous means.

19. In combination, a mantle-supporting member, a main supporting member, and resilient, fibrous means interposed between said members, one of said members having a part provided with a toothed thread engaging said resilient, fibrous means.

20. In combination, a mantle-supporting member, a main supporting member, a metallic member secured to said second-mentioned member, said resilient means interposed between said first and second mentioned members, said metallic member being provided with a toothed thread engaging said resilient means.

21. In combination, a mantle-supporting member, a gas-conducting member protruding through the same, and fibrous means interposed between said members, one of said members having a part provided with a toothed thread engaging said fibrous means

22. In combination, a mantle-supporting member, a flame-nozzle, and fibrous means interposed between said members, one of said members having a part provided with a toothed thread engaging said fibrous means.

23. In combination, a mantle, a mantle-supporting member to which said mantle is directly secured, a flame-nozzle projecting through said mantle-supporting member and adapted to project a flame against said mantle, a metallic member secured to said flame-nozzle and having a toothed thread formed upon the outer side thereof, an asbestos packing interposed between said metallic member and said mantle-supporting member, and a thread upon said metallic member engaging said asbestos packing.

24. In combination, a mantle-supporting member, a main supporting member, and fibrous means interposed between said members, one of said members having a part provided with a toothed thread engaging said fibrous means, the teeth upon said thread being adapted to permit movement of said fibrous means in one direction and resist such movement in the opposite direction.

25. In combination, a mantle-supporting member, a gas-conducting member protruding through the same and resilient means interposed between said members, one of said members having a part provided with a toothed thread engaging said resilient means, the teeth upon said thread being adapted to permit a relative movement of said resilient means in one direction and resist such movement in the opposite direction.

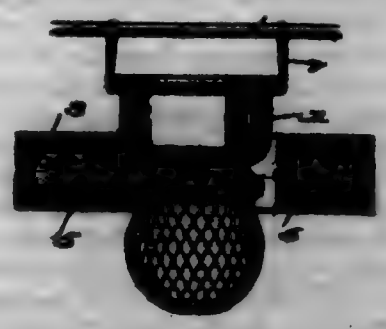
26. In combination, a mantle, a mantle-supporting member to which the mantle is directly secured, a flame-nozzle projecting through said mantle-supporting member and adapted to project a flame against said mantle, a metallic member secured to said flame-nozzle and having a toothed thread formed upon the outer surface thereof, and a fibrous packing interposed between said metallic member and said mantle-supporting member, the thread upon said metallic member engaging said fibrous packing in such manner as to permit a relative movement thereof in one direction and resist such movement in the opposite direction.

27. In combination, a mantle a mantle-supporting member to which said mantle is directly secured, a flame-nozzle projecting through said mantle-supporting member and adapted to project a flame against said mantle, a metallic member secured to said flame-nozzle and having a toothed thread formed on the outer surface thereof, and a refractory, fibrous packing interposed between said metallic member and said mantle-supporting member, whereupon said metallic member engages said asbestos packing in such manner as to permit the same readily to be screwed thereupon and to resist a movement thereof in a reverse direction.

28. In combination, a mantle, a mantle-supporting member, a conduit, an asbestos packing positioned between said conduit and said mantle-supporting member and secured upon its outer surfaces to the latter, and a part positioned upon said conduit threaded into the inner surfaces of said asbestos packing.

29. In combination, a mantle, a mantle-supporting member, a conduit, an asbestos packing positioned between said mantle-supporting member and said conduit, the outer surfaces thereof being internally supported by said mantle-supporting member, and a part positioned upon said conduit threaded into said asbestos packing.

908,915. METHOD OF PREPARING INCANDESCENT GAS-MANTLES. CHARLES H. LEWENZ, Bayonne, N. J., assignor to The Safety Car Heating & Lighting Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 12, 1904. Serial No. 220,675.



Claim.—1. The method which consists in first subjecting a mantle of varying thickness to a source of heat until the carbonaceous

matter in the thinner portions of the same is burned out, and then removing it from said source of heat in a glowing condition and permitting the remaining carbonaceous matter to burn out.

2. The method of preparing a mantle which consists in partially oxidizing the same, then slowly completing the oxidation and afterward exposing the same to the direct action of a flame.

3. The method which consists in first subjecting a mantle of varying thickness to the direct action of a source of heat until the carbonaceous matter in the thinner portions of the same is burned out, removing the mantle from said source of heat in glowing condition and permitting the remaining carbonaceous matter to burn out, and afterward exposing the same to the direct action of a flame.

4. The method which consists in first roasting a mantle of varying thickness until the carbonaceous matter in the thinner portions of the same is burned out, removing the mantle from the roasting means and permitting the remaining carbonaceous matter to burn out, and afterward subjecting it to the direct action of a flame.

5. The method which consists in first roasting a mantle of varying thickness until the carbonaceous matter in the thinner portions of the same is burned out, removing said mantle from the roasting means in a glowing condition and permitting the remaining carbonaceous matter to burn out, mounting the same upon a burner and exposing the same to the direct action of the flame thereof.

6. The process of preparing a lamp-mantle which consists in independently hardening one end of the same.

7. The process which consists in first roasting a mantle, afterward subjecting it to the direct action of a flame, and then independently hardening one end of the same.

8. The process of preparing a lamp-mantle which consists in first subjecting the same to the indirect, and afterward to the direct action of a source of heat and independently hardening one end of the same.

9. The process which consists in first subjecting a mantle of varying thickness to a source of heat until the carbonaceous matter in the thinner portions of the same is burned out, removing said mantle in a glowing condition from said source of heat and permitting the remaining carbonaceous matter to burn out, and afterward independently heating one end of the same.

10. The process which consists in first subjecting a mantle of varying thickness to a source of heat until the carbonaceous matter in the thinner portions of the same is burned out, removing said mantle in a glowing condition from said source of heat and permitting the remaining carbonaceous matter to burn out, exposing the entire mantle to the direct action of a jet of flame, and afterward independently heating one end thereof.

11. The process of preparing a lamp-mantle which consists in quickly and incompletely oxidizing the same, then more slowly completing the oxidation, and afterward independently hardening one end of the same.

12. The process of preparing a lamp-mantle which consists in quickly and incompletely oxidizing the same, then more slowly completing the oxidation, exposing said mantle to the direct action of a source of heat, and independently hardening one end of the same.

13. The method which consists in first subjecting a mantle of varying thickness to the indirect action of a source of heat until the carbonaceous matter in the thinner portions thereof is burned out, removing said mantle in a glowing condition from said source of heat and permitting the remaining carbonaceous matter to burn out, exposing said mantle to the direct action of a source of heat, and independently heating one end of the same.

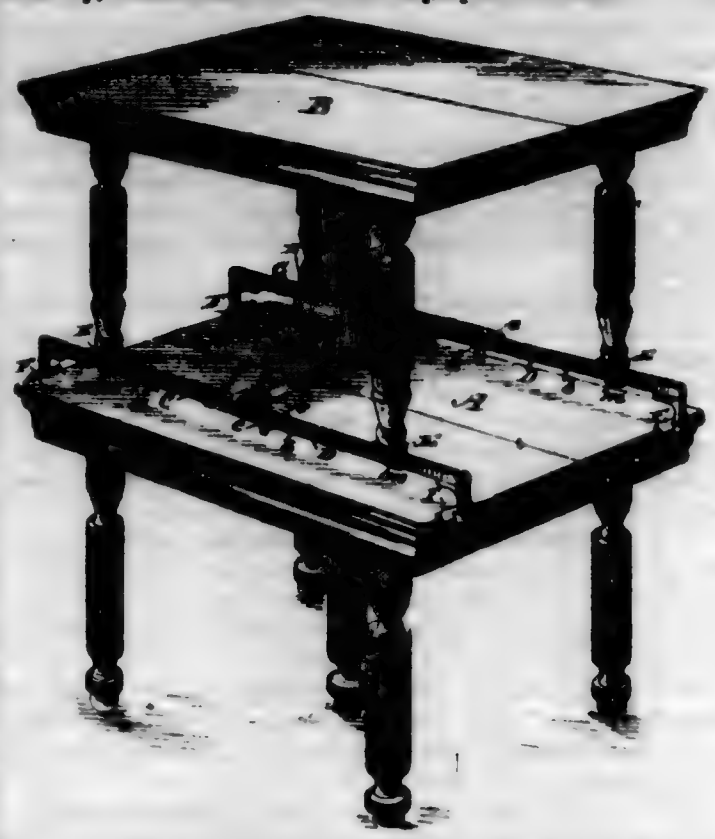
14. The process which consists in roasting a mantle of varying thickness until the carbonaceous matter in the thinner portions thereof is burned out, removing said mantle from the roasting means in a glowing condition and permitting the remaining carbonaceous matter thereof to burn out, exposing the entire mantle to the direct action of a jet of flame, and independently heating one end thereof.

15. The process which consists in roasting a mantle of varying thickness until the carbonaceous matter in the thinner portions thereof is burned out, removing said mantle from the roasting means in a glowing condition and permitting the remaining carbonaceous matter thereof to burn out, exposing the entire mantle to the direct action of a jet of flame, and independently heating the end of said mantle by which it is secured to the member upon which it is mounted.

16. The method of preparing a mantle which consists in quickly oxidizing certain predetermined portions of the same and then more slowly oxidizing certain other predetermined portions.

808,916. TABLE-SUPPORT. VALENTINE C. LOUVREY, South Westmoreport, Pa. Filed Apr. 14, 1905. Serial No. 255,553.

Claim.—1. A table-support for supporting one table above another, comprising suitable arms adjustably connected together and means for holding the arms in their adjusted position, and clamping-jaws upon the outer ends of the arms to engage the edges of the lower table-top, substantially as and for the purpose set forth.



2. A table-support for supporting one table above another, comprising suitable arms adjustably connected together and means for holding the arms in their adjusted position, rests for the legs of a table, and clamping-jaws connecting with the arms and adapted to engage the edges of the lower table-top, substantially as and for the purpose specified.

3. A table-support for supporting one table above another, comprising suitable arms adjustably connected together, adjustable rests for the legs of a table, and means for holding the arms in engagement with a table, substantially as and for the purpose described.

4. A table-support for supporting one table above another, comprising suitable arms adjustably connected together, means for supporting thereon the legs of a table, and swiveled clamping-jaws upon the arms to engage a table to hold the support over the same, substantially as and for the purpose set forth.

808,917. BRAKE APPARATUS FOR RAILWAY-VEHICLES. CHARLES LOYENS, Vilvorde, Belgium, assignor to Compagnie Internationale de Freinage (Système Loyens) Société Anonyme, Brussels, Belgium. Filed June 28, 1905. Serial No. 267,302.

Claim.—1. In brake apparatus for railway-vehicles, comprising a friction-pulley fixed on the axle of the vehicle, and brake-blocks adapted to act upon the pulley, in combination, said friction-pulley divided up into a number of recessed or perforated operative elements, ribs connecting said elements together, brake-blocks one pair of which is adapted to act upon each element of the said pulley and means for operating said brake-blocks.

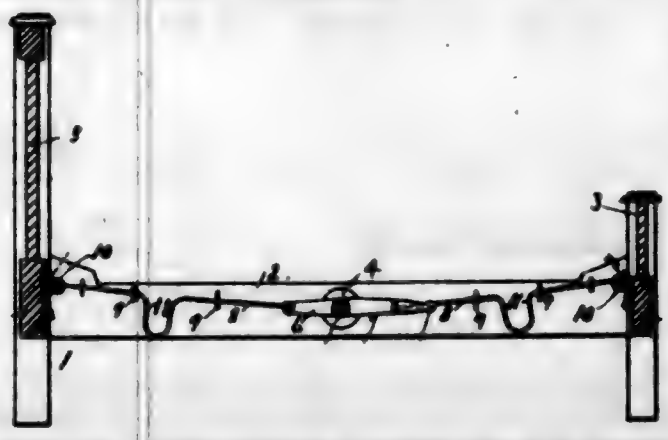
2. In brake apparatus for railway-vehicles, comprising a friction-pulley fixed on the axle of the vehicle, and brake-blocks adapted to act upon the pulley, in combination, said friction-pulley divided up into a number of recessed or perforated operative elements, ribs connecting said elements together, ribs or gills projecting in the perforations of said elements brake-blocks one pair of which is adapted to act in conjunction with each element of the said pulley, and means for operating said brake-blocks.

3. In brake apparatus for railway-vehicles, comprising a friction-pulley fixed on the axle of the vehicle, and brake-blocks adapted

to act upon the pulley, in combination, said friction-pulley divided up into a number of recessed or perforated operative elements; brake-blocks one pair of which is adapted to act upon each element of the said pulley, said brake-blocks being formed with two lugs constituting an extension of the lower parts thereof, brake-block holders having extensions for engaging between the lugs of the brake-blocks, means for fixing the said lugs to the said extensions of the brake-block holders, and means for operating the said brake-blocks and brake-block holders.

4. In brake apparatus for railway-vehicles, comprising a friction-pulley fixed on the axle of the vehicle, and brake-blocks adapted to act upon said pulley, in combination, said friction-pulley divided up into a number of recessed or perforated operative elements, brake-blocks one pair of which is adapted to act upon each element of the said pulley, brake-block holders, levers for actuating each pair of brake-block holders and brake-blocks, means for connecting together and operating the levers of each pair of holders and blocks, a pin carrying the said operating means and an inclined link connecting one actuating-lever of each pair of levers with the said pin.

808,918. CLOTHES-FASTENER. AARON MATHEWS, Italy, N. Y. Filed Jan. 13, 1905. Serial No. 240,871.



Claim.—1. A clothes-fastener comprising side rods, cross-bars connected to the rods, and means for simultaneously pressing the bars against the head and foot of a bedstead to hold clothes against the same.

2. A clothes-fastener comprising side rods, cross-bars connected to the rods, and means for simultaneously pressing the bars against the head and foot of a bedstead to hold clothes against the same, and means for temporarily withdrawing the bars to permit insertion of clothes.

3. A clothes-fastener comprising side rods, cross-bars connected to the rods, and means for simultaneously pressing the bars against the head and foot of a bedstead to hold clothes against the same said means consisting of springs.

4. A clothes-fastener comprising side rods, cross-bars connected to the rods, and means for simultaneously pressing the bars against the head and foot of a bedstead to hold clothes against the same, said means consisting of springs formed of bends in the side rods.

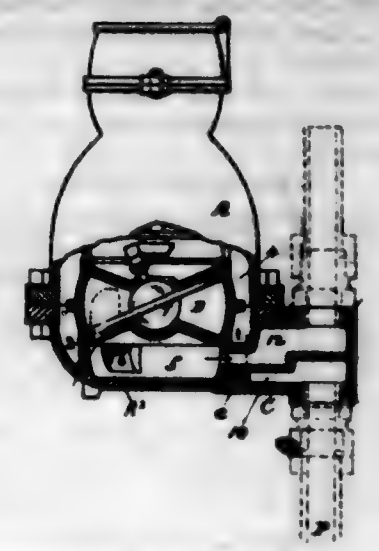
5. A clothes-fastener comprising side rods, cross-bars connected to the rods, and means for simultaneously pressing the bars against the head and foot of a bedstead to hold clothes against the same, said side rods being made in sections connected by links.

6. A clothes-fastener comprising side rods, cross-bars connected to the rods and means for pressing the bars against the head and foot of a bedstead to hold clothes against the same, and means for temporarily withdrawing the bars to permit insertion of clothes, said means consisting of links connecting sections of the side rods.

7. A clothes-fastener comprising side rods, cross-bars connected to the rods, means for pressing the bars against the head and foot of a bedstead to hold clothes against the same, means for temporarily withdrawing the bars to permit insertion of clothes said means consisting of links connecting sections of the side rods, and supports for rotatably holding the links.

808,919. WATER-METER. CHARLES F. MESSELL, Worcester, Mass., assignor to Union Water Meter Company, Worcester, Mass., a Corporation of Massachusetts. Filed May 11, 1905. Serial No. 259,905.

Claim.—1. In combination, in a water-meter mechanism, the meter-casing comprising the upright body portion and detachably connected bottom member having the horizontal seat for the piston-chamber, and a central chamber within said seat, said bottom member provided at one side with upward and downward attaching-spuds disposed perpendicular to the plane of the piston-chamber seat, and a passage from one of the spuds into the space surrounding the said seat, and a passage to the other spud from the space or central chamber within the seat, substantially as set forth.



2. In a water-meter, in combination as described, a meter-casing containing a horizontally-disposed piston-chamber, and having an upwardly-projecting body portion above said piston-chamber, a piston within said piston-chamber, and a counteractuating connection carried by said piston and operative about an approximately vertical axis, said meter-casing being provided at one side with a lateral offset comprising oppositely-directed, vertically-alined pipe-connecting spuds, disposed axially perpendicular to the plane of the piston-chamber, substantially as set forth.

3. In a water-meter, in combination, with the horizontal meter piston-chamber, and meter-operating piston; the meter-casing comprising a body and bottom sections detachably united, as set forth, and provided upon one side of its bottom section with a sidewise projection extending beyond the uniting-flange and terminating with the upwardly and downwardly directed pipe-attaching spuds disposed vertically thereon, and a dividing partition and passages within said projection, extending from the respective spuds, and opening into the internal chambers of the meter-casing, substantially as described.

4. In a water-meter of the class described, in combination with the horizontally-disposed meter mechanism and the separable meter-casing, the detachable bottom portion of said casing provided with a seat for the piston-chamber casing with a surrounding inflow-chamber, and a central outflow-chamber, and having at one side a projecting connecter-head comprising upward and downward pipe-connecting spuds in vertical axial alinement, a partition therein separating the interior between said spuds, passages at opposite sides of said partition communicating respectively with the inflow and outflow chambers of the meter, one of said passages being direct, and the other bifurcated or carried around the first, substantially as set forth.

5. In a water-meter of the class specified, in combination with a horizontally-arranged meter mechanism, the meter-casing provided on its side with a lateral projection having a perpendicular joint-face, with half-segment openings therein, and a detachable portion forming a part of said casing and comprising the oppositely-directed pipe-connecting spuds, its joint-face having quarter-segment openings, a transverse partition separating the interior of the casing adjacent to and between said spuds, and the passages communicating below and above said partition, respectively with the inflow and outflow chambers of the meter, substantially as set forth.

6. In a water-meter of the class specified, in combination with the metering mechanism; the meter-casing having the inflow and outflow chambers with lateral passages therefrom separated by an intervening partition, said meter-casing comprising a projecting connector member united thereto on a vertical plane, and having the oppositely-directed axially-alined pipe-connecting spuds, the partition between said spuds conforming to said intervening partition of the passages, the adjacent uniting-faces and attaching-screws therefor being disposed so as to countermatch when the axial line of the spuds is either vertical or transverse.

808,920. ANTIFRICTION-BEARING METAL. FREDERIC W. MOFFETT, Bloomfield, N. J., assignor of one-half to Howard M. Thomas, Bloomfield, N. J. Filed Apr. 3, 1901. Renewed Apr. 25, 1905. Serial No. 257,257.

Claim.—1. As an antifriction-bearing metal, an alloy containing lead in the proportion of ninety per cent. or over of the whole combined with one-half of one per cent. to five per cent. of magnesium, substantially as described.

2. As an antifriction-bearing metal, an alloy of one-half of one per cent. to five per cent. of magnesium and the remainder of lead, substantially as described.

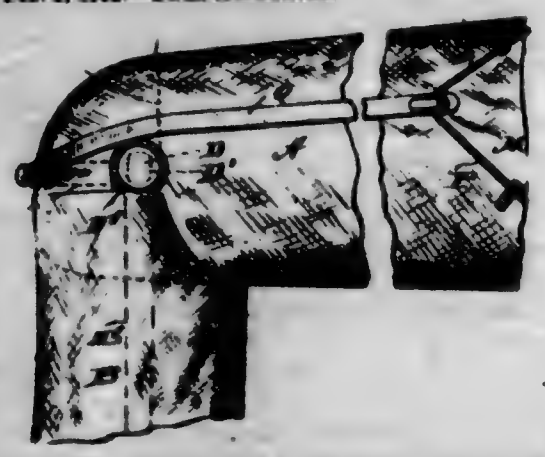
3. As an antifriction-bearing metal, a magnesium-lead alloy comprising lead 98.75 per cent. and magnesium 1.25 per cent., substantially as described.

808,921. ALLOY. FERDINAND W. HOVORT, Bloomfield, N. J., assignor of one-half to Howard M. Thomas, Bloomfield, N. J. Filed May 4, 1904. Renewed Apr. 25, 1905. Serial No. 257,202.

Claim.—1. As a new composition of matter, an alloy containing lead and sodium and containing sodium in the proportion of from one-half of one per cent. to four per cent. of the amount of lead, substantially as described.

2. As a new antifriction-bearing metal, an alloy composed of lead and sodium and containing sodium in the proportion of one and one-half per cent. of the amount of lead, substantially as described.

808,922. ARTIFICIAL LIMB. HARRY J. HOGEN, Wichita, Kans. Filed Feb. 3, 1905. Serial No. 243,051.

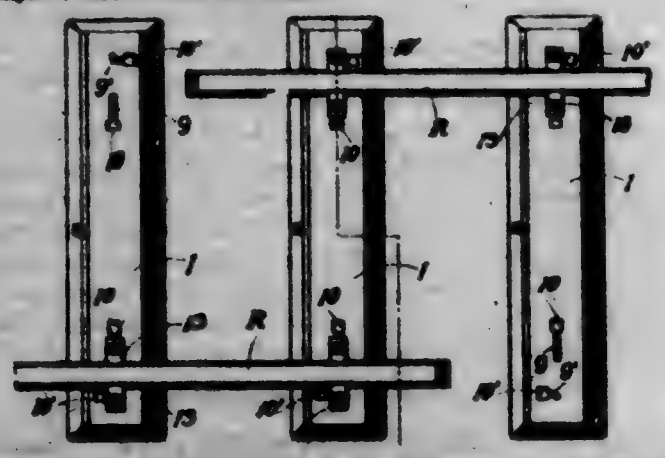


Claim.—1. An artificial limb comprising a leg and shank portion, said leg portion having a rocking rod mounted in suitable bearings, fingers projecting from said rod, said leg portion having slots in which said fingers are guided, buffers positioned in said slots and against which said fingers are adapted to contact, bars carried by said rod and secured to said shank portion, and suspender-straps secured to said fingers, as set forth.

2. An artificial limb comprising a leg and shank portion, said leg portion having a rocking rod mounted in suitable bearings, fingers projecting from said rod, said leg portion having slots in which said fingers are guided, buttons at the ends of said fingers, suspender-straps secured to said buttons, and bars carried by said rod and fastened to the shank portion of the leg, as set forth.

3. An artificial limb comprising a leg and shank portion, a rocking rod mounted in a transverse aperture in said leg-section, fingers adjustably held upon said rod and mounted in slots in said leg-section, bars fastened to the ends of said rod and secured to said shank portion, and suspender-straps secured to said fingers, as set forth.

808,923. RAILWAY-TIE. JAMES R. MCFALL, St. Louis, Mo. Filed Apr. 3, 1905. Serial No. 253,466.



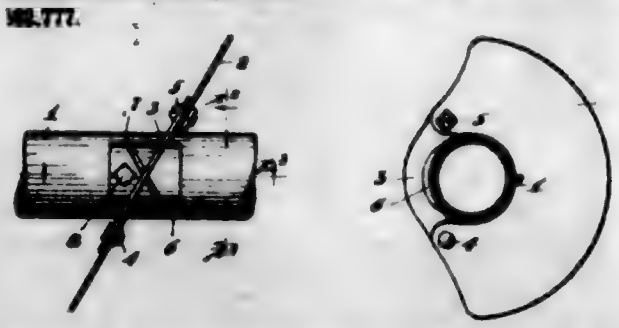
Claim.—1. A composite railway-tie comprising a metallic stringer forming the top of the tie, inclined side walls leading therefrom, tie-rods connecting the lower edges of the side walls, an elastic partition-wall at the center of the tie, the whole being incased in a body of concrete by which the stringer is supported, substantially as set forth.

2. A composite railway-tie comprising a metallic upper stringer having depending side walls defined therefrom by an exterior longitudinal shoulder or offset, a series of transverse tie-rods connecting the lower edges of the side walls, a series of longitudinal anchor-bars resting on the tie-rods, a central wooden partition-wall through which the anchor-bars pass, the whole being incased in a body of concrete or cement supporting the stringer, substantially as set forth.

3. A composite railway-tie comprising a metallic upper stringer having depending perforated side walls with sections removed therefrom at the center of the tie, a wooden partition below the stringer opposite said removed sections of the side walls, a series of transverse tie-rods for the bottoms of said side walls, a series of longitudinal terminally-hooked anchor-bars on top of the tie-rods passed through the base of the partition aforesaid, the whole embedded in a body of concrete supporting the stringer, substantially as set forth.

4. A composite railway-tie comprising a metallic stringer having integrally-formed depending side walls, the latter incased in a body of concrete, substantially as set forth.

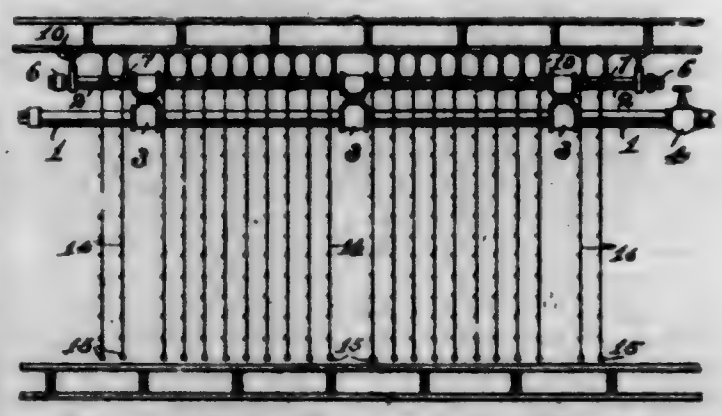
808,924. SPIRAL CONVEYER. THOMAS MCGRATH and FRANK MCANDREWS, Minneapolis, Minn. Filed May 29, 1905. Serial No. 262,777.



Claim.—1. The combination with a conveyer-shaft, of a flight having a bridge-bar pivoted thereto at one end and detachably secured thereto at its other end, said flight and bridge-bar embracing said shaft, a grooved anchor-block interposed between said bridge-bar and said shaft, and a set-screw working through one end of said anchor-block and serving to tilt the same and tighten said flight onto said shaft, substantially as described.

2. The combination with a conveyer-shaft, of a flight 2 having a bridge-bar 3 pivoted thereto at 4 and detachably secured thereto by a bolt 5, an anchor-block 6 having the intersecting grooves 7 engageable with said bridge-bar, and a set-screw 8 working through one end of said anchor-block and serving to tilt and tighten said flight onto said shaft, substantially as described.

808,925. BRINE-DISTRIBUTING APPARATUS FOR COOLING SYSTEMS. FRED OTIS, Chicago, Ill. Continuation of application Serial No. 132,968, filed Nov. 20, 1902. This application filed May 11, 1904. Serial No. 207,412.

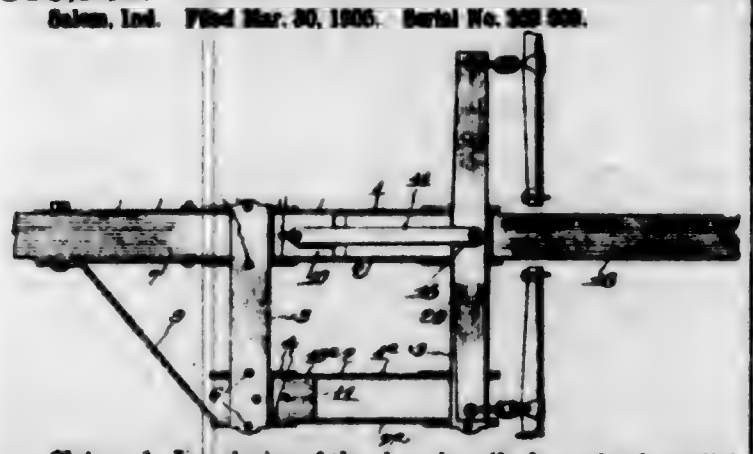


Claim.—1. A brine-cooling apparatus comprising in combination a horizontally-disposed main, a supply-pipe disposed parallel therewith and connected with said main at a plurality of points, horizontally-disposed discharge-pipes connected with said supply-pipes at regular intervals and extending at substantially right angles thereto, each of said discharge-pipes being provided with a row of uniformly-distributed perforations discharging laterally of the discharge-pipe, the total area of which is less than the cross-sectional area of said main, and a curtain suspended in the path of liquid discharged from said perforations, said main and supply-pipe being closed.

2. A brine-cooling apparatus comprising a main closed at one end and provided with a valve between its ends, a supply-pipe extending parallel with said main, and being closed at its ends, a plurality of regularly-disposed couplings connecting said main between its closed end and said valve with said supply-pipe between the ends of the latter, a plurality of horizontally-disposed parallel discharge-pipes connected with said supply-pipe at regular intervals and being provided with a row of uniformly-spaced perforations, the total area of said perforations being less than the cross-sectional area of said main, and reticulated curtains disposed in the path of liquid discharged from said perforations.

3. In a brine-cooling apparatus, a main supply-pipe, a valve in said pipe, a plug in the dead end of said pipe, an auxiliary pipe, connections between said pipes, plugs in the ends of said auxiliary pipe, lateral discharge-pipes leading from said auxiliary pipe, said discharge-pipes being perforated and having end closures, adjustable hangers for supporting said auxiliary and discharge pipes, rods secured above said discharge-pipes and curtains supported from said rods engaging the sides of the discharge-pipes.

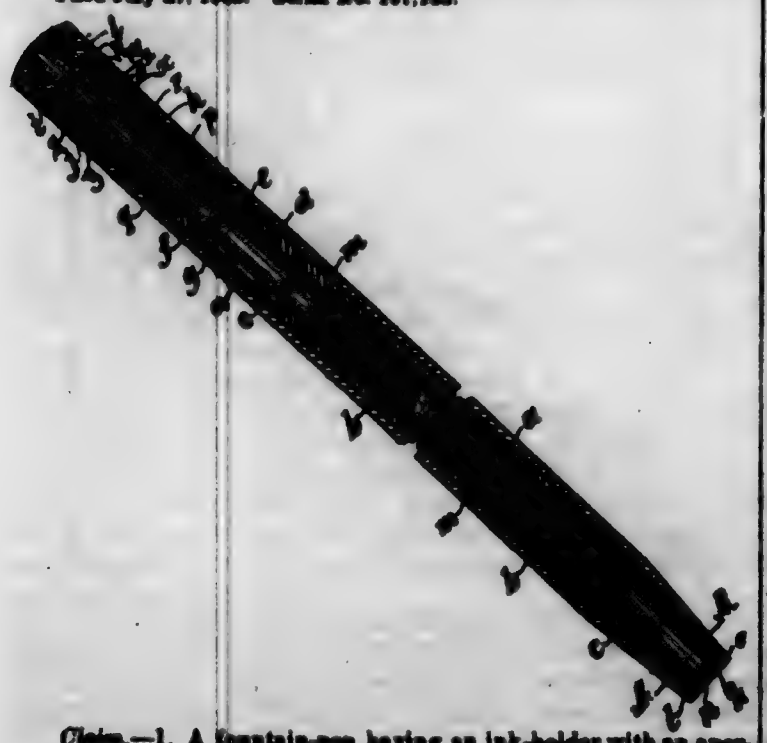
803,926. DRAFT ATTACHMENT. CHARLES W. PEPPO, North Salem, Ind. Filed Mar. 30, 1905. Serial No. 252,602.



Claim.—1. In a device of the class described, a pair of parallel boxes each composed of a pair of side members, cross-bars engaging the upper and lower edges of the box members near the front and rear ends of the latter, cheek-plates abutting upon the side members of the boxes between the cross-bars and having perforated bosses alining with perforations in the cross-bars, and connecting-bolts.

2. In a device of the class described, two pairs of straps constituting the sides of a pair of tongue-receiving boxes, one pair of said straps being extended rearwardly of the other pair and connected permanently with a stub-tongue, connecting-straps for the upper and lower edges of the straps constituting the tongue-receiving boxes, and means exclusive of the connecting-straps for connecting a draft-tongue with either one of the tongue-receiving boxes.

803,927. FOUNTAIN-PEN. EDUARD REINERT, Hanau, Germany. Filed July 27, 1903. Serial No. 167,183.



Claim.—1. A fountain-pen having an ink-holder with an aperture serving as passage for the pen, and a slide adapted to open and to close the said aperture, as and for the purpose set forth.

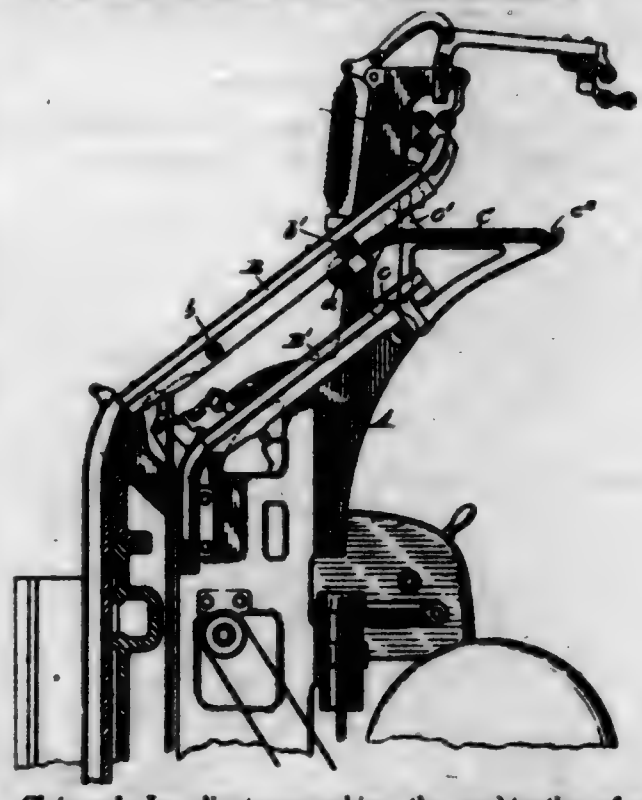
2. A fountain-pen having an ink-holder with an aperture serving as passage for the pen, and a rotary slide adapted to open and to close the said aperture, as and for the purpose set forth.

3. In a fountain-pen, the combination with the ink-holder, having an aperture for the passage of the pen, the pen, and means for protruding the pen and for withdrawing the same, of rotary slides for closing and opening the said aperture of the ink-holder, and of means for revolving the said rotary slides, as and for the purpose set forth.

4. In a fountain-pen, the combination with an inner tube *a* serving as ink-holder and having a segment *k* at its lower end leaving an aperture *l*, the pen *c* and means for protruding the pen and for withdrawing the same through the aperture *l*, respectively, of an outer tube *m* having at its lower end a segment *n* leaving an aperture *k* and means for turning the said tubes *a* and *m* with regard to one another, as and for the purpose set forth.

5. In a fountain-pen, in combination, an ink-holder *a*, having an aperture *l*, rotary slides *k n* for opening or closing the said aperture *l*, a knob *i*, connections between the knob *i* and one rotary slide *k*, a rod *b* bearing the pen *c*, connections between the rod *b* and the knob *i* for moving the rod *b* to and fro on turning the knob *i*, and means for interrupting the connection between the knob *i* and the rotary slide, as and for the purpose set forth.

803,928. LINOTYPE-MACHINE. JOHN R. ROGERS, Brooklyn, N. Y., assignor to The Mergenthaler Linotype Company, a Corporation of New York. Filed Nov. 5, 1904. Serial No. 231,866.



Claim.—1. In a linotype-machine, the combination of a main frame, an inclined magazine seated in and sustained in operative position by said frame and independently removable at the rear, and means independent of those for supporting the magazine in operative position, to sustain the same in a substantially horizontal position during its withdrawal.

2. In a linotype-machine and in combination with a removable magazine having side projections, rear extensions on the frame distinct from the means for sustaining the magazine in operative position to sustain the outgoing magazine in a horizontal position.

3. In a linotype-machine, a main frame, a rearwardly-removable magazine, and rear extensions in the frame adapted to hold the magazine in suspension, whereby its removal and introduction are facilitated.

4. In a linotype-machine and in combination with a main frame adapted to support the same rigidly in operative position, an inclined rearwardly-removable magazine, and stationary supports on the frame adapted to sustain the outgoing magazine at its longitudinal edges.

5. In a linotype-machine, the combination of a main frame, a removable magazine, B, having projections, *b*, *b'*, and parallel rails or brackets, C, to cooperate with the projections.

6. In a linotype-machine and in combination with a rearwardly-removable magazine having rollers thereon, a main frame provided with guiding and supporting tracks whereon said rollers travel, to facilitate the introduction and removal of the magazine.

7. In a linotype-machine, the combination of the main frame, the rearwardly-removable magazine, B, and the removable brackets or rails, C, applied to the main frame.

8. In combination with the main frame and removable magazine of a linotype-machine, the brackets C, having stops c^3, substantially as and for the purpose described.

9. A complementary bracket C, for use on a linotype-machine, having a rearwardly-removable magazine said bracket being formed as described to interlock with the frame of the machine, and provided with rails or tracks substantially as shown, to sustain the outgoing magazine.

10. The brackets C, constructed with lips to interlock with the main frame and with the top rails and stops c^3.

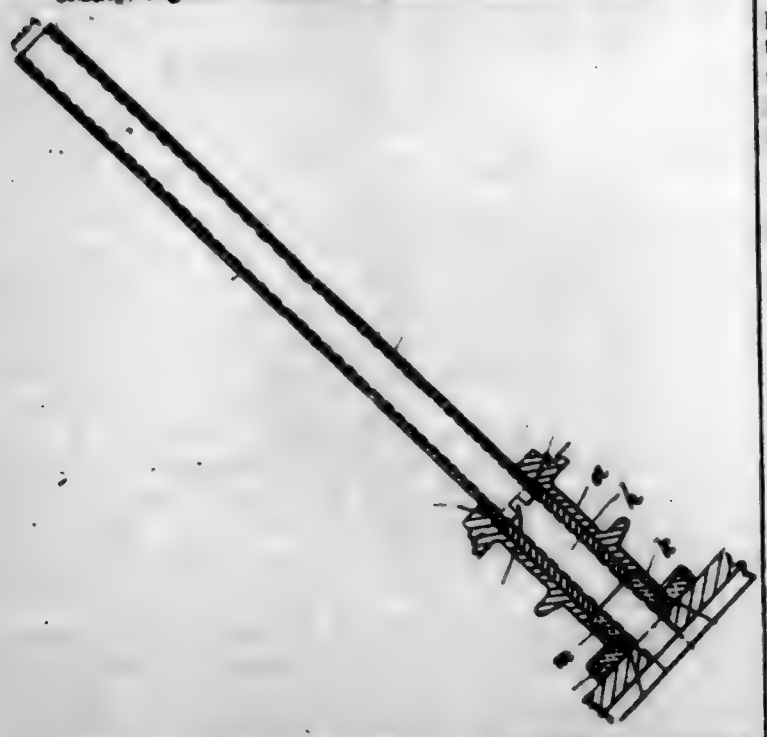
11. The magazine for a linotype-machine, provided with side rollers adapted to coöperate with rails or guides upon the main frame, said rollers adapted to serve as traveling supports for the magazine and as a means of suspending the same.

12. The magazine for a linotype-machine, having at opposite edges front and rear rolls arranged in line whereby they are adapted to travel on two parallel rails to guide the magazine in its course to and from its operative position.

13. In a linotype-machine, in combination with a main frame and a magazine removable therefrom, means for suspending the magazine from the frame in its course to and from the operative position

14. In a linotype-machine and in combination with a main frame and an inclined magazine sustained therein and removable therefrom, means for sustaining the magazine in a substantially horizontal position, and for suspending it in an upright position, during its passage to and from its operative position.

808,929. SPINDLE-TUBE. Stephen Sharp, Micklethwaite, near Bingley, England. Filed Mar. 15, 1905. Serial No. 250,163.

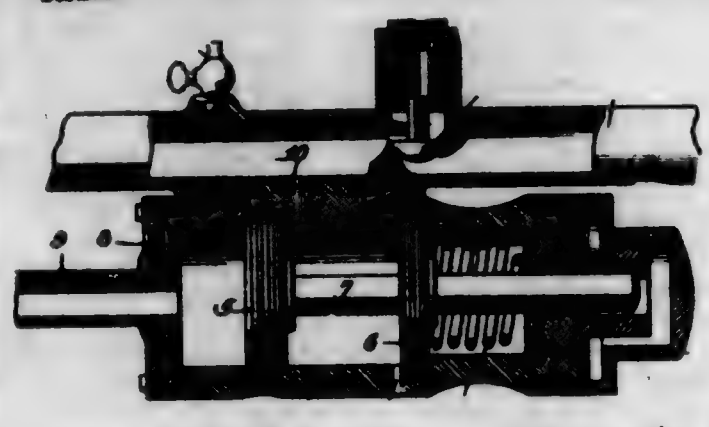


Claim.—1. A device of the character described comprising a driving-pulley having a bore provided with an overhanging flange, a bush fitting within said bore and having projections contacting with said flange, and a tube provided with an annular flange interposed between said bush and said overhanging flange and engaging said projections.

2. A device of the character described comprising a driving-pulley having a bore provided with an overhanging flange, a bush fitting within said bore and having projections contacting with said flange, and a tube provided with an annular flange interposed between said bush and said overhanging flange, and engaging said projections, the flange of said tube being of a thickness less than the length of said projections, whereby vertical play of said tube is permitted.

3. A spinning-machine tube having an annular flange at its lower end, a bush with longitudinal projections to fit into notches in said tube, a driving-pulley provided with an opening to receive said tube and bush said driving-pulley having its lower edge formed to overhang its bearings, bearings for said driving-pulley formed to take into the lower end of the driving-pulley and to have a cavity for the reception of an absorbent material and lubricant in combination substantially as specified.

808,930. AUTOMATIC RETAINING-VALVE. Harry W. Casey and George A. Casey, Southfork, Pa. Filed Mar. 3, 1905. Serial No. 248,282.

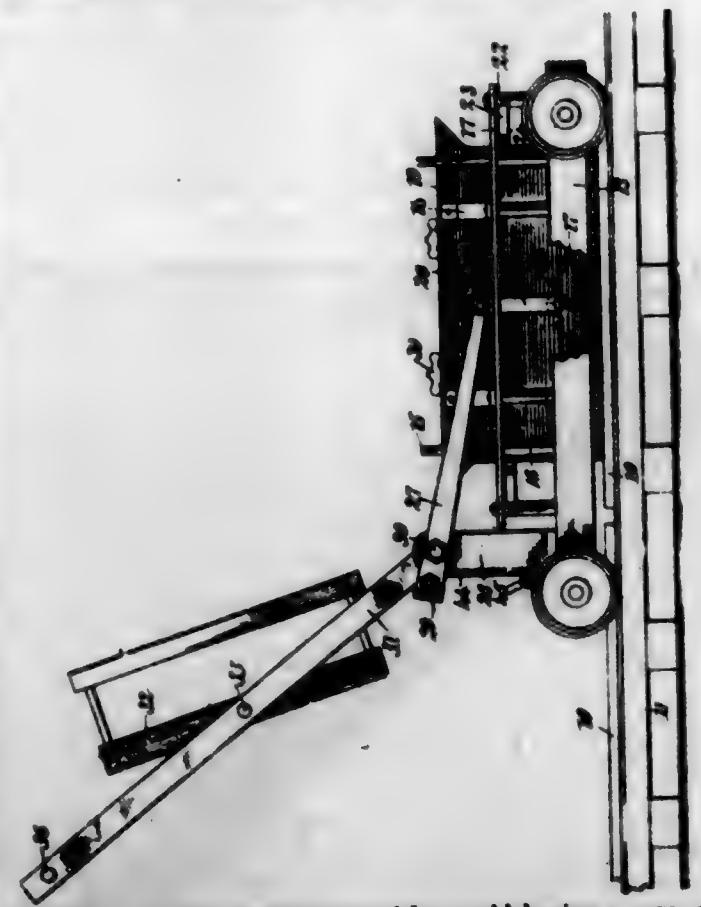


Claim.—1. In air-brake mechanism, a pipe connecting the triple-valve casing to the brake-cylinder, a check-valve in said pipe for preventing the exhaust of air from the brake-cylinder, and an auxiliary valve operable by auxiliary-reservoir pressure for permitting discharge of the air from the brake-cylinder.

2. In air-brake mechanism, a pipe connecting the triple-valve casing to the brake-cylinder, a check-valve in said pipe, a cylinder connected to the pipe, an exhaust-port leading from said cylinder, a pair of connected pistons movable to control communication between the pipe and the exhaust-port, a connection between the cylinder and the auxiliary reservoir, and a spring acting on the piston and tending to resist movement thereof under auxiliary-reservoir pressure.

3. In air-brake mechanism, a pipe connecting the triple-valve casing to the brake-cylinder, a check-valve in said pipe, a cylinder communicating with the pipe at a point between the check-valve and the brake-cylinder, an exhaust-port leading from said cylinder, a pair of pistons mounted in said cylinder, a stem rigid with both pistons, an auxiliary-reservoir connection leading to the cylinder and tending to move said piston in one direction, and a spring surrounding the stem and tending to resist movement of said pistons under auxiliary-reservoir pressure.

808,931. TRUCK FOR MOLDING-MACHINES. William Sieber, Henderson, Ky. Filed July 13, 1905. Serial No. 269,501.



Claim.—1. The combination with a mold having a core, of a truck adapted to support the mold, and means on the truck for tamping material in the mold, said tamping means having a passage through which a core projects when the tamping means is in operative position.

2. The combination with a mold, of a truck for supporting the mold, a frame pivotally mounted on the truck, a tamping device on

the frame, and means on the truck for lifting the mold, said truck having an open rear end.

3. The combination with a mold, of a truck for supporting the mold, a frame pivotally mounted on the truck, a tamping device on the frame, and means on the truck for lifting the mold, said lifting means being operated by the movement of said frame.

4. The combination with a mold, of a truck having an open rear end, and means on the truck for lifting the mold.

5. The combination with a mold, of a truck for supporting the mold, said truck having an open rear end whereby the truck can be moved forwardly, leaving a molded article in stationary position, and means on the truck for lifting the mold.

6. The combination with a mold, of a truck, and means on the truck for lifting the mold and simultaneously spreading the mold-walls.

7. In a molding system, the combination of a track, a series of pallets located along the track, a truck adapted to move along the track over the pallets, a mold on the truck, and means on the truck for centering the mold over the pallets.

8. In a molding system, the combination of a track, a series of pallets located along the track, a truck adapted to move along the track over the pallets, a mold on the truck, means on the truck for centering the mold over the pallets, and means on the truck for tamping material in the mold.

9. In a molding system, the combination of a track, a series of pallets located along the track, a truck adapted to move along the track over the pallets, a mold on the truck, means on the truck for centering the mold over the pallets, and means on the truck for lifting the mold from the pallets.

10. In a molding system, the combination of a track, a series of pallets located along the track, a truck adapted to move along the track over the pallets, a mold on the truck, means on the truck for centering the mold over the pallets, said means comprising a centering-pin, a lever on which said centering-pin is mounted, and means on the truck for moving said lever and forcing the centering-pin into engagement with a pallet.

11. In a molding system, the combination of a track, a series of pallets located along the track, a truck adapted to move along the track over the pallets, a mold on the truck, means on the truck for centering the mold over the pallets, said means comprising a movably-mounted link, means for moving said link, a pair of links supported by the first-mentioned link and extending outwardly therefrom, and a pair of levers dependently mounted upon the truck and connected with said pair of links at a point below their point of suspension, said levers extending inwardly and being provided with centering-pins upon their inner ends, and the pallets being provided with sockets for receiving said pins.

12. In a molding system, the combination of a series of pallets, a truck adapted to move over them, means on the truck for centering a mold over the pallets, said means comprising a movably-mounted link, means for moving said link, a pair of links connected with the first-mentioned link, and a pair of levers dependently mounted upon the truck and connected with said pair of links at a point below their point of suspension; said levers extending inwardly, and being provided with centering-pins upon their inner ends for engaging the pallets.

13. In a molding system, the combination of a series of pallets, a truck adapted to move over them, and means on the truck for centering a mold over the pallets; said means comprising a centering-pin, a lever on which said centering-pin is mounted, and means on the truck for moving said lever and forcing the centering-pin into engagement with a pallet.

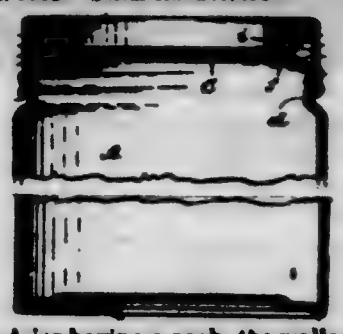
14. A molding system having a truck provided with a mold-centering device, comprising a centering-pin, a lever on which said pin is mounted, and means for moving the lever.

15. A molding system having a truck adapted to carry a mold, and provided with a mold-centering device.

16. In a molding device, the combination of a truck, a mold thereon, a frame connected with the mold, a lever for lifting said frame, said lever being pivoted upon the truck and having an arm extending beyond its pivotal point, and means for engaging said arm to lift the lever and mold.

17. In a molding device, the combination of a truck, a mold thereon, a frame connected with the mold, a lever for lifting said frame, said lever being pivoted upon the truck and having an arm extending beyond its pivotal point, a tamping device, and a frame pivotally mounted upon the truck for supporting said tamping device, said frame being adapted to engage said arm to operate said lever.

808,932. JAR NECK AND CLOSURE. ARCHELAUS DIEHLEIN, Greenville, Ohio, assignor of one-third to Mary M. Hehring, Indianapolis, Ind. Filed May 23, 1905. Serial No. 261,492.



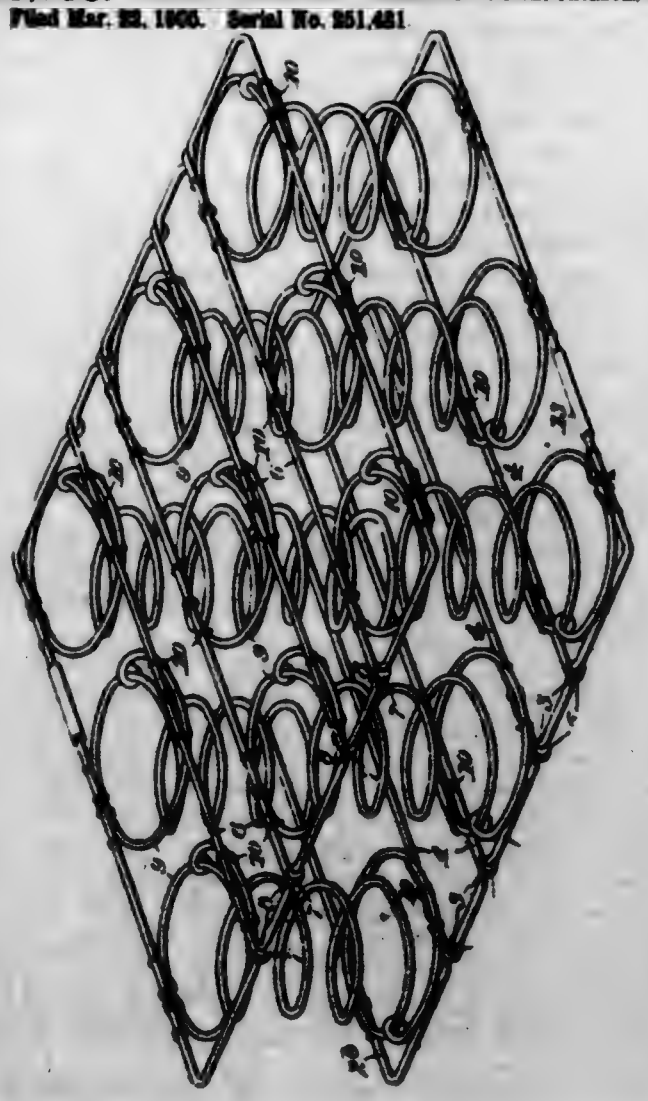
Claim.—1. A jar having a neck, the walls of the jar being bent inwardly above the neck and forming a contracted throat, and thence bent outwardly and having a sealing-seat at the top end thereof, in combination with a lid guided by said throat and having a flange extending outwardly over said seat, and a sealing-ring between said seat and said flange, substantially as and for the purposes set forth.

2. A jar-lid having a lateral right-angled flange provided with an outwardly-projecting flange extending from the end thereof, in combination with a jar-neck having a sealing-seat and a contracted throat below the plane of the seat guiding the lid with said projecting flange centrally over said seat, a sealing-ring between said seat and said projecting flange, and a retaining-ring for said lid.

3. A jar-lid comprising a plate part having a lateral right-angled flange at the periphery thereof, and an outwardly-projecting flange extending laterally from the end of the lateral flange and formed concavo-convex in cross-section, in combination with a jar-neck having a sealing-seat and a contracted throat below the plane of the seat guiding the lid with said projecting flange centrally over said seat, a sealing-ring between said seat and said projecting flange, and a retaining-ring engaging the top of said projecting flange.

4. A jar comprising a threaded neck having a contracted throat in a plane above the threads of the neck, and having a funnel-shape mouth extending from said throat with a sealing-seat on the broader portion thereof, a lid guided by said throat and having a lateral right-angled flange at the end of which is a flaring lateral flange extending over said seat, a sealing-ring sprung over said lateral flange against said flaring flange and bearing on said seat, and a retaining-ring engaging said threaded neck and said lid, substantially as and for the purposes set forth.

808,933. SPRING-CUSHION. WATSON R. SMITH, Jackson, Mich. Filed Mar. 22, 1905. Serial No. 251,421.



Claim.—1. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support and stay wire being flattened and engaged in the corresponding kink of the corresponding edge wire, and springs arranged within the said edge wires between the support and stay wires.

2. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support and stay wire being flattened and sprung into engagement with the corresponding kink of the corresponding edge wire, and springs arranged within said edge wires between the support and stay wires.

3. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support-wire being flattened and engaged in the corresponding kink of the corresponding edge wire, springs arranged within said edge wires between the support and stay wires, and clips associated with the springs for firmly supporting them within the edge wires.

4. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires the ends of each support and stay wire being flattened and sprung into engagement with a kink of the corresponding edge wire, springs arranged within the said edge wires between the support and stay wires, and clips sprung into engagement with the springs to firmly support them within the edge wires.

5. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support and stay wire being flattened and engaged in a kink of the corresponding edge wire, the support-wires being arranged at a direct right angle to the stay-wires and springs arranged within said edge wires between the support and the stay wires.

6. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support and stay wire being flattened and engaged in a kink of the corresponding edge wire, the support-wires being arranged at a direct right angle to the stay-wires, springs arranged within said edge wires between the support and stay wires, and clips associated with the springs to firmly support them within the edge wires.

7. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support and stay wire being flattened and engaged in a kink of the corresponding edge wire, the support-wires being arranged at a direct right angle to the stay-wires, springs arranged within said edge wires between the support and stay wires, and clips sprung into engagement with the springs to firmly support them within the edge wires.

8. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support and stay wire engaged in a kink of the corresponding edge wire, the support-wires being arranged at a direct right angle to the stay-wires, springs arranged within said edge wires between the support and stay wires, and clips sprung into engagement with the springs to firmly support them within the edge wires.

9. A spring-cushion including an edge wire having kinks therein, and a wire connecting the opposite sides of the edge wire and having its opposite ends flattened and sprung into engagement with the kinks of the edge wire.

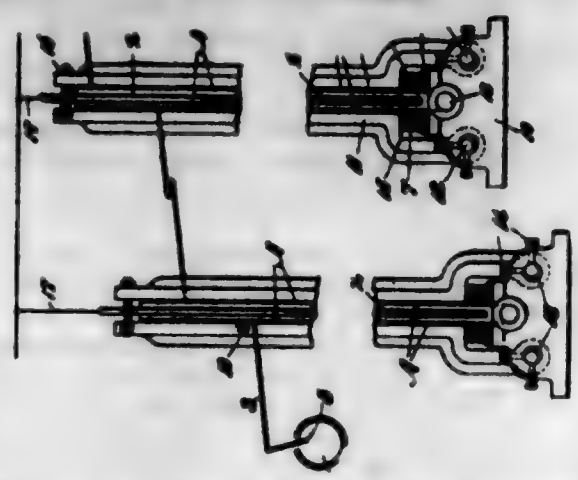
10. A spring-cushion including an edge wire having kinks therein, and a wire connecting the opposite sides of the edge wire and having its opposite ends flattened for engagement with the kinks of the edge wire.

11. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support and stay wire engaged in a kink of the corresponding edge wire, springs arranged within said edge wires between the support and stay wires, and clips sprung into engagement with the springs to firmly support them within the edge wires.

12. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support and stay wire engaged in a kink of the corresponding edge wire, the support-wires being arranged at a direct right angle to the stay-wires, springs arranged within said edge wires between the support and stay wires, and clips secured in engagement with the springs to firmly support them within the edge wires.

13. A spring-cushion comprising upper and lower edge wires, each wire having inwardly-directed kinks, support and stay wires, the ends of each support and stay wire engaged in a kink of the corresponding edge wire, springs arranged within said edge wires between the support and stay wires, and clips secured in engagement with the springs to firmly support them within the edge wires.

808,984. QUICKSILVER-TRAP. PHILIP SOCKERVILLE, Sidney Col. Filed Feb. 14, 1905. Serial No. 245,886.



Claim.—1. The combination with a supply means including a pair of vertically-disposed spaced amalgamating-plates and a plate intermediate of the first-named plates and forming a tortuous passage for the pulp, of a mercury-trap comprising an inclined table leading from the outlet of the passage and bent to form an acute angle at its lower edge, with the depending portion bent backwardly beneath the table and a receiver into which said edge dips.

2. The combination with vertically-disposed parallel plates arranged to form a tortuous passage for the pulp, and means whereby the pulp may be supplied to the inlet of the passage, of a mercury-trap comprising an inclined amalgamated table connecting with the outlet of said passage and having the lower edge bent at an angle, a backwardly-turned downwardly-extending lip, a channeled tube extending transversely and within which said lip extends.

3. A quicksilver-trap, an inclined amalgamated table having the lower edge bent at an acute angle forming a downwardly and backwardly extending lip, a tube having a channel on its upper edge into which said lip extends and means including spaced plates vertically disposed and forming a tortuous passage, for supplying pulp and mercury at the upper end of the table.

4. A quicksilver-trap consisting of the inclined amalgamated table, with a depending lip forming an angle at its lower end, and a receiver into which the lower edge of said lip dips, a supply device for the table consisting of vertical channels, said channels having a common inner side formed of an iron plate, and outer sides formed of copper plates, means for supplying said channels with material to flow through the channels in contact with the plates before being delivered upon the amalgamated table, and means for supplying quicksilver at the receiving end of said table.

5. In a quicksilver-trap, amalgamated plates, an iron plate supported between the amalgamated plates and insulated therefrom, the central plate being raised to form a space at the bottom for the flow of material, means for supplying pulp into the channel at one side of the central plate and an electrical circuit established through the central plate, the passing pulp and the amalgamated plates.

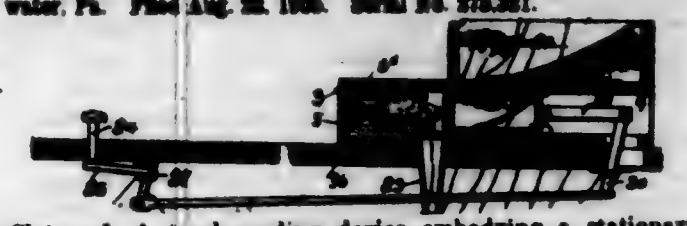
6. In a quicksilver-trap, amalgamated plates having gaskets upon which the lower edges rest, insulating-bars between the vertical edges of said plates, an iron plate, the edges of which fit in grooves in said insulating-bars whereby the iron plate is supported between the amalgamated plates and with its lower edge raised to form a continuous passage from one side to the other, bars hinged at the bottom and carrying the amalgamated plates, a locking device at the top by which said plates may be compressed upon the vertical insulations to form tight joints, and means for forming tight joints at the bottom of the plates.

7. In an apparatus of the character described, amalgamated plates, bars to which the lower edges of said plates are riveted, gaskets upon which the lower edges of the plates and the bars rest, vertical insulating-bars between the outer edges of the amalgamated plates, said bars having vertical channels in their inner sides, an iron plate with its edges fitting said vertical channels, plates having the lower ends arched and pivoted in a base about which they are turnable, said plates forming shoulders which are adapted to engage the bars at the bottom of the amalgamated plates and compress them and the plates upon the gaskets, and a latching device at the top of

the plates whereby they may be drawn together and compressed upon the vertical insulating-bars to form tight joints at the ends and bottom of the apparatus.

8. An apparatus of the character described comprising a pair of amalgamating and vertically-disposed plates and an intermediate iron plate with insulating-supports and gaskets to form joints at the bottom of the amalgamated plates and a yoke having shoulders by which the lower edges of the plates are forced into close contact with the gaskets, pivots about which the yokes are turnable and screws bearing upon the pivots whereby the yokes may be adjusted to regulate the pressure upon the gaskets.

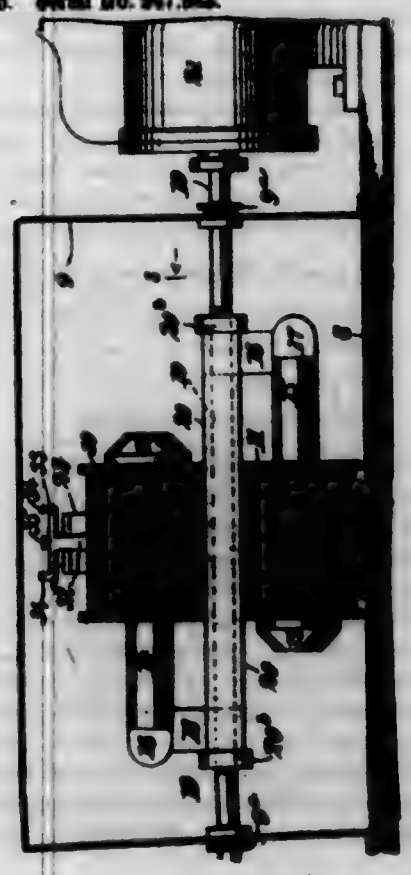
808,935. **TRACK-SANDING DEVICE.** HOMER STOKES, West Bridgewater, Pa., assignor of one-half to John L. Webb, West Bridgewater, Pa. Filed Aug. 22, 1905. Serial No. 274,321.



Claim.—1. A track-sanding device embodying a stationary housing formed with open ends and comprising side walls, a floor extending beyond said side walls, and a forward portion hinged to the floor beyond said side walls, said forward portion being formed with a top, side and front walls, and having one end thereof open to register with the adjacent end of the stationary portion of said housing, a stationary sand-box located upon said housing and connected thereto, said stationary sand-box being provided with an inclined baffle and with a delivery-opening at the termination of said baffle, a forward reciprocating sanding-box located in said housing beneath said stationary sand-box, and being provided with an inclined baffle and with openings adjacent the upper and lower end of said baffle, means for imparting reciprocating motion to said second sand-box, a delivery-spout projecting beneath the floor of said second sand-box, and a slidable spring-controlled valve for normally closing the mouth of said delivery-spout, and adapted to be moved therefrom by means of said second-named sand-box.

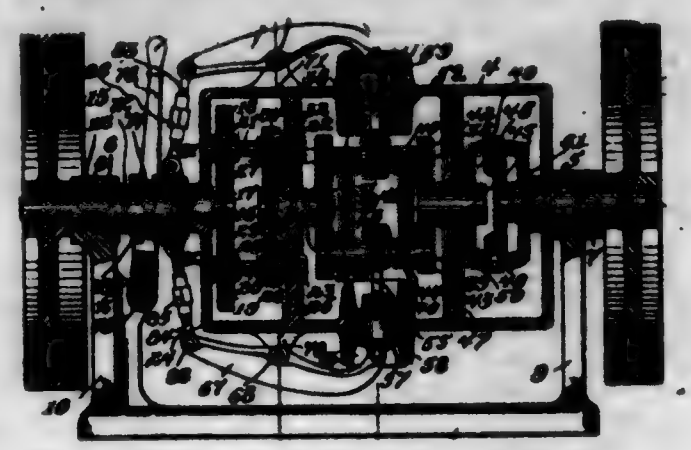
2. A track-sanding device embodying a housing, a stationary receptacle located thereabove, a movable receptacle located in said housing, said stationary and said movable receptacles being formed with openings adapted to be brought into registry upon movement of the latter, means for imparting reciprocating motion to said movable receptacle, means for returning said movable receptacle to the normal position, a delivery-spout, and a spring-controlled valve for closing the mouth of said spout, said valve being moved by said movable receptacle in its forward travel.

808,936. **ELECTRIC PUMP.** JOHN C. STOKES, Mansfield, La. Filed Feb. 23, 1905. Serial No. 247,353.



Claim.—In an electric pump, the combination of a quick-acting switch, means controllable by an electric current for throwing said switch automatically so as to shift the path of said current, a rheostat for controlling said electric current, and electric mechanism controllable by said electric current for actuating said quick-acting switch.

808,937. **VARIABLE-SPEED MECHANISM.** DWIGHT E. DOWNES, Richmond Hill, N. Y. Filed June 13, 1904. Serial No. 212,229.



Claim.—1. In a variable-speed mechanism, the combination with a driving member and a driven member; of a reducer between them, and a constantly-alternating resisting and driving device applied thereto and having a limited reciprocating movement.

2. In a variable-speed mechanism, the combination with a driving member and a driven member; of a reducer between them, a constantly-alternating resisting and driving device applied thereto, and means for adjusting the degree of resistance while the mechanism is in motion.

3. In a variable-speed mechanism, the combination with a driving member and a driven member; of a rotatable casing connecting said members, a reducer within the casing between said members, and a constantly-alternating resisting and driving device applied thereto and carried by and rotatable with the casing.

4. In a variable-speed mechanism, the combination with a driving member and a driven member; of a rotatable casing connecting said members, a reducer within the casing between said members, a constantly-alternating resisting and driving device applied thereto and carried by the casing, and means also carried by the casing for adjusting the degree of resistance.

5. In a variable-speed mechanism, the combination with a driving member and a driven member; of a rotatable casing connecting said members, and a constantly-alternating resisting and driving device carried by the casing and applied to said members for the purpose set forth.

6. In a variable-speed mechanism, the combination with a driving member and a driven member; of a rotatable casing connecting said members, a constantly-alternating resisting and driving device carried by said casing and applied to said members, and means also carried by the casing for adjusting the degree of resistance.

7. In a variable-speed mechanism, the combination with a rotatable casing, a driving member, a driven member, and driving and driven shafts respectively connected therewith and standing in alinement with each other; of a constantly-alternating resisting and driving device, and an actuator therefor connected with the adjacent ends of said shafts.

8. In a variable-speed mechanism, the combination with a rotatable casing, a driving member, a driven member, and driving and driven shafts respectively connected therewith and standing in alinement with each other; of a constantly-alternating resisting and driving device, an actuator therefor connected with the adjacent ends of said shafts, and means for adjusting the degree of resistance.

9. In a variable-speed mechanism, the combination with a rotatable casing, a driving member, a driven member, and driving and driven shafts respectively connected therewith and standing in alinement with each other; of a resistance device, an actuator therefor connected with the adjacent ends of said shafts, and lost-motion mechanism between the actuator and driving and driven shafts respectively, as and for the purpose set forth.

10. In a variable-speed mechanism, the combination with a rotatable casing, a driving member, a driven member, and driving and driven shafts respectively connected therewith and standing in alinement with each other; of a resistance device, an actuator therefor connected with the adjacent ends of said shafts, lost-motion mechanism between the actuator and driving and driven shafts respectively,

and means for adjusting the degree of resistance, as and for the purpose set forth.

11. In a variable-speed mechanism, the combination with a driving member, a driven member, a rotatable casing, and driving and driven shafts connected respectively with said members and standing in alinement with each other; of a resistance device carried by the casing, an actuator therefor connected with the adjacent ends of said shafts, and lost-motion mechanism between the actuator and driving and driven shafts respectively.

12. In a variable-speed mechanism, the combination with a driving member, a driven member, a rotatable casing, and driving and driven shafts connected respectively with said members and standing in alinement with each other; of a resistance device carried by the casing, an actuator therefor connected with the adjacent ends of said shafts, lost-motion mechanism between the actuator and driving and driven shafts respectively, and means also carried by the casing for adjusting the degree of resistance.

13. In a variable-speed mechanism, the combination with a driving member, a driven member, a rotatable casing between them, driving and driven shafts journaled within the casing in alinement with each other, connections between one shaft and its respective member, and a reducer between the other shaft and its respective member; of a resistance device carried by the casing and connected with the adjacent ends of said shafts, as and for the purpose set forth.

14. In a variable-speed mechanism, the combination with a driving member, a driven member, a rotatable casing between them, driving and driven shafts journaled within the casing in alinement with each other, connections between one shaft and its respective member, and a reducer between the other shaft and its respective member; of a resistance device carried by the casing and connected with the adjacent ends of said shafts, and means also carried by the casing for adjusting the degree of resistance, as and for the purpose set forth.

15. In a variable-speed mechanism, the combination with a driving member, a driven member, a rotatable casing between them, driving and driven shafts journaled within the casing in alinement with each other, and reducers within the casing connecting each shaft with its respective member; of a resistance device carried by the casing and connected with the adjacent ends of said shafts, as and for the purpose set forth.

16. In a variable-speed mechanism, the combination with a driving member, a driven member, a rotatable casing between them, driving and driven shafts journaled within the casing in alinement with each other, and reducers within the casing connecting each shaft with its respective member; of a resistance device carried by the casing and connected with the adjacent ends of said shafts, and means also carried by the casing for adjusting the degree of resistance, as and for the purpose set forth.

17. In a variable-speed mechanism, the combination with a driving member, a driven member, a rotatable casing between them, driving and driven shafts journaled within the casing in alinement with each other, and two trains of planetary gearing differing from each other in speed and respectively connecting said shafts with their respective members; of a resistance device carried by the casing and connected with the adjacent ends of said shafts as and for the purpose set forth.

18. In a variable-speed mechanism, the combination with a driving member, a driven member, a rotatable casing between them, driving and driven shafts journaled within the casing in alinement with each other, and two trains of planetary gearing differing from each other in speed and respectively connecting said shafts with their respective members; of a resistance device caried by the casing and connected with the adjacent ends of said shafts, and means also carried by the casing for adjusting the degree of resistance, as and for the purpose set forth.

19. In a variable-speed mechanism, the combination with a rotatable casing having hubs, a driving member whose shaft is journaled through one hub, and a driven member whose shaft is journaled through the other; of reducing mechanism and connections between the inner ends of said shafts, a resistance device carried by the casing and applied to said connections, means for adjusting the degree of resistance, and mechanism mounted on one of said hubs for setting said adjusting means.

20. In a variable-speed mechanism, the combination with a rotatable casing having hubs, a driving member whose shaft is journaled through one hub, and a driven member whose shaft is journaled through the other; of reducing mechanism and connections between the inner ends of said shafts, and a resistance device applied to said connections and embracing a radial cylinder through the casing, a main plunger reciprocated therein by said connections, a secondary plunger therein, a resisting medium between the plungers and means on the casing for adjusting the secondary plunger.

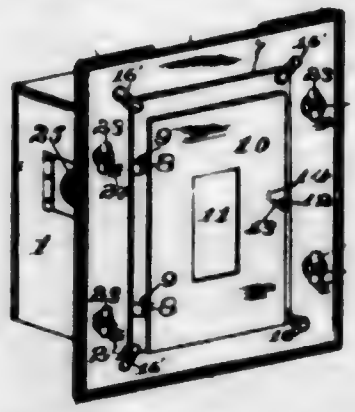
21. In a variable-speed mechanism, the combination with a driving-shaft and a driven shaft; of a reducer between them, a resistance device applied thereto, an actuator for the resistance device, and lost-motion mechanism at the point of connection between said actuator and the shafts.

22. In a variable-speed mechanism, the combination with a driving-shaft and a driven shaft; of a reducer between them, a resistance device applied thereto, an actuator for the resistance device, lost-motion mechanism at the point of connection between said actuator and the shafts, and means for adjusting the degree of resistance.

23. In a variable-speed mechanism, the combination with a driving-shaft and a driven shaft, and a rotatable casing in which such shafts are supported; of a reducer within the casing between the shafts, a resistance device carried by and rotatable with the casing, an actuator for the resistance device, and lost-motion mechanism at the point of connection between said actuator and the shafts.

24. In a variable-speed mechanism, the combination with a driving-shaft and a driven shaft, and a rotatable casing in which such shafts are supported; of a reducer within the casing between the shafts, a resistance device carried by and rotatable with the casing, an actuator for the resistance device, means for adjusting the degree of resistance, and lost-motion mechanism at the point of connection between said actuator and the shafts.

803,938. **WINDOW-KITCHEN.** IDA M. THOMPSON, Jamestown, N. D. Filed May 20, 1905. Serial No. 262,831.



Claim.—1. A device of the character described comprising a rectangular body formed with openings in its respective walls, a shield projecting transversely of the body at one end thereof, and wings adjustably connected with the side edges of the shield.

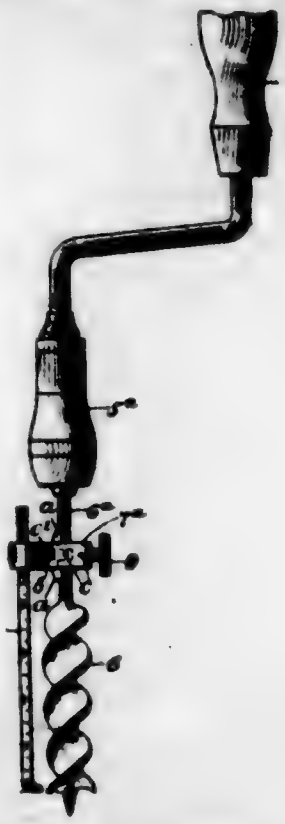
2. A device of the character described comprising a body portion open at its front side, the walls of the body being formed with openings, dampers for said openings, the forward edges of the body-walls being bent to provide a face-flange, a door pivotally connected to said flange, a shield-plate encircling the body in rear of the flange, means for removably connecting the shield and flange, and wings adjustably connected to said shield.

3. A device of the character described comprising a rectangular body formed with openings in its respective walls, a shield projecting transversely of the body at one end thereof, and wings adjustably connected with the side edges of the shield, and a shelf projecting from the shield and supporting the body portion.

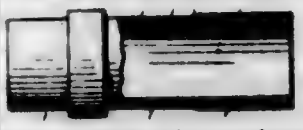
803,939. **DEPTH-GAGE FOR BRACE-BITS.** EDWARD J. TIEDE, Buffalo, N. Y. Filed June 23, 1905. Serial No. 266,572.

Claim.—1. A depth-gage, comprising a clamp formed of two sections, one section having a rectangular notch in one end forming two parallel members and a threaded opening leading into the notch, and the other section having a V-shaped notch in one end, a vertical opening in its other end, and a threaded opening leading into the vertical opening, the last-named section being hinged to one of the members of the first-named section by a vertical pivot, a spring latch-plate secured at one end to the side of one of the clamp-sections and provided with an opening in its free end to receive a lateral projecting pin on the other section, a set-screw in the threaded opening of the section having the rectangular notch and adapted to engage the shank of the bit when the sections are latched together, a graduated gage-bar in the vertical opening of the section with the V-shaped notch, and having a foot at its lower end, and a set-screw in the threaded opening of said clamp-section and engaging the said gage-bar, substantially as herein shown and described.

2. A depth-gage, comprising a two-part clamping-block, one part having a V-shaped notch in one end, V-shaped jaws projecting from the upper and lower sides of said part, the sides of said jaws alining with walls of the V-shaped notch, a hinge-joint between the block-sections at one side thereof, the other section of the clamping-block having a recess in a corresponding end, a spring latch-plate secured by one end on the side of one section of the clamping-block and having a perforation in its free portion adapted to receive a locking projection on a corresponding side of the other clamping-section, a set-screw adjustable in the end of the section for pressure on a bit-shank when the block-sections are latched together, a gage-bar vertically slidable in a perforation in the block-section having the V-shaped notch therein, and a set-screw working in the side of said block-section adapted for holding the gage-bar at a desired point of adjustment.



803,940. PIPE-CONNECTING MEMBER. JULIUS D. TECHOPIK, New Orleans, La. Filed Feb. 23, 1905. Serial No. 247,689.



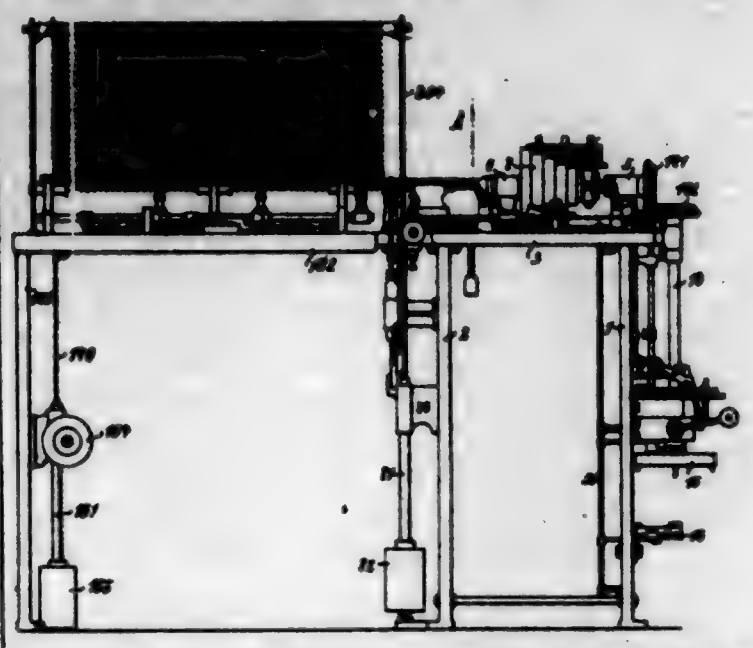
Claim.—1. As a new article of manufacture, a pipe member having a stem adapted to be soldered to a connecting part, and having an originally-affixed, permanent tinned coating thereon, and having a protective covering for said tinned coating, secured to an untinned part of the stem and extending loosely over the tinned coating and removable therefrom to expose said coating, substantially as described.

2. As a new article of manufacture a plumber's pipe member such as a ferrule, nipple, &c., having a stem adapted to be soldered to a connecting part and having a permanent originally-affixed tinned coating extending along said stem for a portion of the length of the latter, a protective coating affixed to the untinned part of the stem and extending over the coating and having a severing-line at the point of junction of the coated and uncoated portions of the stem, substantially as described.

803,941. WIRE-NETTING MACHINE. OTTO TÜRK, Saalfeld-on-the-Saale, Germany. Filed July 26, 1904. Serial No. 218,522.

Claim.—1. In a wire-netting machine, the combination with a rotating blade for bending the wire in a zigzag line and twisting it with the last row of loops of the fabric, of means for feeding the fabric, a reversible device for cutting the zigzagged wire alternately in oppositely-inclined planes, and a mechanism for stopping said rotating blade after a predetermined number of revolutions, reversing and actuating said reversible device and restarting said rotating blade.

2. In a wire-netting machine, the combination with a rotating blade for bending the wire in a zigzag line and twisting it with the last row of loops of the fabric, of two rows of hooks alternately engaging the new row of loops and releasing the last row of loops respectively, a reversible device for cutting the zigzagged wire alternately in oppositely-inclined planes, and a mechanism for stopping said rotating blade after a predetermined number of revolutions, reversing and actuating said reversible device, actuating said two rows of hooks and restarting said rotating blade.



3. In a wire-netting machine, the combination with a rotating blade adapted to bend the wire in a zigzagged line, of means guiding the fabric and the zigzagged wire while the point of the latter consecutively engages in the several meshes of the last row of loops, two rows of rocking hooks adapted to alternately engage in the new row of loops and withdraw from the last row of loops respectively, a reversible device for cutting the zigzagged wire alternately in oppositely-inclined planes, and a mechanism for stopping said rotating blade after a predetermined number of revolutions, reversing and actuating said reversible device, actuating said two rows of rocking hooks and restarting said rotating blade.

4. In a wire-netting machine, the combination with a rotating blade adapted to bend the wire in a zigzag line, of means guiding the fabric and the zigzagged wire while the point of the latter consecutively engages in the several meshes of the last row of loops, two rows of rocking hooks adapted to alternately engage in the new row of loops and withdraw from the last row of loops respectively, a reversible device for cutting the zigzagged wire alternately in oppositely-inclined planes, and a mechanism for stopping said rotating blade after a predetermined number of revolutions, reversing and actuating said reversible device, actuating and shifting said two rows of rocking hooks with the fabric alternately in either direction through a certain distance and restarting said rotating blade

5. In a wire-netting machine, the combination with a working spindle, of a blade adjustable in said working spindle and adapted to bend the wire in a zigzag line, a hollow shaft connected with said working spindle and partaking in its revolution, a screw-spindle longitudinally movable in said hollow shaft and prevented from turning therein, a stationary nut engaging and releasing said screw-spindle, a weight, a chain connecting said weight with said screw-spindle for returning the latter to the initial position when released, a tappet-disk on said screw-spindle, a reversible device for cutting the zigzagged wire alternately in oppositely-inclined planes, and a mechanism controlled by said tappet-disk and operated by said weight for stopping said working spindle and withdrawing said nut, reversing and actuating said reversible device and engaging said nut and restarting said working spindle.

6. In a wire-netting machine, the combination with a working spindle, of a blade adjustable in said working spindle and adapted to bend the wire in a zigzag line, a hollow shaft connected with said working spindle and partaking in its revolution, a screw-spindle longitudinally movable in said hollow shaft and prevented from turning therein, a stationary nut engaging and releasing said screw-spindle, two weights, two chains connecting said two weights with said screw-spindle for returning the latter to its initial position when released, a tappet-disk on said screw-spindle, means guiding the fabric and the zigzagged wire while the point of the latter consecutively engages in the several meshes of the last row of loops, two rows of rocking hooks adapted to alternately engage in the new row of loops and withdraw from the last row of loops respectively, a reversible device for cutting the zigzagged wire alternately in oppositely-inclined planes, and a mechanism controlled by said tappet-

disk and said two weights for stopping said working spindle and withdrawing said stationary nut, reversing and actuating said reversible device, actuating said two rows of rocking hooks, engaging said nut and restarting said working spindle.

7. In a wire-netting machine, the combination with a working spindle, of a blade adjustable in said working spindle and adapted to bend the wire in a zigzag line, a hollow shaft connected with said working spindle and partaking in its revolution, a screw-spindle longitudinally movable in said hollow shaft and prevented from turning therein, a stationary nut engaging and releasing said screw-spindle, two weights, two chains connecting said two weights with said screw-spindle for returning the latter to its initial position when released, a tappet-disk on said screw-spindle, means guiding the fabric and the zigzagged wire while the point of the latter consecutively engages in the several meshes of the last row of loops, two rocking hooks adapted to alternately engage in the new row of loops and withdraw from the last row of loops respectively, a reversible device for cutting the zigzagged wire alternately on two different places in oppositely-inclined planes, and a mechanism controlled by said tappet-disk and said two weights for stopping said working spindle and withdrawing said stationary nut, reversing and actuating said reversible device, actuating and shifting said two rows of rocking hooks with the fabric alternately in either direction through a certain distance, engaging said nut and restarting said working spindle.

8. In a wire-netting machine, the combination with a working spindle, of a hollow shaft connected with said working spindle and partaking in its revolution, a screw-spindle longitudinally movable in said hollow shaft and prevented from turning therein, a reversible wire-cutting device, a weight, a chain connecting said weight with said screw-spindle for returning the latter to its initial position when released, a stationary nut engaging and releasing said screw-spindle, means controlled by said chain for reversing and actuating said reversible wire-cutting device, a driving-cone loose on said working spindle, a splined clutch movable on said working spindle, a lever controlling said splined clutch, a tappet-disk fastened on said screw-spindle, an adjustable bracket for determining the stroke of said screw-spindle, a tappet-lever on said adjustable bracket and adapted to be moved by said tappet-disk, and a mechanism connecting said lever with said tappet-lever and controlled by said chain for periodically stopping said working spindle and withdrawing said stationary nut, then engaging said stationary nut and restarting said working spindle.

9. In a wire-netting machine, the combination with a working spindle, of a blade adjustable in said working spindle and adapted to bend the wire in a zigzag line, means guiding the fabric and the zigzagged wire while the point of the latter consecutively engages in the several meshes of the last row of loops, two rows of rocking hooks adapted to alternately engage in the new row of loops and withdraw from the last row of loops respectively, a reversible device for cutting the zigzagged wire alternately in oppositely-inclined planes, means for alternately stopping said working spindle in two positions at one hundred and eighty degrees to each other, so that said blade is in the plane of the fabric and the zigzagged wire is in the right position to be cut and tightened in the fabric, and a mechanism for reversing and actuating said reversible device, actuating said two rows of rocking hooks and restarting said working spindle.

10. In a wire-netting machine, the combination with a working spindle, of a blade adjustable in said working spindle and adapted to bend the wire in a zigzag line, means guiding the fabric and the zigzagged wire while the point of the latter consecutively engages in the several meshes of the last row of loops, two rows of rocking hooks adapted to alternately engage in the new row of loops and withdraw from the last row of loops respectively, a reversible device for cutting the zigzagged wire alternately on two different places in oppositely-inclined planes, means for alternately stopping said working spindle in two positions at one hundred and eighty degrees to each other, so that said blade is in the plane of the fabric and the zigzagged wire is in the right position to be cut and tightened in the fabric, and a mechanism for reversing and actuating said reversible device, actuating and shifting said two rows of rocking hooks with the fabric alternately in either direction through a certain distance and restarting said working spindle.

11. In a wire-netting machine, the combination with a working spindle provided with a blade for bending the wire in a zigzag line, of a screw-spindle adapted to partake in the revolution of said working spindle and movable longitudinally, a stationary nut engaging and releasing said screw-spindle, a weight, a chain connecting said weight with said screw-spindle for returning the latter to its initial position when released, and a mechanism controlled by said screw-spindle, whereby said working spindle is stopped in an exact position with its blade in the plane of the fabric and said stationary nut withdrawn on said screw-spindle reaching its one extreme position and said stationary nut is engaged and said working spindle is restarted on said screw-spindle reaching its other extreme position.

12. In a wire-netting machine, the combination with a working spindle provided with a blade for bending the wire in a zigzag line, of a screw-spindle, adapted to partake in the revolution of said working spindle and movable longitudinally, a stationary nut engaging and releasing said screw-spindle, a weight, a chain connecting said weight with said screw-spindle for returning the latter to its initial position when released, a reversible wire-cutting device, means controlled by said chain for reversing and actuating said reversible wire-cutting device, and a mechanism controlled by said screw-spindle, whereby said working spindle is stopped alternately in two exact positions at one hundred and eighty degrees to each other with its blade in the plane of the fabric and restarted on said screw-spindle reaching its two extreme positions respectively, said stationary nut being withdrawn immediately after the stoppage and engaged imm ately before the starting respectively.

13. In a wire-netting machine, the combination with a hollow shaft, of a screw-spindle movable in said hollow shaft and prevented from turning therein, a stationary nut engaging and releasing said screw-spindle, a weighted lever controlling said stationary nut, a bracket, a spring-pressed hook hinged to said weighted lever and adapted to snap over said bracket, a weighted locking-lever on said bracket and turning in a vertical plane over its axis and adapted to release said spring-pressed hook, a rod connected with said weighted locking-lever and adapted to raise said weighted lever on going upward, means for returning said screw-spindle to its initial position when released, a tappet-disk fastened on said screw-spindle, and a mechanism controlled by said screw-spindle longitudinally and by said tappet-disk angularly, whereby said hollow shaft is stopped in an exact position and said weighted locking-lever turned over to release said screw-spindle in its one extreme position and turned back to engage said screw-spindle in its other extreme position and said hollow shaft is restarted.

14. In a wire-netting machine, the combination with a working spindle provided with a blade for bending the wire in a zigzag line, of a screw-spindle adapted to partake in the revolution of said working spindle and movable longitudinally, a stationary nut engaging and releasing said screw-spindle, a weighted lever for actuating said stationary nut, a bracket, a spring-pressed hook hinged to said weighted lever and adapted to snap over said bracket for holding said stationary nut engaged, a weighted locking-lever on said bracket and turning in a vertical plane over its axis and adapted to release said spring-pressed hook from the bracket, a rod pivotally connected with the said weighted locking-lever and adapted to raise said weighted lever on moving upward, a weight, a chain connecting said weight with said screw-spindle for returning the latter to its initial position when released, a tappet-disk fastened on said screw-spindle, and a mechanism controlled by said screw-spindle longitudinally and by said tappet-disk angularly, whereby said working spindle is stopped in an exact position with its blade in the plane of the fabric and said weighted locking-lever is turned over to suddenly release said screw-spindle in its one extreme position and on this screw-spindle reaching its other extreme position said weighted locking-lever is turned back to engage it and said working spindle is immediately restarted.

15. In a wire-netting machine, the combination with a working spindle provided with a loose driving-cone and a splined clutch, of a hollow shaft adapted to partake in the revolution of said working spindle, a screw-spindle longitudinally movable in said hollow shaft and prevented from turning therein, a stationary nut engaging and releasing said screw-spindle, a weighted lever controlling said stationary nut, a bracket, a spring-pressed hook hinged to said weighted lever and adapted to snap over said bracket, a weighted locking-lever on said bracket and turning in a vertical plane over its axis and adapted to release said spring-pressed hook, a rod pivotally connected with said weighted locking-lever and adapted to raise said weighted lever on moving upward, a controlling-rod adapted to partake in the longitudinal motion of said screw-spindle, a weight, a chain connecting said weight with said controlling-rod for returning the latter with said screw-spindle to the initial position, a tappet-disk fastened on said screw-spindle, and a mechanism controlled by said controlling-rod and said tappet-disk for actuating said splined clutch and said weighted locking-lever, whereby said working spindle is stopped in an exact position and immediately said screw-spin-

die is released in its one extreme position and said screw-spindle is engaged in its other extreme position and immediately said working spindle is restarted.

16. In a wire-netting machine, the combination with a hollow shaft, of a screw-spindle longitudinally movable in said hollow shaft and prevented from turning therein, a stationary nut engaging and releasing said screw-spindle, a rod parallel to said screw-spindle and adapted to partake in its longitudinal motion, a weight, a chain connecting said weight with said rod for returning the latter with said screw-spindle to the initial position, a weighted lever controlling said stationary nut, a bracket, a spring-pressed hook hinged to said weighted lever and adapted to snap over said bracket, a weighted locking-lever on said bracket and turning in a vertical plane over its axis and adapted to release said spring-pressed hook, a link connected with said weighted locking-lever and adapted to raise said weighted lever on moving upward, an adjustable cam on said rod, means controlled by said adjustable cam for turning said weighted locking-lever in one direction to release said screw-spindle, a lever loose on the axis of said weighted locking-lever for turning the latter in the other direction to engage said screw-spindle, a tappet-disk fastened on said screw-spindle, and a mechanism controlled by said rod and said tappet-disk for stopping and starting said hollow shaft respectively.

17. In a wire-netting machine, the combination with a hollow shaft, of a screw-spindle longitudinally movable in said hollow shaft and prevented from turning therein, a stationary nut engaging and releasing said screw-spindle, a rod parallel to said screw-spindle and adapted to partake in its longitudinal motion, a weight, a chain connecting said weight with said rod for returning the latter with said screw-spindle to the initial position, a disk fastened on said screw-spindle and provided with a tappet, an adjustable bracket for determining the stroke of said screw-spindle, a lever on said adjustable bracket and adapted to be moved by the tappet of said disk, and a mechanism controlled by said rod and said lever for stopping and starting said hollow shaft and for withdrawing and engaging said stationary nut respectively.

18. In a wire-netting machine, the combination with a hollow shaft, of a screw-spindle longitudinally movable in said hollow shaft and prevented from turning therein, a stationary nut engaging and releasing said screw-spindle, a rod parallel to said screw-spindle and adapted to partake in its longitudinal motion, a weight, a chain connecting said weight with said rod for returning the latter with said screw-spindle to the initial position, a disk fastened on said screw-spindle and provided with two opposite tappets at different radii, an adjustable bracket for determining the stroke of said screw-spindle, a lever on said adjustable bracket and turning around the axis of said screw-spindle, a shifting pin on said lever and adapted to be in the path of either of the two tappets of said disk, a shaft parallel to said screw-spindle, a forked lever fastened on said shaft and adapted to embrace said rod and reduce its return under the action of said weight by half a pitch of said screw-spindle, means controlled by said shaft for shifting said shifting pin, and a mechanism controlled by said rod and said shifting pin for stopping and starting said hollow shaft and for withdrawing and engaging said stationary nut respectively.

19. In a wire-netting machine, the combination with two bearings facing the spiral guide and adjustable in a plane at right angles to the working spindle, of a shaft in said two bearings and cranked between them and provided with two axial cavities, two knife-carriers longitudinally movable in the axial cavities of said shaft, two knives at the internal ends of said two knife-carriers, means pressing said two knife-carriers outward, two cams bearing against the external ends of said knife-carriers, means actuating said cams so that said two knives cut the wire, a lever fastened on said shaft, and means for moving said lever alternately into either of two inclined planes.

20. In a wire-netting machine, the combination with two supports vertically adjustable on the machine-table, of a horizontal shaft mounted to turn in said two supports and cranked between them and provided with two axial cavities, two knife-carriers longitudinally movable in the axial cavities of said shaft, two knives at the internal ends of said two knife-carriers for cutting the wire, means pressing said two knife-carriers outward, two levers mounted in said two supports and having two cams adapted to bear against the external ends of said two knife-carriers, a vertical rod guided longitudinally in the machine-frame, a cross-head hinged to the upper end of said vertical rod, two links connecting the ends of said cross-head with said two levers, an actuating-lever pivotally connected between its two ends with said vertical rod and at the one end by a link with the machine-frame, and means for gripping and releasing said actuating-lever.

21. In a wire-netting machine, the combination with a wire-cutting device having an actuating-lever, of a working spindle, a screw-spindle adapted to partake in the revolution of said working spindle and movable longitudinally, a stationary nut engaging and releasing said screw-spindle, a weight, a chain connecting said weight with said screw-spindle to return the latter to the initial position when released, means for stopping said working spindle and withdraw said stationary nut in the one extreme position of said screw-spindle and for engaging said stationary nut and starting said working spindle in the other extreme position of said screw-spindle, a piston inserted between said weight and said chain and guided in the machine-frame and provided with a slot, a spring-pressed pawl in the slot of said piston and adapted to turn outward for gripping and moving said actuating-lever and to be turned back by a stop to release the actuating-lever.

22. In a wire-netting machine, the combination with a reversible wire-cutting device, of a lever for rocking said reversible wire-cutting device, a horizontal rod adapted to move said lever, a two-armed lever horizontally swinging on the machine-table and pivotally connected at the one arm with said horizontal rod, while the other arm is vertically movable, a spring pressing said two-armed lever in one direction to bring said reversible wire-cutting device into a position, a horizontal cam-plate on which the movable arm of said two-armed lever slides, a spring-pressed latch in said cam-plate and adapted to be depressed by and to snap behind the movable arm of said two-armed lever, a reversing-lever horizontally swinging on the machine-table and yielding vertically and provided with a cam, an elastic hook on the movable arm of said two-armed lever and adapted to take along with it said reversing-lever which slides down said cam-plate, a tappet adjustable on a horizontally-reciprocating machine part and adapted to alternately move in a direction the movable arm of said two-armed lever for reversing said reversible wire-cutting device and said reversing-lever to release by its cam the movable arm of said two-armed lever.

23. In a wire-netting machine, the combination with two shafts parallel to the fabric and mounted to rock in the machine-frame, of two rows of hooks secured on said two shafts and adapted to alternately engage in the new row of loops and withdraw from the last row of loops respectively, two rockers fastened on said two shafts and provided with inclined faces, two pronged latches horizontally guided on the machine-frame and gearing into each other so that the prongs of the one latch are adapted to engage the rear inclined faces of said two rockers for turning the latter to the front and that the prongs of the other latch engage the front inclined faces of said two rockers for turning the latter to the rear, a slide on the machine-frame and adapted to be moved by a horizontally-reciprocating machine part, a controller mounted to horizontally swing on said slide and adapted to push alternately either of said two pronged latches in a direction, two springs for returning said two pronged latches to the initial position, and means for reversing said controller to adjust it.

24. In a wire-netting machine, the combination with two shafts parallel to the fabric and mounted to rock on the machine-frame, of two rows of hook-carriers secured on said two shafts and provided with adjustable hooks adapted to alternately engage in the new row of loops and withdraw from the last row of loops respectively, means for rocking said two shafts, a cross-head adapted to simultaneously and longitudinally shift said two shafts while allowing them to turn, and means controlled by a horizontally-reciprocating machine part for shifting said cross-head alternately in two opposite directions.

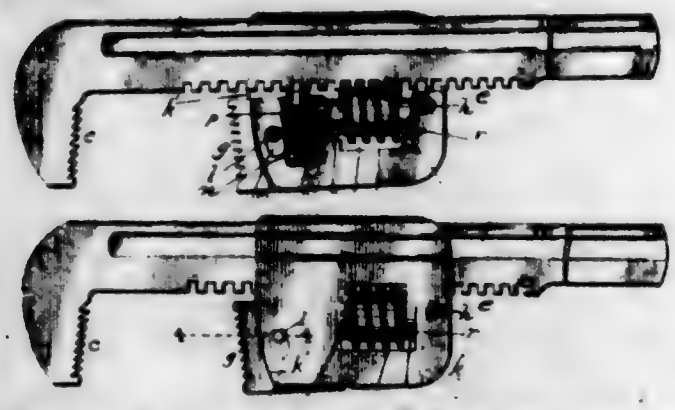
25. In a wire-netting machine, the combination with two shafts parallel to the fabric and mounted to rock on the machine-frame, of two rigid hook-carriers at the ends of said two shafts near the wire-cutting device, two rows of elastic hook-carriers distributed over said two shafts and adapted to yield in the plane of the fabric, and means for rocking said two shafts.

26. In a wire-netting machine, the combination with two rails on both sides of the fabric at the last row of loops and adapted to guide the fabric, of means for adjusting the distance of said two rails, and means for turning off one of said two rails to release the fabric for withdrawing the zigzagged wire or other repairs.

27. In a wire-netting machine, the combination with two rails on both sides of the fabric at the last row of loops, a first row of levers on the machine-frame for supporting one of the said two rails and adjustable in planes at right angles thereto, a second row of levers hinged to said first row of levers for supporting the other of said two rails, a plurality of adjustable hooks for connecting said two rows of levers, and a plurality of troughs between said two rows of levers, the whole forming an opening and closing device for guiding the fabric and the zigzagged wire.

28. In a wire-netting machine, the combination with a working spindle, of a screw-spindle partaking in the revolution of said working spindle and movable longitudinally, means for stopping and restarting said working spindle also engaging and releasing said screw-spindle, a weight, a chain connecting said weight with said screw-spindle for returning it to its initial position, two shafts parallel to the fabric and mounted to rock in the machine-frame, two rows of hooks on said two shafts for alternately engaging the new row of loops and releasing the last row of loops respectively, a cross-head adapted to simultaneously and longitudinally move said two shafts for shifting the fabric, a rod inserted in said chain parallel to said two shafts, means for periodically transmitting the motion of said rod under the action of said weight to said cross-head in either direction, a rack inserted in said chain, a pinion in a stationary guide and engaging in said rack, and a fly-wheel on the axle of said pinion for assisting said weight during the shifting of the fabric.

808,942. PIPE-WRENCH. JOHN H. VINTON, Boston, Mass., assignor to Louis C. Smith, Winthrop, Mass. Filed Apr. 5, 1905. Serial No. 253,843.



Claim.—1. In a wrench of the character described, a bar or shank and a stationary jaw integral or rigid therewith; a yoke or covering *k* embracing the bar and extending down on opposite sides thereof, and adapted to slide longitudinally on said bar, said yoke or covering having openings *t* in its opposite sides; a movable jaw pivoted near its rear end to said yoke or covering and located between the two folds thereof whereby it swings with relation to the bar and to the yoke; a worm sustained by the movable jaw; and oppositely-curved fingers extending downward and inward from the upper edges of the openings in the two folds of the yoke under the worm or nut, whereby said worm is held in engagement with suitable teeth on the bar, for the purpose set forth.

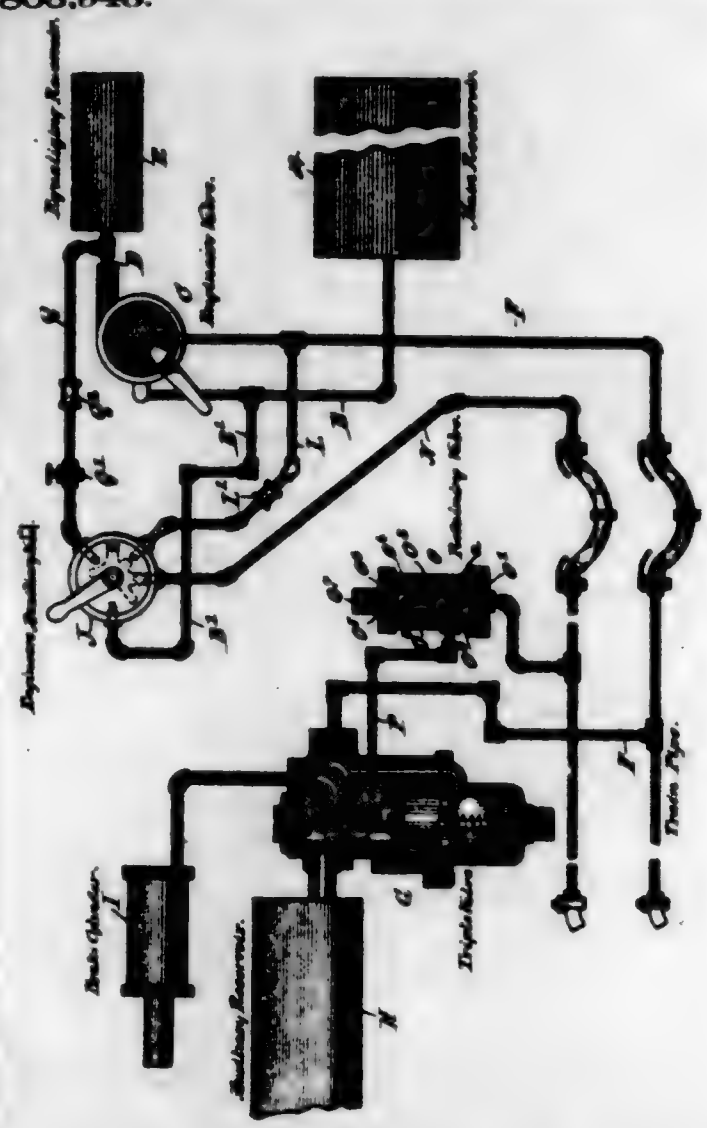
2. In a wrench of the character described, a bar or shank and a stationary jaw integral or rigid therewith; a yoke or covering *k* embracing the bar and extending down on opposite sides thereof, and adapted to slide longitudinally on said bar; a movable jaw *f* swinging in said yoke or covering and formed near its engaging end with rearwardly-facing dovetailed shoulders *m* on the opposite sides of the jaw, said shoulders being on arcs of circles of which the pivot on which the jaw swings is the center, and the front edges *k'* of the two portions of the yoke which flank the movable jaw being beveled to fit said dovetails and being concentric with said dovetailed edges; and means for limiting the swinging movement of said jaw, for the purpose set forth.

808,943. FLUID-PRESSURE BRAKE. MARTIN P. VOLKMANN, Santa Monica, Cal. Filed Apr. 26, 1905. Serial No. 257,495.

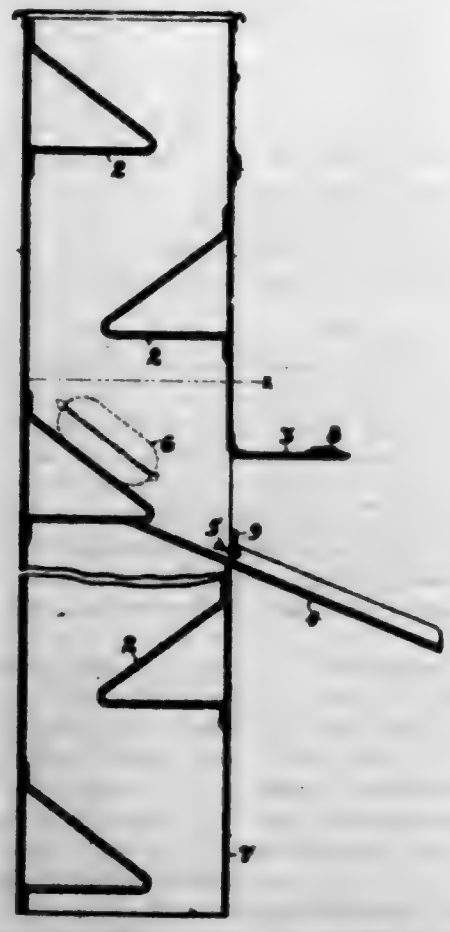
Claim.—1. A fluid-pressure brake provided with a retaining-valve for retaining the pressure in the brake-cylinder, and an engineer's auxiliary valve, under the control of the engineer and connected with the main reservoir and the said retaining-valve, to move the latter into a retaining position, the said engineer's auxiliary valve having an outlet to the atmosphere, for allowing the retaining-valve to move into an exhaust position for the pressure to escape from the brake-cylinder, and a valve connection between the engineer's auxiliary valve and the equalizing-reservoir.

2. A fluid-pressure brake provided with a retaining-valve for retaining the pressure in the brake-cylinder, an engineer's auxiliary valve, under the control of the engineer and connected with the main reservoir and the said retaining-valve, to move the latter into a retaining position, a valved connection between the said engineer's auxiliary valve and the train-pipe, to discharge the auxiliary reservoir while the brakes are set and the retaining-valve is in a retaining position, and a valved connection between the said engineer's auxiliary valve and the equalizing-reservoir.

808,943.



808,944. CONVEYING APPARATUS. THOMAS WALLACE and FRANK HASH, San Francisco, Cal. Filed May 10, 1905. Serial No. 259,767.

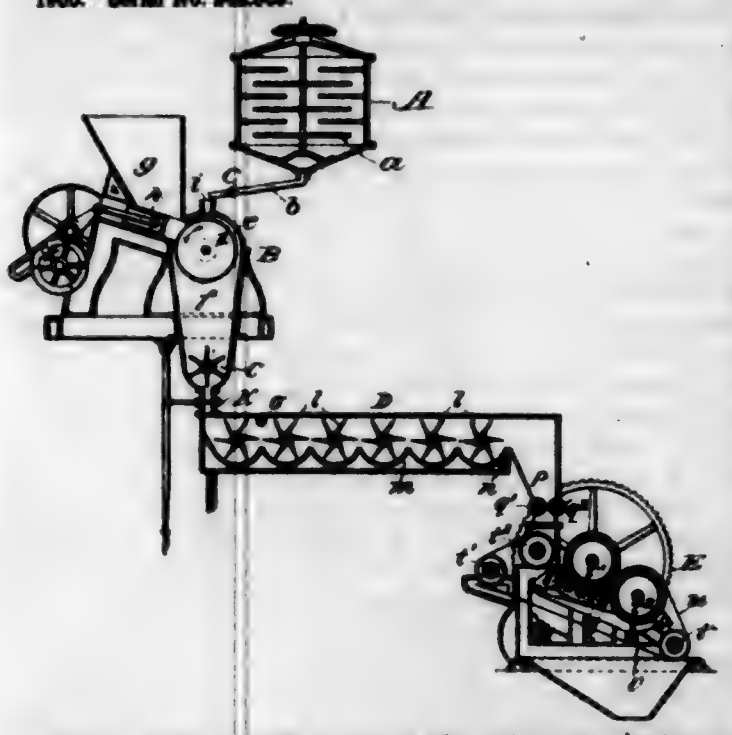


Claim.—1. A conveying apparatus, comprising an inclosed chute provided with a series of inside oppositely-inclined arresters, said chute having side openings opposite to some of said arresters, closures for said openings and a deflector adapted to be inserted into one of said openings and to be arranged in continuation of the corresponding arrester.

2. A conveying apparatus, comprising an inclosed chute provided with oppositely-arranged inclined arresters, said chute having a feed-opening at the top and a discharge-opening at one side opposite to a corresponding arrester and a closure for said discharge-opening, said closure adapted to lie in a plane continuous with the surrounding wall of the chute, and means for locking said closure.

3. A conveying apparatus, comprising an inclosed chute, having means at its upper end for suspending it and provided with a series of inside oppositely-disposed inclined arresters, said chute having a feed-opening at the top and discharge-openings at one side opposite the corresponding arresters, hinged closures for said discharge-openings, and a deflector fitting one of said openings and arranged to be held in continuation with the corresponding arrester.

803,945. **PROCESS OF TREATING SUGAR-BEETS.** MORIZ WEINRICH, Yonkers, N. Y., assignor of one-third to Wilhelm Baur, New York, N. Y., and one-third to Carl Portius, Caro, Mich. Filed Jan. 23, 1905. Serial No. 242,369.

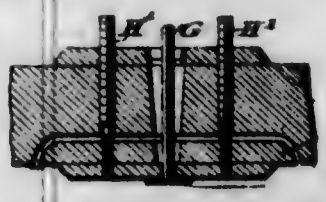


Claim.—1. The described process of treating sugar-beets consisting in comminuting the beets and then mixing with the comminuted mass, while in a cold state, sufficient milk of lime to render the mass alkaline, then heating the mass and finally extracting the juice by pressure.

2. The described process of treating sugar-beets consisting in reducing the beets to a mushy consistency, then mixing therewith enough cold milk of lime to render the mixture alkaline, then heating the mixture to such a degree that the juice contained in it is completely defecated, and finally extracting this defecated juice by pressure

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803,946. **DEVICE FOR LEVELING THE KEYS OF PIANOFORTES.** EMIL WERNER, Philadelphia, Pa. Filed Feb. 17, 1905. Serial No. 246,030.



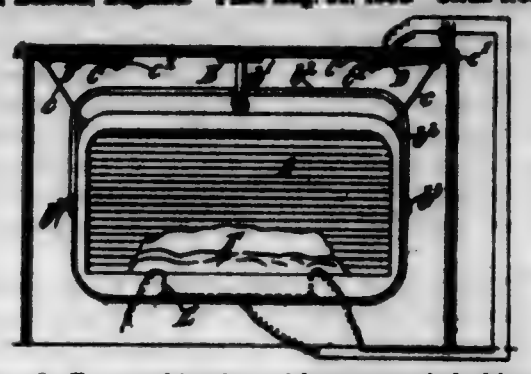
Claim.—1. A key of the character stated having a body and a member separate therefrom and a screw engaging said body and member for operating said body in opposite directions, whereby the key proper may be leveled, said screw having threads of different pitch, the portion having one pitch being in threaded engagement with said body and the portion having the other pitch being in threaded engagement with said member.

2. A key of the character stated having its body composed of separate members and a right-and-left threaded screw respectively entering and engaging said members to effect the leveling of the key.

3. A key of the character stated having a body and a section connected therewith and a right-and-left threaded screw engaging respectively said section and the body of the key, and entering said section and being in threaded engagement therewith whereby said body may be vertically moved to effect the leveling of the key.

4. A key of the character stated composed of a body and a separate member and a screw for leveling purposes, said screw having threads of different pitch, the portion having one pitch being in engagement with said body and the portion having the other pitch being in engagement with said member within the same.

803,947. **CONTROLLING APPARATUS FOR SUSPENDED SHIPS' BERTHS AND ANALOGOUS DEVICES.** WALTER WHITEHOUSE, London, England. Filed Aug. 31, 1904. Serial No. 222,397.



Claim.—1. The combination with a suspended object and the means for suspending same, of a controlling or motion-restraining device, means for permanently connecting said object with said motion-restraining device, and means for automatically bringing said motion-restraining device into action under predetermined conditions.

2. The combination with a suspended object and the means for suspending same, of a normally inoperative motion-restraining device, means for permanently connecting said object with said motion-restraining device, and means governed by the position of the suspended object relatively to the horizontal, for setting said motion-restraining device in operation whenever the suspended object departs from the horizontal.

3. The combination with a suspended object, and means for suspending the same freely from a part of a ship, of means, independent of the suspension devices, for connecting said object with a fixed point relatively to the ship, of an electrically-operated brake interposed between said fixed point and the object, of means for normally rendering the brake inoperative as regards freedom of relative motion between the so-called fixed point and the suspended object, and of gravity-controlled means for establishing operative relations between the brake and the suspended object whenever said object departs from the horizontal.

4. The combination with a ship's bunk and gravity-controlled means for suspending the same, of a brake connected to a fixed point on the ship, a cord connected to said brake, means for normally permitting freedom of relative movement between the so-called fixed point and the bunk irrespective of the brake, and means inoperative while horizontal, for operating the brake whenever the bunk departs from the horizontal.

5. The combination with a ship's bunk and gravity-controlled means for suspending same, of a controlling or motion-restraining device, flexible means connecting said bunk, through the intervention of the motion-restraining device, with a fixed point relatively to the ship, and means for automatically setting said motion-restraining device in operation whenever the bunk departs from the horizontal.

6. The combination with a ship's bunk and means for suspending the same freely under gravity, of a normally inoperative brake, means for permanently connecting said bunk with said brake, means for electrically operating the brake, and gravity-controlled contacts for completing the brake-operating circuits whenever the bunk departs from the horizontal.

7. The combination with a ship's bunk and means for suspending the same freely under gravity, of a normally inoperative brake, means for electrically operating the same, tumbler-contacts for completing the brake-operating circuits whenever the bunk departs from the horizontal, and means, such as magnets, for lightly holding the tumblers to prevent them from chattering or "splashing" on and off.

8. A normally inoperative brake having means for permanently connecting it with a suspended object and with a fixed point, and a gravity-controlled actuating device for automatically setting said brake in operation under predetermined conditions.

9. The combination with a suspended object, of a brake, means for connecting the same with a fixed point, means for permanently connecting said object with said brake, means for normally permitting freedom of relative movement between said suspended object and the fixed point, and means, sensitive to changes of level, for au-

tentionally establishing operative relations between the brake and the suspended object whenever the latter departs from the level or horizontal.

10. The combination of a ship's bunk or berth, means for suspending the same under the influence of gravity, an automatic brake mechanism normally inoperative for controlling the movement of the bunk and a water bed or cushion in said bunk or berth, said bed or cushion having upwardly-inclined ends forming empty spaces into which the water can flow when displaced by the weight of the occupant.

11. The combination of a ship's bunk or berth, means for supporting same so that it retains its proper position by gravity independently of the angle of the cabin, automatic brake mechanism cooperative with the bunk and normally inoperative, and a water bed or cushion which can be rendered susceptible to changes of position of the occupant, so as to compensate for such changes, by said bed or cushion having upwardly-inclined ends forming empty spaces into which the water can flow when displaced by the weight of the occupant.

12. The combination of a ship's bunk or berth, means for suspending same under the influence of gravity, brakes for preventing the bunk or berth from acquiring a swinging or swaying motion, flexible means for permanently connecting said brakes with said bunk or berth and a water bed or cushion carried by said bunk or berth.

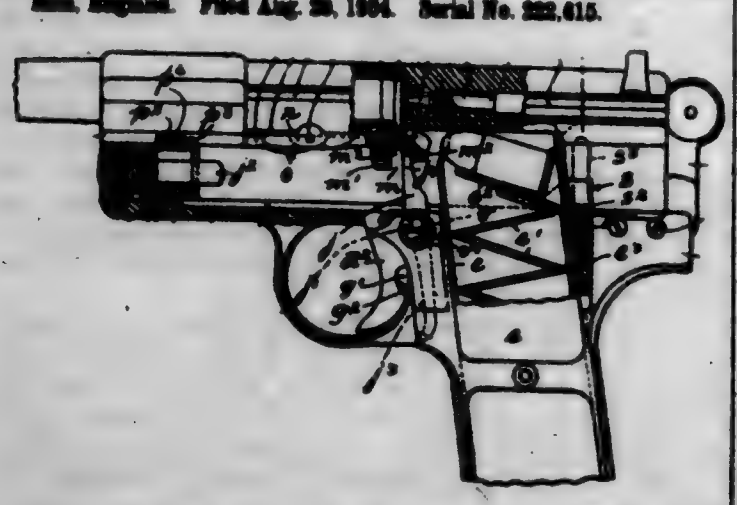
13. The combination of a ship's bunk, means for suspending same, a normally inoperative brake, means for connecting the brake with a fixed part of the cabin or ship, flexible means for permanently connecting the brake with the bunk, and means operated by a movement of the bunk for actuating the brake.

14. The combination with a ship's bunk or berth, of means for suspending same under the influence of gravity, a brake, means for connecting said brake with the bunk or berth and with a fixed part of the cabin, means for electrically operating said brake, and a contact device, operated by the weight of the occupant, for closing the electric brake-circuit.

15. The combination with a ship's bunk or berth, of means for suspending same under the influence of gravity, an electrically-operated brake for controlling said bunk or berth, a water-bed and a contact device located between the bottom of the bunk or berth and the water-bed for controlling the electric brake-circuit.

16. The combination with a ship's bunk and means for suspending the same under the influence of gravity, of a brake, means for connecting said brake in a normally inoperative manner with the bunk and with a fixed part of the cabin, devices for electrically operating said brake when the bunk departs from the horizontal, gravity-controlled contacts for controlling said brake-operating devices, a water-bed, and a contact interposed between said water-bed and the bottom of the bunk for interrupting the electrical circuit of said operating devices when the bunk is vacant, but closing said circuit by the weight of the occupant at other times.

803,948. AUTOMATIC FIREARM. WILLIAM J. WHITING, Birmingham, England. Filed Aug. 26, 1904. Serial No. 222,615.



Claim.—1. In an automatic firearm, a barrel held positively thereon but capable of a limited reciprocating motion bodily, a reciprocating breech-block for operating the barrel, and also having an independent motion, the movement of the breech-block placing the breech-block bolt in such position as to admit of the same being automatically disengaged from and engaged with the barrel by the action of the reciprocating parts in the opening and closing of the firearm, a rocking barrel-latch mounted on the barrel having double-acting cams thereon and a locking-notch, a stop on the body of the firearm for engagement by the latch-notch, the latch when engaging the stop permitting the limited reciprocating movement of the barrel bodily with the breech-block and also to provide for arresting and locking the said barrel in its rearmost position during the independent reciprocation of the breech-block, and means cooperating with the rocking barrel-latch for automatically placing the latter in a position to allow the barrel to be returned or moved forward with the breech-block after said breech-block has completed its independent forward movement.

2. In an automatic firearm, a barrel positively confined to the body, but capable of a limited reciprocating motion bodily, a reciprocating breech-block for operating the barrel and also having a motion independent of the barrel, a rocking barrel-latch mounted on the barrel having a stepped recess and double-acting cams thereon, and a stop carried by the body of the firearm for coöperation with the recessed portion of the latch, the recess being of such length as to admit of the limited reciprocating motion of the barrel, and the stepped construction providing a locking-notch automatically engaged by the stop when the latch is depressed to arrest the barrel at the end of its rearward movement, the barrel being held in arrested position during the independent rearward traverse and return movements of the breech-block, and the latch automatically lifted to permit the barrel to be returned to its normal position when the breech-block completes its said independent movements.

3. In an automatic firearm, a barrel positively confined to the body thereof, but capable of a limited reciprocating motion, a reciprocating breech-block for operating the barrel and also having a movement independent of the barrel, a barrel-retaining locking rocking device or latch carried by the barrel and having double-acting cams thereon, and also provided with a locking-notch, and a reciprocating supporting device for the breech-block having inclined wiping means thereon, whereby, when the breech-block commences its independent rearward movement, the barrel-latch is automatically depressed to throw the notch of the latch in engagement with the stop to retain the barrel in immovable position while the breech-block is completing its independent forward and rearward motions, the latch being automatically arranged to disengage the barrel and permit the latter to assume its normal position when the breech-block reaches the end of its independent return movement.

4. In an automatic firearm, a barrel confined to the body, but capable of a limited reciprocating motion, a reciprocating breech-block carriage disposed in the body and carrying a breech-block, the said carriage having inclined cam devices, a locking-latch mounted on the under side of the barrel and provided with double-acting cams to engage the cams of the breech-block carriage, and a stop device on the body of the firearm with which the latch coöperates.

5. In an automatic firearm, a barrel provided with a latch device confined to the body, but capable of a limited reciprocating motion and provided with a recess, a reciprocating support carrying a breech-block, and a sliding bolt mounted in the support and adapted to normally engage the recess in the barrel, the bolt, barrel and body of the firearm having inclined coöperative devices so arranged that when the barrel and breech-block carriage are moved rearward by recoil energy and the barrel has been arrested and diametrically locked to the body by the latch device, the said bolt is automatically depressed and disengaged from the barrel to release the breech-block and permit independent rearward and forward movements of the latter, the inclined devices on the several parts operating, on the return of the reciprocating mechanisms set forth to their normal position, for raising the bolt again into engagement with the barrel and locking the breech-block thereto.

6. In a firearm, the combination with a stationary frame or body part, of a barrel capable of a limited reciprocating movement relatively to the frame or body, a latch on the barrel to engage a part of the body, a reciprocating breech-block carriage having a breech-block, a bolt mounted in the breech-block carriage and capable of free vertical movement, the bolt operating to lock the breech-block to the barrel, the latter having a depression in the under side of a portion thereof and the frame or body provided with a bottom clearance, inclined planes being formed on the bolt, the barrel back of the notch in the latter and at the forward end of the bottom clearance in the body, said inclined planes operating to receive and lower the bolt, and an elevated member at the forward part of the bottom clearance which normally lies underneath the bolt and retains the same in locking engagement with the barrel.

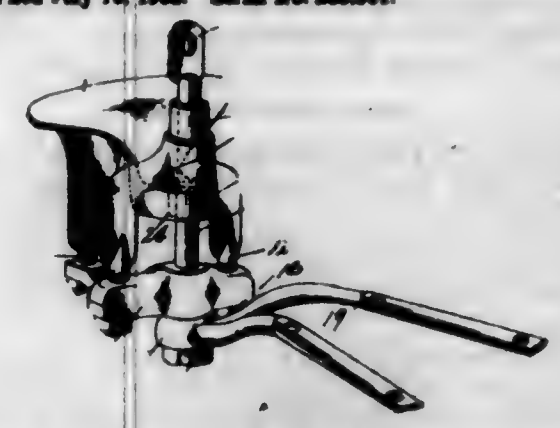
7. In an automatic firearm, a stationary body, a reciprocating breech-block, a barrel having a limited sliding movement, a barrel-latch, the latch having a stepped notch and double-acting cams, a stop carried by the body of the firearm, and a breech-block bolt, all

mounted and arranged to cooperate substantially as and in the manner and for the purposes herein described.

8. In an automatic firearm, the combination with a body having a stop thereon, of a reciprocating breech-block, a barrel having a limited sliding movement, a barrel-latch having a notch formed to permit the limited movement of the barrel and also provided with double-acting cams, a breech-block bolt, and mechanism for returning the said breech-block to its normal position after its rearward traverse, consisting of a long arm or lever pivoted to the body and having one end engaging the breech-block, and a double-armed spring against which the remaining end of the arm or lever has bearing.

9. In a lock mechanism for an automatic firearm, the combination with a body and a sear-actuating arm or bar pivoted to the trigger and provided with a cam or projection, which, when the trigger is pulled impinges against the fixed part of the firearm and tilts the bar into an inoperative position, of an auxiliary sliding limb mounted in the body and connected at one end to the sear-actuating bar, and a breech-block carriage having a breech-block thereon, and provided with a recess or clearance with which the other end of the sliding limb engages, the breech-block when forced back by recoil energy causing an unrecessed part thereof to traverse over the end of the sliding limb to depress the latter and serve as a means, additional to the cam on the sear-actuating bar, for retaining the said bar in its inoperative position until the breech-block has returned to its fully closed and locked position.

808,949. VEHICLE-GEAR. FRANK B. WILCOX, Mechanicsburg, Pa. Filed July 10, 1905. Serial No. 268,961.



Claim.—1. The herein-described clip comprising a main body portion having a threaded prong, and a detachable rear part provided with two threaded prongs.

2. A vehicle-clip comprising a main body portion having a threaded prong, and a detachable ⊓-shaped rear part having two threaded prongs.

3. A vehicle-clip comprising a main body portion with a threaded prong, and a rear part with two threaded prongs; said rear part interlocking with the main body portion.

4. A vehicle-clip comprising a main body portion with a threaded prong and a perforated lug, and a detachable rear part with a perforated head and prongs.

5. A vehicle-clip comprising a main body portion having a prong and perforated lug, and a ⊓-shaped rear part with a perforated lug 24 engaging the perforated lug of the main portion and interlocking.

6. A vehicle-clip comprising a main body portion with a prong and perforated lug, and a ⊓-shaped rear part having prongs and a perforated head.

7. A vehicle-clip comprising a main body portion with a prong and a perforated lug, and a rear ⊓-shaped part having a perforated head and prongs, and interlocking with the main body portion.

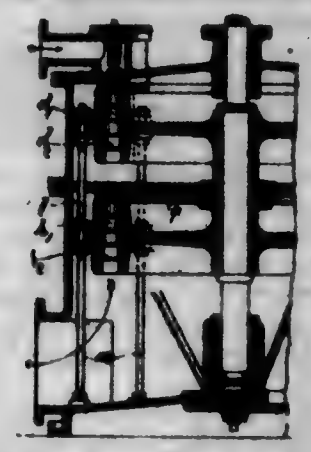
8. The combination in a vehicle-gear, of a clip comprising a main body portion with a threaded prong and perforated lug; a rear ⊓-shaped part with two threaded prongs; an axle-yoke to receive the prongs and king-bolt; a head-block plate with a perforated lug; and a king-bolt.

9. The combination in a vehicle-gear constructed substantially as set forth, of a clip provided with a ⊓-shaped rear part having a perforated head; a head-block plate with a perforated lug; and a king-bolt; the head of the ⊓-shaped rear part interlocking with the head-block-plate lug.

10. The combination in a vehicle-gear, constructed substantially as set forth, of a clip provided with a ⊓-shaped rear part having a perforated head; a head-block plate with a perforated lug; and a king-bolt.

11. The combination in a vehicle-gear, constructed substantially as set forth, of a clip having a main body portion and a ⊓-shaped rear part interlocking therewith; an axle-yoke; a head-block plate with a perforated lug; and a king-bolt; an open space being present between the head-block-plate lug and the clip when the gear is assembled, for the purpose specified.

808,950. ELASTIC-FLUID TURBINE. FRANZ WEINHAUSEN, Berlin, Germany. Filed Jan. 10, 1905. Serial No. 240,469.

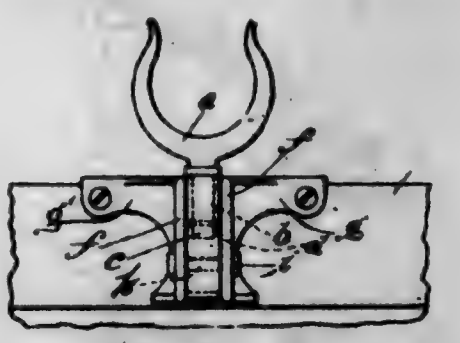


Claim.—1. In a turbine, a casing having inlets and outlets, nozzles leading from said inlets to the interior of the casing, annular guide-blades, dilating means interiorly held in the casing for supporting the guide-blades, and a rotating wheel having vanes registering with the guide-blades.

2. In an elastic-fluid turbine, a casing having an inlet and exhaust, a plurality of nozzles communicating with the inlet, guide-blades circumferentially arranged within the casing, expansible means within the casing and arranged a distance therefrom for supporting the guide-blades, and a rotatable wheel having a plurality of rows of vanes registering with the guide-blades in said casing.

3. In an elastic-fluid turbine, a casing having chambers provided with inlets, adjustable nozzles communicating with the latter, guide-blades arranged within the chambers, dilating means held in the casing and supported a distance therefrom for supporting the guide-blades, means for adjusting said dilating means, and a rotatable member having a series of vanes registering with the guide-blades and within the casing.

808,951. ROWLOCK. CHARLES A. WOOD, Middlebury, Mass. Filed Jan. 20, 1905. Serial No. 241,590.



Claim.—1. The combination of a rowlock, a post or holder therefor, and a bracket, the rowlock being swivelly connected to the holder, and the holder being slidingly and pivotally connected to the bracket.

2. The combination of a rowlock, a holder therefor, a bracket, a pivotal connection between the bracket and holder, said connection being arranged to permit movement of the holder bodily with respect to the bracket, and interlocking members carried by the holder and bracket.

3. The combination of a bracket, a rowlock-holder pivoted thereto and movable bodily in a straight line with respect to its pivot to lock and unlock the same, and a rowlock swivelly mounted in the holder.

4. The combination of a bracket, a rowlock-holder pivoted thereto and movable bodily in a straight line with respect to its pivot to lock and unlock the same, a rowlock swivelly mounted in the holder, and interlocking members upon the holder and bracket arranged for cooperation to retain the holder in upright position.

5. The combination of a bracket, a rowlock-holder pivoted thereto and movable bodily in a straight line with respect to its pivot to lock and unlock the same, a rowlock swivelly mounted in the

holder, and cooperating locking devices mounted on the rowlock and bracket and arranged for engagement to prevent translatory motion of the rowlock relatively to the bracket.

6. The combination of a bracket, a rowlock-holder pivoted thereto and movable bodily in a straight line with respect to its pivot to lock and unlock the same, a rowlock swivelly mounted in the holder, interlocking members upon the holder and bracket arranged for cooperation to retain the holder in upright position, and cooperating locking devices mounted on the rowlock and bracket and arranged for engagement to prevent translatory motion of the rowlock relatively to the bracket.

7. The combination of a bracket, a rowlock-holder pivoted thereto, and a rowlock having its shank swivelly mounted in the holder, the pivot of the holder and the rowlock-shank having their axes arranged perpendicular to each other and in the same plane.

8. The combination of a bracket having a socket open at the ends and at one side, a rowlock-holder adapted to occupy the socket and provided with an elongated slot, a rowlock supported by said holder, and a pivot-pin extending across said socket and through said slot, the holder and rowlock being movable about said pivot-pin from an upright to an inverted position and the pin being adapted to occupy the upper portion of the slot when the holder and rowlock are upright.

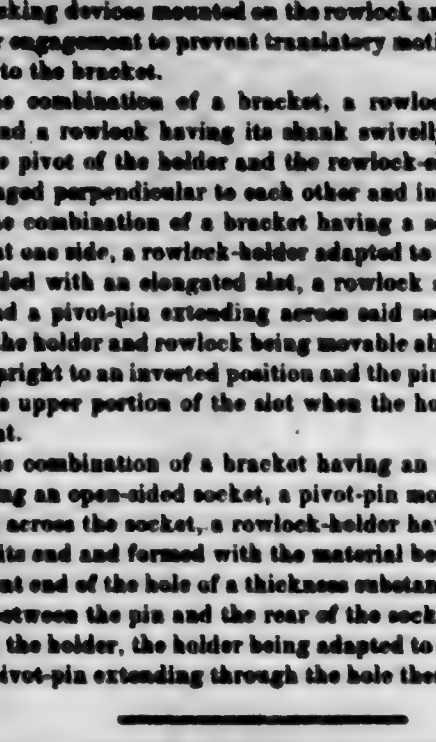
9. The combination of a bracket having an apron and lateral ribs forming an open-sided socket, a pivot-pin mounted in said ribs extending across the socket, a rowlock-holder having an elongated hole near its end and formed with the material between its end and the adjacent end of the hole of a thickness substantially equal to the distance between the pin and the rear of the socket, and a rowlock carried by the holder, the holder being adapted to occupy the socket with the pivot-pin extending through the hole therein.

808,952. NON-INFLAMMABLE CELLULOID AND PROCESS FOR THE PRODUCTION THEREOF. George B. Woodward, Boston, Mass. Filed June 21, 1904. Serial No. 213,575.

Claim.—1. A process for rendering celluloid non-inflammable which comprises mixing with celluloid a solution of fish-glue, gum-arabic, gelatin and rape-oil.

2. A non-inflammable celluloid which comprises a mixture of celluloid, fish-glue, gum-arauc, gelatin, and rape-oil.

808,953. PRUNING IMPLEMENT. George B. Wright, Lestadale, Pa., assignor of one-half to T. W. Wright, Lestadale, Pa. Filed Feb. 24, 1905. Serial No. 247,056.



Claim.—In pruning-shears, a shank terminating in a curved cutting-blade, brackets carried on one side face of said shank, a lever pivoted between the upper of said brackets and the shank and provided at its free end with a cutting-blade, a second lever pivoted at its one end between the lowermost of said brackets and the shank, a lever 11 pivoted to the ends of the first-mentioned levers, and having an extension forming an operating-handle, substantially as described.

808,954. IRONING-BOARD. Harvey Wright, Chicago, Ill. Filed Feb. 20, 1904. Serial No. 194,477.



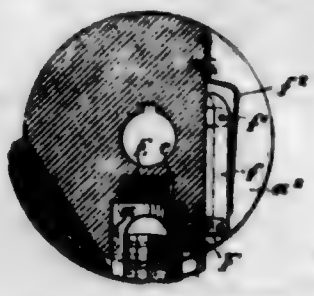
Claim.—1. In a device of the class described, the combination with an ironing-board, of a plurality of pins on the bottom along the edges thereof adapted to engage with a cloth to hold the same detachably in place, suitable plates pivotally secured to the board, and adapted to be swung toward the pins, and means for holding said plates against the board.

2. In a device of the class described, the combination with an ironing-board, of a plurality of pins on the bottom along the edges thereof adapted to engage with a cloth to hold the same detachably in place, suitable plates pivotally secured to the board and adapted to be swung toward the pins, and suitable springs adapted to hold the same in engagement with the board.

3. In a device of the class described, the combination with an ironing-board, of a plurality of pins along the lower edges thereof, plates having beads on the edges adjacent to the edges of the board arranged to swing up between the pins and the edges of the board, and means for holding the plates in position.

4. In a device of the class described, the combination with a suitable board, of a row of pins on the bottom thereof along the edge, plates having wired beads along their edges, the plates being cut away to expose the wires at the edges farthest removed from the edges of the board, staples passing over the exposed wires to pivotally secure the plates to the board, the beads on the edges of the plates adjacent to the edges of the board swinging up over the pins, and means for holding the plates in their raised position.

808,955. MAIL-MARKING MACHINE. John B. Young, Montreal, Canada. Filed Dec. 21, 1903. Serial No. 186,036.



Claim.—1. In a mail-marking machine a printing-roller provided with a recess, a hollow die occupying said recess and having a socket, and a spring locking-pin adapted to engage said socket, in combination with a number of rotary printing-disks mounted on a common arbor within the die, each disk provided with a series of concentric perforations, and a locking-pin passing therethrough.

2. A printing-roller for a mail-marking machine having a recess for securing a die, and a transverse perforation communicating with said recess, in combination with a hollow die having a socket, a locking-pin engaging said socket, a lever fulcrumed to the printing-roller carrying said locking-pin, a spring for bearing on said lever, a number of rotary printing-disks mounted on a common arbor within the die, each disk provided with a series of concentric perforations, and a locking-pin passing therethrough.

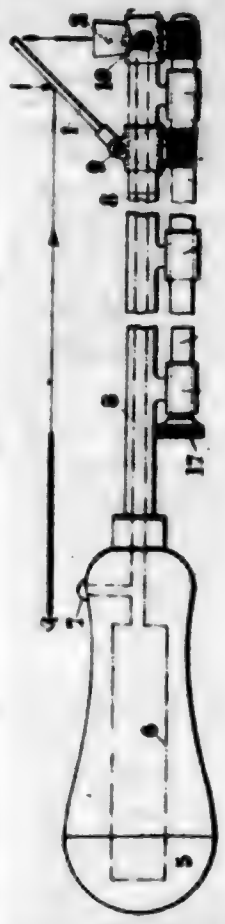
808,956. SURGICAL APPARATUS FOR INTERNAL EXAMINATION. Justus C. Ruhl, Amersfoort, Netherlands. Filed May 16, 1905. Serial No. 260,672.

Claim.—1. In a device of the character described, the combination, with an illuminating-projector, and means for directing the rays of light from the illuminated field to the eye of the operator, of means for simultaneously aiming the projector and altering the position of the directing means to direct the light-rays to the point of observation.

2. In a device of the character described, the combination, with an illuminating-projector, and a reflector, of means for simultaneously aiming the projector and altering the inclination of the reflector to maintain the direction of the light-rays to the point of observation.

3. In a device of the character described, the combination, with an illuminating-projector, of means for simultaneously moving the projector through a given angle and the reflector through a proper-

tionately less angle to maintain the direction of the light-rays to the point of observation.



4. In a device of the character described, the combination, with a stem, an illuminating-projector mounted thereon, and a mirror for directing the light-rays from the illuminated field to the eye of the operator, of means for simultaneously moving the projector through a desired angle and the mirror through one-half of the same angle to maintain the direction of the light-rays upon the point of observation.

5. In a device of the character described, a stem, toothed sectors carried thereby and pivotally mounted on parallel axes, an illuminating-projector fixed upon one sector, a reflecting-mirror fixed upon the other sector, a threaded spindle in engagement with the teeth of the two sectors, and means for rotating the spindle, the relation of the toothed sectors to each other and to the threaded portions of the spindle being such that the rotation of the spindle turns the projector through an arc twice as great as the mirror.

6. In a device of the character described, a stem, toothed sectors carried thereby and pivotally mounted on parallel axes, an illuminating-projector fixed upon one sector, a reflecting-mirror fixed upon the other sector, the projector-sector having a radius one-half that of the mirror-sector a threaded spindle carried by the stem with its threads in engagement with the teeth of the sectors, and means for rotating the spindle.

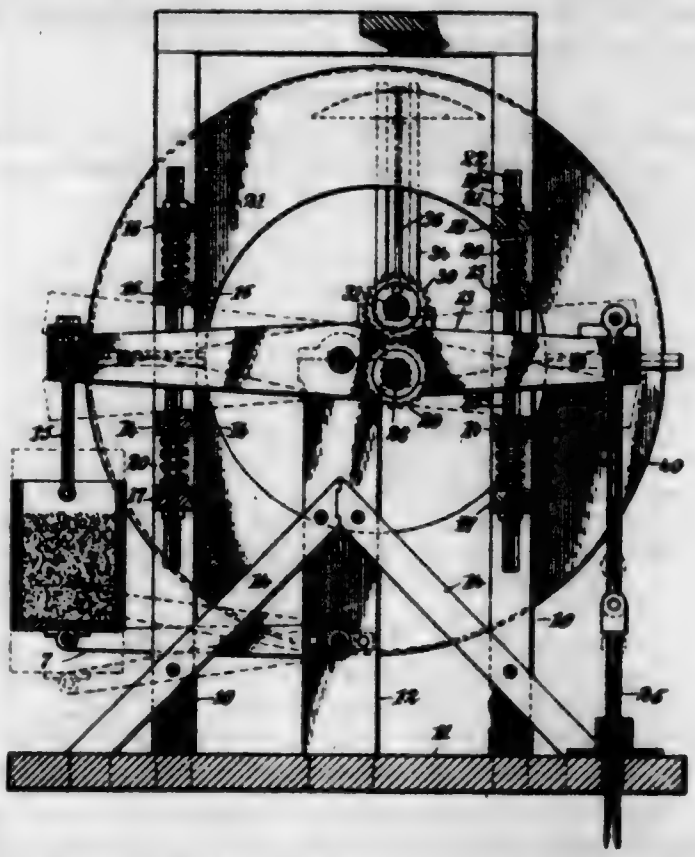
7. In a device of the character described, a stem, a hollow handle containing a source of electric current, two toothed sectors carried by the stem and mounted on parallel axes, an illuminating-projector fixed upon one sector and connected by suitable wires with the electric source, a mirror fixed to the other sector, the projector-sector having a radius one-half that of the mirror-sector, a threaded spindle mounted on the stem with its threads in engagement with the teeth of the sectors, and means for rotating the spindle.

803,957. **FASTENER FOR SHOESTRINGS.** GIDEON C. ADAMS, Winthrop, Me. Filed Sept. 12, 1904. Serial No. 224,168.



Claim.—In combination with a shoe a shoestring-fastener consisting of a plate adapted to be attached to the rear side of the material constituting the upper of the shoe, a means for fastening said plate in such position, a spring-clip attached at its lower end to said plate, then extending through the material constituting the upper of the shoe and extending up along said material and having its outer end free and in an elevated position, with relation to its end attached to the plate, the clip being so arranged that the shoestring may be pressed between said clip and the material constituting the shoe-upper.

803,958. **POWER MECHANISM.** PARIS ADAMS, Lamar, Colo., assignor of one-half to Lewis H. Manville, Lamar, Colo. Filed May 16, 1905. Serial No. 260,709.



Claim.—1. In a machine for the purpose specified, a walking-beam, an adjustable weight attached to one end thereof, a device to be operated having connection with the opposite end of the walking-beam, a driving-shaft having bearings in the walking-beam at one side of the fulcrum-point of the walking-beam, a weighted arm carried by said shaft, a pinion on the shaft, another shaft carried by the walking-beam, the pinion of said other shaft engaging with the first-named pinion, and a weighted arm carried by the last-named shaft.

2. In a machine for the purpose specified, a walking-beam, an adjustable weight device attached to one end thereof, a part to be actuated having connection with the opposite end of the walking-beam, a shaft having bearings in the walking-beam forward of the walking-beam fulcrum, a driving-shaft having universal-joint connection with the first-named shaft, another shaft carried by the walking-beam and having gear connection with the first-named shaft, arms extended from said shafts carried by the walking-beam, and weights adjustably mounted on said arms.

3. A machine for the purpose specified comprising a walking-beam, an adjustable weight attached to one end thereof, a part to be operated having connection with the opposite end, adjustable buffers above and below the walking beam, a shaft having bearings in the walking-beam between its fulcrum and the device to be operated, a pinion on said shaft, another shaft carried by the walking-beam, a pinion on said other shaft engaging with the first-named pinion, arms extended from said shafts, screw-rods arranged between the arms, weights guided on the arms and having perforations to receive the screw-rods, and adjusting-nuts engaging the rods at the inner and outer sides of the weights.

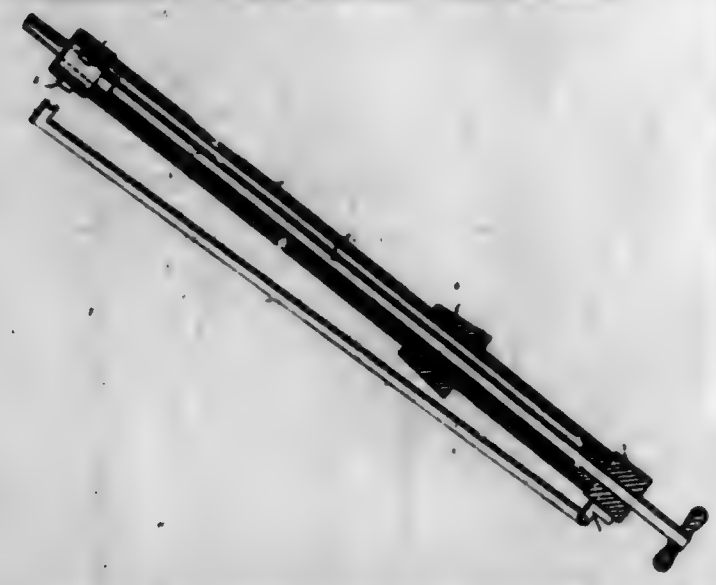
4. A machine for the purpose specified comprising a frame having slotted uprights, a walking-beam movable up and down between the uprights, buffer-bars arranged above and below the walking-beam and having tongues extended into the slots of the uprights, cross-heads having portions extended through said slots and provided with perforations, rods extended from the cross-heads closely to the buffer-bars, springs surrounding the rods between the buffer-bars and cross-heads, screw-rods attached to the frame, nuts on said rods for engaging the upper and lower sides of the cross-heads for

adjusting the same, and movable weights having connection with the walking-beam.

5. In a machine for the purpose specified, a walking-beam, an adjustable weight suspended from one end thereof, a device to be operated having connection with the opposite end, a driven shaft having bearings in the crosshead at one side of its fulcrum, arms extended from said shaft, a weight adjustable on said arms, another shaft carried by the cross-head and having gear connections with the first-named shaft, arms extended from said other shaft, a weight adjustable on said arms, and shields in which the weights and arms move.

6. In a machine for the purpose specified, a walking-beam, a weight attached to one end of said walking-beam for swinging it in one direction, and weights carried by the walking-beam, the said last-named weights being mounted to rotate in opposite directions and to overbalance the first-named weight to move the walking-beam in the opposite direction.

808,959. PIPE-EXPANDER. SAMUEL H. ALLEN, Dansville, N. Y., assignor of one-third to James A. Bailey and one-third to Samuel Allen, Dansville, N. Y. Filed Feb. 13, 1905. Serial No. 245,437.



Claim.—1. In a pipe-expander, the combination of a body portion; an expander-head carried thereby; and a gage-arm which is hinged in fixed position to said body portion and extends lengthwise thereof, the index end of said gage-arm remaining fixed in position over said expander-head.

2. In a pipe-expander, the combination of a body portion, expanding devices carried thereby comprising an expander-head and means for operating the same; and a gage-arm carried by said body portion and having its free end notched to engage a ring in position over said expander-head.

3. In a pipe-expander, the combination of a body portion upon which is marked off a scale lengthwise thereof; an expander-head carried thereby; and a gage-arm which is hinged in fixed position to said body portion and extends lengthwise thereof, the index end of said gage-arm remaining in fixed position over said expander-head.

808,960. DISPLAY-RACK FOR ADVERTISING-CARDS. DON E. ALEY, New York, N. Y. Filed Mar. 28, 1904. Serial No. 199,609.

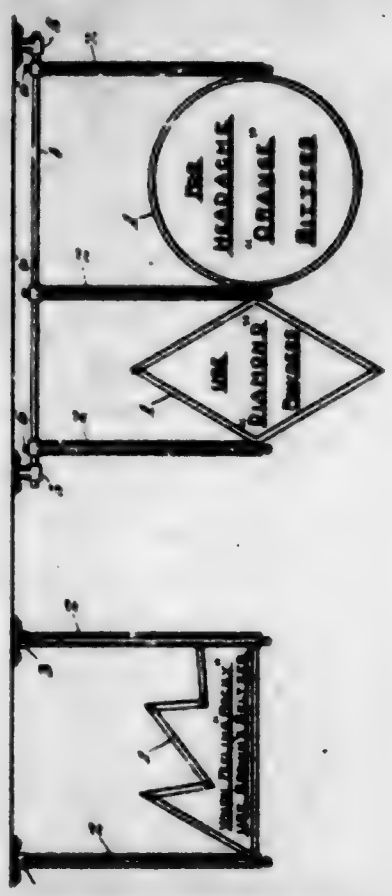
Claim.—1. In a display-rack for advertising-cards, the combination of a suspended support of round cross-section having projecting ribs, a card-holder, and means for securing said card-holder to the projecting ribs of said support, substantially as described.

2. In a display-rack for advertising-cards, the combination of a suspended support, an adjustable variable outline card-holder, and means for securing said card-holder to said support, substantially as described.

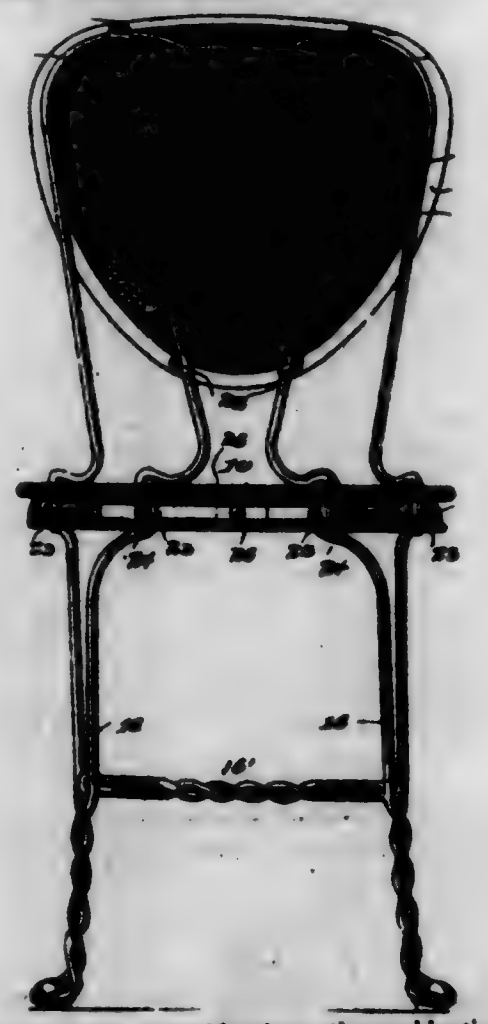
3. In a display-rack for advertising-cards, the combination of a suspended support, a card-holder forming an adjustable outline or frame for the advertising-card and which is suggestive of the advertising matter contained on said card by reason of the shape thereof, and means for adjustably securing said card-holder to said support, substantially as described.

4. In a display-rack for advertising-cards, the combination of a suspended support, a card-holder which is adjustable to the outline of the advertising-card and which is suggestive of the advertising matter contained on said card by reason of the shape thereof, and means for securing said card-holder to said support, substantially as described.

5. In a display-rack for advertising-cards, the combination of a suspended support, an adjustable card-holder adapted to be formed into a suggestive outline or frame for said advertisement-card, and means for pivotally fastening said card-holder to said support, substantially as described.



808,961. FURNITURE. HERBERT L. ANDREWS and DANIEL SCHUETER, Chicago, Ill.; said Schueter assignor to said Andrews. Filed July 30, 1904. Serial No. 218,914.



Claim.—1. In an article of furniture, the combination of a body, an upright flange thereon, said flange being provided with leg-receiving apertures, legs having their upper ends passed through the apertures of said flange and bearing at their inserted ends against the flange, and means holding said legs against movement relatively to the flange, for the purpose described.

2. In an article of furniture, the combination of a body, an up-

right flange extending around said body, said flange being provided with leg-receiving apertures, legs having their upper ends passed through the flange-apertures and the extreme end portions resting against the outside of the flange and a brace extending between and engaging the several legs at points below and removed from the flange.

3. In an article of furniture, the combination of a body, an upright flange extending around said body, said flange being provided with leg-receiving apertures, legs having their upper ends passed through the flange-apertures and the extreme end portions resting against the outside of the flange and a brace extending between and engaging the several legs at points below and removed from the flange, the interengaging portions of the legs and flange being interfitted, whereby said parts are interlocked while held in normal position, but may be separated when the legs are oscillated out of their normal position.

4. In an article of furniture, the combination of a body provided with a rim having a downwardly-depending flange, said flange being provided with leg-receiving apertures, legs having their upper ends passed through said apertures and resting against said rim, said legs being interlocked with said flange when in their normal position, and a brace holding said legs in normal position.

5. In an article of furniture, the combintion of a body having a downwardly-depending flange provided with leg-receiving apertures, legs with bent upper ends adapted to be passed through said apertures from the inside of said flange and resting against the outside thereof when in normal position, means locking said legs against being withdrawn when in their normal position, and a brace member holding said legs in normal position.

6. In an article of furniture, the combination of a body having a downwardly-depending flange provided with leg-receiving apertures, legs with upper ends adapted to be passed through said flange-apertures from the inside thereof and interlocked with the outside of said flange by the outward movement of the lower portion of said legs, and a brace detachably connected with said legs and holding the same in said interlocked position, for the purpose described.

7. In an article of furniture, the combination of a body having a rim provided with a downwardly-depending flange portion, said flange portion being provided with leg-receiving apertures, legs having their upper ends adapted to be passed through said apertures from the inside of said flange and interlocked therewith by an interfitting engagement in the angle formed between said rim and said flange, said engagement being caused by the outward movement of the lower portion of said legs, and a brace member detachably connected with said legs intermediate their ends, for the purpose described.

8. In an article of furniture, the combination of a body having a rim provided with a downwardly-depending flange portion, slightly curved in cross-section and having therein leg-receiving apertures, legs adapted to be passed through said apertures from the inside of said flange and the extreme end brought around the curve in said flange member and into the angle between said rim and flange member by the outward movement of the lower portion of said legs, and a brace member detachably connected with said legs intermediate their ends and holding them in such interlocked position, substantially as described.

9. An article of furniture comprising in combination a seat member or table-top provided with a rim having a downwardly-depending flange, said flange being slightly curved in cross-section and provided with apertures arranged in pairs, a plurality of leg members of twisted rod metal and having forked upper ends, said ends being bent to conform to said flange member when passed through said apertures and the lower portions of said legs moved outwardly to cause an interlocking of said legs with said flange, and a brace having an arm for each leg and detachably connected therewith in the manner described to hold said legs in interlocked position.

10. In an article of furniture, a plurality of leg members each provided with a yielding brace-receiving socket, a brace member comprising two lengths of rod metal twisted together at their middles into locked engagement with each other with their ends projected to the leg members, the ends of said brace member each provided with a reduced, neck-like portion adapted to be pressed into said yielding socket, whereby the leg members are rigidly held in normal positions.

11. In an article of furniture, a plurality of leg members pivotally attached and each provided with a yielding brace-receiving socket, a detachable brace member for holding said leg members in normal positions, said brace member comprising two lengths of rod metal twisted together at their middles into locked engagement with each other with their ends projected to the leg members and folded back upon each other to make double thickness and each provided at diametrically opposite sides with grooves extending transversely thereof to form a reduced, neck-like portion adapted to be pressed into said yielding socket, substantially as described.

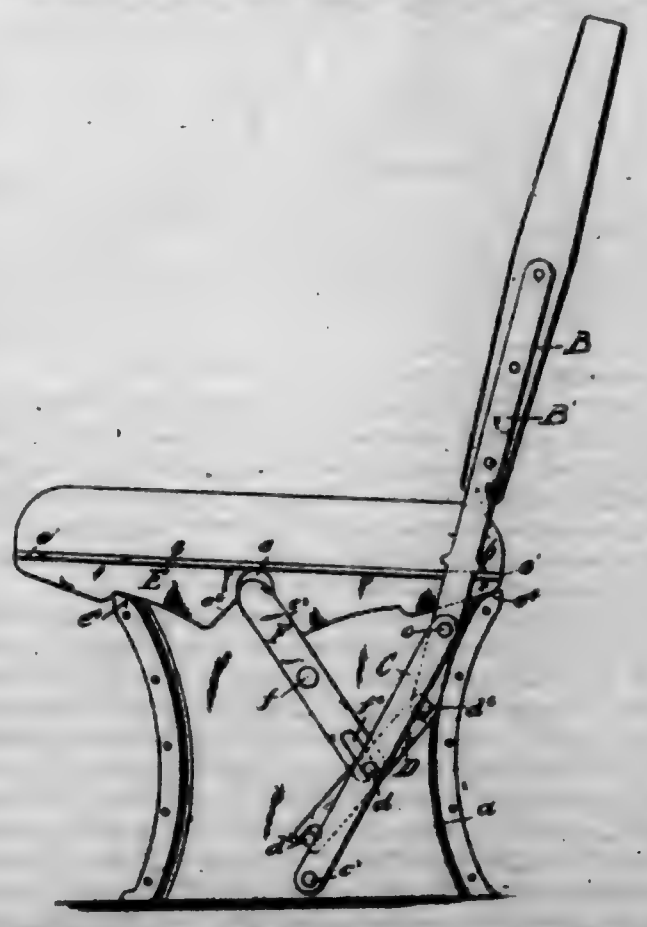
12. In an article of furniture, a seat member provided with a rim and a downwardly-depending flange having a stiffening-bead on its lower edge, said rim and said flange being provided with registering apertures, a rod-metal back provided with straight attaching ends adapted to fit into said registering apertures, leg members attached to said flange and interlocked with the ends of said back, whereby to prevent the withdrawal of the latter from said apertures, and means for holding said legs in such interlocked position, substantially as described.

13. In a chair, a back member comprising a skeleton frame of rod metal, the side or outer members and the middle member of which lie in two different planes and converge at their upper portions, a woven-wire fabric member provided with a metal rim mounted upon the front of said skeleton frame, the lower edge of said fabric member being carried backwardly between the side members and secured to the middle member, substantially as described.

14. In an article of furniture, a seat member provided with a downwardly-depending flange, a back having straight stud-like attaching portions engaging said flange, legs engaging said flange and interlocked with said stud-like attaching portions, and a brace member holding said legs in interlocked position, for the purpose described.

15. In an article of furniture, a seat member provided with a flange portion having leg-receiving apertures therein with back-receiving apertures adjacent some of said leg-receiving apertures, a back with attaching projections adapted to pass through said back-receiving apertures, legs with their ends adapted to pass through said leg-receiving apertures into interfitting and interlocking engagement with said back projections, and a brace member adapted to said legs and holding them in interlocked position, for the purpose described.

803,962. CAR-SEAT. JOSEPH APPLIN, Philadelphia, Pa., assignor to The Hale & Kilburn Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 20, 1904. Serial No. 225,189.



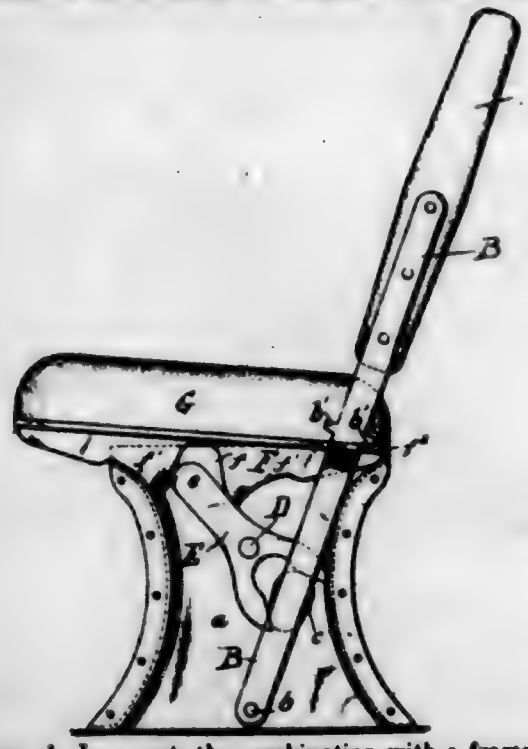
Claim.—1. In a seat, the combination with a supporting-frame and a shifting cushion carried thereby, of a back-supporting arm extending a substantial distance below such cushion and supported and guided by two levers, also located a substantial distance below said cushion, one of said levers being pivoted to said frame and to said back-arm and the other being pivoted to the lower first named and having slot-and-pin connections with said frame and with said back-arm, and a cushion-operating lever, pivoted to said frame, its upper end coacting with the cushion-carrying rocker and its lower

end having slot-and-pin connection with the pivot connecting said back supporting and guiding arms, substantially as described.

2. In a seat, the combination with a frame, of a reversible back and means for supporting and guiding the same, of a seat-cushion and rockers for detachably supporting the same, a lever pivoted to said frame and actuated by the movement of said back, the upper end of said lever coacting with a recess in one of said rockers and, in either operative position of the mechanism, with inclines formed on said rockers in planes parallel with the codperating portions of said lever to firmly lock the parts in position, substantially as described.

3. In a seat, the combination with a frame, of a cushion supported upon rockers having central recesses and inclined surfaces extending therefrom, back-supporting arms carried by levers pivoted together and operating a substantial distance below said cushion, cushion-supporting levers, whose lower ends coact with the pivots between said back-supporting levers and whose upper ends coact with said recesses and with said inclines, substantially as described.

803,963. CAR-SEAT. JOSEPH APPLIN, Philadelphia, Pa., assignor to The Hale & Kilburn Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 20, 1904. Serial No. 225,160.



Claim.—1. In a seat, the combination with a frame, of back-supporting arms pivoted near the lower portion of said frame, a rock-shaft extending between the members of said frame and carrying a shifting foot-rest and levers carried by said rock-shaft outside the side members of such frame, the lower ends of said levers being bifurcate and the bifurcation coacting with lugs carried by said back-arms, substantially as described.

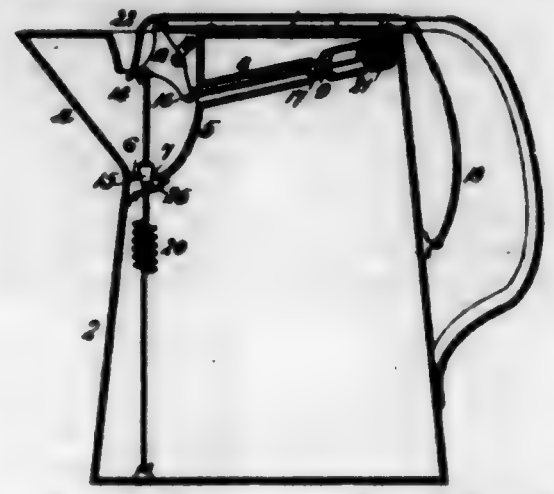
2. In a seat, the combination with a frame, of back-supporting arms, pivoted near the lower portion of said frame, a rock-shaft extending between the members of said frame and carrying a shifting foot-rest and levers carried by said rock-shaft outside the side members of such frame, the lower ends of said levers being bifurcate and the bifurcation coacting with egg-shaped lugs carried by said back-arms, substantially as described.

3. In a seat, the combination with a frame and a movable cushion carried by rockers supported in such frame, of back-arms pivoted to said frame, a rock-shaft extending between the side members of such frame and carrying a shifting foot-rest and rocking levers also carried by said rock-shaft outside of such side members, the upper ends of such levers coacting with the cushion-supporting rockers and their lower ends being bifurcate and coacting with lugs carried by such back-supporting arms, substantially as described.

4. In a seat, the combination with a frame and seat-cushion, of detachable cushion-supporting rockers movable in a substantially horizontal plane and provided with stops, back-supporting arms pivoted to said frame and having cars coacting with said stops, and levers intermediate of said arms and said rockers for transmitting to the latter movement resulting from the reversal of said back, substantially as described.

803,964. DENTIN-CAN. JAMES B. BATES, New York, N. Y. Filed Oct. 15, 1904. Serial No. 228,232.

Claim.—1. A can comprising a main body provided with a spout and with a partition separating said spout from the main body, a discharge-opening and an air-vent in said partition, a valve for closing said discharge-opening, another valve for closing said air-vent, a lever in said spout connected to said valves, and means for operating said lever, substantially as described.



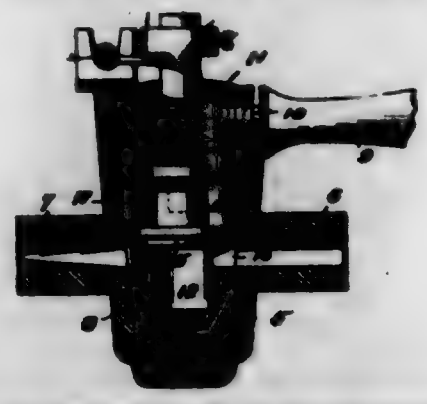
2. A can comprising a main body provided with a spout and a partition separating said spout from the main body, in combination with a lever fulcrumed in said spout, an operating-rod connected to said lever, and a cover or shield for said rod and lever, substantially as described.

3. A can provided with a partition having a main discharge-opening therein and provided with a vent-tube formed with a valve-seat, in combination with a lever located outside of said partition, and a valve connected to said lever for closing said valve-seat, substantially as described.

4. A can comprising a main body provided with a spout and with a handle, a partition separating said spout from the main body of the can, a lever fulcrumed in said spout outside of the partition, an operating-lever adjacent to said handle and connected to said lever, and a shield extending over the top of the can and a portion of the spout, substantially as described.

5. A can comprising a main body, a spout and a partition in said body formed with a discharge-opening and provided with a vent-tube having a valve-seat, in combination with a valve for closing said discharge-opening, another valve for closing the vent, a lever fulcrumed in the spout, and connected to said valves, springs for closing said valves and means for operating the said lever, substantially as described.

803,965. CUT-OFF FOR GAS-STOVES. CLIFFORD BARGANIER, Newport News, Va., assignor to The Novelty Manufacturing Corporation, Newport News, Va. Filed Feb. 2, 1905. Serial No. 243,793.



Claim.—1. An automatic cut-off attachment for gas-stoves comprising a valve-casing, a manually-operated main cut-off plug-valve therein hollowed out to form a gas-circulating chamber and internal valve-seat, an automatic cut-off valve dividing said chamber into primary and secondary compartments, a diaphragm in said chamber to which the stem of the automatic valve is secured, a main burner-tube communicating with one of said compartments, gas-inlet and pilot-burner tubes communicating with the other compartment, and utensil-controlled connections carried by the valve-casing for operating the main cut-off valve.

2. An automatic cut-off attachment for gas-stoves comprising a valve-casing, a manually-operated main cut-off plug-valve therein hollowed out to form a gas-circulating chamber and internal valve-seat, an automatic cut-off valve dividing said chamber into primary and secondary compartments one of which has a gas-inlet port and a pilot-supply outlet-port and the other of which has a gas-outlet port for the main burner, a diaphragm in said chamber to which the stem

of the automatic valve is secured, and utensil-controlled means carried by the valve-casing for operating the automatic cut-off valve.

803,936. TELESCOPIC CASE OR BOX. CHARLES W. BARNES, New York, N. Y. Filed July 8, 1904. Serial No. 215,719.



Claim.—1. The combination with the outer and inner box members fitting one over the other and the outer member having a vertical row of holes therein, of a spring-wire fastened at its ends to the inner side of the inner member and formed into buttons which project through the wall of the inner member and register with the holes of the outer member.

2. In a device of the kind described, the combination of the outer and inner telescopic box members, the outer member having plural rows of holes therethrough, and a spring-wire fastened at the ends to the inner member and provided with buttons adapted to enter the holes of the outer member.

803,967. CLOTHES-BAG. GEORGE L. BARRETT, Springfield, Ohio. Filed May 10, 1905. Serial No. 259,694.



Claim.—1. In a clothes-bag of the character described, the combination, with a normally flat paper bag, of an external wooden supporting-bar extending across the bag at the back thereof and provided with a suspending device, a corresponding reinforcing-strip of cardboard or the like located on the inside of the back of the bag, and securing and garment-supporting devices passing through the reinforcing-strip and bag and engaging the supporting-bar, substantially as described.

2. A clothes-bag of the character described, consisting of a normally flat paper bag provided with parallel transverse stiffening-strips located adjacent to its mouth at successively-increasing intervals between the strips, whereby the mouth portion of the bag is adapted to fold into a continuous flat roll, in combination with clamping means for holding the roll thus formed, substantially as described.

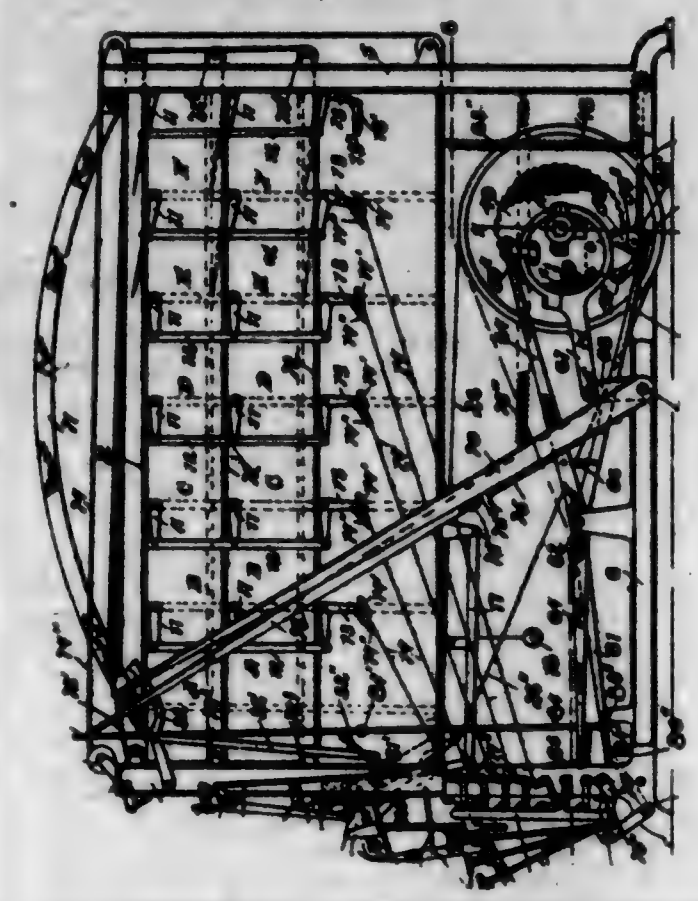
3. A clothes-bag of the character described, comprising a normally flat paper bag provided with supporting devices located some distance below its mouth, that part of the bag between said supporting devices and mouth being provided with a plurality of parallel transverse stiffening-strips separated by downwardly-increasing intervals, whereby said portion of the bag is adapted to fold into a flat roll, in combination with clips or clamping devices for holding said roll when formed, substantially as described.

803,968. MAIL-DISTRIBUTING APPARATUS. WILLIAM BARRY, Owego, N. Y. Filed May 7, 1903. Renewed Dec. 10, 1903. Serial No. 184,699.

Claim.—1. A mail-distributing apparatus comprising horizontal series of letter-receptacles opening into and provided with series of horizontally-arranged letter-passages ranging over the series of receptacles, respectively, means to convey the letters separately to any one of said passages, and means to move the letters in said passages, substantially as described.

2. A mail-distributing apparatus having a box-case formed with open-top boxes and horizontally-disposed branch letter-passages, and a vertical main letter way or passage intersecting all of said branch passages, substantially as described.

3. A mail-distributing apparatus having a series of letter-receptacles arranged in horizontal tiers or rows, and horizontally-movable letter-moving means movable longitudinally of and along each tier or row, substantially as described



4. A mail-distributing apparatus having series of rows of letter-boxes, a series of reciprocating letter-movers movable along said rows, and a variable-stroke main letter-mover common to all of said reciprocating letter-movers, substantially as described.

5. A mail-distributing apparatus comprising series of horizontal rows of boxes having top openings, means to move letters above said rows, respectively and drop a letter into any box, and means to separately deliver letters to the letter-mover of any horizontal row, substantially as described.

6. A mail-distributing apparatus having a case of boxes divided into horizontal rows with letter-passages between the rows and opening into the boxes of the rows, letter-conveying devices, and controlling mechanisms, whereby each letter is delivered into a predetermined box, substantially as described.

7. A mail-distributing apparatus comprising a case of boxes, each box having an end opening and a top opening, said boxes arranged in horizontal series with horizontal letter-passages between the series and along the open tops of the boxes, substantially as described.

8. A mail-distributing apparatus having series of letter-boxes, branch letter-passages opening into the same, means for moving letters in said passages, a main letter-conveyer arranged to receive the letters from a common source and carry the letters one at a time to any branch passage and deliver the same to the letter-moving means thereof, and mechanisms for stopping said conveyer at any one of said passages, substantially as described.

9. A mail-distributing apparatus having a vertically-movable letter-conveyer, and series of horizontally-movable letter-conveyers to one of which at each stroke said vertically-movable conveyer presents a letter, and series of boxes along which the horizontally-movable conveyers pass and into a box of which a letter is dropped at each stroke, substantially as described.

10. A mail-distributing apparatus comprising vertically-arranged horizontal tiers of open-top boxes, with horizontal letter-passages between the horizontal tiers, in combination with letter moving and controlling mechanisms, arranged to receive the letters from a common source and deliver each letter into a predetermined box, substantially as described.

11. A mail-distributing apparatus wherein the letters are taken from a common source and delivered and distributed to various predetermined points or locations, comprising letter-conveying devices, and controlling mechanisms determining the delivery-point of each letter, conveying devices including a vertically-movable letter receiving and holding clamp formed to permit the letter being stripped therefrom, substantially as described.

12. A mail-distributing apparatus comprising a letter-conveyer, mechanism to deliver the letters separately into said conveyer,

and series of conveyers having paths of movement intercepting the path of said first-mentioned conveyer, substantially as described.

13. A mail-distributing apparatus comprising a row of boxes having open tops, a letter-mover having a range of movement over said open tops, each box having a letter stripper or deflector arranged to intersect the path of movement of said letter-mover and intersect a letter propelled along the open tops of said boxes by the same, substantially as described.

14. A mail-distributing apparatus comprising series of letter-receptacles and series of letter-passages along the same, series of reciprocating letter-movers in said passages, and a variable-stroke-reciprocating main letter-mover intersecting the paths of movement of and arranged to deliver a letter to any one of said passage letter-movers, substantially as described.

15. A mail-distributing apparatus having horizontal series of open-top letter-receptacles, arranged one above the other with intervening letter-passages, letter-moving mechanisms, and letter-controlling devices determining the particular horizontal passage to which a letter is delivered and the particular box in said passage into which the letter is dropped, substantially as described.

16. A mail-distributing apparatus having horizontal rows of open-top letter-receptacles with horizontal letter-passages between the rows and above said open tops of the receptacles, said receptacles having movable-top letter strippers or deflectors, said strippers coupled together in vertical series, letter-moving devices, and controlling mechanisms, for said vertical series of strippers, respectively, substantially as described.

17. A mail-distributing apparatus comprising series of letter-receptacles, series of letter-passages for said series of receptacles, reciprocating letter-movers in said passages coupled together to move simultaneously, a variable-stroke letter-conveyer arranged to deliver one letter at a time to any one passage of said series, and means controlling the stroke of said conveyer and the passage to which each letter is delivered and the receptacle of said passage into which said letter is deposited, substantially as described.

18. A mail-distributing apparatus comprising series of horizontally-moving letter-conveyers, each conveyer arranged to deliver letters at various predetermined points or locations along its path of movement, a vertically-movable letter-conveyer intersecting the paths of movement of all of said horizontal conveyers, and mechanisms determining the particular horizontal conveyer to which each letter is to be delivered, and the particular location at which said horizontal conveyer deposits said letter, substantially as described.

19. A mail-distributing apparatus arranged to receive letters from a common source and move and distribute the letters to and deliver them at various predetermined locations comprising a variable-stroke, vertically-reciprocating letter-conveyer, yielding actuating connections therefor, and mechanisms arranged to deliver a letter from the common source into said conveyer at each stroke thereof, substantially as described.

20. A mail-distributing apparatus arranged to move letters separately from a common source and deliver them at various predetermined locations, comprising initial feeding mechanisms arranged to take the letters from the common source, a reciprocating letter-clamp lift normally located in position to receive the letters from said initial feeding mechanisms, mechanisms determining the delivery location of each letter, and actuating mechanisms, substantially as described.

21. A mail-distributing apparatus comprising a case of boxes wherein the boxes are formed in horizontal rows with intervening letter-passages extending longitudinally of the rows, each passage communicating with all the boxes of its row, a vertical main letter-way arranged at one end of said case and common to all said passages, letter-conveying devices arranged to receive the letters one at a time at the lower portion of said way and to move the same upwardly in the way and horizontally in any one of said passages to any one of said boxes, and letter-controlling devices, substantially as described.

22. In a mail-distributing apparatus wherein the letters are taken from a common source and distributed to various predetermined points of delivery, a vertically-movable yieldingly-upheld support for the common pile of letters, and pawl-and-ratchet mechanism holding said support against downward movement and permitting the free upward movement thereof and provided with means for releasing said support from said mechanism to permit downward movement of said support, substantially as described.

23. In a mail-distributing apparatus, a vertically-movable support for the pile of letters, a toothed leg movable vertically with said support, a pawl in engagement with the teeth of said leg and permitting free movement of the support in one direction and holding the same against movement in the opposite direction, a movable yieldingly-held device connected with said pawl and adapted to move the same from operative relation to said leg, an initial feeder arranged to take the letters successively from the top of the pile, and letter-moving mechanisms to which the letters are successively passed from said feeder, substantially as described.

24. In a mail-distributing apparatus wherein the letters are taken from a common source and distributed to various predetermined delivery-points, the combination of a movable initial letter-feeder, a support for the common pile of letters movable toward said feeder which successively removes the outer letter from the pile, pawl-and-ratchet mechanism holding said support toward said feeder, mechanism for moving the support and pile of letters toward the feeder, and letter moving and distributing mechanisms to which the letters pass from said feeder, substantially as described.

25. In a mail-distributing apparatus, the combination of a frame, a vertically-movable support for the common pile of letters, mechanism yieldingly pressing said support upwardly, guiding means for the support movable vertically therewith and comprising a depending toothed leg, a pawl engaging said leg and holding the support against downward movement, a swinging letter-guide connected with said pawl, initial feeder to remove the letters from said pile, and letter guiding and holding means for the letters on said support, substantially as described.

26. In a mail-distributing apparatus, in combination, a frame, a movable letter-support, a guide-wall carried by the frame against which said letters are alined, yielding means to aline the letters against said wall, a letter throat or passage at the upper edge of said wall, a swinging feeder arranged above the support to move the top-most letter from the pile laterally through said throat, and yielding letter-holding means pressing the letters down on the support and against said wall, substantially as described.

27. In combination, a vertically-movable letter-support, means constantly and yieldingly pressing the same upwardly, the laterally-movable upright finger arranged beside said support and the pile of letters thereon, and yieldingly held inwardly and laterally against the edges of the letters on said support to force the letters horizontally and aline the same, and a vertical guide on the opposite side of the support from said finger and against which the letters are alined by said finger, substantially as described.

28. In combination, a wall, a letter-support movable along the wall, and adapted to receive a pile of letters with their edges resting against and movable along said wall, and a yielding letter-holder arranged at the opposite side of the support from said wall and alining and holding the letters inwardly to said wall, substantially as described.

29. In combination, a letter-support, letter-guiding means, the swinging fingers extending beside and yieldingly pressed against the pile of letters on the support, said fingers formed to exert pressure on the letters to hold the same down on the support as well as to exert inward pressure against the pile of letters and a vertical wall against which the letters are pressed and alined by said fingers, substantially as described.

30. In combination, a movable letter-support, a letter-guide beside the same, and the yieldingly-held fingers arranged opposite said guide and extending beside the letters on the support and pressing the same to said guide and formed with their ends deflected to project over the outer letter of the pile and exert pressure thereon, substantially as described.

31. In combination, a frame, a vertically-movable letter-support, a pawl-and-ratchet mechanism, holding said support against downward movement and permitting upward movement thereof, a swinging frame arranged to engage and hold the pile of letters on the support, said frame being operatively connected with said pawl-and-ratchet mechanism, so that when said frame is swung laterally to permit placing a bundle of letters on the support, said pawl-and-ratchet mechanism will be released to permit downward movement of the support to receive the letters.

32. In combination, a frame, a letter-support, a guide-wall beside the same having a fixed curved letter-guiding edge over which the letters are successively moved from the letter pile on said support, a yielding separator-finger behind and projecting past said wall into the path of the letters over the same, means for holding the letters to said wall, and a letter-feeder, substantially as described.

33. In combination, a letter-support, for a pile of letters, a letter-guide, means to move the letters successively and laterally from said pile, a yieldingly-held depending rock-arm, and a presser or guide foot arranged above the inner portion of the outer letter of the pile and fixed on the free end of said arm, substantially as described.

34. In combination, a support for a pile of letters, an edge or guide over which the topmost letter is moved laterally from the pile,

letter-moving means behind said guide and receiving the letter passed thereover, a guide or presser foot above said guide and under which each letter from the pile is forced, and a letter-feeder above the pile and arranged to move past said foot and deliver the letter to said moving means, substantially as described.

35. In a mail-distributing apparatus, the combination of an upwardly-moving support for the common pile of letters, a guiding-throat beside the pile, letter-moving means behind said means, a swinging feeder above the pile of letters and arranged to force the topmost letters of the pile successively through said throat and into the letter-moving means, driving means, actuating mechanisms for said feeder and letter-moving means, and a controlling device for throwing said driving means into operative communication with said actuating mechanisms, whereby when said controlling device is operated said feeder and moving means will perform a letter-moving stroke and then stop, substantially as described.

36. In a mail-distributing apparatus, the combination of a letter-conveyer, a support for the common pile of letters, initial feeding mechanism to take the letters successively from the pile and pass the same to said conveyer, and a pusher to push each letter into said conveyer, and operating mechanisms timed to operate the parts in proper sequence, substantially as described.

37. In combination, an initial feeder to take letters successively from a common source, a conveyer to receive the letters therefrom comprising a spring letter-clamp, a pusher-finger arranged to engage the outer edge of the letter and insure its proper delivery into said letter-clamp, substantially as described.

38. In a mail-distributing apparatus, the combination of a letter-conveyer, an initial feeder for supplying letters successively to said conveyer, a rock-shaft provided with a letter-pushing finger interposed between the feeder and conveyer and normally resting out of the letter-path, actuating mechanisms for the feeder and conveyor, and operating devices, for said rock-shaft timed to turn said shaft, after the letter has passed beyond the finger, and cause the finger to engage the edge of the letter and push the same completely into the conveyer, substantially as described.

39. In combination, an initial letter-feeder arranged to take the letters successively from a common source, letter-moving mechanisms arranged to deliver the letters at various predetermined delivery-points, controlling devices determining the delivery-points of the letters, driving means, operating connections for said feeder, said feeder being normally inactive, and a manually-operated device arranged to operatively connect said feeder-operating connections and said driving means and cause a feeding stroke of said feeder which thereupon returns to its normal inactive position, substantially as described.

40. A mail-distributing apparatus constructed and arranged to take the letters from a common source and deliver them separately at various predetermined delivery-points comprising a normally inactive initial feeder provided with power-driven operating connections normally out of operative communication with the driving power and arranged to make only one feeding stroke when thrown into gear with its driving power, substantially as described.

41. A mail-distributing apparatus having an initial feeder arranged to take the letters successively from a common source and cause delivery thereof to letter-moving means, combined with a main driving mechanism, normally inactive operating mechanism, for said feeder, means for operatively coupling said operating mechanism with said driving mechanism and causing one feeding stroke of said feeder, and a controlling device for said means, substantially as described.

42. In a mail-distributing apparatus, the combination of a normally inactive initial feeder, continuously-operating driving power, normally inactive feed-operating connections, a clutch mechanism arranged to operatively connect said driving power and said operating connections and to automatically disconnect said parts on the completion of a feeding stroke, and a manually-operated controlling device for said clutch mechanism, substantially as described.

43. In a mail-distributing apparatus, a normally inactive initial feeder, continuously-operating driving means, normally inactive feeder-operating means, a clutch mechanism between said driving and operating means and normally out of gear, a trip normally holding said clutch out of gear, and a series of manually-operated controlling devices all separately acting on said trip to throw said clutch into gear, substantially as described.

44. In a mail-distributing apparatus, a continuously-rotating driving mechanism, a normally inactive initial letter-feeder, means for operatively coupling said feeder with said driving mechanism for effecting a single feeding stroke of the feeder, and then automatically disconnecting the same from the driving mechanism, and a manually-operated controlling device for throwing said feeder into operative connection with said driving mechanism, substantially as described.

45. In a mail-distributing apparatus, a normally inactive initial feeder, normally inactive operating devices for said feeder, a continuously-operating driver, a clutch to operatively connect the driver and operating devices, a releasing or trip device to normally hold the clutch with said driver and devices out of operative communication and to automatically disconnect said parts when the feeder has been operated a complete feeding stroke, and controlling operating means for said trip device, substantially as described.

46. In a mail-distributing apparatus, an initial feeder comprising a rock-shaft having a depending feeder-arm, a rocking lever connected to rock said shaft a feed stroke, a spring acting on said lever in one direction, a normally inactive rotary device to rock said lever in the opposite direction, a continuously-rotating driver, and a normally inactive clutch mechanism between the rotary device and driver provided with controlling means, substantially as described.

47. In a mail-distributing apparatus, the combination of a normally inactive initial feeder arranged to take letters successively from a common source, normally inactive letter-moving means arranged to successively receive said letters and deliver them at various predetermined points, controlling mechanisms determining the delivery-point of each letter, a bank or series of separate manually-operated starting and setting devices, continuously-moving driving mechanism, and mechanism operated by any one of said manually-operated devices to throw said feeder and letter-moving means into operative connection with said driving mechanism, substantially as described.

48. In a mail-distributing apparatus, the combination of an initial letter-feeder, a continuously-rotating driver, a normally inactive rotary device having a cam projection, a lever yieldingly held to said projection, operative connections from said lever to said feeder, a clutch mechanism to throw said rotary device and driver into operative connection, a trip mechanism to automatically operate said clutch to operatively disconnect said parts on the completion of a certain movement by said rotary device and to normally hold said rotary device inactive, and series of manually-operated controlling devices separately acting on said trip to throw said clutch into action, substantially as described.

49. A mail-distributing apparatus, constructed and arranged to move letters from a common source and distribute the same to various predetermined points of delivery, comprising normally inactive letter-moving devices and a normally inactive initial feeder, mechanisms controlling the delivery-points of the letters, a continuously-operating driver, a normally inactive rotary member, mechanical operating connections for said letter-moving devices and feeder actuated from, and by said rotary member, a clutch mechanism to operatively connect said rotary member and driver, means to operate said clutch to disconnect said driver and member at the completion of each operating movement of the member, a series of manually-operated setting and starting devices, and clutch-controlling mechanism operated by any one of said setting and starting devices for throwing the member into operative communication with the driver, substantially as described.

50. In a mail-distributing apparatus, the combination of normally inactive letter-moving mechanisms comprising an initial feeder, a continuously-rotating driver, a normally inactive rotary member operatively connected with said letter-moving mechanisms to actuate the same, an operative connection to operatively couple said driver and rotary member together, a swinging lever normally holding said connection to disconnect the driver and member, a series of separate manually-operated setting and starting devices, a swinging frame common to all and operated by any one of said setting and starting devices to rock said lever to cause said connection to couple the driver and rotary member together, substantially as described.

51. In a mail-distributing apparatus, the combination of an initial letter-feeder, a main letter-conveyer, series of branch-passage letter-conveyers, a rotary member, an operating connection, operatively connecting said rotary members and the feeder comprising a lever, operating connections for said various letter-conveyers, operatively connecting the same with said rotary member and comprising levers, actuating means for said rotary member, and starting and stopping devices, substantially as described.

52. In a mail-distributing apparatus, the combination of a reciprocatory normally inactive initial feeder, a rotary member having a radial cam projection, a swinging lever operatively connected with said feeder to move the same, a spring device yieldingly holding said lever into the path of said cam projection, said cam arranged to

oving the lever outwardly and allow the spring to move it inwardly at the beginning of each rotation of said rotary member, and driving means for said rotary member comprising clutch mechanism and a trip device, substantially as described.

53. In a mail-distributing apparatus, the combination of letter-moving mechanisms, actuating means operatively connected therewith, a driver, make-and-break mechanism between said driver and actuating means periodically throwing the actuating means into operative connection with the driver, said actuating means comprising a lever and a cam acting thereon and a rotary eccentric, said make-and-break mechanism comprising a movable clutch and a swinging step-lever at one end having a shoulder to engage the clutch, and lifting means to engage the opposite end of said lever, and series of manually-operated setting and starting devices controlling said lifting means

54. In combination, a normally inactive reciprocatory initial letter-feeder, a rotary operating member therefor normally inactive, a continuously-rotating driver, a clutch carried by said member and constantly tending to operatively connect said driver and said member, a swinging lever yieldingly held in the path of said clutch and normally holding the same out of operative position and automatically throwing it from operative position when said rotary member has completed a rotation, and controlling devices, substantially as described.

55. In combination, a reciprocatory letter-feeder having a biting portion arranged to positively take hold of and feed each letter, a spring device to yieldingly move the feeder on its feeding stroke, and means to positively move the feeder on its return stroke against the tension of said spring device comprising a periodically-movable power-driven striker, substantially as described.

56. In combination, a letter-way, a reciprocatory positive feeder to successively and positively force the letters from said way, actuating connections for said feeder comprising a feed-stroke spring yieldingly moving the feeder on its feed stroke, and power-driven mechanism driving said connections to move said feeder against the tension of said spring on its return stroke, substantially as described.

57. In a mail-distributing apparatus, the combination of a pair of cooperating feed-rolls, a vertically-movable letter-conveyer normally arranged at the bite between said rolls, and movable mechanism for freeing each letter from the rolls so that the conveyer can move the letter past said rolls, substantially as described.

58. A mail-distributing apparatus embodying mechanisms for receiving letters from a common source and distributing them to various predetermined delivery-points, which includes a letter-conveyer comprising a spring-clamp having jaws between which the letters are carried, and mechanism to strip the letters from said jaws, substantially as described.

59. In combination, in a mail-distributing apparatus, a letter-conveyer comprising a spring letter-clamp having opposing gripping-jaws, mechanism to place letters into said jaws, and means at various points to remove letters from said jaws, substantially as described.

60. A letter-supporting conveyer provided with operating mechanism and comprising jaws between which each letter is entirely received, means independent of said jaws for placing the letters between said jaws, and mechanisms independent of said jaws for removing the letters from said jaws, substantially as described.

61. In combination a movable spring letter-receiving clamp, mechanism independent of said clamp at the normal position of said clamp to place letters in said clamp, mechanism for moving said clamp, and letter-moving mechanism arranged to project into the path of said clamp and remove a letter therefrom, substantially as described.

62. A letter-carrier comprising a support, means for moving the same, opposing jaws, one of said jaws mounted to rock, means yieldingly and constantly holding said jaws toward each other, means to force letters between said jaws, and means to force letters from said jaws, substantially as described.

63. A letter-supporting conveyer comprising a slide carrying parallel elongated letter-holding jaws yieldingly held toward each other to entirely receive between themselves and carry letters of various shapes and sizes, substantially as described.

64. A letter-conveyer comprising a movable support, having a pair of separated rigid jaws and a pair of opposing spring-held movable jaws, each pair of opposing jaws having beveled ends and shoulders to engage an edge of the letter therein, substantially as described

65. A letter-conveyer comprising a movable support having cross-pieces, a rigid jaw on one cross-piece, a spring-held movable radial arm centered on the other cross-piece, and a jaw pivotally joined to said arm and opposing said first-mentioned jaw, substantially as described.

66. In a mail-distributing apparatus, the combination of letter-conveyer arranged to receive letters successively from a common source and having a variable stroke to deliver said letters at various points of delivery, controlling mechanism determining each stroke of said conveyer, and mechanisms to receive the letter from said conveyer at each stroke, substantially as described.

67. In a mail-distributing apparatus, the combination of a letter-conveyer, mechanism for moving the same variable distances at different strokes, means to deliver a letter to said conveyer, means to stop said conveyer at various points, and devices to remove the letters from said conveyer at said stopping-points, substantially as described.

68. In a mail-distributing apparatus, a letter-conveyer, mechanism for moving said conveyer variable distances, means for delivering letters to said conveyer at a common source, a series of devices for stopping said conveyer at any one of a series of locations, series of manually-operated controllers corresponding to the final delivery-points of the letters and operatively controlling said devices, series of letter-movers constructed to remove the letters from said conveyer at any one of said locations, and letter-engaging devices operated by said controllers and determining the final delivery-points at which said letters are deposited by said letter-movers, substantially as described.

69. A mail-distributing apparatus embodying mechanisms to take letters from a common source and distribute them to various predetermined delivery-points comprising a letter-conveyer having a variable stroke to deliver different letters at different locations at various strokes, substantially as described.

70. In a mail-distributing apparatus, the combination of a main letter-conveyer receiving the letters from a common source, series of letter-movers arranged in different planes intersecting the path of movement of said main letter-conveyer and each constructed to remove a letter from said conveyer, stops arranged to stop said conveyer to deliver its letter to any one of said letter-movers, and mechanism for setting any one of said stops, substantially as described.

71. In a mail-distributing apparatus, the combination of vertically-disposed horizontal rows of letter-boxes, series of letter-movers movable along said rows, mechanism for simultaneously operating all of said movers an approximately fixed distance at each stroke, means to deflect a letter from any letter-mover into any box in its row, a main letter-conveyer having a variable path of movement to stop in the path of any letter-mover, and deliver a letter thereto and mechanism determining the limit of stroke of said conveyer, substantially as described.

72. In combination, several rows of letter-boxes, each box having a letter-gate, series of letter-moving rakes movable over the gates of said rows of boxes, respectively, mechanism to move all of said rakes simultaneously, a main letter-conveyer, series of stops arranged to move into the path of said conveyer and stop the same in the path of movement of any rake, the conveyer and rakes so constructed that a rake can strip a letter from the conveyer and move the same along the gates of its row of boxes, series of manually-operated controlling devices corresponding to and indicating said boxes, certain devices operatively connected with certain stops and with certain gates, and driving means, substantially as described.

73. In a mail-distributing apparatus, the combination of branch-passage letter-movers, letter-receptacles, a reciprocating main letter-conveyer, and operating devices therefor comprising a flexible connection and a spring moving the conveyer in one direction and permitting stepping thereof at various locations, substantially as described.

74. In a mail-distributing apparatus, a reciprocating letter-carrier having operating devices embodying an endless flexible connection in which the carrier is included, substantially as described.

75. In a mail-distributing apparatus, a series of reciprocating branch letter-movers, endless flexible connections in which said movers are included, and operating devices to which all of said connections are coupled to move simultaneously, substantially as described.

76. In a mail-distributing apparatus, the combination of series of letter-receptacles, branch-passage letter-movers therefor, letter-directing means, a main letter-conveyer common to all of said letter-movers and arranged to deliver a letter to any one of them, an oscillating sweep, mechanism for swinging the same, and a flexible connection from the sweep to the conveyer for moving the same and a spring for returning the conveyer, substantially as described.

77. In a mail-distributing apparatus, the combination of several reciprocating branch-passage letter-movers, letter-receptacles

arranged along the said passages, a reciprocating main letter-conveyer movable in a plane intersecting the paths of movement of said letter-movers, a sweep connected with all of said letter-movers and moving them simultaneously, a sweep connected with and moving said main conveyer, said main-conveyer sweep operated by said letter-mover sweep in one direction, and a spring moving the same in the opposite direction, and driving means, substantially as described.

78. In combination, the main letter-conveyer, the branch-passage letter-movers, an oscillating sweep connected to move said movers, operating means therefor, a corresponding sweep connected to move said conveyer, a spring device acting on said conveyer-sweep in one direction, said mover-sweep acting on the conveyer-sweep against said spring, and a yielding holding device between said sweeps whereby the conveyer-sweep is held back for a limited period after the mover-sweep has started on its strokes, and whereby the conveyer-sweep has a variable stroke, substantially as described.

79. In a mail-distributing apparatus, the combination of a main letter-conveyer, series of branch letter-movers having paths of movement intersecting the path of movement of said conveyer, and operating mechanisms for said parts timed to start the movers on their initial and return strokes before said conveyer starts on its initial and return strokes, substantially as described.

80. A mail-distributing apparatus having a conveyer-clamp, and a reciprocating letter-rake comprising a head with laterally-springing shouldered fingers arranged to slip along the face of and allow the shoulders to move past the edge of a letter held in said clamp, whereby when the rake moves in the opposite direction the letter will be drawn from the conveyer and with the rake, and operating devices, substantially as described.

81. A mail-distributing apparatus comprising letter-moving mechanisms, series of manually-operated controlling devices, whereby the delivery-point of each letter is determined, and a locking mechanism for said series of controlling devices thrown into action to lock said devices by the operative action of one of said devices and holding said devices against operative movement, substantially as described.

82. A mail-distributing apparatus embodying mechanisms to take letters successively from a common source and deliver them at various delivery-points, comprising mechanisms controlling the delivery-points of the letters having a lock applied and released on each letter-delivering action of the apparatus, substantially as described.

83. In a mail-distributing apparatus, the combination of letter-moving mechanisms, series of letter-receptacles, devices determining the receptacle to which each letter is delivered, series of manually-operated means corresponding to and indicating said receptacles and controlling said devices, and a lock normally released and controlled by the letter-moving mechanisms, said lock holding all of said means against action after the operation of one, and until the letter-moving mechanisms complete a letter-moving stroke, substantially as described.

84. In combination, a row of letter-receptacles, swinging gates for said receptacles, mechanism for opening and closing said gates comprising spring devices, a letter-mover reciprocating over said gates and having a part extending into the path of the opening mechanism of any gate which is opened and arranged to move said mechanism to momentarily swing said gate to permit the passing of the mover, substantially as described.

85. In combination, rows of letter-receptacles with intervening letter-passages, swinging fingered gates for the passages, spring-fingered letter-rakes reciprocating over said gates, means for simultaneously operating said rakes, and means for setting said gates, substantially as described.

86. In a mail-distributing apparatus, in combination, series of letter-boxes, letter-conveying means for delivering the letters to said boxes, series of manually-controlled letter-controlling means determining the delivery-points of the letters, a lock mechanism for temporarily locking said controlling means, and mechanism for applying and releasing said lock, substantially as described.

87. In a mail-distributing apparatus, in combination, letter conveying and directing devices for moving the letters successively from a common source and distributing them to various predetermined delivery-points, series of manually-movable controlling means controlling said directing devices to deliver each letter to a point indicated by the particular means actuated, and a locking mechanism for said series of controlling means to temporarily lock the same against operative movement after each operative movement of one of said series.

88. A mail-distributing apparatus having letter moving and controlling mechanisms, series of manually-operated push-bars, series of levers coupled separately to said bars respectively, series of slides coupled to said levers respectively, series of rock-shafts beside said slides, certain slides operating certain rock-shafts and other slides operating other rock-shafts, a swinging bail to be pushed out and swung over any lever depressed, and to hold said lever until the bail is again swung out, and a trip mechanism operated by said bail, substantially as described.

89. In a mail-distributing apparatus, a continuous rotating shaft, a ratchet-wheel rotating therewith and yieldingly coupled thereto, a normally inactive eccentric provided with a swinging dog to engage the ratchet, trip mechanism controlling the dog, a spring device acting on the eccentric to hold the same to the trip device and thus lock the dog from the ratchet, a pitman from the eccentric, and letter-moving mechanism operatively connected with the pitman, substantially as described.

90. A mail-distributing apparatus having a sliding reciprocating letter-mover, an endless flexible connection in which said mover is secured, and means for moving said connection in opposite directions, substantially as described.

91. A mail-distributing apparatus comprising an oscillating sweep, a letter-conveyer, and an operative connection between the sweep and conveyer including a spring, substantially as described.

92. A mail-distributing apparatus comprising a bank of keys, letter-controlling devices operated thereby, a lock to hold any key depressed until another key is depressed, a separate lock-releasing key for said lock, for the purpose described, and letter-moving means, substantially as described.

93. In combination, in a mail-distributing apparatus, means to support a number of letters at a common source, letter moving and controlling mechanisms arranged to successively remove the letters from said common source and distribute the same individually to various points of delivery, and locking mechanism to prevent operative action of the mechanism to remove a letter from said common source until the previously-moved letter has been delivered at its point of delivery, substantially as described.

94. In a mail-distributing apparatus, the combination of letter moving and controlling mechanisms arranged to successively remove the letters from a common source and distribute the same individually to various predetermined points of delivery, and locking mechanism automatically controlled by the movement of said letter-moving mechanism, substantially as described

95. In combination, in a mail-distributing apparatus, letter-moving devices, letter-controlling means determining the delivery-point of each letter, manually-operated movable elements for setting said controlling means to determine the delivery-point of each letter, and lock or stop mechanism, whereby said controlling means cannot be operatively set except at certain stages in the operation of the apparatus, substantially as described.

96. In a mail-distributing apparatus, the combination of letter-moving devices, controlling mechanisms determining the delivery-point of each letter, means to set the controlling mechanisms to determine the delivery-point of each letter, and devices preventing operation of said means while a letter is in transit to its delivery-point, whereby the apparatus is adapted to move and deliver one letter at a time, substantially as described.

97. In a mail-distributing apparatus, the combination of initial feeding devices, a letter-lift receiving the letters from said devices, manually-controlled means to stop said lift at various elevations, and mechanisms at said various elevations to remove the letters from said lift, substantially as described.

98. In a mail-distributing apparatus, the combination of a letter-carrier comprising spring-held jaws, means to insert letters forcibly into one end of said carrier, and means to remove letters forcibly from the opposite end of said carrier, substantially as described.

99. In a mail-distributing apparatus, the combination of a letter-carrier comprising opposing jaws yieldingly and constantly held toward each other, and supports for said jaws arranged so that a letter can be forced completely between and supported and carried entirely thereby, substantially as described.

100. In a mail-distributing apparatus, a vertically-reciprocating letter lift or support comprising jaws yieldingly held together in combination with means to force the letters between said jaws and against the tension thereof, substantially as described.

101. In a mail-distributing apparatus, a letter-carrier comprising double-end jaws yieldingly held together and arranged to yieldingly separate at both ends, substantially as described.

102. A mail-distributing apparatus comprising several series of receptacles into which the mail-matter is distributed, said series of receptacles arranged one above the other with horizontal intervening letter-passages, each receptacle having a letter-egress opening and open at the top into a letter-passage to form a letter-ingress opening.

and letter moving and controlling mechanisms arranged to distribute letters into said passages and therefrom into said receptacles through their open tops.

105. A mail-distributing apparatus comprising a series of receptacles for mail-matter, each receptacle open at the top to form a letter-ingress opening, means normally bridging the open tops of the boxes against the entrance of letters and forming a letter-floor above the boxes, and letter moving and controlling mechanisms determining the particular box into which each letter is deposited.

106. A mail-distributing apparatus comprising a case of letter-boxes, said boxes being arranged in horizontal rows with intervening letter-passages, each box having an egress-opening and open at the top into a letter-passage, letter-moving devices moving the letters in said passages and over the open tops of the boxes, and controlling mechanisms determining the particular box into which each letter is deposited.

105. In a mail-distributing apparatus wherein the letters are conveyed from a common source and distributed to various predetermined points of delivery, the combination of several horizontal series of letter-boxes arranged one above the other, each box having a letter-ingress opening, letter-moving devices having portions moving vertically to carry the letters from the common source vertically and successively to any one of the horizontal box rows and having portions movable horizontally along the openings of the horizontal box rows to receive the letters from said vertically-moving portions and to move the letters horizontally along said openings and deposit each letter through any box-opening of a row, and letter-controlling devices determining the particular box row to which a letter is to be delivered and the particular box in that row in which the letter is to be deposited.

106. In a mail-distributing apparatus wherein the letters are received from a common source and delivered to various predetermined points of delivery, in combination, a case of boxes or receptacles arranged in rows with horizontally-disposed intervening letter-passages, the boxes having letter-ingress openings from said passages, means movable vertically to all of said passages and upwardly from a common source located below all of said passages and adapted to convey said letters upwardly to any passage, letter-moving devices movable in said passages over said boxes and arranged to receive the letters from said vertically-movable means and drop the same into any box, and controlling devices, substantially as described.

107. In combination, in a mail-distributing apparatus wherein the letters are taken from a common source and conveyed and delivered to various predetermined points of delivery, a case of letter boxes or receptacles arranged with intervening branch passages between the rows of boxes, the boxes of each row opening into the passage thereof to receive letters therefrom, a support for the pile of letters at the common source, a letter-carrier movable past all of said branch passages to deliver letters thereto, means to deliver letters from said carrier to any of said branch passages, means to move the letters from the common source and force the same into said carrier, said carrier comprising opposing jaws constantly and yieldingly held together or toward each other to receive and grip the letters between the jaws, substantially as described.

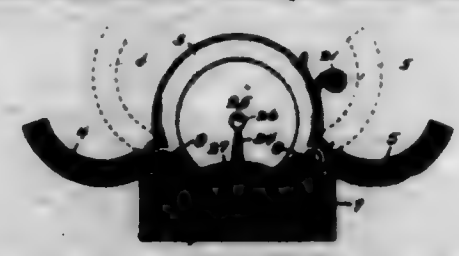
108. In a mail-distributing apparatus, the combination of a normally inactive initial letter-feeder, actuating means operatively connected therewith, a driver, make-and-break mechanism between said driver and actuating means constructed and arranged to automatically throw the actuating means out of gear with the driver when said actuating means has completed one operating stroke, series of manually-operated setting and starting devices, and letter conveying and distributing mechanisms.

109. A mail-distributing apparatus, wherein the letters are conveyed from a common source and distributed to various predetermined points of delivery comprising a horizontal row of open-top boxes, movable gates breaking joints and bridging said open tops, means for opening and closing any gate, and letter-conveying devices, substantially as described.

110. A mail-distributing apparatus wherein the letters are distributed to various predetermined points of delivery comprising a row of letter-boxes having open tops, a series of swinging fingered gates forming a letter-floor above said open tops, a series of manually-controlled devices for independently opening said gates, one device for each gate, and letter-moving means arranged to move a letter in a horizontal position along said gates, whereby any opened gate will cause the letter to drop flat face down into the box of such gate.

111. In a mail-distributing apparatus wherein letters are conveyed from a common source and distributed to various predetermined points of delivery, the combination, of letter conveying and controlling devices, series of manually-operated setting elements for said controlling devices, and a lock mechanism for said elements provided with applying and releasing means, substantially as described.

808,969. GLOBE GUN-SIGHT. JOHN Y. BASSELL and FRED C. BLENKNER, Columbus, Ohio. Filed Apr. 28, 1904. Serial No. 205,503.



Claim.—1. The combination with a globe-sight, of a reflector mounted thereon so as to reflect the light into the globe.

2. In a gun-sight, a base, a reflector arranged on the base, and a sight-piece supported on the base and having a center adapted to become luminous when illuminated by the reflector.

3. In a gun-sight, a base, a sight-piece arranged on the base, and means mounted on the base for illuminating the sight-piece.

4. In a gun-sight, a base, a sight-piece arranged on the base, means mounted on the base for illuminating the sight-piece, and means for modulating the illumination of the sight-piece.

5. The combination with a globe-sight having an opening in its walls and the sight-piece thereof, of adjustable shutters arranged in said opening opposite each other.

6. The combination with a globe-sight, of a luminous sight-piece arranged therein, reflecting means arranged on the sight to illuminate the sight-piece, and means for modulating the illumination.

808,970. COMBINATION GUN-SIGHT. JOHN Y. BASSELL and FRED C. BLENKNER, Columbus, Ohio. Filed Oct. 13, 1904. Serial No. 228,009.



Claim.—1. In a gun-sight, the combination with an open sight, of movable means for converting the open sight into a peep-sight comprising oppositely-disposed and laterally-swinging members.

2. In a gun-sight, the combination with a peep-sight, of movable means for converting the peep-sight into an open sight comprising oppositely-disposed and laterally-swinging members.

3. In a gun-sight, a sight-base provided with a sight depression, and separately-pivoted members, each having sight depressions adapted to register with the first-named depression to form an inclosed sight-opening.

4. In a gun-sight, a sight-base having a sight depression, pivoted members adapted to move simultaneously and provided with sight depressions adapted to register with the first-named depression to form an inclosed sight-opening.

5. In a gun-sight, a sight-base having a sight-opening, separate wings having pivoted engaging projections whereby the wings are simultaneously moved to form in conjunction with the sight-base an open sight or a peep-sight.

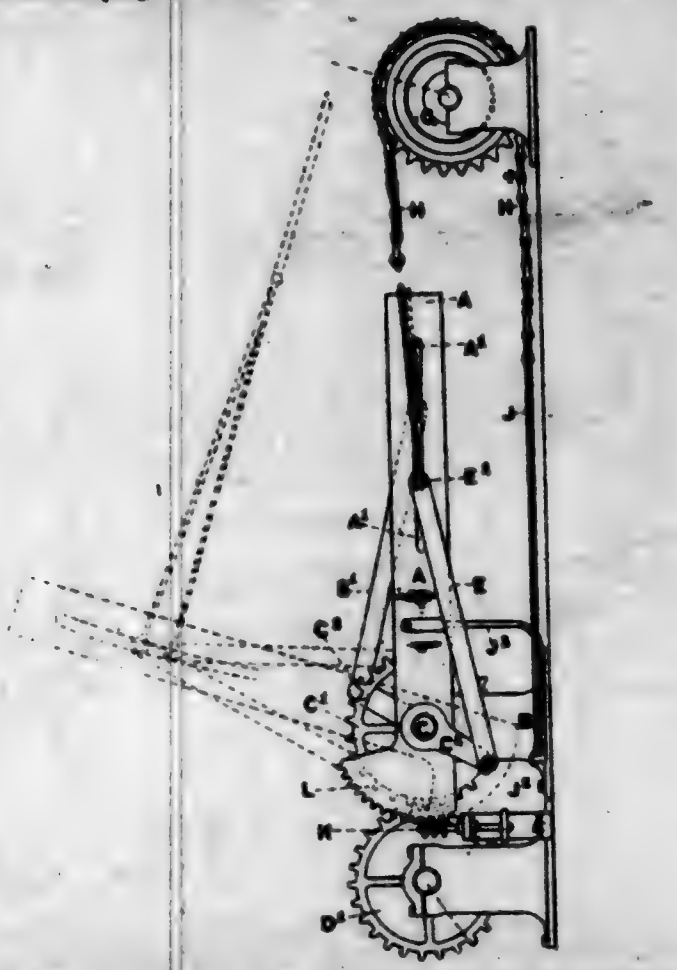
6. In a gun-sight, a sight-base formed with a sight-ridge having a sight depression, wings provided with sight depressions adapted to register with the first-named sight depression, intermeshing segmental gears projecting from the wings and pivoted in the base, and resilient means engaging with the gears to hold them in position.

808,971. CHANGE-SPEED MECHANISM. WILLIAM BAYNES, Hull, and EDWARD C. GALEY, near Hull, England. Filed Mar. 14, 1905. Serial No. 249,127.

Claim.—1. The combination, with a driving-shaft provided with a crank, of a connecting-rod pivoted to the said crank at one end, a driven shaft, a wheel driving the said driven shaft in one direction, a flexible driving connection engaging with the said wheel and attached to the other end of the said connecting-rod, an adjustable guide for changing the normal angle between the said connecting-rod and driving connection, and means for keeping the said driving connection taut.

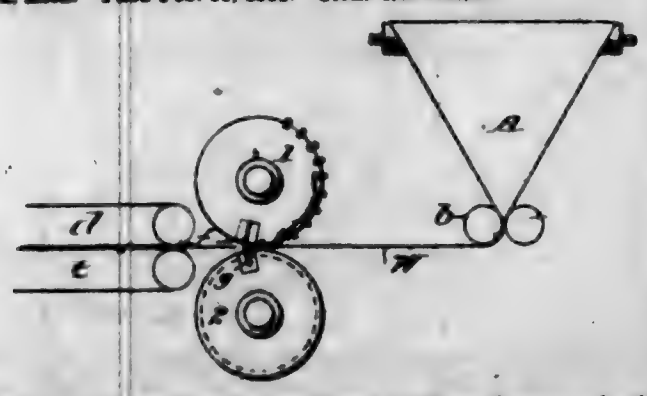
2. The combination, with a driving-shaft provided with a crank, of a connecting-rod pivoted to the said crank at one end, a driven

shaft, a wheel driving the said driven shaft in one direction, a flexible driving connection engaging with the said wheel and attached to the other end of the said connecting-rod, a guide for the said connecting-rod pivoted on the said driving-shaft, means for holding the said guide at various angles to vary the speed of the driven shaft, and means for keeping the said driving connection taut.



3. The combination, with a driving-shaft provided with two cranks, of connecting-rods pivoted at one end to the said cranks, a driven shaft, wheels driving the said driven shaft in one direction, flexible driving connections engaging with the said wheels and attached to the free ends of the said connecting-rods, means for guiding the free ends of the said connecting-rods and for changing the normal angles between the said connecting-rods and driving connections, and means for keeping the said driving connections taut.

808,972. WEB-FEEDING ROLLS. HENRY F. BECHHAM, Battle-creek, Mich., assignor to The Duplex Printing Press Company, Battle-creek, Mich. Filed Feb. 11, 1905. Serial No. 245,237.



Claim.—1. In combination, a pair of cutting-rolls, one of said rolls having a series of alined circumferentially-arranged yielding web biting or coaxing devices, adapted to hold the web closely in contact with the face of the opposed roll after the severance of the web, for the purpose and substantially as described.

2. In combination, a pair of cutting-rolls, a plurality of alined circumferentially-arranged series of yielding web-coaxing devices attached to one roll and adapted to project beyond the periphery thereof, and engage the web in the margins thereof and hold the same closely against the surface of the opposed roll, for the purpose and substantially as described.

3. In combination, a pair of combined web feeding and cutting cylinders, a series of yielding web-coaxers attached to one of said cylinders and adapted to engage the web and hold the same in contact with the opposed cylinder, for the purpose and substantially as described.

4. In combination, a pair of cutting-cylinders, with circumferentially-arranged series of alined coaxing devices attached to and projecting from the periphery of one cylinder and adapted to engage the marginal spaces of the web and press it against the other cylinder, substantially as described.

5. In combination, a pair of cutting-cylinders, one of said cylinders having circumferentially-arranged series of alined peripheral recesses; with radially-yielding coaxers secured in said recesses and normally projecting beyond the periphery of said cylinder.

6. In combination, a feeding-cylinder for web-handling machines, with the curved spring-fingers attached to said cylinder and having coaxing parts normally projecting beyond the periphery thereof.

7. In combination, a feeding-cylinder for web-handling machines, with a series of coaxing devices attached to said cylinder, and adjustable longitudinally thereof, said coaxers normally projecting beyond the periphery of the cylinders.

8. In combination, a web-feeding cylinder having circumferentially-arranged series of peripheral recesses; with coaxing devices secured in the recesses of said cylinder, and adjustable longitudinally thereof and normally projecting beyond the periphery thereof, for the purpose and substantially as described.

9. In combination, a web-feeding cylinder; with bent spring-fingers secured to said cylinder and having parts normally projecting beyond the periphery thereof, for the purpose and substantially as described.

10. A web-feeding cylinder having recesses in its periphery, in combination with spring coaxer-fingers secured at one end in said recesses and having their other ends normally projecting beyond the periphery of the cylinder, for the purpose and substantially as described.

808,973. INSULATOR. GEORGE M. BEEBE, Readsboro, Vt. Filed June 11, 1904. Serial No. 212,163.



Claim.—1. An insulator comprising two identical sections, each having a flat face formed with a central groove therein extending entirely across said face, and corresponding undercut ribs and grooves on the flat face of each section and parallel with the said central groove, the construction and arrangement of the parts being such that when the flat faces of the two sections are brought into contact and their corresponding ribs and grooves in interlocking engagement the said sections will be held together and against movement away from each other in a line at right angles to the longitudinal axis of the opening formed by the central grooves.

2. An insulator comprising similar substantially hemispherical sections, each having its flat face formed with a central groove therein, said sections being arranged with their flat faces in contact with the said grooves in registration to form an opening through the insulator, and corresponding undercut ribs and grooves on the flat face of each section extending entirely across the said face and parallel to the groove first mentioned, the undercut rib and groove on one section adapted to interlock with those on the face of the opposite section to lock said sections against movement away from each other in a line at right angles to the longitudinal axis of the opening formed by said central grooves.

3. An insulator comprising similar substantially hemispherical sections each having its flat face formed with a central transverse groove therein, said sections being arranged with their flat faces in contact, with the said grooves in registration to form an opening through the insulator, the sections combining to form a substantially spherical body, the flat face of each section being formed with

a dovetail groove and rib extending entirely across said face and parallel with the first-mentioned groove and arranged respectively on opposite sides of the latter, and adapted to interlock with the corresponding rib and groove on the opposite section to lock said sections against movement away from each other on a line at right angles to the longitudinal axis of the opening formed by said central grooves.

808,974. HOLDING ATTACHMENT. CHARLES BRADSHAW, Prattville, Cal. Filed Nov. 14, 1904. Serial No. 232,841.



Claim.—As a new article of manufacture, a holder for the described purpose, the same comprising a suitable base-plate, of an enlarged head portion thereto, and a reduced body portion, of a curved plate secured to the body portion of the base-plate for the greater portion of its length and forming a securing-pocket on the outer face thereof, said pocket receiving a hat-pin or impaling device for supporting a hat thereby.

808,975. EYEGLASS-HOLDER. HARRY BECK, New York, N. Y. Filed Aug. 15, 1905. Serial No. 274,881.



Claim.—1. An eyeglass-holder provided with a spring, a pair of nose-guards, and a bail pivoted to said guards, substantially as specified.

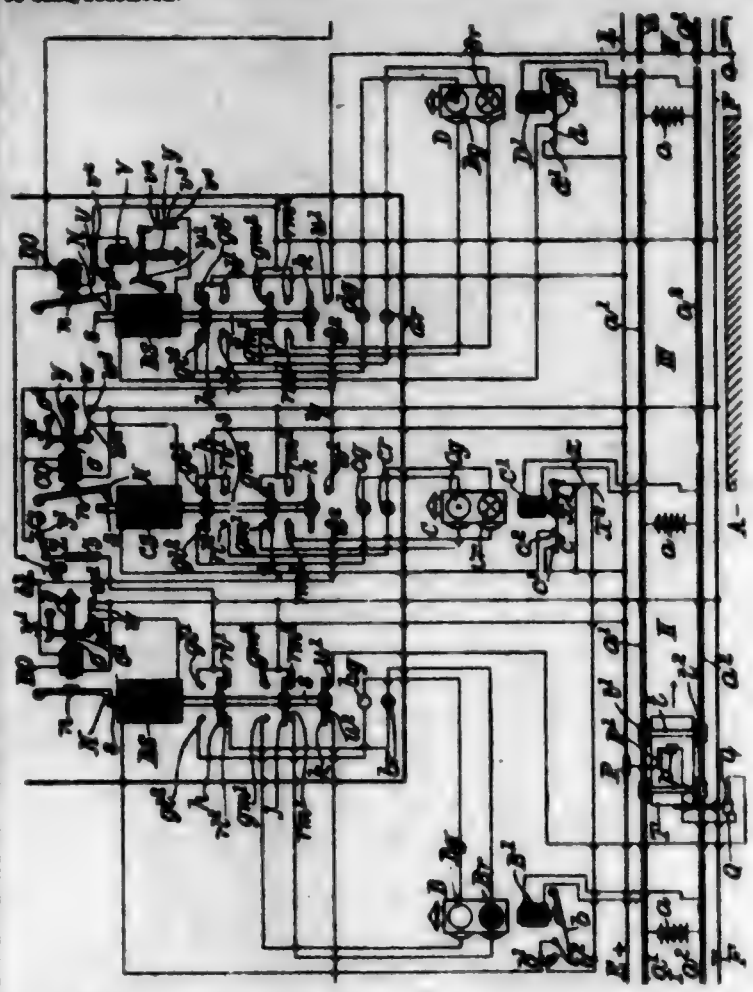
2. An eyeglass-holder provided with a spring, a pair of nose guards, and a bail pivoted thereto and composed of a bulged cross-piece and rearwardly-extending arms that are turned up at right angles to the cross-piece, substantially as specified.

3. An eyeglass-holder provided with a spring, a pair of studs, a pair of nose-guards, and a bail pivoted to said guards and having abutments that are adapted to engage the studs, substantially as specified.

808,976. AUTOMATIC ELECTRICAL SIGNALING APPARATUS FOR RAILWAYS. ALEXANDER H. BEWTON, London, England, assignor of one-half to Robert Percy Bowman, London, N. W. England. Filed Apr. 28, 1905. Serial No. 257,445.

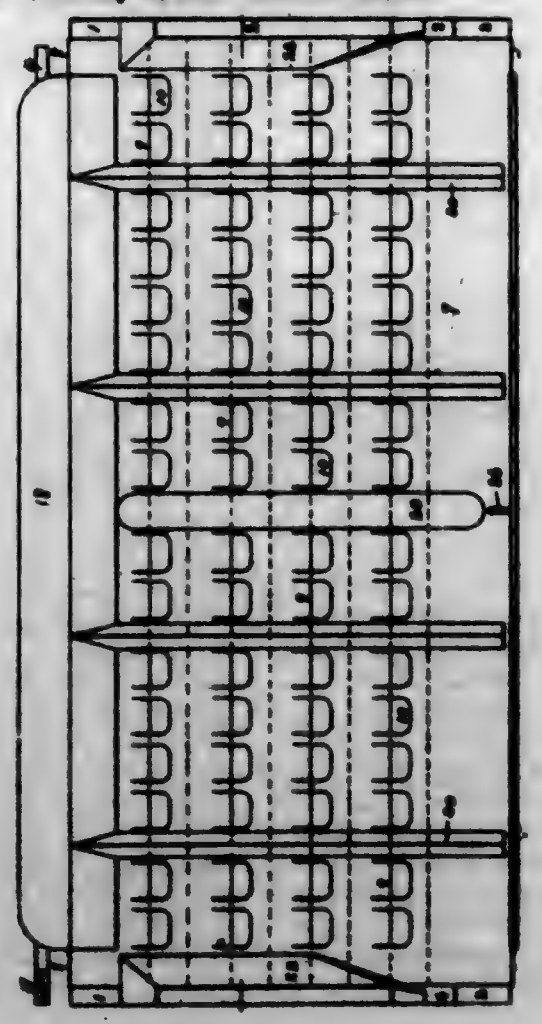
Claim.—1. In automatic electric signaling apparatus for railways worked on the sectional block system, the combination with solenoids severally serving, when energized, to hold switches in the position wherein they close the respective electrical circuits for conveying current whereby the signals appertaining to the corresponding block-sections of the railway are maintained at "line clear" and with means whereby, upon a train entering any block-section the circuit of the solenoid controlling the signal at the entrance of said section will be automatically broken so as to cause said signal to be put to "danger;" of mechanical stops appropriated to the several solenoids and each adapted to normally tend to prevent the solenoid-core from moving to the position wherein the corresponding signal is cleared; releasing-electromagnets severally adapted when energized to withdraw the respective stops from operative position; switches normally open, interposed in the circuits of the respective releasing-electromagnets and placed each in proximity to the railway-track at a point in advance of the entrance to the block-section following that section whose signal is controlled by the corresponding solenoid; and a device carried by the train at its rear end adapted to close the circuits of the several releasing electromagnets on passing the said respective switches, substantially as specified.

2. In automatic electric block-signaling apparatus for railways as specified, a releasing-electromagnet, and means substantially as herein described for causing the circuit of a signal-controlling solenoid to be automatically broken in the event of an excess current passing in the circuit of the releasing-electromagnet corresponding to said solenoid.



3. In automatic electric block-signaling apparatus for railways as specified, the combination of releasing-electromagnets, and a manually-operated contact-switch adapted to enable the circuits of the several releasing-electromagnets to be momentarily closed at will so as to permit the signals to be cleared only when the track-sections, to which appertain the signals controlled by the corresponding solenoids, are vacant, substantially as specified.

808,977. SEPARATOR-SIEVE. WILLIAM C. BLACK, Plymouth, Ohio. Filed May 19, 1905. Serial No. 261,155.

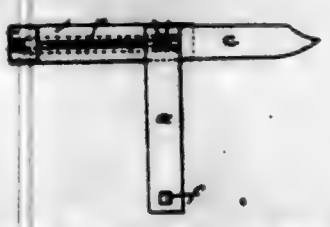


Claim.—1. A screen for separators comprising a frame, a sieve secured thereon, tongues struck from the surface of the sieve and bent downward, thus forming apertures, draw-bars positioned above said sieve, a series of slats located below said sieve adjacent said apertures and tongues, straps secured to said slats and passing through slots in the sieve engaging said draw-bars, and a movable crank-shaft with which said draw-bars are connected to permit an adjustment of the mesh of the sieve by the reciprocation of the slats.

2. A screen for separators comprising a suitably-supported plate, inclined tongues cut from said plate and projecting downward, slats mounted for movement below said plate, a draw-bar mounted for longitudinal movement above said plate, straps extending through slots in said plate to connect the draw-bar and slats, means for actuating said draw-bar, and a guard secured to said plate and extending over said draw-bar and the slots for the connecting-straps.

3. A screen for separators comprising a frame, a perforated plate having downwardly-projecting tongues stationarily mounted thereon, a series of imperforate slats slidable below the plate, the slats formed independent of each other, means connected with the slats for moving them to adjust the mesh of the screen, and guards to inclose the connecting means.

808,978. **KNIFE.** ED BLOEMERS, Seattle, Wash. Filed Nov. 14, 1904. Serial No. 232,713.



Claim.—In a knife, the combination with a stationary member, a movable member pivoted thereto, a metal plate or lining formed with a central slot and mounted between said members, the knife-blade provided with pins or pivots at its base portion, said pivots adapted to slide in the slot of the lining, and a spring-clip mounted on one end of the stationary member and adapted to engage the movable member to secure it in place.

808,979. **SEAL-TRAP FOR DRAIN-PIPES.** WILLIAM R. BOSWELL, Elizabeth, N. J., assignor of one-half to George H. Schlattaver, Elizabeth, N. J. Filed Jan. 10, 1905. Serial No. 240,471.

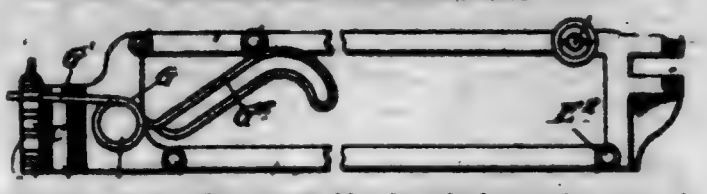


Claim.—1. A drain-pipe provided with a trap device, comprising a casing which is secured therein and provided with an inwardly-directed annular flange, and a hollow flexible and elastic seal having a top rim which rests on said flange and the side portions of which are contracted at the lower end thereof so as to close said end, and a perforated plate secured in the top of said casing and serving to close the same and to hold the rim of said seal on the flange in said casing, substantially as shown and described.

2. A trap or seal for drain-pipes, comprising a casing secured in said pipe and provided with an inwardly-directed annular flange, a hollow flexible and elastic seal having a top rim which rests on said flange and the side portions of which are contracted at the lower end thereof so as to close said end, and a perforated plate detachably secured in the top of said casing and serving to close the same and to hold the rim of said seal on the flange in said casing, substantially as shown and described.

3. A seal for drain-pipes, comprising a casing secured in said pipe and provided below the top thereof with an inwardly-directed annular flange, a hollow flexible and elastic seal having an annular top rim which rests on said flange and the lower end of which extends downwardly into said casing, the side portions thereof being also contracted at the lower end thereof so as to close said end, and a perforated plate detachably secured in the top of said casing and serving to close the same and the perimeter of which presses on the rim of the elastic seal so as to secure said seal in place, substantially as shown and described.

808,980. **TELEPHONE-HOLDER.** CHARLES H. ROGERS, Stamford, Conn. Filed Mar. 1, 1905. Serial No. 247,326.



Claim.—1. An adjustable holder for telephones, &c., comprising two bars and end pieces forming a parallel-ruler motion with a counterbalancing-spring means in combination with a cam to compensate for the varying tension of the spring in the varying positions of the holder

2. In a holder for telephones, &c., the combination of a supporting-base, two bars pivoted thereto, an outer piece on which the telephone may be mounted and to which said bars are pivoted, to form a parallel-ruler motion, spring means to counterbalance the weight of the parts and a cam to compensate for the varying tension of the spring in the varying positions of the holder.

3. In a holder for telephones, &c., the combination of a support and base swiveled thereto, two bars pivoted thereto, an outer piece on which the telephone may be mounted and to which said bars are pivoted, to form a parallel-ruler motion, spring means to counterbalance the weight of the parts and a cam to compensate for the varying tension of the spring in the varying positions of the holder

4. In a holder for telephones, &c., the combination of a swiveled base, two bars pivoted thereto, an outer piece on which the telephone may be mounted and to which said bars are pivoted, to form a parallel-ruler motion, spring means to counterbalance the weight of the parts, a cam to compensate for the varying tension of the spring in the varying positions of the holder, and a device to make a rolling contact with the cam.

5. In a holder for telephones, &c., the combination of a supporting-base, two bars pivoted thereto, an outer piece on which the telephone may be mounted and to which said bars are pivoted, to form a parallel-ruler motion, a spring to counterbalance the weight of the parts, a cam to compensate for the varying tension of the spring in the varying positions of the holder, and means to adjust the tension of the spring

6. In a holder for telephones, &c., the combination of a supporting-base, two bars pivoted thereto, an outer piece on which the telephone may be mounted and to which said bars are pivoted, to form a parallel-ruler motion, a spring to counterbalance the weight of the parts, a cam to compensate for the varying tension of the spring in the varying positions of the holder, and a device having notches, to any of which the spring may be connected to adjust its tension.

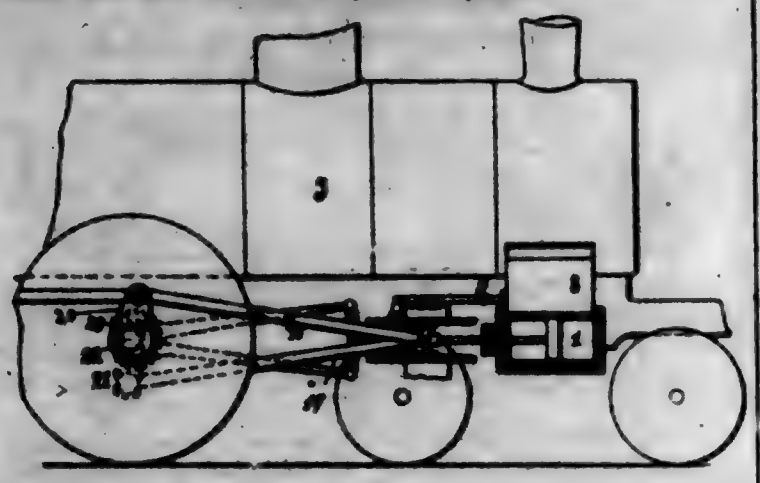
7. In a holder for telephones, &c., the combination of a supporting-base, two bars pivoted thereto, an outer piece on which the telephone may be mounted, and to which said bars are pivoted, to form a parallel-ruler motion, two coiled springs on opposite sides of the bars to counterbalance the weight of the parts, and a device with two sets of notches to which the respective springs may be connected to adjust their tensions.

8. In a holder for telephones, &c., the combination of a supporting-base, two bars pivoted thereto, an outer piece on which the telephone may be mounted and to which said bars are pivoted, to form a parallel-ruler motion, a coiled counterbalancing-spring connected at one end to one of said parts and formed with a cam at the other end and an antifriction-roller on a relatively movable part to run on said cam.

808,981. **COMPOUND LOCOMOTIVE.** FRIEDRICH W. A. VON BORRIES, Hanover, Germany, assignor of two-thirds to Thomas William Worsdell, Stonycroft Arundel, England, and Herbert Richard Lepage, Surbiton, England. Filed Feb. 2, 1897. Serial No. 621,891.

Claim.—1. In four-cylinder compound locomotives, the combination with a driving-shaft and a steam-generator, of one high-pressure and one low-pressure cylinder and reciprocating pistons in each of the cylinders and cranks on the driving-shaft including an angle differing somewhat from one hundred and eighty degrees, all

arranged on each side of the engine, and operating connections of the cranks with the pistons, each crank on either side of the engine being arranged at right angle relatively to the corresponding crank of the opposite side of the engine, a steam-distributing device between each high-pressure and the corresponding low-pressure cylinder, and means for producing a reciprocating movement of the steam-distributing device, steam-passages, and overlapping means on each steam-distributing device, the laps for each high-pressure cylinder being larger than those for each low-pressure cylinder.



3. In four-cylinder compound locomotives in combination, a high-pressure and a low-pressure cylinder of different diameters and pistons movable in said cylinders, connections of the high-pressure piston and of the low-pressure piston of either side of the engine with the engine-shaft and cranks connected to the high-pressure and to the low-pressure pistons and rigidly mounted on the engine-shaft, the crank of one of the pistons including an angle differing somewhat from one hundred and eighty degrees with the crank of the other piston of the same side of the engine, means to connect said crank with the pistons, a steam-chest intermediate between each high-pressure and the corresponding low-pressure cylinder, connecting-passages between the steam-chest and the high and low pressure cylinders, steam-escape passages in the low-pressure cylinder, a piston-valve in common for each high-pressure and the corresponding low-pressure cylinder and movable in the interior of the steam-chest, rings arranged steam-tight in the steam-chest and surrounding the said piston-valve, the middle ring having a larger outer surface than the other rings, a steam-entrance passage for live steam in the walls of the high-pressure cylinder, connecting-passages between the high-pressure cylinder and the lower end of the low-pressure cylinder and opening out a small distance from the steam-entrance opening, connecting-passages between the steam-chest and the low-pressure cylinder and opening out into an aperture practiced in the walls of the low-pressure cylinder and situated in the proximity of the upper and lower ends of the low-pressure cylinder, exhaust-openings near the ends of the steam-chest and means for imparting a reciprocating movement to the piston-valve and connecting-links between the piston-valve and the entrance-shaft.

808,982. THREAD-GUIDE. XAVER BOSHART, Paterson, N. J. Filed Mar. 28, 1905. Serial No. 252,645.



Claim.—1. The combination of a rod, a thread-guide member comprising the thread-guide proper and a mounting therefor slidable on said rod, and a spring movable with and inclosed in the mounting and engaging said rod, substantially as described.

2. The combination of a longitudinally-grooved rod, a thread-guide member comprising the thread-guide proper and a mounting therefor slidable longitudinally on said rod, and a spring movable with and inclosed in the mounting and engaging said rod in the groove thereof, substantially as described.

3. The combination of a longitudinally-grooved rod, a thread-guide member comprising the thread-guide proper and a mounting therefor slidable longitudinally on said rod, and a spring inclosed in and movable with said mounting and engageable with said rod in the groove thereof, substantially as described.

4. The combination of a rod, a thread-guide member comprising the thread-guide proper and a mounting therefor slidable longitudinally on said rod, and a curved spring interlocked with said mounting and inclosed therein and having its ends engaging in said groove, substantially as described.

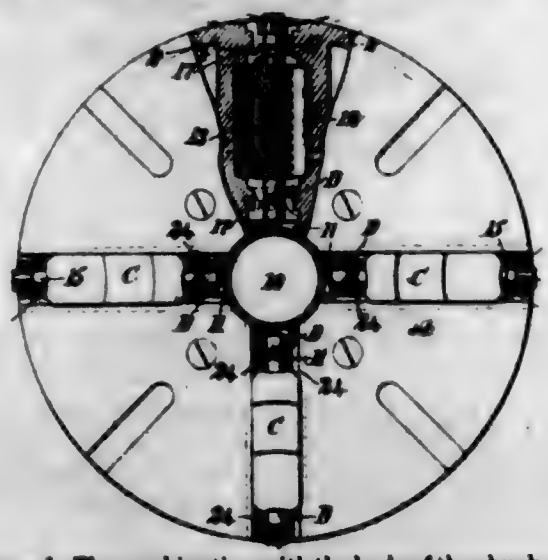
808,983. AUXILIARY CARTRIDGE-HOLDER. JAMES T. BRAYTON, Chicago, Ill. Filed Apr. 15, 1905. Serial No. 255,719.



Claim.—1. An auxiliary cartridge-holder comprising a main outer shell having a flange at its rear end and two or more separate longitudinal slots forming opposite and independent spring-clamps the ends of which are formed with clasps to embrace the light-charge cartridge-shell in front of its flange, a recoil or breech block held in said main shell and a longitudinally-movable firing-pin held in said recoil or breech block, substantially as described.

2. A firing-pin formed with a hardened-steel point the opposite end thereof having a core of comparatively soft material surrounded by a casing of harder material, substantially as described.

808,984. LATHE-CHUCK. WILLIAM C. BRIDGE, Elizabeth, N. J. Filed Feb. 23, 1905. Serial No. 246,874.



Claim.—1. The combination with the body of the chuck, of metal bearings removably secured in slots in the front face of the body of the chuck, adjusting-screws having trunnions adapted to be received by said bearings, and jaws removably held in engagement with the screws, whereby the screws and bearings can be readily removed from the front face of the chuck when the jaws are removed, for the purpose set forth.

2. In a chuck, a body having slots in its front face, and provided with recesses in the side walls of the slots, bearings removably fitted in the ends of the slots, adjusting-screws having trunnions received by said bearings, jaws for engagement with the adjusting-screws, and removable hard-metal slideways fitted in the recesses in the side walls of the slots, upon which slideways said jaws have movement, the removable slideways also serving to hold the jaws in engagement with the screws.

3. The combination with the body of a chuck provided in its front face with slots having enlarged central portions, and the adjusting-screws provided with trunnions, the outer trunnions having polygonal heads, of removable semicircular hard-metal bearings for the trunnions of the adjusting-screws, the said bearings being fitted in the inner and outer portions of the slots in the face of the chuck-body, the bearings for the outer trunnions being each provided with an interior recess at its outer end to accommodate the head of the trunnion of a screw.

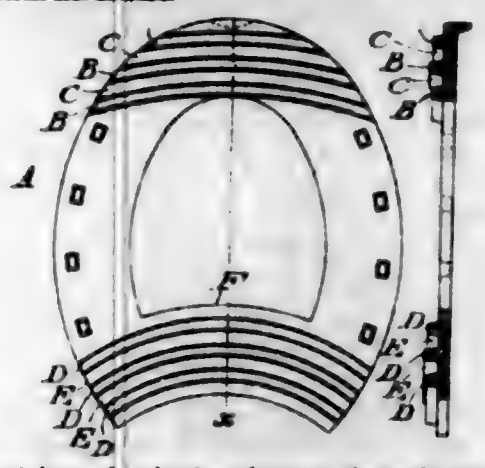
4. The combination with the body of a chuck having slots in its front face, and its adjusting-screws having inner and outer trunnions, of semicircular hard-metal bearings for the said trunnions fitted in the inner and outer portions of said slots, the bearings for the trunnions being provided with exterior grooves and the body of the chuck with semicircular ribs which enter the said grooves when the bearings are in position in the body, the said bearings for the outer trunnions being each further provided with an interior annular recess at its outer end to receive the head of a trunnion, and jaws removably held in engagement with the adjusting-screws and having sliding movement in the slots in the chuck-body.

5. A chuck-body having its front face provided with slots, bearings removably secured in the inner and outer ends of the slots and open at the front face of the body of the chuck, removable jaws adapted to slide in said slots, and adjusting-screws for the jaws ar-

ranged in said slots and having trunnions adapted to enter the open sides of the bearings and turn therein, whereby when the jaws are removed the screws and bearings can be readily removed from the front face of the body of the chuck.

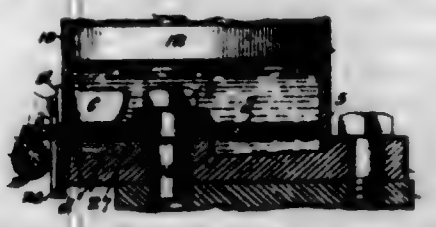
6. The combination with the body of a chuck provided with radial slots in its front face having enlarged central portions, removable bearings fitted in the inner and outer end portions of the slots, adjusting-screws having threaded portions adapted to be received in the enlarged portions of the slots, the screws being provided with trunnions fitting in the said bearings, jaws having sliding movement in said slots and provided with threaded surfaces for engagement with the adjusting-screws, and removable slideways for the jaws fitted in recesses in the side walls of the slots and holding the jaws in place.

803,985. HORSESHOE. CHARLES A. CAMPBELL, Philadelphia, Pa., assignor of one-half to James Keegan, Philadelphia, Pa. Filed July 7, 1905. Serial No. 164,626.



Claim.—A horseshoe having cleats on the under side, in front, forming pockets, open below and extending transversely continuously across the toe and adjacent portions of the side bars, and at the heel having a web and cleats forming pockets, open below, the same extending transversely continuously across said web and adjacent portions of said side bars.

803,986. PASTING APPARATUS FOR CIGARETTE-MACHINES. DANIEL J. CAMPBELL, New York, N. Y., assignor to The American Tobacco Company, Newark, N. J., a Corporation of New Jersey. Filed Sept. 7, 1897. Serial No. 650,734.



Claim.—1. The combination of a paste-reservoir, a paste-applying wheel rotating therein and projecting through an opening in the side thereof and having its axis located within the reservoir, means for feeding material to be pasted past the edge of the paste-applying wheel to receive paste therefrom, and doctors mounted to coact with the edge and side of the wheel as it emerges from the opening for controlling the amount of paste thereon, substantially as described.

2. The combination of a paste-reservoir, a paste-applying wheel rotating therein and projecting through an opening in the side thereof and having its axis located within the reservoir, means for feeding material to be pasted past the edge of the paste-applying wheel to receive paste therefrom, and doctors mounted to coact with the edge and sides of the wheel as it emerges from the opening for controlling the amount of paste thereon, substantially as described.

3. The combination of a paste-reservoir, a horizontally-arranged paste-applying wheel rotating in the reservoir and projecting through an opening in the side thereof and having its axis located within the reservoir, means for feeding material to be pasted past the edge of the paste-applying wheel to receive paste therefrom, and doctors mounted to coact with the edge and side of the wheel as it emerges from the opening for controlling the amount of paste thereon, substantially as described.

4. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, means for feeding material to be pasted past the edge of the wheel, means inside the reservoir for backing up the paste upon the wheel as it nears the opening, and suitable doctors engaging the wheel as it emerges from the opening, substantially as described.

5. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, means for feeding material to be pasted past the edge of the wheel, means inside the reservoir for backing up the paste upon opposite sides of the wheel as it nears the opening, and suitable doctors engaging the wheel as it emerges from the opening, substantially as described.

6. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, means for feeding material to be pasted past the edge of the wheel, means inside the reservoir for backing up the paste upon opposite sides of the wheel as it nears the opening, and doctors engaging the edge and sides of the wheel as it emerges from the opening, substantially as described.

7. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, means for feeding material to be pasted past the edge of the wheel, and a doctor inside the reservoir coacting with the side of the wheel and backing up the paste as it nears the opening, substantially as described.

8. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, means for feeding material to be pasted past the edge of the wheel, means inside the reservoir for backing up the paste upon the wheel as it nears the opening and a vertically-moving piston adapted to rest upon the body of paste and press it downwardly in the reservoir, substantially as described.

9. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, means for feeding material to be pasted past the edge of the wheel, a doctor inside the reservoir coacting with the upper side of the wheel and backing up the paste as it nears the opening, and a vertically-moving piston adapted to rest upon the body of paste and press it downwardly in the reservoir, substantially as described.

10. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, means for feeding material to be pasted past the edge of the wheel, means inside the reservoir for backing up the paste upon opposite sides of the wheel as it nears the opening, and a vertically-moving plunger adapted to rest upon the body of paste and press it downwardly in the reservoir, substantially as described.

11. The combination of a paste-reservoir, a paste-applying wheel rotating therein and projecting through an opening in the side thereof and having its axis located within the reservoir, means for feeding material to be pasted past the edge of the paste-applying wheel to receive paste therefrom, doctors mounted to coact with the edge and sides of the wheel as it emerges from the opening for controlling the amount of paste thereon, and a vertically-moving piston adapted to rest upon the body of paste and press it downwardly in the reservoir, substantially as described.

12. The combination of a paste-reservoir, a paste-wheel having a roughened pasting edge and rotating in the reservoir and projecting through an opening in the side thereof, means inside the reservoir for backing up the paste upon the wheel as it nears the opening, and a doctor engaging the edge of the wheel as it emerges from the opening, substantially as described.

13. The combination of a paste-reservoir, a paste-wheel having a transversely-grooved pasting edge and rotating in the reservoir and projecting through an opening in the side thereof, means inside the reservoir for backing up the paste upon the wheel as it nears the opening, and doctors engaging the edge and sides of the wheel as it emerges from the opening, substantially as described.

14. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, and a doctor above the wheel within the paste-reservoir extending inwardly from the wall of the reservoir near the opening, and acting on the side of the wheel substantially as described.

15. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, and a plate above the wheel within the paste-reservoir extending inwardly from the wall of the reservoir near the opening and having its lower edge inclined in the direction of movement of the wheel, substantially as described.

16. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, a doctor above the wheel within the paste-reservoir and a paste-guide below the wheel extending inwardly from the wall of the reservoir near the opening, substantially as described.

17. The combination of a paste-reservoir, a paste-wheel rotating therein and projecting through an opening in the side thereof, a plate above the wheel within the paste-reservoir extending inwardly in substantially a radial direction from the wall of the reservoir near the opening, and a paste-guide below the wheel extending inwardly from near the opening, substantially as described.

18. The combination of paste-reservoir 10, paste-wheel 11 and plate *c*, within the reservoir and acting on the side of the wheel substantially as described.

19. The combination of paste-reservoir 10, paste-wheel 11, plate *c*, within the reservoir and acting on the side of the wheel and a doctor for the edge of the wheel, substantially as described.

20. The combination of paste-reservoir 10, paste-wheel 11, plate *c*, within the reservoir and actig on the side of the wheel and doctors for the edge and sides of the wheel, substantially as described.

21. The combination of reservoir 10, paste-wheel 11, plate *c* within the reservoir and acting on the side of the wheel and a backing-up device *d*, substantially as described.

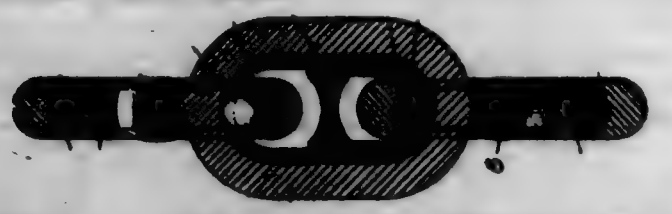
22. The combination of reservoir 10, paste-wheel 11, and independently-adjustable plates *c* and 26 located above and below the wheel and coacting therewith, substantially as described.

23. The combination of reservoir 10, paste-wheel 11, plates *c* and 26, located above and below the wheel and coacting therewith, paste *c* located in the reservoir above the wheel and a backing-up device *d* located within the reservoir and beneath the wheel, substantially as described.

24. The combination of reservoir 10, paste-wheel 11, plate *c*, within the reservoir and acting on the side of the wheel. a backing-up device *d* and piston 12, substantially as described.

25. The combination of reservoir 10, paste-wheel 11, plates *c* and 26, located above and below the wheel and coacting therewith, plate *c* and backing-up device *d* located within the reservoir and co-operating with the wheel and piston 12, substantially as described.

803,987. CHAIN. ROBERT A. CARTER, Pittsburg, Pa. Filed Dec. 8, 1904. Serial No. 236,497.



Claim.—1. In a chain the combination of links having grooved inner walls and U-shaped filling-pieces arranged in the groove at the ends of the links, substantially as set forth.

2. In a chain the combination of links having grooved inner walls, U-shaped filling-pieces arranged in the groove at the ends of the link and a stay or strut for locking the filling-pieces in position, substantially as set forth.

3. In a chain the combination of links having grooved inner walls, a U-shaped filling-piece arranged in the groove at the end of the link and a removable stay or strut, substantially as set forth.

4. A link for chains provided at their ends with internal concave seats and removable U-shaped filling-pieces arranged in said seats, substantially as set forth.

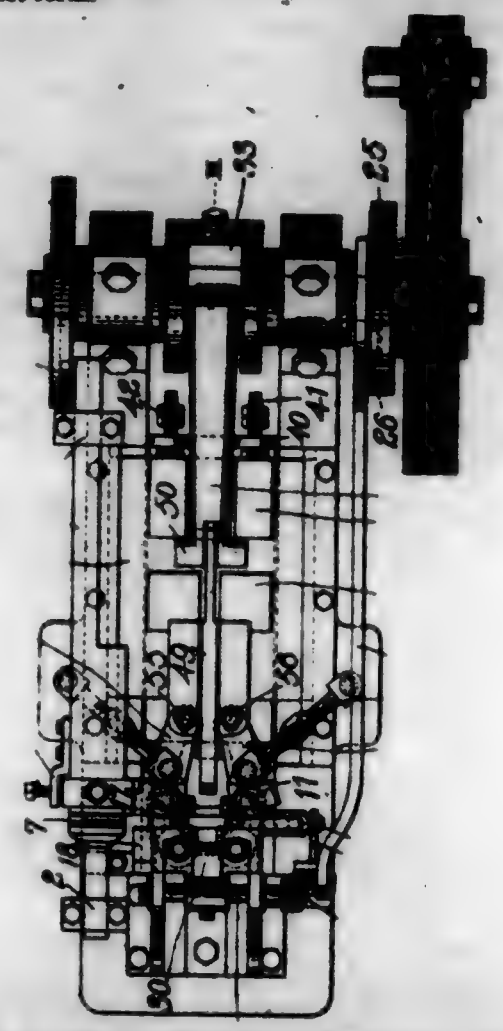
803,988. BENDING-MACHINE. ROBERT A. CARTER, Pittsburg, Pa. Filed Dec. 12, 1904. Serial No. 236,804.

Claim.—1. In a bending-machine the combination of stationary formers, bending-rollers movable around the formers, guides for the blank arranged above the plane of movement of the rollers, and means for shifting one of said guides to bring the blank into position between the rollers and formers, substantially as set forth.

2. In a bending-machine, the combination of stationary formers, bending-rollers movable around the formers, guides having a yielding member and arranged above the plane of movement of the rollers, and means for reciprocating said guide, substantially as set forth.

3. In a bending-machine, the combination of a slide, a thrust-rod for shifting the slide, and movable independent thereof a hook connected to the thrust-rod, a bearing-head carried by the slide, bending-wings and means operative on the movement of the slide for shifting the wings, substantially as set forth.

4. In a bending-machine the combination of a slide, a thrust-rod adapted to shift the slide and movable independent thereof, a hook movably connected to the thrust-rod, a blank-bearing head carried by the slide, wings pivotally connected to the slide and links connecting the wings to stationary portions of the machine, substantially as set forth.



5. In a bending-machine, the combination of a slide, a thrust-rod for shifting the slide movable independent thereof, a hook pivotally connected to the thrust-rod, a bearing-head on the slide, bending-wings and means for forcing said wings toward each other during the movement of the slide, substantially as set forth.

6. In a bending-machine, the combination of a slide, wings pivotally mounted on the slide, links connecting the wings to stationary portions of the machine, a reciprocating hook for engaging the blank, and operative through the blank to force the slide backward to close the wings, substantially as set forth.

7. In a bending-machine, the combination of stationary formers, bending-rollers movable around the formers, guides for the blank normally above the plane of movement of the rollers, means for shifting the guides to bring the blank into operative position between the rollers and formers and a stop movable with the guides, substantially as set forth.

8. In a bending-machine, the combination of stationary formers, bending-rollers movable around the formers, guides for the blank, normally above the plane of movement of the rollers, means for shifting the guides to bring the blank into operative position between the rollers and formers, a stop having a blank-guiding surface movable with the guides, and means for removing the stop out of engagement with the blank, substantially as set forth.

9. In a bending-machine, the combination of stationary formers, bending-rollers, movable around the formers, guides for the blank normally above the plane of movement of the rollers, means for shifting the guides to bring the blank into operative position between the rollers and formers, a pivotally-mounted stop movable with the guides and means for swinging the stop during its movement with the guides, substantially as set forth.

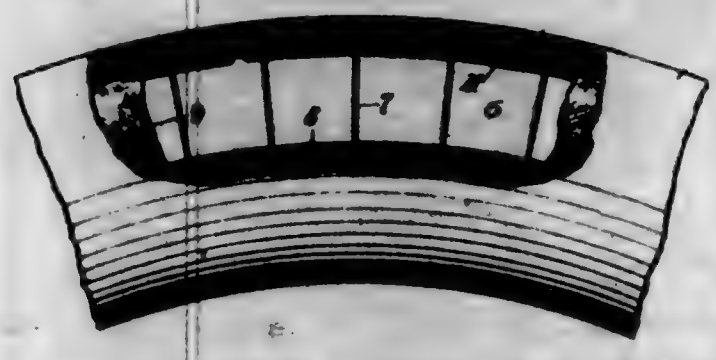
10. In a bending-machine the combination of stationary forming-surfaces, a reciprocating slide, a plate movably mounted on and operative by the slide, bending-rollers operative by the plate and a spring for shifting the plate independent of the slide, substantially as set forth.

11. In a bending-machine, the combination of stationary forming-surfaces, a slide, a thrust-rod for shifting the slide and movable independent thereof, a plate movable on and operative by the slide, bending-rollers operative by the plate, a spring for shifting the plate independent of the slide, bending-wings, means operative by the slide for shifting said wings, a hook connected to the thrust-rod and a head carried by the slide, substantially as set forth.

12. In a bending-machine, the combination of stationary form-

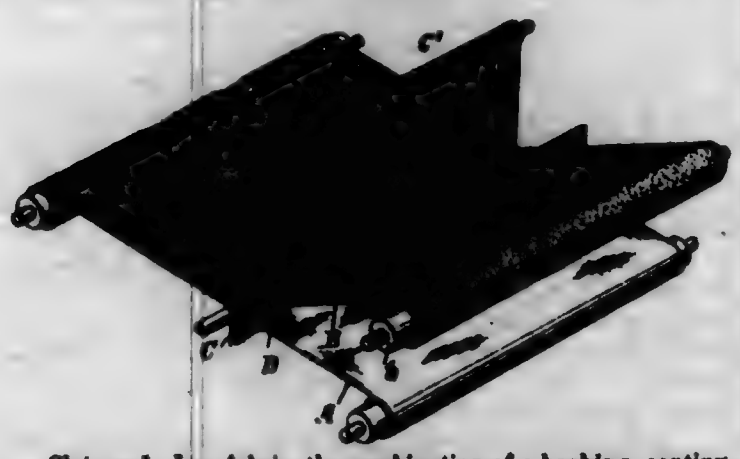
ers, a slide, a thrust-rod for shifting the slide and movable independent thereof, a plate movable on and operative by the slide, bending-rollers operative by the plate, a spring for shifting the plate independent of the slide, bending-wings, means operative by the slide for shifting said wings, and a hook connected to the thrust-rod, substantially as set forth.

803,989. ARMORED TIRE. CLARENCE W. CATHCART, Franklin Parks, Pa. Filed Jan. 25, 1905. Serial No. 242,591.



Claim.—A pneumatic tire consisting of a tubular rubber body and an armor-strip embedded therein, said armor-strip having a substantially flat band with laterally-projecting curved wings conforming to the curvature of the side walls of said body, and a sheath enveloping said strip, the outer portion of said sheath being disposed at a distance from the outer face of said band whereby a space is formed therebetween, and a packing of a fibrous material in said space.

803,990. PILE FABRIC. EDWARD CATTLOW, Philadelphia, Pa. Filed Feb. 24, 1905. Serial No. 246,277.



Claim.—1. In a fabric, the combination of a backing, continuous chenille threads attached to said backing parallel to the length of the backing, said chenille threads forming the design for a rug, a shirr formed in said chenille threads to separate the different rugs substantially as described.

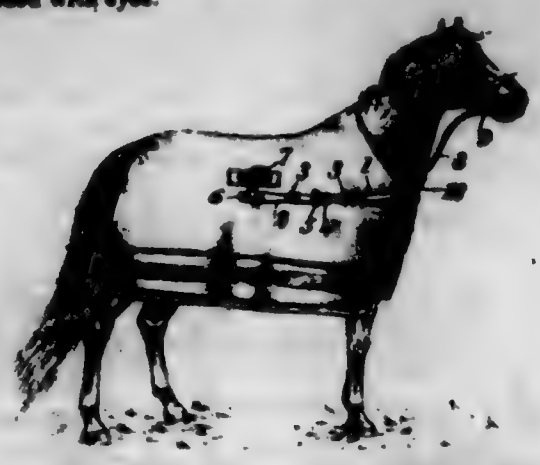
2. In a fabric, the combination of a backing, continuous chenille threads attached to said backing parallel to the length of the backing, said chenille threads forming designs for different rugs, and a shirr formed in said chenille threads to separate the different rugs substantially as described.

3. In a fabric, the combination of a backing, chenille threads attached to said backing parallel with the length of the same, said chenille threads forming the design for a rug, a shirr formed at the ends of the design in said chenille threads, chenille threads forming a design for a border, said border being attached to the body of the rug by sewing the backing of the body and border together substantially as described.

4. In a fabric, the combination of a backing, chenille threads attached to said backing parallel with the length of the same, said chenille threads forming the design for the body of the rug, chenille threads attached to a backing forming a different design for a border of a rug, and a shirr formed at the ends of the chenille threads of the body and border, and the same attached by tying substantially as described.

803,991. BLANKET-PROTECTING DEVICE. THOMAS T. CHALLMAN and CORNELIUS H. CHRISTMAS, New York, N. Y. Filed Jan. 6, 1905. Serial No. 239,898.

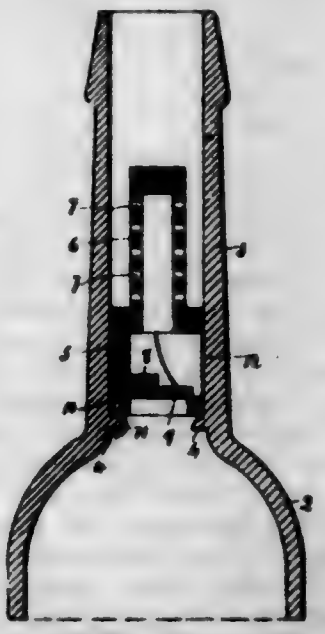
Claim.—1. A device for the purpose specified comprising telescopic adjustable side members adapted to pass along the sides of a horse and around the chest, means for holding the side members as adjusted, a forward projection having adjustable connection with the side members, and divergent portions on said forward projection and provided with eyes.



2. A device for the purpose specified, comprising telescopic side members adapted to pass along the sides of a horse and around the chest, set-screws for holding the side members as adjusted, a forward projection having adjustable connection with the side members, and divergent portions on said forward projection, the said divergent portions being provided with eyes.

3. A device for the purpose specified, comprising side members, each side member consisting of two sections having sliding connection, set-screws for holding the members as adjusted, and a forward projection provided with divergent portions and having a vertically-adjustable connection with the side members.

803,992. NON-REFILLABLE BOTTLE. THOMAS G. CLIFFORD, Hoboken, N. J., assignor of one-third to Garrett F. Ross, New York, N. Y., and one-third to William Cranstoun, Summit, N. J. Filed Feb. 10, 1905. Serial No. 245,603.



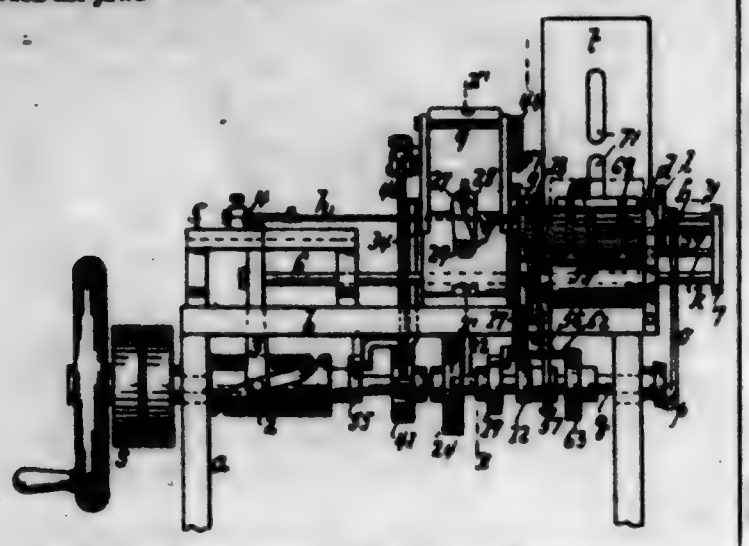
Claim.—1. A non-refillable bottle comprising a body and a neck, a shell open at the bottom located in said neck and attached thereto, a hollow stem arising from said shell-opening at the bottom into said shell and closed at its upper end, said stem formed with openings in its sides, and a valve secured at the lower end of said shell to close the opening in the bottom thereof, substantially as described.

2. A non-refillable bottle comprising a body and a neck, a shell rigidly secured in said neck and formed with an opening at the bottom, a hollow stem above said shell with which it is connected at its lower end, said stem closed at its upper end and formed with perforations in its sides, a lug in said shell, and a valve connected with the under face of said lug and adapted to close the opening in the bottom of the shell, substantially as described.

3. A non-refillable bottle comprising a body and a neck, said neck formed with an internal rib, a shell open at the bottom and secured in said neck above said rib, a stem above said shell and opening thereinto, said stem closed at its upper end and formed with openings in its sides, a valve in said shell adapted to close the opening in the bottom thereof, and a wire hook engaging with the lower end of the said shell and with said rib, substantially as described.

803,993. CIGARETTE-MACHINE. EDWIN COSTER, New York, N. Y. Filed Sept. 16, 1904. Serial No. 224,877.

Claim.—1. In a cigarette-machine, a tobacco-chamber with a fixed and a movable jaw, a cutter and scraper arranged opposite one another and made to move with the movable jaw, and a pusher for clearing the jaws, said cutter being made to sever the amount of tobacco required by the jaws to be bunched for a filler, and said scraper being made to scrape cuttings or material into the space between the jaws.



2. In a cigarette-machine, a tobacco-chamber with a fixed and a movable jaw adapted to bunch a filler therebetween, a cutter and scraper arranged opposite one another and made to reciprocate over the fixed jaw so that the cutter will sever tobacco extending above the jaws and the scraper will push or move cuttings to the space between the jaws, and a pusher made to reciprocate between the jaws to clear the space therebetween.

3. In a cigarette-machine, a tobacco-chamber with a fixed and a movable jaw for bunching a filler therebetween, a cutter fixed to the top of the movable jaw and made to pass over the edge of the fixed jaw to cut the material for the filler, a scraper on the fixed jaw opposite the cutter and made to move therewith to clean the top of said fixed jaw, and a pusher to eject the filler from the jaws.

4. In a cigarette-machine, a tobacco-chamber having a fixed and a movable jaw for compressing a filler, a cutter for severing the amount of tobacco required to form a filler and moving with the movable jaw, a cam or actuator having connections for operating the cutter and movable jaw, a connecting-rod extended underneath the jaws, and a scraper secured to the rod and made to clear the exposed upper portion of the fixed jaw from cuttings or remnants.

5. In a cigarette-machine, a tobacco-chamber having a fixed and a movable jaw with filler-receiving grooves, a cutter for severing the tobacco required by the jaws in forming a filler and adapted to shear or move over the fixed jaw, a scraper adapted to move over the fixed jaw, and a connecting-rod with operating means for the cutter and scraper, said rod being extended underneath the jaws, the scraper being adjustably connected to the rod.

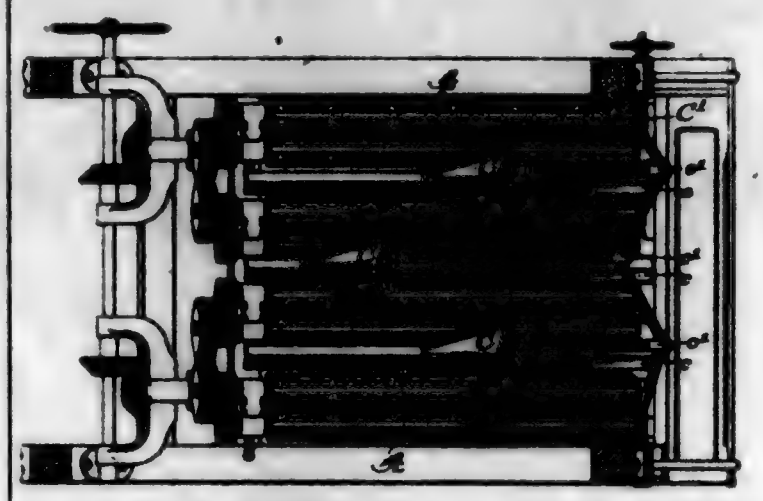
6. A cigarette-machine comprising a chamber, a filler-pusher extended across the bottom of the chamber to operate on the filler supported on said bottom, a wrapper-pusher for moving a wrapper toward the filler-pusher, a gage, a trimmer, a conveying-roller having a groove or grooves intermediate its ends for enabling a cigarette to be ejected from the roller, and an ejector extended into the groove, said gage being made to suitably position the cigarette on the conveying-roller for trimming.

7. A cigarette-machine comprising a tobacco-chamber, a wrapper-carrying roller alongside the chamber, a wrapper-pusher for holding a wrapper on the roller to the chamber for filling, a filler-pusher for ejecting tobacco from the chamber into the wrapper held as described, an ejector-lever mounted independently of the wrapper-pusher and having an arm extended between the tobacco-chamber and the roller, and a cam made to engage another arm of the lever to move the same when a filler has been ejected from the chamber and pushed to the wrapper so as to remove said filler and wrapper in case the same should be jammed in the space between the chamber and roller.

8. In a cigarette-machine, a wrapper-carrier, a bracket, a rod on which the bracket is mounted, a cam-roller for reciprocating the rod and bracket, a wrapper-pusher on the bracket, a gage and a cleaning-brush likewise mounted on said bracket, and means for trimming the cigarettes, said gage being made to uniformly set or adjust the cigarettes on the carrier relatively to the trimmer so as to be uniformly trimmed or finished.

9. In a cigarette-machine, a wrapper-conveyer, a cleaner or brush for the conveyer, a wrapper-pusher, a filler-pusher for moving a wrapper into position to be filled, filler-forming devices, and a cam-roller for actuating the cleaner and pushers.

808,994. **ALINING BAR-FORWARDER FOR CORN-HUSKERS.** CHARLES B. CURTISS, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Feb. 1, 1905. Serial No. 243,656.



Claim.—1. In a corn-husker, the combination of two or more pairs of husking-rolls, a guide intermediate said pairs and parallel therewith, an ear-forwarder mounted above said guide and adapted to slide longitudinally thereon, and operative means connected with said ear-forwarder.

2. In a corn-husker, the combination of two or more pairs of husking-rolls, a guide intermediate said pairs and parallel therewith, an ear-forwarder mounted above said guide and adapted to slide longitudinally thereon, said ear-forwarder having a deflector for alining the ears with said rolls, and operative means connected with said ear-forwarder.

3. In a corn-husker, the combination of two or more pairs of husking-rolls, a guide intermediate said pairs and parallel therewith, an ear-forwarder mounted above said guide and adapted to slide longitudinally thereon, said ear-forwarder having laterally-extending wings for alining the ears, and operative means connected with said ear-forwarder.

4. In a corn-husker, the combination of one or more pairs of husking-rolls, a guide intermediate said pairs and parallel therewith, a deflector mounted to slide longitudinally thereon, said deflector having its operative surface inclined outward and rearward toward the delivery end of said rolls, and operative means connected with said deflector.

5. In a corn-husker, the combination of a plurality of pairs of husking-rolls and a reciprocating member of substantially pyramidal form located intermediate of adjacent pairs, one or more faces of which member are inclined outward and rearward toward the delivery end of said rolls.

6. In a corn-husker, the combination of a plurality of pairs of husking-rolls and a plurality of reciprocating ear-forwarders located intermediate of adjacent pairs and having the central forwarder operative in advance of the others toward the receiving end of said rolls.

7. In a corn-husker, the combination of a plurality of pairs of husking-rolls and a plurality of reciprocating ear-forwarders located intermediate of adjacent pairs, said ear-forwarders having laterally-extending wings for alining the ears, and having the central forwarder operative in advance of the others toward the receiving end of said rolls.

8. In a corn-husker, the combination of a plurality of pairs of husking-rolls, a guide between each of the adjacent pairs and an alining ear-forwarder of substantially pyramidal form slidably mounted upon said guide with its widest portion extending over the adjacent rolls.

9. In a corn-husker, the combination of a plurality of pairs of husking-rolls and a plurality of reciprocating members of substantially pyramidal form located intermediate of adjacent pairs, and having the central member operative in advance of the others toward the receiving end of said rolls.

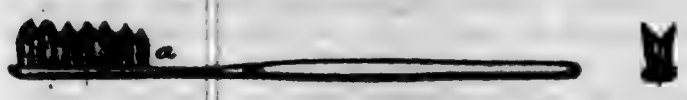
10. In a corn-husker, the combination of two or more pairs of husking-rolls, a guide intermediate said pairs and parallel therewith, an ear-forwarder mounted above said guide and adapted to slide thereon, a crank-shaft mounted in rear of said ear-forwarder and a pitman connection therebetween.

11. In a corn-husker, the combination of a plurality of pairs of

husking-rolls, a plurality of guides intermediate said pairs of rolls, ear-forwarders slidably mounted on said guides, a multiple crank-shaft mounted in rear of said forwarders and pitmen connecting said forwarders with said multiple crank-shaft.

13. In a corn-husker, the combination of a plurality of pairs of husking-rolls, a plurality of guides intermediate said pairs of rolls, ear-forwarders slidably mounted on said guides, a multiple crank-shaft mounted in rear of said forwarders, pitmen connecting said forwarders with said multiple crank-shaft, the central pitman having a greater length than the others.

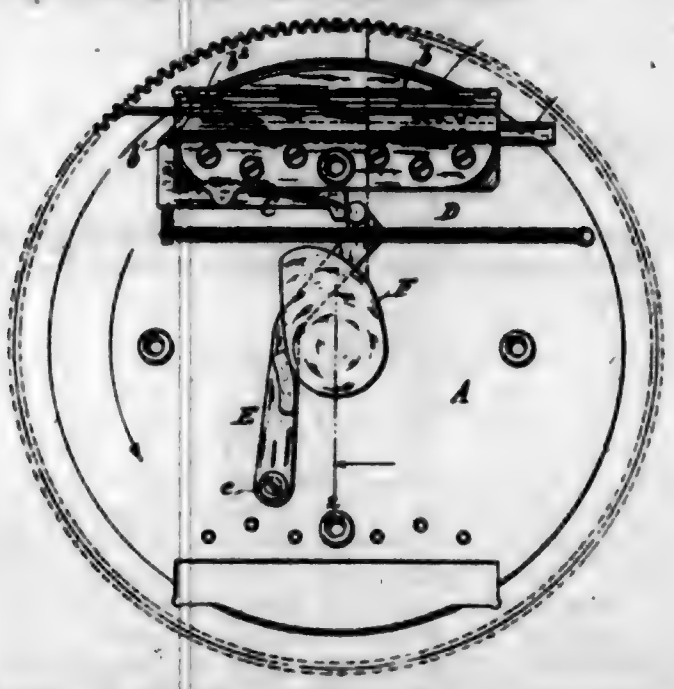
803,995. TOOTH-BRUSH. WILLIAM S. DAVENPORT, Paris, France. Filed June 10, 1903. Serial No. 160,891.



Claim.—1. A tooth-brush comprising a handle and a head carrying bristles which form a central longitudinal valley through the major portion of its length which valley is terminated at the end thereof by a tuft of projecting bristles substantially as shown and described.

2. A tooth-brush with a head carrying bristles formed to provide a central depression or longitudinal valley therein; a series of outer conical tufts along each side of the valley and a terminal tuft at the end closing said valley substantially as shown and described.

803,996. LINOTYPE-MACHINE. PHILIP T. DODGE, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Mar. 6, 1905. Serial No. 248,706.



Claim.—1. In a linotype-machine, an ejector, and a slotted mold including a permanent attached sliding liner to determine the length of the mold slot or cell, in combination with means for automatically retracting the liner endwise and returning it to its original position, between the successive casting operations.

2. In a linotype-machine, the combination of an ejector and a slotted mold having a longitudinally-sliding liner mounted permanently therein to vary the length of the mold slot or cell, means for automatically retracting the liner endwise beyond the casting position and returning it thereto, between each casting operation and the next, and adjustable means for controlling the advance of the liner.

3. In a linotype-machine, a rotating wheel or carrier, a mold fixed therein and provided with a sliding member to determine the length of the slot or cell, a stationary operating device, and intermediate connections through which said device controls the adjustment of the mold.

4. In a linotype-machine, a slotted mold, including a permanently-attached movable member to vary the length of the slot, automatic mechanism acting to move said member, and independent adjustable means to limit the inward movement of the member and thereby determine the length of the slot.

5. In a linotype-machine, a mold adjustable as to the length of its slot, a spring tending to close said mold and shorten the slot, means for automatically opening the mold to elongate the slot after each casting action, and an adjustable stop device to limit the closing of the mold.

6. The combination of a mold variable in length, a rotating carrier therefor, a spring tending to shorten the mold, a lever acting to open the same, and a stationary cam for actuating the lever.

7. In a linotype-machine, the combination of a slotted mold having a permanent member movable endwise to elongate the slot, means independent of the matrix-clamping jaws for automatically opening the mold to its maximum length after each casting action and thereafter closing it to the casting length, and an ejector of maximum width arranged to cooperate with the extended mold.

803,997. COMPUTING DEVICE FOR CHEESE-CUTTERS. HENRY F. DUNN, Elwood, Ind., assignor to Dunn Manufacturing Company, Anderson, Ind., a Corporation of Indiana. Filed Apr. 27, 1904.



Claim.—1. The combination with a cheese-cutter provided with a scale representing total weights of cheeses for regulating the operation thereof, of a scale-bar having on it substantially the same scale of total weights of cheeses as the scale that controls the operation of the cheese-cutter, and a scale representing total values of cheeses beside and registering with the total-weight scale on said scale-bar.

2. In a device for cutting cheeses or the like, a knife, a rotary cheese-support, a lever for actuating the cheese-support, a scale-bar on which said lever moves, said scale-bar being provided with a scale representing the total weights of cheeses, an adjustable stop on said scale-bar for limiting the operation of said lever, and another scale-bar being provided with a total-weight scale on it of substantially the same range as said last-mentioned total-weight scale, and a scale representing total values of cheeses located on said last-mentioned scale-bar beside and registering with the total-weight scale thereon.

3. A scale-bar having a scale thereon representing total weights of cheeses, and a scale representing total values of cheeses, said two scales being located beside each other and registering with each other.

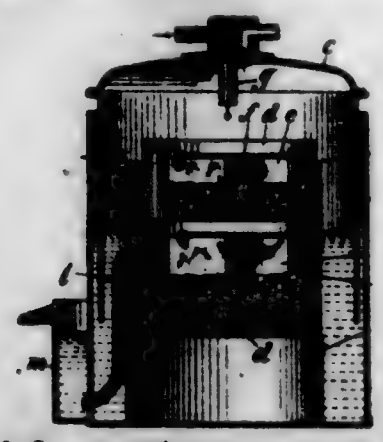
4. A scale-bar having marked thereon, at one side thereof a scale of figures, representing total weights of cheeses, and gradually increasing from one end to the other of said bar, and at the other side thereof a scale of figures representing total selling prices and values of cheeses also increasing from one end to the other, and transverse graduated marks common to both of such scales of figures, substantially as specified.

808,988. BILLIARD-TABLE. GEORGE A. ELLIS, Lithgow, and PATRICK J. HOFFMAN, Goulburn, New South Wales, Australia. Filed Nov. 11, 1904. Serial No. 232,304.



Claim.—The combination with a billiard-table, of a raceway arranged at each longitudinal side of the table below the cushion and inclined downwardly from the "spot" end of the table to the "balk" end thereof, inclined raceways at the "balk" end of the table and leading from the lower ends of the side raceways to the center of the table, a receiving-pocket at the center of the "balk" end of the table and into which the end raceways discharge, the receiving-pocket being provided with a hinged bottom, an operating cord or wire leading from the hinged bottom of the receiving-pocket to the "spot" end of the table, a second receiving-pocket below the table at the "spot" end thereof, and an inclined raceway arranged below the longitudinal center of the table and extending from below the first-named receiving-pocket to the second pocket, substantially as herein shown and described

808,999. ACETYLENE-GAS GENERATOR. JAMES W. FEATHERSTONE, Barker, N. Y., assignor to Alfred Featherstone, New York, N. Y. Filed Nov. 21, 1904. Serial No. 233,550.



Claim.—1. In an acetylene-gas generator, the combination of an outer shell, a carbid-container supported within the outer shell, means to supply water to the container, means to discharge the gas, and an overflow-pipe communicating with the container near the top thereof, said overflow-pipe leading downward and extending through the exterior of the shell.

2. In an acetylene-gas generator, the combination of an outer shell, a carbid-container supported within the outer shell, means to supply water to the container, means to discharge the gas, an overflow-pipe communicating with the container near the top thereof, said overflow-pipe leading downward and extending through the exterior of the shell, and means for preventing the escape of gas through the pipe.

3. In an acetylene-gas generator, the combination of an outer shell, a carbid-container supported within the outer shell, means to supply water to the container, means to discharge the gas, an overflow-pipe communicating with the container near the top thereof, the said overflow-pipe leading downward and extending through the exterior of the shell, and a water-dam for the pipe.

4. In an acetylene-gas generator, the combination of an outer shell, a carbid-container supported within the outer shell, means to supply water to the container, means to discharge the gas, a chamber on the exterior of the shell, and a pipe leading downward from the container to said chamber.

5. In an acetylene-gas generator, the combination of an outer shell, a carbid-container supported within the outer shell, means to supply water to the container, means to discharge the gas, and means for receiving the overflow-water from the container directly and for conveying it directly to the exterior of the shell without contaminating the space between the container and the outer shell.

6. In an acetylene-gas generator, the combination of an outer shell, a plurality of carbid-containers, means to supply water to the first container and to each of the other containers through the one preceding, and means for receiving the overflow-water directly from the last container and for conveying it directly to the exterior of the shell without contaminating the space between the container and the outer shell.

7. In an acetylene-gas generator, the combination of an outer shell, a plurality of carbid-containers, means to supply water to the first container and to each of the other containers through the one preceding, and an overflow-pipe communicating with the last container near the top thereof, said overflow-pipe leading downward and extending through the exterior of the shell.

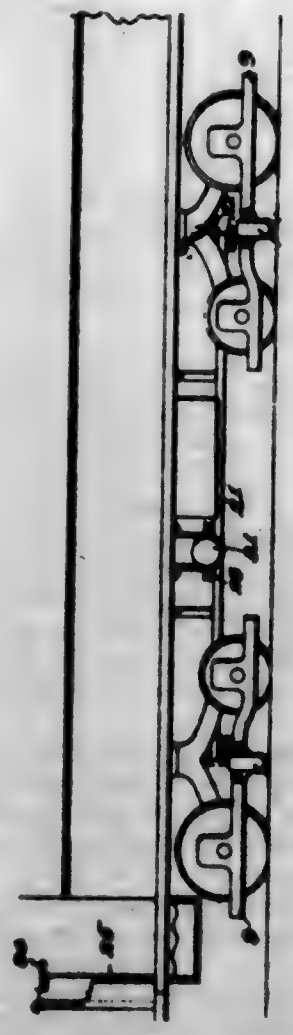
8. In an acetylene-gas generator, the combination of an outer shell, a plurality of carbid-containers, means to supply water to the first container and to each of the other containers through the one preceding, an overflow-pipe communicating with the container near the top thereof, said overflow-pipe leading downward and extending through the exterior of the shell, a hood, means forming a water seal therefor, and means forming a water dam for the pipe.

9. In an acetylene-gas generator, the combination of an outer shell, a plurality of carbid-containers, means to supply water to the first container and to each of the other containers through the one preceding, an overflow-pipe communicating with the container near the top thereof, said overflow-pipe leading downward and extending through the exterior of the shell, a hood, means for preventing the escape of gas from between the hood and the shell, and means for preventing the escape of gas from the overflow-pipe

10. In an acetylene-gas generator, the combination of an outer shell, a plurality of sectional carbid-containers each having means of communication between the adjacent sections except between the first and last sections, and a tube connecting each container except the last container with the first section of the next container, and an overflow-pipe communicating with the last container near the top thereof, said overflow-pipe leading downward and extending through the exterior of the shell.

11. In an acetylene-gas generator, the combination of an outer shell, a plurality of sectional carbid-containers each having means of communication between the adjacent sections except between the first and last sections, and a tube connecting the last section of each container except the last container with the first section of the next container, and an overflow-pipe communicating with the last container near the top thereof, said overflow-pipe leading downward and extending through the exterior of the shell.

804,000. SWITCHING ATTACHMENT FOR RAILWAY-CARS. HERMAN FRENCH, St. Louis, Mo. Filed Feb. 18, 1905. Serial No. 246,267.

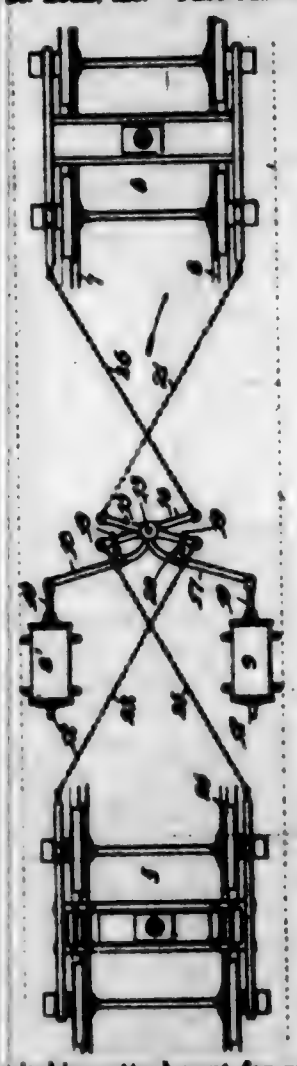


Claim.—1. A device of the class described, comprising a bracket secured to the truck-frame; a bar slidably mounted in the bracket; a revolving disk carried by the sliding bar; a lever mechanism operat-

ing said sliding bar and revolving disk, and an air mechanism for operating the entire device, substantially as specified.

2. A device of the class described, comprising a bracket mounted to a truck-frame between the axles; a bifurcated bar supported in said bracket; a disk carried between the bifurcations; toggle-arms; bell-crank levers connected to the toggle-arms; cables connected to the bell-crank levers, and an air system for tightening the cables to manipulate the device and bring the disks in contact with the outer surface of the rail to convey the car to the track desired, substantially as specified.

804,001. SWITCHING ATTACHMENT FOR RAILWAY-CARS. HERMAN FRENCH, St. Louis, Mo. Filed June 26, 1905. Serial No. 267,062.



Claim.—1. A switching attachment for railway-cars comprising a plurality of levers carried by the car, flexible connections between the levers and the trucks, and means for operating said levers from the platform of the car to impart lateral motion to the trucks for the purpose of switching the car, substantially as specified.

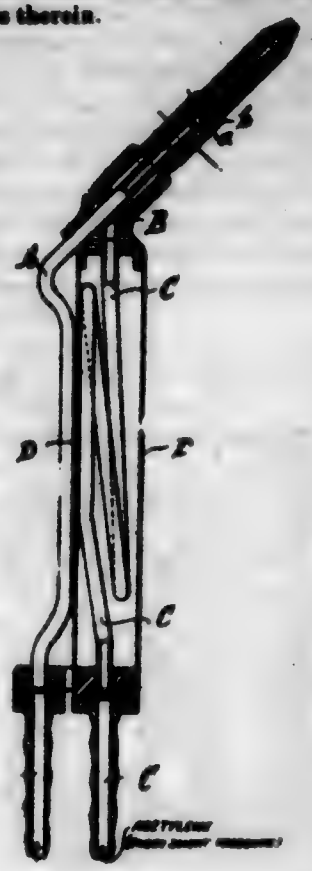
2. A switching attachment for railway-cars comprising a plurality of levers carried by the coach, air-cylinders operating said levers, and chains connecting the levers with the trucks for the purpose of imparting lateral motion to the truck for switching the same, substantially as specified.

3. A device of the class described, comprising a pair of double-arm levers mounted upon a pintle, operating-levers, one mounted beneath each of the double-arm levers, a yoke carried by the operating-levers and passing over one of the arms of the double-arm levers, chains connecting the double-arm levers to the trucks, and means for imparting motion to the operating-levers, substantially as specified.

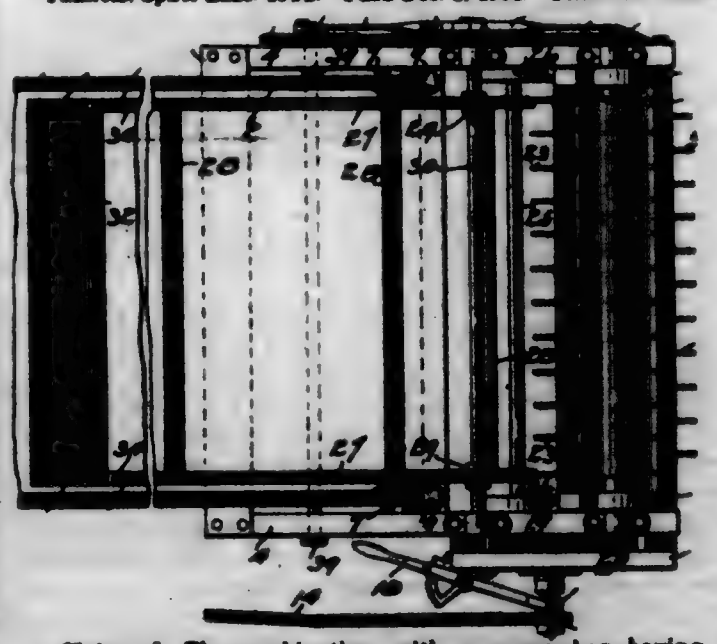
804,002. GAS-BLOWPIPE. EUGÈNE FOURNIÉ, Paris, France, assignor to Eugène Allyre Jovet, Paris, France. Filed Oct. 10, 1902. Serial No. 176,573.

Claim.—1. A blowpipe comprising in combination a nozzle for admitting oxygen or air under pressure, a mixing-chamber, and conduits C of small cross-section and great length bent back and forth so as to form a path of as great an extent as possible within the handle of the blowpipe whereby the oxygen is prevented from mixing with the combustible gas within said conduit near its outer end.

2. A blowpipe adapted for use in connection with air or oxygen under pressure and a combustible gas under little or no pressure, and comprising in combination a nozzle for admitting such oxygen or air, a mixing-chamber, means for connecting a supply-tube to said blowpipe, and a conduit for the combustible gas between said mixing-chamber and said means, said conduit being of such small cross-section and great length as to prevent the air or oxygen from being forced back into said conduit and forming a mixture of oxygen with the combustible gas therein.



804,003. DETACHABLE MANURE-SPREADER. LESLIE E. FRANCIS, Spirit Lake, Iowa. Filed Dec. 5, 1904. Serial No. 235,436.

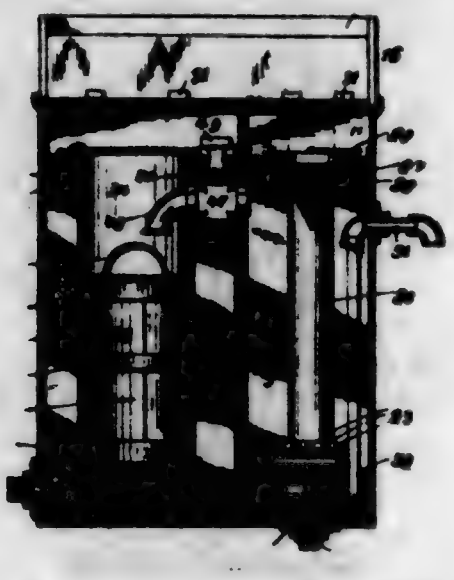


Claim.—1. The combination, with a wagon-box having an open rear end, of a frame carried thereby, a revolving cylinder having a series of teeth, a sprocket mounted on the shaft of said cylinder, a second larger sprocket mounted on said frame in advance of said cylinder, a chain connecting said sprockets, a slatted apron, a shaft whereon said apron is wound, a second shaft in advance of said cylinder and over which said apron passes, a large gear carried by said second shaft, a crank-disk mounted on the shaft of said second sprocket, and an arm carried by said crank-disk and arranged to engage the teeth of said large gear, for the purpose specified.

2. The combination, with a wagon-box having an open rear end, of a frame comprising side bars 4 and cross-bars 5 and 6, said side bars being beneath and parallel with the bottom of said box and said cross-bar 5 bearing against the bottom of said box and said bar 6 against the end rail thereof, and rods connected to said side bars near said cross-bars 6 and having hooked upper ends to engage the top of said box, and said frame being removable from said box, and a manure-spreading apparatus carried by said frame, substantially as described.

804,004. FILTER. JAMES S. GARLAND, Pittsburg, Pa. Filed July 29, 1905. Serial No. 271,211.

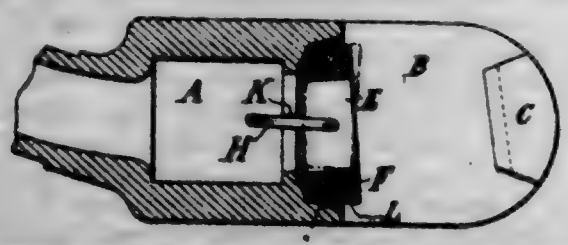
Claim.—1. In a filter, the combination of a casing having a plurality of compartments formed therein, an auxiliary casing mounted upon part of the top of said casing, a sieve arranged in the top of said auxiliary casing, a depending tube carried by the top of one of said compartments, a sieve mounted in the top of said compartment, a depending cylinder carried by the top of another compartment, a valve establishing communication in the first-named compartment and said cylinder, a frame mounted in said cylinder, a sieve carried by said frame, the last-named compartment having a plurality of openings formed therein, faucets mounted in said openings, means mounted in said tube and actuated by the contents of its respective compartment to close said tube, means to heat the contents of the first-named compartment, and means to determine the height of the contents of the last-named compartment, substantially as described.



2. In a filter, the combination of a casing having a plurality of compartments formed therein, an auxiliary casing carried by said casing, a sieve mounted in said auxiliary casing, a sieve mounted in one of said compartments, the top of said compartment having an opening formed therein to receive said sieve, a depending cylinder mounted in another of said compartments, a sieve mounted in said cylinder, said compartments having openings formed therein, means to control the opening in the first-named compartment, means to heat said compartment, means to convey the contents of said compartment to said cylinder, means to control the passage of said contents, and means to determine the height of the contents of the last-named compartment, substantially as described.

3. In a filter, the combination of a casing, having a plurality of compartments formed therein, an auxiliary casing carried by said casing, a screen mounted in said auxiliary casing, one of said compartments having an opening formed therein, a sieve carried by the top of said compartment, a sieve mounted in another of said compartments, means to convey the contents of the auxiliary casing to the bottom of the first-named compartment, means to control the opening formed in the top of said compartment, means to heat said compartment, means to convey the contents of said compartment above the sieve of the last-named compartment, means to withdraw the contents of said compartment, and means to determine the height of the contents within said compartment, substantially as described.

804,005. **TRAIN-PIPE COUPLING.** EDWARD B. GOLD, New York, N. Y. Filed Nov. 6, 1902. Serial No. 130,131.

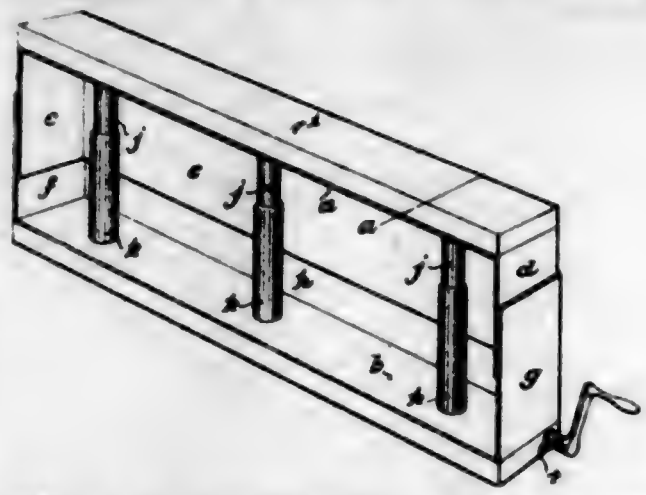


Claim.—A train-pipe coupler comprising a coupling-head, a compressible packing-ring and an incompressible gasket, said ring and gasket having annular contact-faces an axial section of which is substantially circular to permit a rocking movement of the gasket, the contact-face of the gasket being extended beyond that of the packing-ring to avoid deforming the face of the latter, and said head and packing-ring having annular contact-faces an axial section of which is a non-circular line so as to prevent movement of the packing-ring relatively to the head.

804,006. **PROCESS OF MAKING ZINC ALLOYS.** PAUL GÖRING and ALBERT GÖRING, Berlin, Germany. Filed Oct. 16, 1902. Serial No. 177,206.

Claim.—The process of manufacturing a zinc alloy for the purpose of zinc coating, which consists in incorporating with zinc about 0.5 to two per cent. of aluminium and less than one per cent. of a metal producing great fluidity, in such a manner that the zinc does not melt before the aluminium.

804,007. **TEMPORARY BINDER, LOOSE-LEAF LEDGER, AND THE LIKE.** GEORGE HEGGIMOON, London, England, assignor to Harry Robert Sarré Pulman, London, England. Filed Sept. 12, 1904. Serial No. 224,026.



Claim.—1. In a temporary binder, two plates, two non-rotative tubular binding members adapted to telescope one within the other, and a screw arranged to rotate in one of said members and to engage the other of said members, said first-named member having an enlarged tubular head and said screw having a worm-wheel at its end fitting within said head, whereby the latter forms a bearing for said worm-wheel.

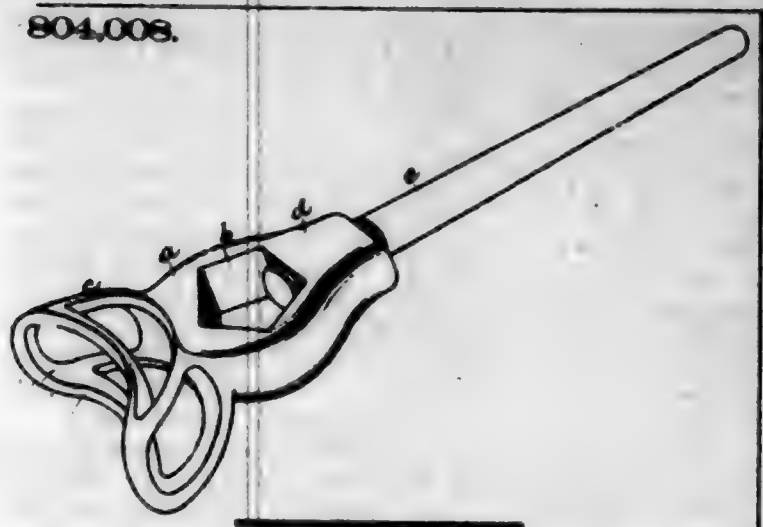
2. In a temporary binder, two plates, two non-rotative tubular binding members adapted to telescope one within the other, a screw arranged to rotate in one of said members and to engage the other of said members, said first-named member having an enlarged tubular head and said screw having a worm-wheel at its end fitting within said head, whereby the latter forms a bearing for said worm-wheel, a worm engaging said worm-wheel and adapted to rotate said screw, and a block surrounding said head, and forming a bearing for said worm.

3. The improved temporary binder comprising the combination of two plates, filing members passing through each of said plates, the filing members of one plate being adapted to telescope with the filing members of the other plate, each of said filing members being provided with an enlarged end adapted to bear against one of the plates, a casing on each plate adapted to inclose the enlarged ends of the filing members, screws disposed in a plurality of the filing members of one of the plates and nuts disposed in the corresponding filing members of the other plate, said screws being provided with worm-wheel heads, a spindle disposed in one of the casings, worms on the spindle adapted to engage with the worm-wheel heads of the screws, blocks in one of the casings adapted to form bearings for the spindle, each of said blocks being provided with a recess for the enlarged ends of the filing members and for the worm-wheel heads, blocks in the other casing adapted to form a bearing for the enlarged ends of the filing members, substantially as and for the purpose set forth.

804,008. **COMBINED WRENCH AND SPANNER.** JAMES R. HOPKINS, Somerville, Mass. Filed May 13, 1905. Serial No. 260,329.

Claim.—A tool of the character stated, comprising a head having an angular nut-receiving cavity, and having an internally-threaded opening leading from one of the flat sides of the said cavity, two other flat sides of the cavity meeting at a point opposite said threaded opening, the head having also an enlargement formed with a segmental outer face constituting a spanner, and a handle having a threaded portion fitting the internally-threaded opening of the head and having its inner end formed as a nut-grasping jaw adapted to crowd or wedge an angle of a nut into the apex of the two flat sides of the cavity which are opposite said jaw, the said handle and the nut-cavity and spanner of the head being in alinement, whereby the tool may be employed with equal facility for exerting leverage in either direction, on either a nut or hose-coupling.

804,008.



804,009. OILER. WILLIAM L. HOWLAND, Monmouth, Ill. Filed Jan. 24, 1905. Serial No. 242,488.



Claim.—1. The combination with a can having a delivery-tube, of a valve controlling the flow through the tube, and a feed device movable in the can independently of the valve and contacting with said valve.

2. The combination with a can having a delivery-tube, of a valve controlling the flow through the tube, a stem connected with the valve, and a feed device movable in the can and contacting with the stem.

3. The combination with a can having a delivery-tube, of a valve controlling the flow through the tube, a stem connected with the valve, a member having an inclined face with which the stem contacts, and means for moving the stem over said inclined face.

4. The combination with a can having a delivery-tube, of a valve controlling the flow through the tube, a stem connected with the valve, a member having an inclined face with which the stem contacts, a spring normally holding the valve upon its seat, and means for moving the stem over the inclined face and the valve against the tension of the spring.

804,010. ENAMELING. JULIUS F. KRENKEL, Milwaukee, Wis., assignor to Geuder and Paeschke Manufacturing Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Jan. 25, 1905. Serial No. 242,656. (Specimens.)

Claim.—1. As a new article of manufacture, a steel or iron article having a fundamental mottling-coat composed solely of acid and a suitable vehicle therefor, such as clay, and a separately-applied glaze-coat fused with the fundamental coat upon the metal base, substantially as described.

2. As a new article of manufacture, a steel or iron article having a fundamental coat composed solely of clay and an oxidizing agent, and a separately-applied glaze-coat covering the fundamental coat and forming therewith a mottled finish, substantially as described.

3. As a new article of manufacture, a steel or iron article having a fundamental coat composed solely of clay and acid, and a separately-applied glaze-coat forming therewith a mottled finish, substantially as described.

4. The process of enameling which consists in coating a steel or iron article after annealing, pickling and cleaning, with a mottle-producing mixture composed solely of acid, and of a suitable vehicle, such as clay preparatory to applying a glaze-coat thereto, substantially as described.

5. The process of enameling which consists in coating a steel or iron article after annealing, pickling and cleaning, with clay containing an oxidizing agent, whereby the foundation for a mottled finish is produced, preparatory to the application of a glaze-coat, substantially as described.

6. The process of enameling which consists in applying to a steel or iron article after annealing, pickling and cleaning, clay containing an oxidizing agent and forming therewith a fundamental mottling-coat, and covering the fundamental coat with a glaze-coat in a milky condition, substantially as described.

7. The process of enameling which consists in applying to a steel or iron article after annealing, pickling and cleaning, clay containing an oxidizing agent and forming therewith a fundamental mottling-coat, covering the fundamental coat with a glaze-coat and fusing the glaze-coat with the fundamental coat, substantially as described.

8. The process of enameling which consists in applying to a steel or iron article a mixture composed solely of clay and acid forming a fundamental mottling-coat, covering said fundamental coat with a glaze-coat in a milky condition, and drying and finally fusing the glaze-coat with the fundamental coat, thereby causing the oxidizing agent of the fundamental coat to react on the glaze-coat and to produce a permanent mottled effect therein, substantially as described.

9. The process of enameling metal which consists in subjecting the article to be enameled to a primary bath containing clay and an oxidizing agent such as acid, which does not intimately mix with the clay and causes the same to settle and set in patches upon the article when it is removed from said bath, thereby forming a fundamental mottling-coat upon the article, then covering the fundamental coat with a glaze-coat which is allowed to dry thereon, and finally fusing the glaze-coat with the fundamental coat, substantially as described.

10. The process of enameling metal which consists in applying to the article to be enameled a fundamental coat consisting of clay containing an oxidizing agent such as an acid, which does not intimately mix with the clay and causes it to set into patches upon the article, shaking or agitating the article while the fundamental coat thereon is in a moist condition, to produce the desired mottled effect, covering said fundamental coat with a glaze-coat, and finally fusing said glaze-coat upon the fundamental coat, substantially as described.

804,011. RULING-PEN. HERMANN KERN, Aarau, Switzerland. Filed June 19, 1905. Serial No. 265,997.



Claim.—1. In a ruling-pen, the combination, with means for adjusting the degree of separation of the two leaves, of a clip mounted on the pen-leaf arranged to be interposed between the pen-leaf and part of the adjusting means.

2. In a ruling-pen, the combination, with means for adjusting the degree of separation of the two leaves, of a clip pivoted to one pen-leaf with its free end lying adjacent to the pen-handle and arranged to be interposed between the pen-leaf and part of the adjusting means.

3. In a ruling-pen, the combination, with an adjusting-screw, of a clip pivoted to the pen-leaf below the adjusting-screw and arranged to be interposed between the pen-leaf and the head of the screw.

4. In a ruling-pen, the combination, with a screw for adjusting the degree of separation of the two leaves, of a clip pivoted to one pen-leaf with its free end lying adjacent to the pen-handle and arranged to be interposed between the pen-leaf and the head of the screw, the clip being provided with a U-shaped recess to embrace the shank of the screw.

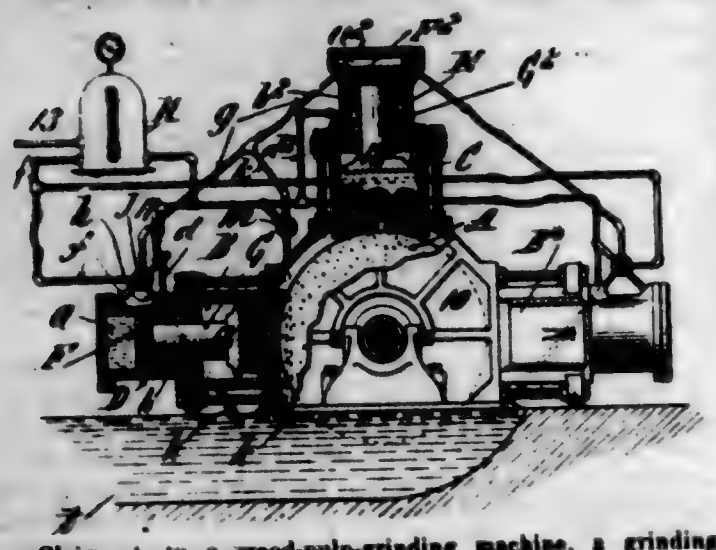
5. In a ruling-pen, the combination, with a screw for adjusting

the degree of separation of the two leaves, of a clip pivoted to one pen-leaf with its free end lying adjacent to the pen-handle and arranged to be interposed between the pen-leaf and the head of the screw, the clip being provided with a U-shaped recess to embrace the shank of the screw, and a boss projecting above the body of the clip to abut against the under side of the screw-head.

6. In a ruling-pen, the combination, with an adjusting-screw, of a clip pivoted below the adjusting-screw and arranged to be interposed between the pen-leaf and the head of the screw, and a boss projecting above the body of the clip to abut against the under side of the screw-head.

7. In a ruling-pen, the combination, with a screw for adjusting the degree of separation of the two leaves, of a clip pivoted below the adjusting-screw with its free end extending past the adjusting-screw toward the pen-handle, the clip being provided with a U-shaped recess to embrace the shank of the screw and with an outwardly-projecting boss to abut against the under side of the screw-head.

804,013. **WOOD-PULP-GRINDING MACHINE.** BERNHARD KIELGASS, Rolyehe, Mass. Filed Apr. 5, 1905. Serial No. 254,096.



Claim.—1. In a wood-pulp-grinding machine, a grinding-wheel, primary and secondary casings for the wood, said casings being endwise open adjacent the wheel, and cylinders, combined with said casings, having piston therein, dividing the cylinders into working and retracting chambers, and followers, connected with the piston-shafts and located in the wood-chambers, a source of pressure-supply, and pipes extending therefrom to the retracting-chambers in both cylinders, a conduit connecting said supply and the working chamber of the primary cylinder, a conduit branching from the aforenamed conduit and connecting into the working chamber of the second cylinder, and a pipe branching from said first-named conduit for waste, and said branching pipes having, in connection therewith and at their junction, a valve having plural ways.

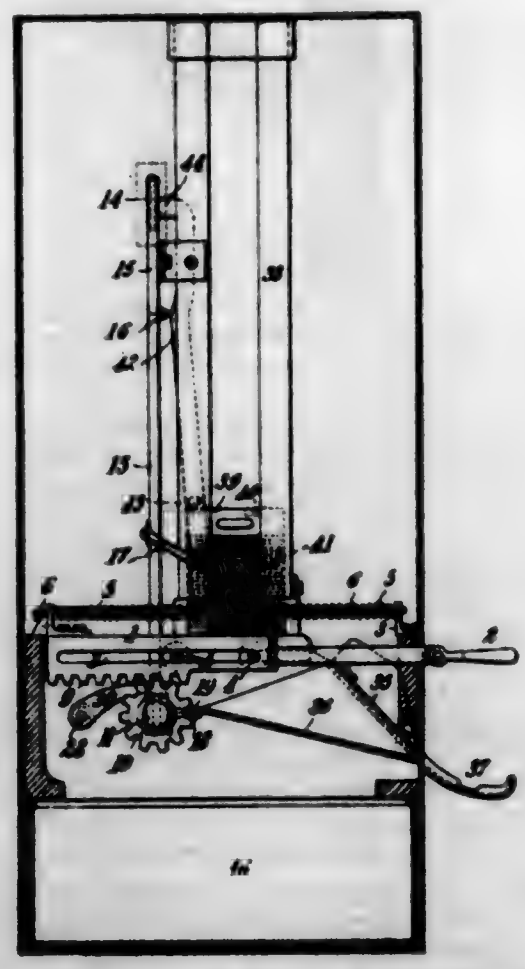
2. In a wood-pulp-grinding machine, a grinding-wheel, primary and secondary casings for the wood, said casings being endwise open adjacent the wheels, and cylinders, combined with said casings, having pistons therein, dividing the cylinders into working and retracting chambers, and followers, connected with the piston-shafts and located in the wood-chambers, a source of pressure-supply, and pipes extending therefrom to the retracting-chambers in both cylinders, a conduit connecting said supply and the working chamber of the primary cylinder, a conduit branching from the aforenamed conduit and connecting into the working chamber of the second cylinder, and a pipe branching from said first-named conduit for waste, and said branching pipes having, in connection therewith and at their junction, a valve having plural ways, and a waste-pipe, in communication with the second cylinder working chamber, having a cock.

3. In a wood-pulp-grinding machine, a grinding-wheel, primary and secondary casings for the wood, which are endwise open adjacent the wheel, and cylinders, combined with said casings, having pistons therein, dividing the cylinders into working and retracting chambers, and followers, connected with the piston-shafts and located in the wood-chambers, a source of pressure-supply, and pipes extending therefrom to the retracting-chambers in both cylinders, a conduit connecting said supply and the working chamber of the primary cylinder, a conduit branching from the aforenamed conduit and connecting into the working chamber of the second cylinder, and a pipe branching from said first-named conduit for waste, and said branching pipes having, in connection therewith and at their junction, a valve having the ways $j j^3$, and having a way j^5 for giving in its shifting movements an instant of communication between the conduits g and h for a slight relief of the established pressure in the second cylinder working chamber for the purpose set forth.

4. In a wood-pulp-grinding machine, a grinding-wheel, a chambered wood-receiving casing and an adjoined cylinder having a piston therein and a piston bar or shaft extending from one side of the piston, into the wood-chamber and carrying a wood-follower and said piston-shaft, by the presence of its portion within the cylinder to the one side of the piston, establishing a cross-sectional cylinder area less than the cylinder area at the other side of the piston, a source of pressure-supply and conduits extending therefrom to the full-sized and reduced chambers in the cylinder, means for shutting off the fluid-supply connection with the working chamber of the cylinder and means for opening said chamber for relief or waste.

5. In a wood-pulp-grinding machine, a grinding-wheel A, primary and secondary casings B, C, for the wood, which are endwise open adjacent the wheel, and cylinders, D, E, combined with said casings, having pistons F, F^3, therein, dividing the cylinders into working and retracting chambers a b, a^3 b^3, and followers, G G^3 connected with the piston-shafts and located in the wood-chambers, a source of pressure-supply, H, and pipes d d^3 extending therefrom to the retracting-chambers in both cylinders, a conduit f connecting said supply H and the working chamber a of the primary cylinder, a conduit g branching from the aforenamed conduit f and connecting into the working chamber a^3 of the second cylinder, a pipe h branching from conduit f for waste, and said branching pipes f g h having, in connection therewith and at their junction, a valve J having plural ways j j^3, and said valve also having the way j^5 to give, in the valve-shifting movement, an instant of communication, for pressure-relief, between working chamber a^3 and waste-pipe h, and a pipe k, leading from said conduit g between the valve J and the second cylinder working chamber, having a cock m, therein.

804,018. **AUTOMATIC DELIVERY APPARATUS FOR TICKETS, &c.** NATHAN KLEIN, Paris, France. Filed Apr. 2, 1903. Serial No. 150,717.



Claim.—1. In an automatic delivery apparatus the combination of a carriage for delivering the articles, an operating-handle, an intermediate shaft between said carriage and said handle, said shaft being in two normally separated parts, a rack and pinion connected between said handle and one part of said shaft, a similar connection between said carriage and the other part of said shaft, heads 11 and 12 at the adjacent ends of the parts of the shaft, and having slots therein elongated in the direction of the shaft, said slots being closed at one side to prevent the discharge of a coin until the shaft makes a half-revolution.

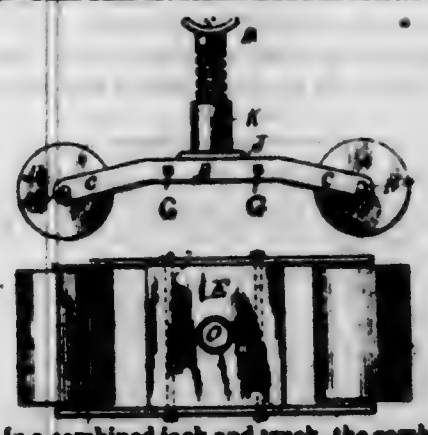
2. In an automatic delivery apparatus the combination of a main shaft formed in two separate parts each having a slotted head with the slots facing each other and adapted to receive a coin, a shaft 28, a finger 30 thereon arranged to enter between said heads and knock out a coin therein, a spring 29 for operating said shaft 28 and finger 30, cams 24 and 25 on said main shaft, and an arm 26 on said shaft 28 and operated by said cams.

804,014. **ENVELOP.** FRANK KLOSTERMAN, Hermann, Pa., assignor of one-third to Albert Smith, Hermann, Pa. Filed May 8, 1905. Serial No. 259,355.



Claim.—An envelop embodying a front, end flaps, a main sealing-flap, and a rear sealing-flap combined with a string threaded through the main sealing-flap, and passed through the rear sealing-flap and end flaps, and through the envelop at two points in the fold or crease line between the front and the rear sealing-flap, and interior sealing-tube affixed to the inner face of the rear sealing-flap, and overlying the said string and the end flaps, and adapted to be engaged with said string and the inner face of said end flaps.

804,015. **COMBINED JACK AND TRUCK.** OSCAR F. LANDERS, Calmar, Iowa. Filed June 15, 1905. Serial No. 265,484.



Claim.—1. In a combined jack and truck, the combination with a frame formed of two side bars carrying a base-plate, of rollers mounted in the ends of said frame, and a jack-screw centrally mounted on said base-plate.

2. In a combined jack and truck, the combination with a frame composed of two side bars and a base-plate, a pair of rollers, a jack-screw centrally mounted on said base-plate, and an axle-engaging claw on said jack-screw.

3. A combined jack and truck consisting of a frame composed of side arms having downward extensions on each end, a base-plate secured between said arms, transverse bolts passing through the side arms and base-plate for securing them together, rollers journaled in the extensions, a jack-screw centrally mounted on the base-plate and carrying on its upper end an axle-engaging claw, and a hole or opening in the base-plate to allow the passage of the threaded stem of the jack-screw.

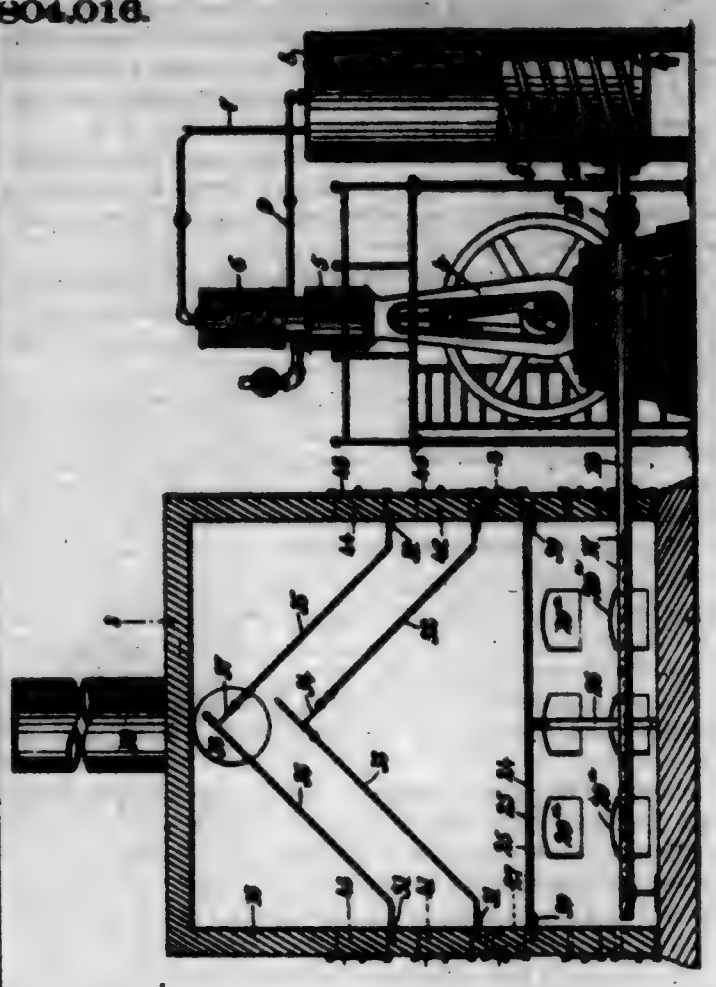
804,016. **METHOD OF REVIVIFYING SPENT CLAYS.** ALFRED B. LATTING, Memphis, Tenn. Filed Oct. 16, 1901. Serial No. 283,449.

Claim.—1. The method herein described of revivifying spent clays, which consists in pulverizing the same, heating the clays thus pulverized in contact with a flame, and forcing hot air through the substance of said clays while thus exposed to said flame.

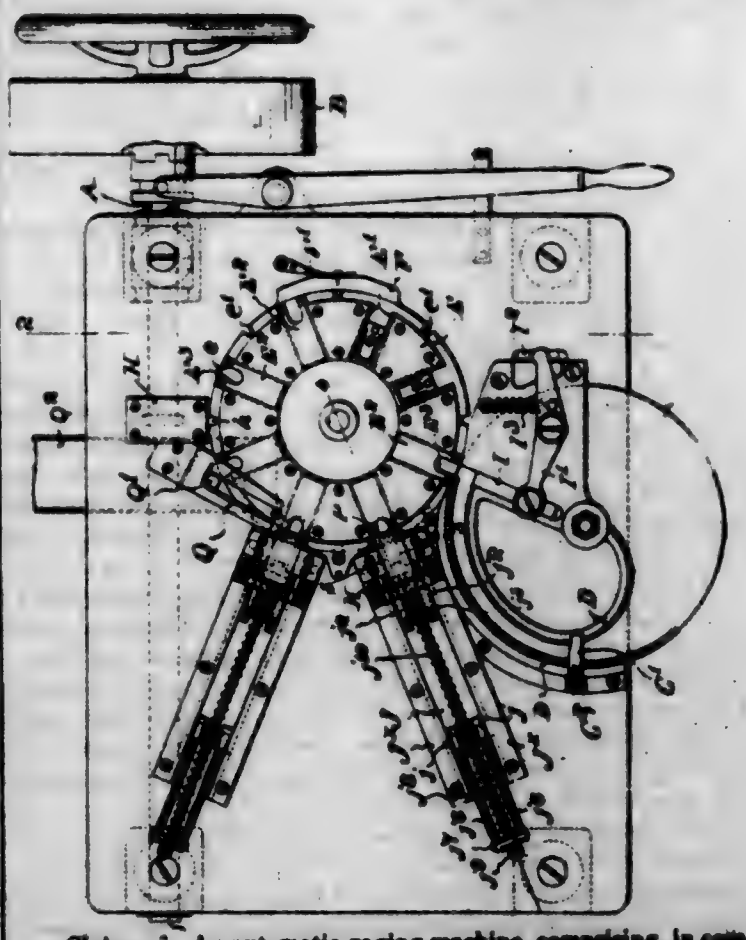
2. The method herein described of revivifying spent clays, which consists in burning out therefrom the organic impurities contained therein, and forcing oxygen through said clays for the purpose of restoring the active qualities thereof.

3. The method herein described of revivifying spent clays, which consists in supplying to said clays from independent sources flames engaging said clays, and hot-air currents permeating said clays.

804,016.



804,017. **MACHINE FOR AUTOMATIC GAGING.** CHARLES M. LEMAK, Westpoint, N. Y. Filed Sept. 20, 1904. Serial No. 225,319.



Claim.—1. An automatic gaging-machine, comprising, in combination, a carrier adapted to receive the article to be gaged, a delivery-slide, means to reciprocate said delivery-slide, a gage in line of movement of said delivery-slide and means to engage and disengage said carrier and delivery-slide.

2. An automatic gaging-machine, comprising, in combination, a carrier adapted to receive the article to be gaged, a delivery-slide, reciprocating mechanism for said delivery-slide, yielding connection between said reciprocating mechanism and said delivery-slide, a gage in line of movement of said delivery-slide, and means to engage and disengage said carrier and delivery-slide.

3. An automatic gaging-machine, comprising, in combination,

a carrier adapted to receive the article to be gaged, a delivery-slide, mechanism to move said delivery-slide, yielding connection between said mechanism and said delivery-slide, a gage in line of movement of said delivery-slide, and means to engage and disengage said carrier and delivery-slide.

4. An automatic gaging-machine, comprising, in combination, a carrier, operating means for moving said carrier and a yielding connection between said carrier and operating means, and a gage in line of movement of said carrier.

5. An automatic gaging-machine, comprising, in combination, a carrier, operating means for reciprocating said carrier and a yielding connection between said carrier and operating means, and a gage in line of movement of said carrier.

6. An automatic gaging-machine, comprising, in combination, a table provided with a groove, a carrier adapted to move in said groove, means to give said table an intermittent rotary movement, a delivery-slide, interlocking devices for said carrier and delivery-slide, means to move said slide to and from the table, and a gage in line of movement of the carrier when moved by the delivery-slide.

7. An automatic gaging-machine, comprising, in combination, a table provided with a groove, a carrier adapted to move in said groove, means to give said table an intermittent rotary movement, a delivery-slide, interlocking devices for said carrier and delivery-slide, yielding means to move said slide to and from the table, and a gage in line of movement of the carrier when moved by the delivery-slide.

8. An automatic gaging-machine, comprising, in combination, a table provided with a groove, a carrier adapted to move in said groove, means to give said table an intermittent rotary movement, a delivery-slide, interlocking devices for said carrier and delivery-slide, reciprocating mechanism for said delivery-slide, yielding connection between said reciprocating mechanism and said delivery-slide, and a gage in line of movement of the carrier when moved by the delivery-slide.

9. An automatic gaging-machine, comprising, in combination, a table provided with a groove, a carrier adapted to move in said groove, means to give said table an intermittent rotary movement, a delivery-slide, interlocking devices for said carrier and delivery-slide, reciprocating mechanism for said delivery-slide, connection between said reciprocating mechanism and said delivery-slide, and a gage in line of movement of the carrier when moved by the delivery-slide.

10. An automatic gaging-machine, comprising, in combination, a table provided with a plurality of grooves, a carrier in each groove, means to give the table an intermittent rotary movement, a plurality of delivery-slides, each in line with a carrier when the table is at rest, means to move the slides to and from the table, interlocking devices for the slides and carriers, and a gage in line of movement of each carrier when moved by its delivery-slide.

11. An automatic gaging-machine, comprising, in combination, a table provided with a plurality of grooves, a carrier in each groove, means to give the table an intermittent rotary movement, a plurality of delivery-slides, each in line with a carrier when the table is at rest, yielding means to move the slides to and from the table, interlocking device for the slides and carriers, and a gage in line of movement of each carrier when moved by its delivery-slide.

12. An automatic gaging-machine, comprising, in combination, a table provided with a plurality of grooves, a carrier in each groove, means to give the table an intermittent rotary movement, a plurality of delivery-slides, each in line with a carrier when the table is at rest, reciprocating mechanism for said slides and a yielding connection between said reciprocating mechanism and said slides, interlocking devices for the slides and carriers, and a gage in line of movement of each when moved by its delivery-slide.

13. An automatic gaging-machine, comprising, in combination, a table provided with a plurality of grooves, a carrier in each groove, means to give the table an intermittent rotary movement, a plurality of delivery-slides, each in line with a carrier when the table is at rest, reciprocating mechanism for said slides and a connection between said reciprocating mechanism and said slides, interlocking devices for the slides and carriers, and a gage in line of movement of each carrier when moved by its delivery-slide.

14. In an automatic gaging-machine, of the character described, a gaging device, comprising, in combination, a gage-slide, a delivery-slide, a gage in line of movement of the delivery-slide and a yielding connection between said gage-slide and delivery-slide.

15. In an automatic gaging-machine of the character described, a gaging device, comprising, in combination, a gage-slide, a cross-bar carried by said slide, a rod passing loosely through said cross-bar, a delivery-slide to which said rod is connected, a cross-head connected to said rod, and a spring between said cross-bar and cross-head.

16. In an automatic gaging-machine of the character described, a gaging device, comprising, in combination, a gage-slide, an adjustable cross-head carried by said slide, a rod passing loosely through said cross-head, a delivery-slide to which said rod is connected, a cross-bar connected to said rod, and a spring between said cross-bar and cross-head.

17. In an automatic gaging-machine, of the character described, in combination, an intermittently-rotated table having grooves, carriers in said grooves, each of said carriers having a groove in the end portion, concentric with the table, a delivery-slide having an overhanging projecting piece, corresponding with and adapted to engage, the grooved end of the carrier.

18. In an automatic gaging-machine, of the character described, in combination, a rotary table, an intermittently-rotated table, grooves in said last-mentioned table, carriers in said guides adapted to receive the articles, a guideway adapted to convey articles placed on the first-mentioned table, in the rotation of the table, in line with one of said carriers and a pushing-ram in line with said carrier, and means to reciprocate said pushing-ram.

19. In combination, a support for the article to be gaged, a gage, and a yielding means adapted to move said support toward said gage.

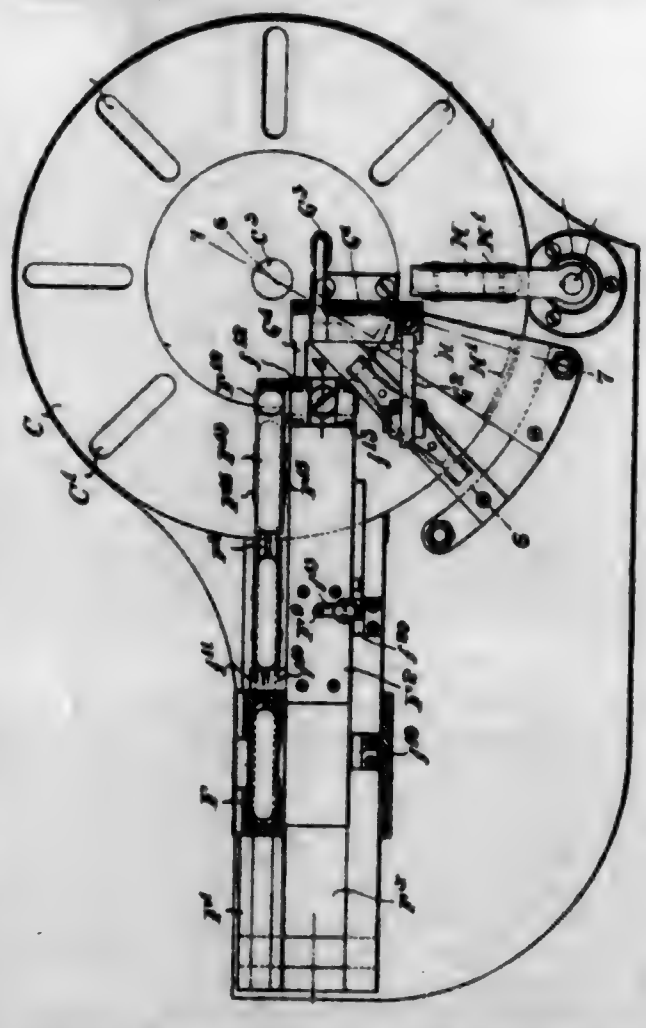
20. In combination, a support for the article to be gaged, a gage, and a yielding means adapted to move said support toward and from said gage

21. In combination, a plurality of gages, a support for the article to be gaged, means to bring said support successively in line with the gages, and means to reciprocate said support toward and from each of said gages.

22. In combination, a plurality of gages, a support for the article to be gaged, means to bring said support successively in line with the gages, and yielding means to reciprocate said support toward and from each of said gages.

23. In an automatic gaging-machine, of the character described, the combination with the rotary table and its cariers, of a bifurcated cam adapted, in the movement of the table, to receive the article in the carrier between its jaws, and move it free from the carrier and table.

804,018. MACHINE FOR ASSEMBLING CARTRIDGES IN CLIPS. ORMOND M. LISSAK, Westpoint, N. Y. Filed Sept. 21, 1904. Serial No. 225,313.



Claim.—1. In a machine for assembling cartridges in a clip, in combination, a plunger, a second plunger having a cut-away portion in which a portion of the first plunger rests and has a limited free

movement, means to reciprocate said first plunger, a clip-engaging device carried by the second plunger, connection between the plungers whereby, in the initial movement of the first plunger in one direction, said device is moved into operative position and in the initial movement in the opposite direction is moved out of operative position, a pin adapted to connect the two plungers, and a cam at each end of the travel together of said plungers adapted to engage and disengage said pin connection.

2. In a machine for assembling cartridges in a clip, in combination, a plunger, a guide arranged to hold the clip in line with said plunger, a clip-engaging device carried by said plunger, a second plunger, means to reciprocate said plungers, connection between said plungers whereby the second plunger has an initial movement in each direction independent of the first plunger, and means during said initial movement in one direction to bring said clip-engaging device into operative position and in the other direction out of operative position, whereby a clip is first moved by the clip-engaging portion of the first plunger in line with the clip-engaging device of the said plunger.

3. In a machine for assembling cartridges in a clip, in combination, a support adapted to contain a plurality of cartridges, a guide, adapted to contain clips, in line with the heads of said cartridges, a plunger carrying a clip-engaging device, means to move said clip-engaging device into operative position to engage a clip in said guide, and means to move said plunger forward to carry the clip across the heads of the cartridges.

4. In a machine for assembling cartridges in a clip, in combination, a support adapted to contain a plurality of cartridges, a guide, adapted to contain clips, in line with the heads of said cartridges, a plunger carrying a clip-engaging device, means to move said clip-engaging device into operative position to engage a clip in said guide, means to move said plunger forward to carry the clip across the heads of the cartridges, means to release said clip-engaging device at the extreme forward movement of the plunger, and means to return said clip-engaging device to its initial position.

5. In a machine for assembling cartridges in a clip, in combination, a support adapted to contain a plurality of cartridges, a guide, adapted to contain clips, in line with the heads of the cartridges, a plunger having a clip-engaging portion to move said clips, said plunger having a clip-engaging device, in advance of the engaging portion of said plunger, a second plunger and connection between said plungers, whereby the second plunger has an initial movement independent of the first plunger, means to move said clip-engaging device into operative position to engage a clip in said guide, and means to move said plungers forward to carry the clips across the heads of the cartridges, whereby the first plunger moves a clip in line with clip-engaging device and the clip-engaging device positively carries the clip across the heads of the cartridges.

6. In a machine for assembling cartridges in a clip, in combination, a support adapted to contain a plurality of cartridges, a guide, adapted to contain clips, in line with the heads of the cartridges, a plunger having a clip-engaging portion, said plunger having a clip-engaging device, in advance of the engaging portion of said plunger, a second plunger and connection between said plungers whereby the second plunger has an initial movement independent of the first plunger, means to move said clip-engaging device into operative position to engage a clip in said guide, means to move said plungers forward to carry the clips across the heads of the cartridges, means to release said clip-engaging device at the extreme forward position of the first plunger and means to return said clip-engaging device to its initial position, whereby the first plunger moves a clip in line with clip-engaging device and the clip-engaging device positively carries the clip across the heads of the cartridges.

7. In a machine for assembling cartridges, in a clip, in combination, a plunger, a rock-shaft supported thereby, an arm carried by said rock-shaft, ears or lugs spaced apart on said arm and adapted to enter between lugs on a clip, a pin projecting from said rock-shaft, a second plunger, an orifice in said plunger in which said pin rests and connection between said plungers whereby initially the second plunger has a limited movement independent of the first plunger, whereby initially the shaft is rocked and the arm brought into operative or inoperative position.

8. In a machine for assembling cartridges in a clip, in combination, a guide adapted to contain clips having projecting lugs, a plunger, means to reciprocate said plunger in line with said clips, a rock-shaft supported by said plunger, an arm carried by said rock-shaft, ears or lugs spaced upon said arm and adapted to enter between the lugs on said clip, a pin projecting from said rock-shaft, a second plunger, there being an orifice in said second plunger in which said pin rests and connection between said plungers whereby initially the second plunger has a limited movement independent of the first plunger, whereby initially the shaft is rocked and the arm brought into operative or inoperative position.

9. In a machine of the character described, in combination, a plunger having a rock-shaft, a clip-engaging device carried by said rock-shaft, a pin projecting from said shaft, a second plunger, an orifice in said plunger in which said pin rests and connections between said plungers whereby the second plunger has a limited movement independent of the first plunger whereby initially the shaft is rocked and the clip-engaging device moved into operative or inoperative position.

10. In a machine of the character described, in combination, a guide adapted to contain clips, a plunger, means to reciprocate said plunger in line with said clips, a rock-shaft supported by said plunger, a clip-engaging device carried by the rock-shaft, a pin projecting from said rock-shaft, a second plunger, there being an orifice in the second plunger in which said pin rests, and connection between said plungers, whereby initially the second plunger has a limited movement independent of the first plunger, whereby initially the shaft is rocked and the clip-engaging device moved into operative or inoperative position.

11. In combination, a table having slots each adapted to contain a plurality of cartridges, a guide, adapted to contain clips, in line with the heads of said cartridges in one position of the table, a plunger carrying a clip-engaging device, means to move said clip-engaging device into operative position to engage a clip in said guide, operative mechanism and connections between the operative mechanism and said table and plunger adapted respectively to give said table an intermittent rotary movement and the plunger an intermittent reciprocating movement, the connections being so arranged as to give each a movement when the other is at rest.

12. In combination, a table, having slots each adapted to contain a plurality of cartridges, a guide, adapted to contain clips, in line with the heads of the cartridges in one position of the table, a plunger having a clip-engaging portion adapted to move said clips, a clip-engaging device carried by said plunger in advance of the clip-engaging portion of said plunger, a second plunger, connection between said plungers whereby the first plunger has an initial movement independent of the second plunger, means intermittently to move said clip-engaging device into operative position to engage a clip in said guide, means intermittently to move said plungers forward to carry the clips across the heads of the cartridges, and means to intermittently rotate said table.

13. In combination, a table having slots each adapted to contain a plurality of cartridges, a guide adapted to contain clips, in line with the heads of the cartridges in one position of the table, a plunger having a clip-engaging portion adapted to move said clip, a clip-engaging device, carried by said plunger in advance of the clip-engaging portion of said plunger, a second plunger, connection between said plungers, whereby the first plunger has an initial movement independent of the second plunger, means to intermittently move said clip-engaging device into operative position to engage a clip in said guide, means to intermittently move said plungers forward to carry the clips across the heads of the cartridges, means to intermittently release said clip-engaging device at the extreme forward movement of said plunger, means to intermittently return said clip-engaging device to its initial position, and means to intermittently rotate said table.

14. In a machine of the character described, in combination, two reciprocating plungers, adapted to operate substantially as and for the purpose described, a pin carried by one plunger and orifices in the other plunger in which said pin is adapted to rest, cams, one adjacent to each end of the path of movement of the plunger, said cams being arranged to release the pin from an orifice during the movement in one direction and to allow said pin to enter the orifice during the movement in the other direction.

15. In a machine of the character described, in combination, two reciprocating plungers, adapted to operate substantially as and for the purpose described, a pin carried by one plunger and orifices in the other plunger, said pin having an overhang, a plunger connected to said overhang, cams, one adjacent to each end of the path of movement of the plunger in line with the overhang portion, said cams being arranged to release the pin from an orifice during the movement of the plunger in one direction and allowing said pin to enter an orifice during the movement in the other direction.

16. In a machine of the character and for the purpose described, in combination, a table, means to give said table a rotary movement, a slot in said table adapted to support a plurality of cartridges assembled in a clip provided with depending tongues, wedge-shaped cams in lines of travel of opposite end of said slot and adapted in the movement of the table to be struck by said tongues.

17. In a machine of the character described, as a means of removing the cartridges assembled in the clips, in combination, an arm, depending spring-plates, spaced apart the width of a clip, means to give said arm a downward, upward and a swinging movement, and a fixed piece in line of movement of the cartridges carried by the plate in its swinging movement.

18. In a machine of the character described, as a means of removing the cartridges assembled in the clips, in combination, a device adapted to engage the assembled cartridges, means to give said device successively a downward, upward and a swinging movement, and a fixed device in line with and adapted in the swinging movement of the device to be struck by the cartridges and release the assembled cartridges from said device.

19. In a machine of the character described, as a means of removing the cartridges assembled in the clips, in combination, a spindle supported so as to move vertically and oscillate, an engaging device carried by said spindle and adapted to engage the clip and assembled cartridges, means to give said spindle a movement up and down, and means to oscillate said spindle.

20. In a machine of the character described, as a means of removing the cartridges assembled in the clips, in combination, a spindle supported so as to move vertically and oscillate, an engaging device carried by said spindle and adapted to engage the clip and assembled cartridges, means to give said spindle successively a vertical movement and to oscillate said spindle.

21. In a machine of the character described, as a means of removing the cartridges assembled in the clips, in combination, a spindle supported so as to move vertically and oscillate, spring-plates spaced apart the width of the clip carried by said spindle and adapted to engage the clip and assembled cartridges, means to give said spindle a vertical movement up and down, and means to oscillate said spindle.

22. In a machine of the character described, as a means of removing the cartridges assembled in the clips, in combination, a spindle supported so as to move vertically and oscillate, spring-plates spaced apart the width of the clip carried by said spindle and adapted to engage the clip and assembled cartridges, means to give said spindle successively a vertical movement up and down, and to oscillate said spindle.

23. In a machine for the purpose of assembling cartridges in a clip, in combination, a table provided with a slot adapted to contain a plurality of cartridges, a guide, adapted to contain a clip in line with the heads of the cartridges, and mechanism to force the clip over the heads of the cartridges.

24. In a machine for the purpose of assembling cartridges in a clip, provided with projecting tongues, in combination, a rotary table provided with a slot adapted to contain a plurality of cartridges, mechanism to force a clip upon the heads of the cartridges, mechanism to turn the projecting tongues at right angles, said mechanisms being supported in position to act successively with respect to the cartridges in the slot, on the rotation of the table, means to operate said mechanisms, and means to rotate the table.

25. In a machine for the purpose of assembling cartridges in a clip, provided with projecting tongues, in combination, a rotary table provided with a slot adapted to contain a plurality of cartridges, mechanism to force a clip upon the heads of the cartridges, mechanism to turn the projecting tongues at right angles, said mechanisms being supported in position to act successively with respect to the cartridges in the slot, on the rotation of the table, mechanism intermediate of the clip-discharging mechanism and tongue-bending mechanism to force said tongues into the grooves in the heads of the cartridges, means to operate said mechanisms and means to rotate said table.

26. In a machine for the purpose of assembling cartridges, in a clip, in combination, a rotary table provided with a plurality of slots each adapted to contain a plurality of cartridges, a guide adapted to contain clips in line with said slots in the table, successively, at the dwell of the table, and means to force a clip over the cartridges during the dwell of the table.

27. In a machine for the purpose of assembling cartridges in a clip provided with projecting tongues, in combination, a rotary table provided with a plurality of slots, each adapted to contain a plurality of cartridges, mechanism to force a clip upon the heads of the cartridges, mechanism to turn the projecting tongues at right angles, said mechanisms being supported to act successively with respect to the cartridges in a slot and simultaneously with respect to the cartridges in successive slots, means to cause said mechanisms to act simultaneously, and means to rotate said table.

28. In a machine for the purpose of assembling cartridges in a clip, provided with projecting tongues, in combination, a rotary table provided with a plurality of slots, each adapted to contain a plurality of cartridges, mechanism to force a clip upon the heads of the cartridges, mechanisms to turn the projecting tongues at right angles, said mechanisms being supported in position to act successively with respect to the cartridges in a slot, and simultaneously with respect to the cartridges in successive slots, means to operate said mechanisms, and means to rotate said table.

29. In a machine for the purpose of assembling cartridges in a clip provided with projecting tongues, in combination, a rotary table provided with a plurality of slots, each adapted to contain a plurality of cartridges, mechanism to force a clip upon the heads of the cartridges, mechanism to turn the projecting tongues at right angles, mechanisms to force said tongues into the grooves in the heads of the cartridges, said mechanisms being supported to act simultaneously with respect to the cartridges in successive slots, and successively with respect to the cartridges in a slot and means to cause said mechanisms to act.

30. In a machine for the purpose of assembling cartridges in a clip, provided with projecting tongues, in combination, a rotary table provided with a plurality of slots adapted to contain a plurality of cartridges, mechanism to force a clip upon the heads of the cartridges, mechanism to turn the projecting tongues at right angles, mechanism to force said tongues into the grooves in the heads of the cartridges, mechanism adapted to remove said assembled cartridges from the table, said mechanisms being supported to act successively with respect to the cartridges in a slot, and simultaneously with respect to the cartridges in successive slots, means to cause said mechanisms to act, and means to rotate said table.

31. In a machine for the purpose of assembling and securing cartridges in a clip, in combination, a table provided with a slot adapted to receive a plurality of cartridges, means to give said table a step-by-step movement, mechanism adjacent to the slot in one position of the table, to force a clip over the heads of the cartridges, mechanism to remove the clip and contained cartridges adjacent to the slot at a subsequent position of the table, and means to operate said mechanisms during the dwell of the table.

32. In a machine for the purpose of assembling and securing cartridges in a clip, in combination, a table provided with a slot adapted to receive a plurality of cartridges, means to give said table a step-by-step movement, mechanism, adjacent to the slot in one position of the table, to force a clip over the heads of the cartridges, mechanism, adjacent to the slot at another position of the table, to force down the clip-tongues, mechanism, adjacent to the slot at a third position of the table, to remove the clip and contained cartridges, and means to operate said mechanisms during the dwell of the table.

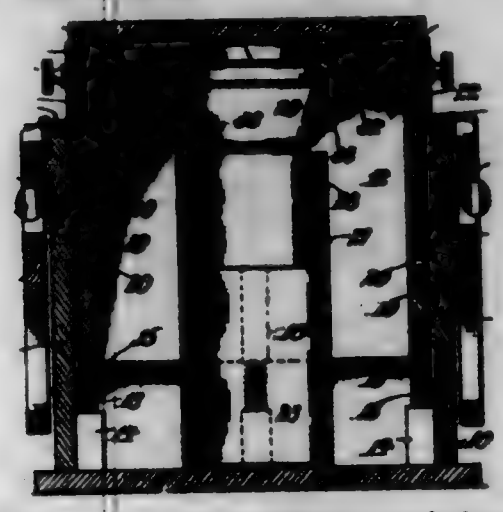
33. In a machine for the purpose of assembling and securing cartridges in a clip, in combination, a table provided with a slot adapted to receive a plurality of cartridges, means to give said table a step-by-step movement, mechanism, adjacent to the slot in one position of the table, to force a clip over the heads of the cartridges, mechanism, adjacent to the slot at another position of the table, to force down the clip-tongues, mechanism, adjacent to the slot at a third position of the table, to remove the clip and contained cartridges, means to operate said mechanisms during the dwell of the table, and a device in line with the clip, in the movement of the table between the tongue-turning mechanism and the discharging mechanism to bend inward the tongue into the groove in the cartridge-head.

34. In a machine for the purpose of assembling and securing cartridges in a clip, in combination, a table provided with a plurality of slots spaced apart, each adapted to receive a plurality of cartridges, means to give said table a step-by-step movement the distance between slots, mechanism to force a clip over the heads of the cartridges, mechanism to turn the tongues of the clip downward, and mechanism to remove the clip and contained cartridges, said mechanisms being adjacent to the table and spaced apart the distance between slots, and means to simultaneously operate said mechanisms during the dwell of the table.

35. In a machine for the purpose of assembling and securing cartridges in a clip, in combination, a table provided with a plurality of slots, spaced apart, each adapted to receive a plurality of cartridges, means to give said table a step-by-step movement the distance between slots, mechanism to force a clip over the heads of the cartridges, mechanism to turn the tongues of the clip downward, and mechanism to remove the clip and contained cartridges, said mechanisms being adjacent to the table and spaced apart the distance between slots, means to simultaneously operate said mechanisms during the dwell of the table, and a device in line with the clip in the movement of the table, between the tongue-turning mechanism and

the discharging mechanism, adapted to bend inward the tongue into the groove in the cartridge-head.

804,019. COMMODE. LOUIS LOEB, Chicago, Ill. Filed Aug. 17, 1904. Serial No. 221,602.



Claim.—1. A commode consisting of a main frame, a supplemental frame carried thereby, a seat on the supplemental frame, a telescopic receptacle, and means for vertically adjusting the position of the supplemental frame in the main frame and at the same time automatically telescoping the receptacle, substantially as and for the purpose described.

2. A commode consisting of a main frame, a supplemental frame carried thereby, a seat on the supplemental frame, a two-part, telescopic receptacle attached to the seat, and means for vertically adjusting the position of the supplemental frame in the main frame and at the same time automatically telescoping the receptacle, substantially as and for the purpose described.

3. A commode consisting of a main frame, a supplemental frame carried thereby, a seat on the supplemental frame, a telescopic receptacle, and means for vertically adjusting the position of the supplemental frame in the main frame and at the same time automatically telescoping the receptacle, said means consisting of pins in the main frame adapted to be moved into and out of a corresponding number of a series of recesses formed in the supplemental frame, substantially as and for the purpose described.

4. A commode consisting of a main frame, a supplemental frame carried thereby, springs interposed between the main frame and the supplemental frame and tending to lift the latter, a seat on the supplemental frame, a receptacle, and means for securing the supplemental frame in any position of vertical adjustment relative to the main frame, substantially as and for the purpose described.

5. A commode consisting of a main frame, a supplemental frame carried thereby, helically-coiled expansible springs interposed between the main frame and the supplemental frame and tending to lift the latter, a seat on the supplemental frame, a receptacle, and means for securing the supplemental frame in any position of vertical adjustment relative to the main frame, substantially as and for the purpose described.

6. A commode consisting of a main frame, a supplemental frame carried thereby, a seat on the supplemental frame, a two-part, telescopic receptacle consisting of a cylindrical lower part having a closed bottom, and an inwardly-projecting flange at its top provided with a plurality of recesses, and of an upper part having a smaller cylindrical portion adapted to fit in the lower part and provided with a plurality of projections adapted to register with the recesses in the flange, and means for vertically adjusting the position of the supplemental frame in the main frame, substantially as and for the purpose described.

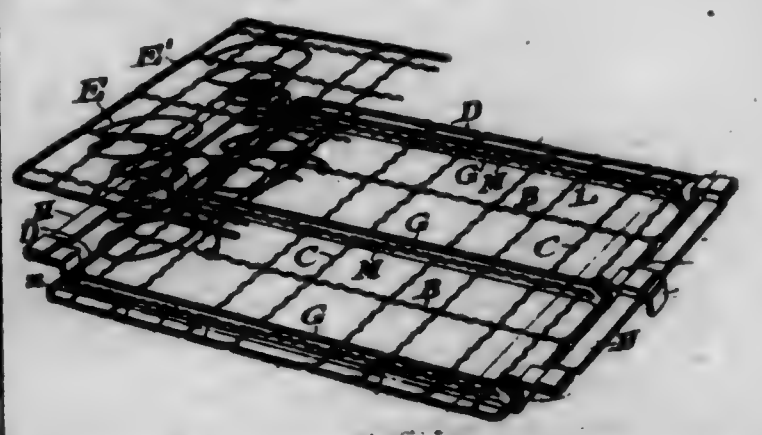
7. A commode consisting of a main frame, a supplemental frame carried thereby, a seat on the supplemental frame, a receptacle, means for detachably securing the receptacle to the under side of the seat, a door in the main frame giving access to the receptacle, means for vertically adjusting the position of the supplemental frame in the main frame, a pair of arms pivoted to the main frame and adapted to be raised into operative position in the lower position of adjustment of the supplemental frame, and to be swung out of operation in the higher position, and the detent members pivoted to the supplemental frame, substantially as and for the purpose described.

8. A commode consisting of a main frame, a supplemental frame carried thereby, a plurality of seats on the supplemental frame, the upper one having the smaller aperture and being adapted to swing from above the lower one when desired, a telescopic receptacle supported from the lowermost seat, means for detachably securing the receptacle to the under side of said lowermost seat, a door in the main frame giving access to the receptacle, and means for vertically adjusting the position of the supplemental frame in the main frame and at the same time automatically telescoping the receptacle.

9. A commode consisting of a main frame, a supplemental frame carried thereby, a plurality of seats on the supplemental frame, the uppermost of said seats having the smaller aperture and being divided longitudinally and hinged at its sides so that it can be swung from above the lower one when desired, a telescopic receptacle, means for detachably securing the receptacle to the under side of said lowermost seat, a door in the main frame giving access to the receptacle, and means for vertically adjusting the position of the supplemental frame in the main frame and at the same time automatically telescoping the receptacle.

10. A commode consisting of a main frame, a supplemental frame carried thereby, a seat on the supplemental frame, a telescopic receptacle, means for vertically adjusting the position of the supplemental frame in the main frame and at the same time automatically telescoping the receptacle, and a pair of arms adapted to be raised into operative position in the lower position of adjustment of the supplemental frame and to be swung out of position in the higher adjustment, substantially as and for the purpose described.

804,020. SPRING-MATTRESS. FRANZ J. MAIER, Royersford, Pa. Filed June 22, 1905. Serial No. 266,413.



Claim.—1. In a spring-mattress, a plurality of frames, a transversely-extending member of one frame being connected with a longitudinally-extending member of the other frame and means for interlocking said members and preventing lateral shifting of either frame.

2. In a spring-mattress, a spring-supporting frame, an auxiliary suspension-frame, the transversely-extending members of the first-named frame passing through the longitudinally-extending members of the second-named frame, and means on said longitudinally-extending members adapted to interlock said transversely-extending members therewith.

3. In a spring-mattress, a spring-supporting frame, an auxiliary suspension-frame, said frames being connected and means on a longitudinally-extending member of said suspension-frame adapted to interlock a transversely-extending member of said spring-supporting frame therewith.

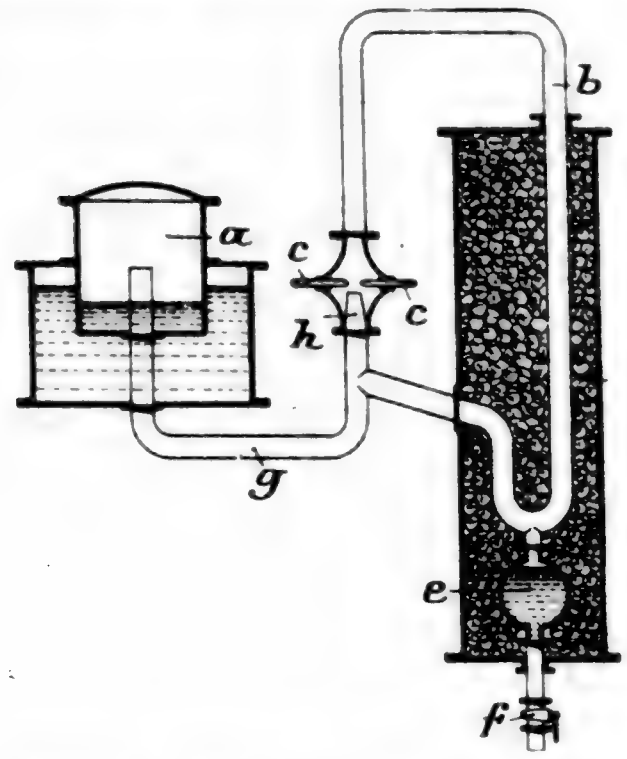
4. In a spring-mattress, a plurality of frames, a transversely-extending member of one frame being connected with a longitudinally-extending member of the other frame and means for interlocking said members and preventing lateral shifting of either frame on opposite sides of said longitudinally-extending member.

5. In a spring-mattress a spring-supporting frame, a suspension-frame connected therewith, a longitudinally-extending member of said suspension-frame engaging a transversely-extending member of said spring-supporting frame, and a piece adapted to interlock said transversely-extending member and prevent shifting of said frames, one on the other.

804,021. MEANS FOR PRODUCING OXIDS OF NITROGEN. ERNST MARQUARDT, Schlachtensee, near Berlin, and EDMUND VERTEN, Charlottenburg, Germany. Filed May 2, 1903. Serial No. 155,204.

Claim.—1. Means for producing oxids of nitrogen from a mixture of oxygen and nitrogen, which means consists in the combination, with a system of pipes forming a closed cycle, of an electric-discharge device arranged within said system, means for separating the formed product, a vessel adapted to contain fresh raw material, and means for introducing under pressure greater than atmospheric fresh material from said vessel to said system.

2. In an apparatus of the class described, the combination, with a system of pipes forming a closed cycle, of an electric-discharge device arranged within said system, and means external to the closed system, connected therewith and arranged to supply fresh material to said system, under a pressure greater than atmospheric.



3. Means for producing oxids of nitrogen from a mixture of oxygen and nitrogen, which means consists in the combination, with a system of pipes forming a closed cycle, of an electric-discharge device arranged in said system, means for separating the formed product, a vessel adapted to contain fresh raw material and connected to said system, and a source of heat independent of the electric-discharge device and arranged to heat a lower portion of the said system, whereby a circulation is maintained in said system.

4. Means for producing oxids of nitrogen from a mixture of oxygen and nitrogen, which means consists in the combination, with a system of pipes forming a closed cycle, of a pair of electrodes containing metal compounds arranged in said system, means for separating the formed product, a vessel containing fresh raw material and connected to said system, means for separating the formed product, a vessel arranged to contain raw material, and means for introducing the raw material into said system.

5. Means for producing oxids of nitrogen from a mixture of oxygen and nitrogen, which means consist in the combination, with a system of pipes, of mechanism for producing an electric arc in said system, said mechanism comprising carbon electrodes containing fluor-spar, means for separating the formed product, a vessel for containing the raw material and means for introducing the raw material into the said system, substantially as and for the purpose described.

6. Means for producing oxids of nitrogen from a mixture of oxygen and nitrogen, which means consist in the combination, with a system of pipes, of mechanism for producing an electric arc in said system, said mechanism comprising electrodes containing carbon, the points of which are protected against contact with the gaseous mixture by means of a sleeve of refractory material, means for separating the formed product, a vessel for containing the raw material, and means for introducing the raw material into the said system, substantially as and for the purpose described.

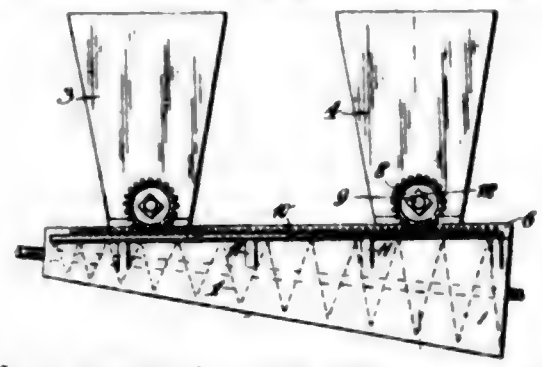
7. An apparatus for the production of oxids of nitrogen provided with electrodes containing calcium fluorid.

8. An apparatus for the production of oxids of nitrogen having electrodes containing carbon and calcium fluorid.

9. An apparatus for the production of oxids of nitrogen having electrodes consisting essentially of carbon and calcium fluorid.

804,022. APPARATUS FOR MIXING SUBSTANCES TOGETHER IN REGULAR PROPORTIONS. THOMAS H. D. MAY, Bath, England. Filed June 9, 1904. Serial No. 211,822.

Claim.—1. An apparatus for automatically proportioning and mixing substances together, comprising a conveyer whose capacity is gradually increased from one end to the other, hoppers for holding the different materials and delivering them to the conveyer, and means for adjusting the hoppers longitudinally of said conveyer relatively to the conveyer so as to vary the particular relative amounts withdrawn from each hopper, substantially as described.

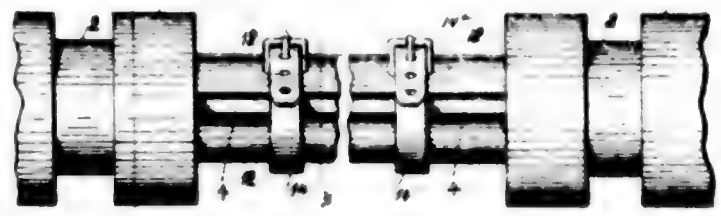


2. In an apparatus for mixing substances in regular proportions, the combination of hoppers for the different materials, a tapering screw conveyer, a casing therefor, and means for adjusting the position of the hoppers along the screw conveyer to vary the relative amounts of material which the latter withdraws from each hopper, substantially as described.

3. In an apparatus for mixing different materials in regular proportions, the combination of a tapering conveyer, a trough or casing therefor, hoppers for the different materials, supported by said trough and a rack and pinion for traversing the hoppers along the trough substantially as described.

4. In an apparatus for mixing different kinds of material together automatically, the combination of a delivery apparatus for each different kind of material, a conveyer whose capacity increases from one point to another, and means for bringing the delivery apparatus opposite different points in the conveyer and thus altering the proportions of material withdrawn by said conveyer, substantially as described.

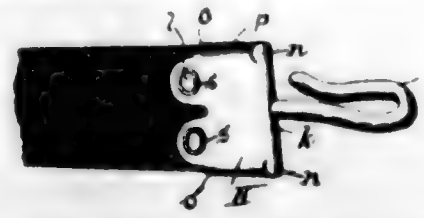
804,023. COUPLING-BOX FOR ROLLS. WILLIAM C. MILLHIZER and FREDERICK MCQUISTON, Pittsburg, Pa. Filed Feb. 9, 1905. Serial No. 244,987.



Claim.—1. The combination with a spindle, of a box, said box consisting of a body portion having an opening formed therein adapted to receive the wabbler of a roll and the end of said spindle, the sides of said opening having grooves formed therein, said grooves extending from end to end of the box, and bearing-blocks mounted in said grooves and adapted to overlap the adjacent ends of and engage the wabbler and the end of said spindle.

2. The combination with a spindle of a box, said box consisting of a body portion having an opening formed therein adapted to receive the wabbler of a roll and the end of said spindle, the sides of said opening having grooves widest at the outer side formed therein, bearing-blocks fitting in said grooves and adapted to engage said wabbler and spindle and means to secure said blocks within said box.

804,024. HOOK. ANSON MILLS, Washington, D. C., assignor to Mills Woven Cartridge Belt Company, Worcester, Mass. Filed Dec. 28, 1903. Serial No. 186,781.

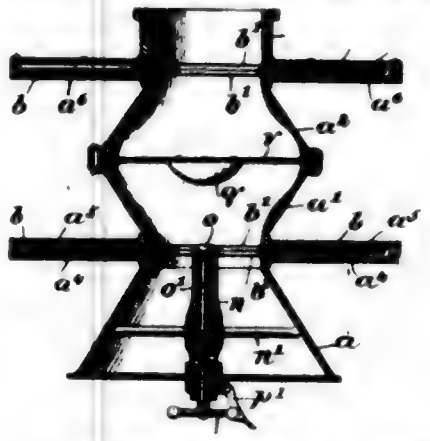


Claim.—1. The described hook consisting of a rod bent to form the hook *k* and the cross-bar base consisting of the upper limb *a*, *c*, and the lower limb *b* lying closely together parallel with each other in the plane of the shank of the hook, the sheet-metal keeper K in the folded edge of which the cross-bar of the hook is housed, provided with a hole in that edge through which the shank of the hook projects, and with side flanges for closing the side edges of the keeper, and the webbing W inserted in the keeper to abut against the cross-bar of the hook and eyeleted to the keeper, as set forth.

2. The described hook consisting of a rod bent to form the hook *h* and the cross-bar base consisting of the upper limb *a*, *c* and lower limb *b* lying closely together parallel with each other in the plane of the shank of the hook, the sheet-metal keeper K in the folded edge of which the cross-bar of the hook is housed, provided with a hole *k* in that edge, through which the shank of the hook projects, and with side provisions *o p n* for closing the side edges of the keeper, and the webbing W inserted in the keeper to abut against the cross-bar of the hook, and eyeleted to the keeper as shown and described.

3. The keeper formed from a sheet-metal blank having central hole *k* along the line of fold of the blank, end eyelet-holes *l* which register with each other in the folded blank, and side flanges *o*, *p* and intermediate half-rounds or ears *n* which are bent to form the side closures of the keeper, as hereinbefore shown and described.

804,025. CARBURETER FOR GAS-ENGINES. OGDEN MINTON, New York, N. Y. Filed June 29, 1904. Serial No. 214,616.



Claim.—1. A carbureter for gas-engines, comprising a body having a passage therethrough, two pairs of valves in said passage, each comprising two sliding plates having an opening, the openings in the two plates of each pair being adapted to register with each other, and means for admitting fuel to the passage between said pair of plates through the openings in one of the pairs and at a point adjacent to that pair.

2. A carbureter for gas-engines, comprising a body having a passage therethrough provided with a flaring mouth at the inlet portion and an enlarged central portion, an air-valve located between said flaring mouth and said enlarged portion, a valve located at the other end of said enlarged portion, means for simultaneously operating said valves, means for admitting fuel to said passage, and means in said enlarged portion for intimately mixing air and fuel.

3. A carbureter for gas-engines, comprising a body having a passage therethrough, two pairs of valves in said passage each comprising two sliding plates having an opening therein, the openings in the two plates of each pair being adapted to register with each other, means for admitting fuel to the passage between said pairs of valves, a foraminous screen extending across the passage between the valves, and a baffle-plate attached to said screen.

4. A carbureter for gas-engines, comprising a body having a passage therethrough, two pairs of valves in said passage, each comprising two reciprocating plates having an opening therein, the openings in the two plates of each pair being adapted to register with each other, and a fuel-inlet adjacent to one of said valves.

5. A carbureter for gas-engines, comprising a body having a continuous passage therethrough, a plurality of valves in said passage, each of said valves comprising a pair of plates having openings adapted to be brought into registration with each other, casings attached to said body for containing said plates, means for introducing fuel between the valves, and means for simultaneously operating said plates, comprising a link connected to each plate, a pair of bell-cranks each connected to two of said links, and a link pivotally connected to one of said bell-cranks and adjustably connected to the other.

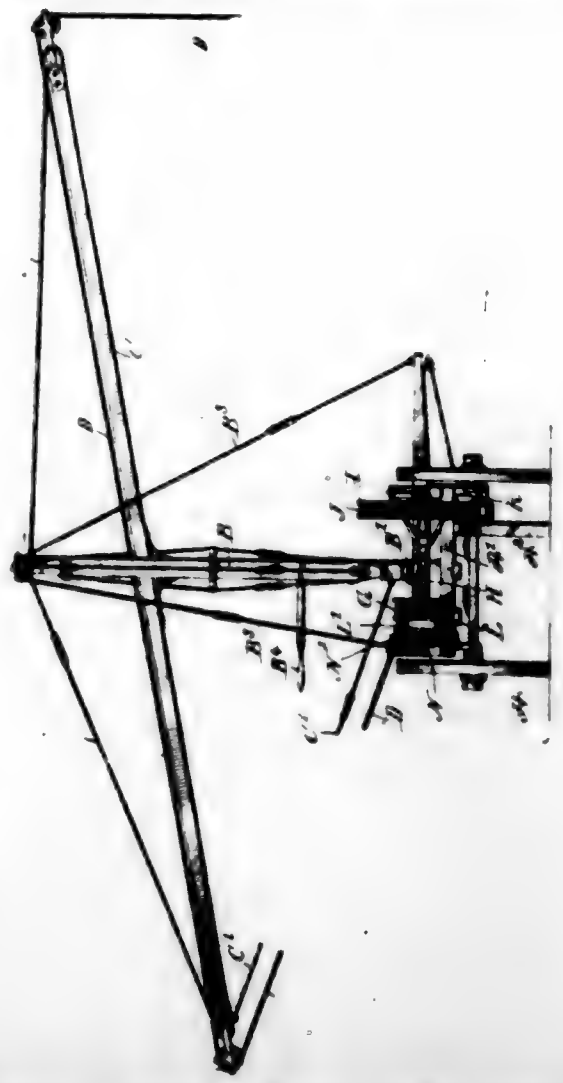
6. A carbureter for gas-engines, comprising a body having a passage therethrough provided with an inlet at one end and an outlet at the other, a valve near said inlet, and a second valve near said outlet, each of said valves comprising two sliding plates each having an opening therein, the openings of the two plates of each valve being adapted to register with each other, means for simultaneously operating said valves, and means for introducing fuel at a point between them.

7. A carbureter for gas-engines, having a passage for air and gas, a plurality of valves in said passage, each of said valves comprising a pair of plates having openings adapted to be brought into registration with each other a casing attached to said body for containing the plates, means for introducing fuel at a point between said valves, means for regulating the amount of fuel introduced, and means for simultaneously operating said plates, comprising a link connected to each plate, a pair of bell-cranks each connected to two of said links, and a link connected to both of said bell-cranks, the connection between the link and one of the bell-cranks being adjustable.

8. The combination of a carbureter for gas-engines, comprising a body having a passage provided with a flaring mouth and an enlarged central portion, a valve between said mouth and enlarged portion, with means for introducing vaporizable fuel, comprising a casing having an outlet located in said passage above the flaring mouth and valve, and a feed device for the fluid, comprising a tank having an inlet, a valve for the inlet, and automatic means for controlling the valve.

9. The combination of a carbureter for gas-engines, comprising a series of shells having a continuous passage therethrough, said passage being provided with a flaring mouth at the inlet end and an enlarged central portion, a valve between said mouth and enlarged portion, a valve at the other end of said enlarged portion, said valves each comprising a pair of reciprocable plates having openings adapted to be brought into registration with each other, means for simultaneously reciprocating the plates of both valves, comprising a link connected to each plate, a double bell-crank having oppositely-extending arms pivotally connected to the two links of each valve, each of said bell-cranks having an arm projecting at an angle from the first-mentioned arms, a link connecting said arms and adjustably connected to one of them, a foraminous plate in said enlarged portion and provided with a convex baffle-plate for intimately mixing air with fuel, a tube extending into said flaring end and through the openings in the plates of the valve located at the end of said flaring end, a valve in said tube, a tank, an inlet-valve for said tank, a float in the tank connected with said inlet-valve, and a tube connecting said tank with said first-mentioned tube.

804,026. LOADER. JOSEPH C. MIRE, Belle Helene, La. Filed Oct. 15, 1904. Serial No. 228,562.



Claim.—1. A loader comprising a wheeled vehicle, a post mounted to turn at its lower end on the said vehicle, a cap supported from the vehicle and in which the upper end of said post is journaled, a boom supported on the said post and extending beyond both sides of the post, a hoisting-rope passing over pulleys at the ends of the

boom, a load-carrier at one end of the said hoisting-rope, a hoisting-drum journaled on the said vehicle and on which winds the other end of the said hoisting-rope, an operating-drum for rotating the said hoisting-drum, and a pull-rope on the said operating-drum, for rotating the latter.

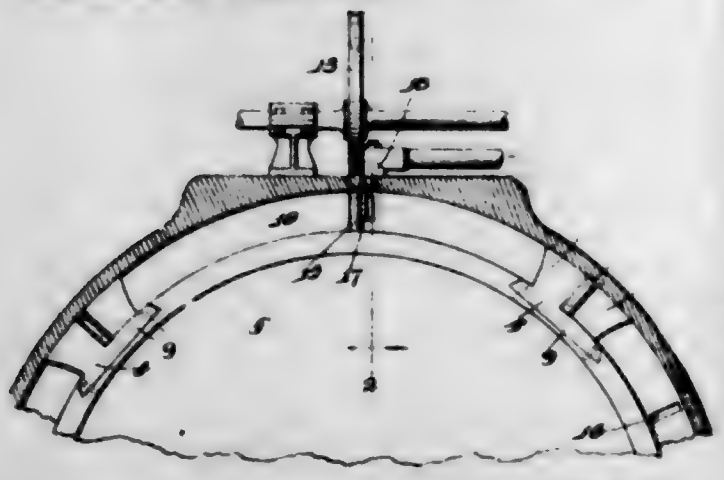
2. A loader comprising a wheeled vehicle, a post mounted to turn on the said vehicle, a boom supported on the said post and extending beyond both sides of the post, a hoisting-rope passing over pulleys at the ends of the boom, a load-carrier at one end of the said hoisting-rope, a hoisting-drum journaled on the said vehicle and on which winds the other end of the said hoisting-rope, an operating-drum secured on the shaft of the hoisting-drum for rotating the said hoisting-drum, a pull-rope on the said operating-drum, for rotating the latter, and a manually-controlled brake mechanism for the said hoisting-drum, the said mechanism comprising a brake-drum secured on the shaft of the hoisting-drum, a brake-band engaging said brake-drum, and a foot-lever connected by a link with said brake-band.

3. A loader comprising a wheeled vehicle, a post mounted to turn at its lower end in a step on the said vehicle, a cap in which the upper end of said post is journaled, adjustable supporting-rods for the cap connected with the body of the vehicle, a boom supported on the said post and extending beyond both sides of the post, a hoisting-rope passing over pulleys at the ends of the boom, a load-carrier at one end of the said hoisting-rope, a hoisting-drum journaled on the said vehicle and on which winds the other end of the said hoisting-rope, an operating-drum for rotating the said hoisting-drum, a pull-rope on the said operating-drum, for rotating the latter, a ratchet-wheel on the shaft of the said hoisting-drum, and a manually-controlled pawl for the said ratchet-wheel, to hold the latter and the hoisting-drum against accidental return movement after the load is hoisted and the post is to be turned.

4. A loader comprising a wheeled vehicle, a post mounted to turn at its lower end in a step on the said vehicle and provided with a handle for turning the same, a cap supported from the vehicle and in which the upper end of the post is journaled, an inclined boom supported on the said post, a hoisting-rope extending over the top of the boom and passing over pulleys at the ends of the boom, a load-carrier at one end of said hoisting-rope, a hoisting-drum journaled on the said vehicle and on which winds the other end of the said hoisting-rope, an operating-drum secured on the shaft of the hoisting-drum for rotating the said hoisting-drum, a pull-rope on the said operating-drum for rotating the latter and a brake mechanism for the hoisting-drum.

5. A loader comprising a wheeled vehicle, a post mounted to turn at its lower end on said vehicle, a cap in which the upper end of the post is journaled, adjustable supporting-rods for the cap connected with the body of the vehicle, an inclined boom supported on the said post and extending beyond the sides of the same, the lower end of said boom being connected by braces with the top and bottom of the post, a hoisting-rope passing over pulleys at the ends of the boom and connected at one end with a load-carrier, and hoisting means with which the other end of said rope is connected.

804,027. **AIR-COMPRESSOR.** CHRISTIAN NEUMANN, St. Louis, Mo., assignor to Natural Power Company, St. Louis, Mo., a Corporation. Filed Dec. 8, 1904. Serial No. 236,050.



Claim.—1. An air-compressor, comprising a casing forming a compression-chamber a revolving disk therein, pistons having forward and rearward tapered ends located upon the said disk; a rotary cut-off disk traveling through the compressing-chamber and having openings for the passage of the piston whereof to compress air between the pistons and disk, substantially as specified.

2. An air-compressor, having a casing forming a compression-chamber pistons mounted upon a revolving disk traveling in the chamber, a passage formed between the disk and casing; a rotary cut-off disk having openings for the passage of the piston and operating through the chamber; the front and rear surface of the pistons being tapered to pass through the openings in the cut-off disk, and openings formed in the casing for admitting and expelling the air, substantially as specified.

3. An air-compressor, comprising a casing elongated wedge-shaped pistons upon a revolving disk, an automatic rotary cut-off disk passing in its rotation through the said casing; said pistons traveling through a chamber between the disk and the casing, the said pistons arranged to pass through recesses, and passages formed in the cut-off disk and means for controlling the discharge of air compressed in the chamber, substantially as specified.

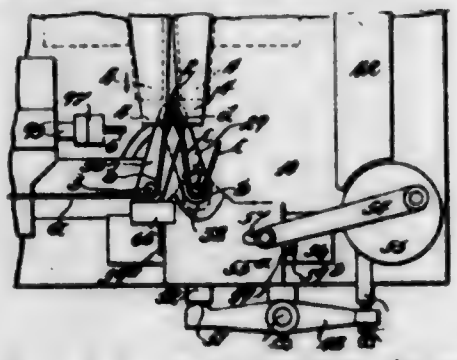
804,028. **BLOWER.** CHRISTIAN NEUMANN, St. Louis, Mo., assignor to Natural Power Company, St. Louis, Mo., a Corporation. Filed Dec. 8, 1904. Serial No. 236,051.



Claim.—1. A blower comprising a casing having a partition forming a helical-shaped air-chamber, a rectangular-shaped revolving member mounted within the casing, and a plurality of air-passages formed in the partition and revolving member whereby the air is admitted into the chamber from the atmosphere, substantially as specified.

2. A blower comprising a casing, a partition in said casing; said partition having passages, and forming an air-receiving chamber between the same and the casing, a revolving member located in the casing; said revolving member being rectangular in form, a plurality of air-passages formed in the revolving member and arranged to deliver the air rearwardly, the projecting corners having a tendency to drive the air through the partition into the chamber, substantially as specified.

804,029. **WIRE-WORKING MACHINE.** AXEL H. NILSON and MAURITS OLSON, Bridgeport, Conn., assignors, by mesne assignments, to International Automatic Machine Co., Limited, New Glasgow, Canada. Filed Oct. 4, 1904. Serial No. 227,083.



Claim.—1. In a wire-working machine, the combination of means for bending a wire into a succession of zigzag loops, means for then forming a hook on every alternate loop, and means for finally finishing the loop form of the other loops.

2. In a wire-working machine, the combination of means for bending a wire into a flat body having loops alternately arranged at the opposite edges thereof, means for then forming spring-hooks on the loops on one edge of the body, and means for finally finishing the loops on the other edge to preserve the loop form thereof.

3. In a wire-working machine, the combination of means for automatically bending the wire into a succession of zigzag loops, means for forming a hook on every alternate loop, and means for preserving the other loops in loop form.

4. In a wire-working machine, the combination of means for

automatically bending a wire into a flat body having loops alternately arranged at the opposite edges thereof, means for automatically forming spring-hooks on the loops on one edge of the body, and means for preserving the other loops in loop form.

5. In a wire-working machine, the combination of means for forming a loop, means for slightly bending the end of the loop in a direction transverse to the plane of the loop and means for then bending the loop in the reverse direction to form a hook.

6. In a wire-working machine, the combination of means for forming a loop, means for slightly bending the end of the loop in a direction transverse to the plane of the loop and means for finally bending the loop in the reverse direction through an arc of about one hundred and eighty degrees.

7. In a wire-working machine, the combination of means for successively bending a wire into a series of loops alternately extending in opposite directions, means for automatically slightly bending the ends of each of the loops extending in one drection and means for finishing the bends in the other loops to preserve them in loop form.

8. In a wire-working machine, the combination of means for successively bending wire into a series of loops alternately extending in opposite directions, means for automatically slightly bending in a direction transverse to the plane of the loop the ends of each of the loops extending in one direction, means for automatically forming a hook on the previously-bent loops and means for acting on the bends in the other loops to preserve them in looped form.

9. In a wire-working machine, the combination of means for forming a loop, means for thereafter slightly bending the end of the loop in a direction transverse thereto, means for squeezing together the members of the loop near the end thereof, and means for bending the loop in the reverse direction to form a hook.

10. In a wire-working machine, the combination of means for successively bending a wire into a series of loops alternately extending in opposite directions, means for automatically slightly bending the ends of each of the loops extending in one direction, means for automatically squeezing together the members of the bent loops near the ends thereof, and means for automatically forming a hook on said previously-bent loops.

11. In a wire-working machine, the combination of means for forming a loop, means for thereafter squeezing the ends thereof toward each other, and means for finally bending the end of the loop upon itself to form a hook.

12. In a wire-working machine, the combination of means for successively bending a wire into a series of loops alternately extending in opposite directions, means for squeezing together the ends of each of the loops extending in one direction, and means for automatically forming a hook on the loops the ends of which have been squeezed together.

13. In a wire-working machine, the combination of means for successively bending a wire into a series of loops alternately extending in opposite directions, means for slightly bending the ends of each of the loops extending in one direction, and means for squeezing together said bent ends.

14. In a wire-working machine, the combination of means for forming a loop, means for thereafter squeezing the ends of the loop together, means for then slightly bending the end of the loop, and means for finally clamping the loop and advancing it in the machine.

15. In a wire-working machine, the combination of means for forming a loop, means for thereafter squeezing the ends of the loop together, and means for finally clamping the loop and advancing it in the machine.

16. In a wire-working machine, the combination of means for forming a loop, means for thereafter slightly bending the loop, means for squeezing toward each other the members of the loop to bring the strands into parallelism with and at a distance from each other, and means for bending the loop in a reverse direction to the first bend to form a hook.

17. In a wire-working machine, the combination of means for bending a wire into a series of loops alternately extending in opposite directions, means for slightly bending the ends of each of the loops extending in one direction, means for squeezing together the members of the bent loops, and means for forming a hook on said previously-bent loops.

18. In a wire-working machine, the combination of means for bending a wire to form a loop, means for slightly bending the end of the loop in one direction, means for squeezing toward each other the members of the bent loop to bring them into parallelism at a distance from each other, and means for finally forming a hook on said previously-bent loops extending in a direction opposite to that of the first bend.

19. In a wire-working machine, the combination of means for successively bending a wire into a series of loops, means for squeezing together the ends of certain of said loops, and means for forming a hook on each of the loops the ends of which have been squeezed together.

20. In a wire-working machine, the combination of means for bending a wire in reverse directions to form a loop, means for bending over the end of the loop after it is formed to form a hook, means for clamping one of the bends produced and finishing it, and means for advancing the loop in the machine.

21. A wire-working machine, comprising three pins, two of said pins being adapted to engage a wire on one side thereof, and the third to engage the wire on the other side at a point between the other two pins, means for giving an arcuate motion to said third pin about one of the other pins as a center, in a direction toward the wire, and means for moving one of the first-named pins in a straight line toward the one about which the third pin turns, said line being parallel with the original position of the wire.

22. A wire-working machine, comprising three pins, two of said pins being adapted to engage a wire on one side thereof, and the third to engage the wire on the other side at a point between the other two pins, means for giving an arcuate motion to said third pin about one of the other pins as a center, in a direction toward the wire, and means for moving one of the first-mentioned pins in a straight line toward the other of said first-mentioned pins.

23. A wire-working machine, comprising three pins, two of them being adapted to engage a wire on one side thereof and the third on the other side at a point between the first two, means for moving said third pin toward the wire to form a loop, means for withdrawing two of said pins from contact with the wire, and means for engaging the wire about the pin remaining in contact with it, and moving the wire along in the machine.

24. A wire-working machine comprising three pins, two of said pins being adapted to engage a wire on one side thereof, and the third to engage the wire on the other side at a point between the other two pins, means for moving said third pin toward the wire to form a loop, means for withdrawing two of said pins from contact with the wire, and means for engaging the wire about the pin remaining in contact with it, finishing the bend about that pin, and moving the wire along in the machine.

25. A wire-working machine comprising three pins, two of said pins being adapted to engage a wire on one side thereof, and the third to engage the wire on the other side at a point between the other two pins, means for moving said third pin toward the wire to form a loop, means for withdrawing two of said pins from contact with the wire, a forming-clamp, means for forcing the clamp into engagement with the wire and causing it to clamp it between the clamp and the pin remaining in contact with the wire, and means for moving the clamp and pin forward in the machine.

26. A wire-working machine comprising three pins, two of said pins being adapted to engage a wire on one side thereof, and the third to engage the wire on the other side at a point between the other two pins, means for moving said third pin toward the wire to form a loop, means for withdrawing two of said pins from contact with the wire, a forming-clamp, means for forcing the clamp into engagement with the wire and causing it to clamp it between the clamp and the pin remaining in contact with the wire, means for moving the clamp and pin forward in the machine, means for loosening the clamp after its stroke in one direction is completed, and means for returning the clamp and pin to their original positions.

27. A wire-working machine comprising three pins, two of said pins being adapted to engage a wire on one side thereof, and the third to engage the wire on the other side at a point between the other two pins, means for moving said third pin toward the wire to form a loop, means for withdrawing two of said pins from contact with the wire, a forming-clamp, means for forcing the clamp into engagement with the wire and causing it to clamp it between the clamp and the pin remaining in contact with the wire, means for moving the clamp and pin forward in the machine, and additional means for securing the clamp against the wire and pin.

28. A wire-working machine, comprising a plurality of pins, means for moving one of said pins toward a wire to form a loop, a forming-clamp, means for forcing the clamp into engagement with the wire and causing it to clamp the wire against one of said pins, and means for moving the clamp and said last-mentioned pin forward in the machine.

29. A wire-working machine, comprising a plurality of pins, means for moving one of said pins against the wire to form a loop, a forming-clamp, means for forcing the clamp into engagement with the wire and causing it to clamp the wire against one of said pins,

means for moving the clamp and pin forward in the machine, means for loosening the clamp after its stroke in one direction is completed, and means for returning the clamp and pin to their original positions.

30. A wire-working machine, comprising a pair of links, three pins, the first of said pins constituting a pivotal connection between adjacent ends of the links, and the second and third pins serving as pivots for the two links at their outer ends, and means for swinging one of said links about its outer end as a center.

31. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their other ends.

32. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their other ends, the second pin being temporarily mounted on a stationary axis, and the third pin on a reciprocable axis.

33. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their other ends, the second pin being temporarily mounted on a stationary axis, and the third pin on a reciprocable axis, means for oscillating one of the links about the axis of said second pin, and means for reciprocating, said third pin.

34. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their outer ends, said first pin being adapted to engage the wire on one side thereof, and said second and third pins on the other side, means for oscillating one of the links about the axis of the second pin and thereby giving said first pin an arcuate motion, and means for reciprocating said third pin toward the second pin.

35. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their other ends, said first pin being adapted to engage the wire on one side thereof, and said second and third pins on the other side, means for oscillating one of the links about the axis of the second pin and thereby giving said first pin an arcuate motion, means for reciprocating said third pin toward the second pin, and means for thereafter withdrawing said first and second pins in contact with the wire.

36. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their outer ends, said first pin being adapted to engage the wire on one side thereof, and said second and third pins on the other side, means for oscillating one of the links about the axis of the second pin and thereby giving said first pin an arcuate motion, means for reciprocating said third pin toward the second pin, and means for thereafter withdrawing said first and second pins axially in opposite directions in contact with the loop thus produced.

37. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their outer ends, said first pin being adapted to engage the wire on one side thereof, and said second and third pins on the other side, means for oscillating one of the links about the axis of the second pin and thereby giving said first pin an arcuate motion, means for reciprocating said third pin toward the second pin, means for thereafter withdrawing said first and second pins axially in opposite directions in contact with the loop thus produced, and means for withdrawing said third pin in a direction at right angles to the direction of motion of the other two pins.

38. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their outer ends, said first pin being adapted to engage the wire on one side thereof, and said second and third pins on the other side, means for oscillating one of the links about the axis of the second pin and thereby giving said first pin an arcuate motion, means for reciprocating said third pin toward the second pin, means for thereafter withdrawing said first and second pins axially in opposite directions in contact with the loop thus produced, means for withdrawing said third pin in contact with the loop, and means for then moving said second pin back and inserting it in the place of the third pin.

39. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their outer ends, said first pin being adapted to engage the wire on one side thereof, and said second and third pins on the other side, means for oscillating one of the links about the axis of the second pin and thereby giving said first pin an arcuate motion, means for reciprocating said third pin toward the second pin, means for thereafter withdrawing said first and second pins axially in opposite directions in contact with the loop thus produced, means for withdrawing said third pin in contact with the loop, means for then moving said second pin back and inserting it in the place of the third pin, and means for finally moving the second pin forward with the loop.

40. In a wire-working machine, the combination of a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins being pivotally connected to the two links at their other ends, a slide on which said third pin is mounted, and means for reciprocating said slide toward and from the second pin.

41. A wire-working machine, comprising three pins, two being adapted to engage a wire on one side and the other to engage the wire on the other side at a point between the other two, means for giving an arcuate motion to said third pin about one of the other pins as a center for forming a loop, and means for pinching together the two members of the loop near the outer end thereof.

42. A wire-working machine, comprising three pins, two being adapted to engage a wire on one side, and the other to engage the wire on the other side at a point between the other two, means for giving an arcuate motion to said third pin about one of the other pins as a center, for forming a loop, and means for pinching together the two members of the loop near the outer end thereof; said last-named means comprising a pair of jaws, and means for moving said jaws toward and from each other.

43. In a wire-working machine, the combination of three pins, two adapted to engage the wire on one side, and the third to engage it on the other side at a point between the other two pins, means for moving said third pin toward the wire so as to carry the wire before it and form a loop, and means for pinching together the two members of the loop near the outer end thereof; said last-named means comprising a pair of pivoted jaws, and means for simultaneously swinging said jaws together upon their pivots.

44. A wire-working machine, comprising a pair of links pivoted together, one of said links being pivoted to a stationary part of the machine, a pin mounted at each of said pivotal points, and a pin mounted on the other link beyond the point at which it is pivoted to the first link.

45. A wire-working machine, comprising a pair of links pivoted together, one of said links being pivoted to a stationary part of the machine, a pin mounted at each of said pivotal points and a pin mounted on the other link beyond the point at which it is pivoted to the first link, means for swinging the first link about its stationary pivot, and means for moving the outer end of the other link toward said pivot in a straight line.

46. A wire-working machine, comprising a slide, means for reciprocating the slide, a pair of levers pivotally mounted upon the slide, each having an arm and a jaw at opposite ends, and a cam having two faces, one adapted to operate upon each lever-arm to force said jaws apart.

47. A wire-working machine, comprising a main shaft, three cams thereon, a slide having engagement with one of said cams whereby the slide is reciprocated, a pair of levers pivotally mounted upon said slide near the outer end thereof, each lever having a jaw upon its outer end, a spring connecting said levers together at a point part way between their inner ends and the points at which they are pivoted to the slide, and means upon the inner ends of the levers for engaging with the other two cams.

48. A wire-working machine, comprising three pins, two of said pins being adapted to engage a wire on one side, and the third to engage it on the other at a point between the other two, means for giving an arcuate motion to said third pin about one of the other pins as a center, in a direction toward the wire, whereby a loop is formed, means for pinching together the two members of the loop near the outer end thereof, and means for slightly bending the pinched end of the loop.

49. A wire-working machine, comprising three pins, two of said pins being adapted to engage a wire on one side, and the third to

engage it on the other at a point between the other two, means for giving an arcuate motion to said third pin about one of the other pins as a center, in a direction toward the wire, whereby a loop is formed, means for pinching together the two members of the loop near the outer end thereof, and means for slightly bending the pinched end of the loop; said last-named means comprising a die and mechanism for operating the die.

50. A wire-working machine, comprising a pair of links, three pins, two of said pins constituting pivots for the two links at their outer ends, a third pin constituting a pivotal connection between the adjacent ends of said links, two of said pins being adapted to engage a wire upon one side thereof, and the third pin the other side and between the other two pins, means for forcing said third pin in a direction toward the wire for the purpose of forming a loop, a die having a curved operating-face, and means for forcing the die against the wire when the latter is supported by one of said links.

51. A wire-working machine comprising three pins, two of said pins being adapted to engage a wire on one side thereof, and the third to engage the wire on the other side at a point between the other two pins, means for moving said third pin toward the wire to form a loop, means for withdrawing two of said pins from contact with the wire, a forming-clamp, means for forcing the clamp into engagement with the wire and causing it to clamp it between the clamp and the pin remaining in contact with the wire, means for moving the clamp and pin forward in the machine, means for loosening the clamp after its stroke in one direction is completed, means for returning the clamp and pin to their original positions, and means for slightly bending the end of the loop produced.

52. A wire-working machine, comprising a pair of links and three pins, the first of said pins constituting a pivotal connection between adjacent ends of said links, and the second and third pins serving as pivots for the two links at their outer ends, said first pin being adapted to engage the wire on one side thereof, and said second and third pins on the other side, means for oscillating one of the links about the axis of the second pin and thereby giving said first pin an arcuate motion, means for reciprocating said third pin toward the second pin, means for thereafter withdrawing said first and second pins axially in opposite directions in contact with the loop thus produced, means for withdrawing said third pin in contact with the loop, means for then moving said second pin back and inserting it in the place of the third pin, and means for slightly bending the end of the loop produced.

53. A wire-working machine, comprising three pins, two of said pins being adapted to engage a wire on one side, and the third to engage it on the other at a point between the other two, means for giving an arcuate motion to said third pin about one of the other pins as a center, in a direction toward the wire, whereby a loop is formed, means for pinching together the two members of the loop near the outer end thereof, means for slightly bending the pinched end of the loop, and means for finally bending the loop over in the reverse direction to form a hook.

54. A wire-working machine, comprising three pins, two of said pins being adapted to engage a wire on one side thereof and the third to engage the wire on the other side at a point between the other two pins, means for giving an arcuate motion to such third pin about one of the other pins as a center, for bending a wire to form a loop, means for pinching together the two members of the loop near the outer end thereof, means for slightly bending the pinched end of the loop, and means for finally bending the loop over in the reverse direction to form a spring-hook; said last-named means comprising a pair of pins adapted to engage the loop on each side thereof, and means for oscillating one of said pins.

55. In a wire-working machine, the combination of means for forming a loop, means for slightly bending the end of the loop, means for pinching together the two members of the bent end of the loop, and means for bending the end of the loop in the reverse direction to form a spring-hook; said last-named means comprising a pair of pins, one adapted to engage the loop above it, and the other below it, and means for oscillating the one of said pins engaging the wire below it, about the other as a center.

56. A wire-working machine, comprising a main shaft, a plurality of cams thereon, a slide having engagement with one of said cams for reciprocating the slide, a pair of levers pivotally mounted upon said slide, each lever having a jaw, and means upon said levers for engaging with other cams on said shaft.

57. A wire-working machine, comprising a plurality of pins, means for giving motion to one of them in a direction toward a wire for forming a loop, means for pinching together the two members of the loop near the outer end thereof, and means for slightly bending the pinched portion of the loop.

58. A wire-working machine, comprising a plurality of pins, means for moving one of said pins against a wire for forming a loop, means for pinching together the two members of the loop near the outer end thereof, and means for slightly bending the pinched ends of the loop, said last-named means comprising a die and mechanism for operating the die.

59. A wire-working machine comprising a plurality of pins adapted to engage a wire on opposite sides, means for forcing one of the pins toward the wire between the other pins to form a loop, a die having a curved operating-face adapted to engage a flat side of the loop, and means for forcing the die against the wire after the loop is formed.

60. A wire-working machine, comprising a plurality of pins, means for moving one of said pins with relation to the others to form a loop in a wire, means for withdrawing all but one of said pins from contact with the wire, a forming-clamp, means for forcing the clamp into engagement with the wire and clamping the wire against the pin remaining in contact therewith, means for moving the clamp and pin forward in the machine, means for loosening the clamp after its stroke in one direction is completed, means for returning the clamp to its original position, and means for slightly bending the end of the loop.

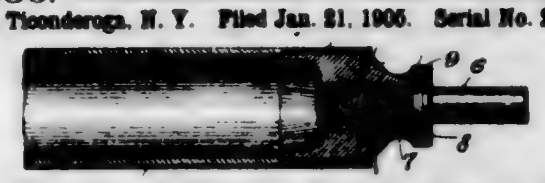
61. A wire-working machine, comprising a plurality of pins, means for moving one of said pins with respect to the others for forming a loop in a wire, means for pinching together the two members of the loop formed, near the outer end thereof, means for slightly bending the pinched end of the loop, and means for finally bending the loop over in the reverse direction to form a hook.

62. A wire-working machine, comprising a plurality of pins, means for moving one of said pins with respect to the others, for forming a loop from a length of wire, means for pinching together the two members of the loop, means for slightly bending the pinched portion of the loop, and means for finally bending the loop over in the reverse direction to form a spring-hook, said last-named means comprising a pair of pins adapted to engage the loop one on each side thereof, and means for oscillating one of said pins about a center.

63. A wire-working machine, comprising a main shaft, a plurality of power-transmitting devices thereon, an oscillatable pin, a second pin capable of reciprocation, a reciprocating pin, a clamp, a reciprocating slide on which said clamp is mounted, a pair of jaws, a reciprocating slide on which said jaws are mounted, a bending-die, a pair of pins, a rotatable shaft on which said pins are mounted, and connections from said operating devices to said other elements, for oscillating said first-mentioned pin, reciprocating the two reciprocable pins, operating the clamp, reciprocating both of said slides, moving said jaws and said die, and rotating said last-mentioned pair of pins.

64. A wire-working machine, comprising a shaft, a plurality of power-transmitting devices thereon, an oscillatable pin, a second pin capable of reciprocation, a reciprocable pin, a clamp, a reciprocating slide on which said clamp is mounted, and connections from said power-transmitting devices to the other elements mentioned, for oscillating said first-mentioned pin, reciprocating the two reciprocable pins, operating the clamp and reciprocating said slide.

804,030. INTERCHANGEABLE JOURNAL. JOSEPH H. OSTRANDER, Ticonderoga, N. Y. Filed Jan. 21, 1905. Serial No. 242,075.



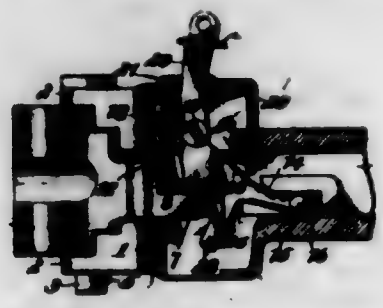
Claim.—1. The combination of a roll, a roll-head connected therewith and provided with a threaded aperture, a journal provided with a threaded portion engaging said threaded aperture, said journal being further provided with an annular groove, and a set-screw mounted within said roll-head and extending obliquely into said groove so as to engage said journal.

2. The combination of a roll provided with a cylindrical end portion, a roll-head mounted within said cylindrical end portion and projecting therefrom, said roll-head being threaded internally, a journal threaded externally and secured into said roll-head, and a set-screw engaging said roll-head and also engaging said journal, the general direction of said set-screw being oblique relatively to the axis of said journal in order to enable said set-screw to avoid engagement with said roll.

3. The combination of a roll, a roll-head connected therewith and threaded internally, said roll-head being provided with a neck slightly enlarged at its outer end and also being threaded internally,

and a journal threaded externally and fitted into said roll-head, said journal being provided with an annular brace engaging said neck.

804,031. AUTOMATIC CAR-COUPLING. WILLIAM A. PALMER, Bessemer, Ala. Filed Feb. 28, 1905. Serial No. 247,701.



Claim.—1. The combination of a draw-head provided with longitudinal ways having top and bottom walls, a knuckle, and a locking-block having pivots or trunnions slidable in the ways and permitting the locking-block to slide backward and forward and swing upward and downward, said locking-block being provided with means for opening the knuckle.

2. The combination of a draw-head provided with horizontal ways having top and bottom walls, a knuckle, and a locking-block having pivots or trunnions slidable in the ways and permitting the locking-block to move backward and forward and swing upward and downward, said locking-block being also provided with means for supporting it out of engagement with the knuckle to permit the latter to open.

3. The combination of a draw-head provided with longitudinal ways having top and bottom walls, a knuckle, a locking-block slidable in the ways and having a vertical swinging movement, said locking-block being provided with a projection or toe arranged to open the knuckle, and means for positively sliding the locking-block along the ways and for swinging the said locking-block upward or downward simultaneously with the sliding movement.

4. The combination of a draw-head, a locking-block slidable longitudinally of the draw-head and movable upward and downward, said locking-block being adapted to engage the arm of the knuckle and provided with an inclined laterally-beveled front face and having a projecting portion at the top thereof, the projecting portion being provided with a laterally-inclined lower face, and a knuckle provided with an arm arranged to engage and lift the locking-block.

5. The combination of a draw-head provided with ways having top and bottom walls, a knuckle, and a locking-block comprising a body portion provided at one side with a face for engaging the knuckle and having a depending projection located in rear of the said face and adapted to rest on the knuckle, and a shank extending from the body portion of the locking-block and provided with pivots or trunnions slidable in the said ways.

6. The combination of a draw-head having longitudinal ways provided with top and bottom walls, a knuckle, a locking-block having a rigid depending knuckle-opening foot and provided with a rearwardly-extending shank having terminal pivots or trunnions slidable in the ways of the draw-head and adapted also to rotate therein, and means for positively sliding the locking-block backward and forward in the ways and for simultaneously swinging the locking-block upward or downward.

804,032. STEAM AND WATER HEATER. CHRISTIAN F. PAUL, Jr., Peekskill, N. Y. Filed June 17, 1904. Serial No. 212,967.



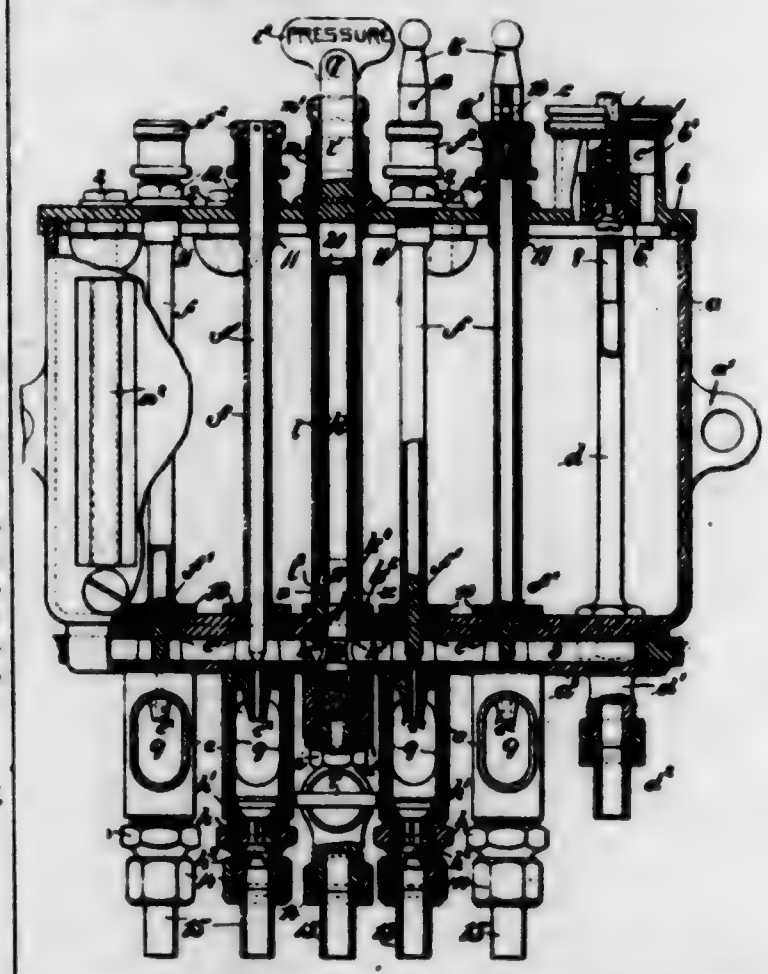
Claim.—1. A heater comprising a bottom section having an annular water-space, the closed tops of the walls forming the annular water-space drawn into spirals, one end of the spiral overlapping the other end to form a flue from the interior of the fire-pot, a hub in the center opening to the water-chamber in the section, a nipple connection at the upper outer end of the spiral, an intermediate section united by central and side nipple connections to the bottom section, other intermediate sections as required superposed on the first section, a top section having its bottom spirally formed to conform to the other sections and united by central and side nipples to the top intermediate section, a semicircular depression in the under side of the top intermediate section and a like depression in the upper side of the top section to form a flue-outlet, each section having rims forming enlarged annular water-spaces and when the sections are united forming a flue-space between the sections, and each section having the said rims cut away in its front whereby the openings so caused constitute a clean-out space.

2. A fire-pot section for a heater comprising an annular water-chamber with a top formed into a spiral the ends of the spiral overlapping to form a flue from the interior of the fire-pot, a hub in the center of the spiral opening into the water-chamber and adapted for nipple connections, the outer end of the spiral rounded to form a hub, and a hole in the hub for a nipple.

3. A fire-pot for a heater comprising an annular water-chamber with a top formed into a spiral the ends of the spiral overlapping each other to form a flue-space, a hub in the center of the spiral opening into the water-chamber and adapted for nipple connection, the outer end of the spiral adapted for a side nipple connection, an inverted dome in the center of the crown-sheet within the fire-chamber forming a part of the water-chamber, and tubes connecting the dome with the inner walls of the fire-pot section.

4. A heater-section for a spiral heater comprising hubs open to the water-chamber and connected by parallel spiral plates with a spiral chamber rectangular in cross-section and extending higher and lower than the central water-space, the ends of the spirals being closed, the outer ends expanded to form hubs having side holes for nipple connections and sections of the outer rim cut away to form a clean-out space.

804,033. LUBRICATOR. JOHANNES T. PEDERSEN, New York, N. Y. Filed Dec. 3, 1904. Serial No. 235,204.



Claim.—1. In an oiling device, the combination with a case or receptacle and a sight-feed and a pipe extending from the receptacle to a device to be lubricated, of a loose plunger and seat therefor located between the sight-feed and said pipe, the plunger having a free upward and downward movement adapted in its upward movement to close the oil passage-way and in its downward movement to allow the oil to freely escape.

2. In an oiling device, the combination with a case or receptacle and a sight-feed and a pipe extending therefrom to a device to be lubricated, of an internal ring and loose valve intermediate of said sight-feed and pipe and associated therewith, the internal ring hav-

ing a seat on its under surface, the loose valve having a stem guided in said ring and a seat adapted to contact with the seat thereof and said valve having its lower end forked and adapted when raised against said seat to close the passage-way from the sight-feed to the pipe and when in its downward position to allow the oil to freely escape.

3. In an oiling device, the combination with a case or receptacle, a sight-feed and a pipe extending therefrom to a device to be lubricated, of a sleeve connected to the sight-feed at one end and to said pipe at the other end and having an opening therein stepped or shouldered at two places, an internal ring fitting said sleeve and seated against one shoulder and having a seat on its under surface, a loose valve having a stem at the upper end moving and guided in said ring, there being an intermediate seat to come against the seat of the ring and a lower forked portion normally resting against the other shoulder of said sleeve and having a free upward and downward movement primarily actuated by the vibration of the engine and adapted to close the opening at the end of its upward movement and when in its downward position to allow the oil to freely escape.

4. In an oiling device, a case or receptacle for the oil, having a base-rib beneath and forming a portion of the bottom of the case having a longitudinal oil-channel, a cover for the case or receptacle and means connected with the case and rib and passing through the bottom of the case and through the rib, whereby the oil or lubricating material in the case passes into the oil-channel and from thence away to the parts to be lubricated.

5. In an oiling device, a case or receptacle for the oil, having a base-rib beneath and forming a portion of the bottom of the case having a longitudinal oil-channel, a cover for the case or receptacle means providing for the entrance of pressure within the said case, other means providing for the entrance of the lubricating material into said case, a series of sight-feed devices having parts passing through the bottom of the case and the base-rib and intersecting the said oil-channel and also communicating therewith, whereby the lubricating material is caused to pass into the case and therefrom into said oil-channel and by the same to the sight-feed devices.

6. In an oiling device, a case or receptacle for the oil, having a base-rib beneath and forming a portion of the bottom of the case having a longitudinal oil-channel, a cover for the case or receptacle means providing for the entrance of pressure within the case, other means providing for the entrance of the lubricating material into said case, a series of sight-feed devices having parts passing through the bottom of the case and the base-rib and intersecting the said oil-channel and also communicating therewith whereby the lubricating material is caused to pass into the case and therefrom into said oil-channel and by the same to the sight-feed devices, and a back-pressure-valve device associated with each sight-feed device.

7. In an oiling device, a case or receptacle for the oil, having a base-rib beneath and forming a portion of the bottom of the case having a longitudinal oil-channel, a cover for the case or receptacle a series of sight-feed devices each comprising an apertured tubular body and a sight-glass received within the case, a tapering neck to the tubular body passing through apertures provided therefor in the bottom of the case or receptacle and of the base-rib and intersecting the said oil-channel, a nipple extending down centrally within said tubular body in line with the tapering neck, with a seat at the upper end thereof; a pipe connected to the tapering neck and extending up into and through said case or receptacle, a needle-valve within said pipe adapted at its lower end to come against the aforesaid seat and providing for a longitudinal movement of the said needle valve or rod.

8. In an oiling device, a case or receptacle for the oil, having a base-rib beneath and forming a portion of the bottom of the case having a longitudinal oil-channel, a cover for the case or receptacle a series of sight-feed devices each comprising an apertured tubular body and a sight-glass received within the case, a tapering neck to the tubular body passing through apertures provided therefor in the bottom of the case or receptacle and of the base-rib and intersecting the said oil-channel, a nipple extending down centrally within said tubular body in line with the tapering neck with a seat at the upper end thereof; a pipe connected to the tapering neck and extending up into and through said case or receptacle, a needle-valve within said pipe adapted at its lower end to come against the aforesaid seat, and a spring-actuated-lever device providing for the longitudinal movement of the said needle valve or rod.

9. In an oiling device, the combination with the case or receptacle, of a cover therefor having a cylindrical flange formed as a part of the cover, with a hub and radial arms extending across within the same, a knurled cap and hollow neck formed as one, the cap adapted to fit down against the cylindrical flange and the neck to pass through a threaded aperture in said hub, and a valve device in said knurled cap and neck.

10. In an oiling device, the combination with a case or receptacle, of a cover therefor having a cylindrical flange formed as part of the cover, with a hub and radial arms within and extending across said flange, the hub being centrally perforated and interiorly threaded, a knurled cap and hollow neck formed as one and the neck exteriorly threaded to screw into the said hub and the cap to fit down upon the said flange, a washer intervening between the said flange and cap, the cap being provided with a radial aperture 7, a stem passing through the cap and neck with the lower end enlarged to act as a valve against a seat at the lower end of said neck, there being an enlargement at the upper end of said stem, and a spring around the stem within said neck at one end seated against a shoulder of the stem and at the other end against the under surface of the top enlargement, substantially as set forth.

11. In an oiling device, the combination with a case and cover therefor, of means providing for the entrance into the case of lubricating material, means providing for the entrance of fluid under pressure within the case above the lubricating material, devices providing for the discharge of the lubricating material by gravity or by pressure or for shutting off the supply, and an apertured gravity-disk 20 to be moved by the discharge of the lubricating material under pressure and assisting in controlling the same.

12. In an oiling device, a case or receptacle with a base-rib to the case having a central and longitudinal oil-channel and a tubular interiorly-threaded projection a^4, and a cover therefor a sleeve passing through the bottom of the case or receptacle bisecting the said oil-channel and passing into the base of said rib, a pipe secured to the upper end of said sleeve, there being a tapering portion of the sleeve at the union thereto of said pipe forming an inclined seat, said inclined seat formed with a recess at one side and with an aperture through the opposite side and also through the pipe, a surrounding pipe inclined at its free end interiorly fitting over said inclined seat and having an aperture agreeing in one position with the aforesaid aperture, a stem, and means adapted to be engaged by the hand for turning the stem and said pipe so as to provide for the flow of the lubricating material under pressure and by gravity and for closing the same off entirely.

13. In an oiling device, a case or receptacle with a base-rib to the case having a central and longitudinal oil-channel and a tubular interiorly-threaded projection a^4, and a cover therefor, a sleeve passing through the bottom of the case or receptacle bisecting the said oil-channel and passing into the base of said rib, a pipe secured to the upper end of said sleeve, there being a tapering portion of the sleeve at the union thereto of said pipe forming an inclined seat, said inclined seat formed with a recess at one side and with an aperture through the opposite side and also through the pipe, a surrounding pipe inclined at its free end interiorly fitting over said inclined seat and having an aperture agreeing in one position with the aforesaid aperture, a stem, means adapted to be engaged by the hand for turning the stem and said pipe so as to provide for the flow of the lubricating material under pressure and by gravity and for closing the same off entirely, and a gravity-disk within the outer pipe above the upper end of the inner pipe, substantially as set forth.

14. In an oiling device, a case or receptacle with a base-rib to the case having a central and longitudinal oil-channel and a tubular interiorly-threaded projection a^4, and a cover therefor a sleeve device having an exteriorly-threaded portion with an opening through the same with spaced-apart projections on the lower end, with an under portion and with an inclined seat portion passing through the bottom of the case bisecting the said oil-channel and passing into and through the bottom of the base-rib into the tubular projection, a valve device below the said projections in the tubular projection of the case, a pipe axially of said sleeve fitting within the inclined seat portion, said inclined seat portion having a recess 17 and an aperture 18 through the same and through the pipe, and a pipe l concentric with and extending around the aforesaid pipe having an aperture l^3 and interiorly tapered to fit said inclined seat, whereby, when the aperture l^3 coincides with the recess 17 the lubricating material under pressure may pass up between the concentric pipes and when the aperture l^3 coincides with the aperture 18 the flow of lubricating material is by gravity, and when the aperture l^3 is at either side the opening is entirely closed off.

15. In an oiling device, the combination with a case or receptacle and a sight-feed and a pipe extending from the receptacle to a device to be lubricated, of a sleeve connected to the sight-feed at one end and to said pipe at the other end and having an opening therein stepped or shouldered, an internal ring fitting said sleeve and having a seat on its under surface, a loose valve having a stem at the upper

end moving and guided in said ring, an intermediate seat to come against the seat of the ring, and a lower forked portion normally resting against the shoulder of said sleeve and having a free upward and downward movement primarily actuated by the vibration of the engine and adapted to close the opening at the end of its upward movement and when in its downward position to allow the oil to freely escape.

16. In an oiling device, the combination with a case or receptacle, and a pipe extending therefrom to a device to be lubricated, of an internal ring and loose valve intermediate thereof and associated therewith, the internal ring having a seat on its under surface, the loose valve having a stem guided in said ring and a seat adapted to contact with the seat thereof and said valve having its lower end forked and adapted when raised against said seat to close the passage-way from the sight-feed to the pipe and when in its downward position to allow the oil to freely escape.

17. In an oiling device, the combination with a case and cover therefor, of means providing for the entrance into the case of lubricating material, means providing for an entrance of fluid under pressure within the case above the lubricating material, a single valve and devices actuated thereby and providing for the discharge of the lubricating material by gravity or by pressure or for shutting off the supply.

18. In an oiling device, the combination with a case and cover therefor, of means providing for the entrance into the case of lubricating material, means providing for an entrance of fluid under pressure within the case above the lubricating material, a single valve and devices actuated thereby and providing for the discharge of the lubricating material by gravity or by pressure or for shutting off the supply, and devices providing for closing off the supply of the lubricating material to the case and to prevent the accidental escape thereof.

19. In an oiling device, the combination with a case or receptacle, of an apertured sight-feed e, a sleeve h connected thereto and an internal ring h' having a seat on the under side, a loose valve h^3 forked on the lower end and a pipe to the device to be lubricated.

20. In an oiling device, the combination with a case or receptacle, of an apertured sight-feed e, a sleeve h connected thereto and having its aperture shouldered at two places, an internal ring h' having a seat on the under side and resting on the higher one of said shoulders, a loose valve h^3 forked on the lower end and located between the said ring h' and the lowermost shoulder of the said sleeve and normally resting on the lowermost shoulder.

21. In an oiling device, the combination with a case or receptacle, of an apertured sight-feed feed e, a sleeve h connected thereto and having its aperture shouldered at two places, an internal ring h' having a seat on the under side and resting on the higher one of said shoulders, a loose valve h^3 forked on the lower end and located between the said ring h' and the lowermost shoulder of the said sleeve and normally resting on the lowermost shoulder, a coupling 14 screwing upon the lower end of the sleeve h and a pipe connected by said coupling to said sleeve and extending to the device to be lubricated.

804,034. PROCESS FOR THE MANUFACTURE OF ARTIFICIAL PEARLS, &c. PAUL E. L. PRUDHOMME, Paris, France. Filed Nov. 1, 1904. Serial No. 231,089. (Specimens.)

Claim.—1. The herein-described process of manufacturing imitation pearls or articles presenting a nacreous effect, which consists in dissolving the gelatin which is to constitute the body of the pearl, in a minimum quantity of water and then drying the gelatin in such manner as to utilize the shrinkage which takes place for producing the irregular forms ordinarily presented by real pearls, substantially as specified.

2. The process herein described of manufacturing imitation pearls, which consists in dissolving gelatin in a minimum quantity of water, applying the gelatin upon a surface to be ornamented with the imitation pearl, and drying said gelatin so as to allow the same to shrink irregularly, thus finishing the imitation pearl.

3. The process, herein described, of making imitation pearls or the like, which consists in dissolving a substance of a kind which shrinks in drying, causing said substance to assume the general conformity of the pearl or other article to be produced, drying the same so as to produce an irregular form by the shrinkage of said substance, and treating the form thus prepared so as to prevent the same from dissolving again.

4. The process, herein described, of making imitation pearls or the like, which consists in dissolving in a mixture of water, such a substance as shrinks in drying, forming a body partly of this substance and partly of a non-shrinking substance, and allowing said body to dry so as to assume a shape somewhat irregular, the degree of irregularity of said shape being commensurate with the proportion of the substances used.

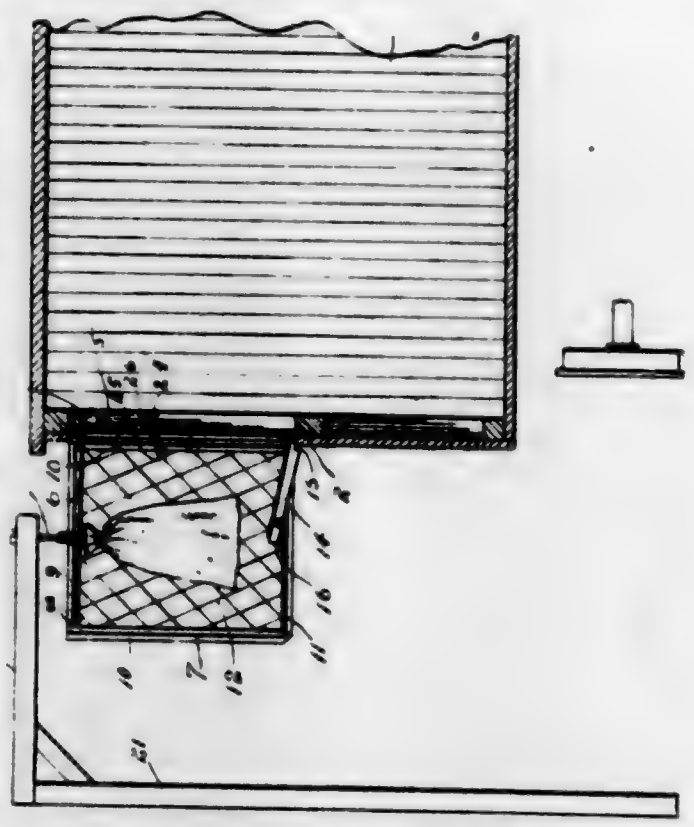
5. The method herein described of making imitation pearls, which consists in dissolving gelatin in a minimum quantity of water, forming the gelatin thus treated into a body of regular shape, causing said body to dry and undergo more or less shrinkage so as to change its form, and treating the body thus formed so as to prevent the same from dissolving again.

6. A process for the manufacture of artificial pearls imitating fine pearls, characterized by the fact that the body of the pearl is made of gelatin dissolved in a very small quantity of water, shaped by hand or by molding and then dried, in order to obtain while drying a shrinkage which imparts to the pearl an irregular shape fully imitating the natural deformations of genuine pearls, substantially as described.

7. A process for the manufacture of artificial pearls imitating fine pearls, consisting in dissolving gelatin in a very small quantity of water, in embodying therein an inert matter in the gelatin which is to form the pearl, in shaping this gelatin containing a core of inert matter and in drying the same so that the shrinkage due to thus drying will impart to the pearl an irregular shape imitating that of genuine pearls, substantially as described.

8. A process for the manufacture of artificial pearls imitating fine pearls, consisting in dissolving gelatin in a minimum quantity of water, in incorporating in this gelatin a substance capable of rendering the same translucent and opaline, in shaping the gelatin thus prepared and in drying, substantially as described.

804,035. MAIL-BAG CATCHER. PETER O. PERRY, Chelsea, Mass. Filed May 9, 1905. Serial No. 259,580.



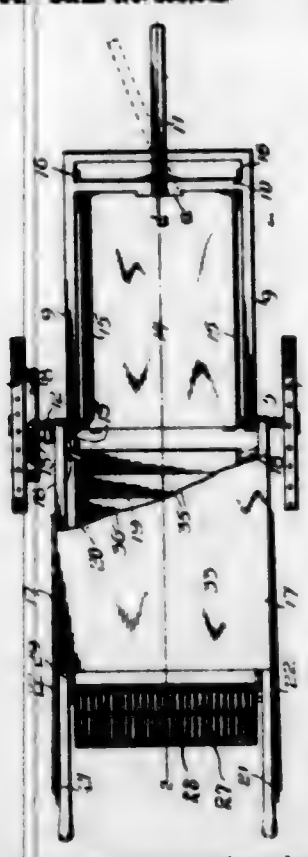
Claim.—1. In a device of the class described, a car having an opening therein, a door hingedly connected adjacent one side of said opening, a shaft journaled within the car at the top of the opening, a pulley-wheel mounted upon the shaft, a flexible connection between the pulley-wheel and the door, a weight connected to the shaft, means for holding the door in open position, a crane disposed adjacent the path of the car and having means for suspending a mail-pouch, and auxiliary means associated with the door for assisting in closing the latter when it contacts with the mail-pouch suspended from the crane.

2. In a device of the class described, a car having an opening therein, a door hingedly connected to one side of the opening, spring-actuated means for holding the door in open position, a crane arranged adjacent the path of the car and having means for suspending a pouch therefrom, and in direct alinement with the door in its open position, and means associated with the door for rapidly closing the same when it contacts with the mail-pouch.

3. In a device of the class described, a car having an opening therein, a door hingedly connected to one side of the opening, spring-actuated means for holding the door in open position, a crane ar-

ranged adjacent the path of the car and having means for suspending a pouch therefrom, and in direct alinement with the door in its open position, means associated with the door for rapidly closing the same when it contacts with the mail-pouch, and auxiliary means associated with the last-named means for assisting in rapidly closing the door.

804,086. POTATO-DIGGER. JAMES B. PEPPER, Darragh, Mich. Filed Oct. 25, 1904. Serial No. 230,345.

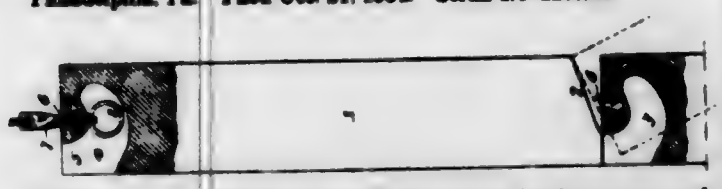


Claim.—1. A mechanism of the class described comprising a wheeled frame including handles, a plow-blade having one of its ends pivotally secured to the axle of the frame, a vibrator disposed in the rear of the plow-blade with one of its ends immediately beneath the pivoted end of the said blade, a hopper disposed at the rear end of the vibrator and immediately therebeneath, and a grating connected to the hopper and the aforesaid handles, the grating being arranged upon an incline.

2. A mechanism of the class described comprising a wheeled frame including handles, a plow-blade having one of its ends secured to the axle of the wheeled frame, a vibrator suspended from said handles in the rear of the plow-blade, a hopper suspended from the handles and disposed beneath one end of the vibrator, and a grating connected to the hopper and the handles.

3. A mechanism of the class described, comprising a wheeled frame including handles, a plow-blade secured at one of its ends to the axle of the wheeled frame, and depending therefrom, a vibrator suspended from the handles in the rear of said blade, a hopper suspended from the handles and disposed beneath one end of the vibrator, a grating connected to the handles and the hopper, the grating being arranged upon an incline, and means constructed and arranged to vary the position of the plow-blade.

804,087. SECTIONAL SASH-WEIGHT. NICHOLAS A. PETRY, Philadelphia, Pa. Filed Oct. 31, 1904. Serial No. 229,512.



Claim.—1. A sectional sash-weight member having at one end a hooked recess closed at the back, and at the other end a corresponding projecting hook, said member also having a beveled portion or portions, whereby angular adjustment of adjoining members is permitted in entering the hook of one member into the recess of the other from the front of the latter, substantially as specified.

2. A sectional sash-weight member having at one end a hooked recess with side cheek-pieces lying parallel to the plane of said recess, and at the other end a projecting hook less in width than the weight member, said member also having a beveled portion or portions, whereby angular adjustment of adjoining members is permitted in entering the hook of one member into the recess of the other, substantially as specified.

3. A sectional sash-weight member having a projecting hook at one end and a hook-shaped recess at the other end, the portion forming the top of said recess having an opening for the reception of the suspension rope or chain, substantially as specified.

804,088. PHOTOGRAPHIC PROCESS AND PRODUCT. GEORGE N. PIERCE, Cleveland, Ohio. Filed Apr. 12, 1905. Serial No. 255,214.

Claim.—1. The mode herein described of producing a true positive picture by direct exposure in the camera, said mode consisting in first exposing the sensitized plate to the rays of light from the object by causing said rays to pass first through the relatively transparent base carrying the sensitive film, and then developing the image as a positive, substantially as specified.

2. The mode herein described of producing, by direct exposure in the camera, a true positive picture, said mode consisting in first applying a sensitive coating to a base which is relatively transparent to transmitted light but opaque when viewed by reflected light, then exposing said sensitive film in the camera in such a manner that the rays of light from the object pass first through the relatively transparent base and then developing as a positive the image thus produced, substantially as specified.

3. The mode herein described of producing a true positive picture by direct exposure in the camera, said mode consisting in first providing a relatively transparent base with a primary coating which is relatively transparent to transmitted light but opaque when viewed by reflected light, then applying a sensitive coating to said primary coating, then exposing the sensitized plate or film in the camera in such a manner that the rays of light from the object pass first through the relatively transparent plate, and then through the primary coating, and then developing as a positive the image thus produced, substantially as specified.

4. The mode herein described of producing, by direct exposure in the camera, a picture which is a positive as regards light and shade, said mode consisting in first exposing the sensitized plate or film in the camera to the rays of light from the object, then developing the picture as a negative, then removing those portions of the picture which have been acted upon by light, and then subjecting the unreduced portions of the sensitive salt to treatment other than exposure to light, which will change the color of the same, substantially as specified.

5. The mode herein described of producing, by direct exposure in the camera, a picture which is positive as to its light and shade, said mode consisting in exposing the sensitive film or plate in the camera to the rays of light from the object, then developing the picture as a negative, then removing those portions of the picture which have been acted upon by the rays of light, and then transforming the unreduced sensitive salt to a sulfid, substantially as specified.

6. The mode herein described of producing, by direct exposure in the camera, a picture which is positive both as to position and light and shade, said mode consisting in first applying the sensitive film to a base which is relatively transparent to transmitted light but opaque when viewed by reflected light, exposing said sensitive film in the camera in such manner that the rays of light from the object will pass first through the base, then developing the picture thus produced as a negative, then removing those portions of the picture which have been acted upon by the light, and then changing the color of the unreduced portions of the sensitive salt, substantially as specified.

7. The mode herein described of producing, by direct exposure in the camera, a picture which is positive both as to position and light and shade, said mode consisting in first applying a sensitive film to a base which is relatively transparent to transmitted light but opaque when viewed by reflected light, then exposing said sensitized film in the camera in such manner that the rays of light from the object pass first through the base, then developing the film as a negative, then removing those portions of the picture which have been acted upon by the light, and then transforming to a sulfid those portions of the sensitive film which have not been reduced by exposure to the light, substantially as specified.

8. The mode herein described of producing a positive picture by direct exposure in the camera, said mode consisting in preparing a sensitive film with a line-screen in the rear of the same, exposing said film in the camera in such manner that the rays of light from the object pass first through the line-screen, and then developing the image as a positive, substantially as specified.

9. The mode herein described of producing a positive picture by direct exposure in the camera, said mode consisting in preparing a sensitive film with a line-screen in the rear of the same, exposing said film in the camera in such manner that the rays of light from the object pass first through the line-screen, then developing the image as a negative, then removing those portions of the image which have been acted upon by the light, and then changing the color of the unreduced portions of the sensitive salt, substantially as specified.

10. The mode herein described of producing a positive picture by direct exposure in the camera, said mode consisting in preparing a sensitive film with a line-screen in the rear of the same, exposing said film in the camera in such manner that the rays of light from the object pass first through the line-screen, then developing the image as a negative, then removing those portions of the image which have been acted upon by the light, and then transforming to a sulfid those portions of the sensitive salt which have not been reduced by exposure to the light, substantially as specified.

11. A photographic picture which is positive as to position and light and shade of the subject, and consists of an exposed and developed film, a relatively transparent support therefor, and an interposed film which is relatively transparent to transmitted light but opaque when viewed by reflected light, substantially as specified.

12. A photographic picture which is positive as to position and light and shade of the subject, and consists of an exposed and developed film with a line-screen in the rear of the same, substantially as specified.

13. A photographic picture which is positive as to position and light and shade of the subject, and consists of an exposed and developed film, having a base containing as an element a line-screen, substantially as specified.

14. A photographic picture which is positive as to position and light and shade of the subject, and consists of an exposed and developed film, having a base which is relatively transparent to transmitted light but opaque when viewed by reflected light, and has as an element a line-screen, substantially as specified.

804,039. PHOTOGRAPHIC PLATE OR FILM. GEORGE H. PEYER, Cleveland, Ohio. Filed July 31, 1905. Serial No. 271,878.



Claim.—1. A photographic body comprising different strata, one of said strata being light-transmitting, another stratum being of less transparency than the first, and said strata forming a support which is relatively transparent to transmitted light but relatively opaque to reflected light, and a sensitized coating applied to one of the faces of said support.

2. A photographic body consisting of a suitable support having a sensitive coating, in combination with material other than the support and capable of forming, for a positive picture, a background relatively transparent to transmitted light but which is, when viewed by reflected light, of a color suitable for the high lights of said positive picture.

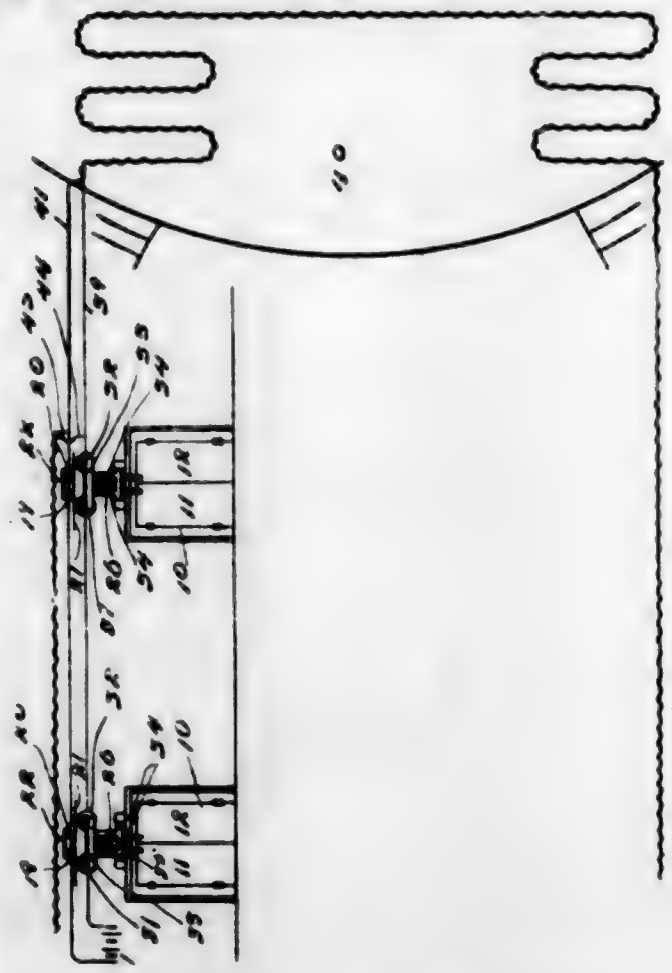
3. A photographic body consisting of a suitable support having a sensitive coating, in combination with material other than the support and which is normally transparent, but is susceptible of developing a color which, when viewed by reflected light, is suitable for the high lights of a positive picture.

4. A photographic body consisting of a suitable support having a sensitive coating, in combination with a material constituting a pattern and capable of forming, for a positive picture, a background relatively transparent to transmitted light but which is, when viewed by reflected light, of a color suitable for the high lights of said positive picture.

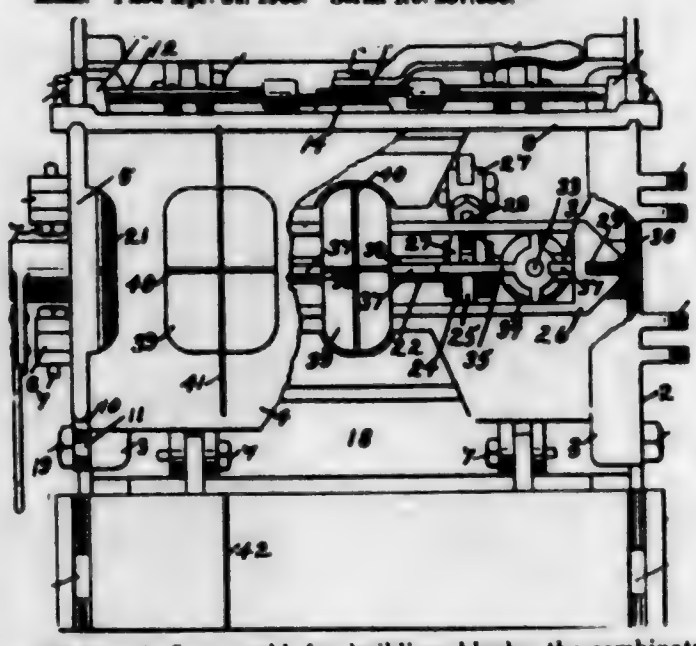
5. A photographic body consisting of a transparent support susceptible of exposure from either side and having a sensitive coating, in combination with material other than the support and capable of forming, for a positive picture, a background relatively transparent to transmitted light but which is, when viewed by reflected light, of a color suitable for the high lights of said positive picture.

804,040. ELECTRICALLY-OPERATED DOOR-OPENING SYSTEM. WILLIAM T. PLATT, St. Louis, Mo. Filed Mar. 7, 1904. Serial No. 197,022.

Claim.—In a building having a plurality of exits, the combination with a pair of doors for each exit having means for holding them normally and yieldably in open position, of a bolt for holding the doors of each exit in closed position, means for holding said bolt normally active, an electromagnet having an armature disposed to move said holding means to inactive position when the electromagnet is energized, and means for moving the bolt to inactive position when released, of a source of electricity with one terminal of which the electromagnets of all the doors are connected in series, a wire connected with the opposite terminal of the source of electricity, and a wire leading from the electromagnet and lying in close relation to the first-named wire, said wires being adapted for mutual contact when subjected to a predetermined temperature.



804,041. BUILDING-BLOCK MOLD. WILLIAM PORTER, St. Paul, Minn. Filed Apr. 24, 1905. Serial No. 257,026.



Claim.—1. In a mold for building-blocks, the combination, with a frame, of a vertically-movable core-support and means for operating the same, and means for temporarily clamping a core on said support and means for automatically returning said clamping means to its unclamped or inoperative position, substantially as described.

2. In a mold for building-blocks, the combination, with a frame, of a vertically-movable core-support, cores resting thereon, and a spring-pressed clamp device arranged to temporarily lock said core upon said support, substantially as described.

3. The combination, with a frame, of an adjustable core-support and means for operating the same, cores resting upon said support and having lugs at their lower ends, and a clamp mechanism arranged to simultaneously engage said lugs and temporarily secure said cores upon said support.

4. The combination, with a frame, of a core-support adjustably

arranged therein and means for operating the same, cores adapted to rest on said support and having lugs at their lower ends, a bar having hooks to engage said lugs, and means for drawing down said bar to clamp said cores.

5. The combination, with a frame, of a vertically-movable core-support, pins loosely mounted therein and having threaded lower ends provided with operating-wheels, a bar carried by the upper ends of said pins and having hooks, springs arranged on said pins for yieldingly holding said bar in its raised position, and cores adapted to rest on said support and be locked thereon by said hooks, substantially as described.

6. The combination, with a side wall, of a stub having eccentrics mounted thereon and provided with an operating-lever, eccentric-straps inclosing said eccentrics, bolts connected with said straps and reciprocated in opposite directions by the movement of said lever, and tongues provided on said end walls and having notches to receive said bolts, substantially as described.

7. In a building-block mold, the combination, with a frame and cores mounted thereon, of side bars adjustably supported in said frame and adapted to be moved toward or from each other to increase or decrease the width of the block, a movable floor for the bottom of the mold, side walls removably hinged on said adjustable bars, and end walls removably hinged on said frame between said bars, substantially as described.

8. In a mold for building-blocks a vertically-movable core-support, in combination with a core resting thereon, and spring-pressed means for holding said core on said support.

9. In a mold for building-blocks, a vertically-movable core-support, a core resting thereon, a bar centrally arranged with respect to said support and provided with means for engaging and clamping said core and means for automatically raising said bar and releasing said core, substantially as described.

10. In a mold for building-blocks, the combination with a frame and cores thereon and a movable bottom or floor, the ends of said frame having laterally-extending slots 20, of side bars 18 having their ends adjustably secured in said slots, side walls hinged upon said bars and adjustable therewith toward or from each other to increase or decrease the space between them, end walls hinged upon said frame between said side walls, and said side and end walls being readily detachable from said bars and said frame, substantially as described.

11. The combination, with a core-support, of a core, and a clamp device having a spring arranged to raise said clamp when the core is released.

12. The combination, with a frame provided with vertical webs 30, of a core-support having slots to receive said webs, means for raising or lowering said support, a core adapted to rest upon said support, and spring-pressed means for clamping it thereon.

13. The combination, with a core-support, of cores adapted to rest thereon, a clamping-bar and operating means therefor, and spring devices put under tension by the movement of said bar to clamp said cores for lifting said bar when the cores are released.

14. The combination, with a vertically-movable core-bar, of cores adapted to rest thereon, a clamping-bar having means to engage the cores and lock them temporarily on said core-bar, means for operating said clamping-bar, and spring devices put under tension by the operation of clamping the cores for separating said core-bar and said clamping-bar when the cores are released.

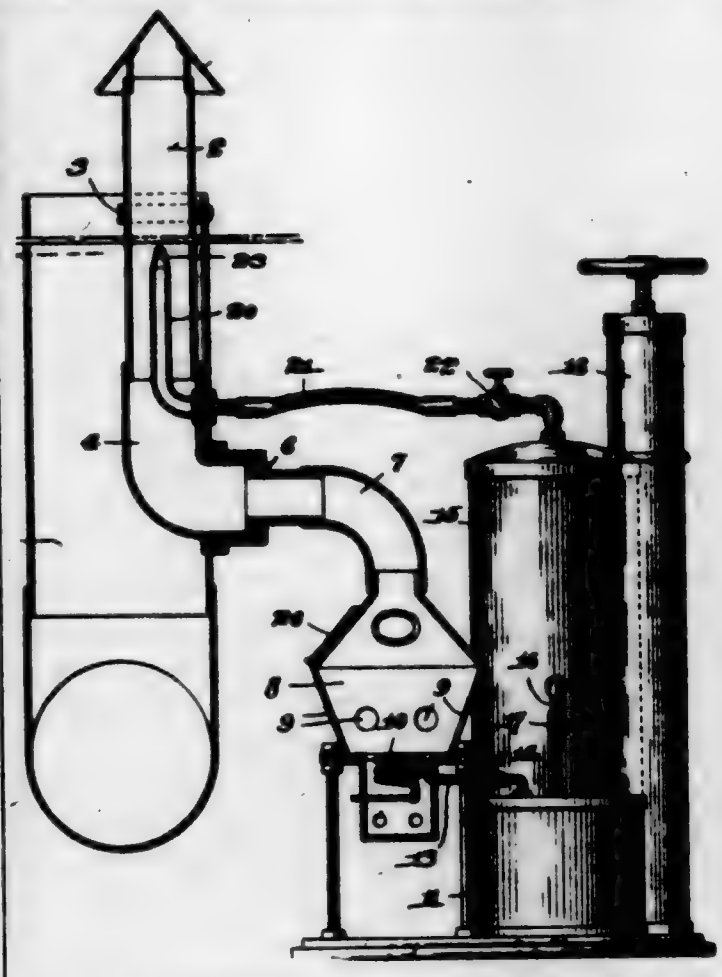
15. The combination, with a core-bar, of a core adapted to rest thereon, and a clamping-bar parallel with said core-bar and having means to engage said core to lock it temporarily on said core-bar, substantially as described.

16. In a mold, the combination with a frame, of side and end walls hinged thereon, said side walls having sockets to receive notched tongues on said end walls, bolts longitudinally movable in guides on said side walls and adapted to enter the notches in said tongues and lock said walls together, and a cam mechanism for simultaneously projecting and withdrawing said bolts, substantially as described.

804,042. APPARATUS FOR MELTING ICE. HENRY C. REICHARDT, Pottsville, Pa. Filed Feb. 18, 1905. Serial No. 246,267.

Claim.—1. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, and means for discharging compressed air into the air-pipe to cause a current of air to pass through the air-pipe, whereby the current of air may be heated by the burner to melt ice within the water-pipe.

2. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, a tank to hold compressed air, a pipe leading from said tank and opening into said air-pipe, and a valve to control the discharge of compressed air into said air-pipe, whereby the introduction of compressed air to said air-pipe will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.



3. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, a tank to hold compressed air, a pipe leading from said tank and opening into said air-pipe, a valve to control the discharge of compressed air into said air-pipe, an oil-tank, a pipe leading from the oil-tank to the burner, a pipe leading from the air-tank to the oil-tank, and a valve to control the discharge of compressed air into the oil-tank to regulate the feed of oil to said burner, whereby the introduction of compressed air to said air-pipe will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

4. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, a tank to hold compressed air, a pipe leading from said tank and opening into said air-pipe, a valve to control the discharge of compressed air into said air-pipe, and an air-pump connected to said tank to supply air thereto whereby the introduction of compressed air to said air-pipe will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

5. The combination with a water-pipe of an air-pipe extending longitudinally of the water-pipe and having an open inlet end and an open discharge end, a burner located adjacent to said inlet end, a tank to hold compressed air, a pipe leading from said tank and opening into said air-pipe, a valve to control the discharge of compressed air into said air-pipe, an oil-tank, a pipe leading from the oil-tank to the burner, a pipe leading from the air-tank to the oil-tank, a valve to control the discharge of compressed air into the oil-tank to regulate the feed of oil to said burner, and an air-pump connected to said tank to supply air thereto, whereby the introduction of compressed air to said air-pipe will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

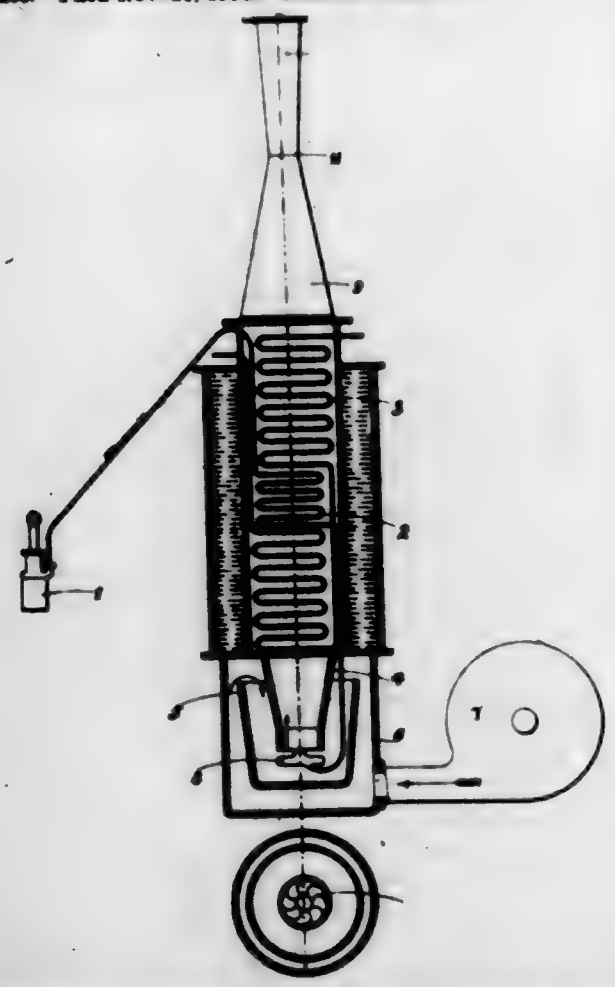
6. The combination with a water-pipe of an air-pipe extending longitudinally of the water-pipe, a combustion-chamber having an air-inlet opening, a burner within the combustion-chamber, means for detachably connecting the combustion-chamber with the air-pipe, a portable base upon which the combustion-chamber is supported, a tank on said base to hold compressed air, a discharge-nozzle within said air-pipe, means for detachably connecting said noz-

nle with said tank, and a valve to control the discharge of compressed air through said nozzle, whereby the discharge of compressed air from the nozzle will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

7. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe, a combustion-chamber having an air-inlet opening, a burner within the combustion-chamber, means for detachably connecting the combustion-chamber with the air-pipe, a portable base upon which the combustion-chamber is supported, a tank on said base to hold compressed air, an oil-tank on said base, a pipe leading from the oil-tank to the burner, a pipe leading from the air-tank to the oil-tank, a valve to control the discharge of compressed air into the oil-tank to regulate the feed of oil to said burner, a discharge-nozzle within said air-pipe, means for detachably connecting said nozzle with said tank, and a valve to control the discharge of compressed air through said nozzle, whereby the discharge of compressed air from the nozzle will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

8. The combination with a water-pipe, of an air-pipe extending longitudinally of the water-pipe, a combustion-chamber having an air-inlet opening, a burner within the combustion-chamber, means for detachably connecting the combustion-chamber with the air-pipe, a portable base upon which the combustion-chamber is supported, a tank on said base to hold compressed air, a pump on said base and connected to said tank to supply air thereto, an oil-tank on said base, a pipe leading from the oil-tank to the burner, a pipe leading from the air-tank to the oil-tank, a valve to control the discharge of compressed air into the oil-tank to regulate the feed of oil to said burner, a discharge-nozzle within said air-pipe, means for detachably connecting said nozzle with said tank, and a valve to control the discharge of compressed air through said nozzle, whereby the discharge of compressed air from the nozzle will cause a current of hot air to pass through said air-pipe to melt ice within the water-pipe.

804,043. **STEAM-GENERATOR.** CHARLES RENARD, Meudon, France. Filed Nov. 26, 1904. Serial No. 234,283.



Claim.—1. A steam-generator having a blast-furnace coöperating therewith and an opening or passage therethrough, the furnace comprising concentrically-arranged inclosing communicating casings, a liquid-fuel burner located in the lower portion of the casing next to the innermost casing, means for forcing air into the furnace and connected to the outermost casing, and means on the generator for preventing roaring noise caused by the draft of the furnace.

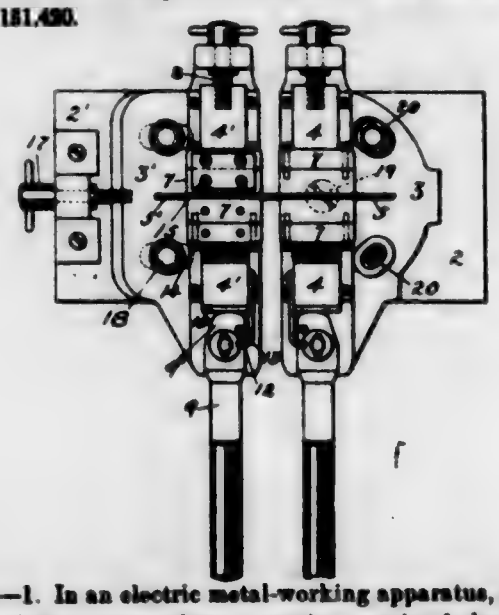
2. A steam-generator having a refractory furnace beneath the same consisting of three concentric inclosing casings, the inner casing having an open bottom, the next outer casing having a closed bottom and side and an open top, and the outside casing wholly inclosing the two first-named casings, a liquid-fuel burner located in the lower portion of the casing next to the innermost casing and in line with the open bottom of the latter, means for forcing air into the casing connected to the outermost casing, and means on the generator for preventing roaring noise caused by the draft of the furnace.

804,044. **TWINE-HOLDER.** MARCUS RICKETTS, Nevada, Ind. Filed Mar. 8, 1905. Serial No. 249,987.



Claim.—In a twine-holder, the combination with a ball-receptacle provided at its top closed end with a twine-outlet aperture, a removable ball-receptacle bottom cover, of a vertically-extending guide-tube of oval bore situated at one side of said receptacle having its bottom end closed and its top end open and provided with opposing vertically-extending cord or twine receiving slots extending from the open end of the tube, which slots terminate in twine-guiding eyes, a take-up gravity-weight adapted to slide longitudinally in said vertically-extending tube, a tension-bar situated at or near the top open end of said tube parallel with the line of the bottom of the twine-receiving slots, a vertically-extending bar situated on the top of said ball-receptacle diametrically opposite said guide-tube, and extending vertically to a level with the upper open end of the said tube, a cross-bar connecting the top ends of said bar and said tube and means connected to said cross-bar whereby the ball-holder is suspended.

804,045. **ELECTRIC WELDING CLAMPING DEVICE.** ADOLPH F. RIETZEL, Lynn, Mass., assignor to Thomson Electric Welding Company, Lynn, Mass., a Corporation of Maine. Filed Nov. 16, 1903. Serial No. 181,420.



Claim.—1. In an electric metal-working apparatus, the combination of a clamp body or frame carrying a pair of clamping-jaws for holding the work, a block or platen forming the terminal of a source of heating-current and supporting said clamping-body, and means for adjusting said clamping body or frame upon said block or platen in a line transverse to the line of pressure applied to the work.

2. In an electric metal-working apparatus, the combination of a clamp body or frame carrying a pair of clamping-jaws, a block or platen forming the terminal of a source of heating-current and supporting said clamping-body and means for adjusting said clamping body or frame upon said block or platen vertically with relation to said current-supplying block or platen.

3. In an electric metal-working apparatus, the combination of the current-supplying block or platen, and a clamp body or frame carrying a pair of clamping jaws or devices for holding the work, and a pair of supporting and guiding pins upon which said clamp-body is vertically adjustable to and from the current-supplying block or platen.

4. In an electric metal-working apparatus, the combination of a current-supplying block or platen, a clamp-body carrying adjustable clamp-jaws for grasping or holding the work, and a supporting-block for said clamp-body said supporting-block having an inclined bearing-face and being combined with means for adjusting it longitudinally upon the platen to vary the position of the clamp-jaws.

5. In an electric metal-working apparatus, the combination with a clamp-body provided with a pair of clamp-jaws for holding the work, of a current-supplying block or platen, a guide pin or pins projecting from the latter through the clamp-body, and a wedge-shaped support-plate for said clamp-body longitudinally adjustable on the platen.

6. In an electric metal-working apparatus, the combination with a clamp-body provided with a pair of clamp-jaws for holding the work, of a current-supplying block or platen, a guide pin or pins projecting from the latter through the clamp-body, and a wedge-shaped support-plate for said clamp-body longitudinally adjustable on the platen and provided with the elongated openings through which said guide-pins pass.

7. In an electric metal-working apparatus, the combination of a clamp body or frame carrying a pair of clamping-jaws and means for actuating the same to clamp the work, of a support-plate for said clamp-body having an inclined bearing-face, a current-supplying block or platen upon which said plate rests, means for adjusting the plate on the platen to vary the height of the clamp-body, and guide-pins for the clamp-body and projecting from the platen through the adjustable plate and clamp-body, as and for the purpose described.

8. In an electric metal-working apparatus, the combination of a clamp-body provided with guideways, a pair of jaws carrying slides mounted thereon, means for actuating a slide to clamp and unclamp the work, a supporting platen or block through which current is supplied to the clamp-body and means for adjusting the clamp-body vertically upon said platen or block.

9. In an electric metal-working apparatus, jaw-carrying slides or blocks adjustable transversely to the line of pressure and mounted upon a clamp-body carried by a current-supplying block or platen and vertically adjustable on said platen.

10. In an electric metal-working apparatus, a jaw-carrying slide or block, means for actuating the same to cause it to engage the work and a clamp-jaw on said block or slide adjustable in a line transverse to the line of pressure applied to the slide or block for the purpose of clamping the work.

11. In an electric metal-working apparatus, the combination of a jaw-carrying block or slide of a clamp-jaw detachably secured thereto by means of two or more clamp-screws passing into the jaw from the rear of the slide and through enlarged openings permitting a vertical adjustment of the clamp-jaw proper upon its support.

12. In an electric metal-working apparatus, the combination of a jaw-carrying block or slide, and a clamp-jaw detachably secured thereto by means of two or more clamp-screws passing into the jaw from the rear of the slide and through enlarged openings permitting a vertical adjustment of the clamp-jaw proper upon the clamp slide or block in a line transverse to the line of clamping pressure.

13. In an electric metal-working apparatus, the combination of a jaw-bearing slide or block, a clamp-jaw detachably secured thereto and adjusting-screws for adjusting the position of the jaw in a direction transverse to the line of clamping pressure.

14. In an electric metal-working apparatus, the combination of a jaw-bearing slide or block, a clamp-jaw detachably secured thereto and adjusting-screws for adjusting the position of the jaw in a direction transverse to the line of pressure applied to the heated work.

15. The combination in an electric metal-working apparatus, of a jaw-bearing block or slide and a clamp-jaw detachably secured thereto and adjustable on said block or slide in a line transverse to the line of pressure applied to the heated work.

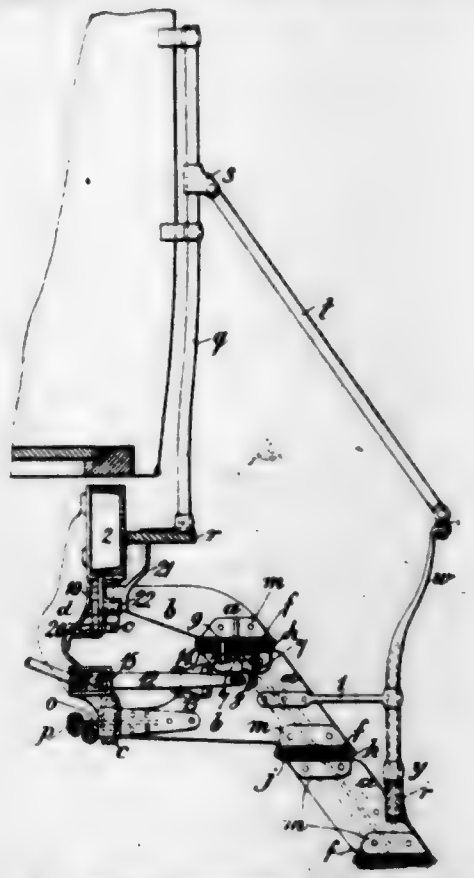
16. In an electric metal-working apparatus, the combination with a jaw-bearing block or slide, of a clamp-jaw secured thereto and an adjusting screw or screws carried by the block or slide and engaging said jaw for adjusting it in a line transverse to the line of clamping pressure and the line of pressure applied to the heated work.

17. In an electric metal-working apparatus, a clamp-body carrying clamp-jaws and pivotally mounted on an axis transverse to the axis or line of pressure applied to the heated work.

18. In an electric metal-working apparatus, the combination of a current-carrying platen or block, and a clamp-body pivotally supported thereon and provided with a pair of clamp-jaws for holding the work.

19. In an electric metal-working apparatus, the combination with a current-carrying block or platen, of a clamp-body pivotally mounted thereon, and jaw-carrying slides or blocks mounted on the clamp-body and adapted to apply pressure to the work on the line transverse to the axis on which the clamp-body is pivoted.

804,046. **STEPS OF RAILWAY AND TRAMWAY CARRIAGES, &c.** JOHN G. ROBINSON, Fairfield, England. Filed July 22, 1905. Serial No. 270,840.



Claim.—1. In a railway, tramway, or the like vehicle, brake mechanism, steps mounted so as to be movable from an in-use position to an out-of-the-way position and means whereby the operation of the brakes is insured when said steps are in their in-use position, substantially as set forth.

2. In a railway, tramway, or the like vehicle, brake mechanism, steps mounted so as to be movable from an in-use position to an out-of-the-way position, means adapted to lock said steps in their out-of-the-way position and means whereby, when said locking means are actuated to unlock said steps, the operation of said brakes is insured until said locking means are actuated to again lock said steps, substantially as set forth.

3. In a railway, tramway, or the like vehicle, a brake train-pipe, a controlling-valve on such pipe, steps mounted so as to be movable from an in-use position to an out-of-the-way position and means whereby said valve is operated to insure application of the brakes when said steps are in their in-use position, substantially as set forth.

4. In a railway, tramway, or the like vehicle, a brake train-pipe, a controlling-valve on such pipe, steps mounted so as to be movable from an in-use position to an out-of-the-way position, means adapted to lock said steps in their out-of-the-way position and means whereby, when said locking means are actuated to unlock said steps, said valve is operated to insure application of the brakes until said locking means are actuated to again lock said steps, substantially as set forth.

5. In a railway, tramway, or the like vehicle, brake mechanism, steps mounted so as to be movable from an in-use position to an out-of-the-way position, a locking-arm pivoted to said steps, a part fixed to said vehicle behind which said locking-arm is adapted to be placed when said steps are in their out-of-the-way position, a lever pivoted to said vehicle in the path of said locking-arm and means connecting said lever to said brake mechanism, substantially as set forth.

6. In a railway, tramway, or the like vehicle, a brake train-pipe, a controlling-valve on such pipe, steps mounted so as to be movable from an in-use position to an out-of-the-way position, a locking-arm pivoted to said steps, a part fixed to said vehicle behind which said locking-arm is adapted to be placed when said steps are in their

out-of-the-way position, a lever pivoted to said vehicle in the path of said locking-arm and means connecting said lever to said brake-controlling valve, substantially as set forth.

7. In a railway, tramway, or the like vehicle, brake mechanism, steps mounted so as to be movable from an in-use position to an out-of-the-way position, a locking-arm pivoted to said steps, a part fixed to said vehicle behind which said locking-arm is adapted to be placed when said steps are in their out-of-the-way position, a lever pivoted to said vehicle in the path of said locking-arm and adapted to be moved by said locking-arm when such arm is actuated to release the steps, a pawl pivoted to said vehicle also in the path of said locking-arm and adapted to hold said lever in the position to which it is moved by said locking-arm until said locking-arm is actuated to again lock said steps and means connecting said lever to said brake mechanism, substantially as set forth.

8. In a railway, tramway, or the like vehicle, a brake train-pipe, a controlling-valve on such pipe, steps mounted so as to be movable from an in-use position to an out-of-the-way position, a locking-arm pivoted to said steps, a part fixed to said vehicle behind which said locking-arm is adapted to be placed when said steps are in their out-of-the-way position, a lever pivoted to said vehicle in the path of said locking-arm and adapted to be moved by said locking-arm when such arm is actuated to release the steps, a pawl pivoted to said vehicle also in the path of said locking-arm and adapted to hold said lever in the position to which it is moved by said locking-arm until said locking-arm is actuated to again lock said steps, and means connecting said lever to said brake-controlling valve substantially as set forth.

9. In steps for railway, tramway or the like vehicles, treads, sides or wings on which the ends of said treads are mounted to turn, and approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn, substantially as set forth.

10. In steps for railway, tramway or the like vehicles, treads, sides or wings on which the ends of said treads are mounted to turn, approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn, and means adapted to connect said sides or wings so as to insure their uniform movement, substantially as set forth.

11. In steps for railway, tramway or the like vehicles, treads, sides or wings on which the ends of said treads are mounted to turn, and approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn from a position in which they extend beneath the vehicle in the direction of the length of the vehicle into a position in which they extend transversely away from the vehicle, substantially as set forth.

12. In steps for railway, tramway or the like vehicles, treads, sides or wings on which the ends of said treads are mounted to turn, approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn, from a position in which they extend beneath the vehicle in the direction of the length of the vehicle into a position in which they extend transversely away from the vehicle and means adapted to connect said sides or wings so as to insure their uniform movement, substantially as set forth.

13. In steps for railway, tramway or the like vehicles, treads, sides or wings on which the ends of said treads are mounted to turn, a hand-rail pivotally connected to one of said sides or wings and to the vehicle, and approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn, substantially as set forth.

14. In steps for railway, tramway or the like vehicles, treads, downwardly-extending brackets fixed to the vehicle, vertical pins on said brackets, sides or wings on which the ends of said treads are mounted to turn, and rearwardly-extending lugs on said sides or wings mounted on said pins, substantially as set forth.

15. In steps for railway, tramway or like vehicles, treads, a circular hole near each end of each tread, flanged supports or bosses extending through said holes the treads being between the flanges thereof, sides or wings carrying said supports and approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn.

16. In steps for railway, tramway or the like vehicles, treads, sides or wings on which the ends of said treads are mounted to turn, approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn, a vertically-arranged hand-rail fixed to the vehicle, a knuckle-piece mounted to rotate and slide on said fixed hand-rail, a newel-post fixed to one of said sides or wings, another knuckle-piece pivoted to said newel-post and a hand-rail pivoted at its ends to said knuckle-pieces, substantially as set forth.

17. In steps for railway, tramway or the like vehicles, treads, sides or wings on which the ends of said treads are mounted to turn, approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn, a vertically-arranged hand-rail fixed to the vehicle, a knuckle-piece mounted to rotate and slide on said fixed hand-rail, a socket fixed to one of said sides or wings, a newel-post mounted to turn in said socket, an arm fixed to one of said treads and to said newel-post, another knuckle-piece pivoted to said newel-post and a hand-rail pivoted at its ends to said knuckle-pieces, substantially as set forth.

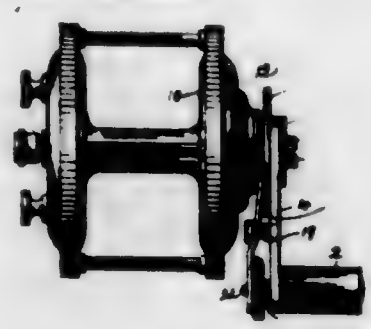
18. In steps for railway, tramway or the like vehicles, treads, sides or wings on which the ends of said treads are mounted to turn, approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn, and means adapted to hold said steps in position for use, substantially as described.

19. In steps for railway, tramway or the like vehicles, treads, sides or wings on which the ends of said treads are mounted to turn, approximately vertically-arranged fixed pivots on which said sides or wings are mounted to turn, a spring-pressed catch-lever pivoted to one of said sides or wings, a fixed part adapted to engage said catch-lever when the steps are in use, and hand-operated means adapted to move said catch-lever against the action of its spring, substantially as set forth.

20. In a railway, tramway, or the like vehicle, brake mechanism, steps mounted so as to be movable from an in-use position to an out-of-the-way position, means, capable of being actuated from within the vehicle, adapted to lock said steps in their out-of-the-way position and means whereby, when said locking means are actuated to unlock said steps, the operation of said brakes is insured until said locking means are actuated to again lock said steps, substantially as set forth.

21. In a railway, tramway, or the like vehicle, a brake train-pipe, a controlling-valve on such pipe, steps mounted so as to be movable from an in-use position to an out-of-the-way position, means, capable of being actuated from within the vehicle, adapted to lock said steps in their out-of-the-way position and means whereby, when said locking means are actuated to unlock said steps, said valve is operated to insure application of the brakes until said locking means are actuated to again lock said steps, substantially as set forth.

804,047. **FISHING-REEL.** EDWARD D. ROCKWELL, Bristol, Conn., assignor to The Liberty Bell Co., Bristol, Conn., a Corporation. Filed July 31, 1905. Serial No. 272,075.



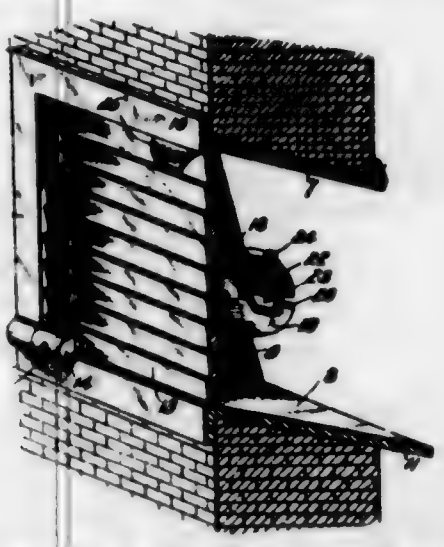
Claim.—1. In a fishing-reel, the combination with the spool and the axle thereof, of a handle having swivel connection with the said axle and comprising a lever and a finger-piece, and means for frictionally coupling the said handle and the axle including an operating-button arranged concentric with the said finger-piece and operable without removing the thumb and finger therefrom

2. In a fishing-reel, the combination with the spool and the axle thereof, of a handle having swivel connection with the said axle and comprising a lever and a finger-piece, a friction-disk coupled with the axle for rotation therewith, a tilting friction-plate carried by the handle-lever and coacting at its inner end with the friction-disk and an operating-button arranged concentrically with the said finger-piece and operating to increase or decrease the bite of the friction-plate upon the friction-disk.

3. In a fishing-reel, the combination with the spool and axle thereof, of a handle having swivel connection with the said axle and comprising a lever and a finger-piece, a friction-disk coacting with the axle for rotation therewith, a tilting friction-plate carried by the handle-lever and coacting at its inner end with the friction-disk, and an operating-button arranged concentrically with the said finger-piece, having a stem entering the stud of the handle and coacting with the outer end of the friction-plate.

804,048. **CHUTE.** EMMONS ROBINSON, Grand Rapids, Wis. Filed Jan. 18, 1905. Serial No. 241,694.

Claim.—1. In a chute of the class described, the combination with a body member having a substantially vertical front face, said body member furthermore having side walls a top and a bottom, said bottom being longer than the top and inclining downwardly throughout its length from its outer edge, forming an inwardly-extending lip at its inner end, the side walls having their lower portions extending inwardly at the opposite edges of the said lip of a movable closure associated with the body member, and means for locking the closure against movement.



2. In a chute of the class described, the combination with a body member having a substantially vertical outer end, a top provided with spaced upstanding wall-embracing flanges at its outer and inner edges, a bottom longer than the top and inclining downwardly throughout its length from its outer edge, said bottom forming an inwardly-extending lip at its inner end and side walls, the lower portions of which incline inwardly and downwardly to the inner end of said lip, of an outwardly-swinging closure hinged to the lower outer portion of the body member, and means for limiting the outward-swinging movement of the closure to hold the same in substantial alinement with the bottom.

3. In a chute of the class described, the combination with a body member having a downwardly-inclined bottom, a top and side walls, of a closure member, hinges connecting the lower end of the closure member and the bottom to permit the outward-swinging movement of the closure member to a position in substantial alinement with the bottom at its outer edge, said hinges also permitting the inward-swinging movement of the closure member to a position between the top, bottom, and walls of the body with its outer margins inset within the outer edges of said walls, top and bottom, and means for limiting the said swinging movement of the closure member.

4. In a chute of the class described, the combination with a body member, of a closure member movably associated therewith, a locking element and a stop element carried by one member, and an abutment element carried by the other member and coacting with both said locking and stop elements.

5. In a chute of the class described, the combination with a body member, of a closure member hinged thereto, a locking element and a stop element carried by the body member, and an abutment element carried by the closure member, said abutment element operating between and coacting both with said locking and said stop elements.

6. In a chute of the class described, the combination with a body member, of a closure member hinged thereto, a locking element located at the inner portion of the body member, a stop element carried by an intermediate portion of the body member, and an abutment element carried by the closure member and engaging the stop element on its outward movement, said abutment element also coacting with the locking element upon its inward movement.

7. In a chute of the class described, the combination with a body member, of a closure member movably associated therewith and having an abutment-shoulder, a stop carried by the body member and located in the path of movement of the shoulder, and a locking device movable into the path of movement of said shoulder.

8. In a chute of the class described, the combination with a body member, of a closure member movably associated therewith and having an abutment-shoulder, a stop carried by the body member and located in the path of movement of the shoulder, a locking device pivoted upon the body member and movable into the path of movement of the shoulder, and means for securing the locking device against movement.

9. In a chute of the class described, the combination with a body member having a shoulder, of a closure member hinged to the body member and having a shoulder arranged to assume a position contiguous to the shoulder of the body member, and a locking device movable to a position between the shoulders to secure the closure member.

10. In a chute of the class described, the combination with a body member comprising walls, of a closure member hinged to the outer portion of the body member and having inwardly-extending side wings terminating in abutment elements, stops carried by certain walls of the body member and located in the path of movement of the abutment elements, inwardly-extending lugs carried by the body member, said abutment elements being arranged to swing below the same, locking devices pivoted upon the lugs and arranged to engage over the abutment elements, and means for securing the devices against swinging movement.

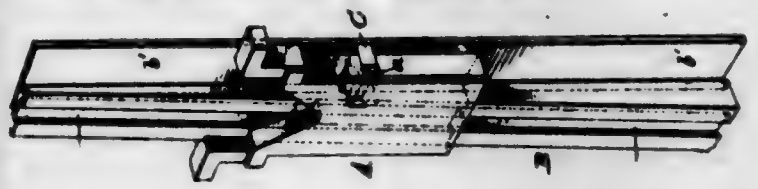
11. In a chute of the class described, the combination with a body member having a shoulder, of a closure member hinged to the body member and having a shoulder arranged to assume a position contiguous to the shoulder of the body member, a locking device pivoted upon the shoulder of the body member and movable to a position over the shoulder of the closure member, and a key arranged to engage the shoulder of the body member and the locking device to hold the latter against its pivotal movement.

12. In a chute of the class described, the combination with a body member having walls, spaced sleeves carried by one of the walls, a closure for the body member having socketed lugs that aline with the sleeves, pintles passing through the sleeves and engaging in the lugs, and means for securing said pintles in the lugs.

13. In a chute of the class described, the combination with a body member comprising surrounding walls and outstanding flanges, of a closure member comprising a wall arranged to fit within the body-walls and inside the outer faces of the flanges, and hinges connecting the lower margin of the closure-wall and the lower body-wall, said hinges comprising socketed lugs carried by one of the walls, sleeves carried by the flanges, and pintles engaging in the sleeves and sockets of the lugs, said hinges permitting the inset relation of the closure-wall with respect to the flanges.

14. In a chute of the class described, the combination with a body member having an inwardly-extending shoulder, of an outwardly-swinging closure member hinged to the body member and having an inwardly-extending shoulder that assumes a position below the shoulder of the body member when the closure member is in operative or closed position upon the body member, and a dog pivoted upon the shoulder of the body member and having a swinging movement to a position between the shoulders to lock the closure against its outward-swinging movement.

804,049. **LOGOTYPE-MACHINE.** JOHN R. ROGERS, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Feb. 4, 1905. Serial No. 244,231.



Claim.—1. The combined expansible spacer and mold containing a mold-cell, closed on four sides, whereby it is adapted to determine the form and size of the space.

2. An expansible spacer consisting of two coöperating wedges, having between and within them a mold-cavity with four side walls and a base for the formation of a space.

3. The combination of a wedge member A, provided with a mold-cell, a coöperating wedge member B, and a movable mold-liner C.

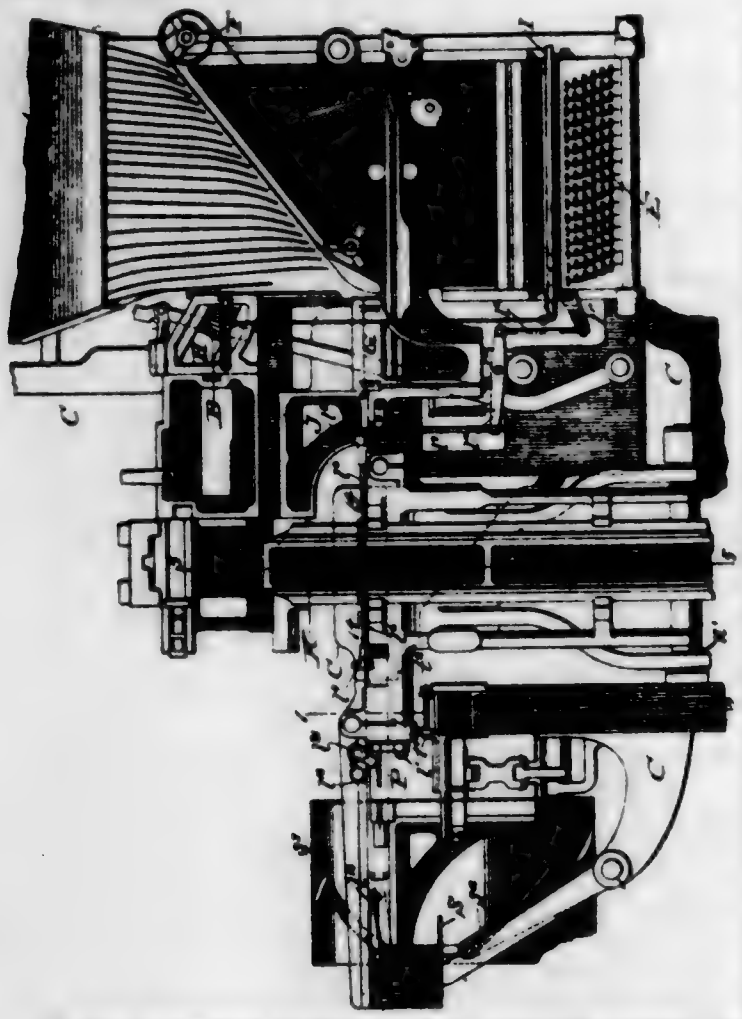
4. The combination of the member A, containing a mold-cell *a*, open at the front only, a movable liner C, seated in the mold-cell, and a wedge member B, coöperating with the member A, and also coöperating with the liner C to effect its adjustment.

804,050. **LOGOTYPE-MACHINE.** JOHN R. ROGERS, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed May 25, 1905. Serial No. 262,249.

Claim.—1. In a logotype-machine, a line of matrices slotted to form logotype-molds, in combination with expansible spacers seated in the line between the word groups and each containing a mold or cavity to form a justifying-space.

2. In a logotype-machine, a line of slotted matrices comprising

word groups, in combination with intermediate spacers containing space-molds and adjustable to vary their width in the line and the width of the molds.



3. In an organized logotype-machine, separable matrices arranged in word groups and slotted to form logotype-molds, in combination with a separable sprue-plate coöperating directly with and closing the slot in the matrices, whereby said plate is adapted to serve as a means of closing the mold on one side, and also as a means of withdrawing the logotype from the mold.

4. In a logotype-machine, the combination of the deeply-slotted matrices arranged in word groups, spacers located between the word groups and containing space-molds, and a sprue-plate coöperating directly with the edges of the matrices and spacers, substantially as shown.

5. In a logotype-machine, the combination of deeply-slotted matrices having the matrix characters at the bottom of the slots, intermediate expansible spacers covering the sides of the slots in the adjacent matrices, a separable sprue-plate common to the series of matrices, and means for delivering molten metal through said plate into the matrices.

6. In an organized logotype-machine, the combination of deeply-slotted matrices, spacers, means for assembling the matrices in word groups with spacers between the groups, a sprue-plate to cooperate with the matrices, means for delivering molten metal through the plate into the matrices, means for bringing said parts into operative relation, means for withdrawing the logotypes from the matrices by means of the sprue and thereafter separating the sprue from the logotypes.

7. In a logotype-machine, the combination of slotted matrices, a coöperating sprue-plate, means for separating the plate and matrices to withdraw the logotypes from the matrices, and means for separating the sprue from the logotypes.

8. In a logotype-machine, word groups of matrices, spacers separating the groups, and means including a sprue-plate for casting simultaneously a plurality of logotypes connected by a sprue, means for transferring the connected logotypes from the casting position, means to receive and sustain the logotypes thus transferred, and means for separating the sprue from the logotypes while thus sustained.

9. In a machine for producing composed lines of logotypes, the combination of means for casting the series of logotypes on a single sprue, means to support the logotypes, means for transporting the line by means of the sprue to the support, means for removing the sprue from the logotypes, a galley, and means for closing the logotypes together and advancing them to the galley.

10. In combination, means for casting a series of logotypes on a connecting-sprue, means for separating the sprue therefrom, and means for closing the logotypes together in line.

11. In combination, means for casting a series of logotypes and intermediate justifying-spaces on a common sprue, means for retracting the sprue to withdraw the logotypes and spaces from their molds, and means for detaching the sprue and closing the logotypes and spaces together in a compact line.

12. A line of slotted matrices, and expansible spacers containing expansible molds, in combination with means for assembling them in line, means for casting a series of logotypes and spaces therefrom, and means for assembling the logotypes and spaces in line.

13. Means, including a sprue-plate, for casting a series of logotypes and spaces on a common sprue, means for retracting the sprue-plate and moving the same endwise to transfer the logotypes, a support for the logotypes, and means to detach the sprue.

14. In a machine for producing lines of logotypes, word groups of matrices and intermediate spacers, in combination with a sprue-plate, a metal-pot and means for delivering metal therefrom, means for closing the plate against the matrices, and the pot against the plate, and thereafter retracting and separating the pot and plate, and means for moving the plate to transfer the sprue and the attached logotypes.

15. The sprue-plate and means for casting therein a sprue with attached logotypes, means for moving the plate endwise, a carrier to which the logotypes are presented by said movement, an ejector to deliver the logotypes from the carrier, and a support for the ejected logotypes.

16. In combination with the slotted sprue-plate and the coöperating pot, the projections on the pot to fill the ends of the slot in the plate.

17. In a logotype-machine, matrices, spacers, means for assembling them in line and jaws to confine the line endwise, in combination with means for separating the jaws according to the number of spacers in the line.

18. The combination in a logotype-machine of a jaw to confine the matrix-line, means for inserting spacers in the line, and means actuated thereby to cause a retreat of the jaw each time that a spacer is inserted.

19. In an organized logotype-machine, the combination of slotted matrices, means for assembling the same in line, expanding spacers adapted for insertion between the word groups of matrices, across the slots therein, means for inserting said spacers, means for casting a series of logotypes at one operation in the matrices between the spacers, means for separating the logotypes from the matrices, and means for advancing the logotypes laterally and assembling them in a continuous, justified line.

20. In a logotype-machine, slotted matrices arranged in groups with separators between the groups, in combination with means supplying molten metal thereto, means for withdrawing the logotypes, and means for assembling the logotypes in compact lines.

21. The slotted matrices, spacers, sprue-plate, and means for delivering molten metal thereto, in combination with means for shifting the sprue-plate, and means for separating the logotypes from the sprue and assembling them in line.

22. In a logotype-machine, means for sustaining a line of matrices and separators between them, a sprue-plate, means for delivering molten metal through the plate, and means for retracting the plate and thereafter moving it endwise to transfer the logotypes from the casting-point.

23. In a typographic machine, a matrix-confining jaw L', a spring tending to move the same backward from the line, a toothed escapement to control its retreat, and connections thence to a space-delivering key, whereby the liberation of the space is caused to effect the retreat of the jaw.

24. In combination with the sliding jaw L provided with two series of teeth, means for moving the jaw, and the controlling device or escapement l^5 having two sets of teeth.

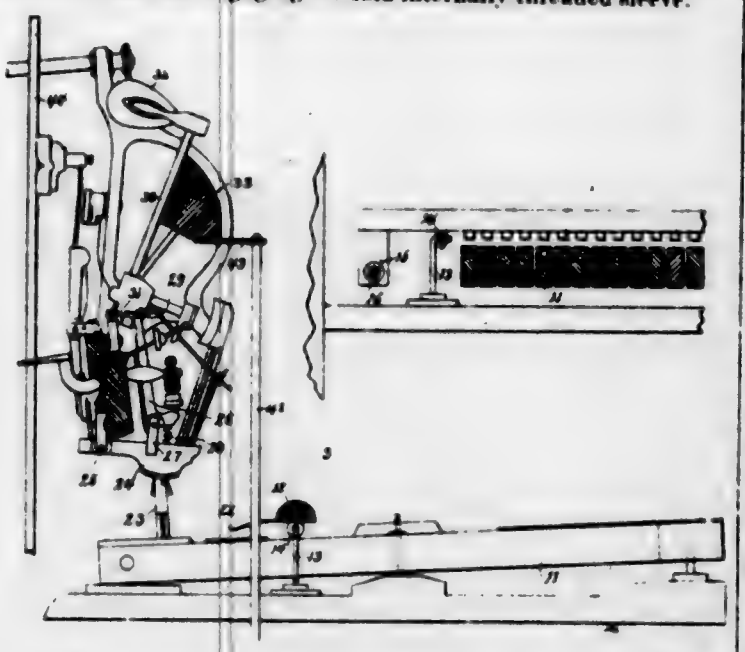
25. In combination with the longitudinally-movable sprue-plate M, the finger m^4 to dislodge the sprue.

26. In combination with the vertically-movable slide P and means for delivering the series of logotypes thereto, the ejector Q and a support R to receive the logotypes.

27. In combination with the galley, the support R, means for delivering a series of logotypes to said support, and a slide S, to deliver the logotypes to the galley.

804,051. **TOUCH-REGULATOR FOR MUSICAL INSTRUMENTS.** WILLIAM ROEHLING, Jr., Milwaukee, Wis. Filed Feb. 18, 1904. Serial No. 194,198.

Claim.—1. In a touch-regulator, the combination with the keys, and the keyboard-frame, of a movable resistance-bar supported above the keys, a yieldable resistance medium carried by said bar, an internally-threaded sleeve swiveled in the keyboard-rail, and an operating-rod connected with the resistance-bar and having a threaded front end engaging the said internally-threaded sleeve.



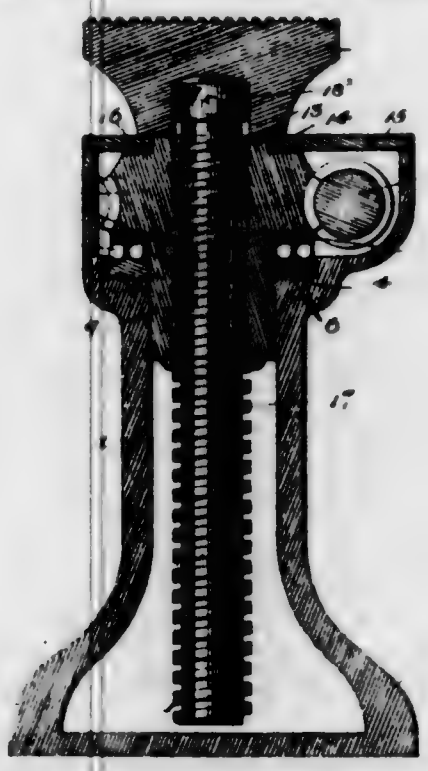
2. In a touch-regulator, the combination with the keys, of a resistance-bar movably mounted above the keys, means for operating said bar, a series of fingers pivoted to said bar in the paths of the keys, and springs secured on the bar and bearing on said fingers

3. In a touch-regulator, the combination with the keys, of a movable resistance-bar supported above the keys, means for operating said bar, a series of fingers pivoted to said bar, stops on said fingers in the paths of the keys, and springs secured to the bar and bearing on said fingers.

4. In a touch-regulator, the combination with the keys, of a movable resistance-bar above the keys, means for operating said bar, yieldable fingers carried by said bar, and adjustable stops on the said fingers in the paths of the keys.

5. In a touch-regulator, the combination with the keys, of a series of yieldable resistance-fingers above the keys, means for holding said fingers toward the keys, and stops adjustably mounted on said fingers.

804,052. LIFTING-JACK. CHARLES E. ROTH, New York, N. Y. Filed Nov. 23, 1903. Renewed Aug. 4, 1905. Serial No. 272,795.

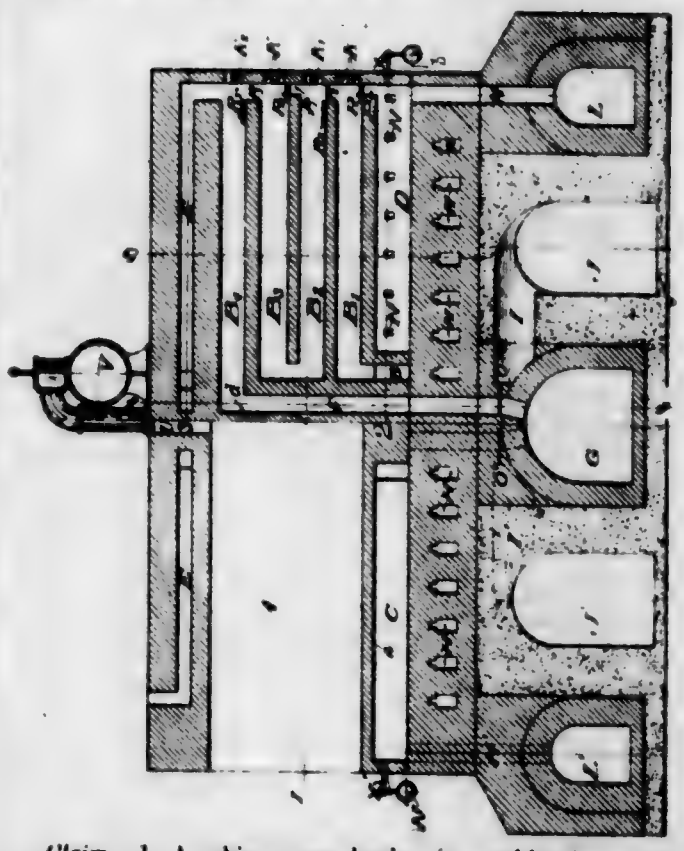


Claim.—1. A lifting-jack comprising a hollow body portion, a gear-wheel having a bushing depending from one end thereof and a boss extending from the opposite end thereof, said bushing being seated in a bearing in the body portion, a ball-bearing for the gear-wheel, a threaded lifting-screw passing through the gear-wheel and bushing, and a removable cover-plate for inclosing the operative parts of the jack, said cover-plate having an opening through which the said boss extends, and the upper faces of said boss and plate being flush.

2. A lifting-jack comprising a hollow body portion, provided with an interior shouldered recess, a ball-raceway in the form of a ring seated in the recess and provided with ball-grooves, balls in the grooves, a smooth-surfaced bearing-ring resting upon the balls, a gear-wheel resting upon the bearing-ring, a bushing extending from the gear-wheel and seated in a bearing in the body, a boss extending from the upper end of the bushing, a lifting-screw, a worm for revolving the gear-wheel and lifting the screw, and a removable cover-plate for inclosing the operative parts of the jack, said cover-plate having an opening through which said boss extends, the upper surfaces of said boss and plate lying in the same plane.

3. A lifting-jack comprising a hollow body portion having an interior shouldered recess, a ball-bearing ring seated in said recess and provided with ball-raceways, balls in the raceways, a gear-wheel provided with a depending bushing journaled in the hollow body portion, a bearing-ring secured to a shoulder on the gear-wheel and resting upon the balls, a worm-shaft journaled at one end in the body portion, a threaded bushing in which the opposite end of the worm-shaft is journaled, and a removable cover-plate for covering the operative portions of the jack, said cover-plate having an opening which fits over a boss on the upper end of the bushing and the plate and boss having flush upper surfaces.

804,053. COKE-OVEN. MATHEW R. ROTHAMEL, Cleveland, Ohio. Filed Apr. 8, 1905. Serial No. 254,559.



Claim.—1. A coking-oven having in combination a series of adjacent coking-chambers, reverting-heating-flues in the side walls of the coking-chambers, a transverse stack-draft flue in the foundation at one end of said heating-flues, vertical off-gas flues connecting said stack-draft flue with said heating-flues, a transverse air-supply flue in the foundation parallel to said stack-draft flue and at the other end of said heating-flues, and combustion-chambers under the ovens and having connection with said air-supply flue, substantially as specified.

2. A coking-oven having in combination horizontal reverting heating-flues in the side walls of the coking-chamber, a transverse stack-draft flue in the foundation at one end of said heating-flues and having connection therewith, a transverse air-supply flue in the foundation, parallel to said stack-draft flue and at the other end of said heating-flues, an air-inlet chamber under the heating-flues having connection with said air-supply flue and a combustion-chamber under the oven having a perforated dividing-partition between it and said air-inlet chamber, substantially as specified.

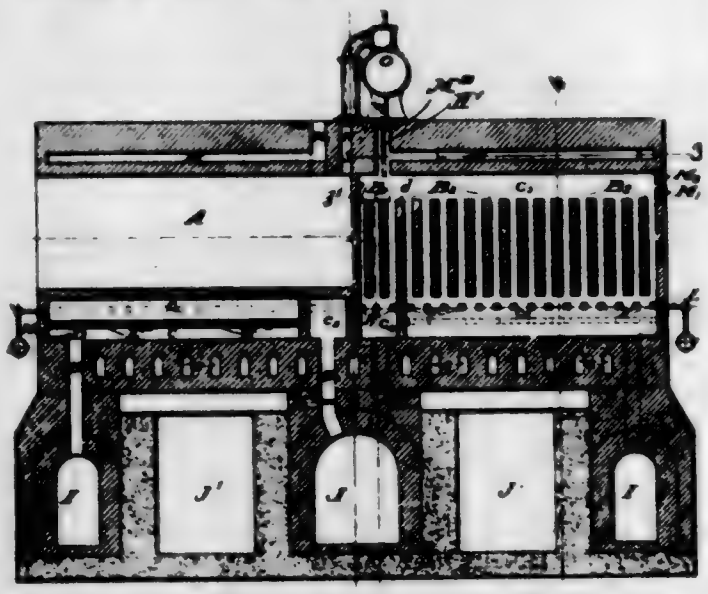
3. A coking-oven having in combination a series of adjacent coking-chambers, horizontal reverting heating-flues in the side walls of the coking-chambers, a transverse stack-draft flue in the foundation, vertical off-gas flues connecting said stack-draft flue with said heating-flues, a transverse air-supply flue below the oven parallel to

said stack-draft flue, combustion-chambers under the ovens having connection with said air-supply flue, cooling-flues in the floor of the oven open at one end to the atmosphere, and means for establishing a circulation of air through said cooling-flues and air-supply flue in communication with the combustion-chamber, substantially as specified.

4. In a double-front coking-oven, the combination with longitudinal open-end coking-chambers extending from front to front, heating-flues in the side walls of said coking-chambers extending from front to middle, and combustion-chambers under said coking-chambers and in communication with said heating-flues, of a middle stack-draft flue in the foundation, downward-extending flues from said heating-flues to said stack-draft flue, dampers for said downward-extending flues, air-flues in communication with the combustion-chambers, horizontal series of cooling-flues under the combustion-chambers, and a fan, substantially as specified.

5. In a coke-oven, the combination with a series of adjacent coking-chambers, reverting heating-flues in the side walls of said chambers, their openings and dampers for regulating the flow of the gases, combustion-chambers under said coking-chambers, and air-chambers in communication therewith, a stack-draft flue, downward-extending flues from the reverting heating-flues to said stack-draft flue, their dampers, cooling-flues in the foundation, air-flues in the foundation communicating with said air-chambers, and means for drawing air through said cooling-flues and discharging the same through said air-flues in the foundation into said air-chambers, substantially as specified.

804,054. COKE-OVEN. MATHEW B. ROTHBERG, Cleveland, Ohio. Filed May 20, 1905. Serial No. 261,393.



Claim.—1. In double-front coke-ovens, the combination of hollow longitudinal walls having each a median transverse partition, a set of vertical updraft heating-flues and a set of vertical downdraft heating-flues upon each side of said partition and extending from front to middle of the ovens, a chamber above each double set of said heating-flues and into which they open, said chamber extending from front to middle of the ovens, combustion-chambers under the ovens having communication with said updraft heating-flues, a common central off-gas flue in the foundation having connection with the downdraft heating-flues, and air-passages in the foundation having connection with said combustion-chambers, substantially as specified.

2. In double-front coking-ovens, the combination of hollow longitudinal walls having each a median transverse partition, a set of vertical updraft heating-flues and a set of vertical downdraft heating-flues upon each side of said partition and extending from front to middle of the ovens, a chamber above each double set of said heating-flues and into which they open, said chamber extending from front to middle of the ovens, combustion-chambers under the ovens having communication with said updraft heating-flues, a central transverse off-gas flue in the foundation having connection with the downdraft heating-flues, and air-flues in the foundation at the fronts of the ovens parallel to said off-gas flue and having communication with the combustion-chambers, substantially as specified

3. In double-front coking-ovens, the combination of hollow longitudinal walls having each a median transverse partition, a set of vertical updraft heating-flues and a set of vertical downdraft heating-flues upon each side of said partition and extending from front to middle of the ovens, a chamber above each double set of said heating flues and into which they open, said chamber extending from front to middle of the ovens, a chamber below the updraft-flues of each double set, a separate chamber below the downdraft-flues of each double set, combustion-chambers under the ovens having perforated dividing-walls from the chambers below the updraft heating-flues, a central transverse off-gas flue in the foundation having connection with the downdraft heating-flues, and air-flues in the foundation parallel to said off-gas flue and having communication with the chambers under the updraft heating-flues, substantially as specified.

4. In double-front coking-ovens, the combination of hollow longitudinal walls having each a median transverse partition, a set of vertical updraft heating-flues and a set of vertical downdraft heating-flues upon each side of said partition and extending from front to middle of the ovens, a chamber above each double set of said heating-flues and into which they open, said chamber extending from front to middle of the ovens, a chamber below the updraft-flues of each double set, combustion-chambers under the ovens having perforated dividing-walls from the chambers below the updraft heating-flues, an air-distributing chamber below each combustion-chamber and having a perforated dividing-wall therefrom, a central transverse off-gas flue in the foundation having connection with the downdraft heating-flues, and air-flues in the foundation parallel to said off-gas flue and having communication with said air-distributing chambers, substantially as specified.

5. In double-front coking-ovens, the combination of hollow longitudinal walls having each a median transverse partition, a set of vertical updraft heating-flues and a set of vertical downdraft heating-flues upon each side of said partition and extending from front to middle of the ovens, a chamber above each double set of said heating-flues and into which they open, said chamber extending from front to middle of the ovens, combustion-chambers under the ovens having communication with said updraft heating-flues, a common central off-gas flue in the foundation having connection with the downdraft heating-flues, air-passages in the foundation having connection with said combustion-chambers, reverting air-flues in the tops of the ovens connecting with the chambers above the heating-flues at the rear thereof, and burner-openings in the tops of the ovens connecting with said reverting air-flues, substantially as specified.

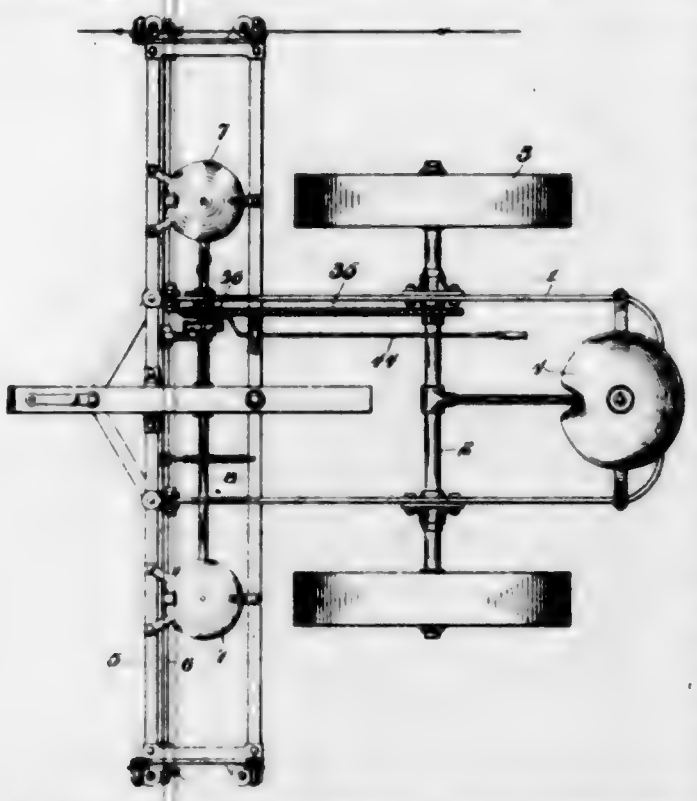
6. In double-front coking-ovens, the combination of hollow longitudinal walls having each a median transverse partition, a set of vertical updraft heating-flues and a set of vertical downdraft heating-flues upon each side of said partition and extending from front to middle of the ovens, a chamber above each double set of said heating-flues and into which they open, said chamber extending from front to middle of the ovens, a chamber below the updraft-flues of each double set, a chamber below the downdraft-flues of each double set, combustion-chambers under the ovens having perforated dividing-walls from the chambers below the updraft heating-flues, an air-distributing chamber below each combustion-chamber and having a perforated dividing-wall therefrom, a central off-gas flue in the foundation having upward-extending branches opening into chambers at the side of the chambers below the downdraft heating-flues and separated therefrom by perforated walls, and air-flues in the foundation having communication with said air-distributing chambers, substantially as specified.

7. In double-front coking-ovens, the combination of hollow longitudinal walls having each a median transverse partition, a set of vertical updraft heating-flues and a set of vertical downdraft heating-flues upon each side of said partition and extending from front to middle of the ovens, a chamber above each double set of said heating-flues and into which they open, said chamber extending from front to middle of the ovens, combustion-chambers under the ovens having communication with said updraft heating-flues, a common central off-gas flue in the foundation having connection with the downdraft heating-flues, air-flues in the foundation having connection with said combustion-chambers, cooling-flues in the floors of the ovens open at one end to the atmosphere and connected at their opposite ends by a yoke-flue, and a fan and piping connections for drawing air through said cooling-flues and discharging it through the air-flues in the foundation, substantially as specified.

804,055. CORN-PLANTER. WILLIAM H. SANDIFUR, Bowling Green, Ohio, assignor of one-half to Noah H. Meredith, Indianapolis, Ind. Filed Sept. 17, 1904. Serial No. 224,816.

Claim.—1. In a device of the class described, a seedbox, means including a rotary operating-shaft for discharging seed therefrom, a driving-gear mounted idly upon the shaft and adapted for movement longitudinally thereof, a clutch fixed upon the shaft and de-

signed for engagement with the gear, said clutch being provided with a series of spaced depressions, a yoke movable longitudinally of the shaft for moving the gear into engagement with the clutch and having a projecting arm, a rock-shaft, means for actuating the same, a cam member carried by the rock-shaft and adapted to act upon the projecting arm for moving the yoke and gear to active position, and a roller carried by the arm and designed to normally seat in one of the depressions in the clutch, said roller being adapted, when the yoke is operated, to travel upon the face of the clutch and to maintain the gear in engagement with the latter during the intervals of space between the depressions.



2. In a device of the class described, a seed-dropping mechanism including a rotary operating-shaft, a clutch fixed upon the shaft and provided in one of its faces with a plurality of spaced depressions, a rock-shaft, means for operating the same, a yoke movable longitudinally of the operating-shaft and operable from the rock-shaft, a roller carried by the yoke and adapted to normally seat within one of the depressions and when the yoke is operated to ride upon the adjacent face of the clutch, and a driving-pulley mounted idly upon the operating-shaft for movement longitudinally thereof, said pulley being movable by the yoke into engagement with the clutch and adapted to remain in such engagement during the travel of the roller between a pair of the depressions.

3. In a device of the class described, a drive-shaft, a driving-pulley mounted idly on the shaft and for movement longitudinally thereof, a clutch member fixed on the shaft and provided in one face with a series of depressions, a yoke operable for moving the pulley into engagement with the clutch and having a roller designed to normally seat in one of the depressions, and means for moving the yoke, said roller being adapted, when the yoke is moved, to override the face of the clutch between a pair of the depressions and maintain the pulley in engagement with the clutch.

4. In a device of the class described, a drive-shaft, a drive-pulley mounted idly thereon and for movement longitudinally of the shaft, a clutch fixed on the shaft and having a plurality of rows of depressions, the depressions in one row being spaced greater intervals apart than those in another, a member movable longitudinally of the shaft for moving the drive-pulley into engagement with the clutch, means for actuating the member, a roller carried by the member and adapted to normally seat in one of the depressions and to override the adjacent face of the clutch for maintaining the pulley in engagement with the latter, said member being movable also transversely of the shaft for bringing the roller into register with the respective rows of depressions, and means for moving the member for the last-named purpose.

5. In a device of the class described, a dropper mechanism including a rotary operating-shaft, a fixed clutch member on the shaft, a drive member mounted idly on the shaft and for movement longitudinally thereof, means for moving the drive member into engagement with the clutch member, and means for maintaining said parts in such engagement for predetermined intervals.

6. In a device of the class described, a dropper mechanism including a rotary shaft, a fixed clutch member on the shaft, a drive member mounted idly on and for movement longitudinally of the shaft, means for moving the drive member into engagement with the clutch member, means for maintaining the parts in such engagement during predetermined intervals, and means for automatically moving the drive member to inactive position when released.

7. In a device of the class described, a dropper mechanism including a rotary shaft, a fixed clutch member on the shaft, a drive member mounted idly on and for movement longitudinally of the shaft, means for moving the drive member into engagement with the clutch to rotate the shaft, means for maintaining the parts in such engagement during predetermined intervals of time, and means for changing at will the intervals of engagement of the parts.

8. In a device of the class described, a dropping mechanism including a rotary shaft, a clutch member fixed on the shaft, a drive member mounted idly and for movement longitudinally of the shaft, means for moving the drive member into engagement with the clutch for rotating the shaft, means for maintaining the parts in such engagement during predetermined intervals of time, means for automatically returning the drive member to inactive position when released, and means under control of the operator for varying at will the intervals of such engagement.

9. In a device of the class described, a rotary operating-shaft, a clutch member fixed thereon and provided with a plurality of depressions, a drive member mounted idly on the shaft, a movable element adapted for maintaining the clutch and drive members in operative engagement during predetermined intervals, and a roller carried by the element and designed to coöperate with said depressions for actuating the element.

10. In a device of the class described, a rotary operating-shaft, a clutch member mounted thereon and provided with a plurality of depressions, a drive member mounted idly on the shaft, means including a movable element for maintaining the drive member in operative engagement with the shaft during predetermined intervals, and a roller carried by the element and adapted for coöperation with the depressions to actuate the element.

11. In a device of the class described, a rotary operating-shaft, a clutch member fixed thereon and provided with a plurality of depressions, a drive member mounted idly on the shaft, a movable element, and a roller carried by the element and designed to alternately seat in and override the surface of the clutch between the depressions for maintaining the clutch and drive members in operative engagement during predetermined intervals.

12. In a device of the class described, a rotary operating-shaft, a drive member mounted idly thereon, a clutch member fixed on the shaft, and a movable element operable at predetermined intervals for operatively engaging the clutch and drive members, said clutch member and element being provided one with a plurality of depressions and the other with a projecting portion adapted to coöperate with said depressions for actuating the element.

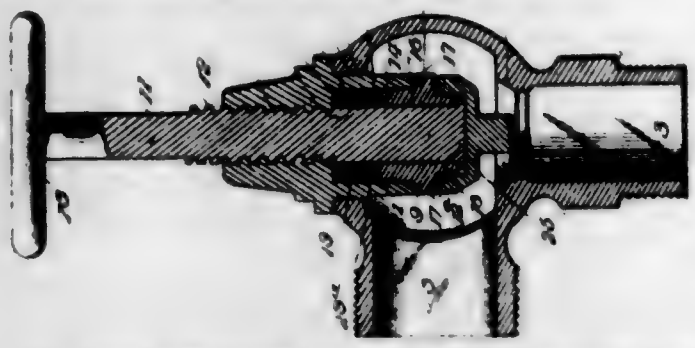
13. In a device of the class described, a rotary operating-shaft, a clutch member mounted thereon and provided with a plurality of depressions, a drive member mounted idly on the shaft, means including a movable element for operatively engaging the drive member and shaft during predetermined intervals, and a roller carried by the element and coöperating with the depressions to actuate the element.

14. In a device of the class described, a rotary operating-shaft, a drive member mounted idly thereon, and means including a clutch member and movable element for operatively engaging the drive member and shaft at predetermined intervals, said clutch member and element being provided one with a plurality of depressions and the other with a projecting portion adapted to alternately seat in and override the surface between said depressions for actuating the element.

804,056. VALVE. WILLIAM P. SCHOTT, Flint, Mich. Filed Oct 26, 1904. Serial No. 229,950.

Claim.—1. A valve comprising a casing formed with an opening and a valve-seat, a hollow casting removably secured in said opening, the lower edge of the casting being beveled, a stem engaging a threaded opening formed in the casting, a flange formed on the lower end of the stem, a carrier loosely fitting the stem and seating on the flange thereof, said carrier fitting within the casting and reduced at its upper end to provide a packing-face, a packing seated in said space, means engaging the carrier to hold the packing in place, the carrier being provided with a beveled annular projection to engage the beveled wall of the casting and threaded on its lower end, and a valve engaging the threaded end of the carrier and bearing loosely against the flange on the valve-stem.

2. A valve comprising a casting to be removably secured in a valve-casing, a portion of said casting being hollow with its free edge beveled, a packing-carrier loosely seated within the hollow portion of the casting and having an annular beveled projection to engage the beveled edge of the casting, that portion of the carrier within the casting being reduced to provide a packing-recess, a valve proper removably secured on the lower end of the carrier, but spaced therefrom to provide an annular recess between the lower end of the carrier and the valve proper, and a valve-stem having threaded engagement with the casting and passed loosely through the carrier, the lower end of the stem being provided with an annular flange to seat loosely in the recess between the carrier and valve proper.



3. A valve comprising a casing formed with an opening and a valve-seat, a cap fitting in the opening and extending within the casing, the lower edge of the cap being beveled, a chamber formed in the cap which communicates with a threaded opening, a threaded stem fitting in the opening having at its lower end a flange, a carrier loosely mounted on the stem above the flange, said carrier being formed with a body portion of a diameter equal the diameter of the chamber, a reduced extension projecting from the body portion, a beveled head corresponding with the beveled edge of the chamber, and a reduced threaded extension projecting from the beveled head, a threaded valve engaging the threaded extension, a plurality of packing-rings on the extension projecting from the body portion of the carrier, and means for holding the packing-rings against the body portion.

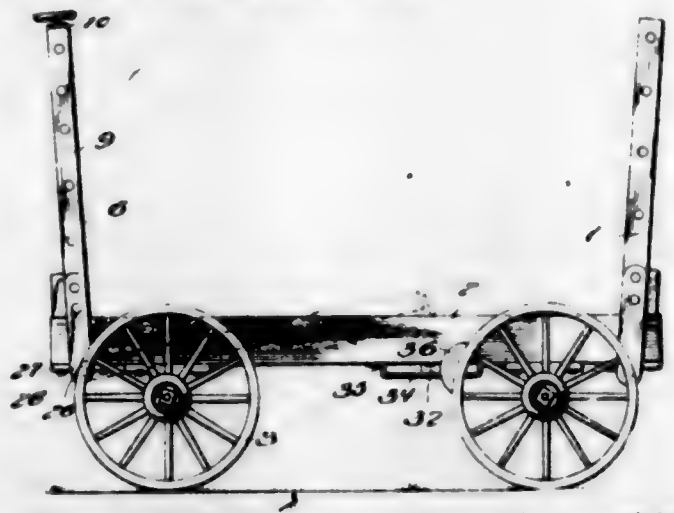
804,057. POULTRY-FEEDING APPARATUS. GERARD C. SCOTT. Columbus, Ohio. Filed Feb. 27, 1904. Serial No. 195,690.



Claim.—1. In a poultry-feeding apparatus, the combination with a poultry-containing structure and a feed-hopper supported adjacent thereto, of a flexible strip running through said structure, devices rotatably mounted at the opposite ends of said structure for winding said strip thereon, and means for scraping the strip.

2. In a poultry-feeding apparatus, the combination with a poultry-containing structure and a feed-hopper supported adjacent thereto, of a flexible strip running through said structure, devices rotatably mounted at the opposite ends of said structure for winding said strip thereon, and spring-actuated means for scraping the strip.

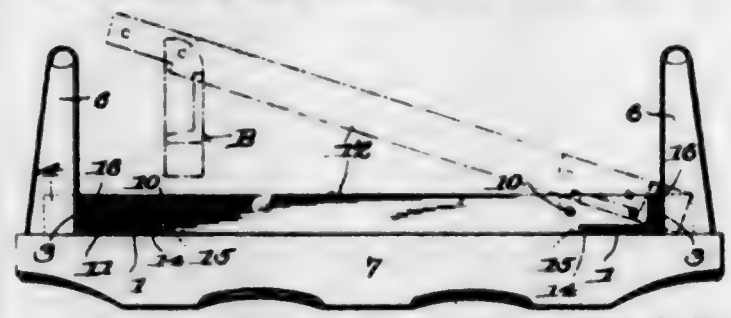
804,058. WAGON-BRAKE. JOHN L. SHAW. Coshocton, Ohio. Filed May 20, 1905. Serial No. 261,334.



Claim.—1. In a braking mechanism for vehicles, an upright including side members, a plate at the upper end of the side members, a bracket secured to the inner face of one of said side members, an operating-rod piercing said plate and bracket, a transverse shaft mounted in the lower ends of said side members, a nut operatively engaged with the said operating-rod and provided with depending members adapted to embrace the operating-rod and straddle the said bracket, brake-shoes adapted for movement toward and away from the rear wheels of the vehicle, and connections between the depending portions of said nut, and the said shoes for moving the latter toward and away from said wheels.

2. In a braking mechanism for vehicles, a wagon-body, a transverse shaft associated with the bottom of said body, an upright loosely mounted upon said shaft, an operating-rod associated with the upright, brake-shoes arranged for movement toward and away from the rear wheels of the vehicle, and connections constructed and arranged between the operating-rod and said shoes for moving the latter toward and away from said wheels.

804,059. DEVICE FOR SUPPORTING WAGON-BODIES. OLIVER W. SHAW. Polo, Ill. Filed Jan. 18, 1905. Serial No. 241,572.



Claim.—1. A device of the class described consisting of a box-like structure including a bottom, an end member having outwardly-extending spaced lugs, and side members extending beyond the bottom member and having registering apertures.

2. A device of the class described consisting of a box-like structure having an end member provided with exteriorly-disposed spaced lugs and beveled upon its inner side, a bottom, and side members extended beyond said bottom and provided with apertures disposed in registry with each other; two of said apertures being in the parts of the side members which are extended beyond the bottom.

3. The combination with a plank constituting a lift, of box-like members connected pivotally with the ends thereof by transverse pins or bolts; said members having end walls beveled upon their inner sides, outwardly-extending stake-engaging lugs and inwardly-extended side members, the extended portions of the latter being provided with apertures for one of the connecting members.

804,080. TRUCK. EDWARD F. SEIBERLL and BERT R. SEIBERLL, Moline, Ill. Filed May 27, 1904. Serial No. 210,089.

Claim.—1. The improvement in trucks herein described, comprising the bed-frame, its wheels, the cylinder having at its upper end a flange or cap-plate resting on the bed-frame, said cylinder being open at its upper end, the platform having on its under side a de-

pending piston operating in the cylinder of the bed-frame, the dollies mounted on said platform, the liquid-tank supported on the bed-frame, a return-pipe connected with the cylinder midway between its ends and leading to said liquid-tank, the pump, the supply-pipe extending from the pump to the cylinder and opening into the latter at or near its lower end, the feed-pipe leading from the tank to the pump, the valve in the pump and arranged for operation by the plunger, the plunger having an inclined end arranged when moved beyond its normal stroke to operate the valve, and the lever for operating the plunger, substantially as and for the purposes set forth.



2. A truck substantially as herein described, comprising a bed-frame, a cylinder supported thereby and open at its upper end, devices for bracing said cylinder from the bed-frame, a feed-pipe leading to said cylinder, a return-pipe leading from the cylinder to a liquid-tank, the tank and a pump and connections between the liquid-tank and the feed-pipe which leads to the cylinder, and a platform having a piston operating in the cylinder of the bed-frame, substantially as and for the purposes set forth.

3. The combination of the bed-frame, the cylinder, the tank for supplying liquid to the cylinder, the platform having a piston operating in the cylinder, the pump having a plunger, connections between the pump and the tank and the cylinder, and a valve in the pump and arranged for operation by its plunger, substantially as set forth.

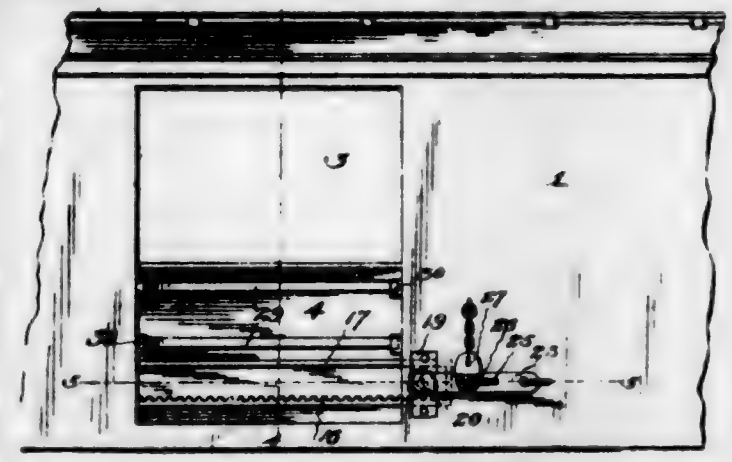
4. The combination of the bed-frame, the cylinder carried thereby, means for establishing pressure in the cylinder, rods bracing the cylinder from the bed-frame, the platform, a cross-beam beneath the platform, brace-rods extending between said cross-beam and the platform, and the piston operating in the cylinder of the bed-frame and having its cap-plate secured beneath the cross-beam of the platform, substantially as set forth.

5. The combination in a truck with the bed-frame and its cylinder, of means for using hydrostatic pressure in the cylinder, means for bracing the cylinder from the bed-frame, the platform arranged above the bed-frame, and having a piston operating in the cylinder thereof, and end plates projecting from the platform and to lap upon the step of a car-door, substantially as set forth.

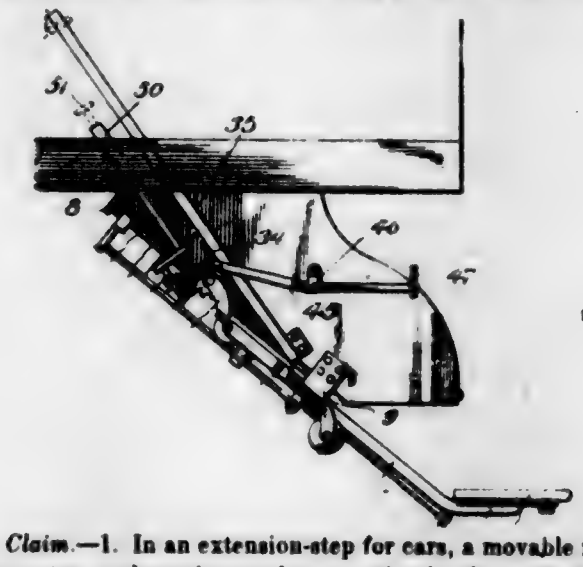
6. A dolly comprising a platform, end wheels, intermediate wheels larger than the end wheels, and a brake consisting of a cam pivoted to the dolly and adapted to be turned to bear against the support against which the dolly rests, substantially as described.

804,061. GRAIN-DOOR. JURGEN SIEMSEN, Valparaiso, Nebr., assignor of one-half to William L. Worrell, Valparaiso, Nebr. Filed May 23, 1904. Serial No. 209,272.

Claim.—The herein-described grain-door for cars consisting of the sliding door 4, a beveled cleat 6, guideways or tracks on which said door is adapted to move, brace-bars 7, provided with slots 8, and grooves 9, cross-pieces 31, and binding-screws 33, adapted to hold said door in place, clamping-blocks 10 provided with tongues 12, and binding-screws 13 arranged on said brace-bars to prevent the upward movement of said door, a rack 16 secured to the outer side of said door, a shaft 20 having a squared end revolubly mounted in the side of said car, a cog-wheel 21 fixed on said shaft to engage said rack-bar to open or close said door, an annular flange on said cog-wheel for retaining said cog-wheel in engagement with said rack-bar, a hasp 23 pivotally secured to said car and having a central slot for a padlock-staple and a V-shaped lug 24 upon its outer end and under side to engage the squared outer end of said shaft to prevent the rotation of the same, and a padlock for locking said hasp in engagement with said shaft, substantially as described.



804,062. EXTENSION-STEP FOR RAILROAD-CARS. EUCHARISTE SIROIS, Denver, Colo. Filed July 29, 1905. Serial No. 271,750.



Claim.—1. In an extension-step for cars, a movable frame carrying a step, and gearing set for operation by the projection of said frame and adapted to be reversely moved to elevate the frame and retract the step.

2. In an extension-step for cars, a movable frame carrying a step, rack-and-pinion gearing for elevating said frame and step, said gearing being set for operation by the projection of the frame and step, and means for operating the rack.

3. In an extension-step for cars, the combination of a supporting-frame, a gravity-projected traveling carriage carrying an extension-step, gearing set for operation by the projection of said carriage and adapted to be reversely moved to elevate the carriage and retract the step, latch mechanism for holding and releasing the carriage, and roller-guide supports on the frame and carriage for guiding the carriage in its movements.

4. In an extension-step for cars, the combination of a supporting-frame, a gravity-projected carriage slidably mounted on said frame and carrying an extension-step, latch mechanism for holding the carriage elevated, gearing set for operation by the projection of said carriage and adapted to be reversely moved to elevate the same and retract the step, and means for releasing said latch mechanism to permit the carriage to drop.

5. In an extension-step for cars, the combination of a supporting-frame, a gravity-projected carriage slidably mounted on said frame and carrying an extension-step, gearing set for operation by the projection of said carriage and adapted to be reversely moved to elevate the same and retract the step, latch mechanism embodying a pivoted catch for holding the carriage elevated, a releasing device for retracting said pivoted catch, and means for operating said releasing device.

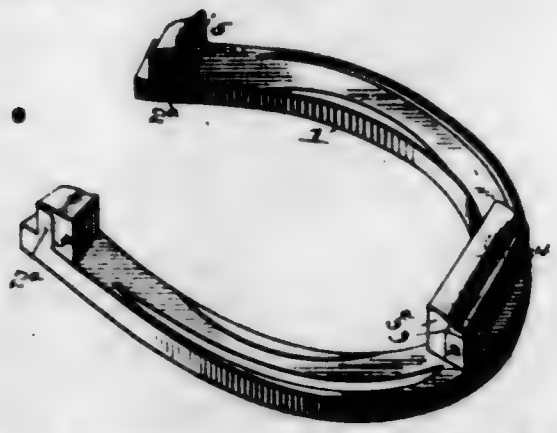
6. In an extension-step for cars, the combination of a supporting-frame, a gravity-projected carriage slidably mounted on said frame and carrying an extension-step, a rack-bar mounted on the carriage, a shaft carried by the frame and carrying pinions, one meshing with said rack-bar, a second rack-bar meshing with the other pinion, said shaft being operated by the carriage to set said second rack-bar for operation, and means for reversely operating said second rack-bar for elevating the carriage.

7. In an extension-step for cars, the combination of a supporting-frame, a carriage slidably mounted thereon and carrying an extension-step, a catch member and a rack, a pivoted catch on the frame adapted to engage said catch member to hold the carriage elevated, a shaft mounted and carrying gears, one meshing with said rack, a second rack meshing with the other gear and moved in one direction thereby when the carriage is projected, means for moving said second rack in the opposite direction to elevate the carriage, and means for tripping the pivoted catch to release the carriage.

8. In an extension-step for cars, a frame, a sliding carriage carrying an extension-step and a rack-bar, a shaft on the frame provided with pinions, one meshing with said rack-bar, a pivoted catch on the frame to engage the carriage and hold it elevated, a hollow shaft mounted on the first-named shaft and having a crank-arm operatively connected to the catch, means for rocking said shaft to tilt and retract the catch, and a rack engaging the other pinion on the first-named shaft to permit the gearing to reversely operate it to elevate the carriage.

9. In an extension-step for cars, a supporting-frame, a carriage slidably mounted thereon and carrying an extension-step, a rack-bar carried by the carriage, an elevating-shaft carried by the frame and provided with pinions, one meshing with said rack-bar, a second rack-bar meshing with the other pinion and adapted to be operated to elevate the carriage, a pivoted latch for holding the carriage elevated, a hollow shaft or sleeve surrounding the first-named shaft and provided with a crank-arm connected with the latch, and means for rocking said hollow shaft to retract the latch and release the carriage.

804,063. **HORSESHOE.** ARTHUR H. SQUIER, Tunkhannock, Pa. Filed Oct. 13, 1904. Serial No. 228,311.



Claim.—1. In combination with a shoe, of stub-calks formed integral thereon, a removable calk positioned upon each of said stub-calks, said stub-calks provided with longitudinal apertures, each of said stub-calks provided with a recessed portion formed upon the base of the same, each of the removable calks comprising a body portion of the same length as the stub-calks, an integral extension formed upon the body portion of said calk of the same length as the width of the stub-calk, said extension provided with a right-angled projection of the same length as, and adapted to be positioned in the recessed portion of the stub-calk, the removable calk being provided with an angular base-surface of the same length as the thickness of the body and the length of its integral right-angled extension.

2. In a device of the character described, the combination with a shoe, of integral extensions formed upon said shoe, each of said extensions provided with an apertured portion and a recess, a removable calk positioned upon each of said extensions, comprising a body portion provided with a right-angled extension, said calk having an aperture, an integral pin formed upon said calk, said pin adapted to be positioned within the recess formed upon said extension, and means positioned within the apertures formed upon said extension and calk for positively securing the same together.

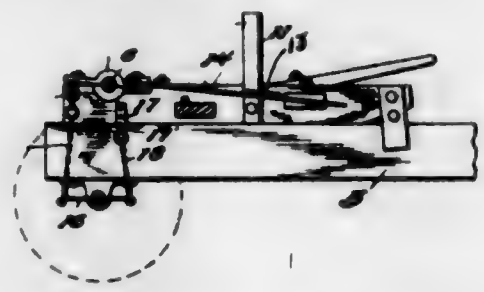
3. The combination with a shoe provided with a stub-calk, said stub-calk provided with a recess formed in its outer face, of a removable calk positioned upon said stub-calk, said removable calk provided with a body portion of the same length as the stub-calk, an integral, right-angled extension projecting from the body portion of said removable calk, said extension of the same length as the width of the stub-calk, a depending projection formed upon said right-angled extension, said projection adapted to be positioned within the recess formed upon said stub-calk, and means for securing said removable calk upon said stub-calk.

4. In combination with a shoe provided with a stub-calk, of a removable calk positioned upon said stub-calk, said removable calk comprising an apertured, vertical body portion of the same length as said stub-calk, and an integral, right-angled, comparatively thin extension projecting from the lower part of said body portion and of the same length as the width of said stub-calk, said extension and body portion having a curved or beveled base extending the entire length of the extension and the width of the body portion, the upper face of the body of the removable calk bearing against the lower face of the shoe and the free end of the extension projecting to the plane in which the unengaged side of the stub-calk is formed, and means positioned within the apertured portion of the stub-calk and the body of the removable calk for securing the same together.

5. A calk, comprising a comparatively wide body portion and a thin, right-angled extension, said body portion provided with a flat, upper face formed in a plane parallel to the plane in which the upper face of the right-angled extension is formed, said body portion provided with a transverse aperture, and said body portion and extension formed with a beveled or curved lower face extending the entire length of said extension and the width of said body.

6. In combination with a shoe provided with a stub-calk, of a removable calk positioned upon said stub-calk, said removable calk comprising a comparatively large, vertical body portion, a comparatively small, integral, right-angled extension projecting from the lower part of said body portion, and of the same length as the width of said stub-calk, said body portion and extension having a curved or beveled base extending the entire length of the extension and the width of said body portion, said beveled base terminating at one end in the same vertical plane in which the outer side of said body portion is formed, the upper face of the body of the removable calk bearing against the lower face of the shoe and the free end of the extension projecting to the plane in which the unengaged side of the stub-calk is formed, and means securing said removable calk to the stub-calk.

804,064. **WIRE-REEL.** CHARLES W. STARK, Mountain Lake, Minn. Filed Apr. 27, 1905. Serial No. 257,681.

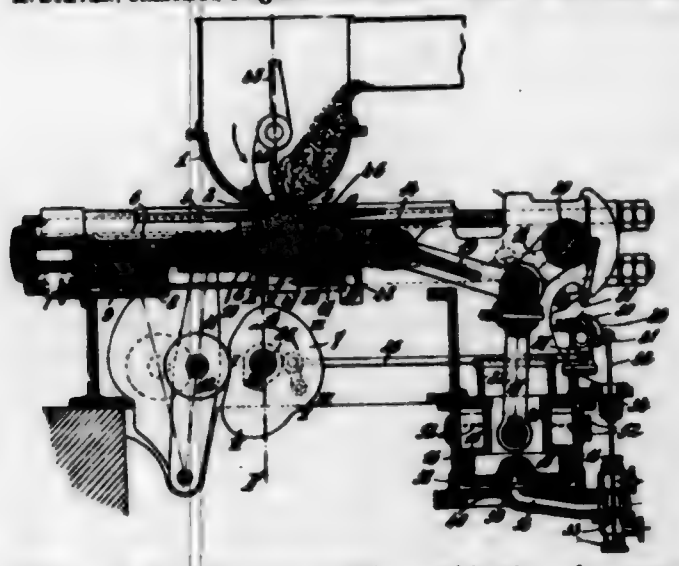


Claim.—1. The combination with a vehicle of an operative mechanism including a frame disposed upon the vehicle, a shaft revolubly mounted in the frame, half-boxes disposed upon the shaft, rods engaged beneath the axle of the vehicle, chains connected with the frame and with one end of each rod, chains connected with half-boxes and with the other ends of the rods, vertically-movable spring-arms connected with the half-boxes and means for holding the arms at different points of their vertical movement.

2. The combination with a vehicle of an operative mechanism comprising a frame disposed upon the vehicle, a shaft revolubly mounted in the frame, half-boxes engaged over the shaft, rods engaged beneath the axle of the vehicle, chains connected with the half-boxes at one side of the shaft and with one end of each rod, chains connected with the frame and with the other ends of the rods, notched uprights carried by the frame and spring-arms secured to the half-boxes at the opposite side of the shaft from the chains and engaged in the notches of the uprights.

3. An operative mechanism comprising a frame, a shaft journaled in the frame, a strap-spring secured at one end to the frame, a half-box secured to the other end of the spring and resting upon the shaft, a rod fixed against movement toward the shaft, a plate disposed against the opposite side of the rod from the shaft and extending oppositely beyond the rod, a chain secured to one end of the plate and to the frame and a second chain secured to the other end of the plate and to the half-box.

804,065. **BRIQUET-MAKING PRESS OR APPARATUS.** HENRI A. STEVEN, Charleroi, Belgium. Filed Mar. 8, 1905. Serial No. 249,010.



Claim.—1. In a briquet-press the combination of a movable compression-piston, means for reciprocating the compression-piston, a stationary piston, arranged axially with the compression-piston, a movable mold coöperating with the compression-piston and the stationary piston, said mold receiving the material of which the briquet is formed and being free to move along with and in the direction of the operative movement of the compression-piston owing to the friction between the briquet and the walls of the mold, and positive means for moving the mold in the direction of the operative movement of the compression-piston.

2. In a briquet-press the combination of a movable compression-piston, means for reciprocating the compression-piston, a stationary piston arranged axially with the compression-piston, a movable mold for the briquet coöperating with the compression-piston and the stationary piston, positive means for moving the mold in the direction of the operative movement of the compression-piston and elastic means tending to move the mold in the direction opposite to the operative movement of the compression-piston and capable of being overcome by the friction between the material forming the briquet and the walls of the mold.

3. In a briquet-press the combination of a movable compression-piston, a main frame, a cylinder mounted on the frame and having inlet and outlet steam-ports, means for controlling said ports, a steam-operated piston movable within the cylinder, a connecting-rod pivoted to the steam-piston, a rod pivoted to the compression-piston, a rod pivoted to the main frame and also to the connecting-rod and the compression-piston rod, a stationary piston arranged axially with the compression-piston, a movable mold coöperating with the compression-piston and the stationary piston, said mold receiving the material of which the briquet is formed and being free to move along with and in the direction of the operative movement of the compression-piston owing to the friction between the briquet and the walls of the mold, and positive means for moving the mold in the direction of the operative movement of the compression-piston.

4. In a briquet-press the combination of a movable compression-piston, a main frame, a vertical cylinder having inlet and outlet steam-ports, means for controlling said steam-ports, a piston actuated by the steam during its upward operative stroke and caused to move downward by its own weight, means for transmitting the movements of the steam-piston to the compression-piston, means for entrapping a cushion of steam between the piston and the lower end of the cylinder, a stationary piston arranged axially with the compression-piston and a mold for the briquet coöperating with the compression-piston and the stationary piston and movable independently of the compression-piston.

5. In a briquet-press the combination of a movable compression-piston, means for reciprocating the compression-piston, a stationary piston arranged axially with the compression-piston, an inclined mold for the briquet coöperating with the compression-piston and the stationary piston and movable independently of the compression-piston, means for moving the mold in the direction opposite to that of the operative stroke of the piston until the briquet is detached from the stationary piston, means for moving the mold in the same direction as the operative stroke of the compression-piston until the briquet is clear of the mold, said means operating during the movement of the compression-piston in the opposite direction and a discharge-slide for the briquet secured to the mold.

6. In a briquet-press the combination of a movable compression-piston, means for reciprocating the compression-piston, a stationary piston arranged axially with the compression-piston, a mold for the briquet laterally perforated adjacent to the compression-piston, means for moving the mold in the same direction as but quicker than the compression-piston during its operative stroke until the briquet is forced into the perforated portion of the mold by the stationary piston.

7. In a briquet-press the combination of a movable compression-piston, means for reciprocating the compression-piston, a stationary piston arranged axially with the compression-piston, a mold for the briquet coöperating with the compression-piston and the stationary piston and movable independently of the compression-piston, and groove-forming projections on the internal face of said mold.

8. In a briquet-press the combination of a movable compression-piston formed with water-discharge conduits in its compression-face, means for preventing solid matter from passing into said conduits, means for reciprocating the compression-piston, a stationary piston arranged axially with the compression-piston and a mold for the briquet coöperating with the compression-piston and the stationary piston and movable independently of the compression-piston

9. In a mechanism of the class described, the combination of a stationary piston, a movable mold adapted to slide longitudinally of said stationary piston, a compression-piston secured contiguous to said mold and stationary piston, a cylinder secured at an angle to the plane in which said compression-piston is adapted to move, a piston secured within said cylinder, levers pivotally connected and pivotally secured to said compression-piston, means connecting said levers to said piston within said cylinder, whereby reciprocating movement will be imparted to said compression-piston, when said cylinder-piston is actuated, and a valve mechanism secured contiguous to said cylinder and coacting with said cylinder-piston for operating the same.

10. In a mechanism of the class described, the combination with a support, of a bodily-movable mold carried by said support, a cylinder carried by said support contiguous to said mold, a piston positioned within said cylinder and connected to said mold, said cylinder and piston providing means whereby said mold may be moved to its normal position for receiving material, a compression-piston carried by said support contiguous to said mold, pivotally-connected lever members secured at one end to said support and at their opposite end to said compression-piston, and means capable of moving said lever means for reciprocating said compression-piston.

11. In a mechanism of the class described, the combination with a support, of a bodily-movable mold carried by said support, a cylinder carried contiguous to said mold, a piston mounted in said cylinder, means connecting said piston and mold, said piston capable of moving said mold to its normal position for receiving material, and compression means secured contiguous to, and coacting with said mold.

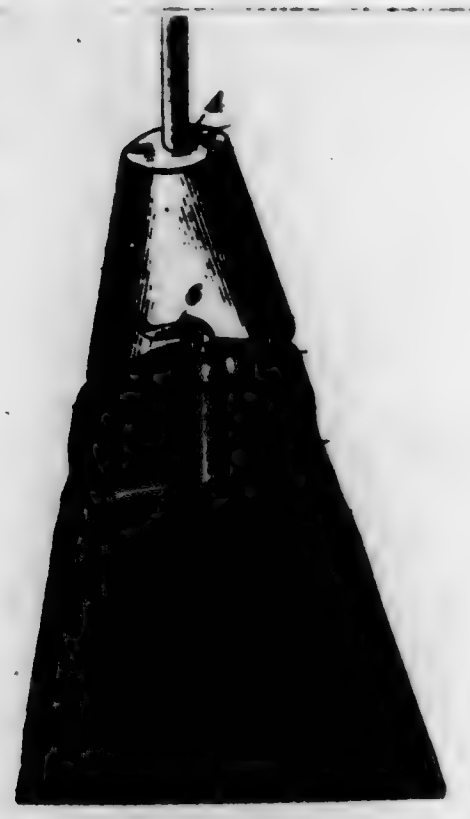
12. In a mechanism of the class described, the combination with a support, of a bodily-movable mold carried by said support, a cylinder carried by said support and positioned parallel to said mold, a piston mounted within said cylinder, means connecting said mold and piston, said piston adapted to be moved longitudinally in said cylinder for retaining said mold in its normal position for receiving material to be molded, and compression means secured contiguous to and coacting with said mold.

804,066. **BROOM ATTACHMENT.** GEORGE M. STEWART, Sistersville, W. Va. Filed Dec. 29, 1904. Serial No. 238,830.

Claim.—1. A fluid-supplying attachment for brooms, consisting of a receptacle, having arranged through its center a vertically-disposed tube to receive the handle of the broom, a jointed feed-pipe connected with said tank, a cut-off valve arranged in said pipe, means for swinging the feed-pipe out of operative position, and perforated discharge-nipples connected to the lower end of the same, substantially as described.

2. A fluid-supplying attachment for brooms, consisting of a receptacle shaped to conform to the upper end of the broom-head, a tube arranged through the center of said tank to receive the handle of the broom, a short horizontal section of pipe connected to the lower end of the tank, a feed-pipe pivotally connected to said short pipe to turn laterally thereon, a cross-pipe arranged on the lower end of said feed-pipe, laterally-projecting perforated nipples connected to said cross-pipe, said nipples being provided with pointed ends to permit the same to be forced into the head of the broom, and a cut-off valve arranged in said feed-pipe to control the flow of liquid through the same, substantially as described.

804,066.



locking-rod and the respective shank of each gear, a rocking lever connected with each locking-rod, a brake-rod pivotally connected to each rocking lever, and means connected to the aforesaid rack, whereby the locking-rods may be moved in a direction opposite to the direction of movement of the brake-rods.

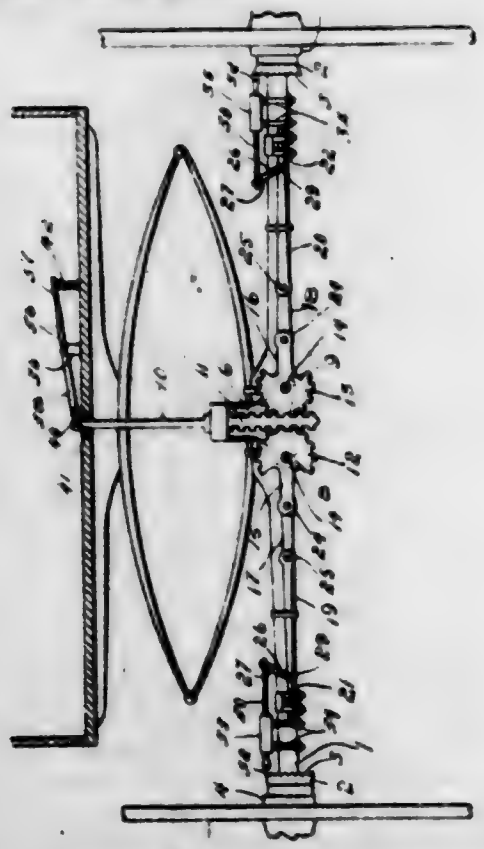
2. The combination with a vehicle including a front axle, wheels and shafts, the front wheels each having a toothed collar thereupon, of a plate secured upon the said axle, a rack slidably mounted centrally of the said plate, a gear mounted upon the plate at each side of the said rack for mesh therewith, each gear having a shank, a locking-bar arranged at each end of the axle for locking the shafts thereto, a link connection between each locking-rod and each of the aforesaid shanks, a rocking lever pivotally mounted at each end of the axle and connected with each locking-rod, a guide arranged upon the axle adjacent to each rocking lever, a brake-rod pivotally connected to each rocking lever, and provided with teeth at its outer end for engagement with the corresponding tooth-collars of the front wheels of the vehicle, the said brake-rods being held in proper position by means of the aforesaid guides, and a foot-lever connected with the aforesaid rack whereby the shafts of the vehicle may be released from the axle and the brake-rods simultaneously applied to the aforesaid collars.

804,067. GAGE. HARRY W. STOWE, Fitchburg, Mass. Filed Jan. 18, 1905. Serial No. 241,677.



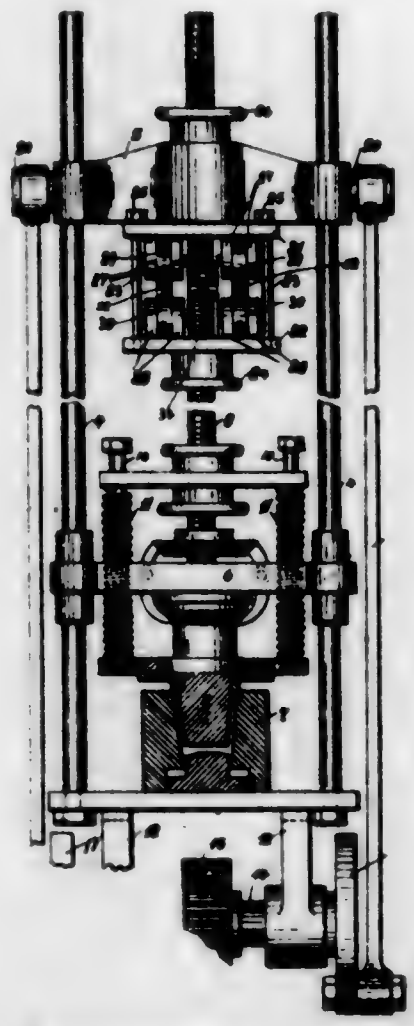
Claim.—A gage of the character described, comprising a V-shaped base portion effective for spanning a segment of a suitably-supported piece and for attachment thereto, and right-lined gage members integral with the apex of said V-shaped portion and in a line passing through the latter portion, equidistantly of the arms of said base portion.

804,068. HORSE-RELEASER. ANTON STRAKA, Chicago, Ill. Filed June 22, 1905. Serial No. 266,490.



Claim.—1. A device of the character described comprising a plate, a rack slidably arranged centrally of the plate, a segmental gear connected to the plate upon each side of the rack for mesh therewith, each segmental gear having a shank, a locking-rod arranged upon one side of each segmental gear, a link connection between each

804,069. GLASS-MOLDING MACHINE. ALBERT STRUB, Beaverfalls, Pa. Filed Dec. 2, 1904. Renewed Oct. 10, 1905. Serial No. 282,167.



Claim.—1. The combination with a glass-molding machine having a reciprocating cross-head, a plunger actuated by said cross-head, of mechanism carried by said plunger and said cross-head, said mechanism consisting of means for primarily retarding the movement of said plunger, and means for exerting a secondary retardation upon said plunger, substantially as described.

2. The combination with a glass-molding machine having a vertically-reciprocating cross-head, a plunger actuated by said cross-head, of a retarding mechanism carried by said cross-head, said mechanism consisting of one or more blocks adapted to be actuated by the pressing and return movement of said plunger, means carried by said mechanism for controlling the movement of said blocks, substantially as described.

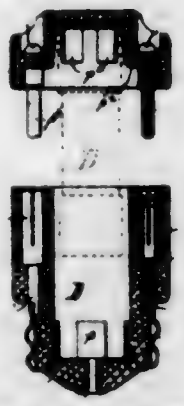
3. A device of the character described comprising relatively movable rollers, one or more blocks mounted between the rollers, means for retarding the movement of said blocks when said rollers move in close proximity to one another, and means for regulating the movement of said blocks, substantially as described.

4. The combination with a glass-molding machine having a re-

ciprocating cross-head, a plunger actuated by said cross-head, of a mechanism carried by said plunger and said cross-head, said mechanism consisting of means for primarily retarding the movement of said plunger, means for exerting a secondary retardation to said plunger, and means for regulating the primary and means for regulating the secondary retarding means, substantially as described.

5. The combination with a glass-molding machine having a reciprocating cross-head, a plunger actuated by said cross-head, of a mechanism carried by said plunger, and said cross-head, said mechanism consisting of rollers, wedges interposed between said rollers for primarily retarding the movement of said plunger, means for retarding the movement of said wedges, means for exerting a secondary retardation to said plunger, and means for regulating the secondary retardation means, substantially as described.

804,070. **ELECTRICAL FUSE-PLUG.** GEORGE B. THOMAS, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed May 28, 1905. Serial No. 261,604.



Claim.—1. In a fuse-plug for fuse-cartridges, an insulating-casing carrying external contact-terminals, and a clip-piece secured to the inner end of said casing, adapted to engage a fuse-cartridge, in combination with a cap to cover the end of said casing, and means therein adapted to remove said fuse from the casing when the cap is removed.

2. In a fuse-plug for fuse-cartridges, an insulating-casing carrying external contact-terminals and means secured to the inner end of said casing adapted to engage a fuse-cartridge, in combination with a cap to cover the end of said casing, and means in said cap to engage said fuse-cartridge, said engaging means in the cap being the stronger.

3. In a fuse-plug for fuse-cartridges, an insulating-casing carrying an external terminal ring, and a clip-piece secured to the inner end of said casing adapted to engage one end of the fuse-cartridge, in combination with a cap to fit over said casing and a clip-piece in the cap to engage the opposite end of said cartridge, said second clip being stronger than said first clip.

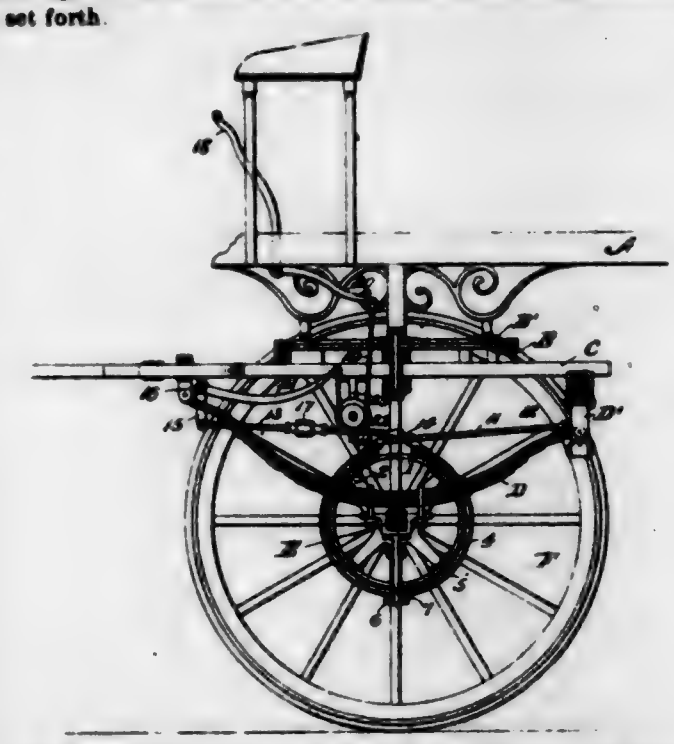
4. In a fuse-plug for fuse-cartridges, an insulating-casing carrying an external terminal ring, sockets in the upper part of said casing connected to said ring, in combination with a cap for said casing, means in the cap for engaging a fuse-cartridge, and pins on said cap adapted to fit in said sockets and secure said cap to said casing and close the circuit through the fuse-cartridge.

5. In a fuse-plug for fuse-cartridges, an insulating-casing having at one end a terminal ring, and a central contact-terminal, in combination with a cap having a clip to engage the cartridge and remove the same when said cap is removed and means whereby said clip is electrically connected to one of said terminals, when the cap is put in place.

804,071. **BRAKE MECHANISM FOR FIRE APPARATUS.** THOMAS F. TROOP, Reading, Pa., assignor of one-half to William W. Wunder, Reading, Pa. Filed Mar. 21, 1904. Serial No. 199,172.

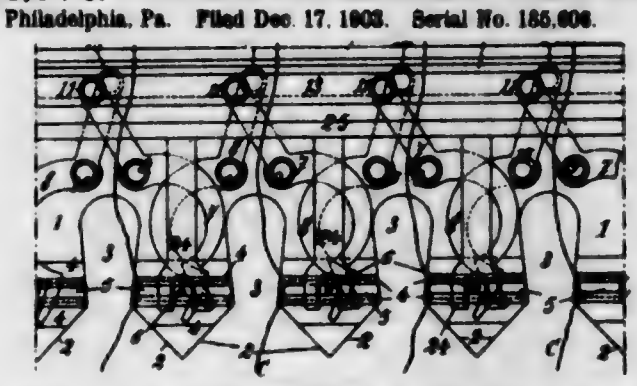
Claim.—1. The combination with the vehicle-frame and the swinging truck having wheels with brake-rings concentrically fixed thereto, of brake-bands encircling said rings, retaining connections for one end of said bands and movable connections for the other end, a crank-shaft on said truck for operating said movable connections, an operating-lever on the vehicle-frame having flexible operating connections to said shaft, and a guide-pulley for said flexible connection mounted on the truck adjacent to the pivotal center thereof, substantially as set forth.

2. In a vehicle-brake mechanism the combination with the axle, loose wheels thereon, and a brake-ring fixed concentrically to one of said wheels, of a brake-band loosely encircling said ring, a supporting-bracket fixed beneath said axle and adapted to normally carry said band, retaining connections for one end of said band, and operating connections to the other end thereof said band being slidably engaged with said bracket so as to permit of a limited vertical and longitudinal movement in closing upon said ring substantially as set forth.



3. In a vehicle-brake mechanism the combination with the axle, loose wheels thereon, and a brake-ring fixed concentrically to one of said wheels, of a brake-band loosely encircling said ring, a supporting-bracket fixed beneath said axle and adapted to normally carry said band, a vertically-movable retaining connection for one end of said band, and operating connections to the other end thereof, said band being slidably engaged with said supporting-bracket so as to permit of a limited vertical and longitudinal movement thereof in closing upon said ring.

804,072. **APPARATUS FOR TAMBOURING.** ANDRÉ L. VELUARD, Philadelphia, Pa. Filed Dec. 17, 1903. Serial No. 185,606.



Claim.—1. In combination with the usual shuttle and lay and shed-forming mechanism of a loom, mechanism for the mechanical and continuous manufacture of embroidering, comprising guides for carrying an indefinite length of embroidery-thread from without the shed, into the shed, and means for moving said guides sidewise within the shed.

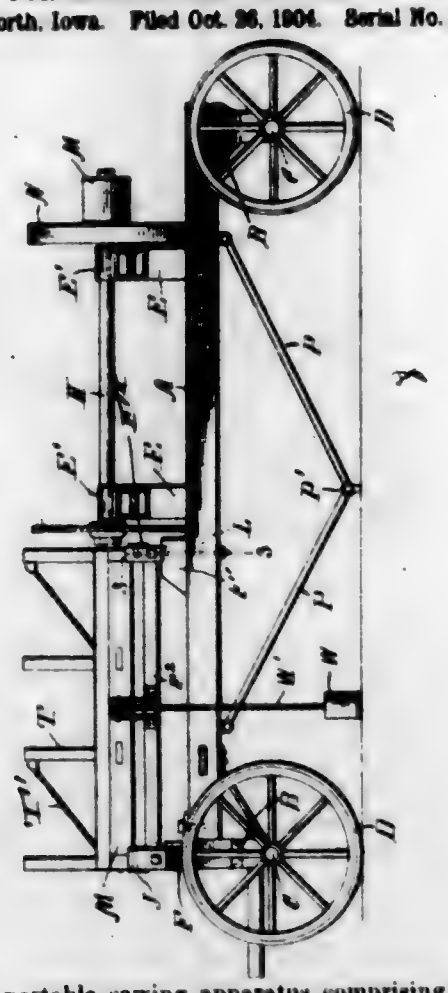
2. In combination with the usual shuttle and lay and shed-forming mechanism of a loom, mechanism for the mechanical and continuous manufacture of embroidering, comprising guides for carrying an indefinite length of embroidery-thread from without the shed, into the shed, and means for moving said guide into and out of the shed, and means for moving the guide sidewise within the shed.

3. An embroidery-frame for a loom, comprising a frame adapted to be inserted into the shed, having guide-surfaces, between which the warp-threads may be held, in combination with guides each adapted to guide an indefinite length of embroidery-thread from without the shed, and means for moving said guide from one guide-surface to another.

4. An embroidery-frame for a loom, comprising a frame adapted to be inserted into the shed, having guide-surfaces, between which the warp-threads may be held, in combination with guides, each adapted to guide an indefinite length of embroidery-thread from without the shed, and means for moving said guide from one guide-surface to another, and forks adapted to interlock with said guides at such times as they are not being moved from one guide-surface to another.

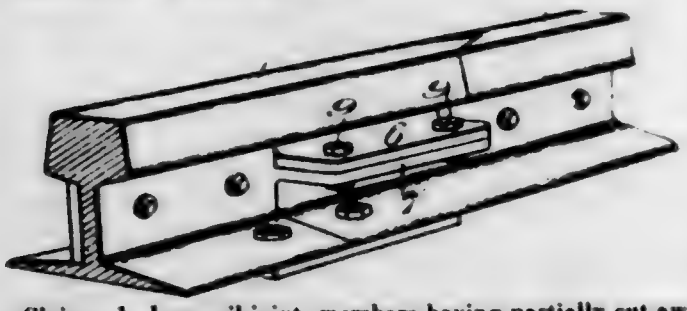
5. A guide for an embroidery-frame for looms, consisting of a ring of elongated form for the passage of an indefinite length of thread, in combination with a frame adapted to be inserted into the shed and having guide-surfaces in which the guide may be retained, and means to pass the guide from one such surface to another.

804,073. PORTABLE SAWING-MACHINE. GEORGE F. WALLACE, Ainsworth, Iowa. Filed Oct. 26, 1904. Serial No. 230,134.



Claim.—A portable sawing apparatus comprising a frame, a mounting therefor, cross-pieces supported on said frame, an operating-shaft journaled in suitable bearings upon said cross-pieces, a saw fixed to said shaft cross-pieces F and F× also supported on said frame, beams F³ connecting said cross-pieces F and F×, bearing-shafts or rollers J, J, journaled on the latter, a table mounted upon said shafts J, standards rising from the table, a bracket member secured to one of said beams F³ and projecting above the top thereof, and adapted to form a stop to limit the movement of said table in one direction, a pulley carried by said bracket member, a rope secured to said table and passing over said pulley, a weight secured to the end of said rope, rods secured to said frame, and an anchorage-post to which said rods are fastened, as set forth.

804,074. RAIL-JOINT. GEORGE J. WALSH, Brooklyn, N. Y. Filed Mar. 7, 1905. Serial No. 248,844.



Claim.—1. In a rail-joint, members having partially cut-away interfitting portions provided with lateral fastening-flanges, and means for connecting said flanges to join the interfitting portions together.

2. In a rail-joint, a member having its upper portion cut away and provided with a flange extending laterally from the base portion of its web, a second member having its lower portion cut away and provided with a flange extending laterally from the upper portion of its web, and means for connecting said flanges.

3. In a rail-joint, a member having a recess and a laterally-projecting flange, a second member having a tongue to fit within said recess and a coöperating laterally-projecting flange, and means for connecting said flanges.

4. In a rail-joint, a rail having its end partially cut away and provided with a laterally-extending flange.

5. In a rail-joint, members having interfitting halved ends provided with horizontal lateral fastening-flanges, and means for connecting said flanges to join the rail ends together.

804,075. COLLAR AND NECKTIE FASTENER. HENRY WALTERS, Wakarusa, Ind. Filed Mar. 25, 1905. Serial No. 252,053.

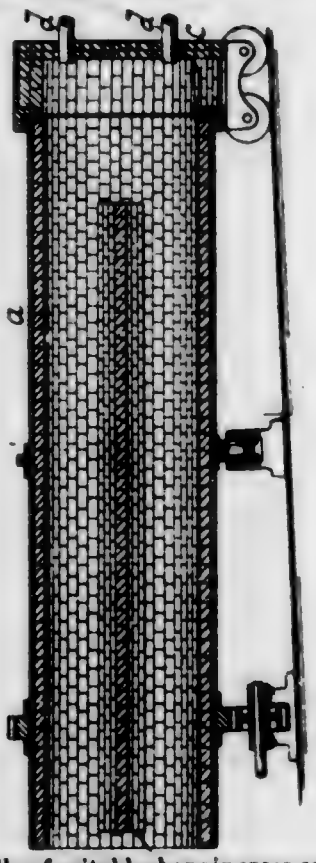


Claim.—1. A device of the class described, comprising a pair of arms arranged to present a tie-receiving space, a pair of engaging portions carried by and spaced from one of the arms and designed for engagement with a button, and a retaining member disposed between the arms, said member being adapted to engage the button for preventing the escape of the device therefrom and to close the entrance to the tie-receiving space.

2. A device of the class described comprising a pair of spaced arms, a pair of relatively spaced fingers carried by one of the arms and designed for engagement with a button, and a retaining member disposed between the arms and having engaging portions adapted respectively to bear upon the button and the inner face of the outer arm.

3. A device of the class described composed of a single length of metal bent into shape to produce a pair of spaced arms and a down-turned engaging portion carried by one of the arms, said engaging portion being slotted to produce a pair of spaced fingers, and a spring retaining member arranged between the arms and having divergent portions designed to bear respectively upon a button and the inner face of the outer arm.

804,076. ROTARY KILN. WILLIAM R. WARREN, New York, N. Y. Filed May 2, 1905. Serial No. 258,545.



Claim.—1. A kiln of suitable shape in cross-section and provided with one or more partitions extended longitudinally through the kiln to divide the same into compartments and a fuel-inlet common to both compartments.

2. A rotary kiln provided with a partition placed diametrically in the kiln and made to terminate short of each end of the kiln and a fuel-inlet common simultaneously to the compartments formed by said partition.

3. A rotary kiln provided with one or more transverse partitions in combination with a fuel-inlet common simultaneously to all compartments formed by the partition.

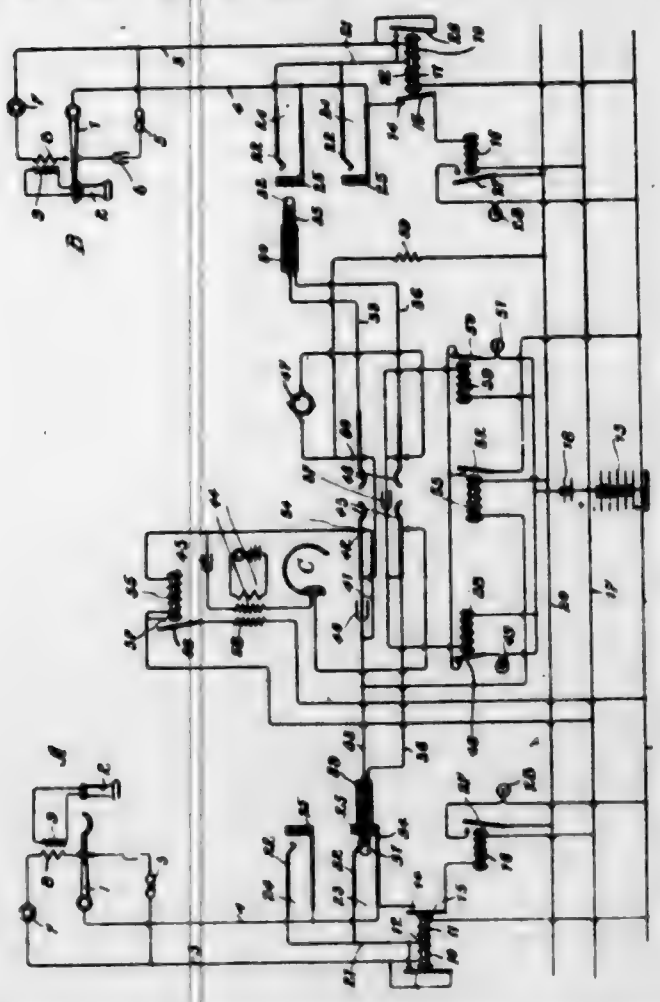
4. A kiln divided by a partition into compartments and having one or more fuel-openings common simultaneously to all the compartments.

5. A rotary kiln provided with one or more transverse parti-

tions extended along part of the length of the kiln and fuel-openings common simultaneously to all compartments formed by the partition.

6. The division by longitudinal partitions of a cylindrical or other shaped kiln into two or more chambers, the fuel being admitted as usual either through one or more openings in the end shield and the products of combustion passing simultaneously through all the chambers.

804,077. **TELEPHONE-EXCHANGE SYSTEM.** HARRY G. WEBSTER, Chicago, Ill., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed May 7, 1903. Serial No. 156,070.



Claim.—1. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

2. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

3. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

4. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

5. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

6. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

7. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit through

one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

8. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the subetation control of said line-signal.

9. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to close a low-resistance path in shunt of the other winding of the cut-off relay.

10. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to close a low-resistance path in shunt of the other winding of the cut-off relay.

11. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the subetation control of said line-signal, and means adapted upon actuation of said cut-off relay to close a low-resistance path in shunt of the other winding of the cut-off relay.

12. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to close a low-resistance path in shunt of the other winding of the cut-off relay.

13. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to close a low-resistance path in shunt of the other winding of the cut-off relay.

14. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to close a low-resistance path in shunt of the other winding of the cut-off relay.

15. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to close a low-resistance path in shunt of the other winding of the cut-off relay.

16. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said

cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to close a low-resistance path in shunt of the other winding of the cut-off relay.

17. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord-connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

18. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

19. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

20. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal and to close a low-resistance path in shunt of the other winding of the cut-off relay.

21. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the insertion of a plug of said cord connecting apparatus within any one of said line-jacks causes the closure of a circuit through one winding of said cut-out relay to cause an actuation thereof to destroy the substation control of said line-signal and to close a low-resistance path in shunt of the other winding of the cut-off relay.

22. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

23. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit of decreased resistance through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

24. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in an electrical path from one of said line-limbs to a terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal.

25. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings permanently included in an electrical path from one of said line-limbs to a terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second terminal of said source of current, a line-signal controlled by said line-relay, a line-jack having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal and to close a low-resistance path in shunt of the other winding of the cut-off relay.

26. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, to close a low-resistance path in shunt of the other winding of the cut-off relay, and to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current.

27. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, and means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, to close a low-resistance path in shunt of the other winding of the cut-off relay, and to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current.

28. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path form the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current.

29. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substantion control of said line-signal, and means adapted upon actuation of said cut-off relay to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current.

30. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, to close a low-resistance path in shunt of the other winding of the cut-off relay, and to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay of high resistance and high impedance having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay.

31. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, to close a low-resistance path in shunt of the other winding of the cut-off relay, and to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay of high resistance and high impedance having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay.

32. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, means adapted upon actuation of said cut-off relay to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay of high resistance and high impedance having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay.

33. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-

off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay of high resistance and high impedance having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay.

34. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal to close a low-resistance path in shunt of the other winding of the cut-off relay, and to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay.

35. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal to close a low-resistance path in shunt of the other winding of the cut-off relay, and to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay.

36. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay.

37. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple-line jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay.

38. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal to close a low-resistance path in shunt of the other winding of the cut-off relay, and to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay, the relative resistance and adjustment of said line-signal and said test-relay being such that the line-signal will be actuated by any leakage-current of sufficient strength to cause the actuation of said test-relay.

39. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal to close a low-resistance path in shunt of the other winding of the cut-off relay, and to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay, the relative resistance and adjustment of said line-signal and said test-relay being such that the line-signal will be actuated by any leakage-current of sufficient strength to cause the actuation of said test-relay.

40. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-

relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact permanently directly connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay, the relative resistance and adjustment of said line-signal and said test-relay being such that the line-signal will be actuated by any leakage-current of sufficient strength to cause the actuation of said test-relay.

41. In a telephone-exchange system, the combination with a telephone-line extending by its limbs from a substation to an exchange, of a source of current at the exchange for supplying talking and signaling currents to said line, a cut-off relay having two differential windings included in a path from one of said line-limbs to a grounded terminal of said source of current, a line-relay serially included in a path from the second line-limb to a second thirty-volt terminal of said source of current, a line-signal controlled by said line-relay, multiple line-jacks each having a tip-spring permanently connected to the common terminal of the differential windings of said cut-off relay and a sleeve-contact connected with the second line-limb, cord connecting apparatus for connecting said line with another for conversation, means whereby the connection of said cord connecting apparatus with said line closes a circuit through one winding of said cut-off relay to cause an actuation thereof to destroy the substation control of said line-signal, and means adapted upon actuation of said cut-off relay to cause a connection of said sleeve-contact with a forty-volt terminal of said source of current, a testing-contact associated with said cord connecting apparatus, a test-relay having one terminal connected with the thirty-volt terminal of said source of current, a test-contact connected with the other terminal of said test-relay, and a signaling device controlled by said test-relay, the relative resistance and adjustment of said line-signal and said test-relay being such that the line-signal will be actuated by any leakage-current of sufficient strength to cause the actuation of said test-relay.

42. In a telephone-exchange system, the combination with a source of current at the central exchange adapted to supply signaling and talking currents to telephone-lines, of a line-jack, a test-thimble thereof adapted to form a part of a telephonic talking-circuit, a telephone-line circuit whose conductive continuity is controlled by switching apparatus located at the associated substation adapted to maintain said test-thimble at a normal potential intermediate between the potentials of the extreme terminals of said source of current, and adapted to cause a reduction in said normal potential upon a closure of the line-circuit at said substation, cord connecting apparatus at the exchange having a plug adapted for insertion within said line-jack, means whereby the insertion of said plug within said line-jack, when said line-circuit is conductively discontinuous through the substation apparatus, causes a rise in the potential of the test-thimble above the normal potential thereof, and a test-relay of high impedance and resistance having one terminal connected to a terminal of said source of current whose potential is equal to the normal potential of said test-thimble and whose other terminal is connected to a test-contact.

43. In a telephone-exchange system, the combination with a source of current at the central exchange adapted to supply signaling and talking currents to telephone-lines, of a line-jack, a test-thimble thereof adapted to form a part of a telephonic talking-circuit, a telephone-line circuit whose conductive continuity is controlled by switching apparatus located at the associated substation, adapted to maintain said test-thimble at a normal potential intermediate between the potentials of the extreme terminals of said source of current, and adapted to cause a reduction in said normal potential upon a closure of the line-circuit at said substation, cord connecting apparatus at the exchange having a plug adapted for insertion within said line-jack, means whereby the insertion of said plug within said line-jack, when said line-circuit is conductively discontinuous through the substation apparatus, causes a rise in the potential of the test-thimble above the normal potential thereof, and a test-circuit having a test-contact charged to the normal potential of said test thimble.

44. In a telephone-exchange system, the combination with a source of current at the central exchange adapted to supply signaling and talking currents to telephone-lines, of a line-jack, a test-thimble thereof adapted to form a part of a telephonic talking-circuit, a telephone-line circuit whose conductive continuity is controlled by switching apparatus located at the associated substation, adapted to maintain said test-thimble at a normal potential intermediate between the potentials of the extreme terminals of said source of current, and adapted to cause a reduction in said normal potential upon a closure of the line-circuit at said substation, cord connecting apparatus at the exchange having a plug adapted for insertion within said line-jack, means whereby the insertion of said plug within said line-jack, when said line-circuit is conductively discontinuous through the substation apparatus, causes a rise in the potential of the test-thimble above the normal potential thereof, and a test-relay having one terminal connected to a terminal of said source of current whose potential is equal to the normal potential of said test-thimble and whose other terminal is connected to a test-contact.

45. In a telephone-exchange system, the combination with a central exchange, of a telephone-line leading therefrom and terminating in substation apparatus, a source of current at the exchange for supplying talking and signaling currents to the substation, a positive grounded bus-bar connected with one terminal of said battery, a negative bus-bar connected with the other terminal of said battery, a third bus-bar connected with a point intermediate of said battery, a cut-off relay having two differential windings, one limb of said telephone-line being connected serially through said windings with the grounded bus-bar, a line-relay, a combined test and line spring permanently connected with the other line-limb and normally connected through an armature of the cut-off relay and through the winding of said line-relay with the intermediate bus-bar, and cord connecting apparatus at the central exchange, connection of said cord connecting apparatus with said line causing closure of a local circuit through one winding of said cut-off relay, whereby said line-relay becomes inert, and whereby said test-spring is disconnected from the intermediate bus-bar and connected through the cord-circuit with the negative bus-bar.

46. In a telephone-exchange system, the combination with a central exchange, of a telephone-line leading therefrom and terminating in substation apparatus, a battery at the central exchange, a grounded bus-bar connected with the positive terminal of said battery, a negative bus-bar connected with the negative terminal of said battery, an intermediate bus-bar connected with an intermediate point of said battery, one limb of said line being permanently connected with the grounded bus-bar, a line-spring permanently connected with said limb, a combined test and line spring permanently connected with the other line-limb and normally connected with the intermediate bus-bar, and cord connecting apparatus at the central exchange, connection of said cord connecting apparatus with said line-springs causing said test-spring to be disconnected from said intermediate bus-bar and to be connected with the negative bus-bar through cord-circuit conductors.

47. In a telephone-exchange system, the combination with a central exchange, of a telephone-line leading therefrom and terminating in substation apparatus, a source of current at the central exchange, a grounded bus-bar connected with the positive terminal of said source, a negative bus-bar connected with the other terminal of said source, an intermediate bus-bar connected with an intermediate point of said source, one line-limb being permanently connected with the positive bus-bar, the other line-limb being normally connected with the intermediate bus-bar, multiple spring-jacks connected with said line, the tip-springs of said jacks being permanently connected to the first line-limb, combined test and line springs for said spring-jacks, permanently connected with the other line-limb and normally with the intermediate bus-bar, an operator's cord-circuit at the central exchange and an operator's listening-key therefor, a test-relay permanently connected with the intermediate bus-bar and normally disconnected from said cord-circuit, insertion of a plug in one of said multiple jacks causing the test-springs to be disconnected from the intermediate bus-bar and to be connected with the negative bus-bar through cord-circuit conductors, actuation of said listening-key and contact with the tip of the test-plug of said cord-circuit with another test-spring of the multiple jacks when a plug is inserted in one of said jacks causing current-flow through said test-relay, a local circuit controlled by said test-relay and bridged between the positive bus-bar and the intermediate bus-bar, and a signaling device included in said local circuit adapted to be actuated upon closure of said local circuit by said test-relay.

48. In a telephone-exchange system, the combination with a telephone-line leading from a central exchange and terminating in

substation apparatus, of a battery at the central exchange for supplying talking and signaling currents for said substation, one terminal of said source being grounded, multiple spring-jacks connected with said line, a combined line and test spring for each multiple jack permanently connected with one line-limb and normally connected with an intermediate point of said battery, an operator's cord-circuit at the central exchange, a test-relay associated with said cord-circuit having one terminal permanently connected with said intermediate point, an operator's listening-key, actuation of said key causing the tip of the test-plug of said cord-circuit to be connected through said test-relay with said intermediate point, insertion of a plug in one of said multiple jacks causing said test-spring to be disconnected from said intermediate point and to be connected with one of the terminals of said source, whereby the potential of the test-springs of said multiple jacks is raised, and whereby contact of a testing-tip with one of said testing-springs will cause actuation of said test-relay upon actuation of said listening-key, and a local circuit including signaling apparatus controlled by said test-relay.

804,078. RAILWAY-TIE. JOSEPH WHITEHEAD, Farmington, Ill. Filed Dec. 12, 1904. Serial No. 236,441.



Claim.—1. A railway-tie formed with recesses to receive the rails, and plates pivotally connected to the ends of the tie, said plates being arranged for wedging engagement with the webs of the rails and means for securing the said plates in said wedging position.

2. A railway cross-tie having recesses in the body thereof at or near its ends, rails seated in said recesses, lips attached to the said tie and adapted to overlie and engage the inner base-flange of the rails, and plates pivoted to the said tie upon the outside of the rails, their free ends having a wedging engagement with the webs of the rails and overlying and engaging the outer base-flanges thereof, substantially as specified.

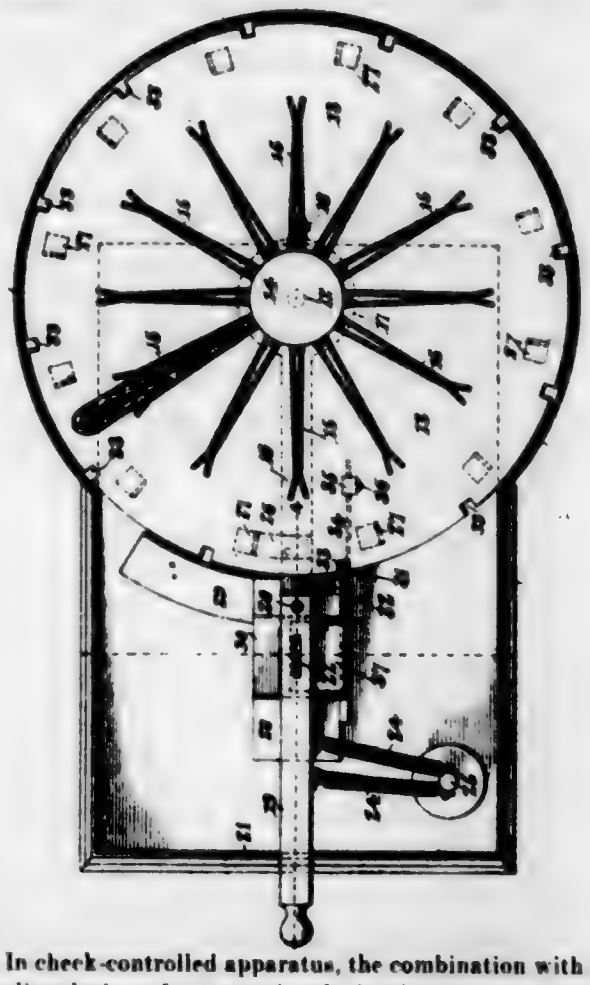
804,079. CHECK-CONTROLLED APPARATUS. JOHN H. WILLIAMS, Albion, N. Y. Filed Dec. 8, 1903. Serial No. 184,334.

Claim.—1. In check-controlled apparatus, the combination with a vending device, of a lever for moving the same comprising an inner swinging section, and another section pivoted upon the free portion of the inner section and movable with respect thereto, said sections having check-holding means, which, when a check is inserted therein, holds said sections against relative movement.

2. In check-controlled apparatus, the combination with a rotatable article-vending device, of a lever for moving the same comprising an inner swinging section having a ratchet connection with the vending device, and a handle-section pivoted upon the free portion of the inner section and movable with respect thereto, said sections having check-holding means, which, when a check is inserted therein, holds said sections against relative movement.

3. In check-controlled apparatus, the combination with a rotatable vending device, of a lever comprising an actuating-section having its axis substantially coincident with the axis of the vending-machine, and a handle-section pivoted upon the free end of the actuating-section, said sections being provided with alined slots which constitute a check-receiving pocket.

4. In check-controlled apparatus, the combination with an upright standard, of an article-vending device rotatably mounted upon the upper portion of the standard, a lever comprising an actuating-section pivoted upon the lower portion of the standard beneath the vending device, and a handle-section pivoted at its inner end upon the outer portion of the lever, said sections having alined slots arranged contiguous to the pivot of the sections and constituting a check-receiving pocket.



5. In check-controlled apparatus, the combination with a movable vending device, of an operating device therefor comprising relatively movable sections movable in one direction independently of the vending device, said operating device having a coin-receiver located partially in each section, and a coin-actuated lock for the vending device having a coin-supporting portion located beneath the coin-receiver and arranged to support a coin therein in engagement with both sections of the operating device to prevent their relative movement.

6. In check-controlled apparatus, the combination with a rotatable vending device, of a pivoted operating-lever therefor movable independently of the vending device in one direction and comprising pivotally-connected sections having a check-receiving pocket that extends through both sections, and a lock engaging the vending device and having a check-support disposed beneath the pocket of the lever and arranged to support a check with portions thereof in engagement with both sections of said lever to prevent the relative movement of the same.

7. In check-controlled apparatus, the combination with a vending device including a circular disk having outstanding projections, of a lever successively engaging the projections and having a movement in one direction independently of the vending device comprising an actuating-section having its pivot-axis substantially coincident with the axis of the vending device, a handle-section pivoted to the actuating-section, said sections being provided with alined slots constituting an open-bottomed check-receiving pocket, and a check-controlled lock for the vending device having a pallet located beneath the check-receiving pocket and arranged to support a check in said pocket and in the slots of both sections.

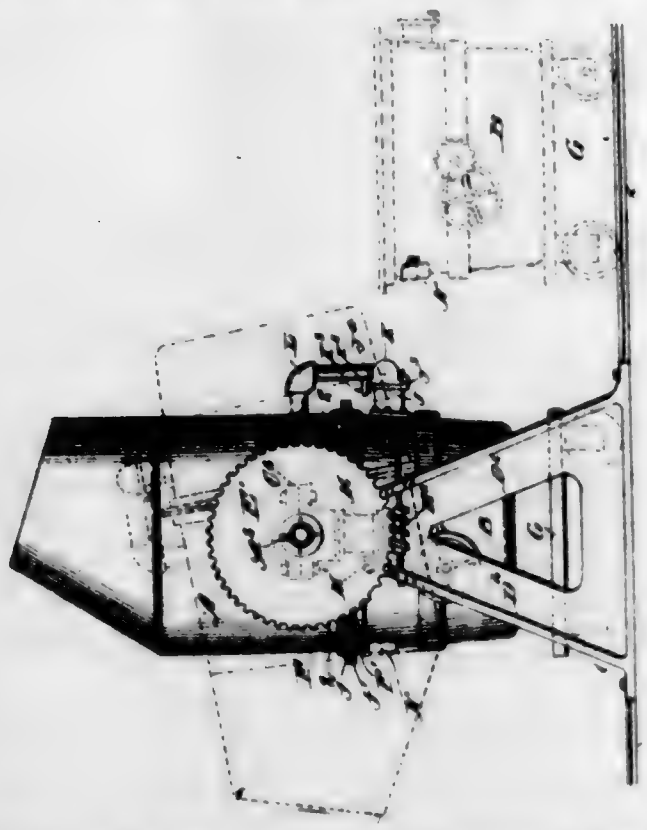
8. In check-controlled apparatus, the combination with a rotatable vending device having peripheral notches, of means for rotating the vending device, a check-controlled lock for normally holding the vending device against movement, said lock comprising an upright latch pivoted between its ends, the upper portion of the latch being arranged to engage in the notches of the vending device, and outstanding arms carried by the lower end of the device beneath the pivot, a weight adjustably attached to the arm, and a coin-supporting pallet projecting from the side of the latch opposite the weight and connected to said latch contiguous to its pivot.

9. In check-controlled apparatus, the combination with a rotatable vending device including a circular disk having peripheral notches and outstanding projections, of a lever successively engaging the projections comprising an actuating-section having its pivot-axis substantially coincident with the axis of the vending device, and a handle-section pivoted to the actuating-section, said sections

being provided with alined slots constituting an open-bottomed check-receiving pocket, and a pivoted lock comprising a latch portion that engages successively in the peripheral notches of the disk, and a check-supporting pallet located beneath the check-receiving pocket.

10. In check-controlled apparatus, the combination with an article-vending device, of a lever for moving the same comprising an inner swinging section and another section pivoted upon the free portion of the inner section and movable with respect thereto, said sections having a check-holding pocket provided with an open bottom, and a movable lock for holding the article-vending device against movement, said lock including a supporting element located beneath the open bottom of the pocket and arranged to be moved by a check placed in the pocket, said element supporting such check in engagement with both sections to prevent their relative movement.

804,080. APPARATUS FOR MAKING STEEL AND OTHER METALS. EDWIN C. WILLS, Trenton, N. J. Filed Oct. 31, 1903. Renewed Apr. 14, 1905. Serial No. 255,656.



Claim.—1 An apparatus substantially as described, comprising the converter having a dome-section provided with hollow trunnions and a twyer receiving air from one of said trunnions, bearings for the hollow trunnions, stands forming supports for said bearings, adjusting devices between the bearings and stands, the ladle-section, means for detachably securing the ladle-section to the lower end of the dome-section, means for raising and lowering the ladle-section, said section being provided with a twyer having a wind-box, the coupling-head fitted for detachable connection with the wind-box, and a pipe connection between said coupling-head and the trunnion of the dome-section opposite that supplying air to the twyer of said dome-section.

2. The combination of the dome-section having hollow trunnions and a twyer receiving air from one of said trunnions, the ladle-section having a twyer receiving air from the opposite trunnion of the dome-section, and means for detachably connecting the ladle-section with the dome-section and means for raising and lowering the dome-section and the ladle-section.

3. The combination with the dome-section having a twyer and the ladle-section having a twyer, and means for detachably connecting said dome and ladle sections and means whereby said sections may be raised and lowered, of the hollow trunnions for the dome-section, one of said trunnions delivering air to the twyer of the dome-section, and means whereby air may be delivered from the opposite trunnion to the twyer of the ladle-section.

4. A converter having a dome-section provided with trunnions, a ladle-section, means for detachably connecting the ladle-section with the dome-section, means for raising and lowering the ladle-section, bearings for the trunnions of the dome-section, and means for raising and lowering said bearings.

5. A converter having a dome-section provided with a twyer and with hollow trunnions, one of which supplies air to the twyer of the dome-section, the ladle-section having a twyer receiving air from the opposite trunnion of the dome-section, means for detachably connecting the ladle-section with the dome-section, means for raising and lowering the ladle-section, bearings for the trunnions of the dome-section, and means for raising and lowering said bearings.

6. The combination with the converter having a dome-section provided with a twyer and with hollow trunnions one of which discharges air to the twyer of said dome-section, bearings for the trunnions of the dome-section, means for raising and lowering said bearings, gearing connected with one of the trunnions for tilting the dome-section, the ladle-section having a twyer provided with a wind-box, a pipe connection provided at one end with a coupling-head for connection with the wind-box of the twyer of the ladle-section and connected at its other end with the hollow trunnion of the dome-section opposite the trunnion of the dome-section which supplies air to the twyer of the dome-section and means for raising and lowering the ladle-section.

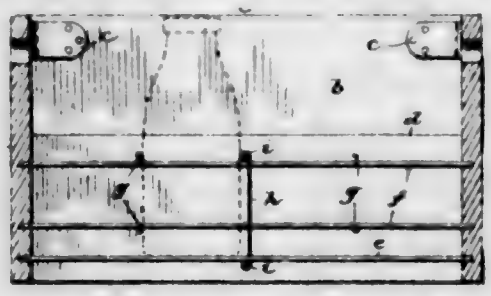
7. The combination in a converter with the dome-section and the ladle-section and means for detachably connecting the ladle-section with the dome-section, the hollow trunnions on the dome-section, bearings for said trunnions, means whereby air may be delivered from one of said trunnions to the dome-section and from the other trunnion to the ladle-section, gearing whereby the dome-section may be tilted and a lock for said dome-section substantially as set forth.

8. The combination substantially as described of the dome-section, hollow trunnions whereby the dome-section may be tilted means for raising and lowering the dome-section, the ladle-section having a cinder-notch, means whereby said notch may be closed, means for raising and lowering the ladle-section means for detachably connecting the ladle-section with the dome-section and means for supplying air to the dome and ladle sections from the opposite hollow trunnions substantially as set forth.

9. An apparatus substantially as described comprising a dome-section suitably supported whereby it may be tilted means for raising and lowering the dome-section a ladle-section detachably connected at its upper end with the lower end of the dome-section whereby metal may be poured from the nose of the dome-section or the ladle-section may be detached from the dome-section and metal poured directly therefrom and means for raising and lowering the ladle-section substantially as set forth.

10. The combination with the ladle having a twyer and a wind-box open at its outer end and provided at such end with an upturned flange at its lower edge and an upwardly-projecting flange at its upper edge and the coupling-head having a plate adapted to close the outer end of the wind-box and fitting at its lower edge in the upturned hooked flange at the base of said wind-box and provided at its upper edge with an inwardly-projecting wing overlapping the upwardly-projecting flange of the wind-box and provided with means for securing it to the wind-box and a pipe connection for discharging air to said coupling-head.

804,081. BOTTLE CASE OR CRATE. CHARLES S. ADAMS and ALBERT J. RICE, Buffalo, N. Y. Filed Oct. 27, 1904. Serial No. 230,235.

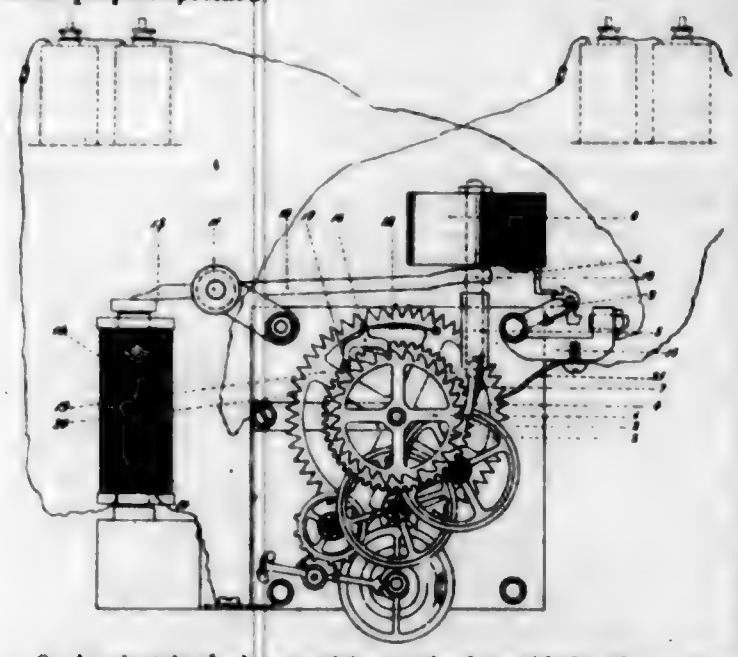


Claim.—A bottle case or crate comprising an open frame, spaced rods forming a bottom, longitudinal and transverse rods dividing the case into sections, a cross-partition supporting the bottom rods and the longitudinal rods intermediate their ends, said partition having a bead at top and bottom, and cross-rods in said beads secured to the sides of the crate.

804,082. ELECTRIC CLOCK. LEOPOLDO AGOSTINELLI, Terni, Italy. Filed July 31, 1903. Serial No. 167,803.

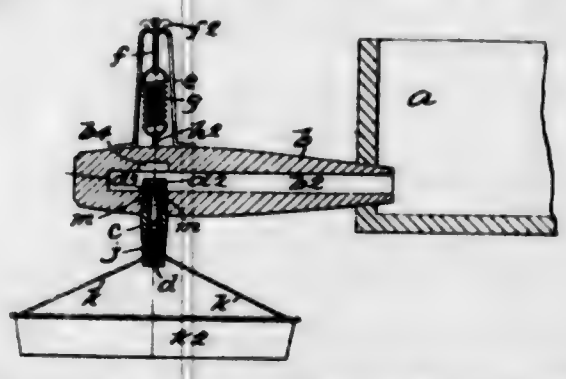
Claim.—1. An electric clock comprising a wheel provided with two sets of teeth 2 and 3, the teeth 3 being at right angles to the teeth 2, a pawl engaging the teeth 3, a bar carrying the pawl, a power 6 on the top of the bar, a spring-pawl adapted to be actuated by the said power 6, a pivoted lever carrying an armature at one end and sup-

porting the power 6 at the other end, an electromagnet adapted when energized to attract the said armature and an electric-circuit in which the electromagnet is included, the said spring-pawl being adapted to close the said circuit and thus energize the magnet when the power 6 has operated to cause the spring-pawl to descend as and for the purpose specified.



2. An electric clock comprising a wheel provided with two sets of teeth 2 and 3, the teeth 3 being at right angles to the teeth 2, a pawl engaging the teeth 3, a bar carrying the pawl, a power 6 on the top of the bar, a spring-pawl adapted to be actuated by the said power 6, a pivoted lever carrying an armature at one end and supporting the power 6 at the other end, an electromagnet adapted when energized to attract the said armature, an electric circuit in which the electromagnet is included, the said spring-pawl being adapted to close the said circuit and thus energize the magnet when the power 6 has operated to cause the spring-pawl to descend, and a pivoted maintaining power having a spring adapted to engage against one of the teeth of the wheel in the manner and for the purpose specified.

804,083. **WATER-SUPPLYING DEVICE FOR POULTRY.** FERDINAND BADE, New York, N. Y. Filed Feb. 10, 1905. Serial No. 245,029.

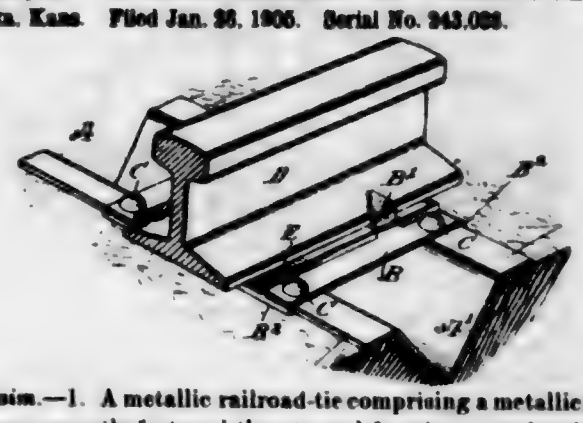


Claim.—1. In an apparatus of the class described, a faucet having a longitudinal bore or passage closed at the outer end and provided near the outer end with a downwardly-directed discharge, a support mounted on the outer end portion of the faucet, a spring suspended in said support over said faucet, a vertically-movable valve device mounted in the faucet and adapted to be operated so as to open or close the passage therethrough, and a water-holder suspended from said spring beneath said faucet, the suspending devices of the water-holder being in operative connection with the valve device, substantially as shown and described.

2. A faucet provided with a longitudinal bore or passage the outer end of which is closed and provided with a downwardly-directed discharge, a support mounted on the outer portion of the faucet, a spring suspended in said support over said faucet, a vertically-movable valve device mounted in the discharge of the faucet and adapted to open and close the same, and a pan suspended from said spring beneath the discharge of the faucet by devices in operative connection with the valve device whereby the valve device will be operated when the pan is raised or lowered, substantially as shown and described.

3. In an apparatus of the class described, a faucet having a longitudinal bore or passage closed at the outer end and provided near the outer end with a downwardly-directed discharge, a support mounted on the outer end portion of the faucet, a spring suspended in said support over said faucet, a vertically-movable valve device mounted in the faucet and adapted to be operated so as to open and close the passage therethrough, and devices for suspending a water-holder beneath the faucet, said devices, said valve and said spring being in direct operative connection, substantially as shown and described.

804,084. **METALLIC RAILROAD-TIE.** ARCHIE M. BAIRD, Topeka, Kans. Filed Jan. 26, 1905. Serial No. 243,028.



Claim.—1. A metallic railroad-tie comprising a metallic tie, tie-plates permanently fastened thereto and forming rests for the bases of the rails, and lugs struck up from the body of the tie-plates and adapted to be bent over the flanges of the rails when the latter are placed in position on the tie-plates to hold the rails against transverse movement.

2. A metallic railroad-tie comprising a metallic tie made V-shaped in cross-section and having integral side flanges extending outwardly, and a tie-plate extending across the tie and permanently secured to the said flanges, the tie-plate having lugs struck up from the body of the plate and spaced from the margin thereof for engaging the rail-flange at opposite sides.

3. A metallic railroad-tie comprising a metallic tie made V-shaped in cross-section and having integral side flanges extending outwardly, and a tie-plate extending across the tie and riveted to the said flanges, the tie-plate having lugs struck up from the body of the plate and spaced from the margin thereof, the lugs being adapted to be bent to engage the rail-flange at opposite sides, the said tie-plate also having integral flanges extending vertically downward and fitting over the side edges of the tie-flanges.

4. A metallic railroad-tie comprising a metallic tie made V-shaped in cross-section and having integral side flanges extending outwardly, a tie-plate extending across the tie and secured to the said flanges, the tie-plate having struck-up lugs adapted to be bent to engage the rail-flange at opposite sides, and a non-metallic pad interposed between the sole of the rail and the tie-plate and having recesses in its side edges, the said lugs when bent to engage the rail-flanges also engaging the said recesses to hold the pad against movement.

5. A metallic railroad-tie comprising a metallic tie made V-shaped in cross-section and having integral sides flanges extending outwardly, a tie-plate extending across the tie and secured to the said flanges, the tie-plate having struck-up lugs for engaging the rail-flange at opposite sides, and a covering-plate for the tie, interposed between the latter and the tie-plate.

6. A metallic railroad-tie comprising a tie proper, a tie-plate extending across the tie and permanently secured thereto, the tie-plate having lugs struck up from the body of the plate for engaging the rail-flange, and a covering-plate for the tie arranged between the latter and the tie-plate.

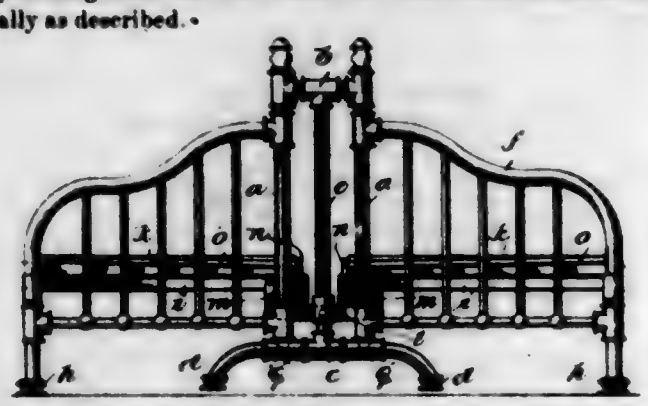
7. A metallic railroad-tie, comprising a tie proper, and a tie-plate riveted to the top of the tie and having integral flanges extending vertically downward at the sides of the tie, and lugs struck up from the body of the tie-plate, and spaced from the margin thereof, the said lugs being adapted to be bent when the rail is in position to secure the same in place.

804,085. **METALLIC SANITARY FOLDING BED.** EDWIN J. BAKER, New Orleans, La. Filed Sept. 24, 1904. Serial No. 225,820.

Claim.—1. A sanitary folding bed comprising suitably-connected head and foot supports, suitable head and foot rails therefor and braces between the respective supports and rails, cross-pieces on said braces, a pair of mattress-frames pivoted on said cross-pieces to tilt inwardly to a position between said rails, and a pair of inwardly-folding head and foot boards for each mattress-frame, substantially as described.

2. A sanitary folding bed comprising suitably-connected head

and foot supports, short head and foot rails mounted thereover on vertical braces, cross-pieces on said braces, a pair of mattress-frames having depending lugs on each end near their inner sides pivoted to the ends of said cross-pieces whereby said frames may be tilted inwardly to a position snugly between said rails, and a pair of inwardly-folding head and foot boards for each mattress-frame, substantially as described.



3. In a folding bed, a suitable supporting-frame, a mattress-frame mounted thereon to fold to a substantially vertical position and a retaining-band extending across the inner side and along the two ends of said frame, said band being provided at its ends with means for preventing a mattress from slipping off said frame at the unprotected side, substantially as described.

4. In a folding bed, a suitable supporting-frame, a mattress-frame mounted thereon to fold to a substantially vertical position and a retaining-band extending across the inner side and along the two ends of said frame, said band being provided at its ends with rigid fingers for preventing a mattress from slipping off said frame at the unprotected side, substantially as described.

5. In a folding bed, a suitable supporting-frame, a mattress-frame mounted thereon to fold to a substantially vertical position and a retaining-band extending across the inner side and along the two ends of said frame, said band being provided with adjustable rigid fingers adapted to clasp a mattress and assist in retaining it in position, substantially as described.

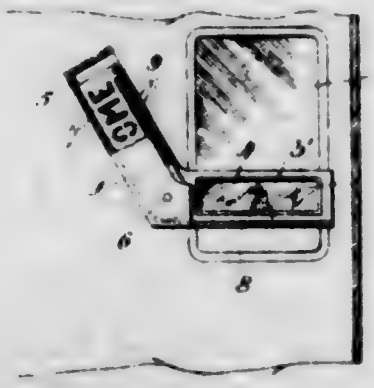
804,086. **WOMB-SUPPORTER.** MARTIN J. BARCHFELD and FREDERICK C. HUNT, Girard, Ohio. Filed Dec. 2, 1904. Serial No. 235,230.



Claim.—1. A womb-supporter comprising a tube of flexible material coiled upon itself to form two substantially frusto-conical members united at their ends of smallest diameter.

2. A womb-supporter comprising a tube of flexible material coiled upon itself to provide two substantially frusto-conical members united at their ends of smallest diameter, and a device for permitting inflation of said tube.

804,087. **TRAIN-ORDER INDICATOR.** HAROLD C. BECK, Kingston, Ga. Filed Apr. 3, 1905. Serial No. 253,560.



Claim.—1. A train-order indicator comprising a casing having a colored-glass window therein, and a stop at its lower edge, an inclined portion formed on said casing for supporting a series of name-plates, said name-plates being pivoted to the casing at the lower end thereof, initial letters indicated upon said plates and letters indicating the name of a station cut from said plate and adapted to be swung down in alinement in front of the colored-glass plate to be supported upon the stop at the lower edge of the casing, substantially as described.

2. A train-order indicator comprising a casing having a horizontal portion and an inclined portion adapted to be secured at the side of a locomotive-window, a colored glass in the horizontal portion, a series of name-plates pivoted at the lower end of the inclined portion and adapted to be swung in front of the colored glass for indicating the name of the station, substantially as described.

3. A train-order indicator comprising a casing having a colored-glass sight-opening therein and a stop at its lower edge, said casing being adapted to contain a lamp or other illuminator and an inclined portion on said casing designed to contain a series of station name-plates pivoted at their lower ends within said casing and provided with stenciled letters, said plates adapted to be swung down in alinement with the colored-glass plate and supported upon the stop at the lower edge of the casing, substantially as described.

804,088. **PNEUMATIC TIRE.** MANLEY H. BLAKESLEE, Buffalo, N. Y., assignor of one-half to Roscoe D. Baker, Buffalo, N. Y. Filed Dec. 1, 1904. Serial No. 235,068.



Claim.—1. A pneumatic tire having a series of inflatable sections or chambers, a common air-supply conduit communicating with all of the sections by individual passages, and a plurality of automatic valves each controlling one of said passages and operating to permit free communication between the sections and the supply-conduit in the normal inflated condition of the sections and to cut off communication between the conduit and the sections when one or more of the same become deflated by puncturing, substantially as set forth.

2. A pneumatic tire having an annular series of inflatable sections or chambers arranged end to end, a common air-supply conduit for said sections extending along their inner sides and connected therewith by individual passages, and a plurality of automatic valves each controlling one of said passages and operating to permit free communication between all of the sections and the supply-conduit in the normal inflated condition of the sections and to cut off communication between the conduit and the sections when one or more of the same become deflated by puncturing, substantially as set forth.

3. A pneumatic tire having a series of inflatable sections or chambers, a common air-supply conduit communicating with all of the sections by individual passages, valves controlling said passages and arranged to close in the direction in which the air enters the sections, and means for yieldingly holding the valves open against the pressure of the incoming air in inflating the tire, substantially as set forth.

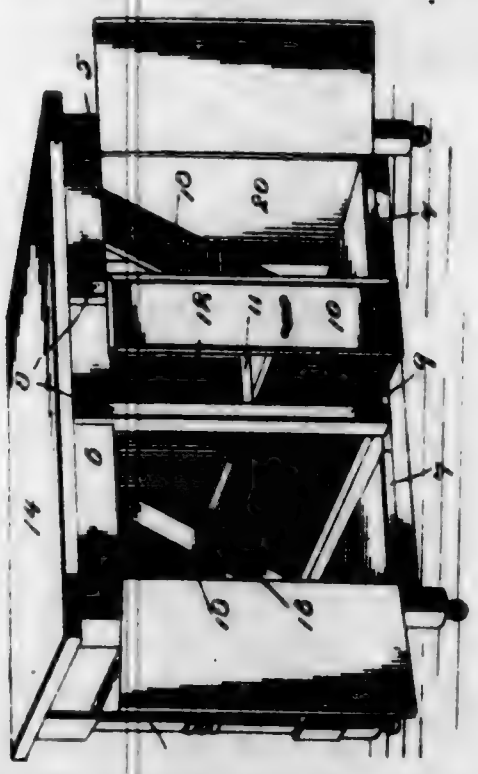
4. A pneumatic tire having a series of inflatable sections or chambers, a common air-supply conduit communicating with all of the sections by individual passages, a check-valve arranged in each of said passages and closing toward the corresponding section, and a spring for each check-valve constructed and arranged to hold the valve open in inflating the sections while permitting the same to be closed by the air-pressure in the supply-conduit when the corresponding section becomes punctured, substantially as set forth.

5. The combination with a pneumatic tire having a series of inflatable sections or chambers, a supply-conduit communicating with the sections by individual passages and automatic valves arranged

in said passages, of a grooved wheel-rim having its lateral edges arranged beyond the outer ends of said valves, substantially as set forth.

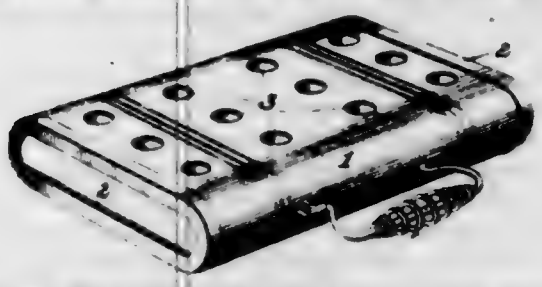
6. A pneumatic tire having a series of inflatable sections or chambers, a common air-supply conduit communicating with all of the sections by individual passages, valve-casings arranged in said passages and containing check-valves which close toward the sections, and perforated guards applied to the outer ends of the casings, substantially as set forth.

804,089. KITCHEN-TABLE. CHARLES M. BLANC and WILLIAM L. MITCHELL, Knoxville, Tenn. Filed Mar. 25, 1904. Serial No. 200,069.



Claim.—A table comprising legs having upper and lower side and end rails connected thereto, a top upon the legs and upper rails, a bottom upon the lower rails, downwardly-tapered bins hinged at their bottom edge to the side rail of one side of the table, an inclined support to limit the backward movement of each of said bins, said inclined supports and the downwardly-tapered backs of said bins forming the rear walls of compartments which open at the other side of said table, hinged doors forming closures for said compartments on said other side.

804,090. HEAT-RETAINER AND METHOD OF MAKING THE SAME. CHARLES H. BOSCK, Jackson, Mich., assignor, by mesne assignments, to Metal Stamping Company, Jackson, Mich., a Corporation of Michigan. Original application filed Jan. 11, 1904, Serial No. 188,557. Divided and this application filed Oct. 19, 1904. Serial No. 229,182.



Claim.—1. The method of making a heat-retainer which consists in first providing a permanently-closed shell having a plurality of apertures with a filling of plastic material, then driving plugs through said apertures into the said material while yet plastic, and drying and hardening the filling.

2. The method of making a heat-retainer which consists in permanently inclosing plastic material in a closed shell having apertures therein, the said material completely filling the shell, then driving plugs through said apertures into the material while yet plastic, allowing the material to set, and then withdrawing the plugs.

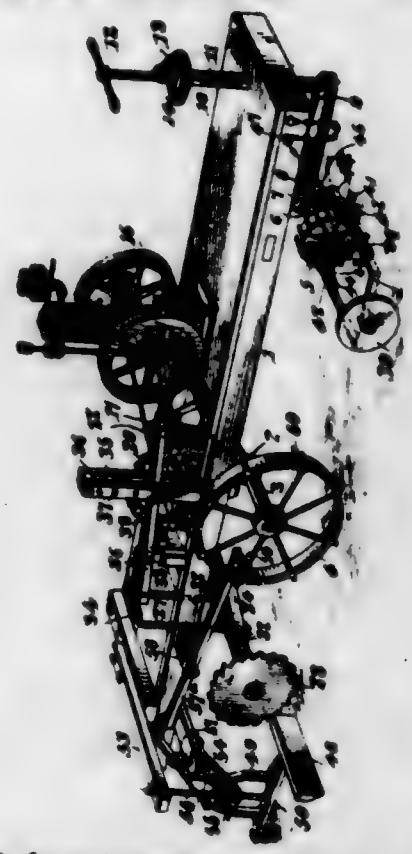
3. The method of making a heat-retainer which consists in tightly filling an apertured receptacle with plastic material, then securing a cap or cover thereon, then driving plugs through the apertures and into the material while yet plastic, allowing the material to set, then withdrawing the plugs, and drying and hardening the filling.

4. A heating-pad comprising a permanently-closed shell having apertures therein and containing a filling composed of a set or hardened plastic substance, the same having been filled within the shell while plastic and then densified and expanded against the whole interior walls by the driving of plugs through the apertures and into such plastic filling.

5. A heating-pad comprising a closed shell having a side with a plurality of apertures, and a filling composed of a set or hardened plastic substance, the same having been tightly filled therein while plastic and then densified and expanded against the interior walls by the driving of plugs through the apertures into such plastic substance, the said filling having cells formed by the withdrawal of the plugs.

6. A heating-pad comprising a permanently-closed metal shell having a plurality of apertures and containing a filling composed of a set or hardened plastic substance formed with cells coincident with the apertures of the shell, the said celled filling being consolidated from the whole mass filled in the shell while plastic and then densified and expanded compactly against the whole interior of the shell by the insertion of plugs through said apertures into said filling.

804,091. ICE-CUTTING MACHINE. IRA BOYD, Pondhill, Pa. Filed June 30, 1904. Serial No. 214,303.



Claim.—1. In an ice-cutting machine, the combination with cutting mechanism, of means for automatically striking the ice at intervals for breaking cakes of the desired size, and a transversely-disposed blade movable with the said striking means and connected between its ends with the same, substantially as described.

2. In an ice-cutting machine, the combination with cutting mechanism, of an ice-breaker arranged to strike partially-severed ice for breaking the same into cakes, a transverse blade located in advance of and carried by the ice-breaker and means for operating the ice-breaker, substantially as described.

3. In an ice-cutting machine, the combination with cutting mechanism, of an ice-breaker arranged to engage partially-severed ice for breaking the same into cakes, means for operating the ice-breaker at intervals, and means carried by the ice-breaker for weakening the ice at the place where it is to be broken, substantially as described.

4. In an ice-breaking machine, the combination with cutting mechanism, of an ice-breaker provided with a blade for weakening the ice and means carried by the ice-breaker in rear of the blade for striking the ice to break the same, substantially as described.

5. In an ice-cutting machine, the combination of a main frame, wheels supporting the same, one of the wheels being provided with a tappet, an ice-breaker located at one side of the main frame, a transverse lever mounted on the main frame and connected at its outer end with the ice-breaker, and a longitudinal lever also mounted on the frame and having one end arranged in the path of the said tappet, the other end of the longitudinal lever being connected with the inner end of the transverse lever, substantially as described.

6. In an ice-cutting machine, the combination with cutting mechanism, of an ice-breaker arranged to strike the partially-severed ice, a blade carried by the ice-breaker for weakening the ice, a cushioning-spring arranged in the path of the ice-breaker, a rotary element provided with a tappet, a vibratory lever arranged in the path of the tappet, and means for connecting the lever with the ice-breaker, substantially as described.

7. In an ice-cutting machine, the combination of a main frame provided with a vertical guide, a vertically-movable ice-breaker mounted on the guide and provided with ice-engaging means, a lever disposed transversely of the machine and connected with the ice-breaker, a lever extending longitudinally of the machine and connected with the transverse lever, and a rotary element having a tappet for engaging the longitudinal lever, substantially as described.

8. In an ice-cutting machine, the combination with a supporting-frame, and cutting mechanism, of a vertically-movable ice-breaker guided on the supporting-frame and comprising a yoke, a bar secured to the yoke, and an ice-engaging head arranged at the rear end of the bar, means for operating the ice-breaker, and a transverse blade arranged at the front end of the bar, substantially as described.

9. In an ice-machine, the combination with means for cutting longitudinal kerfs in ice, of a transverse blade arranged to extend across the space between the kerfs to chip or weaken the ice at the point where it is to be broken, and means located in rear of the blade for striking the ice to break the latter, substantially as described.

10. The combination of a frame, an axle provided with wheels, cutting mechanism, a guide-carrying frame mounted on the axle at the inner side of one of the wheels and receiving the latter and extending beyond the same, and a guide mounted on the outer portion of the guide-carrying frame, substantially as described.

11. In an ice-cutting machine, the combination of a frame, a front axle pivotally connected with the frame, wheels mounted on the front axle, supporting-bars extending laterally from one side of the frame and mounted on the front axle and provided between their ends with pins to clear the adjacent wheel, said bars being slotted, a transverse rectangular frame having slotted sides, a guide carried by the rectangular frame, and fastening devices passing through the slots of the bars and the rectangular frame and securing the latter in its adjustment, substantially as described.

12. An ice-cutting machine provided with an ice-breaker provided at the front with a transverse blade for weakening the ice to be broken, said ice-breaker being also provided at the back with a head for engaging the ice to break the same, substantially as described.

804,092. APPARATUS FOR DRAINING MARSHES AND THE LIKE. JOHN BRANTS, Tampico, Ill. Filed Mar. 20, 1905. Serial No. 251,068.

Claim.—1. In apparatus of the class described, the combination with a casing-tube, of an auger-bit revolubly mounted at the lower end thereof, and means for revolving the bit, said means extending downwardly through the tube and having a detachable engagement with the bit.

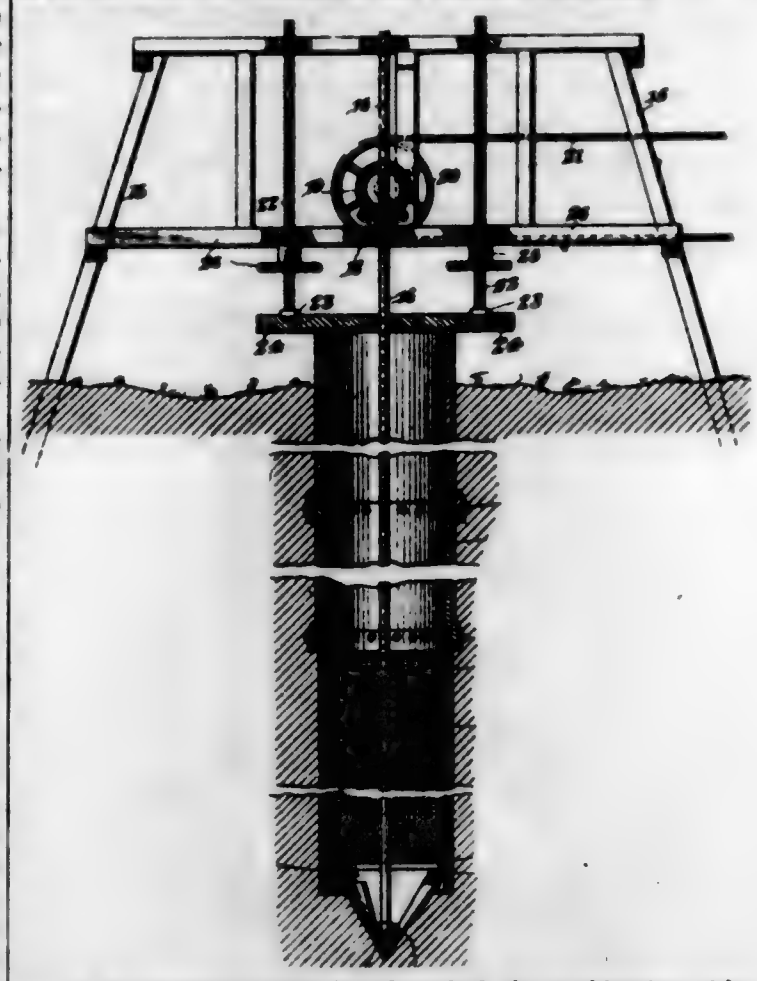
2. In apparatus of the class described, the combination with a casing-tube, of an auger-bit revolubly journaled on the lower end of the tube and projecting beyond the same, and means for revolving the bit, said means extending downwardly through the tube and having a detachable engagement with the bit.

3. In apparatus of the class described, the combination with a casing-tube, of a tapering auger-bit revolubly journaled on the lower end of the tube and having an angular socket in its lower end, and means for revolving the bit, said means including a shaft extending downwardly through the tube and detachably engaging in the angular socket.

4. In apparatus of the class described, the combination with a casing-tube comprising sections, the lowermost of which is perforated, of a strainer covering the perforations, an annular seat formed in the lower end of the perforated section, an auger-bit revolubly mounted on the lower end of the tube and having a portion engaging in the seat, and means for revolving the bit, said means including a shaft extending downwardly through the tube and detachably engaged with the bit.

5. In apparatus of the class described, the combination with a casing-tube, of an auger-bit revolubly mounted at the lower end of the tube, means for revolving the bit, said means extending downwardly through the tube and having a detachable engagement with the bit, and a closure arranged to fit in the lower end of the tube and cover the bit when the actuating means therefor is detached.

6. In apparatus of the class described, the combination with a casing-tube, of an auger-bit revolubly mounted at the lower end of the tube, means for revolving the bit, said means extending downwardly through the tube and having a detachable engagement with the bit, and a folding closure comprising sections, said closure being arranged to fit in the lower end of the tube and cover the upper end of the bit when the actuating means therefor is detached.



7. In apparatus of the class described, the combination with a casing-tube having a perforated lower section and a screen covering the perforations thereof, said lower section having at its lower end an annular seat, of an auger-bit revolubly journaled on the lower end of the tube and engaging in the seat, means for revolving the bit including a shaft extending through the tube and detachably engaging said bit, and a closure arranged to engage in the seat and cover the bit when the shaft is detached therefrom and removed from the tube.

8. In apparatus of the class described, the combination with a sectional casing-tube, the lowermost section of which is perforated, of a screen extending across the perforations of the section, a flat-topped auger-bit journaled in the lower portion of the lowermost section and projecting beyond the same, means for revolving the bit including a shaft detachably passing downward through the tube and detachably engaging the bit, and a closure for the lower end of the tube comprising hinged sections arranged to be brought into alinement upon the top of the bit when the shaft is disengaged therefrom.

9. In apparatus of the class described, the combination with a casing-tube having a perforated portion, of an auger-bit revolubly mounted at the lower end of the tube and carried thereby, a closure for the tube below the perforated portion, and means for connecting moisture-conducting means to the upper end of the tube.

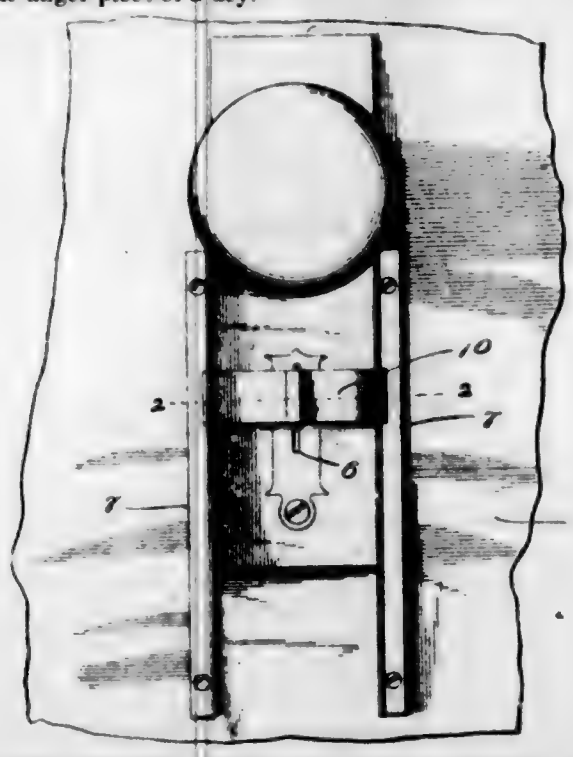
10. In apparatus of the class described, the combination with a casing-tube having a perforated lower portion and openings in its upper portion to permit the attachment of moisture-conducting means, of an auger-bit revolubly mounted at the lower end of the tube and carried thereby, and a detachable closure for the tube below the perforated portion and above the auger-bit.

11. In apparatus of the class described, the combination with a casing-tube having a perforated lower portion, of an auger-bit mounted on the lower end thereof, and a closure arranged to fit in the lower end of the tube and cover the bit.

12. In apparatus of the class described, the combination with a casing-tube having a perforated lower portion, of an auger-bit mounted on the lower end of the tube below the perforations, and a detachable closure arranged to fit in the lower end of the tube below the perforations and above the bit to cover said bit.

804,093. KEY-GUARD. WILLIAM R. BRENEMAN, Brooklyn, Iowa. Filed July 9, 1904. Serial No. 215,842.

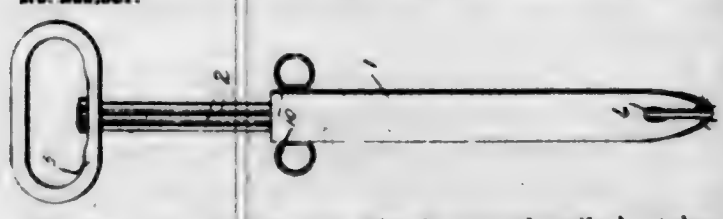
Claim.—1. A key-guard comprising plates arranged for attachment to a door at opposite sides of the keyhole, said plates having outwardly-extending portions provided with longitudinal slots, and a member including angular portions disposed with said angular portions in the slots, the extremities of said angular portions being bent to extend over the faces of the outwardly-extending portions, said member also having a recess therein adapted for engagement with the finger-piece of a key.



2. The combination with a door, having a keyhole, of angular plates secured to the door at opposite sides of the keyhole, said plates having outwardly-extending portions provided with channels opening through the ends thereof, and a key-engaging member including spaced legs having their extremities turned at an angle and engaged in the channels, said member including a connecting portion extending between the legs, said connecting portion having a convolution between its ends adapted for engagement with the finger-piece of a key.

3. In a key-guard the combination with attaching means provided with channels, of a key-engaging member including spaced legs and a connection portion, the free ends of the said legs being slidably engaged in the channels, said connecting portion being provided with a convolution adapted for engagement of the finger-piece of a key.

804,084. VETERINARY FORCEPS. SAMUEL BROWER, WILLIAM BROWER, and GEORGE LATTA, Manlius, Ill. Filed July 6, 1905. Serial No. 268,307.



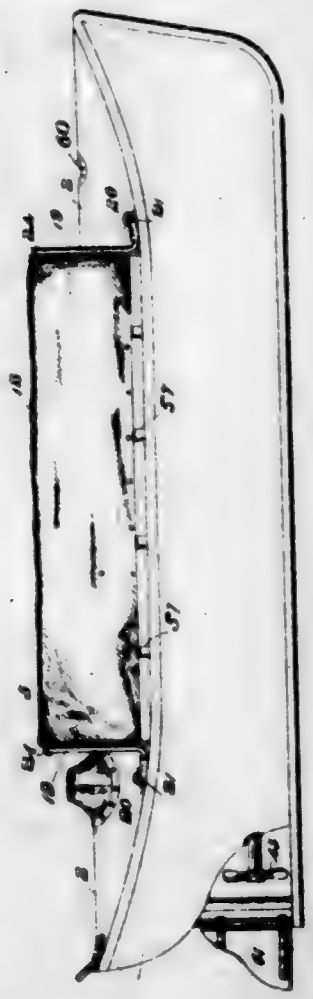
Claim.—1. In an instrument of the character described, a tubular casing having a tapered end terminating in a flat portion, a handle, spring-arms secured to said handle and passing through the casing, said arms having diverging ends terminating in inwardly-extending jaws, substantially as described.

2. A veterinary forceps comprising a tubular casing having a tapered and flattened end, a handle, spring-arms attached to said handle, a guide-plug in the casing through which the spring-arms extend, said spring-arms having diverging outer portions and inwardly-bent terminal ends adapted to rest upon the flat end of the casing when said arms are in retracted condition, and hand holds at the sides of said casing near its outer end, substantially as described.

804,095. LIFE-BOAT. FREEMAN W. BROWN, Tacoma, Wash. Filed Sept. 29, 1904. Serial No. 226,562.

Claim.—1. A boat having a water-guard mounted centrally over its top, means for removably securing the sides of said guard to the sides of the boat to close the top of the latter, and means for supporting the sides of said guard above the sides of the boat to cause said guard to serve as an awning.

2. A boat having a folding water-guard which folds longitudinally and is mounted centrally over the top of the same, means for securing the side edges of said guard to the sides of the boat, and means for stretching said guard.



3. A boat having a central longitudinally-disposed flexible water-guard provided with suitably-mounted ends, means for securing the sides of said guard upon the sides of said boat, and means for clamping the slidably-mounted ends of said guard.

4. A boat having a central longitudinally-disposed flexible water-guard provided with slidably-mounted ends, and means for clamping said slidably-mounted ends of said guard against movement.

5. A boat having transversely-disposed heads at the ends of its top opening, curved guides upon said heads, a flexible water-guard slidably mounted upon said guides, and swinging clamps for holding said guard against movement, substantially as described.

6. A boat having transversely-disposed heads at the ends of its top opening, curved guides upon said heads, a flexible water-guard slidably mounted upon said guides, swinging frames for clamping said guard upon said heads, and fasteners for said clamps, substantially as described.

7. A boat having a folding water-guard mounted centrally over its top, and swinging fasteners for securing the sides of said guard upon the sides of the boat to close the top of the latter.

8. A boat having heads at the ends of its top opening, a centrally-disposed longitudinal bar mounted between said heads, a water-guard upon said bar, and means for adjusting said bar, substantially as described.

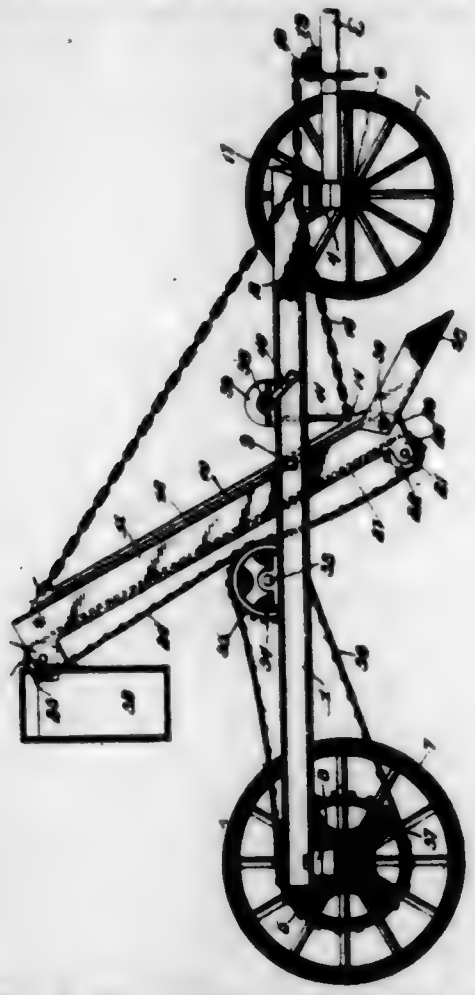
9. A boat having heads at the ends of its top opening, a centrally-disposed longitudinal bar mounted between said heads, a water-guard upon said bar, and screw-rods and nuts for adjusting said bar, substantially as described.

10. A boat having heads at the ends of its top opening, a centrally-disposed longitudinal bar mounted between said heads, a water-guard upon said bar, means for removably securing the outer side edges of said guard upon the sides of the boat, and means for adjusting said bar vertically to stretch said guard, substantially as described.

11. A boat having a folding water-guard mounted centrally over its top, and swinging arms for supporting the sides of said guard in an extended position to permit said guard to serve as an awning, substantially as described.

12. A boat having a flexible water-guard mounted centrally over its top, swinging arms for supporting the sides of said guard in extended position to permit said guard to serve as an awning, and means for fastening said arms against movement.

804,086. **DITCHING-MACHINE.** Mathias Brown, Jr., Battle-creek, Iowa. Filed July 24, 1905. Serial No. 271,054.



Claim.—1. The combination with the side rails of a movable frame; of a conveyer-frame adjustably mounted between the side rails, and means to clamp the side rails upon the conveyer-frame.

2. The combination with the side rails of a movable frame; of a conveyer-frame adjustably mounted between the side rails, means to clamp the side rails upon the conveyer-frame, and means for adjusting the conveyer-frame between the said rails.

3. The combination with the side rails of a movable frame; of a clamping device connecting the side rails, a conveyer-frame slidably mounted upon the clamping device and adapted to be clamped by the side rails, means for raising or lowering said frame and means connected to one end of the conveyer-frame to prevent it from swinging.

4. The combination with the side rails of a movable frame and a clamping device connecting the rails; of a conveyer-frame slidably mounted upon the clamping device and adapted to be clamped in position by the side rails, an endless conveyer-chain mounted within the conveyer-frame means operated by the movement of the movable frame for actuating the conveyer, and a shovel connected to the conveyer-frame.

5. The combination with a main frame and wheels for supporting the same and a clamping device connecting the sides of the frame; of a conveyer-frame slidably mounted upon the clamping means and adapted to be clamped in position by the side rails, a shovel projecting from the conveyer-frame, means for adjusting the conveyer-frame longitudinally, and an endless conveyer in the conveyer-frame and means operated by one of the wheels for actuating the conveyer.

6. The combination with a main frame and wheels for supporting the same; of a conveyer-frame longitudinally movable in the main frame, means for adjusting the conveyer-frame, holding devices connected to the ends of the conveyer-frame for preventing the same from swinging, a shovel exteading from the conveyer-frame, an endless conveyer in the conveyer-frame, and means operated by one of the wheels for actuating the conveyer.

7. The combination with a main frame and wheels for supporting the same; of simultaneously-movable sprockets mounted upon the main frame, means for transmitting motion to the sprockets from one of the wheels, a longitudinally-movable conveyer-frame mounted within the main frame, a spout and a shovel extending from opposite ends of the conveyer-frame, an endless conveyer-chain mounted within the conveyer-frame and engaged by one of the sprockets, means for adjusting the conveyer-frame, a clamp for holding said frame against movement, and holding devices connected to the ends of the conveyer-frame to prevent swinging thereof.

804,097. **STOVE AND FURNACE.** William H. Burns, Naperville, Ill. Filed July 20, 1903. Serial No. 166,285.

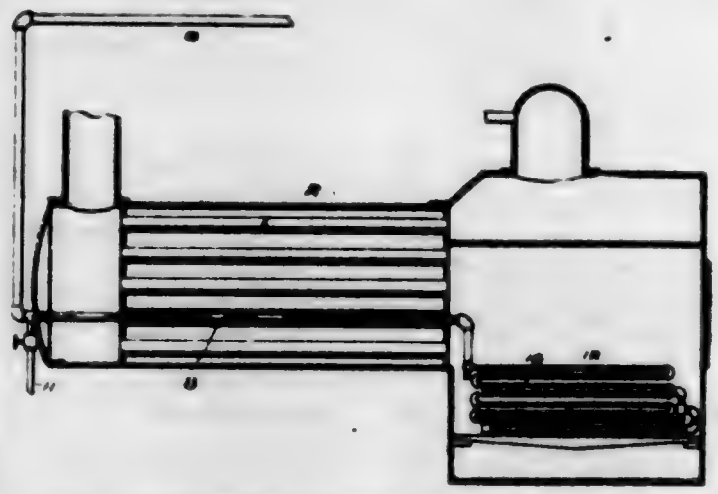


Claim.—1. In a stove or furnace the combination of a shell having a base, a fire-pot within the base, said fire-pot having at its top an annular flange extending outward and meeting the shell, said annular flange having openings for the passage of air upward through it, an annular chamber above the flange, said annular chamber having openings for the admission of air and openings for the discharge of air and tubes for conducting air from the openings in the annular flange to the openings in the annular chamber, substantially as described.

2. In a device of the class described, the combination of a fire-pot, a chamber surrounding the fire-pot, an annular chamber resting upon the top of the first chamber and having perforations for discharging air into the combustion-chamber, a third chamber located above the second chamber, tubes connecting the first and third chambers, and tubes connecting the second and third chambers, substantially as described.

3. In a stove or furnace the combination with a shell of a base, a fire-pot located within the base and having at its top an annular flange, the base being provided with an internal shoulder upon which said flange rests, an annular diaphragm extending from the lower portion of the fire-pot to contact with the base, the base, the diaphragm, the fire-pot and the annular flange forming together a chamber, an apron located in said chamber and surrounding the fire-pot, the annular flange being provided between the apron and fire-pot with openings for the upward passage of air, an annular chamber located above the annular flange and having openings for the inlet and outlet of air and tubes for conducting air from the openings of the annular flange to the inlet-openings of the annular chamber, substantially as described.

804,098. **METHOD OF UTILIZING EXHAUST-STEAM.** Linus P. Burrows, Washington, D. C., assignor to Burrows Development Company, Washington, D. C., a Corporation of Maine. Filed Feb. 15, 1902. Serial No. 94,236.



Claim.—1. The method of utilizing exhaust-steam, which consists in taking the steam from the exhaust-port of an engine, suddenly expanding the steam to a larger volume, separating the steam without material condensation, from any water held in suspension, heat-

ing the steam to a high temperature, injecting the product into the fire-box of a steam-boiler and there burning it in conjunction with carbonaceous fuel.

2. The method of utilizing exhaust-steam to assist in combustion, consisting in taking the steam from the exhaust-port of an engine, immediately expanding the steam, thereby reducing its pressure before it has had an opportunity to absorb the water of condensation from the exhaust-port, separating from the steam the watery vapor therein without material condensation of the steam, immediately superheating the steam to a high temperature, and finally introducing the resultant products thereof into the fire-box of a steam-boiler and there burning it in conjunction with carbonaceous fuel.

804,099. **APPROXIMAL-MATRIX FORMER.** ROLLA M. CHASE, Bethel, Vt. Filed Apr. 18, 1905. Serial No. 256,182.



Claim.—1. In combination with an implement having a handle and slotted fork-arms, a strip of elastic material adapted to be pressed into a dental cavity, disposed between said fork-arms, engaged in the slots thereof and provided with shoulders to bear against said fork-arms, and a backing-strip, of relatively inelastic material, on the rear side of the strip and also disposed with its ends in the slots of said arms, substantially as described.

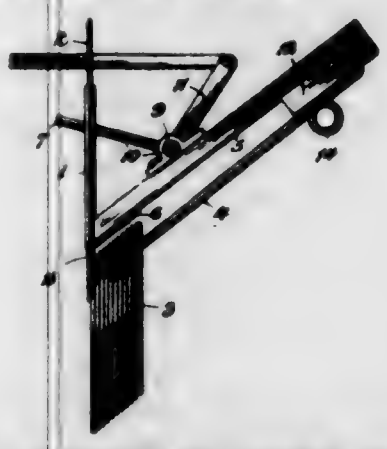
2. A matrix-former, of elastic material, comprising a strip having an offset or die portion on one side adapted to be pressed into a dental cavity, for the purpose set forth.

3. As a new article of manufacture, a ribbon of elastic material, providing a plurality of sections which are adapted to be separated from one another, each of said sections having an offset or die portion on one side, adapted to be pressed into a dental cavity, for the purpose set forth.

4. A matrix-former of the class described, comprising a strip of elastic material provided on one side with transverse shoulders at its end and with a die or offset portion at a point between said shoulders, said die or offset portion being adapted to be pressed into a dental cavity, for the purpose set forth.

5. In combination with an implement having a handle and slotted fork-arms, a strip of elastic material adapted to be pressed into a dental cavity, and a backing-strip of relatively inelastic material, said elastic and relatively inelastic strips being placed in the slots of the said fork-arms and held thereby.

804,100. **FEED MECHANISM FOR MACHINES FOR COATING SEALING-RINGS WITH WAX.** GEORGE D. C. CODDINGTON, Hemo, Ohio, assignor to Ball Brothers Glass Manufacturing Company, Muncie Ind. Filed Dec. 8, 1904. Serial No. 235,978.



Claim.—1. In a device of the class described, the combination of a holder adapted to receive a plurality of rings, said holder being in the form of a rod supported at one end and having its other end free to permit the rings to be strung on it, and means for feeding the rings from the latter end of the rod.

2. In a device of the class described, the combination of a holder arranged to receive and extend through a plurality of rings, and means for feeding the rings from the holder, said holder being in the form of a resilient rod.

3. In a device of the class described, the combination of an inclined holder arranged to receive and extend through a plurality of rings and adapted to support the same at different elevations, said holder being supported at its upper end and having its lower end free to permit the rings to be strung thereon toward its upper end, and means for feeding the rings from the lower end of the holder.

4. In a device of the class described, the combination of a holder consisting of a rod arranged to receive and extend through a plurality of rings, said holder being inclined for supporting the rings at different elevations and for causing them to slide downward on it, and means located at the lower end of the holder for feeding the rings.

5. In a device of the class described, the combination of a resilient holder arranged to receive and extend through a plurality of rings and adapted to be flexed or bent away from its normal position to permit the rings to be placed on it, and means for feeding the rings.

6. In a device of the class described, the combination of an inclined resilient holder arranged to receive and extend through a plurality of rings for supporting the same at different elevations and in a vertical position, and means for feeding the rings.

7. In a device of the class described, the combination of an inclined support, an inclined holder constructed of resilient material and arranged beneath and spaced from the support to receive a plurality of rings, said holder being adapted to extend through the rings for supporting the same in a vertical position, and a vertical reciprocating slide or carrier located at the lower end of the holder and coöperating with the same and provided with means for engaging the rings.

8. In a device of the class described, the combination of an inclined support, an inclined holder constructed of resilient material and connected at its upper end with the support, said holder being also provided at its upper portion with a spring-coil, and means located at the lower end of the holder and coöperating with the same for feeding the rings.

9. In a device of the class described, the combination with a holder for supporting a plurality of rings in a vertical position said holder being fixed at its rear end, the front end being free to permit the rings to be strung thereon, of a vertically-reciprocating slide or carrier provided with means for engaging the rings successively.

10. In a device of the class described, the combination with means for supporting a plurality of rings in a vertical position, of a vertically-reciprocating slide or carrier provided with means for engaging the rings, and a hopper arranged to guide the rings to the carrying mechanism of a coating-machine.

11. In a device of the class described, the combination with means for holding a plurality of rings, of a vertical guide, and a vertically-reciprocating slide or carrier provided with a lateral feed projection for engaging the rings.

12. In a device of the class described, the combination with means for yieldingly supporting a plurality of rings in a vertical position and at different elevations, of a vertically-movable slide or carrier having a feed projection located at a point between the ends of the slide or carrier for engaging the rings.

13. In a device of the class described, the combination with means for yieldably supporting a plurality of rings in a vertical position and at different elevations, of a vertically-movable slide or carrier having a substantially triangular feed projection of a length to engage but one of the rings, whereby the latter will successively discharge from the holder when the slide or carrier is reciprocated.

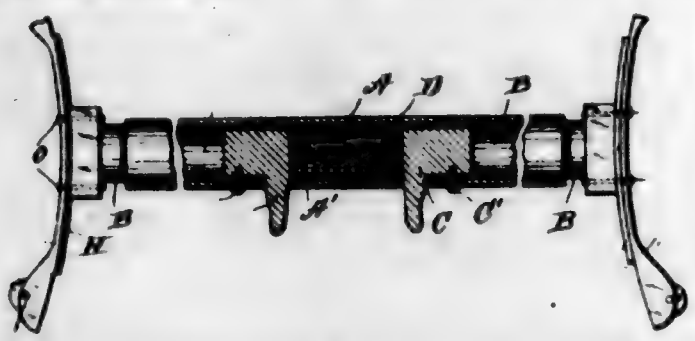
14. In a device of the class described, the combination of a vertically-disposed guide having a slot or opening, a vertically-movable slide or carrier mounted in the guide and provided with means for engaging a ring, means for supporting the rings in position to be engaged by the slide or carrier, and means for operating the oscillatory arm, whereby the slide or carrier is reciprocated.

15. In a device of the class described, the combination of an inclined support, a vertical guide provided at its bottom with a projecting flange or portion secured to the support, a holder located beneath the support and adapted to receive a plurality of rings, a vertically-movable slide or carrier operating in the guide and provided with means for engaging the rings, a shaft also mounted on the support and provided with an arm operating the slide or carrier, and means for rocking the shaft.

16. In a device of the class described, the combination of means for supporting a plurality of rings in a vertical position and at different elevations, and a reciprocating slide provided with a lateral projection for feeding the rings successively.

804,101. **CURTAIN HOLDER AND ADJUSTER.** JUDSON COOK, Philadelphia, Pa., assignor to The Curtain Supply Company, Newark, N.J., a Corporation of New Jersey. Filed July 28, 1904. Renewed Sept. 1, 1905. Serial No. 276,772.

Claim.—1. A curtain holding and adjusting apparatus, comprising two spring-actuated shells and a casing therefor, a plug fitted within the outer end of each of said shells, an imperforate, flexible bar, having parallel flanges at the ends thereof, pintles mounted in said flanges, antifriction-rollers mounted upon said pintles and means carried by said plugs for fastening said flexible bars thereto, as set forth.



2. A curtain holding and adjusting apparatus, comprising two spring-actuated shells and casing therefor, a plug fitted in the outer end of each of said shells, an imperforate, flexible bar, having parallel flanges adjacent to its ends, antifriction-rollers mounted between said flanges, a second bar in contact with the face of the roller-carrying bar, staples carried by said plug and adapted to fasten said bars thereto, as set forth.

3. A curtain holding and adjusting apparatus, comprising two spring-actuated shells and a casing in which the same are mounted, a plug fitted to the outer end of each shell, a flexible bar fitted to each plug and having flanges near its ends, antifriction-rollers mounted between said flanges, a second flexible bar carried by each of said plugs, registering notches in the edges of said bars, staples engaging said notches and adapted to fasten said bars to said plug, as set forth.

4. A curtain holding and adjusting apparatus, comprising a spring-actuated member and a casing therefor, a plug fitted to the outer end of said member, a flexible bar, having parallel flanges at the ends thereof, pintles mounted in said flanges, antifriction-rollers mounted upon said pintles and means carried by said plugs for fastening said flexible bars thereto, as set forth.

5. A curtain holding and adjusting apparatus, comprising a spring-actuated member, and a casing therefor, a plug fitted to the outer end of said member, a flexible bar, having flanges adjacent to its ends, antifriction-rollers mounted between said flanges, a second bar in contact with the face of the roller-carrying bar, staples carried by said plug and adapted to fasten said bars thereto, as set forth.

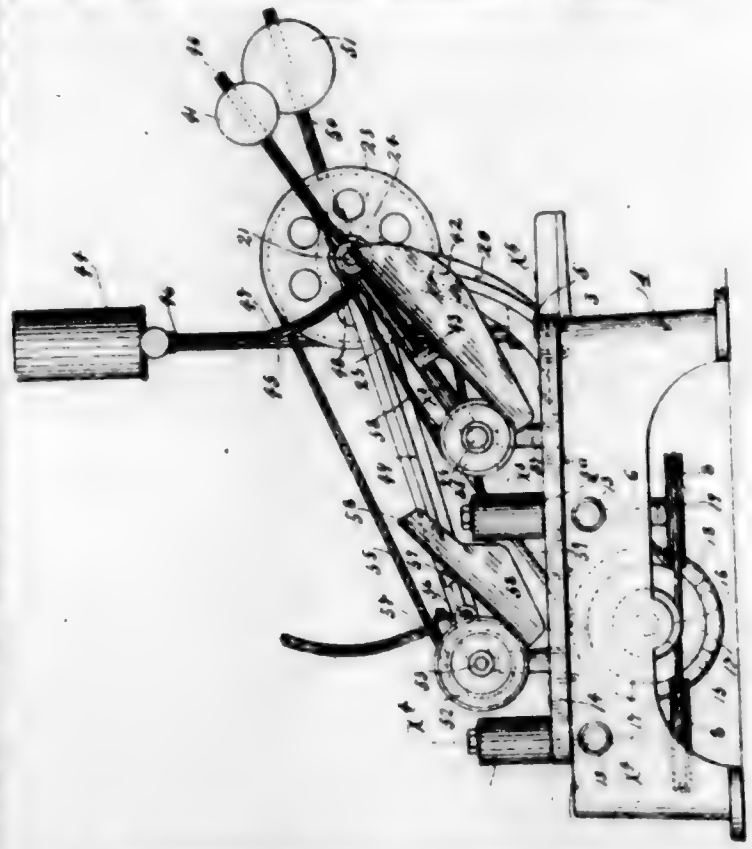
6. A curtain holding and adjusting apparatus, comprising a spring-actuated rod and a casing in which the same is mounted, a plug fitted to the outer end of said rod, a flexible bar fitted to the plug and having flanges near its ends, antifriction-rollers mounted between said flanges, a second flexible bar carried by said plug, registering notches in the edges of said bars, staples engaging said notches and adapted to fasten said bars to said plug, as set forth.

7. In a curtain-holding device the combination with a curtain-stick, of a flat flexible bar of curved formation located at the end of the stick, antifriction-surfaces at the ends of the bar and a reinforcing flexible bar interposed between the said other bar and the stick.

804,102. MACHINE FOR IRONING THE EDGES OF COLLARS AND CUFFS. WALTER C. CUNNINGHAM, Minneapolis, Minn., assignor to American Machinery Company, a Corporation of Minnesota. Filed Aug. 13, 1904. Serial No. 220,677.

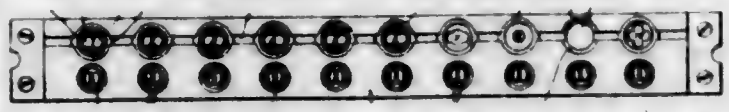
Claim.—1. In a machine of the class described the combination with means for feeding and guiding the articles to be ironed, of a vertically-movable edge-ironing member, a vertically-movable support, a moistening-wheel carried by said support for action on the edge of the article being ironed, and means for supplying water to said moistening-wheel, having a water-conduit extending through said vertically-movable support and peripherally out through the journal and hub portion of said moistening-wheel, substantially as described.

2. The combination with a suitable framework and means for feeding and guiding the articles to be ironed, of a vertically-movable edge-ironing member, a vertically-movable tubular supporting-arm pivotally supported from said frame and having a hollow laterally-extended trunnion formed with peripheral passages, means for supplying water to said tubular arm, a sleeve having a closed outer end journaled onto said trunnion, and provided with a clamping flange or disk and with radial water-passages adapted to register with the radial passages of said trunnion, a clamping-disk working with screw-threaded engagement on said sleeve, and an absorbent moistening-ring surrounding the water-passages of said sleeve and clamped between the clamping-disks thereof, substantially as described.



3. The combination with a suitable frame, of opposing pairs of feed-rollers set upright, endless belts running in pairs over said feed-rollers, adapted to feed the article to be ironed edgewise, and vertically-movable moistening and ironing devices, substantially as described.

804,103. TELEPHONE-SWITCHBOARD APPARATUS. THOMAS V. DAVIS, Kansas City, Mo., assignor to The Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Apr. 4, 1904. Serial No. 201,409.



Claim.—1. In a telephone-switchboard, the combination with a visual signal in the form of a lamp, of an opening disposed before said lamp through which the rays therefrom may pass, and screens adapted for insertion in said opening, said screens being provided with openings therethrough to permit a path of differently-colored rays in which another and distinct signal may be displayed.

2. In a telephone-switchboard, the combination with a visual signal in the form of a lamp, of an opening disposed before said lamp through which the rays thereof may pass, and a transparent disk adapted for insertion in said opening, said disk having an opening therethrough to permit a path of differently-colored rays in which another and distinct signal is adapted to be displayed.

3. In a telephone-switchboard, the combination with a visual signal in the form of a lamp, of an opening disposed before or above said lamp through which the rays therefrom may pass, a thimble in said opening, and differently-colored screens separably secured and provided with openings, said openings permitting a path of differently-colored rays in which another and distinct signal is adapted to be displayed.

4. In a telephone-switchboard, the combination with a visual signal in the form of a lamp, of an opening disposed before said lamp through which the rays therefrom may pass, a thimble in said opening, differently-colored transparent disks separably secured to the face of said thimble, said disks being provided with openings to permit a path of differently-colored rays to display another distinct signal.

5. In a telephone-switchboard, the combination with a visual signal in the form of a lamp, of an opening disposed before said lamp through which the rays therefrom may pass, a thimble disposed in said opening, a transparent disk bearing a number disposed in said thimble, and a transparent colored disk adapted to be separably secured before said thimble, said disk having an opening in the central portion whereby the rays not intercepted by said number remain uncolored.

6. In a telephone-switchboard, the combination with a lamp-

signal, of an opening disposed before said lamp through which the rays therefrom may pass, a thimble disposed in said opening, a transparent disk bearing a number disposed within said thimble, a transparent colored disk disposed before said thimble, and a separable clamping-frame for clamping said disk in place against said thimble

7. In a telephone-switchboard, the combination with a signal in the form of a lamp, of an opening disposed before said lamp through which the rays therefrom may pass, a thimble disposed in said opening, a transparent disk bearing a number disposed within said thimble, a transparent colored disk disposed above the front face of said thimble, an opening through the central portion of said disk whereby the rays emanating from said thimble about said number are colored, and a clamping-frame for engaging said thimble and holding said disk against the front face thereof.

8. In a telephone-switchboard, the combination with a signal in the form of a lamp, of an opening disposed before said lamp through which the rays therefrom may pass, a thimble disposed in said opening, an exterior annular shoulder at the front end of said thimble, a transparent disk bearing a number disposed within said thimble, a transparent colored disk disposed before the face of said thimble, and a clamping-frame for separably securing said colored disk to said thimble, said frame being provided with lugs having extensions for engaging said exterior shoulder.

9. In a telephone-switchboard, the combination with a signal in the form of a lamp, of an opening disposed before said lamp through which the rays therefrom may pass, a thimble disposed in said opening, an exterior annular shoulder at the front end of said thimble, a rim extending forwardly from said shoulder to form an interor annular shoulder, a transparent disk bearing a number disposed against said inner shoulder, a transparent colored disk disposed before the face of said thimble, and a clamping-frame for separably securing said colored disk to said thimble, said frame being provided with lugs having extensions for engaging said exterior shoulder.

10. In a telephone-switchboard, the combination with a signal in the form of a lamp, of an opening disposed before said signal through which the rays therefrom may pass, a thimble disposed in said opening, an exterior annular shoulder at the front end of said thimble, a rim extending forwardly from said exterior shoulder to form an interior shoulder, a transparent disk bearing a number disposed against said interior shoulder, the front edge of said rim being turned in to hold said disk in place after its application to said interior shoulder, a colored transparent disk adapted to be disposed before the face of said thimble and provided with an opening through its central portion whereby only the rays of light about said number are colored, and a clamping-frame for separably securing said colored disk in position, said frame being provided with lugs having extensions for engaging said exterior shoulder.

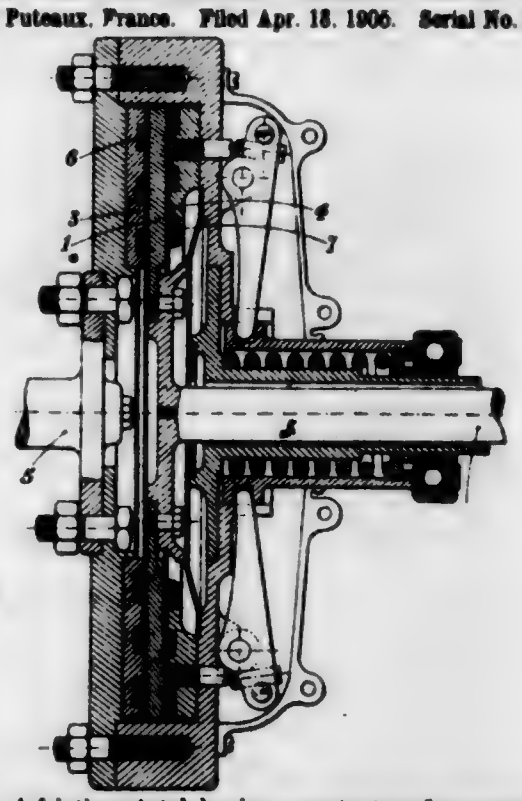
11. In a telephone-switchboard, the combination with a signal in the form of a lamp, of an opening disposed before said lamp through which the rays of light therefrom may pass, a thimble adapted for separable insertion in said opening, an exterior annular shoulder at the forward end of said thimble, a rim extending forwardly from said exterior shoulder to form an interior shoulder, a transparent disk bearing a number and adapted to engage said interior shoulder at its edge, transparent disks between which said number-disk is disposed, the front edge of said rim being turned inwardly to hold the disks in place against the interior shoulder, a colored transparent disk adapted to be disposed above the face of said thimble, said disk being provided at its central portion with an opening which may be of different shapes whereby the rays of light not intercepted by said number are not colored, and a clamping-frame for securing said coloring-disk in place before said thimble, said frame being provided with lugs having extensions for engaging said exterior shoulder.

12. In a telephone-switchboard, the combination with a unit or bank having a front support and a rear support, signals in the form of lamps extending from said rear support, openings through said front support alining with said lamps through which the rays of light may pass, a thimble separably clamped in each of said openings, a colored disk disposed before the face of said thimble, a clamping-frame for separably securing said colored disk to said thimble, said frame being provided with diametrically opposite lugs for engaging said thimble, and a slot extending along the face of said front support in which slot said lugs are disposed to prevent said clamping-frames from turning.

13. In a telephone-switchboard, the combination with a unit or bank having a front and a rear support, signal-lamps extending forwardly from said rear support, openings through said front support and disposed before said lamps through which the rays therefrom may pass, a thimble separately spring-clamped in each of said openings, an annular exterior shoulder at the forward end of said thimble, a colored disk adapted to be disposed before said thimble, a clamping-frame for holding said disk in place, said frame being provided with diametrically opposite rearwardly-extending lugs having extensions for engaging said exterior shoulder, and a slot in the face of said front support in which slot said lugs are disposed to prevent turning of said clamping-frames.

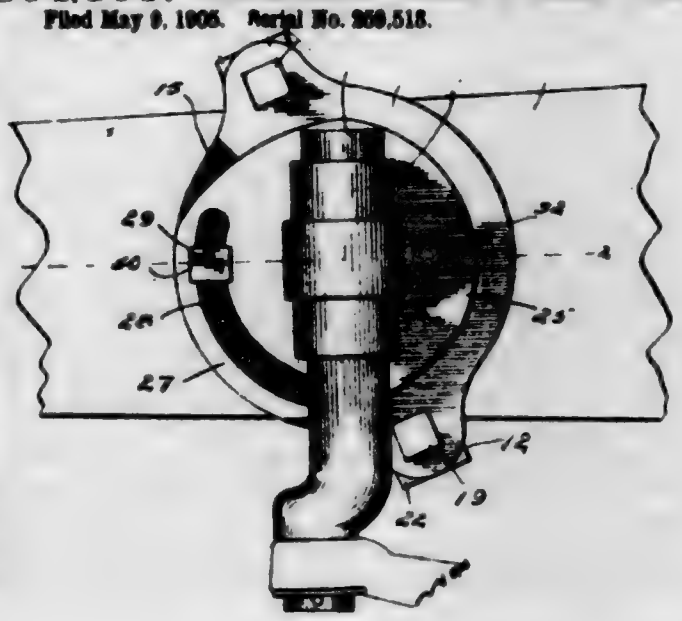
14. In a telephone-switchboard, the combination with a unit or bank having a front and a rear support, signal-lamps extending forwardly from said support, openings through said front support through which the rays from said lamps may pass, a thimble separably spring-clamped in each of said openings, an exterior annular shoulder at the front of said thimble, a rim extending forwardly from said shoulder to form an interior shoulder, a transparent disk bearing a number disposed against said interior shoulder, the front edge of said rim being burred over to hold said number-bearing disk in place against the interior shoulder, a colored transparent disk disposed before the face of said thimble, said colored disk being provided with a central opening which may be of various shapes whereby the rays not intercepted by said number are not colored, a clamping-frame for separably securing said colored disk in place, said frame being provided with diametrically opposite rearwardly-extending lugs having extensions for engaging said exterior shoulder, and a slot in the face of said front support in which slot said lugs are disposed to prevent said clamping-frame from turning.

804,104. **FRICTION-CLUTCH.** ALBERT DE DION and GEORGES BOUTON, Puteaux, France. Filed Apr. 18, 1905. Serial No. 256,298.



Claim.—A friction-clutch having a contact-surface composed of alternations of metal and lubricating material, the lubricating material consisting in blocks of graphite or graphitic carbon inserted in the surface to be brought in contact, substantially as described.

804,105. **COLTER-CLAMP.** EDWARD J. DOOLEN, Vernon, Ill. Filed May 9, 1905. Serial No. 259,518.

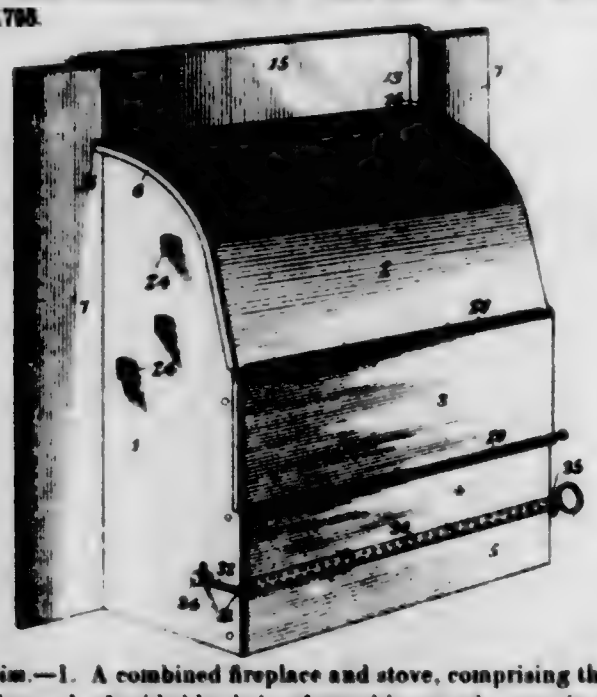


Claim.—1. An article of the class described, comprising an attaching-plate having an opening therein, a carrying-plate adapted to receive and hold an earth-treating tool and having an annular flange rotatably engaged in the opening of the attaching-plate, and a single means for holding the carrying-plate against rotation and against movement with its flange from the opening of the attaching-plate.

2. An article of the class described, comprising an attaching-plate having an opening therein and a threaded perforation at one side of the opening, a carrying-plate having an annular flange rotatably fitted in the opening of the attaching-plate, and having an arc-shaped slot concentric with the flange, and a set-screw engaged loosely in the slot and screwed into the perforation of the attaching-plate, said screw having a shoulder disposed to bear against the carrying-plate.

3. An article of the class described comprising an attaching-plate, means for securing the attaching-plate to a plow-beam, said attaching-plate having an opening therein and a threaded perforation at one side of the opening a carrying-plate having an annular flange at one side rotatably fitted in the opening of the attaching-plate and an arc-shaped slot concentric with the flange, said carrying plate having a clamping-sleeve upon its outer face and a clamping-screw passed loosely through the slot and engaged in the perforation, said screw having a shoulder disposed to bear against the attaching-plate, the portions of the plate adjacent to the perforation and slot respectively, being serrated.

804,106. COMBINED FIREPLACE AND STOVE. WALTER A. DOUGLASS, Pilotmountain, N. C. Filed Mar. 24, 1904. Serial No. 199,795.



Claim.—1. A combined fireplace and stove, comprising the upright sides each of said sides being formed in one piece, an inclined top wall connected at its edges to the sides and forming one wall of the smoke-passage or flue and terminating at the front opening, a back composed of upper and lower sections, the lower section being upright, and the upper section being curved or bowed and arranged adjacent to and spaced from the top wall and forming the other wall of the smoke passage or flue, said top section being fitted between the sides and its lower end being interlocked with the upper part of the lower section and retained in such interlocked relation by the said sides.

2. A combined fireplace and stove consisting of a casing, said casing comprising sides, a substantially inclined top connecting the upper portions of the sides, a back composed of a lower straight section slidably and detachably interlocked with the sides, and an upper bowed section removably fitted between the sides of the casing and detachably interlocked with the top of the lower section and retaining the latter in its interlocked relation with the sides.

3. In a device of the class described, the combination of a casing provided at the front with an opening, a blower hinged to the casing so as to cover the opening and composed of a plurality of hinged sections arranged to be independently and successively opened to expose a greater or less portion of the opening, one of the sections having an extended pintle, and means mounted on the casing for engagement with the pintle to lock the blower in its open and closed positions.

4. In a device of the class described, the combination of a casing provided at the front with an opening, a blower composed of top, bottom and intermediate sections or doors hinged together and to the casing and arranged to be independently and successively opened to expose more or less of the opening of the casing, a handle connected with the bottom section, and means arranged to engage the handle for locking the blower in its open and closed positions.

5. In a device of the class described, the combination of a casing provided at the front with an opening, a blower hinged to the casing and composed of a plurality of sections, the bottom section being provided with a pintle having a catch at one end and an operating-handle at the other, means mounted on the casing for engagement with the catch, and a locking device for engaging the pintle adjacent to the handle, substantially as described.

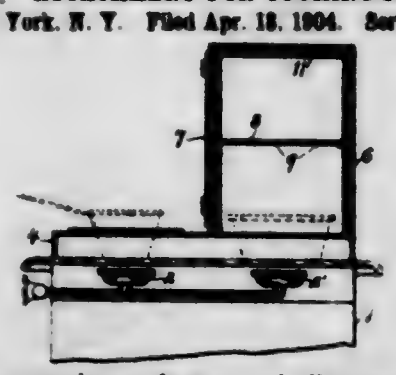
6. In a device of the class described, the combination of a casing, a blower hinged to the casing and composed of a plurality of hinged sections, the pintle of the bottom section being provided at one side of the device with an arm forming a catch, a stud mounted on one side of the casing and arranged to be engaged by the arm, and a plurality of hooks mounted on the other side of the device and arranged to engage the pintle, substantially as described.

7. In a device of the class described, the combination of a casing provided at the top with opposite ribs and having grooves at the sides, and a removable frame extending outward from the casing and composed with sides provided with flanges to engage the said grooves and having notches to receive the ribs, and a top piece interlocked with the sides of the frame, substantially as described.

8. In a device of the class described, the combination of a casing provided at opposite sides with strips forming grooves, a removable frame extending outward from the casing and composed of sides having flanges to fit in the grooves and projecting above the casing and provided with flanges, and a top piece interlocked with the latter and supported by the casing, substantially as described.

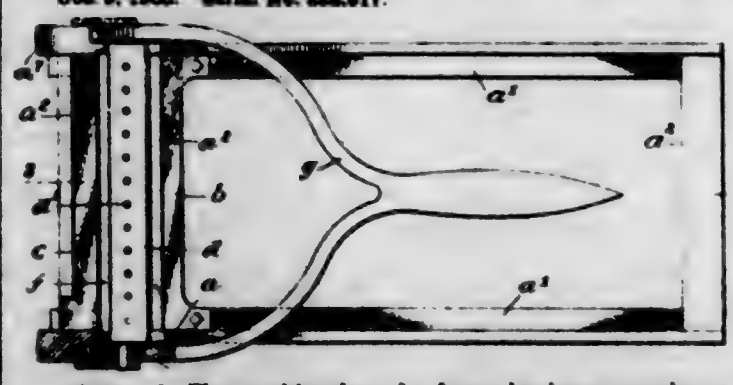
9. In a device of the class described, the combination of a casing provided at its sides with vertical strips having offset front portions spaced from the sides and forming vertical grooves open at the front, and a frame surrounding the casing and having rearwardly-extending flanges to enter the said grooves, whereby the said frame serves to retain the casing in the fireplace.

804,107. ATTACHMENT FOR COOKING-STOVES. BERTHA BERM, New York, N. Y. Filed Apr. 18, 1904. Serial No. 203,567.



Claim.—An attachment for gas and oil stoves consisting of a metal hood or box having front and rear communicating sections and adapted to rest upon the top of the stove and cover the burners thereof, the front section having openings therein to support cooking utensils over the front burners, and the rear section of greater height than the front and divided into compartments in which the products of combustion from the front section may circulate, substantially as and for the purpose described.

804,108. CUTTING AND PUNCHING DEVICE. JOHN EVANS and JAMES EVANS, Salt Lake City, Utah. Filed July 8, 1904. Renewed Oct. 9, 1905. Serial No. 282,017.



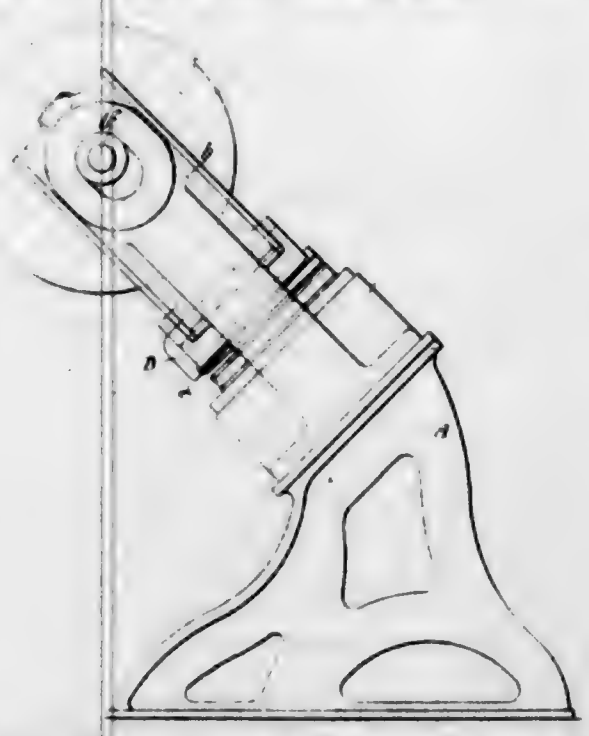
Claim.—1. The combination of a frame having cross-pieces, a pair of plates thereon constituting a support for a bolt and having a space between them, a head movably mounted upon said frame, a se-

ries of punches and a blade mounted on said head, one of said plates having a series of perforations for the reception of said punches, and means for forcing said cross-head toward said plates, causing said punches to pass through said perforations and said blade to pass through the passage between the two plates.

2. The combination of a frame having cross-pieces, a pair of plates thereon, constituting a support for a belt and having a space between them, a head movably mounted upon the frame, a rack mounted in a stationary position on the frame, a handle pivotally connected to said head and provided with teeth adapted to engage with said rack, whereby the motion of the handle about the head as a pivot will cause the descent of the head toward said plates, a series of punches, and a blade mounted on said head, the blade being mounted above said space and one of the plates being provided with a series of perforations for the reception of the punches.

3. The combination of a frame having cross-pieces, a pair of plates thereon, constituting a support for a belt and having a space between them, a head movably mounted upon said frame, a series of punches mounted on said head, each alternate punch being longer than the others, one end of the blade being lower with respect to the head than the other and one of the plates being provided with a series of perforations for the reception of the punches, and means for forcing the head toward the plates, causing the punches to pass through said perforations and the blade to pass into the space between the plates.

804,141. PLATE-SHEARING MACHINE. POWELL EVANS, Philadelphia, Pa. Filed May 28, 1904. Serial No. 210,319.



Claim.—1. The combination of a frame, a bed thereon having more than two shearing edges, and a plunger carrying knives on a plurality of its sides, for coöperating with the shearing edges of the bed, the cutting edges of two of said knives on said plunger extending past the end of another intermediate of them and having their ends substantially flush with the cutting edge of said intermediate knife, substantially as described.

2. The combination of a frame, knives supported thereon along three sides of a substantially rectangular figure, the cutting edge of the knife of the intermediate side extending beyond the ends of those on the two other sides, and a plunger having three knives cooperating with those on the bed, the cutting edges of two of said knives on the plunger extending past the ends of the third and having their ends substantially flush with the cutting edge of said intermediate knife, substantially as described.

3. The combination of a bed having a shearing edge, a plunger also having a shearing edge, placed to coöperate with that on the bed, and visual means for automatically indicating when a piece of material to be cut projects beyond any of a number of points on said shearing edge, substantially as described.

4. The combination in a plate-shearing machine of a bed having a shearing edge, a plunger also having a shearing edge placed to cooperate with that of the bed, and electrical means independent of the controlling mechanism of the machine for automatically indicating when a piece of material projects beyond said edge, substantially as described.

5. The combination in a plate-shearing machine of a bed having a series of shearing edges arranged along the sides of a polygonal figure, a plunger also having shearing edges placed to coöperate with those on the bed, with means adjacent to said shearing edges for visually indicating when a plate to be operated upon projects beyond the same, substantially as described.

6. The combination in a plate-shearing machine of a bed having a series of shearing edges arranged along the sides of a polygonal figure, a plunger also having shearing edges placed to coöperate with those on the bed, with electrical apparatus having means adjacent to said shearing edges for indicating when a plate to be operated upon projects beyond the same, substantially as described.

7. The combination in a plate-shearing machine of a bed having a shearing edge, a movable member also having a shearing edge, with a switch placed to be positively actuated by a sheet of material projecting beyond the shearing edge on the bed, and means independent of the operating mechanism of the machine in circuit with said switch for indicating when it has been actuated, substantially as described.

8. The combination in a plate-shearing machine of a bed having a shearing edge, a movable knife cooperating therewith, a series of switches placed adjacent to the shearing edge, with a generator and a lamp in circuit with said switches for giving indication when a piece of material to be cut projects beyond the shearing edge at any of a number of points, substantially as described.

9. The combination of a bed having a plurality of shearing edges and a guiding edge for a sheet of material to be operated upon, a plunger having knives coöperating with said shearing edges and electrical means for indicating when the sheet of material is in position against the guide, substantially as described.

10. The combination of a bed having a shearing edge and a guiding edge for material to be cut, a plunger having a shearing edge coöperating with that on the bed, a switch adjacent to the shearing edge, means for indicating whether said switch is open or shut and means for indicating when the sheet of material is in position against the guide, substantially as described.

11. The combination with a shearing-machine having a knife, a plunger having means for coöperating with said knife to cut a piece of material, a switch adjacent to the knife and means independent of the operating mechanism of the machine and connected to the switch for indicating when a sheet of material projects beyond the knife-edge and engages the switch, substantially as described.

12. The combination of a shearing-machine having a plurality of cutting edges arranged along the sides of a polygonal figure, stops placed to define one of the sides of said figure, a source of power and indicating means both in circuit with said stops, substantially as described.

13. The combination with a shearing-machine of a switch adjacent to the cutting edge placed so as to be operated by a piece of material projecting over said edge thereof, indicating means in circuit with the said switch and means for moving the switch out of operative position before the machine cuts a piece of material, substantially as described.

14. The combination with a shearing-machine of a switch having a supporting structure normally maintaining it adjacent to a cutting edge of the machine so that it will be operated by the material to be sheared, and mechanism placed to be acted upon by a portion of the movable part of the machine for moving said switch away from the cutting edge as the upper knife descends, with means for indicating whether said switch is open or closed, substantially as described.

15. The combination with a shearing-machine of a switch having a supporting structure normally maintaining it adjacent to a cutting edge of the machine so that it will be operated by the material to be sheared, and mechanism for moving said switch away from the cutting edge as the knife is operated, with means for indicating whether said switch is open or closed, substantially as described.

16. The combination in a shearing-machine of a framework including a bed having a shearing edge, a plunger having a portion cooperative with said shearing edge, a pivotally-supported arm on the frame, a switch carried thereby, and a second arm connected to the first and placed to be engaged by the plunger of the machine so as to move the switch away from the shearing edge when said plunger descends, substantially as described.

17. The combination with a shearing-machine of a bar extending adjacent to the shearing edge thereof, an arm attached to said bar, with a plurality of electric switches on the bar and means connected to said switches for indicating whether they are open or closed, substantially as described.

18. The combination in a shearing-machine having a plurality

of shearing edges, of a plunger carrying knives coöperating with said shearing edges, bars supported adjacent to certain of the shearing edges, switches on the said bars placed to be operated by a sheet of material to be sheared, means for moving the bars away from the shearing edges when the plunger is operated and apparatus in circuit with the said switches to indicate whether they are open or closed, substantially as described.

19. The combination with a shearing-machine of a plurality of electric switches supported adjacent to a shearing edge of said machine so as to be operated by a sheet of material projecting over said edge, a current-generator and current-indicating means all connected in circuit with the switches, substantially as described.

20. The combination with a shearing-machine of a bar movably supported adjacent to a shearing edge of said machine, electric switches carried by the bar and having portions projecting therefrom toward the shearing edge so that said switches will be operated by a piece of material projecting over said shearing edge, with indicating means and a current-generator in circuit with said switches, substantially as described.

21. The combination in a plate-shearing machine of means for cutting along a plurality of sides of a plate and automatically-acting means for positively removing from the machine the pieces cut off of said plate, substantially as described.

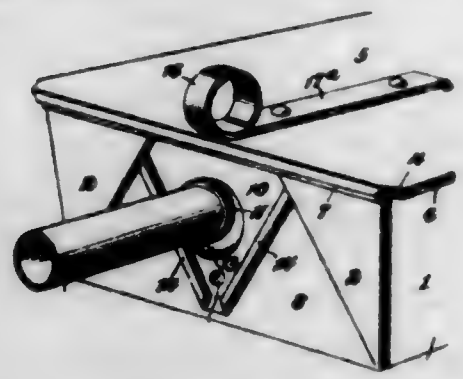
22. The combination in a machine having means for shearing a plate along more than two of its sides, of a pivoted lever in the path of the pieces cut from the plate and means for actuating said lever to cause it to automatically remove said pieces from the machine, substantially as described.

23. The combination in a plate-shearing machine of a lower bolster having shearing edges along three of its sides, a plunger having knives coöperating with said other edges and an automatically-acting device for positively and successively removing the pieces sheared from successive plates, substantially as described.

24. The combination in a shearing-machine having means for shearing a plurality of edges of a plate, of a lever adjacent to one of the shearing edges of the machine and means for periodically moving said lever to cause it to engage and remove successively the pieces cut from the plates, substantially as described.

25. The combination in a shearing-machine having means for cutting the edges of a plate, of a lever having a portion movable in a line substantially at right angles to the line of motion of the pieces sheared from successive plates, and means for periodically actuating said lever to cause it to engage a cut-off piece and discharge the same from the machine, substantially as described.

804,110. CORN-POPPER. WILLIAM T. FAVORITE and CLARENCE V. SCHERMERHORN, Sturgis, Mich. Filed Mar. 25, 1905. Serial No. 251,042.



Claim.—1. In a device of the class described, the combination with a receptacle provided with folded corner portions arranged on the exterior of the end wall, of a handle having an attachment-plate fitted against the end wall and detachably interlocked with the folded corner portions, and means for retaining the attachment-plate in its interlocked relation.

2. In a device of the class described, the combination of a receptacle having folded corner portions or flaps arranged on the exterior of the end wall, the latter being provided with a top flange engaging the folded corner portions or flaps, a handle having an attachment-plate interlocked with the folded corner portions or flaps and with the said flange, and means for retaining the attachment-plate in its interlocked relation.

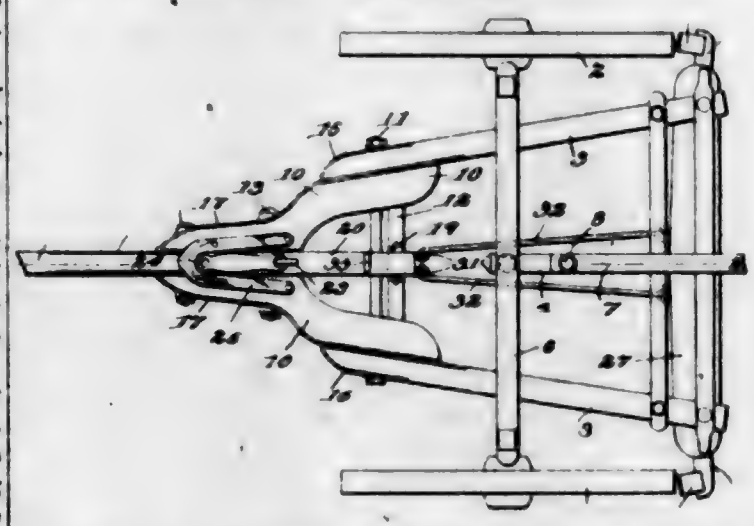
3. In a device of the class described, the combination of a receptacle having substantially triangular folded corner portions or flaps arranged on the exterior of the end wall, the latter being provided with a flange for engaging the corner flaps, a handle having an attachment-plate tapered downwardly, the upper enlarged portion of the plate being interlocked at the corners with the folded corner portions or flaps of the receptacle, and a fastening device retaining the attachment-plate in its interlocked relation with the receptacle.

4. In a device of the class described, the combination of a receptacle, a slidable lid or cover arranged on the receptacle, and a metal strip secured to the lid or cover and having one end bent inwardly to form a lug or projection for limiting the sliding movement of the lid or cover, the other end being bent to form a handle.

5. In a device of the class described, the combination of a receptacle, a slidable cover or lid, and a metal strip secured to the cover on the exterior thereof and having one end bent downwardly at right angles to form a lug or projection, said lug or projection piercing the lid or cover and arranged to limit the sliding movement thereof, and the other end of the metal strip being extended and bent to form a handle for the lid or cover.

6 In a device of the class described, the combination of an imperforate receptacle having an open top, a cover or lid slidably engaging the top of the receptacle and having a portion thereof perforated, and means for limiting the sliding movement of the cover or lid to expose a portion of the receptacle, the remainder of the receptacle being then covered by the perforate portion of the cover or lid.

804,111. VEHICLE-BRAKE. PETER H. FULLER, Picture Rocks, Pa. Filed Feb. 26, 1905. Serial No. 247,690.



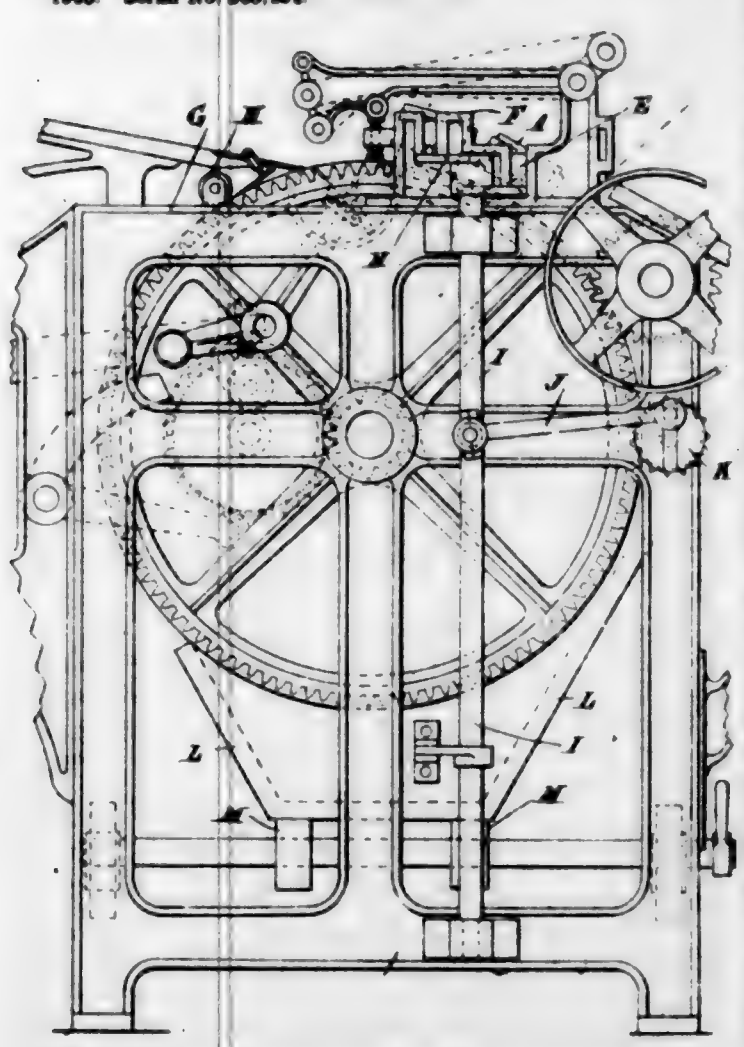
Claim.—1. A running-gear having hound members, tongue-hounds pivotally connected therewith, a cross-brace connecting and spacing the tongue-hounds, a tongue connected slidably with and supported by the tongue-hounds and cross-bar, a tongue-iron engaging the upper and lower sides and the rear end of the tongue and extended forwardly to form an abutment, and a U-shaped buffer member supported upon the tongue-hounds and disposed in the path of said abutment.

2. A running-gear having hound members, tongue-hounds connected pivotally therewith, a tongue supported slidably between the tongue-hounds, a tongue-iron engaging the upper and lower sides and the rear end of the tongue and extended forwardly to form an abutment, a buffer member connected with the tongue-hounds and extending across the tongue in the path of the abutment, pivotally-supported brake-levers, and connecting means between said brake-levers and the tongue-iron.

3. A running-gear having hound members, tongue-hounds connected pivotally therewith, a tongue supported slidably between the tongue-hounds, a tongue-iron engaging the upper and lower sides and the rear end of the tongue and having rearwardly-extending vertically-disposed ears, pivotally-supported brake-levers, and link-rods pivotally connecting said brake-levers with the ears of the tongue-iron.

4. A running-gear having hound members, tongue-hounds, a bolt connecting the tongue-hounds pivotally with the hounds of the running-gear, a cross-bar connecting and spacing the tongue-hounds, a tongue supported slidably between the tongue-hounds and having a slot engaging the cross-bar and the pivotal bolt and a vertical aperture intersecting said slot, a tongue-iron engaging the upper and lower sides and the rear end of the tongue and extending forwardly to constitute an abutment, a buffer member connecting the tongue-hounds and disposed in the path of the abutment, pivotally-supported brake-levers, rods connecting said levers with ears at the rear end of the tongue-iron, and a locking-pin adapted for engagement with the vertical aperture in the tongue when the latter is in its forward position, thereby engaging the pivotal bolt and obstructing rearward movement of the tongue.

804,112. **BRONZING-MACHINE.** DOUGLAS GARDNER, Upton Park, and JOHN O. NEWTON, South Woodford, England. Filed June 2, 1905. Serial No. 263,484.

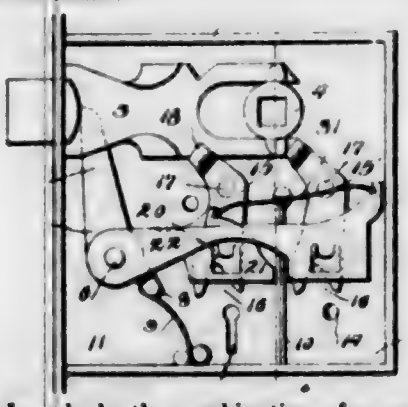


Claim.—1. In a bronzing-machine, the combination with oscillating or vibrating mechanism, of troughs for containing the bronzing material and cooperating with said mechanism, said troughs having bottoms of chamois-leather, flannel, or the like through which the bronzing material is adapted to pass, the paper or other substance to receive the bronzing material being fed against the said trough-bottoms.

2. In a bronzing-machine, the combination with oscillating or vibrating mechanism, of means for removing the surplus bronze from the material treated, consisting of a body having a top covering of flannel, chamois-leather, or the like, which has contact with the material treated.

3. In a bronzing-machine, the combination with oscillating or vibrating mechanism, of a trough having bottom coverings of chamois-leather, flannel, or the like, and against which the material to be bronzed is passed, the bronzing-powder passing through the said trough-bottom, and a box having a top covering of chamois-leather, flannel or the like, for removing the surplus bronze-powder from the material treated.

804,113. **LOCK.** GEORGE K. GLENN, Pasadena, Cal. Filed Nov. 1, 1904. Serial No. 230,967.



Claim.—1. In a lock, the combination of a casing, a bolt, a swinging bolt-locking tumbler provided with a portion to be engaged by a key and a coupling projection, and a swinging controlling-tumbler having opposite keepers adapted to be automatically engaged by said projection at the limits of the reverse movements of said tumblers to lock said locking-tumbler in projected or retracted position, and adapted to be adjusted by the key to disconnect said projection from one or the other of said keepers, substantially as described.

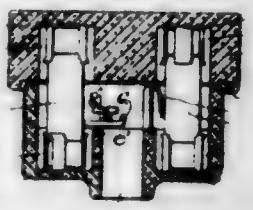
2. In a lock, the combination of a casing, a bolt, a swinging bolt-locking tumbler provided with a portion to be engaged by a key, and a coupling projection, and a pivoted controlling-tumbler formed with a slot therein having communicating recesses or keepers to receive said projections and lock said locking-tumbler in projected or retracted positions, said controlling-tumbler having a portion below the slot adapted to be engaged by a key to lift said tumbler and bring said projection into and out of engagement with said keepers, the projection being automatically engaged with the keepers alternately at the limits of the reverse movements of said tumblers.

3. In a lock, the combination of a casing having keyholes in the opposite sides thereof disposed out of alinement, a bolt, locking means to engage the bolt, said locking means having portions for operation by keys inserted through said keyholes, and controlling means, said locking and controlling means being provided with interengaging members whereby the locking means may be secured in projected or retracted position.

4. In a lock, the combination with a casing provided with keyholes in the opposite sides thereof, said keyholes being disposed out of alinement, a bolt, and sets of locking and controlling tumblers governed, respectively, by keys inserted through said holes from the inside and outside, each set of tumblers comprising a locking-tumbler having a projection, and a controlling-tumbler having keepers coacting with said projection to hold the locking-tumbler in projected or retracted position.

5. In a lock, the combination of a casing, a sliding bolt, a swinging bolt-locking tumbler adapted to engage and lock the bolt in projected position, and a swinging controlling-tumbler, said tumblers being provided with interengaging means brought into operative engagement by reverse swinging movements thereof to hold the locking-tumbler in projected or retracted position.

804,114. **ELECTRICAL ROSETTE.** GILBERT W. GOODRIDGE, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Nov. 21, 1904. Serial No. 233,676.



Claim.—1. A rosette, comprising an insulating-base and insulating-cap, the latter having a central passage for the wires and on opposite sides of said passage coinciding vertical recesses in the cap and base with clips in the recesses in both cap and base to receive cartridge-fuses in a vertical position and means to secure the cap to the base.

2. A rosette, comprising an insulating-base and insulating-cap, the latter having a central passage for the wires, and both base and cap having vertical recesses, with clips in the recesses in both base and cap to receive cartridge-fuses in a vertical position and means independent of the cartridge-fuses to secure the cap to the base.

3. A rosette, having vertical recesses in the cap and base with spring-clips in the recesses to receive the cartridge-fuses in a vertical position, the clips in the cap being stronger than those in the base, and means to secure the cap to the base.

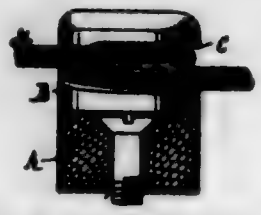
4. A rosette or the like, comprising a cap and base, each having a recess and spring-clips in the recesses to receive a cartridge-fuse, the clip in the cap being stronger than that in the base, and means to secure the cap to the base.

5. A rosette having vertical recesses in the cap and base with spring-socket clips therein having laterally-projecting parts and plates on cap and base for wire connections, to which plates said laterally-projecting parts of the socket-clips are connected, and means to secure the cap to the base.

6. A rosette, comprising a base and cap, one having notched jaws diametrically opposite to each other, while the other has lugs with beveled catches standing in reversed position and springs to force the catches into engagement with the notches of the jaws by a turning movement of the cap.

804,115. **ELECTRICAL INSULATOR.** GILBERT W. GOODRIDGE, Bridgeport, Conn. Filed May 5, 1905. Serial No. 259,980.

Claim.—1. An insulator-post, having a circumferential spiral groove to receive and hold conductor-wire, the post being of angular cross-section at the groove, which is of varying depth between all the angles.



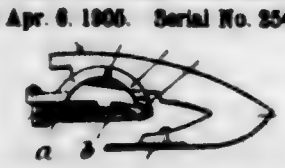
2. An insulator having a cylindrical body with a circumferential spiral groove around it, the body being of triangular section at the groove.

804,116. ARTIFICIAL TOOTH FOR BRIDGEWORK. HARRY B. GREGORY, Newberry, Mich. Filed Apr. 13, 1905. Serial No. 255,386.



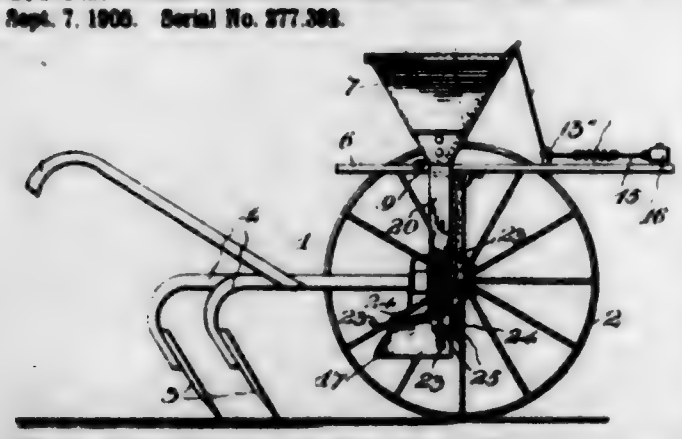
Claim.—An artificial tooth having secured to its inner side a loop, a cap arranged over said loop, an individual backing pressed over said cap and the inner side of the tooth, said backings being connected together to form a bridge, and said artificial teeth being secured in said individual backings, substantially as described.

804,117. PEA AND CLOVER HARVESTER. JOSEPH GUELIG, Lena, Wis. Filed Apr. 6, 1905. Serial No. 254,207.



Claim.—In combination with the cutting apparatus of a mower, an upwardly-arched clip having a socket at its front end fitting on the front end of one of the fingers and having its rear end bearing on and provided with means to detachably clamp it to the finger-bar, and a lifting-guard comprising an upper arm and a lower arm, united together at their front ends, said upper arm having a rearwardly-inclined upper side and pivotally connected near its rear end to the clip, for vertical angular movement, and said lower arm extending rearwardly under the said finger and having at its lower side a rearwardly-extending runner.

804,118. PLANTER. HAMILTON D. GUFFEY, Unionville, Mo. Filed Sept. 7, 1905. Serial No. 277,392.



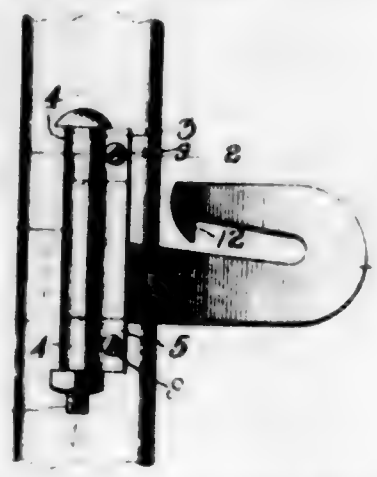
Claim.—1. In a planter attachment for cultivators, a dropper comprising two curved members spaced apart to form a semicircular discharge-opening, a spout above the dropper, adjustable valves in said spout and a hopper disposed above the valves, substantially as described.

2. In a planter attachment for cultivators, a hopper, an agitator mounted to move up and down therein, and a flexible and elastic connection leading from the agitator to a movable part of the cultivator-vehicle.

3. In a planter, a segmental dome-shaped dropper, comprising two curved members spaced apart to provide a semicircular discharge-opening, a spout above the dropper, a series of valves in said spout and means for adjusting said valves to deflect the seed and regulate the feed, substantially as described.

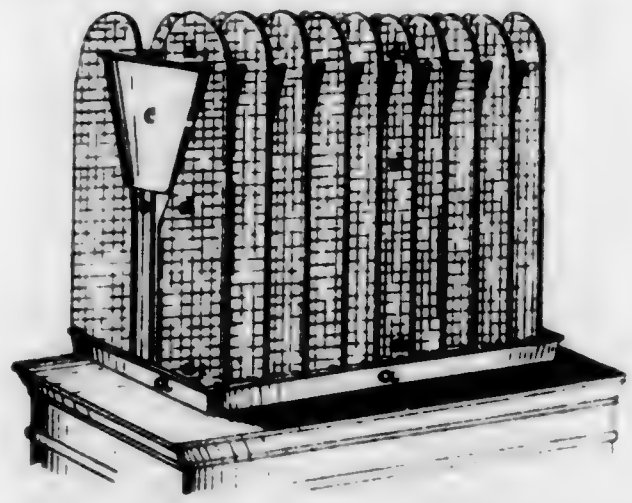
4. In a planter, a dropper comprising curved spaced members having a semicircular discharge-opening, a spout above the dropper, valves in the spout, said valves being arranged in pairs, one pair being hinged at right angles to the others, substantially as described.

804,119. HAME TUG-HOOK. SAMPSON HARRELL, Whigham, Ga. Filed June 22, 1905. Serial No. 266,477.



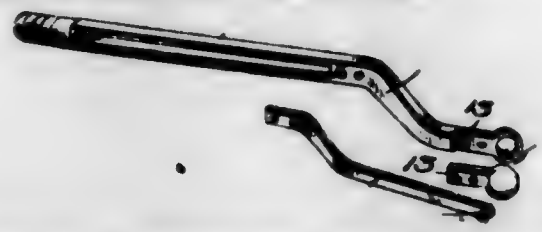
Claim.—The combination with a hame formed with apertures, of a tug-hook having an eye at one end, a bracket formed from a metal plate by cutting and bending the same to form at the ends of the bracket spaced eyes or loops adapted to receive the eye of said hook between them, at one side of said bracket an attaching-flange adapted to be secured to said hame and at the other side of said bracket with projecting tongues adapted to be passed through the apertures in said hame and to have their ends bent over, and a pivot pin or bolt passed through the eyes in said plate and said hook, substantially as described.

804,120. HUMIDIFIER. JEAN HAAS, Wiesbaden, Germany. Filed Aug. 4, 1904. Serial No. 219,493.



Claim.—A humidifier comprising a pan, a trough located above said pan, standards connecting said trough to said pan, a series of elements of porous material as felt, pumice-stone, &c. arranged at each longitudinal edge of said trough and extending at right angles thereto, goosenecks formed at the upper ends of the elements and adapted to support the elements upon the edge of said trough, the lower ends of the elements extending into the said pan substantially as and for the purposes set forth.

804,121. MOWER-PITMAN. GEORGE B. HAWKINS, Shepherd, Mich. Filed May 5, 1905. Serial No. 259,013.

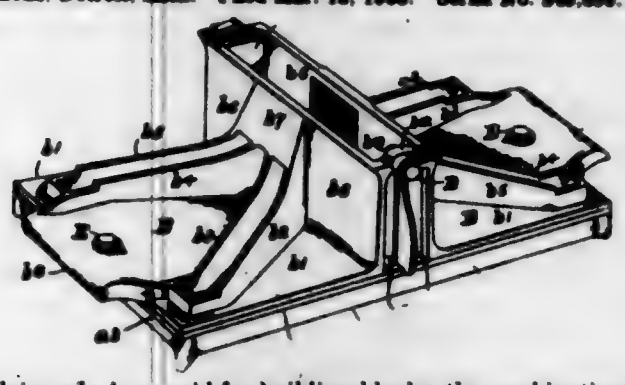


Claim.—1. A mower-pitman having a downwardly-curved outer end, means whereby said end is connected to the cutter-bar head, and a brace-bar connected to said pitman and loosely engaging said cutter-bar head, substantially as described.

2. In a device of the character described, a cutter-bar head, a

mower-pitman having a downwardly-curved cutter-bar attachment end, a separable socket member of a cutter-bar joint arranged on said end of the pitman, said socket member being adapted to engage the ball member of the joint formed on said cutter-bar head, a brace-bar connected at its upper end to said pitman, there being a laterally-projecting lug formed on the lower end of said brace and engaging an elongated opening formed in an attaching-lug on said cutter-bar head, substantially as described.

804,122. MOLD FOR BUILDING-BLOCKS. CHARLES J. W. HAYES, Detroit, Mich. Filed Mar. 13, 1905. Serial No. 249,699.



Claim.—1. In a mold for building-blocks, the combination of a receptacle for molding a part of the block and a cover with flanged apertures for molding the remainder of the block, substantially as described.

2. In a mold for artificial-stone blocks, in combination with a mold for the face of such block, a plate adapted to fit thereon having walled apertures adapted to receive and mold the material for the back of the block, substantially as described.

3. In a mold for ribbed building-blocks, the combination of a tray for molding the tabular part of the block and an apertured rib-form fitting thereon for molding the back of the block, substantially as described.

4. In a mold for making ribbed and similar slab building-blocks, the combination of a tray part for molding the slab part of said block and parts hinged together and having flanged apertures adapted to fit over and mold projections on the back of said slab part of block, substantially as described.

5. In a mold for artificial stone, the combination of a tray, a plural-part jointed and apertured form fitting thereon, and means for supporting said form when the joint is operated, substantially as described.

6. In a mold for building-blocks, in combination with a receptacle for molding a part of the block, jointed forms adapted to engage on said receptacle, and plates fitting between said forms for molding the remainder of said block, substantially as described.

7. In a mold for building-blocks, the combination of a tray for molding therein a part of the block, and walls adapted to engage thereon for molding other parts of said block, substantially as described.

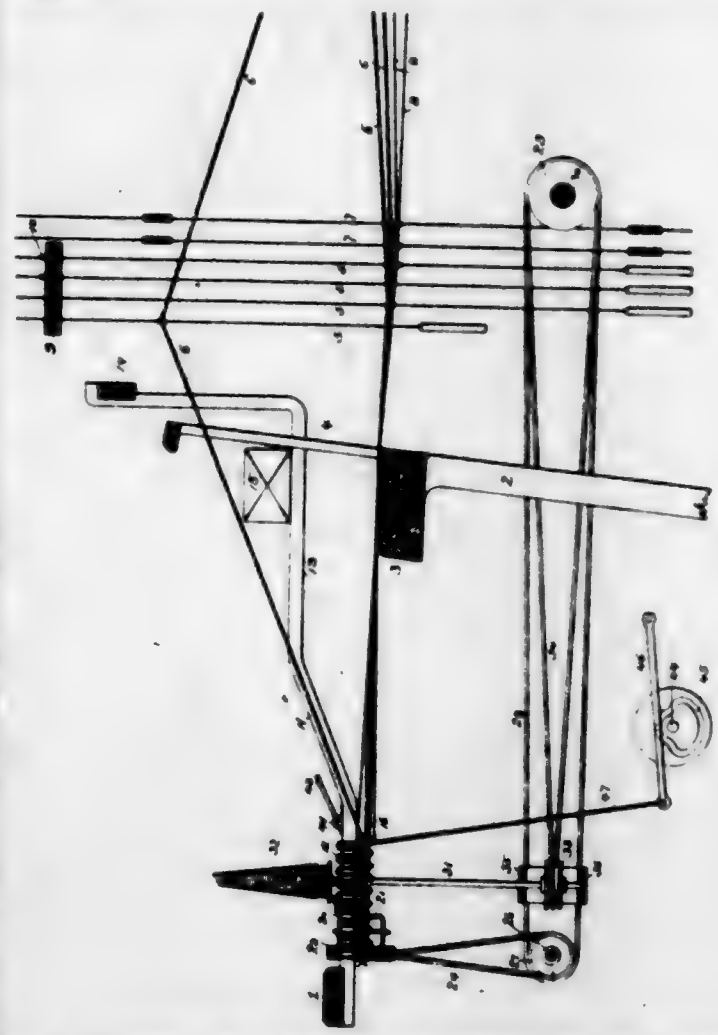
804,123. LOOM FOR WEAVING PILE FABRICS. ALFRED HEALD, Philadelphia, Pa. Filed Jan. 3, 1905. Serial No. 239,408.

Claim.—1. The combination, in a loom for weaving pile fabrics, of pile-warp-thread-shedding mechanism and fingers for supporting a weft-thread over which loops of said pile warp-thread are formed, said fingers having elevated portions constituting a race for a shuttle whereby said pile-supporting weft-thread is inserted, substantially as specified.

2. The combination, in a loom for weaving pile fabrics, of means for shedding pile warp-threads and binding warp-threads, a lay having a shuttle for inserting a weft-thread to be interwoven with the binding warp-threads and fingers for supporting a weft-thread over which loops of the pile warp-thread are formed, said fingers having elevated portions constituting a race for the shuttle which introduces said supporting weft-thread, substantially as specified.

3. The combination, in a loom for weaving pile fabrics, of pile-warp-thread-shedding mechanism, a lay having a reed, fingers for supporting a weft-thread over which loops of the pile warp-thread are formed, said fingers having elevated portions extending through the spaces of the reed and supports for said fingers located behind the reed, said elevated portions of the fingers constituting a race for the shuttle which introduces the supporting weft-thread, substantially as specified.

4. The combination, in a loom for weaving pile fabrics, of mechanism for shedding pile warp-threads and binding warp-threads, a swinging lay having a reed and a race for a shuttle carrying a weft-thread for being interwoven with such binding warp-threads, fingers for supporting a weft-thread over which loops of the pile warp-thread are formed, said fingers having elevated portions passing through the spaces of the reed and supports for said fingers in the rear of the reed, said elevated portions of the fingers constituting a race for the shuttle which carries the supporting weft-thread, substantially as specified.



5. The combination, in a loom for weaving pile fabrics, of a series of fingers, means for forming loops of pile-thread with tops projecting above said fingers and a cutting-knife consisting of a perforated metallic belt mounted upon supporting and driving pulleys one of which is toothed for positively engaging with the belt-knife, substantially as specified.

6. The combination, in a loom for weaving pile fabrics, of means for forming loops of pile warp-thread over a supporting weft-thread, means for releasing said supporting weft-thread and means for winding up the released weft-thread, substantially as specified.

7. The combination, in a loom for weaving pile fabrics, of means for forming loops of pile warp-threads over a supporting weft-thread, means for releasing said supporting weft-thread and means for winding up the released weft-thread, said winding device being frictionally driven, substantially as specified.

8. The combination, in a loom for weaving pile fabrics, of means for forming loops of pile warp-thread over a supporting weft-thread and fingers upon which said weft-thread is mounted, said fingers being thickened at the top so as to reduce the width of the spaces between them, substantially as specified.

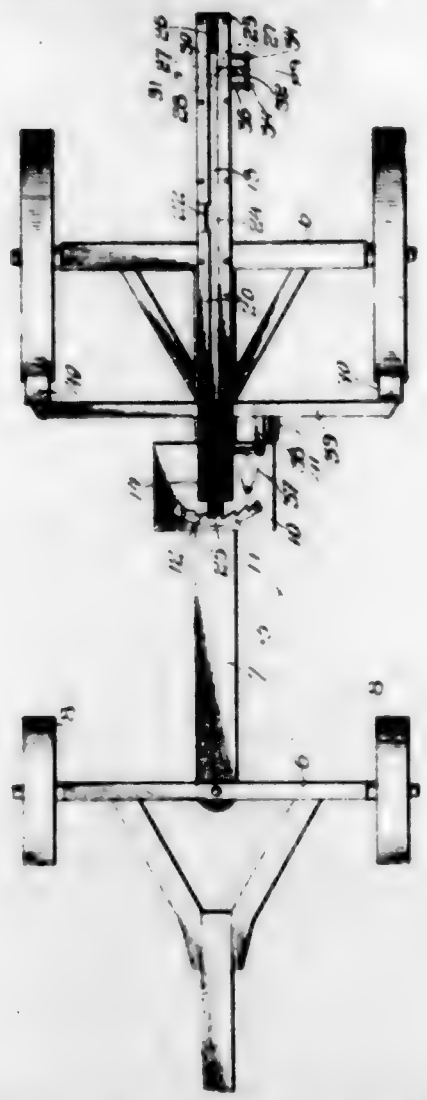
9. The combination, in a loom for weaving pile fabrics, of means for forming loops of pile warp-thread over a supporting weft-thread, fingers upon which said supporting weft-thread is mounted and a gripping device at each selvage of the fabric for engaging the supporting weft-thread at a point between said selvage and the shuttle, substantially as specified.

10. The combination, in a loom for weaving pile fabrics, of means for forming loops of pile warp-thread over a supporting weft-thread, fingers upon which said supporting weft-thread is mounted, a gripping device at each selvage of the fabric for engaging the supporting weft-thread at a point between said selvage and the shuttle, and means for opening and closing said gripping devices, substantially as specified.

11. The combination, in a loom for weaving pile fabrics, of warp-thread-shedding mechanism, fingers having elevated inner ends, and a reed having beat wires, whereby wide lower spaces are formed for the reception of the bunched warp-threads narrower up-

per spaces for the reception of the shedded warp-threads, and, side by side with said narrow upper spaces, other spaces for receiving the elevated portions of the fingers, substantially as specified.

804,124. BRAKE MECHANISM. WILLIAM HEFFLIN, Michigan Bar, Cal. Filed Jan. 19, 1905. Serial No. 241,526.

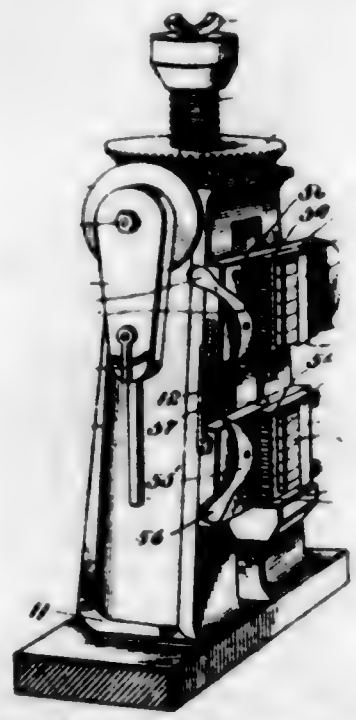


Claim.—1. In a mechanism of the class described, the combination with movable brake-shoes, of a lever connected with the shoes for operation thereof, said lever having a passage therewithin, a dog slidably disposed in the passage and movable to project therefrom at one end, yieldable means for holding the dog normally in such position, a latch disposed for engagement by the outwardly-projecting end of the dog when in its normal position, said dog having a passage therethrough provided with a bevel-wall and a pin slidably engaged in the lever and adapted for engagement with the bevel-wall of the passage to move the lever out of its normal position, said dog being arranged for engagement with the latch to hold the shoes in operative position.

2. In a lever mechanism for brakes the combination with a plate, of a lever pivoted to the plate, an arcuate ratchet-bar mounted upon the plate concentric with the pivot-point of the lever, a dog slidably mounted in the lever and lying normally projected therefrom at one end and in engagement with the ratchet-bar to prevent movement of the lever, said dog having a tapered passage therethrough, means for holding the dog yieldably in its normal position, a pin slidably engaged in the lever and having a beveled face, said pin being disposed for movement to bring its beveled face into engagement with a slanting wall of the tapered passage to move the dog against the action of the holding means, and a hand-plate carried by the pin and adapted to be grasped simultaneously with the lever for movement of the dog out of engagement with the ratchet-bar when the lever is to be operated.

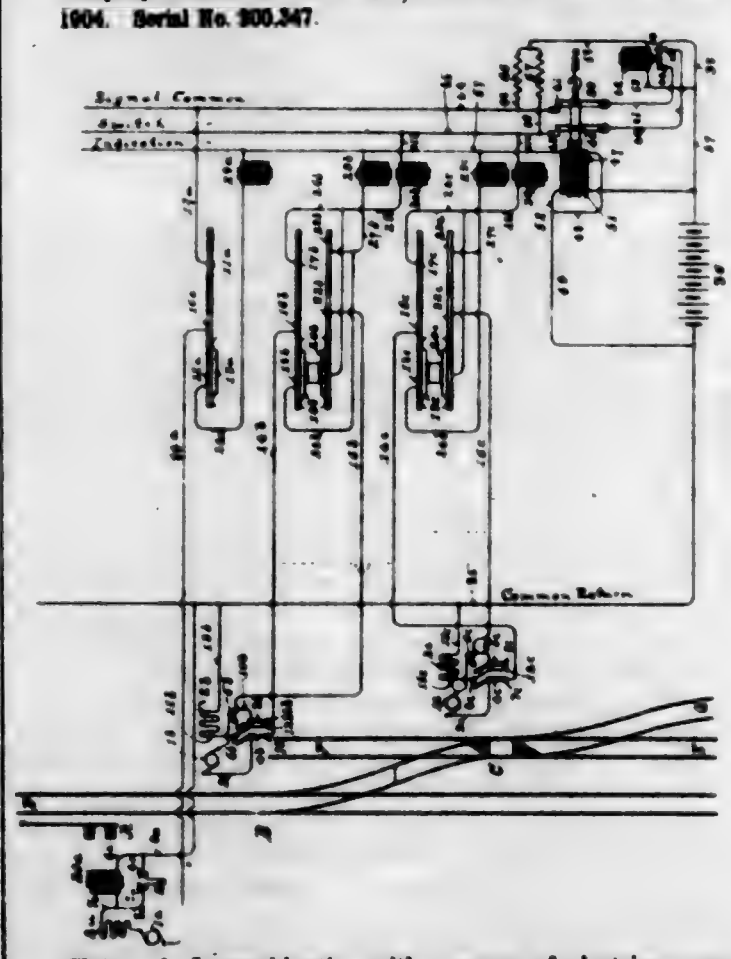
804,125. TIRE-SHRINKER AND JACK. WALTER H. HOBBS and EDWIN A. BUCK, Seattle, Wash. Filed Dec. 11, 1903. Serial No. 184,715.

Claim.—1. A convertible tool of the class described comprising a stand having a central passage and a longitudinal slot in the vertical face thereof communicating with the passage, a foot slidably disposed in the passage and slot and projecting from the latter beyond the face of the stand, means connected with the foot for sliding it vertically in the stand, and tire-clamping devices carried respectively by the foot and the face of the stand above the foot, and removable therefrom.



2. A tool of the class described, comprising a stand having a central passage and a longitudinal slot in one face thereof communicating with the passage, a screw in the passage, a foot pivotally connected with the lower end of the screw and projecting through the slot beyond the face of the stand and with which the screw is engaged and through which it may move longitudinally and plates removably mounted upon the projecting portion of the foot and the upper portion of the stand, respectively, each of said plates having an outwardly-directed lug, a shiftable gripping-jaw having rearwardly-directed guide-arms associated with the said lug and having their free ends turned toward each other in position to engage said lug and limit the movement of the jaw in one direction, spacing-blocks removably disposed between the jaw and the lug, a second gripping-jaw pivoted to the aforesaid plate in operative relation to the first-named jaw and means for rotating the aforesaid element at the top of the stand.

804,126. RAILWAY SWITCHING AND SIGNALING APPARATUS. WHITMORE K. HOWE, Buffalo, N. Y., assignor to Taylor Signal Company, Buffalo, N. Y., a Corporation of New York. Filed Mar. 28, 1904. Serial No. 200,347.

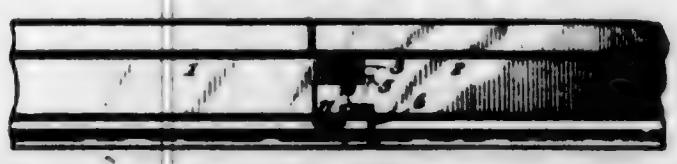


Claim.—1. In combination with a source of electric energy a plurality of railway switches and signals, motors and mechanisms

for operating the same, operating-circuits, an electromagnetic cut-out for cutting off said battery in the event of a cross between any active wire and any wire leading to the opposite pole of the battery, a conductor common to all switch-motor circuits, a conductor common to all signal-motor circuits, a shunt-circuit around said cut-out, a conductor, and a resistance-coil connecting said shunt-circuit with said signal common, substantially as set forth, for the purpose of holding signals properly set prior to such cross from going to the danger position in the event of a cross and the action of said cut-out.

2. In combination with a source of electric energy, a plurality of railway switches and signals, motors and mechanisms for actuating the same, operating-circuits, an electromagnetic cut-out for cutting off said battery in the event of a cross between any active wire and any wire leading to the opposite pole of the battery, an auxiliary circuit-breaker relay for cutting off said battery at a second point, a conductor common to all switch-motor circuits, a conductor common to all signal-motor circuits, a conductor connecting the coil of said circuit-breaker relay with said switch common, a conductor connecting said coil with said signal common, and a resistance-coil in each of said conductors leading from said coil to said common conductors, substantially as set forth, for the purpose of holding signals properly set prior to such cross from going to the danger position in the event of a cross and the action of said cut-out.

804,127. RAIL OR OTHER JOINT. WILLIAM J. HUCKABAY, Sparta, La. Filed May 31, 1905. Serial No. 263,122.



Claim.—1. In a rail or other joint, the combination of two rails or members provided with means for detachably interlocking their contiguous ends and for holding the rails or members against vertical, longitudinal and transverse movement on each other without the use of fastening devices, and for pivotally connecting the rails or members to permit the interlocking parts to be swung into and out of engagement with each other.

2. In a rail or other joint, the combination of two rails or members provided with means for interlocking their contiguous end and for holding the same against vertical, longitudinal and transverse movement on each other, when the rails or members are in operative position, said rails or members being separable when moved from such operative position.

3. In a rail or other joint, the combination of two rails or members provided with means for detachably interlocking them and for holding them against longitudinal and transverse movement on each other, said means embodying a tongue projecting from one of the rails or members, and a socket formed in the other rail or member and open at one side, the tongue and socket forming a pivotal connection on which the rails are adapted to turn to connect and disconnect them.

4. In a rail or other joint, the combination of two rails or members provided with means for interlocking them and for holding them against longitudinal and transverse movement on each other, said means embodying a tongue projecting from one of the rails or members, and a socket formed in the other rail or member and open at one side, the tongue and the socket being rounded at the bottom, and the rails or members being separable by partially rotating one on its longitudinal axis with relation to the other.

5. In a rail or other joint, the combination of two rails or members having a tongue-and-socket connection adapted to hold the rails or members against transverse movement on each other, said rails or members being also provided with interlocking parts arranged to hold the rails or members against longitudinal movement on each other, and the said tongue and socket forming a pivotal connection on which the rails are adapted to turn to connect and disconnect them.

6. In a rail or other joint, the combination of two rails or members provided at their upper portions with a tongue-and-socket connection, the socket being open at one side, and the tongue forming a pivot on which the rails or members are adapted to be partially rotated to connect and disconnect them, said rails or members being provided adjacent to the tongue-and-socket connection with correspondingly-recessed interlocking parts adapted to be carried into and out of engagement with each other by the said rotary movement of the rails or members.

7. In a rail or other joint, the combination of two rails or members provided at the upper portions of their ends with a tongue-and-socket connection and having their bottom portions overlapped and correspondingly recessed to interlock with the said tongue, forming a pivot on which the rails or members are adapted to be partially rotated to carry the overlapped interlocking front portions into and out of engagement with each other.

8. In a rail or other joint, the combination of two rails or members having an upper tongue-and-socket connection, one of the rails or members being provided with an extended bottom flange having an upwardly-projecting lug, and the other rail or member being recessed or cut away at the bottom and provided with a depending lug to interlock with the said lug.

9. In a rail or other joint, the combination of a rail or member provided at the upper portion with a projecting horizontal tongue and having a projecting bottom flange spaced from the tongue and provided with an upwardly-extending lug, and a rail or member having a socket for the said tongue and recessed or cut away at the bottom for the reception of the said bottom flange and provided with a depending lug or foot to interlock with the said lug.

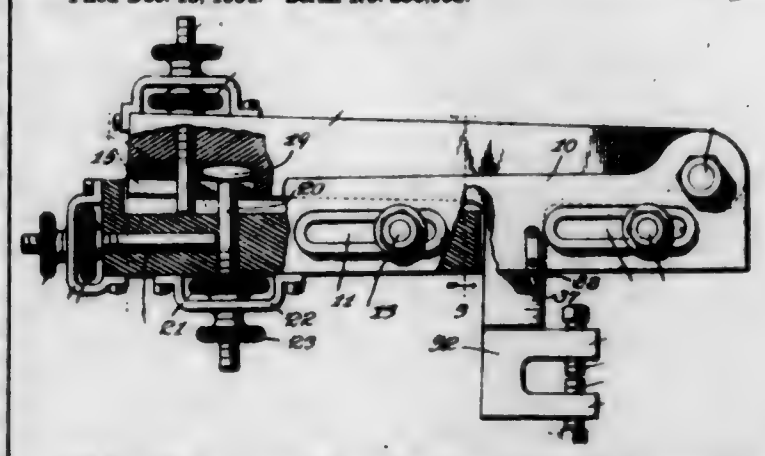
10. In a rail or other joint, the combination of two rails or members having a tongue-and-socket joint and provided adjacent to the same with interlocking parts, said tongue-and-socket joint forming a pivotal connection on which the rails or members are adapted to turn to carry the interlocking parts into and out of engagement with each other.

11. In a rail or other joint, the combination of two rails or members provided at the top with a tongue-and-socket joint and having their bottom portions overlapped and interlocked, said tongue-and-socket joint forming a pivotal connection on which the rails are adapted to turn to carry the interlocking bottom portions into and out of engagement with each other.

12. In a rail or other joint, the combination of two rails or members having their bottom portions overlapped and interlocked, said rails or members being also provided at the top with an independent joint or connection forming a pivotal connection.

13. In a rail or other joint, the combination of two rails or members provided at their upper and lower portions with independent joints or connections, one of the joints or connections being arranged to hold the rails or members against longitudinal movement, and the other joint or connection serving to hold the rails or members against lateral movement and forming a pivotal connection.

804,128. SAW-GUIDE. BENJAMIN F. HUFFMAN, Beverly, W. Va. Filed Dec. 15, 1904. Serial No. 236,966.

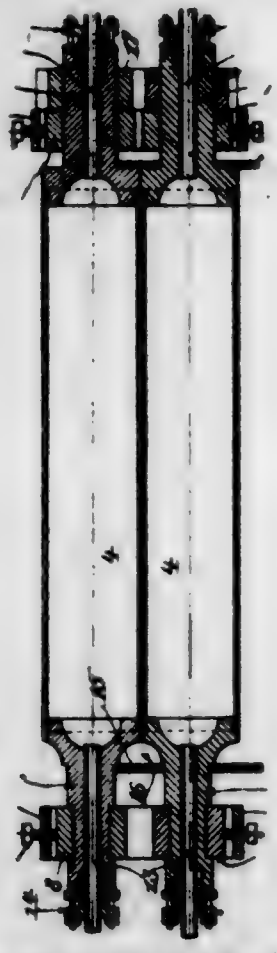


Claim.—1. In a saw-guide, a base member having a groove in the side thereof and a lateral aperture, a lever pivoted at one end to said bed member accommodated throughout its length in said groove and having a guide-carrying arm extending through said aperture, said lever being provided with a dovetailed groove at its free end, an adjusting-bolt having a head seated in said groove, said bolt-extending through an aperture in the base member and provided with an adjusting-nut, an adjusting-bolt extending through the free end of the lever, bearing against the base member and provided with an adjusting-nut, and a yoke connected with the lever and confining said nut.

2. In a saw-guide, a base member having means for adjustable connection to a stationary support and provided with an intermediate transverse aperture, a lever pivoted by one end to said base member and provided with a lateral arm extending through said transverse aperture and terminating in saw-guiding jaws, said lever having a dovetailed groove at its free end, an adjusting-bolt having a laterally-extending head movably engaging said groove and projecting by its threaded end through the base member, an adjusting-nut engaging said bolt and bearing against said base member, an

adjusting-bolt operating through the lever and bearing against the base member, a nut upon said lever-adjusting bolt bearing against the exterior of the lever, and a yoke connected with the lever and confining said nut.

804,129. APPARATUS FOR BLEACHING LARD COMPOUNDS. JEROME N. HUMPHREYS, Dallas, Tex., assignor to Armstrong Packing Company, Dallas, Tex., a Corporation of Texas. Filed May 1, 1905. Serial No. 258,251.



Claim.—1. Apparatus for use in bleaching lard compound, comprising hollow inclined rollers in contact throughout their length and having inlets and outlets at opposite ends, respectively, to permit the circulation therethrough of a cooling agent, rotating mechanism combined with said rollers, and means for discharging lard compound upon said rollers at the upper ends thereof.

2. Apparatus for use in bleaching lard compound, comprising hollow inclined rollers in contact throughout their length and having inlets and outlets at opposite ends, respectively, to permit the circulation therethrough of a cooling agent, rotating mechanism combined with said rollers, means for adjusting the degree of contact of said rollers, and means for discharging lard compound upon said rollers at the upper ends thereof.

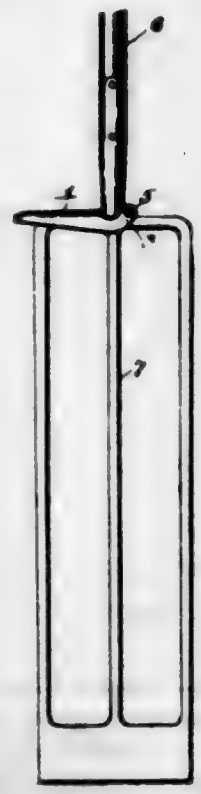
3. Apparatus for use in bleaching lard compound, comprising hollow inclined rollers in contact throughout their length and having inlets and outlets at opposite ends, respectively, to permit the circulation therethrough of a cooling agent, rotating mechanism combined with said rollers, means for discharging lard compound upon said rollers at the upper ends thereof, and means provided at opposite ends of said rollers for confining the lard compound thereto.

4. Apparatus for use in bleaching lard compound comprising a pair of hollow cylindrical rollers in contact throughout their length, a head secured in the opposite ends of each of said rollers, said heads being supported by bearings in a manner to impart an incline to the rollers, brine inlet and outlet pipes extending through the heads at opposite ends of each of said rollers, respectively, the heads at the lower ends of said rollers being circumferentially grooved to afford a recess, a collar carried by one of said heads and extending across said recess, rotating mechanism combined with said rollers, and means for discharging lard compound upon said rollers at the upper ends thereof.

804,130. SPADE ATTACHMENT. EUGENE C. JEWETT, Eagle Grove, Iowa. Filed July 28, 1905. Serial No. 271,657.

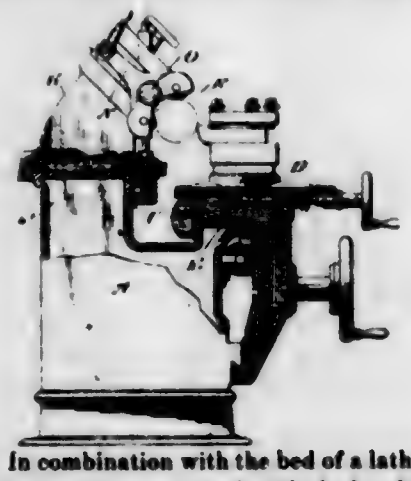
Claim.—1. A step for spades and the like comprising a body portion adapted to receive the edge of a spade and to rest thereon, integral arms extending from the body, and means for clamping the arms upon the spade.

2. A step attachment for spades and the like formed in a single piece of metal and comprising a tapered body portion U-shaped in cross-section and adapted to receive and rest upon one edge of a spade, arms extending from the large end of the body portion, and means engaging the arms for clamping the same upon the spade.



3. As a new article of manufacture a step attachment for spades and the like comprising a tapered body portion U-shaped in cross-section, integral spring-arms extending from the large end thereof, said arms being curved, and a clamping device engaging the arms.

804,131. STEADY-REST FOR LATHES. HOBART S. JOHNSON, Madison, Wis. Filed Jan. 25, 1904. Serial No. 190,549.



Claim.—1. In combination with the bed of a lathe, a tail-stock; a head-stock; a tool-carriage mounted on the bed and freely movable the length thereof; a supporting member carried by the bed and independent of the tool-carriage ways; and a plurality of steady-rests mounted upon and adjustable lengthwise of said member, said rests being at all times out of the path of travel of the tool-carriage and the tool carried thereby, whereby the tool may be traversed the full extent of the lathe without interference with the rests which still remain in supporting contact with the work, substantially as described.

2. In combination with the bed of a lathe, a tail-stock; a head-stock; a tool-carriage mounted on the ways of the bed and freely movable the length thereof; a supporting member carried by the bed and independent of the tool-carriage ways; and a steady-rest mounted upon and adjustable lengthwise of said member, said rest being at all times out of the path of travel of the tool-carriage and the tool carried thereby, whereby the tool may be traversed past the rest without interference therewith, while the rest still remains in supporting contact with the work.

3. In combination with the bed of a lathe having the usual ways a tool-carriage mounted thereon; a head-stock; a tail-stock; a supporting member independent of the tool-carriage ways, said member extending beyond the head-stock and tail-stock; and a steady-rest mounted upon and adjustable lengthwise of said member, said rest being at all times out of the path of travel of the tool-carriage and the tool carried thereby, whereby the tool may be traversed past the

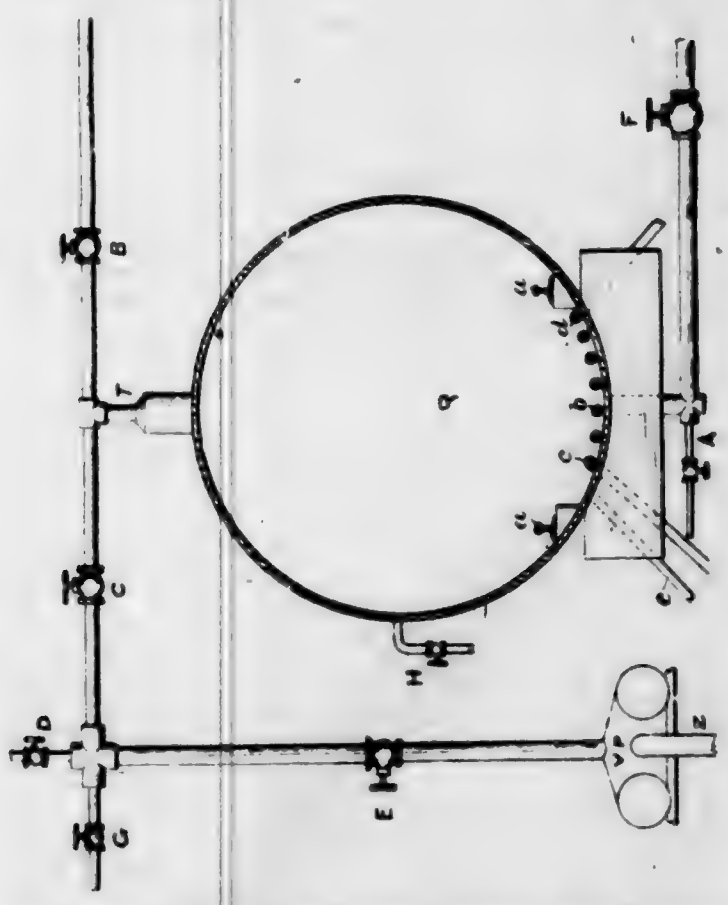
rest without interference therewith, while the rest still remains in supporting contact with the work and may be moved past the head-stock or tail-stock, substantially as described.

4. In combination with the bed of a lathe having the usual ways; a tool-carriage mounted thereon; a supporting member F extending upwardly from the rear portion of the bed; a series of supporting-carriages mounted upon and movable lengthwise of said member F; and a rest mounted upon each of said rest-supporting carriages and bearing upon the work at the rear thereof and out of the path of travel of the tool, whereby the tool may be traversed past the rests without interference therewith while the rests still remain in supporting contact with the work, substantially as described.

5. In combination with the bed of a lathe having the usual ways; a tool-carriage mounted thereon; a head-stock; a tail-stock; a supporting member independent of the ways for the tool-carriage; a carriage mounted upon said member; a slide mounted upon the carriage; a steady-rest pivotally mounted upon said slide, said rest standing at all times out of the path of travel of the tool-carriage and the tool carried thereby, whereby the tool may be traversed past said rest while the rest still remains in supporting contact with the work; and means for clamping the rest in its adjusted position

6. In combination with the bed of a lathe having the usual ways; a tool-carriage mounted thereon; a supporting member independent of the ways; a carriage mounted upon said member; a slide working in said carriage; means for adjusting said slide; a steady-rest pivotally connected to the slide, said rest standing at all times out of the path of travel of the tool-carriage and the tool carried thereby, whereby the tool may be traversed past the rest while the rest remains in supporting contact with the work; and means for clamping the rest in its adjusted position.

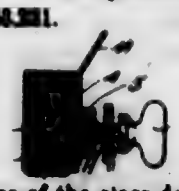
804,182. PROCESS OF SATURATING WOOD. WILLIAM C. JONES, WILLIAM R. J. STRATFORD, FRANK B. BYRNES, and EDWARD J. NIXON, TEXARKANA, TEX., assignors to The International Creosoting & Construction Co., Galveston, TEX., a Corporation. Filed July 13, 1904. Serial No. 216,256.



Claim.—1. The art of preserving wood which consists in first vaporizing the sap and other liquid substances therein, then drawing off the sap and other similar ingredients and maintaining the wood under a vacuum until thoroughly dried; then saturating it with a chemical preservative and subjecting it to a pressure of the fluid; then drawing off the surplus preservative, and finally subjecting the wood to a high pressure of air, and maintaining such pressure until the preservative has thoroughly penetrated all portions of the wood.

2. The art of preserving wood which consists in seasoning the timber substantially as described; injecting into it the quantity of preservative desired; and finally, under air-pressure, distributing the preservative more thoroughly through the timber.

804,183. ELECTRICAL BINDING-SCREW. WILLIAM KAHLENBERG, Chicago, Ill., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed May 22, 1903. Serial No. 158,231.



Claim.—1. In a device of the class described, the combination with a screw provided with threads only at its end and having a reduced shank portion between said threaded end and its head, of a washer, and a threaded opening for said washer for engaging said threaded end, the threaded end serving for retaining said washer upon the unthreaded shank portion of said screw, so that it may have free longitudinal motion thereon, substantially as described.

2. In a device of the class described, the combination with a screw threaded only at its end portion, of a receiving member having a threaded opening for receiving the threaded end of said screw, the unthreaded shank portion of said screw having a reduced diameter, a washer loosely engaging said unthreaded portion, and having a threaded opening for receiving said screw, the threads on said screw preventing said washer from leaving said shank portion otherwise than by being unscrewed from said screw, substantially as described.

3. In combination, a screw threaded only at its end portions, a receiving member for receiving said screw, the diameter of the unthreaded shank portion being less than the diameter at the base of the threads upon said end portion, a washer normally engaging said unthreaded and reduced shank portion to be longitudinally freely movable thereon, said washer having a threaded opening to engage the threaded end of said screw, the threads on said screw portion preventing removal of said washer otherwise than being unscrewed from the screw, substantially as described

4. In combination, a screw having a threaded end portion, a reduced shank portion between said threaded end and the head of said screw, a washer loosely and rotatably retained upon said reduced shank portion, a receiving member having a threaded opening for receiving the threaded end of said screw, and annular walls extending from said receiving member and disposed to surround said washer as said screw is screwed into said receiving member, substantially as described.

5. In combination, a mounting, a base member secured to said mounting, a screw having a threaded end passing through said base member into threaded engagement with said mounting, the shank portion of said screw between the threaded end and the head thereof having a reduced diameter, a washer loosely retained upon said unthreaded shank portion, and annular walls extending from said base member and disposed about the periphery of said washer as said screw is brought into threaded engagement with said mounting, substantially as described.

6. In combination, a mounting-block of insulating material, a terminal member secured thereto, a screw having threads only at its end and passing through an opening through said terminal member to engage a threaded opening in said mounting-block, the unthreaded shank portion of said screw having a diameter less than the diameter at the base of the threads of said screw, a washer normally engaging said unthreaded and reduced shank portion to be longitudinally freely movable thereon, said washer having a threaded opening to engage the threaded end of said screw, the threads on said screw preventing removal of said washer otherwise than being unscrewed therefrom.

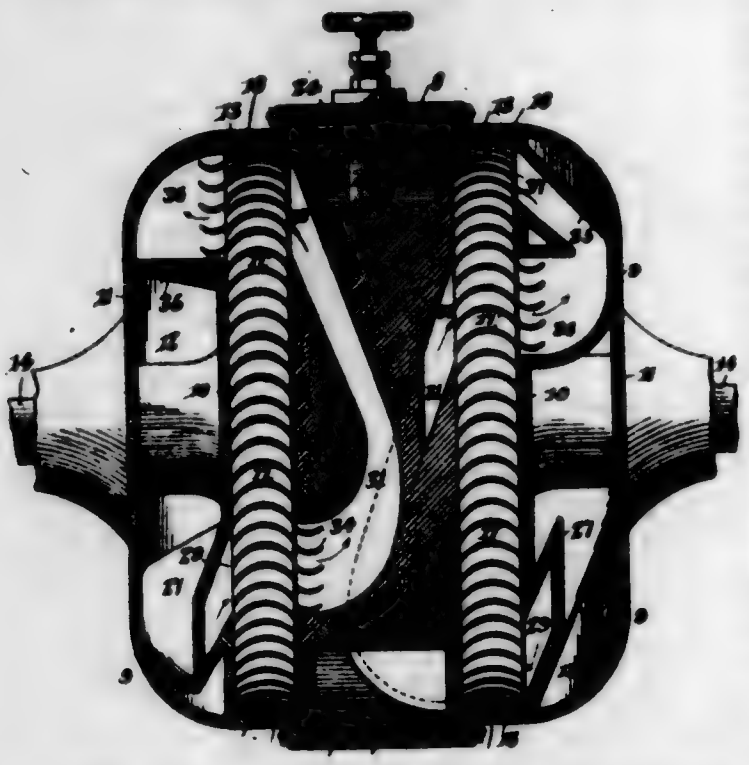
7. In combination, a mounting-block of insulating material, a terminal member secured thereto, a screw having threads only at its end and passing through an opening through said terminal member to engage a threaded opening in said mounting-block, the unthreaded shank portion of said screw having a diameter less than the diameter at the base of the threads of said screw, a washer normally engaging said unthreaded and reduced shank portion to be longitudinally freely movable thereon, said washer having a threaded opening to engage the threaded end of said screw, the threads on said screw preventing the removal of said washer otherwise than being unscrewed therefrom, and annular walls extending from said terminal member between which said washer is disposed as it is brought into clamping engagement with said terminal member, substantially as described.

8. The herein-described binding-screw, having a threaded washer under its head, mounted but free to turn on the neck of the screw, substantially as described.

9. The herein-described binding-screw having a reduced neck with a washer on the said neck, the washer being provided with a

central threaded opening for passing over the threaded portion of the screw.

804,184. ROTARY ENGINE. GEORGE A. KELLY, Longview, TEX. Filed Apr. 25, 1905. Serial No. 257,294.



Claim.—1. In a rotary engine, the combination with a cylinder or casing having hollow walls forming between them a piston-chamber, of a piston operating in the chamber, said hollow walls having walled channels provided with inlet and outlet mouths communicating with the sides of the piston-chamber and delivering motive fluid from one to the other across the same and against the piston, said channels having portions located in the spaces within the walls, and means for supplying motive fluid to said channels.

2. In a rotary engine, the combination with a cylinder or casing having a piston-chamber and a steam-chamber separate from the piston-chamber, of a piston operating in the piston-chamber, said cylinder or casing having walled channels communicating with the piston-chamber and having portions located in the steam-chamber, and means for introducing steam into the chamber and conducting the same to the different channels.

3. In a rotary engine, the combination with a cylinder or casing having walls forming between them a piston-chamber, of a rotary piston located in the chamber and having radially-disposed peripheral curved blades, one of said walls having a steam-space extending around the casing, and a flaring nozzle extending from the steam-space, communicating with the piston-chamber and located at an inclination to the blades, said walls furthermore having conducting-channels successively located on opposite sides of the piston-chamber and having spaced inlet and outlet mouths communicating therewith, the outlet-mouth of one being arranged opposite the inlet-mouth of the next adjacent, said channels having their intermediate portions contracted and flared toward the outlet-mouths, and certain of said channels having their walls located in the steam-space and means for controlling the supply of steam to the nozzle.

4. In a rotary engine, the combination with a cylinder or casing comprising outer walls and a partition between them, of spaced rotary pistons operating in the cylinder on opposite sides of the partition and having abutments, and means forming successively-arranged channels on opposite sides of each piston, said channels having mouths that open into the paths of movement of the abutments for directing motive fluid against such abutments.

5. In a rotary engine, the combination with a cylinder or casing, of spaced rotary pistons located within the cylinder and having peripheral blades, means for directing motive fluid against the blades of each piston, and means for directing such fluid away from the blades after its impact therewith and returning it under expansion to the same in rear of its first impact.

6. In a rotary engine, the combination with a cylinder or casing, of spaced rotary pistons located within the cylinder and having peripheral blades, means for directing motive fluid against the blades of each piston, and means successively located on opposite sides of each piston for directing such fluid away from the blades after its impact therewith and returning it under expansion.

7. In a rotary engine, the combination with a cylinder or casing, of spaced rotary pistons located within the cylinder and having blades, means located between the pistons for directing motive fluid outwardly and at an inclination to and against the blades of both pistons, and means located on the outer sides of both pistons for directing motive fluid away from the blades and returning it inwardly under expansion against the same.

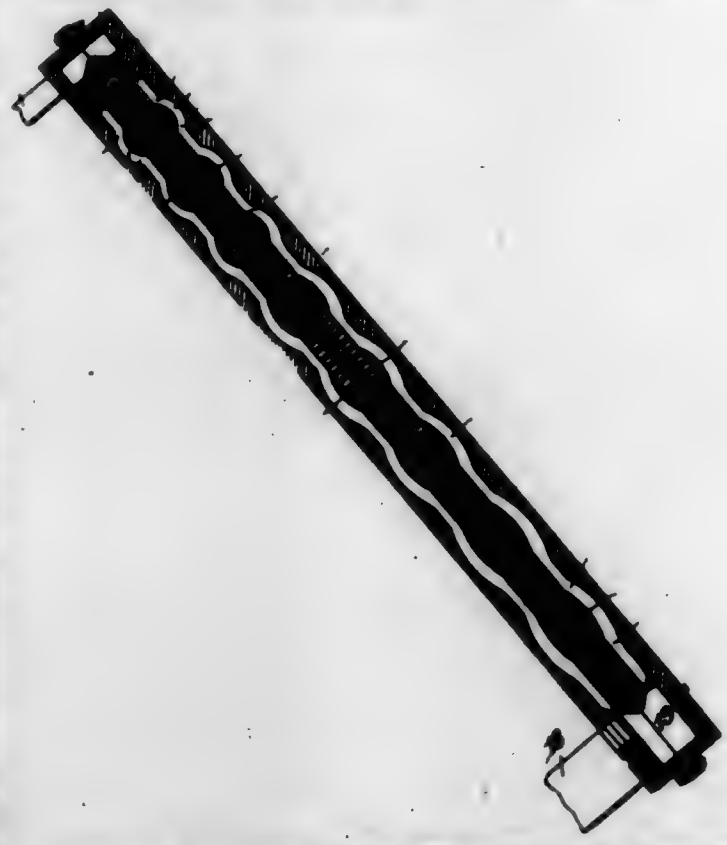
8. In a rotary engine, the combination with a cylinder or casing, having outer walls, of a partition located within the same and spaced from the walls forming piston-chambers, rotary pistons located in the chambers and having peripheral blades, said walls and partition being provided with curved channels having inwardly-extending inlet and outlet mouths that open into the piston-chambers on opposite sides of the pistons, webs defining the inner walls of the channels and separating the mouths, and means for introducing motive fluid into the casing and directing it against the pistons.

9. In a rotary engine, the combination with a casing comprising a central partition-wall and end walls secured to the partition-wall and having portions spaced therefrom forming piston-chambers, of a shaft extending through the casing, spaced wheels secured to the shaft and operating in the chambers on opposite sides of the partition, said partition having a steam-space therein and outwardly-inclined flaring nozzles extending from the steam-space to the piston-chambers, and means for controlling the supply of steam through the nozzles, said partition and outer walls having curved channels provided with spaced inlet and outlet mouths and successively located on opposite sides of the chambers, the outlet-mouth of one channel being disposed opposite the inlet-mouth of the succeeding channel.

10. In a rotary engine, the combination with a casing having spaced piston-chambers, of a partition constituting the wall between the chambers and having a motive-fluid space therein, pistons operating in the chambers, means for supplying motive fluid to the space, oppositely-extending nozzles having inlets communicating with the motive-fluid space and piston-chambers, and means extending through the casing into the space and controlling the inlets of the nozzles to control the passage of motive fluid from the motive-fluid space through said nozzles.

11. In a rotary engine, the combination with a casing having spaced wheel-chambers, of a partition constituting the wall between the chambers and having a motive-fluid space therein, said partition having separate oppositely and outwardly inclined nozzles extending from the motive-fluid space to the chambers and having outlets located in said space, and separate independently-movable valves for controlling the supply of motive fluid to said nozzles.

804,185. ROTARY ENGINE. GEORGE A. KELLY, Longview, TEX. Filed July 31, 1905. Serial No. 272,077.



Claim.—1. In a rotary engine, the combination with a casing having a piston-chamber, of a piston rotatably mounted in the chamber and having peripheral blades, said casing having curved chan-

nels on opposite sides of the piston-chamber, said channels having their outlet-mouths converging and disposed in opposing relation to project opposing and converging jets of motive fluid against the blades.

2. In a rotary engine, the combination with a casing having a piston-chamber, of a piston rotatably mounted in the chamber and having peripheral blades, and means for repeatedly directing separate jets of the same motive fluid inwardly in opposite directions and in opposition to each other against the blades of the piston.

3. In a rotary engine, the combination with a casing having a piston-chamber and motive-fluid channels that communicate with the outer portion of the chamber, said channels having their discharge-mouths inwardly and convergently disposed, of a piston rotatably mounted in the chamber and having blades against which the convergent jets of motive fluid from the channels impact.

4. In a rotary engine, the combination with a casing having a piston-chamber and sets of motive-fluid channels located one behind the other and having inlet and outlet mouths communicating with the outer portion of the chamber, the corresponding channels of each set having their discharge-mouths inwardly and convergently disposed, of a piston rotatably mounted in the chamber and having blades against which the convergent jets of motive fluid from the discharge-mouths impact.

5. In a rotary engine, the combination with a casing having a piston-chamber and sets of curved motive-fluid channels, the channels of each set being located one behind the other and having inlet and outlet mouths, the discharge-mouth of one channel being located in advance of and in spaced relation to the inlet-mouth of the succeeding channel, and the outlet-mouths of the different sets being arranged in opposing relation to form opposing impinging jets of motive fluid in the piston-chamber, of a piston rotatably mounted in the chamber and having blades against which the said jets of motive fluid from the discharge-mouths impact.

6. In a rotary engine, the combination with a casing having a piston-chamber and motive-fluid channels having discharge-mouths that are inwardly and convergently disposed and communicate with the outer portion of the chamber, said channels successively increasing in cross-sectional area to permit the expansion of the motive fluid therein, of a piston rotatably mounted in the chamber and having blades against which the jets of motive fluid from the discharge-mouths impact.

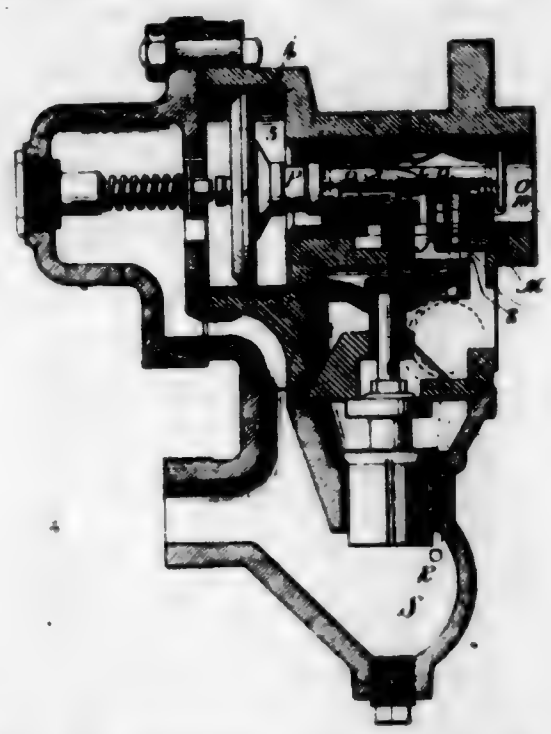
7. In a rotary engine, the combination with a casing having a piston-chamber and a peripheral wall provided with sets of curved motive-fluid channels, the channels of each set being located one behind the other and increasing successively in cross-sectional area to permit the expansion of the motive fluid therein, the corresponding channels of the sets having convergently-disposed discharge-mouths communicating with the piston-chamber, of a piston journaled in the chamber and having radially-disposed peripheral blades against which the jets of motive fluid from the mouths impact.

8. In a rotary engine, the combination with a casing having a piston-chamber and comprising sections having peripheral wall-sections, each of said sections being provided with similarly-disposed curved fluid-channels that are arranged in opposing relation and communicate with the peripheral portion of the piston-chamber to deliver opposing impinging jets of motive fluid inwardly in opposite directions thereinto, of a piston rotatably mounted in the casing and having blades against which the motive fluid impacts.

9. In a rotary engine, the combination with a casing having a piston-chamber and peripheral wall-sections, each section having a set of curved motive-fluid channels provided with inlet and outlet mouths that communicate with the peripheral portion of the piston-chamber, the outlet-mouths being located in opposing relation on opposite sides of the piston-chamber to deliver opposing jets of motive fluid inwardly in opposite directions thereinto, of a piston rotatably mounted in the casing and having its peripheral portion disposed in line with the jets of motive fluid from the channels.

10. In a rotary engine, the combination with a sectional casing having a piston-chamber therein and peripheral wall-sections, of means securing the peripheral wall-sections together, each of said peripheral wall-sections having a set of curved motive-fluid channels provided with inlet and outlet mouths communicating with the outer portions of the piston-chamber, the discharge-mouth of one channel being disposed in advance of and in spaced relation to the inlet-mouth of the succeeding channel, the corresponding channels of the different sets delivering impinging inwardly-directed jets of motive fluid, a piston rotatably journaled in the chamber, radial blades carried by the piston and operating past the inlet and outlet mouths, and an intermediate impinging rib connecting the blades.

804,136. AIR-BRAKE MECHANISM. Richard W. Kelly, Los Angeles, Cal., assignor of one-fourth to Henry T. Hazard and one-fourth to George S. Harpham, Los Angeles, Cal. Filed Sept. 3, 1904. Serial No. 223,257.



Claim.—1. The combination in a triple-valve device of a case or chest having chambers and ports and passages therein; a single slide-valve having ports and passages therein governing ports and passages in the case leading to connections between an auxiliary reservoir and a brake-cylinder and between the brake-cylinder and the atmosphere, and between the auxiliary reservoir and the train-pipe; a piston working in a chamber in said case; a stem secured to said piston and actuating said slide-valve; oppositely-disposed graduating-valves secured to the stem which actuates said slide-valve, said graduating-valves controlling the communication through passages in said main slide-valve which provide communication between the auxiliary reservoir and the brake-cylinder and between the auxiliary reservoir and the train-pipe, said graduating-valves being so arranged that only one of the passages controlled thereby is open at any one time.

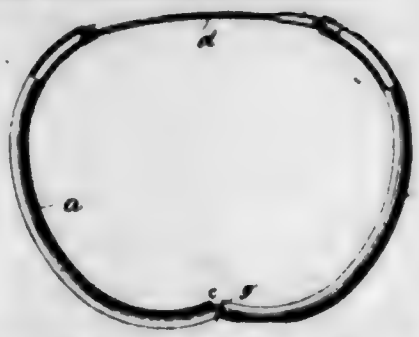
2. In a brake mechanism a triple valve having a piston and a stem, a single slide-valve arranged on such stem, said stem having a short range of motion independent of such valve; a valve-chamber in which said valve works; ports and passages in the said valve and in the case inclosing the same leading to connections between an auxiliary reservoir and a break-cylinder, and between an auxiliary reservoir and the train-line; and two graduating-valves affixed to said piston-stem and controlling communication between passages leading to connections between the auxiliary reservoirs and the brake-cylinder, and between the main air-pipe and the auxiliary reservoir respectively, one of said graduating-valves closing one of said communications when the other graduating-valve opens the other communication.

3. In a brake mechanism a triple valve having a piston provided with a stem; a slide-valve arranged on such stem and actuated thereby, said stem having a short range of motion without moving said valve; a valve-chamber containing said valve; ports and passages in said valve and in the case inclosing the same leading to connections with an auxiliary air-reservoir and a brake-cylinder and to the atmosphere, and to the train-line; two graduating-valves actuated by said piston-stem and controlling communication between passages leading to connections between the auxiliary reservoir and the brake-cylinder, and between the main air-pipe and the auxiliary reservoir respectively, one of said graduating-valves closing one of said communications when the other graduating-valve opens the other communication; a supplementary slide-valve controlling the passage from the train-line to the auxiliary reservoir.

4. In a brake mechanism a secondary passage forming a connection between the auxiliary reservoir and the train-pipe, said connection being controlled by the main slide-valve of the triple valve and a spring-pressed slide-valve actuated by pressure from the train-pipe on said secondary passage.

804,187. BRACELET. Stephen B. Kent, East Orange, N. J. Filed June 7, 1905. Serial No. 264,153.

Claim.—1. A bracelet composed of tubular sections hinged together, one of said sections having secured within its free end a plug with a projecting boss having secured thereto a combined guard and latch, said plug being of the same diameter as the internal diameter of the hinged sections, and the opposing section provided with a combined stop and catch-piece within its open end, against which said plug abuts when the bracelet is closed, and with which said latch engages, and with a pinhole in its side back of said stop and catch-piece, through which access may be had to the interlocking latch to disengage the latter from the catch-piece.

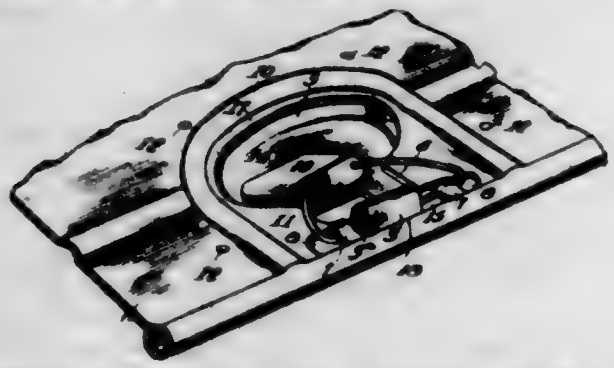


2. A bracelet composed of tubular sections hinged together, one of said sections being provided with a combined catch-piece and stop within its open end, and the opposing section provided with a plug inserted in and projecting from its end and of the same diameter as the internal diameter of the sections, and having attached thereto a spring-guard adapted to slide within the first-named section and having a lug at its free end to prevent withdrawal, said guard being formed at its other end with a laterally-projecting spring tongue or catch adapted to engage with the catch-piece.

3. In a bracelet composed of two hollow-wire segments hinged together at one end, the combination with the segment *a*, provided at its mouth, with the catch-piece *a'*, and back of said catch-piece, with a pinhole *c*, of the segment *b*, having secured therein a plug of the same diameter as the internal diameter of the segments, said plug projecting from its segment and said plug having attached thereto a safety spring-guard *d*, which enters the segment *a*, and is provided, at its unfastened end, with a lug *d'*, and at its fastened end, with a spring-tongue d^2 said lug and tongue being arranged and adapted to engage with the catch-piece *a'*, when the bracelet is opened and closed respectively.

4. A bracelet composed of two tubular sections hinged together, one of said sections being provided with a combined catch and stop within its free end, and back of its mouth, and the other section provided with a plug secured in and projecting from its free end and of the same diameter as the internal diameter of the hinged sections, and having attached thereto a spring-guard which enters and moves within the first-named section and is provided with means for engaging said stop when the bracelet is opened and closed, the projecting end of said plug being adapted, when the bracelet is closed, to enter the end of the opposite section and to abut against said stop.

804,138. **BOX-FASTENER.** GOTTLIEB KLENK, Defiance, Ohio, assignor to The Clipper Plow Company, Defiance, Ohio, a Corporation of Ohio. Filed July 6, 1905. Serial No. 268,461.



Claim.—1. In combination, a box, a hasp secured to the box, a head on the hasp, a cover formed with an opening, and a dish-shaped shelf formed with an opening, and fastened to the under side of the cover and in registry with the cover-opening, the dish-shaped shell being set back from one edge of the cover-opening to form a grip, the head of the hasp fitting on one edge of the opening in the shell when the cover is closed.

2. In combination, a box, a hasp having a head secured to the box, a cover formed with an opening, a dish-shaped shell fastened to the cover and in registry with the cover-opening, and having one edge set back from one edge of the cover-opening to form a grip, and a supplemental dished portion formed in the shell to provide a seat for the head of the hasp below the top of the cover.

3. In combination, a box, a hasp having a head secured to the box, a cover formed with an opening to form a hand-grip below the cover, and means under the cover and spaced from the edge of the grip to form a finger-receiving pocket, and a seat below the top of the cover with which the head of the hasp engages.

4. In combination, a box, a hasp having a head formed with an eye, a cover formed with an opening and smaller side openings, a reinforcing-rib surrounding the opening, and means passing through the smaller side openings and the eye in the head to fasten the cover to the box.

5. In combination, a box, a hasp having a head formed with an eye and secured to the inside of the box, and a cover formed with an opening and adjacent smaller openings in register with the eye of the hasp when the cover is closed to receive a fastening means.

6. In combination, a box, a hasp having a head formed with an eye and secured to the inside of the box, a cover formed with an opening and adjacent smaller openings in register with the eye of the hasp when the cover is closed to receive a fastening means, and a dished-shaped shell onto the under side of the cover in registry with the opening therein, and set back from the edge of said opening to form a hand-grip.

7. In combination, a box, a hasp having a head formed with an eye and secured to the inside of the box, a cover formed with an opening and adjacent smaller openings in registry with the eye of the head, a dish-shaped shell fastened to the under side of the cover in registry with the opening therein and set back from the edge of said opening to form a hand-grip, a supplemental depression formed in the shell to form a seat with which the head of the hasp engages.

8. In combination, a box, a hasp having a head formed with an eye and secured to the inside of the box, a cover formed with an opening and two adjacent smaller openings, a dish-shaped shell fastened to the under side of the cover and set back therefrom to form a hand-grip, and a seal passed through the eye of the head and the smaller adjacent openings, the body of the seal being seated in the depression below the top surface of the cover and adjacent the hand-grip.

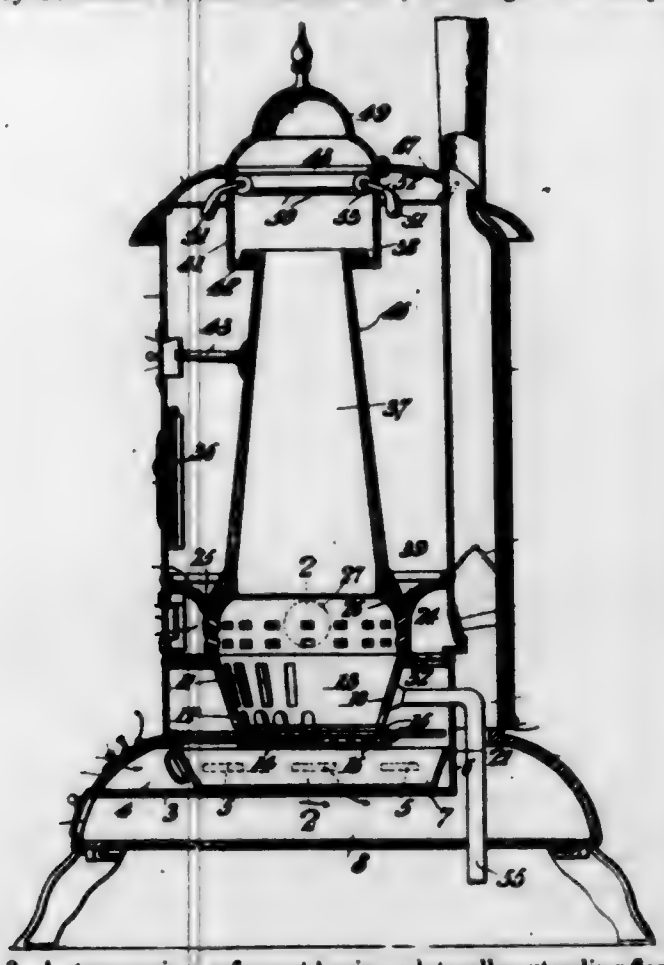
804,139. **HANDLE FOR CROSSCUT-SAWS.** WILLIAM KRONEN WETTER, St. Marys, Pa. Filed Feb. 12, 1903. Renewed Apr. 22, 1905. Serial No. 256,994.



Claim.—The combination with a saw-handle, of a cap having a cylindrical portion forming a ferrule and receiving the handle, said cap being provided with an integral inner tube connected at its lower or outer end with the cap and extending into the handle and provided with an inner threaded portion forming a nut, said tube being shorter than the ferrule, and the inner or upper portion of the ferrule receiving a solid section of the handle, whereby the inner tube is rigidly connected with the same, and a rod having means for engaging a saw-blade and provided with a threaded inner portion engaging the screw-threads of the tube, substantially as described.

804,140. **SOFT-COAL BASE-BURNING STOVE.** EDWARD J. LAHAM, Quincy, Ill. Filed Jan. 7, 1904. Serial No. 188,977.

Claim.—1. In a stove, a hollow base, a cylindrical casing supported upon the base, a fire-pot arranged in the lower part of the stove-casing and having an annular flange at its upper edge, contacting with the stove-casing, a grate supported below the fire-pot, an ash-pit disposed below the grate within the hollow base and having slotted side walls communicating with said base, a door in the base communicating with the ash-pit, an annular member supported upon the flange of the fire-pot, said member having downwardly-inclined apertures and a flange contacting with the stove-casing, a back flue communicating with the hollow base, a damper in the stove-casing forming a closure for an opening in said casing which connects the back flue with the space bounded by the stove-casing, the annular slotted member and the flange of the fire-pot, said flange being provided with an opening communicating with said space, and means for admitting and for regulating the admission of air through the stove-casing and into the space bounded by said casing, by the annular slotted member and by the flange of the fire-pot.



2. A stove-casing, a fire-pot having a laterally-extending flange contacting with said casing, an annular member supported upon the upper edge of the fire-pot at a distance from the stove-casing and having an outwardly-curved annular flange contacting with the latter and an inwardly-extending annular shoulder, and a magazine supported for oscillation within the stove-casing and having its lower end extended over and nearly in contact with said shoulder.

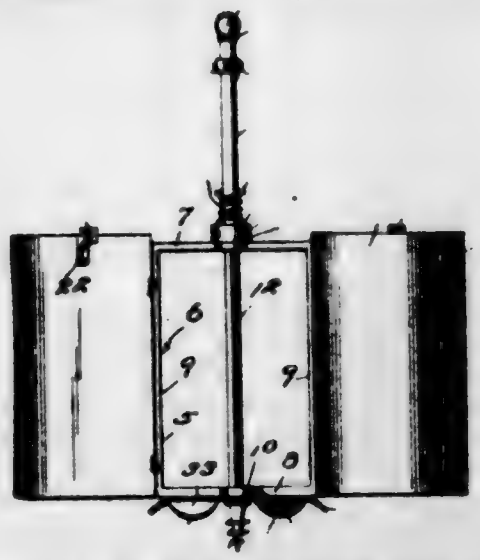
3. In a stove, the combination of a casing, a top plate supported upon said casing, a chamber supported by and depending from said top plate and having an annular flange disposed in a horizontal plane at its lower edge, and a magazine flanged at its upper edge, and supported for oscillation upon the annular flange of said chamber.

4. In a stove, the combination of an exterior casing, a top plate, an interior casing connected with and depending from said top plate and having an annular inwardly-extending flange disposed in a horizontal plane at its lower end, a lid upon the top plate of the exterior casing, and auxiliary swinging lids near the upper end of the interior casing and accommodated within the latter, and a magazine supported for oscillation upon the flange of said casing.

5. In a magazine-stove of the class described, an exterior casing, a top plate in said casing, an interior casing depending from said top plate and having an annular flange at its lower end, a magazine flanged at its upper edge and supported upon said annular flange, rock-shafts journaled near the upper end of the interior casing and having weighted arms extending into the space between the inner and the outer casings, and doors supported upon said rock-shafts and held normally closed by the weighted arms, and adapted to move within said casing.

804,141. EARTH-AUGER. HENRY B. LA MOTT, Ashton, S. D. Filed Mar. 21, 1905. Serial No. 251,378.

Claim.—1. A device of the class described comprising a body portion including wings movable into and out of position to form an earth-receiving chamber, a bottom for the chamber, cutting-blades located at the lower end of the body portion and arranged to discharge into the chamber, means movable into and out of operative position for holding the wings in operative position, means for holding the wing-holding means yieldably in operative position, and means for moving the wing-holding means against the action of the second-named means.

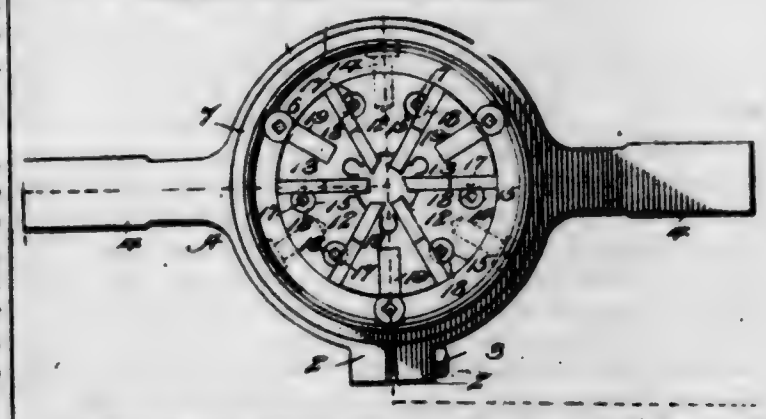


2. A device of the class described comprising a body portion including a frame, semicylindrical wings hinged to the frame for movement into and out of position to form a continuous wall, a bottom for the inclosure of the wall, an upwardly-extending member connected with the frame, arms carried by the wings and resting against the member when the wings are in operative position, said arms having upwardly-extending projections thereon, a collar engaged with the member for movement into and out of position to engage the projections to hold the wings against movement, means for moving the collar, and cutting-blades connected with the frame and arranged to discharge into the inclosure of the wings.

3. A device of the class described comprising a frame including vertically-spaced horizontal portions and connecting vertical portions, said horizontal portions having alining openings therein, a rod engaged in the openings, an auger-point engaged with the rod below the frame and resting against the latter, an upwardly-extending member engaged with the rod above the frame and resting upon the latter, wings hinged to the vertical portions of the frame for movement into and out of position, to form a continuous wall, means for holding the wings in their operative positions, means for moving the wing-holding means into inoperative position, an operating-handle carried by the upwardly-extending member, and cutting-blades carried by the lower end of the horizontal portions of the frame and arranged to discharge into the inclosure of the wings.

4. A device of the class described comprising semicylindrical wings arranged for movement into and out of position to form a hollow cylinder, a bottom for the cylinder, said bottom having openings therein, a cutting-blade located at one edge of each opening, upwardly-opening valves for the openings, means movable into and out of operative position for holding the wings in operative position, and means for moving the wing-holding means into inoperative position.

804,142. BOLT-CUTTER. COLUMBUS K. LASSITER, Schenectady, N. Y. Filed Dec. 12, 1903. Serial No. 184,964.



Claim.—1. A cutter-head comprising a holder containing a series of individual segmental blocks arranged to form a bore or bolt-passage and radial slots leading thereto, said blocks being alter-

nately fixed to and free for radial adjustment within the holder, cutters and guide-pieces held in the slots between the blocks, the blocks extending the full length of the cutters and guide-pieces, wedges for radially adjusting the adjustable blocks, cutters and guide-pieces, means carried by the holder for moving the wedges acting on the adjustable blocks, and means carried by the fixed blocks for moving the wedges acting on the cutters and guide-pieces.

2. In a bolt-cutter head, a retaining-ring, a box positioned in the retaining-ring, vertical adjusting-screws in the wall of the box at radial points therein, radially-adjustable segmental blocks disposed within the box and formed with central radial slots having inclined ends, adjusting-pieces in the slots engaged by the heads of said screws, stationary segmental space-blocks between the adjustable blocks, vertical adjusting-screws in the sides of the stationary blocks, alternately-placed cutters between said blocks, adjusting-pieces behind the cutters, guide-pieces between alternate blocks, adjusting-pieces behind the guide-pieces, all of said adjusting-pieces engaged by the vertical adjusting-screws whereby the cutters and the guides are adjusted radially.

3. In a bolt-cutter head, a retaining-ring, a cylindrical box disposed within the retaining-ring and formed with vertical circular seats opening through the inner wall of the box and terminating in screw-threaded sockets, adjusting-screws in said seats and sockets and having heads projecting through the openings in the wall of the box, adjustable segmental space-blocks formed with vertical slots opening centrally at their backs, vertically-movable adjusting-pieces in said slots and formed with a recess in their outer edge engaged by the projecting portions of the adjusting-screws, stationary segmental space-blocks alternately between the adjustable blocks, formed with vertical circular seats opening through the side faces of the block and terminating in vertical screw-threaded sockets, adjusting-screws in the sockets having circular heads partly projecting through the vertical opening of said seats, cutters in the alternate spaces between the blocks, guide-pieces in the other alternate spaces, adjusting-pieces behind the knives and guide-pieces engaged by the heads of the adjusting-screws in the stationary blocks.

4. The combination with a cutter-head having shiftable cutters and coöperating elements, of a gage device removably insertible between the inner opposing edges of the cutters and coöperating elements, and a lower centering element for the said device.

5. The combination with a cutter-head having cutters and coöperating elements, of a plug-gage removably insertible through the head between the inner opposing edges of the said cutters and elements, and a plug-jig removably mounted in the lower end of the cutter to receive the lower extremity of the gage.

804,143. **TARGET-TRAP.** JOSEPH P. LINCOLN, Carthage, Mo., assignor to The Chamberlin Cartridge & Target Company, Cleveland, Ohio. Continuation of application Serial No. 124,743, filed Sept. 25, 1902. This application filed July 6, 1903. Serial No. 164,465.

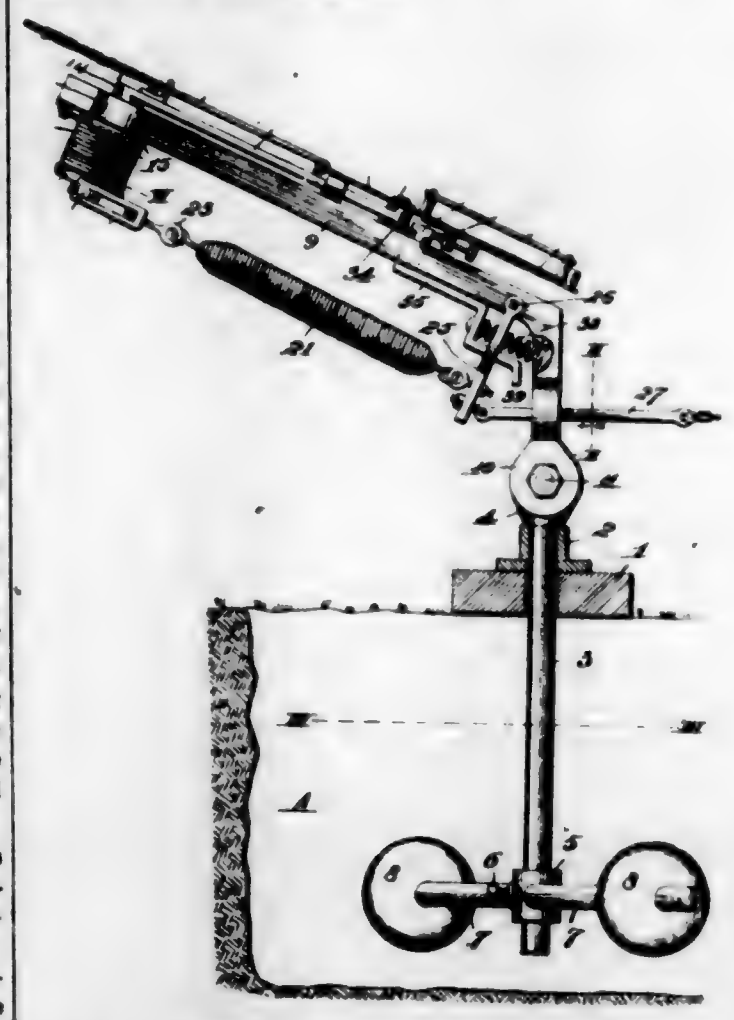
Claim.—1. In a target-trap, the combination of a swinging throw-arm, a throwing-spring which is operatively connected with said throw-arm and is, normally, substantially inert when the throw-arm is in its active position, with a single pulling means for imparting tension to said spring and for releasing the throw-arm to the action thereof.

2. In a target-trap, the combination of a swinging throw-arm, a throwing-spring operatively connected therewith, and, normally, substantially inert when the throw-arm is in its active position, a trigger and a single pulling means extensible an indefinite distance from the trap and adapted by its movement in one direction to first put tension on the spring and then to withdraw said trigger.

3. In a target-trap, the combination with a frame and a swinging throw-arm mounted thereon, with a throwing-spring operatively connected with said throw-arm, and, normally, substantially inert when the throw-arm is in its active position, means restraining the throwing movement of said arm, and means, independent of the throw-arm, for putting tension on the throwing-spring, and for withdrawing said restraining means after the spring is under tension.

4. In a target-trap, the combination with a frame, and a swinging throw-arm mounted thereon, of a throwing-spring which is operatively connected with said throw-arm, and is, normally, substantially inert when the throw-arm is in its active position, a spring-actuated trigger restraining the throwing movement of said throw-arm, a pull-rod connected with the spring and adapted to put it under tension, and means whereby said pull-rod, after putting the throwing-spring under tension, releases the trigger.

5. In a target-trap, the combination with a frame, and a swinging throw-arm mounted thereon, of a throwing-spring which is operatively connected to said throw-arm and is normally, substantially inert when the throw-arm is in the active position, means retaining said throw-arm in the active position, means for imparting tension to said spring, means for freeing said throw-arm after tension in said spring is secured, and a retracting-spring engaging with the throw-arm and exerting its force to return it to its active position when the tension is off the throwing-spring.



6. In a target-trap, the combination of a frame, an approximately vertical shaft mounted in said frame and having a crank-arm, a throw-arm fast upon said shaft, a retracting-spring embracing said shaft and connected with it and with the frame, a trigger for engaging with said throw-arm, a normally inert coiled spring secured at one end to said crank-arm, means, connected with the other end, for putting the spring under tension and for withdrawing said trigger.

7. In a target-trap, the combination of a throw-arm and means for operating the same, with a frame which supports said throw-arm and operating mechanism, a base upon which said frame is mounted upon a vertical axis, with unrestrained freedom of motion about said axis, and a lever-arm projecting laterally from said frame and capable of being used by an operator at the trap to control the position of said frame relative to the base.

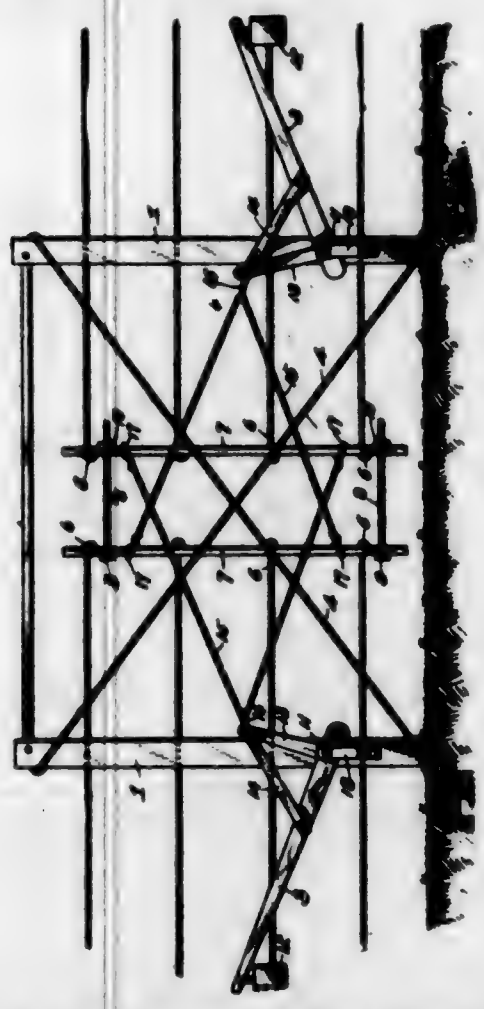
8. In a target-trap, the combination of a throw-arm, and means for operating the same, with a frame on which said throw-arm is mounted, a base in which the frame is mounted on a vertical axis with unrestrained freedom of horizontal swinging movement, and a pair of laterally-offset counterbalances carried by said frame.

9. In a target-trap, the combination of a frame, freely movable about a vertical axis, a swinging throw-arm mounted on said frame, means restraining the throw-arm from moving from its active position, a throwing-spring which is operatively connected with said throw-arm, and is, normally, substantially inert when the throw-arm is in its active position, and a pulling device operable from a distance, for imparting tension to said throwing-spring, and for withdrawing said restraining means after the tension has been imparted to said spring.

10. In a target-trap, the combination of a throw-arm, and means for operating the same, with a frame on which said throw-arm is mounted, a base in which the frame is mounted on a vertical axis with unrestrained freedom of horizontal swinging movement, and a pair of laterally-offset arms carried by said axis.

11. The combination in a target-trap, of a throwing-arm, a propelling-spring normally inactive when the arm is in loading position and means whereby the spring may be placed under tension and the throwing-arm released by the stress which renders the spring active.

804,144. **WIRE-STRETCHER.** HIRAM K. LEWIS, Lompoc, Cal. Filed Jan. 10, 1905. Serial No. 241,791.



Claim.—1. A wire-stretcher, comprising a support designed to be located between the ends of a fence, stretcher-bars adapted to be connected with the fence-wires, and opposite levers fulcrumed on the support and connected with the stretcher-bars.

2. A wire-stretcher, comprising a support designed to be located between the ends of a fence, stretcher-bars spaced apart and adapted to have the fence-wires attached to them, means for limiting the outward movement of the stretcher-bars, said means permitting a free inward movement of the said bars, and levers fulcrumed on the support and connected with the stretcher-bars.

3. A wire-stretcher, comprising a support designed to be located between the ends of a fence, spaced stretcher-bars adapted to be connected with the fence-wires, rods loosely connecting the stretcher-bars and provided with means for limiting the outward movement of the same, and levers connected with the stretcher-bars.

4. A wire-stretcher, comprising a support designed to be located between the ends of a fence, spaced stretcher-bars adapted to be connected with the fence-wires and located at opposite sides of the center of the support, weighted levers mounted on the support at opposite sides of the stretcher-bars, and means for connecting each lever with the stretcher-bars at the opposite side of the support.

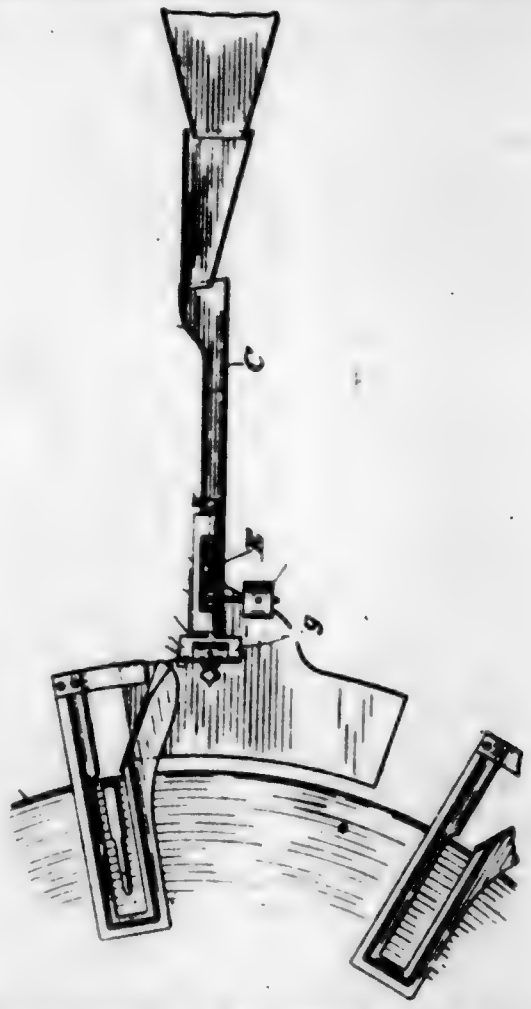
5. A wire-stretcher, comprising a support provided with opposite uprights and provided with bracing means, vertical stretcher-bars located between the uprights, weighted levers fulcrumed on the uprights, and substantially V-shaped connecting means extending from the levers to the stretcher-bars and connecting each lever with the stretcher-bars at the opposite side of the support.

6. A wire-stretcher, comprising opposite uprights, vertical stretcher-bars located between the uprights, weighted levers fulcrumed on the uprights and having angularly-disposed arms, V-shaped wires connecting the arms of the levers with the stretcher-bars, and means for loosely connecting the stretcher-bars for limiting their outward movement.

7. A wire-stretcher, comprising a pair of spaced stretcher-bars designed to be located between the ends of a fence and adapted to be separately connected with the fence-wires, and opposite levers each connected with one of the stretcher-bars.

804,145. **FEEDING AND DELIVERING ARTICLES.** ORMOND M. LEBAN, Westpoint, N. Y. Filed Sept. 17, 1904. Serial No. 224,807.

Claim.—1. The combination with a delivery channel or chute, of a gate controlling the mouth of said channel, a device adapted in its movement to operate said gate to open the channel, means acting in a direction opposite to the weight of the article in the chute tending to hold said gate out of operative relation with said device.



2. The combination, with a channel or chute, of a rock-shaft, two gates projecting oppositely from said rock-shaft in line with said chute at different points of the chute, whereby, in one position of the rock-shaft one gate is open, and the other closed and vice versa, at another position of the rock-shaft.

3. The combination, with a chute or channel, of two gates projecting oppositely from said rock-shaft in line with said chute at different points of the chute, a device adapted in its movement to strike the forward of said gates and rock the shaft, and means tending to hold said forward gate out of alinement with said device.

4. The combination, with a chute or channel, of two gates projecting oppositely from said rock-shaft in line with said chute at different points of the chute, means for holding the forward of said gates normally closed and the rearward gate open, a device adapted in its movement to strike the forward of said gates and rock the shaft, and means tending to hold said forward gate out of alinement with said device.

5. The combination, with a chute or channel, of two gates projecting oppositely from said rock-shaft in line with said chute at different points of the chute, a device adapted in its movement to strike the forward of said gates and rock the shaft, a support for said forward gate adapted to allow said gate to swing in and out of alinement with said device.

6. The combination, with a chute or channel, of a gate for closing the mouth of said chute, a device adapted in its movement to operate the gate to open the chute, a support for said gate adapted to allow said gate to swing in and out of alinement with said device.

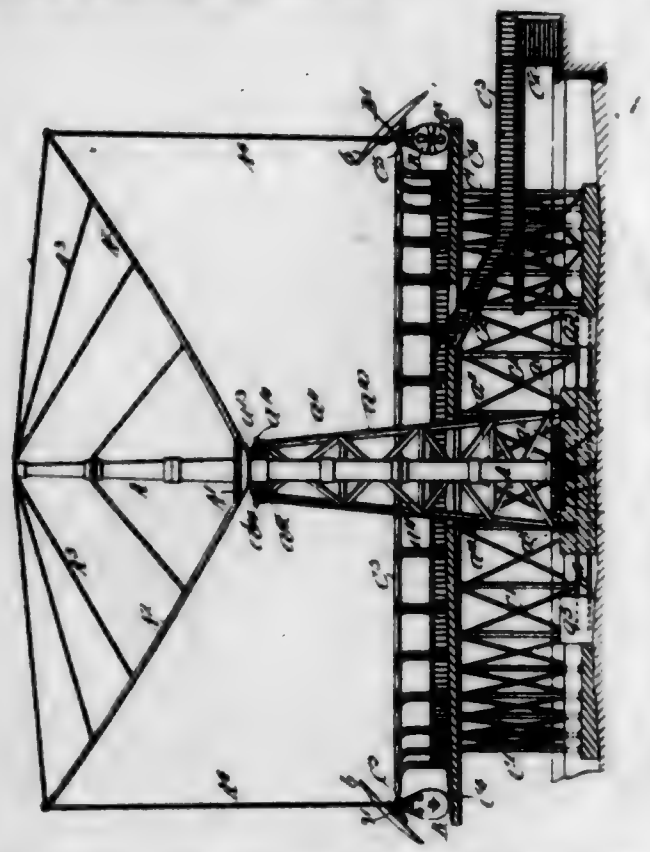
804,146. **WIRE-STRETCHER.** WILLIAM T. MARTIN, Summerfield Ala. Filed June 30, 1905. Serial No. 267,824.



Claim.—A wire-stretcher comprising a lever formed with a hook at one end, the portion of the lever adjacent the hook consisting of two spaced members, and the end of the hook being adapted to coöperate with the offset portion of one of the spaced members in order to form a throat leading into the hook and prevent any accidental displacement of the wire during the stretching operation.

804,147. **ROUNDABOUT.** HIRAM S. MAXIM, West Norwood, England. Filed Apr. 4, 1904. Serial No. 201,567.

Claim.—1. In a roundabout, the combination with an upright rotary shaft, radial arms carried thereby and cars suspended from said arms; of horizontal bars situated above and secured to the cars, two clip-pieces adjustably mounted on said horizontal bar one near each end, four suspension-rods depending from the outer end of each radial arm, two of which rods of one arm and two rods of an adjacent arm are suitably connected with the pair of clip-pieces of one horizontal bar, means for enabling passengers to enter and leave said cars, means for restraining the extent of the inward movement of said cars toward the axis of rotation, means for holding the cars in and releasing them from their position of rest, and means for driving the said rotary shaft substantially as described.



2. In a roundabout, the combination with an upright rotary shaft, radial arms carried thereby and cars suspended from said arms; of a circular platform situated above the ground for the passengers to enter and leave the cars when they come to rest at the margin of said platform, an outwardly-inclined margin to said platform, a circular guard-rail carried by said platform in a position to restrain the extent of inward movement of said cars toward the axis of rotation, devices for exerting, when energized, a magnetic attractive force of sufficient power to firmly retain the cars in their position of rest during the times that the passengers are entering or leaving the cars, and means for driving the said rotary shaft substantially as described.

3. In a roundabout, the combination with an upright rotary shaft, radial arms carried thereby and cars suspended from said arms; of a circular platform situated above the ground for the passengers to enter and leave the cars when they come to rest at the margin of said platform, an outwardly-inclined margin to said platform, a circular guard-rail carried by said platform in a position to restrain the extent of inward movement of said cars toward the axis of rotation, electromagnets carried by said guard-rail, iron bars carried by the cars in a position to come opposite said electromagnets when the cars are at rest, means for driving said rotary shaft, and means for causing the said electromagnets to become energized or inactive at the will of the attendant controlling the means employed for driving the shaft substantially as described.

4. In a roundabout, the combination with an upright rotary shaft, radial arms carried thereby and cars suspended from said arms; of aeroplanes carried by said cars, means for changing the angular position of said aeroplanes relatively to the horizontal, means for enabling passengers to enter and leave said cars, means for restraining the extent of the inward movement of said cars toward the axis of rotation, means for holding the cars in and releasing them from their position of rest and means for driving the said rotary shaft substantially as described.

5. In a roundabout, the combination with an upright rotary shaft, radial arms carried thereby and cars suspended from said arms; of movable aeroplanes carried by said cars, screw-propellers on said cars, means for operatively connecting said propellers with said aeroplanes, means for enabling passengers to enter and leave said cars, means for restraining the extent of the inward movement of said cars toward the axis of rotation, means for holding the cars in and releasing them from their position of rest, and means for driving the said rotary shaft substantially as described.

6. In a roundabout, the combination with an upright rotary shaft, radial arms carried thereby and cars suspended from said arms; of aeroplanes pivotally mounted on said cars so as to be angularly movable in a longitudinal plane relatively to the cars, screw-propellers on said cars, means for operatively connecting said propellers with said aeroplanes, means for enabling passengers to enter and leave said cars, means for restraining the extent of the inward movement of said cars toward the axis of rotation, means for holding the cars in and releasing them from their position of rest, and means for driving the said rotary shaft substantially as described

7. In a roundabout, the combination with an upright rotary shaft, radial arms carried thereby and cars suspended from said arms; of aeroplanes mounted on said cars at an inclination to the vertical longitudinal plane thereof and capable of pivotal movement in a plane at right angles to their plane of inclination, screw-propellers on said cars, means for operatively connecting said propellers with said aeroplanes for enabling the said propellers to rock the aeroplanes about their pivotal connections, means for enabling passengers to enter and leave the cars, means for restraining the extent of the inward movement of said cars toward the axis of rotation, means for holding the cars in and releasing them from their position of rest, and means for driving the said rotary shaft substantially as described.

8. In a roundabout, the combination with an upright rotary shaft, radial arms carried thereby and cars suspended from said arms; of aeroplanes mounted on said cars at an inclination to the vertical longitudinal plane thereof and capable of pivotal movement in a plane at right angles to their plane of inclination, screw-propellers on said cars adapted to revolve by the action of the air during the travel of the cars, means for operatively connecting said propellers with said aeroplanes for enabling the propellers to rock the aeroplanes about their pivotal connections, means for enabling the aeroplanes to be disconnected from the screw-propellers to permit of their being rocked by hand, means for enabling passengers to enter and leave the cars, means for restraining the extent of the inward movement of said cars toward the axis of rotation, means for holding the cars in and releasing them from their position of rest, and means for driving the said rotary shaft substantially as described.

804,148. **COMBINED SHOVEL AND POKER.** JOSEPH W. MAXWELL, Louisville, Ky. Filed Feb. 14, 1905. Serial No. 245,632.



Claim.—1. In a combination article of the character described, the combination with a handle-shank having a poker-terminal carried by one end of the same and immovable with respect thereto, of a shovel-blade pivoted to the end of the shank having the poker-terminal, said shovel-blade being movable to a position alongside the poker-terminal and swinging to a position wholly in rear thereof, and means mounted on the handle-shank and connected to the shovel-blade for swinging the same.

2. In a combination article of the character described, the combination with a handle-shank having a poker-terminal carried by one end of the same and immovable with respect thereto, of a shovel-blade pivoted to the end of the shank having the poker-terminal, said shovel-blade being movable to a position alongside the poker-terminal and swinging to a position wholly in rear thereof, means mounted on the handle-shank and connected to the shovel-blade for swinging the same, and means for limiting the rearward movement

of the shovel-blade with respect to the poker-terminal, said blade and terminal constituting an extended base for supporting the article in upright position.

3. In a combination article of the character described, the combination with a handle-shank having an offset end, of a poker-finger carried by said end and extending in angular relation to the shank, a shovel-blade having an angularly-disposed stem pivoted between its ends on the shank contiguous to the offset end, said shovel-blade being movable to a position alongside the poker-terminal and substantially parallel thereto and also swinging to a position wholly in rear of the offset terminal of the shank, a handle-lever pivoted upon the shank, and a link connecting the lever and stem, said poker-finger and shovel-blade being arranged to assume an angular relation and form an extended base for supporting the article in upright relation.

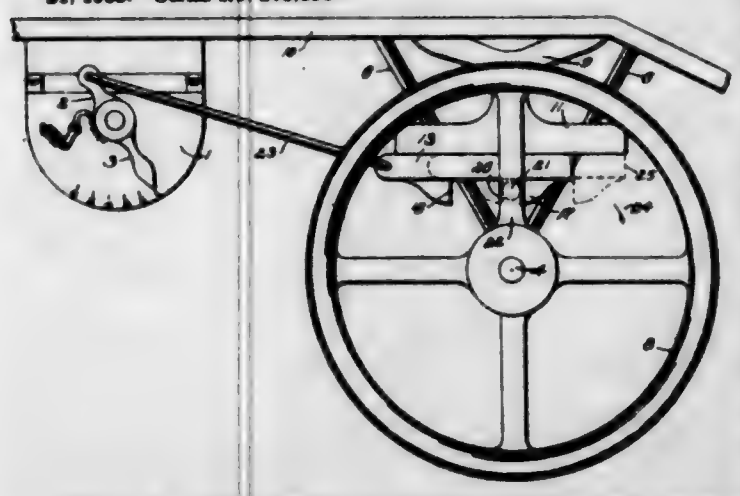
4. In a combination article of the character described, the combination with a handle-shank having an offset end, of a poker-finger carried by said offset end, a shovel-blade having an offset stem pivoted to the shank contiguous to the offset terminal thereof and movable to a position alongside the poker-finger, said finger having teeth on the side that is adjacent to and coacts with the shovel-blade, and means mounted on the handle-shank and connected to the stem of the shovel-blade for swinging said blade.

804,149. COUPLING OR UNION. ADOLPH MEYER, St. Louis, Mo., assignor of one-half to Henry P. Hof, St. Louis, Mo. Filed Aug. 1, 1904. Serial No. 218,965.



Claim.—The combination with a coupling for pipes having flanged ends, of a pair of members having sockets at their inner ends extending rearwardly from the extreme inner ends of the members and within said extreme inner ends, of a pair of independent non-cutting rings seated in said sockets and adapted to bear against the flanges of the pipes when the coupling members are drawn together, substantially as set forth.

804,150. SAFETY DEVICE FOR CAR-BRAKES. ERNEST H. MILLER, Lancaster, Pa., assignor of two-thirds to John W. Holman and Charles V. Rote, Lancaster, Pa. Filed Apr. 26, 1904. Renewed Aug. 31, 1905. Serial No. 275,191.



Claim.—1. A brake-staff and a hand-operated device for turning it to apply the brakes, combined with a controller and connections between the controller and said device whereby when the latter is moved the brakes are applied through the action of the controller, and means permitting continued movement of the hand-operated device for applying the brakes by hand, without affecting the controller, together with means for restoring the controller-actuating connections to normal position on the reverse movement of said device.

2. A brake-staff and a hand-operated device for applying the brake combined with a controller and connections for applying the brake through the controller when the hand-operated device is operated, including a part lying in the path of movement of said hand-operated device for actuating the controller when said device is moving in one direction only; said part being adapted to move out of the way on continued movement of said device without affecting the controller.

3. In combination with the brake-staff, a hand-operated device on said staff having a projection, a controller, and connections between said controller and said hand-operated device including means arranged in the path of said projection adapted to be engaged thereby for operating the controller when moved in one direction only, and to recede out of the path of said projection when it is moved in the opposite direction.

4. In combination with the brake-staff and a device for operating it by hand to apply the brakes, the controller and means for operating it when the said device is moving in one direction only for automatically applying the brakes, together with independent means for restoring the controller-operating means to normal position on the reverse movement only of said device; said means being adapted to move out of the way of said device on continued movement of the latter for applying the brakes by hand.

5. The combination, with a car-brake, of a controller whereby through said brake may be operated, a lever for operating the controller, a brake-staff, a revoluble lever on the brake-staff, a draw-bar connection between the draw-bar and the lever for operating the controller.

6. The combination, with a car-brake, of a controller whereby through said brake may be operated, a lever for operating the controller, a brake-staff, a revoluble lever on the brake-staff, a pin on the revoluble lever, a draw-bar, a shoulder on the draw-bar and adapted to be engaged by the pin on the revoluble lever, and an operating connection between the draw-bar and the lever for operating the controller.

7. The combination, with a car-brake, of a controller whereby through said brake may be operated, a lever for operating the controller, a brake-staff, a revoluble lever on the brake-staff, a pin on the revoluble lever, a draw-bar, a shoulder on the draw-bar and adapted to be engaged by the pin on the revoluble lever when said lever moves in one direction and a second shoulder on the draw-bar and adapted to be engaged by said pin when the revoluble lever moves in the other direction, and an operating connection between the draw-bar and the lever for operating the controller.

8. The combination, with a car-brake, of a controller whereby through said brake may be operated, a lever for operating the controller, a brake-staff, a revoluble lever on the brake-staff, a pin on the revoluble lever, a draw-bar, a shoulder on the draw-bar and adapted to be engaged by the pin on the revoluble lever and to actuate the draw-bar when so engaged by said pin in front and to yield without actuating the draw-bar when engaged by said pin behind, and an operating connection between the draw-bar and the lever for operating the controller.

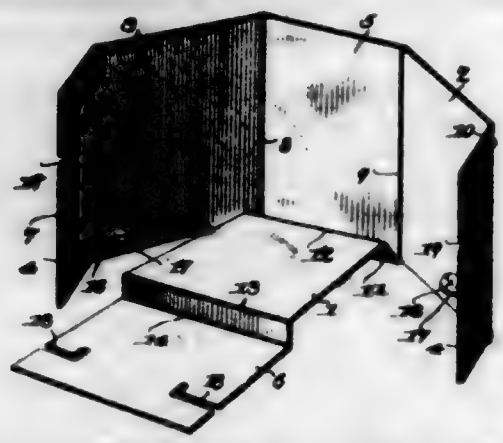
9. The combination, with a car-brake, of a controller whereby through said brake may be operated, a lever for operating the controller, a brake-staff, a revoluble lever on the brake-staff, a pin on the revoluble lever, a draw-bar, shoulders having their outer ends pivoted in recesses in the draw-bar, lips on the inner ends of the shoulders and adapted to rest on ribs in said recesses, springs pressing the free ends of the shoulders outward, the shoulders being adapted to be engaged by the pin on the revoluble lever, and an operating connection between the draw-bar and the lever for operating the controller.

10. The combination, with a car-brake, of a controller whereby through said brake may be operated, a lever for operating the controller, a brake-staff, a revoluble lever on the brake-staff, a pin on the revoluble lever, a bracket having a guide-plate on the outer part thereof, a draw-bar having thereon a dovetail tenon engaging a similarly-shaped mortise in the guide-plate, a shoulder on the draw-bar and adapted to be engaged by the pin on the revoluble lever, and an operating connection between the draw-bar and the lever for operating the controller.

11. The combination, with a car-brake, of a controller whereby through said brake may be operated, a lever for operating the controller, a brake-staff, a revoluble lever on the brake-staff, a pin on the revoluble lever, a bracket having a guide-plate on the outer part thereof, a draw-bar having thereon a dovetail tenon engaging a similarly-shaped mortise in the guide-plate, shoulders facing each other and having their outer ends pivoted in recesses in the draw-bar, lips on the inner ends of the shoulders and adapted to rest on ribs in said recesses, springs in said recesses and pressing the free ends of the shoulders outward, the shoulders being adapted to be engaged by the pin on the revoluble lever, and an operating connection between the draw-bar and the lever for operating the controller.

804,151. BERRY-BOX. WILLIAM C. MIMM, Traverse City, Mich. Filed Mar. 27, 1903. Serial No. 150,319.

Claim.—1. As a new article of manufacture, a blank for fruit-boxes T-shaped in form and having the terminals of its head and the terminal of its stem provided with open-ended L-shaped locking-slots that project in the same direction.



2. As a new article of manufacture, a blank for fruit-boxes consisting of a single piece of material T form in shape and comprising sides 2 and 3, locking-flaps 4 provided with open-ended L-shaped locking-slots, an end 5, a bottom 1 provided with beads 15, and an end 6 provided with open-ended L-shaped locking-slots.

3. A fruit-box consisting of a bottom, sides provided with flaps and ends, the bottom being folded to form beads in conjunction with the ends, and the flaps being provided with open-ended L-shaped locking-slots extending in the same direction, the lower edges of the flaps being disposed within the beads.

804,152. SLIDE FOR EXTENSION-SCREENS. ALLEN H. MIX, Burlington, Vt. Filed Feb. 24, 1905. Serial No. 247,182.



Claim.—1. The combination of two overlapping rails, having registering inclined and horizontal grooves formed in their opposed meeting faces, a retainer provided with limbs engaging the inclined grooves, and held against longitudinal movement in one of the rails, and a roller loosely engaging the retainer and projecting from opposite sides thereof into the registering horizontal grooves in the rails, substantially as and for the purposes hereinbefore set forth.

2. In an extension-screen, two screen-sections having in the meeting faces of their overlapping rails longitudinal registering inclined grooves *x* and horizontal grooves *y*, a retainer of substantially V form in cross-section which is secured to the inner end of each rail against lengthwise movement therein and engages the inclined grooves in the meeting faces of the opposed rails, and a roller which loosely engages and is held by the retainer and projects therefrom into the registering horizontal grooves of said rails—the combination being and acting substantially as hereinbefore set forth.

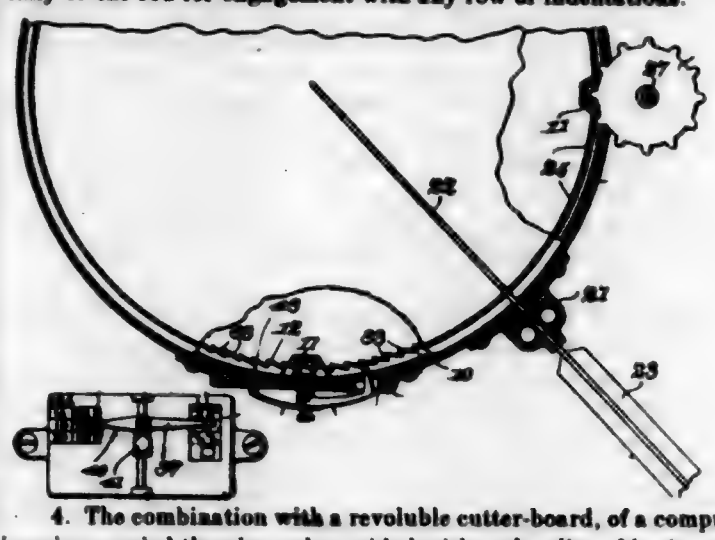
3. The two overlapping sections having registering inclined and horizontal grooves *x*, *y* in their meeting faces, in combination with a retainer of V cross-section, engaging the inclined grooves *x*, and held against lengthwise movement in one of the sections, and a roller loosely seated in a slot in the head of the retainer and projecting from opposite sides thereof into the horizontal grooves *y*, substantially as and for the purposes hereinbefore set forth.

804,153. CHEESE-CUTTER. WALTER R. MONTGOMERY, Shreveport, La. Filed Apr. 7, 1905. Serial No. 254,359.

Claim.—1. The combination in a cheese-cutter, of a cutter-board mounted for revoluble movement in a horizontal plane, a ring secured thereto and provided with a plurality of horizontal rows of ratchet-teeth, the teeth of the different rows being of different pitch, respectively, a vertically-adjustable pawl arranged to engage with said teeth and permitting free movement of the cutter-board in one direction, and locking said board from movement in the opposite direction.

2. The combination in a cheese-cutter, of a cutter-board, a ring secured thereto and provided with a plurality of horizontal rows of teeth or indentations, the indentations of the different rows being of different pitch, respectively, a computing-table in alinement with the several rows, and a vertically-adjustable pawl arranged to engage with any one of the rows of indentations and having a pointer movable into alinement with said computing-table.

3. The combination with a revoluble cutter-board, of a computing-ring carried thereby and provided with a plurality of horizontal rows of indentations, the indentations of the respective rows being of different pitch, a stationary weight and rate table alined with the rows of indentations, a pivot-rod, and a pawl adjustable vertically of the rod for engagement with any row of indentations.



4. The combination with a revoluble cutter-board, of a computing-ring carried thereby and provided with a plurality of horizontal rows of indentations, the indentations of the respective rows being of different pitch, said rows being divided into groups, each group corresponding to a predetermined weight of cheese to be subdivided, and the rows constituting each group representing different rate values, a stationary weight and rate table in alinement with the rows, a vertical pivot-pin, a pawl adjustable thereon to a position in alinement with any one of the rows, means for locking the pawl in adjusted position, and a pointer movable with the pawl and serving as a spring for forcing the latter into the indentations.

5. The combination with a revoluble cutter-board, of a computing-ring carried thereby and provided with a plurality of horizontal rows of indentations, the indentations of the different rows being of different pitch respectively, a stationary ring, and a plate supported thereby, said ring and plate having openings to expose the rows of indentations, weight and rate tables carried by the plate in horizontal alinement with the rows of indentations, pivot-brackets carried by the plate, a vertically-disposed pivot-pin supported by the bracket, a pawl adjustable on the pivot-pin, means for locking the pawl in its adjusted position, a pointer carried by the pawl and serving as a spring for holding said pawl in the indentations, said plate having ribs and grooves for engagement with the end of the pointer.

804,154. SPRAY AND WATER GUARD FOR BOATS. HARRY C. MONNE, Penn Yan, N. Y. Filed Mar. 25, 1904. Serial No. 199,997.



Claim.—1. The combination with a boat having a bow, of a spray-arresting wing of flexible material secured along its inner margin to the side of the bow and projecting outwardly beyond the side walls thereof to prevent the passage of water into the boat, the front end of the wing being tapered and extending to the bow end of said boat.

2. The combination with a boat having a bow, of a spray-arresting wing hinged on a substantially horizontal axis along its inner margin to the boat and arranged to swing outwardly beyond said hinge-axis and laterally beyond the side of the bow, said wing being capable of swinging on its hinge-axis into and outside of the boat, and means for securing the wing in its outward position.

3. The combination with a boat having a bow, of a spray-arresting wing hinged along its inner margin to the boat and arranged to swing outwardly beyond its hinge-axis and laterally beyond the side of the bow, and means for securing it at different elevations in its outward position.

4. The combination with a boat having a bow and deck, of a spray-arresting wing having tapered ends, means for attaching the wing to a boat with the front tapered end in juxtaposition to the bow end of said boat, said wing projecting laterally outward from the deck and beyond the bow, and means engaging the tapered ends of the wing for placing said wing under longitudinal tension.

5. In a guard of the class described, the combination with a spray-arresting wing, of means for attaching the same to a boat in projecting relation to and beyond the side of the same, and means for longitudinally stretching the wing along the boat, said means being separate from the attaching means.

6. In a guard of the class described, the combination with a boat, of a flexible spray-arresting wing having a plurality of spaced transverse ribs secured thereto and having their ends spaced apart, independent hinges connected to the ribs, and means located at spaced points along the side of the boat for detachably connecting a leaf of each hinge to said boat.

7. In a guard of the class described, the combination with a boat, of a spray-arresting wing, spaced independent hinges carried by the wing, and spaced means for detachably securing the hinges at different points along the bow of a boat to thereby hold the wing in projecting relation to said bow to prevent the passage of water over the bow.

8. In a guard of the class described, the combination with frame members, of hinges for pivotally attaching the frame members to a boat and permitting their upright swinging movements, said hinges comprising leaves, and a clamping-bolt passing through the leaves for holding the same against movement and constituting a pivot therefor.

9. In a guard of the class described, the combination with attaching-cleats, of a spray-arresting wing having hinges arranged to interlock with said cleats, and means for securing the devices to the cleats.

10. In a guard of the class described, the combination with attaching-cleats, of a wing having devices arranged to adjustably interlock with said cleats, means for securing the devices to the cleats, and stretching means for the wings.

11. In a guard of the class described, the combination with a cleat arranged to be secured to a boat and having a guideway, of a spray-arresting wing having a device that detachably engages the guideway, and means for securing the device upon the guideway.

12. In a guard of the class described, the combination with a cleat arranged to be secured to a boat and having a longitudinally-disposed guideway, of a spray-arresting guard-wing, a headed clamp-bolt carried by the guard-wing, the head of said bolt being adapted to detachably engage in the guideway, and a clamping-nut mounted on the bolt for clamping the head in said guideway.

13. In a guard of the class described, the combination with a flexible wing, of a plurality of spaced transverse stretcher-ribs secured to the wing, each stretcher-rib having a hinge-leaf provided with an ear, other hinge-leaves having ears associated with the ears of the ribs, clamping-bolts passing through the ears, headed bolts carried by said other ears, and attaching-cleats adapted to be secured to a boat and having longitudinally-disposed slotted guideways arranged to receive the heads of said bolts.

14. In a guard of the class described, the combination with a plurality of ribs having outstanding main portions and outer downturned ends, of means for securing the inner ends to a boat, and a spray-arresting sheath secured to and extending across the spaces between the outstanding and downturned portions of the ribs.

15. In a guard of the class described, the combination with a plurality of ribs, of means for hingedly and detachably securing the ribs to a boat, a spray-arresting sheath arranged across the corresponding faces of the ribs and extending between the same, and fastening-strips secured to the ribs and extending over one face of the sheath.

16. In a guard of the class described, the combination with a flexible spray-arresting wing, of means for securing the same at one end to the side of a boat in projecting relation to the side of the same, and means attached to the other end for stretching the wing.

17. In a guard of the class described, the combination with a flexible spray-arresting wing, of means for securing the same at one end to the side of a boat in projecting relation to the same, means for adjustably connecting the intermediate portions to the boat, and means attached to the other end for stretching the wing.

18. In a guard of the class described, the combination with a flexible spray-arresting wing, a cable attached longitudinally thereto, of means for securing the cable at one end to the boat, and stretching means for the wing attached to the opposite end of the cable.

19. In a guard of the class described, the combination with a flexible spray-arresting wing, including a looped cable having spaced portions secured thereto and extending longitudinally thereof, of means attached to one end of the loop for securing the same to the side of a boat in projecting relation thereto, and stretching means fastened to the opposite end of the loop.

20. In a guard of the class described, the combination with a spray-arresting wing formed from fabric, and having a looped cable secured longitudinally thereof, of a hook fastened to one end of the cable, an eye adapted to be secured to a boat and arranged to receive the hook, a stretching-cable secured to the opposite end of the loop, and means for fastening the cable to a boat.

21. In a guard of the class described, the combination with a flexible wing or sheath, of means for securing the same under tension to the side of a boat, and a yielding extensible binder secured to the opposite end portions of the sheath and adapted to conform to the longitudinal contour of the side of the boat.

22. In a device of the class described, the combination with a flexible wing or sheath, of transverse ribs secured to the same, means for detachably and pivotally fastening the ribs to the side of a boat, means for securing the inner end of the wing or sheath to the boat, stretching means secured to the opposite end of the wing or sheath, and a yielding flexible binder secured longitudinally to the wing or sheath contiguous to its inner margin.

23. In a guard of the class described, the combination with a wing having outer downturned ends, of means for pivotally attaching the same to a boat to permit its upright swinging movement, and means for securing the wing against such swinging movement.

24. In a guard of the class described, the combination with a wing having outer downturned ends disposed at an obtuse angle, of means for pivotally attaching the same to a boat to permit its upright swinging movement, and means for securing the wing against such swinging movement, said wing being movably fixed at an acute angle to the side of the boat.

25. In a guard of the class described, the combination with a spray-arresting wing, of means for pivotally attaching the same to a boat in projecting relation to the bow portion thereof and permitting its upright swinging movement between a position outside the boat and one inside or above the same, and means for securing the wing against such swinging movement in its outward projecting relation, said wing being held by said means at an acute angle to the side of the boat.

26. In combination with a boat, a spray-arresting wing secured to the side thereof and arranged at an acute angle thereto having its outer end downturned and set at an obtuse angle.

27. A boat provided at its bow portion on each side with a spray-arresting wing composed of a flexible sheath and transverse stretcher-ribs spaced apart on the sheath throughout their lengths, and devices located at different points along the boat for securing the ribs thereto and holding the wing in projecting relation and at an acute angle to said boat.

28. In a guard of the class described, the combination with a spray-arresting wing having intermediate transverse stretching means and tapering ends, of means for attaching the wing along its inner margin to a boat and in projecting relation to the bow of said boat, and means for securing the tapered ends under tension to the boat.

29. In a guard of the class described, the combination with a spray-arresting wing, of means for attaching the same to a boat in projecting relation thereto, said wing having an offset longitudinally-disposed curved margin.

30. In a guard of the class described, the combination with a spray-arresting wing, of means for hingedly attaching the same at its inner margin to a boat in projecting relation to the side of the same, said means permitting an up-and-down movement of the wing.

31. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat to permit its upward and downward movement, and common means for holding the wing in its upward and downward positions.

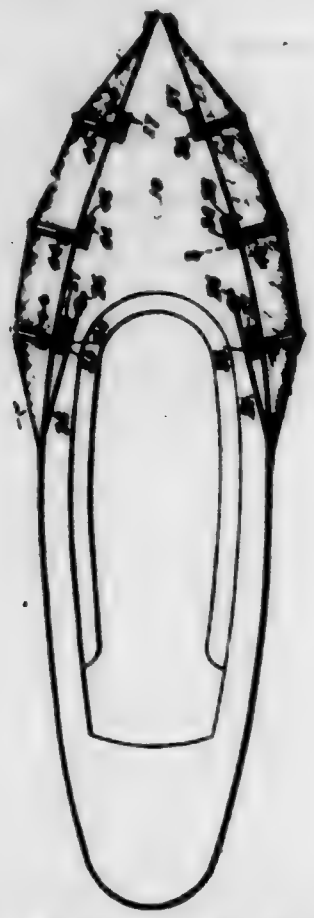
804,155. SPRAY AND WATER GUARD FOR BOATS. HARRY C. MORSE, Penn Yan, N. Y. Filed Nov. 13, 1904. Serial No. 232,440.

Claim.—1. In a guard of the class described, the combination with a spray-arresting wing having intermediate transverse stretching means and end portions that are of the same length and equally tapered in order to permit either end being placed foremost, of means for attaching the wing along its inner margin to a boat and in projecting relation to the bow of said boat, and means for securing the tapered ends under tension to the boat.

2. In a guard of the class described, the combination with a spray-arresting wing, of means for attaching the same to a boat in projecting relation thereto, said wing having a depending inwardly-turned outer margin.

3. In a guard of the class described, the combination with a spray-arresting wing, of means for attaching the same along one margin to a boat and in projecting relation thereto, said wing hav-

ing its other or outer longitudinal margin curved downwardly and inwardly.



4. In a guard of the class described, the combination with a spray-arresting wing, of means for attaching the same to a boat in projecting relation thereto, said wing having an under and inwardly-turned margin, the free edge of which is located beneath and in spaced relation to the body of the wing.

5. In a guard of the class described, the combination with ribs, of hinges for connecting the inner ends of the ribs to a boat, the outer ends of said ribs being downwardly and inwardly curved, and sheathing secured to said ribs and extending about the curved portions thereof.

6. In a guard of the class described, the combination with a spray-arresting wing, of means for hingedly attaching the same at its inner margin to a boat in projecting relation to the side of the same, said means permitting an up-and-down movement of the wing, and means for yieldingly maintaining the wing in elevated position.

7. In a guard of the class described, the combination with a spray-arresting wing, of means for hingedly attaching the same at its inner margin to a boat in projecting relation to the side of the same, said means permitting an up-and-down movement of the wing, and means for yieldingly maintaining the wing in depressed position.

8. In a guard of the class described, the combination with a spray-arresting wing, of means for hingedly attaching the same at its inner margin to a boat in projecting relation to the side of the same, said means permitting an up-and-down movement of the wing, and a spring for yieldingly maintaining the wing in depressed position.

9. In a guard of the class described, the combination with a spray-arresting wing, of means for hingedly attaching the same at its inner margin to a boat in projecting relation to the side of the same, said means permitting an up-and-down movement of the wing, and a spring located at the hinge connection and bearing against the wing.

10. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat to permit its upward-and-downward movement, and yielding means for holding the wing in its upward and downward positions.

11. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat to permit its upward-and-downward movement, and a spring for holding the wing in its upward and downward positions.

12. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat to permit its upward-and-downward movement, and a spring arranged to act against the wing on opposite sides of its axis of movement accordingly as said wing is moved from one position to another.

13. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat, said means comprising hinge members, and a spring carried by one member and having an engagement with the coacting member to normally hold said members against movement.

14. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat, said means comprising pivoted hinge members, a yielding holder carried by one member, and a bearing carried by the other member and movable upon the holder to opposite sides of the pivot-axis when the wing is swung.

15. In a guard of the class described, the combination with a wing, of pivoted hinge members, one of which is carried by the wing, means for mounting the other on a boat, a spring-yoke carried by the latter member, and a device carried by the other member and movably bearing upon the yoke.

16. In a guard of the class described, the combination with a wing, of hinge members, one of which is carried by the wing and has an ear, the other comprising a base-plate having an ear pivoted to the first-mentioned ear, means for detachably mounting the base-plate upon the boat, a spring-yoke carried by the base-plate and surrounding the ear thereof, and a roller carried by the other ear and bearing upon the yoke.

17. In a guard of the class described, the combination with a wing including a flexible sheath and a rib secured transversely thereof, of means for hingedly connecting the rib to a boat, and a spring element having an engagement with the rib to normally hold the same against movement.

18. In a guard of the class described, the combination with a spray-arresting wing comprising a flexible sheath and a plurality of transverse ribs secured thereto, of hinge elements carried by the ribs, means for detachably mounting certain of said hinge elements upon a boat, and yielding means engaging the elements to normally hold them against relative movement.

19. In a guard of the class described, the combination with a wing, of means for pivotally mounting the wing upon a boat to permit its movement between elevated and depressed positions, and automatic means for holding the wing in said positions.

20. In a guard of the class described, a movable wing, means for arresting the wing at a predetermined position when said wing is moved, and other means for determining said position.

21. In a guard of the class described, a wing movable to elevated and depressed positions, means for arresting the wing, and separate means for varying the location of the wing.

22. In a guard of the class described, a swinging wing, means for pivotally connecting the wing to a boat, said means including a device having a fixed path of movement, and another device having a variable path of movement.

23. In a guard of the class described, a swinging wing, means for pivotally mounting the wing upon a boat, said means including a device having a fixed path of movement, and another device adjustably connected to the first-mentioned device.

24. In a guard of the class described, a swinging wing, means for pivotally connecting the wing to a boat, said means including a device having a fixed path of movement, and an adjustable connection between the wing and device.

25. In a guard of the class described, the combination with a wing, of an adjusting device having a pivotal connection with the wing, and attaching means having a pivotal connection with the adjusting device.

26. In a guard of the class described, the combination with a wing, of an adjusting device having a pivotal connection with the wing, attaching means having a pivotal connection with the adjusting device, and means for normally preventing the pivotal movement of one of said connections.

27. In a guard of the class described, the combination with a wing, of an adjusting device having a pivotal connection with the wing, attaching means having a pivotal connection with the adjusting device, and means for normally holding the wing and adjusting device against relative movement.

28. In a guard of the class described, the combination with an attaching-ear, of a wing having an ear, and an adjusting device having pivotal connections with said ear.

29. In a guard of the class described, the combination with an attaching-ear, of a wing having an ear, an adjusting device having a pivotal connection with one ear and an adjustable clamp connection with the other ear.

30. In a guard of the class described, the combination with a movable wing, of means for holding the wing against movement at a

predetermined position, and other means for determining such position.

31. In a guard of the class described, the combination with a movable wing, of automatic means for holding the wing at a predetermined position, and manually-operated adjusting means for determining such position.

32. In a guard of the class described, the combination with a wing movable from and to depressed positions, of means for arresting the wing in its depressed positions, and other means for determining such position.

33. In a guard of the class described, the combination with a wing having a rib, of an adjusting-plate, a pivot-clamp connecting the plate and rib, and means for pivotally mounting the plate upon a boat.

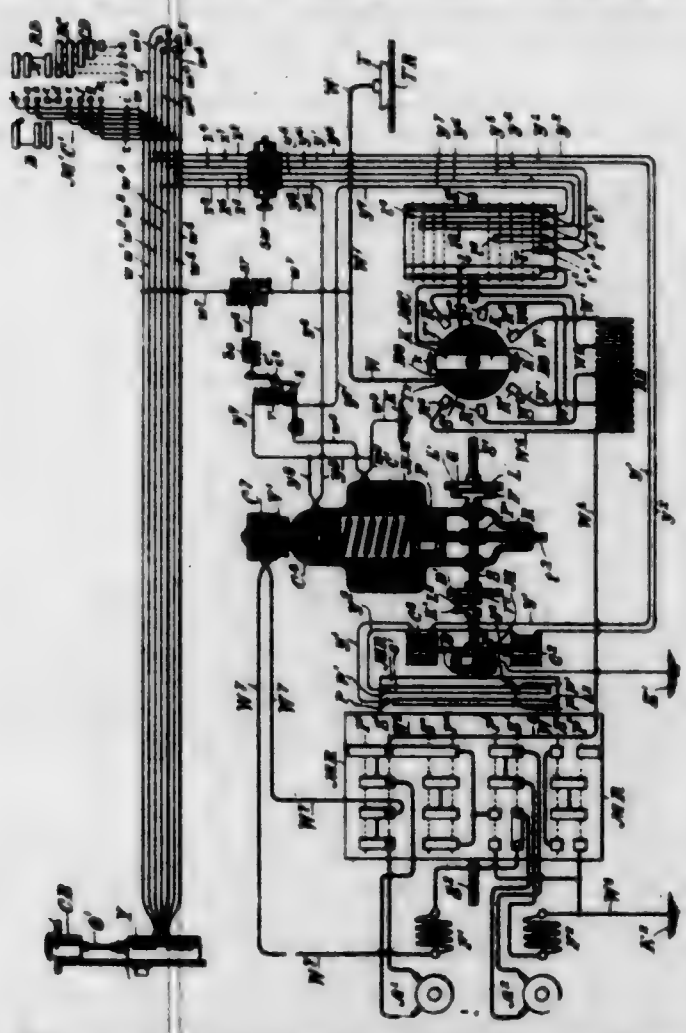
34. In a guard of the class described, the combination with a base having an upstanding ear, of an adjusting device having an ear pivoted to the ear of the base, a yielding holding device carried by the base and engaging said ear, a spray-arresting wing having a rib, and a pivoted clamp connection between the rib and adjusting device.

35. In a guard of the class described, the combination with a spray-arresting wing, of means for stretching the same longitudinally along a boat, said means including a spring having a connection with the wing.

36. In a guard of the class described, the combination with a spray-arresting wing of flexible material, of a cable extending longitudinally of the wing, a spring connected to the cable, and means for placing the wing under longitudinal tension, said means being connected to the spring.

37. In a guard of the class described, the combination with a spray-arresting wing of flexible material, of a looped cable secured longitudinally of the wing, springs connected to the cable at the ends of the wing, means for securing one of said springs to a boat, and means for stretching the wing, said latter means being attached to the other spring.

804,158. SYSTEM OF ELECTRIC-MOTOR CONTROL. CHARLES A. MUDGE, New York, N. Y. Filed Mar. 2, 1905. Serial No. 248,131.



Claim.—1. In a system of motor control a main controller, one or more motors, a master-controller, and a main operating device having hydraulic and electric means for governing its operation through successive steps so that it is held in the step indicated at the master-controller; in combination with circuits and circuit connections, substantially as described.

2. In a system of motor control for two or more motors, a master-controller, a main operating device having hydraulic and electric means for so governing its operation through successive steps that it may be held in any of these steps as indicated at the master-controller, and means for varying the current through the motors; in combination with circuits and circuit connections, substantially as described.

3. A system of motor control embracing a main controller provided with means for varying the electrical effect upon the motors; in combination with a portable master-controller having means for preventing its removal from its support without first interrupting all circuit connections through it, and circuits and circuit connections, substantially as described.

4. A system of motor control embracing two sets of conductors, one adapted to carry currents of relatively small volume and the other the working currents; in combination with a main controller adapted to manipulate the working currents, and a main operating device in the form of a solenoid having a single energizing-coil adapted to move the core thereof thus effecting the manipulation of the main controller; together with a portable master-controller so arranged that it cannot be removed from its support without first having interrupted the circuit connections through the said conductors carrying currents of relatively small volume, substantially as described.

5. In a system of motor control a main operating device embracing electric means for advancing its operative parts by gradual successive steps, and hydraulic means for retarding said parts and for maintaining them in any desired position; in combination with a master-controller which indicates at all times the position of the said main operating device, substantially as described.

6. In a system of motor control a main operating device embracing means for advancing its operative parts by gradual successive steps, and hydraulic and electric means for maintaining them in any desired position; in combination with means for indicating this position, substantially as described.

7. In a system of motor control a main operating device embracing hydraulic means adapted to permit the gradual and successive advancement of the operative parts thereof through their range of movement; together with means for maintaining said parts in any desired position, and additional means for restoring said parts to normal; in combination with means for indicating the position of the operative parts of the said main operating device, substantially as described.

8. In a system of motor control a main controller and a main operating device operatively connected thereto; a source of energy for advancing the movable parts of the operating device at a predetermined speed through successive steps in one direction, and hydraulic means for retarding said parts as they advance; in combination with an additional source of energy for returning them to normal or "off" position, and independent means for showing the step the said movable parts of the main operating device is in, substantially as described.

9. In a system of motor control a main controller and a main operating device operatively connected thereto; in combination with a master-controller and electrical connections between all of said parts; a source of energy for advancing the movable parts of the operating device at a predetermined speed through successive steps in one direction, and fluid means for retarding said parts as they advance, the position of the movable parts in any of the said steps being indicated at the master-controller; together with an additional source of energy for returning them to normal or "off" position, substantially as described.

10. In a system of motor control a main operating device embracing a cylinder and piston operated and controlled in its movements in one direction by electrical and hydraulic means, and in reverse direction by a constantly-acting force; in combination with means for checking or holding it in any desired position, said position being controlled by means electrically connected to the main operating device, substantially as described.

11. In a system of motor control a main power-impelled operating device operatively connected to the controller and provided with hydraulic means for preventing the movement of the controller faster than a predetermined speed, the position of the controller at any time being indicated and controlled by means independent to it or the operating device, substantially as described.

12. In a system of motor control a main operating device operatively connected to the controller and provided with adjustable hydraulic means for effecting the movement of the controller at predetermined speeds, through definite positions, said positions being indicated and controlled by means electrically connected to the main operating device and the controller, but operated independently thereto, substantially as described.

13. In a system of motor control a main electromagnetic operating device connected to the controller, said operating device being provided with retarding means for limiting its rate of speed, and additional electrically-controlled adjusting means for effecting a predetermined rate of speed thereof through different positions; in combination with means for indicating at which one of the definite positions the said main operating device is being held, substantially as described.

14. In a system of motor control a portable master-controller embracing means for preventing its removal from its support without first interrupting all circuit connections through it, a single main operating device having fluid-controlled parts, a single main controller, a motor-circuit combiner, and circuit connections, substantially as described.

15. In a system of motor control a master-controller embracing means for preventing its adjustment to its seat without first opening all circuit connections through it, a single main operating device provided with hydraulic controlling means, a single main controller, and a motor-circuit combiner so interconnected electrically and mechanically that the motors may be electrically connected to the source of current-supply in any desired relation, substantially as described.

16. In a system of motor control for electric-railway cars a series of control-circuits on each car and interconnecting current contacts and conductors; a single portable master-controller adapted to be utilized on any car and embracing means for preventing its adjustment to or removal from its seat without first opening all circuit connections through it; in combination with a main controller for each car and mechanical and electrical connections between the same and the motors thereof, whereby a motorman may control the movements of a train from any car with the portable master-controller, substantially as described.

17. A railway-car provided with a series of control-circuits having duplicate sets of stationary contacts at different positions on the car; in combination with a master-controller adapted to be transferred to either of said positions and connected in circuit with the stationary contacts, said controller being provided with means for preventing its removal from its seat without first interrupting all circuit connections through it; together with a main controller, a main operating device provided with hydraulically-controlled means, said device being so controlled by the master-controller that the position of its main operating-handle always indicates the corresponding position of the main operating device, and mechanical and electrical connections between said parts and the motor or motors, whereby the car may be operated by the master-controller from either position, substantially as described.

18. In a system of motor control a series of motors individually located at different points relatively at considerable distances apart; a main controller for each motor or pair of motors; a single main operating device for each controller provided with hydraulically-controlled means; a multiple series of control-conductors running to different points of control; in combination with a single portable master-controller adapted to be utilized at any point of control and indicating at all times the position of the main controllers, and a series of working conductors adapted to carry the working current through any of the motors, substantially as described.

19. In a system of motor control electric motors located in pairs at points relatively at considerable distances apart, each pair of motors having a series-parallel motor-combiner, a single main controller, and a single main operating device provided with hydraulically-controlled means therefor; in combination with independent sets of control-circuits, one set for each pair of motors and a single portable master-controller adapted to be used at points of control relatively separated as to distance, whereby any pair of motors may be utilized as desired, the said master-controller embracing means for indicating at all times the position of the main controllers, substantially as described.

20. In a system of motor control contacts for conveying currents of relatively large volume carried by an arm of magnetic material; a rotary shaft supporting said arm; a contact-strip carried thereby, and circuit connections between said strip and the aforesaid arm through which the motor-current flows; in combination with stationary contacts and a blow-out coil so disposed with relation to the arm and the contacts that magnetic lines of force established through the arm and at the points of rupture will blow out any arc established between the movable and stationary contacts, substantially as described.

21. In a system of motor control a main resistance divided into sections, said sections being connected to stationary contacts disposed in circular relation around a rotary arm of magnetic material carrying contacts adapted to contact with the stationary contacts, stationary contacts being arranged with relation to the movable contacts in such manner that the contact at one end of the arm is broken after contact at opposite end of the arm is made; then the latter contact is broken after the former is again made, and so on during the rotation of the arm; in combination with a blow-out coil adapted to establish magnetic lines of force through the arm and the air-spaces between the stationary and movable contacts, substantially as described.

22. In a system of motor control a sectional main resistance connected by conductors to stationary contacts circularly disposed; in combination with a rotatable arm carrying one or more pairs of contacts electrically connected together, the arrangement being such that the circuit is never wholly broken between one of the rotary contacts and its follow stationary contact before it is reëstablished between the other rotary contact and a second stationary contact, except after the entire resistance has been cut out, whereby damaging arcing is prevented, substantially as described.

23. In a system of motor control a series of stationary contacts circularly disposed and connected to sectional parts of the main resistance; in combination with a rotary arm carrying yielding contacts at its opposite ends, said contacts being yieldingly seated in rigid supports at the ends of the rotary arm, the arm with its contacts constituting a rotary terminal through which current is led to the stationary contacts, substantially as described.

24. In a system of motor control a series of stationary terminals having adjustable contact-plates electrically connected to the sections of the main resistance; in combination with a rotary arm carrying contacts at its opposite ends, said contacts being yieldingly supported so that when the arm is rotated the circuit is never actually broken between the contacts, until after the resistance has been passed through, substantially as described.

25. In a system of motor control an operating device embracing a cylinder and a piston therein, said piston constituting a solenoid-core connected to the main controller and adapted to move or rotate the same through fixed positions, means being afforded whereby the controller may be held in any of said fixed positions; in combination with a source of liquid-supply; valve mechanism; a main controlling-solenoid and circuits and circuit connections, whereby the controller may be moved gradually and in such manner as to prevent or avoid sudden abnormal current-flow through the motor or motors, substantially as described.

26. In a system of motor control means for effecting the various current relations to and through the motor or motors; in combination with hydraulic means controlled by said current for maintaining it at a predetermined or fixed maximum value during the starting of the motor or motors, substantially as described.

27. In a system of motor control means for varying the current-flow to and through the motors; in combination with hydraulic means controlled by said current and adapted to react on the first-named means in such manner as to automatically maintain the current-flow at a predetermined or fixed maximum value during the starting of the motors, and also not to allow this fixed maximum value to be exceeded during the operation of the motors, substantially as described.

28. In a system of motor control a controller adapted to effect the desired current changes through the motors; in combination with hydraulic means adapted to automatically establish a rate of movement of the controller, whereby the motors are caused to exert a practically constant torque on starting and also which does not allow this starting torque to be exceeded during the operation of the motors, substantially as described.

29. In a system of motor control a controller adapted to effect the desired current changes through the motors; in combination with adjustable hydraulic means adapted to automatically establish a rate of movement of the controller, whereby the motors are caused to exert a practically constant torque on starting which may be varied at will by such adjustment, substantially as described.

30. In a system of motor control for electric railways a main controller for each car and a portable master-controller having electrical connections with each main controller; in combination with automatically-controlled fluid means connected with each main controller for effecting a practically constant flow of current during the starting of the motors, substantially as described.

31. A controller provided with a series of controller-contacts and means for connecting it temporarily to a stationary support; and additional means for preventing its removal without first interrupting all circuit connections through it; in combination with a series of

control-conductors having stationary contacts adapted to be connected with the controller-contacts, substantially as described.

32. A controller provided with a controller-handle and means for securing it, the controller, temporarily to a permanent support, the arrangement being such that the controller can only be detached when the controller-handle is in "off" position or the circuit to the source of current-supply interrupted, substantially as described.

33. A portable controller having operating and reversing means and means for detachably securing it temporarily to a permanent support; together with locking means for preventing its removal when the operating-handle is in any position other than "off," substantially as described.

34. A portable controller having reversing and operating contacts and independent operating-handles therefor; in combination with means for temporarily securing it to a permanent support, and additional means for locking it thereto, the arrangement being such that it cannot be detached until both handles are in indicated "off" positions and the working circuit disrupted, substantially as described.

35. In a system of motor control of the series-parallel type, means for effecting the series and parallel relations which operate only when these relations are being made; in combination with additional means independent of the first-named means which disrupt the motor-circuit after the different series combinations have been passed through, and restores said circuit again after the parallel relations have been established, substantially as described.

36. In a system of motor control of the series-parallel type means for effecting the series combinations; independent means for changing the amount of resistance in circuit and for disrupting the working current after the series changes have been completed; in combination with means for effecting the parallel combinations, and additional independent means for again throwing in the whole resistance after paralleling, and then successively cutting it out as the paralleling proceeds, the rate at which the resistance is cut out being independent of the operator and depending on the amount of current flowing in the motor-circuit, substantially as described.

37. A system of motor control for an electrically-propelled car embracing a series of insulated controlling-conductors adapted to carry controlling-currents of relatively small volume and a series of insulated working conductors adapted to carry working currents of relatively large volume; in combination with a master-controller, a main controller, and an operating device embracing hydraulic means for advancing it through definite steps, said device being adapted to manipulate the main controller, said main controller and the operating device being electrically and mechanically connected together, substantially as described.

38. A system of motor control embracing an automatic operating device including hydraulic controlling means, said device being operatively connected to a controller, and a motor-combiner adapted to effect series-parallel combinations; in combination with means for automatically varying the motor resistance, said means tending to keep the motor-current constant during starting, substantially as described.

39. In a system of motor control means for establishing series and parallel relations of the motors; in combination with additional independent means for interrupting the motor-circuit after the different series combinations of the motors have been made and before the parallel relations have been established, the first-named means never interrupting current in the motor-circuit and operating only while the series or parallel relation is being established, the said means for interrupting the motor-circuit operating automatically, its speed of operation depending on the value of the motor-current, substantially as described.

40. A system of motor control embracing a main controller, a main resistance and resistance-varying means; in combination with a main operating device and a motor-circuit combiner for effecting the series and parallel relations of a pair of motors; together with a master-controller provided with means for controlling the movements of the main operating device, the movable driving part of the latter being operated by two sources of power and retarded in one direction by hydraulic means, substantially as described.

41. In a system of motor control of the series-parallel type, electrically-controlled means for maintaining the maximum current-flow to the motors the same whether the motors be running in series or parallel, in combination with a master-controller having circuit connections with said means, substantially as described.

42. In a system of motor control of the series-parallel type means embracing hydraulically-controlled parts for operating the controller at one speed while the series or parallel combinations are being effected and for materially increasing the speed thereof while passing from series to parallel combinations, both speeds being governed by the current flowing in the motor-circuit, substantially as described.

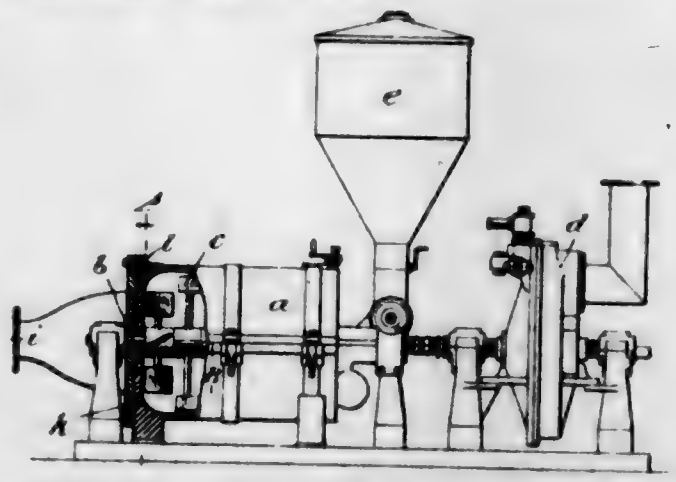
43. In a system of motor control of the series-parallel type an operating device operated by two opposing sources of energy, and hydraulic means all so constructed and controlled that the series and parallel combinations are effected at substantially one speed and that the speed is materially increased between the times of effecting such series and the parallel combinations, both speeds being governed by the current flowing in the motor-circuit, substantially as described.

804,157. PROCESS OF MAKING HYDROSULFITE PREPARATIONS. RUDOLF MÜLLER, Höchst-on-the-Main, Germany, assignor to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Jan. 23, 1905. Serial No. 242,290.

Claim.—1. The herein-described process for the manufacture of a hydrosulfite preparation, which consists in bringing together alkali hydrosulfites with ketones, caustic alkali and ammonia and in evaporating the mixture at a low temperature in a vacuum

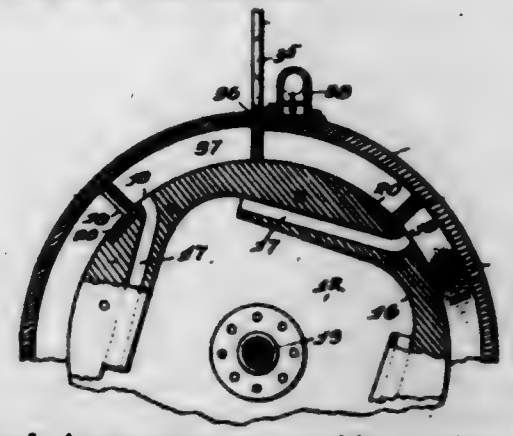
2. As a new product, the hydrosulfite preparation, obtained by evaporating the solution of alkali hydrosulfite with dimethylketone, caustic alkali and ammonia, being, when dry, readily soluble in water, the solutions being alkaline and having an odor of acetone and ammonia, reducing indigo-sulfonic acid only slowly in the cold, but more rapidly when heated.

804,158. FUEL-FEEDING APPARATUS. JOSÉ F. DE NAVARRO, New York, N. Y., assignor to Herbert J. Travis, Brooklyn, N. Y. Filed Mar. 3, 1905. Serial No. 248,280.



Claim.—The combination with the pulverizer-casing provided with an annular flange at its end, a rotary shaft extending through the casing, beaters carried by the shaft, means for actuating the shaft and means for feeding fuel within the casing, the said flanged end of the pulverizer-casing being provided with one or more openings therethrough, of a plate provided with openings corresponding to the openings in the end of the pulverizer-casing and constructed to be secured to the end of the pulverizer and discharge passageways leading from the said plate forming a continuation of the openings therethrough.

804,159. AIR-COMPRESSOR. CHRISTIAN NEUMANN, St. Louis, Mo., assignor to The Natural Power Co., St. Louis, Mo., a Corporation. Filed Nov. 2, 1903. Serial No. 179,467.



Claim.—1. An air-compressor comprising a casing; a shaft; a disk mounted upon said shaft; pistons located upon the periphery of said disk; A-frames located on each side of the casing supporting

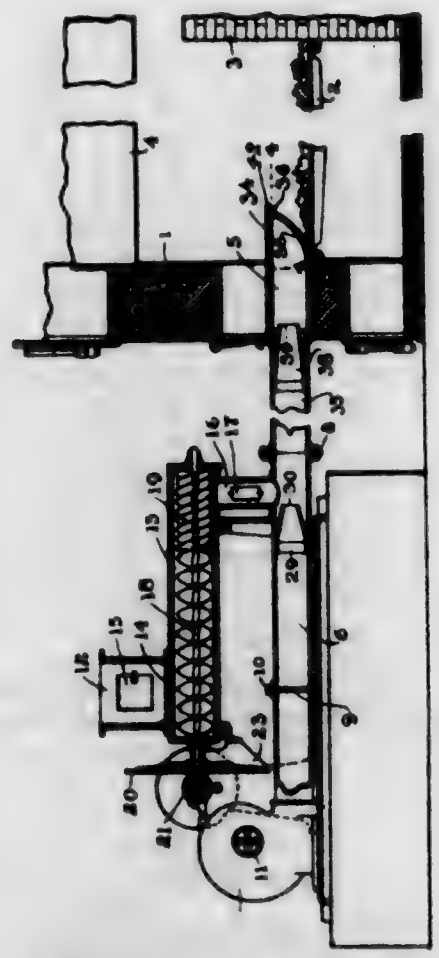
the shaft; a shaft located on the top of said casing; a cut-off disk supported by said shaft; a shaft located on top of the A-frames; bevel gears located upon said shafts meshing together for operating the cut-off disk, fly-wheels located upon the driving-shaft and the shaft supported upon the A-frames, substantially as specified.

2. An air-compressor comprising a revolving piston-carrying disk located within a casing; ring-castings located upon said disk; air-passages in said castings; a revolving cut-off disk slotted for the passage of the pistons; a compression-chamber formed within the casing, and a mechanism for operating the disk; substantially as specified.

3. A device of the class described comprising a casing; a revolving member operating in said casing, pistons and air-catchers located on said revolving member, a slotted cut-off disk located on the top of said casing and operating through an opening formed in the casing; said cut-off disk extending through the casing to the periphery of the revolving member; said cut-off disk acting as an abutment, and a mechanism for operating said compressor, substantially as specified.

4. A device of the class described comprising a casing mounted upon a base, a shaft; a revolving disk located upon said shaft, and having air-passages; pistons formed on the revolving disk; said shaft supported in A-frames located at each side of the casing; fly-wheels and pulleys located upon said shaft; crank-disks located upon the ends of the shaft; connecting-rods connecting the crank-disks of the upper shaft with those of the lower shaft; a gear-wheel located on the upper shaft, a short shaft located upon the top of the casing, operated by the aforesaid shaft, a slotted cut-off disk carried by the said short shaft and arranged to allow the pistons of the revolving disk to pass therethrough during the operation of the machine; and a means for discharging the compressed air from the machine, substantially as specified.

804,160. **DEVICE FOR FEEDING PULVERIZED FUEL.** EVERETT J. NEVILLE, Cleveland, Ohio. Filed Mar. 14, 1904. Serial No. 197,974.



Claim.—1. In a device for feeding pulverized fuel, the combination of a blast-pipe, a closed duct for pulverized fuel communicating with said pipe, and a nozzle in the pipe in front of said duct, substantially as specified.

2. In a device for feeding pulverized fuel, the combination of a blast-pipe, a feeding device for fuel, a duct extending between said device and said pipe and communicating therewith, means including said feeding device for cutting off said duct from communication with the atmosphere, and a nozzle in the blast-pipe in front of said duct, substantially as specified.

3. In a device for feeding pulverized fuel, the combination of a blast-pipe, a feeding-pipe for the fuel, means for supplying pulverized fuel to the said feeding-pipe, a feeding-screw in said feeding-pipe, a delivering-pipe communicating with the feeding-pipe and connected thereto at a point remote from the point of introduction of fuel thereinto, said delivering-pipe connecting and communicating with said blast-pipe, and a nozzle in the blast-pipe in front of the delivering-pipe, substantially as specified.

4. In a device for feeding pulverized fuel, the combination of a blast-pipe, a pair of nozzles mounted in said pipe and spaced apart to form an extended commingling-space therebetween, and means for supplying pulverized fuel to said pipe intermediate of said nozzles, substantially as specified.

5. In a device for feeding pulverized fuel, the combination of a blast-pipe, a pair of nozzles mounted in said pipe and spaced apart to form an extended commingling-space therebetween, and a delivering-pipe for pulverized fuel communicating with said blast-pipe adjacent to and in the rear of the forward nozzle, substantially as specified.

6. In a device for feeding pulverized fuel, a blast-pipe, a closed duct for delivering the fuel to said pipe, a nozzle in the blast-pipe in front of said duct, and a second nozzle at the rear of said duct, said second nozzle having a larger discharge-orifice than the first nozzle, substantially as specified.

7. In a device for feeding pulverized fuel, the combination of a blast-pipe, said pipe being provided with a slitted discharge-orifice in the rear end thereof and a plurality of restricting-nozzles mounted within the same, the discharge-orifice in the first nozzle being smaller than the discharge-orifice in either of the other nozzles or the slit, means for supplying pulverized fuel to the pipe at the rear of the first nozzle, and means for supplying a common pressure fluid through said nozzles and slit, substantially as specified.

8. In a device for feeding pulverized fuel, the combination of a blast-pipe, said pipe being divided into a plurality of branches, a smooth unobstructed surface being provided at the point of divergence of said branches, a nozzle within said pipe immediately in front of the point of divergence of said branches, and means for admitting fuel to the pipe in advance of said nozzle, substantially as specified.

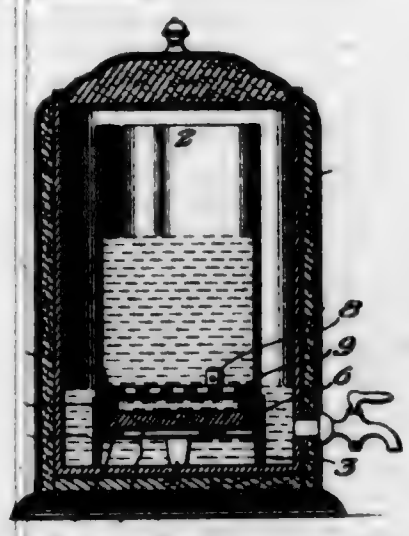
9. In a device for feeding pulverized fuel, the combination of a blast-pipe that is divided near its rear end into a plurality of branches, said pipe being provided with a constriction just in advance of the point of divergence of the said branches and being also provided with a second constriction arranged in advance of the first-mentioned constriction, the discharge-orifice through said second constriction being smaller than that through the first-mentioned constriction, and means for admitting fuel to the blast-pipe between said constrictions, substantially as specified.

10. In a device for feeding pulverized fuel to a furnace, the combination of a blast-pipe, a delivering section or burner connected to the rear end of said blast-pipe, said section comprising a flat top plate and a bottom plate, said top plate extending in substantially the same plane as the top of the blast-pipe and the lower plate having its front end in substantially the plane of the bottom of the blast-pipe and its rear end inclined upwardly and extending in close proximity to the top plate, substantially as specified.

11. In a device for feeding pulverized fuel to a furnace, the combination of a blast-pipe, and a delivering section or burner for said blast-pipe, said delivering section or burner comprising a top plate and a bottom plate, the top plate extending in substantially the plane of the top of the blast-pipe and the front portion of the bottom plate extending in substantially the plane of the bottom of the blast-pipe and having its rear end inclined upwardly to form a discharge-slit between the same and the top plate, said top plate extending beyond the bottom plate, substantially as specified.

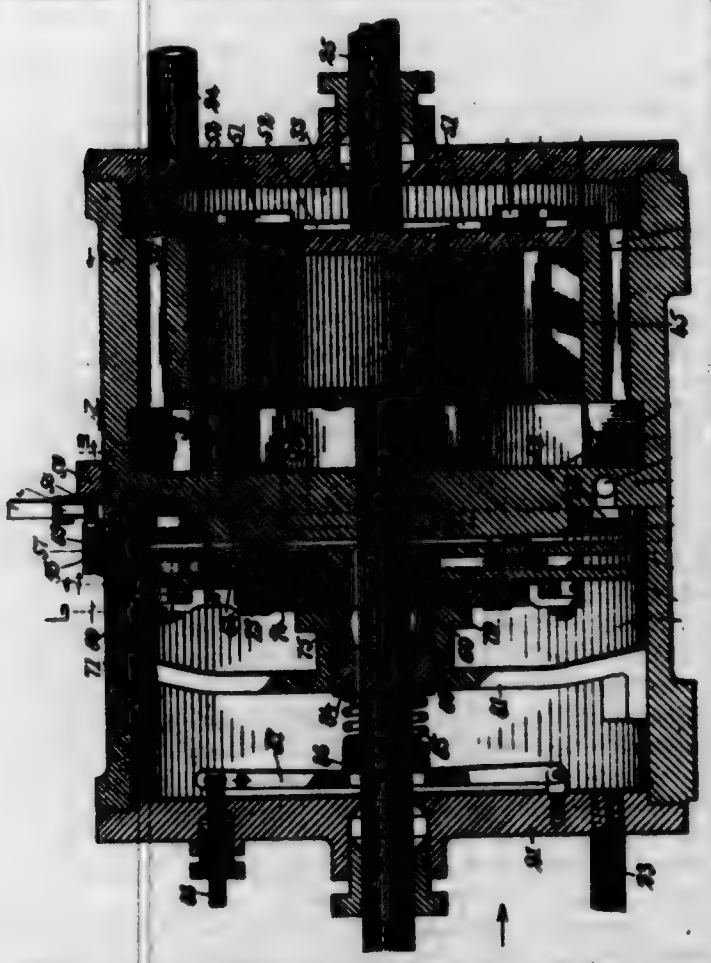
12. In a device for feeding pulverized fuel, a blast-pipe that is divided toward its rear end into a plurality of diverging branches, delivering-sections connected with the rear ends of each of said branches, said delivering-sections having slits through which the air and fuel issue, nozzles in the branch pipes at the entrance to the delivering-sections, a nozzle in the blast-pipe in advance of the point of divergence of the branches of the pipe, said nozzle being so positioned as to direct the air against the diverging sides of the branches, for the purpose specified, means for delivering fuel to the blast-pipe, and a nozzle in the blast-pipe in front of the said delivering means, the orifice in the last-mentioned nozzle being smaller than the orifices in either of the other nozzles, and also smaller than the slits in the delivering-section, whereby the pressure of the air in the pipe is diminished after it passes the nozzle with the smaller orifice, so that the air is permitted to circulate and thus thoroughly commingle the fuel therewith.

804,161. FILTER. WILSON HOLES, Montrose, Iowa. Filed Mar. 8, 1905. Serial No. 249,087.



Claim.—The combination with a water-cooler, a filter fitted therein, said filter comprising a stand-pipe having legs, a porous filtering member in the lower end of said stand-pipe, brackets for holding said porous member in position, a spacing-ring resting upon said porous member, brackets for holding said spacing-ring in position, and a grating removably supported upon said last-mentioned brackets.

804,162. ROTARY ENGINE. FRED M. OBER and BURT DUGAR, Morrisville, Vt. Filed Feb. 10, 1905. Serial No. 245,046.



Claim.—1. A rotary engine provided with a cylinder, a rotor mounted therein, an abutment carried by the cylinder and coacting with the rotor, and a cruciform piston-head revolubly mounted on the rotor and adapted to be turned by steam-pressure, to enable it to pass the abutment.

2. A rotary engine provided with a cylinder, a rotor mounted therein, a stationary abutment carried by the cylinder and projecting inward into engagement with the rotor, said rotor having a cavity therein, and a cruciform piston-head revolubly mounted on and partly in the cavity of the rotor, said piston-head being adapted to be turned by steam-pressure to permit it to pass the abutment.

3. A rotary engine comprising a cylinder, a rotor mounted to turn therein, a stationary abutment carried by the cylinder and projecting inward into engagement with the rotor, the cylinder having a cavity at each side of the abutment, and a cruciform piston-head revolubly mounted on the rotor, said cavity permitting steam-pressure to act on the piston-head to turn the same as it passes the abutment.

4. A rotary engine comprising a cylinder, a rotor mounted to turn therein, a stationary abutment carried by the cylinder and projecting inward into engagement with the rotor, the cylinder having a cavity at each side of the abutment, a cruciform piston-head revolubly mounted on the rotor, said cavity permitting steam-pressure to act on the piston-head, to turn the same as it passes the abutment, and means for guiding the piston-head in its turning movement.

5. A rotary engine provided with a cylinder, a rotor mounted therein, a stationary abutment carried by the cylinder and projecting inward into engagement with the rotor, said rotor having a cavity therein, a cruciform piston-head revolubly mounted on and partly in the cavity of the rotor, said piston-head being adapted to be turned by steam-pressure to permit it to pass the abutment, and means for guiding the piston-head in its turning movement.

6. A rotary engine provided with a cylinder, a rotor mounted therein, an abutment carried by the cylinder and coacting with the rotor, a cruciform piston-head revolubly mounted on the rotor and adapted to be turned by steam-pressure, to enable it to pass the abutment, and means for guiding the piston-head in its turning movement.

7. A rotary engine comprising a cylinder, a rotor mounted to turn therein, a stationary abutment carried by the cylinder and projecting inward into engagement with the rotor, the cylinder having a cavity at each side of the abutment, a cruciform piston-head revolubly mounted on the rotor, said cavity permitting steam-pressure to act on the piston-head to turn the same as it passes the abutment, a cruciform finger in connection with the piston-head, and a stationary cam-plate coacting with the finger, to guide the turning movement of the piston-head.

8. A rotary engine provided with a cylinder, a rotor mounted therein, a stationary abutment carried by the cylinder and projecting inward into engagement with the rotor, said rotor having a cavity therein, a cruciform piston-head revolubly mounted on and partly in the cavity of the rotor, said piston-head being adapted to be turned by steam-pressure to permit it to pass the abutment, a cruciform finger in connection with the piston-head, and a stationary cam-plate with which the finger coacts to guide the piston-head in its turning movement.

9. A rotary engine comprising a cylinder, a rotor mounted therein, a cruciform piston-head mounted to turn in the rotor, a stationary abutment carried by the cylinder and coacting with the rotor and piston-head, a cruciform finger having connection with the piston-head to move therewith, and a cam coacting with the finger, for the purpose specified.

10. A rotary engine comprising a cylinder, a rotor mounted therein, a cruciform piston-head mounted to turn in the rotor, a stationary abutment carried by the cylinder and coacting with the rotor and piston-head, a cruciform finger having connection with the piston-head to move therewith, and a cam coacting with the finger, for the purpose specified, the said cruciform finger comprising two parts lying in different planes and said cam also comprising two parts lying in different planes, the edges of said parts of the cam being out of registry.

11. A rotary engine comprising a casing or cylinder, a rotor mounted to turn therein, an abutment carried by the cylinder and projecting inward into engagement with the rotor, a rotating piston-head carried by the rotor, a cruciform finger having connection with the piston-head, to move therewith, and a circular cam around which said finger runs, for the purpose specified.

12. A rotary engine comprising a casing or cylinder, a rotor mounted therein, a piston-head revolubly mounted on the rotor, an abutment coacting with the piston-head, a finger corresponding in form to that of the piston-head and having connection with the piston-head, to turn and move therewith, and a cam with which the finger coacts.

13. A rotary engine comprising a cylinder, a rotor mounted therein, an abutment carried by the cylinder and engaging the rotor, said cylinder having steam-ports at each side of and adjacent to the abutment and having a cavity at each side of the abutment, a cruciform piston-head mounted to turn on the rotor, said cavities in the cylinder permitting the steam-pressure to act on the piston-head to turn it in passing the abutment, and a stop arranged to move with the rotor and adapted to choke or blank said ports of the cylinder at the time the piston-head is turning around the abutment.

14. A rotary engine comprising a cylinder, a rotor mounted therein, an abutment carried by the cylinder and engaging the rotor, said cylinder having steam-ports at each side of and adjacent to the abutment and having a cavity at each side of the abutment, a cruciform piston-head mounted to turn on the rotor, said cavities in the cylinder permitting the steam-pressure to act on the piston-head to

turn it in passing the abutment, a stop arranged to move with the rotor and adapted to choke or blank said ports of the cylinder at the time the piston-head is turning around the abutment, and means for positively guiding the piston-head during its operation.

15. A rotary engine comprising a cylinder, a rotor mounted therein, an abutment carried by the cylinder and engaging the rotor, said cylinder having steam-ports at each side of and adjacent to the abutment and having a cavity at each side of the abutment, a cruciform piston-head mounted to turn on the rotor, said cavities in the cylinder permitting the steam-pressure to act on the piston-head to turn it in passing the abutment, a stop arranged to move with the rotor and adapted to choke or blank said ports of the cylinder at the time the piston-head is turning around the abutment, a cruciform finger having connection with the piston-head, to move therewith, and a stationary cam engaged by said finger.

16. A rotary engine comprising a cylinder having a partition therein and having a reduced interior portion at one side of the partition with exhaust-chambers at each side of said reduced interior portion, the cylinder also having a transverse exhaust-port connecting the two exhaust-chambers, steam and exhaust ports formed in said partition, a rotor mounted in the reduced portion of the cylinder, a rotating piston-head carried on the rotor, an abutment carried on the reduced portion of the cylinder and coacting with the piston-head, and means at the side of the partition opposite that on which the rotor lies, for controlling the steam movement through said feed and exhaust ports.

17. A rotary engine comprising a cylinder, a rotor mounted therein, a rotating piston-head carried on the rotor, an abutment mounted on the cylinder and coacting with the piston-head, a finger in connection with the piston-head and having a form corresponding to that of the piston-head, and a relatively stationary cam-plate along which said finger runs, for the purpose specified.

18. In a rotary engine, the combination with a cylinder and a rotor mounted thereon, of a governor-plate controlling the steam-supply to the valve devices, a centrifugal governor for automatically operating the governor-plate, a sleeve having a cam-surface engaging a cam-surface on the governor-plate, a spring pressing said sleeve, and a means for manually pressing said sleeve.

19. In a rotary engine, the combination with a cylinder and a rotor mounted thereon, of a governor-plate controlling the steam-supply to the valve devices, a centrifugal governor-arm mounted on the governor-plate, a means for changing the position of the governor-arm, said means comprising a shifting disk having a notch therein receiving the governor-arm, means for connecting the disk with the governor-plate to allow the disk a turning movement independent of the governor-plate, and a stationary member frictionally engaged with said disk for the purpose specified.

20. A rotary engine comprising a cylinder, a rotor mounted therein, a partition in the cylinder at one side of which the rotor is located, the turbine having steam and exhaust ports leading to and from the rotor, a distributing-ring mounted at the side of the partition opposite the rotor and having equidistant steam-ports passing through it, and also having on the face of the ring adjacent to the partition elongated exhaust-ports placed equidistant between the steam-ports, said steam and exhaust ports of the distributing-ring coacting with the steam and exhaust ports of the turbine, whereby upon shifting the ring steam may be admitted to drive the rotor in either direction, means for shifting the ring, and means for supplying steam to the cylinder at the side of the partition on which the distributing-ring is located.

21. A rotary engine comprising a cylinder, a rotor mounted therein, a partition in the cylinder at one side of which the rotor is located, the turbine having steam and exhaust ports leading to and from the rotor, a distributing-ring mounted at the side of the partition opposite the rotor and having equidistant steam-ports passing through it, and also having on the face of the ring adjacent to the partition elongated exhaust-ports placed equidistant between the steam-ports, said steam and exhaust ports of the distributing-ring coacting with the steam and exhaust ports of the turbine, whereby upon shifting the ring steam may be admitted to drive the rotor in either direction, means for shifting the ring, means for supplying steam to the cylinder at the side of the partition on which the distributing-ring is located, a governor located in the cylinder at the side of the partition on which the distributing-ring is located, and a governor-plate connected with the governor and controlling the steam-supply to the distributing-ring.

22. A rotary engine comprising a cylinder, a rotor mounted therein, a partition in the cylinder at one side of which the rotor is located, the turbine having steam and exhaust ports leading to and from the rotor, a distributing-ring mounted at the side of the partition opposite the rotor and having equidistant steam-ports passing through it, and also having on the face of the ring adjacent to the partition elongated exhaust-ports placed equidistant between the steam-ports, said steam and exhaust ports of the distributing-ring coacting with the steam and exhaust ports of the turbine, whereby upon shifting the ring steam may be admitted to drive the rotor in either direction, means for shifting the ring, and means for supplying steam to the cylinder at the side of the partition on which the distributing-ring is located, and a valve-plate lying in the cylinder against the distributing-ring and having a group of steam-ports for each steam port of the distributing-ring, the valve-plate moving with the rotor past the distributing-ring to admit steam to said ring.

23. A rotary engine comprising a cylinder, a rotor mounted therein, a partition in the cylinder at one side of which the rotor is located, the turbine having steam and exhaust ports leading to and from the rotor, a distributing-ring mounted at the side of the partition opposite the rotor and having equidistant steam-ports passing through it, and also having on the face of the ring adjacent to the partition elongated exhaust-ports placed equidistant between the steam-ports, said steam and exhaust ports of the distributing-ring coacting with the steam and exhaust ports of the turbine, whereby upon shifting the ring steam may be admitted to drive the rotor in either direction, means for shifting the ring, means for supplying steam to the cylinder at the side of the partition on which the distributing-ring is located, a valve-plate lying in the cylinder against the distributing-ring and having a group of steam-ports for each steam-port of the distributing-ring, the valve-plate moving with the rotor past the distributing-ring to admit steam to said ring, a governor-plate controlling the steam-supply to the valve-plate, and a governor for operating the governor-plate.

24. A rotary engine comprising a cylinder, a rotor mounted therein, a partition in the cylinder at one side of which the rotor is located, the turbine having steam and exhaust ports leading to and from the rotor, a distributing-ring mounted at the side of the partition opposite the rotor and having equidistant steam-ports passing through it, and also having on the face of the ring adjacent to the partition elongated exhaust-ports placed equidistant between the steam-ports, said steam and exhaust ports of the distributing-ring coacting with the steam and exhaust ports of the turbine, whereby upon shifting the ring steam may be admitted to drive the rotor in either direction, means for shifting the ring, means for supplying steam to the cylinder at the side of the partition on which the distributing-ring is located, a valve-plate lying in the cylinder against the distributing-ring and having a group of steam-ports for each steam-port of the distributing-ring, the valve-plate moving with the rotor past the distributing-ring to admit steam to said ring, a governor-plate controlling the steam-supply to the valve-plate, and a governor for operating the governor-plate, said governor being located within the cylinder.

25. In a rotary engine, the combination with a cylinder having a partition dividing it into two parts, said partition having steam and exhaust ports therein, a rotor located in the cylinder at one side of the partition, a distributing-ring located in the cylinder at the opposite side of the partition and having steam and exhaust ports coacting with the steam and exhaust ports of the partition, a valve-plate connected to turn with the rotor and lying against the distributing ring, the valve-plate having a group of steam-ports for each steam-port of the distributing-ring, a governor-plate controlling steam movement to the valve-plate, a centrifugal governor member mounted on the governor-plate and connected between said member and the valve-plate, whereby the governor causes relative movement of the governor and valve plates, for the purpose specified.

26. A rotary engine having a cylinder with a partition therein dividing it into two compartments, a rotor mounted in one compartment of the cylinder, the partition having steam and exhaust ports therein, a distributing-ring located against the partition in the other compartment and having steam and exhaust ports coacting with the steam and exhaust ports of the partition, a valve-plate having ports adapted to register with the steam-ports of the distributing-ring, a governor-plate controlling the steam-supply to the valve-plate, and a centrifugally-actuated means for the relative movement of the governor and valve plates whereby to govern the action of the engine.

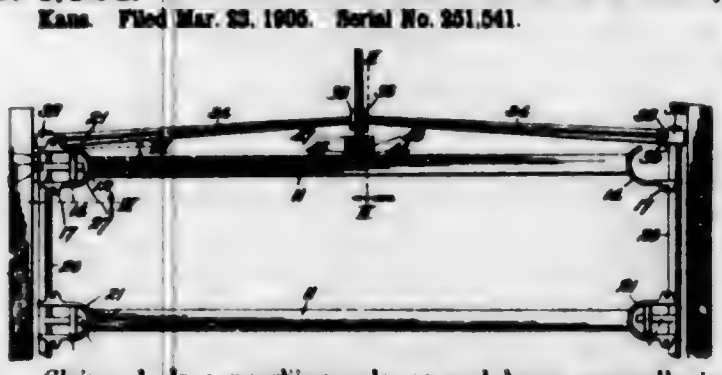
804,163. LIGHT-BOX. CHAUNCEY M. OLIN, Vincennes, Ind. Filed Aug. 20, 1904. Serial No. 222,757.

Claim.—A folding light-box composed of a body having side and end wings at an angle to the bottom of said body, the side wings hav-

ing flaps at their ends to overlap the end wings, and each flap and wing having a perforation combined with a top having end flaps and end wings to fold downward and overlap each other, the said last-mentioned flaps and wings each having a single perforation, and a single fastening device at each end of the box adapted to pass through the registering perforations in said end flaps, and wings to hold the two parts of the box assembled.



804,164. WEIGHING-SCALE. DARIUS M. ORCUTT, Kansas City, Kans. Filed Mar. 23, 1905. Serial No. 251,541.



Claim.—1. In a weighing-scale, an end beam, upwardly-disposed hooks carried thereby, a rock-shaft having outwardly-projecting arms fulcrumed on said hooks, and inwardly-projecting arms, hangers pivotally suspended from the inwardly-projecting arms to swing toward or from the end beam, longitudinal joists or beams supported by said hangers for endwise vibration therewith, a platform mounted upon said joists or beams, and guard-plates secured to the end beams and having bifurcations or slots in their lower ends fitting over the outwardly-projecting arms of the rock-shaft.

2. In a weighing-scale, an end beam, upwardly-disposed hooks carried thereby, a rock-shaft having outwardly-projecting arms fulcrumed on said hooks, and inwardly-projecting arms, hangers pivotally suspended from the inwardly-projecting arms to swing toward or from the end beam, longitudinal joists or beams supported by said hangers for endwise vibration therewith, a platform mounted upon said joists or beams, and guard-plates secured to the end beam and sloping downwardly and inwardly therefrom and having bifurcations or slots in their lower ends fitting over the outwardly-projecting arms of the rock-shaft; that portion of the plate forming the upper edge of the bifurcation or slot being sharpened.

3. In a weighing-scale, a beam, upwardly-disposed hooks carried by and secured at the inner sides of the same and open at the side inward of or remote from the beam, a rock-shaft having arms projecting outwardly and equipped with bearings fulcrumed on said hooks, arms projecting inwardly from the rock-shaft, a platform supported from and above said inwardly-projecting arms of the rock-shaft, guard-plates sloping downwardly and inwardly and bridging the open inner side of the hooks and provided with bifurcations or slots in their lower ends fitting over the outwardly-projecting rock-shaft arms.

4. In a weighing-scale, a beam, upwardly-disposed hooks carried by and secured at the inner sides of the same and open at the side inward of or remote from the beam, a rock-shaft having arms projecting outwardly and sharpened at their upper edges, and equipped with bearings fulcrumed on said hooks, arms projecting inwardly from the rock-shaft, a platform supported from and above said inwardly-projecting arms of the rock-shaft, guard-plates sloping downwardly and inwardly and bridging the open inner side of the hooks and provided with bifurcations or slots in their lower ends fitting over the outwardly-projecting rock-shaft arms; that portion of each guard-plate at the upper end of its bifurcation being sharpened.

5. In a weighing-scale, end beams, rock-shafts at the inner sides of and parallel with the end beams and fulcrumed thereon, arms projecting inwardly from the rock-shafts and provided with laterally-projecting bearing-arms, hangers fitting over said inwardly-projecting arms and fulcrumed on side laterally-projecting bearing-arms, and provided with outwardly-projecting bearing-arms, longitudinal joists or beams, brackets secured to said beams and provided with bearing-cavities resting on the outwardly-projecting arms of the hangers, and a platform supported by said joists or beams.

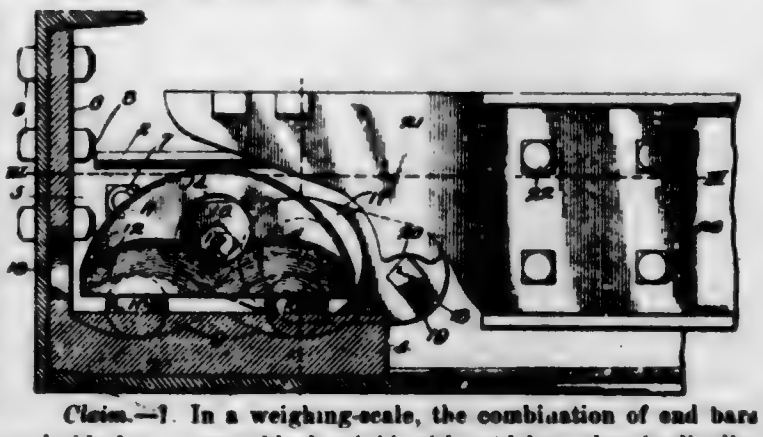
6. In a weighing-scale, end beams, rock-shafts supported from said beams, a platform structure suitably supported from the rock-shafts, arms projecting from the rock-shafts, a cross-lever sustaining the downward pressure of said arms, and a vertical hanger forming a fulcrum for the cross-lever and suspended from the platform structure and bodily self-adjustable in a horizontal plane in a direction parallel with the rock-shafts.

7. In a weighing-scale, end beams, rock-shafts having arms fulcrumed on said beams, a platform supported from and inward of said rock-shafts, arms projecting inwardly from the ends of the rock-shafts, a cross-lever, loops or stirrups suspended therefrom and engaged by the inner ends of said arms, and a hanger uniting the cross-lever to the platform and self-adjustable transversely of the latter.

8. In a weighing-scale, end beams, rock-shafts having arms fulcrumed on side beams, a platform supported from and inward of said rock-shafts, arms projecting inwardly from the ends of the rock-shafts, a cross-lever, loops or stirrups suspended therefrom and engaged by the inner ends of said arms, a bracket rigid with the platform and having trackways extending transversely thereof, a roller mounted on said trackways, and a hanger suspended from said roller and forming a fulcrum for the contiguous end of the cross-lever.

9. In a weighing-scale, end beams, rock-shafts supported from said beams, a platform structure suitably supported from the rock-shafts, arms projecting from the rock-shafts, a cross-lever sustaining the downward pressure of said arms, a roller supported by the platform structure and adapted to roll in the direction of the length of the cross-lever, and a hanger forming a fulcrum for the cross-lever and pivotally suspended from said roller and adapted to swing in the direction of the length of the cross-lever.

804,165. PITLESS WAGON-SCALE. DARIUS M. ORCUTT, Kansas City, Kans. Filed Aug. 17, 1905. Serial No. 274,537.



Claim.—1. In a weighing-scale, the combination of end bars and side bars, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars, and fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

2. In a weighing-scale, the combination of end bars and side bars, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars, and fulcrumed on said caps, levers projecting from said rock-shafts, platform-bars pivotally supported by said levers, a bracket projecting from one of the platform-bars, a cross-lever fulcrumed thereon, and arms projecting from the rock-shafts and imposing downward pressure on said cross-lever.

3. In a weighing-scale, the combination of end bars and side bars, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars, and fulcrumed on said caps, levers projecting from said rock-shafts, platform-bars pivotally supported by said levers, a bracket projecting from one of the platform-bars, a cross-lever fulcrumed thereon, stirrups pivotally suspended from the cross-lever and arms rigid with the rock-shafts and having their inner ends engaging and imposing downward pressure on said stirrups.

4. In a weighing-scale, the combination of end bars and side bars, one of the latter having a notch in its upper side, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars and fulcrumed on said caps, levers projecting from said rock-shafts, platform-bars pivotally supported by said levers, a bracket projecting from one of the platform-bars, a cross-lever fulcrumed thereon and extending through the notch of the said side bar, arms projecting from the rock-shafts and imposing downward pressure on said cross-lever, and a slotted casting secured to the notched cross-bar through which the cross lever extends.

5. In a scale, the combination of end bars and side bars, one of the latter having a notch in its upper side, corner-blocks rigid with said bars, longitudinally-movable caps having a roller-bearing relation with said blocks, parallel rock-shafts contiguous to the end bars and fulcrumed on said caps, levers projecting from said rock-shafts, platform-bars pivotally supported by said levers, a bracket projecting from one of the platform-bars, a cross-lever fulcrumed thereon and extending through the notch of said side bar, stirrups pivotally suspended from the cross-lever, arms projecting rigidly from the rock-shafts and engaging and imposing downward pressure on the stirrups, and a slotted casting secured to the notched cross-bar through which the cross-lever extends.

6. In a weighing-scale, parallel end bars, parallel side bars, corner-blocks at the inner sides of said end and side bars, and provided with upwardly-projecting end flanges secured to the end bars and upwardly-projecting side flanges secured to the side bars, longitudinally-movable caps having a roller-bearing relation to said blocks, transverse rock-shafts fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

7. In a weighing-scale, a pair of channeled end bars having their flanges projecting inwardly, a pair of channeled side bars having flanges projecting inwardly, corner-blocks seated on the contiguous portions of the lower flanges of said bars and secured rigidly to the latter, longitudinally-movable caps having a roller-bearing relation to said blocks, transverse rock-shafts fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

8. In a weighing-scale, a pair of channeled end bars, having their flanges projecting inwardly and their bottom flanges beveled to converge inwardly, a pair of channeled side bars having their flanges projecting inwardly and their bottom flanges beveled to converge inwardly and abutting squarely against the beveled ends of the bottom flanges of the end bars, corner-blocks provided with longitudinal grooves or channels in their lower sides to receive the bottom flanges of the side bars, and communicating transverse grooves or channels to receive the bottom flanges of the end bars, means for securing said blocks rigidly to said end and side bars, longitudinally-movable caps having a roller-bearing relation to said blocks, transverse rock-shafts fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

9. In a weighing-scale, end bars, side bars, corner-blocks secured rigidly to the side and end bars and provided with one or more longitudinal channels, rollers in said channels, caps provided in their lower sides with one or more longitudinal channels to engage the upper portions of said rollers, rock-shafts fulcrumed on said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

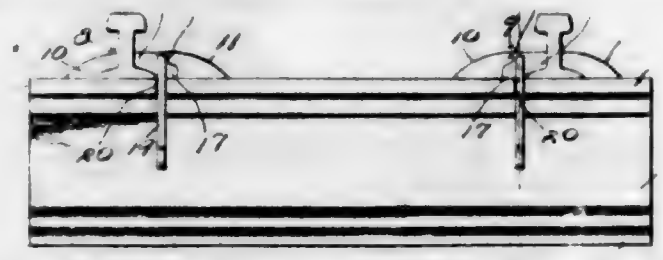
10. In a weighing-scale, end bars, side bars, corner-blocks secured rigidly to the side and end bars and provided with a plurality of longitudinally-alined segmental channels, rollers in said channels, caps provided in their lower sides with alined segmental channels engaging the upper portions of said rollers, transverse rock-shafts fulcrumed upon and centrally of said caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

11. In a weighing-scale, end bars, side bars, corner-blocks secured rigidly to the side and end bars and provided with a plurality of longitudinally-alined segmental channels, rollers in said channels, caps provided in their lower sides with alined segmental channels engaging the upper portions of said rollers, and provided centrally with openings, transverse rock-shafts having lugs provided with bearings engaging said openings, and fulcrumed upon the caps, levers projecting from said rock-shafts, and platform-bars pivotally supported by said levers.

12. In a weighing-scale, end bars, side bars, corner-blocks secured to the end and side bars, and provided with a pair of longitudinally-alined channels of segment shape both longitudinally and transversely, a ball fitting in each channel, caps provided with longitudinally-alined channels in their under sides of segment form both longitudinally and transversely, transverse rock-shafts fulcrumed on and centrally of said caps, and platform-bars supported from said rock-shafts, and at the opposite sides from their fulcrum-points.

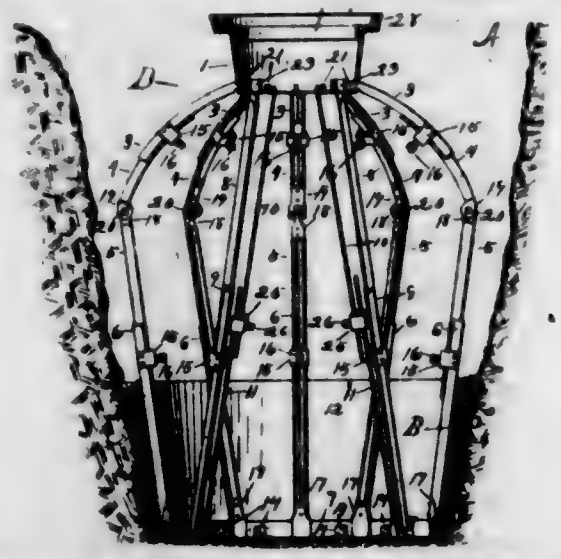
804,166. RAILWAY-TIE. Reuben H. Orr, Vandergrift Heights, Pa. Filed June 10, 1905. Serial No. 264,653.

Claim.—1. In a railroad-tie the combination with a body portion, of spaced rail-receiving members located upon each end and having inwardly-directed flanges at their upper portions, the inner face of one of the members being slanted with respect to the other member to give the space between the members a minor and a major end, a rail having a base-flange disposed with said flange beneath the flange of the unslanted member, a key having a slanted face disposed between the rail and the slanted member and having flanges engaged respectively over the base-flange of the rail and beneath the flange of the slanted member and means operating against the major end of the key to hold the latter yieldably in position.



2. In a railroad-tie the combination with a body portion, of spaced rail-receiving members located upon each end and having inwardly-directed flanges at their upper portions, the inner face of one of the members being slanted with respect to the other member to give the space between the members a minor and a major end, a rail having a base-flange disposed with said flange beneath the flange of the unslanted member, a key having a slanted face disposed between the rail and the slanted member and having flanges engaged respectively over the base-flange of the rail and beneath the flange of the slanted member, and a spring-plate secured to the body portion of the tie at its lower end and resting at its upper end against the major end of the key to hold the latter yieldably in operative position, said body portion having a notch in which the spring-plate is received to hold said plate against lateral displacement.

804,167. FORM FOR MAKING CISTERNS AND CESSPOOLS. Edgar H. Osborn, Battlecreek, Mich. Filed July 11, 1904. Serial No. 216,094.



Claim.—1. In a device of the kind, a framework, in combination, a collar, arched ribs hitched into said collar near its lower edge, side stays hinged to the extremities of said ribs, a bottom band, said stays adapted to stride said bands, legs adapted to engage said collar at their top ends, and at their bottom ends to be received within pockets on said bottom band, brace-rods adapted to engage both said bottom band and the top collar, and means for securing said brace-rods in place, and a metallic flexible sectional curbing adapted to envelop said framework, for the purpose set forth.

2. In a device of the kind, a framework, in combination, a collar, curved adjustable, telescopic ribs adapted to hook in the lower edge of said collar, telescopic adjustable, side stays hinged to the extremities of said ribs, a multiple bottom band, axially-arranged feet secured to the inner arc of said band, said stays adapted to stride said band, telescopic adjustable, legs adapted to engage said collar at their upper ends and at their lower ends to be received within portable pockets on said bottom band, adjustable brace-rods adapted to hook at their extremities into said collar and bottom band, and a flexible sectional, metallic curbing adapted to envelop said framework, substantially as, and for the purpose set forth.

3. The herein-described framework comprising a top collar and a bottom band, side stays mounted on said band, curved ribs hinged to said stays, said stays engaging at their opposite ends with said collar, supporting-legs engaging said collar and bottom band, and bracing-rods engaging said collar and bottom band, said ribs, stays,

and legs, comprising V-shaped angle-bars individually telescopically adjustable, and means for locking said telescopic adjustment, substantially as and for the purpose set forth.

4. The herein-described ribs, side stays, and legs, comprising V-shaped angle-bars, individually telescopically adjustable, said adjustment comprising metallic clips spanning the recess of one bar and riveted thereto, a bar telescopic sliding within and through said clip, and a set-screw passing through said clip and adapted to engage the bottom recess of said sliding bar and lock the said bars intact, substantially as, and for the purpose set forth.

5. A bottom-supporting band comprising segments, horizontally-disposed feet extending from the inner curves of said segments, the end of one segment having an offset on its inner surface, adapted to engage the plain end of another, and means for securing said segments intact, substantially as, and for the purpose set forth.

6. The combination with the top collar and bottom band, of adjustable braces comprising oppositely-disposed hooked rods, adapted to hook within apertures in said collar and bottom band, a union engaging said rods, and set-screws for securing said rods thereto, substantially as and for the purpose set forth.

7. The combination with a neck-forming collar, of arc-shaped, adjustable telescopic ribs, hinged at their lower extremities to side-supporting stays, the upper ends having a portion of their stock cut away to form hooks adapted to lock within apertures within the lower edge of said collar, substantially as, and for the purpose set forth.

8. A neck-forming collar, comprising an upwardly-flaring, metallic band, rectangular vertical apertures arranged at intervals about its lower edge, brace-securing holes triangularly arranged near its lower and inner edge, leg-receiving brackets triangularly secured within its lower edge, said vertical apertures adapted to receive hooks on the upper ends of the curved supporting-ribs, substantially as and for the purpose set forth.

9. In a device of the class, in combination with a collapsible framework, of a curbing encompassing said framework comprising thin metallic plates adapted to slide over one another annularly and to lap over one another vertically when builded up, substantially as and for the purpose set forth.

10. In a device of the class, in combination with a collapsible framework and an encircling collapsible curbing, of means abutting on said curbing from the exterior to form ducts within the walls of a cesspool when said curbing and said means are removed therefrom, all arranged to work substantially as, and for the purpose set forth and described.

11. In a device of the class, in combination with a collapsible framework and an encircling collapsible curbing, of annular collars abutting on said curbing from the exterior to form ducts within the walls of the cesspool when said curbing and said collars are removed therefrom, substantially as, and for the purpose set forth.

804,168. **LABELING-MACHINE.** CARL OTTING, Ludwigsburg, Germany. Filed Nov. 12, 1903. Serial No. 180,896.

Claim.—1. In a label-attaching machine, a many-sided pick-up feeder-bar, means for successively applying adhesive material to the sides thereof, and means for revolving said bar.

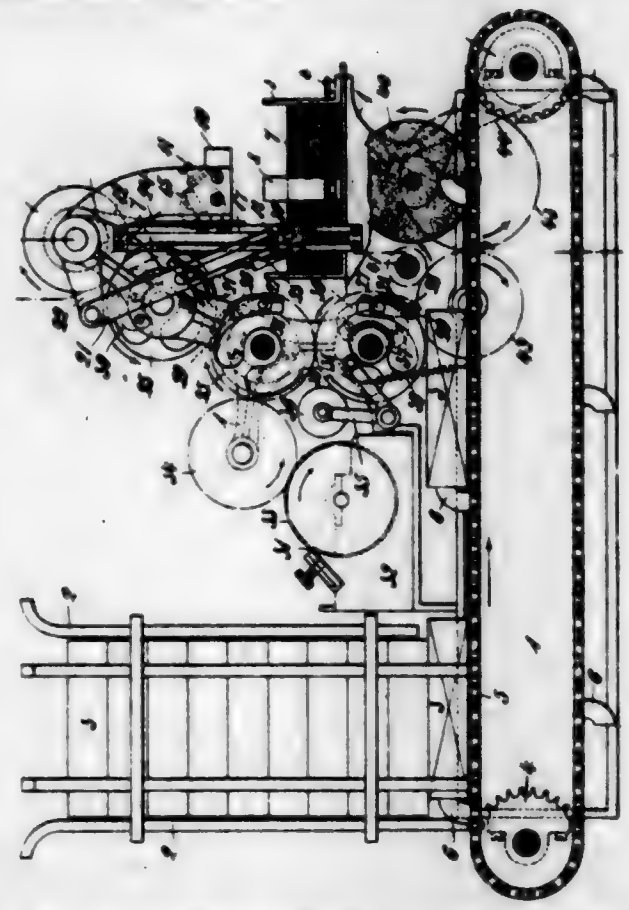
2. In label-attaching machines, a polygonal pick-up feeder-bar, means for successively applying adhesive material to the sides thereof, means for turning the bar, and means for moving the bar between a label-supply and the adhesive-applying means.

3. In a label-attaching machine, a pick-up bar of rectangular form in cross-section, means for successively applying adhesive material to the sides thereof, a label-magazine, a means for moving the bar between the magazine and the adhesive-applying means, and a means for imparting intermittent rotative movement to the feeder-bar.

4. In a label-attaching machine, a pick-up feeder-bar, means for applying an adhesive thereto, guides for the feeder-bar, slotted carriers for said feeder-bar, and means supported by the carriers for effecting intermittent rotative movement of the bar.

5. In a label-attaching machine, a rectangular feeder-bar, an adhesive-applying means, a label-magazine, slotted guides for the bar, slotted actuating devices for said bar, ratchets carried by the bar, and pawls supported by said actuating devices for engaging the ratchets.

6. In a label-attaching machine, a label-container, a rectangular feeder-bar, slotted standards for guiding the bar, an adhesive-applying roll, a shaft, crank-arms carried thereby, slotted connecting-rods for raising and lowering the feeder-bar, pawls carried by the connecting-rods, and ratchet-wheels connected to the feeder-bar and engageable by said pawls.



7. In a label-attaching machine, a reciprocated feeder-bar, a plurality of cylinders, grippers carried by the cylinders and adapted to convey the labels from the feeder-bar to the point at which it is to be applied, and means for applying an adhesive to the label during its passage to the point of application.

8. In a label-attaching machine, a plurality of conveying-cylinders, grippers thereon, cams for controlling the movement of the grippers and permitting the passage of the label from cylinder to cylinder, and an adhesive-applying means for applying adhesive to the label while on one of the cylinders.

9. In a label-attaching machine, a plurality of conveying-cylinders having grippers for engagement with the labels, an adhesive-reservoir, a main adhesive-roller arranged therein, an intermediate roller mounted to vibrate between the main adhesive-roller and the surface of the label, and a cam for controlling the movement of the intermediate roller.

804,169. **MOLD FOR BUILDING-BRICK.** WILLIAM PORTER, St. Paul, Minn. Filed July 17, 1905. Serial No. 270,005.

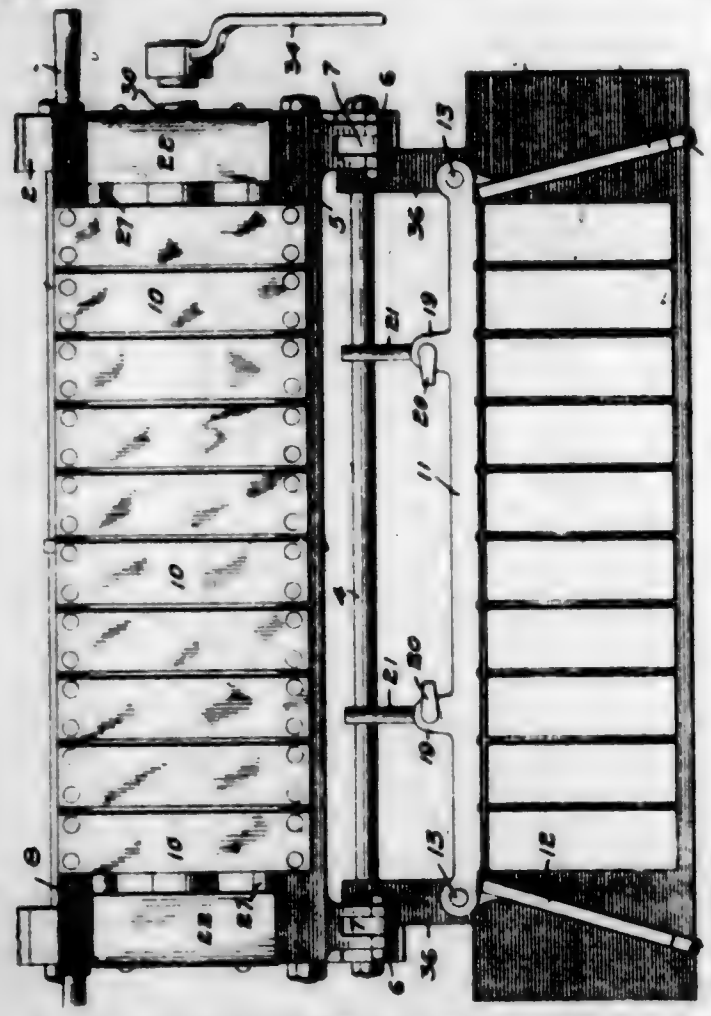
Claim.—1. The combination, with a frame, of a mold hinged thereon at one side and adapted to be swung on its hinges to an inverted position, and having suitable handles, means for supporting said mold in its inverted position, said mold having a floor composed of a series of smooth-surfaced plates spaced apart, and partitions separating said plates one from another, said partitions being movable from between the plates to permit the mold to be swung on its hinges, substantially as described.

2. The combination, with a frame, of a mold composed of side bars, one of them hinged to said frame and the other having suitable handles, smooth-surfaced plates arranged parallel to one another at intervals and having their ends secured to said bars and forming the floor of the mold and capable of swinging with the hinged portion of the mold, partitions fitting between said plates, and walls removably mounted on said bars and plates, substantially as described.

3. The combination, with a frame, of a molding-floor hinged thereon at one side and consisting of a series of plates arranged at intervals and adapted to be swung on said hinges to an inverted position, partitions movable between said plates and away from the hinged floor to permit the latter to be swung to one side, and mold-walls removably secured over said plates, substantially as described.

4. The combination, with a frame provided with a bracket on one side below the level of the top of said frame, of a brick-mold hinged to said frame on one side above said bracket and adapted to be swung to an inverted position thereon, movable partitions dividing said mold into a series of independent molds, and means for moving said partitions from the mold to permit the latter to be swung to its inverted position, substantially as described.

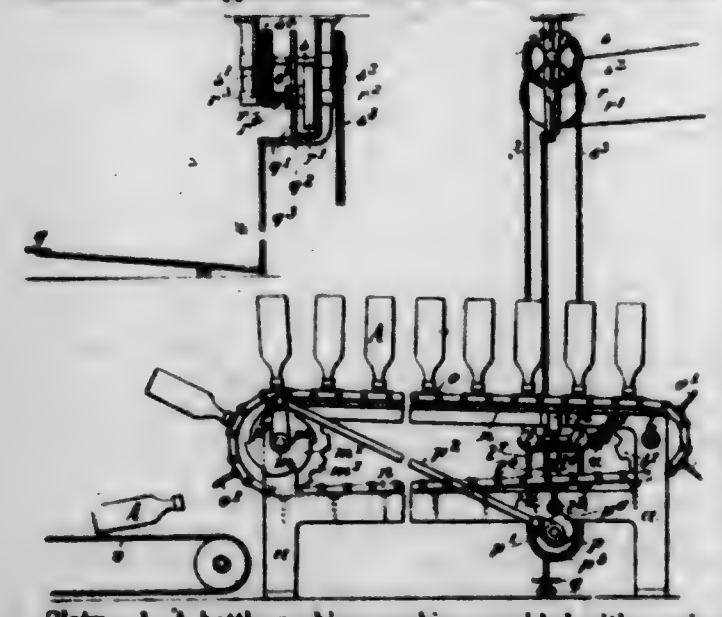
5. A concrete-brick mold having a swinging floor composed of a series of smooth-surfaced plates arranged at intervals, side walls separably connected to said floor, and partitions movable between said plates.



6. A concrete-brick mold hinged on one side and having a floor composed of a series of smooth-surfaced metal plates arranged parallel with one another and with spaces between them, partitions movable between said plates, and away therefrom to permit the mold to be swung to an inverted position, and a pallet adapted to be placed over said mold to form the bottom of the same when it is inverted, substantially as described.

7. The combination, with a suitable frame, of a mold hinged at one side thereon and comprising a floor and removable side and end walls, and means for temporarily locking said walls to said floor, said mold being adapted to be swung to an inverted position, a series of partitions dividing said mold into independent molds and capable of being moved away from the floor to permit the mold to be inverted, and a pallet arranged over said mold to support the blocks when the mold is inverted, substantially as described.

804,170. BOTTLE-WASHING MACHINE. JOHN A. PRIDGE, New York, N. Y. Original application filed Nov. 29, 1904, Serial No. 234,753. Divided and this application filed Mar. 3, 1905. Serial No. 248,220.



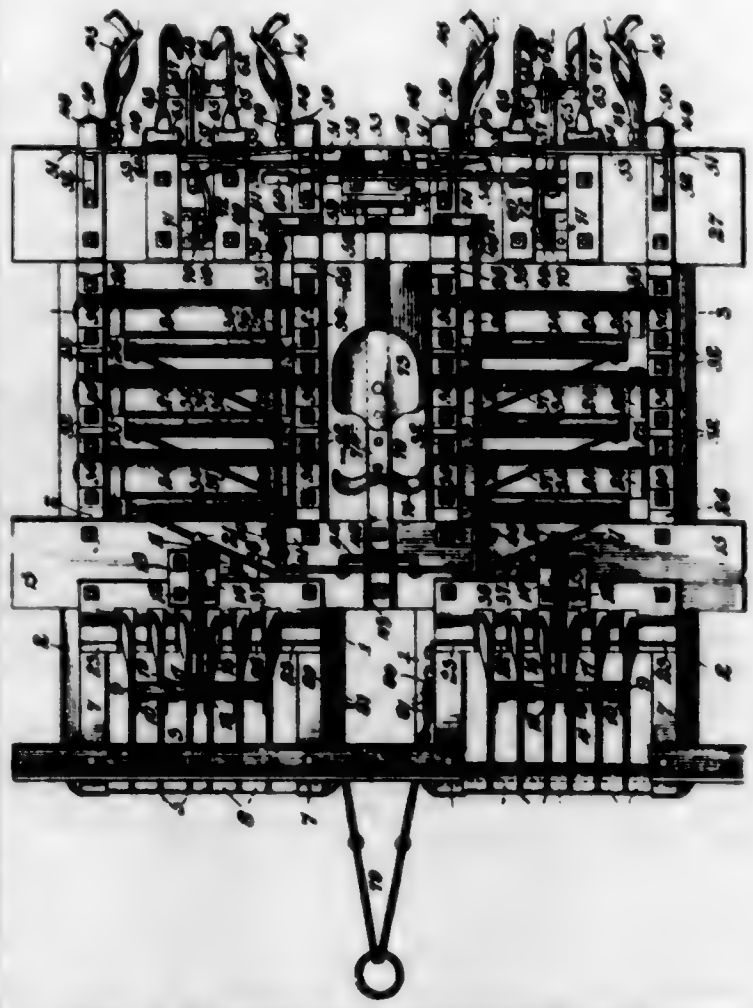
Claim.—1. A bottle-washing machine provided with a pair of feed-chains, transverse connecting-bars, nozzles mounted on the bars and adapted to engage the bottles, means for intermittently advancing the feed-chains, vertically-movable nipples adapted to engage the nozzles, and means for admitting water to the nipples, substantially as specified.

2. A bottle-washing machine provided with a pair of feed-chains, transverse connecting-bars, nozzles mounted on the bars and adapted to engage the bottles, means for intermittently advancing the feed-chains, a vertically-movable supply-pipe, and nipples on said pipe adapted to engage the nozzles, substantially as specified.

3. A bottle-washing machine provided with a pair of feed-chains, transverse connecting-bars, nozzles mounted on the bars and adapted to engage the bottles, means for intermittently advancing the feed-chains, a vertically-movable supply-pipe, nipples on said pipe adapted to engage the nozzles, a water-inlet pipe movable with the supply-pipe, a cock in the inlet-pipe, and an arm engaging the cock, substantially as specified

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804,171. LISTED-CORN CULTIVATOR. JAMES B. PROSKOVEC, Jr., Bruno, Nebr. Filed Jan. 9, 1905. Serial No. 240,234.



Claim.—1. In a cultivator, the combination of a pair of spaced runners, knives arranged at intervals in the spaces between the runners and provided at their front ends with openings, a shaft passing through the openings of the knives and connecting the runners, and means for spacing the knives on the shaft.

2. In a cultivator, the combination of a pair of spaced runners, knives arranged at intervals in the spaces between the runners and provided at their front ends with openings, a shaft passing through the openings of the knives and connecting the runners, and spacing-blocks mounted on the shaft and spacing the knives from each other and from the runners.

3. In a cultivator, the combination of runners arranged in pairs, the inner members of each pair being separated by a space open at the front, transverse shafts connecting each pair of runners, sets of knives arranged at their front ends on the shaft, and means for raising and lowering each set of knives independently of the other.

4. In a cultivator, the combination of vertically-movable knives having their rear ends bent laterally, a fixed cleaning device arranged above the operative position of the knives and having fingers spaced apart to permit the knives to pass between them, said fingers being also arranged to engage the laterally-bent ends of the knives, and means for moving the knives upward and downward to adjust their depth and also to bring the knives into coöperative relation with the cleaning device.

5. In a cultivator, the combination of runners, a shaft connecting the runners, vertically-movable knives mounted at their front

ends on the shaft, and a fixed cleaning device connecting the runners and arranged above the operative position of the rear ends of the knives

6. A cultivator provided with a continuous series of simultaneously-adjustable longitudinally-disposed knives hinged at the front and arranged in two sets located at opposite sides of the center of the series and having their rear ends bent laterally for dividing the soil, the blades of each set being bent outwardly in opposite directions from the center of the series.

7. In a cultivator, the combination with a frame, of a plurality of hinged knives arranged to swing upward and downward, and a cleaning device arranged above the normal working position of the knives and consisting of a plate or body portion provided at intervals with projecting fingers arranged in the path of the knives.

8. In a cultivator, the combination with a frame, of a plurality of hinged knives arranged to swing upward and downward, and a cleaning device consisting of a plate or body portion provided at intervals with projecting fingers arranged in the path of the knives said fingers being composed of a substantially horizontal botton portion, an inclined upper front portion, and a rear portion connecting the inclined and horizontal portions.

9. In a cultivator, the combination of a frame having runners, casings mounted on the frame above the runners, a plurality of knives, a series of clod-crushing rolls having journals vertically movable in the casings and arranged at intervals in rear of the knives, and springs arranged within the casings and yieldably holding the rolls in position.

10. In a cultivator, the combination of a frame provided with inner and outer runners arranged in pairs, front knives arranged at intervals between the inner and outer runners, and clod-crushing rolls extending across the space between the inner and outer runners and located in rear of the knives.

11. In a cultivator, the combination with a frame, of a plurality of knives, a series of clod-crushing rolls arranged in rear of the knives, and a cleaning device provided with scraper-blades movable simultaneously toward and from the rolls.

12. In a cultivator, the combination of a frame, a series of clod-crushing rolls, and a cleaning device movably mounted on the frame and provided with laterally-extending scraper-blades arranged to be carried simultaneously toward and from the rolls.

13. In a cultivator, the combination of a frame, a plurality of clod-crushing rolls, and a movable cleaning device having oscillatory supporting-links and provided with blades.

14. In a cultivator, the combination of a frame, a plurality of clod-crushing rolls, a movable cleaning device having laterally-extending scraper-blades arranged to be carried simultaneously toward and from the rolls, and links movably supporting the cleaning device.

15. In a cultivator, the combination of a main frame, opposite sets of clod-crushing rolls, and a cleaning device comprising a frame arranged at the inner ends of the rolls and provided with laterally-extending scraper-blades, and means for movably mounting the frame to carry the blades toward and from the rolls.

16. In a cultivator, the combination of a main frame, opposite sets of clod-crushing rolls, a cleaning device embodying a frame arranged at the inner ends of the rolls, oscillatory links supporting the frame, blades mounted on the frame and extending from opposite sides of the cleaning device, and a catch for holding the cleaning device.

17. In a cultivator, the combination of a frame, opposite rolls, a cleaning device provided at opposite sides with blades, oscillatory links supporting the cleaning device and arranged at an inclination when the cleaning device is in operative position, whereby the cleaning device will be maintained in such position by gravity, and a catch arranged in the path of the cleaning device for holding the same out of operation.

18. A cultivator provided with a laterally-adjustable set of knives located at different elevations and arranged to cut down the bank and work the soil laterally.

19. A cultivator provided with a laterally-adjustable set of knives located at different elevations and arranged to cut down a bank and clear the same of plants and weeds, said set being composed of upper, lower and intermediate knives set at an angle, the lower knife having its outer portion bent outwardly.

20. A cultivator provided with a laterally-adjustable set of knives located at different elevations and arranged to cut down a bank and clear the same of plants and weeds, said set being composed of upper, lower, and intermediate knives set at an angle, the lower knife having its outer portion bent outwardly, and the outer portion of the intermediate knife being extended in the opposite direction.

21. In a cultivator, the combination of a frame, substantially upright levers fulcrumed between their ends on the frame, knives carried by the levers and located at different elevations, and means for adjusting the levers.

22. In a cultivator, the combination of a frame approximately upright levers fulcrumed between their ends on the frame, knives mounted on the lower arms of the levers at different elevations, and means connected with the upper arms of the levers for adjusting the knives.

23. In a cultivator, the combination of a frame, levers mounted on the frame and arranged in pairs, laterally-adjustable knives carried by the levers at different elevations and extending longitudinally of the cultivator, links connecting the levers of each pair, and transversely-disposed operating-levers connected with the links.

24. In a cultivator, the combination of a frame, rearwardly-converging knives mounted on the frame, and rearwardly-extending substantially hook-shaped knives located between the said knives.

25. In a cultivator, the combination of a frame, rearwardly-converging knives mounted on the frame, and rearwardly-extending substantially hook-shaped knives located between the said knives and adjustable upward and downward.

26. In a cultivator, the combination of a frame, opposite rearwardly-converging laterally-adjustable knives, and vertically-adjustable knives operating between the said knives.

27. In a cultivator, the combination of a frame, pivotally-mounted laterally-adjustable knives carried by the frame, and vertically-adjustable substantially hook-shaped knives operating between the said knives and arranged to swing upward and downward.

28. In a cultivator, the combination of a frame having inner and outer spaced supporting means, front knives mounted between the inner and outer supporting means and arranged at intervals, opposite rolls arranged in sets in rear of the front knives, rearwardly-converging knives arranged to cut down a bank, and downwardly-extending knives operating between the rearwardly-converging knives.

29. In a cultivator, the combination of a frame provided with inner and outer runners arranged in pairs and set at an inclination, and knives carried by the frames and operating at the spaces between the inner and outer runners.

30. In a cultivator, the combination of a main frame, front and rear knives mounted on the frame, opposite rolls arranged between the knives, a movable cleaning device embodying an open frame, and knives extending from opposite sides of the frame, and seat-supporting means mounted on the main frame and located within the frame of the cleaning device.

31. In a cultivator, the combination of a frame having runners, plates mounted on the runners and provided with hooks arranged at different elevations.

32. In a cultivator, the combination with runners, of a plurality of knives mounted at the front thereof and between the same, and a roll also mounted on the runners and filling the space between the same.

33. In a cultivator, the combination with runners, of a plurality of knives mounted at the front thereof and between the same, and a series of rolls mounted on the runners and filling the space between the same, said rolls being arranged in rear of the knives

34. In a cultivator, the combination of a frame, and a vertically-disposed lever pivoted at an intermediate point on the frame to provide upper and lower arms and carrying a plurality of knives at its lower arm and movable transversely of the travel of the machine.

35. In a cultivator, the combination of a frame, and a pair of levers pivoted at an intermediate point on the frame and movable simultaneously toward and from each other transversely of the travel of the machine, said levers carrying at their lower ends knives which extend longitudinally of the machine so as to work the soil laterally.

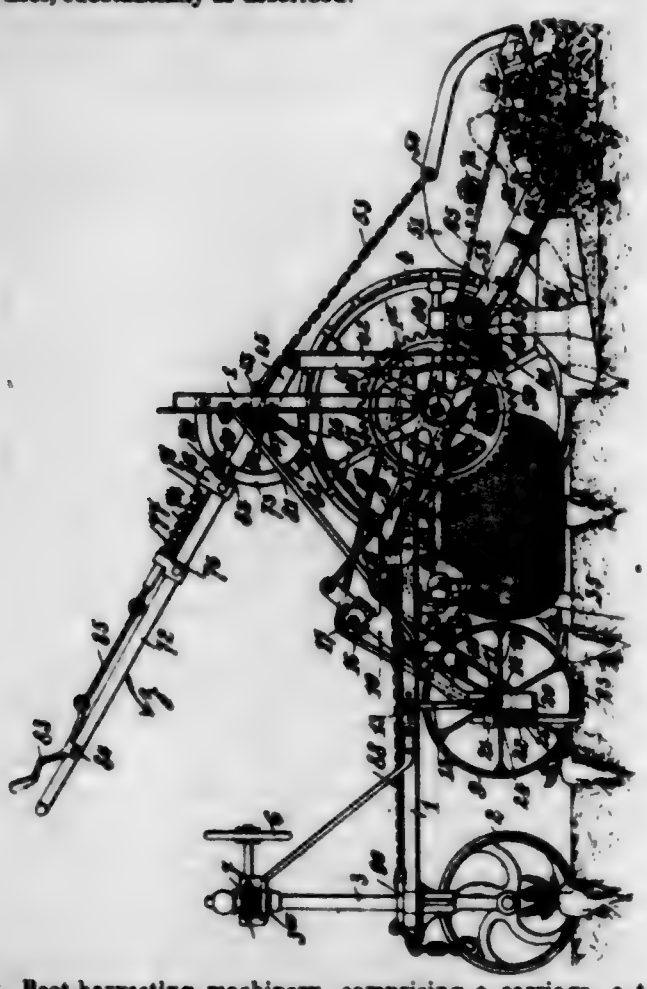
36. In a cultivator, the combination of a frame, and a laterally-adjustable vertically-disposed lever pivoted at an intermediate point on the frame to form upper and lower arms and provided at its lower arm with a set of knives located at different elevations movable transversely of the travel of the machine and arranged to cut down a bank and work the soil laterally

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804,172. MACHINE FOR TOPPING BEET-ROOTS. ACHILLE PRUVOT, Valenciennes, France. Filed Feb. 11, 1903. Serial No. 143,948.

Claim.—1. Beet-harvesting machinery, comprising a carriage-frame, a topping-wheel mounted thereon, means for rotating it, and

a knife yieldingly mounted at a predetermined distance below the said wheel, substantially as described.



2. Beet-harvesting machinery, comprising a carriage, a topping-wheel, and a knife at a predetermined distance below it, and means for rotating the wheel at a speed greater than that of the travel of the carriage, in combination with a rotating brush in the rear of said wheel, substantially as described.

3. Beet-harvesting machinery, comprising a carriage, a topping-wheel, a framework therefor, a knife carried below the wheel, traction-wheels, an axle and sprocket therefor, said pivoted framework being pivoted centrally with said axle, a sprocket for the top-removing wheel, and a chain between the sprockets, substantially as described.

4. Beet-harvesting machinery, comprising a carriage, a framework, a topping-wheel carried thereby, lugs on the framework, a knife having its blade beneath the wheel, and its shank yieldingly held in said lugs, substantially as described.

5. Beet-harvesting machinery, comprising a carriage, a framework, a topping-wheel carried thereby, lugs in the framework, a spring-pressed rod in said lugs, carrying a knife below and oblique to the axis of the wheel, substantially as described.

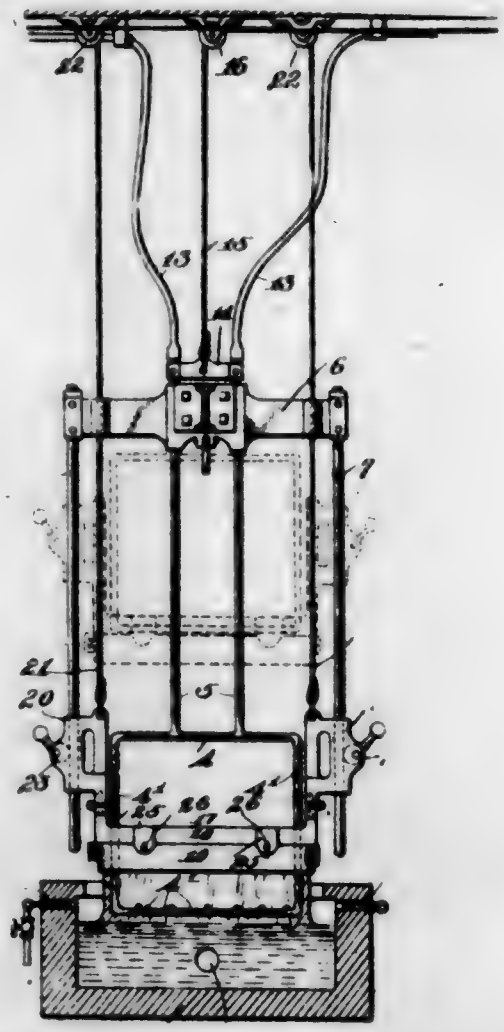
6. Beet-harvesting machinery, comprising a ribbed topping-wheel, means for rotating it, a knife carried a predetermined distance below said wheel, and a cleaning-comb fitting said ribbed wheel, substantially as described.

804,173. MACHINE FOR MAKING GLASS ARTICLES. AUGUST RAPPELSBER, Morgantown, W. Va., assignor of two-thirds to Joseph L. Kosser and James P. Warrick, Morgantown, W. Va. Filed Mar. 18, 1905. Serial No. 250,291.

Claim.—1. In a machine for mechanically drawing glass, the combination of a core about which the glass is drawn, said core having a shape corresponding to and being of proportions corresponding to the shape and proportions of a tubular sheet of glass to be drawn, and a bait surrounding said core corresponding thereto in size and outline, and means for moving the bait relatively to said core, whereby in the act of drawing the glass the core will give shape thereto without the aid of auxiliary mechanism.

2. In a machine for mechanically drawing glass, the combination of a core about which the glass is drawn, said core having a shape corresponding to and being of proportions corresponding to the shape and proportions of a tubular sheet of glass to be drawn, and a bait surrounding said core corresponding thereto in size and outline, means for moving the bait relatively to said core, whereby in the act of drawing the glass the core will give shape thereto without the aid of auxiliary mechanism, and means for circulating a cooling medium through the core.

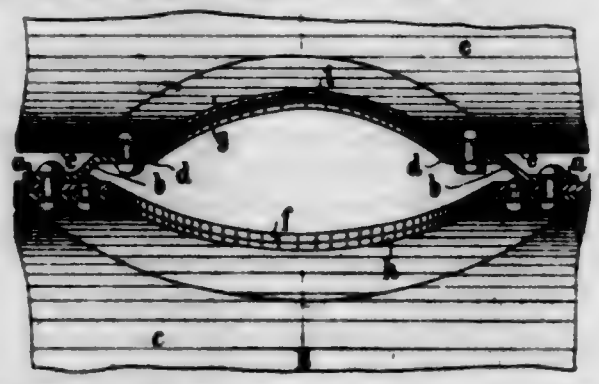
3. In a machine for mechanically drawing glass, the combination of a perforated core about which the glass is drawn, said core having a shape corresponding to and being of proportions corresponding to the shape and proportions to a tubular sheet of glass to be drawn, and a bait surrounding said core corresponding thereto in size and outline, means for moving the bait relatively to said core whereby in the act of drawing the glass the core will give shape thereto without the aid of auxiliary mechanism, and means for circulating a cooling medium through the core.



4. In a machine for mechanically drawing glass, a core, said core having a shape corresponding to and being of proportions corresponding to the shape and proportions of the tubular sheet of glass to be drawn, whereby in the act of drawing the glass the core will give shape thereto as it is being drawn without the aid of auxiliary mechanism, and whereby the shape of the draw will be determined by the shape of the core.

5. In a machine for mechanically drawing glass, a core, said core having a shape corresponding to and being of proportions corresponding to the shape and proportions of the tubular sheet of glass to be drawn, whereby in the act of drawing the glass core will give shape thereto as it is being drawn without the aid of auxiliary mechanism, and whereby the shape of the draw will be determined by the shape of the core combined with means for circulating a cooling medium through the core.

804,174. CONNECTION FOR SUPERIMPOSED BOILERS. KARL SCHNEIDER, Saarbrucken, Germany, assignor to The Firm of Deutsch-Oesterreichische Maschinenbauwerke, Düsseldorf, Germany. Filed Aug. 10, 1905. Serial No. 273,635.



Claim.—1. A boiler connection for superimposed boiler parts, comprising adjacent openings in the adjacent parts, and a connect-

ing-joint having its edges turned over in opposite directions and adapted to be secured about the edges of said openings.

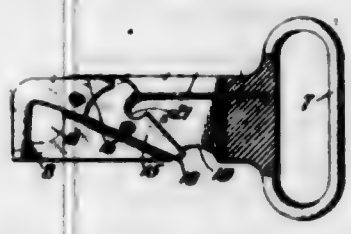
2. A boiler connection for superimposed boiler parts, comprising adjacent openings in the adjacent parts, and a connecting-joint having its edges turned over in opposite directions and adapted to be secured about the edges of said openings, said openings being of different diameters.

3. A boiler connection for superimposed boiler parts, comprising an opening in each boiler part and a connecting-joint having its edges turned over in opposite directions and adapted to be secured about the edges of said openings, in combination with stiffening-rings about said openings.

4. A boiler connection for superimposed boiler parts, comprising openings in the adjacent parts and a connecting-joint between said openings having its edges turned over in opposite directions and adapted to be secured to the edges of said openings, in combination with stiffening-rings secured with said connecting-joint about the openings, said openings being of different diameters.

5. A connecting-joint for superimposed boilers, having one edge turned outward and the other edge turned inward, for the purpose described.

804,175. **SAFETY-HOOK.** FRANK SHERKEL, Jr., Houtzdale, Pa. Filed Jan. 10, 1905. Serial No. 240,446.



Claim.—1. In a safety-hook, the combination with a body having means at one end for attachment to a strap or like device and a tongue projecting beyond its other end, forming with said end a seat, of an outwardly-swinging retaining-hook pivoted upon the body and having an offset substantially straight bill that extends transversely of the body across the seat and at substantially right angles to the longitudinal axis of the body, said bill having its free end coacting with the tongue, and means carried by the body for normally holding the hook with its bill across the seat, said means releasing the hook to permit the outward swinging movement of the bill out of line with the seat.

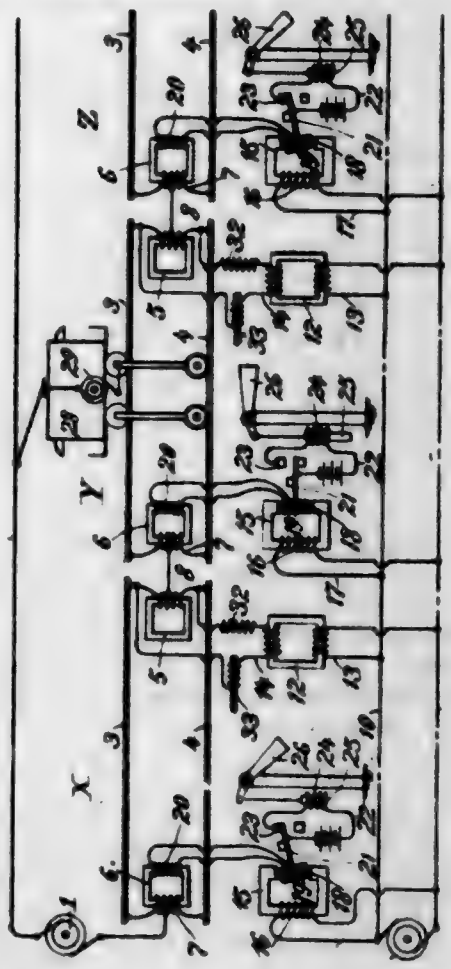
2. In a safety-hook, the combination with a body having means at one end for attachment to a strap or like device, and a tongue projecting beyond its other end, forming with said end a seat, of an outwardly-swinging retaining-hook pivoted upon the body in rear of the tongue, said hook projecting beyond the body in spaced relation to the tongue and having an offset bill that extends across the seat and coacts with the free end of the tongue, and means movably mounted on the body and engaging the tongue to normally hold the bill across the seat.

3. In a safety-hook, the combination with a body having an eye at one end and a tongue projecting longitudinally from one of the corners at the opposite end, of an outwardly-swinging retaining-hook pivoted between its ends to the other corner at said end of the body and in rear of the free end of the tongue, said hook having an offset bill that extends across the seat and coacts with the free end of the tongue, and means movably mounted on the body and engaging the rear end of the tongue in rear of its pivot to normally hold the bill across the seat.

4. In a safety-hook, the combination with a body having means at one end for the attachment of a strap or similar device and comprising spaced members, said members having at the opposite end and at one corner tongue-sections projecting longitudinally beyond the body, of an outwardly-swinging retaining-hook pivoted to and between the members of the body at the other corner thereof in rear of the tongue-sections, said hook having a longitudinally-disposed portion provided with an offset bill the free end of which fits between the tongue-sections, a dog pivoted between its ends to and between the body members, one end of said dog engaging the inner portion of the hook to prevent the outward-swinging movement of the bill thereof, the other end of said dog constituting an actuating device, and a spring secured to the body and located between the members thereof, said spring engaging the dog to normally hold it in operative position with respect to the hook.

5. In a safety-hook, the combination with a body comprising spaced members having a tongue projecting longitudinally from one end of the same, of a hook pivoted between its ends to and between the body members, said hook projecting from the end of the body having the tongue and being provided with an offset bill that coacts with the tongue, and a locking-dog pivoted between its ends to and between the body members, one end of said dog being normally located in the path of movement of the rear end of the hook in rear of its pivot and thereby preventing the outward-swinging movement of the offset bill of said hook away from the tongue, the other end of said dog constituting an actuating device for the same.

804,176. **SYSTEM OF AUTOMATIC SIGNALING FOR ELECTRIC RAILWAYS.** FRANCIS TOWNSEND, New York, N. Y., assignor to General Railway Signal Company, a Corporation of New York. Filed Aug. 1, 1905. Serial No. 272,202.



Claim.—1. In a block-signaling system, transforming means in each block adapted to increase the voltage of the current sent through the signal-controlling relays above that sent to the blocks from the source of signaling-current.

2. In a block-signaling system, the combination with the rails of a block, means for exciting an alternating difference of potential between the rails, means for increasing said difference of potential, and a controlling-relay adapted to have one member fed from the current with such increased difference of potential.

3. In a block-signaling system, the combination with the rails of a block, a source of alternating signaling-current, a transformer fed therefrom and having its secondary connected across the rails, a second transformer having its primary connected across the rails, and a relay having one member connected across the secondary of the second transformer and its other member across the source of signaling-current.

4. An automatic block-signaling system for electric railways, comprising a source of power-current, a source of signaling-current, a trackway divided into blocks, reactance-bonds located between the blocks, a signaling device in each block, and means interposed between the trackway and the signaling device for stepping up the voltage of the current delivered to the signaling device above that delivered to the trackway.

5. In an automatic system of block-signaling, a reactance-bond having a coil thereon adapted to step-up the alternating voltage delivered to said bond.

6. In an automatic system of block-signaling, a reactance-bond comprising a core having two coils, one connected across the rails of a block and the other across the terminals of the movable member of a signal-controlling relay.

7. In an automatic block-signaling system and in combination with a closed track-circuit including a source of alternating-current

energy and a relay, means for stepping up the voltage of the current from the source of energy before it is delivered to the relay.

8. As a means for stepping up the voltage of the signaling-current at the end of the block opposite to where received, a reactance-transformer bond having one coil across the rails and a step-up coil across the signal-controlling relay.

9. In an automatic block-signaling system, a reactance-bond in each block, comprising a core, a coil thereon adapted to be connected across the track-rails, and at its center to the center of the coil on an adjacent bond, and a step-up coil adapted to be connected across the terminals of a signal-controlling relay.

10. In an automatic system of block-signaling, means connected to one end of the block for creating an alternating difference of potential between the rails, means at the other end of the block for stepping up such alternating difference of potential, and a signal-controlling relay connected across said rails.

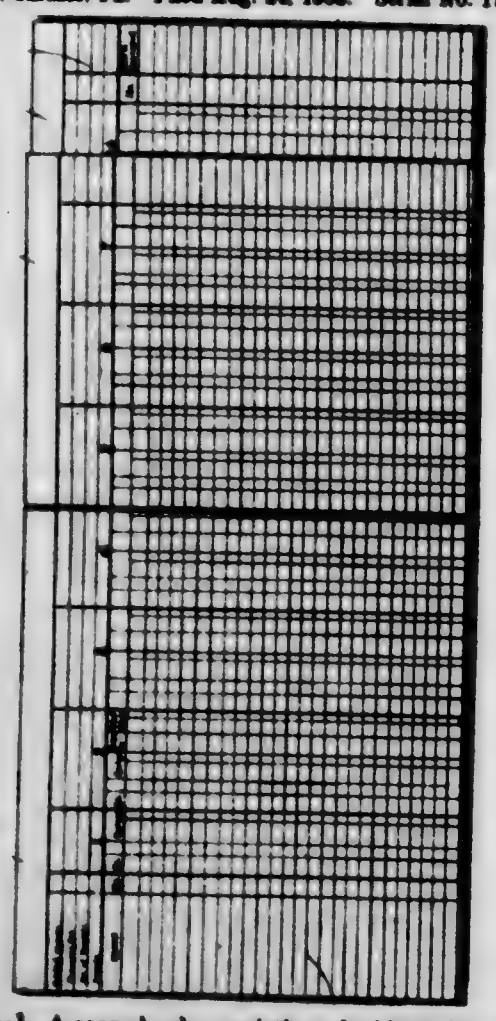
11. In an automatic system of block-signaling, means at one end of the block for creating an alternating difference of potential between the rails, a reactance-bond at both ends of the block, one of said bonds provided with a step-up coil and a closed magnetic core, and a signal-controlling device connected across said step-up coil.

12. In an automatic system of block-signaling, comprising traffic-rails divided into blocks, means in each block for exciting an alternating difference of potential between the rails, said difference of potential being higher at the delivery or signal end than at the receiving end of the block, and a signal-controlling device connected across the rails of the block.

13. An automatic system of block-signaling, involving the employment of means in each block for altering the potential of the signaling-current fed to the block prior to its delivery to the signaling apparatus.

14. In an automatic block-signaling system, a reactance-bond in each block comprising a core, a bonding-coil thereon adapted to be connected across the track-rails and at its center to the center of the coil on an adjacent bond, and a secondary coil, one terminal of which is connected to a terminal of the bonding-coil, while its other terminal is connected to one terminal of a track-relay in such a way that the track-relay is supplied with a greater voltage than that existing across the terminals of the bonding-coil.

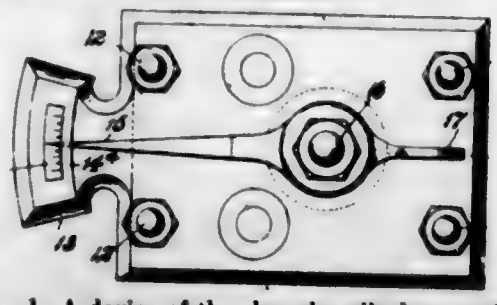
804,177. **BOOK FOR RECORDING SCORES IN CONTESTS.** THEODORE G. TAFFT, Carlisle, Pa., assignor of one-half to Raymond E. Shearer, Carlisle, Pa. Filed Aug. 24, 1903. Serial No. 170,549.



Claim.—1. A score-book, consisting of wide and narrow leaves arranged alternately, columns suitably designated for names arranged on the left side of the wide leaves, vertical main columns extending across the faces of the wide leaves, across both sides of the narrow leaves, and onto the faces of the succeeding wide leaves, said vertical main columns being numbered consecutively said numbers suitably designated to indicate different contests, and said columns being separately ruled vertically into subdivisions which are suitably designated to indicate the several features of each contest, said wide leaves being provided above the name-columns with horizontally-extending spaces suitably designated to indicate general features governing the several events, and ruled spaces above the vertical main columns in alinement with said horizontal spaces.

2. A score-book, consisting of wide and narrow leaves arranged alternately, columns suitably designated for names arranged on the left side of the wide leaves, vertical main columns extending across the faces of the wide leaves, across both sides of the narrow leaves, and onto the faces of the succeeding wide leaves, said vertical main columns being numbered consecutively said numbers being suitably designated to indicate different contests, said columns being separately ruled vertically into subdivisions which are suitably designated to indicate the several features of each contest, and ending on the right side of the wide leaves in a separate vertical column suitably designated to receive the receipt signatures of the contestants, said wide leaves being provided above the name-columns with horizontally-extending spaces suitably designated to indicate general features governing the several events, and ruled spaces above the vertical main columns in alinement with said horizontal spaces.

804,178. **CLEARANCE-INDICATOR.** WILLIAM B. UPDEGRAFF, New York, N. Y., assignor to John Robert Taylor, New York, N. Y. Filed Mar. 13, 1902. Serial No. 98,021.



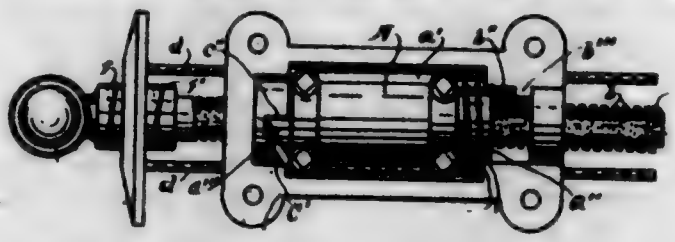
Claim.—1. A device of the class described, comprising a support, a spindle mounted therein and provided at its lower end with a foot, a graduated scale on the upper part thereof, a hand carried on the spindle and extending over the graduated scale, a spring for returning the hand to the center of the scale from either side.

2. A device of the class described, comprising a support, a scale thereon, a spindle mounted therein and provided with a hand extending over the scale, said spindle having a foot on its lower end, and a spring for returning said hand and foot with the spindle to bring the hand to the center of the scale from either side.

3. A device of the class described, comprising a support, a scale thereon, a spindle mounted therein provided with a foot on the lower end, a hand on said spindle extending over said scale and adapted to operate said spindle and foot, and a spring to maintain the hand at and return it to the center of the scale from either side.

4. An indicator adapted to be attached to a casing to indicate the positions of parts relative to one another, consisting of a frame having a prolonged top to form a table, a scale on the table, a spindle journaled vertically in the frame and projecting beneath the same, a foot provided with a roller to engage the parts whose position is desired to be known, on the inner end of said spindle, a hand carried by the outer end of the spindle to move over the scale, a handle to move the spindle and its foot and hand to bring the roller in the above-described engagement, and a spring to return the movable parts to zero.

804,179. **BENCH-VISE.** WILLIAM VANHAMEN and STEPHEN VANHAMEN, Grand Rapids, Mich. Filed Nov. 14, 1904. Serial No. 232,758.



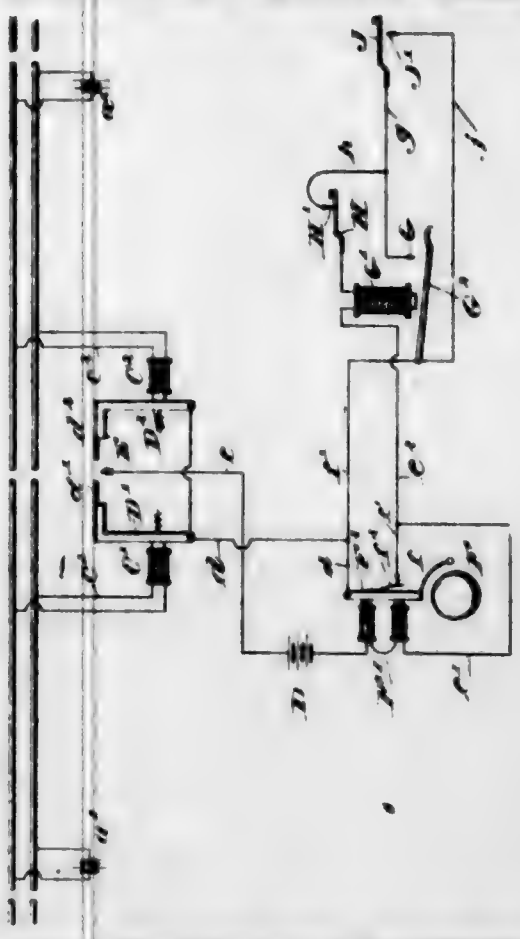
Claim.—1. In a quick-acting vise having a stationary and a movable jaw, a bench-screw having a section cut out of the thread longitudinal of the screw, a nut in two parts and having a section of

screw-thread longitudinal of one part, and inclines and springs for actuating the nut endwise, substantially as and for the purpose set forth.

2. In a quick-acting vise having a stationary and a movable jaw, a screw having a section cut from the thread longitudinal of the screw, a nut in two parts having a section of screw-thread longitudinal of one part, and inclines, springs and weight for actuating the nut endwise, substantially as and for the purpose set forth.

3. In a quick-acting vise having a movable jaw and a stationary jaw, a screw having a section cut out of the thread longitudinal of the screw, a divided nut having a segment of screw-thread longitudinal of one of its parts, inclines, weights and springs for actuating the nut endwise, and auxiliary inclines on the bench-screw and on the movable vise-jaw, substantially as and for the purpose set forth.

804,180. **SELF-RESTORING SIGNAL-CONTROLLING DEVICE.** EUGENE W. VOGEL, Chicago, Ill., assignor to The Railroad Supply Company, a Corporation of Illinois. Filed July 23, 1901. Serial No. 69,377.



Claim.—1. In a railroad signal system, the combination with a signal, of means for actuating the signal comprising an electromagnet and a make-and-break device, a circuit including said electromagnet and make-and-break device, means for automatically closing said circuit when a train occupies a predetermined section of track, and means for shunting said make-and-break device to effect an uninterrupted energization of the magnet and thereby discontinue the signal.

2. In a railroad signal system, the combination with a signal, of means for actuating the signal comprising an electromagnet and a make-and-break device, a circuit including said electromagnet and make-and-break device, means for automatically closing said circuit when a train occupies a predetermined section of track, said means automatically opening said circuit when said track-section is unoccupied by a train, a circuit-controller for closing a shunt around said make-and-break device to effect an uninterrupted energization of the magnet, said controller being automatically opened thereby breaking said shunt when the signal-circuit is broken.

3. In a device of the character described, the combination with a circuit, of a make-and-break device therein, an electromagnet in said circuit the current through which is interrupted by said make-and-break device, leads connected to said circuit at each side of said make-and-break device, a second magnet located in one of said leads, an armature connected to the other lead and adapted to engage a terminal of the first lead when in contact with the pole of the second magnet and thereby include said second magnet in parallel with said make-and-break device and in series with said first magnet, and maintain said connection by the armature being attracted by the second magnet, whereby the circuit is completed around said make-and-break device, substantially as described.

4. In a railroad signal system, the combination with a signal, of means for actuating the signal comprising an electromagnet and a make-and-break device for interrupting the current passing through the magnet, a circuit including said magnet and said make-and-break-device, means for automatically closing said circuit to operate the signal when a train occupies a predetermined track-section, and means for shunting said make-and-break device and thereby discontinuing the signal.

5. In a railroad signal system, the combination with a signal, of means for actuating the signal comprising an electromagnet and a make-and-break device for interrupting the current passing through the magnet, a circuit including said magnet and said make-and-break device, means for establishing a shunt around said make-and-break device, a second magnet located in said shunt, an armature also located in said shunt and adapted to complete said shunt when in contact with the pole of said second magnet thereby effecting the uninterrupted energization of the first magnet and the consequent discontinuance of the signal.

6. In a railroad signal system, the combination with a circuit, of means located therein for operating a signal, comprising an electromagnet and a make-and-break device, leads connected to said circuit at each side of said make-and-break device, a second magnet located in one of said leads, an armature connected to the other lead said leads being continued beyond said second magnet and armature a controller adapted to electrically connect said leads whereby the second magnet is connected in parallel with said make-and-break device and thereby energized to draw the armature into electrical contact with said first lead.

7. In a railroad signal system, the combination with a circuit, of means located therein for operating a signal, leads connected to said circuit at each side of said signal-operating means, a magnet located in one of said leads, an armature connected to the other lead, said leads continued beyond said magnet and armature, a controller adapted to electrically connect said leads whereby the magnet is connected in parallel with said signal-operating means and thereby energized to draw the armature into electrical contact with said first lead, substantially as described.

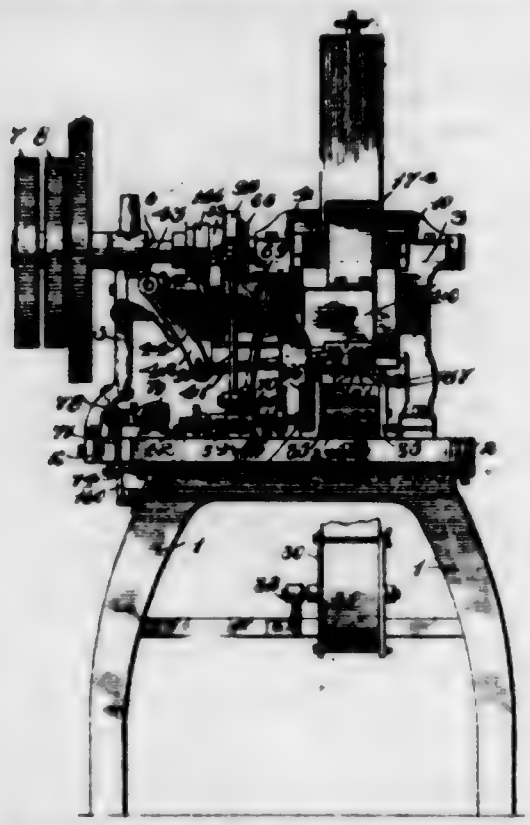
8. In a railroad signal system, the combination with a circuit, of signal-operating means therein comprising an electromagnet and a make-and-break device, leads connected to said circuit at each side of said signal-operating means, a second magnet located in one of said leads, a normally closed switch also located in said lead, an armature connected to the other lead, a normally open switch located at the ends of said leads and whereby the second magnet may be connected in parallel with said make-and-break device by closing said normally open switch and thereby energized to draw said armature into electrical contact with said first lead to maintain the circuit closed around said make-and-break device until said signal-circuit is interrupted, substantially as described.

9. In a railroad signal system, the combination with a circuit having a fixed terminal, of a plurality of armatures electrically connected with the other terminal of said circuit, each of said armatures adapted to engage said fixed terminal, magnets adapted when energized to hold said armatures out of contact with said fixed terminal, track-circuits normally energizing said magnets, insulated track-sections forming parts of said circuits each adapted when occupied by a train to deenergize the magnet connected therein and thereby close the signal-circuit, means in said signal-circuit for operating the signal comprising an electromagnet and a make-and-break device, a circuit-controller connected in parallel with said make-and-break device, means for automatically opening said circuit-controller when the signal-circuit is restored to its normal condition, substantially as described.

10. In a railroad signal system, the combination with a circuit, of a battery therein, means for automatically closing said circuit when a train occupies an insulated section of track, a magnet energized by said circuit to operate the signal, a make-and-break device in said circuit actuated by said magnet, leads connected to said circuit at each side of said make-and-break device, a second magnet located in one of said leads, an armature connected to the other lead and adapted to engage a terminal of the first lead when in contact with the pole of the magnet and thereby include said second magnet in parallel with said make-and-break device and in series with said first magnet, whereby the signal is discontinued and the consumption of the battery economized, substantially as described.

804,181. **PRINTING-PRESS.** ERNST H. AHLANDER, Chicago, Ill., assignor to The Thomas Wrigley Company, a Corporation of Illinois. Filed Nov. 28, 1903. Serial No. 183,963.

Claim.—1. The combination of a bodily-reciprocating plunger provided with printing devices, inking-rollers carried by sliding members, slideways on said plunger for said sliding members, whereby the rollers can be slid back and forth across the printing devices, and means for reciprocating said sliding members.



2. The combination of a bodily-reciprocating plunger, having its lower face provided with printing devices, a set of inking-rollers, slides carrying said inking-rollers, slideways on said printing member whereby said slides can be slid back and forth across the face of the plunger so as to ink said printing devices, and means for reciprocating said slides during the reciprocation of said plunger

3. The combination of a bodily-reciprocating plunger, a rotary shaft provided with a crank for reciprocating said plunger, printing devices carried by said plunger, a set of inking-rollers, slides carrying said rollers, slideways on said plunger whereby said slides can be reciprocated back and forth across the face of said plunger so as to ink the printing devices thereon, and power-transmitting connection between said rotary shaft and said slides, whereby the latter are reciprocated during the reciprocation of the plunger.

4. The combination of a reciprocating printing-plunger, a rotary driving-shaft provided with means for reciprocating said plunger, slides carrying inking-rollers, slideways on said printing-plunger, along which said slides can travel, links connected with said slides, arms connected with said links, a rock-shaft carrying said arms, gearing for turning said rock-shaft, and mechanism between said rotary driving-shaft and said gearing for actuating latter, substantially as described.

5. The combination with a reciprocating printing member and means for reciprocating the same, of slides provided with inking-rollers, slideways carried by said printing member whereby said slides can be reciprocated across the face of said printing member, links connected with said slides, arms connected with said links, a rock-shaft carrying said arms, toothed segments 45 and 46 whereof the segment 45 is carried by said rock-shaft, an arm 48 carried by the shaft 47 on which the segment 46 is mounted, a cross-head connected with the arm 48, and means for reciprocating said cross-head.

6. The combination of a reciprocating plunger provided with printing devices, a rotary shaft 6 having a crank for reciprocating said plunger, slideways 39, 39 carried by said plunger, slides 38, 38 arranged to slide on said slideways 39, 39, links 41, 41 connected with said slide, arms 42, 42 connected with said links 41, 41 and carried by a rock-shaft 43, toothed segments 45 and 46 whereof the former is on the shaft 43 and the latter is on the shaft 47, an arm 48 carried by the shaft 47, a cross-head 49 pivotally connected with the arm 48, and an eccentric 52 carried by the rotary shaft 6 and arranged to operate the cross-head 49, substantially as described.

7. The combination with a bodily-reciprocating printing member and means for reciprocating the same, of inking devices carried by the printing member, means for reciprocating said inking devices relatively to said printing member, and an ink-fountain apparatus arranged to cooperate with said inking devices.

8. The combination with a bodily-reciprocating printing member, of inking-rollers carried thereby, means for reciprocating said inking-rollers relatively to said member, an ink-fountain, and rollers associated therewith, said rollers being adapted to coöperate with said inking-rollers, substantially as described.

9. The combination with means for feeding a continuous strip, of means for perforating said strip longitudinally, means for cutting sections of said strip therefrom, a bed and reciprocating printing-plunger for printing on said sections, and means for folding said sections about said line of perforation.

10. The combination with means for feeding a continuous strip, of means for printing upon successive sections thereof, means for perforating said strip longitudinally, means for cutting said sections from the strip, and means for folding said sections about said line of perforation.

11. The combination of a bodily-reciprocating printing member provided with a plurality of printing-forms arranged side by side, inking-rollers for inking said forms, slides carrying said rollers, slideways on the printing member running in a direction from one form to another, and means for shifting said slides back and forth on said slideways.

12. The combination with a reciprocating plunger of a plurality of printing devices arranged side by side, inking-rollers for inking said printing devices, said rollers being made in sections, and the different sections being adapted to ink the different devices, slides carrying said rollers, and arranged to travel back and forth on slideways provided on the printing-plunger, means for reciprocating the slides back and forth relatively to the printing-plunger, and inking devices adapted to apply different-colored inks to the different sections of said rollers, and arranged to coöperate with said rollers as the latter are reciprocated by the printing-plunger, and reciprocated relatively to said plunger, substantially as described.

13. The combination of a reciprocating printing-plunger provided with a plurality of printing devices and constructed with slideways, inking-rollers made in sections and carried by slides adapted to travel along said slideways, the different sections of said rollers being adapted to ink the different printing devices when reciprocated by said slides, means for reciprocating said slides relatively to the printing-plunger, an inking-roller arranged to ink said inking-rollers at one end of the path of travel of the latter, and an ink-fountain and supply-rollers adapted to apply inks of different colors to said inking-roller, substantially as described.

14. The combination with the reciprocating plunger and the feed-rollers 84, 84 and 99 and 102, of a rotary shaft 6 operating said plunger, an eccentric 93 on said shaft, links 90 and 94 connected with said eccentric, ratchet mechanisms at the ends of said links, and power-transmitting connection between said ratchet mechanisms and said sets of rollers.

15. The combination with the printing mechanism of a folding device comprising a folding-blade, an abutment against which the article to be folded is moved, said abutment having a slot to accommodate said folding-blade, and means for moving the article to be folded to said abutment, said means having an elastic mounting permitting it to be stopped by the abutment, substantially as described.

16. The combination with the printing mechanism of a folding device comprising a folding-blade, swinging members arranged on opposite sides of the folding-blade, spring means tending to swing said swinging members, the folding-blade being provided with means for holding said members in restraint, means for swinging the folding-blade, and an abutment having an aperture adapted to receive the folding-blade, whereby when the folding-blade is swung toward said abutment the swinging members on opposite sides thereof move with the folding-blade to move the article to be folded to said abutment, substantially as described.

17. In a machine of the class specified, the combination with the printing mechanism, of a folding device comprising a pair of swinging blocks, a folding-blade located between said blocks, means for swinging both the blocks and the blade, means for restraining the swinging movement of the blocks, and a slot adapted to receive said blade and power-transmitting connection between the printing mechanism and the folding device.

18. In a machine of the class specified, the combination with the printing mechanism, of a folding device comprising a pair of swinging blocks, a shaft on which said blocks are loosely mounted, spring means on said shaft connected with said blocks, tending to cause the blocks to swing when the shaft turns, an arm secured to the shaft and provided with a blade, a receptacle provided with a slot adapted to receive the blade, and stops for engaging and supporting the blocks before the blade enters said slot and power-transmitting connection between the printing mechanism and the folding device.

19. In a machine of the class specified, the combination with a

printing-plunger and a bed, of a folding device comprising a rock-shaft 128, blocks 127, 127 loosely mounted on the shaft 128 and located to receive the printed articles coming from said bed, springs 134, 134 connecting the shaft and blocks, an arm 129 secured to the shaft 128 and provided with a folding-blade 132, a pin 130 carried by the arm 129 and adapted to engage the blocks 127, 127, a receptacle 151 provided with a slot 152 adapted to receive the folding-blade 132, stops 156 and 157 arranged to engage the blocks 127, 127, and means for rocking the shaft 128.

20. In a machine of the class specified, the combination with a printing-plunger and bed of a shaft 128, blocks 127, 127 loosely mounted thereon and located to receive printed articles from said bed, springs 134, 134 connecting the shaft with said blocks, an arm 129 secured to the shaft 128 and provided with a blade 132, a pin 130 carried by the arm 129 and adapted to engage the blocks 127, 127, a receptacle 151 having a slot 152 adapted to receive the blade 132, stops 156 and 157 arranged to engage the blocks 127, 127, a pinion 138 on the shaft 128, a toothed segment 139 engaging the pinion 138, a link 147 pivotally connected with the toothed segment 139, a bell-crank having one arm 142 connected with the link 141 and its other arm 144 provided with a roller 145, an eccentric 146, a rotary shaft 6 carrying said eccentric, and a sliding shaft 147 provided with a spring 148 for retracting the toothed segment 139.

21. The combination with the printing mechanism of a cutting device consisting of a reciprocating cutting-blade and a coöperating cutting edge, a folding device comprising swinging blocks having their free ends located normally at substantially the cutting edge of said coöperating cutting member, a swinging arm provided with a folding-blade, means for swinging said swinging blocks, and means whereby the folding-blade performs a folding operation

22. The combination with a printing-plunger of a receptacle 151, a feeding device comprising a swinging arm 158, pivoted at 159 and carrying a feeding-plate 162 and also a roller 161, a cam 164, carried by the printing-plunger, mechanism for reciprocating said plunger, and a bed coöperating with said printing-plunger, substantially as described.

23. The combination with the printing mechanism, of folding mechanism comprising a swinging folding-blade adapted and arranged to receive the article to be folded, swinging members located on opposite sides of said folding-blade and also arranged to receive the article to be folded, and a coöperating folding member having a slot to receive said folding-blade, substantially as described.

24. The combination with the printing mechanism, of a cutting device for cutting the printed slip into sections, a swinging folding-blade located and arranged to receive the cut sections, in combination with a pair of coöperating swinging members also located to receive the cut sections, and a coöperating folding member having a slot adapted to receive the folding-blade, substantially as described.

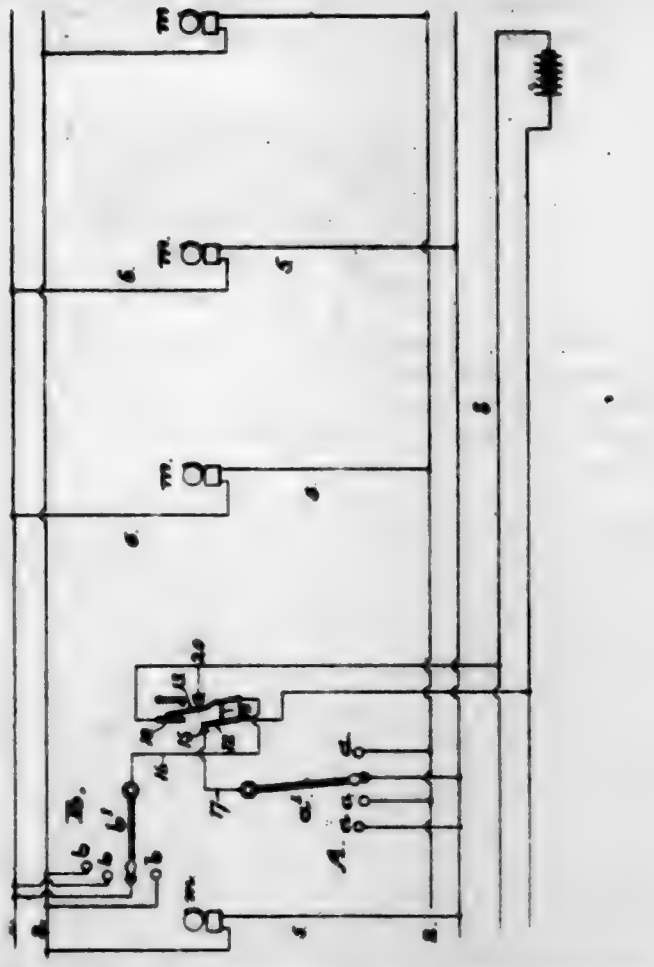
25. The combination with the printing mechanism, of folding mechanism comprising a swinging folding-blade located and arranged to receive the article to be folded, a pair of spring-controlled swinging blocks located on opposite sides of said swinging blade, and a coöperating folding member having a slot adapted to receive said folding-blade, substantially as described.

26. The combination with the printing mechanism, of folding mechanism comprising a swinging folding-blade located and arranged to receive the article to be folded, a pair of spring-controlled swinging blocks located on opposite sides of said swinging blade, and a receptacle for the folded articles, having a slot adapted to receive the folding-blade, whereby the articles are folded on entering said receptacle, substantially as described.

27. The combination with the printing mechanism, of folding mechanism comprising a movable folding-blade combined with a pair of spring-controlled movable supports located on opposite sides of the folding-blade, said blade and supports being adapted and arranged to receive the article to be folded, and a receptacle for the folded articles, having an aperture adapted to receive said blade, the said supports being engaged and stopped by said receptacle when the folding-blade enters the same, substantially as described.

804,182. METALLIC CIRCUIT FOR OPERATING SIGNALING DEVICES. ALBERT K. ARRIGANO and HERMANN HERRSTRITT, San Francisco, Cal. Filed Mar. 8, 1905. Serial No. 249,799

Claim.—1. A system of conductors for operating electrical devices between stations comprising a plurality of wires arranged between the stations, means for selecting any one wire for use as a direct conductor of a circuit individual to a station and another wire for use as the return-conductor of that circuit, an electrically-operated device permanently connected into the direct conductor and the return-conductor individual to a station, a source of current normally disconnected from the wires or conductors and circuit-closing means for connecting the selected direct conductor of a circuit into one side of the source of electricity and the return-conductor of said circuit into the remaining side.



2. The combination of a series of direct conductors and return-conductors arranged to form metallic circuits between stations, a direct-line switch and a return-line switch at each station for connecting the station by a metallic circuit with another selected station and an electrically-operated device at each station permanently connected into the direct line and the return-line individual to the station, a source of current normally disconnected from all the direct lines and return-lines, and circuit-closing means for connecting at will one side of the said source of current into the selected direct line and the remaining side into the selected return-line of a circuit.

3. The combination of a series of direct conductors and return-conductors arranged to form metallic circuits between stations, a direct-line switch and a return-line switch for completing a metallic circuit between one station and another station by selecting the direct line and the return-line individual to that station, an electrically-operated device at each station permanently connected into its direct line and its return-line, a source of current normally disconnected from all the direct lines and return-lines and means for connecting at will the direct-line switch of a station into one side of said source of current and its return-line switch into the remaining side of the source of current.

804,183. CLAMP FOR SECURING BLOCKS, TYPE, AND OTHER PRINTING MATTER IN FORMS. RENÉ ANDRIEU, Paris, France. Filed Feb. 13, 1905. Serial No. 245,580.

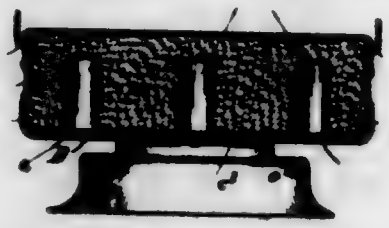


Claim.—1. A clamp of the character described, comprising a channel-iron provided with grooves, a locking member slidably mounted in said grooves, an eccentric rotatably mounted on said locking member and adapted to be turned into engagement with the walls of said channel-iron for securing the locking member in adjusted positions.

2. A clamp of the character described, comprising a channel-iron having parallel side walls, a locking member slidably mounted in said channel-iron, and an eccentric rotatably mounted on said

locking member and adapted to be turned into engagement with the walls of said channel-iron to secure the locking member in adjusted positions.

804,184. HEATER. CHARLES H. BOSON, Jackson, Mich., assignor, by mesne assignments, to Metal Stamping Company, Jackson, Mich., a Corporation of Michigan. Filed Jan. 11, 1904. Serial No. 188,557.



Claim.—1. A heating-pad comprising a receptacle containing a heat-retaining substance and having a cover with a depending peripheral flange fitting over said receptacle, and a bail having its ends inserted through registering apertures in said receptacle and the flange of its cover.

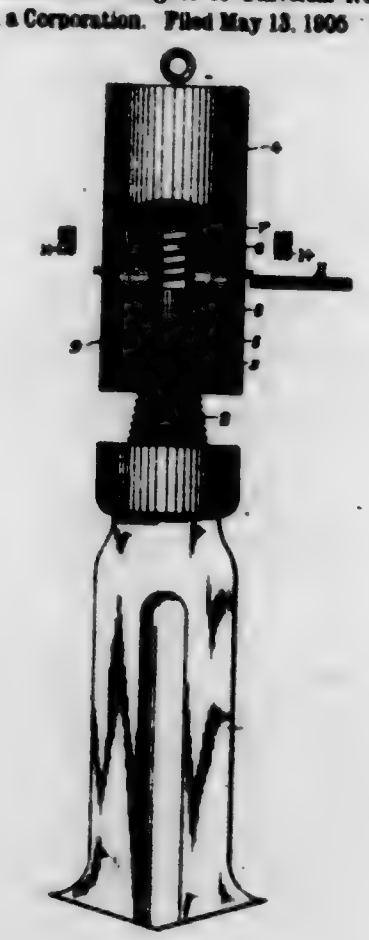
2. A heating-pad comprising a shallow sheet-metal receptacle having peripheral corrugations which provide internal grooves, a heat-retaining filling of plastic substance packed therein, said filling being united to said receptacle by engagement with said internal grooves, and a flat sheet-metal cover having a depending peripheral flange fitting tightly over the top of said receptacle.

3. In a heater of the character described, the combination of a sheet-metal stand consisting of an inverted-bowl-shaped base and a surmounting saucer-shaped top riveted centrally together, a mat in the bottom of said saucer-shaped top, and a heating-pad having its bottom formed to fit in said saucer-shaped top and consisting of a sheet-metal shell containing a heat-retaining substance.

4. The combination of a circular heating-pad comprising a sheet-metal shell having flat top and bottom and having a handle and containing a heat-retaining substance, and a sheet-metal stand therefor comprising an inverted-bowl-shaped base having a contracted neck surrounded by a series of openings and a saucer-shaped top surmounting said neck adapted to fit the bottom of said pad and hold the same.

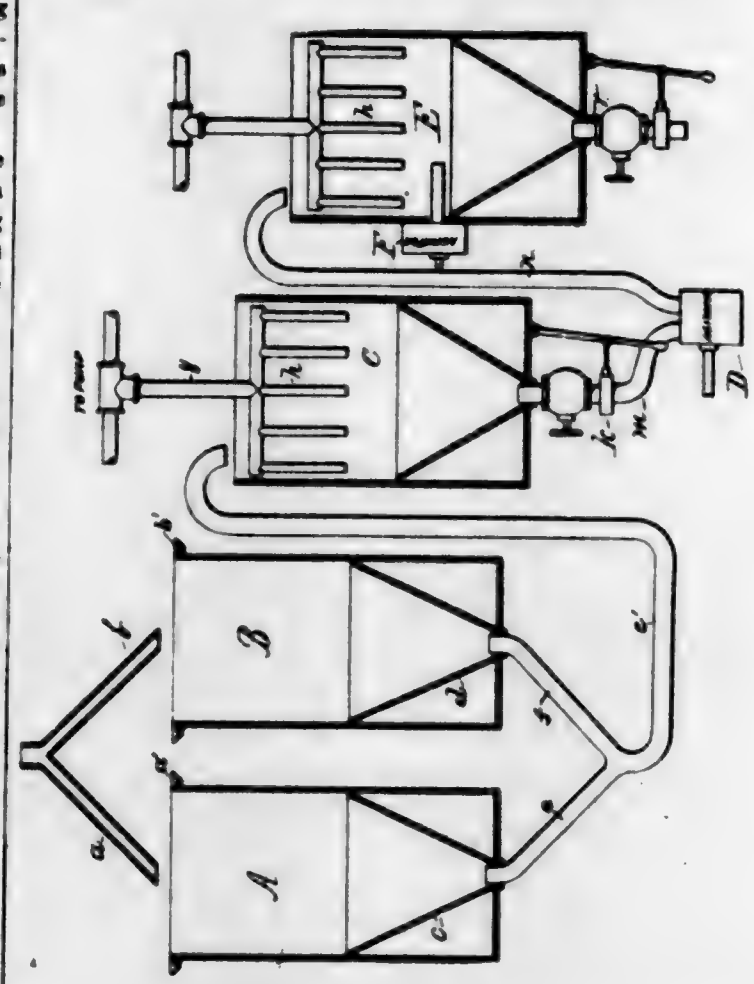
5. A sheet-metal stand for a heating-pad consisting of a stamped or drawn inverted-bowl-shaped base having a contracted neck or central upset portion at its top and a surrounding series of openings, and a stamped or drawn saucer-shaped top mounted on said neck and centrally riveted thereto.

804,185. COUPLING FOR WELL-DRILLING TOOLS. ERWIN A. DAVISON, Stockton, Cal., assignor to Universal Nut-Lock Company, Stockton, Cal., a Corporation. Filed May 13, 1905. Serial No. 260,233.



Claim.—In a device of the kind described the combination of a drill or other tool provided with a threaded portion, ratchets on the outer end of said threaded portion, a drill-rod provided with interior threading adapted to receive said first-named threaded portion, a cavity extending upward from said interior threading, small slots extending through the side walls of said cavity and enlarging into screw-holes, screw-caps in said screw-holes, a pawl-collar arranged in said cavity and provided with a transverse slot, a pin removably secured in said transverse slot and extending through said first-named slots, and a spring bearing between said pawl-collar and said drill-rod, as specified.

804,186. PROCESS OF TREATING ORE-SLIMES, &c., CONTAINING GOLD, SILVER, OR OTHER VALUES. LOUIS J. DRAKE, Turner, S. D. Filed Apr. 3, 1905. Serial No. 253,893.

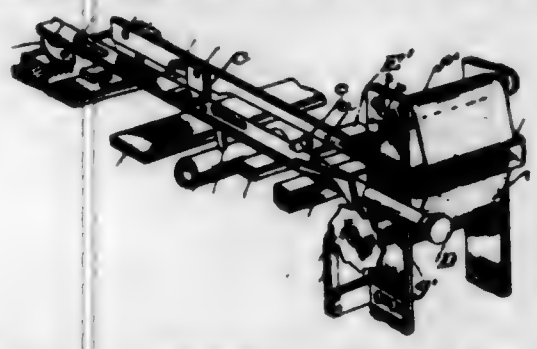


Claim.—1. The herein-described continuous process of treating ore-slimes to obtain the values therefrom, consisting in charging the slimes mixed with cyanid solution into a tank, causing the slimes to settle and accumulate in thickness in the bottom of said tank, discharging the thickened portion by its own weight and that of the overlying solution into the top of a second tank containing barren solvent solution, filtering off the value-containing solution and allowing the heavy slimes to settle and accumulate in the bottom of the tank, withdrawing the thickened slimes, agitating and mixing them with water, discharging them into a third tank containing water, filtering off the liquid, causing the thickened slimes resulting from the filtering to accumulate in the lower part of the tank thereby forcing the liquid therefrom and discharging the thickened slimes from time to time as necessary.

2. In the process of treating ore-slimes to obtain the values therefrom, the continuously discharging them by their own gravity and that of an overlying cyanid solution from one tank into a second tank where they are treated to a barren solvent solution and then filtering the values from the mass of the slimes so treated.

3. In the process of treating ore-slimes to obtain values therefrom, charging the slimes with a cyanid solution into a tank causing the slimes to settle and accumulate in thickness in the bottom of said tank discharging the thickened portion by its own weight and that of the overlying solution into the top of a second tank having a barren solvent solution therein, filtering off the value-containing solution, allowing the heavy slimes to settle and accumulate in the bottom of said tank, discharging them into a third tank where they are washed with water, and then filtering the values from the slimes so treated.

804,187. VOTING-MACHINE. ALFRED A. FARWELL, Oshawa, Canada. Original application filed Dec. 9, 1903, Serial No. 184,446. Divided and this application filed Oct. 22, 1904. Serial No. 229,030.



Claim.—1. In a voting-machine a platen; a ribbon of paper passing over said platen; spools on which the said ribbon is wound, in combination with a guard movable in front of and away from the said platen; a push-bar adapted when pressed in to move the guard to uncover the platen and when out to cover it; means for locking the push-bar when pressed in; means for releasing the locking means; a rock-bar; means operated by the bar for returning the push-bar to its normal position; and means for rotating one of the spools while the push-bar is moving, substantially as described.

2. In a voting-machine a platen; a ribbon of paper passing over said platen; spools on which the said ribbon is wound, in combination with a guard; an arm carrying the guard at one end and pivoted at the other on the frame of the machine, a diagonal slot being formed in the arm; a push-bar; a pin suitably connected to the push-bar and engaging the said slot whereby the guard is moved to uncover the platen when the push-bar is pressed in and is moved to cover the platen when the push-bar is at normal; means for locking the push-bar when pressed in; means for releasing the push-bar and for returning it to its normal position; and means for rotating one of the spools while the push-bar is moving, substantially as described.

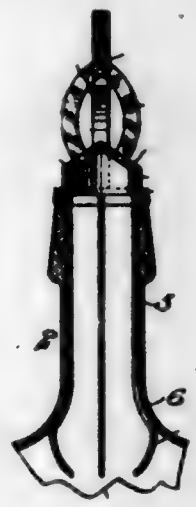
3. In a voting-machine a platen; a ribbon of paper passing over said platen; spools on which the said ribbon is wound, in combination with a guard movable in front of and away from the said platen, a push-bar adapted when pressed in to move the guard to uncover the platen and when out to cover it; means for locking the push-bar when pressed in; means for releasing the push-bar and for returning it to its normal position; a ratchet-wheel connected with one of the spools; and a pawl pivoted on the push-bar and engaging the ratchet-wheel, substantially as described.

4. In a voting-machine a platen; a ribbon of paper passing over said platen; spools on which the said ribbon is wound, in combination with a guard movable in front of and away from the said platen; a push-bar adapted when pressed in to move the guard to uncover the platen and when out to cover it; means for locking the push-bar when pressed in; means for releasing the push-bar and for returning it to its normal position; a ratchet-wheel connected with one of the spools; a pawl pivoted on the push-bar and engaging the ratchet-wheel; and a spring-actuated retaining-pawl pivoted on the frame and engaging the said ratchet, substantially as described.

5. In a voting-machine a platen; a ribbon of paper passing over said platen; spools on which the said ribbon is wound, in combination with a guard movable in front of and away from the said platen; a push-bar adapted when pressed in to move the guard to uncover the platen and when out to cover it; means for locking the push-bar when pressed in; means for releasing the push-bar and for returning it to its normal position; a ratchet-wheel connected with one of the spools; a pawl pivoted on the push-bar and engaging the ratchet-wheel; a spring-actuated retaining-pawl pivoted on the frame and engaging the said ratchet-wheel; and a friction-brake for the other spool, substantially as described.

6. In a voting-machine a platen; a ribbon of paper passing over said platen; spools on which the said ribbon is wound, in combination with a guard; an arm carrying the guard at one end and pivoted at the other on the frame of the machine, a diagonal slot being formed in the arm; a push-bar; a pin suitably connected to the push-bar and engaging the said slot whereby the guard is moved to uncover the platen when the push-bar is pressed in and is moved to cover the platen when the push-bar is at normal; means for locking the push-bar when pressed in; means for releasing the push-bar and for returning it to its normal position; a ratchet-wheel connected with one of the spools; a pawl pivoted on the push-bar and engaging the ratchet-wheel; and a spring-actuated retaining-pawl pivoted on the frame and engaging the said ratchet-wheel, substantially as described.

804,188. BOTTLE-STOPPER. ORRIN H. PREBURNER, New York, N. Y., assignor of one-half to Valley V. Davids, New York, N. Y. Filed June 15, 1905. Serial No. 265,488.



Claim.—1. A bottle-stopper comprising a hollow body, an upright carried by the body and oppositely-swinging doors hinged to the upright arranged to open and close the top of the body.

2. A bottle-stopper comprising a hollow body, an upright carried by the body, oppositely-swinging doors hinged to the upright arranged to open and close the top of the body and spring-wires arranged to lock the stopper to a bottle.

3. A bottle-stopper comprising a hollow body having diagonal seats at its top, an upright carried by the body and diagonally-arranged doors having arms hinged to the upright whereby the doors are arranged to open and close the top of the body.

4. A bottle-stopper comprising a hollow body having diagonal seats at its top, an upright carried by the body, diagonally-arranged doors and outwardly-bowed arms connected to the doors at their lower ends and hinged to the upright at their upper ends whereby the doors are arranged to open and close the top of the body.

5. A bottle-stopper comprising a hollow body, doors arranged to open and close the passage therethrough and spring-wires depending from the body having outwardly-bent portions arranged to engage the flaring part of the interior of the bottle to lock the stopper in position on the mouth of the bottle.

6. A bottle-stopper comprising a hollow body, doors arranged to open and close passage therethrough and spring-wires depending from the body having outwardly-bent portions for locking the stopper to the mouth of the bottle and inwardly-bent portions for facilitating the insertion of the wires into the bottle.

7. A bottle-stopper comprising a hollow body, spring locking-wires depending therefrom, a washer surrounding the springs at the bottom of the body and doors arranged to open and close the top of the body.

804,189. APPARATUS FOR MEASURING THE LENGTH OF ELECTRIC WAVES. JOHN A. FLEMING, London, England, assignor to Marconi's Wireless Telegraph Company, Limited, London, England. Filed Feb. 8, 1905. Serial No. 244,713.

Claim.—1. In an apparatus for measuring the lengths of electric waves, the combination of a coil of wire, the effective length of which may be varied, and an instrument movable with relation to the coil for indicating the presence of a complete stationary electric wave therein.

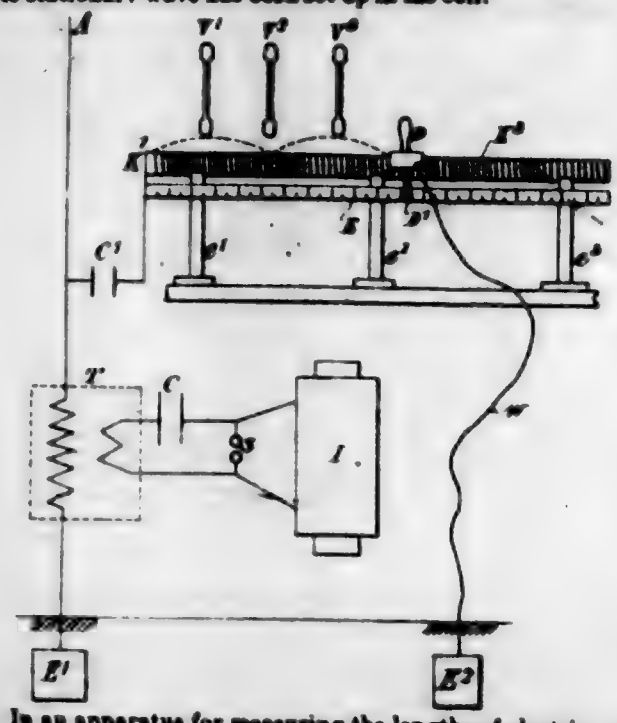
2. In an apparatus for measuring the lengths of electric waves, the combination of a coil of wire, the effective length of which may be varied, an instrument, movable with relation to the coil, for indicating the presence of a complete stationary electric wave therein, and an index of the length of the coil within which the complete stationary wave exists.

3. In an apparatus for measuring the lengths of electric waves, the combination of a coil of wire, the effective length of which may be varied, means for producing electrical oscillations in the coil, and means for ascertaining when a complete stationary wave has been set up in the coil.

4. In an apparatus for measuring the lengths of electric waves, the combination of a coil of wire, a conducting-saddle movable along the coil and connected to earth, means for producing electrical oscillations in the coil, and means for ascertaining when a complete stationary wave has been set up in the coil.

5. In an apparatus for measuring the lengths of electric waves, the combination of a coil of wire, means for varying the effective

length of the coil, means for producing electrical oscillations in the coil, and a glow vessel, movable along the coil, for indicating when a complete stationary wave has been set up in the coil.



6. In an apparatus for measuring the lengths of electric waves the combination of a coil of wire, a conducting-saddle movable along the coil and connected to earth, and a glow vessel, movable along the coil, for indicating when a complete stationary wave has been set up in the coil.

7. In an apparatus for measuring the lengths of electric waves, the combination of an apparatus for generating electrical oscillations, a coil of wire, a condenser, one plate of which is connected to the generator and the other to one end of the coil, means for varying the operative length of the coil, and means for ascertaining when a complete stationary wave has been set up in the coil.

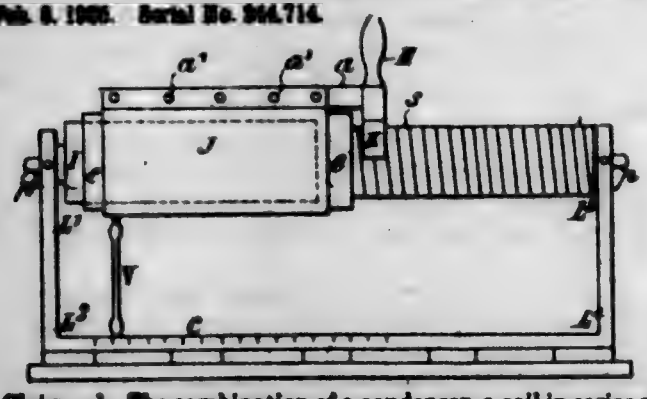
8. In an apparatus for measuring the lengths of electric waves, the combination of an apparatus for generating electrical oscillations, a coil of wire, a condenser, one plate of which is connected to the generator and the other to one end of the coil, a conducting-saddle movable along the coil, and connected to earth, and means for ascertaining when a complete stationary wave has been set up in the coil.

9. In an apparatus for measuring the lengths of electric waves, the combination of an apparatus for generating electrical oscillations, a coil of wire, a condenser, one plate of which is connected to the generator and the other to one end of the coil, means for varying the operative length of the coil, and a glow vessel movable along the coil for indicating when a complete stationary electric wave has been set up in the coil.

10. In an apparatus for measuring the lengths of electric waves, the combination of an apparatus for generating electrical oscillations, a coil of wire, a condenser, one plate of which is connected to the generator and the other to one end of the coil, a conducting-saddle movable along the coil and connected to earth, and a glow vessel movable along the coil for indicating when a complete stationary electric wave has been set up in the coil.

11. An instrument for detecting electrical oscillations consisting of a glow vessel containing neon.

804,190. INSTRUMENT FOR MAKING ELECTRICAL MEASUREMENTS. JOHN A. FLEMING, London, England, assignor to Marconi's Wireless Telegraph Company, Limited, London, England. Filed Feb. 8, 1905. Serial No. 244,714.



Claim.—1. The combination of a condenser, a coil in series with the condenser and means for simultaneously varying the capacity of the condenser and the inductance of the coil, in the same proportion.

2. The combination of two conducting-surfaces, a dielectric between the surfaces, a coil having one end connected to one of the surfaces, a contact-maker resting on the coil and connected to the other surface and means for simultaneously moving the two surfaces and the coil and contact-maker relatively to each other respectively.

3. The combination of two conducting-surfaces, a dielectric between the surfaces, a coil having one end connected to one of the surfaces, a contact-maker resting on the coil and connected to the other surface, means for simultaneously moving the two surfaces and the coil and contact-maker relatively to each other respectively, and a vacuum-tube carried by one of the surfaces.

4. The combination of two concentric metallic cylinders, a non-conducting cylinder fixed to and projecting beyond one of them such cylinder being adapted to fit between the two metallic cylinders, a coil wound on the projecting portion of the non-conducting cylinder and having one end connected to one of the metallic cylinders and a contact-maker resting on the coil and so connected to the other metallic cylinder that it always occupies the same position relatively to it.

5. The combination of two concentric metallic cylinders, a non-conducting cylinder fixed to and projecting beyond one of them such cylinder being adapted to fit between the two metallic cylinders, a coil wound on the projecting portion of the non-conducting cylinder and having one end connected to one of the metallic cylinders, a contact-maker resting on the coil and so connected to the other metallic cylinder that it always occupies the same position relatively to it, and a metallic bar interposed in the circuit between the two metallic cylinders.

6. The combination of two concentric metallic cylinders, a non-conducting cylinder fixed inside and projecting beyond the outer metallic cylinder, such cylinder being free to move outside the inner metallic cylinder, a coil wound on the projecting portion of the non-conducting cylinder and having one end connected to the outer metallic cylinder, a metallic bar connected to the inner metallic cylinder and a contact-maker fixed to the bar and resting on the coil.

7. The combination of two concentric metallic cylinders, a non-conducting cylinder fixed to and projecting beyond one of them such cylinder being adapted to fit between the two metallic cylinders, a coil wound on the projecting portion of the non-conducting cylinder and having one end connected to one of the metallic cylinders, a contact-maker resting on the coil and so connected to the other metallic cylinder that it always occupies the same position relatively to it, and a glow vessel carried by the outer metallic cylinder.

8. The combination of two concentric metallic cylinders, a non-conducting cylinder fixed to and projecting beyond one of them such cylinder being adapted to fit between the two metallic cylinders, a coil wound on the projecting portion of the non-conducting cylinder and having one end connected to one of the metallic cylinders, a contact-maker resting on the coil and so connected to the other metallic cylinder that it always occupies the same position relatively to it, a metallic bar interposed in the circuit between the two metallic cylinders, and a glow vessel carried by the outer metallic cylinder.

9. The combination of two concentric metallic cylinders, a non-conducting cylinder fixed inside and projecting beyond the outer metallic cylinder, such cylinder being free to move outside the inner metallic cylinder, a coil wound on the projecting portion of the non-conducting cylinder and having one end connected to the outer metallic cylinder, a metallic bar connected to the inner metallic cylinder, a contact-maker fixed to the bar and resting on the coil, and a glow vessel carried by the outer metallic cylinder.

10. An apparatus for measuring the lengths of electric waves, comprising a closed circuit containing inductance and capacity, the elements of the circuit being so constructed and arranged that the movement of a single part will simultaneously vary the inductance and capacity of the circuit.

11. An apparatus for measuring the lengths of electric waves, comprising a closed circuit containing inductance and capacity, the elements of the circuit being so constructed and arranged that the movement of a single part will simultaneously vary the inductance and capacity of the circuit, a pointer connected to the movable part, and a scale with which the pointer coöperates.

804,191. PROCESS FOR MANUFACTURING FILMS OR THREADS OF CELLULOSE. MAX FREMERY, Oberbruch, and EMIL KNOEVENAGEL, Mülheim-Hindenburgwall, Germany, and JOHANN URBAN, St. Pölten, Austria-Hungary. Filed May 8, 1905. Serial No. 259,478.

Claim.—1. A process for the manufacture of threads or films of cellulose consisting in first treating a cupriferous ammoniacal solu-

tion of cellulose with a strong solution of alkali, and then immersing the separated solid product thus obtained in caustic alkali.

2. A process for the manufacture of threads or films of cellulose consisting in first treating a cupriferous ammoniacal solution of cellulose with a strong solution of alkali, and then immersing the separated solid product thus obtained in ammoniacal caustic-alkali.

3. A process for the manufacture of threads or films of cellulose consisting in first treating a cupriferous ammoniacal solution of cellulose with a strong solution of an alkali and then immersing the separated solid product thus obtained in a cold solution of caustic soda of not less than twenty-per-cent. strength.

4. A process for the manufacture of threads or films of cellulose consisting in first treating a cupriferous ammoniacal solution of cellulose with a strong solution of an alkali and then immersing the separated solid product thus obtained in a cold solution of caustic soda of not less than twenty-per-cent. strength and containing not more than six per cent of ammonia.

5. A process for the manufacture of threads or films of cellulose consisting in first treating a cupriferous ammoniacal solution of cellulose with a strong solution of alkali and then immersing the separated solid product thus obtained in caustic alkali, and finally washing the solid product and drying it under tension.

6. A process for the manufacture of threads or films of cellulose, consisting in first treating an ammoniacal cupriferous solution of cellulose with a strong solution of an alkali and then immersing the separated solid product thus obtained in a cold solution of caustic soda of not less than twenty-per-cent. strength and containing not more than six per cent. of ammonia and finally washing the solid product and drying it under tension.

7. A process for the manufacture of threads or films of cellulose consisting in first treating a cupriferous ammoniacal solution of cellulose with a strong solution of an alkali and then treating the solid product thus obtained with caustic alkali under centrifugal action.

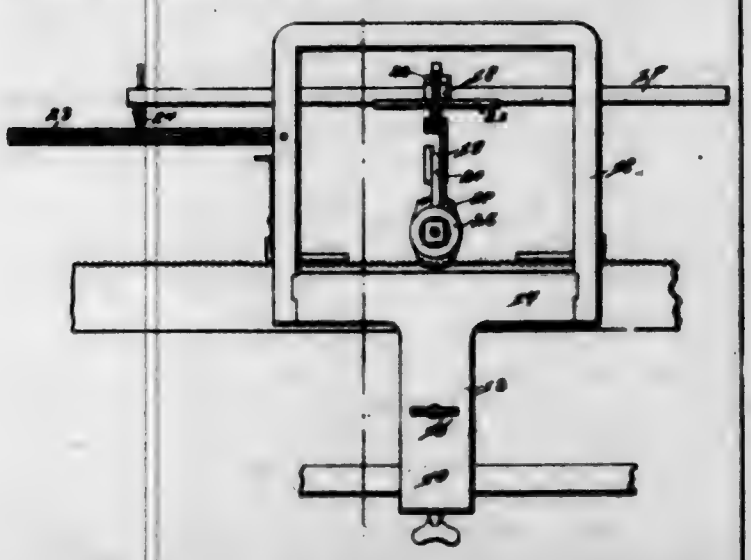
8. A process for the manufacture of threads or films of cellulose consisting in first treating a cupriferous ammoniacal solution of cellulose with a strong solution of an alkali and then treating the solid product thus obtained with caustic alkali under centrifugal action and finally washing the solid product and drying it under tension.

9. A process for the manufacture of threads or films of cellulose consisting in first treating a cupriferous ammoniacal solution of cellulose with a strong solution of an alkali and then treating the solid product thus obtained with ammoniacal caustic alkali under centrifugal action.

10. A process for the manufacture of threads or films of cellulose consisting in first treating a cupriferous ammoniacal solution of cellulose with a strong solution of an alkali then treating the solid product thus obtained with ammoniacal caustic alkali under centrifugal action, and finally washing the solid product and drying it under tension.

11. As a new article of manufacture transparent films or thick threads of cellulose made by treating a cupriferous ammoniacal solution of cellulose with a strong solution of alkali, immersing the separated solid product thus obtained in caustic alkali, and finally washing the solid product and drying it under tension.

804,192. **SAW-FILING MACHINE.** CHARLES B. GROVER, Watertown, Wis. Filed July 22, 1904. Serial No. 217,719.



Claim.—1. In a saw-filing machine, a clamp, adapted to be fastened to a table, having a straight upright and a bowed upright and a cross-head at the top of each upright provided with tenons on their ends for detachably connecting a three-sided frame therewith and a set-screw extended through the uprights for adjusting the cross-heads relative to each other for fastening a saw-blade in combination with a three-sided frame, having bifurcated ends and mortises to admit the tenons on the ends of the cross-heads, in the manner set forth for the purposes stated.

2. In a saw-filing machine, a three-sided frame having apertures in its parallel uprights, a straight bar slidably connected with the parallel vertical parts of the frame, a file-holder on the bar, a pointer carried at one end of the straight bar, a gage fixed to the frame to extend outward therefrom in a plane below and parallel with the slidable bar, in the manner set forth for the purposes stated.

3. In a saw-filing machine, a three-sided frame having apertures in its parallel uprights, a straight bar extended through said apertures and slidably connected with the parallel vertical parts of the frame, a pointer carried at one end of the straight bar, a gage fixed to the frame to extend in alinement with said straight bar in a plane below said pointer and a slide on the bar and a hook-shaped hanger for supporting a file-holder adjustably connected with said slide, arranged and combined to operate in the manner set forth for the purposes stated.

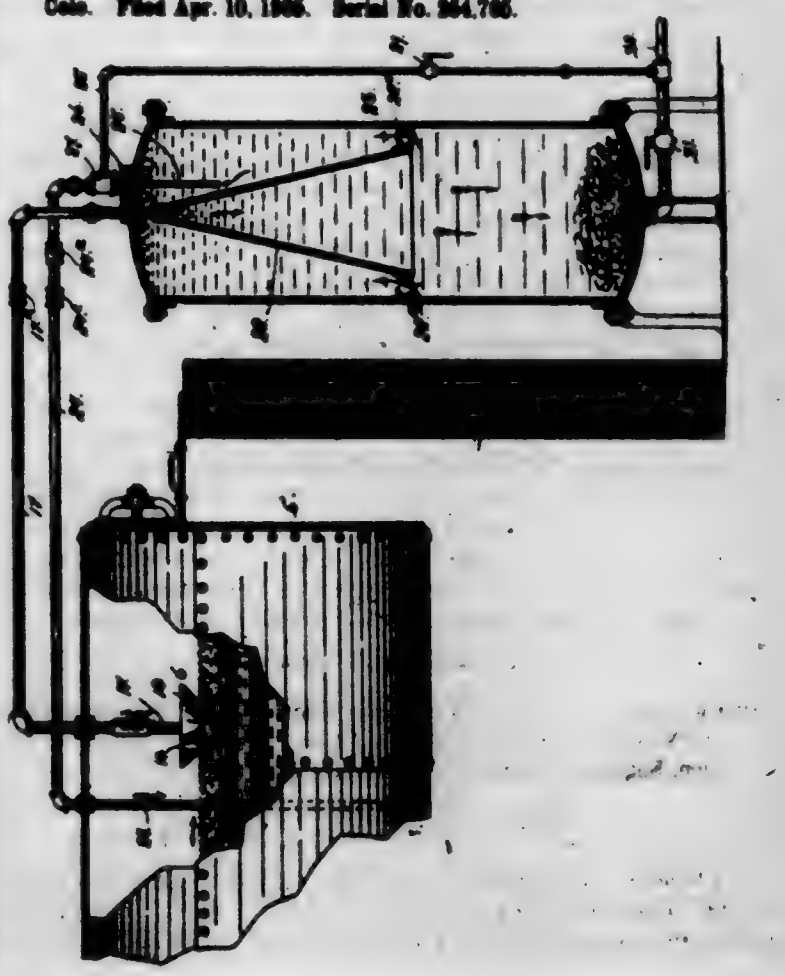
4. A saw-filing machine consisting of a three-sided frame having apertures in its parallel uprights, a straight bar extended through said apertures and slidably connected with the parallel vertical parts of the frame, a pointer carried on the end of the straight bar, a gage extended from the frame to be engaged by said pointer, a slide on the bar and a hanger for supporting a file-holder adjustably connected with said slide, a gage fixed to the slide and a pointer fixed to the hanger, a file-holder suspended in the hanger, a saw-clamp at the lower end of said three-sided frame and means for fixing the saw-clamp to a bench, arranged and combined to operate in the manner set forth, for the purposes stated.

804,193. **PROCESS FOR MANUFACTURING BRIQUETS.** GOTTFRIED HERVEGH, Bischmdorf, Germany, assignor to Willy von Lowinski, Breslau, Germany. Filed June 24, 1904. Serial No. 214,661.

Claim.—The herein-described process of manufacturing briquets, consisting in, first, intimately grinding and mixing fuel with lime, adding water thereto, then thoroughly kneading the resulting mixture until a moldable dough-like consistent mass is produced, then molding the said consistent mass, by applying a gradually-increasing pressure, into pieces of suitable shape and size, and finally drying the same in a hot atmosphere containing carbonic acid, substantially as described

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804,194. **BOILER-CLEANER.** BRECKENRIDGE IRWIN, Denver, Colo. Filed Apr. 10, 1905. Serial No. 254,765.



Claim.—1. The combination with a boiler, of a tank located in suitable proximity to the boiler, a skimming device located in the boiler and occupying a position in the upper portion of the water of the boiler, a conduit leading from the skimming device to the tank and having an outlet at a considerable distance below the top of the tank, a ball-and-socket connection between the skimmer and the conduit, and a return-conduit communicating with the upper portion of the water in the tank and with the lower portion of the water in the boiler.

2. The combination with a boiler, of a skimming device located therein and having a bottom receptacle provided with an apertured cover, a tank located in suitable proximity to the boiler, a conduit leading from the said receptacle of the skimming device to the tank and discharging thereinto at a level considerably below the top of the tank, a return-conduit leading from the upper portion of the tank to the lower portion of the boiler, and outlets connected with the tank for removing the impurities both from the top and the bottom of the latter, substantially as described.

3. In a device of the class described, the combination with a boiler, of a tank located in suitable proximity to the boiler, a skimming device located in the boiler and consisting of a receptacle provided with wings for directing the floating impurities into the receptacle the latter being provided with an apertured cover, a conduit connected with the skimming device and communicating with the receptacle, the said conduit communicating with the tank at a considerable distance below the top of the latter, means for returning the water from the tank to the boiler, and means for removing the impurities from the tank, substantially as described.

4. The combination with a boiler, of a skimmer located therein and having a depressed bottom extending below the surface of the water, a plate covering the depressed portion and open to allow the sediment and the water to enter said portion, and an outlet-pipe connected with the skimmer and having an open extremity projecting below the surface of the liquid in the depressed portion or bottom of the skimming device.

5. The combination with a boiler and an outlet-pipe, of a skimmer located therein, a spherical segment connected with the skimmer extremity of the pipe, the skimmer having a socket for the segment and the extension above the socket larger than the pipe, and set-bolts threaded in said extension and engaging the pipe for purposes of adjustment.

6. The combination with a boiler and an outlet-pipe, of a skimmer located therein, a ball-and-socket connection between the pipe and the skimmer, and means for adjusting the skimmer with reference to the pipe.

7. The combination with a boiler and an outlet-pipe, of a skimmer having a bottom receptacle, an apertured covering for said receptacle, a ball-and-socket connection between the covering and the pipe, the latter having an open extremity projecting into the receptacle, a funnel-shaped member connected with the covering and surrounding the pipe connection, and radially-disposed wings mounted on the covering for the purpose set forth.

8. The combination with a boiler, of a tank or precipitator located in suitable proximity to the boiler, a skimming device located in the boiler and occupying a position in the upper portion of the water therein the said skimmer having a bottom receptacle and an apertured cover therefor, a conduit leading from the said receptacle of skimming device to the tank or precipitator and having a funnel-shaped outlet whose smaller extremity communicates with the pipe and whose larger extremity extends a considerable distance below the top of the precipitator.

9. The combination with a boiler, of a skimming device located therein, a precipitator located in suitable proximity to the boiler, a funnel-shaped device located therein and having its larger extremity lowermost and extending a considerable distance below the top of the precipitator, its larger extremity being provided with springs adapted to engage the inner walls of the precipitator whereby the device is properly centered, and a conduit leading from the skimming device to the smaller extremity of the funnel-shaped device.

804,193. PROCESS OF PRODUCING PRINTED SURFACES HAVING RELIEF APPEARANCE. CLAUDE H. MACKENZIE, London, England. Filed Feb. 1, 1905. Serial No. 243,754.



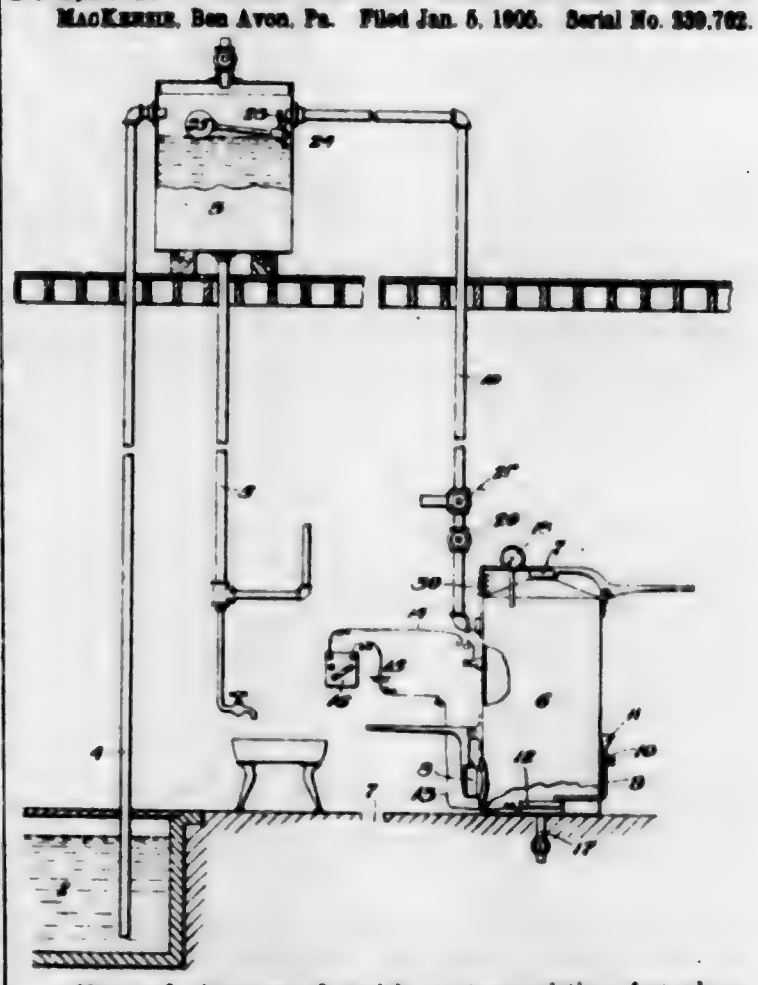
Claim.—1. The process of producing maps, charts and other printed matter showing a relief effect, which process consists in producing an outline thereof on a sheet of suitable material and pressing the sheet as required to represent the relief-surface, obtaining a photograph of such sheet showing the relief effect but actually flat, and then producing a printing-surface from the said photograph and printing therefrom.

2. The process of producing maps, charts and other printed representations, having a relief appearance, which consists in producing the outline thereof on a sheet of celluloid, softening the sheet and pressing the sheet as desired to represent the relief-surface and producing printed representations therefrom, substantially as herein set forth.

3. The process of producing maps, charts and other printed representations, having a relief appearance, which consists in producing the outline thereof on a sheet of celluloid, attaching same to a frame, softening the sheet, placing same on a pad, pressing the celluloid to represent reliefs, and producing printed representations therefrom, substantially as herein set forth.

4. The process of producing maps, charts and other printed representations, having a relief appearance, which consists in tracing the representation on a sheet of celluloid, softening the sheet and pressing the same as desired to produce a relief-surface, photographing the sheet, producing on the photograph additional matter, and making a printing-surface therefrom by means of photography, substantially as set forth.

804,196. APPARATUS FOR ELEVATING WATER. GEORGE W. MACKENZIE, Ben Avon, Pa. Filed Jan. 5, 1905. Serial No. 239,762.



Claim.—1. Apparatus for raising water consisting of a tank connected with a source of water-supply, a separate vacuum-chamber, means for causing air-consuming combustion therein, an exhaust-pipe connected with the vacuum-chamber, and means preventing entrance of water into the vacuum-chamber, substantially as set forth.

2. Apparatus for raising water consisting of a tank connected with a source of water-supply, a separate vacuum-chamber, and an exhaust-pipe connected therewith and with the tank, with a float-controlled valve located in the tank adapted to seal the exhaust-pipe to prevent entrance of water into the vacuum-chamber, substantially as set forth.

3. The combination with a water-tank having a supply connection and a service-pipe, of a separate vacuum-chamber, an exhaust-pipe connected with the water-tank and with the vacuum-chamber, and a float-controlled valve adapted to seal the exhaust-pipe when the water in the tank rises, substantially as set forth.

4. The combination with a water-tank having a supply connection, of a separate vacuum-chamber, and an exhaust-pipe connected with the water-tank and the vacuum-chamber, and means controlled by variations in the water-level in the water-tank for closing the exhaust-pipe when the tank is charged with water, substantially as set forth.

5. The combination with a water-tank having a supply connection, of a separate vacuum-chamber having means for introducing a measured quantity of fuel thereinto, a pan, and a sparking device for causing ignition of the fuel, substantially as set forth.

6. The combination with a water-tank having a supply connection, of a separate vacuum-chamber having means for introducing a measured quantity of fuel thereinto, oppositely-located air-circulation openings and doors therefor, a pan, and a sparking device for causing ignition of the fuel, substantially as set forth.

7. A vacuum-tank provided with air-circulation openings, lever-controlled valves for sealing said openings, a closing-spring for one of said levers, means for causing air-consuming combustion within the tank, a suction-pipe connected with the tank and means preventing entrance of water through said pipe, substantially as set forth.

8. A vacuum-tank provided with air-circulation openings, means for sealing said openings, means permitting escape of air from the interior of said tank and for automatically preventing reëntrance of air, means for causing air-consuming combustion within the tank, and a suction-pipe provided with an automatically-operative closing-valve, substantially as set forth.

9. A vacuum-tank provided with oppositely-located air-circulation openings, lever-controlled closures therefor, means for holding said closures to their seats, means permitting one of said closures to automatically open to permit escape of air from the interior, means for causing air-consuming combustion within the tank, a suction-pipe connected with the tank, and means preventing entrance of water through said pipe, substantially as set forth.

10. A vacuum-tank provided with a fuel-pan, a pipe leading thereinto, a sparking device, a suction-pipe, and valve-controlled air-circulation openings, substantially as set forth.

11. The combination of a plurality of water-tanks located on successively higher levels, a feed-water supply to the top of the lowermost tank, supply-pipes connecting the bottom of each tank with the next higher tank, a separate vacuum-chamber, separate valve-controlled connections therefrom to each of the tanks, and valves admitting air to each tank, substantially as set forth.

12. The combination of a plurality of water-tanks located on successively higher levels, a feed-water supply to the lowermost tank, supply-pipes connecting the adjacent tanks, a separate vacuum-chamber provided with a fuel-pan and a sparking device, separate valve-controlled connections from the vacuum-chamber to each of the tanks, with air-admitting valves and service-pipes connected to each tank, substantially as set forth.

13. The combination of a plurality of water-tanks located on successively higher levels, a feed-water supply to the lowermost tank, supply-pipes connecting the bottom of each tank with the top of the next higher tank, a separate vacuum-chamber, separate valve-controlled connections therefrom to each of the tanks, and valves admitting air to each tank, substantially as set forth.

14. In apparatus for raising water, the combination of a plurality of water-tanks located on successively higher levels, a feed-water supply to the lowermost tank, supply-pipes connecting the bottom of each tank with the top of the next higher tank, service-pipes for each tank, separate valve-controlled air-inlet openings leading into each tank, a separate vacuum-chamber provided with a fuel-pan, a fuel-pipe and a sparking device, with separate valve-controlled connections from the vacuum-chamber to each of the tanks, substantially as set forth.

REISSUES.

12,396. **RAILWAY-TORPEDO.** CHARLES E. BECKWITH, Peoria, Ill., assignor, by mesne assignments, to American Fog Signal Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Sept. 13, 1905. Serial No. 278,358. Original No. 760,879, dated May 30, 1905.



Claim.—1. A torpedo of the class described, comprising a tubular waterproofed envelop for containing an explosive compound, such envelop being formed substantially flat in cross-section, and having its ends closed, and a carrier for such envelop adapted to be clamped to the rail.

2. A torpedo of the class described, comprising a tubular envelop of substantially flat cross-section, the ends thereof being closed over upon the body of the envelop and a carrier for such envelop, said carrier adapted to clamp the turned-over ends to close the same moisture-tight, said carrier adapted to be clamped to the rail.

3. A torpedo of the character described, comprising the tubular container A having the closed-over ends *a a*, the explosive compound B therein, the carrier C, its ends D D being closed over upon the said closed-over ends *a a* to keep the same tightly closed and a clamping-strip interposed between the said container and carrier for the purposes set forth.

4. A torpedo of the character described comprising the tubular container A having the closed-over ends *a a*, the explosive B therein, the carrier C, its ends being closed over upon the ends *a a* of the container to keep the same tightly closed, a clamping-strip interposed between the container and the carrier for clamping the torpedo to the rail, and friction-points on the upper surface of the carrier to prevent the said clamping-strip moving for the purposes set forth.

5. A torpedo of the character described comprising a non-metallic container for the explosive and adapted to be clamped to the rail, and a carrier for the same having its ends turned over upon the container and lying at right angles to the length of the rail substantially, as set forth and for the purposes described.

6. In a torpedo, a non-metallic waterproof envelop, an explosive compound contained therein, such envelop comprising a tube closed at its ends by having said ends folded tightly over upon it, a carrier member forming a rigid support for the envelop the same having its ends bent over upon the folded ends substantially in the manner shown, said carrier member adapted to be clamped to the rail.

7. In a torpedo, a substantially flat tube closed at its ends by having said ends doubled over upon it, an explosive compound contained in said tube and retained therein by said closed-over ends, a carrier member for the envelop thus constructed, the same adapted for clamping the envelop to the rail.

8. In a torpedo, a non-metallic waterproof tube of substantially flat cross-section having its ends folded over upon said tube to form a tight container or envelop, a metallic carrier member for the envelop, the ends of the former being closed firmly over upon the folded ends to hold the latter shut, and a strip interposed between the envelop and the carrier for clamping the device to the rail, said strip being held between the envelop and carrier by friction substantially as described.

9. An improved torpedo, comprising a case composed of a section of a fiber tube with open ends, a carrier applied thereto and extending longitudinally the tube, the ends of the carrier bent over upon, clamping and holding the ends of the tube closed.

10. An improved torpedo, comprising a tubular case having a flat bottom, a metal carrier applied to the outside of the bottom of the case and extending longitudinally thereof, the carrier having its ends turned over upon clamping and holding the ends of the tube closed in a plane below the middle portion of the tube, and a rail-engaging member applied to the torpedo at right angles to the carrier, whereby the torpedo is supported on the rail with its inclined portion toward the advancing car-wheel.

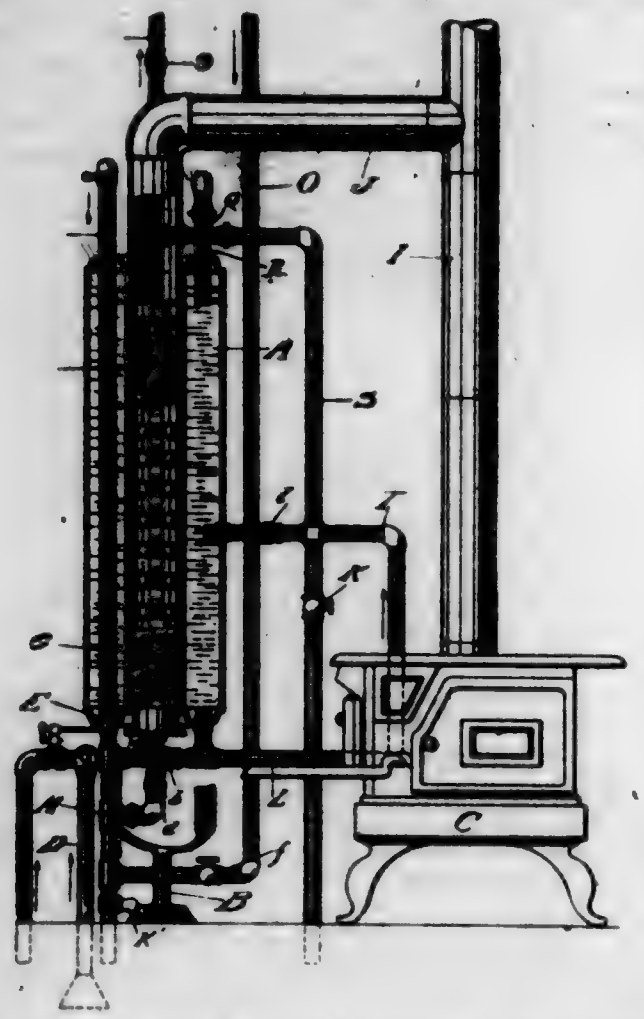
11. An improved torpedo, comprising a paper case, a metal carrier therefor having opposite inturned flanges clamping the said case, and a rail-engaging device extending in a direction longitudinally the flanges, whereby the torpedo is applied to the rail with the flanges so located that the explosive will throw the flange in a direction longitudinally the track.

12. A torpedo of the class described, comprising a tubular waterproof envelop for containing an explosive compound, such envelop being formed substantially flat in cross-section and having its ends folded over upon it, and a carrier for such envelop adapted to be clamped to the rail.

12,397. **WATER-HEATING APPARATUS.** PETER A. DRAST, Oakland, Cal., assignor to The Deasy Water Heater Company, Oakland, Cal. Filed May 8, 1905. Serial No. 259,499. Original No. 765,662, dated July 19, 1904.

Claim.—1. In a water-heating apparatus an annular boiler having a space extending entirely throughout the center thereof, in combination with a stovepipe having one of its ends arranged in the space of said boiler, a water-heater located within said space and in communication with the supply, a vertical pipe communicating with said water-heater at its upper end and leading through said stovepipe, a horizontal pipe connected to said vertical pipe and extending through the side of said stovepipe, and a pipe connected to said horizontal pipe and leading into the top of said boiler, and a supply-pipe

K extending through the boiler and having connection with the water-heater, a connection between said pipe K and the water-back of the stove, and a pipe T connected to said water-back and said boiler.



2. In a water-heating apparatus, an annular boiler having a space extending entirely through the center, a water-heater located within said space and extending the entire length of the same, in combination with the stovepipe of the same diameter as said space and leading into the top of the same, a pipe K connected to said water-heater, a vertical pipe P connected to said water-heater, a horizontal pipe connected to the vertical pipe and a pipe R connected to the horizontal pipe and leading into the boiler, a vertical pipe S connected to said horizontal pipe, a connection between pipe K and the water-back of the stove, a pipe T leading from said water-back to the boiler and having connection with pipe S.

3. In a water-heating apparatus, the combination of an annular boiler having a space extending entirely through the center thereof, a heater in said central space, a fluid-fuel burner in the bottom of said space for heating the heater, a stove having a water-back, a connection between the bottom of the water-back and the bottom of the heater, a connection between the top of the water-back and the top of the heater, a branch pipe from said lower connection leading to the bottom of the boiler, a branch pipe from the upper connection leading to the top of the boiler, a supply-pipe connected with the lower connection, and a hot-water pipe connected with the upper connection, substantially as described

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12,398. **PROCESS OF PREPARING RICE.** JOHN W. JOHNSON and LEE LOCK, Upper Sandusky, Ohio, assignors to Oriental Food Company, a Corporation of Illinois. Filed June 1, 1905. Serial No. 263,282. Original No. 749,504, dated Jan. 12, 1904. Reissue No. 12,211, dated Apr. 5, 1904.

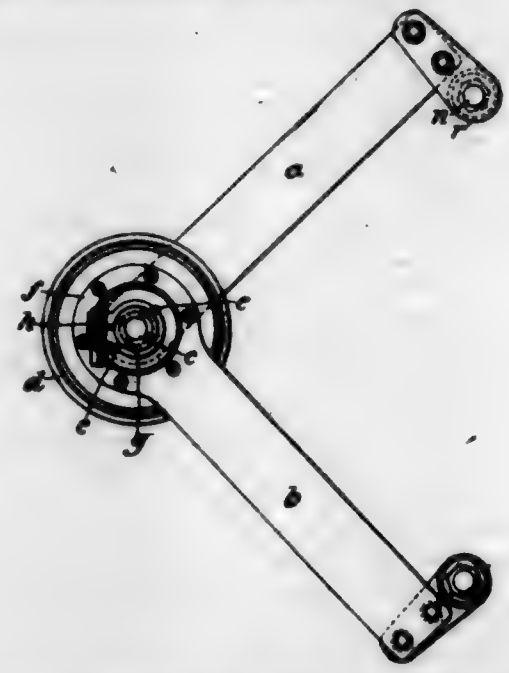
Claim.—1. The process of preparing a cereal which consists in cooking the same until it is in a nearly edible condition, then drying it until it is in an approximately dry condition, then swelling and parching the same upon a heated granular material, substantially as described.

2. The process of preparing rice which consists in cooking the same until it is nearly in edible condition, then drying until it is in an approximately dry condition, and then swelling and parching the same by spreading it upon heated sand, substantially as set forth.

3. The process of preparing rice which consists in cooking the same by boiling it, then drying it until the moisture is nearly removed, and then swelling and parching it by spreading it upon a surface covered with sand heated to the requisite temperature, substantially as set forth.

4. The process of preparing a cereal which consists in cooking the same until it is in nearly edible condition, then drying it until it is in an approximately dry condition, and then swelling and parching the same by spreading it upon heated sand, substantially as set forth.

12,399. **ANTIVIBRATION DEVICE FOR VEHICLES.** JULES M. M. TRUFFAULT, Paris, France, assignor of fifty-one one-hundredths to Edward V. Hartford and forty-nine one-hundredths to George H. Hartford, Orange, N. J. Filed Jan. 10, 1905. Serial No. 240,511. Original No. 743,986, dated Nov. 10, 1903.



Claim.—1. An antivibration device comprising a friction-disk having a peripheral flange and a flat interior surface, an arm rigidly attached to said disk and means on said arm for securing it to the frame of a vehicle, a second friction-disk concentric with said first disk, an arm rigidly attached to said last-mentioned disk and means on said arm for securing it to the running-gear of a vehicle, a washer seated within the recess formed by said flange and between the faces of said disks, a bolt rigidly attached to one of said disks and passing freely through an aperture in the other disk and means on said bolt for adjusting the disks relatively to each other, substantially as described.

2. An antivibration device comprising a friction-disk having a peripheral flange and a flat interior surface, an arm rigidly attached to said disk and means on said arm for pivotally securing it to the frame of a vehicle, a second friction-disk seated within said flange, an arm rigidly attached to said last-mentioned disk and means on said arm for pivotally securing it to the running-gear of a vehicle, a washer seated within the recess formed by said flange and between the faces of said disks, a bolt rigidly attached to one of said disks and passing freely through an aperture in the other disk, a nut on said bolt to regulate the friction and means to lock the said nut in position substantially as described

3. An antivibration device comprising a pair of friction-disks having parallel friction-faces, an arm rigidly connected at one end to each of said disks, means upon the opposite end of one arm whereby the same may be pivotally secured to the frame of a vehicle and means upon the opposite end of the other arm whereby the same may be pivotally secured to the running-gear of a vehicle, the friction-faces of said disks being in a vertical plane parallel to a line drawn between the pivotal supporting means of said two arms, a washer between said friction-faces, and means for adjusting said friction-faces toward and from each other substantially as described

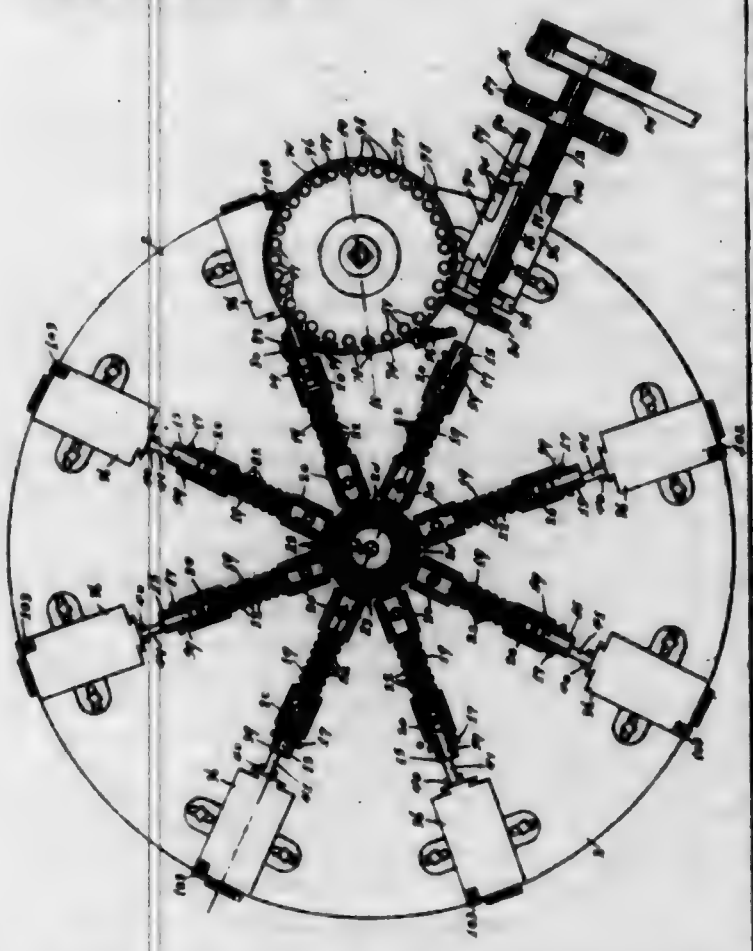
4. An antivibration device comprising a pair of friction-disks having parallel friction-faces, a peripheral flange upon one of said disks, which receives and partially incloses the other disk, an arm rigidly connected at one end to each of said disks, means upon the opposite end of one arm whereby the same may be pivotally secured to the frame of a vehicle and means upon the opposite end of the other arm whereby the same may be pivotally secured to the running-gear of a vehicle, the friction-faces of said disks being in a vertical plane parallel to a line drawn between the pivotal supporting means of said two arms, a washer between said friction-faces, and means for adjusting said friction-faces toward and from each other, con-

sisting of a bolt affixed to one disk and passing through an aperture in the other disk, a nut on said bolt and a lock for said nut substantially as described.

5. An improved antivibration device for vehicles of all kinds, as hereinbefore described, in which every folding joint comprises two arms hinged together, one carrying a socket or flanged disk and the other a plate in frictional contact with the leather inserted within the socket and with a leather washer pressed against the plate by means of a nut screwed on a stud, substantially as described.

6. An improved antivibration device for vehicles of all kinds, as hereinbefore described, in which the arms of every folding joint are frictionally mounted on the one hand upon a stud secured upon the axle and on the other hand upon a stud secured upon the frame, each of these studs presenting two conical parts abutting against conical leather-lined surfaces presented by pivots mounted at the end of each of the arms of the folding joint, substantially as described.

12,400. **BUTTON-WORKING MACHINE.** HARVEY CHALMERS, Amsterdam, N. Y., assignor to Harvey Chalmers & Son, Amsterdam, N. Y., a Firm. Filed Feb. 8, 1905. Serial No. 245,189. Original No. 749,231, dated Sept. 29, 1903.



Claim.—1. In a machine of the class described and in combination work-feeding mechanism; a chuck; a tool; means for moving said tool and chuck in unison toward and from said feeding mechanism; and means for moving said tool at certain times toward and from said chuck.

2. In a machine of the class described and in combination work-feeding mechanism; a plurality of chucks movable toward and from the same; means for presenting said chucks successively to the feeding mechanism; and a plurality of tools each coöperative with one of said chucks and movable in unison therewith toward and from said feeding mechanism.

3. In a machine of the class described and in combination a movable support; and means for moving the same; work-feeding mechanism mounted upon a stationary support; a chuck and a tool coöperative therewith, both mounted upon said movable support and movable therewith toward and from said feeding mechanism; and means for producing a relative movement between said tool and chuck at certain times.

4. In a machine of the class described and in combination work-feeding mechanism having a movable work-carrier; a chuck and means for moving said chuck toward and from said feeding mechanism; means for moving said carrier in unison with said chuck at certain times; and means for transferring the work from said carrier to said chuck while moving in unison with each other.

5. In a machine of the class described, and in combination, a frame or support; a table rotatively mounted thereon; a plurality of chucks mounted upon said table and movable therewith; a plurality of tools mounted upon said table, movable therewith, and coöperative with said chucks respectively; means for rotating said table; and means for operating said chucks and tools while the table is rotating.

6. In a machine of the class described, and in combination, a frame or support; a table rotatively mounted thereon; a plurality of chucks mounted upon said table movable therewith; a plurality of tools mounted upon said table, movable therewith, and coöperative with said chucks respectively; means for rotating said table; and means for causing a relative movement between the several chucks and the respective coöperating tools at certain times while the table is rotating.

7. In a machine of the class described, and in combination, a frame or support; a table rotatively mounted thereon; means for rotating said table, a plurality of rotatory chucks; chuck-rotating spindles rotatively mounted in bearings upon, and arranged radially of, said table; a drive-shaft rotatively mounted in bearings on said support concentric with said table; operating connections between said shaft and the several chuck-spindles; and tools carried by said table coöperative with the respective chucks.

8. In a machine of the class described, and in combination, a frame or support; a table rotatively mounted thereon; means for rotating said table; a plurality of rotatory chucks; chuck-rotating spindles rotatively mounted in bearings upon, and arranged radially of, said table, a drive-shaft rotatively mounted in bearings on said support concentric with said table; a bevel-gear on said shaft; and beveled pinions on the inner ends of the respective chuck-spindles engageable with said bevel-gear.

9. In a machine of the class described, and in combination, a movable table; means for moving the same; a chuck carried by said table; a tool; a tool-carriage slidable along a way on said table toward and from said chuck; and cam mechanism whereby the movement of the table induces sliding movements of said tool-carrier at certain times.

10. In a machine of the class described, and in combination, a movable table; means for moving the same; a chuck carried by said table; a tool; a tool-carriage mounted upon said table and movable toward and from said chuck; a cam-follower connected with said carriage; a relatively fixed cam in the path of said follower adapted to withdraw the carriage and tool from the chuck; and mechanism wholly carried by said table for moving said carriage and tool toward the chuck.

11. In a machine of the class described, and in combination, a chuck; a tool-grinding mechanism; a tool-carriage movable back and forth between said chuck and grinding mechanism; a tool movably supported in an oblique slideway on said carriage; an adjusting-wedge for moving said tool along its oblique slideway; and means for operating said wedge from time to time to cause a compensatory readjusting movement of the tool after the grinding operation, substantially as described.

12. In a machine of the class described, and in combination, tool-grinding mechanism mounted upon a stationary support; a table rotatively mounted upon said support; a chuck carried by said table; a tool-carriage movably mounted on said table; a tool adjustably mounted on said carriage; means for moving said carriage toward and from said chuck, and to and from a position to cause the tool to be engaged by said grinding mechanism when carried past the same by the movement of the table; means for adjustably moving the tool on the carriage comprising a wedge; a screw for actuating said wedge; and pawl-and-ratchet mechanism for operating said screw, all carried by said table; and pawl-operating mechanism mounted on said stationary support, substantially as described.

13. In a machine of the class described, and in combination, a feed-table provided with an aperture; a work-carrier movable toward and from said aperture and adapted to receive work therethrough; a chuck; means for imparting to said chuck a movement of translation; means for moving said work-carrier at certain times in unison with said chuck; means for transferring the work from said carrier to said chuck while moving in unison with each other; and means for inducing a return movement of the work-carrier.

14. In a machine of the class described, and in combination, a feed-table provided with an aperture; a work-carrier movable toward and from said aperture and adapted to receive work therethrough; means for automatically supplying the work to said aperture; a chuck; means for imparting to said chuck a movement of translation; means for moving said work-carrier at certain times in unison with said chuck; means for transferring the work from said carrier to said chuck while moving in unison with each other; and means for inducing a return movement of the work-carrier.

15. In a machine of the class described, and in combination, a chuck; means for imparting thereto a movement of translation; means for opening and closing the chuck at certain times; a work-carrier; means for moving the work-carrier in unison and juxtaposition with the opened chuck; a work-projecting plunger mounted on the carrier; and means for operating said plunger to project the work from the carrier to the open chuck while said chuck and carrier are moving in unison.

16. In a machine of the class described, and in combination, a chuck; means for imparting thereto a movement of translation; means for opening and closing the chuck; work-feeding mechanism having a work-projecting plunger; means for moving the work-feeding mechanism in unison with the chuck at certain times; and mechanism whereby the translational motion of the chuck induces action of said plunger to project the work from the feeding mechanism into the opened chuck.

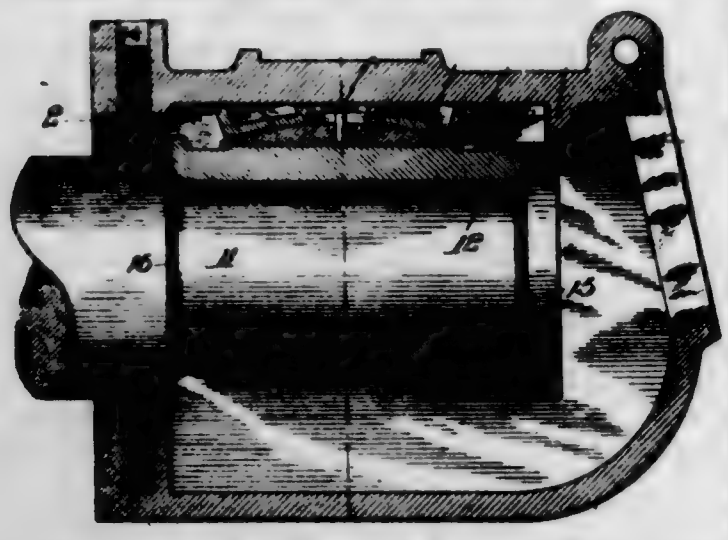
17. In a machine of the class described and in combination, work-feeding mechanism; a chuck; a tool; a common support for said chuck and tool; means for producing a relative movement between said tool and chuck longitudinally of the axis of the chuck; and means for producing a relative movement transversely of the axis of the chuck between said feeding mechanism and said chuck and tool support, whereby movements of approach and recession are alternately produced between said tool and chuck and said feeding mechanism.

18. In a machine of the class described and in combination, a chuck; work-feeding mechanism having a movable work-carrier; means for producing a relative movement between said carrier and chuck at certain times transversely of the axis of the chuck; means for maintaining said carrier and chuck relatively stationary at certain times; and means for transferring work from the carrier to the chuck while maintained relatively stationary.

19. In a machine of the class described and in combination, a chuck; means for moving said chuck through an endless path; means for automatically feeding work to said chuck while so moving; a tool movable along an endless path in unison with said chuck; said chuck and tool being capable of relative movements one toward and from the other; and means for producing relative movements between said chuck and tool one toward and from the other while both are traversing their respective endless paths.

20. In a machine of the class described and in combination, a chuck; means for moving the chuck along a path; work-feeding mechanism adjacent to the path of the chuck; and means for automatically moving said feeding mechanism in unison with said chuck while work is being transferred from the feeding mechanism to the chuck.

12,401. BEARING FOR CAR JOURNAL-BOXES. JAMES M. HOPKINS, Chicago, Ill., assignor, by mesne assignments, to Climax Bearing Company, a Corporation of Maine. Filed Feb. 6, 1903. Serial No. 142,232. Original No. 663,094, dated Dec. 4, 1900.



Claim.—1. In a car-journal bearing, in combination, a brass having a flat upper surface, and a key comprising an upper member adapted to receive the bearing-surface of a journal-box and having a longitudinally-concave lower face, and a lower member interposed between the upper member and the brass and having its contacting faces conforming thereto and being in sliding engagement therewith.

2. In a car-journal bearing, in combination with a brass and a key member adapted to so interlock and to so engage a journal-box that neither is capable of material longitudinal movement, an intermediate key member having a flat bottom face and a longitudinally-convex top face, the faces of the two first-mentioned members which contact with such third member conforming thereto and being in sliding engagement therewith.

3. In a car-journal bearing, the combination, with a brass and a key member, each adapted to be fixed against material longitudinal movement, of a second key member interposed directly between such two first-mentioned members and having a longitudinally-convex face and being capable of free longitudinal movement, the meeting faces of the three members conforming each to the other.

4. In a car-journal bearing, in combination, a brass and a wedge member adapted to vary their angular relation in vertical plane, and a slidable member interposed therebetween, the wedge member being adapted to engage a journal-box to prevent its forward movement, the brass being adapted to engage a journal-box to prevent its backward movement, and the wedge and brass being interengaged to prevent the backward movement of the former and the forward movement of the latter.

5. In a car-journal bearing, in combination, a brass adapted to engage the walls of a journal-box to limit its backward movement, a wedge member adapted to engage a journal-box to limit its forward movement, such brass and wedge member interlocking intermediate of their ends to limit their forward and rearward movement respectively, but to permit them to change their angular relation longitudinally; and a slidable member interposed between the brass and wedge member.

6. In a car-journal bearing, in combination, a brass; a member slidable thereupon and having pendent lateral flanges, and having its upper face longitudinally convex; and a wedge member having its lower face concave complementary to the convex face of the slidable member and being adapted to engage the top wall of a journal-box.

7. In a car-journal bearing, in combination, a brass, a wedge member adapted to fit within the top of a journal-box so as to be incapable of angular movement relatively thereto, and a slidable member interposed between the brass and wedge member and engaging both to prevent their relative angular movement in a horizontal plane.

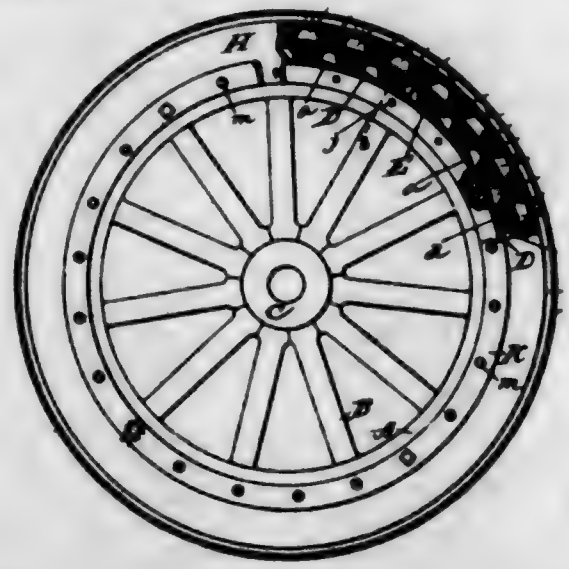
8. In combination, a car-journal bearing, and a wedge device comprising an element capable of a rocking motion relative to the bearing, such bearing having projecting lugs at its sides engaging the rocking wedge member.

9. In combination, a car-journal bearing, and a wedge device comprising an element capable of a rocking motion relative to the bearing, such bearing having lateral flanges and lugs rising therefrom for engaging the rocking wedge member.

10. In combination, a car-journal bearing, and a wedge device comprising a member capable of a rocking motion relative to the bearing, such bearing having an upstanding lug at each side for engaging the rocking wedge member.

11. In combination, a car-journal bearing, and a wedge device comprising a member capable of a rocking motion relative to the bearing, such bearing having lateral box-engaging lugs and upstanding lugs engaging the rocking wedge member.

12,402. VEHICLE-TIRE. HERBERT LOVE, Hamilton, Canada, assignor of two-fifths to Benjamin Harris, Hamilton, Ontario, Canada. Filed July 10, 1905. Serial No. 269,135. Original No. 767,948, dated Aug. 16, 1904.



Claim.—1. A tire for vehicles comprising inner and outer concentric series of elastic cushions or blocks, the outer edges of each of

said blocks overhanging the body portion thereof, substantially as specified.

2. A tire for vehicles comprising inner and outer concentric series of elastic cushions or blocks, the outer edges of each of said blocks overhanging the body portion thereof and the blocks or cushions of one series being staggered with respect to those of the adjacent series, substantially as specified.

3. A tire for vehicles comprising an inner and an outer series of substantially wedge-shaped elastic cushions or blocks, the outer ends or corners of each of said blocks overhanging the body portion thereof and the blocks of one series being radially staggered with respect to those of the other series, substantially as specified.

4. A tire for vehicles comprising an inner and an outer series of elastic blocks or cushions, the blocks of one series being staggered with respect to the blocks of the other series, the inner faces of the blocks of the outer series overlapping the outer edges of the adjacent blocks of the inner series, substantially as specified.

5. A tire for vehicles comprising an inner series of elastic blocks or cushions, the outer edges of each of said blocks overhanging the body portion thereof and an outer series of blocks or cushions staggered with respect to the blocks or cushions of the inner series and having their inner faces overlapping the said edges of the blocks of the inner series, substantially as specified.

6. A tire for vehicles comprising an inner series of elastic blocks or cushions, the outer edges of each of said blocks or cushions overhanging the body portion thereof and an outer series of similarly-shaped blocks or cushions staggered with respect to the blocks or cushions of the inner series and having their inner faces overlapping the outer edges of such inner blocks or cushions, substantially as specified.

7. A tire for vehicles comprising an inner series of blocks or cushions, the outer edges of each of said blocks or cushions overhanging the body thereof, an outer series of separated blocks or cushions staggered with respect to the blocks or cushions of the inner series, and a band interposed between said series of blocks, substantially as specified.

8. A tire for vehicles comprising an inner and an outer series of elastic blocks or cushions, the outer edges of each of said blocks or cushions projecting beyond the body thereof, the blocks or cushions of one series being staggered with respect to those in the other series, and a band between said series of blocks, substantially as specified.

9. A tire for vehicles comprising an inner and an outer series of outwardly-tapering elastic blocks or cushions, the blocks of one series being staggered with respect to those in the other series, substantially as specified.

10. A tire for vehicles comprising an annular series of elastic blocks or cushions, a band surrounding and inclosing said blocks or cushions, and a strip secured to said band, pockets being formed between said strip and band for said blocks or cushions, substantially as specified.

11. A tire for vehicles comprising an annular series of elastic blocks or cushions, each of said blocks having its ends or corners overhanging the body thereof, a band encircling said blocks or cushions, and a strip, pockets being formed between said strip and band for the reception of said blocks or cushions, said strip being interposed between the band and the rim or felly of the wheel, substantially as specified.

12. The combination with the rim or felly of a vehicle-wheel, a tire surrounding the same, of a tightening device interposed between said rim or felly and said tire, said tightening device having a series of inclined faces adapted to engage said tire, substantially as specified.

13. The combination with the rim or felly of a vehicle-wheel, of a tire surrounding said rim or felly, said tire comprising a series of blocks, a tightening-band surrounding said rim or felly intermediate of the same and the blocks, said band having a series of inclined surfaces adapted to engage said blocks, and means for imparting rotary movement to said band, substantially as specified.

14. The combination with the rim or felly of a vehicle-wheel, of a series of blocks or cushions surrounding said rim or felly, an inclosing casing for said blocks or cushions, a band surrounding said rim or felly intermediate of the same and said blocks or cushions, said band having inclined surfaces thereon adapted to engage said blocks or cushions, means for imparting rotary movement to said band, and means for locking said band in position, substantially as specified.

15. The combination, with the rim or felly of a vehicle-wheel, of a tire therefor comprising a band, a series of elastic blocks or cushions intermediate said band and said rim or felly, a strip secured to said band, pockets being formed between said strip and band, an outer band, a series of elastic blocks or cushions intermediate said bands, and a strip having pockets therein for the latter series of blocks or cushions and secured to said outer band, substantially as specified.

16. The combination, with the rim or felly of a vehicle-wheel, of a tire therefor comprising a band exterior of said rim or felly, and an intermediate elastic portion having recesses adjacent the rim or felly, and an adjusting-strip surrounding the rim or felly and having a series of inclined projections extending into said recesses, said strip being adapted to be rotated to adjust the elastic portion toward or from the band, substantially as specified.

17. The combination, with the rim or felly of a vehicle-wheel, of a tire therefor comprising a band, an annular series of blocks having recesses therebetween, an adjusting-strip surrounding and resting on said rim or felly, said strip having a series of wedge-shaped inclined projections extending into said recesses, a bolt extending through said rim or felly adjacent the outer periphery thereof, said bolt being provided with projections engaging corresponding openings in said strip, said bolt being provided with an operating portion and with a lock-nut, substantially as specified.

18. In combination with the felly of a vehicle, a tire consisting of a loose metallic strip on the outside of the felly constructed with a series of wedge-shaped projections on the outer side, a corrugated strip of material as leather, placed over the said metallic strip, the under recesses or compartments for the said wedge-shaped projections, rubber cushions to fill the upper recesses, a loose central band of material as leather, placed over the said rubber cushions, then a second corrugated band of leather or like material, placed over the said central strip, and incased on the outside and sides with a covering of leather or like material, then on the outside a thick covering band or belt of leather or like material, and on the extreme outside another thick band or belt placed over all as an outside tire and the parts all well secured together by nails or rivets forming an improved tire that will be at once elastic, durable and punctureless, substantially as described.

19. In combination with the felly of a vehicle a tire consisting first of a loose metallic strip, capable of being tightened and slackened as desired placed on the outside of the rim or felly of a vehicle-wheel the said strip constructed with a series of wedge-shaped projections on the upper side, a corrugated strip of material as leather placed over the said metallic strip, the projections of the said strip made to lodge in the lower or under recesses of the corrugated belt, and the upper or outward recesses of the belt to contain a series of elastic cushions as rubber, a central band of tough material as leather is placed loosely over the said rubber cushions, then a second corrugated band with upper and lower recesses of tough material as leather is placed over the said central strip, the whole being incased on the outside and side with a covering of a tough material as leather, and on the extreme outside of the wheel two separate bands or belts placed over all and secured together for an outside protection of the inside parts, and devices for tightening or slackening the tire, substantially as and for the purpose specified.

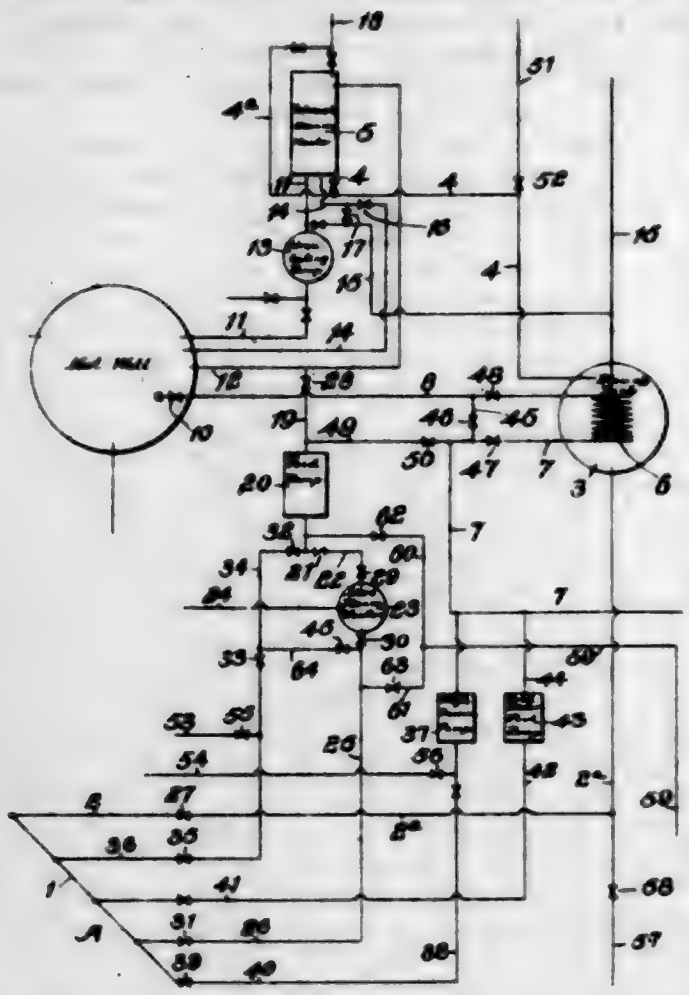
12,403. METHOD OF CLEANING AND RESTORING BOILERS TO SERVICE CONDITION. ALBERT R. RAYNER, Beaver, Pa. Filed July 15, 1905. Serial No. 269,892. Original No. 757,839, dated Apr. 19, 1904.

Claim.—1. As an improvement in the art of cleaning and restoring boilers to service condition the method herein described, which consists in discharging substantially the entire liquid contents of a boiler, utilizing the discharge from the boiler for heating a fresh body of water without mingling the discharge and fresh water, and charging the boiler with water so heated, substantially as set forth.

2. As an improvement in the art of cleaning and restoring boilers to service condition, the method herein described, which consists in discharging substantially the entire liquid contents from the boiler, transferring the heat of the discharged contents to a fresh body of water, heated thereby without mixing such water and contents and feeding such heated water to the boiler, substantially as set forth.

3. As an improvement in the art of cleaning and restoring boilers to service condition, the method herein described, which consists in discharging substantially the entire liquid contents from the boiler, transferring the heat of the foul water to a fresh body of water, then further heating the fresh body of water above 212° Fahrenheit, and feeding such heated water to the boiler, substantially as set forth.

4. As an improvement in the art of cleaning and restoring boilers to service condition the method herein described, which consists in discharging substantially the entire liquid contents from the boiler while under pressure, recharging the boiler with fresh heated water and maintaining pressure in the boiler during and between such discharging and recharging, substantially as set forth.



5. As an improvement in the art of cleaning and restoring boilers to service condition the method herein described which consists in discharging substantially the entire liquid contents of a boiler, utilizing heat units of the discharge to heat a body of water without mingling the discharge from the boiler with the water to be heated, and charging such heated water into the boiler, substantially as set forth.

6. As an improvement in the art of cleaning and restoring boilers to service conditions the method herein described, which consists in discharging substantially the entire contents of a boiler, charging the boiler with fresh water heated by the discharge from the boiler without mingling the discharge with the fresh water, and maintaining the boiler at or approximately at a temperature of 212° Fahrenheit, substantially as set forth.

7. As an improvement in the art of cleaning and restoring boilers to service conditions the method herein described, which consists in discharging substantially the entire contents of a boiler, heating a fresh body of water by the discharge from the boiler without mingling the discharge with the fresh body of water, further heating the fresh body of water and feeding the same to a boiler, substantially as set forth.

8. As an improvement in the art of cleaning and restoring boilers to service conditions the method herein described, which consists in discharging substantially the entire contents of boilers, transferring the heat of the discharge to a fresh body of water without mingling the discharge with the fresh body of water and feeding the heated water to the discharged boilers, substantially as set forth.

12,404. PRINTING-PLATE HOLDER. CHARLES F. ROCKSTROH, Brooklyn Hills, N. Y., assignor to Rockstroh Manufacturing Company, a Corporation of New Jersey. Filed Apr. 19, 1905. Serial No. 256,497. Original No. 769,205, dated Jan. 26, 1904.



Claim.—1. The combination in a bed for printing-plates having slots crossing in opposite directions, of a clamp device for securing printing-plates to said bed adapted to be placed down into any of said slots and taken therefrom by a movement at right angles to the plane of the plate, said clamp device essentially comprising a pinion, a screw-stem connected to the pinion and adapted to occupy a position in and longitudinally of said slot, a clamp-block having an edge lip for engaging the printing-plate and perforated and interiorly threaded to receive said screw-stem and adapted to snugly fit the slot of the said bed and to be moved longitudinally therein by the rotation of the pinion and screw, and a means for preventing the accidental separation of said clamp device from the slot of said bed.

2. The combination in a bed for printing-plates having slots crossing in opposite directions, of a clamp device for securing printing-plates to said bed adapted to be placed down into any of said slots and taken therefrom by a movement at right angles to the plane of the plate, said clamp device essentially comprising a pinion, a screw-stem connected to the pinion and adapted to occupy a position in and longitudinally of said slot, a clamp-block having an edge or lip for engaging the printing-plate and perforated and interiorly threaded to receive said screw-stem and adapted to snugly fit the slot of said bed and to be moved longitudinally therein by the rotation of the pinion and screw, means for preventing the accidental separation of said clamping device from the slot of said bed, and means also adapted to fit down in the slots of said bed and to take a bearing in the bed against the thrust action of the said screw-stem in clamping the printing-plate.

3. The combination in a bed for printing-plates having slots crossing in opposite directions, of a clamp device for securing printing-plates to said bed adapted to be placed down into any of said slots and taken therefrom by a movement at right angles to the plane of the plate, said clamp device essentially comprising a pinion, a screw-stem connected to the pinion and adapted to occupy a position down in and longitudinally of said slot, a clamp-block received upon and movable longitudinally of said stem and also adapted to fit snugly down into said slot and be movable longitudinally therein, an edge or lip upon said clamp-block and rising above and extending across the said block above the surface of the printing-plate for engaging said printing -plate, and a device associated with said clamp-block and adapted to engage the slot of said bed for preventing the accidental separation of the clamp device from the slot of said bed.

4. The combination in a bed for printing-plates having slots crossing in opposite directions, of a clamp device for securing printing-plates to said bed adapted to be placed down into any of said slots and taken therefrom by a movement at right angles to the plane of the plate, said clamp device essentially comprising a pinion, a screw-stem connected to the pinion and adapted to occupy a position down in and longitudinally of said slot, a clamp-block received upon and movable longitudinally of said stem and also adapted to fit snugly down into said slot, and be movable longitudinally therein, an edge or lip upon said clamp-block rising above and extending across said block above the surface of the printing-plate for engaging said printing-plate, a device associated with said clamp-block and adapted to engage the slot of said bed for preventing the accidental separation of the clamp device from the slot of said bed, and a plate associated with the pinion and extending across the screw-stem fitting down into the slot of the bed and taking a bearing in the bed against the end thrust of the clamp device in securing the printing-plate in position.

5. A clamp device for a printing-plate holder, adapted to be placed down into the slots of a printing-plate and taken therefrom by a movement at right angles to the plane of the plate consisting of a screw, a pinion adjacent to one end of the screw, a bearing-plate associated with and extending across the screw adjacent to the pinion, a clamp-block threaded to receive said screw and movable longitudinally thereon and having an edge or lip for engaging the printing-plate, and means associated and coacting with said parts and adapted to prevent the accidental removal of said clamp device, substantially as specified.

6. The combination in a bed for printing-plates having undercut and shouldered slots in opposite directions and at right angles to one another, of a clamp device for securing printing-plates to said bed adapted to be placed down into any of said slots and removed therefrom, said clamp device essentially comprising a pinion, a screw-stem connected to the pinion and adapted to occupy a position in and longitudinally of said slot, a clamp-block having an edge lip for engaging the printing-plate and perforated and interiorly threaded to receive said screw-stem and adapted to snugly fit the slot of the said bed and to be moved longitudinally therein by the rotation of the pinion and screw, and a means for engaging the undercut shoul-

dered portion of said slots for preventing the accidental separation of said clamp device from the slot of said bed.

7. A clamp mechanism for a bed for printing-plates having a slot-connecting detent-acting tumbler device combined therewith, substantially as specified.

8. A clamp mechanism for a bed for printing-plates having a clamp-slot therein, consisting of the clamp and a detent-acting tumbler device adapted to engage in the slot and thereby secure the clamp to the bed, substantially as specified.

9. A clamp mechanism for a bed for printing-plates having clamp-slots therein, consisting of a clamp, a detent-acting tumbler and a screw, the screw provided with means for its adjustment and fitted to the clamp and tumbler and connecting them together, substantially as specified.

10. In combination with a bed for printing-plates having clamp-slots therein at right angles with each other, and of dimensions in width and apart corresponding to the pica system of measurement, a clamp mechanism constructed so as to be insertible in said slots at the point of their intersection in the plate-bed and being provided with a detent-acting tumbler means for being secured thereto when thus inserted in said slots and having a lateral adjusting-screw device, substantially as specified.

11. In combination with a bed for printing-plates having clamp-slots therein at right angles with each other, a clamp mechanism constructed so as to be insertible in said slots at the point of their intersection in the plate-bed and being provided with a detent-acting tumbler means for being secured thereto when thus inserted in said slots and having a lateral adjusting-screw device, substantially as specified.

12. In combination with a bed for printing-plates having clamp-slots therein at right angles with each other, a clamp mechanism provided with a tumbler and lateral adjusting-screw and constructed so as to be insertible in said slots at the point of their intersection in the plate-bed, substantially as specified.

13. The folder-point device for a bed for printing-plates having clamp-slots therein, provided with a tumbler and a lateral adjusting-screw connecting the point and the tumbler together, substantially as specified.

14. In combination with a bed for printing-plates having clamp-slots therein, a folder-point device provided with a tumbler and a lateral adjusting-screw connecting the folder-point and the tumbler, substantially as specified.

15. The clamp device for a printing-plate holder consisting of the clamp, the tumbler, and the screw, and the clamp and tumbler being connected to the screw, and all combined, substantially as specified.

16. The clamp device for a printing-plate holder consisting of the clamp, the tumbler, and the screw provided with a pinion-head, and the clamp and tumbler being threaded and fitted to the screw and all combined, substantially as specified.

17. The clamp device for a printing-plate holder, consisting of the clamp having a swivel-head, the tumbler having the lateral flanges on its upper extremity, and the screw provided with a pinion-shaped head and the tumbler and clamp being threaded to fit the screw and all combined, substantially as specified.

18. In a printing-plate holder having a longitudinal clamp-slot having side slots therein, the combination therewith of a plate-clamp device provided with a tumbler having lateral flanges in its upper extremity which are adapted to engage with the side slots in the clamp-slot in the holder and the clamp and tumbler being provided with a screw fitted to the clamp and tumbler mechanism and having a pinion-head and a washer fitted thereto and the pinion-head of the screw and the washer adapted to fit in a transverse slot in the holder and adapted to give a lateral means of adjustment to the clamp, substantially as specified.

19. In combination with a bed for printing-plates having clamp-slots therein at right angles with each other, a folder-point mechanism provided with a tumbler and lateral adjusting-screw and constructed so as to be insertible in said slots at the point of their intersection in the plate, substantially as specified.

20. In a printing-plate holder the combination therewith of the end stop i, having the rack-section i', in combination with the rack-section j, having the slot-registering lugs, j', j^2, substantially as specified.

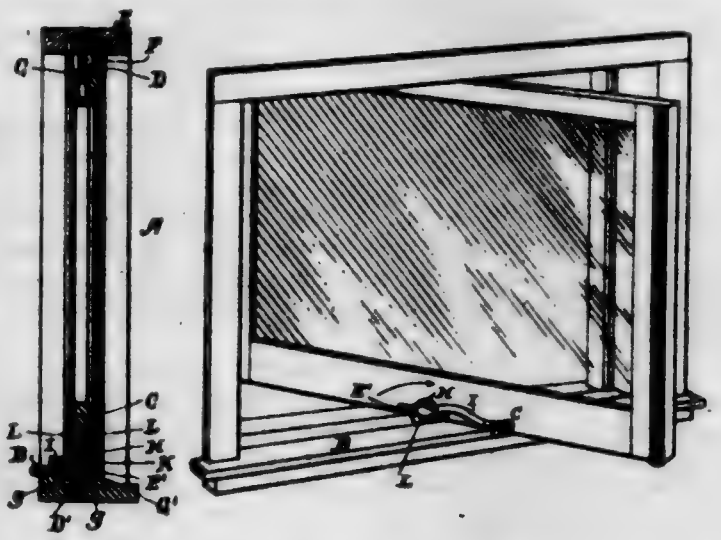
21. In a printing-plate holder having slots therein, the combination therewith of the side stop A, having the lateral projecting rib A', adapted to fit in corresponding lateral slots in the clamp-slots in the holder and being provided with the laterally-projecting lugs A^2, A^3, substantially as specified.

22. A side stop A, for a printing-plate holder having a lateral projecting rib A' on one of its sides and the lip A^2, and the shoulder A^4 upon its opposite side, the shoulder adapted to support the edge of the plate and the stop being provided with the laterally-projecting lugs A^2, A^3, substantially as specified.

23. The combination in a bed for printing-plates having slots crossing in opposite directions, of a clamp device for securing printing-plates to said bed adapted to be placed down into any of said slots and taken therefrom by a movement at right angles to the plane of the plate, said clamp device essentially comprising a pinion, a screw-stem connected to the pinion and adapted to occupy a position in and longitudinally of said slot, a clamp-block having an edge lip for engaging the printing-plate and adapted to snugly fit the slot of the said bed and to be moved longitudinally therein by the rotation of the pinion and screw, and a means for preventing the accidental separation of said clamp device from the slot of said bed.

24. The combination in a bed for printing-plates having slots crossing in opposite directions, of a clamp device for securing printing-plates to said bed adapted to be placed down into any of said slots and taken therefrom by a movement at right angles to the plane of the plate, said clamp device essentially comprising a pinion, a screw-stem connected to the pinion and adapted to occupy a position in and longitudinally of said slot, a clamp-block having an edge or lip for engaging the printing-plate and adapted to snugly fit the slot of said bed and to be moved longitudinally therein by the rotation of the pinion and screw, means for preventing the accidental separation of said clamping device from the slot of said bed, and means also adapted to fit down in the slots of said bed and to take a bearing in the bed against the thrust action of the said screw-stem in clamping the printing-plate.

12,405. WINDOW. JAMES H. GURNEY, Pittsburg, Pa. Filed Nov. 10, 1904. Serial No. 232,240. Original No. 433,781, dated Dec. 27, 1892.



Claim.—1. The combination with a window-frame, and a centrally-pivoted horizontally-swinging window-sash of less height than the frame-space and movable vertically therein, of means for closing the opening between the sash and frame, and means for positively elevating the sash, substantially as described.

2. The combination with a window-frame, of a centrally-pivoted horizontally-swinging window-sash of less height than the frame-space and movable vertically therein, and means movable vertically by and with the sash for closing the opening between the sash and frame, substantially as described.

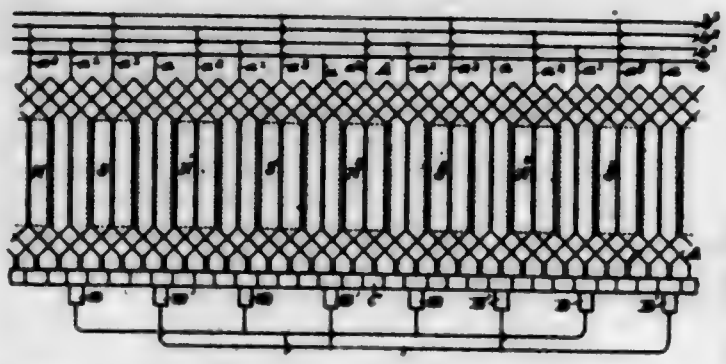
3. A window-sash pivoted within the frame and also movable vertically therein, said sash being of less height than the frame-space, and having means for closing the opening between the sash and frame, in combination with a lifting device composed of a lever, rotating journal and eccentrics, substantially as described.

4. In combination with the sash the lifting device consisting of a suitable casting or box H, the lever I, journal K and eccentrics L, moving through slots in casting H, substantially as described.

5. In combination with the sash the casting or box H provided with a bearing-surface for the journal and formed with longitudinal channels e to receive and guide the eccentrics, and said eccentrics, substantially as described.

6. In combination with the sash the lifting device having the eccentrics L formed with an extension g' in combination with the slotted plate G' secured to the sill, whereby the sash may be locked, substantially as described.

12,408. DIRECT-CURRENT DYNAMO-ELECTRIC GENERATOR. BENJAMIN G. LAMME, Pittsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company, Pittsburg, Pa. Filed May 2, 1903. Serial No. 156,561. Original No. 573,009, dated Dec. 15, 1896.



Claim.—1. A parallel-wound armature for multipolar direct-current machines provided with alternating-current connections between points in its winding of normally equal potential through which leading and lagging currents may be transmitted to equalize the magnetic circuits of the machine combined with a plurality of pairs of brushes equal in number to the pairs of poles.

2. A parallel-wound armature for multipolar direct-current machines provided with alternating-current connections between points in its winding of normally equal potential through which leading and lagging currents may be transmitted to equalize the magnetic circuits of the machine, said alternating-current connections being less in number than the armature-coils, combined with a plurality of pairs of brushes equal in number to the pairs of poles.

3. A parallel-wound armature of the slotted iron-clad type for multipolar direct-current machines provided with alternating-current connections between points in its winding of normally equal potential through which leading and lagging currents may be transmitted to equalize the magnetic circuits of the machine combined with a plurality of pairs of brushes equal in number to the pairs of poles.

4. A parallel-wound armature of the slotted iron-clad type for multipolar direct-current machines provided with alternating-current connections between points in its winding of normally equal potential through which leading and lagging currents may be transmitted to equalize the magnetic circuits of the machine said alternating-current connections being less in number than the armature-coils combined with a plurality of pairs of brushes equal in number to the pairs of poles.

5. The method of equalizing the magnetic circuits of a multipolar direct-current machine having a parallel-wound armature and a plurality of pairs of brushes equal in number to the pairs of poles, which consists in setting up and transmitting leading and lagging currents between a plurality of sections of the armature-winding of normally equal potential.

6. The method of equalizing the magnetic circuits of a multipolar direct-current machine having a parallel-wound armature and a plurality of pairs of brushes equal in number to the pairs of poles, which consists in setting up and transmitting leading and lagging currents between a plurality of sections but not all the sections of the armature-winding of normally equal potential.

7. The method of equalizing the magnetic circuits of a multipolar direct-current machine having a parallel-wound armature of the slotted iron-clad type and a plurality of pairs of brushes equal in number to the pairs of poles which consists in setting up and transmitting leading and lagging currents between a plurality of sections of the armature-winding of normally equal potential.

8. The method of equalizing the magnetic circuits of a multipolar direct-current machine having a parallel-wound armature of the slotted iron-clad type and a plurality of pairs of brushes equal in number to the pairs of poles which consists in setting up and transmitting leading and lagging currents between a plurality of sections but not all the sections of the armature-winding of normally equal potential.

9. A multipolar direct-current generator having a parallel-wound armature provided with balancing alternating-current leads connecting points in the winding ninety degrees apart.

10. A plurality of direct-current generators mechanically driven at approximately the same speed and connected in parallel to direct-current mains and alternating-current leads connecting their armature-windings, whereby the machines are maintained in balance.

11. A plurality of direct-current generators having parallel-wound armatures each of which has alternating-current connections between points of normally equal potential in combination with alternating-current leads connecting said armature-windings.

12. A plurality of direct-current generators mechanically driven at approximately the same speed and connected in parallel to direct-current mains and each provided with armature-balancing conductors connecting points in its winding of normally equal potential and all connected by alternating-current leads, whereby the machines are maintained in balance.

DESIGNS.

37,640. SPOON. WILLIAM C. CORMAN, Providence, R. I., assignor to Gorham Manufacturing Company, Providence, R. I. Filed Sept. 22, 1905. Serial No. 279,780. Term of patent 7 years.



Claim.—The ornamental design for a spoon, as shown.

37,641. BOTTLE. CARL RITTEL, Chicago, Ill. Filed Aug. 28, 1905. Serial No. 276,167. Term of patent 14 years.



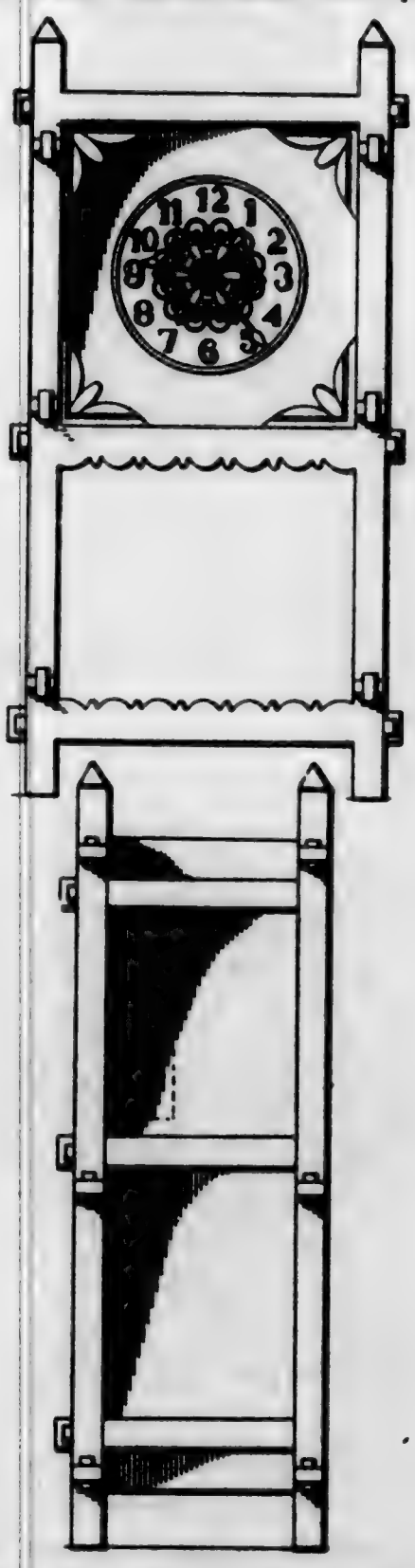
Claim.—The ornamental design for a bottle, as shown.

37,642. CLOCK-CASE. ARTHUR W. OWEN, Winsted, Conn., and GEORGE B. OWEN, Jr., New York, N. Y., assignors to The Wm. L. Gilbert Clock Company, Winsted, Conn., a Corporation of Connecticut. Filed Aug. 16, 1905. Serial No. 274,481. Term of patent 7 years.



Claim.—The ornamental design for a clock-case, as shown.

37,643. CLOCK-CASE. WILLARD E. PARSHALL, Detroit, Mich. Filed Sept. 20, 1905. Serial No. 279,845. Term of patent 3½ years.



Claim.—The ornamental design for a clock-case, as shown.

37,644. HAND-BAG. HENRY GROSSMAN, St. Augustine, Fla. Filed Sept. 25, 1905. Serial No. 280,080. Term of patent 7 years.





Claim.—The ornamental design for a hand-bag, as shown.

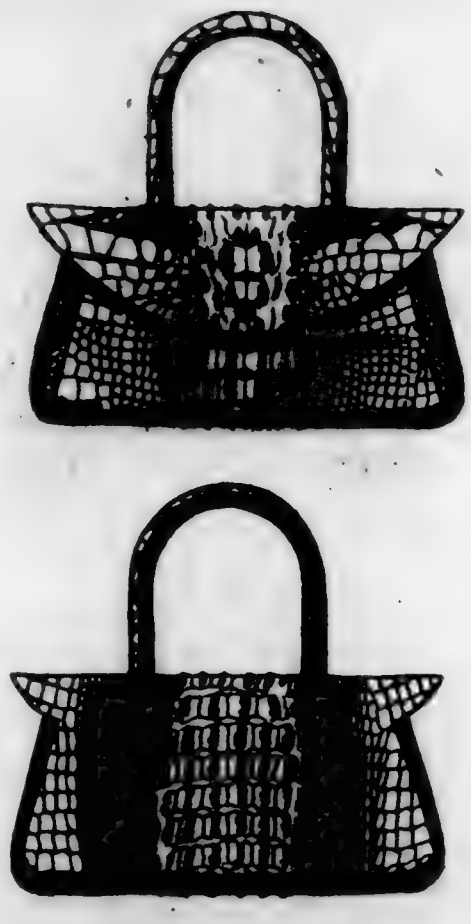
37,645. HAND-BAG. HENRY GROSSMAN, St. Augustine, Fla. Filed Sept. 25, 1905. Serial No. 280,080. Term of patent 7 years.





Claim.—The ornamental design for a hand-bag, as shown.

87,646. HAND-BAG. HENRY GROSSMAN, St. Augustine, Fla. Filed Sept. 25, 1905. Serial No. 280,691. Term of patent 7 years.



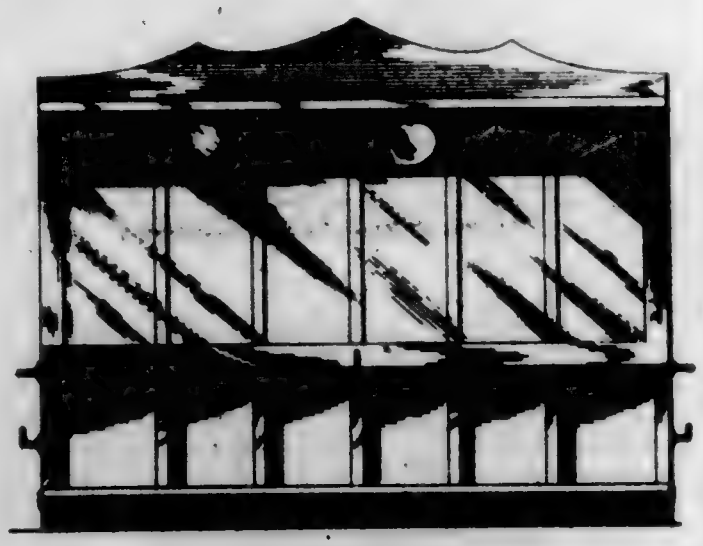
Claim.—The ornamental design for a hand-bag, as shown.

87,647. RUFFLING. CHRISTIAN SIEGEL, New York, N. Y. Filed July 20, 1905. Serial No. 270,522. Term of patent 3½ years.



Claim.—The ornamental design for ruffling shown.

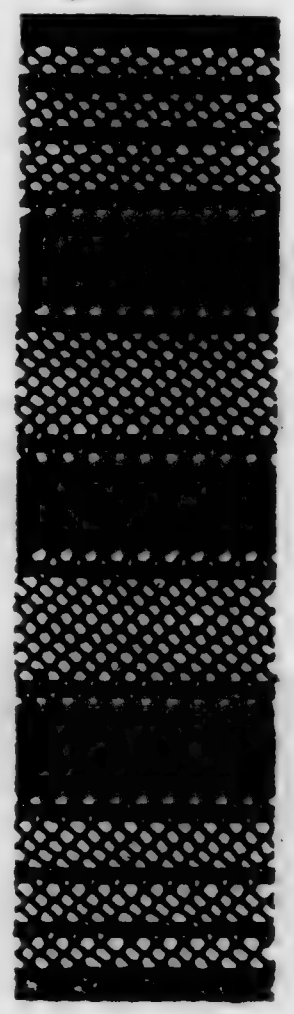
87,648. SEED-CASE. RICHARD R. RICHEVIN, Springfield, Mo. Filed July 14, 1905. Serial No. 269,754. Term of patent 3½ years.





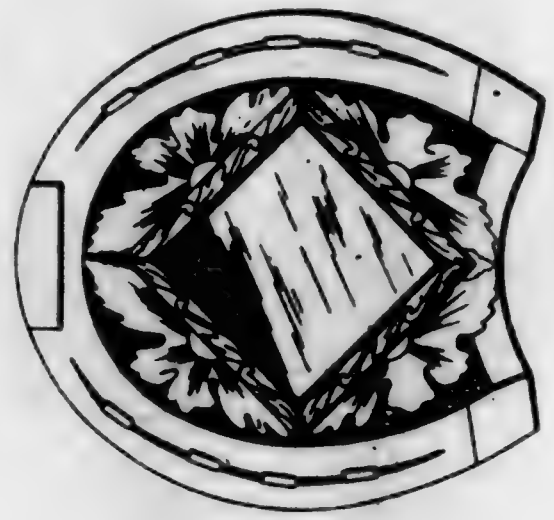
Claim.—The ornamental design for a seed-case, as shown.

87,649. BED-SPRING. DANIEL I. TOMPKINS, New York, N. Y. Filed May 3, 1905. Serial No. 258,734. Term of patent 14 years.



Claim.—The ornamental design for a bed-spring as shown.

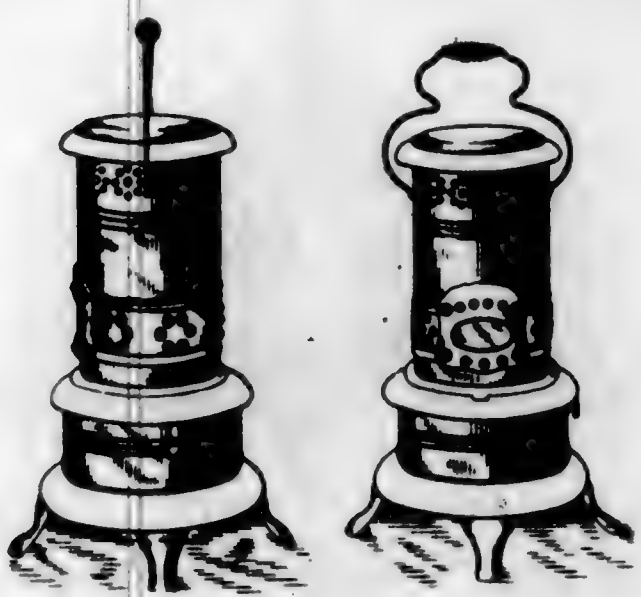
87,650. HAT-RACK. BARNETT ROSENBERG, Chicago, Ill. Filed Sept. 15, 1905. Serial No. 278,678. Term of patent 7 years.



Claim.—The ornamental design for a hat-rack as shown.

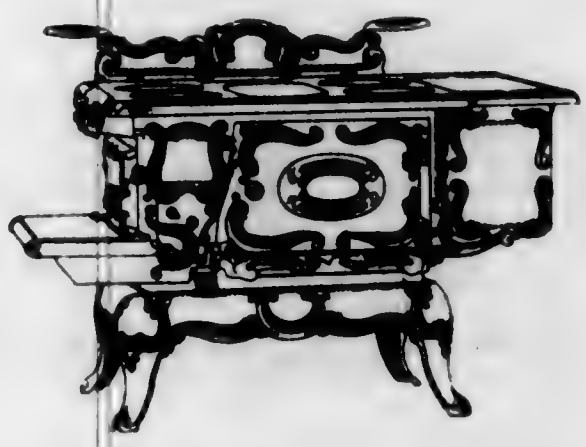
87,651. OIL-STOVE. CLARENCE V. ROBERTS, Philadelphia, Pa. Filed Aug. 28, 1905. Serial No. 275,496. Term of patent 7 years.

37,651.



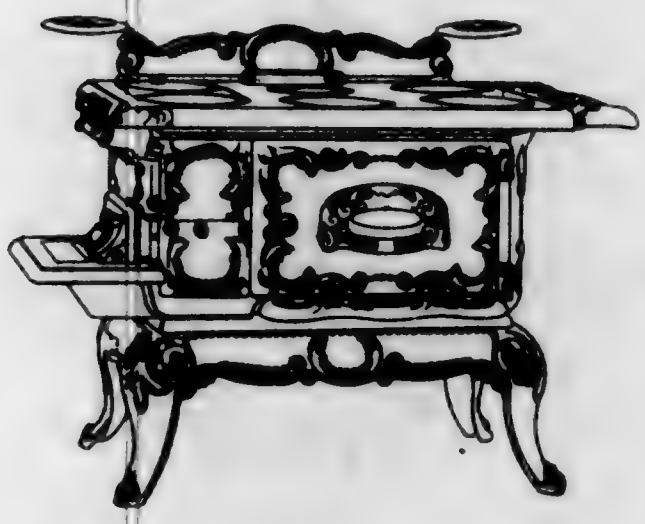
Claim.—The ornamental design for an oil-stove, as shown.

37,652. COOKING-STOVE. AUGUSTUS F. HARTER, Chicago, Ill., assignor to Cribben & Sexton Company, Chicago, Ill., a Corporation of of Illinois. Filed Sept. 26, 1905. Serial No. 280,220. Term of patent 7 years.



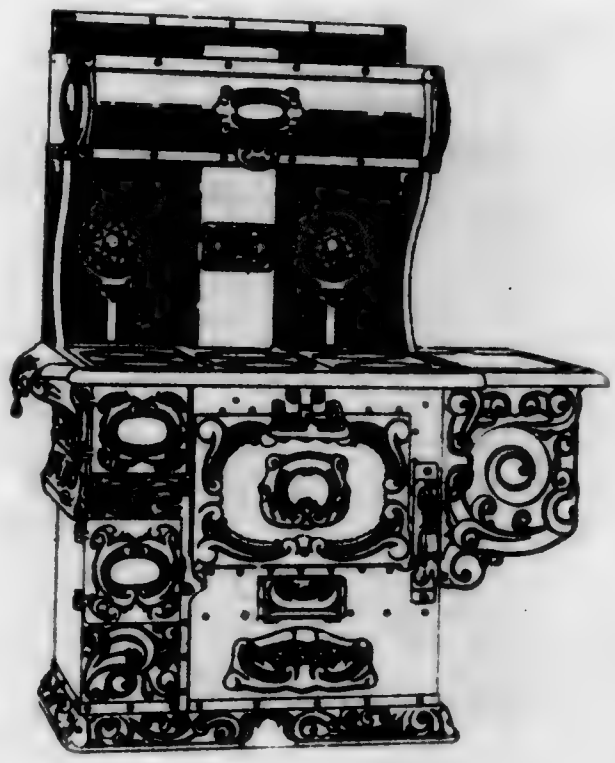
Claim.—The ornamental design for a cooking-stove, as shown.

37,653. COOKING-STOVE. AUGUSTUS F. HARTER, Chicago, Ill., assignor to Cribben & Sexton Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 26, 1905. Serial No. 280,230. Term of patent 7 years.



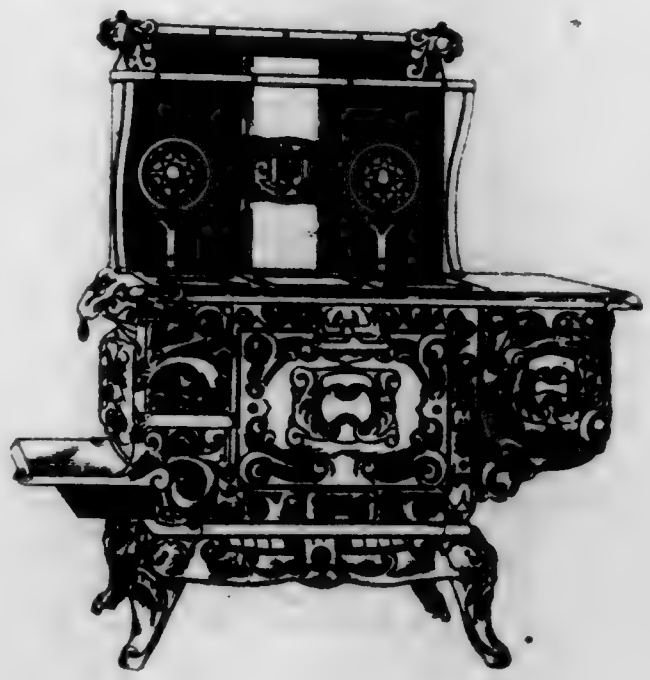
Claim.—The ornamental design for a cooking-stove, as shown.

37,654. COOKING-RANGE. AUGUSTUS F. HARTER, Chicago, Ill., assignor to Cribben & Sexton Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 26, 1905. Serial No. 280,231. Term of patent 7 years.



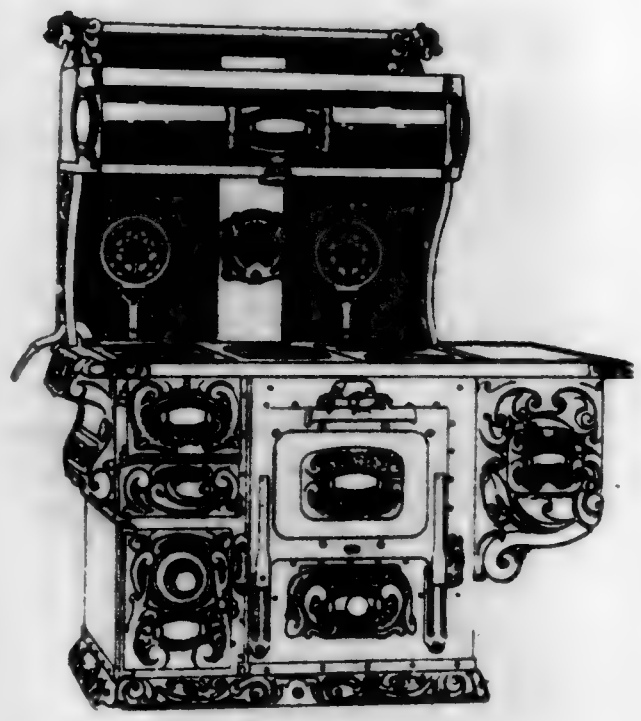
Claim.—The ornamental design for a cooking-range, as shown.

37,655. COOKING-RANGE. AUGUSTUS F. HARTER, Chicago, Ill., assignor to Cribben & Sexton Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 26, 1905. Serial No. 280,232. Term of patent 7 years.



Claim.—The ornamental design for a cooking-range, as shown.

37,656. COOKING-RANGE. AUGUSTUS F. HARTER, Chicago, Ill., assignor to Cribben & Sexton Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 2, 1905. Serial No. 281,080. Term of patent 7 years



Claim.—The ornamental design for a cooking-range, as shown.

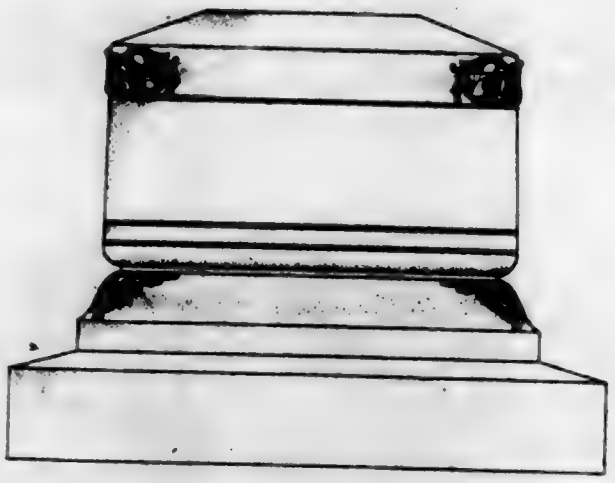
37,657. HEATING-STOVE. AUGUSTUS F. HARTER, Chicago, Ill., assignor to Cribben & Sexton Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 2, 1905. Serial No. 281,079. Term of patent 7 years.

37,657.



Claim.—The ornamental design for a heating-stove, as shown.

37,658. MONUMENT. ELSY M. WOLFF, Mansfield, Ohio. Filed Sept. 18, 1905. Serial No. 279,053. Term of patent 3½ years.



Claim.—The ornamental design for a monument, as shown.

TRADE-MARKS

PUBLISHED NOVEMBER 7, 1905.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

SER. No. 218. CANNED FRUITS AND VEGETABLES. THE SCUDDER-GALE GROCER COMPANY, St. Louis, Mo. Filed Apr. 1, 1905.



The word "BUFFALO" and the pictorial representation of a buffalo's head partly surrounded by ornamental scrollwork.

SER. No. 278. SEWING-MACHINES. ALBERT G. MASON, Cleveland, Ohio. Filed Apr. 3, 1905.

CROWN



The word "CROWN" and the representation of a crown, used singly or together.

SER. No. 324. RUBBER OVERSHOES. THE ADAMS AND FORD COMPANY, Cleveland, Ohio. Filed Apr. 3, 1905.



The word "EVERSTICK," in which there is an extended flourish under the body of the word from the initial to the final letter.

SER. No. 557. BEER. THE INDIANAPOLIS BREWING COMPANY, Indianapolis, Ind. Filed Apr. 6, 1905.

Hoosier

The word "HOOSIER."

SER. No. 559. BEER. THE INDIANAPOLIS BREWING COMPANY, Indianapolis, Ind. Filed Apr. 6, 1905.



The representation of a fantastically-shaped figure, the outline of the lower portion describing approximately two-thirds of a circle and that of the upper portion being wing-like. Between the tips of the wing-like representation is a sunburst, in advance of which is a partially-draped female sitting upon a wheel with one hand elevated and carrying a foaming glass of liquor and the other hand extended and holding a chaplet of laurel-leaves. The wheel rests upon a sphere occupying the lower portion of the fantastically-shaped figure, the sphere showing a shadow-map of North America. At opposite sides of the female are representations of malt and hops, and at opposite sides of the wheel are the words "PROGRESS BRAND," and across the sphere is the word "DUSSELDORFER." Upon the sphere are the words and abbreviations "INDIANAPOLIS BREWING CO'S." and "INDIANAPOLIS, IND. U. S. A."

Sm. No. 576. MALT EXTRACTS AND PEPTONIZED MALT FOODS. Albert Lieber, Indianapolis, Ind. Filed Apr. 6, 1905.



The representation of a calla lily arranged upon a black disk background above the representation of a hop bud and leaf and barley-heads and inscribed with the letter "L."

Sm. No. 612. PENS. C. Howard Hunt Pen Co., Camden, N. J. Filed Apr. 6, 1905.



A representation of the point of a writing-pen inclosed in a circle.

Sm. No. 1,080. CLOTHING FOR LADIES', MEN'S, AND CHILDREN'S WEAR. Griffon Company, New York, N. Y. Filed Apr. 10, 1905.



GRIFFON

The representation of a griffon and the word "Griffon."

Sm. No. 1,324. OLIVES. Charles Gulden, New York, N. Y. Filed Apr. 13, 1905.

KING

The word "King."

Sm. No. 1,325. OLIVES. Charles Gulden, New York, N. Y. Filed Apr. 13, 1905.

DON CARLOS

The words "Don Carlos."

Sm. No. 1,326. MUSTARD. Charles Gulden, New York, N. Y. Filed Apr. 13, 1905.

GULDEN'S

MUSTARD

The words "Gulden's Mustard."

Sm. No. 1,521. REMEDIES FOR DISEASES OF THE THROAT, LUNGS, AND BRONCHIAL ORGANS. Hanway Stringer, New York, N. Y. Filed Apr. 14, 1905.

STRINGER'S

Pulmonic Syrup

The words "Stringer's Pulmonic Syrup."

Sm. No. 2,049. BITTER WINES. Joseph Triem, Chicago, Ill. Filed Apr. 17, 1905.



The representation of a bunch of grapes and leaves and a monogram composed of the letters "T K," associated with the words "American Elixir of Bitter Wine Horké Víno."

Sm. No. 2,242. GLOVES. Wertheimer & Co., New York, N. Y. Filed Apr. 19, 1905.

MAJESTIC

The word "Majestic."

Sm. No. 2,643. ACID, HEAT, WATER, AND WEATHER PROOF AND WOOD AND METAL PRESERVATIVE PAINT. The Hydro-Carbon Manufacturing Company, Denver, Colo. Filed Apr. 18, 1905.



The word "Elateroid," printed upon a figure with parallel top and base lines, the base-line being heavily shaded, rostrant an-

gles, the upper lines of the angles being heavily shaded, and arcs of a circle of long radius converging at equidistant points from the apex of the reëntrant angles, the word "ELAPEREID" being placed in the upper half of the figure and between the two heavily-shaded lines of the reëntrant angles.

Ser. No. 2,739. SPECIAL PAPER BOARD CONSISTING OF A CORRUGATED SHEET OF PAPER SECURED AND EMBRACED BETWEEN TWO UNCORRUGATED SHEETS OF PAPER AND UPON ENVELOPS OR RECEPTACLES MADE FROM SUCH SPECIAL PAPER BOARD. THE THOMPSON & NORRIS CO., Brooklyn and New York, N. Y. Filed Apr. 28, 1905.

CELLULAR

The word "CELLULAR."

Ser. No. 2,848. CHARCOAL. THE L. S. BROWN CHARCOAL COMPANY, INCORPORATED, Springfield, Mass. Filed Apr. 24, 1905.



The representation of a black disk or seal, associated with and arranged on which are the words "QUICK FIRE."

Ser. No. 2,861. PACKED SHRIMP. BARATARIA CANNING CO., Biloxi, Miss., and New Orleans, La. Filed Apr. 24, 1905.



The representation of a shrimp on a bed of leaves.

Ser. No. 3,017. ELECTRIC HEEL-PLATES. EDW. H. HEALY, Baltimore, Md. Filed Apr. 26, 1905.

MELECHEEL

The word "MELECHEEL."

Ser. No. 3,087. SOFT AND STIFF FUR FELT HATS. NO NAME HAT MFG. CO., Orange, N. J. Filed Apr. 28, 1905.



The representation of a shield surmounted by a scroll, having on the shield the representation of a hare and beaver and in the scroll the word "SUPERB."

Ser. No. 3,293. WHEAT-FLOUR. GEO. A. ZABRISKIE, New York, N. Y. Filed Apr. 27, 1905.

EMINENCIA

The word "EMINENCIA."

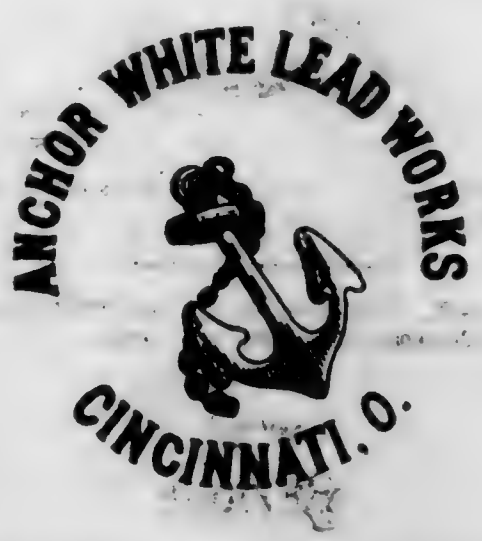
Ser. No. 3,320. GINGER, MUSTARD, ALLSPICE, CLOVES, PEPPER, AND CINNAMON. TONE BROS., Des Moines, Iowa. Filed Apr. 27, 1905.

TONE BROS SPICES



The words and abbreviation "TONE BROS. SPICES" and the representation of a cannon and a pile of cannon-balls.

Ser. No. 3,337. WHITE LEAD. NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed Apr. 29, 1905.



The representation of an anchor and chain and the words and abbreviation "ANCHOR WHITE LEAD WORKS, CINCINNATI, O."

Ser. No. 3,649. FLAVORING EXTRACTS. Crescent Manufacturing Co., Seattle, Wash. Filed Apr. 29, 1905.

CRESCENT

The word "Crescent" and the representation of a crescent.

Ser. No. 3,991. MALT TONIC. McAvoy Brewing Co., Chicago, Ill. Filed May 3, 1905.



The hyphenated word "Malt-Marrow" the representation of a hop-bud in full bloom, a head of barley beneath the hyphenated word "Malt-Marrow," and above the hyphenated word "Malt-Marrow" the representation of hop-buds and heads of barley having their stems united.

Ser. No. 4,140. BEER. The San Diego Brewing Co., San Diego, Cal. Filed May 3, 1905.

Corona

The word "Corona," written in script and with the stem of the letter "C" encircled by a crown.

Ser. No. 4,245. PLAYING-CARDS. The United States Playing Card Co., Cincinnati, Ohio. Filed May 4, 1905.

No 87
BEZIQUE

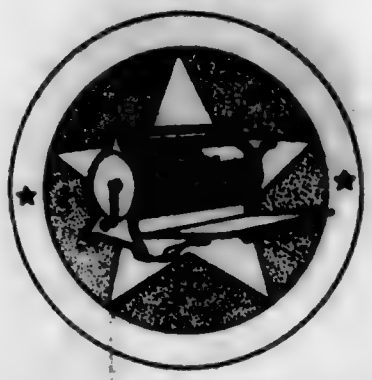
The abbreviation, numerals, and word "No. 87 Bezique."

Ser. No. 4,328. PLAYING-CARDS. The New York Consolidated Card Company, New York, N. Y. Filed May 5, 1905.



The representation of a rectangular panel displaying at each corner the upper half of a horned devil holding a trident. Below the waist of each devil a conventional leaf-like scroll extends, curving to cover substantially the entire surface of the panel. At the center is a conventional figure with four ray-like points extending toward the sides and ends.

Ser. No. 4,625. ROTARY TYPE-PRINTING MACHINES ADAPTED TO BE OPERATED BY HAND. The American Multigraph Company, Cleveland, Ohio. Filed May 8, 1905.



The representation of a five-pointed star within a double circle, two small stars between the two circles at diametrically opposite points, and a perspective of a cylindrical hand printing-machine superposed across the face of the star.

Ser. No. 4,687. CANDY. The Chandler and Ruud Company, Cleveland, Ohio. Filed May 8, 1905.

THE BUZZ PACKAGE

The words "The Buzz Package."

Ser. No. 4,775. TAPS AND BUSHES. American Tap Bush Co., Detroit, Mich. Filed May 8, 1905.



A monogram composed of the letters and abbreviation "A T B Co."

Ser. No. 4,879. SHEARS AND SCISSORS. Gramm & Schmidt, New York, N. Y. Filed May 10, 1905.

SER. No. 4,879.



The representation of a spider's web with a spider thereupon and leaves and berries surrounding said web, the word "SPIDER" being arranged at one side and the word "BRAND" at the other side of the spider.

SER. No. 5,050. WHEAT-FLOUR. THE NORTHWESTERN CONSOLIDATED MILLING COMPANY, Minneapolis, Minn. Filed May 11, 1905.

CHRISTIAN'S EXTRA

The words "CHRISTIAN'S EXTRA."

SER. No. 5,053. WHEAT-FLOUR. THE NORTHWESTERN CONSOLIDATED MILLING COMPANY, Minneapolis, Minn. Filed May 11, 1905.

COLUMBIA

The word "COLUMBIA."

SER. No. 5,055. WHEAT-FLOUR. THE NORTHWESTERN CONSOLIDATED MILLING COMPANY, Minneapolis, Minn. Filed May 11, 1905.



The representation of a small boy wearing boots and a broad-brim hat seated upon a stool in the foreground of a barrel and flour-sack and busily engaged in cutting a slice from a loaf of bread, which he holds in his lap.

SER. No. 5,112. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed May 11, 1905.

SPROCKET

The word "SPROCKET."

SER. No. 5,124. LAGER-BEER. C. SCHMIDT AND SONS BREWING COMPANY, Philadelphia, Pa. Filed May 11, 1905.

PURITAN

The word "PURITAN."

SER. No. 5,230. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905.

SAGAMORE

The word "SAGAMORE."

SER. No. 5,244. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905.



The representation of a tropical scene and a parrot standing upon a bough of a tree and holding fruit in its claw.

SER. No. 5,281. WASHING-MACHINES. WHIPPLE BROTHERS CO., Westerly, R. I. Filed May 12, 1905.

WONDER

The word "WONDER."

SER. No. 5,289. CROCHET-QUILTS. UNION MANUFACTURING COMPANY, Peterboro, N. H. Filed May 12, 1905.

CLARENDON

CROCHET

QUILT

The words "CLARENDON CROCHET QUILT."

Sm. No. 5,398. ABSORBENT PADS OR PLASTERS. Simeon C. Young, Jackson, Mich., assignor to Young Remedy Company, Jackson, Mich., a Corporation of Michigan. Filed May 12, 1905.



A representation of the bust of a man with one arm upraised and a pad applied to the stomach and the abbreviation and words "Dr. Young's Stomach Drapt" thereon.

Sm. No. 5,552. DOUBLE-BREASTED BUTTONLESS INFANTS' VESTS. Max Lowenthal & Brother, Rochester, N. Y. Filed May 13, 1905.

Simplex

The word "Simplex," written in script.

Sm. No. 5,593. LAUNDRY SOAP AND TOILET SOAP. Frank Gaius Burke, New York, N. Y. Filed May 13, 1905.

Coaline

The word "Coaline."

Sm. No. 5,691. BOTTLED CIDER. S. S. Pierce Co., Boston, Mass. Filed May 15, 1905.



The representation of an eagle holding in his beak a shield on which is the representation of a lion rampant, with a crown on his head, and the letters, abbreviation, and words "S. S. P. Co. Pura vas by Cura."

Sm. No. 5,779. REMOVABLE OVENS FOR COOKING-STOVES. Henry H. Hemmelgarn, Cincinnati, Ohio. Filed May 16, 1905.

ROYAL

The word "Royal."

Sm. No. 5,809. LIQUID PREPARATION FOR GILDING. The Rosenlieb & Haselhorst Chemical Co., New York, N. Y. Filed May 16, 1905.

FIRE-GOLD

The compound word "Fire-Gold."

Sm. No. 5,839. CONDENSED SOUPS. Joseph Campbell Company, Camden, N. J. Filed May 16, 1905.

Campbell's

The word "Campbell's."

Sm. No. 5,844. MEN'S, WOMEN'S, MISSES', AND CHILDREN'S LEATHER SHOES. Bates-Hall-Whittemore Shoe Co., St. Joseph, Mo. Filed May 16, 1905.



The word and numerals "District 76," the numerals being traversed by a scroll bearing the word "District."

Sm. No. 5,845. SPARKLING WINES, COMMONLY KNOWN AS CHAMPAGNE. White Top Champagne Company, Hammondsport, N. Y. Filed May 16, 1905.

WHITE TOP

The words "White Top."

Sm. No. 5,942. HAIR-CLIPPERS. Brown & Sharpe Manufacturing Company, Providence, R. I. Filed May 18, 1905.

BRILLIANT

The word "Brilliant."

Sm. No. 5,947. COUGH-SYRUP. Foster Kilburn Co., Buffalo, N. Y. Filed May 18, 1905.



The representation of a group of pine-trees inclosed in a frame or border having transverse bands extending across the same, one

above and the other below the group of pine-trees. Within the frame, above the upper band, are the abbreviation and word "DR. WOOD'S," while in the upper band appear the words "NORWAY PINE" and in the lower band the word "SYRUP."

SER. No. 5,982. COATS, PANTS, OVERALLS, AND BLOUSES. LARNED, CARTER AND CO., Detroit, Mich. Filed May 15, 1905.

HEAD LIGHT

The words "HEAD LIGHT."

SER. No. 5,973. WEIGHING-MACHINES AND PARTS THEREOF, SUCH AS WEIGHTS. E. AND T. FAIRBANKS AND COMPANY, St. Johnsbury, Vt. Filed May 15, 1905.



The representation of a globe or sphere, on which meridians and parallels are delineated, used in connection with the words "FAIRBANKS STANDARD," arranged upon a scroll extending across the face of the globe, there being also shown on the globe representations of a portion of the Western hemisphere. The words "ATLANTIC OCEAN" and "SOUTH PACIFIC OCEAN," as designating those portions of the respective bodies of water, are also shown upon the figure.

SER. No. 6,014. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa. Filed May 18, 1905.

RED STAR

The words "RED STAR," associated with the representation of a star, from which are diffused rays.

SER. No. 6,035. COTTON, WOOL, SILK, AND LINEN UNDERWEAR. CHALMERS KNITTING COMPANY, Amsterdam, N. Y. Filed May 18, 1905.

Porosknit

The word "POROSKNIT."

SER. No. 6,193. WINES. SIGMUND ROSENSTEIN, New York, N. Y. Filed May 20, 1905.



The representation of an ornamental shield having an elliptical center panel bearing a monogram composed of the letters and abbreviation "T H Co." The shield is supported at its sides by angels or cherubim bearing branches of grapes with foliage. Partly below and to the rear of said shield is disposed a scroll or band, below said scroll or band a horizontal panel having an ornamental outline, and below said panel a bunch of grapes with foliage, the entire device being inclosed by a rectangular border or frame having ornamented corner-pieces.

SER. No. 6,199. COGNAC. SIGMUND ROSENSTEIN, New York, N. Y. Filed May 20, 1905.

MALVEAUX FRÈRES

The words "MALVEAUX FRÈRES," associated with the representation of a shield, upon which appears a flying dove bearing a branch or spray of foliage in its bill, and at each side of said shield appears an ornament composed of scrollwork.

SER. No. 6,413. LEATHER BOOTS AND SHOES. WEBB, ELLETT & CRUMP SHOE CO., Richmond, Va. Filed May 23, 1905.

HUNT CLUB

The words "HUNT CLUB."

SER. No. 6,500. WHISKY. NELSON DISTILLING CO., St. Louis, Mo. Filed May 24, 1905.

GEM of ST. LOUIS
HAND MADE
SOUR MASH
BOURBON
PROPR'S.
NELSON DISTILLING CO

The words "GEM OF ST. LOUIS," associated with the words and abbreviations "HAND MADE SOUR MASH BOURBON PROPR'S. NELSON DISTILLING CO," ornamented by ornamental dashes.

SER. NO. 6,514. WHISKY. G. F. CONKLAND & CO., New York, N. Y. Filed May 24, 1905.



The words "EMPIRE CLUB" and a monogram composed of the letters, character, and abbreviation "G F C & Co," inclosed in a wreath of oak and laurel leaves, and a torch on each side and at the top of the wreath.

SER. NO. 6,560. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed May 25, 1905.



The name "ROGERS," flanked by wreaths about the letter "R" and followed by the number "1881."

SER. NO. 6,561. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed May 25, 1905.



The letters "W. R.," flanked, respectively, by a Maltese cross and a keystone.

SER. NO. 6,564. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed May 25, 1905.



The representation of a horseshoe about the letter "R."

SER. NO. 6,565. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed May 25, 1905.

WM. A. ROGERS

The name "WM. A. ROGERS."

SER. NO. 6,567. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed May 25, 1905.



The representation of a horseshoe about the letter "R," the names "WM. A. ROGERS" and "NEW YORK" being respectively thereabove and therebelow, the whole being inclosed in a circle surmounted by the words "QUADRUPLE PLATE."

SER. NO. 6,569. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed May 25, 1905.

WM. A. ROGERS A.1.

The name "WM. A. ROGERS," followed by the insignia "A 1" and a horseshoe about the letter "R."

SER. NO. 6,635. WATER-SUPPLY TANKS AND VALVES THEREFOR. THE STAPLES VALVE CO., Newburgh, N. Y. Filed May 26, 1905.

ROYAL FLUSH

The words "ROYAL FLUSH."

SER. NO. 6,738. CURED MEATS. GEORGE A. HORMEL & CO., Austin, Minn. Filed May 26, 1905.



The representation of a seal bearing the picture of the head of a hog, the representation of a dairymaid carrying a pail upon her arm, and the representation of a ribbon with the word "DAIRY" inscribed thereon.

Ser. No. 6,658. PILLS FOR THE RELIEF OF DYSPEPSIA, INDIGESTION, HEADACHE, CONSTIPATION, BILIOUSNESS, AND DISEASES OF THE STOMACH AND LIVER. James Alexander Montreal, Canada. Filed May 25, 1905.

DR. PITT'S PEARL PILLS

The abbreviation and words "Dr. Pitt's Pearl Pills." The letter "P" is common to the remaining letters of the three different words "Pitt's" "Pearl," and "Pills," with the abbreviation "Dr.," located in the loop of the letter "P."

Ser. No. 6,754. PERFUME FOR REPELLING MOSQUITOS. Ceylon Perfume Company, Englewood, N. J. Filed May 26, 1905.

ROUGH ON SKEETERS

The words "Rough on Skeeters."

Ser. No. 6,859. CIGARETTES. Henry P. Strauss, New York, N. Y. Filed May 29, 1905.

Strauss

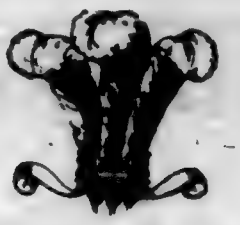
The word "Strauss," written in script and provided with a paraph.

Ser. No. 6,878. GIN. C. H. Graves & Sons, Boston, Mass. Filed May 30, 1905.

LAUREL WREATH GIN

The words "Laurel Wreath Gin" on a circular ground surrounded by a circular border, the said ground containing two sprays of laurel arranged somewhat in the form of a wreath. The words "Laurel Wreath" appear on a curved band having concentric border-lines and extending across the circular ground and overlapping the sprays of laurel, and the word "Gin" appears on a horizontal band located beneath the words "Laurel Wreath" and having curved ends and a border-line.

Ser. No. 7,050. WHISKY. H. & H. W. Catherwood, Philadelphia, Pa. Filed May 29, 1905.



A picture of three feathers bound together at the bottom by a crown and scroll.

Ser. No. 7,087. LEATHER BOOTS AND SHOES AND LEATHER FOR THE SAME. Frank G. Jones, Boston, Mass. Filed May 31, 1905.

FISH SKIN

The words "Fish Skin," the words being separated, and arranged between them is the representation of an anchor and a fish.

Ser. No. 7,112. LEATHER FOR THE UPPERS OF SHOES. Robert H. Foerderer, Inc., Philadelphia, Pa. Filed May 31, 1905.

VICI KID

The words "Vici Kid," associated with the representation of a horseshoe.

Ser. No. 7,167. SOAP. Ferdinand T. Hopkins, New York, N. Y. Filed June 1, 1905.



The facsimile signature "T. Felix Gouraud," displayed in white upon a dark panel.

Ser. No. 7,172. CANDY. Reymer & Brothers, Incorporated, Pittsburg, Pa. Filed June 1, 1905.

DUQUESNE

The word "Duquesne."

Ser. No. 7,199. WHISKY. Harry Karn, Cincinnati, Ohio. Filed June 1, 1905.

Sm. No. 7,199.

OLD HARRY

The words "Old Harry."

Sm. No. 7,246. SLOE GIN. Charles Jacquin et Cie., Inc., New York, N. Y. Filed June 2, 1905.



The representation of a circular panel imposed upon an ornamental horizontal band. In said panel is shown a spray of foliage with berries. Below said panel and band appears the title inscription "Graham's Sloe Gin," below said inscription the signature "John J. Graham," and below said signature the name and description "Charles Jacquin et Cie Inc. N. Y. Sole Proprietors," the entire device being inclosed by a plain border.

Sm. No. 7,280. LEATHER BOOTS AND SHOES. Hinkle Shoe Co., Evansville, Ind. Filed June 2, 1905.



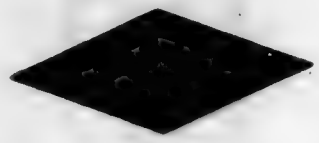
The representation of a rock, upon which appear the words "Solid Rock," the rock being surrounded by sprays of leaves, grass, &c.

Sm. No. 7,291. WHISKY. The Albert H. Guenther Company, Cincinnati, Ohio. Filed June 2, 1905.



The words "Pleasant Dreams" on a picture representing a man sitting in a large, easy wicker chair dozing. He is sitting before a table, upon which rest a half-filled small tumbler of whisky, a bottle of whisky, and an open box of cigars, the man holding in his hand a half-smoked cigar. Issuing from his mouth is a winding stream of smoke, and scattered in the midst of this smoke are symbolic pictures of his dreams, namely: four playing-cards, a bag marked "$10,000," three greenbacks marked with figures and some indistinct representations of the marks on greenbacks, an insect flying, whose wings have the dollar-mark on them, a man and woman in full dress embracing and kissing, another bag marked "$5,000," a piece of paper marked "Shares," and two race-horses with jockeys on them engaged in racing.

Sm. No. 7,297. LUBRICATING-GREASE. The Philadelphia Grease Manufacturing Co., Philadelphia, Pa. Filed June 1, 1905.



The representation of a diamond-shaped figure of a solid red color.

Sm. No. 7,335. REMEDY FOR INTERNAL USE, SUCH AS A TONIC. Chester Kent & Co., Boston, Mass. Filed June 3, 1905.

Vinol

The word "Vinol."

Sm. No. 7,381. NURSING-BOTTLES. William Mohr Decker, Buffalo, N. Y. Filed June 2, 1905.



The word "Hygeia" and the representation of a serpent curved into ring form and inclosing the word.

Sm. No. 7,553. HEADACHE REMEDY AND TONIC. George C. Holden, Wayne, Pa. Filed June 6, 1905.

Bromo-Lithia

The hyphenated word "Bromo-Lithia."

Sm. No. 7,571. LEATHER BOOTS AND SHOES. John W. Rush Company, Haverhill, Mass. Filed June 7, 1905.

SUMMIT

The word "Summit."

Sm. No. 7,597. SALVE AND OINTMENT. Edgar J. Koehlein, Cincinnati, Ohio. Filed June 7, 1905.



A representation of the head of a goat carrying a scroll in its mouth, on which are the words "Non-Poisonous," and inclosed

by a circular band, on which are the words, number, character, and abbreviations "BUCKS-HORN-RELIABLE-SALVE & OINTMENT-Co. 48-PERIN-BLDG CINCINNATI, O."

SER. No. 7,601. COMPOUNDS FOR THE TREATMENT OF THE HAIR AND SCALP. NELLIE VON FELDMAN, Washington, D. C. Filed June 7, 1905.

CROWNING GLORY

The words "CROWNING GLORY"

SER. No. 7,639. NON-ALCOHOLIC BEVERAGES. JOHN W. BERKHEAD, Dallas, Tex. Filed June 8, 1905.

Pepsin Punch

The words "PEPSIN PUNCH."

SER. No. 7,644. KNIVES, FORKS, AND SPOONS WHICH ARE MADE OF STEEL AND TINNED. R. WALLACE & SONS MFG. Co., Wallingford, Conn. Filed June 8, 1905.



The representation of four spoons arranged to form the letter "W" and the representation of a fork placed horizontally a short distance beneath it.

SER. No. 7,733. PREPARATION FOR THE CURE OF CANCERS AND KINDRED DISEASES. DENVER R. DUFUR, St. Louis, Mo. Filed June 8, 1905.

Radol

The word "RADOL."

SER. No. 7,752. CHOCOLATES AND BONBONS. R. L. PERRY Co., Boston, Mass. Filed June 9, 1905.

LA REINE

The words "LA REINE."

SER. No. 8,080. BEER. THEO. HAMM BREWING Co., St. Paul, Minn. Filed June 13, 1905.



Two concentric circles inclosing a blue field, upon which, oppositely disposed, are a series of stars, there being within the inner circle the representation of an eagle with spread wings and holding in its beak a diamond having a central seal thereon bearing the letter "H."

SER. No. 7,761. WHEAT-FLOUR. COLLIN COUNTY MILL & ELEVATOR COMPANY, McKinney, Tex. Filed June 8, 1905.

MARECHAL NEIL



The words "MARECHAL NEIL," associated with the pictorial representation of Mareshal Neil roses.

SER. No. 8,082. MALT EXTRACT. THEO. HAMM BREWING Co., St. Paul, Minn. Filed June 13, 1905.

'HAM-MALT'

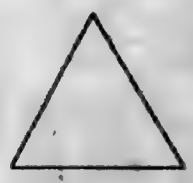
The hyphenated word "HAM-MALT."

SER. No. 8,088. BLACK DYESTUFF. CASSELLA COLOR COMPANY, New York, N. Y. Filed June 14, 1905.

Diamine Black

The words "DIAMINE BLACK."

SER. No. 8,133. BISCUITS, CRACKERS, &c., MORE ESPECIALLY FOR INFANTS AND INVALIDS. FERNOW & COMPANY, Factoryville, Pa. Filed June 14, 1905.



The representation of a triangle.

SER. No. 8,203. MOLASSES TAFFY, CANDY KISSES, AND OTHER CANDIES. THE ROBERT F. MACKENZIE Co., Cleveland, Ohio. Filed June 15, 1905.

SER. No. 8,208.

"Sunbeam's"

The word "SUNBEAM'S," inclosed in quotation-marks.

SER. No. 8,441. BEER. GOTTFRIED BREWING COMPANY, Chicago, Ill. Filed June 17, 1905.

Golden Drop

The words "GOLDEN DROP."

SER. No. 8,537. BASE-BALLS. CHARLES DIRCH, Brooklyn, N. Y. Filed June 19, 1905.

SIXTY

The word "SIXTY."

SER. No. 8,552. SARDINES AND LIKE FISH. WELLS, STONE & CO., Chicago, Ill. Filed June 19, 1905.

SENATOR

The word "SENATOR."

SER. No. 8,572. PORTLAND, NATURAL-ROCK, AND IMPROVED CEMENT. AMERICAN CEMENT COMPANY, Philadelphia, Pa. Filed June 20, 1905.



A conventional representation of the sun.

SER. No. 8,683. LEATHER BOOTS AND SHOES. GEO. D. WITT SHOE CO., Lynchburg, Va, Filed June 21, 1905.

AMERICUS

The word "AMERICUS."

SER. No. 8,700. SHOE-DRESSING. GEO. E. KEITH COMPANY, Brockton, Mass. Filed June 21, 1905.

Walk-Over

The compound word "WALK-OVER"

SER. No. 9,006. INDIA-RUBBER AUTO-BAGS AND AUTO-POUCHES. CONTINENTAL CAOUTCHOUC COMPANY, New York, N. Y. Filed June 24, 1905.

CONTINENTAL

The word "CONTINENTAL."

SER. No. 9,042. SAWS. E. C. ATKINS & COMPANY, Indianapolis, Ind.; New York, N. Y.; Memphis, Tenn.; Atlanta, Ga.; Minneapolis, Minn.; Portland, Oreg.; Seattle, Wash.; San Francisco, Cal.; Chicago, Ill., and Toronto, Canada. Filed June 26, 1905.

SILVER STEEL

The words "SILVER STEEL."

SER. No. 9,051. HAMS. PHILIP GEORGE CROMWELL, Baltimore, Md. Filed June 26, 1905.



The words "THE LORD BALTIMORE BRAND" and a picture of the city hall of Baltimore city.

SER. No. 9,053. HAM AND BACON. PHILIP GEORGE CROMWELL, Baltimore, Md. Filed June 26, 1905.

SER. No. 9,053.

P. T. GEORGE & CO.

G

BALTIMORE, U.S.A.

The letter "G," having therein the representation of the face of a hog. Associated with the mark are the name, abbreviations, words, and character "P. T. GEORGE & Co., BALTIMORE, U.S.A."

SER. No. 9,054. HAMS. PHILIP GEORGE CROMWELL, Baltimore, Md. Filed June 26, 1905.

WESTPHALIA HAM CURED BY P.T. GEORGE & Co. BALTIMORE

The representation of an ear of corn and the words, letters, abbreviation, and character "WESTPHALIA HAM CURED BY P. T. GEORGE & Co. BALTIMORE."

SER. No. 9,241. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a rectangular panel, upon which, inclosed by a light line, appear a large number of conventional flowers, each having four petals, all arranged in parallel lines, small dots and four-pointed stars appearing between the flowers.

SER. No. 9,490. WHISKY. THE WILLIAM WERDER & SON COMPANY, Ashland, Wis. Filed June 30, 1905.



The word "BURGOMASTER," under which is the representation of a man with a wooden leg holding a glass of liquor in his left hand and a cane in his right hand.

SER. No. 9,432. WHISKY. J. & B. MAHONEY, Portsmouth, Va. Filed June 30, 1905.

BELLE OF VIRGINIA



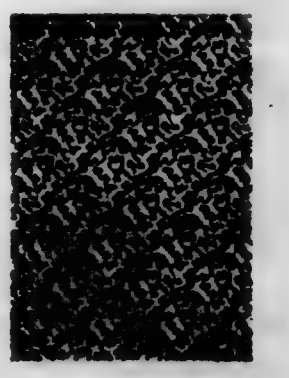
The words "BELLE OF VIRGINIA," beneath which is the bust picture of a woman holding a spray of rye in her left hand and surrounded by three concentric circles.

SER. No. 9,530. HARNESS-LEATHER. CAPPON & BERTSCH LEATHER Co., Holland, Mich. Filed June 30, 1905.



The words "MASTER OF THE BARKS," appearing on a curved panel, and the representation of a dog's head embellished with oak and hemlock branches, all inclosed in a circular figure.

SER. No. 9,572. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed July 1, 1905.



A design many times repeated, in which irregular lines and dots are arranged to represent a coral surface.

SER. No. 9,576. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed July 1, 1905.



The representation of a panel surrounded by a conventional border of square dots, upon which, at each end, are two figures, the

right-hand figure being a cupid struggling with a knotted ribbon, while the left-hand figure is a girl represented as swinging in a heart-shaped hoop. A butterfly is shown within the hoop near the girl's head.

SER. No. 9,577. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed July 1, 1905.



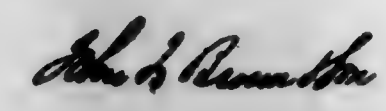
The representation of a panel inclosed by a narrow line, upon which are displayed, at each end, a number of sprays of lilies of the valley and their foliage. About the center are arranged four larger flowers with shorter and wider leaves than those of the lilies.

SER. No. 9,579. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed July 1, 1905.



The representation of a panel with an elaborate border of rosettes, globules, and curves surrounding an inner panel displaying within a mosaic-like border a surface of irregular blocks like mosaic work, upon which is shown, at each end, a conventional stalk, with leaves and a flower also simulating mosaic work. At each end, extending from the stalk design toward the opposite corner, are four rings arranged in a curved line, each displaying a figure like a Maltese cross.

SER. No. 9,688. MEDICATED LOZENGES. John I. Brown & Son, Boston, Mass. Filed July 3, 1905.



The facsimile signature "John I. Brown & Son."

SER. No. 9,687. WHISKY. HAFF, BLAIR & Co., Chicago, Ill. Filed July 3, 1905.



The words "WHITE TOP," above which is the representation of a snow-covered mountain-peak. At the left side of the mountain is a monogram composed of the letters, character, and abbreviation "H B & Co." inclosed in a circle.

SER. No. 9,690. WHISKY. THE ULLMAN BRISTEIN CO., Cleveland, Ohio. Filed July 3, 1905.



The name "J. GIBBONS" above a monogram inclosed in a double circle and consisting of the letters, character, and abbreviation "U B & Co." Below this design is a wreath of grain.

SER. No. 9,691. WHISKY. THE ULLMAN BRISTEIN CO., Cleveland, Ohio. Filed July 3, 1905.



The name "McGIBBEN" above a drawing showing one corner of a room lined with barrels on shelves and a barrel on the floor, at which a man is working at compounding.

SER. No. 9,698. WHISKY. THE ULLMAN BRISTEIN CO., Cleveland, Ohio. Filed July 3, 1905.



The words "EUCLID CLUB."

SER. No. 9,699. WHISKY. THE ULLMAN-BRISTEIN CO., Cleveland, Ohio. Filed July 3, 1905.



The words "UNION SPRING."

SER. No. 9,705. WHISKY. BOSWORTH DISTILLING CO., Inc., Louisville, Ky. Filed July 3, 1905.



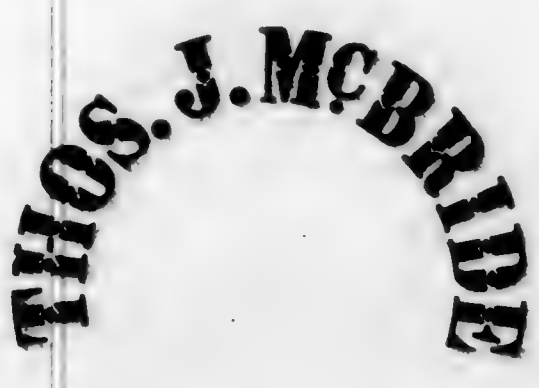
The name "I. W. HARPER."

Sum. No. 9,702. BITTERS. THE ULLMAN BREWERY CO., Cleveland, Ohio. Filed July 3, 1905.



The word "GERMANIA," above a representation of the Germania statue.

Sum. No. 9,707. WHISKY. KLEIN BROS., Cincinnati, Ohio. Filed July 3, 1905.



The name "THOS. J. MCBRIDE."

Sum. No. 9,712. WHISKY. THE D. KELLY CO., Columbus, Ohio. Filed July 3, 1905.



The words "HOLYOKE CLUB."

Sum. No. 9,716. WHISKY. THE D. KELLY COMPANY, Columbus, Ohio. Filed July 3, 1905.



The words "OLD CORTLAND" above an equilateral triangular design in black, on which is the monogram, in white, "D K," flanked by the word and abbreviation "THE" and "CO." at the base of the design.

Sum. No. 9,723. WHISKY. SOL. H. LEVI, Portland, Oreg. Filed July 3, 1905.

Sum. No. 9,723.



The word "STUBBLE," inclosed in a double ellipse.

Sum. No. 9,724. WHISKY. OREGON IMPORTING CO., Portland, Oreg. Filed July 3, 1905.



The letters "O I C," inclosed in a double ellipse.

Sum. No. 9,751. BITTERS. LASH'S BITTERS CO., San Francisco, Cal. Filed July 3, 1905.



The word "LASH'S" and the picture of a man on horseback with a spear in his upraised hand attacking a lion, which lies on its back beneath the horse.

Sum. No. 9,890. WHISKY. CHARLES H. ROSS & CO., Baltimore, Md. Filed July 7, 1905.



The letter, words, and figure "J. JACKSON OLD RYE WHISKEY 5 YEARS OLD."

Sum. No. 9,891. WHISKY. CHARLES H. ROSS & CO., Baltimore, Md. Filed July 7, 1905.

Ser. No. 9,891.

Thompson Pure Rye Whiskey

The words "THOMPSON PURE RYE WHISKEY."

Ser. No. 9,950. FERTILIZERS. FEDERAL CHEMICAL CO., Louisville, Ky. Filed July 8, 1905.

DAY BREAK



The word "DAYBREAK," associated with the picture of a rooster.

Ser. No. 9,978. OVERALLS, BLOUSES, COATS, VESTS, AND TROUSERS. OSHKOSH CLOTHING MANUFACTURING COMPANY, Oshkosh, Wis. Filed July 10, 1905.

J & C

The letters and character "J & C."

Ser. No. 10,021. WHISKY. THE STANDARD DISTILLING CO., Cincinnati, Ohio. Filed July 11, 1905.



Lick Run

The words "LICK RUN" and a monogram composed of the letters and abbreviation "S D Co," inclosed in a circle.

Ser. No. 10,038. WHISKY. JOHN STRUBLE, Kansas City, Mo. Filed July 11, 1905.

PRIDE OF DELAWARE

The words "PRIDE OF DELAWARE."

Ser. No. 10,080. WHISKY. THE J. W. EVERMAN CO., Buffalo, N. Y. Filed July 11, 1905.



The letters "V-V-V" and a picture representing a woman holding both hands aloft and bearing in the right one a torch from which float two long strands of ribbon, one on either side of the letters "V-V-V."

Ser. No. 10,042. WHISKY. CHICAGO DISTILLING CO., Chicago, Ill. Filed July 11, 1905.

RIVER MILLS

The words "RIVER MILLS."

Ser. No. 10,048. GIN. CHICAGO DISTILLING CO., Chicago, Ill. Filed July 11, 1905.

COLUMBIAN

The word "COLUMBIAN," printed across the upper part of a fanciful shield design.

Ser. No. 10,049. GIN. CHICAGO DISTILLING CO., Chicago, Ill. Filed July 11, 1905.

TULIP

The word "TULIP," below a design representing a tulip.

Ser. No. 10,050. WHISKY. WEISSMAN-PEISER CO., Cleveland, Ohio. Filed July 11, 1905.

SER. No. 10,050.



The words "CROWN PRINCE" and the representation of a prince standing by a horse and inclosed in a circular figure, at each side of which is the design of a crown.

SER. No. 10,066. GIN. ANDREW MCQUATE YOUNG, Womelsdorf, Pa. Filed July 11, 1905.

White Top

The words "WHITE TOP."

SER. No. 10,068. WHISKY. FREDERICK SCHUEHLER, Columbus, Ohio. Filed July 11, 1905.

DANDELION

The word "DANDELION."

SER. No. 10,071. WHISKY. THE WAKEMAN DISTILLING CO., Chattanooga, Tenn. Filed July 11, 1905.

QUEEN OF TENNESSEE

The words "QUEEN OF TENNESSEE."

SER. No. 10,074. WHISKY. HAGEN & TRAVERS, Buffalo, N. Y. Filed July 11, 1905.



The words "MAY BROOK" and a monogram composed of the letters and character "H & T," inclosed in a fanciful scroll design bordered by heads of grain.

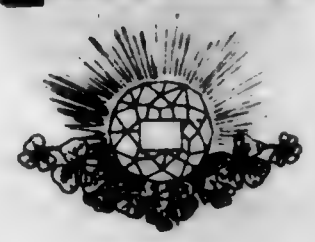
SER. No. 10,157. COCKTAILS. CHARLES JACQUIN ET CIE., INC., New York, N. Y. Filed July 12, 1905.



The representation of an ermine having thereon a fore arm and hand holding a glass and the whole surmounted with a crown. Associated with said representation are the words "HAVA COCKTAIL" and the signature "CHARLES JACQUIN ET CIE INCORP.," together with the words "NEW YORK," and the entire device is inclosed by a plain rectangular border.

SER. No. 10,340. WHISKY. HANNAH & HOGE, Chicago, Ill. Filed July 15, 1905.

EMERALD



The word "EMERALD," under which is an emerald with rays radiating from it and set in a bunch of shamrocks.

SER. No. 10,341. WHISKY. HANNAH & HOGE, Chicago, Ill. Filed July 15, 1905.

Ramshead



The word "RAMSHEAD," underneath which is the representation of a ram's head ornamented by ribbons, with a spray of thistle at either side. On top of the ram's head is an ornamental design including a hat.

SER. No. 10,343. WHISKY. STRAUSS, PEYTE & CO., Cincinnati, Ohio. Filed July 15, 1905.

OLD BON TON

The words "OLD BON TON."

SER. No. 10,347. WHISKY. GOODRICH BROS., Helena, Mont. Filed July 15, 1905.

Ser. No. 10,347.

MONTANA CLUB

The words "MONTANA CLUB."

Ser. No. 10,348. WHISKY. THE D. L. MOORE DISTILLERY CO., Lawrenceburg, Ky. Filed July 15, 1905.

D.L.MOORE

The name "D. L. MOORE."

Ser. No. 10,349. WHISKY. THE D. L. MOORE DISTILLERY CO., Lawrenceburg, Ky. Filed July 15, 1905.

VANARSDELL

The name "VANARSDELL."

Ser. No. 10,350. WHISKY. H. WEIL & SONS, Paducah, Ky. Filed July 15, 1905.

THREE RIVERS



The words "THREE RIVERS" and the representation of a circular figure bearing the words "THREE RIVERS" and crossed by an arrow.

Ser. No. 10,353. WHISKY. APOLLO MYERS, Philadelphia, Pa. Filed July 15, 1905.

W. W. W.

The letters "W. W. W."

Ser. No. 10,354. WHISKY. APOLLO MYERS, Philadelphia, Pa. Filed July 15, 1905.

OLD BARREL

The words "OLD BARREL."

Ser. No. 10,355. WHISKY. APOLLO MYERS, Philadelphia, Pa. Filed July 15, 1905.

PENNGLEANN

The word "PENNGLEANN."

Ser. No. 10,356. WHISKY. RUBEL-LILIENFELD CO., Chicago, Ill. Filed July 15, 1905.

Randolph CLUB

The words "RANDOLPH CLUB."

Ser. No. 10,357. WHISKY. RUBEL-LILIENFELD CO. Chicago, Ill., Filed July 15, 1905.

HATCHWOOD



The word "HATCHWOOD," under which is a monogram composed of the letters and character "R & M," surrounded by a circle, on each side of which appears a fancy scroll, together with a sheaf of rye.

Ser. No. 10,381. WHISKY. THE APOLLO MYERS DISTILLERY, INC., Philadelphia, Pa. Filed July 15, 1905.

KINSEY

The word "KINSEY."

Ser. No. 10,383. WHISKY. STERN BROTHERS, Kansas City, Mo. Filed July 15, 1905.

OLD DANIEL



The words "OLD DANIEL," associated with a picture of Daniel in the lion's den, inclosed in a rectangular-shaped border surmounted by a semicircular panel.

Ser. No. 10,384. WHISKY. GEORGE V. WHEEL, New York, N. Y. Filed July 15, 1905.

Ser. No. 10,384.

CADET 

The word "CADET" and the picture of a cadet inclosed in an oval.

Ser. No. 10,466. RYE AND BOURBON WHISKIES. PAUL JONES & Co., Louisville, Ky. Filed July 17, 1905.

Four Roses

The words "FOUR ROSES."

Ser. No. 10,643. MEDICINE FOR THE CURE OF ENURESIS AND KINDRED TROUBLES. FREDRICK SOUTTER, Peoria, Ill. Filed July 21, 1905.

URI-STOP

The compound word "URI-STOP."

Ser. No. 10,740. MEN'S SUSPENDERS. LEWIS OFFENHEIMER'S SONS, Philadelphia, Pa. Filed July 24, 1905.

Eagle

The word "EAGLE."

Ser. No. 10,741. MEN'S GARTERS. LEWIS OFFENHEIMER'S SONS, Philadelphia, Pa. Filed July 24, 1905.

Eagle

The word "EAGLE."

Ser. No. 10,948. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed July 28, 1905.

NIAGARA SILVER Co.

The words and abbreviation "NIAGARA SILVER CO."

Ser. No. 10,949. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed July 28, 1905.

R. S. MFG. Co

The letters and abbreviations "R. S. MFG. CO."

Ser. No. 10,950. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed June 28, 1905.

(R) 1881 ROGERS (R)
QUADRUPLE
NEW YORK

The name "ROGERS," flanked by wreaths about the letter "R" and surmounted by the number "1881," the words "QUADRUPLE" and "NEW YORK" being therebelow.

Ser. No. 11,057. MEN'S AND CHILDREN'S OVERCOATS, COATS, VESTS, AND TROUSERS. HYMES & ANDREWS, Boston, Mass. Filed July 31, 1905.



The picture of a female figure in mourning.

Ser. No. 11,483. WHISKY. THE WAKEMAN DISTILLING CO., Chattanooga, Tenn. Filed Aug. 10, 1905.

OLD WAKEMAN

The words "OLD WAKEMAN" in a ribbon design, above which is a monogram composed of the letters and abbreviation "W D Co." in a circle.

Ser. No. 11,487. WHISKY. HARRY HOYLE, Gulfport, Miss. Filed Aug. 10, 1905.

Deep Water Route

The words "DEEP WATER ROUTE" and a fanciful circular figure containing in the center a monogram composed of the letters "H H."

Ser. No. 11,488. WHISKY. COLUMBIA DISTILLING CO., St. Louis, Mo. Filed Aug. 10, 1905.

Sm. No. 11,498.

NORWOOD

The word "Norwood."

Sm. No. 11,498. WHISKY. Isaac Solomon, Cincinnati, Ohio. Filed Aug. 10, 1905.



The words "Gold Bond" below a crest inclosed in a double circle, on which is a shield bearing a monogram composed of the letters, character, and abbreviation "I S & Co." On either side of the shield is shown a head of grain.

Sm. No. 11,514. WHISKY. Straus Brothers Company, Chicago, Ill. Filed Aug. 10, 1905.



The word "Solo," associated with the design of a staff of music, and the words "Best on the Bars" within quotation-marks.

Sm. No. 11,515. WHISKY. Straus Brothers Company, Chicago, Ill. Filed Aug. 10, 1905.

MANSFIELD

The name "Mansfield."

Sm. No. 11,688. ADHESIVE TAPE OR CLOTH. The Okonite Company, Limited, New York, N. Y. Filed Aug. 16, 1905.

Manson

The word "Manson."

Sm. No. 12,805. HONES FOR RAZORS AND OTHER EDGED TOOLS. R. H. Brackett & Co., Lansing, Mich. Filed Sept. 20, 1905.

BRACKETHONE

The word "Brackethone."

Sm. No. 13,315. CEMENT FOR LEATHER, RUBBER, CLOTH, PASTEBOARD, WOOD, IRON, ARTIFICIAL FLOWERS, IMITATION LEATHER, IMITATION RUBBER, AND RUBBER SUBSTITUTES. Eclipse Cement & Blacking Co., Philadelphia, Pa. Filed Oct. 5, 1905.

TIGER

The word "Tiger."

Sackett & Wilhelms
Lithographing & Printing Co.
New York

TRADE-MARKS

REGISTERED NOVEMBER 7, 1905.

47,410. WHISKY. C. H. GRAVES & SONS, Boston, Mass.
The words "BOAT CLUB."
Filed May 29, 1905. Serial No. 6,866. PUBLISHED SEPTEMBER 12, 1905.

47,411. PRINTERS' QUOINS. HEMPEL & DINGENS, Buffalo, N. Y.
The word "HEMPL," the first and last letters of which are of somewhat larger size than the other letters and have their tops and bottoms extended inwardly to inclose the other letters.
Filed May 18, 1905. Serial No. 6,019. PUBLISHED SEPTEMBER 12, 1905.

47,412. WHISKY. SIGMUND HOCHSTADTER, New York, N. Y.
The words "BRONZE AGE."
Filed May 20, 1905. Serial No. 6,190. PUBLISHED SEPTEMBER 12, 1905.

47,413. LIQUID INSULATING PREPARATION. MASSACHUSETTS CHEMICAL CO., Boston, Mass.
The word "ARMALAC."
Filed May 19, 1905. Serial No. 6,072. PUBLISHED SEPTEMBER 12, 1905.

47,414. GRASS, GRAIN, TIMOTHY, CLOVER, HEMP, CANARY, AND RAPE SEED. THE ALBERT DICKINSON COMPANY, Chicago, Ill.
The representation of a rising sun.
Filed June 17, 1905. Serial No. 8,396. PUBLISHED SEPTEMBER 12, 1905.

47,415. GRASS, GRAIN, TIMOTHY, CLOVER, HEMP, CANARY, AND RAPE SEED. THE ALBERT DICKINSON COMPANY, Chicago, Ill.
The conventional representation of a queen.
Filed June 17, 1905. Serial No. 8,400. PUBLISHED SEPTEMBER 12, 1905.

47,416. GRASS, GRAIN, TIMOTHY, CLOVER, HEMP, CANARY, AND RAPE SEED. THE ALBERT DICKINSON COMPANY, Chicago, Ill.
The conventional representation of a jack as used upon playing-cards.
Filed June 17, 1905. Serial No. 8,408. PUBLISHED SEPTEMBER 12, 1905.

47,417. GRASS, GRAIN, TIMOTHY, CLOVER, HEMP, CANARY, AND RAPE SEED. THE ALBERT DICKINSON COMPANY, Chicago, Ill.
The word "JACK."
Filed June 17, 1905. Serial No. 8,409. PUBLISHED SEPTEMBER 12, 1905.

47,418. FOUNTAIN-PENS OF THE SELF-FILLING TYPE. THE CONKLIN PEN CO., Toledo, Ohio.
The representation of a hand holding a fountain-pen in an inkwell, with a cuff and a portion of a coat-sleeve showing at the wrist.
Filed June 24, 1905. Serial No. 8,962. PUBLISHED SEPTEMBER 12, 1905.

47,419. WHISKY. THE J. J. DOUGLAS CO., Louisville, Ky.
The word "PEWEE."
Filed May 1, 1905. Serial No. 3,733. PUBLISHED SEPTEMBER 12, 1905.

47,420. LINEN WRITING-PAPER. HENRY VAIL WAGONER, New York, N. Y.
The words "ROYAL IRISH LINEN," with the representation of a crown above and the words and character "MARCUS WARD & Co." below them.
Filed June 20, 1905. Serial No. 8,801. PUBLISHED SEPTEMBER 12, 1905.

47,421. LEATHER SOLES OR TAPS FOR SHOES. DANIEL FORBES COMPANY, Chicago, Ill.
Three straight lines radiating from a common center, said lines being at obtuse angles to each other and one of said lines being of greater length than the other two lines.
Filed May 10, 1905. Serial No. 4,963. PUBLISHED SEPTEMBER 12, 1905.

47,422. WITHDRAWN.

47,423. CHEWING-TOBACCO. GILBERT SON & Co., Murray, Ky.
The words "TENNESSEE STATESMAN" and the representation of the bust of David Crockett, associated with the name "DAVID CROCKETT."
Filed August 15, 1905. Serial No. 11,666. PUBLISHED SEPTEMBER 12, 1905.

47,424. IGNITION PARTS. HERZ & Co., New York, N. Y.
The representation of two winged wheels, a hand, and flashes of lightning.
Filed May 13, 1905. Serial No. 5,562. PUBLISHED AUGUST 22, 1905.

47,425. DESKS AND TYPE-WRITER CABINETS. HORROCKS DESK CO., Herkimer, N. Y.
The word "HORROCKS" printed in script approximating the style known as "law hand," said word being inclosed within quotation-marks.
Filed May 11, 1905. Serial No. 5,098. PUBLISHED SEPTEMBER 12, 1905.

47,426. BOOKS. LOTHROP, LEE & SHEPARD CO., Boston, Mass.
The word "PEPPER."
Filed April 12, 1905. Serial No. 1,190. PUBLISHED SEPTEMBER 12, 1905.

47,427. BOOKS. LOTHROP, LEE & SHEPARD COMPANY, Boston, Mass.
The words "FINGER PLAYS."
Filed April 17, 1905. Serial No. 2,055. PUBLISHED SEPTEMBER 12, 1905.

47,428. MOTH-BAGS AND MOTH-PAPER. THOMAS MANAHAN, New York, N. Y.
The word "ELECTRIC."
Filed May 27, 1905. Serial No. 6,778. PUBLISHED SEPTEMBER 12, 1905.

47,429. HEAVY LEATHER SHOES. MANIER DUNBAR & Co., Nashville, Tenn.
The word "HIPPOPOTAMUS."
Filed June 17, 1905. Serial No. 8,417. PUBLISHED AUGUST 29, 1905.

47,430. LEATHER BOOTS AND SHOES. MARKS ROTHENBERG & Co., Meridian, Miss.
The words "SOUTHERN LADY."
Filed May 16, 1905. Serial No. 5,800. PUBLISHED SEPTEMBER 12, 1905.

47,431. LEATHER BOOTS AND SHOES. MARKS ROTHENBERG & Co., Meridian, Miss.
The words "SOUTHERN GENTLEMAN," with the picture of a gentleman wearing a soft hat and overcoat.
Filed May 16, 1905. Serial No. 5,801. PUBLISHED SEPTEMBER 12, 1905.

47,432. LEATHER BOOTS AND SHOES. MARKS ROTHENBERG & Co., Meridian, Miss.
The words "THE COMPASS" arranged above the representation of a compass.
Filed May 16, 1905. Serial No. 5,802. PUBLISHED SEPTEMBER 12, 1905.

47,433. LEATHER BOOTS AND SHOES. MARKS ROTHENBERG & Co., Meridian, Miss.

The words "THE UTILITY."

Filed May 16, 1905. Serial No. 5,805. PUBLISHED SEPTEMBER 12, 1905.

47,434. LEATHER BOOTS AND SHOES. NOYES-NORMAN SHOE Co., St. Joseph, Mo.

The words "RECIPROCITY SHOE" and a monogram composed of the letters and abbreviation "N N S Co" arranged within concentric circles on a serrated seal, and between the circles is scroll ornamentation.

Filed April 10, 1905. Serial No. 1,010. PUBLISHED AUGUST 22, 1905.

47,435. LOCKS, LOCK-BOLTS, CATCHES, AND LATCHES. PATTERSON GOTTFRIED & HUNTER LTD., New York, N. Y.

A right-angled triangle represented in red.

Filed May 6, 1905. Serial No. 4,460. PUBLISHED SEPTEMBER 12, 1905.

47,436. WATERPROOF LEATHER BELTING. PROVIDENCE BELTING COMPANY, Providence, R. I.

The representation of a dolphin in a vertical position and in front of a roll of leather belting which is on ocean waves and having the word "DOLPHIN" on the face of the roll of belting. Above the dolphin are arranged in arcs of circles the words "PROVIDENCE BELTING Co.," and below the dolphin and ocean waves are arranged in arcs of circles the word and capital letters "PROVIDENCE, R. I., U. S. A.," the whole being surrounded by an elliptical border.

Filed August 3, 1905. Serial No. 11,233. PUBLISHED SEPTEMBER 12, 1905.

47,437. CANOES. JOHN H. RUSHTON, Canton, N. Y.

The words "INDIAN GIRL."

Filed August 3, 1905. Serial No. 11,231. PUBLISHED SEPTEMBER 12, 1905.

47,438. CIGARS. S. S. PIERCE Co., Boston, Mass.

The word "PEMBINA," associated with the half-figure of a woman with various floral adornments, including a bowl of flowers on a table.

Filed June 5, 1905. Serial No. 7,401. PUBLISHED SEPTEMBER 12, 1905.

47,439. SHEETS AND BARS AND SHEATHING OF BRASS OR COPPER OR ALLOYS THEREOF. TAUNTON-NEW BEDFORD COPPER COMPANY, Taunton, Mass., and New York, N. Y.

The representation of an annular panel resting upon a rectangular base. In the center of the annular panel is represented an eagle holding crossed arrows in its claws.

Filed April 28, 1905. Serial No. 3,528. PUBLISHED SEPTEMBER 12, 1905.

47,440. SAFETY DRIVING-BITS FOR HORSES. WILLIAM VAN ARSDALE, Racine, Wis.

The word "SUCCESS" inclosed in quotation-marks.

Filed July 26, 1905. Serial No. 11,021. PUBLISHED SEPTEMBER 12, 1905.

47,441. FOOD-RECEPTACLES. WARE-STANDARD MFG. Co., New York, N. Y.

The representation of an inverted bottle attached to a support, and two hands, one adjacent the lower end of the bottle as inverted and the other holding a cup or bowl in position to receive material passing from the bottle. Upon the bottle appear the words "CRYSTAL FOOD HOLDER," and at the bottom of the picture appear the words "TURN THE KNOB AND THE FOOD RUNS OUT."

Filed May 9, 1905. Serial No. 4,932. PUBLISHED SEPTEMBER 12, 1905.

47,442. CIGARS. JOSEPH WEINREICH, Dayton, Ohio.

A bust-picture of Edwin M. Stanton, with the name "EDWIN M. STANTON" appearing in large letters above the picture and in small letters below the picture. On one side of the picture there is a group consisting of a mortar, cannon, a cannon-ball, a musket, and a knapsack inclosed in a frame of scrollwork and associated with sprays of leaves, the whole representing the arts of war. On the other side of the picture there is a group consisting of books, a roll of parchment or paper, and an inkstand with a quill projected therefrom, the group being associated with a series of scrolls and sprays of leaves, the whole representing the arts of peace.

Filed June 2, 1905. Serial No. 7,222. PUBLISHED SEPTEMBER 12, 1905.

47,443. WRITING-PAPER. WILLIAM G. WILLMANN, New York, N. Y.

The words "NATIONAL BANK."

Filed May 13, 1905. Serial No. 5,554. PUBLISHED SEPTEMBER 12, 1905.

47,444. SCREW-PLATES, TAPS, DIES, BOLT-CUTTERS, AND NUT-TAPPERS. WILEY & RUSSELL MFG. Co., Greenfield, Mass.

The words "GREEN RIVER."

Filed May 10, 1905. Serial No. 4,842. PUBLISHED SEPTEMBER 12, 1905.

47,445. PILLS FOR CATARRH. GIAMBATISTA ARDITO, Hoboken, N. J.

A monogram composed of the letters "G B A."

Filed June 16, 1905. Serial No. 8,322. PUBLISHED SEPTEMBER 12, 1905.

47,446. MEDICINAL TONIC AND LAXATIVE PREPARATION. CALIFORNIA EXTRACT OF FIG COMPANY, San Francisco, Cal.

The representation of a fruit-laden fig-tree with a miner standing under it and a landscape setting of distant mountains and a meandering stream. The miner carries in one hand a bottle of medicine and in the other a shovel, while at his feet, upon the ground, lie his pick and pan.

Filed April 24, 1905. Serial No. 2,937. PUBLISHED SEPTEMBER 12, 1905.

47,447. LIVER REMEDIES. LAURENCE E. CASH, St. Louis Mo.

The letter "H," the crossed bar of which is pierced by an arrow, and white lines extending at different angles across the letter.

Filed April 20, 1905. Serial No. 2,328. PUBLISHED SEPTEMBER 12, 1905.

47,448. CARBONATING-POWDER. CHURCH & DWIGHT COMPANY, New York, N. Y.

The word "ZENITH" on a field surrounded by an annular band, with a star underneath the word and a hand below the star pointing to the star.

Filed April 20, 1905. Serial No. 2,387. PUBLISHED AUGUST 8, 1905.

47,449. MEDICINE FOR THE CURE OF DISEASES OF THE THROAT AND LUNGS. CHAMBERLAIN MEDICINE Co., Des Moines, Iowa.

The words "CHAMBERLAIN'S COUGH REMEDY."

Filed May 11, 1905. Serial No. 5,262. PUBLISHED SEPTEMBER 12, 1905.

47,450. SKIN CLEANSER AND HEALER. COLUMBIA SHOE DRESSING Co., Bath, Me.

The word "CUTICLINE" arranged upon the representation of a human hand, a portion of the wrist being shown wearing a bracelet of serpentine form.

Filed April 27, 1905. Serial No. 3,241. PUBLISHED SEPTEMBER 12, 1905.

47,451. CIGARS. E. H. GATO CIGAR COMPANY, Keywest, Fla.

The representation of a female figure standing in front of an alcove-shaped chair resting on the upper of two steps, said figure being robed in flowing garments and holding a basket containing various flowers and leaves. Around the upper portion of said figure are shown various sun-rays radiating from the said picture. On the right and left of said figure is the picture of two women seated on the upper step, one on either side, holding in their hands a streamer composed of leaves and flowers arranged in a circular line and inclosing the center part of said two steps. In the riser of the upper step are the words "BOUQUET DE EDUARDO H. GATO," the word "DE" being in small letters and the other words in plain capital letters arranged in a straight line. In the background are tropical plants.

Filed July 7, 1905. Serial No. 9,883. PUBLISHED SEPTEMBER 12, 1905.

47,452 CIGARS. E. H. GATO CIGAR COMPANY, Keywest, Fla.

The representation of a female figure in Grecian costume with a wreath of flowers in her hair standing opposite a pedestal on which is a dish of flowers. A Nubian female slave is shown in a kneeling position in front of said pedestal and said female figure and holding in her upwardly-extended left hand a mirror, her right hand being extended toward a jewel-casket in the foreground. The picture is partly inclosed by sprays of flowers and leaves extending to the right and left in a curved line. Between the two

sprays and above the picture is the word "CRESSIDA" in fancy capital letters arranged in a curved line.

Filed July 7, 1905. Serial No. 9,885. PUBLISHED SEPTEMBER 12, 1905.

47,453. CIGARS. E. H. GATO CIGAR COMPANY, Keywest, Fla.

The representation of a landscape consisting of a view of a street in a tropical country. In the foreground are persons walking or riding on horseback. On the right-hand side is the picture of a factory building with flowing flag and the words "FABRICA DE TABA" on a sign on said building. In the upper part of said picture, arranged in a curved line, are the words "LA VISTA DE GATOVILLE."

Filed July 12, 1905. Serial No. 10,160. PUBLISHED SEPTEMBER 12, 1905.

47,454. SALVE. FRANK W. S. ELSTROTH, New York, (Brooklyn,) N. Y.

The facsimile signature of Franz Wilhelm Schriefer, deceased.

Filed April 12, 1905. Serial No. 1,290. PUBLISHED SEPTEMBER 12, 1905.

47,455. MEDICINAL COMPOUNDS FOR THE CURE OF CATARRHAL DISEASES AND COLDS. ELY BROTHERS, New York, N. Y.

The representation of a naked human head and face in profile. Upon the head appear the words "ELY'S CREAM BALM CURES COLD IN HEAD, CATARRH, ROSE-COLD, HAY-FEVER, DEAFNESS, HEADACHE."

Filed April 26, 1905. Serial No. 3,151. PUBLISHED SEPTEMBER 12, 1905.

47,456. REMEDY FOR CERTAIN NAMED DISEASES. HOME REMEDY & SUPPLY CO., York, Pa.

The monogram-letters "H R" in light on a darker circular background.

Filed April 5, 1905. Serial No. 466. PUBLISHED AUGUST 8, 1905.

47,457. FLORIDA WATER. LANMAN & KEMP, New York, N. Y.

The representation of a fountain centrally located pouring over and upon flowers, including roses and other types, adjoining scrolls above the fountain decorated with flowers; the representation of a bird perched at the outer end portion of each scroll; the representation of a butterfly at the meeting of the scrolls, and a garland of roses or other flowers at each side of the fountain and below each bird; the words "FLORIDA WATER" produced across the garlands and the fountain; the words and character "MURRAY & LANMAN, NEW YORK" below the fountain, and a scroll and garland-decorated panel beneath the said words; and upon the panel appear the words and character "PREPARED ONLY BY LANMAN & KEMP, NEW YORK;" the figure of a woman at one side of the panel, represented as seated upon a scroll and holding a bird, and the representation of a man at the opposite side of the panel holding a musical instrument and apparently seated upon a scroll.

Filed May 5, 1905. Serial No. 4,375. PUBLISHED SEPTEMBER 12, 1905.

47,458. PHARMACEUTICAL PREPARATION. LLOYD BROS., Cincinnati, Ohio.

The words "LLOYD'S LEONTIN."

Filed June 2, 1905. Serial No. 7,254. PUBLISHED SEPTEMBER 12, 1905.

47,459. REMEDY FOR FEMALE WEAKNESSES. JOHN A. MCGILL, Chicago, Ill.

The words "ORANGE-BLOSSOM," associated with a spray of orange-blossoms.

Filed May 25, 1905. Serial No. 6,668. PUBLISHED SEPTEMBER 12, 1905.

47,460. MEDICINES FOR EXTERNAL AND INTERNAL USE. BENIGNO ROMERO, Las Vegas, N. Mex.

The words "LA SANADORA."

Filed April 27, 1905. Serial No. 3,281. PUBLISHED SEPTEMBER 12, 1905.

47,461. SMOKING-TOBACCO. RYAN-HAMPTON TOBACCO CO., Newburgh, Ind.

The word "MOGUL."

Filed July 11, 1905. Serial No. 10,114. PUBLISHED SEPTEMBER 12, 1905.

47,462. PREPARATIONS FOR TREATMENT OF CERTAIN NAMED DISEASES. S. H. WINSTEAD MEDICINE CO., Paducah, Ky.

The portrait and autograph signature of S. H. Winstead, associated with the compound word "LAX-FOS."

Filed May 8, 1905. Serial No. 4,654. PUBLISHED SEPTEMBER 12, 1905.

47,463. PREPARATION TO INCREASE EFFICIENCY OF COAL AND WOOD. THE KALORIN FUEL COMPANY, Indianapolis, Ind.

The word "KALORIN."

Filed August 3, 1905. Serial No. 11,301. PUBLISHED SEPTEMBER 12, 1905.

47,464. LEATHER AND CANVAS SHOES. THE LINDNER SHOE CO., Carlisle, Pa.

The representation of a hide hanging within a frame having arms upon which two unicorns stand rampant against the frame, associated with a streamer hanging from the arms.

Filed April 14, 1905. Serial No. 1,510. PUBLISHED MAY 30, 1905.

47,465. ELASTIC WEBBING. THE RUSSELL MANUFG. CO., Middletown, Conn.

The representation of a camel bearing a rider with a spear in his hand and speeding across a desert represented by palm-trees and pyramids in the background.

Filed May 29, 1905. Serial No. 7,062. PUBLISHED SEPTEMBER 12, 1905.

47,466. WHISKY. THE WM. BERGENTHAL CO., Milwaukee, Wis.

The words "HEAD OF THE LAKES" and a scroll design surmounted by a pennant, a picture of a sailing ship inclosed in a diamond-shaped figure, an oar, an anchor, and a compass.

Filed May 29, 1905. Serial No. 6,972. PUBLISHED SEPTEMBER 12, 1905.

47,467. SALVES FOR THE TREATMENT OF THE SKIN. GEORGE C. WILSON, Tyrone, Pa.

The word "CLOVERINE."

Filed April 26, 1905. Serial No. 3,138. PUBLISHED AUGUST 8, 1905.

47,468. SATURATED ROOFING-FELT. J. A. & W. BIRD & Co., Boston, Mass.

The word "PARADUX" and the design of a pair of ducks swimming on the water and back of which appears the representation of cat-tail plants.

Filed May 6, 1905. Serial No. 4,531. PUBLISHED SEPTEMBER 12, 1905.

47,469. PERFUMERY, TOILET WATERS, EXTRACTS AND COLOGNE. D. R. BRADLEY & SON, New York, N. Y.

The word "STEM."

Filed April 17, 1905. Serial No. 1,989. PUBLISHED AUGUST 22, 1905.

47,470. WATCHES. ELGIN NATIONAL WATCH CO., Elgin and Chicago, Ill.

The word "ELGIN."

Filed April 11, 1905. Serial No. 1,114. PUBLISHED SEPTEMBER 12, 1905.

47,471. WATCHES AND CLOCKS. ROBT. H. INGERSOLL & BRO., New York, N. Y.

The words "THE INGERSOLL DOLLAR WATCH."

Filed April 5, 1905. Serial No. 472. PUBLISHED JUNE 27, 1905.

47,472. PREPARATION FOR COLORING BUTTER. MONROE DRUG CO., Unionville, Mo.

The hyphenated word "JUNE-TINT."

Filed April 18, 1905. Serial No. 2,115. PUBLISHED SEPTEMBER 12, 1905.

47,473. BOOKS. L. C. PAGE & COMPANY, Boston, Mass.

The words "THE LITTLE COLONEL."

Filed May 13, 1905. Serial No. 5,587. PUBLISHED AUGUST 1, 1905.

47,474. ROOFING MATERIAL. THE LINCOLN WATERPROOF CLOTH COMPANY, Boundbrook, N. J.

The word "LYTHOID."

Filed May 23, 1905. Serial No. 6,420. PUBLISHED SEPTEMBER 12, 1905.

47,475. LYE. P. C. TOMSON & Co., Philadelphia, Pa.

The words "RED SEAL," associated with the representation of a seal printed in red.

Filed May 2, 1905. Serial No. 4,033. PUBLISHED SEPTEMBER 12, 1905.

47,476. BITUMINOUS PAVEMENTS. WARREN BROTHERS COMPANY, Boston, Mass.

The word "BITULITHIC."

Filed June 10, 1905. Serial No. 7,267. PUBLISHED SEPTEMBER 12, 1905.

47,477. CARPETS AND RUGS. HELEN R. ALBEE, Pequaket, N. H.

The word "ABNAKEE."

Filed May 23, 1905. Serial No. 6,287. PUBLISHED SEPTEMBER 12, 1905.

47,478. BLANKETS. AMERICAN MULTIPLE FABRIC CO., Providence, R. I.

The representation of four squares arranged in a line and contacting at their corners, inclosing the letters and abbreviation "A M F Co," inclosed in an oval-shaped figure.

Filed June 12, 1905. Serial No. 7,931. PUBLISHED SEPTEMBER 12, 1905.

47,479. MEDICATED OIL FOR RHEUMATISM. GIAMBATISTA ARDITO, Hoboken, N. J.

The representation of two branches having their lower ends crossed and tied, superimposed upon which is the representation of two axes having their handles crossed about midway of their lengths.

Filed June 16, 1905. Serial No. 8,333. PUBLISHED SEPTEMBER 12, 1905.

47,480. DYESTUFF CASSELLA COLOR COMPANY, New York, N. Y.

The word "DIAMINOGEN."

Filed June 14, 1905. Serial No. 8,075. PUBLISHED SEPTEMBER 12, 1905.

47,481. DYESTUFF. CASSELLA COLOR COMPANY, New York, N. Y.

The word "THIOFLAVINE."

Filed June 14, 1905. Serial No. 8,077. PUBLISHED SEPTEMBER 12, 1905.

47,482. WHISKY. E. EISING & Co., New York, N. Y.

The words "HEART OF MARYLAND," below which is a shield surmounted by a crown. Upon the shield appears a monogram composed of the letters and abbreviation "E E Co," and at either side is a fancy scroll design.

Filed May 11, 1905. Serial No. 5,181. PUBLISHED SEPTEMBER 12, 1905.

47,483. WATCHES, WATCHCASES, AND WATCH-MOVEMENTS. E. HOWARD WATCH CO., Riverside, N. J., and Waltham, Mass.

The letter, word, character, and abbreviation "E. HOWARD & Co."

Filed April 24, 1905. Serial No. 2,865. PUBLISHED SEPTEMBER 12, 1905.

47,484. WHISKY. C. H. GRAVES & SONS, Boston, Mass.

The words "THE JUDGES FAVORITE."

Filed May 20, 1905. Serial No. 6,263. PUBLISHED SEPTEMBER 12, 1905.

47,485. RUM. C. H. GRAVES & SONS, Boston, Mass.

The words "BOSTON OLD RUM."

Filed May 20, 1905. Serial No. 6,279. PUBLISHED SEPTEMBER 12, 1905.

47,486. BITTER CORDIAL. LOUIS E. JUNG, New Orleans, La.

The words "PEYCHAUD'S AMERICAN AROMATIC BITTER CORDIAL," the last three words being on an ornamental panel design surrounded by fanciful scrollwork.

Filed May 11, 1905. Serial No. 5,227. PUBLISHED SEPTEMBER 12, 1905.

47,487. FELTS AND JACKETINGS. KNOX WOOLEN CO., Camden, Me.

The word "EXCELSIOR."

Filed June 7, 1905. Serial No. 7,008. PUBLISHED SEPTEMBER 12, 1905.

47,488. BITTERS. CARL F. LAUBER, Philadelphia, Pa.

The representation of an arbor of lattice-work, over which trail grape-vines bearing fruit. Upon the top of the front arch of the arbor is an enlarged wine-cup mounted on a pedestal, and on the ground, at the base of said arch, on either side of the opening therein, stand groups of bottles. Within the archway stands a male child unclad and leaning against a barrel mounted on a trestle, his left hand holding a wine-cup raised above his head, the head of the barrel being marked with the last name of the applicant, "LAUBER," and the letters "C F" in monogram form above said name.

Filed May 16, 1905. Serial No. 5,776. PUBLISHED SEPTEMBER 12, 1905.

47,489. COTTON SHEETINGS AND DRILLINGS. MCCOMB CITY COTTON MILLS, McComb City, Miss.

The representation of a tiger family showing adult tigers, one standing and the other lying down, and in front of these are three cubs, one sitting on its haunches and the other two playing.

Filed May 15, 1905. Serial No. 5,670. PUBLISHED SEPTEMBER 12, 1905.

47,490. MOLASSES. N. W. TAUSSIG CO., New York, N. Y.

The representation of a circle of dots and dashes surrounded by the words, character, and abbreviation "PASTOR MARQUEZ & CO., PONCE, P. R."

Filed May 15, 1905. Serial No. 5,627. PUBLISHED SEPTEMBER 12, 1905.

47,491. BUTTONS AND STUDS. PARKS BROS. & ROGERS, Providence, R. I.

The words "PIPE STEM."

Filed June 12, 1905. Serial No. 7,948. PUBLISHED AUGUST 22, 1905.

47,492. CANNED VEGETABLES AND CANNED FRUITS. PORTLAND PACKING COMPANY, Portland, Me.

The words "COUNTRY CLUB."

Filed June 27, 1905. Serial No. 9,184. PUBLISHED SEPTEMBER 12, 1905.

47,493. CANNED VEGETABLES. PORTLAND PACKING COMPANY, Portland, Me.

The words "GOLDEN HARVEST."

Filed June 27, 1905. Serial No. 9,188. PUBLISHED SEPTEMBER 12, 1905.

47,494. CANNED VEGETABLES. PORTLAND PACKING COMPANY, Portland, Me.

The words "PINE TREE."

Filed June 27, 1905. Serial No. 9,189. PUBLISHED SEPTEMBER 12, 1905.

47,495. CANNED VEGETABLES. PORTLAND PACKING COMPANY, Portland, Me.

The words "RED TOP."

Filed June 27, 1905. Serial No. 9,190. PUBLISHED SEPTEMBER 12, 1905.

47,496. CANNED VEGETABLES. PORTLAND PACKING COMPANY, Portland, Me.

The word "MONOGRAM."

Filed June 27, 1905. Serial No. 9,191. PUBLISHED SEPTEMBER 12, 1905.

47,497. HAIR-DYE. WM. W. SCHEFFLER, New York, N. Y.

The word "DYEINE."

Filed April 18, 1905. Serial No. 2,113. PUBLISHED AUGUST 22, 1905.

47,498. BAKING-POWDER, SODA, AND CREAM OF TARTAR. A. SCHILLING & COMPANY, San Francisco, Cal.

A monogram composed of the letters "S B."

Filed June 27, 1905. Serial No. 9,200. PUBLISHED SEPTEMBER 12, 1905.

47,499. FLAVORING EXTRACTS. SIEGEL, COOPER & Co., Chicago, Ill.

The word "HAZEL" above a design showing hazel-leaves and hazel-nuts inclosed within two concentric circles.

Filed May 13, 1905. Serial No. 5,429. PUBLISHED SEPTEMBER 12, 1905.

47,500. LOCOMOTIVE-PAINT. STACKITE PAINT CO., Boston, Mass.

The word "STACKITE."

Filed May 11, 1905. Serial No. 5,114. PUBLISHED SEPTEMBER 12, 1905.

47,501. LIQUID PAINT AND PRIMER. THEODORE W. STEMMLER, New York, N. Y.

The word "HYDROFUGOL."

Filed June 5, 1905. Serial No. 7,402. PUBLISHED SEPTEMBER 12, 1905.

47,502. MINERAL WATER. THE BERRY HILL MINERAL SPRING CO. OF VA., Washington, D. C.

The representation of a strawberry.

Filed May 20, 1905. Serial No. 6,238. PUBLISHED SEPTEMBER 12, 1905.

47,503. VARNISHES AND STAINS. THE COPALINE MFG. CO., New Haven, Conn.

The word "COPALINE."

Filed May 25, 1905. Serial No. 6,666. PUBLISHED SEPTEMBER 12, 1905.

47,504. COLLARS AND CUFFS. THE FIBERLOID CO., Indian Orchard, Mass.

The word "LITHOLIN."

Filed May 11, 1905. Serial No. 5,029. PUBLISHED SEPTEMBER 12, 1905.

47,505. SPECIFIC FOR STOMACH AND CATARRHAL DISEASES. THE HENTZ CO., Philadelphia, Pa.

The hyphenated word "SEN-UM-BRA."

Filed May 20, 1905. Serial No. 6,158. PUBLISHED AUGUST 29, 1905.

47,506. PULLED WOOL. THE H. F. NORTON COMPANY, Seattle, Wash.

The letters and abbreviation "H F N Co." inclosed in a broken triangular figure of plain block letters.

Filed May 25, 1905. Serial No. 7,067. PUBLISHED SEPTEMBER 12, 1905.

47,507. WHISKY. THE WM. BERGENTHAL CO., Milwaukee, Wis.

The word "TAKMORE" and a monogram composed of the word, letters, and abbreviation "THE W B Co" inclosed in a double circle.

Filed May 29, 1905. Serial No. 6,975. PUBLISHED SEPTEMBER 12, 1905.

47,508. WHEAT-FLOUR. WASHBURN-CROSBY COMPANY, Minneapolis, Minn.

The words "KING WHEAT."

Filed June 29, 1905. Serial No. 9,372. PUBLISHED SEPTEMBER 12, 1905.

47,509. LUBRICATING-OILS. W. C. ROBINSON & SON CO., Baltimore, Md.

The word "AUTOLINE."

Filed May 25, 1905. Serial No. 6,653. PUBLISHED SEPTEMBER 12, 1905.

47,510. SHOE POLISHERS AND DAUBERS. WHITTEMORE BROTHERS AND COMPANY, Cambridge, Mass.

The words "WHITTEMORE'S BOSSOLA."

Filed June 2, 1905. Serial No. 7,289. PUBLISHED SEPTEMBER 12, 1905.

47,511. BAKING-POWDER. MARY C. YOUNG, New Orleans, La.

The word "MASCOT," the representation of a woman standing among wheat-stalks, and a monogram composed of the letters and abbreviation "G M Co" arranged on either side of the figure.

Filed May 13, 1905. Serial No. 5,406. PUBLISHED SEPTEMBER 12, 1905.

47,512. CORSETS. ABRAHAM & STRAUS, New York, N. Y.

The word "MARCEL."

Filed April 18, 1905. Serial No. 2,189. PUBLISHED AUGUST 8, 1905.

47,513. GIN. BAIRD-DANIELS COMPANY, New York, N. Y.

The word "HURDLE" and a jockey on horseback jumping a hurdle.

Filed June 21, 1905. Serial No. 8,666. PUBLISHED SEPTEMBER 12, 1905.

47,514. PERFUMERY, TOILET WATERS, EXTRACTS, AND COLOGNES. D. R. BRADLEY & SON, New York, N. Y.

The words "MORNING DEW."

Filed April 17, 1905. Serial No. 1,988. PUBLISHED AUGUST 22, 1905.

47,515. HOSIERY. CHAS. CHIPMAN'S SONS, Easton, Pa.

The representation of a goat rampant.

Filed June 30, 1905. Serial No. 9,539. PUBLISHED SEPTEMBER 12, 1905.

47,516. WHEAT-FLOUR. CHARLES E. CLAUDER, Minneapolis, Minn.

The words "KING SOLOMON FLOUR."

Filed June 29, 1905. Serial No. 9,373. PUBLISHED SEPTEMBER 12, 1905.

47,517. VEGETABLE, CANE, AND FRUIT SYRUP. CHICAGO CONCENTRATING COMPANY, Chicago, Ill.

The representation of a cluster of clover-blossoms and clover leaves and stems, associated with the words "CLOVER LEAF."

Filed June 27, 1905. Serial No. 9,469. PUBLISHED SEPTEMBER 12, 1905.

47,518. CANDY. GIBBS PRESERVING COMPANY OF BALTIMORE CITY, Baltimore, Md.

The word "DE WOLFE" in fancy script type and with the connecting paraph or flourish beneath.

Filed April 20, 1905. Serial No. 2,369. PUBLISHED SEPTEMBER 12, 1905.

47,519. MIXED CANDIES. G. W. CHASE & SON MERCANTILE CO., St. Joseph, Mo.

The representation of a human hand among clouds grasping three wires with electric sparks radiating therefrom, associated with the words, character, and abbreviations "G. W. CHASE & SON MER. CO. ELECTRIC BRAND CONFECTIONS, ST. JOSEPH, MO.," all inclosed in a rectangular border.

Filed May 2, 1905. Serial No. 4,018. PUBLISHED SEPTEMBER 12, 1905.

47,520. WHISKY. GUET & SENAC, New Orleans, La.

The words "BOSTON CLUB" and a monogram consisting of the letters "B C."

Filed April 26, 1905. Serial No. 3,126. PUBLISHED JUNE 13, 1905.

47,521. SPIRITS OF TURPENTINE. HENRY J. HAYNE, New York, N. Y.

The representation of a pine-tree.

Filed April 24, 1905. Serial No. 2,831. PUBLISHED SEPTEMBER 12, 1905.

47,522. BUTTER. HAZELWOOD COMPANY, LIMITED, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg.

The word "HAZELWOOD" written in script with a paraph thereunder.

Filed May 3, 1905. Serial No. 4,159. PUBLISHED SEPTEMBER 12, 1905.

47,523. WASHING-MACHINES. ERNST H. HUENEFELD, Cincinnati, Ohio.

The word "ROYAL."

Filed April 5, 1905. Serial No. 397. PUBLISHED MAY 16, 1905.

47,524. SUBSTITUTE FOR LARD. MCCAW MANUFACTURING COMPANY, Macon, Ga.

The word "PLANTENE," associated with the representation of two crossed branches of the cotton-plant bearing leaves and open bolls, which appear upon a dark disk inclosed within concentric circles, upon which disk the word "PLANTENE" also appears in a color sharply contrasting with the disk.

Filed May 8, 1905. Serial No. 4,710. PUBLISHED SEPTEMBER 12, 1905.

47,525. SOAP. MCCAW MANUFACTURING COMPANY, Macon, Ga.

The hyphenated letters "C.-P." inclosed within a black border, within which is an inner border of red.

Filed May 8, 1905. Serial No. 4,711. PUBLISHED SEPTEMBER 12, 1905.

47,526. WASHING-POWDER. MCCAW MANUFACTURING COMPANY, Macon, Ga.

The representation of a checkered field alternating blue and white having upon the upper portion a curved panel, below which appears a horizontal panel, both of blue, followed by a blue field inclosed within an ornamental border formed of scroll-like curved lines, which field in turn is followed by two horizontal panels.

Filed May 8, 1905. Serial No. 4,712. PUBLISHED SEPTEMBER 12, 1905.

47,527. TAPIOCA. WILLIAM S. MCKINLEY, Philadelphia, Pa.

The word "INSTANTANEOUS."

Filed April 24, 1905. Serial No. 2,826. PUBLISHED SEPTEMBER 12, 1905.

47,528. TEA. MILLIKEN, TOMLINSON CO., Portland, Me.

The word "MARDANA."

Filed June 26, 1905. Serial No. 9,063. PUBLISHED SEPTEMBER 12, 1905.

47,529. MOLASSES, SYRUPS, AND SORGHUMS. NEW ORLEANS COFFEE CO., LTD., New Orleans, La.

The words "SWEET HOME" and the representation of a baby in the scoop of a weighing-scale.

Filed May 2, 1905. Serial No. 4,002. PUBLISHED JUNE 27, 1905.

47,530. FLOUR MADE FROM WHEAT. PILLSBURY-WASHBURN FLOUR MILLS COMPANY, LTD., Minneapolis, Minn.

The words "PILLSBURY'S PATENT."

Filed April 25, 1905. Serial No. 2,970. PUBLISHED JUNE 13, 1905.

47,531. SUGAR. POSTUM CEREAL CO., LIMITED, Battlecreek, Mich.

The words "POST SUGAR," associated with the signature of C. W. Post.

Filed May 3, 1905. Serial No. 4,103. PUBLISHED SEPTEMBER 12, 1905.

47,532. MERCERIZED KNIT COTTON UNDERWEAR. ROBT. REIS & Co., New York, N. Y.

The representation of a belt and buckle.

Filed April 14, 1905. Serial No. 1,424. PUBLISHED SEPTEMBER 12, 1905.

47,533. WHISKY. D. SACHS AND SONS, Louisville, Ky.

The word "SAXON" and a monogram design composed of the letters, word, and abbreviation "D S & SONS" inclosed in a circular figure of contrasting color surrounded by an ornamental circular border associated with a vine and scrollwork.

Filed April 26, 1905. Serial No. 3,053. PUBLISHED SEPTEMBER 12, 1905.

47,534. OVERALLS. SANDERS MANUFACTURING CO., Tullahoma, Tenn.

The words "BULLS EYE" and the representation of an eye arranged in the center of concentric circles, between two of which said words are disposed.

Filed April 29, 1905. Serial No. 3,094. PUBLISHED SEPTEMBER 12, 1905.

47,535. WHISKY. CAVANAGH & Co., Chicago, Ill.

The word "HENDRYX," accompanied by a design of a coat of arms consisting of a shield with fanciful characters thereon surmounted with the head-piece of a knight, above which an arm is raised grasping a spear, all embellished in scrollwork. Underneath the design is placed a ribbon scroll with the letters "G. I. M. U. W. C. W. U. S."

Filed April 28, 1905. Serial No. 3,843. PUBLISHED JUNE 27, 1905.

47,536. UNDERSHIRTS, DRAWERS, AND COMBINATION-SUITS. THE COOPER M'F'G CO., Bennington, Vt.

The representation of two scrolls reversely curved and connected by wires at their ends, the letter "C" in the space between the two scrolls, and two knitting-needles crossed over the letter "C."

Filed May 8, 1905. Serial No. 4,740. PUBLISHED SEPTEMBER 12 1905.

47,537. HOOKS AND EYES. THE DE LONG HOOK & EYE COMPANY, Philadelphia, Pa.

The representation of a rectangular-shaped dull-black-colored figure, upon which are located two rows of panels, above the upper row of which appears the word "GENUINE" upon a diamond-shaped red figure, the latter being located upon a rectangular-shaped white figure, and the words "DE LONG HOOK AND EYE," located to one side of and in line with the said white figure, a rectangular-shaped white figure between the panels, within which figure appear the words "SEE THAT HUMP?" and the words "DULL BLACK," located in red oblong figures, upon the opposite sides of the words "SEE THAT HUMP?," and located below the lower row of panels are the words "UNITED STATES AND FOREIGN COUNTRIES," upon one side of which is a block figure and upon the other side of which are the words and characters "RUST? NEVER!!" the last two words being located in a red rectangular figure, the words "SEE THAT" across the upper panel and the word "HUMP?" across the lower panel.

Filed April 1, 1905. Serial No. 4. PUBLISHED SEPTEMBER 12, 1905.

47,538. READY-MADE SUITS. THE GOLDSMITH JOSEPH FRIES CO., Cleveland, Ohio.

The representation of a shield having thereon a lion counter-rampant to the word "CLOTHCRAFT," with reversely-curved scrolls projecting from behind the shield.

Filed April 18, 1905. Serial No. 2,161. PUBLISHED SEPTEMBER 12, 1905.

47,539. MEDICINAL FOOD PREPARED FROM WHEAT. THE IMPERIAL GRANUM CO., New Haven, Conn.

The words "IMPERIAL GRANUM."

Filed April 10, 1905. Serial No. 974. PUBLISHED SEPTEMBER 12, 1905.

47,540. CIGARS. E. H. GATO CIGAR COMPANY, Keywest, Fla.

The representation of a curved frame inclosing the representation of a Japanese screen, before which is a Japanese female figure with fan, shown in a kneeling position. To the right and left are representations of Japanese landscapes. Above and arranged in a curved line is the word "OTOYO" in heavy-faced capital letters.

Filed July 7, 1905. Serial No. 9,882. PUBLISHED SEPTEMBER 12, 1905.

47,541. LIQUID ROOFING PAINT OR COATING. ELLIOTT VARNISH COMPANY, Chicago, Ill.

The words "ROOF LEAK."

Filed June 17, 1905. Serial No. 8,434. PUBLISHED SEPTEMBER 12, 1905.

47,542. CONSTRUCTION AND BUILDING STONE. CHARLES M. HAGAN, Carbondale and Forest City, Pa.

The words "FOREST CITY STONE," associated with the name "CHARLES M. HAGAN" and with the words "PROPRIETOR QUARRIES."

Filed June 27, 1905. Serial No. 9,201. PUBLISHED SEPTEMBER 12, 1905.

47,543. CHANDELIERS AND BRACKETS. MCKENNEY & WATERBURY COMPANY, Boston, Mass.

The pictorial representation of a chandelier held by a hand, the rays of light from the chandelier being projected upon a globe, and in the light-rays appear the words "WE LIGHT THE WORLD." Above the light-rays and printed upon a background of black are the following words in white letters: "DESIGNERS MANUFACTURERS AND JOBBERS OF ELECTRIC, GAS AND OIL FIXTURES, FIRE PLACE GOODS, ETC." An ornamental framework is provided, above which appear the words and character "MCKENNEY & WATERBURY COMPANY," and below appear the words, number, and abbreviations "131 FRANKLIN ST., COR. CONGRESS STREET, BOSTON, MASS."

Filed April 25, 1905. Serial No. 3,030. PUBLISHED AUGUST 22, 1905.

47,544. PLUG-TOBACCO. MONARCH TOBACCO WORKS, Louisville, Ky.

The representation of a dipper, with the word "DIPPER" on the handle.

Filed April 26, 1905. Serial No. 3,194. PUBLISHED SEPTEMBER 12, 1905.

47,545. LAP-COVERINGS. WM. B. RILEY & Co., Philadelphia, Pa.

The word "AUTO" inclosed in quotation-marks.

Filed June 13, 1905. Serial No. 8,009. PUBLISHED SEPTEMBER 12, 1905.

47,546. CIGARS. RODRIGUEZ & TEIJEIRO, New York, N. Y.

The representation of a panel, across which are the words and character "RODRIGUEZ & TEIJEIRO,' surrounded by an irregular curved border consisting of conventionalized flowers, leaves, and stems, and which in turn is inclosed in a fancy fretwork border in the shape of a parallelogram.

Filed June 27, 1905. Serial No. 9,208. PUBLISHED SEPTEMBER 12, 1905.

47,547. CIGARS. RODRIGUEZ & TEIJEIRO, New York, N. Y.

The representation of an Indian woman holding a scarf or sash in her left hand and her right hand resting on an anchor, behind which is an oval shield with device of a tomahawk. To the left and forming a background are the representations of roses, rose-buds, and palm-leaves. To the right of the figure is the representation of a bundle of cigars, a cigar-box, a corded bale of tobacco, and a large gear-wheel on the shore of a marine landscape, showing at the edge of the shore a small hut, in the middle ground a sailing vessel, and in the background a steamship and cliff with lighthouse. Above the entire picture and arranged in a curved line are the words "FLOR DE RODRIGUEZ & TEIJEIRO."

Filed June 27, 1905. Serial No. 9,209. PUBLISHED SEPTEMBER 12, 1905.

47,548. SOCIETY EMBLEMS. SINNOCK & SHERRILL, New York, N. Y.

The representation of a crucible upon a shield.

Filed April 24, 1905. Serial No. 2,798. PUBLISHED SEPTEMBER 12, 1905.

47,549. CIGARETTES. S. S. PIERCE Co., Boston, Mass.

The words "MAH' MAL," with the picture of a caparisoned camel with a howdah on its back.

Filed July 3, 1905. Serial No 9,677. PUBLISHED SEPTEMBER 12, 1905.

47,550. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.

The representation of four caryatides supporting an oval frame containing leaf scrollwork. On either side of the central oval appears a winged cherubim swinging. At each end of the design, beyond the caryatides, appear scrolls, the entire design being surrounded by two rectangular lines.

Filed May 5, 1905. Serial No. 4,304. PUBLISHED JULY 4, 1905.

47,551. TABLE SILVERWARE. TOWLE MFG. COMPANY, Newburyport, Mass.

The representation of a lion rampant on the letter "T."

Filed May 1, 1905. Serial No. 3,907. PUBLISHED SEPTEMBER 12, 1905.

47,552. STOCK-FOOD. NATIONAL FOOD CO., Fond du Lac, Wis.

The word "NATIONAL."

Filed April 20, 1905. Serial No. 2,497. PUBLISHED JULY 4, 1905.

47,553. PIANOS. THE BALDWIN COMPANY, Cincinnati, Ohio.

The words "VALLEY GEM."

Filed April 20, 1905. Serial No. 2,506. PUBLISHED SEPTEMBER 12, 1905.

LABELS

REGISTERED NOVEMBER 7, 1905.

12,445.—*Title:* "BATEMAN'S ECZEMATINE." (For a Medicine.) BATEMAN BROTHERS, Seymour, Iowa. Filed October 7, 1905.

12,446.—*Title:* "BEARD'S NATURAL FINISH." (For Shoe-Dressings.) ABRAHAM BEARDS, Brooklyn, N. Y. Filed October 10, 1905.

12,447.—*Title:* "BENOLD'S HEALTH BREAD." (For Bread.) F. H. BENOLD, Chicago, Ill. Filed October 2, 1905.

12,448.—*Title:* "THE BLACK BALL CIGAR." (For Cigars.) THE BETHESDA CIGAR CO., Bethesda, Ohio. Filed October 11, 1905.

12,449.—*Title:* "BILISOLY'S HEADACHE POWDERS." (For Headache-Powders.) P. C. BILISOLY, Norfolk, Va. Filed October 11, 1905.

12,450—*Title:* "BILL WILLIAM." (For Cigars.) H. L. BOWERS, Mansfield, Ohio. Filed October 9, 1905.

12,451.—*Title:* "PRIMROSE BRAND." (For Butter.) BROADWATER COUNTY CREAMERY CO., Townsend, Mont. Filed August 26, 1905.

12,452.—*Title:* "OX CART." (For Coffee.) EDWIN J. GILLIES & Co., New York, N. Y. Filed October 7, 1905.

12,453.—*Title:* "ANTI-MOLE." (For a Mole-Remover.) MILLER MFG. CO., Lincoln, Nebr. Filed October 11, 1905.

12,454.—*Title:* "PULMONOL." (For a Liquid Specific for Lung Diseases.) ARTHUR V. PAYNE, Brooklyn, N. Y. Filed October 7, 1905.

12,455.—*Title:* "MO HAIR." (For Hair-Tonic.) MARIE ALICE PHILLIPS, Atlanta, Ga. Filed October 14, 1905.

12,456.—*Title:* "PRIMROSE." (For Offset-Traps.) ROBERT W. REID, Brooklyn, N. Y. Filed September 8, 1905.

12,457.—*Title:* "CHESTNUT BURR." (For Cigars.) ROBY & LYNN, Barnesville, Ohio. Filed September 14, 1905.

12,458.—*Title:* "CHESTNUT KNOCKERS." (For Cigars.) ROBY & LYNN Barnesville, Ohio. Filed September 14, 1905.

12,459.—*Title:* "BEN BEY." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed September 15, 1905.

12,460.—*Title:* "NEWLINE." (For Toilet-Paper.) SCOTT PAPER Co., Philadelphia, Pa. Filed October 10, 1905.

12,461.—*Title:* "AUTOLINE." (For a Liquid Polish.) GEORGE H. SHARP, New York, N. Y. Filed October 10, 1905.

12,462.—*Title:* "A YARD OF CANDY." (For Candy.) JOSHUA GEORGE SMITH, St. Paul, Minn. Filed October 12, 1905.

12,463.—*Title:* "CHAMO BRAND MOCHA AND JAVA COFFEE." (For Canned Coffee.) THE UNITED STATES PRINTING COMPANY, Brooklyn, N. Y. Filed October 10, 1905.

12,464.—*Title:* "WALKER'S GREAT BLOOD MIXTURE." (For a Remedy for Diseases of the Blood.) ALONZO WEBSTER WALKER, Ocala, Fla. Filed October 9, 1905.

12,465.—*Title:* "ROYAL DUTCH MUSTARD." (For Mustard.) GEORGE J. WASHBURN, New York, N. Y. Filed September 6, 1905.

PRINTS

REGISTERED NOVEMBER 7, 1905.

1,472.—*Title:* "FLORE-STANE." (For Floor-Stains.) A. B. FERTICH & Co., Philadelphia, Pa. Filed October 9, 1905.

1,473.—*Title:* "A BORDEN BABY." (For Condensed Milk.) JULIUS BIEN & COMPANY, New York, N. Y. Filed October 13, 1905.

1,474.—*Title:* "HASN'T SCRATCHED YET." (For a Scouring-Soap.) THE BON AMI COMPANY, New York, N. Y. Filed October 13, 1905.

1,475.—*Title:* "PICKLES." (For Pickles.) W. N. BREWER, Cleveland, Ohio. Filed August 25, 1905.

1,476.—*Title:* "WRIGHT'S SAW TIPS." (For Saws.) THE CHARLES E. WRIGHT COMPANY, New Orange, N. J. Filed September 1, 1905.

1,477.—*Title:* "THAYER'S QUININE SHAMPOO." (For Hair-Invigorator.) THE FEDERAL LITHOGRAPH COMPANY, New York, N. Y. Filed September 7, 1905.

1,478.—*Title:* "THE PEER." (For Hot-Water Heaters.) JAMES MCCARTNEY, Chicago, Ill. Filed September 12, 1905.

1,479.—*Title:* "SEGO LILY UNDERWEAR." (For Underwear.) SALT LAKE KNITTING WORKS, Salt Lake City, Utah. Filed October 11, 1905.

1,480.—*Title:* "STANDARD PORTABLE SHOWER." (For Portable Shower.) STANDARD SANITARY MFG. CO., Pittsburg, Pa. Filed September 5, 1905.

1,481.—*Title:* "INTERLOCKING ELASTIC TILING." (For Floor and Wall Tiling.) DAVID H. WATTS, Jr., Philadelphia, Pa. Filed October 9, 1905.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

NEWELL *v.* ROSE.

Decided October 11, 1905.

INTERFERENCE—NOT DISSOLVED IN VIEW OF TESTIMONY IN COMPANION INTERFERENCE.

Where in an interference between three parties, C., N., and R., the Examiner of Interferences finds from the testimony that C. is the prior inventor and thereupon refers a companion interference between N. and R. to the Commissioner under Rule 126 in order that it may be dissolved without a decision on the question of priority, on the ground that C. is the first inventor, *Held* that the interference should proceed to a final decision on the question of priority, inasmuch as the issue in the interference *N. v. R.* is not the same as the issue in the prior interference and as the decision of the Examiner of Interferences in the prior interference that C. is the first inventor is not final, but is subject to appeal.

ON REFERENCE.

WATER-COOLERS.

Mr. A. S. Pattison for Newell.

Mr. Willis Fowler for Rose.

ALLEN, *Commissioner:*

The Examiner of Interferences has called attention under Rule 126 to the fact that in his opinion count 1 of the present issue is not patentable to either party to this interference.

The Examiner has concluded that the invention of count 1 was first made by one Clifford, who is not involved in the present interference, but who is involved in the companion interference, *Newell* v. *Clifford* v. *Rose*. This conclusion as to priority of invention by Clifford is based upon testimony taken in the companion interference, and the reasons therefor are fully stated in a decision rendered by him in that interference. The Examiner's purpose in referring the case to me was that the interference should be dissolved without a decision on the question of priority of invention.

It is to be noted that the conclusion that there is a bar to the allowance of count 1 to either of these parties is based upon testimony taken in a proceeding where that count was not the issue. The parties here would therefore have good cause for objection to that testimony on the ground that they had no opportunity to cross-examine the witnesses with particular reference to count 1 of the present interference. It is to be noted, further, that the Examiner's decision in favor of Clifford as the first inventor in the companion interference has not become final, but is subject to appeal.

Under all the circumstances it is believed that this interference should not now be suspended and remanded to the Primary Examiner for consideration of the supposed bar to the allowance of count 1 and that the two interferences should first proceed to a final decision upon the question of priority of invention.

EX PARTE READ.

Decided October 11, 1905.

1. FINAL REJECTION—REGULARITY THEREOF MUST BE ATTACKED WITHIN ONE YEAR.

Where during the year following final rejection amendments to claims were presented, but no contention was made that the final rejection was premature, and the Examiner at end of the year held the case to have become abandoned, *Held* that the contention on petition that the final rejection was premature comes too late.

2. SAME—SAME.

An applicant cannot ignore an Examiner's action simply because he believes that it is not well founded. Whether well founded or not, it is binding upon the applicant until set aside, and it is incumbent upon him to take steps to have it set aside within the year allowed by law for action.

ON PETITION.

FOOD PRODUCT AND METHOD OF MAKING SAME.

Messrs. Bakewell & Byrnes for the applicant.

ALLEN, *Commissioner:*

This is a petition from the Examiner's holding that the above-entitled case is abandoned.

It appears that the claims were finally rejected August 4, 1904. The applicant made no contention that the final rejection was premature and took no steps to have it set aside, but on August 1, 1905, presented an amendment canceling some claims and inserting others. That amendment was refused admission, and the applicant's attention was called to the fact that the proper action would have been an appeal. The present petition was thereupon filed, and the petitioner now contends that the final rejection was premature.

The contention now made as to the irregularity in the Examiner's action comes too late. It is made for the first time more than one year after the Examiner's action. An applicant cannot ignore an Examiner's action simply because he believes that it is not well founded. Whether well founded or not, it is binding upon the applicant until set aside, and it is incumbent upon him to take steps to have it set aside within the year allowed by law for action.

The case must be regarded as abandoned, and therefore this petition is denied.

STRUBLE v. YOUNG.

Decided October 11, 1905.

1. INTERFERENCE—TESTIMONY—TAKEN IN OTHER INTERFERENCES.

Where motion is made to permit the use of testimony taken in other interferences between the same parties, *Held* that the motion would not be denied because the present interference relates to a process, whereas the other interferences related to apparatus.

2. SAME—SAME—SAME.

Where motion is made to permit use of testimony taken in other interferences between same parties, *Held* that the motion will not be denied because such testimony contains unnecessary matter.

APPEAL on motion.

RAILWAY SIGNALING.

Mr. George E. Cruse for Struble.

Mr. George H. Benjamin and *Mr. George R. Hamlin* for Young.

ALLEN, *Commissioner:*

This is an appeal by Young from the decision of the Examiner of Interferences granting a motion by Struble to be permitted to use in this case the testimony-in-chief taken by him in interferences Nos. 23,678 and 23,680.

Both of the present parties are involved in the two interferences mentioned, and those interferences are admittedly closely related to the present interference. On behalf of Struble, however, it is said that the present interference relates to a process, whereas the others relate to an apparatus, and it is urged that to use in one case testimony taken in the other would cause confusion. It is argued that process and apparatus are so distinct and different that it would be difficult to conduct a cross-examination relating to the process after a direct examination relating to the apparatus.

While process and apparatus are undoubtedly distinguishable inventions, it is also true that the process defined in the present case cannot be performed without using an apparatus. There is no suggestion that the witness whose testimony it is desired to use did not describe or refer to an apparatus capable of performing the present process. It may be that the testimony which Struble desires to use contains unnecessary matter, but it is not to be ruled out on that ground alone. If the present motion were denied, Struble would have the right to call the witness and take here the same testimony that has been taken in the other case. He would be the judge of its relevancy and materiality in so far as placing it in the record is concerned. Since he now alleges that it is material and relevant, no good reason is seen why he should be put to the unnecessary trouble of retaking it. It does not appear with any certainty that Young would be saved any trouble or expense if the testimony were retaken.

The decision of the Examiner of Interferences is affirmed.

EX PARTE GURNIFFET, BENOIT, AND NICAULT.

Decided October 17, 1905.

1. SUSPENSION OF ALLOWANCE OF ORIGINAL APPLICATION PENDING INTERFERENCE UPON DIVISIONAL APPLICATION—CLAIMS DIFFERING IN SCOPE ONLY.

Where a divisional application is filed for purposes of interference with claims to the same specific form shown in the original case, though the claims in the divisional case are narrower than the claims in the original case, *Held* that the original application will not be allowed until the contemplated interference is terminated.

2. SAME—CLAIMS READABLE UPON SPECIES NOT PATENTABLY DIFFERENT.

Where claims of a divisional application and claims of a parent application are readable upon the same specific form, *Held* that the parent case will not be allowed before termination of a proposed interference upon the divisional case merely because the claims of the parent case are broader than those of the divisional case and also read upon a species not patentably different from that of the divisional case.

ON PETITION.

CIGARETTE-TUBES AND PROCESS OF MAKING SAME.

Messrs. Arthur C. Fraser & Co. for the applicants.

ALLEN, *Commissioner:*

This is a petition from the action of the Primary Examiner refusing to allow this application until the termination of a contemplated interference upon claims contained in a divisional case.

It appears that the Examiner suggested claims in this case for the purpose of interference and that instead of making them here the applicants filed a new application containing them. It is said that the suggested claims are more specific than those contained in the present case, but are readable upon the same specific form. The difference between them is therefore merely one of scope. While it is true that in the present case an additional specific form of the device is shown upon which the broad claims read and upon which the specific claims will not read literally, the Examiner intimates that the two specific forms are so nearly alike that there is no patentable difference between them. In other words, he suggests that if the opposing party is successful in the interference as to the specific claims it may be necessary to reject these applicants' broad claims, as well as their specific claims.

Under circumstances such as found by the Examiner to exist in this case sound reason requires that this Office refuse to patent the broad claims until the question of priority of invention is determined. It would surely be wrong to grant claims to these applicants while the Office is conducting proceedings which will determine whether or not they are entitled to them.

Rule 106 provides where a divisional case is filed after the declaration of an interference—

> That no claim shall be made in either application broad enough to include matter claimed in the other.

In the present case the divisional application was filed before interference, but after notice of it, and therefore the rule clearly applies. The alleged distinction is purely technical and does not reach the merits of the question.

The petition is denied.

ROYCE v. KEMPSHALL.

Decided October 17, 1905.

INTERFERENCE—SUPPRESSION OF TESTIMONY AS INCOMPETENT—QUESTION POSTPONED UNTIL FINAL HEARING.

Where upon a motion to suppress certain specified testimony on the ground that it is incompetent the Examiner of Interferences rules that consideration of the motion should be postponed until final hearing because it would require a consideration of the greater portion of the record, *Held* that an appeal from the Examiner's ruling raises only the question whether or not the Examiner was right in postponing the consideration of the question, which is a matter that will not be reviewed and reversed except in a clear case of abuse of discretion.

APPEAL on motion.

PLAYING-BALL.

Mr. Hillary C. Messimer and *Messrs. Pennie & Goldsborough* for Royce.

Mr. Francis H. Richards for Kempshall.

ALLEN, *Commissioner:*

This is an appeal by Kempshall from the decision of the Examiner of Interferences denying his motion to suppress portions of depositions taken on behalf of Royce and to suppress certain exhibits offered.

On a previous motion to suppress filed by Kempshall it was urged that the evidence on behalf of Royce should not be received, because of irregularities in taking it and because of delay in filing it in this Office. That motion was denied in the decision of July 12, 1905. The present motion is based in part upon the same grounds—viz., delay in filing certain exhibits in this Office. For the reasons given in the decision of July 12 the Examiner of Interferences was right in denying the portion of the motion based upon delay.

The present motion is based in part upon the allegation that certain evidence offered is incompetent, and the various questions referred to are mentioned by number. The Examiner rules that this portion of the motion should be postponed until final hearing, since it would require a consideration of a greater portion of the record. The Examiner has therefore neither granted nor denied this portion of the motion, but has merely postponed consideration of it. This appeal therefore does not present the question whether or not the evidence should be suppressed, but merely the question whether the Examiner of Interferences should have passed upon the matter at this time.

The action of the Examiner in thus postponing consideration of a motion will not be reviewed and reversed except in a clear case of abuse of discretion. It does not appear that there has been any abuse of discretion here, nor does it appear that any serious injury can result from the postponement.

The decision of the Examiner of Interferences is affirmed.

VOTEY *v.* GALLY.

Decided October 23, 1905.

1. INTERFERENCE—MOTION FOR DISSOLUTION—NO REVIEW OF FAVORABLE DECISION.

Where review is requested by G. of Examiner's rulings upon the meanings of claims in his decision granting G.'s motion for dissolution, *Held* that G. was not entitled to such review.

2. SAME—SAME—CONTENTION BY PARTY THAT HE HAS NO RIGHT TO MAKE THE CLAIM.

When the contentions on a motion for dissolution amount to the denial of the right of the contending party to make claims, *Held* that the party is not compelled to insist upon the claims, but may abandon them.

3. SAME—INTERFERENCE IN FACT—READING LIMITATION INTO CLAIMS.

Where a motion for dissolution rested only on limitations read into the claims by the moving party and not stated in such claims, *Held* that the motion was properly denied.

APPEAL on motion.

PORTABLE PLAYERS FOR MUSICAL INSTRUMENTS.

Messrs. Dickerson, Brown, Raegener & Binney for Votey.
Mr. Robert A. Gally pro se.

ALLEN, *Commissioner:*

This is an appeal by Gally from the decision of the Primary Examiner denying his motion to dissolve the above-entitled interference as to count 3. The ground alleged for the appeal is that the Examiner erred in holding that there is interference in fact.

In connection with his appeal Gally has filed a paper asking a review of the Examiner's rulings as to the meanings of counts 1, 4, and 5; but it is very clear that he is not entitled to such review. His motion for dissolution was granted as to counts 1, 2, 4, and 5, and the decision has become final, since no appeal was taken by the opposing party. The only question properly presented by this appeal is that of interference in fact as to count 3.

Count 3 is a claim made originally by Votey, and the Examiner points out that it is in such broad terms as to apply to the structures shown by both parties. Gally, on the other hand, points out specific differences between the structures disclosed by the parties and contends that the count is limited to those features. He says:

> Count 3 fairly read calls for its "casing" as well as its "key-actuating mechanism" to "pass freely beneath the keyboard," hence no interference in fact because Gally casing in playing position is partly in front of and above keyboard, as held by Examiner in dissolving count 2.

This amounts to a statement that Gally is not entitled to make the claim of the issue when it is construed as he thinks it should be construed. He is not compelled to insist upon the claim if he is of the opinion that it does not apply to his device, but may abandon it.

As to another feature of the count Gally contends that it is "inapplicable as to Votey," or, in other words, Votey has no right to claim it. It would seem, therefore, according to Gally's contentions, that neither party is entitled to make the claim of the issue. The question as to the right of the parties to make the claim is not a matter to be reviewed upon interlocutory appeal, and under the express provisions of Rule 124 there is no appeal from the Examiner's favorable decision upon that question.

An examination of the claim in connection with Gally's argument, however, shows that his contention that there is no interference in fact is based upon an erroneous view as to the meaning of the claim. He reads into the claim limitations not stated therein. The Examiner has clearly pointed out that the claim of count 3 applies to the structures of both parties and has the same meaning in both cases.

The decision of the Primary Examiner refusing to dissolve the interference as to count 3 is affirmed.

EX PARTE AMERICAN SEPARATOR COMPANY.

Decided October 24, 1905.

TRADE-MARKS—RIGHT TO AMEND APPLICATIONS UNDER ACT 1881—REJECTION—APPEAL.

The refusal to permit the amendment of an application under the act of 1881 to bring it under the act of 1905 is a rejection of the application and appealable. It will not be reviewed on interlocutory petition.

ON PETITION.

TRADE-MARK FOR CENTRIFUGAL MACHINES.

Mr. Harold Serrell for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner of Trade-Marks holding that the applicant is not entitled to amend the above-entitled application filed under the act of 1881 to bring it under the act of February 20, 1905.

In the case of *Mark Cross Company* (116 O. G., 2534) the Examiner refused to permit the amendment of an application to bring it under the act of February 20, 1905, and the court of appeals said:

> * * * the action of the Examiner was in effect a rejection of the application upon the ground that it was not an application filed under the act of 1881 such as could be further prosecuted.

The court therefore held that the applicant's remedy was by appeal. In view of that ruling it must be held that the present applicant's remedy is by appeal and not by interlocutory petition. This petition is accordingly dismissed.

EX PARTE BECKETT.

Decided October 24, 1905.

1. TRADE-MARKS—REGISTRATION ABROAD—CERTIFIED COPY REQUIRED.

Where application is made by a foreigner for the registration of a trade-mark on the ground that it has been registered in the country where he resides, *Held* that a certified copy of the foreign registration should be furnished.

2. SAME—SAME—SAME—APPLICANT'S JUDGMENT NOT ACCEPTED.

The mere allegation of the applicant that he has secured foreign registration is insufficient, since the question of identity of marks is one requiring the exercise of judgment, and the statute requires that this Office shall determine the right to registration. It should not accept without question the applicant's judgment, but should call for the facts upon which it is based.

ON PETITION.

TRADE-MARK FOR BAKING-POWDER.

Mr. George R. Hamlin for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner of Trade-Marks requiring that the applicant file a certified copy of his mark as registered in Canada.

In the affidavit forming part of the application it is alleged that the applicant has registered the mark in Canada, and the date and number of that registration are given. The affidavit, furthermore, does not state that the mark has been used in interstate commerce or in commerce with Indian tribes or in commerce between the United States and foreign nations. The application is therefore based upon the following provision in section 2 of the Trade-Mark Act of February 20, 1905:

> If the applicant resides or is located in a foreign country, the statement required shall, in addition to the foregoing, set forth that the trade-mark has been registered by the applicant, or that an application for the registration thereof has been filed by him in the foreign country in which he resides or is located, and shall give the date of such registration, or the application therefor, as the case may be, except that in the application in such cases it shall not be necessary to state that the mark has been used in commerce with the United States or among the States thereof.

The question for determination here is whether this Office is justified in requiring that a copy of the foreign registration be filed, so that it may be compared with the application here and with the applicant's statements. The statutes do not specifically require the filing of a certified copy of the foreign registration, and the question for determination is whether by necessary inference they contemplate the filing of such copy and justify this Office in calling for it.

Section 6 of the act of February 20, 1905, requires this Office to determine whether or not "the applicant is entitled to have his trade-mark registered," and it is clear that in the present case the right to registration depends upon the question whether the mark was registered in Canada, as alleged. The best evidence of the fact is a certified copy of the registration. Section 4 of the Trade-Mark Act furthermore gives to the application here the same force and effect that it would have if it had been filed here on the same date that the Canadian application was filed. It seems clear that Congress could not have intended that this Office should give such effect to the filing of the Canadian application without having before it some evidence of the fact besides the applicant's statement.

The question of the identity of two marks is often one upon which parties may well differ, and therefore it is not believed that this Office should accept without question the applicant's judgment in the matter. The Examiner states that many cases have been brought to his attention where the applicant alleged registration abroad and it appeared upon comparison that the marks were different or that the goods to which the mark had been applied were different.

It is no particular hardship to require the applicant to file a certified copy of the foreign registration, and since this Office is called upon to determine the applicant's right to registration it is not unreasonable to require him to present the material within his possession upon which that determination is to be based. It must be held that the statute contemplates and authorizes the requirement for a certified copy of the foreign registration.

The petition is denied.

EX PARTE LISTMAN MILL COMPANY.

Decided October 30, 1905.

1. TRADE-MARKS—DRAWING MUST CONFORM TO SPECIMENS.

The drawing of a trade-mark application should show the mark as actually used and should therefore correspond with the specimens filed.

2. SAME—SAME—RIGHT DETERMINED BY USE.

The right to the exclusive use of a trade-mark is acquired only by actual use, and registration is simply a recording of that right. The record or registration must therefore be of the particular mark just as it has been used.

3. SAME—SAME—RIGHT NOT VARIED BY REGISTRATION.

The scope of the trade-mark right which the applicant possesses can be neither broadened nor limited by the form of the application for registration. The law does not create the right, but simply provides for its registration.

4. SAME—SAME—CONSTRUCTION OF TRADE-MARK RIGHT FOR COURTS.

Omissions and variations from the mark as actually used intended for the purpose of fixing or varying the construction to be placed upon the trade-mark right which has been acquired are not permissible. The construction placed upon the right must be determined by the courts from a consideration of the mark as actually used.

ON PETITION.

TRADE-MARK FOR WHEAT-FLOUR.

Mr. R. H. Gunckel for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner of Trade-Marks requiring the applicant to show its mark in its drawing precisely as it is used upon the goods.

The petitioner has filed specimens of its mark as used, and its drawing does not correspond therewith. The Examiner says:

> The specimens show the trade-mark as actually used upon the goods, and the Examiner's requirement is that the drawings should accord with the specimens in so far as the mark itself is concerned.
>
> There are other features shown in the specimens which, manifestly, are mere adjuncts to the mark itself and form no material part thereof and it is not thought necessary for applicant to illustrate or describe the same.

The mark is applied to flour, and, as shown in the drawing, consists of the words "Listman's Best" printed in ordinary type. It is very clear that those words do not constitute a technical trade-mark and would not be registrable in this Office except for the following provision in section 5 of the act of February 20, 1905:

That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act.

The applicant has made affidavit to the actual and exclusive use here referred to and has therefore brought his application under this "ten-years" clause.

The specimens show an ornamental broken circular border printed in blue, the word "Listman's" printed in red in the arc of a circle within the upper part of the border, the number "49" in red on a straight line below the word "Listman's," the word "Best" in large red letters straight across the center, the words "Fancy Spring Wheat Flour" in smaller blue letters immediately below the word "Best," the words "Listman Mill Company" in blue below the above-mentioned words, and the words "La Crosse, Wis." printed in blue on the arc of a circle within the lower half of the border.

Under well-settled principles of trade-mark law whatever right the applicant has acquired to the exclusive use of its mark it is based solely upon the actual use of it as shown in the specimens. The only way in which a trade-mark right can be acquired is by actual use, and therefore sound reason requires that the mark be registered as used. The trade-mark law does not create the trade-mark right, but merely provides that it be recorded or registered in this Office. Registration necessarily implies that the record shall conform to the original.

The requirement that the drawing show the mark as used does not result in limiting the applicant's protection beyond the bounds of the right acquired by actual use of the mark, as the applicant seems to suppose. On the contrary, it fixes with definiteness and accuracy the applicant's rights without extending or limiting them. This Office is not called upon to pass upon the scope of the applicant's trade-mark right and determine what would be the equivalent of its mark. It should register the mark which the applicant has used and to which it has acquired title, leaving it to the courts to determine the breadth of the right acquired and the question of equivalency.

That the applicant is seeking by the form of its application to vary or fix the construction to be placed upon the trade-mark right which it has acquired by actual use seems apparent from its argument. It is said in the brief:

* * * let it be assumed that applicant had complied with the requirement and had obtained registration of the words "Listman's Best," in red color, the word "Listman's" being arranged in an arc above the word "Best," and in type of the style shown in the specimens.

If suit were brought for infringement of the registered mark against a competitor whose brand consisted of the same words printed in yellow color, in different type, and arranged diagonally on the brand; would it not be a good defense to contend that the registration was limited to the one color and to the particular arrangement of the words and the style of the letters?

Without undertaking to answer this question it may be said that if there was no infringement in such case it would be because the right acquired by actual use was not sufficiently broad to include the supposed infringing mark. If the supposed infringing mark so nearly resembles the mark actually used as to entitle the first user to protection under principles of common law, it would entitle him to protection under the registration which accurately shows his mark. If he is not entitled to such protection under the common law, he cannot acquire the right by the form of his registration, for, as above stated, the registration does not confer the right, but merely records it.

The requirement for accurate illustration of the mark as used is particularly necessary in the case of marks registered under the "ten-years" provision of the law. The provision for registration under that section of marks which are not technical trade-marks seems to have been based upon the doctrine of unfair competition in trade, and in applying that doctrine the exact appearance of the mark is an essential thing to be considered.

The petition is denied.

THE ROBERT SMITH ALE BREWING COMPANY v. BEADLESTON & WOERZ.

Decided October 28, 1905.

1. TRADE-MARK INTERFERENCE—MOTION TO DISSOLVE—JURISDICTION OF EXAMINER OF TRADE-MARKS DEFINED.

Motions to dissolve trade-mark interferences should be heard and determined by the Examiner of Trade-Marks and not by the Examiner of Interferences.

2. SAME—SAME—SAME—RECONSIDERATION.

A motion to dissolve an interference is, in effect, a request for reconsideration in the light of argument of the action declaring the interference, and therefore it should be heard and determined by the Examiner who declared the interference.

3. SAME—SAME—JURISDICTION OF EXAMINER OF INTERFERENCES—ACT 1905 CONSTRUED.

There is nothing in the act of February 20, 1905, which requires that the Examiner of Interferences determine anything in trade-mark interferences except the conflicting claim of title between the two parties involved. He is therefore not required to determine motions for dissolution.

4. SAME—QUESTION OF TITLE.

A trade-mark interference is to be declared only where there are conflicting claims made to the same trade-mark right which is regarded as registrable, and the question to be determined is which of the parties has title and is entitled to registration. The only conflict is as to title, and the only thing to be decided as between the parties is title.

ON REFERENCE.

TRADE-MARK FOR LAGER-BEER.

Messrs. Wiedersheim & Fairbanks for Smith Brewing Co.

Messrs. Dickerson, Brown, Raegener & Binney for Beadleston & Woerz.

ALLEN, *Commissioner:*

The Examiner of Trade-Marks has referred the above-entitled case to me with request for consideration of and decision upon the question whether motions to dissolve trade-mark interferences shall be determined by the Examiner of Trade-Marks or by the Examiner of Interferences.

A motion for dissolution was made in the present case, and the Examiner of Interferences considered and decided it. He was of the opinion that the matter was one to be decided by him and that the act of February 20, 1905, does not call for or permit the transmission of such motions to the Examiner of Trade-Marks for decision.

Section 7 of the act of February 20, 1905, contains the following provisions:

Whenever application is made for the registration of a trade-mark which is substantially identical with a trade-mark appropriated to goods of the same descriptive properties, for which a certificate of registration has been previously issued to another, or for registration of which another has previously made application, or which so nearly resembles such trade-mark, or a known trade-mark owned and used by another, as, in the opinion of the Commissioner, to be likely to be mistaken therefor by the public, he may declare that an interference exists as to such trade-mark, and in every case of interference or opposition to registration he shall direct the Examiner in charge of interferences to determine the question of the right of registration to such trade-mark, and

of the sufficiency of objections to registration, in such manner and upon such notice to those interested as the Commissioner may by rules prescribe.

The Commissioner may refuse to register the mark against the registration of which objection is filed, or may refuse to register both of two interfering marks, or may register the mark, as a trade-mark, for the person first to adopt and use the mark, if otherwise entitled to register the same, unless an appeal is taken, as hereinafter provided for, from his decision, by a party interested in the proceeding, within such time (not less than twenty days) as the Commissioner may prescribe.

It is to be noted that in case of interference the Examiner of Interferences is "to determine the question of the right of registration to such trade-mark," and the question is raised whether this includes more than a determination of the question of priority of adoption and use of the mark in issue—in other words, whether the statute requires that he shall determine the question whether the two marks in fact conflict and shall determine the question whether there is, aside from the question of priority, a bar to the registration of either or both of the marks.

It is perfectly clear that a trade-mark interference is to be declared only where there are conflicting claims made to the same trade-mark right which is regarded as registrable, and the question to be determined is which of the parties has title and is entitled to registration. The interference is declared simply to enable the parties to present to this Office the evidence upon which it may base its adjudication of the conflicting claim of title. The only conflict is as to title, and the only thing to be decided as between the parties is title.

If there is no real conflict between the claims of the parties or if the mark claimed is not a registrable trade-mark, there can be no proper interference. In such case the improperly-declared interference should be dissolved. There is no good ground for rendering judgment in favor of one party or the other, and it seems clear that no adjudication of the contest between the parties can be made without deciding in favor of one party or the other.

It must be held that the words "to determine the question of the right of registration to such trade-mark" mean that the Examiner of Interferences is to determine the right of registration as between the parties to the interference. In other words, he is to determine the question of title or ownership as between those parties.

The Examiner of Interferences may by analogy to the patent practice (Rule 126) call attention to the fact that in his opinion a particular interference was improperly declared; but it is not believed that the statute contemplates that his actual decision in the case shall relate to anything save the relative rights of the parties involved.

In considering the law it has not been overlooked that the last paragraph of section 7 provides that the Commissioner "may refuse to register *both* of two interfering marks." It is not understood that this means that the refusal of both marks is to be made a part of the adjudication in the interference. It seems to mean merely that this Office is not compelled to register a mark simply because an interference has been declared or conducted in regard to it. In other words, registration may be refused to the successful party to the interference if good reasons exist, or the interference may be dissolved and both applicants may be refused registration without deciding the question of priority of adoption and use.

The conclusion of the Examiner of Interferences that motions for dissolution should be decided by him is based upon his finding that the law imposes upon him the duty of deciding not merely the question of priority, but all other questions relating to "the right of registration." As above stated, it is not believed that the law has such meaning; but even if it had the conclusion would not follow that the Examiner of Interferences is to consider and decide preliminary motions for dissolution. The decision of such matters when he comes to render his final decision in the case in the light of the evidence presented would be a very different thing from deciding in advance whether there shall be an interference. He of course cannot declare interferences in the first instance, since he does not examine all trade-mark applications and is not aware of the various conflicting applications which are filed. The Examiner of Trade-Marks is obviously the one to decide in the first instance whether or not there is an actual conflict between applications which are otherwise allowable and to declare interferences where necessary. No contention is made that the law prohibits such action by the Examiner of Trade-Marks; but, on the contrary, it clearly contemplates that he shall take such action. A motion for dissolution of an interference before the taking of testimony is, in effect, a request for reconsideration of the action declaring the interference. Since the Examiner of Trade-Marks declared the interference, he is the one who should give the reconsideration in the light of argument by both parties. The Examiner of Interferences is in no sense an appellate tribunal, and to have him review the action of the Examiner of Trade-Marks in the light of the same evidence would lead to hopeless confusion. The declaration and the motion are both preliminary matters, and it may be said that the interference is not finally declared until the time for motions for dissolution has expired. In other words, the Examiner of Interferences does not take charge of and conduct the interference proceedings until the Examiner of Trade-Marks has declared the interference and reconsidered his action *inter partes* if requested to do so by motion made within the definite time allowed.

Since there is nothing in the statute to prevent the consideration by the Examiner of Trade-Marks of motions for dissolution, the question whether they shall be considered and decided by him or by the Examiner of Interferences is to be determined by considerations of good policy. For the reasons above stated it is deemed best to have such motions decided by the Examiner of Trade-Marks.

It is held that hereafter preliminary motions to dissolve interferences should be transmitted by the Examiner of Interferences to the Examiner of Trade-Marks for decision.

THE

OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 119—No. 2. TUESDAY, NOVEMBER 14, 1905. PRICE—$5 per year.

CONTENTS.

	Page.
ISSUE OF NOVEMBER 14, 1905	343
PRINTED COPIES OF PATENTS	343
ATTORNEYS	343
INDEXES TO PERIODICALS	343
APPLICATIONS UNDER EXAMINATION	344
TRADE-MARKS	344
PATENTS GRANTED	345
REISSUES	614
DESIGNS	615
TRADE-MARKS—REGISTRATION APPLIED FOR	619
TRADE-MARKS—REGISTERED	639
LABELS	647
PRINTS	647
COMMISSIONER'S DECISIONS—	
Weil-Haskell Company v. Griffon Company	649
Ex parte Haultain and Stovel	649
Ex parte Adams	650
Cazin v. Von Weisbach	650
Fairbanks and Sauer v. Karr	651
Ex parte Freund	651
Ex parte The Chas. H. Phillips Co	652
Brooker v. Smith	652
Carney v. Latimer	652
Pryor v. Ball v. Brand	653
Walter Baker & Company, Limited, v. Hawley and Hoops	653

ISSUE OF NOVEMBER 14, 1905.

Patents	622	No. 804,197 to No. 804,818, inclusive.
Designs	21	No. 37,659 to No. 37,679, inclusive.
Trade-Marks	184	No. 47,554 to No. 47,737, inclusive.
Labels	20	No. 12,466 to No. 12,485, inclusive.
Prints	4	No. 1,482 to No. 1,485, inclusive.
Reissues	2	No. 12,407 to No. 12,408, inclusive.
Total issue	853	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	1	1	Nevada	.....	.....
Alaska Territory	.....	.....	New Hampshire	1	.....
Arizona Territory	.....	.....	New Jersey	19	4
Arkansas	3	.....	New Mexico Ter't'y	.....	.....
California	31	3	New York	74	42
Colorado	7	2	North Carolina	4	.....
Connecticut	17	3	North Dakota	.....	.....
Delaware	2	.....	Ohio	40	12
District of Columbia	2	3	Oklahoma Territ'y	2	.....
Florida	2	.....	Oregon	.....	.....
Georgia	5	2	Pennsylvania	61	20
Hawaii Territory	.....	.....	Porto Rico	.....	.....
Idaho	1	.....	Rhode Island	6	1
Illinois	65	11	South Carolina	1	2
Indian Territory	.....	.....	South Dakota	1	.....
Indiana	30	3	Tennessee	3	1
Iowa	21	.....	Texas	13	3
Kansas	4	.....	Utah	.....	.....
Kentucky	5	9	Vermont	3	.....
Louisiana	2	1	Virginia	2	3
Maine	1	1	Washington	6	2
Maryland	8	2	West Virginia	1	.....
Massachusetts	36	40	Wisconsin	13	7
Michigan	27	9	Wyoming	2	.....
Minnesota	6	4	U. S. Army	.....	.....
Mississippi	2	1	U. S. Navy	1	.....
Missouri	15	12			
Montana	1	.....	Total to citizens of the United States	549	208
Nebraska	4	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	1	.....	Netherlands	1	.....
Austria-Hungary	4	.....	Newfoundland	.....	.....
Belgium	3	.....	New South Wales	1	.....
Brazil	.....	.....	New Zealand	1	.....
British West Indies	.....	.....	Norway	.....	.....
Canada	2	.....	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Roumania	.....	.....
China	1	.....	Russia	.....	.....
Costa Rica	.....	.....	San Salvador	.....	.....
Cuba	.....	.....	Scotland	3	.....
Denmark	2	.....	South Australia	1	.....
Ecuador	.....	.....	Spain	.....	.....
England	23	.....	Sweden	.....	.....
France	7	.....	Switzerland	1	.....
Germany	30	.....	Transvaal, South Africa	1	.....
India	1	.....	Victoria	.....	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	1	.....			
Japan	.....	.....	Total to citizens of foreign countries	94	.....
Java	.....	.....			
Mexico	1	.....			

Printed Copies of Patents.

A printed copy of the complete specification and drawings of any patent published herein can be obtained for five cents.

Attorneys.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 9, 1905.

This Office has been advised by the Secretary of the Interior of the disbarment of the following attorneys from practice before the Department or any Bureau thereof: James A. Martindill, Eureka, Ohio, November 6, 1905; Robert McKinstry, Detroit, Mich., November 6, 1905.

C. M. IRELAN,
Chief Clerk.

Indexes to Periodicals.

The following journals containing indexes to periodical literature may be found on file in the reading-room of the Scientific Library:

Electrical World and Engineer, a weekly digest of electrical articles.

Engineering Magazine, a monthly title-index of engineering articles.

Engineering Review, monthly abstracts of engineering articles.

Journal of the United States Artillery, a bimonthly title-index of current artillery literature.

Railway Machinery, a monthly synopsis of universal railroad literature.

School of Mines Quarterly, a quarterly synoptical index of articles on analytical chemistry and title-index of metallurgical literature.

Science Abstracts, physics and electrical engineering. Monthly abstracts of the principal articles on physics published in the American and foreign journals.

Electrochemical and Metallurgical Industry, a monthly synopsis of periodical literature relating to electrochemistry and metallurgy.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business November 7, 1905.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
	Under one month.			
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Oct. 26	Aug. 23	384
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Oct. 25	Sept. 26	331
332	X. Carriages and Wagons.....	Oct. 25	July 26	649
167	V. Fine Arts, Bookbinding, Harvesters, Jewelry, and Music.	Oct. 24	Sept. 11	295
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Oct. 24	Sept. 11	212
303	XVII. Linotyping, Printing, Matrix-Making.	Oct. 24	July 20	371
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Oct. 23	Sept. 15	250
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Oct. 23	Aug. 26	472
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Oct. 21	July 24	534
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Oct. 20	Sept. 9	398
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Oct. 20	Sept. 8	378
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Oct. 20	July 1	609
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Oct. 17	Aug. 4	259
221	I. Tillage, etc., Fences, and Railway Draft Appliances.	Oct. 16	Sept. 13	226
147	XXIX. Coopering, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools.	Oct. 14	Aug. 1	342
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Oct. 7	Sept. 8	215
	Between one and two months.			
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Oct. 5	Aug. 30	419
199	XVI. Telegraphy and Telephony..	Oct. 3	Aug. 26	225
327	XVIII. Steam-Engineering, etc ...	Oct. 2	Aug. 18	417
282	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Sept. 30	Sept. 25	393
126	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Sept. 28	Aug. 12	297
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Sept. 15	July 22	593
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Sept. 15	July 3	688

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
	Between one and two months.			
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Optics, Signals, Time Controlling Mechanism.	Sept. 14	Aug. 9	565
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Sept. 11	June 15	584
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufacturing, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Sept. 8	July 10	483
	Between two and three months.			
307	XIV. Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Metal Personal Wear, Making, Nut and Bolt Locks, Sheet-Metal Ware, Making, Tools, Wire-Working.	Sept. 1	Aug. 3	304
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, Sewerage, and Water Distribution.	Sept 1	May 15	982
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Aug. 28	May 25	615
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Aug. 16	Aug. 3	545
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Aug. 14	July 13	578
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Aug. 14	July 3	496
312	VII. Velocipedes, Clutches, Fire-Escapes, Games and Toys, Ladders, Mechanical Motors, and Paper Manufactures.	Aug. 11	May 15	629
	Between three and four months.			
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Aug. 4	Apr. 3	709
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	July 24	May 26	841
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	July 15	June 6	644
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 12	July 20	560
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing-Machines.	July 8	May 8	575

Total number of applications awaiting action 16,06

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Between one and two months.			
	Trade-Marks.....	Sept. 30	Sept. 1	3837
	Under one month.			
	Designs.....	Nov. 3	Oct. 13	20
	Labels and Prints.....	Oct. 28	Nov. 1	18

Trade-Marks.

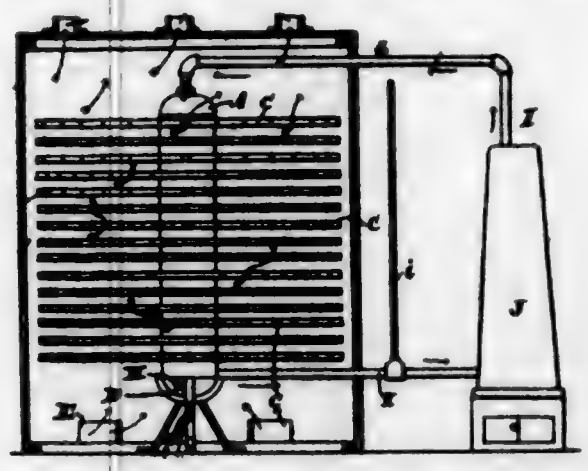
The publication of trade-marks under the act of February 20, 1905, in the OFFICIAL GAZETTE, commenced May 2, 1905, and will appear in each weekly number of the GAZETTE thereafter.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment therefor.

PATENTS

GRANTED NOVEMBER 14, 1905.

804,197. **HOT-AIR FURNACE.** DAVID J. ARCHER, Toronto, Canada. Filed May 16, 1903. Serial No. 157,389.



Claim.—1. A hot-air furnace comprising a radiator consisting of a centrally-placed hollow post provided with an aperture at its top and bottom by means of which a hot fluid may be circulated therethrough; means for supplying a hot fluid to said hollow post; a plurality of flat, thin, hollow, wings connected to said hollow post and opening thereinto, and disposed in a staggered position with their greatest surfaces at right angles thereto so that the cold air passing up among same will come in contact with their hot lower and upper surfaces and be heated, the said wings being narrower at their base and uniformly widening out to their outer edges, and a suitable casing surrounding said radiator, the same being provided with lower openings through which the cold air passes thereinto and upper openings through which the hot air passes therefrom.

2. In apparatus for heating air, the combination of a casing, a central hollow post located in the casing, segment-shaped thin, and flat, wings connected to said post, a boiler located outside the casing and connected with said post, said casing having air-inlet openings and hot-air pipes, substantially as described.

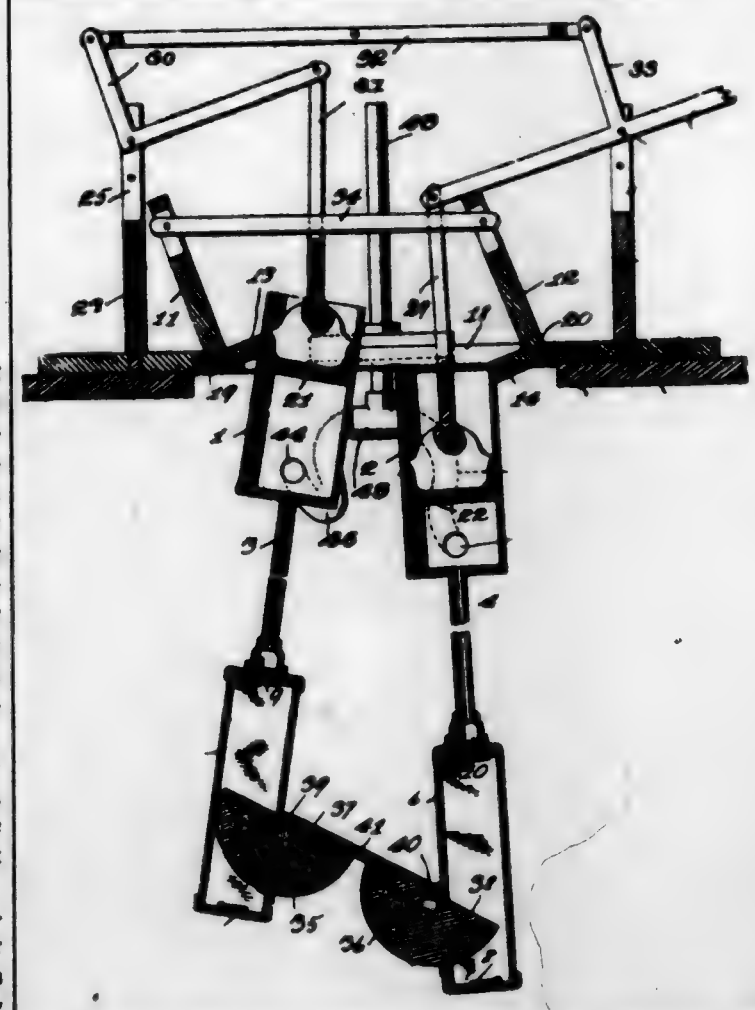
3. In an apparatus described, the combination of a casing having air-inlets near its lower end and air-outlets in its top, a radiator consisting of a hollow post and a plurality of flat, thin hollow wings connected to said post, a water-heater located adjacent to said casing and provided with an inlet-pipe connected to the bottom of said post and an outlet-pipe connected to the top of said post, an expansion-pipe in said inlet-pipe, a vent-cock on said outlet-pipe, a water-feed pipe leading into the bottom of said post and a stop-cock on said water-feed pipe, substantially as described.

804,198. **PUMP.** CYRUS A. ARMSBURGER, Rudy, Idaho. Filed Dec. 14, 1904. Serial No. 236,843.

Claim.—1. In a pump, upper and lower vertically-movable cylinders, a pipe connecting the cylinders for simultaneous movements, a plunger for the upper cylinder, means to work the cylinders and the plunger simultaneously in the same direction with the plunger moving faster than the cylinders, and a lower plunger supported independently of the lower cylinder and actuated by the movements of the cylinder to work upwardly therein during the upward movement of the cylinder and downwardly during the downward movement of the cylinder.

2. In a pump, the combination of two sets of cylinders, each set including upper and lower cylinders and a pipe connecting the cylinders, plungers working in the upper cylinders connected lower plungers hinged to the respective lower cylinders and working therein, and means to work each set of cylinders simultaneously in opposite directions to work the lower plungers alternately in the lower cylinders and to work the upper plungers in the same directions with their respective cylinders and at a greater rate of speed.

3. In a pump, the combination of two sets of endwise-movable cylinders, each set comprising an upper cylinder, a lower cylinder and a pipe connecting said cylinders, means for simultaneously moving the sets of cylinders in opposite directions, segmental plungers working through openings in the adjacent sides of the lower cylinders, and a connection between the plungers of the lower cylinders to actuate the same by the movements of the sets of cylinders.



4. In a pump, the combination of two sets of endwise-movable cylinders, each set including an upper cylinder having a plunger, a lower cylinder and a pipe connecting the two cylinders, means for simultaneously moving the sets of cylinders in opposite directions and for actuating the plungers in the same directions as the respective cylinders, plungers for the lower cylinders, and means connecting the lower plungers to actuate the same by the movements of the sets of cylinders.

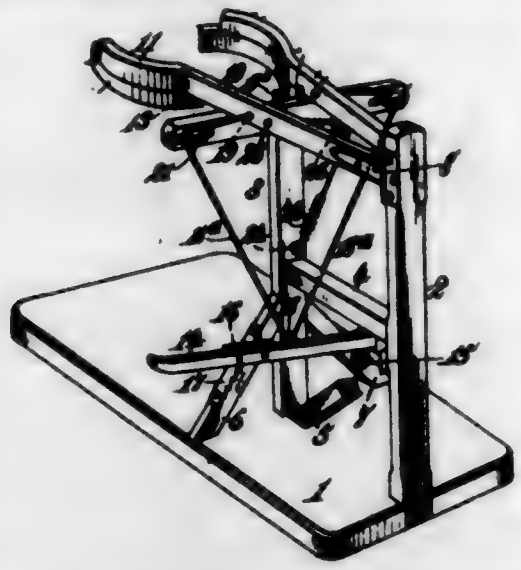
5. In a pump, the combination with a support, of a pair of rocking hangers mounted thereon, sets of cylinders hung from the respective hangers, each set of cylinders including an upper cylinder, a lower cylinder and a pipe connecting the two cylinders, plungers for the upper cylinders, means connecting the hangers to simultaneously rock the same in opposite directions, means for working the plungers simultaneously in opposite directions, plungers for the lower cylinders, and means connecting the lower plungers to simultaneously actuate the same by the movements of the sets of cylinders.

6. In a pump, the combination with a support, of a pair of rocking hangers mounted thereon, means connecting the hangers for simultaneous movements in opposite directions, sets of cylinders loosely hung from the respective hangers, each set including an upper cylinder having an outlet, a lower cylinder having a valved inlet at its lower end and a valved outlet at its upper end, and a pipe connecting the cylinders and leading from the valved outlet of the lower cylinder, plungers working in the upper cylinders, means for simultaneously working the plungers in opposite directions, segmental

plungers working through adjacent sides of the lower cylinders, and means connecting the lower plungers to actuate the same by the movements of the sets of cylinders.

7. In a pump, the combination with a support, of a pair of substantially L-shaped hangers pivotally mounted upon the support and having their substantially horizontal members forked, means connecting the upright members of the hangers for simultaneous movement in opposite directions, sets of cylinders hung from the respective hangers, each set including an upper cylinder pivotally supported within the fork of the adjacent hanger and provided with an outlet in one side thereof and an inlet in its bottom, a lower cylinder having a valved inlet in its lower portion and a valved outlet in its top, a pipe connecting the two cylinders and extending between the outlet of the lower cylinder and the inlet of the upper cylinder, plungers working in the respective upper cylinders, a bell-crank, a plunger-rod extending between the bell-crank and one of the plungers, another bell-crank, a plunger-rod extending between the latter bell-crank and the other upper plunger, a connecting-rod extending between the two bell-cranks to simultaneously operate the plungers in opposite directions, plungers for the lower cylinders, and means connecting said plungers to actuate the same by the movements of the sets of cylinders.

804,199. BAG HOLDER AND SPREADER. HERBERT F. BALLOU, Winchendon, Mass. Filed Dec. 20, 1904. Serial No. 237,710.



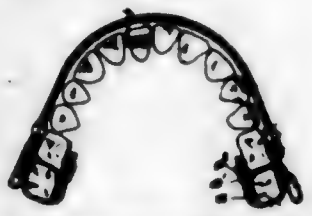
Claim.—1. A device of the character described, comprising a rear support, a T-shaped support, spreading arms hinged to said rear support and mounted upon said T-shaped support, holding members carried by said spreading arms, a foot-operated mechanism for spreading said arms, and a tensioning device connected with the arms and with said T-shaped support and adapted to exert a positive pull on the arms in an opposite direction to that of the pull of the foot-operated mechanism.

2. A device of the character described, comprising a standard, a support in advance of said standard, a pair of spreading arms hinged to said standard and mounted upon said support, bag-holding members carried by said arms, a cable connected with said arms for spreading them apart, a tread-lever connected with the cable and adapted to operate them, and a spring connected with said arms and with said support for exerting a pull in the direction opposite to that of the pull of the cable.

3. A device of the character described, comprising a standard, a vertically-extending support having a horizontally-extending member, a pair of spreading arms hinged to said standard and supported by said member, bag-holding members carried by said arms, pulleys secured to said horizontally-extending member, a pulley carried by one of said arms, a tread-lever, a cable connected with said arms and said lever and passing over the pulleys carried by said member, a spring connected to one of said members, passing over the pulley carried by the other of said members and connected with said support, and a rack adapted to be engaged by said lever.

804,200. APPARATUS FOR THE CORRECTION OF IRREGULAR TEETH. VARNEY H. BARNES, Cleveland, Ohio. Filed Nov. 30, 1904. Serial No. 234,837.

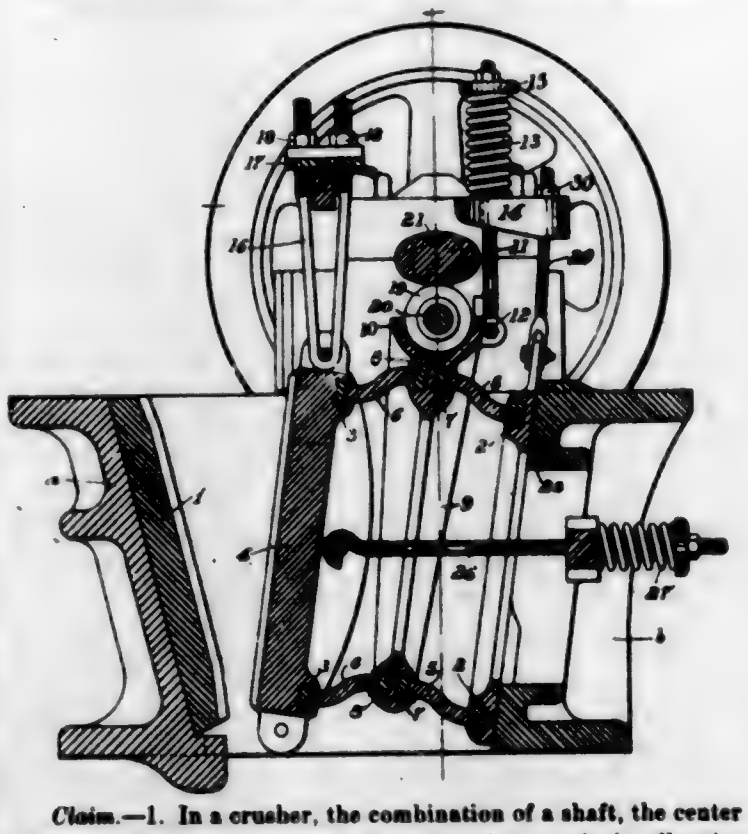
Claim.—1. In apparatus for the correction of irregular teeth, the combination of an arch adapted to lie adjacent to the teeth, a member arranged to be secured to a tooth, a threaded socket fixed to said securable member, and a member engaging the threads of said socket and engaging said arch.



2. In apparatus for the correction of irregular teeth, the combination of an arch adapted to lie adjacent to the teeth, a band adapted to surround a tooth, means for securing said band to the latter, an internally-threaded socket independent of the said securing means and fixed to said band, a hollow member threaded upon the outside and smooth upon its inner side, said hollow member engaging the threads of said socket, one end of the arch loosely extending into the latter, said arch provided with a shoulder engaged by said hollow member; and means for securing the other end of said arch.

3. In apparatus for the correction of irregular teeth, the combination of a member arranged to be secured to a tooth, a threaded socket fixed to said member and closed at one end, a member engaging the thread of said socket, an arch mounted in the last-named member, the latter engaging said arch, and means for securing the other end of the said arch.

804,201. ROCK-CRUSHER. HENRY H. BLAKE, Pittsburg, Pa., assignor to Sterrit-Thomas Foundry Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 19, 1904. Serial No. 208,660.



Claim.—1. In a crusher, the combination of a shaft, the center portion of which is formed eccentric to its axis, a vertical, rollers interposed between said vertical and the eccentric portion of said shaft in combination with bearings for said shaft and means for constantly pressing upwardly said bearings against said shaft.

2. In a crusher, the combination with a machine-frame, of a movable jaw, an operating-shaft having a cam, a vertical, means yieldingly suspending the vertical from the machine-frame, means for operating the jaw by said vertical, and a roller slidably mounted on the machine-frame and bearing against the vertical and adapted to be moved by the cam.

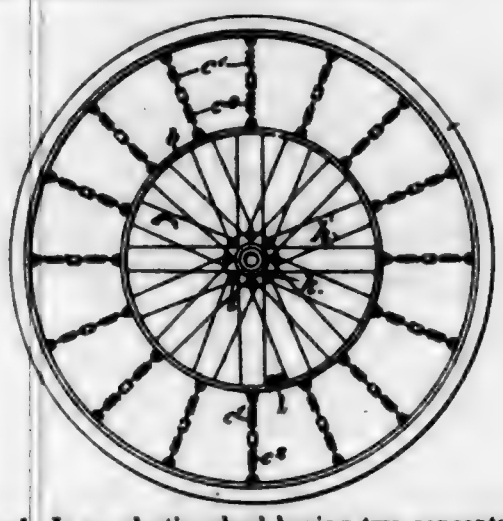
3. In a crusher, the combination with the machine-frame, of the movable jaw, an operating-shaft having a cam, a vertical having a trough or cup, means yieldingly suspending the vertical from the machine-frame, means for operating the jaw by said vertical, and a roller adapted to be moved by the cam and slidably mounted on the machine-frame and received in and bearing against the trough or cup.

4. In a crusher, the combination with the machine-frame, of a movable jaw, an operating-shaft, bearings or journal-boxes on which said shaft rests, springs supporting said journal-boxes, and a jaw-operating member operated by said shaft.

5. In a crusher, the combination with a movable jaw, of an operating-shaft having a cam, flexibly-supported bearings for said

shaft, a jaw-operating member, and flexible means holding said jaw-operating member in contact with the cam on the operating-shaft.

804,202. ELASTIC WHEEL. WARNERUS BENCKISER, Berlin, Germany. Filed Jan. 21, 1904. Serial No. 190,067.



Claim.—1. In an elastic wheel having two concentric rims, a hub, spokes connecting the same with the inner rim, universal joints secured to the inner and outer rims and a plurality of elastic links interposed between the inner and outer rim and connected to said joints.

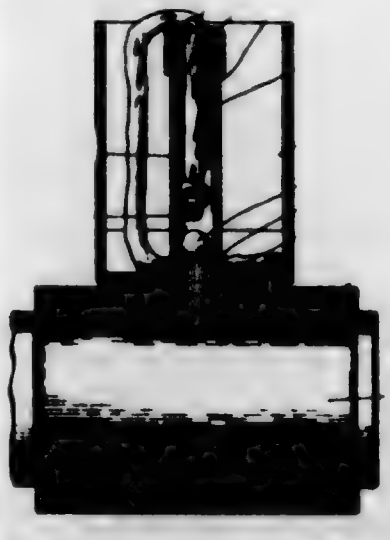
2. In an elastic wheel having two concentric rims, a hub, spokes connecting the same with the inner rim, pivotal joints secured to the inner and outer rims and a plurality of elastic links interposed between the inner and outer rim and pivotally connected to said joints.

3. In an elastic wheel having two concentric rims, a hub, spokes connecting the same with the inner rim and a plurality of elastic links interposed between the inner and outer rim and connected with the same by pivotal joints, each link being composed of two lengths capable of limited relative motion, so as to vary the total length of the link, substantially as described and for the purpose specified.

4. In an elastic wheel having two concentric rims connected with each other by means of springs, a plurality of elastic links interposed between the inner and outer rim and connected with the same by pivotal joints, each link being composed of two helical springs placed axially one behind the other and joined together by means of a flat spring adapted to be bent sidewise by the compression of the springs, substantially as described.

5. In an elastic wheel having two concentric rims joined together by a plurality of elastic links, an expansible inner rim connected with the hub by tension-spokes arranged in pairs, each pair being made of one piece and forming an angle at the hub, while the ends are fixed to the inner rim, substantially as described and for the purpose specified.

804,203. LUBRICATOR. GEORGE W. BROWN, Boston, Mass. Filed Dec. 1, 1904. Serial No. 234,863.



Claim.—1. In a lubricator, a supply-chamber having a duct leading to the bearing-surfaces, a free, unconfined valve controlling the flow of oil through said duct and means to adjust and vary the size of the supply-chamber.

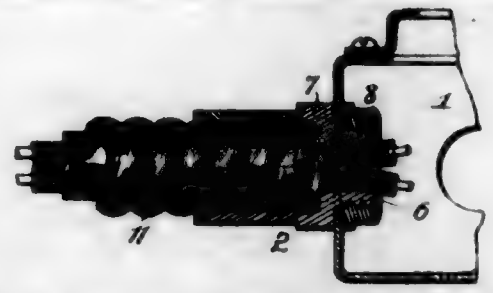
2. In a lubricator, an oil-receptacle, a supply-chamber within said receptacle, said supply-chamber having a duct leading to the bearing-surfaces and means to deliver oil from the oil-receptacle to the supply-chamber, a gravity-actuated valve controlling the flow through said duct and means to adjust and vary the size of the supply-chamber.

3. In a lubricator, an oil-receptacle, a supply-tube therewithin, the interior of said supply-tube communicating with the bearing-surfaces by an oil-duct, means to supply oil from the oil-receptacle to the supply-tube, and a gravitating valve within said supply-tube normally closing said duct but being adapted to be unseated by vibration of the bearing.

4. In a lubricator, an oil-receptacle, a supply-tube within said oil-receptacle, a wick-tube within the supply-tube, said wick-tube being shaped at one end to fit the supply-tube and forming between said end and the bottom of the supply-tube a supply-chamber, a wick to deliver oil from the oil-receptacle to the supply-chamber, and a free, unconfined ball-valve controlling the flow of oil from the supply-chamber to the surface to be lubricated.

5. In a lubricator, a supply-tube combined with a wick-tube and an adjustable plunger within the wick-tube whereby the change of position of the plunger determines the capacity of the supply-tube.

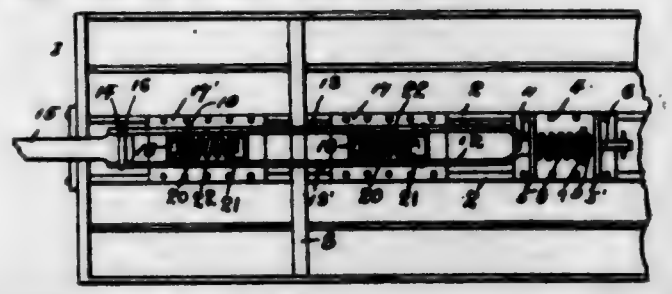
804,204. COUPLING FOR CONDUITS. WILLIAM S. BROWN, New York, N. Y. Filed Apr. 15, 1905. Serial No. 255,294.



Claim.—1. A coupling of the character described consisting of an externally-threaded nipple, a two-part sleeve, the latter having an internal spiral thread or groove, and an intermediate enlarged section integral with the nipple and one section of the sleeve, the said intermediate section having a recess provided with a groove or thread continuous with the groove or thread in the sleeve.

2. A coupling of the character described, consisting of an externally-threaded nipple, a two-part sleeve having an internal spiral thread or groove, and an intermediate enlarged section integral with the nipple and one section of the sleeve, the said intermediate section being provided with a recess having a groove or thread continuous with the groove or thread in the sleeve, the said nipple, being provided with a bore communicating with the recess in the intermediate section.

804,205. RAILWAY-CAR. JAMES G. BROWNFIELD, Fort Worth, Tex. Filed Feb. 24, 1904. Serial No. 195,030.



Claim.—1. In combination with a car-body provided with draft-sills, of a draft appliance consisting of a frame secured to the draft-sills intermediate of the length of the car, a series of intermediate frames secured between the ends and the center of the car, and springs mounted in each of said frames, a draft-bar connected to said springs, and a coupling-head connected to the outer end of said draft-bar, said draft-bar being formed with two parallel sides which are adapted to straddle and be secured to the springs of the intermediate frames.

2. In combination with a car-body provided with draft-sills longitudinally of the bottom thereof, of a draft appliance secured to said sills, consisting of a frame arranged centrally of the body of the car, a series of intermediate frames secured between the center frame and the ends of the car, springs mounted in each of said frames and a draft-bar having one end connected to the central frame's spring and having parallel sides extending upon opposite sides of the intermediate frame and connected to the springs.

3. In combination with a car-body provided with draft-sills longitudinally of the bottom thereof, of a draft appliance secured to said sills, consisting of a frame arranged centrally of the body of the

car, a series of intermediate frames secured between the center frame and the ends of the car, springs mounted in each of said frames and a draft-bar having one end connected to the centrally-arranged frame's spring and having two parallel sides extending upon opposite sides of the intermediate frames and connected to the springs thereof.

4. In combination with a car-body provided with draft-sills longitudinally of the bottom thereof, of a draft appliance secured to said sills, consisting of a frame arranged centrally of the body of the car, a series of intermediate frames secured between the central frame and the ends of the car, springs mounted in each of said frames, a draft-bar having one end connected to the central frame's spring and having parallel sides extending upon opposite sides of the intermediate frames and connected to the springs and a coupling-head connected to the outer end of the draft-bar.

5. In combination with a car-body provided with draft-sills longitudinally of the bottom thereof, of a draft appliance secured to said sills, consisting of a frame arranged centrally of the body of the car, a series of intermediate frames secured between the central frame and the ends of the car, springs connected to each of said frames, a draft-bar having one end connected to the central frame's spring and having parallel sides extending upon opposite sides of the intermediate frame and connected to the springs, and a coupling-head connected to the outer ends of the outer draft-bar.

6. In combination with a car-body provided with draft-sills longitudinally of the bottom thereof, of a draft appliance consisting of a series of frames, one located centrally of the car and the other intermediate of the ends of the car, said frames being secured to and depending from said draft-sills, a spring mounted in each one of the frames, a pin upon which the spring is supported mounted in the frame, a follower-plate mounted within the frames connected to the springs, a rod connected to the central frame connected to its spring, a draft-bar having one end connected to the rod and its sides connected to the follower-plates of the intermediate frames and a coupling-head connected to the outer end of the draft-bar.

804,206. ARTIFICIAL MINNOW OR TROLLING-HOOK.

GEORGE BRUTON, Joliet, Ill. Filed May 10, 1901. Serial No. 59,574.



Claim.—An artificial minnow consisting of a body portion formed of a single piece of material and ogee-shaped in cross-section, a head attached to said body portion having a line-fastening device secured thereto, said head being of greater thickness than the body portion said body portion bent spirally, perforations in the outer edges of said spiral, rings passing through said perforations and having clusters of hooks loosely secured thereto, and a bifurcated tailpiece having one or more hooks rigidly attached, substantially as described.

804,207. ARTIFICIAL LEG.

JOHN BUNDERLE, Jackson, Minn. Filed Apr. 6, 1905. Serial No. 254,170.



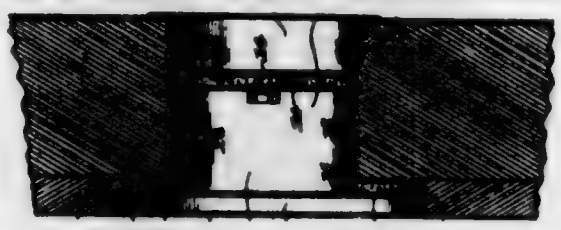
Claim.—1. In an artificial leg, the combination of a thigh-section, a tibial section including spaced bars, a foot-section, sockets in the spaced bars of the tibial section, springs mounted in said sockets, a socket member supported by the springs aforesaid, and guide members secured to and projected from the socket member aforesaid and operating in the sockets of the tibial section, said members resting on the springs above mentioned.

2. In an artificial leg, the combination of a thigh-section, a tibial section having sockets, a foot-section, a socket member carried by the tibial section, springs in the sockets of the tibial sections, guide members secured to the socket member aforesaid and operating in the sockets of the said tibial section, and a cap carried by the socket member in spaced relation thereto so as to receive the upper portion of the tibial section.

3. In an artificial leg, the combination of a thigh-section, a tibial section, a foot-section, said foot-section comprising heel and toe sections, a pivotal connection between the tibial section and the heel-section aforesaid, a coil-spring interposed between the heel-section and the lower extremity of the tibial section, and a connection between the tibial and heel sections passing through the spring therebetween.

804,208. STOVEPIPE-THIMBLE AND FLUE-CAP.

ALFRED T. BUSCH, Harvard, Ill. Filed Aug. 4, 1904. Serial No. 219,512.



Claim.—1. In a device of the class described, a thimble having one end thereof extended laterally to form a terminal socket, and a closed tubular flue-cap having an enlarged head adapted to engage said socket, the walls of said head being spaced apart to form an air-chamber.

2. In a device of the class described, a thimble having one end thereof extended laterally to form a terminal socket, and a closed tubular flue-cap having an enlarged head adapted to engage said socket, the walls of said head being spaced apart to form an air-chamber, said thimble and cap being provided with interlocking parts.

3. In a device of the class described, a thimble having one end thereof extended laterally to form a terminal socket, a closed tubular flue-cap having an enlarged head adapted to engage said socket, the walls of said head being spaced apart to form an air-chamber, and a packing interposed between the head and socket.

4. In a device of the class described, a thimble having one end thereof extended laterally to form a terminal socket, and a tubular flue-cap having its opposite ends closed and one end thereof provided with an enlarged head adapted to engage said socket, the walls of said head being spaced apart to form an air-chamber.

5. In a device of the class described, a thimble having one end thereof extended laterally to form a terminal annular socket, and a tubular flue-cap having its opposite ends closed and one end thereof provided with an annular head adapted to engage said socket, the walls of said head being spaced apart to form an air-chamber, said thimble and cap being provided with interlocking parts.

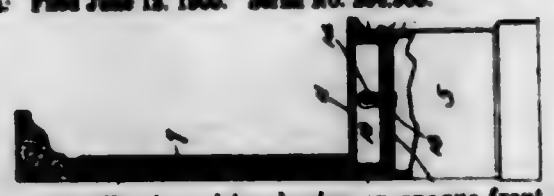
6. In a device of the class described, a thimble provided with bayonet-slots and having one end thereof extended laterally to form a terminal socket, and a flue-cap having an enlarged head fitting within the socket and provided with laterally-projecting lugs adapted to engage said bayonet-slots for locking the parts together, the walls of said head being spaced apart to form an air-chamber.

7. In a device of the class described, a thimble having one end thereof extended laterally to form a terminal socket, a flue-cap provided at one end with an enlarged head adapted to engage said socket, the walls of said head being spaced apart to form an air-chamber, an annular flange formed on the opposite end of the cap, retaining-strips extending transversely across said cap, and a packing interposed between the flange and said retaining-strips.

8. In a device of the class described, a thimble having one end thereof extended laterally to form a terminal socket, a flue-cap having an enlarged head adapted to engage said socket, the walls of said head being spaced apart to form an air-chamber, an annular flange surrounding the head of the cap, and a packing carried by the cap and retained in position by engagement with said annular flange, said thimble and flue-cap being provided with interlocking parts.

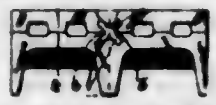
804,209. ILLUMINATED BAR.

OLAF T. BURTNESS, Sioux City, Iowa. Filed June 12, 1905. Serial No. 264,908.



Claim.—An illuminated bar having an opaque front and provided with a vertical extension, a partition extending transversely of the bar, a mirror mounted on the extension and having its lower edge resting on said partition, a glass top supported by the front of the bar and spaced from the partition to form a compartment, a reflector disposed within the compartment, and means for illuminating the latter.

804,210. **STEREOTYPE PLATE AND BASE CONNECTION.** JOHN W. BUTTERFIELD and BENJAMIN C. SCHMITT, Columbus, Ohio. Filed Feb. 13, 1904. Serial No. 193,474.



Claim.—1. In a stereotype plate and base connection, the combination of an elongated rigid key exhibiting in cross-section the form of a cross, a stereotype-plate and a base each provided, at the portion thereof adapted to contact with the other, with slots corresponding in shape and size with the arms of the key whereby, when engaging surfaces are in contact and the key inserted within the slots, the stereotype-plate and base will be securely locked together.

2. A base for stereotype-plates having formed within the upper surface thereof two furrows with parallel sides, said furrows forming an angle with each other and converging at the surface.

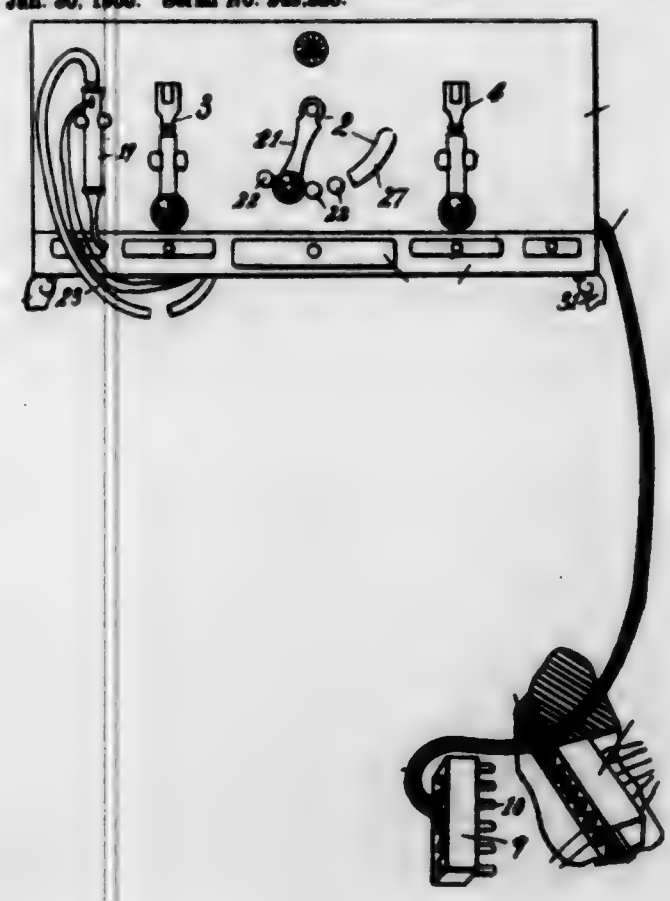
3. A stereotype-plate having formed within its upper side and longitudinal therewith two furrows, which together exhibit in cross-section the form of an L with arms equal in length and disposed at right angles to each other and forming equal angles with the under side of the plate.

4. In a device of the character described, the combination of a stereotype-plate and a base therefor, each having formed within the surface adapted to contact with the other, two furrows with parallel sides, said furrows forming an angle with each other and converging at the surface, and an elongated rigid key of similar conformation throughout its length exhibiting in cross-section the form of a cross with arms of equal length.

5. In a device of the character described, the combination of a stereotype-plate and a base therefor, each having formed within the surface adapted to contact with the other, two furrows with parallel sides, said furrows being disposed at right angles to each other and each being in alinement with a corresponding furrow in the opposite contacting surface and an elongated rigid key of similar conformation throughout its length and conforming in cross-section to the furrows in the two surfaces when the same are in contact.

6. In a stereotype plate and base connection, the combination with a stereotype-plate formed at its end and on its under side with a longitudinal recess comprising kerfs or arms extending at right angles to each other, a base-plate having its upper surface at its end formed with a recess corresponding with the recess in the under side of the stereotype-plate, of a locking-key comprising a body composed of a plurality of longitudinally-arranged wings or flanges projecting from a common center, said key being adapted to be inserted within and to fit the socket formed by the opposing recesses of the plate and base when the same are made to bear one upon the other.

804,211. **DENTAL SWITCHBOARD.** MONROE H. GALLENDER, San Francisco, Cal., assignor to J. W. Roach, San Francisco, Cal. Filed Jan. 30, 1905. Serial No. 243,226.

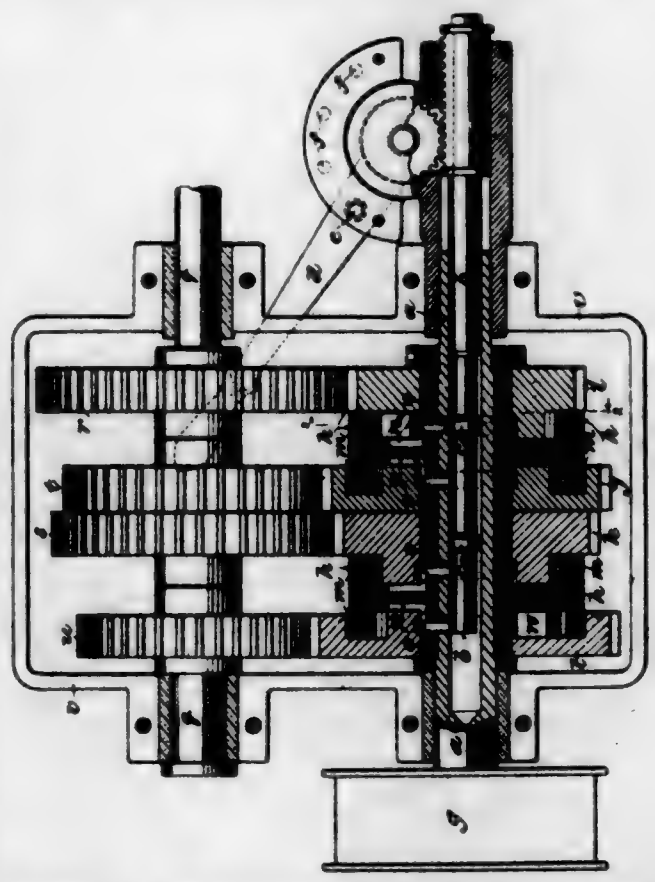


Claim.—1. In combination with a dental switchboard having a plurality of switches thereon, a multiple contact therefor comprising a contact-holder having a plurality of contact-sockets and a contact-holder having contact-plugs entering the respective sockets, wires leading from the contacts of one of said holders and formed into a cable and leading to the respective switches of the switchboard, and wires leading from the contacts of the other holder, substantially as described.

2. In combination a movable cabinet, a switchboard thereon and wires leading to the switchboard, said wires being formed into a cable, substantially as described.

3. A movable dental cabinet with a switchboard secured thereto, and wires connected at one end to said switchboard, and contacts connected to the other ends of said wires, substantially as described.

804,212. **CHANGE-SPEED GEARING.** WILLIAM R. CARY, Milwaukee, Wis. Filed Mar. 6, 1905. Serial No. 248,451.



Claim.—1. In change-speed gearing the combination of two parallel shafts two sets of intermeshing gears, the gears of one set being fixed on one shaft and the gears of the other set being loosely mounted on the other shaft, clutches for severally locking the loose gears to the shaft on which they are mounted, clutch-engaging devices arranged to be operated by the power which turns the gearing, and a manually-operated shifting device for setting any one of the clutch-engaging devices in operative position, substantially as described.

2. In change-speed gearing the combination of a tubular shaft, gears of different sizes loosely mounted thereon, clutches for severally locking said gears on said shaft, radially-movable clutch-engaging devices carried by said gears, a shifting-rod movable lengthwise in said tubular shaft and provided with enlargements, pins movable lengthwise in radial openings in said tubular shaft and adapted to be severally thrust outward and held by the enlargement on said shifting-rod in position to operate said clutch-engaging devices and cause the rotation of one member of the gearing with relation to the other to lock the corresponding gears on said shaft, a shaft parallel with said tubular shaft and gears fixed thereon and meshing with the loose gears on said tubular shaft, substantially as described.

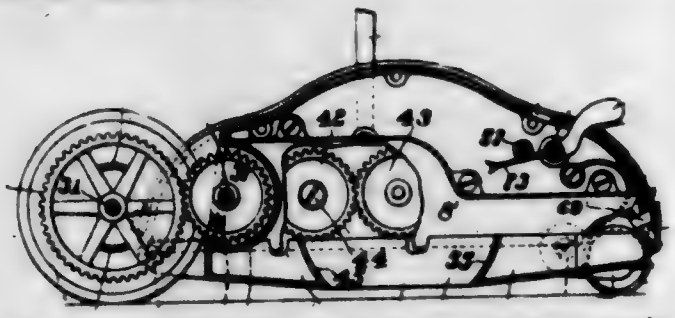
3. In change-speed gearing the combination of a tubular shaft, friction-wheels fixed on said shaft and having laterally-projecting rims, gears of different sizes loosely mounted on the hubs of said friction-wheels, expansible friction-rings interposed between the hubs of said gears to which they are secured and the overhanging rims of said friction-wheels, radially-movable wedge-blocks carried by said gears and adapted when thrust outward to expand said friction-rings and lock said gears to the associated friction-wheels, a shifting-rod movable lengthwise in said tubular shaft and provided with enlargements, pins loosely held in radial openings in said tubu-

lar shaft, and the hubs of said friction-wheels and adapted to be thrust outward one at a time by the enlargements on said shifting-rod into operative relation to said wedge-blocks, a shaft parallel with said tubular shaft and gears fixed thereon and meshing with the corresponding loose gears on said tubular shaft, substantially as described.

4. In change-speed gearing the combination of a shaft, a rod movable lengthwise therein and provided with enlargements, friction-wheels fixed on said shaft and having laterally-projecting rims, gears loosely mounted on the hubs of said friction-wheels and having annular recesses in their hubs intersected by radial recesses, wedge-blocks loosely held in said radial recesses, expansible friction-rings interposed between the hubs of said gears and the rims of said friction-wheels and engaged at their severed ends by the tapered portions of said wedge-blocks, radially-movable pins loosely held in radial recesses in the hubs of said friction-wheels and arranged to be thrust outward by the enlargements on said longitudinally-movable rod into the annular recesses in the hubs of said gears, and gears meshing with the aforesaid gears, substantially as described.

5. In change-speed gearing the combination of a shaft, a longitudinally-movable rod having enlargements, gears loosely mounted on said shaft, clutches for severally locking said gears on said shaft, a radially-movable device applied to and movable with one member of each clutch, radially-movable pins movable with the other members of the clutches and adapted to be thrust outward into operative relation to the clutch-engaging devices by the enlargements on said longitudinally-movable rod, and power-transmitting gears connected with said loose gears, the gears of one set being of different sizes, substantially as described.

804,213. CARPET-SWEEPER. ORRIL R. CHAPLIN, Boston, Mass., assignor of one-half to Robert W. Howard, Boston, Mass. Filed June 6, 1904. Serial No. 211,253.



Claim.—1. A carpet-sweeper having a rotating sweeping-brush in combination with a swinging comb having its teeth provided with curved outer ends alternately pointing in opposite directions.

2. In a carpet-sweeper the combination with a frame having parallel outwardly-projecting arms of a shaft journaled in the arms, driving-wheels carried by the shaft, each driving-wheel having a web connecting the rim and hub, each web having an inward-extending lug, a spur-gear mounted on the shaft and having the lugs in mesh with its spokes, a horizontal shaft having on one end a pinion in mesh with the spur-gear, a brush mounted in the frame, and gears connecting the other end of the horizontal shaft and the brush.

3. In a carpet-sweeper the combination with a frame having an opening in its rear side, of outwardly-extending arms projecting rearward of the frame and on each side of the opening, bearings on the end of each arm, an axle mounted in the bearings and carrying a pair of drive-wheels, lugs projecting from the side of each drive-wheel toward the other drive-wheel, a gear on the axle between the drive-wheels having its sides in contact with the lugs, inwardly-projecting arms on each side of the opening, a shaft within the frame running parallel with the axle and mounted at one end in these arms, a pinion carried by the shaft in mesh with the gear, the shaft being mounted at its other end in the end wall of the frame, a spur-gear carried on this end of the shaft, a brush-core mounted within the frame parallel to the shaft and having at one end a gear, and a gear in mesh with the spur-gear and gear of the brush-core whereby the brush is driven upon movement of the drive-wheels.

4. In a carpet-sweeper the combination of a frame consisting of parallel end walls, a convex upper wall supported by the end walls and having at its rear an opening for receiving the drive-wheels, arms projecting outward from the upper wall on each side of the opening, a brush supported in the frame, a driving-shaft mounted within the frame parallel to the brush, a series of connecting-gears mounted on one of the end walls whereby the brush is operated by the driving-shaft, an inner casing protecting the gears from the sweepings, a pinion mounted on the other end of the driving-shaft, a casing protecting the pinion from the sweepings, drive-wheels mounted in the arms and extending within the opening a gear carried by the drive-wheels and in mesh with the pinion, an inner casing protecting the drive-wheels from the sweepings and having an opening through which extends the pinion.

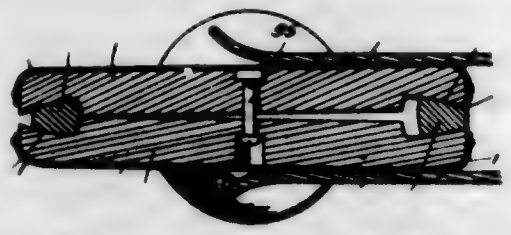
5. In a carpet-sweeper having a frame, in combination with a brush-core of circular disks fastened on each end of the core, and each having a hub, a stud screwed through each end of the frame extending into a hub, a gear loosely mounted on one of the studs and having a notch in its hub, an outwardly-extending lug on the disk nearest to the gear and extending into the notch, driving-wheels in the rear of the frame and means connecting the gear and driving-wheels.

6. In a carpet-sweeper having a frame, a brush mounted within the frame, means for rotating the brush, a rocker-shaft mounted within the frame forward of the brush and having a series of teeth with curved outer ends but which when in contact with the bristles of the brush have their body portion pointed toward the center of the core of the brush.

7. In a carpet-sweeper the combination with a rotating brush and means for operating the brush, of a rocker-shaft forward of the brush, wires carried by the rocker-shaft the outer ends of which are alternately bent up and down, an operating-handle for the rocker-shaft for throwing the wires in contact with the brush.

8. In a carpet-sweeper provided with a frame, a shaft mounted therein, teeth carried by the shaft and having curved outer ends, said frame being provided with a slot having upper and lower notches, a lever attached to the shaft and extending through the slot and adapted to rest within the lower notch when the teeth are in operative position, and within the upper notch when not in use and a spring for pressing the lever into either notch.

804,214. CASH-CARRIER APPARATUS. JAMES W. CLARK, Janesville, Wis., assignor to Colin C. MacLean, Janesville, Wis. Filed Mar. 29, 1905. Serial No. 252,090.



Claim.—1. In a cash-carrier apparatus, the combination of a track, a car arranged to travel thereover and embodying movable sides, a buffer adapted to embrace said sides, and means for propelling the car and positively positioning the sides in expanded or separated position before the car coacts with the buffer.

2. In cash-carrier apparatus, the combination of a track, a car arranged to travel thereover and embodying sides adapted to be expanded and to remain in such expanded positions, a buffer adapted to embrace said sides, and means for simultaneously propelling the car toward the buffer and expanding its sides before the car reaches the buffer.

3. In a cash-carrier apparatus, the combination of a supporting-standard, spaced buffer-plates projected from the standard, a track, and a car arranged to travel on the track and enter the space between the buffer-plates and embodying movable sides coacting with the buffer.

4. In a cash-carrier apparatus, the combination of a supporting-standard, spaced buffer-plates projected from the standard, a track, and a car arranged to travel on the track and enter the space between the buffer-plates and embodying sides expansible before the car coacts with the buffer.

5. In a cash-carrier apparatus, the combination of a supporting-standard, spaced buffer-plates projected from the standard, a car arranged to enter the space between the buffer-plates and comprising a frame and sides longitudinally movable upon the frame and expansible at opposite ends, and a track for the car.

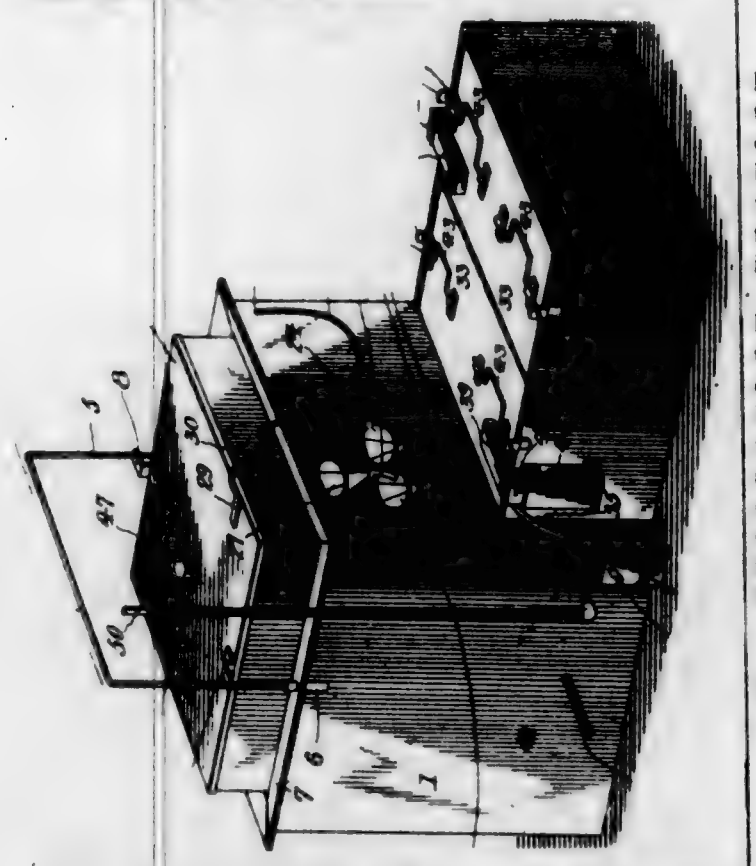
6. In a cash-carrier apparatus, the combination of a supporting-standard, spaced buffer-plates projected from the standard, a car arranged to enter the space between the buffer-plates and comprising a frame, sides slidable upon the frame, a connection between the sides, means for expanding the sides on longitudinal movement thereof with reference to the frame, and a track for the car.

7. In a cash-carrier apparatus, the combination of a track, a car arranged to travel thereover and embodying a frame, sides movable upon the frame and adapted to be separated or expanded and to remain in separated or expanded positions, a buffer, and propel-

ling means adapted to engage the car and move the frame thereof relative to its sides to expand the latter before the car coacts with the buffer.

8. In a cash-carrier apparatus, the combination of a track, a car arranged to travel thereover and embodying a frame having wedge-shaped ends, sides movable relative to the frame and provided with cams at the ends thereof to coact with the wedge-shaped ends of the frame, a buffer, and propelling means adapted to engage the car and move the frame relative to its sides to cause an end of the frame to coact with the cams on the sides and expand the latter and hold them in expanded positions before the car coacts with the buffer.

804,215. **ACETYLENE-GAS GENERATOR.** GEORGE H. CLIFF, Dundas, Canada, assignor to Harry Gordon Cliff, Dundas, Canada. Filed Oct. 29, 1904. Serial No. 230,479.



Claim.—1. In apparatus of the class described, in combination, a generator-tank constructed to contain a bath, a generator-cover having a depending side wall dipping in said bath, means for generating gas under said cover, a downwardly-extending pipe communicating with the interior of said generator-cover, and a removable water seal for said pipe.

2. In apparatus of the class described, in combination, a generator-tank constructed to contain a bath, a generator-cover having side walls dipping therein, means for producing a gas under said cover, said cover having a downwardly-projecting pipe communicating with the interior thereof, and a bucket adapted to contain a liquid and receiving said pipe.

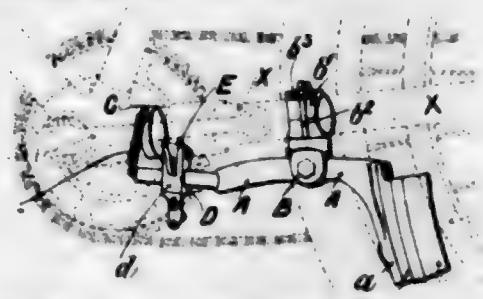
3. In apparatus of the class described, in combination, a generator-tank constructed to contain a bath, a generator-cover dipping in said bath, slidable means for locking said generator-cover against rising, said generator-cover having an opening therein, and a removable water seal for said opening.

4. In apparatus of the class described, in combination, a generator-tank constructed to contain a bath, a generator-cover dipping in said bath, bails carried by said generator-cover for lifting the same, means of engagement between said bails and said tank to lock said generator-cover against rising, said generator-cover having an opening therein, and a removable seal for said opening.

5. In apparatus of the class described, in combination, a generator-tank constructed to contain a bath, a generator-cover dipping in said bath and having an opening therein, a removable water seal for said opening, bails carried by said cover and having shanks slidably attached to the upper side of said cover, and means carried by said tank for engaging said shanks to lock said cover against rising.

804,216. **BRAKE FOR CYCLES.** WALTER H. COCKS, Ealing, England. Filed Nov. 7, 1904. Serial No. 231,788.

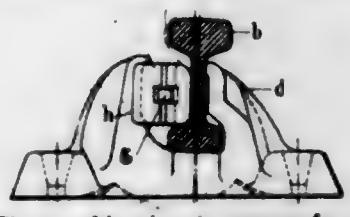
Claim.—1. A brake for motor-cycles comprising a bracket adapted to be clamped to one of the members of the lower back fork of the cycle, an L-shaped lever pivoted to said bracket, a shoe transversely adjustable on said lever, a grooved driving-pulley on the driving-wheel of the cycle, a friction-block carried by said shoe and adapted to engage the groove in the driving-pulley, and a transversely-arranged trip-piece carried by said lever and arranged to be engaged by one of the pedal-cranks of the cycle when the said crank is given a backward rotation.



2. A brake for motor-cycles, comprising an L-shaped lever, a laterally-adjustable shoe mounted on one end of said lever, a friction-block carried by said shoe, a bracket to which said lever is pivoted, and which is adapted to be clamped to the frame of the cycle, a bracket adjustably mounted on the other end of said lever, a transversely-arranged trip-piece pivoted to said bracket, and a spring fixed to said bracket and operating to retain said trip-piece both in its operative and inoperative positions, as set forth.

3. A brake for motor-cycles, comprising an L-shaped lever, a laterally-adjustable shoe mounted on one end of said lever, a friction-block carried by said shoe, a swiveling bracket adapted to be clamped to the frame of the cycle to which said lever is pivoted, a bracket adjustably mounted on the other end of said lever, a transversely-arranged trip-piece pivoted to said bracket, a spring fixed to said bracket and operating to retain the said trip-piece both in its operative and inoperative positions, a clip adapted to be attached to one of the members of the frame of the cycle, and a spring connecting the forward end of the lever with said clip so that it operates to keep the brake in its inoperative position, as set forth.

804,217. **KEY FOR KEYING RAILWAY-RAILS TO CHAIRS.** JOHN A. COLQUHOUN, Calcutta, India. Filed Oct. 6, 1904. Serial No. 227,431.



Claim.—1. The combination in means for securing railroad-rails of two separable parts adapted to face one another and having respectively on their opposing faces raised surfaces staggered with regard to one another and a wedge adapted to be driven between said surfaces and to be bent in an undulatory manner between said raised surfaces.

2. The combination in a railway-key of two separable pads having on their opposing faces raised surfaces staggered with regard to one another, and a wedge adapted to be driven between said pads and to be bent thereby in an undulatory manner between said raised surfaces.

3. The combination in a railway-key of two separable pads having on their opposing faces raised surfaces staggered with regard to one another and a wedge adapted to be driven between said pads and to be bent thereby in an undulatory manner between said raised surfaces, the one pad having flanges engaging the other pad.

4. The combination in a railway-key of two separable pads having on their opposing faces raised surfaces staggered with regard to one another and a wedge adapted to be driven between said pads and to be bent thereby in an undulatory manner between said raised surfaces, the said pads having flanges adapted to engage the rail-chair.

804,218. **GYMNASTIC APPARATUS.** RICHARD FIEDLER, Berlin, Germany. Filed Dec. 21, 1903. Serial No. 186,066.

Claim.—1. The combination with two frames, of pulleys *r r* journaled on the same axis near the apex of said frames, guide-pulleys *o o* thereon on the same axis rearward and beneath said pulleys *r r*, a band *s* passing over said pulleys *r* and *o*, a loose weighted pulley suspended in the loop of said band intermediate of the pulleys *o o* and stirrups attached respectively to the two extremities of said band *s*.

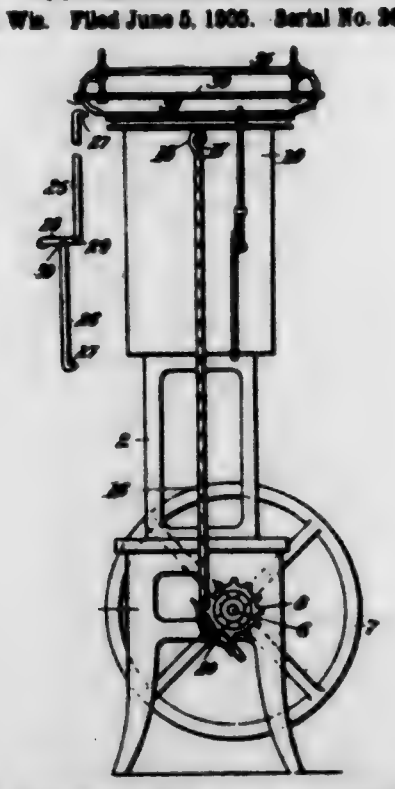
2. The combination with two frames comprising inclined forward members g^2 and rearward members having inclined portions g' and substantially vertical portions g^3, of pulleys r r journaled in the same axis near the apex of said frame, guide-pulleys o o thereon on the same axis rearward and beneath said pulleys r r a band z passing over said pulleys r and o, a loose weighted pulley suspended in the loop of said band intermediate of the pulleys o o and stirrups attached respectively to the two extremities of said band z.



3. The combination with two frames of pulleys r r journaled on the same axis near the apex of said frames guide-pulleys o o thereon on the same axis rearward and beneath said pulleys r r, a band z passing over said pulleys r and o, a loose weighted pulley suspended in the loop of said band intermediate of the pulleys o o and stirrups attached respectively to the two extremities of said band z, together with two independent cords z' z' having hooks at one end and handles at the other, loose weighted pulleys suspended in loops of said cords z' z' and pulleys for said cords.

4. The combination with two frames of pulleys r r journaled on the same axis near the apex of said frames, guide-pulleys o o thereon on the same axis rearward and beneath said pulleys r r, a band z passing over said pulleys r and o a loose weighted pulley suspended in the loop of said band intermediate of the pulleys o o and stirrups attached respectively to the two extremities of said band z together with two independent cords z' z' having hooks at one end and handles at the other, loose weighted pulleys suspended in loops of said cords z' z' and pulleys for said cords, comprising a pair r' r' on the same axis as pulleys r r and a pair r^3 r^3 at the base of the frames.

804,219. **BUTTER-CUTTING MACHINE.** MATHIAS C. OBEL, Milwaukee, Wis. Filed June 5, 1905. Serial No. 263,713.



Claim.—1. The combination of a frame provided with a standard; a table mounted on said standard; a shaft mounted in the frame; and a butter-cutting frame provided with suitable crossed wires for separating the butter; together with open-ended boxes for containing the butter; and detachable flexible connections for communicating motion from said shaft to the butter-cutting frame; said table being adapted to enter the open-ended box.

2. The combination of a main frame; a table connected therewith; an open-ended box adapted to receive the table; a movable frame adapted to be adjusted to one end of the box, and provided with butter-cutting wires extending from one side of the butter-cutting frame to the other; winding mechanism on the main frame, and connections between said winding mechanism and the butter-cutting frame.

3. In a device of the described class; an auxiliary cutting device for separating the butter along longitudinal planes, comprising a frame; a gage-plate adjustably connected therewith; and a wire extending transversely from one side of the frame to the other below the gage-plate.

4. In a device of the described class; an auxiliary cutting device for separating the butter along longitudinal planes, comprising a frame; a gage-plate adjustably connected therewith; and a wire extending transversely from one side of the frame to the other below the gage-plate; together with means for adjusting the gage-plate vertically on said frame.

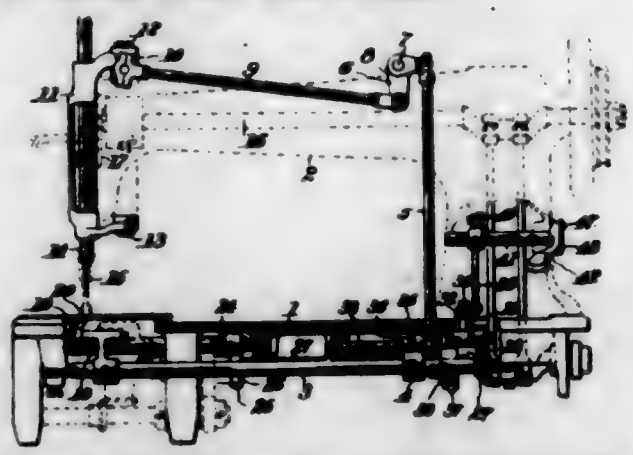
5. In a device of the described class; an open-ended box; a removable bottom for said box; and spring-latches connected with the bottom and adapted to engage suitable notches in the sides of the box.

6. In a device of the described class; the combination of a frame; a table carried thereby; a box in which said table is adapted to enter; means for forcing said box longitudinally over said table; and a butter-cutting frame provided with cross-wires adapted to separate the butter as the box is withdrawn therefrom; said frame being arranged to move with the box.

7. In a device of the described class; the combination of a frame; a table carried thereby; a box in which said table is adapted to enter; means for forcing said box longitudinally over said table; and a butter-cutting frame provided with cross-wires adapted to separate the butter as the box is withdrawn therefrom; said frame being arranged to move with the box; and said table being provided with cross-channels adapted to receive the butter-cutting wires when the butter is completely separated.

8. The combination of an open-ended box; a frame adjustable thereto and provided with suitable cross-wires; and a clamping device comprising hook-shaped members adapted to engage the frame and box respectively; and a connecting-lever pivoted to the respective members at different points, and adapted, when swung, to cause said members to approach each other.

804,220. **SEWING-MACHINE FEEDING MECHANISM.** CHARLES F. GRAY, Bridgeport, Conn., assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Mar. 28, 1904. Serial No. 200,184.



Claim.—1. In a sewing-machine, a combined reciprocating and vibrating needle mechanism, and an under-feed mechanism coöperating to effect the feed of the work while the needle is in the work, said under-feed mechanism including a feed-dog provided with a complemental needle-hole.

2. In a sewing-machine, a combined reciprocating and vibrating needle mechanism, and an under-feed mechanism coöperating to effect the feed of the work while the needle is in the work, said needle mechanism including a plurality of needles and said under-feed mechanism including a feed-dog provided with as many needle-holes as there are needles.

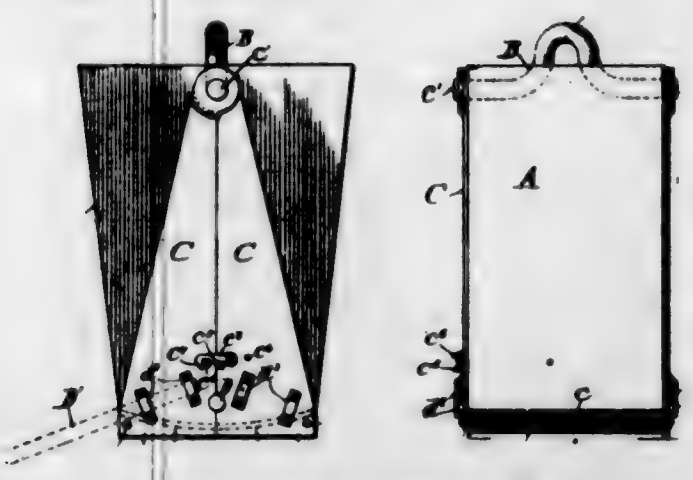
3. In a sewing-machine, a needle-bar and needle, means to reciprocate them vertically, a gate in which the needle-bar is mounted,

means to move said gate transversely to the vertical movements of the needle-bar, a feed-dog provided with a needle-hole and means for actuating said feed-dog, combined with adjusting means common to both the needle-carrying gate and feed-dog for conjointly effecting a like amplitude of feed movement of the needle and feed-dog while the needle is in the material, substantially as described.

4. In a sewing-machine, a combined reciprocating and vibrating needle mechanism, said needle mechanism including a plurality of needles, an under-feed mechanism including a feed-dog provided with as many needle-holes as there are needles, said needle mechanism and under-feed mechanism coöperating to effect the feed of the material while the needles are in the goods, combined with adjusting means common to both the needles and feed-dog actuating mechanism for conjointly effecting a like amplitude of feed movements of the needles and feed-dog, substantially as described.

5. In a sewing-machine, a needle and means to impart to it reciprocating and vibrating movements, combined with an under-feed mechanism having a feed-dog provided with a needle-hole with which the needle coacts to assist the feed of the material when the feed-dog and needle are actuated to feed the material.

804,221. BOTTOM-DUMPING AND HANDLING BUCKET. PETER C. HAINS, Jr., Washington, D. C. Filed Aug. 14, 1905. Serial No. 274,073.



Claim.—1. A bottom-dumping concrete-handling bucket comprising a body portion, a bottom closure pivotally connected to said body portion, said bottom closure being provided with means for sustaining the bucket upon a support.

2. A bottom-dumping bucket comprising a body portion, a bottom closure pivotally connected to said body portion, and adapted to swing transversely thereof to dump all or a part of the bucket contents, and flanges connected to said bottom closure for sustaining the bucket upon a support.

3. A bottom-dumping bucket comprising a body portion, doors pivotally connected to the body portion and provided with bottom plates, said doors having extensions projecting beyond the bottom plates for sustaining the bucket upon a support.

4. A bottom-dumping bucket comprising a body portion, doors pivotally connected to the body portion and provided with bottom plates, said doors having extensions projecting beyond the bottom plates for sustaining the bucket upon a support and means for locking the doors in closed position.

5. A bottom-dumping bucket comprising a body portion, two doors pivotally connected to the body portion at the same pivotal point and having bottom plates, and a base connected to said doors for sustaining the bucket upon a support.

6. A bottom-dumping concrete-handling bucket, comprising a body portion, a bottom closure pivotally connected to said body portion, said bottom closure being provided with means for sustaining the bucket upon a support, and a steadying-pin secured to the body portion to prevent relative movement between the body portion and closure when the bucket is sustained upon a support.

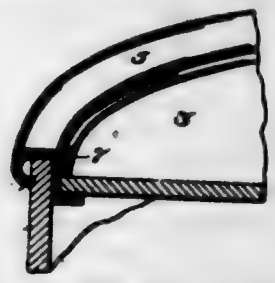
7. A bottom-dumping bucket comprising a body portion, two doors pivotally connected to the body portion at the same pivotal point and having bottom plates, a steadying-pin secured to the body portion and adapted to be engaged by said doors to prevent relative movement of such body portion and doors when the bucket is sustained upon a support, and a base connected to said doors for sustaining the bucket upon a support.

8. A bottom-dumping bucket comprising a body portion, a handling or suspending bail secured thereto and having extended ends, doors provided with bottom plates and hung upon the extended ends of said bail, whereby when the bucket is suspended the weight of material therein is transmitted direct from the bottom of the bucket to the suspending means.

9. A bottom-dumping bucket comprising a body portion, a handling or suspending bail secured thereto and having extended ends, doors provided with bottom plates and hung upon said extended ends, said doors having a base portion projecting beyond the bottom plates to sustain the bucket on a support.

10. A bottom-dumping bucket comprising a body portion, doors comprising side plates and a bottom plate uniting said side plates, said side plates being pivotally connected to the body portion and having portions extending beyond the bottom plates to provide a base for sustaining the bucket upon a support.

804,222. CONTAINER. JERVIS B. HARBECK, Detroit, Mich., assignor to Gem Fibre Package Company, Detroit, Mich., a Corporation of Michigan. Filed Oct. 3, 1904. Serial No. 226,940.



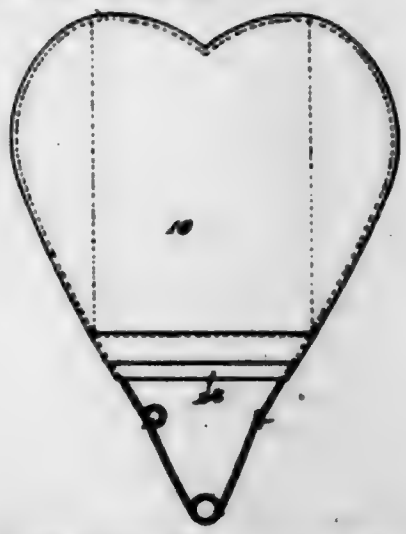
Claim.—1. In a container, the combination of a cylindrical fibrous body, a flat circular fibrous head, a split ring of sheet metal formed with two grooves to receive one edge of the body and the edge of the head, the metal of the grooves being pressed into the fibrous material of the head and body to form an engagement sufficiently strong to secure the body and head together.

2. In a container, the combination of a cylindrical body, a flat circular head, and a loop of sheet metal shaped to form continuous grooves at right angles to each other into which the edges of the head and the body may extend.

3. In a container, the combination of a body, a flat circular head, and a fastener comprising a ledge for the head to rest upon, a continuous flange extending over the edge of the head and an upwardly, outwardly and downwardly extending portion bent around the edge of the body of the container.

4. In a container, the combination of a cylindrical body, a circular head, and a strip of metal bent to form an annular fastener having grooves at right angles to each other to receive the edge of the head and the upper edge of the body, the metal of the fastener being firmly compressed around the edges of the head and body.

804,223. FAN. WILLIAM A. HARRISON, New York, N. Y. Filed Apr. 26, 1905. Serial No. 257,408.



Claim.—1. A fan comprising a pair of arms integrally connected at their ends by a spring arranged to cause divergence thereof, a flexible member attached to the arms and held taut by them when diverged, and an integral part on one arm arranged to engage the other arm to hold the arms closed.

2. A fan comprising a pair of arms integrally connected at their ends by a spring arranged to cause divergence thereof, a flexible member attached to the arms and held taut by them when diverged, and an integral part on each arm arranged to coöperate to hold the arms closed.

3. A fan comprising a pair of arms integrally connected at their

ends by a spring arranged to cause divergence thereof, a flexible member attached to the arms and held taut by them when diverged, and a detent fast on one arm at its connecting end portion and arranged to engage the other arm and retain them in closed position.

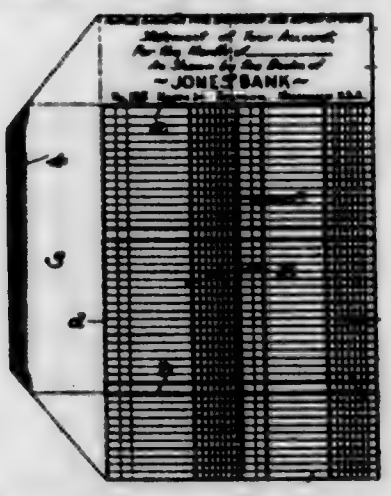
4. A fan comprising a pair of arms integrally connected at their ends by a spring arranged to cause divergence thereof, a flexible member attached to the arms and held taut by them when diverged, and an integral part on one arm arranged to engage the other arm to hold the arms closed, the outer ends of the arms being curved inward toward each other.

5. A fan comprising a pair of arms connected at their ends to open and close, a spring arranged to cause divergence of the arms, a flexible member attached to the arms and held taut by them when open, a loop on one arm extending toward the other arm, and a detent on the other arm extending transverse to the plane of the arms and arranged to engage said loop when the arms are closed and retain them in such position.

6. A fan comprising a pair of arms integrally connected at their ends by a coil-spring arranged to cause divergence of the arms, a piece of fabric attached to the arms and held taut by them when open, an integral loop on one arm extending toward the other arm, and an integral detent on the other arm extending transverse to the plane of the arms and arranged to engage such loop when the arms are closed and retain them in such position.

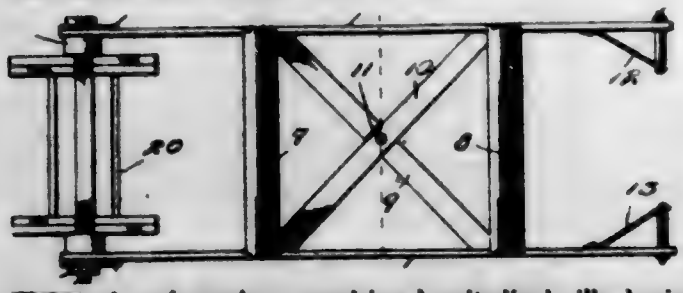
7. A fan comprising a pair of arms integrally connected at their ends by a spring arranged to cause divergence of the arms, and a piece of fabric attached to the arms and arranged to be held taut by them when diverged, an integral loop on one arm extending toward the other arm, an integral loop on the other arm extending transverse to the plane of the arms and arranged to engage said loop when the arms are brought together and retain them in such position.

804,224. COMBINED STATEMENT-BLANK AND ENVELOP. MAGE HARWELL, Quanah, Tex. Filed Apr. 7, 1904. Serial No. 202,063.



Claim.—A combined statement-blank and envelop comprising a rectangular body, one edge being provided with a sealing-flap extending throughout the entire length of the blank, and the two ends of the blank being provided with flaps, the upper one of which constitutes a heading for the body and extends into the sealing-flap, and the lower one of which also extends into the sealing-flap, the end flaps being adapted to be folded transversely of the body to form the ends of the envelop, and to include the terminal portions of the sealing-flap, and one side of the body being adapted to be folded longitudinally of its length upon the inturned end flaps to complete the envelop.

804,225. REEL-CARRIER. HENRY HEGLUND, North Valley, Wis. Filed Oct. 19, 1904. Serial No. 229,117.



Claim.—A reel-carrier comprising longitudinal sills having bearings at their forward ends, an axle engaged in the bearings and designed to receive a reel, transverse braces connected to the sills, diagonal braces secured with their ends against the inner faces of the sills and against the end faces of the transverse braces, the said diagonal braces crossing each other and connected together at their point of intersection, members secured to the inner sides of the sills and each extending rearwardly and divergently of the corresponding sill, a hand-grip disposed between each of said members and the inner side of the corresponding sills, and means piercing the sills and said members for securing said hand-grips therebetween.

804,226. HORSESHOE. HERMANN HENKEL, Düsseldorf, Germany. Filed June 29, 1905. Serial No. 267,660.



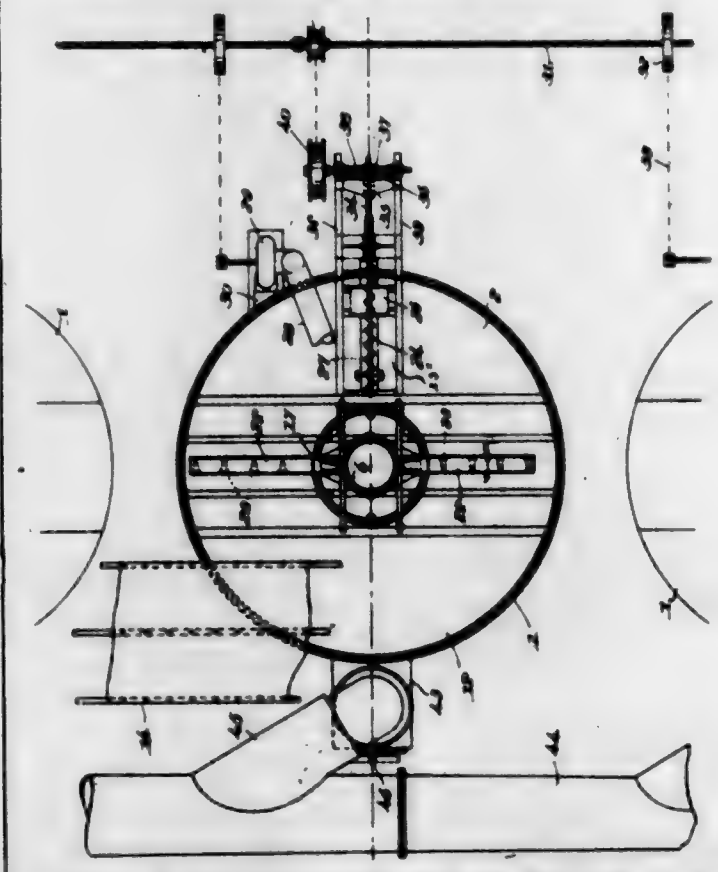
Claim.—1. The combination with a horseshoe of a volute spring secured in suitable grooves in the arms of the shoe, and an elastic bottom plate, beneath the said shoe, adapted to pass between the two arms by the action of the spring, substantially as described and for the purposes set forth.

2. The combination with a horseshoe of an elastic plate of any suitable material terminating in a tongue on one end by which it is secured in a suitable recess in the shoe near the toe, while the other end is spirally bent forming a sleeve, a removable bolt inclosed by the said sleeve and connecting with each other the two arm ends of the horseshoe, and a volute spring secured between the arms of the said shoe and supported by the said elastic plate, substantially as described and for the purposes set forth.

3. The combination of a horseshoe with an elastic bottom plate supporting a volute spring as herein described and claimed, the said bottom plate being provided with a lining of any suitable material preventing the gliding of the hoof on a slippery road, substantially as set forth.

4. A horseshoe provided with a depending volute spring arranged between and engaging both shanks of the shoe, and with a bottom plate engaged by said spring, substantially as specified.

804,227. MECHANICAL ROASTING OR DESULFURIZING FURNACE. HENRY HOWARD, Brookline, Mass., assignor to Merrimac Chemical Company, North Woburn, Mass., a Corporation of Massachusetts. Filed Apr. 11, 1905. Serial No. 255,085.



Claim.—1. In a furnace of the class described, a drying-chamber mounted thereon to receive and dry the material to be treated, manually-controlled means to directly introduce waste heat from the furnace into the drying-chamber and subject the contents thereof to the action of such heat, an agitating device within the chamber, and means to positively feed the dried material from the chamber into the interior of the furnace.

2. In a furnace of the class described, an upright, rotatable, tubular air-shaft extended through the top arch, a partially-closed dry-

ing-chamber on the arch to receive the material to be treated, means to introduce hot air from the shaft to said chamber, to dry the contents thereof, means to agitate and distribute the material introduced into the chamber, and a device to positively feed the dried material to the interior of the furnace.

3. In a furnace of the class described, a rotatable, tubular air-shaft having attached stirrer-arms, a partially-closed drying-chamber on the top arch of the furnace, to receive and dry the material to be treated, means to introduce hot air from said shaft into the chamber, a feed-duct adjacent the bottom of the chamber and opening into the interior of the furnace, and a device to positively force the dried material through the said duct into the furnace.

4. In a furnace of the class described, a central tubular air-shaft having attached stirrer-arms, a partially-closed drying-chamber superposed upon the top arch of the furnace, to receive the material to be treated, stirrers carried by the shaft to agitate and spread the incoming material in said chamber, a feed-duct within the latter below the paths of the stirrers and opening into the furnace, a feed-screw in the duct to positively force the dried material from the chamber into the furnace, a deep bed of hot material being maintained upon the top arch, and means to introduce into the drying-chamber the hot air from the tubular shaft.

5. In a furnace of the class described, a drying-chamber upon the top arch thereof, to receive the material to be treated, a tubular, rotatable shaft extended up through the furnace and said chamber, stirring means within the chamber and carried by the shaft, means to convey the hot air from the upper end of the shaft into the chamber, to dry the contents thereof, the chamber having an outlet for the heated air, and positively-acting feeding means within the chamber to force the dried material therefrom into the furnace.

6. In a mechanical roasting-furnace of the class described, a closed drying-chamber superposed upon the top arch thereof, to receive the material to be treated, an upright, central, tubular rotatable shaft extended through the furnace and chamber, a stationary stack communicating with the upper end of the shaft, means to conduct the hot air from the stack and force it into the chamber through its side wall, a coupling on the shaft within the chamber, radial arms attached thereto and carrying depending stirrers to agitate and distribute the incoming material, a feed-duct in the chamber below the paths of movement of said stirrers and opening into the furnace through the top arch, and a feed-screw in said duct to positively force the dried material from the chamber into the furnace.

7. In a mechanical roasting-furnace of the class described, a closed drying-chamber superposed upon the top arch thereof, to receive the material to be treated, an upright, rotatable air-conducting shaft extended through the furnace and chamber, means to force hot air from said shaft into the chamber, to dry the contents thereof, a feed-duct near the bottom of the chamber and opening into the furnace through the top arch, a positively-driven feed-screw in the duct to force the dried material through the duct into the furnace, and means within the chamber to stir the material and conduct it to the entrance of the feed-duct.

804,228. **WINDOW HOLDING AND ANTIRATTLING DEVICE.** JOHN B. HUNT, Trenton, N. J. Filed May 3, 1905. Serial No. 258,575.



Claim.—1. A holding and antirattling device for windows and the like comprising a spiral spring-shank, the outer end of which terminates in a yoke arranged in a plane parallel to the longitudinal axis of the spiral spring-shank, and an antifriction device mounted on said yoke, said yoke and shank being formed of a single piece of material.

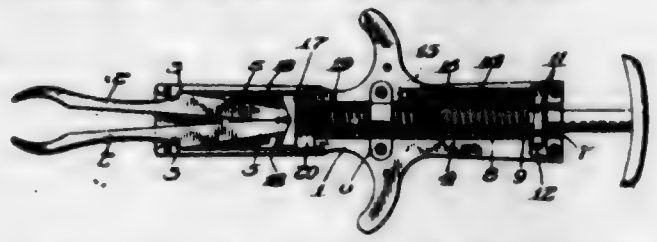
2. A holding and antirattling device for windows and the like comprising a spiral spring-shank, the outer end of which terminates in a yoke, and an antifriction device mounted on said yoke, said yoke being integral with the spring-shank at one end and abutting a part thereof at the opposite end.

3. A holding and antirattling device for windows and the like comprising a spiral spring the inner end of which is bent into a plane at right angles to the longitudinal axis of the spiral spring, and the outermost convolution of which terminates in a yoke arranged in a plane parallel to the longitudinal axis of the spiral spring and within the planes of the sides of the spiral spring, and a roller mounted on said yoke.

4. A holding and antirattling device for windows comprising a spiral spring the inner convolution of which is bent into a plane at right angles to the longitudinal axis of the shank, and the outermost convolution of which terminates in a yoke, and a roller mounted in said yoke, and the end of the free arm of the yoke abutting the surface of said outermost convolution.

5. A holding and antirattling device for windows and the like comprising a spiral spring-shank, the outer end of which terminates in a yoke arranged in a plane parallel to the longitudinal axis of the spiral spring-shank and a roller mounted on the cross-bar of the yoke, said yoke and shank being formed of a single piece of material.

804,229. **FORCEPS AND THE LIKE.** THOMAS C. HUTCHINSON, Decorah, Iowa. Filed July 27, 1904. Serial No. 218,426.



Claim.—1. A device of the kind described, comprising a stock, a pair of opposing arms pivotally and detachably supported upon said stock near one end thereof by means of bosses formed upon the arms at a point between their ends engaging with inwardly-opening hook-shaped recesses formed in said stock, and a movable block resiliently pressed against the inner ends of said arms, tending to prevent the disengagement of the arms from said stock, in combination with means for controlling the lateral movements of the arms.

2. A device of the kind described, comprising a stock, and a pair of opposing arms pivotally supported at a point between their ends upon said stock near one end thereof, in combination with a longitudinally-slidable wedge-bar having one end positioned between the inner ends of said arms and means for sliding said bar, whereby upon operating the wedge-bar the outer ends of the arms will be forced toward each other.

3. A device of the kind described, comprising a stock, and a pair of opposing arms pivotally supported at a point between their ends upon said stock near one end thereof, in combination with a longitudinally-slidable bar partly contained within the stock and having one end positioned between the inner ends of the arms and the other end projecting from the stock, whereby upon sliding said bar inward the inner ends of the arms are forced apart and the outer or free ends are forced toward each other.

4. A device of the kind described, comprising a stock, and a pair of opposing arms pivotally supported at a point between their ends upon said stock near one end thereof, in combination with a longitudinally-movable wedge-bar partly contained within the stock, and a spring arranged upon said bar tending to normally force the bar outward, the inner end of said bar being positioned between the inner ends of said arms, whereby upon forcing the bar inward the inner ends of the arms are forced apart and the outer ends are forced toward each other.

5. A device of the kind described, comprising a stock and a pair of opposing arms pivotally supported at a point between their ends upon said stock near one end thereof, in combination with a longitudinally-movable wedge-bar partly contained in said stock, a stop to limit the outward movement of said bar, and a spring arranged to resiliently force said bar outward, the inner end of said bar being positioned between the inner ends of said arms, whereby upon forcing the bar inward the inner ends of the arms are forced apart and the outer ends are forced toward each other.

6. A device of the kind described, comprising a stock, a pair of opposing arms pivotally supported at a point between their ends upon said stock near one end thereof, in combination with a longitudinally-movable wedge-bar partly contained within said stock, a stop to limit the outward movement of said bar, a spring arranged upon said bar to resiliently force the same outward, an automatic lock arranged to engage said bar in any position and prevent its outward movement, and means for releasing said bar from said lock, the inner end of said bar being positioned between the inner ends of said arms, whereby upon forcing the bar inward the inner ends of the arms are forced apart and the outer ends are forced toward each other.

7. A device of the kind described, comprising a stock, a pair of opposing arms pivotally supported at a point between their ends upon said stock near one end thereof, and a movable block resiliently pressed against the inner ends of the arms presenting an inclined surface to each arm, whereby the arms are pressed longitudinally of the stock and their inner ends are pressed toward each other, in combi-

nation with a longitudinally-movable wedge-bar partly contained within the stock, having one end positioned between the inner ends of said arms whereby upon forcing said bar inward the inner ends of the arms are forced apart and the outer ends are forced toward each other.

8. A device of the kind described, comprising a stock, a pair of opposing arms pivotally supported at a point between their ends upon said stock near one end thereof, and a movable block resiliently pressed against the inner ends of the arms provided with an inclined surface contacting with the outer face on the end of each arm, whereby the arms are normally pressed longitudinally of the stock and their inner ends are pressed toward each other, in combination with a longitudinally-movable wedge-bar partly contained within the stock, and a spring arranged to force said bar outward, the inner end of said bar being positioned between the inner ends of said arms whereby upon forcing the bar inward the inner ends of the arms are forced apart and the outer ends are forced toward each other, and upon retracting the bar the arms will assume the reverse position.

9. A device of the kind described, comprising a stock, a pair of opposing arms pivotally supported at a point between their ends upon said stock near one end thereof, and a movable block resiliently pressed against the inner ends of the arms, presenting an inclined surface to the outer face on the end of each arm, whereby the arms are normally pressed longitudinally of the stock and their inner ends are pressed toward each other, in combination with a longitudinally-movable wedge-bar partly contained within the stock, a stop to limit the outward movement of said bar, and a spring arranged to normally force said bar resiliently outward, the inner end of said bar being positioned between the inner ends of said arms whereby upon forcing the bar inward the inner ends of the arms are forced apart and the outer ends are forced toward each other, and upon releasing said bar the arms will assume the reverse position.

10. A device of the kind described, comprising a stock, a pair of opposing arms pivotally supported at a point between their ends upon said stock near one end thereof, and a movable block resiliently pressed against the inner ends of the arms, presenting an inclined surface to the outer face on the end of each arm, whereby the arms are normally pressed longitudinally of the stock and their inner ends are pressed toward each other, in combination with a longitudinally-movable wedge-bar partly contained within the stock, a stop to limit the outward movement of said bar, a spring arranged upon said bar to resiliently force the same outward, an automatic lock arranged to engage and retain said bar in any desired position and prevent its outward movement, and means for releasing said bar from said lock, the inner end of the bar being positioned between the ends of said arms, whereby upon forcing the bar inward the inner ends of the arms are forced apart and the outer ends are forced toward each other, and temporarily locked in such position, and upon releasing the lock the parts will automatically assume their normal positions.

11. In a device of the kind described, the stock provided with shoulders near one end thereof for pivotally and detachably engaging a pair of opposing members therewith, in combination with a pair of opposing levers adapted to be positioned within the stock provided with means between their ends for pivotally and detachably engaging said shoulders, and means for controlling the movement of the inner ends of the levers.

12. In a device of the kind described, an arm provided with a boss formed at a point between its ends, adapted to coöperate with a recess formed in a stock for pivotally and detachably engaging said arm with said stock.

13. A device of the kind described, comprising a stock, and a pair of arms pivotally supported at a point between their ends near one end of the stock and detachable therefrom, in combination with a longitudinally-movable wedge-bar positioned in the other end of the stock with its inner end between the inner ends of the arms whereby upon forcing said bar inward the inner ends of the arms are forced apart and the outer or free ends are forced toward each other.

14. A device of the kind described, comprising a stock, a pair of opposing arms pivotally and detachably supported upon said stock near one end thereof by means of bosses formed upon the arms at a point between their ends engaging with inwardly-opening hook-shaped recesses formed in said stock, and a movable block resiliently pressed against the inner ends of said arms, tending to prevent the disengagement of the arms from said stock, in combination with a longitudinally-movable wedge-bar partly contained within the stock, with its inner end positioned to slide between the inner ends of said arms, and a spring tending to force said bar outward.

15. A device of the kind described, comprising a stock formed with laterally-projecting finger-grips, and a pair of opposing arms pivotally supported at a point between their ends upon said stock, in combination with a longitudinally-slidable wedge-bar having one end positioned between the inner ends of said arms and means for sliding said bar.

16. A device of the kind described, comprising a stock, and a pair of arms pivotally supported at a point between their ends near one end of the stock and detachable therefrom, in combination with a longitudinally-movable wedge-bar partly contained within said stock, a stop to limit the outward movement of said bar, and a spring arranged to normally tend to resiliently force said bar outward, the inner end of the bar being positioned between the inner ends of said arms, whereby upon forcing the bar inward the inner ends of the arms are forced apart and the outer ends are forced toward each other.

17. A device of the kind described, comprising a stock, a pair of arms pivotally and detachably supported upon said stock near one end thereof by means of bosses formed upon the arms at a point between their ends engaging with inwardly-opening hook-shaped recesses formed in the stock, and a movable block provided with inclined faces, resiliently pressed against the inner ends of the arms, tending to prevent the disengagement of the arms from said stock and also to force the inner ends of the arms toward each other, in combination with means for controlling the lateral movements of the arms.

18. A device of the kind described, comprising a stock, a pair of arms pivotally and detachably supported upon said stock near one end thereof by means of bosses formed upon the arms at a point between their ends engaging with inwardly-opening hook-shaped recesses formed in the stock, and a movable block provided with inclined faces, resiliently pressed against the inner ends of the arms, tending to prevent the disengagement of the arms from the stock and also to force the inner ends of the arms together, in combination with a longitudinally-movable wedge-bar partly contained within the stock, with its inner end extending through said block and positioned to slide between the inner ends of said arms.

19. A device of the kind described, comprising a stock provided at one end with means for detachably and pivotally supporting a pair of arms at a point between their ends, at the other end with a longitudinally-movable wedge-bar provided with a stop to limit the outward movement thereof, a spring arranged upon said bar to resiliently force the same outward, an automatic lock arranged to engage said bar in any position and prevent its outward movement, means for releasing said bar from said lock, and a movable block arranged within the stock resiliently pressed against the inner ends of the arms presenting an inclined surface to the outer face of the end of each arm, whereby the arms are normally pressed longitudinally of the stock and their inner ends are pressed toward each other, in combination with a plurality of interchangeable pairs of opposing arms each pair adapted to be pivotally and detachably supported in the end of the stock with their inner ends embracing the inner end of the wedge-bar, whereby upon forcing said bar inward the inner ends of the arms are forced apart and the outer ends are forced toward each other.

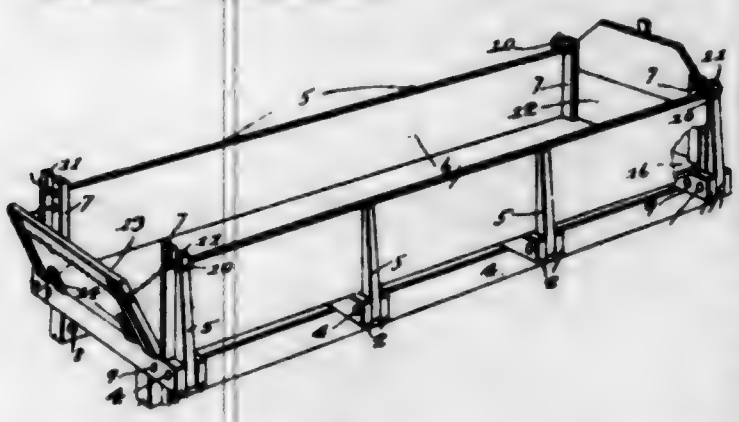
20. In a device of the kind described, the stock provided at one end with a pair of oppositely-disposed and inwardly-extending hook-like shoulders, in combination with a pair of opposing arms comprising a pair of levers partly extending into the stock and provided with corresponding shoulders located at a point between their ends, whereby the arms may be loosely and pivotally engaged with the shoulders, and means for controlling the movement of the inner ends of the levers.

21. A device of the kind described, comprising a stock, a pair of arms pivotally and detachably supported upon said stock near one end thereof by means of bosses formed upon the arms at a point between their ends engaging with inwardly-opening recesses formed in said stock, and a movable block resiliently pressed against the inner ends of the arms tending to prevent the disengagement of the arms from said stock, in combination with a longitudinally-movable wedge-bar partly contained within the stock, with its inner end positioned to slide between the inner ends of the arms, a spring tending to force said bar outward, and a lock to prevent the outward movement of said bar.

22. A device of the kind described, comprising a stock, a pair of arms pivotally and detachably supported upon said stock near one end thereof by means of bosses formed upon the arms at a point between their ends engaging with inwardly-opening hook-shaped recesses formed in the stock, and a movable block provided with inclined faces, resiliently pressed against the inner ends of the arms, tending to prevent the disengagement of the arms from the stock and also to force the inner ends of the arms together, in combination

with a longitudinally-movable wedge-bar partly contained within the stock, with its inner end positioned to slide between the inner ends of the arms, a spring tending to force said bar outward, and a lock to prevent the outward movement of said bar.

804,230. WAGON-BODY. GEORGE R. HYSON, Paola, Kans. Filed Mar. 17, 1905. Serial No. 250,627.



Claim.—1. A wagon-body including a pair of longitudinal sills, cross-pieces disposed in pairs on said sills, side members having stakes extending between the projecting ends of said cross-pieces, means for connecting one of each pair of cross-pieces securely with the sills, means for connecting the cross-pieces of each pair with each other, and stakes pivoted upon the connecting means.

2. In a wagon-body, a frame including a pair of longitudinal sills, pairs of cross-pieces supported at intervals upon said sills, corner-posts or uprights extending between the pairs of cross-pieces at the ends of the sills adjacent to the outer sides of the latter, and means for securing said uprights to the sills and between the cross-pieces.

3. In a wagon-body, a frame including a pair of longitudinal sills, cross-pieces supported at intervals upon said sills, corner-posts or uprights extending between the pairs of cross-pieces at the ends of the sills adjacent to the outer sides of the latter, and means for securing said uprights to the sills and between the cross-pieces, in combination with side members having stakes extending between the projecting ends of the cross-pieces, and connecting-bolts pivotally engaging said stakes.

4. A pair of sills, pairs of cross-pieces supported thereon and having projecting ends, uprights secured between the cross-pieces and to the outer sides of the sills at the four corners of the frame, and side members having stakes supported pivotally between the projecting ends of the pairs of cross-pieces, said side members being provided with means adapted to be engaged by fastening devices for securing them in an upright or folded position.

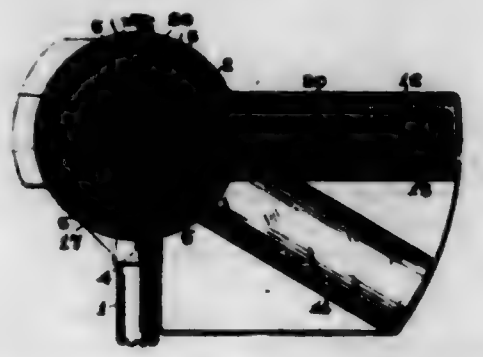
5. A pair of sills, pairs of cross-pieces supported thereon and having projecting ends, uprights secured between the cross-pieces and to the outer sides of the sills at the four corners of the frame, clevises at the upper ends of said uprights, and side members having stakes supported pivotally between the projecting ends of the pairs of cross-braces; the stakes at the ends of the side members being extended beyond the free edges of said side members and adapted for engagement with the clevises at the upper ends of the uprights.

6. A frame comprising a pair of sills and a plurality of pairs of cross-pieces supported thereon and having ends projecting beyond said sills, and side members having stakes supported pivotally between the projecting ends of the cross-pieces; in combination with flooring upon the cross-pieces, a supporting-bar adapted to rest upon the sills between the cross-pieces and beneath the flooring and having slightly-inclined ends extending in the path of and adapted to support the hinged side members.

7. A wagon box or body comprising a pair of longitudinal sills, pairs of cross-pieces supported upon said sills, one cross-piece of each pair being connected with its mate and the other with the sill, and side members having stakes extending between the cross-pieces and pivotally engaging the bolts connecting the latter.

8. A wagon box or body comprising a pair of longitudinal sills, pairs of cross-pieces supported upon said sills, corner-posts or uprights secured between the uprights and to the sills at the four corners of the frame, side members having stakes extending between and pivotally connected with the projecting ends of the pairs of cross-pieces, means for connecting the side members, when in raised position with the corner-posts, a front gate, a tail-gate connected hingedly with the rearmost cross-piece, and means for sustaining said tail-gate in adjusted position.

804,231. RAILWAY-SIGNAL. JOSEPH IRWIN, St. Louis, Mo. Filed Jan. 21, 1905. Serial No. 242,157.



Claim.—1. A railway-signal comprising a casing, different-colored glasses arranged in alternating series in said casing, movable blades in front of said glasses for alternately covering and exposing the different-colored glasses, a switch-blade movable with the first-named blades, a lamp behind said glasses, and reflectors for reflecting the rays of light onto the switch-blade; substantially as described.

2. A railway-signal comprising a casing, different-colored glasses arranged in alternating, circular series, radial switch-blades spaced apart and movable to alternately expose one set of glasses and cover the other set, a switch-blade movable with the first-named blades, a lamp behind the glasses and within the casing, and a reflector for reflecting the rays of light onto the switch-blade; substantially as described.

3. A railway-signal comprising a casing, a frame in said casing containing sectors of differently-colored glass, movable blades in front of said frame for alternately covering and exposing the differently-colored sectors, a switch-blade 15, a lamp behind said frame, and reflectors for reflectng the rays of light onto the blade 15; substantially as described.

4. A railway-signal comprising a casing, a frame having differently-colored sectors, a rock-shaft carrying blades for exposing or covering the sectors of one color, a blade 15, a lamp behind the frame of colored sectors, reflectors for reflecting the rays of light from said lamp onto said blade 15, an electric magnet, and means whereby when said magnet is energized said blades are moved; substantially as described.

5. A railway-signal comprising a casing 2 having a lateral extension 12, a frame in the casing 2 having colored sectors 5 and 6, blades 8 coöperating with said sectors, a blade 15 operating in the lateral extension 12, and panels in said lateral extension for exposing the blade 15 in its different positions; substantially as described.

6. A railway-signal comprising a casing having an overhanging hood, and glass pendants 20 arranged at the edge of said hood; substantially as described.

7. A railway-signal comprising a casing having an overhanging hood, and a reflector 19 arranged under said hood; substantially as described.

8. A railway-signal comprising a casing, a frame having colored sectors therein, blades 8 which are designed to be moved to expose or cover the sectors of one color, a blade 15 carried by the blades 8, a counterbalance 16 also carried by said blades 8, the blades 8 being so balanced that when free of impelling influence blade 15 will return to an oblique position; substantially as described.

9. A railway-signal comprising a casing 2 having an extension 12, a lamp in said casing 2, a blade operating in said lateral extension, reflectors 21 in the casing 2 for reflecting the rays of light from said lamp onto said blade, glass panels in the extension 12, and reflectors 22 in said extension, said reflectors being arranged along the edges of the glass panels; substantially as described.

10. A railway-signal comprising a casing having a lateral extension, a series of alternately-arranged glass sectors in the casing, one alternating set of glass sectors being more opaque than the others, spaced blades coöperating with the sectors and movable to positions to alternately close one set of sectors and expose the others, a switch-blade operating in the lateral extension, and panels in said lateral extension for exposing the blade in its different positions; substantially as described.

11. A railway-signal comprising a casing having a lateral extension, a series of alternately-arranged glass sectors in the casing, one alternating set of glass sectors being more opaque than the others, spaced blades coöperating with the sectors and movable to positions to alternately close one set of sectors and expose the others, a switch-blade operating in the lateral extension, panels in said lateral extension for exposing the blade in its different positions, a lamp in

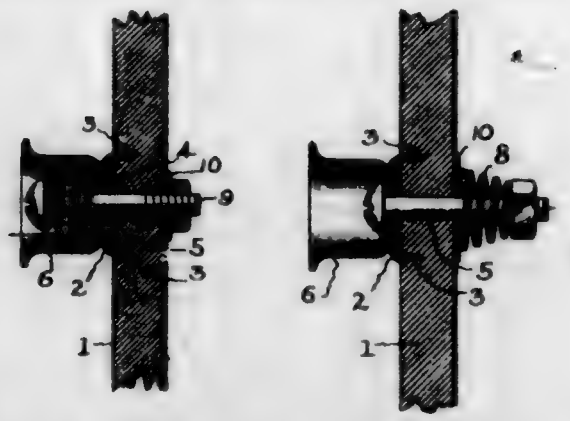
rear of the sectors, and a reflector for reflecting the rays of light onto the switch-blade; substantially as described.

12. A railway-signal comprising a casing having windows, a shutter comprising a plurality of blades coöperating with the windows, a shaft on which the shutter is mounted, a crank-arm depending from the shaft and having a notched end, an electromagnet, an armature engaging the notched end of the crank-arm and adapted to be actuated by the magnet to move the shutter in one position, and a gravitating switch-arm connected to the shutter and adapted to move the shutter in an opposite direction when the magnet is not energized; substantially as described.

13. A railway-signal comprising a casing having a lateral extension, a frame in the casing having colored sectors, blades coöperating with said sectors, a blade operating in the lateral extension, and convex panels in said lateral extension for exposing said blade in its different positions, said blade being exposed from two sides of the lateral extension; substantially as described.

14. A signal comprising a casing, different-colored glass, a shaft in the casing, a shutter mounted on said shaft and adapted to alternately expose the glasses of one color and cover the glass of another color, said shaft being horizontally arranged, a crank-arm on said shaft and provided with a notched end, a perpendicular armature provided with a central pivot, one end of said armature engaging the notched end of the crank-arm, and a magnet for actuating the armature to move the shaft; substantially as described.

804,232. BINDING-POST. FRANK JACKSON, Denver, Colo., assignor to The Jackson Manufacturing Company, Denver, Colo., a Corporation of Colorado. Filed Dec. 14, 1904. Serial No. 236,864.



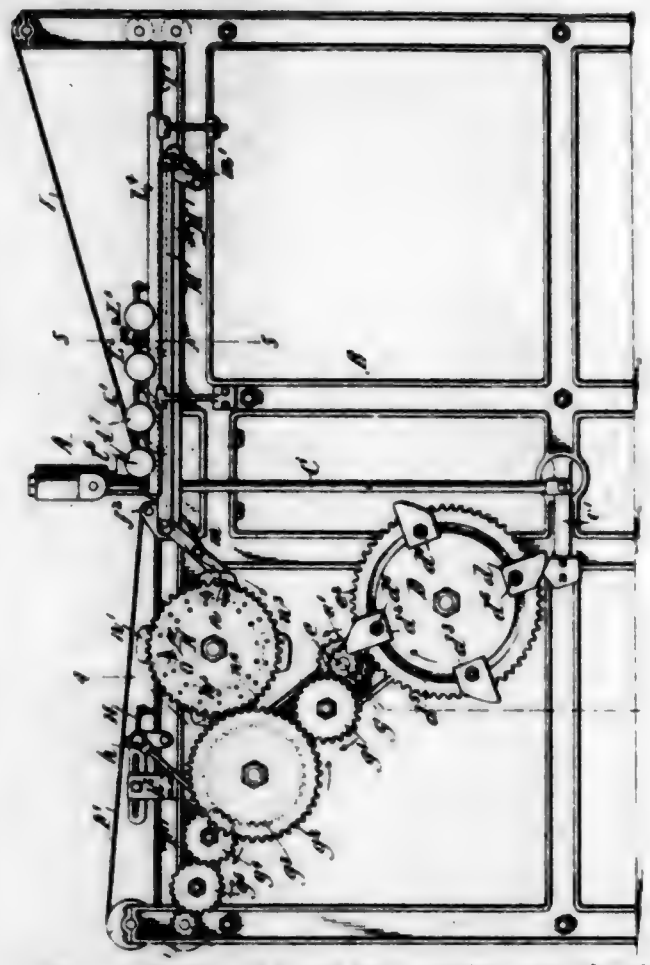
Claim.—1. In a binding-post, the combination with a support, of a dished disk having prongs upon its edge by which it is secured to said support; a thimble, the closed end of which abuts against said disk while its open end is flared; a headed screw which passes through said thimble, disk, and support; a conical coiled spring interposed between the head of said screw and the end of said thimble, and a nut on the end of said screw, by which said spring is held under tension, substantially as shown.

2. In a binding-post, the combination of a thimble having a closed, apertured, end and an open, flared end; a conical, coiled spring in said thimble; a dished disk which is centrally apertured, and provided on its edge with integral prongs; a headed screw which passes through said spring, thimble and disk, and a nut on the end of said screw, substantially as shown.

3. In a binding-post, the combination with a support, of a dished disk having a central aperture, and integral prongs on its edge, by which it is secured to said support; a thimble having an open, flared, end and a closed end which abuts against said disk, said closed end being provided with grooves which cross each other; a conical, coiled, spring in said thimble; a headed screw which passes through said spring, thimble, disk, and support, the shank of said screw being provided with a slot; and a nut on the end of said screw, substantially as shown.

804,233. PERFORATING-MACHINE. RICHARD A. JONAS, New York, N. Y., assignor of one-half to Charles S. Jones, Brooklyn, N. Y. Filed Jan. 9, 1904. Renewed Apr. 17, 1905. Serial No. 255,966.

Claim.—1. The combination of a tool for operating upon the sheet, mechanism for actuating said tool; a continuously-traveling carrier adapted to move the sheets successively past said tool, a movable gage arranged in rear of said tool and adapted to be lowered into the path of the sheets and hold the sheet against the action of the carrier while said tool operates upon the sheet, and a mechanism which holds said gage normally in an elevated position, lowers the gage for stopping the sheet and raises the gage for releasing the sheet, substantially as set forth.



2. The combination of a tool for operating upon the sheets, mechanism for actuating said tool, means for moving the sheets successively past the tool, movable gages arranged one behind the other in rear of said tool, and means for moving said gages successively into and out of the path of the sheets for stopping and releasing the same, substantially as set forth.

3. The combination of a tool for operating upon the sheets, mechanism for actuating said tool, a continuously-traveling carrier adapted to move the sheets successively past the tool, movable gages arranged one behind the other in rear of said tool, and means for moving said gages successively into and out of the path of the sheets for stopping and releasing the same, substantially as set forth.

4. The combination of a tool for operating upon the sheet, mechanism for actuating said tool, means for moving the sheets past said tool, movable gages arranged one behind the other in rear of said tool, means for moving said gages successively into and out of the path of the sheets for stopping and releasing the same, and means for adjusting each gage independently toward and from said tool, substantially as set forth.

5. The combination of a tool for operating upon the sheets, mechanism for actuating said tool, means for moving the sheets past said tool, a rocking gage arranged in rear of said tool, a longitudinal actuating-bar which engages said gage, a rock-lever by which said bar is raised and lowered, and a cam by which said rock-lever is actuated, substantially as set forth.

6. The combination of a tool for operating upon the sheets, mechanism for actuating said tool, means for moving the sheets past said tool, a rocking gage arranged in rear of said tool, a longitudinal actuating-bar which engages said gage, means for raising and lowering said bar for lowering and raising said gage, and means for adjusting the gage lengthwise with reference to said bar, substantially as set forth.

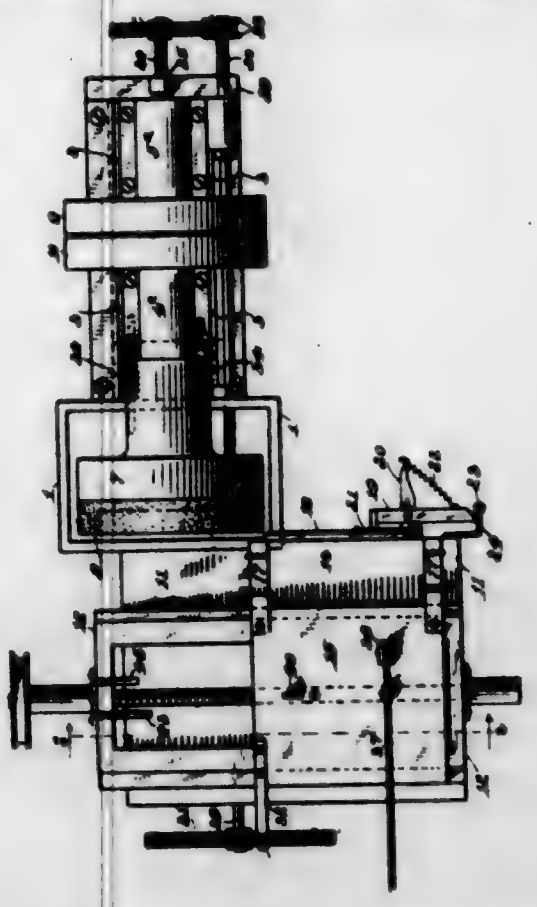
7. The combination of a tool for operating upon the sheets, mechanism for actuating said tool, means for moving the sheets past said tool, movable gages arranged one behind the other in rear of said tool and adapted to stop and release the sheets, longitudinal actuating-bars arranged side by side and engaging said gages for raising and lowering the same, and means for moving said bars up and down, substantially as set forth.

8. The combination of a tool for operating upon the sheets, mechanism for actuating said tool, means for moving the sheets past said tool, movable gages arranged one behind the other in rear of said tool and adapted to stop and release the sheets, longitudinal actuating-bars arranged side by side and engaging said gages for raising and lowering the same, and adjustable cams for moving said bars up and down, substantially as set forth.

9. The combination of a tool for operating upon the sheets, mechanism for actuating said tool, means for moving the sheets successively past said tool, a rocking gage arranged in rear of said tool, a longitudinal actuating-bar which engages the gage, means for adjusting the gage in the longitudinal direction of said bar, a spring by which said gage is held in engagement with said bar, and a stationary support on which said spring is adjustable in the longitudinal direction of said bar, substantially as set forth.

10. The combination of a tool for operating upon the sheets, mechanism for actuating said tool, traveling endless front carriers for feeding the sheets to said tool, a front gage, traveling endless rear carriers, and rear gages adapted to be moved successively into and out of the path of the sheets, substantially as set forth.

804,284. **CUTLERY-GRINDING MACHINE.** CHARLES L. JOY, New Haven, Conn. Filed Jan. 21, 1904. Serial No. 190,018.



Claim.—1. In a cutlery-grinding machine of the character described, the combination, comprising a slide carrying a driving-shaft having a grinding-wheel thereon, a support for said slide, means for feeding said slide forward, springs to flexibly resist said forward movement, so that all back leash is eliminated in said slide, for the purpose set forth.

2. The combination, in a cutlery-grinding machine of the character described, comprising a slide carrying a driving-shaft having a grinding-wheel thereon, a support for said slide, a knife-supporting carriage, means thereon to effect the forward movement of said slide sufficient to compensate for the wear of the grinding-wheel, springs to flexibly resist this forward movement, so as to eliminate all back leash in said slide, for the purpose set forth.

3. The combination, in a cutlery-grinding machine of the character described, comprising a slide carrying a driving-shaft having a grinding-wheel thereon, a support for said slide, a feed-screw for said slide carrying a gear, a driving-pinion for said gear, a shaft on which said pinion is slidably mounted, means on said pinion to maintain the engagement of said pinion and gear with respect to the longitudinal travel of the feed-screw, a ratchet-wheel on said pinion-shaft, a knife-supporting carriage, means thereon to engage and actuate said ratchet-wheel to feed forward said slide, springs in advance of said slide in which power is stored up by said forward movement so that, the said grinding-wheel is kept steady and up to its work and all back leash is eliminated in said slide, for the purpose set forth.

4. The combination, in a cutlery-grinding machine of the character described, comprising a grinding-wheel, a support therefor, a knife-supporting carriage, a support therefor, a continuously-running right and left hand feed-screw journaled in said support, a feed-lever pivotally supported to said carriage and carrying right and left hand threaded feed-nuts adapted to engage said feed-screw, means on said carriage to bring about the engagement of one of the feed-nuts with the feed-screw for the forward movement of the carriage, a locking-lever to maintain said engagement, means for releasing said locking-lever at the completion of its forward movement, means to bring about the engagement of said feed-lever with said feed-screw to effect the return movement of the carriage, for the purpose set forth.

5. In a cutlery-grinding machine of the character described, the combination with the grinding-wheel, of a knife-supporting carriage, a support therefor, a continously-running right and left hand feed-screw journaled in said support, a feed-lever having right and left hand threaded feed-nuts, said lever pivotally supported to said carriage, means on said carriage to bring about the engagement of one of the feed-nuts with the feed-screw to effect the forward movement of said carriage, a locking-lever to maintain the forward end of the feed-lever in an elevated position, means for releasing said locking-lever, a spring for depressing the forward end of said feed-lever to bring about the engagement of the feed-nut thereon with the feed-screw to effect a return movement of said carriage, means for positively depressing said feed-lever to secure the engagement of said feed-nut with the feed-screw, the feed-screw having a threadless portion to limit the backward movement of the carriage, for the purpose set forth.

6. The combination, in a cutlery-grinding machine of the character described, comprising a carriage, a support therefor, a knife-support on said carriage, a continuously-running feed-screw journaled in said carriage-support and having right and left hand threaded portions, a feed-lever pivotally supported on said carriage and carrying threaded feed-nuts on its ends adapted to be alternately brought into engagement with the threaded portions of the feed-screw, means for manually engaging one of the feed-nuts of said feed-lever with said feed-screw to effect the forward movement of said carriage, a locking-lever to maintain such engagement, a stop to release said locking-lever, a second stop adapted to tilt said feed-lever sufficient to arrest the forward movement of said carriage and bring about the engagement of the feed-nut in the forward end of said feed-lever with the feed-screw for a return movement of said carriage, the feed-screw having a central threadless portion to limit the backward movement of the carriage, for the purpose set forth.

7. The combination, in a cutlery-grinding machine, of the character described, comprising a traveling knife-supporting carriage, a support therefor, a continuously-running right-and-left feed-screw journaled in said support, right-and-left feed-nuts for said screw, said nuts adapted to be alternately brought into engagement with their respective portions of said screw, said screw having a central threadless portion to limit the backward movement of the carriage, for the purpose set forth.

8. The combination, with a knife-supporting carriage, a support therefor, a continuously-running right-and-left feed-screw journaled in said support, right-and-left feed-nuts adapted to be alternately brought into engagement with their respective portions of said screw, means for bringing about such engagement, said screw having a central threadless portion to limit the backward movement of the carriage, for the purpose set forth.

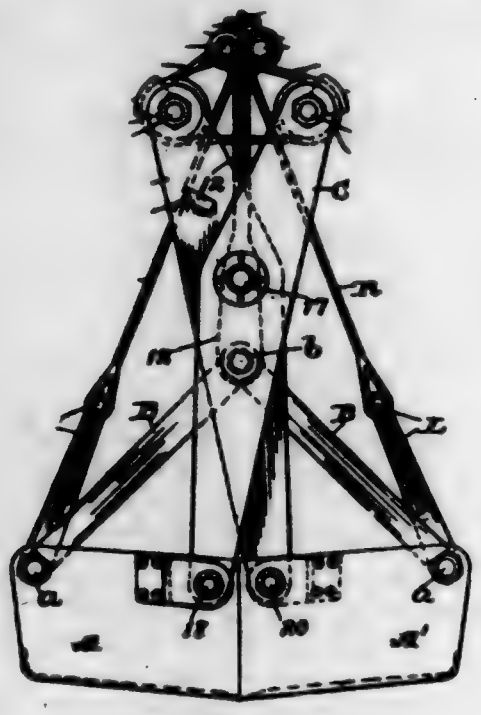
9. The combination, in a cutlery-grinding machine of the character described, comprising a traveling carriage, a support therefor, a knife-support on said carriage, a spring-actuated clamping-finger adapted to engage a knife-handle, means for disengaging said finger when the carriage has returned to its normal position, for the purpose set forth.

804,285. **EXCAVATING, HOISTING, AND CONVEYING BUCKET.** ROBERT W. KALTENBACH and JUSTIN GRIMM, Jr., Cleveland, Ohio. Filed July 8, 1904. Serial No. 215,748.

Claim.—1. In a bucket whose body portion is composed of suitably-supported trays arranged to swing outwardly and upwardly or inwardly and downwardly according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket; bucket-closing levers operatively attached to the trays and fulcrumed to the bail with the axes of the levers coincident and parallel with the axes of the trays; bars pivotally connected, at one end, to the trays at the rear ends of the trays and pivotally supported, at the other end, below the fulcrums of the levers, and means for operating the levers.

2. In a bucket whose body portion is composed of suitably-supported trays arranged to swing outwardly and upwardly or inwardly and downwardly according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally of the bucket; levers operatively attached to the trays and suitably fulcrumed to the lower portion of the bail; bars pivotally connected, at one end, to the

rear portions of the trays and pivotally supported, at the other end, below the fulcrums of the levers, and means for operating the levers.



3. In a bucket whose body portion is composed of suitably-supported trays arranged to swing outwardly and upwardly or inwardly and downwardly according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally of the trays; bucket-closing levers operatively attached to the forward portions of the trays and suitably fulcrumed to the bail; bars pivotally connected, at one end, to the rear portions of the trays, and pivoted, at the other end, to the bail below the fulcrums of the levers, and means for operating the levers.

4. In a bucket whose body portion is composed of suitably-supported trays arranged to swing outwardly and upwardly or inwardly and downwardly according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket; levers operatively attached to the forward portions of the trays and suitably fulcrumed to the bail; bars pivotally connected at one end, to the rear portions of the trays, and pivoted at the other end, to the bail below the fulcrums of the levers, and means for operating the levers.

5. In a bucket whose body portion is composed of suitably-supported trays arranged to swing outwardly and upwardly or inwardly and downwardly according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket; levers operatively attached to the trays at the forward ends of the trays and fulcrumed to the bail, with the axes of the levers coincident and parallel with the axes of the bucket-sections; bars pivotally connected, at one end, to the rear portions of the trays, and pivoted, at the other end, to the end members of the bail below the fulcrums of the levers, with the axes of the pivotal connections between the said bars and the bail coincident, and means for operating the levers.

6. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; an upright bail arranged centrally and transversely of the bucket and having end members arranged a suitable distance apart laterally; levers operatively attached to the trays and fulcrumed to the end members of the bail with the axes of the levers coincident and parallel with the axes of the trays; bars pivotally connected, at one end, to the trays rearwardly of the levers and pivotally supported, at the other end, below the fulcrums of the levers, and means for operating the levers.

7. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; an upright bail arranged centrally and transversely of the bucket and having end members arranged a suitable distance apart laterally; levers operatively attached to the trays at the forward ends of the trays and suitably fulcrumed to the end members of the bail between the central portions and lower extremities of the said bail members; bars pivotally connected, at one end, to the rear portions of the trays and pivotally supported, at the other end, below the fulcrums of the levers, and means for operating the levers.

8. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket and having end members arranged a suitable distance apart laterally; levers operatively attached to the trays at the forward ends of the trays and suitably fulcrumed to the end members of the bail; bars pivotally connected, at one end, to the trays rearwardly of the levers, and pivoted, at the other end, to the end members of the bail below the fulcrums of the levers, and means for operating the levers.

9. In a clam-shell bucket having two oppositely-arranged trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket and having end members arranged a suitable distance apart laterally; levers operatively attached to the trays at the forward ends of the trays and suitably fulcrumed to the end members of the bail; bars pivotally connected, at one end, to the rear portions of the trays, and pivoted, at the other end, to the end members of the bail vertically below the fulcrums of the levers; means for operating the levers, and cables connected to the rear portions of the trays.

10. In a clam-shell bucket having two oppositely-arranged trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination, of the said trays; a bail arranged centrally between and transversely of the bucket and having end members arranged a suitable distance apart laterally; levers operatively attached to the forward portions of the trays and fulcrumed to the end members respectively of the bail, with the axes of the levers parallel with the axes of the trays and coincident; bars pivotally connected, at one end, to the rear portions of the trays, and pivoted, at the other end, to the end members of the bail below the fulcrums of the levers, with the axes of the pivotal connections between the said bars and the said bail members coincident; means for operating the levers, and cables connected to the rear portions of the trays.

11. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket and having end members arranged a suitable distance apart laterally; two levers operatively attached to opposite sides respectively of the forward portion of one of the trays and suitably fulcrumed to the bail; two levers operatively attached to opposite sides respectively of the forward portion of the other of the said trays and suitably fulcrumed to the different end members respectively of the bail and crossing the first-mentioned levers; bars pivotally connected, at one end, to the rear portions of the trays, and pivotally supported, at the other end, below the fulcrums of the levers, and cables operatively connected with the levers.

12. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket and having end members arranged a suitable distance apart laterally; two levers attached to opposite sides respectively of the forward portion of one of the trays and fulcrumed to the different end members respectively of the bail; means tying together and bracing apart the said levers; two levers operatively attached to opposite sides respectively of the forward portion of the other of the trays and fulcrumed to the different end members respectively of the bail and crossing the first-mentioned levers, with the axes of all of the said levers parallel with the axes of the trays and coincident; means tying together and bracing apart the second-mentioned levers; bars pivotally connected, at one end, to the rear portions of the trays, and pivoted, at the other end, to the end members of the bail below the fulcrums of the levers, and cables operatively connected with the levers.

13. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally between and transversely of the bucket and having end members arranged a suitable distance apart laterally and a frame or web between and connecting the said bail members together; levers operatively attached to the forward portions of the trays and suitably fulcrumed to the end members of the bail; bars pivotally connected at one end, to the rear portions of the trays, and pivoted, at the other end, to the end members of the bail below the fulcrums of the levers, and means for operating the levers.

14. In a clam-shell bucket having two oppositely-arranged trays arranged to swing from or toward each other according as the

bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket; levers operatively attached to the sides of the forward portion of one of the trays and suitably fulcrumed to the bail; levers operatively attached to the sides of the forward portions of the other of the said trays, and suitably fulcrumed to the bail and crossing the first-mentioned levers; bars pivotally connected, at one end, to the rear portions of the trays, and pivotally supported, at the other end, below the fulcrums of the levers; cables operatively connected with the levers, and other cables connected to the rear portions of the trays.

15. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket; two horizontally-arranged axles borne by the bail a suitable distance below the top of the bail and arranged in line endwise; levers operatively attached to the trays at the forward ends of the trays and mounted on the said axles; bars pivotally connected, at one end, to the rear portions of the trays, and pivotally supported, at the other end, below the aforesaid axles, and means for operating the levers.

16. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket; two horizontally-arranged axles supported from the bail below the top of the bail and arranged in line endwise; levers operatively attached to the forward portion of one of the trays at opposite sides respectively of the respective tray and fulcrumed to the bail by one of the aforesaid axles; a frame or web connecting the said levers together above the fulcrums of the levers and mounted on the axles; two levers operatively attached to the forward portion of the other of the trays at opposite sides respectively of the respective tray and fulcrumed to the bail by the other of the axles and crossing the first-mentioned levers; a frame or web connecting the second-mentioned levers together above the fulcrums of the levers and mounted on the axles; bars pivotally connected, at one end, to the rear portions of the trays, and pivotally supported, at the other end, below the fulcrums of the levers, and means for operating the levers.

17. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket and provided at the top with coincidently-arranged sheaves; upright levers operatively attached to the forward portions of the trays and fulcrumed to the bail; with the axes of the levers parallel with the axes of the trays; sheaves borne by the levers at the upper ends of the levers; bars pivotally connected, at one end, to the rear portions of the trays, and pivotally supported, at the other end, and cables attached, at one end, to the upper portion of the bail, thence leading to and around the sheaves of the lever or levers attached to one of the trays, thence leading to and in under the sheaves of the lever or levers attached to the other tray, and thence in under the aforesaid sheaves of the bail.

18. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket and having end members which are arranged a suitable distance apart laterally and an upper central portion comprising two parallel axles extending between the end members of the bail; two levers operatively attached to opposite sides respectively of the forward portions of one of the trays and fulcrumed to the different end members respectively of the bail; two levers operatively attached to opposite sides respectively of the forward portion of the other of the said trays and fulcrumed to the different end members respectively of the bail and crossing the first-mentioned levers, with the axes of all of the said levers parallel with the axes of the trays; sheaves borne by the levers at the upper ends of the levers; bars pivotally connected, at one end, to the rear portions of the trays and pivotally supported at the other end; two sheaves on one of the aforesaid axles a suitable distance apart longitudinally of the respective axle; cables attached, at one end, to the other of the aforesaid axles, thence leading to and around the sheaves of the levers attached to one of the trays, thence leading to and in under the sheaves of the levers attached to the other trays, and thence in under the aforesaid axle-sheaves.

19. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket and provided, at the top, with sheaves arranged a suitable distance apart laterally and with their axes parallel with the axes of the trays; upright levers operatively attached to the forward portions of the trays and fulcrumed to the bail; with the axes of the levers parallel with the axes of the trays; sheaves borne by the levers at the upper ends of the levers; bars pivotally connected, at one end, to the rear portions of the trays, and pivotally supported at the other end; cables attached, at one end, to the upper portion of the bail, thence leading to and around the sheaves of the lever or levers attached to one of the trays, thence leading to and in under the sheaves of the lever or levers attached to the other tray, and thence in under the aforesaid sheaves of the bail, and guards borne by the levers and arranged to prevent displacement of the cables from the sheaves of the levers.

20. In a clam-shell bucket having two oppositely-arranged trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket; levers operatively attached to the forward portions of the trays and fulcrumed to the bail; with the axes of all of the said levers parallel with the axes of the trays and coincident; means for operating the levers; bars pivotally connected, at one end, to the trays rearwardly of the levers, and pivotally supported at the other end; clevises pivoted to the trays, with the axes of the pivotal connection between the clevises and the trays coincident and parallel with the pivotal connections between the aforesaid bars and the trays; guide-sheaves borne by the upper portion of the bail, and cables attached, at one end, to the clevises, thence leading to and in under the said sheaves and thence upwardly.

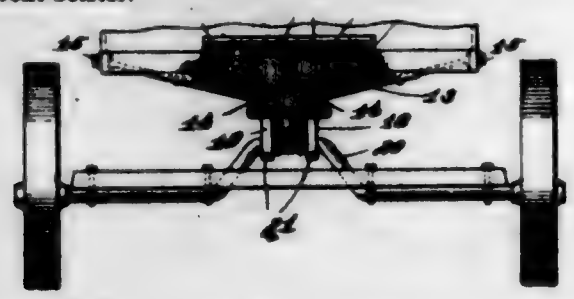
21. In a clam-shell bucket having two oppositely-arranged trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket; levers operatively attached to the forward portion of the trays and fulcrumed to the bail, with the axes of all of the said levers parallel with the axes of the trays and coincident; means for operating the levers; bars pivotally connected, at one end, to the trays rearwardly of the levers, and pivotally supported at the other end; clevises pivoted to the trays, with the axes of the pivotal connections between the clevises and the trays parallel with the pivotal connections between the aforesaid bars and the trays; guide-sheaves borne by the upper portion of the bail; cables attached, at one end, to the clevises, thence leading to and in under the said sheaves and thence upwardly, and a guard borne by the bail and extending over the sheaves and arranged to prevent displacement of the cables from the sheaves, which guard has holes to accommodate the upward extension of the cables from the sheaves.

22. In a clam-shell bucket having two oppositely-arranged suitably-supported trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket and having end members which are arranged a suitable distance apart laterally and an upper central portion comprising two parallel axles extending between the end members of the bail; levers operatively attached to the forward portions of the trays and fulcrumed to the end members of the bail, with the axes of the levers parallel with the axes of the trays and coincident; means for operating the levers; two clevises pivoted to the different trays respectively, with the pivotal connection between each clevis and the connected tray forming the axis of the said tray; two guide-sheaves on the different aforesaid axles respectively, and cables attached, at one end, to the clevises and thence leading to and in under the different aforesaid sheaves respectively and thence upwardly.

23. In a clam-shell bucket having two oppositely-arranged trays arranged to swing from or toward each other according as the bucket is opened or closed, the combination of the said trays; a bail arranged centrally and transversely of the bucket; levers for actuating the trays from their open into their closed position; means for operating the levers; two clevises pivoted to the different trays respectively, with the pivotal connection between each clevis and the connected tray forming the axis of the said tray; two suitably-spaced guide-sheaves borne by the upper portion of the bail; cables attached, at one end, to the clevises and thence leading to and in under the different sheaves respectively and thence upwardly, and a guard borne by the bail and extending over the sheaves and arranged to prevent displacement of the cables from the sheaves, which guard has holes to accommodate the extension of the cables from the sheaves upwardly through the guard.

804,286. FIFTH-WHEEL. LOUIS A. KNAUS, Waterman, Ill. Filed July 14, 1904. Serial No. 216,554.

Claim.—1. In a vehicle, in combination, a vehicle-frame comprising longitudinal side sills and a front bolster; an upper bolster-circle secured to said front bolster; a lower bolster-circle; a king-bolt for securing said circles together; means on said lower bolster-circle for supporting an axle; and brace-rods rigidly secured to said upper bolster-circle and said longitudinal side sills, and extending diagonally outward from said bolster-circle to said sills rearwardly of said front bolster.
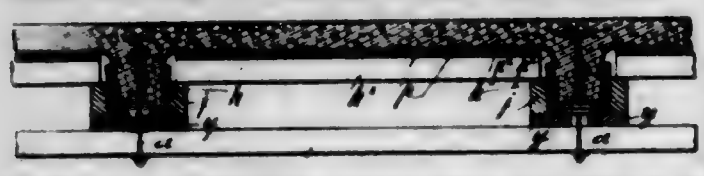


2. In a vehicle, in combination, a vehicle-frame comprising longitudinal sills and a front bolster; an upper bolster-circle having two upwardly-extending studs, said front bolster resting upon and being secured to said studs; a lower bolster-circle; a king-bolt for securing said circles together; means on said lower bolster-circle for supporting an axle; and brace-rods extending from said upper bolster-circle to said longitudinal sills.

3. In a vehicle, in combination, a vehicle-frame comprising longitudinal sills, a cross-sill and a front bolster; a brace-rod extending between said cross-sill and said front bolster; an upper bolster-circle secured to said front bolster; a lower bolster-circle pivotally connected with said upper circle; brace-rods extending from said upper bolster-circle to said longitudinal sills; and means on said lower bolster-circle for supporting an axle.

4. In a vehicle, in combination, a vehicle-frame comprising longitudinal sills and a front bolster; an upper bolster-circle secured to said front bolster; arms extending upwardly from said upper bolster-circle for supporting a portion of the vehicle-frame; brace-rods extending from said arms to said longitudinal sills; a lower bolster-circle pivotally connected with said upper circle; and means on said lower bolster-circle for supporting an axle.

5. In a vehicle, in combination, a vehicle-frame comprising longitudinal sills, a cross-sill and a front bolster; an upper bolster-circle having two upwardly-extending studs upon which said front bolster rests and is secured; a lower bolster-circle, each of said circles having a tubular boss; a king-bolt extending through said tubular bosses and pivotally connecting said circles; arms extending upwardly from said upper bolster-circle for supporting a portion of the vehicle-frame; brace-rods extending from said arms to said longitudinal sills; brace-rods extending between said cross-sill and said front bolster; and means on said lower bolster-circle for supporting an axle.

804,237. CENTERING FOR CONCRETE FLOORS. PAUL KUHNE, New York, N. Y. Filed Mar. 17, 1905. Serial No. 250,519.



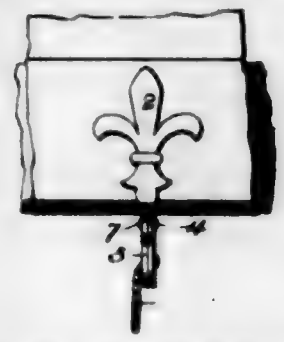
Claim.—1. A centering for concrete floors, comprising in its construction screw-hangers suspended from the I-beams, said screw-hangers embodying shackles, cross-pieces supported in said shackles, and woodwork supported on said cross-pieces and provided with expansion-joints for permitting the expansion of the woodwork without injury to the concrete floor formed thereon.

2. A centering for concrete floors, consisting of screw-hangers embodying U-shaped shackles, guide-pieces supported at the upper ends of the shackles, bolts attached to said guide-pieces, cross-pieces supported by said shackles, and woodwork supported on said cross-pieces.

3. A screw-hanger for the centering of concrete floors, comprising a U-shaped shackle, a bottom plate supported on the lower ends of said shackle, a semicircular guide-plate supported at the upper part of the same, clamps applied to the hangers, bolts passing through the shanks of the clamps and the guide-piece of the shackle and washers interposed between said guide-piece and the shanks of the clamps.

4. A centering for concrete floors, consisting of screw-hangers applied to the beams, cross-pieces supported on said screw-hangers, planks and joists supported on the cross-pieces, inclined side boards adjacent the beams, transverse pieces supported on the joists, planks placed on said cross-pieces, and a sheet-metal expansion-joint formed between the inclined side boards and the edge planks, the sheet metal overlapping the edge planks.

804,288. CLASP FOR WINDOW-CURTAINS. CHARLES A. KULINSKI, Brooklyn, N. Y. Filed Dec. 17, 1904. Serial No. 237,228.



Claim.—1. A clasp for a curtain-shade stick comprising two parts pivotally united and each having a clamping member and a locking or holding member, the clamping members of the clasp being arranged to approach or recede from each other face to face when the parts are moved on their pivot, and the locking or holding members being disposed in planes approximately at right angles to the planes occupied by the clamping members, and at substantially right angles to the axis of the pivot, and being held together face to face, whereby when the parts of the clasp are moved on their pivot the grasping-faces of the clamping members move toward or from each other and are maintained in planes that are substantially parallel to the axis of the pivot, substantially as set forth.

2. A clasp for a window-shade stick comprising two parts and a pivot for uniting them, each part having a clamping member and a locking or holding member, the clamping members being constructed to engage a shade-stick and being arranged in planes parallel to the axis of the pivot and the locking or holding members being disposed in planes at right angles to the planes of the said clamping members, substantially as set forth.

3. A clasp for a window-shade stick comprising two parts and a pivot for uniting them, each part having a clamping member arranged to engage with one side of a shade-stick and a locking or holding member, and being twisted near its pivotal connection so as to cause the clamping member to lie in a plane parallel to the axis of the pivot, and the holding member in a plane at right angles thereto, substantially as set forth.

4. A clasp comprising two parts pivoted together, each having a clamping member and a locking or holding member, the clamping members being disposed in planes parallel to the axis of the pivot and the locking or holding members being disposed at right angles to the said clamping members, and being provided with interengaging means for locking them in clamped position, substantially as set forth.

5. A clasp adapted for attachment to a curtain-stick comprising two parts pivoted together, the portions of each part on one side of the pivot constituting clamping or grasping members arranged to grasp the opposite faces of a curtain-stick, and the portions on the other side of the pivot being perforated and constructed to have the perforations register when the clamping members are brought into grasping positions, whereby they form an eye, substantially as set forth.

6. A clasp comprising two parts pivoted together, and shaped to form a pair of clamping members on one side of the pivotal axis, and each part being formed with a bar-like portion on the side of the pivotal axis opposite the clamping members, the two bar portions being arranged to come together face to face when the clasp is applied, substantially as set forth.

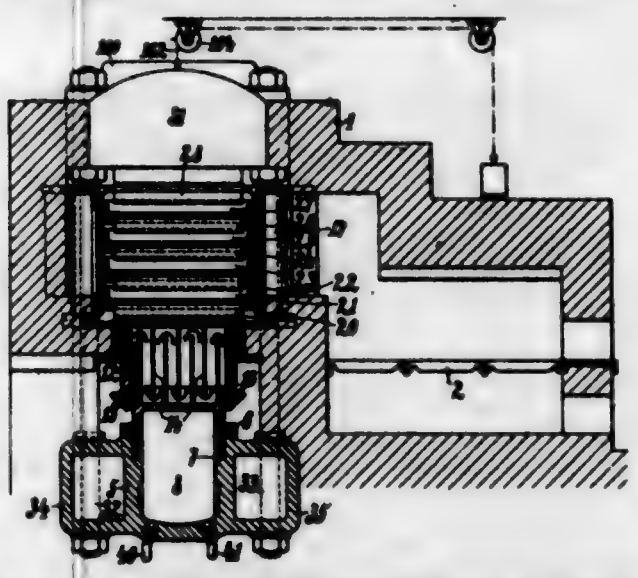
7. A pull appliance adapted for use on curtains comprising a pair of pivoted clasps arranged to grasp the curtain-stick, and a bar member connected with each clasp and arranged to serve as a pull-bar located below the curtain-stick when the clasps are in place, substantially as set forth.

8. A pull appliance adapted for use on curtains comprising a pair of clasps, pivots uniting the grasping members of the clasps, and pull-bar members on the opposite side of the pivots from the clasps, one of said bar members being connected with one grasping member of each clasp and the two being arranged to lie close side by side when the clasps are brought into engagement with a curtain-stick.

9. A clasp formed of two parts pivotally united, and comprising

the clamping members arranged to grasp the opposite faces of the article to which the clasp is applied, the locking or holding members disposed in planes approximately at right angles to those in which the clamping members are located, the twisted parts between the clamping and the locking members, and the pivot uniting the parts of the clasp, substantially as set forth.

804,239. APPARATUS FOR CARBONIZING PEAT. THEODOR LANGENBRAM, Lemberg, Austria-Hungary. Filed Oct. 20, 1902. Serial No. 128,029.



Claim.—1. In an apparatus for carbonizing peat, the combination with a heating-oven, of a press adapted to contain the peat and mounted in the oven in a position to be exposed to the gases from the fireplace of the oven, a series of press-plates arranged in said press and adapted to receive molding-boxes between them and means permitting the introduction of molding-boxes between said press-plates without their traversing the fireplace of the oven.

2. In an apparatus for carbonizing peat, the combination with a heating-oven, of a press adapted to contain the peat and mounted in the heating-chamber of the oven, a series of press-plates arranged in said press and adapted to receive molding-boxes between them and means permitting the introduction of molding-boxes between said press-plates without their traversing the fireplace of the oven.

3. In an apparatus for carbonizing peat, the combination with a heating-oven of masonry, of a press adapted to contain the peat and mounted in the oven in a position to be exposed to the gases from the fireplace of the oven, a series of press-plates arranged in said press and adapted to receive molding-boxes between them, of suitable openings provided in the longitudinal sides of the masonry for introducing said molding-boxes between said press-plates.

4. In an apparatus for carbonizing peat, the combination with a heating-oven, of a press adapted to contain the peat, press-frames located in said oven, press-plates mounted on said frames, mold-boxes provided between said frames, of suitable openings provided in the wall of the heating-chamber containing said press, and tracks extending up to said frames arranged in said openings for the reception of said molding-boxes.

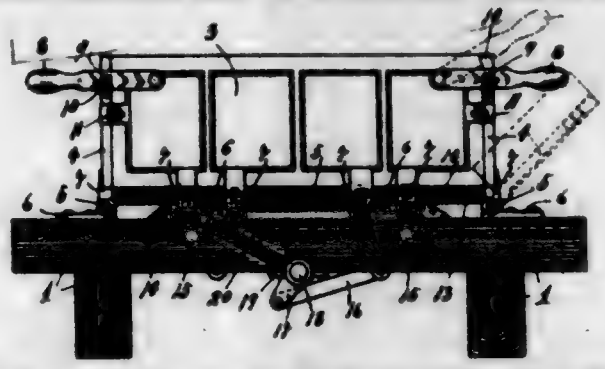
5. In an apparatus for carbonizing peat, the combination with a heating-oven, of a press adapted to contain the peat, press-frames located in said oven, press-plates mounted on said frames, mold-boxes provided between said frames, of suitable openings provided in the wall of the heating-chamber containing said press, and tracks extending up to and coinciding with said frames arranged in said openings for the reception of said molding-boxes.

6. In an apparatus for carbonizing peat by subjecting it simultaneously to heat and pressure, the combination of the double heating apparatus containing two sets of means for confining the peat under pressure, a common heating-chamber for said apparatus, and independent hydraulic presses, coöperating with said peat-confining means, to subject the peat to pressure, as set forth.

7. In an apparatus for carbonizing peat by subjecting it simultaneously to heat and pressure, the combination of the heating apparatus, a hydraulic press provided therein, means within the heating apparatus for containing the peat under pressure, and a spacing-box between said peat-containing means and the hydraulic press, for protecting the latter from heat, substantially as explained.

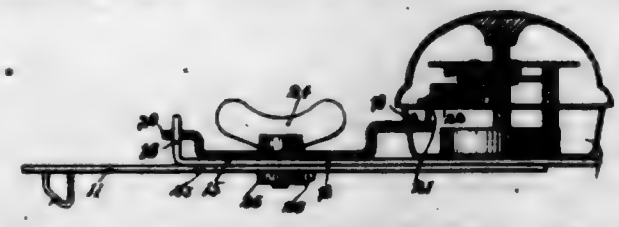
8. In an apparatus for carbonizing peat by subjecting it simultaneously to heat and pressure, the combination of a heating-chamber, means therein for containing peat under pressure, a hydraulic press within the heating apparatus, a spacing-box between the peat-containing means and said hydraulic press, and means for circulating water through said spacing-box.

804,240. FLASK FOR MOLDING CONCRETE BLOCKS. THOMAS LIBBY, Minneapolis, Minn., assignor of one-half to Nels W. Nelson, Minneapolis, Minn. Filed Aug. 20, 1904. Serial No. 221,454.



Claim.—A flask, having its sides and ends hinged near the bottom of the flask, and adapted to be turned outward, and locks at four corners of said flask connecting said sides and ends, each lock involving a notched lug 9 on one of the hinged members, and a coöperating notched lever 8 10 on the abutting hinged member, together with stop-lugs 11, that engage the ends of said abutting hinged member, substantially as described.

804,241. ADJUSTABLE DOOR LOCK AND SIGNAL. WILLIAM R. LOVE, Chicago, Ill. Filed Dec. 23, 1903. Serial No. 186,285.



Claim.—1. In a device of the class described, a combination with a flat tension-bar 11 stamped from sheet material and having a longitudinal slot 12 therein, of a lug 14 at one end of the bar adapted for engagement with the inner face of a door-jamb, a sliding foot 15 stamped entirely from sheet material, said foot having an outturned toe 16 for engaging the door, and having a projection 23 integral therewith to guide the foot in the slot 12, a thumb-screw 24 passing through a hole in said foot and through said slot, a clamping-nut 25 acting in conjunction with said thumb-screw to clamp said foot in position on said tension-bar, said nut having a projection 26 for engaging in said slot, an alarm-bell secured to the rear of said foot, an actuating-bar 18 extending forward from said alarm-bell and projecting through and beyond said toe, means at the rear end of said actuating-bar for normally preventing vibration of said bell, means upon pressure on said bar for allowing vibration of said bell, and means for normally retaining said actuating-bar in its former position.

2. In a device of the class described, a combination with a flat tension-bar 11 stamped from sheet material and having a longitudinal slot 12 therein, of a lug 14 at one end of the bar adapted for engagement with the inner face of the door-jamb, a sliding foot 15 stamped entirely from sheet material, said foot having an outturned toe 16 for engaging the door, and having a projection 23 integral therewith to guide the foot in the slot 12, a thumb-screw 24 passing through a hole in said foot and through said slot, a clamping-nut 25 acting in conjunction with said thumb-screw to clamp said foot in position on said tension-bar, said nut having a projection 26 for engaging in said slot, an alarm-bell secured to the rear of said foot, an actuating-bar 18 extending forward from said alarm-bell and projecting through and beyond said toe, a detent 21 at the rear end of the actuating-bar for normally preventing vibration of the hammer of said bell, a spring 19 engaging the rear end of said actuating-bar to normally hold said actuating-bar in its former position, and means upon pressure on said actuating-bar for allowing vibration of said bell, said toe, thumb-screw and bell being all disposed at the top of the device and said lug 14 being disposed below said device whereby the device may be applied without separation of the parts thereof.

3. In a device of the class described, a combination with a flat tension-bar 11 stamped from sheet material and having a longitudinal slot 12 therein, of a lug 14 depending from the forward end thereof and adapted for engagement with the inner face of a door-jamb, a sliding foot 15 stamped entirely from sheet metal, said foot having

an outturned toe 16 for engaging the door and having a projection 23 integral therewith to guide the foot in the slot 12, an alarm-bell secured at the rear end of said foot, a thumb-screw 24 passing through a hole in said foot and through said slot, a nut 25 for engaging said thumb-screw whereby said foot may be securely clamped to said bar in any position thereon, a projection 26 on said nut adapted to fit within the slot to guard the longitudinal movement of said foot, registering teeth at the under side of said tension-bar and on the engaging surface of said nut for more securely holding said foot in position on said bar, an actuating-bar 18 extending forwardly from said bell and through and beyond said toe, the rear ends of said bar normally engaging the hammer of the bell to prevent vibration thereof, and a spring 19 engaging the rear end of said bar to normally hold it in its former position to extend beyond the toe, pressure on the extending end 20 of said bar causing release of the hammer of the bell to permit vibration thereof.

804,242. INSTEP-SUPPORT. LEON T. J. LUBIN, Boston, Mass. Filed Nov. 19, 1904. Serial No. 233,403.



Claim.—1. An instep-support comprising a top piece, an arch-piece and a support for one end of the arch-piece, both of said pieces being permanently attached to said top piece and the end of the arch-piece overlapping the free end of the support.

2. An instep-support comprising a top piece, an underlying metallic arch-piece, and a metallic support, both said arch-piece and support being permanently attached to the under side of the top piece, the end of the arch-piece turning on the upper side of said support.

3. An instep-support comprising a top piece, an underlying metallic arch-piece, and a metallic supporting-plate, both attached permanently at separate points, to the under side of said top piece, the end of the arch-piece overlapping the end of the supporting-plate and turning thereover

804,243. RAMMER FOR GUNS. JOHN F. METES and ROBERT P. STOUT, South Bethlehem, Pa., assignors to Bethlehem Steel Company, South Bethlehem, Pa., a Corporation of Pennsylvania. Filed May 18, 1904. Serial No. 208,578.



Claim.—1. A rammer having a shaft consisting in a plurality of interlocking chains.

2. A rammer having a shaft consisting in two interlocking chains.

3. A rammer having a shaft consisting in two interlocking chains adapted to flex in intersecting planes.

4. A rammer comprising a plurality of interlocking chains, and a common head to which said chains are connected.

5. A rammer comprising a pair of interlocking chains adapted to flex in intersecting planes, and a common head to which said chains are connected.

6. A rammer having a shaft consisting in two interlocking chains each chain comprising a series of high links and a series of low links, said links being provided with interlocking horns, the high links of each chain being adapted to interlock with the high links of the other chain, and the low links of the respective chains being likewise adapted to interlock, whereby said chains are adapted to form a rigid rammer-shaft.

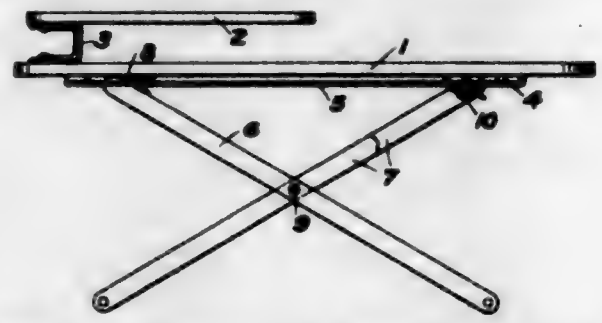
7. The combination with a gun, of a rammer-frame having chain-guides and chains running in said guides and adapted to interlock to form a rammer.

8. The combination with a gun, of a rammer-frame connected with the sleeve or carriage of the gun and movable therewith, chain-guides in said rammer-frame, said guides terminating in an opening in line with the axis of the gun, chains in said guides adapted to interlock to form a rammer-shaft, and means for driving said chains simultaneously to operate the rammer.

9. The combination with a gun, of a rammer-frame comprising beams connected with the gun sleeve or carriage, knee-pieces extending upwardly and inwardly from said beams and meeting in line with the axis of the gun, chain-guides in said beams and knee-pieces, and terminating in an opening in line with the axis of the gun, sprocket-wheels to carry the chains from said guides to said opening, and means to drive said sprocket-wheels simultaneously, the chains being adapted to interlock as they pass around the sprocket-wheels to form a rigid rammer-shaft.

10. The combination with a gun and the rammer-frame, of the guides in said frame having lateral grooves, and the chains adapted to run in said guides and provided with rollers to run in said grooves, said chains being adapted to interlock to form a rigid rammer-shaft.

804,244. IRONING-BOARD. DANIEL MEEKER, Rochester, N. Y., assignor of one-half to George McKinstry, Rochester, N. Y. Filed Aug. 23, 1904. Serial No. 221,763.

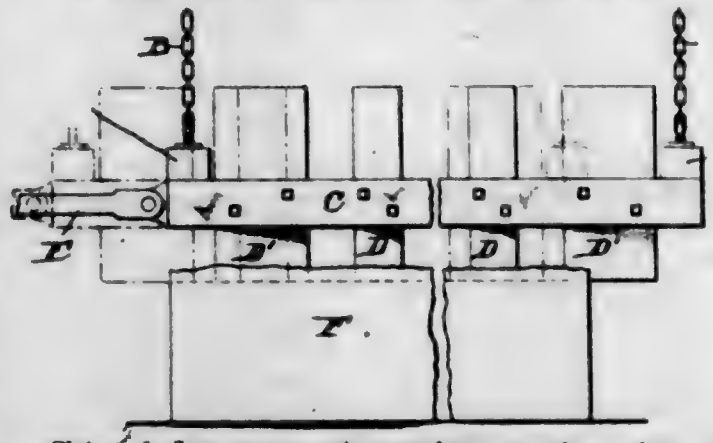


Claim.—1. The combination of an ironing-board, a leg hinged to the bottom of said board, a second leg pivoted to the first leg, a track fastened to the bottom of the ironing-board, and a cramping device attached to the upper end of the second-mentioned leg and adapted to cramp automatically at any point on the upper and lower sides of said track.

2. The combination of an ironing-board, a pair of legs hinged to the bottom of said board, a second pair of legs pivoted to and crossing the first-mentioned pair of legs, a round cross-bar at the top of the second-mentioned pair of legs, a rod fastened longitudinally under said ironing-board, and a cramping-plate fitting loosely upon said rod and part way around said cross-bar, and adapted to cramp automatically at any point on said rod, and means for holding said cramping-plate loosely upon said cross-bar.

3. The combination of an ironing-board, a pair of legs hinged to the bottom of said board, a second pair of legs pivoted to and crossing the first pair of legs, a rod fastened to supports on the bottom of said ironing-board and having hooked ends set in sockets on the opposite outer sides of said supports, and a cramping-plate fitting loosely around said rod and carried by the upper end of the second-mentioned pair of legs and adapted to cramp automatically at any point on said rod.

804,245. STONE-SAW. CHARLES L. MIEL, Sacramento, Cal., assignor to The United States Stone Saw Company, Tucson, Ariz., a Corporation of Arizona. Filed Apr. 17, 1905. Serial No. 255,906.



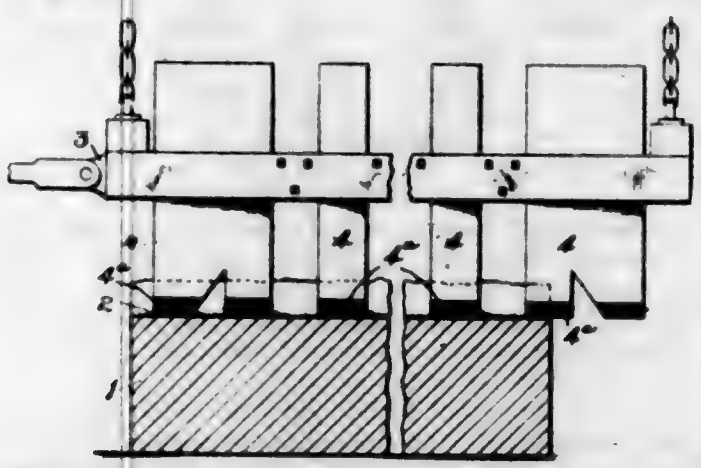
Claim.—1. In a stone-sawing machine, a reciprocating saw-beam, means for supporting and reciprocating the same, a series of blades adjustably supported by said beam, said blades being spaced apart, the end blades being of greater width than the intermediate blades.

2. In a stone-sawing machine, a saw-beam, means for supporting and reciprocating the same, a plurality of blades adjustably carried thereby, arranged in line and spaced apart, the end blades being of greater width than the intermediate blades.

3. In a stone-sawing machine, a saw-beam, a series of blades or cutters, adjustably carried thereby, said cutters being spaced

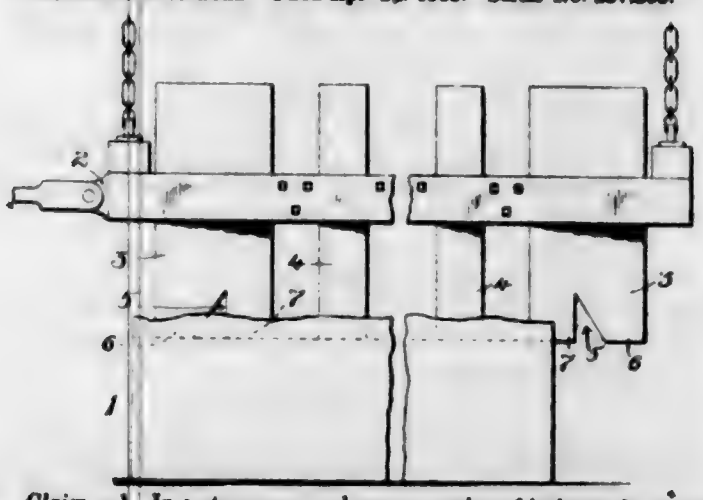
apart and arranged in line, one of the end blades being of greater width than the intermediate blades.

804,246. STONE-SAW BLADE. CHARLES L. MIEL, Sacramento, Cal., assignor to The United States Stone Saw Company, Tucson, Ariz., a Corporation of Arizona. Filed Apr. 24, 1905. Serial No. 257,259.



Claim.—In a stone-saw, a blade formed of hardened steel and having a straight bearing edge for coaction with the abrasive material, the temper of the steel being drawn adjacent to said edge and producing a softer bearing-surface, for the purpose specified.

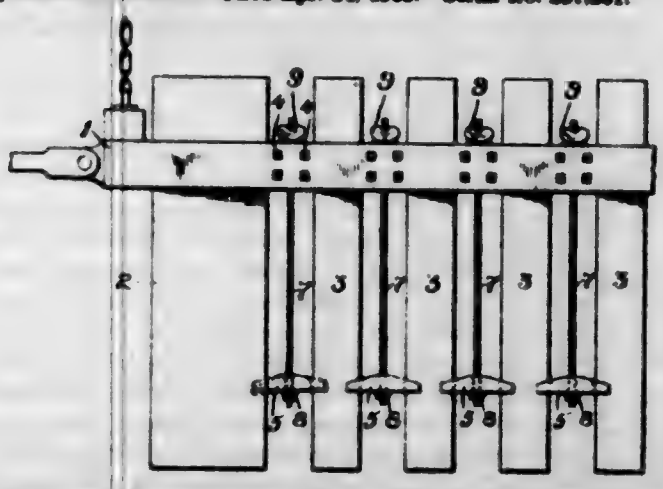
804,247. STONE-SAW. CHARLES L. MIEL, Sacramento, Cal., assignor to The United States Stone Saw Company, Tucson, Ariz., a Corporation of Arizona. Filed Apr. 24, 1905. Serial No. 257,260.



Claim.—1. In a stone-saw, a beam, a series of independent vertically-disposed saw-blades carried thereby and spaced apart from each other, the end blades being broader than the intermediate blades and having notches in their bearing edges dividing the bearing edges into a plurality of surfaces, for the purpose specified.

2. In a stone-saw, a broad vertically-arranged plate-like blade and having a notch in its lower edge leaving two straight bearing edges, one of the walls of the notch being substantially vertical and the other wall inclined.

804,248. STONE-SAW. CHARLES L. MIEL, Sacramento, Cal., assignor to The United States Stone Saw Company, Tucson, Ariz., a Corporation of Arizona. Filed Apr. 24, 1905. Serial No. 257,261.

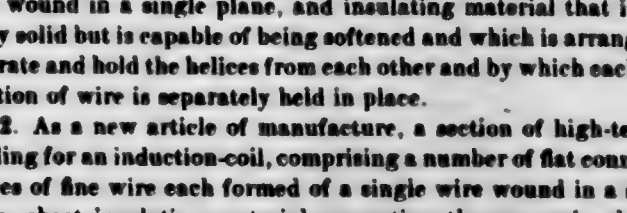


Claim.—1. In a stone-saw, the combination of a saw-beam, a series of long bearing-blades carried thereby and removable means for reinforcing the lower ends of the blades during the initial part of a cutting operation.

2. In a stone-saw, a saw-beam, a series of vertically-disposed bearing-blades carried thereby, stiffening-blocks insertible between adjacent blades, and means for drawing said blocks into position to rigidly connect and reinforce the lower ends of the blades.

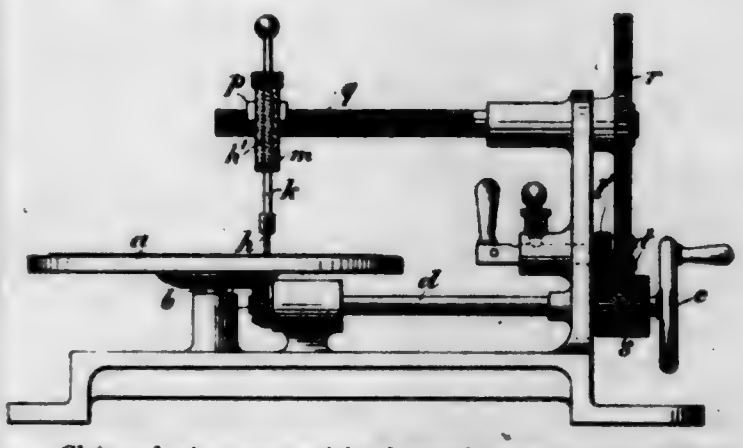
3. In a stone-saw, a saw-beam, two or more blades carried thereby, a stiffening-block adapted to be inserted between two of the blades, and a reach-rod with clamping means for coacting with said block, for the purpose specified.

804,249. OVEN-FLOOR. JOHN C. MILLAR, Birmingham, Ala. Filed May 23, 1904. Serial No. 209,273.



Claim.—In combination with a cook-stove, a shelf rotatably mounted in the stove-oven and having a threaded shaft extending downwardly from its under side, a beveled pinion loosely splined on said shaft and held against vertical movement with the shaft, a hanger secured to the under side of the stove and having a portion in threaded engagement with the shelf-shaft, and means for driving the beveled pinion on the shelf-shaft, said means comprising a horizontal shaft, and a pinion meshing with said beveled pinion.

804,250. APPARATUS FOR THE MANUFACTURE OF INDUCTION-COILS. LESLIE B. MILLER, London, England. Filed Mar. 9, 1904. Serial No. 197,330.



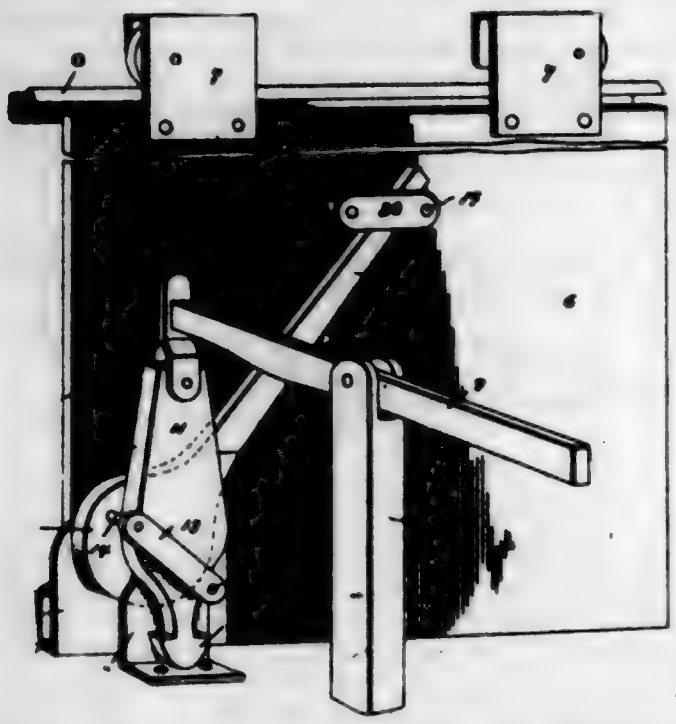
Claim.—1. As a new article of manufacture, a section of high-tension winding for an induction-coil, comprising a number of flat connected helices of fine wire, each helix being composed of a single wire wound in a single plane, and insulating material that is normally solid but is capable of being softened and which is arranged to separate and hold the helices from each other and by which each convolution of wire is separately held in place.

2. As a new article of manufacture, a section of high-tension winding for an induction-coil, comprising a number of flat connected helices of fine wire each formed of a single wire wound in a single plane, sheet insulating material separating the successive helices from each other and insulating material that is normally solid but is capable of being softened applied to the sheet insulating material and by which each convolution of wire is held separately in place.

3. As a new article of manufacture, a section of high-tension winding for an induction-coil, comprising a number of flat helices of fine wire connected together alternately at their inner and outer peripheries and formed of a continuous length of wire, each helix being composed of wire wound in a single plane, and insulating material that is normally solid but is capable of being softened separating the helices from each other and by which each convolution of wire is held separately in place.

4. As a new article of manufacture, a high-tension section for an induction-coil, comprising a number of flat helices of fine wire connected together alternately at their inner and outer peripheries and formed from a continuous length of wire each helix being composed of wire wound in a single plane, and sheet insulating material separating the successive helices from each other, and insulating material that is normally solid but is capable of being softened applied to the sheet insulating material and by which each convolution of wire is separately held in place.

804,251. DEVICE FOR OPENING AND CLOSING DOORS OR GATES. Edgar T. Hosmer, Elburn, Ill. Filed Apr. 20, 1905. Serial No. 256,622.

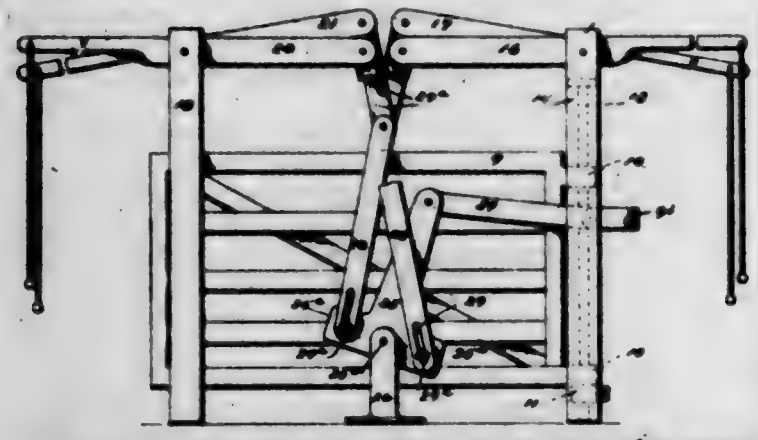


Claim.—1. An opener for sliding doors or gates, comprising a rocker having a projecting arm connected to the door or gate and a pair of projecting pins on opposite sides of its pivot, a hook-block having hooks on opposite sides thereof, working between the pins and arranged to engage one or the other, and a lever connected to said block, to lift the same.

2. An opener for sliding doors or gates comprising a rocker having an upwardly-projecting arm connected to the door or gate, and a laterally-extending pin, and a lever having a hook arranged to engage the pin and turn the rocker.

3. An opener for sliding doors or gates comprising a pivoted rocker having an upwardly-extending arm loosely connected to the door or gate, and also having a pair of pins projecting on opposite sides of the pivot, a block movable up and down between the pins and opposite hooks at its lower end and cam edges between the pins adapted to swing the block to one side or the other by contact with the pins, and an operating-lever connected to the block.

804,252. GATE-OPENER. Edgar T. Hosmer, Elburn, Ill. Filed May 5, 1905. Serial No. 259,670.



Claim.—1. The combination with a swinging gate, of an opener comprising a rocker pivoted at one side of the gate and connected thereto, and two pairs of levers connected to the rocker, each pair having one lever extending on one side of the gate and the other lever extending on the other side.

2. The combination with a swinging gate having a backwardly-extending arm, of a rocker having a hinged connection with said arm, and two pairs of levers, each pair being connected independently to the rocker, and the respective levers of each pair extending on opposite sides of the gate.

3. The combination with a swinging gate having an arm extending rearwardly beyond its pivot, of a rocker pivoted beside the gate and connected to the arm, links having a slot-and-bolt connection with the rocker on opposite sides of its pivot, and a pair of levers connected to each link, the levers of each pair extending oppositely, on different sides of the gate.

804,253. REFLECTOR-SHADE FOR ARTIFICIAL LIGHTS. Otis A. Hyatt, New York, N. Y. Filed Nov. 16, 1903. Serial No. 181,282.



Claim.—1. The combination with a thin smooth supporting-body of glass, adapted to surround a lamp and independent thereof, of a second glass body conforming closely to the first and resting thereon, and having a generally smooth interior face and external prisms adapted to reflect light-rays originating within the supporting-body back into the same.

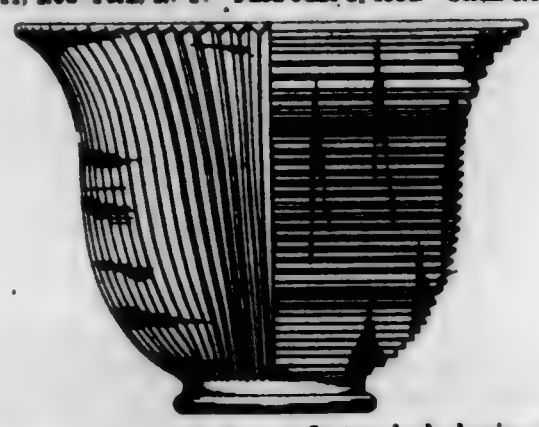
2. The combination with a thin supporting-body of glass, adapted to surround a lamp and independent thereof, said body having its upper portion transparent and its lower portion frosted, of a glass reflector conforming closely to the transparent part of said body, and having external prisms adapted to reflect light-rays from within the body back into the same and out through the frosted part thereof.

3. A supporting-body of blown glass adapted to substantially surround a lamp and independent thereof, said body provided in part with a frosted surface and in part with a transparent portion, combined with a prismatic jacket of pressed glass covering the transparent portion of said body, and having external prisms arranged to reflect light-rays through the transparent portion and through the frosted portion of said body.

4. The combination of an electric-lamp globe with a reflector composed of prismed glass having a central opening to surround the base of the globe, said reflector conforming generally to the part of the globe adjacent to said base, and means interposed between said globe and reflector to provide an intervening air-space.

5. A thin supporting-body of glass provided with a collar at its upper end, a light-diffusing surface near its lower end and an intermediate smooth portion, combined with a glass jacket having external reflecting-prisms and substantially covering the smooth portion of said supporting-body.

804,254. PRISMATIC-GLASS REFLECTOR-SHADE. Otis A. Hyatt, New York, N. Y. Filed June 3, 1904. Serial No. 210,978.



Claim.—1. A prismatic-glass reflector-shade having its outer rear face substantially covered with integral reflecting-prisms arranged to reflect light-rays back into the shade and out at the front thereof, and having its front outer face substantially covered with prisms, with their longer axes extending in a generally horizontal direction, and arranged to pass the light-rays in predetermined directions according to the inclination of the plane faces of said prisms.

2. A prismatic-glass reflector having its outer rear face substantially covered with integral reflecting-prisms, and its inner surface opposite said reflecting-prisms smooth, and having on its front outer surface a series of horizontally-arranged light-directing prisms.

3. A prismatic-glass reflector having its outer rear face substantially covered with reflecting-prisms extending in a generally vertical direction and its inner rear surface smooth, and having its front outer surface substantially covered with light-directing prisms with their longer axes arranged horizontally, and the interior surface behind these directing-prisms covered with diffusing-ribs.

4. An integral reflector-shade to inclose an artificial light, com-

posed of glass, with its rear face externally covered with prisms arranged to reflect a large proportion of the light-rays from within, back into the device and out through the opposite face, the shade or distributing side of the device being provided with prisms with their longer axes extending in a generally horizontal direction, and having their plane faces arranged to direct the passing light-rays in converging planes.

804,255. FIREARM. JAMES R. MCALEVEY, Hallsboro, N. Y. Filed Apr. 26, 1904. Serial No. 205,253.



Claim.—1. A gun-barrel provided at its breech end with a rearwardly-extending arm terminating in an inwardly-projecting rib, the opposite side of the barrel being notched and recessed, a breech-block having a similar arm and rib, and also notched and recessed, the arm and rib of each member being adapted to enter the recess and opening of the other during closing movement of the breech-block, and a firing-pin carried by said breech-block.

2. In an auxiliary barrel for a firearm, a swinging breech-block at the breech end of the barrel, a firing-pin carried by the breech-block and provided with a laterally-extending arm, and a trigger pivoted to the breech-block and extending down to a position adjacent to the main trigger-guard of the weapon, said trigger being provided with a sear-nose for engaging the arm.

3. In an auxiliary barrel for a firearm, a swinging breech-block at the breech end of the barrel, a spring-pressed firing-pin carried by the breech-block and provided with a laterally-extending arm, and a trigger pivoted at a point adjacent to the front end of the block, the rear end of said trigger being extended to a position adjacent to the main trigger-guard, said trigger being provided with a sear-nose for engagement with the arm, the trigger serving further as a lever for swinging the breech-block to open and closed positions.

4. In a firearm, an auxiliary barrel, a breech-block having a forwardly-extending arm pivoted to the under side of the barrel, the mating faces of the breech-block and breech end of the barrel being disposed on lines struck from the pivot-point of the arm, and both the barrel and the block being provided with engaging portions, a pivoted lever carried by the breech-block and serving by engagement with the barrel to prevent opening movement, a firing-pin carried by said breech-block, a spring tending to move the same to firing position, an arm projecting from the firing-pin, and a trigger pivotally connected to the breech-block and provided with a sear-nose for engaging said arm.

5. The combination in a firearm, of an auxiliary barrel, a breech-block pivotally connected thereto, a spring-pressed firing-pin carried by the breech-block, an arm projecting from the firing-pin, a trigger pivotally connected to the breech-block and having a sear-nose for engaging the arm, the lower and rear end of said trigger terminating at a point adjacent to the main trigger-guard of the firing-arm, and a safety device in the form of a lever pivoted to the top of the breech-block and adapted to engage and hold said trigger.

804,256. SIGNAL FOR TELEPHONE-SWITCHBOARDS. FRANK R. MCBERTY, Evanston, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed July 11, 1902. Serial No. 115,131.



Claim.—1. In a visible signal, the combination with a pivoted weighted indicator-arm, of a weighted armature overbalancing the said arm to conceal the indicator, and a magnet therefor, and a separate armature engaging said indicator-arm to conceal the indicator and a magnet therefor, as described.

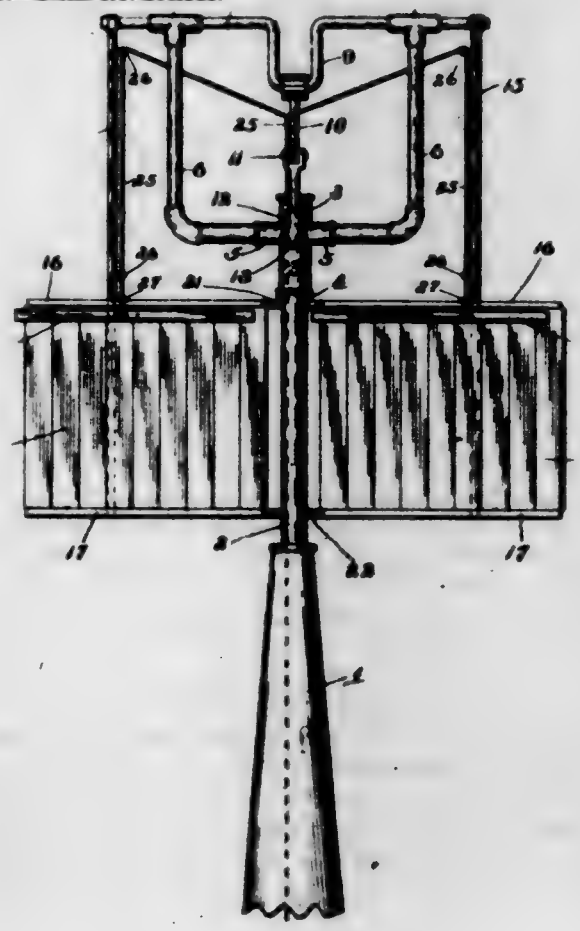
2. The combination with a pivoted weighted indicator-arm, said arm being balanced to take a position to display the indicator when free, of an overbalancing weighted armature normally engaging said indicator-arm, to hold the indicator in its concealed position, a magnet adapted to attract said armature to permit the indicator to tilt into a position of display, and a separate pivoted armature adapted to engage said indicator-arm to act thereon in the same direction as the overbalancing-armature, as described.

3. In combination, in a visible signal, the weighted indicator-arm e, the overbalancing-armature a' and the magnet therefor, the pivoted armature b' and the lever b^3 thereof adapted to engage the indicator-arm, and the magnet b, as described.

4. The combination with a pivoted indicator-lever carrying an indicator on its long arm, said arm being balanced to take a position of display when free, the overbalancing-armature bearing upon its short arm when unattracted, and the magnet for moving said armature, a pivoted armature adapted, when attracted, to engage the long arm of said lever, and a magnet for acting upon said last-mentioned armature, as described.

5. In combination, the pivoted indicator-lever e, the overbalancing-armature a', and the pivoted restoring-armature b', said armatures and lever being pivoted in the same axial line, whereby a frictionless engagement is obtained.

804,257. WIND-ENGINE. CHARLES MCGREGOR, Nashua, N. H., assignor of two-thirds to John C. McGregor, Nashua, N. H., and Henry W. Blair, Manchester, N. H. Filed Oct. 28, 1902. Renewed June 22, 1905. Serial No. 266,506.



Claim.—1. In a wind-engine, the combination with a suitable support, of a rock-shaft carried by said support, a piston-rod and means to connect it to said shaft; a wind-actuated sail connected to said shaft and adapted to reciprocate from a substantially vertical into a substantially horizontal plane said sail being formed in two parts connected together by curved members 21 and 22 adapted to compensate for the position of the support and permit the sail to fall into a vertical position, as set forth.

2. In wind-motors, a suitable supporting-standard having a tubular terminal; a piston-rod adapted to reciprocate in the bore of said terminal; a rock-shaft and suitably-supported bearings therefor; a two-part sail each part having an upwardly-extending arm attached to said shaft, said sail being composed of a plurality of movable members and means operatively connected to each of said movable members adapted to move them simultaneously and present them edgewise to the wind when the sail has moved to the end of its upward course substantially as specified and for the purpose set forth.

3. In a wind-engine of the character specified, a swinging reciprocating sail comprising a plurality of individual blades; a shaft having a pair of arms operatively connected to said sail; suitable supporting-bearings for said shaft; a piston-rod and means to connect it to said shaft, and additional means operatively connected to each blade adapted to control the blades and thereby present a solid front to the wind until the sail has reached the end of its upward course and then permit the blades to open and thereby cause the sail to lower itself by gravity to the initial point of the next upward stroke substantially as set forth.

4. The herein-described wind-engine comprising a suitable support; a piston-rod operatively carried by said support; a rock-shaft connected to said piston-rod whereby when the shaft is rocked the piston-rod will be reciprocated; suitable bearings for said shaft carried by said support; a sail provided with arms, the free ends of which are connected to and adapted to rock said shaft when the sail is moved upward and downward and automatic means carried by the sail adapted to offer resistance to the wind as the sail moves upward and reduce said resistance to the minimum point when the sail moves downward, all combined substantially as specified and for the purpose set forth.

5. The herein-described wind-engine comprising a suitable frame or support; a piston or pump rod; a rocking shaft having an arm or crank; suitable bearings for said shaft carried by said support; a pair of downwardly-extending arms rigidly connected to said shaft; a suitable frame rigidly connected to said arms and having a plurality of movable blades; a cross-bar connecting all of said blades whereby the weight of said bar will simultaneously move all of said blades into a vertical plane when the frame has reached its upward course and will permit the wind to close all of the sails when the frame has reached its downward course and thereby insure that the shaft and piston connected thereto will be operated, all combined substantially as specified and for the purpose set forth.

6. In wind-motors, the combination with a suitable supporting-post, of a sail formed in two main parts each part consisting of a plurality of movable slats or blades, said main parts being connected together by suitable means adapted to permit them to occupy positions on opposite sides of said post when at their lowest point and means to operate said slats or blades substantially as and for the purpose set forth.

7. In a wind-motor, a suitable supporting-post; a reciprocating sail formed in two parts and comprising a plurality of movable blades; means to connect the two parts of said sail together whereby they may lie when at rest, diametrically opposite each other on each side of said post, and suitable means to open and close said blades at their highest and lowest elevation respectively, substantially as and for the purpose set forth.

8. A wind-motor comprising a suitable support; a reciprocating two-part sail operatively mounted on said support, said sail in each part comprising a plurality of blades having gudgeons or journals at each end, means to open and close said blades as specified; additional means to connect the two main parts of said sail together to permit them to move downward upon opposite sides of the post without contacting therewith or with said connecting means all substantially as specified and for the purpose set forth.

804,258. TRACK-GAGE. CHRISTIAN NELSON, Hay Springs, Nebr. Filed June 9, 1905. Serial No. 264,444.

Claim.—1. A railway-track gage comprising a body portion, a spirit-level secured in said body portion, and a sleeve journaled on the body portion and provided with an opening therein to permit the inspection of the spirit-level.

2. In a railway-track gage, a hollow cylindrical body portion having a longitudinal slot formed therein, a spirit-level secured within the interior of said body portion and adjacent the slot therein, a sleeve journaled on said body portion and having an opening adapted to register with the slot in said body portion during a portion of the movement of said sleeve.



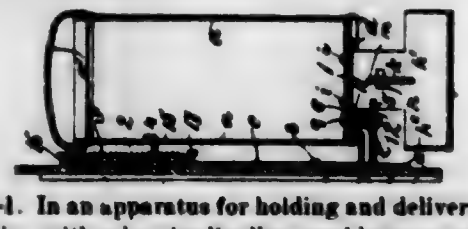
3. In a railway-track gage, a hollow cylindrical body portion having a longitudinal slot formed therein, a spirit-level secured within the interior of said body portion and adjacent the slot therein, a sleeve journaled on said body portion and having an opening adapted to register with the slot in said body portion during a portion of the movement of said sleeve, and means for locking the sleeve in various positions of adjustment on said body portion.

4. In a railway-track gage, a hollow cylindrical body portion having a longitudinally-disposed opening therein, a spirit-level secured within said body portion and adjacent the opening therein, a sleeve secured on said body portion and having an opening therein adapted to register with the opening in the body portion during a portion of the movement of said sleeve, and a pin-and-slot connection between the sleeve and said body portion.

5. A railway-track gage comprising a hollow body portion, heads secured to the opposite ends thereof, an elevating-screw threaded in one of said heads, and means for housing said elevating-screw within the body portion of the gage, when the same is not in use.

6. In a railway-track gage, a hollow body portion, heads secured to the opposite ends thereof and adapted to overlie the rails of a track, an elevating-screw threaded in the overlying portion of one of said heads, the other of said heads being provided with a threaded aperture extending into the hollow interior of the body portion of the gage and adapted to receive the elevating-screw, when the same is not in use.

804,259. APPARATUS FOR HOLDING AND DELIVERING POWDERS. FRANK W. HOBBS, New York, N. Y. Filed Nov. 12, 1904. Serial No. 232,403.



Claim.—1. In an apparatus for holding and delivering powder, the combination with a longitudinally-movable receptacle having a delivery-orifice in its bottom, of a shutter normally closing said orifice, means for moving said shutter to uncover said orifice when the receptacle is depressed, and means for returning the parts to a normal position.

2. In an apparatus for holding and delivering powder, the combination with a longitudinally-movable receptacle having a delivery-orifice in its bottom, of a shutter normally closing said orifice, means for moving said shutter to uncover said orifice when the receptacle is depressed, means for preventing waste of powder, and means for returning the parts to a normal position when the pressure on the receptacle is released.

3. In an apparatus for holding and delivering powder, the combination with a longitudinally-movable receptacle having a delivery-orifice in its bottom, of a shutter normally closing said orifice, means for moving said shutter to uncover said orifice when the receptacle is depressed, a tray suspended from the bottom of the receptacle for catching and holding any overdischarge of powder, and

means for returning the parts to a normal position when the pressure on the receptacle is released.

4. In an apparatus for holding and delivering powder, the combination with a longitudinally-movable receptacle having a delivery-orifice in its bottom, of a shutter normally closing said orifice, means for moving said shutter to uncover said orifice when the receptacle is depressed, a tray suspended from the bottom of the receptacle for catching and holding any overdischarge of powder, a brush-support within and across said tray, and means for returning the parts to a normal position when the pressure on the receptacle is removed.

5. In an apparatus for holding and delivering powder, the combination with a longitudinally-movable receptacle having a discharge-opening in its bottom, a shutter pivoted to the bottom of the receptacle and normally closing the said opening, means for moving the said shutter to one side to uncover said opening when the receptacle is depressed, and means for returning the parts to a normal position when the pressure upon the receptacle is removed.

6. In an apparatus for holding and delivering powder, the combination with a longitudinally-movable receptacle having a discharge-opening in its bottom, a shutter pivoted to the bottom of the receptacle and normally covering said opening, means for moving said shutter to one side to uncover said opening when the receptacle is depressed, a tray suspended from the bottom of the receptacle for catching and holding any overdischarge of powder, a brush-support within and across said tray, and means for returning the parts to a normal position when the pressure on the receptacle is removed.

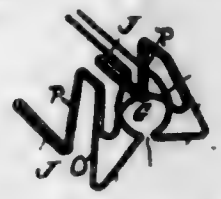
7. In an apparatus for holding and delivering powder, the combination with a longitudinally-movable receptacle having a discharge-opening in its bottom, a back plate adapted to be hung upon a wall, pairs of surface lugs upon said back plate, there being an inclined slot in its lower part, a slide-plate held within the lugs upon the back plate, arms upon said slide-plate connected with the receptacle and supporting the same, a shutter pivoted to the bottom of the receptacle and normally covering the opening therein, and an arm extending through an elongated slot in the slide-plate and entering the inclined slot in the back plate whereby when the receptacle is depressed the shutter is moved to one side thus uncovering the opening in the bottom of the receptacle, and a spring for supporting and returning the parts to a normal position when the pressure upon the receptacle is released, substantially as described.

8. In an apparatus for holding and delivering powder, the combination with a longitudinally-movable receptacle having a discharge-opening in its bottom, a back plate adapted to be hung upon a wall, pairs of surface lugs upon said back plate there being an inclined slot in its lower part, a slide-plate held within the lugs upon the back plate and having an elongated slot in its lower part, arms upon said slide-plate connected with the receptacle and supporting the same, a shutter pivoted to the bottom of the receptacle and normally covering the opening in the same and an arm extending through the elongated slot in the slide-plate and entering the inclined slot in the back plate whereby when the receptacle is depressed, the shutter is moved to one side thus uncovering the opening in the bottom of the receptacle, a tray suspended from the bottom of the receptacle for catching and holding any overdischarge of powder, and a spring for supporting and returning the parts to a normal position when the pressure on the receptacle is released, subtantially as described.

9. In an apparatus for holding and delivering powder, the combination with a longitudinally-movable receptacle having a discharge-opening in its bottom, a back plate adapted to be hung upon a wall, pairs of surface lugs upon said back plate there being an inclined slot in its lower part, a slide-plate held within the lugs upon the back plate and having an elongated slot in its lower part, arms upon said slide-plate extending to and connected with the receptacle and supporting the same, a shutter pivoted to the bottom of the receptacle and normally covering the opening in the same and having an arm extending through the elongated slot in the slide-plate and entering the inclined slot in the back plate whereby when the receptacle is depressed the shutter is moved to one side thus uncovering the opening in the bottom of the receptacle, a tray suspended from the bottom of the receptacle for catching and holding any overdischarge of powder, a brush-support within and across said tray, and a spring for supporting and returning the parts to a normal position when the pressure upon the receptacle is removed, substantially as described.

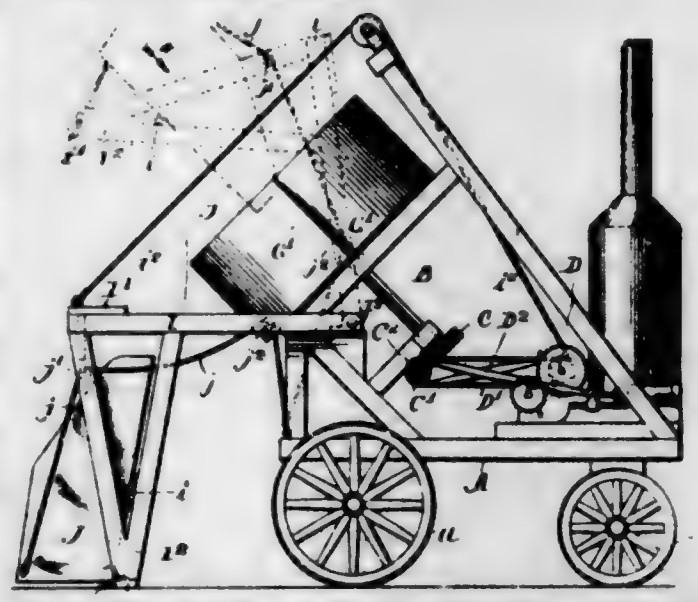
804,260. NECKTIE-FASTENER. JOHN NUTEY, Brooklyn, N. Y. Filed Mar. 10, 1904. Serial No. 197,449.

Claim.—1. A necktie-fastener made from a single piece of wire and consisting of the upper pair of parallel single arms, the open loop formed thereon and on a plane substantially at right angles thereto, the pair of spring-arms radiating from the lower open end of the loop and leaving a narrow neck or opening in said loop, the upright portions formed in the same plane with the loop, the lower pair of parallel arms formed by doubling the wire back upon itself, and the curved portion connecting the upright portions and crossing the open loop and serving as a retaining means for retaining the collar-button within the loop.



2. In combination with the necktie, and the shield having the upper and lower series of openings, the necktie-fastener having the upper pair of parallel arms passing through the upper openings in the shield and bent downward, the open loop formed on said arms and in a plane substantially the same as the downwardly-bent portions of said parallel arms, the pair of spring-arms radiating from the lower open end of the loop, the upright portions formed in the same plane with the loop, the lower pair of parallel arms passing through the lower openings in the shield and bent upwardly, and the curved portion connecting the upright portions and crossing the open loop and serving as a retaining means for retaining the collar-button within the loop.

804,261. CONCRETE-MIXER. JOHN W. PAGE, Chicago, Ill. Filed Jan. 20, 1904. Serial No. 189,793.

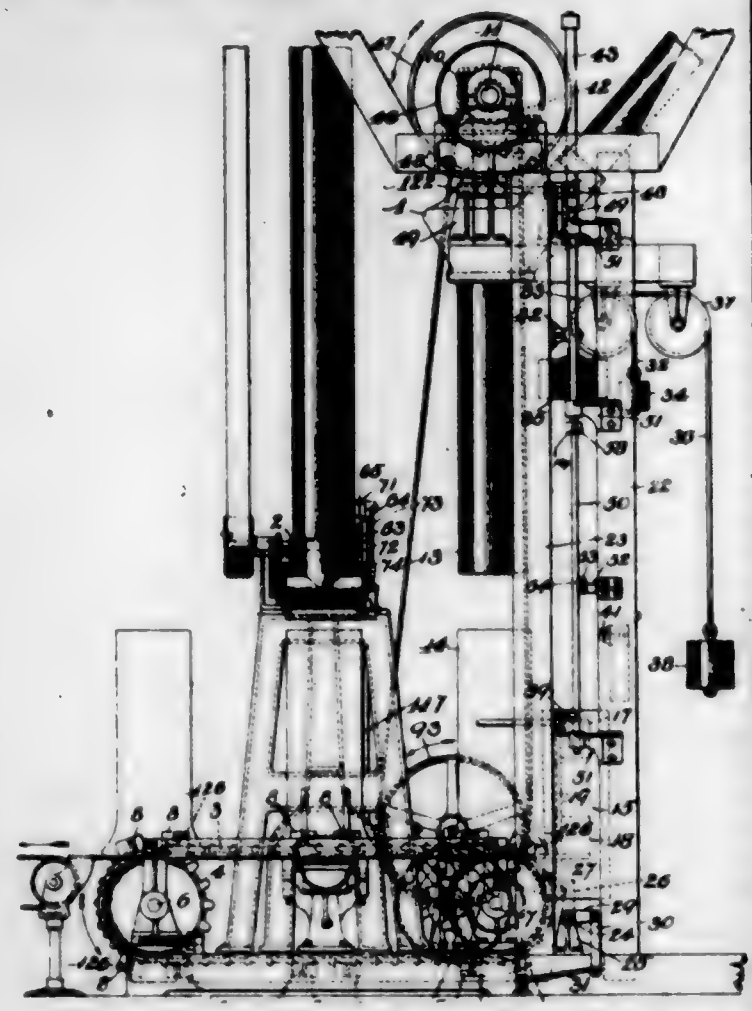


Claim.—1. In a device of the class described, the combination with a suitable framework, of a mixing-chamber supported thereby and rotatable upon an inclined axis, a swinging frame pivoted to the framework below the chamber and adapted to be swung into position above the same, a scoop pivoted to the swinging frame, means for moving the swinging frame about its pivot, and means for automatically swinging the scoop upon its pivot on the frame to dump the contents of the scoop into the mixing-chamber as the swinging frame is raised.

2. In a device of the class described, the combination with a suitable framework, of a mixing-chamber supported thereby and rotatable upon an inclined axis, a swinging frame pivoted to the framework below the chamber, and adapted to be swung into position above the same, a scoop pivoted to the swinging frame, means for moving the swinging frame about its pivot, a rope extending from the framework over pulleys on the swinging frame to the scoop, and adapted, as the swinging frame is raised, to swing the scoop upon its pivot to dump its contents into the mixing-chamber.

3. In a device of the class described, the combination with a mixing-chamber mounted on an inclined axis and means for rotating said chamber, of a bar extending transversely across said chamber and leaving a space for the passage of material between itself and the bottom thereof, said bar being constructed and arranged to permit the fine material to pass under it and to catch the coarser material and hold it until the same falls by its own weight, whereby the coarse material is deposited underneath the fine material substantially as and for the purpose set forth.

804,262. BAG FILLING AND WEIGHING MACHINE. FREDERICK O. PERROCK, Braintree, Mass., assignor, by mesne assignments, to Pneumatic Scale Corporation Limited, a Corporation of Maine. Filed Apr. 8, 1904. Serial No. 202,168.



Claim.—1. In a bag filling and weighing machine, a scale having a pan, means by which the bag is partially filled before it is placed on the scale-pan, means by which it receives the completion of its load while on the scale-pan, an intermittently-moving conveyer which transfers the partially-filled bag to a position above the scale-pan, means for intermittently driving the conveyer, means for depressing the scale-pan below the conveyer, and means controlled by the driving mechanism to raise the scale-pan into engagement with the bag and lift it from the conveyer at or near the end of the movement of the conveyer.

2. In a bag filling and weighing machine, a scale having a pan, means by which the bag is partially filled before it is placed on the scale-pan, means by which it receives the completion of its load while on the scale-pan, an intermittently-moving conveyer which transfers the partially-filled bag to the scale-pan, means by which the scale-pan is held below the path of the bag while the conveyer is in motion, means controlled by the driving mechanism of the conveyer to unlock the scale-pan when the bag reaches the scale-pan and means by which when the scale-pan is unlocked the scale-pan rises and lifts the partially-filled bag from the conveyer.

3. In a bag filling and weighing machine, a scale having a pan, means by which the bag is partially filled before it is placed on the scale-pan, means by which it receives the completion of its load while on the scale-pan, an intermittently-moving conveyer which transfers the partially-filled bag to a position over the scale-pan, an opening in the conveyer and means by which when the scale-pan is reached the scale-pan is moved up through the opening in the conveyer and lifts the partially-filled bag up from the conveyer.

4. In a bag filling and weighing machine, a scale having a pan, means by which the bag is partially filled before it is transferred to the scale-pan, means by which it receives the completion of its load while on the scale-pan, an intermittently-moving conveyer which transfers the partially-filled bag to a position over the scale-pan, a scale-lock by which the scale-pan is held below the path of the bag while the conveyer is in motion, means controlled by the driving mechanism to unlock the scale when the bag reaches a position over the scale-pan, an opening in the conveyer, means by which when the scale is unlocked the scale-pan will be moved up through the opening in the conveyer and lift the partially-filled bag from the conveyer, and means actuated by the tipping of the scale-beam under the weight of the completed load to close the scale-feed and again lock the scale.

5. In a bag filling and weighing machine, an intermittently-moving bag-conveyer, with an opening therein, driving mechanism, a tilting scale whose pan is movable up and down through the opening in the said conveyer, a scale-lock which is adapted to hold the scale-pan below the path of the bag, means controlled by the driving mechanism to release the lock when a bag is brought to a position above the scale-pan, a counterweight which when the lock is released tips the scale-beam so as to raise the pan and lift the bag off of the conveyer, said counterweight being overbalanced by the predetermined weight of the bag when filled, and means controlled by the tipping of the scale-beam under the weight of the filled bag to depress the scale-pan below the bag-conveyer and deposit the bag on the conveyer in the descent of the pan and apply the lock to the scale.

6. In a bag-filling machine, a traveling bag-conveyer comprising two endless travelers moving parallel with each other in the same direction and at equal speed, with a space between them, a series of blocks secured to each of said travelers opposite to each other, those on each traveler extending toward those on the other traveler, and having inclined faces which form a seat for the bag.

7. In a bag filling and weighing machine, a scale, two feed mechanisms one of which supplies to each bag a part of the required load and the other of which supplies it with the additional amount required while on the scale-pan, a traveling conveyer which moves the partially-filled bag to the scale-pan, said conveyer comprising two intermittently-moving endless travelers moving parallel with each other in the same direction and at equal speed with a space between them, said travelers both extending past the scale-pan, one in front and one in the rear, said scale-pan having a tilting movement through the space between said travelers, seats for the bag on said conveyer, means for normally holding the scale-pan below the path of the bag, means for tilting the scale-pan up and thereby lifting the partially-filled bag and holding it away from the conveyer during the operation of the scale-feed, the falling of the scale-pan under the weight of the filled bag causing the bag to be again deposited on the conveyer.

8. In a filling and weighing machine, a scale, a feed-chute which supplies material to the receptacle while on the scale, a shut-off valve for the outlet from the feed-chute, a rotating shaft, a ratchet fast to said shaft, a pawl-carrier loose on said shaft having a pawl adapted to engage with said ratchet whereby the pawl-carrier revolves when the pawl and ratchet are in engagement with each other, a rocking lever fulcrumed intermediate its ends and having on its opposite ends stops which are adapted to alternately engage with and trip said pawl and stop the pawl-carrier twice during each revolution, mechanism connected with the said shut-off valve which is actuated by the alternate movements of the pawl-carrier to alternately open and close the said valve, and mechanism actuated by the movement of the scale under the predetermined weight of material to trip the stop which controls the valve-closing movement of the pawl-carrier.

9. In a filling and weighing machine, a scale, a feed-chute which supplies material to the receptacle while on the scale, a shut-off valve for the outlet from the feed-chute, a rotating shaft, a ratchet fast to said shaft, a pawl-carrier loose on said shaft having a pawl adapted to engage with said ratchet whereby the pawl-carrier revolves when the pawl and ratchet are in engagement with each other, a rocking lever fulcrumed intermediate its ends and having on its opposite ends stops which are adapted to alternately engage with and trip said pawl, and stop the pawl-carrier twice during each revolution, mechanism connected with the said shut-off valve which is actuated by the alternate movements of the pawl-carrier to alternately open and close the said valve, a conveyer which carries the receptacles to the scale, mechanism for intermittently moving said conveyer, and mechanism actuated by said conveyer-driving mechanism to turn said rocking lever and trip the stop which controls the valve-opening movement of the pawl-carrier.

10. In a bag filling and weighing machine, a scale, two feed mechanisms one of which supplies to each bag a part of the required load and the other of which supplies it with the additional amount required while on the scale, an intermittently-moving conveyer which moves the partially-filled bag to the scale, said conveyer consisting of an endless traveler driven by an intermittently-driven shaft, a driving-shaft, a ratchet fixed to said driving-shaft, a pawl-carrier mounted loosely on said driving-shaft and operatively connected with said driven shaft, a pawl on said carrier adapted to engage with said ratchet and thereby cause the said driven shaft to rotate and the conveyer to move, two independently-controlled stops both of which are adapted to engage said pawl and thereby prevent the movement of said driven shaft and conveyer, a movable holder for the bag during the preliminary feed which stops said feed at a

predetermined point in its movement, mechanism controlled by the movement of said holder after it has stopped the feed to throw one of said stops out of engagement with said pawl, and mechanism actuated by the movement of the scale under the weight of the filled bag to trip the other of said stops, the tripping of both of said stops being necessary to permit movement of the conveyer, and mechanism actuated by said pawl-carrier near the end of its movement to open the scale-feed.

11. In a filling and weighing machine, a scale, two feed mechanisms one of which supplies to each receptacle a part of the required load and the other of which supplies it with the additional amount required while on the scale, an intermittently-moving conveyer which moves the partially-filled receptacle to the scale, mechanism for intermittently moving said conveyer, two independently-controlled stops each of which is adapted to prevent movement of said conveyer, a movable holder for the receptacle while receiving the preliminary feed which transfers the partially-filled receptacle to said conveyer, mechanism actuated by the movement of said holder of the partially-filled receptacle to trip one of said stops, and mechanism actuated by the movement of the scale under the weight of the filled receptacle to trip the other one of said stops, the tripping of both of said stops being necessary before the conveyer can move.

12. In a filling and weighing machine, a scale, two feed mechanisms one of which supplies to each receptacle a part of the required load and the other of which supplies it with the additional amount required while on the scale, an intermittently-moving conveyer which moves the partially-filled receptacle to the scale, mechanism for intermittently moving said conveyer, two independently-controlled stops each of which is adapted to prevent movement of said conveyer, a movable holder for the receptacle while receiving the preliminary feed which transfers the partially-filled receptacle to said conveyer, mechanism actuated by the movement of said holder of the partially-filled receptacle to trip one of said stops, and mechanism actuated by the movement of the scale under the weight of the filled receptacle to trip the other one of said stops, the tripping of both of said stops being necessary before the conveyer can move, and mechanism actuated by the movement of the conveyer to move one of said stops into position to stop the conveyer after it has moved a certain distance.

13. In a filling and weighing machine, a scale, two feed mechanisms one of which supplies to each receptacle a part of the required load and the other of which supplies it with the additional amount required while on the scale, an intermittently-moving conveyer which transfers the partially-filled receptacle to a position over the scale-pan, a scale-lock by which the scale-pan is held below the path of the receptacle while the conveyer is in motion, a shut-off valve for the outlet from the feed-chute, a rotating shaft, a ratchet fast to said shaft, a pawl-carrier loose on said shaft having a pawl adapted to engage with said ratchet whereby the pawl-carrier revolves when the pawl and ratchet are in engagement with each other, mechanisms controlled alternately by the movement of the conveyer and by the movement of the scale to start said pawl-carrier and to stop it again twice during each revolution of the pawl-carrier, mechanism actuated by said pawl-carrier in that movement which is controlled by the moving of the conveyer to open the scale-feed, and which is actuated by the pawl-carrier in that movement which is controlled by the movement of the scale to close the scale-feed, and mechanism also actuated by that movement of the pawl-carrier which is controlled by the movement of the conveyer to apply the scale-lock.

14. In a filling and weighing machine, a scale, two feed mechanisms one of which supplies to each receptacle a part of the required load and the other of which supplies it with the additional amount required while on the scale, an intermittently-moving conveyer which transfers the partially-filled receptacle to a position over the scale-pan, a scale-lock by which the scale-pan is held below the path of the receptacle while the conveyer is in motion, a shut-off valve for the outlet from the feed-chute, a rotating shaft, a ratchet fast to said shaft, a pawl-carrier loose on said shaft having a pawl adapted to engage with said ratchet whereby the pawl-carrier revolves when the pawl and ratchet are in engagement with each other, mechanisms controlled alternately by the movement of the conveyer and by the movement of the scale to start said pawl-carrier and to stop it again twice during each revolution of the pawl-carrier, mechanism actuated by said pawl-carrier in that movement which is controlled by the moving of the conveyer to open the scale-feed, and which is actuated by the pawl-carrier in that movement which is controlled by the movement of the scale to close the scale-feed, mechanism also actuated by that movement of the pawl-carrier which is controlled by the movement of the conveyer to apply the scale-lock, and means for tipping up the forward arm of the scale-beam when the load is removed from the scale.

15. In a filling and weighing machine, a scale, a scale-feed, a rotating shaft, a ratchet fast to said shaft, a pawl-carrier loose on said shaft having a pawl adapted to engage with said ratchet and cause the pawl-carrier to revolve, means for tripping said pawl and stopping the pawl-carrier twice during each revolution, and mechanism actuated by the alternate movements of the pawl-carrier to alternately open and close the feed.

16. In a filling and weighing machine, a scale, a scale-feed, a rotating ratchet, a rotary pawl-carrier having a pawl adapted to engage with said ratchet, and thereby rotate the pawl-carrier, means for tripping said pawl and stopping the pawl-carrier twice during each revolution, mechanism actuated by alternate movements of the pawl-carrier to close the scale-feed and mechanism controlled by the movement of the scale to start the pawl-carrier and close the scale-feed.

17. In a filling and weighing machine, a scale, a scale-feed, an intermittently-moving receptacle-conveyer, a rotating ratchet, a rotary pawl-carrier having a pawl adapted to engage with said ratchet and thereby rotate the pawl-carrier, means for tripping said pawl and stopping the pawl-carrier twice during each revolution, mechanism actuated by alternate movements of the pawl-carrier to close the scale-feed, and mechanism controlled by the movement of the conveyer to start the pawl-carrier and open the scale-feed.

18. In a filling and weighing machine, a scale, a scale-feed, an intermittently-moving receptacle-conveyer, a rotating ratchet, a rotary pawl-carrier having a pawl adapted to engage with said ratchet and thereby rotate the pawl-carrier, means for tripping the pawl and stopping the pawl-carrier twice during each revolution, mechanism actuated by alternate movements of the pawl-carrier to alternately open and close the scale-feed, mechanism controlled by the movement of the conveyer to start the pawl-carrier and open the scale-feed, and mechanism controlled by the movement of the scale to start the pawl-carrier and close the scale-feed.

19. In a filling and weighing machine, a scale, a scale-feed, an intermittently-moving receptacle-conveyer, a rotating ratchet, a rotary pawl-carrier having a pawl adapted to engage with said ratchet and thereby rotate the pawl-carrier, means for tripping the pawl and stopping the pawl-carrier twice during each revolution, mechanism controlled alternately by the movement of the conveyer and by the movement of the scale to start the pawl-carrier, a scale-lock, and mechanism actuated by that movement of the pawl-carrier which is controlled by the conveyer to apply the scale-lock.

20. In a filling and weighing machine, a scale, a scale-feed, an intermittently-moving receptacle-conveyer, a rotating ratchet, a rotary pawl-carrier having a pawl adapted to engage with said ratchet and thereby rotate the pawl-carrier, means for tripping the pawl and stopping the pawl-carrier twice during each revolution, mechanism controlled by the movement of the conveyer to actuate each alternate movement of the pawl-carrier, mechanism actuated by the movement of the pawl-carrier which is controlled by the conveyer to open the scale-feed and mechanism also actuated by said movement of the pawl-carrier to hold the scale-beam from tipping.

21. In a filling and weighing machine, a scale, a scale-feed, a rotary disk, means for stopping and starting said disk twice during each rotation, and mechanism actuated by the alternate movements of the said disk to alternately open and close said feed.

22. In a filling and weighing machine, a scale, a scale-feed, a rotary disk, means for giving an intermittent rotary movement to said disk, and mechanism actuated by the alternate movements of said disk to alternately open and close said feed.

23. In a filling and weighing machine, a scale, a scale-feed, an intermittently-moving conveyer, a rotary disk, means for giving an intermittent rotary movement to said disk, and mechanism controlled alternately by the movement of the conveyer and by the tipping of the scale to open and close the scale-feed.

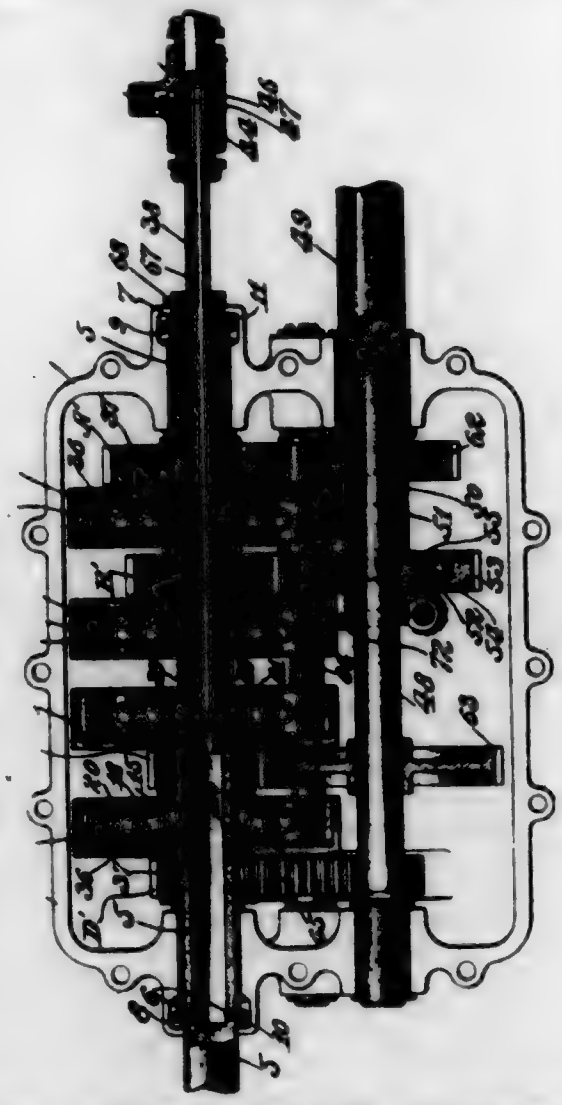
24. In a filling and weighing machine, a scale, a scale-feed, a rotary disk, means for giving an intermittent rotary movement to said disk, and mechanism actuated by the movement of said disk to close the scale-feed.

25. In a filling and weighing machine, a scale, a scale-feed, a rotary disk, means for giving an intermittent rotary movement to said disk controlled by the tipping of the scale-beam to start said disk, and means actuated by said disk when the scale-beam tips to close the scale-feed.

26. In a filling and weighing machine, a scale, a scale-feed, a rotating ratchet, a rotary pawl-carrier having a pawl adapted to engage with said ratchet and thereby rotate the pawl-carrier, mechanism controlled by the tipping of the scale-beam to trip said pawl and allow the pawl-carrier to rotate, and mechanism actuated by said pawl-carrier when the scale-beam tips to close the scale-feed.

27. In a filling and weighing machine, a scale, two feed mechanisms one of which supplies to each receptacle a part of the required load and the other of which supplies it with the additional amount required while on the scale, an intermittently-moving conveyer which moves the partially-filled receptacle to the scale, a rotating ratchet, a rotary pawl-carrier, mechanism actuated by said pawl-carrier to move the conveyer, a pawl on said carrier adapted to engage with said ratchet and thereby rotate the pawl-carrier and move the conveyer, two independently-controlled stops both of which are adapted to engage said pawl and thereby prevent movement of said pawl-carrier until after both feeds are stopped.

804,283. VARIABLE-SPEED GEARING. ADOLPH PETZLER, St. Louis, Mo. Filed Oct. 23, 1904. Serial No. 229,347.



Claim.—1. In a variable-speed gearing, the combination with a driving-shaft and a driven shaft, one of said shafts being hollow and having fluid-ports therein, castings on the hollow shaft having piston-cylinders in communication with the hollow shaft through the fluid-ports, pistons in said cylinders, clutch members loose on the hollow shaft and gears carried thereby, gears on the other shaft and in mesh with the gears on the clutch members, and means for permitting fluid to enter the cylinders in one of the clutch members to the exclusion of the others to hold the gear-carrying clutch member non-rotatable with relation to the shaft; substantially as described.

2. A variable-speed gearing, comprising a hollow shaft, a plurality of gear-carrying clutch members loosely mounted thereon, a clutch member for each of the first-named clutch members fixed on said hollow shaft and piston-cylinders in communication therewith, pistons working in said cylinders, means controlled by said pistons for frictional engagement with the loose clutch members, and fluid-controlling means for actuating said pistons to bind the two clutch members together; substantially as described.

3. A variable-speed gearing, comprising a hollow shaft, a plurality of gear-carrying clutch members loosely mounted thereon, a clutch member for each of the first-named clutch members fixed on said hollow shaft and piston-cylinders in communication therewith, pistons working in said cylinders, means controlled by said pistons for frictional engagement with the loose clutch members, and sliding fluid-controlling means for actuating said pistons to bind the two clutch members together; substantially as described.

4. A variable-speed gearing, comprising a hollow shaft, a plurality of gear-carrying clutch members loosely mounted thereon, a clutch member for each of the first-named clutch members fixed on said hollow shaft and piston-cylinders in communication therewith, pistons working in said cylinders, means controlled by said pistons for frictional engagement with the loose clutch members, and sliding fluid-controlling means comprising a hollow tube for actuating said pistons to bind the two clutch members together; substantially as described.

5. A variable-speed gearing, comprising a hollow shaft, a plurality of gear-carrying clutch members loosely mounted thereon, a clutch member for each of the first-named clutch members fixed on said hollow shaft and piston-cylinders in communication therewith, pistons working in said cylinders, means controlled by said pistons for frictional engagement with the loose clutch members, sliding fluid-controlling means comprising a hollow tube having a head at one end and binding against the inner walls of the hollow shaft, said tube having outlet-ports adapted to register with the ports in the shaft, and a groove intermediate the ends of the head and surrounding the outlet-ports in said tube; substantially as described.

6. A variable-speed gearing, comprising a tubular driving-shaft, a driven shaft, fluid-controlled clutches on the hollow driving-shaft, a gear carried by each clutch, gears on the driven shaft and in mesh with the gears on the clutches, a third shaft, a gear carried thereby constantly in mesh with one of the gears on the drive-shaft, and another gear constantly in mesh with a gear on the driven shaft; substantially as described.

7. A variable-speed gearing, comprising a tubular driving-shaft, a driven shaft, fluid-controlled clutches on the hollow driving-shaft, a gear carried by each clutch, gears on the driven shaft and in mesh with the gears on the clutches, a third shaft, a gear carried thereby constantly in mesh with one of the gears on the drive-shaft, another gear constantly in mesh with a gear on the driven shaft, the last-mentioned gear being loose on the third shaft, and a clutch for binding the last-named gear to the third shaft; substantially as described.

8. In a variable-speed gearing, the combination with a driving-shaft and a driven shaft comprising two members alining with each other, clutch members on the respective driving-shaft members, one of said clutch members comprising a disk having a peripheral flange with teeth, the other clutch member having a plurality of cam-faces, interposed between which and the flange on the opposite clutch member are friction devices, a clutch on the driving-shaft, a gear carried thereby and constantly in mesh with the gear-tooth clutch member, said clutch and the gear carried thereby being normally loose on the driving-shaft, and means for binding the clutch and its gear to the shaft; substantially as described.

9. In a variable-speed gearing, the combination with a driving-shaft having a central, longitudinal, hollow portion with exit-ports at suitable points along its length, fluid-actuated clutches carried by said driving-shaft, gears carried by the clutches for engagement with gears on a driven shaft, a sliding tube in the bore of the driving-shaft and rotatable with the driving-shaft, said sliding tube being connected to a suitable fluid-supply, and said tube having exit-ports adapted to supply fluid from the tube through the ports of the driven shaft into the clutch members; substantially as described.

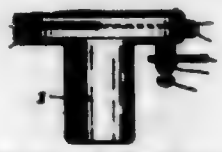
10. In a variable-speed gearing, the combination with a driving-shaft having a central longitudinal hollow portion with exit-ports at suitable points along its length, fluid-actuated clutches carried by said driving-shaft and gears carried by the clutches for engagement with gears on a driven shaft, a sliding tube in the bore of the driving-shaft and connected to a suitable fluid-supply, said tube having exit-ports adapted to supply fluid from the tube through the ports of the driven shaft into the clutch members, and drain-cups separate from the driving-shaft but at all times communicating therewith; substantially as described.

11. In a variable-speed gearing, the combination with a hollow shaft, a driven shaft comprising two members, a clutch member on each thereof and coöperating with a clutch member on the opposite shaft member, gears rigid with the hollow shaft, teeth on one of the clutch members, loose gears on the driving-shaft each of which meshes with one of the gears on the driven shaft, clutches for holding the gears on the driving-shaft immovable with relation thereto, means for actuating said clutches, a clutch on said driving-shaft, a gear carried thereby, a third shaft, a fixed gear on the third shaft and constantly in mesh with the gear on the last-named clutch, a loose gear on the third shaft and constantly in mesh with one of the gears on the driven shaft, and means for holding the loose gear on the third shaft fixed thereto; substantially as described.

12. In a variable-speed gearing, the combination with a gearing having clutches coöperating therewith, a fluid-controlling device coöperating with the gearing to actuate parts of the clutches

thereof, said device being rotatable with one of the shafts, a coupling connected to said device and having an enlarged recess surrounding an opening in said device; substantially as described.

804,264. **DIAPHRAGM OF GRAPHOPHONES, &c.** ARTURO C. PICCHERNI, Buenos Ayres, Argentina. Filed Aug. 15, 1904. Serial No. 220,845.



Claim.—1. In combination, a diaphragm-casing comprising a cylindrical portion and enlarged upper portion, the bottom of the enlarged portion being in a plane at right angles to the cylindrical portion and the top of said enlarged portion being bent to form an inwardly-extending flange lying in a plane parallel to the bottom thereof so as to form upper and lower opposing walls between which the edges of the diaphragm is clamped and a lateral inserting-opening in the wall of the enlarged portion between said upper and lower walls.

2. In combination the diaphragm-casing; having a downwardly-projecting portion connected thereto, a stylus-carrying member pivotally connected to said casing, and having a downwardly-projecting portion, and a thumb-screw carried by said portion and engaging with the portion projecting from the casing for regulating the position of the stylus-carrying member substantially as described.

3. In combination, the diaphragm-casing, the stylus-carrying member pivotally connected thereto, a downwardly-projecting part carried by said stylus-carrying member, a single thumb-screw carried thereby and a connection between the end of the screw and a part on the diaphragm-casing.

804,265. **SPRING-HANGER.** THEODORE W. PLUMB, Cleveland, Ohio, assignor to Parish & Bingham Company, Cleveland, Ohio, a Corporation of West Virginia. Filed Feb. 21, 1905. Serial No. 246,707.



Claim.—1. A spring hanger or support pressed or stamped from a plate of sheet metal and having a trough-shaped form.

2. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and provided with an enlarged end portion thereon.

3. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion thereon.

4. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion thereon provided with a depending end piece on said end portion.

5. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion thereon provided with a rounded depending end piece on said end portion.

6. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion thereon provided with rounded side ends and a rounded depending end piece between and conforming in part to said rounded side ends.

7. A spring hanger or support pressed or stamped from a plate of sheet metal and having a curved trough-shaped form and provided with an enlarged end portion thereon.

8. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and provided with an enlarged end portion thereon.

9. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion thereon.

10. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion thereon provided with a depending end piece on said end portion.

11. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion thereon provided with a rounded depending end piece on said end portion.

12. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion thereon provided with rounded side ends and a rounded depending end piece between and conforming in part to said rounded side ends.

13. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having its upper face provided with a raised portion at one end.

14. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged end portion thereon provided with a raised upper face.

15. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion provided with a raised upper face.

16. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having its upper face provided with a raised upper portion at one end.

17. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged end portion thereon provided with a raised upper face.

18. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion provided with a raised upper face.

19. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to the end of said hanger.

20. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and provided with an enlarged end portion thereon, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to said end portion.

21. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and provided with an enlarged hollow end portion thereon, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to said hollow end portion.

22. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having an enlarged hollow end portion thereon and provided with a depending end piece, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to said hollow end portion and end piece.

23. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having an enlarged hollow end portion thereon and provided with a rounded depending end piece, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to said end portion and rounded end piece.

24. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having an enlarged hollow end portion with rounded side ends and a rounded depending end piece between and conforming in part to said rounded side ends, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to said end portion, rounded side ends and rounded end piece.

25. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and provided with an enlarged hollow end portion thereon, and a cap pressed or stamped from a plate of sheet metal into a curved trough-shaped form for fitting over, conforming to and being secured to said hollow end portion.

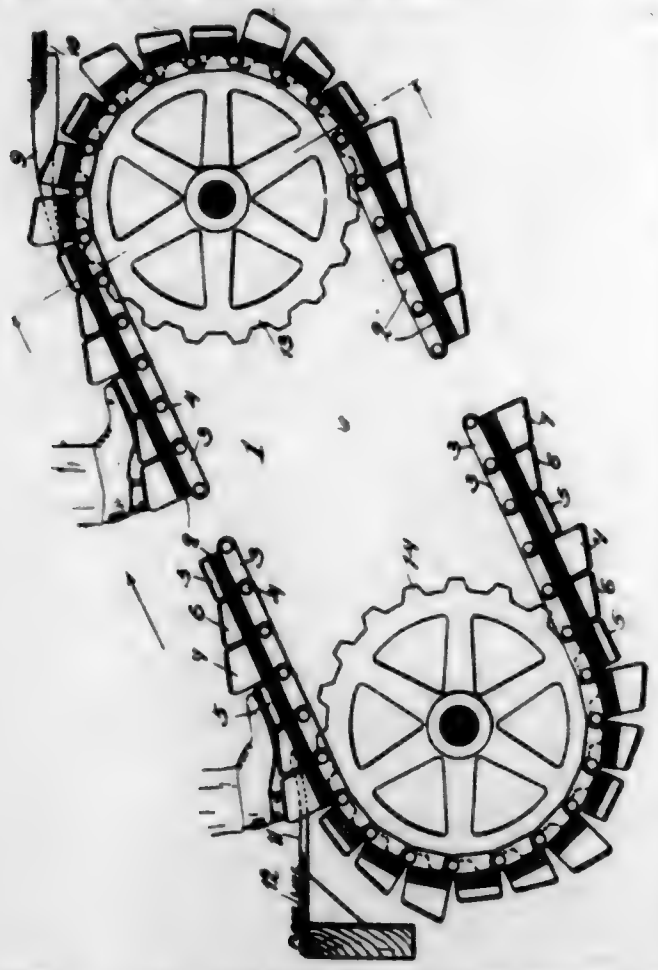
26. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form having an enlarged hollow end portion thereon and provided with a depending end piece, and a cap pressed or stamped from a plate of sheet metal into a curved trough-shaped form for fitting over, conforming to and being secured to said hollow end portion and end piece.

27. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form having an enlarged hollow end portion thereon and provided with a rounded depending end piece, and a cap pressed or stamped from a plate of sheet metal into a curved trough-shaped form for fitting over, conforming to and being secured to said end portion and rounded end piece.

28. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form having an enlarged

hollow end portion with rounded side ends and a rounded depending piece between and conforming in part to said rounded ends, and a cap pressed or stamped from a plate of sheet metal into a curved trough-shaped form for fitting over, conforming to and being secured to said end portion, rounded ends and rounded end pieces.

804,266. INCLINED ELEVATOR. JESSE W. RENO, New York, N. Y. Filed Aug. 11, 1905. Serial No. 273,793.



Claim.—1. A tread-belt for inclined elevators consisting of a series of transverse members hinged together in the form of an endless belt, said members being arranged in groups or sets of varying heights.

2. A tread-belt for inclined elevators consisting of groups of transverse slats hinged together in the form of an endless belt, the tread-surfaces of the elements of each group being arranged at successively-increasing heights above the general plane of the belt.

3. A tread-belt for inclined elevators consisting of groups of slats, each group comprising a plurality of transverse slats hinged together in the form of an endless belt, the different members of each group having their tread-surfaces arranged so that when said tread-belt is operatively placed upon its incline the top surfaces of the different members of a group shall lie in substantially the same plane, which plane is at an angle and more nearly horizontal than the general inclination of the incline.

4. A tread-belt for inclined elevators having its tread-surface in the form of steps, each step being composed of a plurality of transverse slats hinged together.

5. A tread-belt for inclined elevators having its tread-surface in the form of steps, each step being composed of a plurality of transverse slats hinged together and longitudinal grooves adapted to register with the comb of a comb-landing.

6. A tread-belt for inclined elevators composed of transverse slats hinged together in the form of an endless belt, said slats having trapezoidal strips secured to their surfaces leaving longitudinal grooves adapted to register with a comb-landing the strips secured to one slat varying in shape with those secured to the adjacent slats so as to form therewith a step-like surface, each step of which is composed of a plurality of transversely-jointed elements.

804,267. BRAKE-BEAM. GILBERT P. RITTER, Chicago, Ill. Filed Feb. 24, 1905. Serial No. 247,186.

Claim.—1. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of flanged elements separated at their junction with said strut and converging toward said brake-heads, substantially as and for the purposes specified.

2. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut, substantially as and for the purposes specified.



3. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and converging toward said brake-heads, substantially as and for the purposes specified.

4. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and having their stems extending away from each other in opposite directions, substantially as and for the purposes specified.

5. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and converging toward said brake-heads, said T's having their stems extending away from each other in opposite directions, substantially as and for the purposes specified.

6. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of flanged elements separated at their junction with said strut, substantially as and for the purposes specified.

7. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of flanged elements separated at their junction with said strut, and a tension member passing between said flanged elements within the brake-heads, substantially as and for the purposes specified.

8. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of flanged elements separated at their junction with said strut and converging toward their ends, and a tension member passing between said flanged elements within the brake-heads, substantially as and for the purposes specified.

9. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut, and a tension member passing between said T's within the brake-heads, substantially as and for the purpose specified.

10. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and converging toward the brake-heads, and a tension member passing between said T's within the brake-heads, substantially as and for the purposes specified.

11. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and converging toward the brake-heads, said T's having their stems extending away from each other in oppo-

site directions, and a tension member passing between said T's within the brake-heads, substantially as and for the purposes specified.

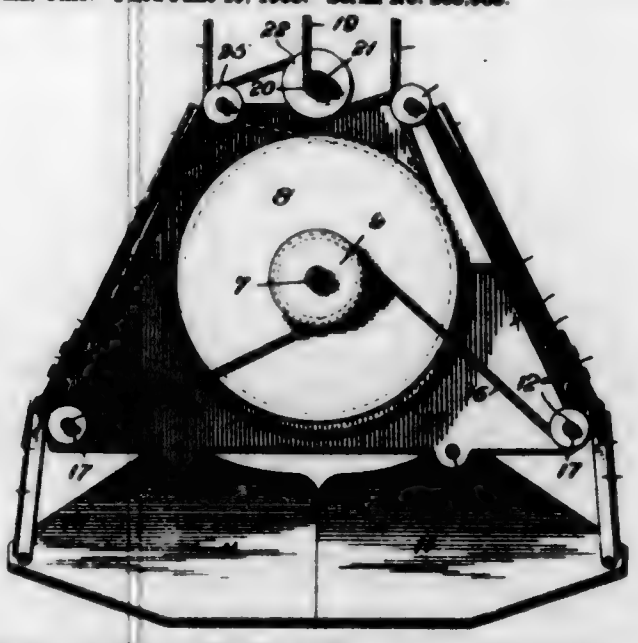
12. In a brake-beam, the combination with a tension member and brake-heads, of a compression member consisting of flanged elements, and a strut interposed between said flanged elements, substantially as and for the purposes specified.

13. In a brake-beam, the combination with a tension member and brake-heads, of a compression member consisting of T's, and a strut interposed between said T's, substantially as and for the purposes specified.

14. In a brake-beam, the combination with a tension member and brake-heads, of a compression member consisting of T's having their stems extending away from each other in opposite directions, and a strut interposed between said T's, substantially as and for the purposes specified.

15. In a brake-beam, the combination with brake-heads, of a compression member consisting of T's separated at their junction with the strut and converging toward said brake-heads, said T's having their stems extending away from each other in opposite directions, a strut interposed between said T's, and a tension member passing between said T's within the brake-heads, substantially as and for the purposes specified.

804,268. **CLAM-SHELL BUCKET.** WILLIAM B. ROBERTS, Ashtabula, Ohio. Filed June 19, 1905. Serial No. 265,908.



Claim.—1. The combination with a casing and bucket-sections, of closing and opening cables, and a reducing-gear and tackle between the opening-cable and the sections constructed to take up the tackle and decrease the drop of the bucket when unloaded.

2. The combination with a casing and bucket-sections, of closing and opening cables connected to the bucket-sections, and means between the opening-cables and the sections to decrease the drop of the bucket when the closing-cable is released.

3. The combination with a casing and a pair of bucket-sections, of a reducing-sheave and its shaft journaled on the casing, a closing-cable operatively connected to the sections, a pair of cables connected between the said sheave and the sections, and an opening-cable connected to the shaft of said sheave.

4. The combination with a casing and a pair of bucket-sections, of a shaft journaled on the casing and having a sheave thereon, a pair of cables connected between the sheave and the sections, an opening-cable attached to the shaft and adapted to wind thereon, and a closing-cable operatively connected to the sections.

5. The combination with a casing, and bucket-sections pivoted thereto, of tracks on opposite sides of the casing, wheeled carriages movable on said tracks, thrust-bars pivotally connected at opposite ends of the carriages and the sections, and opposing opening and closing cables operatively connected to the carriages.

6. In a clam-shell bucket, the combination with a casing having channeled tracks thereon, of carriages having wheels which travel in said channels, thrust-bars between the carriages and the bucket-shells, and opening and closing cables connected to the carriages.

7. In a clam-shell bucket, a bucket-section having a back hinged to the main part thereof.

8. In a clam-shell bucket, bucket-sections having thrust-bars pivotally attached to the rear thereof and connected to opening and closing cables, and back-plates for the sections mounted on the said bars, substantially as described.

9. In a clam-shell bucket, in combination, a casing containing a sheave and drums connected to the closing-cable and to buckets pivoted to the lower end of the casing, and a guard between said sheave and the buckets.

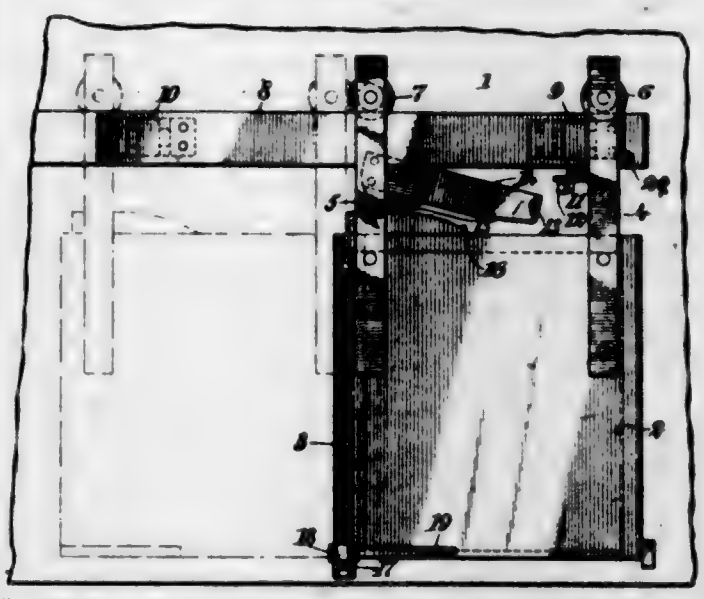
10. The combination with a casing, of bucket-sections hinged to the lower edge thereof at points at a distance inwardly from the outer corners of the casing, carriages which travel on opposite sides of the casing, opening and closing cables operatively connected to said carriages, and thrust-bars between the outer ends of the buckets and the carriages.

804,269. **CONSTRUCTION OF THE HULLS OF SHIPS AND BOATS.** HERBERT E. ROSS, Sydney, New South Wales, Australia. Filed Apr. 4, 1905. Serial No. 253,747.



Claim.—The hull of a ship the deck of which is, approximately, oblong or parallelogram in shape, sides projecting vertically downward from the long edges of the parallelogram, such sides being, approximately, in the form of equal segments of a circle, and an external bottom which, longitudinally, is of the same convexity as the curved lower edges of the segmental sides, but, transversely, is concaved, as and for the purposes specified.

804,270. **SLIDING DOOR.** JOHN S. SCHLOSSER, Hillsdale, Mich. Filed Feb. 16, 1905. Serial No. 245,836.

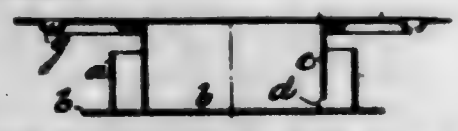


Claim.—1. In a sliding-door mechanism, a track mounted to swing lengthwise and laterally, a door mounted to slide on the track, and means controlled by the sliding of the door to cause the outward and inward movements of the track, a latch-plate movable with the track and a swinging lever for engaging with said plate to hold the track in its outermost position.

2. In a sliding-door mechanism, a track, link connections between said track and the structure having a door-opening, the said link connections providing for a lengthwise movement of the track and also for inward and outward movement, a latch-plate connected to one of the links, a lever mounted to swing on the structure and having a hook portion at one end for engaging with said latch-plate, and a weighted cam-block at the opposite end, a pin on the track, a door mounted to slide on the track, a cam on the upper end of said door for engaging with said weighted cam-block, and a part carried by the door for engaging with said pin for moving the track in one direction and for engaging with the latch-plate for moving the track in the opposite direction.

3. In a sliding-door mechanism, a track mounted to swing lengthwise and outward and inward, a door, hangers attached to the door, rollers supported by said hangers and engaging with the track, a pin extended outward from one end of the track and adapted to be engaged by one of the hangers, a latch-plate carried by a part connected to the track, a lever having a portion for engaging with said latch-plate, a weighted cam-block on the end of said lever opposite the said engaging portion, a cam-block on the upper end of the door for engaging with said block on the lever, a roller supported at the lower end of the door, and a cam-block on the outer surface of the door for engaging with said roller.

804,271. APPARATUS FOR FEEDING BEES. JULIUS F. SCHRÖDER, Drundal, near Frederikssund, Denmark. Filed Mar. 3, 1904. Serial No. 196,874.



Claim.—1. In an apparatus for feeding bees, the combination with an outer reservoir, of an inner reservoir arranged within said outer reservoir so as to leave an annular space between the outer wall of the inner reservoir and the inner wall of the outer reservoir, said inner reservoir having outlets opening into the outer reservoir and means dividing said annular space into a plurality of compartments.

2. In an apparatus for feeding bees, the combination with an outer reservoir, of an inner reservoir centrally arranged within said outer reservoir and having outlets opening into said outer reservoir, and a corrugated ring arranged between said reservoirs and dividing the space between the reservoirs into a plurality of compartments.

3. In an apparatus for feeding bees, the combination with a lower outer reservoir, of an inner higher reservoir, arranged within said outer reservoir and having outlets opening into said outer reservoir, means dividing the space between said reservoirs into a plurality of compartments, and means for preventing the access to a number of said compartments.

4. In an apparatus for feeding bees, the combination with a lower outer reservoir, of an inner higher reservoir, arranged within said outer reservoir and having outlets opening into said outer reservoir, means dividing the space between said reservoirs into a plurality of compartments, and means for preventing the access to a number of said compartments, said last-named means comprising a pair of adjustable rings arranged around said outer reservoir and having a portion projecting above the upper edge of said outer reservoir.

5. In an apparatus for feeding bees, the combination with an outer reservoir, of an inner reservoir arranged within said outer reservoir and having outlets opening into said outer reservoir, and means for feeding the fodder to said reservoirs; said means comprising a cover adapted to be placed on said inner reservoir, a feed-tube projecting through said cover and having inlets above the cover and outlets below the cover, a valve in said tube intermediate of the inlet and the outlet, and means automatically opening said valve when the cover is placed on the inner reservoir.

804,272. RESPIRATOR. WILHELM SCHWARZ, Pforzheim, Germany. Filed May 23, 1905. Serial No. 261,883.



Claim.—1. A respirator, comprising a respiratory device fitting the face of the wearer of the apparatus, and perforated to admit of his breathing, and having valve-controlled air inlet and outlet passages; an air-purifier having air inlet and outlet passages; a back-pressure valve controlling the latter passage; a pipe connecting the said purifier-outlet with the air-inlet of the respiratory device; and a valve-controlled pipe adapted to connect the said purifier-outlet with a fresh-air-supply pipe; whereby on the fresh-air supply being shut off, the said back-pressure valve opens automatically and allows air from the surrounding space to pass through the purifier to the respiratory device; substantially as described.

2. A respirator, comprising a respiratory device fitting the face of the wearer of the apparatus, and having a centrally-located aperture through which the wearer can breathe, and a valve-controlled air-inlet at the one end and a valve-controlled air-outlet at the other end; means for holding the said device to the wearer's head; an air-purifier located at the wearer's back and having air inlet and outlet passages; a back-pressure valve controlling the latter passage; a pipe located at one side of the said purifier and connecting its outlet with the air-inlet of the respiratory device; means at the opposite side of the purifier securing the latter to the opposite end of the respiratory device; and a valve-controlled pipe adapted to connect the said purifier-outlet with a fresh-air-supply pipe; substantially as described.

3. A respirator, comprising a respiratory device consisting of a perforated tubular casing having valve-controlled air inlet and outlet passages, and a member sliding over the said casing and presenting perforations through which the wearer of the apparatus can breathe, communicating with the interior of the casing; an air-purifier having an air-inlet and a valve-controlled air-outlet; a pipe connecting the said purifier-outlet with the air-inlet of the respiratory device; and a valve-controlled pipe adapted to connect the said purifier-outlet with a fresh-air-supply pipe; substantially as described.

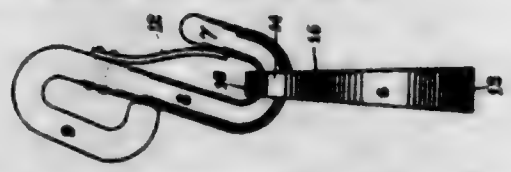
4. A respirator, comprising a respiratory device consisting of a perforated tubular casing having valve-controlled air inlet and outlet passages, and a member sliding over the said casing and presenting nipples adapted to fit the nostrils and a suitably-shaped member adapted to fit the mouth of the wearer of the apparatus, said nipples and mouthpiece communicating with the interior of the casing; an air-purifier having an air-inlet and a valve-controlled air-outlet; a pipe connecting the said purifier-outlet with the air-inlet of the respiratory device; and a valve-controlled pipe adapted to connect the said purifier-outlet with a fresh-air-supply pipe; substantially as described.

5. A respirator, comprising a respiratory device fitting the face of the wearer of the apparatus and perforated to admit of his breathing, and having air inlet and outlet passages, and back-pressure valves controlling the said passages and having disks lifting entirely from their seats; an air-purifier having an air-inlet and a valve-controlled air-outlet; a pipe connecting the said purifier-outlet with the air-inlet of the respiratory device; and a valve-controlled pipe adapted to connect the said purifier-outlet with a fresh-air-supply pipe; substantially as described.

6. A respirator, comprising a respiratory device fitting the face of the wearer of the apparatus and perforated to admit of his breathing, and having valve-controlled air inlet and outlet passages; an air-purifier having air inlet and outlet passages; a back-pressure valve controlling the latter passage; a pipe connecting the said purifier-outlet with the air-inlet of the respiratory device; a fresh-air-supply pipe; a pipe for connecting the said purifier-outlet with the latter; and means for coupling the two said latter pipes, consisting of a spigot member on the one pipe, and a spring-actuated valve sliding therein and controlling its aperture, and a socket member on the other pipe and a spring-actuated valve sliding therein and presenting a projection and closing the passage of the socket, whereby on the spigot being inserted into the socket the valves abut and mutually open each other; substantially as described.

7. A respirator, comprising a respiratory device fitting the face of the wearer of the apparatus and perforated to admit of his breathing, and valve-controlled air inlet and outlet passages; an air-purifier having air inlet and outlet passages; a back-pressure valve controlling the latter passage; a pipe connecting the said purifier-outlet with the air-inlet of the respiratory device; a fresh-air-supply pipe; a pipe for connecting the said purifier-outlet with the latter; and means for coupling the two said latter pipes, consisting of a spigot member on the connecting-pipe and a spring-actuated valve sliding therein and controlling its aperture, and a socket member on the fresh-air-supply pipe and a member presenting a projection located therein, whereby on the spigot being inserted into the socket the valve and the projection abut and effect opening of the valve; substantially as described.

804,273. RELEASABLE LINK. RICHARD C. SMITH, Bluffpoint, Tenn. Filed Nov. 18, 1904. Serial No. 233,346.

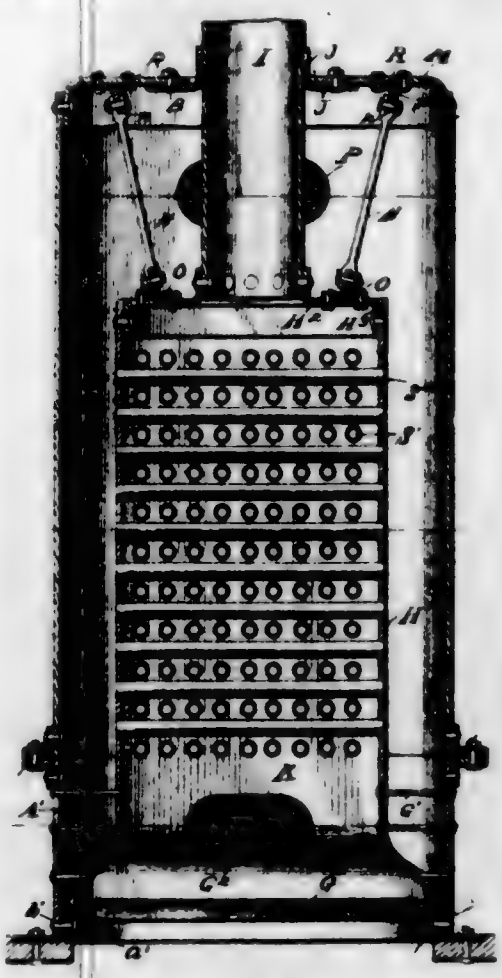


Claim.—1. The combination of an S-hook 8, having an eye end 9, and a hook end 7; a retaining-spring 12, one end secured to the body of said hook, and the other impinging against the inner face of the hook end 7, and a releasable spring-link 8, consisting of five distinctive parts; the spring part 13, the jaws 14, the shoulders 15, the

mouth 16, and inclines 17, substantially as shown and described and for the purposes set forth.

2. The combination of an S-hook, having a closed eye end, and a hook end, and a releasable spring-link, consisting of a circular spring part, the ends of the spring terminating in jaws, said jaws terminating in a nearly-closed mouth, the roots of said jaws turning inwardly, forming shoulders, preventing the hook end from entering the circular part of the ring, the said hook being adapted to be held in the mouth under certain pressure, substantially as shown and described and for the purposes set forth.

804,274. STEAM-BOILER. FRANK STADLER, Aurora, Ill. Filed June 26, 1905. Serial No. 266,991.



Claim.—1. A water-tube boiler comprising inner and outer shells, cross-tubes mounted in the inner shell, the outer shell being formed of two sections, means for detachably joining the said two sections, a cast rim adapted to be firmly secured to a suitable base-support, said rim having a vertical flange to which the lower ends of the inner and outer shells are connected, and having a second vertical flange that forms a support for the grate-bars, a top, detachably connected to the upper end of the outer shell, and a gland for the offtake-flue from the crown of the inner shell, detachably connected to the said detachable outer-shell top member.

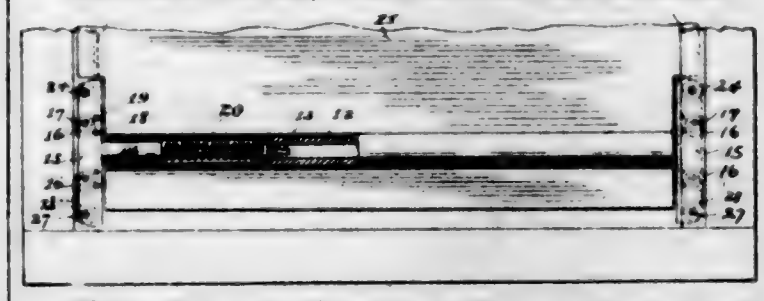
2. In a water-tube boiler of the character described, in combination with the inner or tube shell, the fire-box and the offtake-flue; of an outer shell, comprising a lower fixedly-held section, an upper section detachably mounted on the lower section, a gland on the offtake-flue, and a top member secured in the upper end of the outer shell and means for detachably connecting said top member to the gland as set forth.

3. In a tubular boiler of the character described, the combination with the inner or tube-carrying shell, the crosswise-disposed tubes therein, the fire-pot formed in the lower end of the inner shell, and the offtake-flue that extends up centrally from the crown-sheet of the inner shell; of the outer shell, composed of an upper and a lower section, the latter being fixedly held, means for detachably connecting the upper section on the lower section, a gland or collar that surrounds the offtake-flue, a top member secured on the upper end of the outer shell, means for detachably connecting said member to the collar or gland, braces secured to the top of the crown-sheet of the inner shell, and means for detachably connecting the upper end of the said braces to the under side of the top member, for the purposes described.

4. A tube-boiler consisting of inner and outer shells having water-space between them, the water-tubes communicating with said space and disposed in horizontal alternately-disposed tiers, the inner shell having an offtake-flue section projected from its crown and having its lower end flared outwardly, a base-rim having two upwardly-extended flanges, the lower ends of the inner and outer shells being fixedly connected to the outer one of the said flanges, grate-bars mounted on the inner one of said flanges, the outer shell including an upper section, means for detachably securing the upper section to the lower section, a gland on the offtake-flue, a cover-plate detachably secured to said gland and permanently secured to the upper end of the outer shell, and the braces detachably connected at their lower end to the top of the crown of the inner shell and at their upper end to the under side of the cover-plate, all being arranged substantially as shown and described.

5. In a water-tube boiler of the character described, in combination with the inner or tube shell, a fire-box and an offtake-flue; of an outer shell, a gland on the offtake-flue from the inner shell, a top detachably connected to the said gland and to the upper end of the said tube and brace-rods whose upper ends are detachably connected to the top of the outer shell and whose lower ends are detachably connected to the top of the inner shell.

804,275. CURTAIN-FIXTURE. ROBERT C. TAYLOR, Brooklyn, N. Y., assignor to The Curtain Supply Company, Jersey City, N. J., a Corporation of New Jersey. Filed Feb. 9, 1905. Serial No. 244,915.



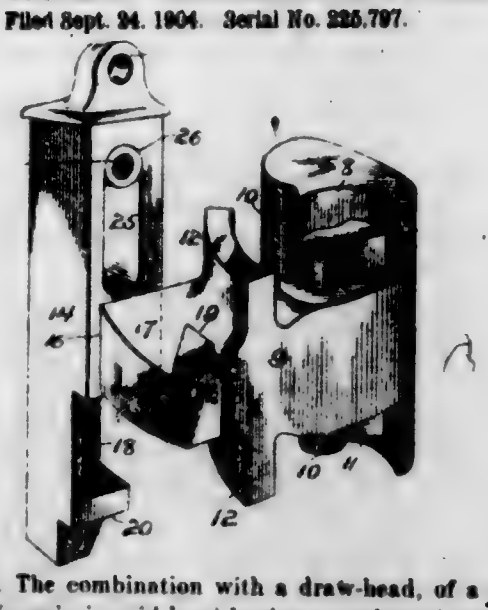
Claim.—1. A curtain-fixture comprising a curtain-stick, heads having holding members and bearings above and below the holding members, the heads being slidably mounted in the ends of the stick and also provided with pins adapted to engage the window-frame to limit the tilting movement of the fixture, substantially as described.

2. In a curtain-fixture, the combination with a curtain-stick, of heads loosely mounted in the ends of the stick and having outwardly-thrusting springs, said heads being provided with roller-bearings carrying lateral pins or studs adapted to engage an overhanging portion of the window-frame and limit the tilting of the fixture, substantially as described.

3. A curtain-fixture comprising in combination a curtain-stick, spring-pressed heads slidably mounted in the ends of the stick, roller-bearings for the heads, lateral studs carried by said roller-bearings and adapted to coöperate with the window-frame having a groove provided with an overhanging lip, substantially as described.

4. A curtain-fixture comprising in combination a curtain-stick, a head carried thereby, a holding member carried by the head adapted to frictionally engage a guideway in the window-frame, antifriction devices carried by the head, and a stop at the lower end of said guideway over which the lowermost antifriction device is adapted to ride and engage thereunder for holding the curtain in lowered position.

804,276. COUPLING. JAMES TIMMS and JAMES O. TIMMS, Columbus, Ohio. Filed Sept. 24, 1904. Serial No. 226,797.

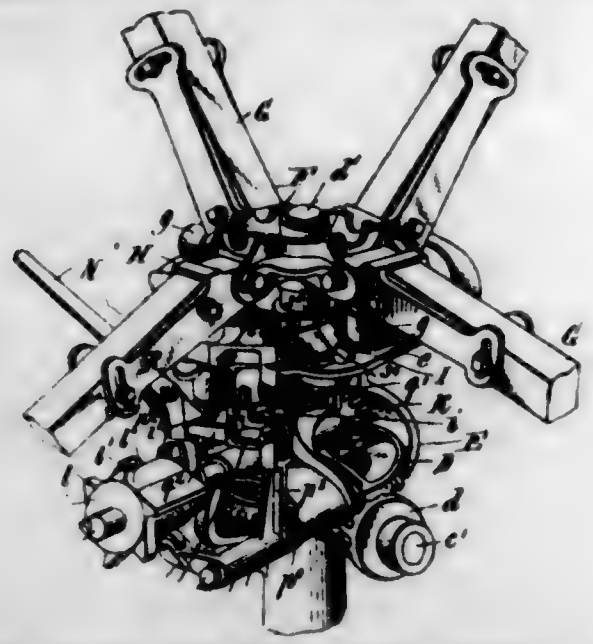


Claim.—1. The combination with a draw-head, of a knuckle therein, a locking-pin in said head having an enlarged slot therein

parallel with the longitudinal axis of said pin, a hollow roller in said slot, and a pin in the upper portion of said head passing through said hollow roller.

2. The combination with a draw-head having in its upper and also in its lower wall, a recess, and having divergent faces extending from said recesses, of a knuckle, lugs on the upper and lower faces of the knuckle mounted to turn in said recess in the upper and lower walls of the draw-head, webs connecting said lugs with the body of the knuckle and having faces to engage the said divergent faces on the draw-head.

804,277. COUNTING MECHANISM FOR GRAIN-HARVESTERS. ISAAC THOLLEY, Jr., Poughkeepsie, N. Y., assignor to Adriance, Platt & Company, Poughkeepsie, N. Y. Filed Mar. 23, 1904. Serial No. 199,653.



Claim.—1. The combination of a rotary rake-head, a switch therefor, a counting-wheel, an actuating-lever engaging said wheel and actuated thereby, and a pawl connecting said actuating-lever with said switch, substantially as set forth.

2. The combination of a rotary rake-head, a pivoted switch therefor, a counting-wheel, an actuating rock-lever having a lower arm which engages said wheel, an arm on said switch, and an actuating-pawl connecting the upper arm of said rock-lever with the arm on the switch, substantially as set forth.

3. The combination of a rotary rake-head, a switch therefor, an arm on said switch, a counting-wheel, an actuating rock-lever engaging said wheel, and a slotted pawl attached to said actuating-lever and engaging with its slotted portion the arm on the switch, substantially as set forth.

4. The combination of a rotary rake-head, a switch therefor, an arm on said switch, a counting-wheel, an actuating rock-lever engaging said wheel, and a slotted pawl attached to said actuating-lever and provided in its slot with an actuating-recess which engages said switch-arm, substantially as set forth.

5. The combination of a rotary rake-head, a switch therefor, an upright rake-shaft, a worm on the same, a counting-wheel driven from said worm, an actuating rock-lever engaging said wheel, and a slotted pawl attached to said actuating-lever and provided in its slot with an actuating-recess which engages said switch-arm, substantially as set forth.

6. The combination of a rotary rake-head, its shaft, a switch for said rake-head, a worm on said shaft, a counting-wheel and its shaft, a worm-wheel on the shaft of the counting-wheel and meshing with said worm, an actuating-lever engaging said counting-wheel, and a pawl connecting said lever with said switch, substantially as set forth.

7. The combination of a rotary rake-head, a switch therefor, a counting-wheel, means for operating the switch from said counting-wheel, and a throw-off device for rendering said actuating means temporarily inoperative, substantially as set forth.

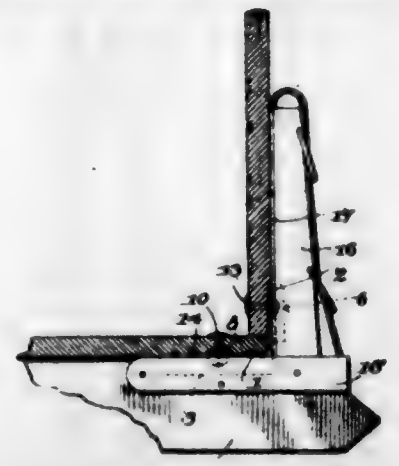
8. The combination of a rotary rake-head, a switch therefor, a counting-wheel, a pawl actuated from said counting-wheel for operating the switch, and means for temporarily rendering said pawl inoperative, substantially as set forth.

9. The combination of a rotary rake-head, a switch therefor having an actuating-arm, a counting-wheel, a pawl actuated from said counting-wheel and engaging said arm, and means for temporarily disengaging the pawl from said arm, substantially as set forth.

10. The combination of a rotary rake-head, a switch therefor having an actuating-arm, a counting-wheel, a pawl actuated from said counting-wheel and engaging said arm, and a disengaging-lever in control of the driver for disengaging the pawl temporarily from the switch-arm, substantially as set forth.

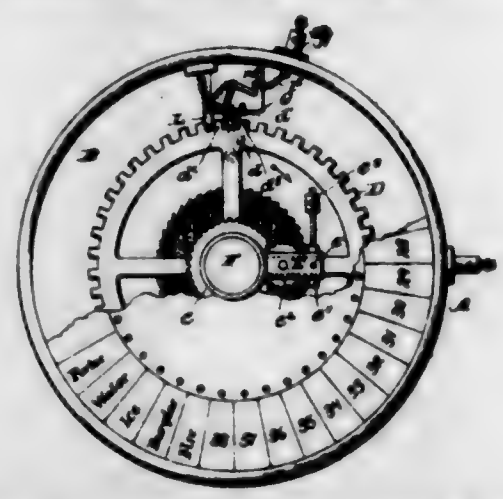
11. The combination of a rotary rake-head, a track having an opening, a switch in said track, an adjustable stop arranged below said opening and adapted to be projected through the same behind the switch when the latter is open or to be withdrawn out of the way of the switch, and means for securing said stop in its upper position, substantially as set forth.

804,278. WAGON-BOX PROTECTOR. JAMES M. URIE, Boulder, Colo. Filed Mar. 24, 1905. Serial No. 251,855.



Claim.—A device of the class described consisting of an angular casting the bed-plate of which is provided with depending bolster-engaging stays, and reinforcing-flanges for the same and the upstanding flange of which is provided with curved stake-engaging stays; said bed-plate and flange being reduced in the direction of their free edges and provided with perforated reinforcing lugs or bosses for the passage of attaching members.

804,279. TRANSMITTER. ANTHONY VAN WAGENEN, Sioux City, Iowa, assignor, by mesne assignments, to Clark Automatic Telephone Switch-Board Company, Providence, R. I., a Corporation of West Virginia. Filed Apr. 30, 1896. Serial No. 589,739.

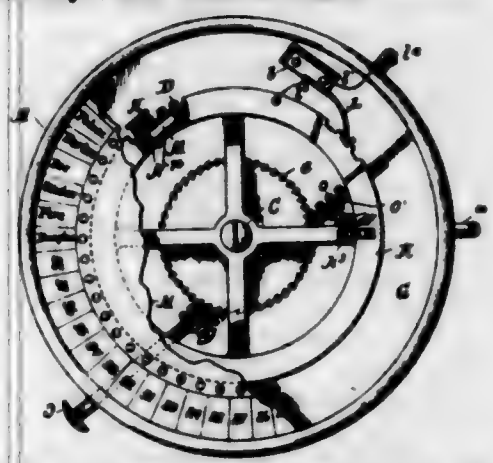


Claim.—1. In a transmitter, the combination with circuit-varying mechanism having an automatically-returned actuating member, and an indicator arranged to arrest the movement of said actuating member at predetermined points, of a separate switch controlling the same circuit as said circuit-varying mechanism, means for reversing said switch when the actuating member reaches either extreme position of its movement, and a locking device for preventing said actuating member from reversing its direction of movement at an intermediate point.

2. In a transmitter, the combination with circuit making and breaking mechanism comprising a contact-brush, a toothed contact-wheel, means for rotating said wheel in one direction, and means for returning said wheel, of an indicator provided with openings through which stops may be inserted to engage said wheel and arrest the movement thereof, a separate switch controlling the same circuit as said circuit making and breaking mechanism, means operated by said mechanism for causing said switch to break its contact through which said circuit passes when said actuating member reaches its normal position, and to complete said contact when said actuating

member has reached the other extreme of its movement, and a reversing-pawl, normally engaging the teeth of said wheel and preventing change of direction of motion thereof, said wheel having two teeth which are farther apart than the others, so as to permit the pawl to be reversed when such point is reached.

804,280. **TRANSMITTER.** ANTHONY VAN WAGENEN, Sioux City, Iowa, assignor, by mesne assignments, to Clark Automatic Telephone Switch-Board Company, Providence, R. I., a Corporation of West Virginia. Filed May 4, 1896. Serial No. 590,935.



Claim.—1. In a transmitter, the combination, with circuit-varying mechanism having an actuating member adapted to be moved forward continuously, and means for operating said mechanism, of an indicator, and a reversible operating member which when in one position permits the operation of such circuit-varying mechanism to be effective, and which is adapted to be actuated and reversed by said indicator, thereby making subsequent operation of the circuit-varying mechanism ineffective; whereby the circuit-varying mechanism is effective in its first operation until said indicator operates the said reversible operating member, and then becomes ineffective in operation and so remains until said indicator again encounters said reversible operating member in a succeeding operation of the circuit-varying mechanism.

2. In a transmitter, the combination, with circuit-varying mechanism having an actuating member adapted to be moved forward continuously, and means for operating said mechanism, of an indicator, and a switch having a reversible operating member, which switch controls the circuit of the instrument, and in one position of its operation permits the operation of the main circuit-varying mechanism to be effective, and in another position renders the operation of such mechanism ineffective; said operating member being arranged to be encountered and reversed by the indicator during each operation of the main circuit-varying mechanism.

3. In a transmitter, the combination, with circuit-varying mechanism having an actuating member adapted to be moved forward continuously, and means for operating said mechanism, of an indicator, and a switch arranged to close a shunt-circuit around such circuit-varying mechanism, and having a reversible operating member which is encountered and reversed by said indicator during each operation of the main circuit-varying mechanism.

4. In a transmitter, the combination with circuit making and breaking mechanism movable in a prescribed path continuously forward, and means for operating the same, of an electrical circuit through said transmitter, normally interrupted by said circuit making and breaking mechanism in its movement, switch mechanism for altering the circuit through said circuit making and breaking mechanism, and thereby rendering said mechanism inoperative to interrupt said circuit, and an indicator, adapted to be set in a path corresponding to that occupied by said circuit making and breaking mechanism in its movement, for operating said switch mechanism.

5. In a transmitter, the combination with circuit making and breaking mechanism, movable in a prescribed path continuously forward, and means for operating the same, of an electrical circuit through said transmitter, normally interrupted by said circuit making and breaking mechanism in its movement, a plate of conducting material, switch mechanism carried by said circuit making and breaking mechanism and adapted to be moved in and out of contact with said plate, and thereby render said circuit making and breaking mechanism operative or inoperative to interrupt said circuit, and means for operating said switch mechanism.

6. In a transmitter, the combination with a circuit making and breaking wheel adapted to move continuously forward, means for operating the same, and a dial having a circular series of apertures formed therein, of an electrical circuit through said transmitter normally interrupted by said circuit making and breaking wheel in its movement, switch mechanism for altering said circuit and thereby rendering said circuit making and breaking wheel inoperative to interrupt said circuit, and an indicator, adapted to be inserted in the apertures in said dial, for operating said switch mechanism.

7. In a transmitter, the combination with a circuit making and breaking wheel adapted to move continuously forward, means for operating the same, and a dial having a circular series of apertures formed therein, of an electrical circuit through said transmitter normally interrupted by said circuit making and breaking wheel in its movement, a plate of conducting material suspended over said circuit making and breaking wheel, a switch-arm adapted to move in and out of contact with said plate, and thereby render said circuit making and breaking wheel operative or inoperative to interrupt said circuit, and an indicator-plug adapted to be inserted in the apertures in said dial for operating said switch mechanism.

8. In a transmitter, the combination with a circuit making and breaking wheel adapted to move continuously forward, means for operating the same, and a dial having a circular series of apertures formed therein, of an electrical circuit through said transmitter normally interrupted by said circuit making and breaking wheel in its movement, a plate of conducting material suspended over said circuit making and breaking wheel and insulated therefrom, a contact-spring on said circuit making and breaking wheel adapted to contact with said plate and thereby alter the circuit through said transmitter, and means for operating the same.

9. In a transmitter, the combination with a circuit making and breaking wheel adapted to move continuously forward, means for operating the same, and a dial having a circular series of apertures formed therein, of an electrical circuit through said transmitter normally interrupted by said circuit making and breaking wheel in its movement, a plate of conducting material suspended over said circuit making and breaking wheel and insulated therefrom, a contact-spring on said circuit making and breaking wheel adapted to contact with said plate and thereby alter the circuit through said transmitter, an oblong block pivotally mounted on said circuit making and breaking wheel, and adapted to control the position of said spring, and means for operating the same.

10. In a transmitter, the combination with a circuit making and breaking wheel adapted to move continuously forward, means for operating the same, and a dial having a circular series of apertures formed therein, of an electrical circuit through said transmitter normally interrupted by said circuit making and breaking wheel in its movement, a plate of conducting material suspended over said circuit making and breaking wheel and insulated therefrom, a contact-spring on said circuit making and breaking wheel adapted to contact with said plate and thereby alter the circuit through said transmitter, an oblong block pivotally mounted on said circuit making and breaking wheel, and adapted to control the position of said spring, a spur-wheel connected therewith, and an indicator-plug adapted to be inserted in the apertures in said dial and operate said spur-wheel.

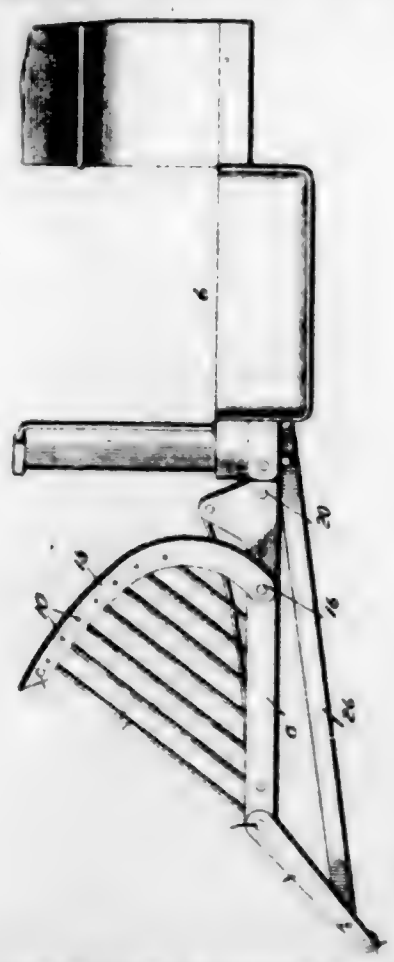
11. In a transmitter, the combination with a dial having a circular series of apertures therein, a circuit making and breaking wheel having a roughened periphery, means for moving the same continuously forward at each actuation thereof through a complete revolution, and a contact-spring engaging with the periphery of said wheel, of an electrical circuit through said transmitter normally interrupted by the circuit making and breaking wheel in its movement, a plate of conducting material suspended over said circuit making and breaking wheel and insulated therefrom, connection between said plate and said contact-spring, a contact-spring on said circuit making and breaking wheel adapted to contact with said plate, an oblong block pivotally mounted on said circuit making and breaking wheel adapted to control the position of said spring, a spur-wheel connected therewith, and an indicator-plug adapted to be inserted in the apertures in said dial and operate said spur-wheel.

12. In a transmitter, the combination, with circuit-varying mechanism and power-storing mechanism for driving the same, of an operating device for operating said power-storing mechanism, and a detent for said circuit-varying mechanism which said operating device engages in its movement, thereby releasing said circuit-varying mechanism.

13. In a transmitter, the combination, with circuit-varying mechanism having an actuating member adapted to be moved forward, but having no backward movement, and power-storing mechanism for driving the same, of an operating device arranged when moved in one direction to store power for operating said actuating member, and adapted when released to be returned, and a detent for said actuating member, which said operating device engages in its forward movement, thereby releasing said actuating member.

14. In a transmitter, the combination, with a circuit-controlling mechanism having an actuating member adapted to be moved forward continuously, and a case inclosing said mechanism, of an automatically-returned operating-bar projecting from said case, ratchet mechanism for communicating the return movement of said bar to said actuating member, and a detent for said actuating member, which said operating-bar engages in its forward movement, thereby releasing said actuating member.

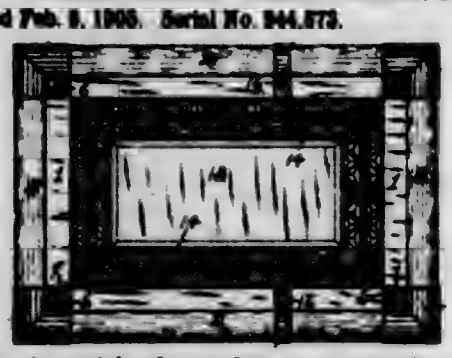
804,281. **WHEEL-FENDER.** LOUIS VOGT, Conneaut, Ohio, assignor of one-half to John R. Simpson, Conneaut, Ohio. Filed Apr. 13, 1905. Serial No. 255,331.



Claim.—1. In a fender for cars, in combination, a main fender secured to the car, a tilting scoop hinged to the front end of the main fender, an auxiliary fender hinged to and extending above the main fender, a lever on the car-platform, and connections between said lever and the scoop and auxiliary fender.

2. In a fender for cars, the combination of a main fender, a scoop hinged to the front thereof, an upper auxiliary fender hinged to the rear thereof, a rock-shaft extending across the main fender and having arms connected to the auxiliary fender, to raise and lower the same, a thrust-rod extending under the main fender and connected to the scoop and the rock-shaft, and a motorman's lever connected to the thrust-rod.

804,282. **PICTURE-FRAME.** RALPH J. WALKER, Bowling Green, Ohio. Filed Feb. 8, 1905. Serial No. 244,873.



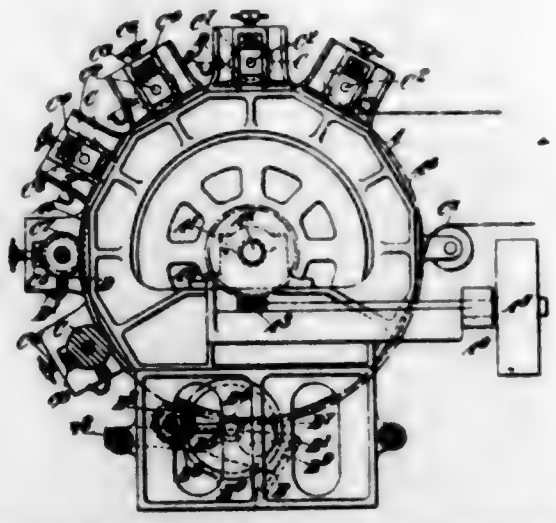
Claim.—1. An article of manufacture, comprising a plate-glass panel having a countersunk portion formed in its back to receive a picture and its front portion formed with a cut figure-border surrounding a plain portion disposed in opposite position to the countersunk portion, and side and end frame pieces each having their inner edges grooved to receive the contiguous edges of the panel and their ends secured together.

2. An article of manufacture, comprising a plate-glass panel having its back centrally formed with a countersunk portion and its face provided with a plain portion directly opposed to the countersunk portion and formed with a cut figure-border, means for retaining a picture in said countersunk portion, and side and end frame pieces having their inner edges grooved to receive the contiguous edges of the panel and their ends joined together.

3. An article of manufacture, comprising a transparent panel having its face formed with a plain portion and a cut marginal portion and its back formed with a picture-receiving portion disposed in opposed position to the plain surface portion, and means adapted to be locked within said picture-receiving portion for retaining the picture therein, whereby the surrounding portion of the panel is left transparent.

4. A picture-frame, comprising a panel member of plate-glass having its face formed with a plain portion and a cut marginal portion and its back provided with a countersunk portion disposed to the rear of and corresponding in shape to the plain portion of the face, the edges of said member being wedge shape, a backing member shaped to be received by said countersunk portion for the purpose of retaining a picture therein and having pivotal bars adapted to lock at their ends within sockets provided in the walls of the countersunk portion, glass side and end frame pieces having their inner edges formed with a V-groove to receive the contiguous edges of the panel member and their ends joined together, and L-shaped tubular members connecting the jointed ends and having flat parallel portions formed in their angles and bolted to opposite sides of the panel member, and hanging means associated with said side pieces.

804,283. **PROCESS OF AND APPARATUS FOR PAINTING AND COLORING LINCRUSTA, &c.** FREDERICK WALTON, London, England. Filed July 28, 1904. Serial No. 218,589.



Claim.—1. In the manufacture of painted or colored lincrusta and like embossed material, the combination with a rotary drum for the embossed material, of a device for applying paint or color to the entire embossed surface of said material, a series of resilient wiper-rollers for removing from the raised portions of the embossed surface the said paint or color, means for adjusting the position of said wiper-rollers with respect to the embossed surface, and means for revolving said wiper-rollers from said rotary drum substantially as described.

2. In the manufacture of painted or colored lincrusta and like embossed material, the combination with a rotary drum for the embossed material, of a device for applying paint or color to the entire embossed surface of the said material, a series of comparatively soft wiper-rollers for removing from the raised portions of the embossed surface, the said paint or color, means for adjusting the position of said wiper-rollers with respect to the embossed surface, and gearing for revolving said wiper-rollers from said rotary drum substantially as described.

3. In the manufacture of painted or colored lincrusta and like embossed material, the combination with a rotary drum for the embossed material, of a device for applying paint or color to the entire embossed surface of the said material, a series of comparatively soft spring-controlled wiper-rollers for removing from the raised portions of the embossed surface the said paint or color, means for adjusting the position of said wiper-rollers with respect to the embossed surface, and toothed gearing for revolving said wiper-rollers from said rotary drum substantially as described.

4. In the manufacture of painted or colored lincrusta and like embossed material, the combination with a rotary drum for the embossed material, of a device for applying paint or color to the entire embossed surface of the said material, a series of comparatively soft

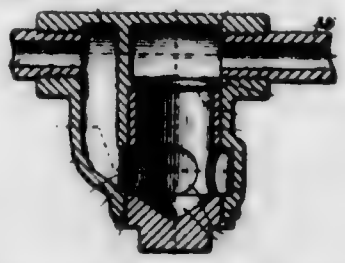
spring-controlled wiper-rollers for removing from the raised portions of the embossed surface, the said paint or color, doctors for removing the paint or color from the wiper-rollers, containers for the reception of the paint or color thus removed from the wiper-rollers, screws for adjusting the position of the wiper-rollers with respect to the embossed surface, and toothed gearing for revolving said wiper-rollers from said rotary drum substantially as described.

5. In the manufacture of painted or colored lincrusta and like embossed material, the combination with a rotary drum for the embossed material, of a receptacle containing the paint or color, a roller rotatably mounted in said receptacle for applying the paint or color to the embossed surface of said material, a rotary brush also mounted in said receptacle and adapted to distribute the paint or color into the interstices of the said embossed surface, means for driving the said paint or color applying roller and brush, and means for mechanically removing the said paint or color from the raised portions of the embossed surface substantially as described.

6. In the manufacture of painted or colored lincrusta and like embossed material, the combination with a rotary drum for the embossed material, of a movable receptacle containing the paint or color, a roller rotatably mounted in said receptacle for applying the paint or color to the embossed surface of said material, a rotary brush also mounted in said receptacle and adapted to distribute the paint or color into the interstices of said embossed surface, means for driving the said paint or color applying roller and brush, means for shifting said movable receptacle in order to bring it into a position for causing the said roller and brush to become inoperative with respect to the embossed material, and means for mechanically removing the said paint or color from the raised portions of the embossed surface of the said material substantially as described.

7. In the manufacture of painted or colored lincrusta and like embossed material, the combination with a rotary drum for the embossed material, of a hinged receptacle containing the paint or color, a roller rotatably mounted in said receptacle for applying the paint or color to the embossed surface of said material, a rotary brush also rotatably mounted in said receptacle and adapted to distribute the paint or color into the interstices of said embossed surface, gearing for driving said paint or color applying roller and brush from the said rotary drum, a cam-lever for shifting said hinged receptacle into a position in which the gearing thereof is disengaged from the rotary drum, and means for mechanically removing the said paint or color from the raised portions of the embossed surface of the said material substantially as described.

804,284. **DEVICE FOR REMOVING THE SEDIMENT FROM GASOLENE.** HAROLD D. WATERHOUSE and FREDERICK W. GREEN, Quincy, Mass.; said Green assignor to said Waterhouse. Filed Dec. 3, 1904. Serial No. 235,325.



Claim.—1. A pipe-strainer comprising a casing having a vertical chamber, a horizontal outlet-pipe communicating with the top of said chamber, a hollow screw-plug provided with a closed end tapped into the bottom of said chamber, a wire screen interposed between said plug and said outlet and extending over the open end of said plug, an annular passage around said plug near the bottom of said chamber and communicating with the interior of said plug, and an inlet extending from a point near the top of said chamber and communicating therewith near the bottom thereof.

2. A pipe-strainer comprising a casing having a vertical chamber, an outlet communicating therewith near the top thereof and extending horizontally ttherefrom, a hollow screw-plug provided with a closed end tapped into the bottom of said casing and communicating with said chamber at the top, a reversible screen interposed between the top of said plug and the outlet, a sediment-chamber in the bottom of said plug, and an inlet communicating with the interior of said plug near the bottom of said chamber.

3. A pipe-strainer comprising a casing having a vertical chamber, an outlet communicating with the top of said chamber and extending horizontally therefrom, a shoulder beneath said outlet, a plug screwed into the bottom of said casing and provided with a tubular projection fitting the interior of said vertical chamber, a reversible wire screen interposed between the end of said projection and said shoulder, and an inlet communicating with the bottom of said tubular projection.

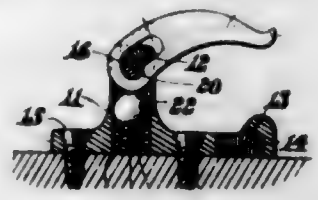
4. A pipe-strainer comprising a casing having a vertical chamber, an outlet communicating with the top of said chamber and extending horizontally therefrom, a shoulder beneath said outlet, a plug screwed into the bottom of said casing and provided with a tubular projection fitting the interior of said vertical chamber, a wire screen interposed between the end of said projection and said shoulder, an annular passage surrounding said tubular projection and communicating with the interior thereof, and an inlet communicating with said passage.

5. A pipe-strainer comprising a casing having a vertical chamber, an outlet communicating with the top of said chamber and extending horizontally therefrom, a shoulder beneath said outlet, a plug screwed into the bottom of said casing and provided with a tubular projection fitting the interior of said vertical chamber, a wire screen interposed between the end of said projection and said shoulder, an annular passage surrounding said tubular projection, radial inlets therefrom to the interior of said tubular projection, and an inlet communicating with said passage.

6. A pipe-strainer comprising a casing having a vertical chamber and provided with an inlet-pipe and an outlet-pipe in axial line, a shoulder below the level of said outlet-pipe, a plug screwed into the bottom of said casing and provided with a tubular projection fitting the interior of said vertical chamber and provided with radial inlets to the interior thereof, a wire screen interposed between the end of said projection and said shoulder, an annular chamber surrounding said tubular projection and communicating with the interior thereof, and a passage connecting said annular chamber and said inlet.

7. A pipe-strainer comprising a casing provided with two parallel vertical chambers communicating at the bottom, a horizontal outlet-pipe communicating with the top of one of said chambers, a horizontal inlet-pipe in axial line with said outlet-pipe communicating with the other chamber, a shoulder in the outlet-chamber below the level of said pipes, a removable hollow plug provided with radial openings therein tapped into the bottom of said outlet-chamber, a wire screen interposed between the plug and shoulder, and an annular passage surrounding said hollow plug at a level with said openings and communicating with said inlet-chamber.

804,285. **FASTENER FOR AWNINGS AND COVERS.** HAROLD D. WATERHOUSE and FREDERICK W. GREEN, Quincy, Mass.; said Green assignor to said Waterhouse. Filed May 4, 1905. Serial No. 258,792.



Claim.—1. A locking-hook consisting of a base-plate provided with a lip, and a movable latch provided with an elongated slot by which it is slidably secured to said base-plate and adapted to engage said lip.

2. A locking-hook consisting of a base-plate provided with a lip, a movable latch provided with an elongated slot by which it is slidably secured to said base-plate and adapted to engage said lip, and means for normally retaining said latch in locked position.

3. A locking-hook consisting of a base-plate provided with a stud and a lip, and a movable latch provided with an elongated slot by which it is slidably secured to said stud and adapted to engage said lip.

4. A locking-hook consisting of a base-plate provided with a stud and a lip, a movable latch provided with an elongated slot by which it is slidably secured to said stud and adapted to engage said lip, and means for normally retaining said latch in locked position.

5. A locking-hook consisting of a base-plate provided with a stud and a lip, a pin in said stud, and a movable latch provided with an elongated slot by which it is slidably mounted upon said pin and adapted to engage said lip.

6. A locking-hook consisting of a base-plate provided with a slotted stud and a lip, a pin in said stud, and a latch provided with an elongated slot by which it is slidably mounted in said slot upon said pin and adapted to engage said lip.

7. A locking-hook consisting of a base-plate provided with a slotted stud and a lip, a pin in said stud, a latch provided with an elongated slot by which it is slidably mounted in said slot upon said pin

and adapted to engage said lip, and means for normally retaining said latch in locked position.

8. A locking-hook consisting of a base-plate provided with a slotted stud and a lip, a pin in said stud, a latch mounted in the slot in said stud and adapted to engage said lip, said latch being provided with a slot through which said pin passes, and a notch at one end of said slot adapted to receive said pin when said latch is in locked position.

9. A locking-hook consisting of a base-plate provided with a slotted stud and a lip, a pin in said stud, a latch mounted in the slot in said stud and adapted to engage said lip, said latch being provided with a slot through which said pin passes, a notch at one end of said slot adapted to receive said pin when said latch is in locked position, a spring for normally retaining said pin in said notch, and an anti-friction member interposed between said spring and said latch.

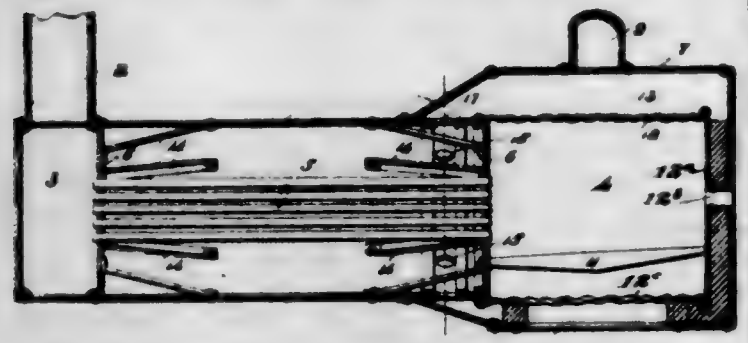
10. A locking-hook consisting of a base-plate provided with a lip, a latch pivoted to said plate and adapted to be moved longitudinally of said plate to engage said lip, and means for normally retaining said latch in locked position.

11. A locking-hook consisting of a base-plate provided with a lip and a pivot-pin, a latch provided with an elongated slot through which said pivot-pin passes, and means for normally retaining said latch in locked position.

12. A locking-hook consisting of a base-plate provided with a lip and a pivot-pin, a latch provided with an elongated slot through which said pivot-pin passes, said slot being provided with a notch adapted to receive said pin when said latch is in locked position, and means for normally retaining said pin in said notch.

13. A locking-hook consisting of a base-plate provided with a slotted stud and a lip, a pin in said stud, a latch pivoted to said pin by an elongated slot having a notch in one end thereof adapted to engage said pin, and a spring to normally retain said pin and notch in engagement when said latch is engaging said lip.

804,286. **LOCOMOTIVE-BOILER.** JOHN A. WELTON, Canal Dover, Ohio. Filed June 1, 1904. Serial No. 210,667.



Claim.—1. In a boiler, a main shell, a secondary shell connected therewith and provided with a steam-dome, and a fire-box corrugated throughout its entire extent and arranged within the secondary shell and connected with the main shell.

2. In a boiler, a main shell provided with steam-escape openings, a tube-sheet, a fire-box corrugated throughout its entire extent and secured to the main shell, and a secondary shell inclosing the fire-box and spaced therefrom and provided with a steam-dome.

3. In a boiler, a main shell, a tube-sheet secured to but spaced therefrom, a secondary shell connected with the main shell and having a steam-dome, and a fire-box corrugated throughout its entire extent and secured to the tube-sheet.

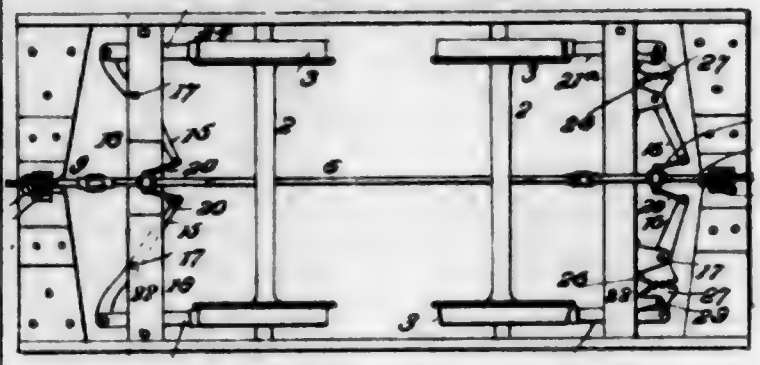
804,287. **CAR-BRAKE.** FELIX T. WHITTED, Wheatley, Ark. Filed Apr. 18, 1905. Serial No. 256,200.

Claim.—1. In a car-brake, the combination of an actuating-rod, pivoted brake-levers arranged in sets, brake-bars for each set, brake-shoes operable by the brake-bars, connecting means between the brake-levers and the actuating-rod, and means connecting each set of brake-levers with its set of brake-bars for operating said brake-bars in reverse directions.

2. In a car-brake, the combination of a car-body, a brake-rod, an operating-lever, rack-teeth carried by the brake-rod, a gear in mesh with the rack-teeth and operable by the operating-lever, and brake-shoes operable by the brake-rod.

3. In a car-brake, the combination of a car-body, a brake-rod, brake-bars disposed longitudinally of the car, brake-shoes operable by the brake-bars, brake-levers connected at one end with the brake-bars, and means connecting the opposite ends of the brake-levers with the brake-rod.

4. In a car-brake, the combination of a brake-rod, brake-bars, brake-levers for actuating said bars and pivoted at a point between their ends, means connecting one end of the brake-levers with the brake-rod, and pivoted connecting-bars connecting the opposite end of the brake-levers with the brake-bars, the brake-levers and the pivoted connecting-bars having intermeshing segments.



5. In a car-brake, the combination of a car-body, a brake-rod longitudinally slidable thereon, ends of said rod having a plurality of teeth thereon, operating-levers at opposite ends of the car, reversely-operating gears in mesh with the teeth at the ends of the brake-rod operable by the operating-levers aforesaid, brake-bars, brake-shoes operated by said brake-bars, and connecting means between the brake-bars and the brake-rod.

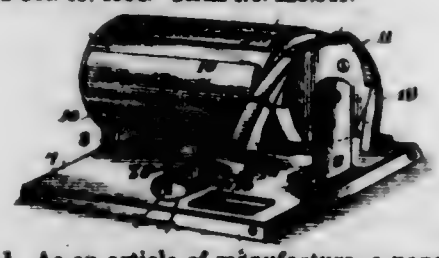
6. In a car-brake, the combination of a car-body, a brake-rod longitudinally slidable thereon, ends of said rod having a plurality of teeth thereon, operating-levers at opposite ends of the car, reversely-operating gears in mesh with the teeth at the ends of the brake-rod operable by the operating-levers aforesaid, brake-bars, brake-shoes operated by said brake-bars, and brake-levers pivoted at a point between their ends and connected with the brake-bars and the brake-rod.

7. In a car-brake, the combination of a car-body, a brake-rod longitudinally slidable thereon, ends of said rod having a plurality of teeth thereon, operating-levers at opposite ends of the car, reversely-operating gears in mesh with the teeth at the ends of the brake-rod operable by the operating-levers aforesaid, sets of brake-bars, brake-shoes operated by the sets of brake-bars, and sets of brake-levers connecting the sets of brake-bars with the brake-rod, one of said sets of brake-levers being connected with its brake-bars for reverse operation of the latter with respect to the other set of brake-levers.

8. In a car-brake, the combination of a car-body, a brake-rod arranged longitudinally of the car-body, means for actuating the brake-rod, sets of brake-levers connected at one end with the brake-rod, sets of brake-bars slidable longitudinally of the car-body and operated by said brake-levers, and means for moving one set of brake-bars in a direction reverse to the movement of the other set.

9. In a car-brake, the combination of a car-body, a brake-rod movable longitudinally thereof, brake-bars connected with the brake-rod, brake-shoes operable by the brake-bars, ends of the brake-rod at opposite ends of the car being provided with a plurality of teeth, gears in mesh with the teeth of the brake-rod, operating-levers at opposite ends of the car, one of said operating-levers being directly connected with one of the gears aforesaid, and other operating-levers being connected for actuating the other gear in a direction reverse to that of the first-mentioned gear.

804,288. **PAPER-WEIGHT.** JOHN B. WILLIAMSON, Louisville, Ky. Filed Oct. 13, 1904. Serial No. 228,341.



Claim.—1. As an article of manufacture, a paper-weight comprising a chambered paper-weight body forming a casing or housing and having a view portion therein, a bottom for said casing arranged to rest upon a surface or object and having an opening, a display member movably mounted within the body and housed thereby, and actuating means for the display member also mounted in the body and coacting with said member, said actuating means including a device projecting through the opening in the bottom and movable into said opening by contact with the object or surface when said bottom is placed thereon.

2. As an article of manufacture, a paper-weight comprising a chambered paper-weight body forming a casing or housing and having a view portion therein, a bottom for said body arranged to rest upon a surface or object and having an opening, a display member rotatably mounted within the body and housed thereby, said member having its surface successively exposed through the view portion upon its rotation, and actuating means for rotating the display member with a step-by-step movement, said means being also mounted in the body and including a device movably projecting through the opening in the bottom and movable into the same by contact with the object or surface when said bottom is placed thereon.

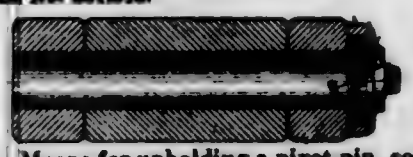
3. As an article of manufacture, a chambered paper-weight body forming a housing or casing, a bottom detachably secured thereto, a movable display member, and actuating means for the display member, said member and actuating means being carried by and detachable with the body, and the actuating means having a portion depending below said body.

4. As an article of manufacture, a chambered paper-weight body forming a housing or casing, a bottom detachably secured to the lower part of the casing and constituting a support, said bottom having an opening, a rotatable display member journaled on the bottom and detachable therewith from the body, and actuating means for imparting a step-by-step movement to the display member, said actuating means being movably mounted on the bottom and detachable therewith from the body, and said actuating means furthermore having a portion depending through the opening in the bottom and movable therethrough.

5. In a paper-weight, the combination with a paper-weight body having a bottom arranged to rest upon an object or surface, of a rotatable display member journaled in the body and having a ratchet-wheel, an oscillatory actuating device pivoted in the body and having a portion projecting below the bottom and arranged to contact with the surface and be moved relatively to the body when said body is placed on such surface, and a dog pivoted to the actuating device and engaging the ratchet-wheel.

6. In a device of the class described, the combination with a heavy chambered paper-weight body having a view portion in its top and a base closing the bottom, a rotatable display-drum journaled in the chamber of the body and having portions in its periphery successively movable past the view portion, a ratchet-wheel carried by one end of the drum, an arm pivoted within the chamber of the body, a dog pivoted upon the arm and coöperating with the ratchet-wheel, the said base having an opening therethrough and a portion of the arm being movable through said opening, and a push-button carried by the depending portion of the arm and normally depending below the base, said button being arranged to engage and be forced into the opening by contact with a surface when the body is placed upon such surface.

804,289. **DEVICE FOR SUPPORTING PIVOT-PINS.** JOHN WILLMOT, Derby, England, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed May 23, 1905. Serial No. 261,515.



Claim.—1. Means for upholding a pivot-pin, comprising a supporting foot-piece made separate from the bearing of the pin and attached thereto, said foot-piece having a recess for the pin and being locked in position by engagement with the pin; substantially as described.

2. Means for upholding a pivot-pin, comprising a foot-piece made separate from the bearing of the pin, said foot-piece being locked in position by engagement with the pin, and the pin being of uniform diameter throughout its length; substantially as described.

3. Means for upholding a pivot-pin, comprising a foot-piece made separate from the bearing of the pin and attached thereto at opposite sides of the pin-hole, said foot-piece having a recess for the pin; substantially as described.

4. Means for upholding a pivot-pin, comprising in combination with the bearing for the pin having a recess adapted to receive a foot-piece, a foot-piece adapted to be locked in the recess by bending of a projection; substantially as described.

5. Means for upholding a pivot-pin, comprising in combination with the bearing for the pin, a foot-piece made separate from said bearing and adapted to be inserted laterally into a recess thereof and having a passage for a cotter-pin registering with a passage in the pivot-pin; substantially as described.

6. Means for upholding a pivot-pin, comprising in combination with the bearing for the pin, a foot-piece having a recess for the pin, lugs on the bearing affording on opposite sides of the pin-hole means for upholding the foot-piece, and means for fixing the foot-piece thereto; substantially as described.

7. A coupler device having at one end of the pivot-pin hole a lug to hold the pivot-pin from turning, said device being reversible and the lug being then adapted to hold a supporting-piece for the pin; substantially as described.

8. A reversible coupler device having at each end of the pivot-pin hole corresponding lugs, the upper lug being adapted to hold the pivot-pin from turning, and the lower lug being adapted to hold a supporting-piece for the pin, the lugs being interchangeable in function when said device is reversed; substantially as described.

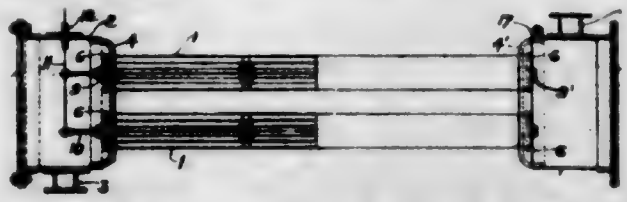
804,290. **SUNSHADE.** ISAAC WISE, New York, N. Y. Filed Mar. 22, 1905. Serial No. 251,605.



Claim.—1. In a sunshade, the combination with the head-strap of a bridle, the base-plate adapted to be secured to said head-strap, a socket piece or sleeve on said base-plate, a staff or handle having its lower end fitting in said sleeve, a sunshade mounted on the upper end of said staff and a connection between said staff and the brow-band of the bridle.

2. In a sunshade, the combination with the head-strap of a bridle, the base-plate adapted to be secured thereto, the socket piece or sleeve on said base-plate, a staff or handle having its lower end fitting in said sleeve, a sunshade mounted on the upper end of said staff, and means secured to the staff and brow-band of the bridle and adapted to support said staff in an upright position.

804,291. **ELECTRICAL APPARATUS FOR PRODUCING OZONE.** ALBERT C. WOOD, Philadelphia, Pa. Filed Feb. 17, 1905. Serial No. 245,626.



Claim.—1. In apparatus of the class described, a tubular conduit, an electrode composed of sheet metal bent along its length intermediate of its edges to provide a plurality of discharges, and insulating-supports for holding said electrode in said conduit.

2. In apparatus of the class described, a tubular conduit, a rod in said conduit, insulating-supports for holding said rod in said conduit, and an electrode bent along its length intermediate of its edges to provide a plurality of diverging members fixed to said rod.

3. In apparatus of the class described, a conduit, a rod in said conduit, insulating-supports having apertures therethrough for holding said rod in said conduit, and an electrode composed of sheet metal bent to form a plurality of diverging branches fixed to said rod, said branches and apertures being in line.

4. In apparatus of the class described, a conduit, a rod and one or more insulating-supports on said rod fitted in said conduit, the supporting mechanism having apertures therein for the passage of air through said conduit, an electrode secured to said conduit, and an electrode composed of sheet metal bent to provide a plurality of diverging branches connected to said rod.

5. In apparatus of the class described, a tubular conduit, and an electrode having a plurality of diverging branches formed by bending and fastening sheets of metal together.

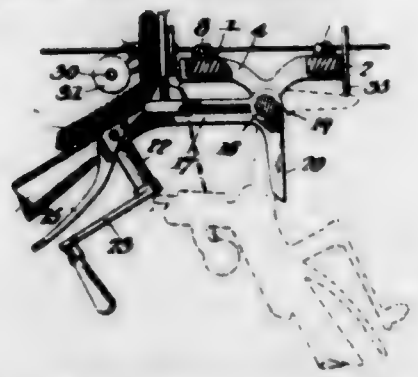
6. In apparatus of the class described, a tubular conduit com-

prising an electrode, a rod and insulating-supports therefor fitted in said conduit, said supports having apertures therein for providing an air-passage through said conduit, and an electrode comprising a plurality of bent metal sheets fixed to said rod and having diverging branches in line with said apertures.

7. In apparatus of the class described, a tubular conduit, an electrode in said conduit composed of sheets of metal bent to form diverging branches, an insulating-support for said electrode freely movable in said conduit and having apertures therethrough, insulating-supports for said electrode fitting in the ends of said conduit and having apertures therethrough, and a conductor connected with said conduit.

8. In apparatus of the class described, a tubular conduit, electrodes extending longitudinally of and fixed in said conduit, an insulating-electrode support freely movable in said conduit and having apertures fitting said electrodes, and an electrode sustained by said support and having branches extending parallel to and in the direction of said first electrodes.

804,292. WIRE-FENCE MACHINE. ERWIN C. WOOD, Marshall, Wis. Filed Jan. 9, 1905. Serial No. 240,344.



Claim.—1. A wire-fence machine having a wire-twisting mechanism shiftable thereon, and means to gage the length of wire to be unreeled from the twisting mechanism for connection between successive runner-wires in accordance with predetermined different intervals between said wires.

2. A wire-fence machine having wire-twisting mechanism shiftable thereon, and a gage set in the path of the wire-twisting mechanism to limit its movement and thereby gage the length of wire to be unreeled from the twisting mechanism for connection between adjacent runner-wires.

3. A wire-fence machine having wire-twisting mechanism shiftable thereon, and a gage set to predetermined intervals in the path of the twisting mechanism to adjustably limit its movement and thereby gage the lengths of wire to be unreeled from the twisting mechanism for connection between successive runner-wires.

4. A wire-fence machine having wire-twisting mechanism shiftable thereon and also capable of movement at substantially right angles to its shiftable movement, and a gage set in the path of the latter movement to gage the length of wire to be unreeled from the twisting mechanism.

5. A wire-fence machine having twisting mechanism shiftable thereon and also capable of supplemental movement at substantially right angles to its shiftable movement in its successive positions upon the frame, and gages set in the successive paths of the supplemental movements of the twisting mechanism to gage the lengths of wire to be unreeled from the twisting mechanism.

6. A wire-fence machine comprising a frame, wire-twisting mechanism shiftable longitudinally of the frame and capable of supplemental swinging movements in any shifted position of the twisting mechanism, and gages carried by the frame and set in the swinging paths of the wire-twisting mechanism to limit the movement thereof and thereby determine the lengths of stay-wire to be unreeled from the twisting mechanism.

7. A wire-fence machine having a longitudinal bar, wire-twisting mechanism carried by and shiftable longitudinally upon the bar and also capable of swinging upon the bar in any shifted position, and gages carried by the frame in the paths of the swinging movements of the wire-twisting mechanism to limit said swinging movements and thereby gage the lengths of stay-wires to be unreeled from the wire-twisting mechanism.

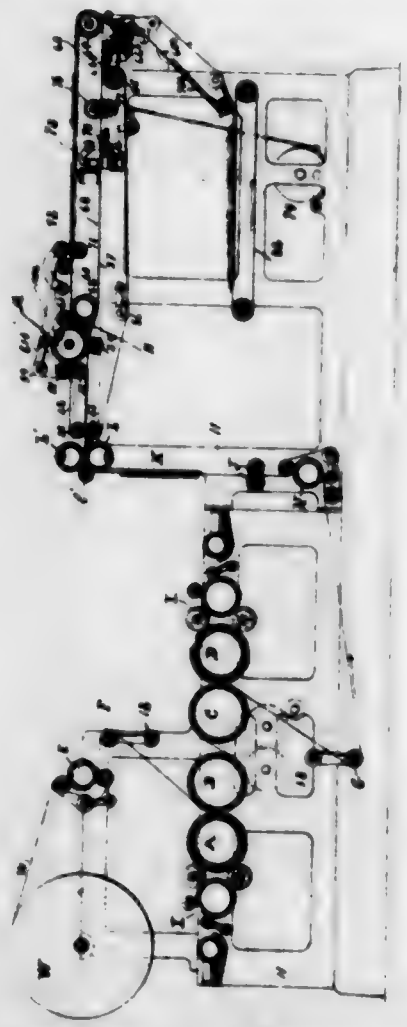
8. A wire-fence machine comprising a frame, wire-twisting mechanism shiftable longitudinally of the frame and also capable of swinging movements at substantially right angles to its shiftable movement, and a slotted gage carried by the frame in the swinging movement of the wire-twisting mechanism and provided with a fastening passing through the slot and engaging the frame to adjustably support the gage.

9. A wire-fence machine comprising a frame, wire-twisting mechanism shiftable longitudinally upon the frame and also capable of swinging transversely thereof, a stop projection carried by the twisting mechanism, and a gage carried by the frame in the path of the swinging movement of the twisting mechanism to limit said movement and thereby gage the length of wire to be unreeled from the twisting mechanism.

10. A wire-fence machine comprising a frame having a longitudinal bar, wire-twisting mechanism slidable longitudinally and rotatable transversely upon the bar, and a series of gages carried by the frame and set at predetermined intervals in successive swinging paths of the wire-twisting mechanism to adjustably limit the swinging movements thereof and gage the lengths of said wire to be unreeled from the twisting mechanism.

11. In a wire-fence machine, the combination of a frame including spaced uprights, cross-bars connecting the uprights at their upper and lower ends, an intermediate longitudinal bar carried by the cross-bars, wire-twisting mechanism slidable longitudinally upon the upright bar and capable of being swung thereon as an axis, and a longitudinal series of gages carried by the frame and adjustable to be set at predetermined intervals in successive swinging paths of the wire-twisting mechanism to adjustably limit its swinging movements and thereby gage the lengths of stay-wire to be unreeled from the twisting mechanism.

804,293. COVERING MECHANISM FOR PRINTING-PRESSES. HENRY A. W. WOOD, New York, N. Y., assignor to Campbell Printing Press and Manufacturing Company, New York, N. Y., a Corporation of New York. Filed May 18, 1896. Renewed Feb. 13, 1905. Serial No. 245,397.



Claim.—1. The combination with mechanism for assembling printed products, means for moving forward separate cover-sheets, each consisting of a number of separate covers, means for separating the cover-sheets into the respective covers, and means for associating said covers with the products assembled by the assembling mechanism.

2. The combination of a printing mechanism, a mechanism for assembling the product thereof into a plurality of assembled products, and means whereby separate cover-sheets, each consisting of a number of covers, may be introduced into the machine, divided into separate covers, and brought to cover the plurality of assembled products.

3. The combination of a printing mechanism, an associating

and collecting mechanism, arranged to bring the product of the printing-press into a plurality of products, and means whereby separate cover-sheets, each consisting of a number of covers, may be fed in one by one, divided into separate covers, and brought to cover the plurality of products.

4. The combination of a printing-machine adapted to print different lengths of sheets, an assembling mechanism for assembling the product of the printing-machine into a plurality of assembled products, and means whereby separate cover-sheets, each consisting of a number of covers, may be fed in one after the other, divided into separate covers, and brought to cover the assembled products.

5. The combination with an assembling mechanism, means for moving cover-sheets forward, perforators for perforating the cover-sheets on this movement, and means for then moving the sheets at right angles to their first movement so that the same will be associated with the products assembled in the assembling mechanism to form covers therefor.

6. The combination with a collecting-cylinder, of a cover-sheet-feeding mechanism, arranged parallel to the axis of the collecting-cylinder, means whereby sheets will be moved forward and perforated, and means whereby said sheets will then be broken on the line of perforations and fed to the products collected by the collecting-cylinder to form covers therefor.

7. The combination of a collecting-cylinder, a cover-sheet-feeding mechanism, arranged parallel to the axis thereof, a drop-roller arranged to draw sheets forward, perforators arranged to perforate the sheets moved in this manner, and a drop-roller and feeding mechanism adapted to then feed the sheet forward to the collecting-cylinder and break the same so that the sheets thus formed will form covers for the products collected by the collecting-cylinder.

8. The combination with a web-printing machine adapted to print various lengths of sheets, an adjustable slitting mechanism, a series of adjustable turner-bars, an adjustable cutting mechanism for severing the associated webs, a collecting-cylinder, and means for feeding sheets to the products handled by the collecting-cylinder to form covers therefor.

9. The combination with a collecting-cylinder, of a cover-sheet-feeding mechanism, arranged parallel to the axis thereof, means for drawing sheets forward and slitting the same, means for then breaking the sheets and feeding the same to form covers for the products on the collecting-cylinder, means for then forwarding the covered products from the collecting-cylinder, and slitters arranged to slit the products thus formed, to form a plurality of pamphlets.

10. The combination of a printing-machine, a collecting-cylinder arranged to collect the product thereof, means for feeding forward separate large cover-sheets, one after the other, each cover-sheet consisting of a number of separate covers, means for separating each of the large cover-sheets into its separate covers, and for forwarding the same to the collecting-cylinder, so that the product of the printing-press will be collected thereon, and means for forwarding the covered products from the collecting-cylinder.

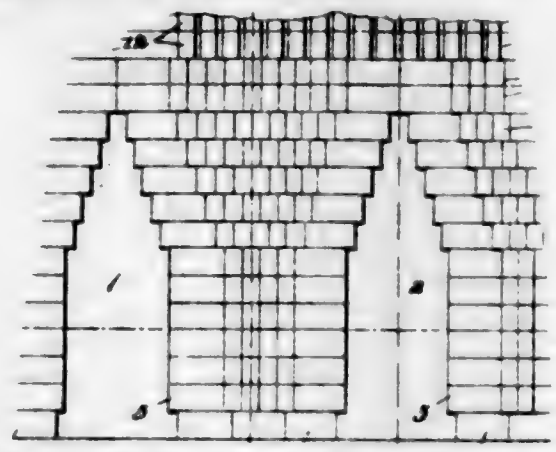
11. The combination with a printing-machine, a collecting-cylinder for collecting the product thereof, means for feeding large cover-sheets into the device, one after the other, each cover-sheet consisting of a number of separate covers, means for separating each large cover-sheet into its various covers, and passing the same to the collecting-cylinder, so that the product of the press will be collected therewith, means for forwarding the covered products from the collecting-cylinder, and folding mechanism arranged to fold the covered products.

12. The combination with a printing-press, a collecting-cylinder arranged to collect the product thereof, means for feeding large cover-sheets, one after the other, into the device, each cover-sheet consisting of a number of covers, and means for separating each large cover-sheet into its respective covers, and for passing the separated covers to the collecting-cylinder, the whole being so arranged that the product coming from the printing-press will be collected with one or more covers.

13. The combination with mechanism for assembling printed products, means for moving forward separate cover-sheets, each consisting of a number of separate covers, means for separating the cover-sheets into the respective covers, means for associating said covers with the products assembled by the assembling mechanism, and mechanism for binding the covers onto the assembled products.

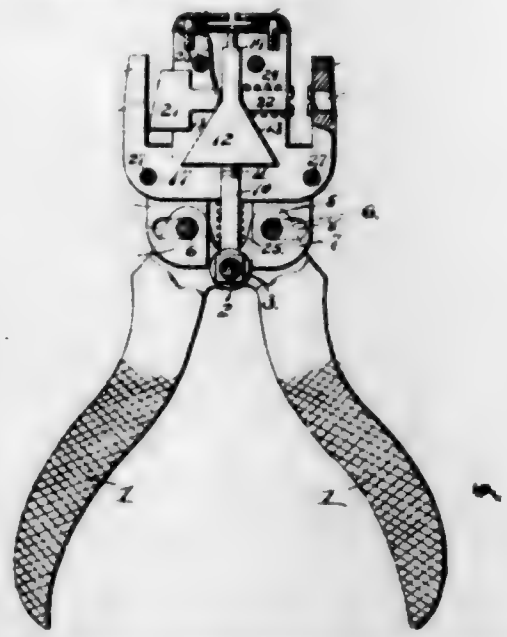
14. The combination with mechanism for assembling printed products, means for moving forward separate large cover-sheets, each consisting of a number of separate covers, means for separating the cover-sheets into the respective covers, means for associating said covers with the products assembled by the assembling mechanism, means for binding the covers into the assembled products, and folding mechanism for folding the covered products.

804,294. BRICK-KILN. EDWIN D. YOUNG, Oklahoma, Okla. Filed June 30, 1904. Serial No. 214,801.



Claim.—A brick-kiln having the opposed faces of its arch-springs provided with tortuous flues and having supports spaced apart to present heat-inlets, the filling between the arches being provided with continuous straight vertical flues, and benches having flues breaking joint with those of the arch-springs and filling.

804,295. HAND-TOOL. EDWARD M. ZACHARIAS, New York, N. Y. Filed Mar. 10, 1903. Serial No. 147,095.



Claim.—1. A hand-tool comprising a head carrying operating-tools, a plurality of fulcrum-guideways in said head extending in angularly-related directions, an actuating-handle mounted on a plurality of fulcrums movable in said guideways, and means whereby one of said fulcrums is adapted to move all the operating-tools.

2. A hand-tool comprising a head carrying operating-tools, a plurality of fulcrum-guideways in said head extending in angularly-related directions and a plurality of handles, each handle being mounted on a plurality of fulcrums movable in said guideways.

3. A hand-tool comprising a head carrying a plurality of operating-tools, an actuating-handle mounted on a plurality of fulcrums movable in angularly-related directions, and means whereby one of said fulcrums is adapted to move all the operating-tools.

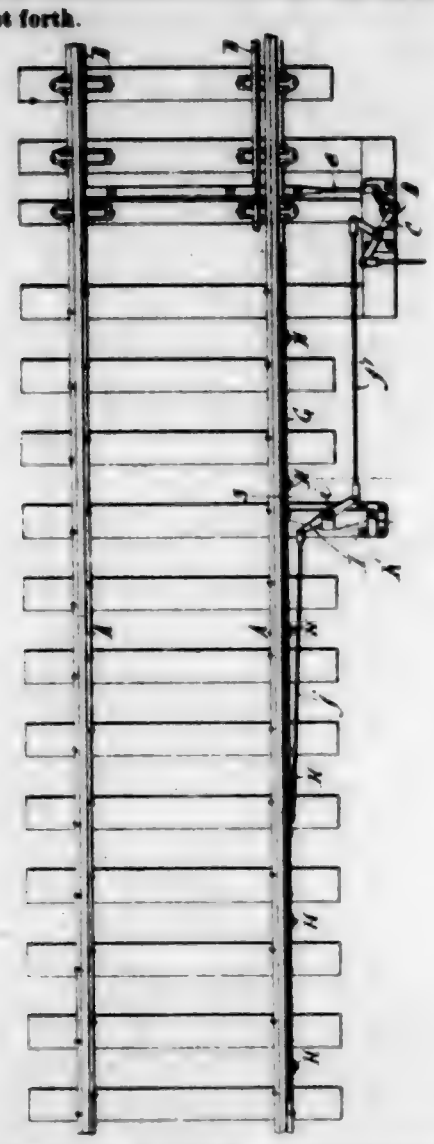
4. A hand-tool comprising a head carrying a plurality of operating-tools, an actuating-handle mounted on a plurality of fulcrums movable in angularly-related directions, and a cam actuated by one of said fulcrums for moving all the operating-tools.

5. A hand-tool comprising a head carrying a plurality of operating-tools, two actuating-handles, each handle mounted on a plurality of fulcrums guided to move in angularly-related directions, one of said fulcrums being common to the two handles, and a cam actuated by said fulcrum for moving all the operating-tools.

804,296. DETECTOR-BAR FOR RAILWAY-SWITCHES. WILLARD BAUM, Buffalo, N. Y. Filed Sept. 7, 1905. Serial No. 277,208.

Claim.—1. The combination of a track-rail, switch-operating mechanism, a detector-bar cooperating with said track-rail and con-

nected with said switch-operating mechanism, and compensating means for causing the detector-bar to move with said rail in creeping, substantially as set forth.



2. The combination of a track-rail, a detector-bar coöperating therewith, switch-operating mechanism, means for connecting the detector-bar with the switch-operating mechanism, and compensating means coöperating with said connecting means for causing the detector-bar to move with the rail in creeping, substantially as set forth.

3. The combination of a track-rail, a detector-bar coöperating therewith, switch-operating mechanism, a connection between the detector-bar and the switch-operating mechanism including a lever, and a movable support for said lever engaging the track-rail to move therewith in creeping, substantially as set forth.

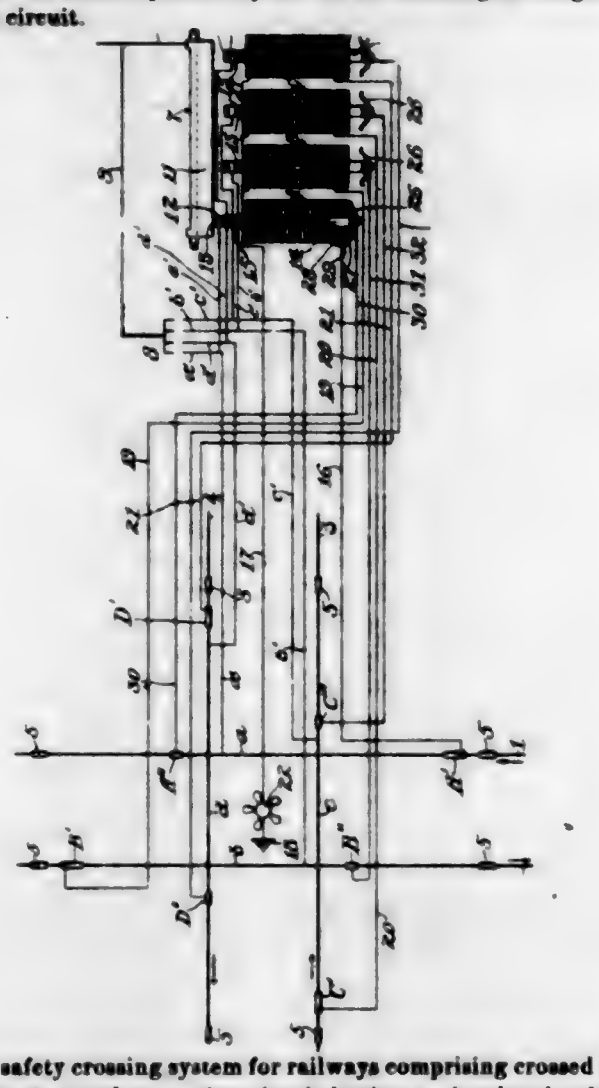
4. The combination of a track-rail, a detector-bar coöperating therewith, switch-operating mechanism, a main lever fulcrumed upon a fixed support and connected with the rail to move therewith in creeping, a supplemental lever fulcrumed between its ends upon said main lever, and means for connecting the arms of said supplemental lever with the detector-bar and the switch-operating mechanism, respectively, substantially as set forth.

5. The combination of a track-rail, a detector-bar coöperating therewith, switch-operating mechanism, a main lever fulcrumed at its outer end upon a fixed support and having its inner end connected with the rail, a supplemental lever pivoted centrally to the main lever at a point midway between the ends of the latter, and means for connecting the arms of the supplemental lever with the detector-bar and the switch-operating mechanism, respectively, substantially as set forth.

6. The combination of a track-rail provided at its side with an upright pin or stud, a detector-bar, switch-operating mechanism, a main lever fulcrumed upon a fixed support and provided with a fork which engages with said pin, a supplemental lever carried by said main lever, and connections extending from the supplemental lever to the detector-bar and the switch-operating mechanism, respectively, substantially as set forth.

804,297. SAFETY CROSSING SYSTEM FOR RAILWAYS. Walter J. Bell, Los Angeles, Cal., assignor of one-half to Leon P. Moss, Los Angeles, Cal. Filed May 15, 1905. Serial No. 260,416.

Claim.—1. A safety crossing system for railways comprising crossed operating-circuits, each operating-circuit having an insulated safety-block, a feeder connected with each safety-block, a feeder-switch adapted to disconnect all but any one of the feeder connections, a plurality of independent magnets for operating the switch a magnet-actuating circuit for each magnet and its related safety-block, a magnet-sustaining circuit for each magnet and its related safety-block, means operated by a car for closing the magnet-actuating circuit, and means operated by the car for breaking the magnet-sustaining circuit.



2. A safety crossing system for railways comprising crossed operating-circuits, each operating-circuit having an insulated safety-block, a feeder connected with each safety-block, a feeder-switch adapted to disconnect all but any one of the feeder connections, a plurality of independent magnets for operating the switch, a magnet-actuating circuit for each magnet and its related safety-block, a magnet-sustaining circuit, an electric signal connected in the magnet-actuating circuit, means operated by a car for closing the magnet-actuating circuit, and means operated by the car for breaking the magnet-sustaining circuit.

3. A safety crossing system for railways comprising crossed operating-circuits, each operating-circuit having an insulated safety-block extending across the intersection, a feeder connected with each safety-block, a feeder-switch adapted to disconnect all but any one of the feeder connections, a plurality of independent magnets for operating the feeder-switch, a magnet-actuating circuit for each magnet and its related safety-block, a circuit-closer at the safety-block and operated by a car for closing the associated magnet-actuating circuit, a magnet-sustaining circuit for each magnet and its related safety-block, a circuit-closer operated by each magnet for closing its associated magnet-sustaining circuit, and a circuit-breaker at the safety-block and operated by a car for breaking the associated magnet-sustaining circuit.

4. A safety crossing system for railways comprising crossed operating-circuits, each operating-circuit having an insulated safety-block extending across the intersection, a feeder connected with each safety-block, a feeder-switch adapted to disconnect all but any one of the feeder connections, a plurality of independent magnets for operating the feeder-switch, a magnet-actuating circuit for each magnet and its related safety-block, a signal connected in the magnet-actuating circuit, a circuit-closer at the safety-block and operated by a car for closing the associated magnet-actuating circuit, a magnet-sustaining circuit for each magnet and its related safety-block, a circuit-closer operated by each magnet for closing its associated magnet-sustaining circuit, and a circuit-breaker at the safety-block and operated by a car for breaking the associated magnet-sustaining circuit.

5. In combination with operating-lines, each having an insu-

lated safety-block, feeders for the respective safety-blocks, a feeder-switch comprising a series of contact devices, each contact device being connected to its associated feeder, a universal bar normally in contact with the contact devices, means for supplying current to the universal bar, and means for operating any of the contact devices singly to move the universal bar out of connection with the contact devices not actuated.

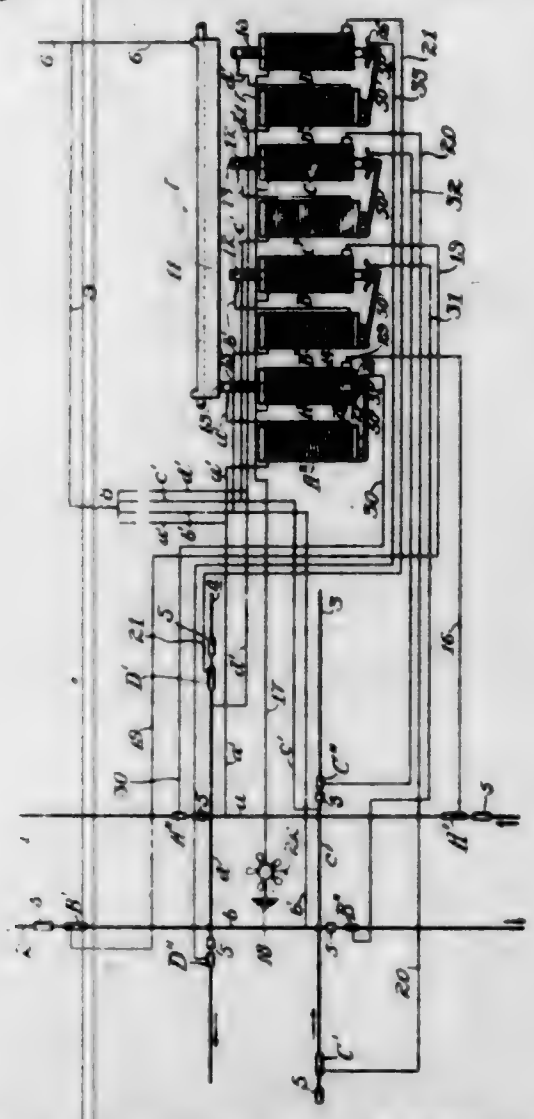
6. In combination with operating-lines, each having an insulated safety-block, feeders for the respective safety-blocks, a feeder-switch comprising a series of contact devices, each contact device being connected to its associated feeder a magnet for operating each contact device, a universal bar normally in contact with the contact devices, and means for supplying current to the universal bar.

7. In combination with operating-lines, each having an insulated safety-block, feeders for the respective safety-blocks, a feeder-switch comprising a series of contact devices, each contact device being connected to its associated feeder, a magnet for operating each contact device, a universal bar normally in contact with the contact devices, means for supplying current to the universal bar, and means operated by a car when it passes onto a safety-block for causing its associated magnet to be energized.

8. A safety crossing system for railways comprising crossed operating-circuits, each operating-circuit having an insulated safety-block, a feeder connected to each safety-block, means for automatically breaking all but any one of the connections between the feeder and safety-blocks, and a switch for rendering the last means inoperative and for supplying current direct to the safety-blocks.

9. In combination with operating-lines, each having an insulated safety-block, feeders for the respective safety-blocks, a feeder-switch comprising a series of contact devices, each contact device being connected to its associated feeder, a magnet for operating each contact device, a universal bar normally in contact with the contact devices, means for supplying current to the universal bar, a shunt from the feeders normally disconnected from the feeders, a switch for connecting or disconnecting said feeders with said shunt.

804,298. **AUTOMATIC SAFETY CROSSING SYSTEM FOR RAILWAYS.** WALTER J. BELL, Los Angeles, Cal., assignor of one-half to Leon F. Moss, Los Angeles, Cal. Filed June 1, 1905. Serial No. 263,306.



Claim.—1. A safety crossing system for railways comprising operating-lines having intersecting safety-blocks, means controlled by the first car which passes onto any of the blocks for automatically rendering the other blocks inoperative while the car is on that block, and means for allowing any one of other cars on the blocks to proceed after the said first car has passed off its block.

2. A safety crossing system for railways comprising operating-lines having intersecting safety-blocks which are normally operative, means including a main circuit for automatically rendering the safety-blocks, except one, inoperative, and auxiliary means including an auxiliary circuit for rendering the safety-blocks, except one, inoperative.

3. A safety crossing system for railways comprising crossed operating-circuits, each operating-circuit having an insulated safety-block, a feeder connected with each safety-block, means operated by a car when it enters a block for automatically cutting out the feeders connected with the other blocks, means for automatically restoring the feeders after the car has left the block, and auxiliary means for cutting out all feeders but one, operable from a car on a live block.

4. A safety crossing system for railways comprising crossed operating-circuits, each operating-circuit having an insulated safety-block, a feeder connected with each safety-block, a feeder-switch adapted to disconnect all but any one of the feeders, a plurality of independent magnets for operating the switch, a plurality of auxiliary magnets for operating the switch, means operated by a car for energizing one of the first-named magnets when the car passes onto a block, and means controlled by a car on a live block for actuating one of the auxiliary magnets.

5. A safety crossing system for railways comprising crossed operating-circuits, each circuit having an insulated safety-block, a feeder connected with each safety-block, a feeder-switch adapted to disconnect all but any one of the feeder connections, an auxiliary magnet connected in each feeder for operating the feeder-switch when a car is taking current from the safety-block associated with that feeder.

6. A safety crossing system for railways comprising operating-circuits, each circuit having an insulated safety-block, a feeder connected with each safety-block, a feeder-switch adapted to disconnect all but any one of the feeder connections, a plurality of independent magnets for operating the switch, means operated by a car when it passes onto a safety-block for energizing the magnet associated with that block and thus operating the feeder-switch, an auxiliary magnet connected in each feeder for operating the feeder-switch, any one only of the auxiliary magnets being operated when the car on its related safety-block is drawing current from its feeder.

7. A safety crossing system for railways comprising operating-circuits, each operating-circuit having a safety-block, a feeder connected with each safety-block, a feeder-switch adapted to disconnect all but any one of the feeder connections, a plurality of independent magnets for operating the switch, a magnet-actuating circuit for each magnet and its related safety-block, a magnet-sustaining circuit for each magnet and its related safety-block, a plurality of auxiliary magnets connected in the respective feeders for operating the feeder-switch, means operated by a car for closing the magnet-actuating circuit, and means operated by a car for breaking the magnet-sustaining circuit.

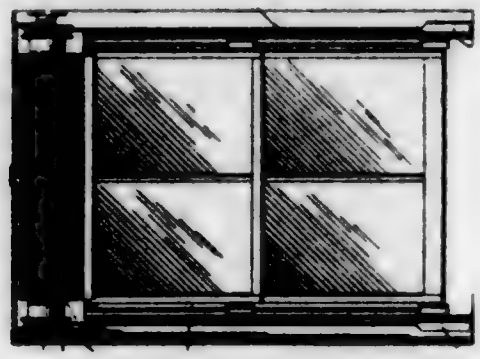
8. A safety crossing system for railways comprising operating-circuits, each operating-circuit having a safety-block, a feeder connected with each safety-block, a feeder-switch adapted to disconnect all but any one of the feeder connections, a plurality of independent magnets for operating the switch, a magnet-actuating circuit for each magnet and its related safety-block, a magnet-sustaining circuit for each magnet and its related safety-block, a plurality of auxiliary magnets connected in the respective feeders for operating the feeder-switch, means operated by a car for closing the magnet-actuating circuit, and means operated by a car for breaking the magnet-sustaining circuit, and a signal connected in the magnet actuating and sustaining circuits.

9. In combination with operating-lines, each having an insulated safety-block, feeders for the respective safety-blocks, a feeder-switch comprising a series of contact devices, each contact device being connected to its associated feeder, a universal bar normally in contact with the contact devices, means for supplying current to the universal bar, means for operating any of the contact devices singly to move the universal bar out of connection with the contact devices not actuated, a plurality of auxiliary magnets connected in the respective feeders between the feeder-switch and the safety-blocks, and means operated by each auxiliary magnet for moving the universal bar out of connection with all but one of the contact devices.

10. A safety system for railways comprising operating-lines having intersecting safety-blocks, automatic means including a main circuit for rendering dead all the safety-blocks except the one

on which a car first runs, and manual means including an auxiliary circuit applied through the car-controller of any car which may run past the automatic means for rendering exclusively alive the safety-block upon which the last-mentioned car lies.

804,299. **FIREPROOF WINDOW-CURTAIN.** Michael Berwanger, Philadelphia, Pa. Filed Dec. 8, 1904. Serial No. 236,057.



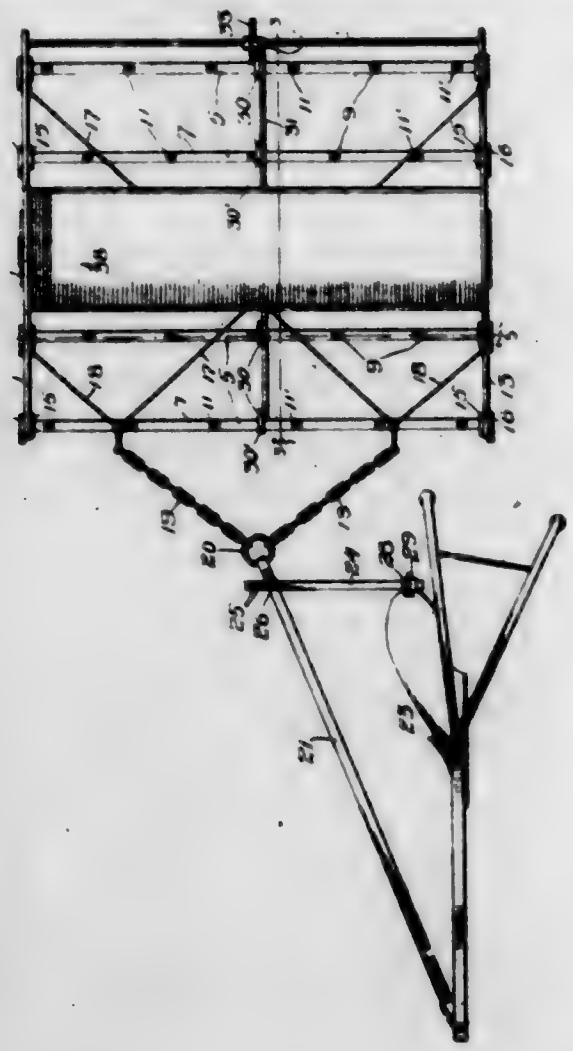
Claim.—1. The combination of a curtain of corrugated metal with a roller containing a longitudinally-compressed coil-spring adapted to free the curtain so that it may drop when the compression is relaxed, substantially as described.

2. The combination of a curtain of corrugated metal with a roller containing a longitudinally-compressed coil-spring, with clutches adapted to secure the curtain in a rolled-up position until the pressure upon the spring is relaxed, and then to become disengaged by its pressure so as to permit the curtain to drop, substantially as described.

3. The combination of a curtain of corrugated metal with a roller containing a longitudinally-compressed coil-spring, with clutches adapted to secure the curtain in a rolled-up position until the pressure upon the spring is relaxed, together with bars adapted to hold the clutches engaged, and a fusible fastening for securing the bars' restraining position until the said fastening is melted, substantially as described.

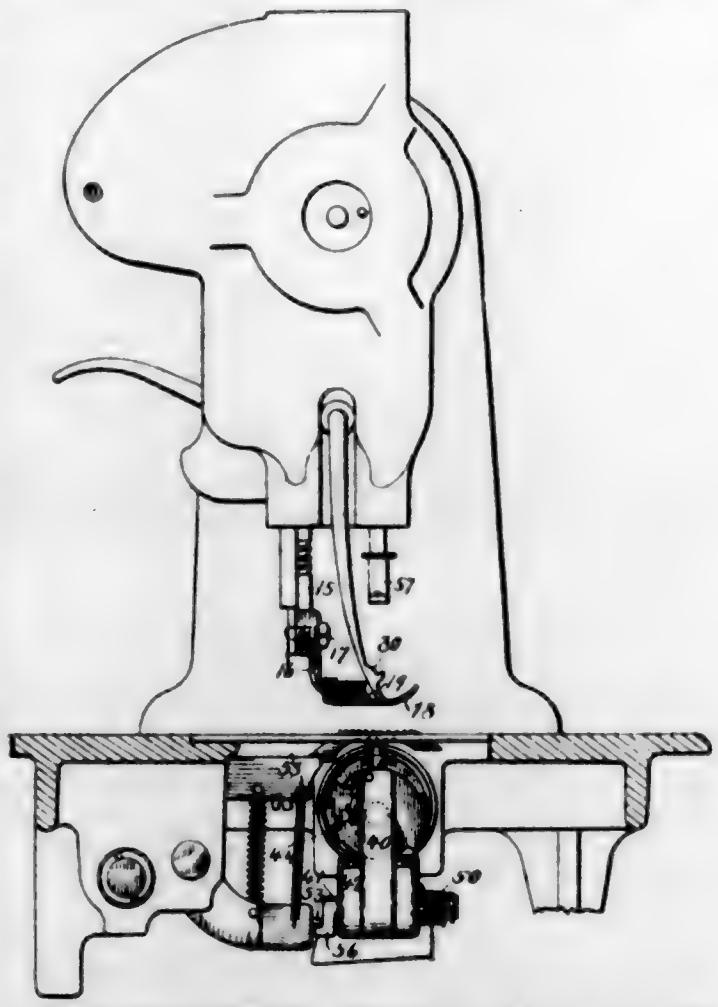
4. The combination with a fireproof window-shade secured to a roller of a fixed clutch-wheel secured to said roller, adapted to be engaged with a loose clutch-wheel, with releasing-arms adapted to be released by the melting of a fusible fastening, substantially as described.

804,300. **HARROW.** Louis Blinde, Johnson, Nebr. Filed Mar. 31, 1905. Serial No. 251,208.



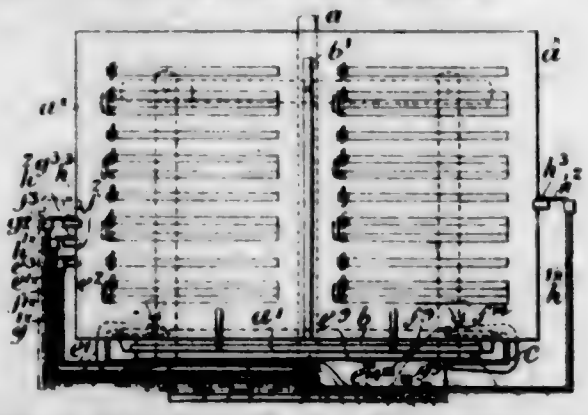
Claim.—In a harrow the combination with parallel plates having openings therein, of transversely-extending tooth-carrying members revolubly engaged in the openings, teeth removably engaged in the members, upwardly-extending arms carried by the members, a shift-rod pivoted to the arms, a transversely-extending rod secured to the rearward ends of the plates, a hand-lever pivoted upon said transversely-extending rod, said hand-lever being connected with the shift-rod for movement of the latter to shift the tooth-carrying members simultaneously, collars engaged with said members at opposite sides of the plates, crossed rods secured at one end to the inner faces of the plates, other rods secured at one end to the plates and at the other ends to the first-named rods, draft-chains connected to the first and second named rods at their meeting ends, supports secured to the plates and a weight-box mounted upon the supports.

804,301. **SHUTTLE MECHANISM FOR SEWING-MACHINES.** Stockton Borton, Providence, R. I., and Otis B. Brush, Bridgeport, Conn., assignors to Wilcox & Gibbs Sewing Machine Company, New York, N. Y., a Corporation of New York. Filed Jan. 26, 1901. Serial No. 44,851.



Claim.—The combination with the rotary hook, of a bobbin-hanger hinged to the frame so as to swing outward for removal and insertion of the bobbin, and a bobbin-case suspended upon said hanger, and wings or flanges one on each side of the hanger for centering the bobbin-case and preventing closing of the hanger when the bobbin-case is improperly placed thereon.

804,302. **MUSIC-LEAF TURNER.** Edward Breton, Wallington, England. Filed Feb. 20, 1905. Serial No. 246,575.

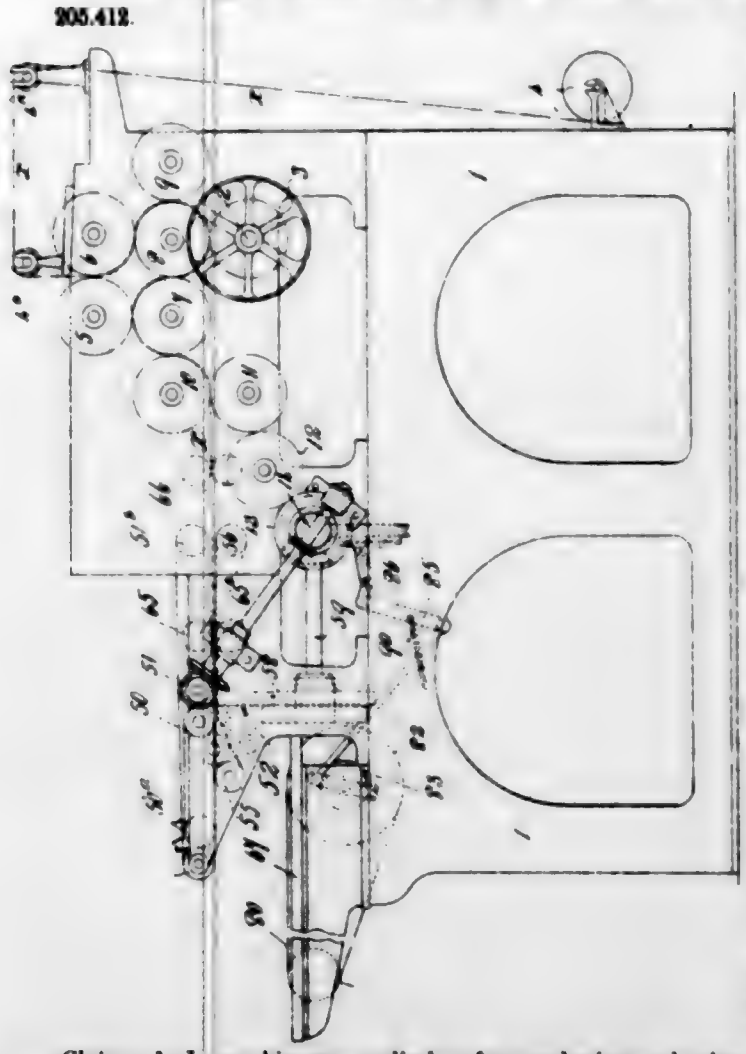


Claim.—1. In a music-leaf turner the combination of several drums or pulleys revolubly mounted in different horizontal planes

upon a vertical axis and having horizontal arms fixed thereto said arms having cranked ends of differential lengths located in different vertical planes, clips or the like at the extremities of said cranked parts, a coiled spring corresponding with each arm, guide-pulleys mounted upon vertical axes located one on each side of the axis of the drums, flexible bands fastened to the springs and passing behind one set of guide-pulleys, around the other set, around the drums to which they are also fastened, then in front of the other set of guide-pulleys to the bands to which they are fastened, catches for retaining the arms in their operative positions against the force of the springs and keys for withdrawing each catch independently substantially as herein shown and described and for the purpose stated.

2. In a music-leaf turner, a case containing the mechanism and having a top adapted to come beneath the shelf of a music-stand and provided with projecting ends or lugs, a corresponding loose plate adapted to rest upon said shelf, clamps for embracing the top and loose plate with the shelf between and a vertical rod carried by the loose plate and adapted to rest in the fold of the music substantially as herein shown and described and for the purpose stated.

804,303. **PRINTING AND NUMBERING MACHINE.** DAVID CARLAW, Sr., DAVID CARLAW, Jr., ALEXANDER L. CARLAW, and JAMES W. CARLAW, Glasgow, Scotland. Filed Apr. 28, 1904. Serial No. 205,412.



Claim.—1. In combination, cylinders for numbering and printing paper, means for rotating the cylinders, numbering-wheels, means for actuating the numbering-wheels, means for dividing the paper into sheets, means for folding the sheets, a traveling collecting, table operated by a ratchet, a pawl, a rod connected with the pawl, levers connected to the rod, a spring, a face-cam, and worm-gear for driving said cam, substantially as described.

2. In combination, cylinders having numbering-wheels for numbering and printing paper, means for rotating the cylinders, means for actuating the numbering-wheels, means for dividing the paper into sheets, means for folding the sheets, a cam having inclines thereon, lever mechanism operated by the inclines of said cam, worm-gear for driving the cam, ratchet mechanism, and an endless traveling band which serves as a collecting-table, substantially as described.

3. In combination, cylinders for numbering and printing paper, means for rotating the cylinders, numbering-wheels, means for actuating the numbering-wheels, means for dividing the paper into sheets, a cam, mechanism for operating the cam, a reciprocating sheet-folding knife operated by the cam, recesses in the knife-blade, endless traveling tapes, the means for operating the tapes, a traveling collecting-table, and means for imparting an intermittent action to the table, substantially as described.

4. A hollow numbering or numbering and printing cylinder having the numbering-wheels arranged within the cylinder and adapted to revolve in a plane at right angles to the plane of revolution of the cylinder, said cylinder having the body and ends made in one piece and provided with a cross-bridge and side pieces which latter are removably fastened to the body and bridge in order that the numbering-wheels can readily be removed or changed whenever desired, substantially as described.

5. In combination, a hollow rotary numbering or numbering and printing cylinder, numbering-wheels arranged within the cylinder and adapted to revolve in a plane at right angles to the plane of revolution of the cylinder, and mechanism for automatically revolving the wheels comprising a cam, a rocking bar, a cam thereon, a slide actuated by the cam, a swinging arm operated by said slide and pawl-and-ratchet gear, substantially as described.

6. In combination, cylinders for numbering and printing paper, means for rotating the cylinders, numbering-wheels, means for actuating the numbering-wheels, means for dividing the paper into sheets, a cam, mechanism for operating the cam, a reciprocating sheet-folding knife operated by the cam, recesses in the knife-blade, a double arrangement of tapes running on rollers for receiving, pressing and delivering the folded sheets of paper, and means for collecting the folded sheets into bunches ready to be bound into books, substantially as described.

7. In a machine for consecutively numbering sheets of paper for use in check-books, salesmen's books and the like, means for printing similar numbers consecutively upon opposite sides of different portions of the same sheets, tapes for carrying the printed sheets forward, means for folding the said printed sheets, said means comprising a reciprocating folding-knife having recesses therein to clear the said tapes and means for receiving, pressing and delivering the folded sheets ready to be bound into books, every page of which is adjacent a similarly-numbered page.

8. In a machine for consecutively numbering sheets of paper for use in check-books, salesmen's books and the like, means for printing similar numbers consecutively upon opposite sides of different portions of the same sheets, tapes for carrying the printed sheets forward, means for folding the said printed sheets, said means comprising a reciprocating folding-knife having recesses therein to clear the said tapes, a system of rollers and a double arrangement of tapes running upon the rollers and arranged to receive, press and deliver the sheets of paper ready to be bound into a book.

9. In a machine for consecutively numbering sheets of paper for use in check-books, salesmen's books and the like, means for printing similar numbers consecutively upon opposite sides of different portions of the same sheets, tapes for carrying the printed sheets forward, a sheet-folding means comprising a vertically-reciprocating knife with a broad blade having a number of recesses therein to clear the said tapes, guides for the knife, cam mechanism for reciprocating the knife and a double arrangement of tapes running on rollers for receiving, pressing and delivering the sheets of paper ready to be bound into a book.

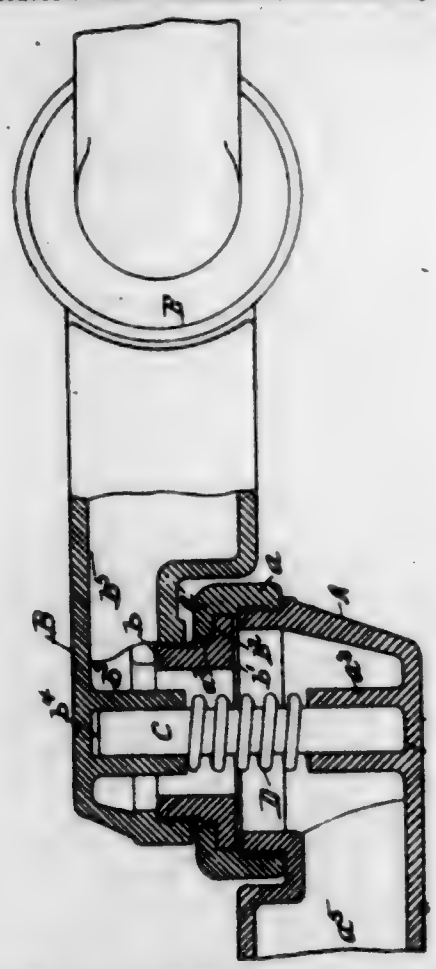
10. In a machine for consecutively numbering sheets of paper for use in check-books, salesmen's books and the like, means for printing similar numbers consecutively upon opposite sides of different portions of the same sheets, tapes for carrying the printed sheets forward, a sheet-folding means comprising a vertically-reciprocating knife with a broad blade having a number of recesses therein to clear the said tapes, rollers arranged above the folding-knife for receiving the sheets after being folded and a double arrangement of tapes for receiving, pressing and delivering the sheets ready to be bound into a book.

804,304. **FLEXIBLE PIPE-JOINT.** JACOB COPPERSMITH, Collinwood, Ohio, assignor of one-half to Martin Steiner, Erie, Pa. Filed Mar. 21, 1904. Serial No. 199,156.

Claim.—1. A flexible pipe-joint, comprising the two members A and B, the member A having the flange-nut *a*, from which extends the flange *a'*, the flange being provided with a wearing-surface a^2 facing the body of the member A, and approximating a plane at right angles to the axis of the joint, the member B having the flange-nut *b* from which extends the flange-shoulder *b'*, on which is the wearing-surface b^2, facing the body of the member B and contacting the surface a^2 to complete the joint, the contact-pressure on the surfaces a^2 and b^2, varying with the fluid-pressure in the joint; substantially as described.

2. A flexible pipe-joint, comprising the two members A and B,

the member A having the flange-nut *a*, from which extends the flange *a'*, the flange being provided with a wearing-surface a^3 facing the body of the member A, and approximating a plane at right angles to the axis of the joint, the member B having the flange-nut *b* from which extends the flange-shoulder *b'*, on which is the wearing-surface b^3, facing the body of the member B and contacting the surface a^3 to complete the joint, the contact-pressure on the surfaces a^3 and b^3, varying with the fluid-pressure in the joint, and a spring for maintaining said surfaces a^3 and b^3 in contact; substantially as described.



3. In a flexible pipe-joint the combination of the members A and B, the member A having the flange-nut *a* with the surface a^3 thereon; the member B having the flange-nut *b* with the joint-surface b^3 thereon, the surfaces a^3 and b^3 being opposed to each other, and interlocked to secure the members of the joint together, said members being provided with opposing lugs and sockets within the joint; a pin C in the sockets; and a spring D for forcing the members apart.

4. A flexible pipe-joint comprising two members having interlocked annular joint-surfaces arranged to be forced toward each other by pressure in the joint, the joint-surfaces of each member facing the body of the member on which it is formed, a separate guiding means at the axis of and wholly within the walls of the joint, for maintaining the members in axial alinement; substantially as described.

804,305. SPRINKLER FOR EXTINGUISHING FIRES. JAMES PIRRIE, Aberdeen, Scotland. Filed Dec. 21, 1903. Serial No. 186,017.



Claim.—1. In a fire-extinguishing apparatus, the combination with a discharge-pipe, of releasable means normally stopping the outflow from said pipe, a stretched wire, and devices adapted to be released on expansion of said wire to release said stopping means.

2. In a fire-extinguishing apparatus, the combination with a discharge-pipe, of releasable means for normally stopping the outflow from said pipe, a stretched wire, a lever pivoted at a point which is fixed in relation to said pipe, which lever is released on expansion of said wire to release said stopping means.

3. In a fire-extinguishing apparatus, the combination with a discharge-pipe, of releasable means normally stopping the outflow from said pipe, devices for releasing said stopping means, a stretched wire, a weight maintaining said wire under tension and adapted on expansion of said wire to release said releasing devices.

4. In a fire-extinguishing apparatus, the combination with a wire fixed at one end and carried over the area to be protected, of a sheave over which the wire passes, a weight secured to the end of the wire, a sprinkling mechanism, and controlling means therefor adapted to be operated by the said weight when the latter is lowered by the expansion of the wire under the influence of undue heat.

5. In a fire-sprinkler, the combination with a fluid-discharge pipe, of means normally closing the outlet from said pipe, a stretched wire, and devices adapted to be released on expansion of said wire to remove said outlet-closing means, substantially as described.

6. In a fire-sprinkler, the combination with a fluid-discharge pipe, of means normally closing the outlet from said pipe, a stretched wire, and a weighted lever which is released on expansion of said stretched wire to remove said outlet-closing means, substantially as described.

7. In a fire-sprinkler, the combination with a fluid-discharge pipe, of means for normally closing the outlet from said pipe, a stretched wire, and a lever pivoted to said pipe and released on expansion of said wire to remove said outlet-closing means, substantially as described.

8. In a fire-sprinkler, the combination with a fluid-discharge pipe, of means normally closing the outlet from said pipe, a wire, supports between which said wire is stretched, a weighted lever adapted when released to remove said outlet-closing means, means normally supporting said lever and means acting on expansion of said wire to cause said lever-supporting means to release said lever, substantially as described.

9. In a fire-sprinkler, the combination with a fluid-discharge pipe, of means normally closing the outlet from said pipe, devices for removing said outlet-closing means, a stretched wire, and a weight maintaining said wire under tension, and adapted on expansion of said wire to release said devices, substantially as described.

10. In a fire-sprinkler, in combination with a fluid-discharge pipe, a valve on the outlet of said pipe, destructible means for normally holding said valve closed, devices serving in their operation to destroy said valve-closing means, and a stretched wire adapted on expansion to actuate said devices.

11. In a fire-sprinkler, in combination with a fluid-discharge pipe, a valve on the outlet of said pipe, means for normally holding said valve closed, a weighted swing-lever pivoted on the discharge-pipe, means for normally holding said lever, means adapted to disengage said lever, and a metallic wire adapted on expansion to operate said disengaging means whereby the swing-lever is released and by falling displaces said valve-closing means, substantially as described.

12. In a fire-sprinkler, in combination with a fluid-discharge pipe, a valve on the outlet of said pipe, a strut for holding said valve closed, a swing-lever arm, a catch for normally holding said lever-arm, and a metallic wire adapted on expansion to disengage said catch from said lever-arm to displace said strut and open the valve, substantially as described.

13. In a fire-sprinkler, in combination with a fluid-discharge pipe, an inlet branch on said pipe, a valve on said branch, a strut for holding said valve normally closed, a swing-lever arm, a spring-catch for holding said lever-arm, means for releasing said spring-catch, and a stretched wire adapted on expansion to operate said catch-releasing means whereby said lever-arm is disengaged so as to displace said strut and open the valve, substantially as described.

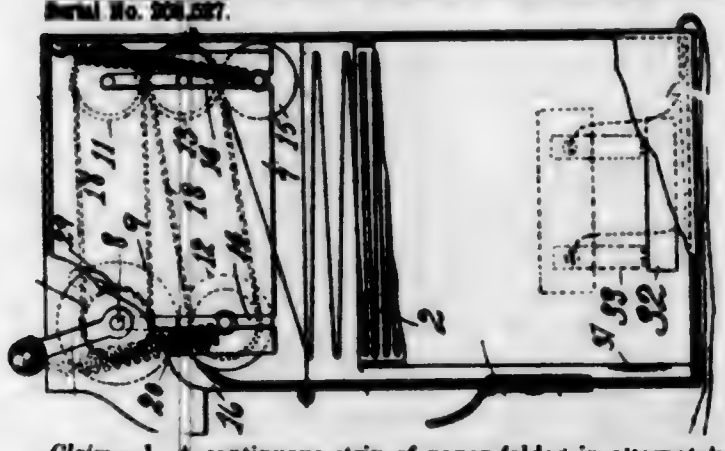
14. In a fire-sprinkler, in combination with a fluid-discharge pipe, a valve on the outlet of said pipe, a strut for holding said valve normally closed, a swing-lever arm, a spring-catch for holding up said lever, an expansible wire and a weight connected to one end of said wire, said weight having a wedge-shaped projection formed thereon, and said wedge being adapted on dilation of said wire and fall of said weight, to disengage said spring-catch as described.

15. In a fire-sprinkler, in combination with a fluid-discharge pipe, two bracket-supports on said pipe, pulleys mounted on said bracket-supports, an expansible wire connected to one of said supports and passing around said pulleys, a weight connected to the loose end of said wire, said weight being formed with a wedge-shaped projection as shown, an outlet branch on said discharge-pipe, a valve normally closing said outlet, a flange on said discharge-pipe, a cross-head, bolts securing said flange to said cross-head, a fragile strut supported by said cross-head, a swing-lever pivoted to said flange, and a spring-blade attached to said flange and supporting said lever, said spring-blade being adapted to be released from engagement on dilation of said wire as and for the purpose set forth.

16. In a fire-sprinkler, in combination, the water-pipe *a*, bracket-supports *b* secured to said pipe *a*, grooved pulleys *c* carried by said supports *b*, the wire *d* attached to one of said brackets, the weight *e* for keeping said wire *d* taut, the valve *f*, the strut *g* of friable material normally closing said valve *f*, the cross-head *h*, bolts *i* and

flange *j* for supporting said strut *g*, the lever-arm *k* pivoted to the flange *j*, the spring-blade *l* rigidly attached to the flange *j* and having an orifice *l'* engaging a stud on said arm *k*, the wedge-block *e'* on said weight *e*, and the projection k^3 on said arm *k*, as shown and described.

804,306. MAGAZINE AND DELIVERY MECHANISM FOR PAPER. CHARLES P. FONDA, San Francisco, Cal. Filed May 18, 1904. Serial No. 208,527.



Claim.—1. A continuous strip of paper folded in alternately-directed folds or plaits, and provided with a terminal of greater thickness than the main portion and curved in an arc not greater than a semicircle whereby, on being placed upon the periphery of one of a pair of rollers, and moved around the same, it will automatically direct the entrance of the strip between said rollers, substantially as described.

2. In an apparatus of the character described, the combination with a box, of a carton in the box, a strip of paper in the carton, the lower end attached to the carton, means for drawing off the paper at the upper end whereby the carton is ultimately raised in the box, a signal, and means whereby the rise of the carton in the box actuates said signal, substantially as described.

3. In an apparatus of the character described, the combination with a box, of a carton in the box, a strip of paper in the carton, means for drawing off the paper at the upper end whereby, the carton is ultimately raised in the box, an electrical annunciator, and means whereby the rise of the carton in the box actuates said annunciator, substantially as described.

4. In an apparatus of the character described, the combination with a box, of a carton in the box, a strip of paper in the carton, the lower end attached to the carton, means for drawing off the paper at the upper end, whereby, on the turning of the rollers, the carton is ultimately raised in the box, a visible signal, and means whereby the rise of the carton in the box actuates said signal, substantially as described.

5. A box, feed-rollers therein, a removable carton in said box open at the side only next to said feed-rollers, and a zigzag-folded strip of paper in said carton, the folds or layers of said paper being parallel to said open side, substantially as described

6. A box, feed-rollers at the top thereof, an open-topped removable carton at the bottom of the box, and a zigzag-folded strip of paper in said carton, the end of said strip extending through said open top between said feed-rollers, substantially as described.

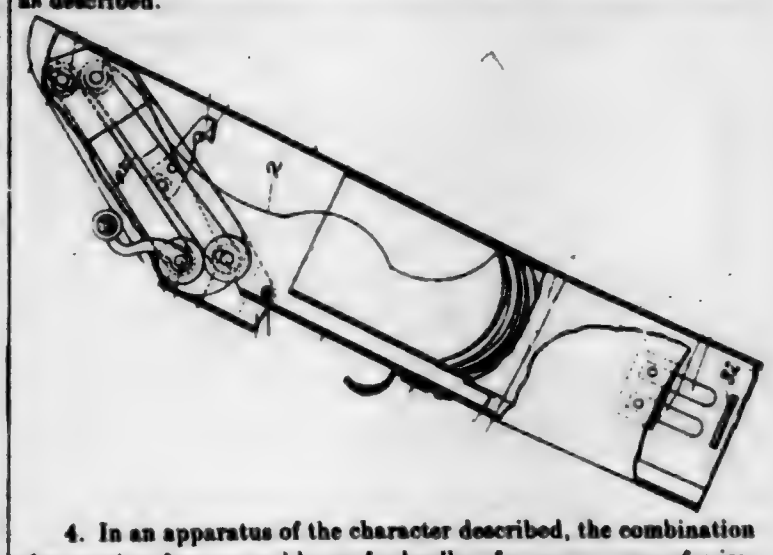
7. A box, feed-rollers at the top thereof, an open-topped removable carton at the bottom of the box, and a zigzag-folded strip of paper in said carton, the upper end of said strip extending through said open top between said feed-rollers, and the lower end being attached to said carton, substantially as described.

804,307. MAGAZINE AND DELIVERY MECHANISM FOR PAPER. CHARLES P. FONDA, San Francisco, Cal. Filed Dec. 15, 1904. Serial No. 237,048.

Claim.—1. In an apparatus of the character described, the combination with a magazine or box adapted to contain a continuous sheet of paper, of two pairs of rollers for feeding the paper, supported at the top of the box, and means for rotating said rollers, the leading pair with a greater surface velocity than the following pair to sever the paper, substantially as described.

2. In an apparatus of the character described, the combination with a magazine or box adapted to contain a continuous sheet of paper, of two pairs of rollers for feeding the paper, and means for rotating said rollers, the leading pair with a greater surface velocity than the following pair to sever the paper, substantially as described.

3. In an apparatus of the character described, the combination of a box adapted to contain a continuous sheet of paper and having a slot at the upper end thereof, a pair of feed-rollers adjacent to said slot, a second pair, the paper passing through both of said pairs, and means for rotating said rollers, the first pair with a surface velocity greater than that of the second pair to sever the paper, substantially as described.



4. In an apparatus of the character described, the combination of two pairs of upper and lower feed-rollers for paper, means for imparting rotation to a roller of the first pair, an operative connection between said roller and a roller of the second pair imparting to the latter a smaller surface velocity than that of the first pair, to sever the paper, and means whereby the rollers of each pair are pressed together, substantially as described.

5. In an apparatus of the character described, the combination of two pairs of grooved feed-rollers for paper, endless rubber bands connecting the rollers of the leading pair with those of the following pair, and means for rotating one of said rollers, the parts of the rollers not traversed by the rubber bands being of such diameters that the linear velocity of the outermost surfaces of the leading pair of rollers is greater than that of the following pair to sever the paper, substantially as described.

6. In an apparatus of the character described, the combination of leading and following pairs of grooved feed-rollers for paper, endless rubber bands in said grooves, the relation between the diameters of the rollers and of the grooved portion thereof being such that the linear velocity of the outermost surfaces of the leading pair of rollers is greater than that of the following pair, and means for rotating one pair of said rollers, substantially as described.

7. In an apparatus of the character described, the combination of two upper feed-rollers for paper, two lower feed-rollers, side plates having slots for the ends of shafts of certain of said rollers, rubber bands connecting the two upper rollers and also the two lower rollers, said slots being so arranged that the bands draw the upper and lower rollers together, and means for rotating one pair of rollers, substantially as described.

8. In an apparatus of the character described, the combination of two upper feed-rollers for paper, two lower feed-rollers, one pair of upper and lower rollers being higher than the other pair, side plates having slots for the bearings of the lower roller of the lower pair and the upper roller of the higher pair, bands connecting the upper rollers and also the lower rollers, and means for rotating one pair of rollers, substantially as described

9. In an apparatus of the character described, the combination of a box having a slot at the upper end thereof, a pair of feed-rollers for paper adjacent to said slot, a second pair of such feed-rollers, means for rotating said rollers, the first pair with a surface velocity greater than that of the second pair and means for preventing said rotating means actuating said rollers in the reverse direction, substantially as described.

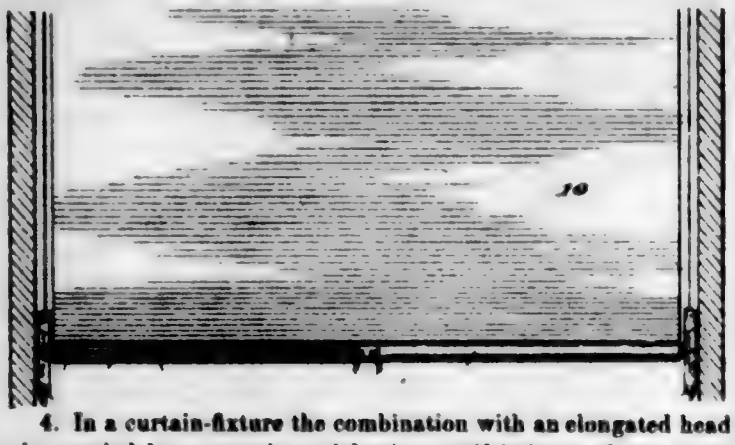
804,308. CURTAIN-FIXTURE. GEORGE H. FORSYTH, Chicago, Ill., assignor to The Curtain Supply Company, Chicago, Ill., a Corporation of New Jersey. Filed July 13, 1901. Serial No. 66,214.

Claim.—1. In a curtain-fixture the combination with a window-frame, a spring-actuated shade and a shade-stick, of heads carried by the stick, springs tending to force said heads outwardly, rollers carried by said heads and friction-shoes elastically connected with said heads independent of said stick, said rollers and said shoes being arranged to contact with the window-frame.

2. In a curtain-fixture the combination with heads, outwardly-thrusting springs acting upon said heads, rollers carried by said heads, friction-shoes elastically connected with said heads, and transversely-extending means on the head for retaining the shoes therein, said rollers and said shoes being arranged to make contact with the window-frame.

3. In a curtain-fixture the combination with a curtain-stick, sliding rods and outwardly-forcing springs for said rods mounted

therein, heads carried by the rods, antifriction-rollers carried by said heads, friction-shoes carried by said heads, springs interposed between the shoes and the heads, means for retracting the heads, and means for connecting the shoes with the heads, substantially as described.



4. In a curtain-fixture the combination with an elongated head to be carried by a curtain and having antifriction-surfaces at its ends, of an elongated pivoted shoe in the head and a yielding means interposed between the shoe and the head engaging the shoe on opposite sides of its pivot.

5. In a curtain-fixture the combination with an elongated head to be carried by the curtain, of antifriction-rolls at the ends of the head, a pivoted shoe in the head and a bow-spring interposed between the head and shoe engaging the shoe on opposite sides of its pivot.

6. In a curtain-holding device, the combination with a shade-stick, of a guide yieldably connected therewith, a friction holding device in said guide yieldingly held independent of the stick, and transversely-extending means on said head for mounting said friction holding device so that the same may have an independent yielding body movement toward and from the edge of the guide.

7. In a holding device for spring-actuated shades, the combination with a shade, of a stick carried thereby, a yieldable guide carried by the stick, and a friction holding device secured to the guide comprising a part having body movement toward and from the outer edge of the guide and spring parts extending inward from the friction part toward the rear portion of the guide whereby the frictional holding part is normally projected outward.

8. In a curtain-holding device, the combination with a shade-stick, of heads carried thereby, springs for normally thrusting said heads outwardly, curved bearings at the ends of the heads adapted to contact with the window-frame, and a yielding friction member mounted in the head between said end bearings, and transversely-extending means connecting the friction member to the head and permitting the same to have yielding movement toward and from the outer edge of the head.

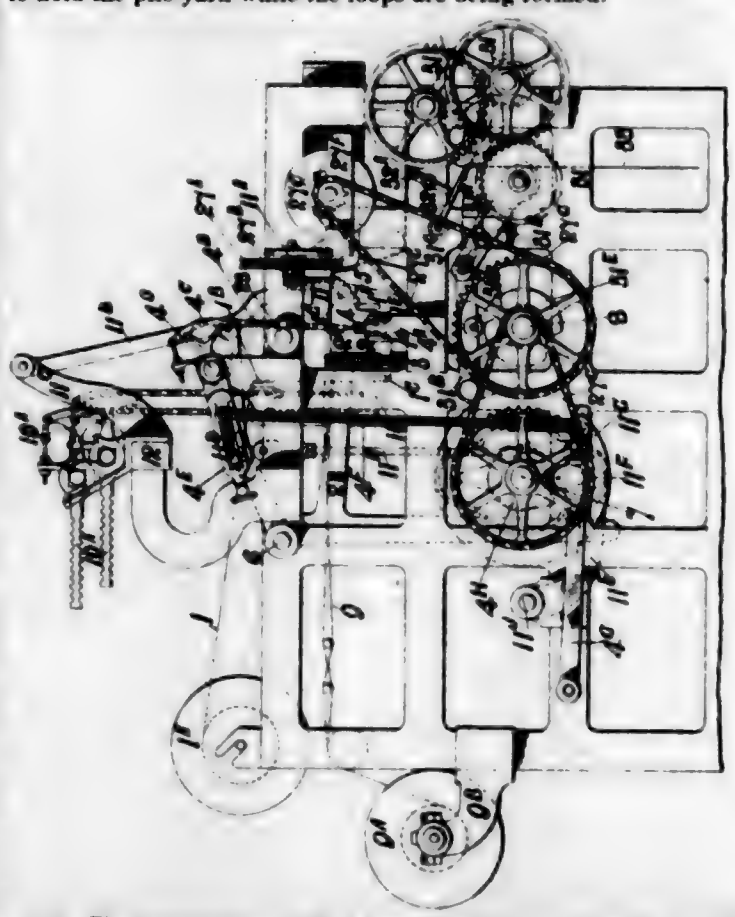
804,309. LOOM FOR WEAVING PILE FABRICS. HERBERT A. POSTER, Queensbury, England. Filed Dec. 16, 1903. Serial No. 185,369.

Claim.—1. The combination, with a beam for the pile-yarn, and a pair of guides under which the pile-yarn passes; of a letting-off bar arranged under the pile-yarn between the said pair of guides, means for raising the said bar intermittently to draw the yarn off the said beam, and a nipping device arranged between the said pair of guides and beam and operating to hold the pile-yarn while the loops are being formed.

2. The combination, with a beam for the pile-yarn, and a pair of guides under which the pile-yarn passes; of a letting-off bar arranged under the pile-yarn between the said pair of guides, a pivoted lever, a connection between one end of the said lever and the said bar, an operating-rod, means for adjusting the connection of the said rod with the said lever so as to adjust the length of the yarn for forming the loops, means for reciprocating the said rod intermittently, and a nipping device arranged between the said pair of guides and the said beam and operating to hold the pile-yarn while the loops are being formed.

3. The combination, with a beam for the pile-yarn, and a pair of guides under which the pile-yarn passes; of a letting-off bar arranged under the pile-yarn between the said pair of guides, a pivoted lever provided with a longitudinal slot at one end and a sector at the other end, a flexible connection engaging with the said sector and secured to the said bar, an operating-rod, a screw in the said slot for adjusting the connection of the said rod with the said lever, means for reciprocating the said rod intermittently, and a nipping device arranged between the said pair of guides and the said beam.

4. The combination, with a beam for the pile-yarn, and a pair of guides under which the pile-yarn passes; of a letting-off bar arranged under the pile-yarn between the said pair of guides, means for raising the said bar intermittently to draw the yarn off the said beam, a stationary block under the said yarn between the said beam and the said pair of guides, a nip-bar arranged over the said yarn and block, and means for raising and lowering the said nip-bar intermittently to hold the pile-yarn while the loops are being formed.



5. The combination, with a beam for the warp-threads, healds for the warp-threads, and means for reciprocating the said healds; of weft-inserting mechanism, a reed arranged between the said healds and the said weft-inserting mechanism, pivoted arms supporting the said reed, toggle-levers connected with the said arms, a connecting-rod for operating the said toggle-levers, and driving devices which operate the said rod intermittently.

6. The combination, with a needle-bar, and a series of pile-thread needles slidable crosswise of the said bar and provided with projections; of a grooved cross-bar which engages with the said projections, slidable bars secured one at each end of the said cross-bar, guides for the slidable bars, and revoluble cams for operating the said slidable bars.

7. The combination, with a stationary needle-bar, a series of pile-thread needles arranged crosswise of the said bar, and means for sliding the said needles; of a needle-bar provided with a series of latch-needles, and means for sliding the said latch-needles and their bar crosswise of the said pile-thread needles to take the pile-loops formed by the latter.

8. The combination, with horizontally-arranged guides, slide-pieces in the said guides, and means for reciprocating the said slide-pieces; of pivot-pins engaging with the said slide-pieces, a latch-needle bar provided with latch-needles, and slidable connections between the said bar and the said pins for adjusting the said bar crosswise of the said slide-pieces.

9. The combination, with guides, slide-pieces in the guides, and means for reciprocating the said slide-pieces in the said guides; of a latch-needle bar provided with latch-needles and pivoted to the said slide-pieces, and means for tilting the said bar on its pivots periodically at prearranged points of its travel.

10. The combination, with guides, slide-pieces in the guides, and means for reciprocating the said slide-pieces; of a latch-needle bar provided with latch-needles and pivoted to the said slide-pieces, a pivoted lever, means for operating the said lever intermittently, and a projection on the said bar which is struck by the said lever so that the said bar is tilted on its pivots periodically.

11. The combination, with guides, and reciprocatory slide-pieces movable in the said guides; of a latch-needle bar provided with latch-needles and pivoted in the said slide-pieces, pivoted levers operatively connected with the said slide-pieces and provided with projections, and a pivoted latch-opener arranged over the said latch-needles and operated by the said projections.

12. The combination, with a pivoted latch-needle bar provided with latch-needles, and means for sliding the said bar horizontally; of a pivoted latch-opener arranged over the said latch-needles, and operating mechanism which tilts the said bar and latch opener on their pivots periodically so that the latches of the needles are brought in contact with the said latch-opener.

13. The combination, with a knife-hooks bar provided with hooks for the pile-loops, of pivoted levers connected to the ends of the said bar and provided with curved slots, cam-levers pivoted concentric with the said levers and provided with pins which engage with the said slots, and revoluble cams for operating the said cam-levers.

14. The combination, with a knife-hooks bar provided with hooks for the pile-loops, of pivoted supporting-levers pivotally connected with the ends of the said bar, a lever secured to one end of the said bar, a pivoted cam-lever, a connecting-rod between the free end portions of the said lever and cam-lever, and a cam which operates the said cam-lever and tilts the said bar periodically on its supporting-pivots.

15. The combination, with a knife-hooks bar provided with hooks for the pile-loops, of pivoted supporting-levers connected to the ends of the said bar and provided with curved slots, cam-levers pivoted concentric with the said levers and provided with pins which engage with the said slots, revoluble cams for operating the said cam-levers, a lever secured to the end of the said bar, a pivoted cam-lever, a connection between the free end portions of the said lever and cam-lever, and a cam which operates the said cam-lever and tilts the said bar periodically.

16. The combination, with a knife-hooks bar provided with hooks for the pile-loops, and means for supporting and oscillating the said bar and hooks; of tappet mechanism which reciprocates the said bar and hooks endwise as the said parts are oscillated.

17. The combination, with pivoted supporting-levers, and means for oscillating them; of a knife-hooks bar pivoted in the free end portions of the said levers and provided with hooks for the pile-loops, a tappet or cam which moves the said bar endwise as it is moved vertically by the said levers, and means for tilting the said bar on its pivots periodically.

18. The combination, with pivoted supporting-levers, and means for oscillating them; of a knife-hooks bar pivoted in the free end portions of the said levers and provided with slotted hooks for the pile-loops, a knife slidable in the slots of the said hooks, a flexible connection secured to the ends of the said knife, stationary sheaves for supporting the said flexible connection, a revoluble cam, and an operating-pin connected to the said flexible connection and engaging with the said cam whereby the said knife is reciprocated in the said slots.

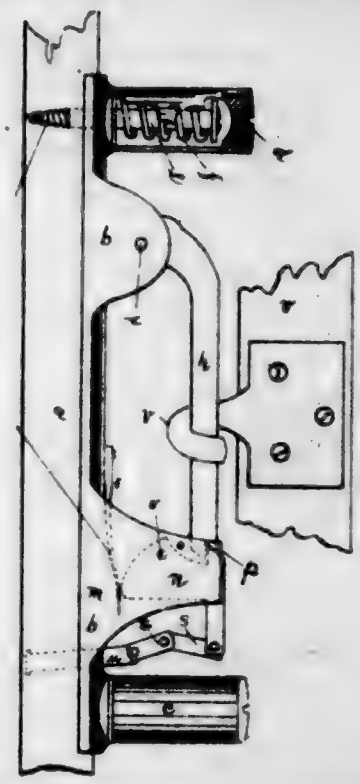
19. The combination, with a stationary needle-bar, and a series of pile-thread needles slidable crosswise of the said needle-bar; of a latch-needle bar provided with latch-needles, means for oscillating the said latch-needles crosswise of the said pile-thread needles, a knife-hooks bar provided with knife-hooks for the pile-loops, and means for oscillating the said knife-hooks crosswise of the said latch-hooks.

20. The combination, with a stationary needle-bar, and a series of pile-thread needles slidable crosswise of the said needle-bar; of a latch-needle bar provided with latch-needles, means for oscillating the said latch-needles crosswise of the said pile-thread needles, means for tilting the said latch-needles periodically, a pivoted knife-hooks bar provided with knife-hooks for the pile-loops, means for oscillating the said knife-hooks crosswise of the said latch-hooks, and means for tilting the said knife-hooks bar periodically on its pivots.

21. The combination, with a beam for the warp-threads, healds for the warp-threads, and means for reciprocating the said healds; of a needle-bar, a beam for the pile-yarn, letting-off mechanism for the pile-yarn, a nipping device for holding the pile-yarn while the pile-loops are being formed, loop-forming mechanism arranged adjacent to the said needle-bar, a weft-needle which forms a double shot across the shed, a shuttle which secures the ends of the weft-loops to the warp-selvage, a reed arranged between the said healds and the said needle-bar, and means for reciprocating the said reed after each double shot of the weft.

22. The combination, with a stationary needle-bar, and a series of pile-thread needles slidable crosswise of the said needle-bar; of a latch-needle bar provided with latch-needles, means for oscillating the said latch-needles crosswise of the said pile-thread needles, means for tilting the said latch-needles periodically, a pivoted knife-hooks bar provided with slotted hooks for receiving the pile-loops from the aforesaid needles, a knife slidable in the slots of the said knife-hooks, means for oscillating the said knife-hooks in a vertical plane, means for tilting the said knife-hooks bar on its pivots periodically, means for sliding the said knife-hooks bar endwise periodically, and means for sliding the said knife so as to cut the loops after a prearranged number of loops have accumulated on the said knife-hooks.

804,310. **FASTENER FOR VESTIBULED-CAR CURTAINS.** HARRY L. GARRETT, Boone, Iowa. Filed Mar. 24, 1905. Serial No. 251,813.



Claim.—1. In a fastener for vestibuled-car curtains of the character described, the combination with a resiliently-actuated curtain member of a car and a hooking member of an adjacent car, of a curtain-fastener consisting of a suitable frame, a hooking-pin mounted and adapted to lock thereon and adapted to engage said hooking member, means for causing the compression of the frame against the curtain member to a degree of force greater than that exerted by the resiliently-actuated curtain member, and means adapted to unlock the hooking-pin upon an increased lateral force being applied upon the curtain member and frame.

2. In a fastener for vestibuled-car curtains of the character described, the combination with a resiliently-actuated curtain member of a car and a hooking member of an adjacent car, of a curtain-fastener consisting of a suitable frame, a hooking-pin mounted and adapted to lock thereon and adapted to engage said hooking member, means for causing the compression of the frame against the curtain member to a degree of force greater than that exerted by the resiliently-actuated curtain member, and means adapted to unlock the hooking-pin upon the application of an additional force upon the curtain member and frame coming from some extraneous source.

3. In a fastener for vestibuled-car curtains of the character described, the combination with a vestibuled-car curtain one end of which is hung upon a contractibly-adjusted curtain-roller suitably mounted upon the frame of a car-platform the opposite end of said curtain being suitably mounted upon a curtain member, and a hooking member suitably positioned upon the frame of an oppositely-disposed car-platform, of a suitable fastener-frame to support its mechanism, said frame to be contractibly mounted upon the adjacently-disposed curtain member, a hooking-pin upon the frame adapted to be locked thereon and adapted to make engagement with said hooking member, means to permit the escape of the hooking-pin from the hooking member upon lateral displacement of the frame and curtain member, and means to prevent the lateral displacement of the frame and curtain member except upon the application thereto of a force foreign and additional to the contractible force of the curtain-roller.

4. In a fastener for vestibuled-car curtains of the character described, the combination with a vestibuled-car curtain one end of which is hung upon a contractibly-actuated curtain-roller suitably mounted upon the frame of a car-platform the opposite end of said curtain being suitably mounted upon a curtain member, and a hooking member suitably positioned upon the frame of an oppositely-disposed car-platform, of a suitable fastener-frame to support its mechanism, said frame to be contractibly mounted upon the adjacently-disposed curtain member, a hooking-pin upon the frame adapted to be locked thereon and adapted to make engagement with said hook-

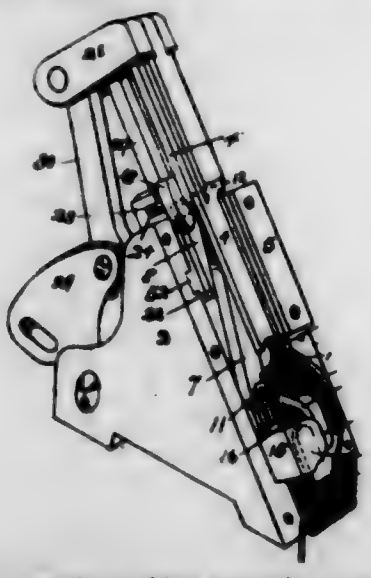
ing member, means to cause the frame to be compressed against the curtain member in a degree of applied force greater than the laterally-displacing force exerted upon the curtain member by the contractibly-actuated curtain-roller, and means to release the hooking-pin from its locked position by an applied extraneous force additional to the contractile force of the roller-curtain, the degree of such augmenting force being sufficient to overcome the contractile force of the frame upon the curtain member.

5. In a fastener for vestibuled-car curtains of the character described, the combination with a vestibuled-car curtain one end of which is hung upon a contractibly-actuated curtain-roller suitably mounted upon the frame of a car-platform the opposite end of said curtain being suitably mounted upon a curtain member, and a hooking member suitably positioned upon the frame of an oppositely-disposed car-platform, of a suitable fastener-frame to support its mechanism, said frame to be contractibly mounted upon the adjacently-disposed curtain member, a hooking-pin upon the frame adapted to be locked thereon and adapted to make engagement with said hooking member, means to sustain the hooking-pin in a closed or locked position during the period while the contractile force of the frame against the curtain member continues to be exerted in a degree greater than the force exerted by the contractibly-actuated curtain-roller upon the curtain member, and means permitting the escape of said hooking-pin from its frame-locked position whenever a laterally-displacing force is applied to the curtain member and frame greater than the contractile force of the frame with the curtain member.

6. In combination with a contractibly-actuated curtain-roller, the curtain and curtain member of a vestibuled car and a hooking member of an adjacent car, of a fastener for a vestibuled-car curtain, consisting of a suitable frame, a hooking-pin mounted and adapted to be locked thereon and adapted to engage the hooking member, means for compressing the frame against the curtain member, means for regulating the compression to a degree greater than the contractile force of the curtain-roller upon the curtain member, and means for releasing the hooking-pin when a lateral force is applied upon the curtain member from any foreign source, which, added to the contractile force of the curtain-roller upon the curtain member will be greater in degree than that of the compressible force of the frame against the curtain member.

7. In a fastener for vestibuled-car curtains the combination with a car-curtain, its contractibly-mounted roller, its curtain member and the hooking member of an adjacent car, of a curtain-fastener consisting of a suitable frame, the hooking-pin thereon adapted to engage said hooking member, the cylinders upon the frame, the screw and spring within the cylinders, said screws being adapted to regulate the resistance of the springs; the controlling and detaining lever a with its contacting spring *r* and detaining-bars *s*, *t* and *u*, the frame being compressibly mounted upon the curtain member, substantially as shown.

804,311. WIRE-STAPLE FORMING AND DISCHARGING MECHANISM. EDWARD J. GIBSON, Adrian, Mich., assignor to Lamb Wire Fence Company, Adrian, Mich., a Corporation of Michigan. Filed June 24, 1904. Serial No. 213,236.



Claim.—1. In a staple-machine, a member, a tool operative in said member to bend a length of wire previously fed thereto about a portion thereof, the said bent section lying at one side of and in substantial parallelism with the feed of the wire mechanism for severing the wire after the forming of a staple, and means for discharging the staple after the severing of the wire.

2. In a staple-machine, a stationary member, mechanism comprising a plunger and associated finger operative in said member to form a staple into U shape from a section of wire fed thereto and discharge the same from said member, and mechanism for severing the wire after a staple is entirely formed and prior to the discharge thereof.

3. In a staple-machine, a stationary member, mechanism comprising a plunger and connected finger operative in said member to form a staple from a section of wire fed thereto and discharge the same from said member, and mechanism operated by a movement of said plunger to sever the fed section of wire after a staple has been entirely formed therefrom and prior to its discharge.

4. In a staple-machine, a fixed member, and mechanism in said member comprising a plunger and dependently-movable staple-forming and wire-cutting parts for successively bending upon itself a section of wire fed to said member to form a staple, severing the staple from the connected wire, and discharging it from said member.

5. In a staple-machine, a fixed member, a staple-discharging plunger, a staple-forming finger and a wire-cutting mechanism all mounted in said member and movable in unison to successively bend a section of wire fed thereto upon itself to form a staple the legs of which lie in the general direction of the feed of the wire, sever the wire and discharge the staple, means for imparting movement to said finger and cutting mechanism from said plunger, and means for operating said plunger.

6. In a staple-machine, a fixed member having a shoulder about which a staple is formed, a block having a wire-feed opening therein, a plunger operative in said member to discharge a staple therefrom, a dependent element for forming a staple from a section of wire fed to said member, means movable by said plunger for moving said block to sever the fed wire after a staple has been formed and raising the staple in position to be discharged by the advancing plunger, and mechanism for operating said plunger.

7. In a staple-machine, a fixed member having a series of parallel openings therein, a shoulder in the plane of one of said openings, a plunger operating over said shoulder in the opening therewith, an element movable by said plunger operating in one of the other of said openings and having a portion movable in a plane with and adapted to bend a section of wire previously fed to said member around said shoulder, a member operated by a movement of said plunger to sever the wire after a staple is formed and move the same in position to be discharged by the advancing plunger, and means for imparting the requisite movement to said plunger.

8. In a staple-machine, a fixed member having a series of parallel openings therein, a shoulder in one of said openings, a slot formed in the partition separating said openings and extending partially around said shoulder, a plunger operative over said shoulder in the opening therewith, a finger operative by said plunger in the other of said openings and having a portion movable in said slot for forming a staple about said shoulder from a wire fed to said member, an element movable by said finger to cut the wire after a staple has been formed and move the same in position to be discharged by said plunger, means for intermittently feeding a wire to said member, and means for operating said plunger.

9. The combination in a staple-machine, of a fixed member, mechanism operative in said member to successively form a staple into U shape from a section of wire fed thereto, sever the staple from the wire after being entirely formed, and discharge the severed staple, a movable die coacting with the discharge end of said member to clench the discharged staple about an interposed object, and means for operating said mechanism and die.

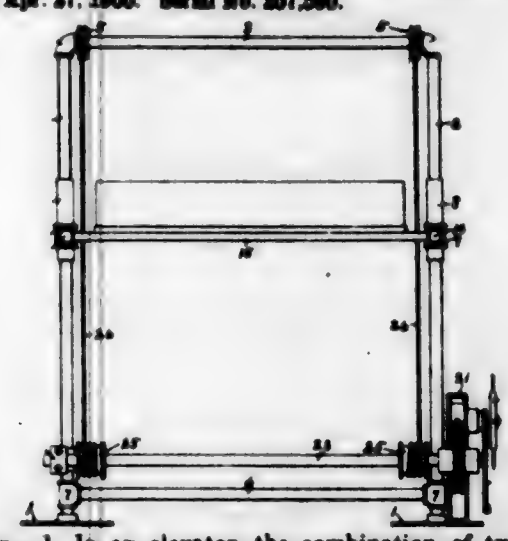
10. The combination in a staple-machine of a fixed member, a shoulder in said member, a die adapted to be moved to intermittently coact with the face of said member, an element operative in said member to form a staple around said shoulder from a section of wire fed thereto, an element operative to sever the staple from the wire when formed and raise the same above said shoulder, a plunger for discharging and clamping the staple about an object held between said member and die and adapted when moved to actuate said two elements, and means for operating said plunger and die.

11. In a wire-working machine, a fixed member, mechanism for intermittently feeding a section of wire to said member, a staple-forming element and a staple-discharging element operative in said member and movable in a line parallel with the line of feed of the wire, the former element being adapted to bend a portion of the fed wire upon itself to form a U-shaped staple, and the latter element to discharge the formed staple, and means for severing the staple when entirely formed from its thread.

12. In a staple-machine, a fixed member, mechanism for inter-

mittently feeding a section of wire to said member, a shoulder in said member about which the wire is bent, means movable parallel with the line of feed of the wire for engaging the end thereof and bending it about said shoulder to form a U-shaped staple, mechanism for severing the staple when entirely formed, and means for discharging the severed staple.

804,312. **PAPER-ELEVATOR.** JOHN C. HARRER, Detroit, Mich. Filed Apr. 27, 1905. Serial No. 257,590.



Claim.—1. In an elevator, the combination of two uprights, sleeves slidable thereon, cross-pieces connected to said sleeves, other connecting cross-pieces extending between the uprights, a cross-bar at the upper ends of the uprights, wheels journaled on said cross-bar, a shaft journaled at the lower portions of the uprights, drums secured on said shaft, ropes extending over the wheels on the cross-bar and connecting to the drums, straps connecting said ropes to the cross bars carried by said sleeves, a platform carried by said cross-bars, and mechanism for operating said shaft.

2. In an elevator, the combination of uprights, sleeves slidable thereon, a frame extending between said sleeves, said frame comprising parallel tubes and connections for their ends, the outer tubes being removable, a platform carried by said frame, said platform formed of hinged leaves, a cross-bar connecting the upper ends of the uprights, wheels journaled on said cross-bar, a shaft journaled in bearings secured to said uprights, rope-drums secured to said shaft, ropes extending from said drums over said wheels and connecting to said frame carrying the platform, and gears to operate said shaft.

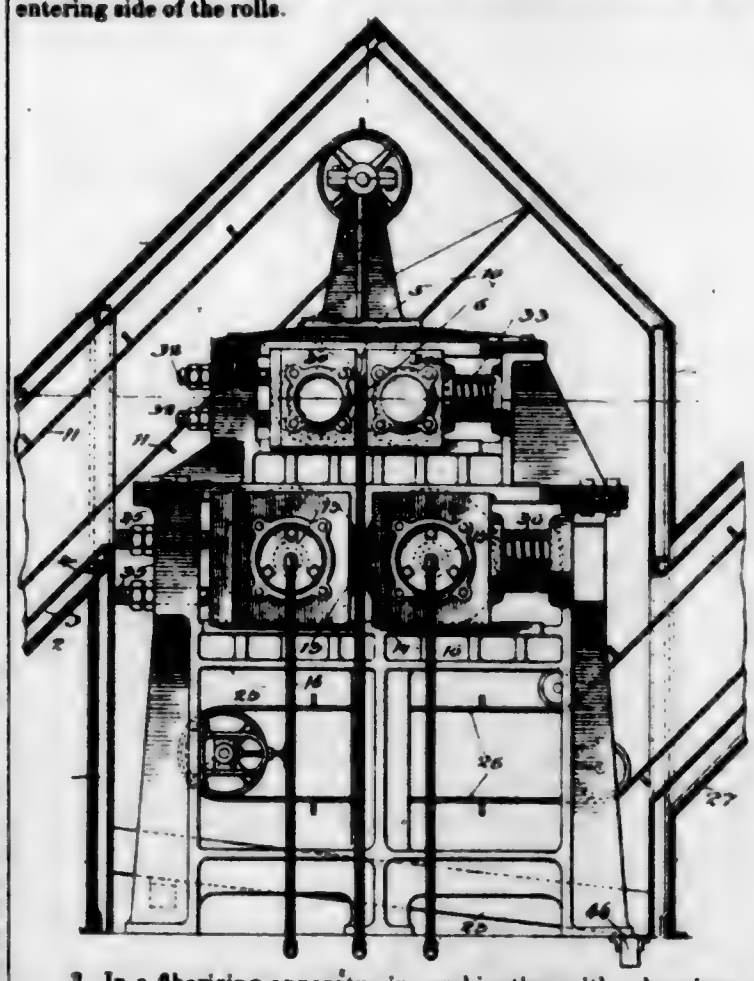
3. In an elevator, the combination of uprights, a platform slidable thereon, a cross-bar connecting the upper ends of the uprights, wheels journaled on said cross-bar, a case secured to the lower end of one upright, a bearing secured to the other upright, a shaft journaled in said case and bearing, a worm-wheel secured to said shaft, a second shaft journaled in said case, a bevel-gear carried thereon, a frame pivoted on said second shaft, a cross-shaft carried thereby, a bevel-gear secured to the cross-shaft and meshing with the bevel-gear on the second shaft, a worm carried by the cross-shaft and adapted to mesh with the worm-gear, said cross-shaft frame adapted to be moved to engage or disengage the worm and wheel, and means to drive said shafts.

4. In an elevator, the combination of uprights, sleeves slidable thereon, a frame connected to said sleeves, a platform resting on said frame, a cross-bar connecting the upper ends of said uprights, wheels journaled on said cross-bar, a case secured to one upright, a bearing secured to the other upright, a shaft journaled in said case and bearing, drums secured to said shaft, ropes extending from said drums over said wheels and connecting to the frame carrying the platform, a gear mounted on said shaft within the case, and mechanism to operate said gear.

804,313. **FIBERIZER FOR REDUCING WOOD.** ARTHUR W. HARPCOMB, Evanston, Ill., assignor to Wood Distillate and Fibre Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 27, 1904. Serial No. 238,208.

Claim.—1. In a fiberizing apparatus in combination with a pair of rolls and a frame in which they are journaled, the rolls having circumferential intermeshing V-shaped grooves and ribs; means for rotating the rolls while thus intermeshed; means for delivering to the rolls the material to be operated upon, and a steam-discharge pipe directed for discharge of steam-jet through the material at the entering side of the rolls.

2. In a fiberizing apparatus in combination with a pair of rolls, a frame in which they are journaled and a housing which incloses the frame and rolls; a conduit whose cavity is continuous with that of the housing and which communicates therewith at the top; a conveyer in such conduit and a hopper-mouth into which such conveyer discharges, said hopper-mouth being located for directing the material to the inwardly-revolving side of the rolls; a conveyer at the lower part of the housing and an outleading conduit in which such conveyer operates and a steam-pipe leading into the housing and terminating for discharge of the steam-jet through the material at the entering side of the rolls.



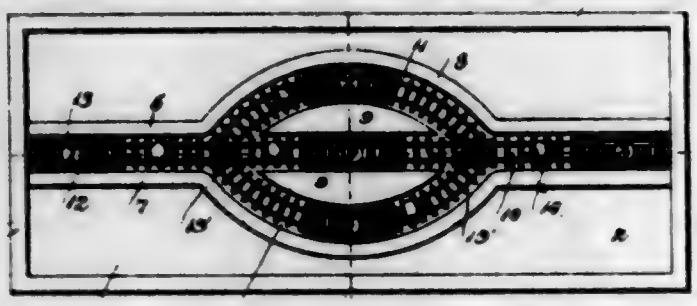
3. In a fiberizing apparatus in combination with a housing, a conduit having its cavity continuous with that of the housing and communicating therewith at the top of the latter; a second conduit having its cavity continuous with the housing and communicating therewith at the bottom of the latter; a conveyer in each conduit; fiberizing-rolls and the frame in which they are mounted inclosed by the housing; means for receiving material from the conveyer in the first-mentioned conduit and guiding the same to the entering side of the rolls; means for conducting the material from the discharge side of the rolls to the second conveyer; means for heating the rolls and for discharging the steam through the material at the entering side thereof.

4. In a fiberizing apparatus in combination with a housing; a plurality of pairs of fiberizing-rolls and a frame in which they are mounted inclosed by the housing, said pairs of rolls being arranged successively one pair above another in position for discharging the material operated upon from each upper to the next lower pair; a conduit leading into the upper part of the housing and a conveyer therein discharging into the housing and onto the upper pair of rolls; means for heating the rolls and for discharging steam through the material supplied thereto at the entering side of the pairs of rolls respectively.

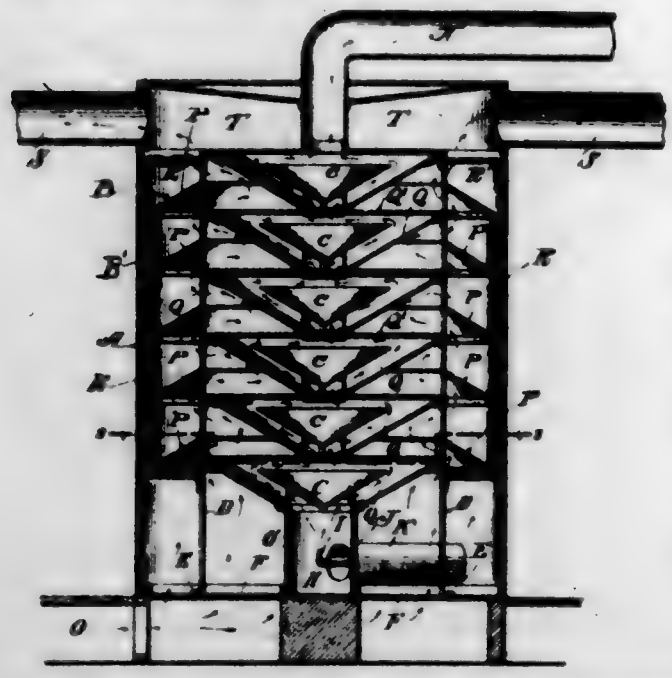
5. In a fiberizing apparatus in combination with a housing, a plurality of pairs of fiberizing-rolls and a frame in which they are mounted inclosed by the housing, said pairs of rolls being arranged successively for delivering from each preceding pair to the next succeeding pair, the final pair of rolls in the series being hollow and having hollow trunnions, and steam-pipes extending into the hollow trunnions for discharging steam thereinto at one end; drainage-pipes extending through the hollow trunnions at the other end and having within the rolls respectively downwardly-extending terminals terminating near the lower side of the roll-cavity, and stuffing-boxes on the trunnions through which the pipes respectively extend thereinto.

804,314. **FUSELE.** CHARLES H. HARRIS, Denver, Colo. Filed Sept. 12, 1904. Serial No. 224,262.

Claim.—A game or puzzle comprising a tiltable body provided with a playing-surface having a main channel forming the main portion of a trackway, and oppositely-disposed curved channels forming sidings or branches of the trackway, said straight portion of the trackway being provided beyond the sidings and between the same with destination-points, and said sidings also having destination-points opposite the intermediate destination-point of the straight portion of the trackway, obstacles at the junctions of the sidings with the main portion of the trackway, and movable objects adapted to roll by gravity along said main and branch portions of the trackway when the body is tilted and to be seated at the destination-points.



804,315. **FURNACE.** JOSEPH B. HAYDEN, Pasadena, Cal. Filed Dec. 27, 1904. Serial No. 238,543.



Claim.—A hot-air furnace comprising an outer cylindrical casing having in the bottom thereof a combustion-chamber and in the top thereof a distributing-chamber; a smoke-stack thereon; a central hot-air flue leading from the combustion-chamber to the smoke-stack, the said hot-air flue formed of a series of inverted-cone-shaped deflectors superimposed one above the other and having a central opening therethrough, the top of each of said cone-shaped deflectors being arranged horizontally; and an inverted-cone-shaped deflector closed at the bottom and open at the top in each of the above-mentioned deflectors, the said last-mentioned cone-shaped deflectors being disposed centrally in each of the first-mentioned cone-shaped deflectors.

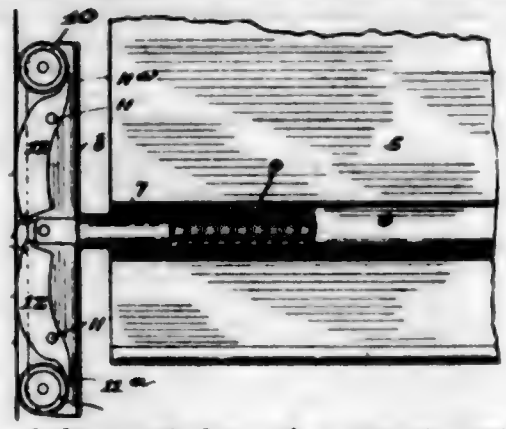
804,316. **THILL AND TONGUE SUPPORT.** JOHN H. HEMMON, Cooley, Okla. Filed Mar. 13, 1905. Serial No. 249,808.



Claim.—1. A tongue and thill support comprising a shank formed of plate metal having one end bent into a hook-shaped attaching-clip and its other end folded transversely across the shank to form a cross-arm for engagement across the front of a thill.

2. A tongue and thill support comprising a shank of plate metal which is split longitudinally in its rear end with its split portions spread and bent at their rear ends to form attaching-clips, the other end of the shank being folded to form a transverse thill-engaging arm.

804,317. **CURTAIN-FIXTURE.** CHARLES L. HOPKINS, Chicago, Ill., assignor to The Curtain Supply Company, Newark, N. J., a Corporation of New Jersey. Filed June 13, 1904. Serial No. 212,304.



Claim.—1. In a curtain-fixture, the combination with a curtain-stick, of a spring-pressed head movably mounted in said stick, a roller in said head adapted to act as an antifriction member when the stick is canted, and a brake member pivoted between its ends in said head and rendered operative to engage the roller by contact with the casing when the fixture is in a normal or horizontal position.

2. In a curtain-fixture, the combination with a curtain-stick and a head mounted on the end thereof, of a roller mounted in said head, and a pivoted brake member also carried by said head, said brake member having one end normally projecting into contact with the surface of the casing and on its other end carrying a brake-surface adapted to engage said roller under the resistance of the casing opposed to the thrust of the curtain-stick spring when the fixture is in normal or horizontal position.

3. In a curtain-fixture, the combination with a curtain-stick and a head mounted on the end thereof, of a roller mounted in said head, and a brake-lever also pivoted between its ends in said head, said brake-lever having one end normally projecting into contact with the surface of the casing and its other end adapted to engage said roller when the fixture is in normal or horizontal position.

4. In a curtain-fixture, the combination with a curtain-stick and a head mounted on the end thereof, of a roller mounted in said head, and a brake-lever also pivoted in said head, said brake-lever having one end projecting into contact with the surface of the casing and its other end operatively engaging said roller under the thrust of the curtain-stick spring acting to press the opposite end of the brake-lever against the casing when the fixture is horizontal, and having its braking effect wholly or partially relieved when the fixture is canted.

5. In a curtain-fixture, the combination with a curtain-stick and a head mounted on the end thereof, of a pair of rollers mounted in the head on opposite sides of the longitudinal center of the latter, respectively, and a pair of inversely-disposed pivoted brake-levers carried by said head between said rollers, the adjacent inner ends of said brake-levers projecting into contact with the casing and their opposite ends carrying brake-shoes adapted to be forced into engagement with their respective rollers under the thrust of the curtain-stick spring acting to press the inner ends of said levers against the casing.

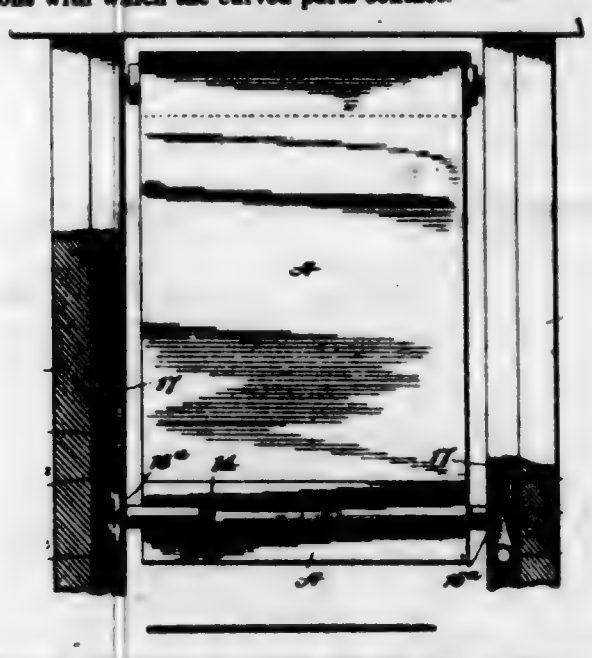
6. In a curtain-fixture, the combination with a curtain-stick and a head mounted on the end thereof, of a pair of rollers mounted in the opposite ends of the head, respectively, and a pair of inversely-disposed brake-levers pivoted in said head between said rollers, the adjacent inner ends of said brake-levers projecting into contact with the casing and their opposite ends carrying brake-shoes adapted to be forced into engagement with their respective rollers under the thrust of the curtain-stick spring acting to press the inner ends of said levers against the casing.

7. In a curtain-fixture, the combination with a curtain-stick, of spring-actuated heads mounted therein, said heads each having a roller and a non-rotatable independent pivoted brake member adapted to be thrown into engagement with the casing and the roller through the outward pressure of the curtain-stick spring.

804,318. **HOLDING MEANS FOR CURTAINS.** CHARLES L. HOPKINS, Chicago, Ill., assignor to The Curtain Supply Company, Newark, N. J., a Corporation of New Jersey. Filed Aug. 19, 1904. Serial No. 221,413.

Claim.—1. In a curtain-holding device, the combination with a stick, of an elongated spring at the end of the stick having curved ends, and a stationary guide having alternate depressions and projections with which the curved ends engage.

2. In a curtain-holding device, the combination with a stick, of an elongated spring-head having curved contacting parts at its opposite ends, and a stationary guide having alternate depressions and projections with which the curved parts contact.



804,819. CURTAIN-HOLDING DEVICE. PAUL A. HOUGHTALING, Riverton, N. J., assignor to The Curtain Supply Company, Newark, N. J., a Corporation of New Jersey. Filed Sept. 24, 1904. Serial No. 225,801.



Claim.—1. The combination of a curtain, a curtain-rod therefor having a portion constructed to coact with a runway, a tubular housing for said rod and means including a cam arranged without the housing and movable in a plane parallel to the axis of the curtain-rod, and a portion coacting therewith for moving said portion of the rod toward and from the runway, substantially as described.

2. The combination of a curtain, a curtain-rod therefor having a portion constructed to coact with a runway, a tubular housing for said rod, means for pressing said rod toward said runway, and means including a cam arranged without the housing and movable in a plane parallel to the axis of the curtain-rod, and a portion coacting therewith for releasing the rod from the runway, substantially as described.

3. The combination of a curtain, a curtain-rod therefor having a portion constructed to coact with a runway, a tubular housing for said rod, a spring tending to force the rod toward said runway, a projection on the rod and a cam on the curtain arranged without said housing, with means for moving the cam in a plane parallel to the axis of the curtain-rod to release the rods from the runway, substantially as described.

4. The combination of a curtain having a guiding structure adjacent to its lower edge, a curtain-rod in said structure having a portion formed to coact with a runway, a plate formed with a cam-slot therein carried by said guiding structure movable in a plane parallel to the axis of the curtain-rod, and a projection on the rod entering said cam-slot, substantially as described.

5. The combination of a curtain having two relatively movable parts constructed to engage runways at opposite sides of said curtain, a plate pivotally mounted on the curtain to rotate in a plane parallel to the axis of said parts, and formed with a cam-slot therein, and a projection from one of the parts placed to enter said cam-slot, substantially as described.

6. The combination of a curtain carrying two relatively movable parts constructed to engage runways at the edges of said curtain, a plate pivotally mounted on the curtain to rotate in a plane parallel to the axis of said parts, and provided with a cam-surface, and a projection from one of the parts placed to be engaged by said cam-surface, with a fixed handle carried by the curtain and a second handle on said plate substantially as described.

7. The combination of a curtain carrying two relatively movable parts for engaging runways at the edges of said curtain, a plate pivotally mounted on the curtain movable in a plane parallel to the axis of said movable parts and provided with a cam-surface, a projection from one of the parts placed to be engaged by said cam-surface, a fixed handle carried by the curtain and a second handle on the said plate, with a spring tending to force said handles apart and the movable parts into engagement with the runways, substantially as described.

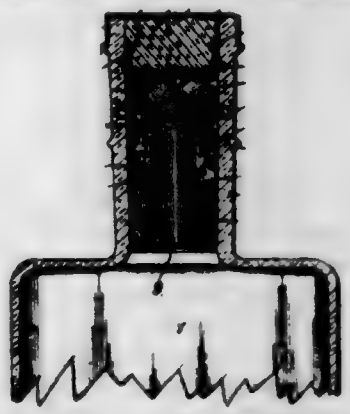
8. A curtain-fixture comprising two relatively movable rods each having a portion to coact with a runway, a plate movable in a plane parallel to the axis of the curtain-rods and having two cams formed therein, and portions on the rods coacting with said cams for moving the runway-engaging portions of the rods relative to the runways.

9. A curtain-fixture comprising two rods one movable relative to the other each having a portion to coact with a runway, a plate movable in a plane parallel to the axis of the curtain-rods and having two oppositely-disposed cams formed therein, means operatively associated with one of said cams, and a portion of the movable rod coacting with said other cam for moving its runway-engaging portion relative to the runway.

10. A curtain-fixture comprising two relatively movable rods each having a portion to coact with a runway, a plate movable in a plane parallel to the axis of the curtain-rods and having two cams formed therein, and portions of said rods coacting with said cams for moving the runway-engaging portions of the rods relative to the runways, in combination with a fixed pinch-handle and an oppositely-disposed pinch-handle carried by the plate.

11. A curtain-fixture comprising two rods one movable relative to the other and each having a portion to coact with a runway, a plate movable in a plane parallel with the axis of the curtain-rods, and having two oppositely-disposed cams formed therein, means operatively associated with one of said cams, and a portion on the movable rod coacting with the other cam for moving its runway-engaging portion relative to the runway, in combination with a fixed pinch-handle and an oppositely-disposed pinch-handle carried by the plate.

804,820. RECEPTACLE. MARY A. HOWARD, Columbus, Ohio. Filed Jan. 27, 1903. Renewed May 1, 1905. Serial No. 258,336.



Claim.—1. A receptacle, having a closure-plug within the mouth thereof and provided at its outer end with a reduced stem portion, packing embracing the stem and filling the space between the

latter and the walls of the mouth of the receptacle, a fastening-band embracing the packing and the base portion of the stem, the outer portion of the packing being gathered over the top of the stem, and a band embracing said gathered portions of the packing.

2. A receptacle, having a closure-plug within the mouth thereof and provided with an opening for the escape of the contents of the receptacle, a removable closure for the outer end of the opening, and packing embracing the outer portion of the plug and gathered over the top thereof.

3. A receptacle, having inner and outer spaced closures, the inner closure having a reduced outwardly-extending stem portion and provided with an opening extending through said stem, a removable closure for the opening, and packing filling the space between the two first-mentioned closures, said packing embracing the stem of the inner closure and gathered together and fastened across the outer end of the inner closure.

4. A receptacle, having an inner annular groove in the neck thereof to reduce the thickness of the neck for breaking the same, and also provided with another inner annular groove disposed above the first-mentioned groove, a closure-plug fitted within the neck at the inner side of the intermediate groove and provided with a reduced stem portion at its outer end, there being a bore or opening extending entirely through the stem and the plug, a removable closure for the outer end of the opening, fibrous packing embracing the stem and gathered over the top thereof, a wire band embracing the gathered portion of the packing, and a non-removable plug fitted in the outer end of the neck and provided with spring-catches which engage the outer groove, the sterilized packing entirely filling the space between the two plugs.

5. A receptacle having its neck provided with a thin portion to permit breakage thereof, a cap having an opening and removably fitted to the outer end of the neck, and means at opposite sides of the thin portion of the neck for alternate engagement by the cap to fasten the latter to the neck, whereby the cap may be fitted to the broken edge of the neck after the outer end has been removed therefrom.

6. A receptacle having a neck provided with a thin portion to permit breakage thereof, external projections carried by the neck at opposite sides of the thin portion thereof, and a cap having means for alternate engagement with said projections, whereby the cap may be fitted to the broken edge of the neck after the outer end portion thereof has been removed.

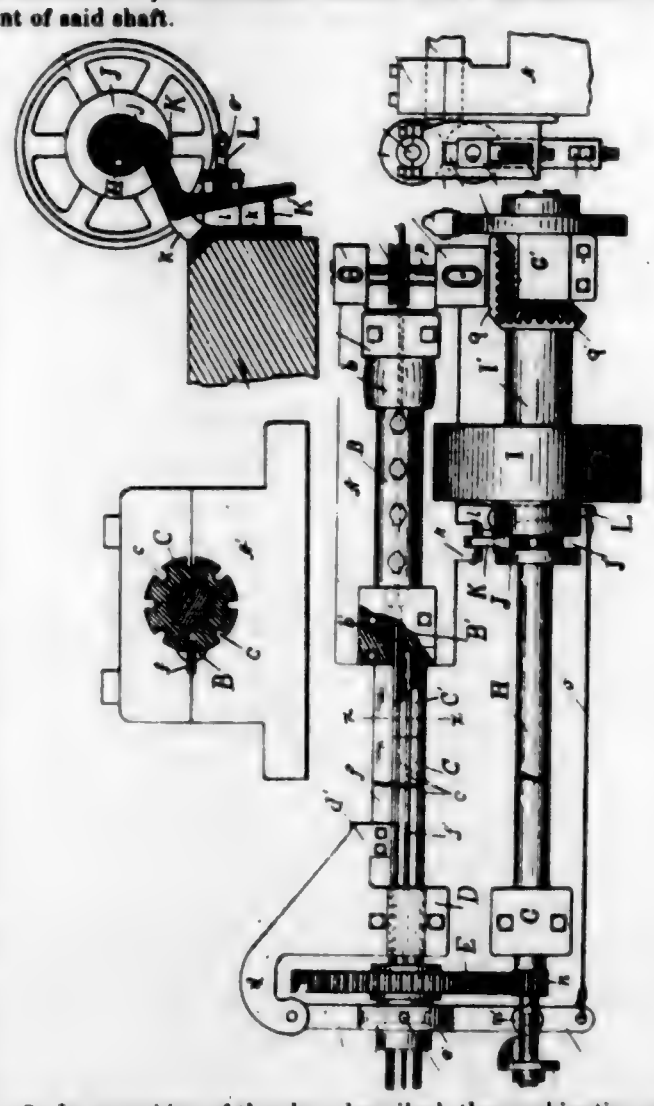
7. A receptacle, having its neck provided with an intermediate annular thin portion to permit breakage thereof, external annular shoulders upon the neck at opposite sides of the thin portion thereof, and a cap having a cylindrical flange to embrace the neck and provided with an inner annular groove to alternately embrace the respective annular shoulders.

8. A receptacle, having its neck provided with an intermediate annular groove to reduce the thickness of the neck and permit breakage thereof, an annular groove within the neck and at the outer side of the groove, external annular shoulders at opposite sides of the groove, a plug fitted within the neck at the inner side of the groove and provided with an outwardly-directed reduced stem, there being a bore or opening extending entirely through the stem and the plug, a removable closure for the outer end of the bore, a plug fitted in the outer end of the neck and provided with spring-catches snapped into engagement with the groove, a cap fitted to the outer end of the neck and provided with a central opening and also having a cylindrical flange embracing the neck, the flange being provided with an outwardly-pressed bead snapped into engagement with the upper annular shoulder and capable of engagement with the lower shoulder when the bottle-neck has been broken, a fibrous packing embracing the stem of the inner stopper and filling the space between the two stoppers, a band embracing the packing and securing the same to the base of the stem, and another band embracing the outer portion of the packing and securing the same across the outer end of the stem.

804,321. **WIRE FEED, STRAIGHTENING, AND CUTTING MECHANISM.** Vernon Hoxie, Adrian, Mich., assignor to Lamb Wire Fence Company, Adrian, Mich., a Corporation of Michigan. Filed Feb. 20, 1904. Serial No. 194,490.

Claim.—1. In a wire-working machine, the combination with a wire-receiving shaft, of mechanism for feeding a wire to said shaft, and mechanism adapted to be thrown into operation at a predetermined point in the advance of the wire for intermittently stopping the feed of the wire to said shaft and cause a simultaneous movement of said shaft.

2. In a machine of the class described the combination with a wire-receiving shaft, of a wire-feed mechanism mounted in advance of said shaft and comprising stationary and movably-mounted coacting feed-rolls, means for rotating said rolls, a member adapted when moved to cause a receding movement of said movably-mounted roll to interrupt the feed of the wire to said shaft, and mechanism adapted to cause a requisite movement of said member when the wire has advanced a predetermined distance and a simultaneous movement of said shaft.



3. In a machine of the class described, the combination with a wire-receiving shaft, of a pair of coacting feed-rolls for advancing a wire to said shaft, an oscillatory member adapted when moved to cause a receding movement of said coacting rolls and interrupt the feed of the wire, and mechanism adapted to cause a movement of said oscillatory member when the wire has been advanced to a predetermined distance in said shaft and a simultaneous movement of said shaft.

4. In a machine of the class described, the combination, with a rotatable receiver for the wire having independent wire-receptacles and the bearing-block therefor, of a hardened sleeve rigidly secured on a reduced portion of said receiver adjacent to said block, a hardened-metal plug in said block having an aperture therethrough in alinement with one of the receptacles of said receiver, the said sleeve and plug having their contiguous edges flush and adapted to sever the wire as said receiver is rotated and mechanism actuated by the advancing wire for causing a movement of said shaft to sever the wire when it has been advanced a predetermined distance therein.

5. In a machine of the class described, the combination with means for feeding the wire, of a rotatable shaft having a reduced portion at one end thereof, a hardened-metal sleeve keyed to the reduced portion of said shaft, radially-arranged longitudinal wire-receiving receptacles provided on said shaft and sleeve, a hardened-metal plug longitudinally disposed in flush position to the end of said sleeve and having an aperture therethrough in alinement with said feeding means and a receiving-receptacle in said sleeve, the contiguous edges of said sleeve and plug being formed with cutting edges for severing the wire as said shaft is rotated and mechanism for actuating said cutting parts when the wire has been advanced a predetermined distance in said shaft.

6. In a machine of the class described, the combination with means for feeding the wire and a rotatable receiving-shaft, of a hardened-metal plug rigidly mounted in longitudinal alinement with said receiving-shaft and having an opening through which the wire passes to said shaft, a hardened-metal sleeve rigidly secured on said shaft, having a receptacle for the wire and its end flush with said plug for the purpose described and mechanism adapted to be thrown into operation at a predetermined point in the movement of the ad-

vancing wire to cause a movement of said cutting parts and a simultaneous cessation of the wire-feed.

7. In a machine of the class described, the combination with means for feeding the wire, of a wire-straightening mechanism, a stationary plug having an opening through which the wire is advanced from said straightener, an intermittently-rotatable receiving-shaft, a hardened-metal sleeve rigid on said shaft flush with said plug and having a series of longitudinal equidistantly-spaced peripheral grooves with cutting edges adjacent to said plug adapted to stand successively in line with the opening therethrough, and means for intermittently rotating said shaft.

8. In a wire-working machine, the combination of a wire-straightening mechanism, oppositely-rotating rolls at one end of and adapted to feed the wire to said mechanism, a wire-receiving shaft mounted at the other end of said mechanism and having one or more peripheral grooves adapted to stand successively in line with the advancing wire, wire-cutting means in advance of said shaft, and means for intermittently interrupting the feed of the wire and causing a simultaneous movement of said shaft when the wire has advanced a predetermined distance.

9. In a machine of the class described, the combination with a rotatable shaft having one or more radially-disposed longitudinal wire-receiving grooves therein, and oppositely-rotating rolls for feeding the wire to said shaft, of a driving-shaft, a loose pulley thereon adapted to rotate said rolls, a clutch mechanism associated with said shaft, connection between said driving-shaft and rolls adapted when moved to interrupt the feed of the wire, and means adapted to be operated by the advancing wire to trip said clutch mechanism and cause an intermittent rotation of said driving-shaft and a simultaneous movement of said receiving-shaft and interruption of said feed.

10. In a machine of the class described, the combination with a rotatable wire-receiving shaft, and oppositely-rotating shafts carrying a pair of rolls for feeding the wire to said shaft, one of said feed-shafts having movable bearings, of a drive-shaft, a loose pulley thereon, a clutch mechanism for engaging said pulley and causing a rotation of said shaft, a cam-disk keyed to said drive-shaft, a lever adapted to be moved by a rotation of said disk and interrupt the feed of said rolls, gear connection between said receiving and drive shafts, and means adapted to be tripped at a predetermined point in the advance of the wire for throwing said clutch mechanism into operation and causing a simultaneous rotation of said receiving-shaft and interruption of said feed.

11. In a machine of the class described, the combination with the wire receiving and driving shafts and gear connection between said shafts, of a lever extending transversely of the end of said receiving-shaft, a member movable with said lever, means disposed in the path of the wire and secured to said member adapted to be intermittently engaged at a predetermined point in the advance of the wire and cause a movement of said lever, means for causing a rotation of said driving-shaft when said lever is moved, and means for stopping said shaft at a predetermined point in its rotation.

12. In a machine of the class described, the combination with a wire-straightening mechanism, of oppositely-rotating rolls mounted at one end of and adapted to feed the wire to said mechanism, a wire-receiving shaft at the other end of said mechanism and having a series of longitudinal grooves adapted to stand successively in line with the advancing wire, wire-cutting means in advance of said shaft, and means actuated by the advancing wire for intermittently moving the receiving-shaft to cause the wire to be severed and successively enter the several grooves therein and to cause a simultaneous interruption of the feed thereof.

13. In a machine of the class described, the combination with the wire-straightening mechanism of a stationary hardened-metal plug in axial alinement with said mechanism and having an opening for the passage of the wire therethrough, a rotatable receiving-shaft in advance of said plug and having a series of radially-disposed longitudinal wire-receiving receptacles therein, a hardened-metal sleeve on said shaft having its peripheral surface provided with receptacles to form a continuation of the receptacles in said shaft, the said receptacles being formed with cutting edges flush with said plug and adapted to successively aline with the opening therethrough when said shaft is rotated, and means adapted to be tripped by the advancing wire for intermittently rotating said shaft to sever the advancing wire and move the several receptacles successively in alinement with the advancing wire.

14. In a machine of the class described, the combination with an intermittent wire-feed mechanism, of a rotatable shaft having a longitudinally-disposed wire-receiving receptacle therein, means for severing said wire into predetermined lengths, and mechanism for causing an intermittent rotation of said shaft a predetermined distance and a simultaneous interruption of the feed of the wire to said shaft.

15. In a machine of the class described, the combination with an intermittent wire-feed mechanism of a rotatable shaft having a series of longitudinally-disposed wire-receiving grooves therein, means in advance of said shaft for cutting the wire into predetermined lengths, and mechanism adapted to be thrown into operation by the advancing wire for moving said shaft intermittently to cause the wire to successively enter said grooves and be cut into sections and for causing a simultaneous cessation of the feed of the wire during such intermittent movements of said shaft.

16. In a machine of the class described, the combination with a wire-feed mechanism, of a wire-receiving shaft, wire-cutting mechanism associated with said shaft, and mechanism actuated by the advancing wire for intermittently stopping the feed of the wire to said shaft.

17. In a machine of the class described, the combination with a wire-feed mechanism comprising oppositely-rotating shafts, having stationary and movable bearings and a pair of normally contacting rolls on said shafts, of a wire-receiving shaft, means for severing the wire at the limit of its movement into said shaft, and means actuated by the advancing wire for intermittently breaking the contact of said rolls and interrupting the feed of the wire to said shaft.

18. In a machine of the class described, the combination with the wire feed and straightening mechanism, of a rotatable shaft having a series of radially-disposed longitudinal wire-receiving receptacles therein, means for severing the wire as it is advanced into a receptacle, a driving-shaft, gear connection between said receiving and driving shafts, a loose belt-pulley on said latter shaft, a clutch mechanism associated with said pulley and shaft, means actuated by the advancing wire for intermittently throwing said clutch into operation and causing a limited rotation of said receiving and driving shafts, and mechanism actuated by a rotation of said driving-shaft for causing a cessation of the wire-feed during such rotation.

19. In a machine of the class described, an intermittent wire-feed mechanism comprising oppositely-rotating shafts, a pair of rolls carried by said shafts between which the wire is normally gripped, stationary bearings for one and movable bearings for the other of said shafts, means for normally retaining said rolls in contact, a driving-shaft, means on said shaft for continuously driving the shaft having stationary bearings, a cam-disk carried by said driving-shaft, a lever connecting said disk and movable bearings, and means for intermittently rotating said driving-shaft for causing a movement of said movable bearings and interruption of the feed of the wire.

20. In a machine of the class described, the combination of a wire-feed mechanism, a rotatable wire-receiving shaft, means for intermittently rotating said shaft to discharge a wire fed thereto, a wire-cutting mechanism in advance of said shaft, and mechanism adapted to be thrown into operation at a predetermined point in the advance of the wire for causing an interruption of the feed thereof.

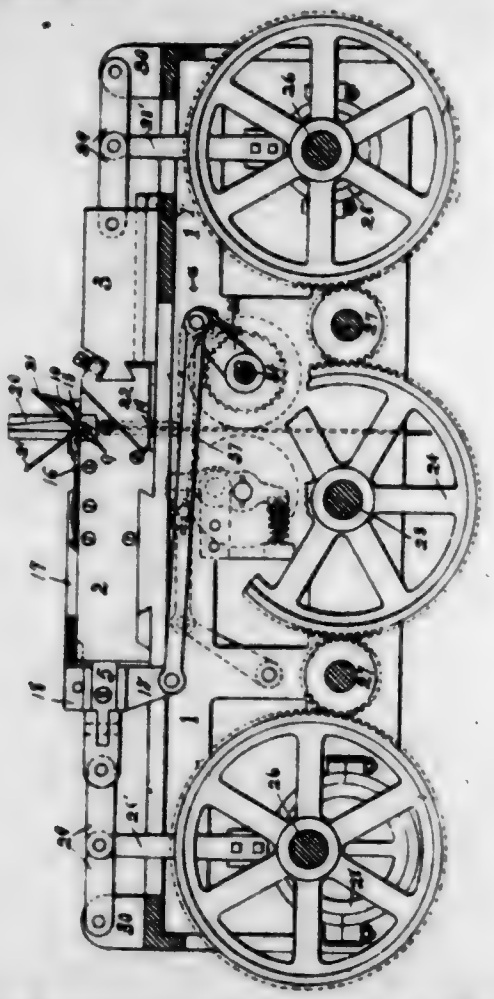
804,822. WIRE-STAPLE FORMING AND DISCHARGING MECHANISM. VERNON HOXIE and WILLIAM F. TRUMAN, Adrian, Mich., assignors to Lamb Wire Fence Company, Adrian, Mich., a Corporation of Michigan. Filed June 24, 1904. Serial No. 213,985.

Claim.—1. A staple-machine, comprising a fixed member having a main opening therein and an auxiliary opening diverging from the main opening, a tool movable in said main opening to discharge a formed staple, an oscillatory staple-forming element movable in said main opening by said tool and adapted on the rearward movement of said tool to engage a section of wire fed transversely to the mouth of the auxiliary opening and draw it into the main opening in advance of the discharging-tool in the form of a staple, and means for imparting movement to said tool.

2. A staple-machine, comprising a fixed member having an elongated main opening therein and an auxiliary opening diverging from said main opening, a tool operative in said main opening to discharge a formed staple therefrom, a staple-forming member connected to and movable by said tool within said auxiliary opening and for a portion of its length of movement within said main opening and adapted on its receding movement from said auxiliary opening to engage a section of wire fed transversely to the mouth of said latter opening, draw it into U shape therein and deposit it in the main opening in advance of the discharging-tool, and means for imparting movement to said tool.

3. A staple-machine, comprising a fixed member having a grooved way therein, a staple-discharging tool movable in said way,

a hooked member movable by said tool in the way therewith to form a section of wire into U shape and deposit it in advance of said tool, and means for causing the hooked end of the staple-forming member to be oscillated out of the path of the discharging-tool at a fixed point in its movement.



4. In a staple-machine, a member having an opening therein and a portion shaped to receive a wire section and communicating with said opening, a tool operative in said opening to discharge a formed staple therefrom, a staple-forming attachment movable by said tool in the opening therewith and adapted on its forward movement to move out of the line of discharge of said tool and in position to engage a wire section and on its rearward movement draw it in advance of the discharging-tool, and means for imparting movement to said tool.

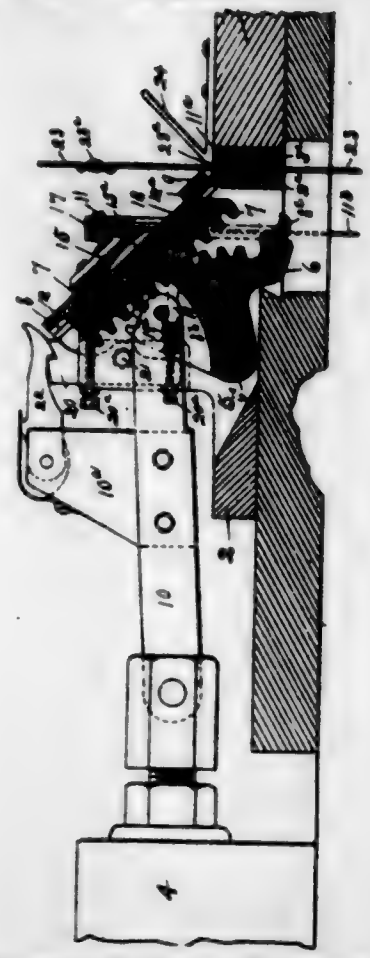
5. In a staple-forming machine, a fixed member having communicating main and auxiliary openings therein, a plunger movable in said main opening, mechanism for feeding and depositing a severed section of wire in a plane intersecting said auxiliary opening, an element pivotally attached directly to said plunger and movable in said auxiliary opening and in the opening with said plunger and adapted to draw a severed section of wire within said auxiliary opening, form it into U shape and deposit it in advance of said plunger in position to be discharged from said member on the return movement of the plunger.

6. In a staple-machine, a fixed member having an elongated opening therein and a staple-forming way diverging from said opening, means for depositing a section of wire at the mouth of said staple-forming way, a staple-discharging element movable in said opening to discharge a formed staple and having an oscillatory attachment movable in the opening therewith adapted to engage and form a staple from a section of wire by drawing it through the diverging way.

7. In combination, a fixed member having a main and a diverging opening therein, means for depositing a wire section at the mouth of the diverging opening, a discharging-plunger, and a forming member pivoted to said plunger adjacent to its free end and having a hooked portion for engaging a wire section, the said plunger being adapted to move in the main opening and the forming member to move in both the main and diverging openings for the purpose described.

8. In a wire-working machine, a member having a main opening therethrough and a communicating branch opening, a tool operative in said main opening to clamp a staple placed in advance thereof about the object formed by the machine, and an element pivotally attached to said tool and movable in said branch opening a portion of its distance of travel to form a staple from a section of wire fed in an intersecting plane therewith and in said main opening to place the staple in advance of said tool, and means for operating said tool.

804,828. **WIRE-STAPLE FORMING AND DISCHARGING MECHANISM.** VERNON HOXIE, Adrian, Mich., assignor to Lamb Wire Fence Company, Adrian, Mich., a Corporation of Michigan. Filed July 18, 1904. Serial No. 217,105.



Claim.—1. In a staple-forming mechanism, an oscillatory staple-forming member, a staple-holding guide member disposed tangentially with respect to the path of movement of said member, and a staple-discharging member movable in said guideway and having engagement with the oscillatory member whereby it receives its movement.

2. A staple-forming mechanism, comprising a member movable in the arc of a circle to form a staple, a guide member into which the staple is forced by said member, and a reciprocatory member having connection with and movable by said forming member to discharge the formed staple.

3. In a staple-machine, a fixed block having a grooved way therein, a sector-gear mounted in said block, a projection on said gear movable in the path of said way to draw a section of wire therein and form a staple therefrom, a reciprocatory rack movable in said way by said sector-gear to discharge a formed staple, and mechanism for moving said sector.

4. In a staple-machine, a fixed member having a grooved way therein, a sector-gear mounted in said member, a reciprocal rack movable in the grooved way of said member by said gear, and a projection on said gear adapted to form a section of wire into U shape within the grooved way and leave it in position to be discharged by a movement of said rack.

5. In a staple-machine, a fixed member provided with an opening, an oscillatory element mounted in said member, a plunger having connection with and movable by said oscillatory element to discharge a formed staple, a projection on said oscillatory element adapted when moved in one direction to engage and draw a section of wire within said opening, form it into U shape and leave it in position therein to be discharged by a movement of said plunger, and means for imparting movement to said element.

6. In a staple-machine, a sector-gear having a staple-forming projection thereon, a member having an opening disposed tangentially to said gear and in the path of movement of the projection thereon, a plunger in said opening having engagement with said gear whereby a reciprocatory movement is imparted thereto to discharge a formed staple, and means for operating said gear.

7. In a staple-machine, a fixed member, a block longitudinally movable on a portion of said member and having a groove therein, mechanism for intermittently feeding a section of wire to said member and severing and depositing the same in transverse relation to

the groove in said block, an element movable to draw the wire section within the groove in said block and form a staple therefrom, and means movable by said element to move said block and the inclosed staple a predetermined distance and to discharge the staple therefrom.

8. In a staple-machine, a fixed member having an open space therein, a staple-forming element and a staple-discharging element operative in said member, a block mounted in said open space and having an opening therein for receiving said discharging element and into which a section of wire is drawn and formed into U shape, said block being adapted to move with and retain the staple in tact as the latter is caused to move through the open space in said block in the discharging operation thereof.

9. In a staple-machine, a fixed member having an opening provided through a portion thereof and a portion of its upper surface cut away in a plane intersecting the plane of said opening, a block mounted over said opening and adapted to be moved across the cut-away portion and having a groove provided longitudinally therein over and in registration with said opening, mechanism for feeding and depositing a section of wire in advance of said block, an element operative to draw the wire section within the groove in said block and form it into U shape, and a member movable to discharge the formed staple from said block and fixed member, said block moving therewith across the cut-away portion.

10. In combination, an oscillatory staple-forming element, a member having an opening into which a wire is drawn and formed into U shape by said element, and a reciprocatory element having direct engagement with and movable by said forming element to discharge a formed staple from the opening in said member.

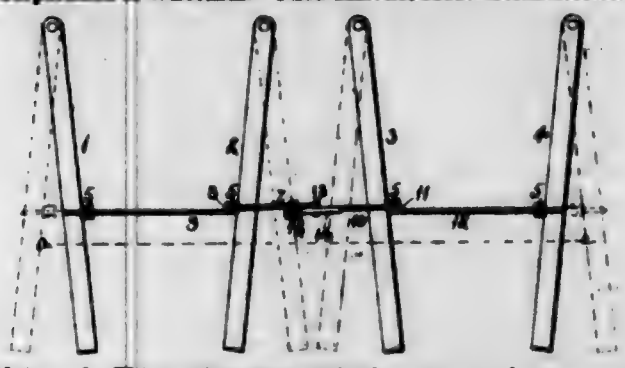
11. In combination, an oscillatory staple-forming element, a movable staple-holding member disposed in a plane tangential to said oscillatory element and having an opening into which a staple is drawn, and a reciprocatory plunger having connection with and movable by said element to move said staple-holding member a predetermined distance and then discharge the staple therefrom.

12. In combination, a sector-gear having a radial projection thereon, a member having an elongated opening or guideway disposed in tangential relation to said gear and in the path of movement of the projection thereon, and a rack movable by said gear in said guideway to discharge a staple formed therein by said gear.

13. In combination, a member having a staple-receiving guideway therein, mechanism for intermittently feeding a section of wire in contiguous position to said member, mechanism for severing the fed section, an element movable in the arc of a circle to draw the severed section into said guideway and form it into U shape, and a plunger having engagement with and movable in said guideway by said element whereby a formed staple is discharged therefrom.

14. In combination, a member having a grooved way therein, mechanism for intermittently feeding a section of wire in adjacent position to said member, mechanism for severing the fed section of wire to permit it to be drawn within said grooved way, and an oscillatory staple-forming member and a reciprocatory plunger having meshing engagement and movable together in the same general direction whereby a section of wire is drawn into said way and formed into a staple during one direction of their movement and discharged therefrom during the opposite direction of their movement.

804,324. CULTIVATOR. Junson R. Johns, Rockton, Ill., assignor to J. Thompson & Sons Manufacturing Company, Beloit, Wis., a Corporation of Wisconsin. Filed Mar. 20, 1905. Serial No. 251,188.

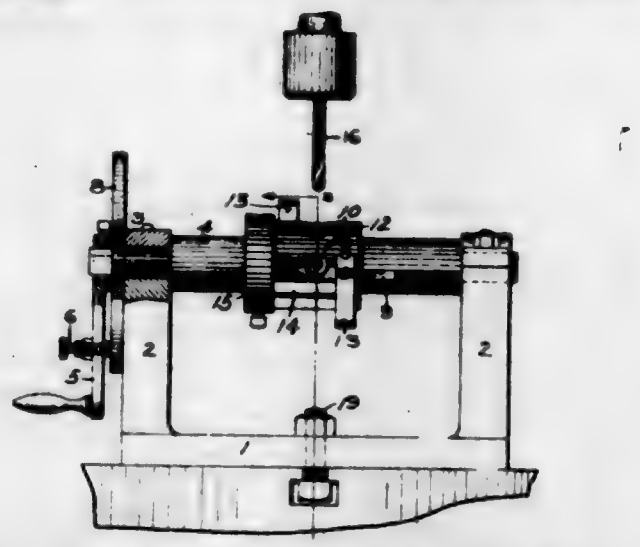


Claim.—1. The combination of the four beams of a two-row cultivator, of a bail connecting all the beams and comprising two bell-crank sections one bell-crank pivoted to each of the inner beams and pivotally connected together, and two other sections, one pivoted to each of the outer beams and also pivoted to one arm of the bell-crank sections.

2. The combination of the four beams of a two-row cultivator, of a bail connecting all the beams, and comprising two bell-crank sections, one bell-crank pivoted to each of the inner beams, and adjustably connected together, and two other sections, one pivoted to each of the other beams, and also pivoted to the bell-crank sections.

3. The combination of the four beams of a two-row cultivator, of a bail connecting all the beams and comprising two bell-crank sections, one bell-crank pivoted to each of the inner beams, and adjustably connected together by a bracket and a bolt engaging the bracket, and two other sections, one pivoted to each of the outer beams and also pivoted to the bell-crank sections.

804,325. HUB HOLDING AND INDEXING DEVICE. Joseph A. Kaplan, Pittsburg, Pa., assignor to Joshua Rhodes, Allegheny, Pa., and William H. Latshaw, Pittsburg, Pa. Filed July 10, 1905. Serial No. 269,072.



Claim.—1. A device of the character specified comprising a rotatable shaft provided with oppositely-disposed longitudinal fins or ribs, bearings in which said shaft is mounted, and means whereby said shaft may be turned to different positions.

2. A device of the character described comprising a rotatable shaft provided with a projecting teat or teats, bearings in which said shaft is mounted, means whereby said shaft may be turned, and an indexing device for said shaft.

3. A device of the character described comprising a rotatable shaft provided with oppositely-disposed longitudinal fins or ribs and with a projecting teat or teats, bearings in which said shaft is mounted, and means whereby said shaft may be turned to and held in different positions.

4. A device of the character described comprising a rotatable shaft provided with oppositely-disposed longitudinal fins or ribs, bearings in which said shaft is mounted, means whereby said shaft may be turned to and held in different positions, and a side gage adjustable longitudinally of said shaft.

5. In a device of the character described comprising a rotatable shaft provided with oppositely-disposed longitudinal fins or ribs, bearings in which said shaft is mounted, means whereby said shaft may be turned to various positions, and a collar on said shaft and adjustable longitudinally thereon.

804,326. STAMP-HOLDER. William H. Kessler, Buffalo, N. Y., assignor to W. H. Kesler Co., Buffalo, N. Y., a Corporation. Filed Jan. 16, 1905. Serial No. 241,216.



Claim.—1. The combination of an inking device, a stamp-supporting frame which is adapted to hold removable stamps and which is arranged above said inking device, and yielding means for holding said frame away from said inking device while permitting said frame to be depressed by a stamp for inking the latter, substantially as set forth.

2. The combination of a case provided with an inking-surface, a stamp-supporting rack arranged in the case and movable toward and from said surface, and a yielding support for said rack tending to hold the same away from the inking-surface, substantially as set forth.

3. The combination of an inking device, a stamp-supporting frame which is adapted to hold removable stamps and which is ar-

ranged above said inking device, and springs which tend to hold said frame above said inking device, substantially as set forth.

4. The combination of a case provided with an inking-surface, a stamp-supporting rack arranged in the case and movable toward and from said surface, and springs interposed between said rack and the bottom of said case, substantially as set forth.

5. The combination of an inking device, a stamp-supporting rack movable toward and from the same, a yielding support for said rack tending to hold the rack away from the inking device, and means for supporting the stamps in the rack, substantially as set forth.

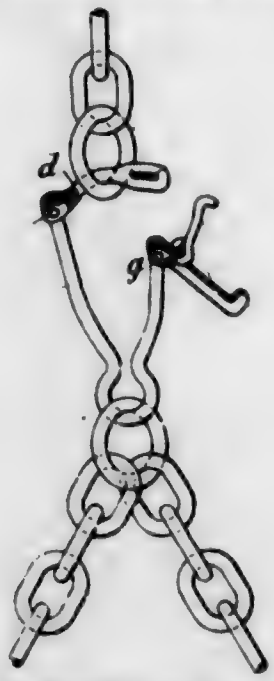
6. The combination of an inking device, a stamp-supporting rack movable toward and from the same, a yielding support for said rack tending to hold the rack away from the inking device, and a diaphragm secured to the rack for supporting the stamps therein, substantially as set forth.

7. The combination of a case provided with an inking-surface, and a stamp-supporting rack movably arranged in said case and provided with a diaphragm adapted to support stamps in the rack, substantially as set forth.

8. The combination of a case provided with an inking-surface, and a movable stamp-supporting rack arranged therein and consisting of a frame provided with upright grooves and partitions loosely arranged in said grooves and adapted to be lifted out of the same, substantially as set forth.

9. The combination of a case provided with an inking-surface, and a stamp-supporting rack movable therein toward and from the inking-surface, said rack consisting of a frame provided with upright grooves, partitions loosely arranged in said grooves and a diaphragm secured to the frame below the partitions, substantially as set forth.

804,327. COUPLING-LINK FOR CATTLE-CHAINS. BRUNO KNOTER, Dömitz, Germany. Filed Aug. 11, 1904. Serial No. 220,433.

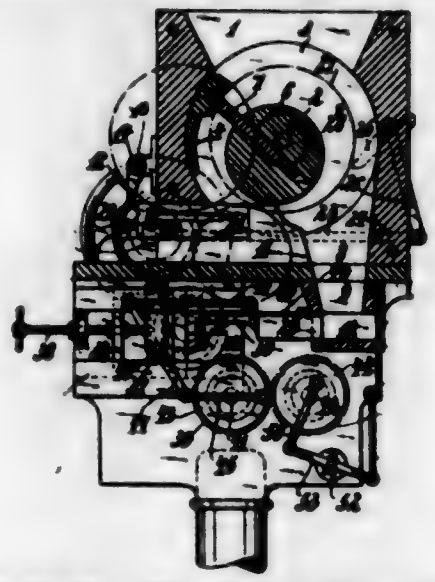


Claim.—A coupling-link for cattle-chains and the like, consisting of an open link, a shackle pivoted to one end of the open link and provided with an eye, a lever pivoted to the other end of the open link, and a hook pivoted to the lever and adapted to engage the eye of the shackle.

804,328. MACHINE FOR MOLDING PLASTIC MASSES. ALFRED LUTHE, Halle-on-the-Saale, Germany. Filed Feb. 20, 1906. Serial No. 302,573.

Claim.—1. In a machine for molding plastic substances having a hopper and mold mounted thereunder and means for forcing the mass into the mold, the combination of a sliding block mounted between the hopper and the mold-inlet, and a weighted lever to control said block and means for returning the same to its initial position after it has been moved back by the pressure of the material which has entered the mold.

2. In a machine for molding plastic substances, the combination of a feed-hopper having a cylindrical interior an outlet thereto leading downwardly and having a mouthpiece below it, a mold mounted beneath said mouthpiece, a feed-roll and slide to force the plastic material through the said outlet into the mold, a slide-block mounted between the said feed-roll and mold and adapted to yield backwardly, a weighted-lever system to control said slide-block and means for releasing the said block from the weight of the system after it has been forced back by the material entering the mold and for returning the said block to its initial position after it has been released from the weight-pressure substantially as described.



3. In a machine for molding plastic substances, the combination of a feed-hopper, a mold and an outlet from the said hopper to the mold, a slide-block mounted between the feeding device and the outlet to the mold, a weighted-lever system to control the position of said mold, means for relieving the said block from pressure and for returning it to its initial position after it has been forced back by the pressure of the material being fed to the mold, a segmental partition to close the outlet from the hopper to the mold after the said block has been forced back substantially as described.

4. In a machine for molding plastic substances, the combination of a feed-hopper having an opening, a mold beneath the said hopper into which said opening leads, a weight-controlled sliding block adapted to be forced back by the pressure of the mass entering the mold and means in connection with said block to return the same to its initial position after it has been forced back, a segmental partition to close the hopper-opening to the mold after the block has been forced back, a cutter at the top of the mold and means for periodically pushing the same forward to close the mold at the top, a vertically-reciprocatory shutter to close the outlet of the mold and means for periodically removing the same and a plunger and means for periodically forcing the same forward to remove the contents of the mold substantially as described.

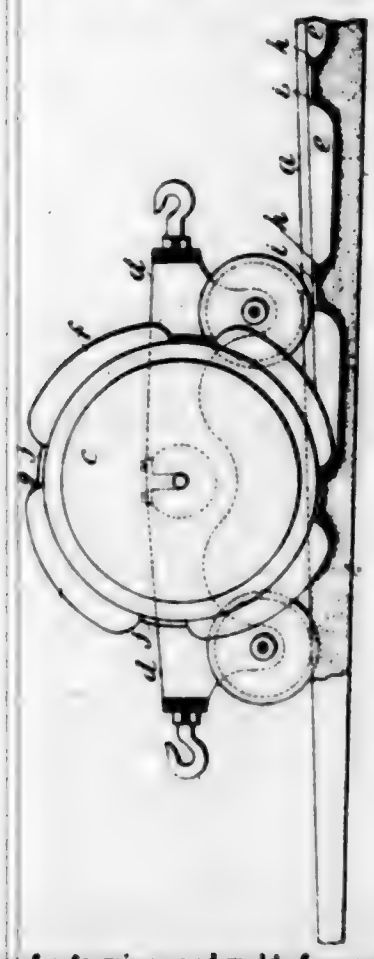
5. In a machine for molding plastic substances, the combination of a feed-hopper having a cylindrical interior, a mold mounted beneath the same and an opening from the hopper to the mold, means for forcing the contents of the hopper into the said mold, a weighted lever and slide-block to control the density of the mass forced into the mold, a plunger forming one side of the mold, a cutter to close the mold at the top and a shutter to close the front of the mold, and crank-pin disks to actuate the said cutters and plunger, rotary gears to operate said crank-pin disks, and means for periodically coupling said gears to said disks for a partial rotation to close the top of the mold, open the front end of the same and force the cake out of the same by means of the plunger substantially as described.

6. In a machine for molding plastic substances, the combination of a feed-hopper, a mold mounted underneath the same an opening from the hopper to the mold, a weighted lever and slide-block to control the density of the mass forced into the mold, a cutter to close the top of the mold, a plunger to force the cake out of the mold and a shutter to close the front end of the mold, crank-pin disks to operate the said cutters and the plunger and gears and means for rotating the same to operate said crank-pin disks, hollow hubs to the said gears and bushings for the crank-pin-disk shafts supported in said hollow hubs, ratchet-recesses in the said shaft ends, a spring-pressed pin mounted in the said hollow hubs and adapted to engage said ratchet-recesses and a cam-surface on the end of said bushings to disengage the said pin from the said ratchet-recesses substantially as described.

804,329. CASTING PIG-IRON. EDWARD P. MARTIN, Brixton, London, England, assignor of one-fourth to William John Engledue, Wimbledon, England. Filed Apr. 22, 1904. Serial No. 204,487.

Claim.—1. In molding apparatus, a pig-pattern roller provided on its circumference with ribs or projections deeper at the rear end than at the front end and with recesses between the ribs or projec-

tions and with small ribs in the recesses connecting the main ribs or projections.

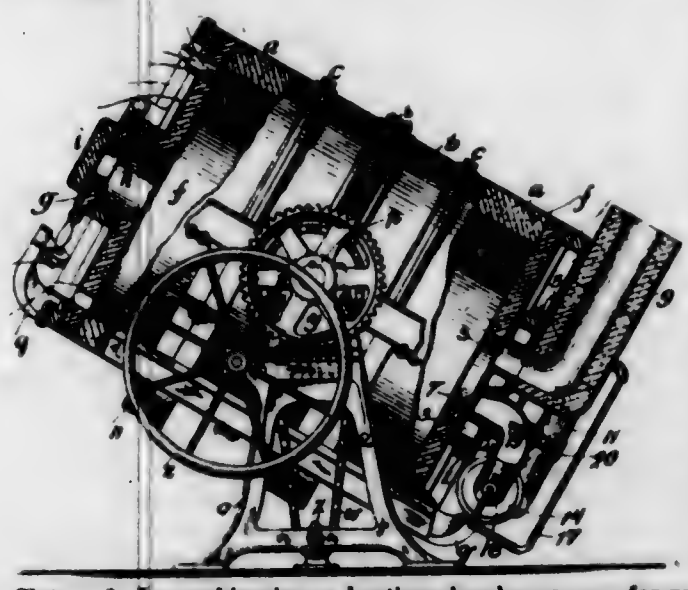


2. Apparatus for forming sand-molds for casting pig-iron and other metals, consisting of parallel inclined rails, between which the sand forming the mold-bed is confined, a molding-roller mounted on the rails and adapted to be traversed over the mold-bed, and ribs or projections on the roller shaped to impress horizontal molds in the sand between the inclined rails recesses in the rollers between the ribs or projections and small ribs in the recesses connecting the main ribs or projections.

3. Apparatus for forming sand-molds for casting pig-iron and other metals, consisting of parallel inclined rails, between which the sand forming the mold-bed is confined, a molding-roller mounted on the rails and adapted to be traversed over the mold-bed, ribs or projections on the roller arranged with gaps between their ends and adapted to form stepped rows of horizontal pig-molds, shallow ribs in the gaps connecting the ends of the mold-forming ribs to facilitate the flow of metal from the higher to a lower mold.

804,330. COMBINED SMELTING AND REFINING FURNACE.

CHAUNCEY C. MERSEREAU, New York, N. Y. Filed Jan. 17, 1900. Serial No. 241,454.



Claim.—1. In combination, a heating-chamber; means for rotating it; a slip-joint, comprising a part fitted to slide and held in a bearing at the central part of one of the heads of the chamber; a fuel-supply device connected to the sliding part of the slip-joint, adapted to supply fuel to the chamber while it is rotated; a chimney also connected to this sliding part of the slip-joint, and affording means for the escape from the furnace of the products of combustion; and means for holding the sliding part of the slip-joint and devices carried by it stationary relative to the rotation of the chamber and causing them to be otherwise moved with the chamber.

2. In combination, a heating-chamber; means for rotating it; a slip-joint, comprising a part fitted to slide and held in a hollow or chambered bearing at the central part of one of the heads of the chamber; water supply and discharge pipes connected to the chamber of the bearing; a fuel-supply device connected to the sliding part of the slip-joint, adapted to supply fuel to the chamber while it is rotated; a chimney also connected to this sliding part of the slip-joint, and affording means for the escape from the furnace of the products of combustion; and means for holding the sliding part of the slip-joint and devices carried by it stationary relative to the rotation of the chamber and causing them to be otherwise moved with the chamber.

3. In combination, a heating-chamber provided with a central opening at each end; a fuel-supplying device and a chimney located at the opening of one end of the chamber; a slip-joint comprising a part fitted to slide and held in a bearing at the central part of this end of the chamber and to which is secured the fuel-supplying device and the chimney; a door for closing the opening at the other end of the chamber; and means for rotating the chamber.

4. In combination, a heating-chamber provided with a central opening at each end; a fuel-supplying device and a chimney located at the opening of one end of the chamber; a slip-joint comprising a part fitted to slide and held in a bearing at the central part of this end of the chamber and to which is secured the fuel-supplying device and the chimney; a muffle-door for closing the opening at the other end of the chamber; a door for closing the muffle-opening of the muffle-door; and means for rotating the chamber.

5. In combination, a heating-chamber provided with a central opening at each end; a fuel-supply device and a chimney located at the opening of one end of the heating-chamber; a door for closing the opening of the other end of the heating-chamber; two or more tapping-holes formed through this end of the chamber; perforated bricks for closing said tapping-holes; means for rotating the chamber; and means for setting the chamber in different angular positions.

6. In a metallurgical heating-chamber, in combination; two cylindrical end sections; a cylindrical middle section; two circular supporting-rails, each composed of two parts which are secured to the adjacent edges of the ends and middle sections; means, as bolts, for securing the parts of the two rails together; ends with central openings secured to the outer edges of the end sections; a refractory lining, as fire-bricks, applied to the interior of the chamber, and a frame provided with rollers upon which the chamber by its circular rails rests.

7. In combination, a heating-chamber, means for rotating it; means for setting it in different angular positions; a frame in which the chamber is held and rotated; a slip-joint connection attached to one end of the chamber, a burner-nozzle extending through this slip-joint connection; an air-pipe carried by the frame and supplying air to the nozzle; and means whereby said nozzle may be removed from the slip-joint connection and set away from the end of the chamber.

8. In combination, a heating-chamber; means for rotating it; means for setting it in different angular positions; a slip-joint connection attached to one end of the chamber, a frame in which the chamber is held and rotated, a burner-nozzle extending through this slip-joint connection; an air-pipe carried by the frame and supplying air to the nozzle; a fuel-nozzle carried by and entering the burner-nozzle; a fuel-pipe carried by the frame and connected to the fuel-nozzle; and means whereby said burner, including the air-supply connection and the fuel-nozzle, may be removed from the slip-joint connection and set away from the end of the chamber.

9. In combination, a heating-chamber; means for rotating it; means for setting it in different angular positions; a slip-joint connection attached to one end of the chamber, a burner-nozzle extending through this slip-joint connection; an air-pipe supplying air to the nozzle; an oil-nozzle carried by and entering the burner-nozzle; an oil-pipe for supplying oil to the oil-nozzle; a slip-joint connecting the burner-nozzle to the air-pipe; and a slip-joint in the oil-pipe; whereby the burner and oil nozzle may without disarrangement of parts be swung away from the end of the chamber.

10. In combination, a heating-chamber provided with a fuel-supplying device comprising a compressed air and fuel nozzles at one of its ends; a frame provided with trunnions and in which the chamber is longitudinally rotatably supported; means for rotating the chamber; means for rocking the frame; an air-pipe extending from one of the trunnions of the frame to the fuel-supplying device; a slip-joint in the air-pipe in line with the axis of the trunnions; and another slip-joint in said pipe adjacent to the nozzle, whereby said nozzle may be swung away from the end of the chamber.

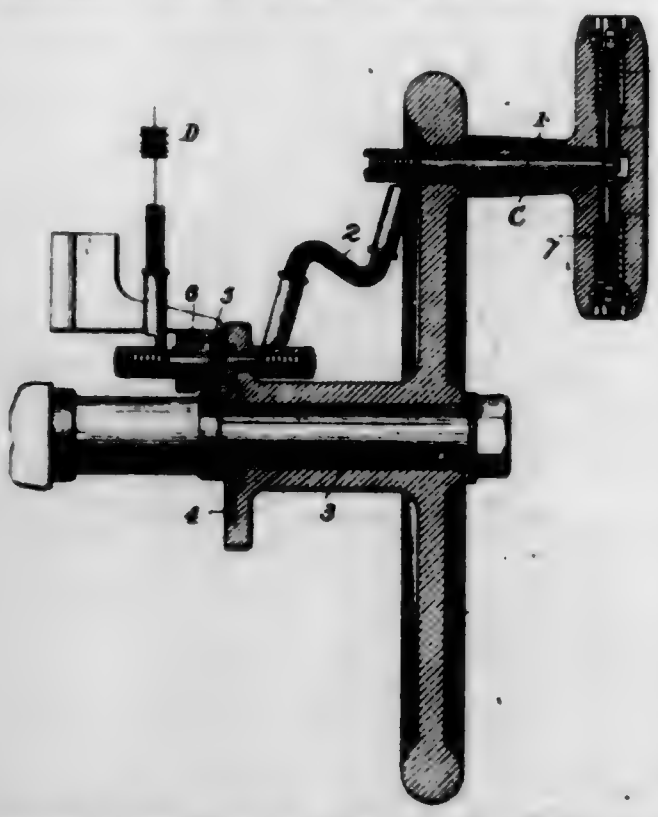
11. In combination, a heating-chamber; means for rotating it; a fuel-supplying device connected to one end of the chamber and adapted to supply fuel thereto while it is rotated; and a chimney also connected to this end of the chamber for the escape of the products of combustion therefrom; and a sliding connection joining the fuel-supplying device and chimney with the chamber; an air-pipe connected to the fuel-supply device; and a slip-joint in said pipe adjacent to the fuel-supplying device; whereby it may be swung away from the end of the chamber.

12. In combination, a heating-chamber; means for rotating it; a fuel-supplying device connected to one end of the chamber and adapted to supply fuel thereto while it is rotated; and a chimney also connected to this end of the chamber for the escape of the products of combustion therefrom; and a hollow or chambered sliding connection joining the fuel-supplying device and chimney with the chamber; water supply and discharge pipes connected to said chambered connection; an air-pipe and an oil-supply pipe connected to the fuel-supplying device; and slip-joints in alinement in said air and oil pipes, whereby the fuel-supplying device may without disarrangement of parts be swung away from the end of the chamber.

13. In combination, a heating-chamber; means for rotating it; means for setting it in different angular positions; a slip-joint comprising a part fitted to slide and held in a bearing at the central part of one of the heads of the chamber; a burner-nozzle extending through the sliding part of the slip-joint; an air-pipe for supplying air to the burner-nozzle, and adapted to move with the chamber as it assumes different angular positions; a slip-joint in the air-pipe arranged so that the burner-nozzle may be set away from the end of the chamber; a fuel-nozzle carried by and entering the burner-nozzle; a fuel-supply pipe connected to the fuel-nozzle; and a sliding detachable connection in the fuel-supply pipe.

14. In combination, a heating-chamber; means for rotating it; means for setting it in different angular positions; a slip-joint connection at one end of the chamber; a burner-nozzle extending through this slip-joint connection; a chimney also located at this end of the chamber and extending through the slip-joint connection; an air-pipe supplying air to the burner-nozzle; a fuel-nozzle carried by and entering the burner-nozzle; means whereby the said burner may be removed from the slip-joint connection and set away from the end of the chamber; a stationary source of fuel-supply; a pipe therefrom connected to the fuel-nozzle; and a sliding detachable connection in this pipe.

804,331. **FIRING ATTACHMENT FOR GUNS.** JOHN F. MEIGS and HERMAN G. JAKOBSSON, South Bethlehem, Pa., assignors to Bethlehem Steel Company, South Bethlehem, Pa., a Corporation of Pennsylvania. Filed Aug. 19, 1903. Serial No. 170,036.



Claim.—1. The combination with the hand-wheel of a gun, of an operating-handle, an electric-circuit closer or switch inclosed in the handle and having one member extending through an end of the handle, and an electric circuit including said circuit-closer or switch, for the purpose set forth.

2. The combination with the hand-wheel of a gun, of a T-shaped operating-handle connected to said wheel, and an electric-circuit closer or switch mounted within said handle, for the purpose set forth.

3. The combination with the hand-wheel of a gun, of a T-shaped operating-handle connected to said wheel, and two electric-circuit closers or switches mounted at opposite ends of said handle, for the purpose set forth.

4. The combination with the hand-wheel of a gun, of an operating-handle connected to said wheel, a ring or disk carried by the hand-wheel but insulated therefrom, a spring contact-piece in electrical connection with said insulated ring, and a circuit-closer mounted within and extending longitudinally of the operating-handle and adapted to close an electric circuit including said ring and pin, for the purpose set forth.

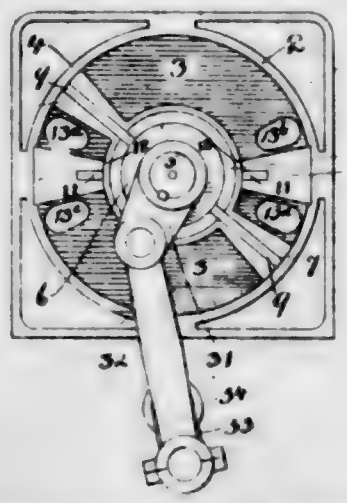
5. The combination with the hand-wheel of a gun, of an operating-handle mounted to turn about but insulated from a rod projecting from said wheel, a ring or disk carried by said wheel but insulated therefrom, an electric conductor connecting said ring and rod, a contact-piece carried by a stationary fixture and having electrical connection with said insulated ring and a portion of said operating-handle, and a circuit-closer mounted in said handle and adapted to electrically connect said rod and conducting portion of the handle, for the purpose set forth.

6. The combination with the hand-wheel of a gun, of an operating-handle, an electric-circuit closer or switch including a plunger mounted to reciprocate longitudinally of the said handle, and an electric circuit including said circuit-closer or switch, for the purpose set forth.

7. The combination with the hand-wheel of a gun, of an operating-handle connected to said wheel, an electric-circuit closer or switch including a rod extending into and insulated from said handle and a plurality of reciprocating plungers mounted within said handle and adapted to be moved into contact with said rod, and an electric circuit including said circuit-closer or switch, for the purpose set forth.

8. The combination with the hand-wheel of a gun, of a T-shaped operating-handle connected to said wheel, an electric-circuit closer or switch including a rod insulated from said handle and extending into the head thereof and two oppositely-extending plungers mounted within the handle-head and adapted to contact with said rod, and an electric circuit including said circuit-closer or switch, for the purpose set forth.

804,382. **GAS-ENGINE.** CHARLES J. MOODY and VICTOR E. MOODY, Elgin, Ill. Filed Sept. 3, 1904. Serial No. 223,234.



Claim.—1. In a hydrocarbon-engine, the combination of a drum-cylinder, inwardly-extending abutments dividing the cylinder into chambers, a piston provided with blades extending into the chambers, a rocking or oscillating shaft on which the piston is mounted, a main rotating shaft and a connection between the rocking or oscillating shaft and the rotating shaft for transforming the rocking or oscillating movement into a rotary movement, supply and exhaust passages leading to the cylinder-chambers, valves controlling the supply and exhaust passages, a short rotary stud-shaft entered into and pivoted within the end of the oscillating shaft and cams on the rotary shaft for successively operating the valves controlling the supply and exhaust passages, substantially as described.

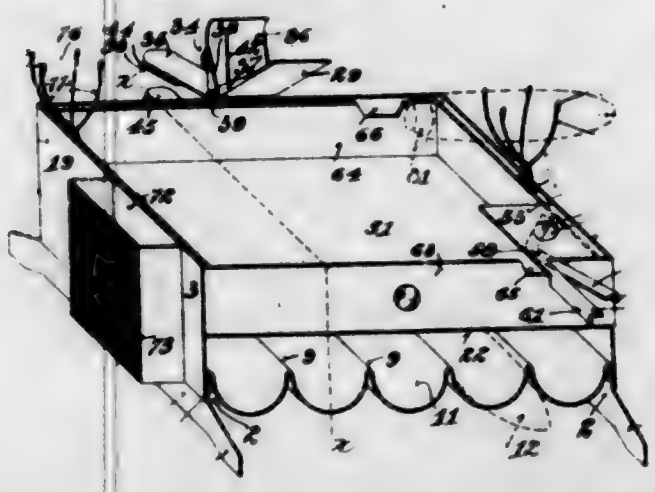
2. In a hydrocarbon-engine, the combination of a drum-cylinder, inwardly-extending abutments dividing the cylinder into chambers, a piston provided with blades extending to the chambers, a rocking or oscillating shaft on which the piston is mounted, a main

rotating shaft and a connection between the rocking or oscillating shaft and the rotating shaft for transforming the rocking or oscillating movement into a rotary movement, supply and exhaust passages leading to the cylinder-chambers, valves controlling the supply and exhaust passages having valve-stems inwardly projecting toward the oscillating shaft, rocking arms pivoted between the valves and adapted to alternately actuate companion valves, a short stud-shaft rotatably mounted within the end of the oscillating shaft and provided with a cam adapted to move the rocking arms to actuate the valves controlling the supply and exhaust passages, substantially as described.

3. In a hydrocarbon-engine, the combination of a drum-cylinder, a rocking or oscillating shaft extending through the drum-cylinder, abutments extending from the walls of the drum-cylinder dividing said cylinder into two chambers, a swinging or oscillating piston provided with two blades one extending into each of the chambers and contacting the walls thereof, two ports leading to each of the chambers on opposite sides of the blade therein, a valve-casing provided with intake and exhaust ports leading to each of the cylinder-ports, valves in the valve-casing adapted to establish communication between the cylinder-ports and either the intake or exhaust ports, a rotary stud-shaft pivotally mounted in the end of the oscillating shaft, and a cam on the rotary stud-shaft for actuating the valves, and means for transforming the oscillating movement of the oscillating shaft into a rotary movement and imparting a rotary movement to the stud-shaft, substantially as described.

4. In a hydrocarbon-engine, the combination of a drum-cylinder divided into two chambers, an oscillating shaft therein, an oscillating piston provided with blades on the oscillating shaft, two supply and exhaust passages in each side of the piston-blade therein, two valve-casings provided with supply and exhaust passages leading to the supply and exhaust ports, four valves in each of the valve-casings controlling the supply and exhaust passages therein and provided with valve-stems inwardly projecting toward the oscillating shaft, a main rotary shaft actuated by the oscillating shaft, a stud rotary shaft entered into the end of the oscillating shaft and adapted to be rotated by the main rotary shaft, four rocking arms pivoted between the inwardly-projecting valve-stems and each adapted to actuate a pair of valves, and cams on the stud-shaft adapted to move the rocking arms and successively compress the valve-stems and open the valves, substantially as described.

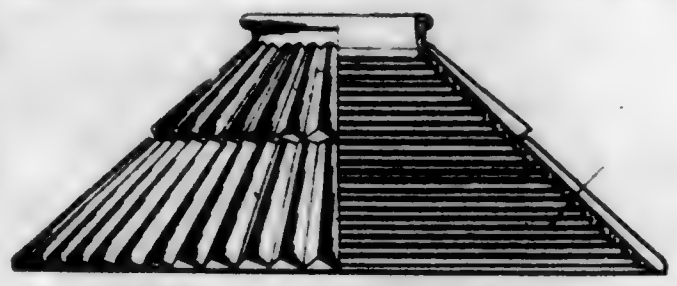
804,333. COMBINATION CIGAR-STAND. CHARLES A. MUELLER, Cincinnati, Ohio. Filed Feb. 13, 1905. Serial No. 245,512.



Claim.—1. In a device of the character described, the combination of a frame whose base is composed of a corrugated plate having depending ends forming legs, and whose top comprises a plate having its ends bent forwardly and constituting the upper parts of the sides of said frame and having its middle portion bent forwardly and constituting a shelf, said shelf being firmly secured to said upper parts of said sides, means for attaching said upper parts of said sides to said base, and a drawer sliding over said shelf, substantially as described.

2. In a device of the character described, the combination of a frame comprising sides and a shelf connecting said sides intermediate of the height of said sides and a corrugated plate extending from one of said sides to the other of said sides, the corrugations of said corrugated plate extending parallel with said sides, said sides, shelf and corrugated plate being rigidly connected together, and a drawer slidable on said shelf between said sides, substantially as described.

804,334. PRISMATIC-GLASS REFLECTOR FOR ARTIFICIAL LIGHTS. OTIS A. MYGATT, New York, N. Y. Filed May 31, 1904. Serial No. 210,549.

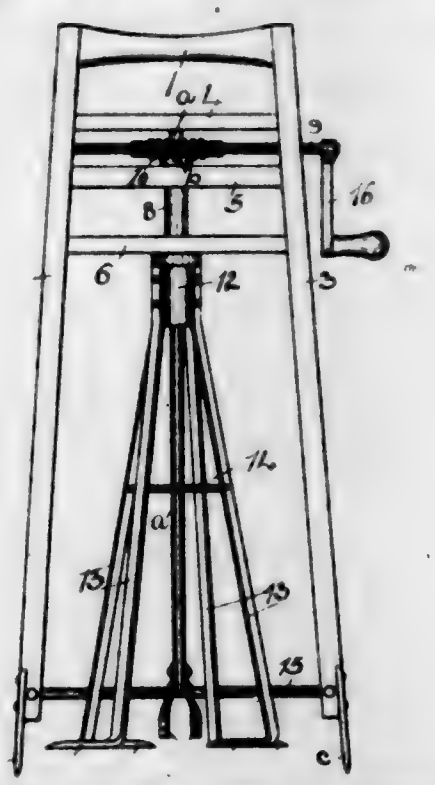


Claim.—1. A prismatic-glass reflector in form of a frustum, externally provided with reflecting-prisms having their longer axis in a general radial direction, and internally provided with ribs arranged circumferentially and opposite to the reflecting-prisms.

2. A prismatic-glass reflector in form of a frustum, having its outer surface substantially covered with reflecting-prisms arranged in series, a lower series of prisms having their upper ends of less width and height than the lower ends of an upper series, the inner surface of said reflector opposite said prisms having light-diffusing ribs.

3. In a reflector for artificial lights, composed of a single piece of glass, the combination of external reflecting-prisms arranged radially in series increasing in number with the increased diameter of the reflector, and interior diffusion-ribs arranged circumferentially and opposite said reflecting-prisms.

804,335. WEEDER OR CULTIVATOR. FREDERICK L. NOVOTNY, Rushville, Nebr. Filed June 29, 1904. Renewed Apr. 12, 1905. Serial No. 255,235.



Claim.—1. The combination with a supporting-frame, of a shield supported by said frame, a shaft, a plurality of arms extending from said shaft, inwardly and outwardly extending knives secured to said arms and means to rotate said shaft.

2. The combination with a suitable portable frame, of a bar vertically held within said frame, a shield at the end of said frame, a hollow shaft surrounding said bar above, a plurality of arms extending from said hollow shaft, inwardly and outwardly extending knives secured to said arms, a worm-gear secured to said hollow shaft, a driving-shaft and a worm secured to said driving-shaft meshing with said worm-gear, all arranged substantially as and for the purpose set forth.

804,336. RAILWAY-TRACK CONSTRUCTION. JOHN OWEN, Pittsburg, Pa. Filed Feb. 27, 1905. Serial No. 247,531.

Claim.—1. A railway-track construction, comprising a rail, a metallic tie of inverted-trough shape provided with a central web and outwardly-extending flanges, a chair interposed between the rail and tie and provided with securing means fastened on the under side of the tie, said chair being provided at its sides with upwardly-extending ears designed to be bent around and clench the base-

flange of the rail, and base-plates fastened to said flange and extending across the bottom of the tie.



2. In a railway-track construction, a rail, and a chair for said rail provided along each side edge with a plurality of clamping-ears bent into engagement with the base-flange of the rail and also with a plurality of ears extending upright and designed to be bent over the side flange in the event of the ears previously bent becoming destroyed.

3. A railway track construction, comprising a rail, a metallic tie provided with sides extending downwardly at right angles to the top and with flanges extending outwardly at right angles to the sides and also provided with a longitudinal web, a chair interposed between the rail and tie and provided with clamping members engaging the rail, and with securing means fastened on the under side of the tie, and base-plates fastened to said flanges and extending across the bottom of the tie, as and for the purpose set forth.

4. A railway-track construction, comprising rails, a metallic tie of inverted-trough shape, with a flat top, sides that extend downwardly at right angles to the top, and outwardly-extending flanges disposed at right angles to the sides, said tie being also provided with a central longitudinal web, chairs interposed between the rails and the tie and being provided with rivets extending through the top of the latter on each side of said web and fastened at the under side of the top of the tie, said chairs being also provided with upwardly-extending ears designed to be bent inwardly around the base-flange of the rail, and base-plates fastened to said flanges and extending across the tie in contact with said web and constituting a foundation for the tie and a protection for said rivets.

5. A railway-track construction, comprising rails, a metallic tie of inverted-trough shape provided with a central longitudinal web, chairs interposed between the rails and tie and provided with locking members designed to secure the rail in place thereon, said chairs being also provided with means for fastening them to the tie at points underneath or within the trough thereof, and base-plates secured to the tie and extending across the same and constituting a foundation for the tie and a protection for said chair-fastening means.

804,337. RAILROAD-SWITCH-SIGNAL APPARATUS. ANTHONY J. PIRSIAK and FRANK H. POOLE, Dunkirk, N. Y. Filed July 25, 1905. Serial No. 271,169.

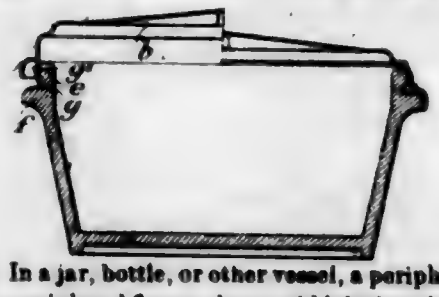
Claim.—1. The combination of a railroad-switch mechanism, a torpedo-operating mechanism adapted to place a torpedo upon and remove it from the railroad-rail, a box inclosing the torpedo when it is withdrawn from the rail, a gate closing said box, mechanism for operating said gate, and mechanism connecting said switch mechanism and the torpedo and gate operating mechanisms, substantially as and for the purpose set forth.

2. The combination of a railway-switch with a bell-crank lever connected with the operating mechanism of said switch, a signal-station located at a point distant from said switch consisting of a bell-crank lever, a slide-bar pivoted to one arm thereof, a support for the free end of said slide-bar, a torpedo removably attached to the free end of said bar, a danger-signal light and target connected with and operated by said torpedo-operating mechanism, and means for operatively connecting the bell-crank lever at the switch with the bell-crank lever at the signal-station, substantially as and for the purpose set forth.

3. The combination of a railway-switch mechanism, mechanism for operating the same, a signal-station at a point distant from said switch consisting of a torpedo-operating mechanism, means for operating the same, a box for supporting and inclosing the free end thereof, a torpedo removably secured thereto, means for opening and closing said box when the torpedo moves forward and back, a danger-signal light and target connected to said torpedo-operating mechanism and operated thereby, and means for connecting the torpedo-operating mechanism with the switch-operating mechanism whereby the torpedo and signal mechanism are operated in unison with the switch, substantially as and for the purpose set forth.



804,338. JAR, BOTTLE, AND OTHER VESSEL. ALFRED E. PIKE, Bridlington, England, assignor of one-half to John Lee Osborn, Bristol, England. Filed Oct. 6, 1904. Serial No. 227,422.



Claim.—1. In a jar, bottle, or other vessel, a peripheral jointing rim or surface, a peripheral flange above said jointing rim or surface, a flat-sectioned ring supported by said flange in a substantially vertical position for bedding upon the peripheral jointing rim or surface upon the closure of the said vessel, and a cover therefor, substantially as described.

2. In a jar, bottle, or other vessel, a peripheral jointing rim or surface, a peripheral flange above said jointing rim or surface, a flat-sectioned ring supported by said flange in a substantially vertical position and protruding beyond it, a cover, said cover being adapted to engage with the outwardly-projecting part of said ring for causing it to bed upon the peripheral jointing rim or surface, substantially as described.

3. In a jar, bottle, or other vessel, a peripheral jointing rim or surface, a peripheral flange above said jointing rim or surface, a flat-sectioned ring supported by said flange and protruding beyond it, a cover, said cover being adapted to engage with the outwardly-protruding part of said ring and having a curved jointing-flange by which a tight joint may be made on two circumferential lines upon the jointing rim or flange, substantially as described.

4. In a jar, bottle, or other vessel, a peripheral jointing rim or surface, a peripheral flange above said jointing rim or surface, the outer face of said flange being angularly disposed, a flat-sectioned ring supported upon the angularly-disposed outer face of said flange so as to be directed outwardly and upwardly, and a cover for engaging with the outward and upwardly directed part of said ring, substantially as described.

5. In a jar, bottle, or other vessel, a peripheral jointing rim or surface of curved form, a peripheral flange above said jointing rim or surface, a flat-sectioned ring in a substantially vertical position, a cover for said vessel, and a jointing-flange of curved form upon said cover said jointing-flange being adapted on closure of the cover to contact with the said ring, and to compress it against the jointing rim or surface of the jar, bottle or other vessel on two circumferential lines, substantially as described.

804,339. DETACHABLE BRACKET FOR SHADE-ROLLERS. JOSEPH S. PLOUF and CHARLES J. MOUSSEAU, Burlington, Vt. Filed June 27, 1905. Serial No. 267,310.



Claim.—1. The combination in a shade-roller bracket, of a support for the roller having a shank, a plate having a recess through which said shank passes and a U-shaped spring in said recess, having one end engaged by said plate and the other end in contact with said shank.
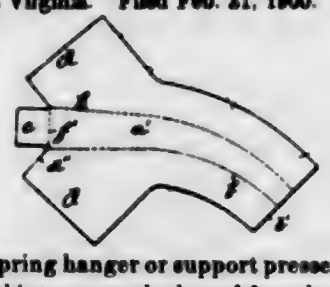
2. In a bracket for shade-rollers, the combination of a bracket having a shank, a plate having a recess through which said shank passes, a U-shaped spring in said recess and disposed with its free ends away from the shade, an opening in said plate adapted to receive one end of said spring, the other end of said spring bearing upon said shank.

3. In a bracket for shade-rollers, the combination of a bracket having a shank, a plate having a recess through which said shank passes, a U-shaped spring in said recess, and an opening in said plate to receive the end of said spring.

4. The combination in a shade-roller bracket, of a support for the roller having a shank, a pair of plates having a recess between them through which said shank passes, a U-shaped spring in said recess, one end of said spring being engaged by said plate and the other end bearing upon said shank.

5. In a bracket for shade-rollers, the combination of a combined rod-support and roller-bracket having a shank, a plate having a recess through which said shank passes, a U-shaped spring in said recess and disposed with its free ends away from the shade and an opening in said plate adapted to receive one end of said spring, the other end of said spring bearing upon said shank.

804,340. SPRING-HANGER. THEODORE W. PLUMB, Cleveland, Ohio, assignor to Parish & Bingham Company, Cleveland, Ohio, a Corporation of West Virginia. Filed Feb. 21, 1905. Serial No. 246,706.



Claim.—1. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having gusset-plates formed thereon.

2. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having gusset-plates formed thereon, and a stiffening-piece extending out from said gusset-plates.

3. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having gusset-plates formed thereon.

4. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having gusset-plates formed thereon, and a stiffening-piece extending out from said gusset-plates.

5. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having a body portion thereon provided with a curved end, and gusset-plates formed on said body portion.

6. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having a body portion thereon provided with a curved end, gusset-plates formed on said body portion, and a stiffening-piece extending out from said gusset-plates.

7. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, and gusset-plates formed on said portion.

8. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, and a stiffening-piece extending out from said gusset-plates.

9. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped body having gusset-plates thereon, and an angular bracing side between said gusset-plates and forming part of the side of said body.

10. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body having gusset-plates thereon, and an angular bracing side between said gusset-plates and forming part of the side of said body.

11. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, and an angular bracing side between said gusset-plates and forming part of the side of said body portion.

12. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, and an angular bracing side between said gusset-plates and forming part of the sides of said body portion.

13. A spring hanger or support formed from a plate of sheet metal into a trough-shaped body having gusset-plates thereon connected together by an angular bracing side forming part of the side of said body, and a stiffening-piece extending out from the end of said bracing side.

14. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body having gusset-plates thereon connected together by an angular bracing side forming part of the side of said body, and a stiffening-piece extending out from the end of said bracing side.

15. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, an angular bracing side between said gusset-plates and forming part of the side of said body portion, and a stiffening-piece extending out from the end of said bracing side.

16. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, an angular bracing side between said gusset-plates and forming part of the side of said body portion, and a stiffening-piece extending out from the end of said bracing side.

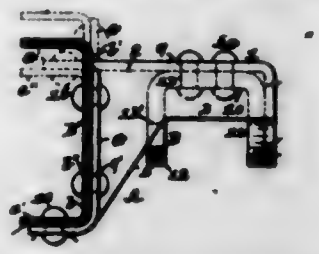
17. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped body, and a hanger-block having its body portion fitting within and conforming to the said body for supporting the spring.

18. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body, and a hanger-block having its body portion fitting within and conforming to the said body for supporting the spring.

19. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having a body portion provided with a curved end, and a hanger-block having its body portion fitting within and conforming to said curved end for supporting the spring.

20. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, and a hanger-block having its body portion fitting within and conforming to said curved end for supporting the spring.

804,341. SPRING-HANGER. THEODORE W. PLUMB, Cleveland, Ohio, assignor to Parish & Bingham Company, Cleveland, Ohio, a Corporation of West Virginia. Filed Feb. 21, 1905. Serial No. 246,709.



Claim.—1. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped body having a spring-supporting portion at one end and flanges at the opposite end for attaching said body to a frame.

2. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped body having a spring-supporting

portion at one end and side flanges at the opposite end for attaching said body to a frame.

3. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped body having a spring-supporting portion at one end and side flanges at the opposite side for attaching the same to the side of a frame, said side flanges having bottom flanges thereon for attaching the same to the bottom flange on said frame.

4. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having a spring-supporting portion at one end and side flanges at the opposite end for attaching the same to a frame, and bracing side portions connecting said side flanges with sides of said body.

5. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped body having a spring-supporting portion at one end and side flanges at the opposite end for attaching the same to a frame, and angular side portions connecting said side flanges with the sides of said body for bracing the same.

6. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped body having a spring-supporting portion at one end and side flanges at the opposite end for attaching said body to a frame, and a U-piece pressed or stamped from a sheet of metal secured within said body having its projecting portions adapted to support the springs with the supporting end portion on said body.

7. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body having a spring-supporting portion at one end and flanges at the opposite end for attaching said body to a frame.

8. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body having a spring-supporting portion at one end and side flanges at the opposite end for attaching said body to a frame.

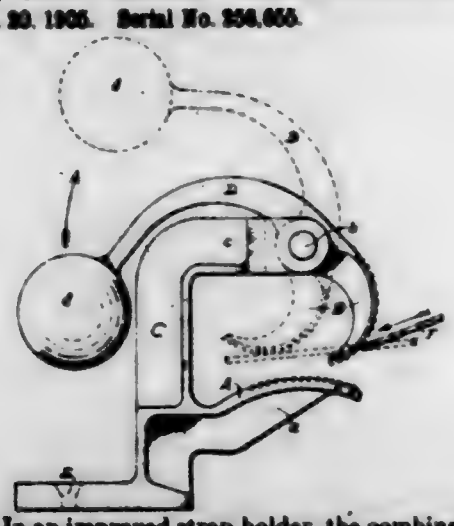
9. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body having a spring-supporting portion at one end and side flanges at the opposite side for attaching the same to the side of a frame, said side flanges having bottom flanges thereon for attaching the same to the bottom flange on said frame.

10. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a spring-supporting portion at one end and side flanges at the opposite end for attaching the same to a frame, and bracing side portions connecting said side flanges with sides of said body.

11. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body having a spring-supporting portion at one end and side flanges at the opposite end for attaching the same to a frame, and angular side portions connecting said side flanges with the sides of said body for bracing the same.

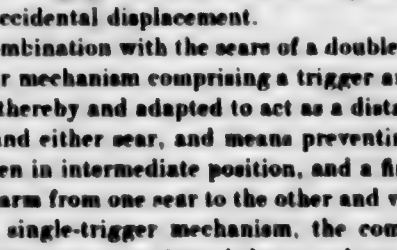
12. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body having a spring-supporting portion at one end and side flanges at the opposite end for attaching the same to a frame, and a U-piece pressed or stamped from a plate of sheet metal secured within said body and having a tapered body portion with projecting portions thereon adapted to support the spring with the supporting end portion on said body.

804,342. STRAP-HOLDER. JAMES D. RANDALL, Cincinnati, Ohio. Filed Apr. 20, 1905. Serial No. 256,055.



Claim.—In an improved strap-holder, the combination of an attaching-base, a standard thereon, an arm laterally projecting from between the ends of the same, a stationary jaw on this arm, an arm projecting from the upper end of this standard and terminating at a point above and between the ends of the stationary jaw, a movable jaw pivotally supported at the end of this arm and curved oppositely to the stationary jaw, a lever-arm on this jaw extending rearwardly from the pivotal support of the same and a weight at the end of this arm to hold the same in a certain, normal position.

804,343. TRIGGER FOR DOUBLE-BARRELED GUNS. ANTON RAUB, Glenville, Ohio. Filed Nov. 28, 1904. Serial No. 234,476.



Claim.—1. In a single-trigger mechanism, in combination with a pair of sears, trigger mechanism adapted to engage and operate either sear, a stop adapted to engage said trigger mechanism when in an intermediate position and prevent such operation, and means to prevent the accidental displacement of such mechanism from such intermediate position.

2. In a single-trigger mechanism, the combination of a pair of sears, trigger mechanism shiftable to stand beneath either sear and to stand intermediately to clear the two sears, a stop for said trigger mechanism when it stands in such intermediate position, and a finger-piece adapted to shift the mechanism in either direction.

3. In a single-trigger mechanism, the combination with a pair of sears, of sear-operating mechanism shiftable to stand beneath either sear, an upper projection on said mechanism between the sears, a stop extending over said projection and preventing upward movement of it in the mid-position of the sear-operating mechanism but clearing said projection in either extreme position, and means for holding the sear-operating mechanism in its mid-position.

4. In a single-trigger mechanism, the combination of a pair of sears, trigger mechanism shiftable to stand beneath either sear, clearing the other, or to stand intermediately, a stop for said trigger mechanism when it stands in such intermediate position, and a spring-pressed plunger adapted to retain said trigger mechanism against accidental displacement.

5. In a single-trigger mechanism, the combination with a pair of sears having inwardly-turned arms, of sear-operating mechanism shiftable to stand beneath either sear, an upper projection on said mechanism between the sear-arms, a block extending over said projection and preventing upward movement of it in mid-position of the sear-operating mechanism but clearing said projection in either extreme position, and a spring-pressed plunger mounted in said block, and adapted to engage the end of the sear-operating mechanism to prevent its accidental displacement.

6. In combination with the sears of a double-barreled gun, of a single-trigger mechanism comprising a trigger and a sear-operating arm carried thereby and adapted to act as a distance-piece between the trigger and either sear, and means preventing the elevation of said arm when in intermediate position, and a finger-piece adapted to shift said arm from one sear to the other and vice versa.

7. In a single-trigger mechanism, the combination with the sears of a trigger, an arm pivoted thereto adapted to stand beneath either sear, and a stop adapted to coöperate with said arm in its mid-position and prevent its elevation, and a finger-piece on the outside of the gun to shift said arm from one sear to the other and vice versa.

8. In a single-trigger mechanism, the combination with the two sears, of a trigger, a shiftable arm pivoted thereto and adapted to stand beneath either sear and having a projection extending upward, a member narrower than the space between the sears and located intermediately thereof and extending over said projection and forming a stop therefor in the mid-position thereof, said projection in either extreme position of the arm standing between the said member and the corresponding sear.

9. In a single-trigger mechanism, the combination with the two sears, of a trigger, a shiftable arm pivoted thereto and adapted to stand beneath either sear and having a projection extending upward, a block overhanging the end of said shiftable arm forming a stop for said projection in mid-position of the arm, said projection in either extreme position of the arm standing unobstructed by the block and the corresponding sear, and a shifting-arm accessible to the fingers and adapted to shift said sear-operating arm.

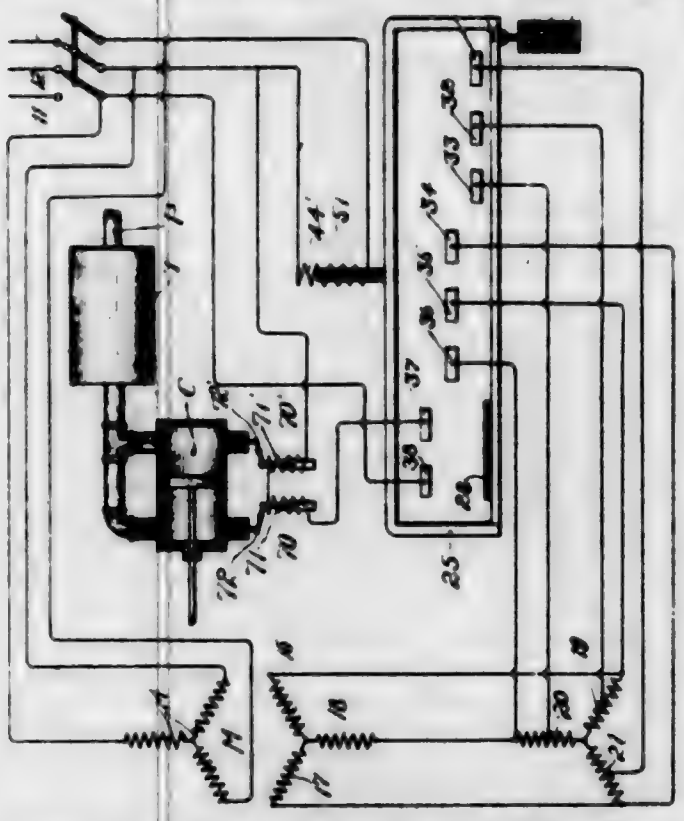
10. In a single-trigger mechanism, the combination with the two sears, of a trigger, a sear-operating arm pivoted thereto and adapted to stand beneath either sear, and a shifting-arm pivotally

carried on the under side of the gun-stock and having a pair of pins projecting loosely across opposite sides of the trigger onto opposite sides of said sear-operating arm.

11. In a single-trigger mechanism, the combination with the pair of sears of trigger mechanism adapted to operate either sear, a stop adapted to engage said trigger mechanism when in an intermediate position and prevent such operation, and a finger-piece accessible from outside the gun and adapted to shift the trigger mechanism from and to either sear.

12. The combination of a plate, trigger mechanism and a pair of sears mounted on said plate, said trigger mechanism having a shiftable part adapted to operate either sear, a finger-piece on the under side of said plate adapted to shift said shiftable part, and means preventing the operation of the sears at an intermediate position of said finger-piece.

804,344. ELECTRICAL SWITCHING APPARATUS. WALTER J. RICHARDS, Milwaukee, Wis. Filed Nov. 4, 1904. Serial No. 231,228.



Claim.—1. In a device of the class described, the combination with a plurality of pivoted contact-fingers, of an adjustable stop for each finger, an oscillating contact-plate, electromagnetic means for causing the movement of said contact-plate, and retarding mechanism serving to retard the movement of said contact-plate upon energization of said electromagnetic means.

2. In a device of the class described, the combination with a plurality of pivoted contact-fingers mounted for rotation upon a common axis, adjustable stop mechanism for adjusting the normal position of each finger independently of the others, a moving contact-plate adapted for engagement with said fingers, an electromagnet, a core for said magnet connected with said contact-plate whereby the plate is moved upon energization of said magnet, and a dash-pot serving to retard the movement of said contact-plate upon energization of said electromagnet.

3. In combination, a plurality of contact-fingers independently mounted for rotation about a common axis, adjustable stop mechanism associated with each contact-finger, a spring serving to maintain each contact-finger in a normal position, an oscillating contact-plate mounted to rotate about the common axis of said contact-fingers, a tongue extending from said contact-plate, an electromagnet-core connected with said tongue, a C-shaped field-magnet of laminated iron surrounding said core, a solenoid for said magnet, a lever serving to guide said core in its movements, and a dash-pot associated with said lever serving to retard the motions of said core.

4. In combination, a laminated field-magnet 45, side plates 46 and 47, a core 51, a lever 56, a swinging frame 25, pivoted fingers to be engaged by said frame and a dash-pot associated with said lever, all substantially as described.

5. In combination, a resistance, a plurality of pivoted contact-fingers electrically connected with different points in said resistance, stops for said contact-fingers, an oscillating contact-plate normally electrically disconnected from said contact-fingers, and electromagnetic mechanism adapted upon energization by an alternating current to bring said contact-plate into connection with said fingers.

6. In combination, an alternating-current motor having a secondary circuit, a fluid-pump driven by said motor, an electromagnet controlling a valve of said pump, a resistance in the secondary circuit of the motor, a plurality of pivoted contact-fingers mounted for rotation about a common axis, stops serving normally to maintain said fingers in different positions, electrical connections between different points in said resistance and certain of said contact-fingers, a contact-plate adapted to be moved into engagement with the contact-fingers associated with said resistance and other contact-fingers connected in a circuit including said electromagnet, a second contact-plate mechanically associated with the first contact-plate and moving therewith but electrically disconnected therefrom, and laminated electromagnetic mechanism adapted upon energization to cause the movement of said contact-plates, whereby the first contact-plate engages the contact-fingers associated with said resistance, and thereafter the second contact-plate engages the contact-fingers associated with said electromagnet and a retarding device for retarding the movements of said contact-plates.

7. In combination, a C-shaped field-magnet of laminated iron, side plates for said field-magnet, an extension formed integrally with one of the side plates, a core for said field-magnet, an electromagnet-coil for said field-magnet, a lever pivoted to said core and said side plates, serving to guide said core within the field of the magnet, a spring extending between said extension and said lever, a dash-pot cylinder pivoted to said extension, and a piston for said dash-pot connected with said lever, substantially as described.

8. In combination, a C-shaped field-magnet of laminated iron, side plates for said field-magnet, an extension formed integrally with one of the side plates, a core for said field-magnet, an electromagnet-coil for said field-magnet, a lever pivoted to said core and said side plates serving to guide said core within the field of the magnet, a dash-pot cylinder pivoted to said extension, and a piston for said dash-pot connected with said lever, substantially as described.

9. In a device of the class described, the combination with a plurality of pivoted contact-fingers, an oscillating contact-plate, electromagnetic means for causing movement of said contact-plate into engagement with said contact-fingers, a retarding mechanism serving to retard the movement of said contact-plate upon energization of said electromagnetic means.

10. In a device of the class described, the combination with a plurality of contact-fingers pivoted at one end, of a contact-plate pivoted concentric with said fingers, electromagnetic means for moving said plate toward said fingers, and an adjustable stop for each finger for normally maintaining groups of said fingers at various angles from said plate, whereby the groups of fingers will be engaged at different times.

11. In a device of the class described, the combination with a plurality of contact-fingers pivoted at one end, of a contact-plate pivoted concentric with said fingers, electromagnetic means for moving said plate toward said fingers, an adjustable stop for each finger for normally maintaining groups of said fingers at various angles from said plate, whereby the groups of fingers will be engaged at different times, and means for retarding the movement of said frame.

12. In a device of the class described, the combination with a pivoted contact-frame, of a plurality of contact-fingers pivoted concentric with said frame, adjustable means for causing said fingers to assume various relative angles when said contact-frame is disengaged therefrom, electromagnetic means for swinging said frame toward said contact-fingers, whereby said fingers are successively engaged thereby, stationary terminal posts for said contact-fingers, and flexible conductors connecting said posts with said fingers.

13. In a device of the class described, the combination with a pivoted contact-frame, of a plurality of contact-fingers pivoted concentric with said frame, adjustable means for causing said fingers to assume various relative angles when said contact-frame is disengaged therefrom, electromagnetic means for swinging said frame toward said contact-fingers whereby said fingers are successively engaged thereby, stationary terminal posts for said contact-fingers, flexible conductors connecting said posts with said fingers, and springs secured to said posts and engaging said fingers for holding said fingers in firm engagement with said contact-frame.

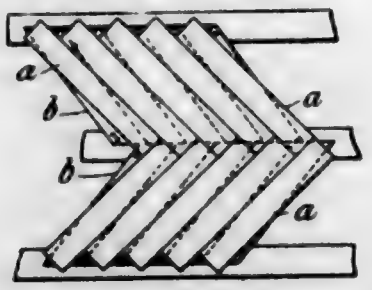
14. In a device of the class described, the combination with a pivoted contact-frame, of a plurality of contact-fingers insulated from each other and pivoted concentric with said frame, an adjusting-screw for each contact-finger, an abutment for each contact-screw, said fingers by means of said screws and abutments being adapted to be normally disposed at different angles to each other, electromagnetic means for swinging said frame about its pivot into

engagement successively with the contact-fingers, and spring means for normally maintaining said contact-fingers against the abutments and for assuring firm electrical contact thereof with the contact-frame when actuated by said electromagnetic mechanism.

15. In a device of the class described, the combination with a contact-frame pivoted at one end to a stationary support, a core of electromagnetic mechanism connected with the other end of said frame, contact-fingers insulated from each other and pivoted concentric with said frame and adapted to be engaged thereby upon energization of the electromagnetic mechanism, a field-frame for said electromagnetic mechanism, a rigid arm extending from said field-frame, a lever pivoted at an intermediate point to said field-frame, one end of said lever engaging the other end of said core, and dash-pot mechanism connected with the other end of said lever and with said rigid arm adapted to retard the motion of said core to bring the contact-frame into engagement with said fingers.

16. In a device of the class described, the combination with a contact-frame pivoted at one end to a stationary support, a core of electromagnetic mechanism connected with the other end of said frame, contact-fingers insulated from each other and pivoted concentric with said frame and adapted to be engaged thereby upon energization of the electromagnetic mechanism, a field-frame for said electromagnetic mechanism, a rigid arm extending from said field-frame, a lever pivoted at an intermediate point to said field-frame, one end of said lever engaging the other end of said core, dash-pot mechanism connected with the other end of said lever and with said rigid arm adapted to retard the motion of said core to bring the contact-frame into engagement with said fingers, and adjusting means for causing groups of said fingers to be successively engaged by said contact-frame.

804,345. **FLOORING.** HERMANN SALOMON, Meresburg, Germany. Filed Apr. 22, 1905. Serial No. 256,923.



Claim.—A flooring, consisting of an under layer of damp-proof boards, and an upper layer of boards dyed or thoroughly impregnated with color and fixed to the lower layer at a slight angle in order to break joint therewith, substantially as described.

804,346. **RAIL-TIE.** WILLIAM L. SCHAUM, Windber, Pa. Filed Jan. 9, 1905. Serial No. 240,233.



Claim.—1. In a device of the kind described, comprising a cross-tie, composed of a body portion having flanges projecting from its sides, a top plate secured on the flanges of the body-plate, and end plates provided with flanges adapted to fit over the top plate and body portion of the cross-tie, for the purpose described.

2. In a device of the kind described comprising a cross-tie composing a U-shaped body portion, the sides of which are flanged, a top plate secured on said flanges, and end plates provided with flanges at their tops and bottom, for the purpose described.

3. In a device of the kind described, the combination with a cross-tie, of a chair mounted thereon, a wooden block seated in the channel of the chair, and clamping members carried by the said chair, and adapted to clamp the rail down on said wooden block, for the purpose described.

4. In a device of the kind described, the combination with a cross-tie, of a chair mounted thereon, said chair being provided with a channel-way, a wooden block secured in said channel, and clamping members carried by the chair, for the purpose described.

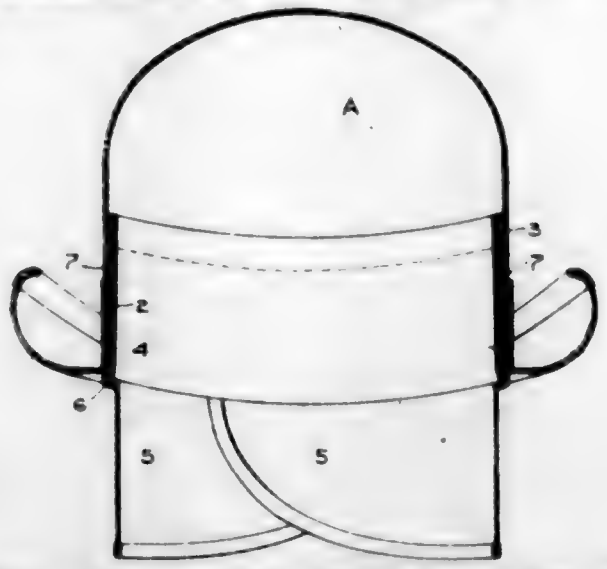
804,347. **DRUM.** WILLIAM J. F. SCHULTE, Chicago, Ill. Filed July 10, 1905. Serial No. 268,981.



Claim.—1. In a drum the combination with drum-heads and drum-hoops whereby the heads can be adjusted, of a straining cord or wire, and hooks for connecting the drum-hoops and the cord, said hooks being provided with recesses located at and opening at the side of the hook adjacent to the hoop and in which the straining-cord is held.

2. In a drum the combination with drum-heads and drum-hoops whereby the heads can be adjusted, of a straining cord or wire, and hooks for connecting the drum-hoops and the cord, said hooks being provided with vertically-extending portions 16 adapted to engage a drum-hoop, and a recess opening inwardly and located on the side adjacent to the hoop and in which the cord or wire is held.

804,348. **HEAD AND EAR PROTECTOR.** JAMES M. SHOURT, St. Paul, Minn. Filed Nov. 15, 1904. Serial No. 232,775.



Claim.—1. The combination with a hat provided with a sweat-band, of a head and ear protector, supporting-fingers therefor extending behind the sweat-band and a connection of thin flexible material between said protector and fingers.

2. The combination with a hat provided with a sweat-band, of an annular strip supported above the sweat-band, a head and ear protector connected with the free edge of said band, and a spring-ring separating said strip and flaps.

3. The combination with a hat provided with a sweat-band, of an attachment of the class described consisting of an annular strip supported within the hat above the sweat-band, ear-protector flaps connected with said strip, and a spring-ring secured intermediate of said strip and flaps in position to bear against the lower edge of the hat when the attachment is downturned.

4. In combination with a hat provided with a sweat-band, an attachment of the class described consisting of an annular strip removably supported above the sweat-band, ear-protector flaps, and a connection of thin flexible material between said flaps and said annular strip, said connection being of greater width than the sweat-band.

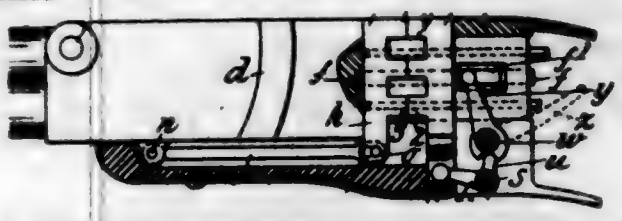
5. In combination with a hat provided with a sweat-band, an annular strip, fingers carried by said strip and extending behind the sweat-band, a head and ear protector, and a connection of flexible material between said protector and strip.

6. In combination with a hat provided with a sweat-band, an annular strip, means for adjusting the size of said strip, means for supporting said strip in said hat consisting of fingers carried by said strip and extending downwardly behind the sweat-band, a head and ear protector, and a connection of thin flexible material between said protector and strip.

7. The combination with a hat, of an attachment of the class described consisting of head and ear protector flaps, means for supporting the same in connection with said hat, and a spring-ring secured to the edge of the head and ear protector adjacent to the lower edge of the hat.

804,349. **FIREARM WITH DROP-DOWN BARREL.** KARL P. P. STEINBRACH, Leipzig-Gohlis, Germany. Filed Apr. 24, 1905. Serial No. 257,126.

Claim.—1. In a firearm with drop-down barrel, a breech-frame, a barrel pivoted in the frame at a point above the axis of the barrel, and means for locking the barrel in the frame, substantially as described

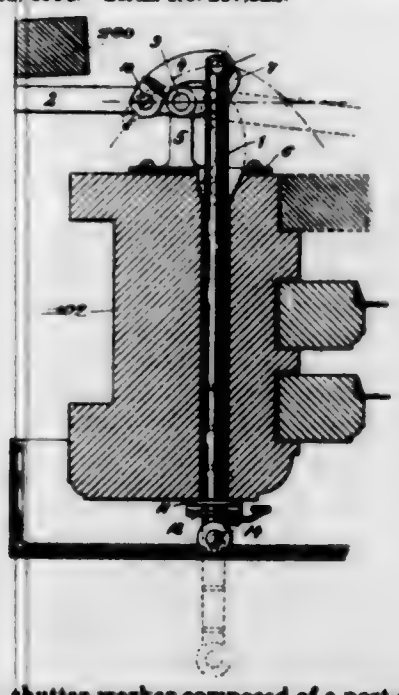


2. In a firearm with drop-barrels, a breech-frame, barrels pivoted in the frame at a point above the axis of the top barrel, and means for locking the barrels in the frame, substantially as described.

3. In a firearm with drop-down barrel, a breech-frame, a barrel pivoted in the frame at a point above the axis of the barrel, a break-piece movable longitudinally in the breech-frame and provided with projections or teeth, a spring blocking-piece or slide adapted to move in contact with the toothed face of the break-piece also provided with projections or teeth adapted to abut against the teeth of the break-piece to block the break-piece and thus lock the barrel in the closed position, a locking-bolt adapted to lock the parts in the closed position and means for releasing the blocking and locking parts, substantially as described.

4. In a firearm with drop-down barrel, a breech-frame, a barrel pivoted in the frame at a point above the axis of the barrel, a break-piece movable longitudinally in the breech-frame and provided with projections or teeth, a spring blocking-piece or slide adapted to move in contact with the toothed face of the break-piece also provided with projections or teeth adapted to abut against the teeth of the break-piece to block the break-piece and thus lock the barrel in the closed position, a locking-bolt adapted to lock the parts in the closed position, means for withdrawing the locking-bolt and blocking-piece to free the break-piece and barrel and a lost-motion device connecting the break-piece with the barrel and in such manner that the break-piece is moved longitudinally as the barrel is opened or closed.

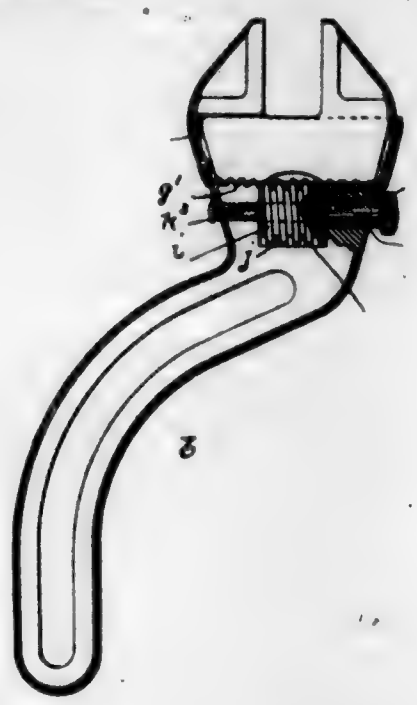
804,350. SHUTTER-WORKER. WILHELM TEXDORF, Passaic, N. J. Filed May 13, 1904. Serial No. 207,822.



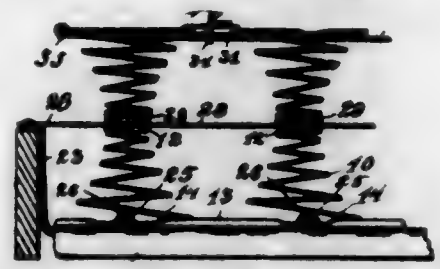
Claim.—A shutter-worker composed of a post adapted to be secured to a window-casing, a lever pivoted thereto and having a curved tailpiece, a push-rod having a slot adapted to receive said tailpiece, a link connecting the push-rod with the lever and having a rounded end adapted to be engaged by the tailpiece, and means for connecting the lever to a shutter, substantially as specified.

804,351. WRENCH. WILLIAM R. TOMLINSON, Hartford, Conn., assignor to The Billings & Spencer Company, Hartford, Conn., a Corporation of Connecticut. Filed Apr. 26, 1905. Serial No. 257,203.

Claim.—The herein-described wrench comprising a handle, a head formed integral with the handle and having a transverse aperture, a mortise disposed at right angles to the transverse aperture, and a jaw, and also having a threaded bore at one end of the transverse aperture and a comparatively large smooth bore at the opposite end thereof, a movable jaw having a rack disposed in the mortise of the head, a rotary nut disposed in the aperture of the head and having an exterior worm engaging the rack of the movable jaw and also having a central bore, and a headed pin having a comparatively large and smooth portion journaled in the smooth bore of the head and also having a comparatively small smooth portion disposed in the bore of the nut and terminating in a threaded portion arranged in and engaging the threaded bore of the head and having an enlargement at its outer end.



804,352. SPRING BED-BOTTOM. FREDERICK J. VAN CISE and WILLIAM C. VAN CISE, Mayville, N. Y. Filed Jan. 6, 1905. Serial No. 239,874.



Claim.—1. In a spring-bottom for beds and the like, cone-springs, two strips of folded sheet metal one for each side embracing opposite sides of the bottom coils of said springs to hold the same, and suitable connecting-supports for the upper coils of said springs.

2. In a spring-bottom for beds and the like, cone-springs, suitable connecting-supports for the upper coils of said springs, two strips of folded sheet metal embracing opposite sides of the bottom coils of said springs to support the same, the outer edge strip extended across the ends for a rim, and the central folded strips attached to the said end strip, substantially as and for the purpose specified.

3. In a spring-bottom for beds and the like, double-cone springs, suitable connections for the upper coils of said springs, two strips of folded sheet metal embracing opposite sides of the bottom coils of said springs, and a strip of webbing stretched tight between said folded metal strips to support the center of the coil.

4. In a spring-bottom for beds and the like, double-cone springs, straight and flat metal connecting-strips for the middle coils of said springs, and flanges on one edge of said strips having an outward inclination to allow of easy insertion between and to hold within said coils.

5. In spring-bottoms for beds and the like, double-cone springs, straight and flat metal connecting-strips for the middle coils of said springs, and a projection carried by said strips bearing an angular relation to the flat faces of said strips, the free end of said projection bearing against one of the coils of the spring to retain the longitudinal edge of the strip opposite to said free end in engagement with said coils.

6. In combination with double-cone springs, strips for supporting said springs from the middle coils thereof, said strips carrying lateral angular projections whereby said strips may be inserted sidewise between the progressive coils of the spring and said projection may engage said coils and force the same apart to allow said projection to engage said middle coil from the interior thereof.

7. In combination with double-cone springs, strips for supporting said springs, said strips carrying an inclined projection the free

end of which forces the coils of the spring apart at the point of insertion in a wedge-like manner to enable said projection to be disposed within the said coils and engage the inner faces thereof.

8. In combination with double-cone springs, strips for supporting said springs, and projections carried by the strips, the free ends of said projections forcing the coils apart at the point of insertion of the strip to enable said projections to be disposed within the said coils and engage the inner faces thereof.

9. In combination with double-cone springs, strips for supporting said springs, and elements carried by the strips and projecting upwardly from the face thereof whereby said elements when the strip is inserted between the coils of said springs will force said coils apart and bear against the inner surfaces thereof after insertion.

10. In a spring-bottom for beds and the like, cone-springs having a suitable support for the bottoms of the springs, flat metal connecting-clips for the tops of said springs, crosswise slots in said clips, a holding-wire having returned bends insertible in said slots, and a second holding-wire passing through said bends and locking the ends of said clips.

11. In a spring-bottom for beds and the like, cone-springs having suitable holding means, a support for said springs consisting of a folded strip of sheet metal having means for attaching to the bed-rails, loops raised from the upper edge of said sheet metal, and cross-wires passing through said loops and over the lower coils or holding means of said springs, substantially as and for the purpose specified.

12. In a spring-bottom for beds and the like, the combination of the upright cone-springs 10, the parallel folded holding-strips 13 16 and webbing 18 for the lower coils of said springs, the connecting-strips 28 with holding-flanges 29 for the middle coils of said springs, the connecting-clips 31 and interlocking cross-wires 33 and 35 for holding the tops of the springs, and the hanger 20 having loops 25 and cross binding-wires 26 to hold said springs, substantially as and for the purpose specified.

804,353. **HUB-ATTACHING DEVICE.** WARREN D. WALKER, Malone, N. Y. Filed Mar. 27, 1905. Serial No. 252,202.

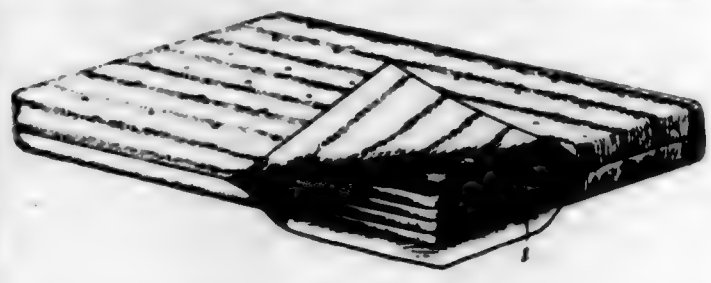


Claim.—1. In a hub-attaching device in combination a tapered spindle, an annular shoulder provided on the inner end thereof, a tapered skein secured thereto, a tapered box inclosing said skein and provided with an interiorly-screw-threaded nut, a cap-nut having a screw-threaded engagement with the end of said box, and an annular recess provided in said cap-nut adapted to fit closely to the annular shoulder on the tapered spindle as and for the purpose specified.

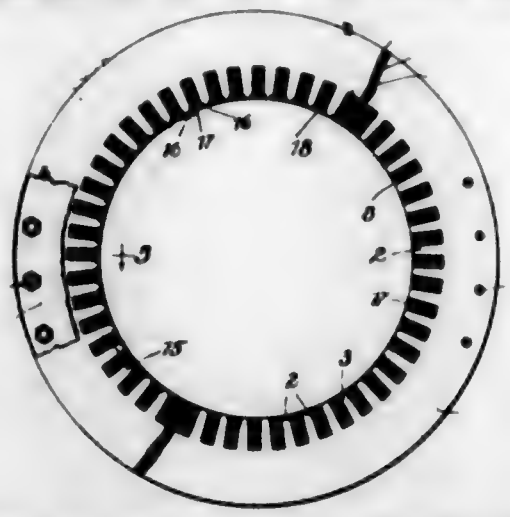
2. In a hub-attaching device in combination a tapered spindle, a tapered skein secured thereto, a keyway extending through said skein, and spindle, a key fitting therein, a tapered box inclosing said skein and adapted to rotate thereon, an annular shoulder provided on said tapered spindle, a cap-nut having a screw-threaded engagement with said box, rotatably mounted on said spindle and provided with an annular recess adapted to fit closely to the shoulder on the spindle as and for the purpose specified.

804,354. **SANITARY WOOL BED-MATTRESS.** NANCY J. WALLS, Penn. Col. Filed Jan. 26, 1905. Serial No. 242,761.

Claim.—A mattress comprising folded layers of wool inclosed in covers the ends of which are folded on each other and connected by threads, a plurality of threads passing through the wool and connecting the covers at intervals, a binding for each layer comprising a roll of wool inclosed in a cover having its edges brought together and sewed or stitched in lapped position to form a horizontal extension through which passes the threads connecting the folded ends of the covers and whereby said binding is held in position, and a suitable covering or casing for the layers, substantially as described.



804,355. **DYNAMO-ELECTRIC MACHINERY.** WILLIAM L. WATERS, Milwaukee, Wis. Filed Dec. 5, 1904. Serial No. 235,459.



Claim.—1. In a magnetic frame, the combination with teeth in said frame having unbroken edges throughout their entire length, of end plates for said frame, having teeth registering with the teeth of the frame, side grooves at the ends of the teeth in said end plates, coils disposed in the slots formed between the teeth of the frame and the end plates, and short wedges engaging the side grooves of the end plates and over the ends of the coils for retaining the coils within the slots.

2. The combination with a magnetic ring provided with teeth about its periphery, of end plates engaging said magnetic ring and provided with teeth registering with the teeth of the magnetic ring, the teeth of said magnetic ring having unbroken faces throughout their entire length, side grooves about the ends of the faces of the teeth in said end plates, and wedges for engaging in said grooves, said wedges engaging the ends of the coils in the slots between said teeth for retaining the coils in position.

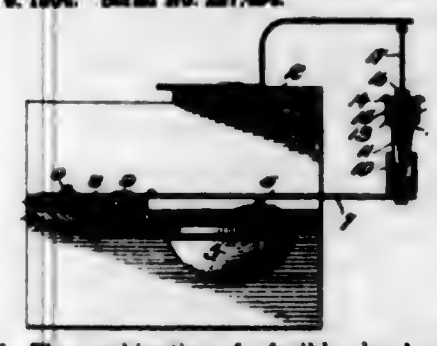
3. In a dynamo-electric machine, the combination with a field-frame provided with teeth having unbroken straight surfaces throughout their entire length, of end plates for said field-frame provided with teeth registering with the field-frame teeth, grooves cut in the side walls of the end-plate teeth at the ends thereof, and short wedges for engaging in said grooves, said wedges engaging the ends of the coils disposed in said grooves to retain said coils in position.

4. In a dynamo-electric machine, the combination with an armature provided with teeth having straight and unbroken surfaces throughout their entire length, end plates for said armature provided with teeth registering with the armature-teeth, grooves cut in the side walls of the end-plate teeth near the ends thereof, and short wedges for engaging said grooves, said wedges being disposed over the ends of coils in said grooves and serving to retain said coils in position.

5. In a dynamo-electric machine, the combination with a field-frame composed of similar laminations all provided with teeth having unbroken and straight edges, end plates engaging said laminations and provided with teeth registering with the teeth of the laminations, means for clamping said end plates and laminations together, side grooves cut in the ends of the inner edges of the end-plate teeth, and short wedges for engaging in said grooves, said wedges being disposed over the ends of the coils in said grooves for retaining said coils in position.

6. In a dynamo-electric machine, the combination with a magnetic core formed in two parts and composed of laminations provided with teeth having straight unbroken edges, two end plates at each end of the core provided with teeth registering with the lamination-teeth, grooves cut in the inner edges of the end-plate teeth at the ends thereof, short wedges for engaging in said grooves, said wedges being disposed over the ends of the coils in the slots between said teeth for retaining said coils in position, a ventilating-space between the two parts of said core, and a ventilating-space between two end plates at each side of the core.

804,856. FIRE-ALARM. WILLIAM D. WATKINS, Scranton, Pa. Filed Oct. 6, 1904. Serial No. 227,494.



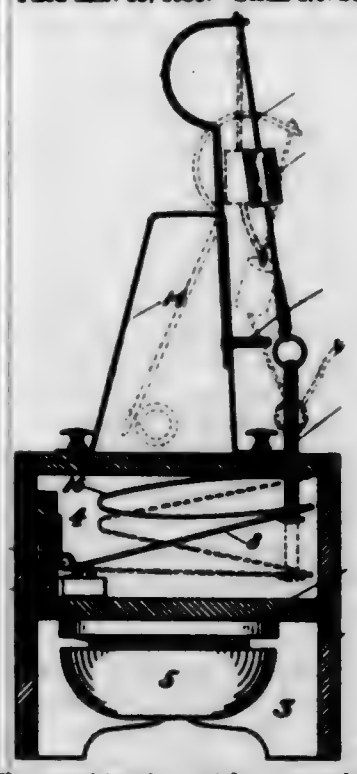
Claim.—1. The combination of a fusible plug having a reduced upper end, a suspending medium for the plug, a ring surrounding the reduced upper end of the plug and means connected with the ring for causing an alarm when the plug is fused.

2. The combination of a suspended fusible plug having a reduced upper end, a ring surrounding the reduced end of the plug, a frame suspended from the ring, and means carried by said frame for causing an alarm.

3. In a fire-alarm, a portable case, an alarm carried thereby, a push-button for operating the alarm, a lever normally held off the push-button, but adapted to contact therewith, a receptacle on the lever, an arm supported by the casing on the outside thereof, a fusible device supported by the arm on the outside of the casing and carrying a weight adapted to drop into the receptacle and depress the lever into engagement with the push-button when the fusible device is fused.

4. In an alarm of the character described, the combination with a fusible plug, a ring secured thereto and a U-shaped frame suspended from said ring, of a weight having a cavity at its upper end adapted to receive the melted plug, a receptacle adapted to receive said weight, a lever suspending said receptacle, and a push-button and alarm adapted to be operated by said lever.

804,857. PORTABLE FIRE-ALARM. WILLIAM D. WATKINS, Scranton, Pa. Filed Mar. 13, 1905. Serial No. 249,923.



Claim.—1. The combination with a portable casing and an alarm carried thereby, of a lever mounted within the casing controlling the alarm and pivoted at one end, a pin connected at one end to the free end of the lever, an arm supported on the outside of the casing, a fusible connection between the arm and the pin, and a V-shaped spring bearing against the casing and the lever and having its ends surrounding the pin.

2. In a portable fire-alarm, a portable casing and an alarm carried thereby, a lever for controlling the alarm, a spring acting on the lever, an adjustable arm, and a fusible device connecting the adjustable arm and the lever.

3. In a portable fire-alarm, a portable casing having a partition within the same, an alarm carried on one side of the partition, a push-button for controlling the alarm extending through the partition, a lever pivoted at one end on the other side of the partition and adapted to engage the push-button, a spring acting on the lever, an arm supported on the outside of the casing, and a fusible connection between the arm and the lever.

4. In a portable fire-alarm, a casing, a mechanically-operated bell therein, a push-button for controlling the bell, a pivoted lever within the casing adapted for engagement with the push-button, a spring acting on the lever, an adjustable arm mounted on the exterior of the casing, and a fusible connection between the adjustable arm and the pivoted lever.

804,858. PROCESS OF OBTAINING TERPENES AND OTHER PRODUCTS FROM WOOD. EDWARD B. WEED, Cleveland, Ohio, assignor, by mesne assignments, to Weed Distilling and Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Jan. 16, 1903. Renewed Apr. 8, 1905. Serial No. 254,531.



Claim.—The process of obtaining volatile products from wood which consists in subjecting the wood to a bath of rosin, heating the bath to the point of volatilization of the desired product, and distilling over the product.

804,859. SHOE-FORM. HORACE A. WEEKS, Lynn, Mass. Filed May 13, 1905. Serial No. 260,217.

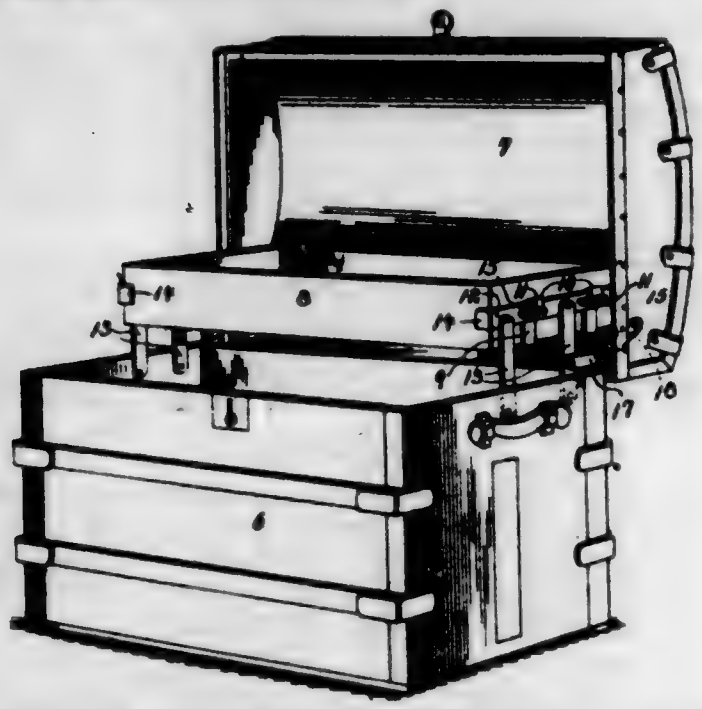


Claim.—1. A shoe-form comprising a fore part and a heel part, a bracket having a hinged connection with the heel part, a pair of parallel pins rigidly connected to said bracket slidable in said fore part, and a thumb-screw having a swivel connection with said bracket and a threaded connection with said fore part, substantially as described.

2. A shoe-form comprising a fore part and a heel part, a bracket having two pivot-lugs in alinement projecting from each side thereof, a pair of bolts extending into and secured in said heel part and having eyes to receive said lugs, whereby a pivoted connection is provided between said bracket and said heel part, a pair of parallel pins rigidly connected at one end to said bracket, and slidably mounted in said fore part, and an adjusting-screw having a threaded connec-

tion with said fore part and a swiveled connection with said bracket, substantially as described.

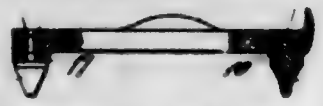
804,360. TRUNK. CHARLES C. WISHERTON, Morristown, Tenn. Filed Mar. 21, 1905. Serial No. 251,292.



Claim.—1. The combination with a trunk having a tray, and lid-operated tray-lifters at its ends, of hangers for the tray having hooks engaging over said lifters and extensions projecting from said hooks between the meeting edges of the trunk-box and lid.

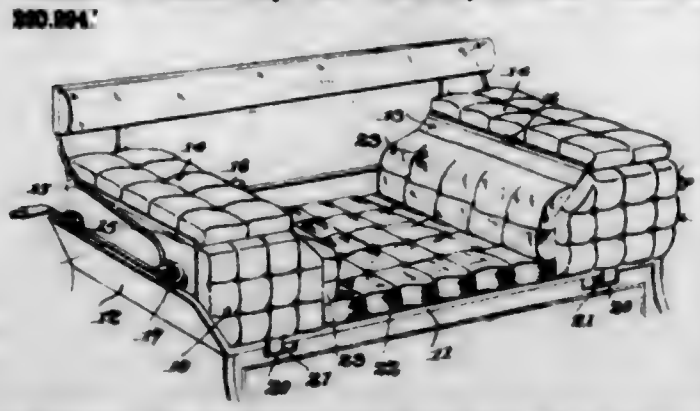
2. The combination with a trunk, of a tray therein, tray-supporting bars at the ends of the trunk having lugs which project over the edges of the trunk-box, lid-operated means to raise and lower the bars, and hangers for the tray having hooks which engage over the said bars and projections at the ends of the hooks which extend over the edges of the trunk-box beside said lugs.

804,361. HORSESHOE. JULIUS WOLFF, Greenpoint, N. Y. Filed Apr. 28, 1905. Serial No. 257,799.



Claim.—The combination with a horseshoe, of detachable toe and heel calks, bores or grooves in the under surface of the shoe adapted to engage projecting parts of the calks, and soft-lead pads fitted between the calks and the under surface of the shoe, said pads being adapted to tightly incase the projecting parts of the calks and to fill the worn-out pores or grooves to strengthen the attachment of the calks to the shoe, substantially and for the purpose as specified.

804,362. RECEPTACLE FOR ATTACHMENT TO VEHICLES. WILLIAM E. WRIGHT, May, Tex. Filed May 18, 1905. Serial No. 260,894.



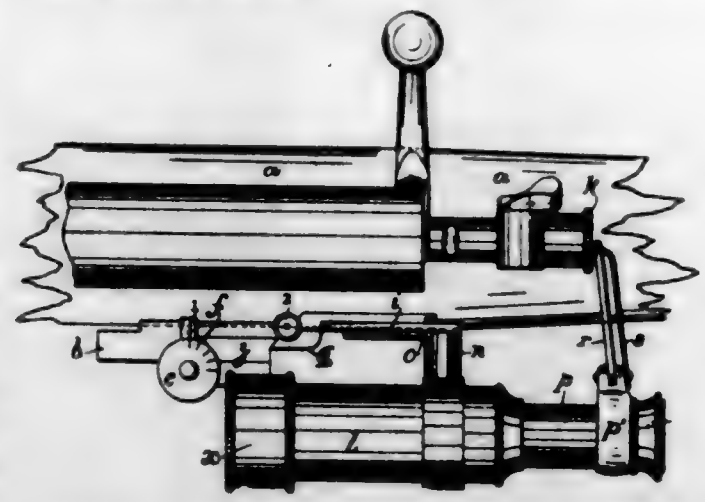
Claim.—1. The combination with the seat of a vehicle of spaced receptacles disposed at the ends of said seat and with the upper portion of the inner sides inclining upwardly and outwardly means for detachably connecting said receptacles to said seat, cushions upon the inner sides of said receptacles, and a cushion disposed upon said seat between said receptacles and bearing against the same and also beneath the cushions upon the receptacles.

2. The combination with the seat of a vehicle of spaced receptacles disposed at the ends of said seat, means for detachably connecting said receptacles to said seat, cushions upon the inner sides of said receptacles and a cushion disposed upon said seat between said receptacles and bearing against the same and likewise bearing beneath the cushions on the receptacles.

3. A vehicle-seat having rods connected at one end to the seat and extending toward the center of the same, receptacles disposed upon said seat at the ends and provided with loops detachably engaging said rods, and a cushion upon said seat between said receptacles and bearing by its ends against said receptacles.

4. A vehicle-seat having rods connected at one end to the seat and extending toward the center of the same, receptacles disposed upon said seat at the ends and provided with loops detachably engaging said rods, cushions upon the adjacent faces of said receptacles, and a cushion upon said seat between said receptacles and bearing at its ends against said receptacles and likewise extending beneath said receptacle-cushions.

804,363. TELESCOPIC SIGHT FOR RIFLES AND OTHER ARMS. WILLIAM YOULTEN, Westminster, England. Filed May 9, 1904. Serial No. 207,119.



Claim.—1. A rifle telescopic sight, consisting essentially of a tube carrying the object-glass, and a secondary tube sliding with respect to the first tube, and carrying the eyepiece, in combination with means for retaining the second tube in the extended position when the rifle is being sighted and withdrawing it from the marksman's eye when the trigger is pulled.

2. A rifle telescopic sight consisting essentially of a main tube carrying the object-glass into which a secondary tube carrying the eyepiece slides, in combination with a spring for drawing the secondary tube into the first tube and a tail to take over the bolt of the rifle, all for the purposes set forth.

3. The combination with a rifle or other weapon, of a telescopic sight mounted thereon, and means affording provision for withdrawing said sight from the marksman's eye when the weapon is discharged.

4. The combination with a rifle or other weapon, of a telescopic sight mounted thereon provided with means for withdrawing said sight from the marksman's eye when the rifle is discharged.

5. The combination with a rifle or other weapon, of a telescopic sight mounted to engage with a moving part of the rifle mechanism, and means for withdrawing said sight from the marksman's eye when disengaged from said moving part.

6. The combination with a rifle or other weapon, of a telescopic sight mounted to engage with the breech-bolt, and means for withdrawing said sight from the marksman's eye when said bolt is withdrawn from its engagement by the discharge of the rifle.

7. The combination with a rifle or other weapon, of a telescopic sight mounted thereon, means on said sight for engaging with a moving part of the rifle mechanism, and means for withdrawing said sight from the marksman's eye and for moving said engaging means out of alinement with said moving part when disengaged therefrom.

8. The combination with a rifle or other weapon, of a telescopic sight mounted thereon, means on said sight for engaging with the breech-bolt, and means for withdrawing said sight from the marksman's eye and for moving said engaging means out of alinement with said bolt when the rifle is discharged.

9. A telescopic sight for rifles or other weapons, comprising a plurality of tubes, means on one of said tubes for engaging with the rifle to retain said sight in extended position, and means attached to said sight for collapsing the same when the trigger is pulled.

10. A telescopic sight for rifles or other weapons, comprising a

plurality of tubes, means on one of said tubes for engaging with the rifle to retain said sight in extended position, and a helical spring attached to one of said tubes for collapsing the sight when the trigger is pulled.

11. A telescopic sight for rifles and other weapons, comprising outer and inner tubes, and means attached to said sight for keeping the same normally in collapsed condition and for imparting a rotary motion to one of said tubes when the focus is changed.

12. A telescopic sight for rifles and other weapons, comprising outer and inner tubes, a helical spring attached to one of said tubes normally tending to collapse the sight and connecting means between the two tubes constructed to give a rotary motion to one of them when the focus is changed.

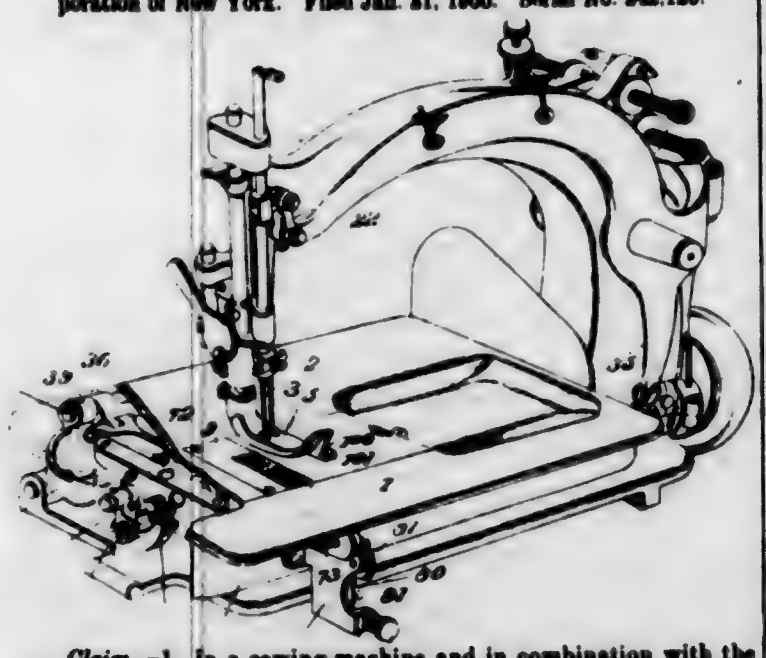
13. A telescopic sight for rifles and other weapons, comprising outer and inner tubes, means attached to said sight for keeping the same normally in collapsed condition, a helical guide on one of said tubes and means on the other tube for engaging said guide whereby a rotary motion is imparted to one of said tubes when the focus is changed.

14. The combination with a rifle or other weapon, provided with a projecting pin and a groove, the sides of which are formed by striking circles with said pin as a center, of a telescopic sight provided with a sleeve and a plate adapted respectively to pivot on said pin and slide in said groove, and means for locking said sight when so mounted in any desired angular position.

15. The combination with a rifle or other weapon, of a telescopic sight, means for connecting the two comprising a plate mounted on the rifle provided with a horizontally-arranged pivot-pin and a vertically-arranged groove, the sides of which are formed by striking circles with said pin as a center, a sleeve on said sight constructed to fit on said pin, and a plate on said sight adapted to slide in said groove and means for locking said sight when so connected in any desired angular position.

16. The combination with a rifle or other weapon, of a telescopic sight, means for connecting the two comprising a plate mounted on the rifle provided with a pivot-pin and a groove, the sides of which are formed by striking circles with said pin as a center, a sleeve on said sight constructed to fit on said pin, and a plate on said sight adapted to slide in said groove, and means for locking said sight in any angular position when so connected comprising a screw on said plate adapted to engage a threaded socket on said sight.

804,364. **SEWING AND TRIMMING MACHINE.** BERNARD H. ZIMMERMAN, Scranton, Pa., and ROBERT HUGHES, Jr., Utica, N. Y., assignors to Zimmerman-Rock Machinery Company, Utica, N. Y., a Corporation of New York. Filed Jan. 31, 1905. Serial No. 242,120.



Claim.—1. In a sewing-machine and in combination with the stitching mechanism thereof, feeding mechanism and cutting mechanism, the latter comprising a fixed blade or knife, a movable cutter, and means for operating the movable cutter in a forward direction; the feeding mechanism moving backward in its feeding movement simultaneously with the forward cutting movement of said movable cutter, substantially as described.

2. In a sewing-machine and in combination with the stitching mechanism thereof, feeding mechanism and cutting mechanism, the latter comprising a fixed blade or knife, a movable cutter and means for operating the movable cutter in a forward direction; the said feeding mechanism moving backward in its feeding movement simultaneously with the forward cutting movement of said movable cutter and said movable cutter receiving part of its motion from said feeding mechanism, substantially as described.

3. In a sewing-machine and in combination with the stitching mechanism thereof, feeding mechanism and cutting mechanism, the latter comprising a fixed blade or knife, a movable cutter, and means for operating the movable cutter in a forward direction, the feeding mechanism moving backward in its feeding movement simultaneously with the forward cutting movement of said movable cutter, and means for yieldingly holding the movable cutter in position, substantially as described.

4. In a sewing-machine and in combination with the stitching mechanism thereof, a feed-dog, mechanism for giving said dog a backward and forward movement and an up-and-down movement, a cutting member coacting with said feed-dog and means for moving said cutting member backward and forward in opposition to the movement of said feed-dog, said cutting member also receiving an up-and-down movement from the feed-dog, substantially as described.

5. In a sewing-machine and in combination with the stitching mechanism thereof, feed mechanism comprising a feed-dog, mechanism for giving said dog a backward and forward movement and an up-and-down movement, a cutting member coacting with said feed-dog and means for moving said cutting member backward and forward in opposition to the movement of said feed-dog, the said cutting member being yieldingly held in position and also receiving an up-and-down movement from the feed mechanism, substantially as described.

6. In a sewing-machine and in combination with the stitching mechanism thereof, a main shaft, a feed-dog, a cam on said main shaft imparting an up-and-down movement to said feed-dog, a cutting member provided with a piercing-point and having a connection with said feed-dog for moving the cutter up and down and means for giving said cutting member a horizontal movement, substantially as described.

7. In a sewing-machine and in combination with the stitching mechanism thereof, a main shaft, a lever or arm carrying a feed-dog, connections between said shaft and said lever or arm for moving the same up and down and backward and forward, and a cutting member provided with a piercing-point and having a forward movement to pierce the folded fabric and means for giving said cutting member a downward movement to cut the lower ply of said fabric, substantially as described.

8. In a sewing-machine and in combination with the stitching mechanism thereof, a main shaft having a cam thereon, a lever or arm coacting with said cam and receiving an up-and-down movement therefrom, a feed-dog supported on said lever or arm, a connection between said shaft and said lever or arm for moving the latter and its feed-dog backward and forward, and a cutting member with a piercing-point having a forward piercing movement, the feed-dog moving backward in its feeding movement simultaneously with the forward piercing movement of said cutting member, substantially as described.

9. In a sewing-machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed-dog, connections between said shaft and said lever or arm for moving the same up and down and backward and forward, a cutting member having a connection with said lever or arm and movable up and down thereby, and a cam carried by said shaft for giving said cutting member a backward and forward movement, substantially as described.

10. In a sewing-machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed-dog, a cam on said shaft for giving said feed-dog movement up and down, a cutting member having a connection with said lever or arm and movable up and down thereby, means on said shaft for giving said feed-dog a backward and forward movement, and means on the shaft for giving the knife a backward and forward movement, substantially as described.

11. In a sewing-machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed-dog, a cam on said shaft for giving said feed-dog movement up and down, a cutting member having a connection with said lever or arm and movable thereby, means on said shaft for giving said feed-dog a backward and forward movement, and means on the shaft for giving the knife a backward and forward movement, said movements being in opposite directions, substantially as described.

12. In a sewing-machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed-dog, a knife and knife-carrier, a cam on said shaft for giving said feed-dog

and said knife and knife-carrier their vertical movements, and a cam on the shaft for giving said knife its horizontal movement, substantially as described.

13. In a sewing-machine and in combination with the stitching mechanism thereof, a shaft, a feed-dog, a lever or arm carrying said feed-dog and movable by said shaft, and a knife having a connection with said lever or arm and receiving vertical motion only therefrom, said connection being adjustable whereby the position of said knife may be changed for cutting different thicknesses of material and means for giving said knife a horizontal movement, substantially as described.

14. In a sewing-machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed-dog, and movable by said shaft, a knife, and an eccentric connecting said knife with said lever or arm, whereby the position of the knife may be changed, substantially as described.

15. In a sewing-machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed-dog, means on said shaft for giving said feed-dog movement, a knife-carrier and its knife, means for giving movement to said knife-carrier, and an adjustable eccentric connecting said knife-carrier with the means for giving it movement whereby the position of the knife may be adjusted, substantially as described.

16. In a sewing-machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed-dog, a cam on said shaft for giving said lever or arm and its dog an up-and-down movement, a connection for giving said lever or arm and its dog a backward and forward movement, a knife-carrier and its knife, and an eccentric connecting said knife-carrier and said lever or arm, whereby the knife-carrier is moved by said lever or arm and its position is adjustable by said eccentric, substantially as described.

17. In a sewing-machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed-dog, a cam for giving an up-and-down movement to said lever or arm, a connection for giving a backward and forward movement to said lever or arm, a knife-carrier and its knife, a connection for giving the knife-carrier a backward and forward movement, and an eccentric connecting said knife-carrier and the lever or arm, whereby said knife-carrier is moved by the lever or arm and is adjustable by means of its eccentric, substantially as described.

18. In a sewing-machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a blade and a movable cutter, and means independent of the cutting mechanism for making said cutter inactive, substantially as described.

19. In a sewing-machine and in combination with the stitching mechanism thereof, a cutter and means for making said cutter inactive, comprising a member arranged to be thrown in juxtaposition to the cutting edge of said cutter to allow material to pass over said cutter, substantially as described.

20. In a sewing-machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a cutter, a finger normally located below said cutter and movable in juxtaposition to the cutting edge of said cutter to allow material to pass over said cutter, and means for holding said finger in either of its positions, substantially as described.

21. In a sewing-machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a cutter, a finger normally located below said cutter and movable into position to allow material to pass over said cutter, a lever for moving said finger, and means for holding said lever in position, substantially as described.

22. In a sewing-machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a cutter, a finger normally located below said cutter, a lever for moving said finger into position to allow material to pass over said cutter, and means for holding said lever in either of its positions and for adjusting said lever and its finger, substantially as described.

23. In a sewing-machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a cutter, a finger normally located below said cutter, and movable into position to allow material to pass over said cutter, a lever for moving said finger, means for holding said lever in either of its positions, and a screw for changing the limit of movement of said lever, substantially as described.

24. In a sewing-machine and in combination with cutting and stitching mechanisms thereof, said cutting mechanism being located in advance of said stitching mechanism, a presser-foot coacting with said cutting mechanism and having a vertical guiding-wall projecting from its lower side and a ledge or flange projecting therefrom, whereby one layer may be guided and fed under the ledge or flange, substantially as described.

25. In a sewing-machine and in combination with cutting and stitching mechanisms thereof, said cutting mechanism being located in advance of said stitching mechanism, a presser-foot coacting with said cutting mechanism and having a vertical wall acting as a guide for a strip of material, and a ledge or flange projecting laterally from said vertical wall, said ledge or flange having a passage between it and the foot proper, substantially as described.

26. In a sewing-machine and in combination with the stitching mechanism thereof, feeding mechanism, and cutting mechanism comprising a fixed blade and a movable cutter, the latter projecting forward over the cloth-plate and having both forward and downward movements, the feeding mechanism moving backward in its feeding movement simultaneously with the forward cutting movement of said movable cutter, substantially as described.

27. In a sewing-machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a blade having a piercing-point, said blade having a forward movement to pierce a folded fabric and a downward movement to cut the lower ply of said fabric, substantially as described.

804,365. **DEVICE FOR PREVENTING CONTACT IN TELEGRAPH LINE-WIRES.** WILLIAM L. G. APPLEBY, Germantown, Md., assignor of one-half to Isaac N. Simpers, Germantown, Md. Filed Oct. 7, 1904. Serial No. 227,563.



Claim.—1. As a new article a device for preventing lateral contact between telegraph and similar line-wires, consisting of tubular members of insulating material for engaging the line-wires and lined with metal wear-plates and having connecting means to maintain them spaced apart.

2. As a new article a device for preventing lateral contact between telegraph and similar line-wires, consisting of tubular members divided longitudinally for engaging the line-wires between the supports of the same and having encircling grooves for receiving binding-wires for uniting the divided members and likewise provided with connecting means for maintaining the same spaced apart, said tubular members being of interior diameter sufficient to enable them to pass over splices upon the line-wires, and provided with flaring ends to facilitate the passage over such splices.

3. As a new article a device for preventing lateral contact between telegraph and similar line-wires, consisting of tubular members divided longitudinally for engaging the line-wires between the supports of the same and having encircling grooves for receiving binding-wires for uniting the divided members by entwisting the ends of the same, the free ends of said binding-wires in turn entwisted about a transverse spacer member.

4. As a new article a device for preventing lateral contact be-

tween telegraph and similar line-wires, consisting of members for engaging the line-wires between the supports of the same, means for connecting and spacing apart the said members, and guy-wires connecting the ends of said connecting and spacing means with the supports of the line-wires.

5. As a new article a device for preventing lateral contact between telegraph and similar line-wires, consisting of tubular members for slidably engaging the line-wires between the supports of the same, said tubular members being adapted for passage over splices upon the wires and connecting means between said slidable members, and means operative upon said line-wires for adjusting said slidable members longitudinally of the same.

6. As a new article a device for preventing lateral contact between telegraph and similar line-wires, consisting of tubular members internally flaring at the ends and slidably engaging said line-wires and having means for maintaining said members spaced apart, said tubular members being of internal diameter sufficiently greater than the diameter of the wires to admit of the passage of splices upon the latter.

7. A device for preventing lateral contact between telegraph and similar line-wires consisting of divided tubular members for slidably engaging the line-wires between the supports of the same and twisted wires for connecting the parts of the divided tubular members with each other and with a transverse connecting and spacing member.

8. A device for preventing lateral contact between telegraph and similar line-wires consisting of members for slidably engaging the line-wires between the supports of the same and having connecting means for maintaining the same spaced apart and guys connecting said members to the adjacent line-wire supports.

9. A device for preventing lateral contact between telegraph and similar line-wires consisting of members for slidably engaging the line-wires between the supports of the same and having connecting means for maintaining the same spaced apart, an adjusting member consisting of a bar having open slots for movably engaging the line-wires and means for moving said bar longitudinally of the line-wires.

10. A device for preventing lateral contact between telegraph and similar line-wires consisting of members for slidably engaging the line-wires between the supports of the same and having connecting means for maintaining the same spaced apart, an adjusting member consisting of a bar having transverse apertures for receiving the line-wires and each aperture provided with a contracted aperture leading through the side of the bar, and means for moving said bar longitudinally of the line-wires.

804,366. NOSE-GUARD FOR EYEGLASSES. GEORGE BAUSCH, Syracuse, N. Y. Filed Oct. 16, 1903. Serial No. 177,313.

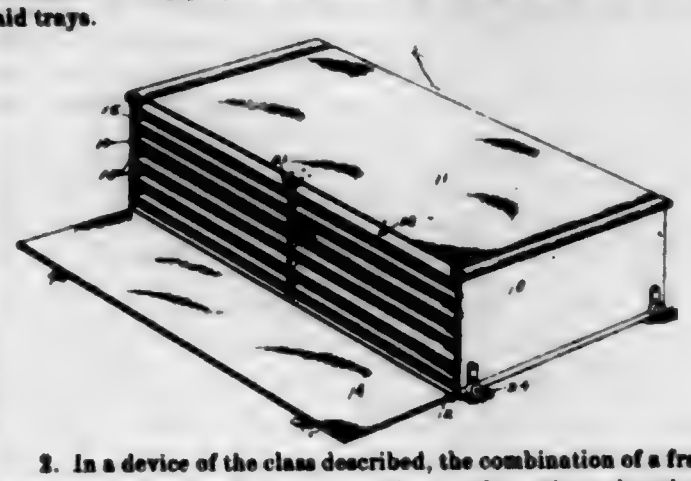


Claim.—1. The combination with the bow-spring and lens-clamp of a frame for eyeglasses, of a pair of hollow circular heads connected to the lens-clamp and having open sides facing each other, the open side of each head having an inturned annular flange forming an annular groove, and flexible pads removably inserted in the open sides of the heads and having their marginal edges seated in their respective grooves and their central portions bowed outwardly to form air-spaces between them and their heads.

2. The combination with a lens-supporting frame for eyeglasses, of a pair of substantially circular heads mounted on the frame and each having its edge overturned and forming an annular flange and an annular groove, a compressible and expansible pad for each head, each pad being compressed and inserted in its head and entering and held in its groove solely by its own expansion whereby the pad may be removed or reinserted at will.

804,367. DRESS-TRAY CASE. ANNA BAXTER, Des Moines, Iowa. Filed Mar. 14, 1904. Serial No. 197,826.

Claim.—1. In a device of the class described, the combination of a frame comprising a top and bottom portion, end portions detachably mounted between said top and bottom portions, a back side connected with the top and bottom portions and with the end portions, a front side hinged to the bottom, a series of trays slidingly mounted in said frame, woven-wire sides, ends and bottom for each of said trays, and a rod pivotally attached to the under portion of the cover and having projections thereon in engagement with each of said trays.



2. In a device of the class described, the combination of a frame comprising a top and bottom portion, end portions detachably mounted between said top and bottom portions, a back side connected with the top and bottom portions and with the end portions, a front side hinged to the bottom, a series of trays slidingly mounted in said frame, woven-wire sides, ends and bottom for each of said trays, and a pivotally and slidingly mounted rod attached to said cover and designed to normally rest on said bottom portion having projections thereon designed to engage the front edges of said trays.

804,368. RESILIENT TIRE. WILLIAM F. BEASLEY, Plymouth, N. C. Filed Dec. 15, 1903. Renewed Jan. 9, 1904. Serial No. 188,405.



Claim.—1. A resilient core for a tire consisting of a sinuous band of rubber having an independently and separately formed strengthening-wrapping vulcanized therearound, the truss-walls formed in the band being unconnected at their sides except by the independently and separately formed wrapping, substantially as described.

2. A resilient core for a tire consisting of a sinuous band of rubber having strengthening-strips secured to its inner and outer faces and following the sinuosities thereof, substantially as described.

3. A resilient core for a tire consisting of a cylindroid having open wedge-shaped notches formed in its inner and outer surfaces and staggered in respect to each other.

4. A tire consisting of a resilient core formed of a sinuous band of rubber having strengthening-strips secured to its inner and outer faces and following the sinuosities thereof, and a strengthening-wrapping around the core, substantially as described.

5. A resilient tire consisting of a core formed of a sinuous band of rubber, a reticulated armored band circumferentially surrounding the core, and having ears for securing it in place, and a wearing-face inclosing the core and armor-band, substantially as described.

6. A resilient tire consisting of a sinuous core, a wrapping surrounding the core, a base having a continuous metallic band upon the inside of the core and a wearing-surface surrounding the core and base and securing the parts together, substantially as described.

7. A resilient tire consisting of a sinuous core, a wrapping surrounding the core, a reticulated and spirally-corrugated armor-band circumferentially surrounding the core and having ears for securing it in place, a base having continuous metallic bands upon the inside of the core, a spiral cord wrapping encircling the base and core, and held against displacement by the corrugations on the armor-band, and a wearing-surface surrounding the core and base, substantially as described.

8. As a new article of manufacture, a resilient core for an elastic tire, consisting of a sinuous band of rubber, formed by a series of trussed compression members or walls, the said walls being united at their abutting ends, and being unconnected at their sides, substantially as described.

9. As a new article of manufacture, a resilient core for an elastic casing consisting of a body-section having open wedge-shaped notches formed in its outer and inner surfaces, staggered in respect

to each other, forming a series of trussed compression members in the body, substantially as described.

10. A tire consisting of a resilient core formed of a sinuous band of rubber and an independent and separately formed cover inclosing the resilient core thus formed, the trussed walls formed in the band being unconnected at their sides, except by the independently and separately formed cover, substantially as described.

11. A tire consisting of a resilient core formed of a sinuous band of rubber having strengthening-stripe secured to its inner and outer faces and following the sinuosities thereof, and a wearing-section surrounding the resilient core thus formed, substantially as described.

12. A tire having a metallic band therein, in combination with means for securing the ends of the tire together, said means consisting of a clamping-bolt provided with a head having a concave under surface forming biting edges, adapted to engage the ends of the metallic band when brought together in placing the tire on the wheel, substantially as described.

13. A resilient core for a tire, consisting of a sinuous band of rubber, having a strengthening textile strip forming a part of the core and following the sinuosities thereof, substantially as described.

804,369. RESILIENT TIRE. WILLIAM F. BRADLEY, Plymouth, N. C. Filed Mar. 24, 1903. Renewed Apr. 14, 1905. Serial No. 255,655.



Claim.—1. A resilient core for a tire, consisting of two separately-formed strips, each consisting of a series of trussed walls, the said strips being united at their inner faces whereby a core is formed having notches in its inner and outer surfaces and apertures in its center, substantially as described.

2. A resilient core for a tire, composed of a plurality of separately-formed strips, each of which consists of trussed walls, the two strips being assembled so that the apices of the trusses of one section register with the apices of the trusses of the other section, the said sections being united at the registering apices, whereby a core is formed having a plurality of series of intersecting trussed walls, substantially as described.

3. A resilient core for a tire, having longitudinal truss-walls forming a series of longitudinal flanges and channels on the inner and outer faces of the core, substantially as described.

4. A resilient core for a tife having a plurality of intersecting series of longitudinal truss-walls, substantially as described.

5. A resilient core for a tire, having a plurality of intersecting series of longitudinal truss-walls, forming a series of longitudinal channels on the inner and outer faces of the core, and a series of apertures in the central portion thereof, substantially as described.

6. A resilient core for a tire, having a series of longitudinal truss-walls and textile layers on the outer and inner faces of the core, following the sinuosities thereof, substantially as described.

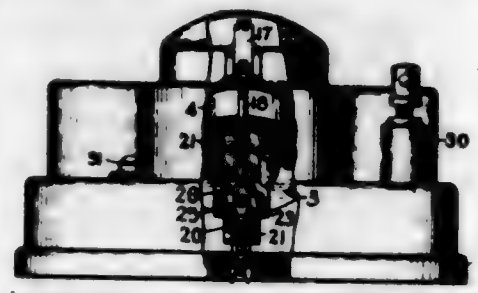
7. A tire consisting of a resilient core having a series of longitudinal truss-walls and a casing therefor, provided with a central cavity in which the core is contained and in which it has a limited movement from side to side, substantially as described.

8. A tire consisting of a resilient core, having a series of longitudinal truss-walls, and a casing therefor, provided with a central cavity in which the core is movably contained, the casing having longitudinal ribs projecting into the central cavity, and limiting the movement of the core.

9. A tire consisting of a resilient core, having a series of longitudinal truss-walls, and a casing therefor, provided with a convex tread-face and a central cavity in which the core is movably contained, the casing having longitudinal ribs projecting into the central cavity, and limiting the movement of the core, substantially as described.

804,370. SUPPORT FOR THE SHAFTS OF INSTRUMENTS. FRANK R. BUCKNEY, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Apr. 5, 1904. Serial No. 201,668.

Claim.—1. An instrument having a rotatable element, bearings therefor, and movable operating means connected with the bearings for moving them into and out of supporting relation to said rotatable element.



2. In an instrument, a vertical shaft, two bearings therefor, and means for moving the bearings simultaneously out of supporting relation to the shaft.

3. An instrument having a movable element, bearings therefor, means for moving the bearings out of supporting relation to the movable element, and means for clamping said element to support the same.

4. An instrument having a casing, a movable element pivoted for rotation, and a movable bearing therefor within the casing, and means operated from outside the casing for moving the bearing out of engagement with the pivot of said movable element.

5. An instrument having a shaft, stationary members having openings therein, bearings for the shaft movable axially thereof in said openings, and movable operating means connected with the bearings for moving them toward and away from the shaft.

6. An instrument having a shaft, stationary members having openings therein, bearings for the shaft movable axially thereof in said openings, means for moving the bearings, and means for supporting the shaft.

7. An instrument having a movable element, bearings therefor, and means for simultaneously moving the bearings out of supporting relation to said element and clamping said element to support it.

8. An instrument having a shaft, a member thereon, spring-actuated clamps mounted on a stationary part of the instrument, and means for moving the clamps against the tension of the springs or permitting movement in the opposite direction to throw them into or out of gripping relation to said member.

9. A measuring instrument for delicate forces provided with a movable element, cup-bearings therefor, means for withdrawing the cup-bearings, and means for supporting the element when the bearings are withdrawn.

10. An instrument having a shaft, a rod movable parallel to the shaft, a bearing for the shaft carried by said rod, and means for reciprocating the rod.

11. An instrument having a shaft, a rod movable parallel to the shaft, a bearing for the shaft spring-mounted on said rod, and means for reciprocating the rod.

12. An instrument having a shaft, rods movable parallel to the shaft, bearings for the shaft spring-mounted on said rods, springs for moving each rod in one direction, and means for moving each rod in an opposite direction.

13. An instrument having a shaft, stationary members having openings therein, bearings for the shaft movable in said openings, rods movable parallel to the shaft, springs carried by the rods and supporting said bearings, and means for reciprocating the rods.

14. An instrument having a shaft, rods movable parallel thereto, bearings for the shaft spring-mounted on said rods, means for reciprocating the rods, clamping members, and means whereby reciprocating said rods throws said clamping members into and out of supporting relation to the shaft.

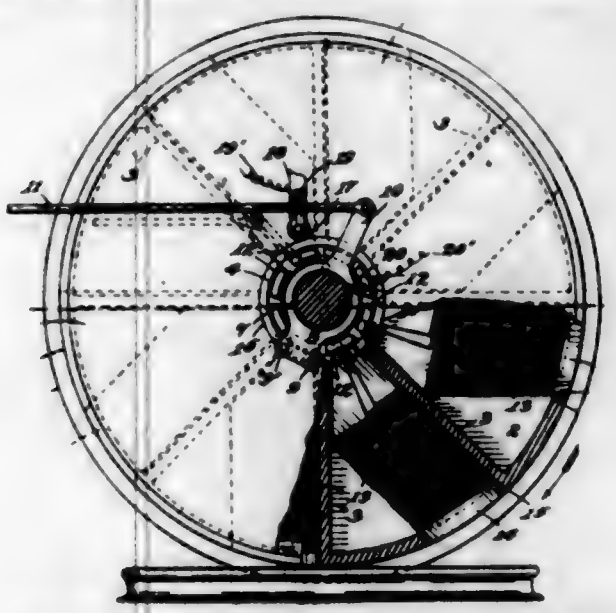
15. In an electric meter, an armature-spindle, a lower bearing therefor, and a separate spring for holding the spindle while free from said bearing.

16. In an electric meter, an armature-spindle, a lower bearing therefor, and a separate device adapted to hold said spindle at the same height as in use, when the lower bearing is withdrawn.

804,371. ELECTROMAGNETIC WHEEL. HUGH BERAN, Seattle, Wash. Filed Jan. 4, 1905. Serial No. 239,890.

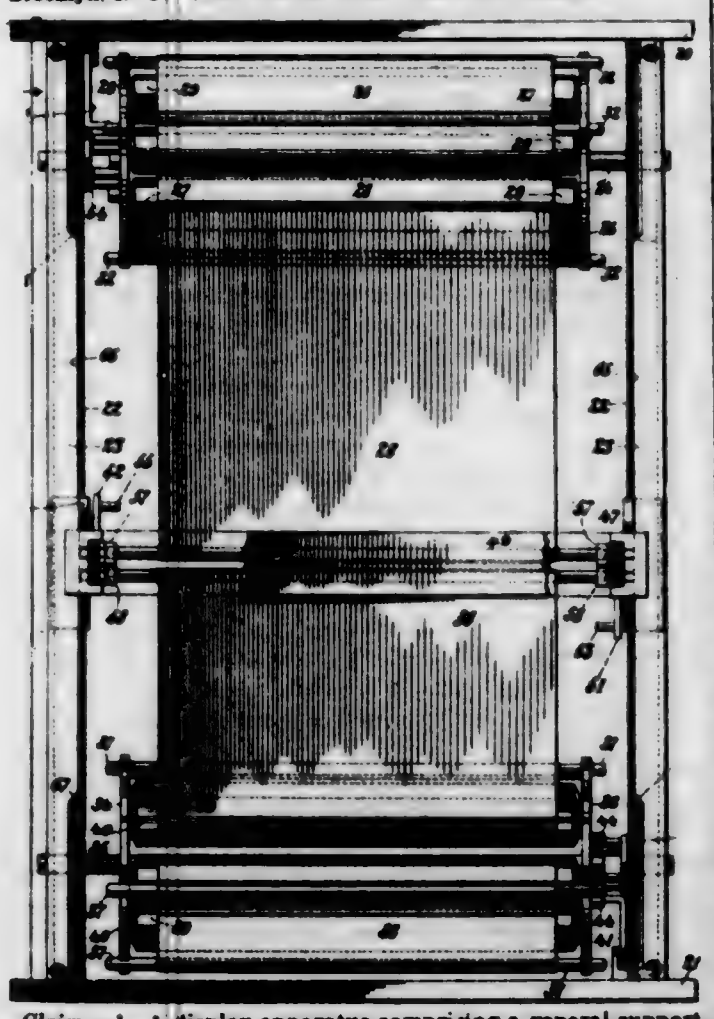
Claim.—1. In apparatus of the class described, the combination with the track-rail, the wheel, and the electric conducting-wires, of a plurality of electromagnets having their cores extending through the rim of said wheel and the coils terminating in an annular piece of metal and a series of contact-segments secured to said wheel, a terminal of the said conducting-wires which makes continuous contact with said annular piece, another terminal of the conducting-wires engaging with the said contact-segments, and means for adjusting

said last-named terminal so as to cause it to engage with certain predetermined of said contact-segments, substantially as described.



2. In an apparatus of the class described, the combination with a wheel, electromagnets mounted radially on the wheel, an annular rotary contact, segregated rotary contacts revoluble with the wheel, an adjustable contact adapted to engage said segregated contacts, whereby, through the movement of said adjustable contact, an electric magnet may be energized in front of or in rear of the bearing-point of the wheel.

804,372. **ADVERTISING NOVELTY.** WILLIAM H. BENDER, Brooklyn, N. Y. Filed Feb. 25, 1904. Serial No. 195,154.



Claim.—1. A display apparatus comprising a general supporting-frame, and a traveler adapted to be moved intermediate the ends of said frame, combined with a spring-roller with a curtain thereon at the end of said frame, means adjacent to said roller for securing the outer end of the curtain, a draw-rod intermediate the said roller and the outer end of said curtain and engaging said curtain, and means carried by said traveler in engagement with the ends of said rod for causing the said rod to follow said traveler and thus effect the unrolling and rewinding of said curtain; substantially as set forth.

2. A display apparatus comprising a general supporting-frame, and a traveler adapted to be moved intermediate the ends of said frame, combined with a spring-roller with a curtain thereon at one end of said frame, means adjacent to said roller for securing the outer end of said curtain, a draw-rod intermediate the said roller and the outer end of said curtain and engaging said curtain, a spring-roller with a curtain thereon at the other end of said frame, means adjacent thereto for securing the outer end of said second curtain, a draw-rod intermediate said second roller and the outer end of its curtain and engaging said curtain, and means carried by said traveler in engagement with the ends of both of said draw-rods for causing the same to follow said traveler and thus effect the alternate unrolling and rewinding of said curtains, one curtain being unrolled while the other is rewound; substantially as set forth.

3. A display apparatus comprising the general supporting-frame, a group of spring-rollers with curtains thereon at opposite ends of said frame, carriers for said rollers and to which the outer ends of said curtains are fastened, and a draw-rod for each of said curtains, said draw-rod for each curtain being in engagement with the same intermediate its roller and outer end, combined with a traveler adapted to be moved intermediate said groups of rollers, means carried by said traveler for automatically engaging the draw-rod of one curtain of one of said groups when said traveler is at one end of its path for causing the same to follow said traveler during its movement from said group to unroll the curtain, and means carried by said traveler for automatically engaging a draw-rod of one curtain of the other of said groups when said traveler is at the other end of its path for causing the same to follow said traveler during its movement from said group to unroll the curtain; substantially as set forth.

4. A display apparatus comprising the general supporting-frame, a group of spring-rollers with curtains thereon at opposite ends of said frame, carriers for said rollers and to which the outer ends of said curtains are fastened, and a draw-rod for each of said curtains, said draw-rod for each curtain being in engagement with the same intermediate its roller and outer end, combined with a traveler adapted to be moved intermediate said groups of rollers, means carried by said traveler for automatically engaging the draw-rod of one curtain of one of said groups when said traveler is at one end of its path for causing the same to follow said traveler during its movement from said group to unroll the curtain, means carried by said traveler for automatically engaging a draw-rod of one curtain of the other of said groups when said traveler is at the other end of its path for causing the same to follow said traveler during its movement from said group to unroll the curtain, and means for actuating said carriers to successively position said curtains and bring said draw-rods to position to be taken one after another by the traveler mechanism when the traveler reaches the ends of its path; substantially as set forth.

5. A display apparatus comprising the general supporting-frame, a group of spring-rollers with curtains thereon at one end of said frame, carriers for said rollers and to which the outer ends of said curtains are fastened, and a draw-rod for each of said curtains, said draw-rod for each curtain being in engagement with the same intermediate its roller and outer end, and said carriers having recesses to normally position said rods, combined with a traveler adapted to be moved toward and from said group, means carried by said traveler for automatically engaging the draw-rod of one of said curtains when said traveler is at one end of its path for causing the same to follow it during its travel from said group to unroll the curtain, and means for actuating said carrier to successively position said curtains and bring said draw-rods to position to be taken one after another by the traveler mechanism when the traveler reaches said group; substantially as set forth.

6. A display apparatus comprising a general supporting-frame, a group of spring-rollers with curtains thereon at one end of said frame, and carriers for said rollers, said curtains each having a rod connected therewith, and at its ends projecting beyond the same, combined with a traveler adapted to be moved intermediate the ends of said frame for unrolling and permitting the rewinding of said curtains, one after another, as it moves from and toward said group, pivoted clutch-bars carried by said traveler for engaging the ends of a curtain-rod for compelling said rod to follow the traveler and effect the unrolling of the curtain, cams for locking said bars and rod in positive engagement with each other during the movement of the traveler to unroll and permit the rewinding of the curtain, means for releasing said bars from said rod when the traveler returns to said group, and means for actuating said carrier to successively position said rods to be taken one after another by said bars; substantially as set forth.

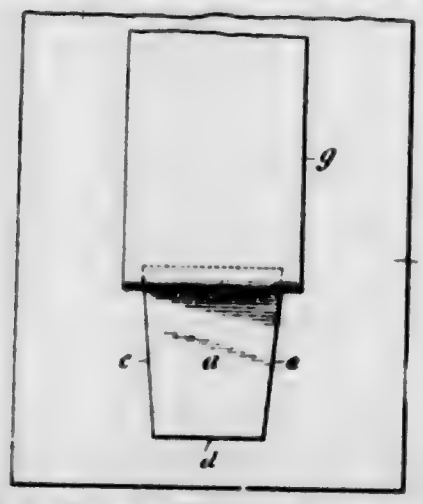
7. A display apparatus comprising a general supporting-frame, a group of spring-rollers with curtains thereon at one end of said frame, and carriers for said rollers, said curtains each having a rod connected therewith and at its ends projecting beyond the same, combined with a traveler adapted to be moved intermediate the ends

of said frame for unrolling and permitting the rewinding of said curtains, one after another, as it moves from and toward said group, clutch-bars carried by said traveler for engaging the ends of a curtain-rod to compel said rod to follow the traveler and effect the unrolling of the curtain, the cam-bars 23 for moving said clutch-bars into engagement with the curtain-rods and maintaining such engagement during the movement of the traveler to unroll and permit the rewinding of the curtains, means for releasing said clutch-bars from the curtain-rods when the curtains have been rewound, and means for actuating said carrier to successively position said rods to be taken one after another by said bars; substantially as set forth.

8. A display apparatus comprising a general supporting-frame, a group of spring-rollers with curtains thereon at one end of said frame, and carriers for said rollers, said curtains each having a rod connected therewith and at its ends projecting beyond the same, combined with a traveler adapted to be moved intermediate the ends of said frame for unrolling and permitting the rewinding of said curtains, one after another, as it moves from and toward said group, clutch-bars carried by said traveler for engaging the ends of a curtain-rod to compel said rod to follow the traveler and effect the unrolling of the curtain, the cam-bars 23 for moving said clutch-bars into engagement with the curtain-rods and maintaining such engagement during the movement of the traveler to unroll and permit the rewinding of the curtains, springs for releasing said clutch-bars from the curtain-rods when the curtains have been rewound, and means for actuating said carrier to successively position said rods to be taken one after another by said bars; substantially as set forth.

9. A display apparatus comprising a general supporting-frame, a group of spring-rollers with curtains thereon at one end of said frame, and carriers for said rollers, said curtains each having a rod connected therewith and at its ends projecting beyond the same, combined with a traveler adapted to be moved intermediate the ends of said frame for unrolling and permitting the rewinding of said curtains, one after another, as it moves from and toward said group, the pivoted clutch-bars 57 carried by said traveler for engaging the ends of a curtain-rod to compel said rod to follow the traveler and effect the unrolling of the curtain, the cam-bars 23 for coöperating with said clutch-bars and having projecting portions 65 and inclined shoulders 66, means for releasing said clutch-bars from the curtain-rods when the curtains have been rewound, and means for actuating said carrier to successively position said rods to be taken one after another by said bars; substantially as set forth.

804,373. TAG. FREDERICK K. BLANCHARD and JOSEPH F. PRICE, New York, N. Y. Filed June 14, 1905. Serial No. 265,176.

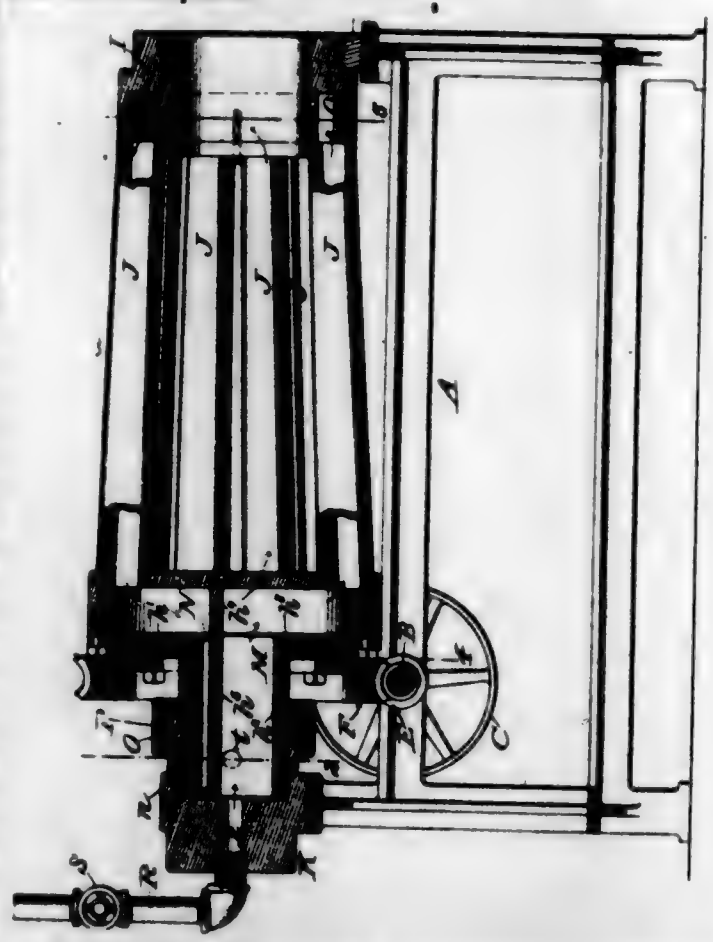


Claim.—1. As a new article of manufacture a tag of suitable material, of trapezoidal form, with notches in the sides thereof, by which notches the tag when passed between restraining-points made by tackings of thread, seams of cloth, wires or other suitable means of restraint, is engaged and firmly held in place by such restraining-points without the tag itself being sewed or tacked fast.

2. In combination with two pieces of cloth, fastened by tackings of thread, seams or other suitable means and material, a tag of suitable material, of trapezoidal form, with notches in the sides thereof, by which notches the tag when passed between such tackings of thread, seams or other suitable means employed, is thereby engaged firmly and held in place, without the tag itself being sewed fast.

804,374. CANDY-MACHINE. DORR B. BOWERS, Macon, Ga. Filed Sept. 21, 1904. Serial No. 225,328.

Claim.—1. A candy-machine having, in combination, a horizontally-disposed rotary batch-receptacle closed at one end and having an axial opening in its opposite end for drawing out a neck of candy material during motion of said receptacle, the shell of said receptacle being hollow to provide a surrounding chamber for a heating medium, and a supply-pipe for the heating medium having an axial communication with said chamber at the closed end of the batch-receptacle for supplying heating medium thereto during motion of said receptacle.



2. A candy-machine having, in combination, a horizontally disposed rotary batch-receptacle closed at one end and having an axial opening in its opposite end for drawing out a neck of candy material during motion of said receptacle, the shell of said receptacle being hollow to provide a surrounding chamber for a heating medium, and a supply-pipe for the heating medium having an axial communication with said chamber at the closed end of the batch-receptacle for supplying heating medium thereto during motion of said receptacle, a cock or valve for controlling the supply of heating medium to the chambered shell, and means for exhausting the medium from said shell during motion of said receptacle.

3. A candy-machine having, in combination, a rotary horizontally-disposed batch-receptacle having a hollow or chambered shell and a communicating hollow head closing one end and an opposite annular head providing an axial opening for drawing out a neck of plastic candy material during motion of said batch-receptacle, and a feed-pipe for supplying a heating medium to the hollow or chambered shell having an axial swivel connection with said hollow head.

4. A candy-machine having, in combination, a rotary horizontally-disposed batch-receptacle having a hollow journal at one end and a hollow shell communicating with said journal and an axial opening in its opposite end for drawing out a neck of candy material during motion of said receptacle, the said hollow journal and shell being internally divided into two distinct passages communicating at the open end of the receptacle, a pipe axially connected with said hollow journal for supplying heating fluid to one of such passages, and means for exhausting such fluid from the other passage through the same hollow journal.

5. In a candy-machine, a rotatory batch-receptacle having a hollow or chambered shell divided as a whole into two distinct communicating passages, and means for supplying a heating medium to one of said passages and exhausting it from the other.

6. In a candy-machine, a rotatory batch-receptacle comprising hollow heads and a connecting hollow or chambered shell, one of said heads being divided into inlet and exhaust chambers for a heating medium, and the shell being divided into passages for conveying the heating medium from said inlet-chamber to the opposite head and back to the exhaust-chamber, and a supply-pipe communicating with said inlet-chamber for introduction of the heating medium.

7. In a candy-machine, a rotary horizontally-disposed batch-receptacle for working plastic candy material having hollow passages

in its shell for a heating medium and open spaces between said passages for admission of air to the batch.

8. In a candy-machine, a rotary horizontally-disposed batch-receptacle for working plastic candy material having a closed head, an opposite open head for drawing out a neck of candy during motion of the receptacle, and a connecting-shell composed of tubes for holding a heating medium and affording intervening open spaces for admitting air between the tubes to the batch, and means for supplying a heating medium to said tubes during motion of said receptacle.

9. In a candy-machine, a rotatory horizontally-disposed batch-receptacle having a hollow closed head, an opposite annular or open head for drawing out the neck of candy during motion of said receptacle, and a shell comprising a series of longitudinal hollow staves secured to and communicating with said hollow head, and means for supplying said hollow head with steam or other heating medium for transmission through said staves.

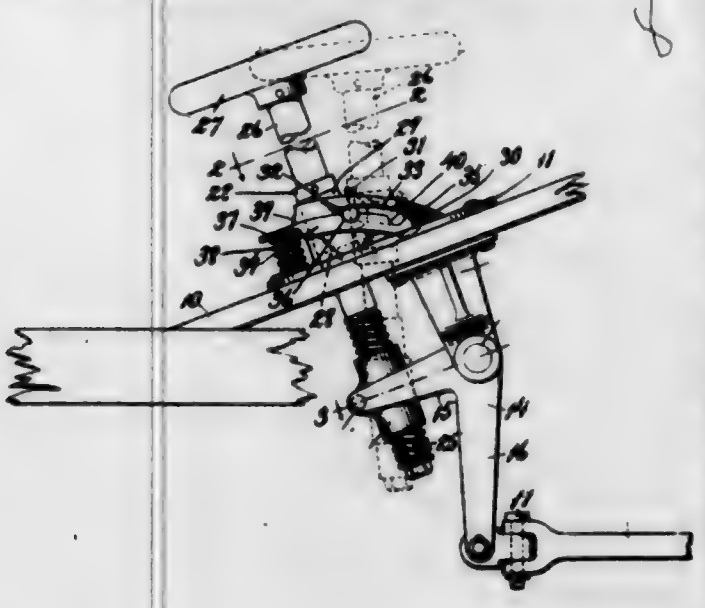
10. In a candy-machine, a rotatory batch-receptacle comprising hollow heads and hollow staves connecting them, and means for supplying one of said heads with steam or heating medium during operation of the receptacle, and means for intermittently exhausting the heating medium.

11. In a candy-machine, a rotatory batch-receptacle comprising hollow heads and hollow staves connecting them, one of said heads being divided into inlet and exhaust chambers for steam or other heating medium, and means for supplying such medium to said inlet-chamber during operation of the receptacle.

12. In a candy-machine, a rotatory longitudinally-disposed batch-receptacle, the same comprising a hollow head closing one end and an annular hollow head at the other end and hollow staves connecting them, the hollow head at the closed end having a hollow journal in communication with a source of heat-supply, and having also a separate exhaust-chamber therein in communication with a number of the staves while the other staves are in communication with the supply-chamber.

13. In a candy-machine, a rotatory batch-receptacle comprising hollow heads and hollow staves connecting them, all adapted to hold a heating medium, and the staves being spaced apart to permit entrance of air to the batch.

804,375. STEERING MECHANISM FOR AUTOMOBILES. HERBERT H. BUFFUM, Abington, Mass., assignor to Electric Vehicle Company, Jersey City, N. J., and New York, N. Y., a Corporation of New Jersey. Filed May 7, 1902. Serial No. 106,204.



Claim.—1. In a steering mechanism for motor-vehicles, the combination of a rotatable steering-shaft having a screw, a rocker connected with a steering-wheel of the vehicle, a nut on said screw fulcrumed on said rocker, a bearing-guide, and a bearing for the shaft secured against axial thrust thereon and having an axial thrust-resisting laterally-sliding connection with said guide.

2. In a steering mechanism for motor-vehicles, the combination of a rotatable steering-shaft having a screw, a rocker connected with a steering-wheel of the vehicle, a nut on said screw fulcrumed on said rocker, a bearing-guide formed with a segmental slot curved on a radius from the nut-fulcrum, and a bearing for the shaft secured against axial thrust thereon and having a stud occupying said slot.

3. In a steering mechanism for motor-vehicles, the combination of a rotatable steering-shaft having a screw, a rocker connected with a steering-wheel of the vehicle, a nut on said screw fulcrumed on said rocker, a bearing-guide formed with a segmental slot curved on a radius from the nut-fulcrum, a bearing for the shaft secured against axial thrust thereon and having a stud occupying said slot, a pivoted latch having a notch to engage and lock said stud, and a spring projecting said latch into locking position.

4. In a steering mechanism for vehicles, a shaft, a threaded lower end, and interengaging traverse-block, the latter supported upon an oscillating lever, a thrust-bearing for said shaft adapted for slight oscillations.

5. A steering-gear for automobiles comprising a hand-wheel, a rotating steering-shaft with a central oscillating thrust-bearing, a lower threaded portion oscillating connections with a bell-crank lever, and a bell-crank lever.

6. In a steering mechanism for vehicles, a rotary operator's shaft mounted for swinging movement independent of its rotary steering movement, and also mounted for a slight oscillatory movement, a device geared to said shaft and partaking of said swinging movement, and steering connections associated with said device and having provisions for permitting said swinging movement.

7. In a steering mechanism for vehicles, a rotary operator's shaft mounted for swinging movement independent of its rotary steering movement, a device geared to said shaft and partaking of said swinging movement, and also mounted for a slight oscillatory movement, and steering connections associated with said device having provisions for permitting said swinging movement, and means for locking the shaft against said swinging movement.

8. In a steering-gear for automobiles, a rotary shaft, a flat-sided sleeve, said shaft and sleeve adapted to swing to and fro, and also mounted for a slight oscillatory movement, a guide on the footboard and means in said swinging parts to engage said guide and hold said swinging parts in a predetermined position, devices geared to said shaft below said guide, and steering connections associated with said device adapted to permit said swinging movement.

9. In a steering mechanism for automobiles, a shaft, devices operated thereby to deflect a road-wheel, a base-plate above said devices to support said shaft transversely and permit fore-and-aft swinging thereof, and also a slight oscillation thereof, a flat-sided sleeve on said shaft, and means interengaging said sleeve and base-plate to lock the swinging parts in predetermined position.

10. In a steering mechanism for vehicles, a rotary operator's shaft mounted for a slight oscillatory movement, a device geared to said shaft and partaking of said oscillatory movement, and steering connections associated with said device, and having provisions for permitting said oscillatory movement.

11. In a steering mechanism for automobiles, a rotating steering-pillar adapted for slight oscillation, a threaded portion on said pillar, an interengaging threaded member pivotally supported in a bifurcated lever, said lever connected by oscillating or reciprocating parts to deflect the road-wheels to steer the vehicle.

12. In a steering mechanism for automobiles, a rotating steering-pillar adapted for slight oscillation, a threaded portion on said pillar, an interengaging threaded member pivotally supported in one arm of a bell-crank lever, said lever connected by oscillating or reciprocating parts to deflect the road-wheels to steer the vehicle.

13. In a steering mechanism for vehicles, a rotating steering-shaft, a hand wheel or lever normally in proximity to the occupant's seat and at the upper end of said shaft, a threaded portion at the lower end of said shaft engaging a pivoted traverse-block, the latter supported in a bifurcated oscillating member of the lower steering connection, a bearing for said pillar adjustable away from and to the occupant, and also permitting a slight oscillatory movement of said pillar.

14. In a steering mechanism for vehicles, a rotating steering-shaft, a hand wheel or lever normally in proximity to the occupant's seat and at the upper end of said shaft, a threaded portion at the lower end of said shaft engaging a pivoted traverse-block, the latter supported in an oscillating member of the lower steering connection, a bearing for said pillar adjustable away from and to the occupant about the pivots of the threaded block as a center, and permitting a slight oscillation of said pillar.

15. A hinged steering-pillar for automobiles, comprising a rotating steering-shaft, a traverse member pivotally supported upon the arm of a bell-crank lever or corresponding oscillating member of the steering connections, bearings for said steering-shaft permitting hinging and also slight oscillation thereof for the purposes described.

16. In a steering mechanism, a shaft, a threaded portion on said shaft, a member with interengaging threaded portions and adapted

for slight oscillation, a bell-crank lever, a bearing to receive the thrust longitudinal of said shaft adapted for slight oscillation.

17. In a steering-gear for automobiles, a rotating steering-shaft, connections to deflect a road-wheel, an oscillating thrust-bearing on said shaft, an operating hand-wheel on the upper end of said shaft and threaded or toothed interengaging parts to effect the oscillation of the steering connections upon the rotation of the shaft.

18. In a steering-gear for automobiles, a rotating steering-shaft, a threaded portion thereon, an engaging threaded portion supported to oscillate on the body or framework of the vehicle, thrust-resisting means coöperating therewith permitting a non-rotative movement of the steering-pillar, an oscillating member depending below the body or frame of the vehicle and connections to steering-wheels relatively movable with respect to the body.

19. In an automobile, steering connections, a back-lock transmission mechanism, an oscillating thrust-bearing, all combined substantially as and for the purpose described.

20. In a steering mechanism for automobiles, a shaft, a threaded portion of said shaft, a base attached to the vehicle body or frame, a thrust-bearing pivoted on said base, an oscillating lever and connections to deflect a road-wheel, interengaging means between said lever and shaft including a segmental slot and pin.

21. In a steering-gear for vehicles, a rotating shaft, a threaded member or portion on said shaft, an interengaging threaded member supported on and adapted to move in an arc with a pviotally-oscillating part of the steering connections, a bearing for said oscillating part, a separate bearing for supporting said shaft in an operating position, said bearings rigidly interconnected.

22. In a steering mechanism for vehicles, a rotatable steering-shaft, a hand-wheel to rotate the same convenient to the operator, a bell-crank one arm of which is connected with the links or arms to deflect the road-wheels and the other arm thereof flexibly supporting a threaded or toothed member, a threaded or toothed portion operatively connected to the steering-shaft and coöperating with the former threaded or toothed member, a flexible thrust-bearing on said steering-shaft between the threaded or toothed portion and the operating-wheel.

23. In a steering mechanism for vehicles, a rotating steering-shaft, a hand wheel or lever normally in proximity to the occupant's seat and at the upper ends of said shaft, a threaded portion at the lower end of said shaft engaging a pivoted transverse block, the latter supported in an oscillating member of the lower steering connection, a bearing for said pillar freely adjustable away from and to the occupant.

24. A steering mechanism for a vehicle comprising a steering hand-wheel, a rotating steering-shaft, a trunnioned thrust-bearing on said shaft between its ends, a threaded member or portion on the lower end of the shaft, and interengaging threaded portion mounted in a lever-arm, pivotal connections whereby the interengaging threaded part of the steering-shaft will move with the oscillating lever-arm and the main shaft portion retains a securely-operative position in its thrust-bearings.

25. In a steering-gear for vehicles, a bell-crank lever, one arm thereof connected with the road-wheel-deflecting members, the other arm carrying a threaded portion, and interengaging threaded member, a rotating steering-shaft, a bearing for said shaft, substantially rigid connections between said bearing and the bearing of said bell-crank lever, said interengaging threaded member operatively connected with the rotating steering-shaft and pivotal connections whereby said interengaging threaded members oscillate with the bell-crank arm about its center.

26. In an automobile, controlling connections including a rotating shaft and means to rotate said shaft near one end, threaded connections with a member of the rock-shaft at the other end, intermediate flexible thrust-bearings substantially as described.

27. In an automobile, controlling connections including a rotating shaft and means to rotate said shaft near one end, threaded connections with a member of the rock-shaft at the other end, the interengaging threaded member being supported on and moving with the rock-shaft, a flexible thrust-bearing for said shaft and substantially rigid connection between said thrust-bearing and the bearing for the rock-shaft, substantially as described.

804,376. PROTECTIVE SHEETING AND METHOD OF MANUFACTURING THE SAME. SAMUEL CABOT, Boston, Mass. Filed June 22, 1905. Serial No. 266,050.

Claim.—1. The method of manufacturing protective material which consists in coating a sheet of fibrous organic material with a superficial veneer of inorganic adhesive material, brittle when dry, then drying and corrugating the sheet.

2. The method of manufacturing protective material which consists in coating a sheet of fibrous organic material with a superficial veneer composed of inorganic comminuted refractory material in suspension in an adhesive vehicle, brittle when dry, then drying and corrugating the sheet.

3. The method of manufacturing protective material which consists in coating a sheet of fibrous organic material with a superficial veneer composed of comminuted asbestos in suspension in an inorganic antiseptic adhesive and corrugating the sheet after the coating has set.

4. The method of manufacturing protective material which consists in coating a sheet of fibrous organic material with a superficial adhesive inorganic veneer, and subsequently producing a multitude of minute fissures in the veneer.

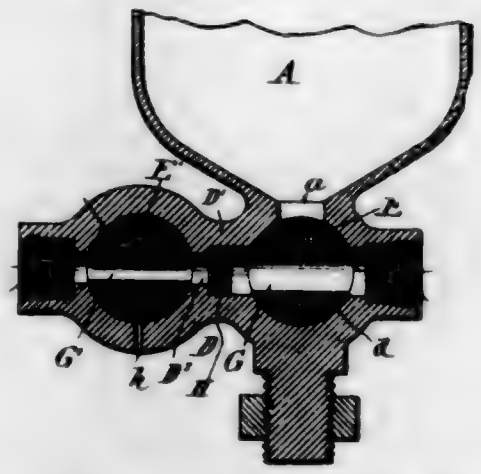
5. The method of manufacturing protective material which consists in coating a sheet of fibrous organic material with an adhesive superficial veneer composed of comminuted inorganic refractory material in suspension in an adhesive, and subsequently producing a multitude of minute fissures in the veneer.

6. A protective sheet composed of fibrous material coated with a superficial veneer of adhesive refractory material, said veneer subdivided by a multitude of minute fissures.

7. A protective sheet composed of fibrous organic material, coated with a superficial veneer composed of comminuted inorganic refractory material in suspension in an inorganic adhesive, the veneer subdivided by a multitude of minute fissures.

8. A protective sheet composed of fibrous organic material superficially coated with a veneer composed of fibrous inorganic refractory material such as asbestos or asbestiform talc, incorporated with an inorganic adhesive such as borate, biborate or silicate of potash or soda, the said veneer subdivided by a multitude of fissures.

804,377. LUBRICATING DEVICE. BENJAMIN F. CAMPBELL and JOHN H. COATES, Little Rock, Ark. Filed Aug. 28, 1905. Serial No. 276,080.



Claim.—1. In a device of the class described, the combination of a reservoir or cup for holding lubricant, a valve-casing connected thereto and provided with two valve bores or seats, a valve in each of said bores or seats, one of said valves being provided with a chamber for containing a charge of lubricant, the other of said valves provided with means for controlling the air or fluid for carrying the lubricant to the parts to be lubricated, and connections between said valves for insuring their simultaneous movement.

2. In a device of the character described, the combination of a reservoir or cup for holding lubricant, a valve-casing connected thereto and provided with two tapering valve-seats, two tapering valves—one in each of said tapering valve-seats, one of said valves having a chamber for containing a charge of lubricant, the other of said valves having an opening for controlling the admission of air or fluid through the chamber of the first-mentioned valve, and means for operatively connecting said valves and causing them to move simultaneously.

3. In a device of the class described, the combination of a reservoir or cup for holding a lubricant, a valve-casing connected thereto, a lubricating-valve in said casing for containing a charge of lubricant, a separate air-valve in said casing for controlling the passage of air through the lubricating-valve, and means for connecting said valves to cause them to move in unison.

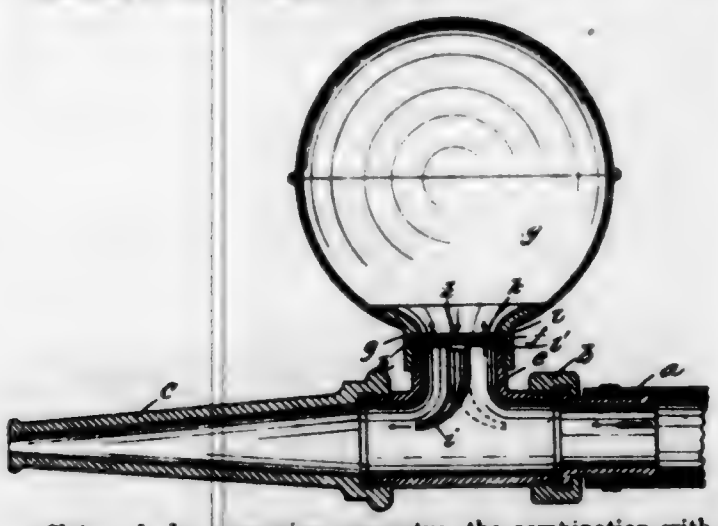
4. In a device of the character described, the combination of a reservoir or cup for holding lubricant, a valve-casing connected thereto, and having two tapering valve-seats, a tapering valve in each of said valve-seats, a spring acting on each of said valves to force them longitudinally of the tapering seats, one of said valves

having a chamber for holding a charge of lubricant received from a reservoir or cup, the other of said valves having an opening for controlling the passage of air through the chamber of the first-mentioned valve, and means for simultaneously turning said valves.

5. In a device of the class described, the combination of a reservoir or cup for holding a lubricant, a valve-casing connected thereto, two valves in said casing, the one for receiving the charge of lubricant from the reservoir or cup, the other for separately controlling the passage of air through the first-mentioned valve, means for operating said valves in unison, and a trapping-chamber for the lubricant between said valves.

6. In a device of the character described, a reservoir or cup for holding a supply of lubricant, a valve-casing disposed below the same, said casing having two tapering valve-seats, a tapering valve in each of said seats, means for closing one end of each valve-seat, a rocking support, a spring interposed between the rocking support and each of said valves, one of said valves having a chamber for holding a charge of lubricant, the other of said valves having an opening and controlling the passage of air through the said chamber of the first-mentioned valve and gears for operatively connecting said valves.

804,378. SPRAYING DEVICE. JAMES F. CASE, Seattle, Wash. Filed May 31, 1904. Serial No. 210,602.



Claim.—1. In a spraying apparatus, the combination with a water-conduit and a nozzle therefor, of a receptacle communicatively connected with the hose, a disk positioned in said connection and provided with a plurality of perforations and a conducting-tube carried by said disk and projecting into said conduit.

2. In a spraying apparatus, the combination of a tubular fitting having a branch, a receptacle adapted to be secured to said branch, a disk provided with a plurality of perforations intermediate the fitting and the receptacle, and a curved conducting-pipe extending from the disk and projecting into the fitting, said pipe being in open communication with one of the perforations in the disk.

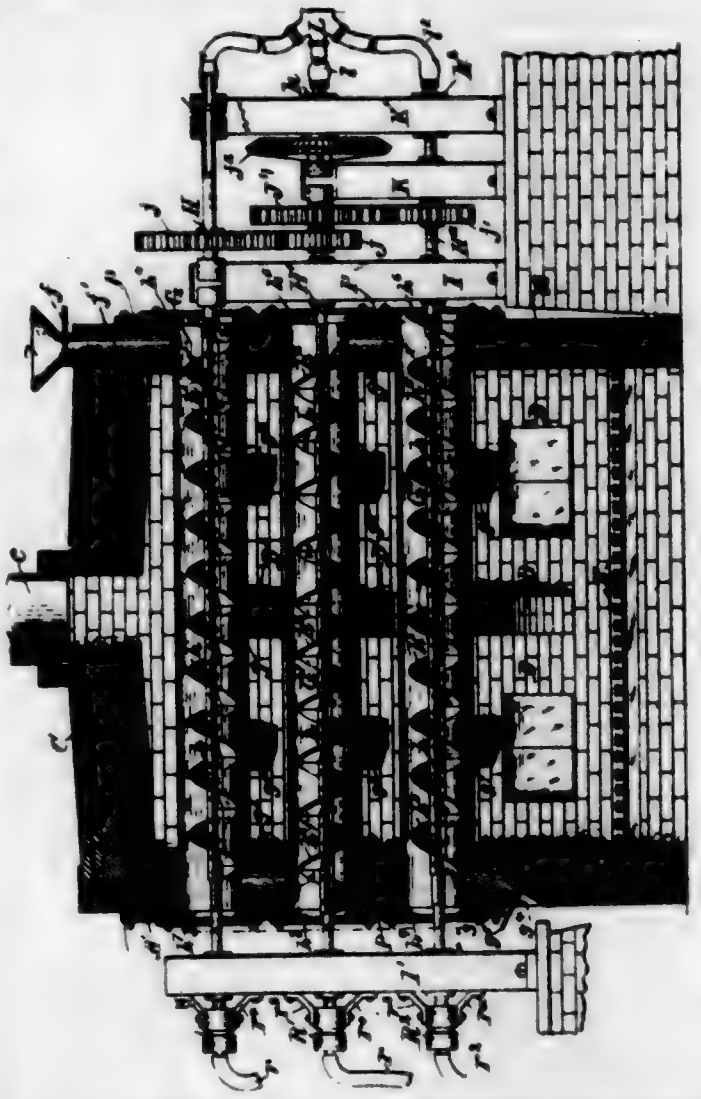
3. In a spraying apparatus, the combination of a tubular fitting having a branch, a receptacle carried by said branch, a revoluble disk arranged between the receptacle and the fitting, a curved conducting-pipe carried by said disk, the said disk being provided with a plurality of perforations, one of which opens into said conducting-pipe.

4. In a spraying apparatus, the combination of a tubular fitting having a lateral exteriorly-screw-threaded branch, a receptacle having a neck screwing onto said branch, a revoluble disk located in said neck, a curved conducting-pipe formed integral with the disk, said disk being provided with a central perforation leading into said conducting-pipe and with a plurality of perforations lateral of said central perforation.

804,379. ROASTING-FURNACE. ARTHUR W. CHASE, Avoca, Iowa, assignor to The Chase Furnace Company, Philadelphia, Pa., a Corporation of Delaware. Filed Mar. 13, 1899. Renewed May 23, 1905. Serial No. 261,003.

Claim.—1. In a roasting-furnace the combination of a series of troughs, located one over the other and arranged to feed from one to the other, conveyers in said troughs, means for operating said conveyers, said means being so proportioned as to drive the several conveyers at rates of speed increasing from the top to the bottom of the furnace, substantially as described.

2. In a roasting-furnace, the combination of a series of troughs, located one above the other and arranged to feed from one to the other, conveyers in said troughs provided with hollow shafts, means for driving said conveyers at increasing rates of speed from the top downward and independent means for supplying a cooling fluid to said hollow shafts, substantially as described.



3. In a roasting-furnace, the combination of a series of troughs, each trough being U-shaped in cross-section and composed of fire-clay sections, conveyers provided with hollow shafts located in said troughs, means for driving said shafts at increasing rates of speed from the top downward, and means for supplying a cooling fluid to said hollow shafts, substantially as described.

4. In a roasting-furnace, the combination of end walls having passages therein, side walls, bridge-walls, U-shaped troughs, supported by said end walls and made in sections, conveyers in said troughs, provided with hollow shafts, means for driving said conveyers at increasing rates of speed from the top downward, and means for supplying a cooling fluid to said hollow shafts, substantially as described.

5. In a roasting-furnace, the combination of end walls, having passages therein and openings therethrough, sliding valves for some of said passages, side walls, bridge-walls, U-shaped troughs composed of fire-clay sections and supported on said end walls, conveyers, each composed of a hollow shaft and sectional flights secured thereto, located in said troughs, means for driving said conveyers at increasing rates of speed from the top downward, means for supplying a cooling fluid to said hollow shafts, and removable doors or closures for the openings in the end walls, substantially as described.

6. In a roasting-furnace, the combination of end walls, provided with openings, bridge-walls, a series of U-shaped troughs supported by said end walls, conveyers in said troughs, means for driving said conveyers, a plate provided with circular openings adapted to fit around the openings in the end walls, said plate being provided with slots, and removable plates each made in two sections fitting around the conveyer-shafts and adapted to close the openings in the end walls, said plates being adjustably secured to the first-named plate, substantially as described.

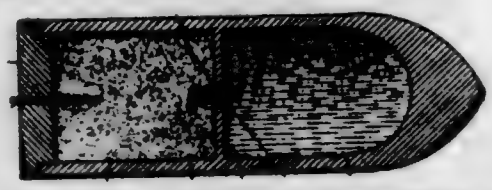
7. In a roasting-furnace, the combination of a series of troughs, conveyers in said troughs having hollow shafts, means for driving said conveyers at increasing rates of speed from the top downward, a plurality of bearings for each shaft on the driving side, preventing warping of the shafts and their displacement by the driving mechanism, and means for delivering a cooling fluid to said hollow shafts, substantially as described.

8. In a roasting-furnace, the combination of a series of troughs,

arranged one above the other, conveyers in said troughs and gearing adapted to drive said conveyers at increasing rates of speed from the top downward, substantially as described.

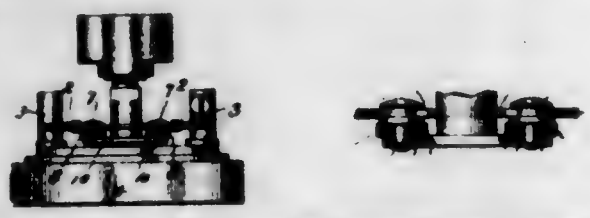
9. In a roasting-furnace, the combination of end walls, bridge-walls each composed of a fixed arch and support, and a removable cradle, troughs supported by said end walls and cross-supports and removable chocks or braces for supporting said troughs firmly in position, substantially as described.

804,380. **EXPLOSIVE PROJECTILE.** CLARENCE CHRONIC, Wheeler, Ill. Filed June 1, 1905. Serial No. 263,254.



Claim.—A projectile comprising a hollow cylindrical body having a solid tapered head at one end, a screw plug or cap closing its opposite end, a transverse partition in said body, of less thickness than the walls of the latter, and adapted to divide said body into a gasolene-compartment and a powder-compartment, a plug closing an aperture in said partition, a wad of inflammable material at one end of said plug, and a fuse in said screw cap or plug, substantially as described.

804,381. **SNAP-SWITCH CONTACT MECHANISM.** CHARLES A. CLARK, Hartford, and ELLSWORTH A. LA HAR, New Britain, Conn., assignors, by mesne assignments, to The Perkins Corporation, Hartford, Conn., a Corporation of Connecticut. Filed Mar. 25, 1904. Serial No. 199,975.



Claim.—A snap-switch contact mechanism having a pole-plate with a central opening and narrow openings extending therefrom longitudinally of the pole-plate, a rotatable sleeve with a pole-plate support extending therefrom, studs composed of large heads having integral annular flanges and integral reduced shanks, the heads loosely occupying the narrow openings in the pole-plate with the flanges projecting above and below these openings and the shanks extending through openings in the pole-plate support, said openings being larger at the bottom than at the top, insulating-washers between the under flanges of the stud-heads and the upper face of the pole-plate support, insulating-washers encircling the stud-shanks and occupying the larger portions of the openings in the pole-plate support through which the shanks of the studs extend, and metallic washers held on the end of the shanks of the studs, substantially as specified.

804,382. **COMBINED PLANTER AND CULTIVATING IMPLEMENT.** JOHN W. CLIFTON, Junction, Ark. Filed June 21, 1905. Serial No. 266,514.



Claim.—1. A frame comprising side members diverging rearwardly and having parallel front portions, and a spacing member interposed between said parallel front portions and having upwardly-extending arms, and means for connecting said parallel front portions and spacing member, including an implement-carrying clip.

2. A frame having side members diverging rearwardly and provided with parallel front portions, a spacing member interposed and secured between said front portions and having upwardly-extending transversely-perforated arms, a rod or bolt connecting and spacing the rear ends of the frame members, adjusting-sleeves upon said rod, a hopper supported pivotally upon said rod and having forwardly-extending brackets, an earth-engaging wheel supported upon a shaft journaled in said brackets, and a spring connecting the front of the hopper with a perforation in the rear upstanding arm of the spacing member at the front end of the frame.

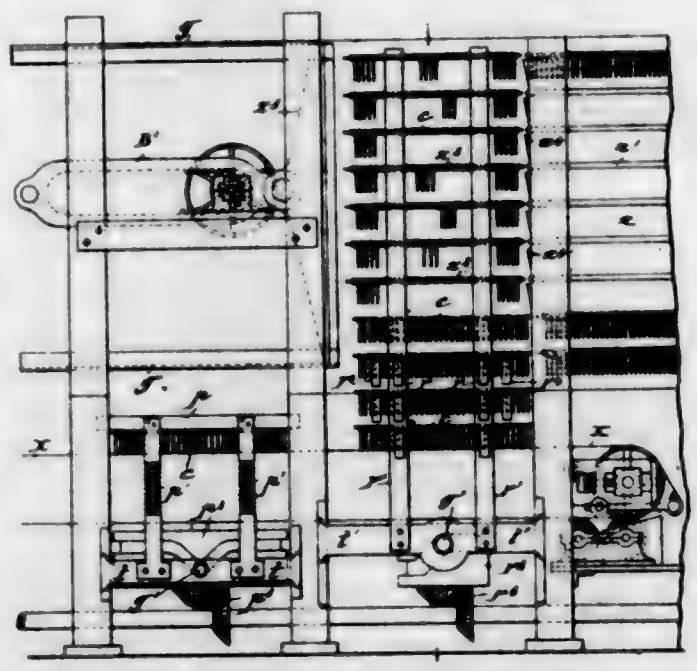
3. A frame having rearward-diverging side members, a rod spacing and connecting the rear ends of said side members, adjusting-sleeves on said rod, a hopper supported pivotally upon said rod and having forwardly-extending brackets, and an earth-engaging wheel supported by said brackets.

4. A frame having rearwardly-diverging side members, a rod spacing and connecting the rear ends of said side members, a hopper connected pivotally with said rod and having forwardly-extending brackets, an earth-engaging wheel supported by said brackets, and adjustable spring means serving to depress the front end of the hopper and to hold the wheel in earth-engaging position.

5. A frame having rearwardly-diverging side members, a rod spacing and connecting said side members, a hopper supported pivotally upon said rod and having forwardly-extending brackets, an earth-engaging wheel supported by said brackets, shanks supported pivotally upon the hopper-supporting rod, and covering means connected with said shanks.

6. A frame having rearwardly-diverging side members, a rod spacing and connecting the rear ends of said side members, a hopper supported pivotally upon said rod and having forwardly-extending brackets, an earth-engaging wheel supported by said brackets and having a shaft terminating in a crank, a shaft supported in the hopper and having agitators connected therewith, a crank upon said shaft, and a pitman connecting said crank with the crank upon the wheel-carrying shaft.

804,383. **MATCH-MAKING MACHINE.** LOUIS COSSART, Ninove, Belgium. Filed Aug. 13, 1901. Serial No. 71,930.



Claim.—1. In a machine of the class described, the combination with the drying-chamber, and a splint-carrying frame, of horizontal slideways arranged within the chamber, one above the other in parallel relation, and means for shifting the splint-carrying frame from one slideway to another.

2. In a machine of the class described, the combination with a drying-chamber, and a splint-carrying frame, of horizontal slideways arranged within the chamber, one above the other in parallel relation, and means at the ends of the slideways for shifting a frame from one slideway to a slideway next to it.

3. In a machine of the class described, the combination with a drying-chamber, and a splint-carrying frame, of horizontal slideways arranged within the chamber, one above the other in parallel relation, and elevators at each end of the slideways.

4. In a machine of the class described, the combination with a drying-chamber, and a splint-carrying frame, of horizontal slideways arranged within the chamber, one above the other in parallel relation, elevators at each end of the slideways, and means for shifting the splint-carrying frames onto and from the elevators.

5. In a machine of the class described, the combination with a drying-chamber, and a splint-carrying frame, of horizontal slideways arranged within the chamber, one above the other in parallel

relation, elevators at each end of the slideways, drivers arranged on the sides of the elevators, and means operating the drivers to shift the splint-carrying frame.

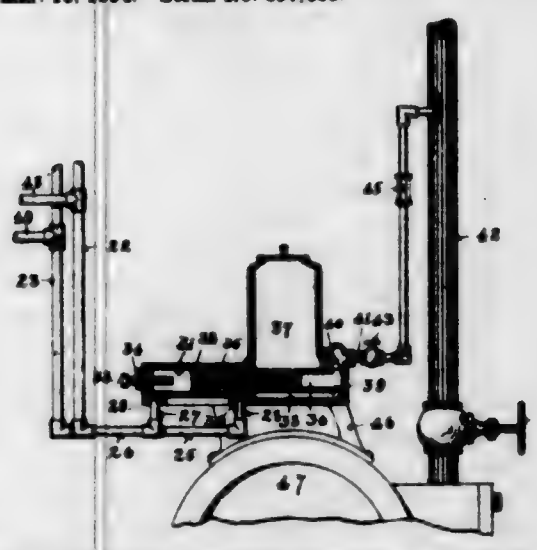
6. In a machine of the class described, the combination with a drying-chamber, and a splint-carrying frame, of horizontal slideways arranged within the chamber, one above the other in parallel relation, elevators at each end of the slideways, comprising a plurality of uprights, means on the uprights for receiving the splint-carrying frames, and means for causing an intermittent ascending and descending movement of the uprights.

7. In a machine of the class described, the combination with a drying-chamber, and a splint-carrying frame, of slideways arranged within the chamber, one above the other, elevators at each end of the slideways, comprising a plurality of uprights, means on the uprights for receiving the splint-carrying frames, means for causing an intermittent ascending and descending movement of the uprights, one of said elevators being provided with spring-clips, and spring-clips carried by the drying-chamber, and coöperating with the spring-clips on one of the elevators to deliver the splint-carrying frame into the drying-chamber.

8. In a machine of the class described, the combination with a drying-chamber, and a splint-carrying frame, of horizontal slideways arranged within the chamber, one above the other in parallel relation, elevators at each end of the slideways, and means for causing an intermittent ascending and descending movement to the elevator.

9. In a machine of the class described, the combination with a drying-chamber, and a splint-carrying frame, of horizontal slideways arranged within the chamber, one above the other in parallel relation, elevators at each end of the slideways, means for causing an intermittent ascending and descending movement to the elevator, spring-clips carried by the drying-chamber, spring-clips carried by one of the elevators and coöperating with the clips of the drying-chamber to deliver the splint-carrying frame into the drying-chamber; and drivers on one side of each elevator, to move the splint-frames from the elevators to the slideways in the drying-chamber.

804,384. **LUBRICATING-PUMP.** GEORGE W. COLE, Buffalo, N. Y. Filed Mar. 10, 1904. Serial No. 197,411.

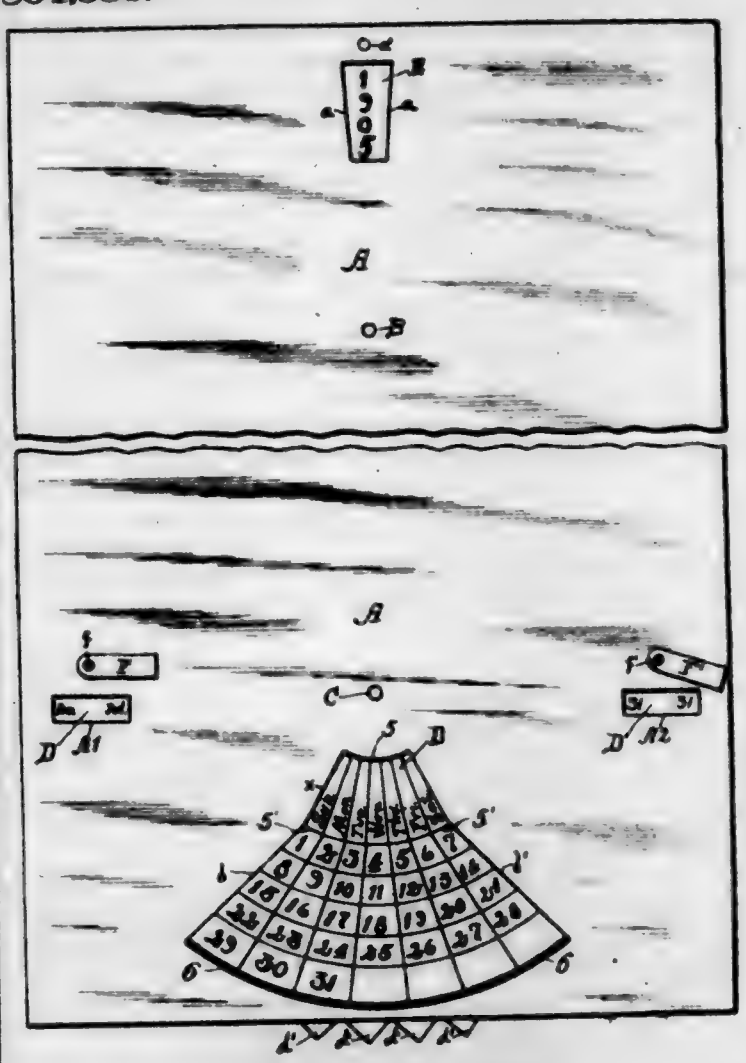


Claim.—A lubricator comprising a reservoir, a cylinder receiving lubricant from said reservoir, a piston in said cylinder, means to conduct the lubricant from said piston-cylinder to any desired point, and piston-controlling means comprising a steam-operated rotary valve provided with ports and a coacting part provided with coöperating ports adapted to register with the first-named ports, and means for conveying the steam from said last-named ports to different portions of the before-mentioned piston-cylinder.

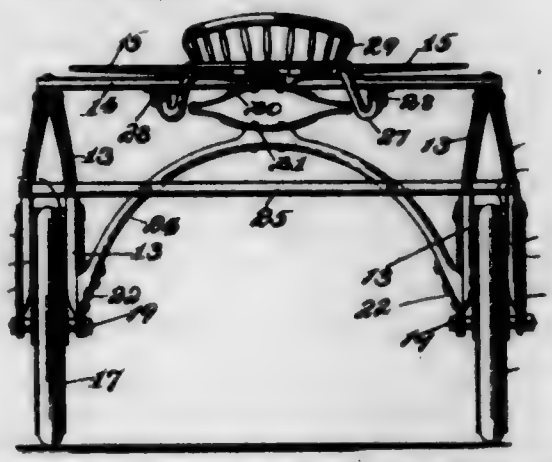
804,385. **PERPETUAL CALENDAR.** JAMES M. CRAWFORD, Bentonville, Ind. Filed Feb. 16, 1905. Serial No. 245,868.

Claim.—A perpetual calendar consisting of a card, a table printed on the lower central portion of the card and comprising numbers indicating the days of the month and an aperture formed through the card adjoining said table, a disk pivoted in its center to the back of the card and having printed thereon abbreviations for the days of the week occurring seven times which appear through said aperture as the disk is revolved, the abbreviations for each month appearing seven times each printed on said disk to be brought into view through an aperture in said card, and means for indicating the year numerically, all substantially as shown and described.

804,385.



804,386. **CART.** JOSEPH DAIN, Ottumwa, Iowa. Filed Apr. 30, 1904. Serial No. 206,734.



Claim.—1. The combination of shafts having their rear end portions split and the members thereof separated and turned down to form forks to receive the wheels, wheels mounted to rotate between the lower ends of said forks, an arch secured to the inner members of said forks near their lower ends, a brace connecting the upper portions of the arch with the shafts, a cross-bar connecting the shafts, a seat-support connected with said cross-bar and extending rearwardly therefrom, the rear portion of said seat-support being supported by said arch, and a seat carried by said seat-support.

2. The combination of shafts having their rear end portions split and the members thereof separated and turned down to form forks to receive the wheels, wheels mounted to rotate between the separated lower ends of said forks, an arch secured to the inner members of said forks near their lower ends, a brace connecting the upper portion of the arch with the shafts, and a seat supported upon said arch.

3. The combination of shafts having their rear end portions split and the members thereof separated and turned down to form forks to receive the wheels, wheels mounted to rotate between the separated lower ends of said forks, an arch secured to the inner members of said forks near their lower ends, a seat supported upon said arch, and a brace extending transversely of the vehicle and connected to the members of each of said forks and to said arch.

4. The combination of shafts having their rear end portions split and the members thereof separate and turned down to form forks to receive the wheels, wheels mounted to rotate between the lower ends

of said forks, an arch secured to the inner members of said forks near their lower ends, a brace connecting the upper portions of the arch with the shafts, a cross-bar connecting the shafts, a seat-support connected with said cross-bar and extending rearwardly therefrom, a spring carried by said arch and supporting the seat-support at the rear, and a seat carried by said seat-support.

5. The combination of shafts having their rear end portions split and the members thereof separated and turned down to form forks to receive the wheels, wheels mounted to rotate between the separated lower ends of said forks, an arch secured to the inner members of said forks, a spring mounted on said arch, a seat supported on said spring, and seat-bars connected at their rear ends with the seat and having their forward end portions pivotally connected with a suitable support, substantially as described.

6. The combination of a pair of shafts having their rear end portions split and the members thereof separated and turned down to form forks to receive the wheels, wheels mounted between the separated members of said shafts, an arch connecting the inner members of said shafts, a seat-spring supported on said arch, a cross-bar connecting said shafts forward of the seat, and seat-bars pivotally connected at the front with said cross-bar and connected at the rear with the seat, substantially as described.

7. The combination of a pair of shafts, a cross-bar connecting said shafts forward of the seat, seat-bars pivotally connected at the front with said cross-bar, a seat connected with the rear portions of said seat-bars, an arch connecting the rear portions of said shafts a spring-seat at the center of said arch, and an elliptic spring mounted upon said spring-seat and supporting the vehicle-seat, substantially as described.

804,387. LOCKING DEVICE FOR INCANDESCENT-LAMP BULBS. RALPH E. DAVIS, Alton, Ill. Filed Feb. 18, 1905. Serial No. 246,319.



Claim.—1. A locking device for securing incandescent-electric-lamp bulbs to their sockets comprising a pair of members hinged to each other at ends thereof, and catches carried by said members and arranged for engagement with each other when the free ends of said members are brought together, substantially as set forth.

2. In a locking device for incandescent-lamp bulbs, the combination of a pair of members hinged to each other and provided at their upper and lower sides with inwardly-extending flanges and catches carried by said members adapted for engagement with each other when the free ends of said members are brought together, substantially as set forth

3. In a locking device for incandescent-electric-lamp bulbs, the combination of a pair of members hinged to each other and provided with upper and lower inwardly-extending flanges, insulator-strips carried by said lower flanges, and catches carried by said members adapted for engagement with each other when the free ends of said members are brought together, substantially as set forth.

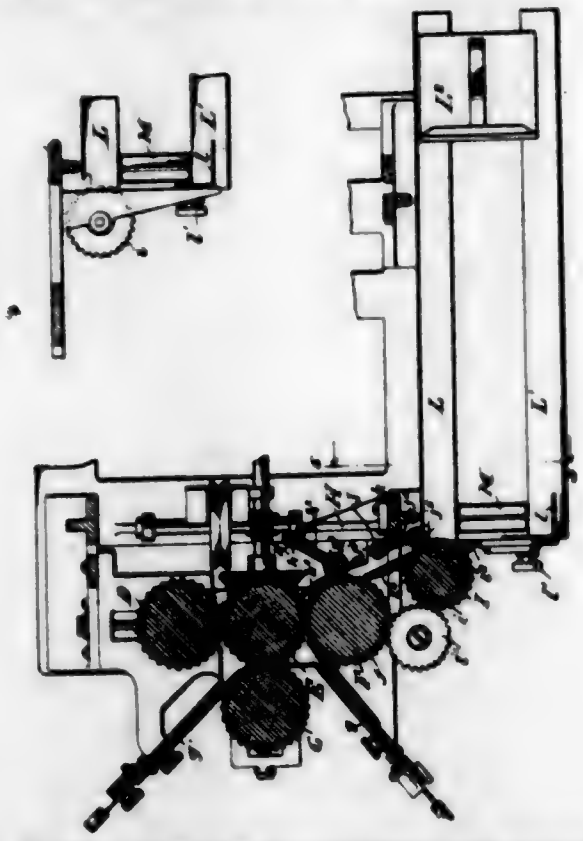
4. In a locking device for incandescent-electric-lamp bulbs, the combination of a pair of members hinged to each other and one of which is provided with a keyhole, a pair of catch-arms carried by said keyhole-containing member, and a catch-tongue carried by the other of said members and adapted for engagement between said catch-arms, substantially as set forth.

804,388. DELIVERY APPARATUS FOR FOLDING-MACHINES AND THE LIKE. ALBERT B. DICK, Lake Forest, Ill., assignor to A. B. Dick Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 5, 1905. Serial No. 253,959.

Claim.—1. In delivery apparatus, the combination with ways and means for passing sheets or other articles thereto, of a roll supported below said ways, its periphery extending above the surface of said ways and coacting with the sheets or articles thereon to move the same upon said ways, substantially as set forth.

2. In delivery apparatus, the combination with ways and means for passing sheets or other articles thereto, of a roll of substantially uniform diameter throughout mounted adjacent to and transversely of said ways and coacting with the under edges of the sheets or articles thereon to move the same upon said ways, substantially as set forth.

3. In delivery apparatus, the combination with ways and means for passing sheets or other articles thereto, of mechanism for maintaining an open space for the receipt of succeeding sheets or articles, said mechanism including a roll coacting with the edges of such sheets or articles, substantially as set forth.



4. In delivery apparatus, the combination with ways and means for passing sheets or other articles thereto, of mechanism for moving said sheets or articles upon said ways and maintaining an open space for the receipt of succeeding sheets or articles, said mechanism including a roll coacting with the edges of such sheets or articles, substantially as set forth.

5. In delivery apparatus, the combination with ways, of a delivery-roll adjacent to one end thereof, and a roll mounted contiguous to said delivery-roll and spring-pressed into engagement therewith, said roll coacting with a sheet or other article fed to such ways after the same has passed out of coaction with said delivery-roll, substantially as set forth.

6. In delivery apparatus, the combination with ways and an adjustable guide, of a delivery-roll adjacent to one end of said ways, and an underlying forwarding-roll, substantially as set forth.

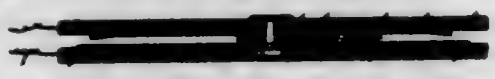
7. In delivery apparatus, the combination with ways and a guide and sliding member coacting therewith, of a delivery-roll, means for guiding thereto articles to be delivered, and mechanism including a roll coacting with the edges of such articles for maintaining an open space in said ways for the receipt of successive articles, substantially as set forth.

8. In delivery apparatus, the combination with a roll, a guide-roll coacting therewith, a delivery-roll and a roll coacting therewith, of ways adapted to receive articles successively from said delivery-roll and its coacting roll, said ways having combined therewith means for forwarding such articles therein, substantially as set forth.

9. In delivery apparatus, the combination with ways and a sliding member thereon actuated by articles delivered to said ways, of an adjustable lateral guide for said articles, and means adjacent to said ways for moving one edge of an article therein in advance of its opposite edge, substantially as set forth.

10. In delivery apparatus, the combination with ways and a sliding member thereon actuated by articles delivered to said ways, of an adjustable lateral guide for said articles, mechanism for moving articles in said ways as the same are fed thereto, and means adjacent to one of said ways for moving one edge of each of said articles in advance of the other edge thereof, substantially as set forth.

804,389. ELECTRIC-CIRCUIT CLOSER. ALEXANDER DOW, Detroit, Mich. Filed Jan. 23, 1904. Serial No. 190,190.



Claim.—1. An electric-circuit closer, comprising two conducting-plates centrally connected together but insulated from each

other, said plates being relatively shiftable toward each other flexibly to make contact at any point adjacent the periphery thereof.

2. An electric-circuit closer comprising two circular conducting-plates centrally connected together but insulated from each other said plates being relatively shiftable toward each other flexibly to make contact at a number of different points adjacent the periphery thereof.

3. An electric-circuit closer comprising two flat insulating-disks centrally connected together and arranged substantially parallel to each other, contact-plates fixed to the inner opposing faces of said disks, said disks being relatively shiftable flexibly toward each other to make contact between said plates at a number of different points.

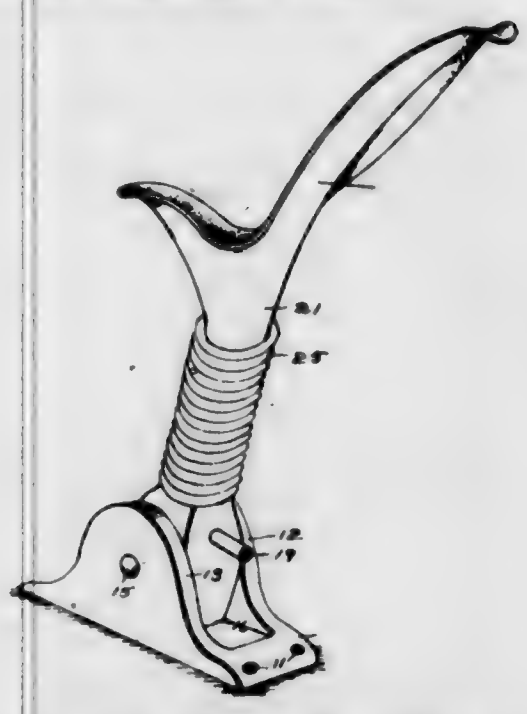
4. An electric-circuit closer comprising two flat, circular, connected, insulating-disks yieldingly spaced apart in parallel relation and contact-plates fixed to inner opposing faces of said disks.

5. An electric-circuit closer comprising two flat insulating-disks connected together at their central portions and yieldingly spaced apart in parallel relation and annular contact-plates fixed to the inner opposing faces of said disks.

6. An electric-circuit closer comprising two flat insulating-disks connected together at central portions and yieldingly spaced apart in parallel relation and annular contact-plates fixed to the inner opposing faces of said disks, one of said contact-plates being provided with a series of spring-fingers.

7. An electric-circuit closer comprising a pair of flat insulating-disks, a central bolt connecting said disks, a spring about said bolt yieldingly holding said disks apart in parallel relation and annular contact-plates fixed to the inner opposing faces of said disks.

804,390. **UMBRELLA-HOLDER.** JOHN E. DUFFY, Oskaloosa, Iowa. Filed Dec. 27, 1904. Serial No. 238,489.



Claim.—1. An improved umbrella-holder, comprising an upper socket member, a lower socket member, and a spring surrounding the adjacent ends thereof, normally holding them in line.

2. An improved umbrella-holder, comprising an upper socket member, having a convex lower end, a lower socket member having a concave upper end to receive the lower end of the upper member, and a coil-spring wire surrounding the adjacent ends of the socket members and yieldingly supporting the said members in line with each other.

3. An improved umbrella-holder, comprising a hollow socket member with a drainage-opening at its lower end, a lower hollow socket member to receive the drainage through the said opening, and a cross-piece near the lower end of the upper socket member to engage and support an umbrella-tip in the upper socket member.

4. An improved umbrella-holder comprising an upper socket member, having a flaring end and a rounded lower end formed with an opening, a cross-piece near the lower end thereof to engage and support an umbrella-tip, a second socket member having a rounded upper end to receive the lower end of the upper member, a drainage-spout connected with the lower socket member, and a coil-spring wire surrounding the adjacent ends of said socket members and normally holding them in line.

5. An improved umbrella-holder, combrising a base formed with lugs spaced apart, a lower socket member having its body portion pivotally mounted between said lugs and formed with shoulders to limit the pivotal movement of said body portion, said body portion formed with a hollow lower socket member, its upper end concave, a spout communicating with the hollow interior of the lower socket member, an upper socket member formed with a flaring top and a rounded lower end to enter the concave portion of the lower socket member and also formed with a drainage-opening to communicate with the hollow interior of the lower socket member, a cross-piece in the lower end of the upper socket member, and a coil-spring wire surrounding the adjacent ends of the socket members to normally hold them in line.

6. The combination with an umbrella-holder, comprising a base and a socket supported in the base for receiving and holding an umbrella-tip, and a substantially U-shaped drip-pan surrounding the base and shaped to receive drip from the said socket.

804,391. **AUTOMATIC CHECK-ROW CORN-PLANTER.** WILLIAM C. GIBSON and CLIFTON R. GIBSON, Hummer, S. D. Filed Feb. 6, 1905. Serial No. 244,858.



Claim.—1. In a check-row corn-planter, mechanism for carrying and actuating a pawl consisting of a duplex lever pivoted to a rotatable shaft, a fixed ratchet-wheel on said shaft and a pawl pivoted to the upper arm of said duplex lever, and means for moving the duplex lever in reverse ways at regular intervals of time and space for the purposes stated.

2. In a check-row corn-planter, a rotatable shaft extending from one seedbox to the other, a ratchet-wheel fixed to said shaft, a duplex lever pivoted to said shaft aside of said ratchet-wheel, a pawl pivoted to said duplex lever, a rotatable parallel shaft, a sprocket-wheel and a crank-arm fixed to said parallel shaft, arranged and combined to operate in the manner set forth for the purposes stated.

3. In a check-row corn-planter, a rotatable shaft extending from one seedbox to the other, a ratchet-wheel fixed to said shaft, a duplex lever pivoted to said shaft aside of said ratchet-wheel, a pawl pivoted to said duplex lever, a rotatable parallel shaft, a sprocket-wheel and a crank-arm fixed to said parallel shaft, a rotatable carriage-axle, a sprocket-wheel loosely mounted on said axle and provided with a fixed clutch member, a mating clutch member adjustable on said axle, a chain connecting the two sprocket-wheels and means for adjusting the sliding clutch member, arranged and combined to operate in the manner set forth for the purposes stated.

804,392. **COUPLING FOR WHIFFLETREES.** ANDREW W. GILCHRIST, Edgewood, Iowa. Filed June 20, 1905. Serial No. 266,092.



Claim.—1. In a device of the character described the combination with a pivoted base having a headed extension at one end, of a retaining-strap having an aperture for the reception of the head, and means for securing the strap to the base.

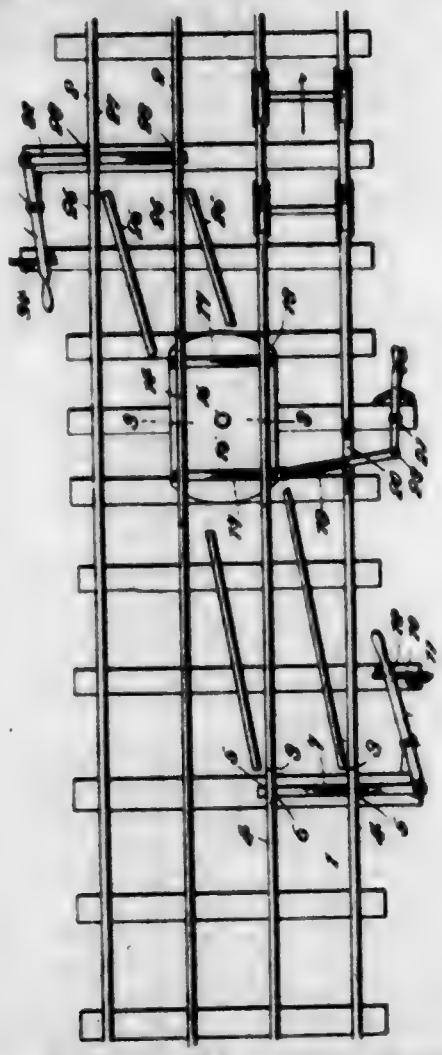
2. In a device of the character described the combination with a base having a headed extension at one end and a whiffletree-engaging projection upon the extension; of a retaining-strap having an aperture therein for engagement by the head, and means for securing the strap to the base.

3. In a device of the character described the combination with a supporting-plate and an ear integral and parallel therewith, of a base mounted between the supporting-plate and ear, a headed extension at one end of the base, a projection upon the extension and an apertured retaining-strap adapted to be engaged by the head, and means for securing the strap and base to the ear and plate respectively.

4. The combination with a supporting-plate and a strap integral therewith for holding the plate upon a support; of an ear integral with the supporting-plate and parallel therewith, a base mount-

ed between the plate and ear, a headed extension at one end of the base, a projection upon the extension, an apertured retaining-strap for engagement by the head, and means for pivotally connecting the strap and base to the ear and supporting-plate.

804,393. **RAILWAY-SWITCH.** JAMES G. GILBRATH, Wilkesboro, N. C., assignor of two-thirds to Arthur L. Combs, Wilkesboro, N. C. Filed July 14, 1905. Serial No. 269,652.



Claim.—1. A railway-switch, comprising in combination with the main track and side track, a pair of movable sections of the main track, a base-plate and suitable cross-beams for securely holding the movable sections rigidly together, an arm projecting from one side of one of said sections, a pitman-rod, one end of which is connected to said arm and the other end to a suitable lever for operating said movable sections, substantially as specified.

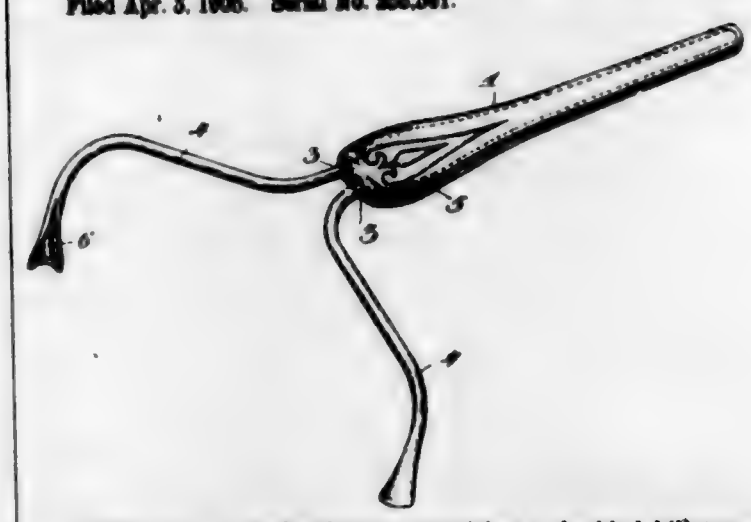
2. A railway-switch, comprising, in combination with the main track and side track, the main track being cut, forming point-rails which are of spring metal so that they can be swung under tension, said rails being adapted to engage suitable recesses in a pitman-rod, said rod being pivotally connected to a suitable operating-lever, a tooth upon the under surface of said lever, and a toothed catch adapted to be engaged by the tooth of the lever when the spring point-rails are swung against tension to register with the main track and side track, substantially as specified.

3. A railway-switch, comprising in combination with the main track and side track, a pair of movable sections of the main track, a base-plate and suitable cross-beams for securely holding the movable sections rigidly together, an arm projecting from one side of one of said sections, a pitman-rod adapted to have longitudinal movement through an elongated aperture in the web of one of the rails of the main track, one end of said rod being pivotally connected to said arm and the other end to a suitable lever for operating said movable sections, substantially as specified.

4. A railway-switch comprising, in combination with the main track and side track, a pair of movable sections of the main track, a base-plate and suitable cross-beams for securely holding the movable sections rigidly together, an arm projecting from one side of one of said sections, a pitman-rod, one end of which is connected to said arm, and the other end to a suitable lever for operating said movable sections, a turn-table, comprising an upper and a lower plate, each of which is circular in plan view, one of said plates being secured to the under surface of the base-plate, and the other securely attached to the ties, and a pivot-pin securely holding said base-plate and turn-table together, substantially as specified.

5. In a railway-switch the combination of a main track having a pair of yieldable rails recessed at one end, a slide-bar having recesses adapted to engage said recesses aforementioned, a fulcrumed lever pivoted to said slide-bar, said lever being resilient whereby it is adapted to engage and disengage the teeth of a rack-bar, a revolving base-plate having a pair of rails mounted thereon, means for connecting the rails of the main track with the rails of the revolving plate, said revolving plate being pivoted in its center, a lever having a dog adapted to engage the teeth of a rack-bar, said lever having a pitman connected with said base-plate and adapted to swing it into and out of position, an apertured or slotted rail adapted to provide a guide for said pitman, means for connecting a side track with said base-plate, substantially as and for the purpose described.

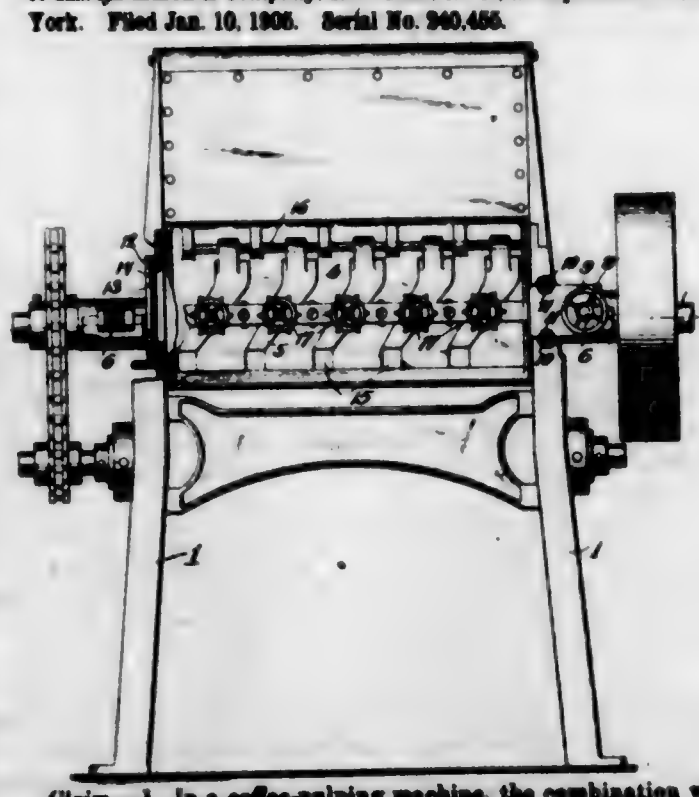
804,394. **WINKER-BRACE.** WILLIAM W. GLECKNER, Canton, Pa. Filed Apr. 3, 1905. Serial No. 253,561.



Claim.—1. A winker-brace comprising a doubled billet-strap having openings in its fold, and a brace having its divided portions passed through the said openings and provided with a tongue portion between the doubled portions of the billet-strap, substantially as described.

2. A winker-brace comprising a doubled billet-strap having openings in its fold, a brace having its divided portions passed through the said openings and provided with a tongue portion between the doubled portions of the billet-strap, and a core-strap having divided portions in the brace and a tongue portion bearing against the tongue portion of the brace, said tongue portions of the brace and core-strap being secured between the doubled portions of the billet-strap.

804,395. **PULPER.** DOUGLAS GORDON, Worcester, Mass., assignor to Marqua Mason & Company, New York, N. Y., a Corporation of New York. Filed Jan. 10, 1905. Serial No. 240,455.



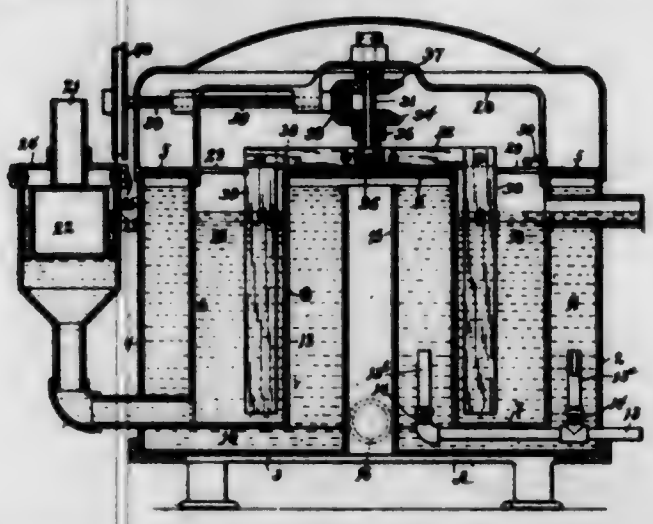
Claim.—1. In a coffee-pulping machine, the combination with a pulping-cylinder and means for supporting same, comprising side frames, of a breast supported by said side frames, and means for adjusting same, comprising swinging bolts pivotally connected to said side frames, and engaging open-ended slotted portions of said breast,

said bolts provided with nuts at the exterior of said breast, and other bolts tapped into said breast and engaging said side frames, said bolts adjustable from the exterior of said breast, substantially as described.

2. In a coffee-pulping machine, the combination with a pulping-roller and a breast, of fingers or plates pivotally supported in said breast, adjacent surfaces of said fingers or plates and the breast provided with removable and replaceable wearing-shoes.

3. In a coffee-pulping machine, the combination with a pulping-cylinder and a breast, said breast provided with openings angularly disposed with respect to the said pulping-cylinder, of removable and replaceable wearing-shoes fitted to the wearing edges of the breast adjacent said openings, said wearing-shoes having a rib-like projection immediately adjacent to their wearing edges.

804,396. MILK-HEATER. HENRY J. ORELL, Johnson Creek, Wis. Filed May 4, 1905. Serial No. 258,781.



Claim.—1. An apparatus for modifying the temperature of liquid, consisting of a water-chamber including a bottom chamber, an upright central circular chamber and an upright exterior annular chamber, an annular liquid-receptacle between the upright water-chambers and above the bottom water-chamber, the central water-chamber being as high as or higher than the surrounding annular liquid-receptacle and means in the liquid-receptacle for agitating the liquid therein.

2. An apparatus for modifying the temperature of liquid, consisting of a water-chamber including a bottom chamber, an upright central circular chamber and an upright exterior annular chamber of substantially the same height, an annular liquid-receptacle between the upright water-chamber and above the bottom water-chamber of no greater height than the central and exterior water-chambers, and means for supplying liquid to the liquid-receptacle substantially continuously and for permitting the liquid to be discharged in a corresponding continuous amount therefrom.

3. In an apparatus for modifying the temperature of liquid, a stationary central circular upright water-chamber closed at its top, a stationary exterior annular upright water-chamber closed at its top the two water-chambers being of the same height and connected together by a passage for water at the bottom, a water-supply pipe leading thereto, an upright discharge-pipe in the central water-chamber open near the top of the chamber to receive and carry off the water from said chamber, an annular liquid-receptacle open at the top between and formed by the walls of the inner and the outer water-chambers and substantially of the same height as the two water-chambers, a frame having legs and a connecting cross-bar at their upper extremities the legs being secured detachably to the exterior water-chamber, a vertical shaft in the frame, a pinion and radial arms above the central chamber fixed on the shaft, a pinion with radial arms loose on the shaft above the central water-chamber, blades depending from both sets of radial arms into the liquid-receptacle, and means for rotating the two sets of radial arms and their blades concurrently in reverse directions.

4. In an apparatus for modifying the temperature of liquid, a liquid-receptacle, an abutting and surrounding water-chamber, a hopper discharging into the liquid-receptacle, an inlet-pipe adjustable up and down in the hopper a float-valve in the hopper arranged to close the lower end of the inlet-pipe and thereby to control the inflow of liquid to the hopper, and a port disposed opposite the supply-port to discharge liquid near the top of the liquid-chamber and in a plane slightly below that at which the inflow is closed by the float-valve.

5. In an apparatus for modifying the temperature of liquid, a substantially closed water-chamber including a bottom chamber an upright central chamber and an exterior upright annular chamber, a supply-pipe leading into the bottom chamber and having branches extending into and opening in the upright chambers adapted to supply the chambers with a liquid temperature-modifying medium.

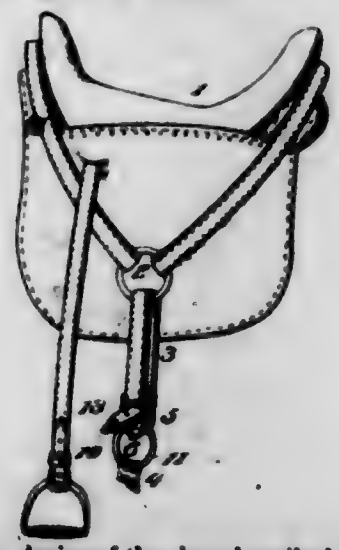
6. In an apparatus for modifying the temperature of liquid, a central closed-top water-chamber, an annular liquid-holding chamber no higher than the central water-chamber, an abutting and surrounding water-chamber, a detachable frame mounted on the exterior water-holding chamber, a vertically-disposed rotatable shaft mounted in the frame, radial arms above the central chamber fixed on the shaft, blades on the arms depending into the liquid-holding chamber, other radial arms above the central chamber loose on the shaft, blades on the loose arms depending into the liquid-holding chamber, and means for revolving the sets of arms and blades in reverse directions.

7. In an apparatus for modifying the temperature of liquid, a receptacle structure, comprising a substantially closed water-chamber including a bottom horizontally-disposed chamber, a central upright chamber closed at its top, an upright overflow-pipe in the central chamber and open at its top near to but just below the top of the central chamber and discharging through the floor of the bottom chamber, and an annular upright exterior water-chamber of substantially the same height as the central water-chamber, a water-supply pipe leading into the water-chamber, an annular liquid-chamber formed in said receptacle above and by the top wall of the bottom water-chamber and between the central upright chamber and the exterior annular water-chamber and of a little less height than the central and exterior upright water-chambers, blades depending into the annular liquid-chamber, and means for supporting and revolving the blades.

8. In an apparatus for modifying the temperature of liquid, a stationary combined water and open-topped annular milk receptacle, an ancillary frame attachable to the receptacle, a shaft mounted in the ancillary frame, radial arms fixed on the shaft above the milk-receptacle, radial arms above the milk-receptacle loose on the shaft, blades depending from both sets of arms into the annular milk-chamber, and means for revolving the two sets of arms in the chamber.

9. In an apparatus for modifying the temperature of liquid, a combined water and annular liquid receptacle, an ancillary frame resting on and attached to the receptacle, means permitting the adjustment of said frame to different positions revolubly on the receptacle, a shaft mounted in the ancillary frame, radial arms fixed on the shaft above the receptacle, radial arms above the receptacle loose on the shaft, blades depending from both sets of arms into the annular liquid-chamber, and means for revolving the two sets of arms in opposite directions.

804,397. CINCH-GRIP. EDWIN A. GRESHAM, Fort Bidwell, Cal. Filed Dec. 8, 1904. Serial No. 236,029.



Claim.—1. In a device of the class described, the combination of an attaching member, a hook projected therefrom, a clamp member pivoted to the attaching member, coöperating engaging members carried by the clamp and attaching members, a girth connected with the hook of the attaching member, and a tie-strap looped about the clamp and attaching members and having an end thereof passed between the engaging members of the said attaching and clamp members.

2. In a connecting device of the class described, the combination of attaching and clamp members pivotally secured at one end,

a hook at the opposite end of the attaching member, strap-engaging members projected from the attaching and clamp members aforesaid, and transverse bars extending across the attaching and clamp members at a point between the strap-engaging members thereof and the point of pivotal connection of said attaching and clamp members.

3. In a connecting device of the class described, the combination of a tie-strap, a girth, a connection between the girth and tie-strap comprising an attaching member, a clamp member pivoted to the attaching member, engaging members provided upon the clamp and attaching members aforesaid, a hook projecting from the attaching member and connected with the girth, and transverse bars upon the attaching and clamp members and having the tie-strap looped thereabout for the purpose specified.

4. In a connecting device of the class described, the combination of a tie-strap, a girth, a connection between the girth and tie-strap comprising an attaching member, a clamp member pivoted to the attaching member at one end thereof, engaging members provided upon the clamp and attaching members aforesaid, a hook projecting from the attaching member and connected with the girth, transverse bars upon the attaching and clamp members and having the tie-strap looped thereabout, rollers mounted upon the transverse bars aforesaid, and means for limiting the movement of the clamp member away from the attaching member.

804,398. SAWING STONE. JOHN A. HALL, Sacramento, Cal., assignor to V. S. McClatchy, trustee, Sacramento, Cal. Filed Aug. 18, 1904. Serial No. 221,330.



Claim.—1. In the art of stone-sawing employing a saw-blade and shot as the cutting agent, the step of directing said shot relative to the path of movement of the saw said step consisting in upsetting the working edges of the saw transversely beyond the plane of the sides of the saw to form a surface that will deflect the shot in the desired direction.

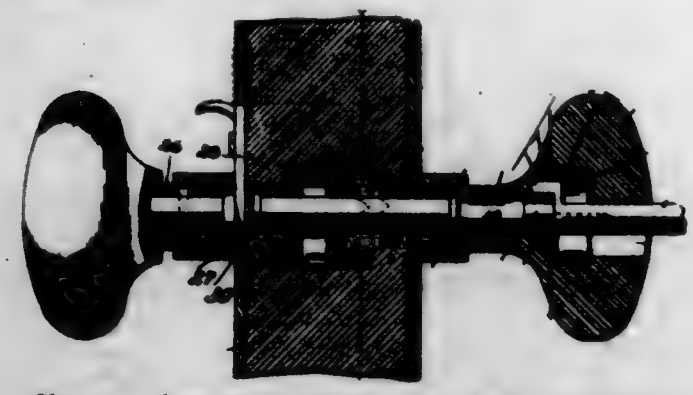
2. In the art of stone-sawing employing a saw-blade and shot as the cutting agent, the step of controlling the direction of cut by the shot said step consisting in expanding laterally and shaping the working corners of the blade so that the expanded and shaped portion will deflect the shot in its path, in the direction of the desired cut.

3. In the art of stone-sawing employing a blade and loose shot as the cutting agent, the step of controlling the direction of cut by said shot, said step consisting in flattening the corner of the blade to increase the diameter of the blade at that point.

4. In the art of stone-sawing employing a blade and loose shot as the cutting agent, the step of controlling the direction of cut by the shot said step consisting in flattening and flaring the corner of the blade until its side edges extend transversely beyond the plane of the sides of the blade to cause the shot to impinge upon the stone in the direction of the desired cut.

5. In the art of stone-sawing employing a blade and shot as the cutting agent, the step of controlling the direction of cut by the shot said step consisting in increasing the transverse diameter of and squaring the corner of the blade to present a relatively extended flat surface to the shot.

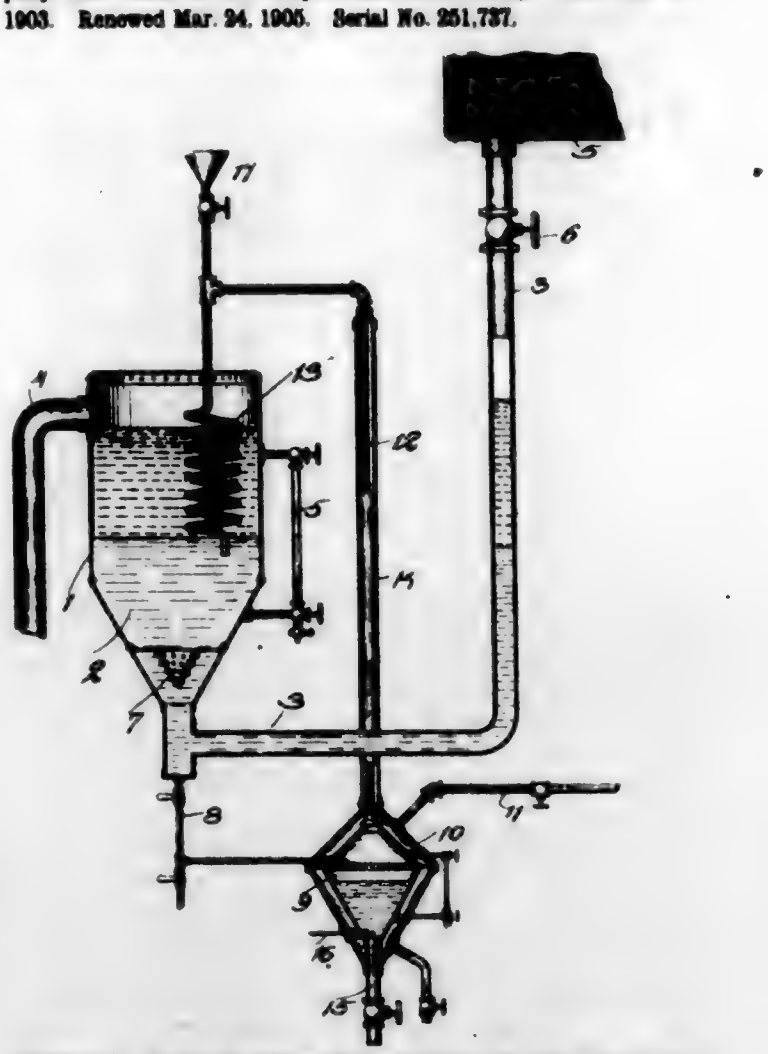
804,399. DOOR-LOCK. JOHN C. HARRENBERGER, Cleveland, Ohio. Filed Mar. 30, 1905. Serial No. 253,833.



Claim.—1. In a combined latch and lock, the combination of a bolt-actuating spindle having one knob fast and another rotatable thereon, the spindle having thereon one clutch member and the loose knob having another clutch member also rotatable on the spindle, the spindle and knobs being slidable lengthwise to engage or disengage said clutch members, and key-operated means to lock the loose knob and the spindle together when the clutch is disengaged.

2. In a combined door lock and latch, in combination, a bolt-actuating spindle having an inside knob fast thereon and an outside knob rotatable thereon, clutch members carried by the spindle and loose knob respectively, the spindle being slidable lengthwise to engage or disengage the clutch, a latch on the inside of the door engageable with the spindle to hold the clutch as set, a casing fixed to the spindle within the loose knob and on which said knob is rotatable, and means to lock the knob and casing together.

804,400. APPARATUS FOR EXTRACTING OIL FROM WATER. DANIEL H. HAYWOOD, New York, N. Y., assignor to The Powter Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 11, 1903. Renewed Mar. 24, 1905. Serial No. 251,737.



Claim.—1. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, and a clear-water discharge at the upper end of said receiver.

2. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a clear-water discharge at the upper end of said receiver, and a discharge for the solvent at the lower end of said receiver, below the level of the clear-water discharge.

3. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a clear-water discharge at the upper end of said receiver, a discharge for the solvent at the lower end of said receiver, and a vessel connected with said discharge for receiving the solvent.

4. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solve
ing a specific gravity greater than water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a clear-water discharge at the upper end of said receiver, a discharge for the solvent at the lower end of said receiver, a vessel connected with said discharge for receiving the solvent, and means for heating the contents in the said receiver.

5. In an apparatus for extracting oil and grease from water, the

combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a clear-water discharge at the upper end of said receiver, a discharge for the solvent at the lower end of said receiver, and a jacketed vessel connected with said discharge for receiving the solvent.

6. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than the boiling-point of water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, and a clear-water discharge at the upper end of said receiver.

7. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than the boiling-point of water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a clear-water discharge at the upper end of said receiver, and a discharge for the solvent at the lower end of said receiver.

8. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than the boiling-point of water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a discharge for the solvent at the lower end of said receiver, and a vessel connected with said discharge for receiving the solvent.

9. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than the boiling-point of water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a clear-water discharge at the upper end of said receiver, a discharge for the solvent at the lower end of said receiver, a vessel connected with said discharge for receiving the solvent, and means for heating the contents of the said vessel

10. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than the boiling-point of water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a clear-water discharge at the upper end of said receiver, a discharge for the solvent at the lower end of said receiver, and a jacketed vessel connected with said discharge for receiving the solvent.

11. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than water, of a supply-passage for water containing oil and grease opening into the lower end of said receiver, and means for applying heat to the solvent to vaporize same and for condensing the solvent vapors, and returning same to the vessel.

12. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than water, of a passage for water containing oil and grease opening into the lower end of said receiver, a vessel for receiving the solvent, means for applying heat to the solvent therein to vaporize it, and a condenser for the vaporized solvent.

13. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than water, of a supply-passage for water containing oil and grease opening into the lower end of said receiver, a vessel for receiving the solvent, means for applying heat to the solvent therein to vaporize it, a condenser arranged within the upper part of the said receiver, and connections carrying the solvent vapors to the condenser, and discharging the condensed vapors into the receiver.

14. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a clear-water discharge at the upper end of said receiver, a discharge for the solvent at the lower end of said receiver, a vessel for receiving the solvent so discharged means for heating the contents of the vessel to vaporize the solvent therein, and means for drawing off the oil and grease therefrom.

15. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than the boiling-point of water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, a clear-water discharge at the upper end of said receiver, a discharge for the solvent at the lower end of said receiver, a vessel for receiving the solvent so discharged, means for heating the contents of the vessel to vaporize the solvent therein, and means for drawing off the oil and grease therefrom.

16. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, of a supply-passage for water containing oil and grease, opening into the lower end of the said receiver, a distributer located in the said receiver in the path of the liquid-supply through said supply-passage, and a clear-water discharge at the upper end of said receiver.

17. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than the boiling-point of water, of a supply-passage for water containing oil and grease, opening into the lower end of the said receiver, a distributer located in the said receiver in the path of the liquid-supply through said supply-passage, and a clear-water discharge at the upper end of said receiver.

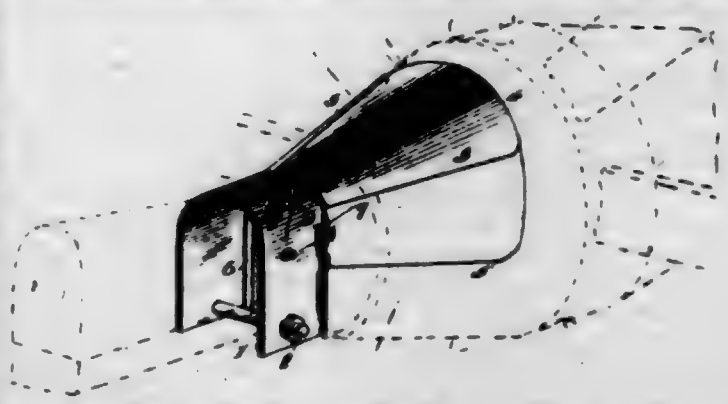
18. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, said supply-passage arranged to contain a column of liquid higher than the column of liquid contained in the receiver, and a clear-water discharge at the upper end of said receiver.

19. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than the boiling-point of water, of a supply-passage for water containing oil and grease, opening into the lower end of said receiver, said supply-passage arranged to contain a column of liquid higher than the column of liquid contained in the receiver, and a clear-water discharge at the upper end of said receiver.

20. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, of a supply-passage, opening into the lower end of said receiver, a vessel for water containing oil and grease located at a point above the level of the fluid within the said receiver connecting with said supply-passage, and a clear-water discharge at the upper end of said receiver.

21. In an apparatus for extracting oil and grease from water, the combination with a receiver containing an oil and grease solvent having a specific gravity greater than water, and a boiling-point lower than the boiling-point of water, of a supply-passage opening into the lower end of said receiver, a vessel for water containing oil and grease located at a point above the level of the fluid within the said receiver connecting with said supply-passage, and a clear-water discharge at the upper end of said receiver.

804,401. **DUST-GUARD FOR VEHICLES.** PRENTICE K. HOLLINGSWORTH, Sunset, Tex. Filed Jan. 27, 1905. Serial No. 243,967.



Claim.—1. In a dust-guard of the class described, the combination of an attaching member, and a guard projecting therefrom, said guard consisting of separate side and intermediate sections.

2. In a dust-guard of the class described, the combination of an attaching member, a guard projecting therefrom, said guard consisting of side and intermediate sections, and means admitting of a slidable adjustment of the sections with reference to each other.

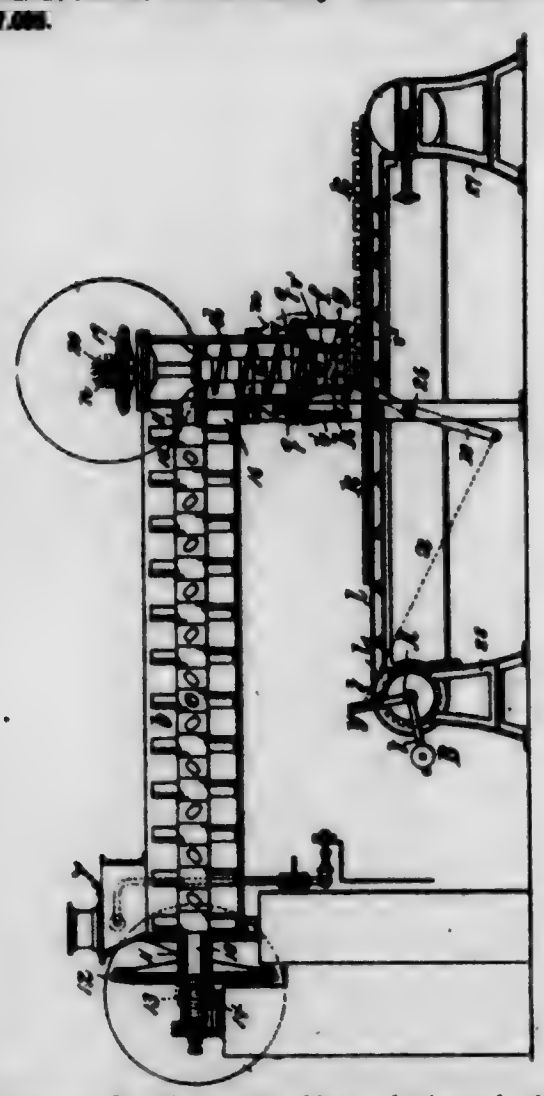
3. In a dust-guard of the class described, the combination of an attaching member, a guard projecting therefrom, said guard consisting of side and intermediate sections, and interlocking means between the side and intermediate sections.

4. In a dust-guard of the class described, the combination of an attaching member, and a guard projecting therefrom, said guard consisting of side and intermediate sections, the intermediate section having pivotal connection with the attaching member.

5. In a dust-guard, the combination of an attaching member, and a guard projecting therefrom and comprising a plurality of sections, the sections being connected at one end with the attaching member and flaring or increasing in width toward the opposite ends, which are adapted to overlap, and means connecting the last-mentioned ends of the sections and admitting of slidable movement of one section relative to the other when overlapped.

804,402. MACHINE FOR MANUFACTURING BRIQUETS.

GOTTFRIED HÖFFKEN, Bleckendorf, Germany, assignor to Willy Von Lewinski, Breslau, Prussia, Germany. Filed June 26, 1905. Serial No. 267,026.



Claim.—1. In a briquet-machine, a horizontal mixing vessel, driven mixer-blades therein to mix and progress the material through the vessel, a vertical molding-chamber into which the mixing-chamber discharges, removable inserts or forms at the end of the chamber to give the material the desired peripheral shape, means to force the material discharged from the vessel into the chamber through the forms and cutters timed to cut the material as it emerges from the forms, and means to alter the time of operation of the cutters to vary the size of the briquets, substantially as described.

2. In a briquet-machine, a vertical molding-chamber, a substantially horizontal mixing-chamber discharging into the molding-chamber, slides to vary the size of the discharge-opening in the mixing-chamber to vary the quantity of mixed material supplied to the molding-chamber, a nozzle at the bottom of the molding-chamber, a removable insert or form in said nozzle, means to supply water to the inside of the nozzle to lubricate the sides of the nozzle contacting with the packed clay to glaze the surface of the clay as it enters the form and knives acting against the end of the nozzle, substantially as described.

3. In a briquet-machine, a molding-chamber having a contracted end, a mixing vessel discharging into the same, driven mixer-blades to mix and progress the material through the vessel, means to regulate the discharge from said vessel to the chamber, a screw to force the material through the chamber, means to supply water to the interior walls of the molding-chamber at its contracted end, a removable insert or form in the end of the chamber, knives mounted at the end of the chamber, mechanism to drive said screw and devices driven by said mechanism to operate the knives, said devices including means to vary the time of the operation of the knives, substantially as described.

4. In a briquet-machine, the combination with a molding-chamber, a removable insert or form in its end and means to force the material through said chamber and form; of knives coöperating with the end of the chamber, a conveyer under the end of the chamber, mechanism to impart movement to the conveyer, and mechanism to operate the conveyer and knives, including means to vary the time of operation of both the knives and conveyer, substantially as described.

5. In a briquet-machine, a molding-chamber having a contracted end, removable inserts or forms therein, a screw to force the material through the chamber and forms, a cutter mechanism having an actuating-lever, means to drive the screw, a controller-disk, a carrier movable at the end of the chamber, devices to intermittently move the carrier, means on the controller-disk to actuate said arm and additional means subsequently brought into operation to actuate said devices to move the carrier and mechanism to drive the controller-disk at different speeds to vary the thickness of the briquets, substantially as described.

6. In a briquet-machine, a molding-chamber having a contracted end, a removable insert or form in said end, a pair of reciprocating knives movable under said end, an actuating-lever for said knives, means to supply water to the contracted end of the molding-chamber, a carrier, mechanism to impart to said carrier periodic motion, a driven controller-disk, two pins therein one to move the actuating-lever and the other to actuate the carrier mechanism, substantially as described.

7. In a briquet-machine, a molding-chamber, means to force the material through the chamber, knives to cut the material as it leaves the chamber, a conveyer, a pawl-and-ratchet mechanism to move the conveyer, a driven controller-disk, two pins in said disk one operating the knives during a portion of its travel and the other the pawl-and-ratchet mechanism, and a weight to return the pawl-and-ratchet mechanism to normal position after being actuated by its pin, substantially as described.

8. In a briquet-machine, a molding-chamber, means to force the material through the chamber, reciprocal knives D, D′, levers F, F′ to actuate the same, shafts N, N′ to which the levers are secured, arms O, O′ connected to said shafts, means connecting the levers O, O′ to impart opposite movement to the knives and a driven controller-disk to periodically move one of the arms and thereby actuate the knives, substantially as described.

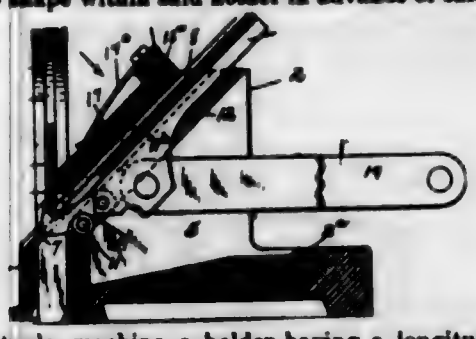
9. In a briquet-machine, a molding-chamber, means to force material therethrough, reciprocable knives at the end of the chamber, a controller-disk to periodically actuate the knives, a shaft on which said disk is mounted, a cone-wheel loose on said shaft, a clutch to connect the wheel and said shaft, a second oppositely-directed driven cone-wheel from which the loose cone-wheel is driven, a belt-pulley on the loose cone-wheel, a stepped pulley secured to said shaft and a second stepped pulley, said second stepped pulley driven from the belt-pulley on the cone-wheel and the first stepped pulley driven from the second stepped pulley, whereby different speeds may be given to the controller-disk to correspondingly vary the thickness of the briquets, substantially as described.

10. In a briquet-machine, a vertical molding-chamber having a contracted end, a substantially horizontal mixing vessel discharging into the molding-chamber, driven mixer-blades therein to mix and progress the material through the vessel, adjustable slides to control the quantity of material discharged in the molding-chamber, an insert or form in the end of the molding-chamber, water-supply pipes to feed water to the contracted end of the chamber, a driven shaft, a screw to force the material through the chamber and geared to said shaft, knives mounted at the mouth of the chamber, lever mechanism to connect the knives to simultaneously move them in opposite directions, a carrier below the molding-chamber, a pawl-and-ratchet mechanism to periodically progress the carrier, a controller-disk driven from said shaft, means on the disk to actuate the knives and the pawl-and-ratchet mechanism, a spring to automatically return the knives to operative position after actuation by the disk, a weight to return the pawl-and-ratchet mechanism to operative position after actuation by the disk, and mechanism to change the speed of the disk thereby altering the thickness of the briquets and the length of the periods of progression of the carrier, substantially as described.

804,408. WIRE-STAPLE FORMING AND DISCHARGING MECHANISM.

VERNON HOXIE, Adrian, Mich., assignor to Lamb Wire Fence Company, Adrian, Mich., a Corporation of Michigan. Filed Feb. 2, 1903. Serial No. 142,070.

Claim.—1. In a staple-forming machine, a holder having a cam-groove therein, a plunger reciprocally mounted in said holder in contiguous position to a portion of said cam-groove, a hooked finger pivoted to the forward end of said plunger and guided in its movement by said groove and adapted to be swung by said groove on the receding movement of the plunger into position to engage a wire-section disposed on the opposite side of the plunger to that of the finger and draw it into U shape within said holder in advance of said plunger.



2. In a staple-machine, a holder having a longitudinal bore therein and parallel cam-grooves in said bored portion, a plunger reciprocally mounted in the bored portion of the holder and having a discharging-tongue at its forward end, a magazine for holding wire-sections disposed on one side of said tongue, and a hooked finger pivotally secured to the forward end of the plunger and having lateral projections formed thereon to operate within the cam-grooves whereby to cause the finger to be swung into position to engage and draw a wire-section from the magazine at a fixed point in the movement of the plunger, draw the section into U shape and on its return movement be moved to permit the discharge of the staple.

3. In a staple-machine, the combination with the forming and discharging elements, of a magazine for holding a plurality of sections of wire to be consecutively engaged and formed into staples by the forming element, mechanism for intermittently feeding a section of wire to said magazine, and means for severing the wire-sections fed to the magazine.

4. In a staple-machine, the combination with a staple-discharging plunger and a staple-forming element disposed at one side thereof, of a magazine for holding a plurality of wire-sections, said magazine being disposed on the opposite side of the plunger to that of the forming element, mechanism for intermittently feeding a section of wire to said magazine, and mechanism for severing the fed section for replenishing the supply in the magazine.

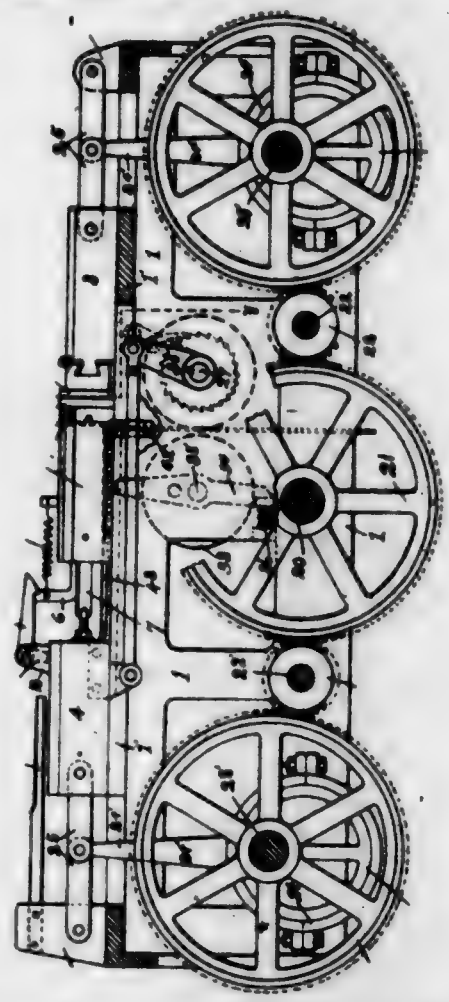
5. In a staple-machine, a holder having guiding means for a plunger and cam-guiding means for a forming element, a plunger operatively mounted in said holder and guided by said first guiding means, a forming element pivotally attached to the end of the plunger and guided in its movement by said cam-guiding means, said cam-guiding means being disposed to cause the forming element to be moved to engage a wire-section fed to the opposite side of said plunger and draw it into U shape on the rearward movement of the plunger, and means for causing the formed staple to be moved in advance of the plunger to permit its discharge on the return movement of said plunger.

6. In an apparatus of the class described, a holder having a vertical bore therein and a portion of its upper surface recessed, the side walls of said recessed portion rearwardly converging and merging in the walls of the bored portion, a discharging-plunger reciprocally movable in a plane immediately below said recessed portion, a hooked finger pivoted to the under side of the plunger and movable in one direction to engage a section of wire fed to said recessed portion and form it into a staple by drawing it within the bored portion of the holder and in the other direction to recede from in advance of the plunger, and a pressure-block for moving the formed staple in advance of the discharging-plunger.

7. The combination in a staple-machine, of a holder, an element movable in said holder to discharge a staple formed therein, a magazine mounted in a plane intersecting the plane of movement of the plunger and having its discharge in contiguous position thereto, said magazine being adapted to hold a plurality of wire-sections at one time, mechanism for feeding wire-sections to said magazine, mechanism for severing such sections and a staple-forming element movable by said plunger under said magazine and adapted to engage a wire-section, form it into U shape within said holder, and leave it in advance of the discharging element.

804,404. **WIRE-STAPLE FORMING AND DISCHARGING MECHANISM.** VERNON HOXIE, Adrian, Mich., assignor to Lamb Wire Fence Company, Adrian, Mich., a Corporation of Michigan. Filed Apr. 22, 1904. Serial No. 204,054.

Claim.—1. The combination in a stapling-machine, of a block having an opening therethrough and a wire-feed opening transversely intersecting said former opening, a staple-forming plunger and a staple discharging and clamping plunger mounted in said first-mentioned opening, means for imparting a simultaneously-receding movement to the forming and discharging plungers a predetermined distance and a continued receding movement of the latter plunger to permit the formed staple to drop in advance thereof and a returning movement of said discharging-plunger, and means for releasing said forming-plunger from said former means at a predetermined point in its movement to permit a return thereof to its normal position after having formed a staple from a section of wire previously fed to said wire-feed opening.



2. The combination in a stapling-machine, of a stationary block having a longitudinal bore therein, longitudinally-abutting staple-forming and staple-discharging plungers movable in said bore, the former having its forward end recessed and formed with a wire-engaging pin, means for causing a simultaneous movement of both plungers a predetermined distance and a continued and returning movement of the discharging-plunger, and means for releasing the forming-plunger from its moving force to permit it to return to its normal position.

3. The combination in a staple-machine, of an inclosing element, independently-movable forming and discharging plungers disposed in parallel planes therein, the forming-plunger having a portion shaped to engage and draw a section of wire into U shape within said inclosing element, means having connection with each of said plungers for causing a simultaneous movement of both a fixed distance and a continued and returning movement of the discharging-plunger for the purpose described, and means for causing a release of the forming-plunger from its moving force to permit it to return to a position to receive a newly-fed section of wire.

4. The combination in a staple-machine, of a member having a longitudinal bore therein, independently-movable forming and discharging elements movable in said member, the former having a portion shaped to engage and draw a section of wire into U shape within said member, means having connection with each of said plungers for causing a simultaneous receding movement of both a fixed distance and a continued and returning movement of the discharging-plunger, means for breaking the connection between the forming-plunger and its moving force to permit said plunger to return to its normal position, and a U-shaped member having its legs normally in engagement with the face of the discharging-plunger adapted to force a formed staple from the plane of operation of the forming-plunger to that of the discharging-plunger when the latter has moved from under the staple.

5. The combination in a staple-machine, of a support, a member fixed to said support and having a longitudinal bore therein, a table reciprocally mounted on the support at one end of said member, forming and discharging plungers independently movable in the bore of said member and having connection at their outer ends with the table, means for breaking the connection between the forming-plunger and the table at a fixed point in its movement, means for returning the forming-plunger to its normal position when released from its moving force, a member adapted to force a staple into the plane of movement of the discharging-plunger when said plunger has receded from under the same, and means for reciprocating said table.

6. The combination in a staple-machine, of a fixed member having a longitudinal bore therein, a reciprocatory element mounted at one end of said fixed member, a forming-plunger and a discharging-plunger mounted in parallelism in said bore and capable of independent longitudinal movement and having connection with the reciprocatory element, means for breaking the connection between the forming-plunger and said moving element at a fixed point in its movement whereby the discharging-plunger is permitted to recede from under the formed staple, and means for moving the staple in advance of said latter plunger in position to be discharged on its forward movement.

7. The combination in a staple-machine, of a fixed member having a portion bored, a staple-forming plunger having a portion shaped to engage and draw a wire into U shape within said fixed member, a discharging-plunger independently movable in a plane parallel to that of the forming-plunger, a moving element having connection with the outer ends of said plungers, means for causing a release of the forming-plunger prior to the limit of rearward movement of the discharging-plunger, means for causing a return of the forming-plunger when released, means for moving a formed staple in advance of the discharging-plunger, and mechanism operated by said moving element for causing an intermittent feed of the staple-wire to said fixed member.

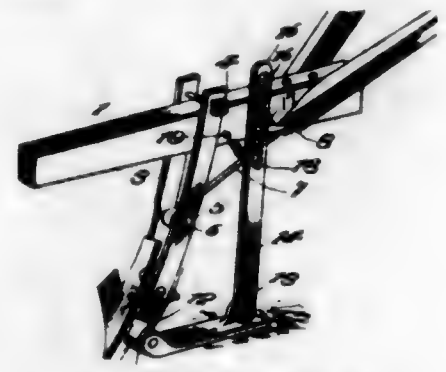
8. A staple-machine comprising a fixed member having a longitudinal bore therein, a staple-forming and a staple-discharging plunger mounted in said bore in parallel juxtaposition, a reciprocatory element having rigid connection with the outer end of the discharging-plunger, a dog mounted on said element for engaging and imparting movement to the forming-plunger, means for releasing the dog from engagement with the forming-plunger at a fixed point in its movement, means for causing a return of the forming-plunger when released to its normal position, and means for moving a formed staple from the plane of one plunger to that of the other.

9. The combination in a staple-machine, of a stationary member having a wire-feed opening therein, a staple-forming plunger operating in said member and adapted to be normally retained in one position, a second plunger operating in parallelism with said first plunger and adapted to discharge from said member the staples formed by said first plunger, means for moving the staples in advance of said second plunger after being formed, mechanism for feeding a wire to said opening and severing the same, means for moving said plungers as required, means for releasing the forming-plunger from said moving means at a predetermined point in its movement, and means for actuating the forming-plunger to return to its normal position.

10. In a staple-forming machine, a stationary member having a wire-feed opening therein, a plunger mounted in said member in a plane intersecting said opening and having a portion shaped to receive and engage a wire fed to said opening and form it into U shape, a second plunger mounted in parallelism with said first plunger, a spring-pressed block mounted in said member and adapted to move a staple, when formed, in advance of said second plunger in position to be discharged from said member, an element having connection with said plungers for imparting movement thereto, means for breaking the connection between said element and forming-plunger at a predetermined point in their rearward movement whereby the movement of the second plunger is continued to recede from under the formed staple and to discharge the same, and means for causing a return of the forming-plunger to its normal position.

804,405. PLOW-HEEL. GEORGE J. HUGGINS, Alachua, Fla. Filed July 27, 1905. Serial No. 271,495.

Claim.—In a device of the class described and shown, the combination of a plow-beam, having a plow-stock, which is pivotally and adjustably held therewith, a brace in the rear of said stock, one end of which is pivotally connected to the under side of the plow-beam, and the other end adjustably and pivotally held between the opposite sides of said plow-stock, said plow-stock being provided with the usual plow-plate, a sliding heel in the rear of said stock, one end of which is bifurcated to receive a lug upon one end of an elongated slotted link, said link being bolted upon the rear side of the plow-stock, a rod, one end of which is pivotally mounted upon a lug at the rear of the sliding heel, and its other end provided with a slot, one edge of which being provided with teeth for engagement with a suitable bolt to allow for vertical adjustment of said rod, and a spring to securely hold the teeth upon one edge of the slot in engagement with said bolt, substantially as shown and described and for the purpose set forth.



804,406. FINGER-SHIELD. DAISY HUNGAD, Rochester, N. Y. Filed Mar. 7, 1905. Serial No. 248,815.



Claim.—1. The combination with a band adapted to encircle the wrist, straps secured thereto and converging to a common point, a strip of flexible material connected to the straps at their point of juncture, a ring connected to the strip, and a sleeve carried by the outer end of the strip.

2. The combination with a wristband, straps connected at one end to the band and at their other ends to each other, a plate adapted to bear imprinted matter carried by the straps, a flexible strip connected to the meeting ends of the straps, and a leather shield carried by the free end of the strip.

804,407. SYRINGE. ALCINOUS B. JAMISON, New York, N. Y. Filed Mar. 23, 1905. Serial No. 251,549.

Claim.—1. In a fountain-syringe, the combination with the bag of a flat piece on each side thereof hinged at one end, and a cord secured to one of the pieces at the other end and passing through the corresponding end of the other piece, said cord being adapted to support the bag and its associated parts.

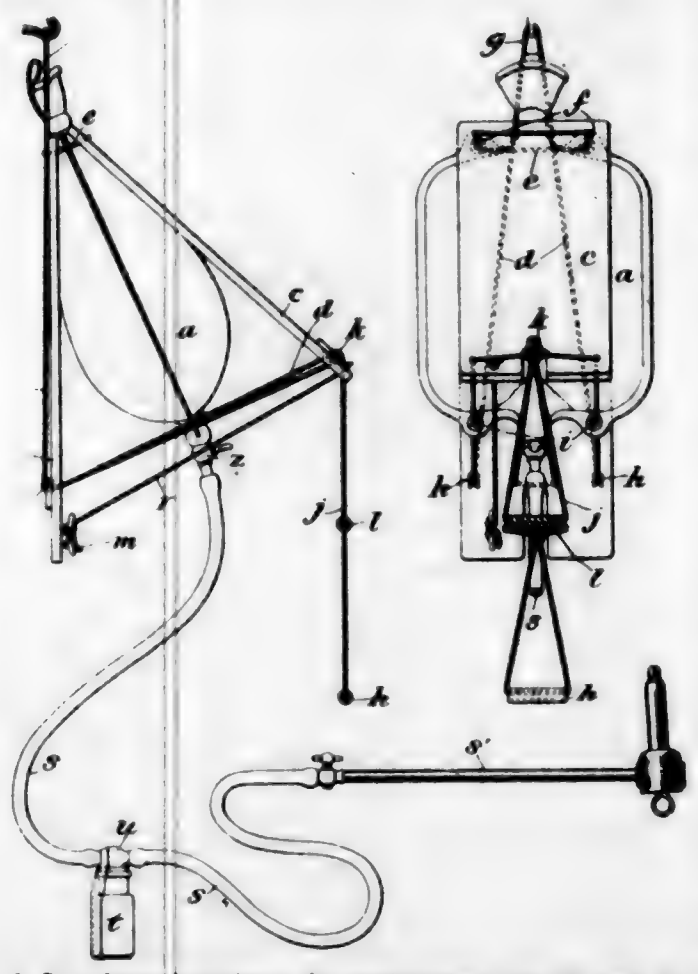
2. In a fountain-syringe, the combination with the bag of a supporting-frame therefor, said frame comprising two pieces secured one on each side thereof and hinged at one end, and a supporting-cord secured to the other end of one piece and passing through the corresponding end of the other piece.

3. In a fountain-syringe, the combination with the bag of a supporting-frame therefor, said frame comprising two pieces, one on each side and hinged at the neck of the bag, and a supporting-cord secured at the other end to one of the pieces, passing through the corresponding end of the other piece and running thence to the hinged end at which the bag is supported.

4. In a fountain-syringe, the combination with the bag of a supporting-frame therefor, said frame comprising two pieces, one on each side and hinged at the neck of the bag, and a supporting-cord secured at the other end to one of the pieces, passing through the corresponding end of the other piece and running thence to the hinged end at which the bag is supported, said bag being supported at the neck by the hinged pieces, and at the other end by the cord.

5. In a fountain-syringe, the combination with a bag having eyelet-holes at the top and bottom thereof, of a supporting-frame therefor, said frame comprising two pieces, one on each side and

hinged at the neck of the bag, and a supporting-cord having a loop for hanging it to a support and passing from the hinged end of the side pieces down one piece on each side thereof to the other end, thence through said end, through eyelet-holes on the bottom of the bag and to the other piece.



6. In a fountain-syringe, the combination with the bag, of a flat piece on each side thereof hinged at one end, a cord secured to one of the pieces at the other end and passing through the corresponding end of the other piece, said cord being adapted to support the bag and its associated parts, and a second cord whereby the apparatus may be given a downward pull.

7. In a fountain-syringe, the combination with the bag of a supporting-frame therefor, said frame comprising two pieces, one on each side and hinged at the neck of the bag and a supporting-cord secured at the other end to one of the pieces passing through the corresponding end of the other piece and running thence to the hinged end at which the bag is supported, and a second cord extending from one piece at said other end to and through the corresponding end of the other piece, whereby the ends may be urged together by a downward pull on said second cord.

8. In a fountain-syringe, the combination with the bag and connecting-tube of an end piece, an intermediate stopper having an unobstructed passage therethrough for the flow of water, a tube communicating therewith for connection to a reservoir and a regulating device or valve for the last-named tube.

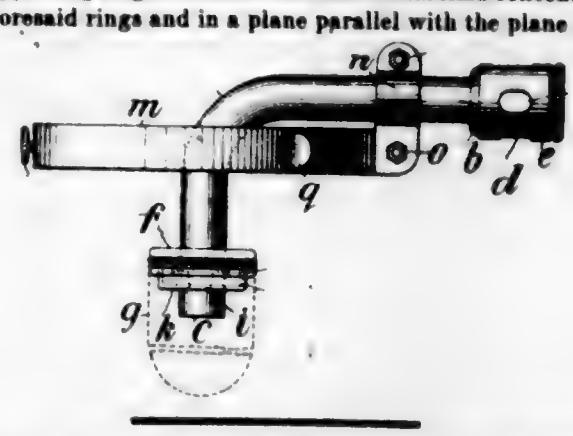
804,408. GOLD-SEPARATOR. FREDERICK M. JOHNSON, San Francisco, Cal., assignor to Rose Gold Reclamation Company, San Francisco, Cal., a Corporation of Arizona. Filed Mar. 25, 1903. Serial No. 99,909.



Claim.—In a gold-separator, a box or sluice having a retaining-bottom composed of fibrous or textile material, in combination with wire screens; arranged one above the other and in contact, and forming two continuous layers, the upper layer being, alternately, such wire screen and such fibrous or textile material.

804,409. INCANDESCENT GAS-BURNER. MONTFORD KAY, Clapton, England. Filed Dec. 13, 1904. Serial No. 236,656.

Claim.—An inverted incandescent gas-burner comprising a horizontal limb, a vertical limb at right angles to said horizontal limb, a mixing-chamber on the free end of said horizontal limb provided with air-admission ports, a sleeve with registering ports mounted on said chamber, a burner at the free end of the said vertical limb, a mantle-supporting ring fixed to the vertical limb an appreciable distance above the free end thereof, peripheral slots in said ring, segmental flanges on said ring, recesses in said flanges intermediate said slots, a mantle-ring adapted to take over said supporting-ring, internal lugs on the mantle-ring adapted to pass through said slots and between said flanges and to seat in said recesses, and a globe-supporting ring mounted on the horizontal limb concentrically to the aforesaid rings and in a plane parallel with the plane of said rings.



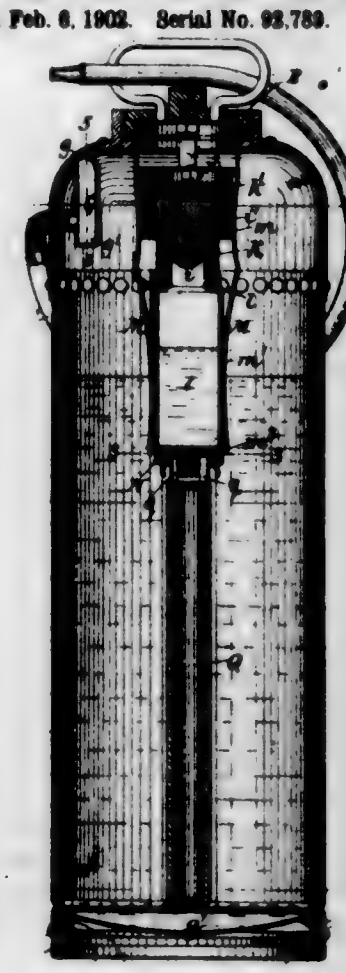
804,410. BUCKET-WHEEL FOR ELASTIC-FLUID TURBINES. HULDREICH KELLER, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed May 4, 1905. Serial No. 258,799.



Claim.—1. In a bucket-wheel for elastic-fluid turbines, the combination of a web having a relatively small grooved hub, a wire band having high tensile strength which is wound in the groove under tension for increasing the strength of the hub, and buckets carried by the web for causing rotation.

2. In a bucket-wheel for elastic-fluid turbines, the combination of a web which gradually increases in thickness from the rim toward the center and is provided with a relatively small hub which projects on each side of the web, grooves formed in the hub on opposite sides of the web, independent bands of wire which are wound in the grooves under tension, and buckets carried by the web for causing rotation.

804,411. FIRE-EXTINGUISHER. BENJAMIN KELLOGG, Buffalo, N. Y. Filed Feb. 6, 1902. Serial No. 92,789.



Claim.—1. In a fire-extinguisher, the combination of a reservoir, an acid-bottle supported therein, a stopper seated loosely in the mouth of said bottle, and a movable cap which is seated at its lower edge on the bottle and forms a chamber around said stopper and mouth from which the liquid in the reservoir is effectually excluded while the extinguisher is not in use, substantially as set forth.

2. In a fire-extinguisher, the combination of a reservoir, an acid-bottle supported therein, a stopper applied to the bottle, and a soda-receptacle surmounting the bottle and communicating therewith and having a cover, substantially as set forth.

3. In a fire-extinguisher, the combination of a reservoir, an acid-bottle supported therein, a stopper applied to the bottle, a soda-cup having a cover, and a sealing-tube extending from the mouth of the bottle into the soda-cup, substantially as set forth.

4. In a fire-extinguisher, the combination of a reservoir and an acid-bottle supported therein, a stopper applied to the bottle, a soda-cup arranged above the bottle and having a cover, a sealing-tube inclosing the stopper and having its lower end resting on the bottle while its upper end opens into the soda-cup, and a cover applied to the upper end of the sealing-tube, substantially as set forth.

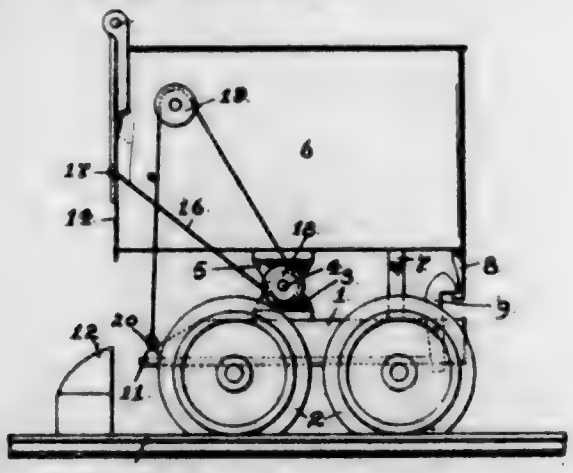
5. In a fire-extinguisher, the combination of a reservoir, an acid-bottle arranged therein, supporting-arms carried by the reservoir and embracing the bottle, each arm having a hook at its lower end which extends underneath the bottle, and a coupling-ring engaging with the hooks of said arms, substantially as set forth.

6. In a fire-extinguisher, the combination of a reservoir, an acid-bottle arranged therein, a soda-cup arranged above the bottle, and supporting-arms carried by the reservoir and embracing the soda-cup and the acid-bottle, substantially as set forth.

7. In a fire-extinguisher, the combination of a reservoir, an acid-bottle arranged therein, a soda-cup arranged above the bottle, supporting-arms carried by the reservoir and arranged around the soda-cup and the acid-bottle, each arm having inwardly-deflected portions which bear against the outer sides of said cup and bottle, and a coupling which connects said arms, substantially as set forth.

8. In a fire-extinguisher, the combination of a reservoir, an acid-bottle arranged in the reservoir supporting-arms carried by the reservoir and arranged around said bottle, a coupling-ring connecting the arms below the bottle, and a flexible relief-tube arranged in the reservoir and provided at its upper end with hooks or hangers which engage with said ring, substantially as set forth.

804,412. DUMPING-CAR. JOHN H. KELLY, San Francisco, Cal. Filed Feb. 15, 1905. Serial No. 245,709.

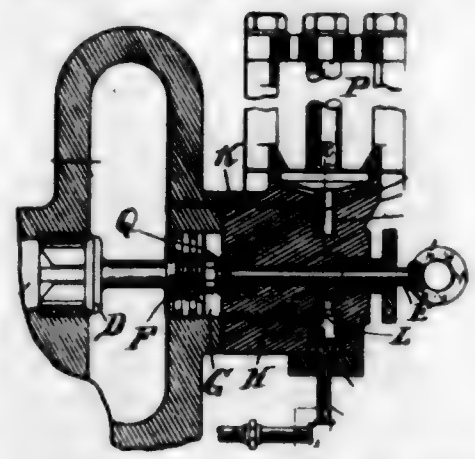


Claim.—1. In a dumping-car, a combination of a truck, a car-body tilting thereon, a swinging gate closing the front end of said car-body, a cable secured at its ends to said gate and to the frame, parts carried by said frame and car-body around which the cable passes, the position of the parts being such that when the car-body is tilted the cable is relaxed to allow the gate to swing open, substantially as described.

2. In a dumping-car, a combination of a truck, a car-body tilting thereon, a swinging gate closing the front end of said car-body, and a cable engaging the frame, the gate, and the car-body at points relatively so situated that, on the forward tilting of the car-body the cable is relaxed to permit the gate to swing open, substantially as described.

3. In a dumping-car, a combination of a truck, a car-body tilting thereon, a swinging gate closing the front end of said car-body, a latch holding said car-body to a horizontal position, means for releasing said latch, said means including an element adapted to impinge against a suitable abutment, a pulley on the end of the shaft, a pulley on the side of the car-body, and a cable passing around said pulleys and having its ends secured to the gate and to a forward portion of the frame, whereby on the tilting of the car-body the cable is relaxed to allow the gate to open, substantially as described.

804,413. STEAM-TURBINE. CHARLES G. Y. KING, Chicago, Ill., assignor to General Electric Company, a Corporation of New York. Filed Feb. 19, 1904. Serial No. 194,334.



Claim.—1. In an elastic-fluid turbine, the combination of a plurality of entirely-inclosed individual valves which have an open and a closed position but no intermediate for controlling the admission of fluid to the turbine, some of the valves being normally open and others normally closed, actuators for the valves which are also inclosed and thus hidden from view, controlling devices for the actuators located external to the casing, which do not indicate the position of the valves or actuators, and means connected to move with each of the valves to indicate whether it is open or closed.

2. In an elastic-fluid turbine, the combination of a plurality of entirely-inclosed individual valves which have an open and a closed position but no intermediate, for controlling the passage of motive fluid to the turbine, a casing which is common to the valves and contains a chamber that supplies the ports controlled by the valves, actuators for the valves which are contained in the chest and are hidden from view, controlling devices for the actuators located external to the valve-casing, which do not indicate the position of the valves and actuators, and means connected to move with each of the valves and its actuator to indicate whether the valve is open or closed.

3. In an elastic-fluid turbine, the combination of a plurality of individual valves which have an open and a closed position but no intermediate, for controlling the admission of fluid to the turbine, some of the valves being normally open and the others closed, cylinders, pistons therein attached to the valves for actuating them, relay-valves for controlling the movements of the piston which are hidden from view, and means connected to move with each of the valves to indicate whether it is open or closed.

4. In an elastic-fluid turbine, the combination of a plurality of individual valves for controlling the admission of motive fluid to the turbine, some of the valves being normally open and others normally closed, individual magnets for controlling the opening and closing of the valves and which of themselves give no indication of the position of the valves, and indicators attached to and movable with each valve which extend through the casing of the valve and into view.

5. In a turbine, a casing having a steam-chest, a plurality of valves arranged therein and operating to control the supply of steam from such chest to the turbine, a rod or stem connected to move with each valve and extending to a point exterior of said casing, a piston connected to each rod or stem, independent means for supplying a pressure medium to opposite sides or faces of each piston, and means for exhausting the pressure-supply from one side or face of each piston to overbalance the same, all combined and arranged as and for the purpose set forth.

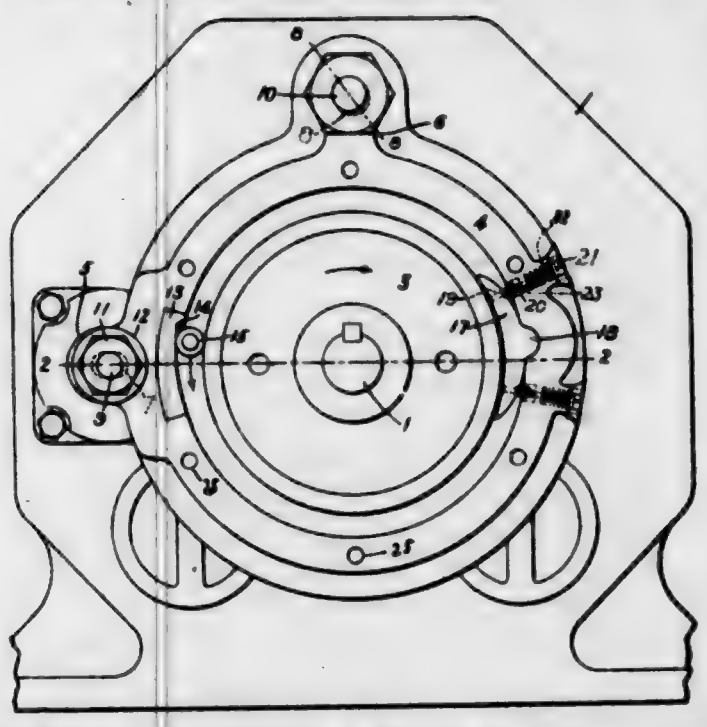
6. In a steam-turbine, a valve-casing, a plurality of valves arranged therein and operating to control the supply of pressure medium to the turbine, a rod connected to move with each valve in the opening and closing movements thereof, a cylinder or chamber associated with each valve, a piston operating in each cylinder or chamber and connected to its associated stem or rod, means for supplying a pressure medium to opposite sides or faces of each piston to maintain the same balanced, means for yieldingly maintaining each valve closed when said piston is in balanced condition, independent means for automatically unbalancing each piston to move its connected valve, said rod or stem projecting through the casing to a point exteriorly thereof to afford means for indicating the movements of its connected valve, as and for the purpose set forth.

7. In a turbine, a valve-casing, a plurality of valves arranged therein and operating to control the supply of pressure medium to the turbine, a stem or rod connected to move with each valve and extending to a point exterior of the casing, a piston connected to each valve, a chamber in which each piston operates, independent means for exposing the opposite sides or faces of each piston to a pressure medium to effect a balancing thereof and including a valve-controlled passage, pressure-supply and pressure-exhaust communications with said passage, and means for operating the controlling-valve for each passage, as and for the purpose set forth.

8. In a steam-turbine, a casing, a plurality of valves arranged therein and operating to control the supply of pressure medium to the turbine, a valve stem or rod connected to move with each valve and extending exteriorly of the valve-casing, a piston connected to each valve, a spring arranged to bear against each piston and tending to normally seat its associated valve, independent means for supplying pressure medium to the opposite sides or faces of each piston, said means including a passage, said passage communicating with the chamber in which its associated piston operates and on one side of said piston and also communicating with a drain or exhaust connection, valves to control said supply and exhaust communications, and means for actuating said last-mentioned valves, as and for the purpose set forth.

9. In a steam-turbine, a valve-casing, a plurality of valves arranged therein for controlling the supply of pressure medium to the turbine, a rod connected to move with each valve and extending exteriorly of the valve-casing, a cylinder or chamber associated with each valve, a piston arranged in each cylinder or chamber and connected to its associated valve, passages leading from the valve-chest to opposite ends of each cylinder or chamber, and auxiliary valves controlling the supply and exhaust from one end of each cylinder, all combined and arranged as and for the purpose set forth.

804,414. **BRAKE MECHANISM.** CARL W. LARSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 28, 1904. Serial No. 200,280.



Claim.—1. In combination, a drum or wheel, a coöperating brake-shoe therefor, a member provided with a surface separated from said drum or wheel by a wedge-shaped space, a movable member jammed or wedged into said space by the rotation of the drum in one direction to displace said surface, and means for causing the displacement of said surface to force the brake-shoe against the drum or wheel.

2. In combination, a rotating drum or wheel, a frame in proximity thereto, said frame being provided with a braking-surface and a member provided with a surface separated from the drum or wheel by a wedge-shaped or tapered space, a member adapted to be wedged in said space to displace said second surface, and means for causing the displacement of said second surface to bring about an operative engagement between the drum or wheel and the braking-surface.

3. In combination, a drum or wheel, an annular frame surrounding said drum or wheel, said frame being provided with a braking-surface and a member provided with a surface separated from the frame or wheel by a wedge-shaped or tapered space, said surfaces being substantially diametrically opposed to each other, and a member adapted to be wedged between said drum or wheel and said second surface to displace the frame and move the braking-surface into engagement with the drum or wheel.

4. In combination, a drum or wheel, a support, a frame provided with a braking-surface, means connecting the frame and support, said means allowing a limited movement of said frame, and means operated automatically by the rotation of said drum or wheel in one direction to bring said frame into braking connection with said wheel or drum.

5. In combination, a shaft provided with a braking-surface, a frame member surrounding said shaft and provided with a coöperating braking-surface, a supporting member by which said frame member is supported by means comprising a pin carried by one of said members which engages a slot inclined to the vertical formed in the other of said members, the parts being so arranged that the pin normally bears against one of the end walls of the slot under the action of gravity on the frame with said coöperating braking-surface out of engagement with the first-mentioned braking-surface.

6. In combination, a horizontal shaft provided with a cylindrical braking-surface, a supporting member, a frame member provided with a braking-surface at one side of said shaft, in proximity to the first-mentioned braking-surface, a connection between the frame member and the supporting member at the other side of said shaft comprising a pin carried by one of said members and a slot extending radially to said shaft in the other of said members, and a connection between the supporting member and the frame member above the shaft comprising a pin carried by one of said members and a slot formed in the other said member, said slot being inclined to the vertical with its lower end extended toward said braking-surface.

7. In combination, a shaft provided with a cylindrical braking-surface, a supporting member, a frame member provided with a braking-surface, connections between said frame member and said supporting member allowing a limited movement of the frame member relative to the supporting member, said connections between said frame member and said supporting member being such that the said braking-surface is normally held out of contact with the first-mentioned braking-surface, and means for automatically moving the frame member to cause an engagement between the two braking-surfaces when the shaft starts to revolve in one direction.

8. In combination, a shaft provided with a cylindrical braking-surface, a frame provided with a braking-surface located at one side of the shaft and coöperating with the first-mentioned braking-surface and with a second surface located at the other side of the shaft and separated from the braking-surface by a tapered or wedge-shaped space, and a roller member located in said tapered or wedge-shaped space.

9. In combination, a shaft provided with a cylindrical braking-surface, a frame provided with a braking-surface located at one side of said shaft and coöperating with the first-mentioned braking-surface, and with a second surface located at the other side of said shaft, and separated from the cylindrical braking-surface by a tapered space, and a resilient roller member located in said tapered space.

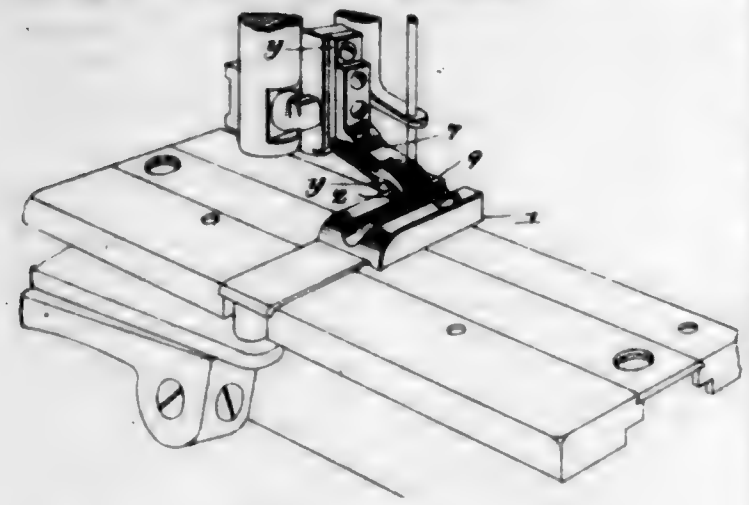
10. In combination, a shaft provided with a cylindrical braking-surface, a frame provided with a braking-surface located at one side of said shaft and coöperating with the first-mentioned braking-surface, and with a second surface located at the opposite side of said shaft and separated from the cylindrical braking-surface by a tapered space, and a roller member located in said tapered space, said roller member comprising a number of resilient rings flexibly connected together.

11. In combination, a shaft provided with a cylindrical braking-surface, a frame provided with a braking-surface located at one side of said shaft and coöperating with the first-mentioned braking-surface and with a second surface located at the opposite side of said shaft and separated from the cylindrical braking-surface by a tapered space, and a roller member comprising a number of resilient rings located in said tapered space.

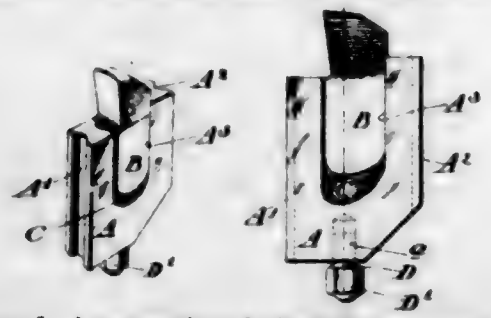
804,415. **GUIDE FOR HARNESS-MACHINES.** MAX LAUTENBACH, Rockport, Ind. Filed Nov. 12, 1904. Serial No. 232,509.

Claim.—A guiding means for harness-sewing machines, comprising in combination, a throat-plate member having in its upper face a centrally-disposed groove extending transversely with respect to the bed-plate of the machine, said groove being curved in cross-section to receive the curved central portion of the work, and the flat top of the plate forming supports for the opposite sides of the work, a presser-foot member arranged to engage with one side of the work and provided with a pointed edge forming a stitch-receiving groove, and an auxiliary detachable presser-foot member having a trans-

versely-curved groove in its lower face for contact with the top of the curved portion of the work, and a flange for engaging and holding that edge of the work opposite the presser-foot.



804,416. **ADJUSTABLE SAW-TOOTH.** WILFRED LEWIS, Philadelphia, Pa. Filed May 25, 1904. Serial No. 209,681.



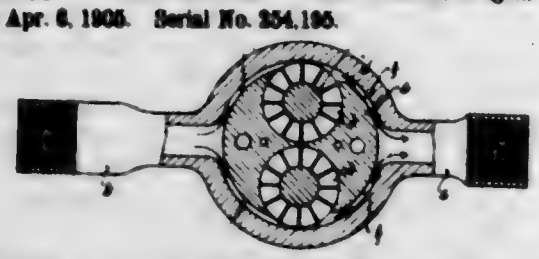
Claim.—1. A removable and adjustable saw-tooth holder adapted to be used as one of a series to be set in chambers formed in a saw-blade, said holder having an abutment adjustably secured to its base by which its position in the blade is determined.

2. A removable and adjustable saw-tooth holder adapted to be used as one of a series to be set in chambers formed in a saw-blade, said holder having a threaded perforation in its base and a screw-abutment adjustably screwing into said perforation in its base by which its position in the blade is determined.

3. A saw-blade having a series of chambers F, in its periphery said chambers having their bases F^3, arranged at the same distance from the center of the blade, in combination with removable and adjustable saw-tooth holders adapted to fit in chambers F, and having abutments adjustably secured to their bottoms and adapted to rest on the bases F^3, of the chambers F.

4. A saw-blade having a series of chambers F, in its periphery said chambers having their bases F^3, arranged at the same distance from the center of the blade in combination with removable and adjustable saw-tooth holders adapted to fit in chambers F, and having threaded perforations in their bottoms and abutment-screws screwing into said perforations and adapted to rest on the bases F^3, of the chamber F.

804,417. **WATER-METER.** LOUIS LEBEUS, Hagen, Germany. Filed Apr. 6, 1905. Serial No. 254,195.

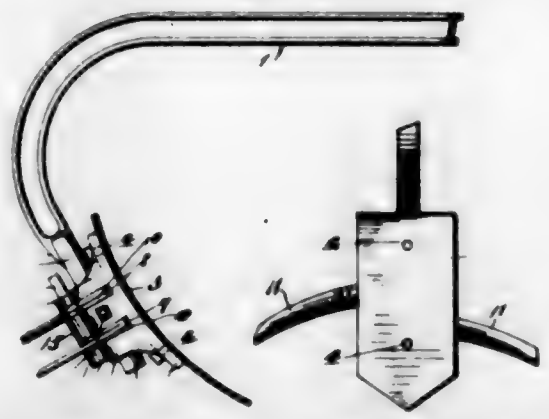


Claim.—1. In a water-meter the combination of a casing having inlet and outlet ports axially arranged on opposite sides thereof, a recessed insertion fitting within the casing and formed with a circumferential groove communicating with the inlet and outlet ports, paddle-wheels mounted in recesses of said insertion symmetrically to the axis of the casing and extending across the circumferential groove of the insertion, means for insuring the simultaneous rotation of the paddle-wheels, and means for registering the number of rotations of the said wheels.

2. In a water-meter the combination of a casing having inlet and outlet ports axially arranged on opposite sides thereof, a cylindrical recessed insertion fitting within the casing and formed with a circumferential groove of rectangular section communicating with the inlet and outlet ports, paddle-wheels of equal diameter mounted in the recesses of said insertion symmetrically to the axis of the casing and extending across the circumferential groove of the insertion, means for insuring the simultaneous rotation of the paddle-wheels and means for registering the number of rotations of the said wheels.

3. In a water-meter the combination of a cylindrical casing *a* having inlet and outlet ports axially arranged on opposite sides thereof, a cylindrical insertion *e* fitting within the casing *a* and formed with a circumferential groove *f* of rectangular section communicating with the inlet and outlet ports, paddle-wheels of equal size mounted in the recesses *d* of the insertion *e* symmetrically to the axis of the casing and extending across the circumferential groove *f* of the in-insertion *e*, means for insuring the simultaneous rotation of the pad-dle-wheels and means for registering the number of rotations of the said wheels.

804,418. **WEED-CUTTER FOR CULTIVATORS.** JOHN B. LONG and HOWARD A. STEPHENS, Indianapolis, Ind. Filed Aug. 7, 1905. Serial No. 273,149.



Claim.—1. In a weed-cutting means for cultivators, the combination with a depending plow-supporting stem, a plow-saddle and the sleeve thereof provided with a longitudinally-extending stem-receiving bore and a knife-receiving notch formed transversely of said sleeve, of a knife situated in said notch and pivoted on said stem, and means for yieldingly maintaining said knife in position.

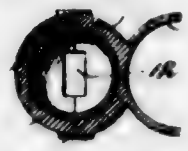
2. In a weed-cutting means for cultivators, the combination with a depending plow-supporting stem, a plow-saddle and the sleeve thereof provided with a longitudinally-extending stem-receiving bore and a knife-receiving notch formed transversely of said sleeve, of a knife having its cutting edge curved to recede, and means for yieldingly maintaining said knife in position.

3. In a weed-cutting means for cultivators, the combination with a depending plow-supporting stem, a plow-saddle and a vertically-extending sleeve situated to the rear of said saddle and provided with a longitudinally-extending stem-receiving bore and knife-receiving notches formed transversely of the bore of said sleeve, of knives, having forward receding curved edges, situated in said notches to extend outwardly from the sides of said sleeve, and means for yieldingly maintaining said knives in their relative positions.

4. In a weed-cutting means for cultivators, the combination with a depending plow-supporting stem, a plow-saddle and the sleeve thereof provided with a longitudinally-extending stem-receiving bore, a longitudinally-extending boss situated integral on the rear of said sleeve provided with a longitudinally-extending retaining-pin-receiving bore and a knife-receiving notch extending transversely of said boss and sleeve, of a knife situated in said notch and pivoted on said stem, a segmental portion extending partially around the bore of said knife and provided with a plurality of bores adapted to register with the bore of said retaining-pin boss, and a retaining-pin constructed of a material weaker than said stem.

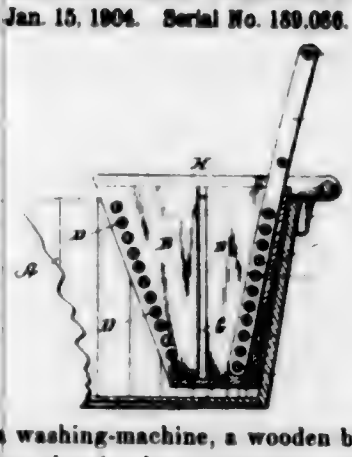
5. In a weed-cutting means for cultivators, the combination with a depending plow-supporting stem, a plow-saddle and the sleeve thereof provided with a longitudinally-extending stem-receiving bore, a longitudinally-extending boss formed integral on the rear of said sleeve provided with a longitudinally-extending retaining-pin-receiving bore, and a plurality of knife-receiving notches extending transversely of said boss and sleeve, of knives situated in said notches and pivoted on said stem to extend downwardly from the sides and to the rear of the shovel of the plow, a segmental portion extending partially around the bores of said knives and provided with a plurality of bores situated radially of said knife-bores and adapted to register with said longitudinally-extending retaining-pin-receiving bore, and a retaining-pin constructed of a material weaker than said stem.

804,419. CULTIVATOR ATTACHMENT. WILLIAM J. LUTTRELL, Honeygrove, Tex. Filed June 22, 1905. Serial No. 266,490.



Claim.—In a cultivator the combination with a draft-beam; of a yoke connected thereto and constituting a saddle, an integral socket upon the yoke and at one side of the beam, a cap on the socket, said cap and socket having registering recesses in their edges forming apertures, both the cap and recess forming a substantially spherical recess between the apertures, a hollow ball within said spherical recess, said ball being formed of similar semispherical sections having registering recesses in their edges, a shovel-beam extending through the apertures between the socket and cap and through the recesses of the ball-sections, and means extending through the socket and cap for clamping the ball-sections therebetween and upon the beam.

804,420. WASHING-MACHINE. JEANNETTE H. MACLAY, Brattleboro, Vt. Filed Jan. 15, 1904. Serial No. 189,086.



Claim.—1. In a washing-machine, a wooden box having sides with vertical openings therein, front cross-bars, and a rear cross-piece with a bar below the same, and means for attaching the said box to the side of a tub, combined with a pounder or presser composed of side pieces and cross-bars and pivoted in said box near the bottom thereof, and having a rigid handle extending above the top of the box.

2. In a washing-machine, a box rectangular in cross-section and having its front and rear sides flaring from the bottom to the top, the front side composed of bars with openings between, said box being open at the lower rear side and being provided with suspensory devices, combined with a rocking pounder having openings in its body and pivoted within and near the bottom of said box, said pounder having an operating-handle extending above the top of the box.

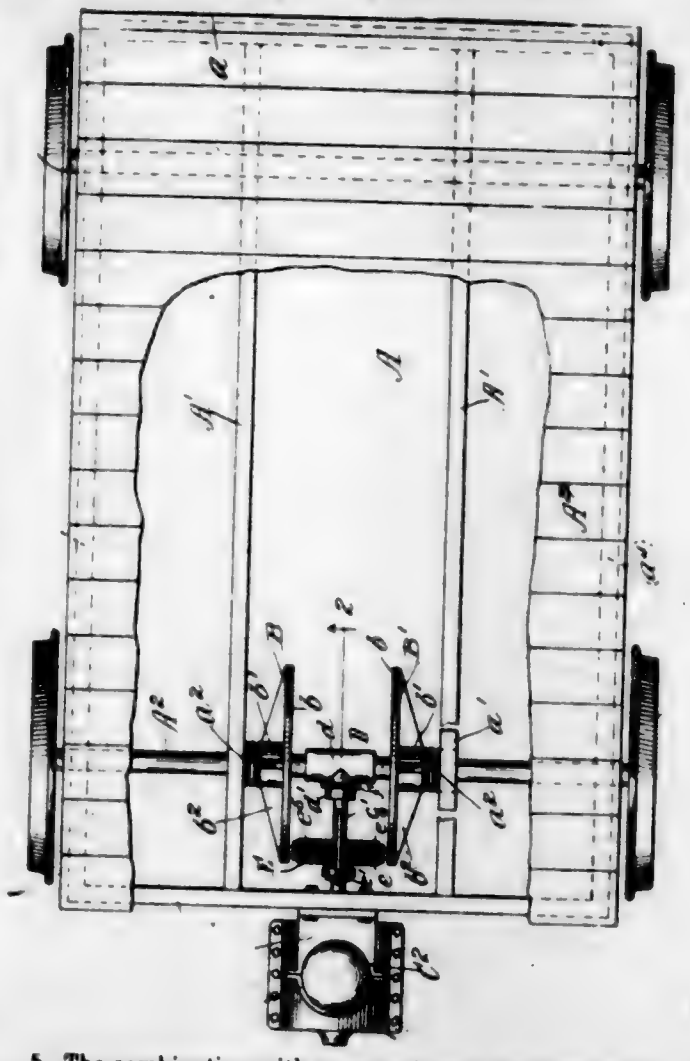
804,421. VARIABLE-SPEED TRANSMISSION FOR VEHICLES. GEORGE W. MARBLE and WILLIAM R. DONALDSON, Chicago, Ill. Filed Dec. 7, 1904. Serial No. 235,908.

Claim.—1. A reversible speed-transmission device comprising a driven shaft, parallel friction-disks rigidly secured thereon, a pivotally-supported motor, a driving-shaft therefrom projecting between the disks, a driving friction-wheel on said shaft, a bearing for the driving-shaft adjustably engaged on the driven shaft, and a lever adapted to swing said driving friction-wheel into engagement with either friction-disk.

2. A reversible speed-transmission device embracing a driven shaft, friction-disks rigid thereon, a pivotally-supported motor, a driving-shaft extending therefrom, a driving friction-wheel slidable thereon and positioned between the friction-disks, a bearing for the driving-shaft supported on said driven shaft, levers adapted to shift the driving friction-wheel to vary speed and direction and detents locking said levers when adjusted.

3. A reversible speed-transmission device embracing a driven shaft, friction-disks rigid thereon, a pivotally-supported motor, a driving-shaft extending therefrom, a driving friction-wheel slidable thereon and positioned between the friction-disks, levers adapted to shift the driving friction-wheel to vary speed and direction, detents locking said levers when adjusted and a sliding bearing on the driven shaft in which the end of the driving-shaft is journaled.

4. The combination with a car-frame, and one of its axles, of a motor pivotally supported on said frame, coacting means carried on said motor-shaft and said axle and operated by partly rotating the motor, acting to determine the direction of motion of the car, a bearing for said shaft slidably engaged on said axle, and means for varying the speed of drive independently of the motor rate.



5. The combination with a car and one of its axles of a motor pivotally supported on the car, a motor-shaft slidably supported at one end on the axle, disks rigidly secured on the axle, a driving friction-wheel slidable on the motor-shaft, a detent-controlled lever, acting to shift the driving friction-wheel on the motor-shaft and means adapted to swing the engine to permit the driving friction-wheel to engage either disk.

6. In a device of the class described, the combination with a car-frame, and the axle thereof, of a friction member rigidly engaged on said axle, a motor pivotally supported on the frame, a drive-shaft on said motor slidably engaged on said axle and means carried thereon adapted when said engine is turned on its pivot to engage said friction member thereby driving the car.

7. In a device of the class described, the combination with a car-frame, and the axle thereof, of a friction member rigidly engaged on said axle, a motor pivotally supported on the frame, a shaft on said motor having its inner end adjustably supported on the axle, means carried thereon adapted when said engine is turned on its pivot to engage said friction member thereby driving the car, and means acting independently of the speed of the motor acting to vary the speed of the car.

8. The combination with a car-frame and one of its axles, of a plurality of inwardly-facing friction-disks rigidly engaged on said axle, antifriction-bearings on said axle, adapted to take the longitudinal thrust of the axle, a constant-speed motor pivoted on said frame, a motor-shaft driven thereby and slidably supported at one end on the axle, a driving friction-wheel slidable on said motor-shaft and positioned between the friction-disks, locking means acting to shift said driving friction-wheel to vary speed and means adapted to lock the driving friction-wheel into engagement with either of said disks.

9. In a device of the class described the combination with a car and one of its axles, of a pair of inwardly-facing friction-disks rigidly engaged on said axle, a motor pivotally supported on the car-frame, a driving-shaft operated by said motor, means slidably engaged on the axle affording a bearing for the rear end of said shaft, a driving friction-wheel longitudinally adjustable on said motor-shaft and means acting to throw the same into and out of engagement with said disks.

10. In a device of the class described the combination with a vehicle-frame, and one of its axles, of a pair of inwardly-facing friction-disks rigidly engaged on said axle, a constant-speed motor pivotally engaged on said frame, a driving-shaft operated thereby adapted to swing in the arc of a circle, a driving friction-wheel slidably engaged

thereon a lever pivoted on said frame adapted to move said friction-wheel longitudinally of its shaft, a bearing-yoke on the rear end of said shaft adapted to engage the axle and a lever engaged on said yoke adapted to move said driving friction-wheel laterally into engagement with either disk.

804,422. LOOSE-LEAF-BINDER LOCK. HENRY C. MILLER, Milwaukee, Wis. Filed Oct. 10, 1904. Serial No. 227,773.



Claim.—1. In a loose-leaf binder having a clamping-screw for its members and also having a supporting-plate, a journal-bearing for the clamping-screw comprising a strip of metal bent around the clamping-screw with its ends folded upon themselves to form shoulders beneath the clamping-screw bearing on the supporting-plate, said ends passing through the supporting-plate and bent back against the back of said supporting-plate to firmly secure the bearing thereto.

2. In a loose-leaf binder having a supporting-plate and clamping-screw for its members, journal-bearings for the clamping-screw comprising strips of metal bent around reduced portions of the clamping-screw near the ends thereof with their ends folded upon themselves beneath the clamping-screw to form shoulders bearing on the supporting-plate, said ends passing through the supporting-plate and bent in opposite directions against the back thereof, said journal-bearings being confined between shoulders of the clamping-screw to constitute thrust-bearings therefor.

3. A loose-leaf binder, comprising a back-piece, corner-pieces slidable thereon, a clamping-screw mounted on the back-piece, means connecting the clamping-screw with the corner-pieces whereby the corner-pieces may be moved toward or away from each other by the turning of the clamping-screw, a means for turning the clamping-screw, said means being exposed through an opening in the binder, and a lock adapted to close said opening and render the operating means inaccessible.

4. A loose-leaf binder, comprising a back-piece, corner-pieces slidable thereon, a clamping-screw mounted on the back-piece, nuts on the clamping-screw, links connecting the nuts with the corner-pieces whereby the corner-pieces may be moved toward or away from each other by the turning of the clamping-screw, means for operating the clamping-screw, said means being exposed through an opening in the end of the back-piece, and a lock on said end of the back-piece adapted to close the opening and render the operating means inaccessible.

5. A loose-leaf binder, comprising a back-piece with bent-up ends, corner-pieces slidable on the back-piece and forming slip-joints with the bent-up ends thereof, a clamping-screw mounted on the back-piece, means connecting the clamping-screw with the corner-pieces whereby the corner-pieces may be moved toward or away from each other by the turning of the clamping-screw, a wrench-hold on the clamping-screw, said wrench-hold being exposed through an opening in one of the bent-up ends of the back-piece, and a lock adapted to close said opening and render the wrench-hold inaccessible.

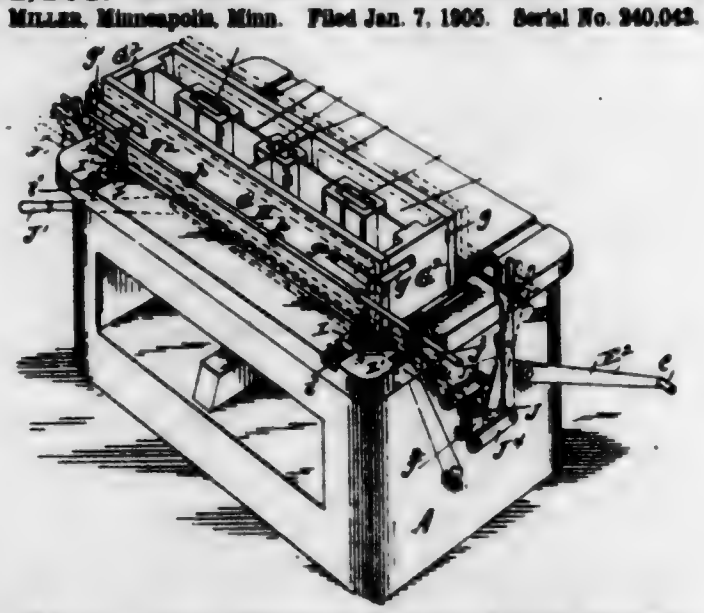
6. In a loose-leaf binder, a back-piece having turned-up ends, corner-pieces slidable on the back-piece and forming slip-joints with the turned-up ends thereof, a clamping-screw having right and left hand screw-threads near its ends, means for connecting the clamping-screw with the corner-pieces, bearings for the clamping-screw comprising strips of metal bent around the clamping-screw at reduced portions thereof with their ends folded upon themselves beneath the clamping-screw and forming shoulders bearing on the back-piece, said ends passing through the back-piece and bent in opposite directions against the back of the back-piece, a wrench-hold on the end of the clamping-screw adapted to be engaged through an opening in a turned-up end of the back-piece, and a lock on said turned-up end of the back-piece adapted to close the said opening and prevent access to the wrench-hold.

7. In a loose-leaf binder, a back-piece having bent-up ends, corner-pieces slidable on the back-piece and forming slip-joints with the bent-up ends thereof, a clamping-screw mounted on the back-piece and having connection with the corner-pieces whereby the turning of the clamping-screw will move the corner-pieces toward or away from each other, a wrench-hold on the clamping-screw adapted to be exposed through an opening in a bent-up end of the back-piece, a lock-casing mounted on said bent-up end of the back-piece, and a slide movable in the casing and having an opening to register with the opening in the bent-up end of the back-piece when in one position, said slide adapted to be moved to carry its opening out of register with the opening of the back-piece and close said opening of the back-piece to prevent access to the wrench-hold.

8. In a loose-leaf binder, a back-piece having turned-up ends, corner-pieces slidable on the back-piece and forming slip-joints with the turned-up ends thereof, a clamping-screw mounted on the back-piece and having connection with the corner-pieces by which the corner-pieces may be moved toward or away from each other by the turning of the clamping-screw, a wrench-hold on the clamping-screw adapted to be engaged through an opening in a turned-up end of the back-piece, a lock-casing mounted on said turned-up end of the back-piece and having an opening registering with the opening thereof, a plate slidable in the casing, a spring set in the plate and bearing on a wall of the casing, said plate having an opening adapted to register with the opening in the casing and expose the wrench-hold therethrough in one position of the plate and an angular lug on the plate, whereby a key may be entered through a keyhole in the casing to engage the angular lug of the plate and move it to a position in which it closes the opening of the casing.

9. In a loose-leaf binder, a back-piece having turned-up ends, corner-pieces slidable thereon and forming slip-joints with the turned-up ends thereof, a clamping-screw, means for mounting the clamping-screw on the back-piece comprising strips of metal bent around the clamping-screw in reduced portions near the ends thereof, said strips having their ends bent over upon themselves to form shoulders beneath the clamping-screw bearing on the back-piece, the ends passing through the back-piece and bent over on the back thereof, means connecting the clamping-screw with the corner-pieces whereby the turning of the screw will force said corner-pieces nearer together or farther apart, a wrench-hold on the clamping-screw exposed through an opening in a turned-up end of the back-piece, a lock-casing mounted on said turned-up end of the back-piece and having an opening registering with the opening thereof, and a slide movable in the lock-casing adapted in its movements to cover and uncover said registering openings.

804,423. MACHINE FOR MAKING CEMENT BLOCKS. JOHN MILLER, Minneapolis, Minn. Filed Jan. 7, 1905. Serial No. 240,043.



Claim.—1. In a machine for making cement blocks, the frame, a molding-box having removable side and end walls supported by cleats traveling in guides formed in the frame, means for spreading the walls of the molding-box apart for the removal of the cement block, consisting of bars removably engaged to the side walls, suitable lever mechanism engaging said bars, whereby they may be forced apart or brought toward each other, and means for operating said lever mechanism, substantially as described.

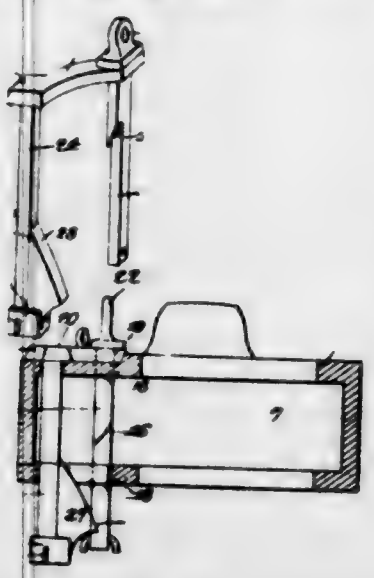
2. In a machine for making cement blocks, the frame, a molding-box having removable side and end walls, the end walls being hinged to one of the side walls, means for locking the side and end walls together when assembled, means for spreading the walls of the molding-box apart for the removal of the cement block, consisting of independent bars removably engaged to the side walls, suitable lever mechanism engaging said bars, and means for operating said lever mechanism whereby said side walls may be spread apart or returned to their initial positions, substantially as described.

3. In a machine for making cement blocks, the frame, a mold-

ing-box having removable side and end walls, said side walls supported by cleats traveling in guides formed in the frame whereby the said walls may be spread apart or brought together, means for spreading apart the side walls to provide for the removal of the cement block, a removable bottom section, cores mounted on a reciprocating member traveling in suitable guides, means for raising said member and the cores mounted thereon, consisting of a rocking lever engaging said reciprocating member, means for operating said rocking lever, means for holding said cores in an elevated position consisting of swinging dogs mounted on a suitable shaft, and means for operating said shaft whereby said dogs are thrown under the reciprocating member when raised, substantially as described.

4. In a machine for making cement blocks, a molding-box provided with removable side and end walls, means for spreading the walls apart for the removal of the cement block consisting of bars removably secured to the side walls, suitable lever mechanism engaging said bars, means for operating said lever mechanism, cores mounted on a reciprocating member traveling in guides secured to the frame, a slotted lever mechanism engaging said reciprocating member by which the same may be raised, swinging dogs mounted on a suitable shaft provided with means for throwing said dogs under the reciprocating member whereby the cores are held in an elevated position while the block is being formed, substantially as described.

804,424. CAR-COUPLING. DAVID P. MORAN, Wichita, Kans. Filed July 3, 1905. Serial No. 268,125.



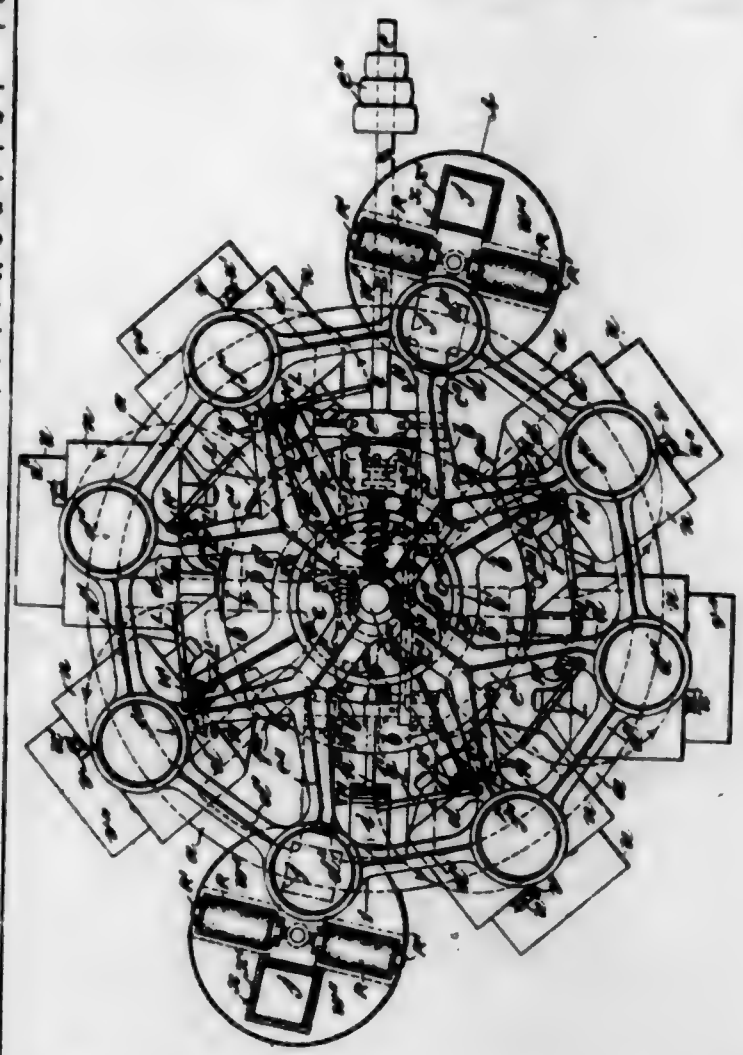
Claim.—1. In a car-coupling, the combination with a coupling-head having a recess formed therein, of a pivoted knuckle mounted for swinging movement within said recess and provided with a locking-lug, a knuckle-opener carried by the coupling-head and provided with a laterally-extending slotted arm, a vertically-slidable locking-pin adapted to engage the locking-lug and having its upper end passing through the slot in said arm and normally supported in operative position by the latter, said pin being movable to release position by the knuckle-opener and capable of independent vertical movement.

2. In a car-coupling, the combination with a coupling-head having a recess formed therein, of a pivoted knuckle mounted for swinging movement within said recess and provided with a locking-lug, a knuckle-opener carried by the coupling-head and provided with a detachable ejecting-cam, and a vertically-movable locking-pin adapted to engage the locking-lug and slidably mounted in the knuckle-opener, said pin being capable of independent vertical movement.

3. In a car-coupling, the combination with a coupling-head having a recess formed therein, of a pivoted knuckle mounted for swinging movement within said recess and provided with a locking-lug, a vertically-slidable locking-pin adapted to engage said lug for securing the knuckle in coupled position, a knuckle-opener comprising an ejecting-cam provided with a terminal socket, and a rod seated in said socket and provided with a laterally-extending arm having a slot formed therein for the reception of the locking-pin.

4. In a car-coupling, the combination with a coupling-head, of a pivoted knuckle mounted for swinging movement within said recess and provided with a locking-lug, a vertically-slidable locking-pin adapted to engage said lug for securing the knuckle in locked position, a rod extending through the recess of the coupling-head and provided at its upper end with a laterally-extending arm having a slot formed therein for the reception of the locking-pin, and a detachable ejecting-cam provided with a socket for the reception of the lower end of said rod, said socket serving to limit the upward movement of the rod.

804,425. AUTOMATIC MACHINERY OR APPARATUS FOR DECORATING AND GLAZING TILE AND OTHER ARTICLES OF POTTERY-WARE, GLASS, &c. FREDERICK MOUNTFORD, Stoke-upon-Trent, England. Filed Nov. 10, 1903. Serial No. 180,706.



Claim.—1. A machine for decorating and glazing tiles and other similar articles of pottery-ware, glass, metal and other objects comprising a bed or frame a central shaft carried thereby, a frame capable of having a rising and falling and rotary movement about said shaft, tile gripping or holding mechanism carried by said frame, a cam mounted on the shaft and provided with grooves, a stationary frame carrying rollers engageable with said grooves and adapted to cause the tile-carrying frame to have a step-by-step rotary movement, a rotary cam, a pivoted weighted lever operated thereby to lift the tile-carrying frame, means for opening and retaining open the tile-gripping mechanism while a decorated tile is discharged and an undecorated tile placed in position, means for spraying, flipping or brushing decorative material onto the tiles, means for operating the spraying flipping or brushing mechanism and for taking it out of action as required, means for determining the length of time during which the spraying mechanism shall be in action, means for adjusting the timing mechanism, means for presenting the tiles to and receiving them from the tile-carrying frame and means for operating the tile presenting and receiving means substantially as described.

2. A machine for decorating or glazing tiles and other similar articles of pottery-ware, glass, metal and other objects, comprising a bed or frame, a central shaft carried thereby a tile-carrying frame capable of having a rising and falling and rotary movement about said shaft, tile gripping or holding mechanism carried by said frame, means for giving the tile-carrying frame a rising and falling and step-by-step rotary motion, means for spraying, flipping or brushing decorative or glazing material onto the tiles, means for operating the spraying flipping and brushing mechanism and for taking it out of action as required, means for determining the length of time during which the spraying mechanism shall be in action and means for adjusting the timing mechanism substantially as described.

3. In a machine for decorating or glazing tiles and the like, a frame or bed, a central shaft carried thereby, a tile-carrying frame mounted on said shaft, means for giving the frame a step-by-step ro-

tary motion and a raising and lowering motion at each pause in the rotary motion, and decorating means with which the tiles are brought into active relation at each pause of the rotary movement of the frame.

4. In a machine for decorating or glazing tiles and the like, a frame or bed, a central shaft carried thereby, a tile-carrying frame rotatably mounted on the shaft, a cam mounted on said tile-carrying frame provided with inclined grooves, a stationary frame, rollers carried thereby engaging the grooves of the cam, and means for giving a rising and falling motion to the cam and tile-carrying frame.

5. In a machine for decorating or glazing tiles and other objects, a frame or bed, a central shaft carried thereby, a tile-carrying frame rotatably mounted on the shaft, a cam mounted on said tile-carrying frame provided with inclined grooves, a stationary frame, rollers carried thereby engaging the grooves of the cam, and means for giving a rising and falling motion to the cam and tile-carrying frame comprising a suitably-operated pivoted weighted lever having connection with the tile-carrying frame.

6. In a machine for decorating or glazing tiles or other objects, a shaft, a cam mounted thereon and capable of a rising and falling movement, said cam being provided with V-shaped grooves, a stationary frame having rollers coacting with the grooves of the cam.

7. In a machine for decorating tiles or other objects, a shaft, a cam mounted thereon provided with V-shaped grooves on its periphery, a sleeve loosely mounted on the shaft and supporting said cam a pivoted weighted lever engaging the said sleeve, a second cam engaging the lever, and worm-gear for operating said cam.

8. In a machine for decorating or glazing tiles or other objects, a tile-carrying frame having a rising and a falling movement and an independent rotary movement, and mechanism for gripping and releasing the tiles carried by said frame.

9. In a machine for decorating or glazing tiles or other objects, gripping and releasing mechanism comprising a plate, levers carried by said plate provided with pins to engage with the tile or tiles, and a spring-controlled rod and links adapted to operate the said levers, a tile-carrying frame, and pins secured to the tile-carrying frame and adapted to engage holes in said plate.

10. In a machine for decorating or glazing tiles and other objects, a central stationary frame, color-receptacle having stationary brushes and rotatable flipping or spraying arms which lift the glaze or color onto the stationary brushes, rotatable shafts, wheels carried by said shafts in engagement with each other, clutches formed on the wheels and on the shafts carrying the rotatable flipping or spraying arms, and a bevel-wheel mounted on one of the aforesaid shafts carrying the engaging wheels, a larger bevel-wheel mounted on the central stationary frame of the machine and gearing with the first-mentioned bevel-wheels and means for giving the larger bevel-wheel an intermittent motion.

11. In a machine for decorating tiles and other objects, means for giving a variable intermittent motion to the glaze spraying flipping or brushing mechanism, comprising a constantly-rotating shaft, a friction-roller carried by said shaft, a friction-disk adapted to receive motion from the said friction-roller and provided on its surface with a non-concentric extension, a pivoted lever engaged by said extension, a slidable clutch on the main driving-shaft operated by the lever, a bevel-pinion carried by the main driving-shaft and having a clutch-face to be engaged by the clutch, and a weight on the pivoted lever to release the clutch.

12. In a machine for decorating or glazing tiles and other objects tile gripping and releasing mechanism comprising a plate, levers carried by said plate provided with pins to engage with the tile and a spring-controlled rod and links adapted to operate the said levers substantially as and for the purposes described.

13. In a machine for decorating or glazing tiles and other objects tile gripping and releasing mechanism comprising a plate, ribs or projections formed on the face of the plate, two pairs of levers carried by said plate provided with pins to engage with the tiles, projecting ribs formed on the face of the plate and a spring-controlled rod having links connecting it with one pair of the levers and projecting pins connecting it with the other pair of levers substantially as and for the purpose described.

14. In a machine for decorating or glazing tiles and other objects a tile-carrying frame having a rising and falling and rotary movement, provided with a series of holes adapted to receive and hold in position a series of removable plates carrying tile gripping and releasing mechanism substantially as described.

15. In a machine for decorating or glazing tiles and other objects the combination with a tile-carrying frame having a rising and falling and rotary movement and provided with holes, of a series of plates carrying tile gripping and releasing mechanism mounted in the holes and adapted to partake of the rising and falling and rotary movement of the tile-carrying frame substantially as and for the purposes described.

16. In a machine for decorating or glazing tiles and other objects, tile gripping and releasing mechanism having spring-controlled rods, means for operating same comprising a rotatable cam, pivoted levers in engagement with the cam, other levers pivoted on the frame of the machine engaging with the first-named levers and having their free ends adapted to engage with the spring-controlled rods of tile-gripping mechanism substantially as described.

17. In a machine for decorating or glazing tiles and other objects the combination with tile gripping and releasing mechanism having spring-controlled rods and with the means for operating such mechanism, said means comprising pivoted levers, of a rotary frame adapted to rise and fall so as to bring the spring-controlled rods of the tile-gripping mechanism into contact with the pivoted levers of the mechanism for operating the tile gripping and releasing mechanism substantially as described.

18. In a machine for decorating or glazing tiles and other objects the combination of a bed or frame carrying a central shaft or stud, a tile-carrying frame mounted on said shaft and adapted to receive a rising and falling and rotary movement, a series of plates carried by the frame provided with tile gripping and releasing mechanism, means for operating the tile gripping and releasing mechanism and means for operating the latter substantially as described.

19. In a machine for decorating or glazing tiles and other objects means for spraying, flipping or brushing the glaze or colors onto the tiles consisting of a glaze or color receptacle one or more stationary brushes and rotatable arms adapted to lift up the glaze or color onto the stationary brushes and to bend the bristles of the latter so as to discharge the glaze through an opening in the receptacle substantially as and for the purposes described.

20. In a machine for decorating or glazing tiles and other objects the combination with the color or glaze receptacle, stationary brushes and rotatable arms engageable therewith of weighted arms connected to said rotatable arms at different angles substantially as and for the purpose described.

21. In a machine for decorating or glazing tiles and other objects the combination with glaze or color spraying or flipping mechanism and with a stencil-plate carried by the latter of a tile-carrying frame adapted to receive a rising and falling and rotary motion so as to cause the tiles carried by . to act as a seal to the color or glaze receptacle and prevent the color or glaze from escaping from the color-receptacle except through the pattern or patterns in the stencil plate or plates and upon the tiles substantially as described.

22. In a machine for decorating or glazing tiles and other objects the combination of a series of color or glaze receptacles provided with means for spraying flipping or brushing the color or glaze onto the tiles and operated by bevel-wheels, of a centrally-arranged bevel-wheel in gear with all the bevel-wheels of the color-distributing devices and adapted to receive motion from the main driving-shaft of the machine so as to cause the various colors or glazes to be sprayed flipped or brushed simultaneously onto the different tiles substantially as described.

23. In a machine for decorating or glazing tiles and other objects means for varying the time during which the glaze or color shall be sprayed flipped or brushed onto the tiles comprising a friction-disk a constantly-rotating shaft, a slidable friction-roller mounted on said shaft engaging with the friction-disk and adapted to be moved across the face of such disk so as to bring it nearer to its center or periphery substantially as described.

24. In a machine for decorating or glazing tiles and other objects a color or glaze receptacle having rotatable spraying or flipping arms means for supplying the color or glaze receptacle with color or glaze comprising a supply-tank an endless rotatable band suspended from the shaft of one of the rotatable spraying or flipping arms, a bobbin or roller suspended in the loop of the endless band so as to keep it immersed in the supply-tank, agitating-vanes carried by said roller a scraper on the color-receptacle adapted to come in contact with the rotatable band so as to remove the color therefrom and a spout to lead it into the color or glaze receptacle substantially as described.

25. In a machine for decorating or glazing tiles or other objects the means for giving a design, variegated or "mottled" color effect on the tile or other object comprising a receptacle for the color provided with an opening or openings across which the tile or other object is placed, a brush or roller located in the color or glaze receptacle provided with resilient projections of different lengths and adapted to be rotated in the color-receptacle and traversed beneath

the tile or other object, a pinion carried by the axle of the brush or roller engaging with a rack carried by the color or glaze receptacle, and a suitably-operated crank-arm connected to the brush for moving it along the rack.

26. In a machine for decorating or glazing tiles and other objects the combination with a tile-carrying frame adapted to receive a rising and falling and rotary motion of one or more automatically-operated tile feeding ad receiving tables substantially as described.

27. In a machine for decorating or glazing tiles and other objects a tile gripping and releasing mechanism, a tile feeding and receiving mechanism comprising a rotatable shaft carrying a table, and tile carriers or plates mounted in said table adapted to be brought into position beneath the tile gripping and releasing mechanism substantially as described.

28. In a machine for decorating or glazing tiles and other objects the combination with a rotatable feed-table having tile-gripping mechanism of tile carrying and receiving plates comprising plates provided with mats on which the tiles are placed, spring-shanks projecting from said plates through the feed-table and means for engaging the shanks whereby the plates are raised to present the tiles to the tile-gripping mechanism and to receive the tiles discharged by the latter substantially as described.

29. In a machine for decorating or glazing tiles and other objects the combination with the feed-tables and tile-carrying plates having spring-shanks, of means for lifting the tile-carrying plates into position for presenting the tiles said means comprising a rotatable shaft carrying a cam engaging with a pivoted lever said lever in turn engaging with the under side of the spring-shanks of said tile-carrying plates substantially as described.

30. In a machine for decorating or glazing tiles and other objects, a pair of tile-feeding tables, means for giving intermittent rotation to the tile-feeding tables comprising a train of wheels operated by the driving-shaft of the machine, a second shaft loosely carrying the last wheel of the train, bevel-wheels located on said shaft engaging with similar wheels on the shafts of the feed-tables, a clutch-face forming part of the last wheel of the train and a slidable clutch on the second shaft substantially as described.

31. In a machine for decorating or glazing tiles and other objects the combination with the feed-tables having tile-gripping mechanism of rotatably-mounted felt or similar rollers resting in troughs containing water and adapted to clean the tile-gripping mechanism as the tables are rotated substantially as described.

32. In a machine for decorating or glazing tiles and other objects the means for cleaning the stencils of any superfluous glaze or color resting thereon after the spraying or flipping operation comprising a series of spring-controlled brushes or wipers and rising and falling and rotatable tile-carrying frames having projections to engage the wipers substantially as described.

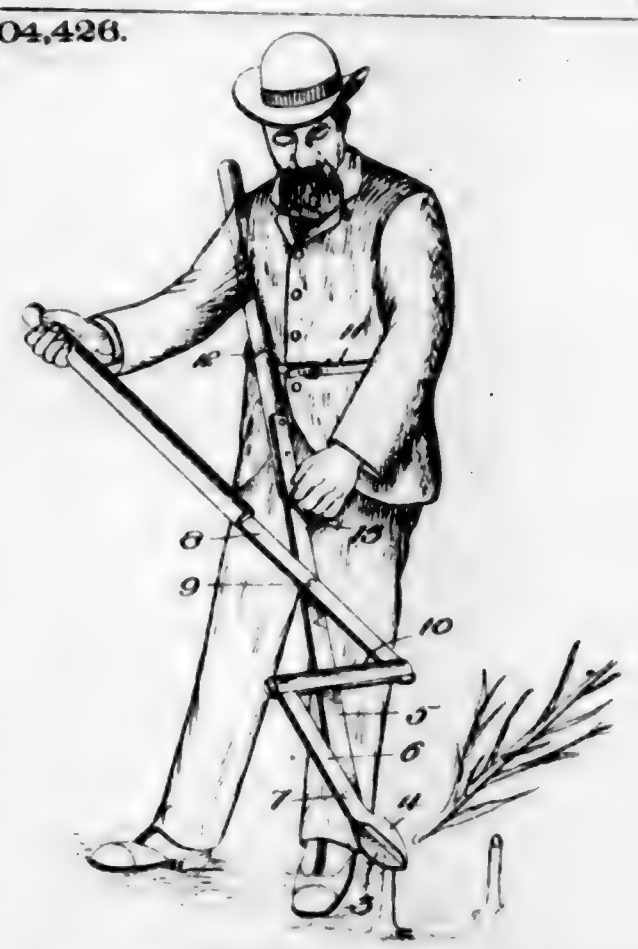
33. In a machine for decorating or glazing tiles and other objects, the combination with a tile-gripping mechanism, of two rotatable feed-tables provided with tile-carrying plates having spring-shanks, means for operating or lifting one plate of each table into position to enable the tiles to be gripped simultaneously by the tile-gripping mechanism comprising a projection on one of the spring-shanks of the tile-carrying plates, and a pair of slidable rods connected by links adapted to rise beneath the shanks of the tile-carrying plates.

34. In a machine for decorating or glazing tiles and other objects, feed-tables, mechanism for driving same comprising a train of gears, means for engaging and disengaging the mechanism, for driving the feed-tables comprising a clutch-face formed on a boss of the last wheel of the driving-train, a clutch slidable on the shaft thereof, a pivoted lever engaging with said clutch, a slidable spring-controlled lever engaged by the pivoted lever, a catch on said slidable lever, a rising and falling rotatable tile-frame, an arm moved thereby and adapted to come into contact with the catch on the slidable lever, a cam on the clutch-shaft, and a slidable rod operated by the cam and adapted to disengage the slidable lever from the arm.

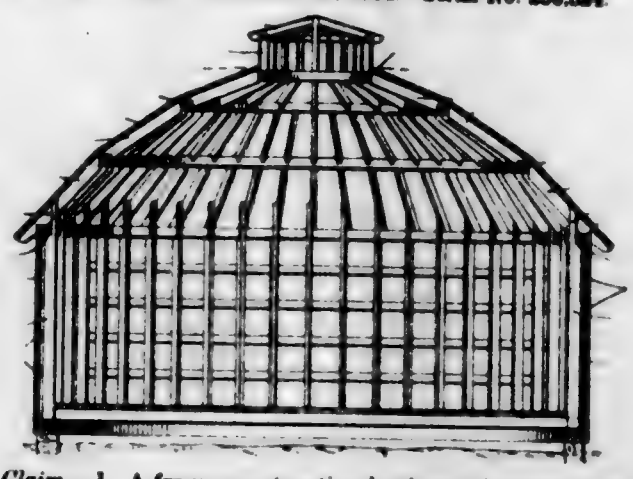
804,426. PRUNING IMPLEMENT. LEVI H. MULLEN, Birchtree, Mo. Filed Feb. 24, 1905. Serial No. 247,104.

Claim.—A pruning implement comprising a handle, and a lever crossing said handle and pivotally connected thereto, said handle and lever having cutting-jaws at their outer ends; an operating-lever crossing the handle and pivotally connected thereto; and a link connecting the lever, said link being in two parts between which the handle extends.

804,426.



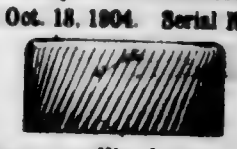
804,427. SELF-SUPPORTING CONICAL ROOF. ISAAC S. MCNAMEE and HORACE DUNCAN, Knightstown, and FRANK L. LITTLETON, Indianapolis, Ind. Filed Dec. 12, 1904. Serial No. 236,594.



Claim.—1. A frame construction having a circular foundation, a sill formed of boards arranged edgewise and bent to the curvature of the foundation, studs thereon, plates comprised of boards curved and secured together, and rafters connecting the different plates.

2. In a building of the kind described, a purlin-plate composed of a plurality of boards arranged parallel to each other and curved on the arc of a circle, and means for fastening the said boards permanently together, the said boards breaking joints, as and for the purpose set forth.

804,428. PAPER CUP. CHARLES G. PERKINS, Hartford, Conn., assignor to The Perkins Corporation, Hartford, Conn., a Corporation of Connecticut. Filed Oct. 18, 1904. Serial No. 229,012.

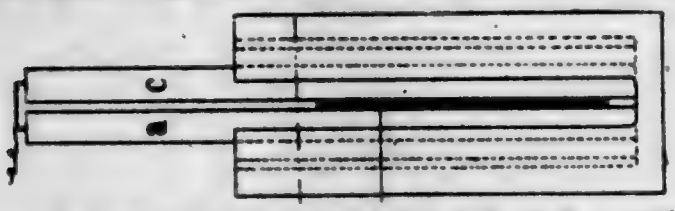


Claim.—A lining for a metallic electric-switch cover comprising a cup stamped to shape from a sheet of flexible electrical-insulating material having a bottom with a central perforation and a cylindrical side wall substantially perpendicular to the bottom, said wall having fine grooves extending spirally from bottom to top, substantially as specified.

804,429. PROCESS FOR MAKING CONTACTS. FRANZ PETS, Nuremberg, Germany. Filed Oct. 20, 1904. Serial No. 229,341.

Claim.—1. The described process of making good electrical contact between two or more conductors, which consists in confining said conductors in contact with each other within a rigid retaining

medium and surrounding the conductors with an adhesive material and finally allowing said adhesive material to expand as it solidifies.



2. The described process of forming good electrical contact between a metallic conductor and two relatively fragile non-metallic conductors, consisting in inclosing the metallic conductor between the two non-metallic conductors in a confining space and subjecting the inclosed conductors to the compressive action of an adhesive material which expands on solidifying.

804,430. TOY BANK. FREDERICK PLATTNER, Cleveland, Ohio. Filed Apr. 3, 1905. Serial No. 253,228.

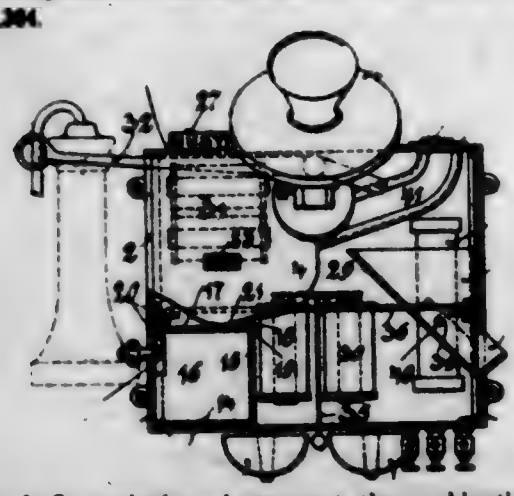


Claim.—1. In a toy money-box, the combination with a box having a coin-slot, of a figure mounted thereon and having a spring-actuated movable arm, a coin-trip under the slot, and a trigger connected to the arm and the trip and acting to release them.

2. In a toy money-box, the combination with a box having a coin-slot, of a figure pivotally mounted thereon and having a swinging arm, a spring connected to the figure and the arm and acting to turn the former and swing the latter, a coin-trip under the slot, and a trigger connected to the trip and to the figure and arm and acting to release them.

3. In a toy money-box, the combination of a base, a slotted anvil mounted thereon and having a pivoted horn acting as a trigger, a figure mounted on the base beside the anvil and having a spring-actuated swinging arm carrying a hammer and arranged to strike toward the anvil, a coin-trip under the slot, and connections between the horn and the trip and arm.

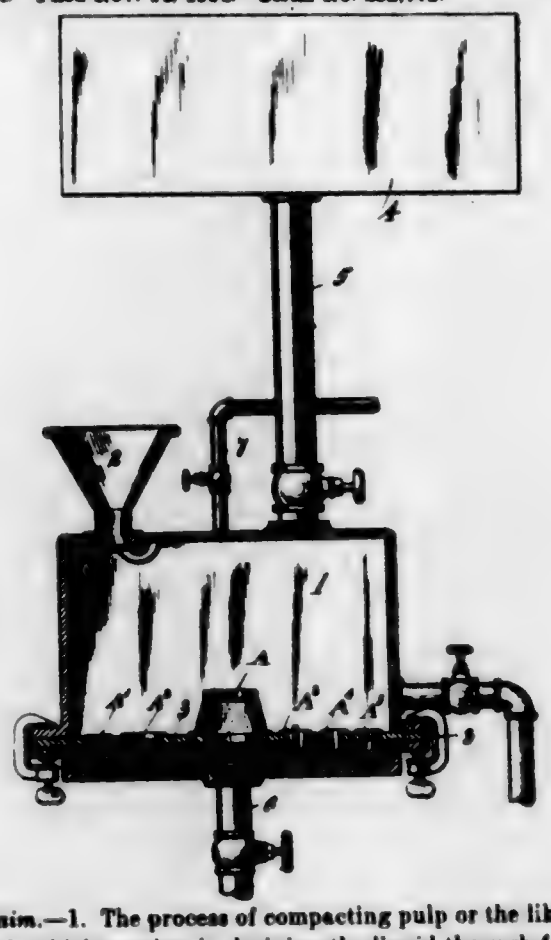
804,431. TELEPHONE INSTRUMENT. HERBERT A. REYNOLDS, New York, N. Y., assignor to Iron Telephone Company, New York, N. Y., a Corporation of South Dakota. Filed Aug. 19, 1904. Serial No. 221,304.



Claim.—1. In a telephone instrument, the combination with a box or casing comprising a fixed back, bottom, and sides, and a cover constituting the front and top portions, hinged to the fixed portion, the sides having oppositely-arranged vertical guideways open-ended into the top portion of the opening closed by the hinged portion, and a diaphragm fitted to slide in said guideways, and removable through said opening, said diaphragm dividing the casing into two compartments, of telephone elements supported by said diaphragm.

2. In a telephone instrument, the combination with a box or casing comprising a fixed back, bottom and sides, a top and front portion secured together and hinged to the main fixed portion, and a removable diaphragm fitted to the main fixed portion dividing the casing into two compartments, of telephone elements, including a telephone-hook, induction-coil, ringer-coils and a clapper supported by said diaphragm and removable therewith, bells secured to the main portion of said casing at the exterior thereof, and a transmitter secured to the hinged portion of the said casing, substantially as set forth.

804,432. PROCESS OF COMPACTING LIQUID-BORNE FIBROUS PULP. JULIAN H. RIVERS, St. Louis, Mo., assignor to Hydro-Press Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed Nov. 14, 1904. Serial No. 232,772.



Claim.—1. The process of compacting pulp or the like diffused in liquid, which consists in draining the liquid through formers arranged to receive and retain the pulp or the like in mass, and forcing a stream or flow of clear water through the formers and the mass until the required density is attained.

2. The process of compacting pulp or the like which consists in diffusing the pulp or the like in liquid, draining the liquid through perforated formers arranged to hold the pulp or the like in mass, and forcing clear water through the mass after the liquid carrying the same has been drained through the formers, substantially as specified.

3. The process of compacting liquid-diffused pulp into stationary formers, which consists in draining through the formers that amount of liquid which will evenly fill the formers with pulp, and then forcing clear liquid through the formers and the contents until the contents are compacted to the required density.

4. The process of compacting pulp into prearranged formers, which consists in diffusing the pulp in liquid, driving a predetermined amount of diffused pulp against the formers, and forcing clear liquid through the pulp after the liquid in which it had been diffused has passed through the formers.

5. The process of compacting pulp into shaped articles, which consists in feeding a predetermined amount of liquid-diffused pulp into a container having formers, agitating the liquid while in the container, driving the liquid through, and the pulp into, the formers, and finally driving clear liquid through the pulp after it has been deposited in the formers.

6. The process of compacting liquid-borne fibrous or other material, which consists in causing the liquid to pass, under pressure, through perforated formers and to deposit the fibrous or other material within the formers and forcing a quantity of clear liquid under pressure to follow the material-bearing liquid through the formers.

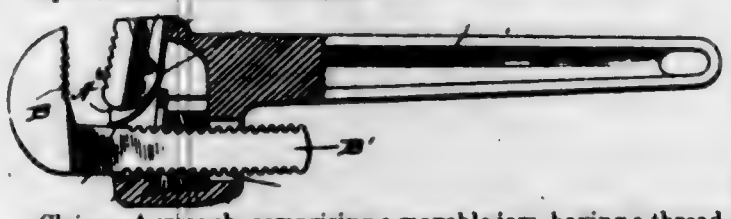
7. The process of compacting liquid-borne fibrous or other material which consists in causing the liquid, bearing the exact amount of material required to fill predisposed perforated formers, to pass through such perforated formers and to deposit the fibrous or other material within said formers, and forcing a quantity of clear liquid under pressure to follow the material-bearing liquid through said formers.

8. The process of compacting fibrous material which consists in depositing said material within formers arranged to hold the material, and forcing clear water or similar liquid under pressure through said material and formers until the required density is attained.

9. The process of compacting fibrous material which consists in arranging a predetermined amount of said material in a perforated former and forcing clear water through the fibrous material so arranged, under pressure greater than that used in the primary arrangement of said material.

10. The process of compacting liquid-diffused pulp or the like which consists in depositing in or near perforated formers that amount of pulp or the like which will evenly fill the formers at a predetermined density, and forcing clear water or similar fluid through said pulp or the like until said pulp or the like is compacted within said formers at the density predetermined.

804,433. **WRENCH.** FRED L. ROBINSON, Wayland, N. Y. Filed Apr. 1, 1905. Serial No. 253,231.



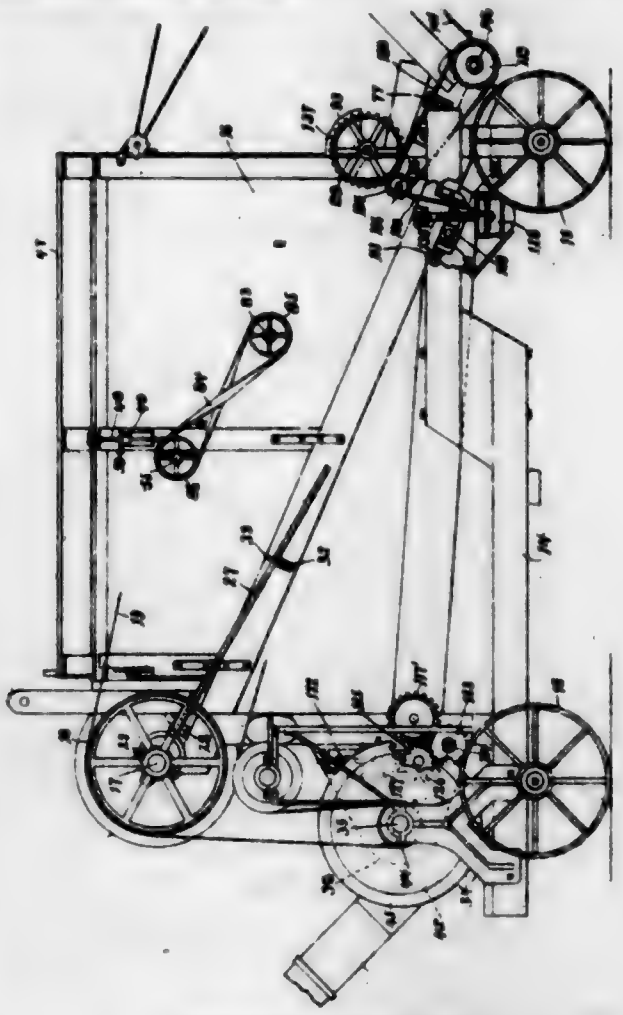
Claim.—A wrench, comprising a movable jaw, having a threaded shank portion, a handle having a chambered end in which said shank portion is held, a nut mounted in said chambered portion of the handle and engaging the threads of said shank portion, the forward end of said chambered portion being recessed, a fixed jaw mounted in said recess, the inner end of said fixed jaw being convexed, a wear-plate mounted in the chambered portion of said handle and seated against a shoulder therein, and having an elongated slot through which the shank portion of the movable jaw has a play and against which plate said nut is adapted to bear, a spring seated in said recess and held by said wear-plate against the rear edge of said fixed jaw at its inner end and bearing yieldingly against the shank portion of the movable jaw, as set forth.

804,434. **CORN-HUSKER AND ENSILAGE-CUTTER.** AUGUST ROSENTHAL, Milwaukee, Wis., assignor to Rosenthal Manufacturing Company, Milwaukee, Wis. Filed Oct. 17, 1902. Serial No. 127,633.

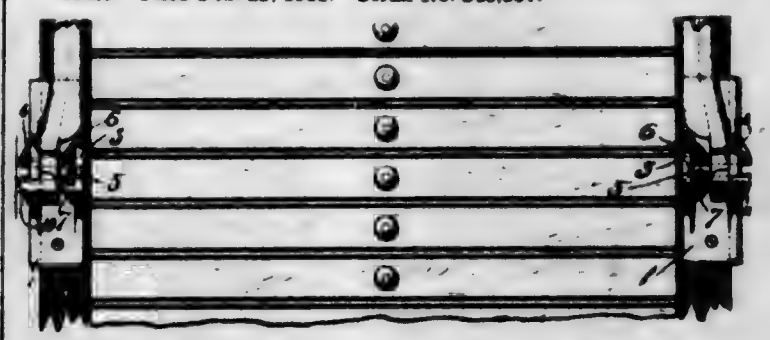
Claim.—1. In a corn-husker, the combination of a hopper, husking-rolls arranged longitudinally therein and supported in suitable bearings at the front and rear of the machine, means for rotating said rolls toward each other, a shaft above the lower discharging ends of the rolls, said shaft provided with a series of projecting arms, and means for rotating said shaft in a direction to compel the arms to act on the ears of corn which travel along the rolls and sweep said ears off the rear bearings of the rolls.

2. In a corn-husker and ensilage-cutter, the combination of a hopper, husking-rolls arranged longitudinally therein, means for rotating said rolls toward each other, a disintegrating device, a slatted platform below the husking-rolls, a solid platform below the slatted platform, an endless conveyer passing over the two platforms, and adapted for conveying material passing between the rolls and caught by the slatted platform to the disintegrating device, and a shaking-trough at one end of the conveyer, and provided with a perforated or reticulated bottom, said trough adapted to receive the material which passes through the slatted platform and falls on the solid platform, the said material being carried by the conveyer over the solid platform to the trough.

3. In a corn-husker and ensilage-cutter, the combination of a hopper, husking-rolls arranged longitudinally therein, means for rotating said rolls toward each other, a disintegrating device, a slatted platform below the husking-rolls, a solid platform below the slatted platform, an endless conveyer passing over the two platforms and adapted for conveying material passing between the rolls and falling onto the slatted platform to the disintegrating device, a shaking-trough at one end of the conveyer and provided with a perforated or reticulated bottom, said trough adapted to receive the material which passes through the slatted platform and falls onto the solid platform, the said material being carried by the conveyer from the solid platform to the trough, a movable conveyer to which the material is conducted by the trough, and means for discharging the lighter particles of the material from said conveyer and conducting said particles back to the slatted platform, means acting on the material carried by said conveyer and adapted for separating the lighter particles from the heavier, and means for conducting said separated heavier particles to a place of deposit.



804,435. **BRACKET.** CARL SCHRAUBSTADTER, St. Louis, Mo., assignor to Inland Type Foundry, St. Louis, Mo., a Corporation of Missouri. Filed Feb. 23, 1905. Serial No. 246,847.



Claim.—1. A bracket comprising a base, an arm pivoted on said base to turn about a substantially horizontal axis, and means to move said arm laterally as it moves pivotally, said means being arranged to hold said arm at one of the extreme positions assumed during its lateral movement while said arm occupies either extreme of its pivotal movement.

2. A bracket comprising a base having forwardly-projecting ears, a substantially horizontal pivot mounted in said ears, an arm on said pivot, projections on the inner side of one of said ears arranged to bear on said arm, the bearing-surfaces of said projections being inclined, and projections on said arm arranged to bear upon the other of said ears, the bearing-surfaces of said projections being inclined, whereby said arm will be caused to move laterally as it moves pivotally and said lateral movement is limited in both directions.

3. A folding bracket comprising a base, an arm pivotally mounted on said base, means to cause said arm to move laterally as it moves pivotally, and a stop on said base to support said arm when it is folded up.

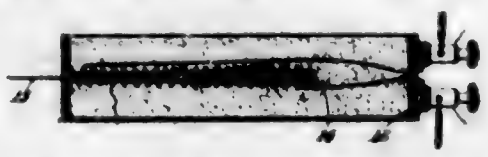
4. A bracket comprising a base provided with forwardly-projecting ears, inclined projections on the inner side of one of said ears and each terminating in a shoulder, an arm pivotally mounted between said ears and having recesses arranged to receive said projec-

tions and each terminating at one end in a wall arranged to engage one of said shoulders when said arm is in its lowermost position.

5. The combination of a cabinet, drawers therein, and folding brackets secured to the opposite sides of said cabinet and comprising arms pivotally mounted to turn about a substantially horizontal axis and arranged to support any one of said drawers when in their lowermost position and to swing out of the path of said drawers when raised.

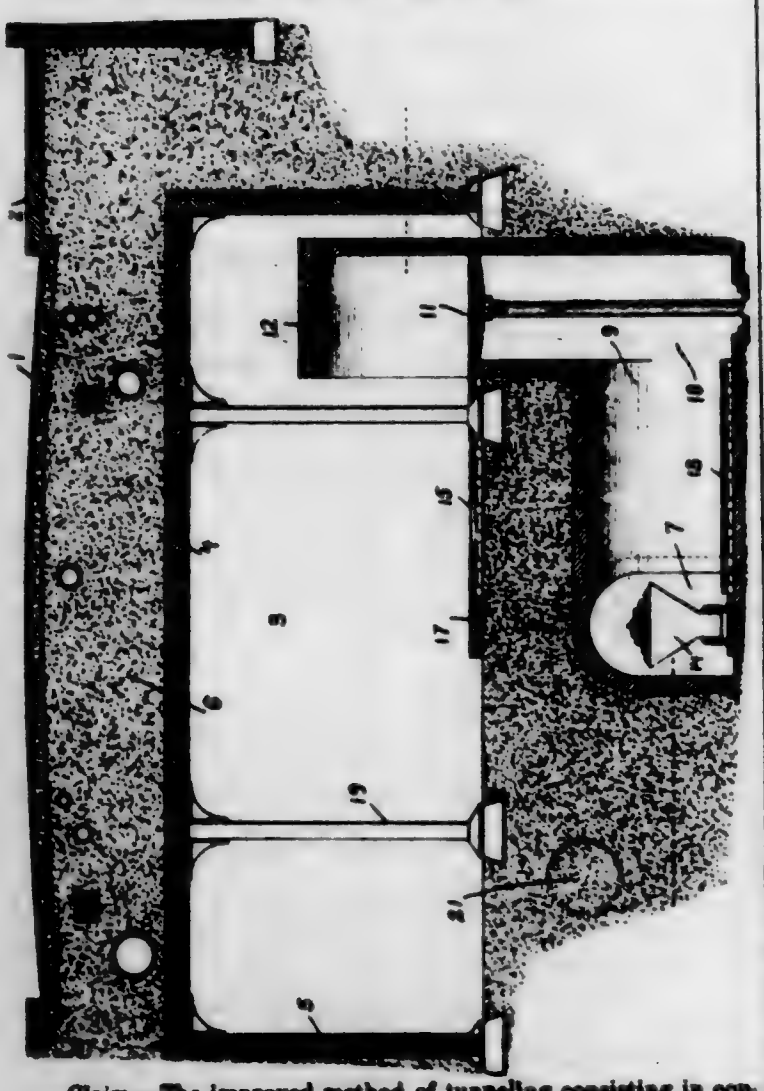
6. The combination of a cabinet, drawers therein, and brackets secured to the opposite sides of said cabinet and comprising arms pivotally mounted to turn about a substantially horizontal axis and provided with flanges, said flanges being arranged to support any one of said drawers when said arms are in their lowermost position and to be moved out of the path of said drawers when raised.

804,436. **TOOL.** CHARLES S. SCHULTE, New York, N. Y. Filed May 26, 1905. Serial No. 262,503.



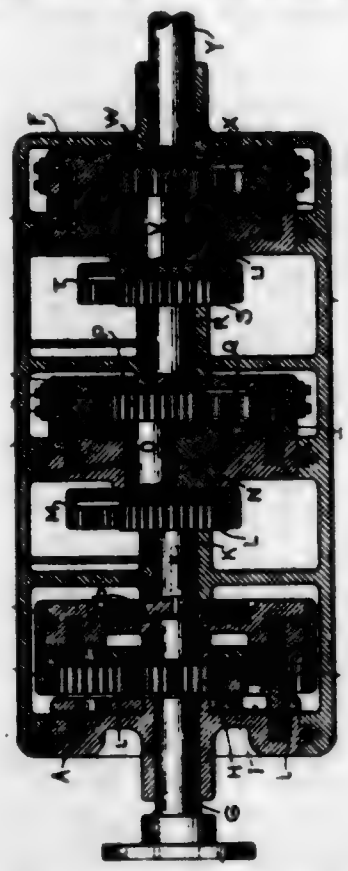
Claim.—In a tool of the class described, a hollow handle having end members of insulating material, a blade extending through an opening formed in one of said members, said blade having a thin flexible outer end, and being tapered from thence toward the opposite inner end to form a thickened and enlarged shank, constituting a heat-reservoir, the tapered surface serving by engagement with the walls of the opening to prevent outward movement of the blade, a resistance-coil surrounding the shank portion of the blade and insulated therefrom, binding-posts carried by the opposite end member and electrically connected to the resistance-coil, and a packing or filling of non-conducting material surrounding the resistance-coil and serving as a means for holding the coil and the shank portion of the blade in place and preventing endwise or lateral movement of such blade.

804,437. **SYSTEM OF TUNNELING.** JAMES W. SEE, Hamilton, Ohio. Filed June 30, 1905. Serial No. 267,727.



Claim.—The improved method of tunneling consisting in constructing a subtunnel below and continuous to the proposed main tunnel; constructing a branch from the subtunnel; constructing an upcut leading from said branch to a point in or contiguous to the line of the proposed main tunnel; and constructing the main tunnel by the aid of said upcut, said branch, and said subtunnel.

804,438. **TRANSMISSION MECHANISM.** CHARLES G. SIMONDS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 23, 1904. Serial No. 213,777.



Claim.—1. In a transmission mechanism, two alined shafts, gears carried at adjacent ends of said shafts, a member journaled between said shafts and in line therewith, a shaft extending through and journaled eccentrically in said member, gears carried at the opposite ends of said shaft and engaging the first-named gears, and means for holding said member stationary and for locking it to one of the first-named shafts.

2. In a transmission mechanism, an inclosing casing two alined shafts journaled therein, gears carried at adjacent ends of said shafts, a member journaled in said casing between said shafts and in line therewith, a shaft extending through and journaled eccentrically in said member, gears carried at the opposite ends of said shaft and engaging the first-named gears, and means for holding said member stationary and for locking it to one of the first-named shafts.

3. In a transmission mechanism, an inclosing casing, two alined shafts journaled therein, gears carried at adjacent ends of said shafts, a member journaled in said casing between said shafts and in line therewith, a shaft extending through and journaled eccentrically in said member, gears carried at the opposite ends of said shaft and engaging the first-named gears, and magnetic clutches adapted to hold said member stationary and to lock it to one of the first-named shafts.

4. In a transmission mechanism, a series of alined shafts, gears carried at adjacent ends of said shafts, a series of members journaled between said shafts and in line therewith, shafts extending through and journaled eccentrically in said members, gears carried at opposite ends of each of said last-named shafts and engaging the first-named gears, and means for holding each of said members stationary and for locking it to one of the first-named shafts.

5. In a transmission mechanism, an inclosing casing, a series of alined shafts journaled in said casing, gears carried at opposite ends of said shafts, a series of members journaled in said casing between said shafts and in line therewith, shafts journaled eccentrically in said members, gears carried at the ends of said shafts and engaging the gears carried by two of the first-named shafts, and means for holding each of said members stationary and for locking it to one of the first-named shafts.

6. In a transmission mechanism, an inclosing casing, a series of alined shafts journaled in said casing, gears carried at opposite ends of said shafts, a series of members journaled in said casing between said shafts and in line therewith, shafts journaled eccentrically in said members, gears carried at the ends of said shafts and engaging the gears carried by two of the first-named shafts, and

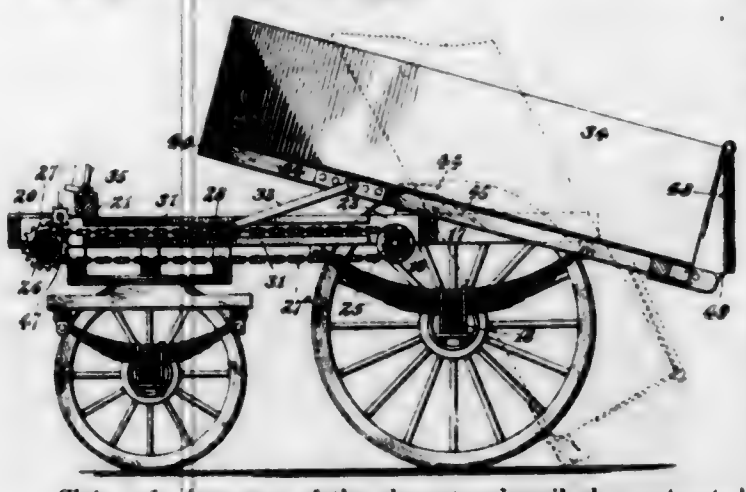
magnetic clutches adapted to lock each of said members to said casing or to one of the first-named shafts.

7. In a transmission mechanism, two alined shafts, a pinion carried at the end of one of said shafts, an internal gear carried at the adjacent end of the other shaft, a member journaled between said shafts and in line therewith, a shaft extending through and journaled in said member, a pinion carried at one end of the last-named shaft and engaging said internal gear, an internal gear carried at the other end of said last-named shaft and engaging the first-named pinion, and means for holding said member stationary and for locking it to one of the first-named shafts.

8. In a transmission mechanism, an inclosing casing, a series of alined shafts journaled in said casing, adjacent shafts carrying at their adjacent ends a pinion and an internal gear respectively, a series of members journaled between said shafts and in line therewith, shafts extending through and journaled eccentrically in said members and each carrying at its opposite ends a pinion and an internal gear respectively each engaging respectively one of said first-named gears and pinions, and magnetic clutches adapted to lock each of said members to said casing and to one of the first-named shafts.

9. In a transmission mechanism, two alined shafts, a pinion carried by one shaft, an internal gear carried by the other shaft, a rotatable member having its axis alined with said shafts, a shaft journaled eccentrically in said member, a pinion and an internal gear carried by the last-named shaft and engaging respectively the first-named gear and pinion, and means for holding said member stationary and for locking it to one of the first-named shafts.

804,439. DUMP-WAGON. JAMES SOMERVILLE, New York, N. Y. Filed Dec. 1, 1904. Serial No. 235,086.



Claim.—1. A wagon of the character described, constructed with a frame and movable body, said frame being provided with extended side pieces and two central pieces, a roller carried by said center pieces at their rear ends, and a sprocket-wheel at their forward ends, a guide-block traveling between said center pieces, an endless chain secured to said guide-block and passing around said roller and sprocket-wheel, a rod pivoted to said guide-block and to the forward part of said body, means for moving chains and guide-block, whereby the body is moved into and out of the dumping position, and means for locking the body in its carrying position, said last-named means including pins fixed to the wagon-body and a transverse locking-rod mounted on the frame and provided with plates to engage with said pins, substantially as described.

2. A wagon of the character described, constructed with a movable body and a frame, the latter being provided with extended side pieces between the ends of which said body fits when in the dumping position, and also with two center pieces, a roller carried between said center pieces at their rear ends, a sprocket-wheel located between said center pieces at their forward ends, an endless chain passing around said roller and sprocket-wheel, a guide-block secured to said chain and between said center pieces, a rod pivoted to said guide-block and to the forward end of said body, means for moving said chain, whereby the body is moved into and out of the dumping position and means for locking the body in its carrying position, said last-named means including pins fixed to the wagon-body and a transverse locking-rod mounted on the frame and provided with plates to engage with said pins, substantially as described.

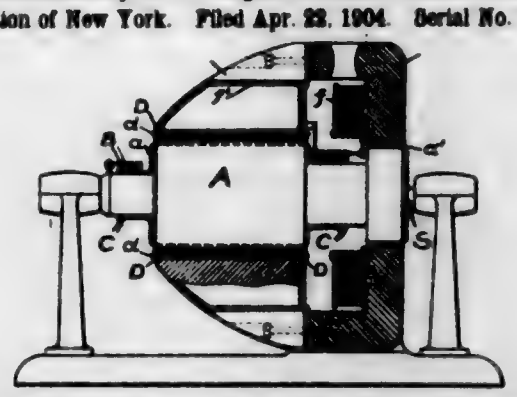
3. A wagon of the character described, constructed with a movable body and a frame, the latter consisting of extended side pieces between the ends of which said body fits when in the dumping position, center pieces forming part of said frame, a roller carried between said center pieces at their rear ends, a sprocket-wheel having a gear-wheel provided thereon, an endless chain passing around said roller and said sprocket-wheel, a guide-block secured to said chain and traveling between said center pieces, a rod pivoted to said guide-block and to the forward part of said body, a horizontally-extending rod mounted on said frame and provided with a gear meshing with said former gears, said rod having an extended end adapted to receive a wrench for turning said rod whereby the guide-block is caused to travel between said center pieces and move said body, substantially as described.

4. A wagon of the character described, constructed with a movable body and a frame, said frame being provided with extended side pieces between the ends of which said body fits when in the dumping position, means for moving said body on said frame, stops secured to said body, hooks secured to said extended side pieces, and with which engage said stops when said body is moved rearwardly, and means for locking the body in its carrying position said last-named means including pins on the wagon-body and a vertically-oscillating member having means for hooking into engagement with said pins, substantially as described.

5. A wagon of the character described, constructed with a frame and a movable body, of pins secured to said wagon-body, and a transverse locking-rod mounted on said wagon-frame and provided with perforated plates adapted to engage with said pins on said wagon-body when the latter is in the carrying position, substantially as described.

6. A wagon of the character described, constructed with a frame and a movable body, said frame having extended side pieces and said body being provided with a pivoted tail-board, and an automatic lock for said tail-board, said lock consisting of a vertically-disposed plate pivoted to said body near its lower end and adapted to engage with the extended side pieces of said wagon-frame, whereby said pivoted plate is raised to its vertical position said plate having the upper end heavier than the lower portion whereby it is overbalanced to release the tail-gate when the body is moved to carry the plate out of engagement with said side pieces when the body is in its carrying position, substantially as described.

804,440. DYNAMO-ELECTRIC MACHINE. CHARLES P. STEINMETZ, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 22, 1904. Serial No. 204,315.



Claim.—1. In a dynamo-electric machine, a drum-armature, a plurality of conductors carried at or near the periphery of said armature, a field structure having a plurality of like poles extending radially inward and surrounding the armature, said poles extending into close proximity to each other adjacent to the armature so as to form a "homopolar" field and diverging from each other as they recede from the armature.

2. In a dynamo-electric machine, a drum-armature, a plurality of conductors carried at or near the periphery of said armature, and a "homopolar" structure surrounding said armature arranged to produce a radial "homopolar" flux and having its circumferential continuity broken by radial wedge-shaped air-gaps.

3. In a dynamo-electric machine, a "homopolar" field structure provided with a winding arranged and connected to produce a practically constant circumferential magnetomotive force in said structure.

4. In a dynamo-electric machine, a "homopolar" field structure provided with a winding arranged and connected to produce a circumferential magnetomotive force in said structure independent in strength of the amount of armature-current.

5. In a dynamo-electric machine, a "homopolar" field structure, a shunt-field winding, and an auxiliary shunt-winding arranged to produce a circumferential magnetomotive force in said structure.

6. In a dynamo-electric machine, a "homopolar" field structure, a winding arranged and connected to produce a substantially constant magnetomotive force radial with respect to the armature, and an auxiliary field-winding arranged and connected to produce a

circumferential magnetomotive force opposed to the magnetomotive force of the armature.

7. In a dynamo-electric machine, a "homopolar" field structure and short-circuited conductors supported at or near the surface of said structure opposite the armature.

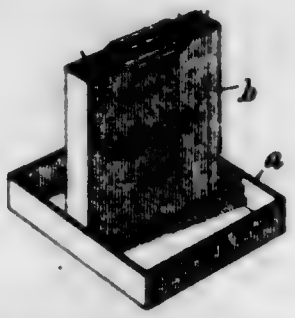
8. In a dynamo-electric machine, a "homopolar" field structure and a "squirrel-cage" winding supported at or near the surface of said structure opposite the armature.

804,441. APPARATUS FOR THE MANUFACTURE OF GENERATOR-GAS. PETER STRENG, Rotterdam, Netherlands. Filed Sept. 1, 1904. Serial No. 222,023.



Claim.—In a gas-generator, the combination of a chamber with a grate that divides the chamber into an upper and a lower compartment, a feed-pipe entering the upper compartment, a pair of transverse pipes communicating with the lower compartment, and upper and lower perforated pipes that connect the transverse pipes, substantially as specified.

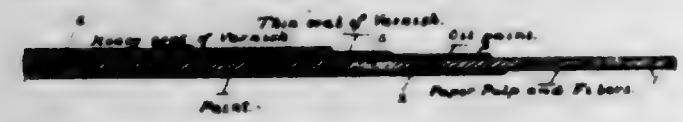
804,442. PHOTOGRAPHIC-PLATE-DEVELOPING APPARATUS. MYRON H. STOCKWELL, Geneva, N. Y. Filed Dec. 20, 1904. Serial No. 237,663.



Claim.—1. In an apparatus for developing and fixing photographic negatives, a photographic-plate holder having a bottom and side walls and shutters, said plate-holder being adapted to be immersed in developing and fixing liquids and being provided with tortuous liquid-passages in its bottom and tortuous air-passages in its sides, said liquid and air passages being disposed wholly between the inner and outer surfaces of the bottom and side walls, respectively.

2. A photographic-plate holder adapted to be immersed in a developing liquid, having a partition dividing it into opposite plate-compartments and having movable shutters, the bottom and one side of each compartment each having a tortuous light-excluding passage formed between the inner and outer walls of said bottom and side, respectively.

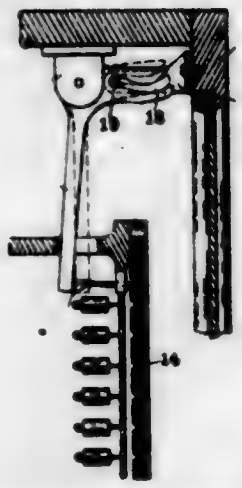
804,443. VENEER COVERING AND PROCESS OF PRODUCING THE SAME. WILLIAM H. STRICKLER, Keokuk, Iowa. Filed July 7, 1905. Serial No. 268,736.



Claim.—1. As a new article of manufacture, a fabric composed of paper-pulp and strong fibers mixed together and coated on one side with a waterproof paint and on its other side, first with an oil-paint suitably grained to imitate a species of wood, then with a thin coating of gum-varnish and finally with a heavy coat of gum-varnish.

2. The process of making a veneer which consists in mixing paper-pulp and a fibrous material together and forming it into a sheet, coating one side of the sheet with a paint, and coating the other side of the sheet with an oil-paint, graining the paint, placing a thin coat of gum-varnish on the grained paint and permitting it to dry, and finally placing a heavy coating of gum-varnish upon the thin coating of gum-varnish.

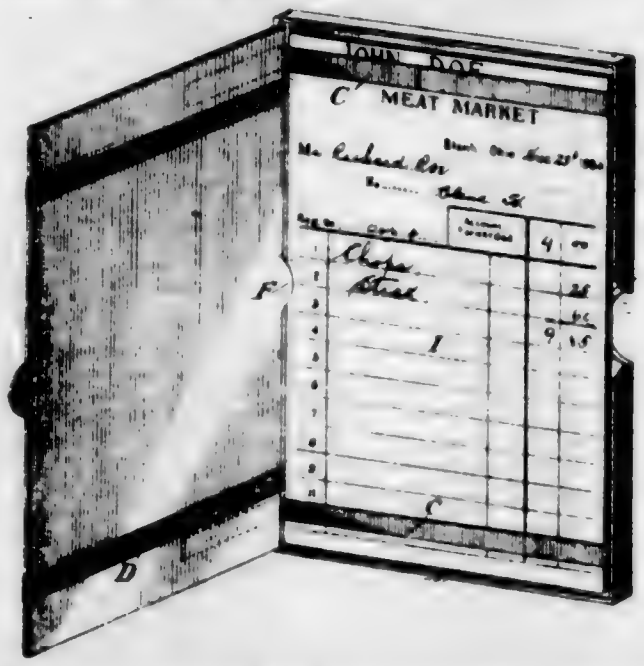
804,444. WATCHMAN'S TIME-RECORDER. JESSE SUMMERS, Indianapolis, Ind., assignor to The Indianapolis Watchman Clock Company, Indianapolis, Ind., a Corporation of Indiana. Filed July 5, 1904. Serial No. 215,277.



Claim.—1. In a watchman's time-recorder, the combination, with a suitable time-train and inclosing case therefor, of a cover forming part of said case, a hanging perforating member normally held by gravity out of perforating position, and means carried by the cover for positively engaging said perforating member and positively moving said perforating member in both directions from normal to perforating position and return when the cover is removed or restored.

2. In a watchman's time-recorder, the combination, with a suitable time-train and inclosing casing therefor, of a perforating member mounted in the casing and provided with a cam-groove 18, a cover forming part of said casing, and a pin carried by the cover and adapted to traverse said cam-groove whereby the perforating member is moved from normal to perforating position and return upon the removal or restoration of the cover.

804,445. BILL-HOLDER. ANDREW J. TICE, Lisbon, Ohio. Filed Feb. 2, 1905. Serial No. 243,901.



Claim.—A holder for loose leaves comprising a back having a peripheral flange extending entirely around the same, the opposite edges of the back being provided with finger-notches which also intersect the flanges intermediate of the ends of the back, a front or cover of a size to fit within the flanged portion of the back and provided at its opposite edges with projecting finger-pieces to lie within the respective notched portions of the flange and be exposed by the notched portions of the back or body, and two pairs of straps, one pair of straps having corresponding ends connected to the front of the body adjacent one edge thereof with their other ends connected to the cover adjacent its opposite edge, and the other pair of straps having corresponding ends connected to the opposite side of the body with their other corresponding ends connected to the opposite edge of the cover.

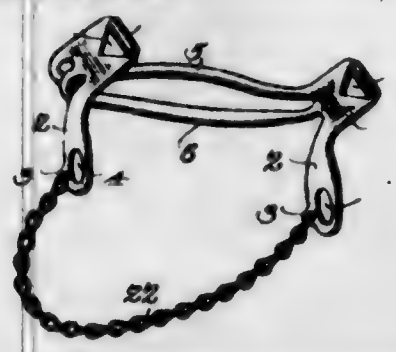
804,446. HARNESS-SADDLE. CHARLES F. WITTENBERG, Springfield, Ill. Filed Mar. 7, 1905. Serial No. 248,831.

Claim.—1. A harness-saddle comprising a yielding arch having holes, screws and turrets fitting in the holes of said arch, pads each having a series of holes and an internal channel or way, and nuts slidable in the channels of the pad and fitting on the screws and on the screw-threaded parts of the turrets.



2. A pad consisting of an upper part of hard leather having a series of holes; an intermediate part of hard leather connected to form a way between said upper part and intermediate part, a lower part connected with said upper and intermediate parts and a filling of yielding material between said lower part and intermediate part; in combination with an arch having holes, screws and turrets fitting in the holes in said arch, and nuts slidable in the way of said pad and fitting on said screws and the screw-threaded parts of said turrets.

804,447. HARNESS-BIT. JOHN BALD, Louisville, Ky. Filed Apr. 17, 1905. Serial No. 256,004.



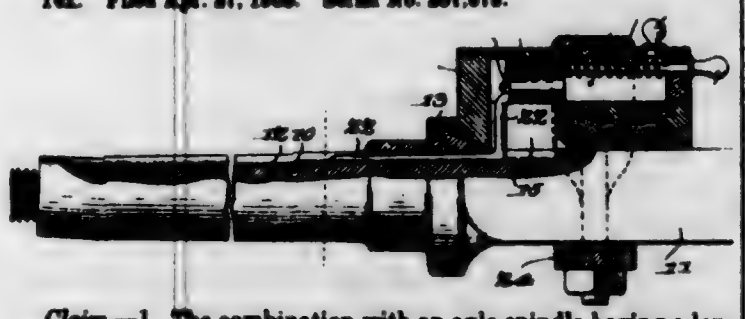
Claim.—1. An overcheck harness-bit embodying a pair of bit-bars, the intermediate portions of which are outwardly bulged and the terminals of which are reduced to secure a spring action.

2. An overcheck horse-bit embodying a pair of mouth-plates each of which carries a downwardly and outwardly curved lever, and a pair of bit-bars carried by the plates, the intermediate portions of which are outwardly bulged and the terminals of which are reduced.

3. An overcheck horse-bit embodying a pair of mouth-plates each of which carries a downwardly and outwardly curved lever, and a pair of bit-bars integral with the plates, the intermediate portions of which are outwardly bulged and the terminals of which are reduced.

4. An overcheck-bit embodying in an integral structure a pair of mouth-plates each of which carries a downwardly and outwardly curved lever, the upper portion of each plate being provided with an orifice and with a bar carrying an antifriction-roller, and a pair of bit-bars combined with the plates and having intermediate outwardly-bulged portions and reduced terminals.

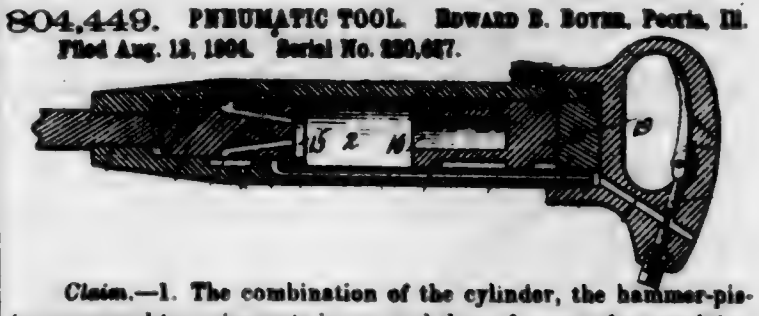
804,448. LUBRICATING-AXLE. JOSEPH A. BRIDWELL, Overton, Tex. Filed Apr. 27, 1905. Serial No. 257,678.



Claim.—1. The combination with an axle-spindle having a longitudinal lubricating-groove, of a lubricant-receptacle associated with the axle and communicating with the groove, a valved plunger mounted to reciprocate in the receptacle, and an arm extending into the groove and secured to and arranged to be positively operated by the plunger.

2. The combination with an axle-spindle having a longitudinal lubricating-groove, of a lubricant-receptacle associated with the axle and communicating with the groove, a valved plunger mounted to reciprocate in the receptacle, a plunger-stem extending through the walls of the receptacle, and an arm extending into the groove and secured to and arranged to be positively operated by the plunger.

804,449. PNEUMATIC TOOL. HOWARD B. BOYER, Peoria, Ill. Filed Aug. 13, 1904. Serial No. 220,627.



Claim.—1. The combination of the cylinder, the hammer-piston arranged to reciprocate in one end thereof, means for supplying motive fluid to actuate the said piston in both directions, and the supplemental imperforate piston arranged to reciprocate in the other end of said cylinder.

2. The combination of the cylinder, the hammer-piston arranged to reciprocate in the front end thereof, the supplemental imperforate piston arranged to reciprocate in the rear end thereof, means for supplying motive fluid to the cylinder between said pistons and an exhaust-duct for permitting the escape of said fluid from the cylinder.

3. The combination of a cylinder, the imperforate piston arranged to reciprocate in one end of said cylinder, the hammer-piston arranged to reciprocate in the other end of said cylinder, means for supplying motive fluid to the said cylinder between said pistons to cause them to move in opposite directions, the hammer-piston to deliver a blow and the imperforate piston to compress the air in the cylinder behind it, the said compressed air serving to cause the forward movement to said piston, the exhaust-duct for permitting the escape of motive fluid from the cylinder and means for supplying motive fluid in front of said hammer-piston to drive it rearwardly.

4. The combination of the cylinder, the hammer-piston adapted to reciprocate in one end thereof and having a passage-way therethrough for the introduction of motive fluid to and its exhaust from said cylinder, the cylinder-inlet duct, the outlet-duct, and the imperforate piston arranged to operate in the rear end of said cylinder and to be driven in one direction by the motive fluid admitted between it and said hammer-piston and in the opposite direction by the air compressed by it within the cylinder during its rearward stroke.

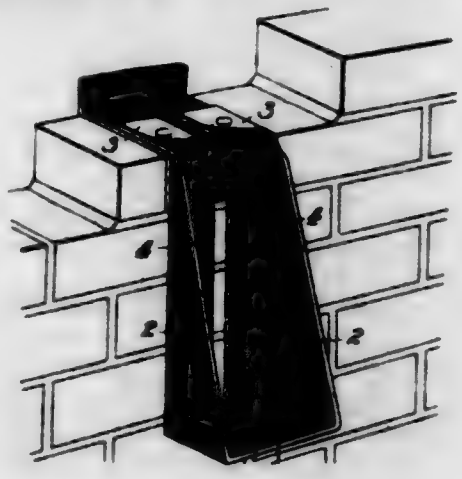
5. The combination of a cylinder, the hammer-piston adapted to reciprocate in one end thereof and having a passage-way therethrough for the introduction of motive fluid to and for its exhaust from said cylinder, the cylinder-inlet duct, the outlet-duct at the front end of the cylinder, and the piston-like body arranged to reciprocate freely in a chamber at the other end of the cylinder, that part of said chamber behind said piston-like body being substantially closed against the passage of air, substantially as set forth.

804,450. TANNING PROCESS. JOHN CAMPBELL, Chicago, Ill. Filed June 15, 1903. Serial No. 161,497.

Claim.—1. The process of tanning hides consisting in soaking the hides in a water solution of a vegetable tanning agent and nitrate of soda.

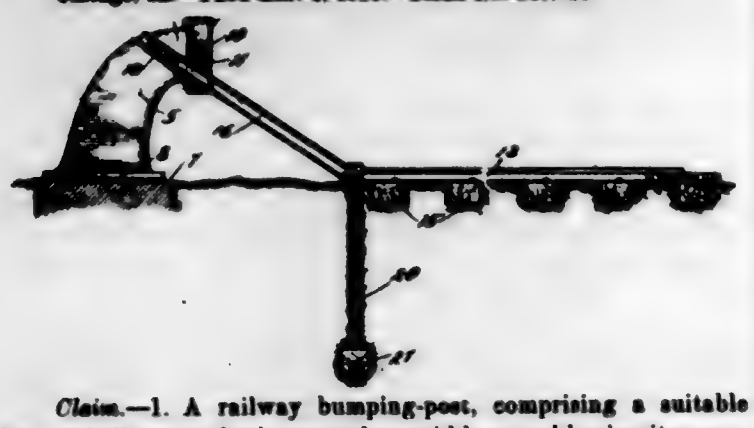
2. The process of tanning hides consisting in soaking the hides in a vegetable tanning solution to which is added nitrate of soda.

804,451. JOIST-HANGER. ALFRED CARLSON, Chicago, Ill., assignor of one-half to Lucien L. Gervais, Chicago, Ill. Filed Mar. 30, 1905. Serial No. 252,653.



Claim.—A wrought-metal joist-hanger, comprising a lower horizontal seat or web, triangular side webs integral with the lower seat or web aforesaid and formed with vertical rear flanges extending toward each other, and upper horizontal bearing-webs integral with and constituting direct angular extensions of said vertical flanges, substantially as set forth.

804,452. RAILWAY BUMPING-POST. GEORGE L. CRATFIELD, Chicago, Ill. Filed Mar. 1, 1905. Serial No. 247,892.



Claim.—1. A railway bumping-post, comprising a suitable base, a hollow standard mounted on said base and having its upper end arranged substantially horizontally, a bumper carried by said standard, and bracing devices connected with the upper portion of the standard.

2. A railway bumping-post, comprising a suitable base, a standard mounted on said base and having its upper end arranged substantially horizontally, a bumper carried by said standard, and bracing devices connected with the upper portion of the standard and extending forward of the bumper.

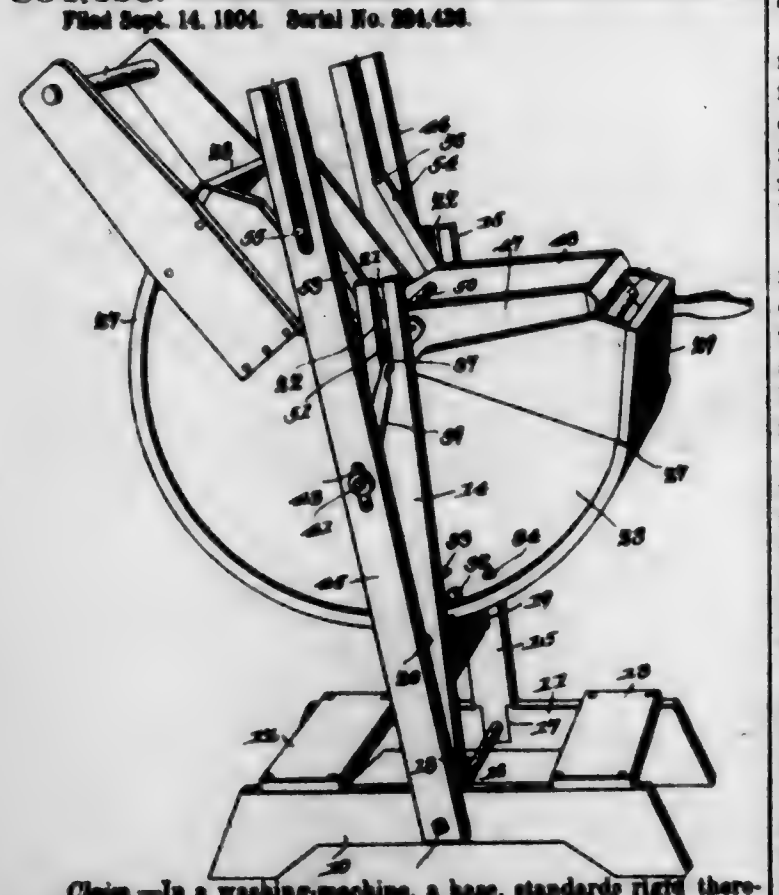
3. A bumping-post, comprising a suitable base, a hollow metal standard mounted on said base, and having its upper end arranged substantially horizontally, and means for bracing said standard.

4. A bumping-post, comprising a base, a hollow metal standard mounted on said base and having its upper end bent into a substantially horizontal position, a bumper carried by said standard, and means for bracing said standard.

5. A bumping-post, comprising a hollow metal standard having its upper end arranged substantially horizontally, a bumper carried by said standard, and means for bracing said standard.

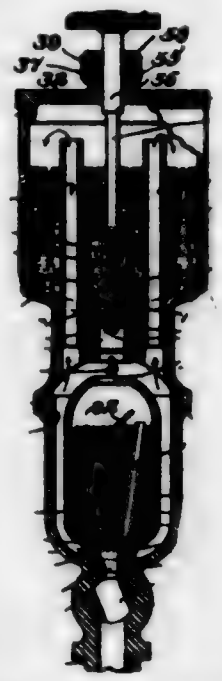
6. A bumping-post comprising a hollow metal standard, a bumper carried thereby, and bracing means connected with the upper portion of said standard and extending forward therefrom.

804,453. WASHING-MACHINE. SETH O. COLLINS, Roxbury, Ohio. Filed Sept. 14, 1904. Serial No. 224,426.



Claim.—In a washing-machine, a base, standards rigid therewith and having their upper terminals slotted, side bars pivotally connected with the base and having their intermediate portions and upper terminals slotted, a rods-box disposed between the standards, crank-arms secured to the rods-box and engaging the slots of the standards and having lateral pintles engaging the intermediate slots of the side bars, a rubber arranged in the rods-box, and brackets carried by the rubber and having pintles to engage the slots in the upper terminals of the standards and the side bars.

804,454. LUBRICATOR. CHESTER COMSTOCK, Brooklyn, N. Y. Filed Feb. 25, 1905. Serial No. 247,058.



Claim.—1. In a lubricator, the combination with a fluid-reservoir, of a receptacle for a non-liquid lubricant, lubricant deflecting and distributing means, means to convey the fluid to said deflecting means, and means to convey the fluid along a surface of and through the lubricant to the parts to be lubricated.

2. In a lubricator, the combination with a fluid-reservoir, of a receptacle for graphite, means in said receptacle for deflecting the flow of the fluid to distribute it over the graphite, means for conveying the fluid onto the deflecting means, and means for conveying the fluid along a surface of and through the graphite to the parts to be lubricated.

3. In a lubricator, the combination with a fluid-reservoir, of a receptacle for containing a non-liquid lubricant, means for conducting a fluid onto the surface of and through the non-liquid lubricant, means for holding the non-liquid lubricant away from a portion of said means, and means for ascertaining the quantity being used.

4. In a lubricator, the combination with a reservoir for fluid of a receptacle for containing a mass of compounded lubricant, means for conducting the fluid to the compounded lubricant, means for ascertaining the amount of fluid being conveyed to said lubricant, means to regulate the quantity of fluid so conveyed, and means to deflect the fluid along surfaces of the lubricant to the parts to be lubricated.

5. In a lubricator, the combination with a fluid-reservoir, of a receptacle for containing a mass of compounded non-liquid lubricant, a deflecting device within said receptacle, means for conveying the fluid onto the deflecting device, a member carried by said device and being adapted to further carry the fluid over a surface of the lubricant to the parts to be lubricated, said fluid becoming laden during its travel with a deposit of the non-liquid lubricant.

6. In a lubricator, the combination with a fluid-reservoir, of a receptacle for containing a non-liquid lubricant, a deflecting device in said receptacle, an open-mesh element carried by said device, means for conveying a quantity of fluid to said device, said element being adapted to further carry said lubricant over a surface to the parts to be lubricated, said fluid becoming ladened during its travel with a deposit of the lubricant.

7. A receptacle for containing a non-liquid lubricating body, a deflecting device mounted thereon, a gauze carried thereby, said member being adapted to conduct a fluid deposited thereon, over a surface of said body to the parts to be lubricated.

8. A lubricator comprising a lubricant-reservoir, a receptacle for containing a mass of non-liquid lubricant, a lubricant-distributing device in said receptacle, means for dropping a lubricant onto said device so that it may be directed to the surface of said lubricant, and an open-mesh member carried thereby along which a combined lubricant may travel to the parts to be lubricated.

9. A lubricator comprising a fluid-reservoir, a receptacle for containing a mass of non-liquid lubricant, a deflecting and distributing device in said receptacle, means for dropping the fluid onto the device, an open-mesh member carried by the device, and along which a combined lubricant may travel, and means for equalizing the pressure in the lubricator with that of the pressure of the device being lubricated.

10. A lubricator comprising a fluid-reservoir, a receptacle for containing a non-liquid lubricant, a fluid-distributing device in said receptacle and onto a surface of which said fluid may drip, an open-mesh member carried by said device, said member being adapted to further convey said fluid over a surface of the lubricant to a port.

11. A lubricator comprising a fluid-reservoir, a receptacle for containing graphite compounded with a suitable substance, a device in said receptacle for deflecting the flow of the liquid and for carrying it to a surface of said graphite, a fluid-conductor in said receptacle, and which is adapted to convey the deflected fluid to and over a surface of the graphite to the parts to be lubricated.

12. A lubricator comprising a fluid-reservoir, a receptacle for containing a mass of non-liquid lubricant, and a fluid-vehicle, a fluid-deflecting device on a surface of which said fluid may drip and then spread over a surface of the mass and an open-mesh member in said receptacle, said member being adapted to convey the fluid from the surface of said mass to the parts to be lubricated.

13. In a lubricator, the combination with an oil-reservoir, of a receptacle for graphite, means to convey a regulated quantity of oil onto a surface of the graphite, and means for deflecting the oil-flow, and to convey the same along a surface of and through the graphite to the parts to be lubricated.

14. In a lubricator, the combination with a reservoir for water, of a receptacle for containing graphite and soft soap, means for conducting said water out of its path of discharge and over a surface of said graphite means for ascertaining the amount of water being discharged, means to regulate the quantity of water so discharged, and means to carry the water along a surface of the graphite to the parts to be lubricated.

15. In a lubricator, the combination with an oil-reservoir, of a receptacle for containing graphite, a standard, a deflector carried thereby, an open-mesh member within said receptacle, means for conveying a quantity of oil onto the surface of the deflector, so that it may spread over a surface of the graphite, said open-mesh member being adapted to further carry the oil over a surface of the graphite to the parts to be lubricated, said oil becoming ladened during its travel with a deposit of the graphite.

16. A lubricator comprising an oil-reservoir, a receptacle for containing a mass of graphite, an oil-spreader, means for dropping oil onto the surface of said spreader and an oil-conveyer in the receptacle along which combined oil and graphite may travel to the parts to be lubricated.

17. A lubricator comprising an oil-reservoir, a receptacle for containing graphite, a deflecting device into the surface of which oil may drip, a wire-cloth in said receptacle, said wire-cloth being adapted to further convey the oil over a surface of the graphite.

18. A lubricator comprising a reservoir, a pressure-chest, a receptacle within said chest for containing a lubricant, a deflecting device by which the lubricant may flow and be spread over the surface to the other lubricant, and means for directing one lubricant from the reservoir to the deflecting device and to the lubricant in the chest.

19. A lubricator comprising a lubricant-reservoir, a pressure-chest, a receptacle within said chest for containing a lubricant, a device in said receptacle by which the first-mentioned lubricant may flow and be spent, means for directing the lubricant from the reservoir into the lubricant in the chest.

20. A lubricator comprising a lubricant-reservoir, a pressure-chest, there being a connection between said chest and reservoir, a receptacle within said chest, adapted to contain a lubricant, a flow-deflecting device in said receptacle, and a wire-cloth carried thereby.

21. A lubricator comprising a reservoir, a pressure-chest, there being a connection between said reservoir and chest, a receptacle within said chest adapted to contain a mass of lubricant, means within said receptacle adapted to direct a fluid from the reservoir onto a surface of the mass in the receptacle within the chest, means for carrying the fluid through the mass, and means for controlling the amount of flow of one lubricant into the other.

22. A lubricator comprising a lubricant-reservoir, a pressure-chest, a communication from one to the other, a receptacle within said chest adapted to contain a lubricant, means within said receptacle adapted to direct a flow thereto imparted upon the lubricant from the reservoir and into the receptacle within the chest, means for controlling the amount of flow of the lubricant, and a sight for ascertaining the flow.

23. A lubricator comprising a lubricant-reservoir, a pressure-chest, a receptacle within said chest adapted to contain a lubricant, a wire-cloth mounted on a member located in the receptacle and by which the lubricant is conveyed from the receptacle, means adapted to direct pressure into the reservoir and into the chest, means for controlling the amount of flow of one lubricant into the other, means to control the pressure, and a "sight" for determining the amount of flow.

24. A lubricator comprising a lubricant-reservoir, a pressure-chest, a receptacle within said chest adapted to contain a lubricant, means within the receptacle adapted to direct a flow over and through one lubricant, means for controlling the amount of flow of one lubricant to the other, and a glass tube through which to determine the amount of flow of the lubricator.

25. In a lubricator, the combination with a fluid-reservoir, provided with openings for introducing pressure through pipes directed thereinto, of a pressure-chest, a pipe directed into said chest, a receptacle within said chest adapted to contain graphite, and means for introducing and controlling the flow of the fluid to the graphite.

26. In a lubricator, the combination with an oil or water reservoir, provided with openings for introducing pressure, of a chest, a pressure-pipe directed into said chest, pipes directed into said openings, a receptacle within said chest adapted to be filled with graphite and soap, means for causing the oil or water to pass from the reservoir to the receptacle, means for controlling the flow of oil or water, a device for deflecting the oil as it comes from the reservoir, a glass tube through which may be observed the amount of oil being dispensed.

27. In a lubricating apparatus, the combination with a reservoir, of pressure-pipes directed thereinto and extending upwardly and near the top thereof, a steam-chest, a receptacle within said chest and adapted to contain a lubricating substance, a device in said chest provided with a wire-cloth, means whereby the amount of lubricant discharged may be ascertained, a valve for controlling the amount of lubricant discharged, and a valve for controlling the pressure.

28. In a lubricator, the combination with a fluid-reservoir, of a receptacle for a lubricant, fluid deflecting and distributing means, means to convey the fluid to said means, and means to convey the fluid along a surface of and through the lubricant to the parts to be lubricated.

29. In a lubricator, the combination with a water-reservoir, of a receptacle for graphite and soft soap, means in said receptacle for deflecting the flow of the fluid to distribute it over the material in the receptacle means for conveying the fluid onto the means, and means for conveying the fluid along a surface of and through the material to the parts to be lubricated.

30. In a lubricator, the combination with a fluid-reservoir, of a receptacle for containing a compound lubricant, means for conducting a fluid onto the surface of and through the lubricant, means for holding the lubricant away from a portion of said means, and means for ascertaining the quantity being used.

31. In a lubricator, the combination with a reservoir for fluid, of a receptacle for containing a mass of compounded lubricant, means for conducting to and spreading the fluid over the compounded lubricant, means for ascertaining the amount of fluid being conveyed to said lubricant, means to regulate the quantity of fluid so conveyed, and means to pass a fluid along surfaces of the lubricant to the parts to be lubricated.

32. In a lubricator, the combination with a fluid-reservoir, of a receptacle for containing a mass of compounded non-liquid lubricant, a deflecting device within said receptacle, means for conveying the fluid onto the deflecting device, a member carried by said device and being adapted to further carry the fluid over the surface of the lubricant to the parts to be lubricated, said member separating the mass from the means, said fluid becoming ladened during its travel with a deposit of the non-liquid lubricant.

33. A lubricator comprising a pressure-chamber, and a fluid-chamber connected therewith, a lubricant-receptacle within the pressure-chamber, a valve in the lubricant-receptacle, means for directing pressure from the pressure-chamber to the receptacle, a lubricant deflecting and directing device in the second receptacle, said receptacle being provided with a channel connecting with said device and with a conduit adapted to be connected with the parts to be lubricated, a valve connected with said conduit and said channel, and a single valve-plug for said valve.

804,455. LUBRICATING COMPOUND. CHESTER COMSTOCK, Brooklyn, N. Y. Filed Feb. 28, 1905. Serial No. 247,089.

Claim.—1. A powdered lubricating compound comprising graphite mixed with soft soap, said graphite being several times in excess of the soap, whereby to leave the lubricant in a powdered state.

2. A lubricating compound comprising graphite in eight parts and soft soap in one part, said compound being in powdered form.

804,456. SUPPORT FOR PILLOWS. JOSEPH C. CONDO, Alexandria, Ind. Filed June 27, 1905. Serial No. 267,241.

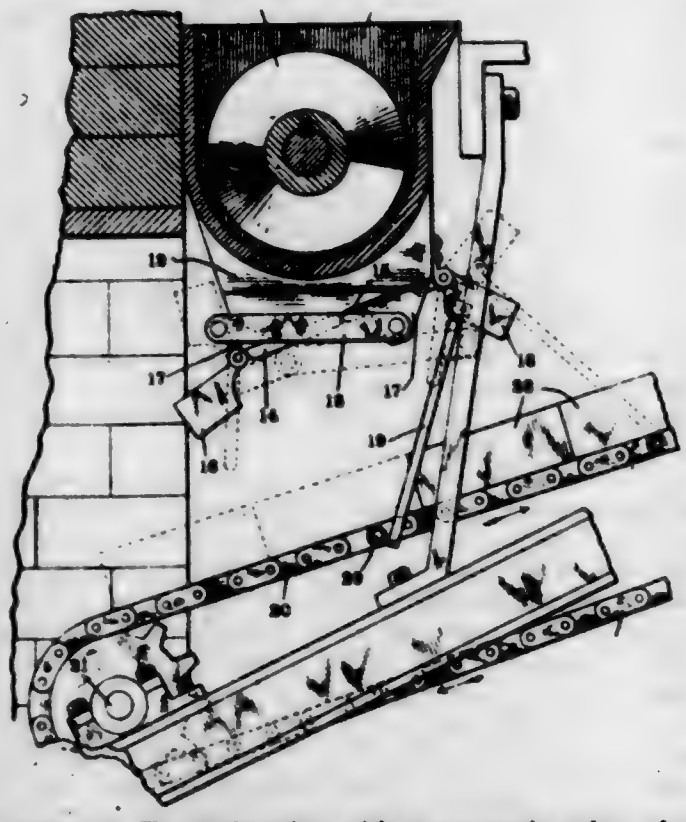


Claim.—1. In combination, a pillow, and a flexible supporting-strip applied thereto for supporting the pillow in the operation of placing a pillow-slip thereon, said supporting-strip being of a length greater than the width of the pillow secured at its ends to the end portion of the pillow.

2. In combination, a pillow, a flexible supporting-strip applied thereto for supporting the pillow in the operation of placing a pillow-slip thereon, and means for taking up slack in the length of said supporting-strip.

3. In combination, a pillow, a supporting-strip applied thereto for supporting the pillow in the operation of placing a pillow-slip thereon, and fasteners in the length of the supporting-strip permitting refolding of the body portion thereof to take up slack therein.

804,457. ASH-CONVEYER FOR FURNACES. HENRY G. COX, Indianapolis, Ind., assignor to John T. Brush, Indianapolis, Ind. Filed June 4, 1904. Serial No. 211,140.

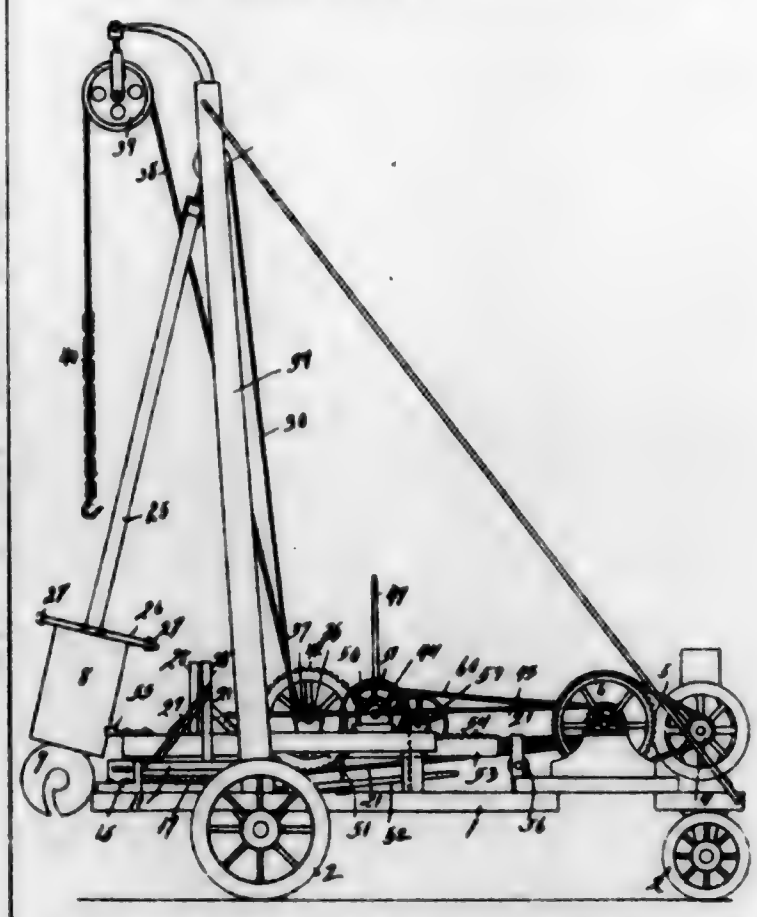


Claim.—1. The combination, with an automatic stoker, of an ash-receiver arranged at the inner end thereof and provided with a discharge-opening, a conveyer arranged in said receiver and adapted to shift the ashes toward said discharge-opening, a closure for said opening, an ash-conveyer arranged below said opening and adapted to receive ashes therefrom, and means carried by said conveyer for successively operating said closure.

2. The combination, with an automatic stoker, of a transverse ash-receiving trough arranged at the inner end thereof and having a discharge-opening, an ash-conveyer arranged in said trough, a pair of counterweighted doors normally closing said opening, intermediate connections between said doors to cause simultaneous movement, an operating-lever for said doors, an ash-carrier, means for bringing said ash-carrier beneath the discharge-opening of the trough, and means operated by said carrier for operating said lever at intervals.

3. The combination, with an automatic stoker, of a transverse ash-receiving trough arranged at the inner end thereof and having a discharge-opening, an ash-conveyer arranged in said trough, a pair of counterweighted doors normally closing said opening, intermediate connections between said doors to cause simultaneous movement, an operating-lever for said doors, an endless ash-conveyer arranged beneath said discharge-opening, and means carried by said conveyer for engaging said lever to open said doors at intervals, substantially as and for the purpose set forth.

804,458. POST-HOLE-BORING AND POLE-SETTING MACHINE. HENRY G. EDDY and GEORGE E. EDDY, Lansing, Mich. Filed Aug. 3, 1903. Serial No. 167,953.



Claim.—1. In a machine for the purpose set forth, the combination with a portable frame, of a motor mounted thereon, a rotary auger mounted to swing pendulum-like, a rotary ring for driving said auger, means connected with said motor for driving said ring, means detachably connecting said ring with said auger, and means connected with and operated by said motor for swinging the auger laterally.

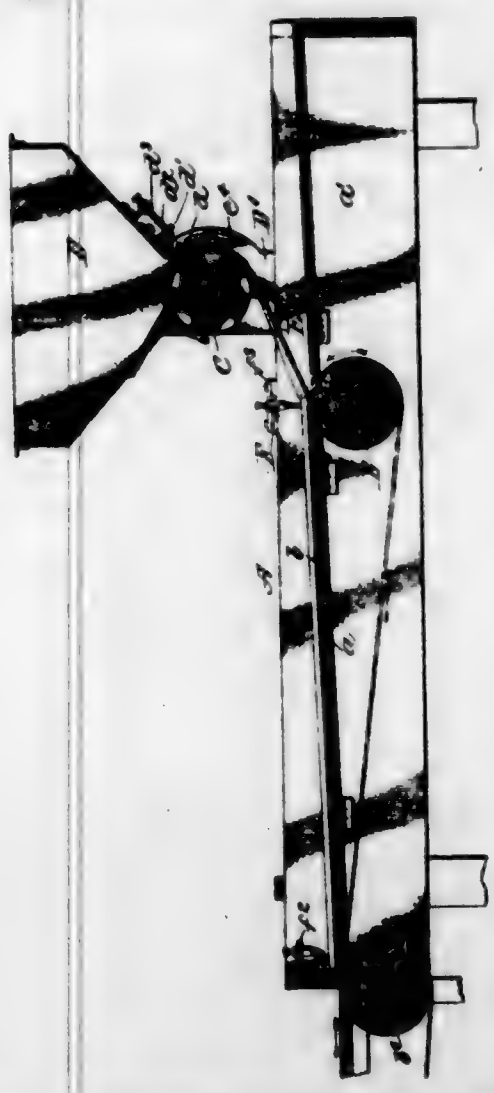
2. In a machine for the purpose set forth, the combination with a suitable frame, of a motor carried thereon, a rotary and vertically-movable auger mounted in the frame to swing laterally, a rotary ring for driving said auger detachably connected thereto, means for rotating said ring, means for moving the auger vertically, a longitudinally-reciprocatory ram detachably engaging said auger for moving the auger laterally, said ring and auger actuating means being connected to and operated by said motor.

3. In a machine for the purpose set forth, the combination with a portable frame and motor mounted on said frame, of a rotary ring, means connected with said motor for driving said ring, a vertically and laterally movable auger mounted centrally within said ring, said auger being detachably attached to the ring to cause it to rotate therewith, means operated by the motor for raising the auger and means also operated by said motor for moving the auger laterally.

4. In a machine for the purpose set forth, the combination with a suitable frame, of a motor mounted thereon, an auger adapted to rotate and move vertically, means connected with the motor for ro-

tating the auger and imparting vertical movement thereto, a longitudinally-movable ram adapted to engage the auger to swing it rearwardly for dumping, and means connected with the motor for actuating said ram.

804,459. **KERNEL-FEEDING MACHINE.** GEORGE B. ELLINGWOOD, Malden, Mass., assignor to The Walter M. Lowney Company, Boston, Mass., a Corporation of Massachusetts. Filed Dec. 2, 1904. Serial No. 235,237.



Claim.—1. A kernel-feeding machine having a hopper open at the bottom, a rotary feeder partially closing the bottom of said hopper and having grooves or recesses adapted to receive the kernels from said hopper, and to feed the same, and a member having a soft, flexible edge coöperating with said roll and located within the opening left between said roll and the bottom of said hopper for sweeping or holding back within said hopper the kernels not contained in the grooves or recesses of said roll.

2. In a kernel-feeding mechanism, a hopper having an opening in the bottom thereof, a feed-roll partially closing the bottom of said hopper and having a series of kernel-feeding slots extending lengthwise therein, and a brush located to coöperate with said roll and forming one of the lower edges of said hopper, as described.

3. In a kernel-feeding mechanism, a hopper having an opening in the bottom thereof, a feed-roll closing the bottom of said hopper and having a series of kernel-feeding slots extending lengthwise therein, and a brush located to coöperate with said roll and forming one of the lower edges of said hopper, said brush being adjustable toward and from said roll, as set forth.

4. A kernel-feeding machine having a hopper for holding kernels, a feeder for receiving and feeding the kernels from said hopper, an apron provided with ribs adapted to separate the kernels fed from said feeder and guide the same to pass on in lines to a conveyer, and said conveyer.

5. A kernel-feeding machine having a hopper, a feeder for receiving and feeding the kernels from said hopper, an apron having ribs adapted to separate the kernels fed from said feeder and which ribs also form ways between them along which said kernels may be guided to pass forward in lines onto a conveyer and which ribs also are so located that the ways formed thereby may be relatively contracted in the direction toward the conveyer.

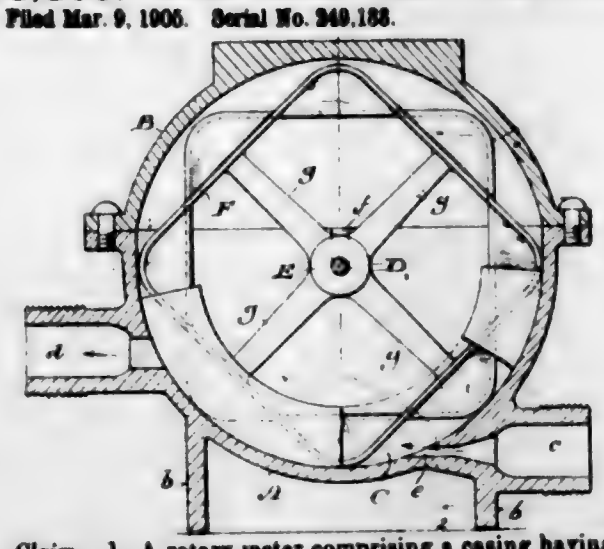
6. In a kernel-feeding machine, a hopper for holding the kernels, a feeder for receiving and feeding the kernels from said hopper, an inclined apron arranged under said feeder and adapted to receive the kernels from the same, whereby they may gravitate along the inclined surface of said apron onto a conveyer, and means for adjusting said apron by which its inclination may be varied.

7. In a kernel-feeding machine, a hopper for holding the kernels, a feeder adapted to receive the kernels for feeding the same from said hopper, an apron provided with ribs adapted to separate the kernels fed from said feeder and guide the same to pass forward in lines onto a conveyer, said conveyer, and rib-forming means coöperating with said conveyer by which the kernels may continue to be fed in lines by the same.

8. A kernel-feeding machine having a hopper for holding kernels, a feeder for receiving and feeding the kernels from said hopper, a conveyer, means for receiving and feeding the kernels from said feeder onto said conveyer, a series of shaker-bars coöperating with said conveyer by which the kernels may be divided to be fed along by said conveyer in separate ways, and means for shaking or vibrating said shaker-bars.

9. In a kernel-feeding mechanism, a hopper having an opening in the bottom, a feed-roll adapted to close said opening, an apron located under said feed-roll, said apron being provided with ways to direct the course of the kernels, and ribs separating said ways, and a series of shaker-bars each adapted to register substantially with one of said ribs, and means whereby said shaker-bars are vibrated, and a conveyer located beneath said shaker-bars, as and for the purposes described.

804,460. **ROTARY METER.** GUSTAV FAJEN, Milwaukee, Wis. Filed Mar. 9, 1905. Serial No. 249,188.



Claim.—1. A rotary meter comprising a casing having a fluid-inlet and a fluid-outlet, a segmental trough in the casing in communication with the inlet of same, a polygonal rotary device engaging the trough, this device being rounded at its corners and straight between corners; and means in connection with the rotary device for transmitting motion to register mechanism.

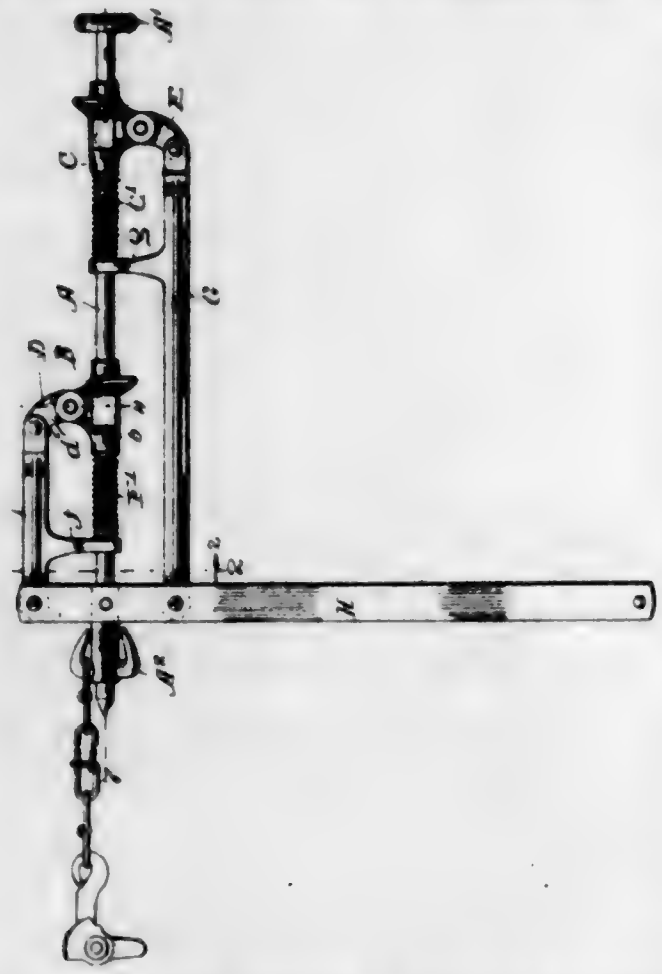
2. A rotary meter comprising a casing having a fluid-inlet and a fluid-outlet, a segmental trough in the casing in communication with the inlet of same, a rotary device engaging the trough and including a pair of polygonal bands that are rounded at their corners and set so that each corner of one projects midway between corners of the other, these projecting corners being closed on the inner sides between bands, and means in connection with the rotary device for transmitting motion to register mechanism.

3. A rotary meter comprising a casing having a fluid-inlet and a fluid-outlet, a segmental trough in the casing in communication with the inlet of same, an axle for which the casing is provided with bearings, a pair of polygonal bands centered on the axle to engage the trough and having rounded corners, the set of the bands being such that the corners of one project midway between corners of the other and are closed on the inner sides between bands, and a gear element in connection with said axle for transmitting motion to register mechanism.

804,461. **WIRE-STRETCHER.** HENRY L. FERRIS, Harvard, Ill., assignor to Hunt, Helm, Ferris & Company, Harvard, Ill., a Corporation of Illinois. Filed July 11, 1903. Serial No. 165,037.

Claim.—1. A device of the class described comprising a guide-rod, collars slidably mounted upon the guide-rod, wire-grips carried by the collars and movable into and out of operative position, means for holding the collars yieldably at the limits of their movements in one direction upon the guide-rod, means for moving the collars alternately against the action of the holding means, and means for moving the wire-grips into operative position simultaneously with the movement of the collars against the action of the holding means.

2. A wire-stretcher comprising a guide-rod, jaws slidably connected with the guide-rod, means for holding the jaws yieldably at one limit of their movements, jaws pivoted to the first-named jaws for movement into and out of position to coöperate therewith, a lever pivoted to the guide-rod, links pivoted to the lever and to the pivoted jaws for movement of the latter when the former is moved, said links being arranged to move the pivoted jaws into position to coöperate with the first-named jaws, and simultaneously therewith to move the first-named jaws against the action of the holding means.



3. A wire-stretcher comprising a guide-rod, jaws slidably mounted upon the guide-rod, means for holding the jaws yieldably at one limit of their movement, a lever pivoted to the guide-rod, links pivoted to the lever at opposite sides of its pivot-point, jaws pivoted to the first-named jaws for movement to coöperate therewith, said links being also pivoted to the second-named jaws, for movement of said jaws into coöperation with the first-named jaws when the lever is moved to move the first-named jaws against the action of their holding means.

4. In a device of the class described, the combination with a guide-rod, of two reciprocating jaws guided thereon, swinging jaws pivoted to said reciprocating jaws, links pivoted to the swinging jaws, arms upon the links, guided to reciprocate upon the rod, but having a slight transverse movement with reference thereto, springs between the reciprocating jaws and the arms, and a lever fulcrumed between its ends upon the guide-rod and upon opposite sides of the fulcrum between the two links.

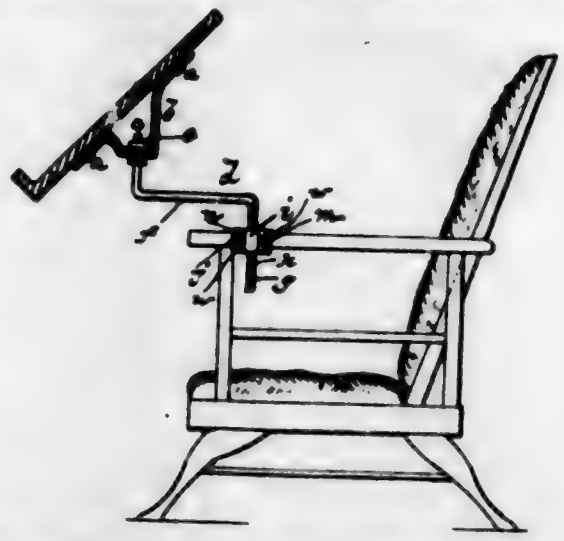
5. In a device of the class described, the combination with a guide-rod, of an eye upon one end thereof, adapted to surround the wire and support one end of the guide-rod upon the wire, ears upon the other end of the rod for attaching the rod to a stationary support, reciprocating jaws mounted upon the guide-rod, swinging jaws pivoted to the reciprocating jaws, links pivoted to the swinging jaws, arms upon the links, guided to reciprocate upon the guide-rod, but having limited transverse movement with respect thereto, springs encircling the guide-rod and confined between the reciprocating jaws and the arms upon the links, and a lever fulcrumed to the guide-rod between its ends and pivoted to the links upon the opposite sides of its fulcrum upon the rod.

6. In a device of the class described, the combination with a guide-rod and means for securing the same to a stationary support, of two reciprocating jaws mounted upon the guide-rod, swinging jaws pivoted to the reciprocating jaws, links pivoted to the swinging jaws, arms upon the links surrounding the rod and guided thereon and having a limited transverse movement with respect thereto, and two straps of metal forming a lever lying on opposite sides of the extremities of the links and of the guide-rod and pivoted thereto.

7. In a device of the class described, a clamp consisting of a swinging jaw and a reciprocating jaw, the reciprocating jaw having a horizontal portion and an integral support to which the swinging jaw is pivoted, one of said members having an integral gudgeon, and the other being perforated to receive said gudgeon, the horizontal portion being provided with an upwardly-extending flange, overhanging the end of the swinging jaw, and serving as the sole means of holding the same in place.

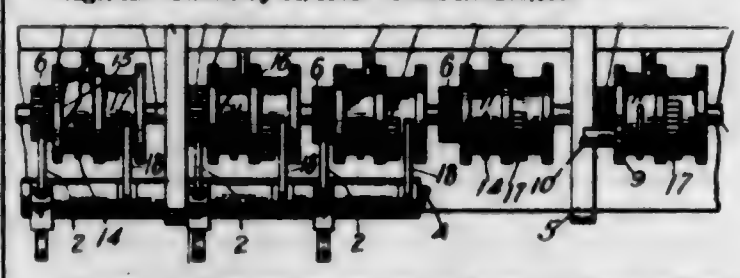
8. A wire-stretcher comprising a lever, two wire-gripping devices, means for guiding the wire-gripping devices, each wire-gripping device comprising a stationary jaw member and a pivoted jaw member and rods alternately reciprocated by the lever and attached to the pivoted jaws positively moving them to grip and release a wire, said pivoted jaws in turn sliding the stationary jaws longitudinally.

804,462. **BOOK HOLDER OR REST.** CYRIL B. FOWLER, Baltimore, Md. Filed Oct. 3, 1904. Serial No. 226,971.



Claim.—The combination, with a clamp adapted to be secured to an arm of a chair or other like support, said clamp comprising jaws having integral right-angularly-disposed flanges or plates transversely corrugated on their meeting faces, the flange or plate on one jaw having an integral longitudinally-perforated projection and a slot on each side of said projection, and screws adapted to pass through said slots and engage openings in the plate of the other jaw, of a rod bent at a right angle near each end, one end of said rod being adapted to be secured in the projection on the clamp, and a book-rest revolubly mounted on the other end of said rod.

804,463. **CALCULATING-MACHINE.** HYMAN B. GOLDBERG, Chicago, Ill. Filed July 24, 1905. Serial No. 271,068.



Claim.—1. In actuating mechanism for calculating-machines, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a rotatable member for actuating the same said rotatable member being shiftable into and out of connection with said universal member; means for shifting said shiftable rotatable member into connection with said universal member; means for shifting said shiftable rotatable member out of connection with said universal member; and other means for meantime preventing the shifting of said shiftable rotatable member.

2. In actuating mechanism for calculating-machines, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a rotatable member for actuating the same said rotatable member being shiftable into and out of connection with said universal member; a cam for shifting said shiftable rotatable member out of connection with said universal member; a cam for shifting said shiftable rotatable member into connection with said universal member; and other means for meantime preventing the shifting of said shiftable rotatable member.

3. In actuating mechanism for calculating-machines, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a rotatable member for actuating the same, said rotatable member being shiftable into and out of con-

nection with the universal member; and a stationary member adapted to contact said shiftable rotatable member for shifting it, one of said last two members having a pin or projection and the other having two cams remote from each other and adapted to contact said pin to shift said shiftable member, the said member which bears the cams having means for preventing shifting during the intervals between the actions of the cams.

4. In actuating mechanism for calculating-machines, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a rotatable member for actuating the same, said rotatable member being shiftable into and out of connection with the universal member; and a stationary member adapted to contact said shiftable rotatable member for shifting it, one of said last two members having a pin or projection and the other having two cams remote from each other and adapted to contact said pin to shift said shiftable member, the said member which bears the cams having a dividing-wall arranged between the same for preventing shifting during the intervals between the actions of the cams.

5. In actuating mechanism for calculating-machines, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a shiftable digit-piece for actuating the same and a slot-and-pin device for shifting said digit-piece into and out of connection with said universal member the slot being double, in part, for retaining the digit-piece for a time in each of its shifted positions.

6. In actuating mechanism for calculating-machines, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a shiftable digit-piece for actuating the same, said digit-piece having two cams thereon at some distance from each other for shifting said digit-piece into and out of connection with said universal member; and a stationary pin adapted to act upon said cams to shift the digit-piece, said digit-piece also having a wall extending around its periphery almost from one cam to the other for preventing premature shifting of the digit-piece.

7. In actuating mechanism for calculating-machines, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a shiftable digit-piece for actuating the same; and means for controlling the lateral position of said shiftable rotatable member said controlling means including two cam-surfaces oblique to the axis of the shiftable rotatable member and a plurality of plane surfaces perpendicular to said axis, together with means for coacting with said oblique and plane surfaces.

8. In a calculating-machine; a digit-pinion shaft for setting up the digits; a series of digit-pinions fixed to said shaft; laterally-shiftable digit-pieces for operating said pinions; means for independently rotating said digit-pieces; means for shifting said digit-pieces laterally into and out of operative line with said digit-pinions to thereby drive said digit-pinions and shaft in one direction only; and means for each digit-piece for preventing accidental shifting thereof said preventing means comprising two coacting portions one of which has a plurality of surfaces perpendicular to the axis of the digit-pieces.

9. In a calculating-machine; a digit-pinion shaft for setting up the digits; a series of digit-pinions fixed to said shaft; laterally-shiftable digit-pieces for operating said pinions; means for independently rotating said digit-pieces; means for shifting said digit-pieces laterally into and out of operative line with said digit-pinions to thereby drive said digit-pinions and shaft in one direction only, and a slot-and-pin device for each digit-piece for preventing accidental shifting thereof, the slotted part having plane surfaces perpendicular to the axis of said digit-piece.

10. In actuating mechanism for calculating-machines, a key-operated toothed driving-sector, a set of shiftable and rotatable digit-pieces operated thereby, and having a wide-face gear always in mesh with the driving-sector irrespective of the lateral position of the latter; a universal member, a set of digit-pinions on said universal member one for each digit-piece; a digit-sector on each digit-piece for driving said digit-pinions when in line therewith and leaving them still when not in line therewith; pins; cams on each digit-piece adapted to contact one of said pins for shifting the respective digit-sector into and out of line with its digit-pinion and a wall extending circumferentially on each digit-piece, part way from one cam to the other and adapted to contact said pin for preventing premature shifting of the digit-piece.

11. In actuating mechanism for calculating-machines, a key-operated toothed driving-sector, a shiftable and rotatable digit-piece operated thereby and having a wide face-gear always in mesh with the driving-sector irrespective of the lateral position of the latter; a digit-pinion, a digit-sector on said digit-piece adapted to drive said digit-pinion when in line therewith and leaving it still when not in line therewith; a stationary pin; cams on said digit-piece adapted to contact said pin for shifting the digit-sector into and out of line with said digit-pinion; a wall extending circumferentially on the digit-piece, part way from one cam to the other and adapted to contact said wall for preventing premature shifting of the digit-sector, and two other walls on said digit-piece one leading up to each of said cams, said last two walls being also adapted to contact said pin for preventing excess shifting of the digit-piece.

12. In actuating mechanism for calculating-machines a set of independently-rotatable and independently-shiftable digit-pieces each having two shifting-cams thereon with a dividing-wall between them; and stationary pins adapted to coact with said cams to effect the shifting of the digit-pieces and to coact with said wall to prevent shifting of the digit-pieces intermediate of the actions of the cams.

13. In combination, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a reciprocatory digit-piece movable forward and backward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for shifting said digit-piece, into connection with said universal member for the forward movement of the digit-piece, and out of connection for the backward movement of the digit-piece, and means for preventing the forward movement of said digit-piece when the latter is out of connection with said universal member.

14. In combination, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a digit-piece rotatable backward and forward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for shifting said digit-piece into connection with the universal member for the forward rotation of the digit-piece, and out of connection for the backward rotation of the digit-piece, and means for preventing the forward rotation of said digit-piece when the latter is out of connection with said universal member.

15. In combination, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a digit-piece rotatable backward and forward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for shifting said digit-piece into connection with the universal member for the forward rotation of the digit-piece, and out of connection for the backward rotation of the digit-piece, and means for preventing the forward rotation of said digit-piece, when the latter is out of connection with said universal member.

16. In combination, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a digit-piece rotatable backward and forward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for shifting said digit-piece into connection with the universal member for the forward rotation of the digit-piece, and out of connection for the backward rotation of the digit-piece, and means for preventing the forward rotation of said digit-piece when the latter is out of connection with said universal member, said preventing means being rendered operative or non-operative by the digit-piece and being operative when the digit-piece is in one lateral position and non-operative in the other lateral position substantially as described.

17. In combination, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a digit-piece rotatable backward and forward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for shifting said digit-piece into connection with the universal member for the forward rotation of the digit-piece, and out of connection for the backward rotation of the digit-piece, and a ratchet-and-pawl device for preventing the forward rotation of said digit-piece when the latter is out of connection with said universal member.

18. In combination, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a digit-piece rotatable backward and forward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for shifting said digit-piece into connection with the universal member for the forward rotation of the digit-piece, and out of connection for the backward rotation of the digit-piece, a ratchet and a pawl for preventing the forward rotation of said digit-piece when the latter is out of connection with said universal member, said ratchet and pawl being relatively shiftable for moving into and out of the line of engagement.

19. In combination, a rotatable universal member rotating different amounts depending upon the value of the digit to be regis-

tered; a digit-piece rotatable backward and forward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for shifting said digit-piece into connection with the universal member for the forward rotation of the digit-piece, and out of connection for the backward rotation of the digit-piece; a ratchet and a pawl for preventing the forward rotation of said digit-piece when the latter is out of connection with said universal member, said ratchet being shiftable into and out of line with said pawl.

20. In combination, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a digit-piece rotatable backward and forward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for shifting said digit-piece into connection with the universal member for the forward rotation of the digit-piece, and out of connection for the backward rotation of the digit-piece; a ratchet and a pawl for preventing the forward rotation of said digit-piece when the latter is out of connection with said universal member, said ratchet being mounted upon the digit-piece and being shiftable therewith into and out of line with said pawl.

21. In combination, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a digit-piece rotatable backward and forward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for shifting said digit-piece into connection with the universal member and out of connection for the backward rotation of the digit-piece and a ratchet and pawl for preventing the forward rotation of said digit-piece when the latter is out of connection with said universal member, the pawl being laterally fixed and having a fixed pivot and the ratchet being on the digit-piece and shiftable therewith into and out of line with said pawl.

22. In actuating mechanism for calculating-machines, a digit-piece rotatable backward and forward and shiftable so as to occupy two positions laterally, said digit-piece being active when in one lateral position and non-active in the other; and a ratchet-and-pawl device for preventing rotation of said digit-piece when the same is in one of its two lateral positions, one part of the ratchet-and-pawl device being on said digit-piece and the other part being stationary, and the parts of the ratchet-and-pawl device being out of line with each other when the digit-piece is on one lateral position, and in line with each other when the digit-piece is in the other lateral position, whereby the digit-piece may freely rotate except in one direction when in one lateral position, for the purpose described.

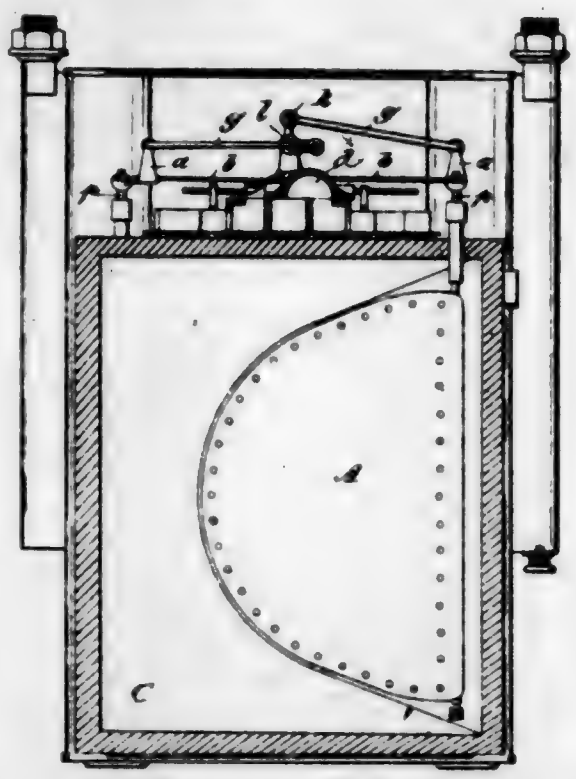
23. In actuating mechanism for calculating-machines, a digit-piece, a pawl and a reciprocatory and shiftable ratchet operated by said digit-piece and connected thereto for arresting the movement thereof, said ratchet being shiftable into and out of line with said pawl and designed to move forward when out of line with said pawl and backward when in line therewith, and the teeth of said ratchet being so faced as to engage said pawl only when said ratchet moves in a forward direction in line therewith.

24. In actuating mechanism for calculating-machines, a digit-piece rotatable backward and forward and shiftable so as to occupy two positions laterally, said digit-piece being active when in one lateral position and non-active in the other; a pawl; and a ratchet shiftable into and out of line with said pawl said ratchet being reciprocatorily mounted and operated by said digit-piece and connected thereto for preventing the rotation thereof when the pawl is in engagement with said ratchet.

25. In actuating mechanism for calculating-machines, a digit-piece rotatable back and forth and shiftable so as to occupy two positions laterally, said digit-piece being active when in one lateral position and non-active in the other; a pawl; and a ratchet mounted on said digit member and shiftable therewith into and out of line with said pawl, said ratchet being adapted to arrest the digit-piece and being designed to be out of line with said pawl when said digit member is rotating forward, and in line with said pawl when said digit-piece is rotating backward, and the teeth of said ratchet being faced so as not to engage said pawl when said digit-piece is rotating backward, but to engage said pawl when said digit member is rotating forward.

26. In actuating mechanism for calculating-machines, a rotatable universal member rotating different amounts depending upon the value of the digit to be registered; a digit-piece rotatable forward and backward for actuating the same, said digit-piece being shiftable into and out of connection with said universal member; means for rotating said digit-piece backward and forward; means for shifting said digit-piece into connection with the universal member for the forward rotation of said digit-piece and out of connection with said universal member for the backward rotation of said digit-piece; means for preventing the accidental shifting of said digit-piece; and means for preventing the forward rotation of said digit-piece when the latter is out of connection with said universal member.

804,464. GAS-METER. EMIL HAAS, Mainz, Germany. Filed June 27, 1902. Serial No. 113,456.



Claim.—1. A fluid-meter comprising a casing having converging walls, a flat vane pivoted within the casing at the junction of said converging walls and adapted to lie flat against either one of said walls, a diaphragm secured to the casing and to the vane and of sufficient width to allow the vane to swing into contact with either one of said walls, and fluid-registering means controlled by the movement of the vane.

2. A fluid-meter comprising a casing of approximately mussel shape, forming a four-cornered structure with sides of unequal length, a vane pivoted within said casing at the corner at which the long sides meet, and adapted to lie flat against said sides and to swing from one of said sides to the other, a diaphragm secured to the opposite corner of the casing and to the free edge of the vane, and adapted to lie against the short sides of the casing, and fluid-registering means controlled by the movement of the vane.

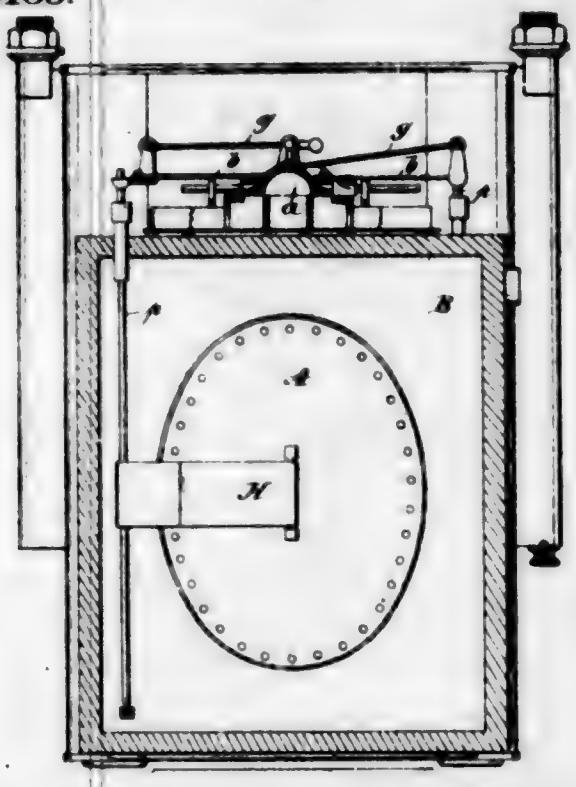
3. A fluid-meter comprising two casings of approximately mussel shape, each forming a four-cornered structure with sides of unequal length, the long sides of one casing being adjacent to the short side of the other casing, a vane pivoted within each casing at the corner at which the long sides meet, and adapted to lie flat against said sides and to swing from one of said sides to the other, a diaphragm secured to the opposite corner of each casing and adapted to lie against the short sides thereof, said diaphragm being also secured to the free edge of the vane, a connection for causing the two vanes to move in unison, and fluid-registering means controlled by the movement of the vanes.

804,465. GAS-METER. EMIL HAAS, Mainz, Germany. Filed June 27, 1902. Serial No. 113,457.

Claim.—1. A fluid-meter comprising a polygonal casing or chamber with walls which in cross-section are straight and parallel at their central portions and curved and converging at their edges, an annular diaphragm of polygonal outline the outer edge of which is secured to the meeting portions of said walls, a flat plate or disk the rounded periphery of which is secured to the inner edge of said diaphragm, the said disk being arranged to move against said straight parallel walls of the casing while the diaphragm is adapted to move against the converging wall portions, and indicating mechanism operatively connected with said disk.

2. A fluid-meter comprising a polygonal casing, an annular diaphragm of polygonal outline the outer edge of which is secured to said casing, a flat plate or disk of curved outline secured to the inner edge of said diaphragm, and indicating mechanism operatively connected with said disk.

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cup-shaped valve slidably fitting said perforated flange, means for moving said valve to cover and uncover the perforations, and a brush proper secured beneath the reservoir.

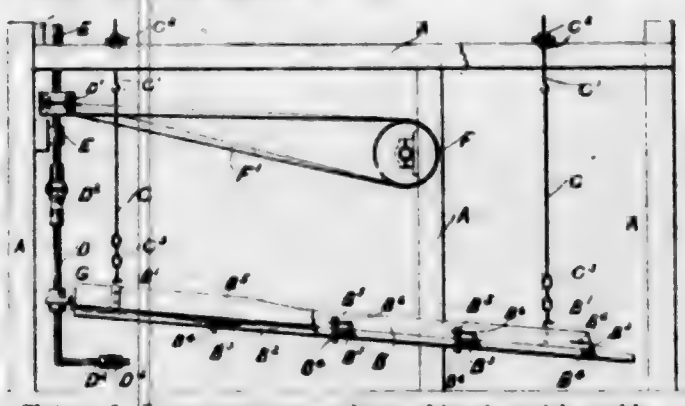
2. In a fountain-brush, a reservoir having a depending flange, a brush proper seated in said flange, the bottom of said reservoir having an opening surrounded by an upwardly-extending perforated tubular flange, an inverted-cup-shaped valve telescoping with said flange, a spring-pressed valve-stem secured to the valve and projecting through the reservoir, and a thumb-lever connected with the valve-stem by which the valve may be operated to uncover the perforations.

3. In a fountain-brush, a reservoir having a depending flange, a brush proper removably seated in said flange and provided with inclined ducts leading to the tufts of bristles, the bottom of said reservoir having an opening surrounded by an upwardly-extending perforated tubular flange, an inverted-cup-shaped valve telescoping with said flange, a cover removably secured to the reservoir, a perforated boss on the cover, a valve-stem secured to the valve and passing through the boss, a coil-spring on the valve-stem bearing on the valve and boss, a post on the cover, a thumb-lever pivoted to the post and connected with the valve-stem, and a removable cap closing a feed-opening in the cover.

4. In a fountain-brush, a reservoir, a brush proper connected thereto, a cover removably mounted on the reservoir, a perforated cylindrical flange on the bottom of the reservoir forming a valve-seat, a cup-shaped valve slidably fitting with the valve-seat and adapted to open and close the outlet from the reservoir to the brush proper through the perforations of the valve-seat, and means mounted on the cover and connected with the valve by which the valve may be operated.

5. In a fountain-brush, a reservoir having a depending flange, a brush proper removably secured to the flange, a removable cover threaded on the reservoir, a perforated annular flange projecting inwardly from the bottom of the reservoir and forming a valve-seat, a cup-shaped valve slidably mounted on the valve-seat and adapted to control the passage from the reservoir to the brush proper through the perforations of the valve-seat, a valve-stem on the valve passing through the cover of the reservoir, and a lever pivoted to the cover of the reservoir and connected to the valve-stem for operating the valve.

804,466. CONCENTRATING AND AMALGAMATING TABLE. JOHN A. HAMILTON, St. Peters, South Australia, Australia. Filed Apr. 3, 1903. Serial No. 150,974.

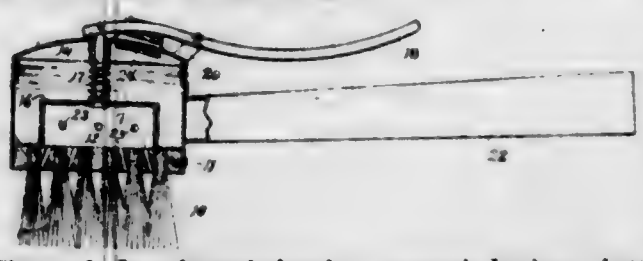


Claim.—1. In a concentrator, the combination with a table, and means to freely suspend it, of a rotatable shaft, a shaft-section on the end thereof, a universal joint connecting the shaft and shaft-section, a weight connected to and eccentric to the shaft-section, and means fixed to the table and through which the shaft-section can freely move longitudinally, whereby the table is moved in elliptical paths when the shaft is rotated, substantially as described.

2. In a concentrator, the combination with a table and means to freely suspend it, of a rotatable shaft, a shaft-section on the end thereof, a universal joint connecting the shaft and shaft-section, a weight connected eccentrically to the shaft-section, and a bearing mounted on the table through which the shaft-section can freely move, whereby the table is moved in elliptical paths when the shaft is rotated,

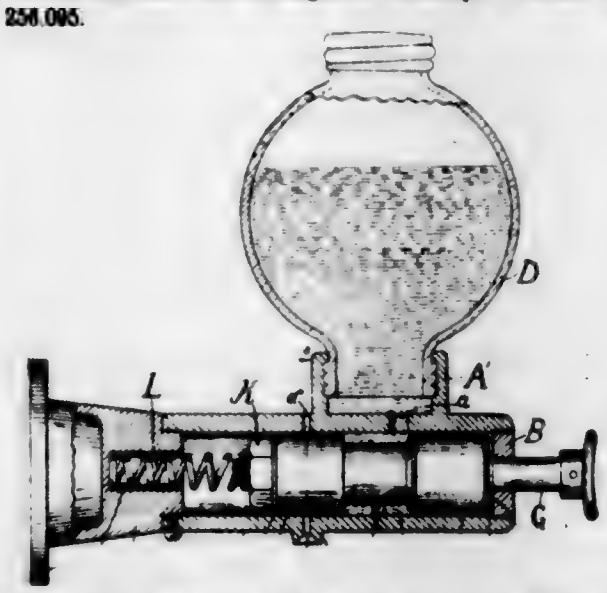
3. In a concentrator, the combination with a table and means to freely suspend it, of a rotatable shaft, a shaft-section on the end thereof, a universal joint connecting the shaft-section, a weight connected eccentrically to the shaft-section, a casing fixed to the table and surrounding the shaft-section, and bearing-pieces mounted in the casing engaging the shaft-section and adapted to adjust themselves to the motion thereof.

804,467. FOUNTAIN-BRUSH. WILLIAM HASS, Milwaukee, Wis. Filed Jan. 9, 1904. Serial No. 188,337.



Claim.—1. In a fountain-brush, a reservoir having a bottom with an inwardly-extending perforated tubular flange, an inverted-

804,468. LIQUID-SOAP HOLDER. JULIUS F. HELMOLD and GEORGE A. SCHMIDT, Jr., Chicago, Ill. Filed Apr. 17, 1905. Serial No. 256,095.



Claim.—1. In a device of the class described, the combination of a valve-casing, a pair of piston-valves therein, a stem carrying said valves, means for spacing them apart, a spring for holding them in normal positions and a reservoir, the casing having an inlet-opening through which the reservoir is in internal communication with the casing at a point between the valves, and an outlet-opening and a vent-opening normally covered by one of the valves, substantially as described.

2. In a device of the class described the combination of a valve casing, a pair of piston-valves therein, a spacing-block between them, said valves and block being perforated, a stem passing through them, means for securing them to the stem, a spring for holding them in normal positions, and a reservoir, the casing being provided with an inlet-opening normally uncovered and an outlet-opening normally covered by the valves, said inlet and outlet being so disposed that the former is covered and the other uncovered by a movement of the valves from normal positions, substantially as described.

3. In a device of the class described, the combination of a casing having an inlet and an outlet, a reservoir with which the inlet communicates, a piston-valve, and a stem carrying it, said valve having a body made of a block of elastic rubber fitting on the stem, a facing of thin metal surrounding said body and means on the stem for compressing the body endwise and thereby expanding it within the facing, substantially as described.

4. In a device of the class described the combination of a casing having an inlet and an outlet, a reservoir with which the inlet communicates, a piston-valve, and a stem carrying it, said valve having a body made of a block of elastic rubber fitting on the stem, a facing of thin metal surrounding said body and covering one of its ends, a washer on the stem engaging the end facing, a nut engaging the washer and means on the stem directly engaging the elastic body at its other end, substantially as described.

5. In a device of the class described, the combination of a casing having an inlet and an outlet, a reservoir with which the inlet communicates, a pair of piston-valves, a spacing-block between them, said valves and block being perforated, a stem occupying said perforations, and means on the stem for compressing the valves endwise, each of said valves having a body of elastic rubber and a facing of thin sheet metal surrounding it, substantially as described.

6. In a device of the class described the combination of a horizontal casing having an inlet and an outlet, a reservoir communicating with the inlet, a pair of piston-valves each made of a body of elastic rubber and a facing of thin metal surrounding it, a spacing-block between them, the valves and block being perforated, a stem passing through said perforations, washers on the stem engaging the valves, a shoulder on the stem engaging one of said washers and a nut on the stem engaging the other of said washers, substantially as described.

7. In a device of the class described, the combination of a casing having an inlet and an outlet, a reservoir with which the inlet communicates, a piston-valve having a body portion and an expansible facing, a stem carrying said valve, and means on the stem for exerting endwise pressure upon the body and thereby expanding the facing, substantially as described.

804,469. PERCH CONNECTION FOR VEHICLES. LESTER E. HICKOK, Mechanicsburg, Pa. Filed May 29, 1905. Serial No. 262,930.



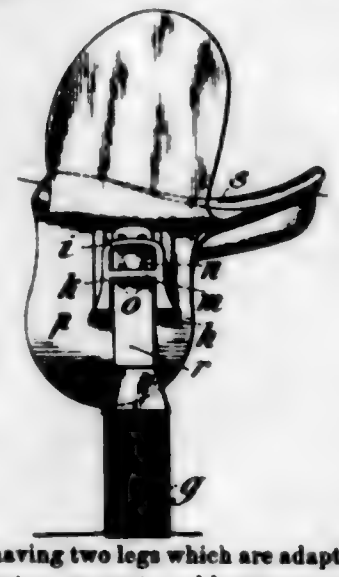
Claim.—1. The combination in a perch connection, of an axle; a perch with a curved top surface; a perch-heel having a seat for the axle and a longitudinal groove in its under surface; a clip with bolt ends; and suitable bolts and nuts; the cross-sectional curve of the groove in the perch-heel being such relative to the curved top surface of the perch that the longitudinal edges bounding the groove in the perch-heel will frictionally engage the top curved edges of the perch when the nut are tightened upon the bolt and clip.

2. The combination in a perch connection, of an axle; a perch; a perch-heel widened at its rear end with a seat for the axle and alongitudinal groove in its under surface extended to a position beneath the axle to fit the top surface of the perch; a metallic strap; a clip with bolt ends; and suitable bolts and nuts; one bolt end of the said clip being passed through the perch-heel, perch and strap, and the other bolt end passed through the end of the perch-heel, the said perch being disposed obliquely to the length of the axle.

3. The combination in a perch connection, of an axle; a perch-heel; a perch; a metallic strap; a clip with threaded bolt ends; and suitable bolts and nuts; the said perch-heel having a seat for the axle and a longitudinal groove for the end of the perch; the said perch end having its top surface rearwardly beveled and the several parts united and held in place by nuts upon the bolt ends.

804,470. BUCKLE. HENRY K. VON HOFE, Berlin-Charlottenburg, Germany. Filed July 28, 1904. Serial No. 218,724.

Claim.—1. A buckle adapted to be folded backwardly to tighten a strap or the like, having at a plurality of points means for movably attaching it to a support, and having between such means a space for the strap so that the latter may lie between the attaching-points of the buckle and act to hold the buckle in its folded position and means arranged above said points adapted for engagement with a strap or the like.



2. A buckle having two legs which are adapted to be connected at their lower ends to a support, and between such ends a space for a strap, and means for engaging such strap arranged above such ends.

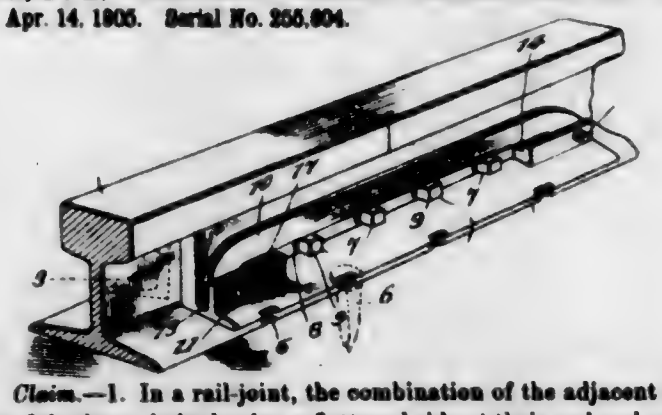
3. A buckle having two legs which are adapted to be connected at their lower ends to a support, and between such ends a space for a strap, and a bar having projections for engaging such strap arranged above such ends.

4. A buckle, comprising two members rotatively connected, each of said members having a means for movably attaching it to a support, and having between such means and its point of connection with the other of said members a space for the strap, so that the latter may lie inwardly of said attaching means when the buckle is folded.

5. The combinaton of a strap, a buckle having means for engaging said strap, and means for rotatively supporting said buckle, and having a space between such means adapted to permit said strap to pass inwardly between them, so that said strap does not tend to move said buckle from its folded position.

6. The combination of a saddle, a girth connected thereto, and a buckle carried by said saddle and adapted to engage said girth, said buckle having two legs, the ends of which are rotatively connected to said saddle and having a space between such ends adapted to receive the end of the girth, said buckle being adapted to be moved from a depending position to an upright position to tighten said girth, and said girth lying inwardly of the buckle ends and acting to hold said buckle in its folded position.

804,471. RAIL-JOINT. WILLIAM R. HOLLAND, Potolo, Fla. Filed Apr. 14, 1905. Serial No. 255,604.



Claim.—1. In a rail-joint, the combination of the adjacent rail ends, fish-plates, bolts having a flattened side at their end and passing through registering openings in the fish-plates and rails, the openings in one of the fish-plates having threads to engage with the threads of said bolts, and a locking-bar adapted to engage with the flattened sides at the ends of the bolts to prevent their working loose, and means for holding the locking-bar in position.

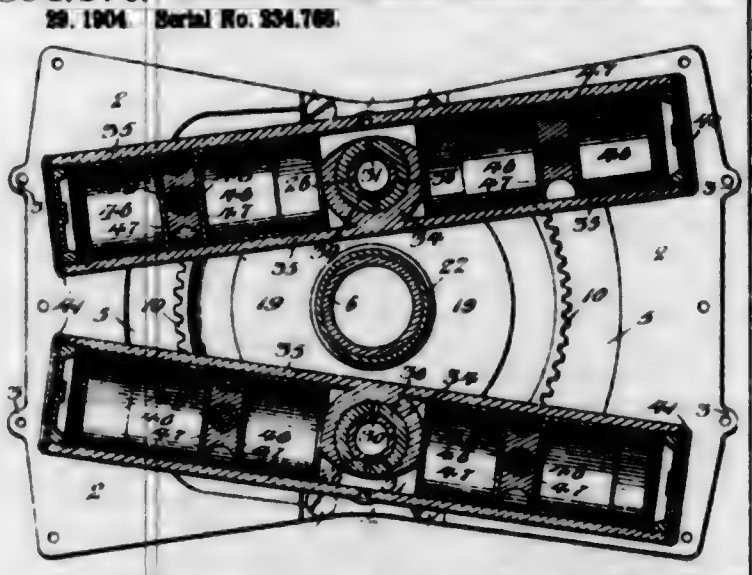
2. In a rail-joint the combination of the adjacent rail ends, fish-plates embracing the web and flanges of said rails, bolts having a flattened side portion and passing through registering openings in the fish-plates and rails, the openings in one of the fish-plates having threads to engage with the threads of said bolts, and a locking-bar adapted to pass over the rectangular ends of the bolts to prevent their working loose, the ends of said locking-bar being turned down and fastened between the vertical portion of the fish-plate and upwardly-projecting lugs by pins passing through registering openings.

3. In a rail-joint the combination of the adjacent rail ends, fish-

plates embracing the web and flanges of said rails, bolts having a flattened side portion and passing through registering openings in the fish-plates and rails, the openings in one of the fish-plates having threads to engage with the threads of said bolts, a locking-bar adapted to engage with the flattened sides of the bolts to prevent their working loose, the ends of said locking-bar being provided with openings and turned down between the vertical portion of the fish-plates and upwardly-projecting lugs provided with corresponding openings, pins provided with an encircling groove and adapted to fasten the locking-bar in position, and springs pressing upon said locking-bar to cause the openings in the end thereof to engage with the before-mentioned groove in the pins.

4. In a rail-joint, the combination of bars or plates embracing opposite sides of the abutting ends of adjacent rails, bolts connecting the rail ends and bars and having flattened portions, a locking-bar in engagement with the flattened parts of the bolts to prevent their turning and having an opening, a securing-pin passed through the opening of the locking-bar and having a seat in its side, and a spring normally exerting a pressure on the locking-bar to hold it in the seat of the securing-pin to prevent displacement of the latter.

804,472. **ENGINE.** COLIN HORNAL, Nashville, Tenn. Filed Nov. 29, 1904. Serial No. 234,765.



Claim.—1. An engine having a cylinder formed with a pair of slots, a pair of pistons in said cylinder adapted to move simultaneously in opposite directions, one of said pistons being disposed adjacent to each of said slots and adapted, when at the extreme of its movement in either direction to uncover said slot, and means for transmitting power from said pistons.

2. An engine having a trunnion-bearing provided with supply and exhaust means, a cylinder having a centrally-disposed bushing connected with one side thereof, said bushing surrounding said trunnion and being formed with a pair of inlet and exhaust ports, one of said inlet and exhaust ports communicating with the central portion of said cylinder and the other inlet and exhaust port communicating with the opposite ends thereof, and a pair of pistons in said cylinder on opposite sides of said bushing.

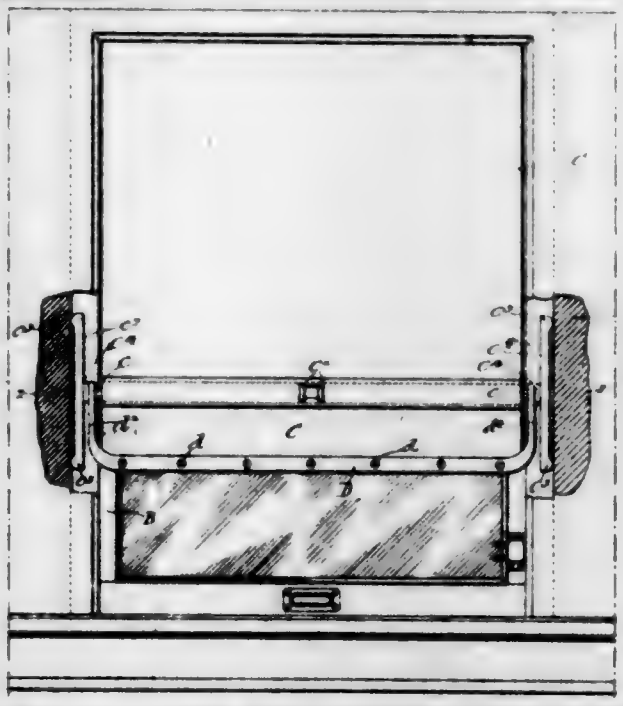
3. An engine having a hollow trunnion-bearing, formed with outlet-slots and exhaust-grooves, a cylinder having a centrally-disposed bushing connected with one side thereof, said bushing surrounding said hollow trunnion and being formed with a pair of inlet and exhaust ports, one of said inlet and exhaust ports communicating with the central portion of said cylinder, and the other inlet and exhaust port communicating with the opposite ends thereof, a pair of pistons in said cylinder on opposite sides of said bushings, and means for transmitting power from said pistons.

4. An engine having a hollow trunnion-bearing formed with outlets and exhaust-grooves, a cylinder having a pair of slots therein, a centrally-disposed bushing connected with one side thereof and surrounding said hollow trunnion-bearing, said bushing being formed with a pair of outlet and exhaust passages, one of said outlet and exhaust passages communicating with the central portion of the cylinder, and the other outlet and exhaust passage communicating with the opposite ends thereof, a pair of pistons in said cylinder adjacent to the slots thereof, said pistons being disposed on opposite sides of said bushing, and the arrangement of said pistons with respect to said slots being such that the slots are uncovered when the pistons are at the extreme limit of their movement in either direction, and means for transmitting power from said pistons through said slots.

5. An engine having a pair of hollow trunnion-bearings, each formed with a plurality of outlets and exhaust-grooves, a pair of cylinders, each having a plurality of slots therein, each of said cylinders having a centrally-disposed bushing surrounding one of said trunnion-bearings and being formed with a pair of inlet and exhaust ports, one of which communicates with the central portion of the cylinder, and the other of which communicates with the opposite ends thereof, a pair of pistons in each of said cylinders on opposite sides of the bushing thereof, a crank connected with each of said pistons and extending through the adjacent slot in the cylinder, a pinion connected with each of said cranks, a gear-wheel intermeshed with each of the pinions, and a tool-holding device operated by the gear-wheel.

6. An engine having a casing, comprising a base and a cover, the base being formed with a chamber, a rotary tool-holding device in said chamber, a gear-wheel connected with said tool-holding device, a plurality of pinions disposed adjacent to the periphery of said gear-wheel, and each having a crank, a bridge-piece extending across said chamber and having a tubular sleeve formed exteriorly with screw-threads and being adapted to receive the rotary tool-holding device, an exteriorly-screw-threaded sleeve surrounding said first-mentioned sleeve, and having a pointed projection thereon, handles on said last-mentioned sleeve, a pair of hollow trunnion-bearings on said bridge-piece, each provided with outlets and exhaust-grooves, a pair of cylinders, each having a centrally-disposed bushing surrounding one of said trunnion-bearings, and having a pair of outlet and exhaust ports, one of which communicates with the central portion of the cylinder, and the other with the opposite ends thereof, a pair of pistons in each of said cylinders arranged on opposite sides of the bushing thereof, and each connected with the cranks on one of said pinions, and means for supplying fluid-pressure to each of said hollow trunnion-bearings.

804,473. **CURTAIN-HOLDING DEVICE.** PAUL A. HOUGHTALING, Riverton, N. J., assignor to The Curtain Supply Company, Newark, N. J., a Corporation of New Jersey. Filed June 21, 1904. Serial No. 213,461.



Claim.—1. A curtain-fixture comprising a pair of rod portions one movable relative to the other, a pocket for the inner ends thereof, shoes at the outer ends of said rod portions, and a connecting portion intermediate the shoes and independent of the pocket adapted to move the shoes in opposite directions.

2. A curtain-fixture comprising a pair of rod portions one movable relative to the other, shoes at the outer ends of said rod portions, and a continuous yielding connecting member between said shoes tending to move them in opposite directions.

3. A curtain-fixture comprising a pair of rod portions one movable relative to the other, a pocket for the inner ends thereof, shoes at the outer ends of said rod portions, and a connecting device intermediate the shoes and without the pocket adapted to move the shoes in opposite directions.

4. A curtain-fixture comprising a pair of rod portions one movable relative to the other, shoes at the outer ends thereof provided with spring portions, and a continuous connecting member including said spring portions between said shoes tending to move them in opposite directions.

5. A curtain-fixture comprising a pocket, a pair of shoes at the

ends thereof operatively associated therewith, and a connecting device intermediate the shoes and independent of the pocket adapted to move the shoes in opposite directions.

6. A curtain-fixture comprising the following instrumentalities, to wit: a stick, a pair of rod portions one movable relative to the other arranged at points removed from said stick, and means intermediate the outer ends of the rod portions and the adjacent ends of the stick whereby portions of said instrumentalities constitute retaining or holding parts.

7. A curtain-fixture comprising the following instrumentalities, to wit: a stick, a pair of rod portions one movable relative to the other arranged at points removed from said stick, and connecting portions between the outer ends of the rod portions and the adjacent ends of the stick, one of said connecting portions being yieldable whereby portions of said instrumentalities constitute friction holding or retaining parts.

8. A curtain-fixture comprising the following instrumentalities, to wit: a stick, a pair of rod portions one movable relative to the other arranged at points removed from said stick, and spring portions intermediate the outer ends of the rod portions and adjacent ends of the stick whereby portions of said instrumentalities constitute friction holding or retaining parts.

9. In a curtain-holding fixture, a spring-actuated holding member adapted to engage the guide-groove of a window-casing, and a pinch-handle formed to project without said guide-groove, said pinch-handle and the spring being integrally connected.

10. In a curtain-holding fixture, spring-actuated holding members adapted to engage the guide-grooves of a window-casing, and pinch-handles formed to project without said guide-grooves, said pinch-handles and the springs being integrally connected.

11. In a curtain-fixture, holding parts, a connecting part between corresponding ends thereof, said connecting part and the holding parts being integrally connected, and pinch-handles carried by the opposite ends thereof.

12. In a curtain-fixture, holding parts, a connecting part between corresponding ends thereof, and pinch-handles carried by the other ends thereof, the whole being of integral formation.

13. In combination with a shade having a pocket, oppositely-disposed rods therein adapted to shift longitudinally and provided with a spring connection located without said pocket and between the outer ends of said rods for creating a holding pressure.

14. In combination with a curtain or shade, a curtain stick or bar secured thereto, and complementary means arranged parallel with and separated from said curtain stick or bar connected thereto at its outer ends, the connecting portions being retractable inwardly and normally projecting beyond the edges of the curtain to constitute guides.

15. In combination with a curtain or shade, a curtain stick or bar secured thereto, and complementary means arranged parallel with and separated from said curtain stick or bar connected thereto at its outer ends whereby the bottom of the curtain is reinforced, the connecting portions constituting friction holding devices.

16. In combination with a curtain or shade, a curtain stick or bar secured thereto, a rod arranged parallel with and separated from said curtain stick or bar and connected at its outer end with the latter, the connecting portion being retractable inwardly and normally projecting beyond the edge of the curtain to constitute a guide.

17. A curtain-fixture comprising a curtain stick or bar adapted to be carried by the curtain, friction bearing-surfaces adapted to engage the window-frame, spring portions normally acting to maintain said friction bearing-surfaces in holding engagement, and retracting-rods for said friction bearing-surfaces adapted to be mounted on the curtain parallel to and without the curtain-stick.

18. A curtain-fixture comprising a curtain stick or bar adapted to be carried by the curtain, friction bearing-surfaces adapted to engage the window-frame, spring portions normally acting to maintain said friction bearing-surfaces in holding engagement, and retracting-rods for said friction bearing-surfaces adapted to be mounted on the curtain independently of and parallel to but non-coincident with the axis of the curtain-stick.

19. The combination of a curtain, holding means therefor including longitudinally-movable rod portions carried by the curtain, a curtain-stick extending across the curtain and carried thereby at a point removed from said rod portions and having spring means at the end thereof for moving the rod portions outwardly, and means for manually retracting the rod portions.

20. The combination of a curtain, a curtain-stick extending across the curtain and having resilient portions, a pair of rod portions carried by the curtain at points removed from said curtain-stick, the resilient portions of the curtain-stick being adapted to force said rod portions apart, and means for manually moving the rod portions toward each other.

21. The combination of a curtain, a curtain-stick extending across the same, and having resilient portions beyond the edges of the curtain, and a pair of rod portions carried by the curtain at points removed from said curtain-stick and normally thrust outwardly by said resilient portions of the curtain-stick.

22. The combination of a curtain, rod portions carried by the lower portion of the curtain, friction bearing-surfaces for engaging the window-frame, and a curtain-stick extending across the curtain at a point removed from said rod portions and having resilient portions acting to force the rod portions outwardly and the friction bearing-surfaces into contact with the window-frame.

23. The combination of a curtain stick or bar adapted to extend across the curtain with its ends extended beyond the edge of the curtain, rod portions arranged at points removed from said curtain stick or bar also adapted to be carried by the curtain and having endwise movement, and resilient portions located beyond the edge of the curtain intermediate the curtain-stick and the rod portions tending to move the said rod portions away from each other and toward the side walls of a window-frame.

24. In a curtain-fixture, the combination of a curtain stick or bar adapted to be mounted transversely of a curtain or shade and having angularly-bent elastic portions provided with outwardly-pressed friction bearing-surfaces, and retracting-rod portions therefor also adapted to be mounted on said curtain externally of and parallel with said curtain-stick, said retracting-rod portions having pinch-handles at their inner proximate ends.

25. In a curtain-fixture, the combination of a curtain stick or bar adapted to be mounted transversely of a curtain or shade and having angularly-bent elastic portions provided with outwardly-pressed friction bearing-surfaces, and retracting-rod portions therefor also adapted to be mounted on said curtain externally of and parallel with said curtain-stick, said retracting-rod portions being provided with means for drawing them together.

26. In a curtain-fixture, the combination of a curtain stick or bar adapted to be mounted transversely of a curtain or shade, friction bearing-surfaces elastically associated with the extremities of said curtain-stick, and retracting-rod portions for said friction bearing-surfaces also adapted to be mounted on said curtain externally of and parallel with said curtain-stick and provided with means for drawing them together.

27. In a curtain-fixture, the combination of a curtain stick or bar adapted to be mounted transversely of a curtain or shade, friction bearing-surfaces elastically associated with the extremities of said curtain-stick, and retracting-rod portions for said friction bearing-surfaces also adapted to be mounted on said curtain externally of said curtain-stick and projecting into proximity at their inner ends.

28. In a curtain-fixture, the combination of a curtain stick or bar adapted to be mounted transversely of a curtain or shade, friction bearing-surfaces elastically associated with the extremities of said curtain-stick, and retracting-rod portions for said friction bearing-surfaces also adapted to be mounted on said curtain externally of said curtain-stick and provided with means for drawing them together.

29. In a curtain-fixture, a spring-actuated holding part formed to engage the guideway of a window-frame and a pinch-handle carried directly by the spring thereof formed to project without said guideway.

30. In a curtain-fixture, a spring-actuated holding part formed to engage the guideway of a window-frame and a pinch-handle integral with the spring thereof formed to project without said guideway.

804,474. ELEVATING-CONVEYER FOR GRADING AND DITCHING MACHINES. HENRY S. HOY, Chicago, Ill. Filed Mar. 27, 1905. Serial No. 251,353.

Claim.—1. In a ditching and grading machine, an elevating-conveyer constructed with a roll-supporting frame, an idler-belt roll at each end portion of the frame, an endless conveyer-belt extending between and passing about said two idler-rolls, and a series of idler-rolls arranged between said end rolls and upholding the upper leaf of the endless conveyer-belt; a power-driven belt roll or drum mounted upon the frame at a point between the two end idler-rolls; an endless driving-belt extending between the said belt-driving roll or drum and the idler-roll at one end of the elevating-conveyer and passing about said two rolls, the said driving-belt being operated by said driving-belt roll and being arranged within the endless conveyer-belt and in frictional contact therewith, whereby the endless

conveyer-belt is operated by the driving-belt; means for operating the driving-belt roll; and idler-rolls engaging the under side of the lower leaf of the conveyer-belt, the lowest point of said rolls being higher than the lowest point of the belt-driving roll which is positioned between these two rolls.



2. In a ditching and grading machine, the elevating-conveyer having a roll-supported endless conveyer-belt; means for operating the conveyer-belt consisting of an endless belt in frictional contact with portions of the inner side of the conveyer-belt; a roll supporting the inner driving-belt and the outer conveyer-belt at one end of the elevating-conveyer and a driving roll or drum operating the driving-belt and arranged between the upper and lower leaves of the elevating conveyer-belt; the endless conveyer-belt being supported at one end of the elevating-conveyer by the portion of the inner driving-belt passing about the roll at such end of the elevating-conveyer, and the extent of frictional contact between the outer surface of the inner belt and the inner surface of the outer conveyer-belt being suitable and sufficient to cause the inner belt to drive the outer belt by frictional engagement therewith.

3. In a ditching and grading machine, the elevating-conveyer having an endless conveyer-belt; a power-driven belt-roll arranged within the space of the endless conveyer-belt and positioned between the receiving and delivery ends of the elevating-conveyer; an idler-belt-supporting roll at one end of the elevating-conveyer; an endless belt extending between and passing about the said two rolls and operated by the one which is power-driven, said driving-belt being within the conveyer-belt and maintained in frictional contact with inner surface portions of the upper and lower leaves of the conveyer-belt as a means for driving the latter, the driving-belt and the conveyer-belt being both supported by the idler-roll at one end of the elevating-conveyer, the driving-belt being in direct contact with such roll and the conveyer-belt being upon and against the outer surface of the driving-belt.

4. In a ditching and grading machine, the elevating-conveyer constructed with a suitable frame; a belt-driving roll mounted upon the frame at a point between the ends thereof, and driving-gearing connecting said driving-roll with the rear axle of the machine; an idler-roll mounted at one end of the elevating-conveyer; a driving-belt passing about said idler-roll and said driving-roll and operated by the latter, and an endless conveyer-belt passing over and under the driving-belt and in frictional engagement therewith, the conveyer-belt being driven by frictional contact with the said driving-belt, and the latter being in turn driven by the driving-roll.

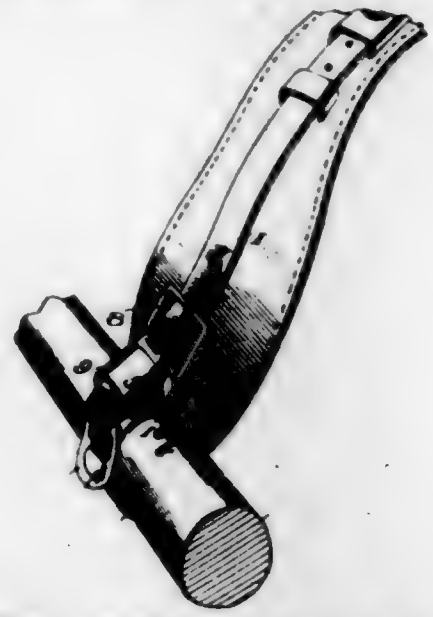
5. In a ditching and grading machine, an endless carrier or conveyer belt, and a driving-belt therefor arranged within and engaging the said carrier or conveyer and means for operating said inner driving-belt; the outer conveyer-belt being driven by reason of the frictional engagement of its inner surface with the outer surface of the inner driving-belt during the operation of the latter.

6. The combination of the outer endless conveyer-belt B; the inner driving-belt E in frictional engagement with the said outer belt; the frame; a roll for driving the belt E; a roll at one end of the frame supporting the two belts; and a roll arranged between the said end roll and the driving-roll and upholding the lower contacting leaves of the two belts at a point higher than the lowest portion of the driving-roll.

804,475. **THILL-LOOP.** CHESTER A. JACKY, Conies City, Wash., assignor of one-half to Alfred A. Gast, Los Angeles county, Cal. Filed Feb. 7, 1905. Serial No. 244,694.

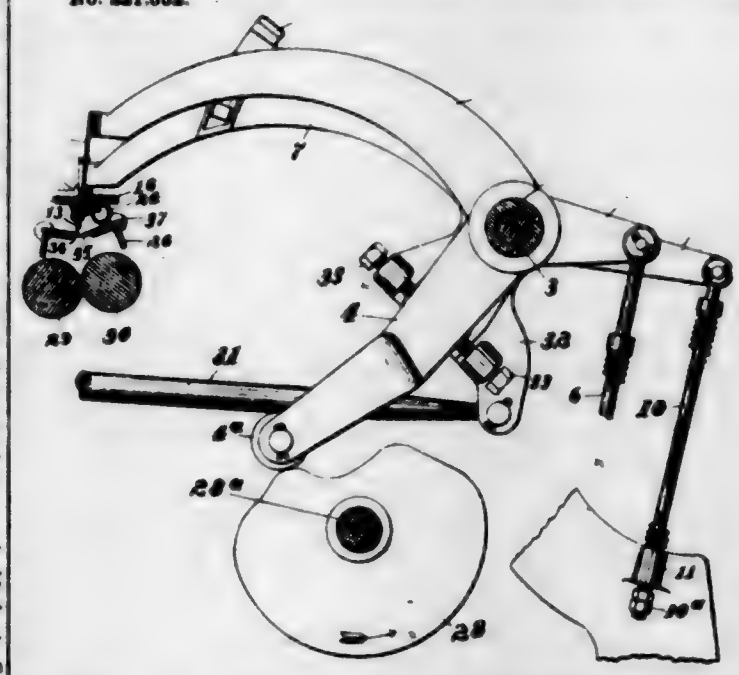
Claim.—1. A thill-loop having a side member composed of separable parts, means for coupling said parts, and a confining-strap extended across the loop and secured at one end to the separable member and loose at its opposite end and passed through an opening of the opposite member of the loop, substantially as set forth.

2. A thill-loop comprising a sling of rigid material, a strap having one terminal loosely connected with an end of the sling and provided at its other terminal with a buckle, and a billet attached at one extremity to the other end of the sling and at the other extremity to the said buckle, the latter also serving to connect the loop to the thill-tug, substantially as set forth.



3. A thill-loop comprising upper and lower parts, the upper part consisting of oppositely-inclined straps connected at their upper ends, and the lower part consisting of a hook and a link provided with coupling means to admit of their connection and separation at will, and a confining-strap extended across the loop and confined at one end to the side composed of separable parts and having loose connection at its opposite end to the other side of the loop, substantially as set forth.

804,476. **CUTTING MECHANISM FOR FOLDING-MACHINES.** HOWARD K. KING, Philadelphia, Pa., assignor to Chambers Brothers Company, a Corporation of Pennsylvania. Filed Aug. 23, 1904. Serial No. 221,882.



Claim.—1. In combination with a folding-machine having a reciprocative folding-blade, the mechanism for making a line of incisions in a sheet comprising a series of cutting-points, reciprocative supporting means therefor controlled by the folding-blade, a sheet-supporting plate for coöperating therewith, and sheet-pressing means having lost-motion engagement with said reciprocative supporting means.

2. In combination with a folding-machine having a reciprocative folding-blade, the mechanism for making a line of incisions in a sheet comprising a series of cutting-points, reciprocative supporting means therefor controlled by the folding-blade, a pair of horizontal plates spaced apart in the same plane to form a slit for receiving the cutting-points, and means operated relatively with the reciprocative supporting means for depressing the oppositely-disposed edges of said plates.

3. In combination with a folding-machine having a reciprocative folding-blade, mechanism for making a line of incisions in a sheet comprising a series of cutting-points, reciprocative supporting means therefor, controlled by the folding-blade, a pair of parallel

plates spaced apart in the same horizontal plane to form a slit for receiving the cutting-points, means for pressing the sheet to one of the plates during the cutting operation, and means operated relatively with the reciprocative supporting means for depressing the oppositely-disposed edges of said plates.

4. In combination with a folding-machine having a reciprocative folding-blade, the mechanism for making a line of incisions in a sheet comprising a series of cutting-points, reciprocative supporting means therefor, controlled by the folding-blade, slit mechanism for coöperating therewith comprising a pair of parallel plates, means for pressing the sheet to one of the plates during the cutting operation, and means operated relatively with the reciprocative supporting means for depressing the oppositely-disposed edges of the plates and so as to release the sheet from the pressing means.

5. In combination with a folding-machine, cutting mechanism adapted to make incisions in the sheet along the line of the proposed fold and then to bend the sheet to cause the incisions to open to facilitate the removal of the sheet therefrom.

6. In combination with a folding-machine comprising a folding-blade and slit mechanism, means for making incisions in the sheet along the line of the fold and means for operating the slit mechanism at the proper moment to prevent further cutting of the sheet.

7. In combination with a folding-machine, comprising a folding-blade and reciprocating supporting means therefor, a cutting-knife controlled by said reciprocating supporting means and two parallel plates spaced apart in the same horizontal plane to form a slit for receiving the folding-blade and cutting-knife, one of said plates coöperating with the knife to form a shear therewith, and means for rocking the same.

8. In combination with a folding-machine, means for cutting the sheet along the line of the proposed fold and sections of resilient material controlled by the cutting means for engaging the sheet during the cutting operation.

9. In combination with a folding-machine comprising a folding-blade and a cam-controlled reciprocating supporting-arm therefor, a second movable supporting-arm, a cutting-blade and sheet-pressing means supported thereby, and means whereby the folding-blade controls the movement of the second supporting-arm.

10. In combination with a folding-machine comprising a folding-blade and a cam-controlled reciprocating supporting-arm therefor, a cutting-blade, pivotally-movable supporting means therefor, and means whereby the folding-blade controls the movement of the cutting-blade.

11. In combination with a folding-machine comprising a folding-blade and a cam-controlled reciprocating supporting-arm therefor, a cutting-blade, movable supporting means therefor having the same axis of movement as the folding-blade, and means whereby the folding-blade controls the movement of the cutting-blade.

12. In combination with a folding-machine comprising a folding-blade and a spring-actuated cam-controlled reciprocating supporting-arm therefor, a cutting-blade, movable supporting means therefor, and means whereby the folding-blade controls the movement of the cutting-blade.

13. In combination with a folding-machine comprising a folding-blade and reciprocating supporting-arm therefor, a second supporting-arm, a cutting-blade and sheet-pressing means secured thereto, and means for coupling the supporting-arm of the cutting-blade with that of the folding-blade.

14. In combination with a folding-machine comprising a folding-blade and a reciprocating supporting-arm therefor, a second reciprocating arm, a cutting-blade and sheet-pressing means supported thereby, and adjustable means for coupling the supporting-arms of the cutting-blade and the folding-blade.

15. The combination of a folding-blade and slit mechanism for coöperating therewith, said slit mechanism comprising a normally horizontal plate extending transversely the line of travel of the sheet, and means operating relatively with the folding-blade for depressing the edge of the plate toward the advancing edge of the sheet to permit the passage of the sheet thereover without obstruction.

16. The combination of a folding-blade and slit mechanism for coöperating therewith, said slit mechanism comprising two parallel normally horizontal plates, and means operating relatively with the folding-blade for depressing the edge of one plate to permit the passage of the sheet thereover without obstruction.

17. The combination of a folding-blade and cutting-knife, and slit mechanism for coöperating therewith, said slit mechanism comprising a normally horizontal plate and means operating relatively with the folding-blade for depressing the edge of the plate to permit the passage of the sheet thereover without obstruction and then restoring the plate to position for coöperating with the cutting-knife.

18. The combination of a folding-blade and cutting-knife, and slit mechanism for coöperating therewith, said slit mechanism comprising two parallel normally horizontal plates and means operating relatively with the folding-blade for depressing the edge of one plate to permit the passage of the sheet thereover without obstruction and then restoring the plate to position for coöperating with the cutting-knife.

19. The combination of a folding-blade and cutting-knife, and slit mechanism for coöperating therewith, said slit mechanism comprising two parallel normally horizontal plates and means, operating relatively with the folding-blade, for depressing the edge of one plate to permit the passage of the sheet thereover without obstruction, then for restoring the plate to position for coöperating with the cutting-knife, and then for tilting both plates to prevent further cutting by the downward movement of the knife.

20. In combination with a folding-machine, sheet-cutting mechanism comprising a beveled knife having its cutting edge in the plane of one side only, a coöperating supporting-plate for the sheet forming a shear with the knife, and means for moving the supporting-plate, after the required incision is made by the knife, to prevent further cutting of the sheet thereby.

21. In combination with a folding-machine, a cutting device comprising a reciprocative serrated knife having its cutting edge in the plane of one side only, a supporting member for the sheet adapted to form a shear with the knife, and means for moving the supporting-plate, after the required incision is made by the knife, to prevent further cutting of the sheet thereby.

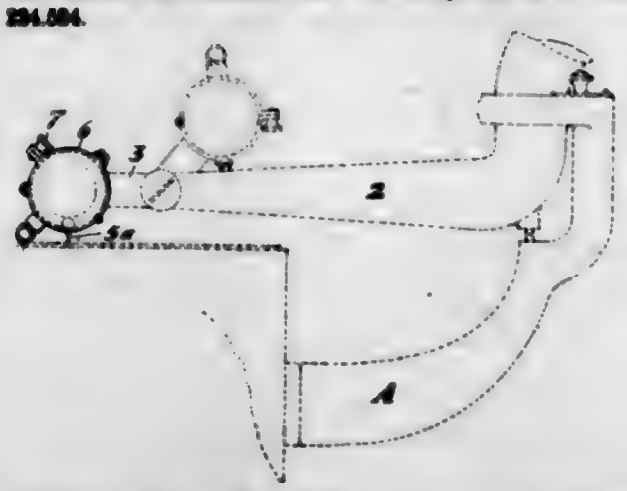
22. In combination with a folding-machine, sheet-cutting mechanism comprising a beveled knife having its cutting edge in the plane of one side only, a coöperating supporting-plate for the sheet, forming a shear with the knife, means for moving the supporting-plate, after the required incision is made by the knife, to prevent further cutting of the sheet thereby, and pressing mechanism having lost-motion engagement with the knife-supporting means for engaging the sheet on said plate during the cutting operation.

23. In combination with a folding-machine, a cutting device comprising a reciprocative serrated knife having its cutting edge in the plane of one side only, a supporting-plate for the sheet adapted to form a shear with the knife, means for tilting the supporting-plate, after the required incision is made by the knife, to prevent further cutting of the sheet thereby, and pressing mechanism having lost-motion engagement with the knife-supporting means for engaging the sheet on said plate during the cutting operation.

24. In combination with a folding-machine, means for making incisions in the sheet along the proposed fold, comprising a cutting-blade and reciprocative supporting means therefor, a coöperating supporting-plate for the sheet, and presser mechanism, having slidable engagement with the supporting mechanism of the cutting-blade, for pressing the sheet against the supporting-plate during the cutting operation.

25. In combination with a folding-machine, means for making incisions in the sheet along the proposed fold, comprising a cutting-blade and reciprocative supporting means therefor, a coöperating supporting-plate for the sheet, presser mechanism, having slidable engagement with the supporting mechanism of the cutting-blade, for pressing the sheet against the supporting-plate during the cutting operation, and means for tilting the plate to release the sheet after the required incision is made by the cutting-blade.

804,477. **ATTACHMENT FOR TALKING-MACHINES.** GABOR KÖNIGSTEIN, San Francisco, Cal. Filed Sept. 15, 1904. Serial No. 224,524.



Claim.—1. In a machine of the character described, the combination of a sound-box movable toward and from the record and pro-

vided with a stylus, and means operative to engage the record for holding the stylus out of operative engagement therewith said means being shiftable about the axis of the sound-box to disengage the record and permit the latter to be engaged by the stylus.

2. A talking-machine having in combination a sound-box movable toward and from the record, and provided with a stylus, arms by which the sound-box is supported, a device attached to the sound-box and a yielding member carried by the device and engageable with the record to hold the stylus out of operative engagement therewith, said device shiftable about the box as an axis to disengage the record and permit the latter to be engaged by the stylus.

3. The combination with a talking-machine, the swiveled and turnable arm thereof, of elastic cushions or buffers carried by the free end of the turnable arm and adapted to contact respectively with the disk and with the swiveled arm substantially as described.

4. In a talking-machine having a swiveled arm and a point-carrying arm loosely turnable about the outer end of said swiveled arm, a ring detachably secured to said outer end, cushions carried by said ring, one of which rests upon the swiveled arm when the turnable part is thrown back and the other upon the disk when it is turned to direct the point upon the disk.

5. In a talking-machine, a horizontal swiveling arm a second arm swiveled and turnable about the outer end thereof, said arm having a head and a point carried thereby, a two-part hinged ring having a clamping-screw by which it is secured upon the head, cushions carried by said ring, one of which is adapted to rest upon the disk and protect said disk from the point, and the other to rest upon the arm when the head is thrown back, and a handle carried by said ring whereby the movements of the arm and head are effected.

6. In a talking-machine, a horizontal swiveling arm, a second arm swiveled and turnable about the outer end thereof, a head, and a point carried by said head, a record-disk with which said point contacts a yielding cushion carried by said head and resting upon the disk previously to the contact of the point therewith.

7. In a talking-machine, a freely-movable head and point carried thereby, a record-disk upon which the point is adapted to rest, a tubular sleeve projecting from the head and diagonal with relation to the point, a spring-pressed stem slidable in the sleeve and a yielding cushion carried by said stem.

8. In a talking-machine, the combination with a record-disk, a stylus and the support thereof, of a stylus-support adapted for attachment to the sound-box and shiftable about the same as an axis, and resilient cushion on the stylus-support arranged to engage the record-disk in advance of the stylus.

9. In a talking-machine, the combination with a record-disk, a stylus and the support thereof, said support attachable to and turnable concentric with the sound-box of a resilient cushion on the stylus-support arranged to engage the record-disk in advance of the stylus, and means for moving and retaining said cushion to allow the impingement of the stylus with the disk.

10. In a gramophone, the combination with the record, the stylus and the stylus-support, said support attachable to and turnable concentric with the sound-box of a spring-pressed cushion carried by the stylus-support and arranged to engage the record in advance of the stylus.

11. In a gramophone, the combination with the record, the stylus and the stylus-support, said support attachable to and turnable concentric with the sound-box of a spring-pressed cushion carried by the stylus-support and arranged to engage the record in advance of the stylus, and means to disengage the cushion to allow the stylus to operate on the record.

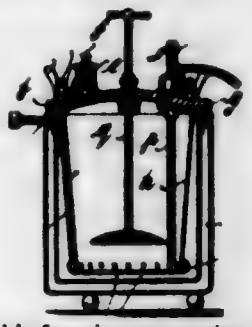
12. In a machine of the character described, the combination of a record, a sound-box movable toward and from the same and provided with a stylus, a member mounted on the outside of the sound-box and provided with cushion means for holding the stylus out of operative engagement with the record, said member shiftable about the box as an axis to disengage the record and thereby to permit the engagement of the stylus with the record.

13. A gramophone having in combination a record, a stylus to operate thereover, a stylus-support, said support attachable to and turnable concentric with the sound-box and cushion means carried by the support and adapted to contact with the record to hold the stylus out of contact with the record, or to allow it to engage said record.

14. In a gramophone, the combination with the record-disk, the stylus and a stylus-support, attachable to the ordinary sound-box and turnable about the same as a center of means carried by the support to limit the movement of the stylus toward the record, said means including a spring-pressed stem movable in guides on the support, and means for holding the stem at different positions in said guides.

15. In a gramophone, the combination with the record-disk, the stylus and a stylus-support, attachable to the ordinary sound-box and turnable about the same as a center of means carried by the support to limit the movement of the stylus toward the record, said means including a normally retracted spring-pressed part and means for projecting and holding said part in advance of the stylus.

804,478. **PORTABLE FREEZING APPARATUS.** FRANZ KRÜGER and RICHARD HANSON, Lubeck, Germany. Filed Apr. 19, 1904. Serial No. 203,940.

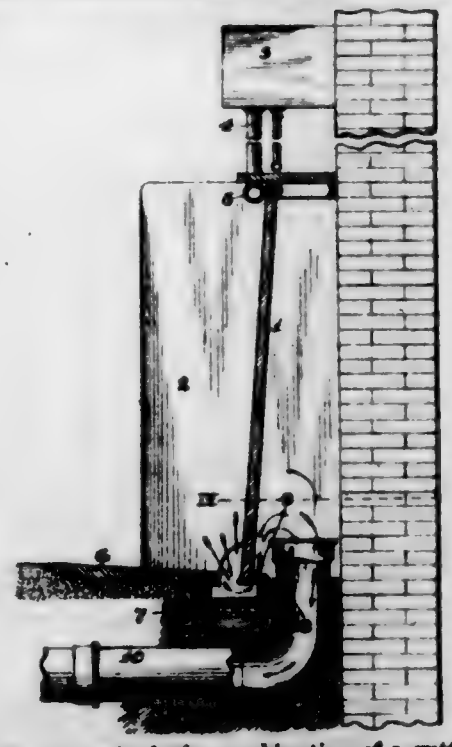


Claim.—1. A portable freezing apparatus, comprising a liquid-receptacle perforated below and having an external lower chamber directly communicating with the interior space at the perforated part, a carbonic-acid-supply tube conducting into the said chamber, an hermetically-fitting cover on the receptacle, a relief-valve on the cover, a liquid-dispensing pipe extending through the cover to the bottom of the receptacle, and a cock on the pipe, substantially as described.

2. A portable freezing apparatus, comprising a double-walled casing, a liquid-receptacle, located therein, perforated below and having an external lower chamber directly communicating with the interior space at the perforated part, a carbonic-acid-supply tube conducting into the said chamber, an hermetically-fitting cover on the receptacle, a relief-valve on the cover, a liquid-dispensing pipe extending through the cover to the bottom of the receptacle, and a cock on the pipe, substantially as described.

3. A portable freezing apparatus, comprising a double-walled casing, a liquid-receptacle, located therein, perforated below and having an external lower chamber directly communicating with the interior space at the perforated part, a carbonic-acid-supply tube conducting into the said chamber, an hermetically-fitting cover on the receptacle, a regulable relief-valve on the cover, a liquid-dispensing pipe extending through the cover to the bottom of the receptacle, a cock on the pipe, and a reciprocating mixer extending through the cover, substantially as described.

804,479. **URINAL.** LOUIS D. LAWRIE, Edwardsville, Ill., assignor of one-half to H. O. Nelson Manufacturing Company, St. Louis, Mo., a Corporation. Filed Oct. 24, 1904. Serial No. 229,755.



Claim.—1. In a urinal, the combination of a gutter adapted to hold a body of water, a stall-back support above said gutter and free

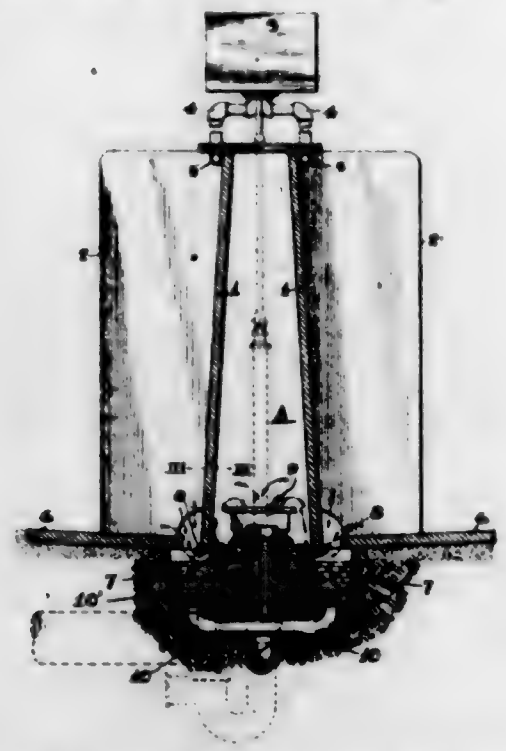
of contact therewith to provide an air-space leading from the front of said stall-back to the rear side thereof adjacent to the gutter, and a vent-pipe extending horizontally beneath the level of the floor surrounding the urinal and terminating in an open L extending to a point above the level of the surrounding floor and having communication with the space at the rear side of said stall-back, substantially as set forth.

2. In a urinal, the combination of a gutter adapted to hold a body of water, brackets secured to said gutter and extending thereover, a stall-back supported by said brackets free of contact with the gutter to provide an air passage-way leading through the gutter from the front side of said stall-back to the rear side thereof, and a vent-pipe terminating in an open L extending from a point above the level of the floor surrounding the urinal and terminating in the space at the rear side of said stall-back and leading horizontally from said L beneath said floor, substantially as set forth.

3. In a urinal, the combination of a gutter, a stall-back freely supported above the gutter and having its lower end spaced from the rear wall of the gutter to provide an air passage-way, and a vent-pipe extending horizontally beneath the floor surrounding the urinal and having an upturned end terminating above the level of the floor and in the space behind the stall-back, substantially as set forth.

4. In a urinal the combination of a floor, a gutter adapted to hold a body of water and located beneath said floor, a stall-back supported above the gutter and free of contact with the rear wall of the gutter, and an L-shaped vent-pipe terminating above the level of the floor to prevent entrance of water into the pipe, substantially as set forth.

804,480. URINAL. LOUIS D. LAWRIN, Edwardsville, Ill., assignor of one-half to H. O. Nelson Manufacturing Company, St. Louis, Mo., a Corporation. Filed Oct. 24, 1904. Serial No. 229,756.



Claim.—1. In a urinal, the combination of a pair of gutters adapted to hold bodies of water, a pair of stall-backs spaced apart from each other to furnish an air-space between them and free of contact with said gutters to provide air passage-ways leading from the front sides of the stall-backs to said air-space, and a vent-pipe leading from said air-space and terminating in an open upturned L extending to a point above the level of the surrounding floor, substantially as set forth.

2. In a urinal, the combination of a pair of gutters adapted to hold bodies of water, a pair of stall-backs spaced apart from each other to furnish an air-space between them and free of contact with said gutters to provide air passage-ways leading from the front sides of the stall-backs to said air-space, a vent-pipe leading from said air-space and terminating in an open upturned L extending to a point above the level of the surrounding floor, and a trap having communication in common with both of said gutters, substantially as set forth.

3. In a urinal, the combination of a pair of gutters adapted to hold bodies of water, a pair of stall-backs spaced apart from each other to furnish an air-space between them and free of contact with said gutters to provide air passage-ways leading from the front sides of the stall-backs to said air-space, a vent-pipe leading from said air-space, a trap having communication in common with both of said gutters, a pair of branch pipes forming part of the communication between said trap and gutters, and an extension-piece projecting upwardly from said branch pipes, substantially as set forth.

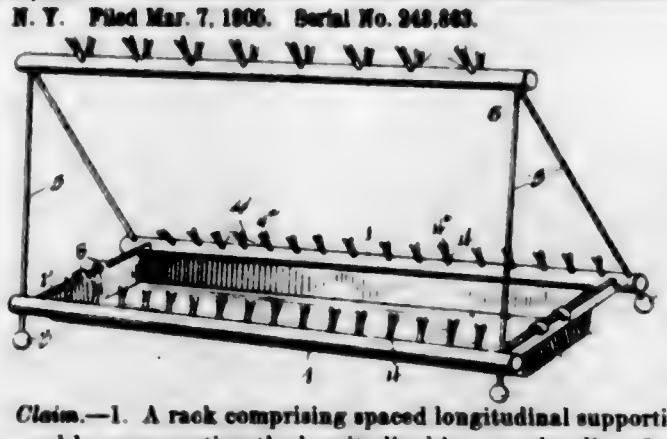
4. In a urinal, the combination of a pair of gutters, a trap having communication in common with both of said gutters, and a ridge extending longitudinally between said gutters, substantially as set forth.

5. In a urinal, the combination of a pair of gutters spaced apart, a pair of stall-backs spaced apart from each other to furnish an air-space between them and having their lower ends spaced from the walls of the gutters to provide air passage-ways, and a trap having communication in common with both of said gutters, substantially as set forth.

6. In a urinal, the combination of a pair of gutters spaced apart, a pair of stall-backs spaced apart from each other to furnish an air-space between them and having their lower ends spaced from the walls of the gutters to provide air passage-ways, and a vent-pipe having a part extending upwardly between said gutters and terminating above the level of the surrounding floor and in the air-space between the stall-backs, substantially as set forth.

7. In a urinal, the combination of a pair of gutters, a ridge extending longitudinally between said gutters, a pair of stall-backs spaced apart from each other and spaced from the gutters and the ridges, a trap located below said ridge and having a communication in common with both of said gutters, and a vent-pipe having an upturned end extending through said ridge and terminating above the level of the surrounding floor and between the stall-backs, substantially as set forth.

804,481. DISH-DRAINER. GEORGE H. LAWRENCE, Middletown, N. Y. Filed Mar. 7, 1905. Serial No. 248,883.



Claim.—1. A rack comprising spaced longitudinal supporting-bars, end bars connecting the longitudinal bars, a plurality of supporting members disposed upon the longitudinal bars, standards projecting upwardly from the longitudinal bars, an upper longitudinal bar connecting the aforesaid standards, and supporting members carried by the upper longitudinal bar.

2. A rack comprising spaced longitudinal supporting-bars, end bars connecting the longitudinal bars, a plurality of supporting members disposed upon the longitudinal bars, standards projecting upwardly from the longitudinal bars, an upper longitudinal bar connecting the aforesaid standards, supporting members carried by the upper longitudinal bar, and a drip-pan supported between the lower longitudinal bars.

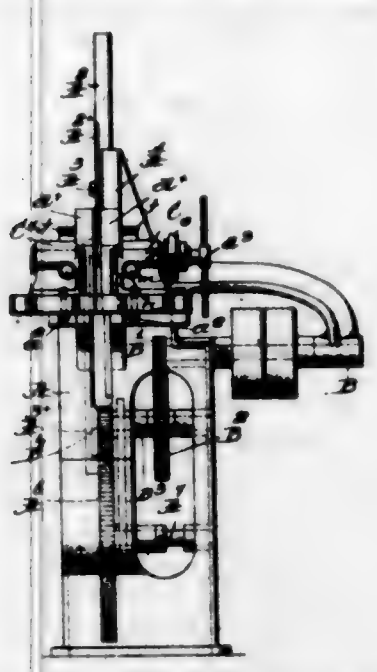
3. A rack comprising spaced longitudinal supporting-bars, end bars connecting the longitudinal bars, a plurality of supporting members disposed upon the longitudinal bars, standards projecting upwardly from the longitudinal bars, an upper longitudinal bar connecting the aforesaid standards, supporting members carried by the upper longitudinal bar, a drip-pan arranged between the lower supporting-bars, and clips projecting from the drip-pan and engaging over the end bars.

4. In a dish-drainer, the combination of the longitudinal supporting-bars 1, the end bars 2, the upwardly-extending standards 5, the upper longitudinal bar 6, connecting the upper ends of the standards 5, the supporting-pegs 4 arranged longitudinally of the bars 1 and 6 and having the upper ends thereof bifurcated to form spaced fingers, and the legs 3 projecting downwardly from the longitudinal bars near the ends thereof.

804,482. CRIMPING-MACHINE. ALFRED G. LEGER, Brockton, Mass., assignor to Lockett Crimping Machine Company, Brockton, Mass., a Firm. Filed May 15, 1905. Serial No. 260,484.

Claim.—1. In a crimping-machine, a plurality of heads each having a plunger provided with a jaw, and means for moving said plungers in said heads both longitudinally and vertically.

2. In a crimping-machine, a plurality of heads having each a plunger provided with a jaw, and means for moving said plungers both longitudinally and vertically in said heads, and means to control the extent of vertical movement of the plungers in said head.



3. In a crimping-machine, a head chambered for the reception of the head of a plunger and having a boss provided with an opening communicating with said chamber, a plunger having a head to enter loosely the chamber of the head and having a hollow shank provided with a projection, said shank being extended through the passage-way of said boss, the shank being free to be tipped in said passage-way as the position of the head of the plunger is changed in the hamber of the head.

4. In a crimping-machine, a head having parallel passages, springs in said passages, a plunger, a jaw, means to confine said jaw to said plunger, a cam-nut, and means intermediate the cam-faces of said cam-nut and said springs whereby the strength of the springs may be equalized

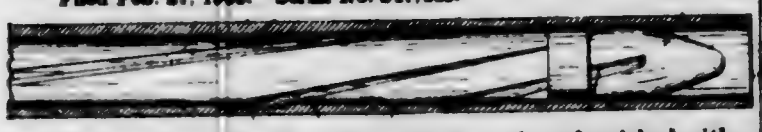
5. In a crimping-machine, a head, a plunger movably sustained in said head, springs at opposite sides of the head of said plunger, and spring-controllers coacting with said springs to adjust their tension.

6. In a crimping-machine, a head having a chamber, a plunger having a shank and entered loosely in said chamber, and means to control the extent of lateral movement of said plunger in the recess of said head in one or the other direction.

7. In a crimping-machine, a chambered head, a plunger mounted in said head and free to be moved laterally as well as longitudinally, combined with gibs having shanks, springs acting on said gibs, spring-controllers to control the effective pressure of said springs, and stops to determine the extent of lateral movement of said plunger in one or the other direction.

8. In a crimping-machine, a chambered head, a plunger loosely mounted in said head, and a projection to permit said plunger to not only rise but to move laterally, combined with gibs, and means to control their positions in the chamber of said head to thereby limit both the vertical and lateral movement of the plunger in the head.

804,483. RIFLE GUN-BARREL. LUTHER LINCOLN, Boston, Mass. Filed Feb. 27, 1905. Serial No. 247,445.



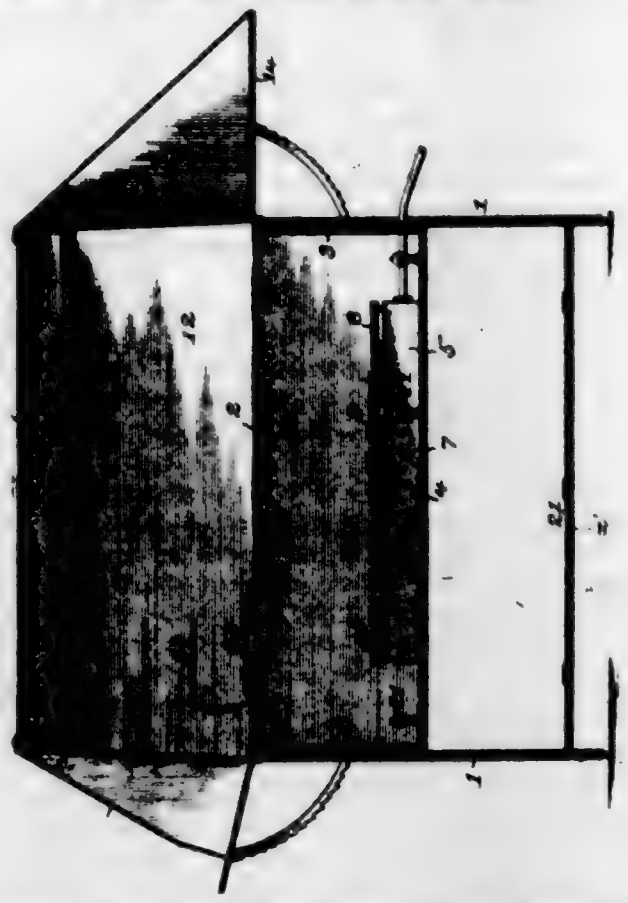
Claim.—1. A rifle tube or barrel having a bore furnished with a series of spiral grooves, the main diameter of the bore being gradually enlarged toward the muzzle end.

2. A rifle tube or barrel having a bore furnished with rifle-grooves and a muzzle-chamber larger than said bore, the diameter of the grooved portion of the bore being enlarged toward said muzzle-chamber.

3. A rifle tube or barrel having a bore furnished with a series of spiral grooves and a muzzle-chamber having parallel sides and a smooth inner surface, the diameter between the lands being gradually enlarged until the main diameter of the bore equals that of said chamber.

4. A rifle tube or barrel having a bore furnished with a muzzle-chamber having parallel sides and a series of spiral grooves communicating with said chamber the bottoms of said grooves being in line with the inner surface of said chamber, said grooved portion of the bore being gradually enlarged in diameter between the lands toward said chamber until the diameter between the lands equals that of said chamber.

804,484. THERAPEUTIC APPARATUS. CARL O. LINDSTROM, Chicago, Ill. Filed Feb. 20, 1905. Serial No. 246,422.



Claim.—1. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member on said frame, a casing forming a chamber beneath said top member, means for forming an inclosure above said top member and consisting in part of leaves hinged at the sides of the frame, and heating means arranged in the casing beneath the top member, substantially as set forth.

2. In a therapeutic apparatus of the character herein described, the combination of a supporting frame, an orificed top member on said frame, a casing forming a chamber beneath said top member, means for forming an inclosure above said top member and comprising leaves hinged at the sides and ends of the frame and a removable canopy resting upon said leaves, and heating means arranged in the casing beneath the top member, substantially as set forth.

3. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member on said frame, a casing forming a chamber beneath said top member, means for forming an inclosure above said top member and consisting in part of leaves hinged at the sides of the frame, and heating means arranged in the casing beneath the top member and comprising a rectangular casing having exit-orifices near its upper end, a perforated burner-pipe in said casing and a baffle-plate arranged above said casing, substantially as set forth

4. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member on said frame, a casing forming a chamber beneath said top member, means for forming an inclosure above said top member and comprising leaves hinged at the sides and ends of the frame and a removable canopy resting upon said leaves, and heating means arranged in the casing beneath the top member and comprising a rectangular casing having exit-orifices near its upper end, a perforated burner-pipe in said casing and a baffle-plate arranged above said casing, substantially as set forth.

5. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member on said frame, a casing forming a chamber beneath said top member, means for forming an inclosure above said top member and consisting in part of leaves hinged at the sides of the frame, and a series of electric lamps arranged in the casing beneath the top member, substantially as set forth.

6. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member on said frame, a casing forming a chamber beneath said top member, means for forming an inclosure above said top member and comprising leaves hinged at the sides and ends of the frame and a removable canopy resting upon said leaves, and a series of electric lamps arranged in the casing beneath the top member, substantially as set forth.

7. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame having a horizontal top, a pair of leaves hinged at the upper side margins of the frame, and a casing or inclosure the canopy of which is supported on the inner ends of said leaves, substantially as set forth.

8. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame having a horizontal top, a pair of leaves hinged at the upper side margins of the frame, and a casing or inclosure formed by said leaves, a canopy resting upon the upper ends of said leaves and curtains attached to the end of said canopy, substantially as set forth.

9. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame having a horizontal top, a pair of leaves hinged at the upper side margins of the frame, and a casing or inclosure the canopy of which is provided with a transparent panel and supported upon the upper ends of said leaves, substantially as set forth.

10. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame having a horizontal top, a pair of leaves hinged at the upper side margins of the frame, a casing or inclosure the canopy of which is provided with a transparent panel and supported upon the upper ends of said leaves, and adjustable reflectors arranged in adjacent relation to said transparent panel, substantially as set forth.

11. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame having a horizontal top, a pair of leaves hinged at the upper side margins of the frame, a casing or inclosure the canopy of which is provided with a transparent panel and supported upon the upper ends of said leaves, and a pair of adjustable reflectors arranged in longitudinal and adjacent relation to said transparent panel, substantially as set forth.

12. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, a series of leaves hinged to the upper side and end margins of the frame, and a removable canopy adapted to rest upon the upper ends of said leaves in one adjustment of the same to form a chamber or inclosure above the top of the frame, the said leaves being adapted for adjustment to a substantially horizontal position to form portions of the top of the supporting-frame, substantially as set forth.

13. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member on said frame, a casing forming a chamber beneath said top member, means for forming an inclosure above said top member and consisting in part of leaves hinged at the sides of the frame, and heating means and a vaper-generator arranged in the casing beneath the top member, substantially as set forth.

14. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member on said frame, a casing forming a chamber beneath said top member, means for forming an inclosure above said top member and comprising leaves hinged at the sides and ends of the frame and a removable canopy resting upon said leaves, and heating means and a vaper-generator, arranged in the casing beneath the top member, substantially as set forth.

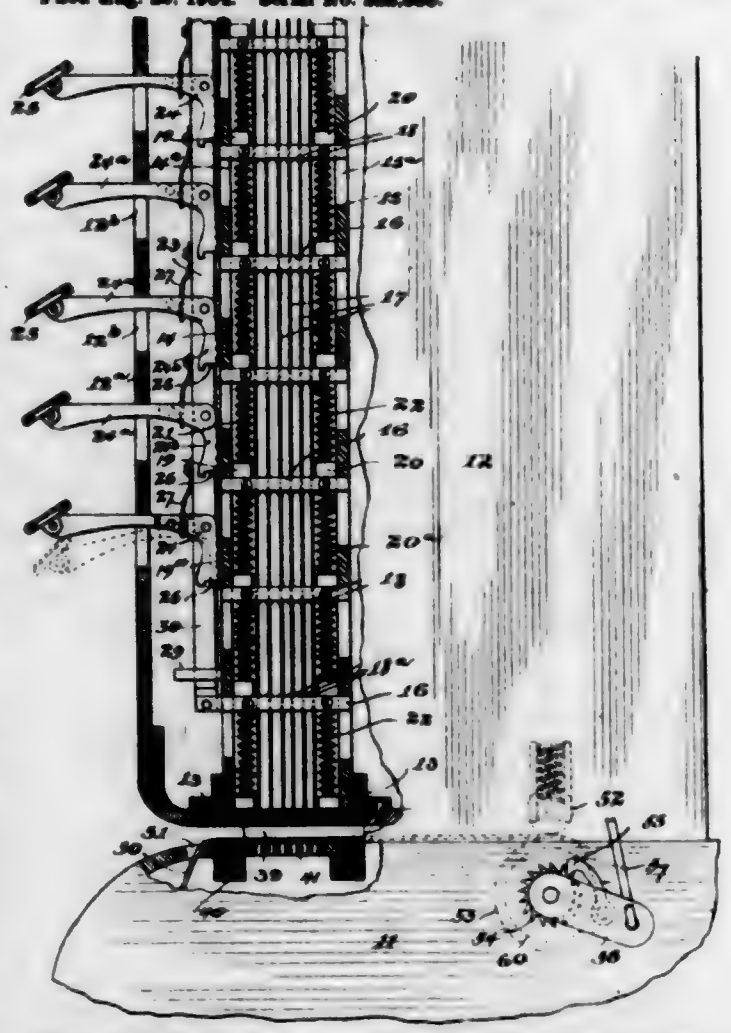
15. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member comprising a marginal frame and a woven center of cane fiber, a casing forming a chamber beneath said top, means for forming an inclosure above said top member and consisting in part of leaves hinged at the sides of the frame, and heating means arranged in the casing beneath the top member, substantially as set forth.

16. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member comprising a marginal frame and a woven center of cane fiber, a casing forming a chamber beneath said top, means for forming an inclosure above said top member and comprising leaves hinged at the sides and ends of the frame and a removable canopy resting upon said leaves, and heating means arranged in the casing beneath the top member, substantially as set forth.

17. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member comprising a marginal frame and a woven center of cane fiber, a casing forming a chamber beneath said top, means for forming an inclosure above said top member and consisting in part of leaves hinged at the sides of the frame, and heating means arranged upon said leaves, and a series of electrical sockets secured to said marginal frame and adapted to receive the conducting connections of electrotherapeutical electrodes or terminal plates, substantially as set forth.

18. In a therapeutic apparatus of the character herein described, the combination of a supporting-frame, an orificed top member comprising a marginal frame and a woven center of cane fiber, a casing forming a chamber beneath said top, means for forming an inclosure above said top member and comprising leaves hinged at the sides and ends of the frame and a removable canopy resting upon said leaves, and a series of electrical sockets secured to said marginal frame and adapted to receive the conducting connections of electrotherapeutical electrodes or terminal plates, substantially as set forth.

804,485. PERFORATING-MACHINE. ROBERT H. LITTLE, Chicago, Ill., assignor of one-half to Maurice H. Mandelbaum, Chicago, Ill. Filed Aug. 20, 1904. Serial No. 221,555.



Claim.—1. In a perforating-machine of the character described, the combination with a group of punch-rods, of a movable key-supporting member, a plurality of keys mounted on the latter each bearing a symbol, means whereby each of said keys is, when actuated, operatively connected with a plurality of punch-rods of the group, which combine to form the symbol borne by the key, and means for actuating said key-supporting member, substantially as described.

2. In a perforating-machine of the character described, the combination with a group of punch-rods, of a reciprocable key-bar disposed alongside of said punch-rods, a plurality of keys mounted on said key-bar each bearing a symbol, means whereby each of said keys is, when actuated, operatively connected with a plurality of punch-rods of the group, which combine to form the symbol borne by the key, and means for actuating said key-bar, substantially as described.

3. In a perforating-machine of the character described, the combination with a group of punch-rods, of a plurality of independently-reciprocable apertured plates through which said punch-rods pass, a reciprocable key-bar disposed alongside of said punch-rods, a plurality of keys mounted on said key-bar each bearing a symbol and adapted, when actuated, to operatively engage said apertured plates, means for actuating said key-bar, and selective devices through which the operative movement of each plate is transmitted to those rods which combine to form the symbol borne by its coöperating key, substantially as described.

4. In a perforating-machine of the character described, the combination with a group of punch-rods, of a plurality of independently-reciprocable apertured plates through which said punch-rods pass, a reciprocable key-bar disposed alongside of said punch-rods, a plurality of keys mounted on said key-bar each bearing a symbol and adapted, when actuated, to operatively engage said apertured plates, means for actuating said key-bar, and selective contact devices carried by said rods and engaged by said plates in the operative movement of the latter, the contact devices coöperating with each plate being applied only to such rods as combine to form the symbol borne by the coöperating key of said plate, substantially as described.

5. In a perforating-machine of the character described, the combination with a group of punch-rods, of a plurality of independently-reciprocable apertured plates through which said punch-rods pass, a reciprocable key-bar disposed alongside of said punch-rods, a plurality of key-levers pivotally mounted on said key-bars and adapted, when depressed, to operatively engage said apertured plates, means for actuating said key-bar, selective contact devices carried by said rods and engaged by said plates in the operative movement of the latter, automatic means for returning said apertured plates to normal position, and automatic means for returning said punch-rods to normal position, substantially as described.

6. In a perforating-machine of the character described, the combination with a group of punch-rods, of a reciprocable key-bar disposed alongside of said punch-rods, a plurality of key-levers pivotally mounted on said key-bar each bearing a symbol, means whereby each of said key-levers is, when depressed, operatively connected with those punch-rods of the group which combine to form the symbol borne by said key-lever, means for actuating said key-bar, and means for retaining each key-lever in its assumed position both when elevated and when depressed, substantially as described.

7. In a perforating-machine of the character described, the combination with a plurality of groups of punch-rods, of a corresponding plurality of reciprocable key-bars operatively associated with said groups of punch-rods, respectively, a plurality of keys mounted on each of said key-bars, each bearing a symbol, punch-rod selecting and operating connections between each key and a plurality of punch-rods of the group associated therewith, which combine to form the symbol borne by said key, and means for simultaneously actuating all of said key-bars, substantially as described.

8. In a perforating-machine of the character described, the combination with a plurality of upright groups of punch-rods arranged side by side, of a corresponding plurality of upright reciprocable key-bars coöperatively associated with said groups of punch-rods, respectively, an upright row of keys mounted on each of said key-bars, punch-rod selecting and operating connections between each key and its associated group of punch-rods, a transverse bar connecting all of said upright key-bars, means for depressing said transverse bar, and automatic means for restoring said transverse bar to normal position, substantially as described.

9. In a perforating-machine of the character described, the combination with a group of punch-rods, of a movable key-bar, a series of keys mounted on said key-bar, each bearing a symbol, selecting and operating connections between each key and those punch-rods of the group which combine to form the character borne by the key, a key-bar-actuating device, means for supporting and feeding a strip of paper or the like across the path of said punch-rods, and strip-feeding means connected with and actuated by said key-bar-actuating device on its return movement, substantially as described.

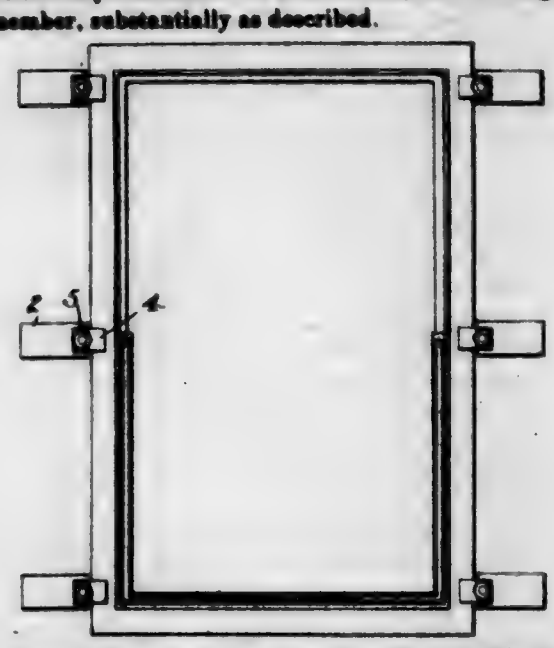
804,486. **WINDOW CONSTRUCTION.** EDMUND H. LUNKEN, Cincinnati, Ohio. Filed Sept. 17, 1904. Serial No. 224,916.

Claim.—1. In combination, a main frame composed of a plurality of members supported from the wall of the building, and an open frame member adjustably supported on the said plurality of members to compensate for settling of the building, and means to close the said opening carried by the said members.

2. In combination, a main frame composed of an open frame member extending continuously about the window-opening, a plurality of iron bricks embedded in the wall of the building, and means for connecting the said plurality of iron bricks with the open frame member, substantially as described.

3. In combination, the main open frame member 1 extending continuously about the window-opening, of the window, a plurality of bricks embedded in the wall and retaining-pieces removably secured to the iron bricks and bearing upon the frame member, substantially as described.

4. In combination, in a window construction, a main open frame member extending continuously about the window-opening, a plurality of iron bricks embedded in the wall, and bent retaining-pieces removably secured to the iron bricks, and bearing upon the frame member, substantially as described.



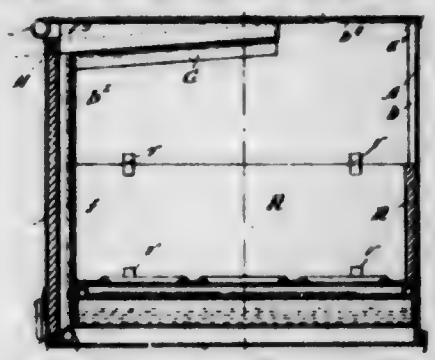
5. In combination, a main frame member, a brick or piece embedded in the wall of the building and having a boss formed thereon, and a retaining-piece bolted to said boss and bearing upon the main frame member, substantially as described.

6. In a window construction, a frame composed of flat bar-iron side pieces, transverse upper and lower flanged cross-pieces to which the flat bar-iron side pieces are secured, and a glass or light within the space bounded by the flat bar-iron side pieces and upper and lower cross-pieces, substantially as described.

7. A window construction composed of upper and lower cast panels extending transversely of said frame, and flat bar side pieces secured to the said panels, substantially as described.

8. In combination with a main frame, a frame swinging therein, a hiding-strip on the main frame, and a catch to engage the said hiding-strip when the swinging frame is approximately reversed, substantially as described.

804,487. **SHEET-METAL HUMIDOR.** HENRY MACARTHY, New York, N. Y., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed July 12, 1905. Serial No. 269,570.



Claim.—1. A sheet-metal humidor comprising in combination sheet-metal end, rear, top and bottom plates seamed together at their meeting edges, said bottom and end plates having inturned folds and rolls at the front to strengthen and stiffen the same and to form a shoulder for the door to fit against, and said top plate having a roll at its front, a raised perforated bottom plate, water-pan guides beneath said raised perforated bottom plate, a removable water-pan, guides for the door secured on the insides of the end plates, pivots for the door secured to the end plates, and a sliding pivotal door having guideways at the ends thereof engaging the door-pivots on the end plates, substantially as specified.

2. A sheet-metal humidor, having end, rear, top and bottom plates and an open front, a pivotal and sliding door closing said front, door-guides at the upper portion of the end plates on the inside thereof, water-pan guides at the lower portion of the end plates on the inside thereof, said guides serving to strengthen and stiffen the end plates, a raised perforated plate and a water-pan, substantially as specified.

3. A sheet-metal humidor, having end, rear, top and bottom plates and an open front, a pivotal and sliding door closing said front, door-guides at the upper portion of the end plates on the inside thereof, water-pan guides at the lower portion of the end plates on the inside thereof, said guides serving to strengthen and stiffen the end

plates, a raised perforated plate and a water-pan, said bottom plate having a fold and roll at its front edge for the door to shut against, substantially as specified.

4. A sheet-metal humidor, having end, rear, top and bottom plates and an open front, a pivotal and sliding door closing said front, door-guides at the upper portion of the end plates on the inside thereof, water-pan guides at the lower portion of the end plates on the inside thereof, said guides serving to strengthen and stiffen the end plates, a raised perforated plate and a water-pan, said end plates having a fold and roll at their front for the door to fit and shut against, substantially as specified.

5. In a humidor, the combination with sheet-metal end plates and bottom plate, of a raised perforated plate and water-pan guides M having right-angle flange m, depending flange or shoulder m', horizontal flange or step m^3 and rolls m^4, substantially as specified.

6. In a humidor having top, bottom, rear and end plates, and an open front, door-pivots secured to the end plates, and a sliding pivotal door having outer and inner plates, and channel-guides fitting between said outer and inner door-plates at the ends thereof, and secured thereto, substantially as specified.

7. In a humidor having top, bottom, rear and end plates, and an open front, door-pivots secured to the end plates, and a sliding pivotal door having outer and inner plates, and channel-guides fitting between said outer and inner door-plates at the ends thereof, and secured thereto, one of said door-plates having right-angle flanges at the upper and lower edges of the door to close the guideways or channels at the ends of the door, substantially as specified.

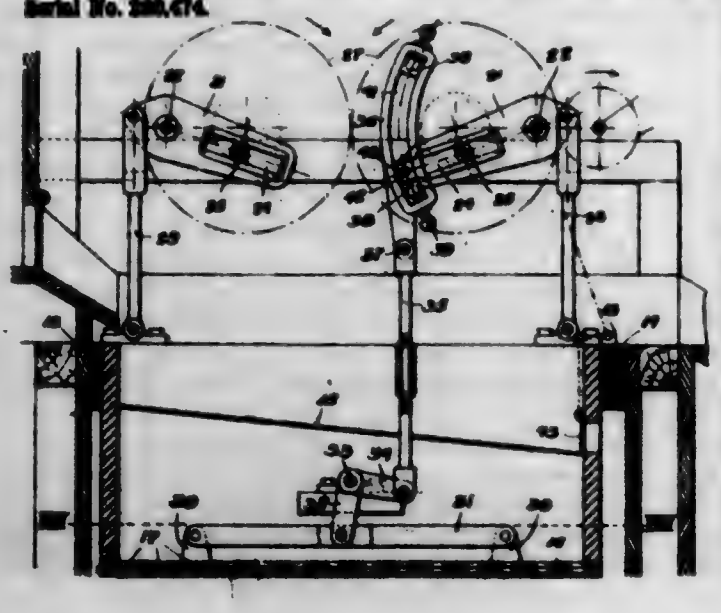
8. The combination with the end plates having door-pivots secured thereto, of a sliding and pivotal door, having an outer plate and an inner plate and channel-guides between and at the ends of said plates and uniting the same, substantially as specified.

9. The combination with the end plates having door-pivots secured thereto, of a sliding and pivotal door, having an outer plate and an inner plate and channel-guides between and at the ends of said plates, and uniting the same, said outer plate of the door having flanges at its upper and lower edges secured to the inner plate, substantially as specified.

10. The combination with the end plates having door-pivots secured thereto, of a sliding and pivotal door, having an outer plate, an inner plate and channel-guides between and at the ends of said plates, and uniting the same, said outer plate of the door having flanges at its upper and lower edges secured to the inner plate, said end plates having folds and rolls at their front upright edges, substantially as specified.

11. A sheet-metal humidor comprising in combination sheet-metal end, rear, top and bottom plates seamed together at their meeting edges, said bottom and end plates having inturned folds and rolls at the front to strengthen and stiffen the same and to form a shoulder for the door to fit against, and said top plate having a roll at its front, a raised perforated bottom plate, water-pan guides beneath said raised perforated bottom plate, a removable water-pan, guides for the door secured on the insides of the end plates, pivots for the door secured to the end plates, and a sliding pivotal door having guideways at the ends thereof engaging the door-pivots on the end plates, said end and rear plates having a cedar lining and provided with cleats for securing the same thereto, substantially as specified.

804,488. COAL-WASHING APPARATUS. ROBERT L. MARTIN, Jr., Pittsburg, Pa., assignor to The Pittsburgh Coal Washer Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 15, 1905. Serial No. 260,474.



Claim.—1. A coal-washing jig comprising a vertically-reciprocable framework provided with a primary bottom of perforated material and a secondary bottom having openings therethrough, with a slide-valve adapted to open and close said openings, substantially as set forth.

2. A coal-washing jig comprising a framework provided with a primary bottom of perforated material and a secondary bottom having openings therethrough, means for vertically reciprocating the jig, a slide-valve controlling said openings, and means for opening said valve at the termination of the upward stroke and closing it at the termination of the downward stroke, substantially as set forth.

3. In coal-washing apparatus, the combination with a vertically-movable jig provided with water-circulation openings, valves for said openings, and means for vertically reciprocating the jig; of means for positively opening and closing said valves at the termination of the upward and downward stroke respectively, substantially as set forth.

4. In coal-washing apparatus, the combination with a vertically-movable jig provided with water-circulation openings, opening and closing valves therefor, and means provided with a shifting pitman for positively actuating said valves; of a contacting abutment arranged to engage the pitman at the termination of its stroke, substantially as set forth.

5. In coal-washing apparatus, the combination with a vertically-movable jig provided with water-circulation openings, opening and closing valves therefor, means for reciprocating the jig, and means provided with a shifting pitman for positively actuating said valves; of contacting abutments arranged to engage the pitman at the termination of the upward and downward stroke respectively, substantially as set forth.

6. In combination with a vertically-reciprocating jig provided with water-circulation openings and valves therefor: mechanism for shifting the valves consisting of an actuating element mounted upon and reciprocable with the jig, and an abutment arranged in the path of travel of said element, substantially as set forth.

7. In combination with a vertically-reciprocating jig provided with water-circulation openings and valves therefor: mechanism for shifting the valves consisting of an actuating element mounted upon and reciprocable with the jig, and an adjustable abutment arranged in the path of travel of said element, substantially as set forth.

8. In coal-washing apparatus, the combination with a vertically-movable jig provided with water-circulation ports, opening and closing valves therefor, and means provided with a shifting pitman for positively actuating said valves; of contacting abutments arranged to engage the pitman at the termination of the upward and downward stroke respectively, with means for adjusting said contacting abutments, substantially as set forth.

9. The combination with a vertically-reciprocating jig provided with a bottom having water-circulation ports and opening and closing slide-valves therefor; of mechanism arranged to vertically reciprocate the jig, and mechanism arranged to open and close the valves in operative engagement with said mechanism, substantially as set forth.

10. A reciprocating jig provided with a bottom having water-circulation openings and a sliding plate having corresponding openings, shifting-lever mechanism for the sliding plate provided with a vertically-arranged pitman, and means providing an abutting contact for said pitman at the termination of the up-and-down travel of the jig, substantially as set forth.

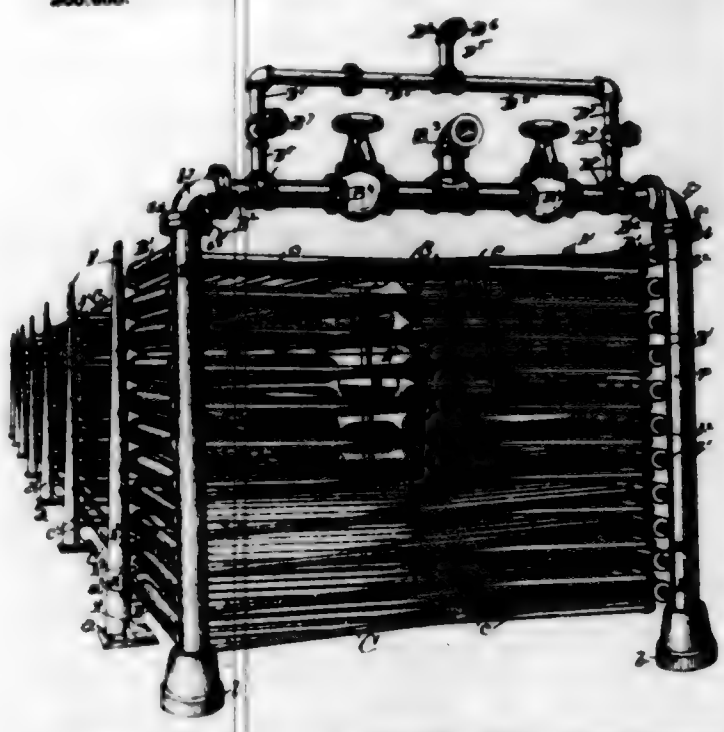
11. A reciprocating jig provided with a bottom having water-circulation openings and a sliding plate having corresponding openings, shifting-lever mechanism for the sliding plate provided with a vertically-arranged pitman, a link connected with the pitman, and an actuating-lever for the jig arranged to make abutting contact with the link, substantially as set forth.

12. A reciprocating jig provided with a bottom having water-circulation openings and a sliding plate having corresponding openings, shifting-lever mechanism for the sliding plate provided with a vertically-arranged pitman, a link connected with the pitman and provided with adjustable contact abutments, and an actuating-lever for the jig arranged to make contact with said abutments, substantially as set forth.

13. A reciprocating jig provided with a bottom having water-circulation openings and a sliding plate having corresponding openings, shifting-lever mechanism for the sliding plate provided with a vertically-arranged pitman, a link connected with the pitman and provided with adjustable contact abutments, and an actuating-lever for the jig provided with a wrist-pin and block engaging a slot

of the link and arranged to make contact with said abutments, substantially as set forth.

804,489. BRICK-DRIER. WILLIAM R. MARTIN, West Hempfield township, Lancaster county, Pa. Filed June 16, 1906. Serial No. 322,605.

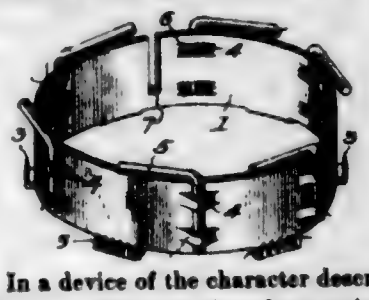


Claim.—1. In a drier, in combination, the supporting-frame A composed of the metallic posts A′ having the base-plates a and the vertical strengthening-ribs a' with the plain vertical inner surfaces, and the bracket-plates A^2 having at the extremities of their centers the side flanges a^4 with the headed bolts and nuts a^5 securing them together, and at the extremities of their outer ends the flanges a^3 in engagement with said plain surfaces and the headed bolts a^6 therethrough with nuts on their outer ends to secure them together, said plates having at their centers the oval orifices a^4 and in their bodies on the sides of said orifices the oblong apertures a^7, said apertures surrounded by the strengthening-ribs a^8 with the semicircular recesses a^9 in their lower edges, all substantially as described and for the purpose hereinbefore set forth.

2. The combination in a drier of the character described with the metallic supporting-frame A having the metallic posts A′ with the bracket-plates A^2 as described having their outer ends rigidly secured to the adjacent inner vertical surfaces of said posts, of the vertically-disposed right and left end manifolds B, with the horizontal tubular manifolds B′ having their forward ends tubularly connected with the rearward sides of said manifolds B, and the live and exhaust steam induction tubes B^2 joined to the upper ends of said first-mentioned manifolds B, with the L-shaped tubes C having the branches c and c' provided for the purpose of distributing heat throughout the length and breadth of said frame A of said drier, all substantially as described and for the purpose hereinbefore set forth.

3. The combination in a drier of the character described with the metallic supporting-frame A having the end posts A′, as described, and the metallic bracket-plates A^2, as described, having the extremities of their outer ends rigidly secured to the adjacent inner vertical surfaces of said posts, with the vertically-disposed manifolds B and the horizontally-disposed manifolds B′ having their forward ends tubularly connected through the rearward sides of the tubular manifolds B, and the L-shaped steam-heating pipes C having the branches c and c', and the elbows c^2 joining the adjacent extremities of said branches, said branches c having their outer ends rigidly secured into the adjacent sides of said horizontal manifolds B′, and the branches c' passing rearward through the oblong apertures a^7 of the bracket-plates A^2 with their bodies in engagement with the semicircular recesses a^9 in the lower edges of said apertures and the rearward extremities of said branches c' projecting the required distance beyond the rearward one of said bracket-plates A^2, of the horizontally-disposed manifolds C′ with their forward sides rigidly secured to the rearward extremities of said branches c', and the downwardly and rearwardly sloping tubes c^3 with their forward ends rigidly secured into the centers of said manifolds C′ and having at their lower ends the elbows c^4, with their open ends disposed toward the center of the frame, and the central vertically-disposed manifold C^2 with the horizontal tubes c^5 having their outer ends secured into said elbows c^4 and their adjacent inner ends rigidly secured into the opposite sides of said last-mentioned manifold, the covering-cap C^3 closing the upper end of said manifold C^2 with the outlet-nozzle C^3 secured to the lower end thereof, all substantially as described and for the purpose hereinbefore set forth.

804,490. STOCKING-HOLDING BAND FOR DARNING PURPOSES FOR SEWING-MACHINES. AGNES G. MAYNARD, Denver, Colo. Filed Apr. 10, 1906. Serial No. 311,733.



Claim.—1. In a device of the character described, a band having a vertical slit in one side; a series of arms pivoted upon the periphery of said band, having horizontal members which lie above the upper edge of the band, and pronged plates on said band, which alternate with the pivoted arms.

2. In a device of the character described, an oval-shaped band, having a vertical slit on one side, extending from its upper edge to within a short distance of its lower edge; a series of upturned plates upon the lower edge of said band, the ends of which are formed into prongs, and L-shaped swinging arms upon the periphery of said band, the horizontal portions of which lie above the upper edge of the band.

3. In a device of the character described, an oval-shaped band having a vertical slit on one side, extending from its upper edge to within a short distance of its lower edge; a series of integral plates upon the lower edge of said band, the ends of which are upturned, and formed into a plurality of prongs; loops upon the periphery of said band, and L-shaped swinging arms secured in said loops, the horizontal portions of which lie above the upper edge of said band.

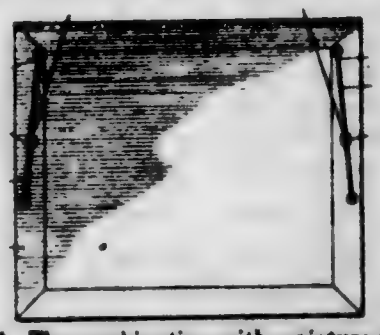
4. In a device of the character described, an oval-shaped band having integral loops disposed in pairs around its periphery; L-shaped arms, the vertical portions of which are pivoted in said loops, while the horizontal portions lie above the upper edge of said band; and integral plates on the lower edge of said band, the ends of which are upturned, and are formed into a plurality of prongs.

5. In a device of the character described, an oval band having a series of integral plates upon its lower edge, the ends of which are upturned, and formed into prongs; integral loops upon the periphery of said band which are disposed in pairs that alternate with the said pronged plates, the loops in each pair being one above the other; L-shaped arms which are pivoted in said pairs of loops, the horizontal portions of which lie above the upper edge of the band, said band being provided with a slit, which extends from its upper edge to within a short distance of its lower edge.

6. In a device of the character described, an oval band having a vertical slit in one side; a series of integral loops disposed in pairs around the periphery of the band; L-shaped arms pivoted in said pairs of loops, having circumferential grooves in which said loops fit, and integral pronged plates on the lower edge of said band, which alternate with said pairs of loops.

7. In a device for holding stockings while being darned, an oval band having a vertical slit extending from its upper edge; upturned prongs upon the lower edge of said band; integral loops on the periphery of said band, arranged in pairs; L-shaped swinging arms in said loops, and means for preventing vertical movement of said arms in said loops.

804,491. DEVICE FOR HANGING PICTURES AND THE LIKE. FREDERICK E. MILLER, Chicago, Ill. Filed Aug. 15, 1904. Serial No. 220,784.



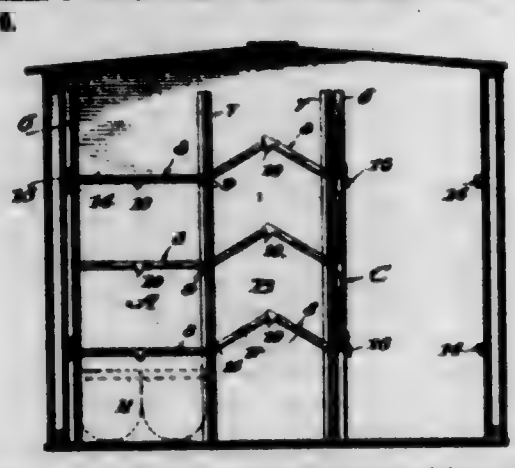
Claim.—1. The combination with a picture-frame of a substantially smooth rod connected thereto, an adjustable supporting en-

gaging device slidably and rotatably mounted upon said rod, a suspending-cord fixed at one end to said adjustable engaging device so as to tilt it and cause it to engage the rod when tension is applied to said suspending-cord the frame adapted to be adjusted by moving the engaging device along the rod, the finer adjustments being made by rotating the engaging device about the rod.

2. The combination with a picture-frame of a rod connected thereto, a slidable adjustable engaging piece provided with a hole into which said rod is received, a suspending-cord connected with said adjustable engaging piece at one side of said hole and adapted to tilt the piece when the frame is suspended thereon so as to cause it to grip said rod and retain its position thereon, said engaging piece free to swing about said rod so as to adjust the length of the cord without longitudinal movement along the rod.

3. The combination with a picture-frame of two rods connected thereto, one at each side of the frame, an adjustable engaging device associated with each rod and consisting of a flat piece having a hole therethrough into which the rod is received, said hole slightly larger than the rod, a suspending-cord adapted to be connected with said adjustable engaging pieces at one side of the holes through which the rods pass, the parts arranged so that the weight of the device causes the flat engaging pieces to be tilted to grip the rods at the points where they pass through the said pieces, so as to support the frame said engaging pieces adapted to be rotated about said rods so as to project in different directions therefrom and to be held in any of these various positions.

804,492. FOLDING FRUIT-SHIPPING RACK. JAMES W. MILLS and ELMER B. LEE, Pomona, Cal. Filed July 1, 1905. Serial No. 267,970.



Claim.—1. A rack for shipping fruit comprising a plurality of vertical standards; a plurality of horizontal supporting-bars pivotally connected thereto, the supporting-bars of one standard being pivotally connected to the supporting-bars of an opposing standard; and means to secure said rack in a car.

2. The collapsible rack for placement in a fruit-shipping car comprising in combination the upright angle-irons 6 and 7, angle-irons 8 pivotally secured thereto and pivotally secured in the center; fruit-supporting slats rigidly secured to the angle-irons 8; and means to detachably secure the same to the box of a car.

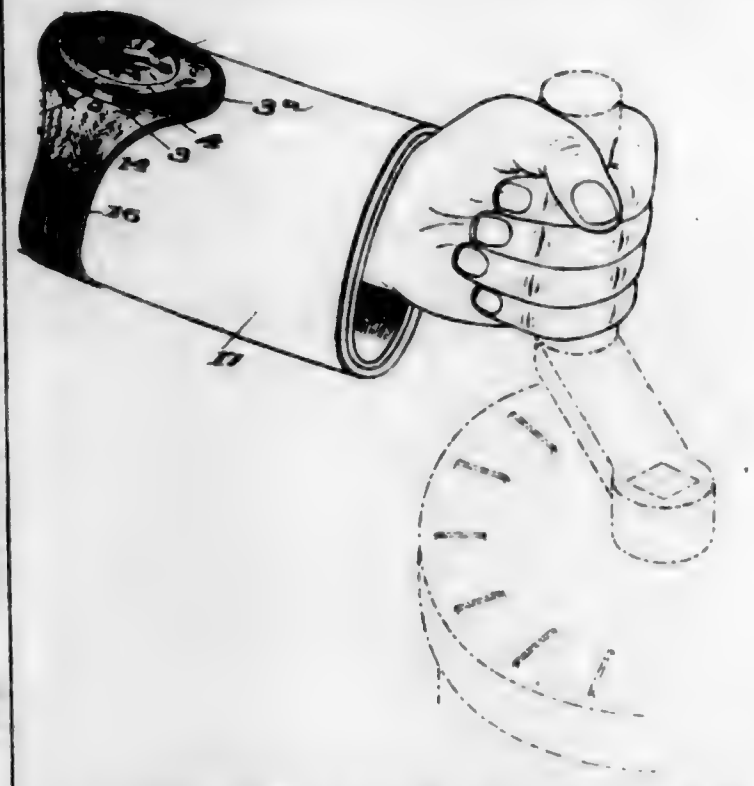
3. A rack for shipping fruit comprising a plurality of vertical standards; a plurality of horizontal supporting-bars pivotally connected thereto, said supporting-bars being centrally and pivotally united by upwardly-closing hinges; and means to secure said rack in a car.

4. The herein-described means to ship fruit in a car comprising upright supports 6 and 7 having pivotally secured thereto slat-supporting irons 8; slat-supporting irons 8 pivotally secured to the upright supports and having secured thereto the fruit-supporting slats 17 and braces 16 and the steadying-bar 13 adapted to be supported by the brackets 13 riveted to the upright supports 6.

5. A rack for shipping fruit comprising a plurality of vertical standards; a plurality of horizontal supporting-bars pivotally connected to said standards, said supporting-bars being centrally and pivotally united by hinges which will prevent said bars from turning downwardly and will permit them to turn upwardly at their point of engagement; and means to secure said rack in a car; in combination with a car having rack-securing means affixed thereto.

804,493. WATCH HOLDER AND GUARD. JOHN D. MCCARTHY, Jersey City, N. J. Filed Dec. 6, 1904. Serial No. 235,451.

Claim.—1. A watch holder and guard for attachment to coat-sleeves, comprising a body frame or receptacle having an open rear side and adapted to receive a watch, a securing-band secured to said receptacle at opposite sides and adapted to surround a coat-sleeve, said opposite side members of said securing-band terminating at the open rear side of the body frame or receptacle, and an independent cover or closure for closing the open rear side of the body frame or receptacle.



2. A watch holder and guard for attachment to coat-sleeves, comprising a body frame or receptacle adapted to receive a watch and embodying a laterally-projecting rear or base flange, said receptacle having comprised in its structure a rear cover or closure, means for securing said closure in operative position, and a securing-band extending from opposite sides of said body frame or receptacle and secured to said flange, said band being adapted to surround a coat-sleeve.

3. A watch holder and guard for attachment to coat-sleeves, comprising a body frame or receptacle adapted to receive a watch and embodying a laterally-projecting rear or base flange, said receptacle having comprised in its structure a hinged rear cover or closure plate, a securing-band connected to said flange at opposite sides of the body frame or receptacle and sustaining the same at opposite sides and adapted to surround a coat-sleeve, and means for fastening said band in secured position.

4. A watch holder and guard for attachment to a coat-sleeve, comprising a watch-receptacle having rearwardly-extending projections for engaging with a coat-sleeve, and a band for securing said holder in operative position.

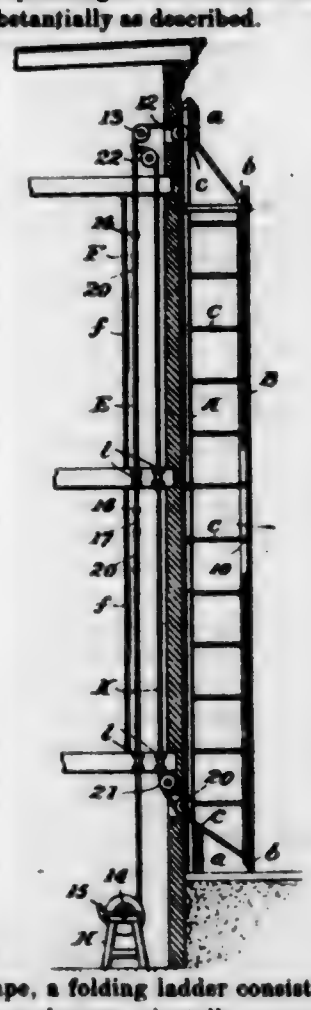
5. A watch holder and guard for attachment to a coat-sleeve, comprising a watch-receptacle, a rear cover or closure for said watch-receptacle having rearwardly-extending projections for engaging a coat-sleeve, and a securing-band extending from opposite sides of said watch-receptacle.

6. A watch holder and guard for attachment to coat-sleeves, comprising a body-receptacle consisting of a casing or frame having side walls, an interiorly-projecting face-flange, and a base-flange extending from the side walls outwardly; a cover or closure plate adapted to rest against the rear face of said base-flange and carrying upon its front face a flange arranged to rest within the side walls of the body-frame; and a securing-band connected to the front face of the base-flange and extending therefrom at opposite sides of the body-frame.

7. A watch holder and guard for attachment to coat-sleeves, comprising a body-receptacle consisting of a casing or frame having side walls, an interiorly-projecting face-flange, and a base-flange extending from the side walls outwardly; a cover or closure plate adapted to rest against the rear face of said base-flange and carrying upon its front face a flange arranged to rest within the side walls of the body-frame, said rear cover-plate being hinged to the body-frame; and a securing-band connected to the front face of the base-flange and extending therefrom at opposite sides of the body-frame.

804,494. FIRE-ESCAPE. JOSEPH O'HEARNE, Brooklyn, N. Y., assignor of one-half to Charles S. Devoy, Brooklyn, N.Y. Filed May 20, 1905. Serial No. 261,333.

Claim.—1. In a fire-escape, a folding ladder consisting of a fixed side and a movable side, and rungs pivotally connected to said sides, combined with a rope formed of sections, separable connections between said sections, said rope being connected at one end to the movable side of the ladder, means for holding the other end of the rope, and means for separating the connections between any two sections of the rope, substantially as described.



2. In a fire-escape, a folding ladder consisting of a fixed side and a movable side, and rungs pivotally connected to said sides, combined with a rope formed of sections, separable connections between the sections consisting of a hook on one section and a ring on the adjacent section, and one end of the rope being connected to the movable side of the ladder, means for holding the other end of the rope, and a pull connected to one member of the connecting devices, substantially as described.

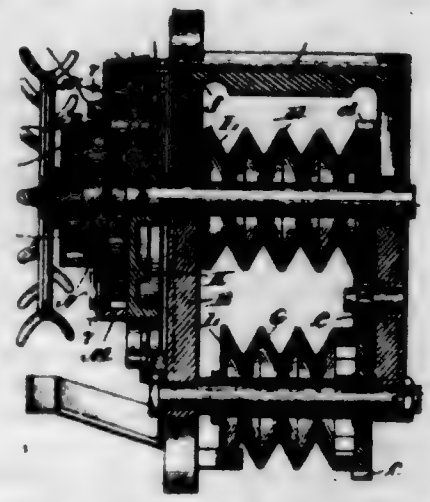
3. In a fire-escape, a folding ladder consisting of a fixed side and a movable side and rungs pivotally connected to the sides, combined with a rope for holding the movable side against the fixed side, said rope consisting of sections of wire rope and short sections of hemp rope, said hemp sections being interposed between adjacent wire sections and securely attached to one section and detachably connected to the other, whereby the movable side of the ladder may be released by separating either of the detachable connections or by cutting either of the hemp sections, substantially as described.

4. In a fire-escape, a folding ladder consisting of a fixed side and a movable side, and rungs pivotally connected to said sides, combined with a rope formed of sections, separable connections between said sections, said rope being connected at one end to the movable side of the ladder, means for holding the other end of the rope, and means for separating the connections between any two sections of the rope, a casing inclosing said rope, and windows or doors in the casing opposite the separable connections, substantially as described.

5. In a fire-escape, a folding ladder consisting of a fixed side, a side movable to and from the fixed side and rungs pivotally connected to said sides, combined with a rope connected to the upper end of the movable side and passing over pulleys to a windlass near the bottom of the ladder, and a second rope connected at one end to the lower end of the movable side, passing over a pulley near the upper end of the ladder and secured to the first-named rope a suitable distance below the upper pulleys, whereby on operating the windlass both ends of the movable side of the ladder will be positively and uniformly moved, substantially as described.

804,495. DIFFERENTIAL GEARING. JOSEPH G. O'KELLY, Chicago, Ill. Filed Feb. 13, 1902. Serial No. 93,902.

Claim.—1. In a differential gear, a main shaft, an interior gear loose on said shaft, a circular plate loose on said shaft and adapted to revolve with the interior gear, means cooperating with said internal gear for revolving said plate when said interior gear is disengaged therefrom, comprising idle gears carried by said plate and engaged by said interior gear, and a king-gear loose on said shaft, in combination with devices for communicating the motion of said circular plate to said shaft.



2. In a differential gear, a main shaft, a plate keyed to said shaft, idle gears carried thereby, a king-gear loose on said shaft engaging said idle gears, a ratchet and a circular plate made integrant with and concentric to said king-gear, in combination with a stationary interior gear, a pawl connected to said interior gear and adapted to engage said ratchet, and means for actuating said circular plate.

3. In a differential gear, a main shaft, a plate keyed to said shaft, idle gears carried thereby, a king-gear loose on said shaft engaging said idle gears, a ratchet and circular plate made integrant with and concentric to said king-gear, in combination with a stationary interior gear, in the central opening of the outer closed side of which said ratchet is seated, a pawl pivotally connected to said interior gear, and a surrounding spring-returnable concentric ring the movement of which actuates said pawl, and means for actuating said circular plate and said interior gear.

4. In a differential gear, a main shaft, a plate keyed to said shaft, secondary idle gears carried thereby, a king-gear loose on said shaft engaging said idle gears, a circular plate integrant with and concentric to said king-gear and a stationary interior gear engaged by said secondary idle gears, in combination with primary idle gears carried by said circular plate, a revoluble interior gear surrounding and engaging said primary idle gears, and a king-gear loose on said shaft actuating said primary idle gears, a plate and ratchet connecting said revoluble interior gear and king-gear and means for operating the same.

5. In a differential gear, a main shaft, a plate keyed to said shaft, secondary idle gears carried thereby, a king-gear loose on said shaft engaging said idle gears, a circular plate integrant with and concentric to said king-gear and a stationary interior gear engaged by said secondary idle gears, having a lug projecting from the web of its outer closed side, in combination with primary idle gears carried by said circular plate, a revoluble interior gear surrounding and engaging said primary idle gears, means for revolving said last-mentioned interior gear and a dog pivoted thereto adapted to engage said lug of said stationary interior gear, and a king-gear loose on said shaft, a plate and ratchet connecting said revoluble interior gear and king-gear and actuating said primary idle gears and means for operating the same.

6. In a differential gear, a main shaft, a plate keyed to said shaft, secondary idle gears carried thereby, a king-gear loose on said shaft engaging said idle gears, a circular plate integrant with and concentric to said king-gear, and provided with a lug projecting from the periphery, and stationary interior gear engaged by said secondary idle gears, primary idle gears carried by said circular plate, a revoluble interior gear surrounding and engaging said primary idle gears, a dog pivoted thereto and adapted to engage said lug of said circular plate and means for operating said mechanism.

7. In a differential gear, a main shaft, a plate keyed to said shaft, secondary idle gears carried thereby, a king-gear loose on said shaft engaging said idle gears, a circular plate integrant with and concentric to said king-gear and having a lug projecting from its periphery, and a stationary interior gear and having a lug projecting from the web of its closed outer side, in combination with primary idle gears carried by said circular plate, a revoluble interior gear surrounding and engaging said primary idle gears, a dog pivoted to said revoluble interior gear and adapted to operatively engage the lug of said circular plate and the lug of said stationary interior gear, and a king-gear

loose on said shaft actuating said primary idle gears, and means for operating the same.

8. A differential gear for reducing the speed and increasing the power of the force applied to operate the same comprising a main shaft a revoluble interior gear loose thereon, and a revoluble circular plate also loose thereon, and means for operating the same said interior gear operatively engaging said circular plate through dogs fulcrumed upon the same which engage stops upon said plate and adapted to revolve said plate when stationary as well as when revolving therewith and means for holding the same stationary.

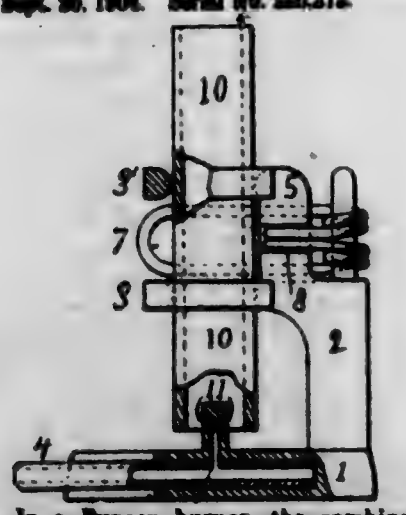
9. In a differential gear, a main shaft, a plate keyed to said shaft, secondary idle gears carried thereby, a king-gear loose on said shaft engaging said idle gears, a ratchet and a circular plate having a lug projecting from its periphery and both said ratchet and circular plate made integrant with and concentric to said king-gear, in combination with a stationary interior gear, pawls connected to said stationary interior gear and adapted to engage said ratchet, a revoluble interior gear loose on said main shaft operatively connected to said circular plate, and a dog connected to said revoluble interior gear adapted to engage the lug of said circular plate, and means for actuating said gears.

10. In a differential gear, a main shaft, a plate keyed to said shaft, idle gears carried thereby, a king-gear loose on said shaft engaging said idle gears a ratchet and a circular plate made integrant with and concentric to said king-gear, and a stationary interior gear having a lug projecting from the web of its closed outer side, in combination with a clutch-ring a pawl connected to said stationary interior gear and adapted to engage said ratchet a revoluble interior gear operatively connected to said circular plate a dog connected to said revoluble interior gear adapted to engage the lug on said plate, and means for actuating said gears.

11. In a differential gear, a main shaft a plate keyed to said shaft, idle gears carried thereby, a king-gear loose on said shaft engaging said idle gears, a ratchet, a circular plate having a lug projecting from its periphery and together with said ratchet made integrant with and concentric to said king-gear, and a stationary interior gear having a stop-lug projecting from the web of its closed side, in combination with a pawl connected to said stationary interior gear and adapted to engage said ratchet, a revoluble interior gear loose on the main shaft and operatively connected to said circular plate, a dog connected thereto and adapted to engage the lug of said circular plate and a stop-lug of said stationary interior gear, and means for actuating said gears.

12. In a differential gear, a main shaft, a plate keyed to said shaft, a series of idle gears carried thereby, a king-gear loose on said shaft and engaging said idle gears, a ratchet, a circular plate, having a lug projecting from the periphery thereof and together with said ratchet made integrant with and concentric to said king-gear, in combination with a stationary gear in the central opening of the outer closed side of which said ratchet is seated and having a stop-lug projecting therefrom, a series of pawls connected to said stationary interior gear and a surrounding concentric ring engaging said pawls to effect the release movement thereof, a revoluble interior gear loose on said shaft and operatively connected to said circular plate, a dog connected to said revoluble interior gear and adapted to engage the lug of said circular plate and the stop-lug of said stationary interior gear, and means for actuating said gears.

804,496. BUNSEN BURNER. LARRABEE PAGE, San Francisco, Cal. Filed Sept. 20, 1904. Serial No. 225,272.



Claim.—1. In a Bunsen burner, the combination of spaced guides for supporting the mixing-tube, said guides having narrow reduced edge portions in contact with the tube, a mixing-tube movable in the guides, and yielding means between said guides for holding the tube in any one of its positions in the guides.

2. In a Bunsen burner, the combination of spaced guides for supporting the mixing-tube, said guides embracing the tube for a portion of its circumference, a mixing-tube movable in the guide, and a spring between the guides for holding the tube in the guide.

3. In a Bunsen burner, the combination of spaced guides for supporting the mixing-tube, said guides embracing the tube for a portion of its circumference, and having narrow reduced edge portions in contact with the tube, a mixing-tube movable in the guide, and a spring located opposite a point between the guides for holding the tube in the guides.

4. In a burner of the Bunsen type, a vertically-disposed mixing-tube, spaced guides for said tube, means for holding the tube to the guides, a gas-supply located at the lower end of the mixing-tube and consisting of a nipple having a closed top and substantially vertical sides, a gas-supply connecting with the base of the nipple, and an opening in the nipple extending upward from the gas-supply and terminating in upwardly-divergent discharge-passages opening through the vertical sides of the nipple.

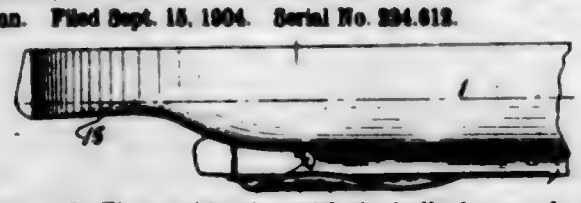
5. In a Bunsen burner, the combination of spaced guides for supporting the mixing-tube, the said guides embracing the tube for a portion of its circumference, a mixing-tube movable in the guides, and means for holding the tube against the guides.

6. In a Bunsen burner, a vertically-disposed mixing-tube, a support in which said tube is movable and adjustable, said support comprising inclosing horizontal arms with reduced inner edges contacting with a portion of the periphery of the tube, and an elastic spring contacting with the opposite side of said tube.

7. In a burner, a vertically-disposed open-ended mixing-tube, means for adjustably supporting the tube, said means comprising vertically-separated partially-inclosing arms having reduced inner contact-surfaces, an elastic spring fixed to contact with the opposite side of the tube between the fixed supports.

8. In a Bunsen burner, the combination of a fixed member and a movable member, the movable member being supported by separated partially-embracing arms having reduced edge portions in contact with the said movable member, and a spring to hold the said movable member against the said arms, one of the said members having a suitable gas-admission tube and nipple, the other member being a mixing-tube disposed to receive gas from the said nipple and air from an adjustable space between portions of the two members.

804,497. HULL OF VESSELS. ISAAC B. PALMER, Middletown, Conn. Filed Sept. 15, 1904. Serial No. 224,612.



Claim.—1. The combination with the hull of a vessel, of laterally-extended wings fixed to the keel of the vessel at the stern portion thereof and spaced from the bottom of the vessel upon opposite sides of the keel, the said wings constructed to vanish into the keel of the vessel as they extend forward.

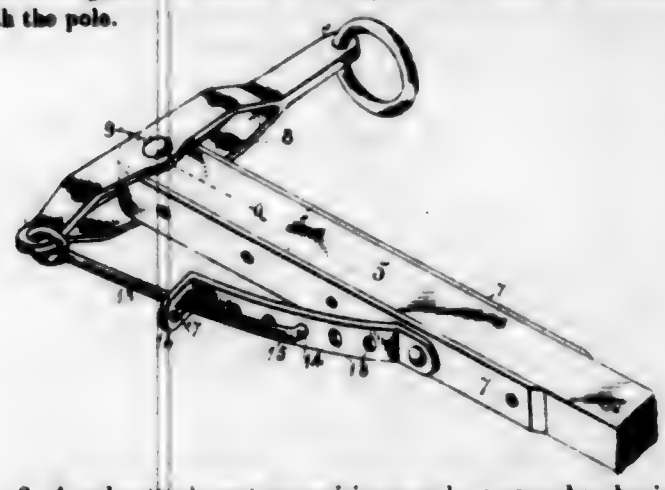
2. The combination with the hull of a vessel provided with a channel at the stern portion thereof, of laterally-extended wings forming a bottom to said channel and spaced from the wall of the channel to leave an opening for the escape of the water laterally from within the channel, the said wings being constructed to vanish into the keel of the vessel as they extend forward, whereby a free flow of water is maintained through the channel.

3. The combination with the hull of a vessel provided with an arched channel at the stern portion thereof, of laterally-extended wings forming a bottom to said arched channel and spaced from the wall of said arched channel to leave a free opening for the escape of the water laterally from within the channel, the said wings constructed to vanish into the keel of the vessel as they extend forward, whereby a free flow of water is maintained through the arched channel.

4. The combination with the hull of a vessel provided with a plurality of arched channels at the stern portion thereof, of laterally-extended wings extending under said arched channels and spaced from the outer walls thereof to permit the water to escape laterally from within the channels, the said wings being constructed to vanish into the keel as they extend forwardly.

804,498. HAY-RAKE. RACHELLA B. PHILLIPS, Seymour, Iowa. Filed May 28, 1905. Serial No. 262,663.

Claim.—1. A pole attachment comprising a pole, a cross-bar having a pivotal connection with the pole, and means for holding the cross-bar against movement in an adjustable manner in connection with the pole.



2. A pole attachment comprising a pole, a cross-bar having a pivotal connection with the pole, and a link connection between the cross-bar and pole for holding the cross-bar against movement.

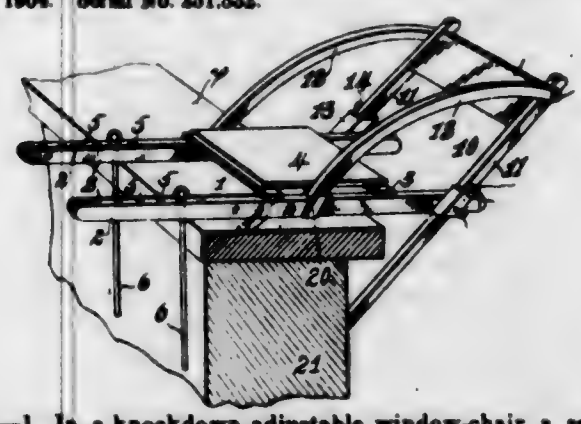
3. A pole attachment comprising a pole, a cross-bar having a pivotal connection with the pole, and a link connected to the cross-bar and adjustably connected to the pole for holding the cross-bar against movement.

4. A pole attachment comprising a pole, a cross-bar having a pivotal connection with the pole, a bracket secured to the pole, and a link forming a connection between the cross-bar and bracket for holding the cross-bar against movement.

5. A pole attachment comprising a pole, a cross-bar having a pivotal connection with the pole, a bracket secured to the pole and provided with a series of holes, a link connected to the cross-bar and capable of being inserted in the holes of the bracket.

6. A pole attachment comprising a pole having its sides and end metallic bound, a cross-bar having a pivotal connection with the pole, and means for holding the cross-bar against movement in an adjustable manner in connection with the pole.

804,499. **WINDOW-CHAIR.** MAX PIETSCH, Brooklyn, N. Y. Filed Nov. 4, 1904. Serial No. 231,332.



Claim.—1. In a knockdown adjustable window-chair, a seat-frame, a seat upon said frame, a detachable back-frame composed of two uprights having a connecting cross-piece at their upper ends, sleeves carried by said seat-frame for securing said uprights, intermediate of their ends, to said seat-frame, and arms pivotally connected to said uprights and detachably secured to said seat-frame, together with means for securing said seat-frame in position.

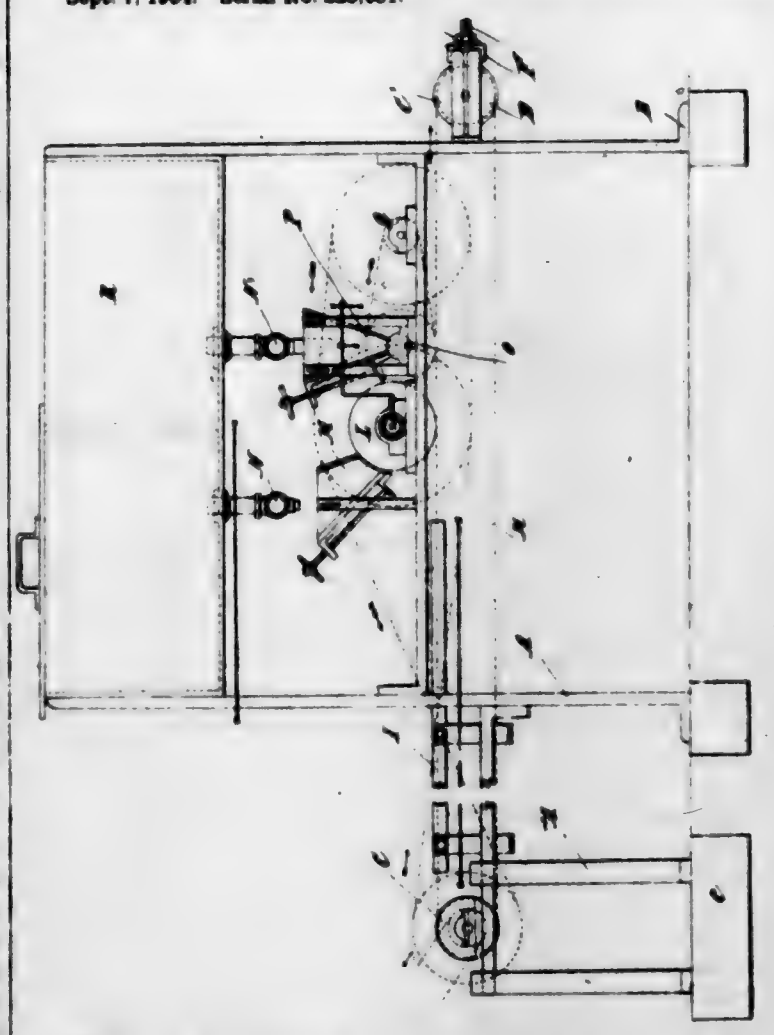
2. In a knockdown adjustable window-chair, a seat-frame, a seat upon said frame, a detachable back-frame composed of two uprights having a connecting cross-piece at their upper ends, sleeves upon said seat-frame through which said uprights pass, said sleeves provided with openings, said uprights also provided with openings adapted to receive pins to detachably secure said uprights within said sleeves, intermediate of the ends thereof, together with arms pivotally connected to said uprights and detachably secured to said seat-frame, and means for securing said seat-frame in position

3. In a knockdown adjustable window-chair, a seat-frame, a seat upon said frame, a detachable back-frame composed of two uprights having a connecting cross-piece at their upper ends, sleeves upon said seat-frame through which said uprights pass, said sleeves provided with openings, said uprights also provided with openings adapted to receive pins to detachably secure said uprights within said sleeves, intermediate of the ends thereof, together with arms pivotally secured at one end thereof to said uprights, the other ends of said arms being provided with a clasp adapted to grip the said seat-frame, means carried by said uprights adapted to aline the openings in said uprights and said sleeves, and means for securing said seat-frame in position.

4. In a knockdown adjustable window-chair, a seat-frame, a seat upon said frame, a detachable back-frame composed of two uprights having a connecting cross-piece at their upper ends, sleeves upon said seat-frame through which said uprights pass, said sleeves provided with openings, said uprights also being provided with openings adapted to receive pins to detachably secure said uprights within said sleeves, intermediate of the ends thereof, the ends of said uprights, which are below said sleeves, acting as braces for said seat-frame, together with arms pivotally secured at one end thereof to said uprights, the other ends of said arms provided with a spring-clamp for gripping said seat-frame, a stop-pin carried by said uprights for alining the holes in said sleeves and said uprights, and pins carried by said seat-frame for securing said frame in position.

5. In a knockdown adjustable window-chair, a seat-frame, a seat upon said frame, a detachable back-frame composed of two uprights having a connecting cross-piece at their upper ends, sleeves upon said seat-frame through which said uprights pass, said sleeves provided with openings, said uprights also provided with openings adapted to receive pins to detachably secure said uprights within said sleeves intermediate of the ends thereof, the ends of said uprights, which are below said sleeves, acting as braces for said seat-frame, together with arms pivotally secured at one end thereof to said uprights, the other ends of said arms provided with a spring-clamp for gripping said seat-frame, a stop-pin carried by said uprights for alining the holes in said sleeves and said uprights, and a plurality of holes in each of said seat-frame members for receiving a pin to secure said seat-frame in position.

804,500. **APPARATUS FOR THE PREPARATION OF PANES OF OPAL GLASS.** GEORGES PONCELET, Brussels, Belgium. Filed Sept. 7, 1904. Serial No. 223,631.



Claim.—1. Apparatus for the preparation of panes of opal glass comprising in combination with a frame, two pulleys, one of which is adjustable, an endless metallic band passing around the said pulleys and carrying the panes, a table above which the band passes during the first part of its course, means for heating said table, a hollow roller, means within said roller for heating the same means for rotating the said roller at the same speed as the traveling band progresses, a tank, a cock for said tank, a hopper beneath said cock for delivering dressing to the surface of said roller to be applied to said pane, a second roller, a second hopper for delivering warm sand to said roller, the sand being contained in a second part of said tank likewise provided with a cock, a third roller for pressing the sand

into the coating and means for warming the contents of said tank all substantially as and for the purpose set forth.

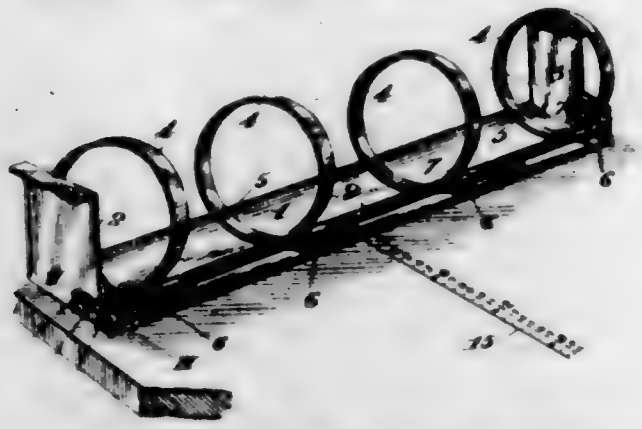
2. In apparatus for treating glass, the combination with a hopper, means to feed a heated coating compound thereto, a revoluble distributing-roll coöperating with said hopper, means to heat said roll, said hopper adjustable relatively to the periphery of the roll, a sand-hopper, means for heating the sand and a revoluble distributing-roll coöperating with the sand-hopper, the latter also adjustable relatively to the periphery of its coöperating roll; of an elastic carrier for the glass to be treated traveling below the aforesaid distributing-rolls from the composition roll to the sand-distributing roll, means for heating the carrier and means for forcing the sand into the coating.

3. In apparatus for treating glass, the combination with a carrier and means to heat the same, of means to automatically distribute the coating onto the glass, means to automatically sand the coated surface and means to roll the sand into the surface, substantially as described.

4. In apparatus for treating glass, the combination with an endless metallic carrier and means to heat it, of a distributing-roll and an adjustable means coöperating therewith to distribute the coating onto the glass, a second roll and adjustable means coöperating therewith to distribute sand onto the coating, and a third roll to roll the sand into the coating, substantially as described.

5. In apparatus for treating glass, the combination with an endless metallic belt, a table to support the forward end of the belt, and means to heat the table and belt, of a hopper and a coating-roll coöperating therewith, means to heat the coating-roll, a second hopper and a striated roll coöperating therewith to distribute sand onto the coating, means to heat said hopper, a pressure-roll acting on the sanded surface and a suitable drivage for the belt and rolls, substantially as described.

804,501. WIRE-CLOTH HOLDER AND MEASURING DEVICE. JOSEPH A. PRATHER and HENRY M. KEIM, Carthage, Mo. Filed Apr. 15, 1905. Serial No. 255,857.



Claim.—1. In a wire-cloth holder, the combination of a base having end arms, a series of straps secured to said base, and a rod fitted to ends of said straps and arranged for detachable engagement with said base-end arms, substantially as set forth.

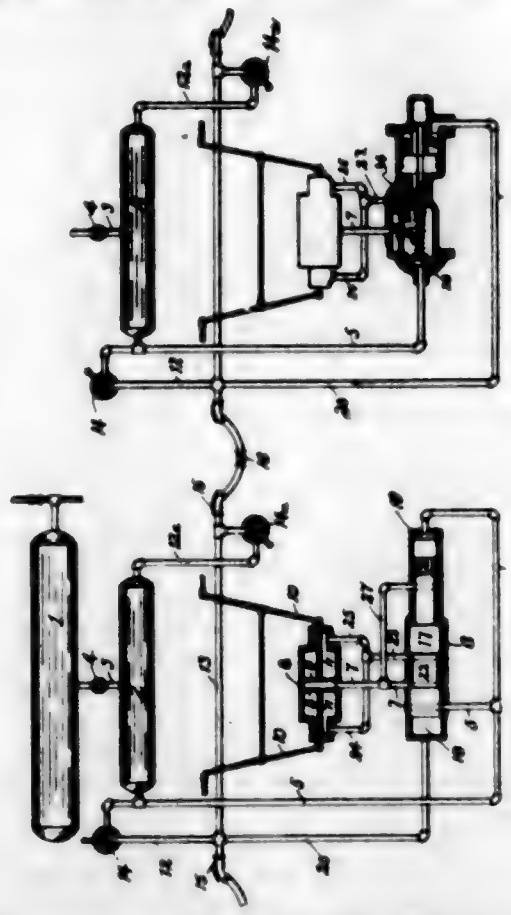
2. In a wire-cloth holder, the combination of a base having end arms, a series of straps secured intermediate of their ends to said base, means fitted to ends of said straps whereby they may be detachably connected to said end arms; said straps terminating at their other ends in spring-tongues elevated from said base, substantially as set forth.

3. In a wire-cloth holder, the combination of a base having end arms, a series of straps secured to said base, a rod fitted to ends of said straps, a pin in one end of said rod arranged for engagement with one of said end arms, a pin in the other end of said rod arranged to enter the second end arm, and a spring-catch secured to the last-named arm and arranged to receive the engagement of said last-named pin, substantially as set forth.

804,502. BRAKE SYSTEM. FRANK B. RAE, Ridgewood, N. J., assignor to The Rae Electric & Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Sept. 4, 1901. Renewed Sept. 7, 1905. Serial No. 277,474.

Claim.—1. In a brake system, the combination with the brake-cylinder and reservoir, of a valve adapted to establish communication between the reservoir and brake-cylinder, and then automatically establish a restricted passage from the brake-cylinder to the atmosphere, substantially as described.

2. In a brake system, the combination with the brake-cylinder and reservoir, of a train-pipe, a valve, and means whereby a partial reduction of pressure in the train-pipe will cause said valve to establish communication between the reservoir and brake-cylinder and then automatically establish a restricted passage from the brake-cylinder to the atmosphere, substantially as described.



3. In a brake system, the combination with the brake-cylinder and reservoir, of a train pipe and valve, and means whereby a partial reduction of pressure in the train-pipe will cause said valve to establish communication between the reservoir and brake-cylinder and then automatically establish a restricted passage from the brake-cylinder to the atmosphere and whereby a substantially complete reduction of pressure in the train-pipe establishes communication between the reservoir and brake-cylinder only, substantially as described.

4. In a brake system, the combination of a plurality of brake-cylinders, a plurality of reservoirs, a valve controlling communication between each reservoir and brake-cylinder and between each brake-cylinder and the atmosphere, a train-pipe, and means whereby a reduction of pressure in the train-pipe automatically causes said valve to first establish communication between the reservoirs and brake-cylinders and then close the same and establish communication between the brake-cylinders and the atmosphere, substantially as described.

5. In a brake system, the combination of a plurality of brake-cylinders, a plurality of reservoirs, a valve controlling communication between each reservoir and brake-cylinder and between each brake-cylinder and the atmosphere, a train-pipe, adapted to apply pressure upon the valve to close the communication between reservoir and brake-cylinder, means for applying pressure from the reservoirs tending to operate said valves to open said communication in opposition to the train-pipe pressure, means whereby when said communication is opened the valve is automatically operated to close said communication and open the communication between the brake-cylinder and the atmosphere, and means for varying the pressure in the train-pipe, substantially as described.

6. In a brake system, the combination of a source of pressure, a brake-cylinder and means for introducing pressure to the brake-cylinder and means, automatically operated by the introduction of pressure to the brake-cylinder, for gradually releasing said pressure, substantially as described.

7. In a brake system, the combination of a source of pressure, a brake-cylinder, means for successively introducing determined amounts of pressure to the brake-cylinder, and means, automatically operated by the introduction of pressure to the brake-cylinder, for gradually releasing the pressure upon each application thereof, substantially as described.

8. In a brake system, the combination of a reservoir, a brake-cylinder having communication therewith, a valve controlling said communication, means for applying pressure from said reservoir to

said valve upon opposite sides of the same, and means for varying said pressure upon the respective sides of the valve, substantially as described.

9. In a brake system, the combination of a reservoir, a brake-cylinder having communication therewith, a valve controlling said communication, means for applying pressure from said reservoir upon opposite sides of said valve in such manner that the pressure upon one side of the valve overbalances that upon the other side, and means for varying the pressure upon one side of the valve, substantially as described.

10. In a brake system, the combination of a reservoir, a brake-cylinder having communication therewith, an exhaust from said brake-cylinder, a valve controlling said communication and said exhaust, and means for operating said valve by pressure from said reservoir to first open said communication and then close the same and open the exhaust, substantially as described.

11. In a brake system, the combination of a reservoir, a brake-cylinder having communication therewith, an exhaust from said brake-cylinder, a valve controlling said communication and said exhaust, means for applying pressure from said reservoir to operate said valve to open said communication, and means operative upon the opening of said communication for creating a difference of pressure upon said valve to first close said communication and then open the exhaust, substantially as described.

12. In a brake system, the combination of a reservoir, a brake-cylinder having communication therewith, a valve controlling said communication, means for applying pressure from the reservoir to the opposite sides of said valve, said valve having a larger area opposed to said pressure upon one side, whereby said valve will be normally closed, means for lowering the pressure upon the side of the valve having a larger area, and means for applying pressure from the reservoir to close said valve when the pressure upon the side of the valve having the larger area is reduced, substantially as described.

13. In a brake system, the combination of a plurality of cars each of which carries a reservoir, a brake-cylinder having communication therewith, a valve controlling said communication and means for operating said valve by pressure from the reservoir, and an equalizing-pipe connecting the reservoirs of the several cars together, substantially as described.

14. In a brake system, the combination of a plurality of cars each of which carries a reservoir, a brake-cylinder having communication therewith and a valve controlling said communication, and means for operating said valve by pressure from the reservoir; a train-pipe extending the length of the train of cars and being adapted to deliver pressure from said reservoirs to control the operation of said valves, and means for controlling the pressure in the train-pipe from the several cars, substantially as described.

15. In a brake system, the combination of a brake-cylinder, an exhaust therefrom, a reservoir, a communication between the brake-cylinder and reservoir, a valve controlling said communication, a train-pipe containing air under pressure adapted to normally maintain the valve closed, and means whereby a partial reduction of train-pipe pressure will cause the valve to first open communication between the reservoir and brake-cylinder and then automatically close it and open the exhaust, substantially as described.

16. In a brake system, the combination of a brake-cylinder, an exhaust therefrom, a reservoir, a communication between the brake-cylinder and reservoir, a valve controlling said communication, a train-pipe containing air under pressure adapted to normally maintain the valve closed, and means whereby a partial reduction of train-pipe pressure will cause the valve to first open communication between the reservoir and brake-cylinder, and then close it and open the exhaust, and whereby a substantially complete reduction of train-pipe pressure will open the communication as aforesaid and maintain it open, substantially as described.

17. In a brake system, the combination with the brake-cylinder and reservoir, of a valve adapted to establish communication between the reservoir and the brake-cylinder, then to automatically cut off the communication and reduce the effective pressure in the brake-cylinder, substantially as described.

18. In a brake system, the combination with the brake-cylinder and reservoir, of a valve adapted to establish communication between the reservoir and the brake-cylinder, then to automatically cut off the communication, and after an interval, to equalize the pressures on the brake-piston, substantially as described.

19. In a brake system, the combination of a brake-cylinder and a reservoir, a valve controlling the communication between the reservoir and the brake-cylinder, and an equalizing-passage connecting both sides of the brake-cylinder and controlled by said valve, substantially as described.

20. In a brake system, the combination with the brake-cylinder and reservoir, of a valve adapted to establish communication between the reservoir and the brake-cylinder, and then to automatically regulate the admission of counterbalancing pressure to control the force of application of the brakes, substantially as described.

21. In a brake system, the combination with the brake-cylinder and reservoir, of a valve adapted to establish communication between the reservoir and the brake-cylinder, and then to regulate the admission of counterbalancing pressure to control the force of application of the brakes, substantially as described.

22. In a brake system, the combination with the brake-cylinder and reservoir, of a valve adapted to establish communication between the reservoir and the brake-cylinder, and then to automatically cut off communication and to regulate the admission of counterbalancing pressure to the brake-cylinder, substantially as described.

23. In a triple valve, adapted to be operated by train-pipe pressure, the combination of means whereby a reduction in train-pipe pressure will cause the valve to assume the brake-applying position and means whereby the valve will thereupon automatically assume its normal, neutral position, substantially as described.

24. In a triple valve adapted to be operated by train-pipe pressure, the combination of means whereby a reduction in train-pipe pressure will cause the valve to assume the brake-applying position and means whereby the valve will thereupon automatically assume its normal neutral position, and whereby a complete venting of train-pipe pressure would cause the valve to assume and maintain the brake-applying position, substantially as described.

804,503. **SHOE-REPAIRING STAND.** THOMAS RENDLE, Ottawa, Ill. Filed Dec. 16, 1904. Serial No. 237,161.

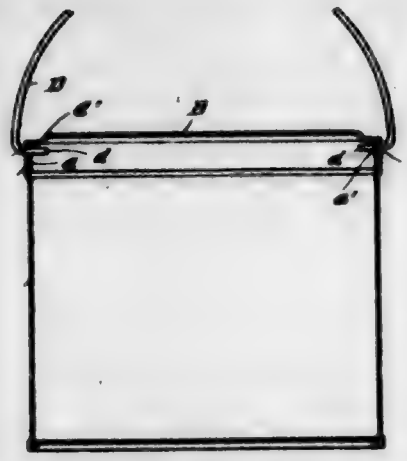


Claim.—1. The combination with the two standards carrying respectively the heel and the fore part of a divided last, one of said standards being movably mounted with respect to the other, of a lever pivoted to one of the standards and having an angular portion bearing upon the other, and provided with a ratchet extension and a handle, and a latch, pivoted to the same standard and provided with a pin adapted to engage in the said ratchet and a handle extending from the latch into close proximity with the handle on said lever, substantially as described.

2. The combination with two standards carrying respectively the heel and fore part of a divided last, one of said standards being movably mounted with respect to the other, of a lever pivoted to one of the standards and having an angular portion bearing upon the other, and provided with a ratchet extension and handle, and a latch, pivoted to the same standard and having spaced arms embracing said lever, a pin connecting said arms to coöperate with the ratchet-teeth, and a handle extending from the latch into close proximity with the handle on said lever, substantially as described.

3. The combination with a base and a fixed standard attached thereto, of a swinging standard hinged to said base, said standards carrying respectively the heel and the fore part of a divided last, said swinging standard being provided with a longitudinal slot and having pivoted therein an elbow-lever adapted to contact with the fixed standard and provided with a ratchet extension and a handle, and a latch member, pivoted in said longitudinal slot, and provided with spaced arms embracing said lever, a pin connecting said arms to cooperate with the ratchet-teeth, and a handle extending from the latch and disposed beneath the handle on the said lever, substantially as described.

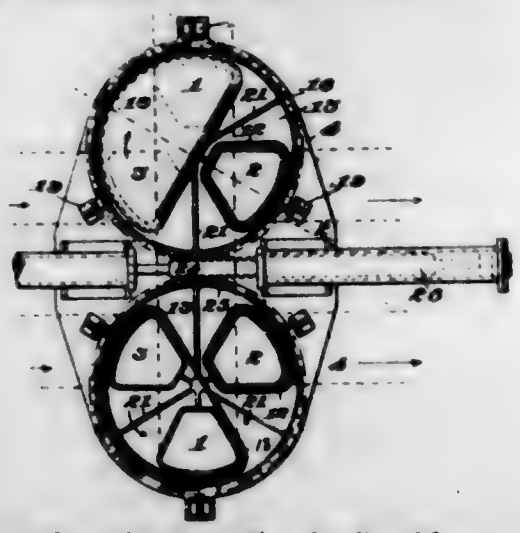
804,504. CRAB-CAN. ARTHUR A. SAALBACH and JAMES F. MAXWELL, Baltimore, Md., assignors to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 23, 1904. Serial No. 238,166.



Claim.—1. The combination with a can-body having bail pivot-holes therein, of a removable cover having an annular depending flange fitting over and surrounding the upper end of the can-body and provided with bail pivot-holes registering with the pivot-holes in the can-body, and a removable spring-wire bail having bent pivot ends inserted through said pivot-holes in said cover-flange and can-body, substantially as specified.

2. The combination with a can-body having bail pivot-holes therein, of a cover having a flange fitting over the can-body and provided with bail pivot-holes registering with the pivot-holes in the can-body, and a spring-wire bail having bent pivot ends inserted through said pivot-holes in said cover-flange and can-body, said cover having a projection for locking or holding the bail in its nested position, substantially as specified.

804,505. GAS REVERSING-VALVE. HERMANN E. SCHILD, Monterey, Mexico, assignor to James B. Ladd and David Baker, Philadelphia, Pa. Filed Nov. 10, 1904. Serial No. 232,050.



Claim.—1. In combination with a plurality of flues, a reversible valve, comprising a movable conducting member for connecting two of said flues, and a rotatable element disengageably sealed with the conducting member for changing the relation between said conducting member and flues by a purely horizontal rotative movement of the conducting member.

2. In combination with a plurality of flues, a reversible valve, comprising a movable conducting member for connecting two of said flues, a rotatable element disengageably connected with the conducting member for changing the relation between said conducting member and flues by a purely horizontal rotative movement of the conducting member, and means for maintaining a movable seal between the conducting member and rotatable element.

3. In combination with a plurality of flues, a reversible valve, comprising a movable conducting member for connecting two of said flues, and a water-cooled rotatable element disengageably sealed with the conducting member for changing the relation between said conducting member and flues by a purely horizontal rotative movement of the conducting member.

4. In combination with a plurality of flues, a fixed plate having apertures forming openings for said flues, a rotatable element fitting upon said plate and having corresponding apertures and a conducting member disengageably sealed with the rotatable element for connecting different flues when in different positions.

5. In combination with a plurality of flues, a fixed plate having apertures forming openings for said flues, a water-cooled rotatable element fitting upon said plate and having corresponding apertures and a conducting member disengageably sealed with the rotatable element for connecting different flues when in different positions.

6. In combination with a plurality of flues, a conductor member connecting with a gas-supply and adapted to connect with a flue, a second conductor member for connecting two other flues together, said conductor members being separate members and open to atmospheric air, and rotatable means for shifting the conductor members to connect with relatively different flues.

7. In combination with a plurality of flues, a conductor member connecting with a gas-supply and adapted to connect with a flue, a second conductor member for connecting two other flues together, said conductor members being separate members and open to atmospheric air, and water sealed and cooled rotatable means for shifting the conductor members to connect with relatively different flues.

8. In combination with a plurality of flues and a gas-supply, a reversible valve comprising two members, one for connecting the gas-supply with a flue and the other for connecting two other flues, and a rotatable plate for supporting said members and changing their relation with said flues.

9. In combination with a plurality of flues and a gas-supply, a reversible valve comprising two members, one for connecting the gas-supply with a flue and the other for connecting two other flues, and a water-sealed rotatable plate for supporting said members and changing their relation with said flues.

10. In combination with a plurality of flues and a gas-supply, a reversible valve comprising two members, one for connecting the gas-supply with a flue and the other for connecting two other flues, and a separated rotatable plate for supporting said members and changing their relation with said flues.

11. In a reversible valve for a plurality of flues, the combination of a rotatable plate having apertures corresponding to the apertures of said flues and adapted to register therewith in different positions, a conductor connected with one of said plate-apertures, a second conductor for maintaining communication between other of said plate-apertures, and means for rotating said plate to cause its apertures to register with relatively different flue-apertures.

12. In a reversible valve for a plurality of flues, a rotatable plate having apertures corresponding to the apertures of said flues and adapted to register therewith in different positions, a rotatable conductor detachably connected with the plate communicating with one of said plate-apertures, a second conductor detachably connected with said plate for maintaining communication between other of said plate-apertures, a water seal between the conductors and plate, and means for rotating said plate to cause its apertures to register with relatively different flue-apertures.

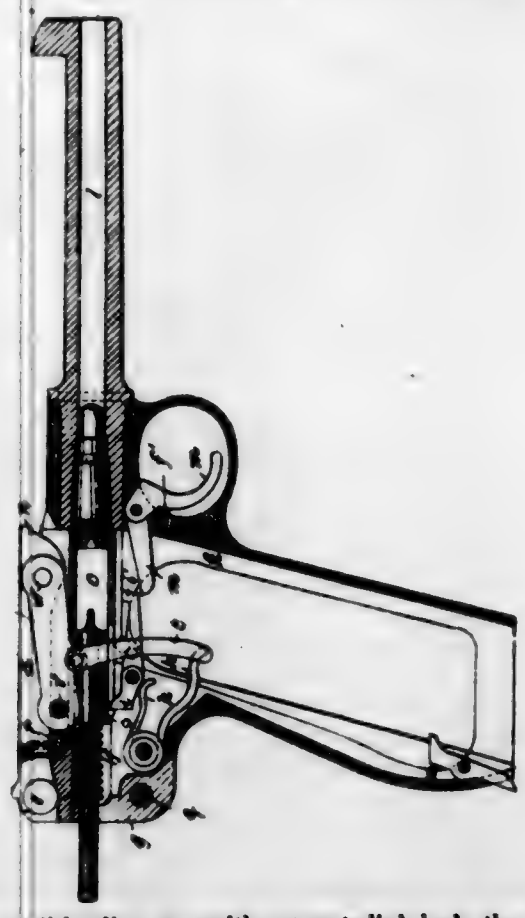
13. In a gas reversing-valve, the combination with a plurality of flues, of a rotatable plate having apertures corresponding to the apertures of said flues and adapted to register therewith in different positions of the plate, a rotatable conductor connected between a source of supply and a plate-aperture, a second conductor adapted to maintain communication between other of said plate-apertures, and means for rotating the plate to change the relative registration between its apertures and the flue-apertures.

14. In a gas reversing-valve, the combination with a plurality of flues, of a rotatable plate having apertures corresponding to the apertures of said flues and adapted to register therewith in different positions of the plate, a rotatable conductor connected between a source of supply and a plate-aperture, a second conductor adapted to maintain communication between other of said plate-apertures, a water seal between the conductors and plate, and means for rotating the plate to change the relative registration between its apertures and flue-apertures.

15. In a gas reversing-valve, the combination with a plurality of flues, of a rotatable plate having apertures corresponding to the apertures of said flues and adapted to register therewith in different positions of the plate, a rotatable conductor connected between a source of supply and a plate-aperture, a second conductor adapted to maintain communication between other of said plate-apertures, said conductors exposed to the outside atmosphere, a water seal between the conductors and plate, and means for rotating the plate to change the relative registration between its apertures and flue-apertures.

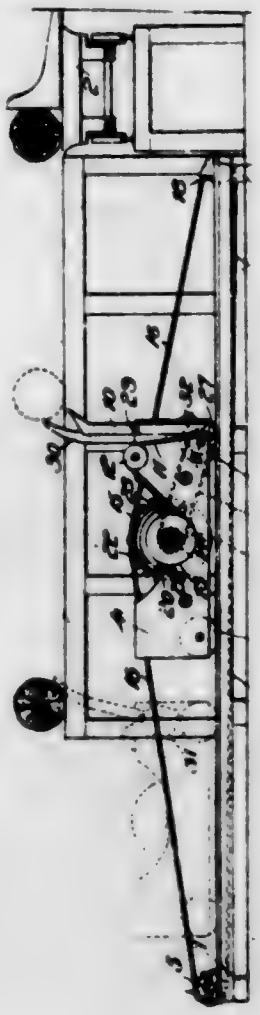
804,506. TOGGLE-LINK LOCK FOR RECOIL-LOADING GUNS. ANDREAS W. SCHWARZLOSE, Suhl, Germany. Filed Dec. 21, 1901. Serial No. 86,097.

Claim.—1. In a recoil-loading gun with a toggle-link lock, the striker, the sear engaging and holding the striker retracted, and means for releasing the sear from the detent during the passage of the shot, such means comprising an inclined surface on the breech-block and a bose on the sear engaged thereby, whereby the sear-arm is then pressed outwardly, substantially as and for the purposes set forth.



2. In a recoil-loading gun with a toggle-link lock, the combination of the sear *i*, and a coil-spring *h*, having one end connected with the toggle-link *d*, by a link or stirrup, and its other end engaging and pressing the sear upward, substantially as and for the purpose set forth.

804,507. **MACHINE FOR TRANSFERRING AND TURNING LOGS IN SAWMILLS.** JOHN R. SHELL, Tallapoosa, Ga., assignor of one-half to Henry Jackson Westberry, Odum, Ga. Filed July 20, 1905. Serial No. 270,595.



Claim.—1. In a machine for transferring and turning logs and in combination with the mill-carriage, a transferring-carriage mounted to travel toward and from the side of the mill-carriage, a pair of toothed bars vertically mounted on said carriage, skidways above said carriage, means for operating the carriage, means carried by the carriage and operating simultaneously with the advance movement of the carriage for lifting the toothed bars to roll and transfer the log, and means for tripping the toothed bars, the log being caused to be rolled forward on the skid and transferred therefrom upon the mill-carriage by the coöperating pushing force of the carriage and the lifting action of the toothed bars.

2. In combination with the mill-carriage and skidways, a transferring-carriage beneath the skidway, a pair of toothed bars vertically mounted on said transferring-carriage and adapted to engage the log between the skidway-beams, and means mounted on the carriage whereby it is reciprocated and by which the toothed bars are lifted to engage the log during the advance movement of the carriage, and means operated by the advance movement of the carriage for tripping the toothed bars.

3. In a machine for transferring and turning logs and in combination with the mill-carriage, a transferring-carriage, a pair of toothed bars mounted on said transferring-carriage, skidways above and on each side of said transferring-carriage, a shaft transversely mounted on said transferring-carriage a sprocket-wheel fixed on on said shaft and a pair of projections on each side of said wheel, power-driven connections for operating said sprocket-wheel, a pulley loosely mounted on said shaft on each side of said sprocket-wheel, an arm on each of said pulleys adapted to successively engage the sprocket-wheel projections, a cable connecting each pulley with the lower end of each toothed bar to successively lift them, and a fixed wedge adapted to engage and trip said arm from its engagement with the sprocket-wheel projections on the advance of the transferring-carriage.

4. In a machine for transferring and turning logs and in combination with the mill-carriage, a foundation-frame, a transferring-carriage having supporting-rolls on said frame, a pair of toothed bars mounted on said transferring-carriage, skidways above and on each side of said transferring-carriage, a shaft transversely mounted on said transferring-carriage, a sprocket-wheel fixed on said shaft and having a pair of projections on each side, a power-driven shaft on one end of the foundation-frame, a sprocket-pulley on said shaft, a pulley on the other end of the foundation-frame, a sprocket-chain connecting the pulleys and the sprocket-wheel whereby to operate said sprocket-wheel, means mounted on said shaft and actuated by said sprocket-wheel for connecting and lifting said toothed bars, means connecting said sprocket-wheel shaft with the carriage-wheels to reciprocate the carriage, and means for tripping the toothed bars.

5. In a machine for transferring and turning logs, a transferring-carriage, a skidway above and on each side of said carriage, toothed bars mounted on the front of said carriage, means for reciprocating said carriage, and means operated by the means which operates the carriage for causing said toothed bars to be lifted in the operation of rolling and transferring the log from said skidway.

6. In a machine for transferring and turning logs, a foundation-frame, a power-driven shaft thereon having a sprocket-pulley, a carriage having mounting-rolls on said frame, fixed skidways above and on each side of said carriage, toothed bars mounted on said carriage, a transverse shaft mounted on the latter, a sprocket-wheel fixed on said shaft, a pulley loosely mounted thereon at each side of said sprocket-wheel, a cable secured to and passing around said pulley and connected to the lower end of said toothed bar, a spring trip-arm on said pulley adapted to engage the projections of said wheel in its rotation, and a fixed wedge adapted to engage the said pulley-arm on its forward movement to cause said pulley to be tripped to allow the toothed bar to fall, and a sprocket-chain engaging the pulley on the power-driven shaft and a pulley fixed on said frame for operating said sprocket-wheel, and connections for transferring the power of said wheel to the carriage-rolls to reciprocate it.

7. In a machine for transferring and turning logs, a foundation-frame, a carriage having mounting-rolls on said frame, skidways above and on each side of said carriage, toothed bars mounted on the front of said carriage, a transverse shaft mounted mediately of the latter, a sprocket-wheel fixed mediately of said shaft, a cable connected to the lower end of the toothed bar, a trip device on said shaft connected to said cable, means carried by the sprocket-wheel for operating said trip device, means for rotating the sprocket-wheel, a pulley fixed on said sprocket-wheel shaft, and a belt leading therefrom for rotating the carriage-rolls, whereby the said sprocket-wheel is caused to operate the toothed bars and the carriage simul-

taneously to effect the rolling and transfer of the log from the skidway.

8. In a machine for transferring and turning logs, a transferring-carriage, a pair of toothed bars mounted on the front of said carriage, skidways above and on each side of said carriage, a pair of self-acting check-bars pivotally mounted on said carriage, in alinement with the toothed bars, means for operating the carriage, means carried by the carriage and operating simultaneously with the advance movement of the carriage for lifting the toothed bars to roll and transfer the log, and means for tripping the toothed bars.

9. In a machine for transferring and rolling logs, and in combination with the mill-carriage, a transferring-carriage, having the following elements, a pair of vertical toothed bars, means for lifting them, means for tripping them, and means for operating the carriage, and skidways above and on each side of the transferring-carriage, the toothed ends of the said lifting-bars operating to engage the log from the under side of the skidway and the forward movement of the carriage thereon being simultaneous with the lifting action of the toothed bars.

10. In a machine for transferring and turning logs and in combination with a mill-carriage, a transferring-carriage, a pair of toothed bars mounted on said carriage, and a skidway above said carriage, means for operating said carriage, an independent operating device for each toothed bar consisting of a shaft mounted in said carriage, a power-driven wheel on said shaft, a pulley loose on said shaft on each side of said power-driven wheel and revoluble forward and backward within limits, means carried by each pulley for separable engagement with the opposite sides of said power-driven wheel, and means for automatically engaging and disengaging each trip device with and from said power-driven wheel.

11. In a machine for transferring and turning logs and in combination with a skidway, a transferring-carriage beneath and between the skidways, a pair of toothed bars mounted on said carriage, a shaft mounted transversely on said carriage, a pair of pulleys each loosely mounted on said shaft, a power-driven wheel fixed on said shaft between said pulleys, a spring for each pulley constantly pressing it toward said power-driven wheel, a cable connecting each pulley with a toothed bar to lift it, means for each pulley on the opposite sides of the power-driven wheel whereby to automatically lift and trip each toothed bar, and means operated by said shaft for reciprocating each carriage.

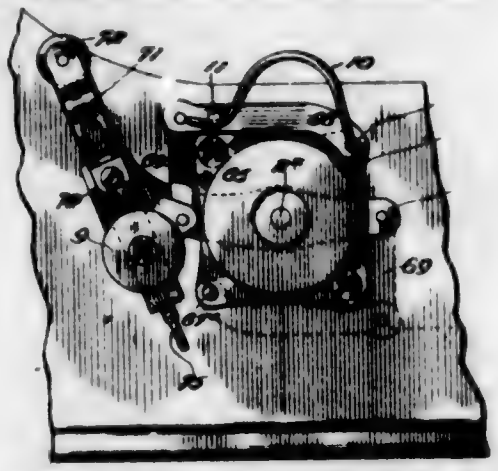
12. In a machine for transferring and turning logs, a skidway, a transferring-carriage beneath the skidway, means operatively mounted upon the carriage for engaging and rolling the log upon and from the skidway, and means for advancing the carriage, the operation of the separate means coöperating to continuously roll the log upon and transfer it from the skidways.

13. In a machine for transferring and turning logs, a pair of separated skidways, a transferring-carriage below and between the skidways, a pair of toothed bars mounted on the carriage below and between the skidways, means for lifting the toothed bars above the skidways in engagement with the log thereon, means for tripping the toothed bars, and means for moving the carriage forward simultaneously with the lifting movements of the toothed bars, whereby the log is rolled upon the skidways and transferred therefrom.

14. In a machine for transferring and turning logs and in combination with skidways, a transferring-carriage, a pair of toothed bars mounted on said carriage, a shaft mounted transversely on said carriage, a sprocket-wheel fixed on said shaft and having a pair of projections on each side, power-driven connections for operating said sprocket-wheel, a pulley loosely mounted on said shaft on each side of said wheel each pulley having a trip-arm adapted to successively engage the sprocket-wheel projections, a cable connecting the pulley with the lower end of each toothed bar to successively lift them, a fixed wedge adapted to engage and trip said arm from its engagement with the sprocket-wheel projections on the advance of the transferring-carriage, and means whereby the trip-arm of one of said pulleys may be moved away from the sprocket-wheel to carry the trip-arm out of the plane of action of the said wheel projections to render one of said toothed bars inoperative.

804,508. THREAD-CONTROLLING MECHANISM FOR SEWING-MACHINES. JOHN H. UNDERWOOD and JOSEPH B. UNDERWOOD, Philadelphia, Pa., assignors of one-half to John A. Hunter and Mary A. Hunter, Philadelphia, Pa. Filed Aug. 18, 1904. Serial No. 221,182.

Claim.—1. The combination in a sewing-machine of a peripherally-grooved thread-drum about which the thread is passed, a supporting-frame carrying a stud on which said drum is axially and rotatably mounted, tension devices mounted on said stud operating to limit the free rotation of the drum, a braking mechanism adapted to positively restrain its rotation at each stitch-forming interval, consisting of a brake-lever carrying a brake-shoe and pivotally mounted by one of its ends on said supporting-frame and over the periphery of the drum, and means to vibrate the brake-lever in both directions, consisting of a rocking lever pivoted axially of the drum with connecting actuating means between it and the brake-lever.

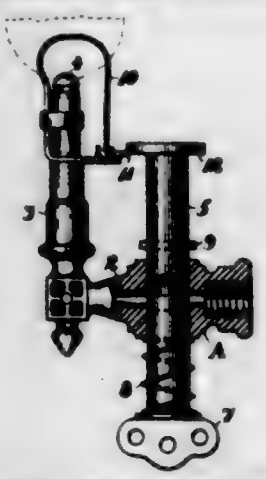


2. The combination, in a sewing-machine, of a thread-drum about which the thread is passed, a supporting-frame upon which said drum is axially and rotatably mounted, tension mechanism normally acting on the drum, a rocking lever pivoted axially of the drum, a brake-lever carrying a friction-shoe and pivotally mounted by one of its ends on said supporting-frame, over the periphery of the drum, and a link connecting the free end of the brake-lever with one end of the rocking lever.

3. The combination, in a sewing-machine, of a supporting-frame carrying a stud, a tension-controlled thread-drum axially and rotatably mounted on said stud, a brake-lever carrying a friction-shoe and pivotally mounted by one end on the supporting-frame and over the periphery of the drum, means to vibrate the free end of the brake-lever at predetermined times, a guide-wheel about which the thread is passed on its passage to the thread-drum, and means to adjustably support said guide-wheel in front of the thread-drum and to automatically raise and lower it as the brake-lever is vibrated to brake or release the thread-drum.

4. The combination in a sewing-machine, of a supporting-frame carrying a stud, a rocking lever axially mounted on said stud, a thread-drum rotatably mounted thereon, a tension device on the end of the stud normally governing the free rotation of the drum, a brake-lever carrying a friction-shoe, and pivotally mounted by one end to said supporting-frame, link connection between the free end of the brake-lever and one end of the rocking lever, a bracket fixedly secured to one end of the rocking lever, an arm adjustably mounted in said bracket and carrying at one end a friction-roller and at the other end a guide-wheel arranged in the path of the thread as it is let off to the thread-drum.

804,509. AUTOMATIC GAS-BURNER ATTACHMENT. SOLOMON H. UBY, San Leandro, Cal. Filed Mar. 6, 1905. Serial No. 248,531.



Claim.—1. The combination in a gas-cock, of a longitudinally-slidable key having a hole therethrough, a spring by which said key is retracted and said hole is normally retained out of line with the passage which supplies the burner, a projection upon the key and an arm expansible into the range of action of the slidable key by heat said arm adapted to engage said projection and retain the key in position to deliver gas to the burner while the latter is lighted.

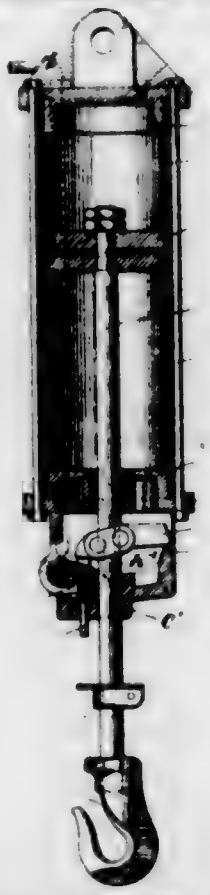
2. A gas-burner comprising a burner-tip, a supply-passage therefor, a controlling-key slidable longitudinally and in a plane

transverse of said passage, said key having a hole therethrough which is normally out of line with the supply-passage, a disk or projection upon the key and an expansible part located in the path of the flame and movable into the range of action of the key and adapted to engage the projection and hold the key open while the burner is lighted.

3. In a gas-burner, a slidable key or plug with a hole transversely through it, a spring by which the key is moved so that the hole is normally out of line with the supply-passage, an expansible arm in the path of the flame, a projection carried by the key with which the expansible part engages to maintain a passage for the gas while the flame continues, and from which it is disconnected and the passage closed when the flame is extinguished.

4. A safety gas-burner comprising a burner and member thereon expansible by heat, a normally spring-retracted gas-controlling cock mounted to slide in a direction parallel with its axis, and a trigger mechanism between the cock and the expansible member whereby the cock is maintained in open position against the pressure of its returning-spring as long as the gas burns and is released and automatically returned to normal closed position when the gas is extinguished.

804,510. **PNEUMATIC HOIST.** HENRY H. VAUGHAN, Cleveland, Ohio, assignor to Ridgely and Johnson Tool Company, a Corporation of Illinois. Filed Nov. 19, 1903. Serial No. 131,947.



Claim.—1. In a fluid-pressure lifting apparatus, the combination with a cylinder, of a piston therein, a piston-rod adapted to support a load, automatic mechanism for directly engaging and retaining the piston-rod in any position to which it may be moved by the fluid-pressure.

2. In a fluid-pressure lifting apparatus, the combination with a cylinder, of a piston therein, a piston-rod adapted to support a load, a valve controlling the admission and exhaust of fluid-pressure, mechanical means for engaging and directly retaining the piston-rod against retrograde movement, and operative connections between said means and said valve.

3. In a fluid-pressure lifting apparatus, the combination with a cylinder, of a piston therein, a piston-rod adapted to support a load, a valve controlling the admission and exhaust of fluid-pressure, a dog adapted to engage the piston-rod and thereby support the load, a connection between said dog and valve whereby when the valve is in position to exhaust fluid-pressure from the cylinder the dog is disengaged from the piston-rod and when the valve is in cut-off position the dog locks the piston-rod against retrograde movement.

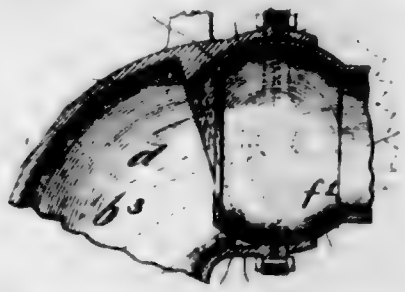
4. In a fluid-pressure lifting apparatus, the combination with a cylinder, of a piston therein, a piston-rod adapted to support a load, a valve controlling the admission and exhaust of fluid-pressure, a dog adapted to engage the piston-rod and thereby support the load, a yielding connection between said dog and valve whereby when the valve is moved to release position the dog will be disengaged from the piston-rod only when the load is sustained by fluid-pressure said connection yielding when the load is supported by the dog thereby permitting the valve to move to release position without disengaging the dog from the piston-rod.

5. In a fluid-pressure lifting apparatus, the combination with a cylinder, of a piston therein, a piston-rod adapted to support a load, a valve controlling the admission and exhaust of fluid-pressure, a valve-stem secured to said valve having a radial projection thereon, a movable yoke supported adjacent to but disconnected from said radial projection, a tripping device rigidly secured to the piston-rod and carried therewith into engagement with said yoke to move said yoke into contact with said projection, thereby moving the valve to cut-off position through rotation of the valve-stem.

6. In a fluid-pressure lifting apparatus, the combination with a cylinder, of a piston therein, a piston-rod adapted to support a load, a valve controlling the admission and exhaust of fluid-pressure, a dog adapted to engage the piston-rod and thereby support the load, a valve-stem secured to said valve, a lever yieldingly connected to said stem and adapted when the valve is moved to cut-off position to lift said dog and disengage the same from the piston-rod only when the load is supported by fluid-pressure.

7. In a fluid-pressure lifting apparatus, the combination with a cylinder, of a piston therein, a piston-rod adapted to support a load, a valve controlling the admission and exhaust of fluid-pressure, a dog adapted to engage the piston-rod and thereby support the load, a valve-stem secured to said valve, a lever yieldingly connected to said stem and adapted when the valve is moved to cut-off position to lift said dog and disengage the same from the piston-rod only when the load is supported by fluid-pressure, a movable yoke supported adjacent to said lever, a tripping device secured to the piston-rod and adapted to move the yoke into contact with said lever thereby moving the valve to cut-off position through the rotation of the valve-stem.

804,511. **STAND-PIPE.** DAVID L. WINTERS, Chicago, Ill., assignor of one-half to Theodore W. Snow, Chicago, Ill. Filed Mar. 11, 1905. Serial No. 249,573.



Claim.—1. In a stand-pipe, the combination of a water-column equipped with a socket, a spout equipped with a convex bearing entered in said socket, journals for the spout, adjusting-screws supported on the vertical column and interlockingly connected with said journals, said adjusting-screws serving to aid in maintaining a close joint, and springs confined between said screws and journals, for the purpose set forth.

2. In a stand-pipe, the combination of a vertical column equipped with an elbow provided with a spherical socket having a removable section, a spout having a ball entered in said socket and equipped with lateral bearings, journals entered in said bearings and provided with perforations, and horizontal adjusting-screws connected with the removable section of said socket and having stems extending through the perforations in said journals, for the purpose set forth.

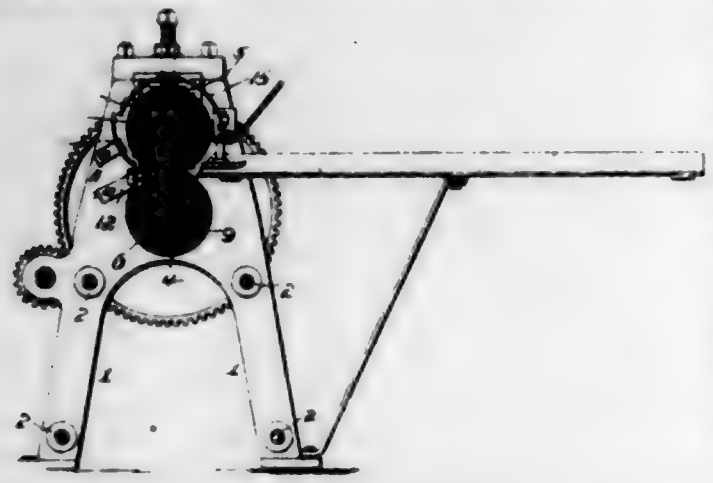
3. In a stand-pipe, the combination of a vertical column equipped with an elbow provided with a spherical socket having a recess at its rear lower portion, and a spout having a hollow ball entered in said socket and provided at its rear lower portion with a perforation adapted to register with said recess when the spout is in its elevated position, for the purpose set forth.

4. In a stand-pipe, the combination of a vertical column equipped with a spherical socket, and a spout equipped with a ball entered in said socket, said socket having at its upper rear portion an extension adapted to sheath the upper rear portion of said ball when the spout is in its elevated position, for the purpose set forth.

804,512. **MACHINE FOR CORRUGATING METAL SHEETS.** GEORGE C. WITT, Cincinnati, Ohio. Filed June 14, 1905. Serial No. 265,271.

Claim.—1. In a machine of the character described, the combination of two longitudinally-corrugated rolls, collars or rings at the ends thereof having opposite bevels and means for carving the corru-

gated sheet as it passes from between the rolls for forming it into a cylindrical can-body.

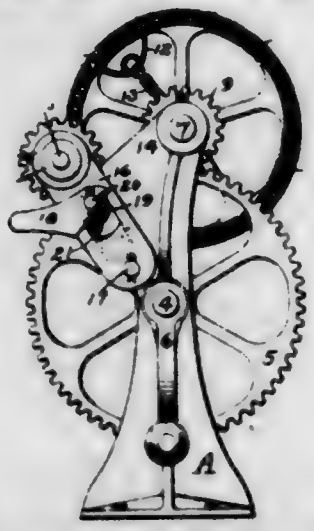


2. In a machine of the character described, the combination of two longitudinally-corrugated rolls having their corrugations at the ends converging into a curved line, beveled collars at the ends of said rolls, and means for curving the corrugated sheets into a cylindrical can-body.

3. In a machine of the character described, the combination of two rolls having similar longitudinal corrugations, a guide in proximity to one of said rolls a second guide to receive the sheet as it passes from between the rolls and curve it over the first-mentioned guide to form a cylindrical, corrugated can-body, and means to adjust said guide mechanism to make can-bodies of different diameters.

4. In a machine of the character described, the combination of two corrugated rolls, collars or rings loose on the roll-trunnions, having opposite bevels and the bevels equal to the corrugations of the rolls, guides for regulating the curve of the sheet corrugated by the rolls, and means for securing said guides at various adjustments.

804,513. **PENCIL-SHARPENING MACHINE.** GRANVILLE W. WRIGHT, New Britain, Conn. Filed Feb. 13, 1905. Serial No. 245,358.



Claim.—1. In a machine for sharpening pencils, the combination of an abrading-wheel with means for driving the said wheel, a pencil-holder, means for rotating the said holder, a carrier for mounting said holder to move it bodily in the transverse direction of its axis to and from the said abrading-wheel, and mechanism for positively forcing the carrier and pencil-holder in the said transverse direction steadily toward the said wheel.

2. In a machine for sharpening pencils, the combination of an abrading-wheel with a swinging arm, a pencil-holder mounted on the outer end of the said swinging arm to swing bodily to and from the said wheel, an operating-lever, and a cam connected with the said lever and acting on the said swinging arm to steadily force the pencil in the holder toward the periphery of the said wheel.

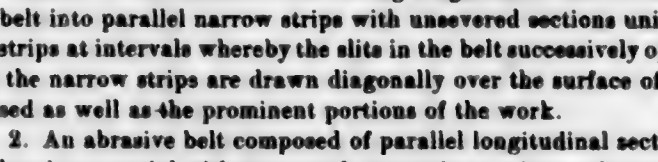
3. In a machine for sharpening pencils, the combination of an abrading-wheel with means for driving the said wheel, a pencil-holder, a carrier for mounting the said holder to move bodily to and from the said abrading-wheel, a spring for forcing the said carrier and pencil-holder away from the said abrading-wheel, a separately-moving operating-lever for modifying the movement of the operator's hand on the lever as transmitted to the said carrier and pencil-holder.

4. In a machine for sharpening pencils, the combination of an abrading-wheel having a rounded periphery, with a pencil-holder, means for rotating the said holder, a carrier for mounting the said pencil-holder to move bodily transversely to its axis to and from the said rounded periphery, and positively-acting mechanism for moving the said carrier and pencil-holder transversely to the axis of the said holder steadily toward the said rounded periphery.

5. In a machine for sharpening pencils, the combination of an abrading-wheel for supporting and carrying a strip of abrading material, and having in its periphery a shallow groove extending transversely across the same, a clamp fitted to the said periphery for lying in the said groove, and a spring for drawing the said clamp down into the groove and pressing the strip of abrading material at its lapped ends against the bottom of the said groove.

6. In a machine for sharpening pencils, the combination of an abrading-wheel having in its periphery a shallow groove extending transversely across the same, with a clamp extending transversely to the said periphery for entering the said groove, and a spring for drawing the said clamp down into the said groove.

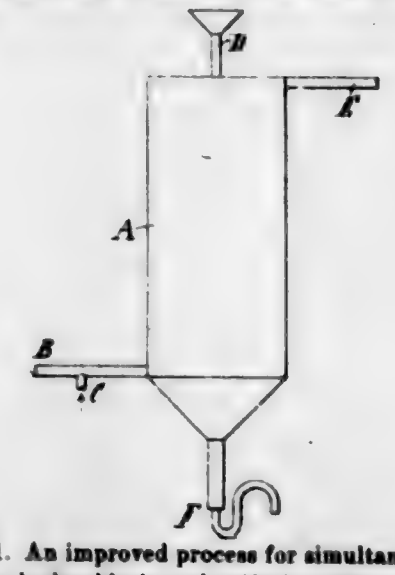
804,514. **ABRASIVE APPARATUS.** OLMEDO C. WYSONG, Greensboro, N. C. Filed Nov. 5, 1904. Serial No. 231,478.



Claim.—1. An abrasive belt having longitudinal slits dividing the belt into parallel narrow strips with unsevered sections uniting the strips at intervals whereby the slits in the belt successively open, and the narrow strips are drawn diagonally over the surface of the incised as well as the prominent portions of the work.

2. An abrasive belt composed of parallel longitudinal sections of abrasive material with staggered connections at intervals uniting the several sections together said connections being a sufficient distance apart to permit the sections to separate laterally while being drawn across the work, so that all parts of the work-surface are acted upon, and the prominent parts not excessively acted upon.

804,515. **PROCESS OF MAKING AND SEPARATING HYDROCHLORIC AND SULFURIC ACIDS.** PAUL ASKENASY and MARTIN MUGDAN, Nuremberg, Germany. Filed June 22, 1903. Serial No. 162,671.



Claim.—1. An improved process for simultaneously producing and separating hydrochloric and sulfuric acids on the counter-current principle, which consists in feeding sulfurous acid and chlorin, to one end of a reaction-chamber and introducing a reacting liquid at the opposite end, the proportion of the reacting liquid introduced being so measured or limited that on the one hand a strong sulfuric acid free from hydrochloric acid flows off while on the other hand a gaseous hydrochloric acid free from sulfuric acid escapes from the chamber substantially as described.

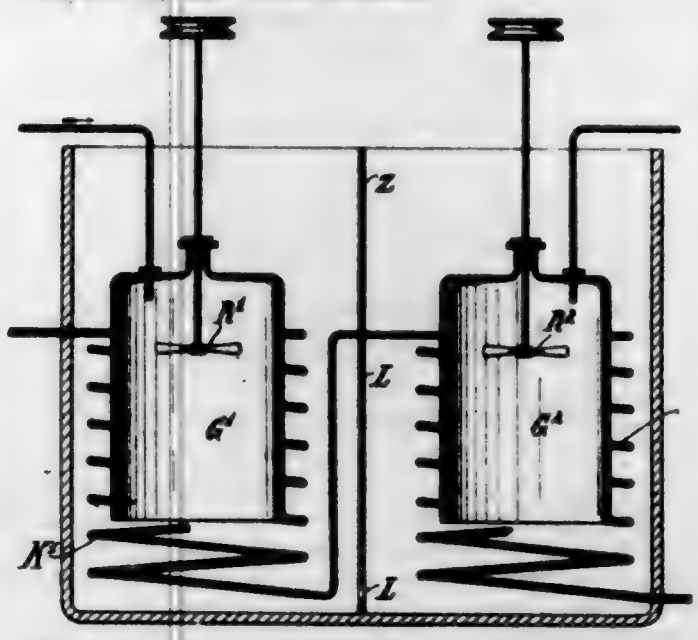
2. An improved process for simultaneously producing and separating hydrochloric and sulfuric acids on the counter-current principle, which consists in feeding sulfurous acid and chlorin, the latter in excess of the proportion of the reaction, to one end of a reaction-chamber and introducing a reacting liquid at the opposite end, the proportion of the reacting liquid introduced, being so measured or limited that on the one hand a strong sulfuric acid free from hydrochloric acid flows off while on the other hand a gaseous hydrochloric acid free from sulfuric acid escapes from the chamber substantially as described.

3. An improved process for simultaneously producing and separating hydrochloric and sulfuric acids on the counter-current principle, which consists in feeding sulfurous acid and chlorin, to one end

of a reaction-chamber and introducing a solution of hydrochloric acid and water at the opposite end, the proportion of the reacting liquid introduced, being so measured or limited that on the one hand a strong sulfuric acid free from hydrochloric acid flows off while on the other hand a gaseous hydrochloric acid free from sulfuric acid escapes from the chamber substantially as described.

4. An improved process for simultaneously producing and separating hydrochloric and sulfuric acids on the counter-current principle, which consists in feeding sulfurous acid and chlorin, the latter in excess of the proportion of the reaction, to one end of a reaction-chamber and introducing a solution of hydrochloric acid and water at the opposite end, the proportion of the reacting liquid introduced being so measured or limited, that on the one hand a strong sulfuric acid free from hydrochloric acid flows off while on the other hand a gaseous hydrochloric acid free from sulfuric acid escapes from the chamber, substantially as described.

804,516. PROCESS OF MAKING ACETYLENE TETRACHLORID. PAUL ASKENASY and MARTIN MUGDAN, Nuremberg, Germany. Filed Nov. 16, 1903. Serial No. 181,410.



Claim.—1. A process for producing tetrachlorid of acetylene, which consists in treating chlorid of antimony with acetylene and chlorin and then separating the tetachlorid of acetylene from the resulting product by fractionation, substantially as described.

2. A process for producing tetrachlorid of acetylene, which consists in treating the product of the reaction of acetylene and chlorid of antimony with chlorin and acetylene and then separating the tetrachlorid of acetylene from the resulting product by fractionation, substantially as described.

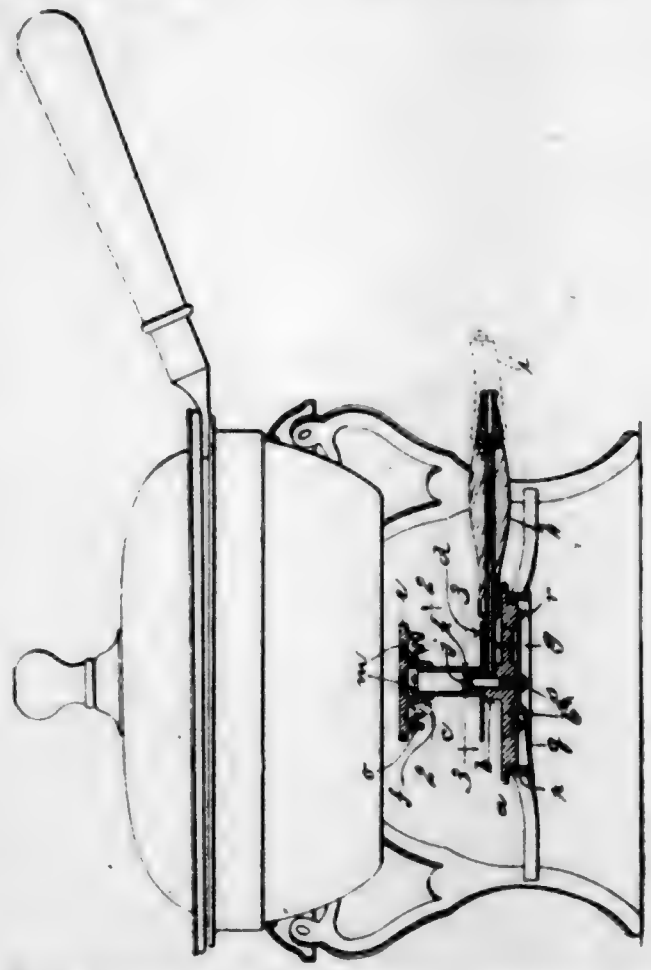
3. A process for producing tetrachlorid of acetylene, which consists in treating the product of the reaction of acetylene and chlorid of antimony with chlorin and acetylene alternately and then separating the tetrachlorid of acetylene from the resulting product by fractionation substantially as described.

804,517. PORTABLE GAS-BURNER. JOHN F. BARKER, Springfield, Mass., assignor to Gilbert & Barker Manufacturing Company, Springfield, Mass., a Corporation. Filed Apr. 26, 1904. Serial No. 204,788.

Claim.—1. A portable gas-burner comprising a base, a burner-head located above said base, a tubular standard to support said head and constituting a conduit for commingled gas and air, a solid-metal plate located between the burner-head and base, intimately connected to the standard near said base, and constituting a shield against direct radiation of heat from the burner downward, and constituting also a radiating-disk for heat received from said standard, and means to removably attach said standard to the lamp-support of a chafing-dish or the like

2. A gas-burner comprising a base-plate, a burner-head, a gas-conduit extending between the base-plate and said head, there being apertures through the wall of said gas-conduit for the admission of air, near said base-plate, together with a solid-metal heat deflecting and radiating plate fixed on said gas-conduit and in intimate contact therewith between the base-plate and said aperture.

3. A portable gas-burner comprising a base-plate, a burner-head located above said plate, a suitable support for the head, and a solid-metal heat-deflecting plate located on said support and in intimate contact therewith between the burner-head and the base-plate, in a plane substantially parallel with the latter, and means to secure the base-plate of the burner, removably, to the lamp-support of a chafing-dish or the like.



4. A gas-burner comprising a base-plate, a burner-head located above said plate, a suitable support for the head, and a heat-deflecting plate located between the burner-head and the base-plate, in a plane substantially parallel with the latter, and a spring-finger attached to the under side of said base-plate and adapted to engage the under side of the lamp-support of a chafing-dish or the like.

804,518. DRIER. GUY BOSCHKE, San Francisco, Cal. Filed Apr. 18, 1905. Serial No. 256,223.



Claim.—1. In a drier, a channel or alley, a heater, conducting-pipes connecting it with one end of the alley, means for inducing the travel of the heated air to the opposite end, an endless traveling chain, supports therefor in the upper part of the alley, hangers suspended from the chain having a series of hooks thereon adapted to receive the substances to be dried and to transmit them in a vertically-suspended position.

2. A drier having a relatively narrow horizontally-extending alley, a heater and means connecting it with one end of the alley, means for circulating the heated air through the alley, a horizontally-traveling conveyer located in the upper part of the alley, hangers depending from the conveyer and hooks on the hangers adapted to suspend the substances to be dried in a vertical position.

3. In a drier, a channel or alley, a heater and pipes connecting with one end of the alley, means for inducing the flow of the heated air to the opposite end, an endless traveling chain and sprockets around which it is movable in the upper part of the alley, rods depending from said chain having hooks at intervals between the top and bottom and adapted to carry the substances to be dried suspended therefrom, means for guiding the lower ends of the rods in a curve coincident with the diameter of the sprockets, said means comprising sprockets, the teeth of which are separated a distance equal to

that between the rods, which rods they engage, and a segmental guide within which the lower ends of the rods are carried in passing around the sprocket.

4. In a drier, a horizontal channel or alley, a heater a series of superposed pipes connecting with the heater and leading respectively into the middle and lower portion of the alley end, means by which the heated air is caused to travel to the opposite end of the alley, vertically-journaled shafts at each end having sprocket-wheels fixed at the top, an endless traveling chain passing around said sprockets, rods connected with the chain extending to near the bottom of the alley and having hooks upon them at points between the top and bottom, guides by which the lower ends of the rods are carried around a curvature equal to the diameter of the sprockets, to be returned upon the opposite side, and means for supporting the chain between the sprockets.

5. In a drier, a horizontal channel or alley, a horizontal track arranged therein, heater-pipes connecting said heater at intervals vertically with one end of the alley, means for inducing the flow of the heated air to the opposite end, vertical shafts journaled contiguous to the ends of the alley, sprocket-wheels upon the upper ends of the shafts an endless traveling chain passing around said sprockets and having depending rods at intervals, with hooks for suspending the substances to be dried, and means supporting the chain between the sprocket-wheels, said means comprising wheels, and a wheel-frame journaled upon the track and having hangers depending therefrom and fixed to the chain.

6. In a drier, a horizontal channel or alley, a horizontal track arranged therein, a heater, pipes connecting it with the alley at intervals between the top and bottom, vertically-journaled shafts located contiguous to the ends of the alley and having sprockets fixed near the top, an endless chain passing around the sprockets, means consisting of wheels traveling upon said tracks and having connections with the chain whereby the latter is supported in its horizontal position between the sprockets, hanging rods fixed to the chain at intervals and having hooks located between the top and the bottom upon which the substances to be dried are suspended to hang vertically, means by which the lower ends of said rods are guided in passing around the ends of their travel and a suction-fan whereby a current of heated air is constantly drawn through the apparatus.

7. In a drier, parallel horizontal alleys, a heater, pipe connections between said heater and each of the alleys, horizontal traveling endless chains, sprocket-pulleys near the tops of the alleys around which the chains pass, devices for supporting the chains between the sprocket-pulleys, rods hanging from the chains with hooks to receive the substances to be dried, a suction-fan and connections between the top and bottom of the alleys at the end opposite to the heater, and gate-controlled inlets to the passages from each of the alleys.

8. In a drier, a plurality of parallel horizontal alleys having horizontal revoluble sprockets near the top, endless chains passing around said sprockets, supports by which said chains are maintained substantially horizontal in their travel, rods suspended from the chains having hooks at intervals between the top and bottom for the suspension of substances to be dried, a heater located at one end having pipes or passages connecting it with the alleys, a suction-fan with passages connecting it with each of the alleys, chambers located beyond the suction-passages and sprockets at this end of the alleys, said chambers having doors for access, and to prevent the ingress of air.

9. In a drier, a chamber, a heater connected with one end, an air-exhausting apparatus connected with the opposite end, an endless traveling chain movable alternately to and from the source of heat, and hangers carried by the chain to suspend the substances to be dried so as to be surrounded by the drying medium and to deflect the air-currents from side to side.

10. In a drier, a chamber, a heater connected with one end, an air-exhausting apparatus connected with the opposite end, an endless traveling chain movable alternately to and from the source of heat, hangers carried by the chain from which to suspend the substances to be dried, and doors forming an air-lock at the receiving and discharge end of the chamber.

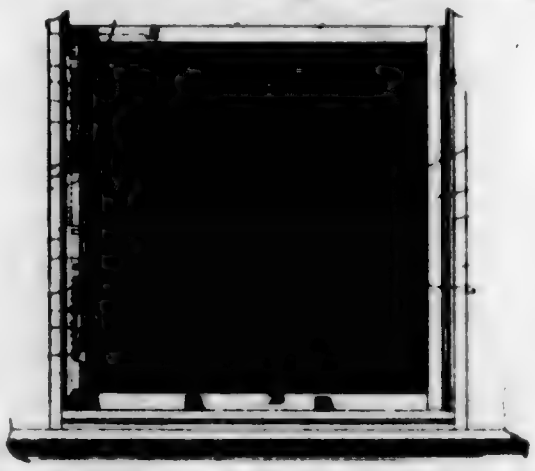
11. In a drier, a chamber, a heater connected with one end, an air-exhausting apparatus connected with the opposite end, an endless traveling chain movable alternately to and from the source of heat, hangers carried by the chain to suspend the substances to be dried, and supports against which the hangers are in contact while passing the point where the substances are to be attached to and removed from the hangers.

12. In a drier, a drying-chamber, an endless horizontally-traveling chain with hangers and hooks for suspending the substances to be dried, guides at one end around which the hangers pass, said guides acting to resist pressure when the substances are attached or removed.

13. In a drier, a drying-chamber, an endless horizontally-traveling chain, end sprockets therefor, dependent hangers loosely suspended from the chain, having hooks for the attachment of substances to be dried, means for guiding the hangers as the chain passes around the end sprockets, and wheels or disks against which the hangers are supported while substances are attached or removed.

14. In a drier, a drying-chamber, an endless horizontally-traveling chain movable therein, loosely-dependent hangers suspended from the chain and having hooks for the attachment of substances to be dried, and resistant backing devices in contact with which the hangers move while the substances are attached or removed.

804,519. METALLIC WINDOW-SCREEN. EDWARD T. BURROWES, Portland, Me. Filed Apr. 20, 1905. Serial No. 256,097.



Claim.—1. In a screen, top, bottom and side bars, one of said side bars being bent to form an outwardly-opening channel therein, a flange in said channeled side bar arranged to be thrust outwardly therefrom, a spring interposed between the inner edge of said flange and the inner face of the connecting edge portion of the channeled side bar, and separated adjusting devices one above and one below the spring operatively associated with the flange and projecting outwardly through the channeled side bar whereby the flange may be positively adjusted against the tension of the spring.

2. In a screen, top, bottom and side bars, one of said side bars being bent to form an outwardly-opening channel therein, a flange in said channeled side bar arranged to be thrust outwardly therefrom, a spring interposed between the inner edge of said flange and the inner face of the connecting edge portion of the channeled side bar, and separated adjusting devices one above and one below the spring loosely connected with the flange and projecting outwardly through the channeled side bar whereby the flange may be adjusted to occupy an angular position to the channeled side bar.

3. A screen having metal top, bottom and side members, one of the side members being bent upon itself to form an outwardly-opening channel therein, in combination with a spring-pressed flange in said channel.

4. A screen having metal top, bottom and side members, one of the side members being bent upon itself to form an outwardly-opening channel therein, in combination with a spring-pressed flange in said channel, and means for adjusting said flange against the tension of its spring.

5. A screen having a frame comprising metallic top and bottom bars and channeled side members, spring-pressed flanges in said side members, and connections between the ends of the top and bottom bars and the side members comprising a tongue at each end of the bars and ears on the channeled side members overlying the same and riveted thereto.

6. A screen having a frame comprising metallic top and bottom bars and channeled side members, spring-pressed flanges in said side members, and connections between the ends of the top and bottom bars and the side members comprising a tongue at each end of the bars and ears on the channeled side members overlying the same and riveted thereto, the inner edge and end edges of the bars adjoining the tongues thereof abutting similar edges on the channeled members.

7. A screen having a frame comprising metallic top and bottom bars and channeled side members, spring-pressed flanges in said side members, and connections between the ends of the top and bottom bars and the side members comprising a tongue at each end of

the bars and ears on the channeled side members overlying the same and riveted thereto, an inner edge and an end edge of the bars adjoining the tongues thereof abutting similar edges on the channeled members.

8. A screen having a frame comprising metallic top and bottom bars and channeled side members, spring-pressed flanges in said side members, and connections between the ends of the top and bottom bars and the side members comprising a tongue at each end of the bars and an ear on the channeled side members overlying the tongue and riveted thereto.

9. A screen having a frame comprising metallic top and bottom bars and channeled side members, spring-pressed flanges in said side members, and connections between the ends of the top and bottom bars and the side members comprising a tongue at each end of the bars and an ear on the channeled side members overlying the tongue and riveted thereto, the inner edge and end edges of the bars adjoining the tongues thereof abutting similar edges on the channeled members.

10. A screen having a frame comprising metallic top and bottom bars and channeled side members, spring-pressed flanges in said side members, and connections between the ends of the top and bottom bars and the side members comprising a tongue at each end of the bars and an ear on the channeled side members overlying the tongue and riveted thereto, an inner edge and an end edge of the bars adjoining the tongues thereof abutting similar edges on the channeled members.

11. In a screen, a frame having channel side member and a spring-pressed flange therein, in combination with an adjusting device comprising a screw passing inwardly through the channel member and engaging the flange, and a nut on the protruding end of the screw.

12. In a screen, a channel member and a spring-pressed flange therein, in combination with an adjusting device comprising a screw passing through the channel member and engaging the flange, and a nut on the protruding end of the screw, the inner end of the screw being headed and engaging a complementary opening therefor in the flange.

13. In a screen, a channel member and a spring-pressed flange therein, in combination with an adjusting device comprising a screw passing through the channel member, and engaging the flange, and a nut on the protruding end of the screw, the inner end of the screw being headed and removably engaging a complementary opening therefor in the flange.

14. In a screen, a channel member and a spring-pressed flange therein in combination with an adjusting device comprising a screw passing through the channel member, and engaging the flange, and a nut on the protruding end of the screw, the inner end of the screw being headed, and having a restricted intermediate neck portion, removably engaging a complementary opening therefor in the flange.

15. A screen having metallic top and bottom bars, metallic side members edge bent to form an outwardly-opening channel therein, an interfitting connection between the ends of the top and bottom bars and side members, and adjustable flanges in said channel side members.

16. A screen having metallic top, bottom and side members, one of said side members being bent upon itself to form an outwardly-opening channel therein, interfitting connections between the ends of the top and bottom members and the side members, and an adjustable flange in said channel side member.

17. In a screen, a channel member and a spring-pressed flange therein, in combination with an adjusting device including a screw passing through the channel member having a head at its inner end removably engaging a complementary opening therefor in the flange.

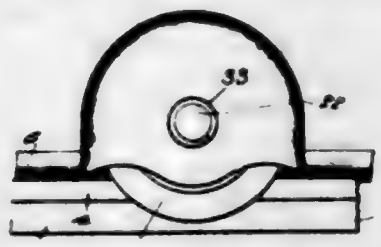
18. In a screen, a channel member and a spring-pressed flange therein, in combination with an adjusting device including a screw passing through the channel member and having a head at its inner end adjoining a restricted intermediate neck portion removably engaging a complementary opening therefor in the flange.

19. A screen having a frame comprising top, bottom and side members, one of the side members being bent to form a channel, an adjustable flange in said channel, and connections between the ends of the top and bottom members and said channel member comprising interfitting tongues and ears rigidly secured together.

20. A screen having a frame comprising top, bottom and side members, one of the side members being bent to form a channel, an adjustable flange in said channel, connections between the ends of the top and bottom members and said channel member comprising interfitting tongues and ears rigidly secured together, and an end edge of the top and bottom members adjoining the tongues thereof abutting similar edges on the channel members.

21. A screen having a frame comprising top, bottom and side members, one of the side members being bent to form a channel, an adjustable flange in said channel, connections between the ends of the top and bottom members and said channel member comprising interfitting tongues and ears rigidly secured together, and an inner edge on the top and bottom members adjoining the tongues thereof abutting a similar edge on the channel member.

804,520. **CUTTING IMPLEMENT.** WILLIAM U. COLTHAR, Springfield, Ohio. Filed Aug. 10, 1904. Serial No. 220,185.



Claim.—1. A paper-trimmer comprising a free straight-edge having a longitudinal guide of cylindric form supported thereon, and a cutter-head having an engaging part of similar cross-section fitting on the guide and having widely-separated bearings thereon, so as to rock and slide freely relatively thereto without binding under pressure, said cutter-head being provided with a cutting-disk, the axis of rotation of which is at right angles to the longitudinal axis of the engaging member of the head, said disk being movable across the plane of the bottom of the straight-edge immediately adjacent to the defining edge thereof, substantially as described.

2. A paper-trimmer comprising a free straight-edge having a longitudinal guide of cylindric form supported thereon, a cutter-head having an engaging part of similar cross-section fitting the guide and having widely-separated bearings thereon, so as to rock and slide freely relatively thereto without binding under pressure, said cutter-head being provided with a cutting-disk, the axis of rotation of which is at right angles to the longitudinal axis of the engaging member of the head, said disk being movable across the plane of the bottom of the straight-edge immediately adjacent to the defining edge thereof, and a spring carried by said cutter-head and bearing upon the straight-edge to support the cutter-head, substantially as described.

3. A paper-trimmer comprising a straight-edge having a longitudinal guide of cylindric form supported thereon and having unobstructed ends, and a removable cutter-head having an engaging part of a cross-section similar to that of the guide, adapted to be engaged with and disengaed from the guide at the ends thereof, and fitting and extending longitudinally of the guide so as to rock and slide freely relatively thereto without binding under pressure, said cutter-head being provided with a cutting-disk, the axis of rotation of which is at right angles to the longitiudinal axis of the engaging member of the head, whereby said disk is movable across the plane of the bottom of the straight-edge immediately adjacent of the defining edge thereof, substantially as described.

4. A paper-trimmer comprising a straight-edge having a longitudinal guide of cylindric form supported thereon and having unobstructed ends, a removable cutter-head having an engaging part of a cross-section similar to that of the guide, adapted to be engaged with and disengaged from the guide at the ends thereof, and fitting and extending longitudinally of the guide so as to rock and slide freely relatively thereto without binding under pressure, said cutter-head being provided with a cutting-disk, the axis of rotation of which is at right angles to the longitudinal axis of the engaging member of the head, whereby said disk is movable across the plane of the bottom of the straight-edge immediately adjacent to the defining edge thereof, and a spring carried by said cutter-head and bearing upon the straight-edge to support the cutter-head, substantially as described.

5. A paper-trimmer comprising a free straight-edge having a guide of cylindric form secured thereon and having unobstructed ends, and a cutter-head comprising a sleeve fitting and extending longitudinally of the guide so as to rock and slide freely relatively thereto without binding under pressure, said sleeve being cut away longitudinally as to its under part so as to embrace more than one-half of the circumference of the guide without entirely encircling the same and thereby clear the guide-support, said cutter-head having a cutting-disk movable across the plane of the bottom of the straight-edge immediately adjacent to the defining edge thereof, substantially as described.

6. A paper-trimmer comprising a straight-edge having a me-

tallic guide of cylindric form secured to and bearing throughout its length upon the upper surface of the straight-edge, and a cutter-head comprising a sleeve fitting said guide and open longitudinally along its under side so as to embrace more than one-half of the circumference of the guide and leave a clearance between the lower portion of the sleeve and the straight-edge to permit the sleeve to rock upon the guide, said cutter-head having a cutting-disk, the axis of rotation of which is at right angles to the longitudinal axis of the sleeve, said disk being movable across the plane of the bottom of the straight-edge immediately adjacent to the defining edge thereof, substantially as described.

7. A paper-trimmer comprising a straight-edge having a metallic guide of cylindric form secured to and bearing throughout its length upon the upper surface of the straight-edge, and a cutter-head comprising a sleeve fitting said guide and open longitudinally along its under side so as to embrace more than one-half of the circumference of the guide and leave a clearance between the lower portion of the sleeve and the straight-edge to permit the sleeve to rock upon the guide, said cutter-head having a cutting-disk, the axis of rotation of which is at right angles to the longitudinal axis of the sleeve, said disk being movable across the plane of the bottom of the straight-edge immediately adjacent to the defining edge thereof, and a spring carried by said cutter-head and bearing upon the straight-edge to support the cutting-disk above the plane of the bottom of the straight-edge, substantially as described.

8. A paper-trimmer comprising a straight-edge having a metallic guide of cylindric form secured to and bearing upon its upper surface, a cutter-head comprising an open sleeve fitting said guide and embracing more than one-half of its circumference, said cutter-head having a cutting-disk, and a spring carried by said cutter-head and bearing upon the straight-edge to support the cutter-head, substantially as described.

9. A paper-trimmer comprising a free wooden straight-edge of maximum thickness at its central portion, a tubular metallic guide seated in and secured to the central portion of said straight-edge and extending along the same from end to end, and a cutter-head having a sleeve adapted to be slipped over the guide at the end thereof and open at the bottom so as to embrace more than one-half of the circumference thereof and leave a clearance between said sleeve and the straight-edge, whereby said cutter-head may rock and slide on said guide, substantially as described.

10. A paper-trimmer cutter-head having an arm provided at one end with a sleeve extending at right angles to the arm, the sleeve being open along its under side, the arm being provided at its other end with a guard or hood located in a plane parallel with said sleeve, an arbor arranged at right angles to the longitudinal axis of the sleeve, and a cutting-disk mounted on said arbor within the guard or hood, substantially as described.

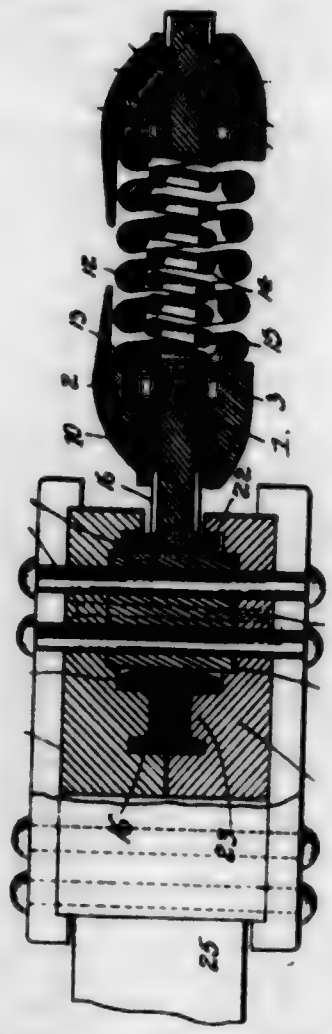
11. A paper-trimmer having a head provided with a threaded aperture, split across the same, and having a clamping-screw connecting the split portions, an arbor threaded to fit said aperture and provided with a bearing portion and a shoulder adjacent thereto, and a cutting-disk mounted on said bearing portion between the body of the head and said shoulder, substantially as described.

12. A paper-trimmer having a head provided with a threaded aperture, split across the same, and having a clamping-screw connecting the split portions, an arbor threaded to fit said aperture and provided with a bearing portion and a shoulder adjacent thereto, and a cutting-disk mounted on said bearing portion between the body of the head and said shoulder, said body portion having a guard or hood for the disk, and the arbor having a head extending loosely through and beyond said guard and knurled or roughened, substantially as described.

13. In a paper-trimmer, a thin cutting-disk having a central aperture, an arbor of smaller diameter than said aperture, and a bushing for said disk comprising a sleeve fitting the aperture and arbor and having a head bearing against one side of the disk, said sleeve projecting beyond the other side of the disk, and an annulus fitting on said projecting portion and bearing against said other side of the disk, said annulus being countersunk as described, and the projecting end of the sleeve being upset or swaged into the countersink, whereby the disk is firmly clamped between the head and annulus, substantially as described.

14. In a paper-trimmer, a cutter-head having a body provided with a threaded aperture, a non-rotating arbor threaded at one end to fit said aperture and having adjacent to said threaded portion a bearing portion and shoulder, said arbor being adapted to be turned to adjust the cutting-disk, means for locking said arbor in adjusted position, and a thin cutting-disk having an extended bushing fitting on the bearing portion of the arbor between the cutter-head body and the shoulder of the arbor, substantially as described.

804,531. DRAW-GEAR. JOHN F. COUNSON, Pitcairn, Pa. Filed Feb. 10, 1905. Serial No. 245,161.



Claim.—1. In combination, in a draft-gear for railway-cars, a draft-bar, a friction-plate arranged to move in the same direction therewith freely to a certain extent, means for arresting the movement of the friction-plate and pressing it upon the bar, and a spring also moving bodily with the draft-bar and friction-plate, which latter when arrested acts as an abutment or stop therefor at one end to cause the compression of the said spring by contact of the draft-bar with its other end, substantially as described.

2. In combination in apparatus of the class described, a draft-bar, a friction-plate to bear thereon, means for arresting the friction-plate after it has moved with the draft-bar, a spring bearing upon the draft-bar to be compressed thereby, a second spring arranged to move bodily with the draft-bar and friction-plate and to be held at one end by the said friction-plate when arrested and to permit the spring to be compressed by the draft-bar acting upon the opposite end, substantially as described.

3. In combination in apparatus of the class described, a draft-bar, upper and lower friction-plates to move bodily with the draft-bar in the same direction therewith, means for arresting the friction-plates after they have moved freely a certain distance, a spring to move bodily with the draft-bar and friction-plates and to be arrested by the friction-plate when the latter is stopped in its movement whereby the continued movement of the draft-bar will be against the resistance of this spring, substantially as described.

4. In combination, a draft-bar, a friction-plate to bear on the bar, a spring bearing on the friction-plate and movable bodily therewith, and a spring inclosing the one first mentioned to resist the movement of the draft-bar, the first-mentioned spring affording resistance to the movement of the draft-bar when the friction-plate is arrested and presses upon the draft-bar, substantially as described.

5. In combination in a draft-gear, a draft-bar, a plurality of springs one within the other, the resistances of which are applied successively to the draft-bar, the spring applied last moving bodily with the draft-bar substantially as described.

6. In combination with a draft-bar, a pair of coterminous springs one within the other arranged in an opening in the draft-bar and means for applying the resistances of the said springs in succession to the draft-bar, the spring applied last moving bodily with the draft-bar substantially as described.

7. In combination in a draft-gear, a draft-bar, the top and bottom plates, a spring within an opening in the draft-bar engaging the edges of openings in the said top and bottom plates, upper and lower friction-plates, means between the friction-plates and top and bottom plates for pressing the friction-plates upon the draft-bar, a spring within the spring first mentioned bearing upon the friction-plates to move bodily therewith and be arrested and subjected to compression when the friction-plates are arrested, substantially as described.

8. In combination in a draft-gear, a draw bar or plate having an opening therein, a filling-block in the said opening projecting above and below the same, castings arranged over the said filling-block and fitting the projecting ends closely, said castings fitting loosely the parts of the draw-bar, substantially as described.

9. In combination, a draw bar or plate having an opening and having flanges around the opening and around its edges, a filling-piece in the opening projecting above and below the flanges, castings or blocks secured to the coupler fitting loosely the parts of the draw bar or plate, substantially as described.

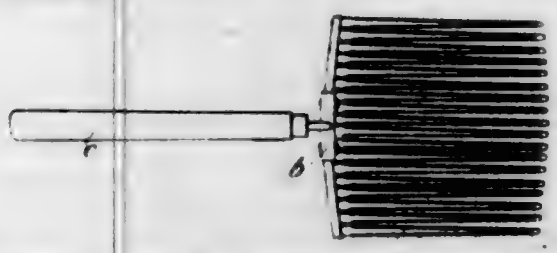
10. In combination in apparatus of the class described, a centering-bar having means to engage the coupler to center the same, a pair of plates between which the centering-bar passes, openings in the said plates, a spring held in said openings to hold the centering-bar centrally, and means for operating the centering-bar, substantially as described.

11. In combination, the coupler, the centering-bar, the lever carried on the end thereof and having sliding connection therewith across the same and a fulcrum on the car with which the said lever will be engaged and disengaged by sliding it across the centering-bar, substantially as described.

12. In combination a draft-bar having an opening flaring from the center toward its ends, a block arranged to rock in said opening and bearing on the flaring sides and a coupler connected with the said block, substantially as described.

13. In combination a draft-bar having an opening, a block arranged to turn about its own axis and rock in respect to the axis of said opening and a coupler connected with the said block, substantially as described.

804,522. **DEVICE FOR APPLYING DYES, &c., TO THE ROOTS OF HAIR.** GUSTAVE DELORY, Paris, France. Filed July 7, 1904. Serial No. 215,651.



Claim.—1. A device of the character specified comprising a plurality of transversely-perforated members having longitudinal grooves formed therein connecting said perforations and a body portion for supporting said perforated members.

2. A device of the character specified comprising a plurality of obliquely-perforated members having longitudinal grooves formed therein connecting said perforations and a body portion for supporting said perforated members.

3. A device of the character specified comprising a body portion, a plurality of teeth protruding therefrom each provided with a plurality of oblique transverse perforations formed therein and longitudinal grooves connecting said perforations.

4. A device of the character specified comprising a body portion, a plurality of teeth protruding therefrom each provided with a plurality of alternately-inclined transverse perforations and longitudinal grooves connecting the perforations inclined in the same direction.

5. A device of the character specified comprising a body portion, a plurality of substantially parallel teeth protruding therefrom each provided with a plurality of alternately-inclined transverse perforations and longitudinal grooves on each side of the teeth connecting the perforations inclined in the same direction.

6. A device of the character specified comprising a body portion, a plurality of teeth protruding therefrom having perforations formed transversely therein, longitudinal grooves formed in the teeth connecting the openings of said perforations, and threads passed successively through said perforations.

7. A device of the character specified comprising a body portion, a plurality of teeth protruding therefrom having perforations transversely formed therein, longitudinal grooves formed in said teeth and connecting the openings of said holes, and transverse grooves formed in said teeth connecting said longitudinal grooves.

8. A device of the character specified comprising a body portion, a plurality of teeth protruding therefrom having perforations transversely formed therein, threads passed successively through said perforations, longitudinal grooves formed in said teeth and connecting the openings of said perforations and transverse grooves formed in the teeth connecting the longitudinal grooves.

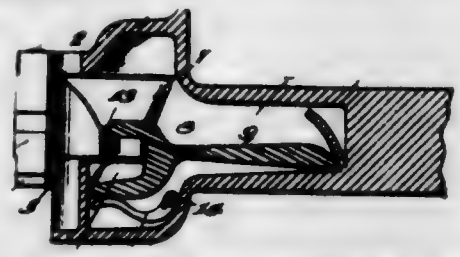
9. A device of the character specified comprising a body portion, a plurality of teeth protruding therefrom having tapering transverse perforations formed therein, and longitudinal grooves connecting the larger openings of the perforations.

10. A device of the character specified comprising a body portion, a plurality of teeth protruding therefrom having tapering, transverse alternately-inclined perforations formed therein, the smaller openings of the perforations being on the under side of the teeth and longitudinal grooves formed in said teeth and connecting the openings of said perforations.

11. A device of the character specified comprising a curved body portion, a plurality of curved teeth protruding therefrom having tapering, alternately-inclined perforations formed therein, the smaller openings of the perforations being on the under side of the teeth and longitudinal grooves connecting the openings of said perforations.

12. A device of the character specified comprising a curved body portion, a plurality of curved teeth protruding therefrom having tapering, transverse alternately-inclined perforations formed therein, longitudinal grooves connecting the openings of said perforations, and threads passed successively through the perforations from top to bottom.

804,523. **CAR-COUPLING.** HUGH DONNELLY, Lisbon, Ohio, assignor of one-half to Martin S. Welsh, Lisbon, Ohio. Filed Feb. 3, 1905. Serial No. 244,001.



Claim.—In a car-coupling, the combination of a draw-bar, a hollow head carried by said draw-bar, a coupling-hook pivoted to said head, a spiral cam projecting from the hook and operating in the hollow head, an actuating device coöperating with the spiral cam of the hook and mounted in the head, said actuating device comprising a bar and spaced extensions projecting from the bar and engaging the spiral cam upon opposite sides, a shaft mounted transversely of the head, a rock-arm projected from the shaft for coöperation with the actuating device to raise and lower the same, and means for actuating the shaft.

804,524. **PROCESS OF FREEING YEAST EXTRACTS FROM BITTER PRINCIPLES.** MAX ELB, Dresden, Germany. Filed Dec. 18, 1903. Serial No. 185,690.

Claim.—1. The process for freeing yeast extracts from bitter principles, consisting in condensing the extract, then precipitating the bitter principles by treating the condensed extract with oxidizing means, and removing these principles from the extract, substantially as described and for the purpose set forth.

2. The process for freeing yeast extracts from bitter principles, consisting in precipitating the bitter principles by treating the yeast extracts with peroxid of hydrogen and boiling the mixture for a short time, and removing these principles from the extract, substantially as described and for the purpose set forth.

3. The process for freeing yeast extracts from bitter principles, consisting in condensing the yeast extract to half of its volume, then precipitating the bitter principles by adding peroxid of hydrogen and boiling the mixture for a short time, and removing these principles from the extract, substantially as described and for the purpose set forth.

4. The process for freeing yeast extracts from bitter principles, consisting in adding to the yeast extract an oxidizing agent, boiling the mixture for a short time and then removing the resulting precipitates, substantially as described and for the purpose set forth.

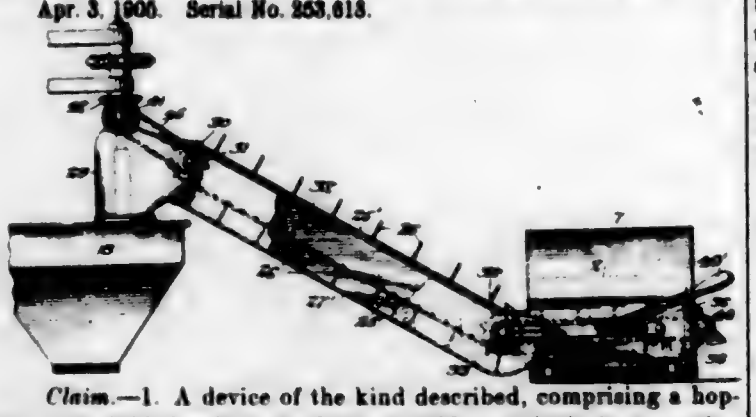
5. The process of freeing yeast extracts from bitter principles,

consisting in precipitating the bitter principles by treating the yeast extracts with an oxidizing agent, and removing the resulting precipitates by treating the mixture with albumen, substantially as described and for the purpose set forth.

6. The process for freeing yeast extracts from bitter principles, consisting in adding to the yeast extracts from sixty to one hundred cubic centimeters of peroxid of hydrogen for each kilogram of condensed yeast extract to be manufactured, boiling the mixture and removing the resulting precipitates, substantially as described and for the purpose set forth.

7. The process for freeing yeast extracts from bitter principles, consisting in condensing the yeast extract to half of its volume, then adding from sixty to one hundred cubic centimeters of peroxid of hydrogen for each kilogram of perfectly-condensed yeast extract to be manufactured, boiling the mixture and removing the resulting precipitates, substantially as described and for the purpose set forth.

804,525. LOADER. WALTER H. ERICSSON, Chicago, Ill. Filed Apr. 3, 1905. Serial No. 253,613.



Claim.—1. A device of the kind described, comprising a hopper, a revoluble head mounted above said hopper inclosing a portion of said elevator, an inclined elevator extending into and pivotally attached to said head, and means for driving said elevator, in combination with means for engaging finely-divided material and delivering the same to said elevator.

2. A device of the kind described, comprising an inclined elevator, and means for operating the same, in combination with a brush and a scraper positioned at the side of said elevator and arranged to coöperate for engaging finely-divided material and delivering the same to said elevator, and means for operating said brush.

3. A device of the kind described, comprising an inclined conveyer pivotally mounted both vertically and horizontally, and means for driving said conveyer, in combination with a brush coöperating with a scraper for engaging finely-divided material and delivering the same to said elevator, and means for operating said brush.

4. A device of the kind described, comprising an inclined elevator, and means for operating the same, in combination with a rotary brush and a stationary scraper positioned at one side of said elevator and adapted to coöperate for engaging finely-divided material and delivering the same to said elevator, and means for rotating said brush.

5. A device of the kind described, comprising an inclined conveyer pivotally mounted both vertically and horizontally, and means for driving said conveyer, in combination with a rotary brush adapted to coöperate with a stationary scraper for engaging finely-divided material and delivering the same to said elevator, and means for rotating said brush.

6. A device of the kind described, comprising a pivotally-mounted inclined elevator, and means for operating the same, in combination with a conveyer arranged to deliver material to said elevator, and pivotally connected to the free end thereof, means for driving said conveyer, and means for engaging finely-divided material and delivering the same to said conveyer.

7. A device of the kind described, comprising a hopper, a revoluble head mounted above said hopper, an inclined elevator pivotally attached to said head, and means for driving said elevator, in combination with a conveyer arranged to deliver material to said elevator, and pivotally connected to the free end thereof, means for driving said conveyer, and means for engaging finely-divided material and delivering the same to said conveyer.

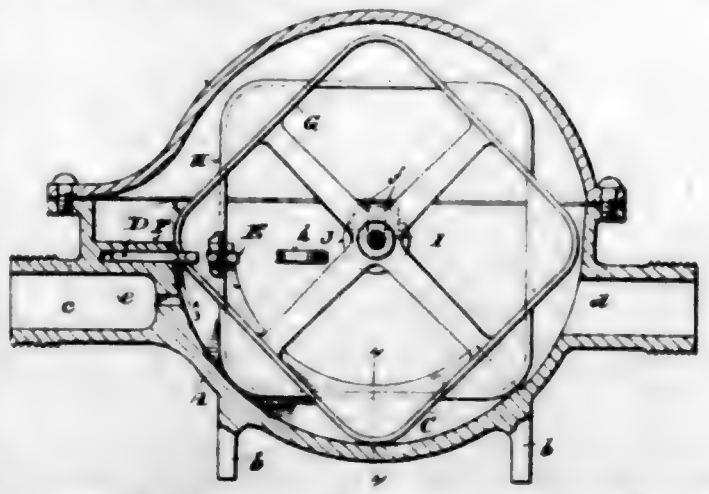
8. A device of the kind described, comprising a pivotally-mounted inclined elevator, and means for operating the same, in combination with a conveyer arranged to deliver material to said elevator, and pivotally connected to the free end thereof, means for driving said conveyer, a rotary brush adapted to coöperate with a scraper for engaging finely-divided material and delivering the same to said elevator, and means to rotate said brush.

9. A device of the kind described, comprising a hopper, an inclined elevator arranged to deliver into said hopper, and means for driving said elevator, in combination with a conveyer arranged to deliver material to said elevator, and pivotally connected to the free end thereof, means for driving said conveyer, a rotary brush and a scraper positioned at the side of said conveyer and adapted to coöperate for engaging finely-divided material and delivering the same to said conveyer, and means to rotate said brush.

10. A device of the kind described, comprising a pivotally-mounted inclined elevator, and means for operating the same, in combination with a conveyer arranged to deliver material to said elevator, and pivotally connected to the free end thereof, means for driving said conveyer, a rotary brush adapted to coöperate with scraper to engage finely-divided material and deliver the same to said conveyer, means to support said conveyer and coöperating parts and means to rotate said brush.

11. A device of the kind described, comprising a hopper, a revoluble head mounted above said hopper, an inclined elevator pivotally attached to said head, and means for driving said elevator, in combination with a conveyer arranged to deliver material to said elevator, and pivotally connected to the free end thereof, means for driving said conveyer, a rotary brush adapted to coöperate with a scraper to engage finely-divided material and deliver the same to said conveyer, means to support said conveyer and coöperating parts and means to rotate said brush.

804,526. ROTARY METER. GUSTAV FAJEN, Milwaukee, Wis. Filed Nov. 25, 1904. Serial No. 234,205.



Claim.—1. A rotary meter comprising a casing having a fluid-inlet and a fluid-outlet, a segmental trough in the casing in communication with the inlet of same, a rotary device embodying a polygonal band that has rounded corners and engages the trough, a slide-gate arranged in hook connection with the band to dam said trough above said inlet, and means in connection with the rotary device for transmitting motion to register mechanism.

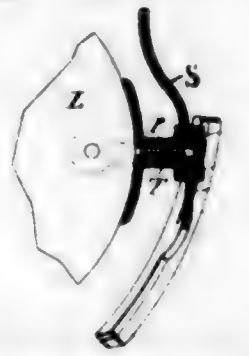
2. A rotary meter comprising a casing having a fluid-inlet and a fluid-outlet, a segmental trough in the casing in communication with the inlet of same, a rotary device engaging the trough and embodying a pair of polygonal bands that are rounded at their corners and set so that each corner of one projects midway between corners of the other, these projecting corners being closed on their inner sides between bands, slide-gates arranged in hook connection with the bands to dam said trough above said inlet, and means in connection with the rotary device for transmitting motion to register mechanism.

3. A rotary meter comprising a casing having a fluid-inlet and a fluid-outlet, a segmental trough in the casing in communication with the inlet of same, an axle for which the casing is provided with bearings, a pair of polygonal bands centered on the axle to engage the trough and having rounded corners, the set of the bands being such that the corners of one project midway between corners of the other and are closed on the inner side between bands; slide-gates arranged in hook connection with the bands to dam said trough above said inlet, and a gear element in connection with said axle for transmitting motion to register mechanism.

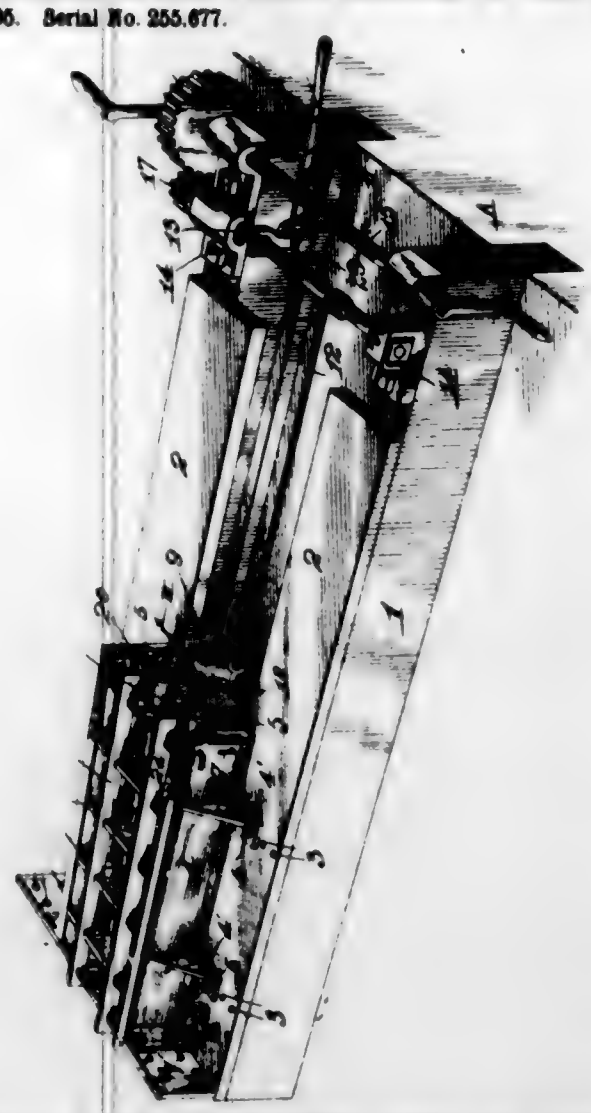
804,527. EYEGLASSES. HARRY PENNELL, Everett, Mass. Filed Dec. 29, 1904. Serial No. 238,790.

Claim.—An attaching device for eyeglasses comprising a post having means for attachment to the lens, and an attached box having overhanging lips; a nose-spring and guard-arm connected to said post by a screw; said screw and a spring-plate curved and having a

recess constructed to receive the head of the said screw and to engage with the said overhanging lips of the said box; substantially as and for the purpose set forth.



804,528. MACHINE FOR MOLDING CEMENT BLOCKS. THOMAS FISCHER and JAMES B. TALBOT, Edwardsville, Ill. Filed Apr. 15, 1905. Serial No. 255,677.



Claim.—1. In a cement-block-molding machine, the combination of a pair of bed members, a carriage arranged to ride between said bed members, a partitioned mold-box surmounting said bed members, and core-rods extending through said mold-box and supported in fixed positions independent of said carriage, substantially as set forth.

2. In a cement-block-molding machine, the combination of a pair of bed members, a carriage arranged to ride between said bed members, and a mold-box surmounting said bed members and consisting of a rear wall and side walls adjustably secured to said rear wall, substantially as set forth.

3. In a cement-block-molding machine, the combination of a pair of bed members, a carriage arranged to ride between said bed members, a pair of adjustable mold-box side walls surmounting said bed members, a rear mold-box wall to which said side walls are adjustably secured, and removable division-boards surmounting said carriage and arranged transversely between said side walls, substantially as set forth.

4. In a cement-block-molding machine, the combination of a pair of bed members, a carriage arranged to ride between said bed members, a mold-box consisting of a pair of adjustable side walls surmounting said bed members, and a rear wall fitted to said side walls, and having an open forward end, removable division-boards surmounting said carriage and arranged transversely between said side walls, and rigidly-supported core-rods extending longitudinally between said side walls and onto which said division-boards are threaded, substantially as set forth.

5. In a cement-block-molding machine, the combination of a pair of bed members, a mold-box surmounting said bed members and consisting of a rear wall and side walls and having an open forward end, a carriage shiftably mounted between said bed members, a series of division-boards surmounting said carriage and arranged transversely between said side walls, posts carried by said carriage at its rear end, and retaining-rods removably inserted in said side walls adjacent to the open forward end of the mold-box and in front of the foremost division-board, substantially as set forth.

6. In a cement-block-molding machine, the combination of a pair of bed members, a carriage shiftably mounted between said bed members, a mold-box rear wall surmounting said bed members, mold-box side walls surmounting said bed members and provided with ribs at their inner faces, and division-boards extending transversely between said side walls; said mold-box being open at the forward end for the introduction of the division-boards, substantially as set forth.

7. In a cement-block-molding machine, the combination of a pair of bed members, a carriage shiftably mounted between said bed members, a mold-box rear wall surmounting said bed members, mold-box side walls surmounting said bed members and provided with ribs at their inner faces, division-boards extending transversely between said side walls, and rigidly-supported core-rods extending longitudinally between said side walls and receiving said division-boards, substantially as set forth.

8. In a cement-block-molding machine, the combination of a pair of bed members, bed-plates surmounting said bed members, a mold-box consisting of side walls adjustably mounted on said bed-plates, and a rear wall surmounting said bed-plates and to which said side walls are adjustably connected; the said mold-box having an open front end, division-boards extending transversely between said side walls, and a carriage shiftably mounted between said bed members, substantially as set forth.

9. In a cement-block-molding machine, the combination of a pair of bed members, a mold-box surmounting said bed members, core-rods extending through said mold-box, a carriage shiftably mounted between said bed members beneath said mold-box, and arms carried by said carriage arranged to ride beneath said core-rods, substantially as set forth.

804,529. STOCK-SUPPORTER. MINNA B. FOSTER, Sausalito, Cal. Filed Apr. 18, 1905. Serial No. 256,200.

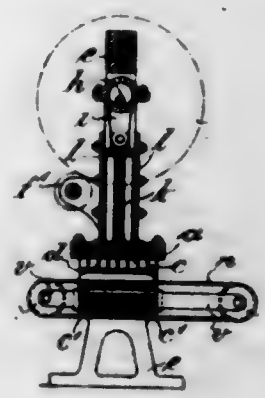


Claim.—1. A stock-support consisting of a vertical bar having transverse tubular ends and pins adapted to engage with the material of the stock and interlock with said ends.

2. In a stock-support, a vertical bar transverse tubular ends, pins adapted to pass through the said tubular ends, said pins having the shanks curved so that the opposite ends of the shanks overlap the pin-points, and said ends having concavities with which the pin-points may be engaged.

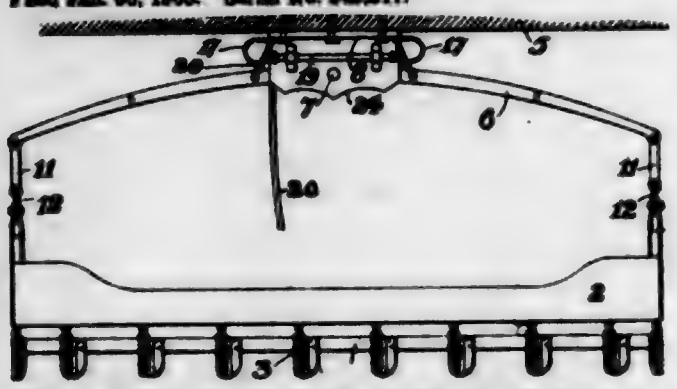
3. In a stock-support, a rigid bar having transverse tubular ends, said ends having extensions or enlargements, pins slidable through the tubes with the points projecting, the shanks of said pins being bent to return across and exterior to the tubes, and being again bent and having concavities with which the points of the pins may be engaged.

804,530. DRESSING TINNED SHEET-IRON BOXES. HANS GOLDSCHMIDT, Essen-on-the-Ruhr, Germany. Filed Jan. 30, 1905. Serial No. 243,403.



Claim.—Method of dressing tinned boxes, consisting in compressing the boxes between mechanically-moved surfaces and perforating the boxes, substantially as described and for the purpose set forth.

804,531. BERTH OR BUNK. HENRY W. GROVE, Hull, England. Filed Jan. 30, 1905. Serial No. 243,317.



Claim.—1. In a bunk or berth, a bunk or berth frame, means for supporting the same, a mattress, dependent brackets on said mattress, and coiled springs between said bunk-frame and the lower end of said dependent brackets.

2. In a bunk or berth, a bunk or berth frame, means for supporting the same, means for permitting both longitudinal and lateral swing of said frame, a mattress, dependent brackets on said mattress, and springs secured to the lower ends of said brackets and to said frame, substantially as described.

3. In a bunk or berth, a bunk or berth frame, a beam, means for supporting said beam from one point, means for allowing lateral swing of said bunk relatively to said beam, a mattress, dependent brackets on said mattress, and springs secured to the lower ends of said dependent brackets and to said frame, substantially as described.

4. In a bunk or berth, a bunk or berth frame, a beam supporting said frame, a bracket supporting said beam, cheek-pieces on said bracket, handles on said cheek-pieces, means for permitting longitudinal swing of said beam, a mattress, dependent brackets on said mattress, and springs secured to the lower end of said dependent brackets and to said frame.

5. In a bunk or berth, a bunk or berth frame, a beam supporting said berth-frame, means for permitting longitudinal swing of said beam, stops on said beam, a bracket supporting said beam, and springs projecting from said bracket and adapted to contact with said stops on the beam swinging beyond a certain limit.

6. In a bunk or berth, a bunk or berth frame, a beam supporting said berth-frame, means for permitting longitudinal swing of said beam, stops on said beam, a bracket supporting said beam, cheek-pieces on said bracket, handles on said cheek-pieces, and springs projecting from said bracket and adapted to contact with said stops on the beam swinging beyond a certain limit.

7. In a bunk or berth, a bunk or berth frame, a beam supporting said frame, a bracket supporting said beam, cheek-pieces on said bracket and handles on said cheek-pieces, means for permitting lateral and longitudinal swing of said frame, and a mattress resiliently suspended from said frame.

8. In a bunk or berth, a bunk or berth frame, a beam supporting said frame, a bracket supporting said beam, cheek-pieces on said bracket, handles on said cheek-pieces, and means for suspending said bracket and adjusting the height thereof, and a mattress resiliently hung from said bunk-frame.

9. In a bunk or berth, a bunk or berth frame, means for supporting said frame, means for permitting lateral and longitudinal swing of said frame, a mattress, dependent brackets on said mattress, springs between said frame and the lower end of said dependent brackets, and means for keeping the bunk horizontal whether occupied or empty.

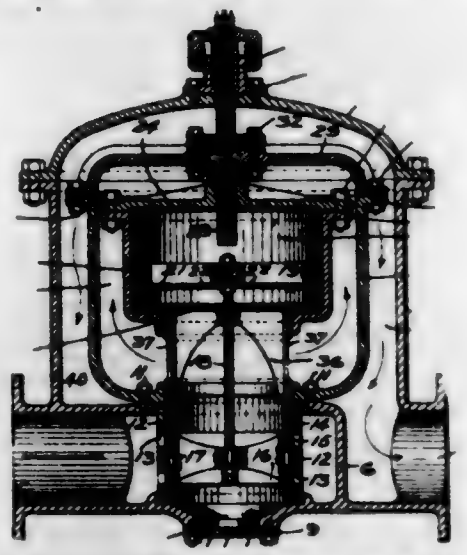
10. In a bunk or berth, a beam, links secured to said beam, a bunk or berth frame, supports on said frame, further links between said supports and said frame, a mattress, dependent brackets on said mattress, and springs secured to the lower end of said dependent brackets and to said frame.

11. In a bunk or berth, a bunk or berth frame, a beam, means for allowing longitudinal and lateral swing of said frame relatively to said beam, a mattress, dependent brackets on said mattress, and springs secured to the lower end of said dependent brackets and to said frame.

12. In a bunk or berth, a bunk or berth frame, a beam, means for allowing lateral swing of said frame relatively to said beam means for allowing longitudinal swing of said frame parallel to said beam, a mattress, dependent brackets on said mattress, and springs secured to the lower end of said dependent brackets and to said frame.

13. In a bunk or berth, a bunk or berth frame, a beam for supporting said frame, links on said beam, supports on said frame, and further links with eyelets at right angles connecting the first links and the supports, in combination with a mattress resiliently suspended from said frame, substantially as and for the purpose described.

804,532. OUTLET-CONTROLLER FOR FILTERS. PAUL HANSEN, Pittsburg, Pa., assignor to Pittsburgh Filter Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 13, 1905. Serial No. 255,408.



Claim.—1. In a controller, the combination of a suitable shell having an inlet and outlet, an inner shell communicating with said outer shell, a piston in said inner shell having both sides exposed to the pressure of the fluid, the upper side of said piston being below the point of communication between said inner and outer shells, and a valve connected to said piston controlling the supply of water to said inner shell.

2. In a controller, the combination of a suitable shell having an inlet and outlet, an inner shell communicating with said outer shell, a piston-chamber communicating with said inner shell, a piston having both sides exposed to the pressure of the fluid, the upper side of said piston being below the point of communication between said inner and outer shells, and a valve connected to said piston controlling the supply of water to said inner shell.

3. In a controller, the combination of a suitable shell having an inlet and outlet, an inner shell adapted to overflow into said outer shell, a piston in said inner shell having both sides exposed to the pressure of the fluid, the upper side of said piston being below the point of communication between said inner and outer shells, and a valve connected to said piston controlling the supply of water to said inner shell.

4. In a controller, the combination of a suitable shell, an inner shell communicating with said outer shell, a piston in said inner shell having both sides exposed to the pressure of the fluid, means for varying the supply of water to the upper side of said piston, the upper side of said piston being below the point of communication between said inner and outer shells, and a valve connected to said piston controlling the supply of water to said inner shell.

5. In a controller, the combination of a suitable shell, an inner shell communicating with said outer shell, a piston-chamber in said inner shell, means for raising and lowering same, means for controlling the inlet to said inner shell by the movement of said piston-chamber, a piston in said chamber having both sides exposed to pressure of fluid, said inner shell communicating with said piston-chamber at a point below the point of communication of said inner and outer shells, and a valve connected to said piston controlling the supply of water to said inner shell.

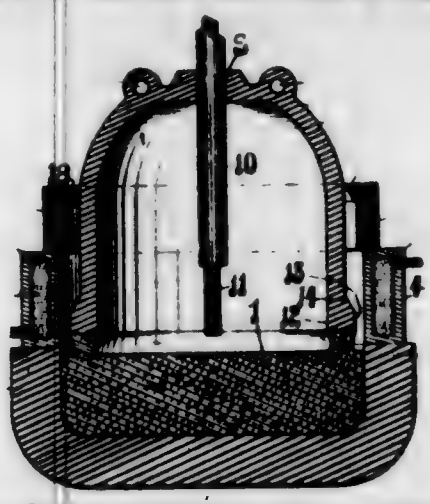
6. In a controller, the combination of a suitable shell, an inner shell communicating with said outer shell, a piston-chamber in said inner shell, means for raising and lowering same, a valve on said piston-chamber to vary the size of the inlet to said inner shell, a piston in said chamber having both sides exposed to pressure of fluid, said inner shell communicating with said piston-chamber at a point below the point of communication of said inner and outer shells, and a valve connected to said piston controlling the supply of water to said inner shell.

7. In a controller, the combination of a suitable shell, an inner shell communicating with said outer shell, a piston-chamber in said inner shell, a valve on said piston-chamber controlling the inlet thereto, a threaded stem engaging said piston-chamber to raise and lower same, a piston in said chamber having both sides exposed to pressure of fluid, said inner shell communicating with said piston-chamber at a point below the point of communication of said inner and outer shells, and a valve connected to said piston controlling the supply of water to said inner shell.

8. In a controller, the combination of a suitable shell, an inner shell communicating with said outer shell, a piston-chamber in said inner shell, means for raising and lowering same, means for controlling the inlet to said inner shell by the movement of said piston-chamber, a perforated plate forming the lower end of said piston-chamber, said inner shell communicating with said piston-chamber at a point below the point of communication of said inner and outer shells, and a valve connected to said piston controlling the supply of water to said inner shell.

9. In a controller, the combination of a suitable shell, an inner shell communicating with said outer shell, a piston-chamber in said inner shell, means for raising and lowering same, means for controlling the inlet to said inner shell by the movement of said piston-chamber, a perforated plate forming the lower end of said piston-chamber, a piston in said chamber, a rod connected to said piston, a piston-valve on said rod adapted to move in a suitable valve-chamber and control ports leading thereto.

804,533. GLASS-DRAWING MACHINE. GEORGE H. HARVEY, Glenfield, Pa., assignor, by mesne assignments, to William L. Pierce, Englewood, N. J. Filed Mar. 3, 1904. Serial No. 196,255.



Claim.—1. In the manufacture of glass, a gatherer adapted to draw glass from a receptacle and portable heat absorbing and radiating means for heating the end of the gatherer as it leaves the receptacle with the glass pendent therefrom.

2. In the manufacture of glass, a gatherer adapted to draw glass from a receptacle, portable heat absorbing and radiating means for heating the end of the gatherer as it leaves the receptacle with the glass pendent therefrom and means for securing said portable means to said gatherer so that the said portable means travels with the gatherer while the gatherer is drawing the glass from said receptacle.

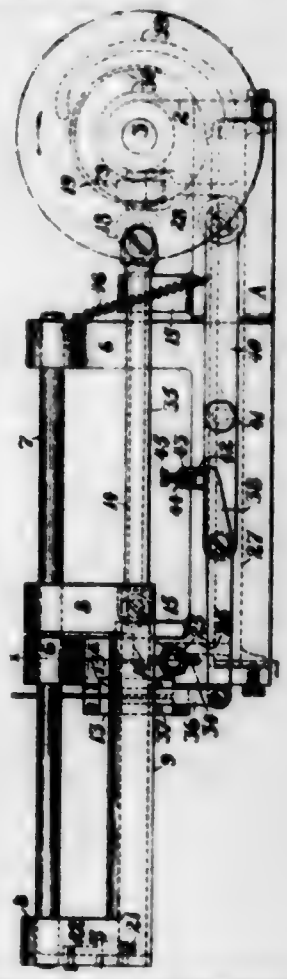
3. In the manufacture of glass, a gatherer adapted to draw glass from a receptacle, means for heating the gatherer, and means for causing the heating means to travel with the gatherer after the latter has made a portion of its travel.

4. In the manufacture of glass, a gatherer adapted to draw glass from a receptacle, a heater normally held above the lower end of the gatherer, and means for causing the heater to travel with the gatherer when the former is positioned to heat the lower end of the latter.

804,534. SAW-FILING MACHINE. CLARENCE M. HENDERSON, Berkeley, Cal. Filed Mar. 9, 1905. Serial No. 249,224.

Claim.—1. In a saw-filing machine of the character described, a mechanism by which the saw is advanced, said mechanism consisting of a fulcrumed lever, a cam by which the lever is oscillated, a second lever having a feed-pawl upon its outer end, said lever being pivoted to the end of the first lever, a screw through the first lever by which the pawl-carrying lever may be adjusted and a second screw passing through the cam-actuated lever and having its point resting upon the bed or table.

2. In a saw-filing apparatus of the character described, a base, brackets fixed thereto, a shaft slidable through the brackets and hangers secured to said shaft, file-supports carried by the hangers, a tubular housing having a slotted opening at the bottom, a cylindrical plug fitting and slidable within the housing, connections between said plug, and a cam by which the housing is oscillated transversely, a crank and a connecting-rod between said crank and the file-carrier whereby the latter is reciprocated, said connecting-rod having a thin transversely-yielding web between its ends whereby the transverse swing of the file-carrier is effected.



3. In a saw-filing machine, a longitudinally-movable and transversely-swinging file-carrier, a connecting-rod connecting the crank with the file-carrier, said crank having a thin web between its ends capable of torsional movement to allow the swinging of the file-carrier.

4. In a saw-filing machine, clamps between which the saw is vertically held, and a feeding device by which it is advanced, a longitudinally-reciprocating file-carrier, guiding means for said carrier, a hollow cylindrical housing carried by the file-carrier and having a slot in its lower portion, a cylindrical plug slidable within the housing said housing serving to prevent saw-filings from coming in contact with the moving parts and means for oscillating the plug.

804,535. RAIL-JOINT. MICHAEL HESTER, Richmond, Ind. Filed Sept. 2, 1905. Serial No. 276,778.



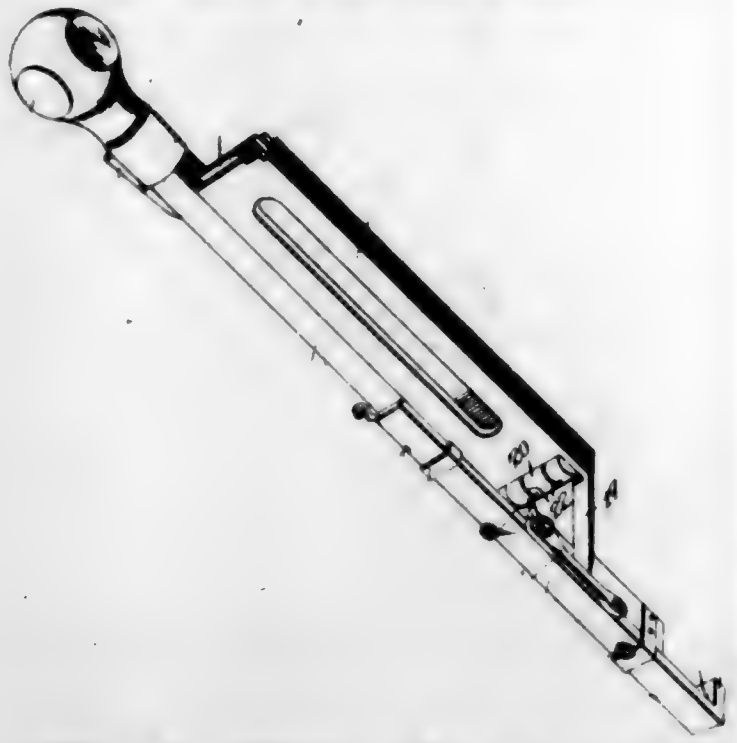
Claim.—1. A rail-joint including a coupler comprising a bridge-plate, an outer inclined binding-plate, an outer upwardly-extending binding-plate, an inner relatively short inclined binding-plate, an inner relatively short upwardly-extending binding-plate, and projecting broad bearing-plates extending from the inner side of the bridge-plate beyond the relatively short inclined binding-plates, all formed integral.

2. A rail-joint including a coupler comprising a bridge-plate, an inclined outer binding-plate extending the full length of the bridge-plate and joined integrally thereto, there being spike-notches in the bridge-plate and the binding-plate at their junctions, an upturned outer binding-plate attached integrally to the inclined binding-plate, a relatively short inclined inner binding-plate formed integrally with the bridge-plate at the middle portion of the side thereof opposite to the outer inclined binding-plate, a relatively short up-

right binding-plate attached integrally to the outer inclined binding-plate and extending the full length thereof, and broad bearing-plates projecting integrally from the end portions of the bridge-plate beyond the inner inclined binding-plate, the bearing-plates having spike-holes therein.

3. A rail-joint comprising a pair of cross-ties, two abutting rail ends with notches in the base-flanges thereof, a one-piece coupler extending upon the cross-ties under the rail ends and having relatively long binding-plates engaging the outer sides of the rail ends with notches in the coupler to receive rail-spikes, the coupler having also relatively short binding-plates engaging the inner sides of the rail ends opposite to the middle portions of the relatively long binding-plates, and broad bearing-plates extending laterally at the ends of the short binding-plates beyond the edges of the inner rail-end base-flanges, the bearing-plates having spike-holes therein, and spikes extending through the spike-holes and the spike-notches into the cross-ties in engagement with the base-flanges of the rail ends.

804,536. MAGAZINE NAIL-DRIVER. MATTHEW HINDMARCH, Sturgis, Ky. Filed Sept. 14, 1904. Serial No. 224,462.



Claim.—1. In combination, a hollow stock, a hammer-rod guided therein, a magazine carried by the stock, a grooved roller for governing the feed of single nails from the magazine to the stock, a slidable bar carried by the stock and having a foot portion provided with an opening in alinement with the hammer-rod, and means for connecting said bar to the roller.

2. In combination, a hollow stock, a hammer-rod guided thereby, a magazine carried by the stock, a grooved roller for controlling the feed of nails from the magazine, a slidable bar carried by the stock, a link connecting said bar to the roller, the bar being provided with a foot portion having a guiding-opening in alinement with the hammer-rod.

3. In a magazine nail-driver, a hollow stock, a hammer-rod guided thereby, a magazine, a grooved feeding-roller at the bottom of the magazine, and a nail-guide movable independently of the stock and connected to the roller.

804,587. SEED-PLANTER. NEELY B. HOBBS, Dallas, Tex. Filed Sept. 15, 1905. Serial No. 278,630.

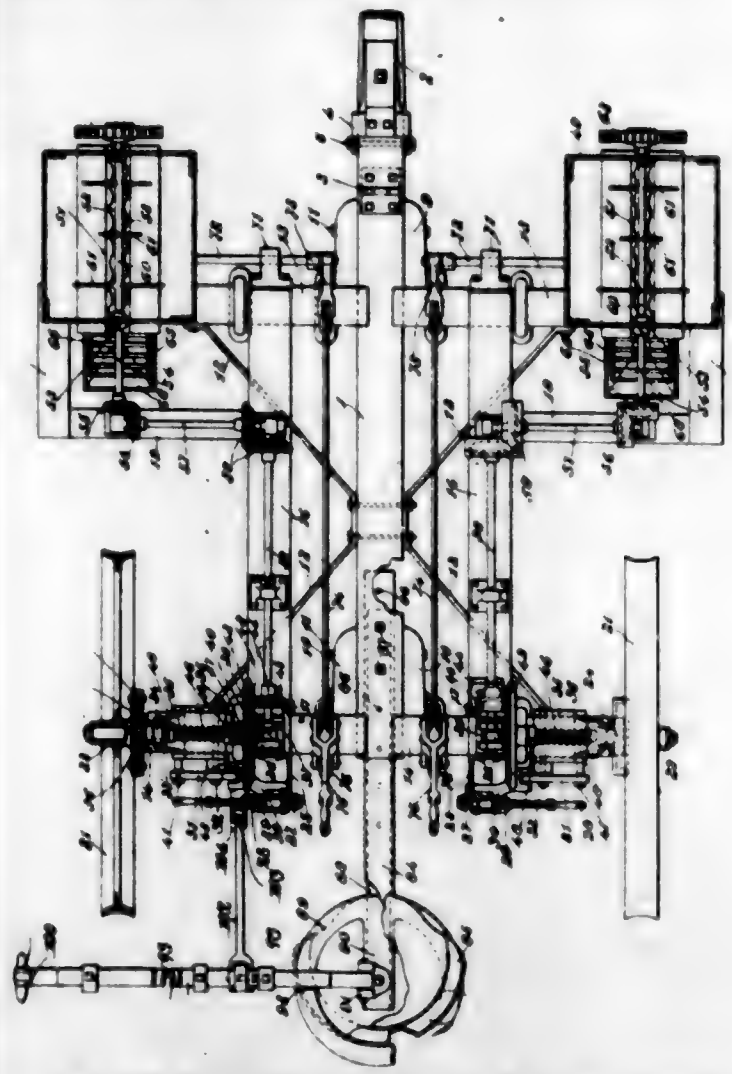
Claim.—1. In a seed-planter, a main frame comprising a longitudinal bar, and pairs of L-shaped brackets secured upon the sides of said bar and having laterally-extending arms.

2. In a seed-planter, a main frame comprising a longitudinal bar having laterally-extending arms, and a tongue hingedly connected with the said bar near its front end.

3. In a seed-planter, a main frame comprising a longitudinal bar having laterally-extending arms near its front and rear ends, and a tongue hingedly connected with the upper side of said bar near the front end of the latter and having arcuate brackets adjustably connected with said bar.

4. In a seed-planter, a main frame comprising a longitudinal bar having laterally-extending arms, and stub-axles supported adjustably upon said arms.

5. In a seed-planter, a main frame comprising a longitudinal bar having laterally-extending arms near its front and rear ends, in combination with seedbox-supporting bars adjustable upon the front arms, wheel-bearing axle members supported adjustably upon the rear arms, and a tongue connected with the upper side of the longitudinal bar near the front end of the latter.



6. A main frame having laterally-extending arms, in combination with wheel-carrying and seedbox-supporting frames laterally adjustable upon said arms.

7. A main frame having laterally-extending arms, seedbox-supporting and wheel-carrying frames, laterally adjustable upon said arms, and means connected with each of said frames for transmitting motion from the carrying-wheel to seed-dropping mechanism connected with the seedbox supported by said frame.

8. A main frame comprising a longitudinal bar and laterally-extending arms near the front and rear ends of said bar, seedbox-supporting bars and wheel-carrying axle members supported adjustably upon the front and rear arms respectively, longitudinal frame-bars connecting the axle members with the seedbox-supporting bars and coöperating therewith to constitute independently-movable frame members, seed-dropping mechanism, and means supported upon the independently-movable frame member for transmitting motion from the carrying-wheels to the seed-dropping mechanism.

9. An axle member, a cap mounted thereon and having an upwardly-extending bearing-post, a bifurcated bearing-post supported upon the axle, a longitudinal shaft having one end supported in the latter post, a lug pivoted upon said shaft and having a socket, a shaft having one end supported in said socket and also journaled in the bearing connected with the pivoted cap, a pinion upon the outer end of said shaft, a carrying-wheel having a spur-gear meshing with said pinion, lever means for rocking the pivoted cap, and means for transmitting motion to the longitudinal shaft from the shaft journaled in the socketed lug pivoted upon said longitudinal shaft.

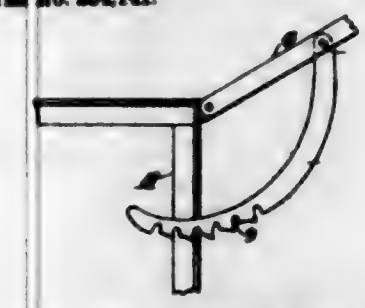
10. An axle member having a bearing-post bifurcated at its upper end, a longitudinal shaft journaled in the ears of said post, a lug pivoted upon said shaft between said ears and having a socket, an adjustably-supported shaft having one end mounted for rotation in said socket, a bevel-gear supported for rotation with said shaft and having a plurality of annular series of teeth, spring means for forcing said gear-wheel in the direction of the socketed lug, and a bevel-pinion adjustable upon the longitudinal shaft for alternate engagement with the series of teeth upon said gear-wheel.

11. In a seed-planter, a seedbox-supporting frame, a chute connected with said frame, a seed-tube hingedly connected with the

frame to receive material discharged from the chute, a runner connected with the seed-tube, a rock-shaft supported by the frame and having an arm or crank, spring means connecting said crank with the runner, and means for manipulating the rock-shaft and for securing the same at various adjustments.

12. In a seed-planter, a main supporting-frame, auxiliary frames laterally adjustable upon said main frame and each including a wheel-carrying axle member and a seedbox-supporting bar, seed-dropping mechanism supported independently upon each of the frames, and independent means connected with each frame for opening a furrow, for operating and regulating the speed of the seed-dropping mechanism, for throwing such mechanism into and out of gear, and for adjusting the furrow-opening means.

804,538. COUCH. JOHN HOEY, San Francisco, Cal. Filed Apr. 6, 1905. Serial No. 254,141.



Claim.—1. In a couch, a frame having a stationary locking-shoulder, a part hinged to the frame, a bar having one end pivoted to the hinged part, notches in the lower edge of the bar adapted to engage the locking-shoulder by gravitation, means by which the bar is raised in unison with the hinged part and the notch disengaged, and outwardly-inclined surfaces between the notches, said surfaces slidable over the shoulder and preventing a reengagement while the hinged part is being lowered.

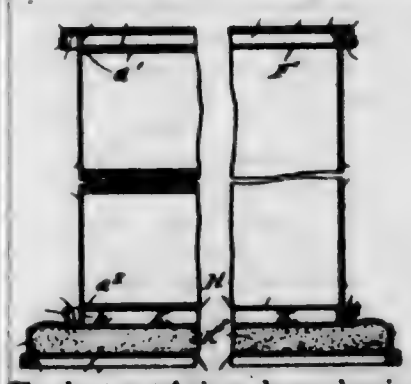
2. A bar, a hinged leaf to which one end of the bar is pivoted, notches in the lower edge of the bar, a fixed part having a shoulder with which either notch may engage, means for raising the bar to disengage from the shoulder, and diagonal surfaces between the notches to ride over the shoulder and prevent a reengagement of a notch with the shoulder.

3. A curved bar, a leaf to which one end is pivoted, notches formed in the lower convex edge of said bar, a fixed part on which the leaf is carried and having a shoulder with which either notch may engage by gravitation when the leaf is raised, and diagonally-inclined surfaces extending between the notches and preventing a reengagement of the shoulder with a notch when the leaf is lowered.

4. An article of manufacture consisting of a bar having notches made in one edge and diagonally-inclined surfaces extending from the lower side of each notch to the higher side of the next contiguous notch in series.

5. An article of manufacture consisting of a curved bar having notches in the convex edge and diagonally-inclined surfaces extending from the lower side of each notch to the higher side of the next contiguous notch.

804,539. PIE-RACK CASE OR HOLDER. BALDWIN H. KANNENBERG, Oak Park, Ill., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 7, 1905. Serial No. 273,965.



Claim.—1. The sheet-metal pie-rack case herein shown and described, and comprising a segmental cylindric shell or body portion provided with a series of front rack-strips and right-angle rack-strips soldered thereto on the inside thereof to brace and strengthen the shell and support the pie-pans, a top plate furnished on its under side with an annular guide-groove at the rim thereof, a bottom plate and a base furnished on the upper side thereof with an annular guide groove or channel, and a segmental cylindric rotary sliding door fitting at its ends in said annular guide grooves or channels, substantially as specified.

2. The sheet-metal pie-rack case herein shown and described, and comprising a segmental cylindric shell or body portion provided with a series of front rack-strips and right-angle rack-strips soldered thereto on the inside thereof to brace and strengthen the shell and support the pie-pans, a top plate furnished on its under side with an annular guide-groove at the rim thereof, a bottom plate and a base furnished on the upper side thereof with an annular guide groove or channel, a segmental cylindric rotary sliding door fitting at its ends in said annular guide grooves or channels, said segmental cylindric shell or body portion being provided on its inside with upright angular strengthening-strips, substantially as specified.

3. The sheet-metal pie-rack case herein shown and described, and comprising a segmental cylindric shell or body portion, provided with a series of front rack-strips and right-angle rack-strips soldered thereto on the inside thereof to brace and strengthen the shell and support the pie-pans, a top plate furnished on its under side with an annular guide-groove at the rim thereof, a bottom plate and a base furnished on the upper side thereof with an annular guide groove or channel, and a segmental cylindric rotary sliding door fitting at its ends in said annular grooves or channels, said top plate having an upright integral annular flange, a horizontal annular flange and a guide-ring secured thereto, substantially as specified.

4. The sheet-metal pie-rack case herein shown and described, and comprising a segmental cylindric shell or body portion, provided with a series of front rack-strips and right-angle rack-strips soldered thereto on the inside thereof to brace and strengthen the shell and support the pie-pans, a top plate furnished on its under side with an annular guide-groove at the rim thereof, a bottom plate and a base furnished on the upper side thereof with an annular guide groove or channel, and a segmental cylindric rotary sliding door fitting at its ends in said annular grooves or channels, said top plate having an upright integral annular flange, a horizontal annular flange and a guide-ring secured thereto and having a folded lower edge, substantially as specified.

5. In a sheet-metal pie-rack case, a segmental cylindric shell A, having folded upright edges *a*, upright angular brace-strips A′, and provided with a series of front brace and pie supporting strips B having folded edges *b b′*, substantially as specified.

6. In a sheet-metal pie-rack case, a segmental cylindric shell A, having folded upright edges *a*, upright angular brace-strips A′ provided with a series of front brace and pie supporting strips B having folded edges *b b′*, and upright angle-brace and pie supporting strips C, substantially as specified.

7. In a sheet-metal pie-rack case, the combination with a segmental cylindric shell A, a top plate F furnished on its under side with a guide-channel, a bottom plate H furnished with a guide-channel, and a segmental cylindric rotary sliding door G, substantially as specified.

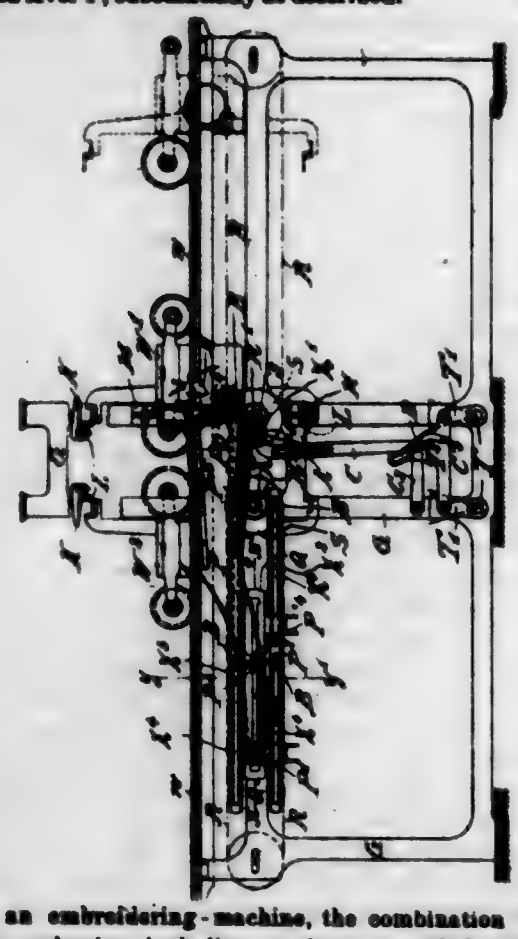
8. In a sheet-metal pie-rack case, the combination with a segmental cylindric shell A, a top plate F furnished on its under side with a guide-channel, a bottom plate H furnished with a guide-channel, a segmental cylindric rotary sliding door G, and a base K having an upper plate and a lower plate with a weight or filling material chamber between to give stability to the case, substantially as specified.

804,540. DRIVING MECHANISM FOR HAND-OPERATED EMBROIDERING-MACHINES. JAKOB KNECHT, Chemnitz, Germany, assignor to The Firm of Maschinenfabrik Kappel, Kappel-Chemnitz, Germany. Filed Jan. 2, 1904. Serial No. 187,880.

Claim.—1. In an embroidering-machine, the combination with embroidering mechanism including carriages provided with needle-holding means, of mechanism for operating said carriages comprising a crank, a toothed wheel operated thereby, a lever P, a horseshoe-shaped rack carried thereby and engaging said toothed wheel, a pivot-bolt P′ for said lever, a guideway on the machine-frame for guiding said pivot-bolt, gears Z Z′, operatively connected to said carriages, toothed bars engaging said gears and provided with means whereby the same may be alternately connected to said lever, substantially as described.

2. In an embroidering-machine, the combination with embroidering mechanism including carriages provided with needle-holding means, of mechanism for operating said carriages comprising a crank, a toothed wheel operated thereby, a lever P, a horseshoe-shaped rack carried thereby and engaging said toothed wheel, a pivot-bolt P′ for said lever, a guideway on the machine-frame for

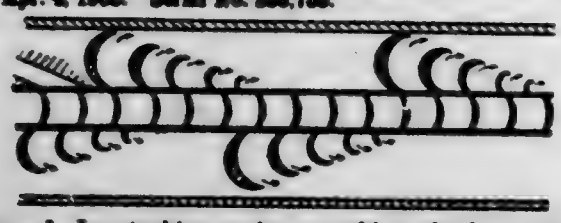
guiding said pivot-bolt, gears Z Z', operatively connected to said carriages, toothed bars engaging said gears and provided with means whereby the same may be alternately connected to said lever, shafts T T and means for operating said shafts in accordance with the movement of said lever P, substantially as described.



3. In an embroidering-machine, the combination with embroidering mechanism including carriages provided with needle-holding means, of mechanism for operating said carriages comprising a crank, a toothed wheel operated thereby, a lever P, a horseshoe-shaped rack carried thereby and engaging said toothed wheel, a pivot-bolt P' for said lever, a guideway on the machine-frame for guiding said pivot-bolt, gears Z Z' operatively connected to said carriages, toothed bars engaging said gears and provided with means whereby the same may be alternately connected to said lever, shafts T T and means for operating said shafts consisting of a bar C joined to said lever P, cranks T' T', a cross-piece T^3 connecting said cranks and having a curved slot and a bolt D guided by said curved slot and connected with bar C, substantially as described.

4. In an embroidering-machine, the combination with embroidering mechanism including carriages provided with needle-holding means, of mechanism for operating said carriages comprising a crank, a toothed wheel operated thereby, a lever P, a horseshoe-shaped rack carried thereby and engaging said toothed wheel, a toothed bar U fixed to the lever P, a toothed wheel O' also operated by said crank and engaging said toothed bar U, a pivot-bolt P' for said lever, a guideway of the machine-frame for guiding said pivot-bolt, gears Z Z', operatively connected to said carriages, toothed bars engaging said gears and provided with means whereby the same may be alternately connected to said lever, substantially as described.

804,541. **TURBINE-ENGINE.** HUGO LENTZ, Berlin, Germany. Filed Apr. 4, 1905. Serial No. 253,752.



Claim.—1. In a turbine-engine, a turbine-wheel provided with paddles, a nozzle for directing pressure medium to said paddles, and a plurality of fixed curved plates, which are progressively smaller in the direction of the run of the wheel, for receiving the pressure medium after it has left the wheel and returning it to the blades thereof.

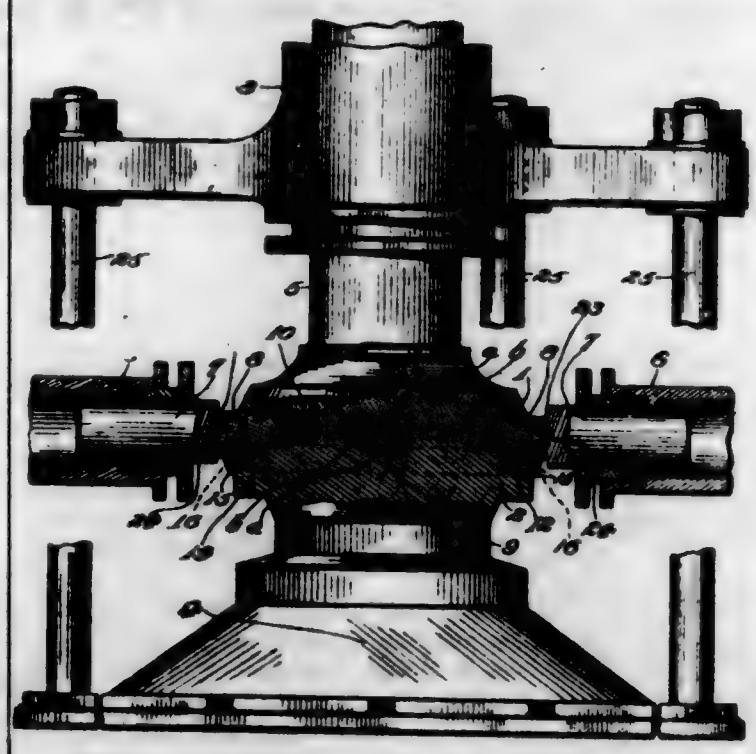
2. In a turbine-engine, a turbine-wheel provided with paddles, a nozzle for directing pressure medium to said paddles, and fixed curved plates arranged in groups at opposite sides of said wheel for repeatedly returning the pressure medium to the paddles of the wheel.

3. In a turbine-engine, a turbine-wheel provided with paddles, concentrically-arranged raceways at opposite sides of the paddles and separated from the machine-casing by an annular space.

4. In a turbine-engine, a turbine-wheel provided with paddles, concentrically-arranged trough-shaped rings constituting raceways at opposite sides of the paddles and spacing means between the said rings and the machine-casing.

5. In a turbine-engine, a turbine-wheel provided with paddles, a continuous concentrically-arranged raceway opposite said paddles, and deflecting means arranged in said raceway at intervals.

804,542. **FORGING-PRESS.** HENRIK V. LOSS, Philadelphia, Pa., assignor to Chas. T. Schoen, Moylan, Pa. Filed Dec. 31, 1904. Serial No. 237,763.



Claim.—1. In a forging-machine, in combination, a pair of dies adapted to form opposite sides of the blank, a multiplicity of dies operating at right angles to said first dies adapted to form the periphery or tread of the blank, means for carrying the heads of said latter dies so that they can be moved circumferentially around said blank, and means for imparting said latter movement to said latter dies.

2. In a forging-machine, in combination, an upper and a lower die between which the sides of the blank are formed, a circumferentially-movable ring carried by one of said dies, a multiplicity of dies adapted to operate at right angles to said first dies to form the periphery or tread of the blank, the heads of said latter dies being carried in guides in said ring, and means for circumferentially moving said ring and die-heads.

3. In a wheel-blank-forging machine, in combination, an upper and a lower die between which the sides of the blank are formed, a multiplicity of dies operating at right angles to and between said first dies adapted to form the periphery or tread of the blank, cutters carried by the outer end of said latter dies, and means whereby said latter dies may be moved circumferentially in relation to said first dies and the blank.

4. In a forging-machine, in combination, an upper and a lower die, a circumferentially-movable ring carried by one of said dies and having radial guides, a hydraulic cylinder, a piston in said cylinder, a connection between said piston and said ring, a multiplicity of hydraulic cylinders the pistons of which operate at right angles to the movement of said first dies, dies carried by said ring and movable along the guides carried thereby and adapted to be operated by said latter pistons, and cutters carried by said dies.

804,543. **STRAW-PLOW.** GRANT S. LOWELL, Salina, Kans. Filed Nov. 8, 1904. Serial No. 231,854.

Claim.—1. A triangular plow-frame having a front beam and a land-side beam at approximately right angles to each other and an obliquely-disposed furrow-side beam; and wheel-carrying spindles rigidly connected with the under side of the land-side beam near the rear end of the latter and at the intersection of the furrow-side beam and the front beam.

2. A plow-frame, a plurality of plows supported in said frame,

rotary supporting means mounted upon spindles rigidly connected with said frame, draft-links connected rigidly with the frame and a king-bolt for connecting said frame with a motor-engine, said king-bolt being disposed to one side of the longitudinal center of the plow-carrying frame.



3. A plow-frame, a plurality of plow-gangs supported in said frame, rotary supporting means mounted upon spindles rigidly connected with said frame, and means for the attachment of draft to the front side of said plow-carrying frame at a point to one side of the longitudinal center thereof.

4. A triangular plow-frame, a plow-gang, lever means and means for supporting and suspending the plow-gang in the frame, and rotary supporting means for the latter near two corners of the frame upon which said frame with the plow-gang therein will be practically balanced.

5. A plow-frame, a plow-gang, lifting means connecting the rear end of the plow-gang with the frame, levers fulcrumed upon the frame, link-rods connecting each of said levers with a front corner of the plow-gang, and means for adjusting said levers and for retaining them in adjusted position.

6. A plow-frame, a plow-gang, a lever fulcrumed upon the frame, a link-rod connecting said lever with the plow-gang near the front end of a plow-beam, and a spring connected with said plow-gang near the point of attachment of the link-rod and connected with the lever at the same side of, but nearer the fulcrum than the link-rod.

7. A plow-frame, a plow-gang including a plurality of beams suitably connected at their front ends, levers fulcrumed in the frame, link-rods connecting said levers with the plow-gang near the front corners of the latter, and springs connecting the plow-gang with the levers, said springs being disposed to exert tension upon the ends of the link-rods which are connected with the plow-gang.

8. A plow-frame, a plow-gang including a plurality of units, suitably connected, levers fulcrumed upon the frame, link-rods connecting said levers with the front corners of the plow-gang, springs connecting the front corners of the plow-gang with the levers near the fulcra of the latter, and means for adjusting and for retaining in adjusted position the said levers.

9. A plow-frame, a plow-gang including a plurality of units suitably connected, levers fulcrumed upon the frame, link-rods and springs connecting said levers with the front corners of the plow-gang, adjusting means for the levers, and means for effecting adjustment of the rear end of the plow-gang.

10. A plow-frame, rotary supporting means upon which said frame may be approximately balanced, said rotary supporting means being mounted upon spindles rigidly connected with the frame, a plow-gang, levers fulcrumed upon the frame, link-rods and springs connecting said levers with the front corners of the plow-gang, means for adjusting and for retaining in adjusted position said levers, and independent means for effecting vertical adjustment of the rear end of the plow-gang.

11. A wheel-supported frame, a plow-gang vertically adjustable in said frame, and guide-brackets depending from the frame adjacent to the sides of the plow-gang and having vertical members in slidable engagement with the latter.

12. A wheel-supported frame, a plow-gang vertically adjustable in said frame, and brackets depending from the frame-beams adjacent to the plow-gang and including obliquely-disposed stiffening members.

13. A triangular wheel-supported frame presenting one side to the front, a plurality of gangs supported in said frame, a draft-beam supported in front of and parallel to the front beam of the frame, and draft-rods connecting the gangs with said draft-beam.

14. A wheel-supported triangular frame presenting one side to the front, a plurality of plow-gangs vertically adjustable in said frame and each including a plurality of plows suitably connected together, a draft-beam rigidly supported in front of and parallel to the front beam of the frame, and draft-rods connecting the plow-gangs with said draft-beam.

15. A plow-gang composed of a plurality of plows having beams terminating in alinement with each other, a yoke rigidly connecting the front ends of the outside beams, a yoke rigidly connecting the front ends of the intermediate beams, and means for rigidly connecting the yokes.

16. A wheel-supported frame, a draft-beam supported at the front end of said frame, a plow-gang, connecting means between the front end of the plow-gang and the draft-beam, means for elevating the rear end of the plow-gang, means for adjusting the front end of the plow-gang including a lever, a connecting-link, and a rack-segment pivoted upon the fulcrum of the lever, a supporting-lever, link connection between said supporting-lever and the plow-gang, and link connection between the supporting-lever and the adjusting-lever.

17. A wheel-supported frame, a plow-gang, an adjusting-lever having a catch, a link connecting said adjusting-lever with the plow-gang, a quadrant pivoted upon the fulcrum of the adjusting-lever and engaged by the catch of the latter, and means for effecting adjustment of the plow-gang.

18. A plow-frame, a plow-gang, lever means supported upon the frame for supporting and adjusting the plow-gang, and spring means connected with the plow-gang to assist in the adjustment of the latter, said spring means being also connected with and controlled by the adjusting-lever.

19. A frame, a plow in said frame, a lever supported upon said frame, and a link and a coil-spring connecting the plow with the lever, the ends of said connecting members connected with the lever being spaced apart wider than the ends connected with the plow.

20. In a device of the class described, means for tilting a plow, including a lever for performing the desired adjustment, and a link-rod and a spring-coil separately connecting said lever with the object to be tilted or adjusted.

21. A frame, a plow-gang in said frame, an adjusting-lever, a link connecting said lever with the plow-gang, and spring means tending to buckle the plow-gang-supporting end of the link in the direction of the adjusting-lever.

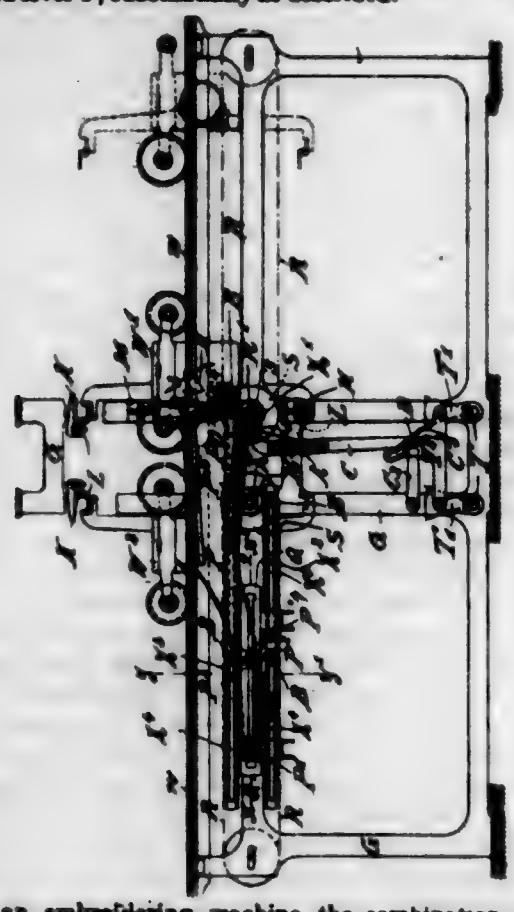
22. A plow, draft means for said plow, an adjusting-lever, a link connecting said lever with the draft means, and spring means tending to swing the end of the link which is connected with the draft means in the direction of the fulcrum of the adjusting-lever.

23. A frame, a plow-gang, a draft-beam supported by the frame, draft-links connecting the front end of said plow-gang with the draft-beam, an adjusting-lever, and a spring-actuated link connecting said lever with the front end of the plow-gang.

804,544. ACETYLENE-GAS GENERATOR. SAMUEL A. MENGER, Collinsville, Tex. Filed May 27, 1905. Serial No. 262,674.

Claim.—In an acetylene-gas apparatus, a generating-tank, a carbid-chamber arranged above the tank, a self-closing valve controlling the flow of carbid from the chamber to the tank, a cylindrical valve-guide arranged within the chamber and having a closed top for shielding the valve, supporting means projecting from the valve-guide to the wall of the carbid-chamber, a pair of cross-bars arranged within the tank, a valve-operating rod guided by said cross-bars and having its upper end connected to the valve, a bracket carried by the lower cross-bar, a lever fulcrumed to said bracket and having one of its ends connected to the valve-operating rod, a second rod connected to the opposite end of the lever and extending upward through the top of the tank, a sealing-tube also extending through the top

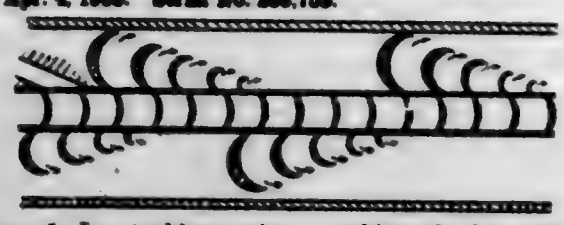
guiding said pivot-bolt, gears Z Z', operatively connected to said carriages, toothed bars engaging said gears and provided with means whereby the same may be alternately connected to said lever, shafts T T and means for operating said shafts in accordance with the movement of said lever P, substantially as described.



3. In an embroidering-machine, the combination with embroidering mechanism including carriages provided with needle-holding means, of mechanism for operating said carriages comprising a crank, a toothed wheel operated thereby, a lever P, a horseshoe-shaped rack carried thereby and engaging said toothed wheel, a pivot-bolt P' for said lever, a guideway on the machine-frame for guiding said pivot-bolt, gears Z Z' operatively connected to said carriages, toothed bars engaging said gears and provided with means whereby the same may be alternately connected to said lever, shafts T T and means for operating said shafts consisting of a bar C joined to said lever P, cranks T' T', a cross-piece T^3 connecting said cranks and having a curved slot and a bolt D guided by said curved slot and connected with bar C, substantially as described.

4. In an embroidering-machine, the combination with embroidering mechanism including carriages provided with needle-holding means, of mechanism for operating said carriages comprising a crank, a toothed wheel operated thereby, a lever P, a horseshoe-shaped rack carried thereby and engaging said toothed wheel, a toothed bar U fixed to the lever P, a toothed wheel O' also operated by said crank and engaging said toothed bar U, a pivot-bolt P' for said lever, a guideway of the machine-frame for guiding said pivot-bolt, gears Z Z', operatively connected to said carriages, toothed bars engaging said gears and provided with means whereby the same may be alternately connected to said lever, substantially as described.

804,541. **TURBINE-ENGINE.** Hugo Lentz, Berlin, Germany. Filed Apr. 4, 1905. Serial No. 253,753.



Claim.—1. In a turbine-engine, a turbine-wheel provided with paddles, a nozzle for directing pressure medium to said paddles, and a plurality of fixed curved plates, which are progressively smaller in the direction of the run of the wheel, for receiving the pressure medium after it has left the wheel and returning it to the blades thereof.

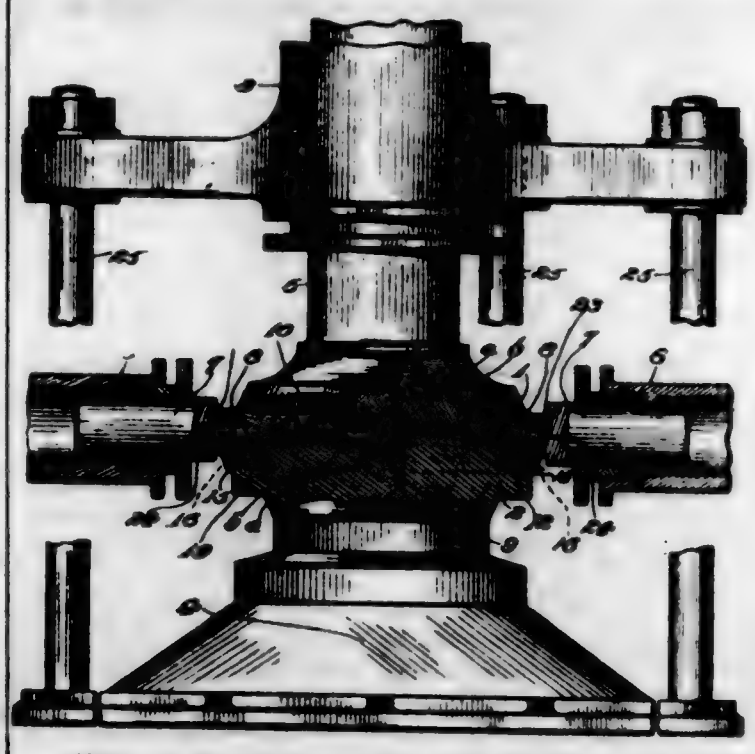
2. In a turbine-engine, a turbine-wheel provided with paddles, a nozzle for directing pressure medium to said paddles, and fixed curved plates arranged in groups at opposite sides of said wheel for repeatedly returning the pressure medium to the paddles of the wheel.

3. In a turbine-engine, a turbine-wheel provided with paddles, concentrically-arranged raceways at opposite sides of the paddles and separated from the machine-casing by an annular space.

4. In a turbine-engine, a turbine-wheel provided with paddles, concentrically-arranged trough-shaped rings constituting raceways at opposite sides of the paddles and spacing means between the said rings and the machine-casing.

5. In a turbine-engine, a turbine-wheel provided with paddles, a continuous concentrically-arranged raceway opposite said paddles, and deflecting means arranged in said raceway at intervals.

804,542. **FORGING-PRESS.** Hiram V. Loss, Philadelphia, Pa., assignor to Chas. T. Schoen, Moylan, Pa. Filed Dec. 21, 1904. Serial No. 237,762.



Claim.—1. In a forging-machine, in combination, a pair of dies adapted to form opposite sides of the blank, a multiplicity of dies operating at right angles to said first dies adapted to form the periphery or tread of the blank, means for carrying the heads of said latter dies so that they can be moved circumferentially around said blank, and means for imparting said latter movement to said latter dies.

2. In a forging-machine, in combination, an upper and a lower die between which the sides of the blank are formed, a circumferentially-movable ring carried by one of said dies, a multiplicity of dies adapted to operate at right angles to said first dies to form the periphery or tread of the blank, the heads of said latter dies being carried in guides in said ring, and means for circumferentially moving said ring and die-heads.

3. In a wheel-blank-forging machine, in combination, an upper and a lower die between which the sides of the blank are formed, a multiplicity of dies operating at right angles to and between said first dies adapted to form the periphery or tread of the blank, cutters carried by the outer end of said latter dies, and means whereby said latter dies may be moved circumferentially in relation to said first dies and the blank.

4. In a forging-machine, in combination, an upper and a lower die, a circumferentially-movable ring carried by one of said dies and having radial guides, a hydraulic cylinder, a piston in said cylinder, a connection between said piston and said ring, a multiplicity of hydraulic cylinders the pistons of which operate at right angles to the movement of said first dies, dies carried by said ring and movable along the guides carried thereby and adapted to be operated by said latter pistons, and cutters carried by said dies.

804,543. **STRAW-PLOW.** Grant S. Lowell, Salina, Kans. Filed Nov. 8, 1904. Serial No. 231,804.

Claim.—1. A triangular plow-frame having a front beam and a land-side beam at approximately right angles to each other and an obliquely-disposed furrow-side beam; and wheel-carrying spindles rigidly connected with the under side of the land-side beam near the rear end of the latter and at the intersection of the furrow-side beam and the front beam.

2. A plow-frame, a plurality of plows supported in said frame,

rotary supporting means mounted upon spindles rigidly connected with said frame, draft-links connected rigidly with the frame and a king-bolt for connecting said frame with a motor-engine, said king-bolt being disposed to one side of the longitudinal center of the plow-carrying frame.



3. A plow-frame, a plurality of plow-gangs supported in said frame, rotary supporting means mounted upon spindles rigidly connected with said frame, and means for the attachment of draft to the front side of said plow-carrying frame at a point to one side of the longitudinal center thereof.

4. A triangular plow-frame, a plow-gang, lever means and means for supporting and suspending the plow-gang in the frame, and rotary supporting means for the latter near two corners of the frame upon which said frame with the plow-gang therein will be practically balanced.

5. A plow-frame, a plow-gang, lifting means connecting the rear end of the plow-gang with the frame, levers fulcrumed upon the frame, link-rods connecting each of said levers with a front corner of the plow-gang, and means for adjusting said levers and for retaining them in adjusted position.

6. A plow-frame, a plow-gang, a lever fulcrumed upon the frame, a link-rod connecting said lever with the plow-gang near the front end of a plow-beam, and a spring connected with said plow-gang near the point of attachment of the link-rod and connected with the lever at the same side of, but nearer the fulcrum than the link-rod.

7. A plow-frame, a plow-gang including a plurality of beams suitably connected at their front ends, levers fulcrumed in the frame, link-rods connecting said levers with the plow-gang near the front corners of the latter, and springs connecting the plow-gang with the levers, said springs being disposed to exert tension upon the ends of the link-rods which are connected with the plow-gang.

8. A plow-frame, a plow-gang including a plurality of units, suitably connected, levers fulcrumed upon the frame, link-rods connecting said levers with the front corners of the plow-gang, springs connecting the front corners of the plow-gang with the levers near the fulcra of the latter, and means for adjusting and for retaining in adjusted position the said levers.

9. A plow-frame, a plow-gang including a plurality of units suitably connected, levers fulcrumed upon the frame, link-rods and springs connecting said levers with the front corners of the plow-gang, adjusting means for the levers, and means for effecting adjustment of the rear end of the plow-gang.

10. A plow-frame, rotary supporting means upon which said frame may be approximately balanced, said rotary supporting means being mounted upon spindles rigidly connected with the frame, a plow-gang, levers fulcrumed upon the frame, link-rods and springs connecting said levers with the front corners of the plow-gang, means for adjusting and for retaining in adjusted position said levers, and independent means for effecting vertical adjustment of the rear end of the plow-gang.

11. A wheel-supported frame, a plow-gang vertically adjustable in said frame, and guide-brackets depending from the frame adjacent to the sides of the plow-gang and having vertical members in slidable engagement with the latter.

12. A wheel-supported frame, a plow-gang vertically adjustable in said frame, and brackets depending from the frame-beams adjacent to the plow-gang and including obliquely-disposed stiffening members.

13. A triangular wheel-supported frame presenting one side to the front, a plurality of gangs supported in said frame, a draft-beam supported in front of and parallel to the front beam of the frame, and draft-rods connecting the gangs with said draft-beam.

14. A wheel-supported triangular frame presenting one side to the front, a plurality of plow-gangs vertically adjustable in said frame and each including a plurality of plows suitably connected together, a draft-beam rigidly supported in front of and parallel to the front beam of the frame, and draft-rods connecting the plow-gangs with said draft-beam.

15. A plow-gang composed of a plurality of plows having beams terminating in alinement with each other, a yoke rigidly connecting the front ends of the outside beams, a yoke rigidly connecting the front ends of the intermediate beams, and means for rigidly connecting the yokes.

16. A wheel-supported frame, a draft-beam supported at the front end of said frame, a plow-gang, connecting means between the front end of the plow-gang and the draft-beam, means for elevating the rear end of the plow-gang, means for adjusting the front end of the plow-gang including a lever, a connecting-link, and a rack-segment pivoted upon the fulcrum of the lever, a supporting-lever, link connection between said supporting-lever and the plow-gang, and link connection between the supporting-lever and the adjusting-lever.

17. A wheel-supported frame, a plow-gang, an adjusting-lever having a catch, a link connecting said adjusting-lever with the plow-gang, a quadrant pivoted upon the fulcrum of the adjusting-lever and engaged by the catch of the latter, and means for effecting adjustment of the plow-gang.

18. A plow-frame, a plow-gang, lever means supported upon the frame for supporting and adjusting the plow-gang, and spring means connected with the plow-gang to assist in the adjustment of the latter, said spring means being also connected with and controlled by the adjusting-lever.

19. A frame, a plow in said frame, a lever supported upon said frame, and a link and a coil-spring connecting the plow with the lever, the ends of said connecting members connected with the lever being spaced apart wider than the ends connected with the plow.

20. In a device of the class described, means for tilting a plow, including a lever for performing the desired adjustment, and a link-rod and a spring-coil separately connecting said lever with the object to be tilted or adjusted.

21. A frame, a plow-gang in said frame, an adjusting-lever, a link connecting said lever with the plow-gang, and spring means tending to buckle the plow-gang-supporting end of the link in the direction of the adjusting-lever.

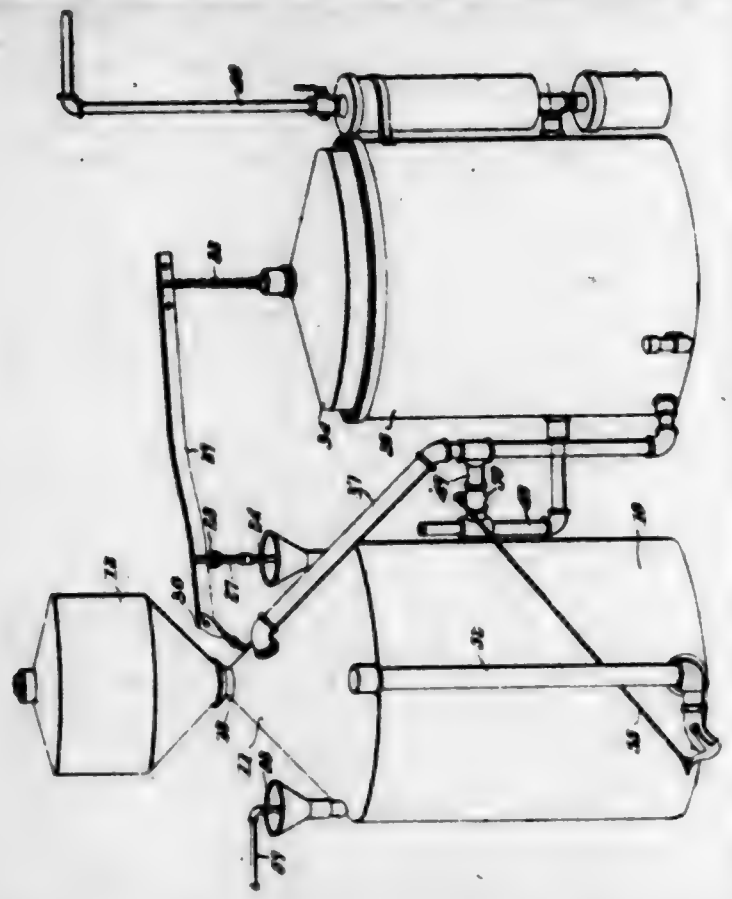
22. A plow, draft means for said plow, an adjusting-lever, a link connecting said lever with the draft means, and spring means tending to swing the end of the link which is connected with the draft means in the direction of the fulcrum of the adjusting-lever.

23. A frame, a plow-gang, a draft-beam supported by the frame, draft-links connecting the front end of said plow-gang with the draft-beam, an adjusting-lever, and a spring-actuated link connecting said lever with the front end of the plow-gang.

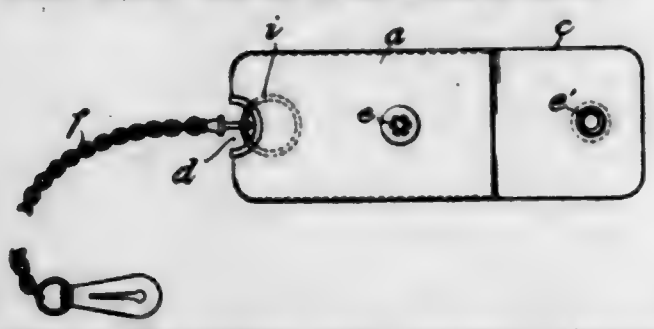
804,544. ACETYLENE-GAS GENERATOR. SAMUEL A. MENGER, Collinsville, Tex. Filed May 27, 1905. Serial No. 262,674.

Claim.—In an acetylene-gas apparatus, a generating-tank, a carbid-chamber arranged above the tank, a self-closing valve controlling the flow of carbid from the chamber to the tank, a cylindrical valve-guide arranged within the chamber and having a closed top for shielding the valve, supporting means projecting from the valve-guide to the wall of the carbid-chamber, a pair of cross-bars arranged within the tank, a valve-operating rod guided by said cross-bars and having its upper end connected to the valve, a bracket carried by the lower cross-bar, a lever fulcrumed to said bracket and having one of its ends connected to the valve-operating rod, a second rod connected to the opposite end of the lever and extending upward through the top of the tank, a sealing-tube also extending through the top

of the tank and surrounding and forming a guide for said rod, the upper end of said tube being funnel-shaped, a guide arranged at the upper portion of said second rod, a roller carried by said guide, a bracket rigidly secured to the upper portion of said tank, a lever fulcrumed to the bracket and resting on said roller, and a gasometer including a movable bell connected to the opposite end of said lever.



804,545. COMBINED CASE AND HOLDER. William Paine, London, England. Filed Mar. 14, 1905. Serial No. 250,113.



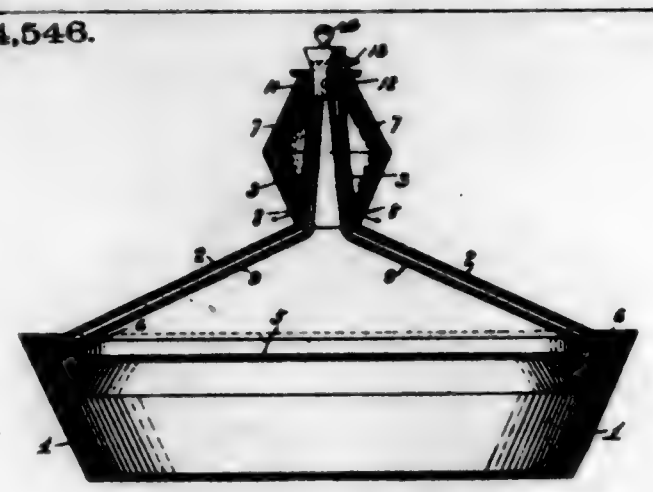
Claim.—1. The combination, with a key-chain, of a key-pocket having a hole for the penetration of the chain, of a flap adapted to close the pocket by overlapping same and of a snap-button at about the middle of the length of the pocket to secure the aforesaid flap to the latter, substantially as described and shown and for the purpose set forth.

2. The combination with a key-pocket having a main opening through which the keys are adapted to be inserted, a flap for closing said opening, and means for fastening the flap to the key-pocket, of flexible means of attachment secured to the keys and penetrating through a hole in the pocket, and of means for securing to the key-pocket the end of the part of the flexible means of attachment extending outside the pocket, substantially as described and shown and for the purpose set forth.

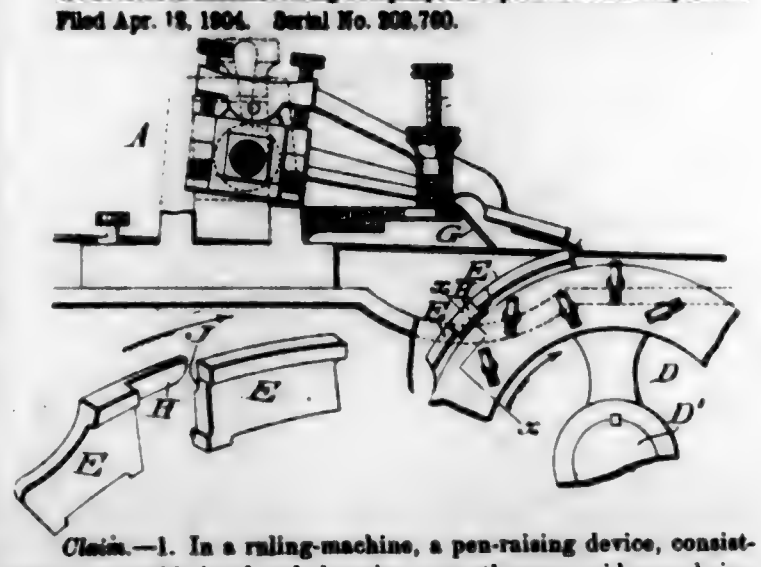
804,546. ODORLESS VESSEL. James Patton and Milton D. Ritson, St. Louis, Mo. Filed Oct. 31, 1904. Serial No. 230,875.

Claim.—A cooking vessel consisting of a body 1; a flange extending inwardly and upwardly from the inside of the wall of the vessel to nearly the top of the rim, leaving between said wall and flange, a trough 6; a lid 2, its lower rim adapted to fit said vessel; a neck, extending from the upper part of said lid, and provided near its top end with an opening 11; a hollow stopper 4, fitting in the upper end of said neck, provided with an opening 12, and adapted to register with said opening 11; a vessel surrounding said neck, provided at its lower end with openings 8; pipes 9, their lower ends extending down nearly to the bottom of the trough 6, and their upper ends into the hollow 10, of the stopper 4, substantially as shown and described and for the purposes set forth.

804,546.



804,547. RULING-MACHINE. Edwin F. Peckham and William J. Hyde, Philadelphia, Pa., assignors, by mesne assignments, to The W. O. Hickok Manufacturing Company, a Corporation of Pennsylvania. Filed Apr. 12, 1904. Serial No. 202,760.

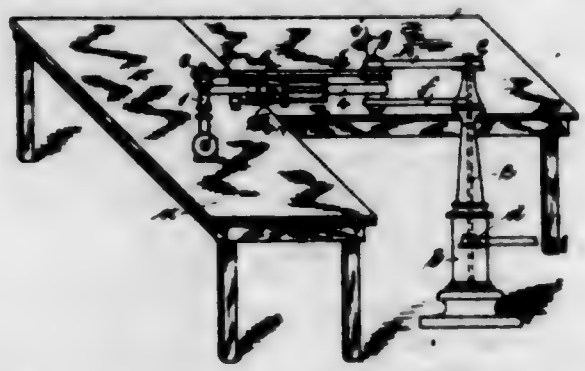


Claim.—1. In a ruling-machine, a pen-raising device, consisting of a movable head and elevating cams thereon, said cams being provided respectively with a tongue and a groove which engage, forming a lap-joint, the peripheral portions of said cam and tongue projecting beyond the periphery of said head.

2. In a ruling-machine, a pen-carrier having means for raising the same, consisting of a movable head and elevated cams thereon, said cams being provided respectively with a tongue and a groove which engage, forming a lap-joint, the peripheral portions of said cams and tongue projecting beyond the periphery of said head.

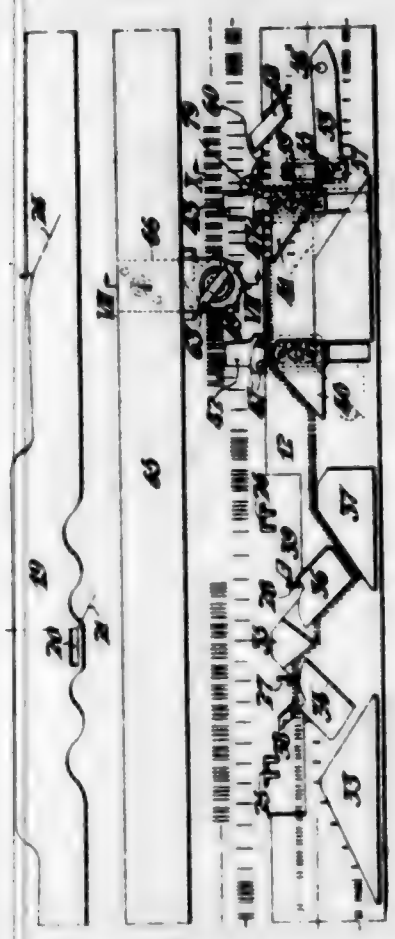
3. In a ruling-machine, a movable head having in the periphery thereof a plurality of parallel grooves, a plurality of cams respectively occupying said grooves, means on the head for adjustably holding said cams on said head, a tongue at the side of the peripheral portion of one cam, and a groove on the adjacent side of the peripheral portion of the other cam, said groove receiving said tongue, and the peripheral portions of said cams and tongue projecting beyond the periphery of said head.

804,548. CLOTH-CUTTING MACHINE. Jacob Philippsohn, Berlin, Germany. Filed Feb. 6, 1903. Serial No. 142,196.



Claim.—In a cloth-cutting machine, the combination of a cutting-disk and a cutting-blade, a holder for the cutting-disk, a holder for the cutting-blade, means for bringing both holders alternately into the working position and means for operating the holder, which is in the working position, substantially as described and for the purpose set forth.

804,549. KNITTING-MACHINE. ERNEST A. PIMMON, Providence, R. I., assignor of one-half to The Firm of B. Sutro & Son, Philadelphia, Pa. Filed Sept. 26, 1903. Serial No. 174,826.



Claim.—1. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a sinker mechanism mounted on said cylinder; and, means carried by said sinker mechanism, arranged to control the needles, substantially as set forth.

2. In a knitting-machine, the combination with a needle-cylinder provided with needles, of a sinker mechanism, mounted on said cylinder; and, a pattern device carried by said sinker mechanism arranged to control the loop-forming movement of said needles, substantially as set forth.

3. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a sinker mechanism, mounted on said cylinder; and, a variable-pattern device, carried by said sinker mechanism, arranged to control the loop-forming movement of said needles, substantially as set forth.

4. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a sinker mechanism; jacks for said needles; a cam, carried by said mechanism, arranged to operate said jacks; and, means arranged to shift said cam into and out of operative position, substantially as set forth.

5. In a knitting-machine the combination with a needle-cylinder provided with needles; of a sinker mechanism; jacks for said needles; a cam carried by said mechanism, arranged to operate said jacks; a spring arranged to press said cam into operative position; a shank for said cam; a star-wheel carried by said shank; a stud on said star-wheel; and, a cam in operative relation with said stud, substantially as set forth.

6. In a knitting-machine, the combination with a needle-cylinder provided with grooves; of needles arranged to reciprocate in said grooves; butts on said needles by which they may be reciprocated; jacks in said grooves above said needle-butts; butts on said jacks, whereby they may be reciprocated; and means arranged to shift said jacks downwardly by engagement with said butts; the arrangement of said needles and jacks being such that said jacks carry said needles downwardly but move upwardly independently of said needles, substantially as set forth.

7. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; a sinker mechanism; and, means carried by said sinker mechanism, arranged to control said needles independently of said cams, substantially as set forth.

8. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; a sinker mechanism; and, a pattern device, carried by said sinker mechanism, arranged to control said needles independently of said cams, substantially as set forth.

9. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; a sinker mechanism; and, a variable-pattern device, carried by said sinker mechanism, arranged to control said needles independently of said cams, substantially as set forth.

10. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; a sinker mechanism; a variable-pattern device, carried by said sinker mechanism, arranged to control said needles independently of said cams; and, means to adjust said pattern device, substantially as set forth.

11. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; jacks for said needles; a sinker mechanism; and, a pattern device, carried by said sinker mechanism, arranged to control said needles, by said jacks, independently of said cams, substantially as set forth.

12. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to actuate said needles; jacks for said needles; a sinker mechanism; and, a variable-pattern device, carried by said sinker mechanism, arranged to control said needles, by said jacks, independently of said cams, substantially as set forth.

13. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a sinker mechanism; jacks separate from but in operative relation with said needles and, means carried by said sinker mechanism arranged to engage said jacks and thereby control the needles in one direction of their movement, and release them in the other direction of their movement, substantially as set forth.

14. In a knitting-machine, the combination with a needle-cylinder provided with needles; of jacks separate from but in operative relation with said needles; a cam-cylinder provided with cams arranged to operate said needles independently of said jacks; and adjustable cam mechanism arranged above said cam-cylinder to engage said jacks and thereby operate said needles independently of said cam-cylinder, substantially as set forth.

15. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cylinder provided with stitch-cams operatively related to said needles; a tension-cam pivoted to said cam-cylinder in operative relation with said needles; and, means to vertically adjust the free end of said tension-cam, substantially as set forth.

16. In a knitting-machine, the combination with a needle-cylinder provided with needles; of jacks for said needles; a cam arranged to engage said jacks and shift said needles downwardly; means arranged to detachably retain said cam in operative position; a pivoted tension-cam arranged to coöperate with said other cam; and, means arranged to adjust said tension-cam, substantially as set forth.

17. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate said needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks in predetermined order, comprising a rotary star-wheel; and, means to engage and rotate said star-wheel, substantially as set forth.

18. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams arranged to engage butts on the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks in predetermined order, comprising a cam movable radially toward and away from the needle-cylinder; a rotary star-wheel operatively connected with said cam; and, means to engage and rotate said star-wheel, step by step, substantially as set forth.

19. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks, comprising a cam movable radially toward and away from the needle-cylinder; a spring normally pressing said cam toward said cylinder; a rotary star-wheel, operatively connected with said cam, arranged to shift the latter in opposition to said spring, substantially as set forth.

20. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks, comprising a cam movable radially toward and away from the needle-cylinder, and provided with a shank; a spring encircling said shank and normally pressing said cam toward said cylinder; a rotary star-

wheel mounted upon the outer extremity of said shank; a stud on said star-wheel; a stationary ratchet in operative relation with said stud; and, means to engage and rotate said star-wheel step by step, substantially as set forth.

21. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks, comprising a cam movable radially toward and away from the needle-cylinder, and provided with a shank; a spring encircling said shank and normally pressing said cam toward said cylinder; a rotary star-wheel mounted upon the outer extremity of said shank; a stud on said star-wheel; a stationary ratchet in operative relation with said stud; and, means to engage and rotate said star-wheel step by step, comprising a pivoted finger and means to retain said finger in operative position, substantially as set forth.

22. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles, comprising two cams which are adjustable from idle to operative position and adapted to respectively raise and lower the needles; and, a tension-cam provided with means to raise and lower it to vary the length of the loops formed by the needles, substantially as set forth.

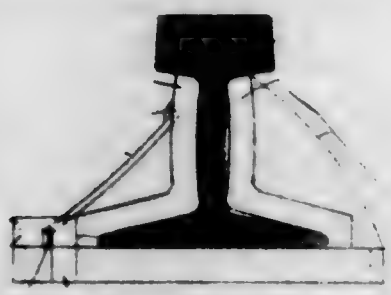
23. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles comprising a pivoted tension-cam; and, means to raise and lower said cam, to vary the length of the loops formed by the needles, substantially as set forth.

24. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks; a cam in said cam-cylinder, adjustable from idle to operative position, adapted to raise the needles for engagement by said pattern device; and, another cam in said cam-cylinder adjustable from idle to operative position, adapted to lower the needles operated by said pattern device, substantially as set forth.

25. In a knitting-machine, the combination with a needle-cylinder provided with needles; of a cam-cylinder provided with cams to operate the needles; jacks separate from but in operative relation with said needles; a pattern device adapted to operate said jacks in predetermined order; a cam in said cam-cylinder, adjustable from idle to operative position, adapted to raise the needles for engagement by said pattern device; another cam in said cam-cylinder, adjustable from idle to operative position, adapted to lower the needles operated by said pattern device; and, a guide-cam arranged to lower the needles not operated by said pattern device, substantially as set forth.

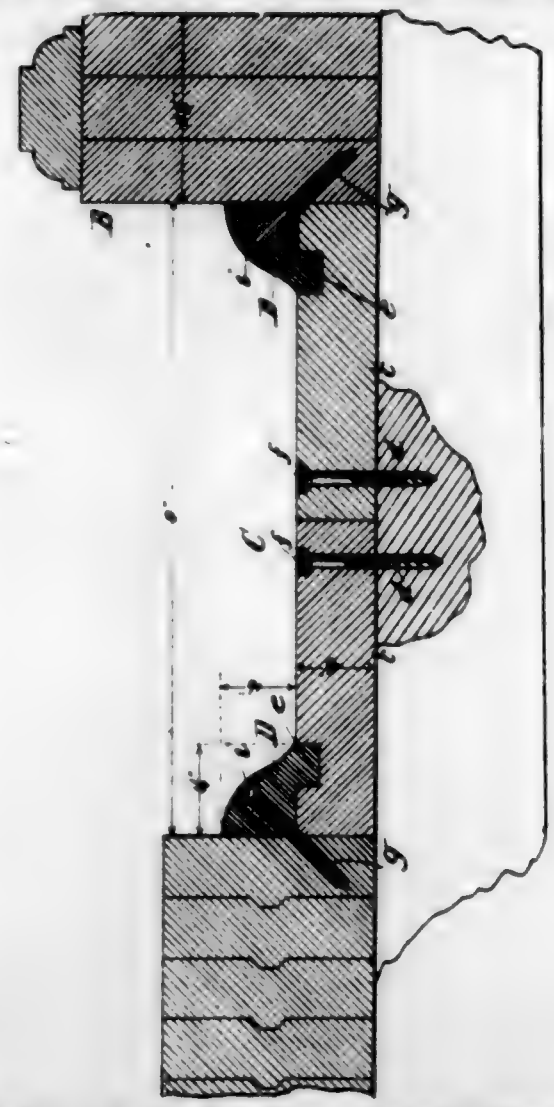
26. In a knitting-machine, the combination with a needle-cylinder provided with grooves; of needles arranged to reciprocate in said grooves; butts on said needles by which they may be reciprocated; two series of jacks in respective grooves, having respectively long and short butts; butts on said jacks whereby they may be reciprocated; and, means arranged to shift said jacks downwardly by engagement with said butts; the arrangement of said needles and jacks being such that said jacks carry said needles in one direction and move relatively to the needles in the opposite direction, substantially as set forth.

804,550. RAILWAY-RAIL JOINT. THOMAS POWELL and OSCAR W. LOGAN, Pittsburg, Pa. Filed Feb. 15, 1905. Serial No. 245,782.



Claim.—In a railway-rail joint the combination with the adjacent ends of the rails having a lock-plate, which holds the rail ends firmly together, of a clamp-rest plate, springs secured in recesses in the lock-plate, a dovetailed wedge which holds the springs firmly in place, and lugs on the lock-plate with recesses which hold the upper ends of the springs in place, substantially as specified.

804,551. BOWLING-ALLEY BALL-GUTTER. PARIS J. RIDDELL, New York, N. Y., assignor to The Brunswick-Balke-Collender Company, a Corporation of Ohio. Filed Apr. 24, 1905. Serial No. 257,048.

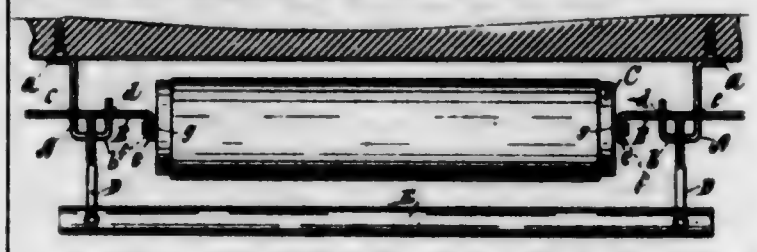


Claim.—1. In a bowling-alley, a flat-bottomed ball-gutter portion composed of bottom boards securely fastened to the foundational portion of the alley structure; and corner filling-strips or moldings glued in place; the said bottom boards and filler-molding being permanently secured in place by means of wood-screws, with countersunk and wood-covered heads; all substantially as and for the purposes set forth.

2. In a bowling-alley, the combination, with the alley-bed, and the division-strip, of a flat-bottom ball-gutter composed of bottom boards that are grooved longitudinally; and corner filling-strips that are tongued into the said grooves of said bottom boards; the gutter parts being securely fastened together, and to the said bed and division-strip; all as and for the purposes set forth.

3. In a bowling-alley the combination with the bed and division-strip of a flat-bottom ball-gutter composed of grooved bottom boards, and tongued corner filling-strips; the said tongued and grooved parts being securely glued together and all the parts fastened in place by wood-screws, substantially as set forth.

804,552. CURTAIN-FIXTURE. HENRY L. SAUCIER, Centerville, R. I. Filed June 13, 1904. Serial No. 212,448.
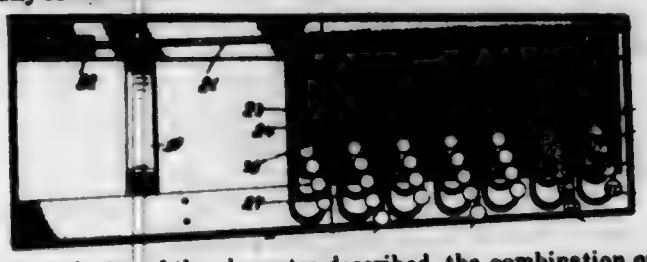


Claim.—In a curtain-fixture the combination of the bracket A, having the attaching-base *a* the bend *b*, and the perforations *c* and *d*, with the roller-support B, and the screw-threaded bracket D, adapted to secure the said roller-support in its adjusted position and for the support of a lace curtain, substantially as described.

804,553. ATTACHMENT FOR MUSICAL INSTRUMENTS. JOSEPH SAUER, Millvale, Pa. Filed Mar. 23, 1905. Serial No. 251,544.

Claim.—1. In a device of the character described, the combina-

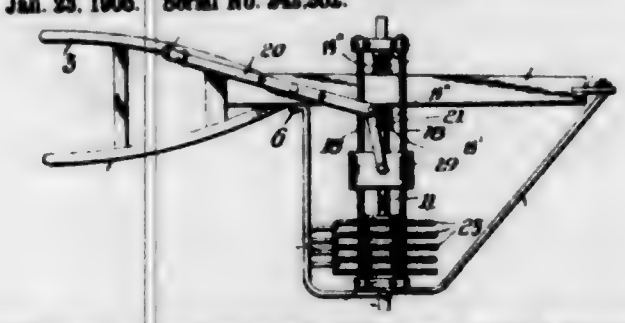
tion of a casing, means for attaching the casing to the neck of a stringed instrument, a rod mounted within said casing, a plurality of double-armed frames pivotally mounted on said rod, both arms of said frames extending transversely across all the strings of the instrument, lugs carried by said arms and adapted to contact with the strings of the instrument, rods carried by said frames and extending through the top of said casing, and keys mounted on said rods, substantially as described.



2. In a device of the character described, the combination of a casing, means for attaching said casing to the neck of a stringed instrument, frames pivotally mounted in said casing, each frame comprising two arms and a vertically-slotted cross-piece, frames pivotally mounted in the casing, each having a plurality of arms and each arm being provided with a lug adapted to contact with one of the strings of the instrument, the arms of said last-named frames moving in the slots of the cross-bar of the first-named frames, and said frames being provided with rods extending through the top of the casing, said rods carrying keys.

3. In a device of the character described, the combination of a casing, and means for attaching the casing to the neck of a stringed instrument, of a plurality of three-armed frames having slotted cross-bars, said frames being pivotally mounted in the casing, and provided with operating-keys, and the arms thereof being provided with lugs adapted to contact with the strings of the instrument, a plurality of frames each pivotally mounted between the arms of the first-named frames, said last-named frames being provided with a plurality of arms and with lugs on said arms adapted to contact with the strings of the instrument and being provided with operating-keys, substantially as described.

804,554. PLOW. CHRISTIAN SCHARDT, North Braddock, Pa. Filed Jan. 23, 1905. Serial No. 242,352.



Claim.—1. In an implement of the type described the combination with a plow having a beam, of a harrow attached to the beam of said plow, said harrow consisting of a shaft pivoted on the plow-beam and a plurality of cutter-disks mounted on the shaft, a frame pivotally attached to the plow-beam and supporting the outer end of the shaft, and means to regulate the depth to which said disks engage the soil, substantially as described.

2. In an implement of the type described, the combination with a plow, of a shaft pivoted to the beam of said plow, brackets carried by said shaft, horizontally-arranged rods carried by said brackets, a weight slidably mounted on said rods and a lever pivotally attached to the plow-beam and connected to said weight.

3. In an implement of the type described, the combination with a plow, of a harrow, said harrow consisting of a frame carried by said plow, a shaft pivoted in said frame and the beam of said plow, cutter-disks journaled upon said shaft, a sliding weight mounted transversely of said frame, means to adjust said weight, and means to prevent said cutter-disks from becoming clogged, substantially as described.

804,555. PROCESS OF MAKING RED PHOSPHORUS. RUDOLF SCHENCK, Marburg, and PAUL MARQUART, Cassel, Germany, assignors to The Firm of Chemische Fabrik Bettenhausen Marquart & Schulz, Bettenhausen-Cassel, Germany. Filed Dec. 15, 1902. Serial No. 136,233.

Claim.—1. Process of manufacturing bright red phosphorus, consisting in adding white phosphorus free from all inert and diluting solvents to such compounds, which have simultaneously the properties of good solvents for white phosphorus and the properties of catalytically-acting bodies, and then heating the mixture, for the purpose as described.

2. Process of manufacturing bright red phosphorus, which consists in dissolving white phosphorus in tribromid of phosphorus free from all inert diluting solvent, and then in heating the mixture, for the purpose as described.

804,556. GARMENT-SUPPORTER. JOSEPH W. SCHLOSS, New York, N. Y., assignor to Blumenkrohn Crochet Button Works, New York, N. Y., a Firm. Filed Apr. 24, 1905. Serial No. 257,063.

Claim.—1. A lady's collar supporter or stiffener adapted to support bands of lace and similar fabrics in yielding but resilient relation, comprising a core or body of slightly flexible or resilient sheet material in the form of a closed loop having two long parallel side members connected together at their extremities by rounded portions integral with said side members and merging into the same so as to present throughout their length a section uniform with that of the side members, and a cover of stranded material applied individually to the members of the loop so as to extend over the end portions and completely cover the same.

2. A lady's collar supporter or stiffener adapted to support bands of lace and similar fabrics in yielding but resilient relation, comprising a core or body of slightly resilient or flexible material in the form of a closed loop having two long sides or members connected together by rounded end portions integral therewith which merge into the side members and have a section uniform therewith, the said members being individually covered by stranded material spirally wound upon the same, and extending around the rounded end portions thereof, so as to completely inclose said body.

804,557. SUPERHEATER. WILHELM SCHMIDT, Wilhelmshöhe, near Cassel, Germany. Filed May 8, 1905. Serial No. 259,342.



Claim.—1. The arrangement of a superheater in a steam-boiler with flue-tubes, one part of the flue-tubes serving as superheater-tubes, the latter being provided with means for compensating their lengthwise expansion by the heat of the fire-gases, substantially as described and for the purpose set forth.

2. The arrangement of a superheater in a steam-boiler with flue-tubes, one part of the flue-tubes serving as superheater-tubes, and

surrounded by walls forming a chamber around the superheater-tubes, the superheater-tubes being provided with means for compensating their lengthwise expansion by the heat of the fire-gases, substantially as described and for the purpose set forth.

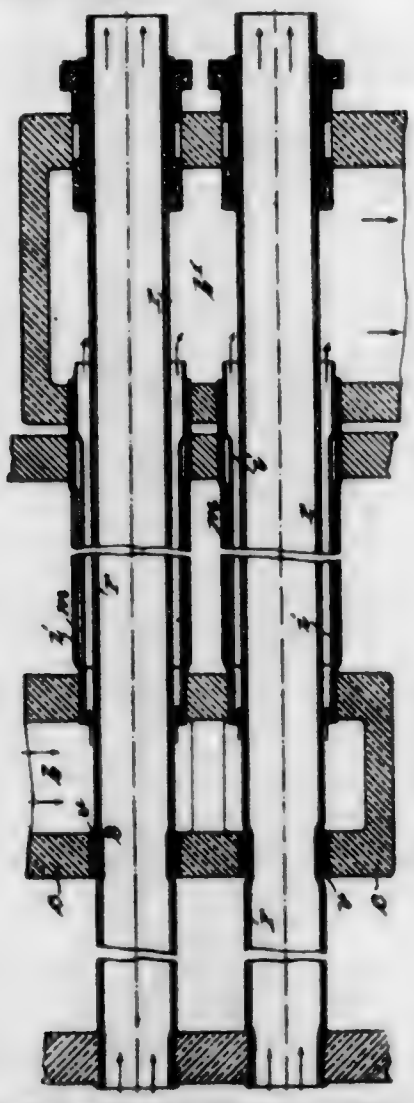
3. The arrangement of a superheater in a steam-boiler with flue-tubes, one part of the flue-tubes serving as superheater-tubes, each superheater-tube being encircled by mantle-tubes t' t the latter of which is tightly fixed to the steam-chambers h g, the superheater-tubes b' being provided with means for compensating their lengthwise expansion by the heat of the fire-gases, substantially as described and for the purpose set forth.

4. The arrangement of a superheater in a steam-boiler with flue-tubes, one part of the flue-tubes serving as superheater-tubes, the latter being provided with transverse corrugations for compensating their lengthwise expansion by the heat of the fire-gases, substantially as described and for the purpose set forth.

5. The arrangement of a superheater in a steam-boiler with flue-tubes, one part of the flue-tubes serving as superheater-tubes, and surrounded by walls forming a chamber around the superheater-tubes, the superheater-tubes being provided with transverse corrugations for compensating their lengthwise expansion by the heat of the fire-gases, substantially as described and for the purpose set forth.

6. The arrangement of a superheater in a steam-boiler with flue-tubes, one part of the flue tubes serving as superheater-tubes, which part is enlarged and tightly fixed to steam-chamber h^1, Fig. 6, the superheater-tubes being provided with transverse corrugations for compensating their lengthwise expansion by the heat of the fire-gases, substantially as described and for the purpose set forth.

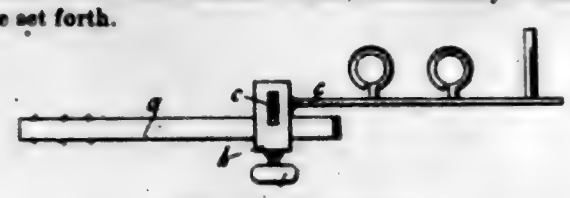
804,558. TIGHTENING DEVICE FOR SMOKE-TUBES. WILHELM SCHMIDT, Wilhelmshöhe, near Cassel, Germany. Filed May 19, 1905. Serial No. 261,193.



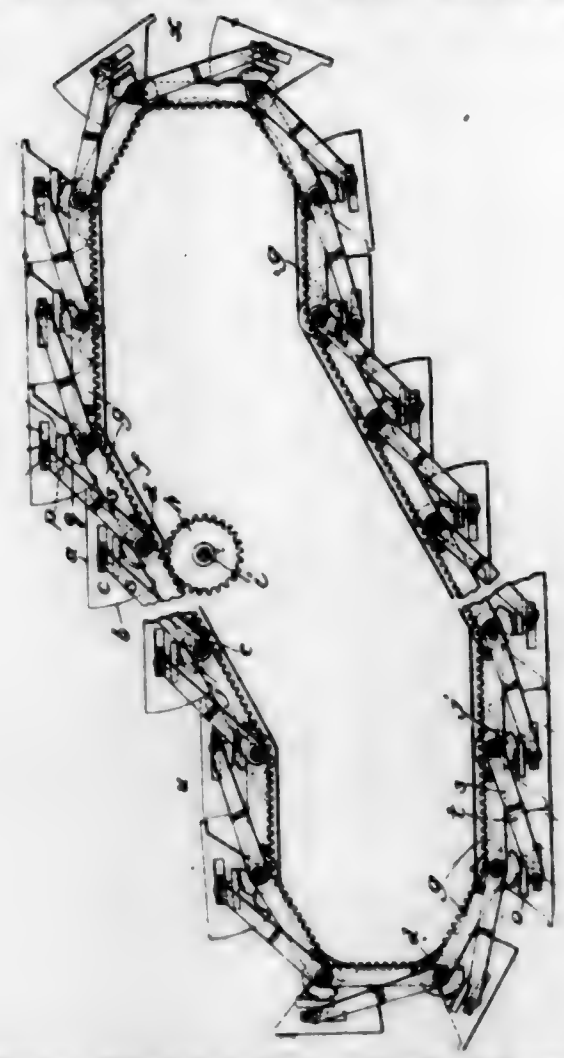
Claim.—A smoke-tube superheater consisting of a smoke-tube r provided with a strengthening-ring c and firmly attached by this ring to the steam-chamber b arranged between the flue-sheets of the steam-boiler, in combination with the tubes m arranged around the smoke-tubes r and in combination with a second steam-chamber b', for the purpose as described.

804,559. ADJUSTABLE HOLDER FOR CURTAIN POLES AND TOPS. HERMANN A. SCHMITT, Bonn, Germany. Filed Nov. 29, 1904. Serial No. 234,221.

Claim.—In a holder for curtain poles and rods, in combination, a bolt or support a let into the wall, a pole c provided with fastening eyes and pins, a junction or fastening piece b sliding on a, a screw d working therein, said junction moreover being provided with an opening or hole through which passes the bolt a and another opening communicating with the same under a right angle, through which passes the pole c provided with fastening eyes and pins, so that the same can be secured on the bolt a in any desired position by means of the screw d or other suitable device, substantially as and for the purpose set forth.



804,560. ELEVATOR. CHARLES D. SEDERHOLM, Yonkers, N. Y. Filed Jan. 20, 1903. Renewed Feb. 27, 1905. Serial No. 247,538.



Claim.—1. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks, and connections for holding the carriers horizontal on the inclined and horizontal portions of the tracks, said connections consisting of the links connecting said steps, the universal levers pivoted to said steps at one end and having movable bearings therein at the other end, and means for automatically moving said bearings as the carriers pass from the horizontal to the inclined portions of the tracks and vice versa.

2. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks, links connecting said steps, gear-segments secured to said links at one end thereof, the universal levers pivoted to said steps at one end and having movable bearings therein at the other end, and rack-bars secured to said movable bearings and meshing with said gear-segments; substantially as and for the purpose described.

3. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks and the horizontal slots formed therein, movable bearing-blocks in said slots, the links connecting said steps, the universal levers pivoted to said steps at one end and pivoted to said movable bearing-blocks at the other end, gear-segments secured to one end of said links, and rack-bars meshing therewith secured to the movable blocks.

4. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks and the horizontal slots formed therein, movable bearing-blocks in said slots, the

links connecting said steps, the universal levers pivoted to said steps at one end and pivoted to said movable bearing-blocks at the other end, gear-segments secured to one end of said links, and rack-bars meshing therewith secured to the movable blocks, said gear-segments and rack-bars being provided with the coöperating toothless bearing portions.

5. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks, connections for holding the carriers horizontal on the inclined and horizontal portions of the tracks, said connections consisting of the links connecting said steps, the universal levers pivoted to said steps at one end and having movable bearings therein at the other end, and means for automatically moving said bearings as the carriers pass from the horizontal to the inclined portions of the tracks and vice versa, and means for driving said carriers.

6. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks, connections for holding the carriers horizontal on the inclined and horizontal portions of the tracks, said connections consisting of the links connecting said steps, the universal levers pivoted to said steps at one end and having movable bearings therein at the other end, and means for automatically moving said bearings as the carriers pass from the horizontal to the inclined portions of the tracks and vice versa, and means for driving said carriers consisting of a gear-wheel meshing with teeth formed on said links.

7. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks and the horizontal slots formed therein, movable bearing-blocks in said slots, the links connecting said steps, the universal levers pivoted to said steps at one end and pivoted to said movable bearing-blocks at the other end, gear-segments secured to one end of said links, rack-bars meshing therewith secured to the movable blocks, and means for driving said carriers.

8. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks and the horizontal slots formed therein, movable bearing-blocks in said slots, the links connecting said steps, the universal levers pivoted to said steps at one end and pivoted to said movable bearing-blocks at the other end, gear-segments secured to one end of said links, rack-bars meshing therewith secured to the movable blocks, and means for driving said carriers consisting of a gear-wheel meshing with teeth formed on said links.

9. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks, and connections comprising links and universal levers for holding the carriers in predetermined relation on the inclined and horizontal portions of the tracks

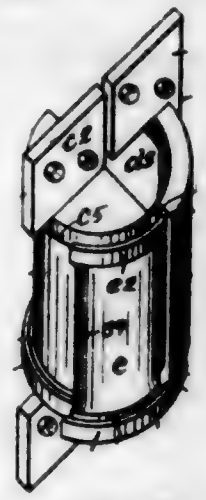
10. In a device of the class described, the combination with the tracks, of the carriers having bearings on said tracks, and connections comprising links and levers and means to lock the levers for holding the carriers in predetermined relation on the inclined and horizontal portions of the tracks.

11. In a device of the class described, the combination with the tracks, of carriers having bearings on said tracks, links connecting the carriers, levers pivoted at one end to one carrier and having moving connection with an adjacent carrier at the other end, and means to lock the levers.

12. In a device of the class described, the combination with a way having inclined and horizontal portions, of two-wheeled carriers adapted to the way, means for connecting the carriers, and automatically-adjustable connections between the carriers for maintaining the treads of the latter in predetermined relation on the inclined and horizontal portions of the way and comprising levers pivoted to one carrier and having sliding engagement with an adjacent carrier, and means to lock the levers.

804,561. HINGE. Joseph Sosa, New York, N. Y. Filed Mar. 6, 1905. Serial No. 245,435.

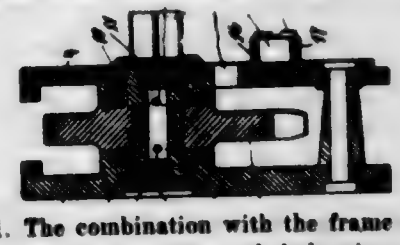
Claim.—1. A hinge, comprising a plurality of segmental members movable one upon another, one of said members being provided at one end thereof with an outwardly-set flange forming a segmental groove and at the other end thereof with an outwardly-set flange forming a segmental keeper, the last-named flange and keeper being formed on a circle of greater diameter than the first-named flange and groove; and another of said parts being provided at one end with an inwardly-set flange forming a segmental keeper adapted to receive the first-named flange of the first-named part and at the other end thereof with an inwardly-set segmental flange adapted to enter the keeper of the first-named part, said parts being adapted to be connected by moving one longitudinally of the other, substantially as shown and described.



2. A hinge, comprising a plurality of segmental members movable one upon another, one of said members being provided at the top thereof with an outwardly-set flange forming a segmental groove and at the bottom thereof with an outwardly-set flange forming a segmental groove or keeper, the flange and groove or keeper at the bottom of said member being formed on a circle of greater diameter than the flange and groove at the top of said member; and another of said parts being provided with an inwardly-set and downwardly-directed segmental flange or rim forming a segmental keeper adapted to receive the flange or rim at the top of the first-named part and at the bottom thereof with an inwardly-set and downwardly-directed segmental flange or rim adapted to enter the groove or keeper at the bottom of the said first-named part, substantially as shown and described.

3. A hinge, comprising a plurality of segmental members movable one upon another, one of said members being provided at the top thereof with an outwardly-set flange forming a segmental groove and at the bottom thereof with an outwardly-set flange forming a segmental groove or keeper, the flange and groove or keeper at the bottom of said member being formed on a circle of greater diameter than the flange and groove at the top of said member; and another of said parts being provided with an inwardly-set and downwardly-directed segmental flange or rim forming a segmental keeper adapted to receive the flange or rim at the top of the first-named part and at the bottom thereof with an inwardly-set and downwardly-directed segmental flange or rim adapted to enter the groove or keeper at the bottom of the said first-named part, and means to prevent the vertical movement of said parts one upon another, substantially as shown and described.

804,562. MINING-MACHINE. Jacob Stein, Mendelssohn, Pa., assignor of one-fourth to Morris Haas, thirty-five one-hundredths to Franklin A. Bazendell, and five one-hundredths to Luther K. Yoder, Pittsburg, Pa. Filed July 21, 1905. Serial No. 270,709.

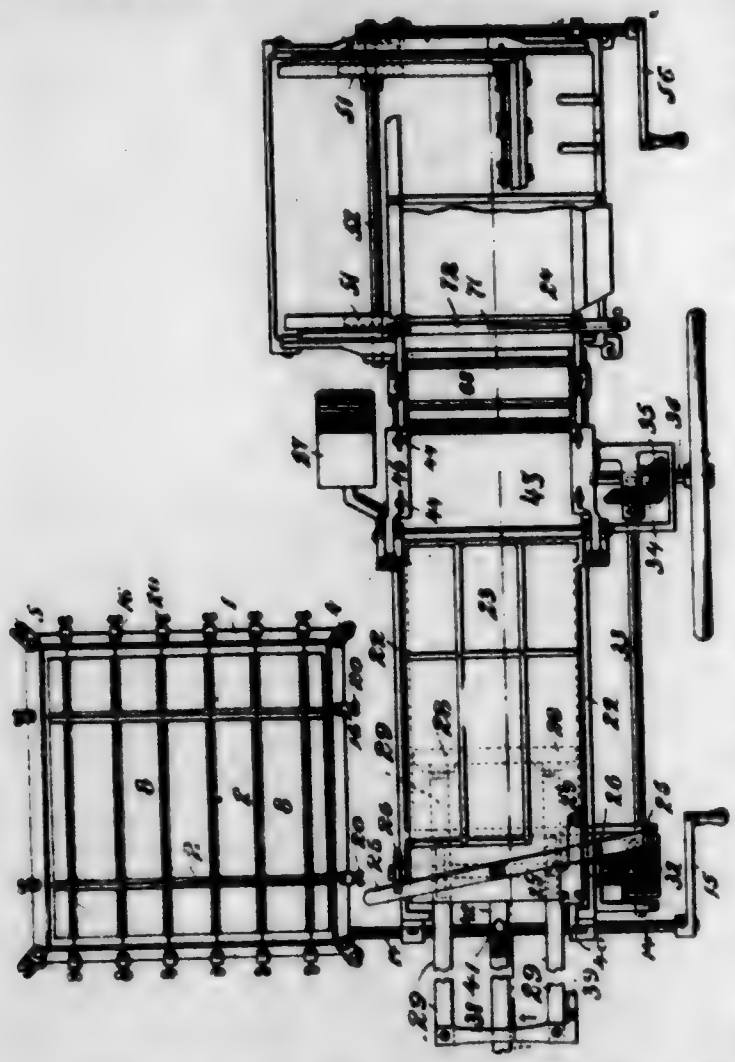


Claim.—1. The combination with the frame of a mining-machine having sprocket-wheels journaled therein, a chain traveling over said sprocket-wheels, of vertically-disposed bits having threaded shanks screwing into the spindles of said sprocket-wheels and adapted to rotate in unison with said wheels, posts carried by the forward end of said frame adjacent to said bits, rollers journaled upon said posts, substantially as described.

2. In a mining-machine, the combination with a frame, of hollow spindles journaled in the forward end of the frame, said spindles being internally screw-threaded at each end, sprockets mounted on said spindles, a cutter-chain traveling over said sprockets, said spindles being formed with ports leading from the central bore thereof to the periphery of the spindle, lugs screwing into the lower ends of said spindles and rotary bits having screw-threaded shanks, said shanks screwing into the upper ends of said spindles.

3. The combination with the frame of a mining-machine, of vertically-disposed rotary bits carried by said machine, and actuated by the traveling chain of said machine, rollers carried by said machine adjacent to said bits, the top of said machine having openings formed therein between said rollers and said bits, substantially as described.

804,568. BUTTER-CUTTING MACHINE. RICHARD F. STEWART, Pocantico Hills, N. Y. Filed Sept. 19, 1904. Serial No. 224,982.



Claim.—1. In a butter-cutting machine the combination with a mold-box to receive the butter, means for forcing the butter through said mold-box, butter molding and shaping means in said mold-box, a fixed cutter at the delivery end of said mold-box to divide the butter into bars, and a set of cutters movable across the line of movement of the bars as they issue from the mold-box to divide the bars in prints.

2. In a butter cutting and molding machine, the box 1, through which the butter passes as it is molded; the molding and regulating plate 43 on the top of the box at or near its orifice, adapted to be adjusted at both ends, as and for the purposes set forth; and mechanism whereby the butter is caused to pass through the box, substantially as described.

3. In a butter cutting and molding machine, in combination, the molding-box 1, through which the butter passes; molding and regulating plate 43 situated at the top of the box, at or near its orifice, adapted to be adjusted at both ends, as and for the purposes set forth; mechanism whereby the butter is caused to pass through the box; and a cutting-frame, provided with adjustable cutting-wires, by which the butter is cut into blocks of equal weight, substantially as described.

4. In a butter cutting and molding machine, in combination, the molding-box 1, through which the butter passes; molding and regulating plate 43 supported at the top of the box by the screws 44, by which the plate is adjusted at both ends, as and for the purposes set forth; screws 44 by which the plate is adjusted; mechanism whereby the butter is caused to pass through the box; marking-roller 68 whereby the butter is marked off into blocks; and a cutting-frame provided with wires, by which the butter is cut into blocks, substantially as described.

5. In a butter cutting and molding machine, in combination, the molding-box, through which the butter passes; lid 23 having the brace 25 by which it is held down on the box; sliding head 28 provided with the racks 29 by which the butter is caused to pass through the box; projections 39 connected to the racks and arranged to engage with the bolt 40 in the brace 25, whereby the pressure of the racks on the pinions 30 is released, and the sliding head disconnected from its operating mechanism when the head has reached the end of its stroke; molding and regulating plate 43, supported at the top of the box by the screws 44, by which the plate is adjusted at both ends, as and for the purposes set forth; screws 44 by which the plate is adjusted; marking-roller 68, by which the butter is marked off into blocks; and cutting-frame 48, 49, having the vertical cutting-wires 50, by which the butter is cut into blocks, substantially as described.

6. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box, means for forcing the butter through said mold-box, a molding and regulating plate in said mold-box adjacent the path of the butter, and means for changing the angular relation of said plate to the surface of the butter.

7. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box, means for forcing the butter through said mold-box, a molding and regulating plate in said mold-box adjacent the path of the butter, and means for adjusting the ends of said plate independently to change the angular relation of the plate to the surface of the butter.

8. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box, means for forcing the butter through said mold-box, a molding and regulating plate having an angular butter-shaping face in said mold-box adjacent the path of the butter, and independently-adjustable supporting-screws at each end of said plate to change its angular relation to the surface of the butter.

9. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box, means for forcing the butter through said mold-box, a molding and regulating plate having an angular butter-shaping face in said mold-box adjacent the path of the butter, and means for changing the angular relation of the plate to the surface of the butter.

10. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box, means for forcing the butter through said mold-box, and means for automatically stopping the action of said butter-forcing means at a predetermined time.

11. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box, means for forcing the butter through said mold-box, driving mechanism for said butter-forcing means, and means for automatically disconnecting said driving mechanism and said butter-forcing means at a predetermined time.

12. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box having a removable top, means for locking said top in closed position, means for forcing the butter through said mold-box, and means for automatically unlocking said removable top after the said butter-forcing means has traveled a predetermined distance.

13. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box having a counterbalanced hinged top, means for locking said top in closed position, means for forcing the butter through said mold-box, and means for automatically unlocking said counterbalanced top to allow it to open after said butter-forcing means has traveled a predetermined distance.

14. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box having a counterbalanced hinged top, means for locking said top in closed position, means for forcing the butter through said mold-box, driving mechanism for said butter-forcing means, means carried by said hinged top to maintain said driving mechanism and said butter-forcing means in operative engagement, and means for automatically releasing said top and disengaging the driving connection between the butter-forcing means and its driving mechanism after the butter-forcing means has traveled a predetermined distance.

15. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box having a counterbalanced hinged top, means for locking said top in closed position, means for forcing the butter through said mold-box, means for driving said butter-forcing means, means carried by said top to hold said driving means and said butter-forcing means in operative engagement, and means carried by said butter-forcing means to automatically unlock said mold-box top and disengage the connections between said butter-forcing means and said driving mechanism after the said butter-forcing means has traveled a predetermined distance.

16. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box having a counterbalanced hinged top, means for locking said top in closed position, means for forcing the butter through said mold-box comprising a head or plunger and driving-racks therefor, driving-gears engaging said racks, means carried by said top to keep said racks and gears in operative engagement, means to automatically unlock said top, and means to automatically disengage said racks and driving-

gears after the butter-forcing plunger has traveled a predetermined distance.

17. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box having a counterbalanced hinged top, means for locking said top in closed position, means for forcing the butter through said mold-box comprising a head or plunger and driving-racks therefor, driving-gears for said racks, means carried by said top to keep said racks and gears in operative engagement, means to automatically unlock said top, and means to lift said racks out of engagement with said driving-gears after the butter-forcing plunger has traveled a predetermined distance.

18. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box having a counterbalanced hinged top, means for locking said top in closed position, a butter-forcing plunger having driving-racks in said mold-box, driving-gears to engage said racks and force said plunger forward, means on said top to hold said racks in engagement with said driving-gears when the top is in closed position, means for automatically unlocking said top, means for automatically disengaging said racks from said driving-gears after the butter-forcing plunger has traveled a predetermined distance, and means for holding said racks disengaged from said driving-gears during the return movement of said butter-forcing plunger.

19. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box having a counterbalanced hinged top, means for locking said top in closed position, a butter-forcing plunger having driving-racks in said mold-box, driving-gears to engage said racks and force said plunger forward, means on said top to hold said racks in engagement with said driving-gears, when the top is in closed position, means for automatically unlocking said top, means for automatically disengaging said racks from said gears after the butter-forcing plunger has traveled a predetermined distance, and a spring-arm to hold said racks disengaged from said driving-gears during the return movement of said butter-forcing plunger.

20. In a butter cutting and molding machine, the combination with suitable cutting instrumentalities, of a mold-box having a counterbalanced hinged top, means for locking said top in closed position, a butter-forcing plunger having driving-racks in said mold-box, driving-gears to engage said racks and force said plunger forward, means on said top to hold said racks in engagement with said driving-gears when the top is in closed position, means for automatically unlocking said top, and a spring-arm having a projection thereon to lift said racks out of engagement with said driving-gears after the butter-forcing plunger has traveled a predetermined distance, said spring-arm serving to elevate said racks and keep them disengaged from the driving-gears during the return movement of the butter-forcing plunger.

21. In a butter-cutting machine and in combination, a cutter-frame, cutting-wires spanning said frame, adjustable supports for said wire, and means for imparting differential movements to said supports, whereby the cutting-wires may be adjusted and their relative distances preserved.

22. In a butter-cutting machine and in combination, a cutter-frame, cutting-wires spanning said frame, and means for giving differential adjusting movement to said wires, whereby their relative distances from one another may be preserved.

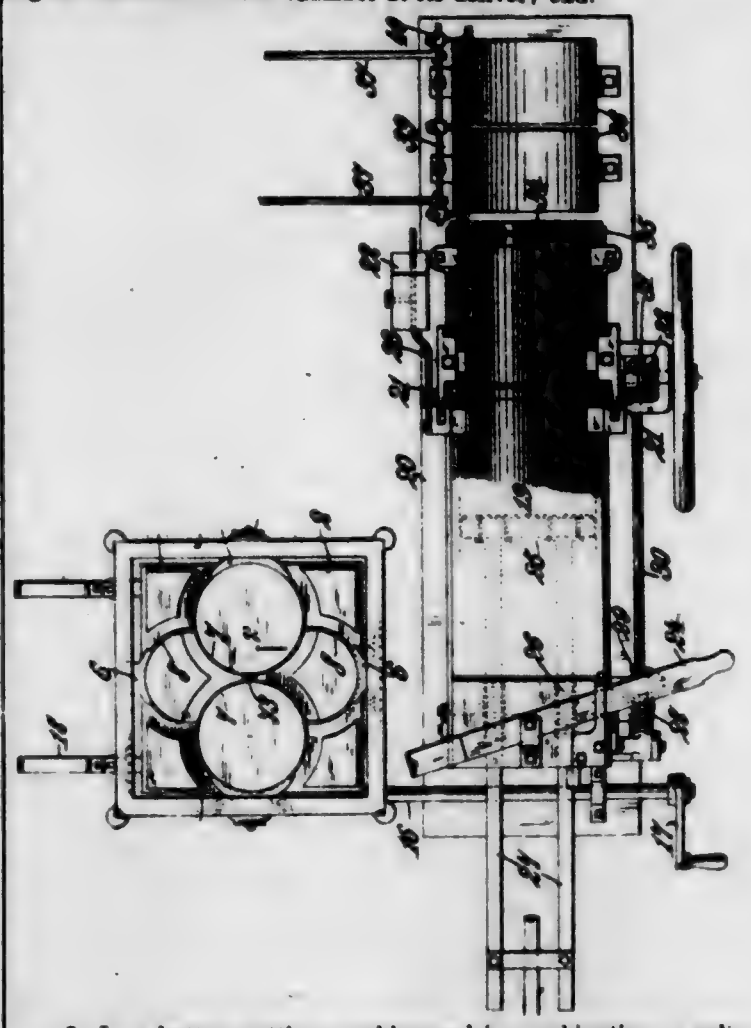
23. In a butter-cutting machine and in combination, a cutter-frame, cutting-wires spanning said frame, adjustable supports for said wires, a rotary worm-shaft, and reversely-threaded worm-screws having differently-pitched threads mounted on said shaft to engage and move said supports, whereby differential movements may be imparted to said cutting-wires and their relative distances preserved.

24. In cutting mechanism for butter-cutting machines, the adjusting mechanism for regulating the distance between the cutting-wires, consisting of the rotating rod 64, having the worm-screw 66 secured thereto; carriages 65 loosely mounted on the rod 64, engaging with worm-screws 66, and carrying the cutting-wires, substantially as and for the purpose described.

804,564. BUTTER-CUTTING MACHINE. RICHARD F. STEWART, Pocantico Hills, N. Y. Filed Nov. 11, 1904. Serial No. 232,351.

Claim.—1. In a butter-cutting machine and in combination, a cylindrical packing and shaping chamber formed of a single lapped sheet, means for forcing butter through said chamber, and means for varying the degree of pressure on the butter at the delivery end of said chamber.

2. In a butter-cutting machine and in combination, a cylindrical packing and shaping chamber formed of a single lapped sheet, means for forcing butter through said chamber, and means for varying the diameter of said chamber at its delivery end.



3. In a butter-cutting machine and in combination, a cylindrical packing and shaping chamber formed of a single lapped sheet, means for forcing butter through said chamber, and means for compressing said delivery end to vary the diameter thereof.

4. In a butter-cutting machine and in combination, a cylindrical packing and shaping chamber, means for forcing the butter through said chamber, a lining for said chamber formed of a single lapped sheet and having a compressible delivery end, and means for compressing said lining to vary the diameter of its delivery end.

5. In a butter-cutting machine and in combination, a compressible cylindrical packing and shaping chamber, means for forcing butter through said chamber, means for compressing said chamber to vary the diameter of the delivery end of said chamber, a semicylindrical receiving-table to receive the butter roll from said chamber and hold it against lateral movement, and a cutter movable in a substantially horizontal path to cut a section from said roll.

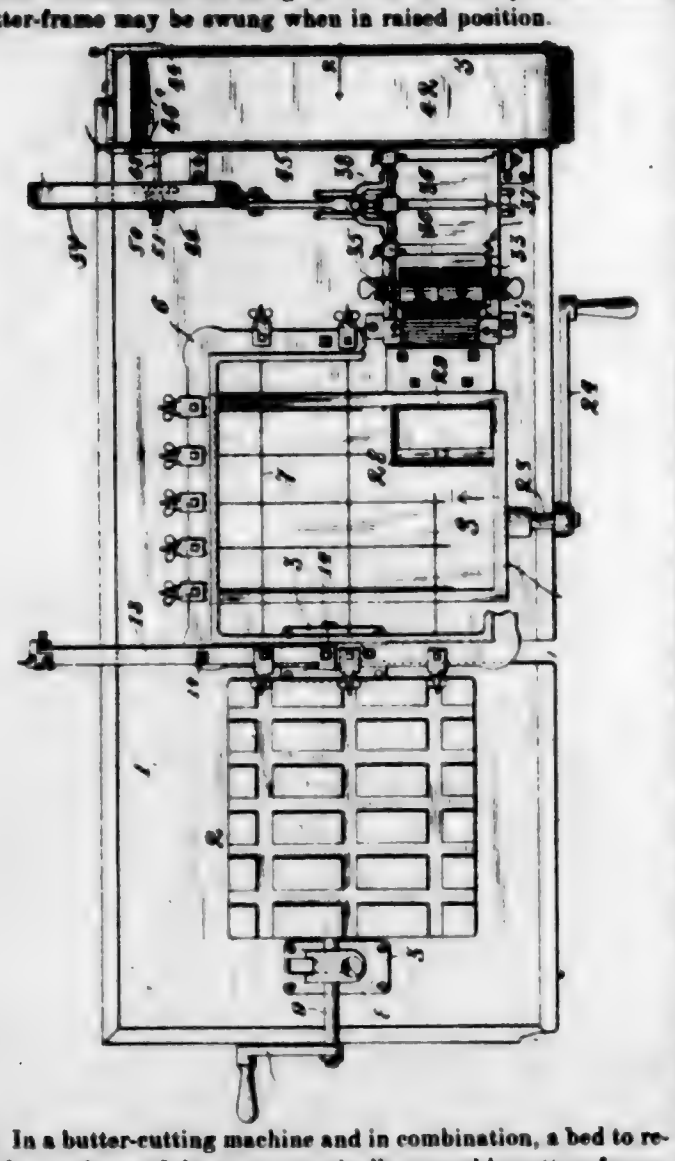
6. In a butter-cutting machine and in combination, a compressible cylindrical packing and shaping chamber, means for forcing butter through said chamber, means for compressing said chamber to vary the diameter of the delivery end of said chamber, a multipart semicylindrical receiving-table to receive the butter roll from said chamber and hold it against lateral movement, and a cutter movable in a substantially horizontal path to cut a plurality of sections from said roll.

7. In a butter-cutting machine and in combination, a supporting-frame; a multipart semicylindrical receiving-table to receive the butter and hold it against lateral movement, a horizontally-movable U-shaped cutter-frame pivoted in operative relation to said table and adapted to straddle and completely embrace said table in making its cutting movement, and a plurality of cutting-wires spanning said U-shaped frame and adapted to traverse the interstices of said multipart table and divide the butter therein into sections.

8. In a butter-cutting machine, the combination with a semicylindrical receiving-table, of a swinging cutter comprising a relatively long supporting-arm pivoted centrally beneath said table and having a substantially U-shaped frame at its upper end adapted to embrace said receiving-table when the cutter is swung through its cutting-arc, and a severing-wire spanning the open end of said U-shaped frame.

804,565. BUTTER-CUTTING MACHINE. RICHARD F. STEWART, Pocantico Hills, N. Y. Filed Mar. 9, 1905. Serial No. 249,170.

Claim.—1. In a butter-cutting machine and in combination, a bed to receive the package of butter, a cutter-frame movable toward and from the bed, and supporting and guiding standards for said frame; one of said standards being extended to form a pivot on which the cutter-frame may be swung when in raised position.



2. In a butter-cutting machine and in combination, a bed to receive the package of butter; a vertically-movable cutter-frame; guiding and supporting racks for said frame, one of which racks is extended to form a vertical pivot on which said cutter-frame may swing horizontally, driving-gears engaging said racks to move said frame vertically, and a locking-latch to engage one of said racks and hold the cutter-frame in elevated position.

3. In a butter-cutting machine and in combination, a bed to receive the package of butter; a vertically-movable cutter-frame; guiding and supporting racks for said frame, one of which racks is extended to form a vertical pivot on which said cutter-frame may swing horizontally; driving-gears engaging said racks to move said frame vertically; and connections between said extended guiding and supporting rack and its driving-gear which form a bearing for the cutter-frame during its horizontal movement.

4. In a butter-cutting machine and in combination, a bed to receive the package of butter; a vertically-movable cutter-frame; guiding and supporting racks for said frame, one of which racks is extended to form a vertical pivot on which said cutter-frame may swing horizontally; driving-gears engaging said racks to move said frame vertically, and circumferential ribs on said extended guiding and supporting rack to engage its driving-gear and form a bearing for the cutter-frame during its horizontal movement.

5. In a butter-cutter and in combination, a bed to receive the package of butter; cutting instrumentalities comprising a horizontal cutter-frame, and a vertical cutter-frame; a guiding and supporting standard for said frames; and a guide in which said standard is slidably and rotatably mounted.

6. In a butter-cutting machine and in combination, a bed to receive the package of butter; cutting instrumentalities comprising a horizontal cutter-frame and a vertical cutter-frame; guiding and supporting standards for said frames, one of which standards is extended to form a rotatable bearing for said frames; and guides in which said standards slide and in one of which said extended standard is rotatable.

7. A cutter for butter-cutting machines comprising two frames at right angles to each other, a slidable and rotatable guiding and supporting standard for said frames, and cutting-wires spanning said frames.

8. A cutter for butter-cutting machines comprising a horizontal cutter-frame, a vertical cutter-frame detachably connected to said horizontal cutter-frame, a slidable and rotatable supporting and guiding standard for said frames, and cutting-wires spanning said frames.

9. A cutter for butter-cutting machines comprising a horizontal cutter-frame, a vertical cutter-frame of inverted-U shape at right angles to said horizontal cutter-frame, a slidable and rotatable supporting-standard for said frames, and cutting-wires spanning said frames.

10. A cutter for butter-cutting machines comprising a horizontal cutter-frame, a vertical cutter-frame of inverted-U shape detachably secured to said horizontal cutter-frame, a slidable and rotatable supporting-standard for said frames, and cutting-wires spanning said frames.

11. In a butter-cutting machine, and in combination, a table, a butter-receiving bed, a cutter-frame parallel to said bed, a cutter-frame perpendicular to said bed, and a slidable and rotatable supporting-standard for said frames, said table being slotted to receive the perpendicular cutter-frame during rising-and-falling movements of the parallel cutter-frame.

12. In an organized machine for cutting and molding butter, the combination with a bed for the package of butter, a cutter for dividing the package into slabs, a mold-box having a feedway to receive the slabs, a plunger reciprocable within said box to sever blocks from the slabs inserted in said feedway, a receiving-table for the blocks, and a transversely-movable cutter to divide the blocks into prints.

13. In an organized machine for cutting and molding butter, the combination with a bed for the package of butter, a cutter for dividing the package into slabs, a mold-box having a feedway to receive the slabs, a plunger reciprocable within said box to sever blocks from the slabs inserted in said feedway, a receiving-table for the blocks, a transversely-movable cutter to divide the blocks into prints, and a conveyer to which the prints are fed from the receiving-table.

14. In a butter-cutting machine, the combination with a receiving-table for butter blocks, of a cutter for dividing the blocks into prints, a traveling conveyer for the prints adjacent said receiving-table, and means for giving a step-by-step movement to said conveyer.

15. In a butter-cutting machine, the combination with a receiving-table for butter blocks, a cutter movable relative to said table to divide the blocks into prints, a traveling print-conveyer adjacent said table, and connections between said cutter and conveyer whereby movement of the cutter will impart step-by-step movements to said conveyer.

16. In a butter-cutting machine, the combination with a slotted receiving-table for butter blocks, a swinging cutter movable across said slotted table, a traveling print-conveyer adjacent said table, and adjustable connections between said swinging cutter and conveyer whereby movement of the cutter will impart step-by-step movements to the conveyer.

17. In a butter-cutting machine, the combination with a slotted receiving-table for the butter-blocks, of a swinging cutter movable across said table to divide the blocks into prints, a traveling print-conveyer adjacent said table, gear-and-ratchet mechanism on one of the conveyer-supporting shafts, and a driving-rack pivotally connected with said swinging cutter and engaging said gear-and-ratchet mechanism, whereby movement of the swinging cutter will impart step-by-step movements to said conveyer.

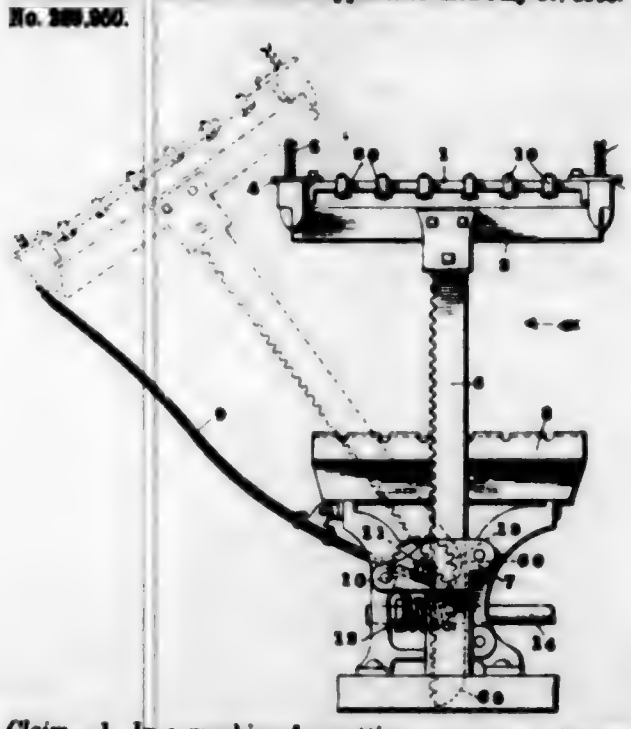
18. In a butter-cutting machine, the combination with a slotted receiving-table for the butter blocks, of a swinging cutter movable across said table to divide the blocks into prints, a traveling print-conveyer adjacent said table, double gear-and-ratchet mechanism on one of the conveyer-supporting shafts, and a double driving-rack pivotally connected with said swinging cutter and engaging said gear-and-ratchet mechanism, whereby movement of the swinging cutter in either direction will impart step-by-step movements to said conveyer.

19. A receiving-table for butter-cutting mechanism comprising a substantially rectangular box having its bottom and one side slotted for the passage of cutting-wires of a cutting implement, the other side of the box having seats for the reception of the cutting-wires.

20. In a butter-cutting machine, the combination with a mold-box to receive the butter, a reciprocating plunger to feed the butter through the mold-box, a receiving-table to which said plunger delivers having its bottom and one side slotted and provided with wire-receiving seats in its other side, and a double-stroke cutter movable

across said table and adapted to divide the butter into prints during its forward and backward movements.

804,566. BUTTER-CUTTING MACHINE. RICHARD F. STEWART, Pocantico Hills, N. Y. Original application filed Sept. 10, 1904, Serial No. 223,962. Divided and this application filed July 17, 1905. Serial No. 269,960.



Claim.—1. In a machine for cutting up masses of butter, the combination with a suitable table or support, of a cutter-frame movable toward and from said table, a plurality of cutters on said frame, supporting and guiding means to hold said frame parallel to said table during its movement, and connections between said supporting means and said frame which permit said frame to be tilted when in its uppermost position.

2. In a machine for cutting up masses of butter, the combination with a suitable table or support, of a vertically-movable cutter-frame having a plurality of cutters, means for moving said frame toward and from said table, supporting-guides to hold said frame parallel to said table, connections between said guides and frame which permit said frame to be tilted when in its uppermost position, and a support against which said frame rests when in tilted position.

3. In a machine for cutting up masses of butter, the combination with a suitable table or support, of a vertically-movable cutter-frame having a plurality of cutters, means for moving said frame toward and from said table, supporting-guides to hold said frame parallel to said table, connections between said guides and frame which permit said frame to be tilted when in its uppermost position, and a spring-support against which said frame rests when swung to one side of the table.

4. In a machine for cutting up masses of butter, the combination with a suitable table or support, of a cutter-frame movable toward and from said table, and having a plurality of cutters, depending side bars on said frame, guides to receive said side bars and hold said frame parallel to the table during its movements, and connections between said guides and bars which permit the frame to be tilted when in its uppermost position.

5. In a machine for cutting up masses of butter, the combination with a suitable table or support, of a cutter-frame movable toward and from said table and having a plurality of cutters, rack-bars depending from said frame and having their lower ends rounded off or cut away, guides to receive said rack-bars and hold said frame parallel to the table during its movements, connections between said guides and rack-bars whereby the frame may be tilted when in its uppermost position, and driving means engaging said rack-bars to raise and lower said cutter-frame.

6. In a machine for cutting up masses of butter and in combination, a table or support for the mass, a cutter-frame movable toward and from said table, side bars depending from said frame, and guides to receive said bars and hold the frame parallel to the table during its movements, the ends of said side bars being rounded off to permit the frame to be tilted when in its uppermost position.

7. In a machine for cutting up masses of butter and in combination, a table or support for the mass, a cutter-frame movable toward and from said table, side bars depending from said frame, guides to receive said bars and hold the frame parallel to the table during its movements, the ends of said side bars being rounded off to permit the frame to be tilted when in its uppermost position, and a spring-support mounted on the machine-frame to support the cutter-frame when in tilted position.

8. In a machine for cutting up masses of butter and in combination, a table or support for the mass, a cutter-frame having a plurality of cutters, rack-bars depending from said frame, guides to receive said rack-bars and hold said frame parallel to the table during its movements, driving-gears engaging said rack-bars to raise and lower said frame, and connections between said guides and bars which permit said rack-bars to rock on their driving-gears when the frame is in its uppermost position, whereby the frame may be tilted.

9. In a machine for cutting up masses of butter and in combination, a table or support for the mass, a cutter-frame having a plurality of cutters, rack-bars depending from said frame, guides to receive the rack-bars and hold said frame parallel to the table during its movements, a driving-shaft having gears engaging said rack-bars to raise and lower said frame, connections between said rack-bars and guides which permit said bars to rock on said gears when the frame is in its uppermost position, whereby the frame may be tilted to one side of the table, and a brace or support for said frame when in tilted position.

10. In a machine for cutting up masses of butter and in combination, a table or support for the mass; a cutter-frame having a plurality of cutters; rack-bars depending from said frame; guides to receive said rack-bars and hold said frame parallel to the table during its movements, a driving-shaft having gears engaging said rack-bars to raise and lower said frame; connections between said rack-bars and guides which permit said bars to rock on said gears when the frame is in its uppermost position, whereby the frame may be tilted to one side of the table; and a brace to support the tilted frame, said brace having a braking action on the said driving-shaft when the frame is tilted.

11. In a machine for cutting up masses of butter and in combination; a table or support for the mass; a cutter-frame having a plurality of cutters; rack-bars depending from said frame; guides to receive said rack-bars and hold said frame parallel to the table during its movements; a driving-shaft having gears engaging said rack-bars to raise and lower said frame; connections between said rack-bars and guides which permit said bars to rock on said gears when the frame is in its uppermost position, whereby the frame may be tilted to one side of the table; and a brace against which the frame rests when in tilted position, the lower end of said brace bearing against the said driving-shaft and serving to prevent rotation of the same when the frame is in tilted position.

12. In a machine for cutting up masses of butter and in combination; a table or support for the masses; a cutter-frame having a plurality of cutters; rack-bars depending from said frame; guides to receive the rack-bars and hold said frame parallel to the table during its movements; a driving-shaft having gears engaging said rack-bars to raise and lower said frame; connections between said rack-bars and guides which permit said bars to rock on their gears when the frame is in its uppermost position, whereby the frame may be tilted to one side of the table; and a pivoted brace or support for the tilted frame which bears at its lower end against said driving-shaft and serves to prevent rotation of the shaft when the frame is in tilted position.

13. In a machine for cutting up masses of butter and in combination, a table or support for the mass, a cutter-frame having a plurality of cutters, depending rack-bars on said cutter-frame, guides for said rack-bars, a gear-shaft engaging said bars to move said frame, connections between said guides and bars which permit the frame to be tilted when in its uppermost position, and means for locking said gear-shaft from rotation when the frame is tilted.

14. In a machine for cutting up masses of butter and in combination, a table or support for the mass, a cutter-frame movable toward and from said table and having a plurality of cutters, side bars depending from said frame, guides to receive said side bars and direct the movements of said frame, connections between said guides and bars which permit said frame to be tilted when in its uppermost position, driving means engaging said bars to raise and lower the frame, and means for locking said driving means when the frame is in tilted position.

15. In a machine for cutting up masses of butter and in combination, a table or support for the mass, a cutter-frame movable toward and from said table and having a plurality of cutters, side bars depending from said frame, guides to receive said side bars and direct the movements of said frame, connections between said guides and bars which permit said frame to be tilted when in its uppermost position, driving means engaging said bars to raise and lower the

frame, and means operated by the weight of the tilted frame for locking said driving means when the frame is in tilted position.

16. In a machine for cutting up masses of butter, and in combination, a table or support for the mass, cutting instrumentalities movable toward and from said table, means for guiding the cutting instrumentalities in their movements relative to said table, connections between said cutting instrumentalities and said guiding means which permit tilting of said cutting instrumentalities when in their uppermost position, means for driving said cutting instrumentalities, and means for locking said driving means when the cutting instrumentalities are in tilted position.

17. A butter-cutter, comprising a supporting-frame, an auxiliary cutter-frame mounted thereon, and a vertically-yielding connection between said frames.

18. A butter-cutter comprising a supporting-frame, an auxiliary cutter-frame mounted thereon, and spring-posts to form a vertically-yielding connection between said supporting-frame and said auxiliary cutter-frame.

19. A butter-cutter comprising a supporting-frame, spring corner-posts on said frame, and an auxiliary cutter-frame removably mounted on said supporting-frame and engaging said spring corner-posts, whereby a vertically-yielding connection between the said frames is secured.

20. A butter-cutter comprising a supporting-frame, an auxiliary cutter-frame removably mounted thereon, and cutting-wires adjustably mounted on said auxiliary frame.

21. A butter-cutter comprising a supporting-frame, an auxiliary cutter-frame removably mounted on said supporting-frame, and cutting-wires having yielding connections with said auxiliary frame.

22. A butter-cutter comprising a supporting-frame, an auxiliary cutter-frame, yieldingly mounted on said supporting-frame, and cutting-wires having yielding connections with said auxiliary frame.

23. A butter-cutter comprising a frame, cutting-wires spanning said frame, wire-holding keys on said frame, means for adjusting said keys longitudinally to change the tension of said wires, and means for preventing rotation of the keys and twisting of the wires during adjustment.

24. A butter-cutter comprising a frame, cutting-wires spanning said frame, spring-keys on said frame to which said wires are secured, means for adjusting said spring-keys to change the tension of said wires, and means for preventing rotation of said keys and twisting of the wires during adjustment.

25. A butter-cutter comprising a frame, cutting-wires spanning said frame, wire-holding keys transversely adjustable on said frame to vary the relative positions of the wires, means for adjusting said keys longitudinally to change the tension of the wires, and means for preventing rotation of the keys and twisting of the wires during adjustment.

26. A butter-cutter comprising a frame, adjustable clamps on said frame, adjustable keys carried by said clamps, and cutting-wires secured to said keys.

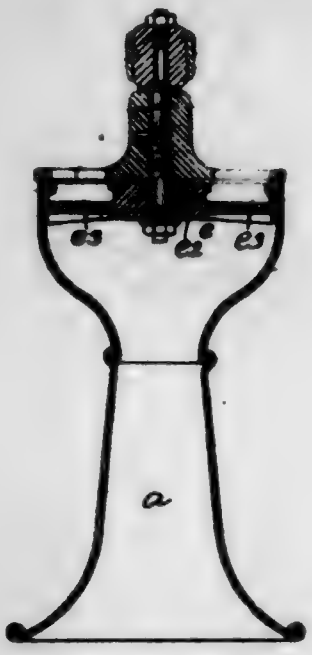
27. A butter-cutter comprising a frame, adjustable clamps on said frame provided with key-receiving slots, adjustable keys carried by said clamps and engaging said key-slots to prevent rotation of the keys during adjustment, means for adjusting said keys longitudinally to change the tension of the cutting-wires, and cutting-wires secured to said keys.

28. A butter-cutter comprising a frame, adjustable clamps on said frame provided with key-receiving slots, adjustable spring-keys carried by said clamps and engaging said key-slots to prevent rotation of the keys during adjustment, means for adjusting said keys longitudinally to change the tension of the cutting-wires, and cutting-wires secured to said spring-keys.

804,567. ANNOUNCING DEVICE OR HORN FOR BOATS, AUTOMOBILES, AND OTHER VEHICLES. FERDINAND TAVERT and HENRY LAURY, Paris, France. Filed June 6, 1905. Serial No. 263,919.

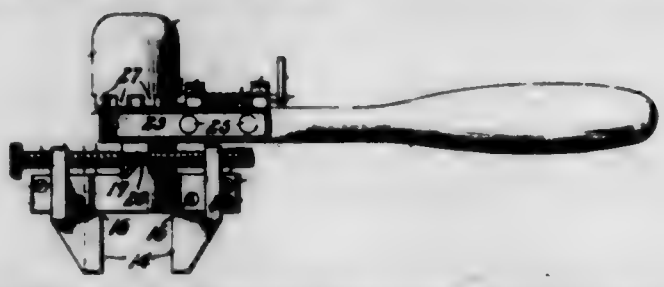
Claim.—1. An announcing device or horn of the class described, comprising a hollow bell-shaped casing, a horn connected with the smaller end thereof, a plate secured in the larger end thereof and provided with radial openings and a tubular shank projecting therefrom, and a shaft passing through said shank and provided within said casing with a rotatable device having inclined radial wings or blades between which are radial openings, substantially as shown and described.

2. An announcing device or horn of the class described, comprising a hollow bell-shaped casing, a horn connected with the smaller end thereof, a plate secured in the larger end thereof and provided with radial openings and a tubular shank projecting therefrom, and a shaft passing through said shank and provided within said casing with a rotatable device having inclined radial wings or blades between which are radial openings, said shaft being also provided at its outer end with a pulley, substantially as shown and described.



3. An announcing device or horn of the class described, comprising a hollow bell-shaped casing, a horn connected with the smaller end thereof, a plate secured in the larger end thereof and provided with radial openings, and a shaft passing through said plate and provided within said casing with a rotatable device having radially-arranged openings, said shaft being also provided at its outer end with means whereby it may be turned, substantially as shown and described.

804,568. WRENCH. HAMLIN T. THOMPSON, Jackson, Ga. Filed Aug. 7, 1905. Serial No. 273,093.



Claim.—1. A wrench comprising a cylindrical head having an axial opening throughout, a handle mounted for rotation about the head, a ratchet connection between the head and handle, parallel wings outstanding upon each side of the head, jaws slidably mounted in the wings, means to move the jaws simultaneously and in opposite directions, and a yoke rigidly secured to and closing the open ends of the wings to prevent displacement of the jaws.

2. A wrench comprising a cylindrical head having an axial opening therethrough, a handle mounted for rotation about the head, an adjustable ratchet connection between the head and handle whereby the handle may be rotated in either direction or locked rigid with the head, parallel wings outstanding upon each side of the head, jaws slidably mounted in the wings, a screw reversely threaded at opposite ends engaging and arranged to move the jaws simultaneously in opposite directions, and a yoke rigidly secured to and closing the open ends of the wings to prevent displacement of the jaws.

804,569. WALL-PROTECTOR. THOMAS J. WATSON, Rochester, Pa. Filed Mar. 31, 1905. Serial No. 253,388.



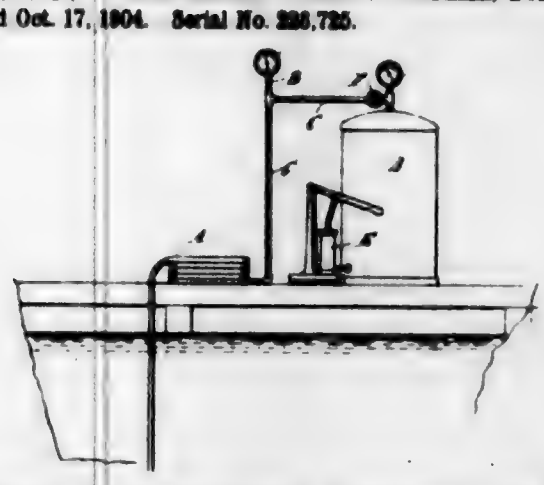
Claim.—1. A wall-protector comprising a central plate and end plates pivoted thereto for movement to extend at right angles thereto or to form continuations thereof.

2. A wall-protector comprising a central plate and end plates pivoted thereto for movement to extend at an angle thereto or to form continuations thereof, said end plates overlapping the central plate at its ends.

3. A device of the class described comprising a central plate and end plates pivoted thereto for movement to extend at an angle beyond one edge of the central plate or to form continuations thereof, and means for preventing movement of the end plates to extend beyond the opposite edge of the central plate.

4. A device of the class described comprising a plate an end plate pivoted to the first plate for movement to extend at an angle beyond one edge thereof or to form a continuation thereof, and a handle carried by the first-named plate.

804,570. BATHOMETER. ERNST S. WHEELER, Detroit, Mich. Filed Oct. 17, 1904. Serial No. 228,725.



Claim.—1. In a bathometer, in combination with an open-ended tube, a flexible tubular guard terminal thereto, a check-valve at the junction of the tube and guard, and means for supplying air to said tube, substantially as described.

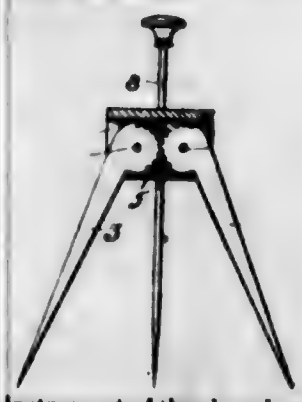
2. In a bathometer, in combination with an air-containing tube, an indicator connected thereto at the upper end, means for furnishing a continuous supply of air under pressure to the tube at its upper end, means for preventing an inflow of water into said tube at its lower end, a flexible tubular guard extending said tube below the means for preventing an inflow of water, substantially as described.

3. In a bathometer, in combination with a tube, means for supplying air under pressure to the upper end of said tube, means whereby the air may escape from the lower end of said tube, a check-valve opening outwardly to prevent water from entering said tube at its lower end, and a guard of flexible material extending beyond the check-valve, substantially as described.

4. In combination with a bathometer-tube, an armor for the lower end thereof, consisting of short pieces of tubular material threaded on said tube, substantially as described.

5. In a bathometer, in combination with a tube provided with means for the introduction of air thereinto at one end and for the escape of air therefrom at the other end, a flexible terminal guarding the escape end of said tube, means to prevent the entrance of water into said tube, said means being located at the junction of the flexible terminal and the main tube, and an indicator adapted to indicate the pressure of air in said tube, substantially as described.

804,571. DIVIDERS. HUBERT ARENDT, Blairsville, Pa. Filed July 21, 1905. Serial No. 270,651.



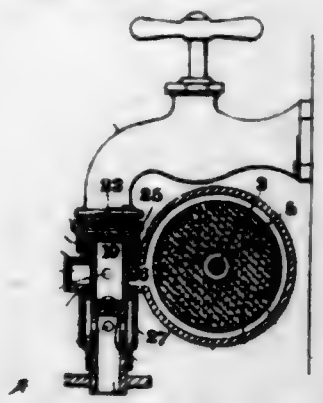
Claim.—1. An instrument of the class described consisting of a body portion, legs pivotally mounted in said body portion, and geared together to operate in unison, bosses carried by the sides of said body portion, rods slidably mounted in said bosses, a cross-head carried by the upper ends of said rods, a knurled button carried by said cross-head, the lower ends of said rods terminating in a point, means to lock said rods within said bosses, substantially as described.

2. An instrument of the class described consisting of a body portion, legs pivotally mounted in the edges of said body portion, bosses carried by the side of said body portion, rods slidably mounted in said bosses and terminating in a point, a knurled button carried by the upper ends of said rods, means to lock said rods within said bosses, means whereby when one leg is moved, the other leg will be moved correspondingly.

3. An instrument of the class described, consisting of a body portion, legs pivotally mounted in said body portion, rods slidably mounted in said body portion and terminating in a point, a cross-head carried by said rods, means to lock said rods in said body portion, and means to move said legs in unison, substantially as described.

4. An instrument of the class described consisting of a body portion, legs pivotally mounted in said body portion and adapted to move in unison, rods slidably connected to said body portion and terminating in a point, means to lock said rods within said body portion, substantially as described.

804,572. FILTER. GEORGE ANDERSON, Detroit, Mich. Filed Apr. 29, 1905. Serial No. 257,992.



Claim.—1. In a water-filter, the combination of the case, a filtering-stone therein having a central channel therethrough, a discharge-opening in the end of the case communicating with said channel, there being a water-space within the case surrounding said stone, a housing projecting laterally from the body of the case having a chamber communicating with the water-space within the case, a union for connecting the water-chamber of the housing with a water-cock, and a valve for affording a direct passage of water through said housing.

2. In a filter, the combination with a water-cock, of an oblong case adapted to lie below and in the rear of said cock, a filtering substance located centrally within said case and a water-egress leading therefrom, a hollow housing projecting laterally from the case and communicating with the interior thereof, a union for connecting said housing with the water-cock, a tube depending from and communicating with the housing and a valve therein for affording a direct passage of water through said housing.

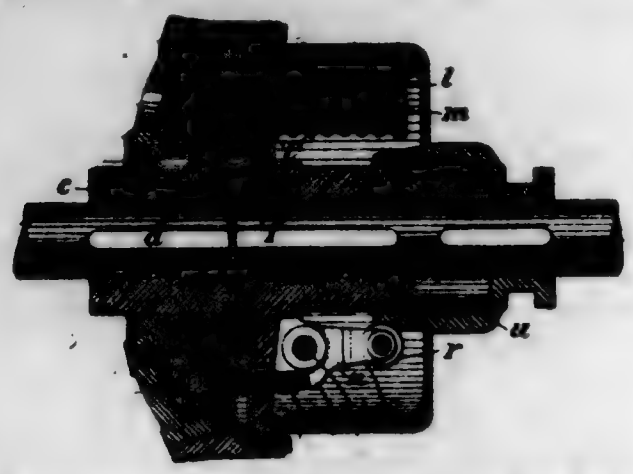
3. In a water-filter, the combination of an oblong case, a filtering substance therein through which the water is adapted to pass and an egress leading therefrom, a lateral housing upon the case communicating with the interior thereof, a tube passing through said housing having apertures communicating with the water-space therein, means for connecting a water-cock with the upper end of said tube, a sleeve upon the lower end of said tube and a valve therein for affording a direct passage of water through said tube.

4. In a water-filter, the combination of an oblong case adapted to lie below the body of the water-cock, a filtering substance within said case, the wall of the case having an egress-passage leading therefrom, a lateral housing projecting from the case and communicating with the interior thereof, a tube passing through said housing and communicating therewith having at its upper end means for attachment to a water-cock, and having at its lower end a valve to control the direct passage of water therethrough.

804,573. CONE-COUPLING. HUGO BAUMGARTNER, Basel, Switzerland. Filed June 20, 1904. Serial No. 214,649.

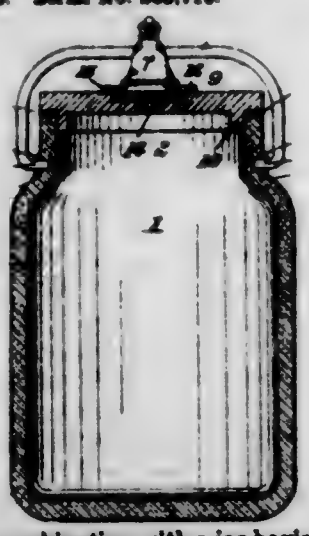
Claim.—1. In a cone-coupling, the combination of two coupling parts provided with conical engaging faces the one fixed and the other axially movable, of a slip-ring which is revolubly placed in an annular groove in the axially-movable portion of the coupling, of studs fixed in the said slip-ring and which project through a disk-shaped part of the fixed portion of the coupling, of coupling-springs

arranged on the said studs for drawing the axially-movable part of the coupling into the fixed part, of pins rigidly projecting from the slip-ring, of bell-crank levers movably arranged opposite the said pins in the fast portion of the coupling and of a movable disengaging box for the pressing out of the bell-crank levers with the object of moving back the pins and of opening the coupling, substantially as hereinbefore described.



2. In a cone-coupling, the combination of two coupling parts provided with conical engaging faces the one fixed and the other axially movable, of a slip-ring which is revolubly placed in an annular groove in the axially-movable portion of the coupling, of studs fixed in the said slip-ring and which project through a disk-shaped part of the fixed portion of the coupling, of coupling-springs arranged on the said studs for drawing the axially-movable part of the coupling into the fixed part, of adjustable pins fixed in the slip-ring, of bell-crank levers pivoted in the fast portion of the coupling opposite said pins and carrying rollers at one of their ends, and of a partly-conical and partly-cylindrical disengaging-box which is capable of longitudinal movement and which can be forced between the ends of the bell-crank levers provided with the rollers thereby moving said ends outward and holding them in their outward position with the object of effecting the forcing backward of the pins and the opening of the coupling, substantially as hereinbefore described.

804,574. JAR-CLOSURE. THOMAS BRATTY, Washington, Pa. Filed June 17, 1905. Serial No. 265,716.

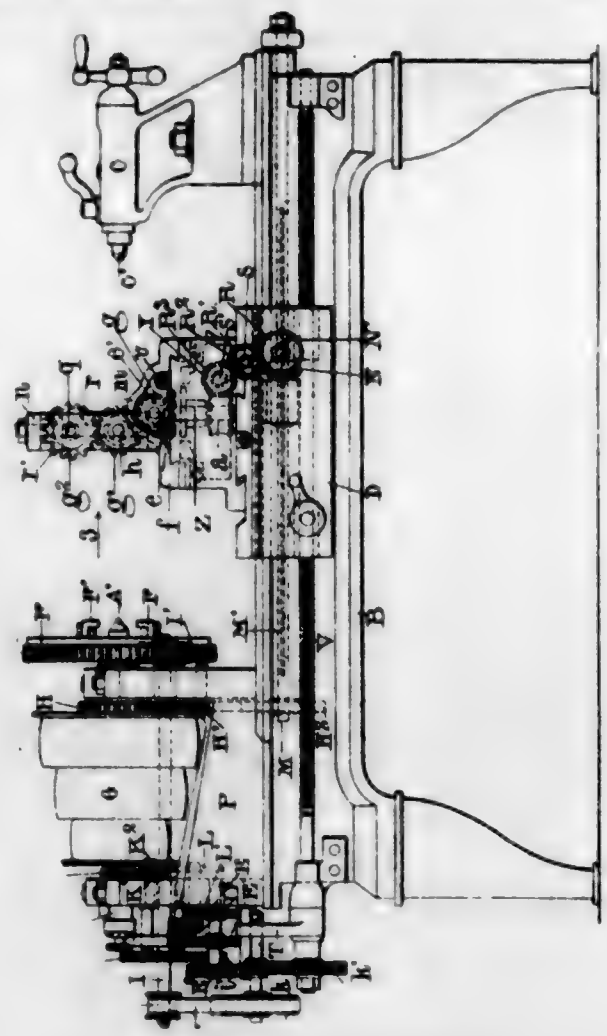


Claim.—1. The combination with a jar having a suitable lid, of a one-piece bail carried by said jar, a substantially bell-shaped locking cam member mounted centrally of said bail, the top of said lid having a recess formed centrally therein, said lid having an aperture formed centrally of said recess, a resilient washer adapted to seat in said recess and be retained therein by said cam member, substantially as described.

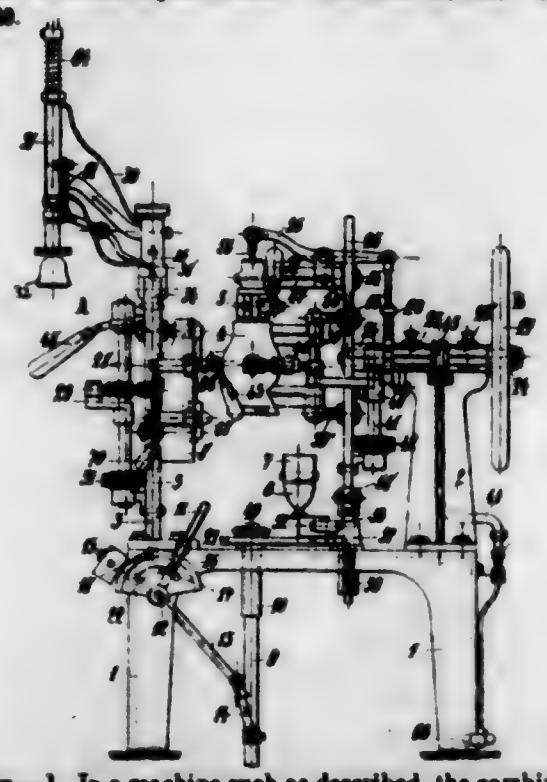
2. The combination with a receptacle having a suitable lid, said lid having a circular recess and an opening formed centrally therein, and a resilient washer adapted to fit over said opening, of a bail carried by said receptacle, a substantially bell-shaped cam member pivotally mounted upon said bail and adapted to engage said washer, substantially as described.

804,575. CUTTING-LATHE. LOUIS ROMARD, Lyon, France. Filed May 6, 1904. Serial No. 206,765.

Claim.—In a lathe the combination of a bed, head and tail stocks thereon, driving-gear in the head-stock, face-plate thereto, speed-change gear between driving-gear and face-plate, a tool-holder adapted for longitudinal and transverse movement on the bed and comprising parts rotarily adjustable in horizontal and vertical planes with respect to one another, a feed-screw journaled in the bed controlling the longitudinal movement of the tool-holder, speed-change gear between driving-gear and feed-screw, a longitudinal shaft journaled in the bed, speed-change gear between the driving-gear and longitudinal shaft, a gear-wheel in said tool-holder coöperating with and shiftable longitudinally on said longitudinal shaft, a train of gear in said tool-holder disposed to coöperate with said gear-wheel irrespective of positions of adjustment and movements of the tool-holder, and a helicoidal cutter in said tool-holder adapted to be revolved by said train of gear.



804,576. MACHINE FOR MAKING BOTTLES, FLASKS, &c. CLAUDE BOUCHER, Cognac, France. Filed Nov. 13, 1903. Serial No. 181,049.



Claim.—1. In a machine such as described, the combination of means for supporting the top or neck of the blank, and means for supporting the intermediate portion thereof during the lengthening of the lower portion.

2. In a machine such as described, the combination, with means for supporting the neck of the blank, of means for supporting the blank intermediately, and means for supporting the bottom of the blank.

3. In a machine such as described, means for supporting the intermediate portion only of the roughly-formed blank.

4. In a machine such as described, the combination, with means for supporting the blank at one end, of separate means for supporting the intermediate portion only of the same.

5. In a machine such as described, the combination of means for supporting the blank at one end, and a sleeve for supporting the same intermediately of its length.

6. The combination, with means for suspending the roughly-formed blank at one end, of means for intermediately embracing and supporting the intermediate portion only of the blank.

7. The combination of means for supporting the roughly-formed blank at one end, means for supporting the intermediate portion only of the blank, and means for varying the relative position of said two supporting means.

8. The combination of means for supporting the roughly-formed blank at one end of the same, means for supporting the blank at its intermediate portion, and means for adjusting said last-named means relatively to said first-named means.

9. The combination of means for supporting the neck of the roughly-formed blank, means below said first-named means for supporting the intermediate portion of the same, and means for vertically adjusting said last-named means.

10. In a machine for manufacturing glass bottles, the combination, with means for supporting the top or neck of the blank, of laterally-adjustable means for supporting the intermediate portion of the same.

11. In a machine for manufacturing glass bottles, in combination, means for suspending the top of the blank, and laterally and longitudinally adjustable means for supporting the intermediate portion thereof.

12. The combination, with a neck-mold, of a blank-supporting sleeve.

13. The combination, with a neck-mold, of a laterally-adjustable blank-supporting sleeve.

14. The combination, with a neck-mold of a longitudinally-adjustable blank-supporting sleeve.

15. A machine such as described including in its construction a neck-mold, and a laterally and longitudinally adjustable blank-supporting sleeve coöperating therewith.

16. The combination, with the neck-mold, of the carriage below the same, and the means on said carriage for supporting the roughly-formed blank at its intermediate portion.

17. In a machine such as described, the combination, with the neck-mold, of a blank-supporting sleeve movable toward and away from the same.

18. In a machine such as described, the combination, with the neck-mold, of a carriage, and a blank-supporting sleeve adjustable on said carriage.

19. In a machine such as described, the combination, with the neck-mold, of a carriage adjustable toward and away from the same, and a blank-supporting sleeve mounted on said carriage.

20. In a machine such as described, the combination, with the neck-mold, of a carriage adjustable toward and away from the same, and a blank-supporting sleeve adjustably mounted on said carriage.

21. In a machine such as described, the combination, with the neck-mold, of a carriage below the same, and a blank-supporting sleeve horizontally slidable on said carriage.

22. The combination, with the neck-mold, of a carriage below the same, means on said carriage for supporting the base of the blank, and means on said carriage for intermediately supporting the blank.

23. The combination, with the neck-mold, of a carriage below the same, means on said carriage for supporting the base of the blank, and means also on said carriage for intermediately supporting the blank, said two supporting means being independently adjustable.

24. In a machine such as described, a sleeve for supporting the intermediate portion of the blank, and a mold for supporting the base of the same.

25. In a machine such as described, a sleeve for supporting the intermediate portion of the blank, and a mold for supporting the base of the same, said sleeve and mold being independently adjustable.

26. In a machine such as described, a neck-mold, a blank-supporting sleeve, and a cup-shaped mold mounted independently of said sleeve.

27. A machine such as described, including a neck-mold, a carriage below the same, a sleeve mounted on said carriage, and a cup-shaped mold also mounted on said carriage.

28. A machine such as described, including a neck-mold, a vertically-movable carriage, and means on said carriage for supporting the intermediate portion of the roughly-formed blank during the lengthening of the lower portion thereof.

29. The combination, with the neck-mold, of the carriage 21, and the mold 6 and sleeve 7 independently slidable thereon.

30. In a machine such as described, the combination, with the neck-mold, of a vertically-movable carriage below the same, a cup-shaped mold slidable on said carriage, and a blank-supporting sleeve also slidable on said carriage.

31. A machine such as described, including in its construction a neck-mold, a horizontally-movable carriage below the same, and means mounted on said carriage for intermediately supporting the roughly-formed blank.

32. A machine such as described, including in its construction a neck-mold, a vertically and horizontally movable carriage below the same, means on said carriage for supporting the roughly-formed blank at its intermediate portion, and means for supporting the base of the blank.

33. In a machine for manufacturing bottles and similar articles of blown glass, the combination of a bed-plate and mold supported above the same, of a vertically-movable carriage on said bed-plate, a hollow mold and a sleeve adjustably mounted on said carriage, and means for actuating said carriage.

34. In a machine for manufacturing bottles and similar articles of blown glass, the combination with a bed-plate and molds supported above the same, of a movable carriage on said bed-plate, and a hollow mold and sleeve independently slidable on said carriage.

35. In a machine for manufacturing bottles and similar articles from blown glass, a glass-mold, consisting of two parts, a lug on each of said parts, one of said lugs having holes therein, a movable plate upon said lug having holes registering with the holes in the same, pins on the other of said lugs engaging the holes in said plate and in said first-named lug, said pins having slots therein engaging said plate, means for normally holding said plate into engagement with said slots, and means for disengaging the same.

36. In a machine for manufacturing bottles and similar articles from blown glass, the combination with a bed-plate, of a support, a beam on said support, a neck-mold carried by said beam, a mandrel for said neck-mold, a spindle on said support, and an eccentric for operating said mandrel rotatable on said spindle.

37. In a machine such as described, the combination, with a bed-plate, of a support, a rotatable beam on said support, a neck-mold carried by said beam, and means for locking said beam to said bed-plate.

38. In a machine such as described, in combination, a bed-plate, a support, a rotatable beam on said support, a neck-mold carried by said beam, and means for locking either end of said beam to said bed-plate.

39. A machine such as described including a bed-plate, a beam mounted for rotation above said bed-plate and carrying a mold, and means for locking said beam to said bed-plate.

40. A machine such as described including a bed-plate, a vertically-disposed beam mounted for rotation above said bed-plate, a mold carried by said beam, and means for locking said beam to said bed-plate.

41. In a machine such as described, the combination, with the neck-mold and finishing-mold, of a bottom for the latter, means for supporting said bottom, and means carried by said supporting means for supporting the roughly-formed blank while suspended in said neck-mold.

42. In a machine such as described, the combination, with the finishing-mold, of a bottom for the same, means for raising and lowering said bottom, and means carried by said last-named means for supporting the roughly-formed blank.

43. In a machine such as described, the combination, with the neck-mold and finishing-mold, of a bottom for the latter, a rod supporting said bottom, and means mounted on said rod for supporting the roughly-formed blank while suspended in said neck-mold.

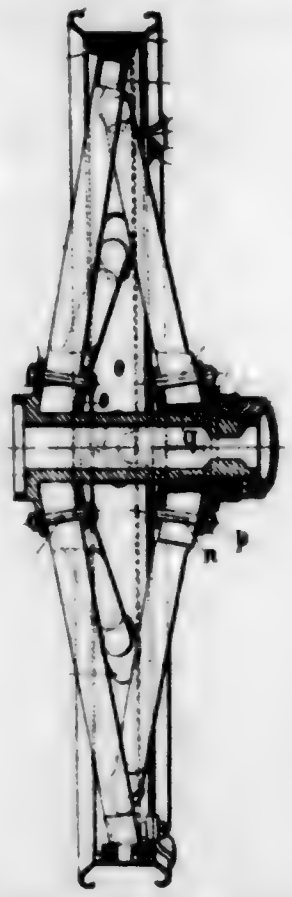
44. In a machine such as described, the combination, with the neck-mold and the finishing-mold, of a bottom for the latter, a rod supporting said bottom, a carriage mounted on said rod, and means mounted on said carriage for supporting the roughly-formed blank while suspended in said neck-mold.

45. In a machine such as described, the combination, with the

neck-mold and the finishing-mold, of a bottom for the latter, a rod supporting said bottom, and means mounted on said rod for supporting the roughly-formed blank while suspended in said neck-mold.

46. In a machine such as described, in combination, a neck-mold, a finishing-mold, a bottom for the latter, a rod supporting said bottom, a carriage adjustable on said rod, and means mounted on said carriage for supporting the roughly-formed blank.

804,577. WHEEL FOR VEHICLES. JOSEPH M. BOULANGER, Reviguy, France. Filed July 8, 1904. Serial No. 215,733.



Claim.—1. In a wheel, a hub provided at one end portion with a fixed spoke-retaining means and at the opposite end with exterior screw-threads, a spoke-retaining member movable along said hub and provided on its outer face with indentations or recesses, an outer nut engaging said screw-threads and operable to adjust said spoke retaining member along the hub, and a washer interposed between said nut and said spoke-retaining member, said washer being provided with means for engaging the indentations or recesses of the latter.

2. In a wheel, a hub provided at one end with exterior screw-threads, a split sleeve or sheath surrounding and movable along the threaded portion of said hub, spoke-retaining cheeks abutting against either end of said sheath, and a nut engaging the screw-threads of the hub and operable to adjust said cheeks and said sheath longitudinally thereof.

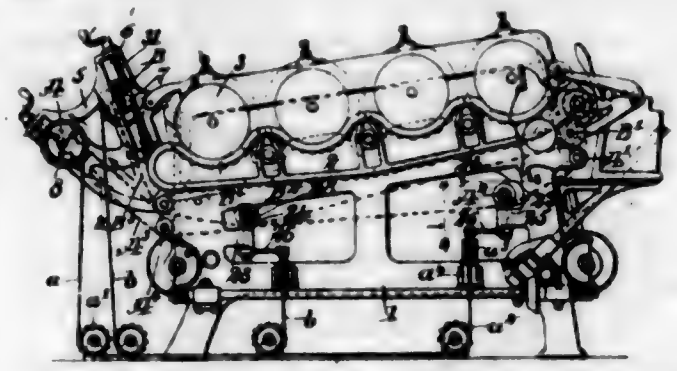
3. In a wheel, a hub provided at one end portion with a fixed spoke-retaining means and at the opposite end portion with exterior screw-threads, a split sleeve or sheath surrounding and movable along the threaded portion of said hub, spoke-retaining cheeks abutting against either end of said sheath, means for retaining a number of spokes between said cheeks, and a nut engaging said screw-threads and operable to adjust said cheeks and said sleeve or sheath longitudinally of the hub.

4. In a wheel, a hub provided at one end with exterior screw-threads, a split interiorly-threaded sleeve or sheath surrounding and movable along the threaded portion of said hub, inner and outer spoke-retaining cheeks abutting against either end of said sheath, a washer bearing against said outer cheek, and a nut bearing against said washer and adjustable along the threaded portion of said hub.

804,578. APRON-GUIDE FOR MANGLES. PERRY B. BRADLEY, Jersey City, N. J., assignor to A. T. Hagen & Co., (Incorporated,) Rochester, N. Y. Filed Mar. 6, 1905. Serial No. 248,478.

Claim.—1. In a laundry-machine, in combination, an apron, a roller affording means for controlling the position of said apron, means for mounting said roller to shift longitudinally and automatic means for shifting said roller by the lateral creeping of said apron.

2. In a laundry-machine, in combination, a shaft, a roller, an apron passing over the same, a loose collar on said shaft adjacent to said roller and adapted to be engaged by the edge of said apron, and mechanism actuated by said roller, for moving said apron toward a central position.



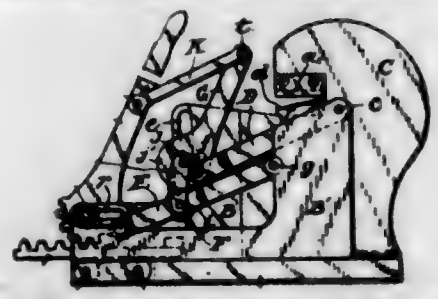
3. In a laundry-machine, in combination, a roller, an apron passing over the same, a shaft on which said roller is mounted, a collar fixed on said shaft, a second collar loose on said shaft and adapted to engage said first collar, said second collar being adapted to engage the edge of said apron, and a mechanism operated by said second collar, for returning said apron toward a central position.

4. In a laundry-machine, in combination an apron, a guide-roller adapted to be shifted laterally with respect to said apron, a chain leading from said guide-roller and controlling the same, and a wheel over which said chain passes and lying adjacent to the edge of said apron, said wheel affording means for actuating said chain when engaged by said apron.

5. In a laundry-machine, in combination, a roller, an apron passing over the same, a shaft connected with said roller, a wheel rigid on said shaft, a collar rigid on said shaft and adapted to engage said wheel, mechanism actuated by said wheel for returning said apron toward a central position, said wheel having a cam-cheek, and a fixed member adapted to engage said cam-cheek, to disconnect said wheel and collar.

6. In a laundry-machine, in combination, a roller, an apron passing over the same, a guide-roller over which said apron passes and affording means for controlling the position thereof, means for mounting said last roller, to move laterally, chains extending from said last roller to points adjacent to said first roller, and mechanism, actuated by said apron at said first roller, for controlling said chains.

804,579. SHEARS FOR CUTTING METALS. JAMES C. BURGESS, Sullivan, Ind. Filed Sept. 9, 1905. Serial No. 277,760.



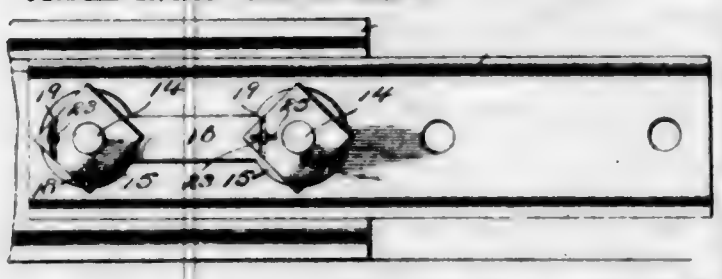
Claim.—1. Shears including a base and a frame thereon having a shear-blade, a pair of rollers mounted in the base, a shoe movable on the rollers, a main lever mounted on the shoe and provided with a guide, an arm pivoted to the frame and also to the main lever, a secondary lever mounted on the arm and connected with the main lever, a cutter-arm pivoted to the frame and also to the secondary lever, a guide for the cutter-arm, and a shear-blade attached to the cutter-arm.

2. Shears comprising a base, a pair of rollers mounted in the base, a shoe mounted movably on the rollers and having rack-teeth thereon, a main lever provided with a guide and having gear-teeth meshing with the rack-teeth of the shoe, a frame having a shear-head thereon, a shear-blade attached to the shear-head, an arm pivoted to the frame and also to the main lever and provided with a bearing-roller, a secondary lever mounted on the bearing-roller, a link connecting the secondary lever with the arm, a pair of link-bars connecting the end of the secondary lever with the body portion of the main lever, a cutter-arm pivoted to the frame and also to the secondary lever, and a shear-blade attached to the cutter-arm.

3. Shears comprising a base, a pair of rollers mounted in the base, a shoe mounted movably on the rollers and having rack-teeth thereon, a frame on the base and having a horizontal guide-slot and also a vertical curved guide-slot, a main lever having guide-teeth

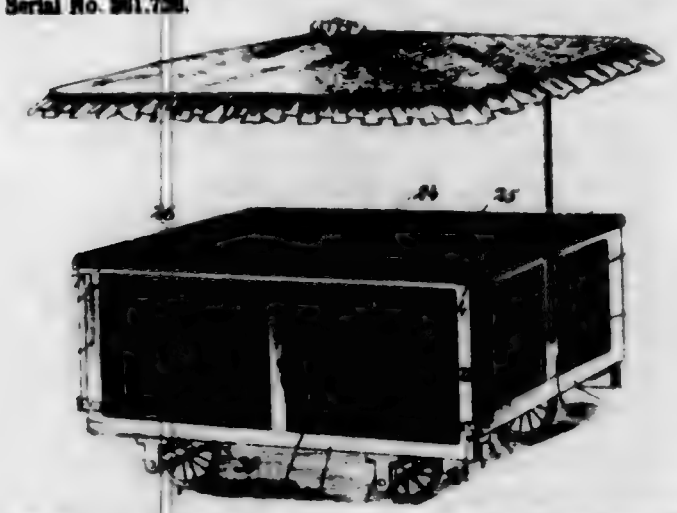
meshing with the rack-teeth of the shoe and provided with a guide extending into the horizontal guide-slot, a shear-head attached to the frame, a shear-blade attached to the shear-head, an arm pivoted to the frame and having a slot therein in which a bearing-roller is mounted, a pivot connecting the arm to the main lever, a secondary lever mounted on the bearing-roller, a link connecting the secondary lever with the arm, a pair of link-bars pivoted to the end of the secondary lever and also to the body portion of the main lever, a fixed guide in contact with the top of the shoe, a cutter-arm pivoted to the frame and also to the secondary lever, a guide-bolt carried by the cutter-arm and extending through the vertical curved guide-slot, and a shear-blade attached to the cutter-arm.

804,580. NUT-LOCK. CORNELIUS W. BURNHAM, Patrick, Miss. Filed Mar. 21, 1905. Serial No. 251,201.



Claim.—The combination with a body having a pair of bolts engaged therethrough, of a washer comprising end members disposed over the bolts and a connecting integral bar, said end members having each an annular series of perforations, a nut engaged with each bolt, a spring-pressed plunger carried by each nut and disposed to engage a perforation in the corresponding end member of the washer, the outer face of each nut having a slot formed therein and opening through two mutually adjacent side faces of the nut, and a pin engaged transversely through each plunger and adapted to lie entirely within the corresponding slot when the plunger is engaged in a perforation of the corresponding end member of the washer and adapted at other times to lie transversely of the slot against the end face of the nut to hold the corresponding plunger retracted.

804,581. COMBINATION BED AND CARRIAGE FOR CHILDREN. STEPHEN D. CARMICHAEL, Tama, Iowa. Filed May 23, 1905. Serial No. 261,736.



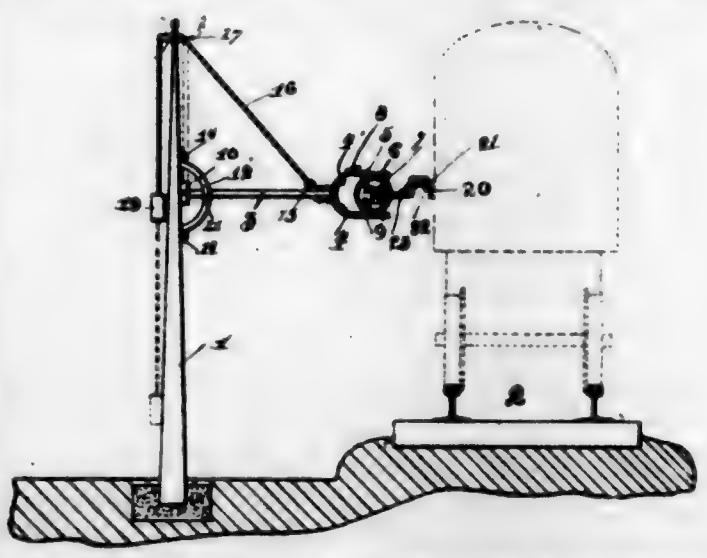
Claim.—1. A child's combination bed and carriage, comprising a body formed of side and end sections, and provided interiorly with a mattress having a frame, the ends of the lower longitudinal members of said side sections being formed with kerfs, and the lower transverse members of said end sections being provided with catch-plates forming supports for the mattress-frame, and portions of which are received in said kerfs when all the sections are assembled together and secured for use.

2. A child's combination bed and carriage, comprising a body formed of side and end sections, and provided interiorly with a mattress having a frame, the ends of the lower longitudinal members of said side sections being formed with kerfs, and the lower transverse members of said end sections being provided with catch-plates forming supports for the mattress-frame, and portions of which are received in said kerfs when all the sections are assembled together and secured for use, the entire structure being provided with supporting axles and wheels.

3. A child's combination bed and carriage, comprising a body formed of side and end sections and provided interiorly with a mattress having a frame, the ends of the lower longitudinal members of said side sections being formed with kerfs, and the lower transverse members of said end sections being provided with catch-plates forming supports for the mattress-frame, and portions of which are received in said kerfs when all of the sections are assembled together and secured for use, the said side and end sections of said body embodying reticulated screens.

4. A child's combination bed and carriage, comprising a body formed of side and end sections and provided interiorly with a mattress having a frame, the ends of the lower longitudinal members of said side sections being formed with kerfs, and the lower transverse members of said end sections being provided with catch-plates forming supports for the mattress-frame and portions of which are received in said kerfs when all the sections are assembled together and secured for use, the entire structure being provided with supporting axles and wheels, and the side and end sections of said body embodying reticulated screens.

804,582. DELIVERING DEVICE. JOSEPH E. CRASE and JOHN S. MCCREARY, Canal Dover, Ohio. Filed Aug. 3, 1905. Serial No. 272,555.



Claim.—1. In a device of the type described, the combination with a track and a train, of a standard located adjacent to said track, a delivery-arm pivotally connected to said standard, arms carried by said delivery-arm, a bar hinged to one of said arms and adapted to retain a delivery-hook upon the other of said arms, a bracket carried by said train, a receiving-arm detachably connected to said bracket and adapted to engage the delivery-hook, hooks carried by the outer end of said receiving-arm, means to normally hold said delivery-arm in a horizontal position, means to elevate said delivery-arm to a vertical position, in respect to the track, substantially as described.

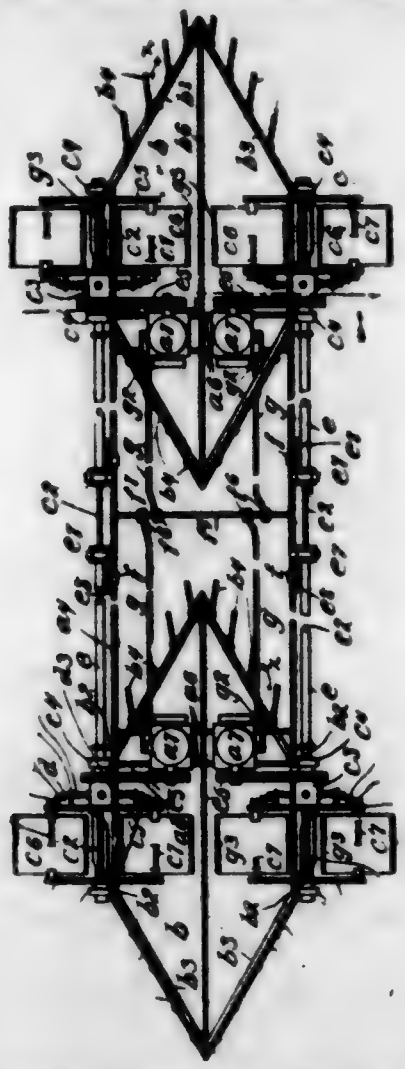
2. In a device of the type described, the combination with a track and a train, of a standard mounted adjacent to said track, a delivery-arm pivotally connected to said standard, arms carried by said delivery-arm, a bar hinged to one of said arms, and adapted to hold a delivery-hook upon the other of said arms, a bracket carried by said train, a receiving-arm detachably connected to said bracket and adapted to receive said hook, means to elevate said delivery-arm, and means to normally hold said arm in a horizontal position, substantially as described.

3. In a device of the type described, the combination, with a track and a train, of a standard erected adjacent to said track, a delivery-arm pivotally connected to said standard, arms carried by said delivery-arm and adapted to support a delivery-hook, a receiving-arm carried by said train and adapted to engage the delivery-hook, means to normally hold said delivery-arm in a horizontal position, and a weight connected to said delivery-arm by a flexible connection passing over a support on said standard to elevate said delivery-arm, substantially as described.

804,583. AIR-SHIP AND PROPELLER THEREFOR. JOHN C. CLANCY, New York, N. Y. Filed Feb. 5, 1904. Serial No. 192,096.

Claim.—1. A propeller, comprising a central hub having radially-arranged pairs of arms, propeller-blades mounted between said arms and adapted to be carried around thereby with said hub, said blades being also adapted to turn between said arms, and means for turning said blades and holding them in position, the form of said blades transversely of their supports being that of a compound curve, said blades being also provided at their opposite sides with side plates, substantially as shown and described.

2. A propeller, comprising a central hub having radially-arranged pairs of arms, propeller-blades mounted between said arms and adapted to be carried around thereby with said hub, said blades being also adapted to turn between said arms, and means for turning said blades and holding them in position, the form of said blades, in section parallel with the longitudinal axis of the machine being that of a compound curve, said blades being also provided at their opposite sides with side plates, and the ends of said blades being projected beyond said side plates, substantially as shown and described.



3. In an apparatus of the class described, a main oblong frame, supplemental frames in the ends thereof and projecting therefrom, the ends of said frames being V-shaped in form, said supplemental frames being open at the bottom and provided with vertically-arranged partitions, propellers mounted in the opposite sides of the supplemental frames and projecting therefrom, said propellers comprising a central hub having radially-arranged pairs of arms and blades mounted between said pairs of arms, means for reversing the position of said blades between said arms, and devices for operating each of said propellers, substantially as shown and described.

4. A propeller, comprising a central hub having radially-arranged pairs of arms, propeller-blades mounted between said arms and adapted to be carried around thereby with said hub, and means for turning said blades between said arms and holding them in position, substantially as shown and described.

5. A propeller, comprising a central hub provided with radially-arranged pairs of arms and propeller-blades mounted between said arms and arranged radially of said hub and adapted to be carried around by said arms and to be turned between said arms, the shape of said blades in cross-section parallel with the longitudinal axis of the machine being that of a compound curve, and devices for turning and adjusting the blades between said arms and for holding said blades in position, substantially as shown and described.

6. A propeller, comprising a central hub provided with radially-arranged pairs of arms and propeller-blades mounted between said arms and arranged radially of said hub and adapted to be carried around by said arms and to be turned between said arms, the shape of said blades in cross-section parallel with the longitudinal axis of the machine being that of a compound curve, and devices for turning and adjusting the blades between said arms and for holding said blades in position, said blades being also provided with side plates, substantially as shown and described.

7. An apparatus of the class described, comprising a main oblong frame, supplemental frames in the opposite ends thereof, propellers mounted in the opposite sides of the supplemental frames and partially inclosed thereby, said propellers comprising a central hub having radially-arranged pairs of arms, and propeller-blades mounted between said arms and adapted to be carried around thereby, means for turning the propellers as a whole, and means for turning the blades between said arms and for holding them in the desired position, substantially as shown and described.

8. An apparatus of the class described, comprising a main oblong frame, supplemental frames in the opposite ends thereof, propellers mounted in the opposite sides of the supplemental frames and partially inclosed thereby, said propellers comprising a central hub having radially-arranged pairs of arms and propeller-blades mounted between said arms and adapted to be carried around thereby, means for turning the propellers as a whole, means for turning the blades between said arms and for holding them in the desired position, the form of said blades in section parallel with the longitudinal axis of the machine being that of a compound curve, substantially as shown and described.

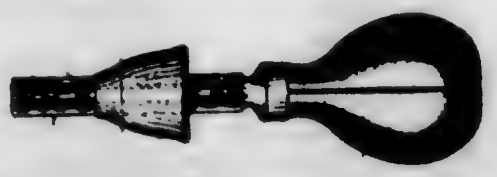
9. An apparatus of the class described, comprising a main frame, supplemental frames at the opposite ends thereof, propellers mounted in the opposite sides of the supplemental frames and partially inclosed thereby, said propellers comprising a central hub having radially-arranged pairs of arms, propeller-blades mounted between said arms and adapted to be carried around thereby, means for turning the propellers as a whole, and means for turning the blades between said arms and holding them in the desired position, said propellers being each provided with a separate motor, and each motor with a separate controlling device, substantially as shown and described.

10. An apparatus of the class described, comprising a main frame, supplemental frames at the opposite ends thereof, propellers mounted in the opposite sides of the supplemental frames and partially inclosed thereby, said propellers comprising a central hub having radially-arranged pairs of arms, propeller-blades mounted between said arms and adapted to be carried around thereby, means for turning the propellers as a whole, and means for turning the blades between said arms and locking them in the desired position, said propellers being each provided with a separate motor, and each motor with a separate controlling device, and the ends of the supplemental frames being V-shaped in form and provided with vertically-arranged and pivoted shutters which operate automatically, substantially as shown and described.

11. In an apparatus of the class described, a main oblong frame, supplemental frames at the ends thereof and having V-shaped front and back ends provided with vertically-arranged shutters which operate automatically, said supplemental frames being closed at the top, propellers mounted in the opposite sides of the supplemental frame and partially inclosed thereby and motors geared in connection with each of said propellers and provided with separate controlling devices, substantially as shown and described.

12. In an apparatus of the class described, a main frame having supplemental end frames, the supplemental end frames being V-shaped in form at their opposite ends and provided with vertically-arranged and pivoted shutters which open and close automatically, propellers mounted in the opposite sides of the supplemental frames and partially inclosed thereby, and comprising a central hub having radially-arranged pairs of arms, blades pivotally supported between said arms and adapted to turn therewith and independently thereof, a motor geared in connection with each of said propellers and adapted to turn the same as a whole, means for changing the position of the blades of the propellers and separate controlling devices for said motors, substantially as shown and described.

804,584. **SYRINGE.** CHARLES J. DAVOL, Providence, R. I., assignor to Davol Rubber Company, Providence, R. I. Filed Mar. 13, 1905. Serial No. 250,772.



Claim.—1. In a syringe, a fluted nozzle constructed of hard rubber, an adjustable cone-shaped shield constructed of soft rubber and having a central hole shaped to fit the fluted nozzle, whereby the shield is prevented from turning on the nozzle, as described.

2. In a vaginal syringe, a soft-rubber bulb, a hard-rubber fluted nozzle secured to the bulb, a soft-rubber cone-shaped shield having a thickened portion in which is a central hole shaped to fit the fluted

nozzle, whereby the shield is adjustable lengthwise on the nozzle, and is prevented from turning on the nozzle, as described.

3. In a vaginal syringe, the combination of a soft-rubber bulb *a*, a hard-rubber fluted nozzle *b* constructed to have the bore *b'* and the series of semicircular grooves b^2 b^3 merging into the ribs b^4 b^5, and a soft-rubber cone-shaped shield *c* having the hollow portion *c'*, the thickened portion c^2 in which is the central hole c^3 shaped to have the series of convex ribs c^4 c^4 merging into the grooves c^5 c^5, whereby the shield is prevented from turning on the nozzle, as described.

804,585. DOOR-STOP. HAROLD T. DEPUE, Kensington, Md. Filed Jan. 25, 1905. Serial No. 242,645.



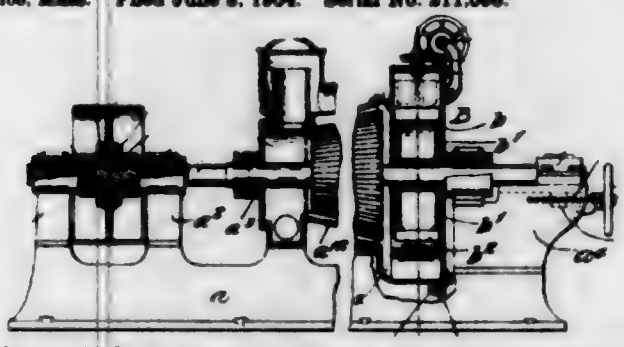
Claim.—1. A self-righting door-stop consisting of a wedge-shaped block adapted to be inserted between the lower edge of a door and the floor, and having a low center of gravity whereby the block tends to return to the proper position when overturned, substantially as described.

2. A self-righting door-stop consisting of a wedge-shaped block having a low center of gravity and provided with a floor-engaging face that is narrower than the widest portion of the block, substantially as described.

3. A self-righting door-stop consisting of a wedge-shaped block having a low center of gravity and having a floor-engaging face composed of a material of greater specific gravity than the body of the block, substantially as described.

4. A self-righting door-stop consisting of a wedge-shaped block having a low center of gravity and a rubber floor-engaging face narrower than the widest portion of the block, said block being of less specific gravity than that of the rubber, substantially as described.

804,586. PAPER-REFINING ENGINE. IRWIN P. DILLON, Lawrence, Mass. Filed June 8, 1904. Serial No. 211,508.



Claim.—1. In a refining-engine, a fiber-straightener, having located at the outgoing end of the conical plug, and separated therefrom by a peripheral gap or pocket, and mechanism, including engaging surfaces relatively movable, for compelling the independent fibers of the paper-stock to travel in single parallel planes, whereby the fibers are brushed out straight and parallel before delivery from the engine.

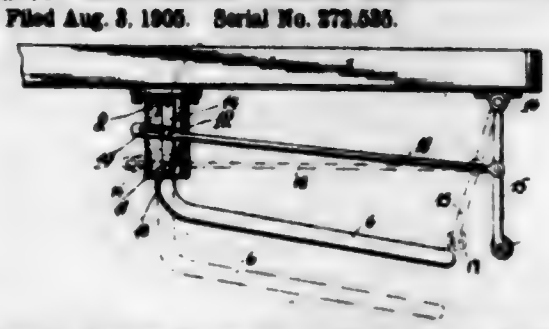
2. A refining-engine, comprising a conical plug and a coöperating grinding-surface, and adjacent to the outlet end thereof similar surfaces cylindrical in shape, and relatively adjustable radially for receiving the pulp from the conical surfaces.

3. A refining-engine comprising a conical plug and a coöperating outer conical grinding-surface, and having adjacent its outlet end a fiber-straightener comprising a cylindrical portion provided peripherally with fiber-engaging bars, and an outer coöperating fiber-engaging surface separated from said conical grinding-surface by a gap or pocket for receiving the pulp before it passes between the cylindrical grinding-surfaces.

4. A refining-engine, comprising a conical plug and a coöperating conical grinding-surface, combined with a chamber separated from said plug at the outgoing end thereof by an intervening pocket, said chamber containing a cylindrical, rotary grinding-surface and a coöperating grinding-surface adjustable radially thereof.

5. In a refining-engine, comprising a conical plug, and a coöperating casing, a fiber-straightener adjacent thereto, a shaft carrying said parts and longitudinally adjustable, a driving-pulley mounted on said shaft to rotate the latter, a key-seat in said shaft, a key from said pulley engaging said key-seat and longitudinally movable therein, and connecting means secured to said pulley and surrounding said shaft to rotate therewith while holding said pulley against longitudinal movement.

804,587. CAR-FENDER. STEFAN BRESNOCHWELLER, Allegheny, Pa. Filed Aug. 3, 1905. Serial No. 272,595.

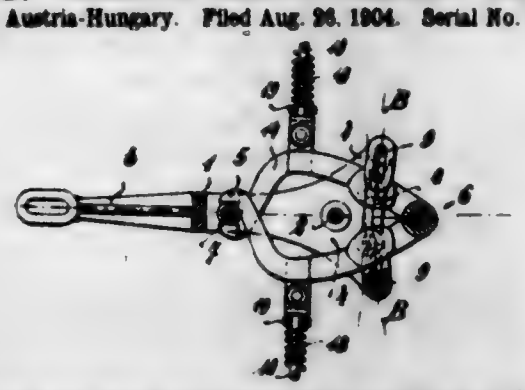


Claim.—1. In a car-fender, the combination with the body of a car, depending cylinders carried by said car, a fender-frame having its ends extending into said cylinders, heads carried by the ends of said fender-frame, a rod connecting said heads and having its ends extending outside of said cylinders, links connected to the ends of said rod and to said cylinders and adapted to support the ends of said fender-frame, a guard-frame suspended from said car, resilient material carried by said frame, rods connecting said links and said guard-frame whereby when said guard-frame is moved said links will be moved to lower said fender, substantially as described.

2. In a car-fender, the combination with the body of a car, of depending cylinders carried by said car, a fender-frame supported from said cylinders and having its ends extending within said cylinders, links supporting the ends of said frame within said cylinders, a guard-frame suspended from said car-body, rods connecting said guard-frame and said links, substantially as described.

3. In a car-fender, the combination with a car-body, of depending cylinders carried by said car-body, a fender-frame carried by said cylinders, links adapted to support said frame within said cylinders, a guard-frame suspended beneath said car-body, resilient material carried by said guard-frame, means actuated by said guard-frame to move said links to permit said fender-frame to descend, substantially as described.

804,588. BRAKE FOR RAILWAY-VEHICLES. JOSEF EGETZ, Wama, Austria-Hungary. Filed Aug. 26, 1904. Serial No. 222,316.

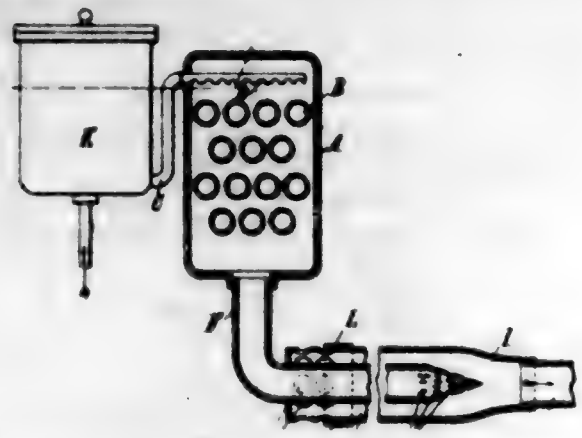


Claim.—In a brake for railway-vehicles and the like, the combination of one of the arms 3 of a three-armed lever 3, 4, 4, pivoting on the spindle of the brake, with the free ends of two levers 5, 14 connected with the bars of the brake and with each other by joints, whereas the other two arms 4, 4, are connected with the opposite levers 5, 14 by means of a guide-piece 8 provided with a slot, so that, on the three-armed lever being turned in one direction or the other, arm 3 be adapted to act upon one of the levers 5, 14 directly and one of the arms 4, 4, upon the second of the levers 14 or 5 by means of the guide-piece, substantially as described and for the purpose set forth.

804,589. CARBURETER FOR EXPLOSION-MOTORS. GIOVANNI ENRICO, Torino, Italy. Filed Mar. 9, 1904. Serial No. 197,211.

Claim.—1. In a carbureter for explosion-motors, the combination of an oil-reservoir, a closed vaporizing vessel for vaporizing oil in the absence of air, a plurality of tubes arranged in said vaporizing vessel, means for introducing the oil above the tubes above the level of the oil to prevent the latter from being siphoned into the vaporizing vessel, said means being in position to allow the oil to gravitate over said tubes, means for heating said tubes for maintaining the vapor thus formed at a high temperature, a mixing-chamber disconnected from said vaporizing vessel and outside the same, and a pipe

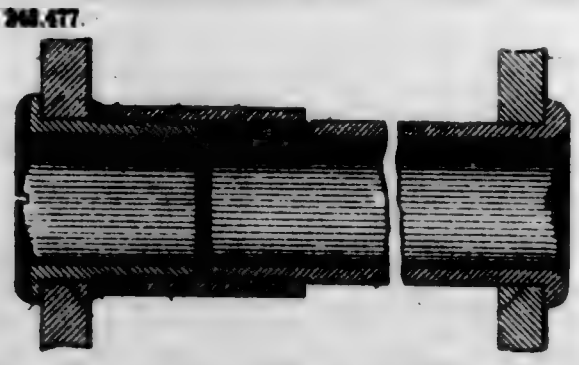
leading from said vessel and terminating within said chamber and having a tapered perforated end.



3. In a carbureter for explosion-motors, an oil-reservoir, a closed vaporizing vessel, an oil-supply pipe thereto having its delivery end perforated and at a higher level than the level of the oil in the reservoir, a plurality of tubes arranged in said vaporizing vessel beneath said delivery end and upon which the oil is designed to gravitate and means for heating said tubes by the introduction of the burned gases from the explosion-chamber of the motor into said tubes, in combination with a mixing-chamber outside of and disconnected from said vessel and a conduit leading from the vaporizer to the mixing-chamber and terminating therein in a perforated end portion, said mixing-chamber being interposed between said vessel and the suction means and supported on the discharge-pipe from said vessel substantially as described.

3. In a carburetor for explosion-motors, an oil-reservoir, a closed vaporizing vessel, an oil-supply pipe thereto having its delivery end perforated and at a higher level than the level of the oil in the reservoir, a plurality of tubes arranged in said vaporizing vessel beneath said delivery end and upon which the oil is designed to gravitate and means for heating said tubes by the introduction of the burned gases from the explosion-chamber of the motor into said tubes, a conduit leading from the vaporizer and having a perforated end portion, in combination with a mixing-chamber outside of and disconnected from said vaporizing vessel and comprising an air-supply pipe within which the conduit from the vaporizer terminates, said mixing-chamber being provided with a number of perforations and means comprising a movable collar mounted on said mixing-chamber, for regulating the supply of cold air to be mixed with the heated oil-vapor, substantially as described and for the purpose specified.

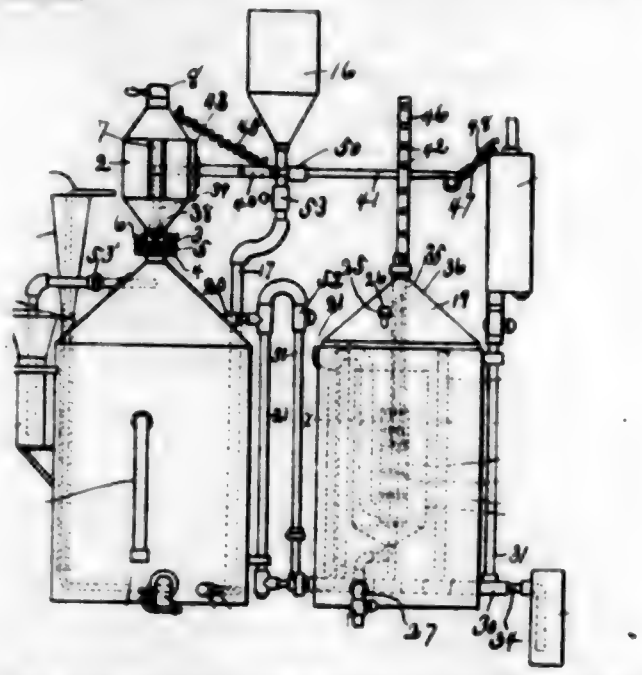
804,590. **BOILER-TUBE FASTENER.** ARTHUR J. EAVIN and JAMES R. WALKER, South Cumberland, Md. Filed Mar. 6, 1905. Serial No. 248,477.



Claim.—The combination with opposite boiler-tube sheets provided with alined cylindrical openings, of a tube extending through the opening in one sheet and toward the other, a nipple extending through the sheet-opening opposite the tube, both the tube and the nipple having enlarged ends contacting with the outside of the sheets over a considerable area and being provided with oppositely-inclined threads upon their adjacent ends, a sleeve engaging both threads and moving into coöperation with the tube-sheet receiving the nipple upon making up the joint, and a gasket contacting with the sleeve and said sheet.

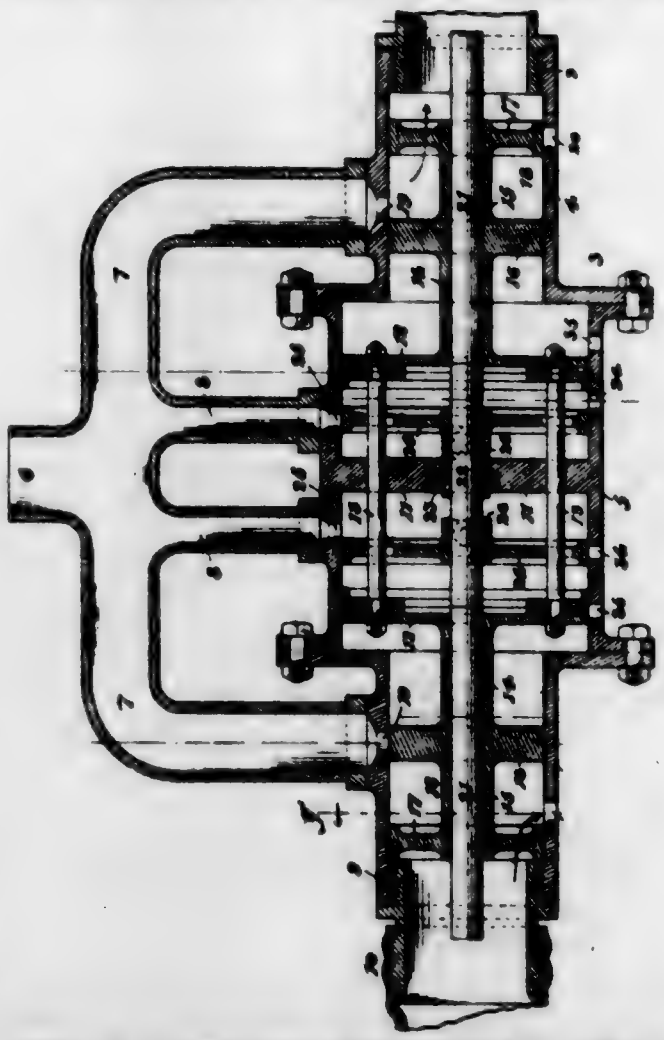
804,591. **GAS-GENERATOR.** ANDREW J. FERGUSON, Fort Worth, Tex.; Clarence H. Ferguson, administrator of said Andrew J. Ferguson, deceased, assignor, by mesne assignments, to American Acetylene Gas Light Company, Fort Worth, Tex., a Corporation. Filed June 20, 1904. Serial No. 213,566.

Claim.—1. In a gas-generator of the class described, a carbid-receptacle having a feed-valve mounted therein and having an opening in one side thereof, a perforated strengthening-plate secured to said receptacle and having an opening registering with the opening in said receptacle, an approximately flat flexible plate attached to said strengthening-plate, a lever pivotally connected to said feed-valve and extending through said flexible plate, and means for actuating said lever.



2. In a gas-generator, a gas-generating vessel, a gas-tank and a gas-bell telescoping into said gas-tank, a suitable pipe connecting said gas-generating vessel and said gas-bell, a carbid-receptacle connected to said generating vessel, a feed-valve mounted in said receptacle, a lever pivotally connected to said feed-valve and projecting out of the side of said receptacle, said lever being jointed and capable of breaking upward, a spiral spring attached to said receptacle and to said lever, and a graduated rack carried by said gas-bell for actuating said lever.

804,592. **AUTOMATIC HOSE-CLEANING APPARATUS.** FERDINAND FINK, Newark, N. J. Filed Jan. 6, 1905. Serial No. 239,861.



Claim.—1. A hose-cleaning device comprising a hollow body portion with means at its opposite ends for attaching the ends of a hose, a water-inlet intermediate of said ends of the body portion, and valve means adapted to be operated to admit the water alternately to each of the ends of the body portion and simultaneously open an exit

in the opposite end, the said valve cutting off direct communication between said ends.

2. A hose-cleaning device, comprising a body portion having a partition and means at the opposite sides of said partition for the attachment of the opposite ends of a hose, valve means in said body portion adapted to in one position lead water to one end of the said body and open a discharge-port in the other and to in another position reverse such flow in direction, and water-supply ducts.

3. A hose-cleaning device, comprising a body portion having means for attachment of the opposite ends of a hose, a water-inlet intermediate of said ends of the body, valve means in said body portion adapted to admit the water alternately to each of the ends of the body and simultaneously discharge from the other, said valve means cutting off direct communication between said ends, and a brush adapted to travel through the hose and engage said valve means.

4. A hose-cleaning device, comprising a body portion having opposite end portions divided from each other and each having means for the attachment of the end of a hose and a lateral discharge-port, water-supply ducts opening by ports into said ends, slide-valves in said ends each adapted to open the inlet-port and close the exit, or vice versa, and means for operating said valves so that they stand in contrary positions at the same time.

5. A hose-cleaning device, comprising a body portion having opposite end portions divided from each other and having means for attachment of the end of a hose and a lateral discharge-port, water-supply ducts opening by ports into said ends, slide-valves in said ends each adapted to open the inlet-port and close the exit, or vice versa, means for operating said valves so that they stand in contrary positions at the same time, and a brush adapted to travel in the hose from end to end and govern said operating means.

6. A hose-cleaning device, comprising a body portion having a middle portion and opposite end portions, said end portions each having means for the attachment of the end of a hose and water inlet and discharge ports, slide-valves in each end portion adapted to open the inlet-port and close the exit or vice versa, means for connecting said valves so that they are always in opposite relations to their ports, a brush adapted to travel in the hose, slidable shafts extending through said valves into the middle body portion and adapted to be engaged by said brush, and means in said middle body portion adapted to be engaged by said shafts to effect a sliding of the slide-valves.

7. A hose-cleaning device, comprising a body having a transversely-divided middle portion and smaller opposite end portions, the compartments of said middle portion each having an inlet and an exit port and said end portions each having means for the attachment of the end of a hose and having water inlet and discharge ports, piston-heads in the compartments of the middle body portion connected to each other, a slide-valve upon the outer side of each piston-head and adapted to lie in the adjacent end portion and simultaneously open the inlet-port and close the exit or vice versa, the two slide-valves being adapted to always lie in opposite relations to their ports, governing slide-valves in said compartments of the middle body portion, means for operating said governing-valves, and a branched water-duct leading to all the said inlet-ports.

8. A hose-cleaning device, comprising a body having a transversely-divided middle portion and smaller opposite end portions, the compartments of said middle portion each having an inlet and an exit port and said end portions each having means for the attachment of the end of a hose and having water inlet and discharge ports, piston-heads in the compartments of the middle body portion connected to each other, a slide-valve upon the outer side of each piston-head and adapted to lie in the adjacent end portion and simultaneously open the inlet-port and close the exit or vice versa, the two slide-valves being adapted to always lie in opposite relations to their ports, governing slide-valves in said compartments of the middle body portion, a brush adapted to travel in the hose, a shaft extending loosely through each piston-head and its slide-valve, a middle shaft in alinement with said end shafts and having the governing-valves fast thereon, and a branched water-duct leading to all the said inlet-ports.

9. A hose-cleaning device comprising a body portion with means for attachment of the opposite ends of a hose, a fluid-inlet, and valve means adapted to admit the fluid alternately to each of the ends of the hose and simultaneously shut it off from the other end and open an exit thereat.

10. A hose-cleaning device having a body portion with means for attachment of the opposite ends of a hose, a fluid-inlet, and valves each adapted to simultaneously admit fluid to one of the hose ends and close an exit, or vice versa.

11. A hose-cleaning device having a body portion with means for attachment of the opposite ends of a hose, a fluid-inlet, flow-valves each adapted to simultaneously admit fluid to one of the hose ends and close an exit, or vice versa, and controlling means for operating said valves oppositely.

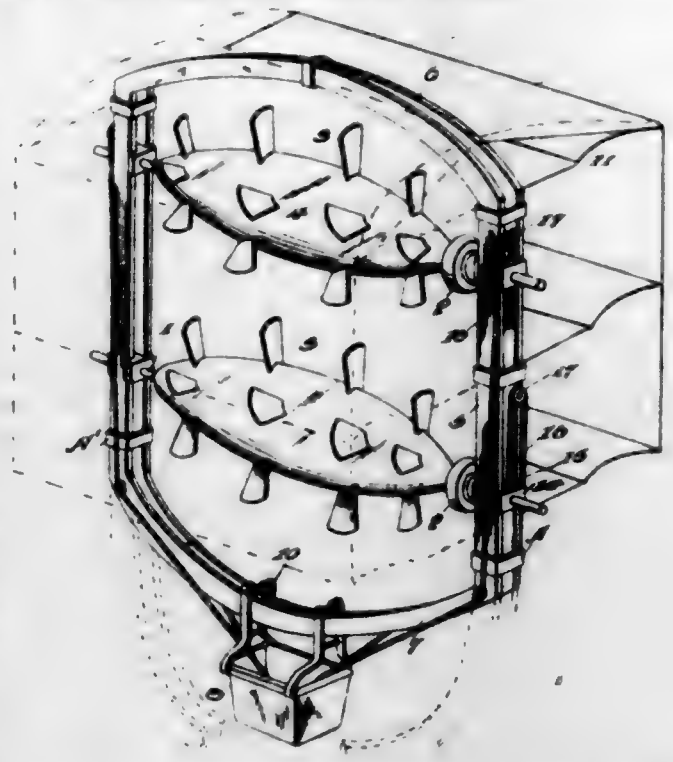
12. A hose-cleaning device having a body portion with means for attachment of the opposite ends of a hose, a fluid-inlet, flow-valves each adapted to simultaneously admit fluid to one of the hose ends and close an exit, or vice versa, and a controlling-valve for operating said flow-valves oppositely.

13. A hose-cleaning device having a body portion with means for attachment of the opposite ends of a hose, a fluid-inlet, valve means adapted to admit the fluid alternately to each of the ends of the hose and simultaneously shut it off from the other end and open an exit thereat, and a cleaning implement adapted to travel in the hose and actuate said valve means.

14. A hose-cleaning device having a body portion with means for the attachment of the opposite ends of a hose, a fluid-inlet, valves each adapted to simultaneously admit fluid to one of the hose ends and close an exit, or vice versa, and a cleaning implement adapted to travel in the hose and actuate said valves.

15. A hose-cleaning device having a body portion with means for attachment of the opposite ends of a hose, a fluid-inlet, flow-valves each adapted to simultaneously admit fluid to one of the hose ends and close an exit, or vice versa, a controlling-valve for operating said flow-valves, and a cleaning implement adapted to travel in the hose and actuate said controlling-valve.

804,593. **FLYING-MACHINE.** ALBERT H. FRIEDEL, New York, N. Y. Filed Aug. 20, 1904. Serial No. 221,511.



Claim.—1. A flying-machine embodying a propeller, and means for independently adjusting opposite ends of the propeller whereby direction of flight may be varied.

2. A flying-machine embodying a propeller, and means for independently or simultaneously adjusting the position of the ends of the propeller whereby direction of flight may be varied.

3. A flying-machine embodying a framework, a propeller journaled therein, journal members for the propeller, flexible connections between the journal members and the propeller, and means for adjusting the positions of the journal members.

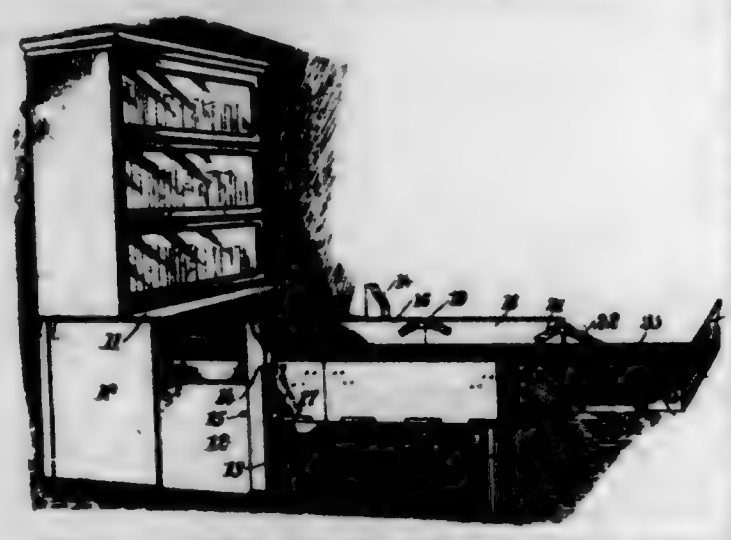
4. A flying-machine embodying a framework, vertically-adjustable journal members mounted in said framework, a propeller embodying a propelling-shaft journaled in the journal members aforesaid and having universal connection therewith, and means for adjusting the positions of the journal members to vary the position of the propeller and the direction of flight of the machine.

5. In a flying-machine, the combination of a suitable framework, guides, journal members slidable in said guides, a propeller mounted in said journal members, and means for independently adjusting the journal members to vary the position of the propeller.

6. In a flying-machine, the combination of suitable framework embodying spaced frames having spaced vertical end bars, journal members slidably mounted between said end bars, propeller-shafts journaled in said journal members, propelling means connected with said shafts, a car carried by the framework, and

means for independently operating the journal members from the car.

804,594. FOLDING BED. JOSEPH D. FROMAN and THOMAS M. LANHAM, Vevay, Ind. Filed May 20, 1905. Serial No. 261,236.



Claim.—1. A folding bed, comprising a foot-section having a curved slot provided with an offset and an elongated slot in line with said offset, and a footboard having projections entering said slots, whereby the footboard is pivotally mounted in the elongated slot and guided by the curved slot.

2. A folding bed, comprising a foot-section having a curved slot provided with an offset, an elongated slot in line with said offset and passing through the center of said curved slot, and a footboard having projections entering said slots.

3. A folding bed, comprising a series of sections adapted to fold upon each other, one of said sections being a foot-section, said foot-section being provided with a projection having a curved slot provided with a downwardly-extending offset; said foot-section also being provided with an elongated slot in line with said offset, the upper portion of said elongated slot constituting the center of said curved slot, and a footboard having projections entering said slots, whereby the footboard is pivotally mounted in the elongated slot.

4. The combination with a bookcase, of a frame slidably mounted therein and having a front portion constituting when closed a continuation of the front surface of said bookcase, and a bed-section pivotally mounted on said frame and having a lower surface constituting a continuation of the front surface of said frame.

5. The combination with a bookcase, of a frame slidably mounted therein and having a front portion constituting when closed a continuation of the front surface of said bookcase, and a bed-section pivotally mounted on said frame and having a lower surface constituting a continuation of the front surface of said frame; said bed-section being provided with a projection, and said frame being provided with a spring-catch adapted to engage the projection to assist in holding the bed-section in horizontal position.

6. The combination with a bookcase having a receptacle in the lower portion thereof, of a frame slidably mounted in said receptacle and having a front portion constituting when closed a continuation of the front surface of said bookcase, a bed-section pivotally mounted on said frame and having a lower surface constituting a continuation of the front surface of said frame, and a plurality of sections connected with said first-mentioned section and adapted to be folded within said receptacle.

804,595. ELECTRICAL CONTROLLER. NATHAN K. GARHART, Indianapolis, Ind., assignor to Garhart Dental Manufacturing Company, Indianapolis, Ind., a Corporation of Indiana. Filed May 25, 1905. Serial No. 262,145.



Claim.—1. In an electric controller, two levers for operating said controller, one adapted to cause the motor to operate in one direction and the other adapted to cause the motor to operate in the opposite direction, means tending to move said levers toward each other, and means for stopping said approaching movement so said levers will be separated.

2. In an electrical controller, a pair of levers fulcrumed at the same point, means tending to draw said levers together, and electrical wiring connected with each of said levers adapted to operate the motor in different directions as one or the other of said levers is operated.

3. In an electrical controller, a pair of levers fulcrumed at the same point, one of said levers resting upon the other and having an upwardly-extending portion, a spring coiled about said portion with one end secured thereto, and means on the other lever for engaging and holding the other end of said spring whereby said spring will tend to draw said levers together, and electrical wiring adapted to operate the motor in different directions as one or the other of said levers is operated.

4. In an electrical controller, a pair of levers, a switch for each lever, means connected with each lever for operating its corresponding switch, and electrical wiring-switches whereby when one lever and its corresponding switch has been operated, the motor will be driven in one direction, and when the other lever and switch are operated, the motor will be driven in a reverse direction.

5. In an electrical circuit, an incomplete main circuit, an incomplete resistance-circuit, a pair of levers, and means thereon that enables the unoperated lever to complete the main circuit and the operated lever to complete and control the resistance-circuit.

6. In an electrical controller, an incomplete main circuit, an incomplete resistance-circuit, a pair of levers, an electrical connection between said levers, means connected with said levers that enables the unoperated lever to complete the main circuit, and means on said lever that enables the operated lever to complete and control the resistance-circuit.

7. In an electrical controller, two levers fulcrumed at the same point, a spring tending to hold said levers together, the tension of which on both levers increases as one of said levers is operated, a series of contact-buttons near the unoperated position of each lever and substantially in alinement with the fulcrum-point of said levers, springs on each lever for engaging the corresponding contact-points so that the springs on the unoperated lever will be pressed more strongly against the corresponding contact-points, an electrical connection between the springs on the two levers, a suitable wiring whereby there will be a main circuit completed by the springs on the unoperated lever, and a resistance-circuit completed by the electrical connection between the springs on the two levers.

8. In an electrical controller, a pair of levers fulcrumed at one point, a series of contact-points for each lever mounted in line therewith, springs on each lever adapted to engage said contact-points when said levers are in their unoperated position, a switch for each lever, means connected with each lever for operating its corresponding switch, a series of contact-buttons for each lever arranged in a position concentric with the fulcrum of the levers, means on each lever for electrically engaging said contact-buttons as either lever is operated, an electrical connection between said levers, the main circuit being connected with said contact-buttons and switches, a series of resistance-circuits connected with said contact-buttons, and an electrical connection between one pair of said springs on one lever and one pair of said springs on the other lever whereby when one lever is moved into engagement with any of said contact-buttons the resistance-circuit will be closed and the springs on the other lever will remain in contact with its contact-points and thereby close the main circuit.

9. In an electrical controller, a lever, contact-buttons some of which are "sudden-stop" buttons and others "speed" buttons, means on the lever for electrically engaging said buttons, a switch in the main circuit, and means connected with said lever for closing said switch that does not operate the same until after the lever has passed the "sudden-stop" buttons.

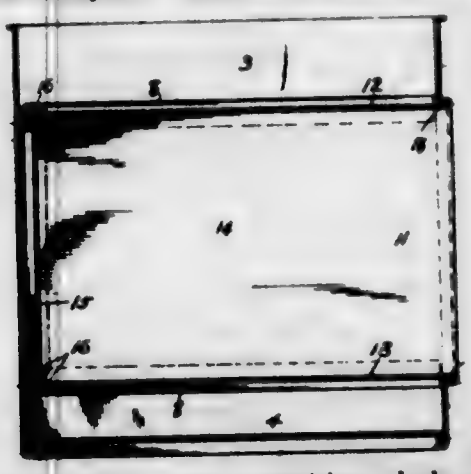
10. In an electrical controller, a lever, "sudden-stop" buttons in the path of the lever near the lever when in its unoperated position, "speed" contact-buttons remote from said lever when in such position, a switch for closing the main circuit, and means connected with said lever for closing said switch that will not act on the switch when the lever is given an outward movement until after it has passed said contact-buttons.

11. In an electrical controller, a lever, a series of "speed" and "sudden-stop" contact-buttons, means on said lever for engaging said contact-buttons, electrical wiring connected with the "speed" buttons for varying the speed, electrical wiring connected with the "sudden-stop" buttons for short-circuiting the current when the lever is in electrical connection with them, a switch in the main cir-

cuit, and means connected with said lever for closing said switch after said lever has passed over said "sudden-stop" buttons in the series.

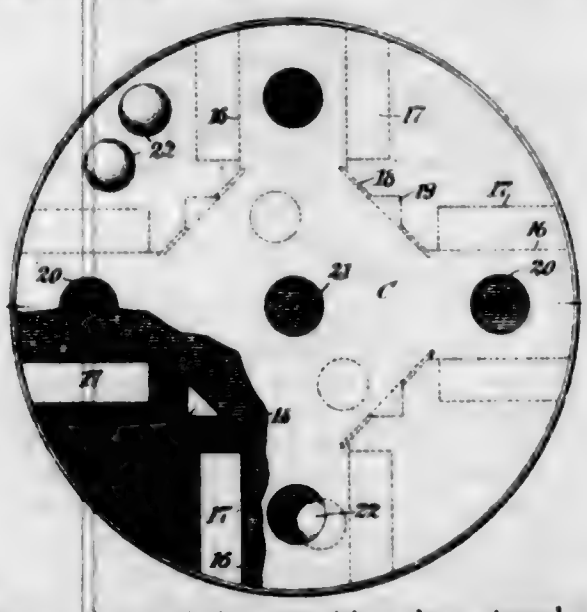
12. In an electrical controller, a lever, "sudden-stop" buttons in the path of the lever near the lever when in its unoperated position, "speed" contact-buttons remote from said lever when in such position, a switch for closing the main circuit, and a spring extending from the free end of said switch to said lever at a point behind the fulcrum of the switch, which spring will pass over the fulcrum of the switch as the lever is moved outward or inward, the parts being arranged so that the switch will not be closed by said means until after the lever has passed outward beyond the "sudden-stop" buttons and the switch will not be opened by said means until the lever has passed inward substantially beyond the "sudden-stop" buttons.

804,596. KNOCKDOWN RANGE. CHARLES L. GOHMANN, New Albany, Ind., assignor of two-thirds to Edmund G. Gohmann and Joseph Kahler, New Albany, Ind. Filed Feb. 20, 1903. Serial No. 144,300.



Claim.—A knockdown range comprising a body portion consisting of metal sheets removably connected together at their edges, the front sheet having an oven-opening therein, and integral flanges projecting outwardly from the edges of said oven-opening, and an oven consisting of metal sheets removably secured together at their edges, said oven disposed in the body portion of the range and having flanges projecting through the oven-opening and bent to embrace the outwardly-projecting flanges around the oven-opening.

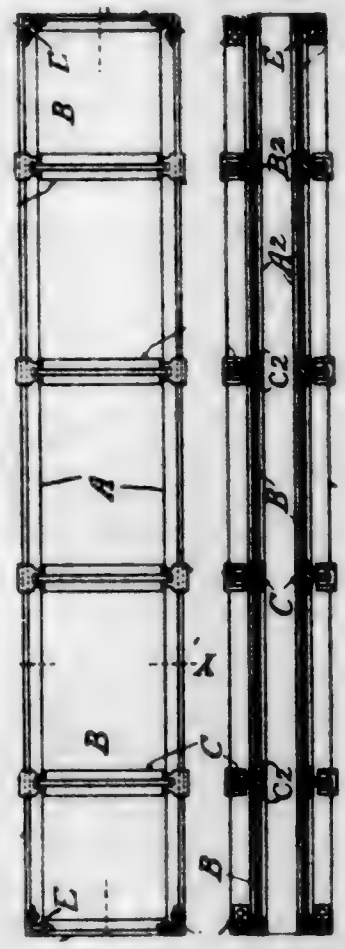
804,597. GAME APPARATUS. WILLIAM J. HAMILTON, Franklin, Pa. Filed May 6, 1905. Serial No. 259,122.



Claim.—1. A game device, comprising a box, a tunnel or subway constructed in connected sections and located at the bottom of the box, fitting to the inner side thereof, a cover for the said tunnel or subway, engaging continuously with the inner side of the box and provided with openings leading into the several sections of the subway or tunnel, and rolling objects located in the subway or tunnel, which objects are to be passed out therefrom through the said openings in the cover member as described.

2. In a game device, a box, a tunnel or subway of substantially cruciform shape, constructed in the bottom portion of the box, a cover member for the said tunnel or subway, secured thereto and engaging continuously with the inner side face of the box, the upper surface of said cover member being smooth and said cover member being provided with five openings therein, the central opening leading to the body portion of the tunnel or subway and the other openings one into each of the wing-sections of the tunnel, and rolling objects located in the said tunnel or subway, for the purpose specified.

804,598. GIRDER. EDWIN HANCOX, Stockton-on-Tees, England. Filed Feb. 13, 1905. Serial No. 245,488.



Claim.—1. A girder composed of top and bottom plates connected by a vertically-arranged web, said plates being provided on their adjacent surfaces with longitudinally-arranged portions or ribs having grooves, and said web being composed of separate sections or members inserted into the said grooves and secured therein, and the separate members or sections of said web being connected by transversely-arranged braces having grooves in their opposite sides and in which the ends of the members or sections of the web are secured, substantially as shown and described.

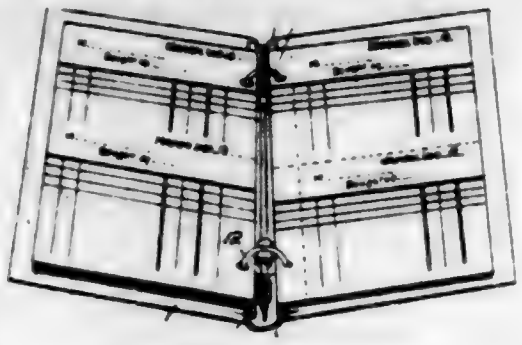
2. A girder composed of top and bottom plates connected by a vertically-arranged web, said plates being provided on their adjacent surfaces with longitudinally-arranged portions or ribs having grooves, and said web being composed of separate sections or members inserted into the said grooves and secured therein, and the separate members or sections of said web being connected by transversely-arranged braces having grooves in their opposite sides and in which the ends of the members or sections of the web are secured, the braces or bars at the ends thereof being also connected with the edges of the top and bottom plates by means of locking-blocks having grooves in two sides thereof into which said edges are inserted and secured, substantially as shown and described.

3. A girder composed of top and bottom plates connected by a vertically-arranged web, said plates being provided on their adjacent surfaces with longitudinally-arranged portions or ribs having grooves, and said web being composed of separate sections or members inserted into the said grooves and secured therein, and the separate members or sections of said web being connected by transversely-arranged braces having grooves in their opposite sides and in which the ends of the members or sections of the web are secured, and locking devices for securing the braces or bars and the top and bottom plates together, substantially as shown and described.

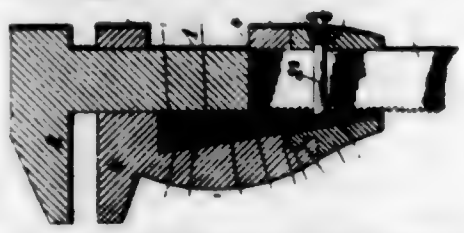
804,599. TEMPORARY BINDER. ALBERT S. HARN, Bloomington, Ind. Original application filed Sept. 26, 1904, Serial No. 226,228. Divided and this application filed Dec. 24, 1904. Serial No. 238,229.

Claim.—In a loose-leaf book, the combination with the cover of a pair of metal strips secured to the back of the cover, leaf-holding rings formed of halves, and the halves of each ring secured at opposite points to said metal strips, a rod on which the halves of said

rings are pivoted, said rod being threaded near said rings, sleeves surrounding said rod near said rings and internally threaded to fit on the threaded portions of said rods, said sleeves having inclined faces that engage the halves of said rings when said sleeves are moved longitudinally of said rod to close the rings, and means for turning said rod so as to give longitudinal movement to said sleeves.

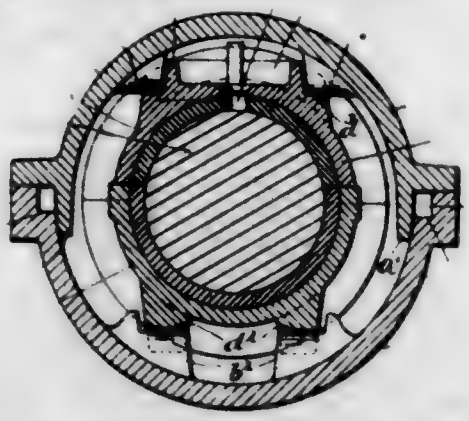


804,600. **WRENCH.** DAVID HARRIS, Coulter, Pa. Filed Mar. 8, 1905. Serial No. 249,011.



Claim.—In a wrench, the combination with a slotted shank and a fixed jaw carried by said shank, of a movable jaw mounted on the shank, said movable jaw having a recess adjacent to the shank, a spring-plate mounted at one end of said recess and having a tooth on its front end engaging the teeth on the shank, a U-shaped spring arranged between said plate and the inner wall of the recess in the movable jaw, an extension-block engaged with said movable jaw by a rabbet-joint, a slotted pin passing through an opening in said extension-block, and through the slot in the shank and bearing against said plate, and a second pin passing through the slot in the said first-named pin and through the extension-block and a third pin passing through the loop of said U-shaped spring, substantially as described.

804,601. **SELF-OILING JOURNAL-BOX.** HARRY W. HILL, Cleveland, Ohio. Filed Jan. 5, 1905. Serial No. 239,745.



Claim.—1. In a self-oiling journal-box, the combination of a shell composed of two shell members which are separable in a substantially horizontal plane, the lower member serving as an oil-receptacle, with two alined bearing-sleeves removably secured within said shell, and an oiling-collar between said sleeves and adapted to be secured to the shaft which is mounted in said sleeves, said sleeves having on their top sides upwardly-extended flanges which form oil-pockets, lugs depending from the upper shell member in such position as to coöperate with the said flanges to position the sleeves and a hole exteading down from each oil-pocket to the shaft-bearing.

2. In a self-oiling journal-box, the combination of a shell composed of two members which are separable in a substantially horizontal plane, of which the lower member has its upper edges internally rabbeted, and the upper member has flanges depending from its lower edges, which flanges fit the inner walls of the lower member below the rabbeted grooves, bearing-sleeves within said shell, and a rotatable oiling-collar between the adjacent ends of said sleeves.

3. In a self-oiling journal-box, the combination of a shell composed of two members which are separable in a substantially horizontal plane, each member being provided with lugs, with two bearing-sleeves, each composed of two halves, and each half being provided with forked lugs for engagement with the lugs on the shell, and an oiling-collar lying between the adjacent ends of the sleeves.

4. In a self-oiling journal-box, a shell composed of two members, which are separable in a substantially horizontal plane, the lower member having internally-rabbeted grooves along its horizontal edges, and the upper member having flanges which extend downward from its horizontal edges and extend below the bottoms of said rabbeted grooves and are fitted to the inner walls of the lower member, said flanges being discontinued at points back from the ends of the shell member; and both of said shell members having at their ends inwardly-extended flanges.

5. In a self-oiling journal-box, the combination of a shell composed of two members which are separable in a substantially horizontal plane, of which the lower member has its upper edges internally rabbeted, and the upper member has flanges depending from its lower edges, which flanges fit the inner walls of the lower member below the rabbeted grooves, bearing-sleeves removably mounted in said shell, means preventing endwise movement of said sleeves within said shell, and a rotatable oiling-collar between the adjacent ends of said sleeves.

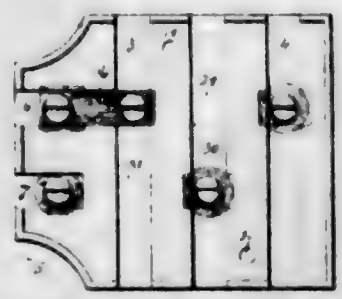
6. In a self-oiling journal-box, the combination of a shell composed of two members which are separable in a substantially horizontal plane, of which the lower member has its upper edges internally rabbeted, and the upper member has flanges depending from its lower edges, which flanges fit the inner walls of the lower member below the rabbeted grooves, bearing-sleeves within said shell, which sleeve members and shell members have interlocking lugs which prevent endwise movement of the sleeves within the shell, and a rotatable oiling-collar between the adjacent ends of said sleeves.

804,602. **DETACHABLE HEAD FOR BORING-TOOLS.** CHAS. P. HOWE, Worcester, Mass., assignor of one-half to F. E. Reed Company, Worcester, Mass., a Corporation of Massachusetts. Filed May 26, 1904. Serial No. 209,867.



Claim.—In a boring-tool, the combination of a stock having at one end an axial cylindrical hole and a diametrical slot, a screw-thread at the bottom of said hole, a cylindrical removable bolt closely fitting said cylindrical hole and having a screw-thread at one end engaging the screw-thread in said stock and a thin retaining-head at its opposite end, and a removable cutter held on said bolt and having tenons engaging the slot in said stock.

804,603. **BRANCH BLOCK FOR ELECTRIC WIRING.** NATHAN B. HOTT and JAMES H. MARTIN, New Haven, Conn., assignors to The Elm City Engineering Co., New Haven, Conn., a Corporation. Filed Nov. 14, 1904. Serial No. 232,596.

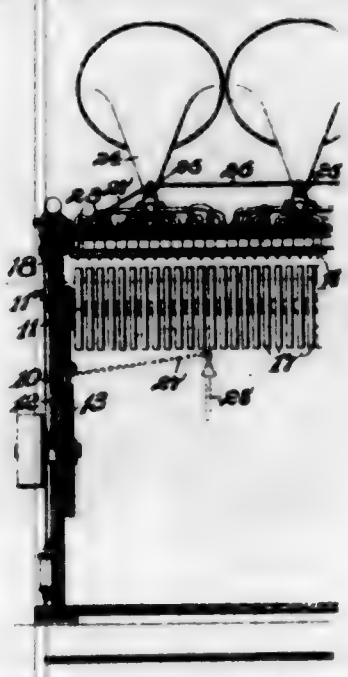


Claim.—A branch block having three longitudinal main grooves and two branch grooves arranged at a right angle thereto, connection between the central groove and one of the branch grooves, connection between the outside grooves and the other branch groove, substantially as described.

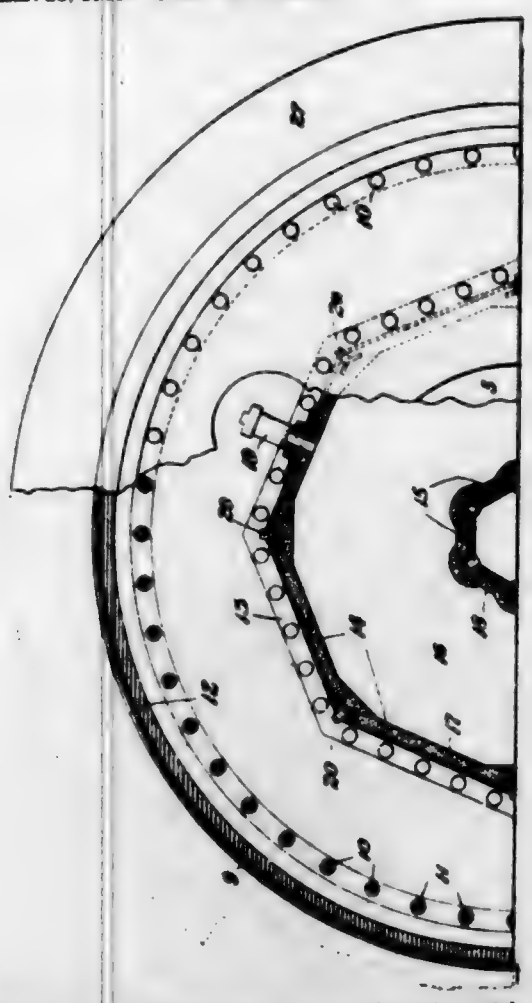
804,604. **PHONOGRAPHIC INSTRUMENT.** JOHN ISAACSON, Clinton, Mont. Filed Aug. 22, 1904. Serial No. 221,308.

Claim.—A phonographic instrument comprising a series of records, means for revolving the records, a reproducer arranged in line with each record, manually-operated means connected with each reproducer to throw it in engagement with each record, sound-directing devices, flexible connections between each reproducer and the sound-directing means, a valve arranged in each sound-directing device, and means to simultaneously operate the valves.

804,604.



804,605. VEHICLE-WHEEL. GUY G. JACKSON, Allegheny, Pa. Filed Mar. 28, 1905. Serial No. 252,457.



Claim.—1. In a vehicle-wheel, the combination with a hub having a polygonal exterior and an embracing-flange, of a corresponding adjustable flange, an outer wheel composed of disks located between said flanges and provided with internal polygonally-arranged cushion-bearing elements, and a compressible cushion having inner and outer polygonally-arranged faces adapted to bear against the hub exterior and said wheel-bearings, substantially as set forth.

2. In a vehicle-wheel, the combination with a hub and an outer wheel, of an intervening compressible cushioning device provided with embedded holding devices adapted to engage the hub and wheel so as to prevent relative rotation of the parts, substantially as set forth.

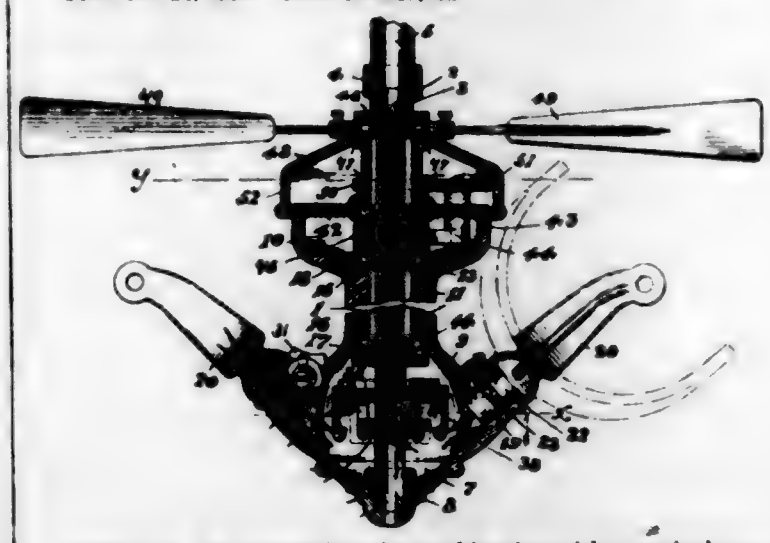
3. In a vehicle-wheel, the combination with a hub and an outer wheel relatively movable thereto and provided with an interior cushion-bearing portion; of an intervening compressible cushioning member having embedded holding devices adapted to engage the hub and said inner bearing portion respectively so as to prevent relative rotation of the parts, substantially as set forth.

4. In a vehicle-wheel, the combination with a hub and an outer wheel relatively movable thereto and provided with an interior cushion-bearing portion; of an intervening compressible cushioning member provided with a series of embedded abutments adapted to engage the hub and outer wheel for preventing relative rotative movement of said parts, substantially as set forth.

5. In a vehicle-wheel, the combination with a hub having a polygonal exterior and an outer wheel having a polygonal interior bearing portion; of an intervening cushioning member provided with faces adapted to engage the faces of the said hub and wheel bearing portion respectively, with supplemental devices incorporated with said cushioning member adapted to engage the hub and bearing portion respectively, substantially as set forth.

6. In a vehicle-wheel, the combination with a hub having a polygonal exterior and an embracing-flange; of an adjustable flange, an outer wheel composed of disks located between said flanges, inner bearing-rings inserted in the flanges, and a compressible cushion intervening between the hub and said wheel, substantially as set forth.

804,606. MOTOR-FAN. GUSTAV E. JACOBSON, Newark, N. J., assignor to Essex Electrical Company, a Corporation of New Jersey. Filed Oct. 24, 1904. Serial No. 230,763.



Claim.—1. In a motor-fan, the combination with a vertical supporting-rod, of a body portion rotatably mounted thereon and having enlarged top and bottom portions and a constricted middle part, individual fan-motors mounted on one of said enlarged parts of the body portion, fans operated by said motors, an auxiliary hub rotatably mounted upon the said supporting-rod adjacent to the other enlarged part, brake-fans carried by said hub, and gear means connecting said body portion and hub to rotate the latter.

2. In a compound motor-fan, the combination with a body portion providing opposite sockets, of individual fan-motor-carrying arms rotatably mounted in said sockets and each having in said socket a worm-wheel, worms mounted transversely upon the body portion one to engage each worm-wheel, and means for turning said worms.

3. In a compound motor-fan, the combination with a body portion providing a socket, of an individual fan-motor-carrying arm having a reduced portion entering said socket and provided with a worm-wheel, a cylindrical carrier mounted in the body portion transversely of said socket and being recessed at its side next said socket, a worm or screw mounted eccentrically in said carrier and adapted to engage the worm-wheel of the motor-arm, and means for turning both said carrier and worm or screw.

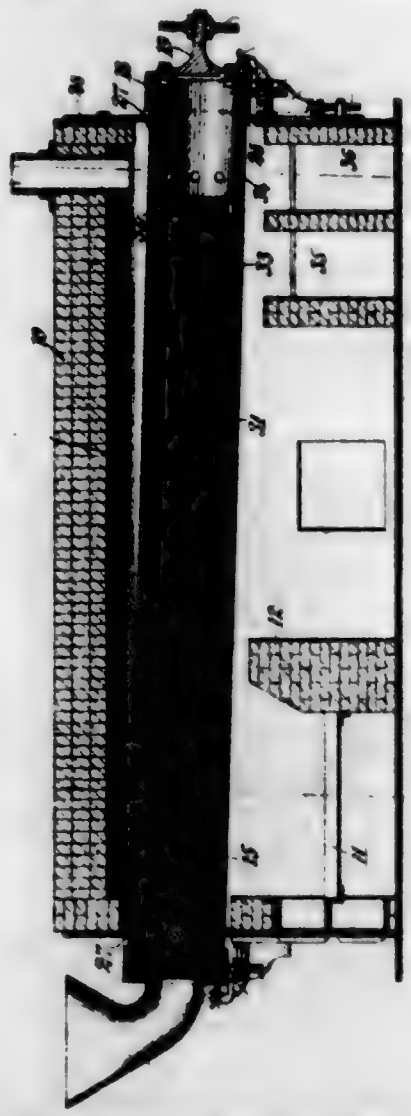
4. In a compound motor-fan, the combination of a supporting-rod, a body portion rotatably mounted on said rod, individual fan-motors and fans adjustably mounted on said body portion and adapted to rotate the same, brake-fans mounted upon said supporting-rod below said fan-motors, and means for transmitting motion from said body portion to said brake-fans.

5. In a compound motor-fan, the combination of a supporting-rod, a body portion rotatably mounted on said rod and having outwardly-branching sockets at one end part and an internal gear at its other end, individual fan-motors and fans adjustably mounted in said sockets of the body portion and adapted to rotate the body portion, a hub upon said supporting-rod adjacent to the said geared end of the body portion and having an external gear, a pinion mounted on a fixed pivot between said gear of the body portion and said hub, brake-fans on said hub, and a skirt inclosing said gears and pinion.

6. In a compound motor-fan, the combination with a body portion providing a socket, of an individual fan-motor-carrying arm rotatably seated in said socket and provided therein with a worm-wheel, a screw adapted to engage said worm-wheel, means mounted on the body portion providing bearings for said screw and adapted to be turned to carry the screw out of engagement with the worm-

wheel, means for turning said screw and a motor and fan mounted on said arm.

804,607. SAND-DRIER. WILLIAM KING, Cedar Rapids, Iowa. Filed May 3, 1905. Serial No. 258,588.



Claim.—1. In a drying apparatus, the combination of a furnace with a rotatable casing, said furnace being provided with roller-bearings for the casing, the bearings at one end of the casing being vertically adjustable, and the furnace being provided with an opening having adjustable plates for partially closing it.

2. In a drying apparatus, the combination of a horizontal furnace having a grate at one end and a discharge-outlet at the other, and openings in its opposite ends, with a rotatable casing extending through the furnace from end to end in an inclined position and projecting through said openings; said casing being provided with means for rotating it upon one end, and said furnace being provided with roller-bearings for the ends of the casing, the bearings at one end of the casing being vertically adjustable, and one of the openings in the furnace being provided with plates for partially closing it, and having a passage for the cylinder, said plates being adjustable.

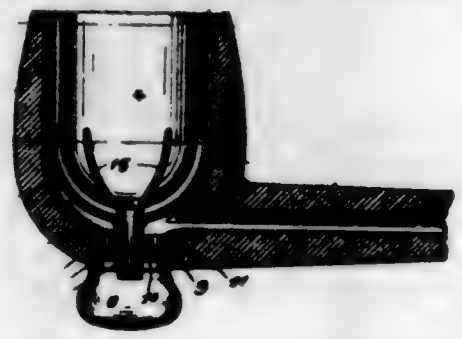
3. A drying apparatus, comprising a rotatable cylinder, means for introducing material into said cylinder, and a screen located in the cylinder, the cylinder being provided with perforations located on opposite sides of one end of the screen.

4. A drying apparatus for sand, comprising a rotatable cylinder, means for introducing material into one end of said cylinder, a screen located in the cylinder and extending from the receiving end thereof to a position adjacent to the discharge end, said cylinder being provided with perforations located beyond the end of the screen and with perforations located adjacent to the screen, and discharge-chutes located beneath said openings.

5. A drying apparatus comprising a rotatable cylinder having an open end and a closed end, means for introducing material into the open end, and a screen located in the cylinder and extending from the open end to a position adjacent to the closed end, said cylinder being provided with perforations located on opposite sides of the rear end of said screen.

804,608. SMOKING-PIPE. JOHN KRAUS, Steubenville, Ohio. Filed May 17, 1905. Serial No. 260,812.

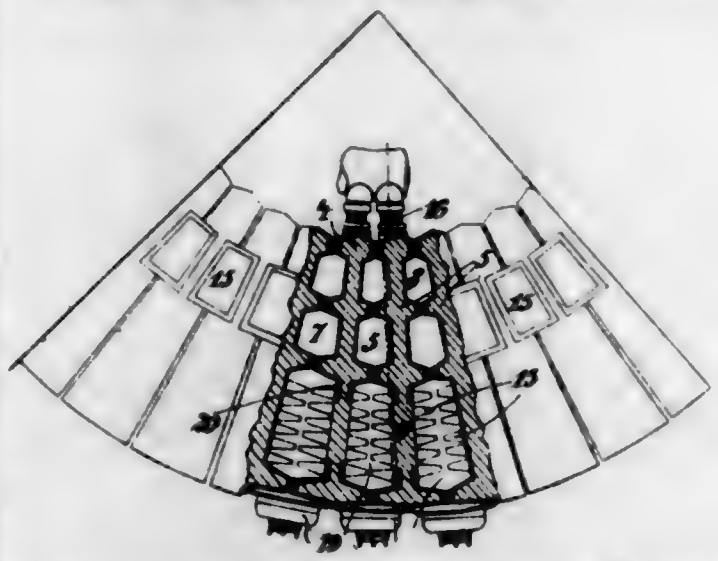
Claim.—1. In a pipe, the combination with a bowl having an opening formed in its bottom, of a cup adapted to fit within said bowl, said cup having a depending screw-threaded neck, a plurality of welts formed upon said cup and providing grooves within said cup, a receptacle having a neck portion adapted to fit within the opening of said bowl, said neck portion having a plurality of apertures formed therein, one of said apertures being adapted to receive the depending neck of said cup, substantially as described.



2. A smoking-pipe comprising a bowl and a stem, the bottom of said bowl having an opening formed therein, a cup mounted in said bowl, said cup having a depending neck protruding within said opening, a receptacle secured upon said neck, said cup having a plurality of welts formed therein forming grooves upon the interior of said cup, substantially as described.

3. In a pipe the combination with a bowl, having an opening formed in its bottom, of a cup adapted to fit within said bowl, said cup having a depending neck, a receptacle having a neck portion adapted to fit within the opening of said bowl, said neck portion having a plurality of apertures formed therein, one of said apertures being adapted to receive the depending neck of said cup, substantially as described.

804,609. SECTIONAL BOILER. JENS J. M. LANGE, Svendborg, Denmark. Filed Sept. 10, 1904. Serial No. 223,959.



Claim.—1. A boiler or heater built up of two sets of elements, and each of those of one set having a transverse central wall, projections extending therefrom on opposite sides, each half of the element constituting half of a complete furnace and each of those of the other set comprising a transverse wall, and projections extending therefrom at one side; said elements of the second set constituting the two ends of the heater.

2. A boiler or heater built up of two sets of elements each of those of one set having a transverse central wall, and projections extending therefrom on opposite sides at right angles to the wall, and each half of the element constituting half of a complete furnace and those of the other set constituting the ends of the heater.

3. A boiler or heater built up in part of a number of elements each having a transverse wall, projections extending therefrom on opposite sides and forming half of a complete furnace, and a fireplace constituting a portion of the furnace; each element having a passage constituting a portion of a smoke-channel communicating with the fireplace, and each having at the junctions of the elements apertures for access to the interior.

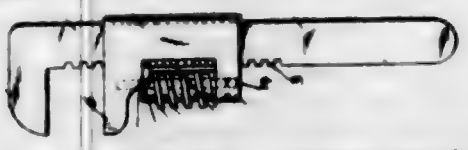
4. A boiler or heater built up in part of a number of elements each having two opposite sides at an acute angle to each other, whereby the boiler can be arranged in fan shape, and each having a transverse wall and projections therefrom forming half of a complete furnace.

804,610. RADIO-ACTIVE SALVE. Hugo Lemme, New York, N. Y. Filed June 17, 1904. Serial No. 213,068.

Claim.—1. A radio-active salve, consisting of a salve-vehicle and emanations from a radio-active substance in combination with the particles of the salve-vehicle throughout its mass, the salve being free from the radio-active substance from which the emanations were obtained and radio-active by reason of the emanations in combination with the particles of the salve-vehicle throughout its mass, substantially as described.

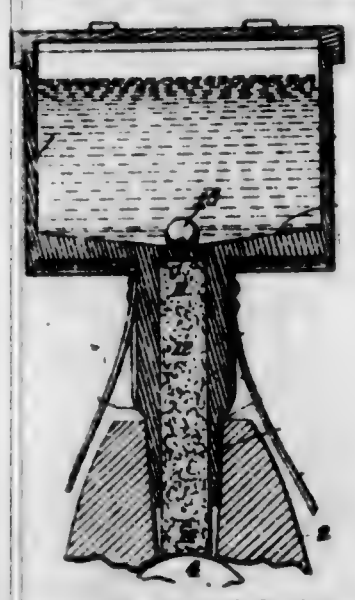
2. A radio-active salve, consisting of a salve-vehicle and thorium emanations in combination with the particles of the salve-vehicle throughout its mass, the salve being free from the thorium from which the emanations were obtained and radio-active by reason of the thorium emanations in combination with the particles of the salve-vehicle throughout its mass, substantially as described.

804,611. WRENCH. George A. Low, Jr., Wilkinsburg, Pa., assignor to John E. Low, Wilkinsburg, Pa. Filed Jan. 18, 1904. Serial No. 189,306.



Claim.—A wrench embodying a toothed shank having a fixed jaw at one end, a sliding jaw mounted on said shank and cut away on the side adjacent the teeth of the shank, the said movable jaw having a cam formed on one wall of the opening, and said cam having an opening extending therein, the opposite wall of said opening having an aperture extending therethrough, a spindle mounted in said aperture and in the opening in the cam, a jam-screw threaded into said aperture and holding the spindle in position in the jaw, a lock-screw rotatably mounted on said spindle, a cam formed integral with the upper end of said lock-screw at one side of the opening therethrough and adapted to coact with the cam on the movable jaw, the said lock-screw being cut away on the side opposite the cam, and having a rib extending the length of the screw, substantially as described.

804,612. LUBRICATOR. Harry H. Little, Beaver, and Eleaser D. Cawley, Allegheny, Pa., assignors of one-half to Edward F. Grimm, Pittsburg, Pa. Filed Oct. 19, 1904. Serial No. 229,386.

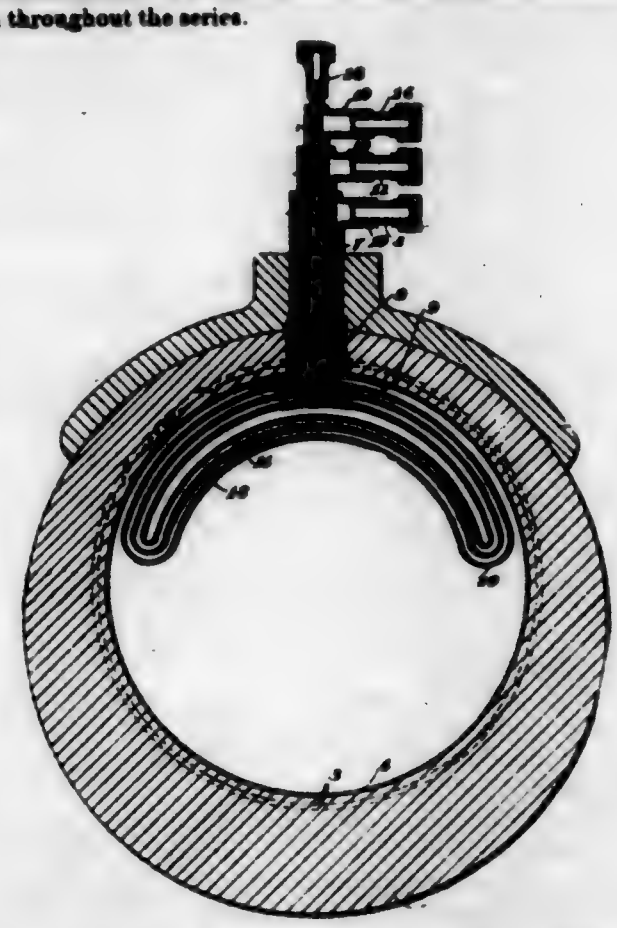


Claim.—In a lubricator, a receptacle having a shank adapted to be inserted in the oil-opening of a bearing, said shank being formed with a recess extending longitudinally thereof, a wick located in said recess and a ball located in said receptacle and adapted to cover an opening leading from said recess into the receptacle.

804,613. VEHICLE-TIRE. Frank A. Magowan, Trenton, N. J. Filed Aug. 12, 1905. Serial No. 273,969.

Claim.—1. A pneumatic tire comprising an outer tube or cover, a series of inner tubes nested one within the other, and a set of inflation-valves one for each of said inner tubes; said valves having stem portions nested one within another.

2. A pneumatic tire comprising an outer tube or cover, a series of inner tubes nested one within another, and a set of inflation-valves one for each of said inner tubes; said valves having stem portions nested one within another: the innermost valve-stem being connected to the innermost tube, the next outer stem to the next outer tube, and so on throughout the series.



3. A hose-pipe tire having vulcanized thereto an inner air-tight lining and containing a series of soft flexible rubber tubes nested one within another, with means for inflating said hose-pipe tire and said tubes one after another.

4. A pneumatic tire comprising a cover or outer tube provided with inflating means, a series of flexible inner tubes nested one within another and inflatable independently of one another and of said outer tube, and means for inflating one of the nested tubes when the air is exhausted from another thereof.

5. A pneumatic tire comprising a cover or outer tube provided with inflating means, a series of flexible inner tubes or compartments nested one within another, and means for inflating any of said inner tubes at will independently of the cover or the remaining inner tubes.

6. A pneumatic tire comprising a cover or outer tube, endless tubes within said outer tube and inflatable independently of one another, and means for inflating one after another said outer and inner tubes.

7. As a new article of manufacture, an inflatable outer tire-tube provided with a series of endless inner tubes inflatable independently of one another and of said outer tube.

8. In a tire, an endless inflatable air-tube, an endless air-tube within said tube and independently inflatable, and an endless air-tube within the last-mentioned tube and inflatable independently of either of said tubes.

9. In a tire, an endless inflatable air-tube, an endless inflatable air-tube within said tube, an endless inflatable air-tube within the last-mentioned tube, and a set of inflation-valves, one for each of said tubes.

10. A pneumatic tire comprising a cover or outer tube provided with inflating means, a series of endless inflatable inner tubes usable independently of one another, and means for inflating said inner tubes.

11. A pneumatic tire comprising a cover or outer tube provided with inflating means, an inflation-valve therefor, a plurality of endless inner tubes, and an inflation-valve for each of said inner tubes.

12. A pneumatic tire comprising a cover or outer tube, an inflation-valve therefor, a plurality of endless inner tubes, and means for inflating said inner tubes independently of one another and of said outer tube.

13. An inflatable pneumatic tire carrying a set of endless spare inner tubes each of which is inflatable independently of the other and of said tire.

14. In a pneumatic tire, the combination with an outer tube or cover having a tread portion, of a plurality of spare inflatable endless tubes within said outer tube and packed together opposite said tread portion, said outer tube being inflatable independently of said inner tubes.

15. A pneumatic tire comprising an outer inflatable tube or

cover, a series of inner tubes nested one within the other, and a set of valves one for each of said cover and tubes; said valves having stem portions; the innermost valve-stem being connected to the innermost tube, the next outer stem to the next outer tube, and so on throughout the series; each of said stem portions being provided with an inflation-nipple having a detachable cap.

16. A pneumatic tire comprising an inflatable outer tube or cover, a series of inner tubes nested one within the other, and a set of inflation-valves one for each of said outer and inner tubes; said valves bearing serial numbers.

17. A "hose-pipe" tire provided with an inflation-valve and containing a plurality of endless spare inner tubes each also provided with an inflation-valve.

18. A "hose-pipe" tire provided with an inflation-valve, and containing a plurality of endless spare inner tubes inflatable independently of each other and of said tire.

19. A "hose-pipe" tire provided with an inflation-valve, and containing a plurality of spare inner tubes inflatable independently of each other and of said tire; said inner tubes being endless and nested or contained one within another.

20. A pneumatic tire comprising inflatable tubes nested one within another, and a set of valves one for each of said tubes, said valves having stems nested one within another and provided with separate inflation-nipples.

21. A pneumatic tire comprising inflatable tubes nested one within another, and valves nested one within another, the outer valve connected to the outer tube, and the inner valve connected to the inner tube.

22. A pneumatic tire comprising an inflatable tube and a valve therefor; an air-tube within said tube and provided with a valve within said valve; and an air-tube within the last-mentioned air-tube and provided with a valve within the last-mentioned valve.

804,614. MEANS FOR REINFORCING CONCRETE STRUCTURES. ROBERT R. MOORMAN and CHARLES W. YELM, Lafayette, Ind. Filed Apr. 7, 1905. Serial No. 254,253.



Claims.—1. Means for reinforcing concrete structures consisting of a plurality of parallel bars in different planes with intermediate stripe connecting the approximate lateral edges of said bars.

2. Means for reinforcing concrete structures consisting of a pair of parallel bars with intermediate connecting-strips attached to the approximate lateral edges of said bars, whereby the ends of two of said reinforcing means may be spliced firmly by overlapping the ends thereof.

3. Means for reinforcing concrete structures consisting of a pair of parallel bars in different planes, and connecting-strips integrally attached to the inner edges of the bars so as to form inward projections from the bars that interlock when the ends of two of said reinforcing means are overlapped.

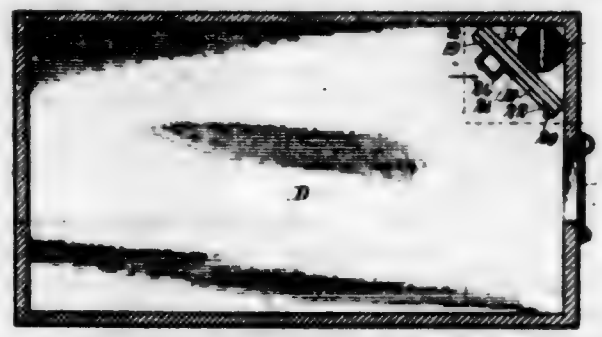
4. Means for reinforcing concrete structures consisting of two sections, each section formed of two parallel bars with inclined connecting-strips and the ends of the two sections overlapping so that the corresponding bars of each section will overlap each other and the connecting-strips will be in the same plane.

804,615. OVEN-SCREEN. BENJAMIN MOSKOWITZ, Shenandoah, Pa. Filed Apr. 12, 1905. Serial No. 255,162.

Claim.—1. The combination with an oven having a grate and a baking-surface, of a screen between the grate and baking-surface comprising a base, and a wall rising from the base and having an opening, and a closure for the opening.

2. The combination with an oven having a grate and a baking-surface, of an oven-screen comprising a base and a wall rising from the base and having an opening, a slide mounted in ways upon the wall and base, and being movable across the opening.

3. An oven-screen comprising a base, a wall rising from the base, and a flap hinged upon upper edge of the wall.



4. An oven-screen comprising a base, a wall rising from the base and having an opening, a closure for the opening, and a flap hinged upon upper edge of the wall.

5. The combination with an oven having a grate and a baking-surface, of a screen between the grate and baking-surface comprising a base, a wall rising from the base and having an opening, a closure for the opening, and rolls extending transversely of the base.

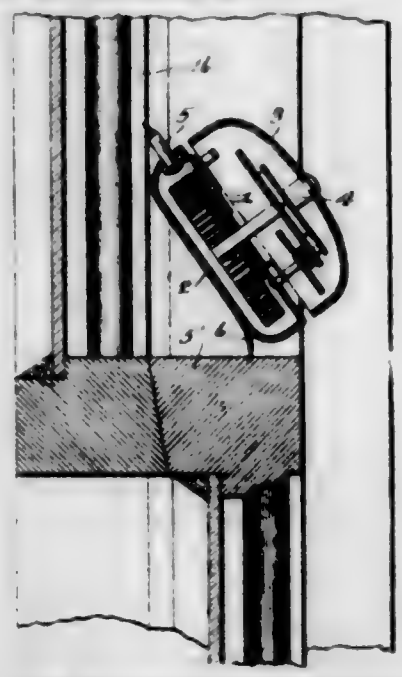
6. The combination with an oven having a grate and a baking-surface, of a screen between the grate and baking-surface comprising a base, a wall rising from the base, and a receptacle carried by the wall and having a contracted outlet-opening.

7. The combination with an oven having a grate and a baking-surface, of a screen between the grate and baking-surface comprising a base, a wall rising from the base, and a receptacle carried by the wall on the baking-surface side and having a contracted outlet delivering at the grate side.

8. The combination with an oven having a grate and a baking-surface, of a screen between the grate and baking-surface comprising a base, a wall rising from the base and having an opening, and a receptacle carried by the wall and having a delivery-tube extending into the opening.

9. The combination with an oven having a grate and a baking-surface, of a screen situated between the grate and baking-surface, and a receptacle carried by the screen upon the side toward the baking-surface and having a contracted opening delivering upon the grate side of the screen.

804,616. BURGLAR-ALARM. JOHN O. MORRIS, Richmond, Va., assignor to R. W. Peatross and Frederick Aunspaugh, Norfolk, Va. Filed Mar. 15, 1905. Serial No. 250,263.

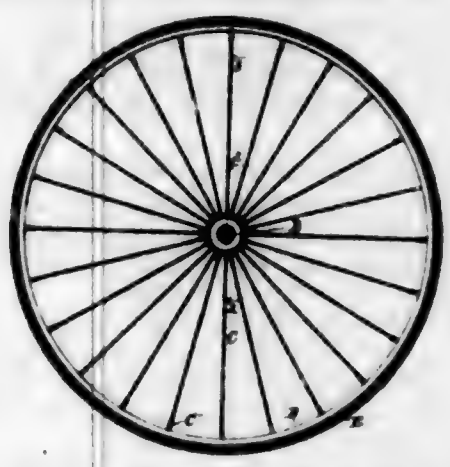


Claim.—1. A burglar-alarm comprising a sheet-metal back and motor-controlled sounding mechanism carried thereby, a relatively short push-pin for releasing the sounding mechanism, said pin being projected externally of the alarm and provided with a sharpened end, and a pair of relatively short penetrating prongs struck up from the sheet-metal back at points diametrically opposite the said push-pin, said prongs being deflected rearwardly and outwardly from the plane of the back.

2. A burglar-alarm comprising a concavo-convex back having a pair of prongs cleft from the rounded edge thereof and bent to incline rearwardly and outwardly from the plane of the back, a gong carried by the back, motor-controlled gong-actuating mechanism housed between the gong and the back, and a push-pin for releasing the

gong-actuating mechanism, said pin having a sharpened outer end, extending beyond the periphery of the back and located diametrically opposite said pair of prongs.

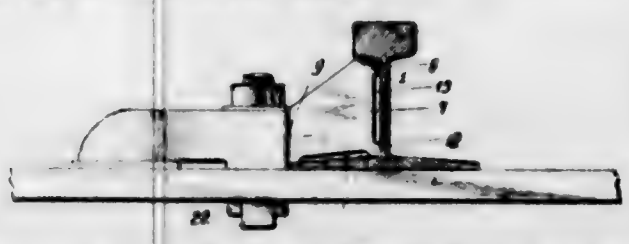
804,617. VEHICLE-WHEEL. NELSON A. NEWTON, Kalamazoo, Mich. Filed June 19, 1905. Serial No. 265,930.



Claim.—1. In a vehicle-wheel, the combination of a rim or felly; metal spokes having screw-threads at their outer ends and conical-shaped heads at their inner ends; internally-threaded nipples arranged through said rim for securing the outer ends of said spokes thereto; a hub having threaded sockets therein; and nipples having spoke-openings through which said spokes are loosely arranged, and having concaved seats for said spoke-heads threaded into said sockets, for the purpose specified.

2. In a vehicle-wheel, the combination of a rim or felly; metal spokes having screw-threads at their outer ends and heads at their inner ends; internally-threaded nipples arranged through said rim for securing the outer ends of said spokes thereto; a hub having threaded sockets therein; and nipples having spoke-openings through which said spokes are loosely arranged, and having seats for said spoke-heads threaded into said sockets, for the purpose specified.

804,618. RAIL-FASTENER. THOMAS S. NEWTON, Pittsburg, Pa. Filed July 17, 1906. Serial No. 269,952.



Claim.—1. In a rail-fastener, the combination with a rail and a tie, said tie having elongated openings formed therein, of rail-blocks adapted to engage both sides of said rail, said rail-blocks having recesses formed therein, tie-blocks adapted to engage in said recesses, cups mounted in said openings, said cups having recesses formed therein, a depending lug carried by each tie-block and adapted to fit within said recesses, said tie-blocks having vertically-disposed openings formed therein, depending lugs carried by each tie-block upon the sides of said openings, and adapted to extend downwardly in one of the openings of said tie, bolts passing through the openings of said tie-block, a T-shaped head carried by each bolt and adapted to engage the underneath surface of the top of the tie, and means for securing said bolts in said tie-blocks, substantially as described.

2. In a rail-fastener, the combination with a rail and a tie, said tie having elongated openings formed therein, a rail-block adapted to engage said rail, said rail-block having a recess formed therein, a tie-block mounted upon said tie, and engaging the said recess, a cup mounted in one of the openings of said tie, a depending lug carried by said tie-block and adapted to engage in said cup, said tie-block having an opening formed therein, a bolt mounted in said opening and adapted to hold said tie-block in engagement with said tie, means to prevent said bolt from rotating, substantially as described.

3. In a rail-fastener, the combination with a rail and a tie, said tie having openings formed therein, a rail-block adapted to engage said rail, a tie-block mounted upon said tie and adapted to engage said rail-block, a cup mounted in one of said openings, a depending lug carried by said tie-block and adapted to engage in said cup, means to hold said tie-block in engagement with said tie, means to adjust said tie-block, substantially as described.

4. In a rail-fastener, the combination with a rail and a tie, of a rail-block adapted to engage said rail, a tie-block adapted to engage in said rail-block, means to hold said tie-block in engagement with said tie, and means to adjust said tie-block upon said tie, substantially as described.

5. In a rail-fastener, the combination with a rail and a tie, of a rail-block adapted to engage said rail, a tie-block adapted to engage in said rail-block, means to adjustably fix said tie-block to said tie, substantially as described.

6. The combination with the rail and a tie having an opening, of a rail-block seating on the base-flange of the rail, a tie-block engaging said rail-block having a depending lug extending through the opening in the tie, and having a vertical opening through said lug, and a bolt passed through said opening in the lug and having a head engaging the underneath face of said tie, substantially as described.

7. In a rail-fastener, a rail-block provided on its outer face with a recess, a tie-block having a projection on its inner end seating in said recess, in combination with a tie, and means detachably securing the tie-block to the tie.

8. In a rail-fastener, a tie-block provided on one end with a projection and having a lug on its underneath face, in combination with means for detachably securing the tie-block to a tie, and a detachable cup engaged by said depending lug.

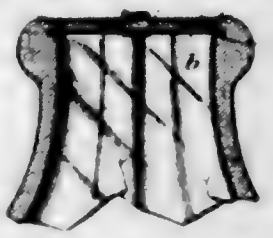
9. In a rail-fastener, the combination with a tie, of a tie-block detachably secured to the tie, and a removable cup seated in the tie and engaged by said tie-block.

10. In a rail-fastener, a rail-block, and a tie-block, engaging each other, the rail-block engaging a rail, and the tie-block engaging a tie, in combination with a bolt passed through the tie and tie-block, and having a T-shaped head engaging the underneath face of the tie, substantially as described.

11. In a rail-fastener, a rail-block seating on the base-flange of a rail and having a recess in its outer face, in combination with a tie-block detachably secured to a tie, and having a projection engaging in the recess in the rail-block.

12. In a rail-fastening, a tie-block provided with depending lugs projecting through the tie, and adjusting means for the block engaging one of said lugs and removably mounted in the tie.

804,619. BOTTLE-CLOSURE. HENRY A. OLSSON, New York, N. Y., assignor of one-half to Albert Williamson and Edward Williamson, New York, N. Y. Filed June 14, 1905. Serial No. 265,159.



Claim.—1. A bottle-closure comprising two parallel disks, and means for holding them at a distance from each other, the disks being separated from each other at their edges, whereby a marginal air-space is afforded when the closure is in position in a receptacle.

2. A bottle-closure comprising two parallel disks of different diameters, and means for holding them at a distance from each other and affording an air-space between them, said means comprising a disk of the same shape as the first-mentioned disks but of smaller diameter.

3. A bottle-closure comprising a disk adapted to enter the mouth of a bottle, and a sheet secured to the disk at a distance from the latter and adapted to cover the mouth of the bottle.

4. A bottle-closure comprising a disk adapted to enter the mouth of a bottle, a sheet secured to the disk at a distance from the latter and adapted to cover the mouth of the bottle, and a third disk between the first two and of a smaller diameter than either.

5. A closure for open-mouthed receptacles, comprising a sheet adapted to project over and cover the mouth of a receptacle, and a disk of smaller diameter than the sheet, separated from it by an air-space, and adapted to enter the mouth of the receptacle.

6. A milk-bottle closure, comprising a pair of disks, one located above the other, the upper one being of larger diameter than the lower, a third disk located between the other two and of smaller diameter than either, and a strip of flexible material secured to the bottom of the lower disk and adapted to project above the upper disk.

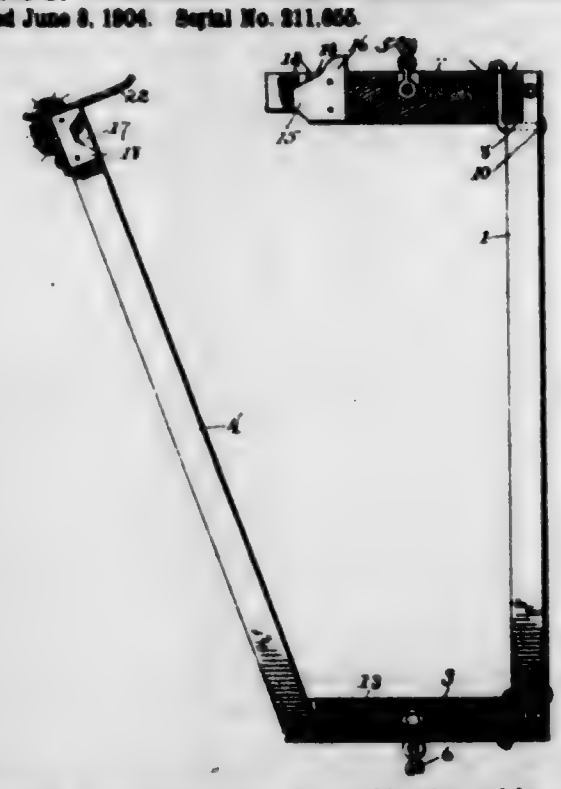
804,620. WINDOW-SASH BALANCE AND LOCK. THEODORE PACHALL, Sr., Reading, Pa. Filed May 31, 1905. Serial No. 263,063.

Claim.—1. In window-sash balances, a casing, a toothed plate mounted to slide in the casing, means for adjusting the plate from the outside of the casing, a bearing pivotally mounted in said casing, having a segmental toothed bottom portion in engagement with the teeth of the said plate, a spring-controlled wheel mounted to turn in the said bearing, a portion of which wheel extends out through an opening in the casing, and a rack adapted for engagement with the exposed portion of the wheel.



2. In window-sash balances, the combination with a casing, a toothed plate having sliding movement in the casing, a screw operated from the outside of the casing, which screw is in operative connection with the said plate, a bearing pivoted in the casing, having a segmental toothed bottom in engagement with the teeth of the said plate, a spindle held fixedly in the said bearing, a hollow-toothed wheel mounted to revolve on the said spindle, a spring coiled around the spindle within the wheel, which spring is attached to the spindle and to the peripheral portion of the wheel, a portion of the wheel extending out through an opening in the casing, and a rack adapted for engagement with the said wheel, of a locking mechanism comprising a guide-plate, a spring-controlled bolt mounted to slide in the guide-plate, the said bolt being in hinge-connected sections, the inner end of the said bolt having sliding movement in the casing across the peripheral surface of the said wheel, the said inner end of the bolt being adapted to enter spaces between the teeth of the wheel.

804,621. STANCHION. OLIVER H. ROBERTSON, Forestville, Conn. Filed June 8, 1904. Serial No. 211,855.



Claim.—1. In a stanchion, in combination with upper and lower cross-bars, a neck-bar, a connection between the neck-bar and a cross-bar including a joint formed with the meeting ends of the neck-bar and cross-bar located to oppose both a lateral and a lengthwise movement of each of the bars, and a bolt extending through and tightly held within the neck-bar and bent to extend along the edge thereof and pass through the cross-bar and secured at its opposite ends at the edges of each of said bars.

2. In a stanchion, in combination with upper and lower cross-bars, a neck-bar, a connection between the meeting ends of the neck-bar and a cross-bar including a shoulder on one of said parts for receiving the other part, and a bolt extending through and tightly held within the neck-bar and bent to extend along the edge thereof and passed through the cross-bar, and secured at its opposite ends at the edges of each of said bars.

3. A stanchion including a cross-bar and a neck-bar, a connection between the meeting ends of the neck-bar and the cross-bar, including a shouldered cut in the neck-bar to receive the end of the cross-bar, and a bolt extending through and tightly held within the neck-bar and bent along the edge thereof to pass through the cross-bar and secured at its opposite ends at the edges of each of said parts.

4. In a stanchion, in combination with cross-bars united by a rigid neck-bar, a swinging neck-bar pivotally secured to one of the cross-bars, a catch and a support located upon one of said parts, a recess in the opposite bar for engagement of the support, and a latch supported upon one of said bars for engagement with the catch.

5. In a stanchion, in combination with upper and lower cross-bars united by a rigid neck-bar, a swinging neck-bar pivotally connected to one of the cross-bars, a support and a catch on one of said parts, a recessed plate located in a slot on the opposite bar to receive the support, and a latch to engage the catch.

6. In a stanchion, in combination with upper and lower cross-bars united by a rigid neck-bar, a support and a catch located in a recess in the upper cross-bar, a socket-plate located in a recess in the swinging neck-bar, and a latch mounted on the swinging cross-bar to engage said catch.

7. In a stanchion, in combination with upper and lower cross-bars united by a rigid neck-bar, a swinging neck-bar pivoted to one of the cross-bars and adapted to engage the opposite cross-bar, a catch, a latch-case including a keeper, a latch located between the keeper and the part on which it is supported and adapted to engage the catch to unite the swinging neck-bar and cross-bar.

8. In a stanchion, in combination with upper and lower cross-bars united by a rigid neck-bar, a catch-plate secured to the upper cross-bar, a swinging neck-bar pivotally connected to the lower cross-bar, a latch-case secured to the swinging neck-bar and including a keeper, and a latch interposed beneath the end of the swinging neck-bar and said keeper in position to engage said catch.

9. In a stanchion, in combination with upper and lower cross-bars united by a rigid neck-bar, a connection for a neck and cross bar including a support and a catch-plate located in a recess in one of said parts, a socket-plate located in a recess in the other part, a latch-casing secured to one of said parts and including a keeper, and a latch located between the keeper and the part supporting the casing and adapted to engage said catch.

10. In a stanchion, in combination with upper and lower cross-bars connected by a rigid neck-bar, a swinging neck-bar pivotally connected to one of the cross-bars, a fastening for said neck and cross bar including a supporting-plate secured to one of the bars and including a tapered extension and a catch, a socket-plate located in a recess in the other bar and having a socket corresponding in shape to said extension, and a latch adapted to engage said catch.

11. In a stanchion, in combination with upper and lower cross-bars, a neck-bar rigidly secured to said cross-bars by a bolt extending through a cross-bar and a neck-bar and secured at its ends at the edges of each of said parts, a swinging neck-bar pivotally secured to one of the cross-bars, a support and a catch mounted in a recess in the opposite cross-bar, a socket-plate secured in the recess in the swinging neck-bar and having a socket to engage the support, and a latch mounted on the swinging neck-bar to engage said catch.

12. In a stanchion, in combination with upper and lower cross-bars, a rigid neck-bar secured to the cross-bars by a joint including a shouldered part receiving the end of the opposite part, and a bolt extending through a cross-bar and a neck-bar and secured at each end at the edges of each of said bars, a support and a catch mounted in a recess in one of the cross-bars, a swinging neck-bar pivotally supported by one of the cross-bars, a socket-plate secured in a recess in the swinging neck-bar and having a socket fitted to receive said support, a latch-case secured to the swinging neck-bar and including a keeper, and a latch interposed between said keeper and the end of said neck-bar to engage said catch.

13. In a stanchion, in combination with cross-bars, united by a rigid neck-bar a swinging neck-bar pivotally secured to one of the cross-bars, a catch supported by a plate upon one of said parts and a support mounted upon a plate on said part, a recess in the opposite bar for engagement of said support, and a latch supported upon one of said bars for engagement with said catch.

14. In a stanchion, in combination with cross-bars united by a rigid neck-bar, a swinging neck-bar pivotally secured to one of the cross-bars, a catch located on a plate in a recess in one of said bars, a support located on a plate in said recess, a recessed plate located in a slot on the opposite bar to receive said support, and a latch to engage said catch.

15. In a stanchion, including a cross-bar and a neck-bar, a con-

rection between the meeting ends of the neck-bar and cross-bar including a shouldered cut made in the meeting edge of one of said parts and forming a shoulder for the reception of the other part, a bolt extending through and tightly held in the neck-bar and bent along the edge thereof to enter the cross-bar, and secured at its opposite ends at the edges of each of said bars.

804,622. BAKING APPARATUS. JAMES W. RUGER, Pittsburg, Pa., assignor to Bair & Gasman Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 27, 1904. Serial No. 218,234.



Claim.—1. A bake-pan consisting of a supporting-frame provided with cross supporting-bars and an upwardly-extending back flange, with a sheet-metal bottom supported upon the frame and provided with an integral upwardly-turned back resting against the back flange, and extending upwardly therefrom, substantially as set forth.

2. A bake-pan consisting of a supporting-frame provided with cross supporting-bars and an upwardly-extending back flange, with a sheet-metal bottom supported upon the frame and provided with an integral upwardly-turned back resting against the back flange, and extending upwardly and backwardly therefrom, substantially as set forth.

3. In a bake-pan, the combination with a back-supporting angle-bar having an upwardly-turned leg, of a bottom pan resting upon the other leg of the angle and bent up in front of said upwardly-turned leg, the bent portion being rounded, substantially as set forth.

4. A bake-pan provided with shelf-hangers, and laterally-adjustable bearings mounted therein, substantially as set forth.

5. A bake-pan provided with shelf-hangers having lateral housing-lugs provided with inwardly-turned lips, with shaft-bearings engaging said lugs, substantially as set forth.

6. A bake-pan provided with shelf-hangers having lateral housing-lugs provided with inwardly-turned lips, with shaft-bearings engaging said lugs, and means for adjusting said bearings laterally, substantially as set forth.

7. A bake-pan provided with shelf-hangers, laterally-adjustable shaft-bearings mounted therein, and adjusting set-screws mounted in the sides of the hangers and adapted to bear against the ends of the bearings, substantially as set forth.

8. In combination with the pan-supporting shaft of a revolving frame, a bake-pan provided with shelf-hangers, vertically and laterally movable shaft-bearings mounted therein, and adjusting set-screws mounted in the shelf-hangers adapted to bear against the bearings, substantially as set forth.

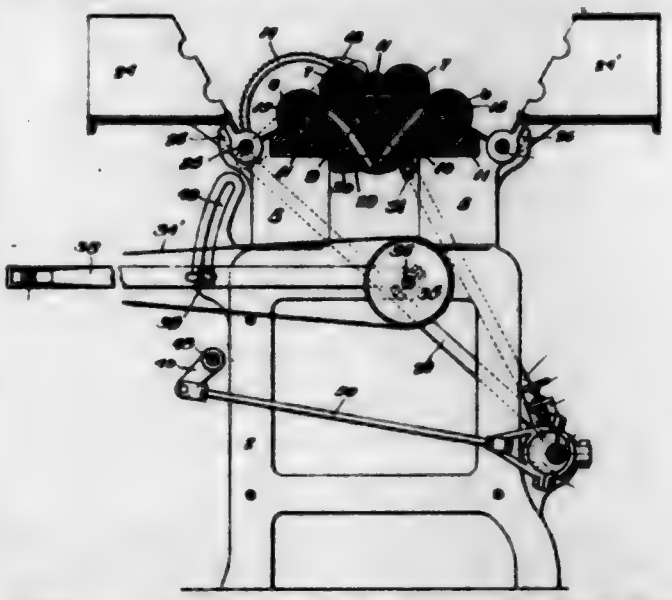
9. The combination with upwardly and inwardly extending lugs of a shelf-hanger provided with sockets and adjusting-screws, of shaft-bearings provided with supporting extremities and centering-lugs adapted to engage said lugs and sockets, substantially as set forth.

10. The combination with a pan-supporting shaft, of bearings mounted on the shaft, shelf-hangers depending therefrom, and means for adjusting the shelf-hangers with relation to the bearings, substantially as set forth.

11. The combination with a pan-supporting shaft, of bearings mounted on the shaft, shelf-hangers depending therefrom, means for adjusting the shelf-hangers with relation to the bearings, supporting-bars connecting the shelf-hangers, and a pan supported upon said bars and provided with an upwardly-turned back, substantially as set forth.

12. The combination with a pan-supporting shaft, of bearings mounted on the shaft, shelf-hangers depending therefrom, means for adjusting the shelf-hangers with relation to the bearings, supporting-bars connecting the shelf-hangers, and a pan supported upon said bars and provided with an upwardly-turned back in bearing engagement with one of the supporting-bars, substantially as set forth.

804,623. SHEETER AND BAR-PRESS. JAMES W. RUGER, Pittsburg, Pa., assignor to Bair & Gasman Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 27, 1905. Serial No. 242,542.



Claim.—1. A dough-feeding machine provided with an inclined base having semicylindrical journal-bearings, feeding-rolls arranged on different levels and mounted in said bearings, a removable hopper conforming to said base provided with journal-openings, and an inclined delivery-chute leading downwardly and laterally away from said rolls at approximately right angles to a plane passing through the roll centers, substantially as set forth.

2. A dough-feeding machine provided with an inclined base having semicylindrical journal-bearings, feeding-rolls arranged on different levels and mounted in said bearings, and an inclined delivery-chute leading downwardly and laterally away from said rolls at approximately right angles to a plane passing through the roll centers, said chute being provided with a terminal die, substantially as set forth.

3. A dough-feeding machine provided with an inclined base having semicylindrical journal-bearings arranged on different levels, feeding-rolls mounted in said journal-bearings, and a hinged receiving-hopper mounted on said base provided with an inclined lower face and semicylindrical journal clearance-openings, substantially as set forth.

4. A dough-feeding machine provided with an inclined base having semicylindrical journal-bearings arranged on different levels, feeding-rolls mounted in said journal-bearings, an inclined delivery-chute leading downwardly and laterally away from said rolls at approximately right angles to a plane passing through the roll centers, and a hinged receiving-hopper mounted on said base provided with an inclined lower face and semicylindrical journal clearance-openings, substantially as set forth.

5. A dough-feeding machine provided with oppositely-disposed inclined bases having pairs of journal-bearings arranged on different levels, pairs of feeding-rolls mounted in said bearings, and inwardly-sloping delivery-chutes leading from said pairs of rolls toward a common point of delivery, substantially as set forth.

6. A dough-feeding machine provided with oppositely-disposed inclined bases having pairs of journal-bearings arranged on different levels, pairs of feeding-rolls mounted in said bearings, and

separable hinged receiving-hoppers mounted on said bases, substantially as set forth.

7. A dough-feeding machine provided with oppositely-disposed inclined bases having pairs of journal-bearings arranged on different levels, pairs of feeding-rolls mounted in said bearings, separable hinged receiving-hoppers mounted on said bases, and inwardly-sloping delivery-chutes leading from said pairs of rolls toward a common point of delivery, substantially as set forth.

8. A dough-feeding machine provided with oppositely-disposed inclined bases having pairs of journal-bearings arranged on different levels, pairs of feeding-rolls mounted in said bearings, separable hinged receiving-hoppers mounted on said bases, and inwardly-sloping delivery-chutes leading from said pairs of rolls toward a common point of delivery, and provided with terminal dies, substantially as set forth.

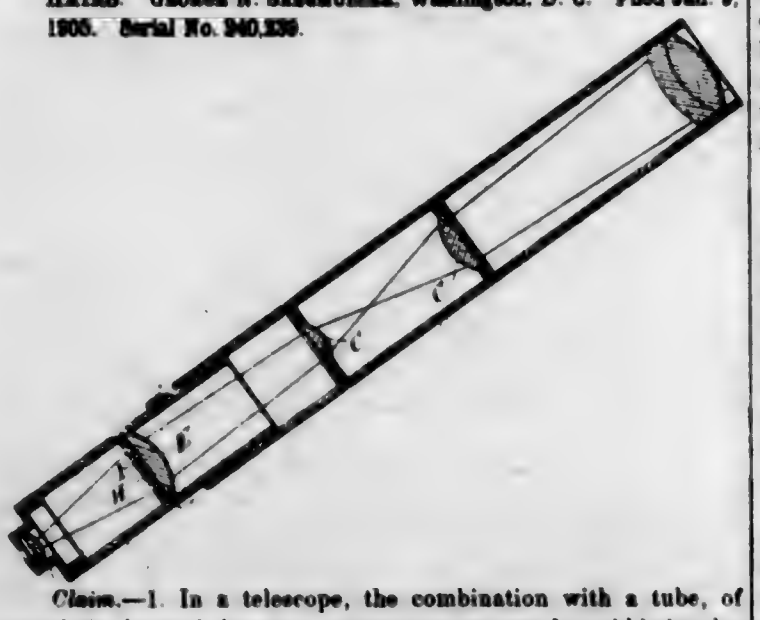
9. The combination of roll-housings, pairs of feeding-rolls mounted therein located on oppositely-disposed downwardly-inclined planes, double-hinged hoppers provided with roll journal-bearings, inwardly-converging delivery-chutes leading from the rolls to a common point, and a traveling receiving-apron, substantially as set forth.

10. The combination of roll-housings, pairs of feeding-rolls mounted therein located on oppositely-disposed downwardly-inclined planes, double-hinged hoppers provided with roll journal-bearings, inwardly-converging delivery-chutes leading from the rolls to a common point, with inner and outer dies therefor, and a traveling receiving-apron, substantially as set forth.

11. The combination of roll-housings, pairs of feeding-rolls mounted therein located on oppositely-disposed downwardly-inclined planes, double-hinged hoppers provided with roll-journal-bearing caps, inwardly-converging delivery-chutes leading from the rolls to a common point, a traveling receiving-apron, and means for actuating the rolls and apron, substantially as set forth.

12. The combination of roll-housings, pairs of feeding-rolls mounted therein located on oppositely-disposed downwardly-inclined planes, double-hinged hoppers provided with roll-journal-bearing caps, inwardly-converging delivery-chutes leading from the rolls to a common point, a traveling receiving-apron, and means for actuating the rolls and apron at variable speeds, substantially as set forth.

804,624. ILLUMINATING MEANS FOR TELESCOPE CROSS-HAIRS. GEORGE H. SARGHULLER, Washington, D. C. Filed Jan. 9, 1905. Serial No. 240,336.



Claim.—1. In a telescope, the combination with a tube, of cross-hairs located therein, a transparent support for said hairs also located in the tube, said tube having an opening in its side walls that admits light to illuminate the cross-hairs, and a reflector for the light passing through the opening.

2. In a telescope, the combination with a tube, of cross-hairs located therein, a transparent support for said hairs also located in the tube, said tube having an opening in its side walls that alines with the edge of the support and admit light to illuminate the cross-hairs, and a reflector opposed to the opening and partially surrounding the support.

3. In a telescope, the combination with a tube, of a lens located therein, cross-hairs supported on said lens, said tube having an opening in its side wall that alines with the edge of the lens to admit light transversely of the tube, and a reflecting-surface surrounding a portion of the lens in opposition to the opening.

4. In a telescope, the combination with a tube, and lens system therein, of cross-hairs located on one of the lenses, said tube having an opening in its side wall that alines with the edge of the lens carrying the cross-hairs and admits light to illuminate the same, and a reflecting-surface formed upon the edge of said lens extending about the same and terminating on opposite sides of the opening.

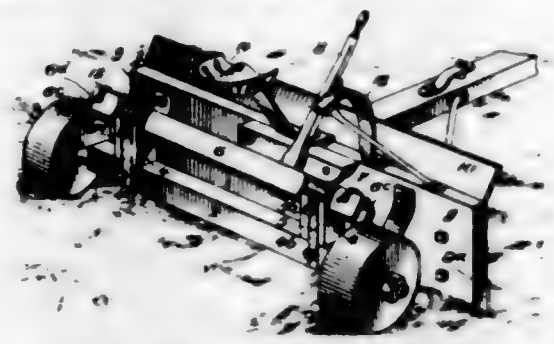
5. The combination with a tube having an opening therein, of a transparent member disposed in alinement with the opening in said tube and provided with cross-lines, and a reflecting-surface upon the periphery of said member.

6. A lens having cross-hairs, and a reflecting-surface upon its periphery.

7. A lens comprising a convex outer face and a plane inner face provided with cross-lines, and a reflecting-surface upon a portion of the periphery of said lens.

8. A lens having cross-lines, and a silvered reflecting-surface upon a portion of the periphery thereof.

804,625. LAND-LEVELER. DAVID A. SAVAGE, Mayoworth, Wyo. Filed May 2, 1905. Serial No. 258,486.



Claim.—1. A leveling-machine of the character described, which comprises in combination; a wheeled frame, which includes vertical standards, and a roller-bar journaled in the upper end of said standards and disposed in a plane parallel with the wheeled frame; a scraper-board located in advance of the wheeled frame flexibly hinged to the said wheeled frame to move in a vertical direction and having the draft devices connected thereto; a driver's seat mounted on the said scraper-board and means under control of the driver for elevating the scraper-board and holding it to its adjusted positions substantially as shown and described.

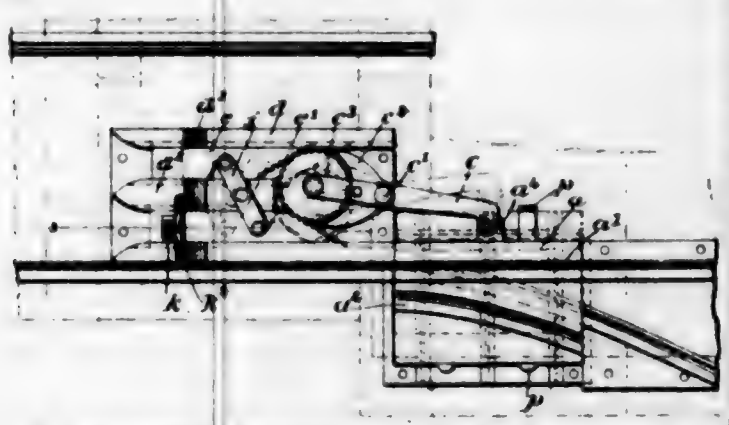
2. A leveling-machine, comprising in combination, a wheeled frame; a scraper-board hinged to the wheeled frame to move vertically; a driver's seat mounted on the upper edge of the scraper-board; a draft means secured centrally to the said board and means mounted on the wheeled frame and on the scraper-board, under control of the driver from his seat for raising the scraper-board and holding it to its adjusted positions.

3. In a machine of the character described, the combination with the wheeled frame, said frame including vertically-adjustable standards, a roller-bar journaled on the upper ends of the said standards, said bar having winding portions at the opposite ends, and a forwardly-projected lever secured to the bar; of the scraper-board, located in front of the wheeled frame, a seat and a rack member mounted on the upper edge of the said board, brackets extended rearwardly from the scraper-board, flexible left members connected to said bracket and wound over the ends of the roller-bar, and flexible hinge connections that join the scraper-bar with the wheeled frame, all being arranged substantially as shown and described.

4. The combination with the wheeled frame member 1, the standards mounted thereon, the roller-bar journaled in the upper ends of the standards, said bar having its opposite ends terminating in winding-heads; the lever secured to the said bar; and the end brackets projected forwardly from the frame 1 of the scraper-board 9, said board being of a length so its opposite ends extend beyond the wheels on the frame 1 and of a height greater than that of the wheels, a draft-pole fixedly secured to and projected forwardly from the board 9; a rack-frame projected rearwardly from the upper edge of the board 9 and arranged to coöperate with the hand-lever; angle-brackets projected rearwardly from the board 9; the driver's seat mounted on the upper edge of the board, said board 9 having a flexible connection with the link-brackets that project from the frame 1 and chain connected to the outer ends of the brackets on the rear of the board 9 and wound about and secured to the end heads of the roller-bar having the hand-lever, all being arranged substantially as shown and for the purposes described.

804,626. SWITCH. JOHN C. SCARLE, Philadelphia, Pa. Filed July 12, 1905. Serial No. 269,297.

Claim.—1. A railway-switch, comprising a movable plate, a lever connected with the plate and having a cam-surface, a pair of slides each having a surface adapted to engage the surfaces on opposite sides of said cam, and means for projecting one of said surfaces into engagement with the cam when the other is withdrawn therefrom.



2. A railway-switch comprising a plate, means for guiding the plate to move transversely to the tracks, and means for moving the plate comprising a lever connected with the plate, a cam on the lever, a slide adapted to engage and move the cam, a shoe adapted to engage and move the slide against the cam, and means for moving the shoe into and out of position in line with the slide.

3. A railway-switch comprising a movable plate, track-sections thereon, a lever connected with the plate and having a cam-surface, a plate in which said cam-surface is mounted, said plate having a pair of ways, a slide in each set of ways, said slides having inclined surfaces adapted to engage said cam-surfaces, and means for moving said slides against the cam.

4. A railway-switch comprising a slidable plate having track-sections thereon, a cam for moving said plate, a pair of slides having parallel surfaces for engaging opposite sides of said cam and moving it, a link pivotally connected with both of said slides and pivoted to a stationary element, means for engaging the slides to move them against the cam, and means for throwing said engaging means out of reach of the slides.

5. A railway-switch comprising a sliding plate, a pair of slides for operating said plate, a stationary part having ways for said slides and inclined surfaces located adjacent to the position in which the rear ends of said slides are located, and means for moving one slide in one direction when the other moves in the opposite direction.

6. A railway-switch, comprising a sliding plate, a pair of slides for operating the plate, said slides having surfaces oppositely disposed with respect to each other, a cam connected with said sliding plate between said surfaces and adapted to engage them, and means on the cam for locking the parts in any desired position.

7. A railway-switch-operating device, comprising a pivoted cam, a cog-wheel thereon, and a pair of slides having surfaces on opposite sides of the cam for engaging it, said slides being provided with teeth for engaging the cog-wheel and locking the switch.

804,627. **WHIP-HOLDER.** ROBERT SCHRODER, Morrisonville, Wis. Filed Jan. 23, 1905. Serial No. 242,294.



Claim.—1. In a device of the class described, in combination, a rod having an offset extension, a whip-socket attached to said extension, means for supporting said whip-socket means for supporting said rod to slide and to rotate, a controlling-handle attached to said rod, an arm attached to said rod, and a spring having one end substantially fixed and attached at its opposite end to said arm.

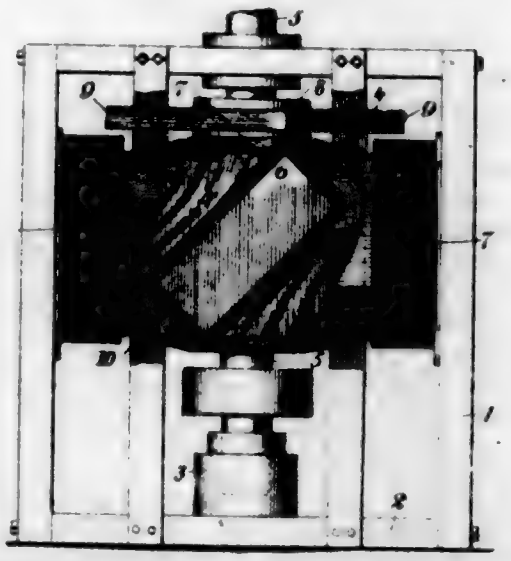
2. In a device of the class described, in combination, a rod terminating in a laterally-disposed pintle means for rotating said rod upon a longitudinal axis, a whip-socket pivotally mounted upon said pintle, and a link freely supporting said socket at a point removed from said pintle.

3. In a device of the class described, in combination, a rod terminating in a laterally-disposed pintle means for rotating said rod on a longitudinal axis, a whip-socket having laterally-disposed ears receiving said pintle, a bracket having an eye, and a link loosely attached in said eye and attached to said socket.

4. In a device of the class described, in combination, a rod terminating in a laterally-disposed pintle, a whip-socket attached to said pintle, a bracket constituting a support and a guide for said rod, and a link freely connecting said bracket with said socket.

5. In a device of the class described, a rod, means for supporting the extremity thereof at a point remote from the driver's seat, a whip-socket operated by the forward extremity of said rod, a standard attached at a point near the driver's seat, a spring attached to said standard and connecting with said rod, said spring affording means for supporting the whip in said whip-socket in a normal position.

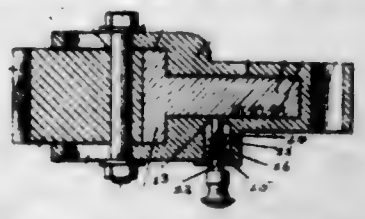
804,628. **ELECTRICAL GENERATOR.** MORRIS SCHWARTZ, New York, N. Y., assignor, by mesne assignments, to New York Electrical Generator Company, New York, N. Y. Filed Mar. 7, 1905. Serial No. 248,889.



Claim.—1. An electric generator having an armature mounted to rotate on a vertical axis, said armature having helically-wound conductors whereby said conductors incline, and pole-pieces having their axes inclined whereby they are substantially parallel with the adjacent parts of said conductors.

2. An electric generator having an armature mounted to rotate with a vertical shaft and having conductors wound in an inclined direction thereupon, elongated pole-pieces having their major axes inclined, and means for rotating said armature in the direction in which said major axes are inclined upwardly, whereby the drag upon said conductors is exerted in an upwardly-inclined direction.

804,629. **BRAKE-SHOE FOR VEHICLES.** EDWIN D. SHOOP, Baltimore, Md. Filed Mar. 31, 1906. Serial No. 256,200.



Claim.—1. The combination with the crank-arm, of a brake-block carried by said arm; a spring-bolt on said brake-block, and a brake-shoe fitting into said brake-block and provided with a plurality of sockets with which the spring-bolt may engage to adjustably secure the shoe to the block.

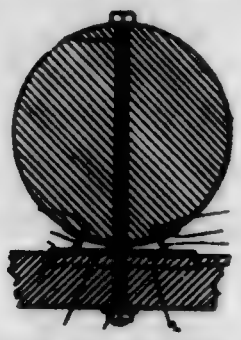
2. The combination with a crank-arm, of a brake-block carried by said arm and provided with a central cavity; a bolt on said brake-block and movable into the cavity, and a brake-shoe having a stem which projects into the cavity of said brake-block and said stem having a plurality of sockets for the reception of the bolt in the brake-block.

3. The combination with a crank-arm, of a brake-block carried by said arm and having a central cavity and a side bolt-recess; a spring-bolt in said side recess and movable into said cavity, and a brake-shoe having a stem which enters the cavity in said block and said stem having a plurality of sockets into any one of which the spring-bolt may be projected to adjustably secure the shoe to said block.

4. The combination with a crank-arm of a brake-block attached

to said arm and having side walls each provided with a slot and also having a central cavity; a plate having a stem which fits adjustably in said cavity; a locking-bolt in the side of said brake-block and said bolt adapted to engage the side of said stem; a shoe attached to said plate and between the side walls of the brake-block, and a bolt through said shoe and in the slots of said brake-block.

804,630. SUPPORT FOR POLE CROSS-ARMS. EDWARD C. SHORT, St. Paul, Minn. Filed Apr. 27, 1905. Serial No. 257,562.



Claim.—1. A cross-arm support, comprising a post-plate, a cross-arm plate, tongues on the latter extending through slots in the former to contact with the post, a bolt for clamping such plates between a cross-arm and a post, substantially as set forth.

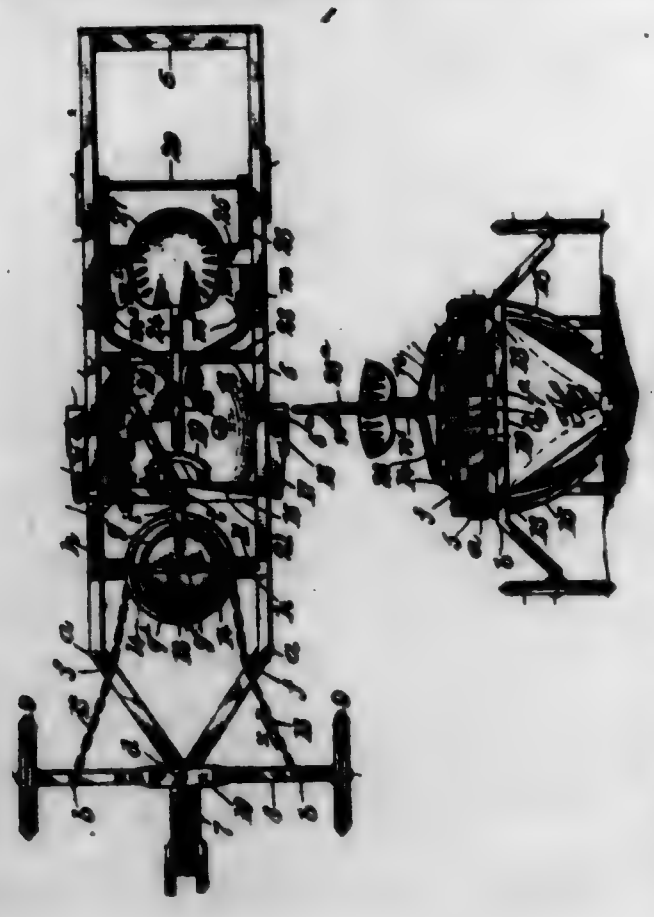
2. A cross-arm support, comprising a post-plate, a cross-arm plate, tongues on the latter extending through slots in the former to contact with the post, means for limiting the extent of the tongue movements through said slots, and a bolt for clamping such plates between a cross-arm and a post, substantially as set forth.

3. A cross-arm support, comprising a curved post-plate, a cross-arm plate having upper and lower flanges, tongues on the latter extending through slots in the former to contact with the post, and a bolt for clamping such plates between a cross-arm and a post, substantially as set forth.

4. A cross-arm support, comprising a curved post-plate, a cross-arm plate having upper and lower flanges, tongues on the latter extending through slots in the former to contact with the post, means for limiting the extent of the tongue movements through said slots, and a bolt for clamping such plates between a cross-arm and a post, substantially as set forth.

5. The combination with a post and cross-arm, of a pair of plates consisting of a curved plate in contact with the post, an outer plate in contact with the cross-arm and having tongues extending through the curved plate into the post, and a bolt for clamping such plates between the post and cross-arm, substantially as set forth.

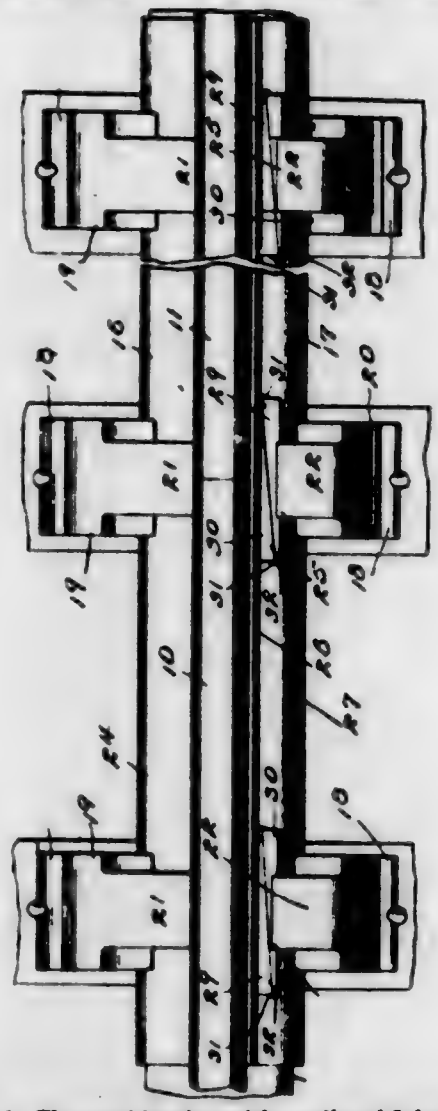
804,631. BEET-PLOW. EDWARD G. SHARP, Salinas, Cal. Filed Dec. 15, 1904. Serial No. 236,952.



Claim.—1. The combination with a frame having spaced side beams, of depending arms curved toward each other at their lower ends and held to rock on said side beams, a dished excavator-disk pivoted on the lower end of each arm, a rock-arm on the upper end of each curved depending arm, a link-rod pivoted on the end of each rock-arm by one end thereof, a horizontal lever pivoted on the frame, the remaining ends of the link-rods being pivoted on said lever at each side of its pivot connection with the frame, and means for adjusting the horizontal lever for rocking the excavator-disks.

2. The combination with a frame having spaced side beams, and wheels supporting said frame, of arms held to rock on the side beams opposite each other, said arms curving toward each other, below the frame, concaved excavator-disks centrally pivoted on the lower ends of said bent arms and thus inclined toward each other at their lower ends, rock-arms secured on the upper ends of the depending arms above the side beams and projecting toward each other, a lever pivoted horizontally on a transverse member of the frame and extended rearwardly, link-rods pivoted by one end of each on an end of a respective rock-arm, the remaining ends of said link-rods being pivoted upon the horizontal lever near its pivot connection with the frame member, and a supported arched rack, whereon the lever is adjustably held.

804,632. RAIL-SPLICE. JOHN L. SMITH, JAMES SMITH, and CLARENCE W. SMITH, Elgin, Pa. Filed Mar. 8, 1905. Serial No. 248,861.

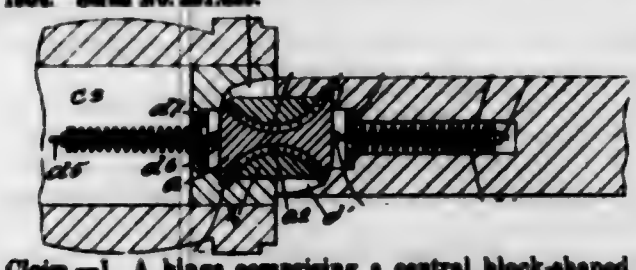


Claim.—1. The combination with a rail and fish-plates disposed thereagainst, of a plurality of chairs provided with upwardly-directed fingers between which the lower portions of the rails and the fish-plates are received and oppositely-driven wedges engaged between a finger of each chair and the corresponding fish-plate, each wedge having terminal fingers adapted to be bent apart into the path of rearward movement of the opposing wedges.

2. The combination with abutting rails having transverse perforations, of fish-plates disposed against opposite faces of the rails and having lugs removably engaged in the perforations, the fish-plate at one side of the rails having a longitudinally outwardly directed flange at its upper edge, a plurality of chairs having upwardly-directed fingers between which the corresponding rails and the fish-plates are received, the finger of each chair adjacent to the flanged fish-plate having a corresponding flange projecting in the direction of the fish-plate, and a pair of opposed wedges engaged between each of said flanged fingers and the adjacent fish-plate and below said flanges, the mutually-adjacent faces of the opposed wedges

being vertically slotted, and the wedges having terminal fingers at their minor ends adapted to be bent into engagement with the slots of the opposite wedges.

804,633. HINGE. JOSEPH SEAM, New York, N. Y. Filed Nov. 7 1904. Serial No. 231,690.



Claim.—1. A hinge comprising a central block-shaped body portion, the opposite sides of which are segmental in cross-section and supplemental segmental members mounted in the opposite sides of said body portion and adapted to swing in circles corresponding with the arcs on which the sides of the body portion are formed in cross-section, said parts being provided with means for holding them in operative connection, substantially as shown and described.

2. A hinge, comprising a central member having keepers in its opposite sides which are segmental in cross-section, and side members mounted in said keepers and adapted to turn therein and to be secured to a door-frame and door, substantially as shown and described.

3. A hinge, comprising a central member having keepers in its opposite sides which are segmental in cross-section, and side members mounted in said keepers and adapted to turn therein and to be secured to a door-frame and door, and means for limiting the movement of the parts of the hinge one upon another and holding them together, substantially as shown and described.

4. A hinge, comprising a central member having keepers in its opposite sides which are segmental in cross-section, side members mounted in said keepers and adapted to turn therein and to be secured to a door-frame and door, and means for returning the door to a closed position after it has been opened, substantially as shown and described.

5. A hinge, comprising a central member having keepers in its opposite sides which are segmental in cross-section, side members mounted in said keepers and adapted to turn therein and to be secured to a door-frame and door, and means for returning the door to a closed position after it has been opened, consisting of springs secured to the door-frame and door and in connection with a part of the hinge, substantially as shown and described.

6. A hinge, comprising a central member, a side member in operative connection with one side thereof, and another side member in operative connection with the opposite side thereof, said side members being adapted to turn through opposite arcs on said central member, the centers of said arcs being in line with the axial center of said central member, substantially as shown and described.

7. A hinge, comprising a central member, a side member in operative connection with one side thereof and with a door-frame, and a side member in operative connection with the other side of said central member and with a door, and said side members being adapted to turn through an arc of a circle on said central members, and means for limiting said movement, substantially as shown and described.

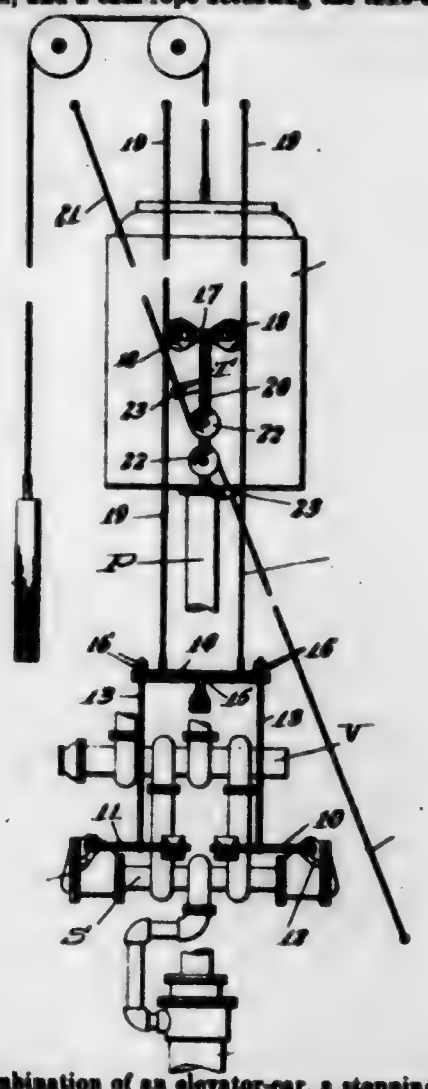
8. A hinge, comprising a central member, a side member in operative connection with one side thereof and with a door-frame, and a side member in operative connection with the other side of said central member and with a door, and said side members being adapted to turn through an arc of a circle on said central members, and means for limiting said movement, and devices for returning said members to their normal positions, substantially as shown and described.

804,634. STOPPING MECHANISM FOR ELEVATORS. LOUIS W. SOUTHGATE, Worcester, Mass. Filed Mar. 26, 1905. Serial No. 252,263.

Claim.—1. The combination of an elevator-car, a stopping mechanism therefor, a take-up device, a rope connecting the take-up device to the stopping mechanism, and a cam-rope for actuating the take-up device.

2. The combination of an elevator-car, a stopping mechanism therefor, a take-up device, and a cam-rope stretched at an angle between fixtures for actuating the take-up device as the car reaches the ends of its run.

3. The combination of an elevator-car, a stopping mechanism, a take-up device, two ropes connecting the take-up device to the stopping mechanism, and a cam-rope actuating the take-up device.



4. The combination of an elevator-car, a stopping mechanism, a take-up device, two stationary ropes connecting the take-up device to the stopping mechanism, and a cam-rope for actuating the take-up device.

5. The combination of an elevator-car, a stopping mechanism therefor, a take-up device, a rope connecting the take-up device to the stopping mechanism, sheaves arranged on the take-up device, and a cam-rope engaging said sheaves for actuating the take-up device.

6. The combination of an elevator-car, a stopping mechanism therefor, a take-up device comprising a lever having pulleys, stationary ropes crossed between said pulleys and connected to actuate the stopping mechanism, a depending arm from said lever, and a cam-rope engaging said depending arm.

7. The combination of an elevator-car, a stopping mechanism therefor, a take-up device comprising a lever having pulleys, stationary ropes crossed between said pulleys and connected to actuate the stopping mechanism, a depending arm from said lever, sheaves arranged on said depending arm, and a cam-rope engaging said sheaves.

8. The combination of an elevator-car, a stopping mechanism, a take-up device connected to the stopping mechanism, sheaves arranged on said take-up device, a cam-rope engaging said sheaves, and guiding means for keeping the cam-rope on said sheaves.

9. The combination of an elevator-car, a double stopping mechanism therefor, a take-up device, two ropes connecting the take-up device to the stopping mechanism, a cam-rope engaging the take-up device, and connections whereby one part only of the stopping mechanism will be actuated as the car reaches the limit of its travel in one direction.

10. The combination of an elevator-car, a double stopping mechanism therefor, a take-up device carried by the car, two ropes actuated by the take-up device, a cam-rope engaging the take-up device, a lever actuated by said ropes and connections from said lever to the double stopping device arranged so that a movement of the lever in one direction will actuate one part thereof without affecting the other and so that a movement of the lever in the opposite direction will operate the other part of the stopping mechanism, without affecting the first-named part thereof.

804,685. SNATCH-BLOCK. PHILIP H. STROHEIMER, Mansfield, Ohio. Filed Apr. 14, 1905. Serial No. 255,519.

Claim.—1. A snatch-block comprising a frame, a sheave mounted thereon, and becket-links mounted to swing on the frame at opposite sides of the sheave, said becket-links being adapted to be engaged together when in closed position.



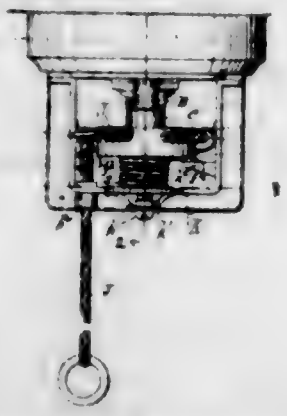
2. A snatch-block comprising a frame and sheave, and becket-links mounted to swing thereon in and out of engagement with each other, said becket-links having shoulders on their adjacent faces, the shoulders being adapted to engage together to limit the inward movement of the becket-links.

3. A snatch-block having a frame, a sheave mounted thereon, and becket-links mounted to swing on the snatch-block toward and from each other to open and close the same, the links being engaged at one end with the frame of the block and having shoulders intermediate their ends, said shoulders lying at the adjacent sides of the links to limit the inward movement thereof.

4. A snatch-block comprising a frame, a sheave mounted thereon, and becket-links mounted to swing on the frame, said becket-links having shoulders on their adjacent faces, the shoulders being adapted to engage each other to limit the inward movement of the links, and said shoulders having their engaging faces lying in planes at angles to the planes of the links, whereby to maintain the links when engaged in angular relation to each other.

5. A snatch-block comprising a frame, a sheave mounted thereon, and becket-links mounted to swing on the frame at opposite sides of the sheave and adapted to be engaged by the devices in connection with which the block is used.

804,636. ELECTRIC SNAP-SWITCH. GEORGE B. THOMAS, Bridgeport, Conn., assignor to The Perkins Electric Switch Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Nov. 3, 1904. Serial No. 231,212.



Claim.—1. A snap-switch, comprising an insulating-base adapted to be secured to a ceiling, the make-and-break elements of a snap-switch carried by the base, an operating-wheel in a plane parallel with the base, a cord on the wheel, a cord-pulley at right angles to the wheel, and a yoke secured to the base and carrying the pulley, with an inclosing cap through the face of which the cord passes.

2. A snap-switch, comprising an insulating-base adapted to be secured to a ceiling, the make-and-break elements of a snap-switch, an operating-wheel in a plane parallel with the base, a cord-pulley at right angles to the wheel, an inclosing yoke carrying the pulley and having a guide-eye, and a cord secured to the wheel and passing over the pulley and through said eye.

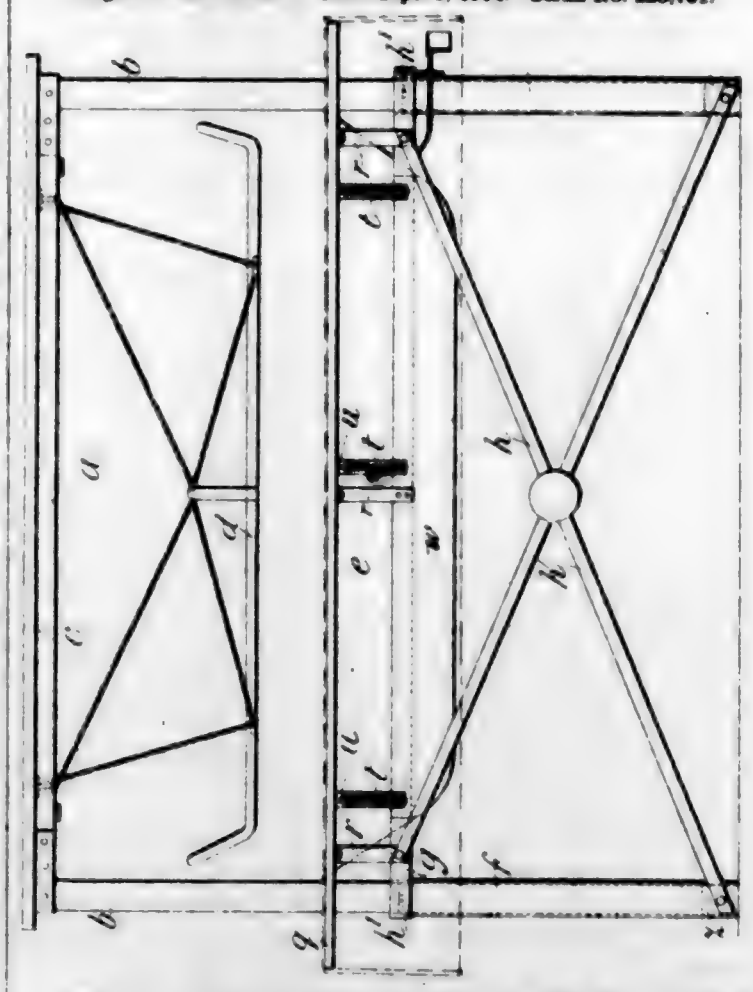
3. A snap-switch, comprising an insulating-base, the make-and-break elements of a snap-switch, an operating-wheel and cord therefor, an inclosing yoke on the base, a raised bridge formed out of the metal of the yoke, and an inclosing cap secured to said raised bridge.

4. A snap-switch, comprising an insulating-base, the make-and-break elements of a snap-switch, the spindle of which carries a ratchet-disk and an operating-wheel, said wheel consisting of a ratchet-disk having a flange to receive a cord, and a sleeve mounted on the spindle.

5. A snap-switch comprising an insulating-base, the make-and-break elements of a snap-switch, the spindle of which carries an operating-wheel parallel to the base, a cord therefor and an inclosing yoke on the base, in combination with means on said wheel and on said yoke for retaining and guiding the cord.

6. A snap-switch comprising an insulating-base, the make-and-break elements of a snap-switch, an operating-wheel parallel to the base and a cord therefor, an inclosing yoke mounted on the base and carrying a pulley, and means on said yoke to aid in keeping the cord on the pulley.

804,637. APPARATUS FOR PRODUCING STAGE ILLUSIONS. ERNEST THORN and THOMAS H. DOWNS, London, England; said Thorn assignor to said Downs. Filed Sept. 8, 1904. Serial No. 223,781.



Claim.—1. Apparatus for producing a stage illusion consisting of a support having the appearance of an ordinary table but provided with a false top, a real table adapted to telescope into the false table, catches or retaining devices on the false table adapted to project under the legs of the real table, and means for simultaneously withdrawing the catches, substantially as described.

2. Apparatus for producing a stage illusion consisting of a support having the appearance of an ordinary table but provided with a false top, a real table adapted to telescope into the false table, catches or retaining devices on the false table adapted to project under the legs of the real table, means for simultaneously withdrawing the catches, and means arranged below the top of the false table for catching a body suspended under the top of the real table.

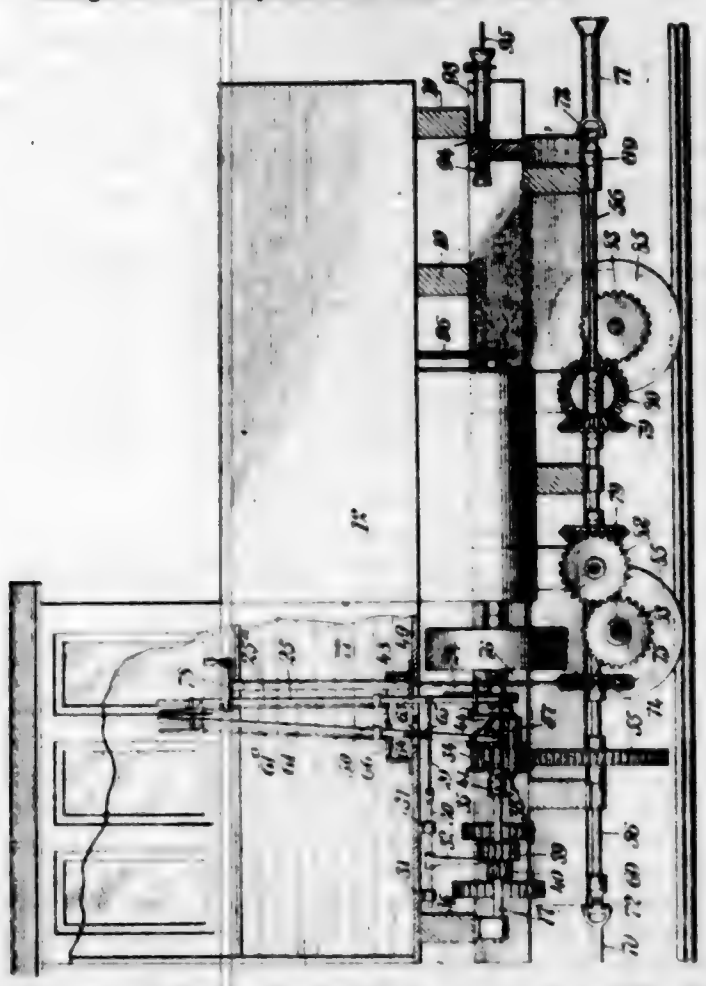
3. Apparatus for producing a stage illusion consisting of a support having the appearance of an ordinary table but provided with a false top and hollow legs, a real table adapted to telescope into the false table, catches or retaining devices on the false table adapted to project under the legs of the real table and means for simultaneously withdrawing the catches to allow the real table to telescope into the false table or support.

4. An illusion apparatus as described in which a table is made to disappear, a table or table-like support having a false top consisting of a fixed frame arranged to form the edge of the false top, and a movable frame resiliently supported within the fixed frame and adapted to be depressed below the level of the fixed frame.

5. In apparatus for producing a stage illusion a table or table-like support comprising hollow legs open at their upper ends, a metal frame connected to the upper ends of the legs, a trough attached to the framing, a false top consisting of a fixed frame supported on the

metal framing aforesaid, and a movable frame resiliently supported within the fixed frame and adapted to be depressed below the level of the fixed frame.

804,638. **MULTIPLE-CAR LOCOMOTIVE.** JESSE J. THORSEN, Chicago, Ill. Filed Sept. 29, 1904. Serial No. 226,479.



Claim.—1. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, said shafts being operatively connected together, transverse shafts on each car, means for operatively connecting the line-shafts to all of said transverse shafts, and resilient means for holding said first-named means in operative position.

2. The combination of a locomotive, a car, a line-shaft on the locomotive, a line-shaft on the car, a transverse shaft on the car means for operatively connecting said shafts on the car together, and a spring for holding the connecting means in operative position.

3. The combination of a locomotive, a train of cars, a line-shaft on the locomotive, a line-shaft on each car, a transverse shaft on each car, a train of gears connecting with each transverse shaft, gears upon the line-shafts engaging with each of said trains of gears, a spring for normally forcing each gear on the line-shafts into engagement with the trains of gears, a link connected with each of the gears on the line-shafts, a bar connected with each of said links, and means for operating said bars and links to disengage the gears on the line-shafts from the trains of gears on each car.

4. The combination of a locomotive, a train of cars, transverse shafts on the locomotive and on each car, a pair of wheels upon each transverse shaft, a train of gears connected with each transverse shaft, means for connecting each line-shaft with one of the trains of gears, a spring for normally forcing each of said connecting means into engagement with its trains of gears, a link connected with each of said means, a bar connected with each of said links, means extending to both ends of each car for operating said bar and link to disengage the connecting means on the line-shaft from the trains of gears, a brake-wheel on the line-shaft, a brake-band, and means for tightening the brake-band upon the brake-wheel.

5. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, said shafts being operatively connected to the wheels and to each other, a hollow thimble and square bar connected to opposite ends of each of said shafts, the square bar of one car being adapted to fit in the hollow thimble of another car or locomotive, transverse shafts on the locomotive and on each car, means for operatively connecting the line-shafts to all of said transverse shafts, and resilient means for holding said first-named means in operative position.

6. The combination of a locomotive, a car, a line-shaft on the locomotive and a line-shaft on the car, means for operatively connecting the line-shaft of the locomotive with the line-shaft of the car, a gear on the line-shaft, transverse shafts on the car and on the locomotive, a gear on each transverse shaft, means for operatively connecting said gears together, a spring for holding the gears in operative position, and means for disengaging the gears from each other.

7. The combination of a locomotive, a train of cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting said line-shafts together, means for connecting the cars to each other and to the locomotive, transverse shafts on the locomotive and on each car, a pair of wheels upon each transverse shaft, a train of gears connected to each transverse shaft, gears upon the line-shaft engaging with each of said trains of gears, a spring for normally forcing each gear on the line-shaft into engagement with said trains of gears, a link connected with each of the gears on the line-shaft, a bar connected with each of said links, and means extending to both ends of each car for operating said bar and links to disengage the gears on the line-shaft from the trains of gears connected to the transverse shafts.

8. The combination of a locomotive, a train of cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting said line-shafts together, means for connecting the cars to each other and to the locomotive, transverse shafts on the locomotive and on each car, a pair of wheels upon each transverse shaft, a train of gears connected to each transverse shaft, gears upon the line-shaft engaging with each of said trains of gears, a spring for normally forcing each gear on the line-shaft into engagement with said trains of gears, a link connected with each of the gears on the line-shaft, a bar connected with each of said links, means extending to both ends of each car for operating said bar and link to disengage the gears on the line-shaft from the trains of gears connected to the transverse shafts, a brake-wheel upon the line-shaft, a brake-band, and means for tightening the brake-band upon the brake-wheel.

9. The combination of a locomotive, a car, a line-shaft on the locomotive and a line-shaft on the car, means for operatively connecting the line-shaft of the locomotive with the line-shaft of the car, a gear on the line-shaft, transverse shafts on the car and on the locomotive, a gear on each transverse shaft, means for operatively connecting said gears together, a spring for holding the gears in operative position, means for disengaging the gears from each other, a motor upon the locomotive, a motor-shaft, and means for transmitting motion from the motor-shaft to the line-shaft of the locomotive.

10. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting the ends of said line-shafts together to cause the rotation of one to rotate all of them, a motor upon the locomotive, a motor-shaft, means for transmitting motion from the motor-shaft to the line-shaft of the locomotive, a reversing device between the motor-shaft and the line-shaft, a speed-changing mechanism, and means for operating said mechanism.

11. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting said shafts together, a motor a motor-shaft in two parts, a clutch connecting said two parts, means for throwing the clutch into and out of engagement, means for operatively connecting the motor-shaft with the line-shafts, a reversing device between the motor-shaft and the line-shafts, and a speed-changing device also located between the motor-shaft and the line-shafts.

12. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting said shafts together, a motor a motor-shaft in two parts, a clutch connecting said parts, a slide on one of the parts connected to the clutch, a bell-crank connected with the slide, and means for operating the bell-crank.

13. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting said shafts together, a motor a motor-shaft in two parts, a clutch connecting said parts, a slide on one of the parts connected to the clutch, a bell-crank connected with the slide, a lever for operating the bell-crank, said lever being pivoted on the shaft to turn in two directions, a speed-varying mechanism, and connections from the lever to the speed-varying mechanism for operating it.

14. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting said shafts together, a motor a motor-shaft in two parts, a clutch connecting said parts, a slide on one of the parts connected to the clutch, a bell-crank connected with the slide, a lever for operating the bell-crank, said lever being pivoted on the shaft to turn in two directions, a speed-varying mechanism, and connections from the lever to the speed-varying mechanism for operating it.

15. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting said shafts

together, a motor a motor-shaft in two parts, a clutch connecting said parts, a slide on one of the parts connected to the clutch, a bell-crank connected to the slide, gearing connecting said motor-shaft with the line-shafts, a speed-varying mechanism between the motor-shaft and the line-shafts, an operating-lever pivotally mounted upon the motor-shaft to oscillate in a direction transverse thereto and also pivotally mounted to oscillate in a longitudinal direction with respect to the motor-shaft, a link connected with said speed-varying mechanism for operating the latter when the lever is oscillated in a longitudinal direction with respect to the motor-shaft, and a link connecting the lever with said bell-crank for operating the latter when the lever is moved in a direction transverse to the motor-shaft.

16. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting said shafts together, a motor, a motor-shaft in two parts, a clutch connecting said parts, a slide on one of the parts connected to the clutch, a bell-crank connected to the slide, a speed-varying mechanism, a lever pivoted on the shaft, connections from the lever to the bell-crank, connections from the lever to said speed-varying mechanism, a reversing device connected with the motor-shaft, and a lever for operating the reversing device.

17. The combination of a locomotive, cars, a line-shaft on the locomotive, a line-shaft on each car, means for connecting said shafts together, a motor a motor-shaft in two parts, a clutch connecting said parts, a slide on one of the parts connected to the clutch, a bell-crank connected with the slide, a lever for operating the bell-crank, said lever being pivoted on the shaft to turn in two directions, a speed-varying mechanism and connections from the lever to the speed-varying mechanism for operating it, connections from the speed-varying mechanism to the line-shaft on the locomotive, a brake upon the line-shaft, and a hand-wheel for operating said brake.

18. In a locomotive, the combination of a cab, a motor, a motor-shaft in a plurality of parts, means for causing said parts to be engaged with and disengaged from each other, a brake, a frame in the cab provided with openings or slots, a lever for operating said means passing through one of said openings or slots, and a rod for operating said brake passing through another of said openings in the frame.

19. In a locomotive, the combination of a cab, a motor, a motor-shaft in a plurality of parts, means for causing said parts to be engaged with or disengaged from each other, a speed-varying mechanism, means for operating said speed-varying mechanism, a frame in the cab provided with openings or slots, a lever for operating said first-mentioned means passing through one of said openings, and a lever for operating said second means passing through another of said openings into the cab.

20. In a locomotive, the combination of a cab, a motor, a motor-shaft in two parts, means for causing said two parts to be engaged with or disengaged from each other, a speed-varying mechanism, means for operating said speed-varying mechanism, a brake, a frame in the cab provided with openings or slots, a lever for operating said means for engaging and disengaging the two parts of the motor-shaft, passing through one of said openings, a lever for operating the speed-varying mechanism passing through another of said openings, and a rod for operating said brake passing through another opening in said frame.

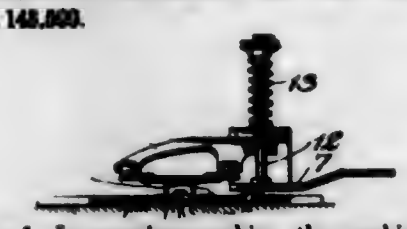
21. In a locomotive, the combination of a cab having a slot in the lower portion thereof, said slot being provided with three slots extending at right angles thereto, a lever pivoted to swing in two directions at a point below said slot and passing through said slot, a motor, means for causing the motor to be disconnected from the running-gear of the locomotive when the lever is in any portion of said first-mentioned slot, means for causing the motor to be engaged with the running-gear of the locomotive when the lever is in the extreme end of any one of the three last-mentioned slots, and means for causing the speed at which motion is transmitted from the motor to the running-gear to be varied according to the one of the last-mentioned slots in which the lever is placed.

22. In a locomotive, the combination of a cab having a slot in the lower portion thereof, said slot being provided with three slots extending at right angles thereto, a lever pivoted to swing in two directions at a point below said slot and passing through said slot, a motor, means for causing the motor to be disconnected from the running-gear of the locomotive when the lever is in any portion of said first-mentioned slot, means for causing the motor to be engaged with the running-gear of the locomotive when the lever is in the extreme end of any one of the three last-mentioned slots, means for causing the speed at which motion is transmitted from the motor to the running-gear to be varied according to the one of the last-mentioned slots in which the lever is placed, an additional slot in the lower part of said cab and a slot extending at right angles thereto and connected therewith, a lever passing through said slot, said lever being pivoted to swing in two directions, a reversing mechanism connected with said last-mentioned lever, and means whereby the motion of the motor is transmitted to the running-gear of the locomotive in one direction when the lever is in said additional slot, and in the other direction when it is in the slot connected therewith.

23. In a locomotive, the combination of a cab having a slot in the lower portion thereof, said slot being provided with three extensions at right angles thereto, a lever pivoted to swing in two directions at a point below said slot and passing through it, a motor, means for connecting the motor with and disconnecting it from the running-gear of the locomotive, and means for connecting said means with the lever.

24. In a locomotive, the combination of a cab having a slot in the lower portion thereof, said slot being provided with three extensions at an angle thereto, a lever pivoted at a point below the slot to swing in two directions and passing through the slot, a motor, means for causing the motor to be disconnected from the running-gear of the locomotive when the lever is in any portion of the main slot, and means for causing the motor to be engaged with the running-gear of the locomotive when the lever is in one of said extensions.

804,639. BUTTONHOLE-SEWING MACHINE. JAMES E. UMFLEBY, Troy, N. Y., assignor to The National Machine Company, Mamaroneck, N. Y., a Corporation of New York. Filed Mar. 19, 1903. Serial No. 148,809.



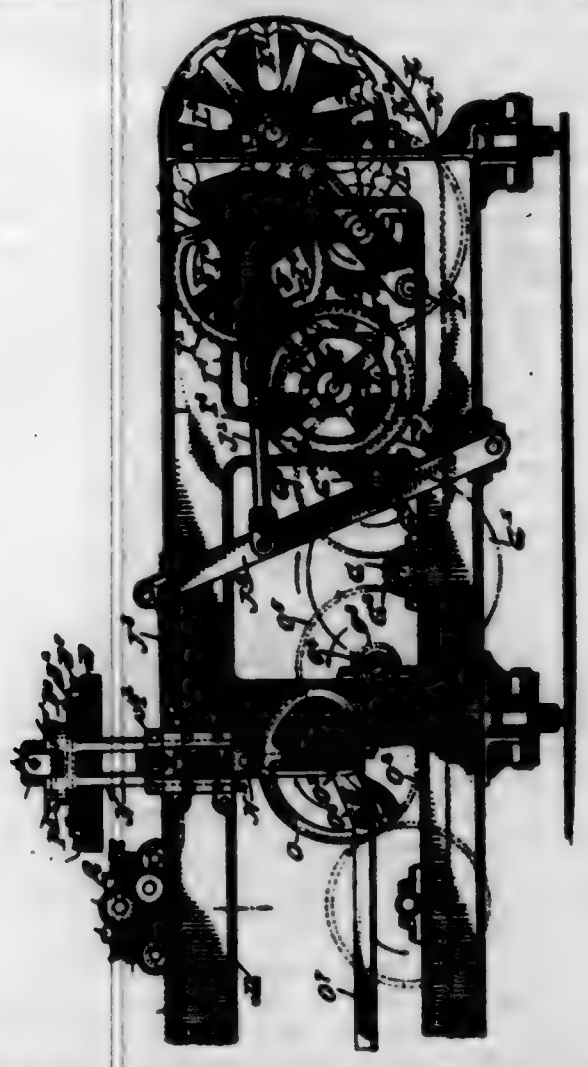
Claim.—1. In a sewing-machine, the combination with button hole-stitching mechanism, including a vertically-reciprocating needle-bar and means for producing relative lateral movements between the needle-bar and the work, of a throat-plate for supporting the work to be operated upon, said throat-plate having a longitudinal crown or rib, and having longitudinal grooves or depressions one upon each side of the said rib, work-clamping means comprising clamping-jaws arranged opposite the said longitudinal depressions and fitted thereto whereby the work is held securely against lateral displacement, and means for reciprocating the clamping-jaws relatively to the throat-plate.

2. In a sewing-machine, the combination with buttonhole-stitching mechanism, including a vertically-reciprocating needle-bar and means for producing relative lateral movements between the needle-bar and the work, of a throat-plate for supporting the work to be operated upon, said throat-plate having a longitudinal crown or rib, and having longitudinal grooves or depressions one upon each side of the said rib, work-clamping means comprising spring-actuated clamping-jaws arranged opposite the said longitudinal depressions and fitted thereto whereby the work is held securely against lateral displacement, and means for reciprocating the clamping-jaws relatively to the throat-plate.

3. In a sewing-machine, the combination with buttonhole-stitching mechanism, including a vertically-reciprocating and laterally-vibrating needle-bar, of a throat-plate having two longitudinal grooves arranged therein beyond the limits of the said lateral vibrating movements of the needle-bar, work-clamping means comprising two clamping-jaws, fitted to the said grooves whereby the work is held securely against lateral displacement, and means for reciprocating the clamping-jaws relatively to the throat-plate.

4. In a sewing-machine, the combination with buttonhole-stitching mechanism, including means for producing a jogging movement of the needle relatively to the work, of means for crowning the work at the point at which the needle is operating, including a throat-plate having a longitudinal crown or ribbed portion, the apex of which is of a width less than the range of the said jogging movement on both sides of the buttonhole, and having longitudinal grooves or depressed portions, one on each side of said crown or ribbed portion, work-clamping means comprising two clamping-jaws fitted to the said grooved portions of the throat-plate, whereby the work is held securely against lateral displacement, and means for reciprocating the clamping-jaws relatively to the throat-plate, said needle arranged in its movements to penetrate the inclined side portions of the work, intermediate the apex of the crowned portion of the throat-plate and the base of the grooved or depressed portions thereof.

804,640. OIL-CLOTH-PRINTING MACHINE. WILLIAM H. WALMSLEY, New Brunswick, N. J., assignor to John Waldron Company, New Brunswick, N. J. Filed Dec. 8, 1904. Serial No. 236,811.



Claim.—1. An oil-cloth-printing machine having a driving mechanism for the color-troughs, comprising a lever connected with the color-troughs, a crank-arm, a link connecting the crank-arm with the lever, and a driving-gear for the said device, comprising mutilated gear-wheels, of which one is driven and the other is attached to the crank-shaft of the said crank-arm, the said mutilated gear-wheels having interlocking smooth surfaces.

2. An oil-cloth-printing machine having a driving mechanism for the color-troughs, comprising a lever connected with the color-troughs, a counterbalanced crank-arm, a link connecting the crank-arm with the lever, and a driving-gear for the said device, comprising mutilated gear-wheels, of which one is driven and the other is attached to the crank-shaft of the said crank-arm, one of the said mutilated gear-wheels having a smooth segmental portion and the other mutilated gear-wheel having smooth concave rim portions adapted to be alternately engaged by the said segmental rim portion.

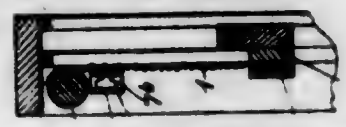
3. An oil-cloth-printing machine having a driving mechanism for the color-troughs, comprising a lever connected with the color-troughs, a counterbalanced crank-arm, a link connecting the crank-arm with the lever, a driving-gear for the said device, comprising mutilated gear-wheels, of which one is driven and the other is attached to the crank-shaft of the said crank-arm, the said mutilated gear-wheels having interlocking smooth surfaces, and means on the said mutilated gear-wheels for moving them from an interlocked position into mesh with each other.

4. An oil-cloth-printing machine having a driving mechanism for the color-troughs, comprising a lever and crank device connected with the color-troughs, a driving-gear for the said device, comprising mutilated gear-wheels, of which one is driven and the other is attached to the crank-shaft of the said lever and crank device, the said mutilated gear-wheels having interlocking smooth surfaces, and means for moving the said mutilated gear-wheels from an interlocked position into mesh with each other, the said means consisting of a friction-wheel on the driven mutilated gear-wheel and a projection on each concave rim portion of the other mutilated gear-wheel.

5. In an oil-cloth-printing machine, the combination with a color-trough, of a lever pivoted at one end and having its other end connected with the color-trough, a crank-arm, a link connecting the crank-arm with the lever intermediate of its ends, a mutilated gear-wheel on the shaft of the crank-arm and having two oppositely-disposed smooth concave portions in its rim, a second mutilated gear-wheel having a smooth segmental rim portion adapted to fit alternately into the concave portions of the first-named mutilated gear-wheel, and means for operating the last-named mutilated gear-wheel.

6. In an oil-cloth-printing machine, the combination with a color-trough, of a lever pivoted at one end, a connection between the free end of the lever and the color-trough, a mutilated gear-wheel having oppositely-disposed smooth concave portions in its rim, and a projection in each of the said concave portions, a second mutilated gear-wheel having a smooth segmental rim portion adapted to fit alternately into the concave portions of the first-named mutilated gear-wheel and a friction-roller on said smooth rim portion, means for operating one of the mutilated gear-wheels, a counterbalanced crank-arm on the shaft of one of the said gear-wheels, and a link connecting the crank-arm with the said lever intermediate of its ends.

804,641. WINDOW-SCREEN. CARL J. WALLIN, Jamestown, N. Y. Filed Mar. 31, 1905. Serial No. 253,974.



Claim.—1. A device of the character described, comprising a screen having thickened lateral edges, means for suspending said screen in position, and clips applied laterally to the window-frame for guiding said lateral edges of the screen, each clip or guide having a base-plate and stirrups or guides proper struck up with said base-plate and said plate thus assuming skeleton form where applied to the window-frame as set forth.

2. A device of the character described, embracing a screen, with its automatically-actuated roll suitably supported in position, and a casing or housing for the aforesaid parts, having a cover to which are attached hooks for engagement with and suspending the upper projecting end portion of said screen.

3. A device of the character described, embracing a screen, with its attached automatically-actuated roll, suitably supported in position, and a housing or casing secured upon the window-sill, having a cover provided with pendent hook-like lugs or projections for engagement with, and the suspending of the projected end of the screen, and said cover having openings in its closing edge for the passage of the screen.

804,642. CAN-HEADING MACHINE. HARRY C. H. WALSH, Chicago, Ill., assignor to Consolidated Press and Tool Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 12, 1904. Serial No. 224,175.

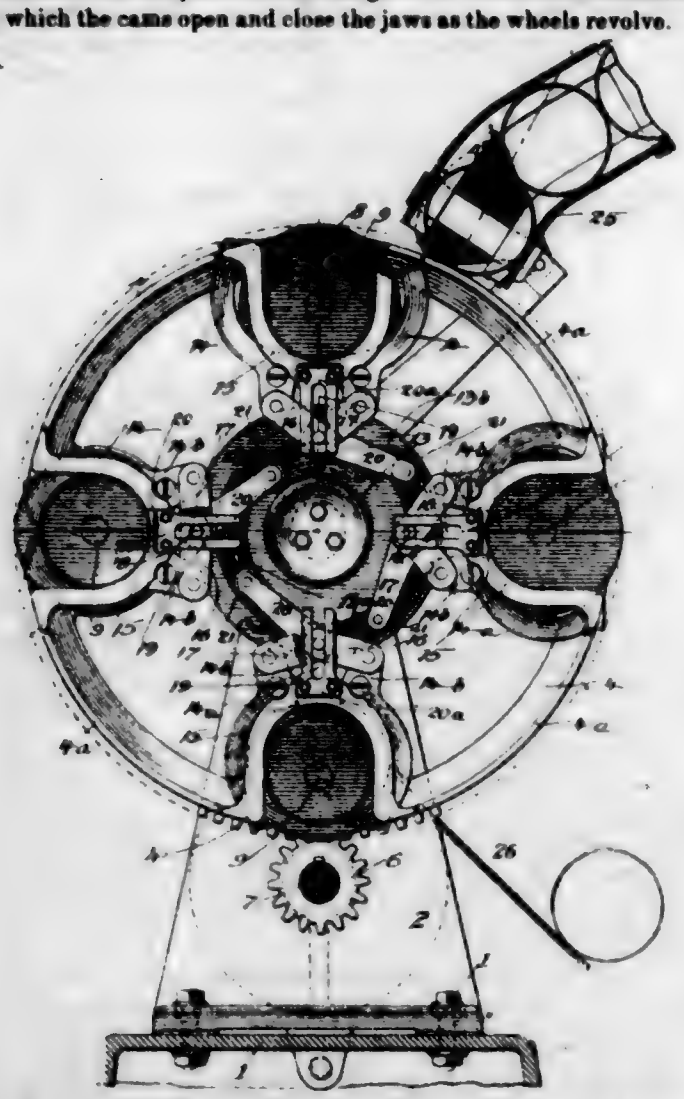
Claim.—1. A can-heading machine comprising a pair of holder-wheels mounted facing each other for rotation about axis slightly oblique; means for revolving such wheels synchronously; head and body holding devices in opposed positions on the proximate faces of the wheels; means for delivering can heads and bodies to such holding devices, and means for receiving cans therefrom at separate points in the circumference of the wheels, both remote from the point of nearest approach of the wheels.

2. A can-heading machine comprising a pair of wheels mounted facing each other for rotation in slightly-divergent planes; means for rotating the wheels synchronously about their respective axes; body and head holding devices for the two ends of the can mounted in opposed positions on the proximate faces of said disks; a chute for delivering heads and bodies to said holding devices and a cylindrical guard carried by each wheel for obstructing said chute, said guard being apertured in radial line with the several pairs of body and head holding devices.

3. A can-heading machine comprising two wheels whose axes intersect at a widely-obtuse angle between the wheels whereby the wheels are adapted to revolve in slightly-divergent planes facing each other; can and body holding devices for the two ends of the can mounted with capacity for universal angular accommodation at opposed positions upon the facing sides of the wheels respectively; means for rotating the two wheels synchronously and for adjusting them toward and from each other.

4. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at a widely-obtuse angle between the wheels; means for rotating the wheels synchronously about their respective axes; head-holding devices mounted at opposed positions on the proximate faces of the respective wheels, and body-holding devices mounted and rotated synchronously with the wheels between said head-holding devices and means for adjusting the wheels toward and from each other.

5. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at widely-obtuse angles between the wheels; means for rotating the wheels synchronously about their respective axes; head-holding devices mounted at opposed positions on the proximate faces of the respective wheels with capacity for universal angular accommodation; body-holding devices mounted and rotated synchronously with the wheels between said head-holding devices and means for adjusting the wheels toward and from each other, the head-holding devices comprising clamping-jaws adapted to open at their outer side for receiving and delivering; cams fixed with respect to the bearings of the wheels and connections by which the cams open and close the jaws as the wheels revolve.



6. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at a widely obtuse angle between the wheels; means for rotating the wheels synchronously about their respective axes; head-holding devices mounted by ball-and-socket joints at opposed positions on the proximate faces of the respective wheels; body-holding devices mounted and rotated synchronously with the heads between the head-holding devices, said head-holding devices comprising clamping-jaws adapted to open opposite the axis to receive the heads, and cams fixed with respect to the bearings of the respective wheels to close and open the clamping-jaws as the wheels revolve.

7. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at a widely-obtuse angle between the wheels; means for rotating the wheels synchronously about their respective axes; head-holding devices mounted at opposed positions on the proximate faces of the respective wheels, and means for carrying bodies lodged between the opposed head-holding devices as the wheels rotate synchronously, the head-holding devices being mounted at such angle to the plane of rotation of the respective wheels which carry them as to be parallel to each other at their point of nearest approach in the paths of rotation of the wheels.

8. A can-heading machine comprising a pair of gear-wheels mounted for rotation about axes which intersect at a widely-obtuse angle between the wheels; a shaft transverse to said wheels and pinions on said shaft engaging said first-mentioned wheels respectively and adapted to rotate them synchronously about their respective axes; disks mounted in opposed positions on the proximate faces of the respective wheels with capacity for universal angular accommodation, and means for carrying the can bodies and heads lodged between said opposed disks as the wheels rotate.

9. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at a widely-obtuse angle between the wheels; means for rotating the wheels synchronously about their respective axes; disks mounted at opposed positions on the proximate faces of the two wheels at such angles to the planes of rotation of the wheels respectively as to bring the disks parallel to each other at their point of nearest approach in their respective paths of movement as carried by the rotating wheels, and means for carrying the can elements which are to be united lodged between the opposed disks as the wheels revolve.

10. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at a widely-obtuse angle between the wheels; means for rotating the wheels synchronously about their respective axes; disks mounted with ball-and-socket joints in opposed positions on the proximate faces of the respective wheels and means for carrying the can elements which are to be united lodged between the opposed disks as the wheels revolve.

11. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at a widely-obtuse angle between the wheels; means for rotating the wheels synchronously about their respective axes; disks mounted with ball-and-socket joints in opposed positions on the proximate faces of the respective wheels and means for carrying the can elements which are to be united lodged between the opposed disks as the wheels revolve, the bearing for one of said wheels being adjustable to permit movement toward and from the other.

12. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at a widely-obtuse angle between the wheels; means for rotating the wheels synchronously about their respective axes; disks mounted at opposed positions on the proximate faces of the respective wheels; head-holding jaws pivoted on the face of the disks and having lever extensions inward from their pivots; a pair of links pivoted together and connected respectively to the lever extensions of the jaws, one of said links having an abutment-carrying lever-arm and a cam fixed with respect to the bearing of the wheels for engaging the abutment on said lever-arm to operate the jaws as the wheel revolves.

13. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at a widely-obtuse angle between the wheels; means for rotating the wheels synchronously about their respective axes; disks mounted with capacity for universal angular accommodation at opposed positions upon the proximate faces of the wheels; a pair of head-clamping jaws pivoted upon the face of each disk, the jaws having each a lever extension inward from its pivot; a pair of links pivoted together and connected to said lever extensions respectively; a guide rigid with the disk having a radial slot in which the two links are guided at their pivot to each other, and means for operating the links to move them inward and outward at their said pivot as the wheel revolves.

14. A can-heading machine comprising a pair of wheels mounted for rotation about axes which intersect at a widely-obtuse angle between the wheels; means for rotating the wheels synchronously about their respective axes; head-holding devices mounted at opposed positions on the proximate faces of the respective wheels, said devices comprising each a disk rigid with the wheel; a pair of jaws symmetrically positioned and fulcrumed on the disk and having symmetrically-disposed lever extensions extending inward from their pivots; a pair of links pivoted together and connected with said lever extensions respectively; a body-cradling element mounted rigidly on the disk proximate to the jaws at the opposite side thereof from the disk, having a stem provided with a radial slot, the two links having their pivot guided in said slot and means for moving said pivot inward and outward as the wheels revolve.

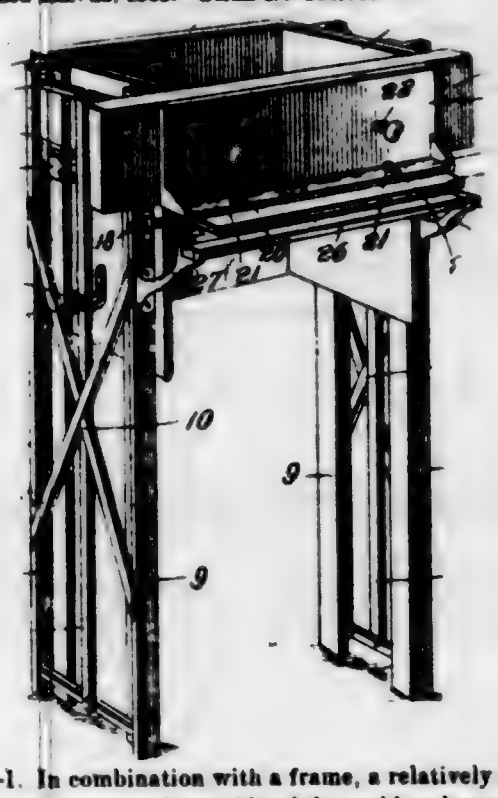
15. In a can-heading machine, head-clamping jaws having removable lining-pieces for fitting the heads in respect to diameter, and removable body-holding elements mounted fixedly with respect to the pivots of the jaws intermediate the same.

16. In a can-heading machine, a head-holding device comprising a disk against which the heads may lodge; clamping-jaws pivoted for vibration over the face of the disk; connected links for operating the jaws and means for actuating the links to cause such operation, the pivots connecting the links to the jaws being mounted eccentrically in the two parts thus connected, and means for securing them adjustably in one of said parts.

17. In a can-heading machine in combination with a rotating wheel; a head-holding device comprising a disk mounted on the face of the wheel; a pair of clamping-jaws pivoted for vibration over the face of the wheel; a pair of connected links connected to said jaws respectively for operating them; means actuating the links for such operation comprising a cam fixed with respect to the bearing of the wheel; a lever connected with the links and having a stud and roll engaging the cam for actuating the links, the stud being adjustably

mounted in the lever eccentrically with respect to the roll, and means for securing the stud in its adjustment.

804,643. MOLDING-MACHINE. HARRY A. WALTER, Marshall, Mich. Filed Mar. 22, 1905. Serial No. 251,641.



Claim.—1. In combination with a frame, a relatively fixed section forming the bottom and one side of the mold and supported by the frame, and a vertically-adjustable section having side and end members, said relatively fixed and vertically-adjustable sections coacting to form a mold.

2. A mold of the character described comprising a suitable frame, one side and two end mold-sections vertically slidable upon said frame, and a combined bottom and side mold-section mounted to swing upon said frame.

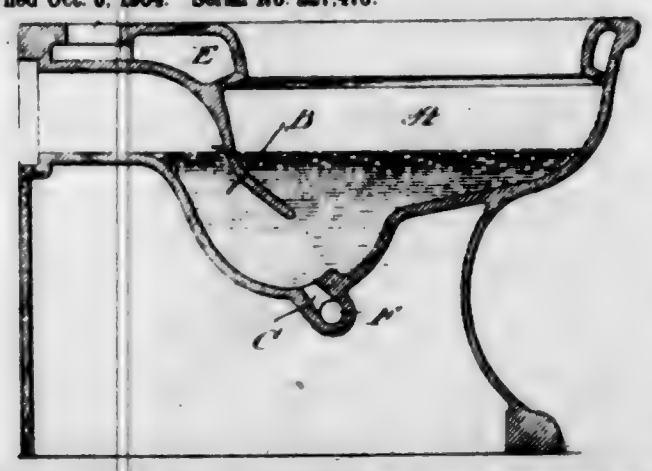
3. A mold of the character described comprising a suitable frame, one side and two end mold-sections adjustably mounted upon said frame, a bottom mold-section pivotally mounted upon said frame, and a side mold-section adjustably secured upon said bottom section.

4. A mold of the character described comprising a suitable frame, one side and two end mold-sections slidably mounted upon said frame, means for adjusting said sections, a bottom mold-section pivotally mounted upon said frame and a side mold-section slidably engaged with and adjustably secured to said bottom mold-section.

5. A mold of the character described comprising end mold-sections, a swinging bottom mold-section, a side mold-section upon said bottom section, and means upon said side section for holding a board or plate in engagement with said end sections.

6. A mold of the character described comprising a suitable frame, an adjustable mold-section, a guide upon said section slidably engaged with said frame, a rod secured to said frame, an adjusting-bracket secured upon said section and slidably engaged with said rod, and a set-screw for securing said bracket upon said rod.

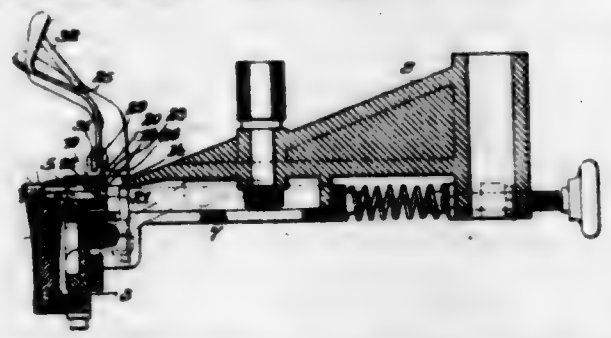
804,644. WATER-CLOSET. EARL G. WATROUS, Chicago, Ill. Filed Oct. 6, 1904. Serial No. 227,478.



Claim.—1. In a water-closet bowl, the combination, with an upward discharge-passage leading from the bowl and having a contracted portion and a flaring mouth portion, of a jet located below and directed upwardly into the passage, substantially as described.

2. In a water-closet bowl, the combination of the upward discharge-passage B having the contracted portion and flaring mouth, and the jet C coöperating therewith in the manner and for the purpose described.

804,645. ROUGH-ROUNDING AND CHANNELING MACHINE. GEORGE F. WOLFE, Rochester, N. Y., assignor, by direct and mesne assignments, to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Mar. 31, 1903. Serial No. 100,735.



Claim.—1. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a grooving-knife, and means for throwing one of the knives out of operation and the other knife into operation, said knives having the same operative position, substantially as described.

2. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a diagonally-arranged sliding carrier, upon which said channeling-knife is mounted, a grooving-knife, a sliding carrier upon which said grooving-knife is mounted, and means for operating the channeling-knife and grooving-knife carriers to throw one knife into operation and the other knife out of operation, substantially as described.

3. A rough-rounding and channeling machine, having, in combination, a channeling-knfe, a channeling-knife carrier, a grooving-knife, a grooving-knife carrier, a lever for operating said carriers provided with two slots, one for operating the channeling-knife carrier and the other for operating the grooving-knife carrier and means connected with said carriers engaging said slots, substantially as described.

4. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a channeling-knife carrier, a grooving-knife, a grooving-knife carrier, a knife-carrier support provided with guideways for the knife-carriers inclined with relation to each other, and located in substantially the same plane, and means for actuating the knife-carriers, substantially as described.

5. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a channeling-knife carrier, a grooving-knife, a grooving-knife carrier, a knife-carrier support, a sole-rest mounted on said knife-carrier support, said knife-carrier support being provided with guideways for the knife-carriers inclined with relation to each other so that the knives in operative position project slightly beyond the surface of the sole-rest and at one end of the same, and means for actuating the knife-carriers, substantially as described.

6. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a grooving-knife, means for supporting the knives so that they are movable along intersecting paths, and a lever for actuating the knives provided with a stop to hold said lever stationary with the channeling-knife in operative position, substantially as described.

7. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a grooving-knife, carriers for the knives, and a lever for actuating both carriers to move the one out of and the other into operative position, substantially as described.

8. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a grooving-knife, carriers for the knives, means for actuating the knives comprising a lever provided with a stop to hold the channeling-knife in operative position, and with a surface to hold the grooving-knife in operative position, substantially as described.

9. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a grooving-knife, carriers for the knives, and means for moving the carriers having provision for holding either the one or the other of the knives in the same operative position, substantially as described.

10. A rough-rounding and channeling machine, having, in combination, channeling and grooving knives movable along intersect-

ing paths, and means for actuating the knives to throw one into and the other out of operative position, substantially as described.

11. A rough-rounding and channeling machine, having, in combination, channeling and grooving knives, a sole-rest and means for moving either the one or the other of the knives into substantially the same position with relation to the sole-rest, substantially as described.

12. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a grooving-knife, and means for moving either the one or the other of the knives into the same operative position, substantially as described.

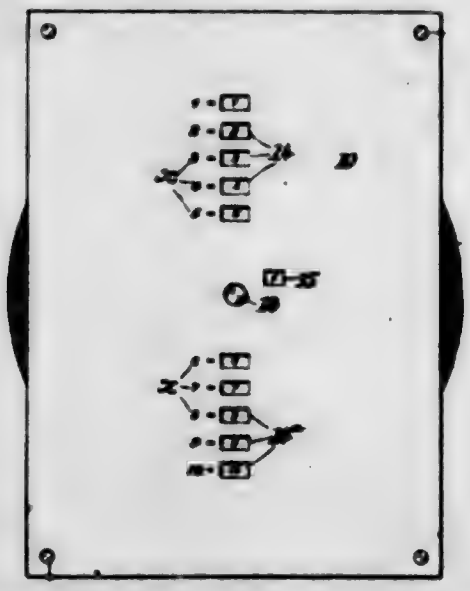
13. A rough-rounding and channeling machine, having, in combination, a channeling-knife, a grooving-knife, carriers for the knives, and connected means for moving both of the carriers having provision for holding either the one or the other of the knives in the same operative position, substantially as described.

14. In a machine for preparing the outsoles of boots and shoes for attachment to lasted uppers and insoles, the combination with a channeling-knife and a grooving-knife, of means under the control of the operator whereby either of the said knives may be brought into and moved out of operative position without stopping the machine or breaking the continuity of operation of said knives, to form a channel in a portion of the shoe-sole and a continued stitch-receiving groove, and means to operate said knives, substantially as described.

15. In a machine for preparing the outsoles of boots and shoes for attachment to lasted uppers and insoles, the combination with a channeling-knife and a grooving-knife, of means under the control of the operator whereby either of the said knives may be brought into and moved out of operative position without stopping the machine or breaking the continuity of operation of said knives, to form a channel in a portion of the shoe-sole and a continued stitch-receiving groove and means to vibrate said knives, substantially as described.

16. In a machine for preparing the outsoles of boots and shoes for attachment to lasted uppers and insoles, the combination with a grooving-knife and a channeling-knife, means under the control of the operator for alternately advancing and retracting said knives to and from operative position to cause one of said knives to continue the line of cut made by the other of said knives and means for imparting to said knives their cutting movements, substantially as described.

804,646. CALCULATING DEVICE. CHARLES M. YOUNG, San Francisco, Cal. Filed Jan. 3, 1905. Serial No. 239,431.



Claim.—1. A calculating device comprising a pair of outer members furnishing supports for the remaining elements of the device, the said members being each provided with a series of openings arranged in two groups radial with respect to the axis, the groups being at opposite sides of the axis and in line with each other, the corresponding openings of each group being at different distances from the axis, each of said openings being designated by a multiplicand, and an independent opening, at one side of the line of openings and situated adjacent to the axis, a pin extending through these outer supporting members, and a disk rotatable about the pin and projecting beyond the supporting members, said disk being provided on each face with a plurality of circular series of numerals arranged in two groups corresponding to the two groups of openings and adapted to appear through the same, the said disk being also provided with numerals arranged in a circular series about the axis and adapted to register with the independent opening.

2. A calculating device comprising a pair of outer rectangular members furnishing supports for the remaining elements of the device, the said members being each provided with a series of openings arranged in two groups in line with each other and radial to the axis, the corresponding openings of each group being at different distances from the axis, each opening being designated by a factor-numeral, and an independent opening, adjacent to the axis, rivets connecting the supporting members near their corners, a pin extending through the supporting members near their axes, and a disk rotatable about the pin and projecting beyond the sides of the rectangular supporting members, said disk being provided with a plurality of circular series of numerals arranged in two groups corresponding respectively to the two groups of openings and which may appear through the same, the disk being also provided with a circular series of numerals which may register with the independent opening.

804,647. PIPE-COVERING. ROBERT KELLER, Munich, Germany. Filed Aug. 18, 1905. Serial No. 274,262.



Claim.—1. A heat-resisting covering for metal tubes, comprising a series of metal disks surrounding said tube and extending in a direction transverse to its length, and hardened fire-resisting material filling the spaces between such metal disks.

2. A heat-resisting covering for metal tubes comprising a series of metal disks provided with transverse openings, said metal disks surrounding said tube in a direction transverse to its length, and a mass of hardened fire-resisting material filling the spaces between the said metal disks and also the apertures in said metal disks.

3. A covering for tubes comprising a series of disks surrounding said tube and extending in a direction transverse to its length, and plastic material filling spaces between such disks.

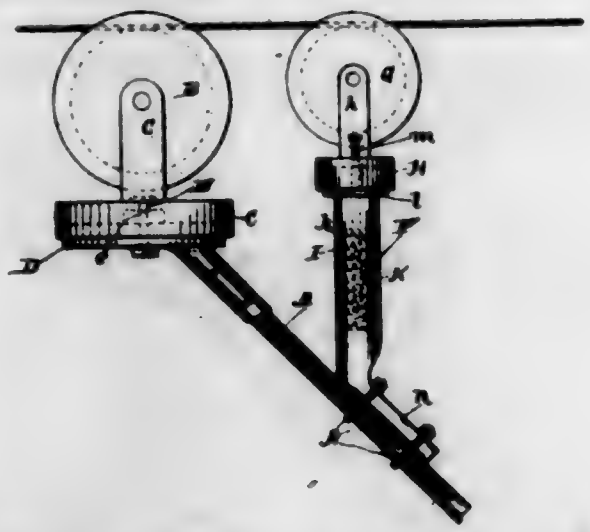
4. A covering for tubes comprising a series of disks provided with transverse openings, said disks surrounding said tube in a direction transverse to its length, and a mass of plastic material filling the spaces between the said disks and also the apertures in said disks.

5. A covering for tubes, comprising a series of spaced U-shaped members adapted to be slipped on the tube sidewise, and fire-resisting material filling the spaces between said members.

6. A covering for tubes, comprising a series of spaced U-shaped members adapted to be slipped on the tube sidewise and having their openings facing in different directions, and a fire-resisting material filling the spaces between said members.

7. A covering for tubes, comprising a series of spaced U-shaped members adapted to be slipped on the tube sidewise and having their openings facing alternately in opposite directions, and a fire-resisting material filling the spaces between said members.

804,648. TROLLEY. MICHAEL BAKER, Chicago, Ill. Filed Aug. 31, 1904. Serial No. 222,962.



Claim.—1. The combination with a trolley-wheel having a limited free swiveling movement, of an independent ice breaking or stripping wheel swiveling freely within defined limits.

2. The combination with a trolley-wheel swiveling freely within defined limits, of an independent secondary contact-wheel also swiveling freely within defined limits.

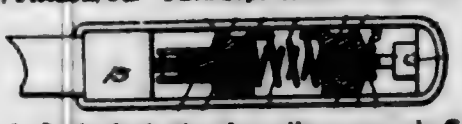
3. The combination with an ice breaking or stripping pilot-wheel having a limited free swiveling movement, of a trolley-wheel also swiveling freely within defined limits.

4. The combination with a trolley-wheel swiveling freely within defined limits, and its pole, of a vertical standard detachably secured to the upper end of said pole, and an auxiliary contact-wheel spring-seated in said standard and having a limited free swiveling movement thereon.

5. The combination with a trolley-wheel swiveling freely within defined limits, and its pole, of a vertical standard rising from the front of said pole and provided with a socket at its upper end, an upwardly-pressing coiled spring seated within the socket, a forked plunger or trolley-harp seated upon the spring and playing vertically in the socket, and having a limited free swiveling movement therein, and an ice-breaking pilot-wheel journaled in the forks of the plunger.

6. The combination with a trolley-wheel swiveling freely within defined limits, and its pole, of a vertical standard rising from the front of said pole and provided with a cylindrical socket at its upper end, an upwardly-pressing coiled spring seated within the socket, a forked freely-swiveling plunger seated upon the spring and playing in the socket, bolts whereby both the vertical and the swiveling play of the plunger are limited, and an ice-breaking wheel journaled in the forks of the plunger.

804,649. DRAFT-RIGGING FOR RAILWAY-CARS. JOHN F COURSON, Pitcairn, Pa. Filed Sept. 8, 1904. Serial No. 223,726.



Claim.—1. In draft-rigging for railway-cars, buffer means held to the car-sills and a draft-bar embracing the buffer means and having a swivel connection with the buffer mechanism to permit said draft-bar to have lateral swinging movement, and rocking movement, substantially as described.

2. In combination in draft-rigging for railway-cars, buffer mechanism fixed to the car and a draft-bar in the form of a yoke having a swivel connection at its rear end to permit the said bar to swing laterally or to rock, substantially as described.

3. In combination in a draft-rigging for railway-cars, buffer means comprising a center plate 4, a spring engaging the center plate, abutment-plates between which the plate 7 moves and a draft-bar bearing on the ends of the center plate and adapted to exert a pulling and a pushing force thereon, said draft-bar being pivoted at its rear end in relation to the buffer means, substantially as described.

4. In combination, in a draft-rigging, a frame, a draft-bar having lateral movement, means engaging the draft-bar to move the same in both directions and guided in the frame to move transversely of the car, and connections for positively operating said transversely-moving means, said connections being joined to the truck-frame to be operated by the movement thereof, substantially as described.

5. In combination in a draft-rigging, a frame, a draft-bar having lateral movement, means engaging the draft-bar to move the same in both directions and guided in the frame to move transversely of the car, and connections for operating said means, said connections being joined to the truck-frame to be operated by the movement thereof, said connections including a device exerting a camming action on the transversely-extending means, substantially as described.

6. In combination, in a draft-rigging, a draft-bar supported to swing laterally of the car, means connected to the truck for returning the draft-bar to central position when the car is on a straight track, said means allowing the draft-bar to turn freely on curves and not under control of the said means, substantially as described.

7. In combination, in a draft-rigging, a draft-bar supported to swing laterally, means movable transversely of the draft-bar for moving it in both directions, and connections to the truck for controlling the said means, said connections and operating means exerting no control of the draft-bar on curves but returning and holding the bar in central position when the car is on a straight track, substantially as described.

8. In combination, in draft-rigging for cars, a laterally-movable draft-bar, means for moving the bar in either direction, and a single rod or connection between the said means and the car-truck, substantially as described.

9. In combination, in draft-rigging, a laterally-movable draft-bar, means for moving the same in either direction including a pivoted cam or lever, adapted to exert a pulling or pushing effect on said draft-bar, and a connection from said cam or lever to the truck-frame, substantially as described.

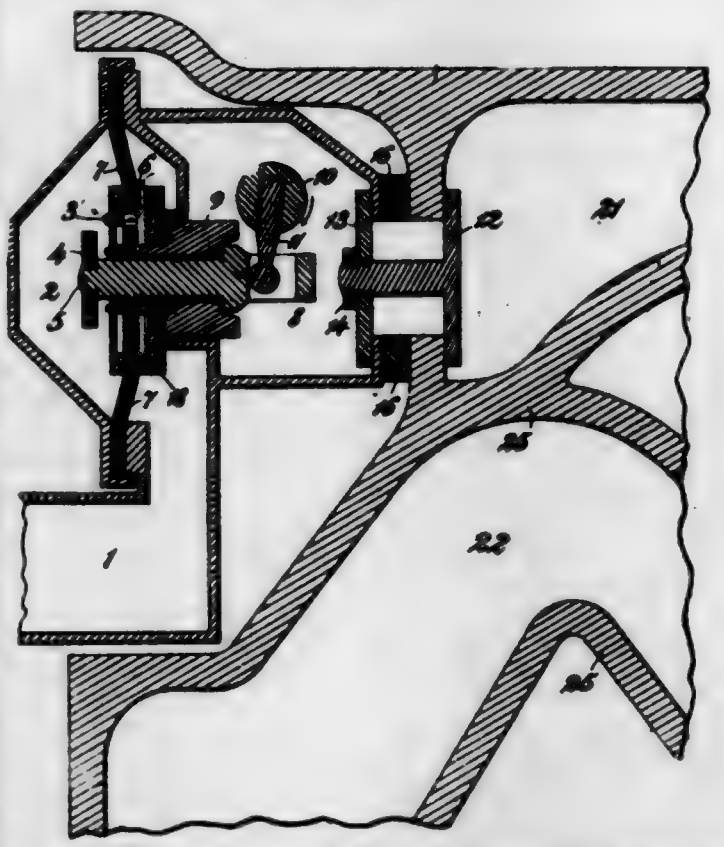
10. In combination, in draft-rigging for cars, a draft-bar adapted to swing laterally, a slide movable transversely of the car-body, a cam or lever pivoted to the slide and adapted to bear on a frame part to either pull or push the draft-bar, and a rod connecting said cam or lever with the car-truck, substantially as described.

11. In combination, in draft-rigging for cars, a draft-bar adapted to swing laterally, a double-acting device to push or pull the said draft-bar in a direction transversely of the car, and a connection between the said double-acting device and the car-truck said draft-bar being free from the restraint of said double-acting device in going around curves, substantially as described.

12. In combination, a laterally-swinging draft-bar, a slide-bar for pushing or pulling the said draft-bar laterally, a lever or cam pivoted to the slide-bar, frame parts between which the swinging cam turns and upon which it bears to push or pull the slide, and a rod connecting the cam to the truck to be operated thereby, the said draft-bar being free from the restraint of the said cam in going around curves.

13. In combination in draft-rigging for railway-cars, buffer mechanism fixed to the car and a draft-bar in the form of a yoke having a swivel connection at its rear end to permit the said bar to swing laterally or to rock, said swivel connection consisting of a conical pin on one part fitting in a socket in the other part, substantially as described.

804,650. WATER-CLOSET. RAYMOND B. CRANE, Montclair, N. J. Filed Nov. 25, 1904. Serial No. 234,214.



Claim.—1. The combination with a water-closet bowl having a recess in the rear of sufficient size to receive a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the flushing-chamber of the closet-bowl, of a flushing-valve mechanism located in said recess, substantially as described.

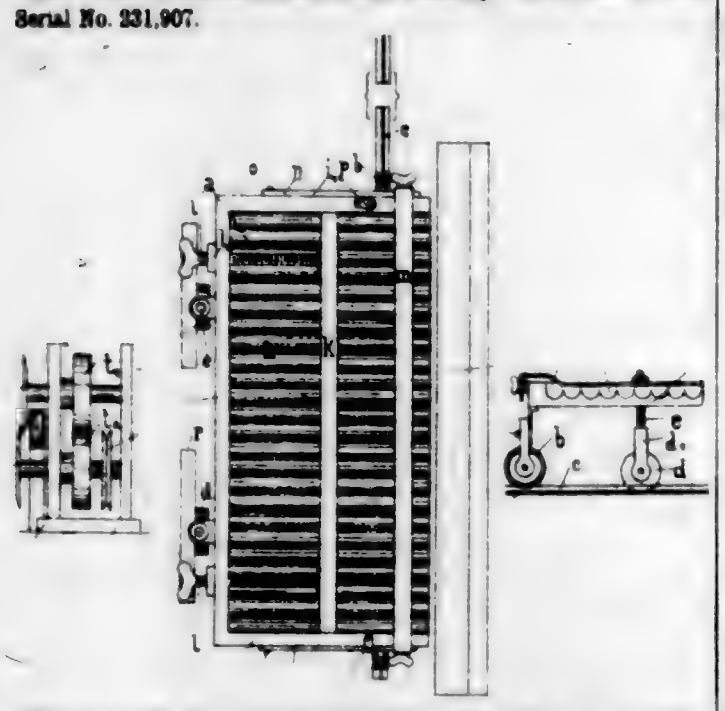
2. The combination with a water-closet bowl having a recess in the rear of sufficient size to receive a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the basin of the closet-bowl, of a flushing-valve mechanism in which the valve operates horizontally located in said recess, substantially as described.

3. The combination with a water-closet bowl having a recess in the rear vertical wall of sufficient size to receive a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the basin of the closet-bowl, of a flushing-valve mechanism located in said recess, substantially as described.

4. The combination with a water-closet bowl having a recess in the rear vertical wall of sufficient size to receive a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the basin of the closet-bowl, of a flushing-valve mechanism comprising a diaphragm located in said recess, substantially as described.

5. The combination with a water-closet bowl having a recess in the rear of sufficient size to substantially accommodate a flushing-valve mechanism, the supply-pipe leading to said recess, and an outlet from said recess to the basin of the closet-bowl, of a flushing-valve mechanism located in said recess, substantially as described.

804,651. MACHINE FOR CUTTING CIGARS AND CIGARETTES. HANS RISNER, Frankfort-on-the-Main, Germany. Filed Nov. 8, 1904. Serial No. 231,907.



Claim.—1. The improved machine for cutting cigars, cigarettes and the like, comprising in combination, a movable frame the bottom of which is formed with grooves to receive the cigars and the like, said frame being railed in on three sides only and having one side open, a longitudinal bar having corresponding grooves, determining the length of said cigars, means for retaining said cigars against displacement, means for guiding said frame, and rotary cutters past which said frame is led, substantially as and for the purpose set forth.

2. The improved machine for cutting cigars and the like, comprising, in combination a movable frame the bottom of which is formed with grooves to receive said cigars, a bar adjustable laterally of said frame and having its under face formed with corresponding grooves, said bar serving to determine the length of the cut cigars, a second bar, arms pivoted to said frame, and carrying said second bar, means for securing said bar in position to press against the cigars to prevent the same from displacement, wheels on said frame and a guide-rail supporting said wheels, substantially as described.

3. The improved machine for cutting cigars, cigarettes and the like, comprising in combination, a movable frame carrying the cigars and the like in fixed relation to said frame, two sets of wheels for said frame, the axle-bushes of one set having slots, bolts adjustably securing said axle-bushes to said frame, a guide-rail for said set of wheels, screw-threaded spindles securing the axle-bushes of the other set of wheels to said frame, and rotary cutters past which said frame is guided, substantially as described.

4. The improved machine for cutting cigars, cigarettes and the like, comprising in combination, a movable frame, two sets of wheels, vertically adjustable, secured to said frame, a guide-rail for one set of wheels, abutments to the side of the other set of wheels, and rotary cutters past which said frame is guided, substantially as described.

5 The improved machine for cutting cigars, cheroots, cigarettes and the like comprising two parallel movable frames carrying the goods to be cut, means for guiding said frames to move together, and three pairs of rotating disks serving to cut said goods, substantially as described.

804,652. TWEEZERS. EDGAR C. ELLSWORTH, Cambridge, Vt., assignor of one-half to C. C. Holden, Webster, Me. Filed June 24, 1905. Serial No. 266,152.

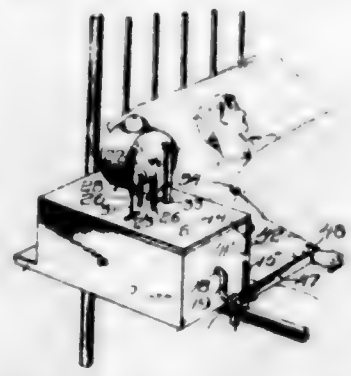


Claim.—1. The combination with a pair of tweezers, of a spring-plate secured near its upper end, to the outer side of one leg of the tweezers, the plate being arranged with its lower end projecting beyond the tweezer-legs and adapted to be adjusted, on its attachment device, to one side out of alinement with the tweezer-legs, substantially as described.

2. The combination with a pair of tweezers, of a spring-plate secured near its upper end, to the outer side of one leg of the tweezers, the plate being arranged with its lower end projecting beyond the tweezer-legs, the projecting end being bifurcated or made forked, and the plate adapted to be adjusted out of alinement with the tweezer-legs, substantially as described.

3. The combination with a pair of tweezers, of a spring-plate on the outer side of one leg of the tweezers, the plate being arranged with its free end projecting beyond the tweezer-legs, and said free end bifurcated or made forked, and a stop whereby to limit adjustment of the spring-plate, substantially as described.

804,653. TIME-ALARM. WILLIAM A. GARRIS, Westchester, Pa. Filed Jan. 19, 1905. Serial No. 241,822.

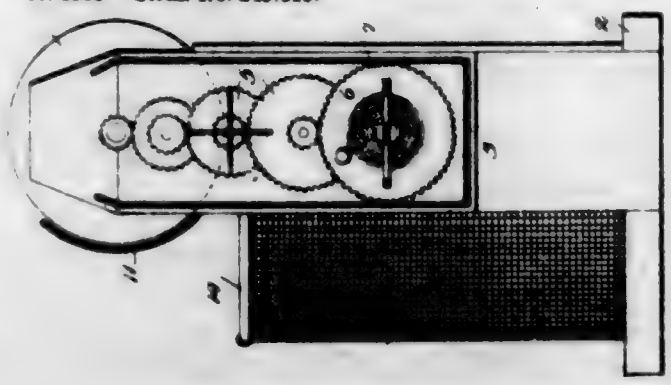


Claim.—1. The combination with an alarm-clock, of a supplemental alarm mechanism comprising a revoluble shaft, means for revolving the shaft, means for holding the shaft against rotation, said means being movable into inoperative position, means connected with the alarm mechanism of the clock and with the shaft-holding means for moving the latter into inoperative position when the alarm mechanism of the clock is sprung, and means for connecting the revolving shaft with the person of a sleeper.

2. In an apparatus of the class described, the combination with a body portion, of a shaft revolubly mounted in the body portion, a spring connected with the shaft to rotate the latter, a ratchet-wheel carried by the shaft, a dog located adjacent to the ratchet-wheel and lying normally in engagement therewith to hold the ratchet-wheel and the shaft against rotation under the action of the spring, said dog being movable out of its normal position, means for moving the dog out of its normal position, said means being adapted for connection with an alarm-clock for operation by the alarm mechanism thereof, a member detachably and eccentrically connected with the shaft for operation thereby, said member being adapted for attachment to the person of a sleeper, and additional means for preventing rotation of the shaft under the action of the spring.

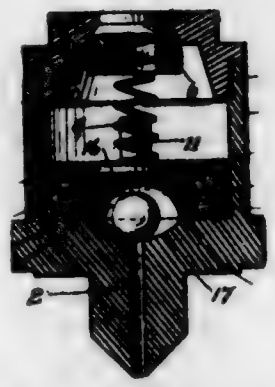
3. The combination with an alarm-clock, of a pinion connected with the alarm mechanism of the clock for operation thereby, a revolubly-mounted shaft, means for connecting the shaft with the person of a sleeper to shake the sleeper when the shaft is revolved, means for revolving the shaft, means for holding the shaft against rotation, a lever connected with said shaft, holding means for movement of the latter into inoperative position, a loop carried by the lever, a rack-bar engaged in the loop, said rack-bar being engaged in the pinion for movement of the rack-bar through the loop when the pinion is rotated, and a loop-engaging member carried by the rack-bar and disposed for movement into engagement with the loop to move the lever when the rack-bar is moved by the pinion.

804,654. FLY-TRAP. JAMES G. GIBSON, Ironton, Colo. Filed Mar. 11, 1905. Serial No. 249,615.



Claim.—A fly-trap comprising a revolving drum, a cage formed with an aperture located beneath the drum, a guard arranged concentric with the drum and a scraper formed with a longitudinal opening in line with the aperture in the cage and having one edge provided with a lip to bear against the drum, said scraper extending beyond the longitudinal opening therein and connected to and supporting the guard.

804,655. OIL-CUP. LEWIS GLEASON, Franklin, Pa., assignor to Galena-Signal Oil Company, Franklin, Pa. Filed Sept. 2, 1905. Serial No. 276,885.

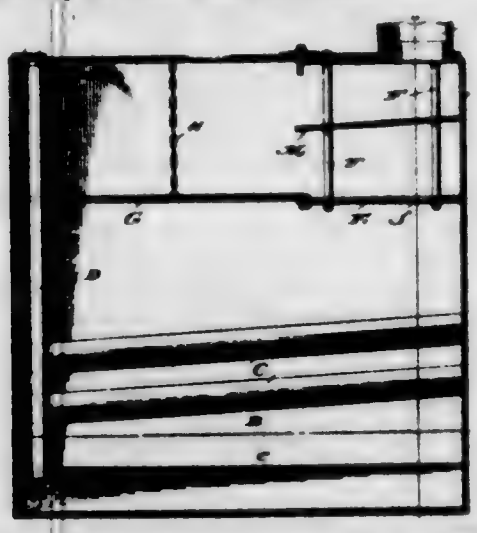


Claim.—1. In an oil-cup, in combination with a closing-valve for the cup, a spring for said valve, a cut-off valve and a cut-off valve-cage, said valve-cage being pressed upon by said spring to hold it to its seat, substantially as described.

2. In an oil-cup, in combination with a valve provided with a recess and adapted to close the entrance to said cup, a coiled spring fitted at one end in said recess, a cut-off valve-cage and a stud rising from said valve-cage, and engaging the other end of said spring, substantially as described.

3. In an oil-cup, in combination with a spring-pressed closure-valve, a spring for said valve, a cut-off ball-valve in the lower part of said cup, a cage for said ball-valve, separate strainers mounted on said cage and a feed-controlling medium between the said strainers, said ball-valve cage adapted to engage and be pressed upon by said spring, whereby said cage and the strainers are held in place at the bottom of said oil-cup, substantially as described.

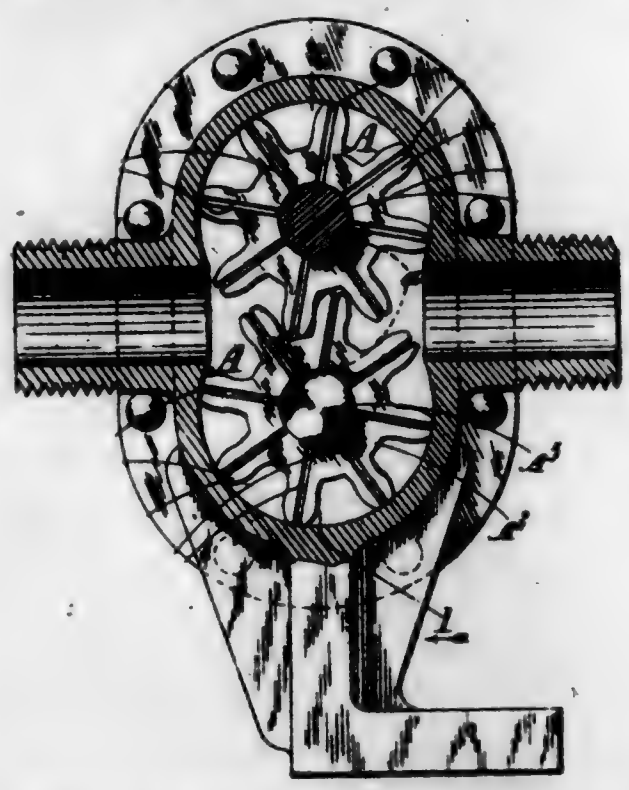
804,656. SUBMERGED HEATER. CHARLES H. GRUB, Portage, Wis. Filed July 20, 1905. Serial No. 270,565.



Claim.—1. A submerged heater comprising a hollow metallic body having an opening for the introduction of fuel and a door controlling the said opening, a smoke-pipe leading from the upper portion of the body at a point adjacent to one end thereof, a fire holder or box disposed in the lower portion of the body, a draft-tube arranged at the opposite end of the body, with reference to the smoke-pipe, a wall fixed in the body below the smoke-pipe and above the fire holder or box and having an opening for the passage of products of combustion, a vertically-swinging door hinged to said wall and connected with the door of the body, and a deflector-wall arranged in the body intermediate the smoke-pipe and the first-mentioned wall.

2. A submerged heater comprising a hollow metallic body having an opening for the introduction of fuel and a door controlling the said opening, a smoke-pipe leading from the upper portion of the body at a point adjacent to one end thereof, a fire holder or box disposed in the lower portion of the body, a draft-tube arranged at the opposite end of the body, with reference to the smoke-pipe, a wall arranged in the body below the smoke-pipe and above the fire holder or box and having an opening for the upward passage of products of combustion, bail-shaped hangers fixedly connecting the said wall with the top wall of the body, a vertically-swinging door hinged to said wall, a cable connecting said door and the door of the body, and a deflector-wall arranged in the body at a point intermediate the smoke-pipe and the first-mentioned wall.

804,657. ROTARY PUMP. HENRY HANDELL, London, England, assignor to Robert James White and John George White, trading as The Albany Engineering Company, Camberwell, London, England. Filed Dec. 12, 1904. Serial No. 236,605.



Claim.—1. In a rotary pump, the combination with the casing having radial end walls, of a rotary member journaled in said casing, said rotary member embodying a central cylindrical part and blades projecting radially therefrom, the end surfaces of the cylindrical part and blades being radial and working in proximity to the radial faces of the casing, and the peripheries of the blade being cylindrical and working in proximity to the cylindrical face of the casing, said rotary member having end grooves extending radially throughout the radial faces of the cylindrical part and blades and grooves extending parallel with the axis throughout the peripheral faces of the blades, said grooves being completely closed by the casing when the blades are in the cylindrical part thereof; substantially as described.

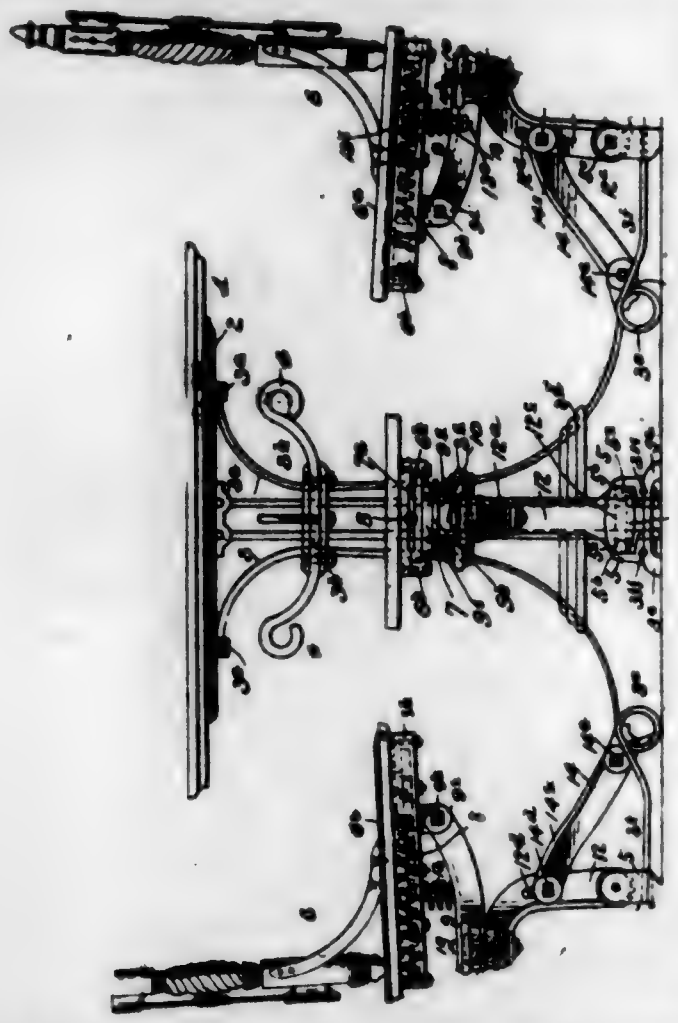
2. In a rotary pump, the combination with the casing having radial and cylindrical faces, of two rotary members journaled therein, each embodying a cylindrical central part and radial blades, the blades of the two members intermeshing and each rotary member having radial grooves extending throughout and open only to the faces of the cylindrical parts and blades and peripheral grooves connecting opposite radial grooves and extending throughout the blades parallel with the axis, all of said grooves being adapted to be completely closed by the radial and cylindrical faces of the casing.

804,658. COMBINED SEAT AND TABLE. W. G. HASTINGS, Philadelphia, Pa. Filed Jan. 16, 1905. Serial No. 241,268.

Claim.—1. An assembled seat, its standard and additional article of furniture, a spring member, and a brace, said spring member having one arm connected to said article of furniture and its other arm connected to the standard of said seat and said brace connected to said spring member and yieldingly connected to said standard

2. An assembled seat and additional article of furniture, the latter having a frame or leg-like member connected to an adjunctive part of the supporting-standard of the former, said frame or leg-like member having a coiled-spring portion and an extension beyond said coiled-spring portion connected to said standard adjunctive part and said coiled-spring portion effective to elevate said standard and adjunctive part above the base-line or floor and forwardly tilt said seat.

3. An assembled number of seats and an additional article of furniture, the latter having leg-like or frame members with their lower portions formed into coiled springs and connected to adjunctive parts of the supporting-standards of said seats, and effective to elevate said standards and adjunctive parts above the base-line or floor and to forwardly tilt said seats.



4. An assembled seat and an additional article of furniture, said seat having a supporting-standard and the last noted having an adjunctive part upon which it is superposed, and said additional article of furniture having a frame or leg-like member formed with a coiled spring and connected to said adjunctive part, said coiled spring effective to elevate said standard with said adjunctive part above the base-line or floor and to forwardly tilt said seat.

5. An assembled seat and additional article of furniture, the latter having a leg-like or frame member whose lower portion is formed with a coiled spring and an extension or arm beyond said spring, and said seat having a supporting-standard, and said standard being superposed upon an adjunctive part consisting of a base member or clamp, and said arm or extension having one end secured between the parts or sections of said base member or clamp.

6. An assembled seat and additional article of furniture, the latter having a leg-like or frame member whose lower portion is formed with a coiled spring and an extension or arm beyond said spring, and said seat having a supporting-standard and said standard being pivotally supported upon an adjunctive part consisting of a base member or clamp, and a brace or stay fixed to said frame member and movably connected to said standard, said arm of said frame member being secured in place by said base member or clamp.

7. An assembled seat and additional article of furniture, the latter having a frame or leg-like member whose lower portion is formed with a coiled spring, a turn-table for said seat, a standard forming a support for said turn-table, a base member having said standard superposed thereon, said frame member being secured to said base member, and means for bracing said standard from said frame member.

8. An assembled seat and additional article of furniture, comprising a "head-block" arranged in said seat, a spring arranged in connection with said seat and "head-block" for automatically moving said seat forward, a turn-table connected to said "head-block," and means for supporting said turn-table in position.

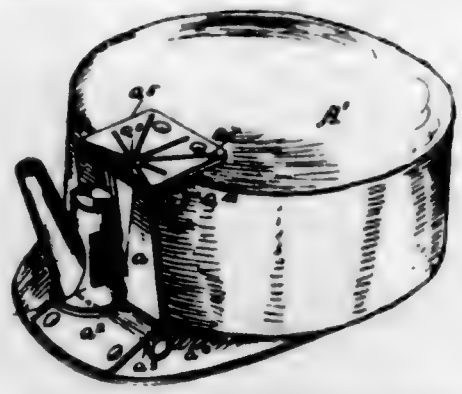
9. An assembled seat and additional article of furniture, comprising a "head-block" arranged in said seat, a spring arranged in connection with said seat and "head-block" for automatically moving said seat forward, a turn-table connected to said "head-block" and having a hub enlargement at one end, and a suitably-supported standard having a corresponding enlargement at its upper end, said enlargements having pivot-bolt connection.

10. An assembled seat and additional article of furniture, comprising a "head-block" arranged in said seat, a turn-table connected to said "head-block" and having a chambered enlargement at one end, a supporting-standard having a corresponding enlargement at its upper end, and a spring arranged in connection with said enlargements for automatically holding and presenting said seat "squarely" to said additional article of furniture, said enlargements having pivot-bolt connection.

11. An assembled seat and additional article of furniture, comprising a "head-block" arranged in said seat, a turn-table connected to said "head-block," a spring arranged in connection with said "head-block" and turn-table for cushioning said seat in position upon said turn-table, and supporting means for said turn-table.

12. An assembled seat and additional article of furniture, comprising a "head-block" arranged in said seat, a spring applied to said "head-block" and seat for automatically moving said seat forward, a turn-table pivotally connected to said "head-block," a spring arranged in connection with said turn-table for cushioning said seat thereon, a supporting-standard for said turn-table, said turn-table and standard having pivot-bolt connection, and a spring arranged in connection with said turn-table and standard for controlling the horizontal movement or turning of said seat.

804,659. **MINER'S LAMP.** DAVID E. HERRON, New Philadelphia, Ohio. Filed June 6, 1905. Serial No. 263,923.



Claim.—1. In combination, a miner's-lamp support, comprising a plate having a vertical portion to fit the front of the cap and provided with a V-shaped opening, an angular portion for attachment to the peak of the cap, and provided with a central opening and with a plurality of grooves radiating from the opening, a spring-catch below the opening, an arm for actuating the catch extending to the edge of the plate, a lamp-bracket comprising an upwardly-extending hook for engaging the central opening and a barb for engagement by the catch, and a lug on the lower part of the bracket for engaging the V-shaped opening.

2. In combination, a lamp-support adapted to be secured to a cap and comprising a plate having a vertical portion provided with a V-shaped opening, and an angular portion provided with an opening and with grooves radiating from the opening, a spring-catch below the opening, a bracket adapted to be attached to the lamp and comprising a hook for engaging an opening in the angular portion of the support, a barb on the hook for engagement by the catch, a lug on the hook for engaging the V-shaped opening and means to release the catch.

3. In combination, a miner's-lamp support, adapted to be secured to a cap and comprising a plate having a vertical portion provided with a V-shaped opening, an angular portion provided with an opening and with grooves radiating from the opening, a bracket adapted to be attached to a lamp and comprising a hook for engaging the opening in the angular portion of the support, a barb on the hook, means below the opennig for engaging the barb to prevent withdrawal of the hook, means for releasing said engaging means, and means on the hook for engaging the V-shaped opening.

4. In combination, a miner's-lamp support adapted to be secured to a cap, and comprising a plate having a vertical portion, and an angular portion provided with an opening and with grooves radiating from the opening, a bracket adapted to be attached to a lamp and comprising a hook for engaging the opening in the angular portion of the support, a barb on the hook, means below the opening for engaging the barb to prevent withdrawal of the hook, means for releasing the engaging means and means for preventing sidewise motion of the bracket, with respect to the support.

5. In combination, a miner's-lamp support, adapted to be se-

cured to a cap and comprising a plate having a vertical portion, and an angular portion provided with an opening and with grooves radiating from the opening, a bracket adapted to be attached to the lamp and comprising a hook for engaging the opening in the angular portion of the support, a barb on the hook, means for engaging the barb to prevent withdrawal of the hook, and means for releasing said engaging means.

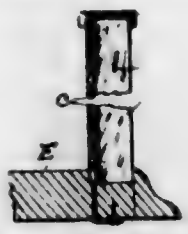
6. In combination a miner's-lamp support adapted to be secured to a cap and comprising a plate having a vertical portion, and an angular portion provided with an opening and with grooves radiating from the opening, a bracket adapted to be attached to a lamp and comprising a hook for engaging the opening in the angular portion of the support, a barb on the hook means engaging the barb to prevent withdrawal of the hook from the opening and means for releasing the said engaging means.

7. In miners' lamps, the combination of a hook adapted to be attached to a lamp, a barb on the hook, a plate adapted to be attached to a cap and having an opening to receive the hook, means for engaging the barb to prevent withdrawal of the hook from the opening, and means to release said engaging means.

8. In miners' lamps, the combination of a hook, for attachment to a lamp, a barb on the hook, a support having an opening to receive the hook, means for guiding the hook to the opening and means engaging the barb for preventing withdrawal of the hook.

9. In miners' lamps, the combination of a hook for attachment to a lamp, a lug on the hook, a support having an opening to receive the hook and a seat to receive the lug, and means for guiding the hook and the lug into proper engagement with the opening and the seat.

804,660. **DUST-PROOF JOINT FOR GLASS PLATES.** ALEXANDER JARDEN, Philadelphia, Pa. Filed Dec. 13, 1904. Serial No. 236,701.

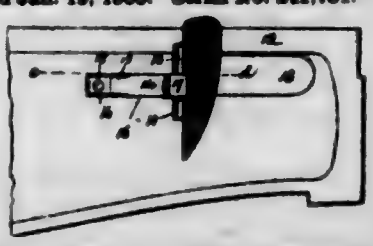


Claim.—1. In a dust-proof joint for glass plates, two glass plates extending at an angle to one another, a strip of felt or like material, a wire lying within the corner formed by the meeting of the two glass plates, said felt folded around the wire so as to form two thicknesses, the two thicknesses of felt adapted to extend and lie between the two glass plates, as and for the purpose specified.

2. In a dust-proof joint for glass plates, two glass plates coming together at an angle to one another, a wire or rod lying in the corner formed by the junction of the two plates, a strip of felt or like material folded around the wire or rod so as to form two thicknesses, said two thicknesses of felt or like material extending between the two plates, and means for securing the wire or rod at the top and bottom ends, as and for the purpose specified.

3. In a dust-proof joint for glass plates of a show-case, glass plates forming the sides of said show-case and coming together and overlapping at an angle to one another, a vertical rod or wire arranged in each inside corner of the show-case, a strip of felt or like material folded around the rod or wire so as to form two thicknesses which extend between the meeting edges of the glass plates, a retaining-strip adapted to rest upon the top of the glass plates, the upper end of the wires or rods secured in said retaining-strip, a base in which the lower ends of the glass plates rest, the lower ends of the rods or wires adapted to be secured to the base, as and for the purpose specified.

804,661. **FACE-SHIELD FOR SIDE-EJECTION SHOULDER-FIREARMS.** THOMAS C. JOHNSON, New Haven, Conn., assignor to The Winchester Repeating Arms Company, New Haven, Conn., a Corporation. Filed Jan. 19, 1905. Serial No. 241,731.

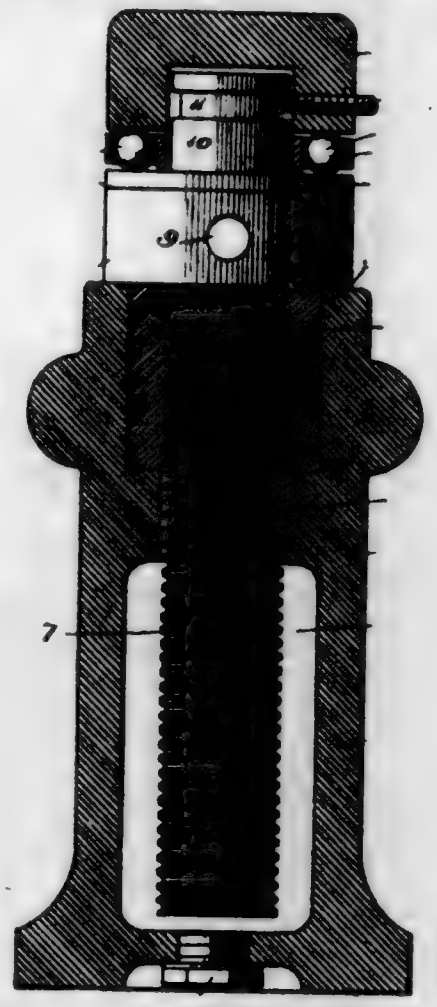


Claim.—1. The combination with a shoulder-firearm having an ejection-opening in one of its side walls; of a face-shield, and means for attaching the same to the gun, the said shield having a leaf-like fender located close to the rear end of the said opening and standing outwardly of the plane of the side wall of the gun in which the said opening is formed.

2. As a new article of manufacture, a detachable face-shield for side-ejection shoulder-firearms, the said shield having a leaf-like fender and adapted to be detachably applied to the gun-frame of such an arm for the location of the said fender close to the rear end of a side-ejection opening formed in one of the side walls of the said gun-frame and so as to stand outwardly from the plane of the said side wall.

3. As a new article of manufacture, a detachable sheet-metal face-shield for side-ejection shoulder-firearms, the said shield comprising a clip adapted to be applied to the gun-frame of such an arm, and a fender vertically arranged upon one leg of the clip and located at the rear end of the side ejection in the said frame.

804,662. **BALL-BEARING JACK.** HORACE G. JOHNSTON, Corsicana, Tex. Filed May 11, 1905. Serial No. 260,048.



Claim.—1. A jack comprising a stand, a screw engaging the same, a head on said screw, a reversible ring carried by said head, and a cap supported above said ring.

2. A jack comprising a casing, a screw engaging the same, a head for said screw, a reversible ring supported above said head, a cap spaced above said ring, and an antifriction-bearing disposed above said ring.

3. A jack comprising a stand, a screw engaging the same, a head for said screw, a cap spaced above said head, an apertured ring interposed between said head and cap, a supporting-flange depending from said ring, and antifriction-bearings carried in the apertures of said ring in position for supporting said cap.

4. A jack comprising a stand, a screw threaded into the same, a head for said screw, a shaft projecting from said head, a cap surrounding said shaft, an apertured ring surrounding said shaft and interposed between said cap and head, a flange extending from the inner edge of said ring and supporting the same out of contact with the head, and antifriction-bearings arranged in the apertures of said ring.

5. A jack comprising a stand, a screw engaging the same, a head for said screw, a cap spaced from said head, an apertured body interposed between said head and cap, and arranged out of contact with either, and antifriction-bearings arranged in the apertures in said body in position for supporting said cap.

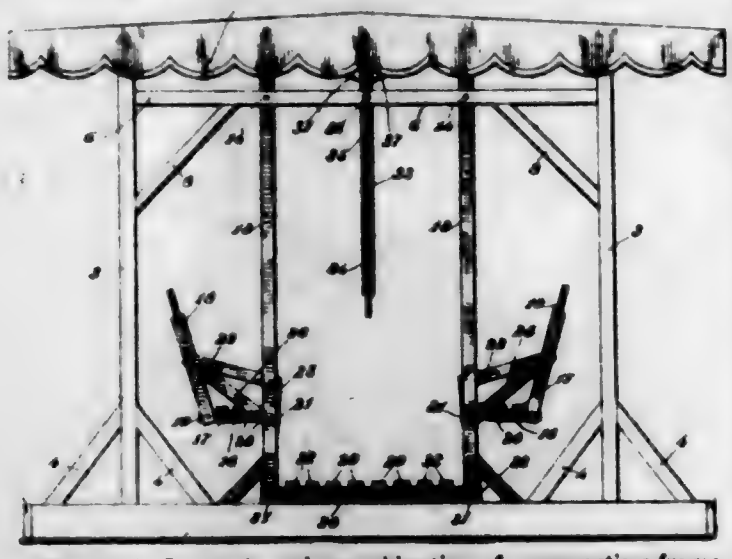
6. A jack comprising a stand, a screw engaging the same, a head for said screw, a shaft projecting from said head, a removable

ring surrounding said shaft and supported by said head, a second ring also surrounding said shaft and provided with a depending flange engaging the first-mentioned ring, said second ring being formed with apertures, antifriction-bearings arranged in said apertures in position for resting upon said first-mentioned ring, and a cap resting upon said bearings.

7. A jack, comprising a stand, a screw engaging the same, a head for said screw, a shaft extending vertically from said head, a cap provided with an annular, depending portion positioned upon the upper end of said shaft, an apertured body interposed between said head and the annular, depending portion of said cap and arranged out of contact with either, and antifriction-bearings arranged in the apertures of said body and positioned for supporting said cap.

8. A jack, comprising a stand, a screw engaging the same, a head for said screw, a shaft extending from said head, a cap positioned upon said shaft, a depending extension formed upon said cap and surrounding said shaft, and an antifriction-bearing arranged between the lower edge of said depending extension of the cap and head.

804,663. SWING. AUSTIN W. KIRKPATRICK, Hodgenville, Ky. Filed May 13, 1905. Serial No. 260,122.



Claim.—1. In a swing, the combination of a supporting-frame, a pair of hangers mounted to swing thereon, a seat pivotally supported between each pair of hangers, fixed standards depending from each seat, and rails rigidly connecting the corresponding standards of the opposite seats to maintain said seats in substantially horizontal positions throughout the swinging movements of the hangers.

2. In a swing, the combination with a supporting-frame, of pairs of hangers mounted to swing thereon, rails pivotally connecting the lower ends of the corresponding hangers, a foot-platform supported upon the rails, a seat pivotally supported between each pair of hangers, rigid standards depending from each seat, and bars rigidly connecting corresponding standards independently of the hangers.

3. In a swing, the combination with a supporting-frame, of pairs of hangers mounted to swing thereon, a seat pivotally supported between each pair of hangers, rigid standards depending from each seat, rails rigidly connecting corresponding standards, and a foot-platform pivotally connected to the pairs of hangers independently of the seats, the opposite ends of the platform being provided with openings in which the standards are alternately received at opposite limits of the swinging movements of the hangers.

4. In a swing, the combination with a supporting-frame, of pairs of hangers mounted to swing thereon, rails pivotally connecting corresponding members of the hangers, a seat pivotally supported between each pair of hangers, rigid standards depending from the seats, bars rigidly connecting corresponding standards to maintain the seats in substantially horizontal positions throughout the swinging movements of the hangers, slats extending between intermediate portions of the rails, side bars secured transversely across the slats and spaced inwardly from the rails, the openings between the ends of the side bars of the rails serving to receive adjacent standards at opposite limits of the swinging movements of the hangers, and other slats connecting the end portions of the side bars.

5. In a swing, the combination with a supporting-frame, of a pair of hangers mounted to swing thereon, a cross-bar connecting the hangers, a seat supported upon the cross-bar, a back rising from the seat, standards carried by the cross-bar, arms extending between the back and the standards, and braces secured to the back with their forward ends bifurcated and straddling the cross-bar.

6. In a swing, the combination with a supporting-frame, of hangers mounted to swing thereon, a cross-bar connecting the hangers, a seat having a series of notches in its under side for individual engagement with the cross-bar, a back pivotally rising from the seat, standards rising from the cross-bar, arms rigidly connected to the standards and pivotally connected to the back, and braces pivotally connected to the back at the points of pivotal connection between the arms and the back with their forward ends bifurcated and straddling the cross-bar.

804,664. SOLDERING-PASTE. MAXIMILIAN LEIBEL, Cologne, Germany. Filed July 3, 1904. Serial No. 215,099.

Claim.—1. The herein-described soldering-paste, consisting of a mixture of fine soldering metal dust and a solution in glycerin of an acid-free flux, which solution in heating leaves no acid residues, substantially as described.

2. The hereinbefore-described soldering-paste, consisting of finely-divided soldering metal, glycerin and a soldering flux free from acid, as described.

3. The hereinbefore-described soldering-paste, consisting of finely-divided soft-soldering metal, glycerin and a soldering flux free from acid, as described.

4. The herein-described soldering-paste consisting of a mixture of soft-soldering metal dust, glycerin, and an ammoniacal soldering salt.

804,665. BOX-HOOK. ALBERT M. MARSTERS, Hoboken, N. J. Filed Aug. 13, 1904. Serial No. 220,650.



Claim.—A device of the character described, comprising a shank, a transversely-extending handle-web having enlarged end portions forming hammer-faces and having its intermediate portion formed with flat faces lying substantially parallel with the axis of the shank, and handle-scales secured to the said faces of the web.

804,666. COPY OR BOOK HOLDER. AMELIE MERCHERT, St. Louis, Mo. Filed Feb. 1, 1905. Serial No. 243,622.

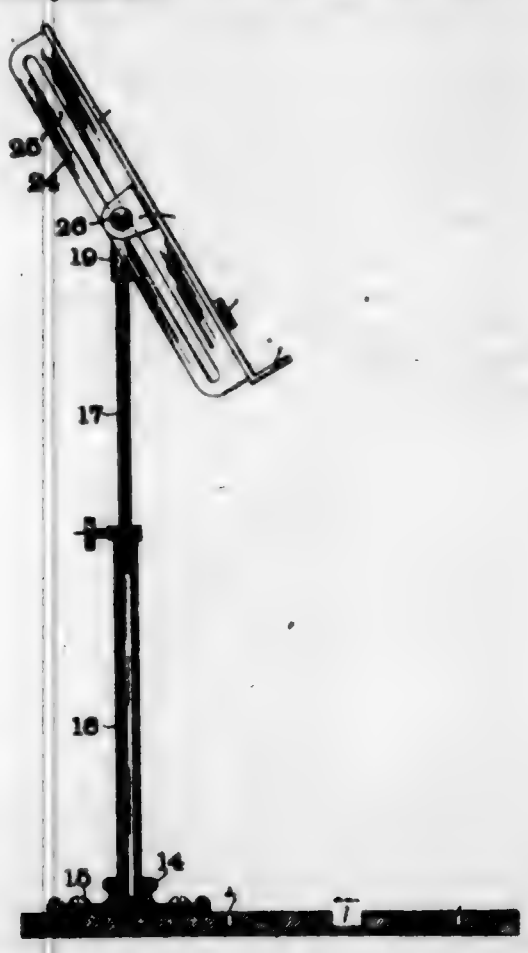
Claim.—1. In a copy or book holder, the combination with a base, of a standard carried by said base, a pivot-block carried by said standard, a supporting-plate, a pair of slotted guide-plates rigidly secured to said supporting-plate and extending longitudinally thereof, and a clamp device extending through the slots in said guide-plates and said pivot-block to clamp the block and plates together.

2. In a copy or book holder, the combination with a flat, grooved base adapted to project beneath a type-writing machine, of a standard carried by said base, a pivot-block carried by said standard, a supporting-plate, a pair of slotted guide-plates rigidly secured to said supporting-plate and extending longitudinally thereof, and a clamp device extending through the slots in said guide-plates and said pivot-block to clamp said block and plates together.

3. In a copy or book holder, the combination with a base, of a standard carried by said base, a supporting-plate carried by said standard, a guide-bar extending longitudinally of said supporting-plate and situated at the rear thereof and a line-guide slidingly carried by said guide-bar, such line-guide being adapted to feid parallel with said guide-bar.

4. In a copy or book holder, the combination with a base, of a standard carried by said base, a supporting-plate carried by said standard, a guide-bar pivotally carried by said supporting-plate and extending longitudinally at the rear thereof, and a line-guide slid-

ingly carried by said guide-bar, said line-guide being adapted to fold parallel with said guide-bar.



5. In a copy or book holder, the combination with a base, of a standard carried by said base, a supporting-plate carried by said standard, a guide-bar extending longitudinally of said supporting-plate, a guide-block sliding on said guide-bar, a line-guide carried by said guide-block and normally locked at right angles to said guide-bar, and means controlled by the longitudinal movement of said line-guide for releasing the same.

6. In a copy or book holder, the combination with a base, of a standard carried by said base, a supporting-plate carried by said standard, a guide-bar extending longitudinally of said supporting-plate, a guide-block sliding on said guide-bar, a line-guide provided with a slot and a notch, a screw passing through said slot into said guide-block, and a projection carried by said block and adapted to engage with said notch.

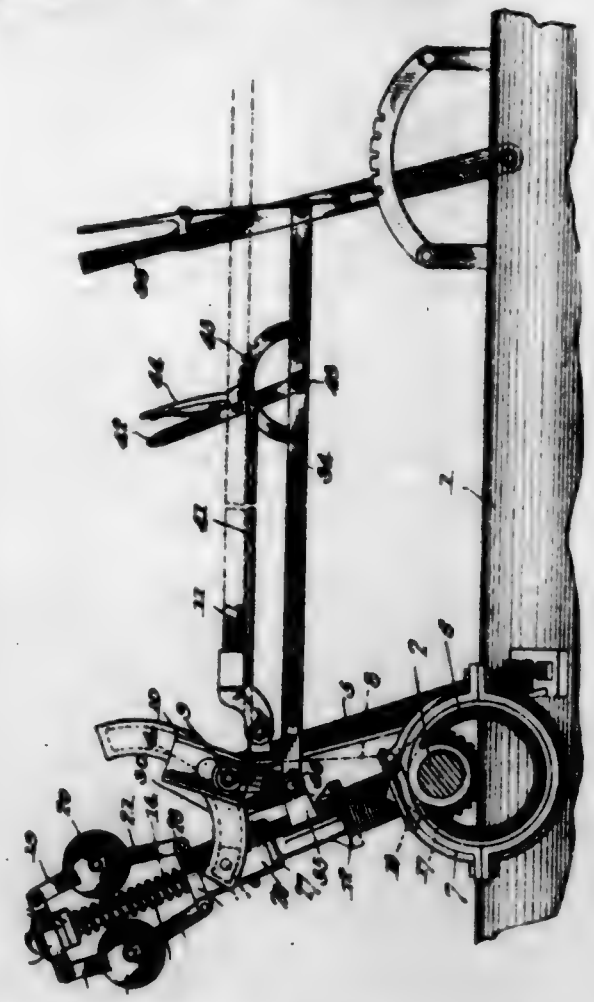
804,667. VALVE-GEAR. WILLIAM T. MERRIWETHER, Franklin, Minn. Filed Feb. 9, 1905. Serial No. 244,922.

Claim.—1. The combination with a valve-gear including a tumbling-shaft, of a crank member carried by the shaft and projected at opposite sides thereof and provided with an arcuate guideway extending at opposite sides of the shaft, a governor mounted for swinging movements and having a member working in the arcuate guideway of the crank to rock the shaft automatically and also by swinging movements of the governor.

2. The combination with a valve-gear including a tumbling-shaft, of a crank member carried by and projected at opposite sides of the shaft and provided with an arcuate guideway extending at opposite sides of the shaft, a governor mounted to swing bodily to opposite sides of the shaft and having a slidable non-rotatable member provided with a projection working in the guideway of the crank, and manually-controlled means connected to the governor for swinging the same.

3. The combination with a drive-shaft, a tumbling-shaft mounted in substantial parallelism therewith, an operative connection between the drive-shaft and the tumbling-shaft, a crank carried by the tumbling-shaft and projected at opposite sides thereof, said crank being provided with a guideway extending at opposite sides of the shaft, a governor driven from the drive-shaft and mounted to swing about the latter as a center, said governor being provided with an actuating member working in the guideway of the crank to operate the latter by the automatic movement of the governor and to reverse the position of the crank by bodily swinging movements of the governor, and manually-controlled means connected to the governor for swinging the same.

4. The combination with a drive-shaft, a tumbling-shaft in substantial parallelism therewith, an operative connection between the drive-shaft and the tumbling-shaft, of a crank provided upon one extremity of the tumbling-shaft and projecting at opposite sides thereof, the outer face of the crank being provided with a guideway extending at opposite sides of the shaft, the drive-shaft being projected beyond the crank-terminal of the tumbling-shaft, a beveled gear upon said projecting end portion of the drive-shaft, a centrifugal governor mounted upon the projected end portion of the drive-shaft to swing around the same as an axis, a beveled gear carried by the governor and in mesh with the drive-gear, a lateral projection carried by the operating parts of the governor and working in the guideway of the crank, and manually-controlled means for swinging the governor.



5. The combination with a valve-gear, of a governor for automatically controlling the valve-gear, said governor being mounted for bodily movements to also control the gear, manually-controlled means for bodily moving the governor, and means for varying the tension of the governor including a controlling device carried by the means for manually moving the governor.

6. The combination with a valve-gear, of a governor to automatically control the same and mounted for bodily movement to control the gear by said bodily movement, a reversing-lever, a connecting-rod between the reversing-lever and the governor to bodily move the latter, and means for varying the tension of the governor including a controlling device mounted upon the connecting-rod.

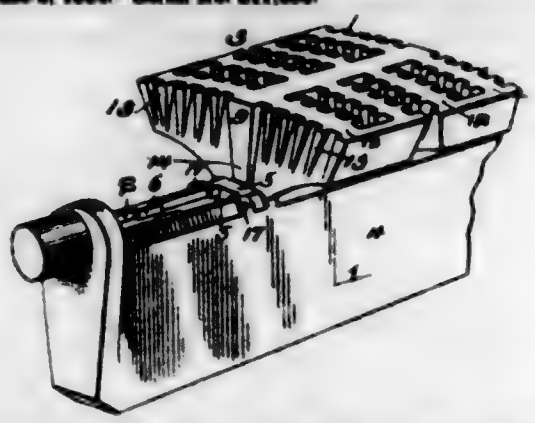
7. The combination with a valve-gear, of a governor for automatically controlling the same, said governor being mounted to swing bodily to control the valve-gear by said bodily movements, a reversing-lever, a connecting-rod between the reversing-lever and the governor for swinging the latter, means mounted upon the connection between the rod and the governor for varying the tension of the latter, and a tension-controlling device mounted upon the connecting-rod.

8. The combination with a valve-gear, of a governor to automatically control the same and mounted to swing for controlling the gear by its swinging movements, a reversing-lever, a connecting-rod extending from the lever and pivotally connected to the governor, a tension-adjusting lever fulcrumed upon the pivotal connection between the rod and the lever, a tension-controlling lever mounted upon the connecting-rod, and a connection between said controlling-lever and the tension-adjusting lever.

9. The combination with a valve-gear, of a governor to automatically control the same mounted to swing for controlling the gear by its swinging movements, said governor being provided with a stem carried by the shiftable member thereof, a helical spring embracing the stem and connected at one end thereto, a bell-crank lever

having one arm slotted with the stem received through the slot and the slotted arm bearing against the free end of the spring, a reversing-lever, a connecting-rod extending between the lever and the governor for bodily swinging the latter, a tension-controlling lever mounted upon the connecting-rod, and a connection between said lever and the other arm of the bell-crank lever.

804,668. GRATE-BAR. WILLIAM MCCLAVE, Scranton, Pa., assignor to McClave-Brooks Company, a Corporation of Pennsylvania. Filed June 8, 1904. Serial No. 211,689.



Claim.—1. A grate-bar, comprising a body portion having elongated sockets formed therein, the upper and lower edges of the body portion along the sockets extending inwardly to give it strength, and caps for the body portion having shanks capable of fitting in the said sockets, the inwardly-extending edges only of the body portion bearing against the sides of the shanks for holding them and thereby the caps in place.

2. A grate-bar comprising a body portion provided with elongated sockets, the edges of the body portion along the sockets being extended inwardly to give the bar strength and removable caps for the bar provided with shanks extending therefrom, the said shanks fitting in the sockets, the inwardly-extending edges of the socket-walls having projections extending beyond the remainder of their inner surfaces for engaging and holding the shanks in position.

3. A grate-bar comprising a body portion having sockets formed therein, the walls of the body portion at the upper and lower edges of the sockets extending inwardly at an angle to strengthen the said walls, removable caps for the body portion, shank portions projecting therefrom and capable of fitting in the said sockets, the angular edges of the socket-walls being cut away to form air-passages about the shank portions and shank-engaging bearings on said edges for holding the caps in position.

4. A grate-bar comprising a body portion having cap-holding sockets formed therein, the upper and lower edges of the walls of the sockets turning inwardly at an angle to strengthen the said walls and forming enlarged central spaces about the shanks of the caps, caps for the said bar, shank portions extending therefrom and fitting into the sockets, the walls of the sockets only engaging the shank portions near the upper and lower ends thereof.

5. A grate-bar, comprising a body portion having elongated sockets formed therein, the said sockets having inwardly-turned strengthening edges, caps for the said bar provided with shanks projecting therefrom, the said shanks being reduced in width toward their lower ends so as to increase the space between their edges and the walls of the socket the said walls only engaging the lower ends of the shanks at their sides.

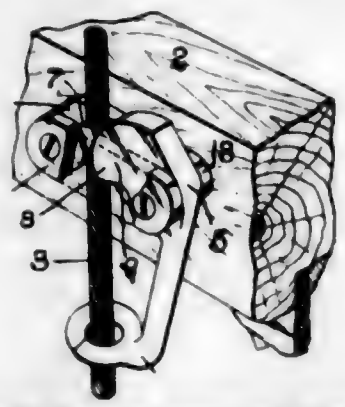
6. A grate-bar having a body portion formed with elongated slots therein, the side walls of the slots turning inwardly at their upper edges to form strengthening edges, cap-supporting lugs projecting upwardly from the upper inturned edges of the bar, caps mounted upon the bar and having shanks for engaging said slots, and webs projecting from the heads of the caps and resting upon the lugs of the said body portion.

7. A grate-bar comprising a body portion having elongated sockets formed therein, the upper outer edges of the bar being beveled, lugs projecting upwardly from the beveled edges of the body portion, caps mounted upon the body portion and provided with shanks fitting in said sockets, laterally-projecting webs, extending from the said shanks, some of said webs having downwardly-extending shouldered portions fitting upon the lugs upon the upper edge of the said body portion, and means for holding the caps in position in the said sockets.

8. A grate-bar, comprising a body portion having sockets formed therein, fuel-engaging caps having shank portions projecting downwardly from the caps capable of extending into the said sockets and inwardly-extending projections at the upper and lower edges of the sockets for engaging the shanks, the central portions of the shanks being thus entirely surrounded by an air-space.

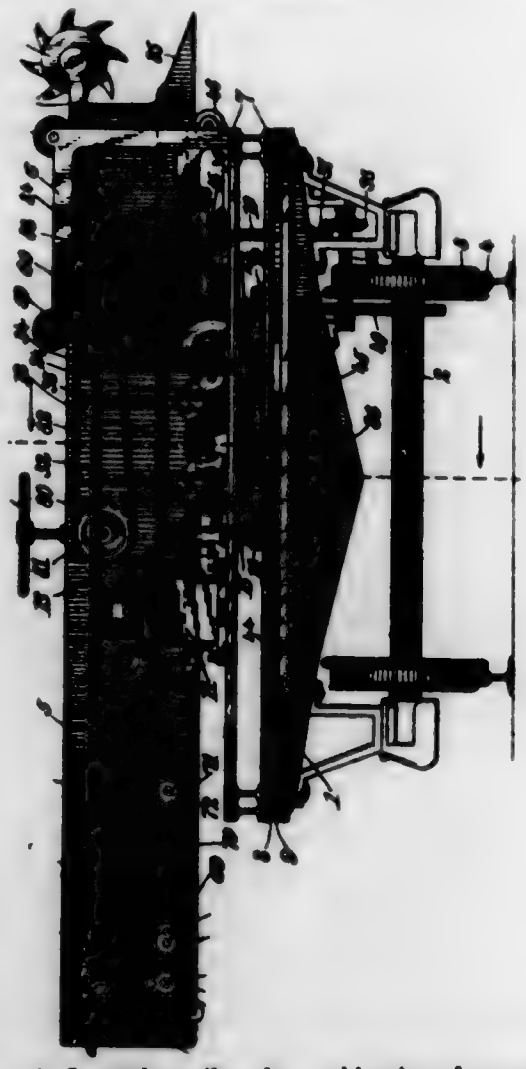
9. A grate-bar, comprising a body portion and fuel-engaging caps, the body portion having sockets formed therein, shank portions projecting from the caps and capable of extending into the sockets, shank-engaging portions at the upper edges of the sockets contacting with the sides and ends of the shank portions, and shank-engaging portions at the lower edges of the sockets engaging the sides of the shank portions only.

804,669. SASH-LIFT. WILLIAM B. HOUSER, St. Louis, Mo., assignor to Automatic Sash Balance Company, St. Louis, Mo., a Corporation of the District of Columbia. Filed May 6, 1905. Serial No. 259,229.



Claim.—A sash-lift clamp comprising a block 6 constituting a stationary jaw having a groove therein adapted to embrace snugly the cord, a pivoted jaw member 8 moving independently of the stationary jaw and having a cam-head 9, the engaging portion of which is formed with teeth to bite the cord and clamp it in the stationary jaw, a right-angular projection depending from said cam-head and having an eye, and ears 12 and 13 connected to the block and to the cam-head 9, substantially as described.

804,670. COKE-PULLER. HARRY F. PEARSON, Redstone, Colo. Filed Feb. 25, 1904. Serial No. 195,179.



Claim.—1. In a coke-puller, the combination of a movable support, a turret mounted thereabove, a motor upon said turret, a device for swinging said turret upon said support, and means for connecting said device to said motor.

2. In a device for moving frangible material, the combination of a movable support, a turret thereon, a motor on the turret, connections from said motor for moving said support, and connections from said motor for swinging said turret.

3. In a device for moving frangible material, the combination of a movable support, a turret thereon, a motor on the turret, connections from said motor for moving said support, connections from said motor for swinging said turret, and means for reversing the direction of operation of both of said connections.

4. In a device for moving frangible material, the combination of a support, a turret, means on said turret for loading frangible material thereon, a curved track, a cable, and means for operating the cable for swinging said turret upon said track.

5. In a device for moving frangible material, the combination of a support, a turret, means on said turret for loading frangible material thereon, a curved track between the support and turret, a cable attached to said turret, and means for moving said cable longitudinally in either direction.

6. In a device for moving frangible material, the combination of a support, a turret, means on said turret for loading frangible material thereon, a curved track between the support and turret, a cable attached to said turret, and means for moving said cable longitudinally in either direction; said means comprising a shaft, a drum, on which said cable is wound, mounted on the shaft, a friction-clutch, and a motor.

7. In a device for moving frangible material, the combination of a movable support, a turret thereon, a motor on the turret, connections from said motor for moving said support, connections from said motor for swinging said turret, and means for operating both of said connections from the motor independently of each other.

8. In a device for moving frangible material, the combination of a support, a turret pivotally mounted thereon, a motor connected with the turret for swinging it, a body upon said turret, and means connecting the body and motor for moving said body longitudinally, said motor being mounted on the turret.

9. In a coke-puller, the combination of a body part, means for swinging it about a pivot, means for giving it a rectilinear motion, and a motor for operating both said means.

10. In a coke-puller, the combination of a body part, means for swinging it about a pivot, means for giving it a rectilinear motion, a motor for operating both of said means, and means for reversing the direction of operation of either of said means independently of the other.

11. In a device for moving frangible materials, the combination of a support, a turret, a body, means for moving said support, means for swinging said turret, means for moving said body longitudinally, a motor on the turret, and means for connecting the motor with each of said other means.

12. In a coke-puller, the combination of an element for detaching the coke, means for rotating said element continuously, means for raising and lowering it, means for moving it in a horizontal plane and means for receiving detached coke and discharging it from the machine.

13. In a coke-puller, the combination of an element for detaching the coke, means for operating said element continuously, means for raising and lowering it, means for moving it in a horizontal plane; said last means being reversible and operable independently of either of said other means, and means for receiving detached coke and discharging it from the machine.

14. In a coke-puller, the combination of a body adapted to hold the coke, an element for detaching the coke, means for rotating said element, a conveyer within said body, and means for moving said body in any direction in a horizontal plane; said last-named means being reversible and operable independently of either of said other means.

15. In a coke-puller, the combination of a body adapted to hold the coke, an element for detaching the coke, means for rotating said element, a conveyer within said body, and means for continuously operating said conveyer independently of the means for rotating said element.

16. In a device for moving frangible materials, the combination of a support, a turret, a body, means for moving said support, means for swinging said turret, means for moving said body longitudinally, an element supported from said body for detaching the coke, and means for operating said element independently of each of said other elements.

17. In a device for moving frangible materials, the combination of a support, a turret, a body, means for moving said support, means for swinging said turret, means for moving said body longitudinally, an element for detaching coke, a conveyer for the coke, a motor for operating all of said means, said element and said conveyer, and means for connecting each of them with and disconnecting them from the motor independently of each other.

18. In a device for moving frangible materials, the combination of a support, a turret, a body, means for moving said support, means for swinging said turret, means for moving said body longitudinally, an element for detaching coke, a conveyer for the coke, means for continuously operating said element and said conveyer, a motor, and means for connecting each of said means with the motor.

19. A device for removing frangible material, comprising a support, a shaft rotatably mounted thereon, connections from the shaft for propelling the support, a turret, and means for turning said turret about the shaft as a center; said means comprising a motor and a power-transmitting mechanism located on the turret.

20. A device for removing frangible material, comprising a support, a shaft rotatably mounted thereon, connections from the shaft for propelling the support, a turret, and means for turning said turret about the shaft as a center; said means comprising a motor, a power-transmitting mechanism, a drum connected with the latter, a cable connected with the drum, and guides for the cable located on both sides of the center of the turret.

21. A device for removing frangible material, comprising a movable support, a vertical shaft rotatably mounted thereon, connections from the shaft for propelling the support, a turret mounted on the support and centered by said shaft, power-transmitting mechanism on said turret connected with said shaft, and means on the turret for turning the turret about the shaft as a center; said last-named means comprising a motor and a power-transmitting mechanism located on the turret.

22. A device for removing frangible material, comprising a movable support, a vertical shaft rotatably mounted thereon, connections from the shaft for propelling the support, a turret mounted on the support and centered by said shaft, power-transmitting mechanism on said turret connected with said shaft, means on the turret for turning the turret about the shaft as a center, a body mounted on the turret, and means on the turret for longitudinally moving said body.

23. A device for removing frangible material, comprising a movable support, a vertical shaft rotatably mounted thereon, connections from the shaft for propelling the support, a turret mounted on the support and centered by said shaft, power-transmitting mechanism on said turret connected with said shaft, means on the turret for turning the turret about the shaft as a center, a body mounted on the turret, and means on the turret for longitudinally moving said body; said last-named means comprising a shaft, a drum connected therewith, and a flexible connection passing around the drum and fixed to the body near its opposite ends.

24. A device for removing frangible material, comprising a movable support, a vertical shaft rotatably mounted thereon, connections from the shaft for propelling the support, a turret mounted on the support and centered by said shaft, power-transmitting mechanism on said turret connected with said shaft, means on the turret for turning the turret about the shaft as a center, a body mounted on the turret, means on the turret for longitudinally moving said body, a motor on the turret, a motor-shaft connected with the motor, and an independent means for connecting said shaft with each of said other means.

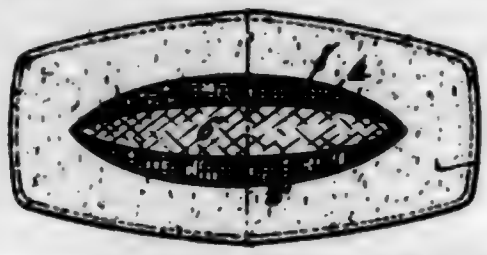
25. A device for removing frangible material, comprising a movable support, a vertical shaft rotatably mounted thereon, connections from the shaft for propelling the support, a turret mounted on the support and centered by said shaft, power-transmitting mechanism on said turret connected with said shaft, means on the turret for turning the turret about the shaft as a center, a body mounted on the turret, means on the turret for longitudinally moving said body, a pivoted frame on the body, a rotatable element on the frame for detaching frangible material, means on the turret for rotating said element, and means for swinging said frame on its pivots.

804,671. HARNESS-PAD. ALBERT F. RAMSOM, Burlington, Wis., assignor to Bernhard H. Ruster, Burlington, Wis. Filed Aug. 18, 1904. Serial No. 220,942.

Claim.—1. A harness-pad comprising a facing and a backing stitched together along their outer edges, the facing having a centrally-disposed elliptical opening, a filling material within the pad, and a lacing-string connecting the edges of the elliptical opening for drawing them together to give to the pad a convex back and a substantially flat face, substantially as described.

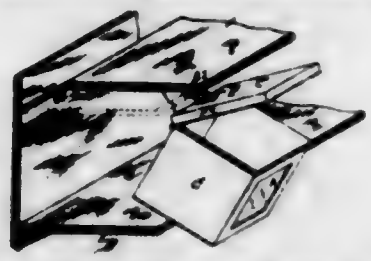
2. A harness-pad comprising a facing and a backing having folded outer edges stitched together, the facing having a centrally-

disposed elliptical opening, the edges of the material along the opening being folded and formed with eyelets, a filling material within the pad, and a lacing-string threaded through said eyelets for drawing together the edges of the elliptical opening, substantially as described.



3. A harness-pad comprising a facing and a backing having their outer edges turned inwardly between the facing and backing and secured together by a row of stitching along the outer edges and a second inside row of stitches to form a beaded edge around the pad, the facing being formed with a centrally-disposed opening with the edges of the material along the opening turned inwardly and stitched in position and formed with eyelets, a filling material within the pad, and a lacing-string threaded through the eyelets for drawing the edges of the opening together, substantially as described.

804,672. **CRACKER-CAN-HOLDING DEVICE.** EVAN L. REED, Chicago, Ill. Filed Sept. 23, 1904. Serial No. 226,613.



Claim.—1. In combination with suitable supporting-shelves, and cracker-cans slidably arranged on such shelves and having hinged covers, can-holding means consisting of a link pivotally secured to the can-cover near the hinged edge of said cover, said link adapted to lie in a horizontal position and to be adjusted and held in a vertical position, and hooks secured above said can and arranged to engage said link substantially in the manner and for the purpose set forth.

2. In combination with suitable supporting-shelves and cracker-cans slidably arranged on such shelves and having hinged and recessed covers, can-holding means consisting of a link pivotally secured to the can-cover near the hinged edge of said cover, said link adapted to lie in a horizontal position in the recess in said cover, and to be adjusted and held in a vertical position, and a hook secured above said can and arranged to engage said link when in its vertical position, for the purpose set forth.

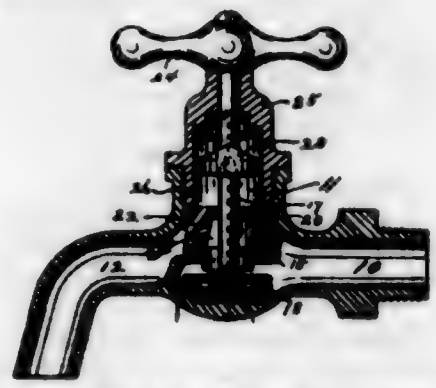
3. In combination with suitable supporting-shelves and with cans slidably arranged on such shelves and having hinged covers, can-holding means consisting of a link detachably secured to the upper side of the cover near its hinged end, and means secured to the under side of the shelf above the can said means adapted to engage the link upon the can being drawn forwardly on its supporting-shelf, and to limit the movement of the can.

4. In combination with suitable supporting-shelves and with cans slidably arranged on such shelves and having hinged covers, can-holding means consisting of a link detachably secured to the upper side of the cover near its hinged end and arranged midway between its side edges, and means secured to the under side of the shelf above the can and near the front edge of the can, said means and link adapted to engage each other upon the can being drawn forwardly on its supporting-shelf, and to limit the movement of the can.

5. In combination with suitable supporting-shelves and cracker-cans slidably arranged on such shelves and having hinged covers, can-holding means consisting of a link secured to the upper side of the cover near its hinged end and arranged midway between its side edges, said link adapted to be held in a vertical position, and means secured to the under side of the shelf above the can, said means adapted to engage said link and to limit the forward and rearward movements of the can, substantially in the manner and for the purpose set forth.

804,673. **SELF-CLOSING FAUCET.** LEWIS J. RICE, Indianapolis, Ind., assignor of one-half to Feeney Brothers, Indianapolis, Ind., a Copartnership. Filed May 31, 1904. Serial No. 210,426.

Claim.—1. In a faucet, a vertical chamber with a suitable inlet and outlet, one being slightly above the other, an annular rib in said chamber between said openings, a disk mounted on said rib and with a central opening through it and a downwardly-extending annular flange to form the valve-seat, a cylinder in the lower portion of said chamber, a piston-like valve operating in said cylinder with a stem extending up through the opening in said valve-seat and of smaller diameter than said opening, a cone formed about the valve-stem adjacent the valve so that the diameter of no part of said cone shall exceed the diameter of the opening through the valve-seat, and means for depressing the valve.



2. In a faucet, a vertical chamber with a suitable inlet and outlet, one being slightly above the other, an annular rib in said chamber between said openings, a disk mounted on said rib and with a central opening through it and a downwardly-extending annular flange to form the valve-seat, a cylinder in the lower part of said chamber, a piston-like valve operating in said cylinder with a stem extending up through the opening in said valve-seat and of smaller diameter than said opening, said valve-stem having a cone formed about it adjacent the valve with an inclined surface adapted to deflect a portion of the incoming water against the valve-seat.

3. A faucet having a chamber with a suitable inlet and outlet, a disk in said chamber above said inlet and outlet with an outlet-opening in it for the passage of fluid from below, a valve below said disk for controlling the passage of the fluid with the stem extending above said disk, means above said disk for controlling said valve, and a passage-way in said disk leading from above the disk and issuing near said outlet-opening in the disk, whereby the movement of the fluid through said outlet-opening will withdraw the fluid from above said disk.

4. A faucet having a chamber with a suitable inlet and outlet, a valve for controlling the passage of fluid therethrough, means mounted in connection with said chamber for opening the valve, an ejector through which the fluid passes through the faucet for drawing the fluid from said chamber, said ejector having two outlet-openings side by side for the passage of the fluid, and a passage-way issuing between said two outlet-openings and leading from said chamber in the faucet into which the fluid is liable to be diverted.

5. In a faucet, a chamber with an inlet and outlet, and an ejector in the form of a disk mounted in said chamber to one side of the inlet and registering with the outlet, said disk having two outlet-openings leading from the inlet end of the chamber to the outlet and an ejector-opening leading from the other end of the chamber through said disk and issuing between said outlet-openings.

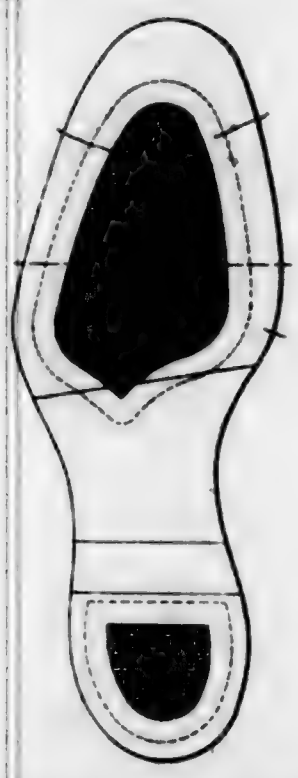
6. A faucet having a vertical chamber with an inlet and outlet port, one on a higher level than the other, an annular rib in said chamber between the inlet and outlet, a disk resting upon said rib with a downwardly-extending flange to form a valve-seat, said seat-disk having a central opening, a valve in the lower part of said chamber with a stem extending upward through a hole in said seat-disk and of smaller diameter than said opening, an ejector in the form of a disk resting upon said seat-disk hollow centrally on its under side and with two outlets therefrom and also a passage-way leading from above said disk out between said two outlet-openings, means for holding said ejector in place, and means for depressing the valve-stem.

804,674. **SHOE-TREAD.** WILLIAM A. ROBBINS, Trenton, N. J. Filed Mar. 31, 1905. Serial No. 253,053.

Claim.—1. As a new article of manufacture a tread member for a shoe provided at its tread-surface with a wear-resisting element of flexible material presenting an exposed area and having its perimeter bent and embedded in the substance of the tread member and beneath said surface.

2. As a new article of manufacture a tread member for a shoe provided at its tread-surface with a wear-resisting element compris-

ing a layer of fabric presenting an exposed area and having its perimeter bent and embedded in the substance of the tread member and beneath said surface.

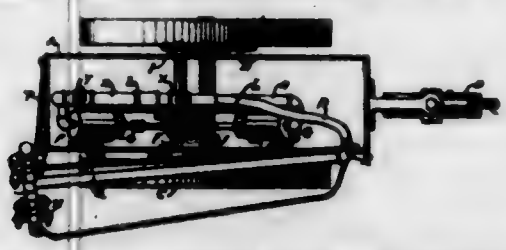


3. As a new article of manufacture, a tread member for a shoe, provided with a wear-resisting element at its tread-surface comprising a plurality of layers of wear-resisting material, said element presenting an exposed area and having its perimeter embedded beneath said surface.

4. As a new article of manufacture, a tread member for a shoe, provided with a wear-resisting element at its tread-surface comprising a plurality of layers of fabric, said element presenting an exposed area and having the perimeters of its separate layers separately embedded beneath said surface.

5. As a new article of manufacture, a composite tread member for a shoe having a plurality of superposed layers of fabric embedded within its tread-surface and separated one from another by the composition of said member, the outside layer presenting an exposed area and having its perimeter embedded beneath said surface.

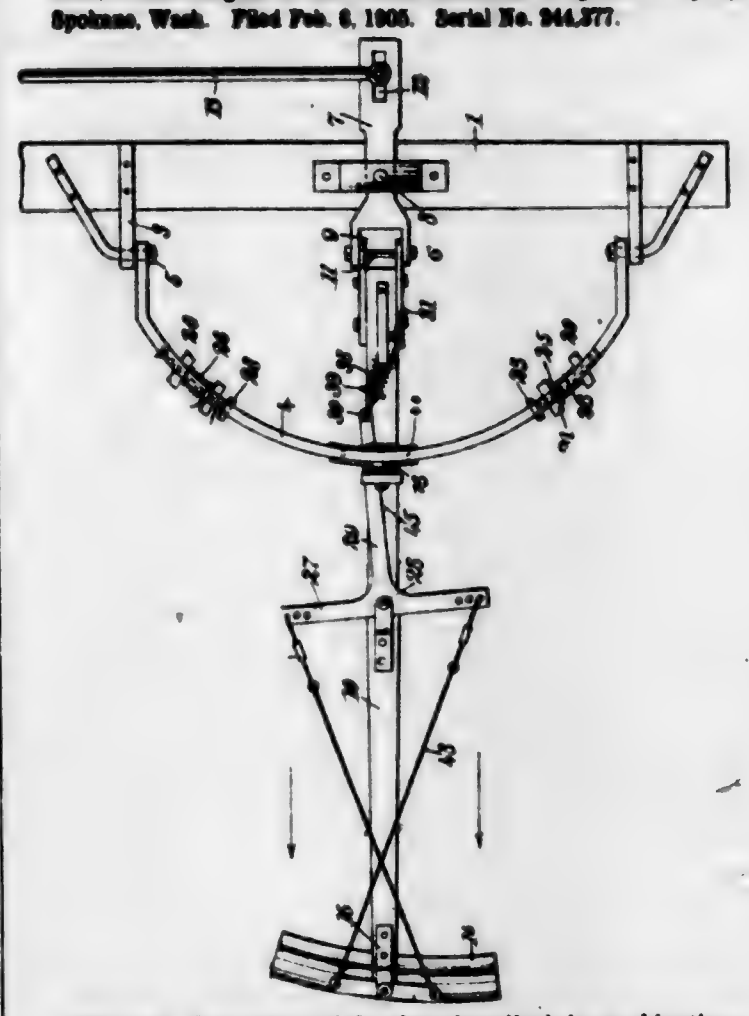
804,675. **HOP-SPRAYER.** GEORGE ROBERTS, Tacoma, Wash., assignor, by direct and mesne assignments, to Herman Klaber, Tacoma, Wash. Filed Oct. 16, 1903. Serial No. 177,242.



Claim.—1. In a hop-spraying machine, the combination with the tank, of equiangularly-disposed multiple pump-cylinders within the tank, an intake-pipe and a discharge-pipe for each cylinder, a pipe into which all the discharge-pipes deliver, a frame within the tank to which said pump-cylinders and their pipes are attached, the pump-cylinders being on one side of said frame and the pipes on the other side, means connecting the pump-cylinders to a side wall of the tank, a horizontally-disposed shaft within the tank, gears connecting said shaft with a driving-wheel of the machine, and a crank on the horizontally-arranged shaft centrally disposed in relation to the multiple cylinders and operatively connected with the expelling mechanism of the several cylinders of the pump, substantially as described.

2. In a hop-spraying machine the combination with the tank and the rotatable shaft passing through the same and rotated from the drive-wheel of the machine, of the plurality of pump-cylinders supported within the tank by a frame and bolted to the side of the tank, a crank actuated by said rotatable shaft and connected with the pistons of the plurality of cylinders, a check-valve-controlled intake-pipe to each cylinder in communication with the interior of the tank, a check-valve-controlled discharge-pipe to each cylinder, a pipe into which all of said cylinder-discharge pipes deliver, a pivoted sprayer-arm pipe in communication with said delivery-pipe, a pipe provided with a number of sprayer-nozzles and carried by said sprayer-arm pipe, said sprayer-arm pipe and sprayer-nozzle pipe standing to one side of the tank, and means for sustaining said pipes at a greater or less distance from the side of the machine, substantially as described.

804,676. **AUTOMATIC CURRENT-MOTOR.** JOHN ROSE, Spokane, Wash., assignor to The Current Motor and Irrigation Company, Spokane, Wash. Filed Feb. 6, 1905. Serial No. 244,377.



Claim.—1. In a device of the class described, in combination, a support, a member pivoted thereto and adapted to be held in a current, said member having opposite extreme positions, resilient means normally constraining said member in either of said extreme positions, and automatic means for reversing said member.

2. In a water-current motor, in combination, a support, a vane pivoted thereto and adapted to be disposed in the current, said vane having opposite extreme positions, members having a toggle connection controlling said vane and also having opposite extreme positions corresponding to the position of said vane, a spring constraining said members, and automatic means for actuating said members to reverse said vane.

3. In a water-current motor in combination, a support, a vane pivotally attached thereto and adapted to be disposed in the current, said vane having opposite extreme positions, a pivoted member connected with said vane and controlling the same, a spring mounted to constrain said pivoted member toward the extreme position corresponding to the extreme position of said vane, and tripping devices actuating said member to reverse said vane.

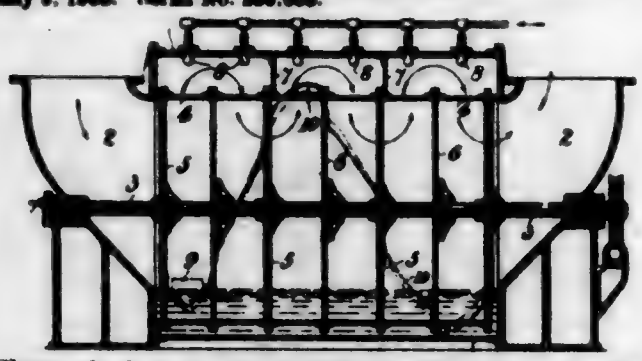
4. In a current-motor in combination, a support a sweep pivotally mounted thereupon, a vane carried by said sweep and having opposite positions, a cross-head carried by said sweep and connected with said vane, a stem pivotally connected with said cross-head, a pivotally-mounted guide for said stem, a spring thrusting against said guide, a head carried by said stem against which said spring thrusts, and tripping devices adapted to actuate said cross-head to reverse the position thereof.

5. In a water-current motor in combination, a support, a pivotally-mounted sweep carried thereby, a vane carried by said sweep and having opposite positions, a pivoted cross-head carried by said sweep and connected with said vane, a stem pivotally attached to said cross-head, a guide for said stem pivotally mounted upon said sweep, a spring surrounding said stem, a head carried by said stem against which said spring thrusts, a trip adapted to slide laterally upon said sweep, a connection between said trip and said cross-head, and tripping devices adapted to engage said trip.

6. In a water-current motor in combination, a support, a sweep

pivoted thereon, a vane carried by said sweep and having opposite positions, a cross-head pivotally carried by said sweep and connected with said vane, a stem pivotally attached to said cross-head, a stirrup pivotally mounted upon said sweep and through which said stem may slide, a head carried by said stem, a spring thrusting between said head and said stirrup, a member carried by said sweep and adapted to slide laterally thereupon, tripping devices adapted to engage said member, and a connection between said member and said cross-head.

804,677. GAS-PURIFIER. AXEL SAHLIN, London, England. Filed May 9, 1905. Serial No. 259,606.



Claim.—1. An apparatus for cleaning blast-furnace and other gases comprising an outer stationary shell having inlet and outlet openings therein, a revoluble perforated drum within said shell, disks arranged within said drum transversely of its axis and dividing said drum into compartments, means carried by the shell and coöperating with said disks to form compartments in the shell for changing the direction of the gases whereby they are caused to pass in and out from one compartment to the other of said drum through its perforated surface, and means above each compartment for subjecting said perforated surface to the action of water.

2. An apparatus for cleaning blast-furnace and other gases comprising an outer stationary shell having inlet and outlet openings therein, a revoluble perforated drum within said outer shell, disks arranged within said drum transversely of its axis and dividing said drum into compartments, diaphragms arranged between the shell and the drum to form compartments in said shell whereby the direction of the gas is changed as it passes from one compartment to another, and means located in the upper part of each compartment of the shell for admitting water within the latter and upon the drum to act upon the gases during their passage through the apparatus.

3. An apparatus for cleaning blast-furnace and other gases comprising an outer shell provided with inlet and outlet openings, a revoluble perforated drum within said outer shell, disks arranged within said drum dividing the latter into compartments, diaphragms so arranged between the shell and the drum and forming compartments in the former, that the direction of the passing gas is changed one hundred and eighty degrees, a supply-pipe having nozzles for admitting water within each compartment of the shell and the drum to act upon the passing gas, and blades spirally arranged upon the outer periphery of the drum to convey the used water and dust to the discharge-exit.

4. An apparatus for cleaning blast-furnace and other gases comprising an outer stationary shell having inlet and outlet openings therein, a revoluble drum within said shell having perforations on its periphery, disks located within said drum transversely of its axis and dividing said drum into compartments, diaphragms alternating with said disks and carried by said shell to form compartments in the latter and coöperating with said disks to change the direction of the gases as they pass from one compartment to another and means above each compartment for subjecting the gases passing therethrough to the action of water.

5. An apparatus for cleaning blast-furnace and other gases comprising an outer stationary shell having inlet and outlet openings therein, a revoluble drum located within said shell eccentrically to the axis thereof and having perforations on its periphery, disks located within said drum transversely of its axis and dividing said drum into compartments, diaphragms alternating with said disks and carried by said shell to form compartments in the upper part of the latter and coöperating with said disks to change the direction of the gases as they pass from one section to another, and means above each compartment for subjecting the passing gases to the action of water.

804,678. BRACELET, NECKLET, AND LIKE ORNAMENT FOR PERSONAL WEAR. [illegible] SATCHWELL, Birmingham, England. Filed July 22, 1905. Serial No. 270,731.

Claim.—1. A device of the character described, consisting of a flexible body portion, a sleeve attached at one end to said body portion and provided intermediate its ends with a notch, and a connecting element attached to the other end of the body portion and adapted to extend in said sleeve and engage in the notch.



2. A device of the character described, consisting of a flexible body portion, a fastening element attached at one end to said body portion and provided intermediate its ends with a notch, a connecting element attached to the other end of the body portion and adapted to engage in the notch of said fastening element, and means adapted to extend over said notch for preventing the separation of the connecting element from said fastening element.

3. A device of the character described, comprising a flexible body portion, a fastening element attached to one end of said body portion and provided intermediate its ends with a notch, a connecting element attached at one end to the other end of the body portion and extending through said fastening element and engaging in said notch, and means adapted to extend over said notch and to prevent the separation of said connecting element with said fastening element.

4. A device of the character described, consisting of a flexible body portion, a fastening element attached at one end to said body portion and provided intermediate its ends with a notch, a connecting element attached to the other end of the body portion and adapted to engage in the notch of said fastening element, and a shiftable means connected with said fastening element and adapted to extend over said notch for preventing the separation of the connecting element from said fastening element.

5. A device of the character described consisting of a flexible body portion, a fastening element attached at one end to said body portion and provided intermediate its ends with a notch, a connecting element attached to the other end of the body portion and adapted to extend through said fastening element and engage in the said notch, and a retaining device pivoted to said fastening element and provided with a protuberance adapted to engage in said notch to prevent the separation of said connecting element from said fastening element.

804,679. SCREW-DRIVER. EDWARD SEARLE, Worcester, Mass., assignor to Coes Wrench Company, Worcester, Mass., a Corporation of Massachusetts. Filed Mar. 27, 1905. Serial No. 252,123.



Claim.—1. A screw-driver comprising a shaft made of a rod of uniform section throughout its length, with one end flattened to form a screw-engaging bit, and a metal handle-frame having a head and collar portions united by side webs with an opening through the collar portion and between the webs, said webs having parallel inner faces that embrace the sides of said shaft, a pin fixed in the inner end of the shaft, and opposite applied side pieces or scales longitudinally grooved on their inner faces, and having edge surfaces that rest upon the webs at either side of said shaft.

2. A screw-driver having a metal handle-frame comprising a centrally hollow collar portion, and a solid butt-end portion, inte-

grally united by opposite side webs having a central space and internal parallel edges adapted for supporting the shank, a central portion adjacent to the butt-end, made of a greater thickness than the webs and forming an abutment-block with a transverse abutment-face across the central space; in combination with a screw-driving shank non-rotatively confined and endwise slidable between said webs toward and from said abutment, and the non-metallic scales or side plates longitudinally grooved on their under sides to match said abutment-block and fitting upon the handle-frame over the shank with their ends respectively engaging in the collar and against the shoulder of the butt, and means securing the same in place.

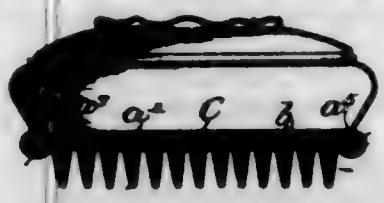
3. A screw-driver handle provided with a metal frame consisting of a solid externally-rounded butt-end portion, a ferrule end or collar portion having guiding-opening therethrough, and opposite webs or side bars uniting said collar portion with the butt-end portion, the inner edges of said webs forming bearing-faces along a central space in alinement with the collar-opening, and their outer edges conforming to the exterior contour of the handle, under-grooved scales fitting the sides of said frame, means for securing the scales thereon, and a shank having a screw-driving bit, the end of the shank supported within the collar and between the bearing-faces along the central space.

4. A screw-driver handle, comprising a handle-frame having a collar portion with a guiding-opening therethrough, integrally-attached side webs forming a guideway-space in alinement with the collar-opening, and a stop or abutment member carried by said webs at the opposite end of said guideway; in combination with a shank having a screw-driving bit, said shank supported within said collar-opening and guideway, the handle-frame and shank being relatively movable for effecting percussive contact of said abutment against the end of the shank.

5. In a screw-driver, the combination, of a straight shank-rod of uniform size and approximately angular or flat sided cross-section; in combination with a handle-frame having a collar-opening and internal guides that non-rotatively embrace the sides of said shank, an abutment or stop for contact with the end of the shank within the handle, a guard-pin fixed in the shank and protruding therefrom, overlying side plates seated upon the sides of the handle-frame, and a rivet or screw attaching said plates to the handle-frame through the abutment-block.

6. In a screw-driver of the character described, the handle-frame comprising a solid butt and abutment-block, a tubular collar portion and thin web members uniting the same and affording a central guideway-space in alinement with the collar-opening, said web members provided with laterally-projecting longitudinal lips along their inner edges having parallel inner surfaces; in combination with the screw-driver rod or shank slidably fitting in the collar-opening and having its inner end supported and guided between the parallel faces of the lipped inner edges of said web members, substantially as set forth.

804,680. SCALP-MASSAGE BRUSH. ROWLAND M. SMITH, Chicago, Ill. Filed June 6, 1905. Serial No. 264,006.

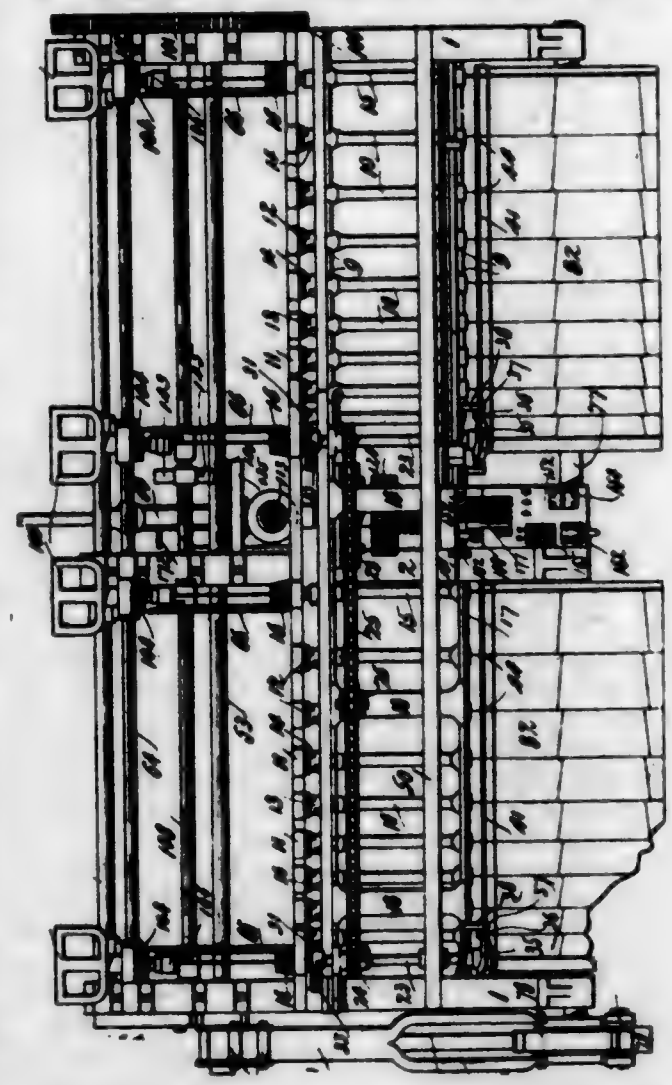


Claim.—1. A device for the purpose set forth, comprising a thin web made of flexible material and made flat on one side and provided at its other side with integral, tapered teeth, and a sheet-metal, hollow or box-like handle provided at its top with a removable cover and with a flat bottom against which latter the flat side of the web fits, the side wall of said hollow handle being continued below the bottom wall thereof and folded about the margins of the web to hold the same permanently fixed to the handle.

2. A device for the purpose set forth, comprising a thin web made of flexible material and made flat on one side and provided at its other side with integral, tapered teeth, and a sheet-metal, box-like handle comprising a flat bottom fitting the flat side of the web and provided with a marginal flange which is folded inwardly about the margin of the web to fasten said web thereto, and the side wall of the box-like handle being provided at its lower margin with a like flange folded inwardly under the flange of the bottom wall.

3. A device for the purpose set forth comprising a flat web composed of flexible material and made flat on one side and provided at its other side with integral teeth, a hollow, sheet-metal handle provided with a flat bottom wall against which the flat side of said web fits, a flange integral with the side wall of said handle which extends below the bottom wall thereof and engages the margin of the web to fasten the same to the handle, and a flat stiffening-plate embedded in said web.

804,681. WIRE-FABRIC MACHINE. PETER W. SOMMER, JOSEPH W. SOMMER, BENJAMIN L. SOMMER, and WILLIAM SOMMER, Peoria, Ill. Filed July 2, 1903. Renewed Oct. 9, 1905. Serial No. 282,015.



Claim.—1. A carriage for a fence-machine, provided with oppositely-arranged driven shafts, a cam on one end of each shaft, a pull-out mechanism supported by the carriage, and means engaged by the cams for operating the pull-out mechanism, substantially as specified.

2. A carriage for a fence-machine, provided with an operating-shaft, an oscillatory frame supported by the carriage-carrying pulling-out devices, and means on the carriage-shaft for actuating the frame, substantially for the purposes set forth.

3. A carriage for a fence-machine, provided with oppositely-disposed shafts, means for actuating said shafts, oscillatory frames pivotally supported on the carriage-frame and having depending pulling-out devices, and means on the carriage-shafts for intermittingly actuating the oscillatory frames, substantially as specified.

4. A carriage for a fence-machine, having oppositely-disposed shafts, means connecting both of said shafts for intermittingly and simultaneously actuating the same, pivoted frames adjacent to the ends of said shafts supporting pull-out mechanism, rollers carried by said frames, and cams on the shafts adapted to engage the rollers of the frames, substantially for the purposes set forth.

5. In a fence-machine, the combination with strand-wire twisters having a pinion on one end and offset fingers adjacent thereto, a carriage, an operating-shaft on the carriage, a segmental gear on the shaft, a cam on the gear and lugs on the cam adapted to engage the fingers of the twister for imparting preliminary movement thereto, substantially as specified.

6. In a fence-machine, the combination with strand-wire twisters each having a pinion and a pair of fingers, one disposed adjacent to the pinion and the other spaced a suitable distance from the pinion and offset from the first-mentioned finger, a carriage, a shaft supported by the carriage, a segmental gear on the shaft adapted to intermittingly engage the pinion on the twisters, offset lugs on the gear for engaging the fingers of the twisters in advance of the gear

and pinion intermeshing, and a cam designed to ride on the fingers, in manner and for the purposes set forth.

7. In a fence-machine, the herein-described mechanism for operating twister-sections, comprising twisters, a pinion on each twister, the fingers 14 disposed in manner described on said twisters, an operating-shaft carried by a reciprocal member, a segment-gear on the shaft, cam-plates attached to the gear provided with lugs 34 adapted to alternately engage the fingers 14 for imparting a preliminary starting movement to the pinions, substantially for the purposes set forth.

8. In combination with a carriage of a fence-machine, operating-shafts supported thereby, and means for actuating the same, a segment-gear supported by one end of the shafts, cam-plates of each gear provided with toothed segments, a cam on the opposite end of said shafts, pull-out mechanism pivotally supported by the carriage and means on the pull-out mechanism intermittingly actuated by the cam for operating the said pull-out-mechanism, substantially as specified.

9. In a fence-machine, a bed-plate, cable-twister sections journaled in said bed, a bevel-pinion on said sections, an operating-shaft carrying bevel-gears meshing with the twister-pinions, a spur-gear on the end of the operating-shaft, a rack-bar engaging the gear, and mechanism for actuating the bar and thereby imparting power to the operating-shaft, substantially as specified.

10. In a fence-machine, a bed-plate, cable-twister sections journaled in said bed, an operating-shaft, gearing between said shaft and said twisters, a spur-gear on one end of said operating-shaft, a pitman having a toothed portion meshing with the spur-gear, means for reciprocating the pitman, and means for locking the spur-gear with the operating-shaft when the pitman is moving in one direction and releasing it from the shaft when moving in the opposite direction, substantially as specified.

11. The mechanism for imparting movement to the cable-sections and clamping devices simultaneously, comprising twister-sections, a clamp-shaft, the shaft 63, gearing between said shaft and the twisters, a member attached to the clamp-shaft, operative connections between the member and shaft 63, and power devices from the clamp-shaft member to a source of power, all substantially as specified.

12. The mechanism for imparting movement to the cable-sections and clamping devices simultaneously, comprising twister-sections, shaft 63 and gearing between said shaft and twisters, a clamp shaft, a member attached to said shaft, a ratchet-wheel on the clamp-shaft and a pawl of the member engaging the ratchet, connections between the member and shaft 63, and power devices operatively attached to the clamp-shaft member adapted to impart movement thereto for actuating the ratchet through the pawl and the shaft 63 through its connections with the clamp-shaft member, substantially as specified.

13. In a wire-fence machine, a bed-frame, a series of strand-wire and cable twister sections, journaled in the bed, a carriage adapted to be reciprocated across the bed designed to support spools for carrying stay-wires, a power-shaft, magnetic clutches operatively connected with the power-shaft, driving mechanism between the clutches and carriage, and commutator mechanism for automatically cutting in and out the clutches and thereby controlling the carriage in its movements across the bed, substantially as specified.

14. In a wire-fence machine, a bed-frame, twisting devices in said bed, a carriage designed to support spools for carrying weft-wires reciprocally supported above the twisters in the bed, a series of magnetic clutches, driving connections between the carriage and clutches, an electric circuit connecting the clutches with a dynamo, a commutator in the circuit, segments of the commutator designed to intermittingly engage brushes also in the circuit, and means having a predetermined movement for imparting an intermittent rotation to the commutator for causing its segments to alternately engage their respective brushes for cutting in and out the clutches and thereby control the carriage in its movements, substantially as specified.

15. The system for controlling the movements of the carriage of a fence-machine, comprising two magnetic clutches, one for driving the carriage in one direction and the other for driving it in the opposite direction, driving connections between the clutches and carriage, an electric circuit, a commutator in the circuit having a series of rows of segments designed to intermittingly engage brushes, mechanism for mechanically actuating the commutator having a predetermined movement for causing the commutator-segments to alternately engage their respective brushes for alternately cutting in and out the clutches and thereby impart a reverse movement to the carriage, substantially as specified.

16. In a fence-machine, the combination of strand-wire and cable twister sections, a reciprocating carriage, and clamping mechanism, magnetic clutches for controlling the movements of the carriage in opposite directions, a magnetic clutch for controlling the movements of the cable-twisters and clamping mechanism, an electric circuit, commutator mechanism in the circuit designed for controlling the current to the clutches, and means for actuating said commutator for alternately cutting in and out the clutches and thereby reciprocating the carriage in one direction and at the end of its movement cause the cable-twisters and clamp mechanism to be actuated and then reciprocate the carriage in the opposite direction, substantially as specified.

17. In a fence-machine carriage, the combination therewith, of a shaft, a cam carried on said shaft, and a pulling-out device operated by said cam, substantially as specified.

18. In a fence-machine carriage, the combination therewith, of a shaft, a cam carried on said shaft, a pulling-out device operating beneath the cam, and means engaged by the cam in its movement to intermittingly actuate the pulling-out device, substantially as specified.

19. In a fence-machine, the combination of a twister carrying a gear, a spool-carrier, a shaft on said carrier carrying a segmental gear adapted to intermittingly coact with the gear of the twister, and means on the segmental gear and carrier-shaft adapted to coact in advance of the teeth of the gears for imparting a preliminary movement to the twister, substantially as specified.

20. In a fence-machine, the combination of a stationary bed, a series of twisters mounted on said bed, each twister carrying a pinion and a pair of lugs, one lug in juxtaposition to the pinion and the other removed therefrom, a carriage, an operating-shaft on the carriage, a segment-gear on said shaft, and engaging devices of the segment-gear rotating in the path of the lugs on the twister adapted to alternately engage the lugs of the twister for imparting a preliminary movement thereto, substantially as specified.

21. In a fence-machine, the combination of cable-twister sections, an operating-shaft, connections between said shaft and twisters, a rack-and-pinion drive for operating said shaft, and means for actuating said rack and thereby rotate the pinion, substantially as specified.

22. In a fence-machine, the combination of a twister-section, an operating-shaft, gearing connecting the shaft and twister, a gear on said shaft, a rack-bar engaging the gear, and means for actuating said rack-bar, substantially as specified.

23. In a fence-machine, the combination of a twister-section, an operating-shaft, gearing connecting the shaft and twister, a spur-gear on said shaft, a rack-bar engaging the spur-gear, means for locking the gear to its shaft when the rack-bar is moving in one direction and releasing it when the bar is moving in the opposite direction, and means for operating said bar, substantially as specified.

24. In a fence-machine, the combination of the cable-twisters and clamp member, an operating-shaft, connections between the operating-shaft and cable-twisters, connections between the clamp member and said operaing-shaft, and power devices operating to actuate the connections between the clamp member and operating-shaft and thereby rotate the cable-twisters, substantially as specified.

25. In a fence-machine, the combination with a movable carriage, a power-shaft, connections between the power-shaft and carriage, magnetic clutches for operating said carriage, and commutator mechanism for automatically cutting in and out said clutches and thereby control the movements of the carriage, substantially as specified.

26. In a fence-machine, the combination with a carriage, a power-shaft, gearing connecting the shaft with operative parts of the carriage, an electric circuit, magnetic clutches on the power-shaft and in said circuit, and means for controlling the circuit and thereby regulate the movement of the carriage by the clutches, substantially as specified.

27. A carriage for a fence-machine, comprising a reciprocating frame traveling on the bed of the machine, a pull-out mechanism on the reciprocating frame, and magnetic clutches controlling the movement of the frame.

28. A carriage for a fence-machine, with twister mechanism journaled to the bed thereof, the said twister mechanism operated by a segment-gear engaging pinions on the said twister mechanism, and a reciprocating frame, with pull-out mechanism thereon, traveling on the bed of the machine operating in relation to the twister mechanism.

29. A carriage for a fence-machine, consisting of a reciprocating frame traveling on the bed of the machine, magnetic clutches operated intermittently by commutators, controlling the movement of the traveling frame on the bed of the machine, and pull-out mechan-

ism on the said traveling or reciprocating frame, the said pull-out mechanism operated by cams on oppositely-driven shafts.

804,682. PROCESS OF MAKING PROTOCATECHUIC ALDEHYDE. RUDOLF J. M. SCHMID, Vienna, Austria-Hungary, assignor to The Firm of Franz Fritzsche & Co., Hamburg-Uhlenhorst, Germany. Filed Aug. 15, 1904. Serial No. 220,851.

Claim.—1. The process of manufacturing protocatechuic aldehyde, which consists in heating heliotropin with an acid agent in the presence of water under a pressure not exceeding twelve atmospheres and under a temperature not exceeding 190° centigrade, substantially as described.

2. The process of manufacturing protocatechuic aldehyde, which consists in heating heliotropin in the presence of water and an acid salt as bisulfite of sodium under a pressure not exceeding twelve atmospheres and under a temperature not exceeding 190° centigrade, substantially as described.

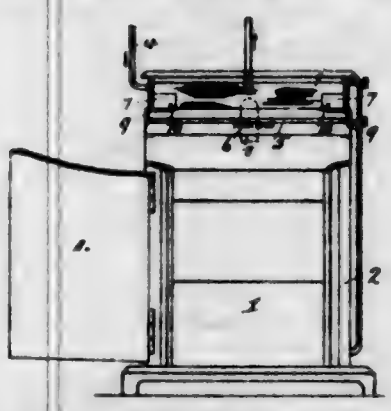
3. The process of manufacturing protocatechuic aldehyde, which consists in heating heliotropin with an excess of bisulfite of sodium, and an excess of water under a pressure not exceeding twelve atmospheres and under a temperature not exceeding 190° centigrade, and separating the prytocatechuic aldehyde from the resulting product, substantially as described.

4. The process of manufacturing protocatechuic aldehyde, which consists in dissolving heliotropin, mixing it with an acid agent and water, and heating the mixture under a pressure not exceeding twelve atmospheres, and under a temperature not exceeding 190° centigrade, substantially as described.

5. The process of manufacturing protocatechuic aldehyde, which consists in dissolving heliotropin, mixing the solution with sodium bisulfite, and a large excess of water, heating the mixture under a pressure not exceeding twelve atmospheres, and under a temperature not exceeding 190° centigrade, substantially as described.

6. The process of manufacturing protocatechuic aldehyde, which consists in dissolving heliotropin in alcohol, mixing the solution with an excess of bisulfite of sodium and a large excess of water, heating the mixture under a pressure not exceeding twelve atmospheres, and under a temperature not exceeding 190° centigrade, and separating the protocatechuic aldehyde from the resulting product, substantially as described.

804,683. GAS-STOVE. JOHANNA J. STRAIN, Christchurch, New Zealand. Filed Sept. 27, 1904. Serial No. 226,174.

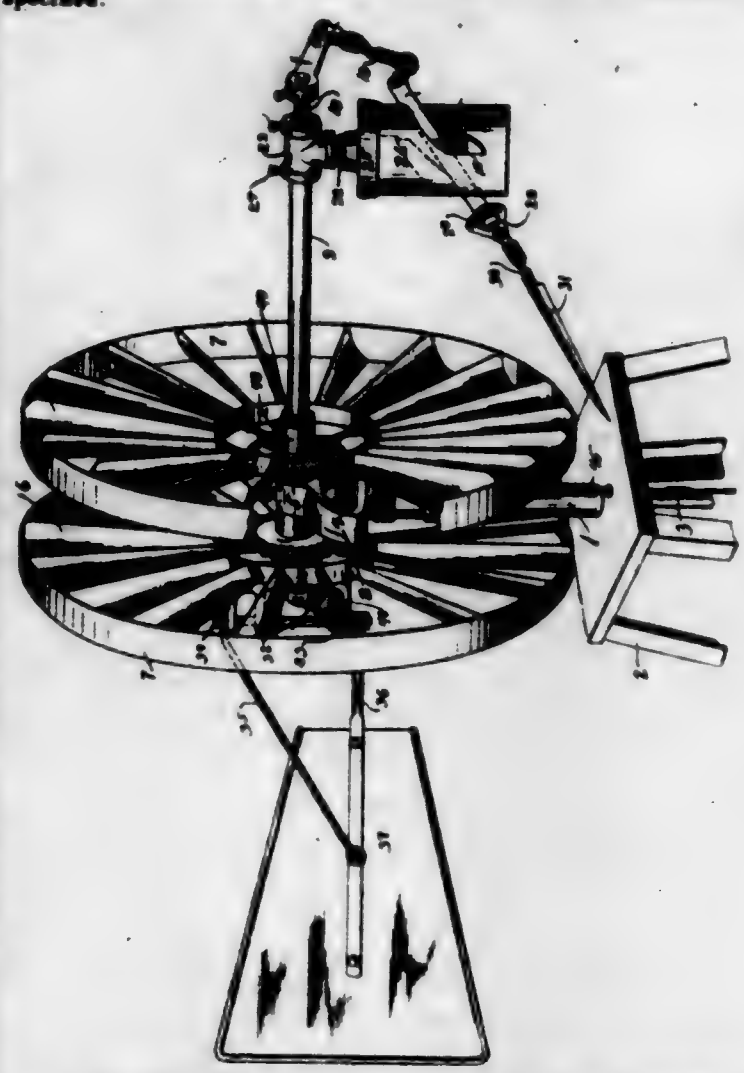


Claim.—1. A gas cooking-stove, having a receptacle for containing and circulating water superimposed over the oven and forming the roof thereof, said receptacle having undercut portions to form flues and means in the receptacle for receiving cool water, and for delivering the warm water.

2. A gas cooking-stove, having a receptacle for containing and circulating water having three of its sides undercut, superimposed over the oven and forming the roof thereof, angle-irons in and secured to the oven, narrow plates, resting on the angle-irons and projecting into the oven, forming a support for the boiler which, with the said plates and the sides of the stove, form a flue for conducting away the hot oven-gases, substantially as specified.

804,684. WINDMILL. JOHN C. SUMMERS and HOMER B. YOUNG, Mount Hope, Ohio. Filed May 25, 1905. Serial No. 262,152.

Claim.—1. In a windmill, the combination of a horizontal hollow shaft having mounted thereon wind-wheels, said wheels provided with blades located at opposite angles, gear-wheels rotatable in opposite directions with the opposite rotations of the wind-wheels, a power-shaft provided with a gear-wheel meshing with the oppositely-rotating gear-wheels upon the hollow shaft, a shaft located in the hollow shaft and provided with an arm, a regulating-blade arm pivotally attached to vertical rotatable bars suspended by a rotatable shaft, and the shaft located within the hollow shaft upon which the wind-wheels are mounted, a regulating-blade secured to the pivoted arm, a vane, and means for operating the vane by the movement of the regulating-blade, substantially as and for the purpose specified.



2. In a windmill, the combination of a hollow shaft having suspended therefrom a head, a thimble suspended by the head, a housing and a cap for said housing connected to the thimble, a rotatable shaft mounted in the thimble, bars suspended by the rotatable shaft, a blade-arm pivotally attached to the suspended arms, and the arms extended through curved slots in the housing, wind-wheels mounted upon the hollow shaft, and rotatable in a vertical plane, a vane, and means for operating the vane by the movement of the regulating-blade, substantially as and for the purpose specified.

3. In a windmill, a post supporting a head, a hollow shaft carried by the head, wind-wheels mounted upon the shaft and rotatable in opposite directions, a gear-wheel secured to a power-shaft and meshing with the gear-wheels carried by the wind-wheels, and a regulating-blade fixed to a pivoted arm and the pivoted arm rotatable in a vertical plane, a housing provided with curved slots, and the blade located through the slots, a vane, and means for operating the vane, by the movements of the regulating-blade, substantially as and for the purpose specified.

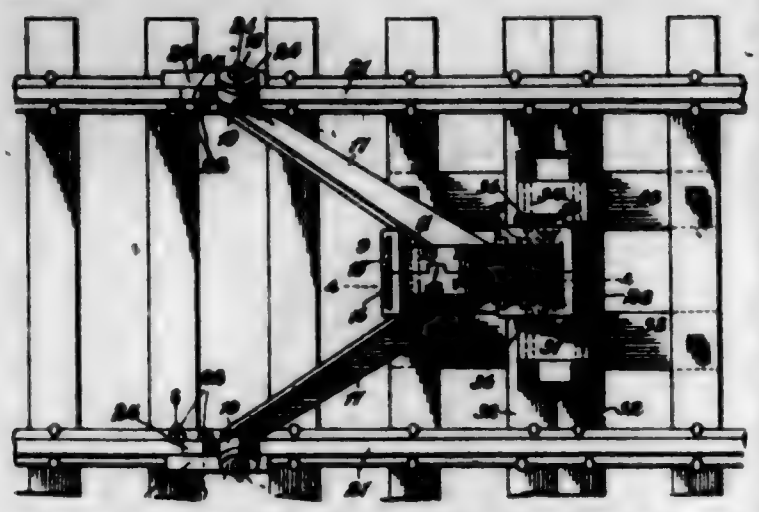
4. In a windmill, the combination of a head, said head having connected thereto a hollow shaft, wind-wheels mounted upon the hollow shaft, a power-shaft and means for imparting rotary motion to the power-shaft from the wind-wheels, a regulating-blade suspended from the hollow shaft and pivotally attached, a shaft located in the hollow shaft, means for rocking the shaft by the movements of the regulating-blade, a vane, and means for imparting movement to the regulating-vane by the movement of the regulating-blade, substantially as and for the purpose specified.

804,685. RAILWAY BUMPING-POST. WILSON B. STYCOS, Pittsburg, Kans. Filed July 6, 1905. Serial No. 268,373.

Claim.—1. In a structure of the class described, the combination with a car-engaging device, of means for movably positioning the same between and connecting it to both wheel-rails of a track.

2. In a structure of the class described, the combination with a car-engaging device, of means for movably connecting the same to

both wheel-rails of a track and supporting the same between such rails.



3. In a structure of the class described, the combination with a car-engaging device, of means for pivotally connecting the same to both wheel-rails of a track.

4. In a structure of the class described, the combination with a car-engaging device, of means for pivotally connecting the same to both wheel-rails of a track, and means for yieldingly supporting the car-engaging device between the tracks.

5. In a structure of the class described, the combination with spaced wheel-rails, of a car-engaging device located between the rails, and arms carried by the device and pivoted to said rails.

6. In a structure of the class described, the combination with spaced wheel-rails, of a car-engaging device located between the rails, arms carried by the device and pivoted to said rails, and a yielding support for the device, said support being located between the rails.

7. In a structure of the class described, the combination with a car-engaging device, of divergent arms carried thereby, holding devices, means for attaching said devices to the wheel-rails of a railway-track, and pivotal connections between the devices and the arms

8. In a structure of the class described, the combination with a car-engaging device, of divergent arms carried thereby, holding devices arranged to be attached to the wheel-rails of a railway-track and having ears, and gudgeons carried by the arms and journaled in the ears.

9. In a structure of the class described, the combination with a car-engaging device, of divergent arms carried thereby, holding devices arranged to be attached to the wheel-rails of a railway-track and having upstanding stops and pivotal connections between the said devices and arms, said connections being located in rear of the stops.

10. In a structure of the class described, the combination with a car-engaging device, of divergent arms carried thereby, holding devices arranged to be attached to the wheel-rails of a railway-track, said holding devices having upstanding stops and ears disposed in rear of the same, and gudgeons carried by the arms and journaled in the ears.

11. In a structure of the class described, the combination with arms, of means for pivotally connecting the arms to the wheel-rails of a track, a head carried by the arms and projecting on opposite sides of the same, and a yielding support engaging the rear end of said head.

12. In a structure of the class described, the combination with arms, of means for pivotally connecting the same to the wheel-rails of a track, a head carried by the arms and projecting on opposite sides of the same, the rear portion of said head projecting downwardly, a post located beneath the downwardly-projecting portion between the tracks, and springs interposed between the post and head.

13. In a structure of the class described, the combination with a sectional head, of arms carried by the sections of the head, the sections of said head projecting in advance of the arms, means for pivoting the arms to a railway-track, and a buffer carried by the forwardly-projecting portions of the head-sections.

14. In a structure of the class described, the combination with a sectional head, of divergent arms carried by the sections of the head, and holding devices pivotally associated with the arms and arranged to be secured to the wheel-rails of a railway-track.

15. In a structure of the class described, the combination with a head comprising sections secured together, of outstanding arms carried respectively by the sections of the head, and means for pivotally connecting the arms to the wheel-rails of a track.

16. In a structure of the class described, the combination with a head having an upright line of division forming said head into sections, of means for securing the sections together, divergent arms carried by the sections, and means for pivotally connecting said arms to the railway-rails with the head located in a plane between the rails.

17. In a structure of the class described, the combination with a head formed of sections secured together, of divergently-disposed arms formed integral with the sections and having gudgeons at their lower ends, holding devices arranged to be fitted to the rails of a railway-track, and having upstanding ears that receive the gudgeons, means for securing the holding devices to the rails, and a yielding support for the head.

18. In a structure of the class described, the combination with a holding device having an upstanding stop and an ear located in rear of the stop, of a car-engaging device pivotally connected to the ear, and means for fastening the holding device to the wheel-rail of a track.

19. In a structure of the class described, the combination with a car-engaging device, of means for pivoting the same between tracks, said device having spring-receiving seats, a post located beneath the device and having a spring-receiving seat, and a spring interposed between the car-engaging device and post and located at the ends of the seats.

20. In a structure of the class described, the combination with arms, of means for pivoting the arms to tracks, a head carried by the arms and projecting downwardly in rear of the same, a post located beneath the downturned portion of the head, the opposing portions of said head and post having spring-receiving seats, and springs interposed between the post and head and located in the seats.

21. In a structure of the class described, the combination with a movably-mounted car-engaging device, of a supporting device located beneath the same, yielding means interposed between the devices, and coöperating guide elements carried respectively by the devices.

22. In a structure of the class described, the combination with a movably-mounted car-engaging device, of a supporting device located beneath the same, yielding means interposed between the devices, and guide elements carried by one device and embracing the other.

23. In a structure of the class described, the combination with a movably-mounted car-engaging device, of a supporting device located beneath the same, yielding means interposed between the devices, guide elements carried by one device and embracing the other, said elements having guideways, and projections carried by the other device and operating in the guideways.

24. In a structure of the class described, the combination with a pivotally-mounted head, of a post located beneath the same, upright guide elements carried by the post and embracing the head, said elements having guideways in their inner sides, outstanding projections carried by the head and operating in the guideways, and springs interposed between the head and post.

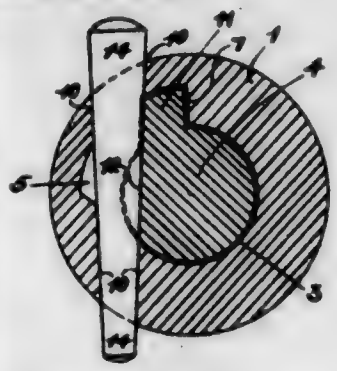
25. In a structure of the class described, the combination with holding elements including upstanding ears, of means for fastening said holding elements to the wheel-rails of a railway-track, a head having a downturned rear portion, divergently-disposed arms carried by the head and pivoted to the ears of the holding devices, a post located beneath the rear portion of the head and having upstanding guides associated therewith, and yielding means interposed between the post and head.

26. In a structure of the class described, the combination with a head, of means for pivotally connecting the head to the wheel-rails of a track, said head comprising sections, means for securing the sections together, and a car-engaging buffer located at one end of the head and held in position by the sections thereof.

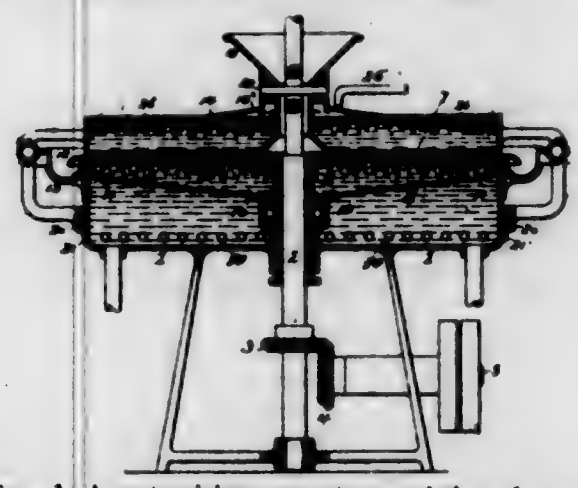
804,686. CHUCK OF ROCK-DRILLING MACHINES. JOHN H. THOMAS, Johannesburg, Transvaal. Filed Nov. 14, 1904. Serial No. 232,664.

Claim.—1. In chucks of rock-drills or rock-drilling machines and means for fixing the bits or boring-tools therein, in combination, the chuck-body constructed with an axial bore, a longitudinal slot formed in the bore, a longitudinal recess formed inside the chuck in communication with the bore, a bit or drill-shank constructed with a lateral projection adapted to be brought into engagement with the longitudinal recess inside the bore by the axial rotation of the drill or bit, a keyway or tapered slot formed through the chuck passing down one side of the longitudinal recess, and a tapered key or wedge arranged in said keyway engaging the shank and lateral projection of the bit or tool to maintain the projection in engagement with the recess, substantially as described.

2. In chucks of rock-drills or rock-drilling machines and means for fixing the bits or boring-tools therein, in combination, the chuck-body 1 formed with the bore 3 and with the longitudinal slot 5 in the bore 3 and the internal longitudinal recess 7 communicating with the bore 3 and the keyway or slot 10 tapered in two directions the shank 4 of the bit or tool provided with the lateral projection 11 adapted to pass down the longitudinal slot 5 and to be placed in the longitudinal recess 7 by the axial rotation of the drill or bit, the key 14 in the keyway 10 tapered in two directions at right angles to correspond to said keyway, said key 14 engaging the side of the shank 4 and projection 11 to retain the projection 11 in the recess 7, substantially as described and shown.



804,687. PASTEURIZING APPARATUS. FRANK TYSON, Canton, Ohio, assignor, by mesne assignments, of one-half to H. B. Stewart, Canton, Ohio. Filed Nov. 25, 1904. Serial No. 234,209.



Claim.—1. A pasteurizing apparatus consisting of a rotatable treating-plate whose liquid receiving and carrying surface is transverse to its axis of rotation, a collecting-receptacle receiving the liquid directly from the edge of said plate, and means for supplying the liquid to the central portion of said plate, substantially as specified.

2. A pasteurizing apparatus consisting of a chambered vessel mounted so as to rotate and adapted for the reception of a treating fluid, the surface of said vessel, which receives and carries the liquid to be pasteurized, being in a plane transverse to the axis of rotation of the vessel, a collecting-receptacle receiving the liquid from the edge of said vessel, and means for supplying the liquid to the central portion of said treating-surface, substantially as specified.

3. A pasteurizing apparatus consisting of a water vessel having a rotatable cap or cover, whose top is in a plane transverse to the axis of rotation, and receives and carries the liquid to be pasteurized, a collecting-receptacle receiving the liquid from the edge of said top, and means for supplying the liquid to the central portion of said top, substantially as specified.

4. A pasteurizing apparatus consisting of a water vessel having a chambered and rotatable cap or cover, whose top is in a plane transverse to the axis of rotation and receives and carries the liquid to be pasteurized, a collecting-receptacle receiving the liquid from the edge of said top, and means for supplying the liquid to the central portion of said top, substantially as specified.

5. A pasteurizing apparatus consisting of a water vessel having a chambered and rotatable cap or cover, whose top is in a plane transverse to the axis of rotation and receives and carries the liquid to be pasteurized, the bottom plate of said vessel having openings located at different distances from the axis of rotation, whereby a flow of the treating fluid through said vessel by centrifugal force is effected, substantially as specified.

6. A pasteurizing apparatus consisting of a rotatable treating-plate disposed in a plane transverse to its axis of rotation, a second treating-plate parallel with and rotating in the same direction as the first, means for feeding the liquid to be pasteurized to the space between said plates, and a collecting-receptacle receiving the liquid from the edge of said plate, substantially as specified.

7. A pasteurizing apparatus consisting of a rotatable treating-plate disposed in a plane transverse to its axis of rotation, a second rotatable treating-plate parallel with the first, means for adjusting one of said plates from and toward the other, and means for feeding the liquid to be pasteurized to the space between the plates, substantially as specified.

8. A pasteurizing apparatus consisting of a rotatable treating-plate presenting a surface transverse to its axis of rotation, a chambered hood rotating in the same direction as the plate and presenting a surface parallel to that of said treating-plate, means for feeding between said surfaces the liquid to be pasteurized, and a collecting-receptacle receiving the liquid from the edge of said plate, substantially as specified.

9. A pasteurizing apparatus consisting of a rotatable treating-plate having a surface transverse to its axis of rotation, a chambered hood also free to rotate and presenting a surface parallel to said treating-plate, means for varying the distance apart of said surfaces and means for feeding to the space between them the liquid to be pasteurized, substantially as specified.

10. A pasteurizing apparatus consisting of a water vessel having a rotatable cover whose surface is in a plane transverse to the axis of rotation, a parallel and correspondingly-rotatable treating-plate, coöperating therewith, means for feeding the liquid to be pasteurized to the space between said plate and cover, and a collecting-receptacle receiving the liquid from the edge of said plate, substantially as specified.

11. A pasteurizing apparatus consisting of a water vessel having a rotatable cover whose surface is in a plane transverse to the axis of rotation, a parallel and correspondingly-rotatable treating-plate coöperating therewith, means for varying the distance between the plate and cover, and means for feeding to the space between them the liquid to be pasteurized, substantially as specified.

12. A pasteurizing apparatus consisting of a water vessel having a rotatable cover containing a water-chamber and presenting a surface transverse to the axis of rotation, a parallel and correspondingly-rotatable treating-plate coöperating therewith, and means for feeding the liquid to be pasteurized to the space between said plate and cover, substantially as specified.

13. A pasteurizing apparatus consisting of a water vessel having a rotatable cover containing a water-chamber and presenting a surface transverse to the axis of rotation, a parallel and correspondingly-rotatable treating-plate, coöperating therewith, means for varying the width of the space between the plate and cover and means for feeding to said space the liquid to be pasteurized, substantially as specified.

14. A pasteurizing apparatus consisting of a water vessel having a rotatable cover presenting a surface transverse to the axis of rotation, a chambered and rotatable hood, presenting a surface parallel with that of the cover, and means for feeding the liquid to be pasteurized to the space between said surfaces, substantially as specified.

15. A pasteurizing apparatus consisting of a water vessel having a rotatable cover presenting a surface transverse to the axis of rotation, a chambered and rotatable hood presenting a surface parallel with that of the cover, means for varying the width of the space between said cover and hood, and means for feeding to said space the liquid to be pasteurized, substantially as specified.

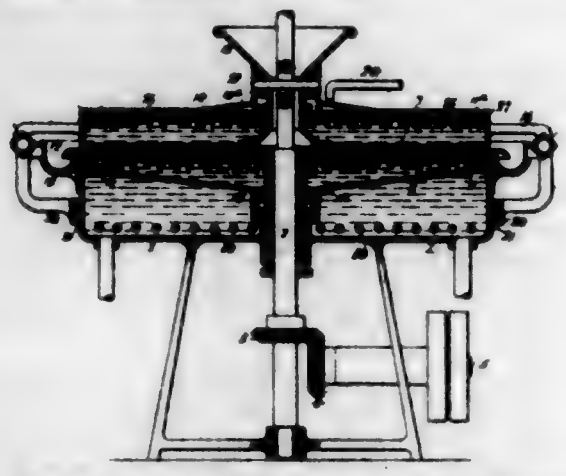
16. A pasteurizing apparatus consisting of a water vessel having a rotatable cover containing a water-chamber and presenting a surface transverse to the axis of rotation, a chambered and rotatable hood presenting a surface parallel with that of the cover, and means for feeding to the space between said surfaces the liquid to be pasteurized, substantially as specified.

17. A pasteurizing apparatus consisting of a water vessel having a rotatable cover containing a water-chamber and presenting a surface transverse to the axis of rotation, a chambered and rotatable hood presenting a surface parallel with that of the cover, means for varying the width of the space between said hood and cover, and means for feeding to said space the liquid to be pasteurized, substantially as specified.

804,688. PASTEURIZING LIQUIDS. FRANK TYSON, Canton, Ohio, assignor, by mesne assignments, of one-half to H. B. Stewart, Canton, Ohio. Original application filed Nov. 25, 1904, Serial No. 234,209. Divided and this application filed Mar. 15, 1905. Serial No. 250,283.

Claim.—1. The mode herein described of effecting the pasteuri-

mation of liquid, said mode consisting in causing the liquid to flow by centrifugal force with gradually-increasing speed over the whole treating-surface, substantially as specified.



2. The mode herein described of effecting the pasteurization of liquid, said mode consisting in causing the liquid to flow by centrifugal force in a film of gradually-decreasing thickness over the whole treating-surface, substantially as specified.

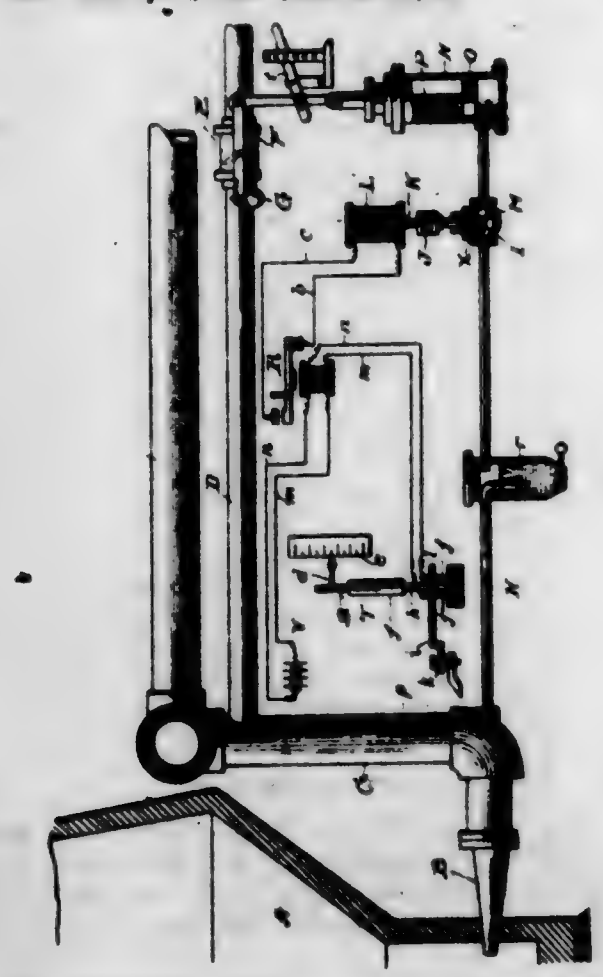
3. The mode herein described of effecting the pasteurization of liquid, said mode consisting in causing the liquid to flow by centrifugal force with gradually-increasing speed over the whole treating-surface and thereby form a film whose thickness diminishes in correspondence with the acceleration in the speed of its component parts, substantially as specified.

4. The mode herein described of effecting the pasteurization of liquid, said mode consisting in causing the liquid to flow by centrifugal force with gradually-increasing speed throughout the space between treating-surfaces, substantially as specified.

5. The mode herein described of effecting the pasteurization of liquid, said mode consisting in causing the liquid to flow by centrifugal force in a film of gradually-diminished thickness throughout the space between treating-surfaces, substantially as specified.

6. The mode herein described of effecting the pasteurization of liquid, said mode consisting in causing the liquid to flow by centrifugal force with gradually-increasing speed throughout the space between treating-surfaces, thus forming a film whose thickness diminishes in correspondence with the acceleration in the speed of its component parts, substantially as specified.

804,689. **AUTOMATIC BLAST-REGULATING APPARATUS.** SAMUEL W. VAUGHEN, Lorain, Ohio, and JOHN W. CABOT, Boston, Mass. Filed Apr. 4, 1904. Serial No. 201,573.



Claim.—1. A hot-blast apparatus for furnaces having in combination a hot-blast stove connected to the furnace, a pipe for conducting hot air into the furnace, a valve controlling the flow of temperature-regulating air into the furnace, and means for opening such valve upon increase of back pressure or temperature in the furnace, substantially as specified.

2. In the smelting of ores with hot blast an apparatus for automatically mixing hot blast and cold blast together, consisting of a hot-blast pipe, a cold-blast pipe, a branch pipe connecting the two, a valve situated in said branch pipe, and means for opening such valve upon increase of back pressure or increase of temperature at the furnace, substantially as specified.

3. In the smelting of ores with hot blast, an apparatus for automatically mixing hot blast and cold blast together, having in combination a hot-blast stove connected to the furnace a pipe for conducting hot air into the furnace, a cold-blast pipe, a branch pipe connecting the two, a valve situated in said branch pipe, and means for closing such valve operative not only upon decrease of back pressure but also upon decrease of temperature in the furnace, substantially as specified.

4. A hot-blast apparatus for blast-furnaces having in combination a hot-blast stove connected to the furnace, a hot-blast pipe, a cold-blast pipe provided with an admission-valve, a motor for operating said valve, controlled not only by a pyrometer but also by back pressure, substantially as specified.

5. A hot-blast apparatus for furnaces having in combination, a hot-blast stove connected to the furnace by a pipe having a cold-blast connection provided with an admission-valve operated by a motor controlled electrically by a pyrometer and otherwise by back pressure, substantially as specified.

6. A hot-blast temperature-regulating apparatus for furnaces having in combination a hot-blast stove connected to the furnace, a cold-blast pipe for admitting air into the connection between the stove with the furnace, a valve controlling the flow of air through said pipe, means for shifting said valve controlled by a valve actuated by a combination of magnetic attraction and fluid-pressure, substantially as specified.

7. The combination with a blast-furnace, of a hot-blast main, a cold-blast-supply pipe, a branch pipe of said main connected to the cold-blast-supply pipe, a pivoted cold-blast valve, a lever connected to the pivot of such valve, a cylinder having a piston therein connected with said lever, a pipe for conveying the furnace blast-pressure to said cylinder, a balanced valve in said pipe, having a hollow stem, and an electrically-actuated armature, substantially as specified.

8. In the smelting of ores with hot blast, the combination consisting of a hot-blast stove, a hot-blast pipe connecting the stove and the furnace, a cold-blast pipe connected thereto having an admission-valve means for shifting such valve, and controlling mechanism automatically operated by electricity and air-pressure, substantially as specified.

9. In the smelting of ores with hot blast, the combination of a hot-blast stove, a hot-blast pipe connecting the stove and the furnace, a cold-blast pipe connected thereto, having an admission-valve, means for shifting said valve controlled by a mechanism operative by furnace-blast back pressure and by furnace-blast temperature controlling an electric current, substantially as specified.

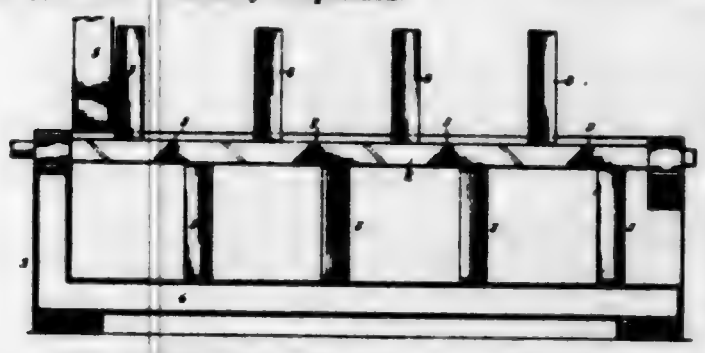
10. In the smelting of ores with hot blast, the combination of a hot-blast stove, a hot-blast pipe connecting the stove and the furnace, a cold-blast pipe connected to the hot-blast pipe having an admission-valve, means for shifting said valve controlled by a combined electrically and pneumatically operated mechanism, operative by fluid-pressure and electrically controlled by a pyrometer, substantially as specified.

804,690. **PREPARING IRON PYRITES FOR DESULFURIZATION.** UTLEY WEIMER, Ardmore, Pa. Filed May 6, 1904. Serial No. 207,730.

Claim.—1. The mode herein described of preparing for desulfurization "pyrites fines" or "pyrites smalls" composed in part of dust or powder, said mode consisting in mixing the same with a metallic sulfate, and reducing the mixture to and maintaining it in granular form without the application of such heat as to drive off sulfur from the pyrites, substantially as specified.

2. The mode herein described of preparing for desulfurization "pyrites fines" or "pyrites smalls" composed in part of dust or powder, said mode consisting in mixing the same with sulfate of iron, and reducing the mixture to and maintaining it in granular form, substantially as specified.

3. The mode herein described of preparing for desulfurization "pyrites fines" or "pyrites smalls" composed in part of dust or powder, said mode consisting in mixing the same with a binding agent, reducing the compound to and maintaining it in granular form, and subjecting the same to heat insufficient to drive off the sulfur from the pyrites, substantially as specified.



4. The mode herein described of preparing for desulfurization "pyrites fines" or "pyrites smalls" composed in part of dust or powder, said mode consisting in mixing the same with sulfate of iron, reducing the compound to and maintaining it in granular form, and subjecting the same to heat, substantially as specified.

5. The mode herein described of effecting desulfurization of "pyrites fines" or "pyrites smalls," composed in part of dust or powder, said mode consisting in mixing the same with a metallic sulfate, reducing the compound to and maintaining it in granular form, without the application of such heat as to drive off sulfur from the pyrites and then subjecting said granular mass to stirring or agitation upon the hearth of the desulfurizing-furnace, substantially as specified.

6. The mode herein described of effecting desulfurization of "pyrites fines" or "pyrites smalls," composed in part of dust or powder, said mode consisting in mixing the same with sulfate of iron, reducing the compound to and maintaining it in granular form, and then subjecting said granular mass to stirring or agitation upon the hearth of the desulfurizing-furnace, substantially as specified.

7. The mode herein described of effecting desulfurization of "pyrites fines" or "pyrites smalls," composed in part of dust or powder, said mode consisting in mixing the same with a suitable binder, reducing the compound to and maintaining it in granular form, subjecting the compound to heat insufficient to drive off sulfur from the pyrites and finally to stirring or agitation upon the hearth of the desulfurizing-furnace, substantially as specified.

8. The mode herein described of effecting desulfurization of "pyrites fines" or "pyrites smalls," composed in part of dust or powder, said mode consisting in mixing the same with sulfate of iron, reducing the compound to and maintaining it in granular form, subjecting the compound to heat and finally to stirring or agitation upon the hearth of the desulfurizing-furnace, substantially as specified.

804,691. **IRON-PYRITES CHARGE FOR DESULFURIZING-FURNACES AND METHOD OF PREPARING SAME.** UTLEY WEBER, Ardmore, Pa. Filed June 15, 1904. Renewed July 26, 1905. Serial No. 271,201.

Claim.—1. The mode herein described of preparing "pyrites fines" or "pyrites smalls" for desulfurization, said mode consisting in mixing them with a binder containing sulfate of soda, and forming the mass into lumps, blocks or briquets, substantially as specified.

2. The mode herein described of preparing "pyrites fines" or "pyrites smalls" for desulfurization, said mode consisting in mixing them with a binder containing a salt of sodium and sulfate of iron, and forming the mass into lumps, blocks or briquets, substantially as specified.

3. The mode herein described of preparing "pyrites fines" or "pyrites smalls" for desulfurization, said mode consisting in mixing them with a binder containing sulfate of soda and sulfate of iron, and forming the mass into lumps, blocks or briquets, substantially as specified.

4. The mode herein described of preparing "pyrites fines" or "pyrites smalls" for desulfurization, said mode consisting in mixing oxid of iron with sulfate of soda containing sulfuric acid, and then using the resulting compound as a binder for uniting the "pyrites fines" or "pyrites smalls" into lumps, blocks or briquets, substantially as specified.

5. The mode herein described of preparing "pyrites fines" or "pyrites smalls" for desulfurization, said mode consisting in charging oxid of iron into the niter-pot of sulfuric-acid apparatus containing a salt of sodium and sulfuric acid, and utilizing the resultant product as a binder for uniting the "pyrites fines" or "pyrites smalls" into lumps, blocks or briquets, substantially as specified.

6. The mode herein described of preparing "pyrites fines" or "pyrites smalls" for desulfurization, said mode consisting in charging oxid of iron into the niter-pot of sulfuric-acid apparatus containing nitrate of soda and sulfuric acid, and utilizing the resultant product as a binder for uniting the "pyrites fines" or "pyrites smalls" into lumps, blocks or briquets, substantially as specified.

7. The mode herein described of preparing "pyrites fines" or "pyrites smalls" for desulfurization, said mode consisting in mixing them with a binder containing sulfate of soda, nitrate of soda and sulfate of iron, and forming the mass into lumps, blocks or briquets, substantially as specified.

8. As a new article of manufacture, a lump, block or briquet composed of "pyrites fines" or "pyrites smalls," and a binder containing sulfate of soda, substantially as specified.

9. As a new article of manufacture, a lump, block or briquet composed of "pyrites fines" or "pyrites smalls," and a binder containing a salt of sodium and sulfate of iron, substantially as specified.

10. As a new article of manufacture, a lump, block or briquet composed of "pyrites fines" or "pyrites smalls," and a binder containing sulfate of soda and sulfate of iron, substantially as specified.

804,692. **PREPARING IRON OXID FOR USE IN BLAST-FURNACES.** UTLEY WEBER, Ardmore, Pa. Filed Nov. 1, 1904. Renewed Aug. 28, 1905. Serial No. 275,009.

Claim.—1. The mode herein described of preparing relatively fine particles of iron oxid for use in a blast-furnace, said mode consisting in mixing said particles with powdered argillaceous matter and subjecting the mixture to heat sufficient to fuse the iron-oxid particles, substantially as specified.

2. The mode herein described of preparing relatively fine particles of iron oxid for use in a blast-furnace, said mode consisting in mixing said particles with powdered argillaceous matter and then subjecting the mixture simultaneously to agitation and to heat sufficient to fuse the iron-oxid particles, substantially as specified.

804,693. **PREPARING IRON OXID FOR USE IN BLAST-FURNACES.** UTLEY WEBER, Ardmore, Pa. Filed Nov. 4, 1904. Renewed Aug. 28, 1905. Serial No. 275,510.

Claim.—1. The mode herein described of preparing relatively fine particles of iron oxid for use in a blast-furnace, said mode consisting in mixing said particles with Portland cement and subjecting the mixture to such a degree of heat as will effect fusion of said cement, substantially as specified.

2. The mode herein described of preparing relatively fine particles of iron oxid for use in a blast-furnace, said mode consisting of mixing said particles with Portland cement, and then subjecting the mixture simultaneously to agitation and to such a degree of heat as will effect fusion of the cement, substantially as specified.

3. The mode herein described of preparing relatively fine particles of iron oxid for use in a blast-furnace, said mode consisting in mixing said particles with flue-dust of Portland-cement-burning furnaces, and subjecting the mixture to such a degree of heat as will effect fusion of said flue-dust, substantially as specified.

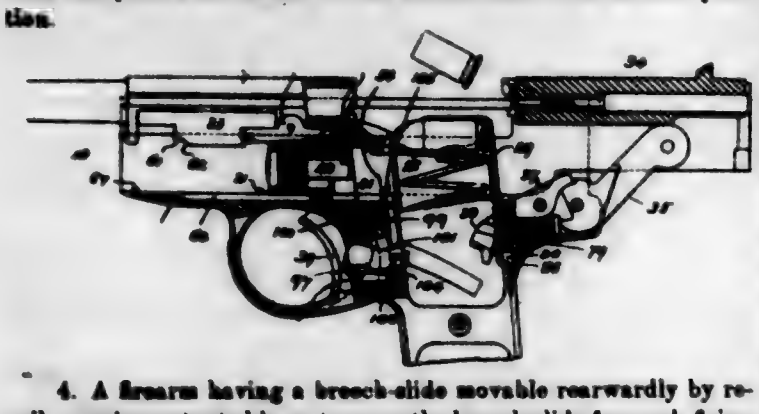
4. The mode herein described of preparing relatively fine particles of iron oxid for use in a blast-furnace, said mode consisting of mixing said particles with flue-dust of Portland-cement-burning furnaces, and then subjecting the mixture simultaneously to agitation and to such a degree of heat as will effect fusion of the flue-dust, substantially as specified.

804,694. **AUTOMATIC FIREARM.** WILLIAM J. WHITING, Wandsworth, England. Filed Nov. 30, 1904. Serial No. 234,994.

Claim.—1. A firearm having a breech-slide movable rearwardly by recoil, a spring-actuated lever for moving the breech-slide forward, a magazine having a movable follower, and means operable by said follower when the magazine is empty, for engaging the lever to hold the breech-slide in a retracted or open position.

2. A firearm having a breech-slide movable rearwardly by recoil, a spring-actuated lever to return the breech-slide to its forward position, a magazine having a follower, and a locking device, operable by said follower when the magazine is empty, to engage the lever when the slide is in its retracted or open position, to prevent forward movement of said slide.

3. A firearm having a breech-slide movable rearwardly by recoil, a spring-actuated lever to move the breech-slide forward, firing mechanism having a hammer, a magazine having a follower, a locking device operable by said follower when the magazine is empty to engage said lever to hold the breech-slide in a retracted or open position, and a safety-bolt, for locking the hammer of the firing mechanism at full-cock, connected with the breech-slide and with the locking device and serving to actuate the latter to release the breech-slide and permit the return of said breech-slide to its forward position.

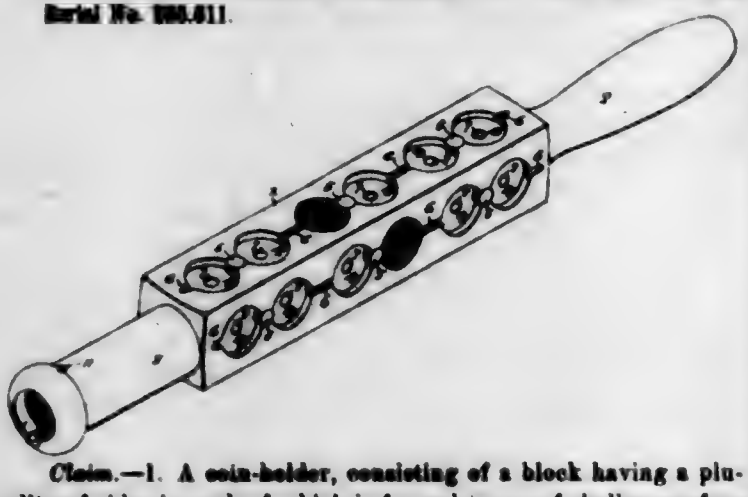


4. A firearm having a breech-slide movable rearwardly by recoil, a spring-actuated lever to move the breech-slide forward, firing mechanism having a hammer, a magazine having a follower, a locking device operable by said follower when the magazine is empty to engage said lever to hold the breech-slide in a retracted or open position, and a safety-bolt, for locking the hammer of the firing mechanism at full-cock, connected with the breech-slide and with the locking device and serving to actuate the latter to release the breech-slide and permit the return of said breech-slide to its forward position, said bolt and locking device being upon opposite sides of the arm.

5. A firearm having a breech-slide movable rearwardly by recoil, and a spring-actuated lever to return the breech-slide to its forward position, said breech-slide having a longitudinal clearance to receive the lever, and a clearance to permit the operative movement of the lever, the first-mentioned clearance permitting the separation of the breech-slide bodily from the arm.

6. A firearm having firing mechanism including a hammer, a sear for the hammer, a trigger, a bar adapted normally to engage the sear to hold the hammer cocked, said bar being operable by the trigger to release the sear and thereby the hammer, a breech-slide movable rearwardly by recoil, a spring-actuated lever for moving the breech-slide forwardly, a magazine having a movable follower, and means operable by said follower when the magazine is empty for engaging the lever to hold the breech-slide in a retracted or open position.

804,695. **COIN COLLECTOR AND HOLDER.** JOHN B. WILEY and FRANKLIN P. STEVENS, Philadelphia, Pa. Filed Apr. 14, 1905. Serial No. 255,611.



Claim.—1. A coin-holder, consisting of a block having a plurality of sides in each of which is formed a row of shallow surface pockets each adapted for the reception and retention of a coin, substantially as specified.

2. A coin-holder consisting of a block having formed therein shallow surface pockets, each open at the top for the reception and withdrawal of a coin, part of the peripheral wall of each pocket being composed of resilient material, which, by its frictional contact with the rim of the coin, serves to retain the same in the pocket, substantially as specified.

3. A coin-holder, consisting of a block having formed therein pockets for the reception and retention of coins, said block also having plugs of resilient material so disposed that part of each plug will form part of the bounding-wall of a pocket, substantially as specified.

4. A coin-holder, consisting of a block having formed therein pairs of pockets, each adapted for the reception and retention of a coin, and plugs of resilient material interposed between said pockets, part of each plug forming part of the bounding-wall of each pocket, substantially as specified.

5. A coin-holder, consisting of a block having formed therein a row of shallow surface pockets for the reception and retention of coins, and surface notches extending from the peripheral part of each pocket and permitting insertion of an ejecting implement between the bottom of the coin and the bottom of the pocket, substantially as specified.

6. A coin-holder, consisting of a block having in opposite sides, pockets for the reception and retention of coins, the pockets in one side of the block being connected to those in the other side of the block by transverse openings, substantially as specified.

7. A coin-holder, consisting of a block having a plurality of sides, each with pockets therein for the reception and retention of coins, said block having at one end a projecting neck with coin-receiving pocket in the end of the same, substantially as specified.

8. A coin-holder, consisting of a block having a plurality of sides, each with pockets therein for the reception and retention of coins, said block having at one end a projecting neck with coin-receiving pocket in the end of the same, and an opening extending from the base of said pocket to one side of the neck, substantially as specified.

804,696. **APPARATUS FOR FORMING STAYS AND FOR CONNECTING STRUTS.** FRIEDRICH W. WESTERHOFF, Düsseldorf, Germany. Filed Nov. 4, 1904. Serial No. 231,360.

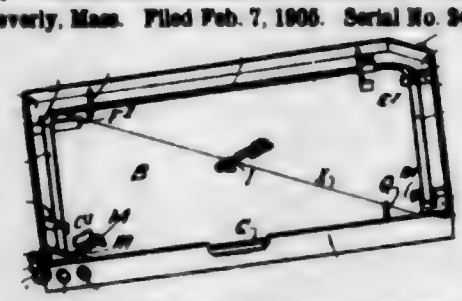


Claim.—1. In an apparatus of the character described, the combination of a tube, a pair of oppositely-threaded nuts detachably secured on the ends of said tube, and a pair of oppositely-threaded bolts projecting into said tube and having their threads in engagement with the threads of the nuts.

2. In an apparatus of the character described, the combination of a tube, a pair of oppositely-threaded nuts each provided with a flange screwed into the exterior of the ends of said tube, and a pair of oppositely-threaded bolts projecting into said tube and having their threads in engagement with the threads of the nuts.

3. In an apparatus of the character described, the combination of a tube, a pair of oppositely-threaded nuts each provided with a flange screwed into the exterior of the ends of said tube said nuts being provided with shoulders at their ends opposite the flanges, a pair of oppositely-threaded bolts projecting into said tube and having their threads in engagement with the threads of the nuts, and cylindrical guides connected to said bolts for sliding engagement with the shoulders of the nuts.

804,697. **BASE-BALL-GAME APPARATUS.** JESSE F. WOODBERRY, Beverly, Mass. Filed Feb. 7, 1905. Serial No. 244,567.



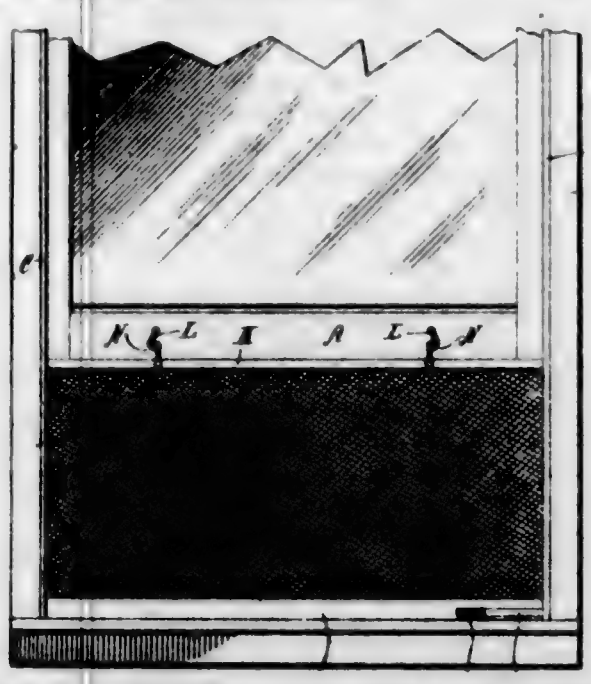
Claim.—1. A base-ball-game apparatus comprising an inclosed board having corner-pockets, said board provided with slots, pivotal guide-bars in said slots, curved ways communicating with the slots forming a continuous raceway, spring-controlled pitching and catching devices in alinement with one another on said board and inclosed by said slots, means for retaining said bars in a normal inoperative position, and means connected to the said guide-bars and arranged exteriorly of the inclosure for actuating the bar.

2. A base-ball-game apparatus including a board having slots near its marginal edge forming an infield, said board having corner-pockets intersecting the slots, said board further provided with curved ways communicating with the slots to form a continuous raceway, a series of grooved guide-bars pivotally connected intermediate its ends in the said slots, means for retaining the bars in a normal inoperative position, means for moving said guide-bar, means coöperative with the latter means and exteriorly arranged on

the board for actuating the guide-bar, and spring-controlled pitching and catching devices on said board and inclosed by said slots.

3. A base-ball-game apparatus including a board having slots, and curved ways in communication with the latter to form an infield, said board having inclined corner-pockets intersecting the slots, a series of guide-bars movably mounted within the slots, means exterior of the board and connected to the guide-bars for actuating the same, means for returning said bars to a normal inoperative position, and spring-controlled mechanism forming pitching and catching devices and in alinement with one another on said board and inclosed by said slot.

804,698. **WINDOW-SCREEN.** CHARLES F. BARR, Winchester, Va. Filed Aug. 2, 1905. Serial No. 272,494.



Claim.—1. A window-screen comprising a box, a spring-actuated roller journaled therein, a screen designed to wind upon said roller, spurs projecting from one end of said box and adapted to engage a window-frame, a slide carried at the opposite end of said box, spurs upon said slide designed to engage the opposite sides of the window-frame, a loose lid for said box to which one end of said screen is fastened, fastening-hooks connected to said lid, a sash, and pins thereon adapted to be engaged by said hooks, as set forth.

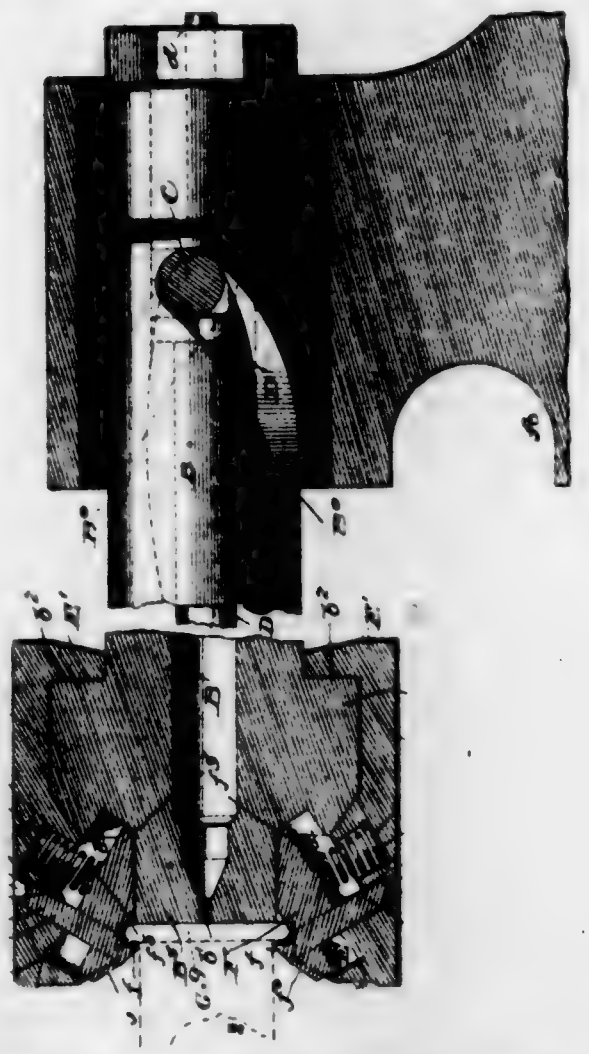
2. A window-screen comprising a box, spurs at one end designed to engage the frame of a window, a socket member secured to one end of the box, a spring-actuated roller having a bearing in said member, the opposite end of the box having an aperture to receive one end of said roller, a spring-actuated slide mounted in a recessed portion of said box, spurs projecting from the end of said slide and adapted to engage the frame of a window, a screen secured to and winding about said roller, a loose lid to said box, hooks secured to said lid, a sash, and pins projecting therefrom and adapted to be engaged by said hooks, as set forth.

804,699. **CARTRIDGE-CASE EXTRACTOR.** LAURENCE V. BENET and HENRI A. MERCIÉ, Paris, France. Filed Dec. 12, 1904. Serial No. 236,633.

Claim.—1. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block and moving longitudinally therewith and provided with oppositely-disposed recesses and inclined grooves, of extractors mounted in said recesses and having shanks engaging in said inclined grooves, and means secured to or integral with the gun-body for holding the extractor-holder from turning relative to the breech-block substantially as described.

2. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block and moving longitudinally therewith and provided with oppositely-disposed recesses and inclined grooves, of extractors mounted in said recesses and having shanks engaging in said inclined grooves, with springs interposed between the backs of said extractors and said extractor-holder and pressing said extractors inward toward the axis of the breech-block, and means secured to or integral with the gun-body for holding the extractor-holder from turning relative to the breech-block substantially as described.

3. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block and moving longitudinally therewith and provided with oppositely-disposed recesses and inclined grooves, of extractors mounted in said recesses and having shanks engaging in said inclined grooves, with springs connected to the backs of the extractors and also to the extractor-holder and tending to retain said extractors in said holder and also to press said extractors toward the axis of the breech-block, and means secured to or integral with the gun-body for holding the extractor-holder from turning relative to the breech-block substantially as described.



4. In a breech-loading gun, the combination with the breech-block adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, of an extractor-holder detachably connected to said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block, with oppositely-disposed recesses in said extractor-holder, and extractors mounted in said recesses, with springs also mounted in said recesses engaging the backs of said extractors and pressing said extractors toward the axis of the breech-block, substantially as described.

5. In a breech-loading gun, the combination with the breech-block adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, of an extractor-holder detachably connected to said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block and oppositely-disposed recesses in said extractor-holder, and extractors mounted in said recesses, with springs also mounted in said recesses and secured to the backs of the extractors and to the extractor-holder, respectively, and pressing said extractors inward toward the axis of the breech-block, substantially as described.

6. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves, and shoulders in rear of said inclined grooves, and extractors mounted in said recesses and having shanks sliding in said inclined grooves with lugs engaging said shoulders, substantially as described.

7. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves, and shoulders in rear of said inclined grooves, and extractors mounted in said recesses and having shanks sliding in said inclined grooves with lugs engaging said shoulders, with springs interposed between the backs of said extractors, and said extractor-holder and pressing said extractors inward toward the axis of the breech-block, substantially as described.

8. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves, and shoulders in rear of said inclined grooves, and extractors mounted in said recesses and having shanks sliding in said inclined grooves with lugs engaging said shoulders, with springs connected to the backs of the extractors and also to the extractor-holder and tending to retain said extractors in said holder and also to press said extractors toward the axis of the breech-block, substantially as described.

9. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, of an annular extractor-holder recessed interiorly to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block, and oppositely-disposed extractors mounted in said extractor-holder in front of said tenons, substantially as described.

10. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, of an annular extractor-holder recessed interiorly to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said block, oppositely-disposed extractors mounted in said extractor-holder in front of said tenons, and springs engaging the backs of said extractors and pressing said extractors toward the axis of the breech-block, substantially as described.

11. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, of an annular extractor-holder recessed interiorly to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said block, oppositely-disposed extractors mounted in said extractor-holder in front of said tenons, and springs secured to the backs of the extractors and to the extractor-holder respectively, and pressing said extractors inward toward the axis of the breech-block, substantially as described.

12. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder recessed to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves in front of said tenons, of extractors mounted in said recesses, and having shanks engaging in said inclined grooves, substantially as described.

13. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder recessed to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves in front of said tenons, of extractors mounted in said recesses and having shanks engaging in said inclined grooves, with springs interposed between the backs of said extractors and said extractor-holder and pressing said extractors inward toward the axis of the breech-block, substantially as described.

14. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block, recessed to register with said tenons and moving longitudinally therewith, the said extractor-holder being provided with oppositely-disposed recesses and inclined grooves in front of said tenons, of extractors mounted in said recesses and having shanks engaging in said inclined grooves, with springs connected to the backs of the extractors and also to the extractor-holder and tending to retain said extractors in said holder and also to press said extractors toward the axis of the breech-block, and means secured to or integral with the gun-body for holding the extractor-holder from turning relative to the breech-block, substantially as described.

15. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, of an extractor-holder recessed to register with said tenons and detachably connected to said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block, the said extractor-holder being also provided with oppositely-disposed recesses in front of said tenons, and extractors mounted both to rock and to slide in said recesses, substantially as described.

16. In a breech-loading gun, the combination with a breech-block adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, of an extractor-holder connected to said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block, with oppositely-disposed recesses in said extractor-holders, extractors mounted both to rock about a pivot and to slide outwardly in said recesses, and springs also mounted in said recesses engaging the backs of said extractors and pressing said extractors toward the axis of the breech-block, substantially as described.

17. In a breech-loading gun, the combination with the breech-block adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, of an extractor-holder connected to said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block, with oppositely-disposed recesses in said extractor-holder, and extractors mounted both to rock slightly in and to slide outwardly in said recesses, with springs also mounted in said recesses and secured to the backs of the extractors and to the extractor-holder respectively, and pressing said extractors inward toward the axis of the breech-block, substantially as described.

18. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined radial grooves, and shoulders in the rear of said inclined grooves, and extractors mounted in said recesses and having claws with inclined front faces adapted to strike the rim of the cartridge-case, and shanks sliding in said inclined grooves with lugs engaging said shoulders, substantially as described.

19. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves and shoulders in the rear of said inclined grooves, extractors mounted in said recesses and having claws with inclined front faces adapted to strike the rim of the cartridge-case, and shanks sliding in said inclined grooves with lugs engaging said shoulders, and springs interposed between the backs of said extractors and said extractor-holder and pressing said extractors inward toward the axis of the breech-block, substantially as described.

20. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves and with shoulders in the rear of said inclined grooves, and extractors mounted in said recesses and having claws with inclined front faces adapted to strike the rim of the cartridge-case, and shanks sliding in said inclined grooves with

lugs engaging said shoulders, with springs connected to the backs of the extractors and also to the extractor-holder and tending to retain said extractors in said holder and also to press said extractors toward the axis of the breech-block, substantially as described.

21. In a breech-loading gun, the combination with a breech-block adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions and provided with a vertical face near its head with cam-grooves cut in said face, of an extractor-holder detachably connected to said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block, with oppositely-disposed recesses in said extractor-holder, and extractors mounted to rock in said recesses and provided with lever-arms engaging in said cam-grooves, substantially as described.

22. In a breech-loading gun, the combination with a breech-block adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions and provided with a vertical face near its head with cam-grooves cut in said face, of an extractor-holder detachably connected to said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block, with oppositely-disposed recesses in said extractor-holder, and extractors mounted to rock and to slide in said recesses, and provided with lever-arms engaging in said cam-grooves, with springs also mounted in said recesses engaging the backs of said extractors and pressing said extractors toward the axis of the breech-block, substantially as described.

23. In a breech-loading gun, the combination with a breech-block adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions and provided with a vertical face near its head with cam-grooves cut in said face, of an extractor-holder detachably connected to said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block and oppositely-disposed recesses in said extractor-holder, and extractors mounted to rock and to slide in said recesses and provided with lever-arms engaging in said cam-grooves, with springs also mounted in said recesses and secured to the backs of the extractors and to the extractor-holder, respectively, and pressing said extractors inward toward the axis of the breech-block, substantially as described.

24. In a breech-loading gun, the combinaton with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, and provided with a vertical face near its head with cam-grooves cut in said face, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith, and provided with oppositely-disposed recesses and inclined grooves, and with shoulders in the rear of said inclined grooves, extractors mounted in said recesses and having shanks sliding in said inclined grooves with lugs engaging said shoulders, and lever-arms engaging in said cam-grooves, substantially as described.

25. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions and provided with a vertical face near its head with cam-grooves cut in said face, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves, and shoulders in the rear of said inclined grooves, extractors mounted in said recesses and having shanks sliding in said inclined grooves with lugs engaging said shoulders, and lever-arms engaging in said cam-grooves, with springs interposed between the backs of said extractors, and said extractor-holder and pressing said extractors inward toward the axis of the breech-block, substantially as described.

26. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions and provided with a vertical face near its head with cam-grooves cut in said face, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves, and shoulders in rear of said inclined grooves, and extractors mounted in said recesses and having shanks sliding in said inclined grooves with lugs engaging said shoulders, and lever-arms engaging in said cam-grooves, with springs connected to the backs of the extractors and also to the extractor-holder and tending to retain said extractors in said holder and also to press said extractors toward the axis of the breech-block, substantially as described.

27. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, with cam-grooves in the front face of said tenons, of an extractor-holder recessed to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said breech-block, and oppositely-disposed extractors mounted to rock and to slide in said extractor-holder in front of said tenons and provided with lever-arms engaging in said cam-grooves, substantially as described.

28. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, with cam-grooves in the front face of said tenons, of an extractor-holder recessed to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said block, oppositely-disposed extractors mounted to rock and to slide in said extractor-holder in front of said tenons and provided with lever-arms engaging said cam-grooves, and springs engaging the backs of said extractors and pressing said extractors toward the axis of the breech-block, substantially as described.

29. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate through an angle to unlock and then to be moved longitudinally in reverse directions, with cam-grooves in the front face of said tenons, of an extractor-holder having recesses to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning with said block, oppositely-disposed extractors mounted to rock and to slide in said extractor-holder in front of said tenons and provided with lever-arms engaging said cam-grooves, and springs secured in the backs of the extractors and to the extractor-holder respectively, and pressing said extractors inward toward the axis of the breech-block, substantially as described.

30. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, with cam-grooves in the front face of said tenons, of an extractor-holder recessed to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves, in front of said tenons, of extractors mounted in said recesses, and having shanks engaging in said inclined gooves, and also having lever-arms engaging in said cam-grooves, substantially as described.

31. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, with cam-grooves in the front face of said tenons, of an extractor-holder recessed to register with said tenons and mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith, and provided with oppositely-disposed recesses and inclined grooves in front of said tenons, of extractors mounted in said recesses and having shanks engaging in said inclined grooves, and also having lever-arms engaging in said cam-grooves, with springs interposed between the backs of said extractors and said extractor-holder and pressing said extractors inward toward the axis of the breech-block, substantially as described.

32. In a breech-loading gun, the combination with a breech-block provided with tenons and adapted to rotate for locking and unlocking and to move longitudinally in reverse directions, with cam-grooves in the front face of said tenons, of an extractor-holder mounted on said breech-block, recessed to register with said tenons and moving longitudinally therewith, the said extractor-holder being provided with oppositely-disposed recesses and inclined grooves, in front of said tenons, and extractors mounted in said recesses and having shanks engaging in said inclined grooves and also having lever-arms engaging in said cam-grooves, with springs connected to the backs of the extractors and also to the extractor-holder and tending to retain said extractors in said holder and also to press said extractors toward the axis of the breech-block, and means secured to or integral with the gun-body for holding the extractor-holder from turning relative to the breech-block, substantially as described.

33. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions and provided with a vertical face near its head with cam-grooves therein, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith, and provided with oppositely-disposed recesses and inclined radial grooves and shoulders in the rear of said inclined grooves, and extractors mounted in said recesses and having claws with inclined front faces adapted to strike the rim of the cartridge-case, and shanks sliding in said inclined grooves with lugs engaging said shoulders, and with lever-arms engaging in said cam-grooves, substantially as described.

34. In a breech-loading gun, the combination with a breech-block adapted to rotate for locking and unlocking and to move longitudinally in reverse directions and provided with a vertical face near its head with cam-grooves therein, of an extractor-holder mounted on said breech-block and moving longitudinally therewith, means secured to or integral with the gun-body for holding the extractor-holder from turning therewith and provided with oppositely-disposed recesses and inclined grooves and shoulders in the rear of said inclined grooves, extractors mounted in said recesses and having claws with inclined front faces adapted to strike the rim of the cartridge-case, and shanks sliding in said inclined grooves with lugs engaging said shoulders, and with lever-arms engaging in said cam-grooves, and springs interposed between the backs of said extractors and said extractor-holder and pressing said extractors inward toward the axis of the breech-block, substantially as described.

35. In a breech-loading gun, the combination with a longitudinally-movable breech-block, of an extractor-holder detachably mounted on said breech-block and moving longitudinally therewith and provided with oppositely-disposed recesses and inclined grooves, of extractors mounted in said recesses and having shanks engaging in said inclined grooves, with springs interposed between the backs of said extractors and said extractor-holder and pressing said extractors inward toward the axis of the breech-block, substantially as described.

36. In a breech-loading gun, the combination with a longitudinally-movable breech-block, of an extractor-holder, comprising a ring with two blocks carried thereby, detachably connected to said breech-block and moving longitudinally therewith, with oppositely-disposed recesses in said extractor-holder, and extractors mounted in said recesses, substantially as described.

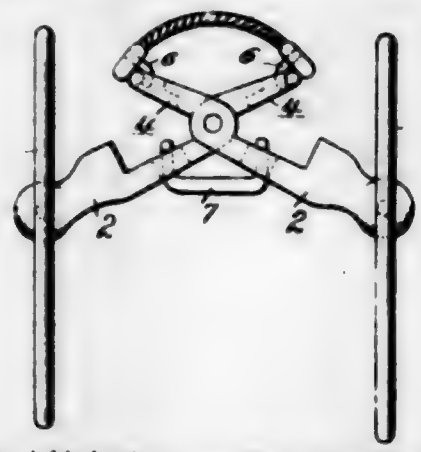
37. In a breech-loading gun, the combination with a longitudinally-movable breech-block, of an extractor-holder comprising a ring with two blocks carried thereby, detachably connected to said breech-block and moving longitudinally therewith, with oppositely-disposed recesses in said extractor-holder, and extractors mounted in said recesses, with springs also mounted in said recesses engaging the backs of said extractors and pressing said extractors toward the axis of the breech-block, substantially as described.

38. In a breech-loading gun, the combination with a longitudinally-movable breech-block, of an extractor-holder comprising a ring with two blocks carried thereby detachably connected to said breech-block and moving longitudinally therewith, with oppositely-disposed recesses in said extractor-holder, and extractors mounted in said recesses, with springs also mounted in said recesses and secured to the backs of the extractors and to the extractor-holder, respectively, and pressing said extractors inward toward the axis of the breech-block, substantially as described.

39. In a breech-loading gun, the combination with a longitudinally-movable breech-block, of an extractor-holder comprising a ring with two blocks carried thereby mounted on said breech-block and moving longitudinally therewith and provided with oppositely-disposed recesses and inclined grooves, and shoulders in rear of said inclined grooves, and extractors mounted in said recesses and having shanks sliding in said inclined grooves with lugs engaging said shoulders, substantially as described.

40. In a breech-loading gun, the combination with a longitudinally-movable breech-block, of an extractor-holder comprising a ring with two blocks carried thereby mounted on said breech-block and moving longitudinally therewith and provided with oppositely-disposed recesses and inclined grooves, and shoulders in rear of said inclined grooves, and extractors mounted in said recesses and having shanks sliding in said inclined grooves with lugs engaging said shoulders, with springs connected to the backs of the extractors and also to the extractor-holder and tending to retain said extractors in said holder and also to press said extractors toward the axis of the breech-block, substantially as described.

804,700. BIT. August L. Beyer, Hanover, Germany. Filed April 27, 1905. Serial No. 257,722.



Claim.—1. A bit having movably-connected sections mounted for turning movement, and a spring constituting a palate-pressing device, said spring being coöperative with said sections and the latter being movable to arch the spring.

2. A bit having jointed sections, and a spring constituting a palate-pressing device between and coöperative with the sections, arranged to be arched, to press against the palate of a horse when said bit is rocked.

3. A bit having jointed sections, each provided with an outwardly-extending arm, and a spring connected at its opposite ends with the arms and arranged to be arched upon the flexing of the bit.

4. A bit having jointed sections, a spring constituting a palate-pressing device connected with the sections and arranged to be arched when the bit is flexed, and a gag for the tongue or lower jaw, connected with said bit.

5. A bit having jointed sections, a spring constituting a palate-pressing device connecting the sections and arranged to be arched when the bit is flexed, and a gag for the tongue or lower jaw of a horse, movably connected with the sections of the bit and arranged to assume an operative position on such flexing.

6. A bit having jointed sections, each provided with an outwardly-extending arm, a spring connected at its opposite ends with the arms and arranged to be arched upon the flexing of the bit, said spring constituting a palate-pressing device, and a gag for the tongue or lower jaw of an animal, having arms at its opposite ends, the sections of the bit having longitudinal slots to receive said arms and for removably uniting the gag with the bit.

7. A bit having jointed sections, a spring between the jointed sections and arranged to be arched on the flexure of the bit, and a gag for the tongue or lower jaw of an animal, having arms at its opposite ends, the sections of the bit having longitudinal slots to receive said arms and for movably uniting the gag with the bit.

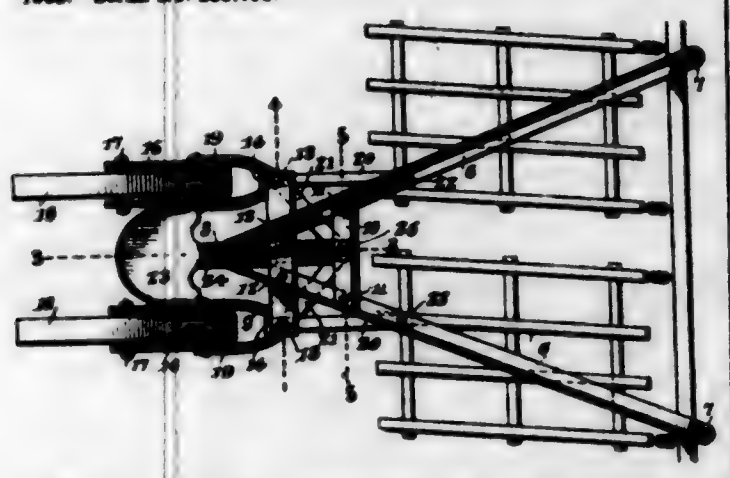
804,701. PNEUMATIC TIRE. Olin H. Brouse, Holt, Cal. Filed June 8, 1905. Serial No. 263,726.



Claim.—In a pneumatic tire, the combination of an outer tube, a plurality of independent inner tubes, a self-closing air-valve for each of said inner tubes, a self-closing main valve, a plurality of tubes leading from said main valve one of which is connected to each

of said first-named valves, each said tube being separably connected to the valve to which it leads.

804,702. RIDING ATTACHMENT FOR AGRICULTURAL IMPLEMENTS. NICKLAS H. BLOCH, Nashua, Iowa. Filed Apr. 15, 1905. Serial No. 255,796.



Claim.—1. In a riding attachment of the class described, the combination with reach-bars, of a cross-bar disposed transversely thereof, a seat having a standard extending across the cross-bar, and means for securing the standard to the cross-bar, said means also constituting connections between the cross and reach bars.

2. In a riding attachment of the class described, the combination with reach-bars, of a cross-bar disposed transversely thereof, a seat having a standard extending across the cross-bar, a clip for the standard, and bolts located on opposite sides of the standard for connecting the clip, the cross-bar, and reach-bars.

3. In a riding attachment of the class described, the combination with reach-bars, of cross-bars secured thereto, an upright journal-pin connected to one of the cross-bars, a brace connected to the pin and associated with the other cross-bar, a seat having a standard also associated with the latter cross-bar, and a fastening device connecting the cross-bar, the standard and the brace.

4. In a riding attachment of the class described, the combination with reach-bars, of front and rear cross-bars secured thereto, upright journal-pins connected to the ends of the rear cross-bar, braces connected to the journal-pins and having terminals associated with the front cross-bar between the reach-bars, a seat having a standard also associated with the front cross-bar, and fastening means passing through the front cross-bar, the standards, and the braces.

5. In a riding attachment of the class described, the combination with convergently-disposed reach-bars, of a rear cross-bar connected to the reach-bars and projecting beyond the outer sides thereof, a front cross-bar connecting the reach-bars in advance of the rear cross-bar, upright journal-pins having their upper ends connected to the ends of the rear cross-bar, ground-wheel supports journaled on the pins, convergently-disposed braces connected to the lower ends of the pins and having their front ends overlapped beneath the front cross-bar, a seat having a standard associated with the cross-bars, a fastening-bolt passing through the front cross-bar, the standard, and the overlapped braces, and forwardly-extending cross-bars connected to the lower ends of the pins and to the reach-bars.

6. In a riding attachment of the class described, the combination with convergently-disposed reach-bars having their ends joined, of spaced connections bridging the space between the bars in advance of the joined ends, a ground-wheel support attached to said spaced connections, and a seat having a standard secured to said connections.

7. In a riding attachment of the class described, the combination with convergently-disposed reach-bars having their rear ends joined, of spaced cross-bars bridging the space between the bars in advance of their joined ends, ground-wheel supports connected to the cross-bars, and a seat having a standard extending across the cross-bars between the reach-bars and secured thereto.

8. In a riding attachment of the class described, the combination with convergently-disposed reach-bars of angle-iron having their rear ends overlapped and secured together, of a rear cross-bar connecting the reach-bars in advance of their joined ends, journal-pins connected to the ends of the rear cross-bar, a front cross-bar located in advance of said rear cross-bar, braces connecting the journal-pins with the front cross-bar and with the reach-bars, a seat having a standard associated with the front and rear cross-bars between the reach-bars, and ground-wheel supports journaled on the pins.

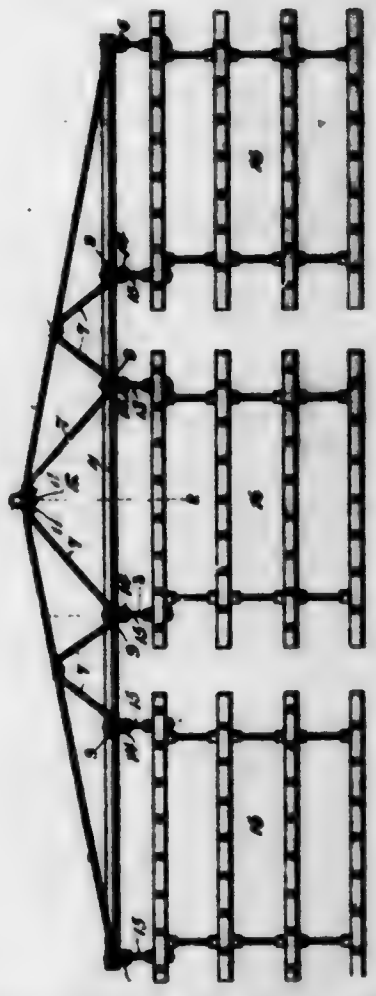
9. In a riding attachment of the class described, the combination with reach-bars, of front and rear cross-bars secured thereto, upright journal-pins connected to the ends of the rear cross-bar, braces connected to the journal-pins and having terminals associated with the front cross-bar between the reach-bars, and fastening means passing through the front cross-bar and the braces.

10. In a riding attachment of the class described, the combination with convergently-disposed reach-bars formed of angle-iron having their rear ends overlapped and joined, of connections bridging the space between the bars in advance of the joined ends, and a ground-wheel support attached to said connections.

11. In a riding attachment of the class described, the combination with convergently-disposed reach-bars formed of angle-iron having their inner and rear ends overlapped and joined, of a cross-bar bridging the space between the bars in advance of their joined ends, ground-wheel supports connected to the cross-bar, and means for securing the cross-bar to the reach-bars.

12. In a riding attachment of the class described, the combination with convergently-disposed reach-bars of angle-iron having their rear ends overlapped and secured together, of a rear cross-bar connecting the reach-bars in advance of their joined ends, journal-pins connected to the ends of the rear cross-bar, a front cross-bar located in advance of said rear cross-bar, braces connecting the journal-pins with the front cross-bar and with the reach-bars, and ground-wheel supports journaled on the pins.

804,703. DRAFT-BAR FOR AGRICULTURAL IMPLEMENTS. NICKLAS H. BLOCH, Nashua, Iowa. Filed June 7, 1905. Serial No. 264,114.



Claim.—1. A rigid draft-bar for agricultural implements and the like comprising an open inflexible trussed frame, means carried by one side for attaching an agricultural implement thereto, and a coupling device connected to the opposite side.

2. A rigid draft-bar for agricultural implements, comprising longitudinally-disposed bars extending substantially the length of the same and having portions spaced apart, a brace located between the spaced portions of the bars, and a device for connecting the brace to one bar, said device being separate from the other bar and constituting means for attaching a coupling to the bar.

3. A draft-bar for agricultural implements, comprising continuous longitudinally-disposed bars, both end portions of which are convergently disposed, braces located between the intermediate portions of said bars, means for connecting the braces to each bar independently of the other bar, and coupling means associated with the bars.

4. A draft-bar for agricultural implements, comprising longitudinally-disposed bars, each bar extending continuously substantially the length of the draft-bar, both end portions of said bars being convergently disposed, angularly-disposed braces located between the intermediate portions of said bars, devices for connecting the braces to each bar, said devices being respectively independent of the other bar, and coupling means associated with the bar.

5. A rigid draft-bar for agricultural implements, comprising continuous inflexible longitudinally-disposed bars, both end portions of said bars being convergently disposed, angularly-disposed braces located between the intermediate portions of said bars, devices for connecting the braces to each bar, said devices being respectively independent of the other bar, and coupling means connected to said devices.

6. In a draft-bar for agricultural implements, the combination with longitudinally-disposed bars, the end portions of which are convergently disposed, of angularly-disposed braces comprising a strip extending back and forth between the bars and separately connected to each, and coupling means associated with the draft-bar.

7. In a draft-bar for agricultural implements, the combination with a substantially straight bar, of a continuous, substantially rigid bent bar having its ends secured to the ends of the straight bar, braces connecting the intermediate portions of the bars, and coupling means associated with the straight bar.

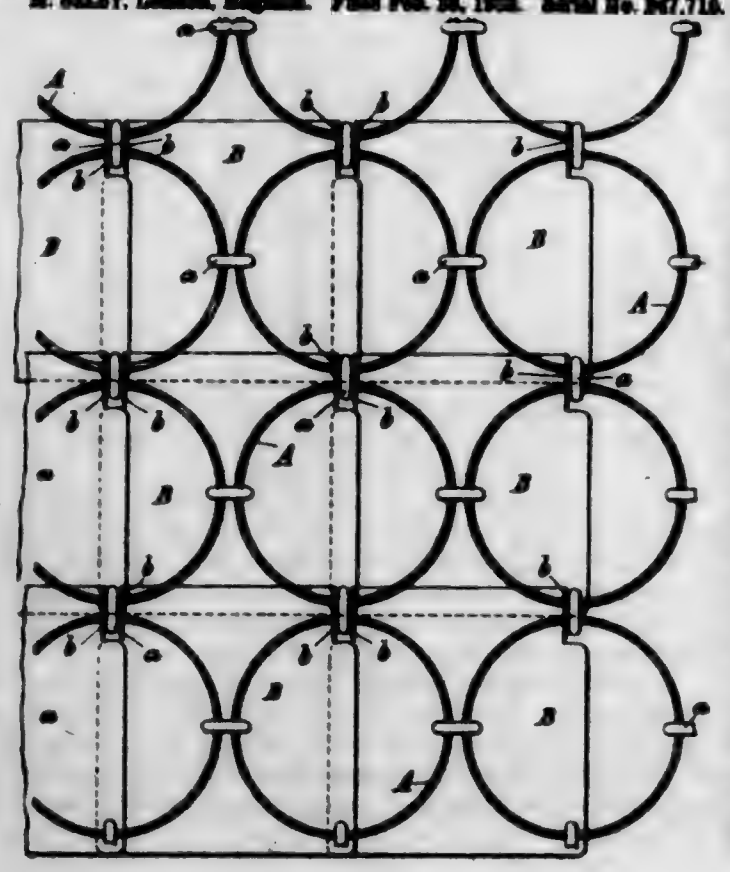
8. In a draft-bar for agricultural implements, the combination with a single inflexible longitudinal bar formed of angle-iron, of a single continuous bent bar having its ends secured to the ends of said longitudinal bar, angularly-disposed braces connecting intermediate portions of the bars, a coupling device connected to the bent bar, and means for attaching harrows to the longitudinal bar.

9. In a draft-bar for agricultural implements, the combination with a rear bar of angle-iron, of a front bar having its ends secured thereto, a plurality of braces comprising a strip extending back and forth between the bars and abutted against the inner sides of the same, separate devices for connecting the abutted portions to each bar independently of the other bar, and coupling elements connected to certain of said devices.

10. In a draft-bar for agricultural implements, the combination with a substantially straight bar of angle-iron, of a bent bar, eyebolts securing the ends of the bars together, angularly-disposed braces comprising a strip extending back and forth between the bars, eyebolts connecting the strip to the angle-iron bar, links connected to said eyebolts, and a coupling device connected centrally to the bent bar at one of the junctures of the brace-strip therewith.

11. In a draft-bar for agricultural implements, the combination with a single rigid longitudinal bar formed of angle-iron, of a single bent bar having both ends secured to the ends of said longitudinal bar, and angularly-disposed braces connecting intermediate portions of the bars, said braces being secured to both bars.

804,704. TORPEDO-NET. WILLIAM P. SULLIVANT and GEORGE H. SILEY, London, England. Filed Feb. 28, 1903. Serial No. 147,715.



Claim.—1. Torpedo-nets provided with protective armor covering the same, as and for the purpose set forth.

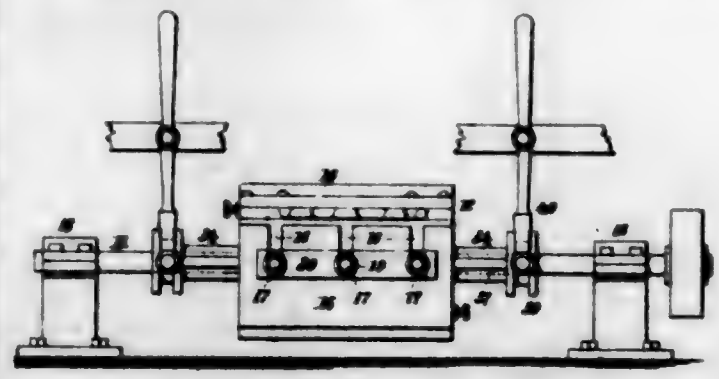
2. Torpedo-nets having plates or shields covering the same, substantially as and for the purpose hereinbefore explained.

3. Torpedo-nets provided with plates or shields, each having lugs, or eyes, through which pass two adjacent gromets of the net, substantially as and for the purpose hereinbefore explained.

4. Torpedo-nets provided with plates or shields, through which gromets of the net pass, the said plates or shields, overlapping each other near their edges, substantially as and for the purpose hereinbefore explained.

5. Torpedo-nets having protective plates covering the same, substantially as described, whereby the nets with the plates attached may be rolled up for storage.

804,705. CUTTER-HEAD FOR WOODWORKING-MACHINES. GEORGE W. CLARK and HARRY T. CLARK, New York, N. Y. Filed May 9, 1903. Serial No. 156,595.



Claim.—1. In a machine of the character described, a rotary cutter-head extending transversely over the bed of the machine and affording a tangential surface for the tool, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed, a cutting-tool applied to and extending lengthwise of said head and adapted to be adjusted tangentially thereon, means carried by said head for engaging and moving said tool and thereby adjusting the same, and means at the end of said head and carried thereby for effecting the movement of said adjusting means during the rotation of said head; substantially as set forth.

2. In a machine of the character described, a rotary cutter-head extending transversely over the bed of the machine and affording a tangential surface for the tool, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed, a cutting-tool applied to and extending lengthwise of said head and adapted to be adjusted tangentially thereon, longitudinally-sliding means carried by said head and engaging the inner edge of said tool for moving said tool and thereby adjusting the same, and means at the end of said head and carried thereby for effecting the movement of said sliding means; substantially as set forth.

3. In a machine of the character described, a rotary cutter-head extending transversely over the bed of the machine and affording a tangential surface for the tool, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed, a cutting-tool applied to and extending lengthwise of said head and adapted to be adjusted tangentially thereon, a slide carried by said head and engaging said tool and adapted when slid to move said tool outwardly or draw it inwardly, and a slidable sleeve on the shaft of said head and adapted to rotate with said head and having a connection with said slide, whereby the latter may be moved to adjust said tool; substantially as set forth.

4. In a machine of the character described, a rotary cutter-head extending transversely over the bed of the machine and affording a tangential surface for the tool, a transverse shaft carrying said head, means supporting said shaft at opposite sides of said bed, a cutting-tool applied to and extending lengthwise of said head and adapted to be adjusted tangentially thereon, a slide carried by said head and engaging said tool and adapted when slid to move said tool outwardly or draw it inwardly, a slidable sleeve on the shaft of said head and adapted to rotate with said head and having a connection with said slide, whereby the latter may be moved to adjust said tool, and a pivoted shipper-lever in engagement with said sleeve for sliding the same; substantially as set forth.

5. In a machine of the character described, a rotary cutter-head extending transversely over the bed of the machine and affording tangential surfaces for the tools, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed.

cutting-tools applied to and extending lengthwise of said head and adapted to be independently adjusted tangentially thereon, independent adjusting means carried by said head for independently adjusting said tools, and means at the opposite ends of said head and carried thereby and independently connected with said adjusting means, for effecting the independent adjustment of said tools; substantially as set forth.

6. In a machine of the character described, a rotary cutter-head extending transversely over the bed of the machine and affording tangential surfaces for the tools, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed, cutting-tools applied to and extending lengthwise of said head and adapted to be independently adjusted tangentially thereon, independent slides carried by said head for engaging and moving said tools respectively and thereby adjusting the same, and slidable sleeves on the shaft of said head and connected with the ends of the latter and independently connected with said slides for independently effecting the movement of the latter and the adjustment of said tools; substantially as set forth.

7. In a machine of the character described, a rotary cutter-head extending transversely over the bed of the machine and affording a tangential surface for the tool, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed, a cutting-tool applied to and extending lengthwise of said head and adapted to be adjusted tangentially thereon, said tool having an inclined inner edge, guides for the ends of said tool, a sliding block carried by said head and having an inclined edge in engagement with the inclined edge of said tool, and means connecting said tool and block so that the latter may positively control the outward and inward movement of said tool, combined with means for effecting the movement of said block; substantially as set forth.

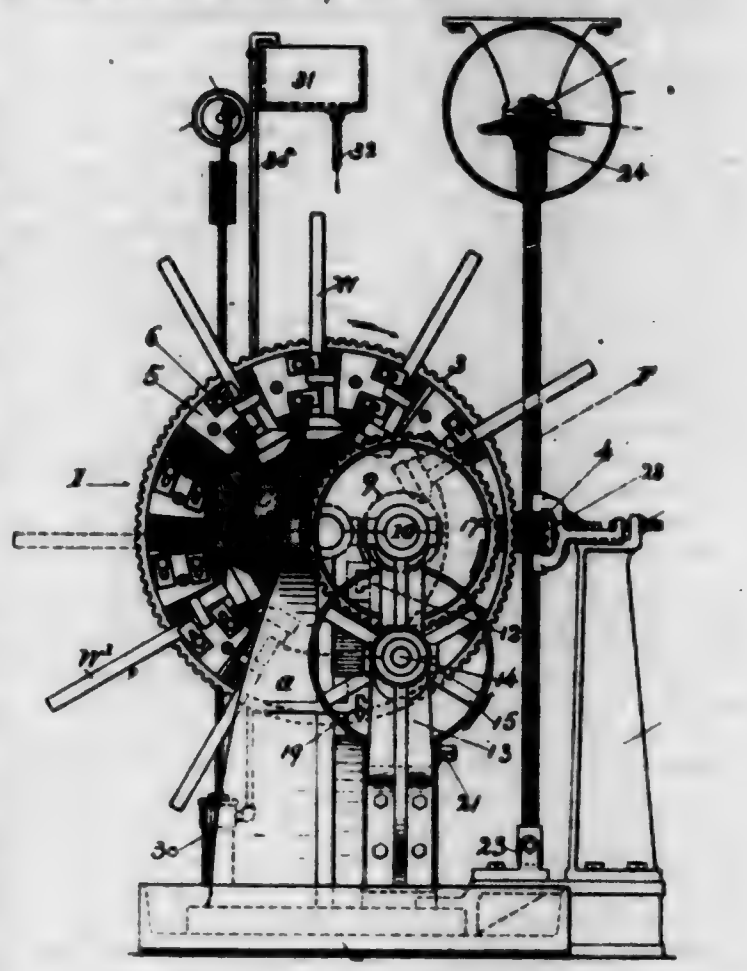
8. In a machine of the character described, a rotary cutter-head extending transversely over the bed of the machine and affording a tangential surface for the tool, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed, a cutting-tool applied to and extending lengthwise of said head and adapted to be adjusted tangentially thereon, said tool having an inclined inner edge, guides for the ends of said tool, a sliding block carried by said head and having an inclined edge in engagement with the inclined edge of said tool, and means connecting said tool and block so that the latter may positively control the outward and inward movement of said tool, combined with the slidable sleeve on said shaft and connected to rotate with said head and having a connection with said block for moving the latter; substantially as set forth.

9. In a machine of the character described, a rotary cutter-head extending transversely over the bed of the machine and affording a tangential surface for the tool, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed, a cutting-tool applied to and extending lengthwise of said head and adapted to be adjusted tangentially thereon, said tool having an inclined inner edge, guides for the ends of said tool, a sliding block carried by said head and having an inclined edge in engagement with the inclined edge of said tool, and means connecting said tool and block so that the latter may positively control the outward and inward movement of said tool, combined with the slidable sleeve on said shaft and connected to rotate with said head and having a connection with said block for moving the latter, and an adjustable stop for controlling the throw in one direction of said block; substantially as set forth.

10. In a machine of the character described, a rotary cutter-head of hollow-box form extending transversely over the bed of the machine and affording a tangential surface for the tool, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed, a cutting-tool applied to and extending lengthwise of the inner face of one side of said head and adapted to be adjusted tangentially thereon, sliding means carried by said head for engaging and moving said tool and thereby adjusting the same, and means at the end of said head and adapted to rotate therewith for effecting the movement of said sliding means; substantially as set forth.

11. In a machine of the character described, a rotary cutter-head of hollow-box form extending transversely over the bed of the machine, a transverse driving-shaft carrying said head, means supporting said shaft at opposite sides of said bed, cutting-tools applied to and extending lengthwise of the inner faces of two different sides of said head and adapted to be adjusted transversely thereon, independent slides carried by said head for engaging and moving said tools and thereby adjusting the same, and means at the opposite ends of said head and adapted to rotate therewith for effecting the movement of said slides; substantially as set forth.

804,708. CONTINUOUS MILLING-MACHINE. Lucius Cone, Worcester, Mass. Filed Jan. 30, 1905. Serial No. 243,231.



Claim.—1. In a milling-machine, the combination of a rotary carrier having a laterally-projecting annular rim, means upon the rim of said carrier for clamping and supporting wrench members with their heads projecting inward toward the central axis, and flatwise with the plane of the carrier-disk, and the oppositely-facing pair of milling-cutters disposed for operation within the circle of the carrier-rim, arranged to simultaneously mill off the opposite sides of said wrench members, as set forth.

2. In a milling-machine, a rotary carrier consisting of a disk wheel having an annular rim extending parallel with the axis and on both sides of the disk, and provided with means for holding a series of wrenches or the like, upon each of its lateral faces; in combination with an independently-operated set of milling-cutters for each series of wrench-holding means.

3. In a machine for the purpose specified, a dual-faced carrier-wheel consisting of a centrally-axled disk having oppositely-projecting rims parallel with the axis, with annular rim-faces on both sides of the disk, means upon each rim-face of said wheel for supporting and clamping a series of wrench-bars, or similar articles, a plurality of sets of independently-operated milling-cutters, and cutter-supporting arbors respectively disposed at the opposite sides of said carrier-wheel, the cutters spaced apart and the inner one of each set disposed within the plane of the carrier-rim, means for rotating said milling-cutters, and means for revolving said carrier.

4. In a continuous milling-machine, a rotary work-supporting carrier comprising a single disk wheel centrally mounted upon axles that project at its opposite sides, and provided upon each of its two faces with work-supporting annulus-sections, and means for holding and releasing the work thereon; in combination, with right and left operating milling-cutters arranged to operate in pairs at the respective sides of said carrier and positioned between the inner circle of said annulus-sections and the carrier-axles in alinement with said work-holding devices.

5. A milling-machine comprising, in combination as described, the upright main-frame stands, with the right and left rigidly-extended bearing-arms, the laterally-adjustable bearing-heads mounted on said stands in line with said arms, a rotatable carrier-disk having a lateral annular-faced rim on each side thereof, and a central peripheral gear-flange, said carrier-disk mounted between the upright stands with its axial shaft journaled in bearings thereon, the removable annulus-segments, provided with work-supporting seats and

clamping devices, detachably secured upon said rim-faces, right and left milling-arbors and parallel operating-shafts, respectively journaled in bearings on said arms and on said bearing-heads, milling-cutters supported upon the ends of the arbors adjacent to the carrier-disk rims, a drive-pulley on each operating-shaft, intermeshing gears connecting the respective operating-shafts and arbors, and the feed-shaft and worm-screw for rotating said carrier-disk.

6. In a milling-machine of the character described, the combination with a rotary carrier-wheel having the annular T-grooved seating-surfaces on the sides of its rim; of removable annulus-segments seated thereon and provided with ribs that engage the groove, and detachably secured to said carrier, said segments being provided with matrices for receiving and supporting wrench members or the like, and means for temporarily clamping the same in position thereon; said annulus-segments being interchangeable for adapting the carrier to work of varied sizes and shapes.

7. In a continuous milling-machine, the combination, of a rotary carrier having a laterally-overhanging rim, means upon the side of the rim for receiving wrench member or the like, rotatable milling-cutters disposed within the inner circle of the carrier-rim, an arbor for said milling-cutters, supporting-bearings therefor, and means for effecting lateral adjustment of the arbor and milling-cutters in relation to the plane of the carrier.

8. In a continuous milling-machine, the combination as described, of the rotary carrier having a laterally-overhanging rim, its axial shaft, the upright supporting-frames therefor having the lateral arm 13 and grooved seat-faces 18, means, substantially as shown, upon the side of the carrier-rim for receiving and holding wrench members or the like, the rotatable milling-cutters disposed for operating at the inner circle of the carrier-rim, an arbor for said milling-cutters, an operating-shaft parallel therewith, said cutter-arbor and operating-shaft having their outer ends supported on the lateral arm 13, connecting-gears on said arbor and shaft, the bearing-head 12 provided with bearings for the inner ends of both the arbor and operating-shaft, means confining the arbor and shaft endwise in said bearings, said bearing-head adjustably mounted on said seat-faces on the carrier-supporting frame and movable toward and from the carrier-disk, means for effecting adjustment of said bearing-head, and means for rigidly securing the same at adjusted positions.

9. In a machine of the character described, in combination with the rotatable carrier having the annular grooved rim-face; the annular segment work-supporting plates provided with a succession of radially-disposed work-holding devices, each comprising a flatwise seat and angle for seating a wrench-bar thereon, a cavity for the wrench-jaw strap, a guard pin or lug adjacent to the end of the seat, adjustable slotted clamp-pieces adapted to rest upon the outer face of the bar, each having a clamp-screw passing through its slot and threaded into the plate, substantially as set forth.

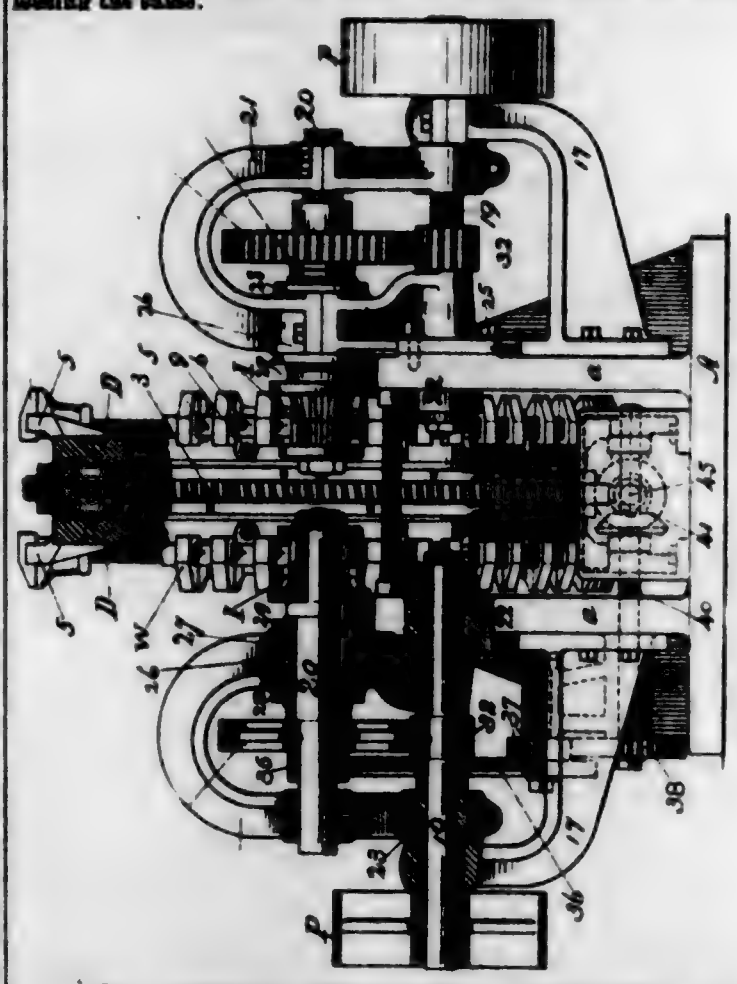
10. In a milling-machine of the character described, the combination with the rotary work-supporting carrier having a peripheral worm-gear, and the upright feed-shaft provided with a worm-screw meshing with said worm-gear, as shown; of the back standard 27 rigidly fixed to the base and having the brace-bearing 28 adjustably supported on the upper part of said standard and resting against said feed-shaft adjacent to the worm-screw; and means 29 for regulating said bearing, substantially as set forth.

804,707. CONTINUOUS MILLING-MACHINE. Louise Coss, Worcester, Mass. Filed Feb. 20, 1905. Serial No. 246,522.

Claim.—1. A continuous milling-machine, comprising in combination, a revoluble carrier-disk provided upon each of its opposite faces with means for supporting thereon a series of wrench-bars with their heads outwardly projecting, right and left gangs of milling-cutters respectively in the path of the movement of and arranged to trim the tops and opposite ends of the heads of said supported series of wrench-bars, a rotating arbor for each gang of cutters, rearwardly-swinging adjusting-frames having said arbors mounted in bearings thereon, means for securing said frames at position of adjustment, operating shafts and gearing for rotating said cutter-arbors, and means for revolving said carrier to advance the wrench-heads to and past said milling-cutters.

2. In a continuous milling-machine, having a revoluble carrier, the removable segments or vise-plates provided with work-holding devices comprising rigid projecting abutment members and radially-movable wedge-pieces intermediate to said abutment members, and means for adjusting said wedge-pieces.

3. In combination with the rotary carrier, a work-holding vise-plate provided with a plurality of rigid radially-disposed jaw-blocks or abutments, radially-movable wedge members respectively positioned intermediate to and in alternation with said abutments, and means for adjusting said wedge members inward and outward for clamping work between the wedge and abutment faces, and for releasing the same.



4. In a continuous milling-machine, a work-holding means comprising a plurality of rigid jaw-blocks or abutments having lateral work-seating surfaces, an endwise-movable quoin or wedge member disposed intermediate to and having work-holding faces positioned in alternate opposite relation to said abutments, guide devices for said wedge member, and an adjusting-screw arranged for operating the movable quoin or wedge member for simultaneously clamping a pair of wrenches or articles against the adjacent opposite abutments.

5. In a continuous milling-machine of the character described, the combination, with the rotary carrier-disk, of removable work-holding segment-plates provided with a plurality of radial projecting jaws or abutments, and intermediate endwise-movable wedge members positioned in alternate relation therewith, radial guideways for said wedge members, and screws for effecting movement of the wedge members; said segment-plates provided with intervening flat seating-surfaces for receiving the back of the wrench-bar, recesses to accommodate the wrench-jaw strap; and means for gaging the position of the wrench in relation to the circle of the carrier.

6. In a milling-machine for the purpose specified, in combination with the main frame, the revoluble carrier mounted in bearings thereon, the milling-cutters, cutter-arbor, and operating-shaft; of an outwardly-swinging yoke-frame having the cutter-arbor bearings thereon, said yoke-frame journaled axially concentric with the operating-shaft, and, in conjunction with the main frame, provided with countermatching surfaces, curved slots, and releasable fastening devices within said curved slots, for securing said yoke-frame with the cutter-arbor at position of adjustment.

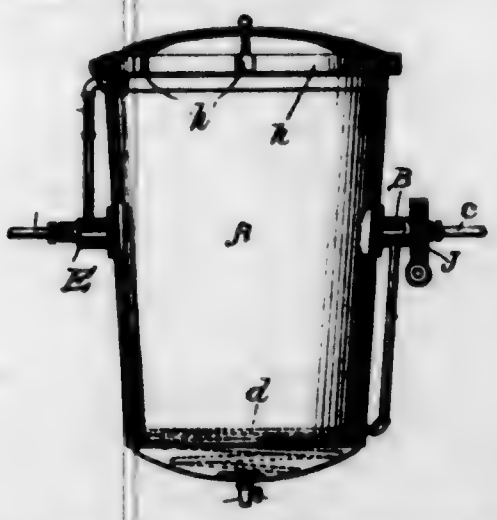
7. In a continuous milling-machine, the combination, of a revoluble carrier provided with means for holding, transversely supported, a series of wrench-head members, a group of milling-cutters comprising a cylindrical cutter, a beveled cutter, and two oppositely-flanking disk-shaped cutters adjacently disposed for simultaneously milling the top and both end surfaces of a wrench-head, a rotatable arbor supporting said cutters, a swing-frame carrying the cutter-arbor parallel with the carrier-axis, means for adjusting the swing-frame toward and from the periphery of the carrier, and means substantially as described for adjusting the position of the cutter-supporting arbor endwise in relation to the carrier.

8. A machine for the purpose specified, comprising a pair of upright frames, a revoluble carrier-wheel intermediate thereto, its axles or shaft supported in bearings on said uprights, laterally-extending bearing-frames at the right and left of said uprights, operating-shafts mounted therein, a pair of rearwardly-swinging yoke-frames, a cut-

ter-arbor journaled in each yoke-frame, milling-cutters mounted on said arbors in alinement with the respective planes of the carrier-faces; a drive-wheel on each operating-shaft, intermeshing gears connecting the respective drive-shafts and cutter-arbors, and a train of gear mechanism adapted for revolving the carrier in conjunction with one of the cutter-operating shafts.

9. In a machine of the character specified, the combination as described, with the revoluble peripherally-geared carrier disk-wheel having work-holding devices thereon adapted for securing, in successive order, a series of wrench members or the like, and the feed-shaft 45, and worm-screw 43 for actuating said carrier; of the yoke-frame 21 having fulcrum-journals supported in bearings on the stationary main frame, the cutter-arbor 20 journaled on said yoke-frame, the milling-cutters on said arbor, the operating-shaft 19 coincident with the yoke fulcrum-journals, a pinion 32 and gear 33 connecting said operating-shaft and cutter-arbor, a pinion 35 fixed on said arbor, a gear 36 meshing therewith and running loose on said operating-shaft, the cross-shaft 40, gears 41 connecting the cross-shaft and feed-shaft, and the gear-train 37 and 38 from said loose gear to said cross-shaft, substantially as set forth.

804,708. **STILL.** FRANK B. COLE, Newnan, Ga. Filed Oct. 31, 1904. Serial No. 230,836.



Claim.—1. The combination with a revoluble still supported by transversely-disposed hollow trunnions, having closed inner ends, affixed to said still at their closed ends, of means for introducing a heated fluid to said still and means for discharging same, comprising communicating pipes between said hollow trunnions and said still, an inlet-pipe communicating with one of said hollow trunnions, and an outlet-pipe communicating with the other of said hollow trunnions.

2. The combination with a revoluble still supported by transversely-disposed hollow trunnions, having closed inner ends, affixed to said still at their closed ends, of means for introducing a heated fluid to said still and means for discharging same, comprising a communicating pipe leading from one of said hollow trunnions to the bottom of said still, and a second pipe communicating between the other of said hollow trunnions and the top of said still, an inlet-pipe communicating with one of said hollow trunnions, and an outlet-pipe communicating with the other of said hollow trunnions.

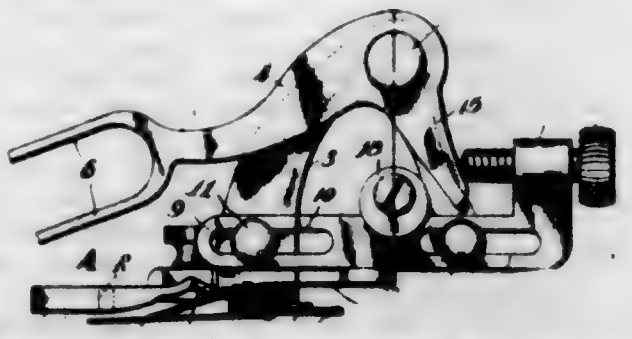
3. The combination with a revoluble still supported by transversely-disposed hollow trunnions, having closed inner ends, affixed to said still at their closed ends, of means for introducing a heated fluid to said still and means for discharging same, comprising a pipe communicating between one of said hollow trunnions and the bottom of said still, means located within said still connected to the lower end of said pipe for evenly distributing said fluid at the bottom of said still, a pipe communicating between the top of said still and the other said hollow trunnion, an inlet-pipe communicating with one of said hollow trunnions, and an outlet-pipe communicating with the other of said hollow trunnions.

4. The combination with a revoluble still supported by transversely-disposed hollow trunnions, having closed inner ends, affixed to said still at their closed ends, of means for introducing a heated fluid to said still and means for discharging same, comprising communicating pipes between said hollow trunnions and said still, means for tilting said still in a vertical plane, an inlet-pipe communicating with one of said hollow trunnions, and an outlet-pipe communicating with the other of said hollow trunnions.

5. The combination with a revoluble still supported by transversely-disposed hollow trunnions, having closed inner ends, affixed to said still at their closed ends, of means for introducing a heated fluid to said still and means for discharging same, comprising communicating pipes between said hollow trunnions and said still, means for tilting said still in a vertical plane comprising a worm-wheel and worm operatively associated with one of said trunnions, an inlet-pipe communicating with one of said hollow trunnions, and an outlet-pipe communicating with the other of said hollow trunnions.

6. The combination with a still provided with transversely-disposed hollow trunnions, for tilting the still in a vertical plane, said trunnions having closed inner ends and affixed to said still at their closed ends, of a detachable cover therefor, provided with an annular recess adapted to receive the upper edge of the still, a gasket of suitable packing material within said recess, means for securing said cover to said still, comprising a plurality of lugs, disposed circumferentially around said cover and a plurality of yokes pivoted to said still and adapted to engage and interlock with said lugs, means for introducing a heated fluid to the contents of the still, comprising an inlet-pipe communicating with one of said trunnion-bearings and a second pipe communicating between said trunnion and the lower end of the still, means for carrying off the products of distillation, comprising a pipe communicating between the top of the still and the other of said trunnion-bearings and an eduction-pipe for said second bearing, and means for rotating said still on its horizontal axis.

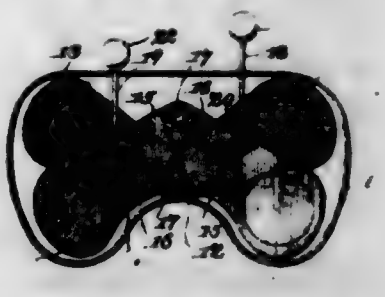
804,709. **RUFFLING ATTACHMENT FOR SEWING-MACHINES.** PERRY G. DAVIS, Davenport, Iowa. Filed Feb. 28, 1905. Serial No. 247,743.



Claim.—1. In a ruffler, the combination with a main body portion, of a concavo-convex transversely-slotted portion formed integral with the main body portion, a ruffling-blade, a stationary separator-plate, and means for adjustably securing the ruffler to the machine.

2. In a ruffler, the combination with a main body portion, and means for securing the same to a machine, of an upright member, a longitudinally-recessed slide-plate mounted upon the upright, a ruffler-blade carried by the slide-plate, a separator-plate beneath the ruffler-blade, upstanding lugs mounted on the slide-plate and spaced apart from each other, adjustable members secured to each of the lugs, and a bell-crank lever, one end of which intervenes between the adjustable members and alternately engages the same.

804,710. **HOODWINK.** RENCEO DE MOULIN and ULYSSES S. DE MOULIN, Greenville, Ill. Filed June 19, 1905. Serial No. 265,963.



Claim.—1. A hoodwink comprising a casing, two pairs of shutters pivoted therein, the terminals of one of the shutters of each pair being provided with an arcuate slot, and the like terminal of each of the other shutters being provided with means to engage the slots.

2. A hoodwink embodying a casing, pairs of shutters mounted for pivotal movement therein, means for imparting simultaneous movement to the shutters of a pair, friction means for holding one pair of shutters in inoperative position while the other pair is in use, and means for holding the shutters out of contact with the inner walls of the casing.

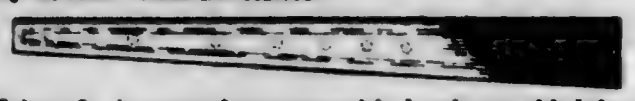
3. A hoodwink embodying a casing, the two members of which are provided with inward-projecting bosses, pintles secured in one

of the house, two pairs of shutters mounted upon the pintles, springs carried by the pintles and interposed between the shutters, and means for actuating the shutters.

4. A hoodwink comprising a casing, two pairs of shutters arranged therein, one of each pair being provided with an arcuate slot and the other of each pair being provided with a projection to engage the slot, friction devices disposed between the shutters, and a rod connecting with one of each pair of shutters and projecting beyond the casing.

5. A hoodwink comprising a casing, a pair of shutters pivoted therein, the terminal of one of the shutters being provided with an arcuate slot, and the like terminal of the other shutter being provided with means to engage the slot, and means for actuating the shutters.

804,711. FENCE-POST. JAMES M. ELDER and ANDREW W. HELM, Indianapolis, Ind., said Helm assignor to said Elder. Filed May 27, 1905. Serial No. 262,702.



Claim.—1. A cement fence-post, with chambers molded therein, and bolts having their securing-nuts in said chambers.

2. A cement fence-post, with chambers molded therein, retainers arranged in said chambers and means, adapted to engage said retainers, for securing an object to the post.

3. A cement fence-post, with chambers molded therein, retainers arranged in said chambers, and bolts adapted to engage said retainers.

4. A cement fence-post, with chambers molded therein, nuts arranged in said chambers, and bolts adapted to engage said nuts.

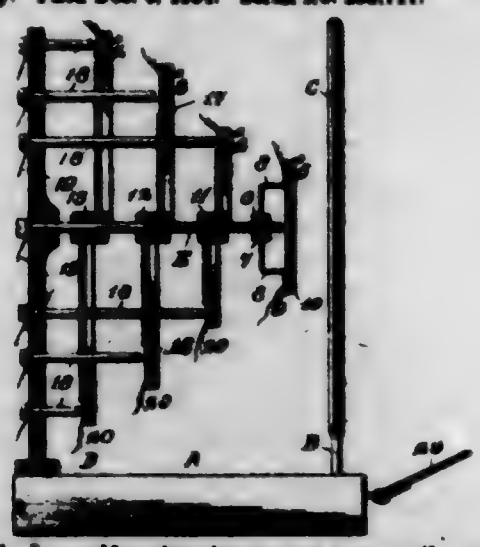
5. A cement fence-post, a retainer and a cap molded in said post and forming a chamber therein, and means, adapted to engage said retainer, for securing an object to the post.

6. A cement fence-post, a nut and a cap molded in said post and forming a chamber therein, and a bolt adapted to engage said nut.

7. A cement fence-post, a retainer and a cap molded in said post and forming a chamber therein, said post having a passage leading from said chamber to its outer face, and means adapted to extend through said passage and engage said retainer, for securing an object to the post.

8. A cement fence-post, a retainer and a cap molded in said post and forming a chamber therein, said post having a passage with diverging walls leading from said chamber to its outer face, and means, adapted to extend through said passage and engage said retainer, for securing an object to the post.

804,712. SELF-REGISTERING TARGET. MARK ST. CLAIR HELM, U. S. Navy. Filed Dec. 6, 1904. Serial No. 236,717.



Claim.—1. In a self-registering target, a normally open electric circuit carrying a suitable register, a support provided with a horizontally-disposed rod projecting therefrom, a series of plates in circuit corresponding to target-divisions mounted at intervals on said rod, one or more of said plates formed of a plurality of sections, and means in circuit against which each of said sections abut to close the circuit and operate said register when a hit is made, substantially as described.

2. In a self-registering target, a normally open electric circuit carrying a suitable register, a support provided with a horizontally-disposed rod projecting therefrom, a series of plates in circuit corresponding to target-divisions mounted at intervals on said rod, one or more of said plates formed of a plurality of sections, the alternate sections of each of such plates lying in different planes, and means in circuit against which each of said sections abut to close the circuit and operate said register when a hit is made, substantially as described.

3. In a self-registering target, a normally open electric circuit carrying a suitable register, a support provided with a horizontally-disposed rod projecting therefrom, a series of plates in circuit corresponding to target-divisions mounted at intervals on said rod, and means in circuit against which said plates abut to close the circuit and operate said register when a hit is made, substantially as described.

4. In a self-registering target, a normally open electric circuit carrying a suitable register, a support provided with a horizontally-disposed rod projecting therefrom, a series of plates in circuit corresponding to target-divisions yieldingly mounted at intervals on said rod, and rods in circuit projecting from said support to the rear of said plates, at least one rod for each, against which said plates abut to close the circuit and operate said register when a hit is made, substantially as described.

5. In a self-registering target, a normally open electric circuit carrying a suitable register, a support provided with a horizontally-disposed rod projecting therefrom, a series of plates in circuit corresponding to target-divisions mounted at intervals on said rod having a rigid central connection therewith and body portions capable of being flexed backwardly, and means in circuit against which said plates are flexed closing the circuit and operating the register when a hit is made, substantially as described.

6. In a self-registering target, a normally open electric circuit carrying a suitable register, a support provided with a horizontally-disposed rod projecting therefrom, a plurality of hubs mounted at intervals on said rod, a plurality of radially-arranged springs set in each of said hubs, a target-plate in circuit for each hub secured to the extremities of its springs, and means in circuit projecting from said support against which said plates abut to close the circuit and operate said register when a hit is made, substantially as described.

7. In a self-registering target, a normally open electric circuit carrying a suitable register, a support provided with a horizontally-disposed rod projecting therefrom, a series of radially-arranged springs mounted at intervals on said rod, a series of plates in circuit corresponding to target-divisions secured to said springs, and means in circuit against which said plates abut to close the circuit and operate said register when a hit is made, substantially as described.

8. In a self-registering target, a normally open electric circuit carrying a suitable register, a support provided with a horizontally-disposed rod projecting therefrom, a series of radially-arranged springs mounted at intervals on said rod, a series of plates in circuit corresponding to target-divisions secured to said springs, one or more of said plates formed of a plurality of sections, and means in circuit against which each of said sections abut to close the circuit and operate said register when a hit is made, substantially as described.

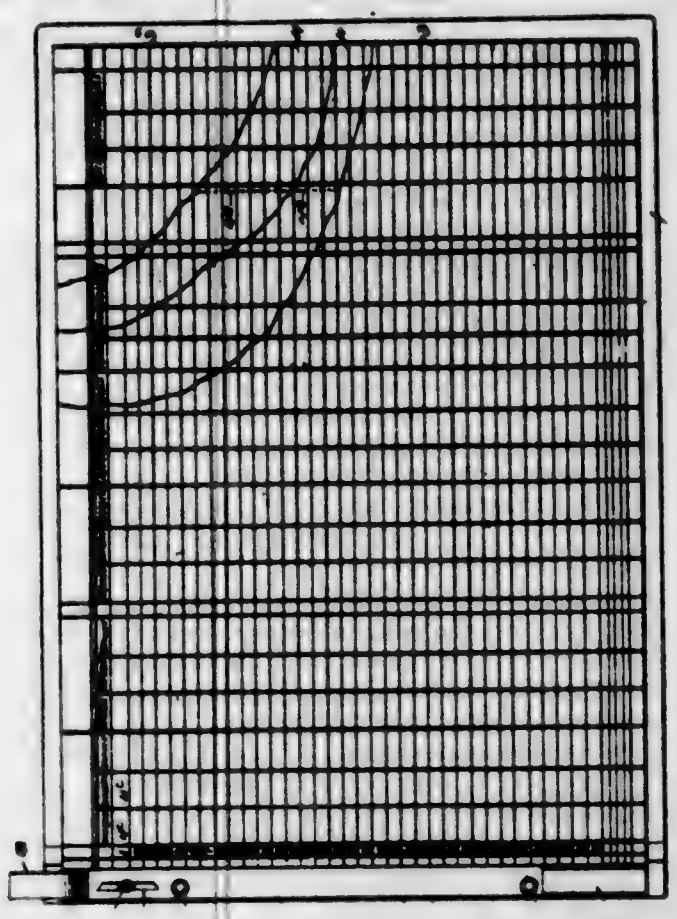
9. In a self-registering target, a normally open electric circuit carrying a suitable register, a support provided with a horizontally-disposed rod projecting therefrom, a series of radially-arranged springs mounted at intervals on said rod, a series of plates in circuit corresponding to target-divisions secured to said springs, one or more of said plates formed of a plurality of sections, the alternate sections of each of such plates lying in different planes, and means in circuit against which each of said sections abut to close the circuit and operate said register when a hit is made, substantially as described.

804,713. LOOSE-LEAF INDIVIDUAL OR GENERAL BANK-LEDGER. MARCUS P. EXLINE and EDMUND BOUAIN, Dallas, Tex. Filed July 26, 1904. Serial No. 218,395.

Claim.—1. In a device of the character described, the combination of a plurality of removable groups, each group comprising a removable primary and auxiliary sheet, binding means for securing said sheets together, comprising two angular members, one of said members provided with pronged extensions stamped from the body portion thereof, and the other member provided with means to engage said prongs.

2. In a device of the character described, the combination with a back, of binding means carried by said back, comprising approximately L-shaped, overlapping members, a primary and an auxiliary transversely-perforated sheet secured between said members, prongs for securing said sheets and members in an adjusted position, and means for sealing the ends of the prongs.

3. A binding device, comprising overlapping members, one of said members provided with pronged extensions stamped from the body portion thereof, and the other member provided with means to engage said prongs, and means for covering and sealing the ends of said prongs.



4. A binding device, comprising overlapping, angular metallic strips, prongs carried by one of said strips, and the other strip provided with means to engage said prongs for retaining said strips in a fixed position, and means for sealing the ends of said prongs.

5. A binding device, comprising overlapping, angular strips, a pronged device carried by one of said strips, and projecting through the other strip, the ends of said pronged device being bent back upon the strip through which the prongs extend.

804,714. REPEATING DEVICE FOR PHONOGRAPHS. ELMER FLETCHER, Indianapolis, Ind. Filed Nov. 11, 1904. Serial No. 232,312.

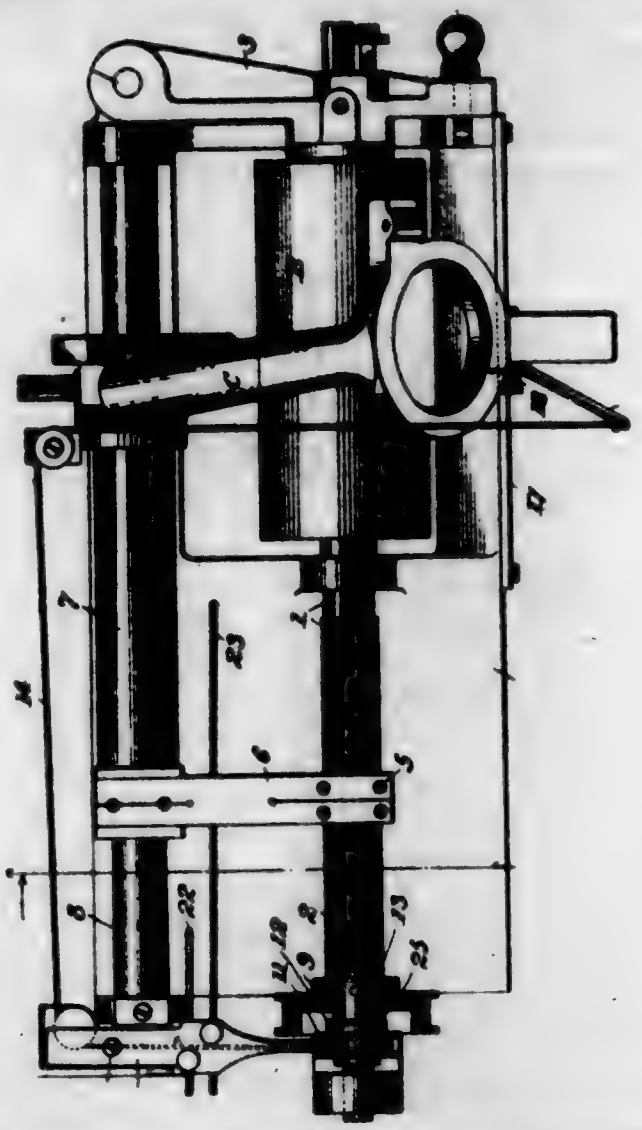
Claim.—1. In a phonograph, the combination with a reproducer and recorder, of means for driving said reproducer and recorder, and connecting means between said driving means and said reproducer and recorder such that the driving effort tends to more securely connect said reproducer and recorder with said driving means, substantially as described.

2. In a phonograph, the combination with a reproducer and recorder, of means for driving said reproducer and recorder, projections connected to said driving means, and projections connected to said reproducer and recorder and overlapping the projections connected to said driving means, the whole being so constructed and arranged that the driving effort tends to increase the overlapping of said projections, substantially as described.

3. In a phonograph, the combination with a reproducer and recorder, of means for driving said reproducer and recorder, wedge-shaped projections connected to said reproducer and recorder, wedge-shaped projections connected to said driving means, and means for causing said projections to overlap each other near the end of the travel of said reproducer and recorder, substantially as described.

4. In a phonograph, the combination with a reproducer and recorder, of a worm engaging with said reproducer and recorder, means for driving said worm, laterally-wedge-shaped projections connected to said worm, laterally-wedge-shaped projections connected to said reproducer and recorder, and means for disengaging said reproducer and recorder from said worm and causing the overlapping of the wedge-shaped edges of said projections near the end of travel of said reproducer and recorder, substantially as described.

5. In a phonograph, the combination with a reproducer and recorder, of means for driving said reproducer and recorder, wedge-shaped projections connected to said driving means and said reproducer and recorder, and a slot in one of said projections whereby the projection engaging therewith may pass outwardly to disengage said reproducer and recorder from said driving means, substantially as described.

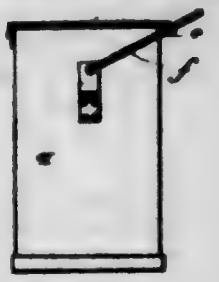


6. In an attachment for reversing the movement of a reproducer on a phonograph, a feed-shaft and record-mounting drum, means for rotating the said shaft, a carriage movably mounted and in close proximity to the record and provided with a reproducer, rotatable means movably mounted on the feed-shaft, shift means pivotally mounted and adapted to engage the rotatable means on the feed-shaft, and means on the carriage for contacting the shift means so that the rotatable means on the feed-shaft may be longitudinally moved on the latter.

7. In an attachment for reversing the movement of a reproducer on a phonograph, a feed-shaft and record-mounting drum, means for rotating the shaft, a carriage movably mounted in close proximity to the record and provided with a reproducer, a collar rotatably and movably mounted on the feed-shaft, shift means pivotally mounted and engaging the collar, and means on the carriage for engaging the shift means, so that the collar may be longitudinally moved on the feed-shaft.

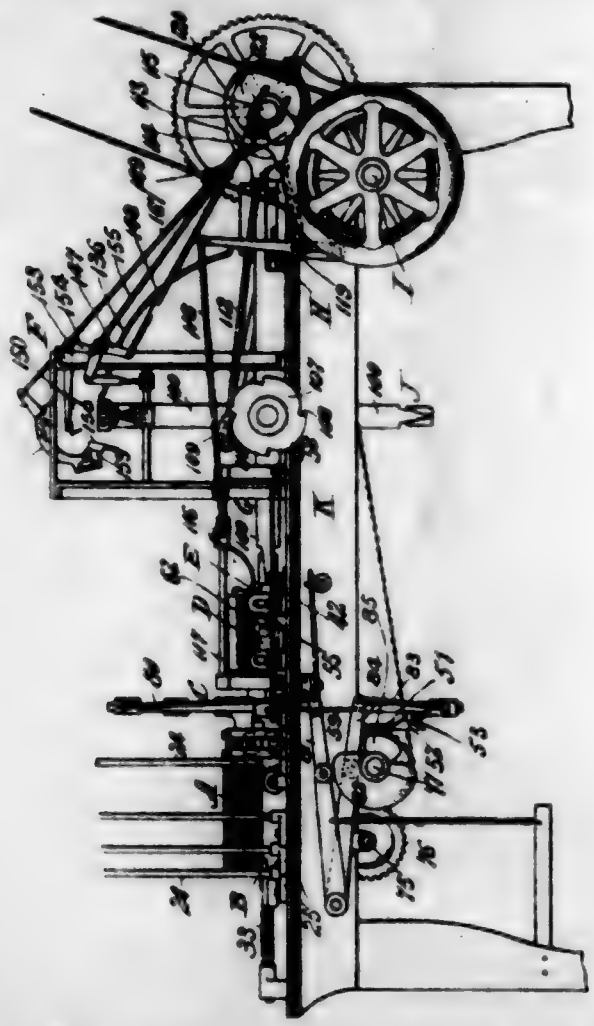
8. In an attachment for reversing the movement of a reproducer on a phonograph, a feed-shaft and record-mounting drum, means for rotating the said shaft, a carriage movably mounted in close proximity to the record and provided with a reproducer, a collar rotatably and movably mounted on the feed-shaft and provided with circumferentially-disposed grooves, shift means pivotally mounted and engaging the grooves in the collar, and means on the carriage for engaging the shift means and operating to move the collar longitudinally on the feed-shaft.

804,715. REFUSE-BUCKET. HERMANN PRÜSSE, Hamme, near Bochum, Germany. Filed Feb. 3, 1904. Serial No. 191,839.



Claim.—A bucket having a cover hinged thereon, hooks secured to the upper side of the cover near each side edge thereof and projecting beyond the front of the bucket, and a pivoted wire bail bent inwardly near its pivotal points to provide portions engaging said hooks.

804,716. MACHINE FOR OPENING UP AND END-CLOSING KNOCKDOWN CARTONS. CHAUNCEY W. GAY, West Springfield, Mass. Filed Oct. 28, 1903. Serial No. 178,301.



Claim.—1. In a machine of the character described, the combination with means for opening up a flattened carton into tubular form, of means for feeding the carton to the opening-up means, and a device located between the feeding means and the opening means for applying gum to the rear end portion of the carton brought in relation to the said opening means.

2. In a machine of the character described, the combination with an opening-up device for a flattened carton, and a gummer device located adjacent and to the rear of the opening-up device, said gumming device being operable previous to the actuation of the opening-up device.

3. In a machine of the character described, the combination with devices for opening up a flattened carton, of parts reciprocating toward and from each other, and having upon the closing together thereof, contact upon the opposite side of the flattened carton, and means for applying gum upon the face of one of said reciprocatory parts.

4. In a machine of the character described, the combination with a device for opening up a flattened carton, of two reciprocatory gummers operating toward and away from the level of the flat carton, means for supplying gum upon said gummers, and means for imparting approaching and separating movements thereto whereby one gummer recedes from the other while the other still remains stationary for the purpose set forth.

5. In a machine of the character described, the combination with a device for opening up a flattened carton to tubular form, of means for feeding the flattened carton to the opening-up device, a device for forwardly jogging and evening the flattened carton in relation to the opening-up device and a gage against which the forward end of the carton is pushed by the evening device, having its location corresponding to the forward end and toward one longitudinal edge of the carton.

6. In a machine of the character described, a device for opening up a flattened carton, means for feeding the carton thereto, and a device operative against the carton for evening it with relation to the properly longitudinal disposition of its opposite edges.

7. In a machine of the character described, the combination in an opening-up device therein for a flattened carton, of a stationary carton-margin support and carton-edge abutment, of a part movable and operative relatively to the opposite edge of the carton comprising a member for supporting the marginal portion of the carton, and a member to have a bearing engagement against the adjacent edge of the carton, means for imparting an inward motion to said marginal-supporting and edge-engaging device and for withdrawing the same, a member tiltably mounted to have a following motion relatively to the opening carton, and means for imparting thereto a reciprocatory swinging movement.

8. In a machine of the character described, in combination, a device for opening up a flattened carton, comprising a bottom marginal support and an edge abutment, means for supporting the opposite edge portion of the carton, a device for edgewise pressing, at such latter edge portion of the carton, thereagainst, in a transverse direction, a tiltable follower operable at the edge portion of the carton, and a gummer for gumming the rear end portion of the carton.

9. In a machine of the character described, the combination with a device for opening up a flattened carton, of means for feeding the flattened carton thereto, a device for forwardly jogging and evening the flattened carton, a device for transversely forcing and evening the carton, and means for gumming the rear end portion of the flattened carton.

10. In a machine of the character described, the combination in an opening-up device therein for a flattened carton, of a stationary support for one edge portion of the carton, and an adjacent edge abutment, of a movable part operative relatively to the opposite edge of the carton comprising a member for supporting the marginal portion of the carton, and a member to have a bearing engagement against the edge of the carton, means for imparting an inward movement of said edge supporting and engaging device and for withdrawing the same, means for feeding the flat carton to the aforesaid devices, and means for applying gum upon a rear end portion of the carton.

11. In a machine of the character described, the combination in an opening-up device therein, for a flattened carton, of a carton-edge-supporting ledge 43, having a rear abutment-wall provided with the forwardly-extending lug 102, of a part operative relatively to the opposite edge of the carton comprising a member for supporting the marginal portion of the carton, and a member to have a bearing engagement against the adjacent edge of the carton, means for imparting an inward movement of said front edge marginal supporting and edge engaging device and for withdrawing the same, and a member tiltably mounted to have a following motion relatively to the opening carton, and means for imparting thereto a reciprocatory swinging movement.

12. In a machine of the character described, the combination with a carton margin support and edge abutment, of an oppositely-disposed approximately horizontal member 44, having an upstanding edge lug 99, and tiltably mounted and adapted to be swung into a vertical plane, means for imparting the reciprocatory tilting movements to said member 44, and means for feeding cartons in juxtaposition to said marginal support and tiltable device.

13. In a machine of the character described, the combination with a carton margin support and edge abutment, of the device 55 comprising carton-margin support 55^b and edge abutment 55^a together with means for imparting transverse reciprocatory movements to said device, and the tiltable member 44, having a position under and corresponding to the carton margin, and provided with the upstanding lug 99, together with means for imparting the tilting reciprocatory movements to said member 44 for the purposes set forth.

14. In an opening-up device for cartons, in combination, a carton-margin-supporting ledge having an upstanding abutment comprising a wall with a notch in the angle between the ledge and rising wall, an opposite edge support for the carton, and means for imparting a transverse pressure, edgewise against a carton on said ledge and opposite support.

15. In a machine of the character described, in combination, a longitudinal marginal support and edge abutment, and an opposite marginal support, for a longitudinally-creased flattened carton, means for feeding the carton thereto, parts located behind said carton-supports, and having opposed reciprocatory movements perpendicular to the plane of feed of the carton, one or both thereof having gummers for the end portion of the carton, a device carried by one of said reciprocatory parts, and arranged for a distorting pressure against the carton between its longitudinal edges, and means for imparting pressure transversely against one of the longitudinal edges of the carton.

16. In a machine of the character described, in a carton opening-up device, a part comprising a longitudinal marginal support and edge abutment for the carton, means constituting an opposite longitudinal marginal carton-support, members, bearing along longitudinal lines at opposite sides of the carton and at locations offset from each other, and intermediate between the longitudinal margins of the carton, which are operative to distort the latter from its plane form, means for imparting approaching and receding motions of said members toward and from the opposite surfaces of the carton, and a reciprocatory device operative to exert a transverse forcing pressure edgewise against the carton.

17. In a machine of the character described, a part comprising a longitudinal marginal support and edge abutment for the carton, means constituting an opposite longitudinal marginal support, members bearing along longitudinal lines at opposite sides of the carton and at locations offset from each other, and intermediate the longitudinal margins of the carton, operative to distort the latter from its plane form, means for imparting approaching and receding motions of said members toward and from the opposite surfaces of the carton, a reciprocatory device operative to exert edgewise a transverse forcing pressure against the carton and a part for following the edge wall of the opening carton having a swinging motion, and means for imparting such swinging motion thereto.

18. In a machine of the character described, in combination, a longitudinal marginal support and edge abutment, and an opposite marginal support, for the carton, a normally approximately horizontal tiltable follower device having a longitudinal rib adapted to engage the under side of the carton, a reciprocatory gummer, operable on the upper rear end portion of the carton and having a forward longitudinally-ranging member adapted to bear along an intermediate portion of the carton at its upper side on a line offset from the bearing of the aforesaid rib, a device for exerting a pressure at an edge of the carton in a transverse direction, and means respectively for operating the latter device and for operating the tiltable follower.

19. In a machine of the character described, in combination, a longitudinal marginal support and edge abutment, and an opposite marginal support for the carton, a normally approximately horizontal tiltable follower device having longitudinal upstanding rib adapted to engage the under side of the carton, a reciprocatory gummer, operable on the upper rear end portion of the carton and carrying two longitudinally-ranging members 47 and 48 adapted to bear along on intermediate portions of the carton at its upper side on a line onset from the bearing-line of the aforesaid rib, a device for exerting a pressure at an edge of the carton in a transverse direction, and means respectively for operating the latter device, and for operating the tiltable follower.

20. In a machine of the character described, means for feeding longitudinally-creased and flattened cartons, in combination with a carton-support, means operable against the carton for cross-sectionally distorting it and retirable therefrom, and means for imparting an edgewise pressure against the carton concurrently with the retirement of the carton-distorting means.

21. In a machine of the character described, means for feeding longitudinally-creased and flattened cartons, in combination with a carton-support, means operable against the carton for cross-sectionally distorting it and retirable therefrom, a gummer operable against an end portion of the carton, and retirable therefrom, and means for imparting an edgewise pressure against the carton concurrently with the retirement of the carton-distorting and the gumming means.

22. In a machine of the character described, means for feeding longitudinally-creased and flattened cartons, in combination with a carton-support comprising a side wall, means operable against the carton for cross-sectionally distorting it and retirable therefrom, means for imparting an edgewise pressure against the carton concurrently with the retirement of the carton-distorting means and a tiltable member for exerting pressure transversely inwardly against the partially-opened carton, and means for swinging said tilting member from an approximately horizontal position into an upright position parallel with the said rear side wall.

23. In a machine of the character described, the combination with devices for opening up a flattened carton, and means for feeding the carton thereto, of oppositely operative gummers movable toward and from each other, each serving as a platen for the other and means for supplying gum upon one or both of said gummers.

24. In a machine of the character described, the combination with a carton-support, and means for feeding a flat carton thereto, of upper and lower reciprocatory parts, one of which has a gumming-face and the other thereof serving as a support against which the gum-face part works, a gum-box, a gum-supplying roll mounted for a quadrantal movement from the gum-box across the gumming-face and return, and means for imparting the reciprocatory quadrantal movement to gum-supplying roll.

25. In a machine of the character described, the combination with a support for a flattened carton, and means for feeding flattened cartons successively thereto, of gummers C and C^3 movable for reciprocatory movements toward and from each other at opposite sides of the carton, respectively provided gumming-boxes and upper and lower gum-rolls, arranged for quadrantal reciprocatory movements across the faces of the gummers, having at the extremes of their movements, gum-taking relations to the gum-boxes, one of said gum-supplying rolls being longer than the other and means for imparting the reciprocatory movements to the gumming-rolls.

26. In a machine of the character described, a form and carrier-arm for a tubular carton having its end constructed with inclines, and blocks or sections having inclined surfaces engaging the inclines of the arm and adapted through longitudinal movements of said sections, to have expanded and contracted relations, in combination with a block longitudinally movable internally of the arm and a plurality of spring members connected to said block and also to the several end-constituting sections.

27. In a machine of the character described, a form and carrier-arm for a tubular carton having its end constructed with inclines, and mounted for a revoluble movement, blocks or sections having incline surfaces engaging the inclines at the end of the arm and adapted through longitudinal movements thereof, to have spreading and approaching relations, a block longitudinally movable in the arm having an outwardly-projecting stud, a plurality of spring members connecting said block and said end sections means for imparting the revoluble movement to the carrier-arm and a cam-surfaced part adjacent the path of movement of the arm with which the said stud coacts.

28. In a machine of the character described, the carrier-arm 100 constructed hollow, having inclined edged fingers at its end and a slot through its side wall, the plurality of blocks having right-angularly-formed outer surfaces, and inclined inner faces engaging the edges of said fingers, a block endwise movable within the hollow arm provided with a stud projecting through said slot, and the plurality of spring-rods connecting the latter block with the several first-named blocks.

29. In a machine of the character described, the carrier-arm 100 constructed hollow, having inclined edged fingers at its end and a slot through its side wall, the plurality of blocks having right-angularly-formed outer surfaces, and inclined inner faces engaging the edges of said fingers, a block endwise movable within the hollow arm provided with a stud projecting through said slot, and the plurality of spring-rods connecting the latter block with the several first-named blocks, in combination with means for imparting a movement bodily to said arm and a cam-bar, with which said stud coöperates in the movement of the arm.

30. In a machine of the character described, the carrier-arm 100 constructed hollow, having inclined edged fingers at its end and a slot through its side wall, the plurality of blocks having right-angularly-formed outer surfaces, and inclined inner faces engaging the edges of said fingers, a block endwise movable within the hollow arm provided with a stud projecting through said slot, and the plurality of spring-rods connecting the latter block with the several first-named blocks, in combination with carton and inturning members, and means for operating them, and a pressure member and means for imparting reciprocatory movements thereto, means for imparting intermittently-revoluble movements of the carrier-arm whereby, it travels to location adjacent and proceeds beyond said inturning members, and said pressure members, a cam with which the aforesaid stud coacts in the approach of the arm to the inturning members, and another cam with which said stud coacts in the passage of the arm away from the said pressure members, for the purposes set forth.

31. In a machine of the character described, the combination with means for supporting a flattened carton of upper and lower gummers, vertical guides on which the gummers are movable toward and from each other, cams, cam-levers and thrust-rods appurtenant respectively to the upper and lower gummers, for the purpose described.

32. In a machine of the character described, the combination with upper and lower gummers, vertically movable toward and away from each other, and means for imparting their movements thereto, of two horizontally-arranged gum-supplying rolls, a carrier on which both are supported, pivotally mounted for a partial revoluble movement back and forth, across the faces of the gummers, a crank-arm provided to said support, a slide with which the crank-arm is en-

gaged, and means for imparting reciprocatory movements to said slide.

33. In a machine of the character described, the combination with upper and lower gummers, vertically movable toward and away from each other, and means for imparting their movements thereto, of two horizontally-arranged gum-supplying rolls, a carrier on which both are supported, pivotally mounted for a partial revoluble movement back and forth, across the faces of the gummers, a crank-arm provided to said support, a slide with which the crank-arm is engaged, a thrust-rod connected to said slide, and a cam coacting with the thrust-rod.

34. In a machine of the character described, the combination with upper and lower gummers vertically movable toward and away from each other, cams, cam-levers and thrust-rods appurtenant respectively to the upper and lower gummers, of two gum-supplying rolls horizontally arranged and having a pivotally-mounted carrier therefor provided with a crank-arm, a slide with which the crank-arm is engaged and means for imparting its reciprocatory movements thereto.

35. In a machine of the character described, the combination with means for supporting a flattened carton, means for feeding the carton forwardly onto said support, a gummer operable upon an end portion of the carton, being capable of a reciprocatory movement, a lug 53 provided on a part of the gummer device, means for reciprocating the gummer, a lever intermediately pivotally mounted and having a pusher or jogger member 49, to forwardly adjust the carton, and said lever having a cam-incline 52 with which the aforesaid lug 53 coöperates.

36. In a machine of the character described, the combination with a carton-support and means for feeding a carton thereto comprising upper and lower feed-rolls 36 and 37 one of which has a peripheral groove, of an intermediately-pivoted upright lever 51 having the cam-incline 52, and the transverse horizontal extension 50, provided with the upwardly-extending pusher member, and a reciprocatory part carrying the lug 53 which coacts with the cam-incline.

37. In a machine of the character described, the combination with a supporting-ledge 43, an opposite edge carton-supporting device, and a tiltable follower member 44, a rock-shaft on which said member is fixed, having a crank-arm, a slidable rod linked to said crank-arm, a cam-actuated lever connected to said rod, and a retracting-spring for the rod.

38. In a machine of the character described, the combination with a rear edge-supporting ledge 43, and a device 55 comprising a bar having a supporting-step 55^b and an abutment member 55^a for operation edgewise relatively to a carton as explained, of a pivotally-mounted lever 57, a bar having a cam-surface 59 and a reciprocatory support on which said bar is mounted and positioned relatively to the said lever.

39. In a machine of the character described, opening-up devices for a flattened carton comprising in combination, the rearwardly-located ledge 43 having upright extension with a horizontal upper lug 102, the device 55 having the step 55^b and the abutment 55^a, a horizontally-swinging lever on which the device 55 is mounted, a cam imparting reciprocatory movement to said lever, the tiltable member 44 having angularly-turned end portion 99, a rock-shaft on which said member is mounted, having a crank-arm, a slide-rod 94, having a connection with said crank-arm, and means for imparting reciprocatory movements to said slide-rod.

40. In a machine of the character described, the combination with the intermittently-operable revoluble carrier-arm, of oppositely-arranged carton-flap-inturning devices, and means for actuating them, a lever having a spreader comprising members arranged inclined to each other and means for reciprocating the lever.

41. In a machine of the character described, the combination with a revoluble carrier-arm 100 of a swinging member having a lug 144, and having a secondary member 140 hinged thereto, and provided with a lug and with flap-inturning fingers 145, and a screw adjustably engaged through one of said lugs and having a limiting-abutment against the other.

42. In a machine of the character described, in combination a support for a supply of flattened cartons, a support onto which the cartons are to be fed in succession, feeding means, means for adjusting the carton fed, means for gumming rear end portions of the carton, means for distorting the carton from its normal cross-sectional line, means for imparting edgewise pressure against the carton, a tiltable follower operable against the upturning edge portion of the carton, a revoluble intermittently-operable carrier-arm and form for the opened-up carton, a device for pushing the opened-up carton to telescope about said arm, and carton-flap-inturning devices to which said arm transfers the carton, and means for actuating said devices.

43. In a machine of the character described, the combination with supporting and forwardly-feeding means for flattened cartons and interposed protective sheets, of means operable to withdraw the protection-sheet from its surface-contact against the carton.

44. In a machine of the character described, the combination with a support for a supply-pile of flattened cartons and interposed protective sheets of forwardly-feeding devices for the cartons, and a roll having a position for frictionally bearing on the protective sheet next to each carton being fed, and means for imparting a rotation to said roll whereby it feeds said sheet in a backward direction, and reversely of the direction of feed of the carton.

804,717. **STUD FOR EYEGLASSES.** CHARLES GOODWIN, East Providence, R. I. Filed June 8, 1905. Serial No. 264,264.



Claim.—1. In a stud for eyeglasses, the combination with a stem and a box portion attached thereto, of a wing-piece integral with the box portion and bent within the box.

2. In an eyeglass-stud, comprising a box to receive the nose-guard and bow-spring and an attaching-screw, the combination with the box, of a wing-piece connected to the box and arranged to receive the pressure of the attaching-screw.

3. In an eyeglass-stud, the combination with a box adapted to receive the bow-spring and nose-guard, and having an opening to receive the head of a screw, of a wing-piece attached at one edge to the box and having a hole smaller than the head of the screw.

4. In an eyeglass-stud, the combination with a box and a stem attached thereto, of a screw passing through said box into said stem, and a yielding wing-piece inclosed in said box and arranged to be compressed by said screw.

804,718. **PROCESS FOR CHAMOISING FUR SKINS.** ROBERT GOTTWALD, Goldberg, Germany, assignor to Adolf Heim, Ring, Brieg, Silesia, Germany. Filed June 30, 1905. Serial No. 265,757.

Claim.—A process of preparing washable fur skins, consisting in treating the skins with alum, soaking them in a sour-bran preparation mixed with copper sulfate, and finally subjecting them to chamois-tanning, substantially as herein set forth.

804,719. **THILL-COUPLING.** BENJAMIN F. HALDEMAN, Pittsburg, Pa. Filed Mar. 18, 1905. Serial No. 250,709.



Claim.—1. A coupling of the character described, comprising a body portion adapted to be secured to a bolster, depending pierced lugs adapted to receive the end of a spring and horizontally-extending pierced lugs adapted to receive the end of a shaft.

2. A coupling of the character described, comprising a body portion having flanges on its upper sides, adapted to embrace the sides of a bolster and having holes for the passage of bolts therethrough, said body portion being formed with integral, depending, pierced lugs, said lugs being adapted to embrace the end of a spring and to receive a bolt by means of which the spring is attached to the lugs, and said body being formed with integral forwardly-extending pierced lugs adapted to embrace the end of a shaft and to receive a bolt for the attachment of said shaft.
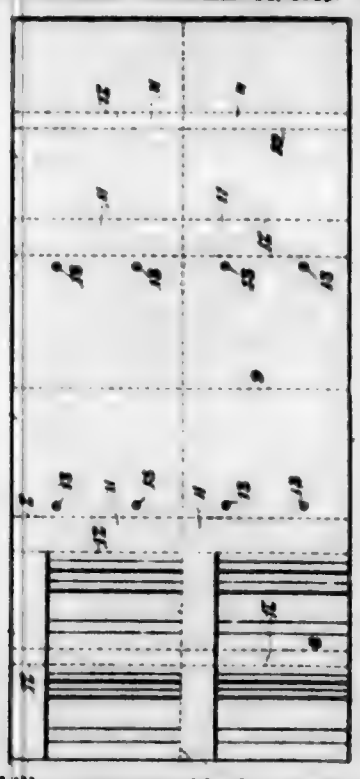
3. A coupling of the character described, comprising a body portion adapted to be secured to the lower side of the bolster, said body portion being formed with pierced depending lugs and with pierced horizontally-extending lugs, said lugs being adapted respectively for the attachment of a spring and of a shaft to said body portion.

4. A coupling of the character described, comprising a body portion adapted to be attached to the body of a bolster and depending pierced lugs carried by said body portion and adapted to em-

brace the ends of a spring and to receive a bolt for holding said spring in position therebetween, said body portion being of concave form between said lugs.

5. In a coupling of the character described, the combination with a bolster, of a body portion having apertures formed therein, flanges carried by said body portion and adapted to engage said bolster, shaft-shackle lugs carried by said body portion, spring-shackle lugs carried by said body portion, said body portion having a concavity formed therein between the last-named lugs, substantially as described.

804,720. BILL OR STATEMENT BLANK. HIRAM J. HALLE, New York, N. Y., assignor to Elliott-Fisher Company, New York, N.Y., a Corporation of Delaware. Filed Mar. 14, 1905. Serial No. 250,089.



Claim.—1. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, and narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof.

2. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof, and weakening-lines dividing one of the leaves into separable sections.

3. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof, and weakening-lines dividing certain of said leaves into separable sections.

4. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof, and weakening-lines dividing each of the several leaves into separable sections.

5. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof, and a weakening-line extending across one of the primary leaves to produce a comparatively narrow balance-strip extending transversely of the blank.

6. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof, weakening-lines extending along the lines of the folds, and other weakening-lines formed in the primary leaves parallel with the folds and adjacent thereto to define comparatively narrow balance-strips disposed transversely of the blank and separable from both the primary leaves and the record-leaf along the weakening-lines.

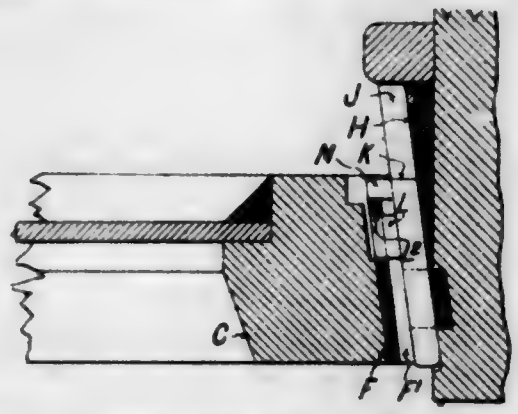
7. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof, weakening-lines extending along the folds to facilitate the separation of the leaves, and other weakening-lines extending transversely across the blank and dividing each leaf into separable sections.

8. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof, weakening-lines extending along each of the folds to facilitate the separation of the leaves, and a weakening-line extending longitudinally of the blank and dividing each of the several leaves into separable sections.

9. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof, a weakening-line extending longitudinally of the blank to separate each leaf into separable sections, and other weakening-lines extending across the primary leaves parallel with and adjacent to the folds to produce a comparatively narrow separable balance-strip at the inner edge of each section of the respective primary leaves.

10. A bill or statement blank, comprising a record-leaf having binding-holes extending along its opposite edges to produce opposite binding-margins, narrower primary leaves folded in opposite directions upon the record-leaf from the outer edges of the binding-margins thereof, weakening-lines extending along the folds to facilitate the separation of the leaves, another weakening-line extending longitudinally of the blank to separate each leaf into separable sections, other weakening-lines extending transversely across the blank to subdivide each section of each leaf into subsections, other weakening-lines extending parallel with and adjacent to those weakening-lines which divide the sections of the primary leaves into subsections, to provide the outer subsections of said primary leaves with comparatively narrow balance-strips extending along the inner edges of said outer subsections, and other weakening-lines extending across the blank parallel with and adjacent to the folds to provide comparatively narrow balance-strips extending along the inner edges of the inner subsections of the primary leaves.

804,721. FITTING FOR WINDOWS AND THE LIKE. WILLIAM L. HAMILTON, Glasgow, Scotland. Filed July 26, 1905. Serial No. 271,257.



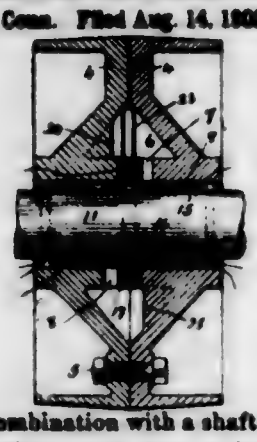
Claim.—1. A fitting consisting of means located at the outer swinging end of the window-sash and of a device to which the window-cord is attached, the means and device being constructed to couple one with the other, in combination with a sliding bolt fitted in an inclined guide formed in the device adapted to be automatically drawn into or withdrawn from engagement with a receiving-socket on the window-framework for the purposes set forth.

2. A fitting consisting of a face-plate fixed at the outer swinging end of the window-sash and a slipper to which the window-cord is attached, the face-plate and slipper being constructed to couple one with the other, in combination with a sliding bolt, fitted in an inclined guide formed in the slipper, adapted to be automatically drawn into or withdrawn from engagement with a receiving-socket fixed upon the window-framework in the manner substantially as and for the purposes set forth.

3. A fitting consisting of a face-plate formed with recesses fixed at the outer swinging end of the window-sash and a slipper to which the window-cord is attached, the face-plate and slipper being constructed to couple one with the other, in combination with a sliding

bolt having projecting studs fitted in an inclined guide formed in the slipper adapted to be automatically drawn into or withdrawn from engagement with a receiving-socket fixed upon the window-framework in the manner substantially as and for the purposes set forth.

804,722. LUBRICATOR FOR LOOSE PULLEYS. LOUIS C. HOBART, Southington, Conn. Filed Aug. 14, 1905. Serial No. 274,171.



Claim.—1. The combination with a shaft, of a pulley formed in two parts recessed at their inner faces to form a chamber, and to provide a space for a ring, a ring located between said parts and secured to said shaft, bushings surrounding the shaft and closely fitting the interior of the pulley on opposite sides of the ring, there being a passage from said chamber through said ring to the surface of the shaft, grooves and channels in the bushings, and passages from the chamber to said channels, substantially as described.

2. The combination with a shaft having longitudinal grooves, of a pulley formed in two parts, recessed at their inner faces to form a chamber to provide a space for a ring, a ring located between said parts and secured to said shaft, bushings surrounding the shaft and closely fitting the interior of the pulley on opposite sides of the ring, there being a passage from said chamber through said ring to the surface of the shaft, grooves and channels in the bushings, and passages from the chamber to said channels, substantially as described.

3. The combination with a shaft, of a pulley formed in two parts recessed at their inner faces to form a chamber, and to provide a space for a ring, a ring located between said parts and secured to said shaft, there being wings in said chamber, bushings surrounding the shaft and closely fitting the interior of the pulley on opposite sides of the ring, there being a passage from said chamber through said ring to the surface of the shaft, grooves and channels in the bushings, and passages from the chamber to said channels, substantially as described

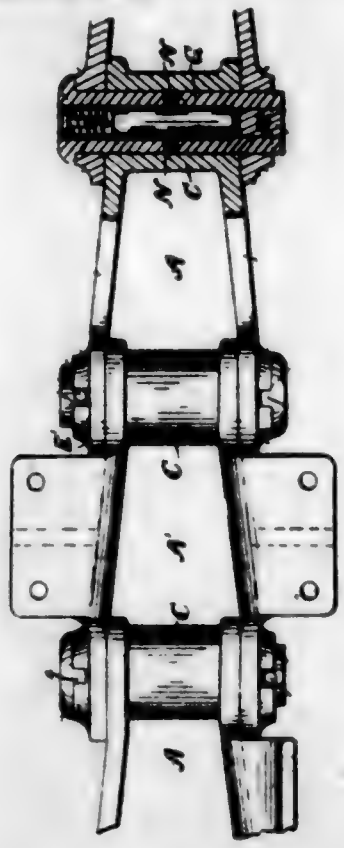
4. The combination with a shaft, of a pulley formed in two parts recessed at their inner faces to form a chamber and to provide space for a ring, a ring located between said parts and secured to said shaft, a curved tube inserted into and secured to said ring, bushings surrounding the shaft and closely fitting the interior of the pulley on opposite sides of the ring, there being a passage from said chamber through said ring to the surface of the shaft, grooves and channels in the bushings, and passages from the chamber to said channels, substantially as described.

804,723. CHAIN. GEORGE C. HORST, Columbus, Ohio, assignor to Joseph A. Jeffrey, Columbus, Ohio. Filed Mar. 5, 1903. Serial No. 146,317.

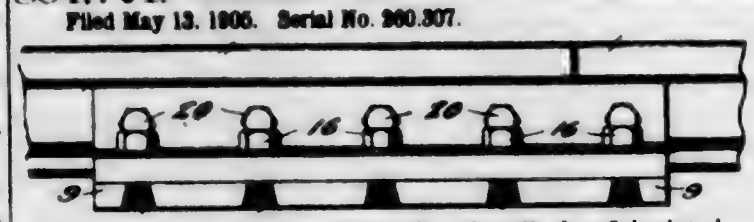
Claim.—1. In a chain, the combination with the side bars and tubular end bar of a pintle having a central aperture extending longitudinally through it, closed to form an oil-chamber at one end by a plug and at the other by a spring-controlled closing device and having oil-ducts leading from said chamber to the interior surface of the tubular end bar, and means for positively locking the pintle to the side bars of the overlapping link, whereby the oil-ducts are caused to rotate in the tubular end bar to distribute the lubricant, substantially as set forth.

2. In a chain having counterpart U-shaped links, the separate ends of the side bars of one link overlapping the tubular end bar or sleeve of the next link, the combination with the side bars and tubular end bar of a pintle having a central aperture extending through it, means for closing the ends of the apertures to provide an oil-chamber at the center and having oil-ducts leading from said chamber to the interior surface of the tubular end bar, and means for positively locking the pintle to the side bars of the overlapping link whereby the oil-ducts are caused to rotate in the tubular end bar to distribute the lubricant, substantially as set forth.

3. In a chain, the combination with the side bars of a link and the adjacent end of an adjoining link, of a pintle connecting the links together having a central aperture extending longitudinally therethrough, closed to form an oil-chamber at one end by a plug and at the other end by a spring-controlled closing device and having oil-ducts leading from said chamber to the exterior surface of said pintle, and means for positively locking the pintle to the said side bars of the overlapping link, whereby the oil-ducts are caused to rotate in the end of the said adjoining link to distribute the lubricant, substantially as set forth.



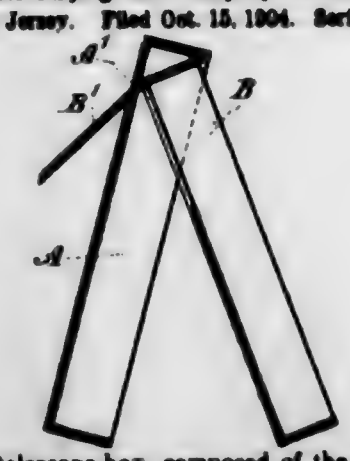
804,724. RAIL-JOINT. CHARLES K. HUMPHREYS, Baltimore, Md. Filed May 13, 1905. Serial No. 260,307.



Claim.—1. In a device of the class described, a fish-plate having a base portion adapted to seat beneath a rail and provided with vertically-disposed dovetailed seats, a second fish-plate having a base-flange, and fastening members entered through the base-flange and provided with vertical dovetailed heads designed to enter said seats.

2. In a device of the class described, a fish-plate having a base portion to extend beneath a rail and having transversely-extended dovetailed recesses, a second fish-plate having a base-flange to seat upon said base-plate, and vertical bolts extended through the base-flange and provided with dovetailed heads to enter the recesses.

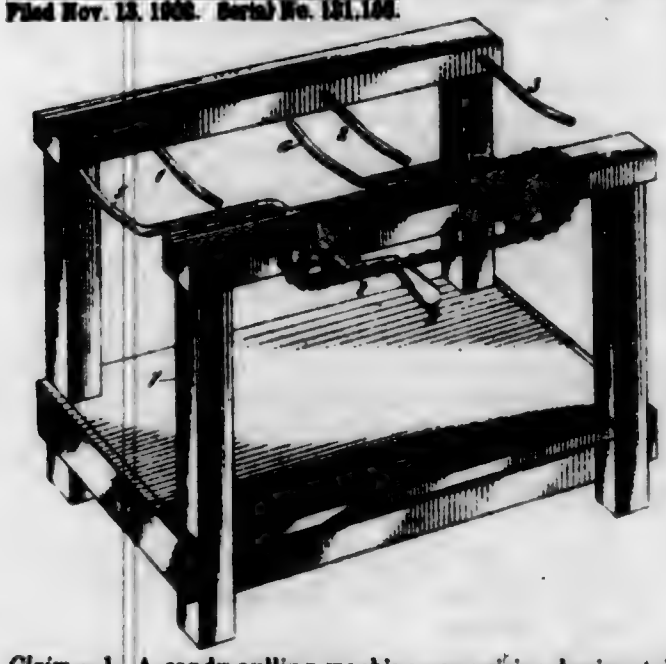
804,725. BOX. WILBUR C. JAMES, Cincinnati, Ohio, assignor to The United States Playing Card Company, Cincinnati, Ohio, a Corporation of New Jersey. Filed Oct. 15, 1904. Serial No. 228,515.



Claim.—In a telescope-box, composed of the separable boxes A and B, one of which constitutes the cover, the box B having the

tongue B' stamped out of its bottom close to one end, and the box A having the slit A' adapted to receive the tongue B', all arranged to permit the box B to rest with one end diagonally against one end and the bottom of the box A, while both boxes are united by the tongue B' as described.

804,726. CANDY-PULLING MACHINE. EDWARD J. JENNER, San Antonio, Tex., assignor to Herbert L. Eldreth, Boston, Mass. Filed Nov. 13, 1902. Serial No. 131,166.



Claim.—1. A candy-pulling machine comprising horizontally-disposed stationary supporting means, and a plurality of pulling means.

2. A candy-pulling machine comprising horizontally-disposed stationary supporting means, a plurality of pulling means, and means for moving the pulling means past the supporting means and above and below the same.

3. A candy-pulling machine comprising a plurality of horizontally-disposed stationary supporting means, a plurality of pulling means, and means for moving the pulling means past the supporting means and above and below the same.

4. A candy-pulling machine comprising horizontally-disposed stationary supporting means, a plurality of pulling means, and means for moving the pulling means in intersecting paths around the supporting means.

5. A candy-pulling machine comprising a plurality of stationary candy-supporting means, a plurality of pulling means, and means for moving the pulling means in intersecting paths around the supporting means.

6. In a candy-pulling machine, the combination of a plurality of pins mounted for movement in substantially parallel relation to each other in intersecting paths, and a member coöperating therewith to pull candy.

7. A candy-pulling machine comprising a framing, a pin carried by the frame, and shafts supported by the framing on opposite sides of the pin and having crank-arms, and pins carried thereby and arranged to revolve around the pin of the frame, and means for driving the shafts substantially as set forth.

8. A candy-pulling machine having shafts provided with crank-arms and pins thereon and the framing supporting said shafts and having a pin around which the pins of the crank-arms revolve, substantially as set forth.

9. A candy-pulling machine consisting of parallel revoluble shafts having cranks upon the outer end, hooks projecting upon said cranks, gears by which the shafts and cranks are revolved toward each other and a stationary rod or hook projecting between the revolving hooks.

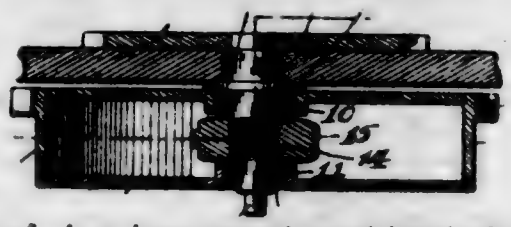
10. The combination in a candy-pulling machine of parallel shafts having intermeshing gears by which they are revoluble in unison, cranks fixed upon the ends of the shafts carrying hooks or arms which alternately approach and recede from each other with the revolution of the cranks, supports or hangers having horizontal pins projecting so as to stand between the approaching hooks whereby the mass of candy is alternately stretched between the stationary pin and the moving hooks.

804,727. SAFETY-BARREL FOR WATCHES. GEORGE F. JOHNSON, Springfield, Ill., assignor to Illinois Watch Company, Springfield, Ill., a Corporation of Illinois. Filed Mar. 25, 1905. Serial No. 252,018.

Claim.—As an improvement in safety-barrels for watches, the combination with a movement-plate, a ratchet-wheel having an integral hub journaled in said movement-plate and provided with a concentric recess upon its under side, and a jewel concentrically mounted in said ratchet-wheel, of a spring-barrel provided with a boss on its upper surface adapted to enter the recess in the bottom of said hub and removably secured to said ratchet-wheel, a main wheel, and a spring-arbor secured at one end of said main wheel and journaled at the other end, substantially as described.



804,728. WATCH-BARREL. GEORGE F. JOHNSON, Springfield, Ill., assignor to Illinois Watch Company, Springfield, Ill., a Corporation of Illinois. Filed Mar. 25, 1905. Serial No. 252,017.

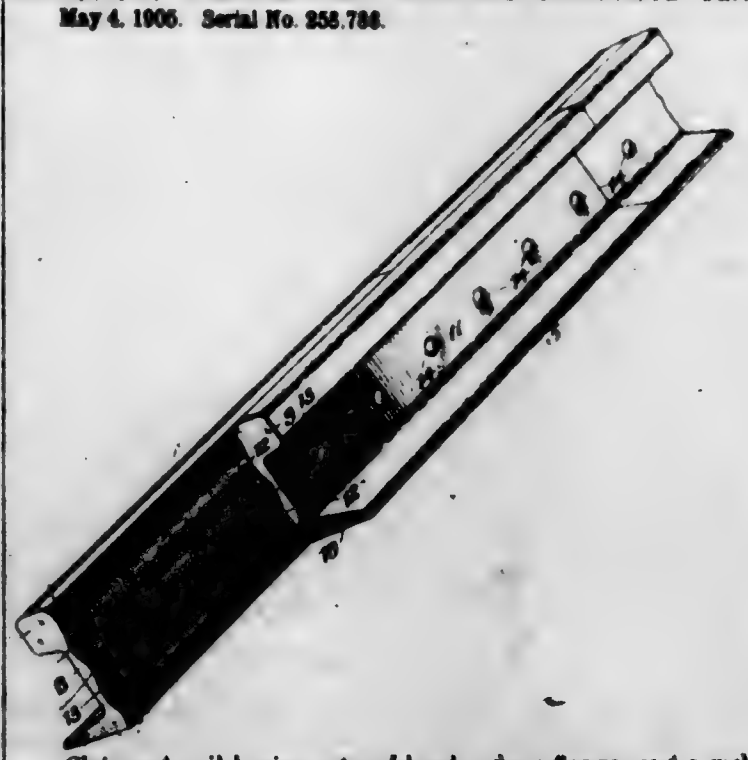


Claim.—1. As an improvement in watch-barrels, the combination with a plate, a ratchet-wheel, a spring-barrel provided with a main wheel rigid therewith, and jewels axially set in said spring-barrel, of a spring-arbor rigidly mounted at one end in said ratchet-wheel, journaled in said plate, and provided with bearings adapted to be journaled in the jewels of said barrel.

2. As an improvement in watch-barrels, the combination with a plate, a ratchet-wheel, a spring-barrel provided with a main wheel rigid therewith, and jewels axially set in said spring-barrel, of a spring-arbor rigidly mounted at one end in said ratchet-wheel, journaled in said plate, and provided with bearings adapted to be journaled in the jewels of said barrel, and a spring-engaging hub removably secured to said spring-arbor within said barrel.

3. As an improvement in watch-barrels, the combination with the back movement-plate, and a spring-arbor journaled in said movement-plate and provided with a flange adapted to bear upon the inner side of said movement-plate and with jewel journal-bearings, of a ratchet-wheel rigidly mounted upon said spring-arbor, a spring-barrel provided with an integral main wheel, jewels set upon each side of said spring-barrel and adapted to journal the bearings of said spring-arbor, and a spring-engaging hub, removably secured to said spring-arbor and adapted to engage one of the jewels in said barrel between it and the flange on said spring-arbor.

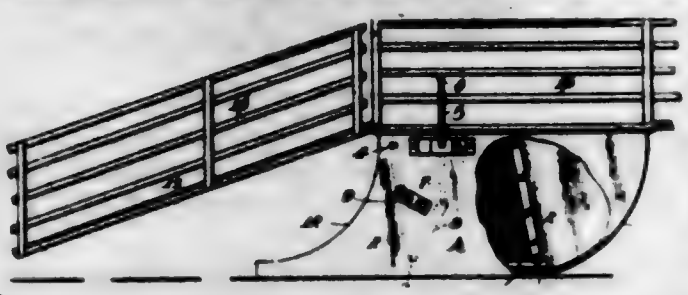
804,729. RAILROAD-RAIL. DAVID JONES, Newcastle, Pa. Filed May 4, 1905. Serial No. 258,786.



Claim.—A rail having a tread-head, a base-flange, and a web connecting the same, said rail being divided into separate series of

sections by an upright joint extending centrally and longitudinally through the tread-head, the web, and the base-flange, said series of sections having their opposing inner faces abutted throughout their extent and having alternate ridges and furrows, the ridges of the sections of one series fitting into the furrows of the sections of the other series, and bolts passing transversely through the abutted sections for securing the same together, said bolts passing through the ridges of one series of sections and through the corresponding furrows of the other series.

804,780. MACHINE FOR DIPPING SHEEP, &c. HORACE M. JORDAN, Winfield, Iowa. Filed Mar. 31, 1905. Serial No. 253,085.



Claim.—1. A tank for dipping sheep and other animals, comprising sides, bottom and curved ends, a floor or elevator suspended therein, and means for raising and lowering it in the arc of a circle, whereby it forms a horizontal closure with the side and end walls of the tank at every point of its elevation, thus preventing the formation of spaces at any time to catch the feet of the animals being dipped.

2. The combination with a tank, of a floor or elevator, links pivotally connected with the latter and to the tank, a crank journaled in the tank and having an arm on its inner end and a connecting-rod extending from the arm to the floor or elevator.

3. The combination with a tank, of a floor or elevator, links pivotally connected with the latter and to the tank, a crank journaled in the tank and having an arm on its inner end, a connecting-rod extending from the arm to the floor or elevator, and a catch for fastening the crank.

4. The combination with a tank, a chute, fences and gates, of a pivotally-suspended floor or elevator within the tank, and means for raising and lowering the latter in a horizontal position.

804,731. EAR-MUFFLER. CHARLES J. KELLER, Bloomsburg, Pa. Filed May 4, 1905. Serial No. 258,837.

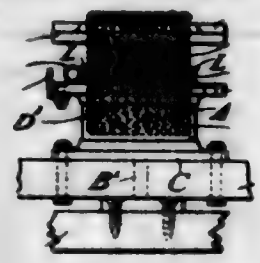


Claim.—1. An ear-muffler comprising a spring-bow formed in a single piece and having a curved extension at each end, endless sheet-metal rings, ears extending from opposite portions of the rings and engaged by the end curved extensions, a fabric covering inclosing each of the rings and the adjoining curved extension, and hooks integral with the extensions and projecting at right angles from the planes occupied thereby, said hooks adapted to engage the bow to hold the rings in position one upon the other.

2. An ear-muffler comprising flat sheet-metal rings having ears extending at right angles therefrom at diametrically opposite points, a spring-bow interposed between the rings, curved extensions integral with the ends of the bow and projecting through the ears, said extensions being adapted to lie flat upon their respective rings to prevent rotation thereof, and hooks integral with the extensions and projecting at right angles to the planes occupied thereby, said hooks adapted to engage the bow to hold the rings in position one upon the other.

804,732. APPARATUS FOR BENDING METAL TUBES, RODS, AND THE LIKE. WILLIAM KENNEDY, West Drayton, England. Filed Oct. 6, 1904. Serial No. 227,302.

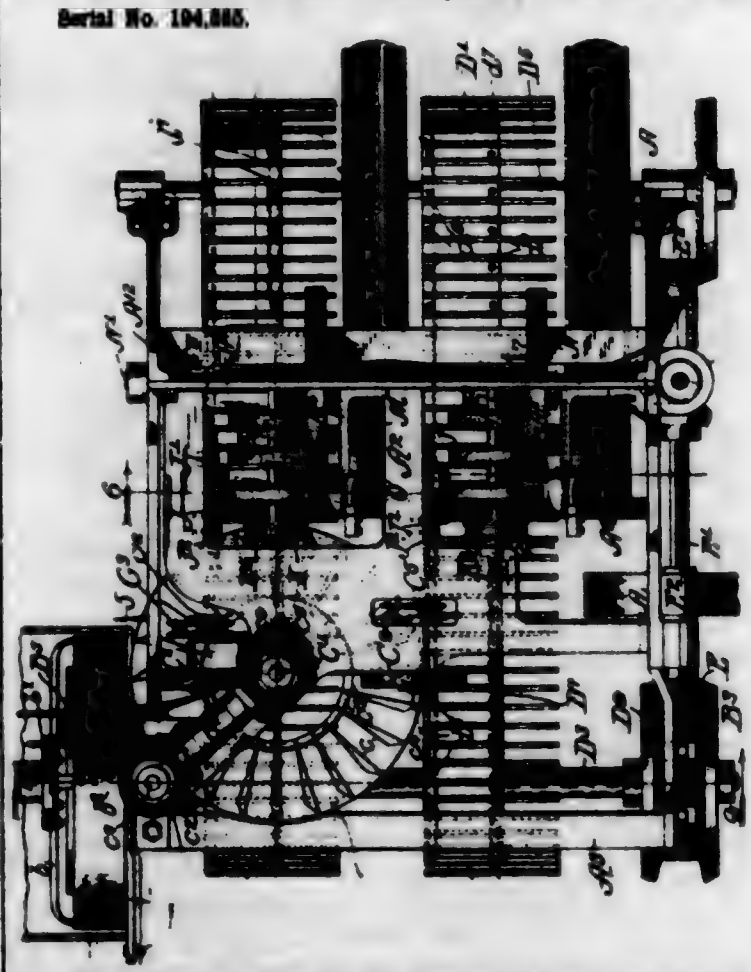
Claim.—1. Apparatus for bending metal tubes or rods comprising a fixed pipe having a heavy flange, an externally-screw-threaded hollow mandrel secured in the fixed pipe and provided with a clamping-nut, a cored plug in the end of said hollow mandrel adapted to receive the pin of a bending-lever, substantially as described.



2. Apparatus for bending metal tubes or rods comprising a fixed pipe having a heavy flange, an externally-screw-threaded hollow mandrel secured in the fixed pipe, a clamping-nut on the said mandrel having blocks on its upper surface and a key adapted to engage the said blocks and turn the clamping-nut, substantially as described.

3. Apparatus for bending metal tubes or rods comprising a fixed pipe having a flange at one end, a mandrel secured in the said pipe, rings of various thicknesses adapted to fit round the said mandrel, means for clamping a pipe or rod on the flange and means for bending the said pipe or rod through any required angle, substantially as described.

804,733. FISH ASSORTING, CUTTING, AND CLEANING MACHINE. WILLIAM J. KENNY, Mortonpark, Ill. Filed Feb. 23, 1904. Serial No. 194,885.



Claim.—1. A machine for the purpose set forth comprising assorting, cutting and cleaning mechanisms embodied in a unitary structure and operated from a single source of power, means for receiving the fish from an indiscriminate mass and delivering them to the assorting mechanism with their heads directed toward the cutting and cleaning mechanisms, and means coöperating with the assorting mechanism for delivering the fish successively to the cutting and cleaning mechanisms.

2. A machine for the purpose set forth comprising assorting, cutting and cleaning mechanisms embodied in a unitary structure and operated from a common source of power, automatic means for delivering the fish from a mass to said assorting mechanism, embracing means acting on a thin portion of certain of the fish for directing the fish with their heads toward the cutting and cleaning mechanisms, and means coöperating with the assorting mechanism for delivering the fish successively to the cutting and cleaning mechanisms.

3. A machine for the purpose set forth comprising assorting, cutting and cleaning mechanisms embodied in a unitary machine and

operated from a common source of power and operating successively in the order named, a carrier operated from said source of power for delivering fish to said assorting mechanism, a feeding-receptacle in which the fish are contained in a mass, and means for automatically directing fish from said feeding-receptacle to said carrier constructed to direct the heads of the fish toward the cutting and cleaning mechanisms.

4. In a machine for the purpose set forth, the combination with a carrier and a receptacle for the fish at one side of and below the level of the carrier, of a feeding-wheel rotating in said receptacle and provided with pockets by which the fish are raised from said receptacle, and means for directing the fish from said pockets to said carrier embracing a brush at the upper part of the wheel for brushing the fish laterally out of said pockets

5. In a machine for the purpose set forth, the combination with a carrier and a receptacle for the fish, of a feeding-wheel rotating in said receptacle and provided with pockets by which the fish are raised from said receptacle, means for directing the fish from said pockets to the carrier, and an agitator located within said wheel at the lower part of said receptacle for directing the fish to said pockets.

6. In a machine for the purpose set forth, the combination with a carrier and a receptacle for the fish located at one side and below the level of the carrier, of a feeding-wheel rotating in said receptacle for raising the fish to the level of the carrier, comprising an annular rim, a plurality of radial spokes and a central hub, a shaft on which said hub is rotatively mounted, a plurality of pockets on said rim and means for directing the fish laterally from said pockets to said carrier.

7. In a machine for the purpose set forth, the combination with a carrier and a receptacle for the fish, of a feeding-wheel rotating in said receptacle comprising an annular rim, radial spokes and a central hub, a shaft on which said hub is mounted, a plurality of pockets on the inner cylindric face of said rim, and means for delivering the fish laterally from said pockets to said carrier, embracing a movable part within the upper part of the rim which ejects the fish laterally from said pockets.

8. In a machine for the purpose set forth, the combination with a carrier and a receptacle for the fish, of a feeding-wheel rotating in said receptacle comprising an annular rim, radial spokes and a central hub, a shaft on which said hub is mounted, a plurality of pockets on the inner cylindric face of said rim, an agitating device within the rim for directing the fish in an orderly manner to said pockets, and means for delivering the fish from said pockets to said carrier.

9. In a machine for the purpose set forth, the combination with a carrier and a receptacle for the fish, of a feeding-wheel rotating in said receptacle embracing an annular rim provided on its inner cylindric face with a plurality of pockets, means for delivering the fish from said pockets to said carrier, and an agitator located within said rim comprising an oscillatory arm and a plurality of agitator members affixed to said arm and directed toward the pockets, and means for oscillating the agitator.

10. In a machine for the purpose set forth, the combination with a carrier and a receptacle for the fish, of a feeding-wheel rotating in said receptacle and embracing an annular rim provided on its cylindric face with a plurality of transverse pockets, and means for directing the fish from said pockets to the carrier embracing a rotative brush at the upper part of the wheel which rotates at its edges through said pockets.

11. In a machine for the purpose set forth, the combination with a carrier and a receptacle for the fish located at one side and below the level of the carrier, of a feed-wheel rotating in said receptacle embracing an annular rim provided on its cylindric face with a series of transverse pockets, and means for directing the fish from said pockets to the carrier, embracing a rotative brush located adjacent to the carrier-level and rotating about an axis fixed relatively to the wheel, said brush acting to remove the fish from said pockets.

12. In a machine for the purpose set forth, two cutting mechanisms, two carriers, each for delivering fish to one of the cutting mechanisms, and a single feeding device, of means located between the feeding device and carriers for delivering the fish which are discharged from the feeding device head first to one of the carriers and for delivering those discharged tail first to the other carrier.

13. A machine for the purpose set forth comprising assorting, cutting and cleaning mechanisms, a receptacle for the fish, means for automatically discharging the fish from said receptacle and delivering them endwise to said mechanisms, said means operating to turn the fish which are discharged from said feed-receptacle tail first so that they will be presented to the assorting, cutting and cleaning mechanisms head first.

14. A machine for the purpose set forth comprising two sets of cutting mechanisms, two carriers, one for delivering fish to each set of cutting mechanisms, a receptacle for the fish and means for directing the fish from said receptacle to said carriers embracing means for directing to one carrier the fish delivered from the receptacle head first and to the other carrier the fish delivered from the receptacle tail first.

15. In a machine for the purpose set forth, the combination with two carriers and a receptacle for the fish, of a distributing device located between the receptacle and carriers, means for directing the fish from said receptacle to the distributing device constructed to deliver the fish endwise thereto, and means coöperating with said distributing device and acting on a thin part of a fish to direct the fish delivered thereto tail first to one of the carriers, while permitting fish directed thereto head first to be delivered to the other carrier.

16. In a machine for the purpose set forth, the combination with two carriers, and a receptacle for the fish, of a rotative distributing-table located between the receptacle and the carriers, and means for delivering fish from said receptacle to said table, the parts being so constructed and arranged that the fish which are delivered to said table head first are directed to one of the carriers, and means coöperating with the rotative movement of said table for reversing endwise the fish delivered tail first to the table and directing them to the other carrier.

17. In a machine for the purpose set forth, the combination with two carriers and a receptacle for the fish, of a rotative distributing-table located over one of said carriers and at the side of the other, and provided on its upper face with a plurality of radial pockets, and with a central opening, means for delivering fish from said receptacle to said pockets, means whereby the fish delivered into said pockets head first are directed to the carrier beneath said table, means for arresting the fish delivered to the pockets tail first whereby such fish are carried by rotation of the table to the side carrier and means for directing said latter fish from the table to said side carrier.

18. In a machine for the purpose set forth, the combination with two carriers, of a rotative distributing-table located over one carrier and at the side of the other carrier, said table being provided with a central opening and on its upper face with a plurality of radial pockets, a receptacle for the fish, means for feeding the fish from said receptacle to said pockets of the distributing-table, said table being provided at the inner ends of said pockets with transverse stop-slots and means coöperating with said slots for arresting fish delivered to the table-pockets tail first.

19. In a machine for the purpose set forth, the combination with two carriers, of a rotative distributing-table located over one of the carriers and at the side of the other carrier, said table being provided with a central opening and with a plurality of radial pockets, and at the inner ends of said pockets with transverse stop-slots, a receptacle for the fish, means for delivering the fish from the receptacle to said pockets, and two movable brushes located over the table and bearing against the bottoms of said pockets, one located between the margin of said table and said central opening and the other at the margin of the table adjacent to the side carrier.

20. In a machine for the purpose set forth, the combination with two carriers, of a rotative distributing-table located over one of said carriers and at the side of the other carrier and provided with a central opening and with a plurality of radial pockets, a receptacle for the fish at the side of and below the level of said table, a feed-wheel rotative in said receptacle and provided with a plurality of pockets by which the fish are raised from the receptacle to the level of the table, a brush for brushing said fish from the pockets of the feed-wheel to the pockets of the table, and means whereby the fish, which are delivered head first to the table, are directed through the central opening thereof to the carrier beneath the same, and those which are delivered tail first to the table are directed from said table to the carrier at the side thereof.

21. In a machine for the purpose set forth, the combination with two carriers, of a rotative distributing-table located over one of said carriers and at the side of the other carrier and provided with a central opening and a plurality of radial pockets, a receptacle for the fish at the side of said table, a feed-wheel rotative in said receptacle and provided with a plurality of pockets for raising the fish to the level of said table, a movable brush for directing the fish from the pockets of said wheel to the pockets of said table, said table-pockets being provided at their inner ends with slots, and movable brushes located over said table, one of which is adapted to direct the fish from said pockets through the central opening thereof into the carrier below, and the other of which is adapted to direct the fish from the pockets to the carrier at the side thereof.

22. In a machine for the purpose set forth, the combination with two carriers, of a rotative distributing-table located over one of the carriers and at the side of the other carrier and provided with a central opening and on its upper face with a plurality of pockets having at their inner ends stop-slots, and rotative brushes located over said table and coöperating with said pockets, one for directing fish through the pockets and the central opening to the carrier beneath, and the other for directing fish from the pockets to the side carrier.

23. In a machine for the purpose set forth, the combination with two carriers, and a rotative distributing-table provided with a plurality of radial pockets, of a receptacle for the fish at one side and below the level of the table, a feed-wheel rotative in said receptacle and provided with pockets for raising the fish to the level of said distributing-table, means for directing the fish from said feed-wheel pockets to the pockets of the distributing-table, a movable brush for directing certain of the fish from said pockets of the distributing-table to one carrier means for directing other fish to the other carrier embracing stop-slots in said table and movable brushes coöperating with said slots.

24. In a machine for the purpose set forth, a rotative distributing table provided with a central opening and between said central opening and the margin of the table with a plurality of radial pockets and with transverse stop-slots at the inner ends of said pockets.

25. In a machine for the purpose set forth, a flat rotative distributing-table having a continuous supporting-surface and provided with a central opening and on its upper face with a plurality of radial strips or bars extending from said central opening to the margin of the table and forming between the same a plurality of upwardly-opening pockets.

26. In a machine for the purpose set forth, a flat rotative distributing-table having a continuous supporting-surface and provided with a central opening and on its upper face with a plurality of radial strips or bars extending from said central opening to the margin of the table, and forming between the same a plurality of upwardly-opening pockets, said bars or strips being gradually thickened from their inner toward their outer ends to make of substantially uniform width the pockets from end to end thereof.

27. In a machine for the purpose set forth, a flat rotative distributing-table having a continuous supporting-surface and provided with a central opening and provided also on its upper face with a plurality of radial strips or bars extending from said central opening to the margin of the table and forming between the same a plurality of pockets, said bars or strips being beveled at their extreme ends to facilitate the insertion of fish into said pockets.

28. In a machine for the purpose set forth the combination of a cutting mechanism, and a carrier for delivering the fish thereto, said carrier comprising two sprocket-chains one at each side of the carrier adapted to be trained over driving and supporting pulleys, a plurality of narrow plates extending transversely between and attached to said sprocket-chains and arranged edge to edge to form continuous supporting-surfaces in the horizontal parts of the carrier and slats attached to said plates and between which are formed pockets to receive the fish and extending beyond the carrier, and guide-plates associated with the cutting mechanism and coöperating with the extended ends of said slats.

29. A machine for the purpose set forth, comprising cutting mechanism, and a carrier for delivering fish thereto, said carrier comprising sprocket-chains adapted to be trained over driving and supporting pulleys, a plurality of narrow plates attached transversely to said sprocket-chains and arranged edge to edge so as to form continuous supporting-surfaces in the horizontal parts of the carrier and provided with slats between which are formed pockets to receive the fish, said slats extending beyond the plates at one side of the carrier and a guide-plate in line with the cutting mechanism at one side of the carrier over which the extended parts of the slats pass.

30. A machine for the purpose set forth comprising a plurality of cutting mechanisms arranged one in advance of the other, a carrier for delivering fish thereto provided on its upper surface with slats between which are formed pockets to receive the fish, said slats extending beyond the carrier at one side thereof, separated guide-plates at one side of the carrier, one in line with each cutting mechanism and over which the fish are directed from the carrier to said cutting mechanisms, said slats extending beyond the carrier and passing over said guide-plates, and a stationary stop-bar extending longitudinally of the carrier laterally inside of the extensions of the slats and serving to prevent the fish from sliding out of said pockets, said stop-bar terminating short of the first guide-plate.

31. A machine for the purpose set forth, comprising a cutting mechanism, a carrier for delivering fish thereto, slats on said carrier between which are formed pockets to receive the fish, said slats being provided with a series of alined notches extending longitudinally of the belt, and a stationary stop-bar attached to the machine-frame and fitting in said notches, said stop-bar terminating short of the cutting mechanism.

32. A machine for the purpose set forth comprising two sets of cutting mechanisms, two carriers one for delivering fish to each cutting mechanism, said carriers each having a plurality of transverse pockets, a rotative distributing-wheel located over one of said carriers and at the side of the other carrier, said distributing-wheel being provided with a central opening and with a plurality of radial pockets, means for delivering fish to said radial pockets, means whereby fish delivered to said pockets head first are delivered directly through said central opening to the carrier beneath the same, means for arresting the fish in said pockets which are delivered tail first thereto, whereby said fish are carried by the rotation of the table to the carrier at the side thereof, means for directing the fish so arrested in said pockets to said side carrier, and stationary stop-bars extending longitudinally of said carrier for preventing the fish passing through the pockets of the carriers, said stop-bars terminating short of the cutting mechanisms.

33. In a machine for the purpose set forth, the combination with coacting cutting-knives between which the head of the fish is received, and by which the fish is partially decapitated, of an ejecting device located laterally outside of said knives and acting to completely tear the head, together with the entrails, from the body of the fish.

34. In a machine for the purpose set forth, the combination with a carrier, of a cutting device located at one side of the carrier embracing coacting knives, the cutting edges of which are concave or V shape, and an ejector for tearing the head and entrails from the fish before the head is fully severed.

35. In a machine for the purpose set forth, the combination with the coacting knife-blades, the cutting edges of which are made of concave or V shape, and operating to partially decapitate the fish, and a device located laterally outside of said knives and adapted to bear against the head of the fish for forcibly ejecting said head and the entrails from the body of the fish when the head is partially severed by said knives.

36. In a machine for the purpose set forth, the combination with coacting knives between which the head of the fish is received and by which the fish are partially decapitated, means for delivering the fish to said knives, and a part adapted to bear laterally against the head of the fish while the head is being severed, in a manner to tear the head from the body of the fish together with the entrails.

37. In a machine for the purpose set forth, the combination with coacting knives between which the head of the fish is received and by which the fish is partially decapitated, and a spring-pressed part adapted to bear laterally against the head of the fish while it is being severed.

38. A cutting and cleaning mechanism for fish comprising a pair of coacting decapitating-knives, one of which is stationary, a swinging bar to which is attached the other knife, an ejecting device comprising a swinging bar which carries at its lower end a part which bears laterally against the head of the fish when the latter is being severed, means for swinging said knife and ejecting device bars, constructed to impart a quicker swing to the latter than the former, said ejecting device embracing a spring which permits it to be yieldingly retarded in the first part of the cutting operation of the knives, and the tension of which acts to forcibly tear the head from the fish just before it is completely decapitated, whereby the entrails of the fish are ejected with the head.

39. A cutting and cleaning mechanism for fish comprising a pair of coacting decapitating-knives, one of which is stationary, a swinging bar to which the other knife is attached, an ejecting device comprising a bar which swings in a plane parallel with the plane of movement of the knife-bar and the pivot of which is located between the pivot of the knife-bar and said knives, said ejecting device embracing a spring-mounted finger at its lower end which swings laterally outside of and past the decapitating-knives, and means common to both of said bars for swinging the same.

40. A cutting and cleaning mechanism for fish comprising a pair of coacting decapitating-knives, one of which is stationary, a swinging bar to which the other knife is attached, an ejecting device comprising a bar which swings in a plane parallel with the plane of movement of the knife-bar and the pivot of which is located between the pivot of the knife-bar and said knives, said ejecting device embracing a spring-mounted finger at its lower end which swings laterally outside of and past the decapitating-knives, and means for swing-

ing said bars comprising a rotating grooved cam and a stud extending transversely through both bars and engaging at its end the groove of the cam.

41. A cutting and cleaning device for fish comprising a carrier, a plurality of stationary knives at one side of the carrier, a plurality of coacting movable knives, a bar to the lower end of which the movable knives are attached, a head-ejecting device comprising a swinging bar at one side of the knife-bar and pivoted at a point between said knives and the pivot-point of the knife-bar, a plurality of fingers attached to the shorter bar by a spring, said fingers swinging laterally past said knives and means common to said bars for swinging the same.

42. In a machine for the purpose set forth, the combination with a plurality of pairs of cutting-knives between which the fish are decapitated, and a carrier at one side thereof for delivering fish to said knives, of means cooperating with the carrier for delivering fish of one length to one set of knives and fish of another length to another set of knives, whereby fish of different lengths are separately decapitated and discharged from the machine.

43. In a machine for the purpose set forth, the combination with a plurality of pairs of coacting knives between which the fish are decapitated, and a carrier at one side thereof for delivering fish to said knives, of guide-plates extending laterally from said carrier to the knives for guiding fish of different lengths from said carrier severally to the different pairs of knives, and means for discharging the fish from the machine in lots according to their length.

44. In a machine for the purpose set forth, the combination with a plurality of pairs of coacting knives between which the fish are decapitated, and a carrier at one side thereof for delivering fish to said knives, of guide-plates extending laterally from said carrier to the knives for guiding fish of different lengths from said carrier severally to the different pairs of knives, said guide-plates being separated by intervening spaces through which the fish are discharged; and discharge-chutes communicating at their upper ends with said spaces.

45. In a machine for the purpose set forth, the combination with a plurality of pairs of coacting decapitating-knives, and a carrier for delivering the fish to said knives and provided with a plurality of transverse slats between which are formed pockets to receive the fish, of stationary guide-plates separated by intervening spaces and extending between the coacting knives and one margin of the carrier for guiding the fish from the carrier to the knives, said slats extending laterally from said carrier over said plates, and discharge-chutes communicating with said spaces between the plates.

46. In a machine for the purpose set forth, the combination with a plurality of pairs of coacting decapitating-knives, and a carrier traveling past the knives at one side thereof for delivering the fish laterally in line with said knives and provided with a plurality of transverse pockets to receive the fish, of a plurality of guide-plates separated by intervening spaces and extending from said carrier to said knives over which the fish are delivered from said carrier to the knives, said slats extending laterally from said carrier over the guide-plates, rotating brushes for directing the fish from said carrier over the plates to the knives, means coacting with the conveyer for presenting the fish to said knives in accordance with their lengths, and means for discharging the fish of different lengths separately from the machine.

47. In a machine for the purpose set forth, the combination with the carrier, and a plurality of sets of knives located at one side thereof, of a plurality of brushes located over said carrier for directing the fish laterally to said knives and holding or retarding devices located above the carrier and laterally opposite said brushes which engage the fish while on the carrier.

48. In a machine for the purpose set forth, the combination with a plurality of pairs of coacting knives, and a carrier at one side of which the knives are located for delivering the fish laterally in line with said knives, of brushes located over the carrier for directing the fish laterally from the carrier to the spaces between the knives, a plurality of guide-plates extending between the carrier and knives and separated by intervening spaces, and over which plates the fish are delivered from the carrier to the knives, and holding devices coöperating with the carrier at the side thereof laterally opposite to the knives and constructed and arranged to hold the longer fish from the first set of knives and to permit the fish to be delivered to the knives in advance of the first set, and means coöperating with the holding device for discharging the fish of different lengths separately.

49. In a machine for the purpose set forth, the combination with a plurality of pairs of coacting decapitating-knives, and a carrier for delivering the fish to said knives and provided with a series of transverse pockets, guides extending between the carriers and knives for guiding the fish to the knives, a plurality of brushes located over the carrier for directing the fish laterally from the carrier to the said knives, and holding-wheels located over the carrier one in advance of the other at the side of the brushes laterally opposite the knives and at different distances from said knives, said guide-plates being separated by intervening spaces and chutes communicating with said spaces through which the fish are discharged from the machine.

50. In a machine for the purpose set forth, the combination with the coacting knives and the carrier at one side of the knives having transverse pockets, of a holding-wheel having peripheral projections which are adapted to engage certain of the fish to restrain the fish engaged thereby between the same and the carrier during the time the fish are passing thereunder, means for discharging the fish, not engaged by the holding-wheel, head first from said pockets to the knives, and means coöperating with said discharging means for directing the fish of different lengths from the machine separately.

51. In a machine for the purpose set forth, the combination with the coacting knives and the carrier at one side of the knives having the transverse pockets, of a holding-wheel located over the carrier at the side thereof remote from the knives having peripheral projections which are adapted to fit within said pockets for restraining the fish engaged thereby between the same and the carrier during the time the fish are passing thereunder, means for directing the fish from said pockets to said knives when free from said holding-wheel, and means for discharging the fish from the machine in separate lots corresponding to their lengths, the projections of the holding-wheel being loosely connected with the wheel.

52. In a machine for the purpose set forth, the combination with a plurality of pairs of coacting knives, and a carrier for delivering the fish to said knives and provided with a plurality of transverse slats between which are formed pockets to receive the fish, said slats extending laterally from said said carrier, of a plurality of guide-plates separated by intervening spaces extending from said carrier to the coacting knives for guiding the fish from the carrier to the knives, a plurality of brushes located over said carrier in line with the guide-plates for directing the fish from said carrier to the knives, and holding-wheels located over said carrier at the side thereof remote from said knives and provided with projections which extend into the pockets, and located one in advance of the other and successively farther from the knives, whereby the shorter fishes are delivered to the first set of knives, the longer fishes to the next pair and so on.

53. In a machine for the purpose set forth, the combination with a plurality of pairs of coacting knives, and a carrier for delivering fish to said knives and provided with a plurality of transverse slats forming between the same pockets, said slats extending beyond the carrier, of brushes located over said carrier for directing the fish laterally from the carrier to the knives, guides extending between the carrier and knives over which the fish are directed to the knives and holding-wheels located over said carrier at the side of the brushes remote from the knives and provided with projections adapted to enter the pockets and bear upon the fish, said holding-wheels being located one in advance of the others and successively at greater distances from the knives.

54. In a machine for the purpose set forth, the combination with two sets of cutting-knives and a single feeding device, of means for directing the fish from the feeding device to the cutting-knives, head first, comprising mechanism located between the feeding device and the knives for reversing the fish leaving the feeding device tail first, means for directing the reversed fish to one set of knives and means for directing the fish not reversed to the other set of knives.

55. In a machine for the purpose set forth, the combination with two carriers, and a distributing-wheel located over one of the carriers and at the side of the other, and having a central opening and provided on its upper face with a plurality of radial pockets extending from its margin to said central opening, said pockets being provided at their inner ends with stop-slots, of means for feeding the fish to said pockets and a brush located over the wheel and coöperating with the pockets as they pass thereunder for carrying the fish through the pockets delivered thereto head first to the central opening and thence to the belt beneath, and acting on the fish delivered tail first to said pockets, to force the tail or other thin part of the fish into the stop-slot of said pocket and thereby stopping the fish and means located at another part of the table for directing the fish thus arrested to the other carrier.

56. In a machine for the purpose set forth, the combination

with a rotative part provided with a central opening and a plurality of pockets having at their inner ends holding-slots adapted to engage and hold fish delivered tail first to said pockets, means located at one side of said rotative part for delivering fish endwise into said pockets, means for forcing certain of the fish through said pockets into said central openings and acting to force the thin parts of certain other fish into said slots, and means located at another part of said rotative part for releasing the fish from said slots and discharging them from the pockets.

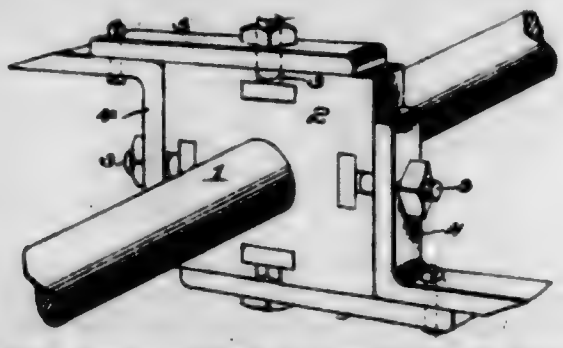
57. In a machine for the purpose set forth, the combination with a pocket having at its inner end a holding-slot adapted to engage and hold a fish delivered tail first to said pocket and means for releasing the fish from said slot and discharging it from the pocket in a direction the reverse of that in which the fish entered the pocket.

58. In a machine for the purpose set forth, the combination with assorting cleaning and cutting mechanisms, a carrier for delivering fish to said mechanisms, the cleaning and cutting mechanisms being located at one side of the carrier and the assorting mechanism being located over the carrier and a receptacle for the fish located at one side and below the level of the carrier, of a feeding-wheel rotating in said receptacle and provided on its rim with pockets by which the fish are raised from said receptacle, and means for directing the fish laterally from said pockets to said carrier, said carrier being inclined transversely thereof toward the cleaning and cutting mechanisms, and the shaft about which said feeding-wheel rotates being inclined to correspond with the inclination of said carrier.

59. In a machine for the purpose set forth, the combination with a rotative part provided with a plurality of radial narrow pockets, each pocket having at its inner end a holding-slot, said rotative part having a central opening communicating with said pockets, means for delivering fish to said pockets, a brush located over the rotary part and acting in the direction of the lengths of said pockets, tending to force the fish therethrough into said central opening, said brush engaging the pockets over said holding-slots whereby the tails or other thin parts of the fish delivered to the pockets tail first are forced into the holding-slots, and means for releasing the fish from said holding-slots and discharging them from said rotary part.

60. In a machine for the purpose set forth, the combination with a pocket having at its inner end a holding-slot adapted to engage and hold a fish delivered tail first to said pocket, means for delivering the fish endwise into said pocket, and means for releasing the fish from said pocket after it has been arrested by the slot therein and for discharging it from the pocket in a direction the reverse of that in which the fish entered the pocket.

804,784. ROTARY CUTTER FOR WOODWORK. WALLACE KIRLEY, Seattle, Wash. Filed Oct. 31, 1904. Serial No. 230,480.



Claim.—1. In a device of the character described, the combination with a revoluble head, of a knife provided with a body portion secured to one side of the head, said knife provided with a bent-up cutting portion, and a brace-plate secured to another side of the head and engaging the outer face of the bent-up portion of the knife.

2. In a device of the character described, the combination with a head, of a knife provided with a body portion engaging one side of said head, a bent-up cutting portion formed upon said body portion, removable fastening means securing said knife to said head, a removable brace-plate engaging another side of the head and the other face of the bent-up portion of said knife, said plate of greater length than said head, and removable fastening means for securing said plate to the bent-up portion of said knife and to said head.

3. The combination with a revoluble support, of an angular knife provided with an aperture formed in the bent-up portion thereof, a shim mounted upon said support, a brace member provided with an elongated aperture near one end and with a comparatively small aperture near the opposite end, positioned upon said support, means engaging the elongated, apertured portion of said member for securing said shim and member to the support, and removable means positioned within the aperture of the bent-up portion of said knife and the comparatively small aperture of the member for securing said knife and member together.

4. The combination with a polygon head, of a knife secured to one of the sides of said head and adjustable to project beyond another side thereof, a brace member secured to said knife and a different side of said head, and removable means for supporting the projecting portion of the knife secured to the second-named side of said head.

5. In a device of the character described, the combination with a shaft, a many-sided head secured to said shaft, of a substantially L-shaped knife secured to one of the sides of said head, the bent-up portion of said knife having its outer face lying in the same plane in which one of the sides of the head is formed, a bracing member engaging the outer face of the bent-up portion of said knife and the side of the head, lying in the plane in which said outer face of the knife is positioned, said knife and member being capable of adjustment upon said head, a bolt securing said brace member to said head, and comparatively small, transverse securing means fastening said brace member to the outer face of the bent-up portion of said knife.

6. In a device of the character described, the combination with a polygonal head, of a knife engaging one of the sides of said head, said knife provided with a body and a bent-up portion provided with a cutting edge, extending at right angles to said body, an adjustable bracing member engaging one of the sides of said head and the outer face of said bent-up portion, the bracing member extending parallel to the bent-up portion of said knife, and means for securing said bracing member and the knife to the sides of the head.

7. The combination with a revoluble head, of a substantially L-shaped knife secured to said head, the bent-up portion of said knife provided with a cutting edge, and a bracing member secured to said head and the outer face of said bent-up portion.

8. The combination with a revoluble support, of an angular knife provided with an aperture formed in the bent-up portion, a cutting edge formed upon the bent-up portion, said knife provided with an elongated aperture formed in its body, a brace member provided with an elongated aperture near one end and with a comparatively small aperture near the opposite end positioned upon said support, means engaging the elongated apertured portion of said member and knife for securing the same to said support, and means positioned within the aperture of the bent-up portion of said knife and the comparatively small aperture of the member for securing said member and knife together.

9. The combination with a polygonal support, of a knife provided with a body and a bent-up portion, said bent-up portion provided with a cutting edge, said body and bent-up portion provided with apertures, a brace member provided with apertures positioned upon one side of said support and the outer face of the bent-up portion of said knife, fastening means positioned within the aperture of the bent-up portion of said knife and one of the apertures of said brace member, and means carried by said support and engaging the apertured portion of the body of said knife and one of the apertures of said member, for securing the knife and member upon said support.

804,785. HEATING-DRUM. FREDERICK J. KOSUSCH, St. Louis, Mo. Filed Dec. 13, 1904. Serial No. 236,771.

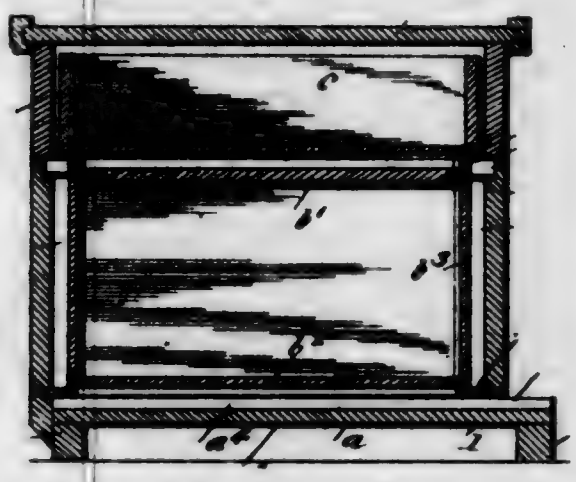


Claim.—In an improved heating-drum, the combination with a straight cylinder having tapered ends, of a small imperforate cone supported and held in the lower end of the drum above the tapered end thereof, and a larger imperforate cone supported and held in the upper end of the drum below the tapered end thereof, substantially as specified.

804,786. BEEHIVE. GEORGE F. KRAUS, Nebraska City, Nebr. Filed June 7, 1904. Serial No. 211,511.

Claim.—1. In a beehive, a hive-body provided at its upper edge with recesses, frames having their ends extended above their top bars to form finger-holds disposed opposite said recesses, the said ends of the frame being spaced from the body to provide dead-air spaces communicating with said recesses, and a super supported upon the body and closing said recesses and dead-air spaces, said

recesses permitting of the insertion of the fingers to grasp the said handholds.



2. In a beehive, a hive-body, frames disposed therein, the outer open side of one of the end frames being closed by a wall of the body, the frame ends being provided with extensions above their top bars to form finger-holds, and a spring-pressed keyboard closing the open side of the opposite end frame and holding the side edges of the frame in abutting contact, whereby the bees are prevented from escaping between the frames, the extensions of the frame ends projecting to the plane of the body of the super, whereby stops are formed to prevent the bees clustering on the outside of the frames and a double wall is provided with intervening air-spaces at the opposite portions of the brood-chamber.

3. In a beehive, a hive-body provided at its upper edge with ledges and recesses, frames having their ends extended above their top bars to form finger-holds disposed opposite said recesses, the said end bars of the frame being spaced from the body to provide air-spaces communicating with said recesses, pins projecting from the ends of the frames and resting upon the ledges at the bases of the recesses to support the frames within the body, and a super supported upon the body and closing said recesses and the upper ends of the air-spaces, said recesses permitting of the insertion of the fingers to grasp the said hand-holds when the super is removed.

4. In a beehive, a body, a base removably supporting the body, said base having a passage communicating with the body for the entrance and exit of the bees, frames in the body having their end bars spaced from the body to provide air-spaces, a super supported upon the body and closing the upper ends of the air-spaces, and an open-center rim-frame removably mounted between the base and body and closing the lower ends of the air-spaces.

5. In a beehive, a body, a base removably supporting the body, said base having a passage communicating with the body for the entrance and exit of the bees, frames in the body spaced from the walls of the body to provide air-spaces, said spaces normally communicating with said passage, and means adapted to be removably applied between the base and body to close communication between the passage and air-spaces.

6. In a beehive, a base having a passage for the entrance and exit of bees, a body removably supported upon the base and provided at its upper edge with recesses, frames having their ends extended above their top bars to form finger-holds disposed opposite said recesses, whereby the fingers may be inserted in said recesses to grasp the finger-holds, the said end bars of the frames being spaced from the body to provide dead-air spaces communicating at their free ends with the recesses and normally communicating at their lower ends with said entrance and exit passage, a super supported upon the body and closing said recesses and the upper ends of the dead-air spaces, and means adapted to be removably applied between the base and body to close communication between the passage and dead-air spaces.

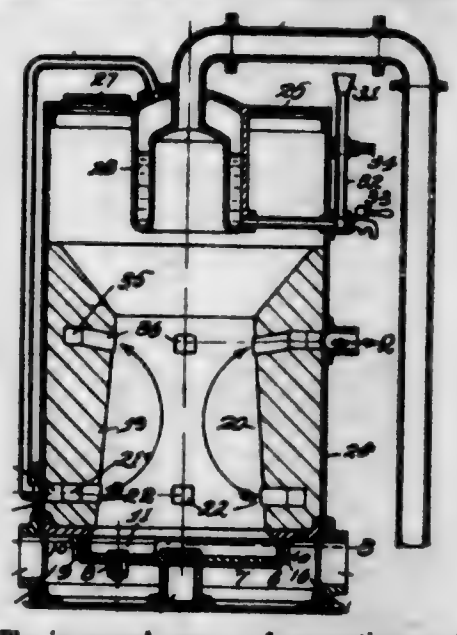
7. In a beehive, a base having a passage for the entrance and exit of the bees, a body removably supported upon the base and provided at its upper edge with recesses, frames having their ends extended above their top bars to form finger-holds disposed opposite said recesses, whereby the fingers may be inserted into said recesses to grasp the finger-holds, the said end bars of the frame being spaced from the body to provide dead-air spaces communicating at their upper ends with the recesses and normally communicating at their lower ends with the said entrance and exit passage, and an open-center rim-frame removably mounted between the base and body and closing the lower ends of the dead-air spaces.

8. In a beehive, a base having a passage for the entrance and exit of the bees, a body removably supported upon the base and provided at its upper edge with ledges and recesses, frames having lateral projections extending into said recesses and resting upon said ledges and having their ends projected above their top bars to form finger-holds disposed opposite said recesses, the said end bars of the frame being spaced from the body to provide dead-air spaces communicating at their upper ends with the recesses and normally communicating at their lower ends with the said entrance and exit passage, a super supported upon the body and closing said recesses and the upper ends of the dead-air spaces, and an open-center rim-frame removably mounted between the base and body and closing the lower end of the dead-air spaces.

9. In a beehive, a base having a passage for the entrance and exit of the bees, a body removably supported upon the base and provided at its upper edge with ledges and superposed recesses, frames having lateral supporting projections extending into said recesses and resting upon said ledges, a spring-pressed keyboard for holding the frames in meeting contact, said frames having their ends extending above their top bars to form finger-holds disposed opposite said recesses, the said keyboard and end bars of the frame being spaced from the body to provide dead-air spaces communicating at their upper ends with the recesses and normally communicating at their lower ends with the said entrance and exit passage, and an open-center rim-frame removably mounted between the base and body and closing the lower ends of the dead-air spaces.

10. In a beehive, a base, a hive-body mounted upon the base, a passage being formed between said base and body for the entrance and exit of the bees, the body being provided at its upper edge with recesses, frames disposed within the body, a spring-pressed keyboard holding the frames assembled with their ends in contact, said keyboard and frames being spaced from the walls of the body to provide air-spaces communicating at their upper ends with the recesses and at their lower ends with the bee entrance and exit passage, the said frames having finger-holds disposed opposite said recesses, a super mounted upon the upper portion of the body and closing the recesses and the upper ends of the air-spaces, and a removable rim mounted between the base and lower end of the body and closing the lower ends of the air-spaces, substantially as described.

804,737. PROCESS OF GENERATING GAS. EDWARD KRESS, St. Louis, Mo. Filed July 23, 1904. Serial No. 217,772.



Claim.—The improved process of generating gas from bituminous coal, which consists in igniting a body of such bituminous fuel within a fire-pot and reducing it to a red-hot mass; piling fresh fuel on the red-hot mass within a fresh-fuel chamber at the top of said fire-pot and simultaneously withdrawing the inherent smoke from the said fresh-fuel chamber at a point above the flame and openings through which the said gas makes its exit; injecting steam and air into the bottom of the red-hot mass above the grate, and simultaneously sucking the gas at a point below the top plane of the red-hot mass and at a point below the new fuel which is contained within said fresh-fuel chamber and below the plane of the smoke-exit opening, substantially as specified.

804,738. MILLSTONE. AUGUSTE KAHN, Antwerp, Belgium. Filed Mar. 26, 1904. Serial No. 200,566.

Claim.—1. A millstone, comprising a plurality of segments, each segment composed of a set of bars of different lengths, with

saw-shaped teeth across one side of each bar, said bars being tangentially arranged to the central opening, as set forth.



2. A millstone, comprising a plurality of segments, each segment composed of a set of bars of different lengths, with saw-shaped teeth across one side of each bar, said teeth being formed on one side of each bar at right angles to the face of the stone, and said bars being tangentially arranged to the central opening, the bars of one segment being at an angle to the bars of the next section, and the interstices between the teeth being filled with agglomerating material, as set forth.

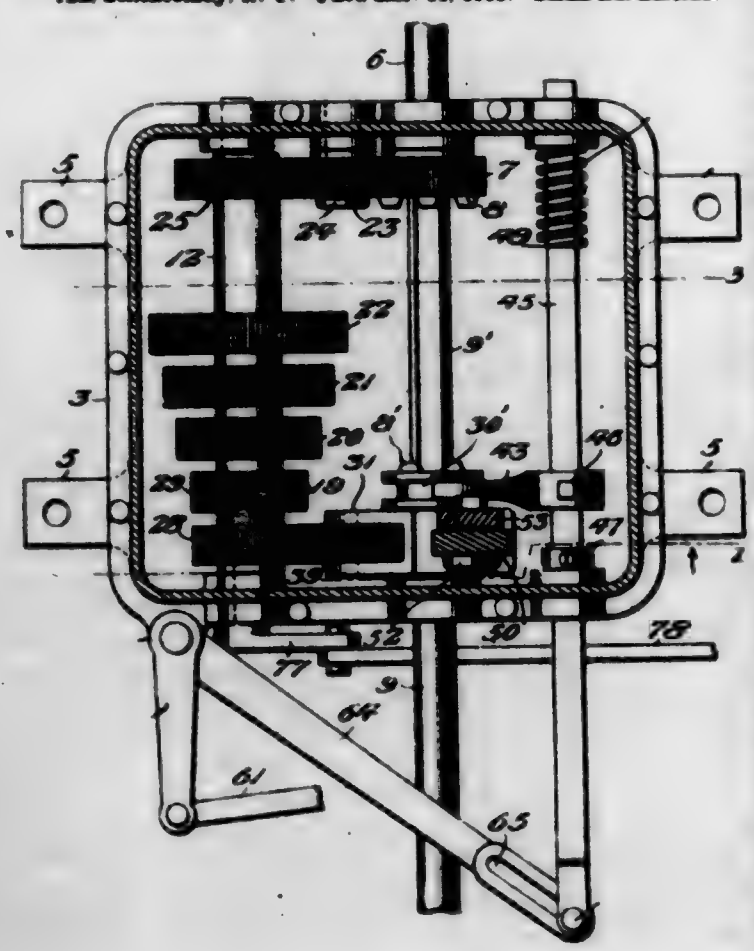
804,739. IMPULSE-PIN FOR WATCHES. EDMOND KUHN, East Orange, N. J., assignor to Ernest and Gustav Bunni, New York, N. Y. Filed May 5, 1905. Serial No. 259,017.



Claim.—1. The combination with a balance-shaft, a balance-wheel and an escapement-lever, of an impulse-pin constructed from pliable material and having an eye at its inner extremity staked to the said shaft, and the outer extremity bent at an angle and projected through the balance-wheel for engagement with the escapement-lever.

2. The combination with a balance-shaft, a balance-wheel and an escapement-lever, of a pliable impulse-pin held by the balance-wheel and having an outer extremity bent at an angle and projected through the said wheel for engagement with the lever.

804,740. VARIABLE-SPEED GEARING. COLUMBUS K. LARRITER, Schenectady, N. Y. Filed Mar. 11, 1905. Serial No. 249,620.



Claim.—1. In a variable-speed gearing, a driving element, a driven element, change-speed gears driven by said driving element, a clutch for directly connecting the driving element with the driven element, a transmission-gear connected with the driven element and adjustable in two planes, said gear being adapted when adjusted in one plane to throw the clutch into or out of operation or to be positioned opposite one or the other of the change-speed gears and when adjusted in the other plane to be moved into or out of connection with the alined speed-gear, and means for adjusting said transmission-gear.

2. In a variable-speed gearing, a driving element, a driven element, change-speed gears driven by said driving element, a clutch for directly connecting the driving element with the driven element, a transmission-gear connected with the driven element and adjustable in two planes, said gear being adapted when adjusted in one plane to throw the clutch into or out of operation or to be positioned opposite one or the other of the change-speed gears and when adjusted in the other plane to be moved into or out of connection with the alined speed-gear, means for sliding the transmission-gear for the first adjustment, and means for tilting said gear for the second adjustment.

3. The combination with a driving-shaft, and a driven shaft, of change-speed gears driven by said driving-shaft, an element adjustable in one direction to connect or disconnect said shafts or when the shafts are disconnected to aline with one or the other of the change-speed gears, and means for adjusting said element in a different direction when said shafts are disconnected to connect the driven shaft with the alined change-speed gear.

4. The combination with a driving-shaft, and a driven shaft, of interposed change-speed gears driven by said driving-shaft, an element adjustable longitudinally of said gearing in one direction to connect or disconnect said shafts or, when the shafts are disconnected, to aline with one or the other of the change-speed gears, and means for adjusting said element laterally of the change-speed gearing when said shafts are disconnected to connect the driven shaft with the alined element of the change-speed gearing.

5. In a variable-speed gearing, the combination of a main drive-shaft, a power-shaft disposed in alinement therewith, a power-transmitting shaft disposed in parallel relation to the power-shaft, a clutch for directly connecting the power-shaft with the main drive-shaft, gearing for normally connecting the main drive-shaft with the power-transmitting shaft, change-speed gears on the power-transmitting shaft, a transmission-gear longitudinally adjustable on the power-shaft to operate the clutch or aline with any of said change-speed gears and laterally adjustable thereon to mesh with the alined change-speed gear, and means for throwing the gearing between the main drive and power shafts out of operation and simultaneously operating said clutch to directly connect said main drive-shaft with the power-shaft.

6. The combination with a driving-shaft, and a driven shaft disposed in longitudinal alinement therewith, of a transmission-shaft arranged in parallel relation to the drive and driven shafts and driven from the former, change-speed gears on said transmission-shaft an element adjustable in a plane parallel with the transmission-shaft and coincident with the drive and driven shafts for connecting or disconnecting said drive and driven shafts or, when said shafts are disconnected, to aline with one or the other of the change-speed gears, and also adjustable laterally of the first-named plane when said drive and driven shafts are disconnected to connect the driven shaft with the alined change-speed gear, and means for adjusting said element, substantially as described.

7. In a variable-speed gearing, the combination of a main drive-shaft, a power-shaft, a power-transmitting shaft, gearing between the main drive-shaft and the power-transmitting shaft, change-speed gears on the power-transmitting shaft, a transmission-gear on the power-shaft adjustable to engage any of said change-speed gears, means for coupling the main drive-shaft directly to the power-shaft, eccentric mechanism for changing the position of the power-transmitting shaft to throw the gearing between the same and the main drive-shaft into and out of operation, and means for simultaneously operating said coupling means and eccentric mechanism to disconnect the main drive-shaft from the power-transmitting shaft and connect it with the power-shaft, and vice versa, substantially as described.

8. Variable-speed mechanism comprising a driving part, a driven part, means for directly connecting said parts a transmission member driven by the driving part and carrying change-speed gears, a transmission-gear carried by the driven part, an element adjustable to connect or disconnect said connecting means and to position said transmission-gear for connection with any one of the change-

speed gears, and also adjustable when so positioned to connect the transmission-gear with one of the change-speed gears, and means for effecting said adjustments of said element.

9. In a variable-speed gearing, the combination of a main drive-shaft, a power-shaft, a power-transmitting shaft, an eccentric for adjusting said power-transmitting shaft, change-speed gears on the powe-transmitting shaft, gearing between the main drive-shaft and power-transmitting shaft, said gearing adapted to be thrown into and out of operation by a change of position of said shaft through the action of said eccentric, a power-transmission gear coöperating with the power-shaft and adapted to engage any of said change-speed gears, a coupling actuated by said power-transmission gear for connecting the main drive-shaft directly with the power-shaft, an operating-lever, means connecting said lever with the eccentric to connect or disconnect the gearing between the main drive-shaft and power-shaft, and means for operating the transmission-gear to control the coupling and change-speed gears.

10. In a variable-speed gearing, a drive-shaft, a driven shaft, a clutch for directly coupling said shafts, change-speed gears, means for normally driving the same from the main drive-shaft, a sliding and pivoted element for operating the clutch, a rotating element for adjusting the change-speed gears to connect them with or disconnect them from the main drive-shaft, means for operating said rotating element, a transmission-gear carried by said sliding and pivoted element, and means for operating the sliding and pivoted element.

11. In a variable-speed gearing, the combination of a main drive-shaft, a power-shaft, a power-transmitting shaft, change-speed gears on the power-transmitting shaft, a power-transmitting gear coöperating with the power-shaft and adapted to be thrown into mesh with any of said change-speed gears, means for adjusting said power-transmitting gear, and means associated with said power-transmitting gear for directly connecting the main drive-shaft with the power-shaft or indirectly connecting it therewith through said power-transmitting shaft and change-speed gears.

12. A variable-speed gearing comprising a driving part, a driven part, change-speed mechanism between said parts, said mechanism comprising a series of change-speed gears and a transmission-gear for connecting the same with the driven part, means for moving the transmission-gear in one direction to position it opposite any one of the change-speed gears and moving it at an angle to the first-named direction to throw it into and out of mesh with the change-speed gear with which it has been brought into alinement, and means coacting with the transmission-gear for connecting the driving part with the driven part when said gear is moved in the first direction and disconnected from the change-speed gears.

13. Variable-speed gearing comprising a driving part, a driven part, change-speed mechanism for indirectly connecting said parts, said mechanism having a series of working positions for high and low speeds and varying intermediate speeds, shifting means associated with the driven part for connecting the same with any element of the change-speed mechanism, and means associated with said shifting means and controlled solely thereby for throwing said change-speed mechanism out of operation and directly connecting the driving part with the driven part.

14. Variable-speed gearing comprising a driving part, a driven part, change-speed mechanism for indirectly connecting said parts, said mechanism having a series of working positions for high and low speeds and varying intermediate speeds and including a controlling element slidably and pivotally mounted, said element having a sliding movement in one direction to directly connect the driving and driven parts or to position the change-speed mechanism for any certain speed, and a pivotal movement of varying degrees at an angle to and at different points along the sliding path for connecting the driven element with the change-speed gearing for operation at such speed, and means for operating the said controlling element.

15. In a variable-speed gearing, a driving element, a series of change-speed gears adapted to be driven thereby, an element to be driven, a power-transmission gear having a sliding pivotal connection with said element to be driven whereby it may be brought into alinement with any of said change-speed gears and pivotally adjusted to engage the same, means for adjusting said transmission-gear, and means controlled by said gear for connecting or disconnecting the driving and driven elements.

16. In a variable-speed gearing, the combination of a drive-shaft, a power-shaft disposed in longitudinal alinement therewith, a clutch element carried by the drive-shaft, a power-transmitting shaft disposed in parallel relation to the power-shaft, drive-gearing between the drive and power-transmitting shafts, a series of change-speed gears on the power-transmitting shaft, a carriage slidably and pivotally mounted on the power-shaft, a transmission-gear on the carriage, a clutch member associated with the carriage to engage the clutch member on the drive-shaft, means for sliding the carriage to position the transmission-gear opposite any of said change-speed gears to throw the said clutch members into and out of connection, and means for tilting the carriage to throw the transmission-gear into and out of mesh with the alined change-speed gear.

17. In a variable-speed gearing, the combination of a drive-shaft, a power-shaft disposed in longitudinal alinement therewith, a clutch element carried by the drive-shaft, a power-transmitting shaft disposed in parallel relation to the power-shaft, drive-gearing between the drive and power-transmitting shafts, a series of change-speed gears on the power-transmitting shaft, a carriage slidably and pivotally mounted on the power-shaft, a transmission-gear on the carriage, clutch member associated with the carriage to engage the clutch member on the drive-shaft, a sliding bar connected with said carriage for sliding the same to position the transverse gear opposite any of said change-speed gears or to throw the said clutch element into and out of connection, means for sliding said bar, and means for tilting the carriage to throw the transmission-gear into and out of mesh with the alined change-speed gear.

18. In a variable-speed gearing, the combination of a drive-shaft, a power-shaft disposed in longitudinal alinement therewith, a clutch element carried by the drive-shaft, a power-transmitting shaft disposed in parallel relation to the power-shaft, drive-gearing between the drive and power-transmitting shafts, a series of change-speed gears on the power-transmitting shaft, a carriage slidably and pivotally mounted on the power-shaft, a transmission-gear on the carriage, a clutch member associated with the carriage to engage the clutch member on the drive-shaft, means for sliding the carriage to position the transmission-gear opposite any of said change-speed gears or throw the said clutch members into and out of connection, a rock-shaft and connection between said shaft and carriage to tilt the same to throw the transmission-gear into and out of mesh with the alined change-speed gear, and means for operating said rock-shaft.

19. In a variable-speed gearing, the combination of a drive-shaft, a power-shaft disposed in longitudinal alinement therewith, a clutch element carried by the drive-shaft, a power-transmitting shaft disposed in parallel relation to the power-shaft, drive-gearing between the drive and power-transmitting shafts, a series of change-speed gears on the power-transmitting shaft, a carriage slidably and pivotally mounted on the power-shaft, a transmission-gear on the carriage, a clutch member associated with the carriage to engage the clutch member on the drive-shaft, a sliding rod operatively connected with the carriage for sliding the same to position the transmission-gear opposite any of said change-speed gears or to throw the said clutch devices into and out of connection, a bell-crank lever for operating said rod, means for operating the bell-crank lever, and means for tilting the carriage to throw the transmission-gear into and out of mesh with the alined change-speed gear.

20. In a variable-speed gearing, the combination of a drive-shaft, a power-shaft disposed in longitudinal alinement therewith, a clutch element carried by the drive-shaft, a power-transmitting shaft disposed in parallel relation to the power-shaft, drive-gearing between the drive and power-transmitting shafts, a series of change-speed gears on the power-transmitting shaft, a carriage slidably and pivotally mounted on the power-shaft, a transmission-gear on the carriage, a clutch member associated with the carriage to engage the clutch member on the drive-shaft, a sliding bar for sliding the carriage to position the transmission-gear opposite any of the said change-speed gears or to throw the said clutch devices into and out of connection, means for operating the sliding bar, a rock-shaft, a connection between said shaft and carriage for tilting the latter to throw the transmission-gear into and out of mesh with the alined change-speed gear, and means for actuating said rock-shaft.

21. In a variable-speed gear, the combination of a drive-shaft, a driven shaft, a power-transmitting shaft, a train of gears connecting the drive-shaft with the power-transmitting shaft, a series of change-speed gears on the power-transmitting shaft, a carriage, a power-transmission gear carried thereby, coacting clutch devices on the drive-shaft and carriage, means for sliding the carriage on the driven shaft for throwing said clutch devices into and out of connection or to bring the power-transmission gear into alinement with any of said change-speed gears, means for moving the carriage laterally of the driven shaft to throw said power-transmission gear into and out of mesh with the change-speed gear, and means for adjusting the power-transmission shaft to throw the gear between the same and the drive-shaft into and out of operative connection.

22. In a variable-speed gearing, the combination of a driving element, a driven element, means for directly or indirectly connecting said elements, said means including a clutch for connecting the driving and driven elements, a series of change-speed gears for indirectly connecting the same, means for operating said change-speed gears from the driving element, a power-transmission gear for connecting the driven element with any of the change-speed gears, an element carrying said power-transmission gear and mounted for sliding and tilting movements, means for sliding said element to throw the clutch into and out of operation or to position the transmission-gear opposite any one of the change-speed gears, and means for tilting said element to throw the power-transmission gear into and out of mesh with the alined change-speed gear.

23. Variable-speed mechanism comprising a driving part, a driven part, means for directly connecting said parts, change-speed gearing for indirectly connecting them, said gearing including an element adjustable in two directions and adapted when adjusted in one direction to connect or disconnect said means for directly connecting the driving and driven parts or to position the gearing for a variable-speed action and when adjusted in the other direction to connect one of the variable-speed gears with the driven part, and means for effecting said adjustments of said element.

804,741. FUSE-PLUG. PERCY G. LAWRENCE, Revere, Mass., assignor of one-half to Louis Greenburg, Boston, Mass. Filed Feb. 8, 1905. Serial No. 244,816.



Claim.—1. A fuse-plug having a cavity, a fuse within the cavity, an apertured plate or disk seated on the end of the plug and closing said cavity, a telltale detachably held in the aperture of said plate or disk, a cap secured to the end of the plug, said cap having an aperture, a transparent member covering said aperture, and struts interposed between the apertured disk or plate and the transparent member, said struts operating to space the cap from the disk and also to hold the transparent member in place.

2. A fuse-plug having a cavity, a fuse within the cavity, terminals exterior to the plug to which said fuse is connected, an apertured disk seated against the end of the plug and closing the cavity, a telltale detachably held in said aperture and a cap carried by the plug and provided with a transparent portion through which the telltale is visible.

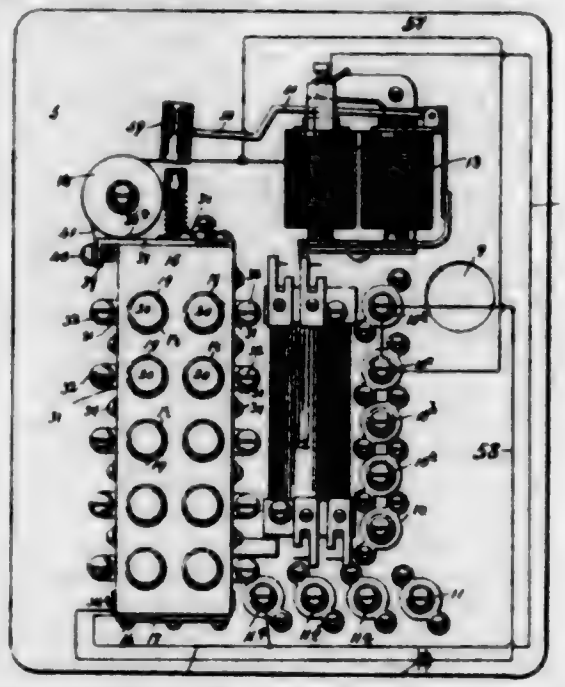
3. A fuse-plug provided with a cavity, a fuse within the cavity, an apertured plate or disk seated against the end of the plug and closing said cavity, a telltale detachably held in the aperture of said plate, a cap secured to the plug and inclosing said plate but spaced therefrom, said cap having a transparent portion through which the telltale is visible, and passages for the escape of gas formed in said plug and communicating with the space between the cap and plate.

4. A fuse-plug having a portion of reduced diameter, said plug having a cavity therein, a fuse within the cavity, a plate or disk engaging the top of the plug and closing said cavity, said plate having an aperture, a telltale removably supported in said aperture, a cap supported by the plug, said cap being spaced from the plate and provided with a transparent portion through which the telltale is visible, and longitudinal grooves or passages in the portion of the plug having the larger diameter, said grooves communicating with the space between the cap and disk or plate.

5. A fuse-plug having a cavity therein, one wall of said cavity being provided with an aperture, and a luminous visible telltale filling said aperture and detachably supported therein.

804,742. PUSH-BUTTON SWITCH MECHANISM FOR TELEPHONES. BURTON L. LAWTON, Meriden, Conn., assignor to The Conn. Telephone and Electric Co., Meriden, Conn., a Corporation. Filed Dec. 5, 1904. Serial No. 235,445.

Claim.—1. In a push-button switch mechanism, the combination with a series of push-buttons, of a locking instrumentality for locking any one or more of the said buttons in their depressed or operating positions, and electrically-operated means for operating the said locking instrumentality in releasing any one or more of the buttons and so restoring the apparatus to normal.



2. The combination with a series of push-buttons, of a locking-plate for locking any one or more of the said buttons in their depressed or operating positions, and electrically-operated means for moving the said locking-plate to cause it to release any button or buttons held in a depressed position by it.

3. In a push-button switch mechanism, the combination with a series of push-buttons, of a locking-instrumentality for locking any one or more of them in depressed or operated position, and an electrically-operating hammer for operating the said instrumentality in releasing any of the buttons held by it in depressed or operating position.

4. In a push-button switch mechanism, the combination with a series of push-buttons, of a locking-plate for holding any one or more of them in their depressed positions, and an electrically-operated hammer operating upon the plate to move it to release any button or buttons held in depressed position by it.

5. In a push-button switch mechanism, the combination with a switch-block formed with holes, of insulated contact-bushings located within the said block at or near the lower ends of the said holes, push-buttons located in the said holes and having their stems passed through the respective contact-bushings, contact-springs coacting with the respective push-buttons, and means for locking any one or more of the push-buttons in their depressed or operating positions in which they coact with the said contact-springs and for releasing the said buttons from their depressed positions.

6. In a push-button switch mechanism, the combination with a switch-block having holes, of insulated contact-bushings located within the said block at or near the lower ends of the said holes, push-buttons the stems whereof pass through the said bushings and carry locking-buttons and contact-buttons, contact-springs for direct electrical engagement by the said contact-buttons, and a movable locking instrumentality coacting with the locking-buttons for holding the push-buttons in their depressed positions.

7. In a push-button switch mechanism, the combination with a switch-block having holes, of insulated contact-bushings located within the said block at or near the lower ends of the said holes, push-buttons the stems of which pass through the said bushings, contact-buttons located upon the projecting ends of the said stems, contact-springs for direct electrical engagement with the contact-buttons, and means for locking the push-buttons in their depressed or operating positions.

8. In a push-button mechanism, the combination with a switch-block, of a series of push-buttons mounted therein, a series of contact-springs for engagement by the said buttons, a locking instrumentality coacting with all of the buttons for locking them in their depressed or operating positions in which they are held in contact with their complementary contact-springs, and a contact-spring located in the circuit of the local release-battery and arranged for being engaged by one of the push-buttons at the same time the same is engaged with its complementary contact-spring.

9. In a push-button switch mechanism, the combination with a switch-block, of a series of push-buttons mounted therein and each having a locking-button and a contact-button, of a series of complementary contact-springs arranged to be engaged by the contact-

buttons of the push-buttons, a movable locking-plate coacting with the locking-buttons of the push-buttons for holding the same in their depressed positions in which they are engaged with their complementary contact-springs, electrically-operated means for moving the said plate to release any one or more of the push-buttons after depression, and a spring located in the local release-circuit and arranged to be engaged by the contact-button of one of the push-buttons when the contact-button thereof is engaged with its complementary contact-spring.

10. In a push-button switch mechanism, the combination with a switch-block having holes, of insulated contact-bushings located within the said block at or near the inner ends of the said holes, push-buttons the stems of which pass through the said bushings, contact-springs for direct electrical engagement by the said buttons, and a locking instrumentality coacting with all of the push-buttons for locking them in their depressed or operating positions in which they are held in contact with their complementary contact-springs.

11. In a push-button switch mechanism for telephones, the combination with a switch-block, of a series of push-buttons mounted therein and each comprising a stem, a spring, a locking-button and a contact-button located below the same close to the lower end of the stem; a series of contact-bushings mounted in the said switch-block in position to have the stems of the push-buttons pass through them, a series of contact-springs arranged in position to coact with the contact-buttons of the push-buttons, and a movable locking instrumentality coacting with the locking-buttons of the push-buttons for holding the same in their depressed positions in which they are engaged with the said contact-springs, and an electrically-operated means for moving the said instrumentality to release any one or more of the said push-buttons after depression.

12. In a push-button switch mechanism, the combination with a switch-block having holes, of insulated contact-bushings located within the block at or near the lower ends of the said holes, push-buttons each having a cylindrical metal body corresponding in diameter to the said holes, a stem carried by the said body, and a spring encircling the stem, the stems of the respective push-buttons passing through the said contact-bushings, and the springs of the respective push-buttons being located within the said holes and encircling the said stems, contact-springs for direct electrical engagement by the said buttons, and a movable locking instrumentality coacting with the push-buttons for holding the same in their depressed positions.

804,743. **WRITING-TABLET.** PLEASANT T. LEMASTER, Spartanburg, S. C. Filed Apr. 12, 1905. Serial No. 255,110.



Claim.—1. The combination of a base-board, a pair of inclined links pivotally connected to and extending upwardly from the base-board, a spindle carried by the links to receive a roll of paper and adjustable guides mounted upon the base-board and arranged to receive the free end of the paper.

2. The combination of a base-board, a pair of inclined links pivotally connected to and extending upwardly from the base-board, a spindle carried by the links to secure a roll of paper and guides extending across the base-board having downturning ends adjustably secured to said base-board.

3. The combination of a base-board, a pair of inclined links pivotally connected to and extending upwardly from the base-board, a spindle carried by the links to receive a roll of paper, guides extending across the base-board, having downturned ends provided with slots and fastening devices passing through same adjustably securing the guides to the base-board.

804,744. **BRIDGE.** GUSTAV LINDENTHAL, New York, N. Y. Filed Sept. 11, 1903. Renewed Apr. 21, 1905. Serial No. 256,796.

Claim.—1. In an arch-bridge, a stiffening-frame attached to the convex side of the arch; said frame forming a truss or girder, one member of which is the arch itself and another member of which has its greatest depth at the point or points where the largest flexure moments from moving loads occur, substantially as described.

2. In an arch-bridge, a stiffening-frame attached to the convex side of the arch and having vertical stiffening members and diagonals; said frame forming a truss or girder, one member of which is the arch itself and another member of which has its greatest depth at the point or points where the largest flexure moments from moving loads occur, substantially as described.



3. In an arch-bridge, the combination of swinging towers, a cable firmly attached near the top of said towers and forming the arch, and a stiffening-frame attached to the convex side of the arch; said frame forming a truss or girder, one member of which is the arch itself and another member of which has its greatest depth at the point or points where the largest flexure moments from moving loads occur, substantially as described.

4. In an arch-bridge, the combination of swinging towers, a cable firmly attached near the top of said towers and forming the arch, and a stiffening-frame attached to the convex side of the arch and having vertical stiffening members and diagonals; said frame forming a truss or girder, one member of which is the arch itself and another member of which has its greatest depth at the point or points where the largest flexure moments from moving loads occur, substantially as described.

5. In an arch-bridge, a stiffening-frame attached to the convex side of the arch and having vertical stiffening members and adjustable diagonals; said frame forming a truss or girder, one member of which is the arch itself and another member of which has its greatest depth at the point or points where the largest flexure moments from moving loads occur, substantially as described.

6. In an arch-bridge, a stiffening-frame attached to the convex side of the arch, said frame forming a truss or girder, one member of which is the arch itself and another member of which is given such a form as to have the greatest depth at each quarter of the middle span, substantially as described.

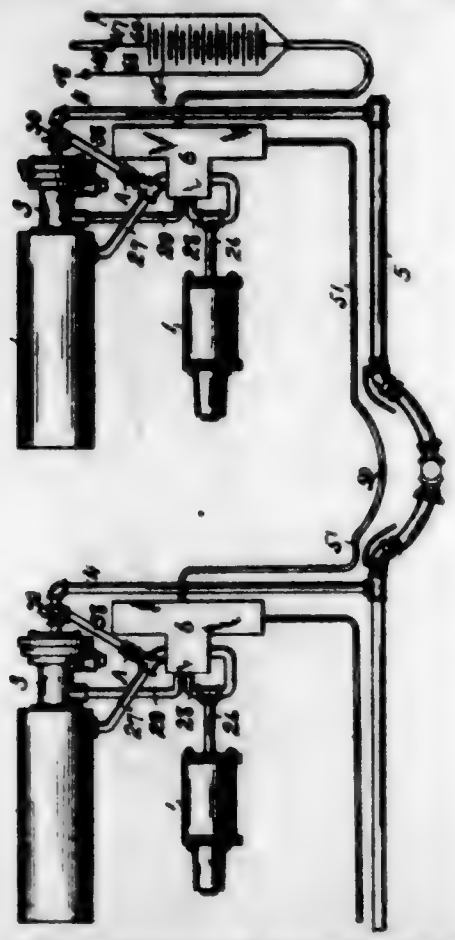
7. In an arch-bridge, a stiffening-frame attached to the convex side of the arch, said frame forming a truss or girder, one member of which is the arch itself, and another member of which is given such a form as to have the greatest depth at the middle of each end span and at each quarter of the middle span, substantially as described.

8. In an arch-bridge, a stiffening-frame attached to the convex side of the arch and having vertical stiffening members and adjustable diagonals; said frame forming a truss or girder, one member of which is the arch itself and another member of which has its greatest depth at the middle of each of the end spans and at each quarter of the middle span; substantially as described.

9. In an arch-bridge, the combination of swinging towers, a

cable firmly attached near the top of said towers and forming the arch; a stiffening-frame attached to the convex side of the arch; said frame forming a truss or girder and having a hinge in its center; one member of said frame being the arch itself and another member having its greatest depth at the point or points where the largest flexure moments from moving loads occur, substantially as described.

804,745. ELECTRICALLY-CONTROLLED FLUID-PRESSURE RAILWAY-BRAKE. JOHN S. LOCKWOOD, Kansas City, Mo. Filed Feb. 4, 1904. Renewed Mar. 24, 1905. Serial No. 251,848.



Claim.—1. The combination with the brake-cylinder, auxiliary reservoir, train-pipe and triple valve connecting the train-pipe with the auxiliary reservoir, of an electrically-actuated valve provided with means for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, and means by which the said electrically-actuated valve may be disposed so as to make the said connections.

2. The combination with the brake-cylinder, auxiliary reservoir, train-pipe and triple valve connecting the train-pipe with the auxiliary reservoir, of a valve provided with means for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, and electromagnetic means for disposing the valve so as to make the said connections.

3. The combination with the brake-cylinder, auxiliary reservoir, train-pipe and triple valve connecting the train-pipe with the auxiliary reservoir, of an oscillatory valve provided with means when properly oscillated to connect the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, and means for oscillating the said valve to positions suitable for making such connections.

4. The combination with the brake-cylinder, auxiliary reservoir, train-pipe and triple valve connecting the auxiliary reservoir with the train-pipe, of an oscillatory valve provided with means when properly oscillated to connect the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, and electrically-actuated means for oscillating the said valve to positions suitable for making said connections.

5. The combination with the brake-cylinder, auxiliary reservoir, train-pipe and triple valve connecting the train-pipe with the auxiliary reservoir, of a valve provided with means when moved to the proper positions for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, means for moving said valve to the said positions, and means for cutting out the triple valve and connecting the auxiliary reservoir with the train-pipe independently of the triple valve.

6. The combination with the brake-cylinder, auxiliary reservoir, train-pipe and triple valve connecting the train-pipe with the auxiliary reservoir, of a valve provided with means when moved to the proper positions for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, electrically-actuated means for moving the said valve to the said positions, and means for connecting the auxiliary reservoir with the train-pipe independently of the triple valve.

7. The combination with the brake-cylinder, auxiliary reservoir, train-pipe, and triple valve connecting the train-pipe and the auxiliary reservoir, of a valve provided with means when moved to the proper positions for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, means for moving the said valve to the said positions, a passage connecting the train-pipe with the auxiliary reservoir around the triple valve, a valve for disconnecting the triple valve with the train-pipe and connecting the train-pipe with the said passage, and a check-valve for preventing back flow from said passage into the train-pipe.

8. The combination with the brake-cylinder, auxiliary reservoir, train-pipe, and triple valve connecting the train-pipe with the auxiliary reservoir, of a valve provided with means when moved to the proper positions for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, electromagnetic means for moving the said valve to the said positions, suitable circuits connected with said electromagnetic means, and means for generating electric currents in said circuits for actuating the said electromagnetic means.

9. The combination with the brake-cylinder, auxiliary reservoir, train-pipe, and triple valve connecting the train-pipe with the auxiliary reservoir, of a valve provided with means for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir, or with the atmosphere, when moved to the proper positions, means for so moving the said valve, and releasable locking means for holding the valve in position in which exhaust from the brake-cylinder is prevented.

10. The combination with the brake-cylinder, auxiliary reservoir, train-pipe, and triple valve connecting the train-pipe with the auxiliary reservoir, of a valve provided with means for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, electrically-actuated means for positioning the said valve to make said connections, and means for locking the valve in position in which exhaust from the brake-cylinder is prevented after the brake-cylinder has been charged from the auxiliary reservoir, and electrically-actuated means for releasing the valve from the said locking means.

11. The combination with the brake-cylinder, auxiliary reservoir, train-pipe, and triple valve connecting the train-pipe with the auxiliary reservoir, of a valve provided with means when properly moved for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, means for normally holding the valve in position for connecting the brake-cylinder and the triple valve, electrically-actuated means for moving the valve in one direction for connecting the brake-cylinder directly with the auxiliary reservoir, means for retracting the valve in the opposite direction to a position for connecting the brake-cylinder with the atmosphere by way of the valve, and electrically-actuated locking means for preventing retraction of the valve to its normal position operative after the valve has connected the auxiliary reservoir and the brake-cylinder and then disconnected the same.

12. The combination with the brake-cylinder, auxiliary reservoir, train-pipe, and triple valve connecting the train-pipe and the auxiliary reservoir, of a valve provided with means when properly moved for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, an arm on the valve for oscillating the same, two electromagnets provided with means for swinging said arm in opposite directions when the magnets are energized one at a time, means for energizing said magnets, and means for normally bringing the valve to a position in which the brake-cylinder will be connected by the valve with the triple valve.

13. The combination with the brake-cylinder, auxiliary reservoir, train-pipe, and triple valve connecting the train-pipe and the auxiliary reservoir, of a valve provided with means when properly moved for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir independently of the triple valve, or with the atmosphere, the valve being provided with an arm for swinging the same, two electromagnets disposed on opposite sides of the arm, two magnetizable bodies connected to the arm and movable respectively

by the magnets for the purpose when the arm is moved in one direction to connect the brake-cylinder with the auxiliary reservoir, and when moved in the other direction to connect the brake-cylinder with the atmosphere for the purpose of exhausting the cylinder, and means for normally forcing the valve to a position in which the brake-cylinder and triple valve will be connected.

14. The combination with the brake-cylinder, auxiliary reservoir, train-pipe, and triple valve connecting the train-pipe with the auxiliary reservoir, of a valve provided with means when properly moved for connecting the brake-cylinder with the triple valve, with the auxiliary reservoir, or with the atmosphere, the valve being provided with an arm for swinging the same, two solenoids disposed one at each side of the said arm the cores of which are connected with said arm, two links forming such connection between the arm and the said cores, a locking device for preventing movement of the arm in one direction, an electromagnet controlling said locking device, means for energizing said electromagnet and said solenoids, and means for normally forcing the valve to a position connecting the brake-cylinder and the triple valve, the solenoids serving to move the valve to the other two positions.

15. In an air-brake, the combination with the brake-cylinder, the auxiliary reservoir, and the triple valve, of a valve-casing provided with suitable ports and connections connecting the ports with the brake-cylinder, the auxiliary reservoir, the triple valve and the atmosphere, an oscillatory valve mounted in said casing and provided with suitable passages for connecting respectively the atmosphere-ports and one of the ports leading to the brake-cylinder, the port leading to the auxiliary reservoir and the said brake cylinder port, the port leading to the triple valve and the other port leading to the brake-cylinder, and means by which the said valve may be oscillated to positions suitable for making such connections.

16. In an air-brake, the combination with the brake-cylinder, the auxiliary reservoir, and the triple valve, of a valve-casing provided with two ports leading to the brake-cylinder, a port leading to the atmosphere, a port leading to the auxiliary reservoir and a port leading to the triple valve, suitable conductors connecting said ports with the brake-cylinder, auxiliary reservoir and triple valve, a movable valve provided with passages disposed when the valve is properly positioned, for connecting the port leading to the atmosphere with one of the ports leading to the brake-cylinder, the said port leading to the brake-cylinder and the port leading to the auxiliary reservoir, the other port leading to the brake-cylinder and the port leading to the triple valve, and electrical means for so positioning the said valve.

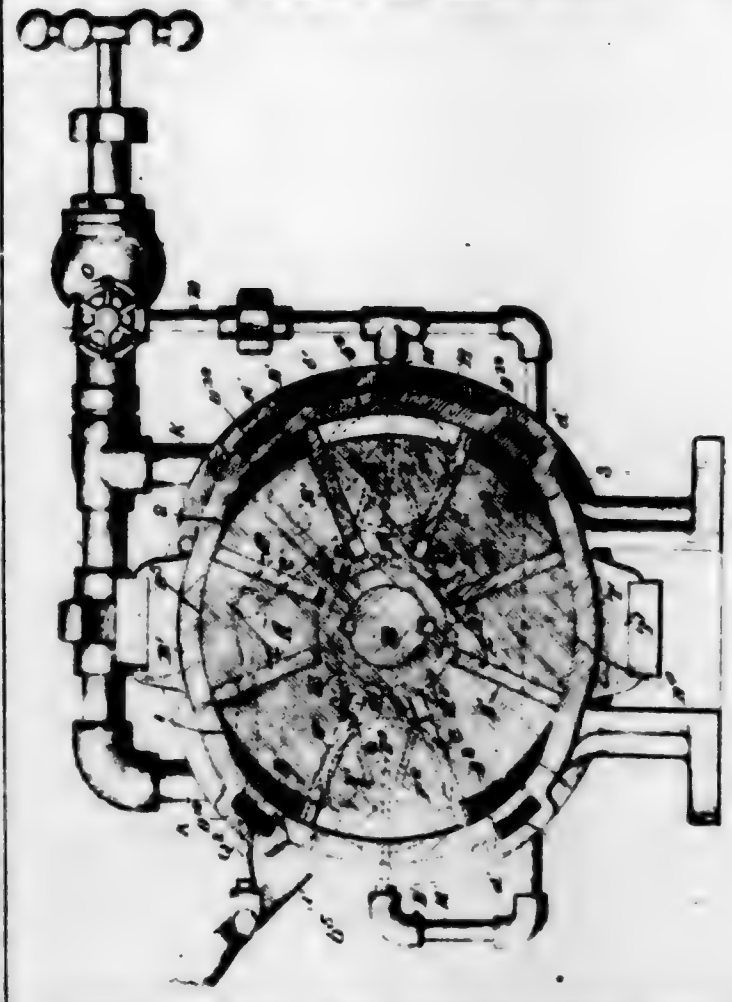
17. In an air-brake, the combination with the brake-cylinder, the auxiliary reservoir, and the triple valve, of a valve-casing provided with two ports leading to the brake-cylinder and ports leading respectively to the auxiliary reservoir, triple valve and atmosphere, and having suitable conductors connecting said ports with said brake-cylinder, reservoir and triple valve, an oscillatory valve mounted in said valve-casing and provided with a passage adapted to register with and connect one of the ports leading to the brake-cylinder with the port leading to the auxiliary reservoir, and having a passage for connecting the other port leading to the brake-cylinder with the port leading to the triple valve, and having also a passage for connecting one of the ports leading to the brake-cylinder with the port leading to the atmosphere, and electrical means for positioning the said valve so that the said ports may be consecutively connected as described.

18. In an air-brake, the combination with an oscillatory valve having suitable air-passages, of a casing in which said valve is mounted provided with suitable ports adapted, when the valve is properly positioned, to be connected by said air-passages, of two solenoids each provided with a core and a helix, means for energizing said helices, and moving the cores thereof, means by which when one helix is energized its core will oscillate the valve in one direction and when the other helix is energized its core will oscillate the valve in the other direction, means for retaining the valve in a normal central position, releasable locking means for preventing retraction of the valve to the said normal position after it has been moved to and partly retracted from a given position, and electromagnetic means for releasing the valve from the said locking mechanism.

19. The combination with a valve-casing provided with suitable ports, of the valve having suitable passages for connecting certain of said ports and provided with a crank-arm and rotatively mounted in said valve-casing, two helices disposed one at each side of said crank-arm, means magnetizable by said helices, movable thereby in opposite directions, means connected with said magnetizable means and said crank-arm for moving the crank-arm, and electrically-controlled means for preventing movement of the valve in one direction from a certain position.

20. The combination with an oscillatory valve provided with suitable air-passages and having a casing provided with suitable ports adapted to register with certain of said air-passages when the valve is moved to the proper positions, and having also a lever for oscillating said valve, a magnetizable core provided with means for locking the valve against movement in one direction, a helix for moving the said core in one direction, means for moving the core in the opposite direction, two helices, means for energizing the same, means when one of said two helices is energized for moving the lever in one direction, means for moving the lever in the opposite direction when the other of said two helices is energized, and means for retracting said lever to a central position.

804,746. **ROTARY ENGINE.** HERBERT M. LOYTON, Atlanta, Ga., assignor to National Investment Company, Savannah, Ga., a Corporation of Georgia. Filed May 24, 1905. Serial No. 262,056.



Claim.—1. A rotary engine comprising a piston circular in cross-section and provided with radial slots and with blades operating therein and with a circular series of end grooves communicating with their respective blade-slots, the casing having its rim formed with opposite concentric segments conforming to and fitting the piston for a portion of its circumference, and with an operating-section between the said concentric sections, said operating-section having an intermediate portion concentric with those fitting the piston and curved eccentric portions connecting said intermediate concentric portion with the concentric portions fitting the piston and merging by gradual reverse or compound curves with said smaller concentric portions fitting the piston, the casing-heads provided opposite the said eccentric connecting-section with ports extending uninterruptedly or in open communication with the rim and approximately throughout the length of said eccentric sections and also having its rim portion provided with a duct or channel connecting the opposite ports, one of said heads being provided with steam-chests having seat-plates provided with ports communicating with their respective ports in the heads of the casing and with ports communicating with the circular series of grooves in the ends of the piston and reversing-valves operating in said chests and suitably ported to coöperate with the ports therein, substantially as and for the purpose set forth.

2. The combination of a piston having eight radially-moving blades, the casing having its rim provided with opposite concentric portions fitting the piston circumferentially for a length equal to the distance apart of the centers of any two adjacent blades, and with opposite concentric operating-sections between the said piston fitting concentric sections, said concentric operating-sections being of a

circumferential length equal to the distance apart of the centers of any two adjacent blades at the time the said two adjacent blades have their greatest outward radial movements, and having four curved eccentric sections connecting said intermediate operating-sections with the concentric sections fitting the piston, the said eccentric sections merging with the piston-fitting sections by gradual compound or reverse curves, the said eccentric sections being of a circumferential length equal to the distance apart of the center of any two adjacent blades at the time the said blades may be covering this portion of the casing, the casing being provided with heads at each end, the said heads having ports opening opposite the eccentric sections, the said ports being of a circumferential length equal to the circumferential length of the said eccentric sections, and the rim of the casing being provided with ducts connecting the opposite ports in each head.

3. The combination of a piston and the casing having its rim provided with a concentric portion and with an eccentric portion leading to said concentric portion and provided with a steam-port opening opposite the eccentric portion and extending uninterruptedly approximately throughout the length of said eccentric portion, the eccentric and concentric portions of the rim at their juncture being united by gradual compound or reverse curves simulating the line of beauty whereby to avoid pounding and the like and secure an easy running of the engine, substantially as set forth.

4. The combination in a rotary engine of the casing, the piston and its blades, the casing-head, the said head being provided with circular valve-chambers with flat seats, steam-passages leading from the valve-seats to the inner sides of the casing-heads for admitting steam for driving the engine and exhausting steam therefrom, smaller steam-passages leading from the valve-seats to the inner sides of the casing-head for admitting steam to the inner sides of the blades and exhausting steam therefrom, of a circular rotative valve fitting neatly in the valve-chamber and seated flat on the valve-seat in the casing-head, the said valve being provided with a steam-port opening longitudinally through same for admitting steam to the steam-passages for operating the engine and provided on its under side with a circular segmental cavity so arranged that when the valve is rotated the cavity will overlap the exhaust-passage from the engine allowing the exhaust-steam to pass out the exhaust-pipe in accordance with the direction in which the engine is revolving the circular rotative valve also being provided at its under flat side with circular segmental channels or grooves so arranged that live steam will be admitted to the inner sides of the blades for forcing them out and exhausting steam from the inner sides of the blades while they are receding in accordance with the direction in which the engine is revolving.

5. The combination of the piston and the casing having its rim provided with concentric and eccentric portions and having steam-ports opening opposite the eccentric portion and a duct or channel extending along the casing and connecting the steam-ports at the opposite ends thereof.

6. The combination of the piston, circular in cross-section, the casing having its rim provided with opposite concentric portions fitting the circular piston and provided between said concentric portions with larger concentric portions and with eccentric portions connecting the larger and smaller concentric portions and merging with the latter on gradual reverse or compound curves, the heads fitting the opposite ends of the rim and provided opposite the eccentric portions thereof with ports, the rim being provided with ducts or channels connecting the respective ports at the opposite ends of the casing, substantially as set forth.

7. The combination of the circular piston provided with radial slots and blades operating therein, the casing having its rim formed with opposite concentric portions conforming to and fitting the piston for a portion of its circumference and with operating-sections between the said concentric sections and with eccentric portions connecting said intermediate concentric portions with the concentric portions fitting the piston, the heads of the casing being provided opposite the eccentric portions with steam-ports extending approximately throughout the length of the eccentric portions and being uninterrupted or in open communication from end to end, whereby the blades will be balanced during their outward and inward movements during the time they are passing over said eccentric sections, the rim of the casing being provided with ducts or channels connecting the opposite steam-ports of the heads, substantially as set forth.

8. The combination of the piston having the blade-slots and the blades operating in said slots, the piston being provided at its end with segmental channels or grooves, one each of said channels or grooves being opposite the blade-slots and in open communication therewith, of the casing and casing-head, the casing-head being provided with ports opening concentrically on a line with the said channels or grooves whereby the piston in revolving will bring the channels or grooves in register with the said ports, the casing-head also being provided with a valve or valves for admitting steam to and exhausting steam from the said ports whereby the piston in revolving will bring the channel or grooves in register with the said ports allowing live steam to be admitted to the inner sides of the blades while they are moving radially outward and exhausting the steam from the inner sides of the blades just at the point where they are ready to move radially inward.

9. In a rotary engine a piston-blade provided at its end or ends with a packing-strip recessed in the end of the blade and provided near its ends with shoulders facing toward said ends and adapted to abut the blade and prevent the longitudinal displacement of the strip substantially as described.

10. The combination with the piston recessed in its end, of the curved packing-box conformed to and fitting in said recess and having its outer side chambered and provided with a port leading from said chamber to the inner side of the packing-box for the passage of steam, substantially as set forth.

11. An engine comprising a casing, a piston having blades, the casing being provided with ports and channels for conducting steam for driving the engine and for actuating the blades and for exhausting such steam, and a valve provided with means for controlling the passage of steam to drive the engine and to operate the blades and the exhaust of said steam substantially as set forth.

12. The combination in an engine with the casing, the piston and its blades, of a valve having means for controlling the feed and exhaust passage of steam to drive the engine and to operate the blades.

13. The combination in an engine of the casing, the piston and its blades, the valve-seat having ports for the feed and exhaust of steam to operate the engine and to actuate the blades and a valve fitting said seat and ported to coöperate therewith in feeding and exhausting the steam to and from the engine and for operating the blades, substantially as set forth.

14. The combination in an engine with the casing, the piston and its blades, of the valve-seat having ports and passages communicating the same with the blade-slots of the piston and provided with ports for feeding steam to and exhausting it from the engine and with ports communicating with the exhaust-ports and a valve having ports controlling the latter ports and also ported and chambered to coöperate with the feed and exhaust ports of the valve-seat substantially as and for the purposes set forth.

15. The combination with the casing, the piston having the blade-slots and the blades operating therein, the valve-seat having a port and a passage connecting the same with the blade-slot, a feed-port adapted to be communicated with said slot-port and a feed-port and an exhaust-port for steam for driving the engine and the valve fitted to said seat and ported and chambered for the feed and exhaust of steam to and from the engine and provided in its under side with a chamber to communicate the slot-port and its feed-port and with means for controlling the exhaust of steam from the slot-port, substantially as and for the purposes set forth.

16. The combination of the casing, the piston having its slots and the blades therein, the valve-seat having the exhaust-port and the pair of feed-ports for the passage of steam to and the exhaust thereof from the engine, passages being provided for the steam between said seat and the operating parts of the engine and ports for supplying steam to the under side of the blades during the time they are moving outwardly and exhausting it from the slots of the piston while the blades are receding, and connecting-ports between the seat-plate and the main feed-ports for the engine, and the valve fitted to said seat and having a feed-port and an exhaust-chamber for controlling the feed and exhaust of steam for operating and reversing the engine and provided in its inner side with chambers for controlling the feed and exhaust of steam to and from the blade-slots of the piston, substantially as set forth.

17. The combination of the casing having the rim provided with longitudinal ducts or channels and the heads having ports for admitting and exhausting steam to the casing and communicating with said ducts or channels, one of said heads being provided with valve-chests and with seat-plates ported for the feed and exhaust of steam, the valves operating in said chests and ported and chambered to coöperate with the seat-plates and connections between said valves whereby they may be operated jointly substantially as set forth.

18. The combination of the piston circular in cross-section and provided with radial slots and with blades operating therein, the casing having its rim formed with opposite concentric segments conformed to and fitting the piston for a portion of its circumference and

with opposite operating-sections between the said concentric sections, said operating-sections consisting of intermediate portions concentric with those fitting the piston and curved eccentric portions connecting said intermediate concentric portions with the concentric portions fitting the piston, the heads at the ends of said rim, one of said heads being provided opposite the larger concentric portions of the rim with valve-chests and with ports and passages for feeding steam to operate the engine and to actuate the piston-blades and for the exhaust of steam from the engine and from said blades, and the valves operating in said chests and ported and chambered to coöperate in feeding and exhausting the steam to and from the engine and the blades, substantially as set forth.

19. A rotary engine comprising the piston, the casing having a rim portion and the opposite heads, the shaft connected with the piston and extending through and beyond the heads and the yokes connected at their ends with the rim portion of the casing and provided at their middles with bearings for the piston-shaft, substantially as set forth.

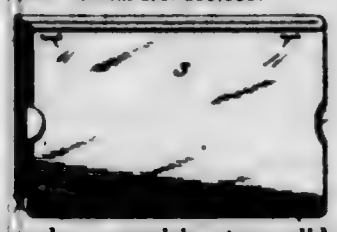
20. An engine having a seat-plate provided with a main feed-port and a main exhaust-port and having a piston provided with slots and with blades operating therein and having passages for conducting the steam to and from the inner ends of the blade-slots and ports communicating with said passages and opening through the seat-plate and the valve fitted to said seat-plate and having a feed-port and an exhaust-chamber and provided in its inner side with chambers coöperating with the ports for feeding and exhausting steam to and from the blade-slots, during the outward and inward movements of the blades, substantially as set forth.

21. In an engine the combination of the casing and the piston provided with radial blade-slots and in its end with a circular series of recesses communicating at their middle portions with the inner ends of their respective blade-recesses and arranged comparatively close together at their adjacent ends, the casing being provided with ports communicating with said recesses, substantially as set forth.

22. The combination in an engine with the piston and its blades, of the casing having its head provided on opposite sides of the center of the piston with valve-chests having seat-plates provided with steam-ports and with an exhaust-port, the exhaust-ports of the opposite chests being arranged at the sides of their seats adjacent to the center of the piston and the steam-ports being arranged at the outer sides of said seats, the valves operating in said chests and connections between the valves whereby they may be operated in unison, substantially as set forth.

23. The combination of the piston circular in cross-section, the casing having its rim provided with concentric portions fitting the circular piston and provided between said concentric portions with larger concentric portions and with eccentric portions connecting the larger and smaller concentric portions and merging with the latter, the heads fitting the opposite ends of the rim and provided opposite the eccentric portions thereof with ports, the ends of said ports on opposite sides of the larger concentric portions being slightly farther apart than the distance between the sections or any two adjacent blades, whereby steam may not blow directly through from feed to exhaust ports.

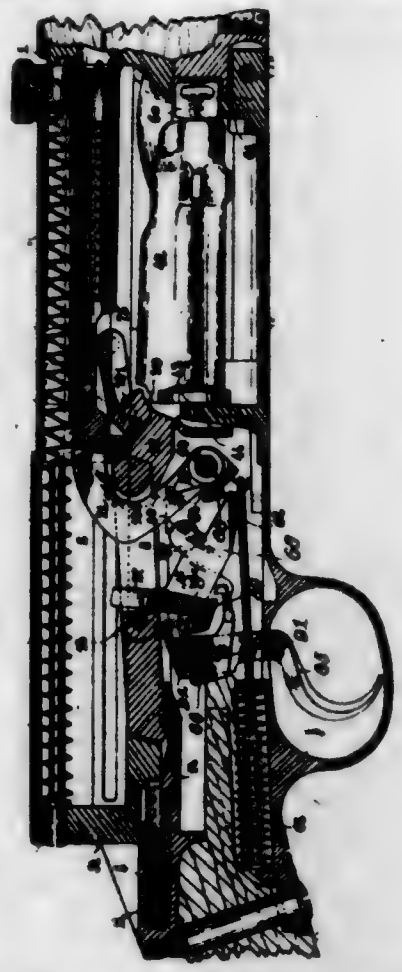
804,747. **ENVELOP.** ALLAN H. MACKENZIE, Hongkong, China. Filed Jan. 16, 1904. Serial No. 189,369.



Claim.—An envelop comprising two solid sections folded one on the other and having each of their opposite side marginal edge portions bent onto the body of the two sections to form an inclosed pocket, said bent edge portions being chamfered and arranged reversely in opposite directions to form longitudinal V-shaped guide-ways, said sections being further provided with an opening at the central portions of the intersections of their fold and means secured to said sections and bent edge chamfered portions to secure said parts together, substantially as specified.

804,748. **SMALL-ARM HAVING AUTOMATIC BREECH-ACTION.** CÄCILIE VON MANNLICHER, Vienna, Austria-Hungary, administratrix of Ferdinand von Mannlicher, deceased. Filed Feb. 23, 1904. Serial No. 196,894.

Claim.—1. In a small-arm the combination of a frame fixed to the butt, a barrel and a breech-casing secured to the barrel and adapted to slide longitudinally in the said frame, a spring interposed between the frame and the breech-casing, a breech-bolt adapted to slide longitudinally in the breech-casing, means for locking the breech-bolt in its breech-closing position, a rear head-plate on the breech-casing, a guide-bolt adapted to engage into a hole in the rear head-plate and a spring interposed between the breech-bolt and the guide-bolt, with a cap, a rear head-plate on such cap adapted to overlap the rear head-plate of the breech-casing, a hole in the rear head-plate of the cap adapted to receive the rear end of the guide-bolt, such rear end of the guide-bolt being forced into the said hole in the rear head-plate of the cap by the said spring interposed between the breech-bolt and the rear head-plate of the breech-casing a projection or projections on the front end of the cap and a recess or recesses in the breech-casing adapted to engage with such projection or projections substantially as and for the purpose described.



2. In a small-arm the combination of a frame fixed to the butt, a barrel and a breech-casing secured to the barrel and adapted to slide longitudinally in the said frame, a spring interposed between the frame and the breech-casing, a breech-bolt adapted to slide longitudinally in the breech-casing, means for locking the breech-bolt in its breech-closing position, a rear head-plate on the breech-casing, a guide-bolt adapted to engage into a hole in the rear head-plate and a spring interposed between the breech-bolt and the guide-bolt with guide-ribs at the sides of the breech-bolt, guide-ribs at the inner side of the side walls of the breech-casing ending at a distance from the rear head-plate of the breech-casing, the guide-ribs on the breech-bolt being adapted to slip and be guided under the guide-ribs on the breech-casing substantially as and for the purpose described.

3. In a small-arm the combination of a frame fixed to the butt, a lock-casing fixed in such frame, a barrel and a breech-casing secured to the barrel and adapted to slide longitudinally in the frame, a spring interposed between the fixed frame and the breech-casing, a breech-bolt adapted to slide longitudinally in the breech-casing, a spring interposed between the breech-bolt and the rear head-plate of the breech-casing and means for locking the breech-bolt in its breech closing position with a firing-pin adapted to slide longitudinally in the breech-bolt, a recess on the under side of the firing-pin, an incline forming the rear wall of such recess, a locking-dog pivoted at its front end in the breech-bolt and adapted to snugly fit the recess in the firing-pin and to have at the same time its under side flush with the under side of the breech-bolt, a recess in a bridge-piece in the lock-casing opposite to the rear end of the locking-dog at the closed position of the breech-bolt an incline at the rear end of the said recess in the bridge-piece and means for throwing forward the firing-pin substantially as and for the purpose described.

4. In a small-arm the combination of a breech-bolt with a firing-pin adapted to slide longitudinally in the breech-bolt a recess on the under side of the firing-pin an incline forming the rear wall of such recess, a locking-dog adapted to snugly fit the recess in the firing-pin and to have at the same time its under side flush with the under side of the breech-bolt, lateral trunnions at the front end of the locking-dog, a recess at the under side of the breech-bolt adapted to receive the locking-dog, an enlargement at the rear end of the recess in the breech-bolt and grooves in the sides of the recess in the breech-bolt extending from such enlargement to the front end of this recess and adapted to receive the trunnions on the locking-dog, substantially as and for the purpose described.

5. The combination with the breech-casing, of a breech-bolt adapted to slide longitudinally therein, a hammer pivoted below such breech-casing and adapted to be engaged and turned by the said breech-bolt to a predetermined position, a notch in the hammer, a nose constituting the outer wall of such notch, a surface at the outer end of such nose, a sear pivoted below the breech-casing, a point on such sear adapted to bear against the surface at the outer end of the said nose at the aforesaid predetermined position of the hammer, a rear arm on the sear adapted to project into the path of the breech-bolt at the aforesaid predetermined position of the hammer and means for withdrawing the point of the sear from the notch in the hammer substantially as and for the purpose described.

6. The combination with a lock-casing for small-arms the sear-point, the rear arm of the sear, arms connecting the sear-point with the rear arm of the sear, on either side, trunnions on the outer side of such connecting-arms, one of these trunnions having part of its circumference projecting freely beyond its connecting-arms, a bearing in the lock-casing for this latter trunnion surrounding a part of the circumference of the same only which is smaller than the part of this circumference projecting from the connecting-arms, a cut-out in the side of the lock-casing containg the last-named trunnion-bearing and a bearing for the other trunnion on the other side of the lock-casing.

7. In a lock for small-arms the combination of a sear-point, a rear arm of the sear, arms connecting the said rear arm of the sear with its point on either side, trunnions on the oustide of such connecting-arms and bearings for such trunnions in the lock-casing with a rotatable head projecting into the lock-casing, a recess in such head and a tooth on the side of the sear adjacent to such head and adapted to enter into such recess at a predetermined position only of the head substantially as and for the purpose described.

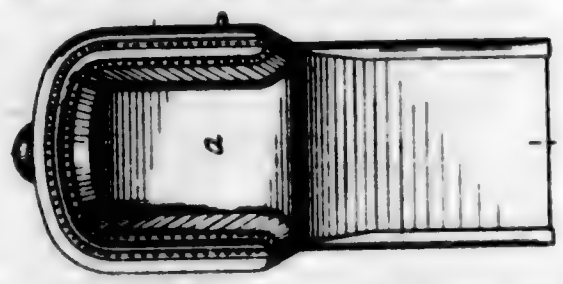
8. In a small-arm the combination of a frame fixed to the butt, a barrel and a breech-casing secured to the barrel and adapted to slide longitudinally in the frame, a spring interposed between the fixed frame and the breech-casing a breech-bolt adapted to slide longitudinally in the breech-casing, a spring interposed between the breech-bolt and the rear head-plate of the breech-casing and means for locking the breech-bolt in its breech-closing position with a guide-rib on the breech-bolt, a spring-catch pivoted at one side of the breech-casing, a projection on the front end of the catch adapted to enter into the path of such guide-rib, an incline at the rear end and a shoulder at the front end of the guide-rib substantially as and for the purpose described.

804,749. **CLEANING ATTACHMENT FOR TOBACCO-PIPES.** WILLIAM J. MECHEBY, San Francisco, Cal., assignor of one-third to Sigmund Jacobowitz, San Francisco, Cal. Filed July 5, 1904. Serial No. 215,314.



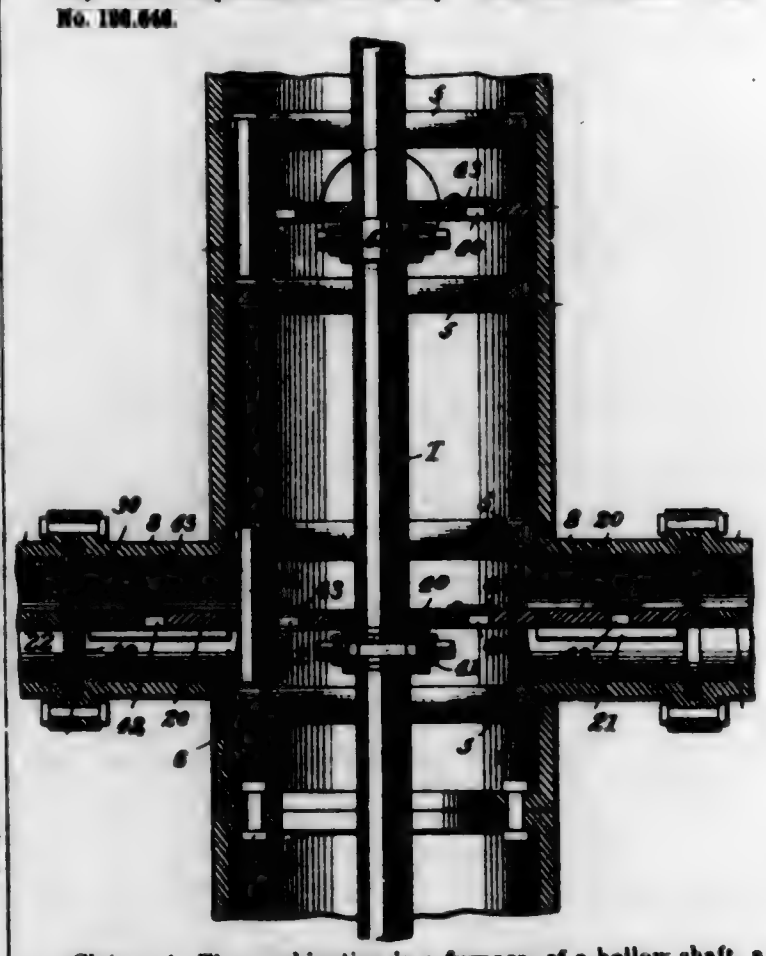
Claim.—The combination with a pipe comprising a bowl having a stem with a bore communicating with the base of the bowl, of a cleaning attachment consisting of an imperforate concave-convex body having an upwardly-extending projection to serve as a shield or ecalinder, the body and projection being formed from a single piece of material and the projection provided with a series of perforations at an elevation above the upper edge of the body and inclined outwardly and upwardly with respect to the body and transversely concaved to conform to the contour of the inner surface of the wall of the bowl against which it is placed, the imperforate body being of such dimensions relatively to the bowl-chamber that it will be above the lower terminal of the latter when inserted in operative position, and the angle of the extension is such as to form a space between the outer surface of the same and the inner surface of the bowl-wall below the point with which it engages, the extension being located wholly above the communicating point of the bore of the stem with the bowl.

804,750. **OPERATING PAD OR RECEPTACLE.** CHRISTIAN W. MEHRMANN, Jersey City, and DANIEL HOGAN, Hoboken, N. J., assignors to Whitall Tatum Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 15, 1904. Serial No. 237,043.



Claim.—An operating-pad comprising a bottom and an inflatable cushion, said cushion consisting of a continuous wall having the inner portion thereof hinged to the said bottom and its outer portion provided with means to form an inwardly-extending fold when the cushion is deflated, thereby providing an outwardly-extending flap to facilitate the cleaning of the pad when the cushion is deflated.

804,751. **ROASTING-FURNACE.** AUGUST R. MEYER, Kansas City, Mo., assignor to The United Zinc and Chemical Company, Kansas City, Mo., a Corporation of New Jersey. Filed Mar. 17, 1904. Serial No. 198,646.



Claim.—1. The combination in a furnace, of a hollow shaft, a series of hollow arms extending in pairs from the opposite sides of the shaft and communicating with the latter, a rod extending centrally through the shaft, and a series of partitions extending across the shaft between its ends and centrally through the arms and supported in part by said rod, substantially as set forth.

2. The combination of the hollow shaft S, hollow arms, horizontal partitions in said arms, a shaft T within the shaft S, and partition-plates carried by the shaft T in line with the partitions of the arms, substantially as set forth.

3. The combination in a furnace, of a hollow shaft, hollow stirring-arms carried thereby and communicating with said shaft, horizontal partitions dividing the arm and shaft sections, said partitions supported within the shaft by a vertical rod or shaft T, and means for feeding water downward in contact with the inner face of the shaft S and through said partitions, substantially as set forth.

4. The combination in a furnace, of a hollow shaft, hollow stirring-arms carried thereby and communicating with said shaft, hori-

zontal partitions dividing the arm and shaft sections, said partitions supported within the shaft by a vertical rod or shaft T, gutters arranged at intervals within the shaft S, and pipes extending through the partitions between the gutters on opposite sides of the partitions, substantially as set forth.

5. The combination of the hollow shaft S having hollow bosses with partitions therein, hollow arms extending from the bosses and having partitions, a rod or shaft T within the shaft S, and partition-plates supported by the shaft T in line with the partitions of the bosses and arms, substantially as set forth.

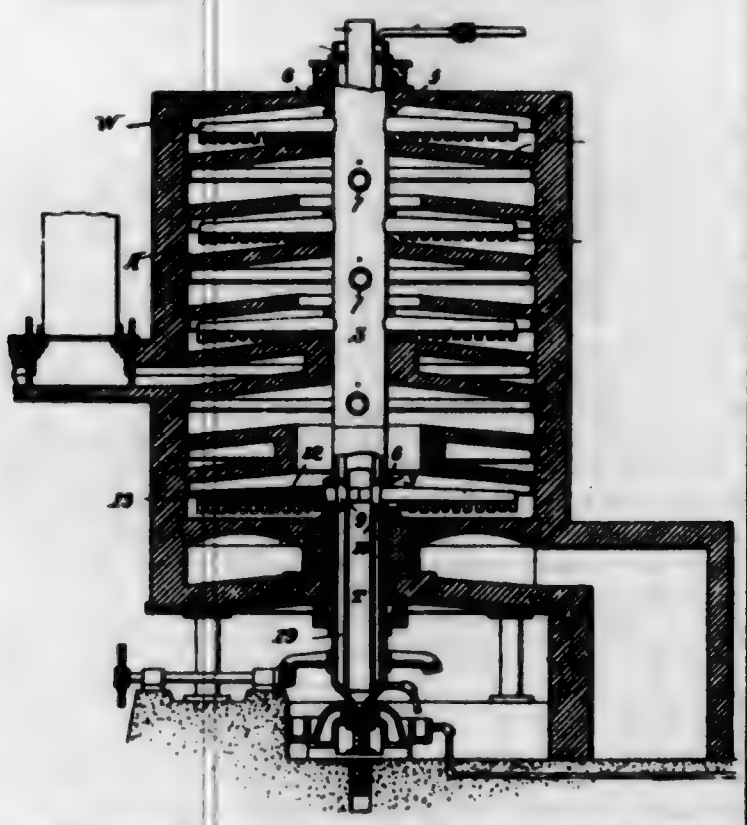
6. The combination of the shaft S, its radial hollow arms having partitions, and partition-plates supported within the shaft S and provided with ports and valves, substantially as set forth.

7. The combination of the hollow shaft S, its partitions, hollow arms and partitions therein with ports 40 in said partitions, and valves for closing said ports, substantially as set forth.

8. The combination of the hollow shaft S, its arms having partitions, partition-plates supported centrally within the shaft S, said shaft extending above and below the partition-plates, and means for admitting a cooling fluid to the bottom and for permitting its escape at the top of the shaft, substantially as set forth.

9. The combination with the hollow shaft S, its partitions and hollow arms having partitions, of means for admitting air to the bottom of the shaft and for supplying water to flow downward along the inner face of the shaft, substantially as set forth.

804,752. **ROASTING-FURNACE.** AUGUST R. MEYER, Kansas City, Mo., assignor to The United Zinc and Chemical Company, Kansas City, Mo., a Corporation of New Jersey. Filed Mar. 17, 1904. Serial No. 198,647.



Claim.—1. The combination with the pipe or hollow shaft S, of arms extending into the shaft and having their inner ends interlocked within the shaft, substantially as set forth.

2. The combination with the pipe or hollow shaft S, of arms extending into the shaft and each of said arms having at its inner end means for engaging the other arm, substantially as set forth.

3. The combination of the shaft S having oppositely-arranged sockets and arms extending through the sockets, one arm having a notched flange and the other provided with hooks for engaging the flange after passing through the notches, substantially as set forth.

4. The combination of the shaft S having oppositely-arranged sockets and arms extending through the sockets, one arm having a notched flange and the other provided with hooks for engaging the flange after passing through the notches, and means for preventing the arms from turning after being adjusted in place, substantially as set forth.

5. The combination with a hollow shaft having oppositely-arranged sockets, of arms extending through the shaft abutting end to end and provided with ports forming communications between the arms and the shaft, substantially as set forth.

6. The combination of the shaft S having oppositely-arranged sockets, and arms extending through the sockets and abutting at their inner ends, said arms being engaged one with the other independently of their connection by said shaft.

7. The combination of the shaft S having oppositely-arranged sockets, and arms extending through the sockets and abutting at their inner ends, one of said arms being provided at its inner end with hooks engaging notches in the inner end of the other arm.

8. The combination of the shaft S having sockets oppositely arranged, arms extending through the sockets and provided with inlet and outlet ports and supply and discharge flues or channels, the inlet-ports of the arms connecting with the supply-flue and the outlet ports with the discharge-flue, and means for insuring a flow of water down the face of the discharge-flue, substantially as set forth.

9. The combination of the hollow shaft having tapering sockets oppositely arranged, and arms having tapering ends fitted to said sockets, one arm having terminal hooks and the other a notched flange, whereby the ends of the arms may be connected within the shaft, substantially as set forth.

10. The combination of the hollow shaft having inwardly-extending oppositely-arranged bosses, and arms extending through said bosses and provided at their adjacent ends with interlocking means, substantially as set forth.

11. The combination of a shaft having sockets partly cylindrical and partly tapering with arms extending through the sockets, connected end to end provided with enlargements partly tapering and partly cylindrical, and packings arranged within the sockets outside the cylindrical portions of the enlargements, substantially as set forth.

12. The combination with the shaft having sockets oppositely arranged, of arms extending through said sockets and having their ends within the shaft interlocked, and supplemental means for preventing rotation of the arms after adjustment to position, substantially as set forth.

13. The combination with the shaft having oppositely-arranged sockets, of arms extending through said sockets and connected end to end, each arm having a lateral projection outside of the shaft, and means connecting said lateral projections with the shaft, to prevent rotation of the arms relative to the shaft, substantially as set forth.

14. The combination of the shaft having inwardly-projecting bosses with sockets and ports in said bosses, arms extending into said bosses and having ports communicating with those of the bosses and other ports nearer the inner ends of the arms, a flue communicating with the inner ports, another flue communicating with the ports in the bosses, and means for securing a flow of water downward at the inside of the shaft and for admitting air to the inner flue, substantially as set forth.

15. The combination with the shaft, socketed bosses, arms, and inner and outer flues, of a pipe admitting water to the top of the shaft, and a series of receptacles or gutters arranged to hold the water at different points within the shaft, substantially as set forth.

16. The combination with the shaft, hollow arms, and inner and outer flues, of a pipe admitting water to the top of the shaft, and a series of receptacles or gutters arranged to hold the water at different points within the shaft, said gutters provided with perforations inclined to discharge the water toward the inner face of the shaft, substantially as set forth.

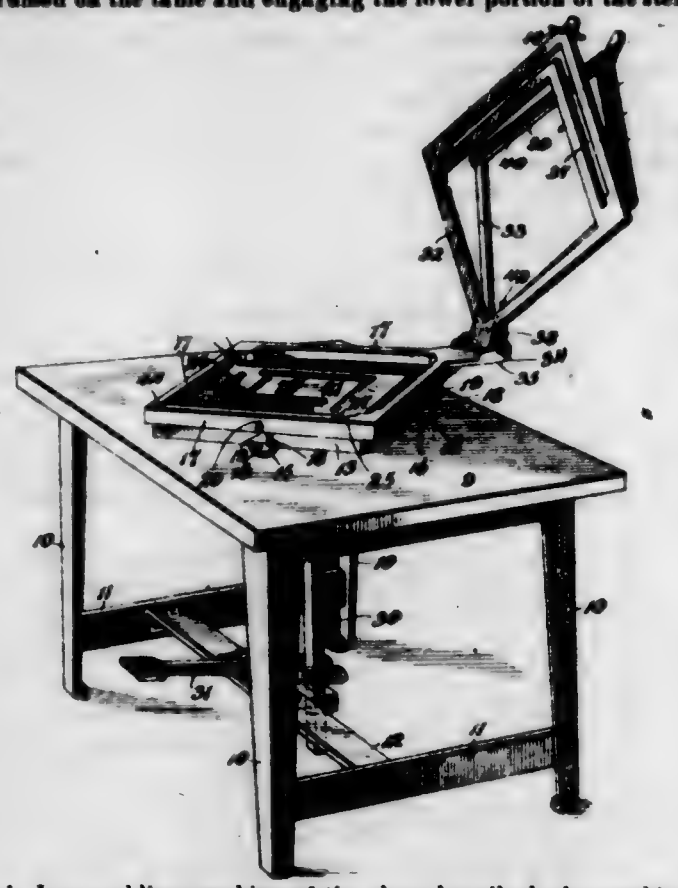
804,753. **TILE-MOLDING MACHINE.** HENRY MEYER, Dunkirk, Ohio. Filed Feb. 14, 1905. Serial No. 245,617.

Claim.—1. In a molding-machine of the class described, the combination with a base having a top wall provided with recesses, of an open-bottomed mold-body receiving the base and adjustably secured thereto, a false bottom movably mounted in the body above the top wall of the base, and means for elevating the false bottom, said means including a frame movably located in the recesses and movable upwardly out of the same, and an actuating device connected to the frame and extending through the base.

2. In a molding-machine of the class described, the combination with a base having a top wall provided with recesses, of a mold-body having an open bottom that receives the base, means for adjustably securing the body at different elevations with respect to the base, a false bottom movably mounted in the body above the top wall of the base, said bottom normally resting on the top of the base, a spider-frame normally located in the recesses of the said top wall and movable upwardly out of the same to elevate the false bottom, a stem secured to the spider-frame and extending downwardly through the base, and means for effecting the upward movement of the stem.

3. In a molding-machine of the class described, the combination with a table, of a base mounted thereon and projecting above the same, said base having side walls and a top provided with crossed

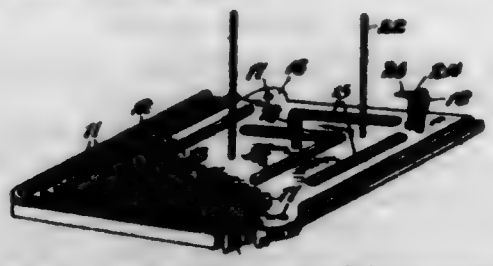
recesses, an open-bottomed mold-body having side walls that surround the base, means adjustably connecting the side walls and the sides of the base for holding the body at different elevations, face-forming means carried by the upper portion of the mold-body and adjustable therewith, a false bottom movably mounted in the mold-body and normally resting on the top of the base, a spider-frame normally located in the recesses of the base-top and movable upwardly to elevate the false bottom, a stem secured to the spider-frame and extending downwardly through the base and table, and a foot-lever fulcrumed on the table and engaging the lower portion of the stem.



4. In a molding-machine of the class described, the combination with a base, of a mold-body comprising side walls that surround the base, means for securing the body at different elevations on the base, said side walls having recesses in their inner sides, and upstanding core-pins carried by the side walls and located in the recesses.

5. In a molding-machine of the class described, the combination with a mold having a bottom and side walls, of separately-swinging face-forming frames mounted on the mold, one of said frames being located over the other, and a positioning-stud carried by the under frame and projecting on opposite sides of said frame, the other frame and the adjacent mold-wall having sockets to respectively receive the ends of the stud.

804,754. ROOFING-TILE. HENRY MEYER, Dunbar, Ohio. Filed Feb. 21, 1905. Serial No. 246,754.



Claim.—1. In a roofing-tile, a body of plastic material, an open eye carried by the body, and a flexible holding device having a secured portion embedded in the body and a free terminal portion projecting from said body at one side of the eye, said free terminal portion being arranged to be passed through the eye.

2. In a roofing-tile, a body of plastic material, and fastening means for said body comprising an eye of wire having a portion embedded in the body and depending from its under side, and a flexible holding device of wire also having a portion embedded in the body, said holding device projecting from the body and being arranged to be passed through the eye.

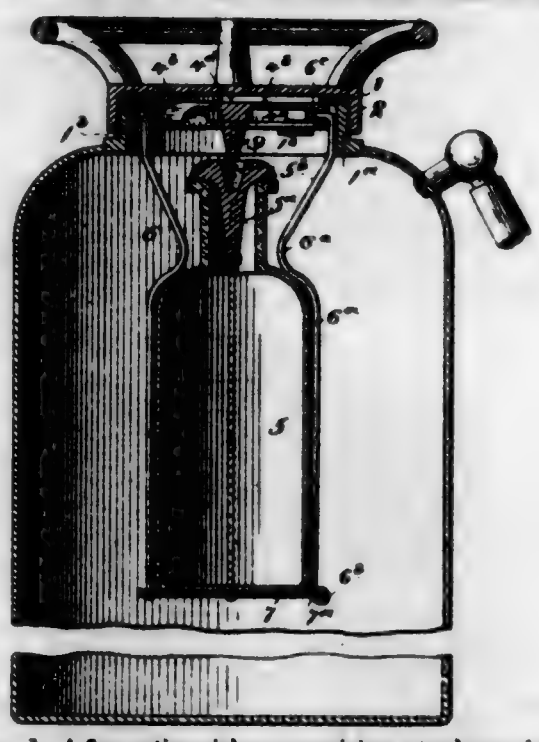
3. In a roofing-tile, a body of plastic material, and a fastening device comprising an eye, a flexible holding-stem, and a connection between the eye and stem, said eye and stem projecting from the body and the connection being embedded in said body.

4. In a roofing-tile, a body of plastic material, and a fastening device formed of a single wire and comprising an offset loop forming an eye, an offset terminal portion constituting a fastening device adapted to be passed through the eye, and a connection between said terminal portion and eye, said connection being embedded in the body and constituting means for securing the same and eye thereto.

5. In a roofing-tile, a body of plastic material, a plurality of eyes projecting from the under side of the same, and a plurality of fastening devices also projecting from the under side of the body in spaced relation to the eyes, said devices being respectively arranged to surround the roof-stripe and be passed through one of the eyes.

6. In a roofing-tile, a body of plastic material, and fastening means for said body formed of a single wire, said wire having spaced portions offset and looped to form eyes, the terminal portions of said wire being spaced from the loops and also offset, forming holding-stems adapted to be passed through the eyes, said eyes and stems projecting from the under side of the body and the remaining portions of the wire being embedded in said body.

804,755. CHEMICAL FIRE-EXTINGUISHER. CHARLES A. MILLER, New York, N. Y. Filed Oct. 12, 1904. Serial No. 228,103.



Claim.—1. A fire-extinguisher comprising a tank provided with a neck, a ring having depending arms, and a bottom plate connected therewith forming a bottle-holder, means to support the ring, one of said arms being detachably connected with said ring, said neck serving to prevent displacement of said detachable arm, substantially as described.

2. A fire-extinguisher comprising a tank, and a ring having depending arms and a bottom plate connected therewith forming a bottle-holder, one of said arms being movably connected with the plate and having an upper projecting portion, the ring being provided with a recess receiving said bent portion of the arm, whereby the arm may be confined between the ring and the neck of the tank, and means for supporting said ring, substantially as described.

3. A fire-extinguisher comprising a tank provided with a neck, and a ring provided with a depending bottle-holder to pass into the neck, said ring having arms that are above the bottom of the bottle-holder and extend inwardly providing spaces to permit handling the arms, substantially as described.

4. A fire-extinguisher comprising a tank provided with a neck, a ring supported at the neck and provided with a downwardly-extending projection disposed centrally of the ring, arms depending from the ring, a bottom plate connected with said arms, one of said arms being detachably connected with the ring, said neck serving to prevent displacement of said detachable arm, and a bottle having its neck below the ring and provided with a stopper having an upper recess alined with said projection, substantially as described.

5. A fire-extinguisher comprising a tank having a neck, a ring supported within the neck and provided with arms extending inwardly, arms depending from the ring forming a bottle-holder, means for removably holding a bottle in said holder, a cap over the neck of the tank, and a washer interposed between the cap, the neck and the arms on the ring, substantially as described.

6. A fire-extinguisher bottle-holder comprising a ring, arms depending therefrom, a support attached to the lower end of the arms, one of said arms being movably attached to said support, the oppo-

site end of said arm being bent, said ring having a recess receiving said bent end of the arm, and means for movably connecting said arm with said ring, substantially as described.

7. A fire-extinguisher comprising a tank provided with a neck and a bottle-holder adapted to pass into the neck, said holder being provided with arms suitably spaced to permit handling, substantially as described.

8. A fire-extinguisher comprising a tank provided with a neck, a ring adapted to pass into the neck, a bottle-holder depending from the ring, and arms on the ring, said arms being suitably spaced to permit handling, substantially as described.

9. A fire-extinguisher comprising a tank provided with a neck, a ring adapted to pass into the neck, a bottle-holder depending from the ring and inwardly-extending arms on the ring suitably spaced to permit handling, substantially as described.

10. A fire-extinguisher comprising a tank provided with a neck, a ring adapted to pass into said neck, a bottle-holder depending from the ring, and inwardly-extending arms carried by the ring, substantially as described.

804,756. GARMENT-SUPPORTER. JAMES F. MOLLOY, West Haven, Conn. Filed June 26, 1905. Serial No. 267,051.

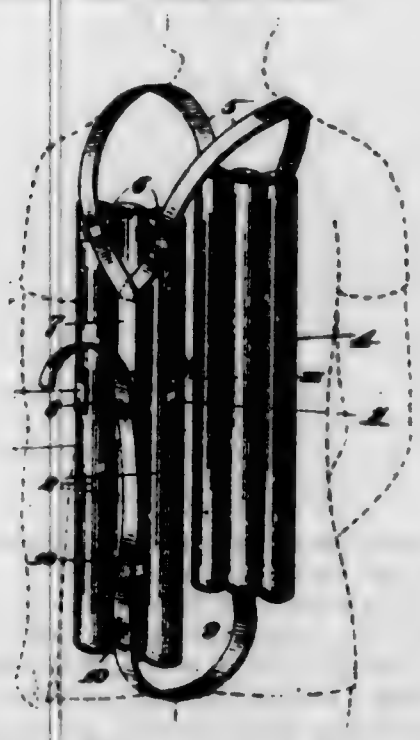


Claim.—1. A garment-supporter comprising a sheet-metal plate having web-attaching slots, a post connected therewith and extending parallel with and over the face thereof, a button at the outer end of said post, and a loop member adapted to set over said head, substantially as described.

2. A garment-supporter comprising a sheet-metal plate, a post connected therewith and extending parallel with and over the face thereof, a flexible button secured to said post, and a loop member adapted to set over said head, substantially as described.

3. A garment-supporter comprising a plate, loops in said plate whereby it may be connected with a web, an arm extending from one edge of said plate and bent over the face of said plate in a plane parallel thereto, a flexible head secured to the end of said arm, and a loop member adapted to pass over said head, substantially as described.

804,757. LIFE-PRESERVER. WILLIAM H. MORRISON, St. Louis, Mo. Filed Apr. 6, 1904. Serial No. 201,905.



Claim.—1. In a life-preserver, a pair of elongated sacks adapted to be positioned upon the front and back of the wearer's body, each sack being formed into a plurality of longitudinally-extending pockets, a buoyant filling material for said pockets, a pair of strips connected to the upper end of the rear sack, transverse strips secured to the upper end of the front sack beneath which the first-mentioned strips are positioned, a single strip uniting the free ends of the first-mentioned strips, a buckle fixed to the free end of the single strip, a strip secured to the lower end of the rear sack, and transverse strips secured to the lower end of the front sack beneath which the last-mentioned strip passes, substantially as specified.

2. In a life-preserver, an elongated sack adapted to be positioned on the back of the wearer, which sack is formed into a plurality of longitudinally-extending pockets, a buoyant material filling said pockets, strips fixed to the top and bottom of the sack, a second elongated sack adapted to be positioned on the front of the wearer and formed into a plurality of elongated pockets, a buoyant filler for said pockets, transverse strips at the top and bottom of said front sack; the said transverse strips loosely engaging the top and bottom strips of the rear sack and permitting sliding movement of the front sack on said strips in the direction of elongation of the sack, and means whereby the strips of the rear sack are secured intermediate of said transverse strips, substantially as set forth.

804,758. HARNESS-SADDLE. GEORGE MCMULLIN, Elk Rapids, Mich. Filed Oct. 6, 1904. Serial No. 227,371.



Claim.—1. The improved flexible harness-saddle proper comprising the leather body-band 1 having parallel exterior leather welts 3 arranged along its edges, pad-leathers whose edges are turned up and inclose the said welts, and the flexible jockey 4 whose edges rest upon the pad-leathers and are stitched with them and the welts to the said body-band whereby an uninterrupted passage is formed in combination with a shaft-bearing strap adapted to pass through said passage as shown and described.

2. The improved flexible harness-saddle comprising the leather body-band 1 having exterior leather welts arranged adjacent to its edges and parallel to each other, a jockey whose edges are laid upon said welts and secured together with the same to the aforesaid body-band, and a shaft-bearing strap 5 which passes through and is adapted to slide freely in the passage-way provided between said welts and the opposing body-band and jockey as shown and described.

3. The combination, with the covering or jockey of the saddle, the same having holes formed therein as described, of terrets having a ring form and their ends passing through the said holes and being overlapped on the inner side of the jockey and riveted to each other and the latter, substantially as described.

804,759. ELECTRICAL HEATER. JOHN A. NOBLE, San Francisco, Cal., assignor of one-fourth to Edgar C. Gribble, one-fourth to Alonzo C. Gribble, and one-fourth to James Davis, San Francisco, Cal. Filed May 8, 1905. Serial No. 259,403.

Claim.—1. An electrical heater comprising a tube or shell, a wire winding within the same, an insulating-block secured thereto and having passages in electrical communication with said winding and a removable cap, having plugs adapted to fit said passages.

2. In combination with a receptacle having a filling-opening and provided with means for engaging a closure for said opening, a tube or shell, a wire winding therein, an insulating-block provided with corresponding engaging means, and having passages in electrical communication with said winding, and a removable cap having plugs adapted to fit said passages.

3. In combination with a receptacle having a filling-opening and provided with means for engaging a closure for said opening, a tube or shell, a wire winding therein, an insulating-block provided

with corresponding engaging means, and having passages in electrical communication with said winding, and a removable cap having plugs adapted to fit said passages.



4. An electrical heating device comprising a shell, separate windings therein forming resistances, a cap connected to a source of electrical energy and having plugs, and means for connecting said plugs with said windings so as to place said windings either in series or in multiple.

5. In combination with a receptacle for water, an electrical heating device comprising a shell, separate windings therein forming resistances, a cap connected to a source of electrical energy and having plugs, and means for connecting said plugs with windings so as to place said windings either in series or in multiple.

6. In combination with a receptacle for water composed of flexible material, an electrical heating device, means for removably securing the same within the receptacle, and guards for preventing contact between the receptacle and said heating device.

7. In combination with a receptacle for water composed of flexible material, an electrical heating device, means for removably securing the same within the receptacle, and arms secured to the heater forming guards preventing contact between the receptacle and said heating device.

8. An electrical heater comprising a shell, separate windings therein forming electrical resistances, a block secured to the tube and having two pairs of hollow bushings in electrical connection with said windings, and a cap having two plugs set away from its center and reversible for connection with either pair of bushings.

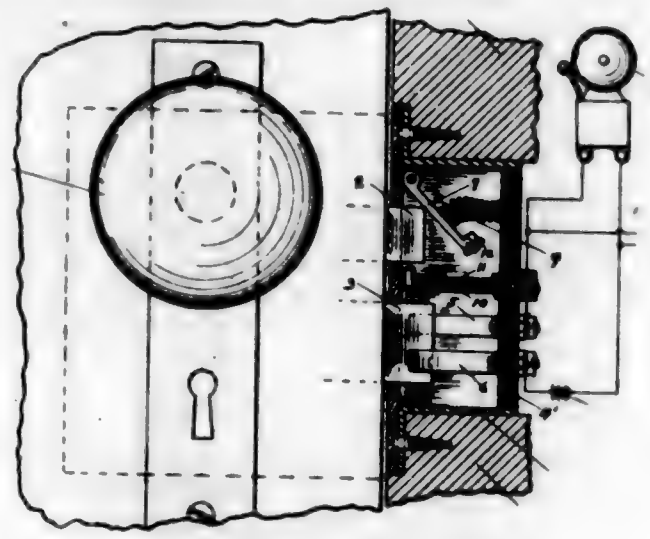
9. An electrical heater comprising a shell, an insulated electrical rod extending longitudinally in the same, a winding on said rod, insulation surrounding said winding, a return of said winding on said insulation, insulation surrounding said return-winding, another winding insulated from said return-winding, insulation surrounding said other winding, a return of said other winding, insulation between said return and the shell, a block secured to the shell and having two pairs of hollow bushings and a cap having a pair of plugs adapted to enter either pair of bushings.

804,760. **ELECTRIC BURGLAR-ALARM.** WILLIAM H. ORR, Council Bluffs, Iowa. Filed Jan. 17, 1905. Serial No. 241,411.

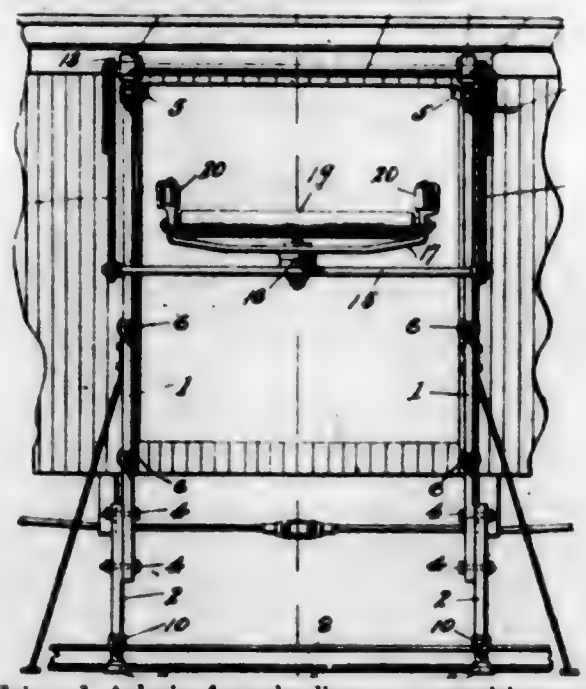
Claim.—1. An electric burglar-alarm comprising a catch-bolt to be moved by rotation of a knob, a dependably-hung apron or lever adapted to make constant contact with said catch-bolt; a battery and an alarm with conducting-wires; a lock-bolt, and standards adapted to make contact therewith and with said conducting-wires, and standards adapted to connect the conducting-wires with said apron upon withdrawal of said catch-bolt.

2. An electric burglar-alarm comprising a catch-bolt to be moved by rotation of a knob, a dependably-hung apron or lever adapted to make constant contact with said catch-bolt; a battery and an alarm with conducting-wires; a lock-bolt, and standards adapted to make contact therewith and with said conducting-wires, standards adapted to connect the conducting-wires with said apron upon withdrawal of said catch-bolt, and the pivotally-hung cross-bar upon said apron adapted to make a contact with one of said standards.

3. In combination with a door-lock with a catch-bolt and lock-bolt, the standards 5, 6, 10 and 11, the conducting-wires, electrical battery and alarm, the swinging apron 7 adapted to make constant contact with the catch-bolt and to make contact with one of said standards upon withdrawal of the catch-bolt.



804,761. **UNLOADING DEVICE.** CHARLES E. OTTERMAN, Toledo, Iowa. Filed Dec. 21, 1904. Serial No. 237,836.



Claim.—1. A device for unloading cars comprising an upstanding frame, means for securing the frame to a car and to a rail beneath the car, a roller slidably mounted adjacent to the frame and means to adjust the roller to various vertical positions.

2. A device for unloading cars comprising a frame adapted to be secured to the side of a car and provided with means for engaging a rail beneath the car, a vertically-adjustable cross-bar, disposed slidably engaging said frame and extending substantially parallel with the side of the car, means for adjustably varying the height of said cross-bar, a yoke pivotally mounted on said cross-bar, a longitudinally-disposed roller mounted in said yoke and an upstanding roller mounted upon each end of said yoke.

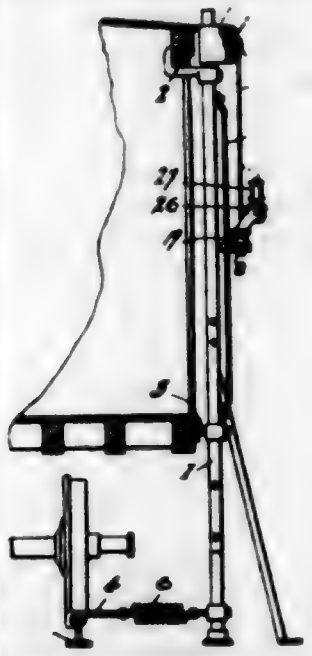
3. In a device for unloading cars, a frame adapted for mounting a roller and provided with a hook to engage the top jamb of a car-door, a side bar of adjustable length and adapted to stand on the ground, a brace secured to said side bar and adapted to abut the side of a car, a hook adapted to engage a rail beneath the car and a spring connecting the hook and the lower end of the side bar.

804,762. **UNLOADING DEVICE.** CHARLES E. OTTERMAN, Toledo, Iowa. Filed Feb. 21, 1905. Serial No. 246,894.

Claim.—1. In a device of the character described, a frame provided with means for securing it to a car-door, a bar secured to said frame and vertically adjustable thereon, a bracket swivelly mounted thereon and curved to extend forward and a roller mounted on said bracket.

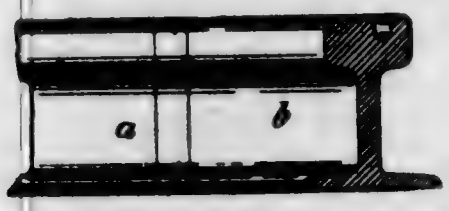
2. In a device of the character described, a frame provided with hooks to engage the jambs of and be secured adjacent to a car-door, a horizontal cross-bar, means for slidingly securing the cross-bar to

the frame, means for securing the cross-bar at a desired vertical adjustment, a long roller and a short roller provided with roller-bearings and mounted each in a bracket properly proportioned, the said brackets swivelly mounted upon the cross-bar and curved to extend and hold the rollers forward beyond the frame.



3. In a device of the character described, an upstanding frame provided with hooks to engage the jambs of and be secured adjacent to a car-door, means for securing the frame to the rail beneath the car, a cross-bar extending across the door and longitudinally of the car, means for securing the cross-bar to the uprights of the frame to permit vertical movement of the bar, drums rotatably mounted adjacent the top of the frame, means for rotating the drums, cables adapted to be wound on said drums and connected to the cross-bar, a plurality of brackets swivelly mounted on said cross-bar and on ball-bearings, the said brackets curved to extend away from said car, a horizontal roller mounted in each of said brackets and in roller-bearings and a vertical roller mounted at each end of each bracket.

804,763. **PROCESS OF ELECTRICALLY WELDING RAILS.** CARL PARUS, Breslau, Germany. Filed July 11, 1905. Serial No. 269,223.



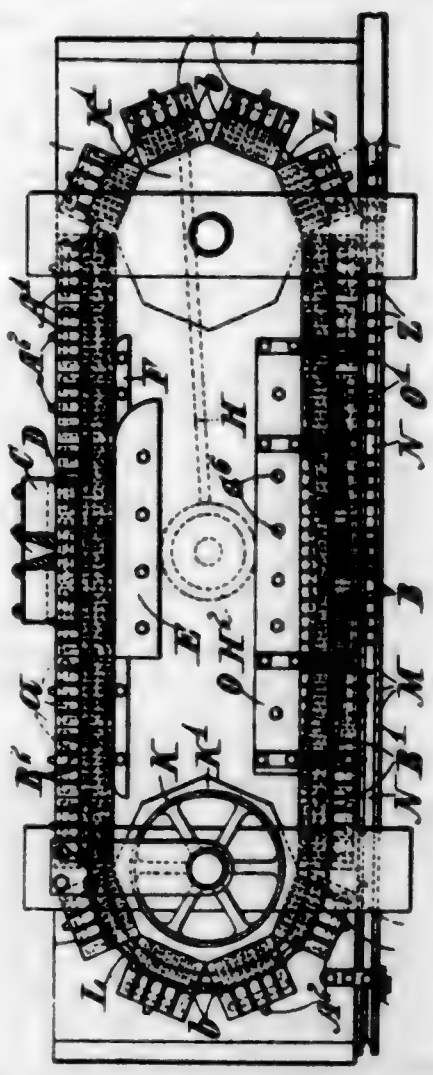
Claim.—1. The herein-described process of electrically welding the ends of two contiguous rails by means of an electric arc, which consists in passing an electric current therethrough after the joint between said ends has been filled in the lower portion thereof with soft metal and at the heads of the said rails with hard material and thereby melting the rail ends together, substantially as described.

2. The herein-described process of electrically welding the ends of two contiguous rails by means of an electric arc, which consists in passing an electric current therethrough after the joint between said ends has been filled at the lower portion thereof with soft iron and at the heads of the rails with iron containing carbon or other hardening material as described and thereby melting the rail ends together, substantially as described.

3. The herein-described process of electrically welding the ends of two contiguous rails by means of an electric arc, which consists in filling the lower portion of the joints with a soft metal at a point near the surface of the rails, then passing an electric current through the rail ends and the filling material to melt the ends together, then filling the upper portion of the joints with hard metal and passing an electric current through the rail ends and said filling material to melt the rails together at their heads, substantially as described.

4. The herein-described process of electrically welding the ends of two contiguous rails by means of an electric arc, which consists in filling the frontal joint of the rails with soft iron from the base to a point near the heads of the rails, passing an electric current through the rail ends and said filling material to melt the ends together, then filling the upper portion of the frontal joint with hard iron, and then passing an electric current through the rail ends and said filling material to melt the upper parts of said ends together, substantially as described.

804,764. **MACHINE FOR CASTING TYPE.** FREDERICK H. PEACOCK, Weybridge, England. Filed Mar. 5, 1904. Serial No. 196,063.



Claim.—1. In a machine for casting type, the combination with an endless chain and molds carried thereby, of means for rotating the chain continuously, matrices carried by the chain and means for ejecting the type from the molds, substantially as set forth.

2. In a machine for casting type, the combination with an endless chain and type-molds carried thereby, of matrices carried by the chain and movable relatively thereby, and means for rotating the chain.

3. In a machine for casting type, the combination with an endless chain and means for rotating it, of molds for the type-bodies carried by the chain, and matrices mounted in the molds and adapted to move therein to eject the type.

4. In a machine for casting type, the combination with an endless flexible chain, molds carried by the chain for the type-bodies, matrices mounted in the molds, means for moving the endless chain, and means for moving the matrices relatively to the molds to eject the type, substantially as set forth.

5. In a machine for casting type, the combination with a continuously-moving endless chain comprising a series of links, of molds on the links, matrices mounted in the molds, and means for moving the matrices relatively to the molds to eject the type, substantially as set forth.

6. In a machine for casting type the combination with an endless chain, of molds formed in the links of the chain, matrices mounted in the molds, and a cam for moving the matrices relatively to the molds to eject the type, substantially as set forth.

7. In a machine for casting type, the combination with an endless continuously-moving chain consisting of a number of links, of means connecting the links together, molds formed in the links, matrices mounted in the molds, a cam for moving the matrices relatively to the molds to eject the type, and a cam for returning the matrices to the normal position, substantially as set forth.

8. In a machine for casting type, the combination with an endless continuously-moving chain consisting of a number of links connected together, of molds formed in the links, matrices mounted in the molds, means for moving the matrices relatively to the molds, and a delivery-band for carrying away the type when delivered from the molds, substantially as set forth.

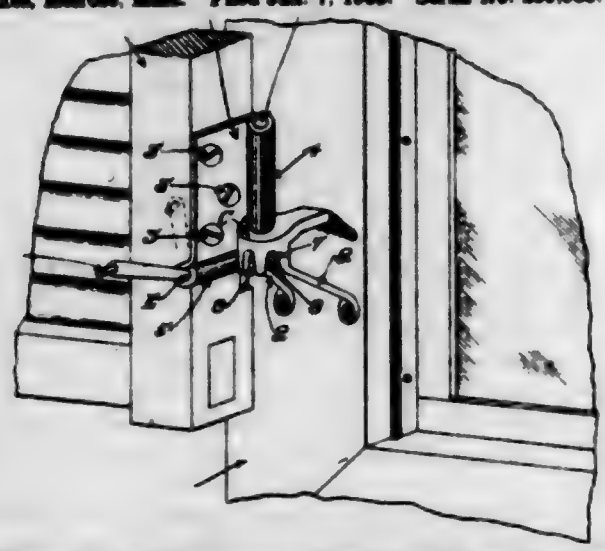
9. In a machine for casting type, the combination with an endless continuously-moving chain, of molds formed in the links of the chain, matrices mounted in the molds and arranged to slide therein, water-conduits in the links, and means for supplying water to the conduits, substantially as set forth.

10. In a machine for casting type, the combination with a continuously-moving endless chain consisting of a number of links hinged together, of molds formed in the links, matrices mounted in the molds, a cam for moving the matrices relatively to the molds to eject the type, a cam for returning the matrices to the normal position, means for holding the molds against the casting-point, water-conduits in the links, connections between the water-conduits in the various links, a continuously-moving chain to receive the type when ejected from the molds, and means for rotating the chains at the same speed.

11. In a machine for casting type, the combination with a continuously-moving chain carrying molds for the type and matrices movable relatively to the molds, of a chain rotated by the mold-chain for receiving the type when delivered from the molds, and means for carrying away the type from the delivery-chain, substantially as set forth.

12. In a machine for casting type, the combination with a continuously-moving chain, molds formed in the links of the chain, matrices mounted in the molds, and means for moving the matrices relatively to the molds, of a delivery-chain rotated by the mold-chain and having grooves to receive the type when ejected from the molds, a bar extending along the center of the delivery-chain, a raised portion of the bar to deliver the type from the chain and water-circulating conduits throughout the mold-chain, substantially as set forth.

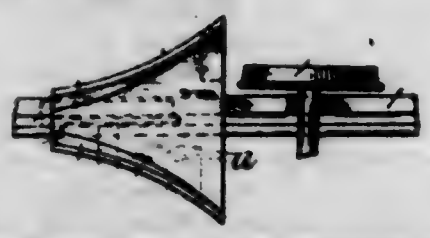
804,765. BLIND HINGE AND LOCK. REUBEN W. PERRY, Lynn, Mass., assignor of two-thirds to George H. Stevens and Bradford A. Oakes, Melrose, Mass. Filed Jan. 7, 1905. Serial No. 239,968.



Claim.—1. A lock-hinge comprising a fixed hinge member provided with notches upon its under side, a movable hinge member, a rock-shaft pivoted to the said movable hinge member and provided with a finger extending below the said fixed hinged member and engaging one of the said notches therein.

2. A lock-hinge comprising fixed and movable members one of said members being provided with downwardly-projecting serrations and a locking-lever pivoted upon the other of said members and provided with a finger for engagement with the said downwardly-projecting serrations, said lever being pivoted so that the finger for engagement with the serration is overbalanced by the weight of the other arm of said lever.

804,766. CAR-REPLACER. HARRY PRATT, Kenilworth, Ill. Filed Mar. 13, 1905. Serial No. 249,633.



Claim.—1. In a car-replacer, the combination with a bottom tapering in thickness toward one end, of integral curved flanges converging toward the other end thereof.

2. In a car-replacer, the combination with a flat bottom tapering in thickness toward one end, of integral side flanges converging toward the other end of the bottom and affording a space therebetween admitting the passage of a car-wheel and transverse claws at the forward end thereof extending from each side to near the center of the replacer.

3. In a device of the class described the combination with a flat bottom, tapering in thickness toward one end and rounded at the opposite end, of integral inwardly-curved side flanges thereon convergent toward the rear end of the replacer and a centrally-disposed rib having a rounded forward end and adapted to engage the top of the rail and prevent lateral displacement of the replacer.

4. A car-replacer, comprising a flat bottom plate provided with a flat upper surface and having integral inwardly-curved side flanges thereon converging toward one end of the bottom, the other end of the bottom being broad and adapted to project on either side of the car-rail and a rib on the under side the replacer acting to engage the rail and prevent lateral displacement and having an upwardly-curved forward end adapting the replacer to be tilted.

5. A car-replacer comprising a flat bottom plate, relatively broad at one end and tapering in thickness toward the other, having inwardly-curved, upwardly-directed lateral flanges thereon, a rib on the under side of said plate adapted to extend longitudinally of the rail and preventing lateral movement, a ledge adjacent each flange, and means adapted to engage the road-bed and prevent movement longitudinally of the rail.

6. A street-car replacer comprising a bottom adapted to rest flat on the street and the rail, a longitudinal rib thereon adapted to engage in the flange-groove, upwardly-directed flanges converging to one end of the replacer adapted to guide the car-wheel onto the rail and a ledge adjacent the inner face of each flange affording a narrow opening at the rear.

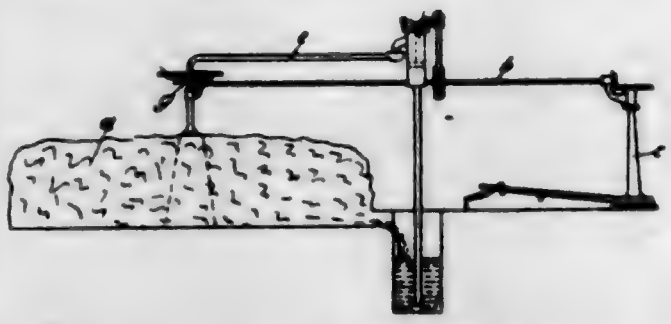
7. A street-car replacer comprising a flat bottom adapted to rest on the street-surface and the rail and tapering in thickness to one end, a central longitudinal rib integral therewith and fitting in the flange-groove, one or more transverse claws on the broad end the bottom extending from each margin to near the center and directed toward the narrow end, upwardly-directed side flanges converging toward the narrow end of the replacer and a low ledge adjacent each flange and tapering in width from the front rearwardly.

8. In a device of the class described, the combination with a broad plate tapering toward one end in width and toward the other in thickness, of upwardly-directed, inwardly-curved lateral flanges adapted to direct a car-wheel centrally of the plate, a longitudinal rib on the under side of said plate tapering to the broad end of the plate and a plurality of transverse claws on the under side of the replacer adapted to grip the street-bed.

9. A car-replacer comprising a bottom plate, upwardly-directed curved flanges thereon, a ledge on the inner side of each flange and means adapted to hold the replacer in position.

10. A car-replacer, comprising a bottom having a broad forward end, integral, upwardly-directed side flanges thereon, a ledge on the inner side of each flange tapering in width from the rear forwardly, a longitudinal rib beneath the bottom and a plurality of transverse claws beneath the bottom.

804,767. LIQUID-DISTRIBUTER. JOSEF RAIDL, Niederwalting, near Oberschneiding, Germany. Filed Nov. 21, 1904. Serial No. 233,679.



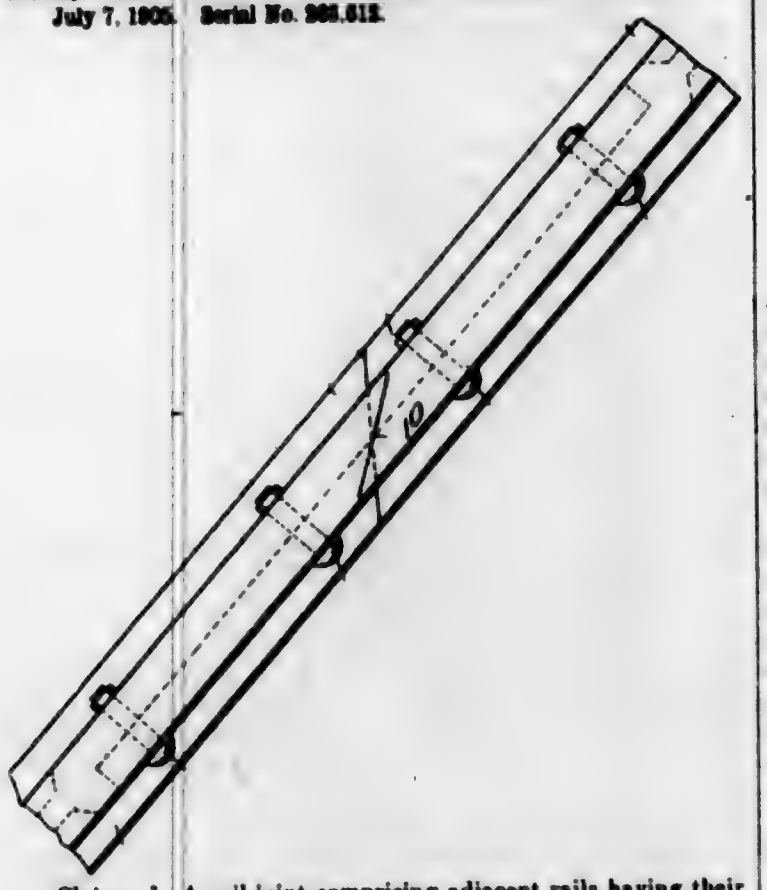
Claim.—1. A device for evenly distributing liquid over a given surface consisting of a wheel mounted to rotate in a horizontal plane, arms extending radially of the wheel for different distances, channels leading downwardly from the central portion of the wheel, means for supplying liquid to the surface of the wheel, and means for rotating the wheel.

2. A device for evenly distributing liquid over a given surface consisting of a wheel mounted to rotate in a horizontal plane and composed of a disk with arms extending radially from near the center toward and beyond the periphery of the disk, channels leading downwardly from the central portion of the disk near the inner ends

of the radial arms, means for supplying liquid to the central portion of the upper face of the disk, and means for rotating the disk.

3. A device for evenly distributing liquid over a given surface consisting of a wheel having a disk and a series of radially-extending arms of angle-iron, the whole being mounted to rotate in a horizontal plane, a whim, a horizontally-mounted shaft driven by the said whim, a pump for the liquid and means for driving the same from the said horizontal shaft, and gears to rotate the said wheel from the said horizontal shaft and distributing-pipes extending downwardly from said disk in the manner and for the purpose substantially as described.

804,768. RAIL-JOINT. ELBERT ROBERTS, Corsicana, Tex. Filed July 7, 1905. Serial No. 268,613.



Claim.—1. A rail-joint comprising adjacent rails having their base-flanges meeting at an incline to a transverse line, and their tread ends meeting at an incline angularly disposed with relation to the incline of the base-flanges, the webs of the rails being extended beyond said ball ends and interlocking.

2. A rail-joint comprising adjacent rails having their base-flanges meeting at an incline to a transverse line, and the ends of the tread meeting at an incline angularly disposed with relation to the incline of the base-flanges, the webs of the rails being thickened and cut away for a portion of their length to provide tongues projecting beyond the tread ends of the rails, said tongues being arranged in longitudinal contact, and means for securing said tongues together.

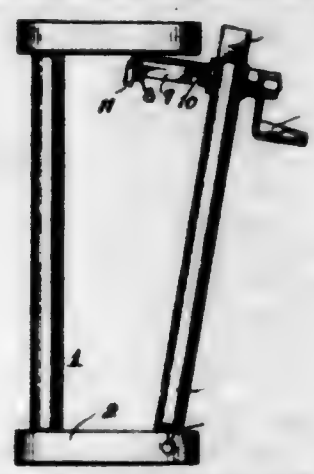
3. A rail-joint comprising adjacent rails having their base-flanges meeting at an incline to a transverse line, and their tread ends meeting at an incline angularly disposed with relation to the incline of the base-flanges, the webs of the rails being thickened for a portion of their length, and cut out to provide projecting tongues and shoulders extending at a right angle from the base of said tongues, the tongues being arranged in longitudinal contact and abutting against the respective shoulders, and bolts passed transversely through the tongues to secure the rails.

804,769. LATCH FOR STANCHIONS. CHARLES ROSENGAL, Auroraville, Wis. Filed July 15, 1905. Serial No. 269,805.

Claim.—1. The combination with a stanchion having an adjustable bar, of a latch carried by said bar and comprising a flat bar having a notch in its edge, a staple secured to the frame of the stanchion and adapted to be engaged by the notch in said bar, and a weighted handle, for said latch-bar, adapted to normally hold the latter in position so that its notch engages said staple.

2. The combination with a stanchion having an adjustable bar, of a latch carried by said bar and comprising a flat bar having a notch in its edge, a staple, of greater width than height, secured to the frame of the stanchion, said latch extending through said staple, and a weighted handle for said latch adapted to normally hold the latter in position so that its notch engages said staple.

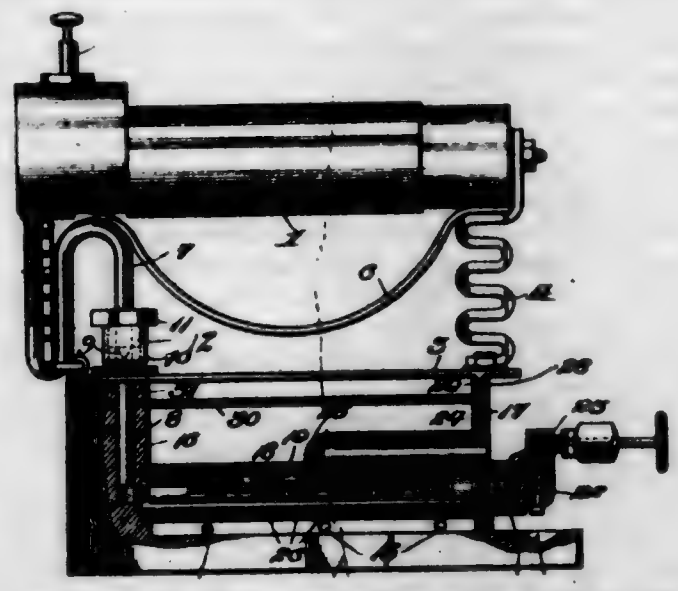
3. The combination with a stanchion having an adjustable bar, of a latch carried by said bar and comprising a flat bar having a notch in its edge, a staple, of greater width than height, secured to the frame of the stanchion, said latch extending through said staple a weighted handle for said latch adapted to normally hold the latter in position so that its notch engages said staple, and means to retain said latch-bar within the staple when the notch is out of engagement.



4. The combination with a stanchion having an adjustable bar, of a latch carried by said bar and comprising a flat bar having a notch in its edge, a staple, of greater width than length, secured to the frame of the stanchion, said latch extending through said staple and having a projecting lug on its end forming a stop adapted to engage said staple, and a weighted handle for said latch adapted to normally hold the latter in position so that its notch engages said staple.

5. The combination with a stanchion having an adjustable bar, of a latch carried by said bar and comprising a flat bar having a notch in its edge, a staple, of greater width than length, secured to the frame of the stanchion, said latch extending through said staple and having a projecting lug on its end confining it within said staple, and a weighted handle for said latch adapted to normally hold the latter in position so that its notch engages said staple, said lug also adapted to contact with the frame of the stanchion to prevent the revolution of said latch.

804,770. SAD-IRON. JAY H. ROGERS, Chicago, Ill. Filed May 3, 1904. Serial No. 206,943.



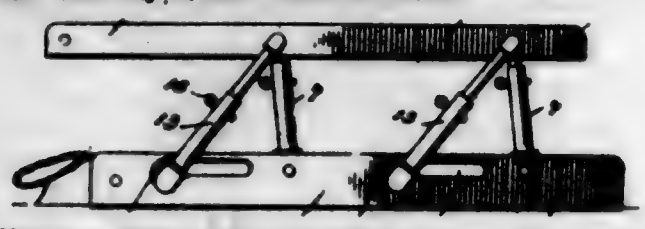
Claim.—1. A sad-iron comprising an iron-body, a burner mounted therein, a vertical oil-conducting pipe communicating with the burner, and a hollow handle forming an oil-reservoir connected at one end to the pipe, the pipe forming a pivotal connection on which said handle is adapted to be swung in a horizontal plane laterally of the iron-body.

2. A sad-iron comprising an iron proper, a burner associated therewith, a hollow handle forming an oil-reservoir, and an oil-feed pipe leading from the reservoir to the burner and consisting of jointed sections connected by means of a stuffing-box which forms an air and gas tight joint, the handle being adapted to be swung in a horizontal plane around the oil-feed pipe as a center.

3. A sad-iron comprising an iron proper, a burner associated therewith, a hollow handle forming an oil-reservoir, a base-plate, handle-supports connecting the handle and base-plate, an oil-feed pipe leading from the handle to the burner and forming a pivot around which the handle is adapted to be swung, and a washer in-

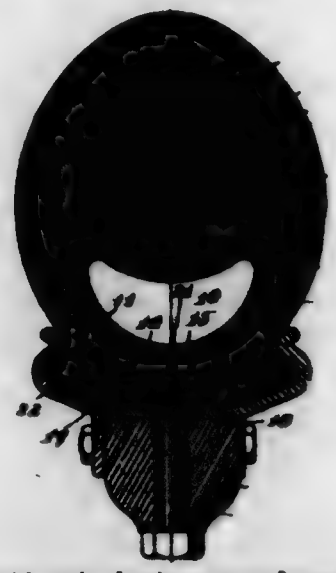
terposed between the base-plate of the handle and the iron proper, substantially as described.

804,771. LIFTING-JACK. CHARLES M. SAWYER, Fond du Lac, Wis. Filed July 11, 1905. Serial No. 269,172.



Claim.—A lifting-jack comprising upper and lower frames connected together by swinging struts, one of the frames having slots terminating in notches, and latches pivoted to the other frame and slidable in the slots, and adapted to engage in the notches when the upper frame is raised.

804,772. VEHICLE-TIRE. FRANKLIN G. SAYLOR, Franklin, Mass., assignor to M and S Tire Company, Boston, Mass., a Corporation of Massachusetts. Filed Mar. 28, 1903. Renewed Apr. 11, 1905. Serial No. 255,020.



Claim.—1. A rubber tire having a core formed at least in part of rubber-coated yarns wound together, substantially as described.

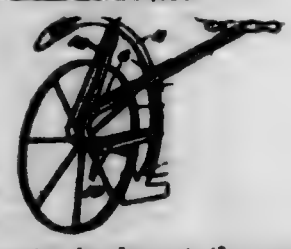
2. A rubber tire having a core composed in whole or in part of rubber-coated yarns wound together, an air-cushion for the core and rubber walls surrounding the core and cushion, substantially as described.

3. A rubber tire having a core, an air-cushion for the core, rubber surrounding the core and air-cushion and divided longitudinally on the rim side of the tire to permit spreading the wall open and gain admission to the air-chamber, flanged lugs for fastening the tire to a wheel, and socket-plates embedded in the tire at the side of the division to receive the flange of the lug, substantially as described.

4. A rubber tire having a core, an air-cushion for the core on the rim side thereof, the said cushion having the side which is toward the core made concave, layers of canvas between the core and the concave side of the cushion, and rubber walls surrounding the core and air-cushion.

5. A rubber tire having a core, an air-cushion for the core, rubber surrounding said core and air-cushion and divided longitudinally on the rim side of the tire to permit spreading of the wall and gaining admission to the air-chamber, and securing-lugs for fastening the tire to a wheel, having flanges which engage with the tire on the inside thereof and having a body which passes out through the division-opening for connection with the rim.

804,773. GARDEN IMPLEMENT. DUDLEY A. SCHUTT, Peru, Ind. Filed Feb. 1, 1905. Serial No. 243,022.



Claim.—1. In a garden implement, the combination of a traction-wheel, a bifurcated handle-bar mounted thereon, a nut-bracket secured between the sides of the bar, double bars passing between the sides of the bifurcated bar and having a pivoted supporting-frame, and a securing-bolt passing between said double bars and tapped into said nut-bracket, substantially as set forth.

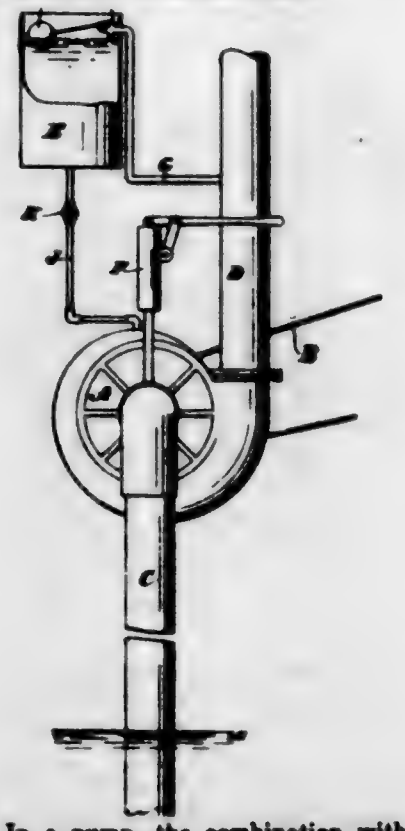
2. In a garden implement, the combination of a traction-wheel, a bifurcated handle-bar mounted thereon, a nut-bracket secured between the sides of the bar, double bars passing between the sides of the bifurcated bar and having a pivoted supporting-frame, and a securing-bolt passing between said double bars and tapped into said nut-bracket, with a sliding washer-bearing therefor having slots arranged to engage the curved edges of the bars, substantially as set forth.

3. In a garden implement, means for adjustably securing the tool-frame consisting of a nut-bracket secured between the bifurcated sides of the handle-bar, and a securing-bolt passing through the slot-like opening in the tool-frame and tapped into the said nut-bracket, with a sliding washer-bearing therefor, substantially as set forth.

4. A garden implement provided with a main handle-bar having bifurcated wheel-bearing terminals, a pivotally-mounted traction-wheel, a double-arc-shaped tool-bar having a longitudinal opening between the bars, a nut-bracket secured to the handle-bar, and a securing-bolt extending between the sides of the tool-bar and arranged to clamp the tool-bar to the nut-bracket at varying positions of the bar, substantially as set forth.

5. The combination with a bifurcated handle-bar, traction-wheel, and a relatively adjustable arc-shaped frame; of a terminal implement-frame having pivoted laterally-adjustable wings, and terminal tools mounted therein, substantially as set forth.

804,774. CENTRIFUGAL PUMP. JASON L. SHEPARD, Los Angeles, Cal. Filed July 5, 1904. Serial No. 215,402.



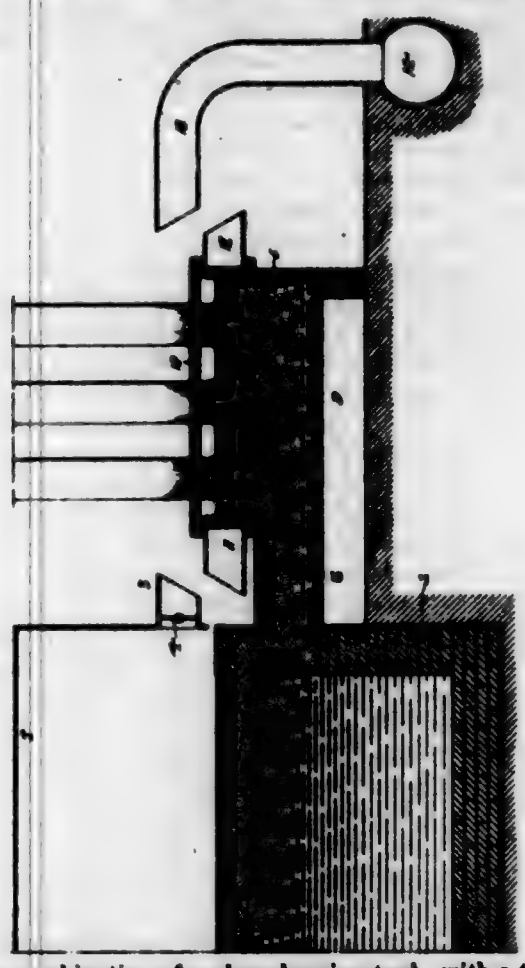
Claim.—1. In a pump, the combination with a centrifugal pump, of an entirely and constantly free and unobstructed induction-pipe thereto, a discharge-pipe extending therefrom, an air-exhaust pump communicating with the induction-pipe at a point intermediate its ends, means for actuating the centrifugal pump, and a priming-reservoir connected with the centrifugal pump.

2. A device of the character set forth comprising an entirely and constantly free and unobstructed induction-pipe, a centrifugal pump to which the induction-pipe is connected at one end, a discharge-pipe connected to and extending from the centrifugal pump, an air-exhaust pump connected to the induction-pipe at a point intermediate its ends and means for priming the centrifugal pump to prevent the entrance of air thereinto through the discharge-pipe and pump.

804,775. GLASS-FURNACE. HARRY G. SLEEKLEY, Hartford City, Ind. Filed June 29, 1905. Serial No. 267,867.

Claim.—1. The combination of a glass-drawing tank, with a telescopic hood or cover having openings through which the glass can be drawn.

2. The combination of a glass-drawing tank, with a telescopic hood or cover, having openings through which the glass can be drawn, and other openings through which products of combustion can pass.



3. The combination of a glass-drawing tank, with a telescopic hood or cover, and means for conveying products of combustion through said hood or cover and over the top of the mass of glass in the drawing-tank, when the cover is elevated.

4. The combination of a glass-drawing tank, with a telescopic hood or cover having flue-sections, and permanent flue-sections with which said sections on the hood will register when said hood is elevated.

5. The combination of a glass-drawing tank, with an enveloping hood or cover therefor providing beneath it a space through which products of combustion may circulate, said hood having drawing-openings therein.

6. The combination of a glass-drawing tank, with an enveloping hood or cover therefor providing beneath it a space through which products of combustion may circulate, said hood having drawing-openings therein, and means for closing the said openings during the circulation of the products of combustion.

7. The combination of a glass-melting tank, with a series of drawing-tanks in communication therewith, so that glass may flow from one to the other, a series of flues through which products of combustion may be directed through said drawing-tanks above the level of the molten glass therein, and a draft-stack flue communicating with each of said circulating flues, substantially as specified.

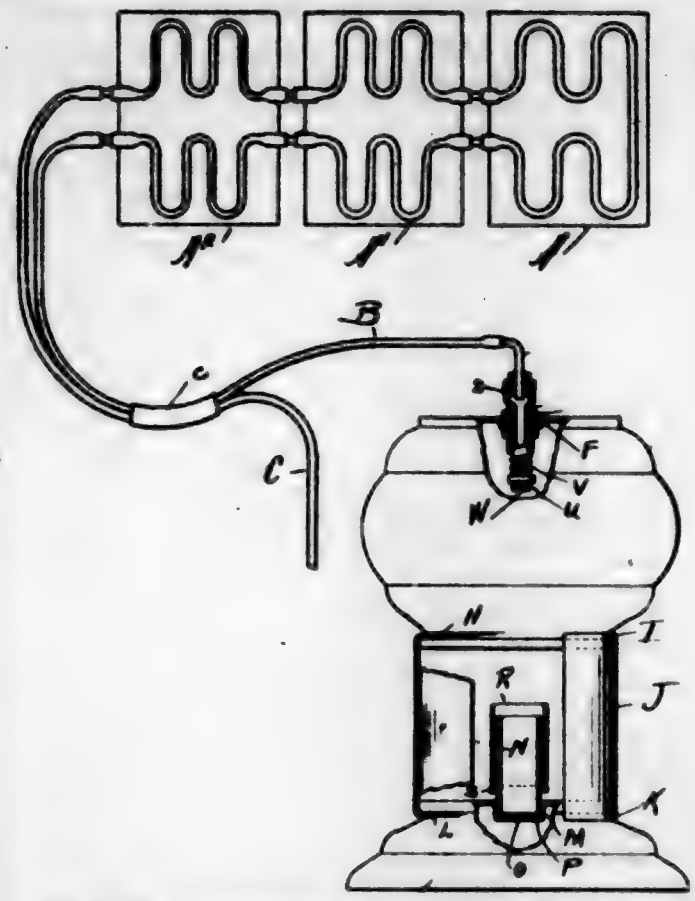
8. A receptacle containing a mass of glass for drawing purposes, said receptacle having a movable enveloping top or hood forming above the mass of glass a heating-chamber for the reception or circulation of products of combustion in order to reduce the cold glass at the surface of the mass, substantially as specified.

9. A glass-melting tank or kiln having a movable enveloping top or hood forming above the mass of glass in the tank a heating-chamber for the reception or circulation of products of combustion in order to reduce the cold glass at the surface of the mass, substantially as specified.

10. A receptacle for containing a mass of glass for drawing purposes, said receptacle having a hood which can be lowered so as to be close to the top of said mass, or can be raised so as to form above said mass a heating-chamber for the reception or circulation of products of combustion in order to reduce the cold glass at the surface of the mass, substantially as specified.

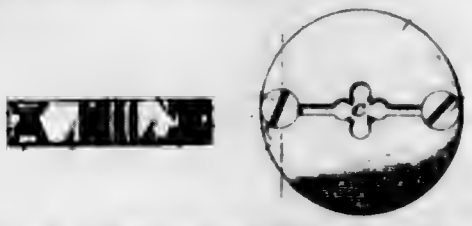
11. A glass-melting tank or kiln having a movable top or hood which can be lowered so as to be close to the surface of a mass of glass contained in the tank, or can be raised so as to form above said mass a heating-chamber for the reception or circulation of products of combustion in order to reduce the cold glass at the surface of the mass, substantially as specified.

804,776. THERMOMEDICAL DEVICE. DEXTER M. SMALL, Providence, R. I. Filed Oct. 7, 1903. Serial No. 176,171.



Claim.—A thermomedical device composed of a suitable boiler for generating steam under pressure, a longitudinally-extensible radiating-pad connected therewith, an intermediate safety-valve, a heating device above which the boiler is rigidly supported by a cylindrical device J open in front and constructed with inverted edges at top and bottom for engaging with corresponding grooves in bottom of boiler and top of lamp, all constructed and combined so as to operate substantially as set forth.

804,777. SCREW-CUTTING DIE. ALBERT J. SMART, Greenfield, Mass., assignor to Wiley & Russell Manufacturing Company, Greenfield, Mass., a Corporation of Massachusetts. Filed June 6, 1904. Serial No. 211,880.



Claim.—1. In a divided die for cutting screw-threads, a cone adjustment, and means on said die parts with which said cone is adapted to engage to check the amount of opening between said die parts, substantially as described.

2. In a divided die for cutting screw-threads, a taper-headed screw for adjusting the opening between the die parts, means on the screw to engage said die parts to check the amount of such opening, and a nut on said screw, substantially as described.

3. In a divided die for cutting screw-threads, adjusting means comprising a screw-shank provided with a tapering head at each end, one of said heads being cup-shaped, and means on the die parts with which said cup-shaped head is adapted to engage, substantially as described.

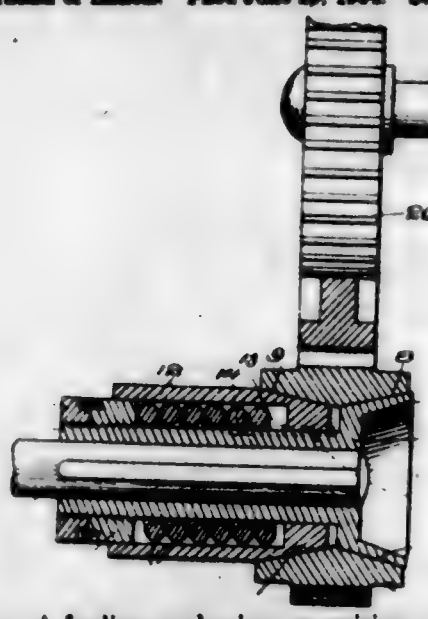
4. In a divided die for cutting screw-threads, adjusting means comprising a screw-shank provided with an integral and an adjustable tapering head, one of said heads being cup-shaped, and means on the die parts with which said cup-shaped head is adapted to engage, substantially as described.

5. In a divided die for cutting screw-threads, means for adjusting the die parts and checking the opening comprising a tapering cup-headed screw, recessed lugs on said die parts with which said head is adapted to engage, and a tapering nut on said screw, substantially as described.

6. In a divided die for cutting screw-threads, means for adjusting the die parts and checking the opening comprising recessed lugs on said die parts, a tapering cup-shaped member constructed to en-

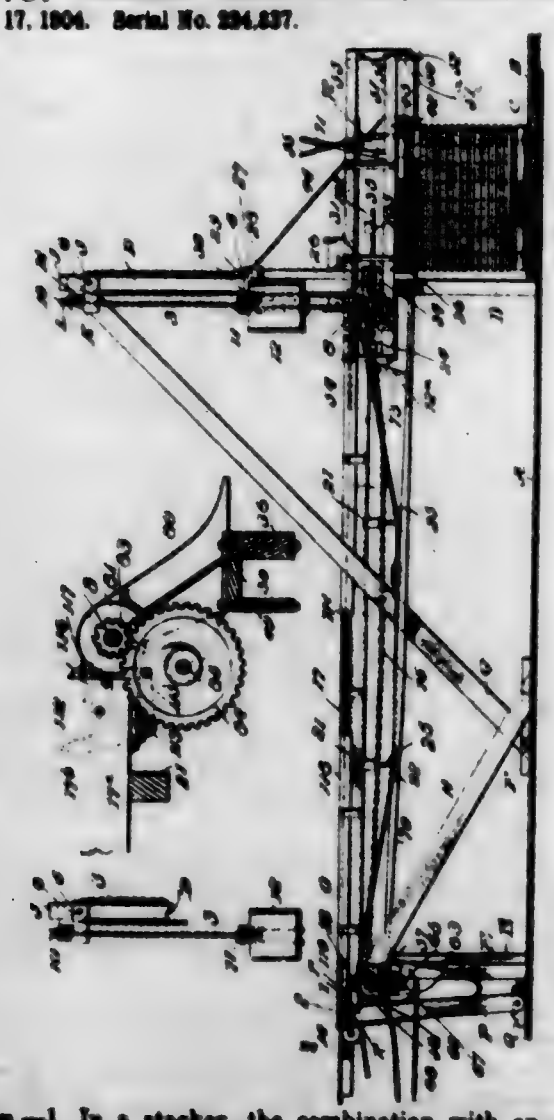
gage said recesses, and means for holding said cup-shaped member in such engagement, substantially as described.

804,778. YIELDABLE GEAR. GEORGE W. SMITH, Rockford, Ill., assignor to The Ingersoll Milling Machine Company, Rockford, Ill., a Corporation of Illinois. Filed June 29, 1904. Serial No. 214,660.



Claim.—A feeding mechanism comprising a shaft, a ring-gear having a double-beveled inner periphery, a fixed hub member secured to the shaft between said shaft and gear, a sleeve integral therewith, a recessed movable hub member between the sleeve and gear, said members having oppositely-beveled faces for bearing on the beveled faces of the gear, and a guide and retaining device adjustably secured on the sleeve and projecting into the movable member, a spring in said member and bearing at opposite ends upon the end of the recess and the guiding device respectively, for holding the hub members yieldably clamped upon the gear.

804,779. STACKER. GEORGE W. SOULÉ, Meridian, Miss. Filed Sept. 17, 1904. Serial No. 224,837.



Claim.—1. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is hinged, automatic mechanism for lifting the rear end of said frame simultaneously with the operation of the conveyer mechanism, manual mechanism for interrupting the operation of said lifting mechanism, and manual mechanism for varying the speed of the conveyer mechanism, substantially as described.

2. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is hinged, automatic mechanism for lifting the rear end of said frame simultaneously with the operation of the conveyer mechanism, manual mechanism for interrupting the operation of said lifting mechanism, manual mechanism for varying the speed of the conveyer mechanism, and manual mechanism for interrupting delivery from the conveyer mechanism, substantially as described.

3. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is shiftably hinged, upright guides for the rear end of said frame, automatic mechanism for lifting the rear end of said frame simultaneously with the operation of the conveyer mechanism, manual mechanism for interrupting the operation of said lifting mechanism, and manual mechanism for varying the speed of the conveyer mechanism, substantially as described.

4. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is shiftably hinged, upright guides for the rear end of said frame, automatic mechanism for lifting the rear end of said frame simultaneously with the operation of the conveyer mechanism, manual mechanism for interrupting the operation of said lifting mechanism, manual mechanism for varying the speed of the conveyer mechanism, and manual mechanism for interrupting delivery from the conveyer mechanism, substantially as described.

5. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is hinged, conveyer-chains applied to said frame, mechanism in operative relation with one of said conveyer-chains for raising the rear end of said frame, and manual mechanism for varying the speed of said chains, substantially as described.

6. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is hinged, conveyer-chains applied to said frame, mechanism in operative relation with one of said conveyer-chains for raising the rear end of said frame, manual mechanism for interrupting the operation of said lifting mechanism, manual mechanism for varying the speed of the conveyer mechanism, and manual mechanism for interrupting delivery from the conveyer-chains, substantially as described.

7. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is shiftably hinged, upright guides for the rear end of said frame, conveyer-chains applied to said frame, and mechanism in operative relation with one of said conveyer-chains for raising the rear end of said frame, substantially as described.

8. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is shiftably hinged, upright guides for the rear end of said frame, conveyer-chains applied to said frame, mechanism in operative relation with one of said conveyer-chains for raising the rear end of said frame, and manual mechanism for interrupting the operation of said lifting mechanism, substantially as described.

9. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is shiftably hinged, upright guides for the rear end of said frame, conveyer-chains applied to said frame, mechanism in operative relation with one of said conveyer-chains for raising the rear end of said frame, manual mechanism for interrupting the operation of said lifting mechanism, and manual mechanism for interrupting delivery from the conveyer-chains, substantially as described.

10. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is shiftably hinged, upright guides for the rear end of said frame, conveyer-chains applied to said frame, mechanism in operative relation with one of said conveyer-chains for raising the rear end of said frame, manual mechanism for interrupting the operation of said lifting mechanism, and manual mechanism for varying the speed of said conveyer-chains, substantially as described.

11. In a stacker, the combination with an approximately horizontal conveyer-frame, of supporting mechanism to which the front end of said frame is shiftably hinged, upright guides for the rear end of said frame, conveyer-chains applied to said frame, mechanism in operative relation with one of said conveyer-chains for raising the rear end of said frame, manual mechanism for interrupting the opera-

tion of said lifting mechanism, manual mechanism for varying the speed of the conveyer mechanism, and manual mechanism for interrupting delivery from the conveyer-chains, substantially as described.

12. In a stacker, the combination with the conveyer-frame and conveyer-chains, of a driving-shaft, 57, a counter-shaft, 64, two-speed gear and clutch mechanism applied to said shafts, a hand-lever, and mechanism connecting said hand-lever and gear-and-clutch mechanism, substantially as described.

13. In a stacker, an approximately horizontal conveyer-frame hinged by its front end to upright rocking supports, a horizontal shaft, R, applied transversely to said end of said frame and having wheels, 14, relatively stationary shafts, 57 and 78, arranged beneath said frame adjacent to said shaft, R, and provided with wheels, 76 and 79, and wheels, 16, at the opposite end of said frame, and endless chains, 15, extending over said wheels, 14, thence over said frame and over said wheels, 16, and thence beneath said frame and over the wheels, 76, and thence forward over the wheels, 79, and thence downward a short distance beneath the wheels, 79, and thence up to the wheels, 14, and mechanism for driving said shaft, 57, substantially as described.

14. In a stacker, an approximately horizontal conveyer-frame hinged by one end to upright rocking supports, a horizontal shaft, R, applied transversely to said end of said frame and having wheels, 14, relatively stationary shafts, 57 and 78, arranged beneath said frame adjacent to said shaft, R, and provided with wheels, 76 and 79, and wheels, 16, at the opposite end of said frame, and endless chains, 15, extending over said wheels, 14, thence over said frame and over said wheels, 16, and thence beneath said frame and over the wheels, 76, and thence forward over the wheels, 79, and thence downward a short distance beneath the wheels, 79, and thence up to the wheels, 14, and two-speed driving mechanism applied to said shaft, 57, substantially as described.

15. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of approximately upright supports at the rear end of said frame, chains extending from said supports to said conveyer-frame, a transverse rotary shaft resting in bearings in said frame, wheels surrounding and fixed to said shaft and engaging said chains, wheels loosely surrounding said shaft, conveyer-chains surrounding said wheels, and speed-reducing gearing intervening between one of said conveyer-chain wheels and said transverse shaft, substantially as described.

16. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of approximately upright supports at the rear end of said frame, chains extending from said supports to said conveyer-frame, a transverse rotary shaft resting in bearings in said frame, wheels surrounding and fixed to said shaft and engaging said chains, wheels loosely surrounding said shaft, conveyer-chains surrounding said wheels, speed-reducing gearing intervening between one of said conveyer-chain wheels and said transverse shaft, and manual mechanism for interrupting the operation of said intervening gearing, substantially as described.

17. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of approximately upright supports at the rear end of said frame, chains extending from said supports to said conveyer-frame, a transverse rotary shaft resting in bearings in said frame, wheels surrounding and fixed to said shaft and engaging said chains, wheels loosely surrounding said shaft, conveyer-chains surrounding said wheels, speed-reducing gearing intervening between one of said conveyer-chain wheels and said transverse shaft, and brake mechanism applied to said transverse shaft, substantially as described.

18. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of approximately upright supports at the rear end of said frame, chains extending from said supports to said conveyer-frame, a transverse rotary shaft resting in bearings in said frame, wheels surrounding and fixed to said shaft and engaging said chains, wheels loosely surrounding said shaft, conveyer-chains surrounding said wheels, speed-reducing gearing intervening between one of said conveyer-chain wheels and said transverse shaft, brake mechanism applied to said transverse shaft and mechanism for interrupting the operation of said intervening gearing, substantially as described.

19. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of relatively stationary supports at the rear end of said frame, a rotary shaft journaled transversely across the rear end of said frame, wheels, 16, loosely surrounding said shaft, a spur gear-wheel loosely surrounding said shaft and joined to one of said wheels, 16, a counter-shaft parallel to said transverse shaft, a relatively large gear-wheel surrounding and fixed to said counter-shaft and engaging said first-mentioned gear-wheel, a smaller gear-wheel surrounding and fixed to said counter-shaft, a relatively large gear-wheel surrounding and fixed to said transverse shaft and engaging the last-mentioned gear-wheel, lifting-chains secured to said conveyer-frame and said supports, and wheels surrounding and fixed to said transverse shaft and in operative relation with said lifting-chains, substantially as described.

20. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of relatively stationary supports at the rear end of said frame, a rotary shaft journaled transversely upon the rear end of said frame, conveyer-chain wheels loosely surrounding said shaft, conveyer-chains surrounding said wheels, a gear-wheel loosely surrounding said shaft and joined to one of said conveyer-chain wheels, a counter-shaft parallel to said transverse shaft and having one of its bearings shiftable, a relatively large gear-wheel surrounding and fixed upon said counter-shaft and engaging said gear-wheel on said transverse shaft, a relatively small gear-wheel surrounding and fixed upon said counter-shaft, a relatively large gear-wheel surrounding and fixed upon said transverse shaft and in engagement with the last-mentioned gear-wheel on said counter-shaft, and mechanism for shifting the shiftable end of said counter-shaft for the engagement and disengagement of the gear-wheel upon that end of said shaft, substantially as described.

21. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of relatively stationary supports at the rear end of said frame, a rotary shaft journaled transversely upon the rear end of said frame, conveyer-chain wheels loosely surrounding said shaft, conveyer-chains surrounding said wheels, a gear-wheel loosely surrounding said shaft and joined to one of said conveyer-chain wheels, a counter-shaft parallel to said transverse shaft and having one of its bearings shiftable, a relatively large gear-wheel surrounding and fixed upon said counter-shaft and engaging said gear-wheel on said transverse shaft, a relatively small gear-wheel surrounding and fixed upon said counter-shaft, a relatively large gear-wheel surrounding and fixed upon said transverse shaft and in engagement with the last-mentioned gear-wheel on said counter-shaft, and a pitman, crank, rock-shaft, and hand-lever for shifting the shiftable end of said counter-shaft, substantially as described.

22. In a stacker, the combination with a conveyer-frame hinged by its front end, of supports adjacent to the rear end of said frame, lifting mechanism intervening between said conveyer-frame and said supports, a rock-shaft in operative relation with said intervening mechanism for controlling the latter, stop mechanism for arresting the delivery from said conveyer-chains, and a hand-lever in operative relation with said stop mechanism and with said intervening mechanism, substantially as described.

23. In a stacker, the combination with an approximately horizontal conveyer-frame, of conveyer-chains, upright stop-bars adjacent to the rear end of said frame, arms, 115, rock-shaft, 113, and crank, 112, substantially as described.

24. In a stacker, the combination with an approximately horizontal conveyer-frame, of conveyer-chains, upright stop-bars adjacent to the rear end of said frame, arms, 115, rock-shaft, 113, and crank, 112, and a hand-lever in operative relation with said crank, substantially as described.

25. In a stacker, the combination with an approximately horizontal conveyer-frame, of conveyer-chains, upright stop-bars adjacent to the rear end of said frame, arms, 115, rock-shaft, 113, and crank, 112, and automatic mechanism for lifting the rear end of said conveyer-frame, and a hand-lever in operative relation with said lifting mechanism and with said rock-shaft, substantially as described.

26. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of automatic lifting and lowering mechanism at the rear end of said frame, and automatic brake mechanism for retarding said lifting and lowering mechanism, substantially as described.

27. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of conveyer-chains applied to said frame, lifting and lowering mechanism in operative relation with one of said chains, and automatic brake mechanism for retarding said lifting and lowering mechanism, substantially as described.

28. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of conveyer-chains applied to said frame, lifting and lowering mechanism in operative relation with one of said chains, automatic brake mechanism for retarding said lifting and lowering mechanism, and a hand-lever in

operative relation with said lifting mechanism for interrupting the operation of the latter, substantially as described.

29. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of supports adjacent to the rear end of said frame, a rotary shaft arranged transversely upon said frame, adjacent to said supports, wheels upon said shaft, mechanism for rotating said shaft, lifting-chains each secured by one end to said frame and extending thence upward over a pulley in one of said supports and thence downward around said wheels on said shaft and thence upward over another pulley on said support and thence downward around a pulley on a weight and thence upward to said support, substantially as described.

30. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of supports adjacent to the rear end of said frame, conveyer-chains applied to said frame, a rotary shaft arranged transversely upon said frame adjacent to said supports, wheels upon said shaft, mechanism in operative relation with one of said chains and said shaft for transmitting power from said chain to said shaft at a reduced speed, lifting-chains, each of which is secured by one end to said frame and extends thence upward over a pulley on one of said supports and thence downward around said wheels on said shaft and thence upward over another pulley on said support and thence downward around a pulley on a weight and thence upward to said support, substantially as described.

31. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of supports adjacent to the rear end of said frame, a rotary shaft arranged transversely upon said frame adjacent to said supports, wheels upon said shaft, mechanism for rotating said shaft, lifting-chains each secured by one end to said frame and extending thence upward over a pulley on one of said supports and thence downward around said wheels on said shaft and thence upward over another pulley on said support and thence downward around the pulley on a weight and thence upward to said support, a wheel surrounding and fixed upon said shaft, a brake-strap mounted upon said frame and surrounding said wheel, and a tension-lever applied to said brake-strap, substantially as described.

32. In a stacker, the combination with an approximately horizontal conveyer-frame hinged at its front end, of supports adjacent to the rear end of said frame, conveyer-chains applied to said frame, a rotary shaft arranged transversely upon said frame adjacent to said supports, wheels upon said shaft, mechanism in operative relation with one of said chains and said shaft for transmitting power from said chain to said shaft at a reduced speed, lifting-chains, each of which is secured by one end to said frame and extends thence upward over a pulley on one of said supports and thence downward around said wheels on said shaft and thence upward over another pulley on said support and thence downward around a pulley on a weight and thence upward to said support, a wheel surrounding and fixed upon said shaft, a brake-strap mounted upon said frame and surrounding said wheel, and a tension-lever applied to said brake-strap, substantially as described.

33. In a stacker, the combination with front and rear supports, of a conveyer-frame hinged to the front supports and slidably secured to the rear supports and embodying bars or beams, 35, 36, 51, 42, and 51*, and flooring, 50 and 53, substantially as described.

34. In a stacker, the combination with front and rear supports, of a conveyer-frame hinged to the front supports and slidably secured to the rear supports and embodying bars or beams, 35, 36, 51, 42, and 51*, and flooring, 50 and 53, and spacing-stick guides applied to the opposing faces of said beams, 36 and 42, substantially as described.

35. In a stacker, the combination with front and rear supports, of a conveyer-frame hinged to said front supports, an upright bar or plate, 26, placed adjacent to each rear support, guide members, 31, applied to the lower end of each plate, 26, and extending along an adjacent face of one of said rear supports, bars or beams, 35 and 36, secured to said guide members, and beams, 51, 42, and 51*, substantially as described.

36. In a stacker, the combination with front and rear supports, of a conveyer-frame hinged to said front supports, an upright bar or plate, 26, placed adjacent to each rear support, guide members, 31, applied to the lower end of each plate, 26, and extending along an adjacent face of one of said rear supports, bars or beams, 35 and 36, secured to said guide members, and beams, 51, 42, and 51*, and spacing-stick guides applied to the opposing faces of said beams, 36 and 42, substantially as described.

37. In a stacker, the combination with front and rear supports, of an approximately horizontal conveyer-frame comprising a transverse rotary shaft, an upright plate, 26, applied against one of the faces of each of said rear supports, guide members secured to opposite faces of said plate, 26, and extending along opposite sides of the adjacent rear support and having bearings in which said transverse shaft rests, substantially as described.

38. In a stacker, the combination with front and rear supports, of an approximately horizontal conveyer-frame comprising a transverse rotary shaft, an upright plate, 26, applied against one of the faces of each of said rear supports, guide members secured to opposite faces of said plate, 26, and extending along opposite sides of the adjacent rear support and having bearings in which said transverse shaft rests, and guide-plates, 27, applied to the upper portion of said plate, 26, at opposite sides of the latter and extending across and beyond the adjacent faces of the adjacent rear support, and a guide-roller journaled between the projecting ends of said plates and bearing against the adjacent face of the adjacent rear support, substantially as described.

39. In a stacker, the combination with a conveyer-frame and conveyer mechanism, of straightening mechanism adapted to engage and hold the lumber when presented obliquely and release the same when it becomes substantially transverse to the conveyer-frame, substantially as described.

40. In a stacker, the combination with a conveyer-frame and conveyer mechanism, of an arresting device normally standing in the path of the lumber, a yielding device normally standing in the path of the lumber forward and laterally of said arresting device and in operative relation therewith for the depression of the latter when said yielding device yields to the pressure of the advancing lumber, substantially as described.

41. In a stacker, the combination with a conveyer-frame and conveyer mechanism, of a hinged straightener comprising a hook and an oblique finger, both extending normally into the path of the lumber, and said finger being forward and laterally of said hook, substantially as described.

42. In a stacker, the combination with a conveyer-frame and conveying mechanism, of a bracket, a straightener hinged to said bracket, said straightener comprising a hook and an oblique finger normally extending into the path of the lumber and said finger being located forward and laterally of said hook, substantially as described.

43. In a stacker, the combination with a conveyer-frame and conveying mechanism, of a hinged straightener, said straightener comprising a weighted arm, a hook, and an oblique finger, said hook and finger normally extending into the path of the lumber and said finger being located forward and laterally of said hook, substantially as described.

44. In a stacker, the combination with a conveyer-frame and conveying mechanism, of a bracket, a hinged straightener comprising a weighted arm, a hook, and an oblique finger, said hook and finger normally extending into the path of the lumber and said finger being located forward and laterally of said hook, substantially as described.

804,780. ORE CRUSHER AND PULVERIZER MACHINE.

ALEXIS TETRAULT, Boulder, Colo., assignor of one-half to Edwin C. Poble, Boulder, Colo. Filed Dec. 10, 1904. Serial No. 236,318.

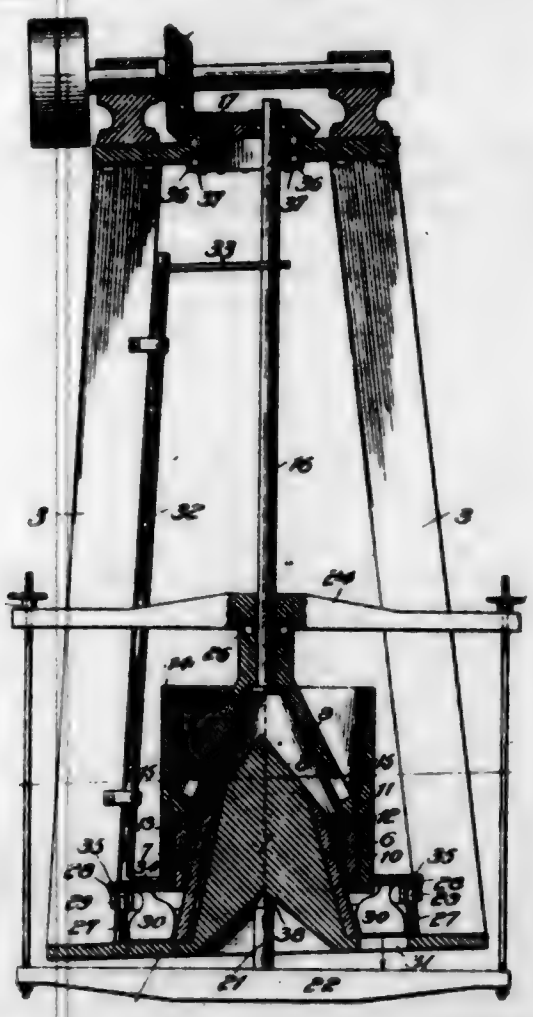
Claim.—1. In an ore crusher and pulverizer, a frame, a cone fixed on the base thereof, and a ring shell freely resting by its lower edge on the walls of said cone, means for imparting gyrating movements to said shell, means for applying pressure upon said shell centrally at its top from a point centrally at the bottom of said fixed cone, and means for feeding the material to the crushing-surfaces.

2. In an ore crusher and pulverizer, a frame, a cone fixed on the base thereof and a ring shell mounted relatively to said cone to cause it to rest with an unbroken annular grinding-edge contact upon the side walls of the cone, means for imparting gyrating movements to said shell, means for applying pressure upon said shell, whereby in its gyrating movements the grinding edge of the shell has uniform pressure at every part of its grinding edge upon the conical walls, and means for feeding the material to the crushing-surfaces.

3. In a crusher and pulverizer, a fixed cone, a ring shell having an edge contact with the side walls of said cone, a shaft fixed to and extending from said shell, a stud centrally engaging the bottom of said fixed cone, means for imparting gyrating movements to said shell-shaft, the bearing-point of said stud against said cone and the circular edge contact of said shell with the side walls of said cone being substantially on the same horizontal plane, and means connecting said stud and shell-shaft for maintaining the continuity of the pressure of the shell edge upon the cone-walls at every point of the shell edge.

4. In a crusher and pulverizer, a frame, a fixed cone having a

steel annulus conforming to said cone, a shell having at its base a cylindrical steel annulus, supported by its lower edge upon the walls of said cone, a shaft fixed to and extending from the top of said shell, a base tension-beam having a stud centrally engaging said fixed cone, a rod rising from each end of said tension-beam, a pressure-beam engaging said shaft, supported upon said shell, and having its ends connected to said rods, means for adjusting the pressure of said beam upon the shell, and means for imparting to said shaft a gyrating movement.



5. In a crusher and pulverizer, a fixed cone, a shell having an annulus supported at its lower edge only upon the walls of said cone, means for imparting a gyrating movement to said shell, and means acting against the fixed cone for imparting pressure to said shell under its gyrating movement, and a feed-hopper carried by said shell.

6. In an ore crusher and pulverizer, a fixed cone, a pulverizing-shell freely supported upon the walls of the cone, means for imparting to said shell a gyrating movement, a stud having a central bearing upon the under side of said cone, a guide and controlling shaft for said shell and means for imparting to said shaft a gyrating movement, the said center stud being so disposed and related to said shaft as to cause the lower edge of said shell to have an unbroken supporting contact at every point of its annular edge upon the walls of said cone, and means connecting the fixed cone and the top of the shell for maintaining pressure of said shell at its edge contact upon said cone.

7. In an ore crusher and pulverizer, a fixed cone, a shell, a guide-shaft fixed to and rising centrally from said shell, means for imparting to said shell-shaft gyrating movements upon the side walls of said shell, and means for imparting pressure of the shell upon the walls of the cone, consisting of a suspended base-beam having a stud bearing centrally against said fixed cone, a tension-beam movable laterally with the shell-shaft and resting upon the top of the shell, and nutted rods connecting the movable top beam and the base-beam and adapted to conform to the gyrating movements of the shell-shaft.

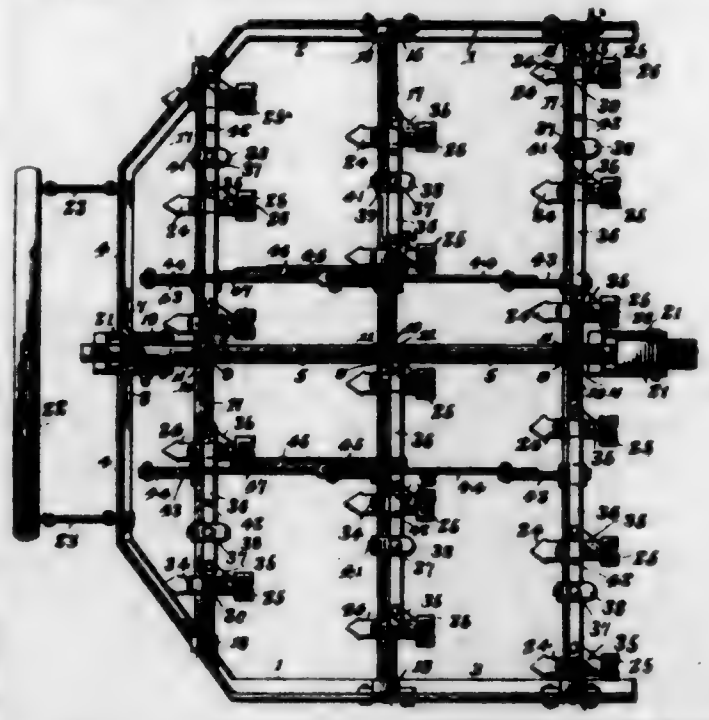
8. In an ore crusher and pulverizer, a fixed cone, a shell, a guide-shaft fixed to and rising centrally from said shell, means for imparting to said shell-shaft gyrating movements, a trough surrounding the base of said cone, and means rotatable upon and within said trough operated intermittently by the gyrating movements of said shaft whereby the pulverized pulp is discharged from said trough.

9. In an ore crusher and pulverizer, a fixed cone, a shell supported by its lower edge upon the walls of the cone, a guide shaft fixed to and rising centrally from said shell, means for imparting to said shaft a gyrating movement, a trough surrounding the base of the cone, an annular ring having a plurality of scrapers and mounted upon the wall of said trough, a ratchet carried by said ring, a rod having an arm engaging said ratchet-ring and also having an arm engaging said shell-guide shaft, whereby the gyrating movements of said shaft cause the scrapers to traverse said trough.

10. In an ore crusher and pulverizer, a fixed cone, a shell supported at its lower edge upon the walls of the cone, a guide-shaft fixed to and extending centrally from said shell, a gear mounted at the top of said frame and having an eccentric opening within which said shaft terminates, means for rotating said gear, a trough surrounding the base of the cone, a plurality of scrapers mounted on the outer wall of and within said trough, and means for rotating said scrapers engaging and operated by the gyrating movements of said shell-shaft.

11. In an ore crusher and pulverizer, a fixed cone, a shell supported at its lower edge upon the walls of said cone, a guide-shaft fixed to and rising centrally from said shell, means for imparting to said shaft a gyrating movement, a trough surrounding the base of the cone, a plurality of scrapers mounted on the outer wall of and within said trough, and means for rotating said scrapers operated intermittently by the gyrating movements of said shell-shaft.

804,781. HARROW. JAMES M. ULSH, Lancaster, Pa. Filed July 11, 1904. Serial No. 216,122.



Claim.—1. A sectional harrow, including a longitudinal member constituting the inner frame-bar of both sections, said sections including outer frame-bars hinged to the longitudinal member and tooth-bars extending between the longitudinal member and the outer frame-bars, said longitudinal member and the outer bars of the frames being independently supported from the ground.

2. A sectional harrow, including a longitudinal member constituting an inner frame-bar common to both sections, outer frame-bars having connection with the longitudinal member and vertically movable independently thereof, and tooth-bars extending across each section of the harrow and mounted to swing from the central member as an axis, and means for supporting the central member from the ground independently of the other members of the frame.

3. A sectional harrow, including a central member constituting an inner frame-bar common to both sections, other frame members constituting portions of the respective sections and hinged to the central member, means for supporting the central member from the ground independently of the other frame members, tooth-bars having their inner ends sustained above the ground by the central member and mounted to swing from the latter as an axis, and tie-rods connecting the outer frame members of the harrow-sections with the central longitudinal member to retain the various elements of the frame in their proper relative positions.

4. A sectional harrow comprising outer frame members for the sections, an inner member supported independently of the outer members and constituting the inner frame-bar of both sections of the harrow, tooth-bars extending across the respective sections of the harrow and mounted to swing vertically with the outer frame members from the central member as an axis, the inner ends of the tooth-bars and the central frame member being disposed normally in substantially the same horizontal plane.

5. A sectional harrow, including outer frame members for the

individual harrow-sections, and an inner member common to both sections, the several frame members being independently supported from the ground and flexibly connected to each other.

6. A sectional harrow, including outer frame members for the individual harrow-sections, an inner member common to both sections, the several frame members being independently supported from the ground and flexibly connected to each other, and rotary tooth-bars extending in opposite directions from the central frame member and having their axes in intersecting relation therewith.

7. A sectional harrow, including outer frame members for the individual harrow-sections, an inner member common to both sections, the several frame members being independently supported from the ground and flexibly connected to each other, journals extending in opposite directions from the central frame member and hinged thereto, and rotary tooth-bars mounted on the journals with their axes in intersecting relation with the central member and supported at their outer ends by the outer frame members.

8. A sectional harrow, including outer frame members for the individual harrow-sections, an inner member common to both sections, the several frame members being independently supported from the ground and flexibly connected to each other, tie-rods connecting the inner and outer members of the frame, and rotary tooth-bars surrounding the tie-rods and having their axes in intersecting relation with the central member.

9. A sectional harrow, including outer frame members for the individual harrow-sections, an inner member common to both sections, the several frame members being independently supported from the ground and flexibly connected to each other, journals hinged to and extended in opposite directions from the central frame member, standards rising from the outer frame members and formed with journals, tie-rods extending from the standards to the journals on the inner frame member, and rotary tooth-bars surrounding the tie-rods and supported at their opposite ends by the inner and outer journals.

10. A sectional harrow, including a central longitudinal member constituting the inner frame-bar of both sections, outer frame members having hinged connection with the inner member at the front end only of the latter, and tooth-bars having hinged connection with the inner frame member at various points in the length thereof and supported at their outer ends by the outer frame members.

11. A sectional harrow, including outer frame members for the individual harrow-sections, an inner member common to both sections, the several frame members being independently supported from the ground and flexibly connected to each other, journals hinged to the central frame member and having interfitting hinge elements, and rotary tooth-bars mounted on said journals.

12. A sectional harrow, including a longitudinal member constituting an inner frame-bar common to both sections, outer frame members for the sections, journals carried by the inner and outer frame members, and hollow tooth-bars carried by the journals.

13. A sectional harrow, including a longitudinal member constituting an inner frame-bar common to two sections, an outer frame-bar for each section, journals hinged to said longitudinal member and extending in opposite directions therefrom, standards rising from the outer frame members, and tooth-bars supported at their inner ends by the journals and at their outer ends by the standards.

14. A sectional harrow, including two sections, an inner frame member common to both sections, an outer frame member for each section, tie-rods connecting the outer frame members to the inner frame member, and a set of tooth-bars for each harrow-section, said tooth-bars being carried at their inner and outer ends by the inner and outer frame members of the section.

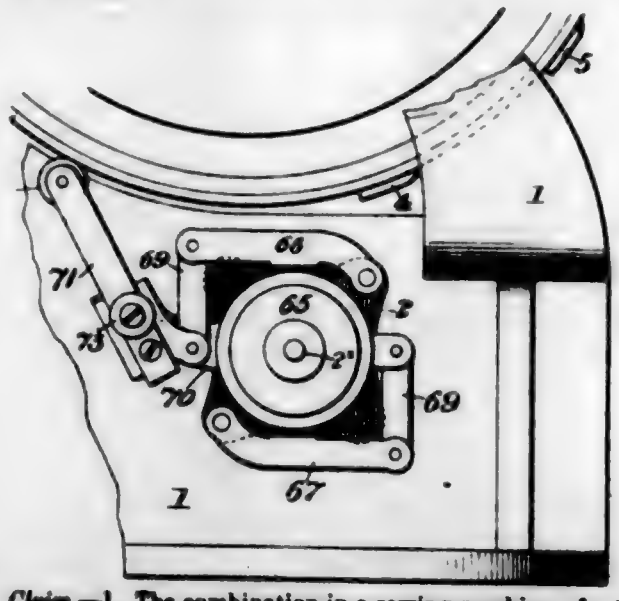
15. A sectional harrow, including a longitudinal bar constituting an inner frame member common to two harrow-sections, an outer frame member for each section, journals extending from said longitudinal bar, tie-rods extending from the journals to the outer frame members, and tooth-bars mounted on the journals and inclosing the tie-rods.

16. A sectional harrow, including a longitudinal bar constituting an inner frame member common to two harrow-sections, inner journals hinged to said member, an outer frame member for each section, outer journals carried by the outer frame members, tie-rods connecting the inner and outer journals, and tooth-bars carried at their opposite ends by the inner and outer journals and inclosing the tie-rods.

17. A sectional harrow, comprising a longitudinal bar constituting an inner frame member common to two sections, an outer frame member for each section, standards rising from the outer frame members and provided with bearing elements, journals hinged to the inner frame member, tie-rods connecting the journals with the standards, and hollow tooth-bars rotatably supported at their inner ends by the journals and at their outer ends by the bearing elements on the standards and inclosing the tie-rods.

18. A sectional harrow, including two sections, an inner frame member common to both sections, an outer frame member for each section, two sets of tooth-bars, each set extending from the inner frame member to one of the outer frame members, and means for effecting the individual support of the inner frame member from the ground, to insure the maintenance of said member in proper position while permitting independent vertical movement of the other elements of the respective harrow-sections to accommodate inequalities in the surface of the ground.

804,782. TENSION MECHANISM FOR SEWING-MACHINES. JOHN H. UNDERWOOD and JOSEPH B. UNDERWOOD, Philadelphia, Pa., assignors of one-fourth to John A. Hunter and one-fourth to Mary A. Hunter, Philadelphia, Pa. Original application filed Aug. 6, 1900, Serial No. 26,071. Divided and this application filed Dec. 8, 1902. Serial No. 134,052.



Claim.—1. The combination in a sewing-machine, of a tension-drum about which the thread is passed, a pair of brake-levers having shoes for acting on said drum, a single lever pivoted axially of the drum and having its opposite ends projecting to opposite peripheral sides of the drum and connected by said ends, one to each of the pair of brake-levers, and a cam-disk having cams for imparting vibrating movement to said single lever.

2. A tension device for sewing-machines comprising a tension-drum around which the thread is passed, a single lever having its ends extended to opposite sides of the tension-drum, a pair of brake-levers each having a shoe for acting upon the tension-drum, link connections between the opposite ends of the single lever and the ends of the brake-levers, said single lever at one end having a rigid projecting arm, carrying a thread-guide to engage and direct the thread as it leaves the tension-drum, and a cam-disk having cams for engagement with said arm to apply the brake.

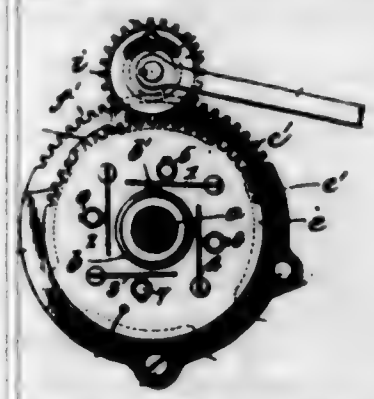
3. A tension device for sewing-machines, comprising a supporting-frame, a tension-drum around which the thread is passed, a single lever fulcrumed axially of said drum and having its free ends projecting to each side thereof, a pair of brake-levers fulcrumed to the frame on opposite sides of the drum with their free ends oppositely extended, link connections between the opposite ends of the single lever and the free ends of the brake-levers, a rigid projection carried by one end of the single lever, and a cam-disk having cams to engage said rigid projection to apply the brake-levers to the drum.

804,783. CIRCUIT-CONTROLLER FOR EXPLOSIVE-ENGINES. RICHARD VARLEY, Englewood, N. J., assignor, by mesne assignments, to The Autocar Co., a Corporation of New Jersey. Filed Oct. 31, 1904. Serial No. 230,662.

Claim.—1. A circuit-controller for explosion-engines comprising a normally open circuit-maker and a normally closed circuit-breaker adapted to operate upon the same circuit, means whereby the same will be actuated successively by one shaft and means for simultaneously and unequally shifting the points in the rotation of the shaft where said devices shall be operated.

2. A circuit-controller for explosion-engines comprising a rotary shaft, two relatively fixed circuit-controlling elements, means carried by said shaft for actuating said elements respectively and in succession in each rotation of the shaft, and means for adjusting the

relative positions of said elements with respect to each other and to the direction of rotation of the shaft whereby the time interval between the actuations of said elements will be approximately constant for all speeds of the shaft.



3. A circuit-controller for explosion-engines comprising a normally open circuit-maker and a normally closed circuit-breaker adapted to operate successively upon the same circuit and means for adjusting the time interval between the operations of said devices.

4. A circuit-controller for explosion-engines comprising a normally open circuit-maker and a normally closed circuit-breaker adapted to operate upon the same circuit, means whereby the same will be actuated successively from one shaft and means for adjusting the time interval between the operations of said devices.

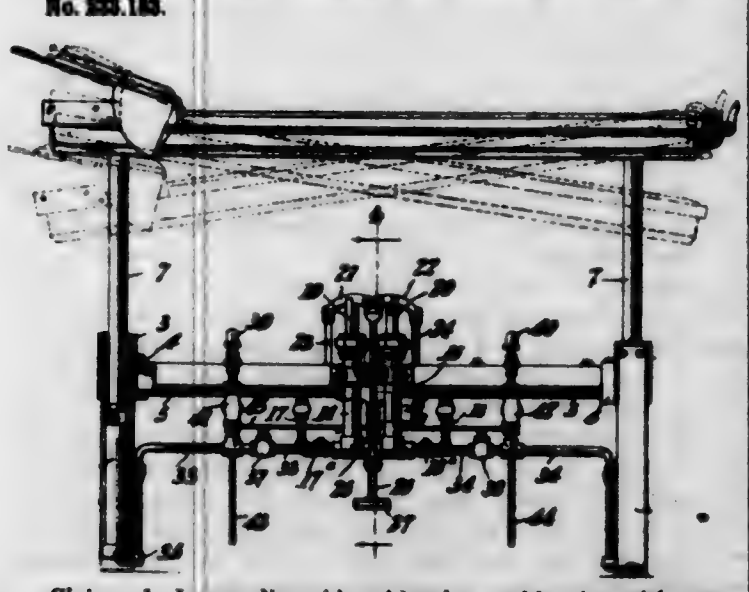
5. A circuit-controller for explosion-engines comprising a normally open circuit-maker and a normally closed circuit-breaker adapted to operate upon the same circuit and means whereby the time interval between the operations of said devices will remain substantially constant for all speeds of the shaft.

6. A circuit-controller for explosion-engines comprising a normally open circuit-maker and a normally closed circuit-breaker adapted to operate upon the same circuit, means for simultaneously shifting the points in the rotation of the shaft where said devices shall be operated and means whereby the time interval between the operations of said devices will remain substantially constant for all speeds of the engine.

7. A circuit-controller for explosive-engines comprising a shaft, two cams thereon, two gear-segments concentrically mounted on said shaft and each carrying a circuit-controller, said cams being adapted to respectively actuate said circuit-controllers and gearing engaging with the respective segments, said gearing being of such character that when actuated the segments will be moved through different arcs.

8. A circuit-controlling device consisting of a plurality of circuit-controllers arranged in succession around a rotary shaft and adapted to be actuated thereby and means for shifting all of them simultaneously forward or backward with respect to the direction of rotation of the shaft and at the same time altering the arc or arcs which separate them.

804,784. SURGICAL TABLE. EDWARD L. VON ROCHEN and ELEANOR B. VON ROCHEN, Kirksville, Mo. Filed Nov. 17, 1904. Serial No. 233,183.



Claim.—1. In an adjustable table, the combination with opposite legs, of a supply-tank, cylinders carried by the legs, plungers working in the cylinders and having their stems constituting standards, a table-top carried by the standards, a pump in communication with the tank, service-pipes leading from the pump to the respective cylinders, and means for exhausting one of the cylinders independently of the other cylinder to effect tilting of the table-top.

2. In an adjustable table, the combination with a support, of fluid-pressure cylinders carried thereby, plungers working in the cylinders and having their stems constituting standards, a table-top carried by the standards, and means for exhausting one of the cylinders independently of the other to tilt the table-top.

3. In an adjustable table, the combination with a support, of fluid-pressure cylinders carried thereby, plungers working in the cylinders and having their stems constituting standards, a table-top carried by the standards, and means for simultaneously exhausting the cylinders to lower the table-top and for exhausting one of the cylinders independently of the other cylinder to tilt the table-top.

4. In an adjustable table, the combination with opposite leg-standards, of a supply-tank supported by and connecting the same, cylinders carried by the leg-standards, plungers working in the cylinders with their stems rising thereabove and constituting standards, a table-top carried by the standards, a pump in communication with the tank, service-pipes leading from the pump to the respective cylinders, and return-pipes leading from the respective service-pipes to the supply-tank and including cut-off valves.

5. In an adjustable table, the combination with opposite leg-standards, of a supply-tank supported by and connecting the same, cylinders carried by the leg-standards, plungers working in the cylinders and having their stems constituting standards, a table-top carried by the standards, a pump in communication with the tank, service-pipes leading from the pump to the respective cylinders, return-pipes leading from the service-pipes to the tank and including cut-off valves, and a connecting-rod extending between the two valves for simultaneous manipulation thereof.

6. In an adjustable table, the combination with opposite leg-standards, of cylinders carried thereby, plungers working in the cylinders and having their stems constituting standards, a table-top carried by the standards, a supply-tank, a pump in communication with the tank, service-pipes leading from the pump to the respective cylinders, return-pipes leading from the service-pipes to the tank, and mutually-connected cut-off valves included in the service-pipes and constructed for simultaneously opening in one direcion of movement from an intermediate point, and for opening one of the cut-off valves in the opposite direction of movement.

7. In an adjustable table, the combination with a base, of a pair of cylinders, plungers working in the cylinders and having their stems constituting standards, a table-top carried by the standards, a supply-tank, a pump in communication with the tank, service-pipes leading from the pump to the cylinders, return-pipes leading from the service-pipes to the tank and including cut-off valves, and means connecting the valves for simultaneous action, one of the valves capable of being opened in opposite directions from an intermediate closed position and the other valve capable of being opened in one direction only, whereby the table-top may be bodily raised and lowered and one end lowered independently of the other to tilt the table-top.

8. In an adjustable table, the combination with a base, of a pair of cylinders, plungers working in the cylinders with their stems constituting standards, a table-top carried by the standards, a supply-tank, a pump in communication with the tank, service-pipes leading from the pump to the cylinders, return-pipes leading from the service-pipes to the tank and including cut-off valves, controlling-levers for the respective valves, and means connecting the levers for simultaneous movement by manipulation of either lever, one of the valves capable of being opened by movements of its lever in opposite directions from an intermediate closed position and the other valve capable of being opened by a movement in one direction only of its lever.

9. In an adjustable table, the combination with opposite leg-standards, of a supply-tank carried by and connecting the leg-standards, upright cylinders carried by the leg-standards plungers working in the cylinders and having their stems rising thereabove to constitute standards, a table-top carried by the standards, an upright pump carried intermediately by the tank, a supply-pipe leading from the tank to the pump and including a check-valve, a lever fulcrumed upon the tank and connected to the plunger-rod of the pump, a foot-lever fulcrumed upon the tank, a connecting-rod extending between the two levers, service-pipes leading from the pump to the cylinders and including check-valves, return-pipes leading from the service-pipes at points between the check-valves thereof and the respective cylinders to the tank, cut-off valves included in the return-pipes, levers for the respective cut-off valves, and a rod connecting the levers for simultaneous movements.

10. In an adjustable table, the combination with a support, of a

pair of fluid-pressure cylinders, plungers working in the cylinders and having their stems constituting standards, a table-top carried by the standards, and controlling means for simultaneously exhausting the cylinders in one direction of movement of said means from an intermediate point and for exhausting one of the cylinders in the opposite direction of movement of said controlling means.

804,785. TREATING IRON PYRITES FOR DESULFURIZATION. CYRUS WEBER, Ardmore, Pa. Original application filed June 15, 1904, Serial No. 212,785. Divided and this application filed Nov 22, 1904. Renewed July 26, 1905. Serial No. 271,202.

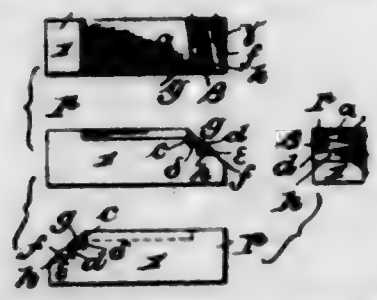
Claim.—1. The mode herein described of preparing "pyrites fines" or "pyrites smalls" for desulfurization, said mode consisting in mixing them with a binder containing nitrate of soda, and forming the mass into lumps, blocks or briquets, substantially as specified.

2. The mode herein described of preparing "pyrites fines" or "pyrites smalls" for desulfurization, said mode consisting in mixing them with a binder containing nitrate of soda and sulfate of iron, and forming the mass into lumps, blocks or briquets, substantially as specified.

3. As a new article of manufacture, a lump, block or briquet composed of "pyrites fines" or "pyrites smalls," and a binder containing nitrate of soda, substantially as specified.

4. As a new article of manufacture, a lump, block or briquet composed of "pyrites fines" or "pyrites smalls," and a binder containing nitrate of soda and sulfate of iron, substantially as specified.

804,786. WIRE-NAIL-CUTTING DIE. JAKOB WIRCHTRICH, Düsseldorf, Germany. Original application filed May 10, 1902, Serial No. 106,773. Divided and this application filed Nov. 24, 1903. Serial No. 182,562.



Claim.—1. A pair of nail pointing and cutting dies, each provided with two transverse notches in step relation, the bounding surfaces of said notches being triangles, the points of the triangular surfaces of one notch being on one side of the die and the points of the triangular surfaces of the other notch being on the other side of the die, one of the surfaces of one notch merging into one of the surfaces of the other notch to form a transverse cutting edge; one of the dies being further provided with a chamfer extending from one of the notches to the front face of the die and in advance of the cutting edge.

2. A pair of nail pointing and cutting dies, each provided with two transverse notches in step relation, the bounding surfaces of said notches being triangles, the points of the triangular surfaces of one notch being on one side of the die and the points of the triangular surfaces of the other notch being on the other side of the die, one of the surfaces of one notch merging into one of the surfaces of the other notch to form a transverse cutting edge; each die being further provided with a chamfer extending from one of the notches to the front face of the die and in advance of the cutting edge.

804,787. DEVICE FOR PREVENTING RAILWAY SIGNAL AND SWITCH APPLIANCES FROM FREEZING OR CLOGGING. FRANK L. YOUNG, Boston, Mass. Filed Mar. 8, 1905. Serial No. 249,696.



Claim.—1. A pivotally-mounted detector-bar constituting part of a signal apparatus, and a chamber or conduit extending along the side of the detector-bar substantially parallel thereto and adapted to contain a heating medium.

2. The combination with a rail and a detector-bar, of a shield forming with the rail a chamber to receive the detector-bar, and heating means within said chamber.

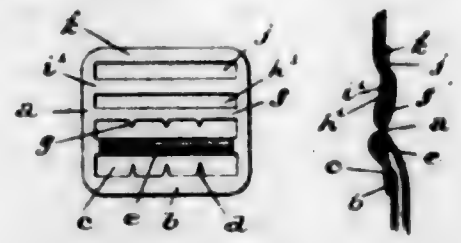
3. The combination with a rail and a detector-bar, of a shield forming with the rail a detector-bar-receiving chamber, and a conduit within said chamber through which a fluid heating medium may be forced.

4. In an apparatus of the class described, a detector-bar, an oil-conduit located alongside of said detector-bar, and automatic means to oil said detector-bar, said means being operated by the movement thereof.

5. The combination with a rail and a detector-bar, of a shield forming with the rail a chamber to receive the detector-bar, and an oil-conduit located within said chamber, said conduit having an outlet controlled by a valve, means for operating said valve by the movement of the detector-bar.

6. In a switch and signal apparatus, a self-oiling detector-bar.

804,788. BUCKLE. MIECZYSLAW BARABASZ, Baltimore, Md., assignor of two-sixths to F. P. Storey and one-sixth to Stephania Barabasz, Baltimore, Md. Filed June 5, 1905. Serial No. 263,754.



Claim.—1. A buckle formed from a single plate and having two side bars, *a*; a straight tubular cross-bar, *e*, connecting said side bars and said tubular bar having one side in the same plane with the inner surface of said side bars, and the opposite side projecting beyond the plane of the outer surface of said side bars, and also two flat cross-bars one being at each side of said tubular bar and one of said flat cross-bars on its edge adjacent the said tubular bar provided with teeth.

2. A buckle formed from a single plate and having two flat side bars, *a*; a smooth straight rounded cross-bar connecting said side bars and one side of said rounded bar being in the same plane with the inner surface of said side bars, and the opposite side projecting beyond the plane of the outer surface of said side bars, and two adjacent cross-bars, *b*, *f*, one at each side of said rounded cross-bar and both in line with the inner surface of the said rounded cross-bar, and one of said adjacent cross-bars having teeth which project in an inclined plane toward the inner surface of the buckle.

804,789. CENTRIFUGAL SEPARATOR. JOHN B. BARTHOLOMEW, Peoria, Ill., assignor to Avery Manufacturing Company, Peoria, Ill., a Corporation of Illinois. Filed Sept. 5, 1900. Serial No. 29,066.

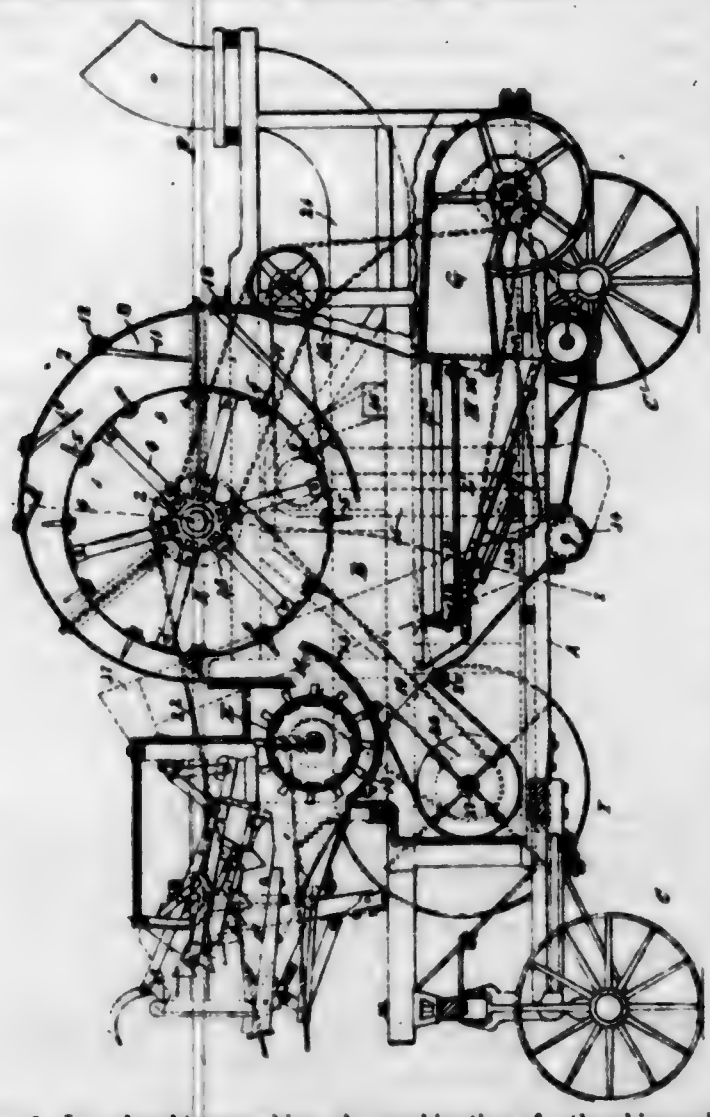
Claim.—1. In a portable centrifugal separator the combination of a main frame and casing, ground-wheels for the same, a threshing mechanism at the forward end of said frame, a pneumatic stacker-conduit at the rear end of said frame, a centrifugal device between said threshing mechanism and stacker, a casing for said centrifugal device, a winnower beneath the latter, a stacker-fan at the forward end of said frame, a straw-conduit from said fan to the stacker, and means for directing the grain and straw respectively to said winnower and to the stacker-fan, substantially as set forth.

2. In a centrifugal separator the combination of a threshing-cylinder, a centrifugal drum adapted to receive the threshed material therefrom, a casing inclosing said drum, a winnower beneath the latter, a stacker-fan below and near said cylinder, a stacking mechanism connected with said fan, and means for directing the grain and straw respectively to said winnower and to said fan.

3. In a centrifugal separater, the combination of a threshing-cylinder, a centrifugal drum arranged to receive the threshed material from the threshing-cylinder, a concave-casing surrounding the centrifugal drum inclosing a gradually-expanding passage about the centrifugal drum, and inward-extending comb-like devices gradually increasing in length with the expansion of the passage and arranged between the casing and the drum for holding the straw inward toward the drum, substantially as set forth.

4. In a centrifugal separator, the combination of a threshing-cylinder, a centrifugal device mounted above and parallel with said cylinder and having a series of teeth or projections, a straw-deflecting means 13 between said cylinder and centrifugal device, a casing

inclosing the latter, means for deflecting the straw inward from said casing, a winnower beneath said centrifugal device, a deflector 16 for directing the outer portion of the threshed material to said winnower, means for directing the straw over said winnower toward the threshing-cylinder, and a fan for removing said straw.



5. In a threshing-machine, the combination of a threshing-cylinder, straw and grain separating devices having a space between them extending from said threshing-cylinder upward, rearward and downward, the inner member of said separating devices being rotary, a winnower below said separating devices having its chaff-delivery end directed forward toward said thresher mechanism, means for directing the straw from the separating devices over the winnower and forward toward the threshing mechanism, a fan at the end of said winnower remote from the threshing mechanism and means near said threshing mechanism for removing the straw and the chaff from the machine, substantially as set forth.

6. In a threshing-machine, the combination of a threshing-cylinder, a winnower having its chaff-delivery end directed toward said cylinder, rotary straw and grain separating means receiving the threshed material from said cylinder and delivering the same to said winnower, and a deflecting means for the threshed material for directing the same away from said threshing mechanism upward to said separating means and preventing it from commingling with the straw and chaff that are delivered by the separating means, substantially as set forth.

7. In a threshing-machine, the combination of a threshing mechanism, inner and outer straw and grain separating devices having a space between the same extending from said threshing mechanism upward, rearward and downward, the inner member of said separating means being rotary, a winnower below said rotary separating member having its chaff-delivery end directed toward said threshing mechanism, and a straw-deflector between said rotary separating member and winnower for directing the straw toward the delivery end of said winnower.

8. In a threshing-machine, the combination of a threshing mechanism, inner and outer straw and grain separating devices having a space between the same extending away from said threshing mechanism, the inner member of said separating devices being rotary, a winnower adapted to receive the grain and chaff from said separating devices and having its chaff-delivery end directed toward said threshing mechanism, and a comb-like straw-deflector between said rotary separating member and winnower for directing the straw toward the delivery end of said winnower.

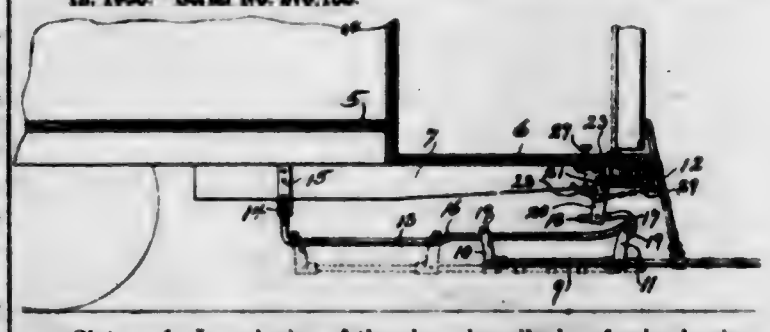
9. In a grain threshing and separating machine, the combination of the threshing mechanism, a separator for separating the straw from the grain having a rotating cylindrical drum and straw-retaining devices around the drum with a straw-passage having its inlet turned toward the threshing mechanism and its outlet turned toward points below the threshing mechanism, means for withdrawing the straw from the machine after it escapes from the said separator, having a straw-intake in vertical planes of and beneath said threshing mechanism and its outlet-port at the opposite end of the machine from said threshing mechanism, means below the separator for receiving the grain separately from the straw, and means for withdrawing the grain from the machine after it has been separated, substantially as described.

10. In a threshing and separating mechanism, the combination of the threshing-cylinder, the concave, a rotary separator in rear of and above the threshing-cylinder, straw retaining and guiding devices around the separator arranged to guide the straw as it is thrown from the separator forward to points below the threshing-cylinder, means for guiding the straw laterally or transversely out of the machine from said points below the threshing-cylinder, and means for collecting the grain that drops from the separator, substantially as set forth.

11. In a threshing and separating mechanism, the combination of the threshing-cylinder, the concave, the rotary separator mounted on a horizontal axis, the straw retaining and guiding devices around the separator arranged to form a confined straw-passage extending from a horizontal plane below the horizontal plane of the axis of the separator around its axis to a plane near the vertical plane of the axis of the separator, means for guiding the straw from the cylinder and concave upward toward the receiving end of the said separating-passage, a receptacle for the straw in vertical planes in front of the separator and below the threshing-cylinder, grain-receiving devices supplemental to the straw-receiving devices, means for conducting the straw on transverse lines across and out of the machine and conducting it to points at the opposite end of the machine from said threshing-cylinder and means for carrying the grain out from the grain-receiving devices, substantially as set forth.

12. The combination of the threshing-cylinder, the concave, the rotary separator, the straw-guiding devices around the separator arranged to form a gradually-widening straw-passage, the sets of fingers, 9, 10, 11 and 17 gradually increasing in length, the fingers at 17 being arranged to direct the straw as it escapes from said passage forward to points below the threshing-cylinder, the straw-receiving devices, the grain-receiving devices supplemental to the straw-receiving devices, and the fan arranged at the opposite end of said grain-receiving devices from said straw-receiving devices and adapted to deliver air-currents across the grain-receiving devices directed toward the straw-receiving devices, substantially as set forth.

804,790. **CAR-FENDER.** AUGUST J. BERG, Chicago, Ill. Filed July 12, 1905. Serial No. 270,162.



Claim.—1. In a device of the class described, a fender having its rearward extensions pivotally connected to the car and means comprising a shaft provided with a crank at either end and an arm secured to said shaft arranged to be engaged by a sliding pin extending vertically through the car-platform whereby said shaft will receive its initial movement by depressing said pin, for quickly lowering the forward part of the fender.

2. In a device of the class described, two bars having their rearward ends pivotally secured to the car, a fender arranged to travel forward and back on said arms, and means comprising a shaft provided with a crank at either end for normally holding in a raised position and quickly lowering the forward ends of said arms.

3. In a device of the class described, two rails secured to the car, a fender arranged to travel forward and back on said rails, and an offset in said rails to coöperate with the engaging part of the fender when in its rearward position, whereby the fender is prevented from moving forward until lifted to pass said offset.

4. In a device of the class described, two rails secured to the car, a fender arranged to travel forward and back on said rails, and a depression in the forward end of said rails to coöperate with the engaging part of said fender when in its forward position whereby the fender is prevented from moving back until lifted out of said depression.

5. In a device of the class described, two rails secured to the car, a fender arranged to travel forward and back on said rails, an offset in said rails to coöperate with the engaging part of the fender when in its rearward position, whereby the fender is prevented from moving forward until lifted to pass said offset, and a depression in the forward end of said rails to coöperate with the engaging part of said fender when in its forward position whereby the fender is prevented from moving back until lifted out of said depression.

6. In a device of the class described, two rails having their rearward ends pivotally secured to the car, a fender arranged to travel forward and back on said rails, an offset in said rails to coöperate with the engaging part of said fender when in its rearward position whereby the fender is prevented from moving forward until lifted to pass said offset, and means for normally supporting and quickly lowering the forward ends of said rails.

7. In a device of the class described, two rails having their rearward ends pivotally secured to the car, a fender arranged to travel forward and back on said rails, a depression in the forward end of said rails to coöperate with the engaging part of the fender when in its forward position whereby the fender is prevented from moving back until lifted out of said depression and means for normally supporting and quickly lowering the forward ends of said rails.

8. In a device of the class described, two rails having their rearward ends pivotally secured to the car, a fender arranged to travel forward and back on said rails, an offset in said rails to coöperate with the engaging part of said fender when in its rearward position whereby the fender is prevented from moving forward until lifted to pass said offset, a depression in the forward end of said rails to coöperate with the engaging part of the fender when in its forward position whereby the fender is prevented from moving back until lifted out of said depression, and means for normally supporting and quickly lowering the forward ends of said rails.

9. In a device of the class described, two rails secured to the car, a fender arranged to travel forward and back on said rails, an apron pivoted to said fender and a chain connected between said apron and said car whereby the apron is automatically raised to and held in an upright position when the fender is moved to its forward position.

10. In a device of the class described, a fender having its rear extensions pivotally secured to the car means for moving said fender under the car and means comprising a shaft provided with a crank at either end and links connecting said cranks to said fender for lowering the forward part of said fender.

11. In a device of the class described, a fender having its rearward extensions pivotally secured to the car and means for supporting the forward part of said fender; said means comprising a rock-shaft mounted in bearings secured to the car and provided at either end with a crank and lugs on said bearings to engage said cranks to prevent a complete rotation of said shaft.

12. In a device of the class described, a fender having its rearward extensions pivotally secured to the car and means for lowering the forward part of said fender; said means comprising a rock-shaft mounted in bearings secured to the car and provided at either end with a crank, lugs on said bearings to engage said cranks to prevent a complete rotation of said shaft and links connecting said cranks to said fender.

13. In a device of the class described, a fender having its rearward extensions pivotally secured to the car and means for lowering the forward part of said fender; said means comprising a shaft provided with a crank at either end an arm secured to said shaft arranged to be engaged by a sliding pin extending vertically through the platform whereby said shaft will receive its initial movement by depressing said pin and a spring to normally hold said cranks in an elevated position.

14. In a device of the class described, a fender having its rearward extensions pivotally connected to the car and means for lowering the forward part of said fender; said means comprising a hollow rock-shaft having secured in either end rods bent to form cranks on the exterior of said shaft, bearings secured to the car in which said shaft is mounted, lugs on said bearings to engage said cranks to limit the rotation of said shaft, an arm secured to said shaft arranged to be engaged by a sliding pin extending vertically through the car-platform whereby said shaft will receive its initial movement by depressing said pin and a spring interposed between said shaft and said bearing to normally hold said cranks in engagement with said lugs.

15. In a device of the class described, a fender having its rearward extensions pivotally secured to the car and means for lowering the front part of said fender comprising a rock-shaft provided at either end with a crank connected to one end of a link forming the connection with the fender, an arm secured to said shaft arranged to be engaged by a sliding pin extending through the car-platform whereby said shaft will receive its initial movement by depressing said pin.

16. In a device of the class described, two bars having their rearward ends pivotally connected to the car, a fender arranged to travel forward and back on said bars and means for lowering the forward ends of said bars; said means comprising a shaft provided with a crank at either end and a coiled spring about said shaft to normally hold said cranks in an elevated position.

17. In a device of the class described, two bars having their rearward ends pivotally secured to the car, a fender arranged to travel forward and back on said bars and means whereby the weight of the forward ends of said bars is supported by a part arranged to swing about a center.

18. In a device of the class described, two bars having their rearward ends pivotally secured to the car, a fender arranged to travel forward and back on said bars and means comprising a rock-shaft for lowering the forward ends of said bars.

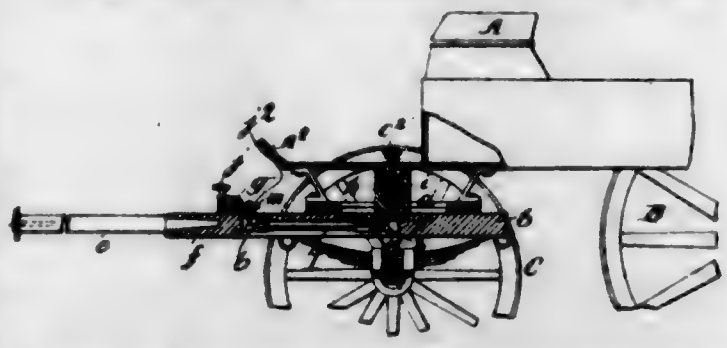
19. In a device of the class described, two bars having their rearward ends pivotally secured to the car, a fender arranged to travel forward and back on said bars and means comprising a rock-shaft provided with a crank at either end for lowering the front ends of said bars.

20. In a device of the class described, two bars having their rearward ends pivotally secured to the car, a fender arranged to travel forward and back on said bars and means comprising a rock-shaft provided with a crank at either end and means for giving said rock-shaft its initial movement for lowering the forward ends of said bars.

21. In a device of the class described, two bars having their rearward ends pivotally secured to the car, a fender arranged to travel forward and back on said bars and means for lowering the forward ends of said bars comprising a rock-shaft provided at either end with a crank connected to one end of a link forming the connection with the forward ends of said bars, an arm secured to said shaft arranged to be engaged by a sliding pin extending vertically through the car-platform whereby said shaft will receive its initial movement by depressing said pin.

804,791. MEANS FOR FREEING HORSES FROM VEHICLES.

DANIEL BOLDOC, New York, N. Y., assignor of one-half to Johann Melega, New York, N. Y. Filed Apr. 26, 1905. Serial No. 257,495.

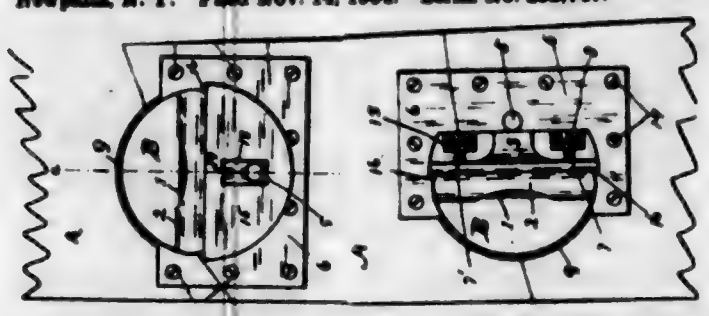


Claim.—1. In a carriage mechanism for the ready and complete detachment therefrom of the team harnessed thereto, the combination of the following instrumentalities, all arranged and operating together in the manner set forth; first, the slide-bar *m*, mounted on the forward cross-beam *g* and formed with the engaging or locking devices *n*; second, expansion-springs mounted on said slide-bar and operating to hold the same in its normal position, relatively to cross-bar *g*; third, devices on the swingletrees which engage with the locking devices of said slide-bar; and fourth, mechanism under the control of a person in the carriage, and adapted to actuate, at pleasure, the said slide-bar; as specified.

2. In a carriage mechanism for effectuating the releasement from the carriage of the team harnessed thereto, the combination, with the swingletrees, provided with latching devices that are arranged with the cross-bar *g* as specified; and the slide-bar *m* having locking devices that engage the said latching devices, as specified, of a rock-shaft I, having its forward end coupled to the said slide-

bar by means of a bifurcated arm *b*; and a vertically-sliding rod arranged within the carriage-body, having its lower end coupled to the rear end of said rock-shaft, and its upper end provided with a head adapted to be pressed down by the foot of an occupant of the front carriage-seat; all in the manner and for the purposes set forth.

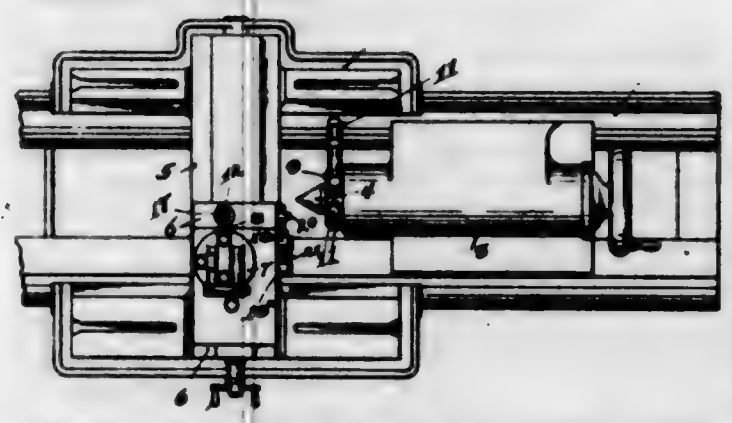
804,792. ADJUSTABLE SPIRIT-LEVEL. ABRAM C. BRUNDAGE. Newpaltz, N. Y. Filed Nov. 14, 1904. Serial No. 232,747.



Claim.—1. In a spirit-level or plumb, a bubble-tube case or holder, formed of a metallic circular casing, partly flanged on the face side, and partly inclosed on the reverse side, and having a removable cover, and means for securing said cover, substantially as described.

2. A spirit-level, having a metallic bubble-tube case, between the sides of which is rigidly secured a rectangular base or socket, slotted midway its ends and sides, and provided with two holes partly countersunk on the lower or under side, and square-headed bolts, for the purpose set forth, and substantially as described.

804,793. GAGE DEVICE FOR LATHES. NICHOLAS D. CHARD and WILLIAM LODGE, Cincinnati, Ohio, assignors to The Lodge & Shipley Machine Tool Company, Cincinnati, Ohio, a Corporation. Filed Jan. 3, 1905. Serial No. 239,492.



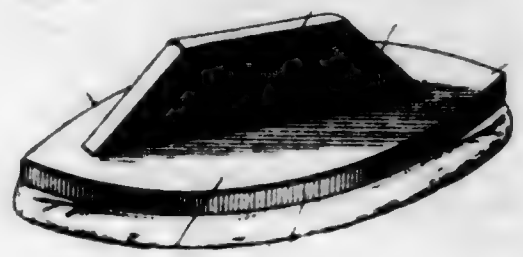
Claim.—1. In an engine-lathe, the bed, carriage, tail-stock, spindle, and tool-holder transversely slidable on the carriage, a rotatably-adjustable collar on the spindle provided with a plurality of different-lengthed gage-pins, an adjustable screw on the tool-holder, and a coöperating stop adapted to be engaged by the end of the screw, to stop the traverse of the tool-holder at a selected point, substantially as described.

2. In an engine-lathe, the bed, carriage, tail-stock, spindle, and tool-holder transversely slidable on the carriage, a rotatably-adjustable collar on the spindle provided with an extensible alining-finger, an alining-stud on the tool-holder under the projecting edge of the tool, adapted to coöperate with the alining-finger for setting the edge of the tool, and means for clamping the tool on its holder, substantially as described.

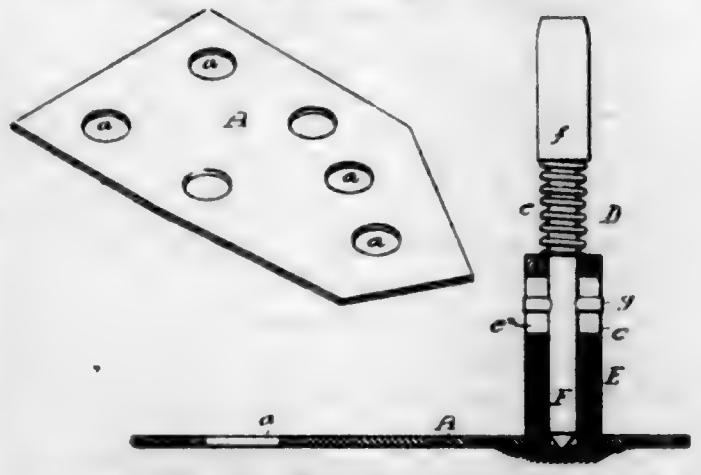
3. In an engine-lathe, the bed, carriage, tail-stock, spindle, and tool-holder transversely slidable on the carriage, a rotatably-adjustable collar on the spindle provided with a plurality of different-gaged pins, an adjustable screw on the tool-holder, a coöperating stop adapted to be engaged by the end of the screw to stop the traverse of the tool-holder at a selected point, an extensible alining-finger also projected from said collar, an alining-stud on the tool-holder under the projecting end of the tool, adapted to coöperate with the alining-finger for setting the edge of the tool relative to the holder, and also relative to the gage-pin, and means for clamping the tool in its holder, substantially as described.

804,794. CLOTH-HOLDER. PATRICK J. COAR, Lawrence, Mass. Filed June 1, 1904. Serial No. 210,741.

Claim.—A polishing-brush comprising a plurality of oval-shaped plates having pointed ends, the bottom plate being provided with a central opening having a flanged screw-threaded stem secured therein and projecting vertically upward from said plate, a top plate having a central opening therein to permit of the same being detachably mounted on said stem, a handle having a central opening, a flanged screw-threaded socket mounted and secured in said opening, a covering for the bottom plate having its edge portion interposed between the edges of the two plates and held thereto by means of the socketed handle being turnable on the screw-stem which serves to contact said handle with said top plate, substantially as specified.



804,795. TEMPLET AND PUNCH FOR MARKING CENTERS IN METAL WORK. JOHN D. CUMMINGS, Wilmington, Del., assignor of two-thirds to John K. Graham and William Marshall, Wilmington, Del. Filed Nov. 9, 1904. Serial No. 232,023.

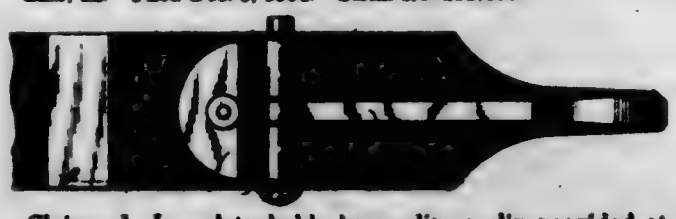


Claim.—1. The combination of a templet, a hole therein, a punch, and a guiding-sleeve for the punch, said guiding-sleeve fitting the opening in the templet and the punch fitting the sleeve, substantially as described.

2. The combination of a templet having an opening therein, a punch having a sleeve arranged to fit the opening in the templet, and a spring mounted between the punch and the sleeve, substantially as described.

3. The combination of a templet made of pasteboard or other fiber having an opening therein larger than the hole to be punched, a two-part punch, a sleeve forming one of the parts and arranged to fit the opening in the templet, the other part having a limited movement in respect to the sleeve and pointed to form the center-punch depression in the plate to be marked, substantially as described.

804,796. DETACHABLE HAME-CLIP. JAPHET S. CUSHON, DeKalb, Ill. Filed Dec. 3, 1904. Serial No. 235,400.



Claim.—1. In a detachable hame-clip, a clip provided at one end with perforated lugs and at the remaining end with a hook, a removable pin to pass through said perforation about which said clip is pivoted, and the free end of said hook provided with an extension, to engage said pin, whereby it is secured against movement away from said clip.

2. A clip provided at one end with perforated lugs and at the other end with a hook, a removable pin to pass through said perforated lugs, and the free end of said hook provided with an extension the end of which normally lies under said pin and is prevented from moving away from said clip.

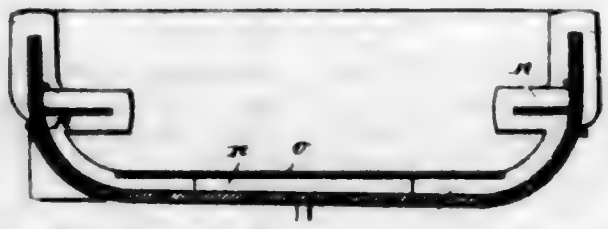
3. A clip provided at one end with two lugs provided with perforations which are in alinement, a removable pin to pass through said perforations, the other end of said clip provided with an integral

hook and the free end of said hook provided with an integral extension the free end of which is provided with a loop extending around said removable pin.

4. In a device of the class described, a tug provided with a perforated lug, a clip provided at one end with two perforated lugs and at its remaining end with a hook provided with a looped extension and a removable pin arranged to pass through the perforation in said tug-lug, the perforations in said clip-lugs and the loop on said hook extension thereby, pivotally, securing said tug, said clip and said hook extension together.

5. In a device of the class described, a tug provided with a loop, a clip provided with perforated lugs at one end and a hook having a looped extension at the remaining end, and a pin for securing said loops and said perforation in axial alinement.

804,797. DEVICE FOR RENDERING SMALL BOATS UNSINKABLE. JOSEPH M. A. DEYDIER, Nyons, France. Filed Jan. 29, 1904. Serial No. 191,200.



Claim.—In an unsinkable boat the combination with the shell of rods composed of several lengths arranged on the outside of the boat, stuffed waterproof cushions provided with rings intended to be engaged by the said outer rods, means for securing said cushions to the inside of the boat after they have been bent over the edges of the boat-shell, cushions secured to all parts of the inside of the boat and a waterproof covering protecting the cushions placed at the bottom, substantially as and for the purpose described.

804,798. LAUNDRY-BLUE DISTRIBUTER. PATRICK DIAMOND, Philadelphia, Pa. Filed Aug. 26, 1904. Serial No. 223,354.



Claim.—1. As a new article of manufacture, a tube having its inside and outside surfaces coated with a layer of coloring material removable therefrom when subjected to the action of a liquid, substantially as described.

2. An elongated distributer for coloring material, having a coating of a material removable therefrom when subjected to the action of a liquid, and being provided with an opening whose line is at an angle other than ninety degrees to the line of said distributer, substantially as described.

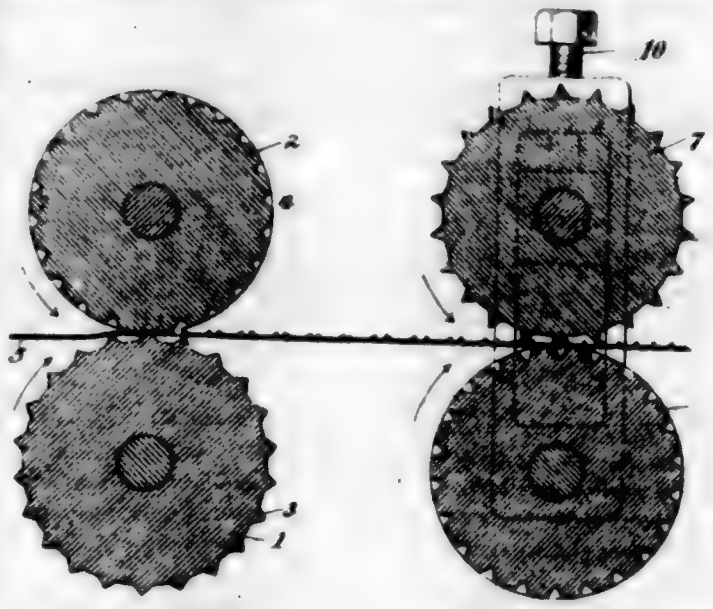
3. A tube having upon it a coating of coloring material and being provided with two holes adjacent to one of its ends, one of said holes being nearer said end than the other, substantially as described.

4. A tube having coatings of coloring material upon both its inside and its outside surfaces, said material being removable from the tube when subjected to the action of a liquid, one end of said tube having a recess in the side thereof, substantially as described.

804,799. APPARATUS FOR PERFORATING SHEET METAL. THOMAS A. EDISON, Llewellyn Park, N. J. Original application filed July 23, 1904. Serial No. 217,881. Divided and this application filed Mar. 20, 1905. Serial No. 251,028.

Claim.—1. In an apparatus of the character described, the combination of two sets of rolls and means for passing a strip of metal continuously therebetween, the rolls of one set being provided with coöperating projections and depressions, whereby perforations which are surrounded by burs are formed, and the rolls of the other set being provided with coöperating projections and depressions which are reversed with respect to the strip, whereby the metal surrounding the perforations is eyeleted or upset, substantially as set forth.

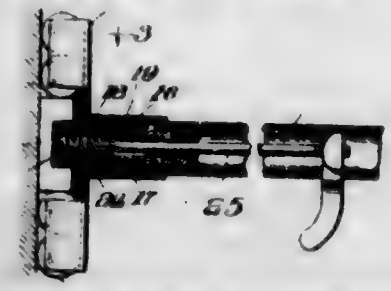
2. In an apparatus of the character described, the combinations of two sets of dies and means for passing a strip of metal continuously therebetween, the dies of one set being provided with cooperating projections and depressions, whereby perforations which are surrounded by burs are formed, and the dies of the other set being provided with coöperating projections and depressions, which are reversed with respect to the strip, whereby the metal surrounding the perforations is eyeleted or upset, substantially as set forth.



3. In an apparatus of the character described, the combination of two sets of rolls, means for passing a strip of metal continuously therebetween, the rolls of one set being provided with coöperating projections and depressions, whereby perforations which are surrounded by burs are formed, and the other set comprising a roll which is provided with projections which correspond to the projections of the perforating-roll, but which are reversed with respect to the strip, whereby the metal surrounding the perforations is eyeleted or upset, substantially as set forth.

4. In an apparatus of the character described, the combination of two sets of dies, means for passing a strip of metal continuously therebetween, the dies of one set being provided with coöperating projections and depressions, whereby perforations which are surrounded by burs are formed, and the other set comprising a die which is provided with projections, which correspond to the projections of the perforating-die, but hich are reversed with respect to the strip, whereby the metal surrounding the perforations is eyeleted or upset, substantially as set forth.

804,800. SHADE-GUIDE. PLATO G. EMERY, Chicago, Ill. Original application filed Aug. 20, 1900, Serial No. 27,490. Divided and application filed Aug. 19, 1901, Serial No. 73,608. Again divided and this application filed May 16, 1904. Serial No. 208,187.



Claim.—1. In a curtain-fixture, the combination with a window-frame, a spring-actuated shade and a shade-stick, of heads carried by the stick, springs tending to force said heads outwardly, rollers carried by said heads, and friction-shoes elastically connected with said heads, said rollers and said shoes being arranged normally to contact with the window-frame, substantially as described.

2. In a curtain-fixture, the combination with heads, outwardly-thrusting springs acting upon said heads, antifriction-surfaces carried by said heads, friction-shoes elastically connected with said heads, said antifriction-surfaces and said shoes being arranged normally to make contact with the window-frame, substantially as described.

3. In a curtain-holding device, the combination with a shade-stick, of a guide yieldably connected therewith, a friction holding device in said guide, and means for mounting said friction holding device so that the same may have an independent, yielding body movement toward and from the edge of the guide.

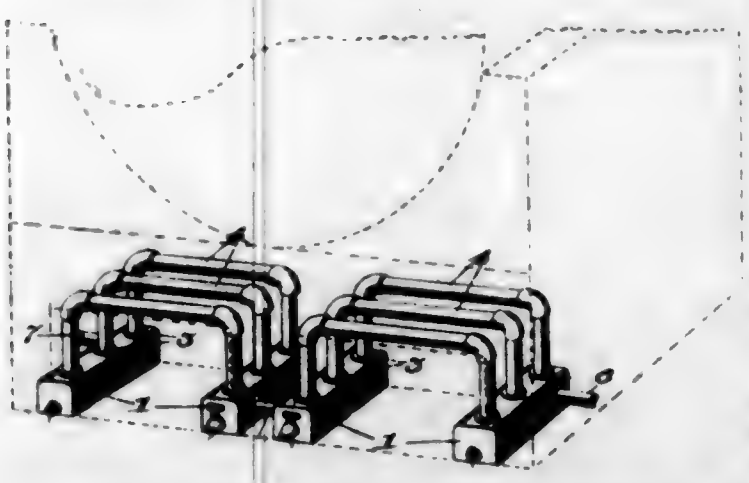
4. In a curtain-holding device, the combination with a shade-stick, of heads carried thereby, springs for normally thrusting said heads outwardly, curved bearings at the ends of the heads adapted to normally contact with the window-frame, and a yielding friction

member connected to the head between said end bearings, said friction member being adapted for bodily movement toward and from the outer edge of the head, substantially as described.

5. In a curtain-fixture, the combination of a shade-stick, slidable rods arranged within the stick, heads at the ends of said stick, antifriction-surfaces at the ends of said heads, friction-shoes, springs interposed between the shoes and the heads for forcing the shoes and rods outwardly, and means for retracting the shoes.

6. In a holding device for spring-actuated shades, the combination with a shade, of a stick carried thereby, a yielding guide carried by the stick, and a friction holding device connected to the guide and comprising a part having body movement toward and from the outer edge of the guide, and a spring part extending inward from the friction part toward the rear portion of the guide whereby the frictional holding part is normally projected outward.

804,801. **ARCH-PROTECTOR FOR FURNACE-DOORS.** GEORGE A. FULLER, Providence, R. I., assignor of one-third to Paul Shechter, Providence, R. I. Filed Mar. 1, 1905. Serial No. 247,980.



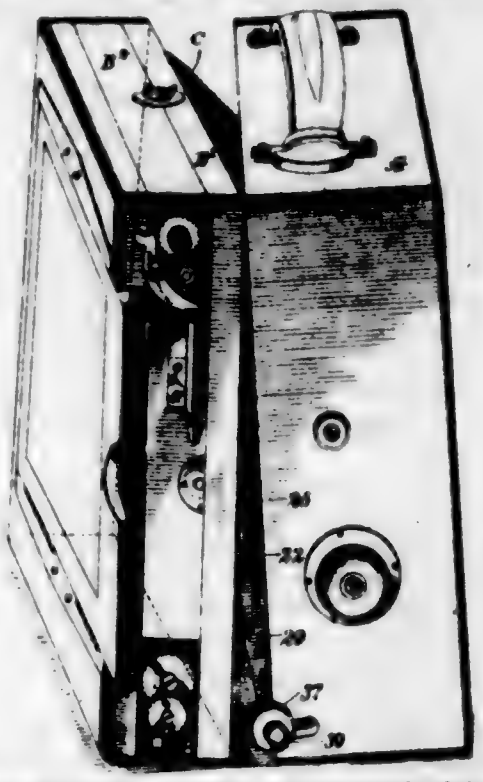
Claim.—1. A device of the class described, comprising a pair of headers each of which has at its interior a dividing-wall or partition extending transversely thereof and forming therein a pair of non-communicating compartments of different sizes, said headers being reversely arranged relatively to each other, whereby the compartments of one header are diagonally opposite the corresponding compartments of the other header, one of said headers having an inlet, and the other having a discharge, and a series of pipes connected to said headers but independent of each other for transferring the water from one header to the other.

2. A device of the class described, comprising a pair of headers each of which has at its interior a dividing-wall or partition extending transversely thereof and forming therein a pair of non-communicating compartments of different sizes, said headers being reversely arranged relatively to each other, whereby the compartments of one header are diagonally opposite the corresponding compartments of the other header, one of said headers having an inlet, and the other having a discharge, and a series of inverted-U-shaped pipes connected to said headers but independent of each other for transferring the water from one header to the other.

3. A device of the class described, comprising a pair of headers each of which has at its interior a dividing-wall or partition extending transversely thereof and forming therein a pair of non-communicating compartments of different sizes, said headers being reversely arranged relatively to each other, whereby the compartments of one header are diagonally opposite the corresponding compartments of the other header, one of said headers having an inlet, and the other having a discharge, and a series of pipes connected to said headers but independent of each other for transferring the water from one header to the other, each of said headers being also provided with means for effecting cleansing of the same.

4. A device of the class described, comprising a series of headers arranged in pairs, each of said headers having at its interior a dividing-wall or partition extending transversely thereof and forming therein a pair of non-communicating compartments of different sizes, the headers constituting each pair being reversely arranged relatively to each other, whereby their corresponding compartments are diagonally opposite, a pipe for connecting the contiguous headers of the pairs, the outermost headers of the connected pairs having an inlet and a discharge, and a series of pipes connected to the headers of each pair but independent of each other for transferring the water from one header to the other of the respective pairs.

804,802. **CAMERA.** WILLIAM P. PALMER, New York, N. Y., assignor to Palmer & Schwing Mfg. Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 27, 1904. Serial No. 205,075.



Claim.—1. In a camera, a body, an extension-back for the body, adapted to receive a shutter or plate-holder, and bars pivotally connected with the back and having guided movement in the body, one of the bars having a double pivotal connection with the back.

2. In a camera, a body, an extension-back for the body, adapted to receive a shutter or plate-holder, bars having guided movement in the body, one of the bars being pivoted directly to the back, and a swinging member on the back and to which the other bar is jointed.

3. In a camera, a body, an extension-back for the body, adapted to receive a shutter or plate-holder, a pivoted member on the back, and bars adjustable on the body and pivotally connecting the back with the body, one of the bars being pivoted to the member on the back by a pivot at right angles to the pivot of said member.

4. In a camera, a body, an extension-back for the body, adapted to receive a shutter or plate-holder, bars one of which is pivoted directly to the back and both having guided movement in the body, a member pivoted in the back to the pivoted end of which the other bar is pivoted, and means for swinging the said pivoted member.

5. In a camera, a body, an extension-back for the body, adapted to receive a shutter or plate-holder, racks pivotally connected with the extension-back and having guided movement in the body, and pinions mounted in the body and engaging the racks.

6. In a camera, a body, an extension for the body, adapted to receive a shutter or plate-holder, racks pivotally connected with the extension-back and having guided movement in the body, pinions mounted in the body and engaging the racks, and means for adjusting the extension-back to an angle in the direction of its diagonal axis with reference to the body between the top and bottom of the same.

7. In a camera, a body, an extension-back for the body, adapted to receive a shutter or plate-holder, means for connecting the back with the body so that it can be moved toward and from the same, a segmental rack pivoted to the back, and a pinion carried by the back and engaging the said rack.

8. In a camera, a body, an extension-back for the body, adapted to receive a shutter or plate-holder, racks pivotally connected with the sides of the back and having guided movement in the body, pinions mounted in the body and engaging the racks, a segmental rack pivoted to back, and a pinion carried by the back and engaging the segmental rack.

9. In a camera, an extension-back adapted to receive a shutter or a plate-holder, arms mounted for transverse movement in the body of the camera, rack-and-pinion actions for the said arms, a pivotal connection between one arm and the back extension, a segment having hinged connection with the opposing arm, a pivotal connection between said segment and the extension-back, the said segment being provided with teeth, and a pinion supported by the extension-back, engaging with the teeth of the said segment.

10. In a camera, an extension-back adapted to receive a shutter or a plate-holder, arms mounted for transverse movement in the body of the camera, rack-and-pinion actions for the said arms, a pivotal

connection between one arm and the extension-back, a segment having a hinged connection with the opposing arm, a pivotal connection between said segment and the extension-back, said segment being provided with teeth, and a pinion supported by the extension-back, engaging with the teeth of said segment, and a locking device for the pinion.

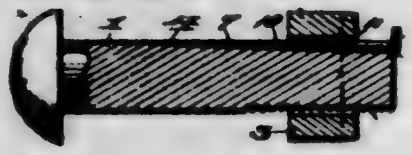
11. In a camera, a body, an extension-back for the body, adapted to receive a shutter or plate-holder, racks one of which is pivoted directly to the back, and both having guided movement in the body, pinions mounted in the body and engaging the racks, a segmental rack pivoted to the back and to which one of the racks is hinged, and a pinion carried by the back and engaging the segmental rack.

12. In a camera, a body, an extension for the body, adapted to receive a shutter or plate-holder, means for connecting the back with the body to permit the back to be moved toward and from the body and at angles thereto, a segmental rack pivoted to the back, a spindle carried by the back, a pinion mounted to turn on the spindle and engaging the segmental rack, and means for locking the pinion from turning.

13. In a camera, a body, an extension for the body adapted to receive a shutter or plate-holder, means for connecting the back with the body to permit the back to be moved toward and from the body and at angles thereto, a rack pivoted to the back, a spindle carried by the back and having a threaded outer end, a tubular carrier on the spindle provided at its inner end with a pinion meshing with the rack and a flange adjacent to the pinion and at its outer end with a button, and a nut on the spindle.

14. In a camera, a box-body, an extension-back for the box-body, adapted for movement to and from the same, arms having guided movement in the box-body, teeth at the lower portions of the arms, spindles, and pinions carried thereby, the pinions being adapted for engagement with the rack-teeth, a shifting pivotal engagement between one of the arms and an end portion of the extension-back, a segment pivotally attached to the opposing side of the said extension-back, having rack-teeth at its lower end, a hinged connection between the said segment and the arm with which it is adapted to be connected, a bracket carried by the extension-back at the side at which the segment is located, a spindle carried by the said bracket, having a threaded outer end, a sleeve mounted on the said spindle, a pinion on the sleeve, engaging with the teeth of the segment, an annular flange on the said sleeve, adapted for frictional engagement with the said segment, a button for operating the said sleeve, and a jam-nut at the threaded end of the spindle, adapted to force the flange of the sleeve into engagement with the said segment and prevent accidental rotation of the pinion and consequent accidental displacement of the extension-back from its adjusted position, as described.

804,803. NUT-LOCK. THOMAS O. GARRETT, Carbondale, Ill. Filed Apr. 8, 1905. Serial No. 254,824.

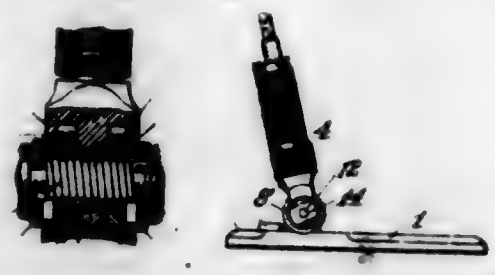


Claim.—1. In a device of the class described, a bolt provided with a longitudinal groove, a primary key designed to seat in said groove and having an inner serrated face for frictional engagement with a bolt, a nut tapped onto the latter and provided with a groove adapted to register with the first-named groove, and a secondary key having an engaging portion designed to seat in the groove in the nut, the outer terminal of the primary key being provided with an upturned portion adapted to bear at the end of the secondary key.

2. In a device of the class described, a bolt provided with a longitudinal groove having its bottom inclined transversely, a primary key designed to seat in said groove and having an inner serrated face for frictional engagement with the bolt, a nut threaded onto the bolt and having a groove adapted to register with the first-named groove, and a secondary key of lesser width than the primary key and having an engaging portion designed to seat in the groove within the nut, the secondary key being adapted, when in locking position, to seat upon the outer face of the primary key and over the shallow portion of the groove in the bolt.

804,804. FLEXIBLE REAR SIGHT FOR FIREARMS. GEORGE H. GARRAMON, Gladstone, Mich. Filed July 26, 1904. Serial No. 218,026.

Claim.—1. A rear sight for firearms, comprising a base, an upright hinged thereto on a transverse axis, a helical spring concentric with said axis and rotatable members to which the ends of said spring are respectively secured, said members engaging with opposite sides of said upright.



2. A rear sight for firearms, comprising a base, having ears, an upright having a knuckle hinged to said ears on a transverse axis, a helical spring passing through said ears and knuckle, means for holding the ends of said spring, and means whereby the movement of the upright in either direction from a normal position puts a tension on said spring.

3. A rear sight for firearms, comprising a base, a transverse cylinder fixed therein, an upright hinged on said cylinder, a spring housed in said cylinder, abutments for restraining the ends of said spring, and connections between the upright and the ends of said spring.

4. A rear sight for firearms, comprising a base, a cylinder fixed therein, an upright hinged on said cylinder, a spring housed in said cylinder, caps for said cylinder to which the ends of said spring are secured, means for limiting the relative angular movement of the caps and cylinder, and connections between the upright and the caps.

5. A rear sight for firearms, comprising a base, a cylinder fixed therein and provided with abutments, an upright hinged on said cylinder, a spring housed in said cylinder, caps for said cylinder having internal pins to coöperate with said abutments and serving to hold the ends of the spring, outside projections on said caps, and lugs on said upright engaging with said projections.

6. A rear sight for firearms, comprising a base, an upright having a knuckle hinged thereto, a shoulder on said knuckle, a spring for keeping said upright yieldably in normal position, and a button slidable on the base for engaging with said shoulder when the upright is folded down.

804,805. SEMIFLEXIBLE REAR SIGHT FOR FIREARMS. GEORGE H. GARRAMON, Gladstone, Mich. Filed July 26, 1904. Serial No. 218,036.



Claim.—1. A rear sight for firearms, comprising a base, an upright pivoted thereto, a transverse pin parallel with the axis of the pivot, a spring urging said pin toward said pivot, and a V-shaped cam with which said pin coöperates to hold the upright yieldingly in a normal position.

2. A rear sight for firearms, comprising a base, an upright pivoted thereto, a transverse pin parallel with the axis of the pivot, a spring urging said pin toward said pivot, and a V-shaped cam with which said pin coöperates to hold the upright yieldingly in a normal position, said cam having lips at its ends to limit the play of the parts.

3. A rear sight for firearms, comprising a base, an upright pivoted thereto, a transverse pin parallel with the axis of the pivot, a spring urging said pin toward said pivot, and a V-shaped cam with which said pin coöperates to hold the upright yieldingly in a normal position, said cam having lips at its ends to limit the play of the parts, and means for withdrawing said pin beyond said lips to permit a free movement of the upright.

4. A rear sight for firearms, comprising a base-plate provided with ears having V-shaped cams, an upright having a knuckle pivoted between said ears and provided with a radial slot, a pin lying in said slot and engaging with said cams, and a spring urging said pin inwardly in said slot.

5. A rear sight for firearms, comprising a base-plate having ears provided with V-shaped cams, an upright having a knuckle pivoted between said ears and provided with a radial slot, a pin lying in said

slot and engaging with said cams, and a flat spring partly encircling said knuckle and having a head bearing on said pin.

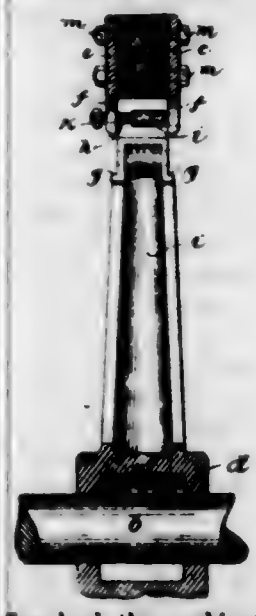
6. A rear sight for firearms, comprising a base-plate having ears provided with V-shaped cams, an upright having a knuckle pivoted between said ears and provided with a radial slot, a pin lying in said slot and engaging with said cams, a spring urging said pin inwardly, and a dog pivoted concentric with the knuckle and adapted to pass under said pin.

7. The combination with a base-plate having ears provided with V-shaped cams having lips at their ends, of a bifurcated knuckle pivoted between said ears and having a radial slot, a pin in said slot, a spring bearing on said pin, and a dog pivoted in the fork of the knuckle and having a nose adapted to pass under said pin, and a tail projecting beyond the knuckle.

8. A rear sight for firearms, comprising a base-plate, an upright pivoted thereto and having a radial slot, a pin lying in said slot, a V-shaped cam on the base-plate with which said pin coöperates, a spring urging said pin toward said cam, and means which may be adjusted in position to hold the pin out of contact with said cam.

9. The combination with the base-plate 1 having the ears 2 provided with the V-shaped cams 8, the lips 16, the notch 17 and the curve 18, of the upright 4 having the knuckle 5 provided with the radial slot 6, the transverse pin 7, the flat spring 9 partly encircling the knuckle and bearing on the pin, and the dog 12 having the nose 14 adapted to pass under the pin and the tail 15 projecting beyond the periphery of the knuckle.

804,806. **FLY-WHEEL.** RICHARD GERLACH, Berlin, Germany. Filed Oct. 20, 1899. Serial No. 734,190.



Claim.—1. In a fly-wheel, the combination with a hub portion *d*, of spokes *c c* integral with the hub portion, face-plates *e e* provided with ears *f f*, laminated segments secured between the face-plates and arranged in the plane of the wheel, means for interlocking and securing the laminated segments between the face-plates, pins *h* for securing the ears *f f* to the spokes, and keys *n* engaging opposed recesses in the rim and spokes, substantially as described.

2. In a fly-wheel, the combination with a hub portion *d*, of spokes *c c* integral with the hub portion, face-plates *e e* provided with ears *f f*, laminæ secured between face-plates and arranged in the plane of the wheel, clamping means for securing the laminæ between the face-plates, pins *h* for securing the ears *f f* to the spokes *c c*, and keys *n* engaging opposed recesses in the rim and spokes, substantially as described.

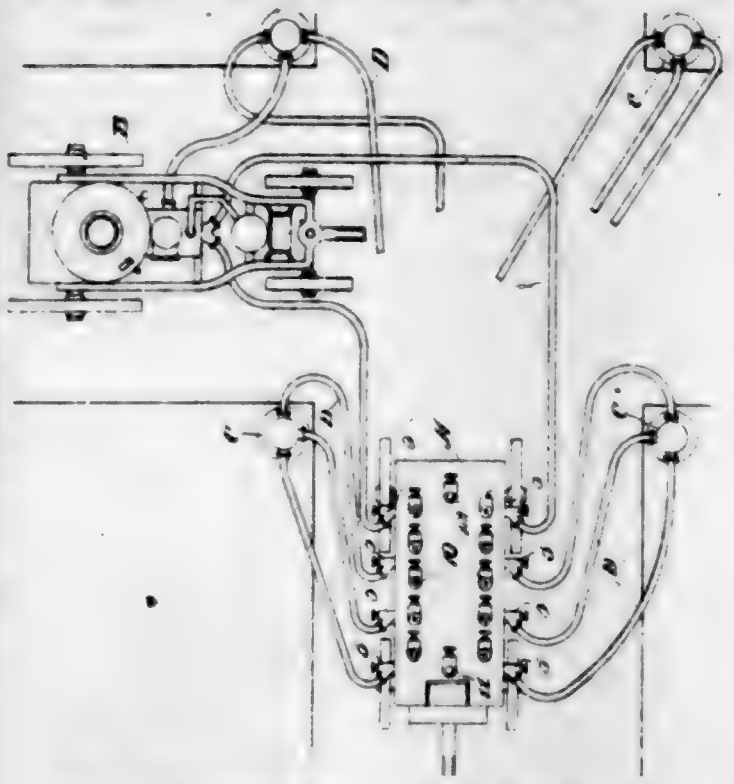
3. In a fly-wheel, the combination with a hub portion *d*, of spokes *c c*, face-plates *e e* provided with ears *f f*, laminæ secured between face-plates and arranged in the plane of the wheel, means for interlocking and securing the laminæ between the face-plates, pins *h* for securing the ears *f f* to the spokes *c c*, and keys *n* engaging opposed recesses in the rim and spokes, the said spokes being provided with shoulders *g g* for engaging the inner peripheral edges of the ears *f f*, substantially as described.

4. A fly-wheel having a continuous rim made up of segmental metallic laminæ arranged to break joints and with bolts or rivets passing transversely through said segmental laminæ at points intermediate their joints, substantially as described.

5. A fly-wheel comprising a hub, spokes, a continuous rim supported by said spokes and laminated in planes transverse to the axis of rotation, and transverse keys interposed between the rim and spokes for locking them against relative movement.

6. A fly-wheel comprising a hub, spokes, a continuous rim made separate from the spokes and laminated in planes perpendicular to the axis of rotation, and keys extending parallel to the axis of rotation and confined in recesses formed in adjacent portions in the rim and spokes.

804,807. **FIRE-EXTINGUISHER.** WILLIAM H. GLOER, Covington, Ky. Filed Sept. 20, 1904. Serial No. 225,243.



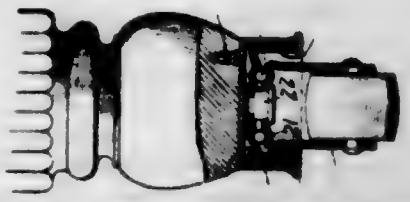
Claim.—The combination of a source of water-supply, a wheeled receptacle having a set of valved inlets and a set of valved outlets, a discharge element detachably connected with said receptacle and having a set of nozzles inclined in one direction, a set of nozzles inclined in the opposite direction and a set of nozzles directed upwardly, and a perforated cylinder for admitting water to either set of nozzles or to all of said nozzles, an engine disposed between the source of water-supply and the wheeled receptacle, hose connecting the source of supply with the engine, and hose connecting the engine with the receptacle.

804,808. **PAPER CHARACTERIZED BY ITS IMPERVIOUS NATURE AND STRENGTH.** CHARLES I. GOSSMANN, Worcester, Mass., assignor to Vellumoid Paper Company, Amherst, Mass., a Corporation of West Virginia. Original application filed Aug. 16, 1900. Serial No. 27,026. Divided and this application filed Feb. 24, 1903. Serial No. 144,907.

Claim.—1. A paper with its cellular structure permeated and impregnated with a formaldehyde-treated glutinous material permanently and insolubly incorporated therewith, the whole being softened by hydration.

2. A sheet of fibrous material with its interstices filled with a glutinous substance that has been "set" before being dried and thereafter dried and "tempered" by hydration, the whole constituting a corporeal mass of united tissue throughout.

804,809. **FURNITURE-CASTER.** ANDREW W. GRAHAM, Bradford, Pa., assignor of one-half to Emma J. Mallery, Bradford, Pa. Filed Feb. 3, 1905. Serial No. 244,006.



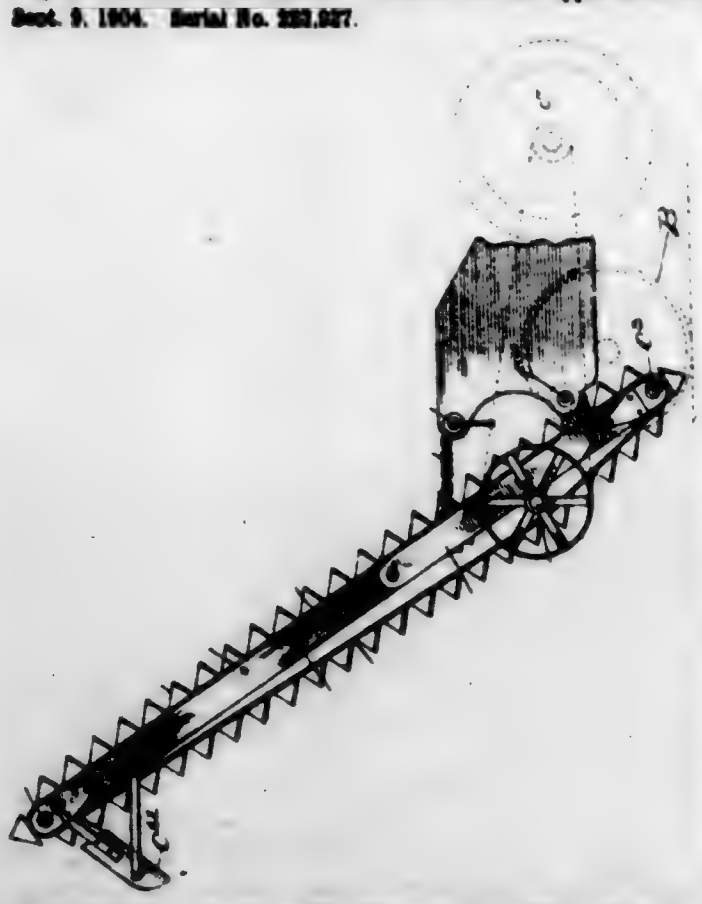
Claim.—1. In a furniture-caster, a threaded metallic cup for securement to the bottom of a leg, a second threaded cup adjustable with relation thereto, and a caster-roller supported by the second cup.

2. In a furniture-caster, upper and lower threaded cups, of which the lower may be turned for purposes of adjustment, a roller-carrying bracket, and a ball-bearing between the bracket and the lower cup.

3. An adjustable caster including a threaded upper cup to be secured to the bottom of a leg, a lower threaded cup adjustable with respect thereto, and provided with an annular rib forming an upper ball-race, a headed stud carried by said lower cup, a roller-carrying bracket pivoted on the stud and having a groove forming a lower ball-race, and bearing-balls between the rib and groove.

4. An adjustable caster including a threaded upper cup formed of sheet metal, a lower threaded cup fitting therein and provided with a projecting flange, a headed stud having its upper end rigidly secured to the central portion of the lower cup, said lower cup having an annular rib forming an upper ball-race, a roller-carrying bracket pivoted on the stud and having a groove forming a second ball-race member, and bearing-balls between the rib and groove, substantially as specified.

804,810. **ELEVATING CONVEYER FOR CRUSHING-MACHINES.** THOMAS J. GRAY, Chicago, Ill., assignor to National Drill and Manufacturing Company, Chicago, Ill. Original application filed May 31, 1904, Serial No. 209,041. Divided and this application filed Sept. 9, 1904. Serial No. 223,927.



Claim.—1. In apparatus of the character described, a swinging support, a tilting frame mounted on said support, an endless bucket conveyer supported on said frame, and means for operating said conveyer and causing the loaded buckets to travel upwardly between the axes of the said frame and support the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

2. In apparatus of the character described, a swinging support, a tilting elevator mounted on said support, the elevator and support being adapted to close together in jackknife fashion when the elevator is to be used, and means for adjusting the said support, the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

3. In apparatus of the character described, a swinging support, a tilting frame on said support, an endless conveyer on said frame, and means for operating said conveyer and causing the loaded portions thereof to move upwardly between the axes of the support and frame the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

4. In apparatus of the character described, the combination of suitably-mounted swinging arms, means for drawing said swinging arms from an inclined position to a substantially vertical position, and an elevator pivotally mounted on the upper ends of said arms, the lower portion of said elevator being adapted to swing between the said arms, whereby the elevator may be tilted to an inclined position to permit its lower end to receive the load, and whereby said elevator may be tilted to a horizontal or substantially horizontal position for transportation the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

5. In apparatus of the character described, the combination of suitably-mounted swinging arms, and an elevator having its middle portion pivotally secured to the upper ends of said arms, together with means for adjusting the arms either to a vertical or an inclined position, the said arms and the lower portion of said elevator being adapted to close together in jackknife fashion, whereby the elevator may be easily adjusted from its working or inclined position to a horizontal or practically horizontal position for transportation the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

6. In apparatus of the character described, the combination of a suitable body mounted on vehicle-wheels, swinging arms having their lower ends pivoted to one end of the body-frame, means for adjusting said arms from a substantially vertical position to an inclined position, and an elevator having its middle portion pivotally mounted upon the upper ends of said arms, the elevator being adapted to occupy a working position with its lower portion between, and at the same angle, or practically the same angle, as the arms, said elevator being adapted to tilt to a horizontal position when the said arms are adjusted to a vertical or substantially vertical position the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

7. In apparatus of the character described, the combination of a swinging support, and an elevator pivotally mounted at a point between its ends upon said swinging support, with the lower portion of the elevator adapted to swing between the lower ends of the said support, whereby the lower end of the elevator may be adjusted into position to receive the load, and whereby the elevator may be tilted easily to a horizontal or practically horizontal position when the said swinging support is adjusted to a vertical or substantially vertical position the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

8. In apparatus of the character described, a swinging support, and an elevator having its intermediate or middle portion pivotally mounted upon the upper end of said support, said elevator being thereby adapted to occupy an inclined position while in use, with the said support inclining in the same direction, and adapted also to tilt easily to a horizontal or substantially horizontal position when the said support is adjusted to a vertical or substantially vertical position the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

9. In apparatus of the character described, an elevator pivotally supported at or near its center of gravity, and adjusting means for shifting said pivotal point, whereby the elevator is easily tilted from an upright position to a horizontal position, together with means for operating the elevator and causing the loaded portions thereof to travel upwardly between the said pivotal point and the said adjusting means the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

10. In apparatus of the character described, a tilting elevator pivotally mounted at a point at or near its center of gravity, whereby the elevator is easily adjusted from one position to another, and a pulley-shaft mounted transversely on the back of the elevator, between the oppositely-traveling portions thereof, and at a point below the said pivotal point, and connected for driving the elevator the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

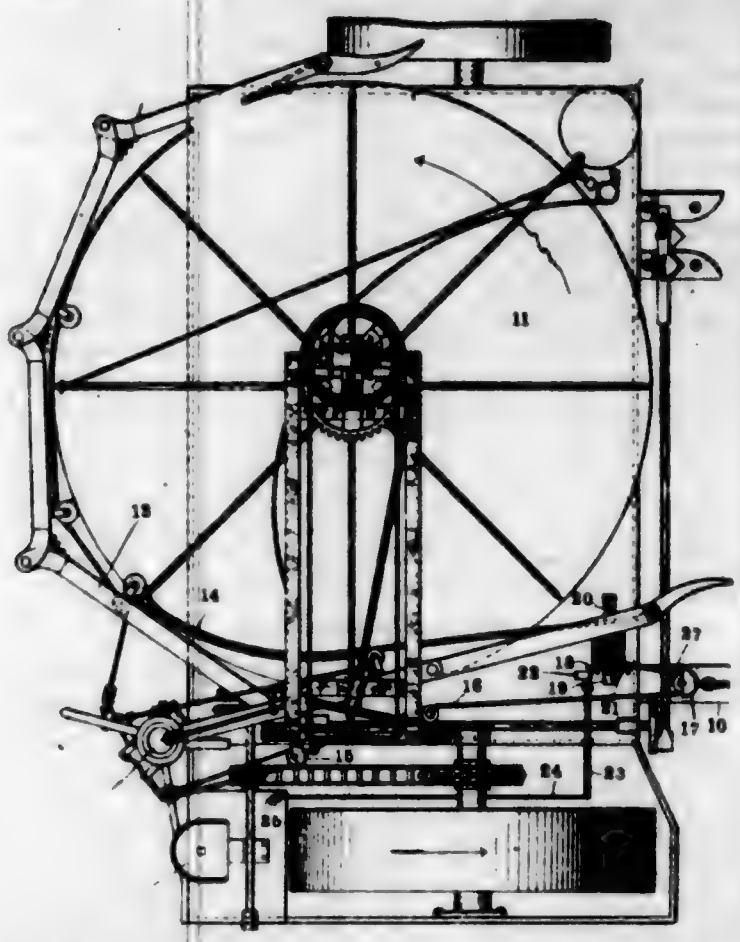
11. In apparatus of the character described, the combination of a suitable body, a winding device mounted on said body, a swinging support mounted on said body, flexible connection between the swinging support and the winding device, and an elevator pivotally mounted on said swinging support, together with means for operating the elevator and causing the loaded portions thereof to travel upwardly between the said winding device and the axis of the elevator the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

12. In apparatus of the character described, the combination of swinging arms, an endless traveling elevator secured to the end of said swinging arms, and having buckets adapted to travel upwardly between the said stationary axis and the said laterally-movable axis, the receiving side of the elevator being underneath when it is lowered and out of use, substantially as set forth.

804,811. **LIFTING MECHANISM FOR CORN-HARVESTERS.** ARTHUR W. HADLEY, Indianapolis, Ind. Original application filed Jan. 19, 1903, Serial No. 139,097. Divided and this application filed Jan. 18, 1904. Serial No. 189,020.

Claim.—1. In a lifting mechanism, the combination of a pulley-block 17, a cable 16, a drum 18 to which one end of the cable is attached, and a button carried by the cable between the drum and the block, for the purpose set forth.

3. In a lifting mechanism, the combination of a pulley-block 17, a cable 16, a spring-drum 18 to which one end of the cable is attached, a button carried by the cable between the drum and the block, and means for preventing the rotation of the spring-drum at any desired point.



3. In a lifting mechanism, the combination with a doubled lifting-cable and a pulley-block in the bight thereof, a movable support for one end of said cable and means for preventing further movement of said support, for the purpose set forth.

4. In a lifting mechanism, the combination with a doubled lifting-cable and a pulley-block in the bight thereof, a movable support for one end of said cable, means for preventing further movement of said support, and means carried by the cable between the pulley-block and the movable support, which means cannot pass the pulley-block, for the purpose set forth.

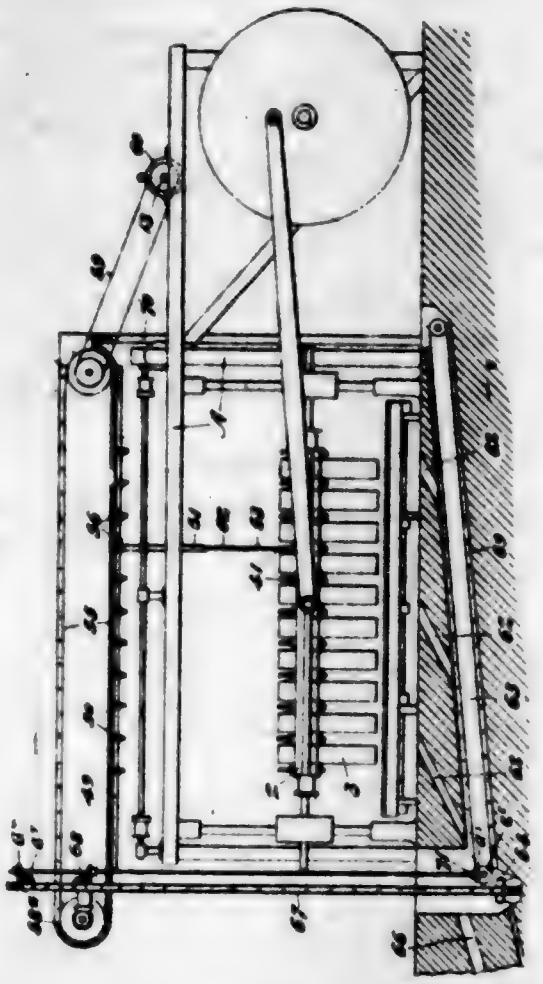
5. In a shock-lifting mechanism a pulley-block 17, a cable passed through the block 17 and secured at one end to a support with slack between the block and the support, and means such as a button carried by the slack portion of the cable to prevent it from passing through the block in one direction, for the purpose set forth.

804,812. STONE-SAWING MACHINE. JOHN A. HALL and BARTLETT B. CHANDLER, Sacramento, Cal., assignors to V. S. McClatchy, trustee, Sacramento, Cal. Original application filed Sept. 26, 1904, Serial No. 226,919. Divided and this application filed Apr. 11, 1905. Serial No. 254,966.

Claim.—1. A stone-sawing machine having in combination a reciprocable saw-bar having passages opening below the bar between the saw-blades, a source of shot-supply, and flexible connections between said source of supply and said passages in the saw-bar said connections having their lower ends fitted to and movable with the bar whereby the shot is delivered into the path of the blades.

2. A stone-sawing machine having in combination a reciprocable saw-bar having passages opening below the bar between the saw-blades, a source of shot-supply, flexible connections between the source of supply and said passages in the saw-bar, said connections having their lower ends fitted to and movable with the bar, valves in said connections, and means for returning the used shot to the source of supply.

3. In a stone-sawing machine, the combination of a reciprocable saw-bar having passages opening below the bar between the saw-blades and saw-blades carried by said bar, means for delivering shot to the said blades, said means including an overhead conveyer extending parallel with the saw-support, valved connections between the conveyer and the passages in the saw-bar and discharging into the path of and between the saw-blades, a reservoir subjacent to the saw arranged to receive the shot discharged by the saw and means for automatically returning the shot from said reservoir to said overhead conveyer.



4. In a stone-sawing machine, the combination of a reciprocable saw-bar having passages opening below the bar between the saw-blades, saw-blades carried by said bar, means for delivering shot into the path of the saw-blades, said means including an overhead trough, said trough having valved outlets in its bottom, flexible connections between said outlets and the passages in the saw-bar, said connections discharging into the path of and between the saw-blades, a shot-carrier in said trough, a reservoir subjacent to the saw-bar and arranged to collect the shot discharged by the saw-blades, and means for returning the shot from the reservoir to said trough.

5. In a stone-sawing machine, the combination of a reciprocable saw-bar having passages opening below the bar between the saw-blades, saw-blades carried by said bar, means for delivering shot into the path of and between the saw-blades, said means including an overhead trough, said trough having valved outlets in its bottom, flexible connections between said outlets and the saw-bar, said connections discharging through said passages in the saw-bar into the path of the saw-blades, a shot-carrier in said trough a reservoir subjacent to the saw and arranged to collect the shot discharged by the saw-blades, means for delivering water with the shot from the trough to the saw, means for washing the shot in the reservoir, and means for returning the shot from the reservoir to the trough.

6. In a stone-sawing machine, the combination of a reciprocable saw-bar, saw-blades carried by said bar, means for delivering shot to the saw-blades, said means including an overhead trough, a conveyer therein, valved connections between the trough and the bar discharging into the path of and between the saw-blades, means for delivering water along with the shot to the saw-blades, a reservoir subjacent to the saw to collect the shot discharged by the saw, means for washing the shot in the reservoir, a shot-elevator communicating between the reservoir and said trough, means for operating the elevator and the conveyer in said trough in unison, and means for discharging the surplus shot in the trough again into the reservoir.

7. A stone-sawing machine having in combination a reciprocable saw-bar, saw-blades carried by the bar, said bar having passages opening below the bar between the saw-blades a source of shot-supply, and means having one end connected to the shot-supply and the other end fitted to move with the saw-bar, for delivering the shot into said passages in the saw-bar.

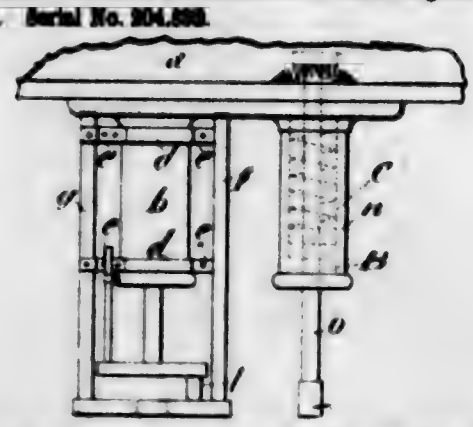
8. In a stone-sawing machine, the combination with a reciprocable saw-bar and saw-blades carried thereby, said bar having passages opening below between the saw-blades, of a source of shot-supply and flexible shot-conveying means between said source of

supply and the passages in said saw-bar, connected directly therewith and discharging into the path of and between the individual saw-blades.

9. In a stone-sawing machine, the combination with a suitably-supported saw, of a shot-conveyer trough above the saw, a shot-reservoir below the saw, means of delivering the shot from the trough to the saw and means for returning the shot from the reservoir to the trough, and means for discharging back into the reservoir the shot in the trough in excess of that being fed to the saw.

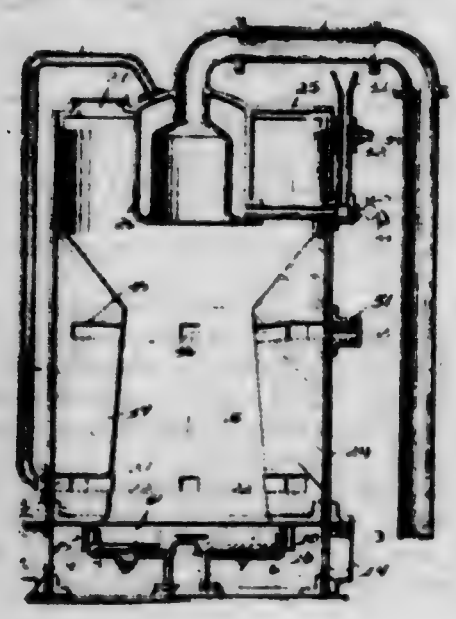
10. In a stone-sawing machine, the combination with a suitably-supported saw, of an overhead trough to contain shot, a shot-reservoir beneath the saw, valve-controlled means for delivering shot to the saw, means for conveying shot from the reservoir to the trough, a conveyer in the latter, and connections between the trough and conveyer for the return of surplus shot over and above the amount fed to the saw, said conveyer operating to discharge said surplus into said connections.

804,818. AUTOMATIC COUPLING FOR RAILWAY AND LIKE VEHICLES. WILLIAM R. JENKINSON, Boston, England. Filed Apr. 25, 1904. Serial No. 204,593.



Claim.—An automatic coupling for railway and like vehicles and consisting of two main portions, namely, on the buffer-beam of one of the vehicles a buffer having a T-headed draw-bar (preferably spring-controlled) and on the buffer-beam of the other of the vehicles, a spring-buffer the head of which has an eccentrically-placed stud which is inserted in one or other of two recesses in the back of a disk which is free to make a part revolution by the fall of the heavier of two bars free to move round the casing of the said buffer, the said disk having a slot through which in the act of coupling the head of the above-mentioned T-headed draw-bar passes and on contacting with the head of the spring-buffer disengages the stud from the disk which by the falling of the heavier bar makes a part revolution so as to bring the slot in the disk at right angles to the head of the T-headed draw-bar and thus couple the vehicles, means being provided to limit the movement of the heavier of the two bars and also to lock it in its upper position and an arrangement of levers operable from each side of the vehicle for raising the heavier bar and bringing the slot in the disk into position for the head of the T-headed draw-bar to pass out and to allow the vehicles to uncouple, substantially as hereinbefore described.

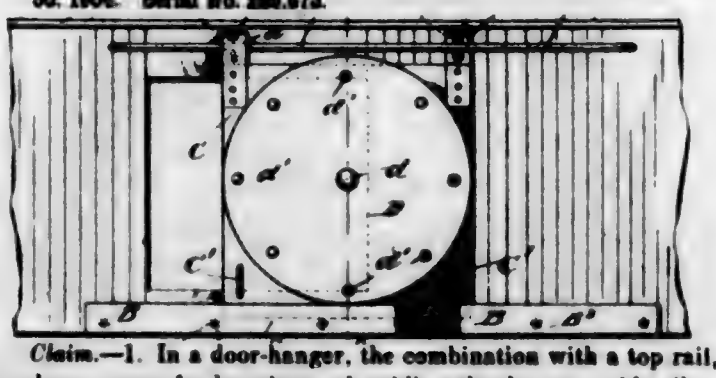
804,814. GAS-PRODUCER. EDWARD KRETZ, St. Louis, Mo. Original application filed July 23, 1904. Serial No. 217,772. Divided and this application filed Dec. 16, 1904. Serial No. 236,233.



Claim.—1. The improved suction gas-producer, comprising a fire-pot having a steam and air distributing chamber at its bottom; a fresh-fuel chamber at the top of said fire-pot; a gas-collecting chamber surrounding the top of said fire-pot; a gas-suction pipe connection in communication with said gas-collecting chamber; a steam-boiler suspended from its upper end within and inclosing within itself a portion of said fresh-fuel chamber; a permanently open smoke-pipe passing centrally through said boiler, and forming a smoke-passage therein; and a steam-pipe extending from said steam-boiler and arranged to discharge steam into said steam and air distributing chamber; substantially as specified.

2. The improved suction gas-producer, comprising a fire-pot having a steam and air distributing chamber at its bottom, a gas-collecting chamber above said fire-pot, a steam-boiler inclosing a portion of said gas-collecting chamber, a smoke-pipe connected to said gas-collecting chamber, a steam-pipe extending from said steam-boiler and arranged to discharge steam into said steam and air distributing chamber, the pedestal 5 mounted vertically at the center of the ash-pit beneath the said fire-pot, the imperforate fire-pot bottom 7 mounted upon said pedestal, the handle 8 attached to the bottom of the fire-pot bottom, and extending outwardly to be used in shaking said fire-pot bottom, flanges 9 and 10 extending upwardly from the fire-pot bottom, and having transversely-alined openings 11 and 12 between their ends, and the ash-pit having transversely alined openings 13 and 14, substantially as specified.

804,815. SLIDING-DOOR HANGER AND MEANS FOR MOVING THE DOOR. HARRY C. PERCY, Natchitoches, La. Filed Sept. 30, 1904. Serial No. 226,673.



Claim.—1. In a door-hanger, the combination with a top rail, of a door, means for hanging and guiding the door on said rail, a disk rotatively mounted on the outer face of the door, and a bottom rail or track upon which the periphery of the disk bears and travels back and forth, to move the door in either direction.

2. In a door-hanger, the combination with a top rail secured to the side of a car, of a door movably suspended from said top rail, a disk rotatively mounted on the outer face of the door, a lower stationary track adjacent to the lower edge of the door, the periphery of the disk resting on and adapted to roll upon said lower track to cause the door to travel backwardly or forwardly.

3. In a door-hanger the combination with a stationary top rail or track, of a door, hanger-straps secured to the door whereby the same may be suspended from said track, antifriction-rollers so mounted in said straps as to engage said track, a disk rotatively mounted on the outer face of said door, an offset bottom rail or track adjacent to the lower edge of the door, antifriction-rollers upon which the lower edge of the door rests, the periphery of the disk resting upon the bottom rail or track, and means for rotating the disk to cause the door to travel backwardly or forwardly.

4. In a door-hanger, the combination with a top rail or track of a door suspended from said track, a disk having a toothed periphery and rotatively mounted on the outer face of the door, and a bottom rail or track adjacent to the lower edge of the door, said bottom rail having a toothed or rack surface upon which the periphery of the toothed disk rests, and means for causing the disk to roll upon the rack-rail and carry the door backwardly or forwardly.

5. In a door-hanger the combination with a door and guides between which said door slides, of a device rotatively mounted on the face of said door, and having its edge curved to form the arc of a circle whose center is coincident with the pivotal point of the said rotatively-mounted device said arc being at least equal to the width of the door-opening, and a track upon which said rotatively-mounted device travels.

6. In a door-hanger, the combination with a door, of a device rotatably mounted on said door and resting on a track adjacent to the lower edge of the door, and means for guiding the door in its horizontal movement whereby the revolution of said rotatively-mounted device will cause the door to travel forwardly or backwardly.

7. In a door-hanger, the combination with a door, of upper and lower stationary tracks, means for hanging the door to the upper track, and a disk having a circular periphery and rotatively mounted on the door with its periphery bearing on the lower track located adjacent to the lower edge of the door.

8. In a door-hanger, the combination with a door and guides between which said door slides, of a disk rotatively mounted on the door, a stationary track located adjacent to the lower edge of the door, said rotatively-mounted disk having its periphery bearing on said track.

9. In a door-hanger the combination with a top rail or track secured to a vertical wall, of a door, means for suspending said door from said track comprising a hanger-strap adapted to be secured to the upper edge of the door and antifriction-rollers mounted therein to bear on the upper and lower faces of said track, a disk rotatively mounted on the outer face of the door, a bottom rail or track secured to said vertical wall and offset therefrom adjacent to the lower edge of the door, antifriction-rollers mounted between the vertical wall and the bottom rail or track, upon which the lower edge of the door rests, the periphery of the disk resting upon the bottom rail, and means for rotating the disk to cause the door to travel forwardly or backwardly.

804,816. **ADJUSTABLE CURTAIN-BRACKET.** HENRY R. PHELPS, Auburn, Ill. Filed Feb. 23, 1905. Serial No. 246,998.



Claim.—A curtain-bracket comprising a bracket having a supporting-leg at each end and an intermediate portion formed with a slot, a sliding bracket having a fixed supporting-arm and bent flanges engaging opposite sides of the first-mentioned bracket, a detachable supporting-arm on the sliding bracket, said detachable supporting-arm having a bent portion to receive a curtain-pole, and a pin to receive a curtain-rod, a bolt extending through the detachable arm and sliding bracket, and a nut on the bolt, said nut fitting snugly between the bent flanges of the sliding bracket, for the purpose specified.

804,817. **PROCESS OF MAKING NITROGLYCERIN.** CHARLES L. REESE, Wilmington, Del., assignor to The Eastern Dynamite Company, Wilmington, Del., a Corporation of New Jersey. Continuation of application Serial No. 161,694, filed June 16, 1903. This application filed Feb. 4, 1904. Serial No. 191,961.

Claim.—1. The hereinbefore-described method of accelerating the separation of nitroglycerin, in the manufacture of nitroglycerin, which consists in adding, during the manufacture of nitroglycerin, to the materials used in the manufacture of nitroglycerin, a reagent which will reduce any emulsifying or colloidal substance contained therein to a non-emulsifying or non-colloidal condition.

2. The hereinbefore-described method of accelerating the separation out of nitroglycerin in the manufacture of nitroglycerin which consists in adding, during the manufacture of nitroglycerin, to the materials used in the manufacture of nitroglycerin, a compound of fluorin.

3. The hereinbefore-described method of accelerating the separation out of nitroglycerin, in the manufacture of nitroglycerin, which consists in adding, to the materials used in the manufacture of nitroglycerin, during the manufacture of nitroglycerin, a fluorid of the alkalies.

4. The hereinbefore-described method of accelerating the separation of nitroglycerin, in the manufacture of nitroglycerin, which consists in adding, during the manufacture of nitroglycerin, both to the acids and glycerin, a reagent which will reduce any contained emulsifying or colloidal substance to a non-emulsifying or non-colloidal condition.

5. The hereinbefore-described method of accelerating the separation out of nitroglycerin in the manufacture of nitroglycerin which consists in adding, during the manufacture of nitroglycerin, to both the acids and glycerin, a compound of fluorin.

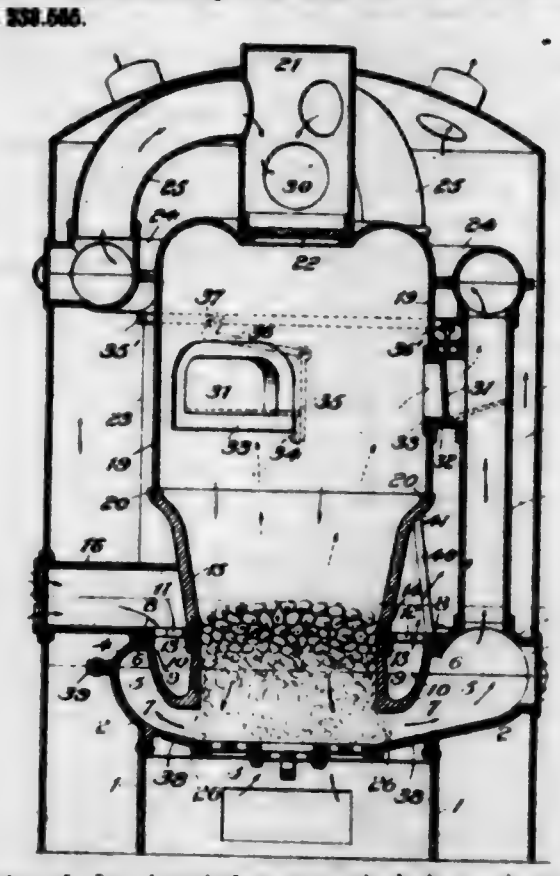
6. The hereinbefore-described method of accelerating the separation out of nitroglycerin, in the manufacture of nitroglycerin, which consists in adding, during the manufacture of nitroglycerin, to both the acids and glycerin, a fluorid of the alkalies.

7. The hereinbefore-described method of accelerating the separation of nitroglycerin in the manufacture of nitroglycerin which consists in admixing the acids and glycerin in association with a reagent which will change emulsifying or colloidal substances to a non-colloidal condition.

8. The hereinbefore-described method of accelerating the separation of nitroglycerin in the manufacture of nitroglycerin which consists in admixing the acids and glycerin in association with a compound of fluorin.

9. The hereinbefore-described method of accelerating the separation of nitroglycerin in the manufacture of nitroglycerin which consists in admixing the acids and glycerin in association with a fluorid of the alkalies.

804,818. **HOT-AIR FURNACE. REVERTIBLE DRAFT.** CORNELIUS F. A. RÖELL, Independence, Mo. Filed Dec. 23, 1904. Serial No. 238,585.



Claim.—1. In a hot-air-furnace, an inclosing casing, a grate, a fire-pot, and a shell seated thereon forming the combustion-chamber, a circular casting of approximately trough shape in cross-section, its inner wall in alinement with and forming a prolongation of the fire-pot, top and bottom ring-plates connecting the grate and the top of the outer wall of said ring-casting, said top plate being the means for suspending said casting and forming a fire-zone space surrounding it, and a cover for said casting having an air-inlet and an air-outlet, the latter opening into the hot-air space of said casing, and pipes rising from said fire-zone top plate for the products of combustion.

2. In a hot-air furnace, an inclosing casing, a grate, a fire-pot, a shell seated thereon forming the combustion-chamber, a circular hollow casting closed at its bottom and provided with a top, its inner wall in alinement with, supporting and forming a prolongation of the fire-pot, a top ring-plate supporting the said casting and a bottom ring-plate connecting the grate, supporting said top plate and forming with it a fire-zone space surrounding said casting, the latter having an air-inlet and an air-outlet both at its top, the outlet opening into the hot-air space of said casing, and pipes rising from said top plate for the products of combustion.

3. In a hot-air furnace, an inclosing casing, a grate, a top and a bottom ring-plate the latter joining the grate and forming a fire-zone space, a circular double-walled ring-casting closed at its bottom, suspended within the fire-zone space from the inner edge of the top ring-plate, a separate ring-plate seated upon and covering said double-walled casting, a fire-pot seated upon said covering-plate in alinement with and forming a continuation of the inner wall of the suspended casting, the said ring-plate having an air-inlet and an air-outlet the latter opening into the hot-air space of said casing, and formed with shoulders lap-joining the casting and the fire-pot, pipes for the products of combustion rising from the fire-zone top plate and a shell seated upon the fire-pot and forming the combustion-chamber.

4. In a hot-air furnace, an inclosing casing, a fire-pot, a grate, a pair of ring-plates the bottom one joining the grate and with the upper plate forming a fire-zone space, a double-walled ring-casting

closed at its bottom and provided with a top, suspended by its outer wall from the inner edge of the upper ring-plate, and having its inner wall in alinement with and forming a prolongation of the fire-pot, the top of said double-walled casting having an air-inlet and an air-outlet the latter opening into the hot-air space of the casing, the top plate of the fire-zone space having a plurality of pipes for the products of combustion; the said fire-zone-forming plates having a plurality of clean-out openings, and a shell seated upon the fire-pot and forming the combustion-chamber.

5. In a hot-air furnace, an inclosing casing, a grate, a fire-pot, a shell seated thereon forming the combustion-chamber, a pair of ring-plates the bottom one joining the grate and with the upper plate forming a fire-zone space, a double-walled ring-casting, closed at its bottom, having its outer wall formed with an angle-shoulder suspending it on the inner edge of the upper ring-plate and depending within the fire zone forming thereby with said bottom plate a narrow passage to the fire-zone space, the inner wall of said casting in alinement with and forming a prolongation of the fire-pot, the top of said double-walled casting having an air-inlet and an air-outlet the latter opening into the hot-air space of the casing, and pipes for the products of combustion rising from the top plate of the fire-zone space.

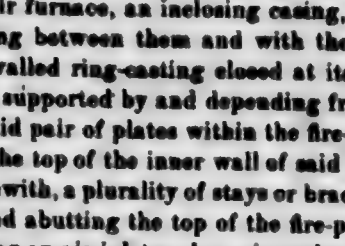
6. In a hot-air furnace, an inclosing casing, a grate, a pair of ring-plates forming between them and with the grate a fire-zone space, a double-walled ring-casting closed at its bottom and provided with a top, supported by and depending from the inner edge of the upper of said pair of plates within the fire-zone space, a fire-pot seated upon the top of the inner wall of said depending casting in alinement therewith, a plurality of stays or braces fixed to the top of said casting and abutting the top of the fire-pot, the top of said ring-casting having an air-inlet and an air-outlet the latter opening into the hot-air space of the casing, pipes for the products of combustion rising from the top plate of the fire-zone space, and a shell seated upon the fire-pot and forming the combustion-chamber.

7. In a hot-air furnace, an inclosing casing, a grate, a fire-pot, a shell thereon forming the combustion-chamber, a pair of plates forming with the grate a fire-zone space, a plurality of pipes rising from the fire-zone-forming top plate, a horizontal pipe encircling the top of said shell, and connecting said vertical pipes, a central pipe mounted upon the crown of said shell, pipes connecting said central pipe with said horizontal pipe, and an exit-pipe connecting said central pipe.

8. In a hot-air furnace, an inclosing casing, a grate, a fire-pot, a shell thereon forming the combustion-chamber, a pair of plates forming with the grate a fire-zone space, a plurality of pipes rising from the fire-zone-forming top plate, a horizontal pipe encircling the top of said shell, and connecting said vertical pipes, a central pipe mounted upon the crown of said shell, pipes connecting said central pipe with said horizontal pipe, an exit-pipe connecting said central pipe, tubes connecting the shell with said vertical pipes, and dampers within said tubes adapted to open communication between the combustion-chamber and the exit-pipe and to close the communication of said exit-pipe with the fire-zone space whereby to change the direction of the draft.

REISSUES.

12,407. HORSESHOE. FREDERICK J. BACON, Hartford, Conn., assignor, by direct and mesne assignments, to The Always Sharp Horse Shoe Calk Manufacturing Company, Hartford, Conn., a Corporation of Connecticut. Filed Aug. 28, 1896. Serial No. 275,495. Original No. 744,277, dated Nov. 17, 1903.



Claim.—1. A horseshoe-calk having teeth varying in length and having a progressive arrangement, each of the teeth having its projecting portion sharpened, the cutting edges of the several layers coming successively into operative position as the edge of the preceding teeth becomes worn or dull, and means for removably securing the calk to a horseshoe.

2. A horseshoe-calk having teeth varying in length and having a progressive arrangement, each of the teeth having its projecting portion sharpened, the cutting edge of the several teeth coming successively into operative position as the edge of the preceding tooth becomes worn or dull, the said calk having a shank integral therewith, and means for securing the shank to the shoe.

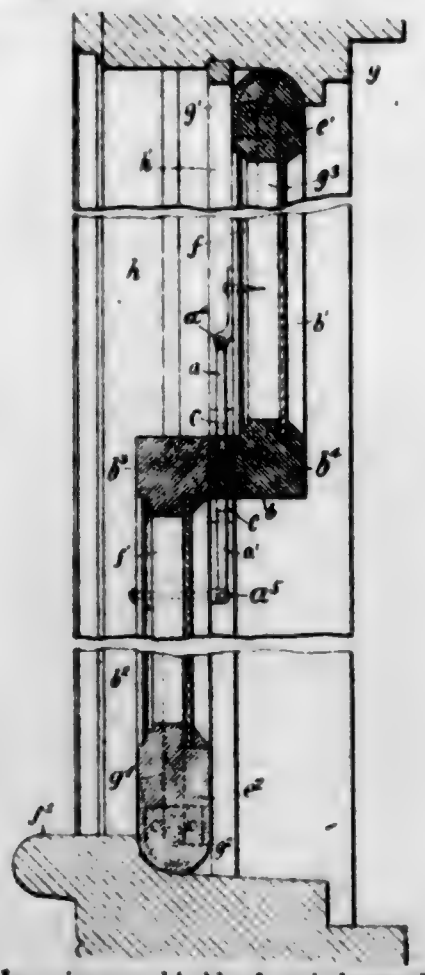
3. A horseshoe-calk having teeth varying in length and having a progressive arrangement, each of the teeth having its projecting portion sharpened, the cutting edge of the several teeth coming successively into operative position as the edge of the preceding tooth becomes worn or dull, the said calk having means for removably securing it to the horseshoe, and means for alining the calk in relation to the shoe.

4. A horseshoe-calk comprising laminæ or layers varying in length and having a progressive arrangement and having a shank formed of integral portions of the respective layers, substantially as set forth.

5. A horseshoe-calk comprising a body and shank portions formed of corresponding layers, the outermost shank elements being extended and adapted to be secured to the shoe by being upset or riveted, and the intermediate shank portion having interlocking connection with the outermost shank members, substantially as specified.

6. A horseshoe-calk comprising body and shank portions composed of corresponding layers, the shank portion of the innermost layer being of approximately wedge shape to prevent downward displacement of the intermediate layer when the calk is in place, substantially as set forth.

12,408. HOLDER FOR WINDOW-SASHES. EDWARD G. ABELL, Brisbane, Australia. Filed Oct. 12, 1905. Serial No. 282,594. Original No. 783,182, dated Apr. 25, 1905.



Claim.—1. In an improved holder for window-sashes, the combination with a window-frame; of a pair of sashes capable of being bodily raised and lowered between the jambs of the said frame, the upper sash being provided at its top and the lower sash at its bottom with means for pivotal engagement with the jambs; and a balance-lever pivoted between its ends to the frame and at its ends to the upper and lower sashes respectively; as set forth.

2. In an improved holder for window-sashes, the combination with a window-frame having jambs provided with vertical grooves on their inner faces; of a pair of sashes capable of being bodily raised and lowered between the jambs, the upper sash being provided at its top and the lower sash at its bottom with studs extending into the said grooves; and a balance-lever pivoted between its ends to the frame and at its ends to the upper and lower sashes respectively; as set forth.

3. In an improved holder for window-sashes, the combination with a window-frame; of a sash capable of being bodily raised and

lowered between the jambs of the said frame, and provided at one end with means for pivotal engagement with the said jambs; and an arm pivoted to the sash and to the frame; as set forth.

4. In an improved holder for window-sashes, the combination with a window-frame; of a pair of pivoted sashes capable of being bodily raised and lowered between the jambs of the said frame; a pair of arms pivoted to the upper and lower sashes and having common pivotal connection with the frame; and means for preventing movement of the arms independently of each other; as set forth.

5. In an improved holder for window-sashes, the combination with a window-frame, of pivoted and sliding sashes therefor, a pin rotatably secured thereto, arms pivotally mounted on the pin and movable independently of each other, the ends of the arms being pivotally connected with the window-sashes, and means for securing the arms rigidly to said pin at will; as set forth.

DESIGNS.

37,659. ROSARY. HERMAN FREDERICK NEHR. New York, N. Y. Filed Aug. 31, 1905. Serial No. 276,641. Term of patent 14 years.



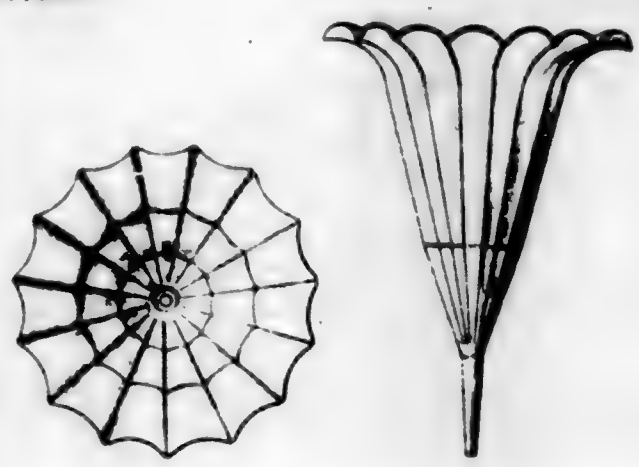
Claim.—The ornamental design for a rosary as shown.

37,660. BADGE. RAYMOND C. DICK. Mannington, W. Va. Filed Aug. 28, 1905. Serial No. 276,311. Term of patent 7 years.



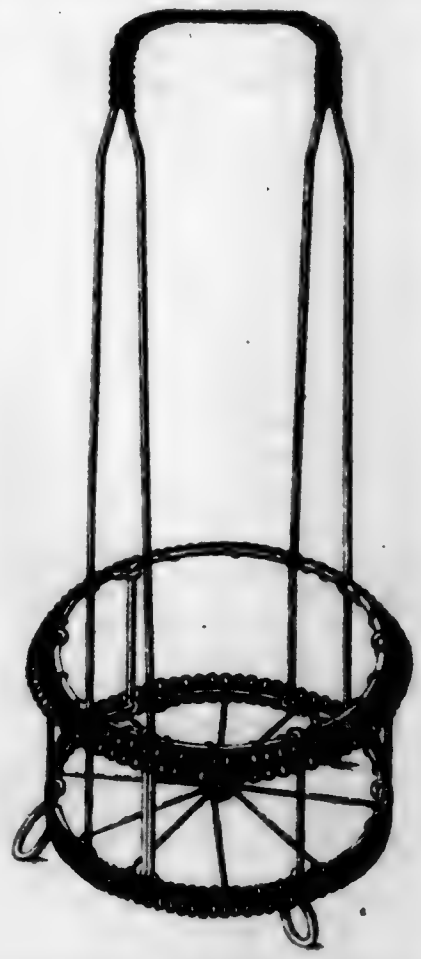
Claim.—The ornamental design for a badge, as shown.

37,661. HORN FOR PHONOGRAPHS. FRANCIS M. MURPHY. Jersey City, N. J. Filed Apr. 6, 1905. Serial No. 254,287. Term of patent 7 years.



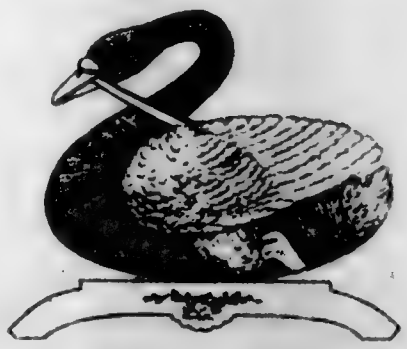
Claim.—The ornamental design for a horn for phonographs, as shown.

37,662. BASKET. LOUIS B. JUNG. New Orleans, La. Filed Sept. 15, 1905. Serial No. 278,677. Term of patent 7 years.



Claim.—The ornamental design for a basket, as shown.

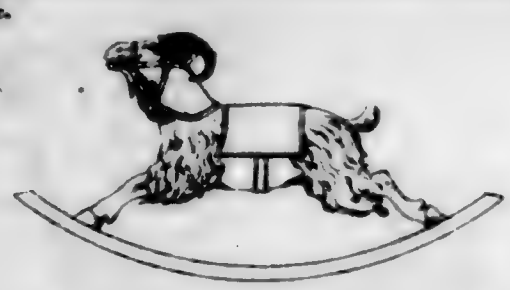
37,663. ROCKER-BODY. ROBERT T. CARR. Detroit, Mich. Filed July 3, 1905. Serial No. 268,265. Term of patent 7 years.



Claim.—The ornamental design for a rocker-body, as shown.

37,664. ROCKER-BODY. ROBERT T. CARR, Detroit, Mich. Filed July 3, 1905. Serial No. 268,266. Term of patent, 7 years.

37,664.



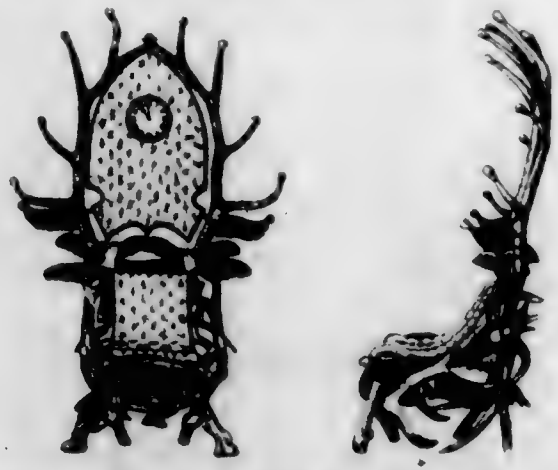
Claim.—The ornamental design for a rocker-body, as shown.

37,665. ROCKER-BODY. ROBERT T. CARR, Detroit, Mich. Filed July 3, 1905. Serial No. 268,287. Term of patent 7 years.



Claim.—The ornamental design for a rocker-body, as shown.

37,666. CHAIR. WILLIAM FORBES WITTICH, Cody, Wyo. Filed Aug. 30, 1905. Serial No. 276,459. Term of patent 14 years.



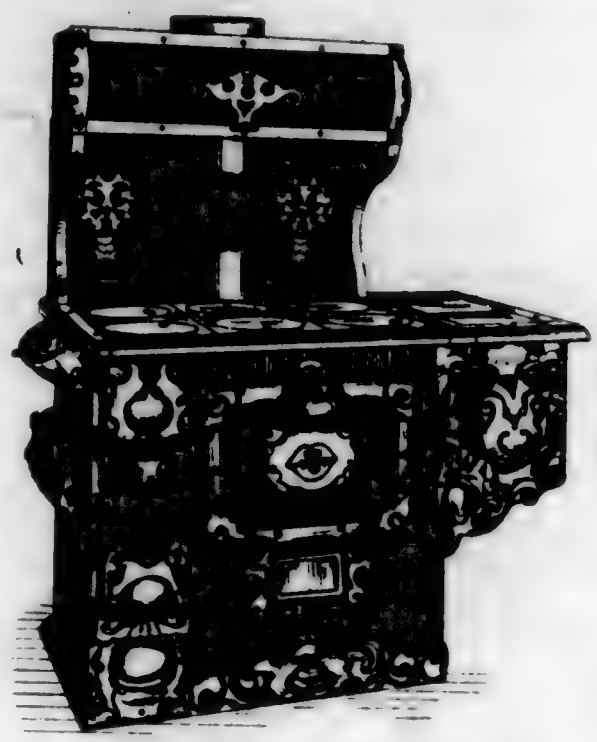
Claim.—The ornamental design for a chair, as shown.

37,667. STOVE. MAX R. LEHMAN, Quincy, Ill., assignor to Cascaden Manufacturing Company, Waterloo, Iowa, a Corporation. Filed Aug. 24, 1905. Serial No. 275,878. Term of patent 14 years.



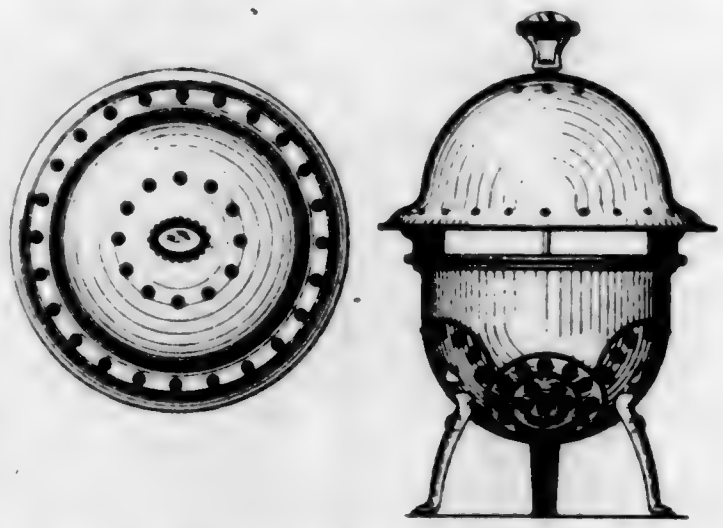
Claim.—The ornamental design for a stove, as shown.

37,668. STOVE. MAX R. LEHMAN, Quincy, Ill., assignor to Cascaden Manufacturing Company, Waterloo, Iowa, a Corporation. Filed Aug. 30, 1905. Serial No. 276,456. Term of patent 14 years.



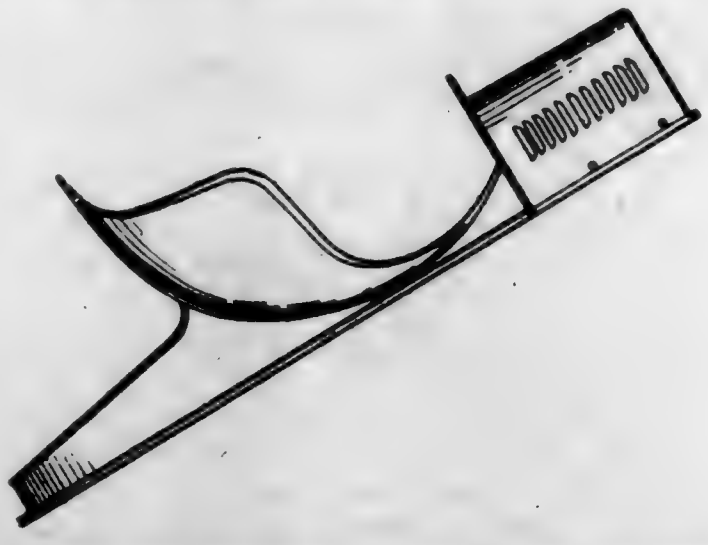
Claim.—The ornamental design for a stove, as shown.

37,669. GAS-STOVE. HERBERT S. HUMPHREY, Kalamazoo, Mich. Filed Sept. 13, 1905. Serial No. 278,360. Term of patent 14 years.



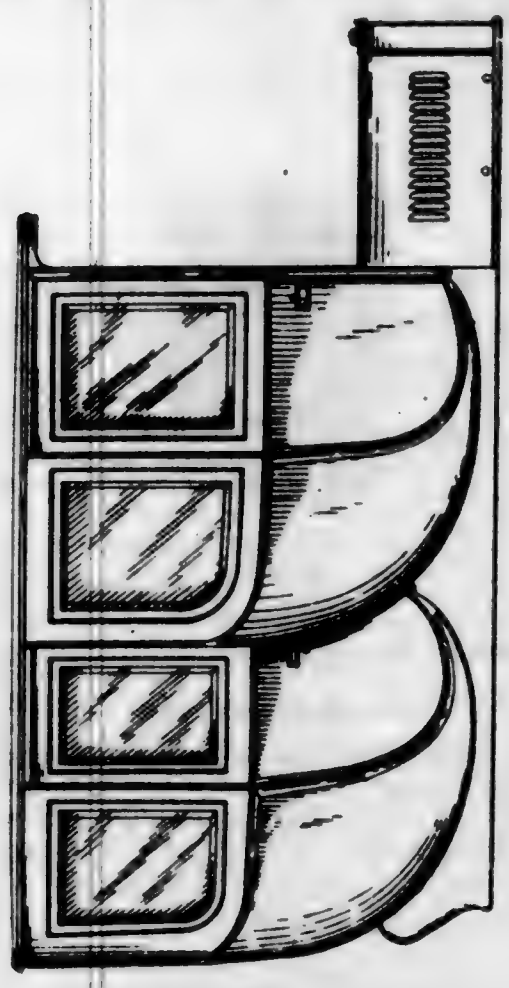
Claim.—The ornamental design for a gas-stove, as shown.

37,670. AUTOMOBILE-BODY. ALANSON P. BRUSH, Detroit, Mich. Filed Aug. 15, 1905. Serial No. 274,791. Term of patent 7 years.



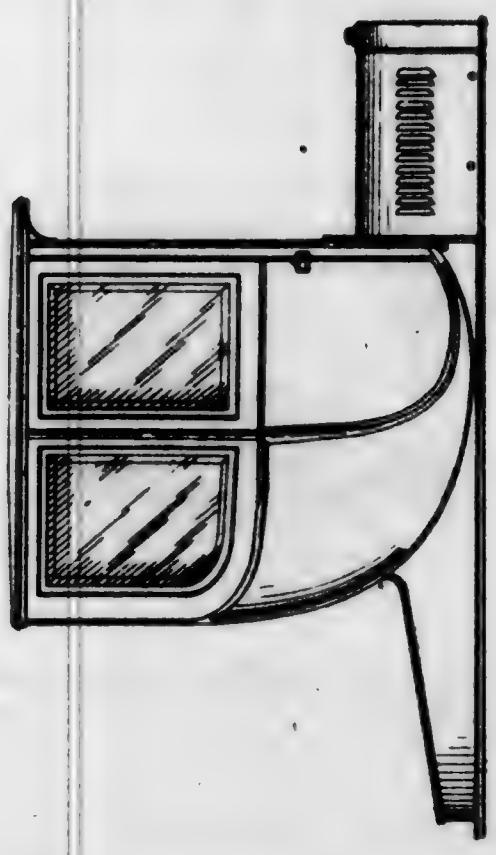
Claim.—The ornamental design for an automobile-body as shown.

37,671. AUTOMOBILE-BODY. ALANSON P. BRUSH, Detroit, Mich.
Filed Aug. 18, 1905. Serial No. 274,792. Term of patent 7 years.



Claim.—The ornamental design for an automobile-body, as shown.

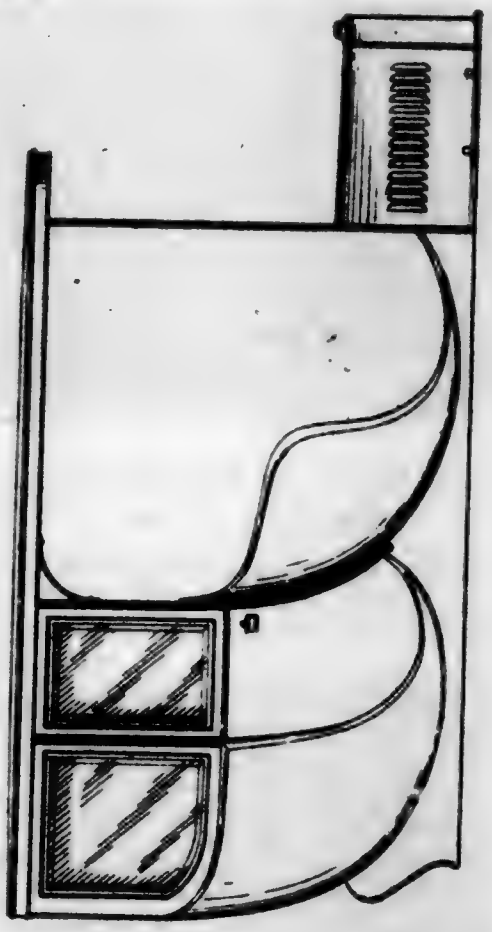
37,672. AUTOMOBILE-BODY. ALANSON P. BRUSH, Detroit, Mich.
Filed Aug. 18, 1905. Serial No. 274,793. Term of patent 7 years.



Claim.—The ornamental design for an automobile-body as shown.

37,673. AUTOMOBILE-BODY. ALANSON P. BRUSH, Detroit, Mich.
Filed Aug. 18, 1905. Serial No. 274,794. Term of patent 7 years.

37,673.



Claim.—The ornamental design for an automobile-body as shown.

37,674. AUTOMOBILE-BODY. ALANSON P. BRUSH, Detroit, Mich.
Filed Aug. 18, 1905. Serial No. 274,795. Term of patent 7 years.



Claim.—The ornamental design for an automobile-body, as shown.

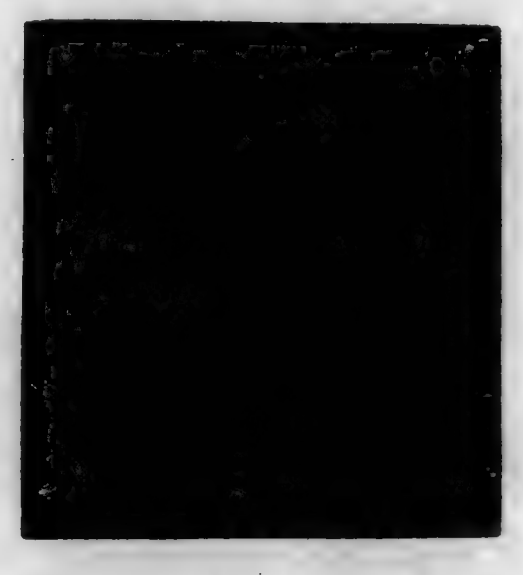
37,675. CARPET. WALTER THOMAS, Yonkers, N. Y., assignor to Alexander Smith & Sons Carpet Company, Yonkers, N. Y., a Corporation of New York. Filed Oct. 5, 1905. Serial No. 281,536. Term of patent 3½ years.

37,675.



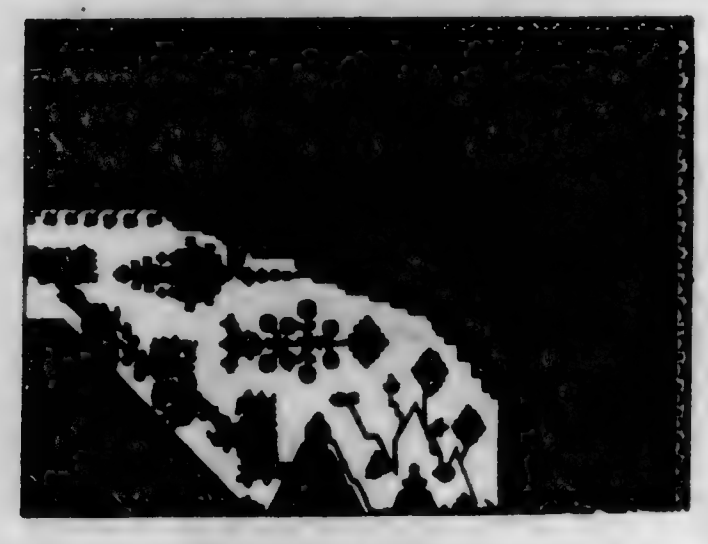
Claim.—The ornamental design for a carpet, as shown.

37,676. CARPET. WILLIAM A. PERRY, Worcester, Mass., assignor to M. J. Whittall, Worcester, Mass. Filed Sept. 26, 1905. Serial No. 280,719. Term of patent 3½ years.



Claim.—The ornamental design for carpet as shown

37,677. RUG. WILLIAM A. PERRY, Worcester, Mass., assignor to M. J. Whittall, Worcester, Mass. Filed Sept. 26, 1905. Serial No. 280,720. Term of patent 3½ years.



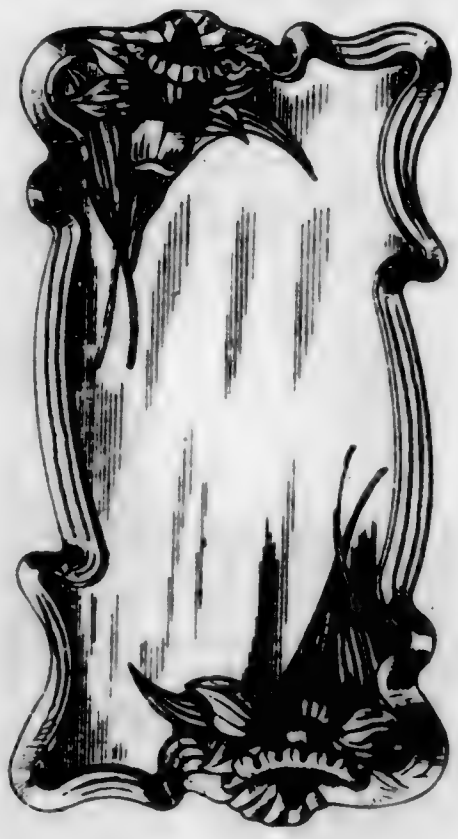
Claim.—The ornamental design for a rug as shown.

37,678. CASKET-HANDLE SOCKET. ARTHUR V. BENTON, Meriden, Conn., assignor to International Silver Company, Meriden, Conn., a Corporation of New Jersey. Filed Sept. 11, 1905. Serial No. 278,049. Term of patent 7 years.



Claim.—The ornamental design for a casket-handle socket as shown.

37,679. CASKET NAME-PLATE. ARTHUR V. BENTON, Meriden Conn., assignor to International Silver Company, Meriden, Conn., a Corporation of New Jersey. Filed Sept. 11, 1905. Serial No. 278,050 Term of patent 7 years.



Claim.—The ornamental design for a casket name-plate as shown.

TRADE-MARKS

PUBLISHED NOVEMBER 14, 1905.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

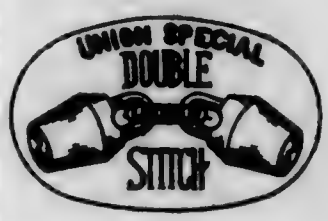
"On filing notice of opposition to the registration of a trade-mark, ten dollars."

SER. No. 208. DEXTRINE. NORDDEUTSCHER KARTOFFELMEHL-FABRIK MIT BESCHRÄNKTER HAFTUNG, Kustrin, Germany. Filed Apr. 1, 1905.



The representation of a heraldic eagle rampant.

SER. No. 239. SEWING-MACHINES AND PARTS THEREOF. UNION SPECIAL MACHINE COMPANY, Chicago, Ill. Filed Apr. 3, 1905.



The representation of two padlocks with a link uniting the loops, associated with the words "UNION SPECIAL DOUBLE LOCKED STITCH," all inclosed within an ellipse.

SER. No. 487. CIGARS. ABRAHAM SIMON, New York, N. Y. Filed Apr. 6, 1905.

LA MAGNITA

The words "LA MAGNITA."

SER. No. 570. LEATHER AND LEATHER AND CLOTH BOOTS, SHOES, AND SLIPPERS. GEO. F. DANIELS & CO., Boston, Mass. Filed Apr. 6, 1905.

Good Luck

The words "GOOD LUCK."

SER. No. 782. SUSPENDERS AND BRACES. HARRIS SUSPENDER CO., New York, N. Y. Filed Apr. 6, 1905.

OPERA

The word "OPERA."

SER. No. 786. BRACES AND SUSPENDERS. HARRIS SUSPENDER CO., New York, N. Y. Filed Apr. 6, 1905.

Whiz

The word "WHIZ."

SER. No. 730. WHEAT-FLOUR. SAMPS, TAYLOR & WOOD COMPANY, Boston, Mass. Filed Apr. 7, 1905.

SER. No. 730



The words "KING ARTHUR," associated with the representation of a mounted knight bearing a banner, on which is the representation of a cross. On the breast of the knight is the representation of a cross, and in the background are shown the buildings of an oriental city.

SER. No. 1,431. COTTON SHEETINGS. NAUMKEAG STEAM COTTON CO., Salem, Mass. Filed Apr. 14, 1905.



NAUMKEAG

The word "NAUMKEAG" and the pictorial representation of a bull's head inclosed in a circle.

SER. No. 1,591. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

SQUARED
FARO

The words "SQUARED FARO."

SER. No. 1,608. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

MOTORETTE

The word "MOTORETTE."

SER. No. 1,780. RAZORS. CHALLENGE CUTLERY CORP., Bridgeport, Conn. Filed Apr. 15, 1905.

CHALLENGE

The word "CHALLENGE."

SER. No. 1,951. MALT EXTRACTS. OTTO HUBER BREWERY, Brooklyn, N. Y. Filed Apr. 17, 1905.



The words "BOTTLED VIGOR" and the representation of an uplifted arm and hand, which appears below the said words, the hand containing a bottle bearing the hyphenated letters "O-H," from which rays of light radiate, and the hyphenated letters "O-H," which appear beneath the arm.

SER. No. 1,976. PREPARATIONS OF PANCREAS, THYROID AND STOMACH GLANDS, AND OTHER ANIMAL EXTRACTS DISPENSED IN THE FORM OF TABLETS, DISKS, AND PILLS. FAIRCHILD BROS. & FOSTER, New York, N. Y. Filed Apr. 17, 1905.

PEPULE

The word "PEPULE."

SER. No. 2,122. KITCHEN-KNIVES, BUTCHER-KNIVES, BONING-KNIVES, AND SLICERS. MONTGOMERY O. RODEARMEL, Minneapolis, Minn. Filed Apr. 18, 1905.

M. G. R.

The letters "M. G. R."

SER. No. 2,184. GLOVES. ABRAHAM & STRAUS, New York, (Brooklyn,) N. Y. Filed Apr. 18, 1905.

NOVA

The word "NOVA."

SER. No. 2,555. TIRE-BOLTS. RUSSELL BURDSALL & WARD BOLT & NUT CO., Port Chester, N. Y. Filed Apr. 21, 1905.

KEYSTONE

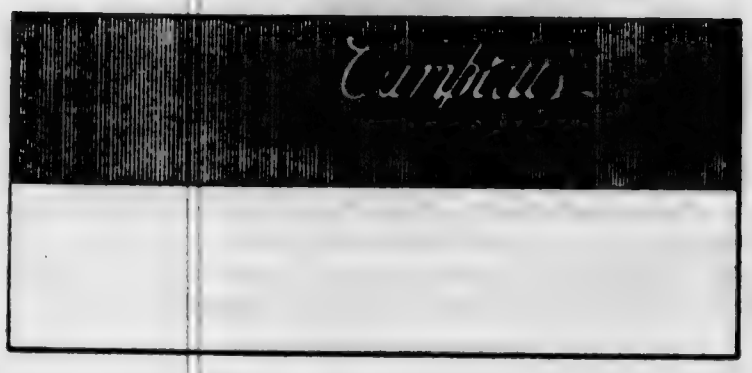
The word "KEYSTONE."

SER. No. 2,590. METALLIC ALLOY AND ARTICLES OF WHICH SUCH ALLOY FORMS A PART. THE RIVERSIDE METAL CO., Riverside, N. J. Filed Apr. 24, 1905.

OMEGA

The word "OMEGA."

SER. No. 2,779. CONDENSED SOUPS. JOSEPH CAMPBELL COMPANY, Camden, N. J. Filed Apr. 24, 1905.



A band the upper half of which is red and the lower half white, with the word "CAMPBELL'S" appearing in the upper half.

SER. No. 2,781. UPRIGHT PIANOS. THE JOHN CHURCH COMPANY, Cincinnati, Ohio. Filed Apr. 24, 1905.

Harvard

The word "HARVARD."

SER. No. 2,910. BANK NOTE, CHECK, DRAFT, CERTIFICATE PAPER, BILLS-OF-EXCHANGE PAPER, AND WRITING-PAPER. DENNISON & SONS, New York, N. Y. Filed Apr. 24, 1905.

COLONIAL



The word "COLONIAL" and the representation of a fanciful female head, upon which appears a coronet.

SER. No. 3,167. WORLD

The word "WORLD."

SER. No. 3,370. PAINT, VARNISH, AND SASH TOOL BRUSHES. JOHN L. WHITING & SON CO., Boston, Mass. Filed Apr. 29, 1905.



A sectional view of a brush and handle, the handle having a head of prongs or projections arranged between the bristles and surrounded by a ferrule, with the words, abbreviation, and character "JOHN L. WHITING & SON, BOSTON," on the bristles.

SER. No. 3,374. PAINT, VARNISH, AND SASH TOOL BRUSHES. JOHN L. WHITING & SON CO., Boston, Mass. Filed Apr. 29, 1905.



A sectional view of a brush and handle having prongs or projections and a tapering plug arranged between the bristles and surrounded by a ferrule, with the words, abbreviation, and character "JOHN L. WHITING & SON, BOSTON," on the bristles.

SER. No. 3,376. PAINT, VARNISH, AND SASH-TOOL BRUSHES. JOHN L. WHITING & SON CO., Boston, Mass. Filed Apr. 29, 1905.



The representation of a sectional view of a brush and its handle, representing the tapering handle passing through the head, having prongs or projections arranged between the bristles and surrounded by a ferrule, with the words, abbreviation, and character "JOHN L. WHITING & SON, BOSTON," on the bristles.

SER. No. 3,645. COTTON PLAIDS AND STRIPES. SAMUEL A. CROZER & SON, Upland, Pa. Filed Apr. 29, 1905.

ALABAMA

The word "ALABAMA," produced upon an ornamental bar.

Ser. No. 3,927. NATURAL-ROCK OR HYDRAULIC CEMENT, LIME, AND PLASTER. The Newark Lime & Cement Mfg. Co., Newark, N. J., and Rondout, N. Y. Filed May 1, 1905.

OLD NEWARK CO.

The words and abbreviation "Old Newark Co.," inclosed in an irregular broken border.

Ser. No. 4,081. PIN-RETAINERS. George J. Capewell, Jr., Hartford, Conn. Filed May 2, 1905.



The representation of a perspective view of a keystone with two stick-pins extending obliquely back of it and one extending horizontally across the front, each stick-pin having a stick-pin retainer thrust upon it. On the face of the keystone is a light circular space, occupying which is the representation of an owl roosting on the horizontally-arranged scarf-pin. On the face of the keystone there are also two pin-retainers and the words "Automatic Grip." Extending across the lower part of the keystone is a white ribbon, on which appear the words "Pin-Retainer."

Ser. No. 4,084. MEDICAL PREPARATIONS CONTAINING THE NUTRITIVE ELEMENTS OF GRAIN. The Malting Company, Brooklyn, N. Y. Filed May 3, 1905.



The word "Malto."

Ser. No. 4,110. SYRUPS, MOLASSES, AND SORGHUM. The H. H. Alexander Co., Cincinnati, Ohio. Filed May 3, 1905.

STAR

The word "Star," under which is the design of a star.

Ser. No. 4,145. BUTTER. Rhoda F. Dudley, Owosso, Mich. Filed May 3, 1905.

Ser. No. 4,145.



The representation of a four-leaf clover on the knot of a bow appearing on a contrasting background bounded by intersecting circles, the background appearing within a rectangular dotted field containing spaced representations of a four-leaf clover.

Ser. No. 4,246. PLAYING-CARDS. The United States Playing Card Co., Cincinnati, Ohio. Filed May 4, 1905.

IVORY PINOCHLE

The words "Ivory Pinochle."

Ser. No. 4,373. ANODYNE FOR INFANTS. Dr. H. F. Grover' Son and Co., Philadelphia, Pa. Filed May 5, 1905.



The pictorial representation of a group including a woman and children, the woman holding an infant and represented as in the act of administering medicine to the infant, the surroundings of the picture representing an interior.

Ser. No. 4,417. COATS, VESTS, TROUSERS, OVERALLS, AND JUMPERS. The Miller Manufacturing Company, Fort Worth, Tex., assignee to The Miller Manufacturing Company. Filed May 5, 1905.



The word "Hawk" and the representation of a hawk perched upon the limb of a tree.

SER. No. 4,626. ROTARY PRINTING-MACHINES ADAPTED TO BE OPERATED BY HAND. THE AMERICAN MULTIGRAPH CO., Cleveland, Ohio. Filed May 8, 1905.

THE GAMMETER MULTIGRAPH

The words "THE GAMMETER MULTIGRAPH."

SER. No. 4,685. CANDY. THE CHANDLER AND RUPP COMPANY, Cleveland, Ohio. Filed May 8, 1905.



The word "SUNSHINE," disposed in an arc above the representation of a rising sun.

SER. No. 4,728. PAINT FOR METALLIC SURFACES. RINALD BROS., Philadelphia, Pa. Filed May 8, 1905.

BESSEMER PAINT

The words "BESSEMER PAINT."

SER. No. 5,238. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905.



The representation of a pine-tree constituting the main feature of a landscape representing a lake with hills in the background and a stag in the foreground.

SER. No. 5,316. HEAVE-CURE. MARROW W. SAVAGE, Minneapolis, Minn. Filed May 12, 1905.



The representation of a horse in the act of coughing, the walls of the chest being broken away showing the position of the lungs. Below the representation of the horse are the words "HEAVE CURE" and above a panel bearing the word "INTERNATIONAL," all on a dark background.

SER. No. 5,699. GLASS AND METAL ADVERTISING-SIGNS. RODWELL SIGN CO., Buffalo, N. Y. Filed May 15, 1905.

BRILLIANT

The word "BRILLIANT."

SER. No. 5,700. GLASS AND METAL ADVERTISING-SIGNS. RODWELL SIGN CO., Buffalo, N. Y. Filed May 15, 1905.

RODWELL

The word "RODWELL."

SER. No. 5,739. LARD. SWIFT AND COMPANY, Chicago, Ill. Filed May 15, 1905.

Silver Leaf

The words "SILVER LEAF."

SER. No. 5,848. DIPROPYL-BARBITURIC ACID. E. MERCK, Darmstadt, Germany. Filed May 16, 1905.

PROPONAL

The word "PROPONAL."

SER. No. 5,966. WHISKY. SALLIE ALTHAUSE, Macon, Ga. Filed May 18, 1905.



The representation of an ear of corn, associated with the words "KENTUCKY CORN."

SER. No. 6,370. CHEMICALS FOR USE IN THE CERAMIC ARTS. THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y. Filed May 23, 1905.

Reg. No. 6,370.



The representation of a heart-shaped shield having a flat top portion showing the letters and abbreviation "R H C Co" thereon with two bands below said letters, the character "A 1" appearing on said heart-shaped portion and two olive branches encircling said shield.

Reg. No. 6,619. SPRINGWORK AND WIRE SPRING SUPPORTS FOR CHAIRS, SOFAS, BEDS, AND CARRIAGE-SEATS. Staples & Hanford Co. Newburgh, N. Y. Filed May 26, 1905.

S&H

The letters and character "S & H."

Reg. No. 6,774. MOTH-PROOF BAGS. Thomas Manahan, New York, N. Y. Filed May 27, 1905.

SEA SHORE

The words "Sea Shore."

Reg. No. 6,803. LAUNDRY SOAP. The Kingan Packing Association, Indianapolis, Ind. Filed May 27, 1905.

UTILITY

The word "Utility."

Reg. No. 6,805. LAUNDRY SOAP. The Kingan Packing Association, Indianapolis, Ind. Filed May 27, 1905.

LAUNDRY CASTILE

The words "Laundry Castile."

Reg. No. 7,118. LEATHER-POLISH. Whittemore Brothers and Company, Cambridge, Mass. Filed May 31, 1905.

CLEARSHINE

The word "Clearshine."

Reg. No. 7,124. LEATHER BOOTS AND SHOES. G. A. Creighton & Son, Lynn, Mass. Filed May 31, 1905.



The conventional representation of a water-lily and water-lily leaves with intertwined stems, the ends of which are arranged in scrolls, associated with the words "Creighton's Water Proof Shoe."

Reg. No. 7,214. HAY-LOADERS. Sandwich Manufacturing Co., Sandwich, Ill. Filed June 2, 1905.

THE CLEAN SWEEP

The words "The Clean Sweep."

Reg. No. 7,216. HAY-BALING PRESSES. Sandwich Manufacturing Co., Sandwich, Ill. Filed June 2, 1905.

SOUTHWICK

The word "Southwick."

Reg. No. 7,218. HAY-BALING PRESSES. Sandwich Manufacturing Co., Sandwich, Ill. Filed June 2, 1905.

SANDWICH

The word "Sandwich."

Reg. No. 7,300. PIANOS AND SELF-PLAYING PIANOS AND PARTS THEREOF. Lyon & Healy, Chicago, Ill. Filed May 29, 1905.

Majestic

The word "Majestic."

SER. No. 7,370. BRACELETS. THE D. F. BRESEE CO., Attleboro, Mass. Filed June 3, 1905.

CARMEN

The word "CARMEN."

SER. No. 7,492. TONIC FOR NURSING MOTHERS. THE NUTROLACTIS CO., New York, N. Y. Filed June 5, 1905.

NUTROLACTIS

The word "NUTROLACTIS."

SER. No. 7,493. ANTIPYRETIC AND ANALGESIC MEDICINAL PREPARATION. THE AMMONOL CHEMICAL CO., New York, N. Y. Filed June 5, 1905.

AMMONOL

The word "AMMONOL."

SER. No. 7,569. LEATHER BOOTS AND SHOES. JOHN W. RUSS CO., Haverhill, Mass. Filed June 7, 1905.

Dictator

The word "DICTATOR."

SER. No. 7,591. WHISKY. SHIVE, MAYER & CO., Cincinnati, Ohio. Filed June 7, 1905.

CLINGSTONE

The word "CLINGSTONE."

SER. No. 7,802. COMPOUNDS TO BE USED IN CONNECTION WITH A SUITABLE SOLDER IN BRAZING METALS. AMERICAN BRAZING COMPANY, New York, N. Y., assignor to The American Ferrofix Brazing Company, a Corporation of Connecticut. Filed June 10, 1905.

FERROFIX

The word "FERROFIX."

SER. No. 7,681. LIQUID REMEDY TO BE TAKEN INTERNALLY FOR THROAT, STOMACH, OR BOWEL COMPLAINT AND USED EXTERNALLY AS A LINIMENT FOR PAINS, ACHES, BRUISES, AND THE LIKE. ELIZABETH A. NEER, Paterson, N. J. Filed June 8, 1905.

DR. NEER'S



KEYSTONE

The word "KEYSTONE," in combination with the abbreviation and word "DR. NEER'S" and an ellipse inclosing a portrait of the late Dr. David Neer, of Paterson, N. J.

SER. No. 7,803. FLUXES TO BE USED IN BRAZING METALS. AMERICAN BRAZING COMPANY, New York, N. Y., assignor to The American Ferrofix Brazing Company, a Corporation of Connecticut. Filed June 10, 1905.

BORFIX

The word "BORFIX."

SER. No. 7,957. OILED CLOTHING. J. H. ROWE COMPANY, Portland, Me., and Gloucester, Mass. Filed June 12, 1905.

VICTOR

BRAND

The words "VICTOR BRAND."

SER. No. 7,959. OILED CLOTHING. J. H. ROWE COMPANY, Portland, Me., and Gloucester, Mass. Filed June 12, 1905.



The hyphenated word "TIP-TOP" in connection with the figure of a top.

SER. No. 7,978. BUTTONS AND STUDS. T. I. SMITH CO., North Attleboro, Mass. Filed June 13, 1905.

TISCO

The word "TISCO."

SER. No. 8,056. GLOVES. JACOB ADLER & CO., New York, N. Y. Filed June 13, 1905.

TRYON

The word "TRYON."

SER. No. 8,146. CHEWING-GUM. AMERICAN CHICLE CO., New York, N. Y. Filed June 15, 1905.



The compound word "KIS-ME," inclosed in quotation-marks. Below the same, within a rectangular panel, appears the representation of a boy and girl embracing. Outside of the panel are the words "CHEWING GUM" and scrollwork, the whole being inclosed within a rectangular border.

SER. No. 8,162. CHEWING-GUM. AMERICAN CHICLE CO., New York, N. Y. Filed June 15, 1905.

Adams' New York Chewing Gum.



The representation of City Hall Park in New York city as it appeared before the present post-office building was built, the representation including St. Paul's Chapel, the Astor House, and a street scene in the foreground, associated with the words "ADAMS' NEW YORK CHEWING GUM, SNAPPING AND STRETCHING."

SER. No. 8,176. HANDCUFFS AND LEG-IRONS. TOWER & LYON CO., New York, N. Y. Filed June 15, 1905.

Double Lock

The words "DOUBLE LOCK."

SER. No. 8,177. POLICE-TWISTERS. TOWER & LYON CO., New York, N. Y. Filed June 15, 1905.

PERFECT

The word "PERFECT."

SER. No. 8,193. BORING-MACHINES. AJAX MFG. CO., Allegheny, Pa. Filed June 15, 1905.

AJAX

The word "AJAX."

SER. No. 8,258. PEANUT-BUTTER. THE JEL-NUT MANUFACTURING COMPANY, Baltimore, Md. Filed June 15, 1905.

JEL-NUT

The hyphenated word "JEL-NUT."

SER. No. 8,264. LAMP-CHIMNEYS. PEARL BULB & CO., New York, N. Y. Filed June 15, 1905.



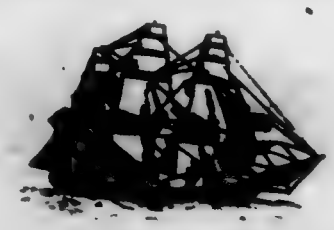
The representation of a shield displaying an owl perched on a bar, the shield depending from a helmet, the latter and the shield being flanked by scrolls and the helmet being surmounted by a small winged shield.

SER. No. 8,298. TWINE AND BINDER-TWINE. PLYMOUTH CORDAGE COMPANY, North Plymouth, Mass. Filed June 16, 1905.



The representation of an upright sheaf of grain bearing the words "PLYMOUTH TWINE."

SER. No. 8,300. FIBROUS ROPE AND TWINE. PLYMOUTH CORDAGE COMPANY, Plymouth, Mass. Filed June 16, 1905.



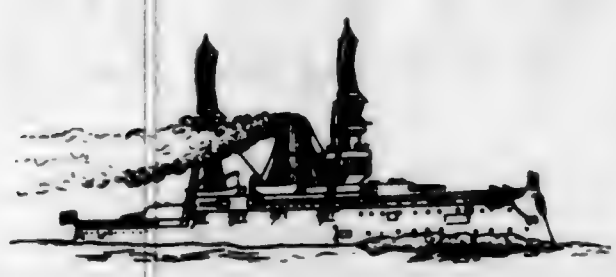
The pictorial representation of a sailing vessel at sea.

SER. No. 8,301. FIBROUS OR TEXTILE ROPE AND TWINE. PLYMOUTH CORDAGE COMPANY, Plymouth, Mass. Filed June 16, 1905.



The pictorial representation of a steamboat or steamer at sea.

SER. No. 8,302. FIBROUS OR TEXTILE ROPE AND TWINE. PLYMOUTH CORDAGE COMPANY, Plymouth, Mass. Filed June 16, 1905.



The pictorial representation of a man-of-war or battleship at sea.

SER. No. 8,431. ANTISEPTICS FOR TOILET AND MEDICINAL PURPOSES. JAMES T. WETHERALD, Boston, Mass. Filed June 17, 1905.

PAXTINE

The word "PAXTINE."

SER. No. 8,436. WHISKY. HILMAR ERRMANN, Louisville, Ky. Filed June 17, 1905.



The word "BARONY," associated with the representation of an old-style gentleman in a fancy frame.

SER. No. 8,439. COTTON PIECE GOODS. THE RENFREW MANUFACTURING COMPANY, Adams, Mass. Filed June 17, 1905.



The representation of three intertwined circular bands or rings.

SER. No. 8,465. WHISKY. F. W HUNT & Co., Boston, Mass. Filed June 19, 1905.



The words "GOLDEN HARVEST."

SER. No. 8,466. GIN. F. W. HUNT & Co., Boston, Mass. Filed June 19, 1905.



The words "WHITE TULIP."

SER. No. 8,468. WHISKY. F. W. HUNT & Co., Boston, Mass. Filed June 19, 1905.

GOLDEN SHIELD

The words "GOLDEN SHIELD."

SER. No. 8,469. WHISKY. F. W. HUNT & Co., Boston, Mass. Filed June 19, 1905.



The compound word "BOW-KNOT" and the pictorial representation of a bow-knot.

SER. No. 8,470. WHISKY. F. W. HUNT & Co., Boston, Mass. Filed June 19, 1905.

ANTLERS CLUB

The words "ANTLERS CLUB."

SER. No. 8,488. CORN-STARCH AND LAUNDRY STARCH. FRANCIS H. LEGGETT & COMPANY, New York, N. Y. Filed June 19, 1905.

Premier

The word "PREMIER."

Sm. No. 8,580. CIGARS. Joseph Wiesbrock, Dayton, Ohio. Filed June 19, 1905.



The words "Justice Story," together with a bust picture of an elderly man with spectacles, the picture being inclosed in an oval frame. On one side of the picture there is a representation of Justice holding a scale evenly balanced in one hand, with a sheet of unrolled parchment in the other hand. On the other side of the picture is a group of books, a roll of paper, an unfolded sheet of paper or parchment, and an inkstand supported on the books. On each side of the picture is a spray of leaves.

Sm. No. 8,569. PORTLAND, NATURAL-ROCK, AND IMPROVED CEMENT. American Cement Company, Philadelphia, Pa. Filed June 20, 1905.

SUN

The word "Sun."

Sm. No. 8,571. PORTLAND, NATURAL-ROCK, AND IMPROVED CEMENT. American Cement Company, Philadelphia, Pa. Filed June 20, 1905.

EGYPT

The word "Egypt."

Sm. No. 8,575. PORTLAND, NATURAL-ROCK, AND IMPROVED CEMENT. American Cement Company, Philadelphia, Pa. Filed June 20, 1905.

GIANT

The word "Giant."

Sm. No. 8,578. PORTLAND, NATURAL-ROCK, AND IMPROVED CEMENT. American Cement Company, Philadelphia, Pa. Filed June 20, 1905.

IMPROVED UNION

The words "Improved Union."

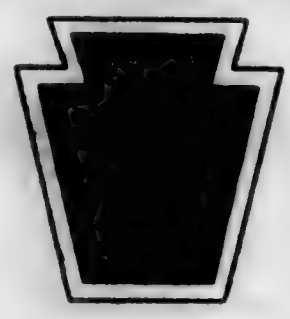
Sm. No. 8,579. PORTLAND, NATURAL-ROCK, AND IMPROVED CEMENT. American Cement Company, Philadelphia, Pa. Filed June 20, 1905.

VALLEY

The word "Valley."

Sm. No. 8,599. ROPE, CORD, AND TWINE. The Schlichter Jute Cordage Co., Philadelphia, Pa. Filed June 20, 1905.

KEYSTONE



The word "Keystone" and the representation of a keystone, used singly or together.

Sm. No. 8,780. WOMEN'S KNIT UNDERWEAR, KNIT VESTS, TIGHTS, AND UNION SUITS FOR WOMEN. Chas. A. Stevens & Bros., Chicago, Ill. Filed June 22, 1905.

Fashoda

The word "Fashoda."

Sm. No. 8,823. CORN-STARCH AND LAUNDRY STARCH. Francis H. Leggett & Company, New York, N. Y. Filed June 23, 1905.

NABOB

The word "Nabob."

Sm. No. 9,222. PLAYING-CARDS. The New York Consolidated Card Company, New York, N. Y. Filed June 27, 1905.

SER. No. 9,222.



A device shown as upon a solid ground upon which are displayed certain framework, borders, scrolls, and floral designs. Within a central ring is a bunch of flowers consisting of two full-blown roses with leaves and small flora. The whole of the combined symbols form a quadrangular entablature, with corners slightly rounded, of greater length than width. Above and below the central ring appear similar floral designs, which partially overlap said ring and, extending laterally, form wreaths, which extend on either side to fleurs-de-lis. The floral ornamentation, wreathes, and fleurs-de-lis are surrounded with a plain-line border circular at its middle portion but with Gothic arch-like extensions above and below, and this line border is surrounded by another line border following the inner configuration, except that it terminates in ornamental bends or turns on either side opposite to the fleurs-de-lis. At each corner of the panel, within a quadrangular light line, the space is nearly filled up with floral designs, each of the same character.

SER. No. 9,226. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a design many times repeated upon a panel or parallelogram to give the effect of many parallel diagonal lines crossing each other and inclosing dark diamond-shaped figures. The appearance of light lines is gained by four light parallel strokes or lines at each side of each dark diamond, and at each corner of each dark diamond a smaller light diamond space appears, the whole effect resembling a plaid design.

SER. No. 9,228. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a rectangular panel having a conventional border suggesting fleurs-de-lis and a conventional design in each corner. A central panel inclosed by two lines and an outer row of large dots displays a conventional scroll suggesting sprays of oak-leaves intertwined.

SER. No. 9,229. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a rectangular device having a border of rosettes with larger corner rosettes inclosing a central panel, upon which are displayed a number of fan-like figures resembling peacocks' tails so closely arranged as to cover the entire surface.

SER. No. 9,230. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a panel displaying a central rosette inclosed by a circle surrounded by a curved figure with four points extending to the ends and sides, the side points inclosing a conventional leaf-spray, while the end points inclose leaf designs with a rosette inclosed in a circle. The corners of the panels are filled by conventional sprays of leaves and flowers.

SER. No. 9,231. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a panel with an outer line of dots and a conventional border of curved lines intertwined, within which is a rectangular line of dots inclosing a central panel displaying a conventional scroll design having on each side and at each corner a grotesque animal.

SER. No. 9,232. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a rectangular design having a fan-like figure at each corner and a conventional block figure at each side.

Surrounded by two lines, which avoid the figures mentioned, is a central device displaying sprays of leaves and at each end a shield showing three crowns.

SER. No. 9,283. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a rectangular panel displaying at the center a design of four egg-shaped figures with dotted borders, each containing a conventional oak-leaf spray. In each corner is a conventional scroll displaying an animal-head.

SER. No. 9,284. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a rectangular panel having a conventional border inclosing a central parallelogram displaying a leaf-like design starting from the center and spreading toward the ends, the leaves resembling oak-leaves. At each end is a vase of flowers, and in each corner is a cupid holding out in one hand a tiny representation of a playing-card.

SER. No. 9,285. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a panel displaying at two corners a monkey having a very long tail twisted about the limbs of the opposite monkey. In each of the other corners are shown three wasp-like insects.

SER. No. 9,286. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a rectangular panel having two inclosing lines and displaying at the center a rosette within two circles. At each end and beside the central circular design is a leaf-like conventional scroll, and in the center of each end a grotesque human face appears.

SER. No. 9,287. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a rectangular panel with an ornamental border inclosing a design consisting of four conventional scrolls of branches and leaves inclosing a central figure of four partial circles with a central rosette. In each corner is a bird perched upon the scroll and represented as singing.

SER. No. 9,288. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed June 27, 1905.



The representation of a rectangular panel having a conventional border and displaying two stork-like figures with grotesque heads and long necks intertwined at the center and crossing a framework with a diamond center and lines extending therefrom to each side and end. In diagonally opposite corners are designs of four leaves inclosed by a small frame, and adjacent thereto is a somewhat larger frame. In the remaining corners are detached griffin-like wings. A number of small ball-like dots are scattered over the design.

SER. No. 9,289. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD CO., New York, N. Y. Filed June 27, 1905.



The representation of a panel having a conventional flower border surrounding an inner panel, at the center of which is a rosette inclosed by two concentric circles, between which is displayed a conventional flower-like band. At each end of the central device is a spray of leaves and flowers.

SER. No. 9,637. MEDICATED LOZENGES. JOHN I. BROWN & SON, Boston, Mass. Filed July 3, 1905.

Ser. No. 9,687.

BROWN'S BRONCHIAL TROCHES

The words "BROWN'S BRONCHIAL TROCHES."

Ser. No. 9,708. WHISKY. [illegible] Distg., Seattle, Wash. Filed July 3, 1905.

OLD LINE



The words "OLD LINE," associated with a representation of the Baltimore Washington monument partly inclosed in a circle which is bordered by ornamental dots and lines.

Ser. No. 10,187. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed July 13, 1905.



The representation of two sea-serpents arranged about a circular device representing the rays from a strong light. The tail of each fish curves about a similar ray device at each end of the design. A curved line inclosing the entire design, following the contour thereof, but slightly overlapped at the ends and sides by the fins of the fish figures.

Ser. No. 10,405. DRESS GOODS AND CLOAKINGS. C. R. O'DONALD & Co., Boston, Mass. Filed July 15, 1905.



The words "SHAWNEE WOOLEN MILLS," superimposed on a picture of Tecumseh, the well-known chief of the Shawnee tribe of Indians.

Ser. No. 10,725. FABRIC HOSE. EUREKA FIRE HOSE COMPANY, Jersey City, N. J. Filed July 20, 1905.

EUREKA PEERLESS

The words "EUREKA PEERLESS."

Ser. No. 10,874. REMEDY FOR INTERNAL OR EXTERNAL USE FOR THE RELIEF OF PAIN. CURTIS & BROWN MANUFACTURING COMPANY, (LIMITED.) New York, N. Y. Filed July 27, 1905.

BROWN'S HOUSEHOLD PANACEA

The words "BROWN'S HOUSEHOLD PANACEA."

Ser. No. 10,875. TOOTH-POWDER. CURTIS AND BROWN MANUFACTURING COMPANY, (LIMITED.) New York, N. Y. Filed July 27, 1905.

BROWN'S CAMPHORATED SAPONACEOUS DENTIFRICE

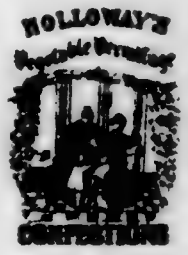
The words "BROWN'S CAMPHORATED SAPONACEOUS DENTIFRICE."

Ser. No. 10,922. LARD. GILLESPIE BROS. & Co., New York, N. Y. Filed July 27, 1905.

GIRASOL

The word "GIRASOL."

Ser. No. 10,943. MEDICATED CONFECTIONS USED AS A WORM SPECIFIC. WILLIAM HOLLOWAY, Philadelphia, Pa. Filed July 25, 1905.



The words "HOLLOWAY'S VEGETABLE VERMIFUGE CONFECTIONS," associated with a home scene inclosed within an ornamental flower-border, the scene showing the representation of two women, one seated and the other standing, and children gathered about as if eager to receive the remedy, which one of the women appears to be dispensing.

Ser. No. 10,944. BITTERS. WILLIAM HOLLOWAY, Philadelphia, Pa. Filed July 28, 1905.



The abbreviation and name "DOCT. HOOFLAND'S," associated with the words "CELEBRATED GERMAN BITTERS," and

the representation of a knight in sitting posture leaning upon a shield, with his arms and weapons of war lying on the ground opposite him, and the letters and words forming the facsimile signature "C. N. JACKSON."

SER. No. 10,975. NAIL-PULLERS. TOWER & LYON CO., New York, N. Y. Filed July 29, 1905.

CYCLOPS

The word "CYCLOPS."

SER. No. 10,994. GLOVES. THE BUFFALO RUBBER MANUFACTURING COMPANY, Buffalo, N. Y. Filed July 18, 1905.

Nearvelvet

The word "NEARVELVET."

SER. No. 10,999. ANTISEPTIC REMEDY FOR INTERNAL AND EXTERNAL USE FOR MAN AND BEAST, FOR PAINS, ACHES, CUTS, BRUISES, RHEUMATISM, INDIGESTION, DIARRHŒA, AND CUTANEOUS TROUBLES. HENRY C. POPE, Birmingham, Ala. Filed July 20, 1905.

PANACENE

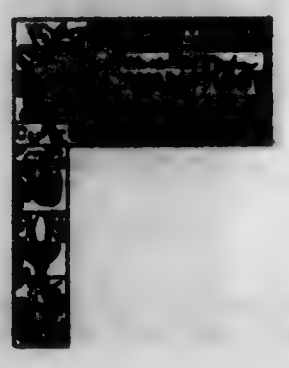
The word "PANACENE."

SER. No. 11,022. CERTAIN PROPRIETARY MEDICINES IN THE FORM OF LIQUID FOR INTERNAL AND EXTERNAL USE, OINTMENT FOR EXTERNAL USE FOR THE TREATMENT OF KIDNEY, LIVER, STOMACH, BLADDER, GALL, SKIN, BLOOD, URINARY, AND NERVOUS TROUBLES, RHEUMATISM, HEADACHE, BACKACHE, AND OTHER PAINS AND ACHES, AND BRUISES, CANCERS, TUMORS, INFLAMMATIONS, AND THE LIKE, CONSTIPATION, AND MALARIA. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.

S. Andral Kilmer M.D.

The facsimile signature "S. ANDRAL KILMER, M. D."

SER. No. 11,023. PROPRIETARY MEDICINE FOR THE TREATMENT OF KIDNEY, LIVER, STOMACH, BLADDER, GALL, URINARY, AND NERVOUS TROUBLES, BRIGHT'S DISEASE, DROPSY, SWELLING OF THE FEET, PAIN IN THE BACK, JOINTS, OR BONES, RHEUMATISM, SKIN DISEASES, AND BLOOD DISORDERS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.



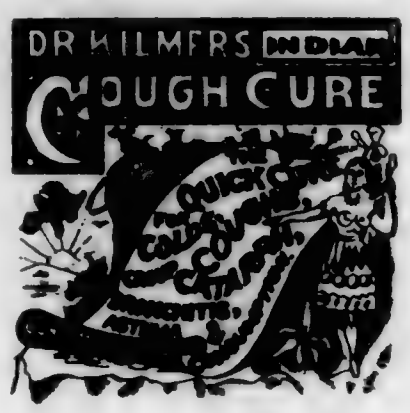
The representation of a growing plant with its roots, the representation of a human kidney, the representation of a bladder, and the representation of a liver, stomach, and gall arranged on separate panels, associated with the words "CURES," "THE KIDNEY," "THE BLADDER," "THE LIVER, STOMACH, GALL," and the abbreviation, words, and character "DR. KILMER'S SWAMP ROOT KIDNEY, LIVER, & BLADDER CURE."

SER. No. 11,025. OINTMENT FOR THE TREATMENT OF CANCER GROWTHS, ECZEMA, TUMORS, PILES, GOITER, ULCERS, CUTS, BRUISES, SPRAINS, CHEST AND LUNG SORENESS, RHEUMATISM, LAME BACK, AND OTHER PAINS AND ACHES AND INFLAMMATIONS AND SWELLINGS OF ALL KINDS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.

U & O
ANOINTMENT

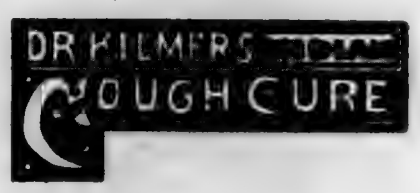
The letters and character "U & O," associated with which is the word "ANOINTMENT."

SER. No. 11,026. PROPRIETARY MEDICINE FOR THE TREATMENT OF COLDS, COUGHS, CROUP, CATARRH, BRONCHITIS, CONSUMPTION, AND ALL AFFECTIONS OF THE THROAT, CHEST, AND LUNGS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.



The representation of a scroll lying on a rock and an Indian woman pointing to the scroll and a rising sun, associated with which are the abbreviation and words "DR. KILMER'S INDIAN COUGH CURE" and the words and character "THE QUICK CURE FOR COLDS, COUGHS, CATARRH, CROUP, BRONCHITIS, ASTHMA, & CONSUMPTION, and the words "CONSUMPTION OIL."

SER. No. 11,027. PROPRIETARY MEDICINE FOR THE TREATMENT OF COUGHS, COLDS, CROUP, CATARRH, BRONCHITIS, CONSUMPTION, AND ALL AFFECTIONS OF THE THROAT, CHEST, AND LUNGS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.



The abbreviation and words "DR. KILMER'S INDIAN COUGH CURE" on an ornamental background.

SER. No. 11,028. PROPRIETARY MEDICINES IN THE FORM OF LIQUID FOR INTERNAL AND EXTERNAL USE, OINTMENT FOR EXTERNAL USE, AND PILLS FOR THE TREATMENT OF KIDNEY, LIVER, STOMACH, BLADDER, GALL, SKIN, BLOOD, URINARY, AND NERVOUS TROUBLES, RHEUMATISM, HEADACHE, BACKACHE, AND OTHER PAINS AND ACHES, AND BRUISES, CANCERS, TUMORS, AND INFLAMMATIONS AND THE LIKE, CONSTIPATION, AND MALARIA. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.

Ser. No. 11,028.

DR. KILMER'S

The abbreviation and word "DR. KILMER'S."

Ser. No. 11,029. PROPRIETARY REMEDY FOR THE TREATMENT OF CANCER OF THE UTERUS, UTERINE TUMORS, OVARIAN TUMORS, AND FOR INFLAMMATION OR DISEASES OF THE REPRODUCTIVE ORGANS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.



The representation of a bunch of leaves in black on a panel, associated with the words "AUTUMN LEAF EXTRACT."

Ser. No. 11,030. PROPRIETARY MEDICINE FOR THE TREATMENT OF HEART AND CIRCULATION DISEASES, HEART WEAKNESS, PALPITATION, IRREGULAR BEATING, FAINTING SPELLS, APOPLEXY, PARALYSIS, SPASMS, EPILEPSY, AND NERVOUSNESS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.

OCEAN-WEED HEART REMEDY

The hyphenated word "OCEAN-WEED," associated with the words "HEART REMEDY."

Ser. No. 11,031. PROPRIETARY REMEDY FOR THE TREATMENT OF PROLAPSUS UTERI, FEMALE WEAKNESSES, CANCER OF THE UTERUS, OVARIAN TUMORS, UTERINE CATARRH, OVARIAN DROPSY, AND ALL FEMALE COMPLAINTS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.

DR. KILMER'S
Female Remedy

The abbreviation and words "DR. KILMER'S FEMALE REMEDY."

Ser. No. 11,032. PROPRIETARY REMEDY FOR THE TREATMENT OF CANCER OF THE UTERUS, UTERINE TUMORS, OVARIAN TUMORS, AND FOR INFLAMMATION OR DISEASES OF THE REPRODUCTIVE ORGANS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.

AUTUMN LEAF EXTRACT

The words "AUTUMN-LEAF EXTRACT."

Ser. No. 11,033. PROPRIETARY REMEDY IN PILL FORM FOR THE TREATMENT OF HEADACHE, DROWSINESS, TORPID LIVER, CONSTIPATION, BILIOUSNESS, AND OTHER DISEASES OF THE DIGESTIVE ORGANS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.

Ser. No. 11,033.

PARILLA

The word "PARILLA."

Ser. No. 11,034. PROPRIETARY MEDICINES IN LIQUID FORM FOR INTERNAL AND EXTERNAL USE, OINTMENT FOR EXTERNAL USE, AND PILLS FOR THE TREATMENT OF KIDNEY, LIVER, STOMACH, BLADDER, GALL, SKIN, BLOOD, URINARY, AND NERVOUS TROUBLES, RHEUMATISM, HEADACHE, BACKACHE, AND OTHER PAINS AND ACHES, AND BRUISES, CANCERS, TUMORS, AND INFLAMMATIONS AND THE LIKE, CONSTIPATION, AND MALARIA. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.



A portrait of S. Andral Kilmer.

Ser. No. 11,035. PROPRIETARY REMEDY FOR THE TREATMENT OF HEART AND CIRCULATION DISEASES, HEART WEAKNESS, PALPITATION, IRREGULAR BEATING, FAINTING SPELLS, APOPLEXY, PARALYSIS, SPASMS, EPILEPSY, AND NERVOUSNESS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905.

DR. KILMER'S
OCEAN-WEED
HEART
REMEDY.

The representation of a heart with its principal arteries and veins, associated with the abbreviation and words "DR. KILMER'S OCEAN-WEED HEART REMEDY PERFECT BLOOD PURIFIER."

Ser. No. 11,045. SALVE. EARLE G. HARRELL, Camilla, Ga. Filed July 31, 1905.

THYMOLATUM

The word "THYMOLATUM."

Ser. No. 11,113. WHISKY. M. C. BEAM & COMPANY, Gethsemane, Ky. Filed Aug. 1, 1905.

OLD TRUMP

The words "OLD TRUMP."

SER. No. 11,175. WHISKY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

SILVER PLUME

The words "SILVER PLUME" and the representation of a plume or feather.

SER. No. 11,176. WHISKY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

GAYOSO CLUB

The words "GAYOSO CLUB."

SER. No. 11,177. WHISKY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

MOSSY DELL

The words "MOSSY DELL."

SER. No. 11,178. WHISKY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

SWEET FERN

The words "SWEET FERN."

SER. No. 11,179. WHISKY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

KING'S CHOICE

The words "KING'S CHOICE."

SER. No. 11,180. WHISKY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

CHICKASAW CLUB

The words "CHICKASAW CLUB."

SER. No. 11,323. INKSTANDS. EMERY DAVIS, New York, N. Y. Filed Aug. 7, 1905.

Davis Automatic

The words "DAVIS AUTOMATIC."

SER. No. 11,324. INKSTANDS. EMERY DAVIS, New York, N. Y. Filed Aug. 7, 1905.

Automatic

The word "AUTOMATIC."

SER. No. 11,325. INKSTANDS. EMERY DAVIS, New York, N. Y. Filed Aug. 7, 1905.

THE DAVIS

The words "THE DAVIS."

SER. No. 11,398. STEEL-HARDENING SOLUTION. FREDERICK W. SANGSTER, Rochester, N. Y. Filed Aug. 7, 1905.

KALUX

The word "KALUX."

SER. No. 11,425. HAIR-COMBS, HAIR-RETAINERS, HAIR-ORNAMENTS, AND HAIRPINS. KRAUS & GLAUBERG CO., New York, N. Y. Filed Aug. 8, 1905.

SER. No. 11,425.

CROWN  BRAND

The words "CROWN BRAND" and the symbol of a crown between the same.

SER. No. 11,426. HAIR-COMBS, HAIR-RETAINERS, HAIR-ORNAMENTS, AND HAIRPINS. KRAUS & GLAUBERG CO., New York, N. Y. Filed Aug. 8, 1905.

Ulockit

The word "ULOCKIT."

SER. No. 11,476. WHISKY. THE WM. BERGENTHAL CO., Milwaukee, Wis. Filed Aug. 10, 1905.

Old Lexington

The words "OLD LEXINGTON."

SER. No. 11,477. WHISKY. ELIAS BLOCK & SONS, Cincinnati, Ohio. Filed Aug. 10, 1905.

PENWICK

The word "PENWICK."

SER. No. 11,513. WHISKY. STRAUS BROTHERS COMPANY, Chicago, Ill. Filed Aug. 10, 1905.



The words "GERMANIA CLUB" and the design of a statue of a woman on a pedestal and holding a crown in her right hand and a sword in her left hand.

SER. No. 11,517. WHISKY. STRAUS BROTHERS COMPANY, Chicago, Ill. Filed Aug. 10, 1905.

HECLA


The word "HECLA," associated with a monogram composed of the letters and abbreviation "S B Co."

SER. No. 11,734. INCANDESCENT MANTELS AND SUPPORTS THEREFOR. THE CLEVELAND GAS AND ELECTRIC FIXTURE COMPANY, Cleveland, Ohio. Filed Aug. 17, 1905.

SUNBURST

The word "SUNBURST."

SER. No. 11,760. SPOOL-COTTON. JOHN J. CLARK & CO., Pawtucket, R. I. Filed Aug. 18, 1905.



The representation of a beehive inclosed within a circle, above which is an ornamental curved panel bearing the letters and abbreviation "C. T. Co." and underneath which are the words and abbreviation "COMPLEX THREAD CO.," the whole being surrounded by a circular ornamental border.

SER. No. 11,794. CIGARS. BALSA HERMANOS, Vera Cruz, Mexico. Filed Aug. 19, 1905.

FLOR de BALSA

The words "FLOR DE BALSA."

SER. No. 11,989. PREPARATION WHICH DESTROYS AND PREVENTS THE GROWTH OF WEEDS. WILLIAM J. READE, New York, N. Y. Filed Aug. 23, 1905.

HERBICIDE

The word "HERBICIDE."

Ser. No. 12,086. CREAM FOR THE SKIN. Mrs. Townsend Mfg. Co., Chicago, Ill. Filed Aug. 30, 1905.



The words "Perspiro Cream" and a portrait of Agnes Wing, a member of the firm.

Ser. No. 12,113. LAGER-BEER. The Louis Bergdoll Brewing Company, Philadelphia, Pa. Filed Aug. 31, 1905.

Bergdoll

The word "Bergdoll."

Ser. No. 12,218. RYE-FLOUR. The Boutwell Milling & Grain Co., Troy, N. Y. Filed Sept. 5, 1905.

ULTIMATOR

The word "Ultimator."

Ser. No. 12,219. RYE-FLOUR. The Boutwell Milling & Grain Co., Troy, N. Y. Filed Sept. 5, 1905.

UPPER HUDSON

The words "Upper Hudson."

Ser. No. 12,247. WHEAT-FLOUR. John McAleer & Sons, Philadelphia, Pa. Filed Sept. 5, 1905.

Ser. No. 12,247.



The representation of a sheaf of wheat, in front of which is a loaf of bread resting on a platter, associated with the words "Big Loaf."

Ser. No. 12,392. CANNED SARDINES. William Underwood Company, Boston, Mass. Filed Sept. 8, 1905.

V B

The letters "V B."

Ser. No. 12,790. WHEELBARROWS AND THE PARTS THEREOF. The Kilbourne & Jacobs Manufacturing Company, Columbus, Ohio. Filed Sept. 19, 1905.

VICTOR

The word "Victor."

Ser. No. 12,791. WHEELBARROWS AND THE PARTS THEREOF. The Kilbourne & Jacobs Manufacturing Company, Columbus, Ohio. Filed Sept. 19, 1905.

PALMETTO

The word "Palmetto."

Ser. No. 12,792. WHEELBARROWS AND THE PARTS THEREOF. The Kilbourne and Jacobs Manufacturing Company, Columbus, Ohio. Filed Sept. 19, 1905.

STAR

The word "Star."

SER. No. 12,819. WHEELBARROWS AND THE PARTS THEREOF. THE KILBOURNE & JACOBS MANUFACTURING COMPANY, Columbus, Ohio. Filed Sept. 20, 1905.

COLUMBUS

The word "COLUMBUS."

SER. No. 12,821. WHEELBARROWS AND THE PARTS THEREOF. THE KILBOURNE & JACOBS MANUFACTURING COMPANY, Columbus, Ohio. Filed Sept. 20, 1905.

BOSS

The word "BOSS."

SER. No. 12,822. WHEELBARROWS AND THE PARTS THEREOF. THE KILBOURNE & JACOBS MANUFACTURING COMPANY, Columbus, Ohio. Filed Sept. 20, 1905.

PAN AMERICAN

The words "PAN AMERICAN."

SER. No. 12,941. CIGARS, CHEROOTS, AND CIGARETTES MADE OF CIGAR-TOBACCO. CAYEY-CASUAS TOBACCO COMPANY, New York, N. Y., and Island of Porto Rico. Filed Sept. 23, 1905.



The representation of the bust of a woman inclosed in a wreath of tobacco-leaves, at the bottom of which wreath is a crown. Said wreath is set in the midst of a tobacco-field, and above said wreath is the word "AMORIFE."

SER. No. 12,947. BEER. THE JOHN EICHLER BREWING CO., New York, N. Y. Filed Sept. 26, 1905.

EICHLER

The word "EICHLER."

SER. No. 13,103. CARD GAMES. THE CINCINNATI GAME CO., Cincinnati, Ohio. Filed Sept. 26, 1905.

LERNALOT

The word "LERNALOT."

SER. No. 13,127. LATHER-BRUSHES, SHAVING-BRUSHES, AND PAINT-BRUSHES. RUBBER AND CELLULOID HARNESS TRIMMING CO., Newark, N. J. Filed Sept. 29, 1905.

HARD RUBBER SET

The words "HARD RUBBER SET."

SER. No. 13,128. LATHER-BRUSHES, SHAVING-BRUSHES, AND PAINT-BRUSHES. RUBBER AND CELLULOID HARNESS TRIMMING CO., Newark, N. J. Filed Sept. 29, 1905.

HARD RUBBER SET AND BOUND

The words "HARD RUBBER SET AND BOUND."

SER. No. 13,142. SPADES, SHOVELS, AND SCOOPS. THE AVERY STAMPING COMPANY, Cleveland, Ohio. Filed Sept. 29, 1905.

NEVER-BREAK

The hyphenated word "NEVER-BREAK."

SER. No. 13,183. DRILLS AND REAMERS. PATTERSON, GOTTFRIED & HUNTER, LIMITED, New York, N. Y. Filed Oct. 2, 1905.



A right-angled triangle represented in red.

SER. No. 13,185. SAWS OF ALL KINDS. PATTERSON, GOTTFRIED & HUNTER, LIMITED, New York, N. Y. Filed Oct. 2, 1905.



A right-angled triangle represented in red.

SER. No. 13,189. PUNCHES OF ALL KINDS. PATTERSON, GOFF-FREED & HUNTER, LIMITED, New York, N. Y. Filed Oct. 2, 1905.



A right-angled triangle represented in red

SER. No. 13,428. COLLAR AND CUFF BUTTONS. THE KING COLLAR BUTTON CO., New York, N. Y. Filed Oct. 9, 1905.

TWENTIETH CENTURY

The words "TWENTIETH CENTURY."

SER. No. 13,466. CLOVER-SEED. THE JENNEY-WICKELAR CO., San Francisco, Cal. Filed Oct. 10, 1905.

CALBURCLO

The word "CALBURCLO."

PHOTO-LITHOGRAPHED BY
SACKETT & WILHELMS
LITHOGRAPHING & PRINTING CO.
NEW YORK

TRADE-MARKS

REGISTERED NOVEMBER 14, 1905.

47,554. PORTER. ANHEUSER-BUSCH BREWING ASSOCIATION, St. Louis, Mo.

The representation of a seal-shaped figure having serrations at its edge and bearing the words "AMERICA'S PORTER." In the center of the figure is a capital letter "A" and the pictorial representation of an eagle shown within said letter.

Filed July 3, 1905. Serial No. 9,761. PUBLISHED SEPTEMBER 19, 1905.

47,555. WHISKY. SOL BLOCK & GRIFF, Kansas City, Mo.

The words "OLD MAPLE SPRING WHISKEY," beneath which is an ornamental scroll and beneath the scroll the name and address "SOL. BLOCK & GRIFF, KANSAS CITY, MO."

Filed May 1, 1905. Serial No. 3,797. PUBLISHED SEPTEMBER 19, 1905.

47,556. WHISKY. CAVANAGH & CO., Chicago, Ill.

The word "ROCHEFORD," associated with the words, character, and abbreviations "AGED IN THE WOOD, CELEBRATED HAND MADE SOUR MASH WHISKEY, CAVANAGH & CO., DISTILLERS, CHICAGO, U. S. A." Above the word "CELEBRATED" is a circle ornamented at each side with fanciful scrollwork and inclosing a circular figure bearing the words "DISTILLED FROM SELECTED GRAIN AND GUARANTEED ABSOLUTELY PURE."

Filed May 1, 1905. Serial No. 3,817. PUBLISHED SEPTEMBER 19, 1905.

47,557. PAINTS AND ENAMELS. CHICAGO VARNISH CO., Chicago, Ill.

The compound word "FLAT-LEAD."

Filed April 14, 1905. Serial No. 1,505. PUBLISHED AUGUST 22, 1905.

47,558. WHISKY. FELIX COBLENTZ & CO., San Francisco, Cal.

The words "LORRAINE CLUB," associated with the bust-picture of a woman having a cap upon her head, holding a bunch of flowers in her hand, upon a circular background having a fanciful border of sprays of roses projecting therefrom.

Filed May 6, 1905. Serial No. 4,569. PUBLISHED SEPTEMBER 19, 1905.

47,559. WHISKY. HESSBERG BOTTLING CO., Richmond, Va.

The word "INSPECTION" and the representation of an officer on horseback inspecting his company, such representation being surrounded by an ornamental border with scroll ornamentations at each end thereof.

Filed May 13, 1905. Serial No. 5,545. PUBLISHED SEPTEMBER 19, 1905.

47,560. WHISKY. H. L. GRIESEDIECK DIST'G CO., St. Louis, Mo.

The words "MORELAND CLUB."

Filed June 19, 1905. Serial No. 8,478. PUBLISHED SEPTEMBER 19, 1905.

47,561. WHISKY. CARL F. LAUBER, Philadelphia, Pa.

The representation of an arbor of lattice-work, over which trail grape-vines bearing fruit. Upon the top of the front arch of the arbor is an enlarged wine-cup mounted on a pedestal, and on the ground at the base of said arch, on either side of the opening therein, stand groups of bottles. Within the archway stands a male child unclad and leaning against a barrel mounted on a trestle, his left hand holding a wine-cup raised above his head, the head of the barrel being marked with the last name of the applicant, "LAUBER," and the letters "C F" in monogram form above said name.

Filed May 16, 1905. Serial No. 5,775. PUBLISHED SEPTEMBER 19 1905.

47,562. UPHOLSTERERS' WEBBING. LUDLOW MANFG. ASSOCIATES, Boston, Mass.

The letters and abbreviation "L. M. Co."

Filed May 6, 1905. Serial No. 4,443. PUBLISHED SEPTEMBER 19, 1905.

47,563. UPHOLSTERERS' WEBBING. LUDLOW MANFG. ASSOCIATES, Boston, Mass.

The letters "N. G."

Filed May 6, 1905. Serial No. 4,444. PUBLISHED SEPTEMBER 19, 1905.

47,564. UPHOLSTERERS' WEBBING. LUDLOW MANFG. ASSOCIATES, Boston, Mass.

The word "SCOTCH."

Filed May 6, 1905. Serial No. 4,445. PUBLISHED SEPTEMBER 19, 1905.

47,565. WHISKY. R. M. ROSE CO., Atlanta, Ga.

The letter "R" on a shield design bordered by sprays of roses.

Filed June 8, 1905. Serial No. 7,667. PUBLISHED SEPTEMBER 19, 1905

47,566. GLOVES. FRITZ SCHMIDT, New York. N. Y.

The letters "P L."

Filed April 8, 1905. Serial No. 771. PUBLISHED SEPTEMBER 19, 1905.

47,567. BITTERS. SUNSET DISTILLING CO., Chicago, Ill.

The word "CENTAUR" and the representation of a centaur holding a bottle in outstretched hand inclosed in an oval-shaped figure

Filed May 13, 1905. Serial No. 5,530. PUBLISHED SEPTEMBER 19, 1905.

47,568. CHOCOLATES AND CHOCOLATE BONBONS. THE STERN & SAALBERG COMPANY, New York, N. Y., assignor to the Darley Candy Company, of Baltimore, Maryland, a Corporation.

The words "LE VERE," accompanied by a scroll and appearing within a border, and the representation of torches, likewise within the border, one at each side of the words.

Filed April 20, 1905. Serial No. 2,442. PUBLISHED SEPTEMBER 12, 1905.

47,569. WHISKY. SAMUEL WESTHEIMER & SON WHOLESALE LIQUOR COMPANY, St. Joseph, Mo.

The word "HAPSTONE."

Filed May 16, 1905. Serial No. 5,766. PUBLISHED AUGUST 15, 1905.

47,570. WHISKY. WHITE, HENTZ & CO., Philadelphia, Pa.

The word "TRIMBLE" and a monogram composed of the letters, character, and abbreviation "W H & Co," having across the same the abbreviated word and figures "ESTBD. 1793" and associated therewith the words "FINE OLD RYE WHISKEY," and all surrounded by an ornamental configuration as a border.

Filed May 22, 1905. Serial No. 6,313. PUBLISHED SEPTEMBER 19, 1905.

47,571. WHISKY. WRIGHT & TAYLOR, Louisville, Ky.

The words "PRIDE OF LOUISVILLE," associated with the words, character, and abbreviation "OLD PURE RYE, TEN YEARS OLD, WRIGHT & TAYLOR, DISTILLERS, LOUISVILLE, KY.," ornamented with a stalk and heads of grain, the whole being inclosed in a rectangular outline.

Filed April 28, 1905. Serial No. 3,341. PUBLISHED SEPTEMBER 19, 1905.

47,572. LAGER-BEER. ZELTNER BREWING CO., New York, N. Y.

The letter "Z" displayed against a triangular red background, the whole surmounted by a blue belt in circular form.

Filed May 12, 1905. Serial No. 5,208. PUBLISHED SEPTEMBER 19, 1905.

47,573. BEER. ANHEUSER-BUSCH BREWING ASSOCIATION, St. Louis, Mo.

The word "FAUST."

Filed July 3, 1905. Serial No. 9,771. PUBLISHED SEPTEMBER 19, 1905.

47,574. BEER. ANHEUSER-BUSCH BREWING ASSOCIATION, St. Louis, Mo.

The word "FAUST" and a representation of the character known as "Faust."

Filed July 3, 1905. Serial No. 9,779. PUBLISHED SEPTEMBER 19, 1905.

47,575. ANTISEPTIC PREPARATIONS. CHARLOTTE E. BENTON, New York, N. Y.

The representation of a square described within a circle, the representation of a human eye within the square, and the letters "R E A L" arranged about the square, all associated with the word "AEROREAL."

Filed April 24, 1905. Serial No. 3,208. PUBLISHED SEPTEMBER 19, 1905.

47,576. PREPARATIONS FOR THE PREVENTION OF VENEREAL DISEASES. WILLIAM F. BERNART, Chicago, Ill.

The words, letters, and character "DIX G & S PREVENTOR," the representation of a collapsible tube having a peculiarly-formed conical nozzle provided with a cap at its end, the words "FOR MEN," and the words and figures "GOOD FOR 10 TIMES."

Filed May 17, 1905. Serial No. 5,919. PUBLISHED SEPTEMBER 19, 1905.

47,577. WHISKY. ELIAS HYMAN & SON, Cincinnati, Ohio.

The hyphenated word "STEEPLE-CHASE" and a picture representing a steeplechase, which comprises jockeys mounted upon horses in the act of jumping a fence.

Filed May 13, 1905. Serial No. 5,439. PUBLISHED SEPTEMBER 19, 1905.

47,578. LAGER-BEER. JOHN GUND BREWING COMPANY, La Crosse, Wis.

The words "RED SEAL," associated with a red seal bearing a capital letter "G," within which is the figure of Gambrinus. The words "GUND, LA CROSSE" appear on the seal. Associated with the above are sprays of hops and barley and the legend "BREWED & BOTTLED BY JOHN GUND BREWING CO., LA CROSSE, WIS., U. S. A.," together with a rectangular inclosing border.

Filed May 16, 1905. Serial No. 5,792. PUBLISHED SEPTEMBER 19, 1905.

47,579. LAGER-BEER. JOHN GUND BREWING COMPANY, La Crosse, Wis.

The words "EXTRA PALE," associated with the abbreviations and words "JNO. GUND" in ornamental script type and a paraph and "BREWING CO.'S, LA CROSSE, WIS., U. S. A.," together with sprays of hops and barley and a capital "G" containing a figure of Gambrinus holding a glass. The letter "G" appears upon a circular serrated field containing the words "GUND, LA CROSSE." The whole is inclosed within a border.

Filed May 16, 1905. Serial No. 5,793. PUBLISHED SEPTEMBER 19, 1905.

47,580. LAGER-BEER. JOHN GUND BREWING COMPANY, La Crosse, Wis.

The capital letter "G" appears within a circular colored field having serrated edges, while the figure of King Gambrinus appears within the letter "G," holding a foaming glass. The name "GUND" appears above the letter "G" and the name "LA CROSSE" therebelow. Associated with the foregoing are sprays of barley and hops.

Filed May 16, 1905. Serial No. 5,795. PUBLISHED SEPTEMBER 19, 1905.

47,581. WHISKY. J. W. KELLY & Co., Chattanooga, Tenn.

The words "SILVER SPRING," associated with the words, character, abbreviations, and figures "CORN WHISKEY, OLD FASHIONED CORN SHUCK, DISTILLED AND BOTTLED BY J. W. KELLY & CO., CHATTANOOGA, TENN., ESTABLISHED 1866," ornamented with scrollwork, in the center of which are two concentric circles inclosing the words and figure "GUARANTEED 7 YEARS OLD," the whole being inclosed by a rectangular border.

Filed May 1, 1905. Serial No. 3,703. PUBLISHED SEPTEMBER 19, 1905.

47,582. LINIMENTS. FRANK S. LUQUEER, Pueblo, Colo.

The word "JITSU."

Filed April 13, 1905. Serial No. 1,308. PUBLISHED JUNE 27, 1905.

47,583. MEDICAL SALTS AND TABLETS MADE THEREFROM. MEDICAL LAKE SALTS MFG. CO., Spokane, Wash.

The words "INDIAN HEAD" and a representation of the head of an Indian.

Filed June 2, 1905. Serial No. 7,225. PUBLISHED SEPTEMBER 19, 1905.

47,584. WHISKY. MEYER MARX Co., Birmingham, Ala.

The letters "U. M. W."

Filed June 8, 1905. Serial No. 7,664. PUBLISHED SEPTEMBER 19, 1905.

47,585. POWDERED ACID PHOSPHATE OF LIME. PROVIDENT CHEMICAL WORKS, St. Louis, Mo.

The word and letters "ROYAL B. C. T."

Filed April 20, 1905. Serial No. 2,351. PUBLISHED SEPTEMBER 19, 1905.

47,586. ALE. RUETER & COMPANY (INCORPORATED), Roxbury, Mass.

The representation of a Greek cross in a circular shield containing the word "ALE" written vertically and horizontally.

Filed June 5, 1905. Serial No. 7,391. PUBLISHED SEPTEMBER 19, 1905.

47,587. BREWED ALE. S. S. PIERCE Co., Boston, Mass.

The word "RIVAL," with the representation of two knights tilting, the whole surmounted by the figure of an eagle supporting a shield in his beak, on which are the representation of a lion rampant and the letters, abbreviation, and words "S. S. P. Co. PURITAS ET CURA."

Filed May 15, 1905. Serial No. 5,603. PUBLISHED SEPTEMBER 19, 1905.

47,588. MEDICINAL PREPARATION. THE CENTAUR COMPANY, New York, N. Y.

The facsimile signature "CHAS. H. FLETCHER."

Filed May 17, 1905. Serial No. 5,915. PUBLISHED SEPTEMBER 19, 1905.

47,589. WHISKY. THE J. J. DOUGLAS Co., Louisville, Ky.

The word "YOSEMITE," associated with the words and abbreviations "OLD STYLE HAND MADE PURE RYE, THE J. J. DOUGLAS CO. INCORPORATED, LOUISVILLE, KY." The words "OLD STYLE HAND MADE" are ornamented with scrollwork, and between them appears an octagonal outline inclosing the words and abbreviations "OLD STYLE HAND MADE YOSEMITE PURE RYE, WOODFORD CO., KY., WHISKY," the whole being inclosed in a rectangular outline with fanciful scrollwork at each corner.

Filed May 1, 1905. Serial No. 3,734. PUBLISHED SEPTEMBER 19, 1905.

47,590. REMEDIES FOR AILMENTS OF ANIMALS. THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

The words "GOMBAULT'S CAUSTIC BALSAM," associated with the representation on a scroll of a farm scene, including two men, one leading a horse and the other mounted upon a horse and holding a bottle in one hand.

Filed June 5, 1905. Serial No. 7,479. PUBLISHED SEPTEMBER 19, 1905.

47,591. REMEDY FOR CERTAIN NAMED DISEASES. URICSOL CHEMICAL Co., Los Angeles, Cal.

The word "URICSOL."

Filed April 28, 1905. Serial No. 3,529. PUBLISHED SEPTEMBER 19, 1905.

47,592. DYESTUFF. CASSELLA COLOR COMPANY, New York, N. Y.

The word "CYANOLE."

Filed June 14, 1905. Serial No. 8,073. PUBLISHED SEPTEMBER 19, 1905.

47,593. DYESTUFF. CASSELLA COLOR COMPANY, New York, N. Y.

The words "FORMYL VIOLET."

Filed June 14, 1905. Serial No. 8,069. PUBLISHED SEPTEMBER 19, 1905.

47,594. NON-INTOXICATING MALT BEVERAGE. DALLAS BREWERY, Dallas, Tex.

The word "FROSTY," associated with a bearded head, the hair and beard being blown in one direction by the wind.

Filed July 26, 1905. Serial No. 10,835. PUBLISHED SEPTEMBER 19, 1905.

47,595. ALE. DAWSON & SON, New Bedford, Mass.
The words "DAWSON'S DIAMOND," used in connection with a design of the king-of-diamonds playing-card with a stain in each hand.
Filed June 21, 1905. Serial No. 8,741. PUBLISHED SEPTEMBER 19, 1905.

47,596. WHISKY. E. H. CHASE & Co., Louisville, Ky.
The word "CHASE'S" upon a scroll, associated with the representation of a shield having a band across the same, upon which appears the name "E. H. CHASE & Co.," and the words, number, and abbreviation "ESTABLISHED 1865, DISTILLERS, LOUISVILLE, KY." also appear upon the shield.
Filed May 1, 1905. Serial No. 3,913. PUBLISHED SEPTEMBER 19, 1905.

47,597. BITTERS. FIGGE DOYLE Co., Milwaukee, Wis.
The word "HIAWATHA," associated with the bust-picture of an Indian in feathered head-dress and carrying a quiver of arrows, with two wigwams, an Indian, and a camp-fire, over which a kettle is boiling, in the background.
Filed June 8, 1905. Serial No. 7,649. PUBLISHED SEPTEMBER 19, 1905.

47,598. WHISKY. FIGGE, DOYLE Co., Milwaukee, Wis.
The words "GOPHER STATE," below which is a monogram composed of the letters and abbreviation "F D Co."
Filed June 8, 1905. Serial No. 7,652. PUBLISHED SEPTEMBER 19, 1905.

47,599. WHISKY. PAUL FRIEDMAN, San Francisco, Cal.
The word "CREMORNE."
Filed June 8, 1905. Serial No. 7,668. PUBLISHED SEPTEMBER 19, 1905.

47,600. WHISKY. LOEB, BLOOM & Co., Paducah, Ky.
The word "MEMORIAL," above which is placed the monogram "A L."
Filed June 8, 1905. Serial No. 7,692. PUBLISHED SEPTEMBER 19, 1905.

47,601. REMEDY FOR HEADACHE AND NEURALGIA. ROBERT P. MENARD, Macon, Ga.
The compound word "CAFFA-FEBRIN."
Filed May 23, 1905. Serial No. 6,354. PUBLISHED SEPTEMBER 19, 1905.

47,602. REMEDY FOR COUGHS AND COLDS. JOSEPH E. MUSE, Baltimore, Md.
The letters and character "B & O" and the representation of a locomotive and tender.
Filed May 23, 1905. Serial No. 6,421. PUBLISHED SEPTEMBER 19, 1905.

47,603. WHISKY. H. G. WILLIAMS & Co., Norfolk, Va.
The word and figures "OLD 77" within a circle.
Filed June 8, 1905. Serial No. 7,686. PUBLISHED SEPTEMBER 19, 1905.

47,604. WHISKY. H. G. WILLIAMS & Co., Norfolk, Va.
The word "HYGEIA."
Filed June 8, 1905. Serial No. 7,687. PUBLISHED SEPTEMBER 19, 1905.

47,605. WHISKY. JAS. E. PEPPER & Co., Lexington, Ky.
The word "PEPPER" on a shield-shaped figure and the facsimile signature "JAS. E. PEPPER & Co."
Filed June 8, 1905. Serial No. 7,696. PUBLISHED SEPTEMBER 19, 1905.

47,606. STILL AND SPARKLING WINES. CARL F. LAUBER, Philadelphia, Pa.
The representation of an arbor of lattice-work, over which trail grape-vines bearing fruit. Upon the top of the front arch of the arbor is an enlarged wine-cup mounted on a pedestal, and on the ground at the base of said arch, on either side of the opening therein, stand groups of bottles. Within the archway stands a male child unclad and leaning against a barrel mounted on a trestle, his left hand holding a wine-cup raised above his head, the head of the barrel being marked with the last name of the applicant, "LAUBER," and the letters "C F" in monogram form above said name.
Filed May 16, 1905. Serial No. 5,774. PUBLISHED SEPTEMBER 9, 1905.

47,607. WHISKY. LOEB BLOOM & Co., Paducah, Ky.
The words "BELLE OF MONROE," associated with a monogram composed of the letters, character, and abbreviation "L B & Co."
Filed June 8, 1905. Serial No. 7,689. PUBLISHED SEPTEMBER 19 1905

47,608. WHISKY. NELSON DISTILLING Co., St. Louis, Mo.
The words "OLD ORCHARD," beneath which is a monogram composed of the letters and abbreviation "N D Co."
Filed June 8, 1905. Serial No. 7,654. PUBLISHED SEPTEMBER 19, 1905.

47,609. WHISKY. THE BERGIN & BRADY Co., Columbus, Ohio.
The words "CASTALIA CLUB" and the picture of a clubhouse on the banks of a river. the picture framed in irregular lines, and ears of rye.
Filed June 8, 1905. Serial No. 7,708. PUBLISHED SEPTEMBER 19, 1905.

47,610. REMEDY FOR DISEASES OF THE KIDNEYS, LIVER, STOMACH, AND BLOOD. THE GREAT FOREST REMEDY COMPANY, Bolivar, Mo.
The words "GREAT FOREST."
Filed May 9, 1905. Serial No. 4,812. PUBLISHED SEPTEMBER 19, 1905.

47,611. BEER. THEO. HAMM BREWING Co., St. Paul, Minn.
The name "THEO. HAMM'S" in fanciful ornamental script lettering with a scroll, the word "THEO." being in smaller letters than the word "HAMM'S."
Filed June 13, 1905. Serial No. 8,029. PUBLISHED SEPTEMBER 19, 1905.

47,612. MALT EXTRACTS. THEO. HAMM BREWING Co., St. Paul, Minn.
The hyphenated word "NON-TOXO."
Filed June 13 1905. Serial No. 8,031. PUBLISHED SEPTEMBER 19, 1905.

47,613. BEER AND ALE. THE HOSTER-COLUMBUS ASSOCIATED BREWERIES Co., Columbus, Ohio.
A portrait of Christopher Columbus.
Filed April 29, 1905. Serial No. 3,632. PUBLISHED SEPTEMBER 5, 1905.

47,614. WHISKY. TROST BROS., Louisville, Ky.
The words "ELGIN CLUB," above which is a monogram composed of the letters "T B" inclosed in a circle.
Filed May 6, 1905. Serial No. 4,524. PUBLISHED SEPTEMBER 19, 1905.

47,615. STUB-PENS. C. HOWARD HUNT PEN Co., Camden, N. J.
The words "COURIER STUB."
Filed April 6, 1905. Serial No. 619. PUBLISHED SEPTEMBER 19, 1905.

47,616. MANUFACTURED MAPLE FLOORING. COBBS & MITCHELL, INC., Cadillac, Mich.
The word "ELECTRIC."
Filed April 22, 1905. Serial No. 2,722. PUBLISHED SEPTEMBER 19, 1905.

47,617. SEEDERS AND GRAIN-DRILLS. DOWAGIAC MANUFACTURING Co., Dowagiac, Mich.
The words "SURE WILL THE HARVEST BE" on a scroll crossing the representation of a sheaf of wheat, the sheaf of wheat and scroll being surrounded by concentric circles containing the words "DOWAGIAC DRILLS AND SEEDERS ARE THE LEADERS."
Filed April 22, 1905. Serial No. 2,681. PUBLISHED SEPTEMBER 19, 1905.

47,618. TONIC REMEDY FOR CONSTIPATION AND INTESTINAL INDIGESTION. ROBERT FABERY, Boston, Mass.
The words "PIL. BILI-SALOL."
Filed April 15, 1905. Serial No. 1,734. PUBLISHED SEPTEMBER 19, 1905.

47,619. LIVE-STOCK AND POULTRY FOOD. MCCORMICK & COMPANY, Baltimore, Md.
The word "JOCKEY," associated with a representation of the head of a horse inclosed in a belt, with a jockey's cap and whip resting upon the belt, and a man costumed as a jockey, with one hand upon the belt and the other holding a carton.
Filed April 15, 1905. Serial No. 1,645. PUBLISHED SEPTEMBER 19, 1905.

47,620. CIGARS. CHAS. S. MORRIS & Co., New York, N. Y.
The words "LA INTEGRIDAD."
Filed April 13, 1905. Serial No. 1,367. PUBLISHED SEPTEMBER 19, 1905.

47,621. MOTOR-VEHICLES AND PARTS THEREOF. PACKARD MOTOR CAR COMPANY, Detroit, Mich.

The word "PACKARD" printed or impressed in heavily-shaded script letters and having a broad underscore or paraph connected at its right end with the last letter of the word.

Filed April 8, 1905. Serial No. 848. PUBLISHED SEPTEMBER 19, 1905.

47,622. POWDERED ACID PHOSPHATE OF LIME. PROVIDENT CHEMICAL WORKS, St. Louis, Mo.

The letter "D" crossed horizontally by a short line.

Filed April 20, 1905. Serial No. 2,350. PUBLISHED SEPTEMBER 19, 1905.

47,623. EMULSIONS. STANDARD EMULSION COMPANY, New York, N. Y.

The representation of a swinging sign-board hung from an arm of a vertical support.

Filed April 13, 1905. Serial No. 1,260. PUBLISHED SEPTEMBER 19, 1905.

47,624. WHEAT-FLOUR. W. J. JENNISON COMPANY, Minneapolis, Minn.

The hyphenated word "TIP-TOP."

Filed April 20, 1905. Serial No. 2,445. PUBLISHED SEPTEMBER 19, 1905.

47,625. CIGARS. Y. PENDAS & ALVAREZ, New York, N. Y.

A representation of the bust and head of a handsome woman partially surrounded by garlands of vines and flowers in the foreground of a scene comprising a castle and other buildings, and the word-symbol "LA MODA."

Filed April 20, 1905. Serial No. 2,461. PUBLISHED SEPTEMBER 19, 1905.

47,626. STEEL. CANTON STEEL COMPANY, Pittsburg, Pa.

The word "BUCKEYE."

Filed May 13, 1905. Serial No. 5,490. PUBLISHED SEPTEMBER 19, 1905.

47,627. WOVEN-WIRE CLOTH AND NETTING. CLINTON WIRE CLOTH CO., Clinton, Mass.

A quadrilateral label, blue in color, bearing the words "SILVER FINISH" inclosed in quotation-marks.

Filed May 20, 1905. Serial No. 6,141. PUBLISHED SEPTEMBER 19, 1905.

47,628. WOVEN-WIRE CLOTH AND NETTING. CLINTON WIRE CLOTH CO., Clinton, Mass.

The representation of a quadrilateral label, yellow in color, bearing the word "CLINTON" inclosed in quotation-marks.

Filed May 18, 1905. Serial No. 5,936. PUBLISHED SEPTEMBER 19, 1905.

47,629. SOAPS. WILLIAM F. COMSTOCK, Kansas City, Mo.

The hyphenated word "KAN-CLEAN," the letters "K C," and a hand holding a can, upon which is a facsimile of the trade-mark, associated with the phrase "THE SOAP THAT DOES IT!!," followed by exclamation-points, all upon an elliptical background of contrasting color.

Filed May 16, 1905. Serial No. 5,866. PUBLISHED SEPTEMBER 19, 1905.

47,630. SPICES. CRESCENT MANUFACTURING CO., Seattle, Wash.

The word "CRESCENT," associated with the representation of a crescent.

Filed April 20, 1905. Serial No. 3,651. PUBLISHED SEPTEMBER 19, 1905.

47,631. LARD, TALLOW, LARD COMPOUNDS, AND SUBSTITUTES FOR LARD. CUDAHY BROTHERS CO., Cudahy, Wis.

The representation of a peacock and the word "PEACOCK."

Filed May 8, 1905. Serial No. 4,755. PUBLISHED SEPTEMBER 19, 1905.

47,632. LOOM-TEMPLES AND PARTS THEREOF. DRAPER COMPANY, Hopedale, Mass.

The letter "D" inclosed by a diamond-shaped border or outline.

Filed April 24, 1905. Serial No. 2,851. PUBLISHED SEPTEMBER 19, 1905.

47,633. PUMPS. FLINT AND WALLING MANUFACTURING COMPANY, Kendallville, Ind.

The word "HOOSIER."

Filed May 18, 1905. Serial No. 5,997. PUBLISHED SEPTEMBER 19, 1905.

47,634. KNIVES AND GROOVERS FOR SHOE-CHANNELING MACHINES. LORENZO L. GREEN, Boston, Mass.

The word "DILL."

Filed April 27, 1905. Serial No. 3,289. PUBLISHED JUNE 27, 1905.

47,635. DRY BATTERIES. NATIONAL CARBON COMPANY, Cleveland, Ohio.

The word "SOLAR."

Filed April 6, 1905. Serial No. 565. PUBLISHED SEPTEMBER 19, 1905.

47,636. STEEL. PARK STEEL COMPANY, Pittsburg, Pa.

The word "EUREKA."

Filed May 13, 1905. Serial No. 5,465. PUBLISHED SEPTEMBER 19, 1905.

47,637. STEEL. PARK STEEL COMPANY, Pittsburg, Pa.

The representation of a solid black diamond-shaped figure.

Filed May 13, 1905. Serial No. 5,474. PUBLISHED SEPTEMBER 19, 1905.

47,638. STEEL. PARK STEEL COMPANY, Pittsburg, Pa.

The letters "O. H. C."

Filed May 13, 1905. Serial No. 5,479. PUBLISHED SEPTEMBER 19, 1905.

47,639. HORSESHOE-PADS. REVERE RUBBER COMPANY, Boston, Mass.

The word "ELITE."

Filed May 4, 1905. Serial No. 4,282. PUBLISHED SEPTEMBER 19, 1905.

47,640. STARCH AND DEXTRIN. THE ARABOL M'F'G CO., New York, N. Y.

The representation of an Egyptian sphinx mounted on a pedestal.

Filed May 2, 1905. Serial No. 4,012. PUBLISHED SEPTEMBER 19, 1905.

47,641 PAINTS ADAPTED FOR IRON AND ROOFING. THE AMERICAN GRAPHITE COMPANY, Cleveland, Ohio.

The word "GRAPHAULT."

Filed April 3, 1905. Serial No. 323. PUBLISHED SEPTEMBER 19, 1905.

47,642. VARNISHES. THE AMERICAN VARNISH COMPANY, Chicago, Ill.

The representation of a boy holding a can in one hand and a brush in the other.

Filed July 10, 1905. Serial No. 9,962. PUBLISHED SEPTEMBER 19, 1905.

47,643. PINS. THE PLUME & ATWOOD MFG. CO., Waterbury, Conn., and New York, N. Y.

The word "BOUDOIR."

Filed April 28, 1905. Serial No 3,433. PUBLISHED SEPTEMBER 19, 1905.

47,644. PINS. THE PLUME & ATWOOD MFG. CO., Waterbury, Conn., and New York, N. Y.

The word "FAMILY."

Filed April 28, 1905. Serial No. 3,434. PUBLISHED SEPTEMBER 19, 1905.

47,645. PINS. THE PLUME & ATWOOD MFG. CO., Waterbury, Conn., and New York, N. Y.

The representation of four pins laid together in the form of a diamond-shaped figure.

Filed April 28, 1905. Serial No. 3,440. PUBLISHED SEPTEMBER 19, 1905.

47,646. RIVETS AND SPOTS. THE STANDARD RIVET COMPANY, Boston, Mass.

The word "STANDARD."

Filed May 3, 1905. Serial No. 4,165. PUBLISHED SEPTEMBER 19, 1905.

47,647. SHOES MADE OF LEATHER AND CANVAS. WATSON SHOE CO., Lynn and Boston, Mass.

A triangle figure having the representation of a shoe thereon and inclosed by a triangle border.

Filed May 19, 1905. Serial No. 6,111. PUBLISHED SEPTEMBER 19, 1905.

47,648. CERTAIN NAMED TOOLS. WILEY & RUSSELL MFG. CO., Greenfield, Mass.

The word "LIGHTNING."

Filed May 10, 1905. Serial No. 4,841. PUBLISHED SEPTEMBER 19, 1905.

47,649. ABSORBENT PADS OR PLASTERS. GEORGE C. YOUNG, Jackson, Mich., assignor to Young Remedy Company Jackson, Mich., a Corporation of Michigan.
The word "DRAFT."
Filed May 13, 1905. Serial No. 5,309. PUBLISHED SEPTEMBER 19, 1905.

47,650. LEATHER LEGGINGS. CHANAVAS & SLAZENGER, INC., New York, N. Y.
The representation of a strap buckled in circular shape having heads of various animals depicted thereon and inclosing a monogram composed of the letters "C S" and the character "&."
Filed June 2, 1905. Serial No. 7,211. PUBLISHED SEPTEMBER 19, 1905.

47,651. CORSETS AND CORSET-GIRDLES. FELIX CORSET CO., New York, N. Y.
The words "FELIX BEST-EVER."
Filed July 3, 1905. Serial No. 9,743. PUBLISHED SEPTEMBER 19, 1905.

47,652. GELATIN. CHARLES B. KNOX, Johnstown, N. Y.
A representation of the head of a calf.
Filed June 7, 1905. Serial No. 7,580. PUBLISHED SEPTEMBER 19, 1905.

47,653. BINDERS' TWINE. LUDLOW MANFG. ASSOCIATES, Boston, Mass.
The word "LUDLOW."
Filed May 6, 1905. Serial No. 4,434. PUBLISHED SEPTEMBER 19, 1905.

47,654. BINDERS' TWINE. LUDLOW MANFG. ASSOCIATES, Boston, Mass.
The words "LUDLOW CORDAGE COMPANY."
Filed May 6, 1905. Serial No. 4,435. PUBLISHED SEPTEMBER 19, 1905.

47,655. UPHOLSTERERS' WEBBING. LUDLOW MANFG. ASSOCIATES, Boston, Mass.
The letters "B. F. M."
Filed May 6, 1905. Serial No. 4,442. PUBLISHED SEPTEMBER 19, 1905.

47,656. HEMP TWINE. LUDLOW MANFG. ASSOCIATES, Boston, Mass.
The word "EMPRESS."
Filed May 6, 1905. Serial No. 4,446. PUBLISHED SEPTEMBER 19, 1905.

47,657. HEMP TWINES. LUDLOW MANFG. ASSOCIATES, Boston, Mass.
The word and abbreviations "LUDLOW MANFG. CO."
Filed May 6, 1905. Serial No. 4,447. PUBLISHED SEPTEMBER 19, 1905.

47,658. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass.
The representation of a flying horse or Pegasus.
Filed May 11, 1905. Serial No. 5,248. PUBLISHED SEPTEMBER 19, 1905.

47,659. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass.
The representation of a domestic cat.
Filed May 11, 1905. Serial No. 5,256. PUBLISHED SEPTEMBER 19, 1905.

47,660. RIBBONS. W. OPENHYM & SONS, New York, N. Y.
The word "PYRAMID," associated with the representation of a desert scene, two pyramids being in the foreground and a camel and palm-trees in the background.
Filed May 11, 1905. Serial No. 5,071. PUBLISHED SEPTEMBER 19, 1905.

47,661. CIDER. SIEGEL, COOPER & Co., Chicago, Ill.
The word "HAZEL" and a design showing hazel-leaves and hazel-nuts.
Filed July 15, 1905. Serial No. 10,396. PUBLISHED SEPTEMBER 19, 1905.

47,662. RENOVATOR FOR PAINTED, VARNISHED, AND JAPANNED SURFACES. SUPERIOR RENOVATOR COMPANY, Easton, Pa.
The representation of a disk surrounded by a circle having inwardly-extending spurs.
Filed June 2, 1905. Serial No. 7,201. PUBLISHED SEPTEMBER 19, 1905.

47,663. COLLARS AND CUFFS MADE FROM PYROXYLIN. THE FIBERLOID CO., Indian Orchard, Mass.
The word "FIBERLOID."
Filed May 11, 1905. Serial No. 5,027. PUBLISHED SEPTEMBER 19, 1905.

47,664. CORSETS. THE MICHIGAN CORSET COMPANY, Jackson, Mich.
The word "CRESCO."
Filed August 1, 1905. Serial No. 11,111. PUBLISHED SEPTEMBER 19, 1905.

47,665. HEMLOCK SOLE-LEATHER. THE UNITED STATES LEATHER COMPANY, New York, N. Y.
The representation of a steer, below which the lines representing the ground are partially omitted, forming a blank space.
Filed May 29, 1905. Serial No. 7,028. PUBLISHED SEPTEMBER 12, 1905.

47,666. RIBBONS. JOSEPH B. WHITNEY, New York, N. Y.
The representation of Atlas in a kneeling position supporting a roll of ribbon upon his shoulders, all inclosed in a circular border.
Filed May 1, 1905. Serial No. 3,722. PUBLISHED SEPTEMBER 19, 1905.

47,667. FOLDING PAPER BOXES. WHITNEY & COMPANY, Leominster, Mass.
The word "CLIMAX."
Filed April 27, 1905. Serial No. 3,315. PUBLISHED SEPTEMBER 5, 1905.

47,668. ILLUMINATING-OILS. VALVOLINE OIL COMPANY, Edgewater, N. J., and New York, N. Y.
The word "MAGNET."
Filed July 15, 1905. Serial No. 10,398. PUBLISHED SEPTEMBER 19, 1905.

47,669. GLOVES. ABRAHAM & STRAUS, New York, N. Y.
The word "REGINA."
Filed April 18, 1905. Serial No. 2,189. PUBLISHED AUGUST 8, 1905.

47,670. SAWS. GEORGE NATHAN CLEMSON, Middletown, N. Y.
The words "THE STAR."
Filed May 18, 1905. Serial No. 5,999. PUBLISHED AUGUST 22, 1905.

47,671. WITHDRAWN

47,672. LEATHER DRESSING AND POLISH. COLUMBIA SHOE DRESSING CO., Bath, Me.
The word-symbol "20TH CENTURY."
Filed April 27, 1905. Serial No. 3,240. PUBLISHED JULY 4, 1905.

47,673. CANNED SALMON. DEMING & GOULD CO., Chicago, Ill., and St. Louis, Mo.
The letters and abbreviation "D G Co" inclosed within a circle, the letter "D" being on a diamond-shaped figure.
Filed June 5, 1905. Serial No. 7,562. PUBLISHED SEPTEMBER 19, 1905.

47,674. CAR-SEALS. E. J. BROOKS & COMPANY, New York, N. Y., and Newark, N. J.
The hyphenated word "HORSE-SHOE," in connection with a superjacent picture of a car-seal having a flexible shackle terminating at one end in an eye and attached at its other end to a recessed seal, part of the face of which presents the general outlines of a horseshoe.
Filed May 8, 1905. Serial No. 4,666. PUBLISHED SEPTEMBER 19, 1905.

47,675. CORSETS. FELLHEIMER AND CO., New York, N. Y.
The letters "I. C."
Filed April 20, 1905. Serial No. 2,525. PUBLISHED SEPTEMBER 19, 1905.

47,676. KNIT UNDERWEAR AND KNIT HOSIERY. LOUIS P. HAIGHT, Muskegon, Mich.
The words "VEGETABLE SILK."
Filed April 18, 1905. Serial No. 2,135. PUBLISHED AUGUST 15, 1905.

47,677. DESSERT FLAVORING AND DRESSING. G. F. HEUBLEIN & BRO., Hartford, Conn.
The word "KREMETTE."
Filed April 20, 1905. Serial No. 2,437. PUBLISHED AUGUST 15, 1905.

47,678. WASHING-MACHINES. ERNST H. HUENEFELD, Cincinnati, Ohio.

The words "CROWN PERFECTION."

Filed May 16, 1905. Serial No. 5,781. PUBLISHED AUGUST 15, 1905.

47,679. HANDKERCHIEFS. JOHN PULLMAN & Co., New York, N. Y.

The representation of a dove standing on a heraldic roll and carrying a branch in its bill.

Filed May 9, 1905. Serial No. 4,800. PUBLISHED AUGUST 15, 1905.

47,680. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass.

The representation of a typical frontiersman mounted upon a running horse.

Filed May 10, 1905. Serial No. 4,974. PUBLISHED AUGUST 15, 1905.

47,681. HAMS AND BACON. PARKER WEBB & Co., Detroit, Mich.

The words "HONEY CURED."

Filed May 22, 1905. Serial No. 6,309. PUBLISHED AUGUST 15, 1905.

47,682. CANDY. REYMER & BROTHERS, INCORPORATED, Pittsburg, Pa.

The representation of a sedan chair carried by two men and with a female inside of said chair.

Filed June 21, 1905. Serial No. 8,679. PUBLISHED AUGUST 15, 1905.

47,683. CONFECTION COMPOSED OF RICE AND SUGAR. ROBERT A. JOHNSTON Co., Milwaukee, Wis.

The words "DIXIE FLAKE."

Filed May 22, 1905. Serial No. 6,255. PUBLISHED AUGUST 15. 1905.

47,684. CIGARS AND CHEROOTS. SANCHEZ Y HERMANOS, New York, N. Y.

A fanciful representation of a bust-portrait of a woman and flowers, the face being shown in profile in décolleté costume. From the shoulders of the woman, extending upwardly in a curved line on both sides, are sprays of shamrock.

Filed April 24, 1905. Serial No. 3,538. PUBLISHED AUGUST 15, 1905.

47,685. CORSETS. STRAWBRIDGE & CLOTHIER, Philadelphia, Pa.

The word "JESSICA."

Filed August 9, 1905. Serial No. 11,431. PUBLISHED AUGUST 15, 1905.

47,686. PIANOS AND PIANO-PLAYERS. THE AEOLIAN COMPANY, New York, N. Y.

The word "METROSTYLE."

Filed April 26, 1905. Serial No. 3,203. PUBLISHED AUGUST 8, 1905.

47,687. PREPARED RICE. THE CHANDLER AND RUDD COMPANY, Cleveland, Ohio.

The word "FODAIR."

Filed May 8, 1905. Serial No. 4,634. PUBLISHED AUGUST 29, 1905.

47,688. METALLIC ALLOY AND ARTICLES OF WHICH SUCH ALLOY FORMS A PART. THE RIVERSIDE METAL Co., Riverside, N. J.

The representation of a crucible surrounded by a wreath of leaves and having a band or ribbon extending across it, upon which band appears in Greek characters the Greek word "METALOS" and below the wreath a star. Above the crucible and wreath is a curved band bearing the name "THE RIVERSIDE METAL COMPANY."

Filed April 21, 1905. Serial No. 2,589. PUBLISHED SEPTEMBER 19, 1905.

47,689. STAYS. THE SPIRELLA COMPANY, Meadville, Pa.

The word "SPIRELLA."

Filed August 4, 1905. Serial No. 11,269. PUBLISHED SEPTEMBER 19, 1905.

47,690. WATCHES, WATCHCASES, AND WATCH-MOVEMENTS. E. HOWARD WATCH Co., Riverside, N. J., and Waltham, Mass.

The letter, words, and abbreviation "E. HOWARD WATCH Co."

Filed April 26, 1905. Serial No. 2,866. PUBLISHED SEPTEMBER 19, 1905.

47,691. LEATHER BOOTS AND SHOES. JORDAN MARSH COMPANY, Boston, Mass.

The word "HYPATIA."

Filed June 24, 1905. Serial No. 8,869. PUBLISHED SEPTEMBER 19, 1905.

47,692. LEATHER BOOTS AND SHOES. JORDAN MARSH COMPANY, Boston, Mass.

The word "PILGRIM."

Filed June 24, 1905. Serial No. 8,871. PUBLISHED SEPTEMBER 19, 1905.

47,693. LEATHER BOOTS AND SHOES. JORDAN MARSH COMPANY, Boston, Mass.

The words "DOCTOR'S FOOT-SHAPE."

Filed June 24, 1905. Serial No. 8,872. PUBLISHED SEPTEMBER 19, 1905.

47,694. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.

The representation of a circular figure of beads inclosing the words "PEARL TOP."

Filed May 16, 1905. Serial No. 5,783. PUBLISHED SEPTEMBER 19, 1905.

47,695. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.

The words "PEARL TOP."

Filed May 16, 1905. Serial No. 5,785. PUBLISHED SEPTEMBER 19, 1905.

47,696. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.

The word "PEARL."

Filed May 16, 1905. Serial No. 5,786. PUBLISHED SEPTEMBER 19, 1905.

47,697. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.

The word "ZENITH," with ornamental lines above and below surrounded by a wavy elliptical figure.

Filed May 16, 1905. Serial No. 5,787. PUBLISHED SEPTEMBER 19, 1905.

47,698. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.

The word "THERMO" surrounded by a circle.

Filed May 16, 1905. Serial No. 5,788. PUBLISHED SEPTEMBER 19, 1905.

47,699. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.

The word "CLIMAX" written across a conventional figure of a globe and both inclosed in an approximately diamond-shaped figure.

Filed May 18, 1905. Serial No. 6,003. PUBLISHED SEPTEMBER 19, 1905.

47,700. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.

The word "SUNSET," associated with the conventional figure of a sunset.

Filed May 18, 1905. Serial No. 6,015. PUBLISHED SEPTEMBER 19, 1905.

47,701. LEATHER BOOTS AND SHOES. MARKS ROTHENBERG & Co., Meridian, Miss.

The words "THE WISDOM."

Filed May 16, 1905. Serial No. 5,803. PUBLISHED SEPTEMBER 19, 1905.

47,702. WHEAT-FLOUR. SLEEPY EYE MILLING COMPANY, Sleepyeye, Minn.

The words "SLEEPY EYE."

Filed May 20, 1905. Serial No. 6,960. PUBLISHED SEPTEMBER 19, 1905.

47,703. CIGARS. S. S. PIERCE Co., Boston, Mass.

The words "LA SOLTERA," together with a picture of a woman holding a parasol in one hand and a bouquet in the other standing in front of a wall and showing a basket of flowers, pots of flowers, and tree branches, together with an ornamental scroll.

Filed June 5, 1905. Serial No. 7,382. PUBLISHED SEPTEMBER 19, 1905.

47,704. CIGARS. S. S. PIERCE Co., Boston, Mass.
The words "EL BLASON," associated with the representation of a heraldic cloth of ermine surmounted by a plumed helmet and having on the front thereof an oval shield bearing a private coat of arms divided into five panels, three on one side of a diagonally-located bar and two on the other, with various adornments on the several panels.
Filed June 5, 1905. Serial No. 7,394. PUBLISHED SEPTEMBER 19, 1905.

47,705. CIGARS. S. S. PIERCE Co., Boston, Mass.
The word "RIVENOAK," together with the picture of an Indian chief holding a flowering plant in his hand, with a tropical background showing mountains, a lake, and palm-trees, together with ornamental scrollwork and medals.
Filed June 5, 1905. Serial No. 7,396. PUBLISHED SEPTEMBER 19, 1905.

47,706. CIGARS. S. S. PIERCE Co., Boston, Mass.
The words "LA FLOR DEL ESTE," associated with the picture of a growing tobacco-plant in front of a mountainous landscape.
Filed June 5, 1905. Serial No. 7,398. PUBLISHED SEPTEMBER 19, 1905.

47,707. CIGARS. S. S. PIERCE Co., Boston, Mass.
The word "MYOPIA," associated with the representation of a fox-hunt, showing several galloping horsemen and a pack of hounds in pursuit of a fox, one horseman in the act of leaping a fence, and rocks in the foreground.
Filed June 5, 1905. Serial No. 7,399. PUBLISHED SEPTEMBER 19, 1905.

47,708. CIGARS. S. S. PIERCE Co., Boston, Mass.
The words "JESSE RURAL," together with a half-picture of a man smoking a cigar and carrying a box of cigars.
Filed June 5, 1905. Serial No. 7,400. PUBLISHED SEPTEMBER 19, 1905.

47,709. COTTON PIECE GOODS. SUFFERN & Co., New York, N. Y.
The representation of two eagles oppositely placed and perched upon scrollwork and so arranged as to leave a space between them bounded by a marginal line.
Filed May 9, 1905. Serial No. 4,802. PUBLISHED SEPTEMBER 19, 1905.

47,710. BOND, LINEN, LEDGER, WEDDING, AND INDEX BRISTOL PAPERS. B. D. RISING PAPER COMPANY, Housatonic, Mass.
The representation of a full-faced bust-figure of an Indian chief of the Housatonic tribe with a head-dress of feathers and a necklace and having an ornamental fringed sash over his left shoulder.
Filed June 7, 1905. Serial No. 7,573. PUBLISHED SEPTEMBER 19, 1905.

47,711. LEATHER BOOTS AND SHOES. LEWIS A. CROSSETT, North Abington, Mass.
The word "ABBOT."
Filed May 17, 1905. Serial No. 5,898. PUBLISHED SEPTEMBER 19, 1905.

47,712. LEATHER BOOTS AND SHOES. CHURCHILL AND ALDEN Co., Campello, Mass.
The representation of a shield having an ornamental border and scroll-like upper corner surmounted by a crown and crossed by a bar sinister bearing the words "RALSTON HEALTH SHOE," the character and figure "84" being shown on the upper dexter corner of the shield.
Filed May 24, 1905. Serial No. 6,433. PUBLISHED SEPTEMBER 19, 1905.

47,713. TRADE NEWSPAPER. DAVID WILLIAMS COMPANY, New York, N. Y.
The words "THE IRON AGE."
Filed June 23, 1905. Serial No. 9,330. PUBLISHED SEPTEMBER 19, 1905.

47,714. REMEDIES FOR INTERNAL AND EXTERNAL USE. FRANK EMERSON, South Lawrence, Mass.
The word "RESPIRO."
Filed May 24, 1905. Serial No. 6,538. PUBLISHED SEPTEMBER 19, 1905.

47,715. BRUSHES. GRAND RAPIDS BRUSH Co., Grand Rapids, Mich.
The representation of a fleur-de-lis.
Filed May 10, 1905. Serial No. 4,886. PUBLISHED AUGUST 22, 1905.

47,716. GAGES. GEORGE W. GREGORY, Boston, Mass.
The word "TRIUMPH."
Filed May 25, 1905. Serial No. 6,640. PUBLISHED SEPTEMBER 19, 1905.

47,717. BALSAM. FREDERICK HUBACHER, Cleveland, Ohio.
A portrait of the applicant.
Filed May 15, 1905. Serial No. 5,633. PUBLISHED SEPTEMBER 19, 1905.

47,718. BOOKS. R. S. & A. B. LACEY, Washington, D. C.
The words "PATENTS THAT PROTECT."
Filed July 21, 1905. Serial No. 10,654. PUBLISHED SEPTEMBER 19, 1905.

47,719. EYE-SHADES. WILLIAM F. MAHONY, Washington, D. C.
The word "FEATHERWEIGHT."
Filed April 29, 1905. Serial No. 3,605. PUBLISHED SEPTEMBER 19, 1905.

47,720. PETROLATUM. MCKESSON & ROBBINS, New York, N. Y.
The word "COLUMBIA."
Filed May 10, 1905. Serial No. 4,899. PUBLISHED JULY 4, 1905.

47,721. LEATHER, CLOTH, AND FELT BOOTS, SHOES, AND SLIPPERS. M. D. WELLS Co., Chicago, Ill.
The representation of a child having her arm about a dog's neck, together with the words "BEST ON EARTH," the figures and words being arranged on a background representing the earth, the Western continent being shown.
Filed May 12, 1905. Serial No. 5,285. PUBLISHED SEPTEMBER 19, 1905.

47,722. MONTHLY MAGAZINE. GEORGE H. PATTERSON and EDWARD C. THURNAU, PUBLISHERS' OFFICE APPLIANCES, Chicago, Ill.
The words "OFFICE APPLIANCES."
Filed June 13, 1905. Serial No. 8,047. PUBLISHED SEPTEMBER 19, 1905.

47,723. LEATHER BELTING. PROVIDENCE BELTING COMPANY, Providence, R. I.
The words "BLACK DIAMOND" arranged in arcs of circles and having between them the representation in face view of a cut black-diamond stone. Above the word "BLACK" are arranged in arcs of circles the words "PROVIDENCE BELTING COMPANY," and below the word "DIAMOND" are arranged in arcs of circles the word and capital letters "PROVIDENCE, R. I., U. S. A." The whole is surrounded by a circular border.
Filed August 3, 1905. Serial No. 11,232. PUBLISHED SEPTEMBER 12, 1905.

47,724. REMEDY FOR DISEASES OF THE STOMACH AND BOWELS. JOSEPH RICCA, New Orleans, La.
The word "RICCAP."
Filed May 22, 1905. Serial No. 6,231. PUBLISHED SEPTEMBER 19, 1905.

47,725. MAGAZINE OR PERIODICAL. ROCKY MOUNTAIN CONSOLIDATED COMPANY, Denver, Colo.
The words "THE ROCKY MOUNTAIN MAGAZINE."
Filed June 5, 1905. Serial No. 7,494. PUBLISHED SEPTEMBER 19, 1905.

47,726. COMPOUND FOR CURING DYSPEPSIA. CHARLES E. SHACKLADY, Troy, N. Y.
The numerals "4884."
Filed May 15, 1905. Serial No. 5,727. PUBLISHED SEPTEMBER 19, 1905.

47,727. CHILDREN'S LEATHER SHOES. SHEPARD NORWELL COMPANY, Boston, Mass.
The representation of two crossed shepherds' crooks, associated with a scroll bearing the words "THE SHEPARD SHOE."
Filed May 27, 1905. Serial No. 6,814. PUBLISHED SEPTEMBER 19, 1905.

47,728. SEWING-MACHINES. SIEGEL, COOPER & Co., Chicago, Ill.
The word "MONARCH" and a fanciful panel design in contrasting color with a circle at each end, back of which appear the letters, character, and abbreviation "S. C. & Co.," the whole embellished by ornamental scrollwork.
Filed May 13, 1905. Serial No. 5,409. PUBLISHED SEPTEMBER 19, 1905.

47,729. TABLETS FOR CERTAIN NAMED DISEASES. CHARLES ELLWOOD RUPERT SMITH, Philadelphia, Pa.

The word "QUININETS" with a paraph beneath, on which appears the word "LAXATIVE."

Filed May 15, 1905. Serial No. 5,641. PUBLISHED SEPTEMBER 19, 1905.

47,730. ARTIFICIAL FERTILIZERS. SPARTANBURG FERTILIZER CO., Spartanburg, S. C.

The word "TIGER."

Filed April 28, 1905. Serial No. 3,467. PUBLISHED SEPTEMBER 19, 1905.

47,731. PRINTED OR LITHOGRAPHED PICTURES, PLAQUES, AND DESIGNS. BEN B. STROPE, Coshocton, Ohio.

The word "PICRICAPHY."

Filed May 31, 1905. Serial No. 7,127. PUBLISHED SEPTEMBER 19, 1905.

47,732. LANTERN GLOBES AND LENSES. THE FOSTORIA GLASS SPECIALTY CO., Fostoria, Ohio.

The word "NOREC."

Filed May 8, 1905. Serial No. 4,628. PUBLISHED SEPTEMBER 19, 1905.

47,733. PAPER AND ENVELOPS. THE M. P. EXLINE CO., Dallas, Tex.

The letter "X" and a horizontal line extending therefrom toward the right.

Filed May 15, 1905. Serial No. 5,726. PUBLISHED SEPTEMBER 19, 1905.

47,734. GRAVELED ROOFING-SHEETS. THE NATIONAL ROOFING CO., Tonawanda, N. Y.

The word "SECURITY."

Filed May 20, 1905. Serial No. 6,163. PUBLISHED SEPTEMBER 19, 1905.

47,735. MATERIAL FOR INSULATION. THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y.

The word "INSULATINE."

Filed August 18, 1905. Serial No. 11,774. PUBLISHED SEPTEMBER 19, 1905.

47,736. BROOMS AND WHISK-BRUSHES. THE SOUTHWESTERN BROOM MFG. CO., Evansville, Ind.

The words "LITTLE NUGGET" and the representation of a landscape, in the foreground of which appears a miner holding a nugget in one hand. Hills appear in the background, and the miner is standing at the edge of a stream, with a spade and a pan lying on the ground near his feet.

Filed August 5, 1905. Serial No. 11,296. PUBLISHED SEPTEMBER 19, 1905.

47,737. CIGARS AND CIGARETTES MADE FROM CIGAR-TOBACCO. VICTOR TALKING MACHINE COMPANY, Camden, N. J.

The picture of a dog in the act of listening to a sound-reproducing machine, associated with the words "HIS MASTER'S VOICE."

Filed June 27, 1905. Serial No. 9,276. PUBLISHED SEPTEMBER 19, 1905.

LABELS

REGISTERED NOVEMBER 14, 1905.

12,466.—*Title:* "HAYES' BEECHWOOD EMULSO-HYPO WITH IRON." (For Medicine.) SHOFFNER-HAYES MEDICINE Co., Paducah, Ky. Filed October 21, 1905.

12,467.—*Title:* "MOTHERS MAGIC COLIC CURE." (For Medicine.) MATILDA B. B. HIGGINS, Georgetown, Ohio. Filed Filed October 19, 1905.

12,468.—*Title:* "BRONCHO BREAKERS." (For Medicine.) MAX SCHWARZ, Brooklyn, N. Y. Filed October 16, 1905.

12,469.—*Title:* "OSMOSOLINE." (For Antiseptic Dressing.) LORY J. GRAFFORT and JOHN C. DAVIS, New Carlisle, Ind. Filed June 17, 1905.

12,470.—*Title:* "RAY'S DANDRUFF CURE AND HAIR INVIGORATOR." (For Hair-Invigorator.) RAY & DOWNEY, Washington, D. C. Filed October 20, 1905.

12,471.—*Title:* "MADAM MAYME'S SPECIFIC FOR THE ERADICATION OF SUPERFLUOUS HAIR." (For a Specific for the Eradication of Superfluous Hair.) MAMIE FEDER, New York, N. Y. Filed October 19, 1905.

12,472.—*Title:* "PENO CORNO." (For a Confection.) WALLIS & STINCHCOMB, Caro, Mich. Filed July 28, 1905.

12,473.—*Title:* "SPRINGFIELD CANDY COMPANY." (For Candy.) SPRINGFIELD CANDY Co., Springfield, Mo. Filed October 21, 1905.

12,474.—*Title:* "PALMETTO." (For Coffee.) HARVEY H. PALMER, New York, N. Y. Filed October 19, 1905.

12,475.—*Title:* "PALMETTO." (For Tea.) HARVEY H. PALMER, New York, N. Y. Filed October 19, 1905.

12,476.—*Title:* "KULMBACHER" (For Beer.) KARL LAMPE & Co., Philadelphia, Pa. Filed September 14, 1905.

12,477.—*Title:* "COLONIAL GINGER ALE." (For Ginger-Ale.) SIMON BECKER, Spartanburg, S. C. Filed October 16, 1905.

12,478.—*Title:* "BOSTONIAN CAP." (For Cloth Caps.) FRANCIS A. HORLE, Boston, Mass. Filed October 20, 1905.

12,479.—*Title:* "FINE CLOTH CAPS." (For Cloth Caps.) FRANCIS A. HORLE, Boston, Mass. Filed October 20, 1905.

12,480.—*Title:* "FINE CLOTH CAPS." (For Cloth Caps.) FRANCIS A. HORLE, Boston, Mass. Filed October 20, 1905.

12,481.—*Title:* "FINE CLOTH CAPS." (For Cloth Caps.) FRANCIS A. HORLE, Boston, Mass. Filed October 20, 1905.

12,482.—*Title:* "FINE CLOTH CAPS." (For Cloth Caps.) FRANCIS A. HORLE, Boston, Mass. Filed October 20, 1905.

12,483.—*Title:* "J. E. C. SANITARY MAKE. THE DAPHNE SHIRT-WAIST SUIT." (For Shirt-Waist Suits.) JACOB ERLICH, New York, N. Y. Filed February 25, 1905.

12,484.—*Title:* "BLACKOLINE." (For Shoe-Dressing.) ALBION MFG. Co., New York, N. Y. Filed October 19, 1905.

12,485.—*Title:* "LEATHER OIL." (For Shoe-Polish.) T. S. ADAMSON, Louisville, Ky. Filed October 16, 1905.

PRINTS

REGISTERED NOVEMBER 14, 1905.

1,482.—*Title:* "THE JOHN EICHLER BR'G CO." (For Beer.) THE JOHN EICHLER BR'G Co., New York, N. Y. Filed September 25, 1905.

1,483.—*Title:* "THE JOHN EICHLER BR'G CO." (For Beer.) THE JOHN EICHLER BR'G Co., New York, N. Y. Filed September 25, 1905.

1,484.—*Title:* "HEALTH AND HOME." (For Grape-Nuts and Postum Coffee.) GEORGE FREELAND JEFFERSON, Brooklyn, N. Y. Filed October 13, 1905.

1,485.—*Title:* "JAP LADY." (For Perfume.) HANA ZONA PERFUME COMPANY, Chicago, Ill. Filed October 20, 1905.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

WEIL-HASKELL COMPANY v. GRIFFON COMPANY.

Decided October 11, 1905.

1. TRADE-MARK—ERROR IN PUBLICATION IN OFFICIAL GAZETTE—REPUBLICATION.

Where the publication of trade-mark in the OFFICIAL GAZETTE for purposes of opposition erroneously described the class of goods, *Held* that the mark should be republished.

2. SAME—SAME—OPPOSITION DISMISSED WITH PRIVILEGE OF RENEWING AFTER PUBLICATION.

Where a mark was erroneously published in OFFICIAL GAZETTE, as for "clothes" instead of *cloths*, and an opposition was filed based upon this error, to which demurrer was made, *Held* that the mark should be republished and that the opposition should be dismissed with permission to renew after the new publication.

ON REFERENCE.

TRADE-MARK FOR LADIES', MEN'S, AND CHILDREN'S WEAR.

Messrs. Mason, Fenwick & Lawrence for Weil-Haskell Company.

Mr. Joseph L. Levy and *Mr. Howard A. Coombs* for Griffon Company.

ALLEN, *Commissioner:*

The Examiner of Interferences has called my attention to an error in the publication of the mark of the Griffon Company which led to the opposition filed by the Weil-Haskell Company.

It appears that the mark of the Griffon Company was published in the OFFICIAL GAZETTE of June 6, 1905, and that the class of goods to which the mark was applied was there stated to be "clothes for ladies', men's, and children's wear." An examination of the application shows that the word "clothes" should have been printed *cloths*.

On June 29, 1905, the Weil-Haskell Company filed a notice of opposition to the registration on the ground that the Griffon Company is not the owner of the mark as applied to clothes and that the Weil-Haskell Company has used the mark in advertising "garments." The Griffon Company filed a demurrer to the notice, alleging that the use of the mark upon clothes is not an anticipation of or bar to its proposed registration of the mark for cloths. It is alleged that the goods are not of substantially the same descriptive properties.

It is apparent that the error in the publication by this Office has led to the controversy involved in the opposition and the demurrer thereto. It is equally apparent that the Weil-Haskell Company should be permitted to insist upon, amend, or withdraw its opposition, as it may be advised, after knowing the character of the pending application filed by Griffon Company. It seems equally apparent that there may be others who would wish to oppose the registration of the mark for cloths if they were aware of the fact that registration of the mark used thereon was sought.

Under all of the circumstances the only adequate remedy for the error in publication seems to be a new publication. It is therefore ordered that the application of the Griffon Company be republished, correcting the error. The present opposition is dismissed with permission to renew it after the new publication.

EX PARTE HAULTAIN AND STOVEL.

Decided October 11, 1905.

AMENDMENT—TRANSFER FROM ONE APPLICATION TO ANOTHER—PRACTICE.

Where an amendment is entitled in one application, is entered therein, and is replied to in a subsequent Office action, it cannot be transferred to another application, although it is apparent from its subject-matter that it was really intended for the latter application. Upon the presentation of such amendment in the case for which it was originally intended the facts disclosed by the record will be considered on the question of abandonment.

ON PETITION.

TREATING ORES.

Messrs. Spear & Seely for the applicants.

ALLEN, *Commissioner:*

This is a petition that an amendment filed in a companion application be transferred to this case.

The amendment referred to was filed on August 12, 1905, and was entitled in the other application; but it was apparent from its subject-matter that it did not properly belong in that case. The Examiner now states that it is apparent from the subject-matter of that amendment that it was intended for the present case and that the number of the other case was given therein through clerical error. The applicant is entitled to correct this clerical error; but it is not believed that it can be done by transferring the paper from one case to the other. Since the amendment has been placed in the record of one case and replied to therein, it must remain there to preserve the record.

The request for the transfer cannot be granted; but the applicant will be permitted to file a copy of the amendment properly entitled in the present application and properly signed, and upon its presentation this Office will consider the facts disclosed by the record in determining the question of abandonment of the present case.

The present petition is denied.

EX PARTE ADAMS.

Decided October 17, 1905.

1. INTERFERENCE—APPLICATION NOT INCLUDED WHICH DOES NOT CONTAIN ALL CLAIMS IN THE ISSUE.

Where an application contained some of the claims of an interference issue, but other claims included in the interference were not made and could not be made in that application, *Held* that said application could not be put in that interference.

2. SAME—TWO APPLICATIONS BY SAME INVENTOR—WHERE ONE IS IN AN INTERFERENCE THE OTHER WILL NOT BE INCLUDED.

Where inventor makes an assignment in one of his two applications which contain certain claims in common and the other application is put into an interference upon these claims, *Held* that the assigned application will not thereafter be put into that interference or into another interference with the same application upon these claims.

3. SAME—SAME—WHICH APPLICATION SHALL BE ALLOWED NOT DETERMINED BEFORE CONCLUSION OF INTERFERENCE UPON ONE OF THEM.

Where inventor makes assignment in one of his two applications containing claims in common and the other application is put in interference on these claims, *Held* that which application shall be allowed may be determined after conclusion of the interference.

4. SAME—SAME—RIGHT OF ASSIGNEE TO TAKE PART IN INTERFERENCE UPON UNASSIGNED APPLICATION.

Where inventor makes assignment in one of his two applications which contain certain claims in common and the other application is put into an interference upon these claims, *Held* that the right of the assignee to take part in the interference may be determined upon motion made in the interference.

ON PETITION.

PERAMBULATORS OR GO-CARTS.

Mr. Francis A. Hopkins for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Primary Examiner refusing to include this application in an interference *McGill* v. *Adams*, involving another application filed by this applicant Adams.

It appears that the present application is assigned, and the request for its inclusion in the interference is made on behalf of the assignee. The case directly involved in the interference has not been assigned. After the declaration of the interference some of the claims constituting the issue were made in this case; but others have not been made and cannot be made here, for the reason that there is no foundation in this case for them. It is therefore impossible to include this case in the interference upon the issues there stated. The declaration of a second interference including a part of the issues in the first would also be improper.

The purpose of the present petition would seem to be either to obtain for the assignee the right to take part in the interference proceedings and there protect its interests or to insure the issuance of the claims in the case assigned to it in case Adams is successful in the interference.

The question which of the two cases filed by Adams shall be allowed including the common claims may be determined after the conclusion of the interference, and there seems to be no necessity for stopping the present interference to determine that matter. The right of the assignee to take part in the interference already in existence may be determined on motion made therein, and therefore there seems to be no necessity for considering the matter now.

The petition is denied.

CAZIN v. VON WELSBACH.

Decided October 18, 1905.

1. INTERFERENCE—ACCESS TO OPPONENT'S APPLICATION—INSPECTION BY ATTORNEYS OF ASSIGNEE.

Where after declaration of interference inventor died and assignee of entire interest appointed attorneys to prosecute the case, *Held* that the contentions that such attorneys were not entitled to inspect the papers of the other party and that such inspection violated the rule of secrecy were without foundation.

2. SAME—DECISION UNDER RULE 128—NO APPEAL FROM REASONS BY PARTY AGREEING WITH CONCLUSION.

Where review of Examiner's action under Rule 128 holding issues patentable over new references was sought by party who agreed with the conclusion reached, *Held* that the party was not entitled to such review either by appeal or petition.

3. SAME—PETITION DENIED WHERE REMEDY IS BY MOTION UNDER RULE 122.

Where petition was made that Examiner be instructed to comply with Rule 97, *Held* that if irregularity exists in declaration of interference the remedy is by motion under Rule 122.

4. HEARINGS—TIME OF—INDISCRETION OF TRIBUNAL HAVING CASE.

The time of hearing is a matter resting in the discretion of the tribunal before whom the case is pending.

5. SAME—SAME—MOOT QUESTION AFTER FAVORABLE DECISION.

Where petition was brought relating to the time of hearing by the Primary Examiner and it appears that decision upon the matter to be heard had been rendered favorable to petitioner, *Held* that the question raised is a moot one.

ON PETITIONS.

ELECTRIC LAMP AND PROCESS OF MANUFACTURING SAME.

Mr. F. M. F. Cazin pro se.

Messrs. Pennie & Goldsborough for Von Welsbach.

ALLEN, *Commissioner:*

The party Cazin has filed many irregular and informal appeals and petitions relating to proceedings in the above-entitled interference.

It appears that Welsbach appointed an attorney to prosecute his application and that attorney died after the declaration of this interference. The assignee of the entire interest in the Welsbach application thereupon took charge of the case and appointed attorneys to prosecute the case.

Cazin objects to the recognition by this Office of the attorneys appointed by the assignees and says that to permit them to inspect his application is a violation of the rule of secrecy.

The record shows that the parties who have intervened in the Welsbach case are assignees of the entire interest, and therefore they are entitled to prosecute the case in place of the inventor. Under Rule 108 they are entitled to see the papers in the Cazin case, and, in fact, such inspection is necessary to enable them to properly conduct the proceedings in the interference.

The record shows that the Primary Examiner asked for a suspension of the interference under Rule 128 to consider the pertinency of certain references cited and after certain proceedings relating to the matter concluded that those references constituted no bar to the allowance of the claims constituting the issue, and therefore returned the papers to the Examiner of Interferences for further proceedings. Cazin agrees with the Examiner's conclusion upon this matter, but alleges that he gave the wrong reasons, and has therefore filed a petition for a review of his action. There has been no decision adverse to Cazin, and therefore he is not entitled to a review of the action taken either by appeal or petition.

Cazin has filed a petition that the Examiner be instructed to comply with the provisions of Rule 97. If there was irregularity in the declaration of the interference, the remedy is by motion under Rule 122 and not by petition.

Several petitions have been filed by Cazin relating to the time fixed for a hearing by the Primary Examiner and to

the Examiner's failure to make answer to his various petitions.

The time of hearing is a matter resting in the discretion of the tribunal before whom the case is pending. In the present case, furthermore, the matter is a moot one, since decision has been rendered upon the matter to be heard and that decision was not adverse to Cazin.

The rules do not require answer by the Examiner in petitions relating to interferences. In fact, the filing of *ex parte* petitions in such proceedings is entirely irregular and improper. Questions in those proceedings should be raised by formal motion served on the opposing party.

The several petitions are dismissed.

FAIRBANKS AND SAUER *v.* KARR.

Decided October 25, 1905.

INTERFERENCE—APPEAL UPON PRIORITY—CONSIDERATION OF PATENTABILITY.

Where upon appeal upon priority no error was pointed out in the decision below, but the appellant argued that the issue was not patentable, *Held* that the question of patentability was not up for consideration.

APPEAL from Examiners-in-Chief.

DREDGING-MACHINES.

Messrs. C. A. Snow & Co. for Fairbanks and Sauer.

Messrs. Munn & Co. for Karr.

ALLEN, *Commissioner:*

This is an appeal by Karr from the decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences awarding priority of invention to Fairbanks and Sauer upon an issue relating to dredging-machines.

In the brief filed by Karr before the Examiners-in-Chief it was said:

The fundamental questions in this case are (1) what is the issue, and (2) to what extent, if any, is the invention set forth in the issue new and patentable.

In the oral argument on this appeal a similar statement was made. No supposed errors in the decisions below upon the question of priority of invention were pointed out orally and no brief was filed on this appeal.

No reasons are apparent for concluding that the Examiners-in-Chief were in error in the construction given by them to the evidence presented nor in the weight which they gave to the testimony. On the contrary, their conclusions as to conception and disclosure by Fairbanks and Sauer and the absence of proof of conception by Karr find ample foundation in the evidence presented.

Fairbanks and Sauer have proved possession of the invention before any date proved by Karr, and, as pointed out by the Examiners-in-Chief, the relations of the parties with reference to the particular invention here involved were not such as to make the work of Fairbanks and Sauer inure to the benefit of Karr.

It must be held that Fairbanks and Sauer are the prior inventors.

The contention by Karr that the issue is not patentable relates to a matter not now up for consideration. The question of priority of invention is the only matter properly presented by this appeal. No tribunal of this Office has suggested that the issue is not patentable, and no good reason is seen for stopping the interference at this late day for the purpose of reconsidering that matter. It is to be noted that the Examiner pronounced the issue patentable before declaring the interference.

The decision of the Examiners-in-Chief is affirmed.

EX PARTE FREUND.

Decided October 27, 1905.

DRAWINGS—NEW MATTER—AMENDMENT NOT PERMITTED.

Where the original drawings showed a tool having a tapered shank of the usual auger form and it was described as being formed from twisting a tapered flat strip of metal and it appears that the product as shown would result from the operation of *twisting* as this term is used in the arts, *Held* that a drawing showing the tool-shank in any other form was inadmissible, as involving new matter, although such form might also result from a twisting operation.

ON PETITION.

ICE-PICKS.

Messrs. Sturtevant & Greeley for the applicant.

ALLEN, *Commissioner:*

This is a petition from the refusal of the Primary Examiner to permit the addition of three views to the drawings.

The invention relates to an ice-breaking tool having a spiral or twisted shank. In the first Office action the Examiner stated that one of the claims covered an element which was not shown on large enough scale, for which reason it was not clearly illustrated, and that further illustration was required. The Examiner did not state to what element he referred; but from the language of his letter following the requirement for additional illustration and from an examination of the claim itself it may be presumed that the part which was deemed to be insufficiently shown is the "cutting edge (5) parallel with the axis of the tool."

In an effort to comply with the requirement the applicant presented a sketch showing three different views of the spiral tool-shank; but the Examiner has refused to permit illustration in accordance therewith on the ground that it involves a departure from the original disclosure, asserting that the sketches show a flat blank *coiled* rather than twisted. Whether the one term or the other is properly applicable to the structure shown in such sketch is immaterial, it being sufficient that the structure is different from that originally disclosed. The drawings originally showed a shank of the usual auger form, and it was described as being formed by *twisting* a tapered flat strip of metal into spiral form. In the art of metal-bending it is found that the operation referred to as *twisting* results in a product which has an appearance identical with that of applicant's original illustration. It is therefore clear that the original drawings correctly illustrated the product resulting from the described operation, and as the drawings can be corrected only by the specification there is no proper basis upon which the request for the additional illustration in the form presented can be founded.

Moreover, it does not appear from the record just why applicant wishes to illustrate his device in the way shown in the sketch. As far as I can understand the only feature alleged by the Examiner to be not fully illustrated is the cutting edge 5. If it is applicant's purpose to further illustrate this feature, it can be just as well illustrated with the spiral shank of the form originally shown as with the form shown in the sketch. The position of this cutting edge 5 appears to be correctly represented in the sketches, and if applicant so desires this feature may be shown with the spiral shank of the original views after a blue-print has been filed.

The petition is denied.

EX PARTE THE CHAS. H. PHILLIPS CHEMICAL CO.

Decided October 28, 1905.

1. TRADE-MARKS—REJECTION—MORE THAN ONE CLASS OF GOODS.

Held that registration was properly refused where the application described the mark as applied to various articles which are not of substantially the same descriptive properties.

2. SAME—ACT 1905 CONSTRUED—SUBSTANTIALLY THE SAME DESCRIPTIVE PROPERTIES.

The act of February 20, 1905, does not contemplate that a single trade-mark registration shall include goods which are not of substantially the same descriptive properties.

3. SAME—SAME—SAME—SINGLE TRADE-MARK RIGHT.

According to the provision relating to infringement a single trade-mark right extends no further than to "merchandise of substantially the same descriptive properties," and there is nothing to show an intent to permit a single registration to include more than one trade-mark right.

ON APPEAL.

TRADE-MARK FOR CHEMICALS.

Mr. Henry Connett for the applicant.

ALLEN, *Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing registration on the ground that the application is not limited to goods of substantially the same descriptive properties and that therefore it includes more than one trade-mark right.

The applicant states that the class of goods is drugs and chemicals and gives the particular description of the goods to which the mark has been applied as follows:

* * * a magnesia preparation an acid phosphate, a syrup of phosphates, a quinin compound, a cod-liver-oil emulsion, and camphor.

It is very clear that the goods here described are not of substantially the same descriptive properties, and the appellant makes no argument tending to show that they are. It merely points out that they belong to the one general class of drugs and chemicals and argues that there is nothing in the act of February 20, 1905, to require limitation to goods of substantially the same descriptive properties. It contends that it is entitled to include in one registration all goods upon which it has used the mark, provided that they come within one general class of merchandise.

A question like that in the present case was presented for consideration and fully discussed in the case of *ex parte Faxon*, (103 O. G., 891.) The discussion there was of the law of 1881, and the reasons why each application must be confined to goods of substantially the same descriptive properties were fully stated. Those reasons are equally applicable to the act of February 20, 1905. Section 16 of that act limits the right of the registrant in the matter of infringement to those persons who use the mark upon "merchandise of substantially the same descriptive properties." Congress has thus defined the scope of each trade-mark right, and there is nothing in the act of February 20, 1905, to show an intent to permit a single registration to include more than one trade-mark right.

The decision of the Examiner of Trade-Marks is affirmed.

BROOKER v. SMITH.

Decided October 28, 1905.

INTERFERENCE—MOTION FOR DISSOLUTION—APPEAL—RIGHT TO CLAIM NOT CONSIDERED ON APPEAL FOR IRREGULARITY IN DECLARATION.

Where no irregularity was urged before Primary Examiner except that opponent's case contained new matter and appeal was taken from Examiner's decision finding no irregularity,

Held that the question of new matter is not one of irregularity, but one of right to make the claim, on which no appeal lies from affirmative decision, and that there was no justification for the appeal.

APPEAL on motion.

TUBE-FORMING MACHINES.

Mr. Geo. H. Benjamin for Brooker.

Mr. Milton E. Robinson for Smith.

ALLEN, *Commissioner:*

This is an appeal by Brooker from the decision of the Primary Examiner denying his motion to dissolve the interference as to counts 1, 2, 3, and 5.

The grounds of the appeal are stated as follows:

First. That the Examiner erred in holding that there was no irregularity in declaring the interference with issues 1, 2, 3 and 5;

Second. That the Examiner erred in holding that Smith had right to claim issues 1, 2, 3 and 5.

It is very clear that the second ground stated goes to the merits and that there is no appeal from the Examiner's favorable decision thereon. (Rule 124.)

In regard to the first ground it is noted that no irregularity has been pointed out on this appeal or upon the original motion. The brief before the Primary Examiner alleged that there was irregularity as to count 5 because Brooker supposed it to contain new matter not in Smith's case as originally filed. This was clearly not a question of irregularity, but a question as to the right of Smith to make the claims. The Examiner's decision was favorable upon that question, and under the express provisions of the rule there is no appeal. No other supposed irregularity was alleged as to count 5, and no irregularity whatever was alleged as to counts 1, 2, and 3. It is apparent, therefore, that there was no justification whatever for this appeal.

The decision of the Primary Examiner is affirmed.

CARNEY v. LATIMER.

Decided October 28, 1905.

INTERFERENCE—MOTION FOR DISSOLUTION—DELAY IN BRINGING.

Where motion for dissolution was filed two months after access was permitted to opponent's case and it appeared that the delay was due to several delays in attending to the preliminaries to the motion, not shown to be unavoidable, *Held* that the motion would not be entertained.

ON PETITION.

COMBINED TELEPHONE-EXCHANGE AND ALARM SYSTEM.

Messrs. Bulkley & Durand for Carney.

Messrs. Bartlett, Brownell & Mitchell for Latimer.

ALLEN, *Commissioner:*

This is a petition by Carney for leave to file a motion for dissolution of the above-entitled interference.

It appears that Carney's preliminary statement failed to overcome the filing date of Latimer, and on July 21, 1905, he was ordered to show cause on or before August 10 why judgment should not be entered against him on the record. No reply was made by him, and on August 11 the case was decided in favor of Latimer. On August 31 Carney filed an appeal to the Examiners-in-Chief from the decision against him, and on September 18 he presented the present petition. It appears, therefore, that Carney did not present his motion for dissolution until two months after he was permitted to see and obtain copies of his opponent's application.

An affidavit has been filed by Carney setting forth the

reasons for the delay in presenting his motion for dissolution, and it is stated therein that he was not advised of the order of July 21 until some time thereafter and that as soon as he had an opportunity to confer with his attorneys he ordered through them copies of the papers in Latimer's case and that the attorneys did not receive those copies until August 10, 1905. It is alleged, further, that he did not have an opportunity to personally examine the copies with his attorneys until August 29 and that he is now convinced that the interference should be dissolved.

It is very apparent that Carney has not acted with the requisite diligence in determining whether or not he should make a motion for dissolution. The rule allows twenty days for that purpose, and if Carney was unable to make the motion within that time it was incumbent upon him to make it at the earliest possible date thereafter. It is to be noted that the present motion was not filed until more than a month after the attorneys received copies of the papers in Latimer's case, and there is no sufficient excuse for the delay.

The petition is denied.

PRYOR *v.* BALL *v.* BRAND.

Decided October 31, 1905.

1. INTERFERENCE—RE-FORMATION OF ISSUE.

It does not follow because the Examiner explained the meaning of terms of the issue in his decision upon motion for dissolution that the issue is not so clear as to be readily understood.

2. SAME—MOTION FOR DISSOLUTION—APPEAL.

Where the matters urged before the Examiner under the head of irregularity in declaration related to rights of parties to make the claim in issue, *Held* that such matters would not be considered upon appeal from the Examiner's decision finding no irregularity existed.

APPEAL on motion.

AUTOMATIC PIANO-PLAYER.

Mr. Reginald C. Pryor pro se.

Mr. George H. Benjamin for Ball.

Mr. E. H. Bond for Brand.

ALLEN, *Commissioner:*

This is an appeal from the decision of the Primary Examiner refusing to dissolve the interference on the ground of irregularity in the declaration.

The appellant calls attention in his brief to the fact that the Examiner in his decision on motion explained the meaning of the terms in issue and contends that this is improper, as the issue should be so plain as to be readily understood without such explanation. The explanation referred to was made by the Examiner in view of the contentions by appellant. It does not follow because the Examiner explained the meaning of the terms in the issue that the issue is not, in fact, so plain as to be readily understood and clearly include the devices of the respective applicants, and it does not appear at this time wherein the issues need reforming. The matters urged before the Primary Examiner under the head of irregularity in declaration relate to the rights of the parties to claim the issue. Such matters will not be considered upon an appeal of this kind.

The decision of the Primary Examiner refusing to dissolve the interference upon the ground of irregularity in the declaration thereof is affirmed.

WALTER BAKER & COMPANY, LIMITED, *v.* HAWLEY AND HOOPS.

Decided October 31, 1905.

1. TRADE-MARKS—PUBLICATION BEFORE INTERFERENCE.

The publication of trade-marks under section 6 of the act of 1905 should precede the declaration of interferences in regard to them.

2. SAME—SAME—REGISTRABILITY OF MARK.

The provision in section 6 of the act of 1905 that publication is to occur when it appears "that the applicant is entitled to have his trade-mark registered" does not preclude publication where two parties claim the mark and an interference is necessary. The provision means that the mark is regarded as registrable except for contests

3. SAME—PUBLICATION—RIGHT TO REGISTRATION NOT SETTLED.

The publication of a mark does not necessarily mean that it will be registered to the applicant, since his right to registration depends upon the result of contests which may be conducted thereafter.

4. SAME—SAME—PIECEMEAL CONTESTS TO BE AVOIDED.

The publication of trade-marks is for the purpose of permitting contests as to the applicant's right to registration, and it is to the interest of applicants, as well as this Office, that all contests be conducted at once instead of piecemeal.

ON REFERENCE.

TRADE-MARK FOR COCOA, ETC.

Messrs. Putnam & Putnam for Walter Baker & Company.

Messrs. Knight Bros. for Hawley and Hoops.

ALLEN, *Commissioner:*

The above-entitled case has been referred to me for consideration of the question whether it is proper to declare interferences in trade-mark cases prior to the publication of the marks in the OFFICIAL GAZETTE under section 6, act of February 20, 1905.

The present interference stands suspended for the purpose of consolidating it with an opposition filed by Walter Baker & Company to the registration of a mark by Hawley and Hoops which was recently published. The interference and opposition are closely related, and the Office concluded that time and trouble would be saved by consolidating them for the purpose of taking testimony. On behalf of Walter Baker & Company it is asked that its mark also be published before conducting the interference which has been declared, so that others who may wish to contest the right to registration will have an opportunity to come forward and take part in the proceedings. It is urged that the Office should not first conduct a contest between two parties and then publish the successful party's mark with the idea of permitting others to contest it.

It is of course obvious as a general proposition that it would be to the interest of this Office, as well as of the applicants, to have all contestants appear and take part in one proceeding rather than in successive proceedings. Piecemeal disposition of contests of this kind would be burdensome upon the parties and upon this Office. Such piecemeal consideration should be avoided unless the difficulties and objections to the proceedings necessary to bring in all parties at once are such as to make it impractical and unless the statute itself makes it necessary to conduct all interferences found to exist before publishing the mark with a view to other possible contests.

Section 6 of the act of February 20, 1905, provides for the examination of trade-mark applications and says:

> * * * if on such examination it shall appear that the applicant is entitled to have his trade-mark registered under the provisions of this act, the Commissioner shall cause the mark to be published at least once in the OFFICIAL GAZETTE of the Patent Office.

The purpose of this publication is to permit opposition to the registration of the mark by "any person who believes he would be damaged by the registration." If opposition is made, proceedings analogous to an interference are conducted, for section 7 of the act provides:

* * * In every case of interference or opposition to registration he shall direct the Examiner in charge of interferences to determine the question of the right of registration to such trade-mark, and of the sufficiency of objections to registration, in such manner and upon such notice to those interested as the Commissioner may by rules prescribe.

It is apparent, therefore, from the statutes that the publication of a mark does not necessarily mean that it will be registered to the applicant. Registration is subject to the findings upon the contests which may be conducted thereafter. It is apparent, therefore, that there is no underlying principle which would prevent publication of the mark before settling contests as to the applicant's right to registration.

Section 6 of the act says that marks will be published if—

it shall appear that the applicant is entitled to have his trade-mark registered.

It is clear from this that no mark should be published which would not be registrable to the applicant even in the absence of a contest.

Does it mean, further, that all known contests as to the applicant's rights have been settled? Or does it mean merely that there is no bar to registration independent of such as may be established in contested proceedings? The latter is, in my opinion, the proper interpretation of the statute.

The statute contemplates the fact that there may be a contest after publication, and the fact that this Office knows in advance that there *will* be such contest furnishes no good reason for postponing publication. The publication will simply bring into the contest to be conducted all interested parties.

In the matter of patent applications it has been the practice to declare interferences only where there is an allowable application claiming the invention. In my opinion the words "is entitled to have his trade-mark registered," in section 6 of the act of February 20, are used in the same sense as "allowable application" in the patent practice relating to interferences. In neither case is the right of the applicant finally determined, but in both it is determined in his favor, subject to the conclusion in the contemplated contest.

It is held, therefore, that there is nothing in the act of February 20 to prevent the publication of marks before declaring interferences in regard to them. It remains to be determined whether there is any practical objection to such publication which should be regarded as having controlling force.

Where there are two or more applicants claiming substantially the same mark and publication is made before interference, it would be necessary to publish all of them, whereas if publication was made after interference it would be necessary to publish only the mark of the successful party. So, also, where the proposed interference is between an applicant and a prior registrant the publication of the applicant's mark before interference may be found to have been unnecessary when the result of the interference is known, since the registrant may be the successful party. Another objection to publication before interference is that interested parties may be confused and misled. They may suppose that this Office has settled all known controversies in the applicant's favor and is ready to register the mark unless some new reason for refusal is brought forward.

The confusion of interested parties does not seem to be a vital objection, since they will soon learn the practice in such cases and may be informed when in doubt. The expense incident to the publications which may be found to have been unnecessary when the interference is concluded does not, in my opinion, warrant a postponement of publication until after the interference. It should not be permitted to outweigh the advantage both to applicants and this Office in disposing of all contests at once.

The prior publication of marks would, of course, delay the declaration of interferences for the thirty days allowed by the statute for oppositions; but that delay is much to be preferred to successive contests relating to the same mark.

It is believed that the successful party to an interference would have just cause of complaint if this Office compelled him to take part in one contest as to his right to registration and then published his mark and, in effect, invited others to contest his right. Successive contests may of course be necessary in some cases; but it is believed that this Office should do all it can to prevent them rather than to invite them.

It is held that the publication of marks under section 6 of the act of February 20, 1905, should precede the declaration of interferences in regard to them. The papers are remanded to the Examiner of Trade-Marks for the purpose of publishing the mark of Walter Baker & Company.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 119—No. 3. TUESDAY, NOVEMBER 21, 1905. PRICE—$5 per year.

CONTENTS.

	Page.
ISSUE OF NOVEMBER 21, 1905	655
ATTORNEYS	655
DISCLAIMER	655
APPLICATIONS UNDER EXAMINATION	656
PRINTED COPIES OF PATENTS	656
PATENTS GRANTED	657
REISSUES	923
DESIGNS	927
TRADE-MARKS—REGISTRATION APPLIED FOR	931
TRADE-MARKS—REGISTERED	955
LABELS	960
PRINTS	960
COMMISSIONER'S DECISIONS—	
Ex parte Kurz	961
Standard Varnish Works v. The David B. Crockett Company	961
Templin v. Sergeant	961
Ex parte Myers	962
Martin v. Martin & Bowne Company	962
Ex parte Block	963
Ex parte The Star Distillery Company	964
Ex parte Wagner	965
Ex parte Donk	965
AMENDED TRADE-MARK RULES	966

ISSUE OF NOVEMBER 21, 1905.

Patents	615—	No. 804,819 to No	805,433, inclusive.
Designs	19—	No. 37,680 to No.	37,698, inclusive.
Trade-Marks	110—	No. 47,738 to No.	47,847, inclusive.
Labels	12—	No. 12,486 to No.	12,497, inclusive.
Prints	8—	No. 1,486 to No.	1,493, inclusive.
Reissues	4—	No. 12,409 to No.	12,412, inclusive.
Total issue	768		

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	.....	Nevada	1	.....
Alaska, District of	.....	.....	New Hampshire	4	1
Arizona Territory	1	.....	New Jersey	28	3
Arkansas	2	.....	New Mexico Ter't'y	1	.....
California	23	.....	New York	85	39
Colorado	11	.....	North Carolina	3	.....
Connecticut	16	2	North Dakota	1	.....
Delaware	3	.....	Ohio	44	18
District of Columbia	6	.....	Oklahoma Territ'y	.....	.....
Florida	1	.....	Oregon	1	.....
Georgia	4	1	Pennsylvania	73	13
Hawaii Territory	.....	.....	Porto Rico	.....	.....
Idaho	.....	.....	Rhode Island	5	.....
Illinois	54	16	South Carolina	.....	1
Indian Territory	1	.....	South Dakota	2	.....
Indiana	16	5	Tennessee	5	1
Iowa	17	.....	Texas	9	1
Kansas	13	1	Utah	2	.....
Kentucky	9	1	Vermont	2	.....
Louisiana	5	3	Virginia	1	1
Maine	5	1	Washington	6	1
Maryland	7	3	West Virginia	4	1
Massachusetts	38	8	Wisconsin	10	2
Michigan	17	.....	Wyoming	1	.....
Minnesota	10	.....	U. S. Army	.....	.....
Mississippi	1	.....	U. S. Navy	.....	.....
Missouri	21	3			
Montana	2	.....	Total to citizens of the United States	576	128
Nebraska	2	2			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Netherlands	.....	.....
Austria-Hungary	5	.....	Newfoundland	.....	.....
Belgium	.....	.....	New South Wales	.....	.....
Brazil	.....	.....	New Zealand	1	.....
British West Indies	.....	.....	Norway	.....	.....
Canada	7	1	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Roumania	.....	.....
China	.....	.....	Russia	2	.....
Costa Rica	.....	.....	San Salvador	.....	.....
Cuba	.....	.....	Scotland	1	.....
Denmark	4	.....	South Africa	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	10	.....	Sweden	3	.....
France	5	.....	Switzerland	2	.....
Germany	16	1	Transvaal, South Africa	.....	.....
India	.....	.....	Victoria	2	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	.....	.....			
Japan	.....	.....			
Java	.....	.....	Total to citizens of foreign countries	58	2
Mexico	1	.....			

Attorneys.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 15, 1905.

This Office has been advised by the Secretary of the Interior of the disbarment of the following attorneys from practice before the Department or any Bureau thereof: John A. Harris, Spokane, Wash., November 13, 1905; Charles H. Minshall, Viroqua, Wis., November 13, 1905.

C. M. IRELAN,
Chief Clerk.

Disclaimer.

669,627.—*Matthew S. Eylar*, East Orange, N. J. TYPE-WRITING MACHINE. Patent dated March 12, 1901. Disclaimer filed November 14, 1905, by the present assignee, the *Elliott-Fisher Company*,

Enters its disclaimer—

"To claims Nos. 2, 3, 4, 6, and 8 in said specification, which are in the following words, to wit:

"2. A type-writing machine having independent means at right angles to each other for securing respectively the carbon-sheet and the paper.

"3. In a flat-bed type-writer, the combination of the paper-roll arranged to deliver its sheet or web in one direction across the bed, and a carbon-roll arranged to deliver its web across the bed at right angles to the course of the paper.

"4. In a type-writing machine, the combination of a flat bed or platen, a paper-roll arranged to deliver its sheet over the platen, means for securing the end of the paper, a carbon-roll arranged to deliver its sheet over the platen, and independent means for securing the carbon.

"6. In a type-writing machine, the combination of a flat bed or platen, a paper-roll arranged parallel with one edge of the platen and in position to deliver the paper web thereover, a carbon-roll arranged at right angles to the paper-roll to deliver the carbon web across the platen, and means for securing the carbon and the paper in operative relations during the writing action.

"8. In a type-writing machine, a flat bed or platen, the coöperating frame B, the guide at the rear end for the paper web, a confining device for the said web at the forward end, and a support for the carbon-roll arranged lengthwise of the platen."

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business November 14, 1905.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
	In arrears—Under one month.			
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Nov. 3	Sept. 8	386
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Nov. 1	Oct. 4	305
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Nov. 1	July 6	545
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Oct. 31	Oct. 5	403
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Oct. 31	Sept. 26	264
167	V. Fine Arts, Bookbinding, Harvesters, Jewelry, and Music.	Oct. 31	Sept. 18	294
303	XVII. Linotyping, Printing, Matrix-Making.	Oct. 31	July 31	340
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Oct. 30	Aug. 31	426
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Oct. 27	Aug. 10	523
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Oct. 27	Aug. 9	229
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Oct. 25	Sept. 20	224
147	XXIX. Coopering, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools.	Oct. 25	Aug. 25	326
221	I. Tillage, etc., Fences, and Railway Draft Appliances.	Oct. 24	Sept. 13	247
104	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Oct. 24	Sept. 11	386
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Oct. 21	Aug. 21	277
109	XVI. Telegraphy and Telephony..	Oct. 19	Sept. 15	216
118	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Oct. 18	Sept. 15	214
	Between one and two months.			
234	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Oct. 7	Sept. 5	406
262	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Oct 6	Oct. 9	361
282	X. Carriages and Wagons.....	Oct. 6	Aug. 7	662
297	XVIII. Steam-Engineering, etc ...	Oct. 5	Aug. 24	290
127	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Stove Furniture.	Sept. 30	July 22	554

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
312	VII. Velocipedes, Clutches, Fire-Escapes, Games and Toys, Ladders, Mechanical Motors, and Paper Manufactures.	Sept. 25	May 15	615
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Optics, Signals, Time Controlling Mechanism.	Sept. 21	Aug. 9	501
307	XIV. Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Metal Personal Wear, Making, Nut and Bolt Locks, Sheet-Metal Ware, Making, Tools, Wire-Working.	Sept. 20	Aug. 3	303
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufacturing, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Sept. 20	July 10	453
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Sept. 18	July 3	684
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Sept. 18	June 15	500
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, Sewerage, and Water Distribution.	Sept. 16	May 15	955
	Between two and three months.			
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Aug. 28	July 13	583
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Aug. 26	May 25	655
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Aug. 24	Aug. 3	559
170	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Aug. 21	July 3	463
	Between three and four months.			
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Aug. 10	Apr. 10	691
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Aug. 7	May 26	960
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	July 17	May 8	579
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	July 14	June 6	622
	Between four and five months.			
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 12	July 20	553

Total number of applications awaiting action 17,757

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Between one and two months.			
	Trade-Marks.....	Oct. 6	Sept. 1	3747
	Under one month.			
	Designs.....	Nov. 2	Oct. 31	10
	Labels and Prints.....	Nov. 10	Nov. 11	9

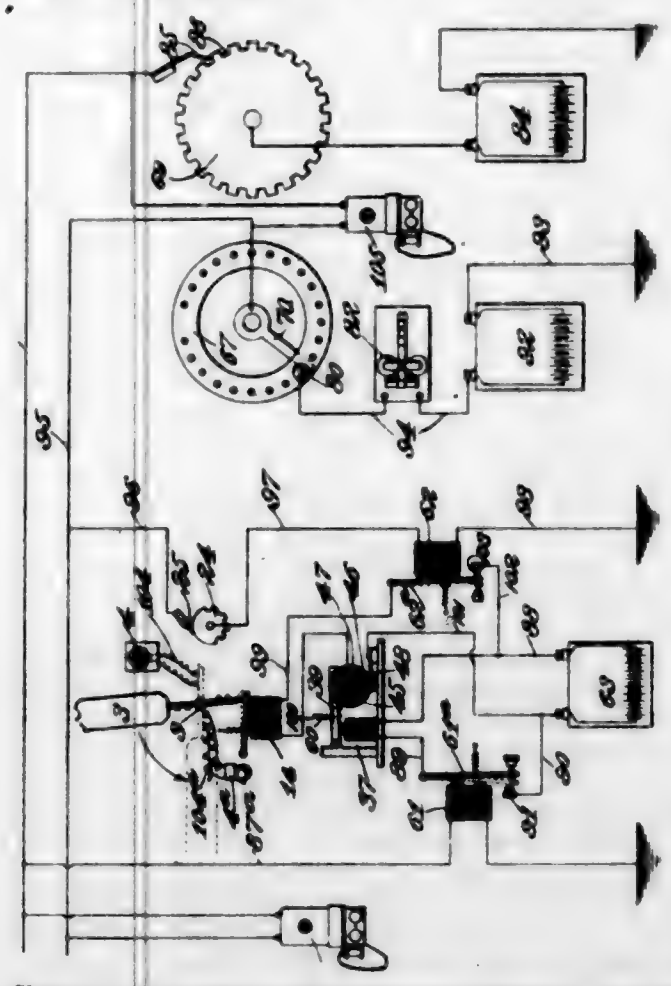
Printed Copies of Patents.

A printed copy of the complete specification and drawings of any patent published herein can be obtained for five cents.

PATENTS

GRANTED NOVEMBER 21, 1905.

804,819. **SIGNALING SYSTEM.** JAMES S. ALLISON, St. Louis, Mo., assignor to George M. Sealey, New York, N. Y. Filed Aug. 14, 1902. Serial No. 119,639.



Claim.—1. In a system of the character indicated, a plurality of signals, an operating mechanism for each of said signals, a source of energy local to each said operating mechanism, a circuit local to each said operating mechanism and including the same and said source of energy local thereto, a switch in each of said local circuits, a switch-operating mechanism for each said switch, a line-circuit including all of said switch-operating mechanisms and receiving its energy from a source independent of said local sources of energy, a device in said line-circuit for controlling the same, a second switch in each of said local circuits, said second switches being adapted to be brought into operative positions at different times with respect to each other, a second circuit local to each of said signals, an operating mechanism for each of said second switches and located in the respective said second local circuit, a switch in each of said second local circuits, a switch-operating mechanism for each of said last-mentioned switches, a second line-circuit including all of said last-mentioned switch-operating mechanisms and receiving its energy from a source independent of said local sources of energy, and a device in said second line-circuit for controlling the same; substantially as described.

2. In a system of the character indicated, a plurality of signals, an operating mechanism for each of said signals, a source of energy local to each said operating mechanism, a circuit local to each said operating mechanism and including the same and said source of energy local thereto, a switch in each of said local circuits, a switch-operating mechanism for each said switch, a line-circuit including all of said switch-operating mechanisms and receiving its energy from a source independent of said local sources of energy, a device in said line-circuit for controlling the same, a second switch in each of said local circuits, said second switches being adapted to be brought into operative positions at different times with respect to each other, a second circuit local to each of said signals, an operating mechanism for each of said second switches and located in the respective said second local circuit, a switch in each of said second local circuits, a switch-operating mechanism for each of said last-mentioned switches, a second line-circuit including all of said last-mentioned switch-operating mechanisms and receiving its energy from a source independent of said local sources of energy, a device in said second line-circuit for controlling the same; substantially as described.

3. In a system of the character indicated, a plurality of signals, an operating mechanism for each of said signals, a source of energy local to each said operating mechanism, a circuit local to each said operating mechanism and including the same and said source of energy local thereto, a switch in each of said local circuits, a switch-operating mechanism for each said switch, a line-circuit including all of said switch-operating mechanisms and receiving its energy from a source independent of said local sources of energy, a device in said line-circuit for controlling the same, a second switch in each of said local circuits, said second switches being adapted to be brought into operative positions at different times with respect to each other, a second circuit local to each of said signals, an operating mechanism for each of said second switches and located in the respective said second local circuit, a switch in each of said second local circuits, a switch-operating mechanism for each of said last-mentioned switches, a second line-circuit including all of said last-mentioned switch-operating mechanisms and receiving its energy from a source independent of said local sources of energy and also independent of said source of energy which supplies said first-mentioned line-circuit, and a device in said second line-circuit for controlling the same; substantially as described.

4. In apparatus of the character indicated, a signal, operating mechanism therefor, a normally-open circuit controlling said mechanism, a station-signal in said circuit, a signal-sending mechanism in said circuit and provided with a circuit-breaker normally in circuit-forming position, means for closing said circuit to cause operation of said first-mentioned signal, and means whereby said first-mentioned signal by its operation causes signal-sending operation of said circuit-breaker of signal-sending mechanism; substantially as described.

5. In a system of the character indicated, a signal, means for operating the same, a part movable upon operation of said signal, and an answering-back mechanism including a second signal, a driving means, a loosely-mounted gear, operative connection between said gear and said second signal, connection between said gear and said driving means for placing the latter in driving condition by operation of the former, means for operatively connecting said movable part and said gear, and means for automatically breaking said connection; substantially as described.

6. In a system of the character indicated, a signal, means for operating the same, a part movable upon operation of said signal, and an answering-back mechanism including a second signal, a driving means, a loosely-mounted gear, operative connection between said gear and said second signal, connection between said gear and said driving means for placing the latter in driving condition by operation of the former, a member upon said movable part and engaging said gear, and a projection in the path of movement of said member for breaking said engagement; substantially as described.

7. In a system of the character indicated, a signal, means for operating the same, a shaft rotatable upon operation of said signal, and an answering-back mechanism including a second signal, a driving member, a gear loosely mounted upon said shaft and connected to said driving member for placing the latter in driving condition, a bolt upon said shaft engaging said gear, a projection in the path of travel of said bolt for breaking said engagement, and operative connection between said gear and said second signal; substantially as described.

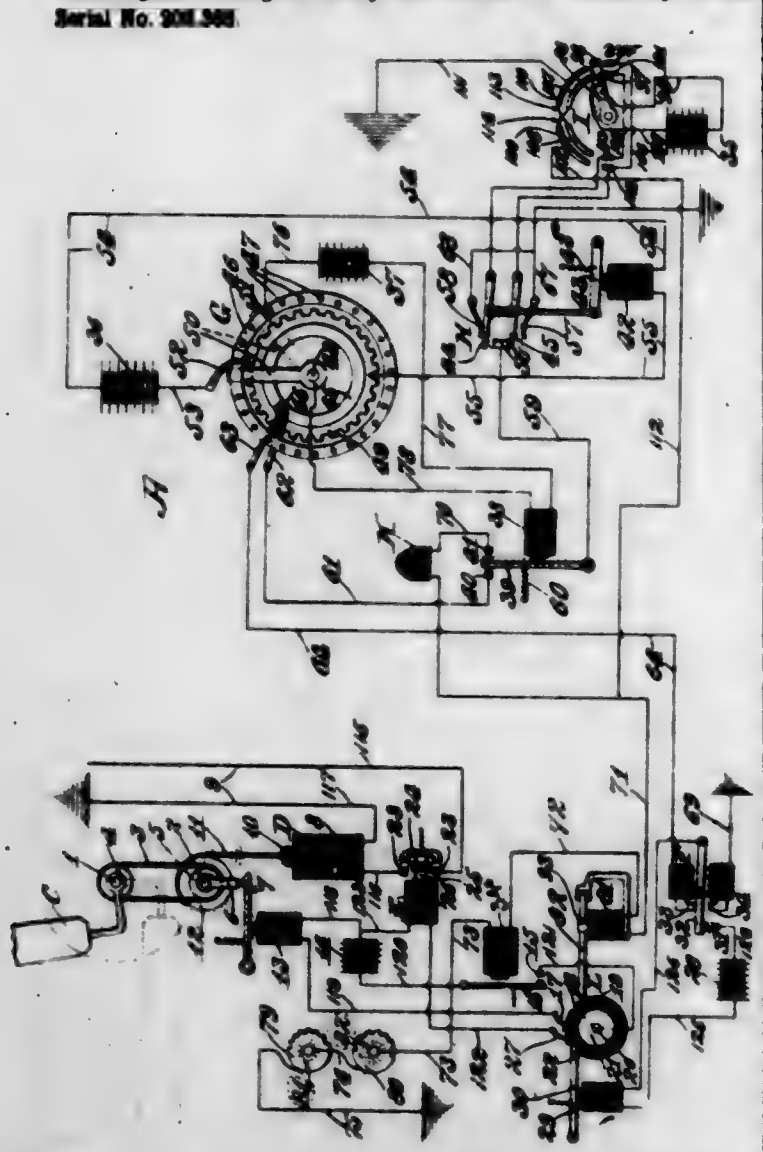
8. In a switch of the character indicated, a rotatable disk, a contact member thereon, a second contact member coöperating with said first-mentioned contact member, a reciprocating lever, pawl-and-ratchet connection between said lever and said disk for driving the latter, teeth upon said disk, an arresting-pawl adapted to coöperate with said teeth to limit the forward movement of said disk, operative connection between said arresting-pawl and said lever, and means for adjustably regulating the throw of said arresting-pawl; substantially as described.

9. In a switch of the character indicated, a rotatable disk, a contact member thereon, a second contact member coöperating with said first-mentioned contact member, a reciprocating lever, pawl-and-ratchet connection between said lever and said disk for driving the latter, teeth upon said disk, a pawl adapted to coöperate with said teeth to limit the movement of said disk, and adjustable operative connection between said pawl and said lever; substantially as described.

10. In a switch of the character indicated, a rotatable disk, a contact member thereon, a second contact member coöperating with said first-mentioned contact member, a supporting-post, a pawl pivotally supported upon said post, teeth upon said disk with which said pawl engages to limit the movement of the disk, pawl-and-ratchet connection between said lever and disk for driving the latter, a finger extending from said first-mentioned pawl, and parts carried by said lever and engaging opposite sides of said finger; substantially as described.

11. In a switch of the character indicated, a rotatable disk, a contact member thereon, a second contact member coöperating with said first-mentioned contact member, a supporting-post, a pawl pivotally supported upon said post, teeth upon said disk with which said pawl engages to limit the movement of the disk, pawl-and-ratchet connection between said lever and disk for driving the latter, a finger extending from said first-mentioned pawl, and adjustable parts carried by said lever and engaging opposite sides of said finger; substantially as described.

804,820. SIGNALING SYSTEM. JAMES E. ALLISON, St. Louis, Mo., assignor to George K. Seeley, New York, N. Y. Filed May 4, 1904. Serial No. 206,365.



Claim.—1. In a system of the character indicated, a plurality of signals, a single sending instrument, connections between the said sending instrument and the several signals whereby any one of the signals can be separately operated by said instrument, and a connection between the instrument and the several signals whereby any single one of the signals can, through the instrumentality of said instrument be restored to normal position, said instrument being operable for operating all of said signals and for restoring all of them; substantially as described.

2. In a system of the character indicated, the combination with a signal, of an operative mechanism adapted in its operation to render said signal operative, a second operative mechanism adapted in its operation to restore said signal to normal position, a circuit controlling said first-mentioned operative mechanism, a circuit controlling said second-mentioned operative mechanism, a movable terminal included in each of said circuits, a terminal in each of said circuits with which said movable terminal is adapted to be brought into contact at different times, means for moving said movable terminal, a switch in each of said circuits, and means for operating said switch; substantially as described.

3. In a system of the character indicated, a signal, an operative mechanism adapted in its operation to render said signal operative, a second operative mechanism adapted in its operation to restore said signal to normal position, a circuit controlling said first-mentioned operative mechanism, a second circuit controlling said second-mentioned operative mechanism, a movable terminal included in both said circuits, a terminal in each of said circuits with which said movable terminal is adapted to be brought into contact at different times, a switch in both said circuits, and a sending instrument including means whereby when said movable terminal is brought into contact with either of said fixed terminals said switch in said circuits is operated to render effective the particular circuit with whose terminal said movable terminal is in contact; substantially as described.

4. In a system of the character indicated, the combination with a signal, of an operative mechanism through whose operation said signal is rendered operative, a second operative mechanism through whose operation said signal is restored to normal position, a circuit controlling said first-mentioned operative mechanism, a second circuit controlling said second-mentioned operative mechanism, a movable terminal in both said circuits, a terminal in each of said circuits and adapted to be contacted by said movable terminal at different times, an operative mechanism for giving said movable terminal a step-by-step movement, a circuit controlling said last-mentioned operative mechanism, a switch in both said first two mentioned circuits, an operative mechanism controlling said switch, and a sending instrument including means for controlling the said circuits controlling said last two mentioned operative mechanisms; substantially as described.

5. In a system of the character indicated, a signal, a source of energy, an operative mechanism through whose operation said signal is rendered operative, a second operative mechanism through whose operation said signal is restored to normal position, a circuit from said source of energy and including said first-mentioned operative mechanism, a second circuit from said source of energy and including said second-mentioned operative mechanism, a movable terminal included in both said circuits, a relatively fixed terminal in each of said circuits with which said latter-mentioned terminals said movable terminal is adapted to be brought into contact at different times, a switch in both of said circuits, and means for controlling said movable terminal and said switch; substantially as described.

6. In a system of the character indicated, a signal, an operative mechanism controlling the same, a circuit including said operative mechanism, two switches in said circuit, a circuit controlling one of said switches, another circuit controlling the other thereof, terminals in each of said last-mentioned two circuits, and a movable terminal common to both said last-mentioned two circuits and adapted to contact with either of said last-mentioned two terminals for completing the particular circuit including the terminal with which said movable terminal is in contact; substantially as described.

7. In a system of the character indicated, a signal, an operative mechanism controlling the same, a circuit controlling said operative mechanism, two switches in said circuit, a source of energy, a terminal connected thereto, two terminals each of which is adapted to separately coöperate with said first-mentioned terminal, electrical connection between one of said two terminals and the operative mechanism for one of said switches, electrical connection between the other of said two terminals and the operative mechanism for the other of said switches, and means for causing electrical connection to be made between either of said two terminals and said terminal in connection with said source of energy; substantially as described.

8. In a system of the character indicated, a signal, an operative mechanism controlling the same, a circuit including said operative mechanism, two switches in said circuit, an operative mechanism for

controlling each of said switches, a circuit including one of said switch-controlling operative mechanisms, another circuit controlling the other of said switch-controlling operative mechanisms, a terminal in each of said last two mentioned circuits, a terminal common to both of said last two mentioned circuits and adapted to electrically contact with either of said first two mentioned terminals, means whereby said terminal common to both said last two mentioned circuits is normally in contact with one of its said coöperating terminals, and a sending instrument including means for transmitting energy over said circuit whose terminal is normally in contact with said coöperating terminal and means whereby, at a desired time, said terminal common to both said switch-controlling circuits is brought into electrical contact with the other of its said coöperating terminals for causing energy to be transmitted over the circuit including said last-mentioned terminal; substantially as described.

9. In a system of the character indicated, a signal, an operative mechanism controlling the same, a circuit including said operative mechanism, two switches in said circuit, a controlling mechanism for each of said switches, a circuit including one of said witch-controlling mechanisms, another circuit including the other of said switch-controlling mechanisms, a relatively fixed terminal in each of said last two mentioned circuits, a movable terminal common to both said last two mentioned circuits and movable between said first two mentioned terminals, an operative mechanism controlling said movable terminal, a circuit including said operative mechanism, means whereby said movable terminal is normally in contact with one of its said coöperating terminals, a sending instrument including means for causing electrical impulses to be transmitted over the circuit including said last-mentioned relatively fixed terminal, said sending instrument also including terminals of said circuit which controls said before-mentioned movable terminal, one of said terminals included in said sending instrument being movable with respect to the other thereof during the operation of said sending instrument; substantially as described.

10. In a system of the character indicated, a signal, a circuit controlling the operation of said signal, two brushes in said circuit, a sending instrument, a conducting-strip in said sending instrument upon which said brushes are adapted to bear during the operation of said sending instrument, and a non-conducting portion between the end of said sending-strip and adapted to receive said brushes when said sending instrument is inoperative; substantially as described.

11. In a system of the class described, a signal, means for rendering said signal operative, an operative mechanism for restoring said signal to normal position, a main-line circuit, a circuit from said main-line circuit including said operative mechanism, and means for controlling said last-mentioned circuit comprising a switch in the last-mentioned circuit, and a pole-changer; substantially as described.

12. In a system of the character indicated, a signal, means for rendering said signal operative, an operative mechanism for restoring said signal to normal position, a main-line circuit, a circuit from said main-line circuit including said operative mechanism, a switch in said last-mentioned circuit, a sending instrument, means whereby said sending instrument controls said means for rendering said signal operative, and means whereby said sending instrument also controls said switch; substantially as described.

13. In a system of the character indicated, a signal, an operative mechanism for rendering said signal operative, a second operative mechanism for restoring said signal to normal position, a circuit including said first-mentioned operative mechanism, a terminal in said circuit, a second circuit including said second-mentioned operative mechanism, a switch in said second circuit, a switch-operating mechanism, a third circuit including said switch-operating mechanism, a terminal in said third circuit, a movable terminal common to both said first circuit and said third circuit and adapted to coact with either of said first two mentioned terminals, and means for operating said movable terminal; substantially as described.

14. In a system of the character indicated, a signal, an operative mechanism for rendering said signal operative, a second operative mechanism for restoring said signal to normal position, a circuit including said first-mentioned operative mechanism, a terminal in said circuit, a second circuit including said second-mentioned operative mechanism, a switch in said second circuit, a switch-operating mechanism for operating said switch, a third circuit including said switch-operating mechanism, a terminal in said third circuit, a movable terminal common to both said first circuit and said third circuit and adapted to coöperate with said first two mentioned terminals, a switch common to both said first circuit and said third circuit, and means for causing said movable terminal to contact with both said first two mentioned terminals at different times and for causing said last-mentioned switch to be operated simultaneously with the contact of said movable terminal with either of said first two mentioned terminals; substantially as described.

15. In a system of the character indicated, a signal, means for rendering said signal operative, means for restoring said signal to normal position, means for automatically causing a signal to be transmitted when said first-mentioned signal is rendered operative, and means for causing a signal to be transmitted when said first-mentioned signal is restored; substantially as described.

16. In a system of the character indicated, a signal, means for causing said signal to be rendered operative, means for causing said signal to be restored, two signal-sending mechanisms, a mechanism under the control of said first-mentioned signal for operating said signal-sending mechanisms, and means whereby when said first-mentioned signal is rendered operative one of said signal-sending mechanisms is permitted to operate and the other of said signal-sending mechanisms is placed in operative condition, and means whereby when said first-mentioned signal is restored said other of said signal-sending mechanisms is permitted to operate and said first separately-mentioned signal-sending mechanism is rendered operative, substantially as described

17. In a system of the character indicated, a signal, a circuit controlling said signal and including a switch, step-by-step mechanism for operating said switch, a circuit including said switch-operating mechanism, a second switch included in said last-mentioned circuit, and means whereby, for each step of movement of said first-mentioned switch, said last-mentioned switch is electrically thrown into circuit-forming position and electrically thrown into circuit-breaking position; substantially as described.

18. In a system of the character indicated, a signal, a circuit controlling the same and including a step-by-step switch, switch-operating mechanism, a circuit controlling said switch-operating mechanism and including a second switch, a polarized magnet controlling the movable member of said second switch, a sending instrument, and means controlled by said sending instrument for alternately energizing the opposite poles of said polarized magnet; substantially as described.

19. In a system of the character indicated, a signal, a circuit controlling the operation of said signal and including a step-by-step switch, switch-operating mechanism, a circuit controlling said switch-operating mechanism and including a second switch, a polarized magnet controlling the movable member of said second switch, a circuit including said polarized magnet, a pole-changer in said circuit, a sending instrument, and means whereby said sending instrument in its operation causes operation of said pole-changer; substantially as described.

20. In a system of the character indicated, a plurality of signals, a step-by-step switch for each of said signals, a sending instrument controlling all of said switches, and means whereby all of said switches can be corrected with respect to each other; substantially as described.

21. In a system of the character indicated, a plurality of signals, a step by-step switch controlling each of said signals, a stop member upon each of said switches, a cooperating stop member for each of said switches, a central station, means for operating each of said switches from said central station, means for normally holding each of said coöperating stop members in inoperative position, and means whereby each of said coöperating stop members can be thrown into stopping position from said central station; substantially as described.

22. In a system of the character indicated, a plurality of signals, a step-by-step switch controlling each of said signals, a stop member upon each of said switches, a coöperating stop member for each of said switches, a polarized magnet controlling each of said coöperating stop members, a circuit including said polarized magnets, a pole-changer in said circuit, and means for operating said several switches; substantially as described.

23. In a system of the character indicated, the combination with a switch including a rotatable disk, a conductor carried by said disk, a terminal coöperating with said conductor, and means for actuating said disk by a step-by-step movement, of a stop member connected to said disk, a coöperating stop member, and means for throwing said coöperating stop member into and out of the path of movement of said first-mentioned stop member; substantially as described.

24. In a switch of the character indicated, a rotatable disk, a conductor carried by said disk, a terminal coöperating with said conductor, and means for moving said disk by a step-by-step movement, of a stop member connected to said disk, a polarized magnet, and a stop-lever pivotally supported between the poles of said magnet; substantially as described.

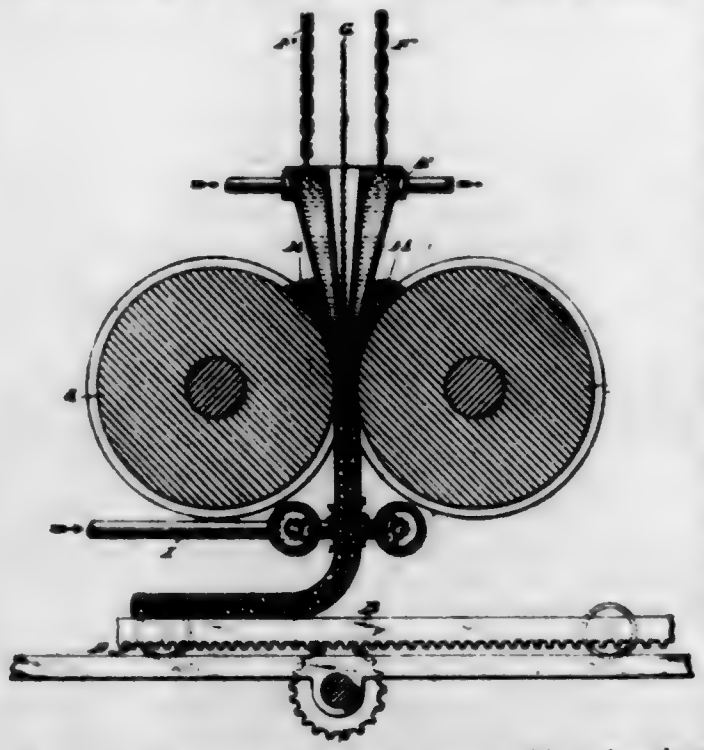
25. In a switch of the character indicated, a rotatable shaft, a

disk fastened thereto, a conductor carried by said disk, a terminal coöperating with said conductor, a ratchet-disk fastened to said shaft, an arm loosely mounted upon said shaft, a pawl carried by said arm and coöperating with said disk, a lever, and operative connection between said lever and said pawl-carrying arm; substantially as described.

26. In a switch of the character indicated, a rotatable shaft, a disk fastened upon said shaft, a contact member carried by said disk, a terminal coöperating with said contact member, a ratchet-disk fastened upon said shaft, a bell-crank lever loosely mounted upon said shaft, a pawl upon one arm of said bell-crank lever and coöperating with said ratchet-disk, a lever and a link connecting said lever and the other arm of said bell-crank lever; substantially as described.

27. In a switch of the character indicated, a rotatable shaft, a disk fastened upon said shaft, a conductor carried by said disk, a terminal coöperating with said conductor, a ratchet-disk fastened upon said shaft, an operating-lever, a rock-shaft, a pawl upon said rock-shaft and coöperating with said ratchet-disk to limit the movement of the same, a rock-arm upon said rock-shaft and a link between said lever and said rock-arm; substantially as described.

804,821. MANUFACTURE OF WIRE-GLASS. ARTHUR J. BALDWIN, East Orange, N. J. Filed July 22, 1904. Serial No. 217,707.



Claim.—1. An improvement in the art of making wire-glass which consists in forming the sheet in a single roll-pass and introducing the wire out of contact with the glass and simultaneously with the formation of said sheet to the center of said roll-pass.

2. An improvement in the art of making wire-glass which consists in forming the sheet in a single roll-pass and introducing the wire by gravity simultaneously with the formation of said sheet to the center of said roll-pass.

3. An improvement in the art of making wire-glass which consists in forming the sheet in a single roll-pass and introducing the wire by gravity and simultaneously with the formation of said sheet to the center of said roll-pass and subjecting the sheet upon its delivery from the roll-pass to the action of an air-regulating blast.

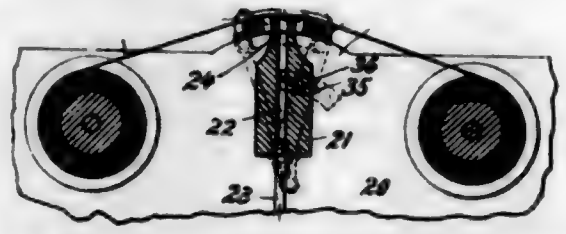
4. In the manufacture of wire-glass the combination of sheet-forming rolls and means for screening the wire from the glass until the wire reaches substantially the sheet-forming portion of the roll-pass.

5. In the manufacture of wire-glass the combination of sheet-forming rolls and removable means for screening the wire from the glass until the wire reaches substantially the sheet-forming portion of the roll-pass.

804,822. TRACKER-BOARD. HENRY P. BALL, Schenectady, N. Y., assignor of one-half to Samuel Insull, Chicago, Ill. Filed Nov. 20, 1902. Serial No. 132,027.

Claim.—1. A tracker-board comprising a fixed portion having a series of ducts, and a portion movable relative to the fixed portion having a plurality of series of ducts, differently spaced at one surface of the movable portion and each series adapted to coact with the ducts of the fixed portion when moved into relation therewith.

2. A tracker-board comprising a fixed portion having a series of ducts, and a portion movable relative to the fixed portion having a plurality of series of ducts differing in size, each series adapted to coact with the ducts of the fixed portion when moved into relation therewith.



3. A tracker-board comprising a fixed portion having a series of ducts, and a portion movable relative to the fixed portion having a plurality of series of ducts differing in direction in such movable portion, each series adapted to coact with the ducts of the fixed portion when moved into relation therewith.

4. A tracker-board comprising a fixed portion having a definite number of ducts, and a movable portion having a plurality of series of ducts, one series corresponding in number with the ducts in the fixed portion, one series less in number, and one series of different shape, each series adapted to coact with the ducts of the fixed portion when moved into relation therewith.

5. A tracker-board comprising a fixed portion having a definite number of ducts, a pivoted frame, a movable portion formed of a material whose coefficient of expansion and contraction will be the same as that of the music-strip to be used in connection with it, and having a plurality of series of ducts, each series adapted to coact with the ducts of the fixed portion when moved into relation therewith.

6. A tracker-board comprising a fixed portion having a definite number of ducts, a pivoted frame, a movable portion having an anti-friction-surface mounted in said frame.

7. A tracker-board comprising a fixed portion having a definite number of ducts, a pivoted frame, a movable portion mounted in said frame and having a plurality of series of ducts with the openings of said ducts protected to prevent entrance of the paper of the music-strip used with the tracker-board into the ducts, and each series adapted to coact with the ducts of the fixed portion when moved into relation therewith.

8. A tracker-board comprising a fixed portion having a definite number of ducts, a frame movable in relation to the fixed portion, a movable portion mounted in said frame and having a plurality of series of ducts, each series adapted to coact with the ducts of the fixed portion when moved into relation therewith, together with means for fixing said frame in certain defined positions.

9. A tracker-board comprising a fixed portion having a definite number of ducts, a frame movable in relation to the fixed portion, a movable portion mounted in said frame and having a plurality of series of ducts, each series adapted to coact with the ducts of the fixed portion when moved into relation therewith, together with means for lifting the frame and the movable portion out of coöperative relation with the fixed portion.

10. A tracker-board comprising a fixed portion, having a definite number of ducts, a movable portion formed of a material which will have the same coefficient of expansion and contraction as the paper strip to be used therewith, and having a plurality of series of ducts, each series adapted to coact with the ducts of the fixed portion when moved into relation therewith, together with means for adjusting the position of the movable portion relative to the fixed portion.

11. A tracker-board having a series of ducts therein, and means situated at the upper openings of the ducts which will prevent the entrance of the paper of the music-strip into the ducts as it is drawn across the ducts.

12. A tracker-board comprising a fixed portion having a series of ducts, a movable portion having a plurality of series of differently-spaced ducts, and means for moving said last-named portion into and out of relation with the fixed portion.

13. A tracker-board comprising a fixed portion having a series of ducts, a movable portion having a plurality of series of ducts, and means for moving said movable portion into and out of relation with the fixed portion and for elevating said movable portion to allow access of air to its under side.

14. A tracker-board comprising a fixed portion having a series of ducts, a pivoted frame, a movable portion carried by said frame and removable therefrom, said movable portion having a plurality of series of differently-spaced ducts, each series adapted to coact with the ducts of the fixed portion when moved into relation therewith.

15. A tracker-board comprising a fixed portion having a defi-

nite number of ducts, a portion movable in relation to said fixed portion and having a plurality of series of ducts, one series vertically disposed therein and the other two series angularly disposed therein, each of the series of ducts of the movable portion adapted to coact with the ducts of the fixed portion when moved into relation therewith.

16. A tracker-board comprising a fixed portion having a series of ducts, a pivoted portion having a plurality of series of differently-spaced ducts arranged in parallel rows, and each series adapted to coact with the ducts of the fixed portion when brought into relation therewith.

17. In combination with a music-strip having a definite number and arrangement of perforations, a tracker-board comprising a fixed portion having a series of ducts, and a movable portion having a plurality of series of differently-spaced ducts, said movable portion interposed between the music-strip and the fixed portion and adapted to establish coactive relation between the perforations in the music-strip and the ducts in the fixed portion of the tracker-board.

18. A tracker-board comprising a portion having a series of ducts, and a superposed portion having a number of differently-spaced ducts for each duct in the lower portion.

19. A tracker-board comprising a main portion, and a supplemental detachable portion formed of a different material.

20. A tracker-board comprising a fixed portion, a superposed removable portion, and means for holding such portions separated when not in operation.

21. A tracker-board comprising a fixed portion having a series of ducts, and a movable portion having a plurality of series of inclined ducts.

22. A tracker-board comprising a fixed member having a series of ducts, and a movable member having a plurality of series of ducts, said ducts being similarly spaced upon the under side of the movable member, so that they will correspond in spacing with the ducts in the fixed member of the tracker-board, and dissimilarly spaced upon the upper side of the movable member.

23. A tracker-board comprising two portions, one pivoted to the other, and each provided with ducts, the center distances between ducts in one section equally spaced and in the other section unequally spaced.

24. A tracker-board comprising a fixed portion having a series of ducts therein, a movable portion having a plurality of series of diagonally-disposed ducts therein.

25. A tracker-board comprising a fixed portion having a single row of equally-spaced ducts, and a superposed movable portion having a plurality of rows of ducts, one row differing from the others as to the scale scheme of center distances between the ducts.

26. A tracker-board comprising a fixed portion, a frame pivoted thereto, and a removable supplemental portion carried by said frame.

27. A tracker-board comprising a fixed member having equally-spaced ducts, and a superposed movable portion having a row of ducts with orifices at unequal distances between centers.

28. A tracker-board consisting of several members coacting to form a row of continuous ducts when in service, and means for holding the members apart when not in service.

29. A tracker-board comprising a portion having a series of ducts arranged according to a given scale, and a portion coacting with said first-named portion and having a plurality of series of ducts arranged according to two different scales.

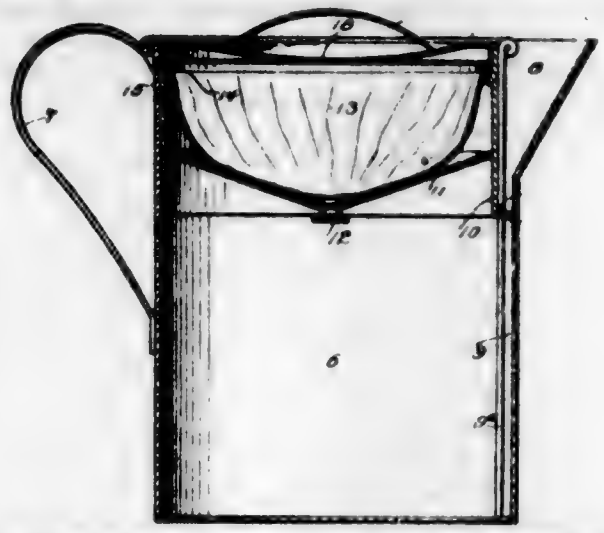
30. A tracker-board comprising a fixed portion having a series of ducts arranged according to a given scale, and a movable portion having a plurality of series of ducts, each arranged according to a different scale, together with means for adjusting any series of ducts in the movable portion relative to the ducts in the fixed portion.

31. A tracker-board divided into two sections, a series of equally-spaced ducts in the lower section, and a plurality of series of variously-spaced ducts in the upper section, together with means for adjusting any series of ducts in the upper section relative to the series of ducts in the lower section.

32. A tracker-board comprising a fixed portion having a series of ducts, and a movable portion having a plurality of series of ducts, said ducts having their inlets and orifices differently spaced and arranged in parallel rows in the top and bottom of the movable portion, and said duct-orifices spaced to coact with the ducts in the fixed portion.

804,823. COFFEE-POT. Louis R. Burns, Poplar Bluff, Mo. Filed Feb. 18, 1905. Serial No. 246,295.

Claim.—1. The combination with a pot, of a holder for material, slidable up and down within the same, said holder having a downwardly-opening check-valve in the bottom thereof, and a spout forming a passage leading from below the holder to above the same.

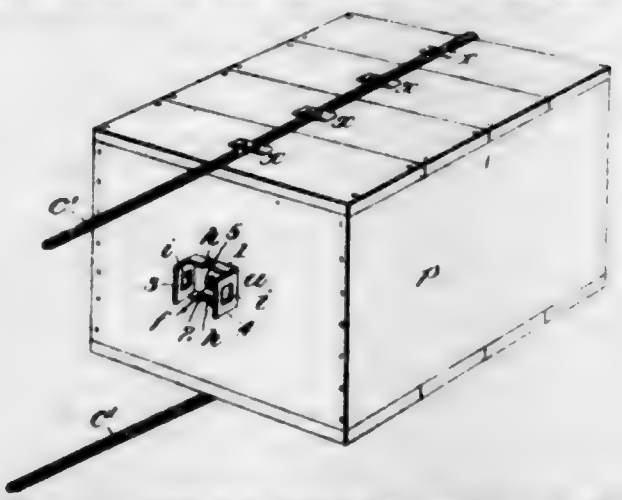


2. The combination with a pot, of a holder slidable up and down within the same, said holder having an inclined bottom with a downwardly-opening valve therein, a bag supported in the holder, over said bottom, and means to allow the passage of liquid from below the holder to above the same, when it is pushed down in the pot.

3. The combination with a pot, of a holder fitting and slidable up and down within the same, said holder having a cover with a hole therethrough, and a bottom with a valved opening therein, a bag supported in the holder between said cover and bottom and means constructed to allow the passage of liquid from below the holder to above the same when it is pushed down in the pot.

4. The combination with a pot, of a holder for material, slidable up and down within the same, and a spout extending up through the holder and curved downwardly at the top to discharge either into the holder or into a cup which may be placed under said spout.

804,824. SEAL FOR BOXES, BAGS, &c. EDWARD J. BROOKS, East Orange, N. J. Filed Feb. 11, 1905. Serial No. 245,312.



Claim.—1. A self-fastening seal, for boxes, bags and the like, composed of a back member provided with means for preliminarily attaching the same and constructed with notched walls to embrace a sealing cord or band on both sides of the connection of the ends of said cord or band with each other, and a self-fastening front member adapted to be applied externally to said back member and to partly inclose said back member, and in connection therewith to inclose and cover such end connection.

2. A self-fastening seal, for boxes, bags and the like, composed of a back member having a flat back provided with a rigidly-attached tack or pin for preliminarily attaching said back member, and with a pair of walls parallel to each other to contact with a sealing cord or band on both sides of its end connection and a pair of ears at right angles to said walls, and a front member adapted to interlock with said ears and to partly inclose said back member and in connection therewith to inclose and cover such end connection.

3. A self-fastening-seal, for boxes, bags and the like, composed of a back member having its back provided with an inturned eyelet-collar, an attaching tack or pin rigidly attached by said collar, and walls to contact with a sealing cord or band on both sides of its end connection, and a front member attachable to said back member and adapted in connection therewith to inclose and cover such end connection.

4. A seal, for boxes, bags and the like, composed of a back member provided with means for preliminarily attaching the same and constructed with a pair of walls parallel with each other to contact with a sealing cord or band on both sides of its end connection and a pair of ears arranged at right angles to said walls and provided with catch-holes, and a front member adapted to admit such ears and provided with internal snap-catches arranged to interlock with said catch-holes for fastening the seal.

5. A seal, for boxes, bags and the like, composed of a back member provided with means for preliminarily attaching the same and constructed with walls to contact with a sealing cord or band on both sides of its end connection and a pair of ears arranged at right angles to said walls and provided with catch-holes, and a front member provided with holes to admit such ears and with internal snap-catches arranged to interlock with said catch-holes, for fastening the seal.

6. A seal, for boxes, bags and the like, composed of a back member provided with means for preliminarily attaching the same and constructed with walls to contact with a sealing cord or band on both sides of its end connection and a pair of ears each provided with one element of a snap-catch device, and a front member comprising a snap-catch part adapted to interlock with said back member and an outer part permanently interlocked with said snap-catch part at its perimeter and adapted to inclose and cover such end connection and the snap-catches.

7. A seal, for boxes, bags and the like, composed of a back member provided with means for preliminarily attaching the same and constructed with walls to contact with a sealing cord or band on both sides of its end connection and a pair of ears each provided with one element of a snap-catch device, and a front member comprising a snap-catch part having walls adapted to interlock with said ears of the back member, and an outer part permanently interlocked with said snap-catch part at its perimeter and adapted to inclose and cover such end connection and the snap-catches, and provided internally with supports for the front ends of such snap-catch walls.

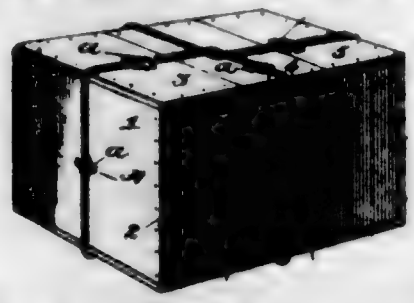
8. A seal, for boxes, bags and the like, composed of a back member provided with means for preliminarily attaching the same and constructed with walls to contact with a sealing cord or band on both sides of its end connection and with ears each provided with one element of a snap-catch device, and a front member comprising a snap-catch part having walls adapted to interlock with said ears of the back member and an outer part permanently interlocked with said snap-catch part at its perimeter and adapted to inclose and cover such end connection and the snap-catches, and provided with inwardly-projecting ribs arranged to support the front ends of such snap-catch walls.

9. A seal, for boxes, bags and the like, composed of a back member provided with means for preliminarily attaching the same, walls parallel with each other to contact with a sealing cord or band on both sides of its end connection and a pair of ears at right angles to said walls each provided with one element of a snap-catch device, and a front member comprising a snap-catch part having a pair of walls parallel with each other adapted to interlock with said ears of the back member and an outer part permanently interlocked with said snap-catch part at its perimeter and adapted to inclose such end connection and the snap-catches, and having its front wall indented to form inwardly-projecting ribs arranged parallel with each other to support the front ends of such snap-catch walls.

10. A seal, for boxes, bags and the like, composed of a back member provided with a tack or pin for preliminarily attaching the same and constructed with a flat back from which said tack or pin projects and with notched walls to embrace a sealing cord or band on both sides of the connection of the ends of said cord or band with each other and with a pair of ears each provided with one element of a snap-catch device, and a front member comprising a snap-catch part having a pair of walls adapted to interlock with said ears of the back member and an outer part permanently interlocked with said snap-catch part at its perimeter and adapted to inclose and cover such end connection and the snap-catches, and having its front wall intended to form inwardly-projecting ribs arranged to support the front ends of such snap-catch walls, substantially as hereinbefore specified.

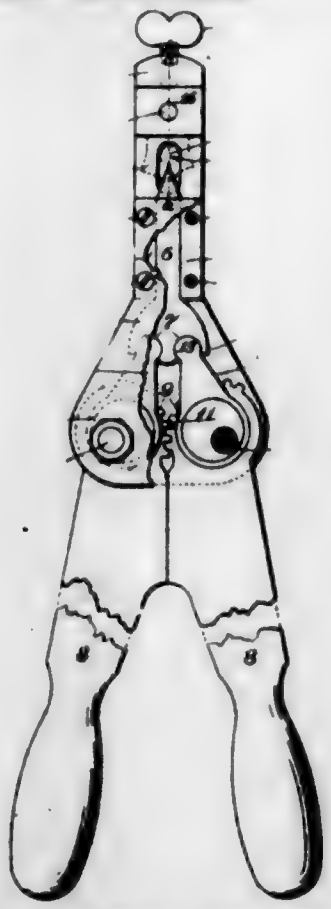
804,825. SEAL FOR BOXES, &c. EDWARD J. BROOKS, East Orange, N. J. Filed Feb. 15, 1905. Serial No. 245,706.

Claim.—1. A seal, for wooden boxes, having in combination a sealing-band adapted to be penetrated by locking-prongs and a sheet-metal sealing-staple constructed with a ragged eyelet integral therewith adapted to penetrate said band and with end prongs adapted to be driven into the wood on both sides of the band.



2. A seal, for wooden boxes, having in combination a sealing-band adapted to be penetrated by locking-prongs and a sheet-metal sealing-staple constructed with a ragged eyelet integral therewith, adapted to penetrate said band and with end prongs adapted to be driven into the wood on both sides of the band, and provided with anchoring-holes, substantially as hereinbefore specified.

804,826. NUT-SPLITTER. WILLIAM G. BROWN, Carlsbad, N. Mex. Filed Aug. 21, 1905. Serial No. 275,070.



Claim.—1. A nut-splitter having a longitudinally-movable chisel, a pair of intergeared, angularly-movable levers, eccentric cams on the said levers, and links connecting said eccentric cams to the chisel, substantially as described.

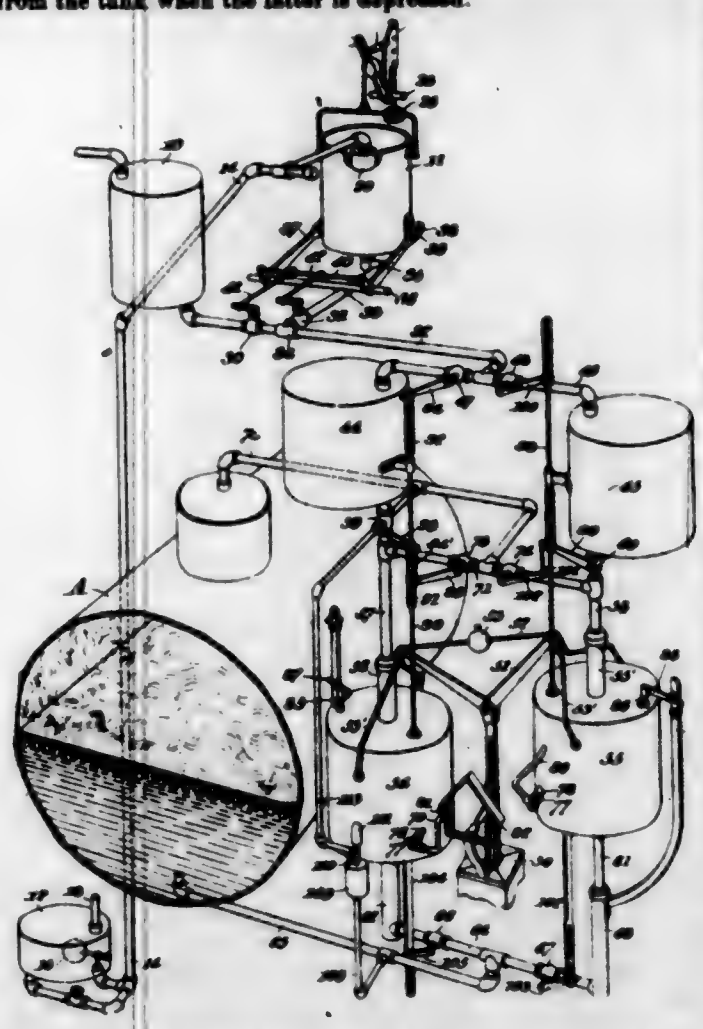
2. A nut-splitter having a base-plate provided with a pair of guide-lugs and a stop-lug, a chisel guided by the guide-lugs, a block, means to secure and adjust the same toward and from the stop-lug, a pair of intergeared levers pivoted to the base-plate, and each provided with an eccentric cam, and links connecting the eccentric cams to the chisel, substantially as described.

804,827. BOILER-FEEDER. HERMAN S. CONRITT, Ayden, N. C. Filed June 20, 1905. Serial No. 265,658.

Claim.—1. In a water-feeding apparatus, a collecting-tank for receiving the water of condensation, a float-controlled valve for governing the discharge of water from the tank, an elevated tank suspended above the level of the boiler and to which the water is conveyed from the collecting-tank under steam-pressure, an auxiliary source of water-supply, and a valve mechanism under the control of the suspended tank for permitting the flow of water therefrom in the direction of the boiler, so long as the supply in said tank is sufficient for the purpose, and for cutting off the tank and opening communication with the auxiliary source of supply when additional water is required.

2. In a water-feeding apparatus for boilers, a vertically-movable counterweighted tank arranged to receive the water of condensation from a heating system or the like, an auxiliary source of wa-

ter-supply, a piping system leading from the tank and said auxiliary source of supply to the direction of the boiler to be fed, and valves under the control of said movable tank for cutting off the flow from the tank while the latter is elevated, and establishing communication between the auxiliary source and the piping system during the same period and for cutting off the auxiliary source and opening the outlet from the tank when the latter is depressed.



3. In a water-feeding apparatus for boilers, a suspended tank, a counterweight for maintaining said tank in elevated position when empty, said tank being arranged to receive water of condensation from a heating or power system, an auxiliary source of water-supply, feed-pipes leading from the tank and the auxiliary source toward the boiler, valves disposed in said pipes, a rock-shaft, bell-crank levers carried by the rock-shaft, means for connecting the longer arms of the levers to the suspended tank, a cross-bar carried by the shorter arms of the levers, and means for connecting said cross-bar to the valves, the connections being arranged to close the valve controlling the flow from the tank, and open the valve leading from the auxiliary source when the tank is elevated, and vice versa.

4. In apparatus of the class described, a suspended tank, a counterweight for maintaining the same in elevated position when empty, a supply-pipe for returning water of condensation to said tank, and a casing arranged at the discharge end of the pipe and provided with ports forming a tortuous passage for the water, and serving to break the force of the stream issuing from the pipe.

5. In a boiler-feeding apparatus, a suspended tank having a valved water-inlet and a valved water-outlet, the latter communicating with the boiler at a point below the water-line thereof, a valved steam connection between the steam-space of the boiler and the tank, an air-cock on said tank, and means operable on the descent of the tank for closing the water-inlet, closing the air-cock, opening the steam-inlet, and opening the water-outlet, and serving on the ascent of the tank to close the water-outlet, close the steam-inlet, open the water-inlet and open the air-cock.

6. In a boiler-feeder, a suspended tank having a valved water-inlet and a valved water-outlet, the latter communicating with the boiler at a point below the water-line thereof, a valved steam connection between the steam-space of the boiler and the tank, an air-cock on the tank, means under the control of the tank for opening and closing the several valves, and a float-operated catch carried by the tank and serving to retain the latter in depressed position until empty.

7. In a boiler-feeder, a suspended tank having valved water-supply and boiler connections operable automatically on movement of the tank in both directions, and an automatic means for locking the tank in its lowest position until empty.

8. In a boiler-feeder, a vertically-movable tank having a valved water-inlet, and valved boiler connections operable automatically on movement of the tank, and a float-controlled catch for retaining said tank in its lowest position until empty.

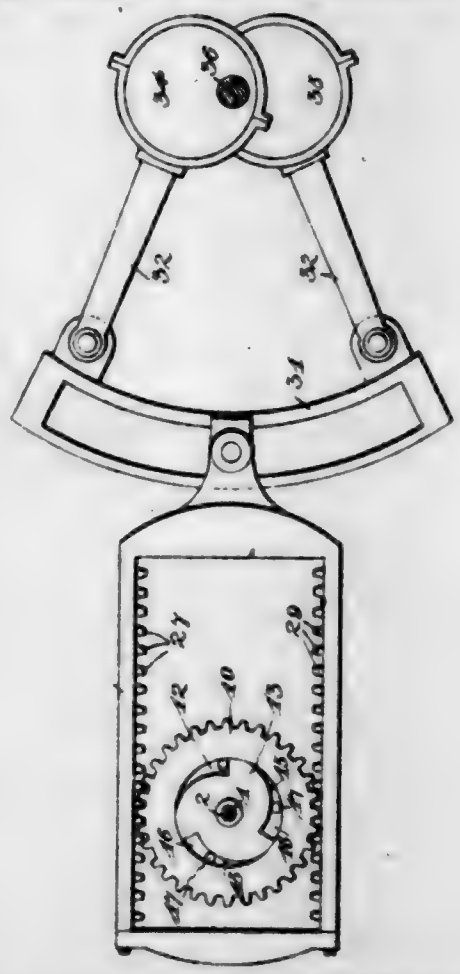
9. In a boiler-feeder, a vertically-movable tank having a valved water-inlet and valved boiler connections operable automatically on movement of the tank in both directions, a catch for retaining said tank in its lowest position during the flow of water from the tank to the boiler, and a float connected to the catch, said float moving downward as the water discharges from the tank and serving to release the catch when the tank is empty.

10. In a boiler-feeder, a vertically-movable tank having telescopic connections with valved water inlet and discharge pipes, a valved steam connection also leading to the tank, an air-cock, and a valve-operating means operable on the descent of the tank for first closing the air-cock, then closing the water-inlet valve and opening the steam-inlet valve and water-outlet valve, and serving, also, on movement in a reverse direction for closing the steam-valve and water-outlet valve, opening the water-inlet valve, and finally opening the air-cock.

11. In a boiler-feeder, a vertically-movable tank having a valved water-inlet, a valved water-outlet, and a valved steam connection, the valves being automatically operated by the tank as the latter ascends and descends, a measuring-tank with which the water-inlet communicates, a supply-pipe leading to the measuring-tank, and means for automatically cutting off the flow to the measuring-tank when the latter has received a predetermined quantity of water.

12. In a boiler-feeder, an elevated measuring-tank, a water-suppy leading thereto, a vertically-movable tank arranged below the measuring-tank, a valved water-pipe between the two tanks, a valved connection between the vertically-movable tank and the boiler, a valved steam connection between the steam-space of the boiler and the vertically-movable tank, and an automatic valve-operating means serving when the tank ascends to close communication with the boiler and open communication with the measuring-tank, and serving, also, when the tank descends to close communication with the measuring-tank and open communication with the boiler.

804,828. **MECHANICAL MOVEMENT.** JOSEPH W. CRIST, Detroit, Mich. Filed June 26, 1905. Serial No. 267,096.

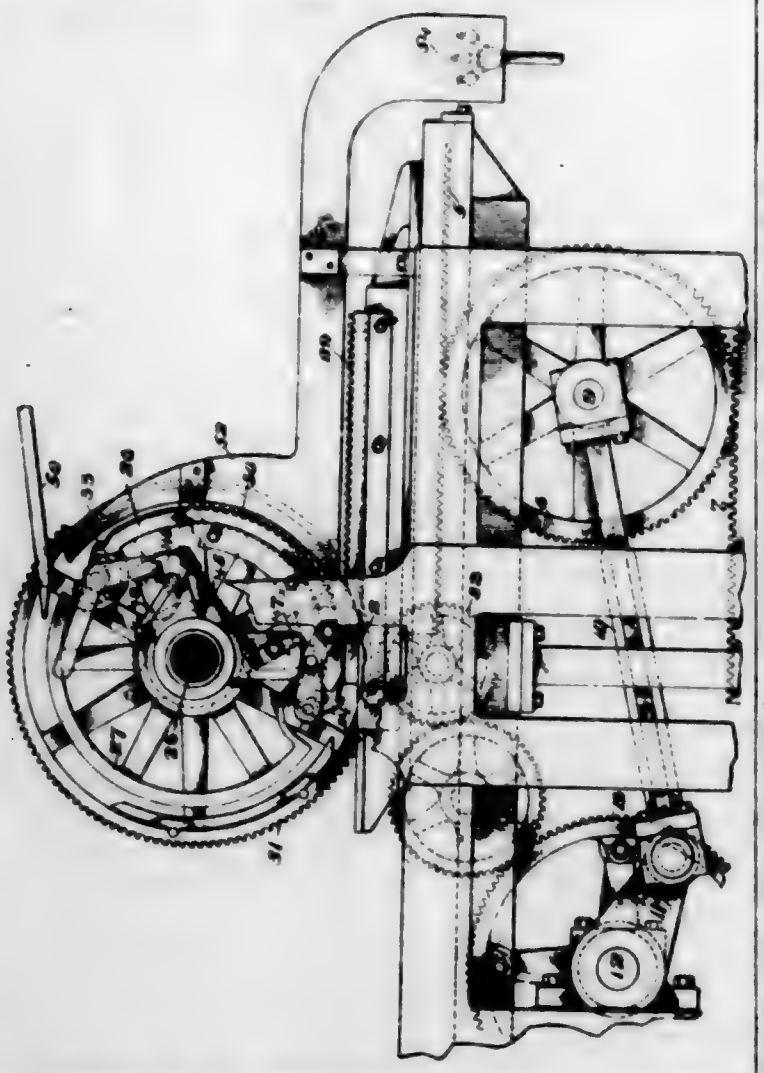


Claim.—1. In a device of the character described, the combination with a shaft, of sleeves loosely mounted thereon, an intermediate clutch to lock one or the other of said sleeves into engagement with said shaft, pairs of gear-wheels loosely mounted on said sleeves, each of said gear-wheels having formed in one side an annular recess, clutch-disks fixedly mounted on said sleeves, said disks having ra-

dially-disposed cam-surfaces to coact with the annular wall of the recess in said gears, a clutch-roller arranged on each of said cam-surfaces to engage said annular wall and lock said gear and sleeves together when turned in one direction, a rack-frame having racks to engage said gear-wheels, and a link mechanism whereby said rack-frame is reciprocated, substantially as described.

2. In a device of the character described, the combination with a shaft, of sleeves loosely mounted thereon, an intermediate clutch to lock one or the other of said sleeves into engagement with said shaft, pairs of gear-wheels loosely mounted on said sleeves, cam-clutch devices to lock one pair of said wheels on said sleeve when said pair of wheels is turned in one direction and similar clutch devices to lock the other pair of gear-wheels when the same are turned in the opposite direction, a rack-frame, a plurality of racks arranged on said frame to engage said gear-wheels, a link connected to said rack-frame, a drive-shaft, oppositely-disposed eccentrics mounted on said shaft, and eccentric-rods connecting said eccentrics with said link, substantially as described.

804,829. **PROCESS OF MAKING MATRICES.** ANANDUS H. CRUSE, New York, N. Y., assignor to Robert Hoe, New York, N. Y. Filed Oct. 26, 1904. Serial No. 230,032.



Claim.—1. The process of making matrices consisting in causing the matrix material to receive a plurality of successive impressions from the type-form, substantially as described.

2. The process of making matrices consisting in causing the matrix material to receive a plurality of successive impressions from the type-form and drying the material between impressing operations, substantially as described.

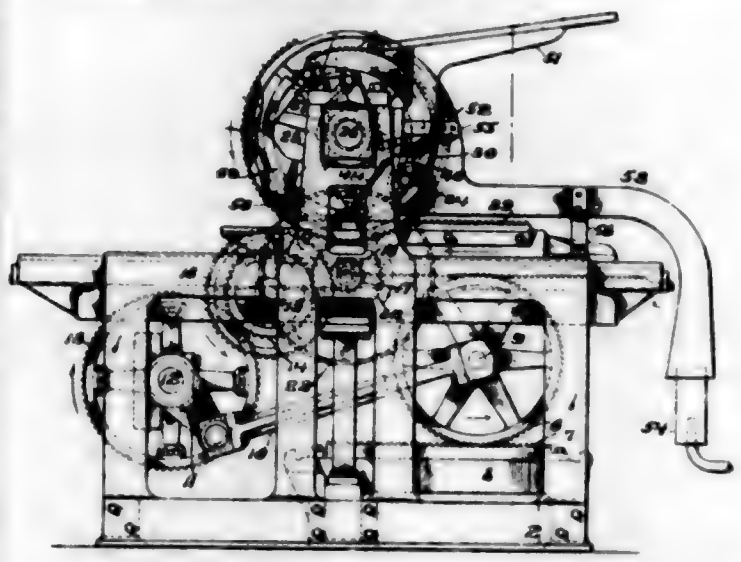
3. The process of making matrices consisting in causing the matrix material to receive a plurality of successive impressions from the type-form and subjecting the matrix material to heat between impressing operations, substantially as described.

4. The process of making matrices consisting in causing the matrix material to receive a plurality of successive impressions from the type-form and subjecting the matrix material to heat between impressing operations, the heat being directed against the face of the matrix material, substantially as described.

5. The process of making matrices which consists in causing the matrix material to receive a series of successive impressions from the type-form and in subjecting the material to heat after each impressing operation, substantially as described.

6. The process of making matrices which consists in causing the matrix material to receive a series of successive impressions from the type-form and in subjecting the material to heat after each impressing operation, the heat being directed against the face of the matrix material, substantially as described.

804,830. **MACHINE FOR MAKING MATRICES.** ANANDUS H. CRUSE, New York, N. Y., assignor to Robert Hoe, New York, N. Y. Filed Oct. 26, 1904. Serial No. 230,033.



Claim.—1. In a machine for making matrices, the combination with a carrier for the matrix material, of a form-support, means for producing a plurality of relative movements between the carrier and the support to bring the matrix material into contact a plurality of times with the form on the support, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

2. In a machine for making matrices, the combination with a rotary carrier for the matrix material, of a form-support, means for causing the carrier to make a plurality of revolutions and the form-carrier a plurality of corresponding movements, thus bringing the matrix material a plurality of times into contact with the form on the form-support, whereby the matrix material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

3. In a machine for making matrices, the combination with a carrier for the matrix material, of a form-support including a flat bed, means for producing a plurality of relative movements between the carrier and the bed to bring the matrix material on the carrier a plurality of times into contact with the form on the bed, whereby the matrix material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

4. In a machine for making matrices, the combination with a rotating carrier for the matrix material, of a form-support including a flat bed, means for reciprocating the bed and rotating carrier a plurality of times to bring the matrix material a plurality of times into contact with the form on the bed, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

5. In a machine for making matrices, the combination with a rotating carrier having a matrix-material-supporting surface, of holding means for the matrix material at each end of said surface, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

6. In a machine for making matrices, the combination with a rotating carrier having a support for the matrix material, of holding devices at each end of said support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, means for operating the holding devices at the head of the matrix material before the material is brought into contact with the form on the first impressing operation, and means for operating the holding devices at the tail of the matrix material after the first impressing operation is completed, substantially as described.

7. In a machine for making matrices, the combination with a rotating carrier having a support for the matrix material, of holding devices at each end of said support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, means for operating the holding devices at the head of the matrix material before the material is brought into contact with the form on the first impressing operation, means for operating the holding devices at the tail of the matrix material after the first impressing operation is completed, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

8. In a machine for making matrices, the combination with a rotating carrier having a support for the matrix material, of holding devices at each end of said support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, means for operating the holding devices at the head of the matrix material before the material is brought into contact with the form on the first impressing operation, and means for automatically operating the holding devices at the tail of the matrix material after the first impressing operation is completed, substantially as described.

9. In a machine for making matrices, the combination with a rotating carrier having a support for the matrix material, of holding devices at each end of said support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, means for operating the holding devices at the head of the matrix material before the material is brought into contact with the form on the first impressing operation, means for automatically operating the holding devices at the tail of the matrix material after the first impressing operation is completed, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

10. In a machine for making matrices, the combination with a carrier for the matrix material, of a form-support, means for producing a plurality of relative movements between the carrier and the support to bring the matrix material a plurality of times into contact with the form on the support, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the face of the matrix material to heat between impressing operations, substantially as described.

11. In a machine for making matrices, the combination with a rotary carrier for the matrix material, of a form-support, means for causing the carrier to make a plurality of rotations to bring the matrix material into contact with the form on the support a plurality of times, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the face of the matrix material to heat between impressing operations, substantially as described.

12. In a machine for making matrices, the combination with a rotary carrier having a support for the matrix material, of a holding device at each end of the support, a form-support, means for causing the carrier to make a plurality of rotations to bring the matrix material a plurality of times into contact with the form on the form-support, whereby the matrix material is subjected to a plurality of impressing operations, means for subjecting the face of the matrix material to heat between impressing operations, and means for operating the holding device at the head of the matrix-supporting surface before the first impressing operation is begun and for operating the holding device at the tail of the matrix-supporting surface after the first impressing operation is completed, substantially as described.

13. In a machine for making matrices, the combination with a rotary carrier having a support for the matrix material, of a holding device at each end of the support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the form-support, whereby the matrix material is subjected to a plurality of impressing operations, means for subjecting the face of the matrix material to heat between impressing operations, and means for operating the holding device at the head of the matrix-support surface before the first impressing operation is begun and for automatically operating the device at the tail of the matrix-supporting surface after the first impressing operation is completed, substantially as described.

14. In a machine for making matrices, the combination with a rotary carrier having a supporting-surface for the matrix material, of locking devices at each end of said supporting-surface, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support whereby the material is subjected to a plurality of impressing operations, means for manually operating the holding devices at the head of the matrix-supporting surface before the first impressing operation is begun, and means for automatically operating the holding devices at the tail of the matrix-material-supporting surface after the first impressing operation is completed, substantially as described.

15. In a machine for making matrices, the combination with a rotary carrier having a supporting-surface for the matrix material, of locking devices at each end of said supporting-surface, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support whereby the material is subjected to a plurality of impressing operations, means for manually operating the holding devices at the head of the matrix-supporting surface before the first impressing operation is begun, means for automatically operating the holding devices at the tail of the matrix-material-supporting surface after the first impressing operation is completed, and means for subjecting the face of the matrix material to heat between successive impressing operations, substantially as described.

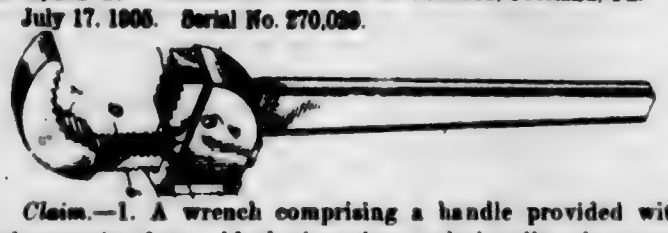
16. In a machine for forming matrices, the combination with a form-support, of a rotary matrix-carrier, means for operating the support and carrier so as to cause the type impression to be made in the matrix material, and means for drying the matrix out of contact with the form, substantially as described.

17. In a machine for making matrices, the combination with a form-support, of a rotary carrier having a matrix-supporting surface, means for securing both ends of the matrix material to said surface, means for operating the carrier and form-supporting surface so as to cause the type impression to be formed in the matrix, and a drier located adjacent to the path of the carrier, substantially as described.

18. In a matrix-making machine, the combination with a form-support, of a rotary carrier, a support for the matrix material on the carrier, means for securing both ends of the material to said support, means for operating the carrier and support to cause the matrix material to be brought a plurality of times into contact with the form on the form-supporting surface, and a drier located adjacent to the path of the carrier, substantially as described.

19. In a matrix-making machine, the combination with a reciprocating form-support, of a rotary carrier, a matrix-supporting surface on the carrier, means for securing both ends of the matrix to the support, means for operating the carrier and support so as to cause the matrix material on the carrier to be brought into contact with the type on the form-support a plurality of times, and a drier located adjacent to the path of the carrier, substantially as described.

804,831. **WRENCH.** CHARLES E. CUNNIUS, Freeland, Pa. Filed July 17, 1905. Serial No. 270,020.



Claim.—1. A wrench comprising a handle provided with a work-engaging face, a block pivoted upon the handle, a jaw member having a shank passing through the block and a latch carried by the block and arranged to embrace the shank.

2. A wrench comprising a handle provided with a transversely-disposed work-engaging face, a block pivoted upon the handle, a jaw member having a shank passing through the block and a latch carried by the block and arranged to embrace the shank.

3. A wrench comprising a handle provided with a work-engaging face, a block pivoted upon the handle, a jaw member having a shank passing through the block and a latch pivoted to the block and arranged to embrace the shank.

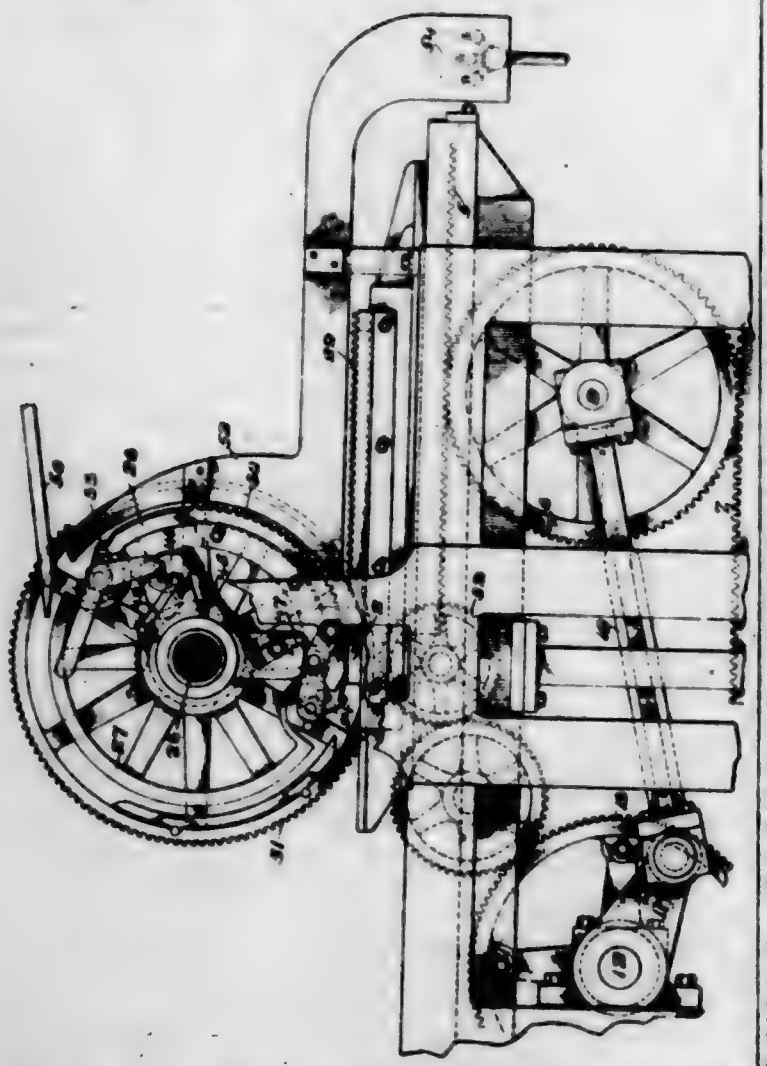
4. A wrench comprising a handle, provided with a work-engaging face, a block pivoted upon the handle and provided with an opening, a jaw member having a shank passing through the block and provided with parallel sides, a latch pivoted upon the block and provided with a bifurcated clamp member arranged to clamp upon opposite parallel sides of the shank.

5. A wrench comprising a handle provided with a transversely-disposed work-engaging face, a block pivoted upon the handle and provided with an opening, a jaw member provided with a work-en-

dially-disposed cam-surfaces to coact with the annular wall of the recess in said gears, a clutch-roller arranged on each of said cam-surfaces to engage said annular wall and lock said gear and sleeves together when turned in one direction, a rack-frame having racks to engage said gear-wheels, and a link mechanism whereby said rack-frame is reciprocated, substantially as described.

2. In a device of the character described, the combination with a shaft, of sleeves loosely mounted thereon, an intermediate clutch to lock one or the other of said sleeves into engagement with said shaft, pairs of gear-wheels loosely mounted on said sleeves, cam-clutch devices to lock one pair of said wheels on said sleeve when said pair of wheels is turned in one direction and similar clutch devices to lock the other pair of gear-wheels when the same are turned in the opposite direction, a rack-frame, a plurality of racks arranged on said frame to engage said gear-wheels, a link connected to said rack-frame, a drive-shaft, oppositely-disposed eccentrics mounted on said shaft, and eccentric-rods connecting said eccentrics with said link, substantially as described.

804,829. PROCESS OF MAKING MATRICES. ARANDUS H. CRUSE, New York, N. Y., assignor to Robert Hoe, New York, N. Y. Filed Oct. 26, 1904. Serial No. 230,022.



Claim.—1. The process of making matrices consisting in causing the matrix material to receive a plurality of successive impressions from the type-form, substantially as described.

2. The process of making matrices consisting in causing the matrix material to receive a plurality of successive impressions from the type-form and drying the material between impressing operations, substantially as described.

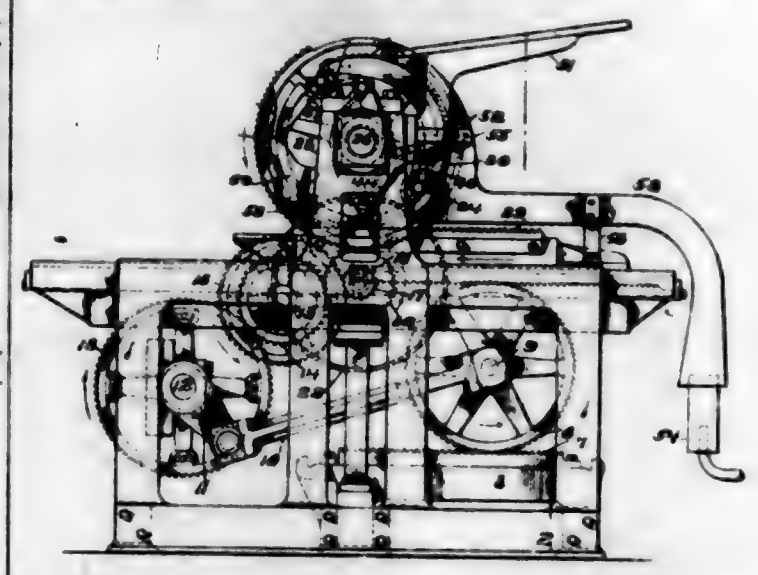
3. The process of making matrices consisting in causing the matrix material to receive a plurality of successive impressions from the type-form and subjecting the matrix material to heat between impressing operations, substantially as described.

4. The process of making matrices consisting in causing the matrix material to receive a plurality of successive impressions from the type-form and subjecting the matrix material to heat between impressing operations, the heat being directed against the face of the matrix material, substantially as described.

5. The process of making matrices which consists in causing the matrix material to receive a series of successive impressions from the type-form and in subjecting the material to heat after each impressing operation, substantially as described.

6. The process of making matrices which consists in causing the matrix material to receive a series of successive impressions from the type-form and in subjecting the material to heat after each impressing operation, the heat being directed against the face of the matrix material, substantially as described.

804,830. MACHINE FOR MAKING MATRICES. ARANDUS H. CRUSE, New York, N. Y., assignor to Robert Hoe, New York, N. Y. Filed Oct. 26, 1904. Serial No. 230,023.



Claim.—1. In a machine for making matrices, the combination with a carrier for the matrix material, of a form-support, means for producing a plurality of relative movements between the carrier and the support to bring the matrix material into contact a plurality of times with the form on the support, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

2. In a machine for making matrices, the combination with a rotary carrier for the matrix material, of a form-support, means for causing the carrier to make a plurality of revolutions and the form-carrier a plurality of corresponding movements, thus bringing the matrix material a plurality of times into contact with the form on the form-support, whereby the matrix material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

3. In a machine for making matrices, the combination with a carrier for the matrix material, of a form-support including a flat bed, means for producing a plurality of relative movements between the carrier and the bed to bring the matrix material on the carrier a plurality of times into contact with the form on the bed, whereby the matrix material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

4. In a machine for making matrices, the combination with a rotating carrier for the matrix material, of a form-support including a flat bed, means for reciprocating the bed and rotating carrier a plurality of times to bring the matrix material a plurality of times into contact with the form on the bed, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

5. In a machine for making matrices, the combination with a rotating carrier having a matrix-material-supporting surface, of holding means for the matrix material at each end of said surface, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

6. In a machine for making matrices, the combination with a rotating carrier having a support for the matrix material, of holding devices at each end of said support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, means for operating the holding devices at the head of the matrix material before the material is brought into contact with the form on the first impressing operation, and means for operating the holding devices at the tail of the matrix material after the first impressing operation is completed, substantially as described.

7. In a machine for making matrices, the combination with a rotating carrier having a support for the matrix material, of holding devices at each end of said support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, means for operating the holding devices at the head of the matrix material before the material is brought into contact with the form on the first impressing operation, means for operating the holding devices at the tail of the matrix material after the first impressing operation is completed, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

8. In a machine for making matrices, the combination with a rotating carrier having a support for the matrix material, of holding devices at each end of said support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, means for operating the holding devices at the head of the matrix material before the material is brought into contact with the form on the first impressing operation, and means for automatically operating the holding devices at the tail of the matrix material after the first impressing operation is completed, substantially as described.

9. In a machine for making matrices, the combination with a rotating carrier having a support for the matrix material, of holding devices at each end of said support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support, means for operating the holding devices at the head of the matrix material before the material is brought into contact with the form on the first impressing operation, means for automatically operating the holding devices at the tail of the matrix material after the first impressing operation is completed, and means for subjecting the matrix material to heat between the impressing operations, substantially as described.

10. In a machine for making matrices, the combination with a carrier for the matrix material, of a form-support, means for producing a plurality of relative movements between the carrier and the support to bring the matrix material a plurality of times into contact with the form on the support, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the face of the matrix material to heat between impressing operations, substantially as described.

11. In a machine for making matrices, the combination with a rotary carrier for the matrix material, of a form-support, means for causing the carrier to make a plurality of rotations to bring the matrix material into contact with the form on the support a plurality of times, whereby the material is subjected to a plurality of impressing operations, and means for subjecting the face of the matrix material to heat between impressing operations, substantially as described.

12. In a machine for making matrices, the combination with a rotary carrier having a support for the matrix material, of a holding device at each end of the support, a form-support, means for causing the carrier to make a plurality of rotations to bring the matrix material a plurality of times into contact with the form on the form-support, whereby the matrix material is subjected to a plurality of impressing operations, means for subjecting the face of the matrix material to heat between impressing operations, and means for operating the holding device at the head of the matrix-supporting surface before the first impressing operation is begun and for operating the holding device at the tail of the matrix-supporting surface after the first impressing operation is completed, substantially as described.

13. In a machine for making matrices, the combination with a rotary carrier having a support for the matrix material, of a holding device at each end of the support, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the form-support, whereby the matrix material is subjected to a plurality of impressing operations, means for subjecting the face of the matrix material to heat between impressing operations, and means for operating the holding device at the head of the matrix-support surface before the first impressing operation is begun and for automatically operating the device at the tail of the matrix-supporting surface after the first impressing operation is completed, substantially as described.

14. In a machine for making matrices, the combination with a rotary carrier having a supporting-surface for the matrix material, of locking devices at each end of said supporting-surface, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support whereby the material is subjected to a plurality of impressing operations, means for manually operating the holding devices at the head of the matrix-supporting surface before the first impressing operation is begun, and means for automatically operating the holding devices at the tail of the matrix-material-supporting surface after the first impressing operation is completed, substantially as described.

15. In a machine for making matrices, the combination with a rotary carrier having a supporting-surface for the matrix material, of locking devices at each end of said supporting-surface, a form-support, means for causing the carrier to make a plurality of revolutions to bring the matrix material a plurality of times into contact with the form on the support whereby the material is subjected to a plurality of impressing operations, means for manually operating the holding devices at the head of the matrix-supporting surface before the first impressing operation is begun, means for automatically operating the holding devices at the tail of the matrix-material-supporting surface after the first impressing operation is completed, and means for subjecting the face of the matrix material to heat between successive impressing operations, substantially as described.

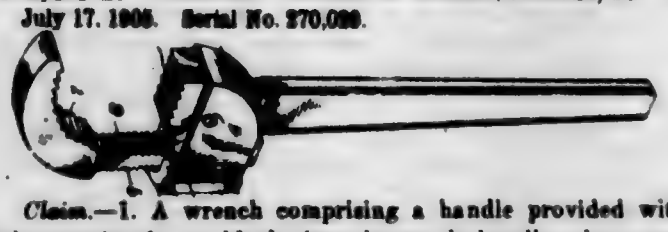
16. In a machine for forming matrices, the combination with a form-support, of a rotary matrix-carrier, means for operating the support and carrier so as to cause the type impression to be made in the matrix material, and means for drying the matrix out of contact with the form, substantially as described.

17. In a machine for making matrices, the combination with a form-support, of a rotary carrier having a matrix-supporting surface, means for securing both ends of the matrix material to said surface, means for operating the carrier and form-supporting surface so as to cause the type impression to be formed in the matrix, and a drier located adjacent to the path of the carrier, substantially as described.

18. In a matrix-making machine, the combination with a form-support, of a rotary carrier, a support for the matrix material on the carrier, means for securing both ends of the material to said support, means for operating the carrier and support to cause the matrix material to be brought a plurality of times into contact with the form on the form-supporting surface, and a drier located adjacent to the path of the carrier, substantially as described.

19. In a matrix-making machine, the combination with a reciprocating form-support, of a rotary carrier, a matrix-supporting surface on the carrier, means for securing both ends of the matrix to the support, means for operating the carrier and support so as to cause the matrix material on the carrier to be brought into contact with the type on the form-support a plurality of times, and a drier located adjacent to the path of the carrier, substantially as described.

804,831. **WRENCH.** CHARLES E. CUNNIUS, Freeland, Pa. Filed July 17, 1905. Serial No. 270,029.



Claim.—1. A wrench comprising a handle provided with a work-engaging face, a block pivoted upon the handle, a jaw member having a shank passing through the block and a latch carried by the block and arranged to embrace the shank.

2. A wrench comprising a handle provided with a transversely-disposed work-engaging face, a block pivoted upon the handle, a jaw member having a shank passing through the block and a latch carried by the block and arranged to embrace the shank.

3. A wrench comprising a handle provided with a work-engaging face, a block pivoted upon the handle, a jaw member having a shank passing through the block and a latch pivoted to the block and arranged to embrace the shank.

4. A wrench comprising a handle, provided with a work-engaging face, a block pivoted upon the handle and provided with an opening, a jaw member having a shank passing through the block and provided with parallel sides, a latch pivoted upon the block and provided with a bifurcated clamp member arranged to clamp upon opposite parallel sides of the shank.

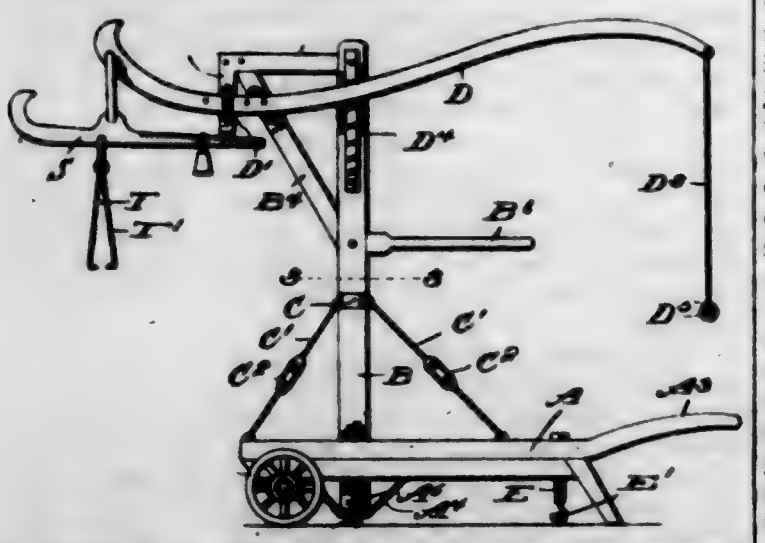
5. A wrench comprising a handle provided with a transversely-disposed work-engaging face, a block pivoted upon the handle and provided with an opening, a jaw member provided with a work-en-

gaging face and a shank having angular sides and disposed within the opening of the block and a latch member pivoted to the block and having a bifurcated angular portion arranged to clamp upon the parallel sides of the jaw-shank.

6. A wrench comprising a handle provided with a transverse work-engaging face, a block pivoted to the handle and provided with a screw-threaded opening, a jaw member provided with a screw-threaded shank with parallel flattened sides interrupting the screw-thread and engaged within the screw-threaded opening of the block and means to latch the jaw-shank against a rotary displacement.

7. A wrench comprising a handle provided with a transverse work-engaging face, a block pivoted to the handle and provided with a longitudinal screw-threaded opening, a jaw member having a work-engaging face and provided with a screw-threaded shank with parallel flattened sides interrupting the screw-threads and engaged within the screw-threaded opening of the block, a latch member pivoted to the block and provided with an angularly-disposed bifurcated portion arranged to clasp the parallel sides of the jaw-shank to prevent rotary displacement of the jaw.

804,832. WEIGHING AND LIFTING DEVICE. JAMES W. DAVIS, Alto, Tex., assignor of one-half to Thomas J. Alexander, Alto, Tex. Filed July 13, 1905. Serial No. 269,511.



Claim.—1. In a lifting device, a truck-frame, a mast provided with a lifting-lever, a depending support extending from opposite sides to a central point below said frame, a pivotal connection between said mast and support, a collar surrounding said mast, and brace-rods extending from said collar to the frame.

2. In a lifting device, a mast having a horizontal extension at its upper portion, a vertically-disposed hanger carried at the outer end of said extension at one side of the mast, a handle at the opposite side of the mast for rotating the same, a lifting-lever pivotally mounted upon said hanger, and a ratchet-bar carried by the mast to be engaged by said lever.

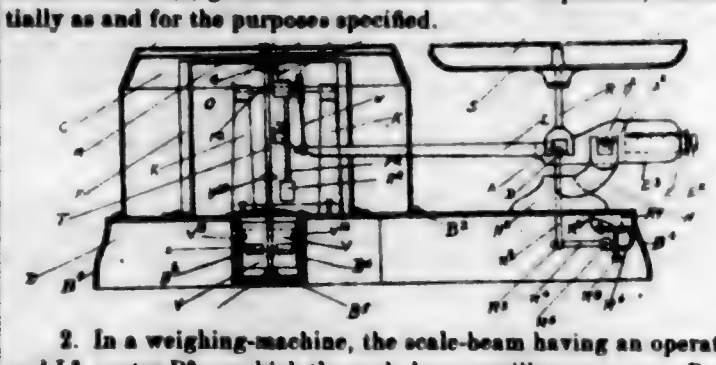
3. In a lifting device, a mast having a horizontal extension at its upper portion, a vertically-disposed hanger carried at the outer end of said extension at one side of the mast, a handle at the opposite side of the mast for rotating the same, a lifting-lever pivotally mounted upon said hanger, a ratchet-bar carried by the mast to be engaged by said lever, a frame provided with a depending support, and means for pivotally mounting the mast at its lower end in said support.

4. In a lifting device, a mast having a horizontal extension at its upper portion, a vertically-disposed hanger carried at the outer end of said extension at one side of the mast, a handle at the opposite side of the mast for rotating the same, a lifting-lever pivotally mounted upon said hanger, a ratchet-bar carried by the mast to be engaged by said lever, a frame provided with a depending support, means for pivotally mounting the mast at its lower end in said support, and an adjustable bolt carried by said frame and adapted to engage a fixed body for retaining said frame in position.

5. In a lifting device, a portable truck, a mast and lifting-lever disposed thereon, adjustable bolts extending through the platform of said truck, and hooks carried by the lower ends of said bolts to engage a fixed connection beneath said truck.

804,833. WEIGHING AND PRICE-COMPUTING MACHINE. WILLIAM A. DICKMANN, Cincinnati, Ohio. Filed Oct. 24, 1904. Serial No. 229,857.

Claim.—1. In a weighing-machine, the combination of the scale-beam having center at D^3, on which it oscillates, a center D, spider S, supported on center D, beam portion L^3 being on one side, and an extension E^9 of the beam having a recess thereon on the other side of the center D^3, means for indicating the weight connected to portion L^3 and a sliding weight cylindrical in form and sliding in the recess in this extension, graduated and rotatable for inspection, substantially as and for the purposes specified.



2. In a weighing-machine, the scale-beam having an operative end L^3, center D^3 on which the scale-beam oscillates, a center D, the spider centered on center D, rod R^2 extending down from the spider, the curved elastic rod R^4, eye R^5, link R^4 pivoted to this eye and to the rod at R^3, and the adjusting-bolt R^6, adapted to move and set the eye R^5, substantially as and for the purposes specified.

3. In a weighing and computing machine, a spider, a scale-beam, centered substantially as set forth, a rotatable index, a shaft, means for enabling the shaft to rotate the index, the spiral eccentric located on this shaft, having its planes inclined relatively to the adjacent operating end of the scale-beam, a flexible connection from this end portion of the beam, and running over the working face of the eccentric, for enabling this flexible connection to move on and off the eccentric in alinement with the face of the eccentric, and without tendency to slip thereon, while the end of the scale-beam changes its angles with relation to the shaft, substantially as and for the purposes specified.

4. In a weighing and computing machine, a spider, a scale-beam, centered substantially as set forth, a rotatable index, a shaft, means between the index and the shaft for rotating the index, by the rotation of the shaft, the spiral eccentric located on this shaft, having its planes inclined relatively to the shaft, and relatively to the adjacent operating end of the scale-beam, a flexible connection from this end portion of the beam, and running over the working face of the eccentric, a stirrup connected to said flexible connection, the center W^4 mounted on the stirrup, said beam having a cup bearing on its end which engages with said center w^4.

5. In a machine for weighing and computing the price, a chart, a housing over the same, the housing provided with an opening E^4, through which the numbers on the chart can be read, the border of this opening carrying figures of the price per pound, and an index-thread or other filament, stretched across the opening, a spring connected to one end of this thread or filament and to the frame or housing, for keeping this thread or filament at all times taut, substantially as and for the purposes specified.

6. In a machine for weighing and computing the price, a chart, a housing over the same, the housing provided with an opening E^4, through which the numbers on the chart can be read, the border of this opening carrying figures of the price per pound, and an index-thread or other filament stretched across the opening, the chart having a broad inclined peripheral edge portion, containing figures of weight, the housing having a peripheral edge substantially parallel to the edge portion of the chart and provided with an opening for reading the figures on such peripheral edge portion of the chart, substantially as and for the purposes specified.

7. In a machine for weighing and computing the price, a chart, a housing over the same, the housing provided with an opening E^4, through which the numbers on the chart can be read, the border of this opening carrying figures of the price per pound, and an index-thread or other filament, stretched across the opening, the chart having a broad inclined peripheral edge portion, containing figures of weight, the housing having a peripheral edge substantially parallel to the edge portion of the chart and provided with two openings for reading the figures on such peripheral edge portion of the chart, one of the openings being below the opening E^4 and the other on the opposite side, substantially as and for the purposes specified.

8. In a machine for weighing and computing, a chart, a shaft T for operating it, means for supporting the shaft, a paddle fixed to the shaft, an oil-cup in which the paddle is located, said paddle having an opening therein, and a door for opening or closing said opening, substantially as and for the purposes specified.

9. In a machine for weighing and computing, a chart, a shaft T, means for supporting the shaft, an oil-cup in which said means is

located, a paddle having an opening therein, said paddle being fixed on the shaft and located in the oil-cup, and a door for opening or closing said opening, and means for moving said door to close the opening to any desired degree.

10. In a machine for weighing and computing, a rotatable chart, a shaft for operating it, an oil-cup, means for supporting the shaft, a paddle fixed to the shaft and located in the oil-cup, and provided with an opening through which the oil can pass, doors V^4, embracing the paddle, a rotatable sleeve, fixed bearings on the shaft for said sleeve, and a support V^6 for the doors adjustably carried on said sleeve.

804,834. PUMP. JOHN B. FALLOURE and LESLIE M. ENGLISH, Wheeling, W. Va. Filed Feb. 15, 1905. Serial No. 245,602.



Claim.—1. In a pump, the combination with the pump-tube, of a hollow pump-rod therein, and a sucker adapted to be maintained in operative relation to said rod and be raised and lowered therethrough, substantially as and for the purpose set forth.

2. In a pump, the combination with the pump-tube, of a hollow pump-rod therein, a sucker adapted to pass through said rod, and means for raising and lowering the same, substantially as and for the purpose set forth.

3. In a pump, the combination with the pump-tube, of a hollow pump-rod therein, a sucker adapted to pass through said rod, means for raising and lowering the sucker, and means for maintaining the sucker in operative relation to said rod, substantially as and for the purpose set forth.

4. In a pump, the combination with the pump-tube and its sucker, of a hollow pump-rod for the sucker, said rod being in open relation to the interior of the pump-tube, substantially as and for the purpose set forth.

5. In a pump, the combination with the pump-tube and its sucker, of a pump-rod tube within the pump-tube and in close spaced relation thereto, said pump-rod tube being in open relation to the pump-tube, substantially as and for the purpose set forth.

6. In a pump, the combination with the pump-tube, of a hollow pump-rod therein, a sucker adapted to pass through said rod, means for raising and lowering the sucker, stops associated with the sucker and adapted to be projected into engagement with the lower end of the pump-rod, and means for nesting the stops to permit their passage up through the pump-rod, substantially as and for the purpose set forth.

7. In a pump, the combination with the pump-tube, of a hollow pump-rod therein, a sucker adapted to pass through said rod, a sucker-rod for coöperation with the lower end of said pump-rod, stops adapted to project from the sucker-rod and engage the lower end of the pump-rod, and means for maintaining said stop in said engagement, substantially as and for the purpose set forth.

8. In a pump, the combination with the pump-tube, of a hollow pump-rod therein, a sucker adapted to pass through said rod, means for suspending the sucker from the top of the pump, the same having movement with the pump-rod, means associated with the sucker, adapted to be nested to pass within the pump-rod and projected upon emergence therefrom to engage the lower end of said rod, and means for nesting said rod-engaging means, substantially as and for the purpose set forth.

9. In a pump, the combination with the pump-tube and its barrel, of a hollow pump-rod therein, the sucker adapted to pass through said rod, means extending therefrom for suspending the sucker from the top of the pump, the same being adapted to move with the pump-rod during the pumping operation, automatically-projectable stops for engagement with the lower end of the pump-rod, said stops being adapted to be nested by engagement with a contracted portion of the pump-tube, substantially as and for the purpose set forth.

10. In a pump, the combination with the pump-tube, of a hollow pump-rod therein, a sucker, having a sucker-rod adapted to extend within said pump-rod and in normally operative position, said sucker and sucker-rod adapted to pass through said pump-rod, means carried by the sucker-rod for automatically engaging and disengaging the lower end of the pump-rod as the sucker-rod is raised and lowered, and means for raising and lowering the sucker-rod and maintaining the same in engaged position on the pump-rod, substantially as and for the purpose set forth.

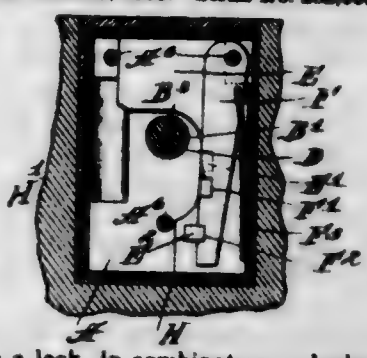
11. In a pump, the combination with the pump-tube and its suction-barrel, a hollow pump-rod therein, a sucker, a sucker-rod, projectable means carried by the sucker-rod for engaging the pump-rod at its lower end and adapted to be retracted so as to pass through said pump-rod, means for lowering the sucker and sucker-rod independently of the pump-rod and an abutment for engaging the said projectable means to retract the same, substantially as and for the purpose set forth.

12. In a pump, the combination with the pump-tube and its suction-barrel, a hollow pump-rod therein, a sucker, means for raising and lowering the same through said rod and adapted for movement with said rod, foldable stops carried by said means for engaging the lower end of the pump-rod, and adapted to fold by engagement with the mouth of the suction-barrel and project within the pump-rod tube upon the same being lowered to receive them, substantially as and for the purpose set forth.

13. In a pump, the combination with the pump-tube, of a hollow pump-rod adapted to be raised and lowered beyond the limits of its stroke, a sucker adapted to pass through said rod, means for raising and lowering the sucker, foldable stops carried by said means for engaging the lower end of the pump-rod, said stops being located above the sucker a distance equal to its stroke, and adapted to enter the mouth of the suction-barrel to fold the same when the sucker is lowered below the normal limit of its stroke, substantially as and for the purpose set forth.

14. In a pump, the combination with the pump-tube, of a hollow pump-rod, a sucker adapted to pass through said rod, means for raising and lowering the sucker, pivoted stops carried by said means, means for bringing said stops into a position to pass through said pump-rod, and a spring or springs for actuating said stops when released from their nested positions, substantially as and for the purpose set forth.

804,835. LOCK. LEVIN FAUST and FRANK O. HOGLAND, Rockford, Ill., assignors to National Lock Company, Rockford, Ill., a Corporation of Illinois. Filed Mar. 25, 1905. Serial No. 252,039.



Claim.—1. In a lock, in combination, a lock-case having opposite concentric escutcheon-cylinder bearings and a keyhole therein, an escutcheon-cylinder, mounted in such bearings and having a radial keyhole, registrable with the keyhole in such case, and provided with a peripheral annular groove, and a furcated spring fast

to the case and bestriding the escutcheon-cylinder and engaging the peripheral annular groove therein, to maintain such cylinder, against endwise movement, in its bearings.

2. In a lock, in combination, a lock-case having opposite escutcheon-cylinder bearings and a keyhole therein, an escutcheon-cylinder, rotatably mounted in such bearings and having a radial keyhole, registrable with the keyhole in the lock-case, and provided with a peripheral annular groove, and furnished, at its outer end, with an annularly-flanged escutcheon, and a furcated spring fast to the case and bestriding the peripheral annular groove therein, substantially as described.

3. In a lock, in combination, a case furnished with escutcheon-cylinder bearings and a keyhole, an escutcheon-cylinder mounted in such bearings and having a radial keyhole, registrable with the keyhole in such case, and provided with a peripheral annular groove, having the side thereof, opposite to and farthest from such keyhole, cut away, and a furcated spring fast to the case and bestriding the escutcheon-cylinder and engaging the peripheral annular groove therein, to normally maintain such cylinder, against endwise movement, in its bearings.

4. In a lock, in combination, a case furnished with escutcheon-cylinder bearings and a keyhole extending radially from the perimeter of one of such bearings, an escutcheon-cylinder, rotatably mounted in such bearings and having a radial keyhole, registrable with the keyhole in such case, and provided with a peripheral annular groove having the side thereof opposite to and farthest from such keyhole cut away, and furnished with an annularly-flanged escutcheon, and a furcated spring bestriding the escutcheon-cylinder and engaging the peripheral annular groove therein, to maintain such cylinder, against endwise movement, in its bearings in the case, substantially as described.

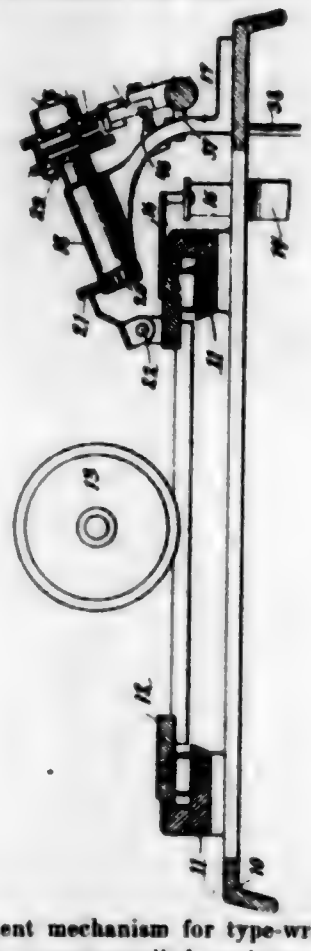
5. In a lock, in combination, a case composed of the parts A A^3 and having bearings A′ A^4 therein and provided with a radial keyhole A^5 extending from the perimeter of the bearing A^4, an escutcheon-cylinder B having a radial keyhole B′ therein, registrable with the keyhole A^5 in the case, and provided with a peripheral groove B^3 having the side thereof opposite to and farthest from such keyhole A^5 cut away—as at B^4—and furnished, at its outer end, with an annularly-flanged escutcheon B^4, and rotatably mounted in the bearings A′ A^4 in the lock-case, a furcated spring C made fast to the lock-case by means of the loops A^3 therein, and bestriding the escutcheon-cylinder B, and engaging the peripheral annular groove B^3 therein, thereby serving to maintain such cylinder B, against endwise movement, in its bearings A′ A^4 in the lock-case, substantially as described.

6. In a lock, in combination, a case furnished with escutcheon-cylinder bearings and a keyhole extending radially from the perimeter of one of such bearings, an escutcheon-cylinder, rotatably mounted in such bearings and having a radial keyhole, registrable with the keyhole in such case, and provided with a peripheral annular groove having the side thereof opposite to and farthest from such keyhole cut away, and furnished with an annularly-flanged escutcheon, and a furcated spring bestriding the escutcheon-cylinder and engaging the peripheral annular groove therein, to maintain such cylinder, against endwise movement, in its bearings in the case, a master-key of sufficient width, when turned, to engage and throw either furcation of the spring C clear out of the groove in the escutcheon-cylinder, and provided, at its point, with a hook for engaging the inner end of such escutcheon-cylinder and withdrawing it from the locking-case, substantially as described.

804,836. ESCAPEMENT MECHANISM FOR TYPE-WRITING MACHINES. CHARLES H. FAY, Chicago, Ill., assignor to Fay-Sholes Company, Chicago, Ill., a Corporation. Filed Jan. 15, 1902. Serial No. 89,162.

Claim.—1. In escapement mechanism for type-writing machines, the combination with a power-propelled carriage, of two escapement-racks cooperating with said carriage, one of said racks being spring-held and shiftable relatively to the other, a slot formed in one of said racks, a pin mounted upon the other of said racks projecting at right angles to the plane thereof and arranged to engage said slot, means for adjusting the position of said pin and a shiftable dog arranged to engage said racks.

2. In escapement mechanism for type-writing machines, the combination with a power-propelled carriage, of two escapement-racks cooperating with said carriage, one of said racks being spring-held and shiftable relatively to the other, a slot formed in one of said racks, a pin journaled on the other of said racks and having an eccentric portion arranged to engage said slot, the position of which eccentric portion is adjusted by the rotation of said pin and a shiftable dog arranged to engage said racks.



3. In escapement mechanism for type-writing machines, the combination with a power-propelled carriage, of a shaft journaled on the machine-frame and operatively connected to said carriage, two escapement-wheels mounted side by side on said shaft, one of said wheels being spring-held and loose on said shaft and the other fixed thereto, a slot in one of said wheels projecting at right angle to the plane thereof, and a pin upon the other of said wheels engaging said slot, means for adjusting the position of said pin a lock-nut for holding said pin in adjusted position and a shiftable dog engaging the teeth of said wheels.

4. In escapement mechanism for type-writing machines, the combination with a power-propelled carriage, of a shaft journaled on the machine-frame and operatively connected to said carriage, two escapement-wheels mounted side by side on said shaft, one of said wheels being spring-held and loose on said shaft and the other fixed thereto, a slot in one of said wheels, a pin journaled upon one of said wheels and having an eccentric portion engaging said slot, the position of which eccentric portion is adjusted by the rotation of said pin, a lock-nut for said pin and a shiftable dog arranged to engage the teeth of said ratchet-wheels.

5. In escapement mechanism for type-writing machines, the combination with a power-propelled carriage, of two parallel escapement-racks cooperating with said carriage, one of said racks being spring-held and shiftable relatively to the other, a slot formed in one of said racks, a pin rotatably mounted on the other of said racks and projecting laterally from the plane of said rack, an eccentric head on said pin arranged to engage said slot, means for rotating said pin to adjust said eccentric portion and a lock-nut for holding said pin in adjusted position.

6. In escapement mechanism for type-writing machines, the combination with a power-propelled carriage, of two parallel escapement-wheels operatively connected to said carriage by a rack and pinion, one of said wheels being spring-held and movable relatively to the other, stop devices for limiting the relative throw of said spring-held wheel, a dog normally engaging one of said wheels and means for shifting said dog to engage the other of said wheels, the teeth of said normally engaged wheel having working faces straight or parallel to the plane of movement of said dog and the teeth of the other of said working faces having beveled or inclined working faces.

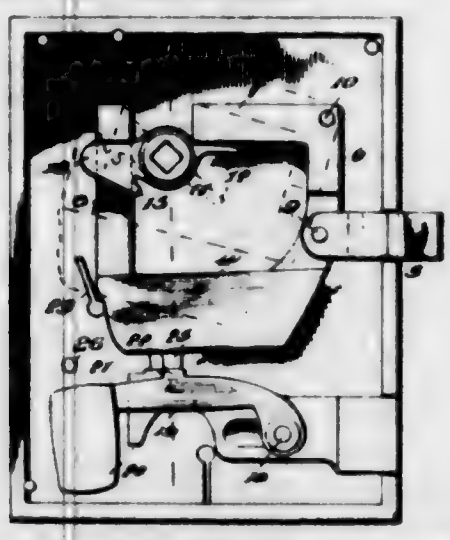
7. In escapement mechanism for type-writing machines, the combination with a power-propelled carriage, of two parallel escapement-wheels operatively connected to said carriage by a rack and pinion, one of said wheels being spring-held and movable relatively to the other, stop devices for limiting the relative throw of said spring-held wheel, a dog normally engaging one of said wheels and means for shifting said dog to engage the other of said wheels, the teeth of said normally engaged wheel having working faces

straight or parallel to the plane of movement of said dog and the teeth of the other of said wheels having beveled or inclined working faces and the working faces of said dog having corresponding straight and beveled portions.

8. In escapement mechanism for type-writing machines, the combination with a power-propelled carriage and with a rack mounted thereon, of a shaft journaled on the main frame, a pinion on one end of said shaft engaging said rack, two escapement-wheels mounted upon the opposite end of said shaft, one of said wheels being fixed to said shaft and the other spring-held and loosely mounted thereon, stop devices interposed between said wheels for limiting the relative throw of said spring-held wheel, a shiftable dog normally engaging said spring-held wheel and means for shifting said dog to engage the other of said wheels, the teeth of said spring-held wheel having working faces straight or parallel to the plane of movement of said dog and the teeth of the other of said wheels having beveled or inclined working faces.

9. In escapement mechanism for type-writing machines, the combination with a power-propelled carriage, and with a rack pivoted thereto, of a shaft journaled on the main frame, a pinion on one end of said shaft normally engaging said rack, two escapement-wheels mounted upon the opposite end of said shaft, one of said wheels being fixed and the other spring-held and loosely mounted on said shaft, a slot in one of said wheels, a stop-pin on the other of said wheels and engaging said slot, a vibratory dog normally engaging said spring-held wheel and means for shifting said dog to engage said fixed wheel, the teeth of said loose wheel having working faces straight or parallel to the plane of movement of said dog and the teeth of said fixed wheel having beveled or inclined working faces and the working faces of said dog having corresponding straight and beveled portions.

804,837. **TWO-BOLT DOOR-LOCK.** FRANK H. FAY, Hoxie, Kans. Filed Sept. 29, 1904. Serial No. 226,540.



Claim.—1. In a lock, the combination of a latch-actuator comprising a horizontal weight member, an upright at one end of said weight member having opposite side portions reduced, a vertical arm at the opposite end of the weight member formed with a lateral shoulder, a horizontal arm extended from the upper portion of said upright, a latch comprising spaced portions embracing a reduced part of the aforesaid upright and pivotally connected thereto and adapted to be reversed, means for pivotally supporting the latch-actuator approximately at the angle formed between the upright and horizontal arm, and a knob-operated tumbler having opposite arms arranged to coöperate with corresponding arms of the latch-actuator, and one of said arms having a lateral stud to engage with the aforesaid vertical arm, substantially as described.

2. In a lock, the combination of a pivoted latch-bolt having an extension, a lock-bolt provided with a stop, a tumbler having an extension coöperating with the stop of the lock-bolt and with the extension of the latch-bolt for operating the latter at each actuation of said tumbler and lock-bolt, and a key for securing the latch-bolt by direct contact therewith and at the same time preventing movement of the lock-bolt and its tumbler, substantially as set forth.

804,838. **WRENCH.** CLAUDE GARRISON, Bellaire, Ohio. Filed Apr. 4, 1905. Serial No. 253,766.

Claim.—In a wrench, the combination with a longitudinal shank having toothed racks on its edges and carrying a fixed jaw, and a movable jaw slidable on said shank, of an interiorly-threaded sleeve mounted upon said shank in engagement with said racks, said sleeve having an annular channel in which a lug carried by said movable jaw is adapted to travel while said sleeve and jaw remain in fixed relation thereto as to position, longitudinal diametrically opposite grooves formed in said sleeve by cutting away the threads on opposite sides of the interior thereof, and pins projected through the walls of said sleeve into the interior thereof to limit the turning movement thereof, substantially as described.

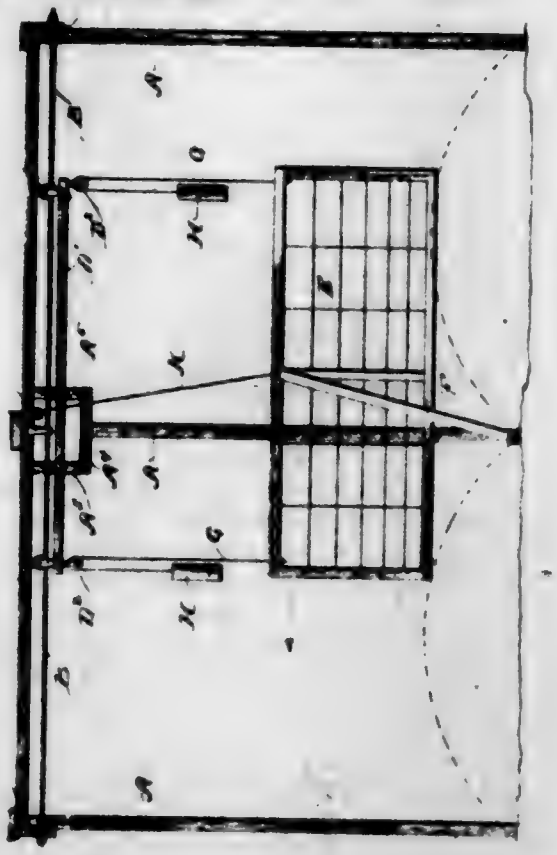


804,839. **HORSESHOE.** EDWARD P. HAGERTY, Burlington, Iowa. Filed July 27, 1905. Serial No. 271,483.



Claim.—The herein-described horseshoe, beveled outwardly on its under side, at the toe, and having its side portions beveled inwardly on their under sides and forming abrupt shoulders between the front ends of the side bevels and the rear ends of the toe bevels, the said side bevels diminishing in pitch toward the heel, extending inwardly across the side portions of the shoe and terminating short of the heel.

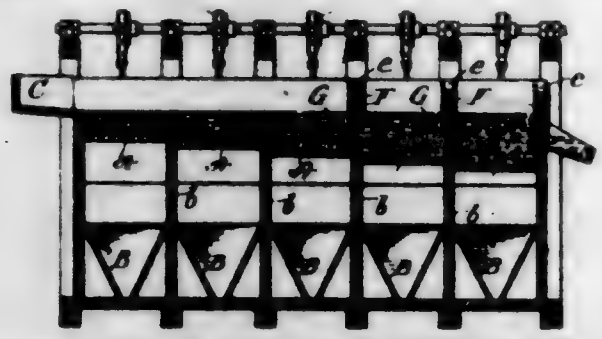
804,840. **GATE.** CARL HARRIS, Lower Lake, Cal. Filed Aug. 17, 1904. Serial No. 221,078.



Claim.—1. The combination with posts, a track supported by the posts, a vertically and horizontally movable gate between the posts and below the track, a lever pivoted adjacent the gate at one end and to the gate at the opposite end, rollers on the track, pulleys suspended therefrom, cables attached at one end to the gate and running over the pulleys, respectively, weights attached to the free ends of the cables, and means for moving the gate in the arc described by the lever.

2. A gate of the kind described comprising posts, a rod carried horizontally by the posts, grooved rollers adapted to travel on the rod, a bar connecting the rollers, pulleys carried by the bar, a gate-frame, cables connected to upper corners of the gate-frame and passing over the pulleys carried by the bar, weights on the free ends of the cables, pulleys carried by the posts, and a cable connected to the gate midway the ends of the gate and passing over the last-mentioned pulleys.

804,841. ORE-SLIME SEPARATOR. ERIC HEDBURG, Joplin, Mo., assignor, by mesne assignments, to American Reduction Company, Chicago, Ill., a Corporation of Arizona. Filed Aug. 8, 1904. Serial No. 219,855.



Claim.—1. An ore-separator provided with a plurality of sections, a hutch at the bottom of each section, a screen covering said hutch, a plunger-compartment and plunger therein, adjustable partitions between the sections adapted to form passages in close proximity to the ore-beds and adapted to deflect the finer ores into the uplifted beds whereby the finer ores may work through the screens into the hutches, substantially as described.

2. An ore-separator provided with a plurality of sections, a plunger-compartment in each section and a plunger therein, a hutch at the bottom of each section a screen ore-bed near the top of each of said hutches, adjustable deflectors or partitions between the sections, the walls of said sections having grooves in which said partitions may slide, said partitions adapted to form passages in close proximity to the ore-beds and to deflect the finer ores into the ore-beds, whereby said finer ores may work through the screens into the hutches, substantially as described.

3. In combination with a plunger-jig, a plurality of jig-sections having ore-beds located at different heights between said sections, hutches beneath said ore-beds, adjustable partitions having springs upon the ends thereof, the walls of said sections having grooves into which said partitions may slide, said partitions adapted to form passages in close proximity to the ore-beds, and to deflect the finer ores into the ore-beds, whereby said finer ores may work through said screens into the hutches, substantially as described.

804,842. PLUMB-BOB. CHARLES J. HEDLUND, Quincy, Mass. Filed Feb. 8, 1905. Serial No. 244,338.



Claim.—1. A plumb-bob comprising in its construction a casing, a reel journaled to rotate in said casing, a spring adapted to rotate said reel in one direction, and a string connected to said reel and adapted to rotate in the opposite direction, said string passing from said reel through an orifice provided in one end of said plumb-bob, means to lock said reel against rotation, said locking means constructed to be moved into and out of engagement with said reel, and means for holding said locking means either in or out of engagement with said reel.

2. A plumb-bob comprising in its construction a casing, a reel journaled to rotate in said casing, a spring adapted to rotate said reel in one direction, a string connected to said reel and adapted to rotate it in the opposite direction, said string passing from said reel through an orifice provided in one end of said plumb-bob, a ratchet fast to one end of said reel, a pin extending through a slot provided in said casing, said pin slidable transversely thereof and longitudinally of said slot into and out of engagement with said ratchet.

3. A plumb-bob comprising in its construction a casing, a reel journaled to rotate in said casing, a spring adapted to rotate said reel in one direction, a string connected to said reel and adapted to rotate it in the opposite direction, said string passing from said reel through an orifice provided in one end of said plumb-bob, a ratchet fast to one end of said reel, a pin extending through a slot provided in said casing, said pin slidable transversely thereof and longitudinally of said slot into and out of engagement with said ratchet, and friction-springs engaging said pin and adapted to hold it stationary as to movement longitudinally of said slot.

804,843. LEADING-IN CONDUCTOR FOR ELECTRIC VAPOR APPARATUS. PETER C. HEWITT, New York, N. Y., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Filed Mar. 28, 1904. Serial No. 200,148.

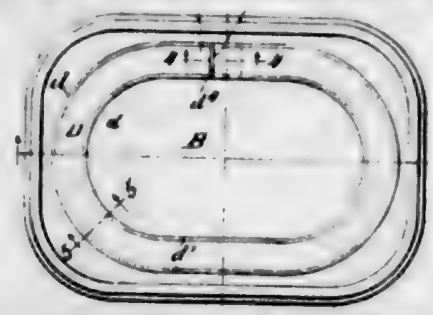


Claim.—1. In combination with the glass container of a vapor apparatus, a platinum disk sealed into the glass, and one or more reinforcing pieces of copper attached to the disk.

2. As an article of manufacture, a glass vessel and a disk of platinum having one or more reinforcing pieces of copper joined thereto, the platinum disk being sealed into the glass.

3. As an article of manufacture, a glass vessel, a platinum plate sealed into the glass, and a protecting-face upon the platinum plate.

804,844. KEY-OPENING CAN. JOHN G. HODGSON, Maywood, Ill., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 21, 1904. Serial No. 233,569.



Claim.—1. A key-opening can having a raised tearing-strip with marginal angle flanges or shoulders at each side thereof offsetting the tearing-strip, and provided with thinned and beveled flat-faced external corners at the junction of the angle-flanges with the tearing-strip, the flat face of each of said external corners being at an obtuse angle both to the tearing-strip and to the adjacent angle-flange, substantially as specified.

2. A key-opening can having in one of its heads a raised tearing-strip with angle flanges or shoulders at each side thereof offsetting the tearing-strip, and provided with thinned and beveled flat-faced corners at the junction of the angle-flanges with the tearing-strip, the flat face of each of said external corners being at an obtuse angle both to the tearing-strip and to the adjacent angle-flange, substantially as specified.

3. A key-opening can having a seamless body and a head integral therewith, furnished with a raised tearing-strip with angle flanges or shoulders at each side thereof offsetting the tearing-strip and provided with external thinned and beveled flat-faced corners at the junction of the angle-flanges with the tearing-strip, the flat face of each of said external corners being at an obtuse angle both to the tearing-strip and to the adjacent angle-flange, substantially as specified.

4. A key-opening can having a raised tearing-strip with angle flanges or shoulders at each side thereof, provided with beveled and thinned flat-faced external corners at the junction of the angle-flanges with the tearing-strip, said tearing-strip having also a transversely-extending angle flange or shoulder with a thinned and bev-

eled corner at its junction with the tearing-strip to facilitate the insertion of a key in the same to start the winding, substantially as specified.

5. A key-opening can having in one of its heads a raised tearing-strip with angle flanges or shoulders at each side thereof, provided with thinned and beveled corners, said tearing-strip having also a transversely-extending angle flange or shoulder with thinned and beveled corner to facilitate the insertion of a key through the same to start the winding, substantially as specified.

6. A key-opening can having a seamless body and a head integral therewith furnished with a raised tearing-strip and angle flanges or shoulders at each side thereof, provided with external thinned and beveled corners, said tearing-strip having also a transversely-extending angle flange or shoulder with thinned and beveled corner to facilitate the insertion of a key through the same to start the winding, substantially as specified.

7. A can having a deflected tearing-strip with thinned and beveled flat-faced corners at the junction of the deflections with the tearing-strip at each side of the tearing-strip the flat face of each of said corners being at an obtuse angle both to the tearing-strip and to the adjacent angle-flange, substantially as specified.

8. A can provided with a tearing-strip having angle-flanges at each side thereof and thinned and weakened beveled and flattened at the apices or corners of the angle-flanges, the flattened portion of each of said corners being at an obtuse angle both to the tearing-strip and to the adjacent angle-flange, substantially as specified.

9. A can having a head provided with a tearing-strip therein furnished with angle-flanges offsetting it, and thinned and weakened beveled and flattened at the corners or apices of the angle-flanges, the flattened portion of each of said corners being at an obtuse angle both to the tearing-strip and to the adjacent angle-flange, substantially as specified.

10. A can provided with a head having an offset portion or angle-flange, the corner or apex of the angle-flange being flat-faced thinned and beveled and forming a weakened line, without groove or incision, the flat face of said beveled corner being at an obtuse angle both to the tearing-strip and to the adjacent angle-flange, substantially as specified.

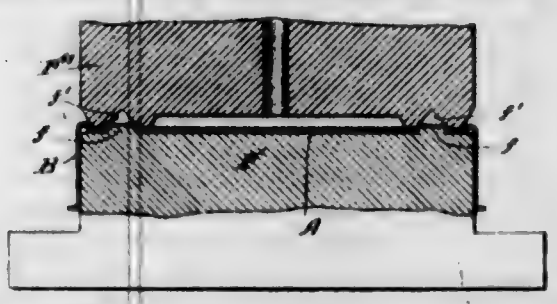
11. A can having a deflected tongueless tearing-strip with flat-faced thinned and beveled corners at the junction of the deflections with the tearing-strip at each side of the tearing-strip, the flat face of each of said corners being at an obtuse angle both to the tearing-strip and to the adjacent deflected portion, substantially as specified.

12. A can provided with a tongueless tearing-strip having angle-flanges at each side thereof and thinned and weakened beveled and flattened at the apices or corners of the angle-flanges, the flat face of each of said corners being at an obtuse angle both to the tearing-strip and to the adjacent angle-flange, substantially as specified.

13. A can having a head provided with a tongueless tearing-strip therein furnished with angle-flanges offsetting it, and thinned and weakened beveled and flattened at the corners or apices of the angle-flanges, the flat face of each of said corners being at an obtuse angle both to the tearing-strip and to the adjacent angle-flange, substantially as specified.

14. A tongueless-key-opening can having an offset portion or angle-flange, the corner or apex of the angle-flange being flat-faced thinned and beveled and forming a weakened line, without groove or incision, the flat face of said corner being at an obtuse angle to the parts adjacent thereto on each side thereof, substantially as specified.

804,845. **METHOD OF FORMING WEAKENED LINES FOR TEARING-STRIPS OF KEY-OPENING CANS.** JOHN G. HODGSON, Maywood, Ill., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 21, 1904. Serial No. 233,560.



Claim.—1. The improvement in the art or method of forming weakened lines for tearing-strips for key-opening cans, consisting in first forming a raised strip in the sheet metal the width of the tearing-strip having angle flanges or shoulders offsetting the raised strip, and then thinning and beveling the external corners of such raised strip, substantially as specified.

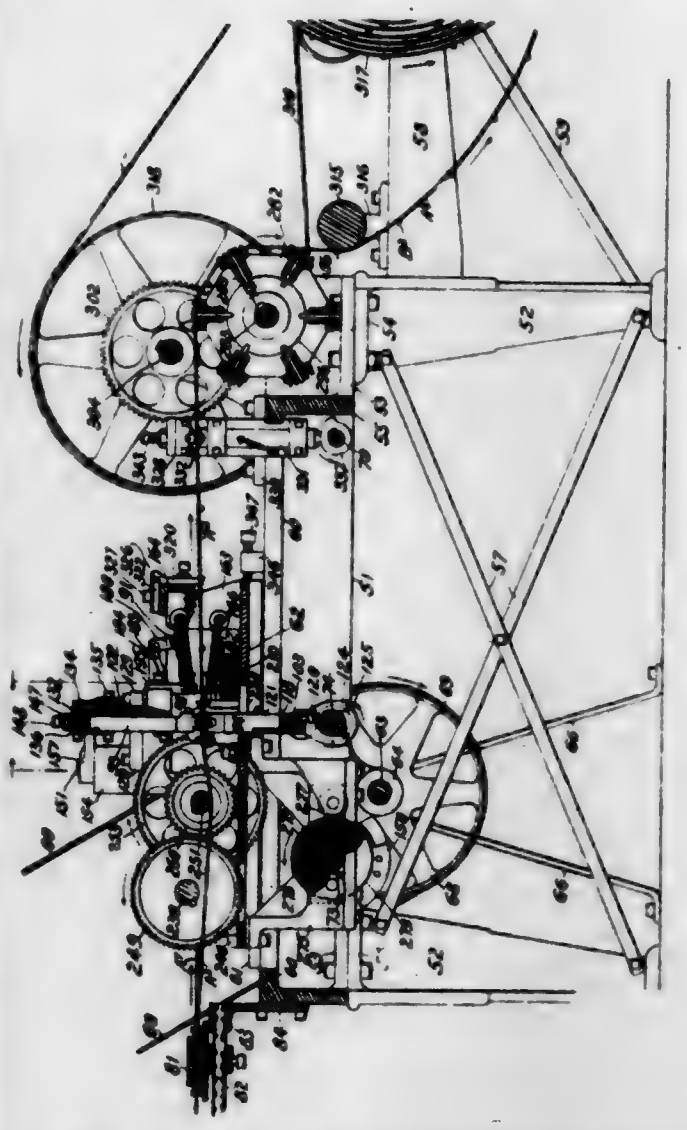
2. The method of forming tearing-strips for key-opening cans, consisting in first producing a raised strip in the sheet metal the width of the tearing-strip, and then thinning by compression the external corners of the raised strip, whereby two parallel weakened lines are produced, one at each edge of the tearing-strip and separated thereby substantially as specified.

3. The method of forming weakened lines at each edge of a tearing-strip for key-opening cans, consisting in beveling and thinning by compression the external corners of a raised strip the width of the tearing-strip, whereby two parallel weakened lines are produced, one at each edge of the tearing-strip and separated thereby substantially as specified.

4. The method of forming weakened lines at each edge of a tearing-strip for cans, consisting in thinning by compression the apices or corners of deflected shoulders or angle-flanges at the edges of and offsetting the tearing-strips without cutting through the tin coating of the sheet metal, substantially as specified.

5. The method of forming a weakened line for a tearing-strip for a key-opening can, consisting in first forming a deflected shoulder or angle-flange at the edge of the tearing-strip and thereby offsetting the tearing-strip and then subjecting the apex or corner of such shoulder or angle-flange to compression and thereby forming a weakened line without cutting through the thin coating of the sheet metal, substantially as specified.

804,846. **WIRE-FENCE MACHINE.** AUGUST G. HOEFER, FREDERICK W. HOEFER, and EMIL A. HOEFER, Freeport, Ill., assignors to Janesville Barb Wire Company, a Corporation of Wisconsin. Filed Jan. 17, 1906. Serial No. 241,493.



Claim.—1. A square-mesh wire-fence machine comprising, in combination, means for holding a number of strand-wires in parallel relation, means for cutting stay-wire lengths and placing them in position on the strand-wires, and a coiling mechanism adapted to intercoil adjacent stay-wire ends each about the straight part of the other stay-wire with a strand-wire between them.

2. A wire-fence machine for square-mesh fence comprising, in combination, means for holding a number of strand-wires in parallel

relation, means for placing a plurality of stay-wire lengths in position on said strand-wires, and coiling mechanism adapted to wrap two adjacent overlapping stay-wire ends each about the straight part of the other stay-wire with a strand-wire between them.

3. A wire-fence machine for square-mesh fence, comprising, in combination, means for holding a number of strand-wires in parallel relation, means for placing a plurality of stay-wire lengths in position on said strand-wires, means for gripping said stay-wires in place on said strand-wires and simultaneously crimping the strand-wires, and coiling mechanism adapted to wrap two adjacent overlapping stay-wire ends about each other with a strand-wire between them.

4. A wire-fence machine for square-mesh fence comprising, in combination, means for maintaining a plurality of strand-wires in parallel relation, means for placing a plurality of stay-wires in position across said strand-wires, coiling mechanism adapted to wrap adjacent stay-wire ends about each other with a strand-wire between them, and means for crimping the strand-wires at the joint.

5. A wire-fence machine for square-mesh fence comprising, in combination, means for maintaining a plurality of strand-wires in parallel relation, means for placing a plurality of stay-wires in position across said strand-wires, coiling mechanism adapted to wrap adjacent stay-wire ends about each other with a strand-wire between them, means for crimping the strand-wires at the joint, and means for placing a secondary crimp in the strand-wires intermediately between the stays.

6. A wire-fence machine for square-mesh fence comprising means for maintaining a number of strand-wires in parallel relation, means for placing a plurality of stay-wires in position across said strand-wires, grippers adapted to hold said stay-wires and crimp the strands at the joint, and coiling mechanism adapted to interlock the stay-wire ends with the strands.

7. A wire-fence machine for square-mesh fence, comprising means for maintaining a plurality of strand-wires in parallel relation, carriers adapted to place the stay-wires in position on the strands, grippers adapted to hold the stay-wires in place on said strands, and coiling mechanism adapted to interlock the stay-wire ends about the strands.

8. A wire-fence machine for square-mesh fence, comprising means for maintaining a plurality of strand-wires in parallel relation, carriers adapted to place the stay-wires in position on the strands, grippers adapted to hold the stay-wires in place on said strands and simultaneously crimp said strands at the joint, and coiling mechanism adapted to interlock the stay-wire ends about the strands.

9. A wire-fence machine for square-mesh fence, comprising means for advancing a number of parallel strand-wires, cutters and carriers adapted to cut off pieces of stay-wire and place them in position on said strands, and coiling mechanism adapted to interlock adjacent stay-wire ends about the strands.

10. A wire-fence machine for square-mesh fence, comprising, in combination, means for advancing a number of parallel strand-wires, cutters and carriers adapted to cut the stay-wires and place them in position on said strands, grippers adapted to hold said stay-wires during the coiling operation and also place a crimp in each strand-wire over the joint, and means for intercoiling adjacent stay-wire ends.

11. A wire-fence machine for square-mesh fence comprising, means for maintaining in parallel relation a number of strand-wires, carriers adapted to convey the stay-wires to place on the strands, means for feeding stay-wires into said carriers, grippers adapted to hold said stay-wires in position while being coiled, and coiling mechanism adapted to interlock the stay-wire ends with the strands.

12. A wire-fence machine for square-mesh fence comprising means for maintaining in parallel relation a number of strand-wires, carriers adapted to convey the stay-wires to place on the strands, means for feeding stay-wires into said carriers, grippers adapted to hold said stay-wires in position while being coiled, and mechanism for wrapping adjacent stay-wire ends about each other with a strand-wire between them.

13. A wire-fence machine for square-mesh fence comprising, means for maintaining in parallel relation a number of strand-wires, carriers adapted to convey the stay-wires to place on the strands, means for feeding stay-wires into said carriers, grippers adapted to hold said stay-wires in position while being coiled, and means for placing a crimp in each strand-wire at the joint.

14. A wire-fence machine for square-mesh fence comprising, in combination, means for maintaining in parallel relation a number of strand-wires, means for advancing said strand-wires after the formation of each stay, carriers having means for cutting the stay-wires from continuous lengths and placing them in position on the strands, means for feeding said continuous lengths into said carriers, and means for interlocking the stay-wires with a strand to form a stay.

15. A wire-fence machine for square-mesh fence comprising, in combination, means for maintaining in parallel relation a number of strand-wires, means for advancing said strand-wires after the formation of each stay, carriers having means for cutting the stay-wires from continuous lengths and placing them in position on the strands, means for feeding said continuous lengths into said carriers, and means for coiling adjacent stay-wire ends about each other with a strand-wire between them.

16. A wire-fence machine for square-mesh fence comprising, in combination, means for maintaining in parallel relation a number of strand-wires, means for advancing said strand-wires after the formation of each stay, carriers having means for cutting the stay-wires from continuous lengths and placing them in position on the strands, means for feeding said continuous lengths into said carriers, grippers adapted to hold the stay-wires in position during the coiling operation and simultaneously crimp said strands and coiling mechanism adapted to intercoil adjacent stay-wire ends.

17. A wire-fence machine for square-mesh fence comprising, in combination, means for maintaining in parallel relation a number of strand-wires, means for advancing said strand-wires and placing an intermediate crimp therein, carriers adapted to cut off the several stay-wire lengths and place them in position on said strands, means for feeding wires to the several carriers, grippers adapted to hold the stay-wires in position and simultaneously crimp the strands, coilers adapted to wrap overlapping stay-wire ends about each other with a strand-wire between them, and means for operating said coilers while the stay-wires are being held by said grippers.

18. A wire-fence machine for square-mesh fence comprising means for maintaining a number of strand-wires in parallel relation and at unequal distances from one another, carriers adapted to convey the stay-wire lengths into position on said strands, means for cutting off unequal lengths of stay-wires which are delivered to said carriers proportional to the several said distances, and means for intercoiling the several stay-wire ends about the strands.

19. A wire-fence machine for square-mesh fence comprising means for maintaining a number of strand-wires in parallel relation and at unequal distances from one another, carriers adapted to convey the stay-wire lengths into position on said strands, means for cutting off unequal lengths of stay-wires which are delivered to said carriers proportional to the several said distances, and means for intercoiling the several stay-wire ends about each other with a strand-wire between them.

20. A wire-fence machine for square-mesh fence comprising means for maintaining a number of strand-wires in parallel relation and at unequal distances from one another, means for feeding in and cutting off stay-wire lengths proportional to the distances between the several strand-wires, means for placing said lengths in position on said strands, and coiling means adapted to wrap adjacent stay-wire ends each about the straight part of the other stay-wire with a strand-wire between them.

21. A wire-fence machine for square-mesh fence comprising means for maintaining a number of strand-wires in parallel relation and at unequal distances from one another, a plurality of carriers having cutting mechanism adapted to cut off stay-wire lengths and convey them to place on said strand-wires, means for feeding unequal lengths of stay-wire proportional to the distances of the several strands to the several carriers, and means for intercoiling the stay-wire ends about the strands.

22. A wire-fence machine for square-mesh fence comprising means for maintaining a number of strand-wires in parallel relation, means for advancing said strand-wires with the formation of each stay, a reciprocating carriage, coilers mounted on said carriage, carriers also mounted on said carriage, means for feeding the stay-wires to said carriers when said carriage is in one position, gripping means mounted independently of said carriage, said carriers being arranged to convey the stay-wires to the grippers on the movement of the carriage to its opposite position, means for operating said grippers when the carriage is in this position to hold the stay-wires in position on the strands, said coilers being adapted by the return of the carriage to its first position to advance and receive the stay-wires into operative position in relation thereto, and means for operating said coilers while the carriage is in said first-named position.

23. A wire-fence machine for square-mesh fence, comprising means for maintaining a number of strand-wires in parallel relation, means for advancing said strand-wires as each stay is formed, a reciprocating carriage, cutters and carriers mounted on said carriage, means for feeding wire to said cutters and carriers when the carriage is in one position, said cutters and carriers being arranged to cut off

stay-wire lengths from said wire and place them in position on said strand-wires when said carriage moves to its opposite position, independently-mounted grippers adapted to grip said stay-wire lengths and remove them from the carriers, rotary coilers mounted on said carriage and arranged to advance into operative position when the carriage returns to its original position, and means for rotating said coilers in this position, whereby the stay-wire ends are interlocked about the strands.

24. A wire-fence machine for square-mesh fence comprising a feed-drum adapted to advance a number of parallel strand-wires longitudinally through the machine, means carried by said drum for placing intermediate crimps between the stays in the several strand-wires, a reciprocating carriage, a number of carriers mounted thereon and arranged to receive wire for the stays when the carriage is in its advanced position, means for feeding said wire to said carriers, cutting mechanism in connection with said carriers, whereby they are caused to cut off stay-wire lengths on the retreating movement of the carriage, said carriers being arranged to place the cut-off lengths in proper position on the strands, a number of pairs of grippers mounted to reciprocate transversely, means for closing said grippers upon the stay-wires and strands when the stay-wires are so placed, rotary coilers mounted on said carriage on the rear side of said grippers and arranged to advance with said carriage and receive said stay-wires while held by the grippers into coaxial position therewith, and means for rotating the coilers while in this position to form the stay-joints said grippers being arranged to release the stays and strands immediately after the formation of the joint.

25. In a wire-working machine, a pair of gripping-dies having one a boss and the other a recess adapted to form a crimp in a wire held in the plane of the dies and arranged to hold a pair of transverse wires simultaneously with said first-named wire.

26. In a wire-working machine, a pair of gripping and crimping dies having one a recess and the other a boss or knuckle fitting thereinto, said boss and recess being arranged to form a crimp in a wire lying in the plane of said dies and gripped thereby and having also each a subsidiary notch adapted to hold a second wire against said first-named wire and transversely thereto.

27. In a wire-working machine, a gripping-die having a flattened edge and a longitudinal groove therein, said edge having a transverse notch or recess, and means for pressing a wire lying in said groove into said recess so as to form a crimp in the wire.

28. In a wire-working machine, a gripping-die having a flattened edge and a longitudinal groove therein, said edge having a transverse notch or recess, and means for pressing a wire lying in said groove into said recess so as to form a crimp in the wire, said die having also a subsidiary notch at the center of said first-named notch or recess adapted to hold a transverse wire against said first-named wire when the latter is pressed into said recess.

29. In a wire-working machine, a crimping-die having a flattened operative edge and a longitudinal boss or knuckle therein, in combination with means for holding a wire in the plane of said edge and pressing it over said knuckle, whereby to form a crimp in said wire, said die having also a subsidiary notch at the center of said boss and adapted to firmly hold a transverse wire against said first-named wire.

30. In a wire-working machine, a carrier having jaws at least one of which is resiliently mounted, in combination with means for inserting a wire between said jaws, means for moving said carrier to convey the wire to another position, and means for seizing said wire and removing it from said jaws.

31. In a wire-working machine, a carrier having a pair of jaws, one of which has an oscillating movement toward and from the other, and resilient means for pressing said oscillating jaw against the fixed jaw, said jaws having a bore adapted to receive a wire which is held between said jaws.

32. In a wire-working machine, a carrier having a pair of jaws, one of which may be fixed and the other has an oscillating movement, resilient means for holding said oscillating jaw against the fixed jaw, there being a bore between the two jaws adapted to receive a wire therein, and an independent piece mounted on one of said jaws and adapted to press resiliently upon the wire held between said jaws.

33. In a wire-working machine, a carrier comprising a fixed jaw, an oscillating jaw, means for pressing the oscillating jaw against the fixed jaw, the two jaws having a cylindrical bore between them adapted to receive and hold a wire, and a spring mounted on one of said jaws and projecting through the jaw into said bore, whereby to hold the wire against endwise motion.

34. In a wire-working machine, a carrier comprising a member having pivot-lugs, a jaw fixed to said member, an oscillating jaw, and a spring-plate secured to said oscillating jaw and pressing it against said fixed jaw, in combination with a pivot upon which said carrier is mounted, means for moving said pivot back and forth, and means for oscillating said carrier about said pivot in a definite manner.

35. In a wire-working machine, a carrier comprising a member pivotally mounted, a fixed jaw and a movable jaw mounted on said member, said jaws having a cylindrical bore adapted to receive and hold a wire between them, and a shear-blade inserted between the two jaws in one edge thereof; in combination with means for moving said carrier back and forth, and a cutting-block operating in connection with said shear-blade to cut off a length of wire in said jaw.

36. In a wire-working machine, a carrier comprising a member pivotally mounted, a fixed jaw and a movable jaw mounted on said member, said jaws having a cylindrical bore adapted to receive and hold a wire between them, and a shear-blade on one edge thereof; in combination with means for moving said carrier back and forth, and a cutting-block operating in connection with said shear-blade to cut off a length of wire in said jaw.

37. In a wire-working machine, a carrier comprising a member pivotally mounted, a fixed jaw and a movable jaw mounted on said member and adapted to receive and hold a wire between them, and a shear-blade on one edge thereof; in combination with means for moving said carrier back and forth, and a cutting-block operating in connection with said shear-blade to cut off a length of wire in said jaw.

38. In a wire-working machine, a crimper comprising a box-frame having a longitudinal recess, a pair of dies having respectively a bossed and a recessed end removably housed in said recess, means for holding said dies in said recess permitting one of said dies to reciprocate therein toward and from the other die, means acting on the butt-end of said die to periodically advance it, a clamping-piece adapted to clamp the other die in position in said recess, and a set-screw abutting against the butt-end of the die whereby the same may be adjusted longitudinally in said recess.

39. In a wire-working machine, coiling mechanism comprising one or more rotary coilers each being formed of a short shaft having on its ends coiling means and a radial slit therein adapted to receive a wire axially, coiler-blocks having bearings in which said coilers are mounted, each coiler-block having also a radial slit from the bearing to the exterior, thus enabling a wire to be inserted within the coiler, in combination with means for rotating said coilers, and means for conveying wires into axial position within the coilers.

40. In a wire-working machine, coiling mechanism comprising a plurality of coilers each comprising a short shaft having a radial slit adapted to receive a wire axially, coiler-blocks having bearings in which said coilers turn, the ends of adjacent coilers being separated by a small distance and having coiler-dies formed therein, said blocks having radial slits to enable wires to be inserted into said coilers, means on said coiler-blocks for bending over the projecting ends of adjacent wires when the wires are conveyed into position in said coilers, and means for conveying said wires into position within said coilers.

41. In a wire-working machine, coiling mechanism comprising a rotary coiler consisting of a short shaft having a radial slit adapted to receive a wire axially and a conformation on the end of said shaft adapted to wrap the bent-over end of a wire about a wire passing through the axis of the shaft, a coiler-block in which said coiler is journaled, said block having also a slit from the exterior to the bearing, whereby to admit a wire to the axis of said coiler, and a projecting lip on one margin of said last-mentioned slit adapted to bend over the projecting end of a wire which is pushed thereagainst and into said coiler.

42. In a wire-working machine, coiling mechanism comprising a pair of rotary coaxially-mounted coilers, each consisting of a shaft having a radial slit, the two coilers having coiling conformations on their opposing faces, means for rotating said coilers, a pair of bearing-posts in which said coilers are journaled each having a radial slit from the journal to the exterior adapted to register with the slits in the respective coilers in one position of the latter, a pair of inclined lips on the margins of one of said last-named slits, and a pair of oppositely-inclined lips on the other slit, whereby a pair of wires conveyed into axial position in the respective coilers pass between the lips of one pair and have their projecting ends bent over by one of the lips of the other pair.

43. In a wire-working machine, coiling mechanism comprising a pair of coaxially-mounted rotary coilers, each consisting of a shaft

having a radial slit therein to receive a wire axially, coiler-dies formed on the opposing ends of said shafts and consisting of recesses formed around the slit and adapted to receive the bent-over end of a wire, a pair of bearing-posts in which the respective coilers are journaled, the coiling-dies projecting from the opposing faces of said posts, said posts having each a radial slit therein adapted to admit a wire into axial position within said coilers, a pair of upwardly-turned lips on one of said posts at the margins of the slit thereof and arranged to admit a wire between them into the coiler carried by this post and bend over the end of a wire carried by the other post by the striking of said wire upon the lower lip, and a pair of downwardly-bent lips carried by the second post on the margins of the slit thereof and adapted to admit a wire between them into the coiler carried by this post and to bend over the projecting end of said first-named wire by the striking of said wire against the upper lip; in combination with means for conveying a pair of wires into axial position in said coilers in the aforesaid manner, whereby the overlapping ends of the wires are bent over and brought into coiling position in said dies, and means for rotating the coilers in opposite directions when said wires are so placed.

44. In a wire-working machine, gripping means comprising a reciprocating die-carriage, a die mounted therein, an opposing die reciprocally mounted, and a cam-bar reciprocating at right angles to said opposing die and having a cam-slot therein adapted to advance and withdraw said opposing die on reciprocation of said bar.

45. In a wire-working machine, the combination of a vertically-reciprocating die-carriage, means for reciprocating said carriage, a set of gripping dies mounted in said carriage, a stationary head-block, a set of opposing dies mounted to reciprocate vertically in said head-block, a set of opposing dies having each a projection 146, a horizontally-reciprocating cam-bar having cam-slots therein engaging said projections 146 so as to raise and lower the dies on the reciprocation of said bar, and means for reciprocating said bar synchronously with said first-named dies.

46. In a wire-working machine, the combination of a set of gripping-dies slidably mounted and having each a projection, a cam-bar mounted to reciprocate in a direction at right angles to said dies and having cam-slots engaging the several projections, whereby to reciprocate said dies simultaneously, and means for individually adjusting the range of motion of said dies.

47. In a wire-working machine, the combination of a set of gripping-dies slidably mounted and having each a projection, a cam-bar mounted to reciprocate in a direction at right angles to said dies and having cam-slots engaging the several projections, whereby to reciprocate said dies simultaneously, a set of adjusting-pieces 142 pivotally mounted on said cam-bar and resting on the heads of the individual dies, and means for adjusting the position of said adjusting-pieces.

48. In a wire-working machine, the combination with coiling mechanism, of a rotary shaft driving said mechanism, and locking mechanism comprising a notched disk secured to said shaft, a locking-dog having a projection engaging with the notches in said disk, and means for raising and lowering said dog to lock and release said coiling mechanism.

49. In a wire-working machine, coiling mechanism comprising a tubular shaft through which a wire passes, a recessed die on the end of said shaft, means for conveying a wire against said coiling-die in a position transverse to said first-named wire, means for pressing the end of said transverse wire into the recess of said die, and means for subsequently rotating said die to coil said wire end about said first-named wire.

50. In a wire-working machine, means for coiling one wire about another, comprising a carriage reciprocating in the direction of one wire, a hollow shaft mounted longitudinally on said carriage and through which said wire passes, a recessed coiling-die on the end of said shaft, gripping means adapted to hold a second wire in transverse relation to the first and in position for engaging said die on the advance movement of the carriage, a presser-finger mounted on said gripping means, and caused by the advance movement of the carriage to press the end of said transverse wire into said die, and means for subsequently rotating said shaft to wrap said end about said first-named wire.

51. In a wire-working machine, the combination of means for maintaining a plurality of strand-wires in parallel relation, a carriage reciprocating parallel to said strand-wires, means for engaging stay-wires with said strand-wires to form transverse stays, and one or more spacers mounted on said carriage and consisting of a pivoted piece having a fork therein through which passes one of the strand-wires, said fork being adapted to engage and push forward the stay-joints on the advance movement of said carriage.

52. In a wire-working machine, the combination of means for maintaining a plurality of strand-wires in parallel relation, a carriage reciprocating parallel to said strand-wires, means for engaging stay-wires with said strand-wires to form transverse stays, one or more spacers mounted on said carriage and consisting of a pivoted piece having a fork therein through which passes one of the strand-wires, said fork being adapted to engage and push forward the stay-joints on the advance movement of said carriage, and crimping means adapted to subsequently crimp said strand-wires at each stay-joint.

53. In a wire-working machine, a crimper comprising a frame having a recess, a pair of dies having respectively a bossed and a recessed end, one of said dies being removably housed in said recess and the other reciprocating thereagainst, a piece adapted to releasably clamp said first-named die in its recess, means for adjusting the position of this die with respect to the other, and means for reciprocating the other die.

54. In a wire-working machine, the combination of a stationary axle, a drum rotatably mounted on said axle, means for seizing a wire carried by said drum, and means within said drum and carried by said axle for operating said seizing means.

55. In a wire-working machine, the combination of a stationary axle, a drum having hubs rotating on said axle, means for carrying a wire over the surface of said drum, a crimping-piece mounted on said drum and adapted to crimp said wire, and means mounted on said axle within said drum for operating said crimping means.

56. In a wire-working machine, the combination of a crimping-drum having bearing-hubs at its ends, a movable piece adapted to crimp a wire lying on the surface of said drum, and a stationary member mounted interiorly of said drum and adapted to operate said movable piece by the rotation of said drum.

57. In a wire-working machine, the combination of a feed and crimping drum, means for carrying a wire over the surface of said drum and holding it in place thereon, a piece transversely mounted in said drum and adapted to strike and bend said wire, and a stationary cam mounted interiorly of said drum which operates said piece to hold and crimp a wire on the rotation of said drum.

58. In a wire-working machine, the combination of a feed and crimping drum, means for holding one or more wires in place thereon, one or more crimping-levers projecting from the surface of said drum and oscillating transversely to said wire or wires, said crimping lever or levers having each a tail projecting within said drum, and one or more fixed cams mounted in the interior of said drum and each adapted to strike the tail of one of said crimping-levers on the rotation of said drum to cause it to crimp a wire thereon and simultaneously seize and carry forward said wire.

59. In a wire-working machine, the combination of a stationary axle, a rotary feed and crimping drum having hubs turning on said axle, a plurality of crimping-levers mounted on said drum to oscillate in axial planes, means for holding wires which pass over said drum in position thereon against the action of said levers, and a plurality of cams fixed to said axle within said drum and each adapted to operate one of said levers.

60. A wire-fence machine for square-mesh fence, comprising means for maintaining a number of strand-wires in parallel relation, means for placing a plurality of stay-wires in position across said strand-wires, grippers adapted to hold said stay-wires and crimp the strands at the joint, and coiling mechanism adapted to fix the stay-wire ends to the strands.

61. A wire-fence machine for square-mesh fence, comprising means for maintaining a plurality of strand-wires in parallel relation, carriers adapted to place the stay-wires in position on the strands, grippers adapted to hold the stay-wires in place on said strands and simultaneously crimp said strands at the joint, and coiling mechanism adapted to fix the stay-wire ends to the strands.

62. In a wire-working machine, a carrier comprising a member pivotally mounted, a fixed jaw and a movable jaw mounted on said member and adapted to receive and hold a wire between them, and a shear-blade inserted between the two jaws in one edge thereof; in combination with means for moving said carrier back and forth, and a cutting-block operating in connection with said shear-blade to cut off a length of wire in said jaw.

63. In a wire-working machine, the combination of a stationary base, a horizontally-reciprocating carriage on said base, a shaft having means for operating said carriage, rotary coilers mounted on said carriage, a shaft mounted on said carriage, gearing connecting said shaft with said coilers, a ratchet-wheel mounted on said shaft, a pawl adapted to advance said ratchet-wheel to operate the coilers, a pitman actuating said pawl and itself operated from said shaft, means for supporting a series of strand-wires longitudinally of said

carriage, and mechanism adapted to place stay-wires in position for the operation of said coilers.

64. In a wire-working machine, a pair of gripping-dies having one a boss and the other a recess adapted to form a crimp in a wire held in the planes of the dies and arranged to hold a transverse wire simultaneously with the said first-named wire.

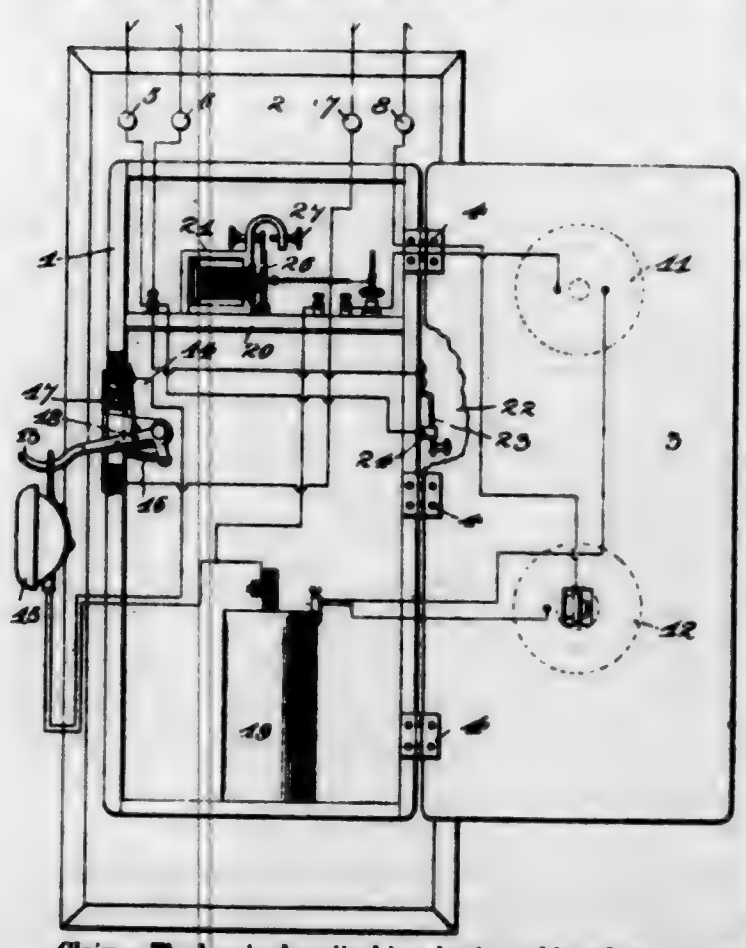
804,847. **FOUNTAIN-PEN.** JOHN HOLLAND, Cincinnati, Ohio. Filed Aug. 11, 1905. Serial No. 273,707.



Claim.—1. In a fountain-pen the combination of a barrel, a feeder, a sack engaging the feeder and located within the barrel, a longitudinal bar upon one side of the sack, a button upon the exterior of the barrel upon the side opposite to the bar and a link coupled to the button passing through the barrel and around the sack and engaging the bar.

2. In a fountain-pen the combination of a barrel having perforations in its walls, a feeder, a sack engaging the feeder, a longitudinal bar between the sack and the walls of the barrel, a U-shaped wire surrounding the bar and the sack and passing through said perforations in the walls of the barrel opposite the bar and a button engaging the outer ends of the wire, and standing against the barrel when the sack is expanded.

804,848. **TELEPHONE SIGNAL SYSTEM.** ARIEL R. HOOVER, Pleasanthill, Ill., assignor of one-half to C. J. Craigmiles, Pleasanthill, Ill. Filed Apr. 20, 1905. Serial No. 256,502.



Claim.—The herein-described box having a hinged cover, a relay and local battery in the box, a receiver switch-hook and a circuit-closer in opposite sides of the box, a transmitter and local bell on the hinged cover of the box, binding-posts for a normally charged bell line-circuit, conductors connecting said binding-posts with the circuit-closer and the coils of the relay, binding-posts for a telephone line-circuit, conductors connecting said binding-posts to the receiver switch-hook, the receiver, the armature-switch of the relay, the local bell and the transmitter, and a conductor connecting the local battery with the conductor leading from the receiver to the armature-switch, and the conductor between the transmitter and local bell.

804,849. **ELECTRIC SWITCH.** FREDERICK HUTTON, New York, N. Y. Filed Apr. 8, 1904. Serial No. 202,262.

Claim.—1. In an electric switch, the combination with a movable and a fixed contact element, of a casing surrounding the elements, and means connecting the two for imparting motion in one direction to the movable element, such means being inoperative in the other direction and a coiled-spring contact between the two elements forming an electric connection.



2. In an electric switch, the combination with a support, of a movable and a fixed contact element thereon, a casing surrounding the elements, and means connecting the two for imparting motion in one direction to the movable element, such means being inoperative in the other direction and a coiled-spring contact between the two elements forming an electric connection.

3. In an electric switch, the combination with a movable and a fixed contact element, the said movable element having notches in its periphery, of a rotatable casing surrounding the elements and having a pawl, the said pawl being adapted to engage with the notches, and rotate the movable element by the rotation of the casing and a coiled-spring contact between the two elements forming an electric connection.

4. In an electric switch, the combination of a movable contact element, a fixed contact element on each side thereof, the movable contact element having notches in its periphery, and a casing surrounding the element and having a pawl, the said pawl being adapted to engage with the notches.

5. In an electric switch, the combination with a standard and a casing, of contact elements comprising movable and fixed elements surrounding the standard, the movable element having a coiled-spring contact, and the fixed element having notches engaging therewith and forming an electric connection, the said movable element having ratchet-teeth on its periphery and engaging with a pawl carried by the casing.

6. In an electric switch, the combination with a standard, of contact elements comprising movable and fixed elements surrounding the standard, one of the elements having a coiled-spring contact, and the other element having notches engaging therewith and forming an electric connection.

7. In an electric switch, the combination with a standard and a casing, of contact elements comprising movable and fixed elements surrounding the standard, one of the elements having a coiled-spring contact, and the other element having notches engaging therewith and forming an electric connection, the movable element having ratchet-teeth on its periphery and engaging with a pawl carried by the casing.

8. In an electric switch, the combination of a support, a standard thereon, three contact elements surrounding the standard, the middle element being movable and the other two fixed, contact devices between the elements, and means for rotating the middle element.

9. In an electric switch, the combination with a support, of a

standard thereon, contact elements surrounding the standard, the said elements comprising cylinders of insulating material and electric contact-surfaces, the middle element having notches in its periphery, and a casing surrounding the said middle element and carrying a pawl adapted to engage with the notches on the middle element and rotate the latter.

10. In an electric switch, the combination with a support, the said support having an annular flange, of a standard on the support, contact elements surrounding the standard, the lowest being stationary and having contact-surfaces, the middle being movable and having contact-surfaces above and below, and the upper being stationary and having contact-surfaces below and in engagement with the contact-surfaces on the movable element, the periphery of the movable element being notched, a casing surrounding the movable element and supported within the annular flange, and a pawl on said casing engaging with the notches on the movable element.

11. In an electric switch, the combination with a standard, of contact elements comprising movable and fixed elements surrounding the standard, the movable element having a coiled-spring contact, and the fixed element having notches engaging therewith and forming an electric connection.

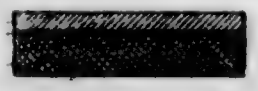
12. In an electric switch, the combination with a standard, of contact elements comprising movable and fixed elements surrounding the standard, the movable element being arranged between the two fixed elements, and having a coiled-spring contact, and one fixed element having notches engaging therewith and forming an electric connection.

13. In an electric switch, the combination with a standard, of three contact elements comprising a movable and two fixed elements surrounding the standard, the movable element being between the fixed elements, and having a coiled-spring contact, one of the fixed elements having notches engaging therewith and forming an electric connection, and the other fixed element having a coiled-spring contact engaging with the movable element.

14. In an electric switch, the combination with a standard, of movable and fixed contact elements surrounding the standard, the movable element having ratchet-teeth on its periphery, and a casing surrounding the elements and carrying a pawl engaging with the ratchet-teeth.

804,850. ARTICLE OF MANUFACTURE COMPRISING LEATHER AND RUBBER BODIES.

CHARLES L. IRESON, Boston, Mass. Filed Mar. 3, 1905. Serial No. 248,261.

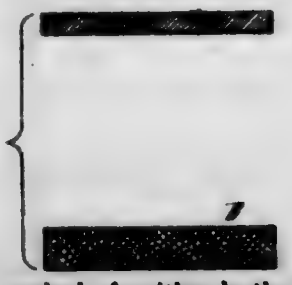


Claim.—1. The new article of manufacture herein described, the same comprising a composite product of tanned leather containing sulfur, rubber previously vulcanized by heat, and a cold vulcanized uniting-section between them combined with and knit into the section of the leather and the section of the rubber adjacent to it.

2. The improved article of manufacture comprising a body of leather containing sulfur, a body of rubber vulcanized by heat, and an intermediate, uniting body, cold vulcanized with the leather and with the rubber.

804,851. METHOD OF ATTACHING RUBBER TO LEATHER.

CHARLES L. IRESON, Boston, Mass. Filed Mar. 3, 1905. Serial No. 248,262.



Claim.—1. The method of uniting leather and rubber herein described, consisting in taking a tanned leather containing sulfur as one body, rubber previously vulcanized by heat as another body, coating the surfaces of each of the bodies which are to be brought into contact and united, first with a thin coating of ordinary rubber-cement, and second with a vulcanizing agent adapted to vulcanize or assist in vulcanizing the rubber-cement and its adjacent sections, when the two surfaces are brought together, and then subjecting both bodies and the intermediate vulcanizing elements to pressure at atmospheric temperature, whereby the vulcanization takes place under pressure.

2. The method of uniting leather and rubber herein described, consisting in taking a tanned leather containing sulfur as one body, rubber previously vulcanized by heat as another body, coating the surfaces of each of the bodies which are to be brought into contact and united, first with a thin coating of ordinary rubber-cement, and second with a vulcanizing agent consisting of a solution of protochlorid of sulfur and naphtha or benzin, adapted to vulcanize or assist in vulcanizing the rubber-cement and its adjacent sections, when the two surfaces are brought together, and then subjecting both bodies and the intermediate vulcanizing elements to pressure at atmospheric temperature, whereby the vulcanization takes place under pressure.

804,852. RESILIENT TIRE.

CHARLES L. IRESON, Boston, Mass. Filed Mar. 15, 1905. Serial No. 250,187.



Claim.—1. A resilient tire for motor or other vehicles mainly composed of vulcanized rubber or rubber stock, a leather wearing section or tread to said tire, and a uniting-bond of vulcanized rubber stock interposed between the rubber and leather.

2. A resilient tire for motor or other vehicles mainly composed of vulcanized rubber or rubber stock, a leather wearing section or tread to said wire, and for uniting the leather wearing-section to the tire, a thin uniting section or sheet of vulcanizable rubber interposed between the same and adhering to both when vulcanized.

3. A resilient tire for motor and other vehicles mainly composed of vulcanized rubber or rubber stock, leather wearing sections or treads, and an interposed, uniting-bond of vulcanizable rubber stock between the leather and the vulcanized rubber and united to both and uniting both under pressure by heat and vulcanization.

804,853. METHOD OF ATTACHMENT OF RUBBER AND LEATHER.

CHARLES L. IRESON, Boston, Mass. Filed Mar. 17, 1905. Serial No. 250,561.



Claim.—1. The method of uniting rubber and leather herein described, the same consisting in treating leather freed of the oil or other elements which attack or are injurious to rubber when the leather is combined therewith, preparing such leather for the vulcanizing process and combining such leather chemically and mechanically, under heat and pressure, with a body of rubber or rubber compound by means of an interposed, independent sheet of vulcanizable-rubber compound.

2. The method of uniting rubber and leather herein described, the same consisting in treating leather denuded of destructive oils and other elements liberated by heat and supplying the leather with an element of a vulcanizable compound, and uniting said leather with a body of rubber or rubber compound, under heat and pressure, by means of an independent sheet of vulcanizable-rubber compound interposed between the leather and the rubber or rubber compound and chemically and mechanically united to both.

804,854. ART OF VULCANIZING LEATHER AND RUBBER.

CHARLES L. IRESON, Boston, Mass. Filed Mar. 17, 1905. Serial No. 250,563.

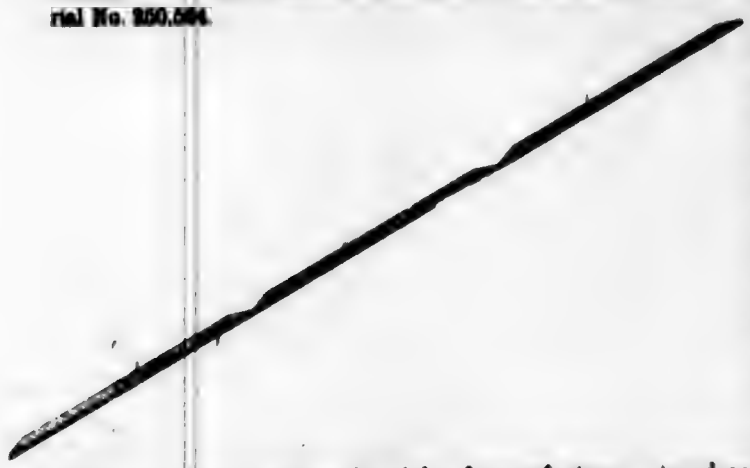


Claim.—1. The method of uniting leather to rubber comprising the coating or covering of the leather with a waterproof and heat-resisting envelop and then subjecting the leather and rubber with which it is to be united to pressure and to a moist heat in a vulcanizer.

2. As a means of protecting leather from injury during the vulcanizing process, the coating or covering of the exposed portions of

the same with a waterproof, heat-resisting medium maintained about it during the vulcanizing process.

804,855. LEATHER WEARING-TREAD FOR RESILIENT TIRES. CHARLES L. IRESON, Boston, Mass. Filed Mar. 17, 1905. Serial No. 250,594.

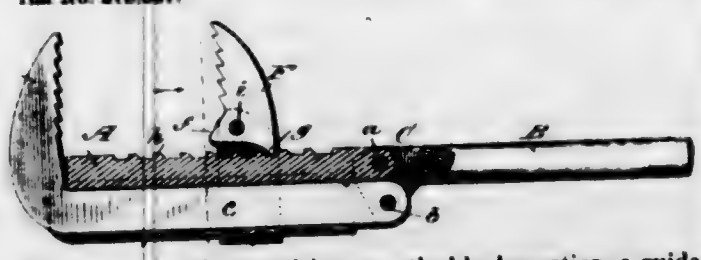


Claim.—1. As an improved article of manufacture, a tread or wearing surface for a resilient, vulcanized tire having attached to its inner surface a vulcanizable rubber compound.

2. As an improved article of manufacture, a leather wearing surface or tread for a resilient tire, and a body or sheet of vulcanizable rubber compound associated therewith and adapted to permanently combine the tread or wearing-section with the vulcanized rubber of the tire.

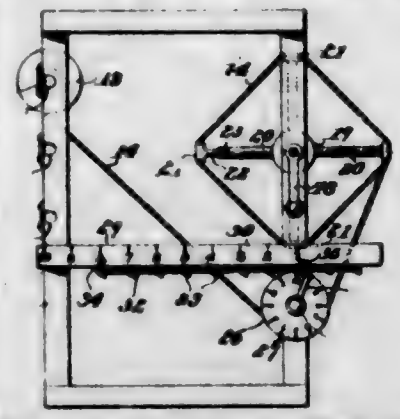
3. A series of leather treads or wearing-sections for a resilient rubber tire connected together by a strip of vulcanizable rubber compound which is also usable for uniting the treads or wearing-surfaces to the vulcanized rubber.

804,856. WRENCH. ROLLY W. JACKSON, Newman, Ill., assignor of one-half to George W. Jackson, Newman, Ill. Filed July 31, 1905. Serial No. 272,057.



Claim.—A wrench comprising a toothed body portion, a guide-sleeve integral with said body portion, the longitudinal edges of the side walls of said sleeve forming guides and the rear ends thereof forming stops, a jaw having a shank extending through the guide-sleeve, a handle having a bifurcated head pivoted to the body portion of the wrench and to the shank and adapted to abut against the stops formed by the rear ends of the side walls of the guide-sleeve, and a yoke embracing the guide-sleeve and slidable thereon, the ends of said yoke extending inwardly to bear against the longitudinal edges of the side walls of the guide-sleeve, and a suitable jaw pivoted to the slidable yoke, substantially as and for the purpose set forth.

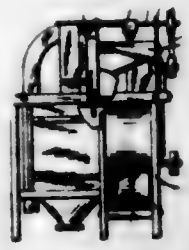
804,857. ROPE-MEASURING MACHINE. HALLIE P. JAMES, Humboldt, Tenn. Filed July 13, 1905. Serial No. 269,542.



Claim.—1. In a device of the class described, a stationary bar having an internal guideway and with external graduations, a bar slidable in said guideway and provided with lugs spaced to correspond to said graduations, a pointer carried by said slidable bar for movement over said graduations, a shaft mounted for rotation and carrying a measuring-wheel and with radial arm for engagement with said lugs one at a time as the shaft is rotated, a dial concentric to said shaft and over which said arm rotates and provided with graduations corresponding to the graduations on said stationary bar and fractions of the same, and means for causing the rope to be measured to pass in contact with said measuring-wheel.

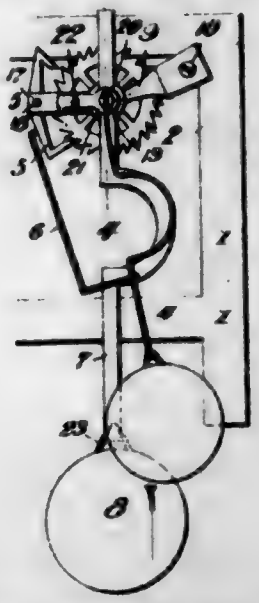
2. In a device of the class described, a stationary bar having an internal guideway and with external graduations, a bar slidable in said guideway and provided with lugs spaced to correspond to said graduations, a pointer carried by said slidable bar for movement over said graduations, a shaft mounted for rotation and carrying a measuring-wheel and with a radial arm for engagement with said lugs one at a time as the shaft is rotated, a dial concentric to said shaft and over which said arm rotates and provided with graduations corresponding to the graduations on said stationary bar and fractions of the same, means for supporting the rope to be measured at one side of said wheel, and a winding-reel mounted for rotation and disposed at the other side of said wheel.

804,858. SCREEN STRIKER OR AGITATOR. JOSEPH R. JOHNSON and CHARLES E. COLLINS, Byers Grove, Pa., assignors of one-half to Gustave P. Gehring, Philadelphia, Pa. Filed Nov. 12, 1904. Serial No. 232,456.



Claim.—In combination with a grain scouring and separating machine, of a vertically-adjustable support connected to the machine and provided with a bearing in the upper end thereof, another support connected to the machine and carrying upon its upper end a casing having an elongated opening therethrough, a shaft journaled in the upper end of the first-mentioned support and passing through the elongated opening of the casing, a cam adjustably mounted upon said shaft within the casing, a trip-arm pivotally mounted in the support carrying the casing and having one end projecting into the casing and adapted to be engaged by the cam, the other end projecting outwardly and provided with an opening therethrough, a spring for returning the trip-arm after being raised by the cam, an adjustably-mounted rod having its upper end mounted in the opening of the trip-arm, and a striking-block or tapper carried upon the other end of said rod adapted to strike the screen of the machine, for the purpose set forth.

804,859. PENDULUM-BEAT ADJUSTER. WILLIAM M. JOHNSON, Champaign, Ill. Filed July 10, 1905. Serial No. 269,104.



Claim.—1. The combination with the frame of a clock, an escapement-wheel and the pivot of the latter, of a frame or support formed with a pivot-opening, a bracket adapted to be secured to said frame, concentric pivot-studs upon the opposite faces of said bracket and disposed concentric with the pivot of said escapement-wheel, a bearing-bracket secured upon the inner face of said support formed with an opening to receive one of the pivot-studs on said bracket, the other of said pivot-studs being adapted to enter the pivot-open-

ing in said frame or support, an anchor pivoted upon said frame or support and adapted to coact with said escapement-wheel, a bracket secured upon said frame or support and formed with a projection disposed concentrically with the pivot of said escapement-wheel, a pendulum connected to the last-mentioned projection, a connection between said pendulum and said anchor and a weight detachably mounted upon said frame or support, substantially as described.

2. The combination with the frame of a clock, an escapement-wheel and the pivot of the latter, of a frame or support formed with a pivot-opening, a bracket adapted to be secured to said frame, concentric pivot-studs upon the opposite faces of said bracket and disposed concentric with the pivot of said escapement-wheel, said concentric pivot-studs being formed with a central aperture to receive the pivot of said escapement-wheel, a bearing-bracket secured upon the inner face of said support formed with an opening to receive one of the pivot-studs on said bracket, the other of said pivot-studs being adapted to enter the pivot-opening in said frame or support, an anchor pivotally mounted upon said frame or support and adapted to coact with said escapement-wheel, a bracket secured upon said frame or support and formed with a projection disposed concentrically with the pivot of said escapement-wheel, a pendulum connected to the last-mentioned projection, a connection between said pendulum and said anchor and a weight detachably mounted upon said frame or support, substantially as described.

304,860. ROTARY BLOWER. HENRY B. KEIPER, Lancaster, Pa. Filed June 18, 1901. Renewed Apr. 10, 1905. Serial No. 254,722.



Claim.—1. In a blower, a stand or support, a superstructure detachably mounted thereon comprising a fan and casing therefor together with a combined operating-gearing and inclosing casing therefor, means permitting limited longitudinal adjustments of said superstructure, and means permitting both vertical and horizontal adjustments thereof, substantially as described.

2. In a blower, a tripod having a removable or detachable centrally-apertured head, and a superstructure detachably mounted on said head comprising a fan and casing therefor and a combined operating-gearing and inclosing casing therefor, said superstructure being mounted on a stem or post fitting said aperture, substantially as described.

3. In a blower, a tripod having an apertured head provided on its under side with sockets, supporting-legs removably and adjustably inserted in said sockets, and a superstructure mounted on a stem or post fitting the aperture in said head comprising a fan and casing therefor together with a combined operating-gearing and inclosing casing therefor, substantially as described.

4. In a blower, a stand or support having a head with an opening therein, a removable clamp mounted on a post adjustably secured in said opening, and a superstructure detachably supported by said clamp and comprising a fan and casing therefor together with a combined operating-gearing and inclosing casing therefor, substantially as described.

5. In a blower, a stand or support having a head with a removable clamp mounted thereon, means for adjusting said clamp in vertical and horizontal directions, and a superstructure detachably supported by the clamp and comprising a fan and casing therefor together with a combined operating-gearing and inclosing casing therefor, substantially as described.

6. In a blower, a tripod having a head, a removable clamp having a post adjustably secured in an opening in said head, and a superstructure detachably supported by the clamp and comprising a fan and casing therefor and a combined operating-gearing and inclosing casing therefor, substantially as described.

7. In a blower, a tripod having a head, a removable clamp adjustably mounted on said head, means for adjusting said clamp in vertical and circular horizontal directions, and a superstructure detachably supported by the clamp and comprising a fan and casing therefor and a combined operating-gearing and inclosing casing therefor, substantially as described.

8. In a blower, a tripod having a head provided on its under side with sockets, supporting-legs adjustably and detachably fitting in said sockets, a removable clamp mounted on said head, and a superstructure detachably supported by the clamp and comprising a fan and casing therefor and a combined operating-gearing and inclosing casing therefor, substantially as described.

9. In a blower, a stand or support having a head provided with an opening therethrough, a clamp having a post or stem adjustably fitting said opening, and a superstructure detachably supported by said clamp and comprising a fan and casing therefor and a combined gearing and inclosing casing therefor, substantially as described.

10. In a blower, a stand or support having a head provided with an opening therein, a clamp having a post adjustably fitting said opening and constructed of two substantially parti-cylindrical sections each having a longitudinal groove therein, and a superstructure having a tubular portion having ribs or tongues fitting said grooves, said superstructure further comprising a fan and casing therefor and a combined operating-gearing and inclosing casing therefor, substantially as described.

11. In a blower, a stand or support having a head provided with an aperture, a vertical post or stem adjustably secured in said aperture, a two-part clamp mounted on said post, one member of which is integral with said post, and a blower-casing having a portion thereof gripped between the members of said clamp, substantially as described.

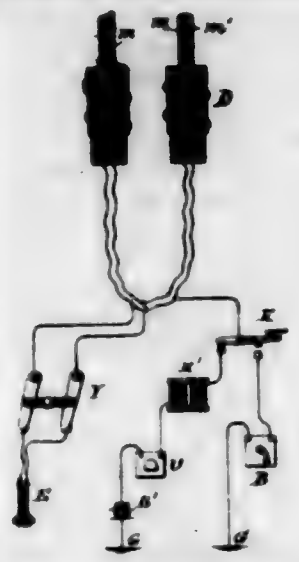
12. In a blower, a stand or support having a head provided with an opening therein, a vertical post or stem adjustably fitting said opening, a horizontally-disposed clamp mounted on said post consisting of two substantially parti-cylindrical members having pendent vertical flanges bolted together and having internal longitudinal grooves, and a blower-casing having a portion provided with external ribs fitting said grooves in the clamp members, substantially as described.

804,861. MULTIPLE SWITCHBOARD FOR TELEPHONE-EXCHANGES. MILO G. KELLOGG, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 13, 1903. Renewed Feb. 9, 1905. Serial No. 245,624.

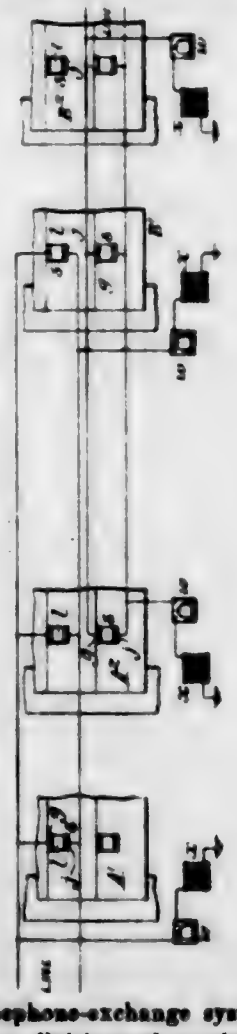
Claim.—1. In a telephone-exchange system, two metallic-circuit lines and two line-annunciators, one for each line, through which the line is closed at the central office, said lines being temporarily switched together for conversation into a single metallic circuit, in combination with a clearing-out annunciator and a battery in a circuit connection from said metallic circuit to ground, a calling-generator at each subscriber's station in the metallic circuit of his line whenever the generator is being operated to send either a calling or clearing-out signal and a normally closed ground connection at each subscriber's station to the metallic circuit of his line, substantially as set forth.

2. In a telephone-exchange system, two metallic-circuit lines and two line-annunciators, one for each line, through which the line is closed at the central office, said lines being temporarily switched

together for conversation into a single metallic circuit, in combination with a clearing-out annunciator and a battery in a circuit connection from said metallic circuit to ground, a calling-generator at each subscriber's station in the metallic circuit of his line whenever the generator is being operated to send either a calling or a clearing-out signal, and a ground connection at each subscriber's station to the metallic circuit of his line when the generator is operated.



804,862. TELEPHONE-EXCHANGE SYSTEM. MILO G. KELLOGG, Chicago, Ill. Filed Dec. 20, 1894. Serial No. 532,483.



Claim.—1. In a telephone-exchange system, the metallic-circuit lines divided into two divisions, the multiple switchboards, divided into two divisions, one division of boards for each division of lines; switches for each of said lines, one switch for each line on each of the several boards of its division, and on one board of the other division; two annunciators at the central office for each line, through one of which one side or branch of the line is permanently grounded and through the other of which the other side or branch of the line is permanently grounded; in combination with a calling-generator at each subscriber's station permanently or whenever operated to send a call in the through or closed circuit of the line at said station, and contacts to at will ground his line on either side of said generator.

2. In a telephone-exchange system, the metallic-circuit lines divided into two divisions, the multiple switchboards divided into two divisions, one division of boards for each division of lines, switches for said lines, one switch for each line on each board of its division and on one board only of the other division, each switch having two contact-pieces, one branch of each line being connected to one of the contact-pieces of each switch of the line and the other branch of the line being connected to the other contact-piece of each switch of the line, in combination with two permanent ground connections at the central office for each line, two annunciators for each line, one in each of the ground connections and at a board in each division of boards and where the line has a switch, pairs of loop switch-plugs at each board, the two contacts of each plug being connected by flexible conductor-circuits to the two contacts of its mate, respectively, each plug being adapted to be inserted into each switch at its board and when inserted to form contact between its two contacts and the two contact-pieces of the switch, respectively, a calling-generator at each subscriber's station permanently or whenever operated to send a call in the through or closed circuit of the line at said station, and contacts at each subscriber's station to at will ground the line on either side of the generator.

3. In a telephone-exchange system, the metallic-circuit lines divided into two divisions, the multiple switchboards divided into two divisions, one division of boards for each division of lines, switches for said lines, one switch for each line on each board of its division and on one board only of the other division, each switch having two contact-pieces, one branch of each line being connected to one of the contact-pieces of each switch of the line and the other branch of the line being connected to the other contact-piece of each switch of the line, in combination with two permanent ground connections at the central office for each line, two annunciators for each line, one in each of the ground connections and at a board in each division of boards and where the line has a switch, pairs of loop switch-plugs at each board, the two contacts of each plug being connected by flexible conductor-circuits to the two contacts of its mate, respectively, each plug being adapted to be inserted into each switch at its board and when inserted to form contact between its two contacts and the two contact-pieces of the switch, respectively, clearing-out annunciators, one for each pair of plugs, in a bridge or cross connection to their two flexible conductor-circuits, a calling-generator at each subscriber's station permanently or whenever operated to send a call in the through or closed circuit of the line at said station, and contacts at each subscriber's station to at will ground the line on either side of the generator.

4. In a telephone-exchange system, a metallic-circuit line extending from its subscriber's station to the central office, and two annunciators at the central office for such line, through one of which one side or branch of the line is permanently grounded, and through the other of which the other side or branch of the line is permanently grounded, in combination with a calling-generator permanently or whenever operated to send a call in the through or closed circuit of the line at the subscriber's station and two keys there, each with a pair of contacts normally open but closed at the will of the subscriber, one contact of each key being grounded and the other two contacts of the keys being connected to the line-circuit, one on one side and the other on the other side of the generator.

5. In a telephone-exchange system, metallic-circuit lines extending from the subscriber's station to the central office, and two annunciators at the central office for each line, through one of which one side or branch of the line is grounded and through the other of which the other side or branch of the line is grounded, in combination with a calling-generator permanently or whenever operated to send a call in the through or closed circuit of the line at the subscriber's station, two keys there, each with a pair of contacts normally open but closed at the will of the subscriber, one contact of each key being grounded and the other two contacts of the keys being permanently connected to the line-circuit, one on one side and the other on the other side of the generator, and switching apparatus at the central office to connect together any two of the lines into a metallic circuit which does not contain the line-annunciator.

6. In a telephone-exchange system, two metallic-circuit lines temporarily connected together into a closed metallic circuit for conversation, and two annunciators for each line, through which, respectively, the two sides of said metallic circuit are grounded in four ground connections, two from each side of the circuit, in combination with a clearing-out annunciator in a bridge or cross-connecting circuit to said closed metallic circuit, and a calling-generator operated in said circuit at either subscriber's station to send a clearing-out signal, the strength of the generator, the resistances of the various apparatus, and circuits, and the sensitiveness of the annunciators being such that when the generator is thus operated, the line-annunciators will not be operated while the clearing-out annunciator will be operated by the current passing through them.

7. In a telephone-exchange system, two metallic-circuit lines

temporarily connected together into a closed metallic circuit for conversation, and two annunciators for each line, through which, respectively; the two sides of said metallic circuit are grounded in four ground connections, two from each side of the circuit, in combination with a clearing-out annunciator in a bridge or cross-connecting circuit to said closed metallic circuit, and a calling-generator operated in said circuit at either subscriber's station to send a clearing-out signal, said line-annunciators not being operated but said clearing-out annunciator being operated by the current generated.

8. In a telephone-exchange system, two metallic-circuit lines temporarily connected together into a closed metallic circuit for conversation, and four annunciators through which, respectively, the two sides of said metallic circuit are grounded in four ground connections, two from each side of the circuit, in combination with a clearing-out annunciator in a bridge or cross-connecting circuit to said closed metallic circuit, and a calling-generator operated in said circuit at either subscriber's station to send a clearing-out signal, the strength of the generator, the resistances of the various apparatus and circuits, and the sensitiveness of the annunciators being such that when the generator is thus operated, the line-annunciators will not be operated while the clearing-out annunciator will be operated by the current passing through them.

9. In a telephone-exchange system, two metallic-circuit lines temporarily connected together into a closed metallic circuit for conversation, and four annunciators through which, respectively, the two sides of said metallic circuit are grounded in four ground connections, two from each side of the circuit, in combination with a clearing-out annunciator in a bridge or cross-connecting circuit to said closed metallic circuit, and a calling-generator operated in said circuit at either subscriber's station to send a clearing-out signal, said line-annunciators not being operated, but said clearing-out annunciator being operated by the current generated.

10. In a telephone-exchange system, two metallic-circuit lines temporarily connected together into a closed metallic circuit for conversation, and two annunciators for each line, through which, respectively, the two sides of said metallic circuit are grounded in four ground connections, two from each side of the circuit, in combination with a clearing-out annunciator, in a bridge or cross-connecting circuit to said closed metallic circuit, a calling-generator operated in said circuit at either subscriber's station and a key then operating to ground said circuit at said station on one side of said generator, the strength of the generator, the resistances of the various apparatus and circuits, and the sensitiveness of the annunciators being such that when the generator is thus operated, the line-annunciators will not be operated while the clearing-out annunciator will be operated by the current passing through them.

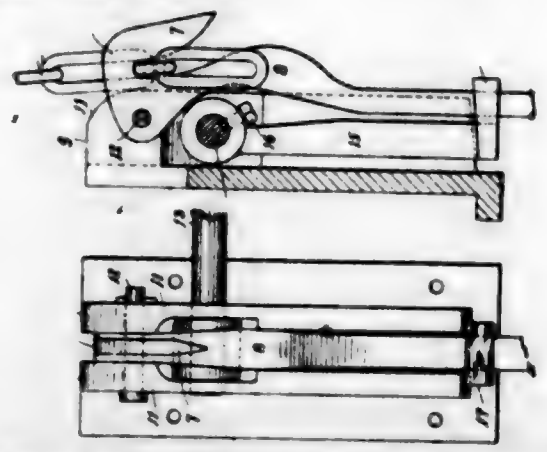
11. In a telephone-exchange system, two metallic-circuit lines temporarily connected together into a closed metallic circuit for conversation, and two annunciators for each line, through which, respectively the two sides of said metallic circuit are grounded in four ground connections, two from each side of the circuit, in combination with a clearing-out annunciator in a bridge or cross-connecting circuit to said closed metallic circuit, a calling-generator operated in said circuit at either subscriber's station and a key then operating to ground said circuit at said station on one side of said generator, said line-annunciators not being operated but said clearing-out annunciator being operated by the current generated.

12. In a telephone-exchange system, two metallic-circuit lines temporarily connected together into a closed metallic circuit for conversation, and two annunciators, through which, respectively, the two sides of said metallic circuit are grounded, in combination with a clearing-out annunciator in a bridge or cross-connecting circuit to said closed metallic circuit, a calling-generator operated in said closed metallic circuit at either subscriber's station and a key then or while the generator is thus being operated in said closed metallic circuit operating to ground said circuit at said station on one side of said generator, said line-annunciators not being operated but said clearing-out annunciator being operated by the current generated.

13. In a telephone-exchange system, two metallic-circuit lines temporarily connected together into a closed metallic circuit for conversation and a line-annunciator through which one side of said metallic circuit is then grounded, in combination with a clearing-out annunciator in a bridge or cross-connecting circuit to said closed metallic circuit, a calling-generator operated in said closed metallic circuit at either subscriber's station to send a clearing-out signal, and a key then or while the generator is thus being operated in said closed metallic circuit operating to ground said circuit at said station on one side of said generator and with said generator between said ground connection thus established and said annunciator, the strength of the generator, the resistances of the various apparatus and circuits, and the sensitiveness of the annunciators being such that when the generator is thus operated the line-annunciator will not be operated, while the clearing-out annunciator will be operated by the current passing through them.

14. In a telephone-exchange system, two metallic-circuit lines temporarily connected together into a closed metallic circuit for conversation and a line-annunciator through which one side of said metallic circuit is then grounded, in combination with a clearing-out annunciator in a bridge or cross-connecting circuit to said closed metallic circuit, a calling-generator operated in said closed metallic circuit at either subscriber's station to send a clearing-out signal, and a key then or while the generator is thus being operated in said closed metallic circuit operating to ground said circuit at said station on one side of said generator and with said generator between said ground connection thus established and said annunciator, said line-annunciator not being operated but said clearing-out annunciator being operated by the current generated.

804,863. LOAD-BINDER. WALLACE B. KEMPTON, Antigo, Wis., assignor of one-half to James McHale, Antigo, Wis. Filed Nov. 21, 1904. Serial No. 233,616.



Claim.—1. A load-binder-securing device, comprising a base-piece adapted to be secured to the load-carrier, a swinging lever having a shorter hook member and a longer arm member, means for locking the longer arm member in binding position, and means for automatically disengaging the load-binder from the hook when the longer arm member is swung away from its locking position.

2. In a load-binder-securing device, a base-piece adapted to be secured to the load-carrier, a swinging hook pivoted on the base-piece and adapted to engage and by the swinging of the hook to its seat to hold the load-binder in locked position, and a rock-shaft having a crank-arm connected to the hook and adapted by the oscillation of the shaft to swing the hook to and release it from the locking position.

3. In combination with a car, a bell-crank-lever hook having a short arm adapted to engage and hold a link of a chain and a long arm adapted by gravity to depend and hold the short arm releasably in turned-down position, means for securing the hook pivotally on the car at the side thereof, and means extending to the end of the car adapted for swinging the hook down and up.

4. In combination with a car, a bell-crank-lever hook having a short arm adapted to engage and when in turned-down position to hold a link of a chain and a long arm adapted when turned down to hold the short arm releasably in turned-down position, a plate having ears thereon between and to which the hook is pivoted and secured to the car, and a rock-shaft mounted on the car and provided with a crank-handle and with a crank-arm connected to the long arm of the hook and adapted by the oscillation of the rock-shaft to swing the hook.

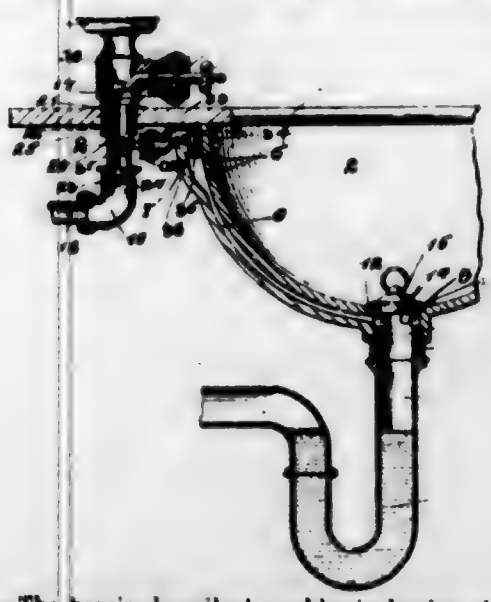
5. In a binder device, a plate, a pair of ears projecting from the plate the ears being provided with a transverse pivot-hole and having their edges formed eccentric to said pivot-hole, and a pivot in said hole carrying a bell-crank-lever hook the short arm being the nose of the hook and having the recess of the hook and the inner edge of the nose of the hook so formed that on swinging the hook away from a link-engaging position the recess and the inner edge of the nose of the hook will be drawn within the field of the ears whereby a link on the hook will be pushed outwardly thereon.

804,864. STAPLING-MACHINE. WILLIAM J. KENNEDY, Rockland, Tex. Filed June 13, 1904. Serial No. 212,414.

Claim.—In a staple forming and driving mechanism, the combination of a tubular guide element, an oscillating bending-bar element mounted on one side of the said guide element and having lateral arms on its inner side, said guide element having openings in one side through which said arms extend, and being further provided with a slot 25 and a cam 42, a tubular reciprocating cutting and forming element in said tubular guide element having slots in one side to clear the arms of the bending-bar element, mechanism at the inner ends of said slots to coact with said arms, and further provided with slots 46, 47, a stop 49 between them, and a cam 48 at the inner end of slot 47, a reciprocating punch in the said cutting and forming element, and a spring locking-arm secured to the punch, operating in the slot 25 of the tubular guide element and having a cam-hook 54 and a stop-notch 55, for the purposes set forth.

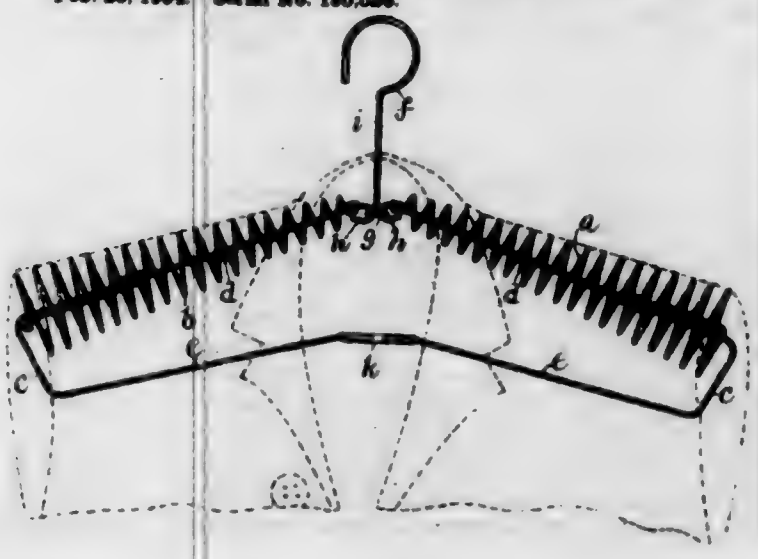


804,865. **CLEANSING DEVICE FOR WASHBASINS.** JOHN E. KETT, San Francisco, Cal., assignor of one-half to William Allingham, San Francisco, Cal. Filed Jan. 12, 1905. Serial No. 240,796.



Claim.—The herein-described washbasin having the overflow-channel on one side thereof, the shell or casing of which projects from said side of the basin and the upper end of which forms the shoulder at a point below the upper edge of the basin, the top or slab on the upper edge of the basin and the faucet for supplying water to the basin and having the pipe for supplying water to the overflow-passage, said pipe having its discharge end fitted between the slab or top of the basin and the shoulder at the upper end of the overflow-channel and provided with the downwardly-directed and contracted nozzle extending through an opening in the said shoulder and discharging into the overflow-channel

804,866. **COAT-HANGER.** RICHARD H. KNIGHT, Somerville, Mass., assignor of one-half to Charles S. Barrell, Boston, Mass. Filed Feb. 26, 1904. Serial No. 195,326.



Claim.—1. In a garment-hanger, in combination, a supporting-frame comprising two parts or members, each provided with upper and lower arms, a hooked device to which the upper arms are connected, means to detachably secure the lower arms together, and conical helixes encircling the upper arms and secured thereto with their convolutions out of contact therewith, substantially as described.

2. In a garment-hanger, in combination, a supporting-frame, composed of two members, each comprising upper and lower arms, the upper arms of said members being loosely connected together and the lower arms detachably secured together, and conical helixes mounted on said upper arms, substantially as described.

3. In a garment-hanger, in combination, a supporting-frame, composed of two members movably secured together, and conical helixes secured to said members with their apices in proximity to each other and their convolutions out of contact with said members, substantially as described.

4. In a garment-hanger, in combination, a supporting-frame, and conical helixes secured to said frame with their convolutions normally out of contact with said frame to permit said helixes to engage the garment to be supported and to yield under the weight thereof, substantially as described.

5. In a garment-hanger, in combination, a supporting-frame, and conical helixes secured to said frame to surround the same and to move longitudinally thereon, substantially as described.

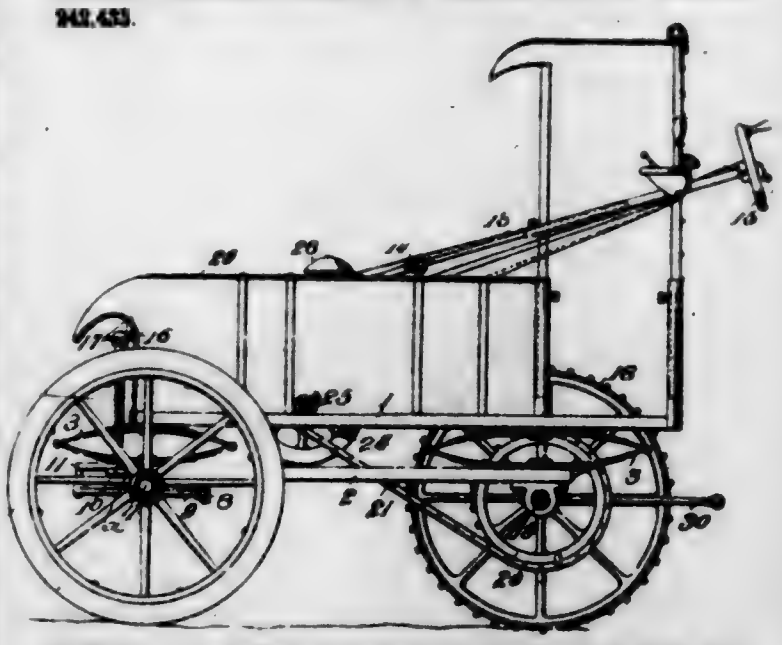
6. In a garment-hanger, in combination, a supporting-frame composed of two members movably secured together, and conical helixes secured to said members with their convolutions out of contact therewith, substantially as described.

7. In a garment-hanger, in combination, two helixes extended from each other in opposite directions and having substantially all of their convolutions free to yield under the weight of a garment, and means to which the opposite ends of said helixes are secured to leave substantially all the convolutions of said helixes free to yield under the weight of said garment, substantially as described.

8. In a garment-hanger, in combination, a supporting-frame and conical helixes encircling said frame with their convolutions normally out of contact with said frame and having an end extended within said helixes and secured to said frame, substantially as described.

9. In a garment-hanger, in combination, a supporting-frame, and helixes secured to said frame with their convolutions normally out of contact with said frame to permit said helixes to engage the garment to be supported and to yield under the weight thereof, substantially as described.

804,867. **PROPELLING MECHANISM FOR VEHICLES.** JEFFERSON F. KNOWLTON, Canton, S. D. Filed Jan. 23, 1905. Serial No. 242,433.



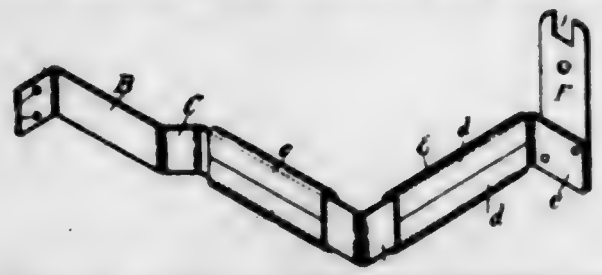
Claim.—1. Propelling mechanism for vehicles comprising upper and lower frames, interposed springs connecting said frames and supporting the upper one, a motor and adjunctive parts and a steering-shaft mounted upon the upper frame, steering-wheels supporting the front of the propelling mechanism and connected with the said steering-shaft, couplings for partly supporting the rear end of the lower frame and loosely connecting it with the vehicle to be propelled, a traction-wheel mounted upon the rear portion of the lower frame and movable therewith and supplementing the action of the couplings in carrying the weight of the propelling mechanism, and connections between the motor and the said traction-wheel.

2. In a mechanically-propelled vehicle, the combination of a

lower frame provided with means for coupling it to the vehicle to be propelled, front supporting and steering wheels fitted thereto, a longitudinal lever pivoted between its ends to the front axle, means connecting one end of said lever to the steering-wheels, a steering-post connected with the opposite end of said lever, a rear traction-wheel journaled to said lower frame, springs interposed between and connecting said upper and lower frames, a motor and adjunctive parts mounted upon the upper frame and connected with the said traction-wheel, and a shaft carried by the upper frame and extended within convenient reach of the operator and geared to the said steering-post, substantially as specified.

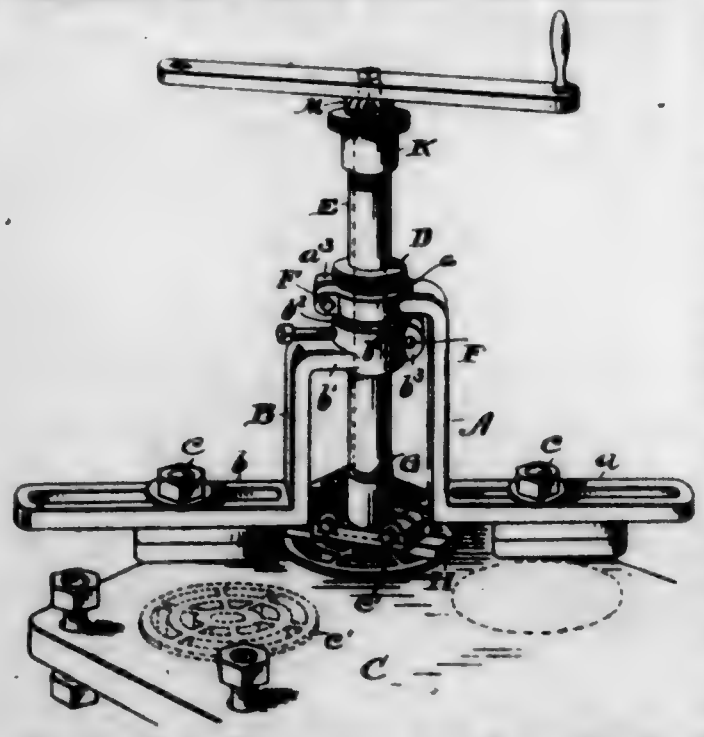
3. In a mechanically-propelled vehicle, a running-gear comprising upper and lower frames, the latter provided with the supporting-wheels, springs interposed between the two frames, a centrally-disposed traction-wheel mounted upon the lower frame, a motor carried by the upper frame, and connections between said motor and traction-wheel.

804,868. COMBINED CURTAIN AND SHADE FASTENING. ALVIN LLOYD, Lakelyn, Kans. Filed July 5, 1904. Serial No. 215,257.



Claim.—In a combined curtain and shade holder, two outer elongated sections having a portion of their edges overturned to form grooves, one of said sections provided with a foot-piece *b*, the other with an upright plate provided with an open-ended slot, a right-angled middle section adapted to slide in the grooves in the outer sections, openings in said inner section, and coincident openings provided through the overturned edges of the outer section, and pins adapted to pass through the openings in said sections to hold the same in different adjusted positions, substantially as described.

804,869. VALVE-SEAT-REFACING DEVICE. JAMES D. MITCHELL, Lakewood, Ohio. Filed June 13, 1904. Serial No. 212,318.

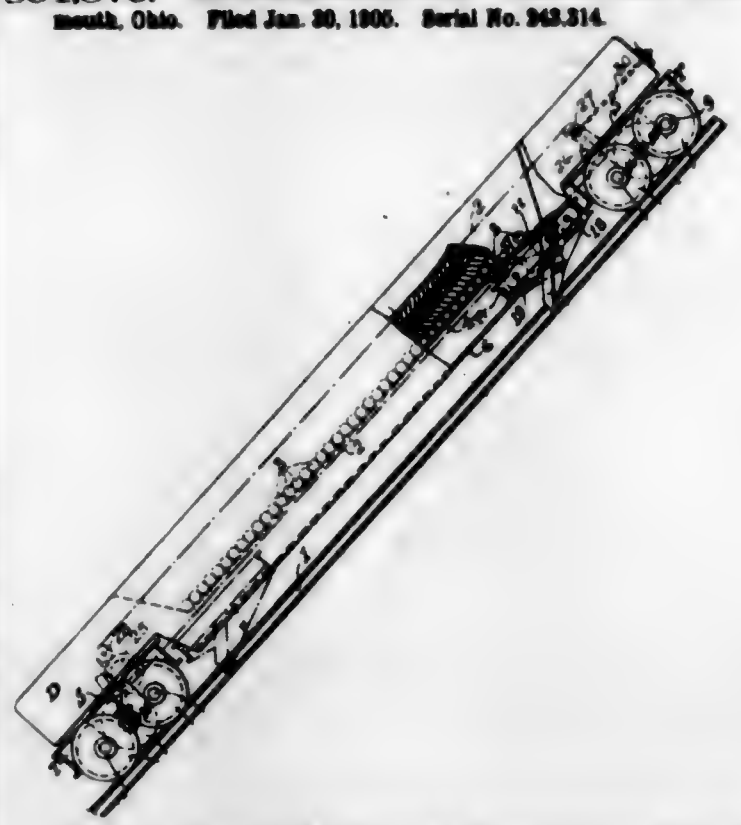


Claim.—1. In a valve-seat-facing device, the combination of two frame members having feet by which they may be secured in operative position, and having at their upper ends horizontal arms, of which one has a cylindrical hole and the other a cylindrical boss fitted to said hole, there being a cylindrical hole through said arm and boss, and both of said arms being split and providing contracting devices, a bearing-tube passing through the last-mentioned hole and adapted to be clamped therein, a shaft rotatable in said tube and vertically movable therein, and means for rotating said shaft.

2. In a valve-seat-facing device, the combination of two frame members having feet by which they may be secured in operative position, and having at their upper ends horizontal arms, of which one has a cylindrical hole and the other a cylindrical boss fitted in said hole, there being a cylindrical hole through said arm and boss, and both of said arms being split and providing contracting devices, a bearing-tube passing through the last-mentioned hole and adapted to be clamped therein, a shaft rotatable in said sleeve and vertically movable therein, and means for positively feeding the shaft downward.

3. In a device for refacing valve-seats, the combination of a suitable support having a foot whereby it may be attached in operative position, a non-rotating bearing-tube adjustably secured in said support, a shaft rotatably mounted in said tube and projecting at both ends therefrom, a facing-tool secured to the lower end of said shaft, and means for positively feeding the shaft downward.

804,870. ORE-DISTRIBUTING CAR. RALPH S. MOORE, Portsmouth, Ohio. Filed Jan. 30, 1905. Serial No. 243,314.



Claim.—1. In an ore-distributing car the combination of a floor made up of movable sections, and suitable means for, successively separating the same one from the other beneath their load, from one end of said floor, substantially as shown and described.

2. In an ore-distributing car the combination of a floor made up of movable segments or sections, and suitable means for automatically separating the same, one from the other from beneath their load, in succession, from one end of said floor to the other, substantially as shown and described.

3. In an ore-distributing car, provided with a floor made up of movable segments or sections, the combination of suitable means for, successively, separating the same one from the other from beneath their load from one end of said floor to the other, simultaneously with the travel of said car along and above the place for deposit of its load and at a rate proportioned to the distance to be traveled, substantially as shown and described.

4. In an ore-distributing car, provided with a floor made up of movable segments or sections, the combination of suitable means for automatically separating the same, one from the other from beneath their load, in succession, from one end of said floor to the other, simultaneously with the travel of said car along and above the place for deposit of its load, and at a rate proportioned to the distance to be traveled, substantially as shown and described.

5. In an ore-distributing car, the combination of a floor made up of a series of freely-mounted pipe members, a trolley supported upon rails longitudinal of said car, suitable actuating mechanism for drawing said car along the ore-depositing space or bed, and, at the same time, and at a proportionate rate for actuating said trolley along said rails, together with suitable means for successively separating said members, one from the other, during said travel along said bed or space, substantially as shown and described.

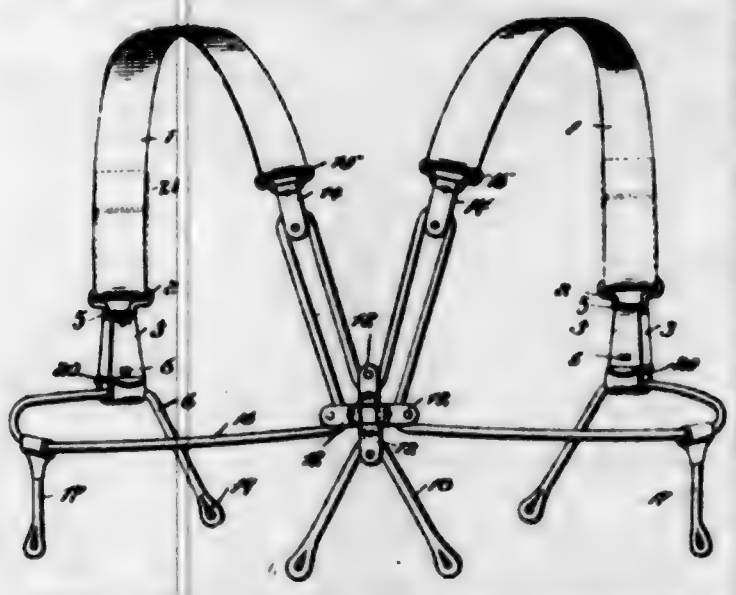
6. In combination with an ore-distributing car, a floor thereof made up of a series of pipe members, crosswise of the same freely mounted upon longitudinal bearings or rails extending beyond said floor, substantially as shown and described.

7. In a distributing-car for mixing and bedding ores, the combination of a segmental floor, and suitable means for automatically separating the several segmental members thereof, one from the

other, in succession from the advancing end of said floor, substantially as shown and described.

8. In a distributing-car for mixing and bedding ores, the combination of a segmental floor, and suitable means for propelling said car, and, for meanwhile successively separating the several segmental members of said floor, one from the other, in succession from the advancing end of the same, substantially as shown and described.

804,871. SUSPENDERS. CHAUNCEY A. MURRAY, Cumberland, Wyo. Filed Mar. 15, 1905. Serial No. 250,162.



Claim.—1. The combination, with a pair of suspenders, of an attachable and detachable supporting-clasp comprising a hollow casing, a hook formed integral with the upper end of said casing, a plurality of prongs within the casing, and a leaf-spring bent upon itself and adapted to fit within the casing, said leaf-spring having kerfs therein for the reception of the prongs, substantially as described.

2. In a pair of suspenders, an attachable and detachable fastener-clasp comprising a casing, supporting means formed integral with the upper end thereof, inwardly-projecting prongs formed integral with said casing, and a leaf-spring adapted to fit within the casing, said leaf-spring being bent upon itself to form a loop at its lower end and having kerfs therein adapted to receive the prongs, substantially as described.

3. In a pair of suspenders, the combination with shoulder-straps and suitable supporting-cords connecting with the buttons on the trousers-band, of a fastener-clasp connecting the front end of each shoulder-strap with the supporting-cords, said fastener-clasp comprising a casing having prongs therein, and a leaf-spring bent upon itself and adapted to fit within the casing, said leaf-spring having kerfs therein for the reception of the prongs, substantially as described.

804,872. MEANS FOR SECURING BOOKS TO COVERS. MICHAEL MCCARTHY, Milwaukee, Wis. Filed May 3, 1905. Serial No. 258,565.

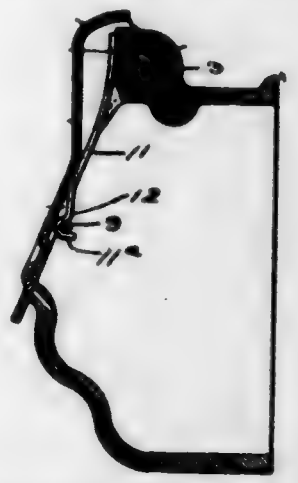


Claim.—1. In a device of the character described, a member formed of a strip of sheet metal with its side edges bent over on one face thereof and bent back upon themselves to form oppositely-disposed outwardly-extending engaging flanges, a coöperating member formed of a strip of sheet metal with its side edges bent over on one face thereof to form inwardly-extending engaging flanges to receive between them and form a slip-joint with the engaging flanges of the first-mentioned member, a block of leaves secured on the back of one member, and a cover secured on the back of the other member.

2. In a device of the character described, a member formed of a strip of sheet metal with its side edges bent over on one face thereof and bent back upon themselves to form oppositely-disposed outwardly-extending engaging flanges with obliquely-formed ends, said engaging flanges constituting a slide with a tapering end, a coöperating member formed of a strip of sheet metal with its side edges bent over upon one face thereof to form opposite inwardly-extending engaging flanges with obliquely-formed ends, said engaging flanges of the second-named member producing a groove between them to receive the slide of the first-mentioned member and form slip-joints with the engaging flanges thereof, the end of said groove being flaring to coöperate with the tapering end of the slide and serve as a means for guiding the slide into the groove, a block of leaves secured on the back of one member, and a cover secured on the back of the other member.

3. In a book, a block of leaves, a cover therefor, and means for securing the block to the cover comprising, a cover member formed of a strip of sheet metal with its side edges bent over on the front face thereof and bent back upon themselves to constitute opposite outwardly-extending engaging flanges with tapering ends, said engaging flanges together constituting a slide with pointed ends, tongues struck up from the main portion of the cover member on the rear face thereof and embedded in the back of the cover, and a block member formed of a strip of sheet metal with its edges bent over on one face thereof to form opposite inwardly-extending engaging flanges with tapering ends, said engaging flanges of the block member forming a groove between them with flaring ends to coöperate with the pointed ends of the slide of the cover member and guide the engaging flanges of the two members into slip-joint relations with each other, said block member having the block of leaves cemented to its other face at the edges of the leaves so that the leaves may be readily removed.

804,873. AXLE-BOX LID. ARCHIBALD M. MCCREA, Pittsburg, Pa., assignor to Union Spring and Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Oct. 26, 1904. Serial No. 230,097.



Claim.—1. The combination of an imperforate axle-box lid having hinge-eyes at its upper end, a stirrup or staple on the inner face of the lid, and a flat leaf-spring having its end inserted and held between the stirrup and lid, the inner face of the lid opposite the lower end of the spring being substantially straight vertically and the spring having projecting portions on its inner face adapted the one to bear on the top of the stirrup and the other against the bottom of the stirrup, whereby said spring is held by said projections both from falling and rising.

2. The combination of an imperforate axle-box lid having hinge-eyes at its upper end, a stirrup or staple on the inner face of the lid, and a flat leaf-spring having its end inserted and held between the stirrup and the lid, the inner face of the lid opposite the lower end of the spring being substantially straight vertically and said spring having its lower end bent inwardly and adapted to lie below the stirrup and having an inwardly-projecting portion above said lower end adapted to bear against the upper side of said stirrup, whereby said spring is held by said inwardly-projecting portions both from falling and rising.

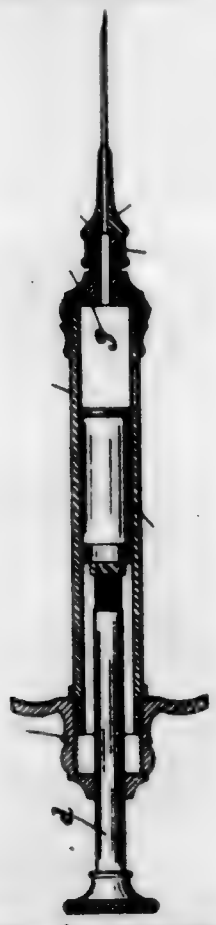
3. The combination of an imperforate axle-box lid having hinge-eyes at its upper end and a socket or recess below said upper end, said socket or recess having its inner face substantially straight vertically, a bridge-piece extending across said socket on the inner face of the lid, and a flat leaf-spring having its end inserted and held between the socket-wall and bridge-piece and having two inwardly-projecting portions, one arranged to lie underneath the bridge-piece and the other to lie above the same, whereby said spring is held by said projections both from falling and rising.

4. The combination of an imperforate axle-box lid having hinge-eyes at its upper end and a socket or recess below said upper end, said socket or recess having its inner face substantially straight vertically, a bridge-piece extending across said socket on the inner face of the lid, and a flat leaf-spring having its end inserted and held between the socket-wall and said bridge-piece and having its lower

end bent inwardly and adapted to lie below the bridge-piece, and an inwardly-projecting portion above its lower end adapted to lie above said bridge-piece.

5. The combination of an imperforate axle-box lid having hinge-eyes at its upper end and a socket or recess below said upper end, said socket having its inner face substantially straight vertically, a stirrup bridged across said socket on the inner face of the lid, and a flat leaf-spring having its end inserted and held between the socket-wall and bridge-piece and having a hooked lower end adapted to lie underneath the stirrup and an inwardly-bent portion above its lower end adapted to lie above said stirrup.

804,874. **HYPODERMIC SYRINGE.** JOSEPH W. HABAUEB, Richmond Hill, N. Y., assignor to Charles J. Tagliabue, New York, N. Y. Filed June 1, 1903. Serial No. 159,609.

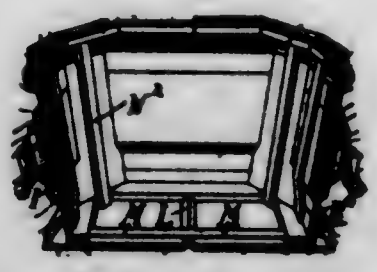


Claim.—1. In a syringe, the combination of a barrel having a reduced or sharpened end, a head screw-threaded to the barrel and having an annular groove into which the end of the barrel is adapted to fit, the said head being freely removable from the barrel, substantially as described.

2. In a syringe, the combination of a barrel having a sharpened front edge, a head screw-threaded upon the outside of the barrel and having an annular groove therein, the said head being freely removable from the barrel, substantially as described.

3. In a syringe, the combination of a barrel having a sharpened front edge, a head screw-threaded upon the outside of the barrel and having an annular groove therein for the reception of the sharpened front edge of the barrel and a needle screw-threaded upon the said head and having an annular groove, the said head being provided with a sharpened front edge adapted to enter the annular groove in the socket of the needle.

804,875. **HANDLE FOR SHEET-METAL CASKETS.** GEORGE HIERTHEIMER, Newport, Ky., Mary Jemima Hiertheimer executrix of said George Hiertheimer, deceased. Filed Nov. 9, 1903. Serial No. 180,425.



Claim.—1. In a coffin, the combination of a sheet-metal body and the wooden panel I and dovetail projection or projections, and the handles having lugs or escutcheons provided with dovetail recesses adapted to receive the dovetailed projection or projections, and thereby connect the handle to the coffin-body, substantially as and for the purposes specified.

2. In a coffin, the combination of a body and a dovetail projection or projections, and the handle having dovetailed lugs or escutcheons, adapted to receive and embrace the same, substantially as and for the purposes specified.

3. In a coffin, the combination of a sheet-metal body and the wooden panel I and dovetail projection or projections, and the handles having lugs or escutcheons provided with dovetail recesses adapted to receive the dovetailed projection or projections, and thereby connect the handle to the coffin-body, the handle being hinged to the said lug or lugs, substantially as and for the purposes specified.

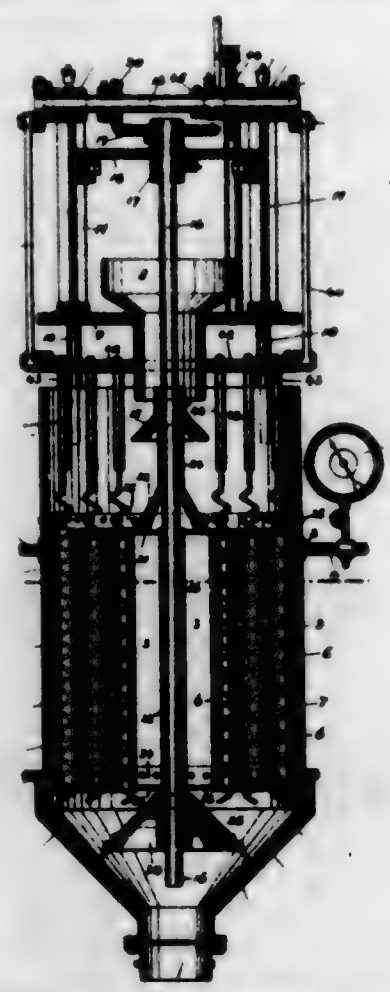
4. In a coffin, the combination of a body and a dovetail projection or projections and the handle having dovetailed lugs or escutcheons, adapted to receive and embrace the same, the handle being hinged to the said lug or lugs, substantially as and for the purposes specified.

5. In a coffin, the combination of a body and a separable handle, and dovetail connections between said body and said handle, for enabling the handle to be readily put into place, and be held there, and vice versa, substantially as and for the purposes specified.

6. In a coffin, the combination of a sheet-metal side made substantially as described, and a wooden panel, and a separable handle, and dovetail connections between said body and said handle, for enabling the handle to be readily adjusted to position, and be secured thereto, and vice versa, substantially as and for the purposes specified.

7. In a coffin, the combination of a body-panel, a handle, and dovetail connections between the handle and the panel, substantially as and for the purposes specified.

804,876. **APPARATUS FOR DRYING AND STERILIZING CEREALS.** ELWIN I. NOXON, St. Louis, Mo. Filed June 14, 1905. Serial No. 265,152.



Claim.—1. In a machine of the character described, the combination of a casing providing a heat-space, means located within same for the passage of the article to be sterilized, means within the latter for agitating the article undergoing sterilization, said agitating means consisting of a reciprocating spiral wire, and means for reciprocating said agitators.

2. In a machine of the character described, a heat-container, feed means for passing the article to be sterilized therethrough, agitators operating within said feed means, said agitators consisting of reciprocating spiral wires, and means for reciprocating said wires.

3. In a machine of the character described, the combination of a casing acting as a heat-container, grain-feed tubes passing there-

through, traveling agitators located in said tubes, said agitators consisting of spiral wires, and means for imparting motion to said agitators.

4. In a machine of the character described, the combination of a heat-container, individual grain-feeds spaced apart located therein, individual reciprocating agitators consisting of spiral wires passing through said grain-feeds, and means for imparting motion to said agitators whereby the same travel by a step-by-step movement, first in one direction, and then in the other.

5. In a machine of the character described, the combination of a feed-hopper and an exit-hopper, a casing consisting of a heat-container located between said hoppers, a portion above said heat-container acting as a grain-container, a plurality of tubes communicating between said grain-container and said exit-hopper, and said tubes being so disposed as to have a heat-space surrounding each, a spiral wire located in each of said tubes and acting as an agitator to bring all parts of the grain being sterilized equally into contact with the heat, and means for imparting reciprocating motion to said agitators.

6. In a machine of the character described, the combination of a heat-container, feed means for passing the article to be sterilized therethrough, and agitators operating within said feed means, which agitators are each formed of a spiral wire which passes completely through said feed means from end to end.

7. In a machine of the character described the combination of a heat-container, feed means for passing the article to be sterilized therethrough, and agitators operating within said feed means, which agitators are formed of a spiral wire which passes completely through said feed means from end to end and projects slightly beyond said feed means at least at one end.

8. In a machine of the character described, the combination of a heat-container, feed means for passing the article to be sterilized therethrough, agitators operating within said means, said agitators having a spiral form, whereby the material acted upon in all its parts is caused to get in contact with the heating-surface, and means for moving said agitators.

9. In a machine of the character described, the combination of a feed-hopper and an exit-hopper, a casing constituting a heat-container located between said hoppers, a portion above said heat-container acting as a grain-container, a plurality of tubes communicating between said grain-container and said exit-hopper, said tubes being so disposed as to have a heat-space surrounding each, and a pair of spreaders underneath said feed-hopper, one of same being rotary, and the other stationary, the stationary one terminating in a sleeve which projects above the lowest line of the upper one.

10. In a machine of the character described, the combination of a casing, in its lower portion constituting a heat-container, and in its upper portion a cereal-container, an exit-hopper beneath said heat-container, means communicating with said exit-hopper from said cereal-container passing through said heat-container, and a rotary shaft passing through said cereal-container and said heat-container, and projecting into said exit-hopper, a deflector being mounted upon that part of said shaft extending into the exit-hopper and rotating therewith.

11. In a machine of the character described, the combination of a casing, in its lower portion constituting a heat-container, and in its upper portion a cereal-container, an exit-hopper beneath said heat-container, means communicating with said exit-hopper from said cereal-container passing through said heat-container, a rotary shaft passing through said cereal-container and said heat-container, and projecting into said exit-hopper, a deflector being mounted upon that part of said shaft extending into the exit-hopper and rotating therewith, and one or more arms borne by said deflector and rotating therewith.

12. In a machine of the character described, the combination of a casing, in its lower portion constituting a heat-container, and in its upper portion a cereal-container, an exit-hopper beneath said heat-container, means communicating with said exit-hopper from said cereal-container passing through said heat-container, a rotary shaft passing through said cereal-container and said heat-container, and projecting into said exit-hopper, a deflector being mounted upon that part of said shaft extending into the exit-hopper and rotating therewith, and a pair of arms borne by said deflector and rotating therewith, one of same projecting upwardly from said deflector, and the other downwardly therefrom.

13. In a machine of the character described, the combination of a casing, in its lower portion constituting a heat-container, and in its upper portion a cereal-container, an exit-hopper beneath said heat-container, means communicating with said exit-hopper from said cereal-container passing through said heat-container, a rotary shaft passing through said cereal-container and said heat-container, and projecting into said exit-hopper, a deflector being mounted upon that part of said shaft extending into the exit-hopper and rotating therewith, and a pair of arms borne by said deflector and rotating therewith, one of same projecting upwardly from said deflector, and the other downwardly therefrom, said upwardly-projecting arm overlapping by a straight extension the lowest portion of the wall of said casing.

14. In a machine of the character described, the combination of a heat-container, a plurality of tubular grain-feeds spaced apart located therein, individual reciprocating agitators passing through said grain-feeds, said agitators each consisting of a spiral wire, and means for imparting motion to said agitators.

15. In a machine of the character described, the combination of a heat-container, a plurality of tubes located within same for feeding the article to be sterilized therethrough, an agitator located within each of said tubes, means for holding each of said agitators in fixed relation to its respective tube, an operating-shaft, an eccentric means fixed to said shaft and connected to said means for holding said agitators for imparting movement to the same, and means for rotating said shaft.

16. In a machine of the character described, the combination of a heat-container, a plurality of tubes located within same for feeding the article to be sterilized therethrough, an agitator located within each of said tubes, means for holding each of said agitators in fixed relation to its respective tube, an operating-shaft, an eccentric means fixed to said shaft and connected to said means for holding said agitators for imparting movement to the same, means for rotating said shaft, said means comprising a ratchet fixed to said operating-shaft, a rocking arm loosely mounted on said shaft and in juxtaposition to said ratchet, said arm bearing a pawl adapted to engage the teeth of said ratchet, and means for imparting motion to said rocking arm.

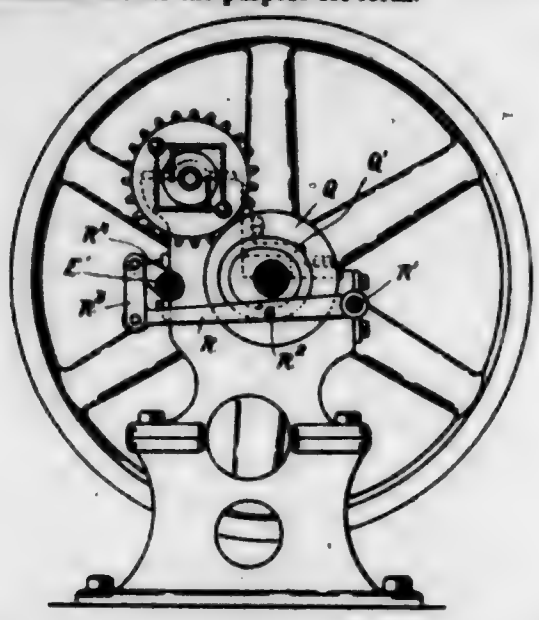
17. In a machine of the character described, the combination of a heat-container, a plurality of tubes located within same for feeding the article to be sterilized therethrough, an agitator located within each of said tubes, means for holding each of said agitators in fixed relation to its respective tube, an operating-shaft, an eccentric means fixed to said shaft and connected to said means for holding said agitators for imparting movement to the same, means for rotating said shaft, said means comprising a ratchet fixed to said operating-shaft, a rocking arm loosely mounted on said shaft and in juxtaposition to said ratchet, said arm bearing a pawl adapted to engage the teeth of said ratchet, and means for imparting motion to said rocking arm, said means for rocking said arm consisting of a shaft suitably actuated and bearing a slotted arm fixed thereto, the slot therein providing means for adjustment of the scope of motion of said rocking arm.

18. In a machine of the character described, the combination of a casing, forming in one portion a heat-container, and in the other a grain-container, means passing through the heat-container for passing the grain therethrough, an exit-hopper located underneath said heat-container, a vertical rotary shaft passing through said grain-container and through said heat-container and into said exit-hopper, a deflector located in said exit-hopper and adapted to rotate with said shaft, a rotary spreader also mounted upon said shaft and located within said grain-container, agitators located within the means for conveying the grain from the grain-container to the exit-hopper and through the heat-container, said agitators having motion imparted to them from an operating-shaft, said operating-shaft also having means mounted thereon, engaging means mounted upon said vertical shaft whereby the latter is rotated by the same operating-shaft that actuates the agitators.

804,877. GOVERNOR-VALVE MECHANISM FOR ROTARY ENGINES. JOHN F. O'NEIL and WILLIAM J. HANCOCK, Fresland, Colo. Filed Nov. 21, 1903. Serial No. 182,172.

Claim.—The combination with a shaft and a fluid-actuated device for operating said shaft, of a gear-wheel actuated from the shaft, means for controlling the supply of fluid to the said device comprising a passage communicating with the device, a valve located in said passage and longitudinally movable to control the supply of fluid thereto, a spindle upon which the said gear is splined whereby the spindle is allowed to move longitudinally through the gear which is provided with a hub, a collar revoluble on the hub of the gear and having a spiral groove, the spindle having a pin projecting into said groove, spring-held governor-arms pivoted on the gear on opposite sides of the collar and having their corresponding extremities diagonally located, a link connection between the said

arms and the collar whereby as the speed of the gear passes a predetermined limit, the governor-arms are thrown outwardly and partial rotary movement imparted to the collar whereby the spindle is shifted longitudinally in the gear, and a connection between the spindle and the governor-valve whereby the latter is actuated, substantially as described and for the purpose set forth.



804,878. SHOE-POLISHING MACHINE. JOHN W. OSBORNE, Winchester, Ill., assignor of two-thirds to Charles Smithson and Sol Heinsfurther, Winchester, Ill. Filed Feb. 20, 1904. Serial No. 194,581.



Claim.—A device of the kind described comprising a shallow covered tray having a perforated bottom, a rotatable brush placed below the said tray, means for introducing under pressure a paste blacking into the said tray, and means for discharging a liquid blacking upon the top of the said tray, as and for the purpose set forth.

804,879. DETACHABLE LINK. WILLIAM A. FARRISH, Decatur, Ill. Filed Mar. 8, 1904. Serial No. 197,168.

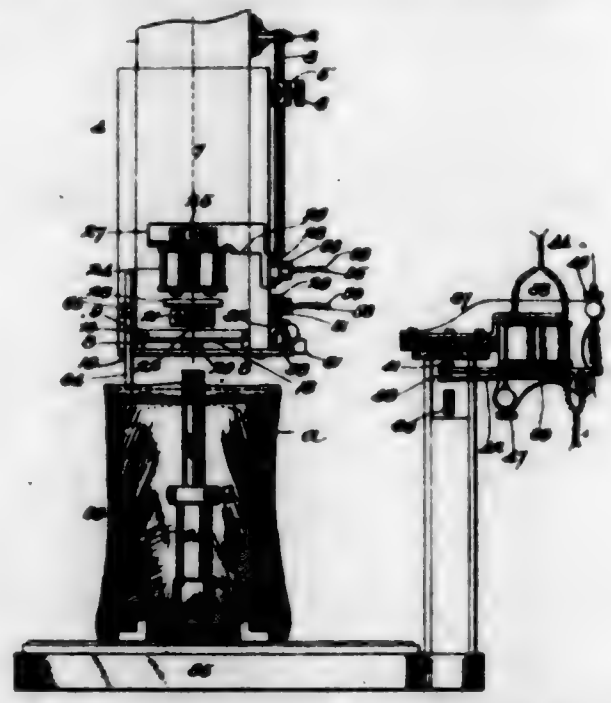


Claim.—1. A detachable link comprising a pair of overlying members pivotally connected at their rear ends to move upon each other in parallel planes and having forward inner reduced portions terminating in beveled shoulders, the free ends of said members being beveled to abut said shoulders when closed, inwardly-directed extensions on said ends, and a coil-spring surrounding the pivot and having its ends engaging said members and normally serving to maintain them in a closed position.

2. A detachable link comprising a pair of overlying hooked-shaped members pivotally connected at their rear ends to move laterally toward and from each other and having forward inner reduced portions terminating in beveled shoulders, the free ends of said members being beveled to abut said beveled shoulders when closed, inwardly-directed extensions on said ends, and a spring for automatically closing said members.

804,880. AUTOMATIC WEIGHING APPARATUS. JOHN L. PHIPARD, Kansas City, Mo. Filed June 26, 1905. Serial No. 267,472.

Claim.—1. In an automatic weighing apparatus, the combination of a spout, a weighing-scale, an electric circuit, comprising a source of electric supply, an electromagnet having a yieldingly-retracted armature, a slidable cut-off for the spout, and a contact yieldingly engaging the cut-off when closed, with a needle movable with the armature and out of the range of movement of the scale-beam when the cut-off is closed, and means actuated by the cut-off when open to break the circuit between it and the contact.



2. In an automatic weighing apparatus, the combination of a spout, a weighing-scale, an electric circuit, comprising a source of electric supply, an electromagnet having a yieldingly-retracted armature, means to limit the retractive movement of the armature, a slidable cut-off for the spout, and a contact yieldingly engaging the cut-off when closed, with a needle movable with the armature and out of range of movement of the scale-beam when the cut-off is closed, and means actuated by the cut-off when open to break the circuit between it and the contact.

3. In an automatic weighing apparatus, the combination of a spout, a weighing-scale, an electric circuit, comprising a source of electric supply, an electromagnet having a yieldingly-retracted armature, a slidable cut-off for the spout, a switch, and a contact yieldingly engaging the cut-off when closed, with a needle movable with the armature and out of the range of movement of the scale-beam when the cut-off is closed, and means actuated by the cut-off when open to break the circuit between it and the contact.

4. In an automatic weighing apparatus, the combination of a spout, a cut-off therefor, armature-retractable means for holding the cut-off open, a source of electric supply, an electromagnet connected thereto, a needle electrically connected to the source of electric supply and the magnet, a weighing-scale, means whereby the rising of the scale-beam until it contacts with the needle, results in the completion of a circuit through and the consequent energization of the magnet and causes it to trip the armature-retractable means from engagement with the cut-off, and means to close the cut-off when released.

5. In an automatic weighing apparatus, the combination of a spout, a slidable cut-off therefor, a source of electric supply, a magnet in circuit with such source of electric supply and cut-off when the latter is closed and out of circuit therewith when the cut-off is open, an armature for said magnet provided with a contact-point, a spring for retracting said armature when the circuit is broken, a resilient needle carried by and insulated from said armature and overlying the scale-beam, a catch holding the cut-off open, an armature connected to said catch, an electromagnet for said armature, a source of electric supply, electric conductors connecting the last-named source of electric supply with the last-named magnet and the needle, and electric conductors connecting said first-named armature with the last-named electromagnet.

6. In an automatic weighing apparatus, the combination of a spout, a slidable cut-off therefor, a source of electric supply, a magnet in circuit with such source of electric supply and cut-off when the latter is closed and out of circuit therewith when the cut-off is open, an armature for said magnet provided with a contact-point, a spring for retracting said armature when the circuit is broken, a resilient needle carried by and insulated from said armature and overlying the scale-beam, a catch holding the cut-off open, an armature

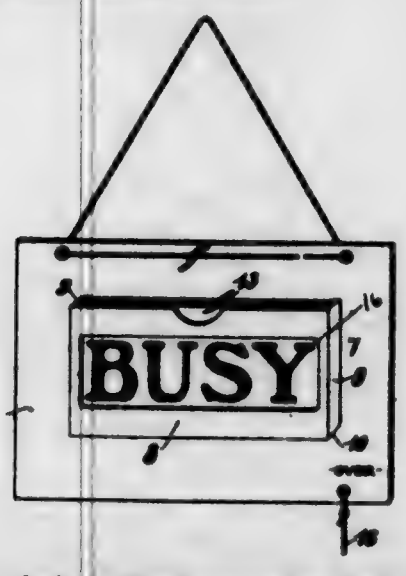
connected to said catch, an electromagnet for said armature, a source of electric supply, electric conductors connecting the last-named source of electric supply with the last-named magnet and the needle, electric conductors connecting said first-named armature with the last-named magnet, and means whereby the cut-off is automatically closed when the rising of the scale-beam causes the needle and the armature carrying it to come into contact and establish the circuit which energizes the last-named magnet.

804,881. HARNESS-TERRET. JOHN R. POTTS, Poughkeepsie, N. Y. Filed Oct. 13, 1904. Serial No. 228,104.



Claim.—A harness-terret consisting of a ring, a shank thereto of the ordinary form and having a socket extending longitudinally through it into the ring, the ring near the shank having an opening formed on oblique lines converging toward the outer edge of the ring and a slot extending from the lower side of the opening into the upper end of said socket, a segment fitted to the said opening and completing the ring and having a tongue fitted in said slot and terminated by a point extending across said socket, the hinge-pintle passing through the ring and segment-tongue at one side of the socket, a spiral spring said socket and a screw-plug, no part of which is of greater diameter in than said shank, turned into the outer end of the socket to compress the spring against the point on the tongue of the segment whereby the segment will be returned to its place in the ring when pressed back for the insertion or withdrawal of a strap.

804,882. SIGN-CARD. CAROLINE W. ROGERS, Wellesley, Mass. Filed May 26, 1905. Serial No. 262,432.



Claim.—In a device of the character described, a card, a metal casing fast to one side thereof, prongs integral with said metal casing and extending through said card, and a block of paper fast to the opposite side of said card from that upon which said casing is located, said prongs extending through said block of paper and fastening the same to said card.

804,883. FURNACE. WILLIAM B. RUGGLES, Bayonne, N. J., assignor to Ruggles-Coles Engineering Company. Filed Sept. 8, 1901. Serial No. 74,549.

Claim.—1. In a machine of the class described, in combination, a vertical shaft, means for rotating said shaft, a hearth carried with the shaft, a grate situated beneath said hearth, and a flue surrounding the shaft arranged to conduct air from the top of the machine to a suitable point below the grate.

2. In a drying or carbonizing furnace in combination, a vertical revoluble shaft carrying a hearth for the reception of the material to be acted on, fire-grates situated beneath said hearth, and a flue surrounding said shaft-opening beneath said grates whereby the shaft is kept cool by the inflow of air to supply a draft for the fires.



3. In combination, the shaft 7, the sectional flue surrounding said shaft, said flue comprising upper section 17 and lower section 18, a hearth 24 carried with such shaft said hearth being of open-work construction adjacent to such shaft and having flanges 27 and 28 forming the central section of said flue, and a suitable fire-bed situated beneath said hearth adjacent to and communicating with the lower end of said flue.

4. In combination, a casing or shell of refractory material, a central vertical shaft revolubly supported within such casing, a hearth carried with such shaft, a grate beneath such hearth and a flue in connection with said shaft for conducting air beneath such grate such that the shaft is kept cool by the passage of the air.

5. In combination, a shaft, a receptacle thereon, a fire-bed situated adjacent to such shaft in position to supply heat or heated gases to material carried in said receptacle, and a flue for supplying a draft for the fire-bed, which flue surrounds such shaft whereby said shaft is protected from the heat by the passage of the air therearound.

6. In a machine of the class described, a casing or shell of refractory material, a shaft revolubly supported within such casing, a hearth carried with such shaft, a fire-bed beneath such hearth, the construction and arrangement being such that an inclosed space is provided above said hearth except at points where openings are left for the passage of products of combustion from the fire-bed to the upper side of said hearth and for the discharge of such products.

7. In combination, a casing or shell of refractory material, a shaft revolubly supported within such casing, a hearth carried with such shaft and having its periphery in substantially close proximity to said casing except at a point where a passage is left between the two whereby heated air or gases supplied from below may be led to the upper surface of said hearth, a stack for the discharge of such gases adjacent to said passage, and a deflector between such passage and stack, whereby the stream of heated gases striking such deflector may be caused to flow around the hearth acting upon the material carried thereon and may be finally discharged through the stack.

8. In combination, a suitable casing or shell, a shaft supported therein, a hearth wholly supported by such shaft, the construction and arrangement being such that the space above the hearth is inclosed by the casing, save at a point at which an opening is provided for the admission of heated air or gases, a second opening at which such gases may be discharged, and a deflector situated adjacent to the first-mentioned opening and between it and the second opening.

9. In combination, a suitable casing or shell, a shaft supported therein, a hearth supported by such shaft, said casing providing an inclosed space above such hearth except at points where heated gases may be introduced above said hearth and be discharged therefrom, and a hopper for conveying material to said hearth, said hopper being situated between said introduction and discharge points and extending through said casing with its lower end terminating adjacent said hearth.

10. In a roasting or drying furnace, a casing or shell, a vertical shaft revolubly supported in such casing, a hearth carried with such shaft, the major portion of the periphery of said hearth being in close proximity to said casing, fire-grates beneath said hearth, the side of

said casing being provided with an opening through which products of combustion may pass to the upper surface of said hearth, a stack for discharging such products of combustion, located adjacent to such opening, and a deflector arranged between said stack and said introduction-opening, whereby gases from said opening are caused to travel substantially the entire area of the hearth before being discharged through the stack.

11. In combination, a suitable casing or shell, a shaft supported therein, a hearth carried by such shaft, said casing providing an inclosed space above said hearth except at adjacent points at which heated gases may be introduced above said hearth and be discharged therefrom, and a hopper for conveying material to be treated to said hearth situated between said introduction and discharge points, and extending across said inclosed space between the supporting-shaft and the casing, whereby said hopper acts also as a deflector causing the gases entering at the one point to travel substantially the entire area of the hearth before discharging at the other point.

12. In combination, a suitable casing or shell, a central shaft supported revolubly therein, a hearth carried by such shaft of a diameter substantially equal to the diameter of the casing, but such that it is revoluble therein, said casing being provided with a passage-way whereby heated gases may be supplied to the upper side of said hearth, said casing being also provided with an opening adjacent to said passage-way for the discharge of said gases, a hopper situated between said passage-way and said opening and acting also as a deflector for the gases entering said passage-way, and a scraping-bar attached to said hopper for removing the material from said hearth.

13. In combination, with a revolubly-supported hearth, a hopper discharging into said hearth, and a scraping-bar attached to said hopper and resting on the surface of the hearth.

14. In combination, the hopper 33, having discharge-outlet 37, and the scraping-bar 43, connected to said hopper said discharge-outlet and scraping-bar being on opposite sides of said hopper.

15. In combination, the hopper 33, having discharge-outlet 37, a scraping-bar 43 pivoted to said hopper, and set-screw 45, for adjusting the position of said scraping-bar.

16. In a roasting or drying furnace, an outer casing, a vertical shaft revolubly supported in said casing, a hearth carried with such shaft, said casing providing an inclosed space above said hearth save at points through which heated gases may pass to the upper surface of said hearth and be discharged therefrom, a deflector arranged between said points whereby gases entering at the one point are caused to travel substantially the entire area of the hearth before being discharged through the other, means for feeding material to be acted upon to the hearth, and means for removing it therefrom.

17. In a roasting or drying furnace, an outer casing a vertical shaft revolubly supported in said casing, a hearth carried with such shaft, said casing providing an inclosed space above said hearth save at points through which heated gases may pass to the upper surface of said hearth and be discharged therefrom, a deflector arranged between said points whereby gases entering at the one point are caused to travel substantially the entire area of the hearth before being discharged through the other, means for feeding the material to be acted upon to the hearth, and means for removing it therefrom in a continuous stream.

18. In a roasting or drying furnace, an outer casing, a vertical shaft revolubly supported in said casing, a dome surrounding said shaft inclosing the upper end of said casing, a hearth carried with such shaft, a fire-bed beneath said hearth, an opening in the side of said casing through which products of combustion may pass to the upper surface of said hearth, a stack for discharging such products of combustion located adjacent to such opening, a hopper for conveying material to said hearth located between said opening and said discharge-stack, a scraping-bar for removing the material from said hearth, and a continuous conveyer in position to receive the material from the scraping-bar.

19. In a device of the class described, a cylindrical shell *b*, a central shaft 7, a hearth 24 carried by such shaft, a dome composed of sections 30 30 fitted together with lap-joints, a hopper 33, passing through said dome, and the dome members *c*, *d*, on each side of said hopper having their sides flush therewith.

20. In a device of the class described, in combination with a suitable casing, a central member supported within said casing, and provided with an outwardly-projecting annular flange, and a dome for closing the top of said casing, said dome being composed of sections supported at one end from said casing, and at the other end upon said flange, substantially as and for the purposes described.

21. In combination, a driving member, a source of heat, a hearth, a hopper, continuously-acting means actuated by said driving member whereby material will be transferred from said hopper to said hearth and exposed to the action of said source of heat, and means for removing said material from said hearth.

22. In combination, a driving member, a furnace having a source of heat, a hearth and a hopper therein, continuously-acting means actuated by said driving means whereby material may be transferred from said hopper to said hearth exposed to the action of said source of heat, means operated by said continuously-acting means for removing said material from said hearth, and means for conveying said material from said furnace.

23. In combination, a movable hearth, a source of heat adapted to act upon the lower surface thereof, and means whereby a heat-transferring medium may be guided from the lower over the upper surface of said hearth in a direction contrary to the direction of movement thereof.

24. In combination, a casing, a hearth, a source of heat, and a hopper, said hopper being adapted to supply material to said hearth and guide the heat emanating from said source.

25. In combination, a casing, a hearth, a source of heat, and a hopper, said hopper being adapted to supply material to said hearth and guide the heat emanating from said source around said hearth.

26. In combination, a casing, a movable hearth, a source of heat, and a hopper, said hopper being adapted to supply material to said hearth and guide the heat emanating from said source around said hearth in a direction contrary to the direction of movement thereof.

27. In a device of the class described, a casing, a hearth, and a hopper adapted to feed a layer of material of adjustable depth thereto, said hopper being adapted to guide a heating medium about said hearth.

28. In a device of the class described, a casing, a movable hearth, and a hopper adapted to feed a layer of material of adjustable depth thereto, said hopper being adapted to guide a heating medium about said hearth in a direction contrary to the direction of movement of said hearth.

29. In combination, a casing or shell of refractory material, a shaft revolubly supported within such casing, a hearth carried with such shaft and having its periphery in substantially close proximity to said casing, a passage between said hearth and said casing whereby heated air or gases supplied from below may be led to the upper surface of said hearth, a stack for the discharge of such gases adjacent said passage, and a deflector between said passage and stack whereby the stream of heated gases striking such deflector may be caused to flow around the hearth, acting upon the material carried thereon and may be finally discharged through the stack.

30. In combination, a suitable casing or shell, a shaft supported therein, a hearth wholly supported by said shaft, the construction and arrangement being such that the space above the hearth is inclosed by the casing, an opening for the admission of heated gases between said hearth and said casing, a second opening at which such gases may be discharged, and a deflector situated adjacent the first-mentioned opening and between it and the second opening.

31. In combination, a suitable casing or shell, a shaft supported therein, a hearth carried by said shaft, said casing providing an inclosed space above said hearth, adjacent openings leading into said inclosed space above said hearth at which heated gases may be introduced and be discharged therefrom, and a hopper for conveying material to be treated to said hearth situated between said introduction and discharge openings and extending across said inclosed space between the supporting-shaft and the casing whereby said hopper acts also as a deflector causing the gases entering at the one opening to travel substantially the entire area of the hearth before discharging at the other opening.

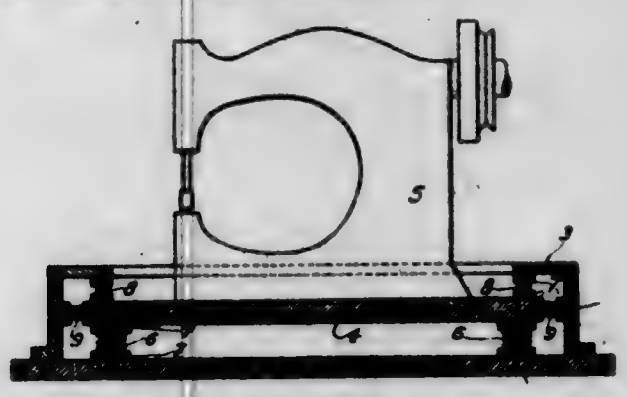
32. In a roasting or drying furnace, an outer casing, a vertical shaft revolubly supported in said casing, a hearth carried with and wholly supported by said shaft, said casing providing an inclosed space above said hearth, openings leading into said inclosed space through which heated gases may pass to the upper surface of said hearth and be discharged therefrom, a deflector arranged between said openings whereby gases entering at the one opening are caused to travel substantially the entire area of the hearth before being discharged through the other, means for feeding material to be acted upon to the hearth, and means for removing it therefrom.

33. In a roasting or drying furnace, an outer casing, a vertical shaft revolubly supported in said casing, a hearth carried with and wholly supported by said shaft, said casing providing an inclosed space above said hearth, openings leading into said inclosed space through which heated gases may pass to the upper surface of said hearth and be discharged therefrom, a deflector arranged between said openings whereby gases entering at the one opening are caused

to travel substantially the entire area of the hearth before being discharged through the other, means for feeding the material to be acted upon to the hearth, and means for removing it therefrom in a continuous stream.

34. In combination, a casing, a hearth, and a hopper adapted to supply material to said hearth and guide a heating medium over the surface thereof.

804,884. MACHINE-SUPPORT. WILLIAM L. RUTAN, Boston, Mass. Filed Mar. 13, 1905. Serial No. 249,745.



Claim.—1. A machine-support, having, in combination, a base upon which the machine is mounted, a subbase, and springs interposed between the base and subbase constructed and arranged to permit horizontal movement of the base relative to the subbase, substantially as described.

2. A machine-support, having, in combination, a base, a subbase, and springs interposed between the base and subbase constructed and arranged to permit vertical and horizontal movements of the base relative to the subbase, substantially as described.

3. A machine-support, having, in combination, a base upon which the machine is mounted, a subbase, and springs interposed between the base and the subbase constructed and arranged to permit movement of the base relative to the subbase in all directions, substantially as described.

4. A machine-support, having, in combination, a base upon which the machine is mounted, a subbase, a plurality of vertically-disposed springs between the base and the subbase, and a plurality of pairs of opposed, horizontally-disposed springs between the base and the subbase, a portion of these pairs of said springs being substantially at right angles to the remainder, substantially as described.

5. A machine-support, having, in combination, a base upon which the machine is mounted, a subbase, and a plurality of pairs of opposed, vertically-disposed springs between the base and the subbase, and a plurality of pairs of opposed, horizontally-disposed springs between the base and the subbase, a portion of said springs being substantially at right angles to the remainder, substantially as described.

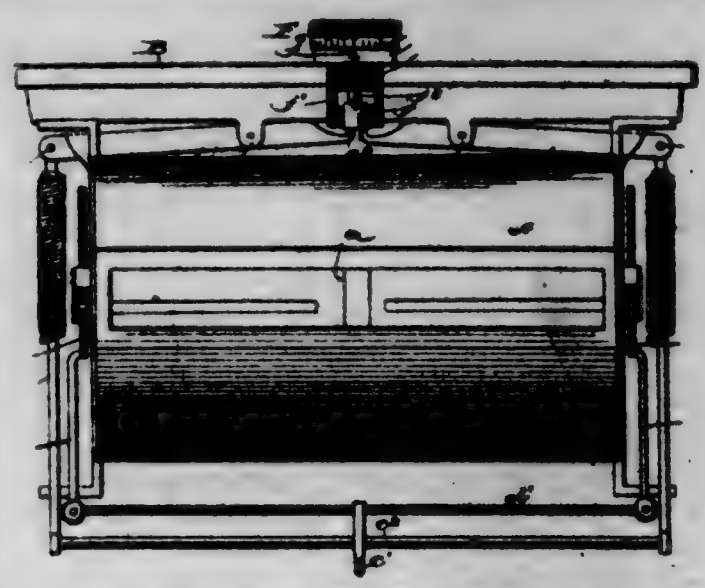
6. A machine-support, having, in combination, a base, a subbase provided with a vertical wall having an inturned flange at its top, a plurality of vertically-disposed springs between the bottom of the flange and the top of the base and between the bottom of the base and the top of the subbase, and a plurality of pairs of opposed, horizontally-disposed springs between the wall and the four sides of the base, substantially as described.

804,885. SPRING-BALANCE SCALE. WILLIAM H. SAUNDERSON, Dayton, Ohio, assignor to The Computing Scale Company, Dayton, Ohio, a Corporation of Ohio. Filed Dec. 18, 1902. Serial No. 135,744.

Claim.—1. In scales, the combination of a frame, suspension-levers pivoted to said frame, counterbalance-springs connected with said levers, a load-support connected with said springs, an indicator, a connection for communicating the weight effect upon said springs to said indicator, a piston working in said frame and bearing upon said levers, and an adjustable pressure device operative upon said piston.

2. In scales, the combination of a system of pivoted suspension-levers, counterbalance-springs connected to corresponding arms of said levers, a load-support connected with said springs, a weight-indicator, a connection for communicating the weight effect upon said springs to said weight-indicator, and an adjusting device operative upon the other arms of said levers.

3. In scales, counterbalance-spring mechanism, a tare-adjusting device in operative relation thereto and comprising a housing, a piston mounted in said housing, a screw-thread device operative upon said piston, a dial to indicate the amount of said tare adjustment, and connections intermediate the piston and counterbalance-spring mechanism for communicating the tare adjustment to the latter.



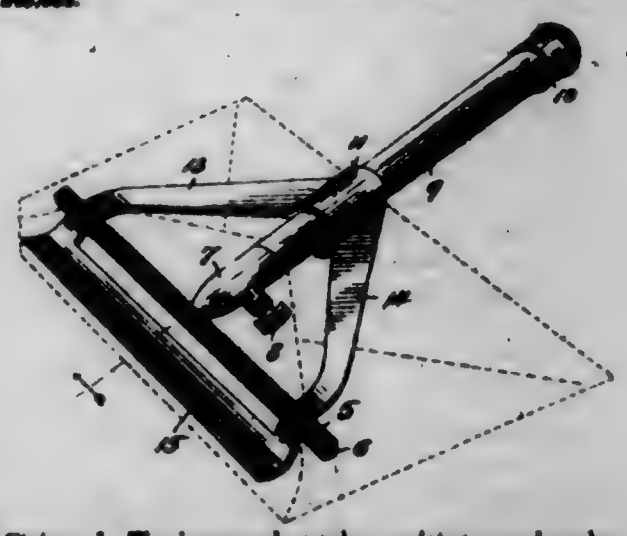
4. In scales, the combination with an indicating-drum, a goods-support and counterbalancing-springs at opposite ends of the drum of means for adjustably supporting said springs at their upper ends, means for simultaneously adjusting said supporting means and an indicator for indicating the adjustment; substantially as described.

5. In scales, the combination with an indicating-drum, a goods-support, connections for rotating the drum by the movement of the goods-support and counterbalancing-springs at opposite ends of the drum, of adjustable supports for the upper ends of the springs and a central adjusting device for said supports; substantially as described.

6. A spring-scale having two distensible spiral springs which support the load, two like spring-levers, one arm of each being coupled to the upper end of its spring, a tare-adjusting screw, and means between said screw and the arms of the spring-levers for simultaneously and uniformly lifting both springs to regulate the tare.

7. A spring-scale having a draw-bar from which the load is suspended, a cross-head on said bar, two like distensible upright springs coupled below to said cross-head, two spring-levers, one arm of each of which is coupled to the upper end of said springs and means for rocking or turning said spring-levers simultaneously about their respective fulcrums for raising and lowering the springs, said means embodying a screw for regulating tare.

804,886. ENVELOP MOISTENER AND SEALER. DANIEL O. SAUNDERS, Jr., Kansas City, Mo. Filed Mar. 2, 1905. Serial No. 248,881.

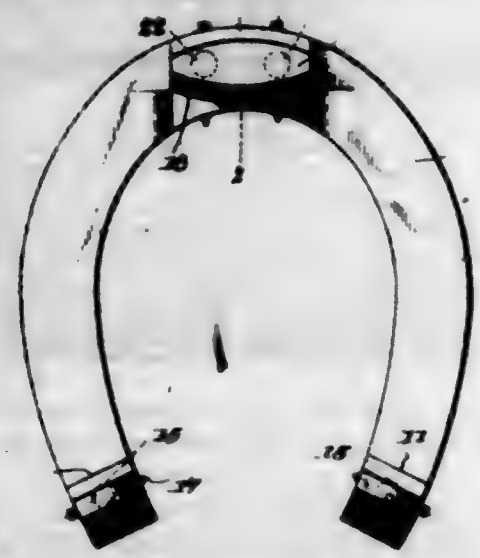


Claim.—1. The improved envelop moistener and sealer, comprising a wick-trough extending transversely of the device, and having a length approximately the same as that of the envelope to be sealed; a wick in the trough; a reservoir communicating with the trough; and a transverse pressure-bar extending parallel with the said wick-trough and adapted to receive the entire flap of an envelop between said pressure-bar and said wick-trough, and arranged to press the envelop-flap upon the wick, and to press the flap to its sealed position by a single movement of the device transversely of the sealed envelop.

2. In an envelop moistener and sealer; a trough; a wick in the trough; a reservoir connected to the trough; a stop-valve controlling the flow from the reservoir to the trough; a clamp adjustably mounted upon the reservoir and a pressure-bar connected to the clamp and

adapted to press the envelop-flaps against the wick and then press said flaps to their sealed positions.

804,887. HORSESHOE. HARVEY W. SUMNER, Canal Dover, Ohio. Filed Jan. 11, 1904. Serial No. 188,610.



Claim.—1. A horseshoe provided with a recess defined by a concave wall with its radius substantially equal to the radius of the adjacent portion of the shoe, a calk having convex sides so proportioned that either will fit the concave wall and the other conform to the curvature of the shoe, and means for securing the calk within the recess.

2. A horseshoe provided with a recess defined by a concave wall with its radius substantially equal to the radius of, but oppositely disposed to, the curvature of the adjacent portion of the shoe, a calk having convex sides so proportioned that either will fit the concave wall and the other conform to the curvature of the shoe, and means for securing the calk removably within the recess.

3. A horseshoe provided with a recess, one side of which is defined by the curvature of the shoe and the opposite wall curved on a similar radius, a socket formed within the area of the recess, a calk having convex sides so proportioned as to interchangeably fit the concave wall of the recess and having a stud proportioned to fit within the socket, and means to secure the stud removably within the socket.

4. A horseshoe provided with a recess, one side of which is defined by the curvature of the shoe and the opposite wall curved on a similar radius, a socket formed within the area of the recess, a calk having convex sides so proportioned that either will fit the concave wall and the other conform to the curvature of the shoe and having a stud proportioned to fit within the socket, and means to secure the stud removably within the socket.

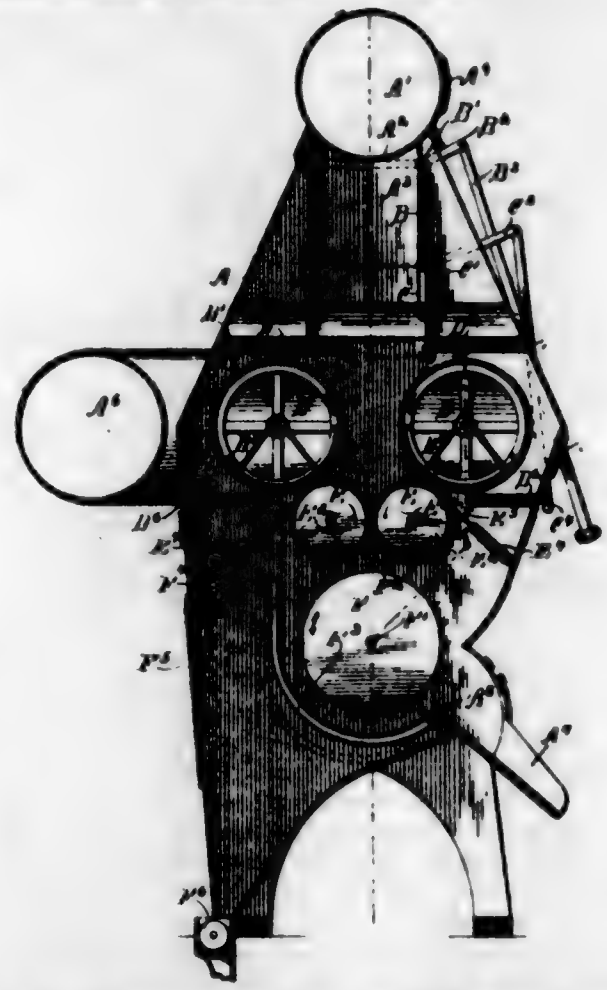
5. A horseshoe provided with a recess, one side of which is defined by the curvature of the shoe and the opposite wall curved on a similar radius, a socket formed within the area of the recess, an opening transecting the socket, a calk having convex sides so proportioned that either will fit the concave wall and the other conform to the curvature of the shoe, a stud formed rigid with the calk and proportioned to fit within the socket and having an opening approximately registering with the opening in the shoe, and a pin proportioned to be removably driven into the opening in the shoe and through the opening in the calk.

804,888. PNEUMATIC GIN-FEEDER. JOHN W. SHEPPET, Prattville, Ala. Filed Aug. 9, 1904. Serial No. 220,130.

Claim.—1. In a gin-feeder, a casing, screening means therein, means for creating an air-feed therethrough, feed-rollers beneath the screening means disposed in contact with each other, follow-boards mounted in the casing between the outer faces of the rollers and the adjacent casing to effect air-tight contact with said rollers, and means for permitting a movement of said rollers toward and from each other.

2. In a gin-feeder, a casing, screening means therein, means for creating an air-feed therethrough, feed-rollers beneath the screening means disposed in contact with each other, pivoted follow-boards mounted in said casing to effect air-tight contact with said rollers at their free ends, and means for permitting a movement of said rollers toward and from each other.

3. In a gin-feeder, a casing, screening means therein, means for creating an air-feed therethrough, feed-rollers beneath the screening means disposed in air-tight contact with the casing and with each other, a screen and picker-roll disposed beneath the feed-rollers, and means carried by the screening means for preventing an air-pressure through the lower portion thereof.



4. In a gin-feeder, a casing, oppositely-disposed screening-drums located therein, a suction-fan connected with the interior of said drums, a shield disposed at the lower portion of said drums to cut off the air therethrough, and feed-rollers beneath the drums held under tension in contact with each other.

5. In a gin-feeder, a casing, oppositely-disposed screening-drums located therein, a suction-fan connected with the interior of said drums, a shield disposed at the lower portion of said drums to cut off the air therethrough, feed-rollers beneath the drums held under tension in contact with each other, and a picker-roll and coöperating screen disposed beneath the feed-rollers.

6. In a gin-feeder, a casing, oppositely-disposed screening-drums located therein, a suction-fan connected with the interior of said drums, a shield disposed at the lower portion of said drums to cut off the air therethrough, feed-rollers beneath the drums held under tension in contact with each other, a picker-roll and coöperating screen disposed beneath the feed-rollers, pivoted arms at the opposite sides of the feeding-rollers having follow-boards in contact therewith, and end packing for each of said rollers.

7. In a gin-feeder, a casing, oppositely-disposed screening-drums located therein, a suction-fan connected with the interior of said drums, a shield disposed at the lower portion of said drums to cut off the air therethrough, feed-rollers beneath the drums held under tension in contact with each other, a picker-roll and coöperating screen disposed beneath the feed-rollers, pivoted arms at the opposite sides of the feeding-rollers having follow-boards in contact therewith, end packing for each of said rollers, a partition extending partially beneath the screening-drums, and a wiper disposed above said drums in contact with the surface thereof.

8. In a gin-feeder, a casing, oppositely-disposed screening-drums located therein, a suction-fan connected with the interior of said drums, a shield disposed at the lower portion of said drums to cut off the air therethrough, feed-rollers beneath the drums held under tension in contact with each other, a picker-roll and coöperating screen disposed beneath the feed-rollers, pivoted arms at the opposite sides of the feeding-rollers having follow-boards in contact therewith, end packing for each of said rollers, a partition extending partially beneath the screening-drums, a wiper disposed above said drums in contact with the surface thereof, a pivotal mounting for one end of the picker-roll screen, and an adjustable delivery-spout disposed at the opposite end of said screen.

9. In a gin-feeder, a casing, oppositely-disposed screening-drums located therein, a suction-fan connected with the interior of said drums, a shield disposed at the lower portion of said drums to

cut off the air therethrough, feed-rollers beneath the drums held under tension in contact with each other, a picker-roll and coöperating screen disposed beneath the feed-rollers, pivoted arms at the opposite sides of the feeding-rollers having follow-boards in contact therewith, end packing for each of said rollers, a partition extending partially beneath the screening-drums, a wiper disposed above said drums in contact with the surface thereof, a pivotal mounting for one end of the picker-roll screen, an adjustable delivery-spout disposed at the opposite end of said screen, a feed-pipe, and a screen-valve disposed between the feed-pipe and said drums.

10. In a gin-feeder, a casing, oppositely-disposed screening-drums located therein, a suction-fan connected with the interior of said drums, a shield disposed at the lower portion of said drums to cut off the air therethrough, feed-rollers beneath the drums held under tension in contact with each other, a picker-roll and coöperating screen disposed beneath the feed-rollers, pivoted arms at the opposite sides of the feeding-rollers having follow-boards in contact therewith, end packing for each of said rollers, a partition extending partially beneath the screening-drums, a wiper disposed above said drums in contact with the surface thereof, a pivotal mounting for one end of the picker-roll screen, an adjustable delivery-spout disposed at the opposite end of said screen, a feed-pipe, a screen-valve disposed between the feed-pipe and said drums, and a cut-off valve at the delivery-opening of said feed-pipe.

11. In a gin-feeder, a casing provided with a throat, a suction feed-pipe communicating with the upper end of said throat, screening devices disposed at the lower end thereof, a suction-fan connected at one end of said devices to effect an air-current therethrough in a direction opposite to the feed of material through the feed-pipe, and means for releasing material from said screening devices.

12. In a gin-feeder, a casing provided with a throat, a suction feed-pipe communicating with the upper end of said throat, screening-drums disposed at the lower end thereof, a suction-fan connected at one end of said drums to effect an air-current therethrough in a direction opposite to the feed of material through the feed-pipe, a screen-valve having members pivotally mounted at opposite sides of said throat, meshing segmental gears carried by each of said members, and a coöperating lever extending from the axis of one of said gears.

13. In a gin-feeder, a casing provided with a throat, a suction feed-pipe communicating with the upper end of said throat, screening-drums disposed at the lower end thereof, a suction-fan connected at one end of said drums to effect an air-current therethrough in a direction opposite to the feed of material through the feed-pipe, a screen-valve having members pivotally mounted at opposite sides of said throat, meshing segmental gears carried by each of said members, a coöperating lever extending from the axis of one of said gears, a cut off valve pivotally mounted below the discharge-opening from said feed-pipe, and an operating-handle extending to the pivot of said valve.

14. In a gin-feeder, a casing, a feed-pipe at the upper portion thereof, a throat extending downwardly from said feed-pipe, screening-drums at opposite sides of said throat, feed-rollers beneath said drums and in alinement with said throat, means for driving said drums and rollers, means for permitting an oscillation of the shafts of said rollers concentric to the axis of said drums, a sight-opening in said feed-pipe, a sight-opening in said casing opposite one of the screening-drums, and means adjacent to said feed-rollers for effecting an air-tight connection between the rollers and adjacent casing.

15. In a gin-feeder, a casing, a feed-pipe at the upper portion thereof, a throat extending downwardly from said feed-pipe, screening-drums at opposite sides of said throat, feed-rollers beneath said drums and in alinement with said throat, means for driving said drums and rollers, means for permitting an oscillation of the shafts of said rollers concentric to the axis of said drums, a sight-opening in said feed-pipe, a sight-opening in said casing opposite one of the screening-drums, means adjacent to said feed-rollers for effecting an air-tight connection between the rollers and adjacent casing, a picker-roll beneath said feed-rollers, a screen mounted concentric to one side of said picker-roll, a discharge-chamber beneath said screen, a conveyer connected with the lower portion of said chamber, and a door at one side of said chamber in alinement with said screen.

16. In a gin-feeder, a casing, screening-drums, feed-rollers, and picker-roll disposed therein, a friction-face secured to one end of the picker-roll, a driving-wheel having its shaft at an angle to the shaft of the picker-roll, a bearing for the lower end of said shaft slidably mounted upon the shaft of the picker-roll, means for forcing said bearing and driving-wheel toward the picker-roll, means for shifting them therefrom, and means for actuating the drums and feed-rollers from the driving-wheel shaft.

17. In a gin-feeder, a casing, screening-drums, feed-rollers, and picker-roll disposed therein, a friction-face secured to one end of the picker-roll, a driving-wheel having its shaft at an angle to the shaft of the picker-roll, a bearing for the lower end of said shaft slidably mounted upon the shaft of the picker-roll, means for drawing said bearing and driving-wheel toward the picker-roll, means for shifting them therefrom, means for actuating the drums and feed-rollers from the driving-wheel shaft, a swiveled bearing for the outer end of said shaft, and means for shifting and retaining said drive-wheel longitudinally upon the shaft.

18. In a gin-feeder, a casing, screening-drums, feed-rollers, and picker-roll disposed therein, a friction-face secured to one end of the picker-roll, a driving-wheel having its shaft at an angle to the shaft of the picker-roll, a bearing for the lower end of said shaft slidably mounted upon the shaft of the picker-roll, means for drawing said bearing and driving-wheel toward the picker-roll, means for shifting them therefrom, a swiveled bearing for the outer end of said shaft, means for shifting and retaining said drive-wheel longitudinally upon the shaft, a worm upon the free end of said shaft, and gearing extending from said worm for driving the screening-drums in opposite directions.

19. In a gin-feeder, a casing, screening-drums, feed-rollers, and picker-roll disposed therein, a friction-face secured to one end of the picker-roll, a driving-wheel having its shaft at an angle to the shaft of the picker-roll, a bearing for the lower end of said shaft slidably mounted upon the shaft of the picker-roll, means for drawing said bearing and driving-wheel toward the picker-roll, means for shifting them therefrom, a swiveled bearing for the outer end of said shaft, means for shifting and retaining said drive-wheel longitudinally upon the shaft, a worm upon the free end of said shaft, gearing extending from said worm for driving the screening-drums in opposite directions, driving-gears upon the shafts of the feed-rollers, and means for driving said gears from said drums.

20. In a gin-feeder, a casing, screening-drums, feed-rollers, and picker-roll disposed therein, a friction-face secured to one end of the picker-roll, a driving-wheel having its shaft at an angle to the shaft of the picker-roll, a bearing for the lower end of said shaft slidably mounted upon the shaft of the picker-roll, means for drawing said bearing and driving-wheel toward the picker-roll, means for shifting them therefrom, a swiveled bearing for the outer end of said shaft, means for shifting and retaining said drive-wheel longitudinally upon the shaft, a worm upon the free end of said shaft, gearing extending from said worm for driving the screening-drums in opposite directions, driving-gears upon the shafts of the feed-rollers, means for driving said gears from said drums, means for permitting said feed-rollers to move toward and from each other concentric to the peripheries of said drums, and a tension-spring for drawing said rolls toward each other.

21. In a gin-feeder, a casing, screening-drums disposed therein, feed-rollers beneath said drums having their shafts at each end free to move toward and from each other, means for holding said rollers in contact with each other, and means for effecting a signal when said rollers are in contact.

22. In a gin-feeder, a casing, screening-drums disposed therein, feed-rollers beneath said drums having their shafts at each end free to move toward and from each other, means for holding said rollers in contact with each other, a toothed wheel carried by the shaft of one of said rollers, a pivoted striker in the path of said wheel, and an audible device adapted to be contacted by said striker.

23. In a gin-feeder, a casing, screening-drums disposed therein, feed-rollers beneath said drums having their shafts at each end free to move toward and from each other, means for holding said rollers in contact with each other, a toothed wheel carried by the shaft of one of said rollers, a pivoted striker in the path of said wheel, an audible device adapted to be contacted by said striker, sprocket-wheels carried by the shaft of said feed-rollers at one end, sprockets carried by the shafts of the screening-drums, chains extending between said sprockets, and means for rotating said screening-drums toward each other.

24. In a gin-feeder, screening-drums, feed-rollers beneath the same mounted for lateral movement toward and from each other in arcs having their centers at the axes of the drums, and means for retaining said rollers in contact under tension.

25. In a gin-feeder, a casing, screening means, feed-rollers beneath the same mounted for lateral movement toward and from each other, means for retaining said rollers in contact under tension, and a packing carried by the end of said rollers to contact with said casing.

26. In a gin-feeder, a casing having a suction-chamber therein, opposite screening devices in said chamber, continuously-operating opposite feed-rollers disposed beneath and intermediate of said de-

vices and constructed and arranged to effect an air-tight closure with the casing and prevent an upward draft of air therethrough, and means for releasing material from the screens for delivery to the rollers.

27. In a gin-feeder, a casing having a suction-chamber therein, a screening device in said chamber, continuously-operating feeding means disposed beneath said device and constructed and arranged to effect an air-tight closure beneath the screening device and prevent an upward draft of air through the casing, and means coöperating with the screening device to release material therefrom for deposit upon the feeding means.

28. In a gin-feeder, a casing having a suction-chamber therein, a screening device in said chamber, continuously-operating feeding means disposed beneath said device and constructed and arranged to effect an air-tight closure beneath the screening device and prevent an upward draft of air through the casing, means coöperating with the screening device to release material therefrom for deposit upon the feeding means, a feed-pipe communicating with said chamber, and a suction device communicating with said screening device to maintain a continuous suction through said chamber.

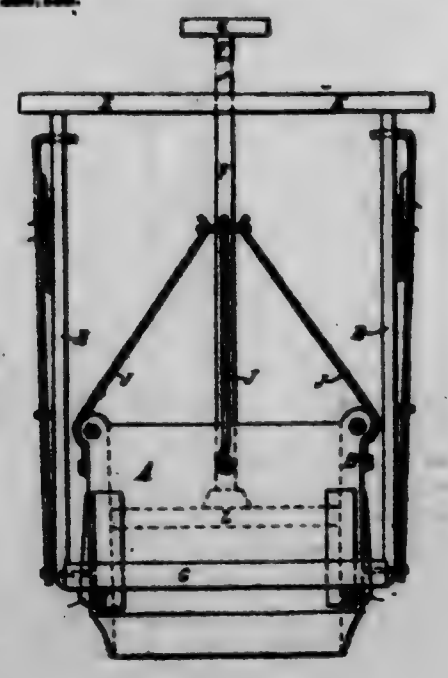
804,889. APPARATUS FOR TOPPING BEETS. FRANKLIN W. H. SHAW, township of Gore of Chatham, Ontario, Canada. Filed Mar. 27, 1905. Serial No. 252,262.



Claim.—1. In an apparatus for topping beets the combination of a frame, rotatable cutting-disks, vertical spindles carrying said disks, webs or castings in which said spindles are journaled, vertical standards connected at their lower ends with said webs or castings and extending therethrough and radially-extended scrapers attached to the lower ends of each of said standards adjacent to the corresponding disk.

2. In an apparatus for topping beets, the combination with an agricultural implement provided with a swinging frame, and with wheels supporting said frame, of overlapping circular cutting-disks concaved upon their upper faces and rotatable by frictional contact with an obstacle, vertical spindles carrying said disks respectively, webs or castings in which said spindles are journaled, vertical standards connected at their lower ends with said webs or castings respectively, to carry such disks, a bow-shaped bar connecting said standards, mechanism on the frame in which said standards are adjustably engaged, a runner in advance of said disks, a supporting-standard for said runner adjustably connected with the frame, and radially-extended scrapers attached to the lower ends of each of the standards supporting the disks adjacent to the corresponding disks.

804,890. MOLD FOR THE MANUFACTURE OF CEMENT BRICK. WILLIAM A. SHOCK, Huntington, Ind. Filed Apr. 20, 1905. Serial No. 256,136.

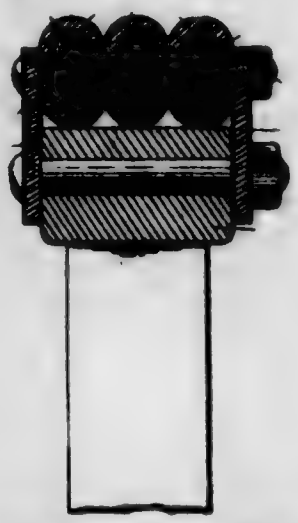


Claim.—1. A combination in a machine or mold for the manufacture of cement brick, of end and side plates attached together at the upper margin thereof by detachable bolts or screws, with wedge-like projections on side and end plates, with removable loop pressing against wedge-like projections forcing side and end plates into position when pressed downward, with tamper-plate fitting into mold from above, with springs attached to side and end plates throwing lower edge of side and end plates outward when released by raising loop, all substantially as set forth.

2. In a machine or mold of the character specified with open bottom, with sides and end plates attached with hinge-like attachments at the upper edge of side and end plates, with wedge-like projections on side and end plates, with removable loop pressing against wedge-like projections, with bottom of side and end plates free to swing outward when released by raising loop, with lower edge of side and end plates made thin to plunge downward into prepared bed of cement, with tamping-plate for tamping the face of material from the top for use as top plate, all substantially as set forth.

3. In a machine of the character specified with detachable and interchangeable end of mold the smooth end plate capable of being interchanged for end plate with rock-faced surface or end plate with angular or curved surface also with tamper or top plate, smooth, rock-faced, curved or angular surface, capable of being tamped down on the brick, thus producing any form of brick, substantially as set forth.

804,891. VEHICLE-TIRE. ARTHUR J. SLADE, New York, N. Y. Filed July 13, 1905. Serial No. 270,262.



Claim.—1. A vehicle-tire having an elastic body composed of concentric alternate layers of rubber and fabric compressed from circular form into elliptical shape and secured on the wheel in such compressed condition, substantially as described.

2. A vehicle-tire having an elastic body composed of concentric alternate integrally-united layers of rubber and fabric compressed from circular form into elliptical shape and secured on the wheel in such compressed condition, substantially as described.

3. A vehicle-tire having a plurality of elastic bodies, each consisting of concentric alternate integrally-united layers of rubber and fabric compressed from circular form in cross-section into elliptical shape and providing separate tread-surfaces, a channel-rim, and bolts for securing said bodies together side by side in said compressed condition on said rim, substantially as described.

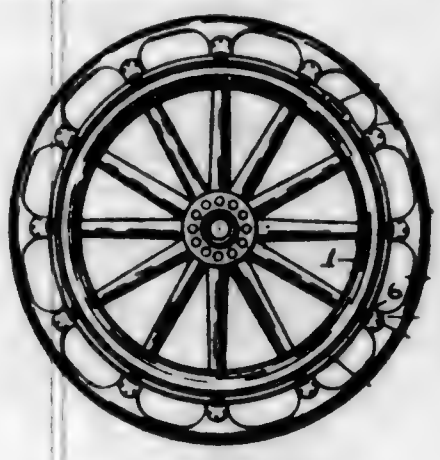
4. A vehicle-tire composed of circumferential blocks of an elastic body formed of alternating concentric layers of rubber and fabric compressed from circular form into elliptical shape, a rim and means to secure such blocks to said rim, substantially as described.

5. A vehicle-tire composed of circumferential elastic blocks formed of alternating concentric layers of rubber and fabric and having a plurality of said series of blocks arranged side by side and means to clamp said blocks together, substantially as described.

804,892. PROTECTIVE TREAD FOR PNEUMATIC TIRES. JAMES M. SMALL, Piqua, Ohio. Filed Feb. 6, 1905. Serial No. 244,287.

Claim.—In a protective tread for pneumatic tires, the combination with a wheel-rim and the pneumatic tire, of a tread-protector consisting of a strip of material of a tenacious nature provided with tongues uniformly projecting from opposite edges thereof, a series of metallic plates secured to said tongues, said plates terminating in hooks which lie within the recess between the rim and the tire on each side of said tire, said hooks having their open sides lying outwardly, tightening-rings engaging said hooks on each side of the

tire, and means on said rings for contracting them to uniformly tighten the protective tread around the tire.

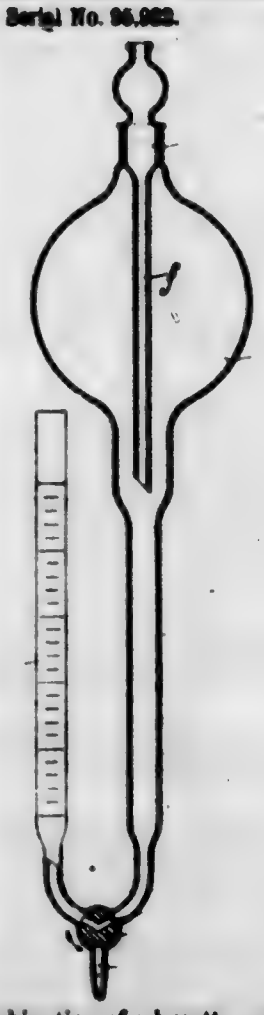


804,893. CLASP OR BUCKLE. CLARENCE E. SMITH, New Britain, Conn., assignor to North & Judd Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed July 1, 1905. Serial No. 267,389.



Claim.—In a clasp or buckle, in combination two coöperative detachable members, a rearwardly-projecting hook carried by one of said members, a forwardly-projecting strengthening and alining rib integral with said hook and the body of said hook-carrying member, two ball-like enlargements carried by said member forward of said hook but spaced apart therefrom and from each other and elevated above the plane of the body of said member, two hooks carried by the side bars of the other member and facing each other and arranged to engage underneath the hook-bill on the first member, the intermediate shank portion of said second member formed by said side bars being contracted and flexible and arranged to pass through the space between the ball-like enlargements on the first member.

804,894. BURETTE. ANDERS M. SÖDERLUND, Göteborg, Sweden, assignor to Gösta Gabriel Gustafsson Oxenstierna, Philadelphia, Pa. Filed Feb. 27, 1903. Serial No. 96,982.

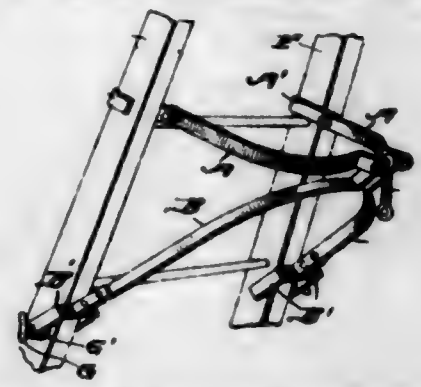


Claim.—1. The combination of a burette, graduated from zero-line downward, a reservoir or fluid-holder, a pipe connection between said reservoir and burette, a pipe, inserted air-tightly in said reservoir, open to the air at its upper end and communicating with said reservoir at its lower end only, the lower end of said pipe being obliquely faced off to form an orifice inclined to the horizontal, the higher end of said orifice being substantially on a level with the zero-line on the burette to which the fluid-level therein is desired to be automatically brought.

2. The combination of a burette, graduated from a zero-line downward, a reservoir or fluid-holder, a pipe connection between said reservoir and burette, a pipe, inserted air-tightly in said reservoir, open to the air at its upper end and communicating with said reservoir at its lower end only, the lower end of said pipe being obliquely faced off to form an orifice inclined to the horizontal, the higher end of said orifice being substantially on a level with the zero-line on the burette to which the fluid-level therein is desired to be automatically brought, an outlet-pipe from the pipe connection between said reservoir and burette and a two-way cock adapted to connect the reservoir with the burette or either with the outlet-pipe.

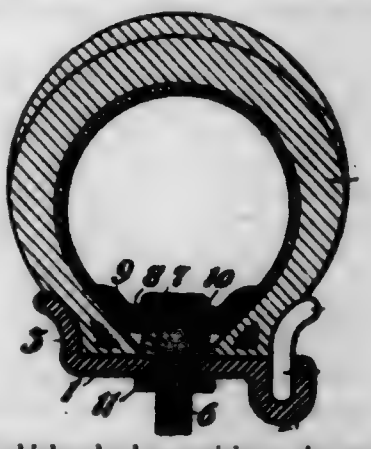
3. The combination with a burette, graduated, a reservoir or fluid-holder and pipe connection between said reservoir and burette, of a pipe open to the air within said reservoir and communicating with said reservoir at its lower end only, a discharge-opening from the pipe connection between said reservoir and burette and a two-way cock adapted to connect the reservoir and burette with each other, or either with the discharge-opening.

804,895. SWINGING LADDER-BRACKET. ROBERT W. SPENCER, Kankakee, Ill. Filed Nov. 18, 1904. Serial No. 233,348.



Claim.—A ladder-bracket comprising a pair of curved suspending-bars having hooks pivotally connected at one end, and flat at the opposite end, a pair of curved supporting-bars, flat at one end, and provided with forked foot-pieces at the opposite end, a clamping-screw passing through one member of each foot-piece, a bolt passing through the flat ends of the bars, a link arranged upon said bolt and a nut upon the end of said bolt for the purpose described.

804,896. VEHICLE TIRE AND RIM. WILL C. STATE, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a Corporation of Ohio. Filed June 26, 1905. Serial No. 267,123.



Claim.—1. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, an annularly-formed member constituting a tire-retaining means mounted in said seat, means in said tire to compress a wall thereof against said annular member, whereby said annular member is locked in said seat, said compressing means being operable irrespective of the inflation of said tire.

2. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, an annularly-formed spring member constituting a tire-retaining means mounted in said seat and normally adapted to be retained by

its own resiliency therein, means in said tire to compress a wall thereof against said tire-retaining means whereby said retaining means is securely locked in said seat, said compressing means being operable irrespective of the inflation of said tire.

3. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, a split spring-ring constituting a tire-retaining means mounted in said seat, means in said tire for compressing the wall thereof against said tire-retaining means whereby said retaining means is locked in said seat, said compressing means being operable irrespective of the inflation of said tire.

4. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, an annularly-formed spring member constituting a tire-retaining means arranged to be sprung into said seat, means carried by said rim and entering said tire to compress a wall thereof against said tire-retaining means whereby said retaining means is locked in said seat, said compressing means being operable irrespective of the inflation of said tire.

5. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, a split spring member constituting a tire-retaining means arranged to be sprung into said seat, means carried by said rim to inflate said tire, and means operatively engaging said inflating means to compress a wall of said tire against said retaining means whereby said retaining means is locked in said seat, said compressing means being operable irrespective of the inflation of said tire.

6. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, a split annular member constituting a tire-retaining means arranged to be sprung into said seat, means carried by said rim to inflate said tire, and means operatively engaging said inflating means to compress a wall of said tire against said tire-retaining means whereby said tire-retaining means is locked in said seat, the divided portion of said tire-retaining means being so placed with respect to said compressing means that the pressure exerted by said compressing means will engage said tire approximately at its divided portion, said compressing means being operable irrespective of the inflation of said tire.

7. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, an annularly-formed split member constituting a tire-retaining means arranged to be sprung into said seat, detachable means carried by said rim to inflate said tire, and means operatively engaging said inflating means to compress a wall of said tire against said tire-retaining means whereby said retaining means is locked in said seat, said compressing means being operable irrespective of the inflation of said tire.

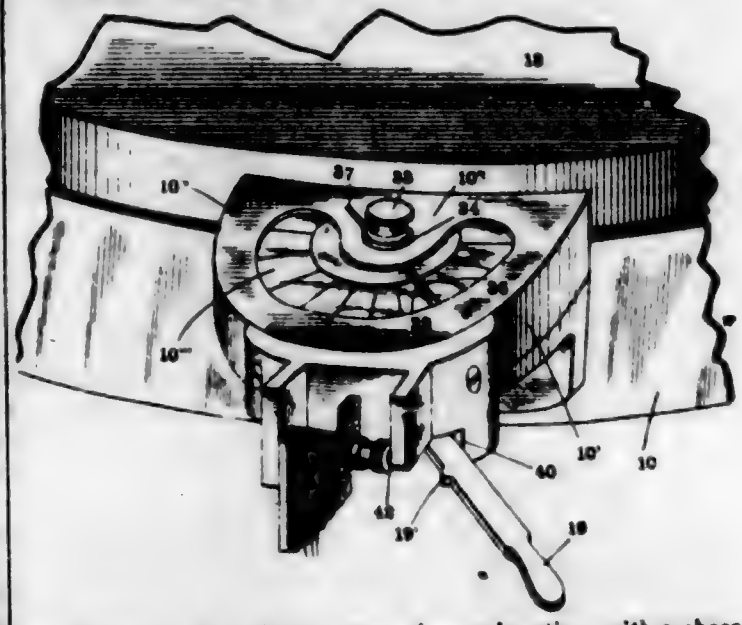
8. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, a split spring member constituting a tire-retaining means arranged to be sprung into said seat, means carried by said rim and located in said tire to compress a wall thereof against said tire-retaining means at its point of severance whereby said retaining means is locked in said seat, said compressing means being operable irrespective of the inflation of said tire.

9. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, an annularly-formed split member constituting a tire-retaining means arranged to be sprung into said seat, a valve-stem carried by said rim adapted to inflate said tire, a winged clip operatively connected with said valve-stem to compress a wall of said tire against said tire-retaining means whereby said retaining means is locked in said seat, said clip being operable irrespective of the inflation of said tire.

10. A vehicle-wheel comprising a rim and a tire mounted thereon, said rim having an offset along one side thereof forming a seat, a split annularly-formed member constituting a tire-retaining means arranged to be sprung into said seat, a valve-stem carried by said rim to inflate said tire, a winged clip operatively connected with said valve-stem, means to cause said winged clip to compress a wall of said tire against said tire-retaining means whereby said tire-retaining means is locked in said seat, said clip being operable irrespective of the inflation of said tire.

11. The combination with a wheel-rim and a tire mounted thereon, of a detachable member cooperating with said rim and constituting a tire-retaining means, a valve-stem carried by said rim, and means in operative relation with said valve-stem to compress a wall of said tire against said detachable member whereby said member is locked in place irrespective of the inflation of said tire.

804,897. COMPUTING CHEESE-CUTTER. LAFE SWANK, Anderson, Ind. Filed Apr. 13, 1905. Serial No. 255,278.



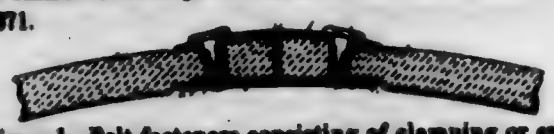
Claim.—1. In a cheese-cutter, the combination, with a cheese-carrier, of a reciprocating operating member therefor, and a pair of stops for determining movement of said member, one of said stops consisting of a plurality of plates arranged at various distances from the other stop and adapted to be thrown into or out of the path of movement of the member.

2. In a cheese-cutter, the combination, with the main frame and the cheese-carrying table journaled thereon, of a rotatable element having intermediate driving connections with the table of such character that several rotations of said element are necessary to produce a single rotation of the cheese-carrying table, means for rotating said driving element, an angularly-adjustable indicator extending over said element, means for normally holding said indicator in any desired position of adjustment independent of the rotation of the rotating element, a second indicator carried by the rotating element and capable of independent angular movement thereon, whereby said second indicator will be rotated by the rotating element but may be rotated independently thereof, a transparent cover covering both indicators, and means for indicating the angle between the two indicators.

3. In a cheese-cutter, the combination, with a main frame and the cheese-carrying table journaled thereon, of a rotatable element having intermediate driving connections with the table of such character that several rotations of said element are necessary to produce a single rotation of the cheese-carrying table, a fixed pin forming an axis for said rotatable element and extending therethrough, a chart carried by said rotatable element, a stationary cover for said chart, an indicator member extending through said cover and having a frictional engagement with said rotatable member, said indicator member carrying an indicator-finger beneath the cover, and a second indicator member sleeved on the first indicator member and having a frictional engagement with the stationary part, said second member having an indicator arranged beneath the cover and an operating member outside of the cover, all substantially as and for the purpose set forth.

4. In a cheese-cutter, the combination, with a horizontally-rotatable cheese-table, of a reciprocating operating member therefor, and a pair of stops for determining movement of said member, one of said stops consisting of a plurality of plates arranged at various distances from the other stop and adapted to be thrown into or out of the path of movement of the member.

804,898. FASTENER FOR DRIVING BELTS OR BANDS. HERBERT TABROCK, Birmingham, England. Filed Jan. 4, 1905. Serial No. 239,671.



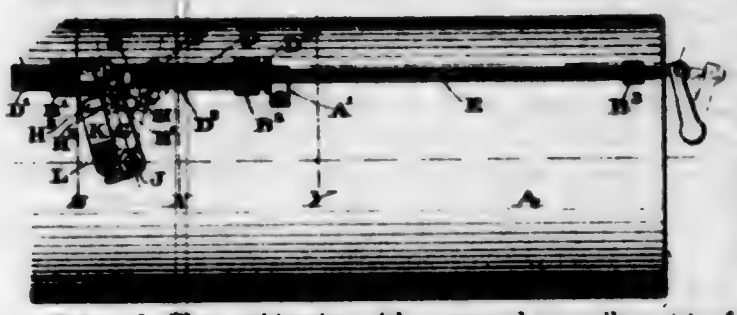
Claim.—1. Belt-fasteners consisting of clamping or embracing parts, a bridge or strut between the said parts and means for forcing the parts together at their ends so that the parts converge from the bridge to the ends.

2. In belt-fasteners, the combination consisting of clamping or embracing parts, a central rigid bridge or strut between the said parts and detachable tension devices for drawing the parts together at their ends so that the parts converge from the bridge to the ends.

3. In belt-fasteners, the combination with the belt ends to be

united of clamping or embracing parts, a bridge or strut between the said parts, and bolts and nuts entering the bolt and the clamping or embracing parts and drawing the parts together at their ends so that the parts converge from the bridge to the ends.

804,899. FIRING APPARATUS FOR GUNS. VERNON C. TASKER, Washington, D. C., assignor to United States Ordnance Company, Washington, D. C., a Corporation of Virginia. Filed July 14, 1905. Serial No. 269,632.



Claim.—1. The combination with a gun and a recoil-mount; of firing mechanism slidable on the mount and a stop on the gun, whereby such mechanism is brought into correct relation with the gun in the act of firing.

2. The combination with a gun and a recoil-mount; of firing mechanism having freedom of movement rearwardly on the mount, operating means tending to produce such movement, and a stop on the gun for limiting said movement to the error in position of the gun after counter-recoil.

3. The combination with a gun and a recoil-mount; of firing mechanism slidable on the mount and means whereby such mechanism is brought into correct relation with the gun in the act of firing.

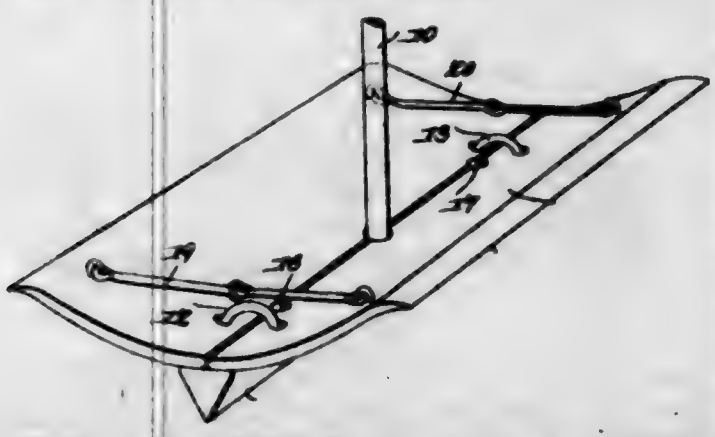
4. The combination with a gun and a recoil-mount; of firing mechanism having freedom of movement rearwardly on the mount, operating means tending to produce such movement and means for limiting said movement to the error in position of gun after counter-recoil.

5. The combination with a gun and recoil-mount; of firing mechanism movable on the mount comprising members adapted to move in unison with and independent of each other; and means controlled by the position of the gun after counter-recoil for limiting the united movement of the members.

6. The combination with a gun and recoil-mount; of a rearwardly-acting firing-rod carried by a slidable support on the mount adapted to move with and independently of said support and means controlled by the position of the gun after counter-recoil for limiting the united movement of the rod and support.

7. The combination with a gun and a recoil-mount; of firing mechanism slidable on the mount, means whereby such mechanism is brought into correct relation with the gun in the act of firing, a lever for actuating said firing mechanism and means operated by continued movement of said lever for releasing said firing mechanism from the influence of said lever.

804,900. POST-ANCHOR. THOMAS B. TEMPLEMAN, Gulfport, Miss. Filed Mar. 24, 1905. Serial No. 251,854.



Claim.—1. An anchoring device comprising a post having a laterally-extending terminal blade, expansible wings swinging in opposite directions from said blade and flexible couplings connecting said wings to limit the movement in one direction.

2. An anchoring device comprising a supporting-rod, oppositely-expansible earth-engaging wings associated with said rod, and flexible connecting members between said wings to limit the movement of the same in one direction.

3. An anchoring device comprising a supporting-rod, a blade connected transversely of said rod, spaced annular links engaging said blade, and oppositely-expansible earth-engaging wings movably connected to said links.

4. An anchoring device comprising a supporting-rod, a blade connected transversely of said rod, spaced annular links engaging said blade, oppositely-expansible earth-engaging wings movably connected to said links, and flexible members connecting said wings for limiting the outward movement.

5. An anchoring device comprising a post having a laterally-extending terminal blade having spaced sockets, expansible wings swinging in opposite directions from said blade, rods for detachable connection with said sockets and expansible wings swinging in opposite directions from said blade.

804,901. PADLOCK. HARRY P. TOWNSEND and CHARLES E. JOHNSON, New Britain, Conn., assignors to Corbin Cabinet Lock Company, New Britain, Conn., a Corporation of Connecticut. Filed Mar. 25, 1905. Serial No. 251,833.



Claim.—1. In a padlock, a hasp, a dog therefor, a spring carried by said dog, said hasp coöperating with said spring to throw said dog, and a tumbler coacting with said dog.

2. In a padlock, a hasp, a dog therefor, a spring carried by said dog, said hasp coöperating with said spring to throw said dog thereby, and a tumbler coacting with said dog, said tumbler and dog being arranged to be engaged and operated directly and simultaneously by a suitable key.

3. In a padlock, a hasp, a pivotally-mounted dog, a spring device carried by said dog and arranged to coöperate with said hasp to throw said dog when said hasp is closed, and means to operate said dog to free it from said hasp.

4. In a padlock, a hasp, a dog therefor, a spring carried by said dog, said hasp coöperating with said spring to throw said dog, and a tumbler coacting with said dog, and means to prevent the dog from becoming freed from the tumblers while the hasp is open.

5. In a padlock, a hasp, a tumbler, a pivoted dog, a hooked end arranged to engage the hasp, a tail arranged to engage the tumbler, and a projecting heel or extension arranged to be engaged by a key simultaneously with the tumbler, and means operable by the hasp to throw said dog as the hasp is closed.

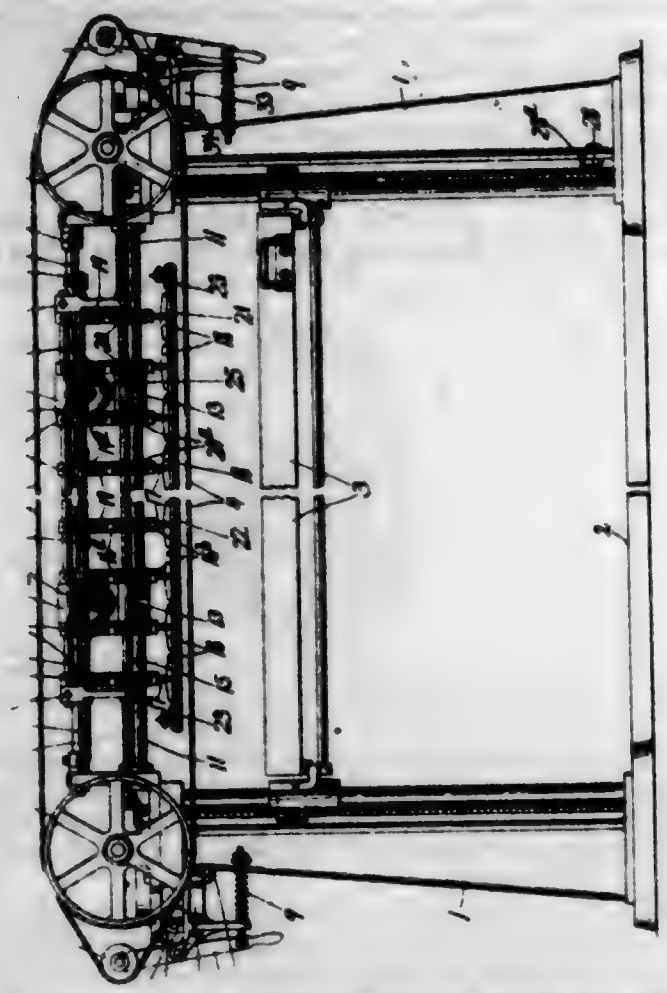
6. In a padlock, a hasp, a tumbler, a pivoted dog, a hooked end arranged to engage the hasp, a tail arranged to engage the tumbler, and a projecting heel or extension arranged to be engaged by a key simultaneously with the tumbler, and a spring device carried by said dog, arranged to move the hook of the dog into engagement with the hasp when the latter is closed, said hasp coöperating with said spring device to effect said closing movement of said dog.

804,902. SANDING AND POLISHING MACHINE. EMIL TYDEN, Hastings, Mich. Filed June 10, 1904. Serial No. 211,910.

Claim.—1. In a sanding or polishing machine in combination with a sanding or polishing belt, a work-table movable transversely with respect to the travel of the belt; an elastically-flexible pressure-bar supported at the opposite side of the operating ply of the belt from the work-table, and a multiplicity of pressure-feet at the opposite side of the pressure-bar from said ply of the belt, said feet being movable toward and from said ply, and means for thrusting them individually and independently toward the same.

2. In a sanding or polishing machine in combination with a sanding or polishing belt, a table for supporting the work movable to carry the work transversely with respect to the travel of the operating ply of the belt; an elastically-flexible pressure-bar overhanging said operating ply; means for moving the pressure-bar bodily toward and from said ply; a multiplicity of pressure-feet distributed at intervals along the length of the pressure-bar at the opposite side thereof from said operating ply, and means for thrusting said feet individually and independently toward said ply.

3. In a sanding and polishing machine in combination with a sanding or polishing belt; a work-table movable to carry the work transversely with respect to the travel of the operating ply of the belt; an elastically-flexible pressure-bar overhanging said operating ply: means for moving the pressure-bar bodily toward and from said ply to press the latter against the work, said means comprising a multiplicity of elastically-yielding pressure-communicating connections for carrying said pressure-bar distributed at intervals along the length of the latter.



4. In a sanding or polishing machine in combination with a sanding or polishing belt, a work-table and means for moving it to carry the work transversely with respect to the operating ply of the belt; an elastically-flexible pressure-bar extending above said operating ply; means for carrying such pressure-bar comprising a multiplicity of connections thereto distributed at intervals along the length thereof, said connections being adapted individually and separately to yield elastically back from the work-table, and means for positively forcing said connections individually and independently toward the table at will.

5. In a sanding or polishing machine in combination with a sanding or polishing belt and a work-table movable to carry the work transversely with respect to the travel of the operating ply of the belt; a pressure-bar extending above the belt; means for carrying such pressure-bar comprising a multiplicity of hangers and devices for raising and lowering them simultaneously; pressure-feet mounted in said hangers respectively and connected with the pressure-bar at intervals throughout the length thereof, and springs reacting between the pressure-feet and the hangers respectively to yieldingly resist the movement of the feet upward with respect to the hangers and to transmit yieldingly downward pressure from the hangers to the feet, said feet being separately accessible and movable in the hangers toward and from the work-table.

6. In a polishing or sanding machine in combination with a polishing or sanding belt and the work-table movable to carry the work transversely to the operating ply of the belt; an elastically-flexible pressure-bar extending above said operating ply and a multiplicity of pressure-feet distributed along the length of the pressure-bar above the same, each independently movable toward and from the work-table, said feet being extended at their bearing upon the pressure-bar obliquely across the same for substantially the purpose set forth.

7. In a polishing or sanding machine in combination with a polishing or sanding belt, a work-table movable to carry the work transversely to the travel of the operating ply of the belt; an elastically-flexible pressure-bar suspended above said ply; means for so suspending such pressure-bar comprising a pair of fixed shafts parallel with the pressure-bar; links connecting such shafts respectively with another pair of parallel shafts; hangers mounted on said last-mentioned pair of shafts constituting link connections between them and pressure-feet mounted for vertical reciprocation in said hangers and connected to the pressure-bar, and springs reacting between the pressure-feet and the hangers respectively to yieldingly transmit the downward pressure of the hangers to the feet and thereby to the pressure-bar, and means for depressing at will the second pair of shafts.

8. In a polishing or sanding machine in combination with a polishing or sanding belt, a work-table movable transversely with respect to the travel of the belt; a pressure-bar carried at the opposite side of the operating ply of the belt from the work-table; a multiplicity of presser-feet distributed at intervals along the pressure-bar at the opposite side of said pressure-bar from the said ply of the belt; means for supporting said presser-feet with capacity for movement toward and from said ply and rock-shaft having journal-bearings fixed with respect to said supports and having tappets corresponding to the presser-feet respectively, said tappets being spaced on the rock-shaft at intervals different from the intervals between the corresponding presser-feet along the pressure-bar, said rock-shaft being longitudinally movable in its bearings to bring any selected tappet in position for action on its corresponding presser-foot.

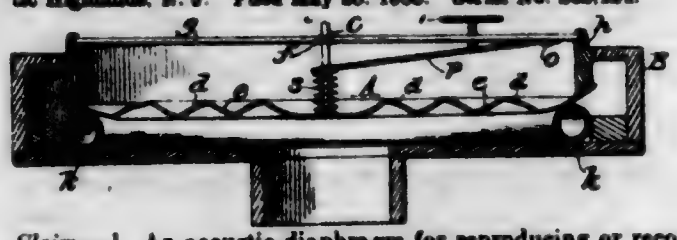
9. In a sanding or polishing machine, in combination with a sanding or polishing belt, a work-table movable transversely with respect to the travel of the operating ply of the belt; an elastically-flexible pressure-bar supported at the opposite side of the operating ply of the belt from the work-table, and a multiplicity of presser-feet at the opposite side of the pressure-bar from said ply of the belt having their surfaces which bear upon said pressure-bar extending across the same in direction oblique to the movement of the work-table.

10. In a sanding-machine, in combination with a sanding or polishing belt, a table for supporting the work movable to carry the work transversely with respect to the travel of the operating ply of the belt; an elastically-flexible pressure-bar overhanging said operating ply; means for moving the pressure-bar bodily toward and from said ply; a multiplicity of presser-feet distributed at intervals along the length of the pressure-bar at the opposite side thereof from said operating ply, the surfaces of said feet which bear upon the flexible pressure-bar extending across it in a direction oblique to the movement of the table, and means for thrusting said presser-feet individually and independently toward said ply.

11. In a sanding-machine, in combination with a table for supporting the work which is movable to carry the work past the sanding devices, such sanding devices and means for giving the same movement for rubbing the work; a pressure-bar at the opposite side of the sanding devices from the table, having a multiplicity of presser-feet extending across it in a direction oblique to the movement of the work-carrier.

12. In a sanding-machine, in combination with a sanding device and means for giving movement thereto for rubbing the work, a table for supporting the work which is movable to carry the work past the sanding device exposed thereto, in a direction transverse to the rubbing movement of the latter, and a pressure-bar at the opposite side of the sanding device from the work-table having a multiplicity of presser-feet extending across it in a direction oblique to the movement of the table.

804,903. ACOUSTIC DIAPHRAGM. JOHN H. VAN MATER, Atlantic Highlands, N. J. Filed May 26, 1905. Serial No. 262,194.



Claim.—1. An acoustic diaphragm for reproducing or recording sound, comprising a disk with an operative surface in the form of a spiral ridge commencing near its center and terminating near its circumference, substantially as shown and described.

2. An acoustic diaphragm for reproducing or recording sound, comprising a disk with an operative surface in the form of a succession of circling ridges, the inner face of such ridges being concave, substantially as shown and described.

3. An acoustic diaphragm for reproducing or recording sound, comprising a disk with an operative surface in the form of circling ridges the inner sides of which are concave and the outer face thereof convex, substantially as shown and described.

4. An acoustic diaphragm for the recording or reproduction of sound comprising a disk having an operative surface composed of a spiral ridge beginning near the center and terminating near the circumference, said spiral ridge having its inner side concave and the outer side convex substantially as shown and described.

5. An acoustic diaphragm for the purposes described, comprising a disk of thin metal having stamped or spun therein and therethrough a spiral ridge beginning near the center and terminating near the circumference, substantially as shown and described.

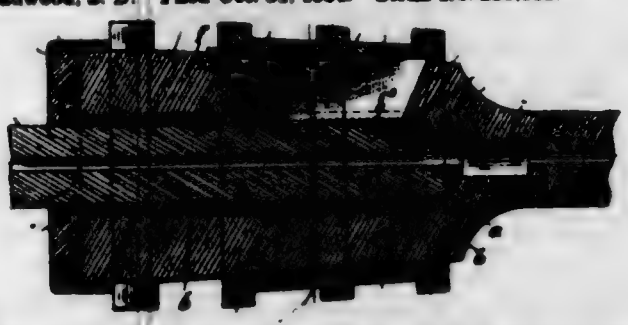
6. An acoustic diaphragm for the recording or reproduction of sound, having an operative surface comprised of a spiral ridge and an outer plain rim turned at an angle to its face, substantially as shown and described.

7. In apparatus for recording and transmitting sound, an acoustic diaphragm, held at its circumference in a holder, a cross-bar diametrically spanning said holder, an actuating-pin secured to the center of the diaphragm adapted to connect with the usual cutter or reproducing tool, and a spiral spring surrounding the actuating-pin between the cross-bar and diaphragm, said spring exerting pressure between the face of the diaphragm and the cross-bar substantially as shown and described.

8. In apparatus for recording and transmitting sound, an acoustic diaphragm, held at its circumference in a holder, a cross-bar diametrically spanning said holder, an actuating-pin, secured to the center of the diaphragm, adapted to connect with the usual cutter or reproducing tool, a spiral spring surrounding the actuating-pin, between the cross-bar and diaphragm, said spring exerting pressure between the face of the diaphragm and the cross-bar and means for varying the pressure exerted by said spiral spring on the diaphragm substantially as shown and described.

9. In apparatus for recording and reproducing sound, an acoustic diaphragm having a central pin and surrounding spring combined with a holder having means for retaining the spring under tension against the center of the diaphragm, substantially as shown and described.

804,904. CHUCK FOR ROCK-DRILLS. JAMES C. H. VAUGHT, Deadwood, S. D. Filed Oct. 31, 1904. Serial No. 230,803.



Claim.—1. A drill-chuck, comprising a body having a longitudinal socket, to receive the shank, and a longitudinal slot, a gib in the slot adapted to bear at its inner face on the shank and having a longitudinally-tapered outer face projecting beyond the face of the body and a flange projecting from said face and a sleeve engaging said tapered face of the gib, substantially as described.

2. In a drill-chuck, the body having a bearing for the jaw of a wrench or lever, a socket and a slot leading thereto, in combination with a gib and a sleeve engaging the same, said bearing being adjacent to the outer end of the sleeve whereby a lever device may be applied for forcing the sleeve off from the gib, substantially as described.

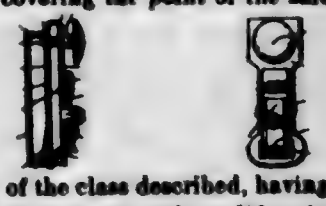
3. The combination with a chuck, having means for holding a drill-shank, of a removable cap applied to the outer end of the chuck for protecting it, substantially as described.

4. In a drill-chuck, the body having near its outer end, one or more projecting studs, a socket and slot, in combination with a gib and a sleeve engaging the same, said stud serving as a bearing for application of a lever device to remove the sleeve, substantially as described.

5. In a drill-chuck, the body having opposite flattened sides provided with longitudinal grooves, and opposite slots, in combination with gibs in the slots, and a sleeve having flattened sides and tongues sliding in said grooves, substantially as described.

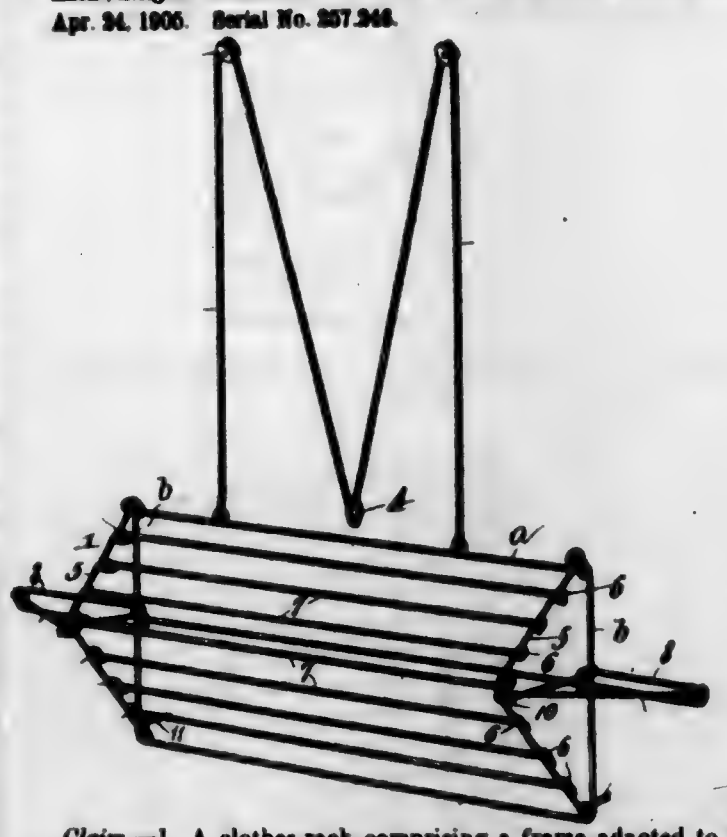
804,905. COMBINATION-CLASP. LAFAYETTE WEAVER, Jr., Philadelphia, Pa. Filed Jan. 4, 1905. Serial No. 239,697.

Claim.—1. A clasp of the character described, having spaced arms connected together at their upper ends and forming a space open at the lower end thereof between them for the reception of the waistband of a garment, a detachable button having a shank detachably connected to and extending through the upper ends of the said arms, said button having its head on the inner side of the inner arm, and a belt-holder on the outer side of the outer arm, pivotally connected thereto at the lower end, said belt-holder when closed against said outer arm covering the point of the said button-shank.



2. A clasp of the class described, having spaced arms, connected together at their upper ends and forming a space open at the lower end thereof between them for the reception of the waistband of a garment, a detachable button having a shank detachably connected to and extending through the upper ends of said arms, said button having its head on the inner side of the inner arm, and a belt-holder on the outer side of the outer arm and covering the point of the said button-shank.

804,906. CLOTHES-RACK. MURWIN WHEELER, Stephenson, Mich., assignor of one-half to Frank W. Paine, Stephenson, Mich. Filed Apr. 24, 1905. Serial No. 257,248.



Claim.—1. A clothes-rack comprising a frame adapted to lie against a wall, bent end bars pivotally connected at their upper and lower ends to the frame, lines or rods connecting said end bars, and means to secure the latter when disposed at right angles to the frame.

2. A clothes-rack, comprising a frame adapted to lie against a wall, bent end arms pivotally connected at their upper and lower ends to said frame, rods connecting said end bars, a rod projecting from one end of the frame, and a brace-rod pivotally connected to the said projecting rod and adapted to be detachably connected to one of the bent end bars, to hold the end bars in a position at right angles to the frame, substantially as described.

3. A clothes-rack, comprising a frame adapted to lie against a wall, means to raise and lower the frame, end bars pivotally connected thereto, adapted to be extended from the frame and to be folded against the same, rods connecting said end bars, and means to secure the latter when disposed at an angle with reference to the frame.

804,907. TOY. WILLIAM WEIVOLD, Justin, Tex. Filed Jan. 11, 1905. Serial No. 240,643.

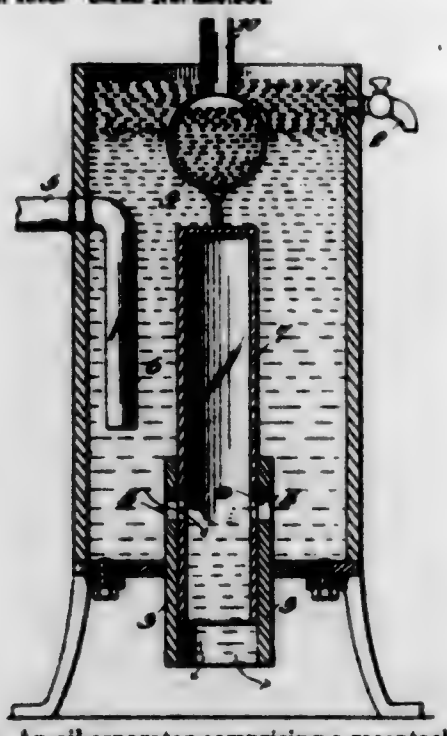
Claim.—1. A toy comprising a handle, a shaft revolubly mounted therein, counterweights operatively connected with one end of the shaft, a suspending element connected with the other end of the shaft, and a driven member connected with the free end of the suspending element.

2. A toy comprising a revoluble driven member, a suspending element eccentrically attached thereto, a handle, a shaft housed in the handle and to one end of which the suspending element is attached, and adjustable counterweights operatively combined with the other end of the shaft.

804,907.



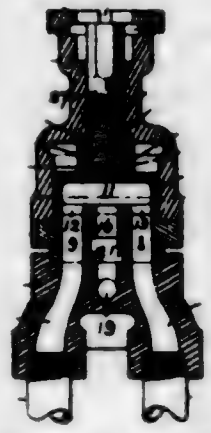
804,908. OIL-SEPARATOR. WILL D. WILLIAMS, Philadelphia, Pa. Filed Jan. 6, 1905. Serial No. 239,904.



Claim.—1. An oil-separator comprising a receptacle having an oil-outlet at its upper end, a vertical pipe in its bottom provided with a lateral opening, a tube telescoping with the said pipe and having a lateral opening to register with the lateral opening thereof, said tube constituting a valve and closed some distance above its lateral opening, and a float arranged within the receptacle directly above the tubular valve and connected thereto for positively controlling its movements in each direction and actuated by the change of level of the water in said receptacle.

2. An oil-separator comprising a receptacle, a valved outlet in the upper portion of said receptacle, a vertical pipe fitted to the bottom of the receptacle and extended above and below the same and having a lateral opening in its upper portion, a tube closed at its upper end and open at its lower end slidable within said pipe and having a lateral opening to register with the opening in the side of said pipe, a float arranged within the receptacle above the tube and attached directly to the upper end of said tube to positively control its movements in each direction and actuated by the change of level of the water in the receptacle, and an inflow-pipe extended into the receptacle to within a short distance of its bottom, substantially as set forth.

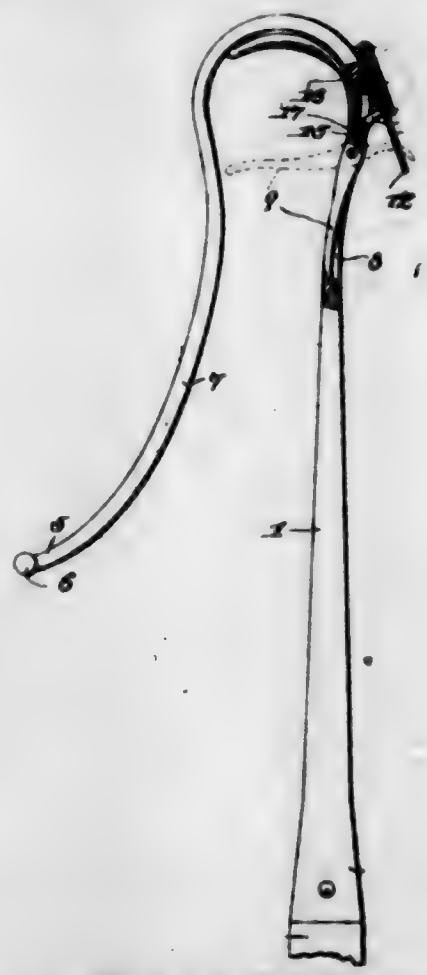
804,909. ENGINEER'S VALVE. HARRY W. YOUNG, Philadelphia, Pa., assignor to John B. Reyburn, Philadelphia, Pa. Filed Mar. 1, 1905. Serial No. 247,268.



Claim.—1. In a valve, a case therefor, and a rotatable disk valve having two distinct and separate ports formed within its interior, one of said ports being curvilinear, near its periphery, with an opening at each end through the bottom of the valve, and the other port being radial, with one opening through the bottom of the valve at its center, and the other opening concentric with the openings of the opposite port and means whereby the valve may be rotated to place the ports aforesaid in operative and inoperative relation with the ports of the valve seat and case.

2. In a valve, a case, a valve within the case having separate and independent ports within its interior and adapted to communicate with ports in the case, a stem engaging the valve for its rotatable movement, the upper part of the stem being formed polygonal, with a flattened vertex; a handle for the stem having a hub with a polygonally-formed interior adapted to fit over the stem, a projection within the hub which will only allow the hub to pass onto the stem when its flattened portion is opposite thereto, and at which time the valve is in inoperative position, and means to prevent the removal or replacing of the handle from the stem and case-top except when the valve is in its inoperative position.

804,910. SHEEP-HOOK. ADOLPHUS G. ADAIR, Havre, Mont. Filed June 1, 1905. Serial No. 263,257.



Claim.—1. A sheep-hook having a slotted member, a spring-actuated lever pivoted in said slot and adapted to swing across the mouth of the hook, and a trigger adapted to engage the lever.

2. A sheep-hook, a spring-actuated latch-lever pivotally connected therewith, and trigger means for sustaining said latch in an open position.

3. A sheep-hook, a spring-actuated latch-lever connected therewith and having a recess near its fulcrum, and a resilient trigger member connected with the hook and having a point adapted to engage the recess of the latch-lever.

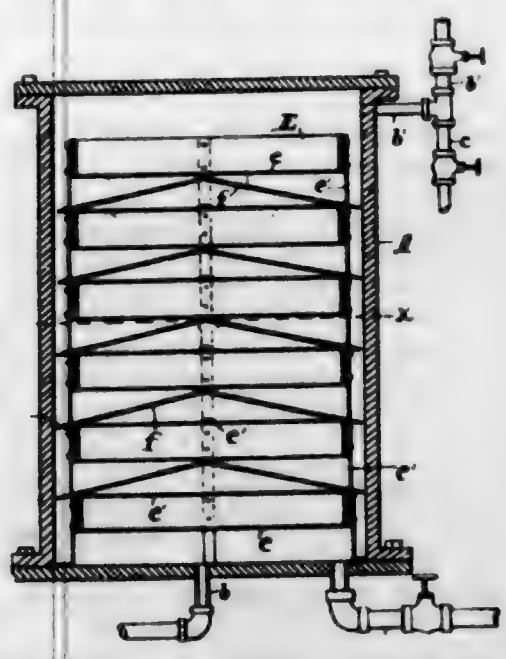
4. A sheep-hook having a slotted member, a spring-actuated latch-lever pivoted in the slot and having a recess near its fulcrum, and a curved resilient trigger member connected with and approximately coinciding with the inner curve of the hook and terminating in a point adapted to engage the recess of the latch-lever.

5. A sheep-hook having a normally unobstructed mouth, and a spring-actuated closure pivoted in and normally accommodated in a slot in one of the side members of the hook.

6. A sheep-hook, a spring-actuated latch-lever connected therewith and having a slotted outward-extending arm, a pin connected pivotally with the hook and extending through said slotted arm, a spring coiled upon the pin and operating against the lever, and trigger means for setting the latch-lever in non-obstructing position with relation to the mouth of the hook.

7. A sheep-hook, a spring-actuated latch-lever connected therewith and having an outward-extending arm, a spring pressing against said arm and actuating the lever to normally obstruct the mouth of the hook, a curved resilient trigger member connected with the inside of the hook and slightly spaced from the curved portion of the latter, and an engaging portion formed upon the lever to coöperate with the trigger member to retain the latch-lever temporarily against the tension of its operating-spring in non-obstructing position.

804,911. **APPARATUS FOR STRAINING GUM.** SILAS B. ADAMS, Portland, Me. Filed Mar. 18, 1905. Serial No. 250,736.



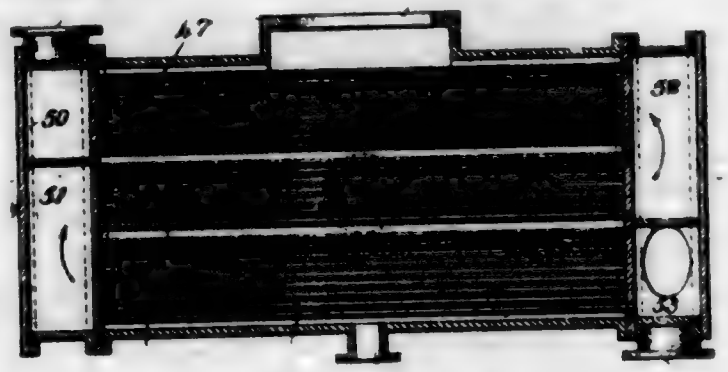
Claim.—1. The herein-described apparatus for straining gums or other like products consisting of a retort having therein a series of shallow trays with perforated bottoms placed one on top of another, with inclined diaphragms between them arranged to deliver the strained product at a common point and means for supplying steam to said retort and drawing off the product.

2. The herein-described apparatus for straining gums or other like products consisting of a retort having therein a series of shallow trays with perforated bottoms placed one on top of another, with conical diaphragms interposed between them adapted to deliver the strained product at the sides of the retort and outside of the trays and means for supplying steam to said retort and drawing off the product.

3. The herein-described apparatus for straining gums and other like products consisting of a retort having therein a series of shallow trays with perforated bottoms placed one on top of another each of said trays except the lower having a shallow conical diaphragm immediately beneath it and secured to it, the edges of said diaphragm being beyond the edges of the tray and means for admitting steam to said retort and drawing off the product.

4. The herein-described apparatus for straining gums and other like products consisting of a retort having therein a series of shallow trays with perforated bottoms placed one on top of another, each of said trays except the lower having a shallow conical diaphragm immediately beneath it with metal straps secured to the sides of the tray and passing beneath said diaphragm to secure it to the tray and to provide a support for the same, with means for admitting steam to said retort and for drawing off the product.

804,912. **SURFACE CONDENSER.** LOUIS R. ALBERGER, New York, N. Y., assignor to Alberger Condenser Company, New York, N. Y., a Corporation of New York. Filed July 25, 1904. Serial No. 218,445.



Claim.—1. In a surface condenser, for the condensation of exhaust-steam and the production of a vacuum, the combination with a condensing-chamber into which the exhaust-steam is introduced at one side of the vertical median plane, of water-cooled tubes arranged in groups or nests in a horizontal series, and coöperating water-chambers arranged in a horizontal series at the ends of the condensing-chamber, with which water-chambers the nests of tubes connect, the exhaust-steam being brought first into contact with substantially only the tubes of one group or nest.

2. In a surface condenser, for the condensation of exhaust-steam and the production of a vacuum, the combination with a condensing-chamber from which the air is withdrawn at one side of the vertical median plane, of water-cooled tubes arranged in groups or nests in a horizontal series, and coöperating vertical water-chambers arranged also in a horizontal series at the ends of the condensing-chamber, with which water-chambers the nests of tubes connect, the air being brought last before removal into contact with substantially only the tubes of one group or nest, the same being the coldest group.

3. In a surface condenser, a plurality of groups or batteries of water-cooled tubes arranged in a horizontal series, each nest consisting of a plurality of horizontal tubes, in combination with vertical chambers at the ends of the tubes, said chambers being disposed in a horizontal series, similar to the groups of tubes with which they connect, an inlet for the steam at one side of a vertical median plane through the condenser-shell, through which inlet the steam is brought first into contact with substantially only the tubes of one group, and an exit for the air at the opposite side of the condenser on the other side of the vertical plane, the air being brought last into contact before removal with substantially only the tubes of one group.

4. In a surface condenser, the combination of a shell having a steam-inlet on one side and an air-exit on the other side, a water-inlet on the same side as the air-exit, and a water-outlet on the same side as the steam-inlet, a horizontal series of groups or batteries of water-cooled tubes, a similar horizontal series of water-chambers at one or both ends of the condenser communicating with the tubes, all arranged so that the water of condensation is brought into contact with the exhaust-steam before removal and the air is brought into contact with the coldest tubes before removal.

5. In a surface condenser, the combination of a shell containing tubes arranged in a horizontal series of groups, an air-outlet on one side of the condenser, a steam-inlet on the opposite side, an outlet at or near the bottom of the condenser for the water of condensation, an inlet for the circulating water on the same side of the condenser as the air-outlet, a dry vacuum-pump connecting with the air-outlet, a circulating-pump connecting with the water-inlet, and a hot-well pump communicating with the discharge for the water of condensation.

6. In a surface condenser, having horizontal tubes containing cooling-water, the combination of a lateral steam-inlet, an oppositely-situated air-outlet, a water-inlet on the same side of the condenser as the air-outlet, said water-inlet entering the condenser at any point in the vertical height of the same, a water-outlet for the circulating water on the same side of the condenser as the steam-inlet, said water-outlet being at any point in the vertical height of the condenser.

7. In a surface condenser, the combination with a shell having a steam-inlet on one side, an air-exit on the opposite side, and a bottom outlet for the discharge of the water of condensation, of a plurality of groups or batteries of water-cooled tubes arranged in a horizontal series, a horizontal series of vertical water-chambers at one or both ends of the condenser communicating with the tubes,

a water-inlet entering one of the end chambers, and a water-outlet discharging from a chamber at the opposite end of the condenser, all arranged so that the exhaust-steam entering the steam-inlet may be brought first into contact with substantially only the tubes of one group or nest, and so that the water of condensation will be in contact with the exhaust-steam immediately before removal, and the air will be in contact with the coldest tubes immediately before removal.

8. The combination in a surface condenser, with a shell, having a steam-inlet at the side, and an air-exit at the side, said air-exit being separate from the steam-inlet, of horizontal water-cooled tubes arranged in groups that are situated in a horizontal series, the lines of division between the series being vertical, and means for introducing the circulating water into the tubes so that the coldest tubes or those into which the water is first introduced will be nearest to the air-exit, while the warmest tubes or those through which the water makes the last pass will be nearest the steam-inlet.

9. In a surface condenser for the condensation of exhaust-steam and the production of a vacuum, the combination with a shell having a steam-inlet at the side, and an air-exit at the side, of horizontal water-cooled tubes arranged in a horizontal series, the lines of division between the groups being vertical, and means for circulating the water first through one of the side groups and last through the other side group in making the passes of the water through the condenser, so that the water of condensation may be in contact with the exhaust-steam before removal, and the air may be in contact with the coldest tubes before removal.

10. In a surface condenser, the combination of a shell having a steam-inlet on one side of the vertical median plane and an air-exit on the other side, a water-inlet on the same side of the vertical median plane as the air-exit, and a water-outlet on the same side of said median plane as the steam-inlet, a horizontal series of groups or batteries of water-cooled tubes, a similar horizontal series of water-chambers at one or both ends of the condenser communicating with the tubes, all arranged so that the water of condensation is brought into contact with the exhaust-steam before removal and the air is brought into contact with the coldest tubes before removal.

11. In a surface condenser, the combination of a shell having a steam-inlet on one side of the vertical median plane and an air-exit on the other side, a horizontal series of groups or batteries of water-cooled tubes, a similar horizontal series of water-chambers at one or both ends of the condenser communicating with the tubes, all arranged so that the water of condensation is brought into contact with the exhaust-steam before removal and the air is brought into contact with the coldest tubes before removal.

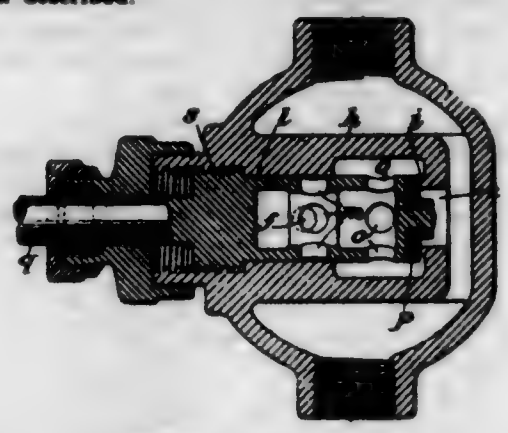
12. In a surface condenser, the combination of a shell having a steam-inlet on one side of the vertical median plane and an air-exit on the other side, a horizontal series of groups or batteries of water-cooled tubes, means for introducing the circulating water into the tubes, said means being on the same side of the vertical median plane as the air-exit, and means for receiving the water from the tubes, said means being arranged on the same side of the vertical median plane as the steam-inlet.

13. In a surface condenser, for the condensation of exhaust-steam and the production of a vacuum, the combination with a condensing-chamber, of water-cooled tubes arranged in groups or nests in a horizontal series, coöperating water-chambers arranged in a similar horizontal series at one or both ends of the condenser and communicating with the nests of tubes, a steam-inlet on one side of the vertical median plane, and an air-exit on the other side of said plane.

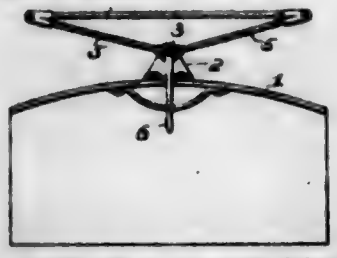
14. In a surface condenser, for the condensation of exhaust-steam and the production of a vacuum, the combination with a condensing-chamber into which the exhaust-steam is introduced on one side of the vertical median plane, and from which the air is withdrawn on the other side of said median plane, of water-cooled tubes arranged in groups or nests in a horizontal series, means for introducing the cooling-water into the tubes, said means being on the same side of the vertical median plane as that from which the air is withdrawn, and means for receiving the water from the tubes, said means being arranged on the same side of the vertical median plane as that on which the steam is introduced into the condensing-chamber.

804,913. VALVE. PERCY ALLAN, Montclair, N. J., assignor to Jenkins Manufacturing Company, Bloomfield, N. J., a Corporation of New Jersey. Filed Apr. 19, 1904. Serial No. 203,323.

Claim.—In a mixing-valve the combination of a shell or body provided with separate oppositely-arranged inlets for hot and cold water and an outlet in the same vertical plane with the inlets, of an inner body having offset ports communicating respectively with the inlets and having an outlet at one end communicating with the outlet, a valve-seat and a chamber between the valve-seat and the offset ports, and a longitudinally-movable hollow valve-plug closed at its inner end to coöperate with the valve-seat, having a series of ports arranged in the same vertical plane adapted to register with the offset ports and having a port to communicate with the chamber, substantially as described.



804,914. CAR-FENDER. GEORGE ALLEN, Franklin, Pa. Filed July 8, 1905. Serial No. 268,781.

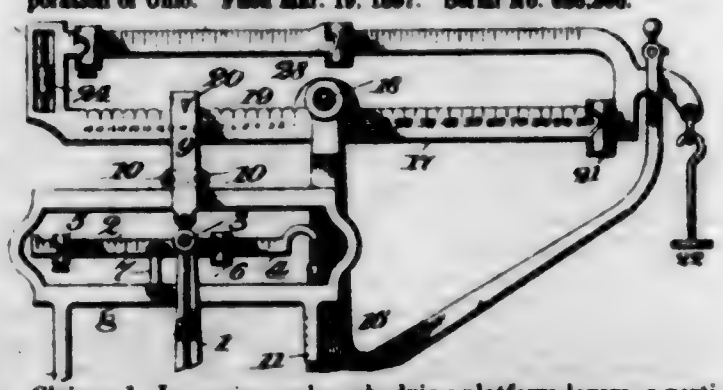


Claim.—1. The combination of a vertical fender having a centrally-located vertical pivot, and means for positively turning said fender on its pivot.

2. The combination of a vertical fender having a centrally-located vertical pivot and a lever constructed to turn the fender to an inclined or diagonal position and for locking it in such position.

3. The combination with supports, of a vertical shaft mounted near its ends in said supports, a vertical fender, rearwardly-converging bars connected at their front ends to said fender and at their rear ends to said shaft and means for turning the shaft, substantially as set forth.

804,915. COMPUTING-SCALE. STEPHEN J. AUSTIN, Terre Haute, Ind., assignor to The Computing Scale Company, Dayton, Ohio, a Corporation of Ohio. Filed Mar. 19, 1897. Serial No. 628,266.



Claim.—1. In a price-scale embodying platform-levers, a vertically-extending frame pivotally connected with one of the platform-levers, a price-beam and a shiftable head-block connecting the frame and price-beam whereby the point of connection between the head-block and price-beam may be shifted to set the scale for weighing at different rates per unit, a tare-beam pivoted on a fixed axis below the level of the price-beam and a link pivotally connected at one end to the tare-beam and at the opposite end to the vertically-extending frame; substantially as described.

2. In a price-scale, the combination with the platform-levers and price-beam, of a vertically-extending frame pivotally connected at the lower end with one of the platform-levers, a shiftable connection between the top of said frame and price-beam whereby the point of engagement with the price-beam may be varied to set the scale for weighing at different rates per unit, a tare-beam located below the top of the frame and a link pivotally connected at one end with the tare-beam and pivotally connected at the opposite end with the frame; substantially as described.

3. In a price-scale the combination with the platform-levers, price-beam, vertically-extending frame pivotally connected with one of the platform-levers at two points and a shiftable head-block on said frame and adapted to coöperate with the price-beam, of a tare-beam pivoted on a fixed axis and a link pivotally connecting said tare-beam and frame; substantially as described.

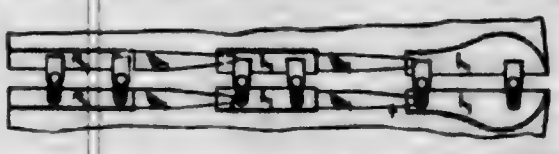
4. In a price-scale, the combination with the platform-levers, price-beam, vertically-extending frame pivotally connected with one of the platform-levers at two points and a shiftable head-block on said frame and adapted to coöperate with the price-beam, of a tare-beam pivoted on a fixed axis, a link pivotally connected at one end with the tare-beam and pivotally connected at the opposite end with the frame at a point vertically intermediate the pivotal connections between the frame and platform-lever; substantially as described.

5. In a price-scale, the combination with the platform-levers, price-beam, vertically-extending frame pivotally connected with one of the platform-levers at two points and a shiftable head-block on the upper part of said frame adapted to coöperate with the price-beam, of a tare-beam pivoted on a fixed axis below the price-beam, a link pivotally connected at one end with the tare-beam and pivotally connected at the opposite end with the vertically-extending frame at a point below the level of the head-block and vertically intermediate the pivotal connections between the frame and platform-lever; substantially as described.

6. In a price-scale, the combination with the price-beam pivoted on a fixed axis, the platform-levers, and a vertically-extending frame having a horizontal guide at the top and pivotally connected with one of the platform-levers at the bottom at two separate points, of the head-block working on said horizontal guide and adapted to coöperate with the price-beam, the tare-beam mounted on a fixed axis below the level of the guide and a link pivotally connected at one end with the tare-beam and pivotally connected at the opposite end with the vertically-extending frame below the level of the guide; substantially as described.

7. In a computing-scale, the combination of a price-beam, a connecting-block, a platform-lever with two separated connecting-points, and an element having separate pivotal engagement with each of said connecting-points connecting it with the price-beam through said connecting-block and means independent of the price-beam for holding the connecting means in an upright position.

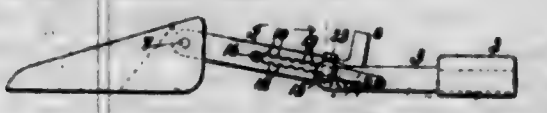
804,916. **CORSET-BUSK.** LOUISE B. BAILLET, Paris, France. Filed Apr. 17, 1903. Serial No. 153,068.



Claim.—1. The combination with a sheath fastened to the material of the corset, of a busk fastened to said material at a distance from the sheath and having a free end slidable in the sheath.

2. A combination with a tubular sheath open at both ends and fastened to the material of the corset, of upper and lower busks fastened to the material and having free ends slidable oppositely in the sheath and freely movable therein when in use.

804,917. **SHOE-TREE.** JAMES E. BAKER, New York, N. Y. Filed Mar. 15, 1905. Serial No. 250,127.



Claim.—1. In a shoe-tree an arm or frame provided with a heel-section, a locking-stud to which said arm or frame is pivoted, a traveler in which said locking-stud is held, a lever on which said traveler slides and a series of teeth or projections formed in said lever, substantially as and for the purposes described.

2. A shoe-tree comprising toe and heel sections, a lever pivoted to one of said sections and formed with a series of teeth or projections formed in a slot in said lever, a traveler connected to said lever, an arm or frame connected to the other of said sections and pivoted to said traveler.

3. A shoe-tree comprising toe and heel sections, a lever pivoted to one of said sections and formed with a series of teeth or projections, a traveler connected to said lever, a locking-stud and operating-pin held by said traveler and an arm or frame connected to the other of said sections and pivoted on said stud and pin.

804,918. **WEIGHING-SCALE.** ARTHUR W. BARNARD, Newton Center, Mass., assignor to The Barnard Company, Boston, Mass., a Corporation of Massachusetts. Filed Feb. 7, 1905. Serial No. 244,530.



Claim.—1. In a scale, the combination of a scale-beam, a weighted pendulum mounted upon a shaft or arbor, a counterweight mounted beside and adapted to contact said weighted pendulum, a dial properly marked, a pointer mounted on said shaft and coöperating with said dial, and means whereby said weighted pendulum is swung relatively to the movement of said scale-beam.

2. In a scale, the combination of a scale-beam, a weighted pendulum mounted upon a shaft or arbor, a plurality of counterweights mounted beside and adapted to contact said pendulum, a dial properly marked, a pointer mounted on said shaft and coöperating with said dial, and means whereby said weighted pendulum is swung relatively to the movement of said scale-beam.

3. In a scale, the combination of a scale-beam, a dial properly marked, a pointer coöperating with said dial, a weighted pendulum mounted upon a shaft or arbor and moving in unison with said pointer, one or more counterweights independently mounted beside and adapted to contact said pendulum, and means whereby said weighted pendulum is connected to said scale-beam and swung by its movement.

4. In a scale, the combination of a shaft or arbor mounted in suitable bearings, a weighted pendulum fixedly mounted upon said shaft or arbor, a counterweight pivotally mounted adjacent to said weighted pendulum to coöperate with it, a dial properly marked to indicate underweight and overweight, a pointer coöperating with said dial and moving in unison with said weighted pendulum, and means whereby any movement of the scale-beam causes a relative movement of said weighted pendulum and pointer.

5. In a scale, the combination of a scale-beam, a shaft or arbor mounted in suitable bearings, a weighted pendulum fixedly mounted upon said shaft or arbor, counterweights pivotally mounted on each side of and adjacent to said weighted pendulum to coöperate with it, a dial properly marked to indicate underweight and overweight, a pointer fixedly mounted upon said shaft, coöperating with said dial and moving in unison with said weighted pendulum, and means whereby any movement of the said scale-beam causes a relative movement of said weighted pendulum and pointer.

6. In a scale, the combination of a dial properly marked to indicate underweight and overweight, a hand or pointer coöperating with said dial, a weighted pendulum fixedly mounted upon a shaft or arbor and hanging normally vertically and moving in unison with said pointer, a plurality of counterweights pivotally mounted beside said weighted pendulum and so adjusted that they may contact the said weighted pendulum, and means whereby said weighted pendulum is rotated relatively to the movement of the scale-beam.

7. In a scale, the combination of a weighted pendulum fixedly mounted upon a shaft or arbor and hanging normally vertical, a counterweight pivotally mounted adjacent to said weighted pendulum to coöperate with it and retained in an oblique position by a stop which permits an upward movement only, said stop, a pointer fixedly mounted upon said pendulum-shaft and moving in unison with said weighted pendulum, a dial properly marked to indicate overweight and underweight with which said pointer coöperates, and means whereby said weighted pendulum is swung by the movement of the scale-beam.

8. In a scale, the combination of a weighted pendulum mounted upon a shaft or arbor, a counterweight mounted adjacent to said pendulum to coöperate with it, a dial, a pointer coöperating with said dial, and a standard fixedly mounted on a scale-beam and having its end provided with means to engage and rotate said shaft when the scale-beam moves.

9. In a scale, the combination of a scale-beam, a dial properly marked, a pointer coöperating with said dial, a weighted pendulum mounted upon a shaft or arbor and moving in unison with said poin-

ter, one or more counterweights mounted adjacent to said pendulum to coöperate with it and having a limited movement, and a standard fixed to said scale-beam and having its end provided with means to engage and rotate said shaft when said scale-beam moves.

10. In a scale, the combination of a scale-beam, a shaft or arbor mounted in suitable bearings, a weighted pendulum fixedly mounted upon said shaft or arbor, counterweights pivotally mounted on each side of and adjacent to said weighted pendulum to coöperate with it, a pointer fixedly mounted upon said shaft and moving in unison with said weighted pendulum, a dial properly marked with which said pointer coöperates, a standard fixed to said scale-beam and having its end provided with pins which engage and rotate said shaft when said scale-beam oscillates.

11. In a scale, the combination of a scale-beam, a weighted pendulum fixedly mounted upon a shaft or arbor, a counterweight independently mounted beside said weighted pendulum and adapted to contact it when it is oscillated, a dial properly marked, a pointer coöperating with said dial and moving in unison with said weighted pendulum, and means whereby said weighted pendulum is swung relatively to the movement of said scale-beam.

12. In a scale, the combination of a scale-beam, a weighted pendulum mounted upon a shaft or arbor, a counterweight mounted adjacent to, and so adjusted that it may contact said pendulum, a dial, a pointer coöperating with said dial, and means whereby said weighted pendulum is swung relatively to the movement of said scale-beam.

13. In a scale, the combination of a scale-beam, a dial properly marked, a pointer coöperating with said dial, a weighted pendulum mounted upon a shaft or arbor and moving in unison with said pointer, one or more counterweights independently mounted adjacent to and capable of a limited movement to retard said pendulum, and means whereby said weighted pendulum is connected to said scale-beam and swung thereby.

14. In a scale, the combination of a scale-beam, a shaft or arbor mounted in suitable bearings, a weighted pendulum fixedly mounted upon said shaft or arbor, a counterweight pivotally mounted adjacent to said weighted pendulum to retard it, a dial properly marked to indicate underweight and overweight, a pointer coöperating with said dial and moving in unison with said weighted pendulum, and means whereby any movement of said scale-beam causes a relative movement of said weighted pendulum and pointer.

15. In a scale, the combination of a scale-beam, a shaft or arbor mounted in suitable bearings, a weighted pendulum fixedly mounted upon said shaft or arbor, counterweights pivotally mounted on each side of and adjacent to said weighted pendulum and adapted to contact the latter to retard its movement, a dial properly marked to indicate underweight and overweight, a pointer fixedly mounted upon said shaft, coöperating with said dial and moving in unison with said weighted pendulum, and means whereby any movement of the said scale-beam causes a relative movement of said weighted pendulum and pointer.

16. In combination with the beam of a scale, a shaft or arbor mounted in suitable bearings, a weighted pendulum fixedly mounted upon said shaft or arbor, a counterweight pivotally mounted to retard the movement of said weighted pendulum, a pointer also fixedly mounted upon said shaft and moving in unison with said weighted pendulum, a dial properly marked to indicate overweight and underweight with which said pointer coöperates, and means whereby any movement of the scale-beam causes a relative movement of said weighted pendulum and pointer.

17. In a scale, the combination of a scale-beam, a shaft or arbor mounted in suitable bearings, a weighted pendulum fixedly mounted upon said shaft or arbor, counterweights pivotally mounted on each side of and adjacent to, and adapted to contact said weighted pendulum to retard its movement, a dial properly marked to indicate underweight and overweight, a pointer fixedly mounted upon said shaft, coöperating with said dial and moving in unison with said weighted pendulum, and a standard fixedly mounted on said scale-beam and having its end provided with means to engage and rotate said shaft or arbor when the scale-beam moves.

18. In a scale, in combination with the moving member thereof, a shaft or arbor rotatably mounted in suitable bearings, a weighted pendulum fixedly mounted on said shaft, a counterweight pivotally hung on each side of and adjacent to and adapted to contact said weighted pendulum when the latter is turned, means to retain said counterweights in an oblique position but which permit an upward movement thereof, a dial marked to indicate underweight and overweight, a pointer fixedly mounted upon said shaft, coöperating with said dial and moving in unison with said weighted pendulum, and means whereby said pendulum and pointer are turned relatively to the movement of the moving member.

19. In a scale, the combination of a scale-beam, a weighted pendulum mounted upon a shaft or arbor, a counterweight mounted adjacent to said weighted pendulum to coöperate with it, means whereby said weighted pendulum is swung relatively to the movement of said scale-beam, and means whereby the movement of said weighted pendulum indicates overweight or underweight of the article being weighed.

20. In a scale, the combination of a scale-beam, a weighted pendulum mounted upon a shaft or arbor, a plurality of counterweights independently mounted adjacent to said pendulum to coöperate with it, means whereby said weighted pendulum is swung relatively to the movement of said scale-beam and means whereby the movement of said pendulum indicates the overweight or underweight of the article being weighed.

21. In a scale, the combination of a scale-beam, a shaft or arbor mounted in suitable bearings, a weighted pendulum fixed upon said shaft or arbor, a counterweight mounted on each side of and adjacent to said weighted pendulum and adapted to contact the latter to retard its oscillations, means whereby said weighted pendulum is turned relatively to the movement of the scale-beam and means whereby said movement of the pendulum indicates the excess or deficiency in weight of the article being weighed.

22. In a scale, the combination of a scale-beam, a shaft or arbor mounted in suitable bearings, a weighted pendulum mounted on said shaft, a plurality of counterweights independently mounted adjacent to said weighted pendulum and retained in an oblique position by stops which permit an upward movement only of said counterweights, said stops, means whereby said weighted pendulum is turned relatively to the movement of said scale-beam, and means whereby the movement of said pendulum indicates the overweight or underweight of the article being weighed.

23. In a scale, in combination with the moving member thereof, a shaft mounted in suitable bearings, a weighted pendulum fixedly mounted on said shaft, a counterweight pivotally hung on each side of and adjacent to and adapted to contact said weighted pendulum when the latter is oscillated, said counterweights being retained in an oblique position by stops which permit an upward movement only, said stops, means whereby said pendulum is turned relatively to the movement of said moving member of the scale, and means whereby said movement of the pendulum indicates the excess or deficiency in weight of the article being weighed.

24. In an indicator for scales, the combination of a case or housing, a shaft or arbor mounted within said case in suitable bearings, a weighted pendulum mounted upon said shaft, a plurality of counterweights independently mounted adjacent to and adapted to contact said pendulum to retard its movement, means whereby said pendulum is turned relatively to the movement of the moving part of the scale and means whereby the said movement of the pendulum shows the amount of excess or deficiency in weight of the article being weighed.

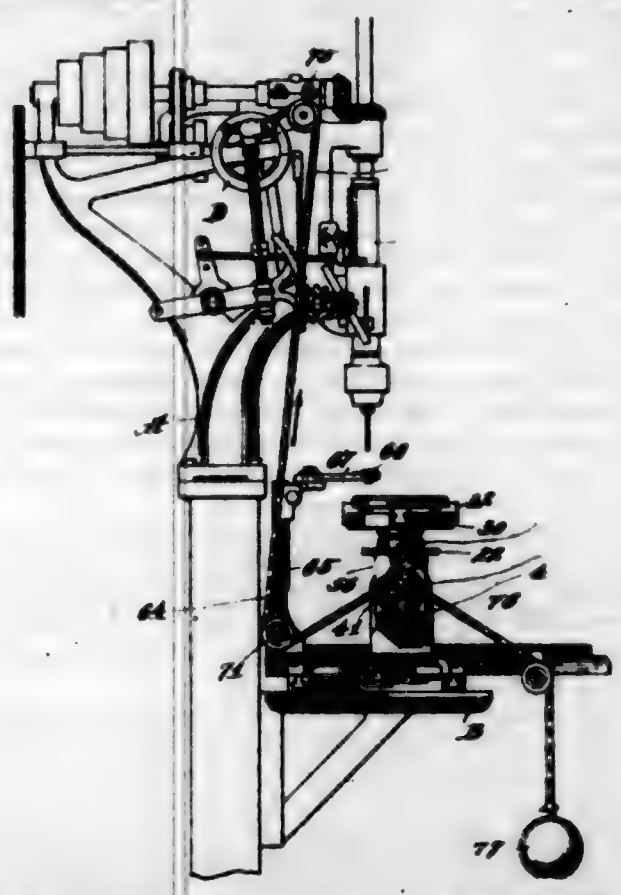
25. In an overweight-indicator for scales, the combination of a scale-beam, a suitable case or housing, a shaft or arbor mounted within said case in suitable bearings, a weighted pendulum mounted upon said shaft, counterweights independently mounted adjacent to and coöperating with said pendulum, means whereby said pendulum is turned relatively to the movement of said scale-beam and means whereby said movement of the pendulum indicates the amount of excess or deficiency in weight of the article being weighed.

26. In an indicator for scales, the combination of a suitable case or housing, a shaft or arbor mounted within said case, a weighted pendulum, mounted upon said shaft, a plurality of counterweights independently mounted adjacent to and coacting with said pendulum to retard its movement, a dial, a pointer fixed on said shaft to coöperate with said dial and moving in unison with said weighted pendulum, and means whereby the moving member of the scale operates the above mechanism to indicate the excess or deficiency in weight of the article being weighed.

27. The combination of a weighted pendulum 22 mounted upon a shaft or arbor 10, counterweights 24 and 28 pivotally mounted adjacent to said pendulum 22 to contact the latter to retard its movement, a dial 45 properly marked with graduations to indicate overweight and underweight, a pointer 15 fixedly mounted upon shaft 10, coöperating with said dial 45 and moving in unison with said pendulum 22, a scale-beam and means whereby any movement of said scale-beam causes a relative movement of the said pendulum 22 and thereby indicates upon said dial the overweight or underweight of the article being weighed.

804,919. AUTOMATIC CHUCK. BENJAMIN F. BARNES, Rockport, Ill. Filed July 14, 1904. Serial No. 216,691.

Claim.—1. In an automatic chuck, in combination, a work-holding means; means for rotating said work-holding means; a driving means having a yielding connection with said rotating means; means adapted to be operatively connected with an operating mechanism for intermittently actuating said driving means in opposite directions; means for locking said work-holding means against rotation; and means operated by said driving means for releasing said work-holding means to rotation during the actuation of said driving means in one direction.



2. In a machine-tool, in combination, a drill-spindle; means for reciprocating said spindle; a chuck; means for moving said chuck; a driving means actuated by said spindle-reciprocating means, said driving means being driven in one direction during the movement of said spindle in one direction, and in the opposite direction during the movement of said spindle in the opposite direction, said driving means having a yielding connection with said chuck-moving means; means for locking said chuck against movement; and means for releasing said chuck to movement.

3. In a machine-tool, in combination, a tool-spindle; means for reciprocating said spindle; a chuck; means for rotating said chuck comprising a sprocket having a frictional driving connection with the remainder of said rotating means; means for locking said chuck against rotation; means for releasing said chuck to rotation; and a chain arranged to be reciprocated with said tool-spindle for rotating said sprocket-wheel.

4. In an automatic chuck, in combination, work-holding means; means for rotating said work-holding means comprising a sprocket-wheel having a yielding driving connection with the remainder of said rotating means; means for locking said work-holding means against rotation; a reciprocatory chain for rotating said sprocket-wheel alternately in opposite directions; and means moving with said sprocket-wheel, adapted to release said work-holding means to rotation upon a rotation of said sprocket-wheel in one direction.

5. In an automatic chuck, in combination, work-holding means; a shaft for rotating said work-holding means; a sprocket-wheel rotatably mounted on said shaft; a friction-clutch member on said shaft arranged to rotate therewith; a coacting friction-clutch member on said shaft adapted to have a driving connection with said sprocket-wheel; a spring for holding said friction-clutch members in contact; means for rotating said sprocket-wheel; and means for locking said work-holding means against rotation.

6. In an automatic chuck, in combination, a supporting-standard; a shaft rotatably mounted in said standard; work-holding means; a support in which said work-holding means is rotatably mounted, said support being pivotally mounted in said standard concentrically with said shaft, and the rotative axes of said work-holding means and said shaft intersecting each other; a bevel-gear connection between said shaft and said work-holding means for rotating the latter; and means for rotating said shaft.

7. In an automatic chuck, in combination, a supporting-standard; a shaft rotatably mounted in said standard; work-holding means; a support for said work-holding means pivotally mounted in said supporting-standard, said shaft being operatively connected with said work-holding means for rotating the latter; means for rotating said shaft; a locking-disk fixed with relation to said work-holding means and provided in its periphery with locking-notches; a spring-plunger slidably mounted in the pivoted support for said work-holding means and adapted to engage said notches; and means actuated by said shaft for moving said plunger to release the work-holding means to rotation.

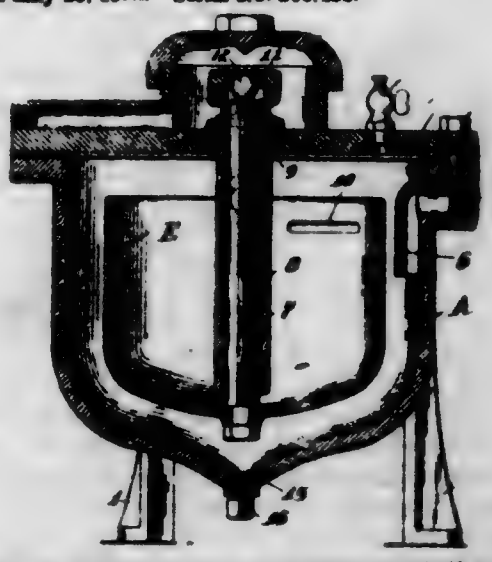
8. In an automatic chuck, in combination, a supporting-standard; a shaft rotatably mounted in said standard; work-holding means; a support for said work-holding means pivotally mounted in said supporting-standard concentrically with said shaft, said shaft being operatively connected with said work-holding means for rotating the latter; means for rotating said shaft; means for locking said work-holding means against rotation; and means actuated by said shaft for releasing the work-holding means to rotation.

9. In an automatic chuck, in combination, work-holding means; a shaft for rotating said work-holding means; a sprocket-wheel rotatably mounted on said shaft; a friction-clutch member on said shaft arranged to rotate therewith; a collar loosely mounted on said shaft and adapted to have a ratchet-clutch connection with said sprocket-wheel; a friction-clutch collar loosely mounted on said shaft and arranged to have a driving connection with said first-mentioned collar; a spring for holding said friction-clutch collar toward the first-mentioned friction-clutch member; means for rotating said sprocket-wheel alternately in opposite directions; and means for locking said work-holding means against rotation.

10. In an automatic chuck, in combination, a work-holding means; a shaft operatively connected with said work-holding means for rotating it; a wheel rotatably mounted on said shaft and adapted to have a frictional driving connection therewith; means for rotating said wheel; a locking-disk fixed with relation to said work-holding means and provided in its periphery with locking-notches; a plunger adapted to engage said notches; a spring for holding said plunger in engagement with said notches; a finger fixed with relation to said wheel; a member mounted on said plunger in position to be engaged by said finger, which member is adapted to move said plunger when engaged by said finger moving in one direction, and to yield when engaged by said finger moving in the opposite direction; and means for rotating said wheel alternately in opposite directions.

11. In an automatic chuck, in combination, work-holding means; a shaft for rotating said work-holding means; a sprocket-wheel rotatably mounted on said shaft; a friction-clutch member on said shaft arranged to rotate therewith; a coacting friction-clutch member on said shaft adapted to have a ratchet connection with said sprocket-wheel; means for rotating said sprocket-wheel alternately in opposite directions; and means for locking said work-holding means against rotation.

804,920. **STEAM-TRAP.** STANLEY BENYONA, Baltimore, Md. Filed May 20, 1905. Serial No. 261,456.



Claim.—1. A steam-trap comprising a shell or body portion having a steam-inlet, a cover provided with a discharge-opening, a pipe depending from the cover, the upper end of the pipe having a cap thereon with a valve-opening located therein, a valve-rod fitted to the pipe, a ball-valve between the upper end of the rod and the opening and a float secured to the lower end of the valve-rod.

2. A steam-trap comprising a shell or body portion having a steam-inlet therein, a cover secured to the shell or body portion, a

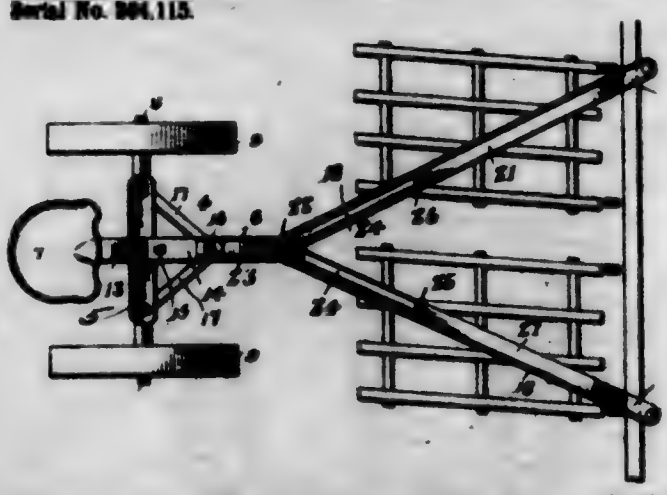
cap having a screw-threaded orifice therethrough, a pipe screwed into the orifice and depending into the shell or body portion at its lower end and projecting above the cover at the upper end, a cap screwed to the upper end of the pipe and having a valve-opening therethrough, a valve-rod fitted loosely within the pipe and carrying a float, a ball-valve interposed between the upper end of the valve-stem and the cap, a cover having a discharge-opening and a cap removably secured on the cover to permit of the placing of the pipe in the orifice in the cover.

804,921. SOOT-SCRAPER. ARTHUR H. BLACKBURN, Matteawan, N. Y. Filed Nov. 3, 1905. Serial No. 285,653.



Claim.—In a soot-scraper composed of a plurality of sections a section consisting of a pair of ring-segments, each segment being concave on the inside to form two cutting edges adapted to bear on the outer surface of a pipe or tube, and a bar connecting the segments, secured to each on the outside approximately midway between the cutting edges, as and for the purposes set forth.

804,922. RIDING ATTACHMENT FOR AGRICULTURAL IMPLEMENTS. NICKLAS H. BLOOM, Nashua, Iowa. Filed June 7, 1905. Serial No. 264,115.



Claim.—1. In a riding attachment of the class described, the combination with convergently-disposed reach-bars, of a truck, an upright pivot connecting the reach-bars to each other and to the truck, and brace connections between the pivot and the reach-bars and truck.

2. In a riding attachment of the class described, the combination with convergently-disposed reach-bars, of a truck including a tongue, said tongue and reach-bars being arranged one against the other in overlapping relation, and an upright pivot passing through and connecting the overlapped portions of the reach-bars to each other and to the tongue.

3. In a riding attachment of the class described, the combination with separate convergently-disposed reach-bars having means at their front ends for attaching the same to an agricultural implement and having their rear ends overlapped and arranged against each other, of a truck including a portion having its front end disposed in substantially the same vertical plane with the overlapped ends of the reach-bars, and an upright bolt passing through said overlapped ends and tongue.

4. In a riding attachment of the class described, the combination with reach-bars formed of angle-iron and having substantially horizontal flanges, the rear ends of which are overlapped, of a truck having a portion with which the flanges overlap, and a pivot connecting the flanges and overlapped portion of the truck.

5. In a riding attachment of the class described, the combination with a reach-bar, of a truck, a pivot connecting the reach-bar and truck, and a brace connected to the reach-bar between its ends and to the pivot.

6. In a riding attachment of the class described, the combination with a reach-bar, of a truck, an upright pivot connecting the reach-bar and truck and projecting beyond the same, and a brace connected to the reach-bar between its ends and to the projecting portion of the pivot.

7. In a riding attachment of the class described, the combination with a reach-bar, of a truck, an upright pivot connecting the reach-bar and truck and projecting beyond the same, a brace connected to the reach-bar between its ends and to the projecting portion of the pivot, and a spacing device interposed between the connected truck and bar and the brace.

8. In a riding attachment of the class described, the combination with reach-bars, of a truck having a tongue, said bars and tongue being disposed in overlapping relation, an upright bolt connecting the bars and the tongue and projecting on one side of the same, and braces secured to the reach-bars between their ends and connected to the projecting portion of the pivot.

9. In a riding attachment of the class described, the combination with convergent reach-bars having overlapped rear ends, of a truck having a tongue, said bars and tongue being disposed in overlapping relation, an upright pivot-bolt connecting the bars and tongue and projecting from one side of the same, convergent braces secured to the reach-bars between their ends and having overlapped ends connected to the projecting portion of the pivot-bolt, and a spacing-sleeve on said bolt.

10. In a riding attachment of the class described, the combination with convergently-disposed reach-bars having overlapped rear ends, of a truck including a tongue disposed in overlapping relation with the bars, an upright pivot-bolt passing through the tongue and bars, convergently-disposed braces connected to said bolt and to intermediate portions of the reach-bars, and another brace connected to the pivot-bolt and to the truck.

11. In a riding attachment of the class described, the combination with convergently-disposed reach-bars formed of angle-iron and having overlapped flanges, of an upright pivot-bolt passing through the flanges, a truck having a tongue pivoted on said bolt, a spacing-sleeve mounted on the bolt, a brace connected to the bolt, a seat having a standard mounted on the tongue, means for fastening the brace and seat to the tongue, and other braces connecting the pivot-bolt and reach-bars.

12. In a riding attachment of the class described, a truck comprising an axle, a tongue connected thereto, braces connecting the axle and tongue, a seat mounted on the tongue, a common fastener for securing the seat and braces to the tongue, in combination with a reach-bar, and means for connecting the reach-bar to the tongue.

13. In a riding attachment of the class described, a truck comprising an axle, a tongue having a downturned rear end connected to the axle between its ends, braces connecting the end portions of the axle and tongue, a seat mounted on the tongue, and means for connecting the tongue to an agricultural implement.

14. In a riding attachment of the class described, a truck comprising an axle, a tongue connected to the axle between its ends, braces connecting the end portions of the axle and tongue, a seat having a standard that rests on the tongue, a bolt passing through the standard, the tongue and the braces, reach-bars, and a pivot connecting the reach-bars and tongue.

15. In a riding attachment of the class described, a truck comprising an axle, a tongue connected thereto, a reach-bar, a pivot connection between the reach-bar and tongue, a seat having a standard mounted on the tongue, a brace connected to the pivot, and a bolt passing through the brace, the standard, and the reach-bar.

16. In a riding attachment of the class described, the combination with convergently-disposed reach-bars, of a truck comprising an axle, a tongue secured to the axle and having its front end disposed in overlapping relation with the reach-bars, an upright connection be-

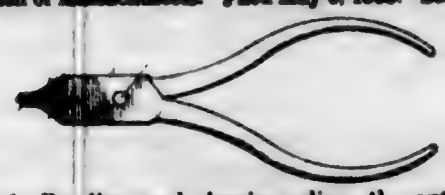
tween the tongue and reach-bars, and braces secured to the axle and to the tongue.

17. In a riding attachment of the class described, the combination with a truck comprising an axle, a tongue secured thereto, and a seat mounted on the tongue, of convergently-disposed reach-bars, a pivotal connection between the reach-bars and the tongue, and braces between the axle and the tongue, between the tongue and the pivotal connection, and between the reach-bars and the pivotal connection.

18. In a riding attachment of the class described, the combination with a truck comprising a wheeled axle, a tongue secured thereto and projecting in advance of the same, and a seat mounted on the tongue, of convergently-disposed reach-bars having overlapped rear ends associated with the front end of the tongue, an upright pivot-bolt connecting the reach-bars and tongue, braces secured to the end portions of the axle and connected to the tongue, a brace connected to the tongue and to the pivot-bolt, and braces connected to the reach-bars and the pivot-bolt, said braces permitting the relative swinging movement between the reach-bars and tongue.

19. In a riding attachment of the class described, the combination with a truck comprising a wheeled axle, a tongue secured thereto at an intermediate point of the axle and projecting in advance thereof, convergently-disposed reach-bars having their rear ends disposed one against the other and against the tongue, and a vertical pivot-bolt connecting the rear or inner ends of the reach-bars to the front end of the tongue.

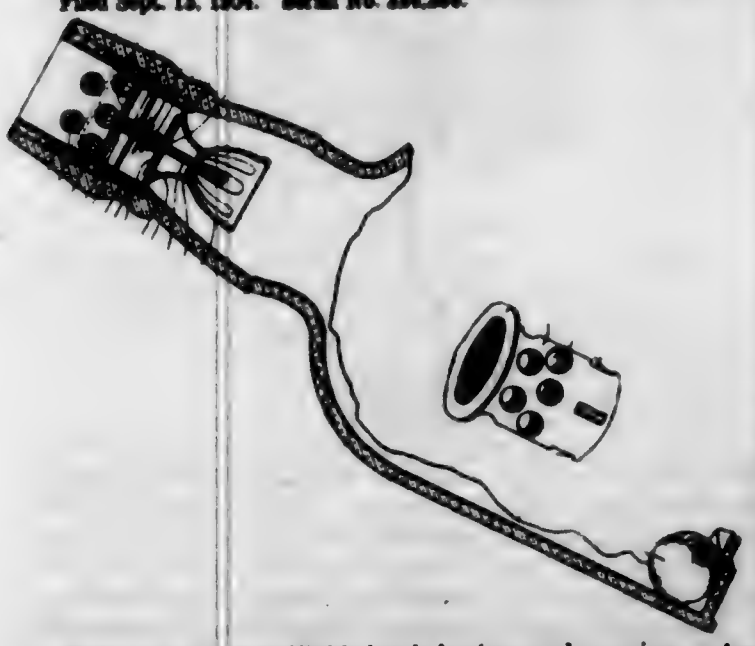
804,923. **BENDING AND SHAPING PLIERS.** JOHN W. BOWERS, Boston, Mass., assignor to Globe Optical Company, Boston, Mass., a Corporation of Massachusetts. Filed May 8, 1905. Serial No. 259,174.



Claim.—1. Bending and shaping pliers the extremity of one jaw of which is straight and formed with a rounded tip and the extremity of the other jaw of which is formed with a curved tip which overlaps said rounded tip.

2. Bending and shaping pliers the opposed working faces of the jaws of which are straight and parallel; and the extremity of one of said jaws being straight and formed with a rounded tip, and the extremity of the other of said jaws being formed with a curved tip which overlaps said rounded tip; whereby said extremities are adapted to engage one within and the other without the shoulder of a lens-strap and to adjust the members thereof toward and from each other while maintaining them in parallelism.

804,924. **NON-REFILLABLE BOTTLE.** WARREN L. BRADDOCK, Tegus, Me., assignor of one-half to Harris B. Mitchell, Malden, Mass. Filed Sept. 13, 1904. Serial No. 224,266.



Claim.—1. A non-refillable bottle having a valve-casing, a plurality of valves seated therein, one of said valves being of substantially the same diameter as the interior of the casing, the valve-casing being provided with passages arranged to permit liquid to flow out of said casing and around said valve, and a weight adapted to engage and open another of said valves when the bottle is inverted.

2. A non-refillable bottle having located in its neck a valve-seat, a valve adapted to close on said seat, a weight adapted to engage a portion of said valve to open the valve when the bottle is inverted, means for rendering the weight inoperative except when the bottle is inclined with the neck extending downwardly, and an auxiliary valve of substantially equal width with the opening into the bottle.

3. A non-refillable bottle having located in its neck a valve-seat, a valve adapted to close on said seat, a weight adapted to engage a portion of said valve to open the valve when the bottle is inverted, means for normally holding said valve against its seat, means for rendering the weight inoperative except when the bottle is inclined with the neck extending downwardly, and an auxiliary valve substantially coextensive with the opening into the bottle.

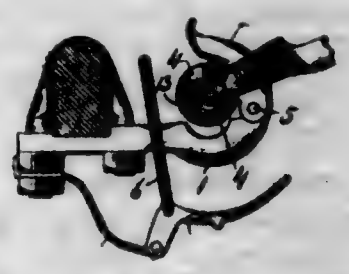
4. A non-refillable bottle having a casing inserted in its neck provided with perforations, the bottle-neck being provided with an annular space surrounding the casing adjacent said perforations, a seat in said casing located below said annular space when the bottle is upright, a valve of substantially the same diameter as the interior of the casing normally closed against said seat and adapted to separate from said seat and occupy a position between the limits of said annular space on inversion of the bottle, a second valve-seat, a second valve normally held by yielding means against said second seat, and means rendered operative by inverting the bottle for opening said second valve.

5. A non-refillable bottle having located in its neck a valve-seat, a valve adapted to close against said seat, yielding means for holding said valve against said seat, a guide connected to said valve-seat, a stem connected to said valve extending through said guide, an inverted stationary cup having flaring sides surrounding said stem and separated from the sides of the bottle-neck rigidly mounted on said guide, and a weight adapted to enter said cup and engage said stem when the bottle is inverted, to open said valve.

6. An antirefilling attachment for bottles comprising a tubular casing having perforated sides, a member comprising a perforated valve-seat and a guide mounted in said casing, a valve substantially of the same diameter as the interior of the casing adapted to close on said seat and having a stem extending through said guide, a second valve-seat, a guide connected thereto, a second valve having a stem mounted in said last-named guide, yielding means for holding said second valve against said seat, and an inverted cup connected to said guide and surrounding said stem.

7. A non-refillable bottle having located adjacent its outlet a valve-seat, a valve, yielding means tending to retain the valve in contact with the seat, a stem connected to the valve extending downwardly therefrom, the bottle having an unobstructed passage from its body portion to the portion in which said valve-stem is located, a weight contained within the bottle and free to move into all parts thereof, and a stationary guard arranged to prevent the weight coming into engagement with the stem until the bottle has been turned to occupy a position in which the outlet is below the body portion of the bottle.

804,925. **THILL-COUPLING.** CHRISTOPHER C. BRADLEY, Syracuse, N. Y. Filed July 24, 1903. Serial No. 166,237.



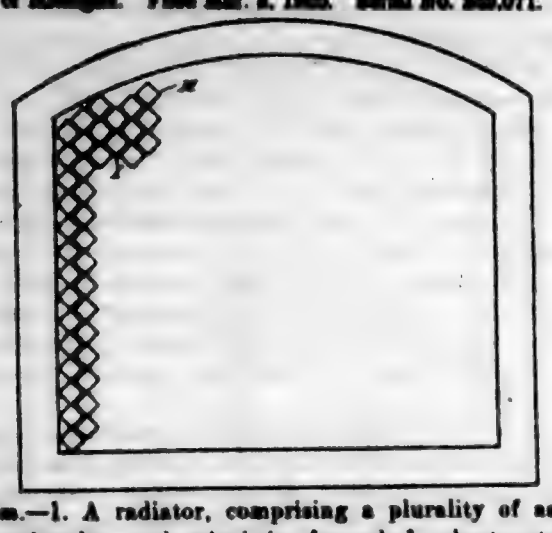
Claim.—1. In a thill-coupling, the combination of a draft-eye composed of two jaws, one hinged to the other and each provided with a substantially semispherical recess, a coupling-pin having a spherical portion formed with a recess, and a piece of leather or equivalent material seated in said recess and having its outer surface forming a continuation of the spherical portion of the coupling-pin and engaging in the semispherical recesses in the jaws.

2. In a thill-coupling, the combination with two jaws, one hinged to the other and each having its inner face concaved longitudinally and transversely, and a spherical part fitting in said recesses and composed partly of metal and partly of leather or equivalent material secured to the metal part, both metal and leather parts having spherical outer surfaces.

3. In a thill-coupling, the combination of a draft-eye and coupling-pin, one of the parts being composed of two jaws hinged to each other and each formed with a substantially semispherical recess in

its inner face, and the other part having a spherical portion formed partly of metal and partly of leather, the metal portion being provided with recesses having flat bases, and the leather portions having flat inner sides and spherical outer sides, the flat inner sides resting against the flat bases of the metal and their spherical outer surfaces being seated in the semispherical recesses of the jaws.

804,926. RADIATOR. BENJAMIN BRISCOE, Tarrytown, N. Y., assignor to Briscoe Manufacturing Company, Detroit, Mich., a Corporation of Michigan. Filed Mar. 8, 1905. Serial No. 249,071.



Claim.—1. A radiator, comprising a plurality of assembled multiple-unit tubes, each tube being formed of a sheet-metal blank, having its opposite edges joined to each other and fashioned with opposite zigzag walls to form a plurality of parallel passages; said units being joined to each other at both ends and spaced to form intervening sealed passages, the passages between adjacent rows of units being cross-connected between individual units, whereby circulation across the radiator is permitted in directions at right angles to each other.

2. A radiator comprising a plurality of assembled multiple-unit tubes the ends of said tubes being enlarged and joined to each other to form sealed fluid-circulating spaces between the tubes.

3. A radiator, comprising a plurality of assembled multiple-unit tubes each tube having its ends enlarged, whereby it is uniformly spaced from adjoining tubes to form intervening passages, and the adjoining ends being sealed by soldering.

4. A radiator, comprising a plurality of assembled multiple-unit tubes, each tube being enlarged at its opposite edges to contact closely with the ends of adjacent tubes, and to provide a uniform space between the intermediate portions thereof, the joint between the ends of said tubes being sealed by soldering.

5. A radiator comprising a plurality of assembled tubes, the ends of said tubes being of greater diameter than the central portion thereof, and the excess of metal in the latter being bent into corrugations, the ends of said tubes being joined to each other to form sealed fluid-circulating spaces between the tubes.

6. A radiator, comprising a plurality of assembled, multiple-unit tubes which abut, being formed from a sheet-metal blank having its opposite ends secured to each other and fashioned into a zigzag form, the opposite ends of said tube being of greater diameter than its central portion, and the central portion being corrugated to take up the excess of metal, the ends of said units being joined to each other to form sealed spaces therebetween.

804,927. GAME APPARATUS AND ADVERTISING NOVELTY. JOHN E. BROWN, Chinquapin, N. C. Filed Apr. 11, 1905. Serial No. 254,963.



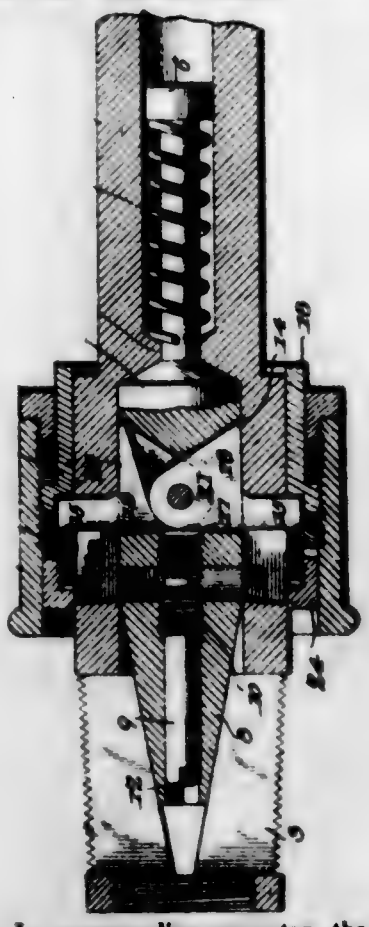
Claim.—1. In a game apparatus, the combination of a base having a recess therein, a disk pivotally mounted within said recess, said disk being provided around its outer rim with reference characters and also having a concentric circle of spaced lugs projecting therefrom, and an operating-lever adapted to engage with said lugs to cause the disk to rotate, said lever then swinging out of engagement with the lugs.

2. In a game apparatus the combination of a base having a circular recess therein and a raised seat at the center of said recess, a disk pivoted upon said raised seat, said disk being provided around its outer rim with reference characters and also having a concentric circle of spaced lugs projecting from its bottom side, a pointer attached to said base and projecting over the edge of said disk, and an operating-lever adapted to engage with said lugs to cause the disk to rotate, said lever then swinging out of engagement with said lugs.

3. In a game apparatus the combination of a base having a circular recess therein and a raised seat at the center of said recess, a disk pivoted upon said raised seat, said disk being provided around its outer rim with reference characters and also having a concentric circle of spaced lugs projecting from its bottom side, a pointer attached to said base and projecting over the edge of said disk, and an operating-lever passing through an opening in the side of said base and adapted to engage with said lugs to cause the disk to rotate and then to swing out of engagement with said lugs.

4. In a game apparatus the combination of a base having a circular recess therein and a raised seat at the center of said recess, a disk pivoted upon said raised seat, said disk being provided around its outer rim with reference characters and also having a concentric circle of spaced lugs projecting into said recess and encircling said raised seat, a pointer attached to said base and projecting over the edge of said disk, and an operating-lever adapted to engage with said lugs to cause the disk to rotate, said lever then swinging out of engagement with said lugs.

804,928. EXPANDING TAP. GEORGE H. BURLEY, Tyrone, Pa. Filed Apr. 30, 1904. Serial No. 205,809.



Claim.—1. In an expanding screw-tap, the combination of an open-ended tubular stock, a radially-adjustable bit thereon, a non-rotatable plunger working within the stock, manually-controlled means to shift the plunger and lock the same against endwise movement, a beveled head separate from the plunger and in frictional engagement with the bit, and an adjusting screw-threaded pin piercing the head and engaging the plunger with its outer end accessible through the adjacent open end of the stock to adjust the head longitudinally of the plunger and feed the bit radially without additional movement of the plunger.

2. In an expanding screw-tap, the combination of an open-ended tubular stock, a radially-adjustable bit carried thereby, a non-rotatable plunger working within the stock and provided in its for-

ward end with a threaded socket, manually-controlled means to shift the plunger and lock the same against endwise movement, a beveled head coöperating with the bit to force the same radially outward and provided with an open-ended longitudinal bore having a screw-threaded portion, and an adjusting-stem fitted in the bore of the head and intermediately threaded to engage the threads of the bore and having its inner terminal threaded reversely from the intermediate threaded portion and engaging the threaded socket in the end of the plunger, the outer end of the stem having a head which is accessible through the adjacent open end of the stock to rotate the stem and adjust the head to feed the bit radially when the parts are assembled without additional movement of the plunger.

3. An expanding screw-tap comprising a stock, a radially-adjustable bit carried thereby, bit-adjusting means, and trip means including a rotatable ring having an adjustable threaded connection with the bit-adjusting means to set the ring to different predetermined positions for contact with the work to release the bit-adjusting means.

4. An expanding screw-tap comprising a stock, a radially-adjustable bit, bit-adjusting means, a controlling-ring slidably embracing the stock and connected to the bit-adjusting means and also provided with a screw-threaded portion, and a rotatable trip-ring having a screw-threaded part adjustably embracing the screw-threaded part of the controlling-ring and capable of being set thereon for contact with the work to actuate the sliding ring and release the bit.

5. An expanding screw-tap comprising a tubular stock, a radially-adjustable bit, bit-adjusting means within the stock and having a portion projected through an opening therein, a controlling-ring slidably embracing the stock and connected to the projected portion of the bit-adjusting means, an intermediate portion of the slide having an annular enlargement which is screw-threaded, a threaded rotatable trip-ring adjustably engaging the screw-threaded part of the slidable ring and capable of being set thereon for contact with the work, and a nut embracing the slidable ring and engaging the screw-threaded part of the trip-ring.

6. An adjusting screw-tap comprising a stock, a radially-adjustable bit, bit-adjusting means, and a controlling-slide embracing the stock and connected to the bit-adjusting means, one end of the slide being formed to embrace the adjacent end of the bit.

7. An expanding screw-tap comprising a stock, a radially-adjustable bit, bit-adjusting means, a slide embracing the stock and having a portion formed to embrace the adjacent end of the bit, and a trip adjustably carried by the slide and capable of being set for contact with the work and connected with the bit-adjusting means to release the same and the bit when the trip contacts with the work.

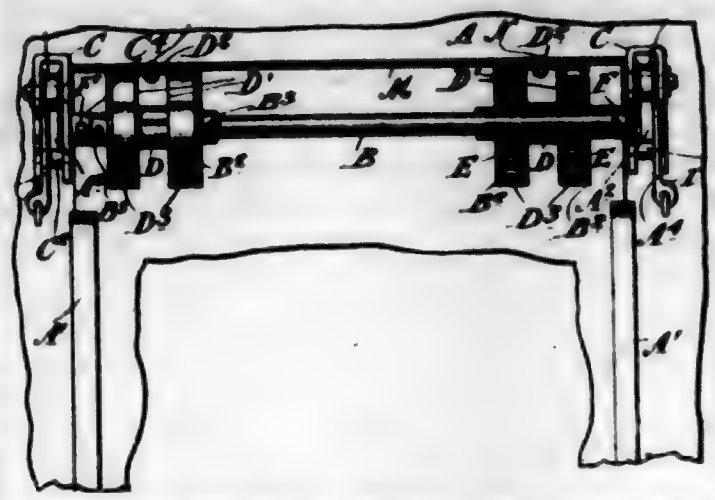
8. An expanding screw-tap comprising a tubular stock having a radial opening, a radially-adjustable bit working in the opening, bit-adjusting means working within the stock and having a portion projected externally through the opening in the stock, a tubular slide embracing the stock and connected to the projected portion of the bit-adjusting means, said slide having an intermediate annular enlargement which is screw-threaded, the external portion of the slide in rear of the enlargement being smooth, and the external portion in front of the enlargement being screw-threaded, a trip-ring having an internally-screw-threaded portion adjustably fitting the screw-threaded enlargement of the slide, a flanged nut embracing the smooth rear portion of the slide and engaging the screw-threaded portion of the trip-ring, and a nut adjustably embracing the front screw-threaded part of the slide and having an inner annular flange to embrace the rear end of the bit.

804,929. ROLLING SHUTTER. JOHN CAHILL, Norfolk, Va. Filed Nov. 8, 1904. Serial No. 231,836.

Claim.—1. In shutter-operating mechanism having a shaft B a sleeve D turning loosely thereon and provisions for turning the shaft and the sleeve with different motions, the two barrels D^3 on the ends respectively of said sleeve D and the bridge D^6 and rivet N connecting such barrels to the upper edge of the shutter, combined substantially as herein specified.

2. In a shutter-operating mechanism, the combination with a rolling shutter, guiding-ways, and a roller, of a spring exerting a force in opposition to the gravity of the shutter, an internal rod serving as an abutment for the spring, and an interposed sleeve having a barrel serving to connect the spring and such shaft and a second spring correspondingly carried on such sleeve, arranged as shown, so that the radial force of two such springs balance each other, all substantially as herein specified.

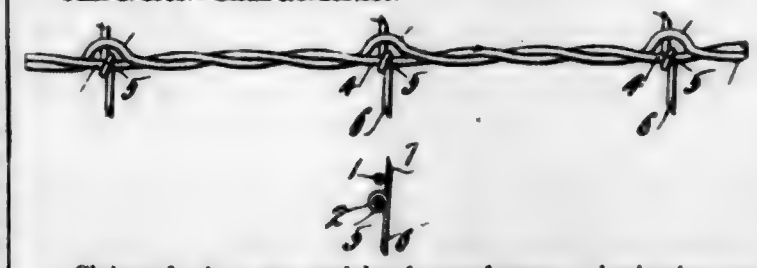
3. In a shutter-operating mechanism having a shaft B, supported in carriages C C traveling toward and from the building and a series of barrels D^3 loosely supported and revoluble thereon having each an offset D^4 with the diameter increased uniformly therefrom quite around the periphery substantially as herein specified.



4. In shutter-operating mechanism, the combination with a rolling shutter, guiding-ways, and a roller, of a spring exerting a force in opposition to the gravity of the shutter and a sleeve running loosely on such shaft carrying a barrel which constitutes a portion of the roller and a separately-formed internal shaft serving as an abutment for the spring, two carriages having each a U-shaped bearing and fastening means F for one end of such shaft, level ways for such carriages and an outside spring I near each end of the roller for aiding the movement of the roller in one direction, all arranged for joint operation substantially as herein specified.

5. In shutter-operating mechanism, the combination with a rolling shutter, guiding-ways, and a roller with means for turning such roller to raise and lower the shutter, of springs and means for supporting the weight of the shutter thereby, two carriages having each a bearing for one end of such shaft, level ways for such carriages, and an outside spring I near each end of the roller for aiding the movement of the roller in one direction along such ways as the shutter accumulates in thickness on the roller all arranged to serve substantially as herein specified.

804,930. BARB-WIRE. FRANCIS C. CARROLL, Peoria, Ill. Filed June 3, 1905. Serial No. 263,387.

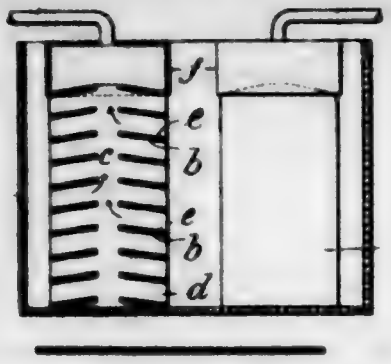


Claim.—1. As a new article of manufacture, a barb-wire consisting of two intertwisted strands, one of said strands provided at intervals with bowed or substantially U-shaped portions, the arcuate portions thereof extending diagonally to the general or longitudinal plane of the strands and merging into the intertwists thereof, the opposite strand having substantially horizontal portions at points coincident with said bowed or U-shaped portions, and barbs loosely coiled about said substantially horizontal portions of the one strand to revolve thereon, said barbs having prongs of different length, each of said prongs being of a length greater than the space between the bowed portions of one strand and the horizontal portions of the opposite strand whereby to prevent a complete rotation of the barbs on their strand.

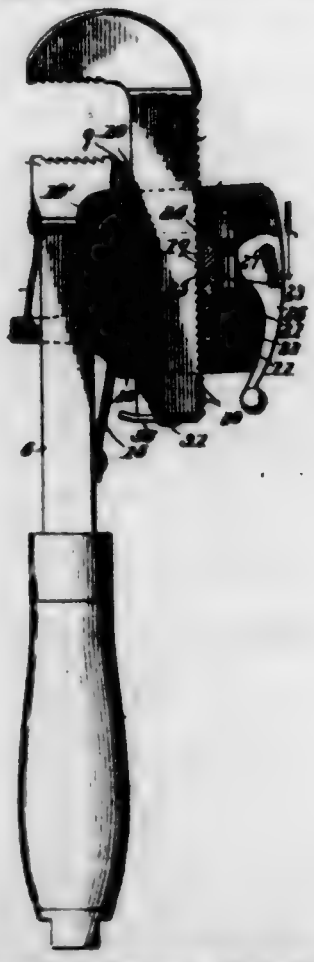
2. As a new article of manufacture, a barb-wire embodying two intertwisted strands, one of said strands provided at intervals with bowed or substantially U-shaped portions, the arcuate portions thereof extending diagonally to the general or longitudinal plane of the strand and merging into the intertwists thereof, the other of said strands having substantially horizontal portions at points coinciding with the bowed portions of the first-mentioned strand, and barbs loosely mounted on said horizontal portions of the second strand, each barb having a short and a long prong, with each prong of a length greater than the space between the bowed portions and the horizontal portions of the respective strands, to prevent complete rotation of said barbs on their strand.

804,931. APPARATUS FOR ELECTROLYTICAL DECOMPOSITION. GUSTAF E. CASPER, Stockholm, Sweden. Filed May 4, 1905. Serial No. 258,598.

Claim.—In apparatus for electrolytical decomposition, an electrode composed of two end plates of conducting material, of superposed upwardly-inclined plates between the end plates being approximately of half the width of the end plates, and being inclined toward each other and having between their meeting edges spaces *c*, and of a closed hood with eduction-pipe extending from one end plate to the other over the spaces *c* and over all inclined plates substantially as described.



804,932. **WRENCH.** HENRY J. CONRATH, Marietta, Ohio. Filed July 7, 1905. Serial No. 268,714.



Claim.—1. In a wrench, a shank provided with a fixed jaw, a housing pivoted to the shank, a movable jaw slidably mounted in the housing, a pivoted locking-dog carried by said housing and adapted to engage the sliding jaw and a lever for operating the dog to thereby lock the movable jaw in adjusted position.

2. In a wrench, a shank provided with a fixed jaw, a housing pivoted to the shank and having a yoke embracing the latter, a movable jaw slidably mounted in the housing and provided with teeth or serrations, a locking-dog pivoted within the housing and having a flanged groove formed therein, a lever provided with a laterally-extending head adapted to engage said flanged groove for moving the dog into engagement with the serrated face of the movable jaw, and a spring interposed between the shank and the yoke for yieldably supporting the free end of the housing against the shank.

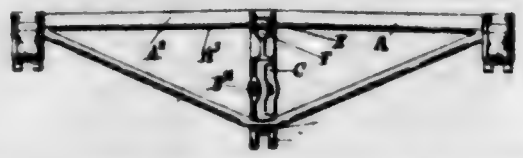
3. In a wrench, a shank provided with a fixed jaw one edge of which is formed with a vertical groove, a housing pivoted to the shank and having its free end extended to form a yoke for the reception of the shank, a movable jaw slidably mounted in the housing and spaced from the vertical groove, a locking-dog pivoted in the housing and adapted to engage the sliding jaw, a lever operatively connected with the dog for moving the dog to operative and inoperative position, and spring secured to the shank and adapted to engage the housing for yieldably supporting the free end of the latter against the shank.

4. In a wrench, a shank provided with a fixed jaw, a housing pivoted to the shank, a movable jaw slidably mounted in the housing and having one edge thereof serrated, a locking-dog pivoted within the housing and having its active face serrated for engagement with the serrations on the sliding jaw, a shoulder formed in the dog defining a longitudinal extension, there being a flanged channel formed in the dog extending from its pivotal point and opening through said shoulder, a lever provided with a pin having a laterally-extending head adapted to enter the flanged channel in the locking-dog for moving said dog into and out of engagement with the teeth on the sliding jaw, and means for yieldably supporting the free end of the housing against the shank.

5. In a wrench, a shank provided with a fixed jaw one edge of which is formed with a vertical groove, a housing pivoted to the shank and having its free end extended to form a yoke for the reception of the shank, a movable jaw slidably mounted in the housing and spaced from the vertical groove, a locking-dog pivoted within the housing and adapted to engage the sliding jaw for locking the same in adjusted position, said dog being provided with a longitudinally-disposed flanged channel, a lever provided with a headed pin adapted to enter the flanged channel for moving the dog to operative and inoperative position, a spring secured to one side of the shank and adapted to bear against the yoke, and a second spring secured to the opposite side of said shank and having its free end interposed between said shank and the rear wall of the housing.

6. In a wrench, a shank provided with a fixed jaw, a housing pivoted to the shank and having its free end extended to form a yoke adapted to receive said shank, a removable jaw slidably mounted in the housing and provided at one end thereof with a removable plate adapted to engage the base of the housing for limiting the sliding movement of said jaw, a locking-dog pivoted within the housing and adapted to engage the sliding jaw for locking the same in adjusted position, said dog being provided with a longitudinally-disposed flanged channel, a lever also pivoted in the housing and provided with a headed pin adapted to enter the flanged channel for moving the dog to operative and inoperative position, springs secured to opposite sides of the shank and engaging the housing for yieldably supporting the free end thereof against said shank, bolts forming the pivoted points of the dog and lever, respectively, and having their threaded ends passing through the side wall of the housing, and circular nuts seated in correspondingly-shaped recesses in said housing and engaging the threaded end of the bolts.

804,933. **BEAM-STRUT.** NATHAN H. DAVIS, Philadelphia, Pa. Filed Apr. 14, 1905. Serial No. 255,530.



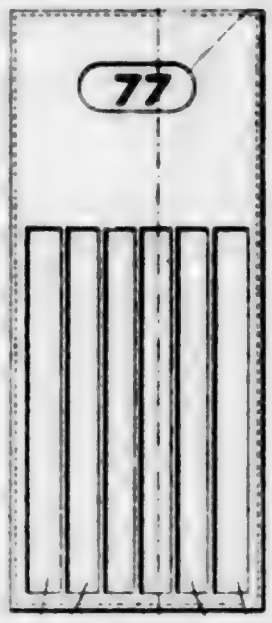
Claim.—1. A truss-beam strut or post made up of a main section formed to extend between the tension and compression members of the truss and to fit against and conform to one side of the compression member, a separate head-section formed to fit against the other side of the compression member and having an elongated shank adapted to lie in contact with the adjacent side of the main strut-section, and means for securing the head-section to the main section situated at the head of the elongated shank and close to the compression member of the beam.

2. A truss-beam strut or post having a head formed to fit one side of the compression member of the beam and its body adjacent to said head cut down and formed with longitudinal and transverse ribs, a separable head-section formed to fit on the other side of the compression member and formed with complementary longitudinal and transverse grooves to fit in the cut-down body portion of the main strut member, and means for securing the head-section to the main strut.

3. A truss-beam strut or post having a head formed to fit one side of the compression member of the beam and its body adjacent to said head cut down to form the shoulder D^3, and face D^7, and provided with the angular buttress-rib D^8, springing from the shoulder and merging in the face D^7, a transverse rib and a rivet-hole in face D^7, and a separable head-section formed to fit on the other side of the compression member and with complementary longitudinal and transverse grooves and a rivet-hole to fit in the cut-down section of the main strut.

804,934. **CARD-FRAME FOR TIME-RECORDERS.** JOHN DEY, Syracuse, N. Y., and ALEXANDER DEY, Glasgow, Scotland. Filed July 14, 1903. Serial No. 165,519.

Claim.—1. As an article of manufacture a frame or holder for time-recorder cards and the like, having on one face thereof longitudinal slots to correspond with the printing-columns of the card, said frame and card being adapted to be used in conjunction with a time-recording machine.



2. As an article of manufacture a frame or holder for time-recorder cards and the like, having in one face thereof longitudinal slots to correspond with the longitudinal printing-columns of the card and an additional slot to correspond with the position of the workman's number on the card, said frame and card being adapted to be used in connection with a time-recording machine to receive an impression.

3. As an article of manufacture a frame or holder adapted to receive time-recorder cards having insignia representing a workman and longitudinal printing-columns thereon, said frame having in one face thereof rectangular longitudinal slots to correspond with the printing-columns of said card, and an additional slot to correspond with the position, and disclose the character, of the workman's insignia on the card, said frame and card being adapted to be used in connection with a workman's time-recorder to receive an impression.

4. As an article of manufacture, a frame for time-recorder cards and the like adapted to be used in connection with a time-recording machine for the purpose of receiving an impression, said frame having in one face thereof slots to correspond with data-spaces on the card.

5. As an article of manufacture, a frame for time-recorder cards and the like adapted to be used in connection with a time-recording machine for the purpose of receiving an impression, said frame having in one face thereof longitudinal slots to correspond with printing-columns on the card

6. As an article of manufacture, a frame adapted to receive time-recorder cards, said frame having longitudinal slots therein to correspond with longitudinal printing-columns upon the card, the material at the sides of said slots being adapted to indicate a lack of precision in the operation of the time-recording mechanism in conjunction with which said frame and card are adapted to be used.

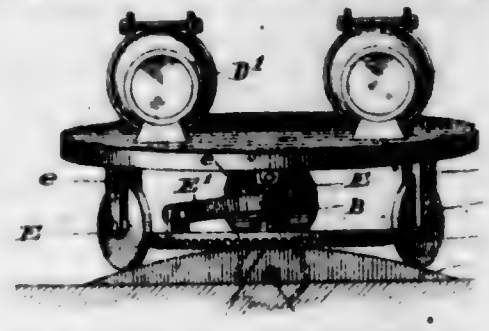
7. As an article of manufacture, a frame adapted to receive time-recorder cards, said frame having longitudinal slots therein to correspond with longitudinal printing-columns on the card, the material at the sides of said slots being adapted to produce an indication upon the card of inaccuracy of impression made by the operation of the time-recording mechanism in conjunction with which said frame and card are adapted to be used.

8. As an article of manufacture, a frame adapted to receive time-recorder cards, said frame having longitudinal slots therein to correspond with longitudinal printing-columns upon the card and an additional slot to correspond with the position of the workman's number thereon, the material at the sides of said slots being adapted to indicate a lack of precision in the operation of the time-recording mechanism in conjunction with which said frame and card are adapted to be used.

9. As an article of manufacture, a frame or holder for use in a time-recording machine, said frame being adapted to receive time-recorder cards and having in one face thereof longitudinal slots to correspond with printing-columns on the card, the material between said slots being adapted to produce an indication upon said card of an inaccuracy of action of the printing mechanism of said time-recording machines, the other face of said frame being adapted to act as a support for said card when receiving an impression.

10. As an article of manufacture, a frame or holder for use in a time-recording machine, said frame being adapted to receive time-recorder cards and the like and having in one face thereof slots adapted to correspond with data-spaces on the card, the other face of said frame being adapted to act as a rigid support for said card when receiving an impression.

804,935. **APPARATUS FOR AGING, MELLOWING, AND PURIFYING WINES AND LIQUORS.** JAMES F. DUFFY and JAMES F. DUFFY, Jr., Chicago, Ill. Filed June 14, 1905. Serial No. 265,134.



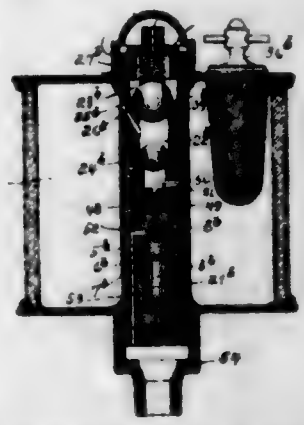
Claim.—1. In a device of the class described, the combination with a table adapted to support a receptacle containing liquor, of wheels supporting the table, an irregular surface upon which the wheels run, a suitably-driven vertical shaft below the center of the table, and a block pivoted to the table upon a horizontal axis and slidably mounted on said shaft.

2. The combination with a surface in the form of a segment of a cylinder, of a table, means for rotating the table and three wheels supporting the table and running upon said surface.

804,936. **METALLURGICAL PROCESS.** WILLIS E. EVERETTS, Tacoma, Wash. Filed Feb. 25, 1905. Serial No. 247,279.

Claim.—A metallurgical process which consists first, in preparing a suitable preliminary melt and heating it to incandescence; second, in subjecting the previously-pulverized materials, which are to be treated, to the action of liquid oxygen, whereby they are reduced to an extremely-frigid condition and are caused to occlude a portion of said oxygen; third, forcing this frigid mixture into and through the incandescent melt whereby the metals in said mixture are largely freed from sulfur and phosphorus and are rapidly fused; and finally separately drawing off the metal and slag at different levels.

804,937. **SYSTEM OF LUBRICATION.** WILLARD B. FEATHERSTONE, Toledo, Ohio, assignor to The Automatic Pressure Feed Lubricator Company, Los Angeles, Cal. Filed Oct. 25, 1902. Serial No. 128,735.



Claim.—1. In a lubricating system for supplying lubricant under pressure, a reservoir for the lubricant having one or more feed-outlets, a conduit adapted to be connected with a source of elastic fluid under pressure, and having an open port to the atmosphere, a connection from the conduit to the reservoir between the port and the source, a back check-valve in the conduit between the connection and the source, and an adjustably-weighted relief-valve in the conduit between the connection and the port, adapted to limit the exit of elastic fluid from the port.

2. In a lubricating system for supplying lubricant under pressure, a reservoir for the lubricant having one or more feed-outlets, a conduit adapted to be connected with a source of elastic fluid under pressure, and having an open port to the atmosphere, a connection from the conduit to the reservoir between the port and the source, a back check-valve in the conduit between the connection and the source, an adjustably-weighted relief-valve in the conduit between

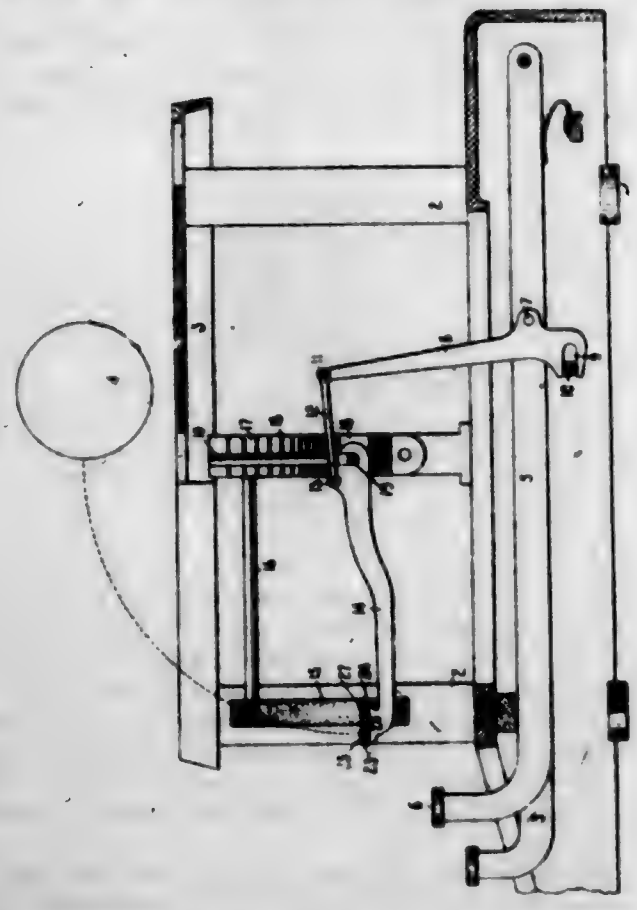
the connection and the port, adapted to limit the exit of elastic fluid from the port, and a time-vent from the reservoir to the outer air.

3. In a lubricator system for supplying lubricant under pressure, a reservoir for the lubricant, having one or more feed-outlets, a conduit adapted to be connected with a source of elastic fluid under pressure, an inlet-chamber having a port connected to the conduit and a connection to the reservoir, a back check-valve in the inlet-chamber controlling the port to the conduit, an outlet-chamber having a port connected to the inlet-chamber and an opening to the atmosphere, a relief-valve in the outlet-chamber adapted to normally close the port from the inlet-chamber to the outlet-chamber, and means to adjustably weight the valve in the outlet-chamber.

4. In a lubricating system, a reservoir for the lubricant having a distributing-chamber provided with one or more valve-controlled feed-outlets, an oil-conduit connecting the reservoir with the distributing-chamber, a back check-valve controlling the oil-conduit, a gas-conduit adapted to be connected with a source of elastic fluid under pressure, an inlet-chamber having a port connected to the gas-conduit and a connection to the reservoir, a back check-valve in the inlet-chamber controlling the port to the gas-conduit, an outlet-chamber having a port connected to the inlet-chamber and an opening to the atmosphere, and a relief-valve in the outlet-chamber adapted to normally close the port from the inlet to the outlet chamber, and means to adjustably weight the valve in the outlet-chamber.

5. In a lubricating system, a reservoir for the lubricant having a column extended therein and projecting above the reservoir, a valve-chamber in the projection and an oil-duct in the column connecting the valve-chamber with the reservoir, a back check-valve in the chamber adapted to control the oil-duct in the column, means to adjustably weight the check-valve, a manifold ported to the valve-chamber and having a plurality of valve-controlled feed-pipes, a gas-conduit adapted to be connected with a source of elastic fluid under pressure, an inlet-chamber having a port connected to the conduit and a connection to the reservoir, a back check-valve in the inlet-chamber controlling the port to the gas-conduit, an outlet-chamber having a port connected to the inlet-chamber and an opening to the atmosphere, and a back-pressure valve in the outlet-chamber adapted to close the port from the inlet-chamber, and means to adjustably weight the valve in the outlet-chamber.

804,938. **TYPE-WRITING MACHINE.** JACOB FELSEL, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Apr. 11, 1904. Serial No. 202,600.



Claim.—1. In a type-writing machine, the combination of a type-bar, a type having a slotted base, a bed for said base to slide on, and an adjusting-screw abutting said base and capable when moved of also moving said base for adjustment.

2. In a type-writing machine, the combination of a type-bar, a type having a slotted base, a bed for said base to slide on, and adjusting and holding screws abutting against the ends of said base and capable when turned of moving the latter longitudinally of its bed.

3. In a type-writing machine, the combination of a type-bar, a type having a slotted base, a bed having threaded ears, and adjusting and holding screws.

4. In a type-writing machine, the combination of a type-bar, a type having a base with beveled ends, a bed having threaded ears and adjusting and holding screws.

5. In a type-writing machine, a type-bar having a removable type-base which may be secured at varying distances from the type-bar pivot by means on the type-bar, said type-block being removable independently of said securing means.

6. In a type-writing machine, the combination of a type-bar, a type-base having a slot adapted to embrace a part carried by the bar, and screws for securing the base in position, the ends of said screws abutting said type-base.

7. In a type-writing machine, the combination of a type-bar having a type-base adapted to be securely wedged to the bar, and wedging-screws the ends of which abut against the type-base.

8. In a type-writing machine, the combination of a type-bar carrying lugs in its forward portion, set-screws passing through the lugs, and a removable wedge-shaped type-base adapted to be secured to the type-bar by the set-screws, which latter abut against the ends of said type-base.

9. In a type-writing machine, the combination of a type-bar, a bed-piece, means for connecting the type-bar and bed-piece together, a type-base, and means for adjustably connecting the type-base with the bed-piece, said means comprising screws the ends of which abut the type-base and exert a wedging effect thereon.

10. In a type-writing machine, the combination of a type-bar having a perforated head, a bed-piece having a shank adapted to be inserted into the perforated head on the type-bar, a type-base and means for adjustably connecting the type-base with the bed-piece, said means comprising screws the ends of which abut the type-base and exert a wedging effect thereon.

11. In a type-writing machine, a type structure consisting of one or more type-faces, a base on which they are mounted, a bed portion, and means for attaching the bed portion to the type-bar, the base being wedged on the bed and the bed being wedged on the type-bar.

12. In a type-writing machine, the combination of a type-bar, a type-base having oppositely-beveled ends, and securing-screws on the type-bar coacting with the beveled ends of the type-base.

13. In a type-writing machine, the combination of a type-bar, a type-base thereon, and a screw adapted to move said type-base longitudinally.

14. In a type-writing machine, the combination of a type-bar, a type-base thereon, and adjusting-screws adapted to move said type-base to and fro longitudinally.

15. In a type-writing machine, the combination of a type-bar, a type-base slidably mounted on said type-bar, and screws adapted to communicate sliding motion to said type-base.

16. In a type-writing machine, the combination of a type-bar, a type-base slidably mounted on said type-bar, and screws adapted to communicate sliding motion to said type-base and to secure said type-base to said type-bar.

804,989. **RETAINING-WALL.** WILLIAM H. FERGUSON, San Francisco, Cal., assignor to John Albert Ferguson. Filed Apr. 11, 1905. Serial No. 254,964.



Claim.—1. A retaining-wall comprising a facing composed of blocks each having projections, the said blocks being laid in superposed courses to break joints with their projections disposed in the

same direction, and a backing molded around the projections of said blocks and independent bonding means for said facing and backing.

2. A retaining-wall comprising a facing composed of blocks, a backing, and metal reinforcements embedded in said backing to which said blocks adhere and forming a bond between the facing and backing, substantially as specified.

3. A retaining-wall comprising a facing composed of blocks each having projections, a backing molded around the projections of said blocks, metal reinforcing-rods embedded in said backing and bonded to the facing, and a base forming a part of said backing, substantially as specified.

4. In a retaining-wall, the facing composed of blocks, the base, the backing, and the buttresses interlocked with said base and forming supports for said facing.

5. In a retaining-wall, the facing composed of blocks, the concrete base for said facing, the concrete backing forming a part of the wall, and the buttresses composed of beveled blocks built against the facing and interlocked with said base, substantially as specified.

6. A retaining-wall having a base, a facing of blocks laid in superposed courses, a backing for said facing forming a part of said base, metal reinforcing-rods placed horizontally and vertically embedded in said backing and secured to the blocks forming said facing by means retained in said blocks, buttresses built against said facing bonded by means of metal rods extending into the said base, substantially as specified.

7. In a retaining-wall, the facing composed of blocks each having projections the said facing forming part of the wall, the backing completing said wall composed of material adapted to be molded around the projections of the blocks forming said facing, buttresses built against the facing of the wall and preventing the same from overturning, substantially as specified.

8. In a retaining-wall, the facing composed of blocks each having projections, the said blocks laid in superposed courses to break joints with their projections disposed in the same direction, the base extending backward under the material to be retained, and the backing forming a part of said base and bonded to said projections.

9. In a retaining-wall, the facing composed of blocks each having projections, the backing for said blocks molded around the projections of said blocks, independent means bonding said facing to the backing and reinforcing the same, the base for said wall adapted to extend backward under the material to be retained and to form a part of the backing of the wall, substantially as specified.

10. In a retaining-wall, the facing of blocks each having projections, the said blocks laid in superposed courses to break joints and having retained therein hooks or eyes, depressions provided in the projections of said blocks, horizontal tie-rods laid in said depressions, vertical tie-rods placed in said hooks or eyes, a concrete base for said facing-wall, buttresses composed of beveled blocks the lower block extending into the said concrete base and the blocks bonded with tie-rods, and the concrete backing adapted to be tamped solidly around the horizontal and vertical tie-rods and around the projections of the blocks forming said facing, substantially as specified.

11. In a retaining-wall, the facing composed of blocks each having projections, the backing for said blocks molded around the projections of said blocks, the base for said wall extending backward under the material to be retained and to form a part of the backing of the wall, the buttresses built against the said facing and to extend into and bonded to the said base, substantially as specified.

12. In a retaining-wall, the facing composed of blocks laid in superposed courses, reinforcing-rods placed vertically in close proximity to said blocks, means retained within said blocks to secure the said rods thereto, reinforcing-rods placed in a horizontal position against the inner surface of said blocks, the backing for said blocks solidly molded around the said reinforcing-rods, the base for said wall adapted to extend backward under the material to be retained and to form a part of the backing of the wall, the buttresses built against the facing of the wall to add additional rigidity thereto and to prevent same from overturning, the said buttresses extending into and bonded to the said base, substantially as specified.

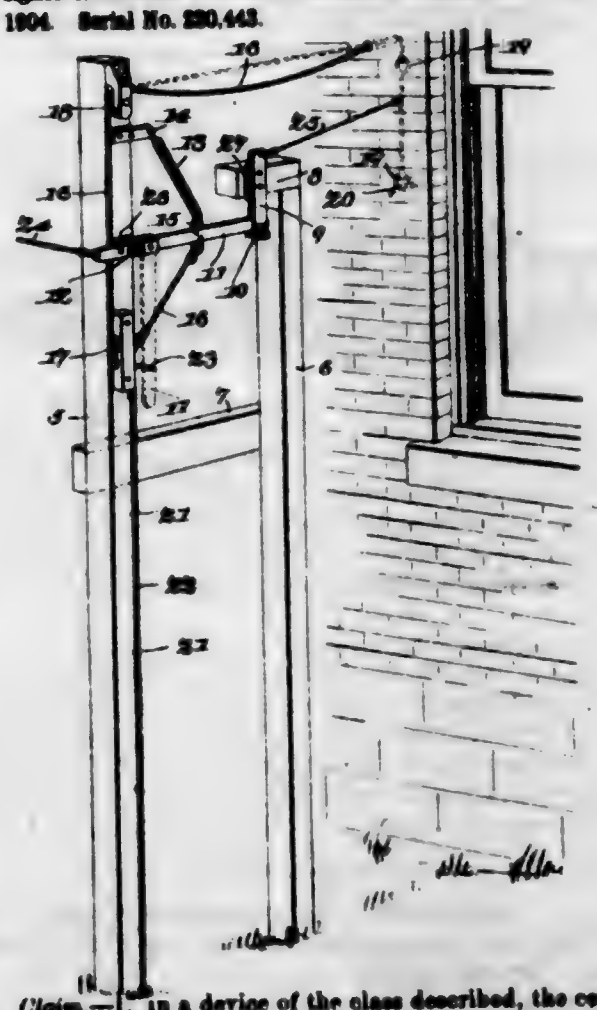
13. In a retaining-wall, the facing composed of blocks each having projections, recesses provided in said projections longitudinally with the body portions of said blocks, the said blocks being laid in superposed courses to break joints with their projections disposed in the same direction, metal rods laid in the said recesses, reinforcing-rods placed vertically on the inner side of said facing-blocks, means retained within said blocks to attach them to the said vertical reinforcing-rods, the backing for said blocks molded around the projections of said blocks and around the horizontal and vertical reinforcing-rods, the base for said wall extending backward under the material to be retained and to form a part of the backing of the wall, the buttresses composed of blocks built against the facing of said wall, tie-rods tying the blocks of said buttresses together and to extend into the said base, substantially as specified.

14. In a retaining-wall, the base, the facing of blocks built upon said base, the buttresses formed of beveled blocks bonded into the base, and the backing bonded to the facing, substantially as specified.

15. In a retaining-wall, the concrete base, the facing composed of blocks each having projections, reinforcing-rods placed against the inner faces of said blocks, means retained within said blocks for securing said reinforcing-rods to the blocks, depressions provided in the projections of said blocks, horizontal reinforcing-rods laid in said depressions, the concrete backing forming a part of said retaining-wall, substantially as specified.

16. In a retaining-wall, the concrete base, the concrete backing, the facing of blocks laid in superposed courses, the vertical reinforcement-rods, means retained within said blocks for securing them to the said vertical reinforcing-rods, horizontal reinforcing-rods laid against the said blocks and embedded in the concrete forming the backing therefor, the buttresses composed of beveled blocks tied with reinforcing-rods adapted to prevent said wall from overturning, substantially as specified.

804,940. **ELECTRIC SWITCH OR DISCONNECTING DEVICE FOR TELEPHONES.** LEONARD J. FLETCHALL, Hatfield, Mo., assignor of one-half to Mark L. Belden, Hatfield, Mo. Filed Aug. 11, 1904. Serial No. 220,443.



Claim.—1. In a device of the class described, the combination with a support, of house and line terminals carried thereby, a switch-blade for normally connecting the house and line terminals, a ground-wire secured to the support and having one end thereof bent laterally to form a terminal contact-arm, and a flexible medium connected to the switch-blade for moving the latter in contact with the terminal of the ground-wire.

2. In a device of the class described, the combination with a support, of house and line terminals carried thereby, a switch-blade for normally connecting the house and line terminals, a ground-wire secured to the support and having one end thereof bent to form a terminal contact-arm, a flexible medium connected to the switch-blade for moving the latter in contact with the terminal of the ground-wire, and means for automatically returning the switch-blade to normal position.

3. In a device of the class described, the combination with a support, of house and line terminals carried thereby, a switch-blade for normally connecting the house and line terminals, pulleys jour-

mined on the support above and below the switch-blade, a ground-wire carried by said support and having one end thereof bent to form a terminal-contact-arm, a cord having one end thereof secured to the switch-blade and its opposite end passing over said pulleys and provided with a fastening means, said cord being adapted to move the switch-blade in contact with the terminal of the ground-wire, and a spring carried by the support and secured to the switch-blade for automatically returning the latter to normal position when the cord is released.

4. In a device of the class described, the combination with a pair of spaced uprights, a line-terminal secured on one upright, a house-terminal carried by the opposite upright, a pivoted switch-blade for normally connecting the house and line terminals, a ground-wire secured to one of said uprights and having its free end bent laterally to form a terminal-contact-arm, a cord secured to the switch-arm for moving the latter in contact with terminal of the ground-wire, and a spring for returning said switch-blade to normal position.

5. In a device of the class described, the combination with a pair of spaced uprights, a line-terminal secured to one of said uprights, a spring contact-clip secured to the opposite upright and forming a house line-terminal, a switch-blade pivoted to the line-terminal and adapted to normally engage the spring-clip for connecting the line and house terminals, an insulating-strip carried by said blade, pulleys journaled on the adjacent upright above and below the switch-blade, a ground-wire extending parallel with one of the uprights and having its free end bent laterally to form a terminal contact-arm, an operating-cord passing over the pulleys and secured to the insulating-strip of the switch-blade for moving the latter in contact with the terminal of the ground-wire, and a spring secured to said insulating-strip and to one of the uprights for returning the switch-blade to operative position when the operating-cord is released.

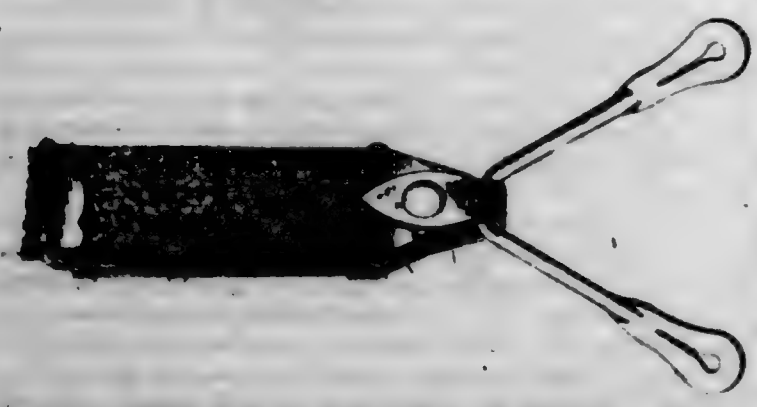
804,941. CALENDAR FOR PENCILS OR PENS. SAMUEL FRANCIS, Denver, Colo. Filed Feb. 23, 1905. Serial No. 247,845.



Claim.—1. A calendar for pencils, comprising a tube having end stops, a month-ring revolubly supported on said tube, parallel rows of day-numerals being carried by said tube at one side of said ring, and a sleeve revolubly supported on said month-ring and tube, having openings to disclose the month and day, said sleeve axially movable on said tube and said end stops arranged to hold said sleeve with its day-opening in register with either row of numerals, as set forth.

2. A calendar for pencils, comprising a tube, a month-ring revolubly supported on said tube, parallel rows of day-numerals being carried by said tube at one side of said ring, a sleeve revolubly supported on said month-ring and tube, having openings to disclose the month and day, said sleeve axially movable on said tube, and means for limiting the axial movement of said sleeve and bringing its day-opening into register with either row of numerals, as set forth.

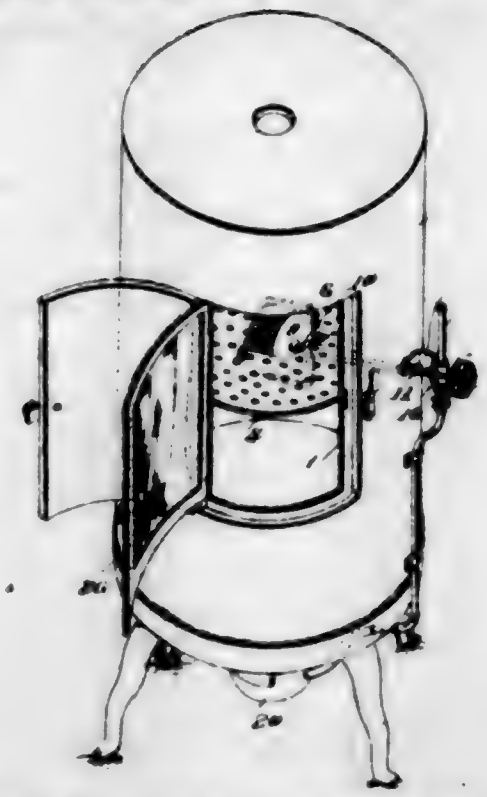
804,942. SUSPENDERS. WILLIAM FREEMAN, New York, N. Y., assignor to Harris Suspender Company, New York, N. Y. Filed Feb. 7, 1905. Serial No. 244,699.



Claim.—1. A device of the character described comprising a webbing, a slide thereon, said webbing formed into a loop below the slide and then passed through the slide and downwardly behind the loop formed by the webbing, an attaching device connected with the loop of the webbing and means for permanently connecting the end of the webbing behind the loop, with said attaching device behind the same.

2. A device of the character described, comprising a webbing, a slide thereon, the webbing formed into a loop below the slide, a cast-off connected with said loop, the webbing, after forming said loop being passed through the slide and then downwardly behind the loop of the webbing, and a device permanently connecting the end of the webbing to the cast-off behind the same.

804,943. OVEN. WHARTON M. FULTON, Knoxville, Tenn., assignor to The Fulton Company, Knoxville, Tenn., a Corporation of Maine. Filed Nov. 2, 1904. Serial No. 231,118.



Claim.—1. In combination, a heating-chamber, an casing surrounding the same and separated therefrom, an expansible and collapsible vessel located therein and containing a gaseous fluid, a rigid support extending from the wall of the heating-chamber and fast to one end of said vessel, a fuel-supply pipe leading to the heating-chamber, a valve in the supply-pipe, provided with an operating lever-arm, a valve-actuating rod connected to the movable end of said vessel, an adjusting screw-threaded rod engaging said lever-arm and having a flexible revoluble connection with said valve-actuating rod.

2. In combination, a heating-chamber, an expansible and collapsible vessel therein containing a gaseous fluid, a rigid support for one end of said vessel, a fuel-supply pipe, a valve therein having a lever-arm, a valve-actuating member connected to the movable end of said vessel, an adjusting-rod engaging said lever-arm, a flexible revoluble connection between said adjusting-rod and valve-actuating member and rotating and registering means attached to said adjusting-rod.

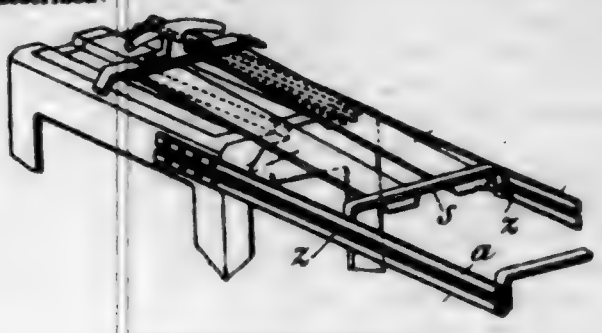
3. In combination, a heating-chamber, a casing surrounding the same and separated therefrom, an expansible and collapsible vessel therein containing a gaseous fluid, a rigid support for one end of said vessel, a valved fuel-supply pipe leading to the same, a valve-operating rod connected to the movable end of said vessel, a flexible, revoluble and adjustable connection between said valve and valve-actuating rod and a removable hood for supporting heating means beneath the oven.

4. In combination, a heating-chamber, an expansible and collapsible vessel therein containing a gaseous fluid, a rigid tubular support for one end of said vessel, the other end of said vessel being free to move under the action of temperature changes, a valved fuel-supply pipe, a valve-actuating rod housed in said support and fast to the movable end of said vessel and having a flexible adjustable connection with said valve.

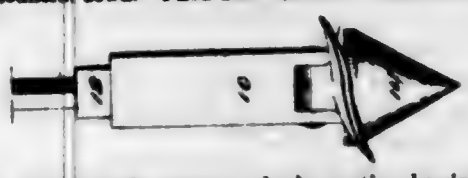
804,944. CEMENT-ROOFING-TILE-MAKING MACHINE. ALFRED GASPARY, Markranstädt, near Leipsic, Germany. Filed Feb. 3, 1905. Serial No. 244,020.

Claim.—In a beating and stamping press for making roofing-tiles or artificial stones in which the material is beaten or pressed

upon a beating table or mold, a beating-iron consisting of a narrow plate provided with a handle and having the contour of the tile to be formed, longitudinal fillets or bars also shaped to the contour of the tile and connected with the plate at one end, a cross-bar fixed to the opposite end of the fillets and a pair of guides fixed to the table and adapted to guide the cross-bar and with it the beating-iron substantially as described.



804,945. **EARTH-ANCHOR.** CHARLES HANDEL and GEORGE B. NELSON, Redfield, Iowa. Filed Dec. 5, 1904. Serial No. 235,643.

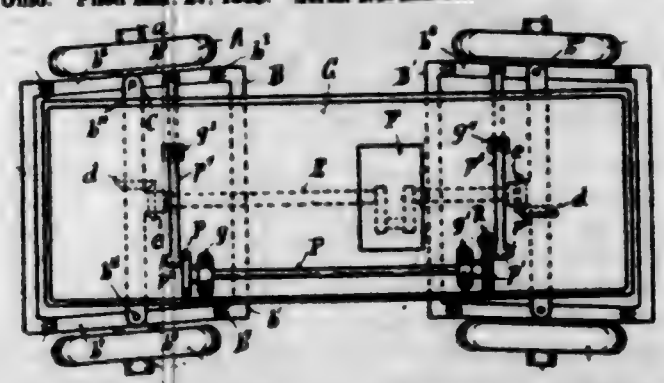


Claim.—1. In an earth-anchor, a body portion having an angular top end adapted for applying a wrench thereto, a pointed extension at its lower end, an annular shoulder at the top of said extension and an open slot extending upward from said shoulder and spiral cutters pivoted in the lower end of the slot to fold upward.

2. In an earth-anchor, a body portion having an angular top end adapted for applying a wrench thereto, spiral cutters pivotally connected with the lower end of the body portion adapted to fold upward and pointed extensions below the cutters and means to limit the cutters in turning downward, for the purposes stated.

3. In an earth-anchor, a body portion having an angular top end adapted for applying a wrench thereto, spiral cutters pivotally connected with the lower end of the body portion to fold upward and a pointed extension below the cutters and larger in diameter at its top to produce an annular shoulder and a handle at the top of the body portion, arranged and combined to operate in the manner set forth for the purposes stated.

804,946. **RUNNING-GEAR FOR VEHICLES.** WILLIAM T. HANNA, Cincinnati, Ohio, assignor to Martha A. Hanna, Cincinnati, Ohio. Filed Mar. 27, 1905. Serial No. 252,418.



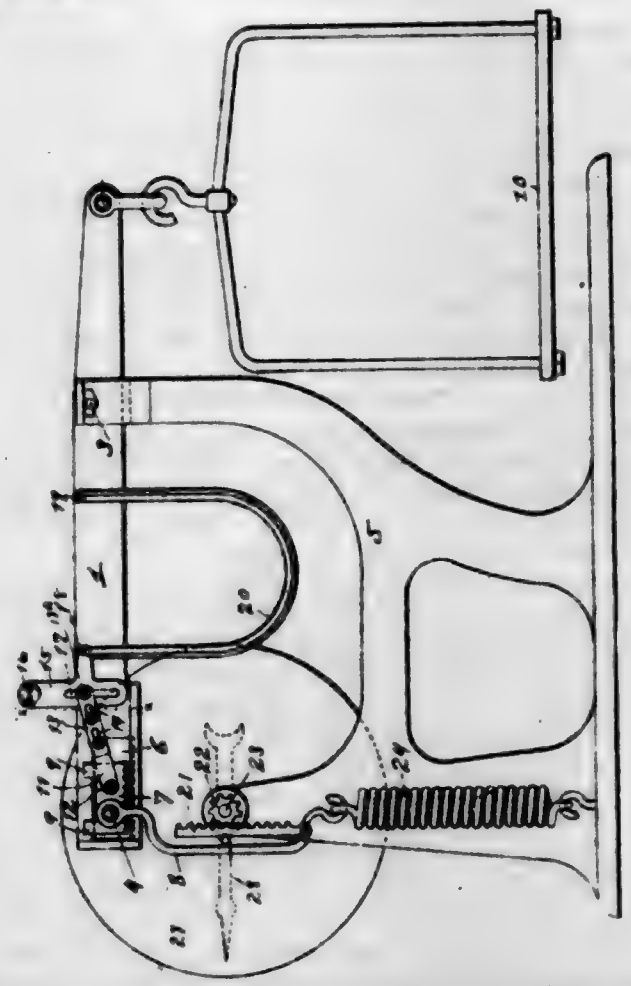
Claim.—1. In a vehicle-gear the combination of a flexible frame consisting of two longitudinal and two transverse members pivoted together at their meeting points, the longitudinal members having horizontal hollow stud-shafts secured to them, means for changing the relative positions of the members of the frame, a cross-bar pivoted at each end to the longitudinal members and adapted to support the vehicle-body, a driving-shaft carried by the cross-bar, hubs journaled upon the stud-shafts, short shafts journaled in the stud-shafts, means for connecting the outer ends of the short shafts and the hubs, means for coupling the short shafts and the driving-shaft, and means for rotating the driving-shaft.

2. A running-gear for vehicles consisting of a flexible quadrilateral frame pivoted together at the corners, hollow stud-shafts secured to and projecting centrally and horizontally outward from the longitudinal members of the frame, a cross-bar pivoted to the longitudinal members in alinement with the hollow stud-shafts, wheel-hubs journaled upon the stud-shafts, short shafts journaled within the stud-shafts, means for connecting the outer end of the short shafts to the hubs, a driving-shaft carried by the cross-bar, a universal coupling connecting the driving-shaft and the short shafts, the turning point of the universal coupling lying in alinement with the pivots at the ends of the cross-bar, means for changing the relative positions of the members of the frame to each other, and means for rotating the driving-shaft.

3. In a vehicle-gear the combination of a flexible frame consisting of two longitudinal and two transverse members pivoted together at their meeting points, the longitudinal members having horizontal hollow stud-shafts secured to them, means for changing the relative positions of the members of the frame, a cross-bar pivoted at each end to the longitudinal members and adapted to support the vehicle-body, a driving-shaft carried by the cross-bar, hubs journaled upon the stud-shafts, and having angular recesses in their outer ends, short shafts journaled in the stud-shafts, angular nuts of the shape of the recesses in the ends of the hubs secured upon the ends of the stud-shafts and engaging the recesses in the hubs, means for coupling the short shafts and the driving-shaft, and means for rotating the driving-shaft.

4. A vehicle-gear consisting of a front and a rear flexible frame, each frame consisting of two longitudinal and two transverse members pivoted together at their corners, the longitudinal members having horizontal hollow stud-shafts secured to them, a cross-bar for each frame pivoted at its ends to the longitudinal members of the frames, the two cross-bars being adapted to support the vehicle-body, driving-shafts carried by the cross-bars, hubs journaled upon the stud-shafts, means for connecting the outer ends of the short shafts and the hubs, means for coupling the short shafts and the driving-shafts, gear-wheels carried by each of the driving-shafts, a longitudinal main shaft carrying gear-wheels engaging the aforesaid gear-wheels, a means for rotating the main shaft, and means for changing the relative positions of the members of the frames.

804,947. **COMBINED SPRING AND LEVER SCALE.** CLARENCE H. HAPGOOD, Dayton, Ohio, assignor to The Computing Scale Company, Dayton, Ohio, a Corporation of Ohio. Filed Apr. 8, 1903. Serial No. 151,579.



Claim.—1. In a combined spring and lever scale, a lever having pivots, one of which is movable lengthwise of said lever, a carrier upon which said movable pivot is mounted, a thermostat, a multiplying-lever to which said thermostat is connected, adjustable connections between said multiplying-lever and the carrier whereby a proper adjustment of the movable pivot relative to the lower extremity of the spring is obtained.

2. In a combined spring and lever scale, a lever having pivots one of which is movable lengthwise of the lever, a thermostat for moving said pivot and adjustable connections between the thermo-

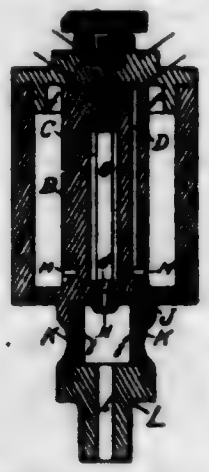
stat and pivot whereby the pivot may be set to correct initial position.

3. In a combined spring and lever scale, a weighing-lever having a longitudinally-movable pivot, thermostatic devices adapted to impart movement to said pivot to compensate for the effect of variations in temperature on the counterbalancing mechanism and means for manually adjusting said pivot to correct initial position.

4. In a combined spring and lever scale, a weighing-lever having a longitudinally-movable pivot, a lever, adjustable connections between said last-mentioned lever and longitudinally-movable pivot and a thermostat connected with said last-mentioned lever to impart movement to the pivot.

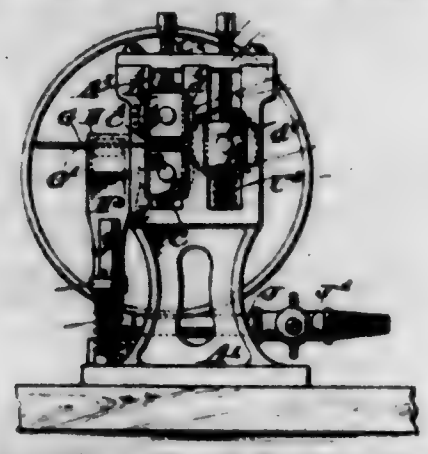
5. In a combined spring and lever scale, a weighing-lever having a longitudinally-movable pivot, a thermostat, a lever with which the thermostat is connected and a connection between said last-mentioned lever and pivot adjustable toward and from the axis of the lever whereby the effective throw of the lever in moving the pivot may be varied.

804,948. LUBRICATOR. HENRY HECK and WILLIAM M. SIMMONS, Albany, N. Y. Filed July 7, 1905. Serial No. 268,740.



Claim.—A lubricator consisting of a cylinder; a centrally-disposed core therein, containing a passage-way therethrough; said core provided with a second passage-way therethrough communicating with the said cylinder near the bottom thereof; a cover for said cylinder; having means for causing communication between the two passage-ways through said core, at the top thereof, when said cover is placed on said cylinder, but preventing communication between said passage-ways and the interior of said cylinder outside of said core at the top thereof when said cover is in position; an adjustable spindle secured to said cover; with a means for permitting observation of the interior of the said projection, all substantially as described.

804,949. IRONING-MACHINE. ROBERT C. HOLLIS, Wilmington, Del., assignor to Manhattan Laundry Company, Wilmington, Del., a Corporation of Delaware. Filed May 26, 1905. Serial No. 261,782.



Claim.—1. An ironing-machine having in combination means for feeding the article to be ironed, a guide-plate having an edge extending parallel to the line of feed, and an iron arranged to coact with the edge of the guide-plate.

2. An ironing-machine having in combination means for feeding the article to be ironed, a guide-plate having an edge extending parallel to the line of feed, and an iron having a concave face arranged to coact with the edge of the guide-plate.

3. An ironing-machine having in combination means for feeding the article to be ironed, a guide-plate having an edge extending parallel to the line of feed, an iron arranged to coact with the edge of the guide-plate, and a bending-guide arranged in such relation to the feed mechanism and the iron and guide-plate as to cause the articles being ironed to move through a curved path.

4. An ironing-machine having in combination means for feeding the article to be ironed, a guide-plate having an edge extending parallel to the line of feed, an iron arranged to coact with the edge of the guide-plate, and an adjustable bending-guide arranged in such relation to the feed mechanism and the iron and guide-plate as to cause the articles being ironed to move through a curved path.

5. An ironing-machine having in combination feed mechanism, a guide-plate having an edge extending in front of the feed mechanism so as to receive the article to be ironed in advance of its engagement with the feed, and an iron also situated in advance of the feed and coacting with the edge.

6. An ironing-machine having in combination feed mechanism, a guide-plate G, having an edge G', extending in front of the feed mechanism so as to receive the article to be ironed in advance of its engagement with the feed, an iron also situated in advance of the feed and coacting with the edge G', and a bending-guide situated on the rear of the feed mechanism.

7. An ironing-machine having in combination feed mechanism, a guide-plate G, having an edge G', extending in front of the feed mechanism so as to receive the article to be ironed in advance of its engagement with the feed, an iron also situated in advance of the feed and coacting with the edge G', and a bending guide-roll situated at the rear of the feed mechanism.

8. An ironing-machine having in combination feed mechanism, a guide-plate G, having an edge G', extending in front of the feed mechanism so as to receive the article to be ironed in advance of its engagement with the feed, an iron also situated in advance of the feed and coacting with the edge G', and a bending guide-roll positively actuated, situated on the rear of the feed mechanism.

9. An ironing-machine having in combination feed-rolls a guide-plate having an edge extending at right angles with the line of bite of the feed-rolls, and an iron arranged to coact with the edge of the guide-plate.

10. An ironing-machine having in combination feed-rolls, a guide-plate having an edge extending at right angles with the line of bite of the feed-rolls and an iron having a concave face arranged to coact with the edge of the guide-plate.

11. An ironing-machine having in combination feed-rolls, a guide-plate having an edge extending at right angles to the line of bite of the feed-rolls, an iron arranged to coact with the edge of the guide-plate, and a bending-guide arranged in such relation to the feed-rolls and the iron and guide-plate as to cause the articles being ironed to move through a curved path.

12. An ironing-machine having in combination feed-rolls, a guide-plate having an edge extending at right angles to the line of bite of the feed-rolls, an iron arranged to coact with the edge of the guide-plate, and an adjustable bending-guide arranged in such relation to the feed-rolls and the iron and guide-plate as to cause the articles being ironed to move through a curved path.

13. An ironing-machine having in combination feed-rolls *d*, *d'*, a guide-plate G, having an edge G', extending in line with the bite of the feed-rolls and substantially perpendicular thereto, and an iron arranged in front of the feed-rolls and coacting with the edge G', of the plate G.

14. An ironing-machine having in combination feed-rolls *d*, *d'*, a guide-plate G, having an edge G', extending in line with the bite of the feed-rolls and substantially perpendicular thereto, and an iron arranged in front of the feed-rolls and having a concave face H', coacting with the edge G' of plate G.

15. An ironing-machine having in combination feed-rolls *d*, *d'*, a guide-plate G, extending in front of and between the feed-rolls, said plate having an edge G', extending in line with the bite of the feed-rolls and substantially perpendicular thereto, and an iron arranged in front of the feed-rolls and coacting with the edge G', of plate G.

16. An ironing-machine having in combination feed-rolls *d*, *d'*, a guide-plate G, having an edge G', extending in line with the bite of the feed-rolls and substantially perpendicular thereto, an iron arranged in front of the feed-rolls and coacting with the edge G', of plate G, and a bending-guide lying in the rear of the feed-rolls.

17. An ironing-machine having in combination feed-rolls *d*, *d'*, a guide-plate G, having an edge G', extending in line with the bite of the feed-rolls and substantially perpendicular thereto, an iron arranged in front of the feed-rolls and coacting with the edge G', of plate G, and a bending guide-roll lying in the rear of the feed-rolls.

18. An ironing-machine having in combination feed-rolls *d*, *d'*, a guide-plate G, having an edge G', extending in line with the bite of the feed-rolls and substantially perpendicular thereto, an iron ar-

ranged in front of the feed-rolls and coacting with the edge G', of plate G, and a bending guide-roll positively actuated lying in the rear of the feed-rolls.

19. In a machine of the character described, the combination with a guide-plate and a coöperating grooved ironing-shoe, of a roller adjacent to said guide-plate operating to feed the collar over said guide-plate and through a groove of said shoe.

20. An ironing device, comprising a fixed collar-support, an iron movable toward and from said support, means for forcing said iron toward the support to press the folded collar thereon, means for drawing the collar through the ironing device, and means for heating the iron.

21. An ironing device, comprising a thin fixed collar-support, an iron having an arched passage-way that engages the collar-support saddlewise, means for pressing the iron upon the collar yieldingly, means for heating said iron, and means for seizing and drawing the collar through the iron.

804,950. **AUTOMATIC CAR-LIFT.** GRANT HOLMES, Danville, Ill., assignor to Robert Holmes & Brothers, Danville, Ill., a Corporation. Filed Aug. 18, 1905. Serial No. 274,714.



Claim.—1. An automatic car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, means for raising and lowering the other end of said track-section, and controlling means actuated by the car for causing said raising and lowering mechanism to raise the free end of said track-section when the car enters the same and to lower said end when the car leaves said section, substantially as described.

2. An automatic car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, means for raising and lowering the other end of said track-section, and controlling means actuated by the car for causing said raising and lowering mechanism to raise the free end of said track-section when the car enters the same and to lower said end when the car leaves said section, said track-section having its receiving end inclined downward in the direction of travel of the car when said section is in its lowered position, substantially as described.

3. An automatic car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, a fluid-pressure cylinder provided with a piston connected with said track-section, a valve controlling the supply of pressure fluid to said cylinder, and contact devices actuated by the car for shifting said valve to raise the track-section when the car enters the same and lower said section when the car leaves the same, substantially as described.

4. An automatic car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, a pressure-cylinder provided with a piston, guide-pulleys located above the track-section, flexible connections between said piston and the track-section passing over said guide-pulleys, a valve controlling the supply of pressure fluid to said cylinder, and contact devices actuated by the car for shifting said valve to lift the track-section when the car enters the same and to lower said section when the car leaves the same, substantially as described.

5. A car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, an upright frame through which the other end of said track-section passes, said frame being provided with guideways and elevated pulleys, said track-section having a cross-piece traveling in said guideways, chains connected to said cross-piece and passing over said pulleys, a pressure-cylinder provided with a piston and piston-rod to which said chains are connected, and a valve controlling the supply of pressure fluid to said cylinder, substantially as described.

6. An automatic car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, a pressure-cylinder having a piston connected to said track-section, a three-way valve having connections with a pressure-supply, the cylinder, and an exhaust, and means actuated by the car for shifting said valve to connect the pressure supply and cylinder when the car enters the track-section, and for shifting said valve to close the pressure-supply and connect the cylinder and exhaust when the car leaves the track-section, substantially as described.

7. An automatic car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, a pressure-cylinder having a piston connected with said track-section to raise and lower the same, a valve controlling the pressure-supply to said cylinder, a rock-shaft connected with said valve to shift the same to either its raising or lowering position, and two contact-arms operatively connected with said rock-shaft and arranged in the path of the car at the entrance and exit of the track-section respectively, the former arm moving the rock-shaft to shift the controlling-valve to its raising position and the latter arm returning the rock-shaft and valve to their normal lowering position, substantially as described.

8. In an automatic car-lift for lifting a car from a lower to a higher level, a track-section pivoted at one end and provided with means for raising and lowering its other end, said section being provided at said other end with a stop-arm which permits the passage of the car in a forward direction and prevents its return in the opposite direction, substantially as described.

9. The combination, with a loaded-car track located on one side of a shaft, an empty-car track inclined downward from the shaft on the opposite side thereof, and a reverse incline beginning at a higher level and comprising a switch-track passing around the shaft and having an automatic or spring switch, of an automatic car-lift for raising the empty car from the bottom of the first-mentioned incline to a height sufficient to cause it to ascend the reverse incline, said lift comprising a track-section pivoted at one end and having its other end normally level with the lower end of the first-mentioned incline, and automatic mechanism controlled by the car for lifting the free end of said track-section to reverse its inclination when the car enters the same and to restore said track-section to its normal position when the car leaves the same, substantially as described.

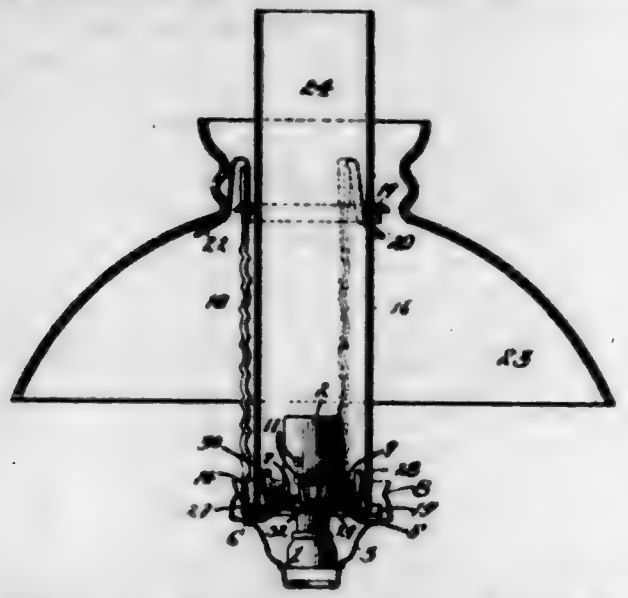
10. An automatic car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, a fluid-pressure cylinder closed at both ends and provided with a piston connected with said track-section, a valve controlling the admission and exhaust of the pressure fluid to and from one end of said cylinder, and an opening located in the side of the cylinder at a distance from the other end greater than the length of the piston, substantially as described.

11. An automatic car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, a fluid-pressure cylinder closed at both ends and provided with a piston connected with said track-section, a valve controlling the admission and exhaust of the pressure fluid to and from one end of said cylinder, a plurality of apertures formed through the side wall of the cylinder at different distances from its other end greater than the length of the piston, and means for closing all of said apertures except one, substantially as described.

12. An automatic car-lift for lifting a car from a lower to a higher level, comprising a track-section pivoted at one end, a fluid-pressure cylinder closed at both ends and provided with a piston connected to said track-section, a three-way valve, a supply-pipe and exhaust-pipe connected to said valve, a cylinder-pipe connecting said valve and one end of the cylinder, an opening formed through

the side of the cylinder at a distance from its other end greater than the length of the piston, and a pipe connecting said opening with the exhaust-pipe, substantially as described.

804,951. CHIMNEY, GLOBE, AND SHADE HOLDER. WILLIAM C. HOMAN, Meriden, Conn., assignor to Edward Miller & Company, Meriden, Conn., a Corporation of Connecticut. Filed Oct. 20, 1903. Serial No. 178,956.



Claim.—1. A device of the character described including a cylinder having a projection on its outer surface, a holder adapted to coact therewith comprising a collar having a recess to correspond with said projection, a shoulder carried by said cylinder supporting said collar, a rim connected to said collar by a series of arms upon which a chimney is adapted to be supported, a series of ears carried by said rim for supporting a globe or shade, and a casing for the base of said device.

2. A device of the character described comprising a casing, a platform secured in place therein, a series of clamps integral with said platform for projecting up into and centering a chimney, a depending spring-tang in each of said clamps extending downward and at a slight angle outward when the chimney is removed, a cylinder above said tube, a shoulder supported thereby and a holder adapted to be supported and held in place on said cylinder and by said shoulder for supporting a globe, shade or the like.

3. A device of the character described comprising a casing, a platform secured in place therein having a plurality of arms, chimney-centering clamps carried by said platform, a cylinder above said platform, a holder supported by said cylinder, a rim carried by said holder having a series of arms with spaces between them, the spaces corresponding to the chimney-clamps and means carried by said holder for supporting a globe or shade.

4. A device of the character described comprising a casing, a platform secured in place therein, a series of chimney-centering clamps integral with said platform and a depending spring-tang extending downward from each of said clamp members and at a slight angle outward when the chimney is removed but resting flat against the inside of the chimney when it is in place.

5. A device of the character described comprising a casing, a platform therein, arms connecting said platform and casing, clamps carried by said platform for centering the chimney, a cylinder above said platform and a globe-holder removably supported above said platform by said cylinder comprising a collar, arms extending therefrom, a rim carried thereby and means secured to said rim for supporting a globe.

6. A device of the character described comprising, a cylinder, a casing surrounding and extending upward around the base of said cylinder, chimney-centering clamps for the inside of the chimney situated between said cylinder and said casing, and a combined chimney and globe support carried by said cylinder and removable independently of said clamps.

7. A device of the character described comprising, a cylinder, a casing connected thereto by a series of arms, chimney-centering devices alternating with said arms, and a removable globe-supporting device carried by said cylinder.

8. A device of the character described including, a cylinder, a removable combined chimney and globe supporting member carried by said cylinder, inside chimney-centering devices located between the globe-support and the cylinder independent of said globe-supporting member, and a casing secured to said cylinder having an outer edge surrounding the base of the globe-supporting device and adapted to removably support a globe.

804,952. RAILROAD-SWITCH. CHARLES W. HUNDLEY, Irvine, Ky., assignor of one-half to Leonard A. West, Irvine, Ky. Filed June 17, 1905. Serial No. 265,779.



Claim.—1. A switch mechanism comprising main rails, movable switch-points, a movable switch-rod for controlling the position of the switch-points relative to the main rails, a movable casing secured to both of the switch-points and having a downwardly-extending abutment, an aperture in said abutment through which the switch-rod passes, collars on the switch-rod, and yielding means between said collars and said abutment to hold the switch-points yieldingly against the main rails.

2. A switch mechanism comprising main rails, pivoted switch-points adapted to be moved into and out of contact therewith, a movable casing secured to both of the switch-points having an abutment thereon, a switch-rod for moving the switch-points, collars on the switch-rod, and coiled springs between the collars and said abutment.

804,953. UNIVERSAL JOINT. PATRICK L. HUSSEY, Cleveland, Ohio. Filed July 10, 1905. Serial No. 269,060.



Claim.—1. In a universal joint the combination of two joint members having forked ends arranged to be disposed at an angle to each other, a bearing-carrying member arranged to incase said joint members, said bearing-carrying member having an opening at each end so that each joint member may be mounted in the said bearing-carrying member by introducing one of the fork members thereof into the bearing member and allowing said fork member to travel past its normal position and then introducing the other member of the fork into the casing and means for centralizing each joint member in the bearing-carrying member.

2. In a universal joint the combination of two joint members

having forked ends arranged to be disposed at an angle to each other, trunnions arranged on said forked ends, a bearing-carrying member arranged to inclose said joint members, bearings arranged in said bearing-carrying member arranged for receiving the trunnions on the joint members and means for adjusting said bearings so as to centraline the joint members in the bearing-carrying member and compensate the wear on the members.

3. In a universal joint, the combination of two joint members having forked ends, a casing arranged to inclose said forked ends, trunnions formed on said forked ends, said trunnions having sockets formed in their ends for receiving a quantity of grease and bearings arranged to inclose said trunnions so as to prevent the escape of grease from the said sockets.

4. In a universal joint the combination of two joint members having forked ends, a bearing-carrying member arranged around said forked ends, two pairs of bearings for said forked ends mounted in said bearing-carrying member and means for adjusting said bearings so as to cause them to project beyond the interior surface of said bearing-carrying member in order to centraline said joint members and prevent the forked ends thereof from being withdrawn from said casing.

5. In a universal joint the combination of two joint members having forked ends arranged to be disposed at an angle to each other, tapered trunnions arranged on said forked ends of said joint members, a bearing-carrying member, bearings mounted in said bearing-carrying member and provided with openings for receiving the trunnions on the joint members, said openings being tapered corresponding to the taper on the trunnions and means for adjusting said bearings.

6. In a universal joint the combination of two joint members having forked ends, a bearing-carrying member provided with two pairs of openings, one pair of openings being arranged at an angle to the other pair of openings, bearings arranged in said openings for receiving the ends of the forks on the joint members and means for adjusting said bearings.

7. In a universal joint the combination of two joint members having forked ends arranged at an angle to each other, a bearing-carrying member provided with two pairs of screw-threaded openings, one pair of openings being arranged at an angle to the other pair of openings, exteriorly-screw-threaded bearings arranged to screw into said openings and means for locking said bearings in said bearing-carrying member.

8. In a universal joint the combination of two joint members having forked ends provided with tapered trunnions, a bearing member provided with two pairs of screw-threaded openings, exteriorly-screw-threaded bearing-rings arranged to screw into said openings, the openings in said bearing-rings for receiving the trunnions being tapered corresponding to the taper on said trunnions and means for locking said bearing-rings in said bearing-carrying member.

9. In a universal joint the combination of two joint members having forked ends, a bearing-carrying member having a smooth exterior surface and provided with two pairs of openings, one pair of openings being arranged at a right angle to the other pair of openings, seats being formed in the exterior surfaces of said bearing-carrying member around said openings, bearing-rings arranged in said openings and caps arranged on said bearing-rings and adapted to fit into the seats in said bearing-carrying member so that their outer surfaces are flush with the outer surfaces of said bearing-carrying member.

10. In a universal joint the combination of two joint members having forked ends, a bearing-carrying member provided with two pairs of openings, bearing-rings arranged in said openings, a spring-actuated dog arranged at the side of each opening and means arranged on the bearing-rings and adapted to be engaged by said dogs so as to lock said bearing-rings in said openings.

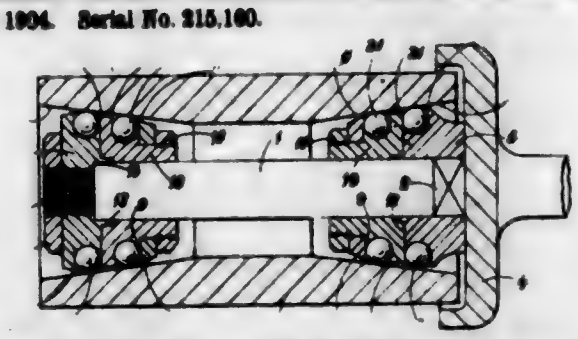
11. In a universal joint the combination of two joint members having forked ends, a bearing-carrying member, said bearing-carrying member provided with two pairs of screw-threaded openings, bearing-rings arranged to screw into said openings, caps arranged on said bearing-rings and provided with a series of depressions on their under surfaces, pockets being formed at the side of each opening and extending partly under said caps and a spring-controlled dog arranged in each pocket so that part of the said dog will enter a depression in the cap and a part thereof be exposed so that it can be engaged and depressed, substantially as described and for the purpose set forth.

12. In a universal joint the combination of two joint members having forked ends, a bearing-carrying member arranged to inclose said joint members, said bearing-carrying member being provided with two pairs of openings, annular flanges being formed on the interior surface of said bearing-carrying member around said openings and strengthening-ribs arranged to extend between said annular flanges, and bearings mounted in said openings and arranged to receive the forked ends of the joint members.

13. In a universal joint the combination of two joint members having forked ends, a casing arranged around the forked ends of said joint members and having an opening at each end through which the shanks of the joint members project and means for closing said openings comprising sheets of non-porous flexible material of greater area than said openings, the excess of material in said sheets being disposed in folds or crimps, means for clamping said sheets around the shank portions of the joint members and means for securing the said sheets around the edges of the openings in the said casing.

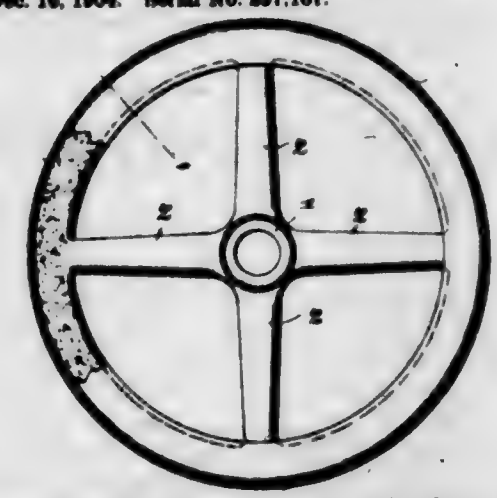
14. The combination of two members provided with corresponding screw-threads, one of said members being provided with a cap arranged to lap over the other member, said cap being provided with a series of depressions on its under surface, a pocket being formed in the other member and extending partly under the said cap, and a spring-controlled dog arranged in said pocket so that part thereof will extend into a depression in the said cap and part thereof will be exposed so that it can be engaged and depressed.

804,954. BEARING FOR VEHICLES. ERIC JOHANSON and CHARLES JOHANSON, Dilmanstown, Kumara, New Zealand. Filed July 3, 1904. Serial No. 215,160.



Claim.—For the purpose indicated, in combination, a wheel-hub having its ends bored conically, an axle passing into the hub, a socket having a race and fitting the axle and engaging a portion square in section of the axle, a socket having a race and fitting the end of the axle being screwed thereon, a nut on the axle to retain said socket in position, there being square bosses upon the sockets, other sockets having races and having holes engaging the bosses, washers upon the sockets, balls within the races, there being rims upon the sockets and washers for retaining the washers on the sockets, as set forth.

804,955. STEERING-WHEEL. JOHN W. JOHNSON, Kokomo, Ind. Filed Dec. 16, 1904. Serial No. 237,167.



Claim.—A wheel having a pitted rim, and a sheet or envelop of hard rubber permanently vulcanized upon the rim and anchored in position by the pits.

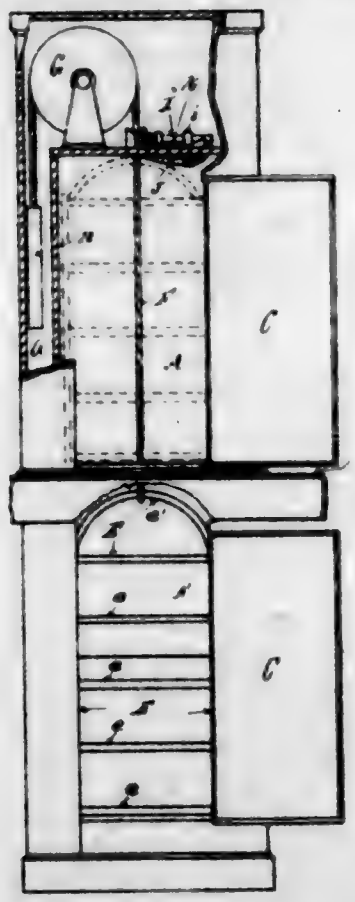
804,956. CROSS-MUNNION FOR FIREPROOF WINDOWS. SMITH KINGSLEY, Pittsburg, Pa. Filed Mar. 23, 1905. Serial No. 251,935.

Claim.—1. A cross-munnion for fireproof windows comprising two hollow metal sections, and a bridge-piece for connecting the two sections and drawing them toward each other to firmly engage the panes of glass, said bridge-piece having inclined sides extending within one side of each of said sections, substantially as described.

2. A cross-munnion of the character described, comprising two hollow sheet-metal sections adapted to be joined to the side rails of a sash, an inverted-channel-shaped bridge having inclined side walls adapted to be inserted into the sections of said munnion to draw the same together and to form a support for the upper pane of glass, substantially as described.

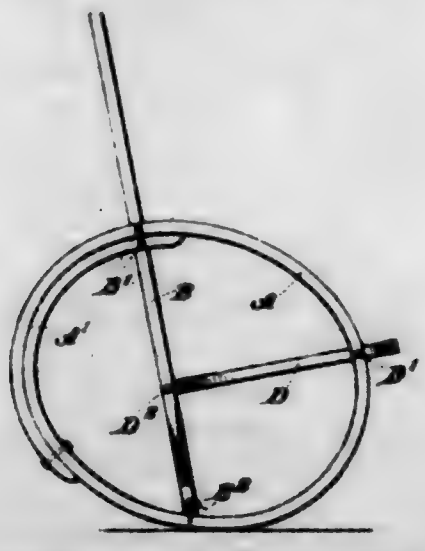


804,957. DUMB-WAITER CLUTCH MECHANISM. HENRY KELLER, Lasalle, N. Y. Filed Oct. 22, 1904. Serial No. 229,627.



Claim.—The combination in a dumb-waiter mechanism of a vertically-movable carriage, a rope suspending said carriage, a pulley over which said rope operates, a spring-actuated clutch adapted to engage said rope, and a latch adapted to be engaged by the carriage so as to bring said clutch into operation, substantially as set forth.

804,958. ROCKING-CHAIR. FELIX KOHN, Vienna, Austria-Hungary. Filed Dec. 28, 1904. Serial No. 239,633.



Claim.—A chair composed of elliptical rockers, having overlapping ends and forming arm-rests, of the back-frame B, secured to said rockers and of the seat D, secured between and to the rockers and to the back substantially set forth.

804,959. HORSESHOE. SAMUEL D. KOSTENBADER, Leighton, Pa. Filed Mar. 13, 1905. Serial No. 249,998.



Claim.—The herein-described horseshoe, consisting of the body portion or shoe having a recess 2 extending through the toe portion thereof, and an undercut shoulder 5 at the front of said recess, a lug 3 extending backward from said recess on a plane below the upper surface of the body, and provided with a hole 4, a removable toe-calk 7, having a perforated locking-plate 8 and an undercut lug 6, said toe-calk being secured in place with the lug 6 and the upper wall of said toe-calk engaging the shoulder 5, and a screw passing through the registered holes in the shoe and locking-plate, substantially as described.

804,960. COMPOUND SUITABLE AS LACQUER OR VARNISH. LEONHARD LEDERER, Sulzbach, Oberpfalz, Germany. Filed Apr. 10, 1905. Serial No. 254,846.

Claim.—1. The process for the manufacture of solutions suitable as lacquers or varnishes and for other industrial purposes, which consists in dissolving a suitable organic compound in acetylene tetra-chlorid, substantially as described.

2. The process for the manufacture of solutions suitable as lacquers or varnishes and for other industrial purposes, which consists in dissolving suitable organic compounds in acetylene tetra-chlorid and another solvent of the said compound, substantially as described.

3. The process for the manufacture of solutions suitable as lacquers or varnishes and for other industrial purposes, which consists in dissolving an acidlized cellulose in acetylene tetra-chlorid, substantially as described.

4. The process for the manufacture of solutions suitable as lacquers or varnishes and for other industrial purposes, which consists in dissolving acetyl cellulose in acetylene tetra-chlorid, substantially as described.

5. A composition of matter consisting of a solution of acidlized cellulose in acetylene tetra-chlorid, substantially as described.

6. A composition of matter consisting of a solution of acidlized cellulose in acetylene tetra-chlorid and another solvent, substantially as described.

7. A composition of matter consisting of a solution of acetyl cellulose in acetylene tetra-chlorid, substantially as described.

8. A composition of matter consisting of a solution of acetyl cellulose in acetylene tetra-chlorid and another solvent, substantially as described.

804,961. VOTING-MACHINE. SYVER LOE, Minneapolis, Minn. Filed May 4, 1903. Serial No. 155,461.

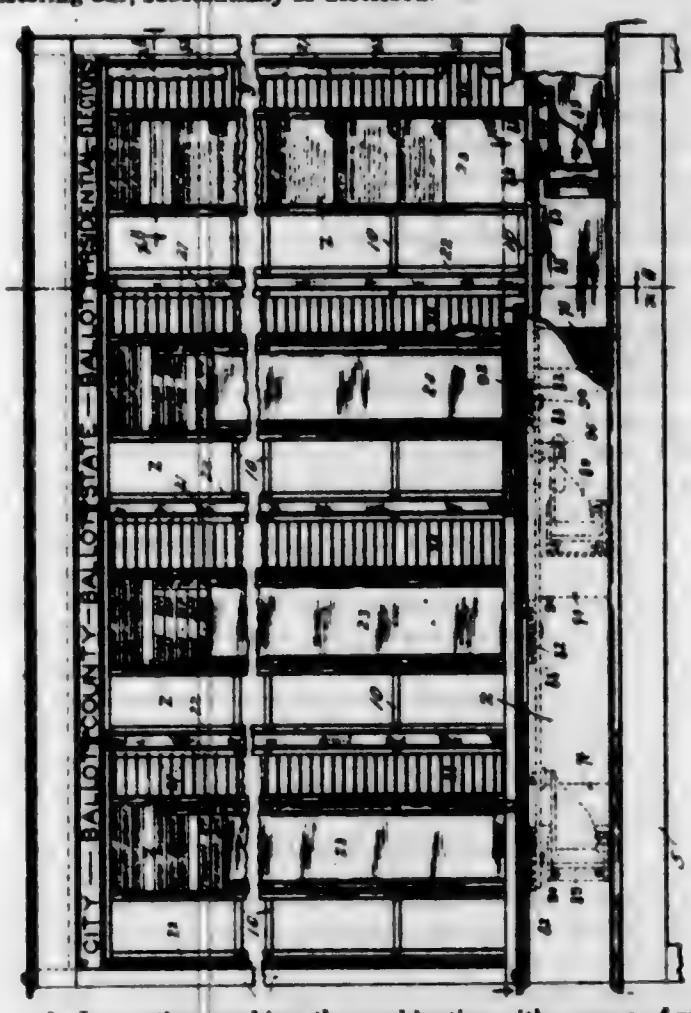
Claim.—1. In a voting-machine, the combination with a group of registers and register-actuators, of a restoring-bar mounted on parallel pivoted links for parallel swinging movement in a constant plane for action on said actuators, to restore the same to normal positions, and a restoring-slide for operating said restoring-bar, substantially as described.

2. In a voting-machine, the combination with several series of registers and register-actuating levers, of register-actuating pawls pivoted to said levers, a restoring-bar for each series of levers, a restoring-slide operating on each restoring-bar, a tie-bar operating on the several restoring-slides, a handpiece for operating said tie-bar, and an eccentric operating on each series of pawls to throw the same to and from operative positions and provided with a projecting arm subject to a cam-groove in the corresponding restoring-slide, substantially as described.

3. In a voting-machine, the combination with several series of registers and register-actuators, of register-actuating pawls subject to said actuators, a restoring-bar for restoring said actuators to normal position, a restoring-slide operative on said restoring-bar, a tie-bar connecting the several restoring-slides for simultaneous movements, means for operating said tie-bar, and a shifting device operating to throw each series of pawls to and from operative positions, which shifting device is subject to said restoring-slide, substantially as described.

4. In a voting-machine, the combination with a group of registers and register-actuators, of register-engaging pawls subject to said actuators, means for moving said pawls to and from operative positions, a restoring-bar operative to restore said actuators simul-

taneously to normal position, thereby imparting operative movements to said pawls, and a restoring-slide operative, by initial movement, on said pawl-shifting means, to throw said pawls into operative positions, and operative, by continued movement, to move said restoring-bar, substantially as described.



5. In a voting-machine, the combination with a group of registers and register-actuating levers, of register-engaging pawls, operated by said levers, an eccentric for moving said pawls into and out of operative positions, said eccentric having a projecting arm, a restoring-bar operative on said levers, for simultaneously restoring the same to normal position, and a restoring-slide operating on said restoring-bar and having a cam-groove operating on the arm of said eccentric and serving, under an initial movement, to throw said pawls into operative positions, substantially as described.

6. In a voting-machine, the combination with a group of registers and pivoted register-actuating levers, of a restoring-bar mounted for parallel swinging movement for action on said actuating-levers, a restoring-slide operating said restoring-bar, and a hand-lever with connections for operating said restoring-slide, substantially as described.

7. In a voting-machine, the combination with a group of registers and register-actuating levers, of a lever-restoring bar, a pair of parallel links supporting said bar, and a restoring-slide having a part operating on one of the said links, to move said restoring-bar and cause the same to simultaneously restore the "set" levers to normal positions, substantially as described.

8. In a voting-machine, the combination with a base-support, of a plurality of frame-sections pivoted to said support for a hinge-like movement to and from operative positions, and voting mechanism, involving groups of registers and register-actuators, mounted on each frame-section, substantially as described.

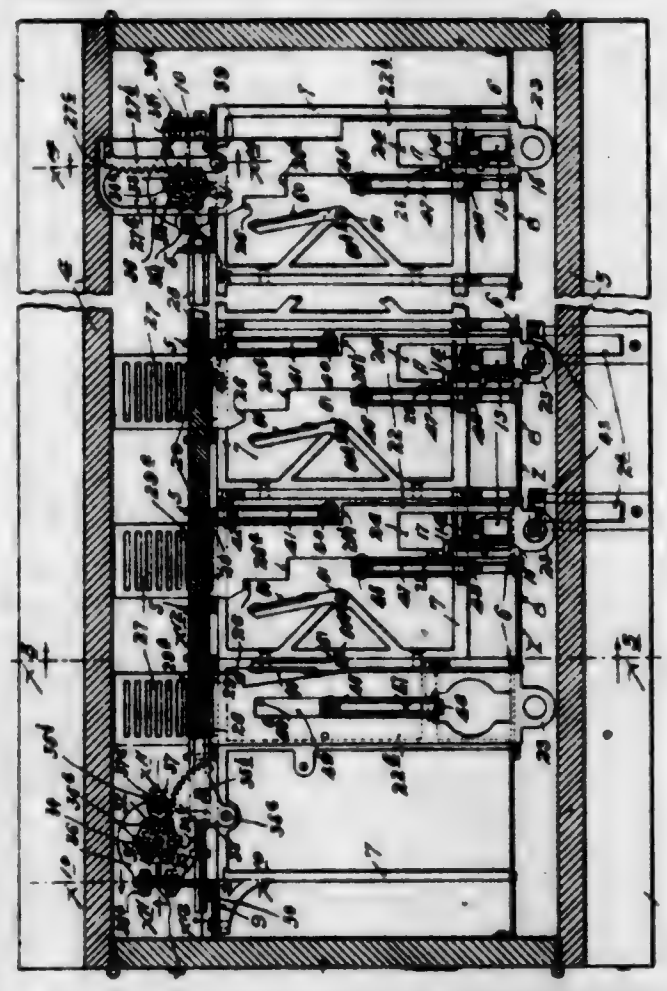
9. In a voting-machine, the combination with a base-support, of a frame-section pivoted thereto, groups of registers and register-actuators mounted on said pivotal frame, an actuator-restoring bar mounted on said frame, a bar-actuating slide also mounted on said frame, and a hand-operated power device for operating said slide, having a part with which said slide is engageable and disengageable by pivotal movements of said frame, substantially as described.

10. In a voting-machine, the combination with a group of registers, of a corresponding group of register-actuating levers, which levers are movable into abnormal inoperative positions, and are provided with devices for actuating said registers, vote-limiting mechanism, and a detaining-strip, normally acting as a stop for the operative actuating-levers and serving to lock in abnormal inoperative positions, such of said levers as are thrown out of action, substantially as described.

11. In a voting-machine, the combination with registers and register-actuators, of means for causing the votes to be recorded after the actuators have been set, involving an operating plunger or slide, a lock for the same, a lock-releasing device, and a trip for said lock-releasing device, arranged to be thrown into action by the operative movement of said plunger or slide, substantially as described.

12. In a voting-machine, the combination with registers and register-actuators and means for recording votes when the said actuators are moved back to normal positions, of means for restoring said actuators to normal position, involving a plunger or slide, a lock for securing the same in its extreme positions, a releasing device for holding said lock inoperative, and a trip carried by said plunger or slide and operating on said releasing device, to automatically render said lock operative, substantially as described.

804,962. VOTING-MACHINE. STYER LOE, Minneapolis, Minn. Filed Mar. 23, 1904. Serial No. 199,461.



Claim.—1. In a voting-machine, the combination with several groups of registers and register-actuators assigned to different political parties, but to the same office, of a plurality of distensible lock-bars having sections that are subject to actuators of the different groups, and a secondary vote-limiting mechanism comprising a series of shiftable elements, and stops for limiting the aggregate movements of the series of shiftable elements, the said shiftable elements being subject one to each of the said distensible lock-bars, whereby the total number of votes which may be registered for a particular office is limited.

2. In a voting-machine, the combination with several groups of registers and register-actuators, assigned to different political parties, but to the same office, of a plurality of distensible lock-bars having sections that are subject to one of the actuators of each group, and a secondary vote-limiting mechanism comprising a series of laterally-shiftable rotary elements, rotated one by each of said distensible bars, and stops for limiting the shifting movements thereof and thereby limiting the total number of votes which may be registered for the particular office.

3. In a voting-machine, the combination with several series of registers and register-actuators, appropriated to the different political parties, but to the same office, of a plurality of distensible lock-bars made up of rotary and non-rotary sections having threaded engagement, the rotary sections of each bar being subject one to an actuator of each group, and a secondary lock mechanism comprising a group of non-rotary shiftable hubs, located side by side, each nut member being subject to one of the said distensible lock-bars, and stops limiting the spreading movements of said hubs and nut members, to thereby limit the total number of votes which may be cast for the particular office.

4. In a voting-machine, the combination with several groups of registers and register-actuating slides, said slides having wide-faced racks, of a plurality of distensible lock-bars made up of rotary and non-rotary sections having threaded engagement, said rotary sections having pinions meshing with and movable laterally over said wide-faced racks, and secondary vote-limiting mechanism comprising a plurality of laterally-shiftable votary members, each subject to one of said distensible bars, and stops for limiting the spreading or shifting movements of the said members, substantially as described.

5. In a voting-machine, the combination with several groups of registers and register-actuating slides having wide-faced racks, of a plurality of primary lock-bars made up of rotary and non-rotary sections having threaded engagement, the rotary sections having pinions meshing with and sliding over the racks of said actuating-slides, gears subject to each distensible bar, and a secondary vote-limiting mechanism comprising a group of shiftable non-rotary hubs, pinions screw-threaded on said hubs and meshing each with one of said bar-actuating gears, and stops for limiting the spreading movements of said hubs and pinions, to thereby limit the total number of votes which may be cast for a particular office.

6. In a voting-machine, the combination with a group of registers and register-actuators, of vote-limiting mechanism comprising a group of laterally-expansible rotary elements, and divided or two-part stop-brackets and interposed coöperating stop-washers removably and adjustably supported and arranged to limit the expanding movements of the said shiftable rotary elements, substantially as described.

7. In a voting-machine, the combination with a group of registers and register-actuators, of vote-limiting mechanism comprising a group of non-rotary slidable hubs, nuts screw-threaded on said hubs and subject to said actuators, washers embracing the groups of hubs and nuts, and two-part stop-brackets constructed to embrace said washers and to detachably hold the same in working position, substantially as described.

8. The combination with several columns or series of registers and register-actuators, of distensible vote-limiting lock-bars made up of shiftable sections having threaded engagement, said bars having sections which are subject one to an actuator of each column, substantially as described.

9. The combination with several columns or series of registers and register-actuators, of vote-limiting mechanism comprising fixed stops and a plurality of distensible lock-bars, each bar having an adjustable stop coöperating with one of the said fixed stops, and each bar having sections subject one to an actuator of each column, substantially as described.

10. The combination with several columns of registers and register-actuating slides, said slides having wide-faced racks, of vote-limiting mechanism comprising laterally-spaced fixed stops, a plurality of distensible lock-bars made up of rotary and non-rotary sections having screw-threaded engagement, said rotary sections having pinions meshing with the racks of said slides, said bars having stops engageable with said fixed stop-plates, substantially as described.

11. The combination with several columns of registers and register-actuators, of vote-limiting mechanism comprising fixed stops and a plurality of distensible coöperating bars, each bar being made up of sections united by right-and-left threads, and each bar having sections which receive rotary movement, one from an actuator of one of each of the groups, substantially as described.

12. The combination with a column or series of registers and register-actuators, of a movable register-support for said series of registers, normally holding the same in inoperative positions, so that said actuators may be moved into "set" positions, without action on said register, and means for restoring the set actuators to normal positions arranged to act under an initial movement to move said register-support and carry said registers into operative positions, and subsequently to operate the same, substantially as described.

13. The combination with a column or series of registers and register-actuators, the unit members of said registers having pin-wheels, of oscillating escapement-dogs, operated by said actuators and having their heads formed with reversely-projecting and reversely-beveled cam-lugs that work within the arc of the pins of said pin-wheels and engage the pins, first on one side and then on the other of said wheels, and positively lock the said wheels against rotation, substantially as described.

14. The combination with a column or series of registers and register-actuating slides, said slides having register-actuating projections, and the unit members of said registers having escapement-wheels, of escapement-dogs operating on said escapement-wheels, to impart step-by-step movements thereto, and to lock the same, said dogs receiving motion from said actuating-slides and being held normally locked by the said actuating projections thereof, substantially as described.

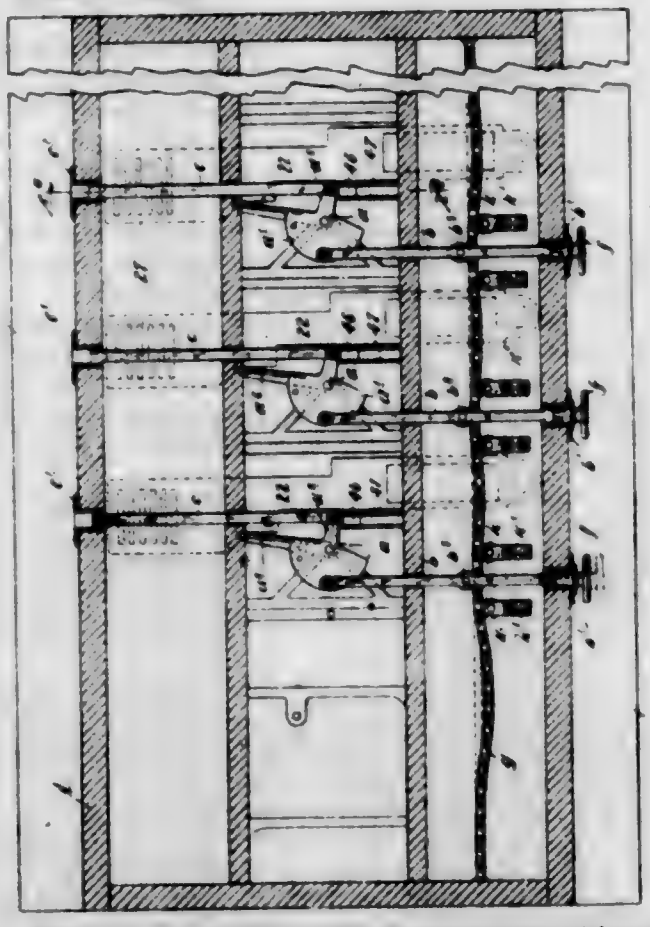
15. The combination with several columns of registers and register-actuators, of pivoted lock-blades coöperating with said columns of actuators, but extending for action on only a part thereof, and means for moving said blades endwise to vary the number of actuators controlled by said lock-blades, substantially as described.

16. In combination with several columns of registers and register-actuating slides, said slides having lock-shoulders, of a plurality of movable lock bars or blades coöperating with the lock-shoulders of said slides, and vertically adjustable for engagement with more or less thereof, a bar connecting the several lock-blades, and a screw rod or spindle operating on said bar to move said blades to and from operative positions, said rod or spindle having an indicator showing its two extreme positions, substantially as described.

17. The combination with one or more columns of registers and register-actuators, of actuator-restoring bars, mounted for parallel movements in their actions on the set register-actuators, a rock-shaft having operating-levers at both its ends, the one within reach of the voter, and the other within reach of the attendant, connections from said rock-shaft to said restoring-bars, for operating them, locks for locking said rock-shaft in its two extreme positions, and lock-releasing devices extended to points out of the reach of the voter, and within reach of an attendant, substantially as described.

18. The combination with a series of registers and register-actuators, of vote-limiting mechanism involving a group of laterally-shiftable rotary pinions and coöperating stops, and toothed elements normally meshing with said pinions and receiving movement from said actuators, and having movement into and out of mesh with said pinions, substantially as described.

804,963. PARTY-SELECTING MECHANISM FOR VOTING-MACHINES. SYLVIA LOE, Minneapolis, Minn. Filed Feb. 17, 1905. Serial No. 246,007.



Claim.—1. In a voting-machine, the combination with registers, register-actuators, and vote-limiting mechanism appropriated to different political parties, of party-selecting mechanism comprising lock devices normally standing in position to lock said register-actuators, and means whereby the movement of one of said lock devices into a released position will secure the other lock devices which are appropriated to different political parties, in their locking positions, substantially as described.

2. In a voting-machine, the combination with registers, register-actuators, and vote-limiting mechanism appropriated to different political parties, of party-selecting mechanism comprising lock devices normally standing in such positions as to positively lock all of said register-actuators, and means whereby the movement of a lock

device which coöperates with the register-actuators appropriated to one political party, will positively secure all lock devices appropriated to different political parties in their locking positions, substantially as described.

3. In a voting-machine, the combination with several series of registers and register-actuators appropriated to different political parties and subgrouped for different offices, of vote-limiting mechanism coöperating with said actuators, and party-selecting mechanism comprising locks normally positioned to lock the actuators of the several series with which they coöperate, and a releasing device for each lock, extending to two distant points, as to the front and rear of the machine, and means whereby the movement of one of said lock devices into a releasing position, will secure all of the other lock devices in their locking positions, substantially as described.

4. In a voting-machine, the combination with several series of registers, and register-actuators, appropriated to different political parties, and subgrouped for different offices, of vote-limiting mechanism coöperating with said actuators, and party-selecting mechanism for rendering inoperative all of the actuators except those appropriated to the party selected, and having actuating devices extending both to the front and to the rear of the machine, substantially as described.

5. In a voting-machine, the combination with several series of registers and register-actuators, appropriated to different political parties and subgrouped for different offices, of vote-limiting mechanism coöperating with said actuators, and party-selecting mechanism having actuators extending both to the front and to the rear of the machine, and provided with detachable knobs or finger-pieces, applicable to the ends either of the forwardly or rearwardly projecting selector-actuators, at will, substantially as described.

6. In a voting-machine, the combination with several series of registers and register-actuators, appropriated to different political parties, and subgrouped for the different offices, of vote-limiting mechanism coöperating with said actuators, and party-selecting mechanism comprising lock-blades, normally locking the several series of actuators, lock-blade actuators extending from said lock-blades to within reach of an operator, and means for locking in normal positions all of said lock-blades except the first to be moved by its actuator, substantially as described.

7. In a voting-machine, the combination with several series of registers and register-actuators, appropriated to different political parties, and subgrouped for the different offices, of vote-limiting mechanism coöperating with said actuators, and party-selecting mechanism, comprising a pivoted lock-blade for each series of actuators, normally locking the same, plungers eccentrically connected to said lock-blades for moving them into releasing position, and means actuated by the first of said plungers to be moved for locking all of the other plungers, and their corresponding lock-blades, in locking positions, substantially as described.

8. In a voting-machine, the combination with registers, register-actuators, and vote-limiting mechanism appropriated to different political parties, of party-selecting mechanism comprising locks for the actuators appropriated to the different political parties, lock-actuating connections extending to different points of the machine, as, for instance, to front and rear thereof, and provided at their outer ends with removable knobs or sections which, when removed, render them inaccessible to the operator, substantially as described.

9. In a voting-machine, the combination with registers, register-actuators, and vote-limiting mechanism, of party-selecting mechanism comprising pivoted lock-blades for the actuators appropriated to different political parties, operating-plungers eccentrically connected in pairs to said lock-blades, and extending one to the front and the other to the rear of the machine, and provided at their outer ends with interchangeable finger-pieces, a limiting connection extending transversely of certain of said plungers and subject thereto, and to relatively fixed guides, said connection having only such slack as to permit the movement of one lock-blade, substantially as described.

10. In a voting-machine, the combination with registers and register-actuators, and vote-limiting mechanism appropriated to different political parties, of party-selecting mechanism comprising lock-blades for the actuators appropriated to different political parties, plungers b eccentrically connected to said lock-blades, and provided with wheels b^3, relatively fixed guide-wheels k on opposite sides of the said wheels b^3, and a chain g, anchored at its ends, passed between said wheels b^3 and k, and having only sufficient slack to permit the movement of one plunger b, and its connected lock-blade, substantially as described.

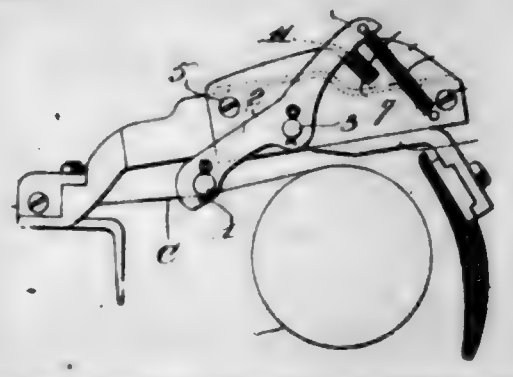
11. In a voting-machine, the combination with registers and register-actuators appropriated to different political parties, of vote-limiting mechanism and actuator-restoring devices, and party-selecting mechanism comprising lock-blades and actuating connections therefor, and which lock-blades are arranged to be restored to normal positions by said register-actuator-restoring devices, substantially as described.

12. In a voting-machine, the combination with registers and register-actuators appropriated to different political parties, of vote-limiting mechanism, actuator-restoring bars, and party-selecting mechanism, comprising pivoted lock-blades standing in position to normally lock the actuators, appropriated to different political parties, actuating connections extending from said lock-blades to within reach of an operator, and a lock-blade-restoring lever for each lock-blade, subject to said register-actuator-restoring bar, substantially as described.

13. In a voting-machine, the combination with registers and register-actuators appropriated to different political parties, of vote-limiting mechanism, actuator-restoring bars 46 mounted on parallel links 47, and party-selecting mechanism comprising pivoted lock-blades a^3 normally standing in position to lock said register-actuators and provided with crank-like heads, actuating-plungers eccentrically connected to the heads of said lock-blades, and pivoted blade-restoring levers p, subject to said restoring-bars 46 and operating on the heads of said lock-blades, to restore the same to normal positions under movements of said bars 46, substantially as described.

14. In a voting-machine, the combination with registers and register-actuators appropriated to different political parties, of vote-limiting mechanism, actuator-restoring devices, and party-selecting mechanism comprising pivoted lock-blades for the several series of actuators, certain of which are coupled together for common movements, connections for moving said lock-blades, and means coöperating with said connections for causing the initial movement of one blade, or coupled blades, to secure the other lock blade or blades against movement, substantially as described.

804,964. **CRACK-PREVENTING MEANS FOR LOOMS.** ALIDA M. MARCOUX, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 25, 1905. Serial No. 262,153.



Claim.—1. In a loom, a device to govern the operation thereof, and means, actuated by movement of said device to effect stoppage of the loom, to slacken the cloth between the fell and the take-up and thereby prevent the formation of a crack, said means acting upon the cloth between the fell and the take-up.

2. In a loom, a device to govern the operation thereof, take-up mechanism, and means, coöperating directly with the cloth and actuated by movement of said device to effect stoppage of the loom, to slacken the cloth independently of said take-up mechanism and thereby prevent the formation of a crack.

3. In a loom, a device to govern the operation thereof, an instrumentality normally acting upon the cloth between the fell and the take-up, to stretch the cloth therebetween, and means, actuated by movement of said device to effect stoppage of the loom, to render inoperative said instrumentality and thereby slacken the cloth to prevent the formation of a crack.

4. In a loom, a shipper, and means, actuated by movement of the shipper to effect stoppage of the loom, to slacken the cloth between the fell and the take-up and thereby prevent the formation of a crack.

5. In a loom, a shipper, take-up mechanism, and means, actuated by movement of the shipper to effect stoppage of the loom, to slacken the cloth behind and independently of the take-up mechanism to thereby prevent the formation of a crack.

6. In a loom, a shipper, a normally operative instrumentality to act upon and increase the tension of the cloth between the fell and

the take-up, and means, actuated by movement of the shipper to effect stoppage of the loom, to render inoperative said instrumentality and thereby slacken the cloth.

7. In a loom, a shipper, a tension-bar extended across the cloth in front of the fell, movable supports therefor, a cam member to act upon the supports and thereby cause the tension-bar to press upon and tighten the cloth, and a connection between said cam member and the shipper, whereby movement of the latter to effect stoppage of the loom moves the cam member to cause a decrease in the pressure of the tension-bar upon the cloth and thereby slacken the latter.

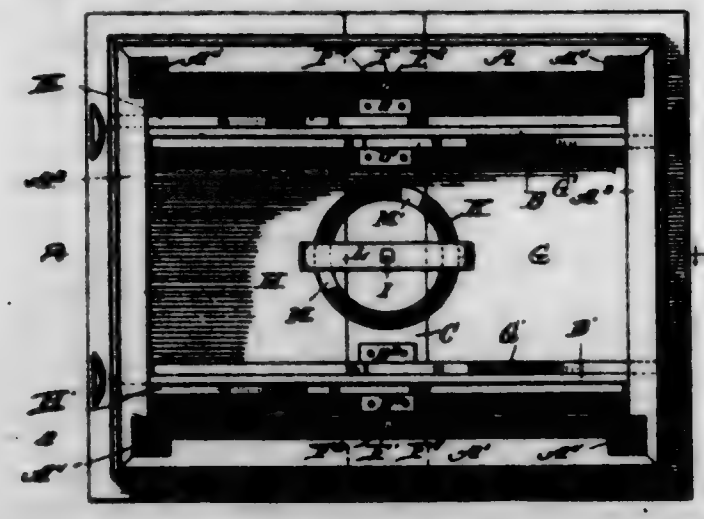
8. In a loom, a shipper, and means operatively connected therewith to act upon and stretch the cloth between the fell and the take-up when the shipper is moved to start the loom, and to release the cloth from such stretching action when the shipper is moved to effect stoppage of the loom.

9. In a loom, a shipper, a take-up roll, a tension-bar extended across the cloth back of the roll, rocking supports on which the bar is mounted, a longitudinally-movable controlling member operatively connected with the shipper and having cams thereon to act upon the supports and press the bar against the cloth, longitudinal movement of the controlling member by movement of the shipper to effect stoppage of the loom rendering the cams inoperative, and springs to move the released supports and relieve the cloth of the pressure of the tension-bar.

10. In a loom, a device to govern the operation thereof, and means to impart automatically-increased tension to the cloth between the fell and the take-up by or through movement of said device to start the loom, and to relieve the cloth of such tension by or through movement of said device to effect stoppage of the loom.

11. In a loom, a device to govern the operation thereof, and tension-augmenting means for and acting upon the cloth near the fell, operatively connected with said device and rendered inoperative automatically by movement of said device to effect stoppage of the loom, to thereby decrease the tension of and slacken the cloth.

804,965. TABLE. CARL A. MELIN and CLAUS E. JOHNSON, Rockford, Ill. Filed July 1, 1905. Serial No. 267,265.

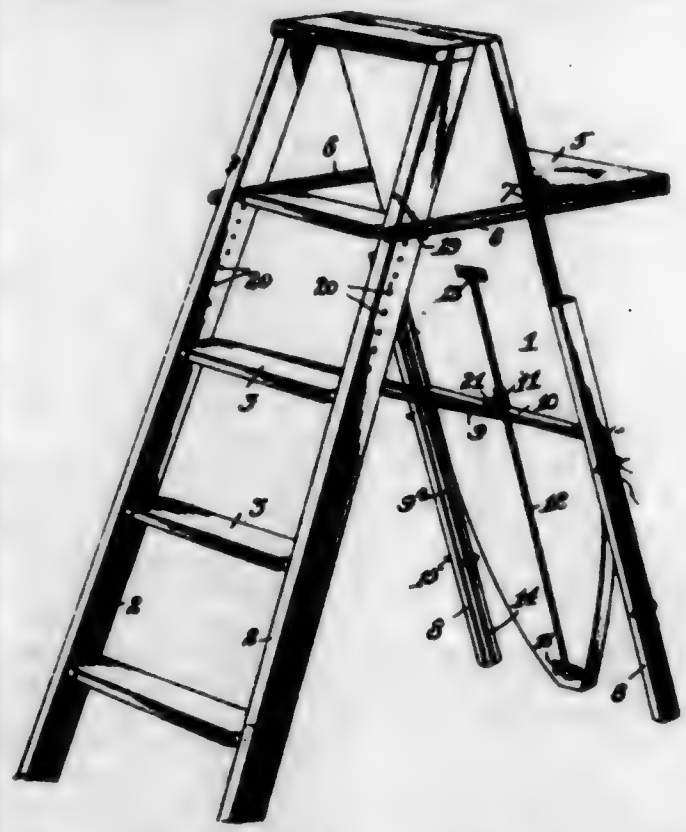


Claim.—1. An extension-table, comprising a frame having slideways therein, a top provided with dowel-pins extending transversely downward therefrom into vertically-loose connection with the frame, two slidable leaves disposed on either side of such top and provided with transverse parallel slides fast thereto and inserted into and operative in the slideways in the frame, a pintle I vertically mounted in the frame and provided, at its lower end, with a button L for engaging an annular groove K, in the frame and leaves, to lock them together, and at its upper end, with a button J for engaging a recess, in the table-top to lock it upon such frame and leaves, when the latter are retracted, substantially as described.

2. An extension-table, comprising a frame having slideways therein, a top E provided with dowel-pins F F' extending transversely downward therefrom, into vertically-loose connection with the frame, two slidable leaves G H provided with transverse parallel slides G' H' fast thereto and inserted into and operative in the slideways in the frame, a pintle vertically mounted in the frame, and provided at its lower end with a button for engaging an annular groove K in the frame and leaves, to lock them together, and further provided, at its upper end, with a button for engaging a button-recess E^3, in the table-top E, to lock it upon such frame and leaves when the latter are retracted under and registered with the top, substantially as described.

3. An extension-table, comprising a frame having side rails and also end rails A^3, A^4, which have slideways cut therein, a top provided with dowel-pins F F' extending transversely downward therefrom into vertically-loose connection with the frame, and with end cleats E^3, E^4, attached to the under side of said top at the ends thereof, two slidable leaves G H, disposed on either side of such top adapted to lie beneath the same and provided with transverse parallel slides fast thereto and having looking-cleats G^3 H^3 therein lying in said slideways and stops G^4 H^4 thereon, the former to engage the cleats E^3 E^4 of the table-top and the latter the end rails A^3 A^4 of the frame, to lock the slidable leaves extended into the same plane with such table-top, substantially as described.

804,966. COMBINED IRONING-BOARD AND STEP-LADDER. BENJAMIN F. D. MILLER, Wooster, Ohio. Filed July 22, 1904. Serial No. 217,789.



Claim.—1. A combined ironing-board and step-ladder, consisting of an ironing-board, a step-ladder hingedly attached to one end thereof, an auxiliary board pivotally attached thereto, brace-legs pivotally secured to said ironing-board and step-ladder, by means of a pair of substantially U-shaped hinge-bars connecting said brace-legs, and means for securing said U-shaped hinge-bars to said brace-legs.

2. A combined ironing-board and step-ladder, consisting of an ironing-board, a step-ladder hingedly attached thereto, brace-legs pivotally secured to said ironing-board and step-ladder, by means of a pair of U-shaped hinge-bars connecting said brace-legs one of which is pivotally secured to the step-ladder and the other of which is pivotally secured beneath the ironing-board, a longitudinal guide-rod mounted beneath the ironing-board, a hinge-bar fastening provided with a sleeve slidably mounted upon said longitudinal guide-rod and hingedly connected to said last-mentioned U-shaped hinge-bar, and means for securing said U-shaped hinge-bars to said brace-legs.

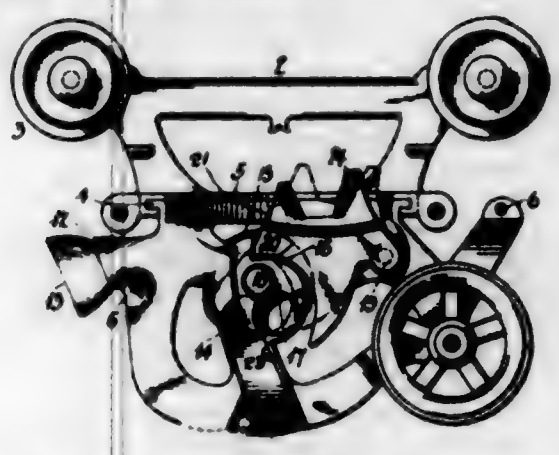
3. In a combined ironing-board and step-ladder, the combination with an ironing-board, and a step-ladder hingedly secured to one end thereof; of brace-legs pivotally secured to said ironing-board and step-ladder by means of U-shaped hinge-bars, said U-shaped hinge-bars connecting said brace-legs, and means for securing said U-shaped hinge-bars to said ironing-board and step-ladder.

4. A combined ironing-board and step-ladder, consisting of an ironing-board and step-ladder hingedly attached together, a pair of brace-legs, a pair of U-shaped hinge-bars connecting said brace-legs one of which is pivotally secured to the step-ladder and the other of which is pivotally secured beneath the ironing-board, means for securing and adjusting one of said hinge-bars to the ironing-board, and means for securing said hinge-bars to said brace-legs.

804,967. HAY-CARRIER. D. D. MILLER, Wooster, Ohio. Filed Feb. 23, 1905. Serial No. 246,564.

Claim.—1. In a hay-carrier an open throat provided with a guideway for the hube of the lifting-head in combination with a pair

of pivoted pawls having recesses conforming to the guideways, a pivoted gravity-latch for locking said pawls in position to prevent the hubs of the lifting-head from disconnection with the carrier-frame and means upon the track for tripping said pawls and releasing the lifting-head, substantially as described.

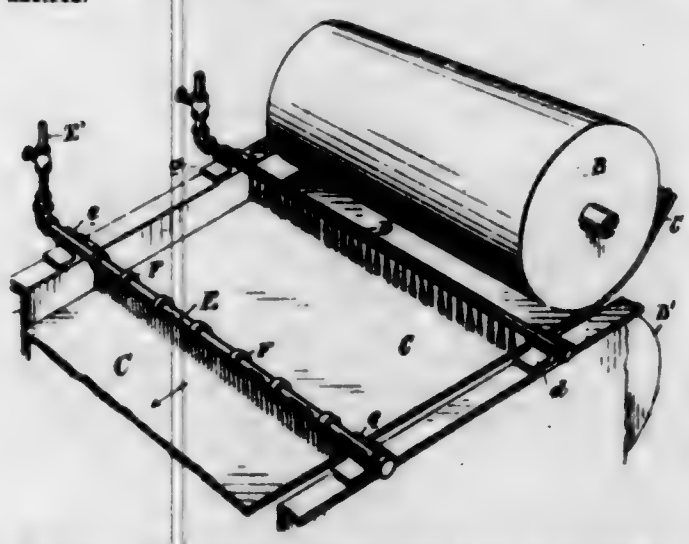


2. A hay-carrier comprising a frame, wheels journaled therein and mounted to run upon an angle-iron track, a carrier-throat swiveled to said frame, a guideway in said throat, pawls pivoted at the upper end of said guideway and provided with recesses forming a continuation thereof, supporting-flanges upon said frame, a lug upon each of said pawls, a gravity-latch adapted to drop into contact with said lugs, a carrier-head comprising a pulley mounted in a frame having hubs, and means for disconnecting the gravity-latch from the pawls, substantially as described.

3. In a hay-carrier an open throat provided with guideways, pawls having recesses forming continuations of the guideways, a flange on opposite sides of the frame, a carrier-head provided with hubs adapted to be carried into the recess in the pawls and means for shifting the pawls to carry the hubs to a position to be supported upon the flanges, means for locking the pawls in this position and means for unlocking the pawls, substantially as described.

4. In a hay-carrier, a lifting-head comprising a frame having hubs, a pulley mounted in said frame, a carrier therefor having guideways for said hubs, pawls mounted in line with the guideways and having recesses which form continuations thereof, locking-lugs upon said pawls, a gravity-latch for said pawls and means for lifting said gravity-latch out of contact with the pawls at the point of discharge of the load, substantially as described.

804,968. **FELT-CLEANER FOR PAPER MACHINERY.** MATTHEW MILLER, Upper Darby, Pa. Filed Aug. 24, 1904. Serial No. 221,915.

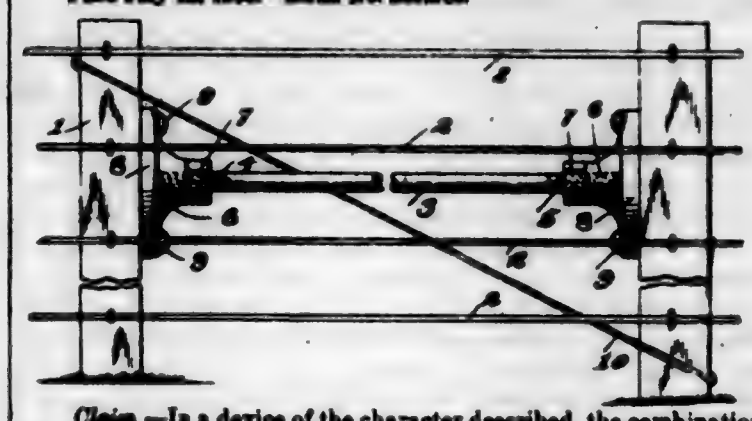


Claim.—1. The method of cleaning felt in a paper-machine, by spraying the said felt with water to soften it and then subjecting it to a fluid agent under pressure to remove the objectionable particles, substantially as described.

2. In combination with a machine in which felt is used, a perforated pipe located adjacent to said felt, a water-supply pipe connected to said perforated pipe, a pipe having a slot formed therein located adjacent to said felt, a steam-supply pipe connected to said slotted pipe and bearings to support said above-mentioned pipes, substantially as described.

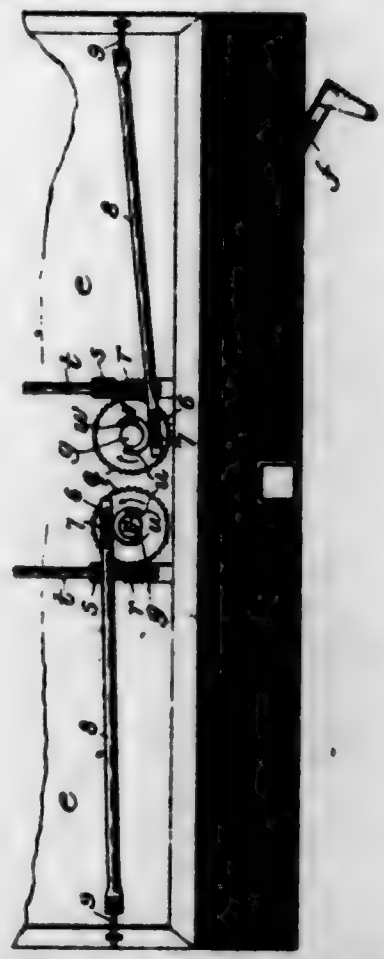
3. In combination with a machine in which felt is used, a perforated pipe located adjacent to said felt, a water-supply pipe connected to said perforated pipe, a pipe having a slot formed therein located adjacent to said felt, means for varying the width of said slot, a steam-supply pipe connected to said slotted pipe and bearings to support said above-mentioned pipes.

804,969. **WIRE-FENCE BRACE.** LEWIS OLSON, Madison, Wis. Filed July 13, 1903. Serial No. 165,348.



Claim.—In a device of the character described, the combination of a rod formed in two sections which are slidably connected, one of the sections being provided with a longitudinal slot while the opposite section is provided with a bolt which passes through the slot and is employed to clamp the two sections together when the required adjustment has been attained; said rod being provided at its opposite ends with right and left hand screw-threads nuts fitting on the ends of the rod and formed with faceted heads having an annular flange around the base thereof which fits against the posts and forms a stop-shoulder, and means for securing the annular flange to the posts to prevent the device from slipping out of position or working loose.

804,970. **DUMP-CAR.** SPENCER OTIS, Chicago, Ill. Filed Sept. 3, 1904. Serial No. 223,220.



Claim.—1. In a dump-car, the combination of a dumping-door, means for closing the door, means for holding the door closed, and means for returning the door-closing means to initial position without operating the door, substantially as described.

2. In a dump-car, the combination of a door pivotally mounted in the car so as to open automatically when released, means for closing the door, means for holding the door closed, and means for returning the door-closing means to initial position without operating the door, substantially as described.

3. In a dump-car, the combination of a dumping-door, means for closing the door, means for holding the door closed, means for returning the door-closing means to initial position without operating the door, and means connected with the door-closing means for releasing the holding means, substantially as described.

4. In a dump-car, the combination of a dumping-door, gear mechanism for operating such door provided with means for releasing the door to permit it to swing open independently thereof, means for connecting such gear mechanism with the door, and means for supporting the swinging side of the door in closed position independently of the gear mechanism, substantially as described.

5. In a dump-car, the combination of a dumping-door, gear mechanism for operating such door movable into releasing position while the door is stationary in its closed position, means for supporting the swinging side of the door in closed position during the movement of such gear mechanism to releasing position, and means for releasing the swinging side of the door from such supporting mechanism, substantially as described.

6. In a dump-car, the combination of a dumping-door, worm-gear mechanism for operating such door movable in one direction to close the door and in the opposite direction to releasing position while the door is stationary in closed position, means for connecting such worm-gear mechanism with the door, and mechanism movable into and out of engagement with the door for supporting the swinging side thereof while the worm-gear mechanism is in releasing position, substantially as described.

7. In a dump-car, the combination of a plurality of dumping-doors, mechanism for operating such doors movable into releasing position while the doors are stationary in closed position, means for supporting the swinging sides of the doors independently of such operating mechanism, and locking-rod mechanism for locking and releasing such supporting mechanism, substantially as described.

8. In a dump-car, the combination of a dumping-door, mechanism for operating such dumping-door provided with means for pivotally supporting one side of the door, keeper mechanism for supporting the opposite side of the door when in closed position movable automatically to releasing position, and means operated by the door-operating mechanism for locking such keeper mechanism when the door is in closed position, substantially as described.

9. In a dump-car, the combination of dumping-doors, main operating-shafts connected with such dumping-doors for operating them, studs mounted upon the shafts, gear mechanism mounted upon the shafts movable in one direction into engagement with the studs to close the doors and movable independently of the shafts in the opposite direction to releasing position while the doors are in closed position, and means for operating such gear mechanism and thereby the shafts and dumping-doors, substantially as described.

10. In a dump-car, the combination of dumping-doors, main operating-shafts connected with such dumping-doors for operating them, studs mounted upon the shafts, worm-wheel mechanism mounted upon such shafts movable therewith in one direction while in engagement with such studs to close the door and independently of the shaft and out of engagement with the studs to releasing position while the doors are in closed position, and worm mechanism in engagement with such worm-wheel mechanism, substantially as described.

11. In a dump-car, the combination of a car-frame having longitudinal sills and transverse beams mounted thereon, dumping-doors pivotally mounted in the car-frame, door-operating mechanism mounted in the car-frame over the longitudinal sills entirely below the level of the doors when in their closed position and connected with the doors at points intermediate their longitudinal centers and outer swinging edges, and means for operating such mechanism and thereby the doors, substantially as described.

12. In a dump-car, the combination of dumping-doors, main operating-shafts extending longitudinally of the car upon which such dumping-doors are pivotally mounted, chain mechanism supported in the framework of the car and connected with the dumping-doors and main operating-shafts, and means for operating such main operating-shafts and thereby the dumping-doors, substantially as described.

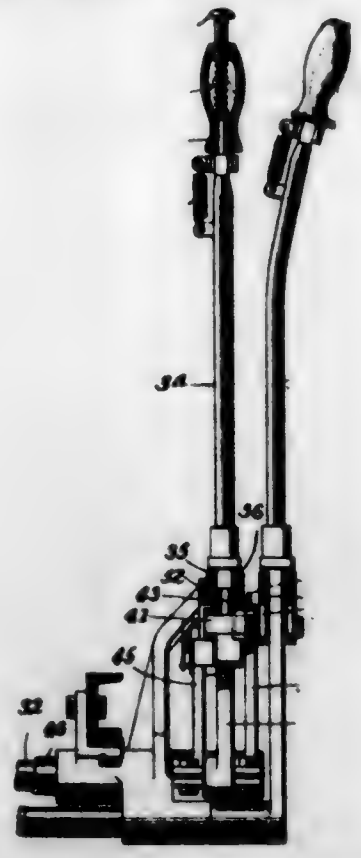
13. In a dump-car, the combination of dumping-doors, main operating-shafts extending longitudinally of the car upon which such dumping-doors are pivotally mounted, chain mechanism supported in the framework of the car and connected with the dumping-doors and main operating-shafts, worm and worm-wheel mechanism for operating such main operating-shafts and thereby the dumping-doors, substantially as described.

14. In a dump-car, the combination of dumping-doors, main operating-shafts extending longitudinally of the car upon which such dumping-doors are pivotally mounted, chain mechanism supported in the framework of the car and connected with the dumping-doors and main operating-shafts, worm-wheel mechanism for operating such main operating-shafts and thereby the dumping-doors, and means for supporting the doors independently of such worm-wheel mechanism, substantially as described.

15. In a dump-car, the combination of dumping-doors, main operating-shafts extending longitudinally of the car upon which such dumping-doors are pivotally mounted, chain mechanism supported in the framework of the car and connected with the dumping-doors and main operating-shafts, worm-wheel mechanism mounted upon such shafts movable there within one direction to close the doors and independently thereof in the opposite direction, and means for supporting the outer swinging sides of such doors independently of such worm-wheel mechanism, substantially as described.

804,971. LEVER MECHANISM FOR MOTOR-VEHICLES.

JAMES W. PACKARD and WILLIAM A. HATCHER, Warren, Ohio, assignors to Packard Motor Car Company, Warren, Ohio, a Corporation of West Virginia. Filed Nov. 14, 1902. Serial No. 131,327.



Claim.—1. In a motor-vehicle, having relatively movable speed-changing and reversing gears adapted to vary the speed and direction of the vehicle, a hand-lever, two arms for shifting different sets of said gearing arranged adjacent to said lever, and means mounted on said lever and adapted to connect said lever with either of said arms.

2. In a motor-vehicle, having relatively movable speed-changing and reversing gears adapted to vary the speed and direction of the vehicle, a hand-lever, two arms for shifting different sets of said gearing arranged adjacent to said lever, and a locking-tongue mounted on and movable longitudinally of said lever and adapted to connect the lever with either of said arms.

3. In a motor-vehicle, having relatively movable speed-changing and reversing gears adapted to vary the speed and direction of the vehicle, two arms mounted to rock about a common axis for shifting different sets of said gearing, a hand-lever mounted to rock about the same axis as said arms, and means adjustably secured to said lever and adapted to connect with either of said arms.

4. In a motor-vehicle, having relatively movable speed-changing and reversing gears adapted to vary the speed and direction of the vehicle, two pivotally-mounted arms for shifting different sets of said gearing, and each provided on its inner face with a laterally-projecting member, a hand-lever, and a locking means adjustably mounted on said lever and adapted to be moved into engagement with the projecting member of either of said arms but not to engage both said members simultaneously.

5. In a motor-vehicle, having relatively movable speed-changing and reversing gears adapted to vary the speed and direction of the vehicle, two arms mounted to rock about a common axis, for shifting different sets of said gearing, and each provided with a member projecting laterally toward the other arm, said projecting members being arranged at different distances from the axis of said arms, a hand-lever arranged between said arms, and means mounted

on and movable longitudinally of said lever and adapted to engage the projecting member of either arm.

6. In a motor-vehicle, having two series of complementary gears, and a backing-gear, a lever-arm for shifting one series of complementary gears, a second lever-arm for shifting the backing-gear, and a hand-lever carrying a part movable relative to said lever into engagement with either of said arms.

7. In a motor-vehicle, having two series of complementary gears, and a backing-gear, a lever-arm for shifting one series of complementary gears, a second lever-arm for shifting the backing-gear, a hand-lever arranged between said arms and a sliding tongue carried by said hand-lever and movable into engagement with either of said arms.

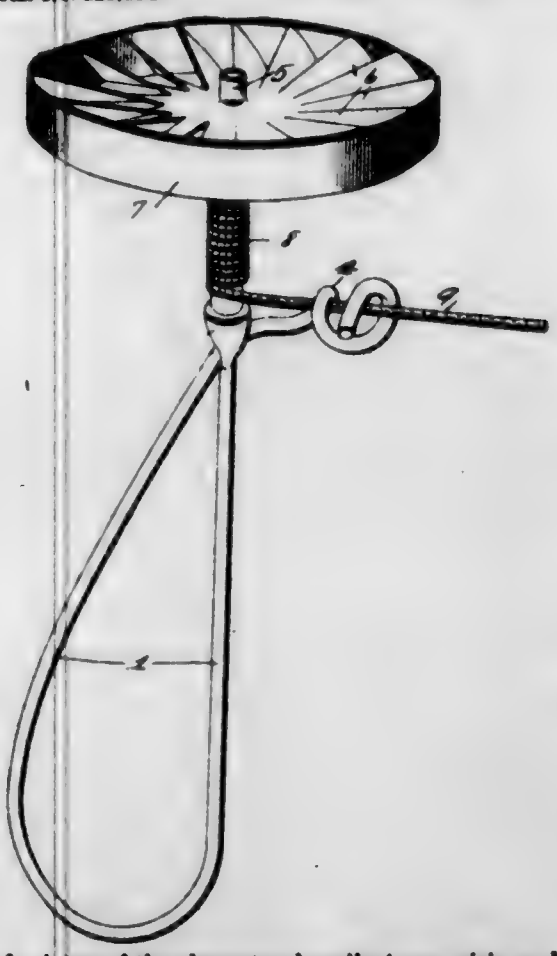
8. In a motor-vehicle, the combination of an arm arranged to control the forward speeds of the vehicle, and a second arm arranged to control the backward movement of the vehicle, a hand-lever arranged between said arms and provided with a tongue arranged to slide into engagement with either arm as may be desired, a spring tending to normally hold the tongue in engagement with the forward speed-arm, and a guide adapted to hold said tongue in engagement with the backing-arm when said arm is moved from its normal position.

9. In a motor-vehicle, the combination of an arm for controlling the forward speed movements of the vehicle, and a second arm movable about the same axis as the first said arm for controlling the backward movement of the vehicle, a hand-lever adapted to turn about the same axis as said arms, means for engaging said hand-lever with either of said arms, and means for locking either arm when not engaged in its normal central position.

10. In a motor-vehicle, having relatively movable speed-changing gears adapted to vary the speed of the vehicle, a pivoted lever, arms mounted to turn about the same axis as said lever, guides for said lever and arms, locking means for locking the arms at times in a stationary position, and locking means for connecting one or the other of the arms to the lever so that it may be vibrated in unison therewith while the other arm remains stationary.

11. In a motor-vehicle, having relatively movable speed-changing gears adapted to vary the speed of the vehicle, a pivoted lever, arms mounted on opposite sides of said lever to rock about the same axis as the lever, guides for said lever and arms, means for holding the arms stationary, and locking means for connecting either of the arms to the lever so that it may vibrate in unison therewith while the other arm remains stationary.

804,972. TOY. FRANK J. PIOCH, Provo City, Utah. Filed Oct. 13, 1904. Serial No. 228,184.



Claim.—1. A toy of the character described comprising a handle having a spindle, a rotatable wheel having propeller-blades and a tubular stem for detachable rotation upon the spindle, and an open-ended cord-guide carried by and projected from the handle at substantially right angles to the base of the spindle.

2. A toy of the character described comprising a handle having a spindle, a rotatable wheel having propeller-blades and a tubular stem for detachable rotation upon the spindle, and an open-ended cord-guide carried by the handle at substantially right angles to the spindle and consisting of a spirally-bent member.

3. A combined flying top and toy windmill comprising a handle having a spindle projected longitudinally from one end of the handle, a rotatable wheel having propeller-blades and a tubular stem for detachable rotation upon the spindle, and a cord-guide carried by and projected from the handle at substantially right angles to the base of the spindle and constituting a support for the device when used as a toy windmill.

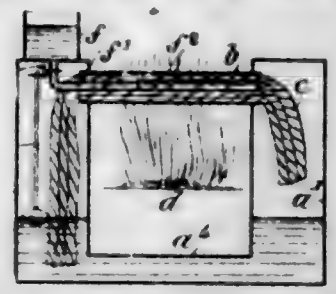
4. A toy of the character described comprising a wire handle, one end of the wire being formed into a spindle and the other end formed into a cord-guide located at the base of the spindle, and a rotatable wheel having propeller-blades and a tubular stem for detachable rotation upon the spindle.

5. A toy of the character described comprising a handle formed of a looped wire, one end of the wire being formed into a spindle and the other end being twisted into a spiral cord-guide disposed at substantially right angles to the base of the spindle, and a rotatable wheel having propeller-blades and a tubular stem for detachable rotation upon the spindle.

6. A toy of the character described comprising a handle formed of wire which is bent intermediate of its ends to form a loop constituting a handle, one end of the wire constituting a spindle and the other end of the wire being bent into a spiral disposed laterally at one side of the spindle and constituting a cord-guide, and a rotatable wheel removably mounted upon the spindle and provided with propeller-blades.

7. A toy of the character described comprising a handle formed from a single length of wire which is bent intermediate of its ends to form a loop-shaped handle, one end portion of the wire constituting a spindle and the other end portion being wrapped around the base portion of the spindle and formed into a cord-guide projected at one side of the handle, the engaged portions of the wire being arranged to form an annular shoulder, and a rotatable wheel having propeller-blades and a tubular stem rotatably embracing the spindle and supported upon the shoulder.

804,973. WICK STEAM-GENERATOR. JEAN-VICTORIN POPLAWSKI, Paris, France. Filed Apr. 17, 1905. Serial No. 256,070.



Claim.—1. A steam-generator comprising a closed reservoir, a tube communicating with the said reservoir, a wick in the tube, and a furnace arranged to heat the tube.

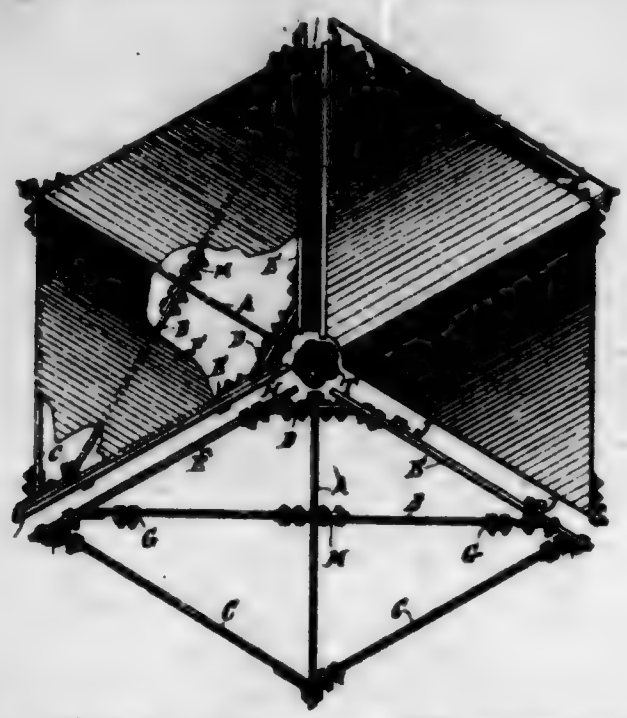
2. A steam-generator comprising a closed reservoir, a tube communicating with the said reservoir, a wick in the tube, a furnace arranged to heat the tube, a perforated pipe extending through the wick, and means to feed water to the said pipe.

3. A steam-generator comprising a closed reservoir, a tube communicating with the said reservoir, a wick in the tube, a furnace arranged to heat the tube, a perforated pipe extending through the wick, a reservoir arranged to feed water to the said pipe, a feed-cock, and means for controlling the said cock operated by the level of the water in the reservoir.

804,974. FRUIT-HARVESTER. MARTIN L. PORTER, Redding, Cal., assignor to James Monroe Graham, Zachariah Fletcher Wharton, and Benjamin Franklin Howard, Sacramento, Cal. Filed Dec. 14, 1903. Serial No. 185,180.

Claim.—1. A fruit-gatherer made in detachable sections, each section comprising an inclined ridge-pole, an adjustable brace, outer and inner frame-bars, a canvas cover for each section, flexible troughs surrounding the gatherer, and discharge-troughs detachably connected to one section and fixed to the other section, said

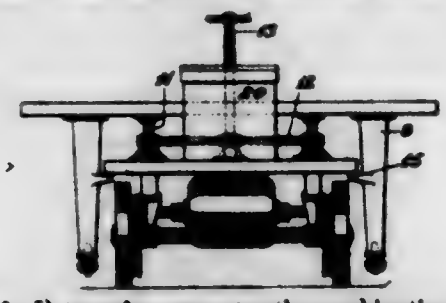
troughs being disposed intermediate the sections, substantially as described.



2. A fruit-gatherer comprising detachable sections, covered with canvas and provided with inclined portions, flexible troughs surrounding the gatherer, and discharge-troughs intermediate the sections said troughs being secured to one of the sections and detachably secured to the other contiguous section, all the portions of the gatherer inclining toward the discharge end of said discharge-trough, substantially as described.

3. In a fruit-gatherer, separable sections covered with canvas, said sections each comprising a supporting-frame having a central ridge-pole inclined outwardly and upwardly, an adjustable brace-bar, frame-bars connected to the ridge-pole, hooks connected to one of the inner frame-bars of each section, and discharge-troughs supported by the hooks, substantially as described.

804,975. TRANSFER APPARATUS. HENRY H. PORTER, Jr., Chicago, Ill., assignor to Swanitz Company, Chicago, Ill., a Corporation of Delaware. Filed Feb. 19, 1902. Serial No. 94,209.



Claim.—1. In transfer apparatus the combination of a movable load carrying table, a movable truck for moving said table, means on the truck whereby the truck may be run under the table and the table lifted thereby, said truck and table each being provided with wheels by which the same may be moved in any direction.

2. In transfer apparatus the combination with a movable table having legs with casters, of a truck provided with driving wheels thereon and means for running under the said table and lifting the same out of contact with the floor and holding it on the truck, the truck and table being adapted to move in any direction and the table to be readily let down and raised in any desired position.

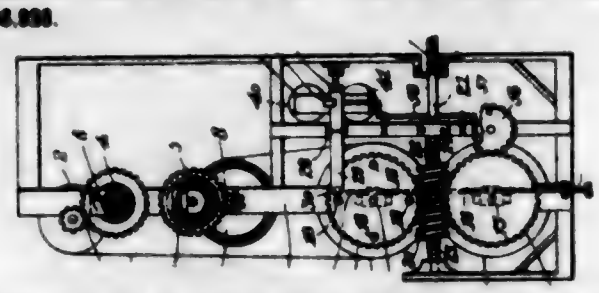
3. In transfer apparatus in combination with a movable table adapted to be raised and lowered thereon, a portable truck provided with mechanically driven wheels and a motor for driving the same, having a plurality of vertically movable abutments designed to raise said table and means to hold it permanently in place on the said truck, all said movable abutments being operated by a single actuating element, substantially as described.

4. In transfer apparatus in combination with a traction truck for moving the same, a table having a plain top with unobstructed space between the legs of the table, said legs of the table being provided with projections to engage the top of the truck and hold the same steady when by means of the truck the table is raised off the ground, and said table being provided with casters.

5. In transfer apparatus, in combination with a portable table having inwardly projecting spurs upon the legs thereof, a truck having a stationary top and provided with a plurality of vertically movable abutments upon said top with means for raising all said abutments simultaneously, whereby the said table may be raised and the projections on the legs of the table brought into contact with the top of the truck in order to hold the table securely upon the truck, substantially as described.

6. In transfer apparatus the combination with a portable table, a movable motor driven truck provided with a fixed platform and above said platform a plurality of vertically moving screw jacks all which are driven by a sprocket chain from a central actuating shaft, substantially as described.

804,976. AUTOMATIC STATION INDICATOR OR REGISTER. FRED B. POTTER, St. Louis, Mo. Filed Oct. 18, 1904. Serial No. 228,238.



Claim.—1. In an automatic station indicator or register, the combination with a tape or ribbon bearing indicia to represent the stations, of a drum for feeding said tape or ribbon, a gear for turning the drum, locking mechanism for stopping the rotation of the drum at predetermined points to permit a given feed of the tape or ribbon, means for unlocking said locking mechanism, an operating-shaft, means for turning said operating-shaft, a worm slidable on the operating-shaft and rotatable therewith which meshes with the gear, and a spring coöperating with the worm, whereby after locking of the drum, the momentum imparted to the operating-shaft shifts the worm and stores energy in the spring to cause the worm to give an initial quick movement to the drum when the locking mechanism is next released.

2. In an automatic station indicator or register, the combination with a tape or ribbon bearing indicia to represent the stations, of a drum for feeding said tape or ribbon, a gear for turning the drum, locking mechanism for stopping the rotation of the drum at predetermined points to permit a given feed of the tape or ribbon, means for unlocking said locking mechanism, an operating-shaft, means for turning said operating-shaft, a worm slidable on the operating-shaft and rotatable therewith which meshes with the gear, and independent springs coöperating with the worm, which normally substantially balance each other one or the other of which is placed under compression when the worm is moved longitudinally of the operating-shaft, whereby after the locking of the drum, the momentum imparted to the operating-shaft shifts the worm and stores energy in one spring to cause the worm to give an initial quick movement to the drum when the locking mechanism is next released.

3. In an automatic station indicator or register, the combination with drums, of a tape or ribbon carrying indicia of the stations and adapted to wind from one drum onto the other drum, friction feed-drums between which the tape or ribbon passes, and a right and left hand screw engaging with the bearings of said drums for adjusting the friction feed-drums toward or away from each other to regulate their frictional engagement with the tape or ribbon.

4. In an automatic station indicator or register, the combination with a tape or ribbon bearing indicia of the stations, of a drum for feeding said tape or ribbon, a motor geared to the said drum, mechanism controlling the motor, a locking-lever for locking the drum at various points of its rotation, said locking-lever controlling the starting and stopping mechanism of the motor and adapted to stop said motor upon locking of the drum, an electromagnet and armature controlling the locking-lever, and means operated by the drum adapted to prevent operation of the locking-lever by the armature at predetermined times.

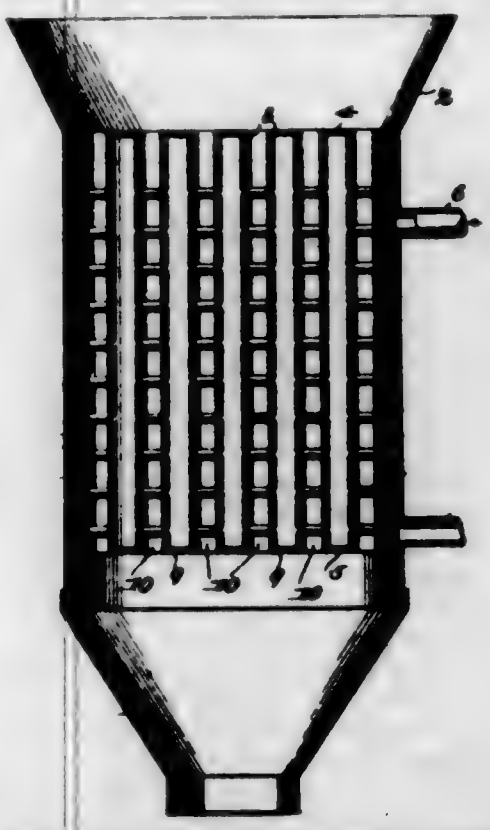
5. In an automatic station indicator or register, the combination with drums, of a tape or ribbon bearing indicia of the stations adapted to wind from one drum onto the other, a feed-drum for said tape, an electric motor geared to said feed-drum, an electric switch controlling the motor, a locking-lever for locking the feed-drum at predetermined points of its rotation, said locking-lever coöperating with the switch to open and close said switch, a spring coöperating with the locking-lever and switch and adapted to cause the locking-lever to lock the drum and when the drum is locked to open the switch, an electromagnet, an armature controlled by said electromagnet, a latch controlled by the armature adapted to coöperate with the locking-lever and release it from the drum when the electro-

magnet is energized, and trip mechanism operated at predetermined times, adapted to coöperate with the latch aforesaid and prevent it from coöperating with the locking-lever.

6. In an automatic station indicator or register, the combination with drums, of a tape or ribbon bearing indicia of the stations adapted to wind from one drum onto the other, a feed-drum for the tape, means for operating the feed-drum, locking mechanism for locking the drum at various points of its rotation, a latch for operating said locking mechanism, an armature pivoted to said latch, independent electromagnets for attracting the ends of the armature, and independent circuit connections to said electromagnets, whereby energization of both electromagnets is necessary in order to cause the armature and latch to operate the locking mechanism aforesaid.

7. In an automatic station indicator or register, for cars, the combination with an indicator carried by the car and having drums, a tape or ribbon bearing indicia adapted to wind from one drum onto the other, a feed-drum, locking mechanism for locking the feed-drum at various points of its rotation, a latch for operating the locking mechanism, an armature pivoted to the latch, and independent electromagnets for attracting the respective ends of the armature, of a trolley-pole carried by the car, independent contacts carried by the trolley-pole and independently controlling the circuits of the respective electromagnets aforesaid, and a hanger-board on the trolley-wire having a common contact for engagement by the contacts aforesaid, whereby the engagement of both contacts with the common contact is necessary in order to energize both electromagnets and cause the armature and latch to operate the locking mechanism.

804,977. **GRAIN HEATER AND DRIER.** PETER PROVOST, Menominee, Mich. Filed June 26, 1905. Serial No. 266,899.

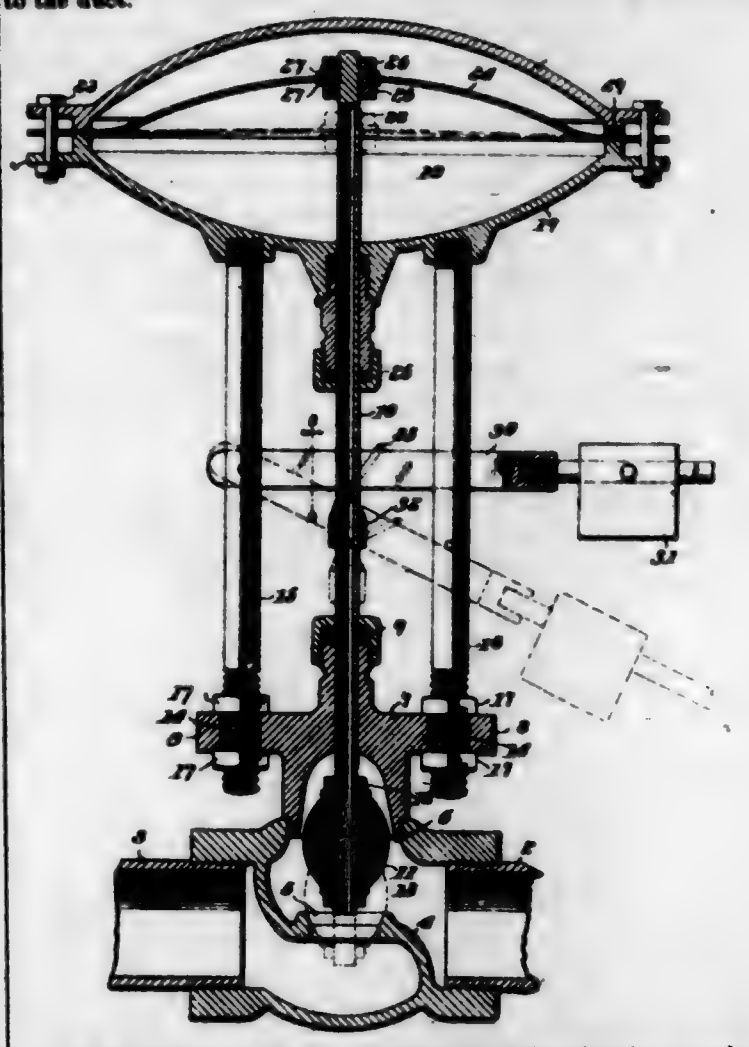


Claim.—In a heater and drier, a casing having means for the circulation therethrough of live steam, said casing being provided with apertured diaphragms, in combination with seamless metallic tubes connecting the apertures and securely connected with the diaphragms, said tubes being provided with exterior annular indentations forming interior annular ribs or hoops.

804,978. **AUTOMATIC CUT-OFF.** ALBERT D. PUETER, Salem, W. Va., and IRVEN B. ROWLAND, Marietta, Ohio. Filed June 15, 1905. Serial No. 265,672.

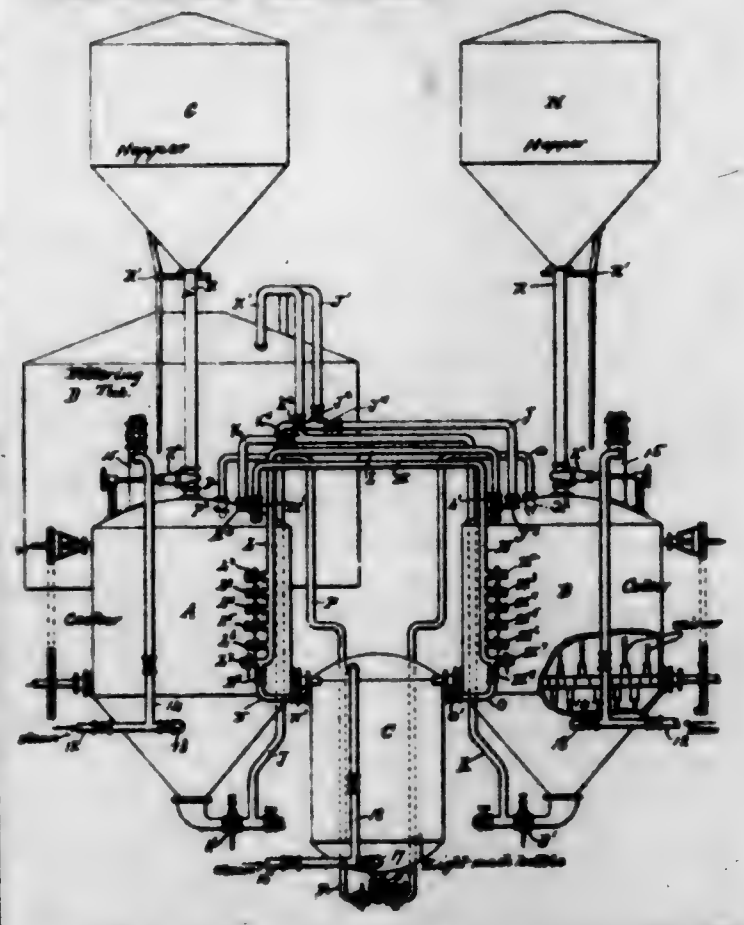
Claim.—1. A device of the class described comprising, a pipe conducting a fluid under tension, a valve introduced into and capable of closing the pipe, a diaphragm-casing, a diaphragm mounted within the casing, a tubular stem connecting the valve and the diaphragm and provided with openings into the diaphragm-casing and through the valve, and a weighted lever bearing upon the valve-stem and arranged to hold the valve normally closed.

2. In a device of the class described, a valve-chamber, a valve within the chamber, a diaphragm-casing supported above the valve-chamber, a diaphragm mounted within the casing, a dust leading from the chamber to the casing and connecting the valve and diaphragm and a lever between the chamber and casing and connected to the duct.



3. In a device of the class described, a valve-chamber, a valve within the chamber, a diaphragm-casing supported above the valve-chamber, a flexible diaphragm within the casing, a hollow stem connecting the valve and diaphragm, a lever pivoted to the diaphragm-support and bearing upon the stem, and a weight mounted upon the lever.

804,979. **BREWING APPARATUS.** CARL RACH, New York, N. Y. Filed Oct. 26, 1904. Serial No. 230,077.



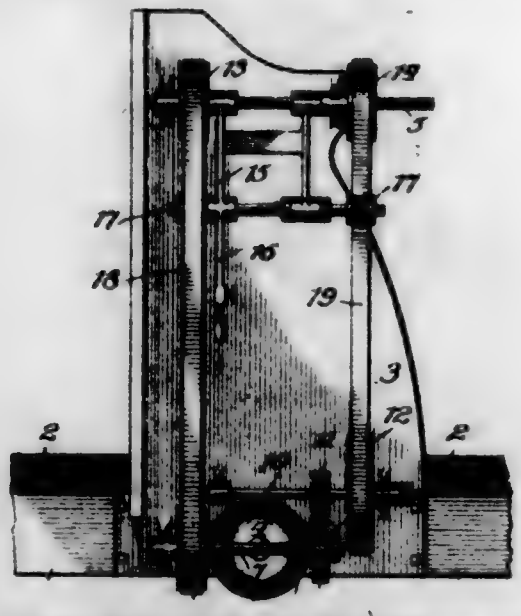
Claim.—1. In a brewing apparatus, two vessels, provided with heating means and pressure-applying means, in combination with two valved pipes each connecting the bottom of one vessel with the top of the other.

2. In a brewing apparatus, two vessels provided with heating means and pressure-applying means, in combination with a filtering-tub, two valved pipes, each connecting the bottom of one said vessel with the top of the other said vessel, and a valved branch from each said pipe to the filtering-tub.

3. In a brewing apparatus, two vessels provided with heating means and pressure-applying means, in combination with two pipes, each having a series of valved branches at different levels connecting the body of one vessel with the top of the other vessel.

4. In a brewing apparatus, two vessels and a diastase-kettle each provided with heating means and pressure-applying means, in combination with two pipes, each having a series of valved branches connecting the body of one said vessel with the top of the other said vessel, and also with the top of said kettle, together with valved pipes connecting the bottom of the kettle with the tops of the two said vessels.

804,880. MECHANISM FOR PRODUCING RECIPROCATING MOTION. GEORGE T. REED, Hamilton, Ohio, assignor to Niles-Bement-Pond Company of Jersey City, New Jersey. Filed Apr. 1, 1905. Serial No. 253,264.



Claim.—1. In driving mechanism for producing reciprocating motion, the combination, substantially as set forth, of a shaft to which motion is to be transmitted in selective directions, a pair of driven pulleys, mechanism connecting said driven pulleys with such shaft in such manner that the turning of the two pulleys in one direction corresponds with reverse direction of motion of said shaft, a driving-pulley in line with each driven pulley and arranged for rotary motion in a single direction, an open slack belt connecting each of the driving-pulleys with one of the driven pulleys, and means for tightening said belts alternatively.

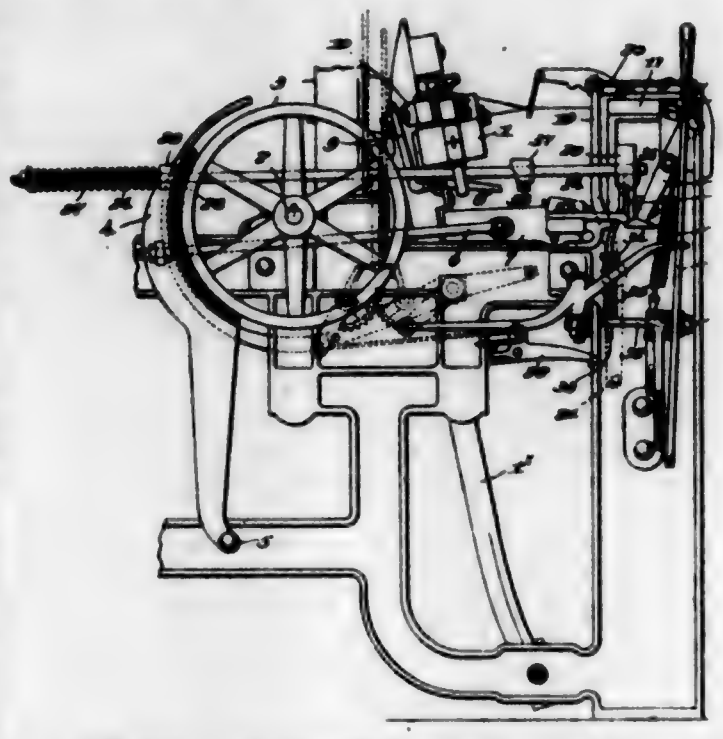
2. In driving mechanism for producing reciprocating motion, the combination, substantially as set forth, of a shaft to which motion is to be transmitted in selective directions, a pair of driven pulleys, mechanism connecting said driven pulleys with such shaft in such manner that the turning of the two pulleys in one direction corresponds with reverse direction of motion of said shaft, a driving-pulley in line with each driven pulley and arranged for rotary motion in a single direction, an open slack belt connecting each of the driving-pulleys with one of the driven pulleys, and a shifting-pulley device for tightening said two belts alternatively.

804,881. CRACK-PREVENTING MEANS FOR LOOMS. CHARLES F. ROCHE, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed June 3, 1905. Serial No. 263,550.

Claim.—1. In a loom, a device to govern the operation thereof, a lay and means actuated thereby, when operatively positioned by movement of said device to effect stoppage of the loom, to stop the movement of the lay before it reaches front center.

2. In a loom, a device to govern the operation thereof, a lay, brake mechanism for the loom, and means to actuate the said mechanism and stop the lay before it reaches front center, operation of said means being effected automatically by the movement of the lay upon movement of the governing device to cause stoppage of the loom.

3. In a loom, a device to govern the operation thereof, a lay, protector mechanism, a brake mechanism actuated by or through the operation of said protector mechanism, and independent means actuated by movement of the lay to operate the brake mechanism and prevent complete beat-up of the lay upon movement of the said governing device to effect stoppage of the loom, whereby the formation of a crack in the cloth is obviated.



4. In a loom, a device to govern the operation thereof, a lay, and yieldingly-operating means actuated by the lay to automatically prevent beating-in of the filling when said governing device is moved to effect stoppage of the loom.

5. In a loom, a shipper, a lay, and means actuated thereby when rendered operative by movement of the shipper to cause stoppage of the loom, to arrest the forward movement of the lay before the filling is beaten in.

6. In a loom, a shipper, a lay, a rotatable brake member, a shoe to coöperate therewith, and means actuated by the lay and rendered operative by or through movement of the shipper to effect stoppage of the loom, to effect coöperation of the said brake members and stop the lay before the filling is beaten in.

7. In a loom, a shipper, a lay, a rotatable brake member, a shoe to coöperate therewith, and yieldingly-operating means, rendered operative by movement of the shipper to stopping position, to operate the brake to stop the lay before it reaches front center and thereby prevent the formation of a crack in the cloth.

8. In a loom, a lay, a shipper, means to release it automatically upon the occurrence of a warp or a filling fault, and means actuated by or through the lay, when operatively positioned by manual or automatic release of the shipper, to arrest the lay on its forward beat before the filling is beaten in.

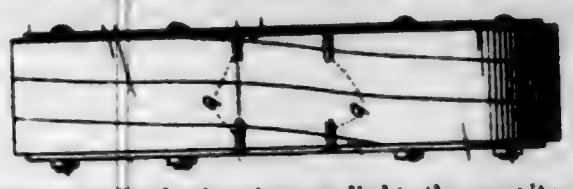
9. In a loom, brake mechanism, including two normally non-coöperating members, a lay, a shipper, means to effect the coöperation of said members when the shuttle is improperly boxed, and independent brake-actuating means caused to operate by movement of the lay when said means is rendered operative by or through movement of the shipper to effect stoppage of the loom, to thereby arrest the lay before it reaches front center.

10. In a loom, brake mechanism, a shipper, an operating member for said mechanism, having a spring connection therewith and provided with a bunter, and means operated upon movement of the shipper to stopping position to move the bunter into the path of the lay on its forward beat, to move the operating member and thereby set the brake mechanism to stop the lay before it reaches front center.

11. In a loom, a shipper, a lay, brake mechanism, including a rotating member and an angularly-movable member adapted to coöperate therewith, and means to effect coöperation of said brake members when the shipper is moved to effect stoppage of the loom, said means including a strong cushioning-spring acting upon the angularly-movable brake member, such operation of the brake mechanism gradually stopping the forward beat of the lay before it reaches front center.

12. In a loom, brake mechanism therefor, protector mechanism to actuate it when the shuttle is improperly boxed, a lay, a shipper, and means, actuated by the lay and rendered operative by movement of the shipper to effect stoppage of the loom, to operate the brake mechanism independently of said protector mechanism and stop the lay before the filling is beaten in.

804,982. FACING FOR PULLEYS AND THE LIKE. JESSE T. SAPPENFIELD, Ellsworth, Kans. Filed Sept. 20, 1904. Serial No. 225,537.



Claim.—A pulley having rings applied to the opposite ends and projecting beyond the periphery thereof, fastenings piercing the projecting portions of the rings and lying against the periphery of the pulley, a facing-strip spirally wound around the periphery of the pulley between the projecting portions of the rings and projecting beyond the peripheral edges of the latter, the inner face of the strip having notches to receive the respective fastenings and the ends of the strip being skived with their skived faces lying against the adjacent coils to produce flush ends for the coil, and fastenings piercing the projecting portions of the rings and the skived ends of the facing-strip, the periphery of the facing-coil being free from fastenings.

804,983. CAR-REPLACER. GEORGE H. SARGENT, New York, N. Y. Filed Apr. 5, 1905. Serial No. 253,963.



Claim.—1. A wrecking frog provided with two inclined wings set at an angle with each other and connected by a rounded nose projecting over the rail flange and beyond the lines of the wings, for throwing the wheel upon the rail.

2. In a wrecking frog the combination with the two end inclines set at an angle with each other, and a rounded sloping nose projecting beyond the side lines of the inclines.

3. A wrecking frog adapted to fit alongside the rail and independent of the rail head, comprising an inclined portion to engage the tread of the wheel and a laterally flared flange to engage the flange of the wheel when the tread is elevated to the height of the rail, substantially as described.

4. In a wrecking frog the combination of the inclined surface 7, the supplementary incline 8, and the rounded outwardly projecting head 9 having the guard flange 10, substantially as described.

5. A wrecking frog comprised of two inclined portions and a rounded outwardly projecting bearing surface on top and a base plate, and vertical webs connecting the two, one of which directly supports the projection, whereby the metal is used only at the point where pressure is to be withstood, substantially as described.

6. A wrecking frog having an inclined bearing face, a rounded head, and an inwardly projecting nose thereon extending over the rail flange, and a cross web and base directly supporting said nose on the rail flange, substantially as described.

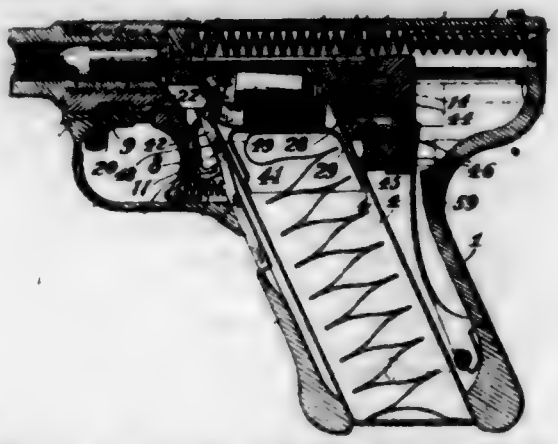
7. A pair of wrecking frogs having means for engaging both wheels upon the tread portion, a guard to prevent the sliding backward off the frog, and means for throwing the wheels upon the rail, including a projecting nose extending over the flange of the rail, substantially as described.

8. A wrecking frog comprising a flat supporting base to engage the ties, vertical webs to support the bearing surfaces, an inclined bearing surface, and a rounded head at the center of the frog having a forwardly projecting point extending over the flange of the rail.

9. A car replacer comprising two inclined angularly disposed wings and a connecting head of rounded contour having a round nose projecting over the rail flange.

10. A car replacer comprising two inclined angularly disposed wings and a connecting head of rounded contour having a round nose projecting over the rail flange, and supported directly on the rail flange, to avoid sinking into the soft wooden ties when in action.

804,984. RECOIL-OPERATED FIREARM. ELBERT H. SEARLE, Philadelphia, Pa., assignor of three-fourths to William D. Condit, Des Moines, Iowa. Filed Nov. 25, 1903. Serial No. 182,629.



Claim.—1. In a firearm, the combination of a frame, a barrel sliding longitudinally into engagement therewith and a pivoted detent securing the barrel against detachment; said pivoted detent being located on the frame and projecting into the trigger-guard, and having a spring pressing it into engagement with the barrel.

2. In a firearm, the combination of a frame, a barrel slidably mounted on said frame by means of a tongue-and-groove joint, and a pivotal detent inserted downwardly into a vertical opening in the frame beneath the barrel, fulcrumed against one end of the opening, engaging the barrel by an upwardly-presented end, and having an end beneath its fulcrum projecting into the trigger-guard to permit releasing the detent.

3. In a recoil-operated firearm, the combination of the frame, the barrel having a receiver slidably mounted upon the frame by a tongue-and-groove joint, and a pivotal detent limiting the forward movement of the barrel, fulcrumed on the frame, projecting into a recess in the receiver, and having an end projecting into the trigger-guard by which to release the detent.

4. In a firearm, the combination of the frame, a barrel movable longitudinally on the frame into and out of engagement therewith, and a releasable detent for securing the barrel on the frame, fitted beneath the barrel in a vertical recess in said frame, and removable vertically therefrom when the barrel is removed.

5. In a firearm, the combination of a frame, having a magazine-opening and a receiver constructed with front and rear projections having tongue-and-groove connections with the frame in front and rear of the magazine-opening; said receiver being releasable by moving it forward until the rear projection enters the magazine-opening.

6. In a firearm, a frame having an opening therein, and a receiver slidingly connected with the frame by means of tongue-and-groove connections in front and rear of said opening and releasable by moving the receiver until its connecting parts in rear of the frame-opening enter said opening.

7. In a firearm, the combination of the frame, the breech-bolt reciprocating on the frame, the firing-pin movable to and from the breech of the barrel with the breech-bolt, and the return-spring; said firing-pin and returning-spring being contained in intersecting bores in the breech-bolt whereby the spring holds the pin in place.

8. In a firearm, the combination with the barrel and the reciprocating breech-bolt movable to and from the breech of the barrel, of a firing-pin carried by the breech-bolt to and from the barrel, and a return-spring arranged in a bore in the breech-bolt parallel with the firing-pin and engaging the same on its side to retain it in the bolt.

9. In a magazine-firearm, the combination of a removable cartridge-case provided with a spring for elevating the cartridges and a breech-bolt having a recess in its under side of a size sufficient to permit the uppermost cartridge to project therein when the breech-bolt is in a closed position and permitting the insertion of the case with-

ous substantially depressing the cartridges and further compressing the spring, whereby the insertion of the case is facilitated when the operator is deprived of the free use of his hands.

10. In a recoil-actuated firearm, the combination of the frame, the reciprocating receiver, the breech-bolt sliding in the receiver, and means for locking and unlocking the breech-bolt in the receiver, consisting of the wedging locking-bolt sliding vertically in the receiver and engaging a beveled shoulder on the breech-bolt, a loosely-fulcrumed rocker mounted in the receiver moving with the same and engaging the locking-bolt, and means engaging the rocker as the receiver moves backward and forward to move the sliding locking-bolt to unlock and lock the breech-bolt.

11. In a gun, the combination of the removable magazine-case, a follower, a trigger, a trigger-locking device engaging said case and adapted to be released by the follower, and means for throwing the same into a position to lock the trigger when so released, said magazine-case when inserted, adapted to move said locking device out of locking position, substantially as described.

12. In a magazine-gun, the combination of the trigger, a trigger-locking device normally holding the trigger against movement, means operated upon the charging of the gun for operating the locking device to permit the trigger to be moved, and means automatically causing the locking device to lock the trigger against movement as soon as the magazine becomes empty.

13. In a gun, the combination with the removable cartridge-case, the follower for the same, and the trigger, of a locking device normally holding the trigger against movement, moved out of engagement with the trigger by the cartridge-case when inserted, and means automatically moving the locking device into engagement with the trigger and controlled by the follower.

14. In a gun, the combination with a removable cartridge-case, and a manually-operated releasable detent for the same, of spring-pressed means locking the trigger acting on the cartridge-case and imparting movement to the same when the detent is released.

15. In a magazine-gun, the combination with the spring-ejected magazine-case and the trigger, of a trigger-lock operating before the case is ejected, means causing the trigger to be locked when the magazine becomes empty, and a manually-operated magazine-release.

16. In a magazine-gun, the combination with the magazine-case and the trigger, of a spring-pressed trigger-lock acting on the magazine to eject the case when said case is released, means causing the trigger-lock to lock the trigger when the magazine becomes empty, and means for releasing the magazine-case.

17. In a gun, the combination of the trigger, a spring-pressed device normally tending to lock the trigger, a magazine-case engaging the spring-pressed device when inserted, to release the trigger and a follower engaging the spring-pressed device when the magazine is empty to cause the device to lock the trigger and yet remain in engagement with the magazine-case to eject the magazine-case.

18. In a firearm, the combination of a frame, an action-case suitably mounted in the frame, a hammer mounted in said action-case, a sear coöperating with said hammer, projections on opposite sides of said sear, a setting-spring coöperating with one of said projections, a push-rod coöperating with the other of said projections, and a trigger controlling said push-rod.

19. In a recoil-operated firearm, the combination of the reciprocating-receiver, the hammer, the sear for retaining the hammer, the push-rod for releasing the sear and a trigger controlling the push-rod; said push-rod having a projection working in a guide in the receiver, said guide being constructed to move the push-rod out of engagement with the sear by the inward movement of the receiver so that the hammer may be engaged by the sear during the automatic operation of the arm.

20. In a gun, the combination with the breech-bolt and the receiver movable together and also relatively to one another, of a firing-hammer, the sear, the trigger, a connection between the trigger and the sear, and means carried by the receiver automatically breaking the said connection on the movement in one direction of the receiver and the breech-bolt together.

21. In a gun, the combination with the breech-bolt and the receiver movable together and also relatively to one another, of a firing-hammer, the sear, the trigger, a connection between the trigger and the sear, and means carried by the receiver automatically breaking the said connection on the movement in one direction of the receiver and the breech-bolt together, and automatically making the said connection on the movement in the other direction of the receiver and the breech-bolt together.

22. In a gun, the combination with the breech-bolt, and the receiver movable together and also relatively to one another by the force of the explosion, of a firing-hammer, the trigger, a sear, a rod connecting the sear and the trigger to operate the former from the latter for releasing the firing-hammer, a guide on the receiver formed to move the rod to one position to break the connection between the trigger and the sear in one direction of movement of the receiver, and to move the rod to another position to make the connection between the trigger and the sear in the other direction of movement of the receiver.

23. In a gun, the combination with the receiver movable automatically upon firing to permit a cartridge to be fed to the barrel, of dogging means holding the receiver against movement, and a trigger connected to the dogging means to move said means out of the dogging engagement with the receiver when pulled.

24. In a recoil-operated firearm, the combination of the frame, the barrel and receiver recoiling on the frame, and a firing-trigger having a projection normally engaging the recoiling-post and dogging its recoil movement except when the trigger is pulled.

25. In a recoil-operated firearm, the combination of the frame, the barrel and receiver recoiling on the frame and a trigger for firing the arm having a projection extending forward and upward and normally in engagement with a shoulder on the receiver to prevent recoil of the barrel except when the trigger is intentionally pulled.

26. In a firearm, the combination of the frame, the barrel movably connected to the frame and a trigger fitted in the opening in the frame engaging a suitable fulcrum on one side of said opening and abutting the other side of said opening to prevent displacement of the trigger; said trigger being removable by swinging it upward when the barrel is removed.

27. In an automatic firearm, the combination of the hammer, the sear for holding the hammer and the trigger, a rod through which the trigger controls the sear, releasing means movable into a position to engage the sear, a part moving automatically in the operation of the gun provided with a cam-groove adapted to hold the rod out of engagement with the sear during the first portion of the movement of said part and to move the rod into engagement with the releasing means to release the hammer at the end of the movement of said part.

28. In an automatic firearm, the combination with the hammer, the sear controlling the hammer and the trigger for controlling the sear; a releasing-fly movable into and out of position to control the sear, and adapted to be operated by the automatic action of the firearm, and a lever controlling the position of said releasing-fly at will.

29. In an automatic firearm the combination of the hammer, the sear for controlling said hammer, the trigger, the rod through which the trigger controls the sear, connection between said rod and an automatically-reciprocating part of the arm which imparts transverse movements to the rod, a releasing-fly movable into and out of position to engage the sear and to be engaged by the rod, and a setting-lever through which the releasing-fly may be moved in and out of its effective position at will.

30. In a firearm, the combination of the frame, the hammer, the sear, and the safety-slide movable into direct engagement with the sear when the latter is engaging the hammer, and preventing the release of the sear when in such position, but abutting against the sear when the latter is in release position; said hammer and sear being mounted in an action-case, and said safety-slide having a recess in which the action-case enters to retain the safety-slide in the frame.

31. In combination with the breech-bolt of a firearm, an extractor with a cylindrical boss fitting in a cylindrical seat in said breech-bolt and having an eccentric face on said boss, and a spring seated between the bolt and said eccentric face, and throwing the free end of the extractor into engagement with the shell.

32. In combination with the breech-bolt of a firearm, an extractor constructed with a cylindrical boss, fitting a cylindrical bearing in the breech-bolt which surrounds more than half the circumference of the boss whereby the bearing embraces the boss to hold the extractor in place; said boss having a flat outer face which releases the boss from its bearing when the extractor is turned outwardly to bring said outer face within the bearing; and a spring for holding the extractor in operative position.

33. In combination with the breech-bolt of a firearm, an extractor constructed with a cylindrical boss, fitting a cylindrical bearing in the breech-bolt which surrounds more than half the circumference of the boss whereby the bearing embraces the boss to hold the extractor in place; said boss having a flat outer face which releases the boss from its bearing when the extractor is turned outwardly to bring said outer face within the bearing, a spring for holding the extractor in operative position, and an eccentric face on the portion of the boss within the bearing to receive said spring.

34. In a gun, the combination with recoiling part, the firing-hammer, the sear, the trigger, and a connection between the sear and

the trigger moved by the recoiling part to break the connection, of means adapted to be inserted between the trigger and sear connection and the sear, and operated by the said connection to operate the sear on every return of the parts of the gun to firing position while the trigger is held.

35. In a gun, the combination with the firing-hammer, the sear, the trigger, and a connection between the trigger and the sear, of a breech-bolt, and a recoiling receiver movable to permit the locking and unlocking of the breech-bolt and adapted to move said connection to operate the sear every time the parts of the gun return to firing position while the trigger is held.

36. The combination with a trigger, of a trigger-lock, a spring moving the trigger-lock into engagement with the trigger, and a magazine-follower controlling the trigger-lock.

37. The combination with a trigger, of an independent trigger-lock, a magazine-follower independent of the lock controlling the locking action of said lock.

38. The combination with a trigger, of a spring-pressed trigger-lock, means for holding the same out of locking relation with the trigger and a magazine-follower releasing said trigger-lock to cause its locking action.

804,985. **FIREARM.** ELBERT H. SEARLE, Philadelphia, Pa., assignor of three-fourths to William D. Condit, Des Moines, Iowa. Filed Oct. 1, 1904. Serial No. 226,826.



Claim.—1. In an automatic firearm, mechanism actuated by the recoil after the projectile leaves the bore, and locking means preventing said mechanism from recoiling and holding the same positively locked, by the passage of the projectile through the barrel and released to permit the recoil after the projectile leaves the said barrel.

2. In an automatic firearm, mechanism actuated automatically on the firing of the arm, and a locking device preventing actuation of such mechanism held positively locked by the passage of the projectile through the barrel and released to permit the actuation of the mechanism after the projectile leaves the said barrel.

3. In an automatic firearm having its breech opened by the recoil, means for locking the breech against opening, and a barrel controlling said locking means, positively held against movement by the passage of the projectile therethrough to hold the breech closed, and permitted to move to open the breech after the projectile leaves the barrel.

4. In a firearm, a part to be operated and a barrel having movement in a rotary direction, controlling the operation of said part; said barrel having rifling and held positively against rotation by the inertia of the projectile as the projectile takes into the rifling, to prevent the operation of said part, and rotated after the projectile leaves the barrel, to permit the operation of said part.

5. In an automatic firearm, a movable breech-bolt opening by the act of firing, and a locking means controlling the movement of said bolt, and a barrel having a rotary motion, provided with means for controlling said locking means, and with rifling, and held against unlocking said locking means, during the passage of said projectile, by the inertia of the projectile as it takes into the rifling.

6. In an automatic firearm, a barrel fixed against longitudinal movement and having a movement in a rotary direction, a breech-bolt opening by the act of firing, a locking means, unlocking and locking by rotary movement of the barrel, means tending to rotate the barrel in the direction of unlocking, and rifling in the barrel, formed in a direction which causes the inertia of the projectile to tend to rotate the barrel in the direction of locking as the projectile passes through the barrel.

7. In an automatic firearm, the combination of a frame, a barrel fixed against recoil on the frame having motion in a rotary direction, relatively thereto, a movable breech-closure opening and closing the breech of the barrel, having a forward extension in which the barrel has turning bearing, and means whereby the barrel interlocks with the breech-closure and prevents the movement of the same by its rotary motion in one direction; said barrel being provided with rifling in a direction to cause the barrel to interlock by the inertia of the projectile as rotary motion is induced in the projectile by the rifling.

8. In an automatic firearm, the combination of a frame, a receiver mounted to slide upon the frame and having a forward extension, a barrel mounted to rotate in the forward extension of the receiver, and to permit longitudinal movement of the receiver relatively thereto; said barrel having means whereby it interlocks with the receiver by its rotary movement and means whereby the projectile holds the receiver locked during the passage of the projectile through the barrel.

9. In an automatic firearm, the combination of a frame, a receiver mounted to slide upon the frame and having a forward extension, a barrel mounted to rotate in the forward extension of the receiver, and to permit longitudinal movement of the receiver relatively thereto, and a spring between the barrel and said forward extension returning the receiver to closed position; said barrel having means whereby it interlocks with the receiver by its rotary movement and means whereby the projectile holds the receiver locked during the passage of the projectile through the barrel.

10. In an automatic firearm, the reciprocating member which closes the breech, the barrel having a rotary movement; said barrel being provided with a lug and said reciprocating member having a shouldered recess into engagement with which the lug moves, to limit the rotation of the barrel and interlock it with the receiver.

11. In an automatic firearm, the reciprocating member which closes the breech, the barrel having a rotary movement, and carrying a lug; said reciprocating member formed with a shoulder with which the lug on the barrel interlocks to prevent opening of the breech until recoil takes place, and having an additional shoulder which engages the lug on return of the reciprocating member to force the barrel and breech-bolt into interlocked relation.

12. In a firearm, the combination of the receiver provided with shoulders formed thereon having a reciprocating movement to open and close the breech and the breech-block removably mounted in said receiver between said shoulders and carrying firing mechanism.

13. In combination with the barrel, the breech-block reciprocating to and from the barrel to open and close the breech; a striker mounted in the breech-block and a cocking-lever connected at its upper end to the rear end of the striker, pivoted intermediate its ends below the striker and having its lower end engaging the frame of the firearm to cause cocking of the striker as the breech-block moves.

14. In a firearm, the combination with the frame, of the barrel mounted on the frame, the breech-block movable to and from the barrel to open and close the breech, the striker carried by the breech-block, the pivoted cocking-lever connected with the striker, moving rearward with the breech-block and engaging the frame to cock the striker, and a safety-catch located on the frame in position to engage the cocking-lever when the breech is closed and movable into and out of the path of the cocking-lever.

15. In a firearm the combination with the barrel of the breech-block reciprocating to open and close the barrel, a striker mounted in the breech-block, the sear for holding the striker in cocked position, the extractor mounted on the breech-block, and a spring common to both the extractor and sear.

16. In a firearm, the combination of the breech-bolt and the sear mounted thereon, a sear-rocker mounted on a part to which the breech-bolt has relative movement and the trigger with which the sear-rocker is connected; said sear-rocker having a movement in addition to the movement imparted to it by the trigger, whereby it moves into engagement with the sear after the return of the breech-bolt and when the trigger is released and a spring acting on said sear-rocker to normally prevent this additional movement.

17. In a firearm the combination of the trigger, the trigger-lock pivoted intermediate its ends on the frame and movable at one end into engagement with the trigger to prevent the movement of the trigger, and a magazine having a follower independent of but adapted to engage the other end and move the trigger-lock into engagement with the trigger.

18. In a firearm, the combination of the frame, the barrel and the receiver fitted onto the frame by a longitudinal track, the receiver being movable relatively to the barrel, and the frame-lock engaging the barrel and the frame, to prevent removal of the barrel and to permit the movement of the receiver.

19. The combination with the frame, of the barrel and the breech-bolt fitted on the frame by a longitudinal track, means for rotating the barrel relatively to the bolt means for moving the bolt longitudinally and relatively to the barrel, and a lock to hold the barrel

and the breech-bolt on the frame engaging the barrel and permitting its rotation.

20. In a firearm, the combination of the frame, the barrel and the receiver fitted onto the frame by a longitudinal track, the receiver being movable relatively to the barrel, and the frame-lock engaging the barrel to prevent its removal and to permit the movement of the receiver and having lateral lugs entering recesses in the frame but movable from said recesses by a transverse movement of the frame-lock substantially in the manner described.

21. In a firearm, the combination with the magazine constructed to receive a double row of cartridges at its lower end, of vertical ribs of gradually-increasing depth formed within said magazine near the forward end and centering-lips at the top of the magazine in the rear of said ribs.

22. In a firearm, the combination with the magazine constructed to receive a double row of cartridges at its lower end, a forward portion of each side of the magazine being deflected inwardly relatively to the rear portion to gradually restrict the area of the path in which the cartridges move.

23. In combination with the magazine-firearm having a trigger in front of the magazine; a trigger-lock pivoted at an intermediate point and having one end projecting into locking relation with the trigger and its other end projecting into position to be engaged by a part moving in the magazine and independent of the trigger-lock, and a spring for holding the trigger-lock normally out of engagement with the trigger.

24. In a gun, the combination with a magazine-follower and a trigger, of a trigger-lock moving to lock and unlock the trigger and moved to one position by the follower, and a spring moving it to the other position.

25. In a gun, the combination with a trigger and a magazine-follower, of an independently-mounted trigger-lock moved by the follower into locking position.

26. In a gun, the combination with a trigger and a magazine-follower, of an independently-mounted trigger-lock moved by the follower into locking position and a spring moving it in the other direction.

27. In a firearm, the combination with the barrel and the breech-bolt reciprocating to and from the barrel to open and close the breech, of a firing-pin carried by the breech-bolt, and a cocking-lever pivoted to the breech-bolt connected with the firing-pin and provided with means for manually cocking it and means for engaging the frame of the firearm to automatically cock the firing-pin when the breech-bolt reciprocates.

804,986. **SELF-LOADING FIREARM.** HANS STAHL, St. Gall, Switzerland. Filed July 21, 1902. Serial No. 116,472.

Claim.—1. The receiver open at its rear end and provided with longitudinal slots in its opposite side walls extending substantially from end to end thereof, the barrel secured to the receiver, a piston-cylinder alongside thereof and removable caps closing the ends of said cylinder and receiver respectively and forming-chambers for restoring and buffer springs.

2. The combination with the barrel, the receiver open at its rear end, a removable cap to close said end, the breech-bolt and its sleeve movable longitudinally in said receiver to open and close the breech; of a piston-cylinder arranged along one side of the receiver and open at its rear end, the forward end of said cylinder in communication with the barrel, a piston in said cylinder connected to the breech-bolt sleeve, a restoring-spring acting on the rear end of said piston and a removable cap to close the rear end of said cylinder, for the purpose set forth.

3. The combination with the barrel, the receiver open at its rear end, a removable cap to close said end, the breech-bolt and its sleeve movable longitudinally in said receiver to open and close the breech, and a buffer-spring in rear of said sleeve; of a piston-cylinder arranged along one side of the receiver and open at its rear end, the forward end of said cylinder in communication with the barrel, a piston in said cylinder connected to the bolt-sleeve, a restoring-spring acting on the rear end of said piston and a removable cap to close the rear end of said cylinder, for the purposes set forth.

4. The combination with the barrel, the receiver open at its rear end, a removable cap to close said end, the breech-bolt and its sleeve movable longitudinally in said receiver to open and close the breech; of a piston-cylinder arranged along one side of the receiver and open at its rear end, the forward end of said cylinder in communication with the barrel, a piston in said cylinder detachably connected to the breech-bolt sleeve, a restoring-spring acting on the rear end of the piston and a removable cap to close the rear end of the cylinder, for the purpose set forth.



5. The combination with the barrel, receiver and breech mechanism; of a piston-cylinder in communication with said barrel at a point forward of the breech, a piston connected with said breech mechanism said piston being hollow and open at its forward end, whereby the action of the gases of explosion is delayed until the hollow piston is filled.

6. The combination with the barrel, the receiver, the breech-bolt and its sleeve; of a piston-cylinder on one side of the receiver and extending along the barrel to a point forward of the breech, a communication between said barrel and forward end of the cylinder, and a hollow piston open at its forward end and connected to the bolt-sleeve whereby the action of the gases of explosion is delayed until the hollow piston is filled.

7. The combination with the barrel, the receiver, the breech-bolt and its sleeve; of a piston-cylinder on one side of the receiver and extending along the barrel to a point forward of the breech, a gas-passage of alternate opposite direction leading from the barrel to the forward end of the cylinder, and a hollow piston connected to the bolt-sleeve and open at its forward end to retard the flow of the gases of explosion to the cylinder and cause them to act expansively on the piston.

8. The combination with the barrel, the receiver, the breech-bolt and its sleeve; of a piston-cylinder on one side of the receiver and extending along the barrel to a point forward of the breech, a gas-passage of alternate opposite direction leading from the barrel to the forward end of the cylinder to more or less check the flow of gases thereto, said gas-passage also serving as exhaust-passage, and a hollow piston connected to the bolt-sleeve and open at its forward end to delay the action of the gases of explosion on the piston and to prevent the opening of the breech until the projectile has left the barrel.

9. The combination with the barrel provided forward of the breech with a laterally-projecting lug having a screw-threaded bore, the receiver, the breech-bolt and its sleeve movable longitudinally in said receiver to open and close the breech; of a piston-cylinder arranged along one side of the receiver with its outer open end abutting against the rear face of the aforesaid lug on the barrel, a screw-plug having, an axial passage, screwing into said lug and into the forward end of the cylinder, said axial passage of the screw-plug in communication with the bore of the barrel through a passage in the lug, and a regulating and cut-off valve screwing into the forward

end of the aforesaid screw-plug, a piston in said cylinder connected to the breech-bolt sleeve and a restoring-spring acting on the rear end of said piston.

10. The combination with the barrel, the receiver, the breech-bolt and its actuating-sleeve; of a cylinder on one side of said receiver extending along the barrel to a point forward of the breech, a piston connected to the bolt-sleeve, said piston hollow and open at its forward end and said forward end of the cylinder in communication with the barrel and a cut-off in said communication, substantially as and for the purpose set forth.

11. The combination with the barrel provided forward of the breech with a laterally-projecting lug having a screw-threaded bore, the receiver, the breech-bolt and its sleeve movable longitudinally in said receiver to open and close the breech; of a piston-cylinder arranged along one side of the receiver with its outer open end abutting against the rear face of the aforesaid lug on the barrel, a screw-plug, having an axial passage, screwing into said lug and into the forward end of the cylinder, said axial passage of the screw-plug in communication with the bore of the barrel through the tortuous passage p, p', p^2, p^3, the screw-valve 4 in the outer end of said plug, the screw-valve 5 controlling the vertical branch p' of the aforesaid passage, a piston in said cylinder and a restoring-spring acting on the rear end of the said piston, for the purposes set forth.

12. The combination with the barrel provided forward of the breech with a laterally-projecting lug having a screw-threaded bore, the receiver, the breech-bolt and its sleeve movable longitudinally in said receiver to open and close the breech; of a piston-cylinder arranged along one side of the receiver with its outer open end abutting against the rear face of the aforesaid lug on the barrel, a screw-plug having an axial passage screwing into said lug and into the forward end of the cylinder, said axial passage of the screw-plug in communication with the bore of the barrel through the tortuous passage p, p', p^2, p^3, the screw-valve 4 in the outer end of said plug, the screw-valve 5 controlling the vertical branch p' of the aforesaid passage, a tubular piston open at its forward end contained in the cylinder and connected to the bolt-sleeve, and a restoring-spring acting on the rear end of said piston, for the purposes set forth.

13. The combination with the barrel, the receiver open at its rear end and provided with longitudinal slots in opposite side walls extending substantially the full length thereof, the breech-bolt, the spring-actuated firing-pin therein and the bolt-sleeve adapted to move rearwardly independently of the bolt and thereby unlock the same and simultaneously compress the firing-pin-actuating spring, said sleeve provided with a handle projecting through one of the aforesaid receiver-slots and with a lug projecting through the other slot, a removable cap closing the rear end of the receiver and a buffer-spring in said cap; of a piston-cylinder on one side of the receiver open at its rear end and extending along the barrel to a point forward of the breech and communicating with said barrel, a piston recessed to engage the aforesaid lug on the bolt-sleeve, a removable cap closing said rear end of said cylinder and a restoring-spring in said cap, substantially as and for the purpose set forth.

14. In a breech-loading gun, the combination with the breech-closing mechanism, its actuating-spring and the firing mechanism; of a brake operated by the trigger of said firing mechanism and acting on the breech-closing mechanism, for the purpose set forth.

15. In a gas-actuated gun, the barrel, the receiver open at its rear end and having along one side a longitudinal slot also open at its rear end, said receiver having along its opposite side a housing and a cylinder, the forward end of the latter in communication with the bore of the barrel, said housing open at its rear end, caps closing the rear ends of the receiver and housing, and restoring and buffer springs in said rear end of the housing and receiver respectively; of a gas-actuated piston working in the aforesaid housing and cylinder, and a breech-closing mechanism in positive engagement with said piston, said mechanism provided with a handle projecting through the aforesaid slot in the receiver, for the purposes set forth.

16. In a breech-loading gun, the combination with the receiver provided along one side with a slot 12 having recesses or notches a, b in one of its walls and a like recess near its rear end, the breech-bolt and its sleeve, and the firing-pin arranged concentrically, said firing-pin projecting through the rear end of the sleeve and having secured thereto a handle projecting through the aforesaid slot 12; of the safety locking-lever 28 pivoted in a slot of said handle and adapted to engage the aforesaid recesses or notches, for the purpose set forth.

17. In a breech-loading gun, the combination with the breech-bolt sleeve having the stop-notch 34^b, the breech-bolt, the firing-pin provided with a stop-lug 26, the firing-pin-actuating spring and means to move said sleeve toward and from the breech of the gun; of a detent-lever adapted to engage notch 34^b, a sear adapted to engage lug 26 as the breech-bolt closes the breech by the forward movement of the sleeve, a brake adapted to act on the sleeve, means to return said lever, sear and brake into normal position, and a trigger to operate said parts, for the purpose set forth.

18. In a breech-loading gun, the combination with the breech-bolt sleeve having the stop-notch 34^b, the breech-bolt, the firing-pin having the stop-lug 26, the firing-pin-actuating spring and means to move said sleeve toward and from the breech of the gun; of a detent-lever and a sear adapted to engage the aforesaid notch and lug, respectively, a brake normally acting on the sleeve, a trigger, means controlled thereby to first move the detent-lever, then the brake and then the sear out of engagement with the sleeve and firing-pin, and means preventing the disengagement of the brake until the sleeve has completed its forward movement and cleared the brake, substantially as and for the purposes set forth.

19. In a breech-loading gun, the combination with the breech-bolt sleeve having stop-notch 34^b, the breech-bolt, the firing-pin having stop-lug 26, the firing-pin-actuating spring and means to move the bolt-sleeve toward and from the breech; of a detent and a sear respectively adapted to engage the aforesaid notch and lug, a brake-lever, a trigger and a tumbler, said trigger operating to disengage the detent from the bolt-sleeve notch and operating said tumbler and through the latter the brake-lever to maintain it in contact with the sleeve until it has cleared said lever and to then tilt the latter and thereby move the sear out of engagement with the lug on the firing-pin, for the purposes set forth.

20. In a breech-loading gun, the combination with the breech-bolt sleeve, the breech-bolt, the firing-pin having a stop-lug 26, the firing-pin-actuating spring and means to move the sleeve toward and from the breech of the gun; of a sear adapted to engage lug 26 as the breech-bolt closes the breech during the forward motion of the sleeve, a trigger, means operated thereby to disengage the sear from said lug, and a brake controlled by the sleeve to prevent such disengagement until said sleeve has cleared the brake, for the purpose set forth.

21. In a breech-loading gun, the combination with the breech-bolt sleeve, the breech-bolt, the firing-pin provided with bifurcated stop-lug 26, the firing-pin-actuating spring and means to move the sleeve toward and from the breech; of a bifurcated sear-lever in the path of the aforesaid stop-lug, a spring-actuated ejector pivoted in the bifurcation of the sear-lever at the rear end of the receiver, a brake-lever acting on the bolt-sleeve and pivotally connected to the sear-lever, a trigger and a tumbler operated thereby and acting on the brake-lever to hold it in contact with said sleeve until the latter has completed its forward movement and cleared the brake and then tilt the brake-lever and therethrough the sear-lever to disengage the sear from lug 26, for the purpose set forth.

804,987. WARPING AND BEAMING MACHINE. JAMES M. TAYLOR, Paterson, N. J. Filed Oct. 1, 1904. Serial No. 226,841.

Claim.—1. In a warping and beaming machine, the combination with a reel, of a warping-carriage, means for moving the carriage including a rotary element journaled on said carriage, and a lock movable transversely of the axis of rotation of the element and arranged to engage said element and hold the same against rotation.

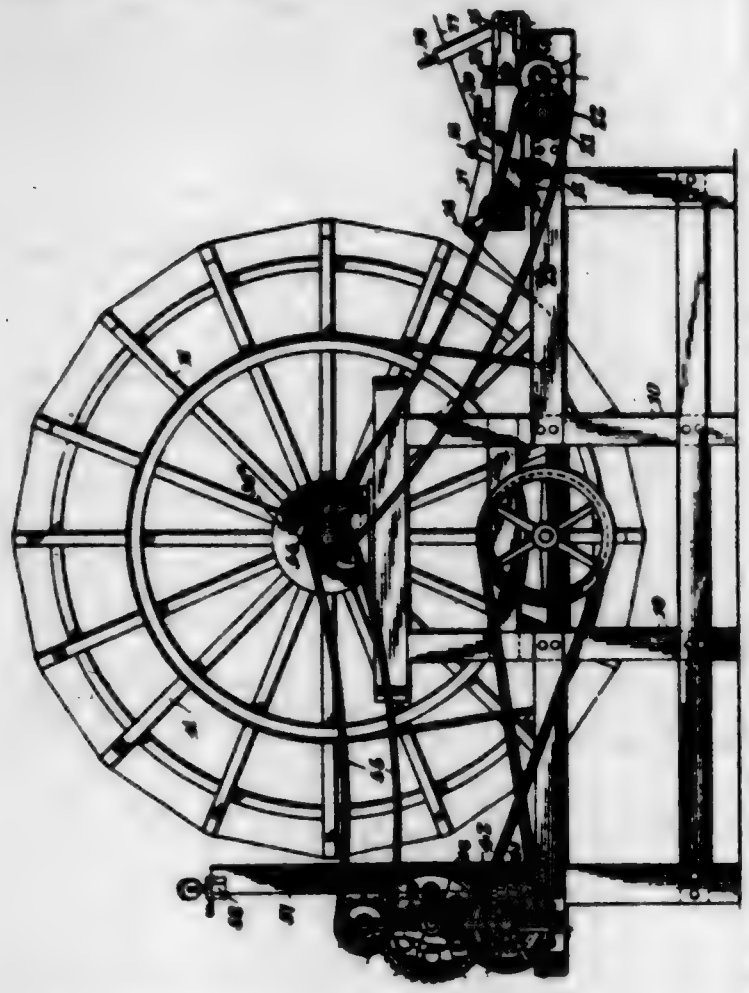
2. In a warping and beaming machine, the combination with a reel, of a warping-carriage, a worm-shaft, a spindle journaled on the carriage, a worm-wheel carried by the spindle and meshing with the worm-shaft, and a locking device movable transversely of the axis of rotation of the spindle and arranged to bear against the same to hold said spindle and consequently the worm-wheel against rotation.

3. In a warping and beaming machine, the combination with a reel, of a warping-carriage movable longitudinally of the same, a worm-shaft, a journal-box mounted on the carriage, a spindle journaled in the box, a worm-wheel carried by the spindle and engaging the worm-shaft, and a set-screw threaded into the box and arranged to bear against the spindle for holding the same against rotation.

4. In a warping and beaming machine, the combination with a revoluble reel, of a warping-carriage movable longitudinally of the same, a worm-shaft extending longitudinally of the reel beneath the carriage, a journal-box mounted on the carriage, a spindle journaled in the box and including a collar detachably secured to one end, a worm-wheel carried by the other end of the spindle and coöperating with the worm-shaft, and a set-screw threaded into the box and bearing against the collar.

5. In a warping and beaming machine, the combination with a movable arm including a threaded shank, of a longitudinally-movable beam-shaft journaled in the arm and moved longitudinally

thereby, means for moving the arm including a drive-wheel having a threaded bore that receives the threaded shank, and an abutment against which the wheel bears.



6. In a warping and beaming machine, the combination with a supporting-frame, of a reel journaled thereon, a standard mounted on the frame at one side of the reel, a longitudinally-movable shaft journaled in the standard and having a beam-clutch at one end, driving means for the shaft including a gear-wheel slidably associated with the shaft and bearing against one side of the standard, an arm including a threaded shank slidably mounted in the standard and having an offset portion provided with an eye that receives the shaft, a collar mounted on the shaft and borne against by the eye, and a driving-wheel having a threaded bore that receives the shank of the arm, said wheel being located on the opposite side of the standard to the gear-wheel and bearing against said side.

7. In a warping and beaming machine, the combination with beaming mechanism including rotary beam-carrying means, of means for adjustably supporting a spool adjacent to said beam-carrying means, said supporting means permitting the adjustment of said spool longitudinally of the axis of rotation of said beam-supporting means.

8. In a warping and beaming machine, the combination with beaming mechanism including rotary beam-carrying means, of a support located adjacent thereto and longitudinally of the axis of rotation of the beam-carrying means, and a spool-carrier mounted on the support and adjustable longitudinally thereof.

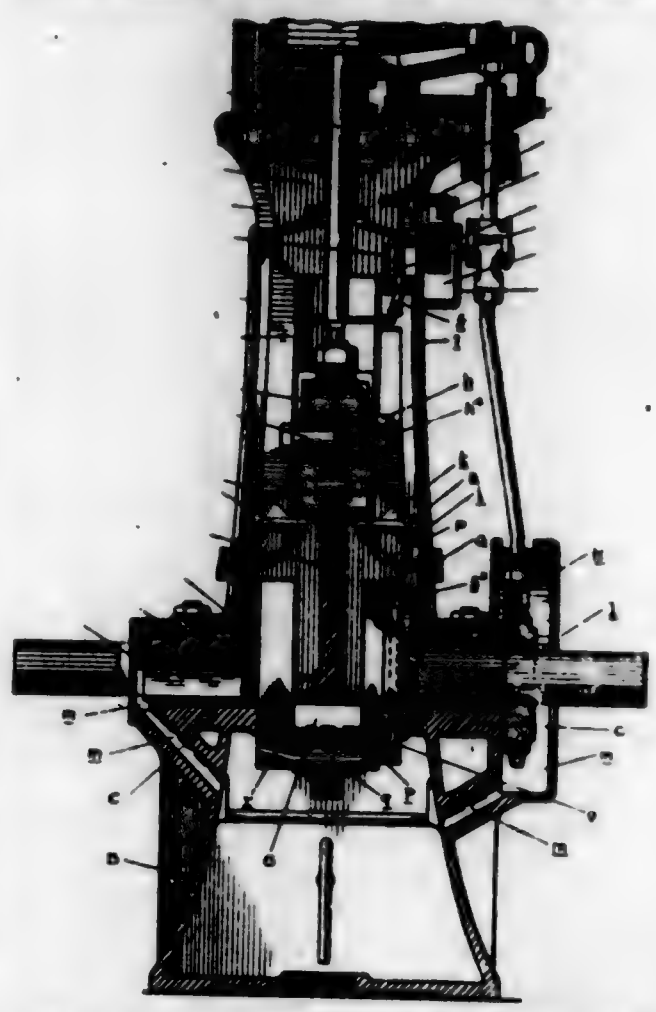
9. In a warping and beaming machine, the combination with a reel, of beaming mechanism coacting therewith, and means located between the reel and beaming mechanism for supporting a spool and permitting the adjustment of the same longitudinally of said reel.

10. In a warping and beaming machine, the combination with a reel, of beaming mechanism, a supporting-bar extending longitudinally of the reel, and a spool-carrier slidably mounted on the bar.

11. In a warping and beaming machine, the combination with a reel, of beaming mechanism, a supporting-bar extending longitudinally of the reel, a spool-carriage block having a guideway that receives the bar, said block being slidable upon said bar, and a spool-journal stem carried by the block.

12. In a warping and beaming machine, the combination with a reel, of beaming mechanism coöperating therewith, a supporting-bar extending longitudinally of the reel at one side of the same, a spool-carrier block having a longitudinally-disposed slot in its lower side forming a guideway that receives the bar, a spool-journal stem mounted on the block and located at an inclination above the same, and a guide-eye projecting from one side of the block.

804,988. LUBRICATING SYSTEM. CHARLES H. TREAT, Detroit, Mich., assignor to American Blower Company, Detroit, Mich., a Corporation of Michigan. Filed June 26, 1905. Serial No. 267,136.



Claim.—1. A lubricating system for distributing oil to a plurality of bearings comprising an elevated tank for the lubricant, a plurality of discharge-tubes connected therewith and leading to the different bearings, and means for proportioning the discharge of the oil when at different levels in the tank between the various tubes.

2. A lubricating system for distributing lubricant to a plurality of bearings comprising an elevated tank, a plurality of discharge-tubes connecting thereto and leading to the various bearings, and vertically-slotted upward projections of said discharge-tubes within said tank, through which the lubricant is discharged when at different levels and is proportioned to each tube.

3. A lubricating system for distributing oil to a plurality of bearings, comprising a receptacle for the lubricant, a plurality of discharge-tubes connected therewith and leading to the different bearings, said tubes being arranged to receive lubricant in proportion to the height of the lubricant in said receptacle.

4. In a lubricating system, the combination with a bearing, of a gravity-feed connection thereto for the lubricant a constantly open discharge from said connection, and a lateral discharge from said connection between the bearing-surfaces.

5. In a lubricating system, the combination with a bearing having different portions thereof under stress at different times, of a channel for supplying the lubricant to the portions of the bearing while relieved from stress, and means whereby said channel is disconnected from said portions of the bearing while under stress.

6. In a lubricating system, the combination with a bearing for a revoluble member upon which stress is exerted alternately upon opposite sides, of a longitudinally-extending oil-distributing channel arranged to communicate with the opposite portions of said bearing while they are respectively relieved from stress and to be cut off from communication therewith while under stress.

7. In a lubricating system, the combination with a bearing for a revoluble member upon which stress is exerted alternately in opposite directions, of an oil-distributing channel extending longitudinally of said bearing intermediate the points of alternate maximum stress.

8. In a lubricating system, the combination with a series of bearings and a gravity oil-feed extending from one bearing to another, of oil-feeding passages for each bearing laterally connecting with said gravity-feed.

9. In a lubricating system for steam-engines, the combination with an engine-frame, of a panel detachably connected to said frame forming a portion of the inclosing casing, a gravity oil-feed extend-

ing to a bearing within the casing, and a lubricant-tank for supplying the lubricant to said gravity system, mounted upon said detachable panel.

10. The combination with a vertical engine, of a panel detachably connecting with the engine-frame and forming a part of the inclosing housing, a tank for the lubricant mounted upon said panel, and drip connections with said tank for distributing the lubricant to the various bearings.

11. The combination of an upright steam-engine, of a panel detachably connecting with the engine-frame and forming a part of the inclosing housing, a tank for the lubricant mounted upon said panel and having a portion outside and a portion within the casing, distributing connections from the portion of the tank within the casing and the sight-feed-supply connection to the portion of the tank without the casing.

12. The combination with an upright engine, of a casing inclosing the crank and cross-head, a tank for the lubricant mounted on the upper portion of said casing and having a portion thereof within the casing and a portion without the same, distributing connections to the bearings leading from the portion within the casing, and a sight-feed-supply connection to the portion without the casing.

13. The combination with an upright engine and an inclosing casing for the cross-head and crank, of a tank for the lubricant mounted on the upper portion of said casing, and a drip connection from said tank to said cross-head.

14. The combination with an upright engine and a casing inclosing the cross-head of the crank thereof, of a lubricant-tank mounted on the upper portion of said casing, of a distributing connection from said tank to the slideways of said cross-head, and a drip-pan at the lower end of said slideways for receiving the lubricant therefrom and directing it to the crank-shaft bearing.

15. The combination of an upright engine and a casing inclosing the cross-head and crank thereof, of a tank for the lubricant mounted on the upper portion of said casing, a discharge connection from said tank to the slideway for said cross-head, a drip-pan beneath said slideway for receiving the lubricant therefrom and directing it against the side of said casing, and a discharge-point on said casing beneath said pan for directing the lubricant to a bearing for the crank-shaft.

16. The combination with an upright engine and an inclosing casing for the cross-head and crank, a tank for the lubricant mounted on the upper portion of said casing, distributing connections leading from said tank to the cross-head ways, the cross-head and the crank-bearings, and drip connections for delivering the lubricant from said ways to the crank-shaft bearings.

17. In a lubricating system, the combination with a bearing alternately subjected to and relieved from stress, of means for flushing the bearing-surface with lubricant while relieved from stress.

18. In a lubricating system, the combination with a bearing alternately subjected to and relieved from stress, of means for flushing the bearing-surface with lubricant while relieved from stress, and for restricting the escape of the lubricant from said surface while under stress.

19. In a lubricating system, the combination with a bearing having portions of its surface periodically subjected to stress, of means for feeding the lubricant to the portions of said surface relieved from stress, and for restricting the escape of lubricant from the portions of the surface under stress.

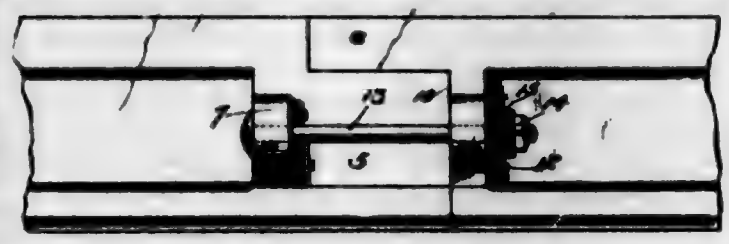
20. In a lubricating system, the combination with a bearing having portions of the surface thereof subjected to stress at different times and alternately relieved from stress, of an oil-feeding channel communicating with the portions of said surface relieved from stress, and having its communication with the portions of the bearing under stress restricted.

804,989. **RAILWAY-RAIL JOINT.** JAMES W. WALKER, Augusta, Ga., assignor of one-half to Jerry B. Lyons, Augusta, Ga. Filed Aug. 24, 1905. Serial No. 275,555.

Claim.—1. In a rail-joint, the combination with the meeting ends of two rail-sections, of means whereby said ends are interlockingly engaged with each other and means whereby the same are yieldingly secured together, substantially as described.

2. In a rail-joint, the combination with the meeting ends of two rail-sections, one of which ends is provided with a mortise, a tenon formed on the end of the connecting-section to engage said mortise, bolts to secure said ends of the rail-sections together and springs on said bolts, substantially as described.

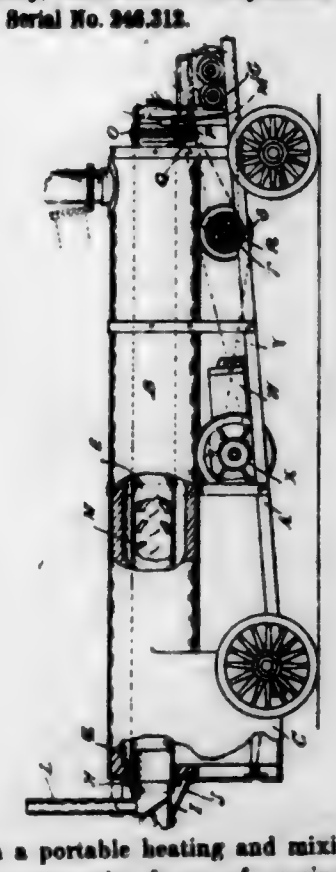
3. In a rail-joint, the combination with the meeting ends of two rail-sections, one of which ends is provided with a recessed head, and a mortised web, a tenon formed on the extended head of the connecting rail-section to engage said mortise and means for yieldingly holding said sections together, substantially as described.



4. In a rail-joint, the combination with the meeting ends of two rail-sections, one of which ends is provided with a recessed head and an enlarged mortised web, a tenon formed on the extended head of the connecting rail-section to engage said mortise, apertured ears or lugs formed on each side of said rail-sections adjacent to the ends of the same, securing-bolts adapted to be projected through said apertured ears or lugs, and means whereby said bolts are adapted to yieldingly hold said ends of the sections together, substantially as described.

5. In a rail-joint, the combination with the meeting ends of two rail-sections, one of which ends is provided with a recessed head, and an enlarged mortised web, a tenon formed on the extended head of the connecting rail-section to engage said mortise, apertured ears or lugs formed on each side of said rail-sections adjacent to the ends of the same, securing-bolts adapted to be projected through said apertured ears or lugs, clamping-nuts adapted to be screwed on said bolts, and springs arranged on said bolts between said nuts and the adjacent apertured lugs or ears, substantially as described.

804,990. **MACHINE FOR MANUFACTURING PAVING COMPOUNDS.** WILLIAM H. WORSWICK, Alma, Mich., assignor to George S. Young Company, Alma, Mich., a Corporation of Michigan. Filed Feb. 18, 1905. Serial No. 246,312.



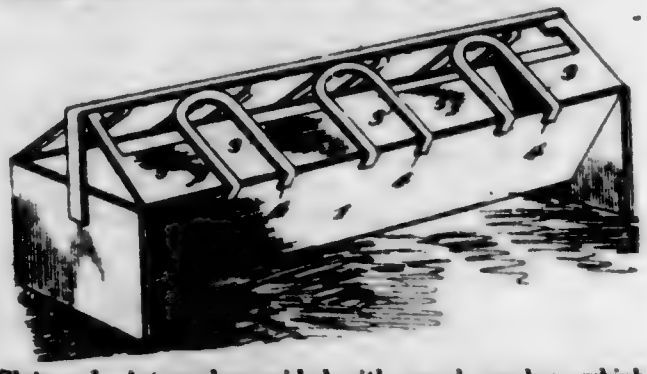
Claim.—1. In a portable heating and mixing apparatus, the combination with a supporting-frame, of a casing thereon provided with an exit for the products of combustion, a furnace having communication with said casing, a rotary cylinder within the casing spaced from the casing-walls, a mixer in operative relation to the discharge end of said casing, a pivoted hood inclosing the discharge end of the cylinder and having a bottom section resting normally upon and covering the mixer, and driving means upon the frame for operating said mixer and cylinder.

2. In a portable heating and mixing apparatus, the combination with a wheeled frame, of a mixing vessel mounted thereon having a hinged bottom section, mixing means in said vessel, a motor mounted on said frame, a cylindrical casing having a depending connected fire-box and mounted on said frame and extending over said motor, a cylinder rotatably mounted within and projecting from

the ends of said casing, and operable connections between said motor and said cylinder, and mixing means, respectively.

3. In a portable heating and mixing vessel, the combination with a wheeled frame, of a mixing vessel having a hinged bottom section, mixing means in said vessel, a motor mounted on said frame, a cylindrical casing extending over said motor and mounted on said frame and having a depending connected fire-box at one end and an outlet for the products of combustion at the other end, a cylinder rotatably mounted within and projecting from the ends of said casing, one end of said cylinder overhanging said mixing vessel, and operable connections between said motor and said cylinder and mixing means respectively, for the purpose described.

804,991. FEED-TROUGH. JOHN W. ALEIRE and JACOB ORENDORFF, Wichita, Kans. Filed May 31, 1905. Serial No. 263,189.



Claim.—1. A trough provided with guard members which extend upwardly from the sides thereof and converge toward each other, said guard members having portions cut away to form spaces through which access may be had to the contents of the trough, and connecting means between the upper portions of the guard members.

2. In a device of the character described the combination of a longitudinal member adapted to be placed over the trough, transverse members secured to the longitudinal member and extending downward on each side to the sides of the trough, and plates secured between the transverse members to form alternate open and closed spaces.

3. In a device of the character described the combination of a longitudinal member located over the trough, bars secured at approximately their center point on each side of the longitudinal member and having their arms bent so as to engage the sides of the trough, and plates secured between the arms of the adjacent bars so as to form alternate open and closed spaces.

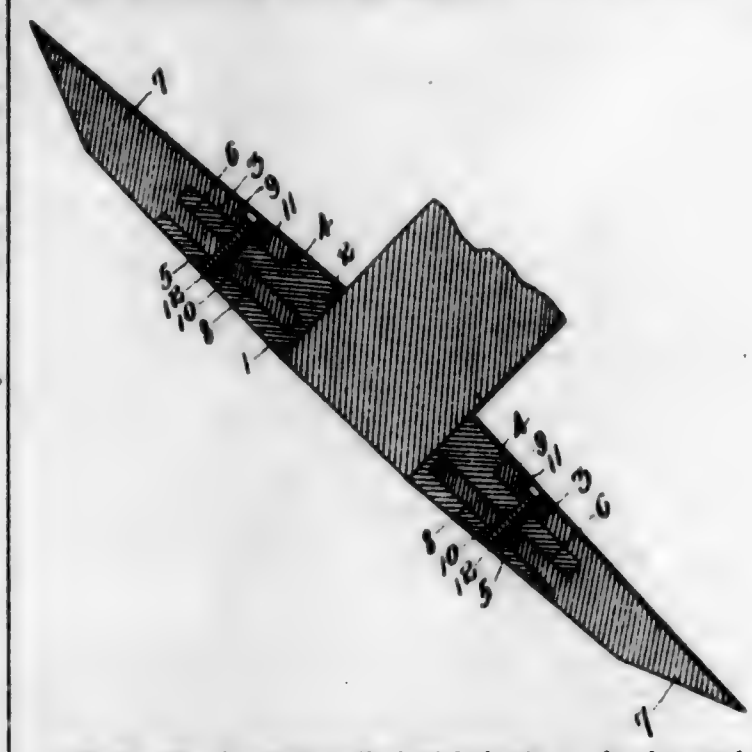
804,992. HOSE-COUPLING. ALFRED ANDERSON, Chicago, Ill. Filed Mar. 24, 1900. Serial No. 251,722.



Claim.—1. In a hose-coupling the members of which are connected and disconnected by a transverse movement thereof, the combination with the receiving member having a segmentally-recessed annular flange on its face, of the entering member having an annular flange on its face to engage the flange on the other member, a locking piece or sector located in said recess, and means to secure said piece to the receiving member, substantially as described.

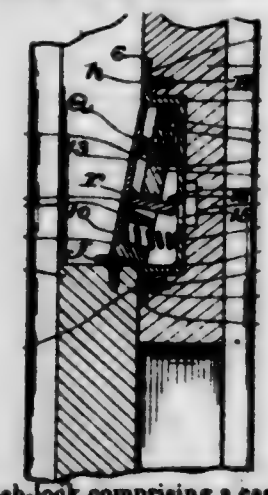
2. In a hose-coupling the members of which are connected and disconnected by a transverse movement thereof, the combination with the receiving member having a segmentally-recessed annular flange on its face and provided with a depression at about the middle of said recess, said depression having in its bottom an outwardly-extending portion, of the entering member having an annular flange on its face to engage the flange on the other member, a locking-piece located in said recess and having at about its middle a depression provided at its bottom with an outwardly-extending portion, and a hollow screw located in said depressions, substantially as described.

804,993. MINER'S PICK. DAVID J. ANDREWS, Brighton, Ala. Filed Feb. 23, 1905. Serial No. 247,008.



Claim.—The herein-described pick having a head provided with recessed ends 3, and having a bolt-hole 5 in said ends, and a longitudinal bore 6 extending beyond the recess in said ends, a detachable point 7 having a round shank 8 through which a hole 10 extends, said shank adapted to fit the bore 6 in the head, and said point having a flat attaching-flange 9 provided with a bolt-hole 11, said flange adapted to engage the recess and lie flush with the under surface of said head, and a threaded bolt 12, passed through the hole 11 in the flange, through the hole 10 in the shank and through the hole 5 in the recessed ends of the head, said bolt being countersunk in said flange, substantially as described.

804,994. SASH-LOCK. FRANKLIN O. ANDREWS, Willoughby, Ohio. Filed Apr. 14, 1905. Serial No. 255,634.



Claim.—1. A sash-lock comprising a case adapted to be inserted within the framework of the upper sash of a window, which case is open at its forward side and provided in the rear wall thereof between the upper and lower ends of the chamber of the case with a slot; a stop arranged within the said chamber and pivoted at one end to the case, which stop is arranged to swing forwardly and rearwardly and contained wholly within the chamber and inoperative or operative according as it is in its rearwardly-swung or forwardly-swung position; means acting to retain the stop in its forwardly-swung and operative position; a latch arranged within and pivoted to the stop and extending rearwardly through the aforesaid slot in the inoperative position of the stop and provided, at its rear end, with a projecting member overlapping the exterior of the rear wall of the case in the last-mentioned position of the stop, and means acting to retain the latch in its operative position, said stop having in its face a slot to receive the latch.

2. A sash-lock comprising a case adapted to be inserted within the framework of the upper sash of a window, which case is open at its forward side and provided in the rear wall thereof between the upper and lower ends of the chamber of the case with a slot; a stop arranged within the said chamber and pivoted at one end to the case, which stop is arranged to swing forwardly and rearwardly and inoperative or operative according as it is in its rearwardly-swung or for-

wardly-swung position; a suitably-applied spring acting to retain the stop in its forwardly-swung and operative position; a latch arranged within and pivoted to the stop and extending rearwardly through the aforesaid slot in inoperative position of the stop and provided, at its rear end, with a projecting member overlapping the exterior of the rear wall of the case in the last-mentioned position of the stop, and means acting to retain the latch in its operative position, said stop having in its face a slot to receive the latch.

3. A sash-lock comprising a case adapted to be inserted within the framework of the upper sash of a window, which case is open at its forward side and provided in the rear wall thereof between the upper and lower ends of the chamber of the case with a slot; a stop arranged within the said chamber and pivoted at one end to the case, which stop is arranged to swing forwardly and rearwardly and inoperative or operative according as it is in its rearwardly-swung or forwardly-swung position; means acting to retain the stop in its forwardly-swung and operative position; a latch pivoted to the stop parallel with the axis of the stop and extending rearwardly through the aforesaid slot in the inoperative position of the stop and provided, at its rear end, with a projecting member overlapping the exterior of the rear wall of the case in the last-mentioned position of the stop, and means acting to retain the latch in its operative position, said stop having in its face a slot to receive the latch.

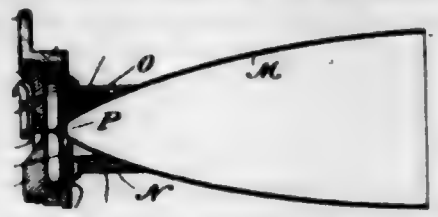
4. A sash-lock comprising a case adapted to be inserted within the framework of the upper sash of a window, which case is open at its forward side and provided in the rear wall thereof between the upper and lower ends of the chamber of the case with a slot; a stop arranged within the said chamber and pivoted at its upper end to the case, which stop is arranged to swing forwardly and rearwardly and inoperative or operative according as it is in its rearwardly-swung or forwardly-swung position, means acting to retain the stop in its forwardly-swung and operative position; a latch pivoted to the stop parallel with the axis of the stop and extending rearwardly through the aforesaid slot in the inoperative position of the stop and provided, at its rear end, with an upwardly-projecting member overlapping the exterior of the rear wall of the case in the last-mentioned position of the stop, and means acting to retain the latch in its operative position, said stop having in its face a slot to receive the latch.

5. A sash-lock comprising a case adapted to be inserted within the framework of the upper sash of a window, which case is open at its forward side and provided in the rear wall thereof between the upper and lower ends of the chamber of the case with a slot; a stop arranged within the said chamber and pivoted at one end to the case, which stop is arranged to swing forwardly and rearwardly and inoperative or operative according as it is in its rearwardly-swung or forwardly-swung position; means acting to retain the stop in its forwardly-swung and operative position; a latch pivoted to the stop parallel with the axis of the stop and extending rearwardly through the aforesaid slot in the inoperative position of the stop and provided, at its rear end, with a projecting member overlapping the exterior of the rear wall of the case in the last-mentioned position of the stop, which latch is provided, at its forward end, with an arm, and a suitably-applied spring acting to retain the latch in its operative position and confined between the rear side of the said arm and the rear wall of the case, said stop having in its face a slot to receive the latch.

6. The combination, with the upper sash and the lower sash of a window, of a case embedded in the forward side of the framework of the upper sash and open at the inner side of the sash, which case is provided in its rear wall with a slot and has two ears arranged at opposite ends respectively of the case; screws screwed horizontally through the said ears into the aforesaid framework and having their heads countersunk in the said ears; a stop arranged within the chamber of the case and pivoted at one end to the case, which stop is capable of being swung forwardly and rearwardly and is inoperative or overlaps the upper end of the framework of the lower sash according as the stop is in its rearwardly-swung or forwardly-swung position; means for retaining the stop in its forwardly-swung and operative position; a latch pivoted to the stop and extending through the aforesaid slot in the inoperative position of the stop, which latch is provided, at its rear end, with a projecting member arranged to overlap the exterior of the rear wall of the case in the last-mentioned position of the stop, and means acting to retain the latch in its operative position, and the stop being slotted to accommodate the location and operation of the latch, and the framework of the upper sash being cut away to accommodate the operation of the aforesaid projecting member of the latch.

7. The combination, with the upper sash and the lower sash of a window, of a case embedded in the forward side of the framework of the upper sash and open at the inner side of the sash, which case is provided in its rear wall with a slot; a stop arranged within the chamber of the case and pivoted at one end to the case, which stop is capable of being swung forwardly and rearwardly and is inoperative or overlaps the upper end of the framework of the lower sash according as the stop is in its rearwardly-swung or forwardly-swung position; means acting to retain the stop in its forwardly-swung and operative position; a latch pivoted to the stop and extending through the aforesaid slot in the inoperative position of the stop, which latch is provided, at its rear end, with a projecting member arranged to overlap the exterior of the rear wall of the case in the last-mentioned position of the stop, and means for retaining the latch in its operative position, said stop having in its face a slot to receive the latch.

804,995. **SOUND-CONVEYING APPARATUS.** RICHARD A. ANTHONY, New York, N. Y., assignor of one-half to Albert R. Ledoux, Cornwall-on-the-Hudson, N. Y., and one-half to Amelia V. V. Anthony, New York, N. Y. Filed Mar. 2, 1905. Serial No. 248,046.



Claim.—1. For the purpose stated a horn the interior surface whereof throughout its length diverges in curved lines from its axis and which is truncated at or near its focal plane and a diaphragm the center of which is substantially coincident in location with the focus of the horn.

2. In apparatus of the class stated a horn the interior surface whereof throughout its length diverges in curved lines from its axis and which is truncated at its focal plane, and a yieldingly-supported diaphragm combined together so that the focus of the horn and the face of the diaphragm are substantially coincident in location.

3. In apparatus of the class stated a horn the interior surface whereof throughout its length diverges in curved lines from its axis and which is truncated at its focal plane, and an oscillating diaphragm, the part of the horn in which the focal plane is located being attached to and moving with the diaphragm.

4. In apparatus of the class stated a horn the interior surface whereof throughout its length diverges in curved lines from its axis and which is truncated at its focal plane and an oscillating diaphragm, the part of the horn in which the diaphragm is located being detached from the rest of the horn and adjustably connected with the diaphragm, so as to automatically adjust itself relative to the axis of the horn as the diaphragm oscillates.

5. In apparatus of the class stated a horn the interior surface whereof throughout its length diverges in curved lines from its axis and which is truncated at its focal plane and a diaphragm having materially greater diameter than the truncated end of the horn, the two being combined together so that the focus of the horn and the center of the diaphragm are substantially coincident in location

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804,996. **TELESCOPY.** RICHARD A. ANTHONY, New York, N. Y., assignor of one-half to Charles Brock, Boonton, N. J., and one-half to Amelia V. V. Anthony, New York, N. Y. Filed Mar. 10, 1905. Serial No. 249,354.

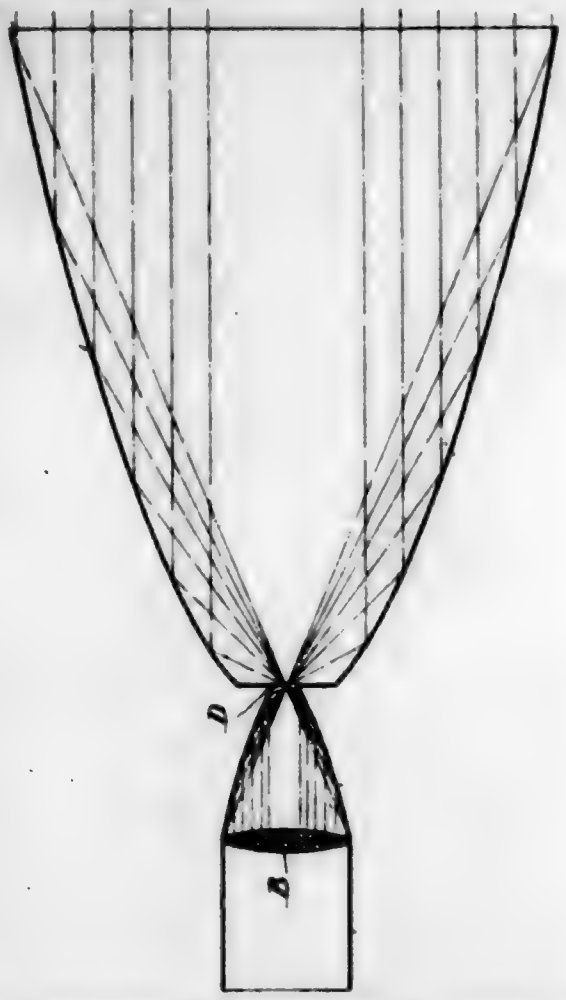
Claim.—1. The combination of a telescope-tube a receiving-reflector and a projecting-reflector, whose interior surfaces diverge in curved lines from their axes, both truncated at or near their respective focal planes, and having their foci and axes coincident, and a lens, for the purpose set forth.

2. The combination of a telescope-tube a receiving-reflector and a projecting-reflector, whose interior surfaces diverge, in curved lines from their axes, both truncated at or near their respective focal planes, and having their foci and axes coincident, and a lens located in or near the projecting-reflector and adapted to receive the rays projected therefrom, for the purpose set forth.

3. The combination of a telescope-tube a receiving-reflector and a projecting-reflector, whose interior surfaces diverge in curved lines from their axes, both truncated at or near their respective focal planes, and having their foci and axes coincident, a mirror arranged at an angle relative to the axis of the projecting-reflector and adapted to receive the rays projected therefrom and to deflect them, for the purpose set forth.

4. The combination of a telescope-tube a receiving-reflector and a projecting-reflector, whose interior surfaces diverge in curved lines from their axes, both truncated at or near their respective focal

planes, and having their foci and axes coincident, a mirror arranged at an angle relative to the axis of the projecting-reflector and adapted to receive the rays projected therefrom and to deflect them, and a lens, for the purpose set forth.



5. The combination of a telescope-tube, a receiving-reflector for collecting and concentrating rays of light, the interior surface whereof diverges in curved lines from its axis, and which is truncated at or near its parameter or focal plane, whereby the rays of light received at its larger open end will be collected, concentrated and passed through the opening at its focus.

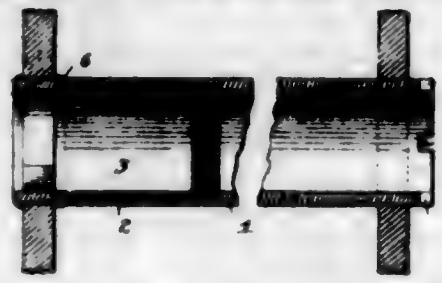
6. The combination of a telescope-tube a receiving-reflector, the interior surface whereof diverges in curved lines from its axis and which is truncated at or near its focal plane, and an ellipsoid, or double paraboloid reflector truncated at or near both foci, and a projecting-reflector, the interior surface whereof diverges in curved lines from its axis and which is truncated at or near its focus, all being suitably arranged with reference to their respective foci and having a common axial line, for the purpose set forth.

7. The combination of a telescope-tube a receiving-reflector, the interior surface whereof diverges in curved lines from its axis and which is truncated at or near its focal plane, an ellipsoid, or double paraboloid reflector truncated at or near both foci, a projecting-reflector, the interior surface whereof diverges in curved lines from its axis and which is truncated at or near its focus, all being suitably arranged with reference to their respective foci and having a common axial line, and a lens combined with the projecting-reflector and adapted to receive the rays projected therefrom, for the purpose set forth.

8. The combination of a telescope-tube a receiving-reflector, the interior surface whereof diverges in curved lines from its axis and which is truncated at or near its focal plane, and an ellipsoid, or double paraboloid reflector truncated at or near both foci, and a projecting-reflector, the interior surface whereof diverges in curved lines from its axis and which is truncated at or near its focus, all being suitably arranged with reference to their foci and having a common axial line, and a mirror arranged at an angle relative to the axis of the projecting-reflector and adapted to receive the rays projected therefrom and to deflect them, for the purpose set forth.

9. The combination of a telescope-tube a receiving-reflector, the interior surface whereof diverges in curved lines from its axis and which is truncated at or near its focal plane, an ellipsoid, or double paraboloid reflector truncated at or near both foci, and a projecting-reflector, the interior surface whereof diverges in curved lines from its axis and which is truncated at or near its focus, all being suitably arranged with reference to their foci and having a common axial line, a mirror arranged at an angle relative to the axis of the projecting-reflector and adapted to receive the rays projected therefrom and to deflect them, and a lens, for the purpose set forth.

804,997. BOILER-TUBE. GEORGE M. BARR, Delmar, Md., assignor of one-third to John G. Rodgers and one-third to George W. Russell, Cape Charles, Va. Filed Apr. 21, 1905. Serial No. 256,756.



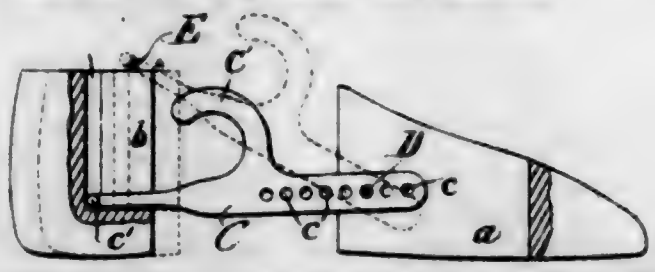
Claim.—1. In a boiler, the combination with the front tube-sheet having a hole for a tube, of the rear tube-sheet having a screw-threaded hole therein, an externally-headed bushing screwed completely through said rear sheet and projecting into the boiler, and a tube having internal screw-threads at its rear end to engage with those on the projecting portion of the bushing and having its front end extending beyond the front sheet and provided with means constituting a wrench-hold.

2. In a boiler, the combination with the front tube-sheet having a hole for a tube, of the rear tube-sheet having a screw-threaded hole therein, an externally-headed bushing screwed completely through said rear sheet and projecting into the boiler, and a tube having internal screw-threads at its rear end to engage with those on the projecting portion of the bushing and having its front end extending beyond the front sheet and provided with means constituting a wrench-hold, and a packing-ring interposed between the rear end of said tube and the rear sheet.

3. In a boiler, the combination with a rear tube-sheet having a screw-threaded hole therein, of a bushing having a shoulder provided with a screw-thread engaging that in said hole, and a reduced portion projecting into the boiler and provided with a screw-thread, a tube having internal screw-threads engaging those on the reduced portion of the bushing, and a packing-ring covering the joint between said bushing and the sheet and clamped against the sheet by the end of the tube.

4. In a boiler, the combination with the front tube-sheet having a hole for a tube, of the rear tube-sheet having a screw-threaded hole therein, an externally-headed bushing having a wrench-hold, said bushing being screwed completely through said rear sheet and projecting into the boiler, and a tube having internal screw-threads at its rear end to engage with those on the projecting portion of the bushing and having its front end extending beyond the front sheet and provided with means constituting a wrench-hold.

804,998. BOOT AND SHOE TREE. WALTON W. BRALS, New York, N. Y. Filed July 5, 1904. Serial No. 215,219.

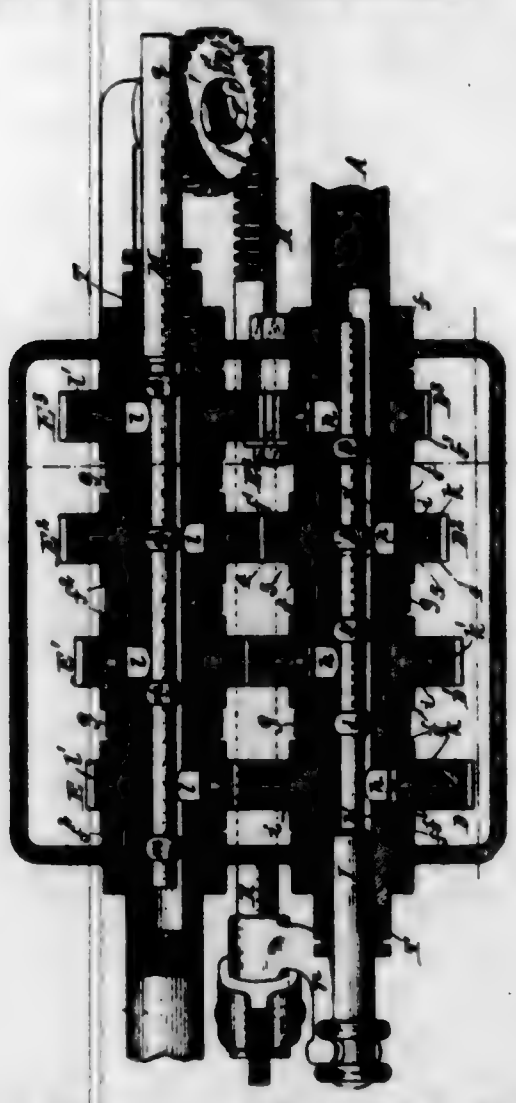


Claim.—1. A boot and shoe tree comprising a heel-section, a vamp-section, a lever connecting said sections, one of said sections having an upwardly-disposed recess that opens through a wall thereof, a removable stop carried by said section extending across the recess to prevent the lever from passing out of said recess in use, said recess having an extended part which opens through the inner vertical wall of said section, the inner portion of the recess being wider than the extended part thereof, said lever having an extension movable in the wider part of said recess, the main portion of the lever traveling in the extended part of the recess, substantially as described.

2. A boot and shoe tree comprising a vamp-section, a lever pivoted thereto, said lever having an extension on its free end, and a heel-section having an upwardly-disposed T-shaped recess formed wholly within the material of the section, the narrow extended part of the recess opening through the inner wall of the heel-section opposite the vamp-section, said extension of the lever being located in the

wide part of the recess and the main part of the lever traveling in the narrow part of the recess, said recess opening through one end of the section, and a removable stop crossing the open end of the recess, the rear and sides of the heel-section being unbroken to prevent the extension on the lever from engaging a shoe, substantially as described.

804,999. VARIABLE-SPEED GEARING. WILLIAM B. BLAIR, Buffalo, N. Y. Filed July 3, 1904. Serial No. 215,710.



Claim.—1. The combination with a main shaft and a counter-shaft a series of gear-wheels loosely mounted on each of said shafts, the wheels of the main shaft meshing with the corresponding wheels of the counter-shaft, of individual locking devices for coupling said gear-wheels to their respective shafts, oppositely-moving plungers sliding lengthwise in said shafts and each having a plurality of actuating devices coöperating respectively with the locking devices of the corresponding gear-wheels, and means for simultaneously shifting said plungers, substantially as set forth.

2. The combination with a main shaft, a counter-shaft, and a series of gear-wheels loosely mounted on each of said shafts, the wheels of the main shaft meshing with the corresponding wheels of the counter-shaft, of individual locking devices for coupling said gear-wheels to their respective shafts, oppositely-moving plungers sliding lengthwise in said shafts and each having a plurality of actuating devices coöperating respectively with the locking devices of the corresponding gear-wheels, one of said plungers having a gear-rack, an operating-lever connected with the other plunger, a second gear-rack connected with said lever, and a pinion meshing with both of said gear-racks, substantially as set forth.

3. The combination of a shaft, a plurality of different-sized gear-wheels loosely mounted thereon and each provided in its bore with an unbroken annular series of concave recesses, radially-movable keys guided on said shaft and each having a convex outer end adapted to interlock with one of said recesses, and means for shifting the keys into engagement with said recesses, substantially as set forth.

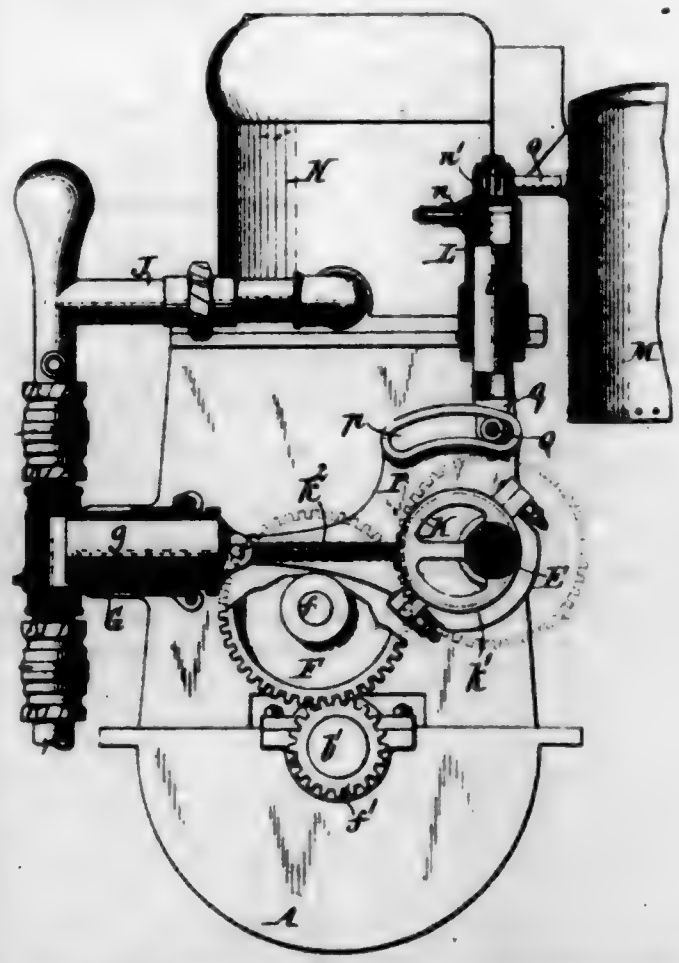
4. The combination of a shaft, a plurality of different-sized gear-wheels loosely mounted thereon and each provided with locking-recesses, radially-movable keys guided on said shaft and each adapted to interlock with one of said recesses, means for shifting the keys outwardly into engagement with said recesses, and retracting-springs encircling the shaft and bearing against the keys, substantially as set forth.

5. The combination of a shaft, a plurality of different-sized gear-wheels loosely mounted thereon and each provided in its bore with an annular groove and an annular series of locking-recesses, radially-movable keys guided on the shaft and each adapted to interlock with one of said recesses, means for shifting the keys outwardly into engagement with said recesses, and retracting-springs for the keys encircling the shaft and each seated in one of said grooves, substantially as set forth.

6. The combination of a shaft, a plurality of different-sized gear-wheels loosely mounted thereon and each provided in the ends of its bore with enlargements and having the raised portion of its bore between said enlargements provided with recesses, bushings seated in said enlargements, radially-movable keys guided on the shaft and each adapted to interlock with one of said recesses, and means for shifting the keys into engagement with said recesses, substantially as set forth.

7. The combination of a main shaft, a counter-shaft, a plurality of intermeshing gear-wheels mounted on said shafts, means for coupling and uncoupling each shaft with the gear-wheels thereon comprising a plunger, and a shipper-rod operatively connected at one end with the plunger of one shaft and at its opposite end with the plunger of the other shaft, substantially as set forth.

805,000. DRIVING MECHANISM FOR TWO PUMP-PLUNGERS. WILLIAM B. BLAIR, Buffalo, N. Y., assignor to Buffalo Gasoline Motor Company, Buffalo, N. Y., a Corporation of New York. Filed Jan. 30, 1905. Serial No. 243,270.



Claim.—1. A driving mechanism for operating two reciprocating parts which move at an angle to each other, comprising an eccentric, a strap surrounding the eccentric and pivotally connected with one of said parts, a head arranged on said strap and having a slot which is substantially parallel with the movement of the part to which said eccentric is pivotally connected, and an abutment arranged on the other part and engaging with said slot, substantially as set forth.

2. A driving mechanism for operating two reciprocating parts which move at an angle to each other, comprising an eccentric, a strap surrounding the eccentric and pivotally connected with one of said parts, a head arranged on said strap and having a slot which is concentric with the eccentric and which extends generally in a direction parallel with the movement of the part to which the eccentric is pivotally connected, and an abutment arranged on the other part and engaging with said slot, substantially as set forth.

3. A driving mechanism for operating two reciprocating parts which move at an angle to each other, comprising an eccentric, a strap surrounding the eccentric and pivotally connected with one of

said parts, a head arranged on said strap and having a slot, a pair of lugs arranged on the other part and receiving the head between them, and a roller pivoted on said lugs and engaging with said slot, substantially as set forth.

4. A driving mechanism for operating two reciprocating parts which reciprocate at right angles to each other, comprising a rotary eccentric, an eccentric-strap surrounding said eccentric and having a pitman which is pivotally connected with one of said parts, a head arranged on said strap and provided with a slot which is concentric with said eccentric and extends generally in the same direction as the line of movement of the part with which said pitman is connected, and an abutment or roller arranged on the other part and engaging with said slot, substantially as set forth.

805,001. FOOD PRODUCT. COLONEL B. BENNY, Columbus, Ohio. Filed June 19, 1905. Serial No. 266,045.

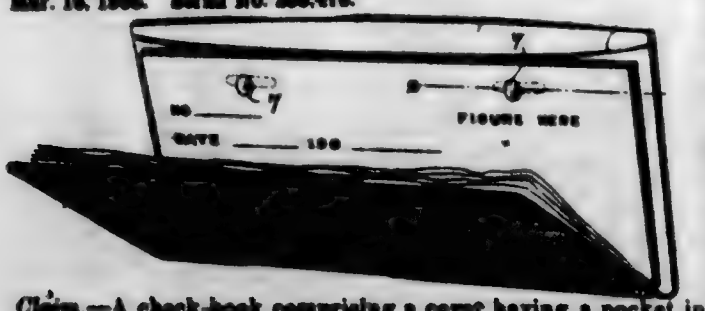
Claim.—1. A food product comprising fat, muscular tissue and cornmeal, the entire fat content of the said product containing between ten and fifteen per cent. stearin.

2. A food product comprising fat, muscular tissue and cornmeal, the entire fat content of the said food product containing about thirteen per cent. stearin.

3. A food product comprising fat, muscular tissue and cornmeal, the entire fat content of said food product containing about thirteen per cent. stearin and said fat content constituting about nine per cent. of the entire compound.

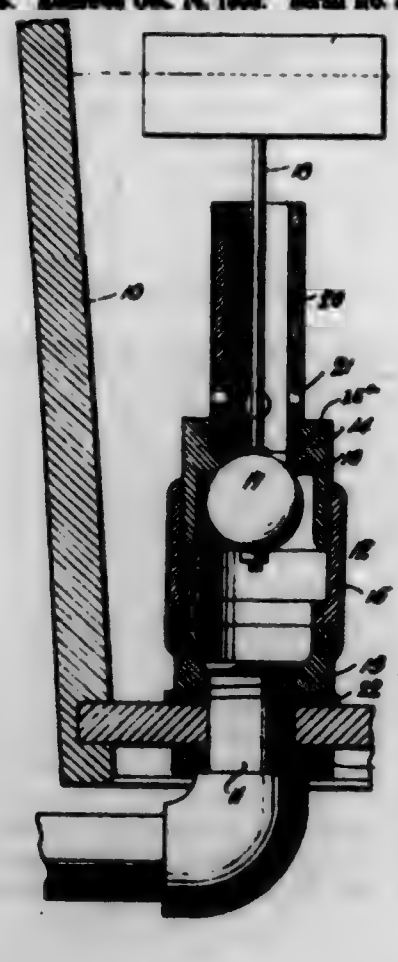
4. A food product comprising beef-fat, lean of beef and cornmeal, the entire fat content of the said food product comprising between ten and fifteen per cent. stearin.

805,002. CHECK-BOOK. CHARLES C. CHAIN, Bushnell, Ill. Filed Mar. 16, 1905. Serial No. 250,476.



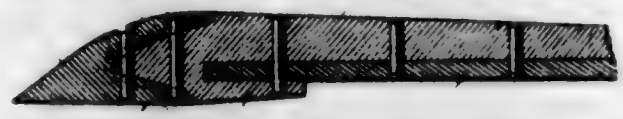
Claim.—A check-book comprising a cover having a pocket in one member, the inner wall of the pocket being perforated, checks having perforated stubs, and detachable fastening devices extending through the perforations in the stubs and the wall to hold the parts combined.

805,003. FLOAT-VALVE. EDWIN P. CLARY, Dilley, Tex. Filed Oct. 15, 1903. Renewed Oct. 14, 1905. Serial No. 282,809.



Claim.—The combination with a stock-watering tank, of means for regulating the admission of water into said tank, said means comprising a cylindrical casing, a lower end member threaded into said casing, an inlet-pipe extended through the bottom of the pipe and threaded into the lower end member, an upper end member threaded into the casing and having an interior annular flange forming a valve-seat, a stand-pipe threaded into the upper end member and having apertures in the sides thereof, a valve-stem extending through said stand-pipe, a valve upon said stem seating upon the under side of the annular flange in the upper end member, and a float at the upper end of the valve-stem; said stand-pipe abutting upon and reinforcing the annular flange forming the valve-seat in the upper end member and said stand-pipe being also adapted to support the float when the latter is in a lowered position.

805,004. TOOTH FOR EXCAVATOR-BUCKETS. ANDREW M. CUPPLES, Tyrone, Pa. Filed Feb. 3, 1905. Serial No. 244,011.



Claim.—1. In a device of the class herein shown and described, a shank portion provided with a head having a forward-projecting nose, a point having a socket snugly fitting said nose, the contacting surfaces of the socket and the nose being provided with an interlocking rib and groove extending longitudinally thereof, and fastening devices passing down through the parts of the socket and the nose.

2. In a device of the class herein shown and described, a shank provided with a forwardly-tapering nose grooved longitudinally, a point fitting the nose snugly and provided with a corresponding rib, and fastening devices.

3. In a device of the class herein shown and described, a shank having a tapering nose portion grooves longitudinally in its upper and lower surfaces, a point having a corresponding rib, and a fastening rivet or rivets.

4. In a device of the class described, a shank portion provided with a head having a forwardly-tapering nose portion, and a removable point having a socket snugly fitting the upper and under surfaces of said nose, the contacting surfaces being interlocked by having a portion of one of the surfaces projecting into a corresponding depression in the other surface, and fastening-rivets passing down through the point and the nose, said interlocking surfaces serving to relieve said rivets of shearing strain, substantially as set forth.

5. In a device of the class described, a shank provided with a head having a forwardly-projecting nose portion, and a removable point having a socket snugly fitting the upper and under surfaces of said forwardly-projecting nose, the contacting surfaces being interlocked by having a portion of one of the surfaces projecting into a recess or depression in the other surface, and fastening means connecting the two parts, for the purpose set forth.

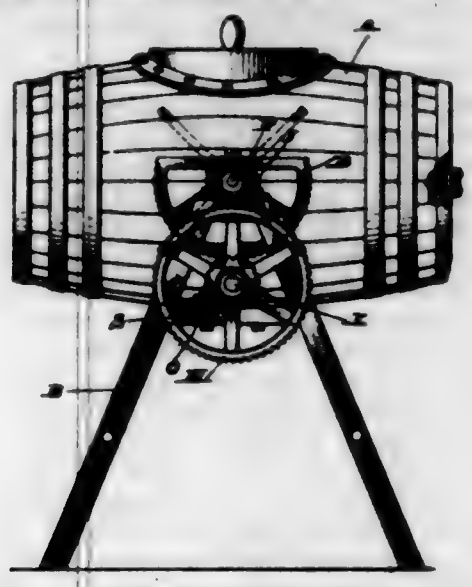
6. In a device of the class described, a shank adapted to be attached to the bucket and having a forwardly-projecting nose at its forward end, this nose portion being provided with recesses in its upper and under surfaces, said recesses lying approximately midway between the side edges of the nose, a removable point of approximately the same width as the nose and having a socket adapted to fit the same, this socket being open at its sides and its inner faces being provided with integral projections adapted to enter the corresponding recesses in the upper and lower faces of the nose, and fastening means passing through the two parts to lock them rigidly together.

7. In a device of the class described, the combination of a shank adapted for attachment to the front edge of the dipper or bucket and provided with a forwardly-tapering nose portion at its forward end, a removable point having an open-sided socket shaped to snugly fit said nose portion, the upper and lower contacting surfaces being interlocked by having an integral part of one of the surfaces projecting into the corresponding recess in the opposite surface, said projecting part and corresponding recess lying approximately midway between the side edges of the point and running longitudinally thereof, and fastening devices extending through the overlapped parts.

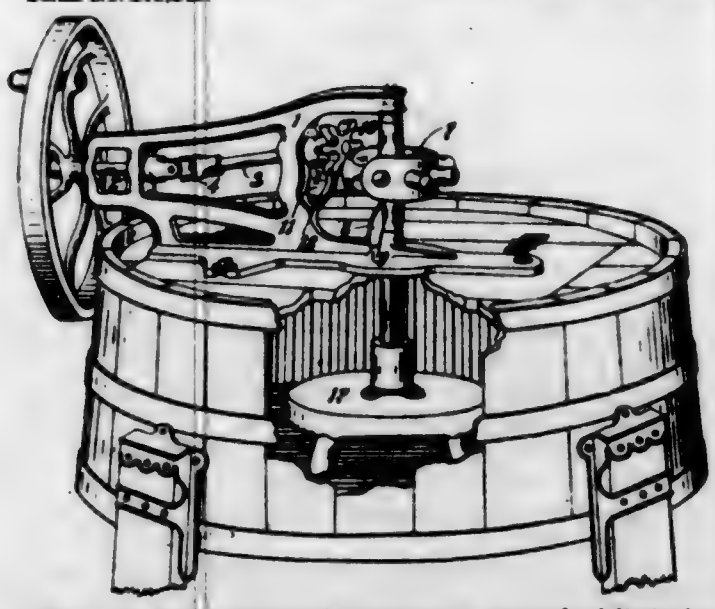
805,005. CHURN. THOMAS A. DAVIS, Findlay, Ill., assignor of one-half to Wm. Marvin Pogue, Findlay, Ill. Filed Sept. 21, 1905. Serial No. 279,356.

Claim.—The hollow shaft E, the plate N and the plate G, the half cog-wheel D, the shaft I together with the cog-wheels O and H,

the shaft P with the cog-wheel J and the key L, and the dash-shaft F, all substantially as set forth and for the purpose specified.



805,008. MECHANICAL MOVEMENT. JOHN DIETZ, Cincinnati, Ohio, assignor to Conrad Dietz, Cincinnati, Ohio. Filed Aug. 10, 1905. Serial No. 273,543.



Claim.—1. In a mechanical movement, a gear-wheel limited to partial alternating revolutions, a driving-shaft, a pinion on said driving-shaft in mesh with said gear-wheel and a frame provided with an ovoidal guideway for said driving-shaft.

2. In a mechanical movement, a gear-wheel limited to partial alternating revolutions, a driving-shaft, a pinion on said driving-shaft in mesh with said gear-wheel, a frame provided with an ovoidal guideway for said driving-shaft, and having bearings in said ovoidal guideway for said driving-shaft, substantially as specified.

3. In a mechanical movement, a frame having an ovoidal guideway therein and a projection thereon, a gear-wheel journaled in said frame having a projection thereon adapted to engage said projection on said frame, a driving-shaft journaled in said frame and adapted to swing in said ovoidal guideway, and a pinion on said driving-shaft adapted to mesh with said gear-wheel and to be guided by said ovoidal guideway.

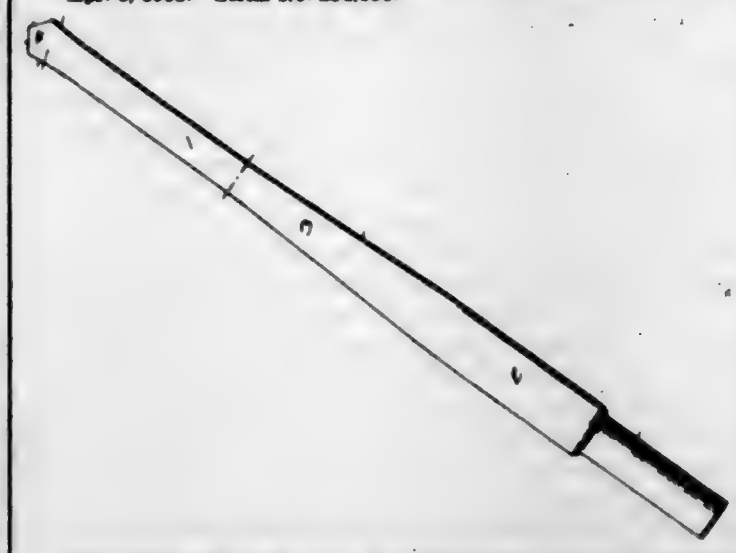
4. In a mechanical movement, a segmental gear-wheel having a projection thereon opposite the segment thereof, a driving-shaft having a joint, a frame in which said segmental gear-wheel and said driving-shaft are journaled having an ovoidal guideway therein and a projection thereon adjacent said segmental gear-wheel in a position intermediate of the journals of said segmental gear-wheel and said driving-shaft and adapted to be engaged by the projection on said gear-wheel, a pinion on said driving-shaft adapted to mesh with the upper and lower sides of said segmental gear-wheel and to be guided by said ovoidal guideway from one side of said segmental gear-wheel to the other when said projection on said gear-wheel engages said projection on said frame.

805,007. HAIR-ROLL. CHARLES V. D'ORSONE, Philadelphia, Pa. Filed June 15, 1904. Renewed Apr. 1, 1905. Serial No. 255,295.

Claim.—The hereinbefore-described hair-roll, comprising an integral piece of elastic braided wire in tubular form flattened and bent midway of its length into U shape, the limbs thereof curving backwardly from their junction, and their free ends flattened, substantially as specified.



805,008. ROCK-DRILL. WILLIAM J. RITTLE, Knowles, Cal. Filed Apr. 6, 1905. Serial No. 254,196.



Claim.—A drill of the class described, having a base portion angular in cross-section and of larger sectional area, a tapered stem extending outwardly from said enlarged base portion and of angular form cross-sectionally, to provide correspondingly-shaped edges which extend from end to end thereof, and a broadened point having obtuse-angled converging cutting edges and outwardly-flared sides coincident with the sides of the stem, substantially as described.

805,009. PROCESS OF MAKING HYDROCHLORIC ACID. WILLIS R. EVERETT, Tacoma, Wash. Filed Feb. 24, 1904. Serial No. 195,076.

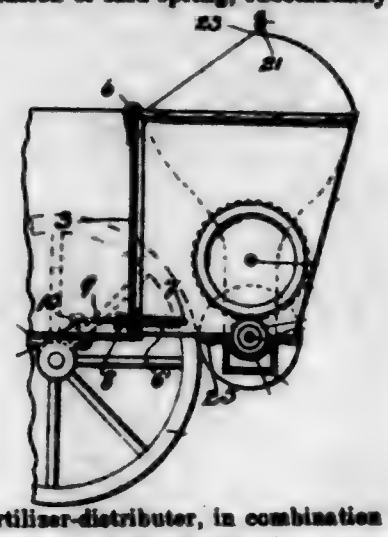
Claim.—1. A process of producing hydrochloric acid, which consists, first: in reducing a mixture of water, chlorin gas and compressed air to an intense crymic condition by contact with liquid air; second: subjecting said mixture while still in said intense crymic condition, to contact with intense heat by impact against incandescent silica, whereby the nitrogen and oxygen are liberated, while the chlorin combines with a portion of the liberated hydrogen to form hydrochloric-acid gas; third: dissolving said gas in water thereby forming hydrochloric acid, and collecting the same for commercial use.

2. A process of producing hydrochloric acid which consists, first: in reducing a mixture of water, chlorin gas, compressed air and chlorid of an alkali to an intense crymic condition with liquid air; second: subjecting said mixture, while still in said intense crymic condition, to contact with intense heat by impact against incandescent silica, whereby a disruption of said substances is caused; third: collecting a portion of said substances recombined with the aid of water as hydrochloric acid.

805,010. FERTILIZER-DISTRIBUTER. JACK P. FULLILOVE, Shreveport, La. Filed May 19, 1905. Serial No. 260,713.

Claim.—1. In a fertilizer-distributer, in combination with a wagon and its wheels, a detachable fertilizer-receptacle, distributing mechanism, pulleys for driving said mechanism, said pulleys being mounted on said receptacle adapted to engage said wheels, a

connecting-spring between said receptacle and wagon and means to adjust the tension of said spring, substantially as described.



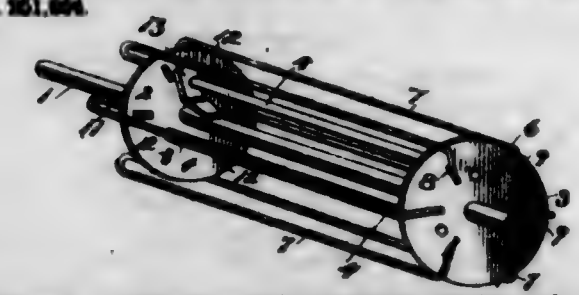
2. In a fertilizer-distributer, in combination with a wagon, a detachable receiving and distributing box, supporting means for said box which consist solely of hooks at the upper part of the box and hooks at the lower part of the box which loosely engage said wagon, whereby the box may be readily attached to and lifted from the wagon, substantially as described.

3. In a fertilizer-distributer, in combination with a wagon and its wheels, a detachable receptacle, a distributing mechanism in said receptacle, a stirring mechanism therein, and pulleys adapted to drive said mechanism, said pulleys mounted on said receptacle and adapted to engage the wagon-wheels when the receptacle is attached thereto, substantially as described.

4. In a fertilizer-distributer, a two-way feeding mechanism, opposite discharge-chutes and toggle-arms on which said chutes are mounted and by which they are adjusted, substantially as described.

5. In a fertilizer-distributer, in combination with a wagon and its wheels, a detachable fertilizer-receptacle, reversely-inclined endless conveying-screws in said receptacle, a rotary stirring mechanism therein, a shaft for said conveying-screws and gearing between said shaft and the stirring mechanism, hooks on said receptacle adapted to loosely engage said wagon, whereby the receptacle may be lifted from the wagon and readily placed thereon, pulleys carried by said shaft in position on said receptacle to frictionally bear against the peripheries of the wagon-wheels when the receptacle is hooked to the wagon, and spring means for holding said pulleys tightly against the wagon-wheels, substantially as described.

805,011. MANDREL. GEORGE W. GOMBER, Conyngham, Pa., assignor to Hulda Gomber, Conyngham, Pa. Filed Mar. 23, 1905. Serial No. 251,604.



Claim.—1. A tablet-mandrel comprising suitable end sections, means to secure said sections in operative relationship, in combination with a plurality of spring-like tablet-engaging devices properly secured to the inner end section and limited in their inner and outer movements by devices carried by the outer end section and cooperating with the free end of said spring, all combined substantially as specified and for the purpose set forth.

2. A tablet-mandrel comprising a disk-like inner and outer end section, devices adapted to operatively secure said sections in permanent relationship with each other, a plurality of radially-disposed spring members 7 carried by the inner end section and extending into engagement with the outer end section, all combined substantially as specified and for the purpose set forth.

3. In tablet-mandrels, the combination with a suitable shaft of a pair of disk-like end sections, a rod or rods firmly connecting said disks together and holding them in permanent union, a plurality of tablet-engaging members 7, means to secure the inner ends of said members rigidly in union with the inner disk-like end section and additional means to so connect the outer end of each of said members with the outer disks, the said outer ends will be free to move inward when the tablet is disposed over them, all substantially as specified and for the purpose set forth.

4. The herein-described tablet-mandrel comprising a pair of disk-like end sections 2 and 3 having a central aperture designed to receive the actuating-shaft, a clamping-spring 15 carried by one or both of said end sections, in combination with a plurality of rods 4 rigidly connecting the end sections together, a plurality of tablet-engaging spring members 7 each bent upon itself to provide the inwardly-directed branch 10 adapted to take through a slot 9 in the inner disk, and each having upon its free end a hook 12 designed to reach through and engage the lower edge of its individual slot 11 provided in the outer head, each spring member 7 also having an anchoring-terminal 14 formed by bending the free end of the main section upon itself to provide the loop 13, said terminal being designed to also reach into engagement with the slot 11 and thereby limit the outer travel of the spring though permitting a free inward movement thereof when the tablet is disposed in position, all combined substantially as specified and for the purpose set forth.

5. A tablet-mandrel comprising suitable end sections, means to secure said sections in operative relationship, in combination with a plurality of tablet-engaging devices properly secured to one of said end sections, said tablet-engaging devices being limited at their free ends in their inner and outer movements by the outer end section.

6. A mandrel having suitable end sections, and elastic connecting devices engaging the end sections.

7. A mandrel having suitable end sections, and elastic connecting devices engaging the end sections and bodily movable at all points therebetween.

8. A mandrel having suitable end sections and expansible devices carried by one end section and limited in their inner and outer movement by the other end section, as set forth.

9. A mandrel comprising a plurality of spring-arms carried by one end, and suitable means at the other end adapted to seat the free ends of said arms whereby they will be limited in their inner movement and when seated will lie in common circle having its center in the axial plane of the mandrel, substantially as specified and for the purpose set forth.

10. A mandrel having at one end a plurality of tablet-engaging devices and provided with means at the other end to limit the inner movement of the free ends of said devices, whereby said free ends when moved inward will find a common radius around the axial plane of the mandrel, as set forth.

11. A mandrel having a plurality of tablet-engaging spring-arms and also having means to limit the inward movement of said arms whereby they will all be seated equidistant from the axial plane of the mandrel as set forth.

12. A mandrel for talking-machines adapted to hold a tablet in true coöperative relation with the recorder or reproducer, said mandrel comprising a plurality of spring-arms adapted to enter the bore of the tablet, and a centering device for both ends of said arms for disposing both the inner and outer ends equidistant around a common center, as and for the purpose set forth.

13. A mandrel having a plurality of elastic tablet-receiving devices secured at one end, and means adapted to dispose said devices around a common center when the mandrel is seated.

14. A mandrel having suitable end sections, and elastic connecting devices engaging the end sections and adapted to move bodily along lines radiating from the center of the mandrel.

15. A mandrel having suitable end sections and bodily-movable devices carried by one end section and limited in their inner and outer movement by the other end section.

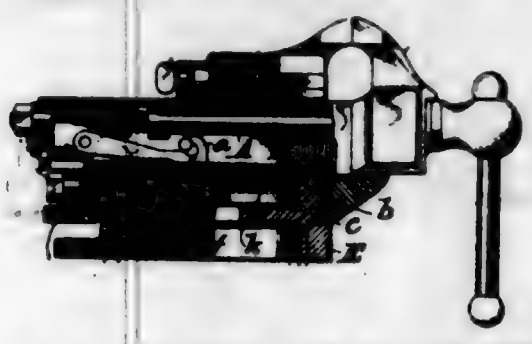
16. A mandrel comprising a plurality of bodily-movable spring-arms carried by one end, and suitable means at the other end adapted to seat the free ends of said arms whereby they will be limited in their inner movement and when seated will lie in a common circle having its center in the axial plane of the mandrel.

805,012. CARTRIDGE-SHELL. LAWRENCE GRANDVALL, Fairplay, Wis., assignor of one-fourth to John Weiler, Fairplay, Wis. Filed May 16, 1905. Serial No. 260,717.



Claim.—The combination with a shell and an explosive charge therein, said shell being crimped at its open end; of a shot-holder crimped at one end and located within the shell, a wad within the holder and retained within the outer end thereof by the crimped portion of the holder, and a wad interposed between the open end of the holder and the explosive charge.

805,013. BENCH-VISE. CHARLES HARTMANN, Flushing, N. Y., assignor to Mortimer G. Lewis, New York, N. Y. Filed May 8, 1905. Serial No. 259,318.



Claim.—1. In a bench-vise arranged to be automatically clamped upon its base by turning the vise-screw, a base having an exterior recess, a vise-body mounted on said base and having a flange for entering said recess, a vise-screw and means for receiving the thrust of said screw, said means being provided also with a flange for entering the said recess in the base opposite the entering flange of the vise-body, the parts being combined and arranged to clamp against the exterior of the base, substantially as set forth.

2. In a bench-vise, a base having a recess on its exterior, a vise-body having a flange fitting said recess, a vise-screw, and means for receiving the thrust of the screw, said means being provided with a flange fitting the recess in the base and secured to but made movable on its seat in the vise-body, the parts being combined and arranged substantially as set forth.

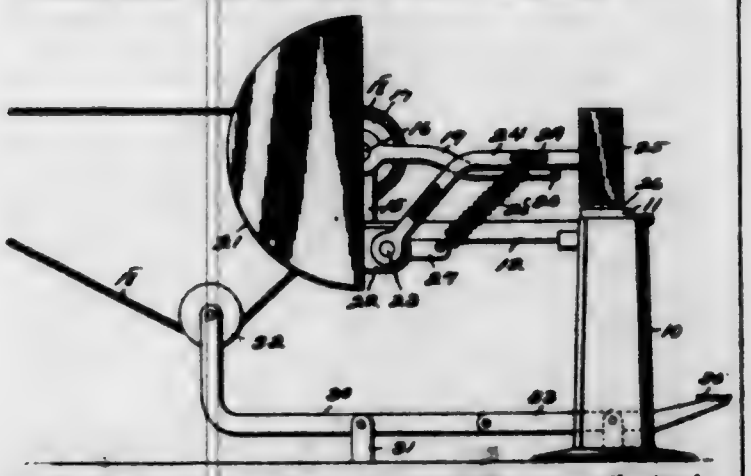
3. In a swivel-bottom bench-vise, a base, a vise-body and a vise-screw, the body being arranged to be clamped upon the base by turning the screw, and means for setting the clamping mechanism to prevent the automatic clamping, the parts being combined substantially as and for the purposes set forth.

4. In a swivel-bottom bench-vise, the combination with the vise-body and means for automatically clamping said body on its base, of a screw-bolt for setting the parts in position to prevent the automatic clamping of the base, substantially as shown.

5. In a swivel-bottom bench-vise having a base, the combination with the vise-body mounted thereon, means for automatically clamping the vise-body upon the base, means for preventing the clamping action, and independent means for setting and holding the vise-body at any desired point, substantially as set forth.

6. In a bench-vise, the vise-body having a curved recess and an opening of which a portion is conical, a swiveled jaw having a depending portion mounted in the curved recess in the vise-body and having a screw-threaded opening, a screw having a conical projection and a threaded inner end for engagement respectively with the conical seat in the vise-body and the threaded opening in the depending portion of the swiveled jaw, and a removable recessed plate secured to the exterior of the vise-body, the parts being combined and arranged for operation substantially as shown and described.

805,014. REVOLVING POWER-HAMMER. FRANK F. HARTWIG, Newton, Iowa. Filed Nov. 20, 1904. Serial No. 234,066.



Claim.—1. A power-hammer, comprising an anvil-stand, a bracket extending horizontally from said anvil-stand, a shaft mounted for rotation in the outer end of said bracket, a balancing-weight mounted on said shaft, a hammer loosely mounted on said balancing-weight eccentric to the shaft, and an arm connected to said balancing-weight and adapted to support said hammer at times.

2. A power-hammer, comprising an anvil-stand, a bracket thereon, a shaft mounted for rotation on said bracket, a combined balancing-weight and arm carried by said shaft, a hammer-stem loosely mounted on said balancing-weight eccentric to said shaft, a hook on said arm adapted to be engaged by said hammer-stem, a spring tending to hold said hammer-stem in contact with said hook, and a hammer-head on said stem adapted for impact with an object on said anvil-stand.

805,015. INSECT-TRAP. ROSS HASELDINE, Eureka, Cal. Filed July 15, 1905. Serial No. 269,840.



Claim.—1. A device of the character described comprising a ledge, a body subdivided into a plurality of compartments and mounted on the ledge, an inlet opening into one of said compartments through the ledge, inlet-tubes extending from said compartment into the other compartments, and removable closures for the last-mentioned compartments.

2. A device of the character described comprising a supporting-ledge, a body mounted thereon and subdivided into central and end compartments, an inlet-tube extending through the ledge into the central compartment, inlet-tubes extending from the central compartment into the end compartments and closures for the end compartments.

3. A device of the character described comprising a ledge, means for securing the same to a supporting device, a body suitably secured upon the ledge and formed of metal fabric, said compartment being subdivided by fabric partitions into a central and end compartments, a fabric tubular inlet extending through the ledge into the central compartment and fabric tubular inlets extending from the partitions into the end compartments.

4. A device of the character described comprising a ledge, means for securing the same to a supporting device, a body suitably secured upon the ledge and formed of metal fabric, said compartment being subdivided by fabric partitions into a central and end compartments, a fabric tubular inlet extending through the ledge into the central compartment and fabric tubular inlets extending from the partitions into the end compartment and removable closures upon the end compartments.

5. The combination with a ledge and means for detachably securing the same to supports; of a body formed of metal fabric and secured upon the ledge, metal-fabric partitions within the body and subdividing the same into a central and end compartments, one wall of the body being removed between the fabric partitions, a tubular inlet extending through the ledge and into the central compartment, tubular inlets extending from the partitions into the end compartments, all of said tubes being formed of metal fabric, and closures detachably mounted upon the end compartments.

805,016. ADVERTISING AND MAILING CARD. LOUIS D. JONES, Atlanta, Ga., assignor to Hill & Pappa, Atlanta, Ga., a Firm. Filed May 26, 1905. Serial No. 262,426.



Claim.—1. A combination mailing and advertising card provided with a chamber or pocket, a flap or cover for closing said pocket, and a continuous strip folded to form a series of advertisement-bearing cards adapted to fit and be contained within said pocket, and clips for securing the continuous strip in said pocket.

2. A combination mailing and advertising card having a chamber or pocket, a flap or cover for closing said pocket, a card on the inner face of the cover, a continuous folded strip adapted to fit in said pocket, a clip secured to the card and adapted to secure the strip in the pocket and to fasten the cover or flap in closed position.

805,017. METAL-LEACHING PROCESS. THOMAS B. JOSEPH, San Francisco, Cal. Filed Oct. 6, 1904. Serial No. 227,510.

Claim.—1. The herein-described process of extracting metals such as gold, silver, copper and nickel from ores containing the same when in a suitable condition, which consists in subjecting the said ore to the leaching action of a solution containing water, sodium cyanid and ammonium carbonate, the carbonate being in excess of the cyanid, and precipitating the metals from the solution by any well-known method, substantially as described.

2. The herein-described process of extracting metals such as gold, silver, copper, and nickel from ores containing the same when in a suitable condition, which consists in subjecting the said ore to the leaching action of a solution containing water, sodium cyanid, and ammonium carbonate, the carbonate being in excess of the cyanid together with compressed air and precipitating the metals from the solution by any well-known method, substantially as described.

3. The herein-described process of extracting metals such as gold, silver, copper and nickel from ores containing the same when in a suitable condition, which consists in subjecting the said ore to the leaching action of a solution containing water, sodium cyanid, ammonium carbonate and ammonium nitrate, and precipitating the metals from the solution by any well-known method, substantially as described.

4. The herein-described process of extracting metals such as gold, silver, copper and nickel from ores containing the same when in a suitable condition, which consists in subjecting the said ore to the leaching action of a solution containing water, sodium cyanid, ammonium carbonate, and ammonium nitrate, together with compressed air and precipitating the metals from the solution by any well-known method, substantially as described.

5. The herein-described process of extracting metals such as gold, silver, copper and nickel from ores containing the same when in a suitable condition, which consists in subjecting the said ore to the leaching action of a solution containing water, sodium cyanid, ammonium carbonate, ammonium nitrate, and calcium hydrate and precipitating the metals from the solution by any well-known method, substantially as described.

6. The herein-described process of extracting metals such as gold, silver, copper and nickel from ores containing the same when in a suitable condition, which consists in subjecting the said ore to the leaching action of a solution containing water, sodium cyanid, ammonium carbonate, ammonium nitrate, and calcium hydrate, together with compressed air and precipitating the metals from the solution by any well-known method, substantially as described.

7. The herein-described process of extracting metals such as gold, silver, copper and nickel from ores containing the same when in a suitable condition, which consists in subjecting the said ore to the leaching action of a solution containing water, sodium cyanid, ammonium carbonate, ammonium nitrate, hydrate of calcium, and sodium bicarbonate and precipitating the metals from the solution by any well-known method, substantially as described.

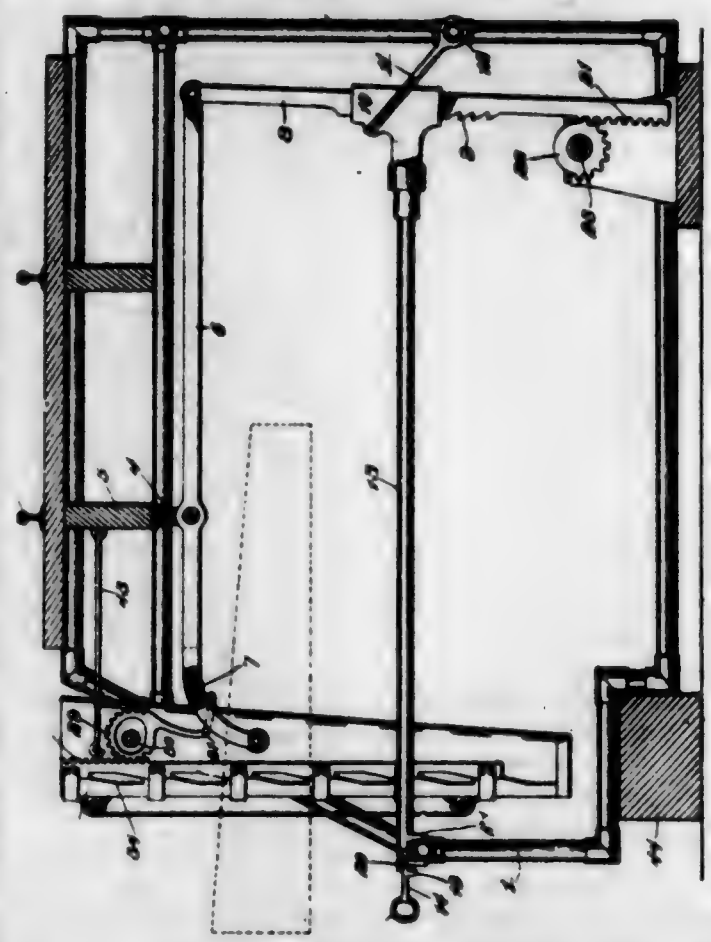
8. The herein-described process of extracting metals such as gold, silver, copper and nickel from ores containing the same when in a suitable condition, which consists in subjecting the said ore to the leaching action of a solution containing water, sodium cyanid, ammonium carbonate, ammonium nitrate, calcium hydrate, and sodium bicarbonate together with compressed air, substantially as described.

805,018. MOLDING APPARATUS. WILLIAM F. KERLIN and WILLIAM H. MAY, Rockfield, Ind.; said May assignor to said Kerlin. Filed May 16, 1905. Serial No. 260,701.

Claim.—1. In a machine of the character described the combination with a bed and a mold normally supported thereabove and out of contact therewith; of means for automatically dropping the mold upon the bed, and mechanism for locking the mold in raised position

2. In a machine of the character described the combination with a mold and a bed therefor; of a power device, mechanism operated by said device for alternately raising the mold and dropping it upon the bed, and means for locking the mold above and out of contact with the bed during the operation of the power device.

3. In a machine of the character described the combination with a mold and a bed therefor; of a power device, mechanism operated by said device for alternately raising the mold and dropping it upon the bed, means for raising said mechanism from the power device, and means for locking the mold above and out of contact with the bed during the operation of the power device.



4. In a machine of the character described the combination with a mold and a bed therefor; of a power device, mechanism operated by the device for alternately raising the mold and dropping it upon the bed and means for automatically locking said mechanism out of operative relation with the power device.

5. In a machine of the character described the combination with a rotatable segmental gear; of a mold, a bed therefor and mechanism adapted to be intermittently actuated by the gear for alternately raising the mold and releasing and dropping it upon the bed.

6. In a machine of the character described the combination with a mold and a bed therefor; of a lever pivoted to the mold, a rack pivoted to the lever and a segmental gear for intermittently engaging the rack to alternately raise the mold and release and drop it upon the bed.

7. In a machine of the character described the combination with a mold and a bed therefor; of a lever pivoted to the mold, a pitman pivoted to the lever and having ratchet and rack teeth thereon, a segmental gear for intermittently engaging the rack-teeth to alternately raise the mold and drop it on the bed, a guide-sleeve surrounding the ratchet portion of the pitman and means within the sleeve for engaging the teeth to prevent movement of the pitman in one direction.

8. In a machine of the character described the combination with a mold and a bed therefor; of a lever pivoted to the mold, a pitman pivoted to the lever and having ratchet and rack teeth thereon, a segmental gear for intermittently engaging the rack-teeth to alternately raise the mold and drop it on the bed, a guide-sleeve surrounding the ratchet portion of the pitman, means within the sleeve for engaging the teeth to prevent movement of the pitman in one direction, and a lock for holding said means out of engagement with the pitman.

9. In a machine of the character described the combination with a mold and a bed therefor; of a lever pivoted to the mold, a pitman pivoted to the lever and having ratchet and rack teeth thereon, a segmental gear for intermittently engaging the rack-teeth to alternately raise the mold and drop it on the bed, a guide-sleeve surrounding the ratchet portion of the pitman, means within the sleeve for engaging the teeth to prevent movement of the pitman in one direction, a lock for holding said means out of engagement with the pitman, a supporting-frame for the lever, a linked connection between the guide-sleeve and the frame and means for locking the sleeve against movement.

10. In a machine of the character described the combination with a supporting-frame and a platform thereon; of a lever fulcrumed on the frame, a mold pivoted to one end of the lever, a bed below the mold, a segmental gear, a pitman pivoted to the lever and having ratchet and rack teeth thereon, said rack-teeth meshing with the gear, a movable guide for the pitman connected to the frame and means for operating the guide to throw the pitman out of engagement with the gear.

11. A mold comprising hinged side walls, a slide mounted between said walls and constituting a wall of the mold, a slidable element upon each of said walls and movable with the slide and means upon the hinged walls of the mold for engaging said element and imparting longitudinal movement to the slide.

12. In a mold the combination with hinged side walls tapered toward one end; of a wedge-shaped slide interposed between the walls, and means movably mounted on the side walls for simultaneously engaging opposite sides of the slide to move the same longitudinally and spread the walls apart.

13. In a mold the combination with side walls hinged together and tapered toward one end; of a wedge-shaped slide interposed between one edge of the walls and constituting a wall of the mold and means upon the hinged walls for imparting longitudinal movement to the slide to spread the hinged walls.

14. In a mold the combination with hinged side walls tapered toward one end; of a wedge-shaped slide interposed between one edge of the walls, slidable elements upon said walls and secured to the slide and means upon the hinged walls for simultaneously engaging said elements and moving the slide away from and longitudinally between the side walls.

15. In a mold the combination with hinged side walls tapered toward one end; of a wedge-shaped slide interposed between one edge of the walls, a pallet slidably mounted upon the slide, means for moving the pallet longitudinally upon the slide and means for simultaneously moving the slide and pallet away from and longitudinally between the walls of the mold.

16. In a mold the combination with hinged side walls; of a slide interposed between one edge of the walls, rack-bars movable with the slide and toothed cams mounted upon the side walls and meshing with the racks.

17. In a mold the combination with hinged side walls having recessed flanges; of a slide interposed between one edge of the side walls, recessed rack-bars movable with the slide and mounted upon the recessed flanges and toothed cams upon the side walls and meshing with the rack-bars.

18. In a mold the combination with hinged side walls having recessed flanges; of a slide interposed between one edge of the side walls, recessed rack-bars movable with the slide and mounted upon the recessed flanges, toothed cams upon the side walls and meshing with the rack-bars, a pallet mounted upon the slide and means on said slide for moving the pallet longitudinally thereon.

19. The combination with a mold; of a pallet slidably mounted upon the wall thereof, and means upon said wall for imparting longitudinal movement to the pallet.

20. The combination with a mold; of a pallet slidably mounted upon one wall thereof and within the mold, an endless actuating device upon said wall, and means upon the pallet for detachably engaging said actuating device.

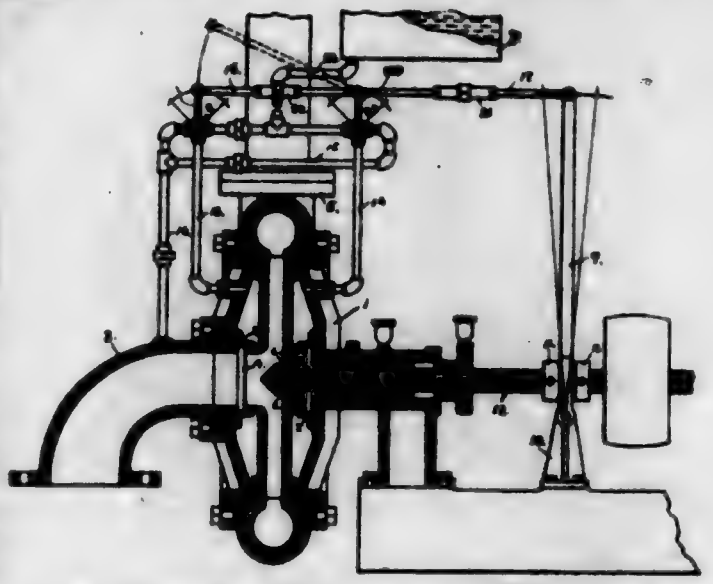
21. The combination with a mold; of a pallet slidably mounted upon one wall thereof, an endless chain movably mounted upon said wall, means for actuating the same, and a device upon the pallet and detachably engaging the chain.

805,019. **CENTRIFUGAL PUMP.** FERDINAND W. KROGH, San Francisco, Cal. Filed Apr. 3, 1905. Serial No. 253,395.

Claim.—1. In combination with a centrifugal pump, a source of hydrostatic pressure, pipes separately connecting the space between the impeller and the casing on both sides of the impeller with said source of pressure, valves in said pipes for controlling the communication between said source of pressure and the casing, and valve-controlled means for connecting at will the space on either side of the impeller with the suction side of the pump.

2. The combination with a centrifugal pump, of a source of hydrostatic pressure, valve-controlled means for connecting the space between the impeller and the casing on either side of the impeller with said source of pressure, and valve-controlled means for establishing communication between the space on the opposite side of the impeller and the suction side of the pump.

3. In combination with a centrifugal pump, a source of hydrostatic pressure, and means actuated from the driving-shaft of the pump for establishing communication between said source of pressure and the space between the impeller and the casing on the suction side of the pump under a predetermined speed of the pump, and simultaneously setting up communication between the suction-chamber and the space in the casing on the opposite side of the impeller.



4. In combination with a centrifugal pump, a source of hydrostatic pressure, valve-controlled means for establishing communication between the space on either side of the casing and said source of pressure, valve-controlled means for establishing communication between the space on the remaining side of the impeller and the suction side of the pump, and means operatively connecting said valves with the driver of the impeller, and adapted to produce a reciprocal variation in the pressure on opposite sides of the impeller, in proportion to the variation taking place in the thrust of the impeller.

5. In a centrifugal pump, the combination of the impeller and its casing, with means for balancing the impeller, comprising a source of hydrostatic pressure, means separately connecting the space between the impeller and the casing on both sides of the impeller, with said source of pressure, and also suction of the pump, valves controlling the communication of the spaces between the impeller and the casing and the said source of pressure, and also suction of the pump, and mechanism actuated by the variations in the thrust of the impeller, reciprocally connecting the casing-space on one side of the impeller with the source of pressure, and the space on the opposite side of the impeller with the suction of the pump, according to the thrust of the impeller, while in operation.

6. The combination with a centrifugal pump, of a source of hydrostatic pressure, pipes separately connecting with said source of pressure the casing-spaces on both sides of the impeller, pipes separately connecting said spaces with the suction side of the pump, valves in said pipe adapted by adjustment to control communication between the casing-spaces on opposite sides of the impeller, and the said sources of pressure and suction and to reciprocally vary the same in proportion to the thrust of the impeller, comprising collars on the impeller-actuating shaft, a lever engaging said collars, and a rod connecting said lever with the controlling-valves in the pipes.

805,020. **MIXING AND KNEADING MACHINE.** CARL LAURICK, Berlin, Germany. Filed Apr. 28, 1905. Serial No. 257,871.

Claim.—1. In a mixing and kneading machine, a rising and falling support, oscillating mixing and kneading arms carried by said support, and means independent of each other for reciprocating said support and for swinging said arms.

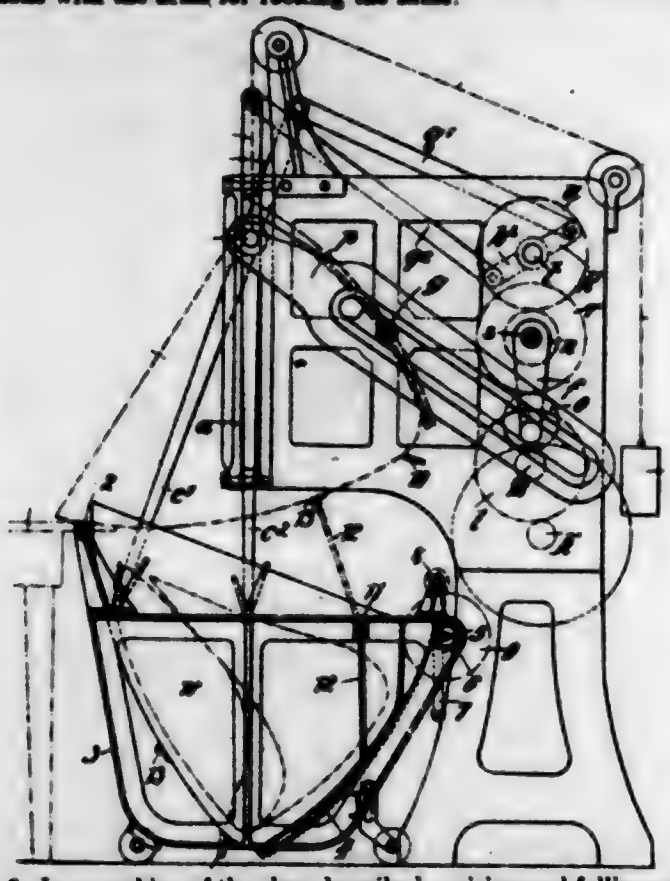
2. In a machine of the class described, vertically-reciprocating and laterally-oscillating mixing and kneading arms, and means for effecting the vertical reciprocation of the arms at a faster speed than their swinging movement.

3. In a machine of the class described, a rising and falling support, oscillatory arms carried by said support, means for reciprocating said support, and separate means for swinging the arms on said support at a different speed from the movement of the support.

4. In a machine of the class described, vertically-reciprocating and laterally-oscillating mixing and kneading arms, crank-controlled means for effecting said separate movements of the arms, the cranks which effect the rocking of the arms being arranged to travel at half the speed of the cranks which effect the vertical reciprocation of the arms.

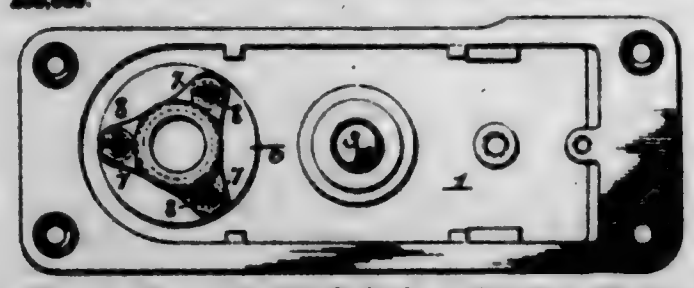
5. In a machine of the class described, a rising and falling sup-

port, a fixed fulcrum, a slotted lever working over said fulcrum and connected with said rising and falling support, operating-cranks engaging the slotted levers, swinging mixing and kneading arms carried by said support, and separate operating-cranks having connections with the arms for rocking the same.



6. In a machine of the class described, a rising and falling support, crank-controlled means for reciprocating said support, swinging mixing and kneading arms carried by said support, and arranged in separate groups which respectively rock in opposite directions, and separate operating means connected with the arms for swinging the same on the rising and falling support.

805,021. SPINDLE-BEARING FOR COMBINATION-LOCKS. ROLLIN C. LEWIS, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Apr. 15, 1905. Serial No. 255,889.



Claim.—1. In a combination-lock, the combination with a lock-casing, of a spindle-bearing detachably secured to the casing and carrying the gear which actuates the tumblers.

2. In a combination-lock with a case having an opening therein, of a bearing adjustably secured in said opening and carrying the spindle-gear wheel.

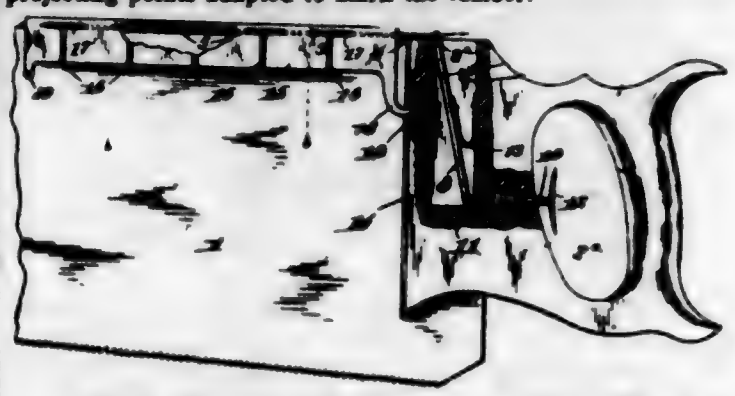
3. In a combination-lock, the combination with a lock-casing having an opening therein, of a thimble-bearing smaller than said opening and adjustable in all directions therein and screws for locking the thimble-bearing to the case.

4. In a combination-lock the combination with a case having a spindle-opening therein, of a thimble-bearing for said spindle of less diameter than the opening in the case and provided with projections having threaded openings, and screws adjustably connecting said bearing to the case.

805,022. COMBINED HANDSAW AND SCRIBER. HENRY C. HALDY, Sunbury, Pa., assignor of one-third to J. S. Messner, Sunbury, Pa. Filed Dec. 31, 1904. Serial No. 239,148.

Claim.—1. The combination with a handsaw provided with a transverse straight-edge to serve as a gage, of a longitudinally-reciprocable rod mounted on the back of the saw for longitudinal movement parallel therewith and guides on the back of the saw to limit and restrain the movement of the said rod.

2. The combination with a handsaw provided with a transverse straight-edge to serve as a gage, of a rod supported for longitudinal movement on the back of the saw and provided with laterally-projecting points adapted to mark the lumber.



3. The combination with a handsaw provided with a transverse straight-edge to serve as a gage, of a rod supported for longitudinal movement on the back of the saw and provided with laterally-projecting points adapted to mark the lumber, and means within the saw-handle to reciprocate said rod.

4. The combination with a handsaw provided with a straight-edge at right angles to the back of the saw to serve as a gage, of a scriber mounted on the back of the saw and means within the saw-handle to reciprocate said scriber at right angles to said straight-edge.

5. The combination with a handsaw, of a marker, comprising a rod movable longitudinally of the saw-blade and having laterally-projecting pins or points adapted to mark the lumber, a lever pivoted to the saw-handle and connected to said rod, a spring normally pressing the lever in one direction and means for moving the lever in the opposite direction against the action of the spring.

6. The combination with a handsaw, of a marker, comprising a rod movable longitudinally of the saw-blade and having laterally-projecting pins or points adapted to mark the lumber, a lever pivoted to the saw-handle and connected to said rod, a spring normally pressing the lever in one direction, and a push-rod for moving the lever in the opposite direction against the action of the spring.

7. The combination with a handsaw, of a U-shaped shield arranged over the back of the saw and having longitudinal slots, a rod arranged within said shield and having pins projecting through said slots, and means for reciprocating said rod.

8. The combination with a handsaw, of a U-shaped shield arranged over the back of the saw-blade, said shield having longitudinal slots and transverse slots intersecting said longitudinal slots, a marker comprising a rod arranged within the said shield and having pins or points extending through said longitudinal slots, and means for reciprocating said rod.

9. The combination with a handsaw, and a U-shaped shield arranged over the back of the saw, and having longitudinal and transverse slots, said shield also having tongues at its rear end engaging openings in the saw-handle and means for securing the forward end of said shield to the saw-blade, of a rod movable longitudinally between the shield and the back of the saw, said rod having pins or points projecting through said longitudinal slots, and means for reciprocating said rod.

10. The combination with a handsaw, having a transverse guide, of a rod movable longitudinally upon the back of the saw-blade and having laterally-projecting pins or points, a lever pivoted to the saw-handle and having one end connected to said rod, a push-rod connected to the opposite end of said lever, a spring interposed between said lever and the saw-handle and means for holding said rod in position upon the back of the saw-blade.

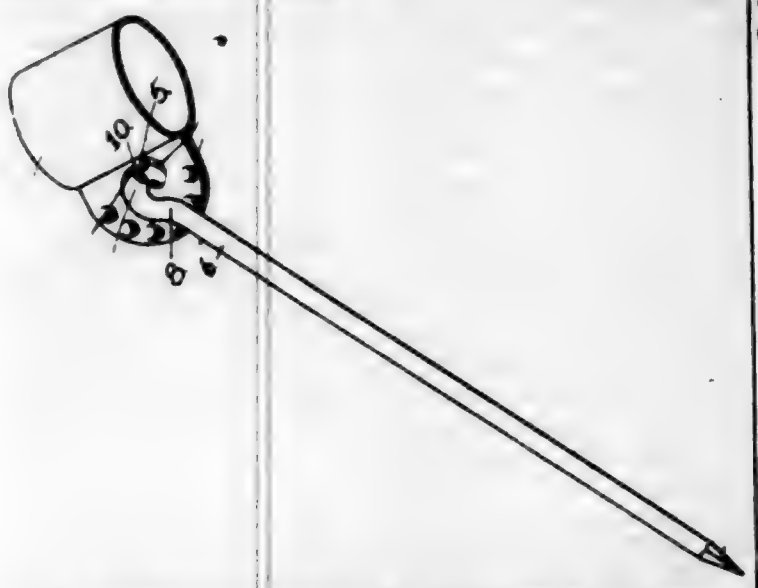
805,023. GARDEN-HOSE SUPPORT. JOSEPH MCBOYLE, Oakland, Cal. Filed Oct. 17, 1904. Serial No. 228,266.

Claim.—1. In a garden-hose support, the combination of a band for surrounding the hose, having its ends bent substantially parallel with each other to form ears, and a stem having a head pivoted on said ears, the ears being indented to form bosses engaging said head to limit the movement of the stem, substantially as described.

2. In a garden-hose support, the combination of a band for surrounding the hose, having its ends bent substantially parallel with each other to form ears, and apertured, and a stem having a head integral therewith passed through said apertures, said band having means formed integrally therewith for securing the stem at any one of a series of positions of inclination to the band, substantially as described.

3. In a garden-hose support, the combination of a band for sur-

rounding the hose, having its ends bent substantially parallel with each other to form ears, and apertured, and a stem bent at its upper end to form a hook passed through said apertures, the bend of the hook and the point thereof being engaged by said ears springing outward, substantially as described.



4. In a garden-hose support, the combination of a support for the hose, having apertured ears, and a stem the upper end of which is formed into a hook passed through said apertures, the bend and point of the hook being engaged by said ears to limit the angular movement of the clamp relatively to the stem, substantially as described.

5. In a garden-hose support, the combination of a support for the hose having apertured ears, and a stem having a head pivoted on said ears, the ears being indented to form bosses engaging said head to limit the movement of the stem, substantially as described.

6. In a garden-hose support, the combination of a support for the hose having apertured ears, a stem having its upper end formed into a hook passed through said apertures, the ears being indented to form bosses engaging said hook to limit the movement of the stem, substantially as described.

7. In a garden-hose support, the combination of a support for the hose having apertured ears, said apertures having lateral extensions and contracted throats between said apertures and extensions, and a stem having a hook contracted in thickness at a suitable point thereof to permit said contracted portion of the hook to pass through the contracted throat, whereby the stem can be moved from the extensions to the apertures, substantially as described.

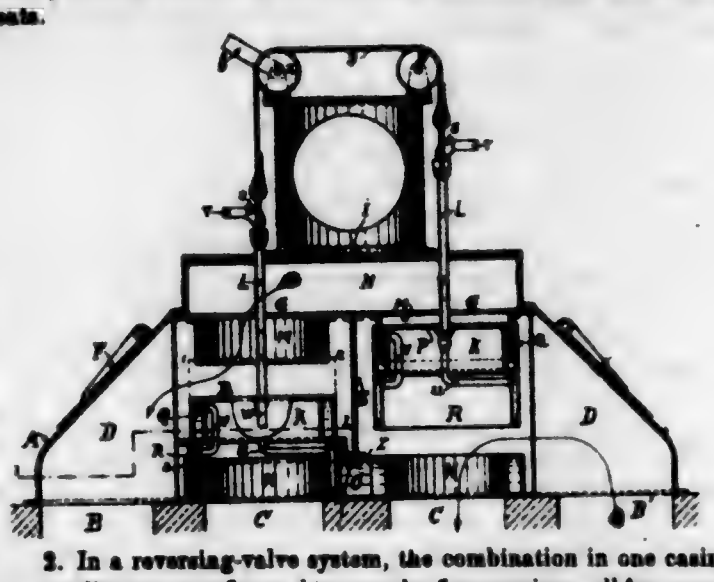
8. In a garden-hose support, the combination of a support for the hose having apertured ears, said apertures having lateral extensions and contracted throats between said apertures and extensions, and a stem having a hook contracted in thickness at a suitable point thereof to permit said contracted portion of the hook to pass through the contracted throat, whereby the stem can be moved from the extensions to the apertures, the ears being indented to form bosses engaging said hook to limit the movement of the stem, substantially as described.

9. In a garden-hose support, the combination of a band having ears, and means for holding said ears together, said band having two circumferential slits on the opposite side to said means, said slits thus forming three strips, the middle strip being integrally connected at both of its ends with the band and being adapted to be bent inward to reduce the clamping diameter of the band, substantially as described.

10. In a garden-hose support, the combination of a piece of spring sheet metal bent to form ears or flaps and apertured, and a stem having a head formed integral therewith passed through said apertures, said piece having means formed integrally therewith for securing the stem at any one of a series of inclinations to the piece, substantially as described.

805,024. REVERSING-VALVE FOR REGENERATIVE FURNACES. John B. Hall, New York, N. Y. Filed Apr. 7, 1906. Serial No. 310,261.

Claim.—1. In a reversing-valve system, the combination in one casing, surrounding two gas-flue and two smoke-flue openings, of a gas-chamber, and two valve-chambers, each valve-chamber inclosing within its limits one gas-flue opening, and one smoke-flue opening extended upward by a water-sealing lower valve-seat, and directly opposite the smoke-flue opening between gas-chamber and valve-chamber, a gas-inlet opening, provided on the valve-chamber side with a valve-seat, the two opposite valve-seats being such that, when moving between them a water-sealing valve, there will exist at one period a water seal between the valve and one valve-seat and a free passage through the opposite valve-seated opening, and at another period the valve will be sealed simultaneously with both valve-seats.



2. In a reversing-valve system, the combination in one casing surrounding two gas-flue and two smoke-flue openings, all four openings placed in one line, of a gas-chamber, and two valve-chambers, each valve-chamber inclosing within its limits one gas-flue opening, and one smoke-flue opening extended upward by a water-sealing lower valve-seat, and directly opposite the smoke-flue opening between gas-chamber and valve-chamber a gas-inlet opening, provided on the valve-chamber side with a valve-seat, the two opposite valve-seats being such that, when moving between them a water-sealing valve, there will exist at one period a water seal between the valve and one valve-seat and a free passage through the opposite valve-seated opening, and at another period the valve will be sealed simultaneously with both valve-seats.

3. In a reversing-valve system, the combination in one casing surrounding four flue-openings, of which two are gas and two are smoke-flue openings, of a gas-chamber and two valve-chambers, each valve-chamber containing one gas-flue opening, and, directly opposite each other, one water-sealing valve-seated smoke-flue opening, and one valve-seated gas-inlet opening leading to the gas-chamber, both valve-seats located inside the valve-chamber, and a valve that moves freely between the two valve-seats, and means to jointly operate the valves in the two chambers in such a manner that, when one valve forms a water seal with its upper valve-seat and leaves a free passage through the lower valve-seated opening, the other valve is water-sealed with its lower valve-seat, with free passage through the upper valve-seated opening, and when one valve is simultaneously water-sealed with both its upper and lower valve-seats, the other valve also forms a simultaneous water seal with each of its valve-seats.

4. In a reversing-valve system, the combination in one casing, surrounding four flue-openings placed in one line, of which two are gas and two are smoke-flue openings, of a gas-chamber and two valve-chambers, each valve-chamber containing one gas-flue opening, and, directly opposite each other, one water-sealing valve-seated smoke-flue opening, and one valve-seated gas-inlet opening leading to the gas-chamber, both valve-seats located inside the valve-chamber, and a valve that moves freely between the two valve-seats, and means to jointly operate the valves in the two chambers in such a manner that, when one valve forms a water seal with its upper valve-seat and leaves a free passage through the lower valve-seated opening, the other valve is water-sealed with its lower valve-seat, with free passage through the upper valve-seated opening, and when one valve is simultaneously water-sealed with both its upper and lower valve-seats, the other valve also forms a simultaneous water seal with each of its valve-seats.

5. In a reversing-valve system, the combination of one gas-chamber and two valve-chambers, the gas-chamber being in communication through one opening with the gas-supply source, and with each of the valve-chambers by a gas-inlet opening provided on the valve-chamber side with a valve-seat, each valve-chamber inclosing two flue-openings, namely a regenerator gas-flue opening, and, directly opposite the gas-inlet opening a smoke-flue opening surrounded on top by a water-sealing valve-seat, and moving freely between the two valve-seats, one valve in each valve-chamber, each valve being so built and so connected to the other valve that when the valve in one chamber forms a water seal with its upper valve-seat.

the other valve forms a water seal with its lower seat, and when one valve forms a simultaneous water seal with both of its water seals, the other valve also forms a similar water seal with both of its valve-seats.

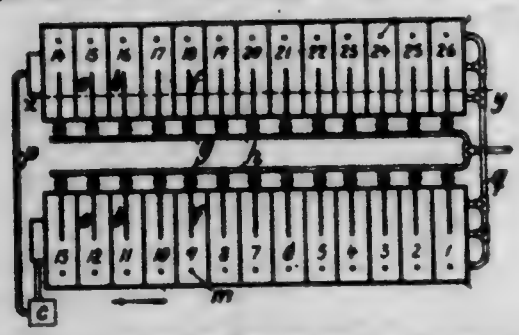
6. In a reversing-valve system, the combination of one gas-chamber and two valve-chambers, the gas-chamber being in communication through one opening with the gas-supply source, and with each of the valve-chambers by a gas-inlet opening provided below with a valve-seat, each valve-chamber inclosing two flue-openings, namely a regenerator gas-flue opening, and, directly opposite the gas-inlet opening, a smoke-flue opening surrounded on top by a water-sealing valve-seat, the four flue-openings contained in the two valve-chambers being in line, and moving freely between the two valve-seats, one valve in each valve-chamber, each valve being so built and so connected to the other valve that when the valve in one chamber forms a water seal with its upper valve-seat, the other valve forms a water seal with its lower valve-seat, and when one valve forms a simultaneous water seal with both of its water seals, the other valve also forms a similar water seal with both of its valve-seats.

7. In a reversing-valve system, the combination of a valve-chamber, having an upper gas-inlet opening surrounded inside the valve-chamber by a valve-seat and having, opposite the gas-inlet opening, a smoke-flue opening surrounded inside the valve-chamber by a water-sealing valve-seat and, moving freely between the two valve-seats, a valve made of an upper and lower part assembled together, the upper part being provided with a water-trough of sufficient size and depth to receive within its walls the upper valve-seat, the lower part having an annular ring-shaped water-cooled part extending downward of such a size that it will freely enter the water in the lower water-sealing valve-seat.

8. In a reversing-valve system, the combination of an upper valve-seat, in the shape of a metallic cylindrical shell open at both ends and placed below and around an upper horizontal gas-opening, a lower valve-seat, in the shape of a metallic annular water-trough, placed on top and around a smoke-flue opening, vertically below the gas-opening, and filled with water, and, moving freely between the two seats in a vertical line, a valve, made of a horizontal disk, terminated at its rim by a circular trough of sufficient size and depth to receive within its walls the upper valve-seat, and extended below by a metallic annular ring-shaped addition, secured to the bottom of the circular trough, of such size, that it will freely enter the water-trough of the lower valve-seat, the total height of the valve being such, that when placed midway between its two valve-seats, it will form simultaneously a water seal with each of them.

9. In a reversing-valve system, the combination in a casing, of a gas-chamber and two valve-chambers, each valve-chamber having within its confines, a gas-flue opening, two valve-seated openings directly opposite each other, and a valve made of a disk with a water-trough around its rim, and cylindrical addition endwise-fastened to the bottom of the water-trough, and means to move the valve endwise between the two valve-seats in such a manner that at one period there exists a seal between the valve and one valve-seat leaving a free passage through the other valve-seated opening, and at another period there is a seal between the valve and the other valve-seat, with free opposite valve-seated opening, and at still another period, the valve is sealed simultaneously with both valve-seats.

805,025. PASTEURIZING APPARATUS. NIELS F. NIELSEN, Copenhagen, Denmark. Filed Oct. 3, 1903. Serial No. 175,690.



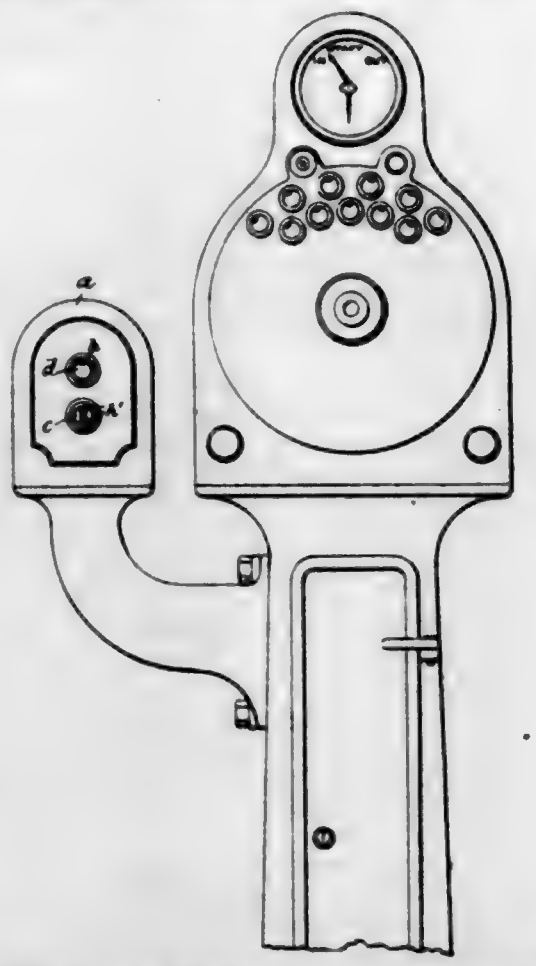
Claim.—1. An apparatus for pasteurizing beer and other bottled liquids comprising a number of fluid-containing compartments connected together in series for circulation of their fluid contents, means for separately heating the fluid in each of said compartments, means for cooling such compartments as described and means for producing a circulation of the fluid contents of said compartments throughout the series.

2. An apparatus for pasteurizing beer comprising a number of tanks having cross-partitions alternately stopping short of the top and bottom of the tank, a water-circulating connection placing the various compartments thus formed in series, a steam-supply pipe having a branch entering each compartment, a controlling-valve for each branch and means for supplying cooling-water to any of the compartments.

3. An apparatus for pasteurizing beer comprising a number of tanks having cross-partitions alternately stopping short of the top and bottom of the tank, a water-circulating connection placing the various compartments thus formed in series, means for supplying heat independently to each of the compartments at will, a refrigerating-tank and a water-circulating mechanism adapted to draw water from and deliver water to each of the compartments at will.

4. An apparatus for pasteurizing beer comprising a number of tanks having cross-partitions alternately stopping short of the top and bottom of the tank, a permanent water-circulating connection between adjacent end compartments of the tanks, a steam-supply pipe extending alongside each tank, branch pipes extending from the steam-supply pipes into each compartment, a valve for each branch pipe and means for drawing warm water from and supplying cold water to each compartment.

805,026. STAFF SYSTEM FOR CONTROLLING THE TRAFFIC ALONG SINGLE-TRACK RAILROADS. THOMAS H. PAYNEALL, Wilkinsburg, Pa., assignor to The Union Switch and Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed Feb. 6, 1905. Serial No. 244,392.



Claim.—1. A staff system for controlling traffic on railroads, having in combination a staff instrument located at each end of a section of track to be protected, circuits extending between the instruments, a device or attachment for use in connection with said instruments and comprising a socket or holder adapted to receive and lock an independent staff, and a second socket or holder adapted to receive a train-staff removed from either one of said instruments, whereby said independent staff is released and the main circuits between the instrument are opened and the latter locked to prevent the removal of another staff therefrom.

2. A staff system for controlling traffic on railroads, having in combination a staff instrument located at each end of a section of track to be protected, circuits extending between the instruments, a device or attachment for use in connection with said instruments and comprising a rotatively-mounted socket adapted to receive and lock an independent staff, a second socket or holder similarly mounted and adapted to receive a train-staff removed from either one of said staff instruments, whereby said independent staff is released and the main circuits between the instruments are opened, and the latter locked to prevent the removal of another staff therefrom.

3. A staff system for controlling traffic on railroads, having in combination a staff instrument located at each end of a section of track to be protected, a device or attachment for use in connection with said instruments and comprising a socket or holder adapted to receive and lock an independent staff, and a second socket or holder in circuit with the staff instruments and adapted to receive a staff removed from either one of said instruments, whereby said independent staff is released and the main circuit opened to lock the staff instruments and prevent the removal of another staff therefrom.

4. A staff system for controlling traffic on railroads, having in combination a staff instrument located at each end of a section of track to be protected, a device or attachment for use in connection with said instruments and comprising a rotatively-mounted socket or holder adapted to receive and lock an independent staff, a second socket or holder similarly mounted and adapted to receive a staff from either one of said instruments, circuits extending between the latter socket and instruments, and means for releasing said independent staff and coincidently opening the circuits to lock the staff instruments and prevent the removal of another staff therefrom.

5. A staff system for controlling traffic on railroads, having in combination a staff instrument located at each end of a section of track to be protected, a device or attachment for use in connection with said instruments and comprising a rotatively-mounted socket or holder adapted to receive and lock an independent staff, a second socket or holder, rotatively mounted and made up of separate parts, capable of independent rotation and adapted to receive a staff removed from either one of said instruments, circuits extending between said instruments and appropriate contact-pieces in the device or attachment, and movable contact-strips adapted to engage and disengage the contact-pieces upon rotation of said last-mentioned socket, whereby the circuits are opened and closed and the pusher-engine or independent staff simultaneously locked or unlocked.

6. A staff system for controlling traffic on railroads, having in combination a staff instrument located at each end of a section of track to be protected, a device or attachment for use in connection with said instruments and comprising a rotatively-mounted socket or holder adapted to receive an independent staff, a second socket or holder, similarly mounted and adapted to receive a staff removed from either one of said instruments, said last-mentioned socket being made up of an inner and an outer section adapted to rotate together in one direction and to independently rotate in the opposite direction, contact-strips arranged on one of the sections and adapted to move therewith, and contact-pieces in circuit with said instruments, which upon rotation of the socket are engaged and disengaged by said contact-strips, whereby the circuits are opened and closed and the pusher-engine or independent staff simultaneously locked or unlocked.

7. A staff system for controlling traffic on railroads having in combination a staff instrument located at each end of a section of track to be protected, a device or attachment for use in connection with said instruments, circuits extending between said instruments and the device or attachment, said circuits being normally closed to permit of the removal of a staff from either one of said instruments, means for opening said circuits and locking them in such open position, whereby the removal of a staff from either one of said instruments is prevented, and means for automatically closing said circuits after their release by said locking means.

8. An attachment or device, for use in connection with a staff instrument or instruments, a socket or holder therein, adapted to receive and lock a pusher-engine or independent staff, a second socket or holder adapted to receive a regular train-staff from a staff instrument, and means operable by said regular staff whereby the pusher-staff is unlocked or released.

9. An attachment or device, for use in connection with a staff instrument, located one at each end of a track-section to be protected, and comprising a socket or holder adapted to receive a pusher-engine or independent staff, means for locking said staff therein, a second socket or holder adapted to receive a regular train-staff, means for unlocking said pusher-staff, and means whereby the unlocking of said pusher-staff effects the opening and locking of the regular staff-circuits and prevents the closing thereof until a reinsertion and locking of said pusher-staff has been effected.

10. A staff system for controlling traffic on railroads, having in combination a staff instrument located at each end of a section of track to be protected, circuits extending between the instruments, a device or attachment for use in connection with said instruments and comprising a socket or holder adapted to receive and lock an independent staff, and a second socket or holder adapted to receive a train-staff removed from either one of said instruments, whereby said independent staff is released and the main circuits between the instruments are opened and the latter locked to prevent the removal of a staff until the independent staff has been returned to socket and main circuits restored.

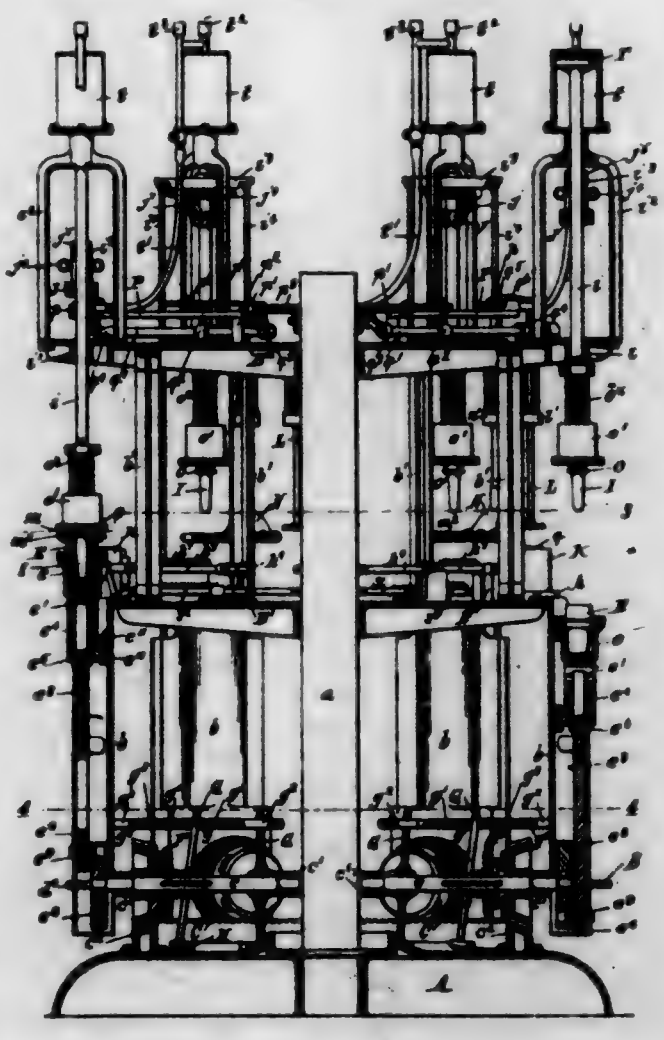
11. An attachment or device in circuit with a staff instrument, located at either end of a track-section to be protected, comprising a socket or holder adapted to receive an independent staff, a second socket or holder adapted to receive a regular train-staff removed from either one of said instruments, locking means common to both sockets, whereby the locking of one socket effects the release of the other, and vice versa, and the circuits between the staff are opened or closed.

12. An attachment or device in circuit with a staff instrument located at either end of a track-section to be protected, comprising a rotatively-mounted socket adapted to receive an independent staff, a second socket or holder similarly mounted and adapted to receive a regular staff removed from either one of said staff instruments, said sockets being provided with flanges or disks which rotate in a line circumferentially intersecting each other and having depressions therein, which when brought into register or opposite each other, permit of the rotation of either one of said sockets and simultaneous locking of the other, whereby the pusher-engine or independent staff is locked or unlocked and the circuits between the staff instruments opened or closed.

13. An attachment or device in circuit with a staff instrument located at either end of a track-section to be protected, comprising a rotatively-mounted socket adapted to receive and lock an independent staff, a flange or disk on said holder having a depression therein, a second socket or holder similarly mounted and made up of sections capable of independent rotation in one direction, means common to both sections whereby they are caused to rotate together in the opposite direction, a flange or disk secured to one of said sections, adapted to rotate in a line circumferentially intersecting the flange or disk on the independent staff-holder and having a similar depression therein, whereby upon insertion and rotation of a regular staff said sections are simultaneously moved and the depressions brought into register or opposite each other to permit of the rotation of the independent staff-holder and the release of its staff and whereby also the regular staff-socket is locked and the circuits between the staff instruments opened.

805,027. MACHINE FOR MAKING HOLLOW GLASSWARE.

FRANCIS W. PAWLING and FRANK R. MILLER, Lockport, N. Y. Filed July 24, 1902. Serial No. 116,776.



Claim.—1. The combination of a press-mold and a coöperating oppositely-arranged press-plunger which are movable horizontally together in the same direction, and means for moving both said press-mold and press-plunger toward each other to press the blank while they are moving horizontally, substantially as set forth.

2. The combination of a support, and means for moving the same, a coöperating press-mold and press-plunger arranged opposite to each other on said support and movable therewith, and means for moving both press mold and plunger toward each other to press the blank while they are moving with said support, substantially as set forth.

3. The combination of a support, and means for rotating the same horizontally, of a coöperating press mold and plunger carried by said support and movable horizontally therewith, and means for moving both said press mold and plunger vertically toward each other to press the blank while they are moving with said support, substantially as set forth.

4. The combination of a press-mold and a coöperating press-plunger which are movable horizontally together in the same direction, and means movable horizontally with said press mold and plunger for moving both said press mold and plunger toward each other to press the blank while they are moving horizontally, substantially as set forth.

5. The combination of a support, and means for moving the same, a coöperating press-mold and press-plunger carried by and movable with said support, and means operated by the movement of said support for moving both said press mold and plunger toward each other to press the blank while they are moving with said support, substantially as set forth.

6. The combination of a support, and means for moving the same, a coöperating press-mold and press-plunger carried by and movable with said support, and means movable with and operated by the movement of said support for moving both said press mold and plunger toward each other to press the blank while they are moving with said support, substantially as set forth.

7. The combination of a movable support, a press-mold and coöperating press-plunger mounted on said support, a wheel carried by said support and rolling on a track, and connections between said wheel and said press mold and plunger for moving the same toward each other to press the blank, substantially as set forth.

8. The combination of a press-mold, a coöperating press-plunger, a crank, a pitman connecting said crank and press-mold, a rack-bar connected to said press-plunger, and a gear geared to rack-teeth on said pitman and rack-bar, substantially as set forth.

9. The combination of a movable support, a press-mold, and coöperating press-plunger mounted on said support, a wheel carried by said support and rolling on a track, and connections between said wheel and press-mold for moving the latter to press the blank, substantially as set forth.

10. The combination of a movable support, a blank-pressing mechanism carried by said support, a device operated by the movement of said support, and connections including a clutch between said device and said blank-pressing mechanism, whereby the latter is operated during a portion only of the movement of the support, substantially as set forth.

11. The combination of a movable support, a press-mold and a coöperating press-plunger carried by said support, a wheel movable with said support and rolling on a track, and connections between said wheel and press-mold including a clutch, whereby the mold is operated during a portion only of the movement of said support, substantially as set forth.

12. The combination of a movable support, a press-mold and a coöperating press-plunger mounted on said support, a wheel movable with said support and rolling on a track, a crank connected to said press-mold, and a clutch device for connecting said wheel to said crank, substantially as set forth.

13. The combination of a movable support, a press-mold and a coöperating press-plunger mounted on said support, a crank, connections between said crank and said press mold and plunger for oppositely moving the same, a wheel movable with said support and rolling on a track, and a clutch device for coupling said wheel to said crank, substantially as set forth.

14. The combination of a movable support, a blank-pressing apparatus movable with said support, an operating device, connections including a clutch between said operating device and said pressing apparatus, a clutch-operating lever movable with said support, and a part adapted to engage and move said clutch-lever, substantially as set forth.

15. The combination of a movable support, a press-mold and coöperating press-plunger mounted on said support, an operating device, connections between said operating device and said press-mold including a clutch, a clutch-operating lever and a part adapted to engage and move said lever, substantially as set forth.

16. The combination of a movable support, a press-mold and a coöperating press-plunger carried by said support, an operating device for said press-mold, a clutch and connections between said operating device and said press-mold, an operating-lever for said clutch, a fixed part adapted to engage said clutch-lever to move the same, and a spring which acts to move said clutch-lever to connect said clutch and said device, substantially as set forth.

17. The combination of a press-mold and a coöperating press-plunger which are arranged opposite to each other and are movable horizontally together in the same direction, means for supporting the blank arranged between said press mold and plunger, and mechanism for moving both said press mold and plunger toward said blank-supporting means during the horizontal movement of said press mold and plunger, substantially as set forth.

18. The combination of a press-mold and a coöperating press-plunger which are arranged opposite to each other and are movable horizontally together in the same direction, a bead-ring arranged between said press-mold and said press-plunger for forming a bead on the blank and supporting said blank, and mechanism for moving both the press-mold against said bead-ring and moving the press-plunger into said press-mold during the horizontal movement of said press mold and plunger, substantially as set forth.

19. The combination of a horizontally-movable blank-pressing mechanism, a blow-mold movable with said pressing mechanism and adapted to open at the vertical side thereof, a device for supporting the blank, and means for moving said device to carry the blank horizontally into the blow-mold while the latter is in motion, substantially as set forth.

20. The combination of a frame, a movable support thereon, a press-mold and a coöperating press-plunger carried by said movable support, mechanism for moving said press-mold to press the blank, a blow-mold carried by said movable support, and a device arranged on said movable support between said press mold and plunger for supporting the blank and moving the same horizontally into the blow-mold, substantially as set forth.

21. The combination of a blank-pressing mechanism, a blowing mechanism, and a device for supporting the blank, all of which parts are movable together in the same direction, and means for operating said supporting device to transfer the blank from the pressing mechanism to the blowing mechanism while said mechanisms are in motion, substantially as set forth.

22. The combination of a movable support, a press-mold, a press-plunger carried by said movable support, mechanism for moving said press mold and plunger toward each other, a blow-mold carried by said movable support, a bead-ring arranged between said press mold and plunger for forming a bead on the blank, and means for operating said bead-ring to transfer the blank from said press-mold to said blow-mold while the latter is in motion, substantially as set forth.

23. The combination of a continuously-moving support, blank-pressing mechanism movable with said support, blowing mechanism movable with said support, and means for transferring the blank from said pressing mechanism to said blowing mechanism, substantially as set forth.

24. The combination of a continuously-moving support, a coöperating press mold and plunger movable with said support, mechanism for operating said press mold and plunger to press the blank, blowing mechanism movable with said support, and mechanism for transferring the blank from said pressing mechanism to said blowing mechanism, substantially as set forth.

25. The combination of a frame, a movable support mounted on said frame, a coöperating press mold and plunger movable with said support, mechanism for operating said press mold and plunger to press the blank, a blow-mold movable with said support, a bead-ring arranged between said press mold and plunger for forming a bead on the blank and supporting the latter, and means for moving said bead-ring to carry the blank into said blow-mold, substantially as set forth.

26. The combination of a horizontally-rotating support, a coöperating press mold and plunger mounted on said support, mechanism for operating said press-mold to press the blank, a blow-mold mounted on said movable support, a bead-ring for forming a bead on the blank and supporting said blank, and means for moving said bead-ring horizontally to carry said blank into the blow-mold, substantially as set forth.

27. The combination of a frame, a horizontally-movable sup-

port on said frame, a coöperating press-mold and press-plunger mounted on said support and movable vertically, mechanism for moving said press mold and plunger, a blow-mold carried by said movable support, a bead-ring arranged between said press-mold and said plunger for forming a bead on the blank and supporting the same, and means for moving said bead-ring horizontally to carry the blank into the blow-mold, substantially as set forth.

28. The combination of a blank-pressing mechanism, a blow-mold formed of separable sections, a device for supporting the blank, means for moving said device to carry the blank horizontally into the blow-mold, and means for lowering said device on the blow-mold, substantially as set forth.

29. The combination of a coöperating press-mold, and press-plunger, mechanism for moving the press-mold vertically toward said plunger, a device arranged between said press mold and plunger for supporting the blank, a blow-mold, means for moving said device horizontally over said blow-mold, and means for lowering said device on the blow-mold, substantially as set forth.

30. The combination of blank-pressing mechanism, a device for supporting the blank, a blow-mold formed of separable sections, a blow-pipe, mechanism for moving said supporting device horizontally to carry the blank horizontally into the blow-mold, and means for lowering said supporting device on the blow-mold and said blow-pipe on said supporting device, substantially as set forth.

31. The combination of blank-pressing mechanism, a device for supporting the blank, a blow-mold, means for moving said device over said blow-mold, a blow-pipe over said device, and a lever common to said device and said blow-pipe for lowering the same toward said blow-mold, substantially as set forth.

32. The combination of a blank-pressing mechanism, a blow-mold, a coöperating blow-pipe, a bead-ring composed of separable sections for forming a bead on the blank and supporting the same, mechanism for separating said bead-ring sections to release the blank, and a common mechanism acting to first lift said blow-pipe away from the bead-ring and then lift the bead-ring off of the blow-mold, substantially as set forth.

33. The combination of a blank-pressing mechanism, a blow-mold, a coöperating blow-pipe, a bead-ring composed of separable sections for forming a bead on the blank and supporting the same, mechanism for separating said bead-ring sections to release the blank, a crane carrying said bead-ring, springs for raising said crane and blow-pipe, a lever fulcrumed on said crane and said blow-pipe, and means for operating said lever to permit said springs to raise said blow-pipe and said crane, substantially as set forth.

34. The combination of a blank-pressing mechanism, a blow-mold, a bead-ring for forming a bead on the blank and supporting the same, a horizontally and vertically moving crane carrying said bead-ring, mechanism for turning said crane to carry the blank from said pressing mechanism to said blow-mold, a spring supporting said crane and acting to lift the same, and means for lowering said crane to place said bead-ring on said blow-mold, substantially as set forth.

35. The combination of a blank-pressing mechanism, a bead-ring composed of a separable sections, means for supporting said sections, slide-blocks connected to said sections, a device movable at right angles to the direction of movement of said slide-blocks, and inclined faces on said device engaging portions carried by said slide-blocks, substantially as set forth.

36. The combination of a bead-ring composed of separable sections, a support on which said sections are movable from and toward each other, a shaft carrying said bead-ring support, mechanism for turning said shaft, a device movable longitudinally of said shaft and connected with said bead-ring sections to move the same toward and from each other, and mechanism for operating said device, substantially as set forth.

37. The combination of a mold composed of swinging sections provided with rigid arms, toggle-links pivoted to said arms and to each other, a rod connected to the joint of said toggle-links for operating said mold-sections, and means for operating said rod to throw said toggle-links into a dead-center position when said mold-sections are moved to their limit toward each other, substantially as set forth.

38. The combination of a frame, a rotary support thereon, a pressing mechanism carried by said support, a blow-mold carried by said support, and a device carried by said support for transferring the blank from said pressing mechanism to said blow-mold, substantially as set forth.

39. The combination of a frame, a rotary support thereon, a coöperating press mold and plunger carried by said support, mechanism for operating said press mold and plunger, a blow-mold carried by said movable support, a bead-ring carried by said movable support for forming a bead on the blank and supporting the same, and mechanism for moving said bead-ring to carry the blank from the pressing mechanism to said blow-mold, substantially as set forth.

40. The combination of a blank-pressing mechanism, means for operating the same, a blow-mold, an air-compressing apparatus operated by said pressing mechanism, and an air-supply conduit from said air-compressing apparatus to said blow-mold, substantially as set forth.

41. The combination of a coöperating press mold, and plunger, operating mechanism therefor, a blow-mold, an air-compressing apparatus connected to and operated by said press-plunger, and an air-conduit leading from said air-compressing apparatus to said blow-mold, substantially as set forth.

42. The combination of a coöperating press mold and plunger, a blowing mechanism, an air-compressing cylinder, a piston connected to and operated by said press-plunger and operating in said cylinder, and a conduit for the compressed air from said cylinder to said blowing mechanism, substantially as set forth.

43. The combination of a continuously-movable support, a blow-mold movable with said support, an air-compressing apparatus movable with said support and connected with said blow-mold, and mechanism for operating said air-compressing apparatus during the movement of said support, substantially as set forth.

44. The combination of a movable support, a blank-pressing mechanism movable with said support, a blow-mold movable with said support, an air-compressing apparatus movable with said support, operative connections between said air-compressing apparatus and pressing mechanism whereby the former is operated by the latter, and an air-conduit connecting said air-compressing apparatus and said blow-mold, substantially as set forth.

45. The combination of a movable support, a coöperating press mold and plunger movable with said support, mechanism for operating said plunger during the movement of said support, a cylinder movable with said support, a piston operated by said plunger and working in said cylinder, a blow-mold movable with said support, and an air-conduit from said cylinder to said blow-mold, substantially as set forth.

46. The combination of a coöperating press mold and plunger, movable operating means for one of said parts, a lever connected to said part and which is acted upon by said operating means to move said part, one or more springs which oppose the yielding movement of said lever, said spring and lever acting to decrease the pressure of said operating means on said part after a predetermined pressure is reached, substantially as set forth.

47. The combination of a press-mold, a coöperating press-plunger, movable operating means for said plunger, a lever connected to said plunger and which is acted upon by said operating means to move said plunger, one or more springs which oppose the yielding movement of said lever, said springs and lever acting to decrease the pressure of said operating means on said plunger after a predetermined pressure is reached, substantially as set forth.

48. The combination of a coöperating press mold and plunger, a head loosely connected with said plunger, means for moving said head, links pivoted to said plunger and carrying parts engaging with said head, and one or more springs connecting said links, substantially as set forth.

49. The combination of a coöperating press mold and plunger, a head movably connected with said plunger, means for moving said head, diverging links pivoted to said plunger, and carrying at their outer ends rollers engaging said head, and one or more springs connecting the outer ends of said links and acting to move the same toward each other, substantially as set forth.

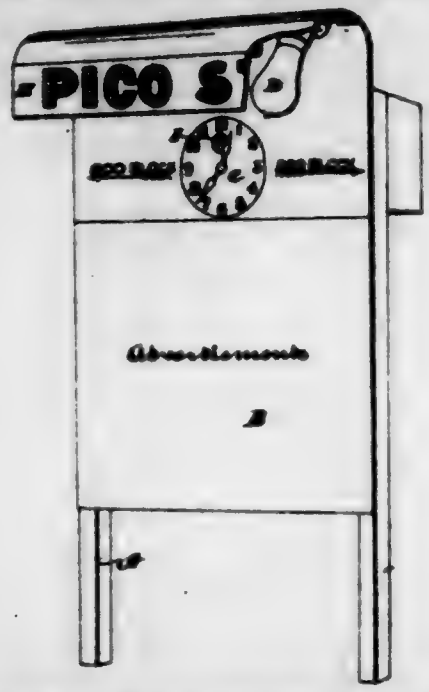
50. The combination of a press-mold and a coöperating plunger, a plunger-rod to which the plunger is secured, a plunger-ring loosely surrounding the plunger, a hollow head carrying said ring and slidably mounted on said plunger-rod, means inclosed by said hollow head for guiding the latter, and a coiled spring surrounding the plunger-rod and acting against said hollow head, substantially as set forth.

51. The combination of a mold composed of separable sections, means for opening the mold to discharge the molded article, and means for causing a slight movement of the mold-sections from and toward each other to loosen the article in the mold before the latter is opened to discharge the article, substantially as set forth.

52. The combination of a mold composed of separable sections, a cam, and operative connections between said cam and mold for opening the latter to discharge the molded article, said cam having an uneven portion for causing a slight movement of the mold-sections from and toward each other to loosen the molded article in the

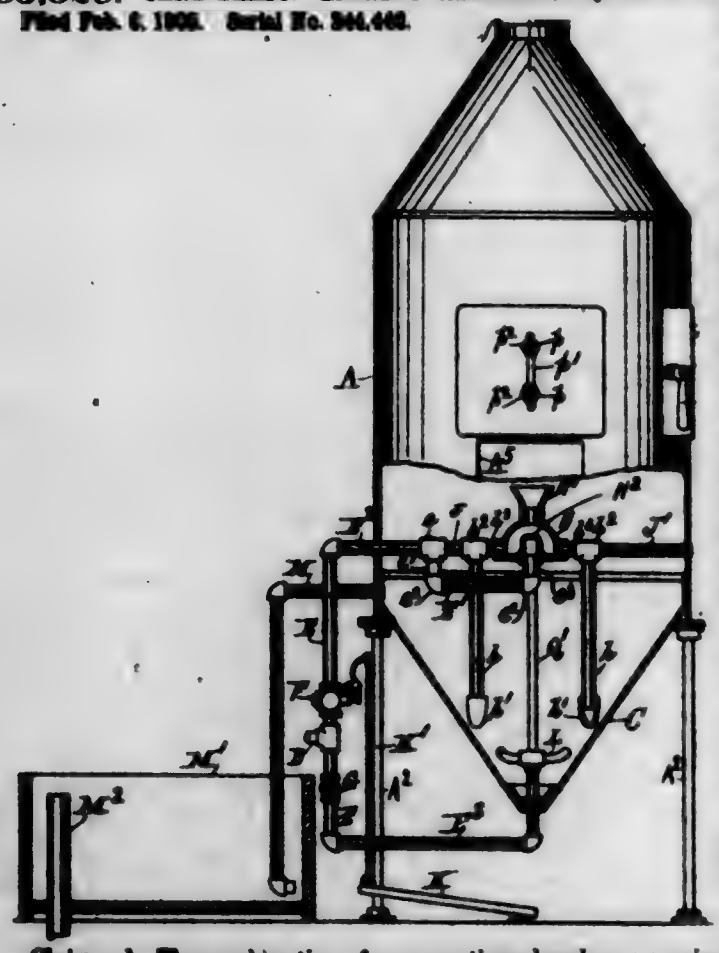
mold before the latter is opened to discharge the article, substantially as set forth.

805,028. CLOCK-CONTROLLED ADVERTISING DEVICE. HARRY C. GUNN, Los Angeles, Cal., assignor of one-fourth to William S. Hunt, Colegrove, Cal. Filed July 25, 1904. Serial No. 218,177.



Claim.—An illuminated advertising device comprising a facing-board adapted to receive advertisement on the bottom part thereof, the said facing-board extending upwardly and forming a return-bend at the top thereof; a street sign-board mounted thereon and provided with apertures following the lines of letters indicating the street and hanging downwardly from said facing-board; a light disposed in the rear of the sign-board and adapted to cast rays of light through apertures in the sign-board, transparent material in the apertures in said sign-board; a clock disposed in said facing-board and below the lights displayed thereon having an alarm mechanism; and means to automatically put out the light at any hour of the night desired.

805,029. SAND-BLAST. EDWARD P. REICHERTER, Bayonne, N. J. Filed Feb. 6, 1905. Serial No. 244,468.



Claim.—1. The combination of an operating-chamber, a receiving-reservoir adjacent to the same, an ejector in the chamber for drawing a minuted material from the said reservoir and mixing it with the fluid forced through the ejector, and a fluid-stirrer in the reservoir.

2. In a sand-blast the combination of an operating-chamber having an opening, a receiving-reservoir adjacent to the same, a steam-ejector in the chamber for drawing the sand from the said reservoir through the ejector, with the steam forced therethrough, and a steam-stirrer in the reservoir.

3. The combination of an operating-chamber having an opening, a receiving-reservoir below the same, an ejector in the chamber for drawing a minuted cleaning and polishing material from the said reservoir, and mixing it with the fluid forced through the ejector, a fluid-stirrer in the reservoir, arms with helical nozzles extending from the said stirrer.

4. The combination of an operating-chamber having an opening, a receiving-reservoir below the same, an ejector in the chamber for drawing a minuted material from the said reservoir, and mixing it with a fluid forced through the ejector, a fluid-stirrer in the reservoir, a support on the inside, and a support on the outside of the chamber, to hold an object to be operated upon in proper position.

5. The combination of an operating-chamber having an opening, a sand-receiving reservoir below the same, a steam-ejector in the chamber for drawing the sand from the reservoir through the ejector, with the steam discharged therefrom, a steam-stirrer in the said reservoir, arms on the stirrer, helical ends on the said arms, a roller-support in the chamber, and a roller-support on the outside of the chamber.

6. The combination of an operating-chamber having an opening, a receiving-reservoir below the same, a steam-ejector in the chamber, a steam-stirrer in the said reservoir, a roller-support adjustably secured in the chamber, a roller-support adjustably secured on the outside of the chamber, both supports adjacent to the opening in the chamber, a supply-reservoir for sand adjacent to the chamber, and a pipe leading from the supply-reservoir to the said receiving-reservoir.

7. The combination of an operating-chamber, a sand-receiving reservoir below, and a discharge-outlet above the same, a steam-supply pipe, a distributing-pipe connected with the latter pipe, a whistle-valve in the distributing-pipe, a treadle, a connecting-link between the treadle and whistle-valve, piping extending from the distributing-pipe and leading into the chamber, an ejector connected up with the latter piping, suction-pipes extending from the piping in the chamber to the lower portion of the receiving-reservoir, beveled tips on the ends of the said suction-pipes, a stop-valve in the distributing-pipe, piping extending from the other end of the distributing-pipe below the stop-valve, leading and entering through the bottom of said reservoir, a stirrer in the reservoir and connected to the piping entering through the bottom thereof, arms on the stirrer and helical nozzles on the said arms.

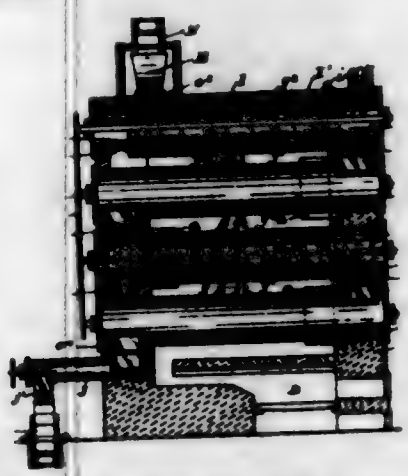
8. The combination of an operating-chamber; a sand-receiving reservoir below, and a discharge-outlet above the same; a steam-supply pipe; a distributing-pipe, connected with the said pipe; two valves in the distributing-pipe; a treadle; a connection between the treadle and one of the said valves; piping leading into the chamber from the valve connected with the treadle; a steam-ejector connected up with the piping in the chamber; suction-pipes connected with the latter piping and extending into the receiving-reservoir; piping extending from the second valve and leading through the bottom of the receiving-reservoir; a stirrer connected with the latter piping; arms on the stirrer; helical nozzles on the said arms; a roller-support adjustably clamped on the inside, and a roller-support adjustably clamped on the outside of the operating-chamber, both supports near the opening in said chamber; a sand-supply reservoir adjacent to the chamber; a pipe extending from the supply-reservoir to the receiving-reservoir; a door hinged on the chamber over an opening in the shell thereof; an overflow-pipe extending from the chamber; a tank for the latter pipe; and an overflow-pipe in said tank.

805,080. DRYING-RETORT FOR PEAT. CARL A. SAHLSTROM, Ottawa, Canada. Filed Jan. 21, 1904. Serial No. 190,048.

Claim.—1. In a device of the class described the combination with the supporting structure and the plurality of cylinders located therein, the communicating passages between the cylinders and the peat and steam inlets and outlets, of the source of heat located in the lower portion of the structure, suitable flues for guiding the heated gases therefrom so as to bring them into intimate contact with the entire length of each of the cylinders, an opening being formed in the top cylinder through which said heated gases are adapted to pass into the said cylinder and an outlet-opening therefor as and for the purpose specified.

2. In a device of the class described the combination with the supporting structure of the cylinders supported thereby and having

passages for connecting them together in series, the conveying means for conveying the peat through the cylinders and the inlets and outlets, of steam-outlets to carry off the steam evolved from the peat in the cylinders, an outside jacket around the top cylinder forming therewith an air-space and means for conveying the steam given off from the lower cylinders into said air-space thereby forming a heating-jacket for the top cylinder and means for drawing off the said steam and condensed water from the steam-jacket as and for the purpose specified.



3. In a device of the class described the combination with the supporting structure and the cylinder supported thereby, of a suitable source of heat, inlets and outlets for the cylinder and a conveying device comprising a longitudinal shaft rotatably mounted in the ends of the cylinder, longitudinal blades secured by arms or spiders to said shaft and spirally-disposed blades secured to and extending between said longitudinal paddles, the outer edges of said spiral and longitudinal paddles or blades being in proximity to but not in contact with the inner surface of the cylinder as and for the purpose specified.

805,031. PROCESS FOR PREPARING ZINC AND ALUMINIUM PLATES FOR PRINTING PURPOSES. ERNST O. SCHMIDT, Leipsic, Germany. Filed Nov. 1, 1904. Serial No. 231,086.

Claim.—1. A process for preparing zinc and aluminium plates for printing purposes, which consists in rubbing over the plate with acetic acid before the drawing or the like is produced thereon and etching subsequently, after the drawing or the like has been produced, with a solution of saturated acid oxalate of potassium and gum-arabic.

2. A process for preparing zinc and aluminium plates for printing purposes, which consists in rubbing over the plate with acetic acid before the drawing or the like is applied, and after the drawing or the like has been produced etching with a saturated solution consisting of a mixture about equal parts of acid oxalate of potassium and gum-arabic substantially as described.

805,032. SWINGING GATE. CLAUDE SIEBRING, George, Iowa. Filed Aug. 10, 1905. Serial No. 273,576.

Claim.—1. The combination of a swinging gate, an upwardly-extending oscillatory gate-actuating lever fulcrumed at its lower end in advance of the point of hinging of the gate and at one side of the same when the gate is in its closed position, said lever being provided at its lower end with an arm extending beneath and in advance of the gate when the latter is in its open position, means for connecting the lever with the gate, and operating mechanism connected with the lever for oscillating the same.

2. The combination of a swinging gate, an upwardly-extending oscillatory gate-actuating lever fulcrumed at its lower end in advance of the point of hinging of the gate and at one side of the same when the gate is in its closed position, said lever being provided at its lower end with an arm extending beneath and in advance of the gate when the latter is in its open position, an arm arranged at the top of the lever and connected with the gate, and operating mechanism for oscillating the lever.

3. The combination of a vertically-movable horizontally-swinging gate, a lever fulcrumed at its lower end in advance of the hinges of the gate and located at one side of the latter when the gate is closed, said lever being provided at its lower end with an arm extending beneath and to a point in advance of the gate when the latter is in its open position, means for slidably connecting the upper portion of the lever with the gate, and operating mechanism for actuating the lever.

4. The combination of a vertically-movable horizontally-swinging gate, a lever fulcrumed at its lower end in advance of the hinges of the gate and located at one side of the latter when the gate is closed, said lever being provided at its lower end with an arm extending beneath and to a point in advance of the gate when the latter is in its open position, a guide mounted on the gate and extending longitudinally thereof, and an arm extending from the top of the lever and slidable on the guide



5. The combination of a vertically-movable horizontally-swinging gate provided with a horizontal guide, an upwardly-extending lever fulcrumed at the lower end and provided at the top with an arm slidable on the guide, operating mechanism connected with the lever, and a latch operated by the vertical movement of the gate for locking the latter in its closed position.

6. The combination of a vertically-movable horizontally-swinging gate, an upwardly-extending lever fulcrumed at its lower end at a point in advance of the hinges of the gate and provided at the bottom with an arm extending beneath and in advance of the gate when the latter is open, a guide carried by the gate, an arm extending from the top of the lever and slidable on the guide, and operating mechanism for oscillating the said lever.

7. The combination of a vertically-movable horizontally-swinging gate, a latch operated by the vertical movement of the gate, a gate-actuating lever fulcrumed at the bottom and extending upwardly to and slidably connected with the top of the gate, operating-levers, a flexible connection extending from the gate-actuating lever to the operating-levers, and means for guiding the flexible connection.

8. The combination with a vertically-movable horizontally-swinging gate provided with a guide extending longitudinally of the gate, an upwardly-extending lever fulcrumed at its lower end and slidably connected at the top with the guide, means for actuating the lever, and a latch operated by the vertical movement of the gate for locking the latter in its closed position.

805,033. OAR. WILLIAM H. SMYTH, Berkeley, and WILLIAM B. GOODWIN, San Francisco, Cal.; said Smyth assignor to said Goodwin. Filed Mar. 10, 1903. Serial No. 147,175.

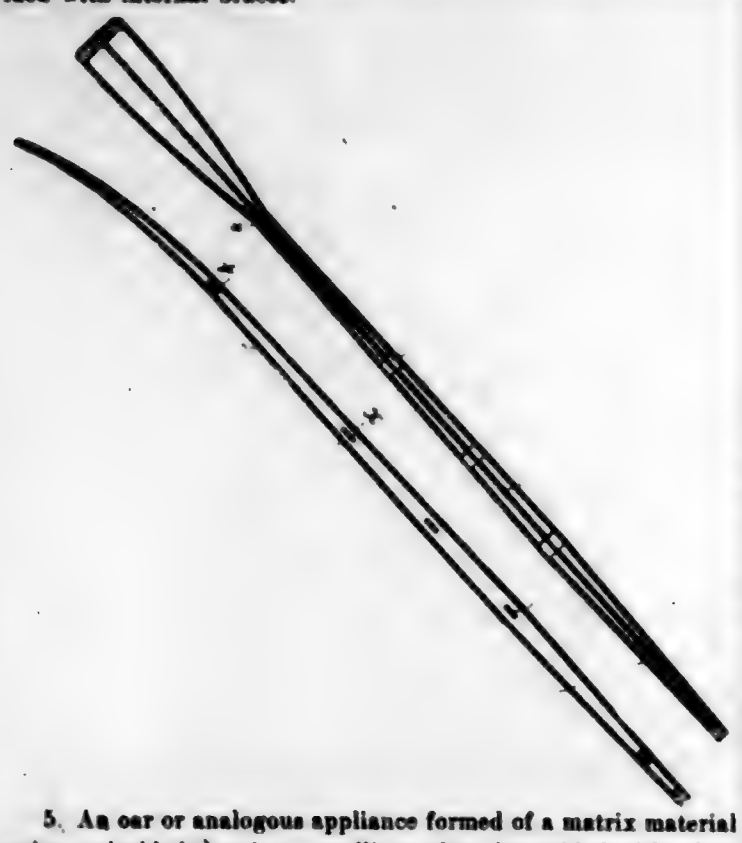
Claim.—1. An oar or analogous appliance formed of a matrix material having embedded therein a metallic mesh.

2. An oar or analogous appliance of hollow section formed of a matrix material having embedded therein a metallic mesh.

3. An oar or analogous appliance formed of a matrix material having embedded therein a metallic mesh and provided with internal braces.

4. An oar or analogous appliance of hollow section formed of

a matrix material having embedded therein a metallic mesh and provided with internal braces.



5. An oar or analogous appliance formed of a matrix material having embedded therein a metallic mesh and provided with a hollow blade.

6. An oar or analogous appliance formed of a matrix material having embedded therein a metallic mesh and provided with a hollow blade having internal braces.

7. An oar constructed of mesh material attached to or embedded in a material of less tensile strength.

8. An oar or analogous appliance formed of tubular section provided with internal longitudinal stiffening-ribs.

9. An oar or analogous appliance formed of tubular section provided with internal stiffening-ribs.

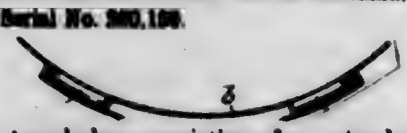
805,034. **WAGON-STANDARD.** WALTER B. SNODGRASS, Hull, Ill. Filed Oct. 26, 1904. Serial No. 230,043.



Claim.—1. The combination of a standard having threaded apertures, adjusting-screws mounted in the threaded apertures of the standard, and a clamping member carried by the clamping-screws in their inward and outward movement and being positively forced inwardly by the said screws to clamp a body, rack or load.

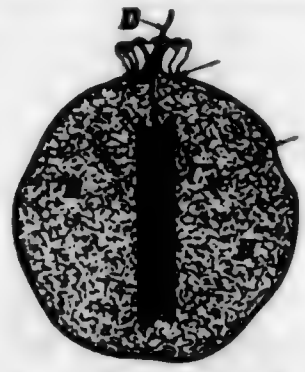
2. The combination of a standard having threaded openings, a vertical clamping-plate arranged at the inner face of the standard, and clamping-screws mounted in the threaded openings of the standard and extending entirely through the same and having their inner ends swiveled to the clamping-plate, whereby the latter is supported in position for engaging a body, rack or load, said clamping-screws being adapted to positively force the clamping-plate inwardly.

805,035. **TOWEL-FASTENER.** WILLIAM L. STEVENS, Cleveland, Ohio, assignor of one-half to D. C. Wood, Cleveland, Ohio. Filed May 13, 1905. Serial No. 260,196.



Claim.—A towel-clasp consisting of an extended rigid base having two arms on one of its sides, said arms projecting at right angles from the side edge of the base for a short distance and then bent at a right angle and extending parallel to and across the breadth of the base, each arm having teeth upon its inner edge and pointing toward the opposite arm substantially as shown and described.

805,036. **AMUSEMENT BOMB.** RICHARD STERNAU, New York, N. Y. Filed May 6, 1905. Serial No. 259,202.



Claim.—1. An amusement bomb consisting of the combination of an explosive mixture, a mass of confetti surrounding said mixture, a homogeneous paper shell inclosing the confetti, and a time-fuse extending from said mixture to the outside of said shell.

2. An amusement bomb consisting of the combination of a paper bag, confetti therein, and a fire-cracker within the confetti and having its stem extending to the outside of said bag, said stem consisting of a time-fuse.

3. An amusement bomb consisting of the combination of a paper bag, confetti therein, an explosive mixture within the confetti, a fuse extending from the mixture to the outside of the bag through a hole in the bag, and a ligature for closing the hole to prevent said confetti from falling out.

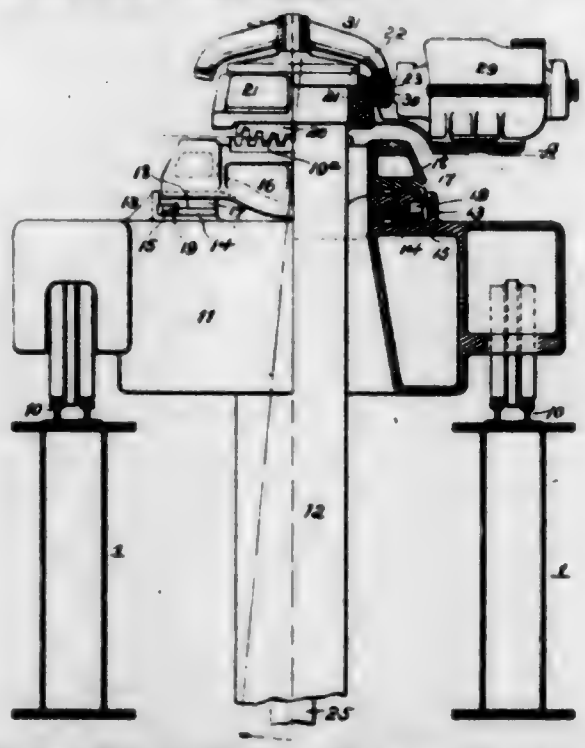
805,037. **BOLT-ANCHOR.** EDWARD A. STULZ, Avenel, N. J. Filed Apr. 14, 1905. Serial No. 255,522.



Claim.—1. A bolt-anchor having a tapered longitudinal bore, the cross-section of which for a substantial portion of its length is that of a polygon with reëntrant curved sides.

2. A bolt-anchor having a longitudinal bore, the cross-section of which is that of a polygon with reëntrant curved sides, in combination with an inserted threaded bolt, the thread diameter of which is greater than the least, and less than the greatest diameter of the anchor-bore.

805,038. **HYDRAULIC CRANE.** CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed Oct. 8, 1904. Serial No. 227,666.



Claim.—1. The combination with a support, of a rocking frame mounted on said support, a rocking yoke mounted on the frame and provided with a central opening, the bearings of the yoke being at right angles to the bearings of the frame, a cylinder seated on said yoke and depending therefrom, and a piston in the cylinder.

2. The combination of a traveling trolley, of a rocking frame mounted on the trolley, a rocking yoke mounted on the rocking frame and provided with a central opening, the bearings of the yoke being at right angles to the bearings of the frame, and a cylinder seated on said yoke and depending therefrom.

3. The combination with a traveling bridge, and a traveling trolley thereon, of a rocking frame mounted on the trolley, a rocking yoke mounted on the rocking frame and provided with a central opening, the bearings of the yoke being at right angles to the bearings of the rocking frame, and a cylinder seated on said yoke and depending therefrom.

4. The combination with a traveling trolley having an open center, of a rocking frame mounted on the trolley, a rocking yoke mounted on the rocking frame and having an open center, the bearings of the yoke being at right angles to the bearings of the frame, and a cylinder seated on the yoke and projecting through the frame and trolley.

5. The combination with a traveling trolley having an open center, of a rocking frame mounted on the trolley and having teeth engaging teeth on the trolley, a rocking yoke mounted on the frame and having teeth engaging teeth on the rocking frame, the bearings for the yoke on the frame being at right angles to the bearings for the frame on the trolley, and a cylinder carried by the yoke.

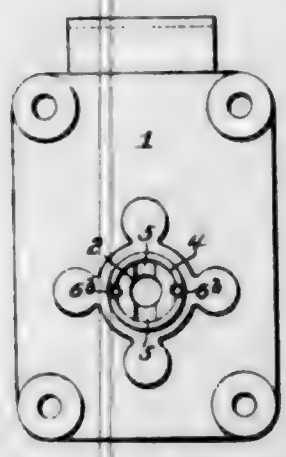
6. The combination with a traveling trolley having an open center, of a rocking frame mounted thereon, a rocking yoke mounted on the frame, the bearings of the yoke being at right angles to the bearings of the frame, a cylinder carried by the yoke, a motor also carried by the yoke, a piston, piston-rod, a sheave carried by the piston-rod, a shaft passing through the piston-rod, piston and cylinder, gearing connecting said shaft and motor, and gearing connecting said shaft and sheave.

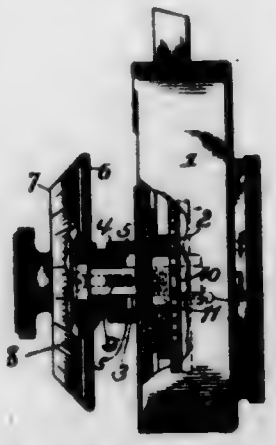
7. The combination with a support having oppositely-disposed straight bearings, of a frame having oppositely-disposed curved rockers, and straight bearings, the latter being at right angles to the bearings on the support, a yoke having curved rockers resting on the straight bearings of the frame, and a cylinder carried by said yoke.

8. The combination with a support having oppositely-disposed straight bearings provided with upwardly-projecting teeth, of a frame having curved rockers provided with teeth engaging the teeth on the bearings, and also provided on its upper face with straight bearings having projecting teeth, the bearings on the frame being at right angles to the rockers, a yoke having curved rockers provided with depending teeth meshing with the teeth on the bearings on the frame and a cylinder carried by said yoke.

9. The combination with a traveling trolley, of a rocking yoke carried by said trolley, a cylinder carried by the yoke, a motor also carried by the yoke, a piston and piston-rod, a sheave carried by the piston-rod, a shaft passing through the piston, piston-rod and cylinder, gearing connecting said shaft and motor, and gearing connecting the shaft and sheave.

805,039. **MEANS FOR ATTACHING DIAL-LOCKS TO DOORS.** WARREN H. TAYLOR, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Apr. 13, 1905. Serial No. 255,544.





Claim.—1. In a dial-lock, the combination with a lock-case having a nose provided with mortises, of a dial-ring having a part provided with tenons to enter said mortises, and screws passing through the ring and into the nose for locking the parts together.

2. In a dial-lock, the combination with a lock-case having a nose provided with mortises therein, and a central opening for the dial-spindle, of a dial-ring having a part provided with tenons to enter the mortises in the nose, screws passing through the dial-ring and engaging the nose, and a dial and dial-spindle, the latter passing through the ring and nose and connected with the mechanism of the lock.

3. In a dial-lock, the combination with a lock-case having a mortised nose, and a tumbler-carrying gear having a threaded hub, of a dial-ring having a part provided with tenons adapted to enter the mortises in the nose, screws passing through the ring and into threaded holes in the nose, a dial, and a screw-threaded spindle fixed to the dial and passing through the ring and nose and engaging the threaded hub of the tumbler-carrying gear.

4. In a dial-lock the combination with a lock-case having a mortised nose, and a tumbler-carrying gear having a threaded hub the latter having a key-groove therein, of a dial-ring having a part provided with tenons adapted to enter the mortises in the nose, screws passing through the ring and into threaded holes in the nose, a dial, a screw-threaded spindle fixed to the dial and passing through the ring and nose and engaging the threaded hub of the tumbler-carrying gear, the said screw having a groove therein, and a key or wedge driven into the grooves in the hub and spindle, substantially as set forth.

805,040. **BOLT-ANCHOR.** CHARLES C. TOMKINSON, Plainfield, N. J. Filed June 13, 1905. Serial No. 264,748.



Claim.—1. A bolt-anchor section provided on its interior surface with a plurality of spurs arranged in spiral lines approximately corresponding to the pitch of a bolt-thread.

2. A bolt-anchor section provided on its interior surface with a plurality of spurs located in staggered arrangement in spiral lines approximately corresponding to the pitch of a bolt-thread.

3. A bolt-anchor section provided on its interior surface with a plurality of separated groups of spurs for engaging a bolt-thread.

4. A bolt-anchor provided on its interior surface with a plurality of spurs arranged in spiral lines approximately corresponding to the pitch of a bolt-thread, the tips of said spurs being approximately tangential to a cone-frustum.

5. A bolt-anchor section formed from metal of approximately equal thickness throughout and provided with a plurality of spurs for engaging a bolt-thread, said spurs being of progressively greater height from front to rear of the section.

805,041. **HEATING-FURNACE.** CHARLES P. TURNER, McKeesport, Pa. Filed Oct. 17, 1904. Serial No. 228,784.

Claim.—1. In a heating-furnace, the combination of a stationary floor having openings at intervals therein, a vertically-movable frame working in said openings, and an independent longitudinally-movable support carried by said frame.

2. In a heating-furnace, the combination of a stationary floor having openings at intervals therein, a vertically-movable frame engaging said openings, mechanism for raising and lowering said frame, an independent longitudinally-movable support carried by said frame, and mechanism for moving said support back and forth.

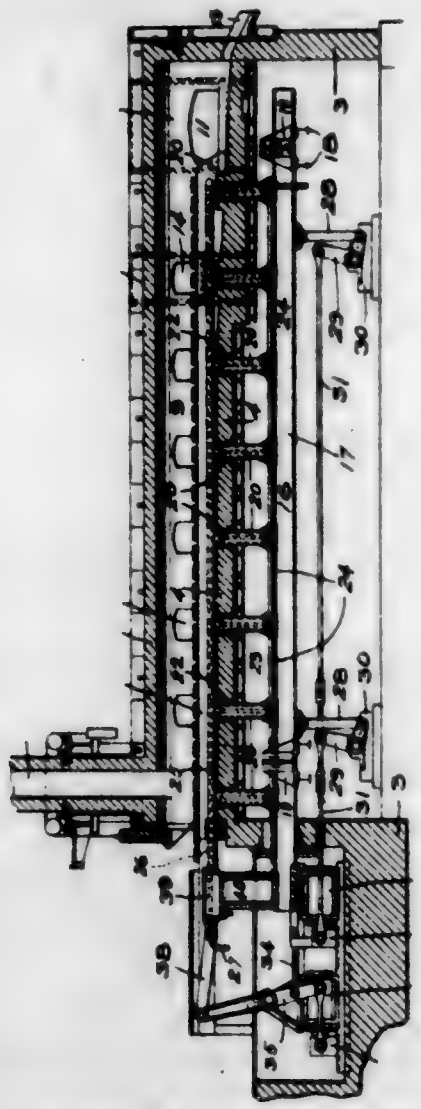
3. In a heating-chamber, the combination of a stationary floor having openings at intervals therein, a vertically-movable frame, columns on said frame entering said openings, mechanism for raising and lowering said columns, an independent longitudinally-movable support carried by said columns, and mechanism for moving said support back and forth.

4. In a heating-furnace, the combination of a floor having openings therein, a vertically-movable frame engaging said openings, mechanism for raising and lowering said frame, an independent longitudinally-movable support carried by said columns, and connections between said mechanism and said support to withdraw same.

5. In a heating-furnace, the combination of a floor having openings therein, a vertically-movable frame engaging said openings, links connected to said frame, bell-cranks connected to said links, mechanism for operating said bell-cranks, an independent longitudinally-movable support carried by said frame, and connections between said mechanism and said support to withdraw same.

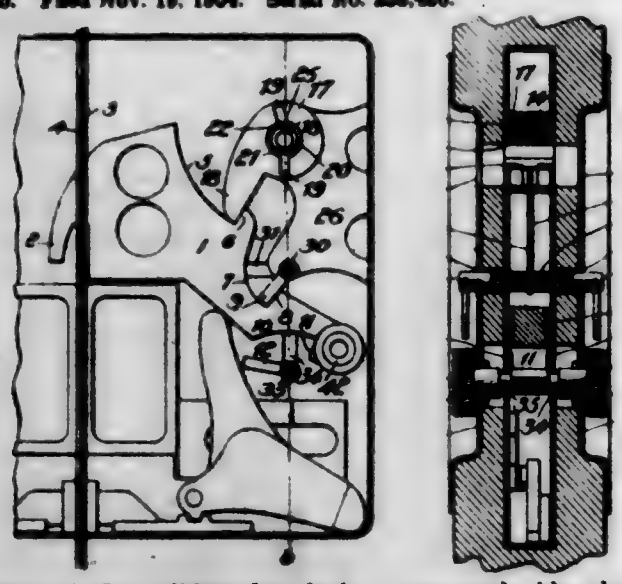
6. In a heating-furnace, the combination of a floor having openings therein, a vertically-movable frame engaging said openings, a cylinder, a plunger, connections between said plunger and said frame to raise and lower same, an independent longitudinally-movable support carried by said frame, and connections between said plunger and said support to withdraw same.

7. In a heating-furnace, the combination of a floor having openings therein, a vertically-movable frame engaging said openings, a cylinder, a plunger, connections between said plunger and said frame to raise same, an independent longitudinally-movable support carried by said frame, a second cylinder, a second plunger, and connections between said second plunger and said support to advance the same.



8. In a heating-furnace, the combination of a floor having openings therein, a vertically-movable frame engaging said openings, a cylinder, a plunger, connections between said plunger and said frame to raise same, a rod having a sliding connection with said plunger, a longitudinally-movable support carried by said frame, and connections between said support and said rod to move said support.

805,042. SLIDING-DOOR LOCK. LUCIUS A. TURNER, Denver, Colo. Filed Nov. 19, 1904. Serial No. 233,486.



Claim.—1. In a sliding-door lock, a case, each side whereof having an inward-projecting keyhole-collar, each collar having a slot corresponding with the keyholes, a gravity-bolt pivoted at its inner end, its free end having a locking-hook on one edge and a curved shouldered recess on its opposite edge, and a tumbler mounted on each keyhole-collar and having each a pair of radial slots and adapted to engage the free end of said bolt to secure it in its locked position, and a rotary slotted key-barrel connecting said collars.

2. In a sliding-door lock, a case each side whereof having an inward-projecting keyhole-collar, each collar having a slot corresponding with the keyholes, a gravity-bolt pivoted at its inner end, its free end having a locking-hook on one edge and a curved shouldered recess on its opposite edge, and a tumbler mounted on each keyhole-collar each tumbler having a pair of radial slots, and having a radial arm adapted to engage said bolt-shoulder to secure said bolt in its locked position, and a rotary keyhole-barrel connecting said collars.

3. In a lock for sliding doors, the lock-plates each having an inward-projecting slotted collar at the keyhole, a key-barrel or stud having a longitudinal slot and seated to rotate within said collars, a tumbler mounted upon each collar, having a radial arm and a pair of radial slots and a semicircular recess or depression forming shoulders at said slots, a ward fixed to the case and mounted on said key-barrel and having a slot registering with the slots in the lock-plates, a ward between each tumbler and the fixed ward, and having a radial slot and engaged with and rotary with said barrel-stud, and a key adapted to engage and rotate the key-barrel, the tumblers and the wards engaged with said barrel, a gravity-bolt pivoted at its inner end on a fixed stud having a locking-hook at its free end and a shoulder on its upper inner side arranged for engagement with the tumblers to lock the bolt.

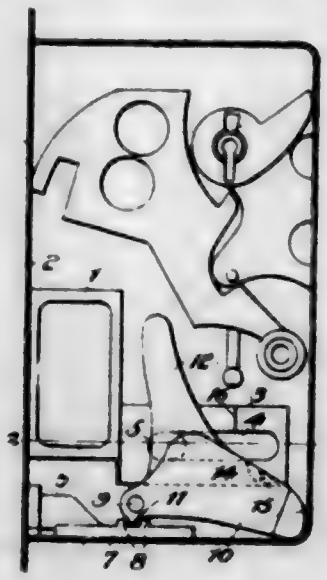
4. In a lock for sliding doors, a case, a gravity-bolt pivoted at its inner end to a fixed stud, having a locking-hook at its free end and a shoulder opposite said hook, rotary tumblers for engaging said shoulder for locking the bolt, a shoulder on the under side of the shank of said bolt at its pivoted end, keyholes in the lock-plates, a tang mounted in said keyholes, and heads adapted to engage the stem of said tang whereby the latter is caused to engage the bolt-shank and lift and hold it out of locking position.

5. In a lock for sliding doors, a case, a gravity-bolt pivoted at its inner end to a fixed stud, having a hook at its free end and a shoulder opposite said hook, a second shoulder above the pivot on the inner side of the bolt, keyholes in the lock-plates at said second shoulder, a fixed plate having pins projecting from its opposite sides, and a key adapted to engage said fixed pins and said bolt-shoulder to secure the bolt in its locking position.

6. In a lock for sliding doors, a case, a gravity-bolt pivoted at its inner end to a fixed stud, having a locking-hook at its free end and a shoulder at its pivoted end both on the under side of said bolt, and a pair of shoulders on its inner side above said pivot, means engaging the shoulders on the inner side of the bolt for locking and for securing said bolt, and means for engaging the shoulder at the under side of said bolt for unlocking and holding said bolt out of locking position.

7. In a sliding-door lock, a case each side whereof having an inward-projecting keyhole-collar, each collar having a slot corresponding with the keyholes, a gravity-bolt pivoted at its inner end, its free end having a locking-hook on one edge and a curved shouldered recess on its opposite edge, a tumbler mounted on each collar and having each a pair of radial slots, each tumbler having a radial arm adapted to engage said bolt-shoulder, a rotary slotted key-barrel connecting said collars, a slotted ward having a fixed relation to and between said tumblers, and a rotary slotted ward between each tumbler and the said fixed ward.

805,043. PULL DEVICE FOR SLIDING DOORS. LUCIUS A. TURNER, Denver, Colo. Filed Nov. 19, 1904. Serial No. 233,487.



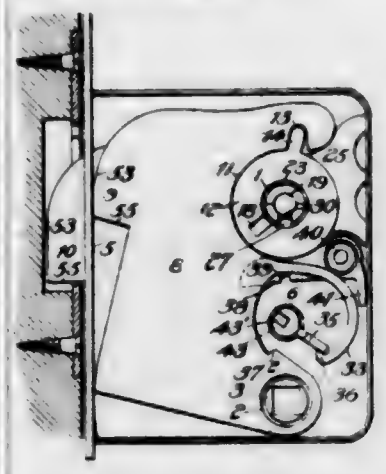
Claim.—1. In a sliding-door pull and in combination with a push-pin, a pull having a shank, means for limiting its movements, a lever adapted to engage the push-pin, and having a weighted arm, the contiguous surfaces of said pull-shank and said weighted arm having each a stud adapted to be automatically engaged to lock the pull in its normal position.

2. In a sliding-door pull and in combination, a push-pin, a pull, its shank having a cam formation on one side and provided with a stud, a lever having a weighted end and a stud thereon adapted to automatically engage the stud of the pull-shank, whereby the said studs are caused to pass each other in closing the pull within the case to lock it in its normal position with said weighted arm.

3. In a sliding-door pull and in combination with the case, the push-pin having a guide-plate seated against the inner wall of the case, and having a groove on its inner wall standing transversely of the guide-plate, a lever having a weighted arm mounted in the case and having a tooth on said arm engaging said groove, a pull adapted to be pushed out by said lever, and said weighted arm, whereby an easy movement and a long bearing is given the push-pin.

4. In a pull for sliding doors, the pull device having its shank provided with a surface stud, a knocker-lever having a weighted arm provided with a surface stud arranged to engage the stud of the pull device, and a push-pin connected with said lever, the said weighted arm in its normal position supported upon the case to hold the lever away from the pull-knocker, and allow said weighted lever to be raised to disengage the said studs before the blow of the lever is delivered upon the pull to eject it.

805,044. GRAVITY-LOCK. LUCIUS A. TURNER, Denver, Colo. Filed Jan. 26, 1905. Serial No. 243,730.



Claim.—1. In a lock, a pair of bolt members movable on a common center and caused to maintain locked positions by gravity, a key-barrel, a pair of wards or baffles rotatable centrally with said key-barrel, each ward having a circumferential connection with the free end of each bolt member to operate them as an entity.

2. In a lock, a pair of bolt members movable on a common center and caused to maintain locked positions by gravity, a key-barrel, a pair of wards or baffles rotatable centrally with said key-barrel, each ward having an arm adapted to engage the free end of each bolt to operate them as an entity.

3. In a lock, a pair of bolt members movable on a common center and caused to maintain locked positions by gravity, the free end of each bolt member terminating in an arm overhanging its rear edge and having an edge recess or notch, a pair of wards or baffles rotatable centrally with said barrel and each having an arm freely engaging the recess of each bolt member to operate them as a single bolt.

4. In a lock, a pair of gravity-bolt members, and a gravity-latch each movable on a common center, said bolt members flanking the latch, a key-barrel, a pair of wards or baffles rotatable centrally with said key-barrel and connected to operate said bolt members independent of the latch.

5. In a lock, a pair of gravity-bolt members and a gravity-latch each movable on a common center, said bolt members flanking the latch, a key-barrel, a pair of wards or baffles rotatable centrally with said key-barrel and connected to operate said bolt members independent of said latch, and means whereby said three pivoted members are secured as a single bolt in locked positions.

6. In a lock, a pair of gravity-bolt members each movable on an internal projecting collar, a key-barrel each end mounted to rotate within an internal projecting collar, a pair of wards each mounted to rotate on said barrel-collars and connected to operate the free ends of said bolt members, and means for securing said bolt members in locked positions.

7. In a lock, a pair of gravity-bolt members each movable on an internal projecting collar, a gravity-latch having a bearing-hub mounted within said collars, and the knob-spindle passing through said hub for operating the latch independent of the bolt members.

8. In a lock, a pair of bolt members having a common center on which they are caused to maintain a locked position by gravity, a key-barrel, a pair of wards or baffles central with said barrel and having arms engaging the free ends of said bolt members, means whereby the latter are held in retracted positions, and means for rotating said wards.

9. In a lock, a pair of bolt members having a common center on which they are caused to maintain a locked position by gravity, a key-barrel, a pair of wards or baffles central with said barrel, and having arms engaging the free ends of said bolt members, means for rotating said wards or baffles, and means whereby the bolt members are held in retracted positions consisting of a curved arm projecting rearwardly and downwardly from each bolt member and a stump-key mounted to engage when turned said curved arms and hold the bolt members against their gravitating force.

10. In a lock, a pair of bolt members having a common center on which they are caused to maintain a locked position by gravity, a key-barrel, a pair of wards or baffles central with said barrel and having arms adapted to engage the free ends of said bolt members, means for rotating said wards or baffles, each bolt member having an arm curving rearwardly and overhanging the rear edge of each bolt member, and a stump-key mounted in such relation to the inner wall of each curved arm and to the rear edge of each bolt member as to cause said key when turned in one direction to engage the bolt members to lock them, and when turned in the opposite direction to engage the said curved arms to hold the bolt members in retracted positions.

11. In a lock, including the case, a pair of bolt members having a common pivot on which they are caused to turn freely and to maintain locked positions by gravity each member having an overhanging arm at its upper free end having a recess in its inner edge, a key-barrel, a pair of wards mounted centrally with said key-barrel, each ward having an arm freely engaging each recess in the bolt-arms, the inner edge of said arm having a curved recess corresponding to the circumference of said wards whereby the retraction of the bolt members is caused by the rotation of the ward-arms and limited by contact with said wards.

12. In a lock, the combination with the case, a pair of gravity-bolt members mounted to turn freely on a common center, a key-barrel, a pair of wards central with said key-barrel each having an arm adapted to have a free engagement with the free ends of said bolt members to effect their retraction by a key inserted within said barrel, a gravity-latch between the bolt members mounted on bearings independent of the bearings of said bolt members, and means for locking the three pivoted members in their bolting positions

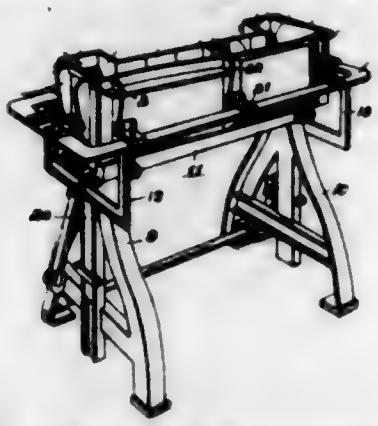
13. In a lock, including the case, a pair of bolt members, caused to turn freely and to maintain locked positions by gravity, a key-barrel, mounted to rotate within fixed collars, a pair of wards rotatable on the outer walls of said collars and having each a segmental recess and an arm adapted to have a free engagement with the free ends of said bolt members, a ward seated on the recessed face of each armed ward and rotatable by and with said barrel, and a middle fixed ward, the latter having a key-tang slot registering with the slot in the keyholes of the case, the barrel and the wards rotatable by it, and the armed wards having radial slots corresponding with the fixed slots, and a key adapted to engage the barrel and said slots to effect the retraction of the bolt members.

14. In a lock, and including its case, a pair of bolt members, caused to freely turn to maintain locked positions by gravity, a key-barrel, having a longitudinal slot interrupted by a transverse web and mounted at each end within fixed collars, a pair of wards rotatable on the outer walls of said collars and having engagement with the free ends of the bolt members, intermediate wards, the case and the said wards having radial slots corresponding with slots in the collars and barrel, and a key adapted to engage the slots in the collars and in the wards and having a tang adapted to engage the web of the barrel-slot.

15. In a lock, the combination with the case, a gravity-bolt, a key-barrel, having a longitudinal slot interrupted by a transverse web, a plurality of wards each having a key-slot corresponding with the barrel-slot, a pair of said wards connected to the free end of said gravity-bolt, intermediate wards and a key having a tang adapted to engage the slots in the wards, the slots in the case, and to engage the web of the barrel-slot.

16. In a lock, the combination with the case having internal collars, at each keyhole, a pair of pivotally-mounted gravity-bolts, a pair of wards mounted to rotate upon the outer walls of said collars and having means for engaging the free ends of said bolt members, a key-barrel split longitudinally, having a longitudinal slot registering with a slot in each collar, and mounted in bearings within said collars, intermediate wards mounted upon and rotatable with said barrel, and a key adapted to operate said wards.

805,045. MACHINE FOR MAKING CONCRETE BLOCKS. EDGAR M. WALTON, Kansas City, Mo. Filed Aug. 14, 1905. Serial No. 274,148.



Claim.—1. A device of the class described comprising a suitable framework and platform, end plates and a back plate hinged to said platform, a front plate provided with convex and concave portions hinged to said platform, and forming with said back and end plates a mold-box, and means for dividing said box into chambers, for the purpose set forth.

2. A device of the class described comprising a suitable framework and platform, end plates and a back plate hinged to said platform, a front plate provided with convex and concave portions hinged to said platform, and having a vertical groove therein at the intersection of the opposing curves, and forming with said back and end plates a suitable mold-box, and a division-plate fitting within said groove for the purpose set forth.

805,046. SPRING-TIRE. TROY WARE, Letch, W. Va. Filed Mar. 30, 1904. Serial No. 200,662.

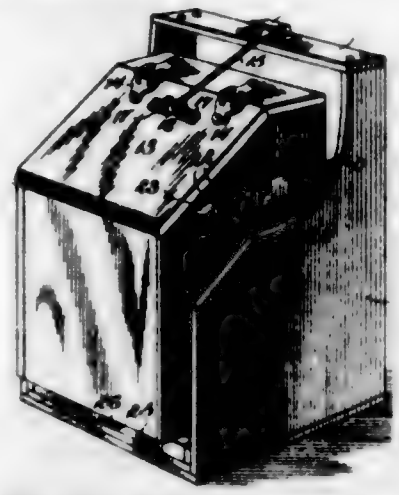


Claim.—A spring-tire for a wheel, the same comprising a band of metal adapted to be fitted snugly over the rim of a wheel, and spring-metal stripe spaced equally about the band with their free ends bent at an angle to their length and terminating in spring portions concentric with the band and parallel with the rim of the wheel, the other ends having a long bearing upon the band and formed with integral tongues extending in opposite directions with their backs or connecting portions adjacent each other, and the tongues extended through openings in the band opposite the slots formed by the striking up of said tongues in the strips, and bent in opposite directions and clenched upon the inner face of the band, each strip having a bearing against the band upon each side of the tongues.

805,047. BIN. HENRY W. WATSON, Chattanooga, Tenn., assignor of one-half to Stanton Cornett, Chattanooga, Tenn. Filed Dec. 5, 1904. Serial No. 235,556.

Claim.—1. The combination with a support, of a bin pivotally mounted on the support, a cover for the bin hinged to said bin, and a link pivotally connected to the support and to the bin, said link constituting means for swinging the cover upon the swinging movement of the bin, and said link and cover in themselves constituting means for limiting the swinging movement of the bin.

2. The combination with a support, of a bin pivotally mounted upon the support, a cover for the bin hinged to said bin, a link, and pivotal connections between the link and the support and bin, said link constituting means for swinging the cover upon the swinging movement of the bin, said link and cover constituting means for limiting the swinging movement of the bin and one of said pivotal connections being detachable to permit the release of the link and the further swinging movement of the bin.

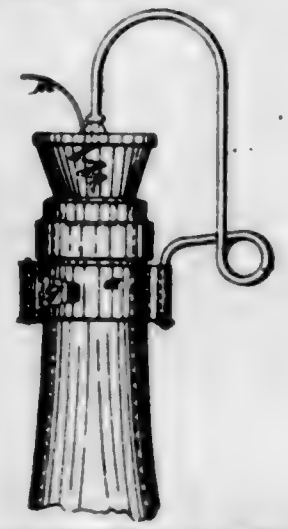


3. The combination with a support comprising spaced standards and a cross-bar connecting the upper ends thereof, of a swinging bin pivoted to and between the standards, a cover for the bin hinged thereto, and a link pivoted to the upper side of the cover between its edges and to the cross-bar between its ends.

4. The combination with a support comprising a bottom, spaced standards rising therefrom, and a cross-bar connecting the upper ends of the standards, of a bin pivoted between its ends to and between the standards, a cover hinged to the bin, and a tray slidably mounted on the bottom between the standards and constituting a receiver for the contents of the bin when said bin is inverted.

5. The combination with a support comprising a bottom, standards rising therefrom, and a cross-bar connecting the upper portions of the standards, of a bin pivoted to and between the standards, a cover for the bin hinged thereto, a link, pivot devices for connecting the ends of the link respectively to the cross-bar and the upper side of the cover between the edges thereof, said cover and link constituting means for limiting the swinging movement of the bin, and a tray detachably located upon the bottom between the standards and beneath the bin, one of said pivoted devices being detachable to permit the release of the link and the inversion of the bin to permit its contents to gravitate into the tray.

805,048. BOTTLE-SEAL. JOHANN WEBRITS, Odessa, Russia. Filed Dec. 28, 1904. Serial No. 238,618.

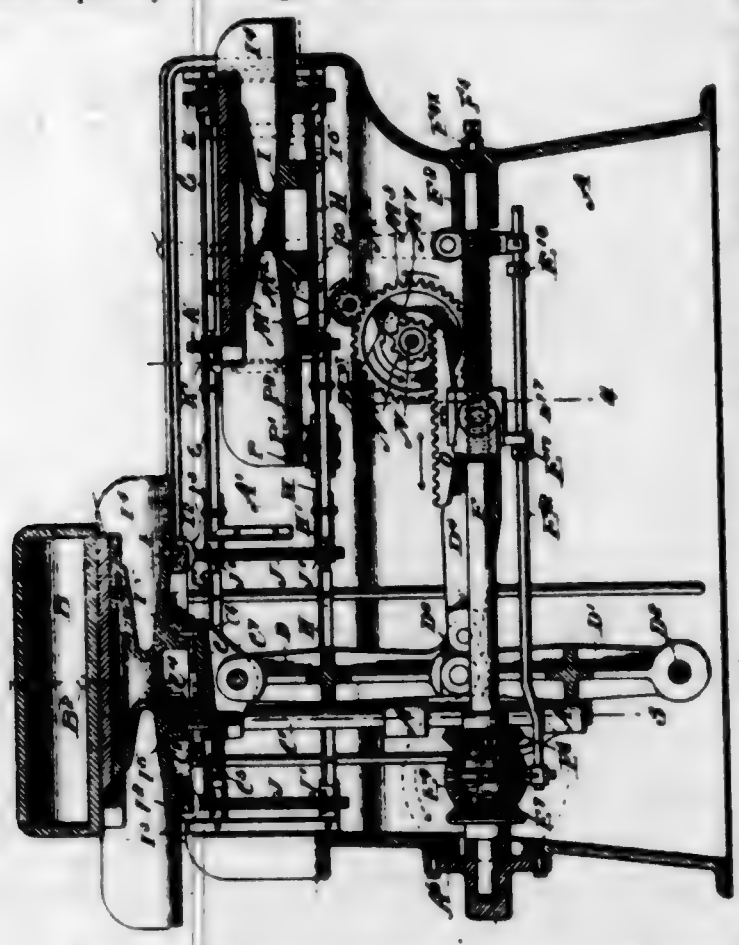


Claim.—A bottle-seal comprising an elastic ring having two free ends overlapping each other, a lock having sliding engagement with the free ends of the ring, a wire spring hinged to said ring, a plug connected to said wire spring, and a handle on said plug.

805,049. BOSOM-PRESS. THOMAS S. WILDE, Albany, N. Y. Filed Feb. 8, 1904. Serial No. 192,617.

Claim.—1. The combination of a fixed presser device, a movable pressure device, a track extending between said devices, a work-holding device, and means for immovably connecting said work-holding device with said pressure device.

2. The combination of a fixed presser device, a movable pressure device, a track extending between said devices, a movable work-holder, and means on the movable pressure device for immovably and temporarily connecting the said work-holder therewith.



3. The combination of a fixed presser device, a movable pressure device, a track extending between said devices, a work-holding device, and means for automatically and immovably connecting said work-holder with said pressure device.

4. The combination of a fixed presser device, a coacting movable pressure device, and two sets of tracks extending to and between said presser and pressure devices.

5. The combination of a fixed presser device, a coacting movable pressure device, and two sets of tracks extending to and between said presser and pressure devices, one of said tracks having openings whereby trucks may be transferred from one track to another.

6. The combination of a fixed presser device, a coacting movable pressure device, two sets of tracks, one having transfer-openings, and transfer-guiding track-sections extending from one of said tracks to the other.

7. The combination of a fixed presser device, a coacting movable pressure device, two sets of tracks, one having transfer-openings and transfer-guiding track-sections extending from one of said tracks to the other, one of said guiding track-sections, being shorter than the distance from one of said tracks to the other.

8. As a means for presenting an article to the operation of fixed and movable pressing devices, two tracks one above the other, trucks adapted to travel upon said tracks, and a series of vertical truck-guides depending from the upper tracks, the intermediate guides being shorter than the terminal guides.

9. As a means for presenting articles to the operation of fixed and movable pressing devices, a plurality of movable article-supporting devices at a point beneath the fixed presser device, and a plurality of tracks constructed and adapted to permit the transfer of said article-supporting devices from one track to another.

10. The combination with a fixed presser device, a movable pressure device, a track extending to and between said devices for presenting a work-holding device, a track extending from said presser and pressure devices for withdrawing a work-holding device, and means for securing said work-holding device from movement relative to said pressure device when in contact therewith.

11. The combination with a fixed presser device, a movable pressure device, a plurality of tracks, a plurality of trucks adapted to said tracks, means for forcing a truck and said pressure device toward said presser device, and means for transferring a truck from one of said tracks to another.

12. The combination with a fixed presser device, a movable pressure device, a plurality of tracks, a plurality of trucks adapted to said tracks, means for forcing a truck and pressure device toward said presser device, and means for automatically transferring a truck from one of said tracks to another.

13. The combination with a fixed presser device, a movable pressure device, a plurality of tracks, a plurality of trucks adapted to said tracks, means for forcing a truck and said pressure device toward said presser device, and means for simultaneously transferring trucks in opposite directions from one track to another.

14. The combination with a fixed presser device, a movable pressure device, a plurality of tracks, a plurality of trucks adapted to said tracks, means for forcing a truck and pressure device toward said presser device, and means for simultaneously and automatically transferring trucks in opposite directions from one track to another.

15. The combination of a fixed presser device, a movable pressure device, a plurality of tracks and trucks, and means for transferring said trucks from one track to another said means being operatively connected with the movable pressure device operating mechanism.

16. The combination with a fixed presser device, a movable pressure device and its operating mechanism, a plurality of work-holding devices, and their supporting and guiding means, of means for transferring said work-holding devices, and means for rendering the latter means successively operative and inoperative.

17. The combination with a fixed presser device, a movable pressure device and its operating mechanism, a plurality of work-holding devices and their supporting and guiding means, of means for transferring said work-holding devices, and means for rendering the latter means inoperative during one movement of said pressure device.

18. The combination of a fixed presser device, a movable pressure device, a plurality of independent, separate, interposable, work-holding devices, and means for transferring the latter to separate supports for movement to and from said presser and pressure devices.

19. The combination of a fixed presser device, a movable pressure device and its operating mechanism, a plurality of tracks, a plurality of work-holding devices adapted to move thereon, transferring mechanisms extending from one of said tracks to another, and means for moving said transferring mechanisms in opposite directions.

20. The combination of fixed and movable pressing devices, tracks leading to, between and from said devices, work-holding devices, and means for transferring the latter at the ends of said tracks beneath the fixed presser device.

21. As a means of transferring work-holding devices, adapted to move upon tracks, endless chains having track-section links.

22. As a means of transferring work-holding devices adapted to move upon tracks, endless chains having track-section links, and means for moving said chains a predetermined distance.

23. The combination of a fixed presser device, a reciprocating pressure device having pins, and a work-holding device having recesses for the automatic reception and retraction of said pins.

24. The combination of a fixed presser device, a movable pressure device having pins, an interposed adjusting-plate slotted for the passage therethrough of said pins, and a work-holding device having recesses for the automatic reception and retraction of said pins.

25. The combination of a fixed and a relatively movable pressing device, a movable work-holding device, tracks for the latter, shafts parallel with said tracks, sprockets on said shafts bearing chains having track-section links, and a gearing for changing the relative direction of rotation of said shafts.

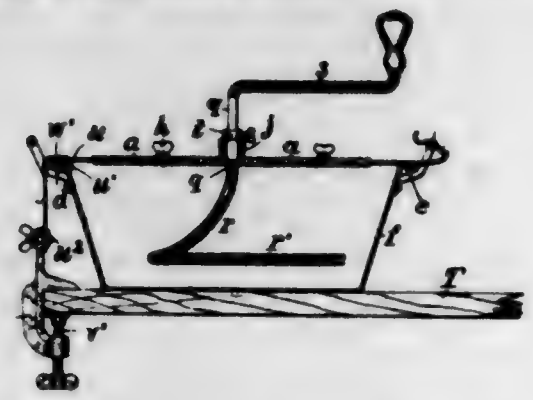
26. The combination of a fixed and a relatively movable pressing device the latter having guiding means and toggle-levers, a threaded shaft having a nut, connecting-rods extending from said nut to said toggle-levers, a rack secured to said nut, ratchet-driving mechanism operated by said rack, and work-holding supporting and moving devices, operatively connected with said ratchet-driving mechanism.

27. The combination of a threaded shaft having a nut and rack, a rack-meshing pinion, a pawl-arm and pawl, a ratchet-gear, a worm and pinion, the latter meshing with said ratchet-gear, and sprocket-shafts carrying endless chains and having a gear meshing with said worm.

28. The combination of a fixed presser device, two tracks, a truck upon each track, and a movable pressure device adapted to move either of said trucks against said presser device.

29. The combination of a fixed presser device, two tracks, one having transfer-openings, a truck upon each of said tracks, and a movable pressure device having a travel in a path extending from the lower of said tracks to a point to bring either of said trucks against said presser device.

805,050. BREAD-MIXER. FREDERIC BAER, Brooklyn, N. Y. Filed Nov. 18, 1904. Serial No. 233,030.



Claim.—1. A dough-mixing apparatus comprising a stirrer with a crank for turning the same, a bearing-bar having a bearing for the stirrer, slides secured adjustably to opposite ends of the bearing-bar, and provided with means to engage the opposite ends of the bread-pan, and a clamp applied to one of such slides with means for attaching the clamp to the table.

2. A dough-mixing apparatus comprising a stirrer with a crank for turning the same, a bearing-bar having a bearing for the stirrer, slides secured adjustably to opposite ends of the bearing-bar, one of the slides having a hole near the end, and a bracket-clamp having adjustable means for attachment to the table, and a stud fitted to the hole in the slide.

3. A dough-mixing apparatus comprising a bearing-bar having a lateral notch *k* for the passage of the spindle, a stirrer having a spindle with a bearing and adjusting-collar arranged permanently thereon, the stirrer projecting laterally from the spindle below the bearing and having a hand-crank projecting laterally above the bearing, means for securing the bearing detachably to the bearing-bar with the spindle in the notch, means upon the ends of the bearing-bar for securing it upon the pan, and the hand-crank serving to rotate the spindle and the stirrer.

4. A dough-mixing apparatus comprising the bearing-bar *a* having the socket *i* in the center with lateral opening *k* extended therefrom through the side of the bar, the stirrer having a spindle *q* with a bearing *l* arranged permanently thereon, the stirrer projected laterally from the spindle below the bearing and a hand-crank projecting laterally from the spindle above the bearing, thus preventing its removal from the spindle, means for securing the bearing detachably in the socket *i* with the spindle in the notch, and means upon the ends of the bearing-bar for securing it upon the pan.

5. A dough-mixing apparatus comprising the bearing-bar *a* with a socket in the center, a bearing *l* fitted detachably to the socket, the slides *c* fitted adjustably to the opposite ends of the bearing-bar, a stirrer having a spindle fitted to slide vertically in the bearing with a collar for supporting the stirrer at different heights within the pan, and the spindle provided with a crank for rotating the stirrer.

6. A dough-mixing apparatus comprising the bearing-bar *a* with a tapering socket in the center, the conical bearing *l* fitted detachably to the socket, the slides *c* fitted adjustably to the opposite ends of the bearing-bar, a stirrer having a spindle adjustable vertically in the bearing with a collar for supporting the stirrer at different heights within the pan, and the spindle having a crank for rotating the stirrer.

7. A dough-mixing apparatus comprising a bearing-bar with a socket in the center having lateral opening extended through the side of the bar, a bearing fitted detachably to the socket, slides fitted adjustably to the opposite ends of the bearing-bar, one of such slides provided with a lock to retain the bearing in the socket, and a stirrer having a spindle fitted to the socket with a crank for turning the same.

8. A dough-mixing apparatus comprising a bearing-bar having a socket in the center with lateral opening extended through the edge of the bearing-bar, a bearing fitted to the socket with a rib fitted to the opening and a notched lug extended below the bearing-bar, a slide fitted adjustably to one end of the bearing-bar and provided with a tongue to engage the notched lug, and a stirrer having a spindle fitted to the bearing and provided with a crank for turning the same.

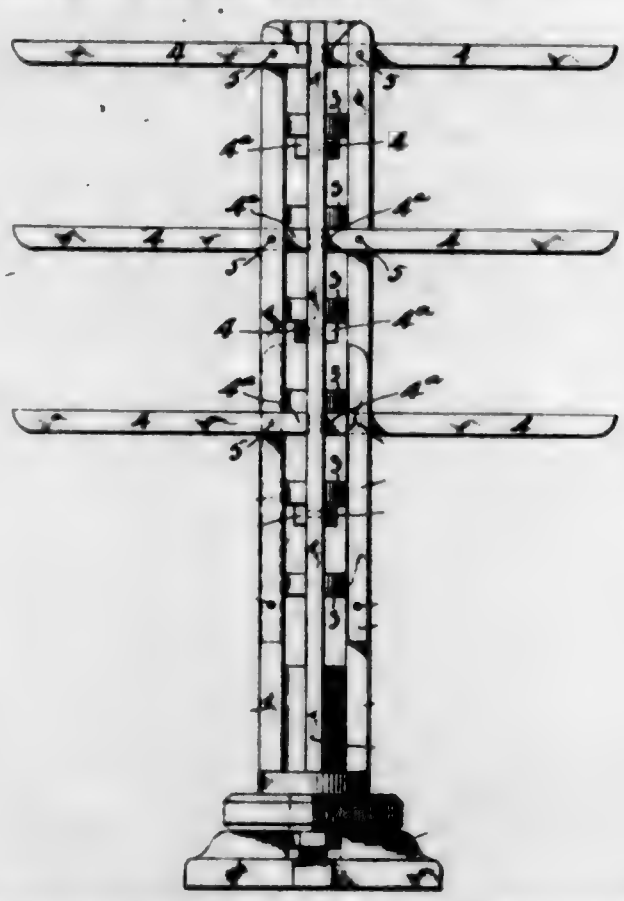
9. A dough-mixing apparatus comprising a bearing-bar having the tapering socket *i* in the center with an opening extended through the edge of the bearing-bar, the bearing *l* fitted to the socket, a slide fitted adjustably to one end of the bearing-bar and provided with means for locking the bearing in the socket, a stirrer having a spindle movable vertically in the bearing and provided with a crank for turning the stirrer, and a collar adjustable upon the spindle above the bearing to support the stirrer at various heights below the bearing-bar.

10. A dough-mixing apparatus comprising a bearing-bar with a socket in the center having a lateral opening extended through the side of the bar, a bearing fitted detachably to the socket, slides fitted adjustably to the opposite ends of the bearing-bar with hooks upon their ends for engaging a flange upon the stirring-pan, one of such slides provided with a lock to retain the bearing in the socket, a stirrer having a spindle fitted to the socket with a crank for turning the same, and a lever having a lug and pivoted upon the under side of the bar to press the lug upon the inner wall of the pan, as and for the purpose set forth.

11. In a dough-mixer, a stirrer formed of one rod of metal, comprising the spindle *q* with the hand-crank *s* at the upper end and the offset *q'* at the lower end of the spindle, with the bearing *l* and adjustable collar *t* fitted permanently to the spindle, between such crank and offset, the arm *r* curved downwardly from the offset and the prong *r'* reflexed from the arm at right angles to the spindle and at right angles from the offset, whereby the stirrer is bent in two distinct planes, and the prong *r'* forms a loop at its junction with the arm *r*.

12. In a dough-mixer, a stirrer formed of one rod of metal, comprising the spindle *q* with the hand-crank *s* at its upper end and the offset *q'* at right angles to the crank, with the bearing *l* and adjustable collar *t* fitted between the crank and offset, the arm *r* curved downwardly and laterally from the offset, and the reflexed prong *r'* extended at right angles to the spindle and at right angles to the offset and parallel with the crank, forming a loop at its junction with the arm *r*, and the stirrer thus being bent in two planes, as and for the purpose set forth.

805,051. CLOTHES-TREE. MOSES BIDWELL, Brooklyn, N. Y. Filed Apr. 11, 1905. Serial No. 255,089.



Claim.—A clothes-tree comprising, a skeleton-like body composed of a plurality of separate upright members, stop-blocks at frequent intervals between said members spacing them apart and rigidly connecting the same, swinging arms pivoted near their ends to said upright members adjacent to said stop-blocks, the inner ends of said arms engaging said blocks when the former are swung outwardly.

805,052. GARMENT. MYRON W. BROOKS, Herkimer, N. Y., assignor of one-half to Henry M. Quackenbush, Herkimer, N. Y. Filed Feb. 23, 1905. Serial No. 246,822.

Claim.—1. A knitted-fabric garment for the head, open at the top and bottom and elastic around the top opening to hold the garment at various adjustments on the head, and whereby the garment can be rolled around the neck and drawn up at the back of the head.

2 A fabric head-covering open at the top and bottom and elastic at the top portion to hold the covering at various adjustments on the head, and whereby the covering can be rolled around the neck and drawn up at the back of the head, said covering having a front depending flap to form a chest-protector, substantially as described.

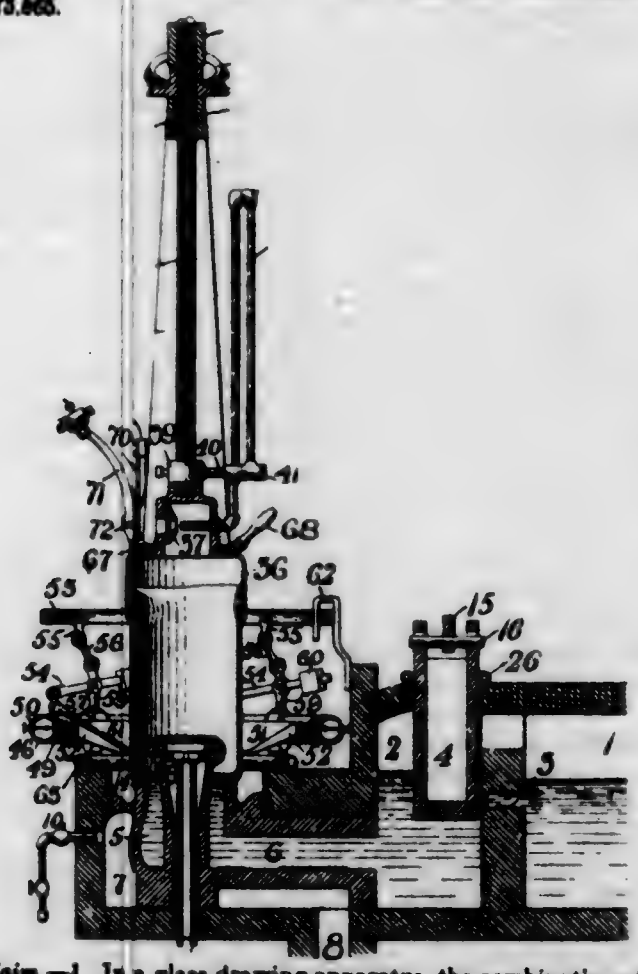


3. A head-covering open at the top and bottom and hemmed around the top opening, whereby the garment can be adjusted vertically to various positions on the head or around the neck, said garment having a front opening for the eyes and a loosely-hanging front portion, substantially as and for the purposes described.

4. A knitted-fabric head-covering open at the top and bottom and provided with elastic means around the top opening to hold the covering in various adjustments on the head or around the neck, said covering having an eye-opening and the depending loose-front portion, substantially as described.

5. A knitted-fabric head-covering open at the top and bottom and elastic at the top opening to hold the covering at various adjustments on the head, and whereby the covering can be rolled around the neck and drawn up at the back of the head, said covering having an eye-opening, substantially as described and shown.

805,053. GLASS-DRAWING APPARATUS AND PROCESS. IRVINE W. COLBURN, Franklin, Pa. Filed Sept. 19, 1900. Serial No. 175,865.



Claim.—1. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, with means for drawing the glass, and means maintaining the molten glass at an approximately constant level in said receiving chamber or pot as the glass is being drawn.

2. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, with means for maintaining an overflow of the glass at the lip or upper margin of the receiving chamber or pot, and means for drawing the glass as it flows from said lip or margin.

3. In a glass-drawing apparatus, the combination of a glass melting or refining chamber, a receiving chamber or pot, means leading the molten glass from the refining-chamber to the receiving-chamber, means for drawing the glass from the receiving-chamber, and means maintaining the molten glass at an approximately constant level in the receiving-chamber as the same is being drawn.

4. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, and means for drawing the glass, with means for maintaining the glass at an approximately constant level in said receiving chamber or pot as the glass is being drawn, and a cooling device or devices located a predetermined distance above the surface of the molten glass.

5. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, and means for drawing the glass, with means for maintaining the molten glass at an approximately constant level in said receiving chamber or pot as the glass is being drawn, and glass-cooling means adjacent to the opposite surfaces of the drawn glass.

6. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, and means for drawing the glass, with a displacement element for controlling the level of the molten glass in said receiving chamber or pot.

7. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, and means for drawing the glass, with a displacement element for controlling the level of the molten glass in said receiving chamber or pot, and means for operating said element.

8. In a glass-drawing apparatus, the combination of a melting or refining chamber, a receiving chamber, a delivery-chamber interposed between the melting and receiving chambers, and conduits connecting said chambers in series, with means for drawing the glass from the receiving-chamber, and displacement means in the delivery-chamber whereby the level of the glass in the receiving-chamber is controlled.

9. In a glass-drawing apparatus, the combination of a receiving chamber or pot, an overflow lip or edge on said pot, means causing the glass to flow over said lip, a bait drawing the overflow-glass from said lip, and means simultaneously cooling both surfaces of the glass as drawn.

10. In a glass-drawing apparatus, the combination of a stationary receiving chamber or pot to contain the molten glass to be drawn, means for drawing a cylinder from said pot, a heating device surrounding the base of the cylinder, and means leading air under pressure within said cylinder, whereby the base of the cylinder may be softened and separated from the pot.

11. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, with means for drawing a cylinder of glass from said pot, and means maintaining the molten glass at an approximately constant level in said receiving chamber or pot as the cylinder is being drawn.

12. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, with means for maintaining an overflow of the glass at the lip or upper margin of the receiving chamber or pot, and means for drawing a cylinder of glass as it flows from said lip or margin.

13. In a glass-drawing apparatus, the combination of a glass melting or refining chamber, a receiving chamber or pot, means leading the molten glass from the refining-chamber to the receiving-chamber, means for drawing a cylinder of glass from said receiving-chamber, and means maintaining the molten glass at an approximately constant level in the receiving-chamber as the same is being drawn.

14. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, and means for drawing a cylinder of glass therefrom, with means for maintaining the molten glass at an approximately constant level in said receiving chamber or pot as the cylinder is being drawn, and a cooling device or devices located a predetermined distance above the surface of the molten glass.

15. In a glass-drawing apparatus, the combination of a receiving chamber or pot for holding the bath of molten glass, means for drawing a cylinder of glass from said pot, means for maintaining the molten glass at an approximately constant level in said receiving chamber or pot as the cylinder is being drawn and glass-cooling means adjacent to the exterior and interior surfaces of said cylinder.

16. In a glass-drawing apparatus, the combination of a receiving chamber or pot, an overflow lip or edge on said pot, means constantly maintaining the molten glass at the top of said lip or edge, a cylindrical bait receiving the glass at said lip or edge, whereby a cylinder of glass is drawn, and means simultaneously cooling both surfaces of the cylinder as drawn.

17. The improvement in the art of glass-working which consists in causing a portion of molten glass to continuously overflow from the container therefor, continuously drawing said overflow portion as it overflows and continuously cooling the glass as drawn.

18. The improvement in the art of glass-working which consists

in causing a portion of the molten glass to continuously overflow from the container therefor, and continuously drawing said overflow portion as it overflows.

19. The improvement in the art of glass-working which consists in causing a portion of molten glass to continuously overflow from the container therefor, continuously drawing the said portion as it overflows and continuously cooling the glass as drawn at a point adjacent to its overflow.

20. The improvement in the art of glass-working which consists in causing a portion of molten glass to continuously overflow from the container therefor, continuously drawing the said portion as it overflows and simultaneously cooling the glass on both sides as drawn.

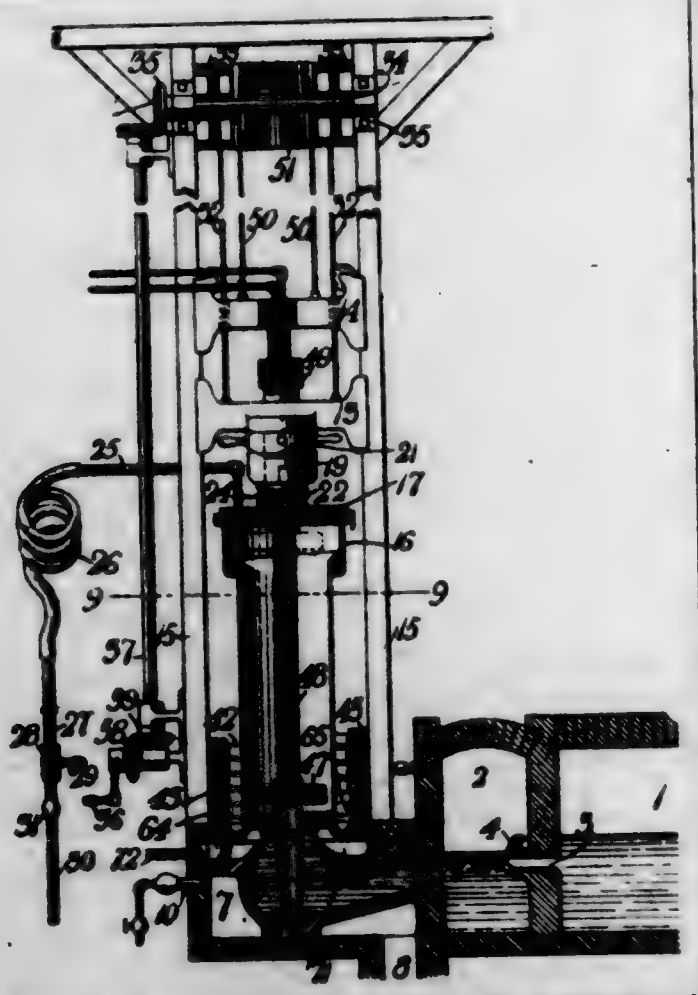
21. The improvement in the art of glass-working which consists in causing a portion of molten glass to continuously overflow from the container therefor, continuously drawing the said portion as it overflows and simultaneously cooling the glass on both sides as drawn at a point adjacent to the overflow.

22. The improvement in the art of glass-working which consists in drawing a cylinder of glass from a molten mass of glass, heating the base of the cylinder till it is softened and then separating the cylinder from the molten mass by air-pressure introduced within the cylinder.

23. The improvement in the art of glass-working which consists in causing a portion of molten glass to continuously overflow from the container therefor, drawing the said portion in cylindrical form as it overflows, and subjecting the cylinder to internal gas-pressure during the drawing operation.

24. The improvement in the art of glass-working which consists in causing molten glass to continuously overflow from the container therefor, drawing the overflow-glass into tubular form and simultaneously cooling the tube on the exterior and interior as the drawing proceeds.

805,054. GLASS-WORKING APPARATUS. IRVING W. COLBURN, Franklin, Pa. Filed Oct. 1, 1905. Serial No. 281,375.



Claim.—1. In a glass-drawing apparatus, the combination of glass-drawing devices, a melting or refining chamber, a receiving chamber or pot, a delivery-chamber intermediate the refining and receiving chambers, means supplying compressed air to the upper part of the delivery-chamber, and a valve controlling the flow of molten glass from the melting-chamber to the delivery-chamber.

2. In a glass-drawing apparatus, the combination of glass-drawing devices, a melting or refining chamber, a receiving chamber or pot, a delivery-chamber intermediate the refining and receiving chambers, means supplying compressed air to the upper part of the delivery-chamber, and a valve automatically controlling the flow of molten glass from the melting-chamber to the delivery-chamber.

3. In a glass-drawing apparatus, the combination of glass-drawing devices, a melting or refining chamber, a receiving chamber or pot, a delivery-chamber intermediate the refining and receiving chambers, means acting under pressure in the delivery-chamber to automatically close communication between said chamber and the melting-chamber, and means supplying compressed air to the delivery-chamber.

4. In a glass-drawing apparatus, the combination of glass-drawing devices, a melting or refining chamber, a receiving chamber or pot, a delivery-chamber intermediate the refining and receiving chambers, means acting under pressure in the delivery-chamber to automatically close communication between said chamber and the melting-chamber, means supplying compressed air to the delivery-chamber, and a device for regulating the tension of the compressed-air supply.

5. In a glass-drawing apparatus, the combination of a chamber or pot for molten glass and having an overflow margin or lip, with means for heating the chamber or pot with its contained charge of glass, and independent means for heating said overflow margin or lip, whereby the margin or lip may be maintained at a higher temperature than the glass within the pot.

6. In a glass-drawing apparatus, the combination of a chamber or pot for molten glass and having an overflow margin or lip, a heating chamber or furnace surrounding the main body of the said pot, and a second heating chamber or furnace for heating the margin or lip, whereby the said margin or lip may be maintained at a higher temperature than the glass within said pot.

7. In a glass-drawing apparatus, the combination of a chamber or pot for the molten glass, a bait for drawing the glass therefrom, and an annular groove or trough surrounding the upper margin or lip of said chamber.

8. In a glass-drawing apparatus, a chamber or pot or receptacle containing molten glass, an annular bait for drawing a cylinder of glass therefrom, a vertically-adjustable cooling device within said cylinder, and vertically-reciprocating supports for said bait and cooling device.

9. In a glass-drawing apparatus, the combination of a pot or receptacle containing molten glass, an annular bait for drawing a cylinder of glass therefrom, a cooling device within said cylinder a vertically-moving cross-head supporting said bait, another vertically-moving cross-head supporting said cooling device, and guides or ways for said cross-heads.

10. In a glass-drawing apparatus, the combination of a pot or receptacle containing molten glass, a vertically-reciprocating cross-head, a bait-plate carried by said cross-head, a bait removably secured to said plate, guides or ways for said cross-head, and means for moving the cross-head in said ways.

11. In a glass-drawing apparatus, the combination of a pot or receptacle containing molten glass, a vertically-reciprocating cross-head, a bait-plate carried by said cross-head, means admitting compressed air through said plate, a bait removably secured to said plate, guides or ways for said cross-head, and means for moving the cross-head in said ways.

12. In a glass-drawing apparatus, the combination of a pot or receptacle containing molten glass, a bait drawing a cylinder of glass from said pot, an interior cooling-ring, a support for said cooling-ring concentric with said bait, and means independently reciprocating said bait and cooling-ring.

13. In a glass-drawing apparatus, the combination of a pot or receptacle containing molten glass, an annular bait for drawing a cylinder of glass therefrom, a cross-head reciprocating in ways above said pot, a cooling device within said cylinder, a tubular support for said cooling device carried by said cross-head, and inlet and outlet conduits located within said tubular support and leading to and from said cooling device

14. In a glass-drawing apparatus, the combination of a pot or receptacle for molten glass, an annular cooling device and an annular heating device adjacent to but slightly above the mouth of said pot or receptacle, and vertically-adjustable supports for said cooling and heating devices.

15. In a glass-drawing apparatus, the combination of a pot or receptacle for molten glass, an annular bait for drawing a cylinder of glass therefrom, vertical guideways adjacent to said pot, an interior and an exterior cooling device for said cylinder, said bait and both of said cooling devices being adjustable on said guideways.

16. In a glass-drawing apparatus, the combination of a pot or receptacle for molten glass, an annular bait for drawing a cylinder of glass therefrom, vertical guideways adjacent to said pot, an in-

terior and an exterior cooling device for said cylinder, an exterior heating device, said bait-heating device and both of said cooling devices being adjustable on said guideways.

17. The improvement in glass-working which consists in preparing a mass of molten glass, drawing a cylinder of glass therefrom while maintaining the level of the molten glass approximately constant by applied pressure, then removing the pressure whereby the level of the molten glass is permitted to drop away from the point at which the cylinder is being drawn and severing the bottom of the cylinder by the application of internal pressure.

18. The improvement in the art of glass-working which consists in preparing a mass of molten glass, drawing a cylinder of glass therefrom, maintaining the level of the molten glass approximately constant during the drawing operation by the application of pressure, then withdrawing the pressure, thereby permitting the level of the glass to lower or drop away from the base of the cylinder and severing the base of the cylinder by internal pressure and heat externally applied to the base of the cylinder.

19. The improvement in the art of glass-working which consists in preparing a mass of molten glass, drawing a cylinder of glass therefrom, maintaining the level of the molten glass approximately constant during the drawing of the cylinder, then permitting the level of the molten glass to recede and severing the base of the cylinder therefrom by simultaneously applying internal pressure to the cylinder and heat to the external portion of the base of said cylinder.

20. The improvement in the art of glass-working which consists in preparing a mass of molten glass, drawing a cylinder of glass therefrom while maintaining the surface of the molten glass approximately constant, and then severing the cylinder from the mass of molten glass by lowering the surface of the molten glass and simultaneously increasing the internal pressure within the cylinder and applying external heat to the base of said cylinder.

21. The improvement in the art of glass-working which consists in preparing a mass of molten glass, drawing a cylinder of glass therefrom, maintaining the surface of the molten glass approximately constant during the drawing operation by pressure applied to the molten glass and then severing the base of the drawn cylinder from the base of the molten glass by withdrawing the pressure from said molten glass and simultaneously increasing the internal pressure within the drawn cylinder and applying heat to the external surface of the base of the cylinder.

22. In a glass-furnace, the combination of a melting-chamber, a fluid-pressure chamber, a drawing or gathering chamber, passages connecting the said chambers, to permit the flow of molten glass from one to the other, and fluid-pressure devices for driving the glass into the drawing or gathering chamber, said pressure acting directly upon the molten glass, substantially as specified.

805,055. GLASS-DRAWING APPARATUS. IRVING W. COLBURN, Franklin, Pa. Filed Apr. 22, 1904. Serial No. 204,435.

Claim.—1. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, a conduit leading to the interior of said cylinder while it is being drawn, and means supplying a gradually-increasing fluid-pressure to the said conduit during the drawing operation.

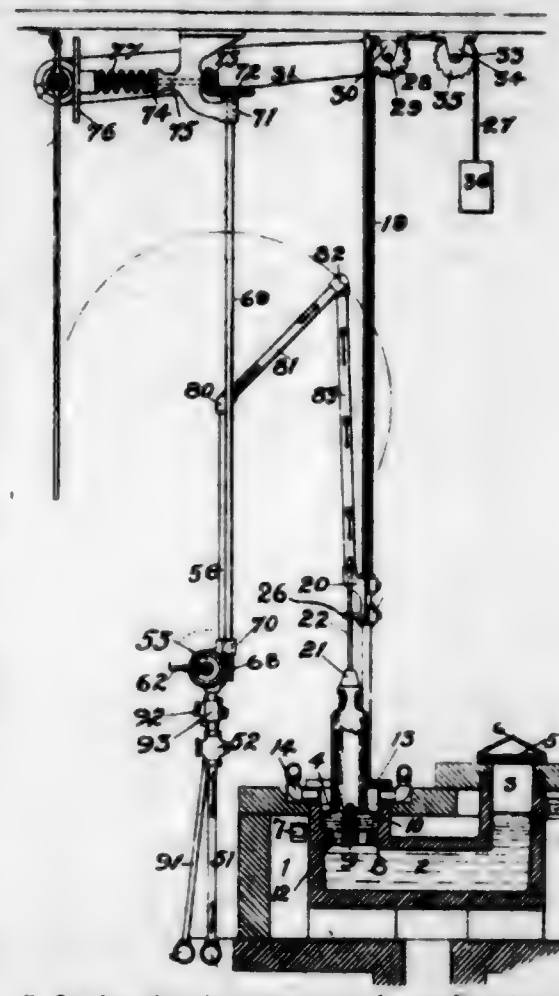
2. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, a port through which fluid-pressure is supplied to the interior of the cylinder, and means gradually increasing said interior pressure per unit of surface during the drawing operation.

3. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, a port through which fluid-pressure is supplied to the interior of the cylinder, and means increasing said interior pressure per unit of surface in proportion as the length of the cylinder increases.

4. In glass-drawing apparatus, the combination of a receptacle for molten glass, means for drawing a cylinder therefrom, a source of fluid-pressure, means maintaining said pressure approximately constant, and a conduit leading from said source of fluid-pressure to the interior of the cylinder during the drawing operation.

5. In glass-drawing apparatus, the combination of a receptacle for molten glass, means for drawing a cylinder therefrom, a source of fluid-pressure, means maintaining said pressure approximately constant, a conduit leading from said source of fluid-pressure to the interior of the cylinder during the drawing operation, and means for varying the degree of pressure within the cylinder during the drawing operation.

6. In glass-drawing apparatus, the combination of a receptacle for molten glass, means for drawing a cylinder therefrom, a source of fluid-pressure, means automatically maintaining said fluid-pressure approximately constant, a conduit leading from said source of fluid-pressure to the interior of the cylinder during the drawing operation, and means for varying the degree of fluid-pressure within the cylinder during the drawing operation.



7. In glass-drawing apparatus, the combination of a receptacle for molten glass, means for drawing a cylinder therefrom, a source of fluid-pressure, means automatically maintaining said fluid-pressure approximately constant, a conduit leading from said source of fluid-pressure to the interior of the cylinder during the drawing operation, and automatic means for varying the degree of fluid-pressure within the cylinder during the drawing operation.

8. In glass-drawing apparatus, the combination of a receptacle for molten glass, means for drawing a cylinder therefrom, a source of fluid-pressure, means maintaining said fluid-pressure approximately constant, a conduit leading from said source of fluid-pressure to the interior of the cylinder during the drawing operation, means limiting the pressure per unit of surface reaching the cylinder at the beginning of the drawing operation, and means increasing the pressure per unit of surface in the cylinder during the drawing operation.

9. In glass-drawing apparatus, the combination of a receptacle for molten glass, means for drawing a cylinder therefrom, a source of fluid-pressure, a conduit leading from said source of pressure to the interior of said cylinder, a vent-port in said conduit, a valve controlling said port, and means controlled by the conduit-pressure and actuating said valve.

10. In glass-drawing apparatus, the combination of a receptacle for molten glass, means for drawing a cylinder therefrom, a source of fluid-pressure, a conduit leading from said source of pressure to the interior of said cylinder, a vent-port in said conduit, a valve controlling said port, and means controlled by the fluid-pressure from the conduit at a point beyond the vent-valve and actuating said valve.

11. In glass-drawing apparatus, the combination of a receptacle for molten glass, means for drawing a cylinder from said receptacle, a source of fluid-pressure, a conduit leading therefrom and in which the pressure is maintained approximately constant, a branch pipe leading from said conduit to the interior of the cylinder being drawn, a vent-port in said branch pipe, and means gradually closing said vent-port as the cylinder is drawn.

12. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, and means for exhausting the air or other fluid at will from the interior of said cylinder.

13. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, means for supplying fluid under pressure to the interior of the cylin-

der as drawn, and means exhausting the fluid from the interior of said cylinder at the close of the drawing operation.

14. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, a port leading to the interior of said cylinder, and a source of fluid-pressure and an exhaust device each separably connected to said port.

15. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, a body of refractory material projecting above the surface of the molten glass within said cylinder, a port leading to the interior of said cylinder, and a source of fluid-pressure and an exhaust device each separably connected to said port.

16. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, a port leading to the interior of said cylinder, means for supplying a gradually-increasing pressure per unit of surface to the interior of said cylinder, and an exhaust device, said pressure-supply and exhaust device being each separably connected to said port.

17. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, a solid body of refractory material projecting above the surface of the molten glass within said cylinder, and means for exhausting the air or other fluid from the interior of said cylinder, whereby at the close of the drawing operation the cylinder may be drawn to a point in contact with and then off of said solid body and thus severed from the mass of molten glass.

18. In glass-drawing apparatus, the combination of a receptacle containing molten glass, means for drawing a cylinder therefrom, means supplying fluid under pressure within said cylinder as drawn, a solid body of refractory material projecting above the surface of the molten glass within the cylinder, and means for exhausting the air or other fluid from the interior of said cylinder at the close of the drawing operation.

19. In glass-drawing apparatus, the combination of a closed receptacle for molten glass, a filling-opening and a plurality of working openings, with means for drawing a cylinder of glass from said working openings, and a floating body of refractory material in each of said working openings and central to the cylinder as drawn.

20. In glass-drawing apparatus, the combination of a receptacle for molten glass, a working opening therein, a floating body of refractory material in and filling the working opening, ports through said body for the passage of the molten glass, and an upwardly-projecting central point on said body.

21. In glass-drawing apparatus, the combination of a receptacle for molten glass, a working opening therein, a floating mass of refractory material in said opening, means normally restraining the body of said mass below the surface of the molten glass, and a central point on said mass projecting above the surface of the glass.

22. In glass-drawing apparatus, the combination of a closed receptacle for molten glass, a filling-opening therein for supplying molten glass thereto, a plurality of working openings, means for closing the several openings, and means for heating the glass in said receptacle.

23. In glass-drawing apparatus, the combination of a closed receptacle for molten glass, a filling-opening for supplying molten glass thereto, a plurality of working openings thereinto, and means for heating the glass in the body of said receptacle, and other means for heating the glass in said working openings.

24. In a glass-drawing apparatus, the combination of a closed receptacle for molten glass, a filling-opening for supplying molten glass thereto, a plurality of working openings thereinto and means for drawing cylinders of glass from said openings, and a floating body of refractory material located in each working opening and central to the cylinder as drawn.

25. In glass-drawing apparatus, the combination of a closed receptacle for molten glass, a filling-opening for supplying molten glass thereto, a plurality of working openings thereinto, and a floating body of refractory material having a portion projecting above the surface of the molten glass at the center of each working opening.

26. In glass-drawing apparatus, the combination of a receptacle for molten glass, a vertically-reciprocating cross-head having a bait-support thereon, a tubular bait carried by said support, an air-conduit one end of which is carried by said cross-head, and means separably connecting said conduit and tubular bait.

27. In glass-drawing apparatus, the combination of a receptacle containing molten glass, a vertically-reciprocating cross-head having a plurality of bait-supports thereon, a tubular bait carried by one of said supports, an air-conduit one end of which is carried by said cross-head, and means separably connecting said conduit to said tubular bait when the latter is carried by either bait-support.

28. In glass-drawing apparatus, the combination of a receptacle for molten glass, a plurality of working openings therein, a vertically-reciprocating cross-head above said receptacle, a plurality of bait-supports on said cross-head, an air-conduit one end of which is carried by said cross-head, a tubular bait carried by one of said supports, and means separably connecting said bait and conduit.

29. The improvement in the art of glass-working which consists in preparing a mass of molten glass, drawing a cylinder of glass therefrom, subjecting the interior of the cylinder to gradually-increasing fluid-pressure during the drawing operation, and then severing the drawn cylinder from the molten mass.

30. The improvement in the art of glass-working which consists in drawing a cylinder from a mass of molten glass, subjecting the interior of the cylinder to atmospheric pressure at the beginning of the drawing operation, and then gradually increasing the interior pressure as the drawing operation proceeds.

31. The improvement in the art of glass-working which consists in drawing a cylinder from a mass of molten glass, subjecting the interior of the cylinder to constantly-increasing fluid-pressure as the drawing proceeds, then reducing the interior pressure below atmospheric pressure, and severing the cylinder from the molten mass.

32. The improvement in the art of glass-working which consists in drawing a cylinder from a mass of molten glass, subjecting the interior of the cylinder to fluid-pressure which pressure increases per unit of cylinder-surface in proportion as the length of the cylinder increases, and then severing the cylinder from the molten mass.

33. The improvement in the art of glass-working which consists in drawing a cylinder from a mass of molten glass, subjecting the interior of the cylinder to a fluid-pressure which increases per unit of surface during the drawing operation, then severing the cylinder from the molten mass.

34. The improvement in the art of glass-working which consists in drawing a cylinder from a mass of molten glass, subjecting the interior of the cylinder to a fluid-pressure which increases per unit of surface in proportion to the increase in the length of the cylinder, then reducing the interior pressure below atmospheric pressure and severing the cylinder from the molten mass.

35. The improvement in the art of working glass which consists in drawing a cylinder from a mass of molten glass, subjecting the interior of the cylinder to a fluid-pressure which gradually increases per unit of surface during the drawing operation, then reducing the interior pressure below atmospheric pressure and severing the cylinder from the molten mass.

36. The improvement in the art of glass-working which consists in drawing a cylinder from a mass of molten glass, subjecting the same to internal pressure during the drawing operation, then exhausting the air from the drawn cylinder, while continuing the drawing operation, thereby drawing the lower end of the cylinder to a point, and then severing the cylinder from the molten mass.

37. The improvement in the art of glass-working which consists in drawing a cylinder from a molten mass with an interior pressure not less than atmospheric pressure and then reducing the interior pressure below atmospheric pressure at the last end of the drawing operation, whereby the last end of the cylinder will be drawn to a point and severed from the molten mass.

805,056. PROCESS AND APPARATUS FOR DRAWING GLASS.

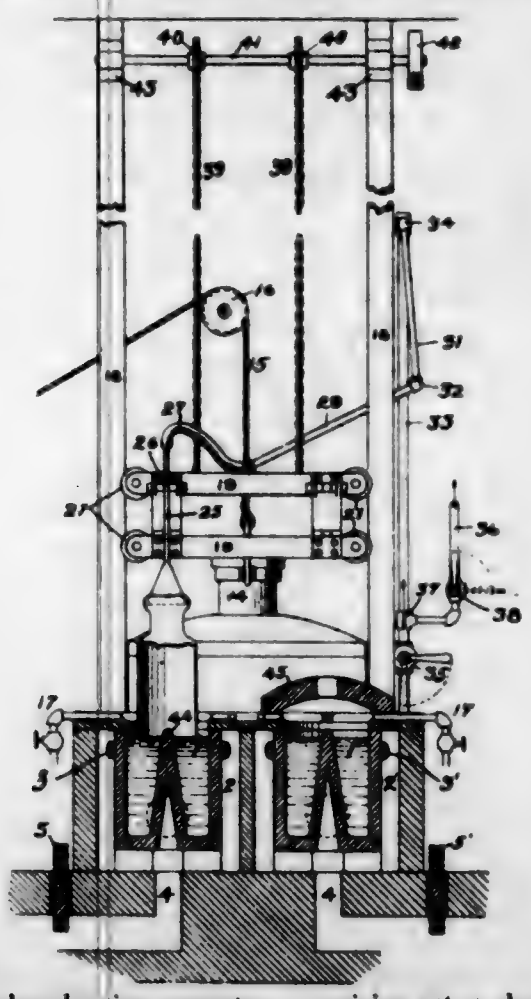
IRVING W. COLBURN and CLIFTON W. IRWIN, Franklin, Pa.; said Irwin assignor to said Colburn. Filed Apr. 26, 1904. Serial No. 204,861.

Claim.—1. In a glass-drawing apparatus, a receiving pot or chamber, a plurality of stationary working pots, independent conduits connecting said receiving-pot with each of said working pots, and a single glass-drawing apparatus capable of drawing glass from more than one of said working pots.

2. In a glass-drawing apparatus, a receiving pot or chamber, a plurality of stationary working pots, independent conduits connecting said receiving-pot with each of said working pots, means for drawing a cylinder of glass from said working pots, and a rigid body of refractory material within the cylinder and projecting above the surface of the molten glass in each pot.

3. In a glass-drawing apparatus, a receiving pot or chamber, a plurality of working pots, independent conduits connecting said receiving-pot with each of said working pots, a rigid body of refractory material projecting above the mass of molten glass in each of said working pots, and means maintaining the glass during the drawing operation at an approximately constant level within the working pots.

4. In a glass-drawing apparatus, a receiving pot or chamber, a plurality of working pots communicating therewith, a rigid body of refractory material projecting above and within the area of the working surface of the molten glass within each of said pots, and means for applying heat to the projecting point or portion of said refractory material.



5. In glass-drawing apparatus, a receiving pot or chamber, a plurality of working pots communicating therewith, a rigid body of refractory material projecting above the mass of molten glass at the approximate center of said pots, means for maintaining the glass approximately level in the pots during the drawing operation, and means for applying heat to the projecting points or portions of said refractory material.

6. In glass-drawing apparatus, the combination of a receiving chamber or pot, a plurality of working pots communicating therewith, a rigid body of refractory material projecting above and within the working surface of the molten glass in each of said pots, means for covering said working pots when the cylinder is not being drawn therefrom and heat-producing means between said covering means and the working level of the glass.

7. In glass-drawing apparatus, a receiving pot or chamber, a plurality of working pots communicating therewith, a single glass-drawing apparatus capable of drawing a cylinder of glass from more than one of said pots, and means maintaining the glass during the drawing operation at a constant level in the pot from which the cylinder is being drawn.

8. In glass-drawing apparatus, a receiving pot or chamber, a plurality of working pots communicating therewith, independent heating means for said receiving and working pots, means for drawing a cylinder of glass from one of said pots, means maintaining the glass during the drawing operation at a constant level in the pot from which the cylinder is being drawn, and means for supplying fluid-pressure to the interior of the cylinder during the drawing operation.

9. In a glass-drawing apparatus, the combination of a receiving-chamber for the molten glass, a plurality of working pots communicating therewith, means for drawing a cylinder of glass from one of said working pots, and a displacement element in said receiving-chamber for maintaining the molten glass at an approximately constant level in the working pots during the drawing operation.

10. In a glass-drawing apparatus, the combination of a receiving-chamber provided with a filling-in opening, a plurality of working pots communicating with said chamber, a displacement element in said chamber, a centrally-located refractory body projecting above the surface of the molten glass in each working pot, means for drawing a cylinder of glass from either of said working pots, and an exhaust-pipe separably connected to the interior of said cylinder.

11. In glass-drawing apparatus, the combination of a plurality of stationary working pots for molten glass, a single glass-drawing device capable of drawing glass from more than one of said pots, and means for heating said pots.

12. In glass-drawing apparatus, the combination of a plurality of working pots for molten glass, separate heating-chambers for each pot, a single glass-drawing device capable of drawing glass from more than one of said pots, and a filling or receiving pot communicating with said working pots.

13. In glass-drawing apparatus, the combination of a plurality of working pots for molten glass, a single filling or receiving pot, separate conduits leading from said filling or receiving pot to the working pots, separate fire-boxes or heating-chambers for each of the receiving and working pots, and a glass-drawing device associated with the working pots.

14. In glass-drawing apparatus, the combination of a plurality of working pots, a receiving or filling pot, separate fire-boxes or heating-chambers for each of said pots, conduits leading from the receiving-pot and registering or joining with like conduits leading to the separate working pots, the connecting-joints for said conduits being exterior to the fire-boxes, and a glass-drawing device associated with said working pots.

15. In glass-drawing apparatus, the combination of a working pot, a receiving or filling pot, separate fire-boxes or heating-chambers for each pot, a conduit leading from the receiving-pot and registering or joining with a like conduit leading to the working pot, the connecting-joint for said conduits being exterior to the fire-boxes, and a glass-drawing device associated with said working pot.

16. In glass-working apparatus, the combination of a plurality of receptacles for molten glass, separate fire-boxes or heating-chambers for each receptacle, and jointed conduits connecting two or more of said receptacles, the joints in said conduits being exterior to the fire-boxes or heating-chambers.

17. In glass-drawing apparatus, the combination of a working pot, a centrally-located point of refractory material projecting above the working level of the molten glass in said pot, a filling or receiving chamber or pot communicating with said working pot, means for maintaining the level of the molten glass during the drawing operation near to but not above the said refractory point, means for drawing a cylinder from said working pot, and an exhaust-conduit connected to the interior of said cylinder at the close of the drawing operation.

18. The improvement in the art of glass-working which consists in drawing a cylinder of glass from a mass of molten glass, subjecting the cylinder to internal pressure during the drawing operation, maintaining the level of the molten mass approximately constant while the cylinder is being drawn, and exhausting the pressure from the cylinder at the close of the operation.

19. The improvement in the art of glass-working which consists in providing a plurality of connected masses of molten glass, drawing a cylinder of glass from one of said masses, simultaneously subjecting the other mass to displacement whereby the level of the molten mass from which the cylinder is drawn will remain approximately constant, reducing the internal pressure below atmospheric pressure at the close of the drawing operation, and simultaneously applying a heating-flame to the lower end of the cylinder.

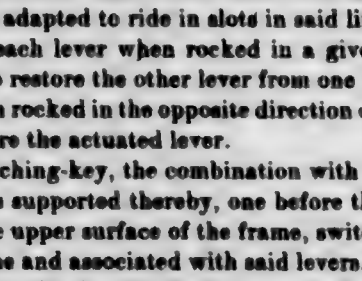
20. The improvement in the art of glass-working which consists in providing a plurality of connected masses of molten glass, drawing a cylinder of glass from one of said masses with gradually-increasing internal pressure during the drawing operation, subjecting the other mass to displacement whereby the level of the molten mass from which the cylinder is drawn will remain approximately constant, subjecting the lower end of the drawn cylinder to a heating-flame, and then drawing said cylinder free from the molten mass.

21. The improvement in the art of glass-working which consists in providing a plurality of connected masses of molten glass, drawing a cylinder of glass from one of said masses, subjecting the other mass to displacement whereby the level of the molten mass from which the cylinder is drawn will remain approximately constant, and severing the drawn cylinder from the molten mass by subjecting its lower end to the action of a flame and producing a variation between external and internal pressure while continuing the drawing operation.

22. The improvement in the art of glass-working which consists in providing a plurality of connected masses of molten glass, subjecting each of said masses separately to the action of heat, drawing a cylinder of glass from one of said masses and maintaining the working level of the glass by displacing one of the other masses during the drawing operation.

23. The improvement in the art of glass-working which consists in providing a plurality of connected masses of molten glass, drawing a cylinder of glass from one mass and maintaining the working level of the glass by displacing one of the other masses during the drawing operation.

805,057. RINGING-KEY. EDWARD B. CRAFT, Chicago, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 3, 1905. Serial No. 254,446.



Claim.—1. The combination with a pair of rocking levers, of a link for each lever connected at one end therewith and having a slotted connection with the other lever, each lever when rocked in a given direction operating said links to restore the other lever from an actuated position, and a cam-lever adapted when said lever is rocked in the opposite direction, to be operated thereby in conjunction with said links to restore the other lever from said actuated position.

2. The combination with a pair of rocking levers, of a link for each lever connected at one end therewith, and having a slotted connection with the other lever, and a pivoted cam-lever adapted to engage either link to move the same; whereby either lever when rocked in either direction restores the other lever from either actuated position to normal position through the agency of said links and cam.

3. In a switch-key, the combination with a pair of rocking levers, of switch-springs associated with each lever, a pair of links, each link having a pivotal connection with one lever and a slotted connection with the other lever, and a pivoted cam, surfaces whereof are adapted to engage portions of both links; whereby either lever when rocked in a given direction restores the other lever from an actuated position through the agency of said links, and when rocked in the opposite direction restores said lever from said position through the agency of said links and cam.

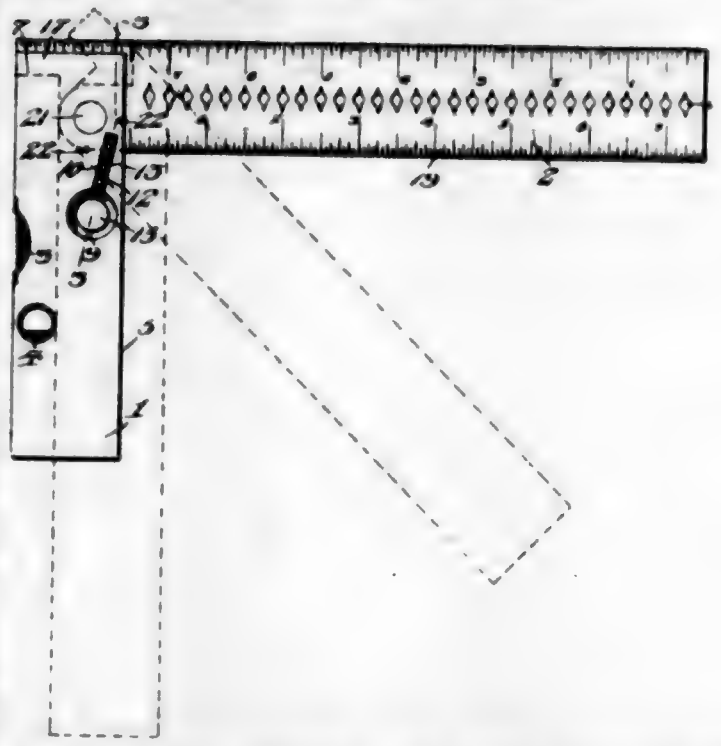
4. In a switch-key, the combination with a pair of rocking levers, of switch-springs associated therewith, a pair of reciprocating links connecting said levers, each link being pivoted at one end to one of said levers, and having a longitudinal slot in the other end thereof, a pin carried by each lever adapted to ride in the slot of the link connected with the other lever, and a centrally-pivoted cam between the levers adapted to ride in slots in said links to operate the same; whereby each lever when rocked in a given direction operates said links to restore the other lever from one of its actuated positions, and when rocked in the opposite direction operates said links and cam to restore the actuated lever.

5. In a switching-key, the combination with a frame, of a pair of rocking levers supported thereby, one before the other, and projecting above the upper surface of the frame, switch-springs mounted upon the frame and associated with said levers, a pair of reciprocating links mounted in longitudinal grooves in the upper portion of the frame on either side of said levers, each link being pivoted at one end to one of said levers and having a longitudinal slot near the opposite end thereof, a pin carried by each lever adapted to ride in the slot of the link connected with the other lever, and a centrally-pivoted cam between the levers adapted to ride in slots in said links to operate the same; whereby each key when rocked in a given direction operates said links to restore the other key from one of its actuated positions, and when rocked in the opposite direction operates said links and cam to restore the key from the same actuated position.

6. The combination with a pair of rocking key-levers, of a pair of links extending between said levers, each link being positively connected with one lever and having lost motion with respect to the other lever, and a pivoted lever adapted to engage either link to move the same; whereby either lever when rocked in either direction restores the other lever from an actuated position to normal position.

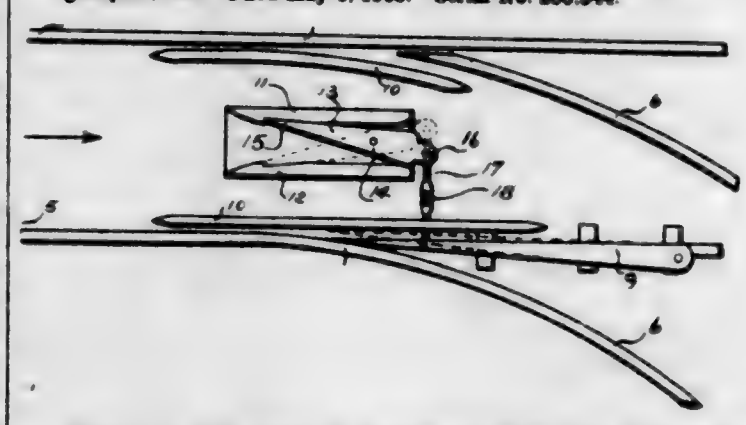
805,058. FOLDING TRY-SQUARE. JOHN H. DANIELS, St. Louis, Mo. Filed Feb. 25, 1905. Serial No. 247,231.

Claim.—1. A try-square comprising a stock having a circular recess formed with a beveled outer end and a channel leading out of said recess, a locking member pivoted in said channel and having a circular finger portion disposed in said recess, a spring in said channel bearing at its free end against the under side of said finger portion, and a blade pivotally connected with said stock and adapted to be held in adjusted position by said locking member.



2. A try-square comprising a stock having a slot in its front edge, said slot at one end of the stock having a rearward extension terminating at the rear edge of the stock, said stock being formed with a circular recess having a beveled outer end, and a channel leading out of said recess and terminating in a perforation extending through to the slot, a locking member pivoted in said channel and having a pin extending through the perforation, said locking member having a circular finger portion located in said recess, a spring in said channel bearing at its free end against said finger portion, a blade pivoted in the slot of said stock adjacent to said rearward extension and having a projection at one end adapted to fit partially into the rearward extension of said slot, said blade having a series of perforations formed with circular central portions and pointed ends, and a second series of perforations adapted to be engaged by the pin of said locking device.

805,059. AUTOMATIC SWITCHING DEVICE. JOSEPH A. DE FORD, Logansport, Ind., assignor of one-half to Martin McHale, Logansport, Ind. Filed May 1, 1905. Serial No. 258,344.



Claim.—1. In a device of the class described, the combination of a track-switch, a car adapted to ride on the track, a pair of guides spaced apart and disposed longitudinally of the track between the rails, a tongue pivotally mounted between said guides and adapted to normally lie obliquely across the space between said guides, a member on said car adapted to pass between said tongue and either of said guides, one end of said tongue being adapted when disposed toward one of said guides, to prevent said member from passing on the same side but to cause said member to pass between the tongue and the other guide, said tongue being adapted to reverse its angular position with respect to said guides through engagement with said member, and a switch-operating mechanism adapted to reverse the switch when said guide is swung on its pivotal axis.

2. The combination of a track-switch having a movable section, a car mounted to ride on the track, a pair of guides disposed

longitudinally of the track and spaced apart, a roller on said car movable into and out of position for entering the space between said guides, a wedge-shaped tongue pivotally mounted on a vertical axis between said guides and adapted to normally lie at an angle with said guides, said tongue having its narrow end disposed in a direction opposite to the direction of movement of the car and having its large end of suitable width to cause said tongue to reverse its angular position with respect to said guides when the roller on said car passes between the tongue and one of the guides, and means connecting said tongue and movable section whereby the shifting of said tongue will shift said section.

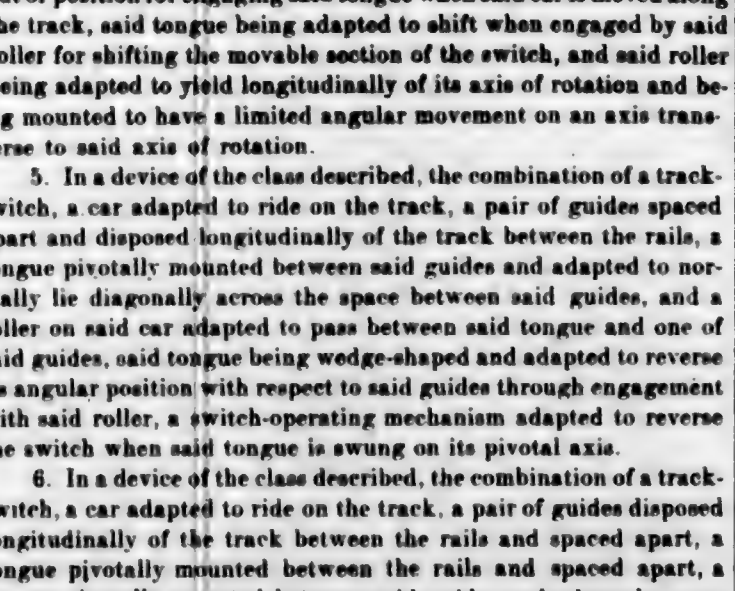
3. The combination of a track-switch having a movable section, a car adapted to ride on the track, a pair of guides disposed longitudinally of the track and spaced apart, a tongue pivotally mounted on a vertical axis between said guides, a roller on said car adapted to be moved into and out of the plane of said guides and tongue, said roller being adapted to yield laterally to follow the path between said tongue and the other guide, said tongue being of suitable form to be shifted on its pivotal axis and reverse its angular position with respect to said guides when said roller passes between said guides, and means connecting said tongue and said movable section for shifting said section through the swinging of said tongue.

4. The combination of a track-switch having a movable section, a car adapted to ride on the track, a tongue connected with said movable section, a roller on said car adapted to be moved into and out of position for engaging said tongue when said car is moved along the track, said tongue being adapted to shift when engaged by said roller for shifting the movable section of the switch, and said roller being adapted to yield longitudinally of its axis of rotation and being mounted to have a limited angular movement on an axis transverse to said axis of rotation.

5. In a device of the class described, the combination of a track-switch, a car adapted to ride on the track, a pair of guides spaced apart and disposed longitudinally of the track between the rails, a tongue pivotally mounted between said guides and adapted to normally lie diagonally across the space between said guides, and a roller on said car adapted to pass between said tongue and one of said guides, said tongue being wedge-shaped and adapted to reverse its angular position with respect to said guides through engagement with said roller, a switch-operating mechanism adapted to reverse the switch when said tongue is swung on its pivotal axis.

6. In a device of the class described, the combination of a track-switch, a car adapted to ride on the track, a pair of guides disposed longitudinally of the track between the rails and spaced apart, a tongue pivotally mounted between the rails and spaced apart, a tongue pivotally mounted between said guides and adapted to normally lie diagonally across the space between said guides, and a roller on said car adapted to pass between said tongue and one of said guides, said tongue being wedge-shaped and adapted to reverse its angular position with respect to said guides through engagement with said roller, an arm supporting said roller and pivotally mounted on said car, means for swinging said arm to bring said roller into and out of position for engaging said tongue, said roller being adapted to yield axially on said arm to follow the angular position of said tongue.

805,080. **RIBBON-SPOOL-ACTUATING DEVICE FOR TYPE-WRITERS.** HARRY B. N. DIBBOW, New York, N. Y., assignor to The Oliver Typewriter Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 14, 1904. Serial No. 203,130.

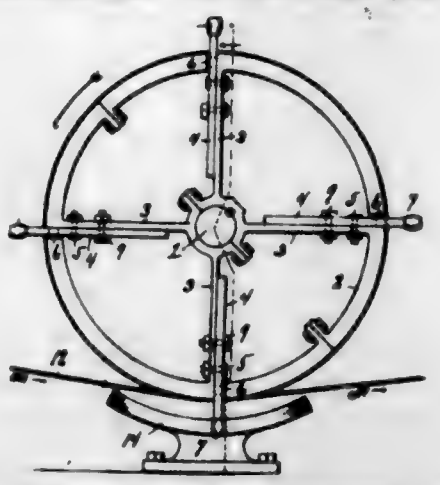


Claim.—1. A ribbon-winding mechanism for type-writing machines comprising two rotative shafts, ribbon-spools adapted to be slipped over the upper ends of said shafts and having detachable interlocking engagement therewith, stationary casings within which said spools are contained, removable covers for the casings provided with central apertures, said shafts extending upwardly through the bottom walls of the casings and through said apertures in the covers, means for automatically rotating said shafts to wind the ribbon upon and unwind it from said spools, and cranks detachably connected with the upper ends of said shafts above said removable covers of the spool-casings.

2. A ribbon-winding mechanism for type-writing machines comprising two rotative shafts, ribbon-spools adapted to be slipped over the upper ends of said shafts and having detachable interlocking connection therewith, means for automatically rotating said shafts, stationary casings within which said spools are contained, removable covers for the casings provided with central apertures, said shafts extending upwardly through the bottom walls of the casings and through the removable covers and having at their upper ends above said covers flat-sided and screw-threaded portions, cranks provided with openings fitting the flat-sided portions of the shafts and nuts engaging the screw-threaded portions or the shafts for holding the cranks on said shafts.

3. In a ribbon-winding mechanism for type-writing machines the combination with a rotative shaft, of a ribbon-spool having a central aperture to receive the shaft, said shaft and spool having interlocking parts by which the spool is held from turning on the shaft, a stationary casing for the spool provided with a centrally-apertured bottom wall through which the shaft extends, a removable cover for the casing also provided with a central aperture through which the shaft extends at its upper end, and a crank removably attached to the said upper end of the shaft above the cover of the casing.

805,081. **WIRE FEEDING AND MEASURING DEVICE.** DENNIS H. HAYES, Adrian, Mich. Filed Feb. 16, 1905. Serial No. 245,840.



Claim.—1. A wire tension and measuring device, comprising a wheel around which a strand of wire is adapted to pass, clamping-jaws mounted upon said wheel adapted to engage the wire, means located independently of the wheel but in the plane thereof for opening said jaws at a predetermined point in the revolution of the wheel to release said wire.

2. In a wire tension and measuring device, the combination of a rotary wheel around which a strand of wire is adapted to pass, a plurality of sets of jaws upon said wheel adapted to normally clamp the wire, means located independently of the wheel but concentric therewith, adapted to engage a projection on said jaws to open them at a predetermined point in the revolution of the wheel.

3. A wire clamping and measuring device, consisting of a rotary wheel around which a wire is adapted to pass, spring-actuated clamping-jaws mounted upon said wheel and having ends which extend beyond the periphery thereof, said jaws being adapted to normally clamp the wire as it lies upon the periphery of the wheel, a tapered block located adjacent the periphery of the wheel and adapted to enter between the extended ends of said jaws and separate them as the wheel revolves and release them from engagement with said wire.

805,082. **GUARD FOR THIRD RAILS.** AUGUSTUS A. HICKERSON, Reynoldsburg, and WILLIAM H. PEALOR, Shepard, Ohio. Filed Feb. 6, 1900. Serial No. 944,234.

Claim.—1. A guard for third rails comprising a housing provided with a removable roof and located above the track-bed and over the rail, and independent guard-plates having their free ends

overlapping outside of the rail, one of said plates being independently removable.

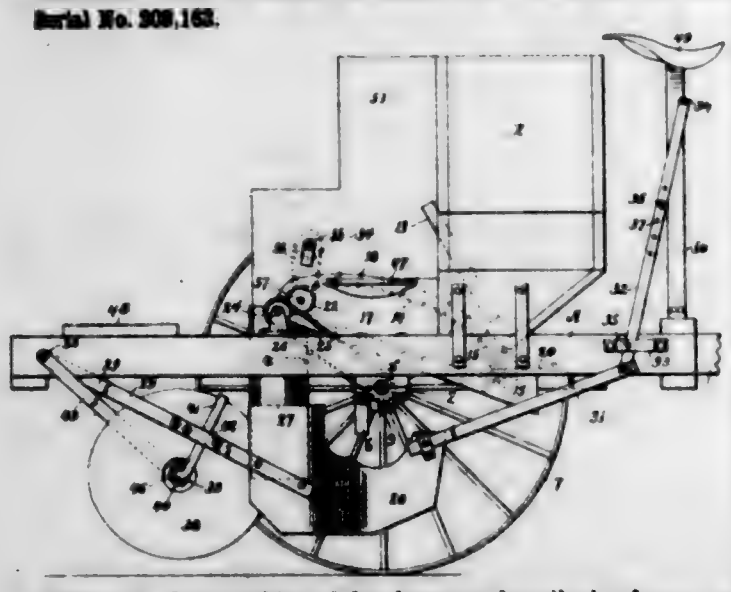


2. A guard for third rails, comprising a removable roof, means for locking the roof in place, and independent overlapping guard-plates outside of the rail.

3. In a guard for third rails, a housing arranged over the rail and above the track-bed, a removable roof provided on the housing, independent overlapping guard-plates associated with the housing, and vertical supports arranged in the housing adapted to carry electrical wires or cables.

4. In a housing for third rails, a plurality of brackets, a roof removably supported upon the brackets, means for locking the roof in place, a removable back plate supported on the brackets, a guard-plate carried by the roof and projecting downwardly therefrom, a second guard-plate projecting upwardly and overlapping the first guard-plate but separated therefrom, the said plates projecting between the housing and the track-rails.

805,063. MACHINE FOR PLANTING AND FERTILIZING POTATOES. JOHN G. HMACH, Milwaukee, Wis. Filed May 23, 1904. Serial No. 209,163.



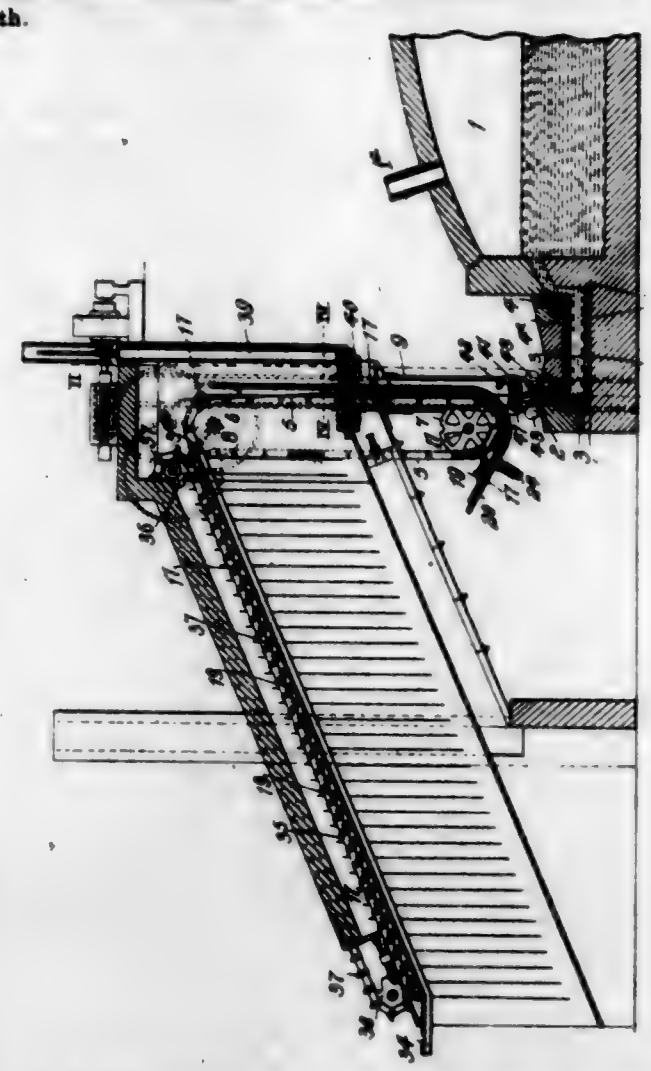
Claim.—1. In a machine of the character described, a frame, an upright fertilizer-holding hopper having a laterally-disposed discharging-throat at its lower end, a vertically-disposed chute into which the throat is adapted to discharge, a horizontal drum rotatable in the throat, buckets fixed on the peripaery of the drum disposed to dip into the fertilizer material and carry a portion of it with and over the top of the drum and drop it into the chute, and box-like telescoping tubular walls adjustable extensibly within the buckets adapted to increase the capacity of the buckets beyond the normal amount.

2. In a machine of the character described, a frame, an upright fertilizer-holding hopper having a laterally-disposed discharging-throat at its lower end, a vertically-disposed chute into which the throat is adapted to discharge, a horizontal drum rotatable in the throat, buckets fixed on the periphery of the drum disposed to dip into the fertilizer material and carry a portion of it with and over the top of the drum and drop it into the chute, a drum-shaft, a sprocket-wheel on the drum-shaft, a driving-chain running on the sprocket-wheel and on a related wheel whereby the drum and its buckets are made to drop fertilizing material relatively to seed deposited by the mechanism of said related wheel.

805,064. MANUFACTURE OF SHEET-GLASS. HALBERT K. HITCHCOCK, Akron, Ohio, assignor to himself and Charles W. Brown, trustee, Pittsburg, Pa. Filed Aug. 14, 1901. Serial No. 71,300.

Claim.—1. In an apparatus for forming sheets of glass, the combination of a receptacle for the glass having a discharge slot or opening, means for forcing the glass through said slot or opening, means for applying a regulated tension to the glass whereby the glass is pulled away from the slot at or approximately at the rate of feed through the slot and means for severing the glass beyond the line or point at which tension is applied, substantially as set forth.

2. In an apparatus for forming sheets of glass, the combination of a receptacle for the glass having a discharge slot or opening, means for forcing the glass through said slot or opening, means for regulating the temperature of the glass as it flows through the slot or opening, means for applying a regulated tension to the glass, whereby the glass is pulled away from the slot at or approximately at the rate of feed and means for severing the glass beyond the line or point at which tension is applied through the slot, substantially as set forth.



3. In an apparatus for forming sheets of glass, the combination of a receptacle for the glass having a discharge slot or opening, means for forcing the glass through said slot or opening, a mechanism arranged in a plane parallel or approximately parallel with the direction of feed of the glass through the slot adapted to pull the glass away from the slot at or approximately at the rate of feed of glass through the slot and means for severing the glass beyond the line or point at which tension is applied, substantially as set forth.

4. In an apparatus for forming sheets of glass, the combination of a receptacle for the glass having a discharge slot or opening, means for forcing the glass through said slot or opening, a pulling mechanism arranged in the plane of feed of the glass through said slot or opening, and a series of grippers for connecting the glass sheet or plate to the pulling mechanism, substantially as set forth.

5. In an apparatus for forming sheets of glass, the combination of a receptacle for the glass having a discharge slot or opening, means for forcing the glass through said slot or opening, means for applying a regulated tension to the glass whereby it is pulled away from the slot at or approximately at the rate of feed through the slot and means operated by the tension mechanism for cracking the glass at predetermined points or intervals, substantially as set forth.

6. In an apparatus for forming sheets of glass, the combination of a receptacle for the glass having a discharge slot or opening, means for forcing the glass through said slot or opening, a pulling mechanism arranged in a plane parallel to the direction of feed of glass through the slot, rotatable blades operated by the pulling mechanism for cracking the glass arranged to operate at predetermined intervals, substantially as set forth.

7. In an apparatus for forming sheets of glass, the combination of a receptacle for the glass having a discharge slot or opening, means for forcing the glass through said slot or opening, a pulling mechanism arranged in the plane of feed of glass through the slot, a series of grippers detachably connected to the pulling mechanism and mechanism for feeding the grippers to the pulling mechanism one at a time, substantially as set forth.

8. The combination of a glass-containing chamber or recepta-

cle, an orifice having a shape substantially similar to that of the article to be formed, located outside of the chamber but connected thereto, means for causing a flow of glass from the chamber to a formative point in said orifice, means for applying continuously a stretching tension to the glass in such manner as to remove the glass from the orifice at a rate equal to the movement of the glass thereto and means for cooling the glass from the formative point outwardly or in the direction of pull, substantially as set forth.

9. The combination of means for bringing a mass of glass to a shape similar to that of the desired product, means for cooling the glass at the point at which it assumes the desired shape and means for applying tension to such initial shape for reducing the shape to the desired dimensions without material alteration of the shape in transverse section, at a rate equal or approximately equal to the rate of initial formation.

10. The combination of a glass-containing chamber or receptacle, an orifice having a shape similar to that of the article desired connected to the chamber, means for causing a flow of glass to the orifice, a heated chamber and means adapted to pull the glass from the orifice at a rate equal or approximately equal to the flow of glass to the orifice and deliver the sheet while hot into the heated chamber, substantially as set forth.

11. The combination of a glass-containing chamber or receptacle, an orifice having a shape similar to that of the article desired connected to the chamber, means for causing a flow of glass to the orifice, a heated chamber above the orifice and means adapted to pull the glass from the orifice and deliver it into the heated chamber, substantially as set forth.

12. The combination of a glass-containing chamber or receptacle, an orifice or opening having a shape similar to that of the article desired, means for causing a flow of glass to the orifice or opening, a heated chamber, means for pulling the glass from the orifice or opening and delivering it into the heated chamber and means for severing the glass into lengths or sections, substantially as set forth.

13. The combination of a glass-containing chamber or receptacle, an orifice or opening having a shape similar to that of the article desired, means for causing a flow of glass to the orifice or opening, a heated chamber above the orifice, means for pulling the glass from the orifice or opening and delivering it into the heated chamber and means for severing the glass into lengths or sections, substantially as set forth.

14. The combination of a glass-containing chamber or receptacle, a slot or orifice connected to the chamber, means for positively forcing molten glass up through such slot or orifice, means for cooling the surface of such glass to the line of contact with such slot or orifice, means operative to stretch such glass as it emerges from such slot or orifice, substantially as set forth.

15. The combination of a glass-containing chamber, a slot or orifice connected to the chamber, means for positively forcing molten glass through such slot or orifice, means for cooling the surface of the glass as it passes out of such slot or orifice to the line of contact on such slot or orifice, a heated chamber, means operative to stretch such glass as it emerges from such slot or orifice and deposit it in a heated chamber, substantially as set forth.

16. The combination of a receptacle for molten glass having a discharge-orifice connected therewith, means for forcing the glass to such orifice, means for regulating the temperature of the glass as it passes to such orifice, means for cooling said glass as it leaves said orifice and a pulling apparatus for taking the glass away as fast as it is fed to such apparatus, substantially as set forth.

17. In an apparatus for the formation of sheets of glass the combination of a receptacle for holding molten glass, a discharge slot or opening connected therewith of a shape similar to the finished article, means for forcing the molten glass to a formative point at or near the end of said slot or opening, a heated chamber, means for applying a regulated tension upon the glass and moving it into the chamber whereby the glass is pulled away at or approximately at the same speed as the movement of the glass to such formative point, substantially as set forth.

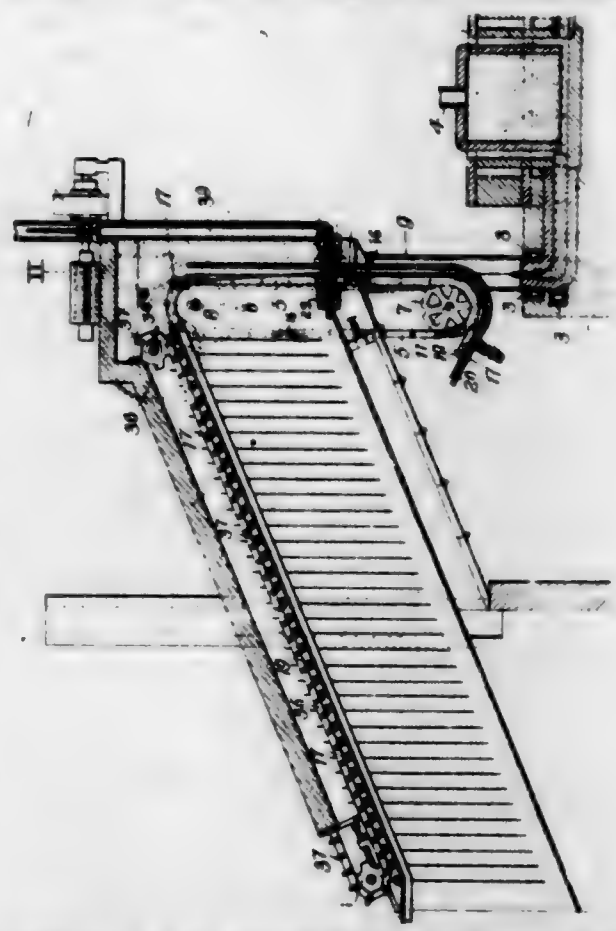
18. The combination of a receptacle for molten glass having a discharge slot or opening connected therewith, means for forcing the glass to a formative point at or near the end of said opening, means for regulating the temperature of the glass in its passage to such formative point, means for applying a regulated tension to the glass whereby it is pulled away at a rate equal or approximately equal to the rate of feed to such formative point and a means for cooling the surface of said glass under tension to the line of contact with the retaining-walls at such formative point, substantially as set forth.

19. In an apparatus for forming sheets of glass, the combination of a receptacle for the glass, an upwardly-discharging slot or opening outside of the receptacle but connected therewith, means for forcing the glass through said slot or opening, means for applying a regulated tension to the glass whereby the glass is pulled away from the slot at or approximately at the rate of feed through the slot and means for severing the glass beyond the line or point at which tension is applied, substantially as set forth.

20. In an apparatus for forming sheets of glass, the combination of a receptacle for the glass, an upwardly-discharging slot or opening outside of the receptacle but connected therewith, means for forcing the glass through said slot or opening, means for regulating the tension on the glass as it flows through the slot or opening, means for applying a regulated tension to the glass whereby the glass is pulled away from the slot at or approximately at the rate of feed thereto, and means for severing the glass beyond the line or point at which tension is applied thereto, substantially as set forth.

21. In an apparatus for forming sheets of glass the combination of a receptacle for the glass, an upwardly-discharging slot or opening outside of the receptacle but connected therewith, a mechanism arranged in a plane parallel or approximately parallel with the direction of feed of glass through the slot, adapted to pull the glass away from the slot at or approximately at the rate of feed through the slot and means for severing the glass beyond the line or point at which tension is applied, substantially as set forth.

805,065. MANUFACTURE OF GLASS ARTICLES. HALBERT K. HITCHCOCK, Akron, Ohio, assignor to himself and Charles W. Brown, trustee, Pittsburg, Pa. Filed May 23, 1903. Serial No. 158,611.



Claim.—1. As an improvement in the art of manufacturing glass sheets or plates the method herein described which consists in the continuous formation of an envelop or shell of relatively cool but plastic glass and maintaining the shape and dimensions of such envelop by the continuous feed of the glass to the interior of such envelop.

2. As an improvement in the art of manufacturing sheet-glass the method herein described which consists in the continuous formation of an envelop or shell of relatively cool but plastic glass from a relatively non-movable body of glass and maintaining the shape and dimensions of such shell or envelop by the continuous feed of glass at a higher temperature to the interior of such envelop.

3. The method herein described of producing sheets or plates of any desired length which consists in providing a mother body of glass causing a continuous movement of glass from said mother body by continuously-applied tension whereby a portion of such body is caused to assume the desired shape, reducing the surface temperature of the glass below that of the interior portions whereby a greater tension or pull is required to shape the surface portions than the interior portions.

4. The method herein described of manufacturing sheets or plates of glass which consists in effecting a continuous feed of glass through a slot or opening reducing the surface temperature of the glass as it exudes from the slot below that of the interior portions of the glass so as to necessitate a greater forming pull on the surface portions, applying a constant shaping tension to the glass as it exudes from the slot, the tension being so regulated as to cause the glass to move away from the slot at or approximately at the rate at which the glass is fed through the slot and transversely dividing the sheet at a point outside of that at which the shaping is applied.

5. As an improvement in the art of manufacturing sheet-glass the method herein described which consists in subjecting the cooled envelop to a formative tension causing the more plastic glass to move along with and within the envelop whereby such envelop serves as lateral retaining-walls for the more plastic glass.

6. The method herein described which consists in forcing the molten glass to a formative point at an orifice having a shape similar to the finished article, here cooling the surface of said glass so as to form an envelop having a higher tensile strength than the glass in body of said orifice and stretching the body to the required shape.

7. The method herein described which consists in forcing molten glass to a formative point at an orifice having a shape similar to the finished article, cooling the entire surface of said glass so as to give it a greater tensile strength than the body of said glass and stretching the same under tension to the desired dimensions as fast as the glass is forced to said formative point.

8. The method herein described which consists in cooling the surface of molten glass in contact with the walls of a channel having a shape similar to the finished article and causing the molten glass to flow into and along with envelop thus formed and which acts as an elastic containing-envelop to determine the shape and dimensions of the desired product.

9. The method herein described which consists in causing a continuous stream of molten glass to flow to a formative point near the end of a slot or chamber having a shape similar to the finished article, then subjecting the surface of the glass to a cooling action sufficient to increase the tensile strength of such surface and stretching the same by means of tension so applied as to remove the glass substantially at the same rate as it flows to such formative point.

10. The method herein described which consists in forcing the glass to a point at or near the end of a channel or orifice having a shape similar to the finished article, cooling the surface of said glass to the line of contact with such channel or orifice and stretching by means of tension such body of glass to the desired dimensions.

11. The method herein described which consists in forcing molten glass to a point at or near the end of a channel or orifice having a shape similar to the finished article, cooling the surface of said glass to the line of contact with the enveloping channel or orifice and causing the more molten glass to flow up into and along with the surrounding envelop of colder and tougher glass whereby the outer layer of colder glass will prevent the natural tendency of the glass to either spread out or narrow down.

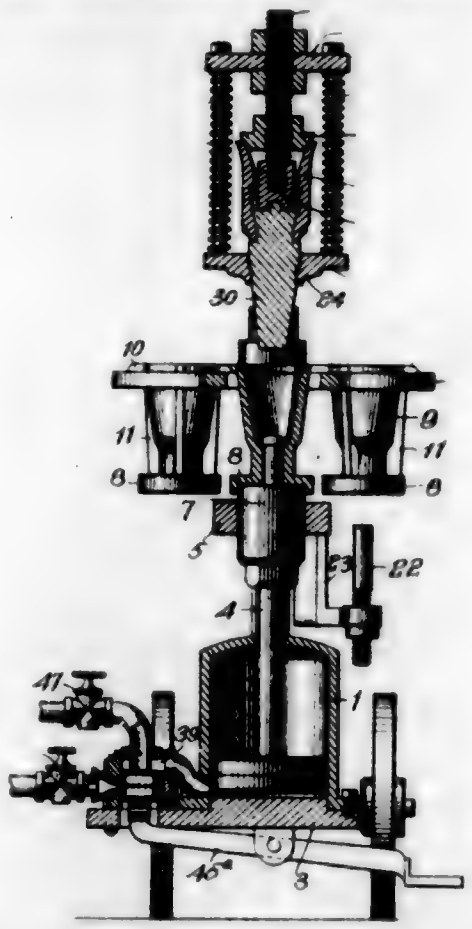
805,066. GLASS-PRESS. HALBERT K. HITCHCOCK, Akron, Ohio. Filed June 4, 1903. Serial No. 159,998.

Claim.—1. In a glass-press the combination of a mold, a shaping-plunger, a motor for moving at least one of said two members, and a release or "let-go" mechanism automatically operative on at least some one of said three members at a predetermined pressing pressure, whereby on the attainment of the desired pressing pressure the same is wholly or substantially removed, substantially as set forth.

2. In a glass-press, the combination of a mold, a shaping-plunger, a motor for moving at least one of said two members and a release or let-go mechanism in the connection between the motor and the part moved thereby and automatically operative at a predetermined pressing pressure, whereby on the attainment of the desired pressing pressure the same is wholly or substantially removed, substantially as set forth.

3. In a glass-press, the combination of a mold, a shaping-plunger, a release or "let-go" mechanism forming a part of the connection between one of said members and the portion of the press to which said part is connected, said release or "let-go" mechanism being automatically operative at a predetermined pressing pressure to wholly or substantially relieve the article from pressure, and a motor for moving one of said glass-shaping members, substantially as set forth

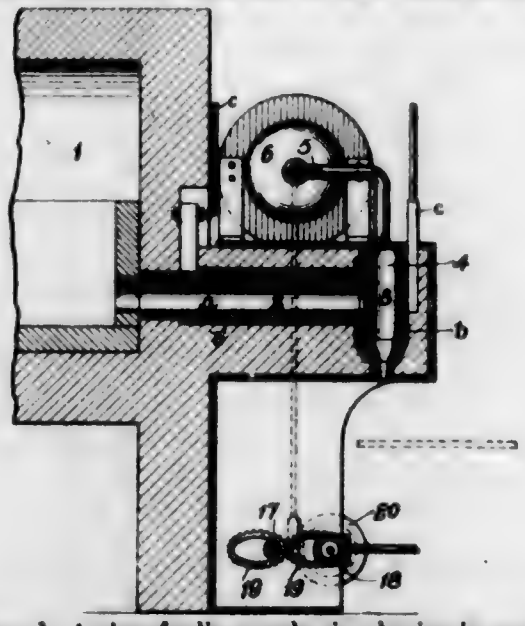
4. In a glass-press, the combination of a mold, a shaping-plunger, a fluid-pressure cylinder and piston for moving one of the glass-shaping members, a valve mechanism controlling the flow of fluid-pressure to and from said cylinder and means automatically operative at a predetermined pressure for shifting said valve to release the pressure in the cylinder, substantially as set forth.



5. In a press, the combination of a mold, a shaping-plunger, a fluid-cylinder and piston for moving one of said shaping members, a valve controlling the flow of fluid-pressure to and from the cylinder and subjected to the fluid-pressure in the cylinder to shift it in one direction and an electromagnet for holding it as against movement by such fluid-pressure, substantially as set forth.

6. In a glass-press, the combination of a mold, a shaping-plunger, a fluid-pressure cylinder and piston for moving one of the glass-shaping members, a valve mechanism controlling the inlet and exhaust ports of the cylinder, and means automatically operative at a predetermined pressure for shifting said valve to close the inlet and open the exhaust port, whereby pressure in the cylinder is released, substantially as set forth.

805,067. MECHANISM FOR FEEDING GLASS. HALBERT K. HITCHCOCK, Walton, Pa., assignor to himself and Charles W. Brown, trustees, Pittsburg, Pa. Filed June 13, 1904. Serial No. 212,353.



Claim.—1. A glass-feeding mechanism having in combination, a chamber or receptacle having an outlet for the gravity flow of the glass, and means for reducing the pressure below atmospheric pressure on some portion of the glass prior to its escape from the outlet, thereby varying the gravity flow or feed, substantially as set forth.

2. A glass-feeding mechanism having in combination, a glass containing or supply chamber or receptacle having an outlet, a chamber arranged in the line of flow of the glass and means for varying

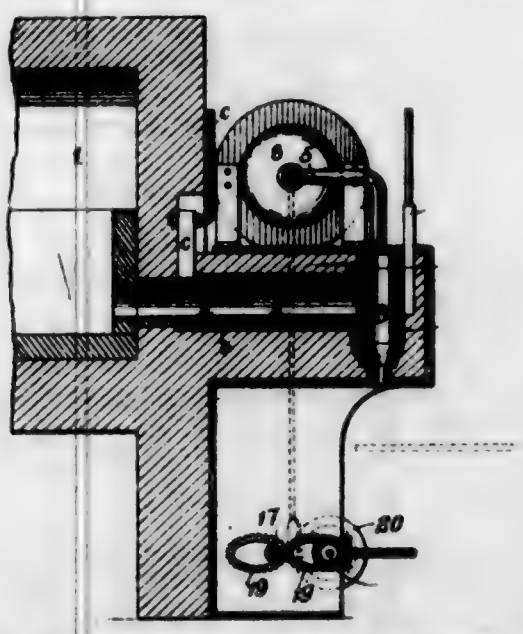
the fluid-pressure in the chamber in the line of flow, substantially as set forth.

3. A glass-feeding mechanism having in combination, a chamber or receptacle having an outlet, means for alternately decreasing and increasing the pressure on the glass at some point in its flow to the outlet, and mechanism operative on the decrease of pressure for interrupting the continuity of the stream of glass exuding from the outlet, substantially as set forth.

4. A glass-feeding mechanism having in combination a chamber or receptacle having an outlet for the gravity flow of glass, means for severing the glass after its passage from the outlet and means for reversing the movement of the glass above the plane of severance, substantially as set forth.

5. A glass-feeding mechanism having in combination a glass containing or supply chamber having an outlet for the gravity flow of glass, means for severing the glass below the outlet and means for causing the glass above the plane of severance to flow back through the orifice, substantially as set forth.

805,068. FEEDING GLASS. HALBERT K. HITCHCOCK, Walton, Pa., assignor to himself and Charles W. Brown, trustees, Pittsburg, Pa. Filed June 13, 1904. Serial No. 212,225.



Claim.—1. As an improvement in the art of feeding glass to shaping mechanism, the method herein described, which consists in causing the glass to assume a globular form as it passes from the feed-orifice to the shaping mechanism and then detaching the globule or drop from the supply-body, substantially as set forth.

2. As an improvement in the art of feeding glass, the method herein described, which consists in causing the glass to assume a globular form of predetermined size or weight, as it passes from the feed-orifice and then detaching the globule or drop from the supply-body, substantially as set forth.

3. As an improvement in the art of feeding glass, the method herein described, which consists in causing the glass to assume a globular form as it passes from the feed-orifice, and then reversing the direction of movement of the glass at the orifice, substantially as set forth.

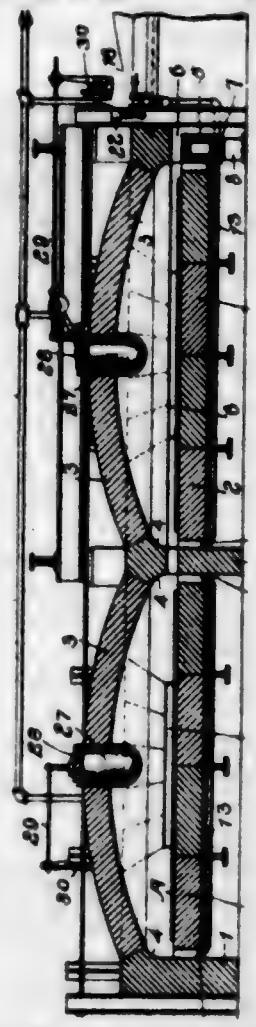
4. As an improvement in the art of feeding glass, the method herein described which consists in causing a full flow of the glass through a suitable orifice and then checking such flow or feed movement of the glass by reducing the pressure on the glass at some point within the orifice below atmospheric pressure, substantially as set forth.

5. As an improvement in the art of feeding glass, the method herein described which consists in causing the glass to flow through a suitable orifice and then reversing the feed movement through such orifice by reducing the pressure on the glass below atmospheric pressure at some point within the orifice, substantially as set forth.

805,069. KILN FOR ANNEALING GLASS. HALBERT K. HITCHCOCK, Tarentum, Pa. Filed July 17, 1905. Serial No. 270,066.

Claim.—1. An oven for annealing glass having its walls so constructed and proportioned as to have the same heat-dissipating capacity at all points.

2. An oven for annealing glass having its hearth and crown constructed to form free radiating-surfaces and of equal or approximately equal thickness whereby the heat dissipation from all points of the hearth and crown may be approximately equal.



3. An oven for annealing glass having vertical passages along all its side walls, in combination with burners connected to a gas-supply and arranged to discharge into said passages to heat said side walls to a temperature approximately that of the glass to be annealed.

4. An oven for annealing glass having vertical passages along all its side walls in combination with burners connected to a gas-supply and arranged to discharge into said passages, and a valved outlet for the escape of products of combustion.

5. An oven for annealing glass having passages for the admission of gas, in combination with burners connected to a gas-supply and arranged to discharge into said passages, a valve controlling the flow of gas and automatic means for closing said valve.

6. An oven for annealing glass having passages for the admission of gas, burners connected to a gas-supply and arranged to discharge into said passages, a valve controlling the flow of gas and an outlet provided with a valve operative by and approximately synchronous with the flow of gas to the burner.

7. An oven for annealing glass provided with an opening permitting access to the interior of the ovens in combination with a movable sill and means for shifting the sill.

8. As an improvement in the art of annealing glass, the method herein described which consists in moving the sheet through a series of ovens, and heating each oven to a temperature equal to or higher than that of the sheet to be charged prior to charging the sheet.

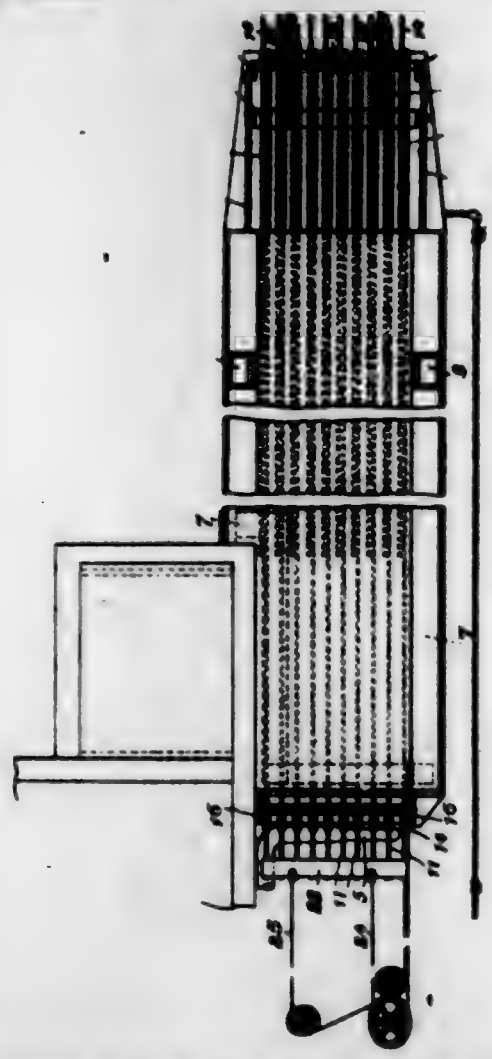
9. As an improvement in the art of annealing glass, the method herein described which consists in moving the sheet through a series of ovens, heating the oven to a temperature equal to or higher than that of the sheet to be annealed and allowing an equalization of temperature in all parts of the oven prior to charging the sheet there into.

10. As an improvement in the art of annealing glass, the method herein described which consists in moving a sheet through a series of ovens and heating each oven to a temperature equal to or slightly higher than the discharging temperature of the preceding oven before shifting the sheet from the latter.

805,070. RUNWAY FOR ANNEALING GLASS. HALBERT K. HITCHCOCK, Tarentum, Pa. Filed July 17, 1905. Serial No. 270,067.

Claim.—1. A runway for annealing glass having in combination a hearth, a tunnel connected to the hearth and movably supported at suitable intervals along its length and means for moving articles along the tunnel.

2. A runway for annealing glass having in combination a hearth, a tunnel extending from the hearth, the whole or practically the whole outer surfaces of said parts being exposed to permit free radiation of heat and means for moving articles from the hearth through the tunnel.



3. A runway for annealing glass having in combination a hearth, a tunnel extending from the hearth, means for maintaining a pressure greater than atmospheric pressure in the tunnel and means for moving articles from the hearth through the tunnel.

4. A runway for annealing glass having in combination a hearth, a tunnel extending from the hearth, the walls of said parts gradually diminishing in thickness from the hearth to the outer end of the tunnel and means for moving articles from the hearth through the tunnel.

5. A runway for annealing glass having in combination a hearth, a tunnel extending from the hearth, chambers extending along the sides of the tunnel, means for maintaining said chambers at a temperature higher than that in the tunnel and means for moving articles from the hearth through the tunnel.

6. A runway for annealing glass having in combination a hearth, a tunnel extending from the hearth, a series of rocking bars arranged along the tunnel and having knife-edge bearings on the tunnel, two series of arms carried by the bars, a series of rails supported by one of the series of arms, a second series of rails carried by the other arms, a longitudinally-movable rod connected to the rocking arms and a fluid-pressure cylinder connected to said rod.

7. A runway for annealing glass having in combination a hearth, a tunnel extending from the hearth, a series of rocking bars arranged along the tunnel and provided with two oppositely-projecting arms, a series of rails supported by one series of arms, a second series of rails supported by the other series of arms, rollers interposed between the second series of rails and their supporting-arms said arms forming inclined tracks when shifted to facilitate the shifting of the rails, and means for shifting the rocking bars.

8. A runway for annealing glass having in combination a hearth, a tunnel extending from the hearth and movably supported at suitable points along its length, and automatic means for moving articles step by step from the hearth through the tunnel.

9. A runway for annealing glass having in combination a hearth, a tunnel extending from the hearth, two series of rails, means for alternately raising and lowering said series of rails, and means for pulling said rails alternately in opposite directions thereby maintaining said rails under tension during their movements.

10. A runway for annealing glass having in combination a hearth, a tunnel extending from the hearth, two series of rails, means for alternately raising and lowering said series of rails, means for shifting one of said series of rails longitudinally when in raised and lowered positions, the raising and lowering mechanism being controlled by the shifting means and the latter controlling the raising and lowering mechanism.

11. A runway for cooling glass having in combination a hearth, a tunnel extending from the hearth, two series of rails, means for alternately raising and lowering said series of rails, means for maintaining one series of rails under tension and means for shifting said rails longitudinally.

12. The combination of a tunnel, a means for moving articles through the tunnel and a means for maintaining the side walls of the tunnel at a temperature higher than the top and bottom but gradually reduced toward the rear end.

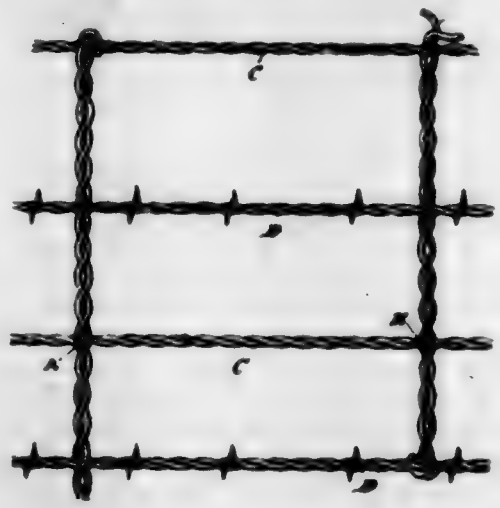
13. The combination of a tunnel, a means for moving sheets of glass through the tunnel, a means of cooling the top and bottom of said sheets and a means for restricting the cooling of the edges of said sheets progressively toward the rear end.

14. The combination of a tunnel having a progressively-reduced heat-insulating capacity from its hot end to the cold end and a means for moving sheets of glass through the same.

15. The combination of a tunnel having a non-absorbent inner surface, a heat-insulating covering and a means for moving the articles through the tunnel.

16. The combination of a tunnel, having flues on each side, means for maintaining a temperature in the flues higher than that in the tunnel but gradually reduced toward the rear end, and separated by walls or partitions that allow the heat to pass from the flues into the tunnel and a means for advancing articles through the tunnel.

905,071. **FENCE-STAY.** ROBERT L. HORSLEY, Fort Worth, Tex., assignor to Worth Wire Works, Fort Worth, Tex., a Corporation of Texas. Filed Jan. 4, 1905. Serial No. 239,636.



Claim.—1. A stay for fences and similar objects comprising two wires formed into spirals of similar mesh whereby one of said wires may be screwed on the wires of a fence and secured thereto and then the other wire screwed into the mesh of the first wire and made to engage the wires of the fence.

2. A stay for fences and similar objects comprising two wires formed into spirals and meshing with each other and provided with ends thereof adapted to engage the top line-wire of a fence, either of said wires being adjustable longitudinally relative to the other whereby said stay is adapted to engage line-wires of different sizes.

3. The combination with the line-wires of a fence having wires of two or more strands, of a stay for said fence consisting of two wires formed into spirals and one wire screwed into the mesh of the other and engaging said line-wires and having the ends at one end of said stay bent to engage one of the line-wires.

4. The combination with the line-wires of a fence having the wires thereof composed of two or more strands twisted together, and stays therefor composed of two wires formed into spirals and screwed on said line-wires, said stay-wires inclosing in the mesh thereof the said line-wires at points where strands of the line-wires are one above the other.

5. The combination of the line-wires of fences or similar objects and stays therefor, said stays consisting of two wires screwed on said line-wires and one of said wires screwed into the mesh of the other and having the ends thereof bent about the top line-wire of the fence, the line-wires of the fence being composed of strands twisted together.

805,072. TOOL FOR DETACHING FASTENERS. ISAAC JACKSON, Glossop, England. Filed May 22, 1905. Serial No. 261,720.

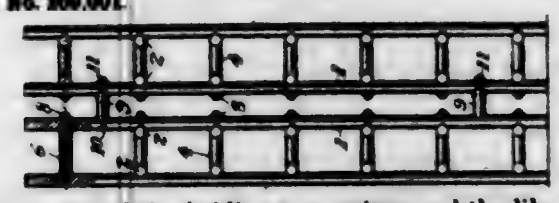


Claim.—1. A tool for detaching fasteners, having a head and lugs projecting from the plane of the same, the bearing-faces of said lugs diverging outwardly from the head, substantially as described.

2. A tool for detaching fasteners, having a head and lugs projecting from the plane of the head, the opposite bearing-faces of each lug diverging outwardly, substantially as described.

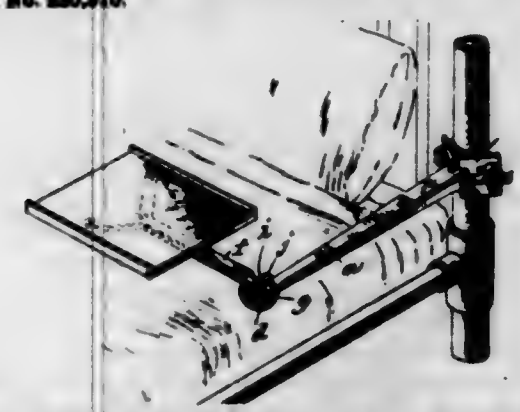
3. A tool for detaching fasteners, comprising a handle, a head, and lugs projecting from the plane of the head, the bearing-faces of said lugs diverging outwardly from the head, the lower faces of the lugs being rounded, substantially as described.

805,073. RACK FOR HOLDING TYPE-WRITERS AND THE LIKE. MILTON KELLOGG, New York, N. Y. Filed May 5, 1905. Serial No. 259,001.



Claim.—A rack for holding type-writers and the like, containing a plurality of vertical supporting-posts, arranged in pairs, a plurality of horizontal resting-bars, similarly arranged and located between said posts, the said posts and bars being substantially round in cross-section, horizontal struts separating each pair of said bars, and tie-bolts passing through said posts, bars and struts, the said bars being grooved to fit against said posts, and the ends of the struts rabbeted to fit said bars, whereby the parts are securely locked together, substantially as described.

805,074. INVALID'S TABLE. CHARLES E. KEMP, Williamsport, Pa., assignor, by mesne assignments, to Lycoming Specialty Company, Williamsport, Pa., a Corporation of Pennsylvania. Filed Aug. 12, 1904. Serial No. 220,510.

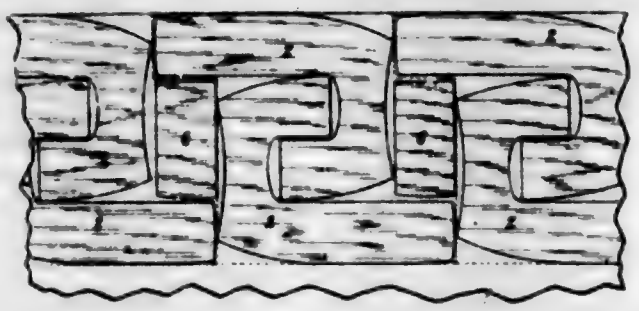


Claim.—1. In a device of the character described, the combination of a main arm provided at one end with means for adjustment to a support and at its other end with a cup, said cup being slotted in line with the arm, a table-supporting member having a socket formed at its outer end adapted to fit and turn within the cup on the main member and provided with a central bolt-hole, and a clamp-bolt extending up through the slot and hole in the cup and socket and provided with means for clamping the parts in their adjusted position, substantially as described.

2. In a device of the character described, the combination of a main arm provided at one end with means for adjustment to a support and at its other end with a cup, said cup being slotted in line with the arm and having its concave bearing-surface below the plane of the arm, and a table-supporting arm having a socket formed at its outer end, said socket being adapted to fit and turn within the cup and having its under bearing-surface arranged below the plane of the arm, a clamp-bolt extending up through the slot and a hole in the center of the socket and provided at its upper end with a clamp-nut.

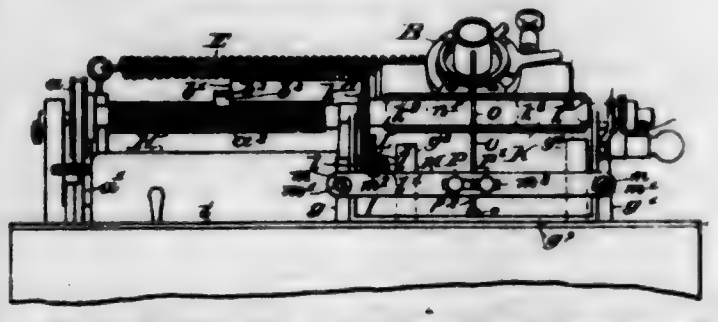
3. In a device of the character described, the combination of a main arm provided at one end with means for adjustment to a support and at its other end with a slotted cup, a table-supporting member having a cup-socket formed at one end adapted to turn and fit within the cup on the main arm and provided with a central bolt-hole, and a clamp-bolt extending up through the slot and hole and provided with a thumb-screw on its upper end, said thumb-screw lying in the cup-socket carried by the table-supporting member.

805,075. METHOD OF FORMING AND CUTTING SHOE-UPPERS. WILLIAM KENNEDY, Milwaukee, Wis., assignor of two-fifths to Louis Fuldner and Carl Wille, Milwaukee, Wis. Filed July 2, 1904. Serial No. 215,045.



Claim.—The method of forming and cutting shoe-uppers, consisting of providing duplicate patterns each in a generally U-shaped form with one leg truncated medially and including a transverse vamp, a full side piece and a partial side piece, placing these duplicate patterns on the material to be cut in reverse and interlocking positions so that the vamp of each upper will be at the end and transversely of the truncated side of the other part and the truncated side piece of each upper will be between the full side piece and the truncated side piece of the other part, and providing a pattern for the quarter necessary to complete the partial side piece to a full side piece, placing the quarter-pattern on the material along near the outer edge of the vamp of one of said duplicate patterns and adjacent at its end to the inner edge of the full side piece of said duplicate pattern and then cutting the material along the edges of the patterns.

805,076. REPEATING ATTACHMENT FOR TALKING-MACHINES. SAMUEL KIRSHAW, Lowell, Mass., assignor of one-half to Thomas Wardell, Lowell, Mass. Filed Jan. 31, 1905. Serial No. 242,556.



Claim.—1. The combination of a barrel having rests or parallel straight edges arranged at equal angular distances from each other, means of turning said barrel on its axis, a scape-wheel driven by said barrel and adapted to permit at each operation of said wheel the turning of said barrel an angular distance measuring one-half of the angular distance between adjacent rests, a release or escape piece, connecting means arranged to be moved by the operative movement of the reproducer-arm of a talking-machine, to release said wheel and to effect the movement of said barrel and the raising of said arm, with said arm and means for producing said operative movement thereof.

2. The combination of a barrel having rests or parallel straight edges arranged at equal angular distances from each other, means of turning said barrel on its axis, a scape-wheel driven by said barrel and adapted to permit at each operation of said wheel the turning of said barrel an angular distance measuring one-half of the angular distance between adjacent rests, a release or escape piece, connecting means arranged to be moved by the return movement of the reproducer-arm of a talking-machine, to release said wheel and to permit the movement of said barrel and the lowering of said arm, with said arm and means for producing said return movement thereof.

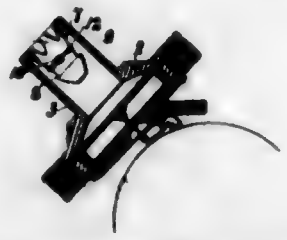
3. The combination of a barrel having rests or parallel straight edges arranged at equal angular distances from each other, means of turning said barrel on its axis, a scape-wheel driven by said barrel and adapted to permit at each operation of said wheel the turning of said barrel an angular distance measuring one-half of the angular distance between adjacent rests, a release or escape piece, a lever arranged to be moved by the operative movement of the reproducer-

arm of a talking-machine, to release said wheel and to effect the movement of said barrel and the raising of said arm.

4. The combination of a barrel having rests or parallel straight edges arranged at equal angular distances from each other, means of turning said barrel on its axis, a scape-wheel driven by said barrel and adapted to permit at each operation of said wheel the turning of said barrel an angular distance measuring one-half of the angular distance between adjacent rests, a release or escape piece, a lever arranged to be moved by the return movement of the reproducer-arm of a talking-machine, to release said wheel and to permit the movement of said barrel and the lowering of said arm.

5. The combination of a barrel provided with projecting straight edges parallel with the axis of said barrel and at equal angular intervals from each other, means of rotating said barrel, a scape-wheel, an escapement-piece, connecting means between said escapement-piece and the reproducer-arm of a talking-machine and adjusting devices whereby a movement of said arm a predetermined distance in either direction will release said escapement.

805,077. SOUND-MODIFIER FOR TALKING-MACHINES. CHARLES R. KING, New York, N. Y. Filed Mar. 14, 1905. Serial No. 250,033.



Claim.—1. A sound-modifier for talking-machine reproducers the same being constructed in tapering form with a passage through it and formed with a base which fits the sound-passage leading from the reproducer, said base being formed with marginal recesses, substantially as described.

2. A sound-modifier for talking-machine reproducers, the same being constructed in tapering form with a tapering passage through it and formed with a base which fits the sound-passage leading from the reproducer, said base being formed with marginal recesses, substantially as described.

3. A sound-modifier for the reproducers of talking-machine, the same being constructed in tapering form and with a longitudinal passage through it and having one or more strands crossing said longitudinal passage, substantially as described.

4. A sound or wave modifier for talking-machines constructed in conical form and having side passages formed therein and formed with a conical longitudinal passage and provided with one or more transverse strands held in said longitudinal passage, substantially as described.

805,078. CULTIVATOR. CHARLES C. KIRKLAND, Morrisville, N. Y. Filed Nov. 17, 1904. Serial No. 233,337.

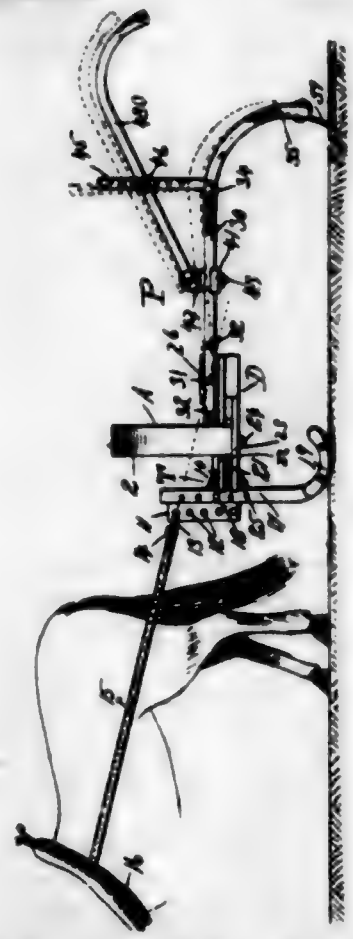
Claim.—1. In a cultivator, the combination with the draft mechanism, the plow-beam, and a flexible connection between them; of a support for and approximately beneath said point of connection, and means for attaching the power to the draft mechanism.

2. In a cultivator, the combination with the draft mechanism, the plow-beam, and a flexible connection between them; of a support for and approximately beneath said point of connection, and means for attaching the power to the draft mechanism at a point above the plane of the connection.

3. In a cultivator, the combination with the draft mechanism, the plow-beam, and a flexible connection between them; of a support for and approximately beneath said point of connection, a tongue connected with the draft mechanism and having a raised front end, and means for attaching the power to said front end at a point above the plane of the connection.

4. In a cultivator, the combination with the draft mechanism, the plow-beam, and a flexible connection between them; a tongue connected with the draft mechanism and having a raised front end, and means for attaching the power to said front end at a point above the plane of the connection.

5. In a cultivator, the combination with the draft mechanism having a raised block, means for attaching the power at a point above the block, and a supporting-runner adapted to travel on the earth at a point back of the draft and slightly forward of said block; of a plow-beam flexibly connected to the block by a pivot, and a shovel carried by said beam, the parts being of such relative proportion that when the machine is in motion said pivot will remain raised, substantially as described.



6. In a cultivator, the combination with the draft mechanism having a raised block, an upright with a series of holes at its front end, and a supporting-runner adjustably connected with said end and adapted to travel on the earth at a point back of the draft and slightly forward of said block; of a plow-beam flexibly connected to the block and a shovel carried by said beam, the parts being of such relative proportion that when the machine is in motion said pivot will remain raised, substantially as described.

7. In a parallel cultivator, the combination with a transverse arch, two members secured thereto and having means for attaching the power at points above the ends of the arch, and a supporting-runner carried by each member and adapted to travel on the earth at a point almost under the front edge of the arch; of two draft-beams secured to the arch, two plow-beams with their respective shovels, and a flexible pivotal connection between each plow-beam and its draft-beam, the parts being so arranged that when the machine is in motion the point of pivotal connection will remain raised.

8. In a parallel cultivator, the combination with a transverse arch, two tongue members secured thereto and having means for attaching the power at points above the ends of the arch, and a supporting-runner carried by each tongue member and adapted to travel on the earth at a point almost under the front edge of the arch; of two draft-beams secured to the arch and each carrying a raised block, two plow-beams with their respective shovels, and a pivot passing through each plow-beam and the block of its respective draft-beam at a point to leave a certain flexibility between them, the parts being of such relative proportion and said flexibility such that when the machine is in motion the pivot will remain raised.

9. In a parallel cultivator, the combination with a transverse arch, two draft-beams secured thereto and each having a raised block, and two gangs of plow-beams flexibly connected respectively to said blocks; of a transverse arch, two members secured thereto and having raised front ends pierced with a hole, means for attachment of the power to said hole so that the line of draft if projected through it would intersect the pivot of the plow-beams, and means for supporting said members from the earth at points just forward of said pivots, as and for the purpose set forth.

10. In a parallel cultivator, the combination with an arch, two draft-beams secured thereto and two plow-beams connected with the draft-beams; of runners connected with the ends of the arch and having shoes adapted to contact with the earth just forward of said points of connection, and means for connecting the power with each end of the arch in a plane above the latter.

11. In a parallel cultivator, the combination with an arch member composed of a flat beam with horizontal extremities, and the draft-beams and plow-beams connected with said ends; of two members each horizontally slotted at its rear end for the reception of the

end of the arch, that portion below the latter being wider than that above, the forward end of each member having means for the attachment of the draft at a point above the end of the arch, and a supporting-runner connected therewith.

12. In a parallel cultivator, the combination with an arch member composed of a flat beam with horizontal extremities, means for supporting said ends, and means for connecting the draft-animals therewith at points above said extremities; of two draft-beams each forked at its front end to embrace the end of the arch, that portion above the latter being wider than that portion below, and a plow-beam connected with each draft-beam.

13. In a parallel cultivator, the combination with a transverse arch, means for supporting its extremities, and means for attaching the draft; of two draft-beams secured to said extremities and each having a raised block, and two plow-beams each consisting of parallel upright strips diverging downward at their rear ends to carry the shovels, their forward ends passing astride said blocks respectively and pivoted thereto so as to have a certain flexibility of motion vertically on the draft-beam, and strengthening-bolts through said strips in front and in rear of the blocks

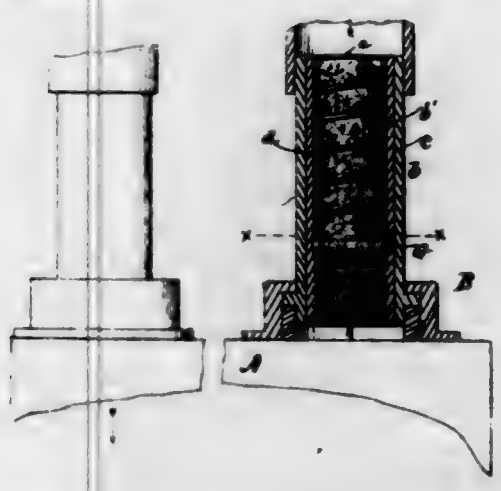
14. In a cultivator, a plow-beam having its rear end bent downward and provided with a slot, a shovel-support pivoted to the lower extremity of said beam and having a series of holes arranged in staggered relation to each other and all adapted to register with said slot for the reception of a pin, and a shovel carried by said support.

15. In a cultivator, the plow-beam consisting of upright strips which diverge toward the rear and carry the shovels at their rear extremities, a transverse member connecting said strips, an L-shaped member adjustable on said transverse member, and a handle flexibly connected at its front end with said strips and vertically adjustable where it crosses said L-shaped member.

16. In a cultivator, the plow-beam consisting of upright strips which diverge toward the rear and carry the shovels at their rear extremities, a plate beneath said strips at their point of divergence, a T-shaped member above, a bolt connecting said plate and member to clamp all parts together, a handle pivoted to said T-shaped member, and means for adjustably supporting the handle from the rear portions of said strips.

17. In a cultivator, the plow-beam consisting of upright strips which diverge toward the rear and carry the shovels at their rear extremities, a transverse member connecting said strips, an L-shaped member adjustable on said transverse member, a plate beneath said strips at their point of divergence, a T-shaped member above, a bolt connecting said plate and member to clamp all parts together, and a handle pivoted to said T-shaped member and adjustably attached to said L-shaped member.

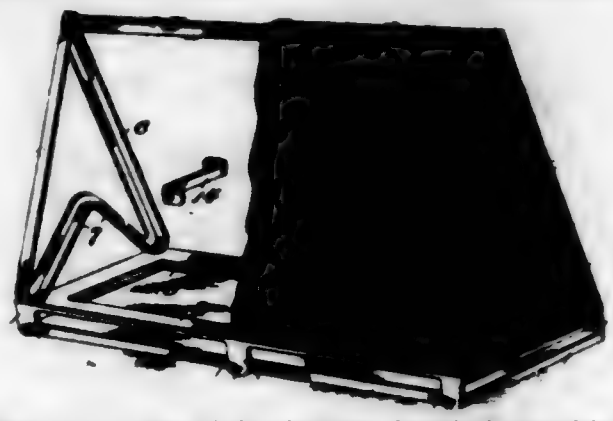
805,079. GAS ECONOMIZER AND PURIFIER. FRANK G. KOEHLER and LOUIS F. KOEHLER, Philadelphia, Pa. Filed Aug. 22, 1905. Serial No. 275,332.



Claim.—1. The herein-described gas-pressure regulator and purifier comprising the section *c*, the sponge-filling *b'*, the spring *d* embracing the sponge, and the perforated, adjustable partition G, said section *c*, with its contained parts being adapted to be inserted in and removed from an ordinary gas-pipe union or coupling member without disarrangement of its parts, substantially as described.

2. The combination with the gas-supply pipe leading from a meter to the distributing branches, and with the union coupling said pipe to the meter, of the section *c*, sponge *b'*, spring *d* embracing said sponge, and the adjustable partition G against which the spring bears and by which the spring and sponge are compressed.

805,080. FLY-TRAP. JOSEPH KRAUS, Bisbee, Ariz. Filed Mar. 25, 1905. Serial No. 252,022.



Claim.—1. A trap of the character described comprising upwardly-converged sides, bars or strips attached to the converged edges of said sides and adapted to be moved apart by pressing the ends of the bars together, and fastenings for connecting said bars intermediate of their ends substantially as set forth.

2. The herein-described fly-trap consisting of a base, a frame mounted upon the base and having integral legs connecting and transversely spacing it from the base, end frames attached to opposite end portions of the base-frame, each of said end frames comprising upwardly-converged side bars and A-shaped cross-pieces, end closures attached to said end frames, upwardly-converged sides and inner upwardly-converged walls attached to corresponding parts of said end frames, longitudinal bars attached to the upper edges of said converged sides, braces for staying opposite ends of the longitudinal bars, and fastenings for connecting the longitudinal bars at points intermediate their ends.

805,081. PROCESS OF TREATING VEGETABLE JUICES. TADEUSZ VON LEWICKI, Warsaw, Russia. Filed Apr. 6, 1904. Serial No. 201,579.

Claim.—1. The process of treating vegetable juices which consists in precipitating the albuminous bodies contained therein in a condition relatively free from admixture with foreign substances and separating the said albuminous bodies from the albumen-free juice prior to removing the remaining impurities therefrom.

2. The process of treating sugar-juice as taken from the diffusion batteries in the manufacture of sugar, which consists in precipitating the albuminous bodies contained therein in a condition relatively free from admixture with foreign substances by adding to the said juice an alkaline base in sufficient quantities to unite with and neutralize the organic acids therein contained and free the albumen normally combined therewith, and separating the said albuminous bodies from the albumen-free juice prior to removing the remaining impurities from the said juice.

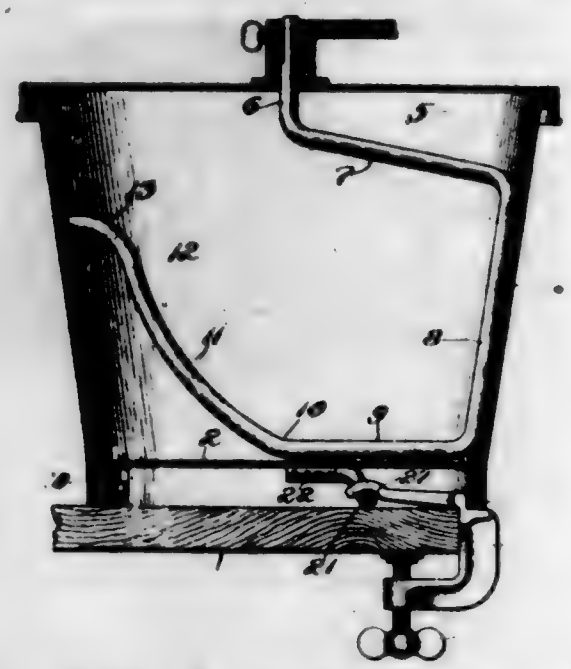
3. The process of obtaining albuminous bodies relatively free from admixture with foreign substances, from sugar-juice which consists in adding to the said juice, as taken from the diffusion batteries in the manufacture of sugar, an alkaline base in sufficient quantities to unite with and neutralize the organic acids therein contained and free the albumen normally combined with the said organic acids, causing the albuminous substances to coagulate and finally separating the same from the sugar-juice.

805,082. BREAD-MIXER. LOUIS LIBERMAN, Everett, Mass. Filed July 10, 1905. Serial No. 268,955.

Claim.—1. A bread-mixer, comprising a receptacle, and a rotary stirrer-rod vertically journaled coaxially of the receptacle, said rod at the lower end of its vertical journal being bent outwardly and thence downwardly parallel and close to the side of the receptacle for constituting a side-scraper, and thence from the lower end of the latter extending inwardly toward the center parallel and close to the bottom to constitute a bottom-scraper, and thence extending upwardly in that side of the receptacle which is opposite said side-scraper, at a distance from the adjacent side of the receptacle to constitute a kneader.

2. A bread-mixer, comprising a receptacle, and a rotary stirrer-rod vertically journaled coaxially of the receptacle, a portion of said rod next to its vertical journal extending parallel and close to the side of the receptacle for constituting a side-scraper, and thence extending laterally parallel and close to the bottom to constitute a bottom-scraper, and thence extending upwardly at a distance from the opposite side of the receptacle to constitute a kneader, and terminat-

ing in a short lateral portion extending approximately to the side of the receptacle.



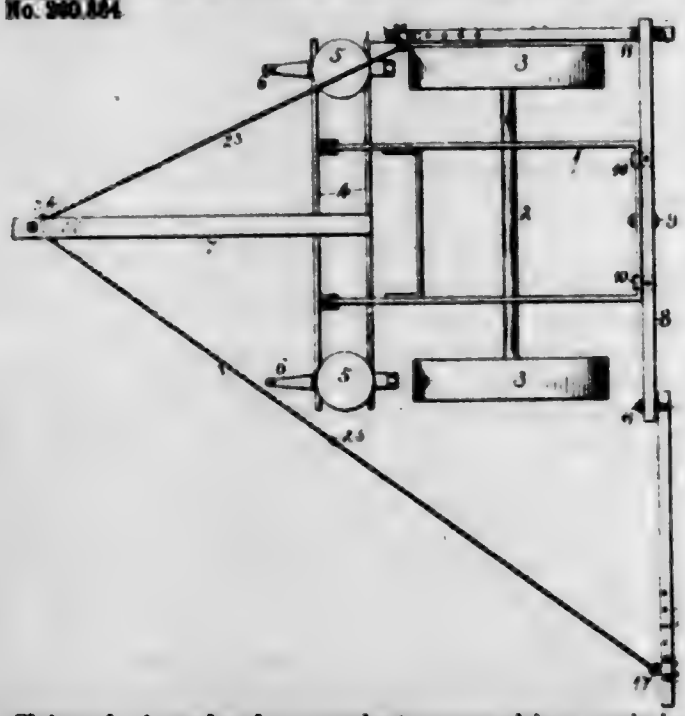
3. In a bread-mixer, the combination, with a receptacle, of a rotary stirrer-rod having its free end extending upwardly to constitute a kneader adapted to pass through the midst of the dough mass, said kneader having at its upper end an outwardly-bent dumper portion.

4. In a bread-mixer, the combination, with a receptacle, of a vertically-journaled stirrer-rod mounted therein, having a kneader portion extending upwardly in the midst of the receptacle at a considerable distance from the sides, the lower end of said kneader portion being connected directly to the journal end of the stirrer-rod, and the upper end of said kneader portion being separated by an open space from said journal end.

5. In a bread-mixer, the combination, with a receptacle, of a vertically-journaled stirrer-rod mounted therein, and terminating at one side of the receptacle in an upwardly-extending laterally-bent dumper for limiting the upward movement of the dough and aiding in turning it downward.

6. In a bread-mixer, the combination, with a receptacle, of a vertically-journaled stirrer-rod mounted therein, and having a laterally-bent dumper portion connected to the vertical journal end of the stirrer-rod by a part extending downwardly from said dumper portion and thence upwardly to said journal end.

805,083. **ATTACHMENT FOR CORN-PLANTERS.** LEROY LINDSEY, Seymour, Iowa, assignor of one-half to Richardson & Phillips Company, Seymour, Iowa, a Copartnership. Filed May 17, 1905. Serial No. 260,884.



Claim.—1. A marker for corn-planters comprising a main bar, and two marker-bars, one pivoted to each end of the main bar, the connection consisting of an angle-bolt, one branch of the bolt connected to the main bar, and the other branch of the bolt connected to the marker-bar.

2. A marker for corn-planters comprising a marker-bar, a cotter supported by the marker-bar, and a rope having one end connected to the cotter in order that the cotter may become disengaged from the marker-bar when severe strain is applied to the marker-bar.

805,084. **COLOR-MATCHING DEVICE FOR CALCIMINERS.** MAGNUS H. LOUNSBERY, Highland Park, Ill., assignor of one-half to George Funk, Chicago, Ill. Filed Nov. 28, 1904. Serial No. 234,670.



Claim.—1. A color-matching device, comprising a suitable frame, a heating device, and a color-matching tablet removably supported on and fitted to said frame within the influence of said heating device.

2. A color-matching device, comprising a suitable frame, a heating device, and a color-matching tablet removably supported on and fitted to said frame within the influence of said heating device and provided with a smooth plaster-like face to which a color compound is to be applied.

3. A color-matching device comprising a suitable frame, a heating device, and a color-matching tablet removably supported on said frame, comprising a reticulated base-plate formed with a handle, and a layer of plaster-like material to which latter the color compound is to be applied.

4. A color-matching device, comprising a box-like frame having an opening, a heating device therein, and a color-matching tablet constituting one of the walls of said box-like frame and fitted in said opening.

5. A color-matching device, comprising a box, one wall of which is made of skeleton form, a plurality of color-matching tablets removably supported on and fitted to said skeleton wall of the box, and a heating device within the box.

6. A color-matching device, comprising a box, and a heating device therein, the upper wall of the box comprising a plurality of removably-supported color-matching tablets.

7. A color-matching device, comprising a box, a heating device therein, the upper wall of the box embracing a skeleton frame, and a plurality of color-matching tablets removably supported thereon.

8. A color-matching device, comprising a box, a heating device therein, the upper wall of the box embracing a skeleton frame, and a plurality of color-matching tablets removably supported on said frame, one side wall of the box constituting a hinged door.

9. A color-matching device, comprising a box, a heating device therein, the upper wall of the box embracing a skeleton frame, a plurality of color-matching tablets removably supported therein, said upper wall of the box being provided with an opening and a damper fitted in one wall of the box.

805,085. **METAL FILING DEVICE.** RUDOLPH MEIER and WILLIAM H. FLOYD, Jr., St. Joseph, Mo. Filed Jan. 24, 1905. Serial No. 242,473.



Claim.—1. In a metal filing device the combination with a supporting-roof, of a plurality of hook-strips rigidly attached parallel with each other to said roof, a corresponding plurality of guide-strips

running parallel with each other having a length one-half that of the hook-strips and adapted to travel therein, cap ends thereof provided with slots for receiving brads by which the edges of maps or drawings may be retained within said caps, a stop-piece at the extension ends of the hook-strips to prevent the escape of the guide-strips therefrom and screws and buttons adapted to operate in slots in the stop-piece to hold said piece in position but permit its removal and allow maps or drawings to be removed from or inserted in the device, substantially as shown and described.

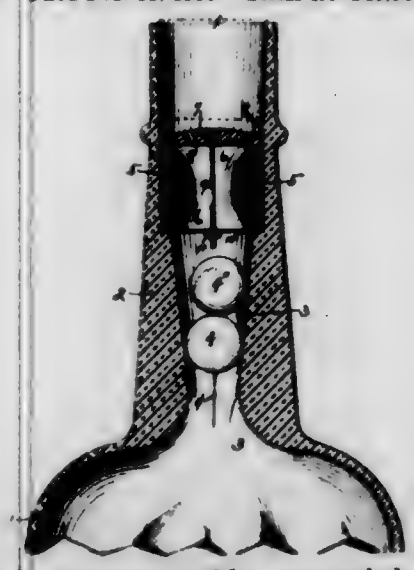
2. In a filing device the combination of a case having an end door folding rearwardly a roof and extension thereof, a plurality of hook-strips rigidly fastened to the roof and extending parallel with each other the entire width of the roof and its projection, a plurality of guide-strips adapted to travel in said hook-strips, bent ends thereof provided with slots for brads adapted to support the edges of maps or other sheets within said bent ends, a stop-piece provided with slots and screws and buttons adapted to operate in said slots, substantially as shown and described.

805,086. ACETYLENE-GAS GENERATOR. EUGÈNE MOREAU, New York, N. Y. Filed June 26, 1901. Serial No. 65,980.



Claim.—The combination of a casing having a valveway, a spider carried by the casing and provided with a cylindrical passage, a plunger-valve seated in said passage, and a normally vertical pendant having a shank provided with a circular head, said spider having ports or ways and an opening through which the shank of the vertical pendant works, said opening having a flange or rim, the arrangement being such that when the casing is turned out of its proper position a portion of the circular head turns about the rim as a fulcrum while the diametrically opposite portion of the head pushes upon the valve and shifts and holds it against its seat, substantially as described.

805,087. NON-REFILLABLE BOTTLE. JOHN J. MCDONALD, Allegheny, Pa. Filed Feb. 18, 1905. Serial No. 246,260.



Claim.—1. In combination with a receptacle having a neck, a suitable valve within the neck, a plug having an opening therethrough arranged within the neck above the valve, a perforated cover for the plug, and means passing through the opening of the plug for holding the cover to the plug.

2. In combination with a receptacle having a neck, a suitable valve within the neck, a plug having an opening therethrough arranged within the neck above the valve, a cover for the plug having an inclined passage-way therethrough and means passing through the opening of the plug for holding the cover to the plug.

3. In combination with a receptacle having a neck, a suitable valve within the neck, a plug having an opening therethrough arranged within the neck above the valve, a perforated cover for one end of the plug, a cross-bar at the opposite end of the plug, and a connection between the cover and the cross-bar for holding the said cover to the plug.

4. In combination with a receptacle having a neck, a suitable valve within the neck, a plug having an opening therethrough arranged within the neck above the valve, a perforated cover for one end of the plug, a cross-bar at the opposite end of the plug, and a connection between the cover and the cross-bar passing through the opening of the plug for holding the said cover to the plug.

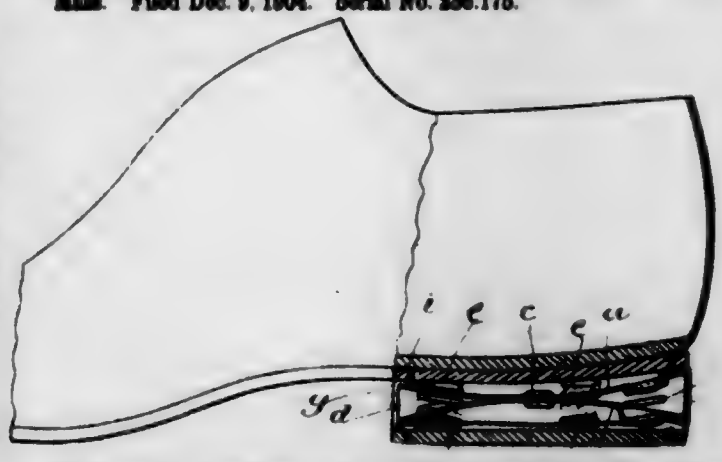
5. In combination with a receptacle having a neck, a suitable valve within the neck, a plug having an opening therethrough arranged within the neck above the valve, a perforated cover for one end of the plug, a cross-bar at the opposite end of the plug, a stem secured at one end to the cover and at the opposite end to the cross-bar for holding the said cover to the plug.

6. In combination with a receptacle having a neck, a suitable valve within the neck, a plug having an opening therethrough flared at both ends arranged within the neck above the valve, a perforated cover for the plug, said cover having its free surface convex, and means for holding the cover to the plug.

7. In combination with a receptacle having a neck, a suitable valve within the neck, a plug having an opening therethrough arranged within the neck above the valve, a perforated cover for the plug and means passing through the opening of the plug and arranged beneath the plug for binding said cover to the plug.

8. In combination with a receptacle having a neck, a suitable valve within the neck, a plug having an opening therethrough flared at both ends arranged within the neck above the valve, a perforated cover for the plug, and means for holding the cover to the plug.

805,088. CUSHION-HEEL. WILLIAM T. MCLAUGHLIN, Boston, Mass. Filed Dec. 9, 1904. Serial No. 236,175.



Claim.—1. A cushion-heel comprising a pair of resilient plates connected together at their central portions and separated at their peripheries, the peripheral portions being adapted to yield under pressure, and springs interposed between the separated portions of the plates, and arranged to hold them apart.

2. A cushion-heel comprising a pair of resilient plates connected together at their central portions and separated at their peripheries, springs interposed between the separated portions of the plates, and a leather strip fastened to the edges of the plates extending over the space between them.

3. A cushion-heel comprising a pair of resilient plates connected together at their central portions and separated at their peripheries, said plates having offset portions adjacent their edges, the offset portions of one plate being opposite the corresponding offset portions of the other plate, and springs interposed between the plates and engaged with said offset portions.

4. A cushion-heel comprising a pair of resilient plates connected together at their central portions and separated at their peripheries, one of the plates having bosses or protuberances adjacent its edge and the other having depressions in line with said protuberances, and helical springs interposed between said plates with their ends engaged with said protuberances and depressions.

5. A cushion-heel comprising a pair of resilient plates connected together at their central portions and separated at their peripheries, springs interposed between the separated portions of the plates, a leather strip fastened to the edges of the plates extending over the space between them, and a top-lift connected to one of said plates.

6. A cushion-heel comprising a pair of resilient plates connected together at their centers and separated at their peripheries, and a

plurality of independent springs interposed between the separated portions of the plates and detachably engaged therewith.

805,089. BLAST-CHARGER. ERNEST H. KOERR, Cedar Rapids, Iowa. Filed June 17, 1905. Serial No. 265,768.



Claim.—1. In a blast-charger, the combination of a powder-holding tube or flask, a jointed rod attached thereto, a jointed handle, and a plunger attached thereto and adapted to slide in said flask.

2. In a blast-charger, the combination of a powder flask or tube, a plunger to slide therein, a stop to limit the movement thereof, a jointed handle attached thereto, and a jointed rod attached to the flask.

3. In a blast-charger, the combination of a powder-flask, a plunger to slide therein, a jointed handle attached thereto, a jointed rod attached to the flask, guides on the handle for said rod, and a stop to limit the movement of the plunger and bring the joints of the handle and rod into alinement.

4. In a blast-charger, the combination of a powder-flask, means for moving the same back and forth with respect to an internal plunger, a jointed handle, a plunger attached thereto, and a sliding sleeve to slip over the joint and make the handle rigid.

5. In a blast-charger, the herein-described handle, comprising two sections, a connecting-hinge, metal casings adjacent to the hinge, and a metal sleeve to slide on said casings.

6. In a blast-charger, the combination with a suitable powder-flask and handle, of a plunger of wood, somewhat smaller than the inside of the flask, and an external ring for said plunger, formed of metal, substantially as and for the purpose set forth.

805,090. AMALGAMATOR. CHARLES W. PATTEN, Lynn, Mass. Filed Mar. 20, 1905. Serial No. 251,247.

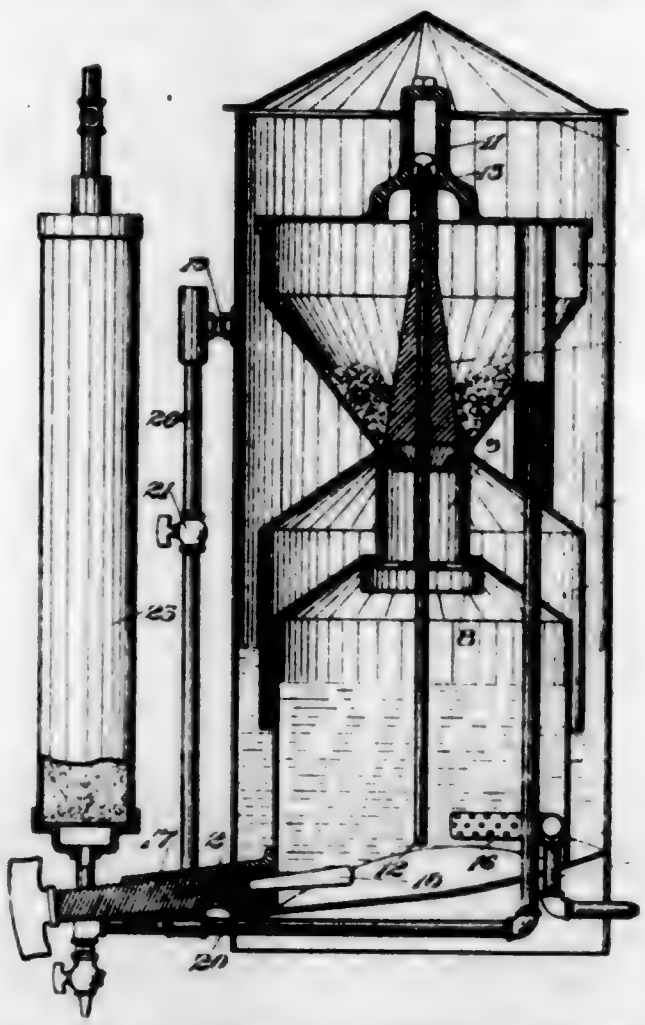


Claim.—1. An amalgamator comprising an elongated, mercury-containing trough, having a weir at its discharge end, one or more submerging-drums at the inlet end thereof, and means for discharging a series of water-jets onto the surface of the mercury between said weir and said drums, and adjacent the latter, substantially as described.

2. An amalgamator comprising an elongated mercury-containing trough having a shallow portion of substantially uniform depth, and having a weir at the discharge end of said shallow portion, and a pit of greater depth at the opposite end thereof, one or more submerging-drums in said pit, and means for discharging a series of water-jets onto the surface of the mercury between the weir and said drums, substantially as described.

3. An amalgamator comprising an elongated mercury-containing trough having a shallow portion of substantially uniform depth, and having a weir at the discharge end of said shallow portion, and a pit of greater depth at the opposite end thereof, one or more submerging-drums in said pit, a rotatable water-supplying pipe extending transversely of said trough having a series of jet-orifices therein, substantially as described.

805,091. ACETYLENE-GAS MACHINE. JEFFERSON F. PHILPOTT, Windsor, Cal. Filed May 10, 1905. Serial No. 260,256.



Claim.—1. In an acetylene-gas generator, devices, including an exterior case, a gasometer and a liquid seal within the case, an independent central generator-chamber, a carbid-chamber superposed upon the gasometer in line above the generator, said carbid-chamber being mounted upon the top of the gasometer and having a vertical extension and said exterior case inclosing both the gasometer and carbid-chamber and having an internal guide for said extension and means actuated by the rise and fall of the gasometer to intermittently discharge carbid into the generator.

2. In an acetylene-gas generator, an exterior case, an internal gasometer and liquid seal therefor, a central generating-chamber, a carbid-chamber superposed upon and carried by the gasometer in line above the generator-chamber and provided with a vertical top extension, a valve normally closing the discharge of the carbid-chamber, and a rod or stem carried by the valve, said case having a fixed guide for said extension and rod acting to open the valve when the gasometer sinks.

3. In an acetylene-gas generator, a case having an internal guide, an internal gasometer and annular liquid seal, a centrally-disposed generator-chamber with an opening at the top, a carbid-chamber superposed upon the gasometer and having a discharge-passage in line with the generator-opening, said carbid-chamber having a bottom converging to the discharge-opening, and having a vertical extension at its top adapted to fit said internal guide, a valve closable upon said discharge, and a contact device carried by the valve, and acting to intermittently open and close the valve in unison with the movement of the gasometer.

4. In an acetylene-gas generator, a case having an internal guide, an internal gasometer and annular liquid seal therefor, a central generator-chamber extending up into the gasometer, having a dome-shaped top; a central opening and a flange depending from the periphery of the opening, a carbid-chamber having a tubular extension registering with the generator-chamber opening, said carbid-holder having an extension above its top fitting the internal guide of the case, a controlling-valve, and means carried by the gasometer to

open and close the valve in unison with the sinking and rising of the generator.

5. In an acetylene-gas generator, an exterior case having an internal fixed guide, an inclosed gasometer, an annular channel containing a liquid seal, an independent centrally-located generating-chamber, a conical carbid-chamber carried by and movable with the gasometer, and having a central discharge through the gasometer into the generator, said carbid-chamber having, also, a centrally-located extension above its top adapted to fit said guide, a gravity-valve controlling the passage from the carbid-chamber to the generator, said valve having its upper portion made conical and extending upward into the carbid-chamber.

6. In an acetylene-gas generator, an exterior case, an inclosed gasometer, an annular liquid seal therefor, an interior generating-chamber, a carbid-chamber carried by and movable with the gasometer, a central passage from the carbid-chamber through the gasometer to the generator and an automatic controlling-valve therefor, a closed tube extending from the gasometer into the carbid-chamber, and a fixed discharge-pipe extending into the tube and having an open upper end.

7. In an acetylene-gas generator, an exterior case having an internal fixed guide, an inclosed gasometer, an annular liquid seal therefor, an interior generating-chamber, a carbid-chamber carried by and movable with the gasometer, said carbid-chamber having a cap with a vertical extension fitting the fixed guide of the exterior case, a central passage from the carbid-chamber through the gasometer and registering with the opening in the generator-chamber, a vertically-movable valve controlling the passage from the carbid-chamber, a stem carried by the valve, a fixed contact by which the valve is opened when the gasometer sinks, and means for adjusting the stem and varying the opening of the valve.

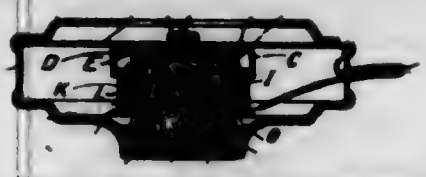
8. In an acetylene-gas generator, an exterior case, an inclosed gasometer and annular liquid seal, an interior generating-chamber, a carbid-chamber carried by and movable with the gasometer, a cap for said chamber having a vertical extension, and a fixed guide through which said extension is slidable.

9. In an acetylene-gas generator, an exterior case, an inclosed gasometer and annular liquid seal, an interior generating-chamber, a carbid-chamber carried by and movable with the gasometer, a tubular cap upon the carbid-chamber and a fixed guide through which it is slidable, a passage leading from the carbid-chamber to the generator, a gravity-valve controlling the passage, said valve having a stem slidable in the tubular cap of the chamber and guiding the valve.

10. In an acetylene-gas generator, a rising and falling gasometer and a carbid-chamber carried thereby and having a central opening, a vertically-movable valve controlling said opening, a tubular guide within which the guiding end of the valve is slidable, said tube forming a cap for the carbid-chamber, and a fixed guide within which said tube is independently slidable.

11. In an acetylene-gas generator, an exterior case, an inclosed gasometer and annular liquid seal, an interior generating-chamber, a carbid-chamber carried by and movable with the gasometer, a central passage from the carbid-chamber to the generator, and a controlling-valve, a tube extending from the gasometer into the carbid-chamber, a fixed pipe extending into the tube and serving to conduct the gas from the apparatus.

805,092. **ELECTRIC TRANSMITTER.** JEROME PRINCE, Milford, Mass., assignor of parts to Charles B. Aldrich and John H. Macdonald, Beverly, Mass. Filed Feb. 3, 1905. Serial No. 243,333.



Claim.—1. The herein-described telephone-transmitter including a casing having a vibratory diaphragm, a flexible disk having copper, zinc and carbon plates coöperative therewith and secured to the diaphragm, a carbon cup having carbon, zinc and copper plates, connected to the interior of said case and arranged opposite said flexible disk, granules interposed between the plates in the respective disk and cup, and circuit-wires connected to the electrode of the transmitter.

2. The herein-described telephone-transmitter including a casing having a vibratory diaphragm, a flexible disk secured thereto and having copper, zinc and carbon plates, a carbon cup oppositely disposed to said flexible disk, carbon, zinc and copper plates within said carbon cup, means for securing the cup to the said case granules of copper, zinc and magnetic ore interposed between the said plates in the respective disk and cup, and circuit-wires metallically connected to the electrodes of the transmitter.

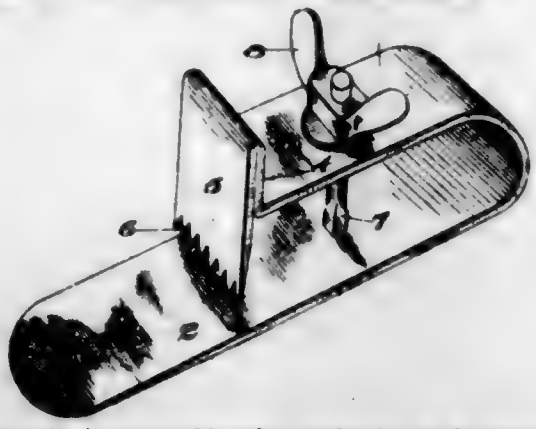
805,093. **COUPLING FOR ELECTRICAL CONDUITS.** ALEXANDER C. PROUDFIT, New York, N. Y. Filed Oct. 14, 1903. Serial No. 176,868.



Claim.—1. A coupling member for electrical conduits and the like comprising a metal body having a plurality of mouths to receive pipe, and an inner integral, medial flange presenting convex rounded surfaces toward each mouth of said coupling, substantially as described.

2. A coupling member of the class described comprising a metal body having a plurality of mouths to receive pipe ends and an integral inner flange or constriction less in diameter than the pipe-bore and presenting convex surfaces toward each mouth of said coupling, substantially as described.

805,094. **SHINGLE GAGE AND CLAMP.** GABRIEL REED, Fort Bragg, Cal. Filed Sept. 8, 1905. Serial No. 277,577.



Claim.—1. A gage and bracket made of a single piece of spring metal bent to provide two arms capable of a limited movement toward and from each other, one arm made flat and straight and provided with a clamping-screw, the other perforated to receive said clamping-screw, a nut to fit said screw, said other arm having its end bent abruptly and substantially at right angles to the first-named arm, said bent end serrated and coöperating with said first-named arm as a clamp.

2. A gage and bracket made of a single piece of spring metal bent to provide two arms capable of a limited movement toward and from each other, one arm made flat and straight and adapted to be inserted beneath a shingle, the other arm having its end bent first outwardly from the first-named arm and then bent inwardly and abruptly and approximately at right angles to the first-named arm, and said inwardly-bent end extending across the end of the second-named arm and serrated and forming a jaw member to grip the upper side of the shingle, and means to compress the arms.

805,095. **METHOD OF MAKING OXID-COATED SHEET METAL.** AMBROSE RIDD, Newport, Ky. Filed Aug. 1, 1905. Serial No. 271,309.

Claim.—1. The herein-described method of manufacturing rust-proof sheet-iron, said method consisting of depositing a heavy uniform layer of oxid of iron throughout the whole of the surface of a sheet of metal while the latter is in a heated condition, and then passing the same through heated rolls.

2. The herein-described method of manufacturing rust-proof sheet-iron, said method consisting in applying to the surface of the sheet while hot, a dry powdered oxid and then subjecting the coated sheet to heat and pressure.

3. The herein-described method of manufacturing rust-proof sheet-iron, said method consisting in applying to the sheets while the latter is heated, a uniform layer of dry powdered oxid, and then passing the coated sheet while still in a heated condition through heated rolls.

4. The herein-described method of manufacturing rust-proof sheet-iron, said method consisting in depositing a heavy layer of oxid on the sheet to be treated, and then passing the oxid-coated sheet

through a pair of heated compression-rolls positively driven and having uniform surface speed.



5. The herein-described method of manufacturing rust-proof sheet metal, said method consisting in applying oxid in finely-divided form to the surface of the sheet while the latter is in an annealing or heating oven, and then rolling the sheet to compress and condense the oxid and afterward annealing said sheet.

6. The herein-described method of manufacturing rust-proof sheet-iron, said method consisting in introducing an iron oxid in finely-divided form between the sheets of a pack, rolling the pack, applying oxid to the single sheets of the pack and then rolling the single sheets in order to compress and condense the oxid.

7. The herein-described method of manufacturing rust-proof sheet metal, said method consisting in placing an oxid in finely-divided form between the sheets of a pack while the latter is in an annealing-oven, rolling the pack, passing the same to an annealing-oven, supplying additional oxid to the single sheets of the pack, rolling the sheets separately, passing the same to the first annealing-oven, applying oxid to the opposite side of the sheet, again rolling said sheet, and finally annealing the sheet.

805,096. TROLLEY-WHEEL AND MOUNTING THEREFOR. FRANK E. RUSSELL, Elmira, N. Y., assignor of one-half to Albert D. Lane, Shoshone Agency, Wyo. Filed Apr. 15, 1905. Serial No. 255,804.

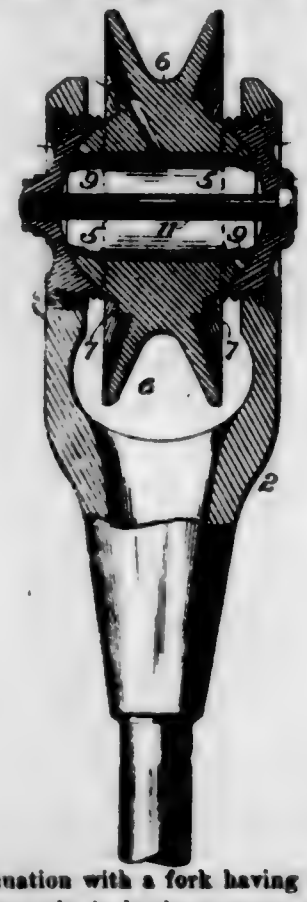
Claim.—1. The combination with a fork, of bearing blocks or cups adjustable in the fork and having sockets therein, and a trolley-wheel having semispherical journals or enlargements having fixed relation to each other and to the wheel and mounted in said bearing blocks or cups.

2. The combination with a fork, of bearing blocks or cups screwed into openings in the fork, a trolley-wheel, semispherical journals or enlargements at the sides thereof having fixed relation to each other and to the wheel and located in the blocks or cups, and a bolt passed through said blocks and trolley-wheel.

3. The combination with a fork and adjustable bearing-blocks therein, of a rotary and laterally-tilting trolley-wheel having its journals located in the cups or blocks, a lubricant-chamber in the wheel and said journals having openings communicating with the lubricant-chamber.

4. The combination with a trolley-fork having threaded openings in its sides, of bearing blocks or cups screwed into said openings and having sockets in their inner faces, a trolley-wheel having semispherical journals located in the sockets, annular shoulders around said journals to limit the tilting of the wheel, a bolt passed through the blocks and wheel, an angular socket on one block for the head of the bolt and a threaded opening in the other block for the threaded end of the bolt.

5. The combination with a fork having sockets in its arms, of a trolley-wheel having spherical enlargements to enter said sockets and having a large central opening, a bolt passing through said opening and the arms of the fork for connecting the parts together and shoulders on the wheel to engage the arms of the fork.



6. The combination with a fork having sockets therein, of a trolley-wheel having spherical enlargements to turn in said sockets, and a clamping-bolt passed through the fork and through a wide opening in the wheel to hold the parts together.

7. The combination with a fork having sockets therein and shoulders adjacent to the sockets, of a wheel having spherical enlargements to enter and turn in said sockets and having a wide horizontal bore, a bolt passed through the fork and wheel and shoulders on the wheel to contact with the shoulders of the fork and limit the tilting movement of the wheel.

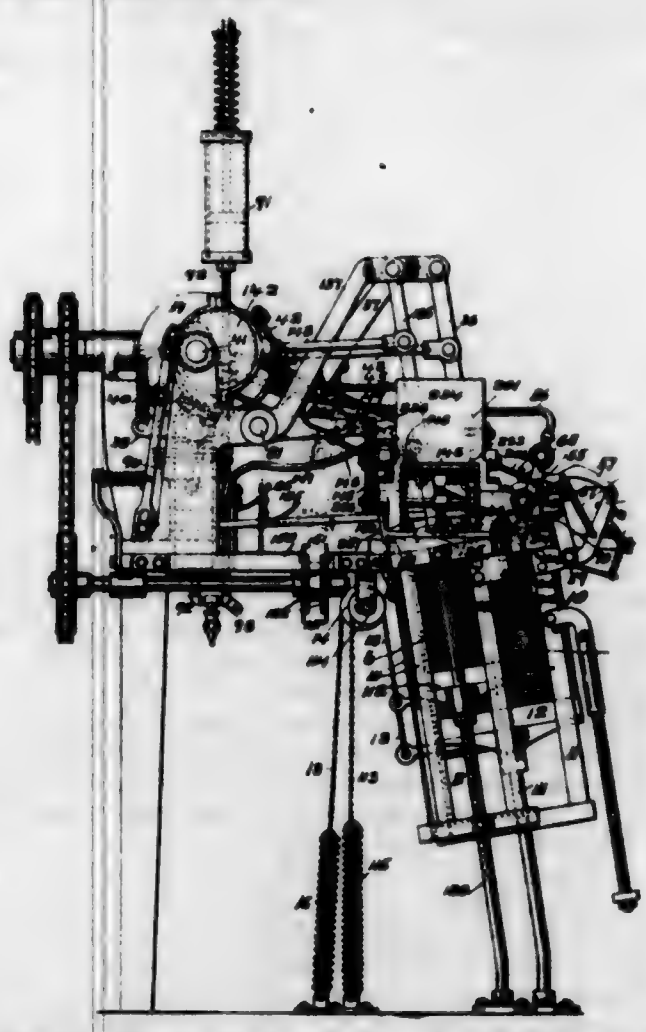
805,097. DRAFT-EQUALIZER. FRANK M. RUTTER, Crary, N. D. Filed Feb. 28, 1905. Serial No. 247,784.



Claim.—The combination with the pole 1 having the slot 5, of the strap 7 secured to said pole, overlying said slot 5 and itself pro-

vided with a slot 8, a pivot-bolt 9 passed through said slots and provided, at its lower end with a nut 10 and washer 11, a half-bearing 12 in said slot 5 engaging said bolt 9, and the spring 13 in said slot 5, reacting against the intermediate portion of said bearing 12 and against the forward plate of said slot 5, and an equalizer having a beam 3 placed between the pole and said strap 7, and pivotally mounted on said bolt 9, substantially as described.

805,098. SHEET SEPARATING AND FEEDING MECHANISM. CHARLES E. SAGE, Jersey City, N. J., assignor to The American Tobacco Company, New York, N. Y., a Corporation of New Jersey. Filed Sept. 13, 1902. Serial No. 123,236.



Claim.—1. The combination of a plurality of sheet separating and transferring devices for transferring sheets successively from a plurality of piles, means for applying paste to the successive top sheets of one of the piles, means for associating sheets transferred by said devices, substantially as described.

2. The combination of a plurality of sheet separating and transferring devices for transferring sheets successively from a plurality of piles, means for applying paste to the successive top sheets of one of the piles, and conveying devices for conveying the sheets as delivered from said pile into position to have the sheets from another pile superposed thereon, substantially as described.

3. The combination of a suction-transferrer for taking sheets successively from a pile, a buckling device acting by engagement with the surface of the top sheet to lift one edge thereof from the pile before it is seized by the transferrer, and means for raising the transferrer to carry the sheet from the pile and for simultaneously moving the transferrer toward the side of the pile at which the edge of the sheet is raised, substantially as described.

4. The combination of a suction-transferrer for taking sheets successively from a pile, a buckling device acting by engagement with the surface of the top sheet to lift one edge thereof from the pile before it is seized by the transferrer, and means for moving the transferrer after it has seized the sheet transversely to the direction of movement of the buckling device and toward the side of the pile at which the edge of the sheet is raised, substantially as described.

5. The combination of a suction-transferrer for taking sheets successively from a pile, a buckling device acting by engagement with the upper surface of the top sheet to lift one edge of said sheet from the pile before it is seized by the transferrer, and means independent of the transferrer for further separating the top sheet from the pile after the edge of the sheet has been lifted by the buckling device, substantially as described.

6. The combination of a suction-transferrer for taking sheets successively from a pile, a buckling device acting by engagement with the upper surface of the top sheet for lifting one edge thereof from the pile before it is engaged by the transferrer, and a separating finger adapted to enter beneath the top sheet for further separating it from the pile after the edge of the sheet has been lifted by the buckling device, the suction-transferrer being arranged to engage a lifted portion of the sheet, substantially as described.

7. The combination of a suction-transferrer for taking sheets successively from a pile, a buckling device acting by engagement with the upper surface of the top sheet for lifting one edge thereof from the pile before it is engaged by the transferrer, and an oscillating separating-finger adapted to enter beneath the top sheet for further separating it from the pile after the edge of the sheet has been lifted by the buckling device, the suction-transferrer being arranged to engage a lifted portion of the sheet, substantially as described.

8. The combination of a suction-transferrer for taking sheets successively from a pile, means for lifting one edge of the top sheet before it is seized by the transferrer, a separating-finger adapted to enter beneath the top sheet for further separating the same from the pile, and means for moving the transferrer after it has seized the sheet toward the side of the pile at which the edge of the sheet has been lifted, substantially as described.

9. The combination of a suction-transferrer for taking sheets successively from a pile, a buckling device acting by engagement with the top sheet of the pile to lift one edge thereof before it is seized by the transferrer, means for further separating the top sheet from the pile, and means for moving the transferrer after it has seized the sheet toward the side of the pile at which the edge of the sheet is lifted, the transferrer being arranged to engage a lifted portion of the sheet, substantially as described.

10. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a suction-transferrer for taking sheets successively from the pile, a buckling device acting by engagement with the upper surface of the top sheet to lift the same from the pile before it is seized by the transferrer, means for raising said stop to release the top of the sheet, and a separating-finger adapted to enter beneath the lifted edge of the top sheet for further separating the same from the pile and for limiting the upward movement of the pile while the stop is raised, substantially as described.

11. The combination of a suction-transferrer for taking sheets successively from a pile, a buckling device acting by engagement with the upper surface of the top sheet for lifting one edge thereof from the pile before it is engaged by the transferrer, a separating-finger adapted to enter beneath the top sheet for further separating it from the pile, a transferrer for taking sheets successively from another pile, and means for associating the sheets delivered by said transferrer, substantially as described.

12. The combination of a suction-transferrer for taking sheets successively from a pile, a buckling device acting by engagement with the upper surface of the top sheet for lifting one edge thereof from the pile before it is engaged by the transferrer, a separating-finger adapted to enter beneath the top sheet for further separating it from the pile, and means for associating the sheets delivered by said transferrer with other sheets, substantially as described.

13. The combination of a suction-transferrer for taking sheets successively from a pile, a buckling device acting by engagement with the upper surface of the top sheet to lift one edge thereof before it is seized by the transferrer, means for further separating the top sheet from the pile, and means for applying paste to the successive top sheets of the pile before they are removed therefrom, substantially as described.

14. The combination of means for transferring sheets successively from a pile, a rotary paster for applying paste to the successive top sheets of the pile having a pasting movement toward the edge of the pile, and means other than the paster for lifting the edge of the sheet before it is seized by the transferring means, substantially as described.

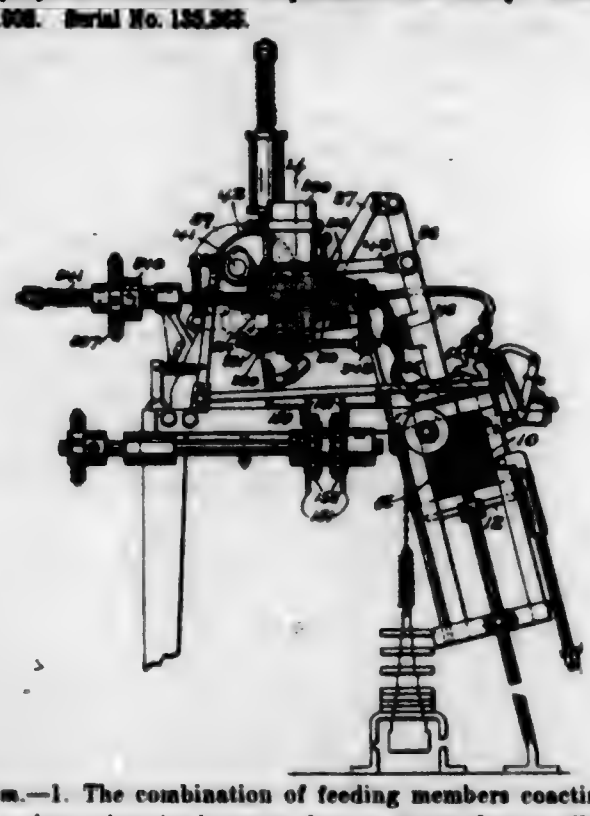
15. The combination of a stationary support or way, means for supplying sheets thereto at different portions thereof, feeders moving along said way and adapted to engage the edge of sheets deposited thereon, for the purpose of advancing said sheets along the way, and means for supporting sheets supplied to the way at one portion thereof to permit other sheets to be advanced beneath them by the feeders substantially as described.

16. The combination of a way, means for supplying sheets thereto at different portions thereof, feeders moving along said way and adapted to engage the edge of sheets deposited thereon, for the purpose of advancing said sheets along the way, and guides 153 for guiding the sheets delivered at one portion of the way and support-

ing other sheets to permit the first said sheets to be advanced beneath the last said sheets, substantially as described.

17. The combination of a way 150 having guides 153 and 154, the guides 153 being extended to overlap the guides 154 and to form supports for sheets delivered to the way between the guides 154, feeding-fingers 151 moving along said way, and means for delivering sheets to said way at different portions therein, substantially as described.

805,099. SHEET SEPARATING AND FEEDING MECHANISM. CHARLES B. SAGE, Jersey City, N. J., assignor to The American Tobacco Company, New York, N.Y., a Corporation of New Jersey. Filed Dec. 19, 1903. Serial No. 135,362.



Claim.—1. The combination of feeding members coacting to advance a sheet edgewise between them part way from a pile and then releasing the sheet to permit it to move freely between them, and feeding means for completing the feeding of the sheet from the pile, substantially as described.

2. The combination of feeding members coacting to advance a sheet edgewise between them part way from a pile and then releasing the sheet to permit it to move freely between them, and feeding-rolls for completing the feeding of the sheet from the pile, substantially as described.

3. The combination of feeding members coacting for advancing bottom sheets successively part way from a pile and then releasing the sheet to permit it to move freely between them, and feeding means intermittently operative for completing the feeding of the sheet from the pile, substantially as described.

4. The combination of feeding members coacting to advance a sheet edgewise between them part way from a pile and then releasing the sheet to permit it to move freely between them, and feeding-rolls intermittently operative for completing the feeding of the sheet from the pile, substantially as described.

5. The combination of feeding members coacting to advance a sheet edgewise between them part way from a pile and then permitting the sheet to move freely between them, and intermittently-rotating feeding-rolls for completing the feeding of the sheet from the pile, substantially as described.

6. The combination of feeding members coacting to advance a sheet edgewise between them part way from a pile and then releasing the sheet to permit it to move freely between them, and feeding means intermittently operative for completing the feeding of the sheet from the pile, substantially as described.

7. The combination of a stationary member past which sheets are fed from a pile, a feeding member opposed to and coacting with said stationary member to advance the sheet part way between said members and then releasing the sheet to permit it to move freely between said members, and feeding means for completing the feeding of the sheets from the pile, substantially as described.

8. The combination of a stationary member past which sheets are fed from a pile, a feeding member coacting therewith to advance the sheet part way between said members and then releasing the sheet to permit it to move freely between said members, and feeding means intermittently operative for completing the feeding of the sheet from the pile, substantially as described.

9. The combination of a stationary member past which sheets are fed from a pile, a feeding member coacting therewith to advance the sheet part way between said members and then permitting the sheet to move freely between said members, and an intermittently-rotating roll for completing the feeding of the sheet from the pile, substantially as described.

10. The combination of a stationary member past which sheets are fed from a pile, a feeding member opposed to and coacting with said stationary member to advance the sheet part way between said members and then releasing the sheet to permit it to move freely between said members, feeding means for completing the feeding of the sheets from the pile, and means for pushing the sheets edgewise toward said coacting members to enter the edge of the sheet between said members, substantially as described.

11. The combination of a stationary member past which sheets are fed from a pile, a feeding member opposed to and coacting with said stationary member to advance the sheet part way between said members and then releasing the sheet to permit it to move freely between said members, feeding means for completing the feeding of the sheets from the pile, and a feeding-roll for bearing against the face of the successive sheets to be fed from the pile to move said sheets toward said coacting members and enter the edge of the sheet between said members, substantially as described.

12. The combination of a stationary member past which sheets are fed from a pile, a rotary feeding member opposed to and coacting with said stationary member, said feeding member having a segmental feeding-face of a circumferential length less than the length of the sheets, and means for adjusting the stationary member toward or away from the rotary feeding member, substantially as described.

13. The combination of a stationary member past which sheets are fed from a pile, a rotary feeding member having a segmental feeding-face of a circumferential length less than the length of the sheets, intermittently-rotating feeding-rolls for completing the feeding of the sheets from the pile, and a feeding-roll bearing against the face of the successive sheets to be fed from the pile to advance said sheets to said members, substantially as described.

14. The combination of a stationary member past which sheets are fed from a pile, and a feeding-roll opposed to and coacting with said member having a segmental feeding-face extending slightly above the surface of the roll and of a circumferential length less than the length of the sheets, substantially as described.

15. The combination of a stationary member past which sheets are fed from a pile, said member having an outwardly-inclined inner face, a feeding member opposed to and coacting with said stationary member to advance the sheet part way from the pile and then releasing the sheet to permit it to move freely between said members, and feeding means for completing the feeding of the sheets from the pile, substantially as described.

16. The combination of a holder 300, a rotating feeding-segment 303 mounted opposite to and in position to coact with the bottom edge of one face of the holder to advance successive bottom sheets part way from the holder, feeding-rolls 304 and 305 intermittently operative for completing the feeding of the sheets from the holder, and feeding-roll 306 on which the pile of sheets in the holder rests, substantially as described.

17. The combination of a holder 300 having a vertically-adjustable gage-plate 302, a rotating feeding-segment 303, mounted opposite to and in position to coact with the bottom edge of said plate to advance successive bottom sheets part way from the holder and then release the sheet to permit it to move freely between the gage-plate and the segment, and feeding-rolls 304 and 305 intermittently operative for completing the feeding of the sheets from the holder, substantially as described.

18. The combination of feeding members coacting to advance a sheet between them part way from a pile of sheets and then permitting the sheets to move freely between them, intermittently-acting feeding means for completing the feeding of the sheets from the pile, feeding devices for receiving the sheets from said feeding means and advancing them edgewise, feeding devices for advancing other sheets edgewise, and means for delivering sheets from one of said feeding devices and superposing them on the sheets being advanced by the other of said feeding devices, substantially as described.

19. The combination of feeding members coacting to advance a sheet edgewise between them part way from the pile and then permitting the sheets to move freely between them, feeding means for completing the feeding of the sheets from the pile, feeding devices for receiving the sheets from said feeding means and for advancing them edgewise, feeding devices below said feeding devices for advancing other sheets edgewise, an inclined way to which the sheets are delivered by the first said feeding devices and from which they fall onto

sheets being advanced by the second said feeding devices, and means for arresting the movement of said sheets in said inclined way and for releasing said sheets to permit them to move from said way with a speed less than if they had moved continuously through and from said way, substantially as described.

20. The combination of feeding members coacting to advance a sheet edgewise between them part way from the pile and then permitting the sheets to move freely between them, feeding means for completing the feeding of the sheets from the pile, feeding devices for receiving the sheets from said feeding means and for advancing them edgewise, feeding devices below said feeding devices for advancing other sheets edgewise, and an inclined way to which the sheets are delivered by the first said feeding devices and from which they fall onto sheets being advanced by the second said feeding devices, substantially as described.

21. The combination of means for advancing successive sheets edgewise, means below said means for advancing other sheets edgewise, an inclined way to which the sheets are delivered by the first said feeding means and from which they fall onto sheets being advanced by the second said feeding means, and means for causing the sheets to move from said way with a speed less than they would have in the absence of such means, substantially as described.

22. The combination of means for advancing successive sheets edgewise, means below said means for advancing other sheets edgewise, an inclined way to which sheets are delivered by the first-said feeding means and from which they fall onto sheets being advanced by the second-said feeding means, a stop for arresting the movement of the sheets in said way, and means for retracting said stop, substantially as described.

23. The combination of feeding means for advancing successive sheets edgewise, means for supplying sheets to said feeding means, feeding means below said feeding means for advancing successive sheets edgewise, means for supplying sheets to the second-said feeding means, an inclined way to which the sheets are delivered by the first-said feeding means and from which they fall onto sheets being advanced by the second-said feeding means, and means for causing the sheets to move from said way with a speed less than they would have in the absence of such means, substantially as described.

24. The combination of a way 320, feeders for advancing sheets along said way, a second way 150, feeders for advancing sheets along said way, an inclined way 323 to which the sheets are advanced from the way 320, and a reciprocating stop 324 near the lower end of the way 323, substantially as described.

25. The combination of a way 320, feeders for advancing sheets along said way, a second way 150, feeders for advancing sheets along the way 150, an inclined way 323 to which the sheets are advanced from the way 320, and an opening in the way 150 at the point where the sheets from the inclined way fall, substantially as described.

26. The combination of a stationary member past which sheets are fed from a pile, a rotating feeding-segment 303 for coacting with said member to advance sheets part way from the pile, feeding-rolls 304, 305 for completing the feeding of the sheets from the pile, means for driving said rolls intermittently including a mutilated gear and means for positively stopping the rotation of said rolls in position for the next meshing of the mutilated gear, substantially as described.

27. The combination of the feeding-rolls 304, 305, a mutilated gear for driving said rolls intermittently, stop-pawl 312, and cam 313 moving in time with said mutilated gear for controliing the movement of said pawl, substantially as described.

805,100. MACHINE FOR GRAINING LUMBER. HUGH SILVER, Lindsay, Canada. Filed May 13, 1904. Serial No. 207,854.

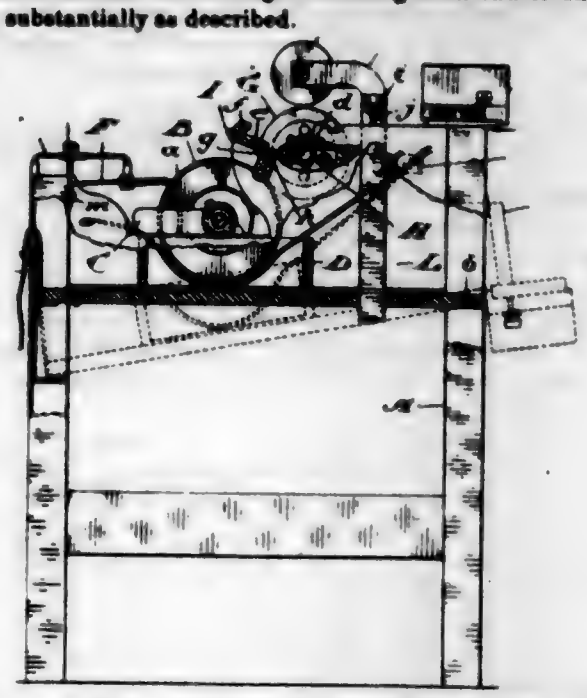
Claim.—1. In a graining-machine a design-roller formed of metal and having a grain-pattern indented therein, each indentation having a bur at its edges raised above the surface of the roller, substantially as described.

2. In a graining-machine a design-roller formed of metal and having a grain-pattern indented therein, each indentation having a bur at its edges raised above the surface of the roller, some of the indentations being shallow and others relatively deep, substantially as described.

3. In a graining-machine a design-roller having indentations formed therein with burs at their edges raised above the surface of the roller, substantially as described.

4. In a graining-machine a design-roller in combination with a scraper longitudinally flexible and provided with a continuous soft edge extending from end to end, substantially as described.

5. In a graining-machine a design-roller in combination with a longitudinally-flexible continuous metal scraper provided with a continuous flexible-rubber edge extending from end to end of the roller, substantially as described.



6. In a graining-machine a design-roller in combination with a thin continuous metal scraper provided with a continuous flexible-rubber edge extending from end to end of the roller, the metal having a series of cuts or notches at its front edge, substantially as described.

7. In a graining-machine a design-roller in combination with a thin metal continuous scraper; a longitudinal stiffening back from the front edge; and a continuous soft contact-piece carried by the scraper and adapted to engage the roller, substantially as described.

8. In a graining-machine a design-roller in combination with a continuous flexible scraper having a series of transverse cuts in its front edge; a longitudinal stiffening back from the front edge; and a continuous soft contact-piece carried by the scraper and adapted to engage the roller, substantially as described.

9. In a graining-machine a frame; a printing-roller journaled on the frame and having its upper edge extending above the frame, in combination with two L-shaped arms, guides on the frame in which the arms are vertically movable, and a pressure-roller journaled on the arms above the printing-roller, substantially as described.

10. In a graining-machine a frame; a printing-roller journaled on the frame and having its upper edge extending above the frame, in combination with two L-shaped arms, guides on the frame in which the arms are vertically movable, vertically-adjustable stops determining the position of the L-shaped arms in the guides, and a pressure-roller journaled on the arms above the printing-roller, substantially as described.

11. In a graining-machine provided with a printing-roller the combination of a front guide normally substantially on a level with the operative side of the printing-roller, and hinged to the frame of the machine below the level of the operative side of the printing-roller; and means for removably holding the guide in its normal position, substantially as described.

12. In a graining-machine provided with a printing-roller and having a gap at its front end extending below the level of the printing-surface of the roller, a removable guide which when in position has its guiding-surface substantially on a level with the printing-surface of the roller, substantially as described.

805,101. RAILROAD-RAIL STAY. HIRAM H. SPONENBURG, Wadsworth, Ill., assignor of one-half to Edward Lass, Ottumwa, Iowa. Filed Aug. 28, 1905. Serial No. 276,027.



Claim.—1. The combination, with the rail and subjacent cross-tie, of jaws disposed to grip the flanges of the rail, a wedge disposed

to force the jaws to the rail and means for engaging said jaws with the cross-tie.

2. A rail-stay comprising a bar extending across the bottom of the rail, jaws carried on opposite ends of said bar, a wedge forcing said jaws into position to grip the base of the rail, and means for engaging said jaws with the cross-tie as set forth.

3. A rail-stay comprising a bar extending across the bottom of the rail, a jaw sustained on one end of said bar, a jaw mounted on the opposite end of said bar movably toward the rail, and a wedge applied to said bar and forcing the jaws into gripping position on the rail.

4. A rail-stay comprising a bar extending across the bottom of the rail and provided with a fixed jaw on one end and headed on the opposite end, a jaw mounted movably on the headed end of said bar, and a wedge inserted between the head of the bar and the back of the movable jaw.

5. A rail-stay comprising a bar extending across the bottom of the rail and provided with a fixed jaw on one end and with a head on the opposite end of the bar, a hard-metal plate attached to the inner face of the movable jaw and provided with rail-gripping ribs disposed parallel with the aforesaid bar, and a wedge inserted between the head of the bar and the back of the movable jaw as set forth.

6. A rail-stay consisting of a bar extending across the bottom of the rail and formed with a jaw on one of its ends and with a head on the opposite end, a movable jaw straddling the headed end of the bar and a wedge inserted between the head of the bar and the back of the movable jaw.

7. A rail-stay consisting of a bar extending across the bottom of the rail and provided with a reinforcing-rib extending lengthwise of the bar and with a fixed jaw on the one end and a head on the opposite end, a movable jaw straddling the headed end of the bar and provided with a fixed depending flange abutting on the side of the cross-tie, and a wedge inserted between the head of the bar and the back of the movable jaw as set forth.

8. A rail-stay consisting of a bar extending across the bottom of the rail and provided with a fixed jaw on one end, a movable jaw mounted on the opposite end of the bar and formed with a depending flange projecting over the side of the bar and engaging the cross-tie, and means applied to the bar to force the movable jaw to its gripping position on the rail.

9. A rail-stay consisting of a bar extending across the bottom of the rail and provided with a fixed jaw on one end and with a head on the opposite end, a movable jaw straddling the headed end of the bar and formed with a depending flange projecting laterally over the side of the bar and engaging the cross-tie, and a wedge inserted between the head of the bar and back of the movable jaw as set forth.

10. A rail-stay consisting of a bar extending across the bottom of the rail and provided with a fixed jaw on one end and with a head on the opposite end, a movable jaw straddling the opposite end of the bar, a wedge inserted between the head of the bar and the back of the jaw, and a lug projecting from the movable jaw and disposed to deflect the protruding end of the wedge as and for the purpose set forth.

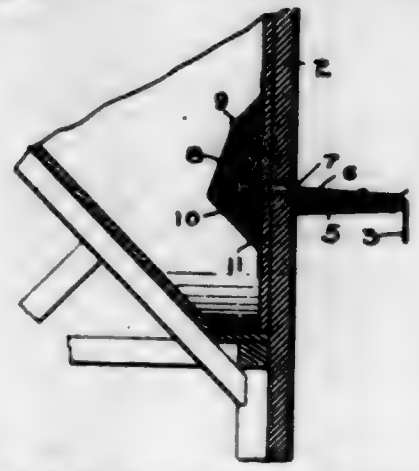
11. The combination with the transverse bar formed at one end with a rail-gripping jaw and at the opposite end with a head, and a movable jaw mounted on the headed end of the bar, of the bifurcated wedge straddling the bar between the head thereof and the back of the movable jaw and having the ends of its prongs tapered, and lugs projecting from the back of the movable jaw and disposed to deflect the protruding tapered ends of the wedge-prongs as set forth.

12. A rail-stay consisting of a bar extending across the bottom of the rail and formed at one end with a jaw and at the opposite end with a head, a movable jaw straddling the headed end of the bar and formed with depending flanges on opposite sides and with a recess in the interior of the jaw, a hard-metal plate seated in said recess and provided with ribs disposed parallel with the aforesaid bar, a bifurcated wedge straddling the headed end of the bar and having the ends of its prongs tapered, and lugs projecting from the back of the movable jaw and disposed to deflect the tapered ends of the wedge-prongs, substantially as set forth.

805,102. INDICATING DEVICE FOR BINS. PETER SWANSON, Bowdon, Minn. Filed June 26, 1905. Serial No. 266,941.

Claim.—1. The combination, with a bin, of a revolving indicator carried by said bin and bearing the words "Loaded" and "Empty" and adapted to expose them alternately when said indicator is revolved, a plate pivotally supported within the bin and arranged to be operated by the pressure of the material therein, and means connecting said plate and indicator.

2. The combination, with a bin and a housing provided thereon, of a plate hinged on said housing and arranged to be actuated by the pressure of the material in the bin, a revolving indicator supported outside said bin, and means connecting said indicator and said plate through said bin.



3. The combination, with a bin, of an indicator consisting of an angle-plate pivotally supported outside said bin and bearing the words "Loaded" and "Empty" arranged to be exposed alternately, said angle-plate being eccentrically pivoted and normally exposing the word "Empty," a plate hinged within said bin and operated by the pressure of the grain, and means connecting said hinged plate and said angle-plate.

4. The combination, with a bin, of an eccentrically-pivoted indicating device bearing the words "Loaded" and "Empty" and adapted to expose them alternately, means pivoted within the bin and arranged to be actuated by the pressure of the material therein, and a rod pivotally connecting said indicating device and said pivoted means through the bin-wall, substantially as described.

5. The combination, with a bin, of an indicating device bearing the words "Loaded" and "Empty" and adapted to expose said words alternately when the indicator is operated, means arranged within said bin and adapted to be operated by the pressure of the material therein, and a suitable connection between said means and said indicator, substantially as described.

6. The combination, with a bin, of an indicator bearing the words "Loaded" and "Empty" and adapted to expose them alternately when the indicator is operated, and said indicator being mounted to normally expose the word "Empty," means pivotally supported within the bin and arranged to be operated by the pressure of the material therein, and a suitable connection provided between said means and said indicator, substantially as described.

805,103. TUMBLER FOR COMBINATION-LOCKS. WARREN H. TAYLOR, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Apr. 14, 1905. Serial No. 255,942.

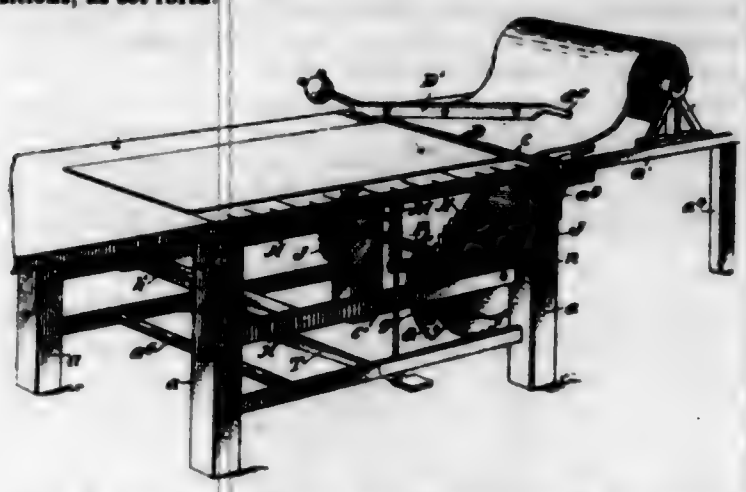


Claim.—A tumbler for a combination-lock composed of an outer ring having a flange or lip integral therewith and overlapping the central opening thereof at the rear, teeth formed on the inner periphery of the outer ring, an inner ring having the rear edge of its periphery beveled, teeth formed on the periphery of said inner ring and meshing with the teeth on the outer ring, and a split ring carried by the outer ring and engaging a shallow groove formed on the periphery of the inner ring.

805,104. CLOTH-CUTTING MACHINE. NELSON I. TEVIS and DEWEY D. TEVIS, Perry, N. Y. Filed Mar. 11, 1905. Serial No. 249,873.

Claim.—1. In a cutting-machine of the character described, a cutting mechanism composed of a lower stationary knife and an upper movable knife, a support for said knives having vertical move-

ment, and adapted to automatically lower, and a means for successively elevating the frame and holding it to its vertically-adjusted positions, as set forth.



2. In a cutting-machine of the character described, a table, a cutting mechanism including a pair of shearing-knives, disposed transversely of the table, a ratchet-and-pawl mechanism for elevating said cutting mechanism as a whole, with respect to the table, said ratchet-and-pawl mechanism being adjustably mounted whereby to become disengaged from the cutting mechanism when shifted, substantially as shown and described.

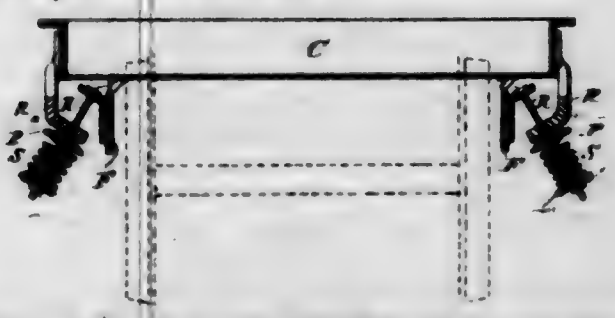
3. The combination with the table and the cutter-carrying frame disposed transversely of the table and having vertical movement with respect to the table, said frame including a pair of pendent rack-bars; of the horizontally-movable ratchet-and-pawl mechanism mounted at one end thereof to coact with the aforesaid pendent rack-bars, a foot-operated lever for actuating the ratchet-and-pawl devices, means for automatically shifting the horizontally-movable frame in one direction and hand-actuated means for shifting it in a reverse direction.

4. A cutting-machine for the purposes described, comprising in combination a supporting-table, a cutting mechanism which includes a fixedly-held bottom knife and an upper knife hinged to the lower knife at one end and normally held to its open position, a means for raising the two knives in unison with respect to the table-top, and a trip device for releasing said means from engagement with the cutting mechanism as set forth.

5. The combination with the table the ⊓-shaped frame disposed transversely thereof and having its pendent members formed with rack-faces, said ⊓-shaped members having vertical movement on the table-frame, a bottom knife fixedly secured to the cross-bar of the ⊓-shaped frame, an upper knife hinged to the said cross-bar, the frame H horizontally mounted under the table and having endwise movement, the shaft mounted in the front end of the frame H having pinions for engaging the rack portions of the ⊓-shaped frame, a ratchet fixedly mounted on the shaft, a pawl-carrying lever loosely mounted on the shaft, a foot-actuating device for the pawl-lever, and a hand-lever mechanism for shifting the frame to disengage the pinions on the shaft from the rack portions of the ⊓-shaped frame as set forth

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805,105. **BOGIE-CAR.** ILLTUD A. THEIN, London, England. Filed May 22, 1905. Serial No. 261,676.

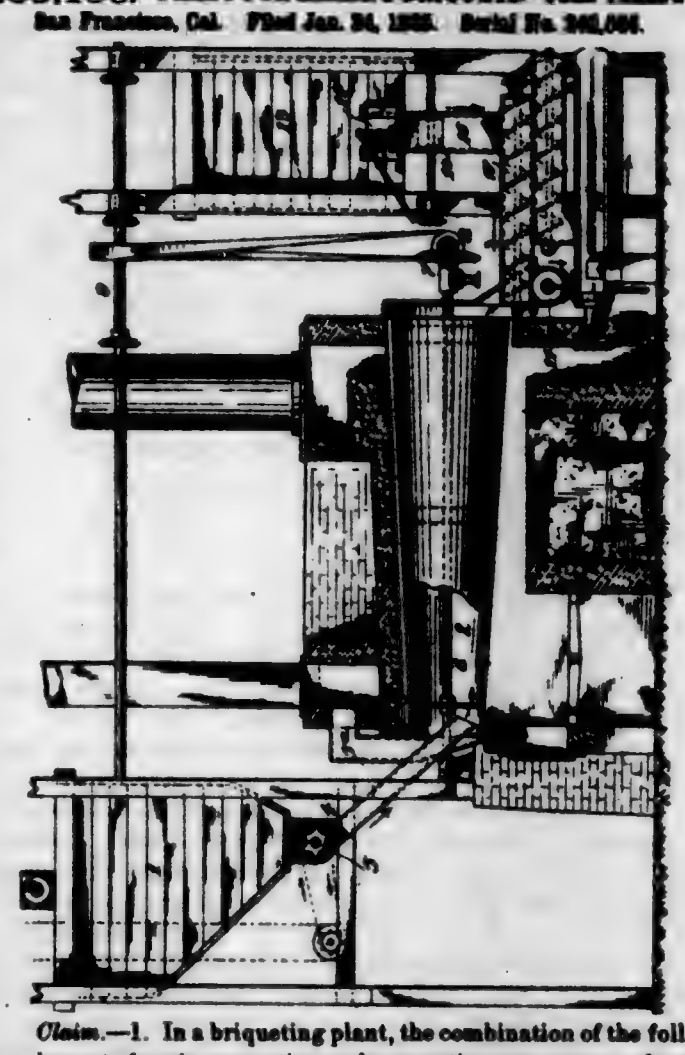


Claim.—1. The combination with the body of a car and its bogies, of springs attached to the bogies to support the car-body, swinging arms on which the springs are mounted, and supporting-arms carried by the car-body and bearing on said spring, the parts being so constructed and arranged that, as the car swings to either side, the springs will travel with it, substantially as set forth.

2. The combination with a body of a car and its bogies, of springs and spring-supports mounted on the bogie and supporting the body end of the car over each bogie and adapted to control said car-body in its transverse movements, substantially as set forth.

3. The combination with a car-body and its bogies, of intervening side bearing-springs, spring-supports and bearing-bars connecting the car to the bogies and a bogie-lead adapted to control the propulsion of the bogie in either direction, independently on center draft-bearings.

805,108. **PLANT FOR MAKING BRIQUETS.** JOHN THRASWELL, San Francisco, Cal. Filed Jan. 24, 1905. Serial No. 242,686.



Claim.—1. In a briqueting plant, the combination of the following elements forming a continuously-operative apparatus: a bunker for fine coal, a drier, a communication between the bunker and drier having a measuring device for measuring the coal as it is supplied continuously, a mixer, a communication for supplying coal to and at one end of the mixer, a heater for binding material, a communication, from the heater to the mixer which enters the mixer at a point intermediate of its length, briquet-pressing mechanism, and a series of endless carriers between the mixer and the pressing mechanism.

2. In a briqueting plant the combination of the following elements forming a continuously-operative apparatus; a bunker for fine coal, a drier, a communication between the bunker and drier having a device for measuring the coal as it is supplied continuously, a mixer-cylinder, a heater for binding material, a communication from said heater to the mixer which includes a pump and which enters the mixer at a point intermediate of its length, briquet-pressing mechanism and a series of endless carriers between the mixer and the pressing mechanism.

3. In a briqueting plant the combination of the following elements forming a continuously-operative apparatus; a bunker for fine coal, a drier, a communication between the bunker and drier having a measuring device for measuring the coal as it is supplied continuously, a mixing-cylinder, one or more receptacles provided with measuring devices for supplying additional dry ingredients, conveyors for delivering said dry materials to the mixer near its inlet end, a heater for binding material, a communication from said heater to the mixer which enters the mixer at a point intermediate of its length, briquet-pressing mechanism and a series of carriers between the mixer and the pressing mechanism.

4. In a briquet-pressing plant the combination of the following elements forming a continuously-operative apparatus; a bunker for fine coal, a drier, a communication between the bunker and drier having a measuring device for measuring the coal as it is supplied continuously, a mixing-cylinder for binding material, a communication from said heater to the mixer which enters the mixer at a point intermediate of its length, briquet-pressing mechanism, a series of endless carriers between the mixer and the pressing mechanism, a briquet-bunker, means for cooling the briquets in transit from the pressing mechanism to the bunker, and means for cooling them after delivery to the said bunker.

5. In a briqueting plant, a bunker provided with means for measuring a continuous flow of coal, a rotary drier, a rotary mixer, a pitch-heater connected to the mixer, a pump included in the connection, a system of drapers for conveying the mixed material, and gearing, by which said measuring devices, said drier, said mixer, said pump, and said drapers are continuously driven.

6. In a briquet plant, the coal-bunker having a measuring device for a continuous flow of coal, the rotary drier for said coal, one or more bins having devices for measuring a continuous flow of additional dry material, conveyers from the drier and from said bin or bins, a mixing-cylinder into the front of which the material from said drier and said bin or bins is admitted, a pitch-heater, a connection from said heater entering the mixer in advance of the inlet for said dry materials, a system of endless carriers leading from the discharge end of the mixer; and gearing for driving continuously said measuring devices, said drier, said conveyers, said mixer and said endless carriers.

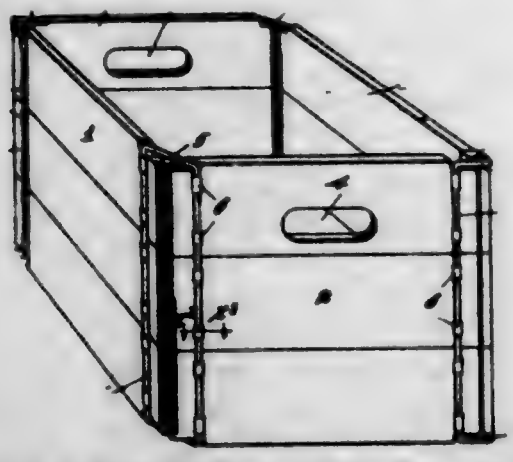
7. In a briquet plant, the combination with the continuously-operating mechanism for supplying, measuring, and drying the coal and with continuously-operating mechanism for supplying and measuring additional dry material, and with continuously-operating mechanism for supplying and measuring a binding material, and with a continuously-operating mechanism for mixing and conveying all of said ingredients of a rotary briquet-press continuously operated in an unchanging direction of motion.

8. In a briquet plant, the combination with continuously-operated mechanism for preparing and mixing ingredients for compression, and with a pressing mechanism, of a receiving-bunker for hot finished briquets, and cooling means within said bunkers for cooling said briquets as received and after reception.

9. In a briquet plant, the combination with continuously-operated and connected mechanisms for preparing and mixing ingredients for compression, and with a pressing mechanism, of carriers leading from said pressing mechanism, a briquet-bunker, and one of said carriers extending along the top of said bunker, whereby briquets can be deflected into said bunker at any desired point in its extent.

10. In a briquet plant, the combination with continuously-operated mechanisms for preparing and mixing ingredients for compression, and with pressing mechanism, of carriers for delivering hot briquets from the pressing mechanism, a receiving-bunker, and adjustable mattresses within said bunker for breaking the fall of the briquets delivered and for distributing them, practically in layers, within the bunkers.

805,107. **FOLDING BOX.** ISAK WIBKER, Minneapolis, Minn. Filed Nov. 11, 1904. Serial No. 232,334.

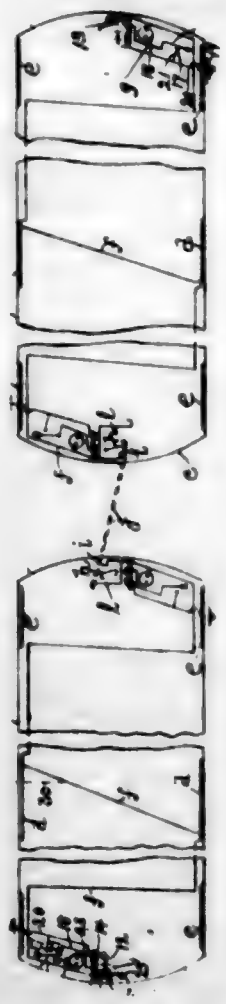


Claim.—1. A folding box having its four sides connected for toggle-like folding movements by means of hinge members, the hinge members of diagonally opposite corners being of rectangular form and arranged to completely embrace the corners of the box and having parallel legs attached to the sides of the box inward of their vertical edges, whereby the sides of the box may be folded together and whereby when the box is set up, its corners will project through the said rectangular hinge members, substantially as described.

2. A folding box having its four sides connected for toggle-like folding movements, by means of hinge-rods bent to form parallel legs, the said hinge-rods at two of the diagonally opposite corners of the box being journaled to the abutting portions of both of the sides which they pivotally connect, and the hinge-rods at the other two diagonally opposite corners being rigidly secured to one of the sides which they pivotally connect, and being journaled to the other of the said sides, substantially as described.

3. The combination with a box made up of the four sides 1 and 2, of the hinge-rods 5 bent to form parallel legs applied to pivotally connect the sides at two of the diagonally opposite corners of the box, said rods being journaled to said side walls, by clips 6 located inward of the abutting edges of said sides so that the horizontal portions of said hinge-rods 5 extend diagonally across the corners of the box, when the box is set up, the rectangular hinge-rods 7 at the other diagonally opposite corners of the box, rigidly secured to the sides 1 and journaled to the sides 2, by means of clips 6, located inward of the edges of said sides 2, so as to afford offset hinges, and, a box-bottom hinged to one of said sides 1, substantially as described.

805,108. **SIGNALING SYSTEM.** PAUL WINSOR, Weston, Mass. Filed Aug. 11, 1905. Serial No. 273,765.



Claim.—1. In a signaling system of the class described, in combination, a train-line circuit provided with a ground connection at its opposite ends, a plurality of circuit-controllers included in series in said train-line, a signal included in said train-line circuit at one end thereof, a switch controlling said signal, and a battery included in said train-line at the opposite end thereof, substantially as described.

2. In a signaling system of the class described, in combination, a train-line circuit, a plurality of circuit-controllers included in series in said train-line, a signal included in said train-line circuit at one end thereof, battery-terminals, a switch controlling said signal, and a connection between said switch and one of said battery-terminals to short-circuit said signal when the switch is closed and the battery is connected with said terminals, substantially as described.

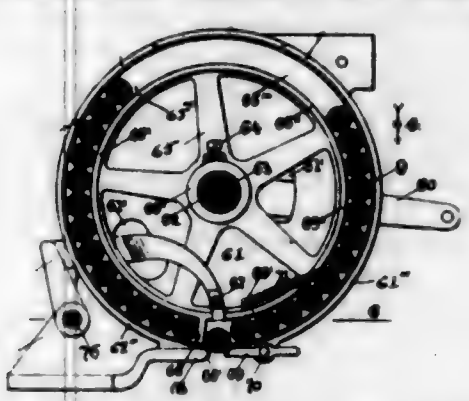
3. In a signaling system of the class described, in combination, a car, a train-line circuit extended through the car, a signal at one end thereof, a battery located at the opposite end thereof, a plurality of circuit-controllers in said train-line, battery-terminals located at opposite ends of said car, a switch connected with one set of said battery-terminals to short-circuit said signal when the battery is connected with the set of terminals adjacent to said signal, substantially as described.

4. In a signaling system of the class described, in combination, a plurality of cars, a train-line wire extended through each of said cars, a battery located in one car and connected with the train-line thereof, a signal located in another car, a movable conductor-section extended between the cars, and a circuit-controller for said train-line operated by movement of said conductor-section, substantially as described.

5. In a signaling system of the class described, in combination, a plurality of cars, a train-line wire extended through each of said cars and provided with a circuit-terminal, a movable contact mem-

ber coöperating with the terminal of a train-line for one of said cars, and a movable conductor electrically connected with the train-line of one car and joined to the movable contact member of another car to effect engagement of said contact member with its coöperating train-line terminal, substantially as described.

805,109. **WEFT-REPLENISHING LOOM.** HORACE WYMAN, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Feb. 17, 1905. Serial No. 246,010.



Claim.—1. In a loom, the combination with a magazine having a plurality of compartments, each compartment to contain bobbins or filling-carriers, and a stop or terminal for the lowest filling-carrier in each compartment, of means to move the compartments to place the lowest filling-carrier, in any one of the compartments, in position under the transferrer, to be transferred into the running shuttle substantially as shown and described.

2. In a loom, a magazine having two compartments or guideways for the heads and tips of bobbins, and a stop or terminal for the lowest bobbin in each compartment, to hold a bobbin in a position ready to be engaged by the transferrer when the bobbin is brought under the transferrer, substantially as shown and described.

3. In a loom, a magazine having a rocking reciprocating motion, and two compartments or guideways for the bobbins, and a stop or terminal for the lowest bobbin in each compartment, and retaining means at the lower discharge end of each compartment for the lowest bobbin, to hold the same in position under the transferrer, and ready to be engaged by the transferrer and placed in the running shuttle, substantially as shown and described.

4. In a loom, a magazine having a central axis or support, and a reciprocating rocking motion, and means for rocking said magazine according to the movement of the shifting shuttle-boxes, and two compartments or guideways in said magazine for the bobbins, one compartment on one side of the axis of the magazine, and the other compartment on the other side, and a stop or terminal for the lowest bobbin in each compartment, and means for holding the lowest bobbin in the compartments in a yielding position under the transferrer, ready to be engaged by the transferrer and placed in the running shuttle, substantially as shown and described.

5. In a loom, a magazine having a reciprocating rocking motion, and two compartments therein, with guideways for the bobbins, which drop down to the lower end of the compartments by gravity, and a stop or terminal for the lowest bobbin in each compartment, and a transferrer, extending between the two compartments, and above and adapted to engage the lowest bobbin in either compartment, according as said bobbin is moved under the transferrer by the rocking of the magazine, substantially as shown and described.

6. In a loom, the combination with a magazine having two compartments, with open ends for the introduction of bobbins, which drop down by gravity to the lower end of the compartments to a stop or terminal, and said stop or terminal and means for yieldingly holding the lowest bobbin in the compartments under the transferrer, of said transferrer pivotally supported outside of the magazine, and having its engaging end enter the open space between the two compartments, substantially as shown and described.

7. In a loom, a magazine centrally pivoted and having a reciprocating rocking motion, with guideways around its circumference for two sets of bobbins, which are located on different sides of the central vertical line of the magazine, and a single discharge-opening for a bobbin of either set of bobbins, substantially as shown and described.

8. In a loom, a magazine having compartments for the bobbins, which fall by gravity in the compartments on opposite sides of the transferrer, and means for holding the lowest bobbin in the compartments in yielding position under the transferrer, and means to move said compartments back and forth, to place a bobbin in either compartment under the transferrer, to be acted on by the transferrer, substantially as shown and described.

9. In a loom, shifting or changing shuttle-boxes at one end, a stationary shuttle-box at the other end, filling-detector mechanism on the same end as the shifting shuttle-boxes, and connected therewith, connections intermediate the filling-detector mechanism and the transferrer mechanism, connections intermediate the shifting shuttle-boxes and the filling-change magazine, and said magazine having two compartments for the bobbins, and a stop or terminal for the lowest bobbin in each compartment, to hold a bobbin in a position ready to be engaged by the transferrer, when the bobbin is brought under the transferrer, substantially as shown and described.

10. In a loom, a magazine having two compartments or guideways for the heads of bobbins, and a stop or terminal for the lowest bobbin in each compartment to hold the bobbon in a position ready to be engaged by the transferrer when the bobbin is brought under the transferrer, substantially as shown and described.

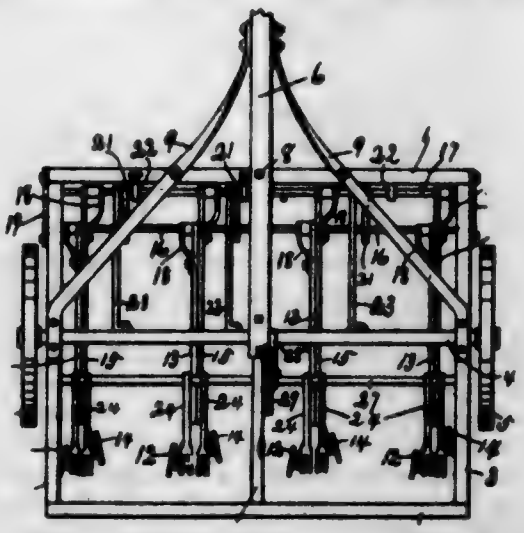
11. In a loom, a magazine having compartments adapted to guide bobbins or filling-carriers, and a stop or terminal for the lowest bobbin in each compartment to hold a bobbin in position ready to be engaged by the transferrer when the bobbin is brought under the transferrer, substantially as shown and described.

12. In a loom, a magazine for a filling-change motion having compartments composed of guides for two series of superposed filling-carriers provided with terminals for holding a filling-carrier of each compartment in a yielding position, substantially as shown and described.

13. In a loom, a filling-change mechanism, having a magazine with compartments to contain two series of filling-carriers, shifting shuttle mechanism having two shuttle-boxes with compartments for shuttles, and intermediate mechanism between the filling-change mechanism and the shifting shuttle mechanism whereby each compartment of the magazine will be moved into a position corresponding with a compartment of the shuttle-boxes, as the boxes are moved from one position to another, substantially as shown and described.

14. In a loom, a transferrer, a filling-changing mechanism having a magazine with two compartments, each compartment having a series of filling-carriers therein, and shifting shuttle mechanism having shuttle boxes or cells with shuttles therein, and intermediate mechanism between the filling-changing mechanism and the shifting shuttle mechanism, whereby when a shuttle-box has a filling of its active shuttle practically exhausted, the compartment of the magazine having a corresponding filling, will have its terminal and a filling-carrier in position under the transferrer, substantially as shown and described.

805,110. **COTTON CHOPPER AND CHECKER.** JONATHAN F. ASH, Avondale, Tex. Filed June 8, 1904. Serial No. 211,585.



Claim.—1. A cotton chopper and checker comprising a truck, beams in pairs pivotally connected to said truck and capable of forward or backward adjustment, and disks carried by said beams at determined angles, the beams of each pair of beams being parallel and flush with each other for portions of their lengths for bracing purposes whereby said disks will be held at constant angles at different forward or backward adjustments.

2. A cotton chopper and checker comprising a truck, pairs of disks, pairs of beams parallel and flush with each other for mounting said disks on said trucks, shoes for attaching said disks to said beams at determined angles, means for supporting said beams and permitting yielding motion thereof upward, and means for adjusting the rear disk of each pair of disks forward or backward.

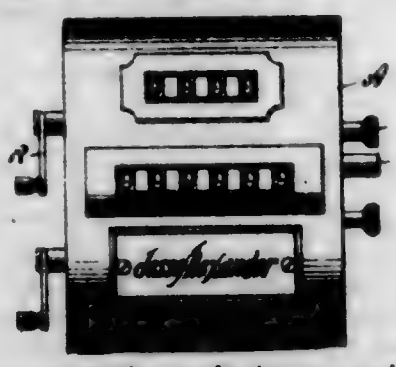
3. A cotton chopper and checker comprising a truck, vertically-adjustable hangers, beams parallel and flush with each other, shafts mounted in and longitudinally adjustable in said hangers for pivotally connecting said beams to said truck, revolving disks mounted on said beams, and means for supporting said disks yieldingly at various adjustments.

4. A cotton chopper and checker comprising a truck, beams in pairs provided with means for pivotally attaching the same to said truck at different adjustments, revolving disks, shoes for attaching said disks to said beams at determined angles, said shoes having bifurcated upward-projecting studs, presser-arms operatively connected to said studs, a shaft journaled in said machine for operating said arms, and means for adjusting said arms by means of said shaft.

5. A cotton-chopping machine having a truck, beams carrying revolving disks, shafts for mounting said beams forward or backward relative to each other, hangers for mounting said shafts at vertical and longitudinal adjustments on said truck, shoes for mounting said disks on said beams at determined angles, and means for lateral adjustment of said beams.

6. A cotton chopper and checker having pairs of disk-carrying beams, shafts for said beams provided with means for longitudinal and vertical adjustments thereof, said beams being laterally adjustable on said shafts, and means for attaching disks to said beams.

805,111. **AUTOMOBILE-CYCLOMETER.** JESSE ALEXANDER, Brooklyn, N. Y., assignor to Kittie Alexander. Filed Oct. 17, 1903. Renewed May 23, 1905. Serial No. 261,800.



Claim.—1. A registering mechanism comprising, two series of registering-drums, a series of connecting-gears for each of said series, a shaft for each of said series of gears, a spring connecting said shafts and means for manually retracting said shafts to withdraw the gears from engagement with the registering-drums.

2. A registering mechanism comprising, two series of registering-drums, a gear for operating both of said series simultaneously, mechanism for rotating said gear, and means for longitudinally disengaging said gear from its connection with said drums.

3. A registering mechanism comprising, two drum-shafts, a series of drums on each shaft, a series of connecting-gears for each drum series, means for retracting said connecting-gears, a main driving-shaft, means for disconnecting said driving-shaft from said series of drums, and means for returning said drums to their initial positions when the connecting-gears are released and the main driving-shaft is disconnected.

4. In a registering mechanism the combination of a frame, a series of registering-drums, a series of transmitting-gears between said drums, a train of reducing-gears carried by said frame and including a release-gear, a shaft mounted in said frame and affording a bearing for said release-gear and means for disconnecting said registering-drums from said reducing-train by longitudinal movement of said release-gear.

5. A registering mechanism comprising, a stationary shaft, a rotatable drum mounted thereon, a spring-pressed pawl having one end engaging the periphery of the hub of said drum, a second drum mounted adjacent to the first drum on said shaft, a pin carried by said second drum for engagement with said pawl, means for rotating said first drum, means of connection for intermittently rotating said second drum, means for releasing said connecting means, and means for rotating said first drum backwardly whereupon the pawl in its backward movement will engage the pin on the second drum and both be rotated backward together.

6. A registering mechanism comprising, a frame, a stationary shaft mounted in said frame, a series of rotatable drums on said shaft, means for rotating and connecting the same, a projection carried by the last drum of said series, a spring-pressed pivoted pawl carried by said frame adapted to be engaged by the said projection when said drum is rotated backwardly.

7. A registering mechanism comprising, two series of rotatable drums, means for operating the same, a series of connecting-gears for each series of drums, a pivotally-mounted frame carrying each of said series of gears, a spring for automatically drawing each of said series of gears into operative connection with said drums, and stop-pins for preventing said gears from pressing against the drums.

8. In a cyclometer, the combination of a casing, an electromagnet, an armature therefor, a pawl operated by the movement of said armature, a ratchet, two series of registering-drums, a train of gears connecting said ratchet with said drums, means for disengaging said train from said drums and means for resetting said drums when said drums are released from said train said casing surrounding and protecting all of the operating parts of said mechanism.

9. In a cyclometer mechanism, the combination of a series of registering-drums, a series of gears for transmitting motion from one drum to the other, a ratchet, a train of gears connecting said ratchet with said drums, means for retracting said gears from said drums, means for disconnecting said train from said drums and means for resetting said drums when said train is disconnected and said gears are retracted.

10. A registering mechanism comprising, two series of registering-drums, a ratchet, a train of gears connecting the ratchet and said drums, a frame affording bearings for said drums and said train of gears, an electromagnet beneath said gears, an armature therefor pivoted at right angles thereto, a pawl carried by said armature and projecting upward for engagement with said ratchet, a frame supporting said magnet and said armature, and a casing formed of two parts, a curved front and a flat back removably secured together and all surrounding and inclosing all of said mechanisms, said frames being separately and removably secured in said casing as described.

11. In a registering mechanism, the combination of a frame, a series of registering-drums with connecting-gears, a pinion carried by one of said drums inside of said frame, a shaft mounted in said frame, a gear-wheel carried by said shaft and meshing with said pinion, a series of reducing-gears carried by said frame but outside thereof, a second shaft mounted in said frame, and a ratchet carried thereby inside of said frame, substantially as described.

12. In a registering mechanism, the combination of a series of registering-drums, a series of connecting-gears, means for preventing the accidental rotation of said gears, a pivoted frame carrying said gears, a casing surrounding said drums and gears, a spring for normally holding said gears in their operative position and a separate and removable bell-crank lever having one end engaging said frame and the other end projecting outside of said casing for releasing said gears, substantially as described.

13. In a registering mechanism, the combination of a frame having side plates and connecting-bars, two series of registering-drums carried between said side plates, transmitting-gears between said drums, a train of reducing-gears operatively connected with said drums, a casing for surrounding said mechanism, a longitudinally-movable handle extending outside of said casing for disconnecting said train of gears, a swinging handle extending outside of said casing for releasing said transmitting-gears and a rotatable handle extending outside of said casing for resetting one of said series of drums.

14. In a registering mechanism, the combination of a frame, a series of registering-drums carried thereby, a series of transmitting-gears, means for releasing said gears, a pinion outside of said frame and rotatable with one of said drums, a larger gear-wheel pivotally carried by the outer side of said frame and meshing with said pinion, a casing surrounding all of said parts and a handle extending outside of said casing connected with said wheel for resetting said drum when said gears are released.

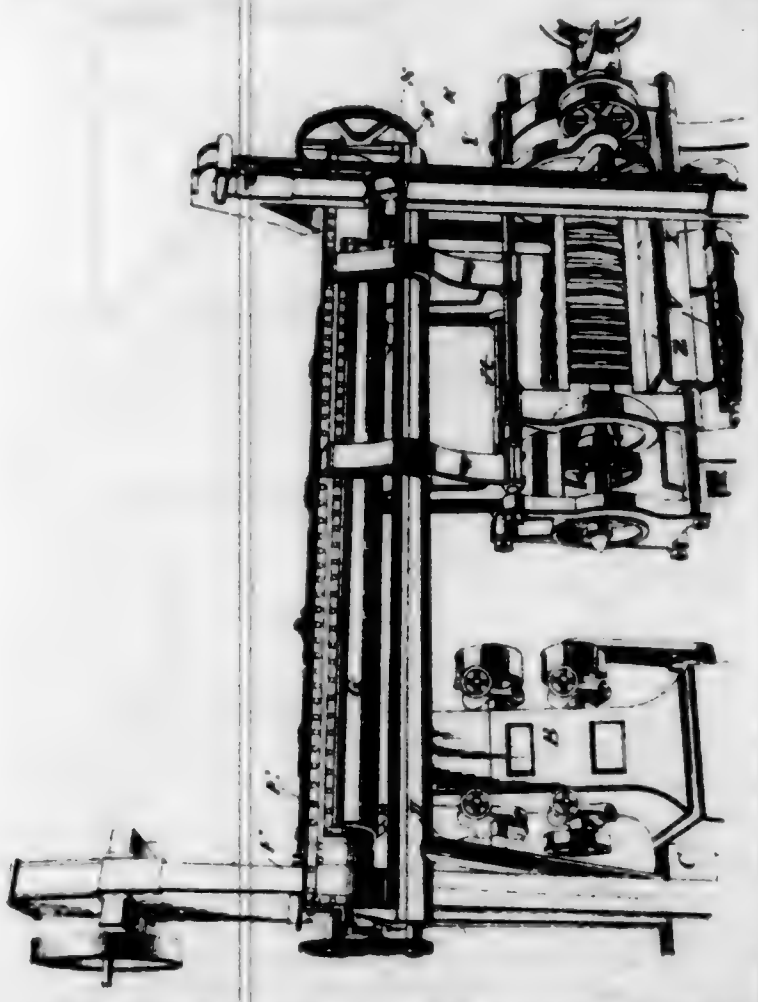
15. In a registering mechanism, the combination of two series of registering-drums, a series of transmitting-gears coacting with each series of drums, a pinion for the first drum of each series, a wheel for simultaneously rotating said pinions, a train of gears connected with said wheel and means of connection between said drums and said transmitting-gears whereby the drums of one series transmit their movement to their adjacent drums just before the corresponding movement in the other series of drums.

805,112. **APPARATUS FOR EXTRACTING OIL.** VALERIUS D. ANDERSON, Cleveland, Ohio. Filed June 23, 1905. Serial No. 266,631.

Claim.—1. In combination with a continuously-operating expelling-press, a tempering apparatus for the material to be treated, said apparatus discharging directly into the press.

2. In combination with a continuously-operating expelling-press, a tempering apparatus; and means contained within said tem-

pering apparatus for agitating the material therein and feeding it to the press, substantially as described.



3. In combination with a continuously-operating expelling-press, a tempering-trough discharging into the press; and a series of agitators or stirrers mounted in said trough and serving to agitate the material therein and to advance it along the trough toward the discharge end thereof.

4. In combination with a continuously-operating expelling-press, a tempering-trough discharging into the press; means for heating said trough; a shaft extending through the trough; and a series of blades or stirrers carried by the shaft, said blades or stirrers serving to agitate the material and thereby bring it into intimate contact with the surface of the trough and also to advance the material along the trough toward the discharge end thereof.

5. In combination with an expelling-press, a grinding-mill; a tempering apparatus for the ground material; and means for effecting a feeding of the material from the mill, through the tempering apparatus and to the press.

6. In combination with an expelling-press, a grinding-mill; a tempering apparatus for the ground material; means for effecting a feeding of the ground material from the mill, through the tempering apparatus and to the press; and means for returning any overfeed.

7. In combination with an expelling-press, a grinding-mill; a hopper to receive the ground material from the mill; a tempering-trough discharging into the press; means for feeding the material from the hopper to the tempering-trough; and a conveyer adapted to receive any surplus material from the tempering-trough and to transfer it to the hopper.

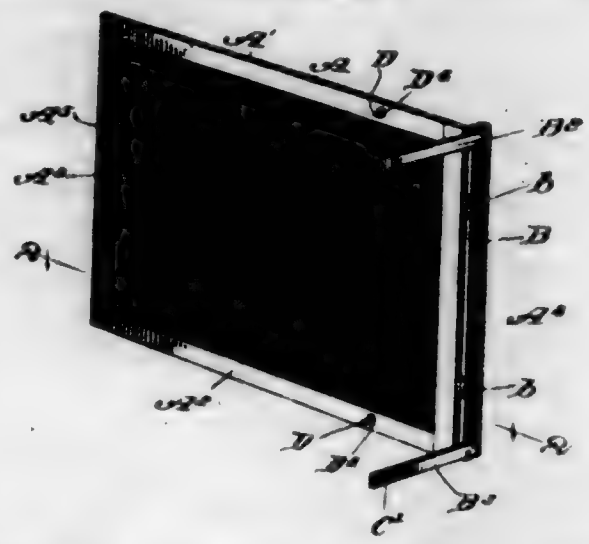
8. In combination with an expelling-press, a grinding-mill; a hopper to receive the ground material from the mill; a tempering-trough; an endless conveyer serving to convey the material from the hopper to the tempering-trough; a spout leading from the tempering-trough to the press; a conveyer-trough discharging at one end into the hopper; and a second spout leading from the tempering-trough to said conveyer-trough.

9. In combination with an expelling-press, a grinding-mill; a tempering apparatus; means for effecting a feeding of the material from the mill, through the tempering apparatus and to the press; and means to separate the solid matter from the oil which passes from the press.

10. In combination with an expelling-press, a grinding-mill; a tempering apparatus; means for effecting a feeding of the material from the mill, through the tempering apparatus and to the press; means for effecting a separation of the solid matter from the oil as it passes from the press; and means for feeding such solid matter to the tempering apparatus.

11. In combination with an expelling-press, a grinding-mill; a tempering apparatus; means for effecting a feeding of the material from the mill, through the tempering apparatus and to the press; means for returning any overstock from the tempering apparatus to the mill; means for effecting a separation of the solid matter from the oil as it passes from the press; and means for feeding such solid matter to the tempering apparatus.

805,118. **WINDOW-SCREEN.** NATHAN G. ANGLE, Freeport, Ill. Filed June 9, 1905. Serial No. 264,582.



Claim.—In a window-screen, in combination, a screen-frame, formed of upper and lower rails A′ A^3 and stiles A^2 A^4 securing them together and provided with screen-cloth attached thereto, a leaf B provided with transverse parallel locking-arms B′ B^2, substantially the same distance apart as and adapted to lap over upon the rails A^2 A^4, and hinged, at *b*, to one of such stiles, as A^4, the locking-arms B′ B^2 having buttonholes C therein provided with face-plates C′ applied and fastened thereover, and buttons D having oppositely-inclined cams D′ D^2 formed thereon to engage the face-plates C′ of the buttonholes C and rotatably mounted, by their shanks, in base-plates D^4 countersunk into and secured to the rails A′ A^3 of the screen-frame, substantially as described and for the purpose specified.

805,114. **WAD FOR SHOTGUNS, CARTRIDGES, AND THE LIKE.** GEORGE BATEGATE, Edinburgh, Scotland. Filed Jan. 25, 1905. Serial No. 242,642.



Claim.—1. A cartridge for shotguns comprising, in combination, a casing, an explosive charge, shot, and a pneumatic wad consisting of a ring or hollow cylinder of cork or its equivalent which is covered at each end by disks or cards so as to form a closed air-chamber, said pneumatic wad (or wads), being arranged between the shot and the explosive charge.

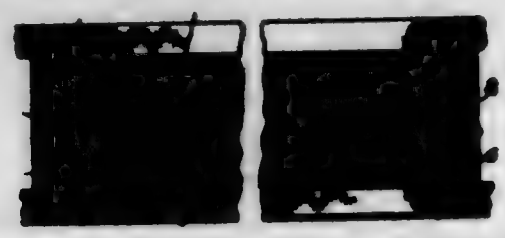
2. A wad for the cartridges of shotguns and adapted for insertion between the shot and the explosive charge of such cartridges, comprising, in combination, a hollow cylinder made of cork or its equivalent and two disks or cards one arranged at each end of the cylinder so as to cover the said ends and form a closed air-chamber.

3. A wad for the cartridges of shotguns and adapted for insertion between the shot and the explosive charge of such cartridges, comprising, in combination, a hollow cylinder made of cork or its equivalent and impregnated with a lubricating material and two disks or cards one arranged at each end of the cylinder so as to cover the said ends and form a closed air-chamber.

4. A wad for the cartridges of shotguns and adapted for insertion between the shot and the explosive charge of such cartridges, comprising, in combination, a hollow cylinder made of cork or its equivalent and impregnated with paraffin wax, and two disks or cards one arranged at each end of the cylinder so as to cover the said ends and form a closed air-chamber.

5. A wad for the cartridges of shotguns and adapted for insertion between the shot and the explosive charge of such cartridges, comprising, in combination, a hollow cylinder made of cork or its equivalent and two disks or cards having projections thereon which fit into the cylinder or ring said disks or cards being arranged one at each end of the cylinder so as to cover the said ends and form a closed air-chamber.

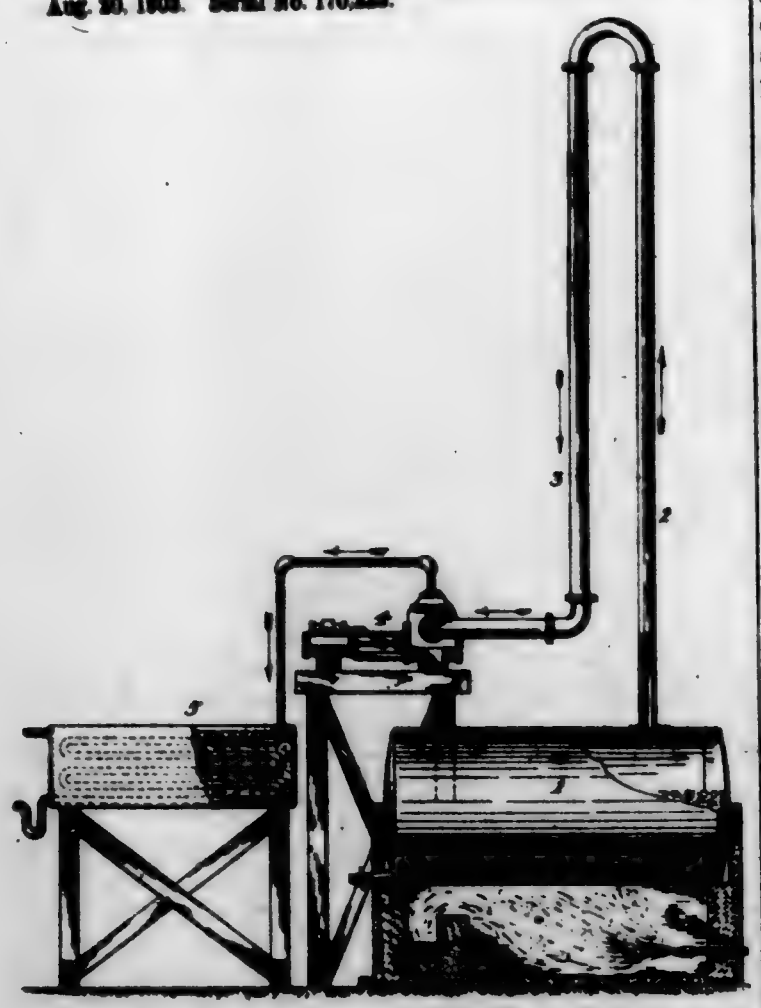
805,115. WEATHER-STRIP. CHARLES C. BOWERS, Kansas City, Mo. Filed Nov. 22, 1904. Serial No. 233,330.



Claim.—1. The combination with parts of a structure movable to and from each other, of a metallic strip secured to one of said parts, one edge of which strip is bent laterally and recurved to form a resilient socket having a narrowed opening, and another metallic strip secured to the other of said parts, one edge of which strip is bent and recurved to form a bead having the same shape as the socket and adapted to spring into and out of the same.

2. The combination with a window-frame and sliding sashes therein, of strips secured to opposite sides of the parting-bead of the frame, and having resilient sockets formed by recurving the same along one edge thereof, said sockets extending beside each other along the front edge of the bead, and a strip secured to and extending along the sash-stile of each sash, and having a bead fitting and slidable lengthwise in one of said sockets.

805,116. PROCESS OF DISTILLATION. GEORGE H. BRADFORD, Stockton, Cal., assignor to John Treadwell, San Francisco, Cal. Filed Aug. 20, 1903. Serial No. 170,223.

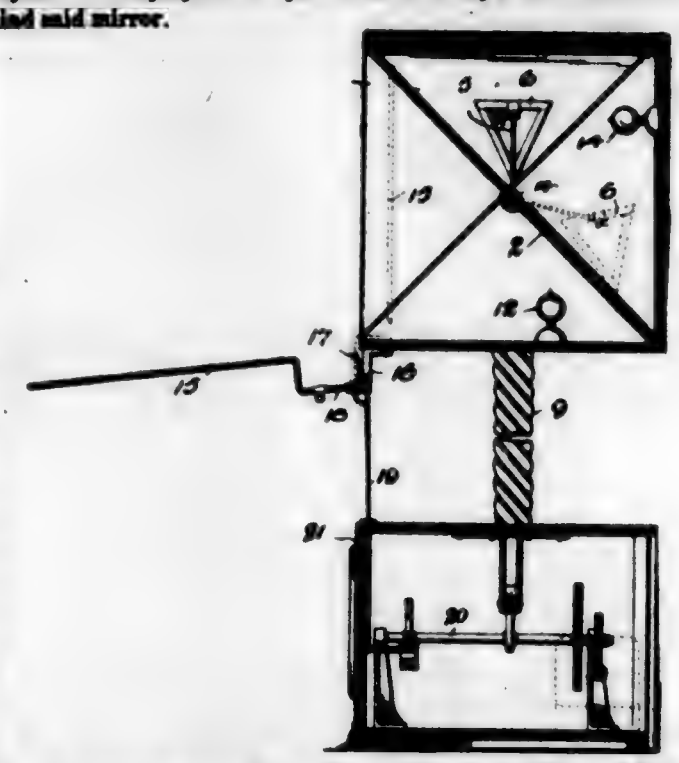


Claim.—1. The vacuum process of distilling, which consists in drawing the vapors of distillation to a height greater than the height to which the liquid being distilled can rise in a vacuum, and then delivering such vapors to a condenser.

2. The process of distilling which consists in forming an elevated vacuum above the still extending to a height greater than the height to which the liquid being distilled can rise in a vacuum whereby the vapors produced by distillation are drawn upwardly into said elevated vacuum before being delivered to the condenser.

805,117. ILLUSORY DEVICE FOR ADVERTISING OR AMUSEMENT. CHARLES T. BRADSHAW and CESAR M. THOMSON, Philadelphia, Pa., assignors, by direct and mesne assignments, to The Attracto Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Jan. 27, 1905. Serial No. 242,015.

Claim.—1. In an illusory device, the combination with a mirror, of a background, means for causing the reflection of said mirror to appear as a part of the said background, and means for causing an object to be displayed to be placed successively at one side of and behind said mirror.



2. In an illusory device, the combination with a cabinet, of a mirror therein dividing said cabinet into compartments, one of said compartments being in the rear of said mirror, and means for causing an object to be displayed to be placed in and removed from the compartment at the rear of said mirror.

3. In an illusory device, the combination with a cabinet, of a mirror therein extending from one corner toward the center thereof, a movable support within said cabinet, a device to be displayed carried by said support, and means for causing said support to be moved so as to place said object successively behind and at one side of said mirror.

4. In an illusory device, the combination with a rectangular cabinet, of an inclined mirror extending from one corner thereof to the center of said cabinet, a rotatable support adjacent the inner edge of said mirror, an object to be displayed carried by said support, and means for oscillating said support to cause said object to be placed successively behind and at one side of said mirror.

5. In an illusory device, the combination with a cabinet, of a mirror extending from the lower rear angle thereof toward the center, an oscillatory bar extending from one side to the other of said cabinet adjacent the edge of said mirror, a device to be displayed carried by said bar, and means for causing said bar to oscillate to place the said object at one side of and behind said mirror successively.

6. In an illusory device, the combination with a rotatable bar, a background, a mirror, means for causing the reflection of said mirror to appear as a part of said background, an object to be displayed carried by said bar, a coiled spring to compensate for the weight of said object carried by said bar, and means for oscillating said bar.

7. In an illusory device, the combination with a cabinet, of a mirror therein extending from one corner toward the center thereof, a movable support within said cabinet, device to be displayed carried by said support, means for causing the support to be moved so as to place the object successively and at one side of said mirror, means for closing the front of the cabinet while the object is moved from one position to another.

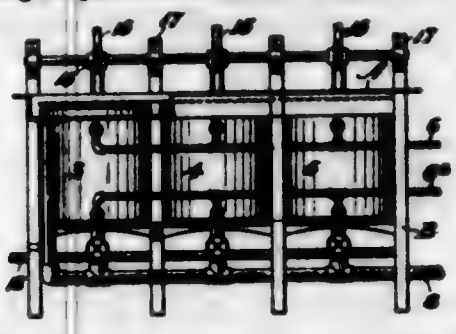
8. In an illusory device, the combination with a cabinet, provided with a mirror, of a background, means for causing the reflection of said mirror to appear as a part of said background means for causing an object to be displayed successively at one side of, and behind said mirror, means for closing the front of the cabinet while the object is moved from one position to the other.

805,118. DISH-WASHING MACHINE. CHARLES S. CHAMBERLAIN, Emeryville, Cal. Filed May 10, 1905. Serial No. 259,780.

Claim.—1. In an apparatus for washing dishes and the like, a water-tank, an open-bottomed bucket loosely fitting the tank with dish-supports and a suspending-bail, a loosely-fulcrumed arm with a hook upon which the bucket may hang, and means engageable to oscillate the arm and bucket.

2. In a dish and like washing machine, a close-bottomed water-tank, an open-bottomed bucket with interior dish-supports and a

bail, an arm with a hook to receive the bail, a fulcrum upon which the arm is turnable, an extension or plate with a segmental slot, an eccentric, and a pitman actuated thereby, and means for disengageably connecting the pitman with the slotted plate.



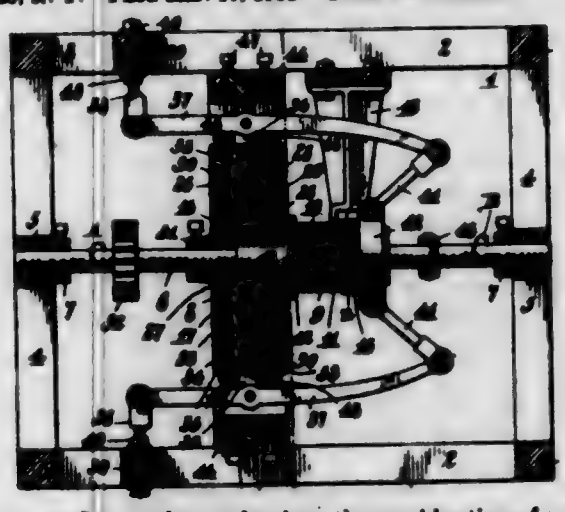
3. In a dish-washing machine, close-bottom water-tanks, open-bottom buckets loosely fitting said tanks, having interior dish-supports and suspending-bails, hook-arms to suspend the buckets within the tanks, said arms being loosely fulcrumed and having segmentally-slotted plates at the rear, a reciprocating pitman with pins loosely engaging the slots, and contacting with the ends of the slots when the arms are in position to suspend the buckets and disengage therefrom when the arms are turned into an approximately vertical position.

4. In a dish-washing machine, water-tanks and open-bottomed buckets having interior dish-supports, and fitting loosely within the tanks, arms from which the buckets are suspended when said arms are projected horizontally, and means by which the arms are moved to reciprocate the buckets within the tanks, said arms being turnable upon their fulcrums to disengage them from the reciprocating devices.

5. In a dish-washing machine, the combination of a series of water-tanks, dish-containing buckets submergible in the tanks, a loosely-fulcrumed arm over each tank, having a hook end upon which the bucket may hang, means whereby the arms may be oscillated, water and steam supply connections with the tanks, and overflow connections between successive tanks.

6. In a dish-washing machine the combination of a series of water-tanks connecting one with the other, dish-containing buckets submergible in the tanks, a loosely-fulcrumed arm over each tank said arm having means upon which the bucket may hang, means whereby the arms may be oscillated, water and steam supply connections with the tanks, an endless track suspended over the tanks, and a traveler movable thereon, said traveler having means for suspending the buckets and transferring them to and from the tanks successively.

805,119. **BRAKE FOR HOISTING MECHANISMS.** EDMUND M. COYER, West Seneca, N. Y., assignor of one-half to William U. Heverly, Buffalo, N. Y. Filed Mar. 17, 1905. Serial No. 250,253.



Claim.—1. In a brake mechanism, the combination of a shaft, a brake-wheel loosely mounted on the shaft, a clutch device secured to the shaft and adapted for engagement with the brake-wheel, a brake-shoe in contact with said brake-wheel, and a brake-lever pivotally connected between its ends to the brake-shoe and having one end fulcrumed and its other end arranged to be actuated.

2. In a brake mechanism, the combination of a shaft, a clutch-disk secured to said shaft and having pawls pivotally held thereon with their pivotal point arranged equidistant around said disk, said pawls being of different lengths, a brake-wheel surrounding said clutch-disk and having an annular series of teeth with which said pawls are engaged, and a brake device acting against said brake-wheel.

3. In a brake mechanism, the combination of a shaft, a brake-wheel loosely mounted on said shaft, a clutch device revoluble with the shaft and adapted for engagement with the brake-wheel, brake-shoes on opposite sides of and acting against said brake-wheel, and brake-levers fulcrumed at one of their ends and having pivotal connections between their ends with said brake-shoes, and means engaging the opposite ends of said levers for actuating the same.

4. In a brake mechanism, the combination of a shaft having a portion thereof screw-threaded, an internally-threaded sleeve fitting the threaded portion of said shaft, a slidable collar on the shaft actuated in one direction by said sleeve, means for revolving said sleeve on the shaft in either direction, a clutch device on the shaft comprising a fixed member and a loosely-mounted member, means to cause said internally-threaded sleeve to revolve with the fixed member of the clutch device, and a brake device operatively connected with said slidable collar.

5. In a brake mechanism, the combination with a suitable frame, of a shaft revoluble in said frame, a clutch device on said shaft comprising a fixed member and a loosely-mounted member, brake-shoes lying on opposite sides of said clutch device and acting against the loosely-mounted member thereof, brake-levers fulcrumed to said frame and having their fulcrum-points adjustable, said brake-levers being pivotally connected between their ends to said brake-shoes, and means for actuating said brake-levers.

6. In a brake mechanism, the combination with a suitable frame, of a shaft revoluble in said frame, a clutch device on said shaft comprising a fixed member and a loosely-mounted member, a brake-shoe acting against the loosely-mounted member of said clutch, a brake-lever pivotally connected to said brake-shoe, a bolt adjustable in the frame and having the brake-lever fulcrumed thereon, and means for actuating said lever.

7. In a brake mechanism, the combination with a suitable frame, of a shaft revolubly mounted in said frame, a clutch device on said shaft comprising a fixed member and a loosely-mounted member, a brake-shoe acting against said loosely-mounted member comprising a solid removable body and a frame carrying said removable body, springs acting against said brake-shoe, means for adjusting the pressure of said springs, and a brake-lever connected to said brake-shoe.

8. In a brake mechanism, the combination of a shaft having a portion thereof threaded, a clutch-disk secured to said shaft adjacent the threaded portion thereof and having inclined lock-teeth on the face thereof, a brake-wheel loosely mounted on the shaft and adapted to be engaged by said clutch-disk, an internally-threaded gear-sleeve engaging the threaded portion of the shaft and having inclined lock-teeth adapted to engage the teeth on said clutch-disk, a brake-shoe acting against said brake-wheel, a brake device, operative connection between said gear-sleeve and the brake device, and means for revolving the gear-sleeve on the shaft in either direction.

9. In a brake mechanism, the combination with a suitable frame, of a shaft revolubly mounted in said frame, a brake-wheel loosely mounted on said shaft and having an annular flange provided with an annular row of teeth on its inner surface, a clutch-disk secured to the shaft and having pawls adapted for engagement with said teeth, means for revolving said shaft embodying a gear-sleeve slidable on the latter and adapted for engagement with said clutch-disk to revolve the same on movement of said sleeve in one direction, and braking means connected with said gear-sleeve and adapted to act against said brake-wheel.

10. In a brake mechanism, the combination with a suitable frame, of a shaft mounted in said frame, a brake-wheel loosely mounted on said shaft, clutching means for causing said brake-wheel to revolve with the shaft, a braking device acting against the brake-wheel, and means for actuating said braking device and for engagement with said clutching means.

11. In a brake mechanism, the combination with a suitable frame, of a shaft mounted in said frame, a clutch-disk secured to said shaft and having pawls of different lengths secured thereto, a brake-wheel having an internally-toothed flange surrounding said clutch-disk with which said pawls are adapted to engage on movement of the clutch-disk in one direction and over which said pawls ride on movement of said disk in the opposite direction, brake-shoes for said brake-wheel, and driving mechanism embodying a sleeve movable lengthwise and revoluble on the shaft and having locking means to engage the clutch-disk on being revolved in one direction, and means for causing said brake-shoes to be moved from the brake-wheel on movement of said sleeve in the opposite direction.

12. In a brake mechanism, the combination with a suitable frame, of a shaft mounted in said frame and having a screw-thread

thereon, a clutch-disk secured to said shaft, a brake-wheel loosely mounted on said shaft and adapted to be engaged by said clutch-disk, an internally-threaded gear-sleeve on the threaded portion of said shaft adapted for movement lengthwise of the shaft on being revolved, means for locking said gear-sleeve to the clutch-disk when revolved in one direction, a slidable collar on said shaft movable lengthwise with said gear-sleeve, brake-shoes, and mechanism between said brake-shoes and said slidable collar.

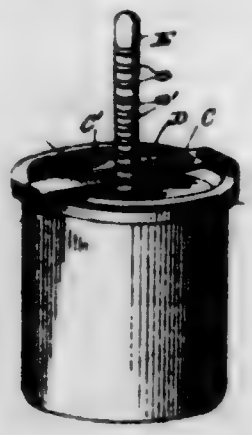
13. In a brake mechanism, the combination with a suitable frame, of a shaft mounted in said frame and having a screw-threaded portion between its ends, a clutch-disk secured to the shaft adjacent one end of said screw-threaded portion, a slidable collar on said shaft adjacent the other end of said screw-threaded portion, an internally-screw-threaded gear-sleeve engaging said screw-threaded portion and lying between said clutch-disk and said slidable collar, means for revolving said gear-sleeve, means for locking said gear-sleeve to the clutch-disk when revolved in one direction, a brake-wheel adapted to be engaged by said clutch-disk, brake-shoes for said brake-wheel, brake-levers connected to said brake-shoes, and links connecting said brake-levers with the slidable collar on the shaft.

14. In a brake mechanism, the combination with a suitable frame, of a shaft mounted in said frame, a brake-wheel loosely mounted on said shaft, a clutch device to cause said brake-wheel to revolve with said shaft, brake-shoes for said brake-wheel, brake-levers connected to said brake-shoes, and pressure-springs bearing against said brake-shoes.

15. In a brake mechanism, the combination with a suitable frame, of a shaft mounted in said frame, a brake-wheel loosely mounted on said shaft, a clutch device to cause said brake-wheel to revolve with said shaft, brake-shoes for said brake-wheel, brake-levers connected to said brake-shoes, pressure-springs bearing against said brake-shoes, and means for increasing or diminishing the pressure of said springs.

16. In a brake mechanism, the combination with a suitable frame, of a shaft mounted in said frame, a brake-wheel loosely mounted on said shaft, a clutch device to cause said brake-wheel to revolve with said shaft, a brake-shoe for said brake-wheel comprising a friction body portion and a frame in which said body portion is held, and a brake-lever attached to the frame of said brake-shoe.

805,120. **FOLLOWER FOR BARRELS, PICKLE-JARS, &c.** MARTIN CARTER, Olyphant, Pa. Filed Apr. 8, 1905. Serial No. 254,945.

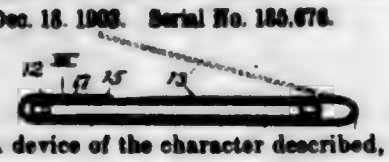


Claim.—1. The combination with a receptacle, a cross-piece arranged across the top thereof and having a central recess or open-side slot extending into the cross-piece from one side, and means whereby said cross-piece may be secured to the mouth of the receptacle to resist upward movement, of a follower and a stem on said follower having a series of projections of greater width than the slot and a series of recesses of less width, adapted to coöperate with the slot or recess in the cross-piece whereby the follower will be held against longitudinal movement through the slot or recess in the cross-bar; substantially as described.

2. The combination with a receptacle, a cross-piece arranged across the top thereof, said cross-piece having a central recess or open-sided slot extending into the cross-piece from one side and means whereby said cross-piece may be secured to the mouth of the receptacle to resist upward movement, of a follower located in the receptacle and a follower-stem having alternately-arranged annular grooves and projections, said projections being of greater width than the slot in the cross-piece and the recesses of less width, whereby the follower will be held against longitudinal movement, through the slot or recess; substantially as described.

3. In a device such as described the combination with the follower formed of wood and the dovetail key having a uniform taper from end to end, extending across the grain of the wood and which extends above the surface of the follower, whereby the thickness of the follower is increased at the center, of the follower-stem mounted in registering openings in the key and follower and means for holding the follower against longitudinal movement; substantially as described.

805,121. **MATCH-PACKAGE.** JAMES A. B. CRISWELL, New York, N. Y. Filed Dec. 18, 1903. Serial No. 185,676.



Claim.—1. A device of the character described, comprising an approximately rectangular piece of material having a body portion, a short bent-over end forming a pocket, and a longer portion forming an inclosing flap, a narrow corrugated strip permanently secured in said pocket, said corrugated strip and the sides of the pocket forming individual clamping-cells for the ends of the matches opposite their heads, the short bent-over end extending beyond the corrugated strip to provide a free flap or end under which the inclosing flap is adapted to be tucked or inserted to cover the matches.

2. A match-holding device, comprising a cover having a body portion, a short bent-over end, and a longer portion forming an inclosing flap, a narrow retaining device to hold and clamp individual matches permanently secured between said bent-over end and the body portion and serving to hold the bent-over end in a folded position to the body portion, the short bent-over end extending beyond the match-retaining device to provide a free flap or end under which the inclosing flap is adapted to be tucked or inserted, and a match-striking surface on the cover.

3. A device of the character described, comprising a cover having a body portion, a short bent-over end forming a pocket, and a longer portion forming an inclosing flap, a narrow corrugated strip and a reinforcing or backing strip permanently secured in said pocket and to each other and serving to hold the bent-over end to the body portion, the short bent-over end extending beyond the corrugated strip to provide a free flap or end under which the inclosing flap is adapted to be tucked or inserted.

4. A match-holding package, comprising a sheet folded upon itself to form a casing, and a match-retaining device secured within the fold of the package and consisting of a corrugated strip and a backing or supporting strip on each side of the corrugated strip, said strips being permanently secured together and to the inner faces of the casing, and a match-striking surface on the package.

5. A match-holding package, comprising a rectangular piece of material having a body portion, a short bent-over end forming a pocket, and a longer portion forming an inclosing flap, a narrow corrugated strip, backing or reinforcing strips permanently secured to the corrugated strip and to the adjacent inner faces of the bent-over end and the body portion in said pocket, said corrugated and backing strips serving to clamp and hold the matches, the bent-over end extending beyond the corrugated strip to provide a free flap or end under which the inclosing flap is adapted to be tucked or inserted to cover the matches, and a match-striking surface on the outside of the package.

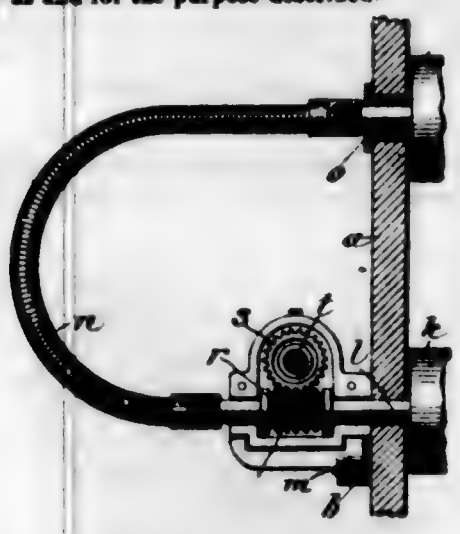
6. A device of the character described, comprising a cover having a body portion, a short bent-over end, and a longer portion forming an inclosing flap, a narrow retaining device having individual clamping and holding means permanently secured between said bent-over end and the body portion and serving to hold and support the bent-over end in a folded position over the body portion, the short bent-over end extending beyond the match-retaining device to provide a free flap or end under which the inclosing flap is adapted to be tucked or inserted.

805,122. **DRIVING MECHANISM FOR GRAIN-BINDER MACHINES.** SAMUEL K. DEERING, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a Corporation of New Jersey. Filed Jan. 11, 1904. Serial No. 188,449.

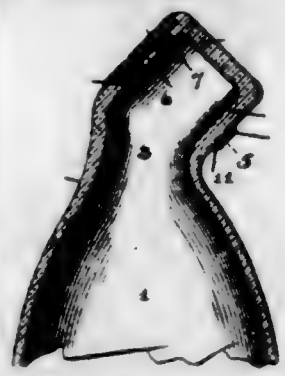
Claim.—1. In a device of the class described, the combination with the top roller-shafts of the two elevator-canvasses, of the worm secured adjacent to the end of one of said shafts, the flexible shaft connecting the adjacent ends of said roller-shafts, the reel-shaft, and connections between said worm and the reel-shaft consisting of the worm-wheel and the telescoping tumbling-rod secured thereto.

2. In a device of the class described, the combination with the shaft *l* having the worm *r* secured near the end thereof, of the shaft *o*, the flexible shaft *n* connecting the adjacent ends of said shafts *l*

and *e*, the bracket *m* in which the end of the shaft *l* is journaled, the shaft *t* journaled in said bracket and having the worm-wheel *s* thereon meshing with the worm *r*, the reel-shaft *h*, and the telescoping tumbling-rod connected by universal joints to said shafts *t* and *h*; substantially as and for the purpose described.



805,123. **BOTTLE-CLOSURE.** CHARLES E. DUCK, Baltimore, Md. Filed Jan. 23, 1905. Serial No. 242,216.

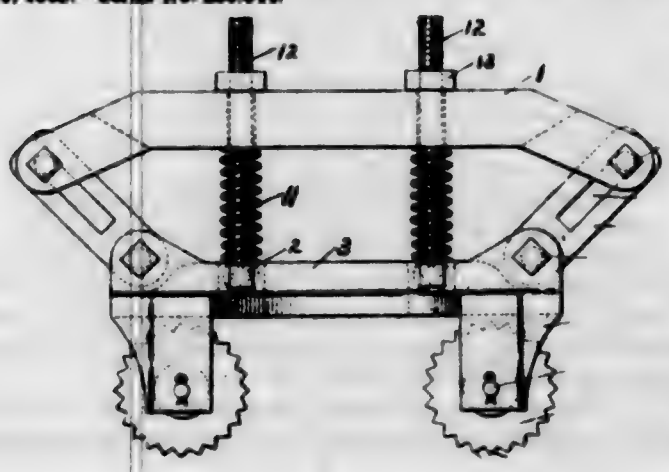


Claim.—1. A bottle having a body with a contracted throat-passage at one end and also having an inclined neck which is closed at its end and whose side wall extends laterally over the contracted throat-passage and is provided with an opening in its inclined side which has position over the center of the body, and an exterior sealing-disk seated against the inclined side wall of the neck around said opening.

2. A bottle having a body and a neck which is inclined with respect to said body and closed at its end and which has an opening in its side which is centrally located above the body, and the exterior of said inclined neck having an exterior seat adjacent its side opening, and an exterior sealing device seated around said side opening and having arms which extend circumferentially around the inclined neck.

3. A bottle having a body and a neck which is inclined with respect to said body and closed at its end and also having an opening in its side which is centrally located above the body and the exterior of said inclined neck having a seat adjacent its side opening, a sealing device having a packing to contact with the seat on the inclined neck and also having arms which project laterally from said packing and extend around the inclined neck and means for securing said arms together.

805,124. **SLEET-CUTTER FOR THIRD RAILS.** ERVIN A. DUNBAR, Wheaton, and WALTER H. ROGERS, Warrenville, Ill. Filed Mar. 18, 1905. Serial No. 250,844.



Claim.—1. In an apparatus of the class described, a cutter composed of a multiplicity of cutting-disks arranged side by side and separately rotatable on one axle; an axle supporting said disk; and means to support the axle.

2. In an apparatus of the class described, a cutter composed of a multiplicity of cutting-disks arranged side by side and separately rotatable on one axle; sharp-toothed edges on each disk; an axle supporting said disks; and means to support the axle.

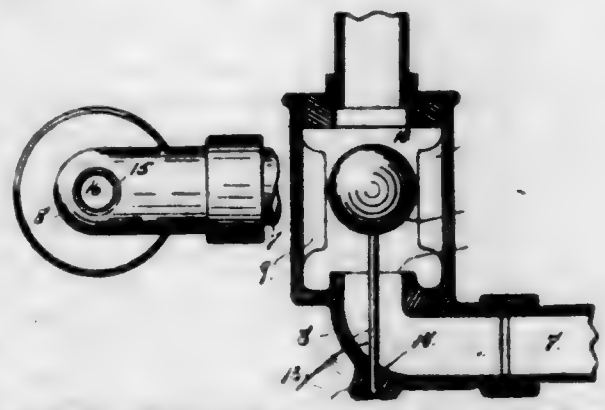
3. In an apparatus of the class described, a bar arranged parallel to the direction of travel; a base supporting said bar; springs at each end between said bar and base; links at each end between said bar and base; and a cutter carried by said bar and adapted to engage the surface of the rail which is to be cleared.

4. In an apparatus of the class described, a base-bar arranged parallel to the direction of travel; a second bar parallel thereto; springs between the said bars tending to force them apart and tie-bolts between the said bars opposing the springs; links at each end between said bars; and a cutter carried by said bar and adapted to engage the surface of the rail which is to be cleared.

5. In an apparatus of the class described, a base-bar arranged parallel to the direction of travel; a second bar parallel thereto; springs between the said bars tending to force them apart at each end; tie-bolts at each end opposing the springs; links connecting the bars at each end; and cutters carried by said second bar at each end and adapted to engage the surface of the rail which is to be cleared.

6. In an apparatus of the class described, a bar arranged parallel to the direction of travel; a base supporting said bar; springs at each end between said bar and base; links at each end between said bar and base; an axle at each end of said bar supported thereby and arranged transversely to the direction of travel; and a multiplicity of cutting-disks on each axle, arranged side by side, each disk being individually rotatable on its axle.

805,125. **MEANS FOR AUTOMATICALLY SHUTTING OFF GAS-SUPPLY.** FRANK ENGLISH, Boulder, Colo., assignor of one-tenth to Wylie G. Wilson, Denver, Colo. Filed Dec. 16, 1904. Serial No. 237,160.



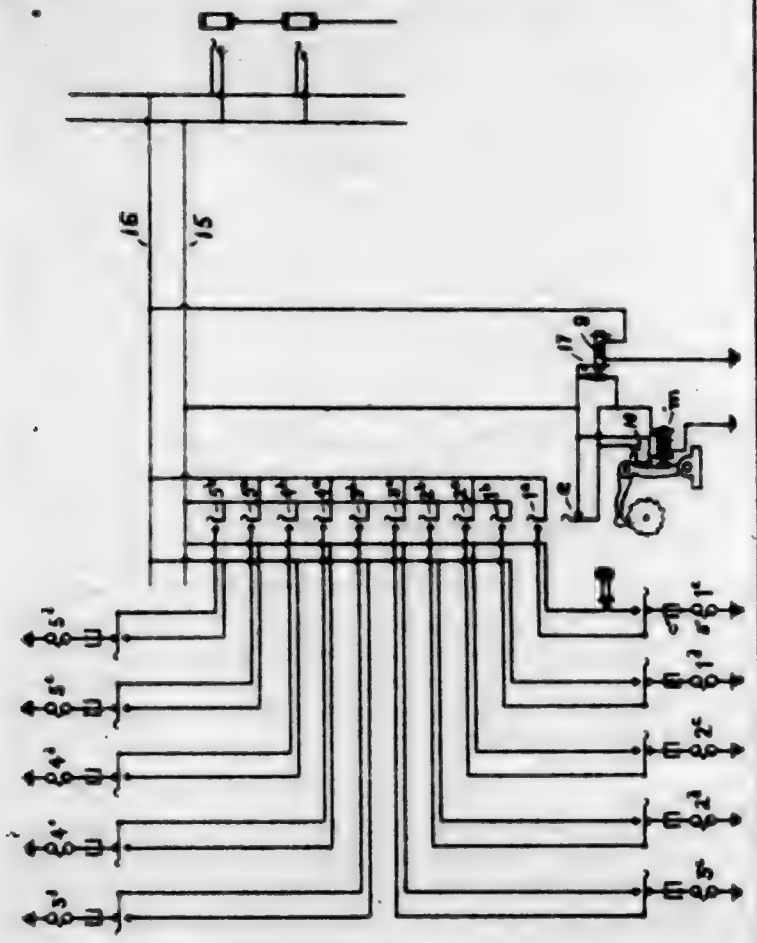
Claim.—1. The combination with a gas-conduit, of an interposed casing having a number of vertically-disposed ribs, a valve engaging the ribs, the casing below the ribs being provided with a seat for the valve to cut off the passage of gas through the conduit, the valve being provided with a depending stem, and a stop engaged by the stem and normally forming a support therefor whereby the valve is supported above the valve-seat, the said stop being held in place by material readily fusible.

2. The combination with a fluid-conduit, of an interposed casing having vertically-disposed ribs, a ball-valve located in the casing and engaging the ribs, the bottom of the casing being provided with a seat for the valve, the conduit below the valve-seat having an opening, a stem connected with the valve and adapted to pass through said opening, a plate normally closing the opening and forming a stop for the valve-stem whereby the valve is supported above its seat, the said stop-plate being normally secured in place by readily-fusible material.

805,126. **MULTIPLE-STATION TELEPHONE SYSTEM.** ARTHUR J. FARMER, Detroit, Mich. Filed Dec. 26, 1903. Serial No. 186,535.

Claim.—1. In a telephone-exchange system, the combination with a party-line switching appliance, of means provided in the cord-circuit at the exchange for sending actuating-current over both line conductors in parallel to said switching appliance, relay apparatus for sending current over one side of the line thereto, and means controlled by the removal of the connecting-plug for restoring the relay apparatus to normal condition, substantially as set forth.

2. In a telephone-exchange system, the combination with a party-line switching appliance, of means provided at the exchange for sending actuating-current thereto, relay apparatus at the exchange for transmitting restoring-current from the exchange to said appliance, and means controlled by the subscriber's switch-hook for automatically actuating said relay apparatus, substantially as set forth.



3. In a telephone-exchange system, the combination with a party-line switching appliance, of means provided at the exchange for transmitting actuating-current thereto and effecting the selection of the desired station, relay apparatus in the cord-circuit controlling the transmitting-current, a portion thereof being operated upon the insertion of the plug and another portion by the subscriber's switch-hook, whereby the switching appliance is automatically restored to normal condition upon the conclusion of conversation, substantially as set forth.

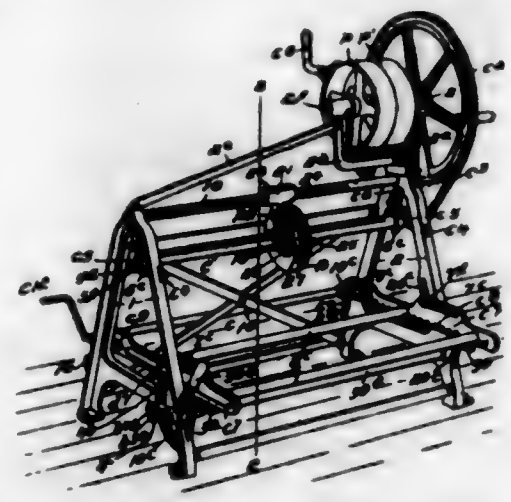
4. The combination with a telephone-exchange, of a multiple-station telephone-line extending therefrom affording a metallic talking-circuit, a plurality of substations normally connected thereto upon individual circuits, a third conductor or conducting medium uniting the exchange and each of the substations, and an electromagnetic switching appliance bridged between one of the line conductors and the third conductor, said appliance being connected to control the individual circuits, and provided with means for selectively connecting the associated circuits with the main-line or talking circuit, substantially as set forth.

5. In a telephone-exchange system, the combination with a party-line switching appliance, of the switchboard apparatus at the exchange for effecting its control and interconnection with other lines, the same including in the cord-circuit, a source of current, manual switching apparatus for transmitting current over both limbs of conductors connecting said party-line switching appliance, a source of intermittent current, relay apparatus connected therewith and with the cord-circuit, controlled by the subscriber's switch-hook and adapted automatically to transmit current over one limb of the line to said switching appliance, whereby it is restored to normal condition, substantially as set forth.

6. In a telephone-exchange system, the combination with a plurality of subscribers' lines, a party-line switching appliance governing the group, line conductors uniting it with the exchange, means provided at the exchange for sending actuating-current over both line conductors to said appliance, a source of intermittent current, and relay apparatus governed by the subscriber's switch-hook for sending said current over one line conductor automatically to restore the switching appliance to normal condition, substantially as set forth.

7. In an intermediate substation telephone system, the combination with a rotatable step-by-step switching appliance, of means provided at the exchange for transmitting actuating-current thereto to step the appliance into position for selecting any desired station, relay apparatus in the cord-circuit controlling the actuating-current, a portion thereof being connected to operate upon the insertion of the calling-plug at the exchange, and another portion to operate through the movement of the subscriber's switch-hook, whereby the switching appliance is automatically restored to normal condition upon the conclusion of conversation, substantially as set forth.

805,127. LAWN-MOWER-BLADE-GRINDING MACHINE. WILLIAM H. PETTERS, Plymouth, Ohio. Filed May 26, 1905. Serial No. 262,337.



Claim.—1. A grinding-machine of the character described, comprising a suitable frame, a grinding-wheel, means for simultaneously rotating the wheel and moving it laterally, and a mower-supporting means mounted in the frame, vertically and transversely adjustable with respect to the grinding-wheel.

2. In a grinding-machine of the character described, in combination with a suitable frame, a grinding-wheel, and means for simultaneously rotating the wheel and feeding it laterally; a mower-supporting means mounted on the frame, vertically and transversely adjustable devices for moving said supporting means bodily in the transverse direction, and another device for moving the said supporting means with the mower thereon, vertically as set forth.

3. A grinding-machine of the character described, comprising in combination with the main frame, the grinding-wheel and means for feeding it laterally as it is rotated; a mower-support, comprising end bars, and longitudinal members that connect with the end bars, said end bars being pivotally supported at one end on the end sections of the main frame, a lever-actuated means for elevating the free end of the pivoted bars and a detent for holding the lever to its adjusted positions.

4. The combination with the main frame, the grinding-wheel and the means for feeding said wheel laterally as it is rotated; of the mower-support, consisting of cross-bars, one for each end member of the main frame, said cross-bars being mounted at the front end on the said main frame end members, for vertical movement, the rear ends of the bars having slots and rack portions, and a rotary shaft journaled on the main frame whose ends pass through the slots in the cross-bars and form the bearing for the rear end of the cross-bars, said shaft carrying pinions for engaging the racks on the cross-bars for the purpose described.

5. A grinding-machine comprising a main frame, a means for supporting the lawn-mower, a grinding-wheel mounted to engage the mower blades or knives, means for feeding the grinding-wheel laterally as it is rotated, and devices for holding the grinding-wheel away from the mower blades or knives as set forth.

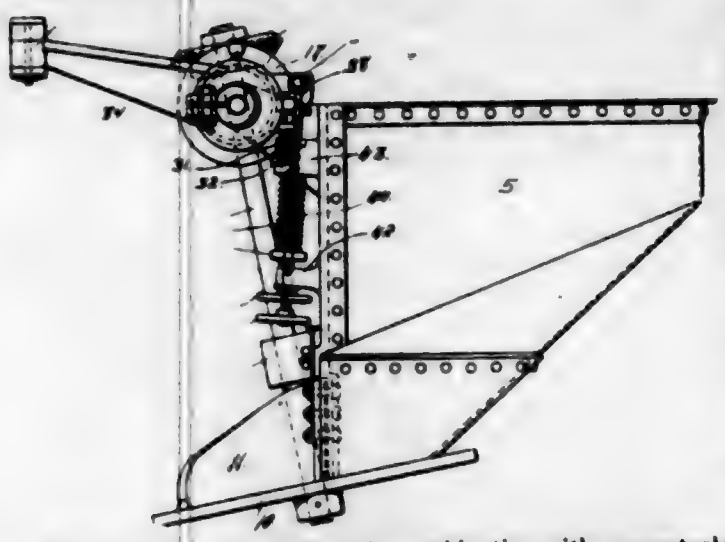
6. In a machine of the character described, a grinding-wheel having simultaneous rotary and lateral motion, automatically held up against the blade or knife operated on and means for moving and holding the said wheel away from the work without interfering with its rotary and lateral motion.

7. A grinding-machine comprising a shaft, swinging supports in which the said shaft is journaled, a grinding-wheel mounted to rotate with said shaft and to move longitudinally thereof, a means for feeding said wheel laterally as it is rotated, and devices for automatically swinging the hangers with the shaft and grinding-wheel thereon toward the work and for moving and holding the shaft and wheel away from the work as set forth.

8. In a machine as described, the main frame, the hangers pivotally suspended one on each end of the main frame, the actuating-

shaft journaled in said hangers, the grinding-wheel mounted therein to rotate therewith, means mounted on the main frame for feeding the grinding-wheel laterally as it is rotated, said hangers having pendent portions, threaded rods connected to said portions and projected rearwardly through the parts of the main frame, thumb-nuts on the threaded ends of the rods and springs about the said rods, all arranged substantially as shown and for the purposes described.

805,128. **ORE-FEEDER.** NORMAN V. FITTS, Denver, Colo., assignor of one-half to The Colorado Iron Works Company, Denver, Colo. Filed Oct. 24, 1904. Serial No. 229,678.



Claim.—1. In an ore-feeder, the combination with a receptacle adapted to hold the ore or other material, of a feed-plate mounted below the receptacle, and a revoluble shaft connected in operative relation with the plate, of two parts mounted on the said shaft and having wedge-shaped opposing faces capable of independent revoluble movement, one of the parts being also axially movable on the shaft and having a friction-face, another friction-face connected in operative relation with the said shaft, and means for imparting a rotary movement to one wedge-faced part, whereby the opposing part is shifted axially to bring the friction-faces into operative relation to actuate the shaft and feed-plate, substantially as described.

2. In an ore-feeder, the combination with a receptacle adapted to hold the ore or other material, a feed-plate mounted below the receptacle, and a revoluble shaft connected in operative relation with the said plate, of two parts having wedge-shaped opposing faces, a shaft upon which the wedge-faced parts are loosely mounted, one being axially movable thereon, and provided with a friction-face, another friction-face fast on the shaft and connected in operative relation with the shaft of the feed-plate, and means for imparting a rotary movement to one wedge-faced part whereby the other wedge part is shifted axially on the shaft and the friction-faces brought into operative relation for the purpose set forth.

3. In an ore-feeder, the combination with a receptacle adapted to hold the ore or other material, and a feed-plate revolubly mounted below the receptacle, of two parts having wedge-shaped opposing faces, a shaft on which the wedge-faced parts are loosely mounted, said shaft being connected in operative relation with the feed-plate, one wedge-faced part being axially movable and provided with a friction-face, and another friction-face fast on the shaft and connected in operative relation with the feed-plate, and means for imparting a rotary movement to one wedge-faced part whereby the other wedge part is shifted axially on the shaft and the friction-faces brought into operative engagement for the purpose set forth.

4. In an ore-feeder, the combination with a hopper, a feed-plate mounted below the hopper, a revoluble shaft to which the feed-plate is made fast, a second shaft geared to the feed-plate shaft, a lever-arm fulcrumed on the second shaft and provided with a wedge-faced part, an opposing wedge-faced part movable in the line of the shaft's axis, the axially-movable wedge-shaped part having a friction-face, another friction-face fast on the second shaft, and means for actuating the lever-arm whereby the wedge part having the friction-face is shifted to bring the two friction-faces into operative relation for the purpose set forth.

5. The combination with a receptacle, a feed-plate and an actuating-shaft, of a second shaft geared to the feed-plate shaft, a lever fulcrumed on the second shaft and provided with a wedge-faced part rigidly connected therewith, an opposing wedge-faced part loose on the second shaft and movable thereon in the line of the shaft's axis, the axially-movable part having a friction-face, another friction-face fast on the second shaft, means for actuating the lever to throw the friction-faces into operative engagement, and suitable means connected with the lever for returning the latter to its normal position after each movement of the feed-plate.

6. The combination with a suitable receptacle and a revoluble plate, of a shaft suitably journaled and connected in operative relation with the feed-plate, a lever fulcrumed on the shaft and provided with a wedge-faced part rigidly connected therewith, another wedge-faced part loose on the shaft and provided with a friction-face, another friction-face fast on the shaft, means connected with the loose wedge-faced part for taking up lost motion between the friction-faces, and means for actuating the lever whereby the wedge-faced part connected therewith is actuated and the relative position of the two wedge-faced parts changed by a cam action to bring the friction-faces into operative relation for the purpose set forth.

7. The combination with a feed-plate and a shaft connected in operative relation therewith, of a second shaft geared to the feed-plate shaft, a lever fulcrumed on the second shaft and provided with a wedge-faced part rigidly connected therewith, an opposing wedge-faced part loose on the second shaft and movable thereon in the line of the shaft's axis, the axially-movable part also having a friction-face, another friction-face fast on the second shaft, tension means connected with the wedge-faced part having a friction-face for taking up lost motion between the two friction-faces, and means for actuating the lever whereby the wedge faces are shifted angularly to bring the friction-faces into operative engagement.

8. In an apparatus of the class described, the combination with a rotary feed-plate, and a shaft connected in operative relation with the said plate, of a lever fulcrumed on the shaft, a wedge face rigidly connected with the lever and loose on the shaft, a part having an opposing wedge face at one extremity, and a friction-face at the opposite extremity, the same being loose on the shaft, a friction-face fast on the shaft, means for actuating one arm of the lever to shift the wedge faces angularly and bring the friction-faces into inoperative engagement, and means connected with the opposite arm of the lever for returning the latter to its normal position after each operation of the feed-plate, said means comprising tie-rods connected at their upper extremities with the lever, a screw-shaft, a cross-head slidable thereon and with which the lower extremities of the tie-rods are connected, the screw-shaft passing through openings formed in upper and lower stationary parts, the upper extremity of the screw-shaft engaging the lever, a nut mounted in the upper stationary part and locked against rotation, the screw-shaft being threaded to engage said nut, the extremity of the screw-shaft remote from the lever being equipped to facilitate the manipulation of the shaft, the lower being threaded, and a lock-nut mounted on the lower part of the shaft being threaded part of the shaft for the purpose set forth.

9. The combination with a rotary feed-plate, of a shaft connected in operative relation therewith, a lever fulcrumed on the shaft and provided with a part having a wedge face through which the shaft also passes, another part loose on the shaft and having an opposing wedge face and also provided with a friction-face, another friction-face fast on the shaft, a housing connected with the lever and surrounding the opposing wedge faces, and means for actuating the lever whereby the wedge faces are shifted angularly to bring the friction-faces into operative engagement, substantially as described.

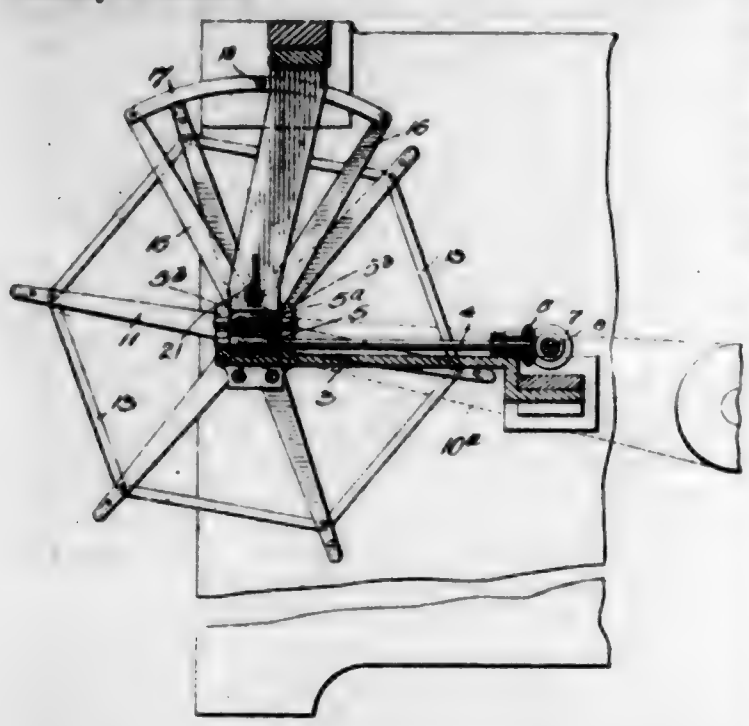
805,129. **MACHINE FOR SIMULTANEOUSLY SPINNING AND WINDING YARN.** ALFRED J. FOULDS and HENRY A. FOULDS, Philadelphia, Pa. Filed June 9, 1904. Serial No. 211,870.

Claim.—1. In combination with a suitable supporting-frame, a stationary tubular bearing-sleeve carried thereby, a reel having a hub journaled on said sleeve with means for rotating it, a pair of feed-rolls arranged to feed yarn through said sleeve from one side, a yarn-guide having a hub loosely mounted on the hub of the reel and constructed and adapted to receive the yarn at the other side of said sleeve and guide it onto the forks of the reel, and means for retarding the rotation of the yarn-guide, substantially as described.

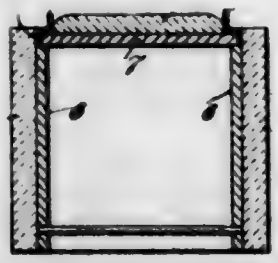
2. In combination with a suitable supporting-frame, a stationary tubular bearing-sleeve carried thereby, a hub journaled on said sleeve, arms carried by said hub having yarn-receiving forks on their outer ends, a pair of feed-rolls on one side of said tubular bearing-sleeve for feeding yarn through the sleeve, a yarn-guide rotatably mounted upon the hub and having a yarn-receiving fork or portion for receiving the thread after it has passed through said stationary hub, and retarding means acting on said yarn-guide, substantially as described.

3. In combination with a suitable supporting-frame, a stationary tubular bearing-sleeve carried thereby, a hub journaled on said sleeve, arms carried by said hub, a plurality of yarn-receiving forks

carried by said arms, one of said forks being movable for permitting removal of the yarn, a yarn-guiding member rotatably mounted on the hub and having a guiding-fork overhanging the yarn-receiving forks, and means for feeding the yarn through the tubular hub, substantially as described.

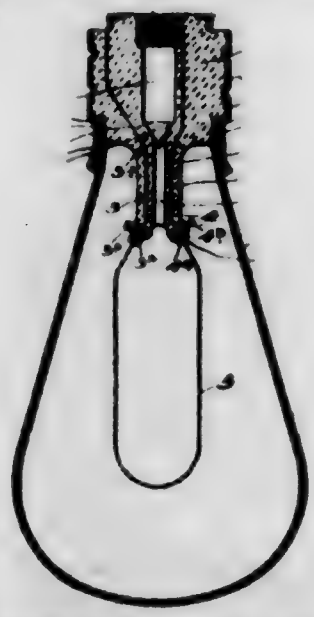


805,130. VAULT. JOSEPH W. FREEMAN, Peebles, Ohio. Filed June 23, 1905. Serial No. 267,352.



Claim.—A portable cement grave-vault made in two parts, one comprising a box open at the top and bottom, and the other a cover adapted to be cemented on the box, the box having casket-supporting bars extending between the walls thereof above the bottom.

805,131. INCANDESCENT ELECTRIC LAMP. ROYAL GEROW and GEORGE H. GEROW, Northport, Canada. Filed Dec. 31, 1904. Serial No. 239,220.



Claim.—1. In an incandescent electric lamp, the combination with the base having a contracted stem provided with a central orifice the end of said stem being adapted to receive the ends of the filament and an extension-orifice in the base connected to the aforesaid orifice by a tapered portion, a conical valve located in said tapered portion and a removable plug closing the end of the extension-orifice.

2. In an incandescent electric lamp, the combination with the base having a stem provided with a central orifice and an extension-orifice in said base connected to the aforesaid orifice by a tapered portion, the conical valve located in such tapered portion, a screw-threaded sleeve fitting in the upper end of the extension-orifice, a screw-plug fitting in said sleeve, a metal ring fitting the outer end of the base and the wires leading from said ring and sleeve through the base and stem thereof, the filament held in the stem and being connected to the said wires and the globe removably attached to the base, substantially as described.

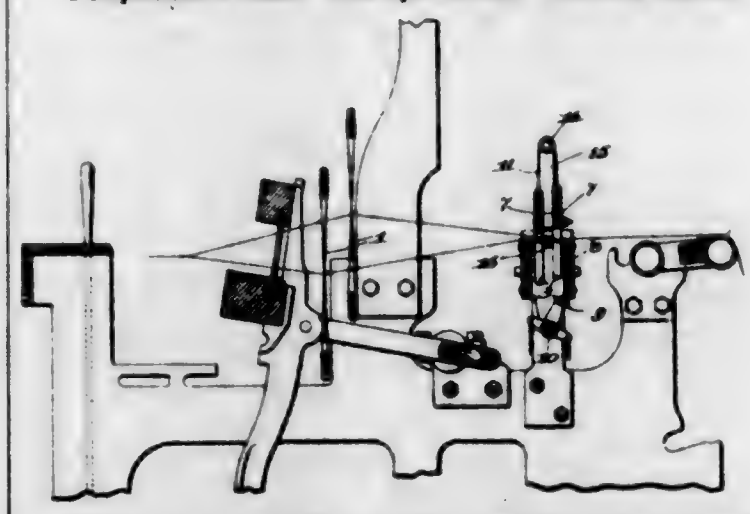
3. In an incandescent electric lamp, the combination with a base having a central orifice and a filament detachably connected to wires in the base, of a globe having a beaded neck, and a metallic collar extending over the said beaded neck and along the exterior of the globe, said collar being cemented below the bead to the globe and having an extension above the bead screw-threaded and engaging a screw-thread on the base, substantially as described.

805,132. BASE-BALL BAT. WILLIAM F. GUBBINS, Chicago, Ill. Filed Apr. 4, 1905. Serial No. 253,737.



Claim.—A bat the striking part of which has a covering comprising an inner layer of cloth cemented to the bat and an outer layer of rubber corrugated lengthwise of the bat.

805,133. WARP-STOP-MOTION MECHANISM. EDMOND GUILBERT, Woonsocket, R. I., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Apr. 27, 1905. Serial No. 257,575.



Claim.—1. In a warp-stop-motion mechanism, a series of stop-motion-controlling detectors maintained inoperative by normal warp-threads, a support for and with relation to which the detectors are movable when released, a feeler to coöperate with a released detector, mounted independently of said support, and means to permit limited movement of said support and the detectors by and with the warp-threads in the direction of their length.

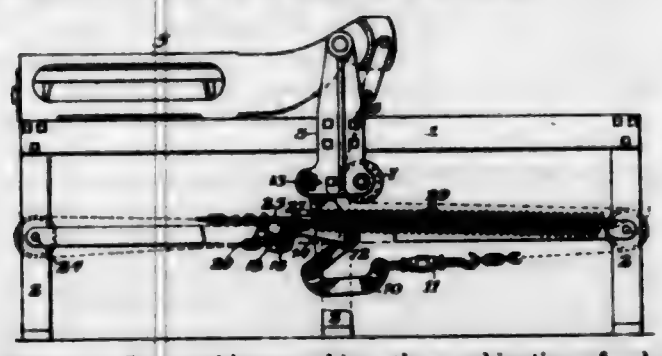
2. In a warp-stop-motion mechanism, a series of stop-motion-controlling detectors maintained inoperative by normal warp-threads, each detector having an elongated longitudinal slot, a transverse support extended loosely through the slots of the detectors, and pivotally-mounted depending and swinging means to

sustain the support and permit bodily movement thereof and of the detectors with the warp-threads in the direction of their travel solely by or through the action of the warp-threads upon the detectors.

3. In a warp stop-motion for looms, a series of stop-motion-controlling detectors maintained inoperative by intact warp-threads and adapted when released to effect the actuation of a stopping instrumentality, a support for and relatively to which the detectors are movable when released, and overhead means to pivotally sustain the support and permit limited bodily swinging movement thereof with and in the direction of travel of the warp-threads, such movement of the support being effected solely by or through the warp-threads.

4. In warp-stop-motion mechanism for looms, vertically-movable stop-motion-controlling detectors arranged in a plurality of parallel series and maintained inoperative by normal warp-threads, a transverse support for each series of detectors, and pivotally-mounted depending and freely-swinging carriers to which the ends of the supports are attached, to permit movement of the detectors by and with the warp-threads in the direction of travel of the same.

805,134. MOLDING-MACHINE. CLINTON A. HAGADORN, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed June 16, 1905. Serial No. 265,582.



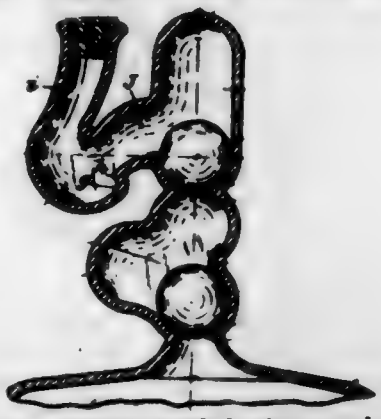
Claim.—1. In a molding-machine, the combination of a bed-frame, a pattern-carrying arm mounted upon a horizontal pivot upon said frame and adapted to swing through an arc approximating one hundred and eighty degrees, a counterbalancing mechanism comprising a flexible member connected with said arm upon one side of said pivot and extending downward and engaging with a sheave below said pivotal connection of the arm and extending outward and engaging with a sheave mounted at one end of said frame and then inward and connected to one end of a lever pivotally mounted at its opposite end upon the frame, a flexible member connected with said lever intermediate its ends and extending outward and engaging with a sheave at the opposite end of said frame and then inward and connected to one end of a counterbalancing-spring, said spring having its opposite end secured to the frame at the first-mentioned end thereof.

2. In a molding-machine, the combination of a bed-frame, a pattern-carrying arm mounted upon said frame in a manner permitting it to swing in a vertical plane to a horizontal position in either direction from the vertical, a counterbalancing mechanism connected therewith comprising a two-armed compensating lever, said arms disposed at substantially right angles with each other, one arm at its outer end pivotally connected with the frame and extending downward therefrom at substantially right angles with the horizontal plane thereof when said pattern-carrying arm is in a vertical position, the other arm having openings at opposite ends thereof, flexible members connected with said openings and extending outward in opposite directions therefrom, said members engaging with sheaves mounted on the frame and extending inward therefrom and having one member connected with the pattern-carrying arm and the other member connected with a counterbalancing-spring in a manner to operate as a counterpoise for the weight of said pattern-carrying arm.

3. In a molding-machine, the combination of a bed-frame, a pattern-carrying arm mounted upon a horizontal pivot upon said frame and adapted to swing from a vertical to a horizontal position in either direction, a counterbalancing mechanism comprising a flexible member connected with said arm upon one side of said pivot and extending downward and engaging with a sheave below said pivotal connection of the arm, and extending outward and engaging with a sheave mounted at one end of said frame, and then inward and connected to one end of a lever having its opposite end pivotally connected with the frame, a link pivotally connected at one end with said lever intermediate its ends, said link having a cross-head at its opposite end, flexible members connected with opposite ends of said cross-head and extending outward toward the opposite end of said frame and engaging with sheaves mounted thereon, and then extending inward and secured to one end of coiled counterbalancing-springs having their opposite ends secured to the frame at the first-mentioned end thereof.

4. In a molding-machine, the combination of a bed-frame, a pattern-carrying arm mounted upon a horizontal pivot upon said frame and adapted to swing from a vertical to a horizontal position in either direction, a counterbalancing mechanism comprising a flexible member connected with said arm upon one side of said pivot, and extending downward and engaging with a sheave below said pivotal connection of the arm, and extending outward and engaging with a sheave mounted at one end of said frame, and then inward and connected to one end of an elbow-lever having its opposite end pivotally connected with the frame, the connecting means comprising a link having upturned ends, one of which is connected to said elbow-lever and the opposite end to one end of a turnbuckle having its opposite end connected with said flexible member, a link pivotally connected at one end with said elbow-lever intermediate its ends, said link having a cross-head at its opposite end, flexible members connected with opposite ends of said cross-head and extending outward toward the opposite end of said frame and engaging with sheaves mounted thereon, and then extending inward and adjustably connected to one end of coiled counterbalancing-springs, said adjustable connections comprising threaded eyebolts connected with the flexible members, and threaded nuts engaging with the coils of the springs and having said eyebolts engaging with said nuts.

805,135. NON-REFILLABLE BOTTLE. WILLIAM W. HALLIGAN, Indianapolis, Ind. Filed June 26, 1905. Serial No. 267,013.



Claim.—1. A non-refillable bottle having a neck provided with a valve-seat and provided also with a chamber beyond the valve-seat having a pocket in one side thereof and a projection in the chamber opposite to the pocket, the neck having also an outlet extending from the chamber, there being an opening through the valve-seat, and a valve in the chamber movable either into the pocket thereof or onto the valve-seat.

2. A non-refillable bottle having a neck provided with a chamber having a pocket at one side thereof and a projection in the chamber opposite to the pocket, the neck having also an outlet extending from the chamber, two opposing valve-seats in the chamber, and a valve in the chamber movable either into the pocket thereof or to either one of the two valve-seats, there being openings through the valve-seats.

3. A non-refillable bottle having a neck provided with two communicating chambers, one of the chambers communicating with the bottle and having a pocket in one side thereof, the neck having also an outlet-channel extending from the other one of the chambers, a pair of opposing valve-seats in the first-described chamber, a valve-seat in the last-described chamber, there being openings through the valve-seats, a valve in the first-described chamber movable either into the pocket thereof or to either one of the pair of valve-seats, and a valve in the last-described chamber.

4. A non-refillable bottle having a tortuous neck in which are a plurality of valve-seats, the neck having a lateral channel and also a chamber or pocket part into which the channel extends, there being a recess and an abrupt projection in the chamber or pocket at the end of the channel, and an outlet neck part extending from the chamber or pocket part with an outlet-orifice to receive a removable stopper, and a valve retained between the plurality of valve-seats.

805,136. TYPE-WRITER CARRIAGE. CLAYTON C. HARTING, Woodstock, Ill., assignor to Oliver Typewriter Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 3, 1905. Serial No. 239,469.

Claim.—1. The combination with a carriage, of a platen-shaft

section which is permanently mounted in one end of the carriage, said carriage being provided at its opposite end with a bearing for the adjacent end of the platen-shaft, made in two parts, one of which is movable to permit the insertion and removal of the platen-shaft.



2. The combination with a paper-carriage, of a platen provided with a permanently-attached platen-shaft extending from one end thereof, a platen-shaft section permanently mounted in one end of the carriage-frame, the said platen and platen-shaft section being provided with interlocking parts, the opposite end of the carriage-frame being provided with a two-part bearing, one part of which is movable to permit the insertion and removal of the said permanently-attached platen-shaft.

3. The combination with a paper-carriage having end frame-plates, of a platen-shaft section permanently mounted in the left-hand plate of the carriage, a platen having a permanently-attached platen-shaft extending from the right-hand end thereof, said platen and the platen-shaft on the left-hand end plate having interlocking parts, the end plate at the right-hand end of the carriage being provided with an upwardly-opening bearing-seat for the permanently-attached platen-shaft at the right-hand end of the platen, and a hinged latch on the said right-hand end plate for confining the said platen-shaft within said bearing-seat.

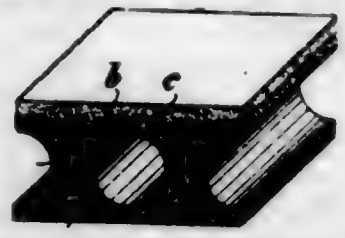
4. The combination with a paper-carriage and a removable platen therein, of paper-guide fingers which extend normally over the platen, and means for holding said fingers in operative position adapted for the release of the fingers and their removal from such operative position to permit the taking out of the platen.

5. The combination with a paper-carriage and removable platen, of paper-guide fingers which normally extend over the platen and a supporting-bar for said fingers having detachable connection with the carriage-frame.

6. The combination with a paper-carriage and a removable platen, of paper-guide fingers which extend normally over the platen and a supporting-bar for the said fingers, the end plates of the platen being provided with open notches to receive the ends of said bar, and latches pivoted to said end plates and adapted to engage the said ends of the bar for holding the same in the notches.

805,187. CEILING. WILHELM HINSEY, Steglitz, near Berlin, Germany. Filed May 28, 1904. Serial No. 209,396.

Claim.—1. In a ceiling the combination of bearing members of concrete or like material reinforced in the tension zone with an iron insertion, with hollow filling members of light hydraulic molding material, burnt clay or the like having chamfered upper edges, and a covering layer binding with the said bearing and filling members and being of a thickness of the bearing members, substantially as described.



2. In a ceiling the combination with the described bearing members of hollow filling members, a covering layer and reinforcing-rods inserted in the bearing members, the ends of said rods being made to project from the end faces of the bearing members and rigidly fixed in the walls, substantially as described.

3. In a ceiling the combination with the described bearing members of hollow filling members, a covering layer and reinforcing-rods inserted in the bearing members, the ends of the said rods being made to project from the end faces of the bearing members and connected above the middle walls with the ends of the rods in the bearing members of the next bay, substantially as described.

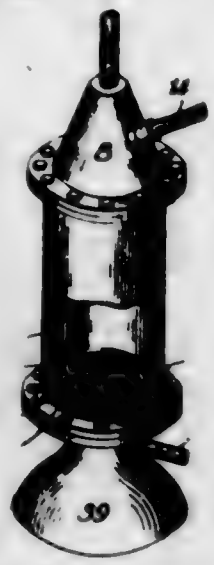
4. In a ceiling the combination with the described bearing members of hollow filling members, a covering layer, reinforcing-rods of the bearing members fixed in the walls, and reinforcing-insertions of iron in the covering layer, substantially as described.

5. In a ceiling the combination with the described bearing members of hollow filling members, a covering layer, reinforcing-rods of the bearing members fixed in the walls and reinforcing-irons inserted in the covering layer and fixed in the walls, substantially as described.

6. In a ceiling the combination with the described bearing members of hollow filling members, a covering layer, reinforcing-rods of the bearing members fixed in the walls, reinforcing-irons in the covering layer, fixed in the walls and iron links extending from the iron inserted in the covering layer into the bearing members, substantially as described.

7. In a ceiling the combination with the described bearing members of hollow filling members, a covering layer, reinforcing-rods of the bearing members fixed in the walls, reinforcing-irons in the covering layer, fixed in the walls and iron links connecting the reinforcements in the covering layer with the iron rods in the tension zone of the bearing members, substantially as described.

805,188. CARBURETER. WILLIAM HERRICK and JOHN G. LOMBARD, Elkhart, Ind. Filed Oct. 26, 1904. Serial No. 230,082.

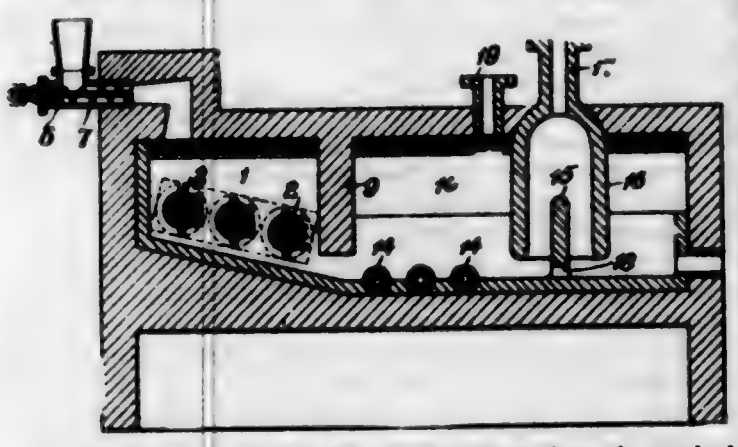


Claim.—A gas-producing machine comprising a hydrocarbon and an air tank, a generator having a weighted foot, a seat formed within the generator, a grid located on the seat, a foraminous member on the grid, an absorbent pad resting upon the foraminous member, a communication extending from the air-tank to a point below the grid, a communication extending from the hydrocarbon-tank to a point above the pad, a conical cover on the generator, a gas-receiver, and a pipe leading from the apex of the cover to the receiver.

805,189. MANUFACTURE OF GLASS. HALBERT K. HITCHCOCK, Walton, Pa., assignor to himself and Charles W. Brown, trustees, Pittsburg, Pa. Filed June 13, 1904. Serial No. 212,264.

Claim.—1. As an improvement in the art of making glass, the method described herein, which consists in heating the silica to effect

the elimination of impurities and while in said heated condition adding a fluxing-alkali in fluid condition, substantially as set forth.



1. As an improvement in the art of making glass, the method described herein, which consists in heating the lime and silica and while said materials are heated adding a fluxing-alkali in a fluid condition, substantially as set forth.

3. As an improvement in the art of making glass, the method herein described, which consists in heating the more refractory materials to the temperature required for the less refractory to act upon them, heating the less refractory ingredients, and then subjecting the more refractory materials while heated to the fluxing action of the heated less refractory materials, substantially as set forth.

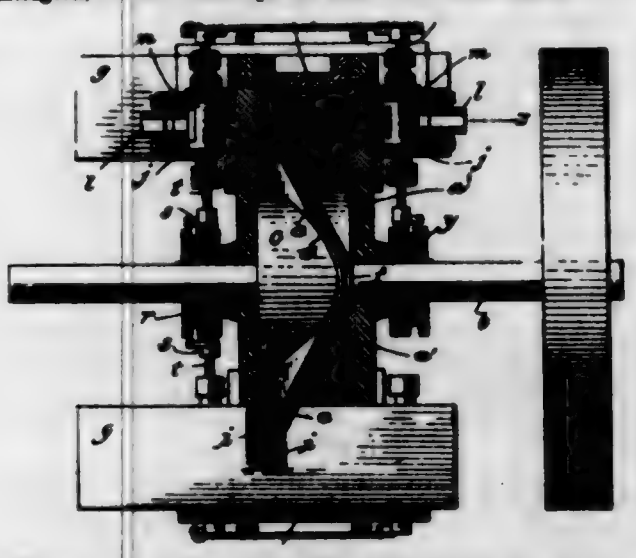
4. As an improvement in the art of making glass, the method herein described, which consists in heating the more refractory materials to the temperature required for fluxing and forcing the less refractory material ingredients up through the heated materials, substantially as set forth.

5. As an improvement in the art of making glass, the method herein described, which consists in heating the lime and silica, adding a fluxing-alkali in a fluid condition to said materials while in a fluid condition, and subjecting the glass thus formed to a reduced surface-pressure, substantially as set forth.

6. As an improvement in the art of making glass, the method herein described which consists in heating the silica to effect the elimination of impurities, vaporizing a fluxing-salt and passing such vapor through the heated silica, substantially as set forth.

7. As an improvement in the art of making glass the method herein described which consists in heating the more refractory materials to the temperature required for fluxing, vaporizing a fluxing-salt and forcing such vapor through the heated materials, substantially as set forth.

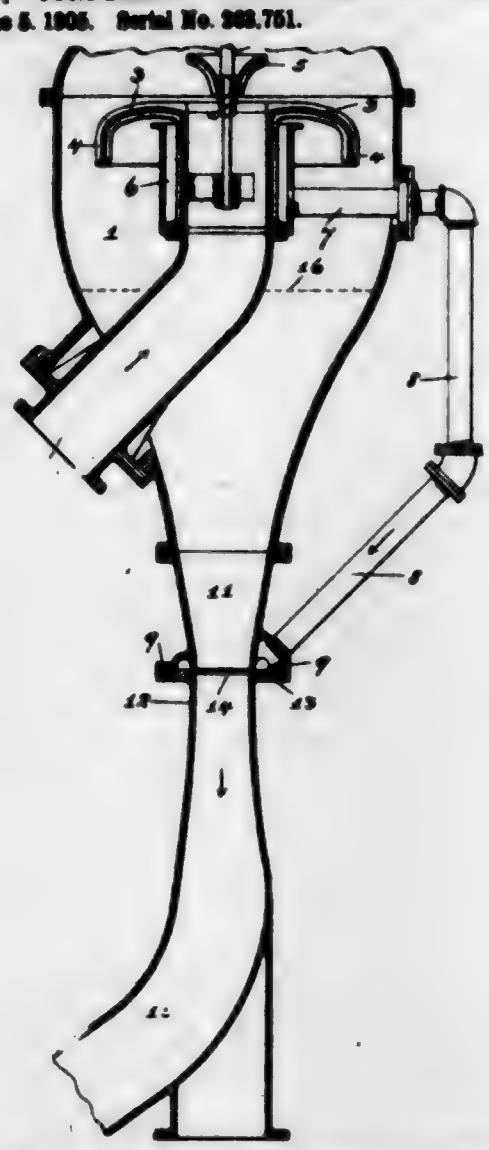
805,140. **CONTINUOUS-PISTON ENGINE.** JOSEPH C. JARVIS, Huntington, W. Va. Filed Apr. 10, 1905. Serial No. 254,822.



Claim.—1. In combination with a cylindrical casing, a shaft and hub, the latter being provided with a peripheral piston extending entirely around the hub in a serpentine line or path, the apexes of the bends bearing alternately upon opposite sides of the heads of the casing, thereby forming a series of approximately triangular compartments extending continuously around the cylinder, a series of sliding abutments equaling in number said compartments, a set of four valves for each abutment, the inlet-valves being located on the far side of the abutment and the exhaust-valves on the near side, and means for automatically operating said valves, whereby at least one of each set of valves is at all times taking steam during the operation of the engine, substantially as set forth.

2. In an engine of the type set forth, a cylindrical casing, a shaft extending therethrough and carrying a hub within the cylinder, this hub carrying a zigzag or serpentine piston extending entirely around the hub and bearing alternately on the opposite heads of the cylinders, thereby forming a series of compartments around the cylinder, a series of sliding abutments arranged substantially as set forth, a pair of inlet-valves adjacent to each abutment, a pair of exhaust-valves on the opposite sides of the abutment, these valves being arranged at the sides of the casing, a cam carried by the shaft at one side of the casing and means for operating all the inlet-valves simultaneously from this cam, a cam on the shaft at the other side of the casing and means for operating all the exhaust-valves simultaneously from this cam, substantially as set forth.

805,141. **CONDENSER.** PIERRE O. KEILHOLTZ, Baltimore, Md. Filed June 5, 1905. Serial No. 263,751.



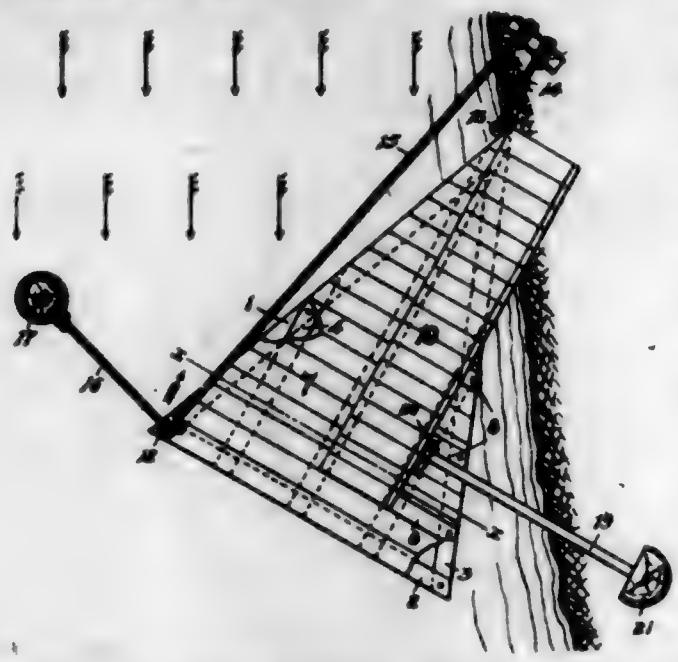
Claim.—1. The combination of a steam-condensing chamber whose upper portion is largest and whose lower walls are tapered to form a water-discharge nozzle; a water-discharging pipe joined to the discharge end of the said chamber, which pipe below the joinder is contracted and below the contraction is enlarged to the full size; a pipe for the transmission of air or gases leading from the large upper part of the condensing-chamber and tapping into said contracted part of the water-discharge pipe; a water-supply pipe connected with the lower part of said chamber and opening upward therein; and a steam-inlet in the upper part of said chamber, whereby in operation there will always be an accumulation or head of water in the lower or tapered part of the chamber.

2. The combination of a steam-condensing chamber; a water-supply pipe opening in said chamber; a hood in said chamber at the end of said water-supply pipe; a water-discharge pipe leading from said chamber and having a contraction which causes water to accumulate and form a head in the chamber and whereby the moving water has the greatest velocity in said contraction; an annular passage around said contraction and having openings from the passage into the contracted part of the pipe, and an air-pipe leading from under the said hood to said annular passage.

3. In a condenser the combination of a steam-condensing chamber; a steam-inlet entering at the top of the chamber; a water-supply pipe having its end within the chamber opening upward and said end surrounded by a downturned hood below which an air-space is formed; a water-discharge pipe at the bottom of said chamber and

having a contracted portion and enlarged below said contraction; and an exterior pipe whose upper end enters the chamber and connects with said air-space below the hood and extends on the outside of the condenser and has its lower end connected at the smallest part of said contracted portion of the water-discharge pipe.

805,142. FASCINE. HENRY F. KELLNER, North Platte, Nebr. Filed Jan 26, 1905. Serial No. 243,010.



Claim.—1. A fascine comprising a triangular base, provided with a skeleton frame, said frame being provided on one side with a shield, having a face-surface, as and for the purpose set forth.

2. A fascine comprising a triangular base, provided with a skeleton frame, said frame being provided on one side with a shield, having a face-surface, said frame having open ends and back, adapted to collect the solids deposited by the silt-bearing stream, substantially as described.

3. A fascine comprising a triangular base, provided with a skeleton frame, said frame being provided on one side with a shield, having a face-surface, said frame having open ends and back, the vertex of said fascine adapted to be placed against the bank, at a suitable angle to the stream, and suitably held by means of cables and shore-brace, all arranged substantially and for the purpose set forth.

805,143. CYANIN DYE AND PROCESS OF MAKING SAME. HARRY KÖNIG, Höchst-on-the-Main, Germany, assignor to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the Main, Germany, a Corporation of Germany. Filed Feb. 16, 1904. Serial No. 193,907. (Specimens.)

Claim.—1. The process herein described of making new cyanin dyestuffs, which consists in heating with alkalies in a suitable solvent a mixture of two quinolinium salts of which one contains a methyl in alpha position in the pyridin nucleus and one an alkyl linked to the benzene nucleus in the so-called 5 position.

2. As new products, the new cyanin dyestuffs obtained as herein set forth, being brilliant green to bronze-colored crystals, readily soluble in hot water, alcohol and chloroform with a red-violet color, less soluble in cold water, insoluble in ether, benzene and ligroin; the aqueous solution becoming decolored on adding diluted mineral acid, but reassumes its color on adding alkali; on shaking the aqueous solution with chloroform the latter absorbs the dyestuff so readily and completely as to decolor the aqueous solution.

805,144. PROCESS FOR MAKING MOLDS. MAX KULLER, Budapest, Austria-Hungary. Filed Nov. 21, 1902. Serial No. 132,206.

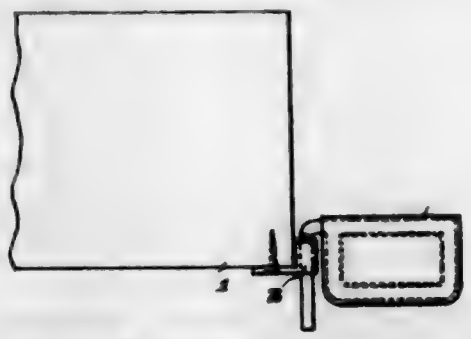


Claim.—1. The herein-described process of producing molds for casting metals from a mold-forming material having the quality, at successive stages, of taking an impression, of elasticity or flexibility permitting withdrawal without impairing the impression and of hardening to receive molten metal, consisting in first applying the mold-forming material to the pattern or model; allowing the mass to set sufficiently to secure a permanent impression; removing or stripping the mass while elastic from the pattern or model; allowing it to harden and finally imparting to it the nature of a sand mold by means of heat.

2. A process for producing molds for casting metals which consists in applying to the model or pattern a substance, possessing the property of becoming elastically flexible before it hardens, removing the said coating, while in its elastically-flexible state from the model or pattern, hardening the material and finally reducing it to a refractory sandy condition by heat.

3. A process for making molds for casting metals which consists in first applying to a model or pattern a mold-forming mass, consisting of a body material, an elastic element and a binding medium; allowing the mass to receive an impression of the model or pattern and assume the elastic condition; removing the mass from the model while in an elastic condition, subsequently hardening the same and reducing it to the condition of a sand mold by heat.

805,145. LANTERN-BRACKET. MALCALM D. LEWIS, Columbia, Mo. Filed Feb. 6, 1905. Serial No. 244,453.



Claim.—1. As a new article of manufacture, a lantern-bracket for vehicles, comprising a socket member adapted to be attached to the vehicle and a lantern-receiving bracket member comprising a flat, flag-like body portion provided at one side with a downwardly-projecting stem adapted to said socket member, said stem and said bracket member lying within substantially the same plane.

2. As a new article of manufacture, a bracket for lanterns or the like, comprising a socket member adapted to be secured to the bed or box of a vehicle, and a bracket member consisting of a rectangular frame provided at one side with a downwardly-projecting stem adapted to said socket and covered with leather or analogous material, substantially as described.

3. A lantern-bracket comprising a member provided with a cornered socket, a bracket member provided with a cornered stem adapted to said socket, said bracket member consisting of a metal frame covered with leather or analogous material and arranged to project in a vertical plane from said stem.

4. A bracket for lanterns and the like, comprising a member provided with a cornered receiving-socket and a base-plate for securing said member to the box or bed of a vehicle, a bracket member consisting of a rectangular frame provided at one side with a cornered stem projecting therefrom in the same plane and adapted to said socket, said frame member being padded and covered with leather or analogous material, substantially as and for the purpose described.

805,146. AUTOMATIC-REGULATING GAS-BURNER. GEORGE W. LORD, Chicago, Ill., assignor to Diamond Valve Company, Chicago, Ill., a Corporation of South Dakota. Filed Mar. 25, 1905. Serial No. 251,018.



Claim.—1. A reducing-valve comprising a casing adapted to be interposed in a gas-pipe and provided with an internal portion of uniform cross-sectional area, a valve-stem mounted concentrically within the casing, provided with a valve-point and with a vane the periphery of which is conformed to but slightly smaller than the interior of the casing, a valve-port controlled by said needle-valve, a spring arranged to force the needle-valve toward its closed position, and an opposing spring acting in the opposite direction and in opposition to the pressure of gas flowing through the valve.

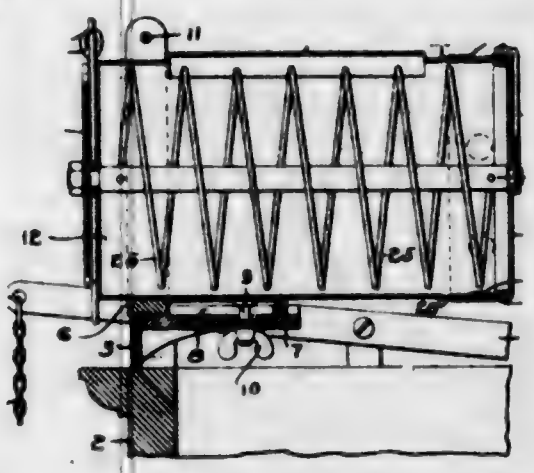
2. In a reducing-valve, the combination of a casing adapted to be inserted in a gas-main and having a portion of its interior of uni-

form cross-sectional size and the walls thereof parallel with the longitudinal axis of the casing, an axially-disposed needle-valve stem, a vane mounted upon said valve-stem provided with a downturned periphery conformed to the interior of the casing but slightly smaller than the latter, an outlet-port controlled by said needle-valve, opposing springs arranged to hold said vane and connected valve-stem yieldably in definite relation to the valve-port, and means for adjusting the relations of the needle-valve and port controlled thereby.

3. In a reducing-valve, the combination of a casing having a portion of its interior of substantially uniform cross-sectional size and parallel with the longitudinal axis thereof, an axially-disposed needle-valve stem provided at its upper end with a tapered valve-point, a disk-like vane mounted upon said valve-stem, a movable port member adjustably mounted above and in coöperative relation with the tapered portion of the valve-stem, a spring arranged to support said valve-stem, and means arranged to act yieldably upon the valve-stem in opposition to said spring.

4. In a reducing-valve, the combination of a casing having a portion of its interior of uniform cross-sectional size and parallel with the axis thereof, an axially-extending needle-valve stem arranged within said casing and provided at its upper end with a needle-valve point, a disk-like vane mounted upon said valve-stem within said portion of uniform cross-sectional size, a tubular port member adjustably mounted in the upper portion of said valve-casing, a tubular pillar removably attached to the upper end of said valve-casing so as to expose to access the adjustable port member when removed, and opposing springs arranged to act upon said valve-stem and the vane supported thereby.

805,147. **DISINFECTING DEVICE.** LAWRENCE LUND, Minneapolis, Minn., assignor of one-fourth to Mary E. Dunn and one-fourth to Katherine A. Lent, Minneapolis, Minn. Filed Mar. 6, 1905. Serial No. 248,492.



Claim.—1. The combination, with a water-closet tank and its valve-lever, of a receptacle mounted on said tank and having a discharge-opening, a positive feed provided in said receptacle, and mechanism operated by the movement of said lever for actuating said feed.

2. The combination, with a water-closet tank and its valve-lever, of a receptacle adapted to contain a disinfecting material and having a discharge-opening, a feed device provided in said receptacle, and mechanism controlled by the movement of said valve-lever for operating said feed device.

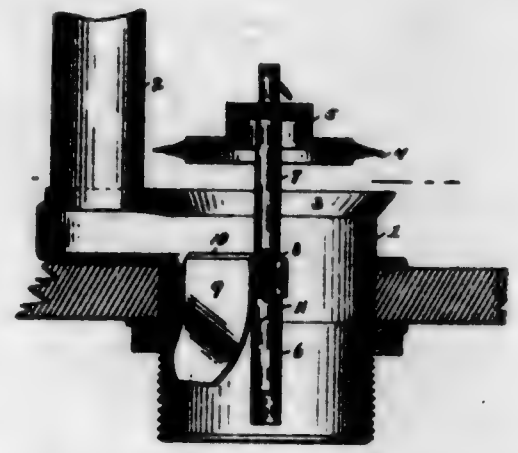
3. The combination, with a water-closet tank and its valve-lever, of a receptacle adapted to contain a disinfecting material and having a discharge-opening, a spiral-feed device operating in said receptacle, and mechanism controlled by the movement of the valve-lever for operating said spiral feed.

4. The combination, with a water-closet tank and its valve-lever, of a receptacle adjustably supported to allow it to be moved toward or from the valve-lever pivot and said receptacle having a discharge-opening, a feed device operating therein, and operative connections provided between said feed device and said lever.

5. The combination, with a water-closet tank and its valve-lever, of a receptacle for a disinfecting material having a discharge-opening, a sleeve arranged to revolve around said receptacle and having a series of holes adapted to coincide with said discharge-opening, a feed device operating in said receptacle, means connecting said feed device with said sleeve, and mechanism connecting said feed device with said tank-lever.

6. The combination, with a water-closet tank and its valve-lever, of a bracket secured thereon, a clamp adjustably mounted on said bracket, a can circular in cross-section supported by said clamp and having a discharge-hole at one end over said tank, a spiral-feed device operating in said receptacle, and a ratchet mechanism connecting said spiral-feed device and said valve-lever.

805,148. **FLUSH-VALVE.** ELON A. MARSH, Detroit, Mich., assignor to Frank G. O'Hara, Detroit, Mich. Filed May 31, 1904. Serial No. 210,613.



Claim.—1. In a flush-valve for tanks or cisterns, a valve-casing and a valve-seat, a manually-opened valve provided with means for engaging with a support, a locking mechanism therefor that oscillates on a vertical axis and is actuated by water flowing through the valve-orifice, said valve being disengaged from its support by gravity when the flow of water through the orifice ceases, or is sufficiently weakened by the loss of hydraulic head, substantially as described.

2. In a flush-valve, the combination of a casing having a valve-seat at its upper face, a valve, a central vertical downwardly-extending stem for said valve, a sleeve in said casing for guiding said stem, and means hinged to said sleeve to contact with said stem and hold the valve in its elevated position.

3. In a flush-valve for tanks or cisterns, a valve-casing and a valve-seat, a valve therefor adapted to be raised or opened manually, a vertical guide for said valve having a supporting lug or catch to retain the valve in an open position; mechanism adapted to oscillate on a vertical axis and operated by the outflowing water to engage said lug or catch until the hydrostatic head is so reduced that its force is no longer sufficient to maintain an engagement of the supporting mechanism, whereby the weight of the valve disengages the supporting mechanism and the valve falls freely to its seat by gravity, substantially as described.

4. A flush-valve operated to open manually, a catch mechanism adapted to oscillate on a vertical axis actuated by the outflowing water to support said valve, means whereby the catch mechanism will release its engagement and allow the valve to fall freely to its seat by gravity when the flow of water diminishes beyond a predetermined amount, substantially as described.

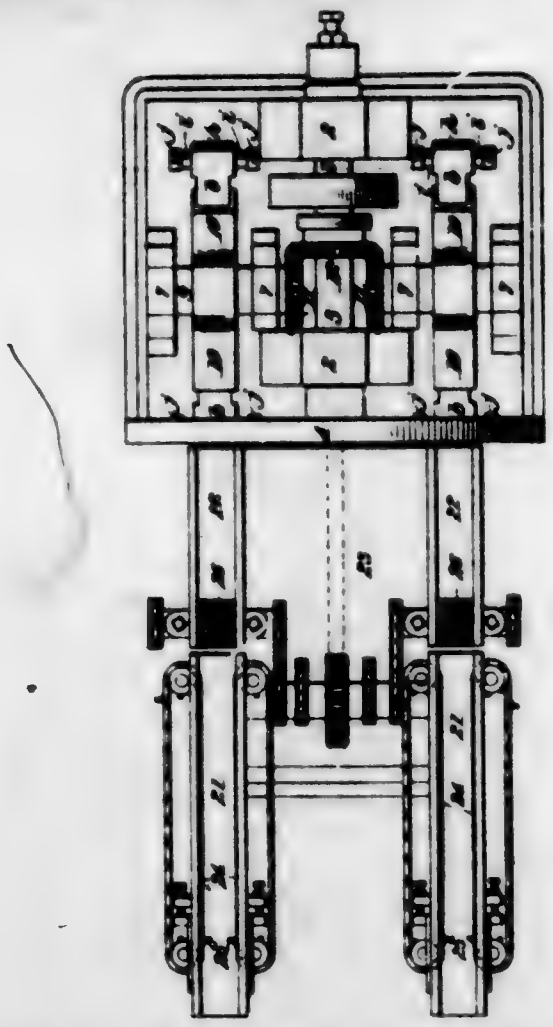
5. In a flush-valve for tanks or cisterns, a valve arranged to be opened manually, a supporting device for said valve formed in part by a vane or vanes adapted to turn on a vertical axis and upon which water flowing through the valve-orifice impinges, causing said support to become stable while water is flowing and permitting the valve to fall freely by gravity when the water ceases to flow, or when its flow is so reduced by the loss of hydraulic head that its force upon the vane is insufficient to maintain a stable support for the valve, substantially as described.

6. In a flush-valve for tanks or cisterns, a valve arranged to be opened manually and means for supporting the valve vertically above its seat by force of water flowing through valve-orifice, a spoon or vane oscillatory on a vertical axis adapted to actuate the supporting means or vane-shaped face or faces, under force of water causing said valve to rest on a support, which support is so arranged as to cause said valve to be released and permit said valve to fall to its seat by force of gravity as soon as the head of water in the tank or cistern is reduced below a predetermined point, substantially as described.

805,149. **EXCELSIOR-CUTTING MACHINE.** WILLIAM H. HIMEBEIN, Baltimore, Md. Filed Sept. 23, 1904. Serial No. 225,704.

Claim.—1. In a machine for cutting excelsior, a scorer and a cutter, two rotary carriers, carrying one the cutter and the other the scorer and arranged to cause said cutter and scorer to move in the same straight line during a portion of their movement, and means for feeding a block of wood to position to be acted upon by said scorer and cutter.

2. In a machine for cutting excelsior, a cutter and a scorer, two rotary carriers having their axes at right angles and carrying one the scorer and the other the cutter and arranged to cause the cutter and scorer to move in the same straight line during a portion of their movement, and means for feeding a block of wood to position to be acted upon by said scorer and cutter.



3. In a machine for cutting excelsior, a rotary carrier, a cutter carried thereby, a scorer, a rotary carrier therefor arranged to swing said scorer into and out of the plane of the cutter, means for causing said scorer to travel in substantially a straight line while in the plane of the cutter, and means for feeding a block of wood to position to be acted upon by said cutter and scorer.

4. In a machine for cutting excelsior, two independently-mounted rotary carriers, a cutter carried by one of said carriers, a scorer carried by the other of said carriers and movable thereon to and from the axis of rotation thereof, said carrier being arranged to swing said scorer into and out of the plane of the cutter, means for effecting the movement of the scorer on its carrier to cause it to maintain a straight line while in the plane of the cutter, and means for feeding a block of wood to position to be acted upon by the cutter and scorer.

5. In a machine for cutting excelsior, two independently-mounted rotary carriers, a cutter carried by one of said carriers, an automatically-adjustable scorer carried by the other of said carriers, adapted to adjust itself to maintain a substantially straight-line movement during its travel in the plane of the cutter, said rotary carrier being positioned so as to swing said scorer into and out of the plane of the cutter, and means for feeding a block of wood to position to be acted upon by the cutter and scorer.

6. In a machine for cutting excelsior, a rotary carrier, a cutter carried thereby, a rotary carrier mounted independently of the first-mentioned carrier, and arranged in such a position as to swing the scorer carried thereby into and out of the plane of the cutter, a scorer movable upon the rotary carrier to and from the axis of rotation of the latter, means carried by the scorer coacting with a part independent thereof for causing said scorer to maintain substantially a straight-line movement during its travel in the plane of the cutter, and means for feeding a block of wood to position to be acted upon by the cutter and scorer.

7. In a machine for cutting excelsior, a rotary carrier, a cutter carried thereby, a rotary carrier mounted independently of the first-mentioned carrier, and so positioned as to swing the scorer carried thereby into and out of the plane of the cutter, a scorer movable upon said rotary carrier, to and from the axis of rotation thereof, means carried by the scorer coacting with the cutter-carrier for causing said scorer to maintain a substantially straight-line movement during its travel in the plane of the cutter, and means for feeding a block of wood to position to be acted upon by said scorer and cutter.

8. In a machine for cutting excelsior, a rotary carrier, a cutter carried thereby, a rotary carrier mounted independently of the first-mentioned carrier, and so positioned as to swing the scorer carried thereby into and out of the plane of the cutter, a scorer movable upon said rotary carrier to and from the axis of rotation thereof, rollers carried by said scorer, adapted to engage a part independent of the scorer and its carrier for causing said scorer to travel in substantially a straight line during its movement in the plane of the cutter, and means for feeding a block of wood to position to be acted upon by the cutter and scorer.

9. In a machine for cutting excelsior, a rotary carrier, a cutter carried thereby, a rotary carrier mounted independently of the first-mentioned carrier, and so positioned as to swing the scorer carried thereby into and out of the plane of the cutter, a scorer movable upon said rotary carrier to and from the axis of rotation thereof, rollers carried by said scorer, adapted to engage the cutter-carrier for causing said scorer to travel in substantially a straight line during its movement in the plane of the cutter, and means for feeding a block of wood to position to be acted upon by the cutter and scorer.

10 In a machine for cutting excelsior, a rotary disk having an opening formed therein, a cutter having its cutting edge projecting upon the front face of said disk, adjacent to said opening in the disk, a rotary carrier so positioned as to swing the scorer carried thereby into and out of the plane of the cutter a scorer movable upon said carrier to and from its axis of rotation, means carried by said scorer adapted to engage the rotary disk and cause said scorer to maintain substantially a straight-line movement during its travel in the plane of the cutter, and means for feeding a block of wood to position to be acted upon by said cutter and scorer.

11. In a machine for cutting excelsior, a rotary disk having an opening formed therein, a cutter having its cutting edge projecting from the front face of said disk, adjacent to said opening in the disk, a rotary carrier so positioned as to swing the scorer carried thereby into and out of the plane of the cutter a scorer movable upon said carrier to and from its axis of rotation, rollers carried by said scorer adapted to engage the rotary disk and cause said scorer to maintain substantially a straight-line movement during its travel in the plane of the cutter and means for feeding a block of wood to position to be acted upon by said cutter and scorer.

12. In a machine for cutting excelsior, a carrier, a cutter carried thereby, a rotary carrier having a telescopic arm, a scorer carried by the movable section of said arm, said rotary carrier arranged to swing said scorer into and out of the plane of the cutter, means carried by the scorer for effecting the movement of said telescopic arm to cause the scorer to travel in substantially a straight line during its movement in the plane of the cutter, and means for feeding a block of wood to position to be acted upon by said cutter and scorer.

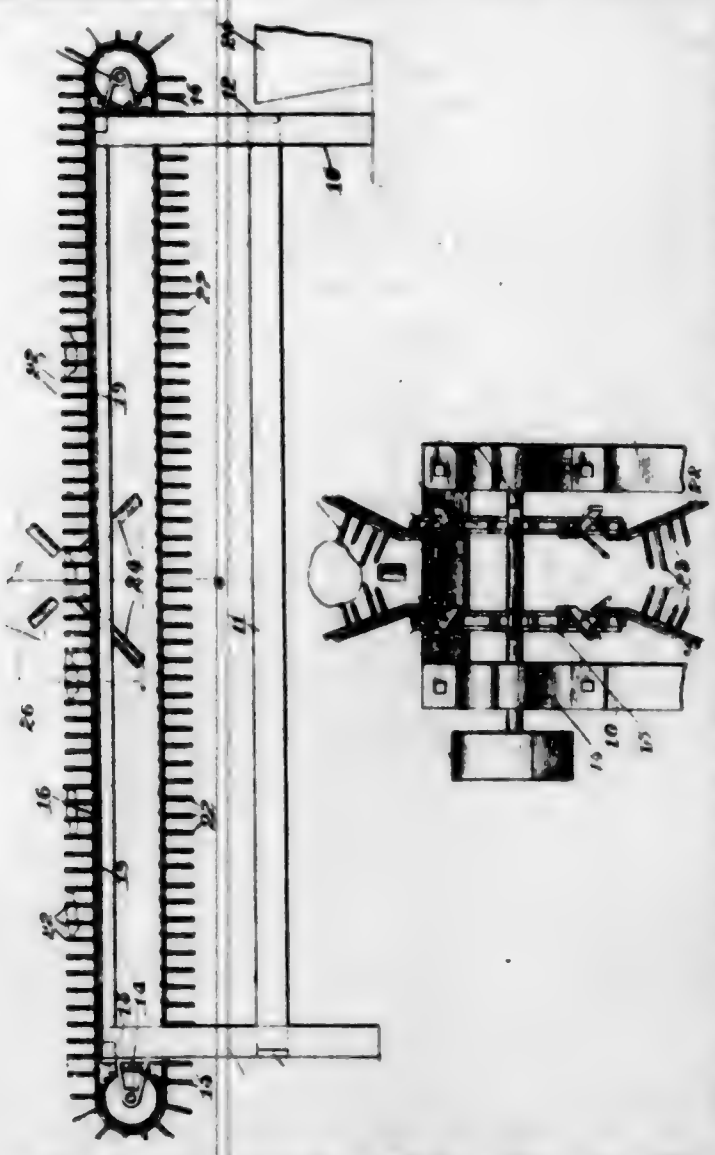
13. In a machine for cutting excelsior, a rotary disk having an opening formed therein, a cutter having a cutting edge projecting from one side of said disk, a rotary carrier arranged at the opposite side of the disk, arranged to swing the scorer carried thereby into and out of said opening of the disk, a scorer carried by said rotary carrier, and means for feeding a block of wood to position to be acted upon by the cutter and scorer.

805,150. SINGEING-MACHINE. HARRY D. OPPENHEIMER, Chicago, Ill., assignor to S. Oppenheimer & Company, Chicago, Ill., a Copartnership. Filed Nov. 25, 1903. Serial No. 183,616.

Claim.—1. In a machine of the class described, in combination, an elongated rectangular frame, parallel track-bars secured to the sides of the frame and longitudinally thereof, a bracket secured to each end of the frame adjacent the side thereof, shafts journaled in each end pair of the brackets, means for driving one of the shafts, a pair of sprocket-wheels fixed to each shaft, linked sprocket-chains running over the side pairs of wheels and having their upper stretch supported by the tracks, and each alternate pair of opposite links being provided with outwardly-inclined arms carrying a plurality of inwardly-projecting fingers decreasing in length toward the upper ends of the arms and having their ends tapered, and means for projecting a flame between the arms.

2. In a machine of the class described, in combination, a frame a pair of endless sprocket-chains extending longitudinally of the frame, sprocket-wheels carrying the chains, tracks mounted on the frame and by which the upper stretches of the chains are supported, arms carried by the chains, pins projecting inwardly from the arms and provided with tapered ends, and a series of jets for directing an intense flame into the space between the pins.

3. In a singeing-machine, in combination, an endless conveyer provided with laterally-spaced series of arms arranged in opposite pairs extending upwardly from the conveyer, the arms of each series being bent laterally away from the arms of the other series and provided with inwardly-extending fingers, and means for projecting a flame between the arms.

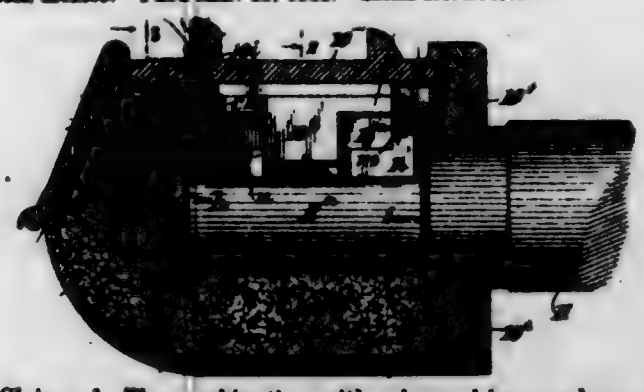


4. In a singeing-machine, in combination, a frame, an endless conveyer mounted on the frame and provided with upwardly-extending arms arranged in opposite pairs having inwardly-extending upwardly-inclined pins, and means for singeing the articles carried by the pins.

5. In a singeing-machine, in combination, an endless conveyer provided with opposite pairs of laterally-spaced arms, the arms of each pair extending laterally away from each other, an upwardly-extending finger carried by each arm and spaced apart from the finger of the opposite arm, and means for singeing the articles carried by the fingers.

6. In a singeing-machine, in combination, a conveyer comprising a pair of parallel endless chains, each chain being provided with laterally-inclined arms carrying a plurality of inwardly-projecting fingers decreasing in length toward the upper ends of the arms, and means for projecting a flame between the arms.

805,151. **CAR JOURNAL-BOX.** ARBOR V. PEPPARD, San Luis Potosi, Mexico. Filed Mar. 18, 1905. Serial No. 250,796.



Claim.—1. The combination with a journal-box, and an axle-journal in the box, formed with a shoulder and a collar on the end of an axle, of a bearing-brass seated upon the journal between the shoulder and collar and having opposite lugs on respective sides, a shoe seated upon the bearing-brass, having a filling-block at each side, which blocks respectively engage the lugs, and a liner-plate that is insertible between the shoe and the inner surface of the top wall of the box.

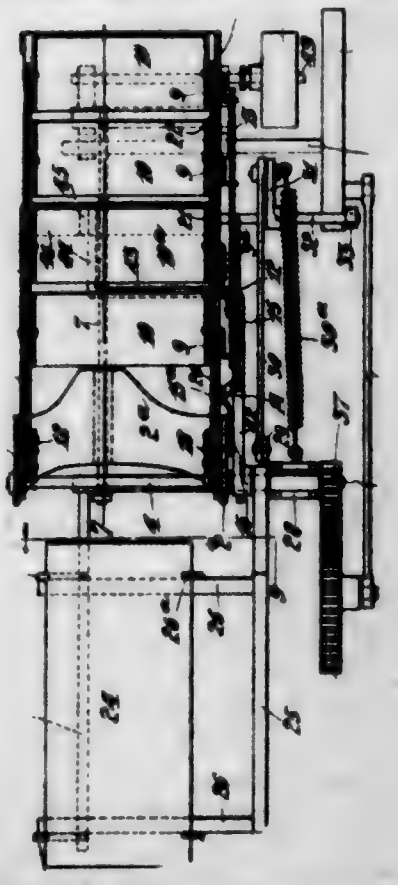
2. The combination with a journal-box having smooth parallel sides within and abutments in the upper rear corners therein, and an axle-journal in the box, of a bearing-brass having an upright flange at its rear end and two opposite lugs on its sides, a shoe fitted upon the angular top side of the brass and impinging at its rear end upon the upright flange, said end of the shoe having contact with the abutments on the box, filling-blocks depending from a cap-plate on the shoe at opposite sides thereof, said blocks having loose contact with the sides of the box and also bearing upon the lugs, a flat liner-plate insertible between the shoe and top wall of the axle-box and having a depending flange at the front end, the rear end thereof impinging upon the abutments, and means for locking the liner-plate to the top wall of the axle-box.

3. The combination with a journal-box having an opening in the front end, closable with a lid, and an axle-journal therein, of a bearing-brass seated upon the journal and having opposite lugs on its sides and an upright flange at its rear end, a shoe seated upon the bearing-brass and having opposite shoulders on its sides that engage upright edges of the lugs, a liner-plate insertible between the shoe and top wall of the box and having a depending flange on its front end, that engages the front end of the shoe, and spring-pressed bolts working through the top wall of the box and passing down through openings in the liner-plate.

4. The combination with a journal-box having an opening in the front end, closable with a lid, and an axle-journal therein, of a bearing-brass seated upon the journal, a shoe seated upon the brass, a liner-plate insertible between the top of the shoe and the top wall of the box, and means for holding the shoe and liner-plate stationary, comprising two keeper-bolts slidable vertically in openings in the top wall of the journal-box and also through alined openings in the liner-plate, seating in recesses in the shoe, springs depressing said keeper-bolts, and prop-arms carried by the keeper-bolts and adapted for holding said bolts raised against the stress of the springs.

5. In a journal-box of the character described, the shoe formed with filling-blocks on opposite sides, which afford bearings that loosely contact with the inner sides of the box, and also contact with lugs on a bearing-brass upon which said shoe seats.

805,152. **BRICK-EDGING MACHINE.** FRANK E. PIPER, Red Deer, Canada. Filed Mar. 25, 1905. Serial No. 251,935.



Claim.—1. In a brick-edging machine, a laterally and vertically swinging pallet-frame.

2. In a brick-edging machine, a laterally and vertically swinging pallet-frame, and means for swinging the same vertically.

3. In a brick-edging machine, a laterally and vertically swinging pallet-frame, pallets slidably mounted therein, and means for sliding some of said pallets.

4. In a brick-edging machine, a laterally and vertically swinging pallet-frame, pallets pivotally mounted in said frame, and means for rocking said pallets during vertical movement of said frame.

5. In a brick-edging machine, a laterally and vertically swinging pallet-frame, pallets slidably mounted therein, and means for sliding some of said pallets, in combination with a table-supporting frame rockably mounted in juxtaposition to said pallet-frame.

6. In a brick-edging machine, a laterally and vertically swinging pallet-frame, pallets pivotally mounted in said frame, and means for rocking said pallets during vertical movement of said frame, in combination with a table-supporting frame rockably mounted in juxtaposition to said pallet-frame.

7. In a brick-edging machine, a laterally and vertically swinging pallet-frame, in combination with a rockable rack-frame, a rack connected with said pallet-frame meshing with said rack-frame, and means for rocking the rack-frame.

8. In a brick-edging machine, a laterally and vertically swinging pallet-frame, pallets slidably mounted therein, and means for sliding some of said pallets, in combination with a rockable rack-frame, a rack connected with said pallet-frame meshing with said rack-frame, and means for rocking the rack-frame.

9. In a brick-edging machine, a relatively fixed supporting-frame, a movable frame pivotally mounted thereon, pallets pivotally mounted in said movable frame, and means for rocking said movable frame.

10. In a brick-edging machine, a relatively fixed supporting-frame, a laterally and vertically movable frame pivotally mounted thereon, pallets pivotally mounted in said movable frame, and means for rocking said movable frame.

11. In a brick-edging machine, a supporting-frame, a laterally and vertically swinging pallet-frame, a crank-shaft rockably mounted in said supporting-frame, a segment operatively connected with said crank-shaft, a segment-frame carrying a segment in mesh with the first-mentioned segment, a rotatable cam, and a pitman connecting said rotatable cam with said segment-frame.

12. In a brick-edging machine, a laterally and vertically swinging pallet-frame, means for rocking said pallets during vertical movement of said frame, and means for sliding said pallets longitudinally of said pallet-frame.

13. In a brick-edging machine, a vertically-swinging pallet-frame, a supporting-frame therefor, a stub-shaft extending laterally from the supporting-frame, a crank-arm rigidly connected with said stub-shaft and extending below the pallet-frame, and means for rocking said stub-shaft.

14. In a brick-edging machine, a vertically-swinging pallet-frame, pallets rockable and slidably mounted therein, and means for rocking and sliding said pallets in said frame.

15. In a brick-edging machine, a vertically-swinging pallet-frame, pallets slidably and rockably mounted therein, means for rocking and means for sliding said pallets, and means for swinging said pallet-frame vertically, in combination with a table-frame rockably mounted in juxtaposition to said pallet-frame, and means for swinging said table-frame.

16. In a brick-edging machine, a vertically-swinging pallet-frame, a crank-arm journaled to said pallet-frame, a rockable stub-shaft on which said crank-arm is rigidly mounted, and means for rocking said stub-shaft.

17. In a brick-edging machine, a vertically-swinging pallet-frame, pallets slidably mounted in said frame, supporting-brackets, an eccentric yoke mounted in one of said brackets, and arms extending from said yoke to and connected with pallets mounted in said pallet-frame.

18. In a brick-edging machine, a laterally and vertically swinging pallet-frame, in combination with actuating means therefor comprising a rotatable cam, crank-arms actuated thereby, a link pivotally connected with one of said crank-arms, a rockable table-frame connected with said link, and means for actuating said cam.

19. In a brick-edging machine, a vertically-swinging pallet-frame and a vertically-swinging table-frame, pallets rockably and slidably mounted in said pallet-frame, and means for swinging said table-frame and said pallet-frame.

20. In a brick-edging machine, a vertically and laterally swinging pallet-frame, in combination with a clutch comprising a gear-wheel loosely mounted on its shaft, a sleeve in convenient proximity to said gear-wheel, a pawl carried by said sleeve adapted to engage the teeth of said gear-wheel, a collar slidable upon said sleeve, a link connecting said collar with said pawl, and a spoked wheel locked to the shaft on which said gear-wheel is mounted.

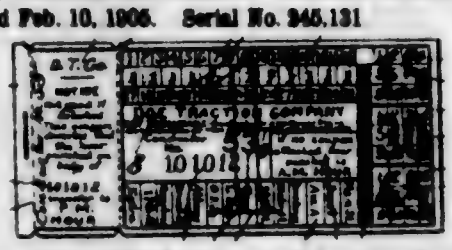
21. In a brick-edging machine, a supporting-frame, a vertically-swinging pallet-frame mounted thereon, a stub-shaft extending laterally from said frame, a crank-arm rigidly mounted on said stub-shaft and connected with said pallet-frame, a segment rigidly mounted on said stub-shaft, a second segment in engagement therewith, a segment-frame carrying said second segment, rotatable actuating means, and a pitman connecting said rotatable actuating means with said segment-frame.

22. In a brick-edging machine, a laterally and vertically swinging pallet-frame, a continuously-driven power-shaft, a second shaft in proximity therewith, a pinion on the power-shaft, a loosely-mounted gear on the second shaft, a clutch mechanism automatically operated by swinging said pallet-frame laterally to actuate said second shaft, and means on said second shaft adapted to swing said pallet-frame vertically.

23. In a brick-edging machine, a laterally and vertically swinging pallet-frame, in combination with an automatically-operated clutch adapted to swing said frame vertically.

24. In a brick-edging machine, a laterally and vertically swinging pallet-frame, in combination with an automatically-operated clutch adapted to swing said frame vertically, in combination with adjustable means for timing the action of said clutch.

805,153. **TRANSFER-TICKET.** WILLIAM C. POPE, Philadelphia, Pa. Filed Feb. 10, 1905. Serial No. 245,131.



Claim.—1. A transfer-ticket comprising a body portion and a coupon, said body portion and coupon bearing conventional indications to constitute an antemeridian transfer-ticket when said body portion is used separately and a postmeridian transfer-ticket when used together.

2. A transfer-ticket comprising a body portion and a coupon, said body portion and coupon bearing conventional indications to constitute an antemeridian transfer-ticket when said body portion is used separately and a postmeridian transfer-ticket when used together, said coupon and body portion being correspondingly numbered to constitute a check.

3. A transfer-ticket comprising a body portion and a coupon, said coupon and body portion bearing conventional indications to constitute, respectively, a postmeridian-indicating coupon and an antemeridian-indicating body portion.

4. A transfer-ticket consisting of a body portion and a coupon and further provided with conventional indications to constitute a postmeridian-indicating coupon and an antemeridian-indicating body portion.

5. A transfer-ticket comprising a body portion and a coupon, said coupon and body portion bearing conventional indications to constitute, respectively, a postmeridian-indicating coupon and an antemeridian-indicating body portion, said coupon and body portion correspondingly numbered to constitute a check.

6. A transfer-ticket consisting of a body portion and a coupon and further provided with conventional indications to constitute a postmeridian-indicating coupon and an antemeridian-indicating body portion, said coupon and body portion correspondingly numbered to constitute a check.

7. A transfer-ticket comprising a body portion and a coupon and further provided with conventional indications to constitute an antemeridian transfer-ticket when said body portion is used separately and a postmeridian transfer-ticket when used together

8. A transfer-ticket comprising a body portion and a coupon and further provided with conventional indications to constitute a complete transfer-ticket for one part of the day when said body portion is used separately and a complete transfer-ticket for another part of the day when said body portion and coupon are used together.

805,154. **FUSE-TERMINAL.** HENRY B. PROCUNIER, Oak Park, Ill. Filed Apr. 3, 1903. Serial No. 150,673.

Claim.—1. In a fuse-terminal in combination with a base or supporting plate, a conducting-post having a terminal for a fuse connection: an insulating-sleeve on the post stopped at one end thereon

and reduced back from the other end to extend into the base and form a shoulder; a second insulating-sleeve on the reduced portion of the first between said shoulder and the base; a conducting-plate on said reduced portion between the shoulder and the second sleeve having a second terminal for holding the fuse-plate; an insulating-washer on the post at the opposite side of the base from said second sleeve; nuts on the inner end of the post for binding all the parts together by longitudinal stress.



2. In a fuse-terminal, in combination with a base or supporting plate, a conducting-post extending through the plate having at one side of the plate a fuse connection; insulating-sleeves on the post stopped longitudinally in opposite directions by the post and the plate respectively; a conducting-plate penetrated by the post and bound between the sleeves, one of the latter having a reduced portion which passes within the plate to insulate it from the post, and insulated means for binding the post to the plate.

3. In a fuse-terminal, in combination with a base or supporting plate, a conducting-post penetrating the plate and having at one side of the latter a fuse connection; insulating-sleeves on the post stopped longitudinally in opposite directions by the post and plate respectively; a conducting-plate penetrated by the post without contact therewith and bound between the sleeves, one of the latter having a reduced portion which penetrates the plate to space and insulate the post therefrom, and insulated means for binding the post to the plate.

805,155. MOWER CUTTER-BAR. WELDEN C. RARIS, Ogden, Utah. Filed May 4, 1905. Serial No. 258,777.



Claim.—1. The combination with a mower cutter-bar, of a reciprocating knife mounted thereon, clips engaging said knife for guiding the same, a lubricating-conduit extending longitudinally of the cutter-bar, and having passages leading therefrom for supplying a lubricant between the several clips and the knife, means for automatically supplying a lubricant to said conduit.

2. The combination with a mower cutter-bar, of a reciprocating knife comprising cutting-sections, guide-clips located at predetermined points on said cutter-bar and engaging sections of said knife, a lubricating-conduit extending longitudinally of the cutter-bar and having passages leading therefrom for supplying a lubricant between the several clips and the corresponding knife-sections, and means for automatically supplying a lubricant to said conduit.

3. The combination with a mower cutter-bar, of a reciprocating knife comprising cutting-sections, guide-clips, located at predetermined points on said cutter-bar and engaging sections of said knife, a lubricating-conduit beneath the knife-sections extending longitudinally of the cutter-bar and having passages leading therefom at points below said clips, the knife-sections beneath said clips having holes therethrough with which said passages register, whereby the lubricant is supplied between said clips and the knife-sections engaged thereby.

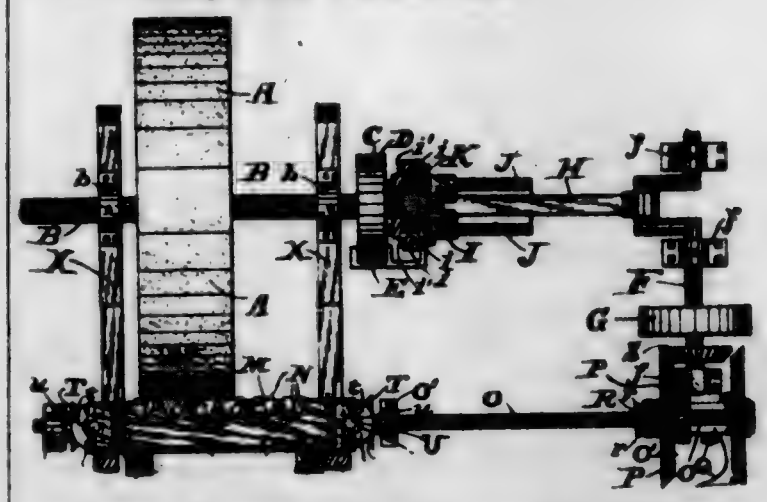
4. In a mower-knife, the combination with a knife-bar, of cutting-sections secured to said bar, a longitudinal lubricating-conduit in said bar extending beneath said sections, predetermined sections having holes therethrough, communicating with said conduit, whereby the lubricant is supplied from said conduit to the upper surface of said sections.

5. In a mower-knife, the combination with a knife-bar, of cutting-sections secured to said bar, a longitudinal conduit located within said bar and extending beneath said sections, predetermined sections having holes therethrough communicating with holes through said conduit, whereby the lubricant is supplied from said conduit to the upper surface of said sections.

6. In a mower-knife, the combination with a knife-bar of a head secured to the inner end of said bar, a hollow ball on said head to which a pitman-rod is adapted to be connected, a lubricating-conduit communicating with said hollow ball and extending longitudinally within said bar beneath said sections, predetermined sections having holes therethrough, communicating with said conduit, and a supply of lubricant communicating with said ball.

7. In a mower-knife, the combination with a knife-bar, of a head secured to the inner end of said bar, and a hollow ball on said head to which a pitman-rod is adapted to be connected, said ball having holes leading from the interior to the exterior thereof, a lubricating-conduit communicating with said hollow ball and extending longitudinally within said bar beneath said sections, and a supply of lubricant communicating with said hollow ball.

805,156. GRINDING-MACHINE. FRANK ROSSOMOWSKI, Chicago, Ill. Filed July 13, 1905. Serial No. 269,582.



Claim.—1. The combination with a rotatable and longitudinally-movable shaft and a grinding-wheel rigidly secured to the shaft, of means to rotate the shaft, means to move the shaft longitudinally, a vertically and horizontally movable table, means to secure knives on the table, means to move the table vertically, and means to move the table horizontally to continuously maintain the edges of the knives which are adjacent to the periphery of the grinding-wheel in contact therewith; substantially as described.

2. The combination with a rotatable and longitudinally-movable shaft and a grinding-wheel rigidly secured to the shaft, of means to rotate the shaft, means to move the shaft longitudinally, a vertically-movable table, a table mounted on the first-named table to move horizontally thereon, means to move the first-named table vertically, means to move the second-named table horizontally on the first-named table, means to secure knives on the second-named table with one of the edges thereof adjacent to the periphery of the grinding-wheel; substantially as described.

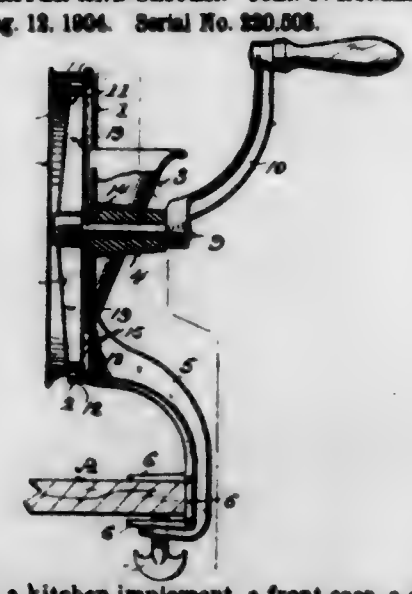
3. The combination with a rotatable and longitudinally-movable shaft and a grinding-wheel rigidly secured to the shaft, of means to rotate the shaft, means to move the shaft longitudinally,

vertical screw-threaded shafts, a table mounted on the vertical shafts, a table mounted on the first-named table to move horizontally thereon, means to rotate the vertical screw-threaded shafts to move the first-named table vertically, means to secure knives on the second-named table with one of the edges thereof adjacent to the grinding-wheel and means to move the second-named table horizontally on the first-named table to continuously maintain the edges of the knives which are adjacent to the periphery of the grinding-wheel in contact therewith; substantially as described.

4. The combination with a rotatable and longitudinally-movable shaft and a grinding-wheel rigidly secured to the shaft, of means to rotate the shaft, a crank-shaft, non-rotatable plates connected to the first-named shaft, a connection between the crank-shaft and the non-rotatable plates, vertical screw-threaded shafts, a table mounted on the vertical shafts, a table mounted on the first-named table to move horizontally thereon, means to rotate the vertical screw-threaded shafts to move the first-named table vertically, means to secure knives on the second-named table with one of the edges thereof adjacent to the grinding-wheel, and means to move the second-named table horizontally on the first-named table to continuously maintain the edges of the knives which are adjacent to the periphery of the grinding-wheel in contact therewith; substantially as described.

5. The combination with a rotatable and longitudinally-movable shaft and a grinding-wheel rigidly secured to the shaft, of means to rotate the shaft, vertical screw-threaded shafts, a crank-shaft, non-rotatable plates connected to the first-named shaft, a connection between the crank-shaft and the non-rotatable plates, an additional shaft provided with beveled wheels having gear-teeth thereon, beveled wheels on the crank-shaft and on the shafts provided respectively with gear-teeth intermeshing with the gear-teeth on the first-named beveled wheels on the additional shaft, a table mounted on the vertical shafts, a table mounted on the first-named table to move horizontally thereon, means to secure knives on the second-named table with one of the edges thereof adjacent to the grinding-wheel, and means to move the second-named table horizontally on the first-named table to continuously maintain the edges of the knives which are adjacent to the periphery of the grinding-wheel in contact therewith; substantially as described.

805,157. GRATER AND SLICER. JOHN P. RUNKEL, Milwaukee, Wis. Filed Aug. 12, 1904. Serial No. 220,508.

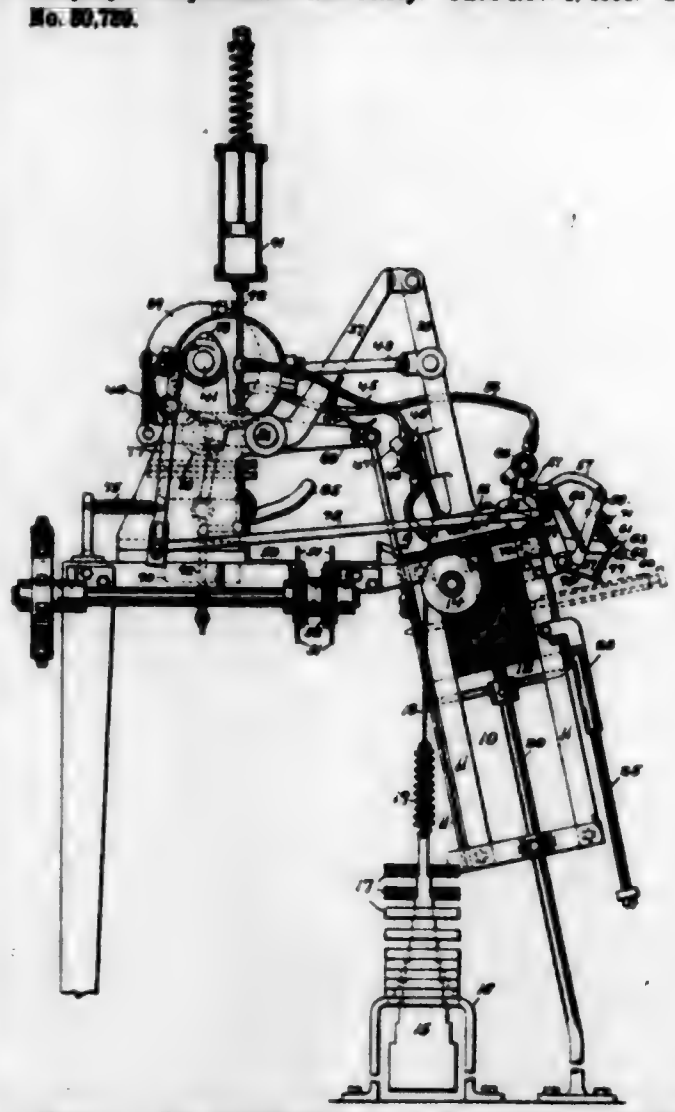


Claim.—1. In a kitchen implement, a front case, a disk mounted and rotatable in the case, teeth cut from and on the disk projecting outwardly and turned and inclined rearwardly away from their openings in the disk, and means for rotating the disk.

2. In a kitchen implement, a front case, a disk formed of sheet metal mounted and rotatable in the case, teeth in substantially semi-circular form cut from the disk and turned outwardly and rearwardly away from their openings in the disk and presenting toward the case wide flat and rearwardly-inclined surfaces and means for rotating the disk.

3. In a kitchen implement, a circular case-front, a hopper on the case-front discharging inwardly and downwardly through the case-front, a rib on the inner surface of the front about the opening or throat of the hopper, a material-separating disk in the case, an arbor mounted rotatively in the case-front carrying the disk thereon, material-separating means on the disk arranged to pass close to said rib on the case-front when the disk is rotated, and a detachable rear cover fitting on and over the edge of the front case and over and behind the material-separating disk and its arbor, the case and the cover being provided at their lower edges with discharging recesses or apertures.

805,158. SHEET SEPARATING AND FEEDING MECHANISM. CHARLES R. SAGE, Jersey City, N. J., assignor to The American Tobacco Company, a Corporation of New Jersey. Filed Nov. 1, 1901. Serial No. 80,729.



Claim.—1. The combination of a suction-transferrer for lifting and transferring sheets successively from a pile, and a suction device for lifting one edge of the sheet before it is seized by the transferrer and having a lifting movement slower than the lifting movement of the transferrer, substantially as described.

2. The combination of a suction-transferrer for taking sheets successively from a pile, and a suction device for lifting one edge of the sheet before it is seized by the transferrer having a lifting movement slower than the lifting movement of the transferrer and having a slight lateral movement before it begins its lifting movement, substantially as described.

3. The combination of a suction-transferrer for taking sheets successively from a pile, and a suction device for lifting one edge of the sheet before it is seized by the transferrer having a slight lateral movement before it begins its lifting movement, substantially as described.

4. The combination of a transferrer for taking sheets successively from a pile by engagement with the upper surface of the sheet, means for lifting one edge of the sheet from the remaining sheets of the pile before it is seized by the transferrer, and means for moving the transferrer after it has seized the sheet toward the side of the pile at which the edge of the sheet is raised, substantially as described.

5. The combination of a suction-transferrer for taking sheets successively from a pile, means for lifting one edge of the sheet before it is seized by the transferrer, and means for moving the transferrer after it has seized the sheet toward the side of the pile at which the edge of the sheet is raised, substantially as described.

6. The combination of a suction-transferrer for taking sheets successively from a pile, means for lifting one edge of the sheet before it is seized by the transferrer, means for moving the transferrer after it has seized the sheet first toward the side of the pile at which the edge of the sheet was raised and then in the opposite direction, substantially as described.

7. The combination of a transferrer for taking sheets successively from a pile by engagement with the upper surface of the sheet, a suction device for lifting one edge of the sheet before it is seized by the transferrer having a lateral movement away from the side of the

pile and a lifting movement, and means for moving the transferrer after it has seized the sheet toward the side of the pile at which the edge of the sheet is lifted, substantially as described.

8. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a suction-transferrer for taking sheets successively from the pile, means for lifting one edge of the sheet before it is seized by the transferrer, and means for moving the transferrer after it has seized the sheet laterally to carry the sheet clear of the stop, substantially as described.

9. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a suction-transferrer for taking sheets successively from the pile, means for lifting the edge of the sheet opposite the stop before it is seized by the transferrer, and means for moving the transferrer after it has seized the sheet first toward the side of the pile at which the edge of the sheet has been raised and then in the opposite direction, substantially as described.

10. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a suction-transferrer for taking sheets successively from the pile, means for lifting the edge of the sheet opposite the stop before it is seized by the transferrer, and means for moving the transferrer after it has seized the sheet toward the side of the pile at which the edge of the sheet has been raised, substantially as described.

11. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a suction-transferrer for taking sheets successively from the pile, a suction device for lifting the edge of the sheet opposite said stop before it is seized by the transferrer, a second stop arranged to enter beneath the lifted edge of the sheet and over the edge of the pile, means for raising the first-mentioned stop to release the top sheet, and means for moving the transferrer after it has seized the sheet first toward the side of the pile at which the edge of the sheet is raised and then in the opposite direction, substantially as described.

12. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a transferrer for taking sheets successively from the pile, means for lifting the edge of the sheet opposite to said stop before it is seized by the transferrer, a second stop arranged to enter beneath the lifted edge of the sheet and over the edge of the pile, and means for raising the first-mentioned stop to release the top sheet, substantially as described.

13. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a suction-transferrer for taking sheets successively from the pile, means for lifting the edge of the sheet opposite to said stop before it is seized by the transferrer, a second stop arranged to enter beneath the lifted edge of the sheet and over the edge of the pile, means for raising the first-mentioned stop to release the top sheet, and means for moving the transferrer after it has seized the sheet toward the side of the pile at which the edge of the sheet is raised, substantially as described.

14. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a suction-transferrer for taking sheets successively from the pile having a movement to carry the sheet clear of the stop, means for raising the stop to release the sheet, and means for limiting the upward movement of the pile while the stop is raised, substantially as described.

15. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a transferrer for taking sheets successively from the pile having a movement to carry the sheet clear of the stop, means for raising the stop to release the sheet, and means for limiting the upward movement of the pile when the stop is raised, substantially as described.

16. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a transferring device for taking sheets successively from the pile, a suction device for lifting the edge of the sheet opposite to said stop before it is seized by the transferring device, said suction device having a lateral inward movement and an upward lifting movement, a second stop adapted to enter beneath the raised edge of the sheet and over the edge of the pile, and means for moving the first stop to release the top sheet, substantially as described.

17. The combination of means for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a transferring device for taking sheets successively from the pile, a suction device for lifting the edge of the sheet opposite said stop before it is seized by the transferring device, an actuating-arm 65 for giving said suction device its lifting movement, and a second stop carried by said arm adapted to enter beneath the raised edge of the sheet and over the edge of the pile, substantially as described.

18. The combination in a sheet separating and feeding mechanism, of the suction-cup 55 for raising the edge of the top sheet carried by a pivoted cam-arm 57, a member engaging said cam-arm to control the lifting movement of the suction-cup, a valve for controlling the suction-cup, and a lost-motion connection between said valve and the cam-arm-engaging member, substantially as described.

19. The combination of the suction-cup 55 carried by a pivoted cam-arm 57, pivoted support 58 by which the arm 57 is carried, means for holding the support 58 in its normal position under yielding tension, a reciprocating actuating member having a part engaging the cam-arm 57 to control the lifting movement of the suction-cup 55 and adapted to move the support 58 against the yielding tension as it nears the end of its movement in one direction whereby the suction-cup will be given a slight lateral reciprocation while in its low or sheet-seizing position, substantially as described.

20. The combination of the suction-cup 55 carried by the pivoted cam-arm 57, pivoted support 58 by which the arm 57 is carried, means for holding the support 58 in its normal position under yielding tension, pivoted actuating-arm 65 having a part to engage the cam-arm 57 to control the lifting movement of the suction-cup and adapted to engage the bracket 58 as it nears the end of its forward movement to move the bracket against the yielding tension, a valve for controlling the suction of the suction-cup, valve-operating connections between the valve and the arm 65, and a stop 70 carried by the arm 65, substantially as described.

21. The combination of a suction-transferrer for taking sheets successively from a pile having a lateral movement after it has seized the sheet, a spring-guide bearing against the edges of the sheets near the top of the pile and at the side toward which the suction-transferrer makes said lateral movement, and means for positively returning said guide to normal position, substantially as described.

22. The combination of a support for feeding a pile of sheets upward, a stop for limiting the upward movement of the pile, a transferring device for taking sheets successively from the pile, and a sheet-supporting device comprising a pivoted bracket 26 and rods 25 sliding therein for supporting the pile of sheets to permit the main support to be lowered for receiving a fresh supply of sheets, said secondary supporting device being located at a distance below the top of the pile so that the elasticity of the remaining sheets will maintain successive top sheets in position for the proper action of the transferring device during the time required for replenishing the supply of sheets, substantially as described.

23. The combination of a support under tension to feed a pile of sheets upward, a stop for limiting the upward movement of the sheets, a transferring device for taking sheets successively from the pile, and an auxiliary support for supporting the sheets to permit the main support to be lowered to receive a fresh supply of sheets, said auxiliary support being located at a distance below the top of the pile so that the elasticity of the remaining sheets will maintain successive top sheets in position for the proper action of the transferring device during the time required for replenishing the supply of sheets, substantially as described.

24. The combination in a sheet separating and feeding mechanism, of a holder for the sheets having a support for feeding the pile of sheets upward, a weight-carrier connected to the support for raising the support as the weight-carrier moves downward, a series of weights, and a weight-support for supporting the weights independently of the carrier, the weight-carrier being formed with a series of shoulders for engaging and lifting successive weights as the carrier moves upward, substantially as described.

25. The combination of means for feeding a pile of sheets upward including a support for the sheets having opposite sides raised so that the sheets shall be bent slightly upward toward the corresponding edges, and a suction-transferrer for taking sheets successively from the pile having a movement toward and from the top of the pile and a lateral movement longitudinally of the raised sides of the support, substantially as described.

26. The combination of means for feeding a pile of sheets upward including a support for the sheets having opposite sides raised so that the sheets shall be bent slightly upward toward the corresponding edges, a suction-transferrer for taking sheets successively from the pile, and a suction device for lifting one edge of the sheet before it is seized by the transferrer, said suction device being arranged to engage the sheet between the raised edges thereof, and the transferrer having a movement toward and from the top of the pile and a lateral movement longitudinally of the raised sides of the support and toward the side of the pile at which the edge of the sheet is raised, substantially as described.

27. The combination of a support for a pile of sheets having op-

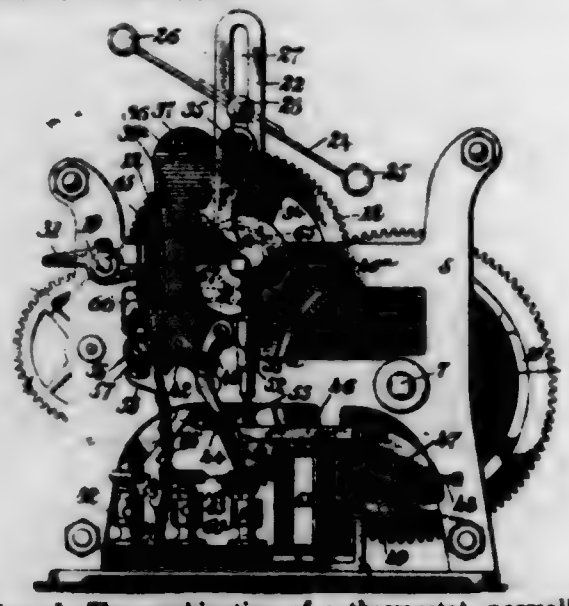
posite sides raised so that the sheets shall be bent slightly upward toward the corresponding edges, and a suction-transferrer for taking sheets successively from the pile having a movement toward and from the top of the pile and a lateral movement longitudinally of the raised sides of the support, substantially as described.

28. The combination with sheet separating and feeding devices including two suction members operating successively on the sheet, of a vacuum-pump, and an equalizing device having a moving suction member in communication with the vacuum-pump and with the suction members for maintaining the vacuum during the intervals between the effective movements of the pump, substantially as described.

29. The combination with sheet separating and feeding devices including two suction members operating successively on the sheet, of a vacuum-pump operated in time with the operative movement of one of the suction members, and an equalizing device having a moving suction member in communication with the vacuum-pump and with the suction members for maintaining the vacuum during the intervals between the effective movements of the pump, substantially as described.

805,159. AUTOMATIC DAMPER AND VALVE REGULATOR.

CLARK B. SANFORD, Oswego, N. Y. Filed Sept. 21, 1904. Renewed Oct. 9, 1905. Serial No. 282,053.



Claim.—1. The combination of a thermostat, normally open electric circuits connected therewith, a source of electricity for periodically energizing said circuits, contact-springs connected with said circuits, a revoluble member provided with a contact-pin for engaging said contact-springs one at a time, a link connected with said revoluble member and adapted to be actuated by movements thereof, said link being provided with a contact-face, a contact-sleeve connected with said circuits and adapted to be engaged by said contact-face of said link for the purpose of completing said circuits, mechanism connected with said contact-link for shifting the position thereof, thereby breaking said circuits, motor mechanism controllable by said circuits for opening and closing a damper, magnetic mechanism included within said circuits and connected with said motor mechanism for stopping and starting the same, and the thermostat connected with said electric circuits and provided with contact mechanism for controlling the same.

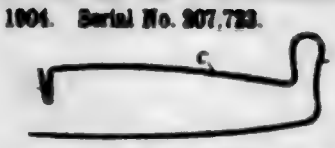
2. In an automatic damper and valve regulator, the combination of a link provided with a contact-face, a contact member to be engaged by said contact-face, a revoluble member provided with lifting-pins for shifting the position of said link, said revoluble member being further provided with facets, a spring-pressed plunger provided with a head adapted to be engaged by said facets, an armature engaged by said plunger and held positively thereby in certain predetermined positions, a magnet for attracting said armature, mechanism connecting said armature with said link, electric-motor mechanism controllable by the engagement and disengagement of said contact-face and said contact member, damper mechanism controllable by said electric mechanism, an electric circuit for energizing said magnet, and a thermostat for controlling said electric circuit.

3. In an automatic damper and valve regulator, the combination of a damper, motor mechanism for actuating the same, said motor mechanism being provided with a revoluble flattened disk, an electric circuit for controlling said motor mechanism, a magnetic member provided with an armature for stopping and starting said motor mechanism, and a plunger movable endwise and provided with a portion to be pressed upon by said flattened disk, said plunger being also provided with a portion for engaging said armature so as to temporarily prevent the same from interfering with said motor mechanism except at predetermined times.

4. In an automatic damper and valve regulator, the combination of a damper, motor mechanism for actuating the same, said motor mechanism being provided with a revoluble member, a movable link adapted to be engaged by said revoluble member, said movable link being provided with a contact-face, a contact-sleeve to be engaged by said contact-face for the purpose of closing an electric circuit, a magnetic member to be energized by said electric circuit, said magnetic member being provided with a movable armature, said armature being provided with means for shifting the position of said link, a tongue mounted upon said link, a stop-lever mounted upon said revoluble member of said motor mechanism and adapted to engage said tongue, and heat-controlled mechanism connected electrically with said circuit for the purpose of energizing said magnetic member.

5. In a device of the character described, the combination of a damper, motor mechanism for actuating the same, an electric circuit for controlling said motor mechanism, said electric circuit including a contact-sleeve, a movable link provided with a contact-face for engaging said contact-sleeve, and means for shifting the position of said link, and guide mechanism for causing said contact-face to move abruptly away from said contact-sleeve when the position of said link is thus shifted.

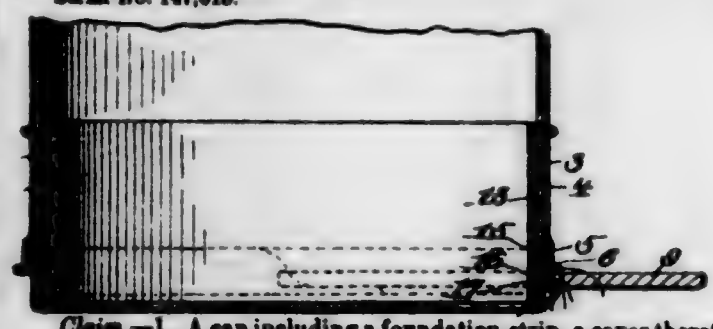
805,160. SAFETY-PIN. HOWARD R. SARGENT, Schenectady, N. Y. Filed May 13, 1904. Serial No. 207,723.



Claim.—1. A safety-pin formed of bent wire and comprising a clasp member and a pin member, said clasp member having a loop constituting a handle at the junction of the two members, and the pin member being free from projections in a direction opposite the clasp member.

2. A safety-pin formed of bent wire comprising a clasp member and a pin member, said clasp member having a loop constituting a handle at the junction of the two members, the pin member being free from projections in a direction opposite the clasp member and having a longitudinal extension at its joint with the pin member to prevent bodily shifting in the fabric.

805,161. CAP. ORA D. SHAW, Boston, Mass. Filed Mar. 9, 1903. Serial No. 147,013.



Claim.—1. A cap including a foundation-strip, a cover therefor, a vizor, the latter provided with a reinforcing-strip connected for a portion of its length between the said foundation-strip and the cover, and a sweat-band connected to the reinforcing-strip.

2. A cap including a foundation and a covering, the latter connected a distance to the foundation, a reinforcing-strip intermediate the unattached portion of the foundation and covering, and secured by a row of stitching, a vizor carried by said reinforcing-strip and a sweat-band, said vizor fixed to the foundation by inclined stitches.

3. A cap having a foundation and cover connected by stitches for a portion of their length, a vizor secured to the foundation and having a reinforcing-strip, the same secured between the unattached portion of the foundation and cover, and a sweat-band connected to the reinforcing-strip.

4. A cap including a cover and foundation connected for a portion of their length by stitching, a vizor secured to the foundation, a reinforcing-strip secured to the vizor and between the unattached portion of the foundation and cover, and a sweat-band secured to the reinforcing-strip.

5. A cap having a foundation, a vizor secured exteriorly of the latter, and means connected to the vizor and surrounding the lower edge of the foundation, and secured to the latter.

6. A cap having a foundation, a finishing-cover supported by the same and extending near the lower edge thereof and connected for a portion of its length thereto, a visor secured to the foundation by stitches at an inclination, a reinforcing-strip attached to the under side of the visor and surrounding the lower edge of the foundation and secured between the unattached portion of the cover and foundation.

7. A cap having a foundation, a finishing-cover supported by the same and extending near the lower edge thereof and connected for a portion of its length thereto, a visor secured to the foundation by stitches at an inclination, a reinforcing-strip attached to the under side of the visor and surrounding the lower edge of the foundation and secured between the unattached portion of the cover and foundation, and a sweat-band carried by the reinforcing-strip.

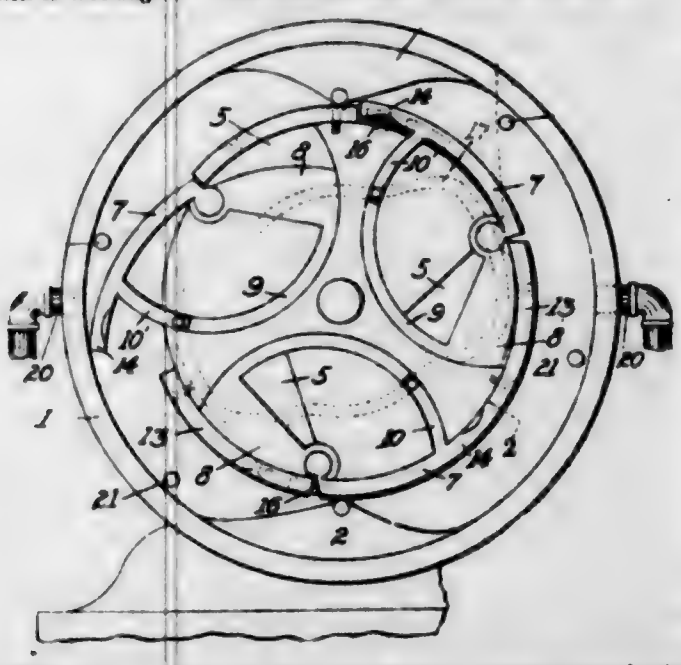
8. A cap including a foundation-strip, a cover therefor, having a marginal beading, a visor, having a reinforcing-strip, the latter connected for a portion of its length between the said foundation-strip and said covering, said visor provided with a channel, a stitching in said channel for connecting the visor to the foundation-strip and a sweat-band connected to the reinforcing-strip.

9. A cap including a foundation and cover, a visor having a channel, a stitching in said channel connecting said visor to the foundation, a reinforcing-strip having one edge connected a portion of its length to the visor, and the remaining portion between the foundation and cover, and a sweat-band connected to the other edge of the reinforcing-strip.

10. A cap including a foundation, cover, and a visor, said cover provided with a marginal bead which extends entirely around the cap, a reinforcing-strip having one edge connected to the visor and the foundation, and a sweat-band connected to the other edge of said reinforcing-strip.

11. A cap comprising a foundation, a visor abutting against said foundation and secured thereto by stitches at an inclination, a covering abutting against the upper side of said visor and folded on the same, a reinforcing-strip secured to the under side of the visor by vertical stitches, said strip passing under the covering at the end of the visor, and a sweat-band secured to the lower part of the cap.

805,162. **ROTARY ENGINE.** NORMAN R. SMITH, Seattle, Wash., assignor to Seattle Rotary Engine Company, Seattle, Wash., a Corporation of Washington. Filed Mar. 20, 1905. Serial No. 251,126.



Claim.—1. A rotary engine comprising a casing formed with ingress and egress ports, a carrier rotatable therein, and a plurality of counterpoised swing-arms extending over the periphery of the carrier and normally resting thereon.

2. A rotary engine comprising a casing formed with ingress and egress ports, a carrier rotatable therein, swing-arms normally resting on the periphery of said carrier, and counterpoised weights connected to said swing-arm.

3. In a rotary engine, a carrier formed with pockets, swing-arms normally resting on the periphery of said carrier, and counterpoised weights arranged in said pockets and being rigidly connected to said swing-arms, in combination with a casing in which said carrier is mounted for rotation.

4. A rotary engine comprising a casing, a rotatable carrier formed with pockets, swing-arms arranged on the periphery of the carrier, weights connected to said swing-arms and being arranged in said pockets, pressure-plates connected to said swing-arms and extending into the carrier, and plates rigidly connected to said pressure-plates and to said weights.

5. A rotary engine comprising a casing, a rotatable carrier formed with pockets, swing-arms arranged on the periphery of the carrier, weights connected to said swing-arms and being arranged in said pockets, pressure-plates connected to said swing-arms and extending into the carrier and being rigidly connected to said weights, and means secured to said carrier between said swing-arms and extending over said pockets.

6. A rotary engine comprising a casing, a carrier rotatable therein, said carrier being formed in two sections, one of said sections being formed with pockets and curved ways leading therefrom, swing-arms arranged on the periphery of said carrier and having pressure-plates extending into said ways, and weights connected to said swing-arms and to the pressure-plates thereof and being arranged in said pockets.

7. A rotary engine comprising a casing, a rotatable carrier therein, said carrier being formed with pockets, swing-arms arranged on the periphery of said carrier, weights arranged in said pockets and being rigidly connected to said swing-arms, and rim-sections secured to the carrier between said swing-arms and projecting over said pockets.

8. A rotary engine comprising a casing formed with a cam-track, a carrier rotatable therein, a counterpoised swing-arm on said carrier, and means operated from said cam-track for swinging said arm.

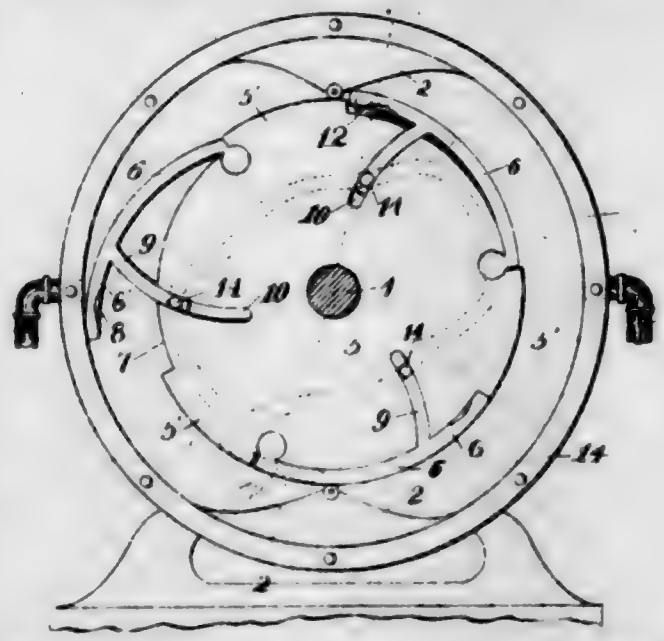
9. A rotary engine comprising a casing formed with a cam-track, a carrier rotatable therein, a counterpoised swing-arm on said carrier, a pressure-plate secured to said swing-arm and projecting into the carrier, and means mounted on said pressure-plate and engaging in said cam-track, substantially as and for the purpose specified.

10. A rotary engine comprising a casing, a carrier rotatable therein, a swing-arm mounted on said carrier, a weight connected to said arm for counterpoising the same, and means connecting the free portions of said arm and weight.

11. A rotary engine comprising a casing, a carrier rotatable therein, counterpoised swing-arms normally resting on the periphery of the carrier, and rim-sections secured to the carrier between said swing-arms.

12. A rotary engine comprising a casing formed with steam-inlet means and a cam-track, a carrier, a counterpoised swing-arm arranged on said carrier and being formed in its under face with means to receive steam from said inlet means, and means operated from said cam-track for swinging said arm.

805,163. **ROTARY ENGINE.** NORMAN R. SMITH, Seat'le, Wash., assignor to Seattle Rotary Engine Company, Seattle, Wash., a Corporation of Washington. Filed Mar. 20, 1905. Serial No. 251,127.



Claim.—1. A rotary engine comprising a casing formed in its heads with steam-ingress ports, a rotary carrier in said casing, and a swing-arm mounted on said carrier and being formed at its free portion with a head part, said head part being formed in its under face with steam-channels extending inwardly from its side edges and adapted to register with said ingress-ports.

2. A rotary engine comprising a casing, a rotary carrier therein,

said casing being formed with ingress-ports arranged within the bounds of the carrier, and a swing-arm mounted on said carrier and having its under face formed with opposite channels adapted to register with said ports.

3. A rotary engine comprising a casing, a rotary carrier therein, said casing being formed with ingress-ports arranged within the bounds of the carrier, said carrier being formed in its periphery with a pocket, and a swing-arm arranged in said pocket and formed with channels adapted to receive steam from said ingress-ports.

4. A rotary engine comprising a casing having an ingress-port, a carrier rotatable therein, a swing-arm mounted on said carrier and being formed in its under face with a steam-channel, and means connected to said arm actuated from a cam-track in a casing for opening and closing said swing-arm, said swing-arm starting to open when its groove registers with said ingress-port.

5. A rotary engine comprising a casing having opposite internal abutments and opposite ingress-ports on one side of each abutment, a rotary carrier formed with a pocket, a swing-arm mounted in said pocket and being formed with opposite channels extending inwardly from its side, said channels simultaneously registering with said ingress-ports as the carrier is rotated.

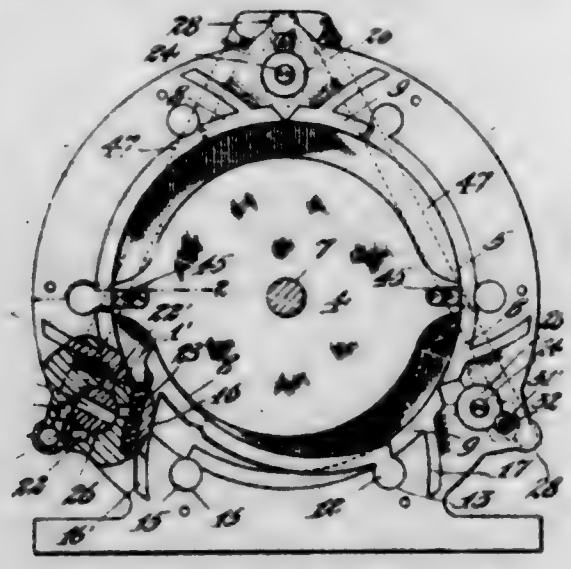
6. A rotary engine comprising a casing, a rotary carrier mounted therein, and a swing-arm mounted on said carrier and having its under face formed with a steam-channel, said casing being formed with an ingress-port arranged in the path of travel of the groove of said swing-arm, said ingress-port being normally closed by said carrier, substantially as and for the purpose specified.

7. A rotary engine comprising a casing, a rotary carrier mounted therein, said casing being provided in its opposite sides with ingress-ports arranged within the bounds of the carrier whereby the steam exerts pressure on the opposite sides of the carrier, and a swing-arm mounted on said carrier and being acted upon by the steam from said ingress-ports.

8. A rotary engine comprising a casing, a rotary carrier therein, said casing being formed with ingress-ports and cam-tracks, and means connected to said swing-arm and being operated by said cam-tracks for opening and closing said swing-arm, said ingress-ports being arranged to discharge steam under said swing arm when the same is being opened by said cam-track.

9. A rotary engine comprising a casing, having opposite internal abutments and being formed in its sides with ingress-ports arranged at one side of said abutments, and having egress-ports intermediate said ingress-ports, a carrier rotatably mounted in said casing and being formed in its periphery with pockets, swing-arms mounted in said pockets and being formed with steam-channels adapted to register with said ingress-ports, bearing-plates secured to said swing-arm and extending into the carrier, and rollers on the sides of said bearing-plates, said casing being formed with cam-tracks in which said rollers are received.

805,164. ROTARY ENGINE. NORMAN R. SMITH, Seattle, Wash. Filed Nov. 30, 1904. Serial No. 234,394.



Claim.—1. In a rotary engine, the combination with the casing having egress-ports, and the winged piston rotatably mounted in the casing, of two series of spring-retracted swing-arms arranged about the casing interior, the arms of one series being arranged in pairs with the arms of the other series, said arms comprising heads, plates projecting therefrom and stems, the stems of each pair of arms lying adjacent each other, two-way admission-valves, said valves having their passages underlying an arm of one pair and the adjacent arm of the adjacent pair, and means for operating the valves.

2. In a rotary engine, the combination with the casing having ingress and egress ports, and a winged piston rotatably mounted in the casing, of two series of swing-arms arranged about the casing interior, the arms of one series being arranged in pairs with the arms of the other series and oppositely disposed with relation thereto, said arms comprising heads, plates projecting therefrom and received in recesses provided therefor in said casing, retractile springs received and secured in recesses provided therefor in said casing and connected to said arms, said casing having its ports of ingress underlying the adjacent heads of adjacent pairs of arms, and means for controlling said ingress-ports.

3. In a rotary engine, the combination with the casing having ingress and egress ports, and the winged piston mounted rotatably in the casing, of a series of spring-retracted swing-arms overlying said ingress-ports, and arranged about the casing interior, a projecting plate adjacent the forward end of the swing-arms and received in a recess provided therefor in said casing, means for controlling said ingress-ports, and means for operating said controlling means.

4. In a rotary engine, the combination with the casing having ingress and egress ports, and the winged piston mounted in said casing, of a pair of swing-arms mounted in said casing, the point of swing of each arm lying intermediate the ends of the other arm

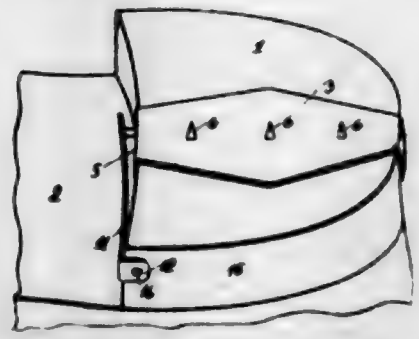
5. In a rotary engine, the combination with the casing having ingress and egress ports, and the winged piston mounted in the casing, of a pair of swing-arms mounted in the casing, the point of swing of each arm underlying the other arm.

6. In a rotary engine, the combination with the casing having ingress and egress ports, and the winged piston mounted in the casing, of a pair of swing-arms arranged side by side in said casing.

7. In a rotary engine, the combination with the casing having ingress and egress ports, and the winged piston mounted therein, of pairs of swing-arms mounted in said casing and extending around the interior thereof, the free end portions of one pair of arms normally lying in proximity to the free portion of the arms on opposite sides thereof.

8. In a rotary engine, a casing having swing-arms entirely covering its inner face, in combination with a piston rotatable in said casing and having wings for engagement with said arms.

805,165. ICE-CREEPER. PETER STATHEY, Pittsburg, Pa. Filed Apr. 4, 1905. Serial No. 253,741.



Claim.—1. An attachment for shoes comprising a heel-plate having upwardly-bent ends, a plurality of depending pins carried by said plate, a pin carried by the one end of said plate and adapted to engage in the heel of a shoe, the other end of said plate having an aperture formed therein, a spring-clip carried by said heel, a pin carried by one end of said clip and adapted to engage one end of said plate, substantially as described.

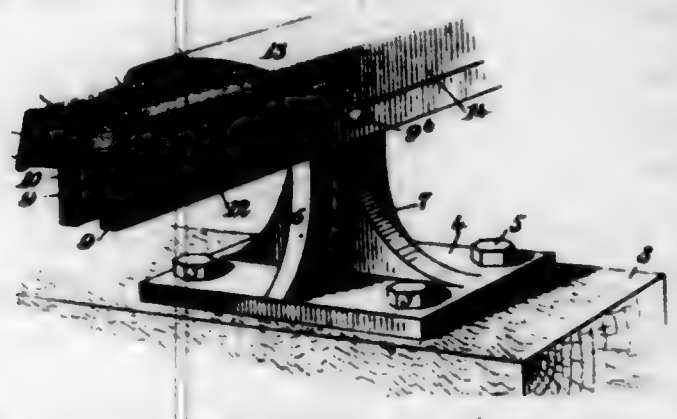
2. An attachment for shoes comprising a heel-plate having upwardly-bent ends to engage the front and rear faces of the heel respectively, one of said ends carrying a pin to engage in the heel, and a clip detachably secured to the side of the heel and carrying a pin to engage with the other of said angular ends of the heel-plate.

805,166. ELECTRIC RAIL. LOUIS STRUVENBERG, New York, N. Y. Filed Jan. 3, 1905. Serial No. 239,354.

Claim.—1. An electric rail comprising a supporting member provided with upwardly-projecting flanges, a rail member provided with downwardly-projecting flanges and disposed adjacent to said supporting member, means for insulating said rail member, and a heating-coil disposed intermediate of said rail member and said supporting member.

2. An electric rail comprising a supporting member provided with a slot, a pedestal provided with a portion for engaging said

slot, a rail disposed adjacent to said supporting member and insulated therefrom, and electric mechanism for heating said rail member.



3. An electric rail comprising a supporting member provided with upwardly-projecting flanges and with a bottom portion, these parts being of proper conformity to constitute a trough, a member of insulating material engaging said flanges and said bottom portion, a rail member resting upon the upper surface of said insulating member, and heating-coils connected with said rail member and disposed intermediate of the same and said supporting member.

4. An electric rail comprising a supporting member having an upper surface of substantially trough-like conformity, a rail member having substantially the form of an inverted trough covering said supporting member, insulating material engaging said supporting member and said rail member for the purpose of insulating these parts from each other, and heating mechanism disposed intermediate of said supporting member and said rail member.

5. An electric rail comprising a bed-plate provided with an upwardly-projecting web, a supporting member provided with a slot engaging said web, said supporting member also being provided with a trough-like portion, a rail member provided with downwardly-projecting flanges and placed over said supporting member, means for insulating said rail member from said supporting member, and mechanism for heating said rail member.

6. An electric rail comprising a supporting member having a trough-like portion, a rail member disposed adjacent to said trough-like portion and provided with depending flanges substantially parallel with portions of said supporting member, a member of insulating material disposed intermediate of said supporting member and said rail member, said member of insulating material having a portion of trough-like conformity, and heating mechanism disposed within said portion of trough-like conformity.

7. In an electric rail, the combination of a rail member provided with a portion upon which the same may rest, and also provided with a depending web for supporting a heating appliance.

8. In an electric rail, a rail member provided with a central web for supporting a member for the purpose of heating the rail, said rail member being further provided with depending portions disposed upon opposite sides of said central web.

9. In an electric rail, a rail member provided with a depending web integral therewith for the purpose of forming an electric connection between the same and a heating-coil, an insulating member upon which said rail rests, and means for supporting said insulating member.

10. An electric rail, comprising a contact member, means for heating the same, insulating material engaging said contact member, a body portion connected with said insulating material, and means for supporting said rail.

11. An electric rail, comprising a supporting member, a rail member, means for insulating said rail member, and means, disposed intermediate of said members, for heating said rail member.

12. An electric rail, comprising a hollow supporting member, a rail member, means for insulating said rail member from said hollow supporting member, and means disposed intermediate of said members for heating said rail member.

13. An electric rail, comprising a supporting member, a hollow rail member, means for insulating said rail member from said supporting member, and means disposed intermediate of said members for heating said hollow rail member.

14. An electric rail, comprising a suporting member, a rail member, means for insulating said supporting member from said rail member, and means disposed intermediate of said members for heating said rail member.

15. An electric rail, comprising a pedestal, a supporting member engaging the same, an insulating member engaging said supporting member, a rail member engaging said insulating-member and thereby insulated from said supporting member, and means for heating said rail member.

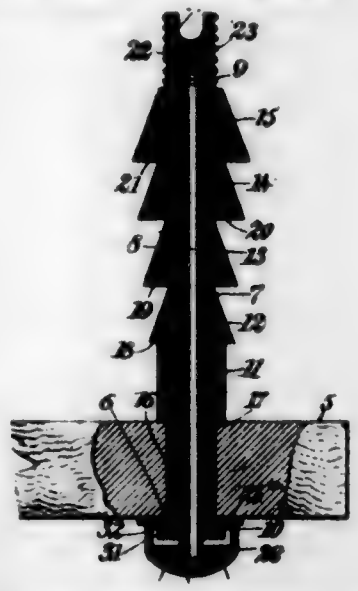
16. An electric rail, comprising a supporting member, a rail member, means for insulating said rail member from said supporting member, and means connected to said rail member for heating the same.

17. In an electric rail, the combination of a rail member, a hollow support for the same, an insulating member separating said rail member from said hollow support, and heating mechanism disposed within said hollow support.

18. In an electric rail, the combination of a rail member, a hollow insulating member engaging said rail member, means for supporting said members, and means disposed within said hollow insulating member for heating said rail member.

19. In an electric rail, a rail member provided with means for supporting a heating appliance, an insulating member engaging said rail member, and means for supporting both of said members.

805,167. INSULATOR-PIN. LOUIS STEINBERGER, New York, N. Y. Filed Jan. 3, 1905. Serial No. 239,255.



Claim.—1. An insulator-pin, comprising a member of insulating material provided with a slot for supporting a conductor, and also provided with a thread for supporting an insulator on said member of insulating material, and means for supporting said member of insulating material.

2. As an article of manufacture, a metallic member provided with a shank portion, and insulating material enveloping said metallic member but leaving said shank portion exposed, said insulating material having a threaded portion and also a slot for engaging a conductor.

3. An insulator-pin, comprising a body portion of insulating material, a metallic core partially embedded within said body portion, and having one of its ends extending beyond the bounds thereof, said body portion being provided with means for engaging an insulator, and a cap mounted upon said end of said core, thus extending beyond the bounds of said body portion.

4. An insulator-pin, comprising a body portion of insulating material provided with means for engaging an insulator, a metallic core partially embedded within said body portion, said metallic core having one of its ends extended beyond the bounds of said body portion, a locking device for locking said core to a support, and separate means mounted directly upon the end thus extended for the purpose of insulating said locking device and the end of said metallic core from currents flowing adjacent to said insulator.

5. An insulator-pin, comprising a metallic supporting member, a jacket of insulating material enveloping said metallic member and provided with a surface for supporting an insulator, said jacket being provided with a plurality of hoods superposed one on the other, and means for mounting said metallic member upon a support.

6. An insulator-pin, comprising a metallic member, and a jacket of insulating material enveloping said metallic member and molded rigidly thereupon, said jacket of insulating material being provided with a plurality of superposed hoods integral therewith, and further provided with a surface for engaging an insulator.

7. An insulator-pin, comprising a metallic member provided with anchorages, and a jacket of insulating material enveloping said metallic member and engaging said anchorages, said jacket of insulating material being further provided with a plurality of superposed hoods and with a portion for supporting an insulator.

8. An insulator-pin, comprising a metallic member, means for supporting the same, and a member of insulating material mounted upon said metallic member, said member of insulating material being provided with a hood integral therewith, and further provided with a threaded surface for supporting an insulator.

9. As an article of manufacture, a metallic supporting member provided with a shank portion, and a jacket of insulating material provided with a plurality of superposed hoods and enveloping said metallic member but leaving said shank portion exposed.

10. An insulator-pin, comprising a body portion of insulating material provided with a threaded portion for detachably supporting an insulator, and also provided with a plurality of superposed hoods, said hoods terminating at their bottoms in surfaces of different shapes, and means for supporting said body portion.

11. An insulator-pin, comprising a body portion of insulating material provided with means whereby it may be mounted upon a support, said body portion being provided with a surface for detachably engaging an insulator, and further provided with a plurality of hoods so as to virtually present an interrupted surface.

12. An insulator-pin, comprising a body portion of insulating material provided with means whereby it may be supported and with a surface for detachably engaging an insulator, said body portion being further provided with a plurality of hoods integral therewith, and presenting a surface which is virtually interrupted.

13. An insulator-pin, comprising a plurality of separate hoods superposed one over the other, the bottoms of the hoods being provided with drip-surfaces of different shapes, and a metallic member for supporting said separate hoods.

14. An insulator-pin, comprising a body portion of insulating material provided with a plurality of hoods integral therewith, said hoods being provided with drip-surfaces of different conformity and virtually presenting an interrupted surface, said body portion of insulating material being provided with means for supporting an insulator.

15. An insulator-pin, comprising a body portion of insulating material provided with a hood and with a portion for engaging an insulator, said body portion being further provided with means whereby it may be mounted.

16. An insulator-pin, comprising a body portion and a plurality of separate hoods connected to the same, said body portion being further provided with means for engaging an insulator and with means whereby said body portion may be mounted.

17. An insulator-pin, comprising a body portion provided with hoods, a metallic member provided with two ends, one of which is completely embedded within said portion so as to leave no part of said end exposed, the other end protruding from said body portion and provided with means whereby a fastening member may be connected therewith for the purpose of securing said body portion firmly upon a cross-arm.

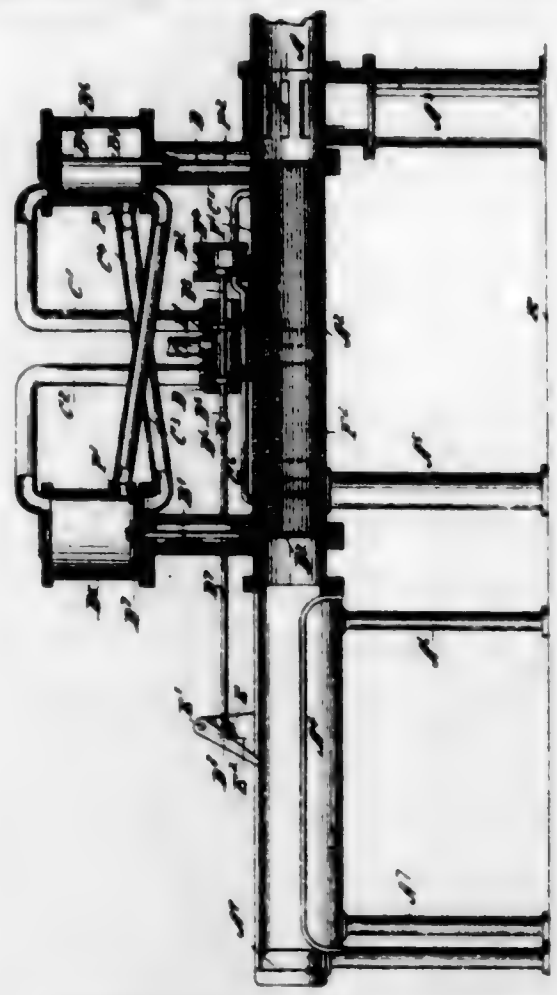
805,168. PNEUMATIC-DESPATCH APPARATUS. CHARLES F. STOUGARD, Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del., a Corporation of Delaware. Filed May 13, 1904. Renewed Mar. 28, 1905. Serial No. 259,538.

Claim.—1. In a pneumatic-despatch-tube apparatus, a transmission-tube, a terminal, and a receiving-chamber in said terminal and having its inner end constructed of greater area than the largest part of the cross-section through the carrier entering therein to allow the air ahead of the carrier to escape around said carrier thereby preventing a cushioning of said carrier in the inner end of the receiving-chamber to allow the carrier to enter the receiving-chamber.

2. In a pneumatic-despatch-tube apparatus, a transmission-tube, a terminal, and a receiving-chamber in said terminal having its inner end constructed of greater area than its outer end in which the carrier is cushioned so as to allow the escape of air around said carrier thereby preventing the cushioning of said carrier in the inner end of the receiving-chamber to allow the carrier to enter the receiving-chamber.

3. In a pneumatic-despatch-tube apparatus, a transmission-tube, a terminal, a receiving-chamber in said terminal having its inner end constructed of greater area than its outer end in which the carrier is cushioned so as to allow the escape of air around said carrier thereby preventing the cushioning of said carrier in the inner end of the receiving-chamber to allow the carrier to enter the receiving-chamber, and means for cushioning said carrier in the outer end of said terminal.

4. In a pneumatic-despatch-tube apparatus, a transmission-tube, a terminal communicating with said tube, a receiving-chamber in said terminal, an inner gate between the transmission-tube and the receiving-chamber and normally open, an outer gate between the receiving-chamber and the atmosphere and normally closed, an inner and an outer cylinder, a piston in each cylinder connected respectively to said inner and outer gates, an air-supply for operating said pistons to move said gates and normally holding said inner gate open and said outer gate closed, communication between said cylinders and said air-supply, a valve for controlling communication to each cylinder alternately, and mechanism operated by the air compressed ahead of the carrier in the outer end of the receiving-chamber for operating said air-controlling valve to allow the air-supply to open the outer gate and close the inner gate, the inner end of the receiving-chamber being constructed of larger area than the outer end to allow the escape of air around said carrier thereby preventing the cushioning of the carrier in the inner end of the receiving-chamber to allow the carrier to enter the receiving-chamber.



5. In a pneumatic-despatch-tube apparatus, a transmission-tube, a terminal communicating with said tube, a receiving-chamber in said terminal, an inner gate between the transmission-tube and the receiving-chamber and normally open, an outer gate between the receiving-chamber and the atmosphere and normally closed, an inner and an outer cylinder, a piston in each cylinder connected respectively to said inner and outer gates, an air-supply for operating said pistons to move said gates and normally holding said inner gate open and said outer gate closed, communication between said cylinders and said air-supply, a valve for controlling communication to each cylinder alternately, mechanism operated by the air compressed ahead of the carrier in the outer end of the receiving-chamber for operating said air-controlling valve to allow the air-supply to open the outer gate and close the inner gate, the inner end of the receiving-chamber being constructed of larger area than the outer end to allow the escape of air around said carrier thereby preventing the cushioning of the carrier in the inner end of the receiving-chamber to allow the carrier to enter the receiving-chamber, and mechanism operated by the carrier leaving said terminal for operating said air-controlling valve to allow the air-supply to open the inner gate and close the outer gate.

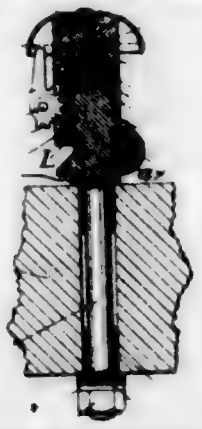
6. In a pneumatic-despatch-tube apparatus, a transmission-tube, a terminal, and a receiving-chamber in said terminal having its inner end constructed with a circular bottom to conform to the shape of the carrier and an enlarged top to allow the air ahead of the carrier to escape around said carrier thereby preventing the cushioning of said carrier in the inner end of the receiving-chamber to allow the carrier to enter the receiving-chamber.

7. In a pneumatic-despatch-tube apparatus, a transmission-tube, a terminal, a receiving-chamber in said terminal having its inner end constructed with a circular bottom to conform to the shape

of the carrier and an enlarged top to allow the air ahead of the carrier to escape around said carrier thereby preventing the cushioning of said carrier in the inner end of the receiving-chamber to allow the carrier to enter the receiving-chamber and having its outer end constructed of circular form, and means for cushioning said carrier in said outer end.

8. In a pneumatic-despatch-tube apparatus, a transmission-tube, a terminal, a receiving-chamber in said terminal having its inner end constructed with a circular bottom to conform to the shape of the carrier and an enlarged top to allow the air ahead of the carrier to escape around said carrier thereby preventing the cushioning of said carrier in the inner end of the receiving-chamber to allow the carrier to enter the receiving-chamber and having its outer end constructed of circular form, a gate closing the outer end to the atmosphere and against which the air is compressed ahead of the carrier for cushioning the carrier, and means for opening said gate to allow the discharge of the carrier from the terminal.

805,169. INSULATOR AND WIRE-CLAMP. JOHN F. TAUBOLD, Scranton, Pa. Filed Feb. 26, 1904. Serial No. 195,354.



Claim.—1. An insulator for telegraph-wires, consisting essentially of a fixed body, a movable jaw having a rack-bar extending alongside said body, a pinion-lever pivotally supported by the body and engaging said rack-bar, and insulating jaw-plates on the body and jaw.

2. A wire insulator and clamp having an insulated body, a pinion-lever pivoted thereto, a jaw having a sliding rack engaging said pinion-lever, and a rotating cam carried by the jaw in position to lock the pinion-lever, all combined.

3. A wire-insulator having an insulated body and a clamping-jaw thereon, a pinion-lever on the body engaging a rack on the jaw, and a notched cup carried by the jaw, having a cam in position to lock said pinion-lever, all combined.

4. In a wire-clamp, the combination of a fixed body, an insulating jaw-plate thereon, a movable jaw having an insulating jaw-plate and means for opening, closing, and locking the same, and an insulating-plate between said jaw-plates, whereby a plurality of wires may be held.

5. In a wire-clamp, the combination of a fixed body having an insulating jaw-plate, and an insulating anchoring-block, a movable jaw having an insulating jaw-plate, and means for clamping the movable jaw on the body.

6. In a wire-clamp, the fixed body and a movable jaw thereon, each provided with insulating jaw-plates, means for clamping the jaw, and a removable insulating anchor-block on the body.

7. A telegraph insulator and clamp, consisting essentially of a body having an insulating jaw-plate, a movable jaw above said jaw-plate and also provided with an insulating jaw-plate, and a cover on the movable jaw in position to protect both insulating jaw-plates.

805,170. BORING-TOOL. PHILIP THOMAS, New York, N. Y., assignor to Henry R. Worthington, New York, N. Y., a Corporation of New Jersey. Filed Sept. 27, 1904. Serial No. 226,159.

Claim.—1. A boring-tool formed of a single piece and having cutting portions of different diameters with the edges of the portion of smaller diameter extending through the portion of larger diameter.

2. A boring-tool formed of a single piece and having cutting portions of different diameters with the edges of the portion of smaller diameter extending through the portion of larger diameter and parallel with the edges of the latter.

3. A boring-tool formed of a single piece and having the smaller portion C with spiral grooves *b* and spiral edges 1 and larger portion B through which the grooves *b* and edges 1 extend and which larger portion is provided with raised portions *c* having edges 2.



4. A boring-tool having the smaller portion C with spiral grooves *b* and spiral edges 1 and larger portion B through which the grooves *b* and edges 1 extend and which larger portion is provided with raised portions *c* having edges 2 and clearance-grooves 3.

805,171. ARTIFICIAL TOOTH. EMORY L. TOWNSEND, Los Angeles, Cal. Filed Dec. 30, 1903. Serial No. 187,231.



Claim.—1. The combination with an imperforate recessed metallic back, a socket secured in the recess, said socket having a countersunk recess at the inner end of the opening through it, of an artificial tooth having a headed stud, the head of which is of a size to just enter the hole in the socket, and the space between the head of the stud and within the socket filled with a cement which upon hardening holds the stud permanently in place.

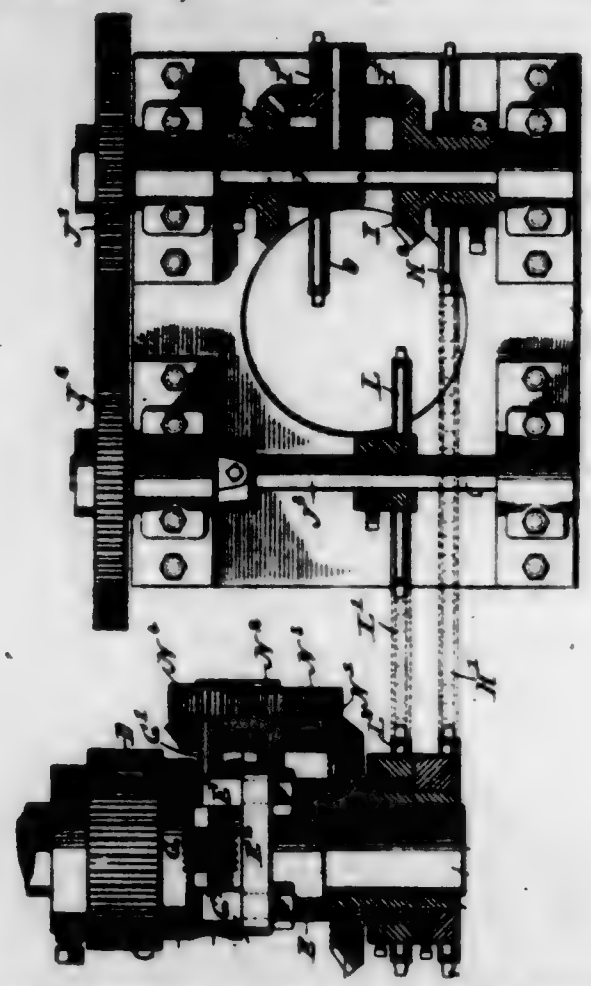
2. The combination with an imperforate metallic back, a socket secured therein, said socket having a countersunk recess at the inner end of the opening through it, of an artificial tooth having a headed stud, the head of which is of a size to just enter the hole in the socket, and the space between the head of the stud and within the socket filled with a cement which upon hardening holds the stud permanently in place, and means comprising a recess and projection for preventing a tendency of the tooth to turn upon its support.

805,172. REGISTERING DEVICE FOR PRINTING-MACHINES. WILLIAM H. WALDRON, New Brunswick, N. J., assignor to John Waldron Company, New Brunswick, N. J. Filed Dec. 8, 1904. Serial No. 236,018.

Claim.—1. In a printing-machine, the combination of the impression-cylinder with the printing-rolls, a driven shaft geared with the impression-cylinder, a sleeve secured on the said shaft, a gearing positively driven from the said sleeve and having a return-gearing, and a driving and locking gear driven from the said return-gearing, mounted on the said sleeve and having a shiftable pinion loose on the sleeve and geared with the printing-rolls.

2. In a printing-machine, the combination of the impression-cylinder with the printing-rolls, a driven shaft geared with the impression-cylinder, a sleeve secured on the said shaft, a gearing positively driven from the said sleeve and having a return-gearing, a driving and locking gear driven from the said return-gearing, mounted on the said sleeve and having a shiftable pinion loose on the sleeve and geared with the printing-rolls, and a manually-controlled device for controlling a member of the said gearing, to increase or de-

crease the speed of the said return-gearing and that of the shiftable member and the printing-rolls.



3. In a printing-machine, the combination of the impression-cylinder with the printing-rolls, a driven shaft geared with the impression-cylinder, a sleeve secured on the said shaft, a gearing positively driven from the said sleeve and having a return-gearing, a driving and locking gear driven from the said return-gearing, mounted on the said sleeve and having a shiftable pinion loose on the sleeve and geared with the printing-rolls, and a manually-controlled wheel, in the web of which is journaled the driving gear-wheel of the said return-gearing.

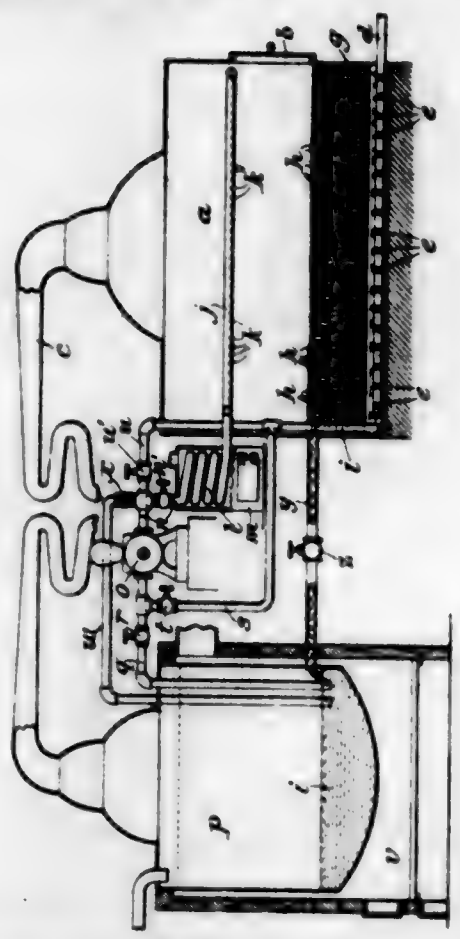
805,173. HOOK. THOMAS V. WALLACE, Monongahela, Pa. Filed Jan. 18, 1905. Serial No. 241,535.



Claim.—A snap-hook having a hook member, the outer arm of which is slotted at its free end to form two side walls, one of which extends upwardly beyond the other and forms a shield, a pawl pivoted between said side walls having its upper end guarded by said shield and its lower end resting on the other arm of the hook member, a spring secured to the slotted arm of the hook member with its end bearing against the inner face of said pawl, substantially as described.

805,174. APPARATUS FOR TREATING RESINOUS WOOD. EDWARD B. WEED, Cleveland, Ohio, assignor to Weed Distilling and Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Feb. 15, 1901. Serial No. 47,418.

Claim.—1. In an apparatus for treating wood to extract therefrom oils, resins, &c., a still adapted to hold the wood, a boiler for containing and heating a bath, a hood and condensing-coil for the still, a hood and condensing-coil for the boiler, and a pump to transfer the bath from the boiler to the still.



2. In an apparatus for treating wood to extract therefrom oils, resins, &c., the combination with a boiler, a still, and a heating-coil communicating with the boiler and the still, of a pump communicating with each of said parts, substantially as described.

3. In an apparatus for treating wood to extract therefrom oils, resins, &c., the combination with a still, a boiler for heating a bath, a heating-coil on the exterior of the still and connecting the boiler and the still, and a pump communicating with the still, coil and boiler, substantially as described.

4. In an apparatus for treating wood to extract therefrom oils, resins, &c., a still, a boiler for containing and heating a bath, a pipe communicating with said still and boiler to supply the bath to the still, a pump in said pipe, and an outlet-pipe communicating with said still and connected with the supply-pipe at a point between the pump and the boiler to remove the bath from the still and return the same to the boiler.

5. In an apparatus for treating wood to extract therefrom oils, resins, &c., a boiler for heating a bath, a still to hold the wood, a supply-conduit from the boiler to the still, a pump in said supply-conduit, and a return-conduit from the still to the boiler which passes through the pump in the same direction as the supply-conduit, whereby the bath may be returned to the boiler without reversing the pump.

6. In an apparatus for treating wood to extract therefrom oils, resins, &c., a boiler for heating a bath, a still to hold the wood, a supply-conduit from the boiler to the still, a pump in said supply-conduit, a return-conduit from the still to the boiler which passes through the pump in the same direction as the supply-conduit, whereby the bath may be returned to the boiler without reversing the pump, and valves in said conduits to control the circulation of the bath.

7. In an apparatus for treating wood to extract therefrom oils, resins, &c., a boiler for heating a bath, a still to hold the wood, a supply-pipe from the boiler to the still, a pump in said supply-pipe, two return-pipes one of which connects the still to the supply-pipe at a point between the pump and the boiler and the other of which connects the boiler to the supply-pipe at a point between the pump and the still whereby the bath may be returned to the boiler without reversing the pump, and valves in said pipes to control the circulation of the bath.

8. In an apparatus for treating wood to extract therefrom oils, resins, &c., a boiler for heating a bath, a still to hold the wood, a supply-conduit from the boiler to the still, a pump in said supply-conduit, a heating-coil in said supply-conduit between the pump and the still, a pipe connecting the bottom of the still with the supply-conduit between the pump and the boiler, whereby the bath may be circulated through the heating-coil without passing through the

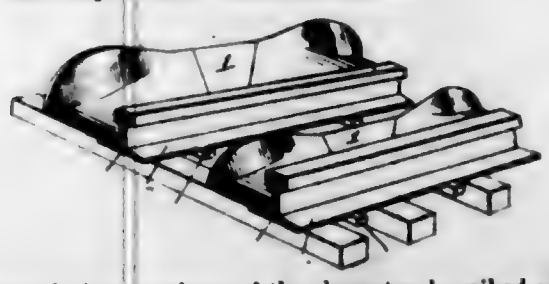
boiler and valves in the supply-conduit and said pipe to control the circulation of the bath.

9. In an apparatus of the class described, a suitable retort for the reception of the material to be treated, a suitable furnace and tank for melting down the material used as a distilling and preserving fluid, means for transferring said fluid from said furnace to said retort, means for heating said fluid during said passage and means for returning said fluid from said retort to said tank.

10. In an apparatus of the class described, a suitable retort for the reception of the material to be treated, a suitable furnace and tank for melting down the material used as a distilling and preserving fluid, a pipe-line connecting said tank and retort, a heater on said line and a pump for delivering said fluid from said tank to said retort and for maintaining a continuous circulation thereof through said heater and retort.

11. In an apparatus of the class described, a suitable retort for the reception of the material to be treated, a suitable furnace and tank for melting down the material used as a distilling and preserving fluid, a pipe-line connecting said tank and retort, a pump for delivering said fluid through said pipe-line to said retort, a valve between said pump and said tank, a heater on said pipe-line, and connections for maintaining a continuous circulation through said heater and said retort.

805,175. CAR-REPLACER. HARRY J. WELSH, West Brownsville, Pa. Filed July 17, 1905. Serial No. 269,951.



Claim.—1. A car-replacer of the character described consisting of a body portion having inclined ends and a beveled top, flanges carried by the outer upper edges of said body portion and terminating at the top of said body portion, the bottom of said body portion having a recess formed therein, the outer wall of said recess having an opening formed therein, a curved rod adapted to extend through said opening, the one end of said rod having an opening formed therein adapted to receive a key, a lug carried by the opposite end of said rod and adapted to engage the base-flange of a rail, substantially as described.

2. A car-replacer of the character described consisting of two body portions, said body portions having inclined ends and a curved side, said body portions having beveled tops, flanges carried by the ends of said body portions adjacent to the curved sides thereof and terminating at the top of said body portions, said body portions having recesses formed therein, curved tie-rods mounted in said recesses, the ends of said tie-rods extending out of said recesses, the ends of said tie-rods having openings formed therein adapted to receive the keys, lugs carried by the opposite ends of said tie-rods, substantially as described.

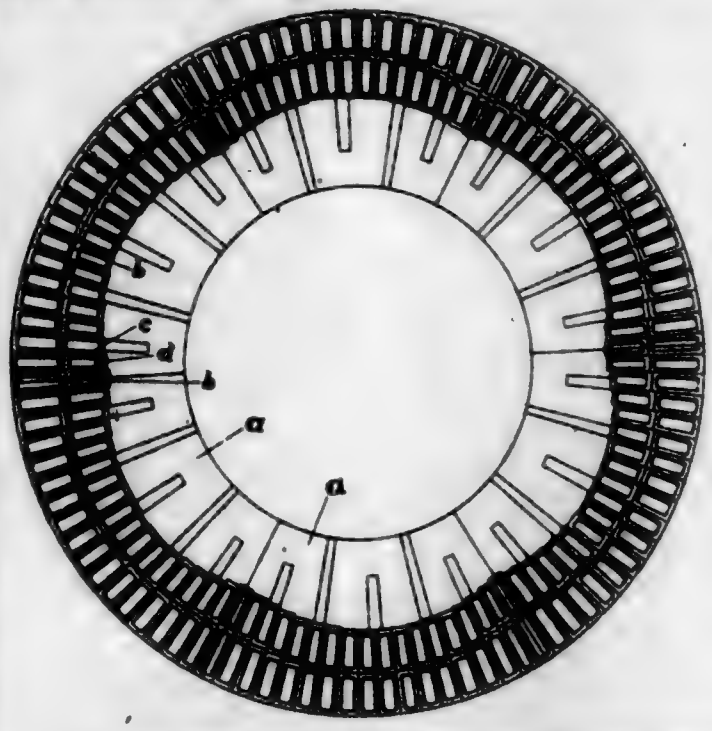
3. A car-replacer, consisting of a body portion, the center thereof having horizontal inner and outer edges and being inclined from the outer to the inner edge, said body portion having inclined surfaces extending from the end thereof to said central portion, and the outer edge of the body portion having adjacent each end a vertical flange having a curved upper edge, said flanges extending to the said central portion and being equal in height to the highest part of the central portion at a point adjacent their juncture therewith.

4. A car-replacer comprising a body portion, inclined laterally and toward both ends, said body portion being formed with an inwardly-curved edge and said edge being formed with vertical flanges which are rail high at the points adjacent the center of the body portion.

805,176. GRINDING-PLATE. JAMES F. WINCHELL, Springfield, Ohio; Lida L. Winchell, administratrix of said James F. Winchell, deceased, assignor to Charles E. Pease and William B. Anderson, Dayton, Ohio. Filed Jan. 27, 1902. Serial No. 91,495.

Claim.—1. A grinding-plate for mills provided with radially-extending ridges or ribs and a series of circumferential ribs forming undulatory lines about the faces of the plate, substantially as and for the purpose specified.

2. Grinding-plates for mills having radially-extending ridges or ribs, and a series of circumferential ribs extending in undulatory lines about the faces of the plates, the circumferential ribs intersecting the radial ribs to form pockets whose respective centers vary in their distance from the center of the plates, substantially as shown and for the purpose specified.



3. A grinding-plate provided with radial and circumferential ridges or ribs, the circumferential ridges intersecting the radial ridges and forming pockets in the faces of the plates, substantially every part of the circumferential ridges or ribs intermediate of adjacent radial ridges, varying from the adjoining part in the distance from the center of the plate, substantially as shown and described.

4. A grinding-plate for mills provided with radial and circumferential ridges or ribs, the circumferential ridges intersecting the radial ribs or ridges and forming pockets, substantially every one of which varies in its distance from the center of said plate, substantially as shown and for the purpose described.

5. Grinding-plates with radial and circumferential ridges or ribs, the circumferential ridges intersecting the radial ridges and forming pockets, the respective centers of substantially every pocket being at different distances from the center of the plates, substantially as shown and described.

6. A set of sectoral grinding-plates, provided with radial and circumferential ridges or ribs, the circumferential ridges forming undulatory lines about the faces of said plates, each circumferential ridge intersecting the radial ridges at different distances from the center of the plates to form pockets, the whole being so arranged that the undulations in one circumferential ridge shall traverse the space intermediate of the circumferential ridges on the opposite plate, substantially as described and for the purpose specified.

7. A set of grinding-plates for mills, each provided with radial and circumferential ridges or ribs, the circumferential ridges intersecting the radial ridges or ribs and forming pockets in the faces of the plates, the circumferential ridges being so arranged as to form undulatory lines about the faces of the plates, the undulations in said circumferential ridges being of a degree substantially equal to the length of the corresponding pockets on the adjacent plate, substantially in the manner and for the purpose described.

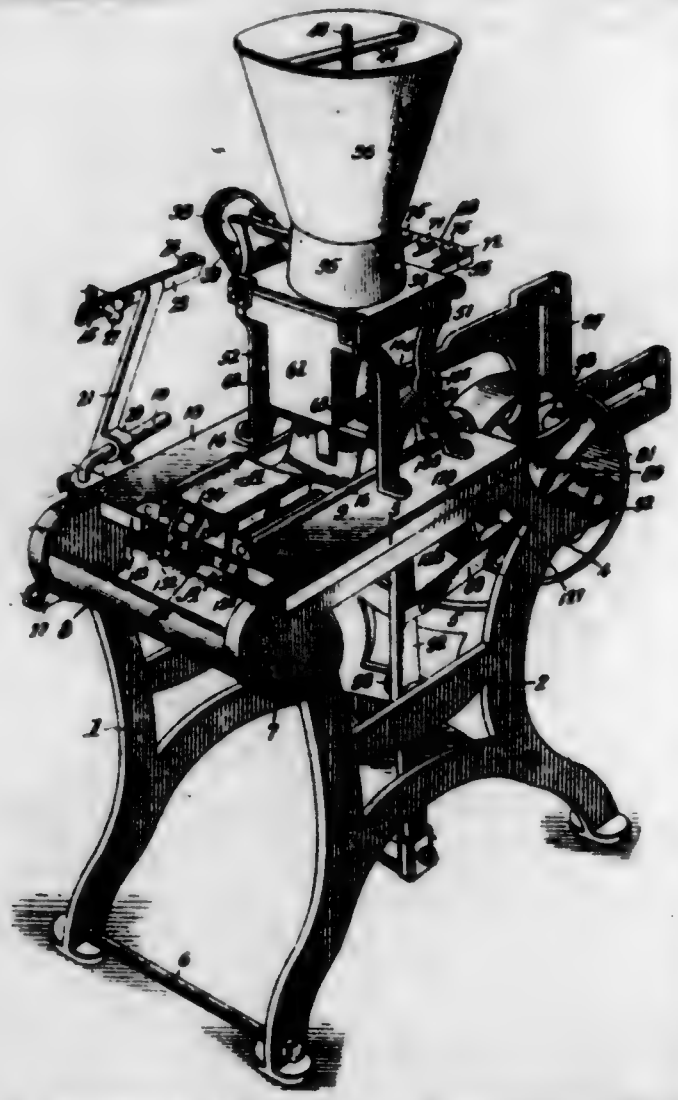
805,177. CIGAR-BUNCHING MACHINE. JASPER S. WINGERT, York, Pa. Filed Feb. 28, 1903. Serial No. 145,563.

Claim.—1. In a cigar-bunching machine, a hopper, a shaft journaled across the lower end of the hopper, stirrers fixed on the shaft, and a vertically-reciprocating stirrer in the hopper actuated by the shaft across the hopper.

2. In a cigar-bunching machine, a hopper consisting of a plate formed with a vertical cylindrical portion, and a tapering upper portion secured in the cylindrical portion, a horizontal shaft journaled across the said cylinder and formed with a crank at its middle, a vertically-reciprocable bar having its lower end pivotally connected to the crank, and radial stirrer-arms on the said bar.

3. In a cigar-bunching machine, a hopper consisting of a base-plate formed with a vertical cylindrical portion, and a tapering upper portion secured in the cylinder, a hopper-bottom secured on the machine independently of the hopper and having a discharge-opening, a horizontal shaft journaled across the said cylinder and formed with

a crank at its middle, a vertically-reciprocating bar having its lower end pivotally mounted on said crank, and radially-arranged stirrer-arms on the said bar.



4. In a machine for bunching cigars, the combination with the hopper mounted on a stationary frame, of a slidable frame under the hopper having a receptacle therein adapted to move under the hopper and receive a charge therefrom, a chute into which the receptacle discharges at the end of its forward movement, a spring-held closure in the chute formed with an arm in the path of the slidable frame, adjustable plates hung to the end walls of the chute, and means to adjustably swing the plates inward on their supports.

5. The combination with the carriage and the bunching-apron, of a pivotally-supported yoke mounted over the apron and formed with a depending tongue to engage and depress the apron, pivotally-hung adjustable hangers on the ends of the arms of the yoke to determine the depth of the pocket in the apron, and means on the carriage to engage the hangers and to actuate the yoke.

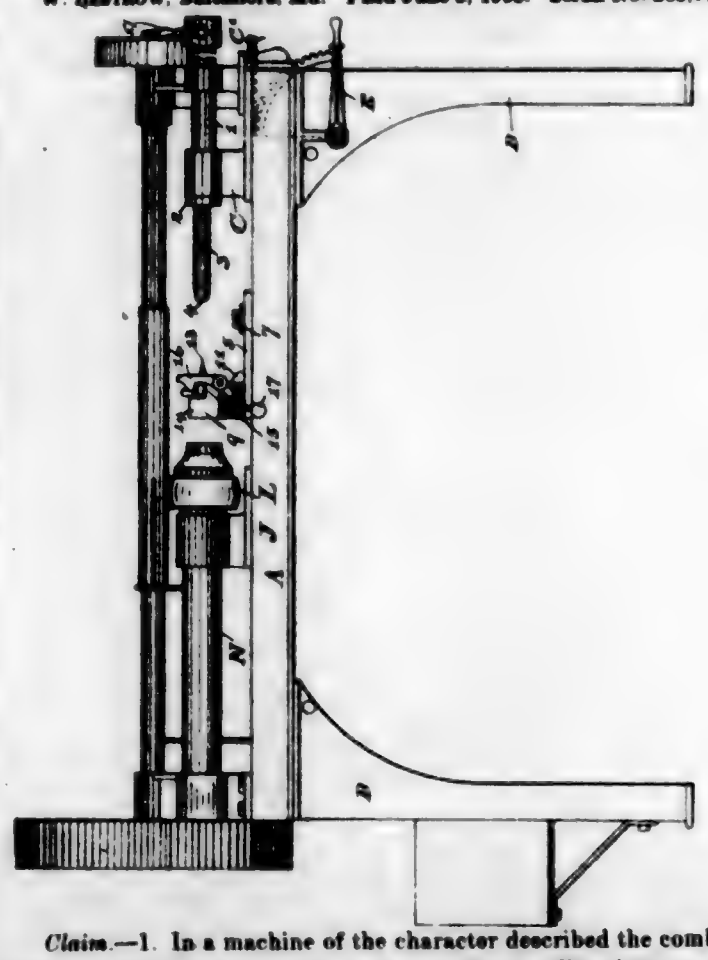
6. The combination with the driving-shaft, of a horizontally-reciprocable trammel mounted on the shaft and formed with a forward projecting horizontal bar, a carriage reciprocated by the trammel, a bunching-apron, forming-rollers journaled in the carriage, and a presser-roller to bear upon the apron in advance of the forming-rollers.

7. The combination with the driving-shaft, of a horizontally-reciprocable trammel mounted on the shaft and formed with a forwardly-extending horizontal bar, a carriage connected to the end of the bar, a bunching-apron, a forming-roller journaled in the carriage, a second roller in advance of and smaller in diameter than the rear forming-roller, and a presser-roller to bear upon the apron in advance of the forming-rollers.

8. The combination with the driving-shaft, of a clutch member fixed on the shaft and formed with a radial arm, a driving-pulley loosely mounted on the driving-shaft and having a clutch member to engage the fixed clutch member, a right-angle trammel having its horizontal way slidably mounted on the shaft, and its vertical way connected to a sliding bearing-block, on the end of the radial arm, a reciprocable carriage connected to the trammel, the filler-forming mechanism actuated by the carriage, and means to move the clutch into and out of engagement.

9. In a cigar-bunching machine, a reciprocable right-angled trammel, a carriage connected to the trammel, a bunching-apron, a pocket-forming yoke actuated by the carriage, a slidable frame having a tobacco-receptacle, and operatively connected to the carriage and intermittingly actuated thereby, a chute into which the sliding frame discharges, a closure in the chute opened by the sliding frame, forming-rollers in the carriage to close the pocket in the apron and form the product, and a friction and presser roller in the carriage across the apron in advance of the forming-rollers.

805,178. **MACHINE FOR TREATING PINEAPPLES.** George W. Zastrow, Baltimore, Md. Filed June 5, 1905. Serial No. 263,747.



Claim.—1. In a machine of the character described the combination of a bed; a rotary head; a tube movable in a direction toward or away from said head and in line with the axis of said head; a movable abutment interposed between the head and tube, and means whereby the abutment may be moved to permit the tube to be moved beyond it toward the head.

2. In a machine of the character described the combination of a bed; a rotary head sustained by said bed; a carrier also sustained by said bed; a tube movable with the carrier in a direction toward and away frow said head; a bar pivotally sustained in the path of said tube and interposed between the tube and said rotary head, and means whereby the tube may be moved toward the pivoted bar.

3. In a machine of the character described the combination of a bed; a rotary head sustained by said bed; a carrier also sustained by said bed; a tube movable with the carrier in a direction toward said head; a bar pivoted so as to swing across said bed in the path of said tube and between said tube and rotary head; a latch for holding the bar in front of the tube, and means for automatically moving said bar when the latch is released.

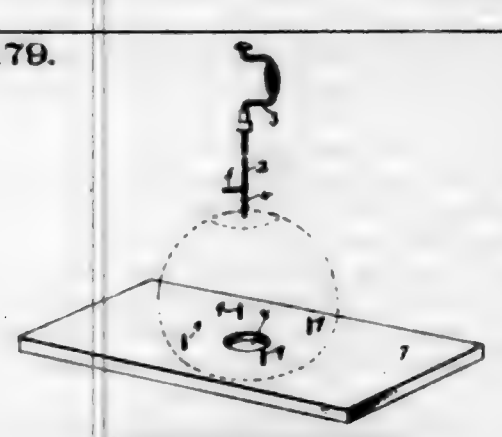
4. In a machine of the character described the combination of a bed; a rotary head sustained by said bed; a tube movable lengthwise in a direction toward said head; a bar mounted between said head and tube; a centering device carried by said bar and arranged to be alined with said tube; means for moving the bar out of the path of the tube whereby to permit the tube to pass toward the head.

5. In a machine of the character described the combination of a bed; a rotary head; a tube movable in a direction toward said head; arms projecting from said bed; a bar pivoted to one of said arms and arranged to swing across said bed between said head and tube; a stop projecting from the other arm and between the bar and head; a latch for holding the bar in a position in the path of the tube, and means for automatically swinging the bar out of the path of the tube when the latch is withdrawn.

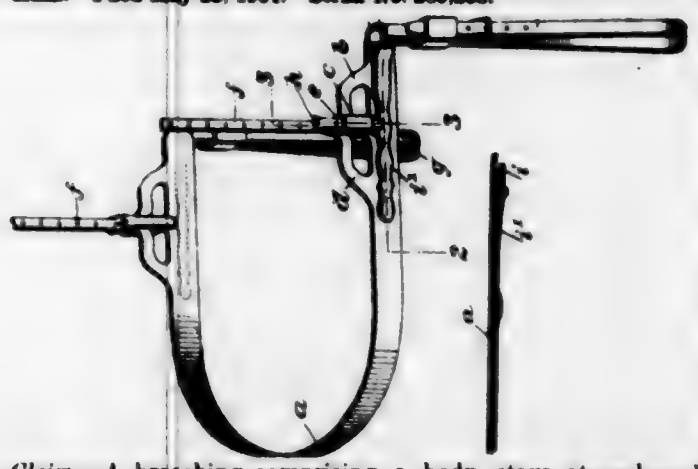
805,179. **CABBAGE-CORE SLICER.** Richard Zastrow, New Haven, Conn. Filed Apr. 10, 1905. Serial No. 254,760.

Claim.—A cabbage-core slicer comprising a shank bifurcated at its lower end, one portion of the end twisted and forming a worm-screw, the other portion bent outwardly at a substantial right angle to the screw and formed with a cutting edge, substantially as described.

805,179.

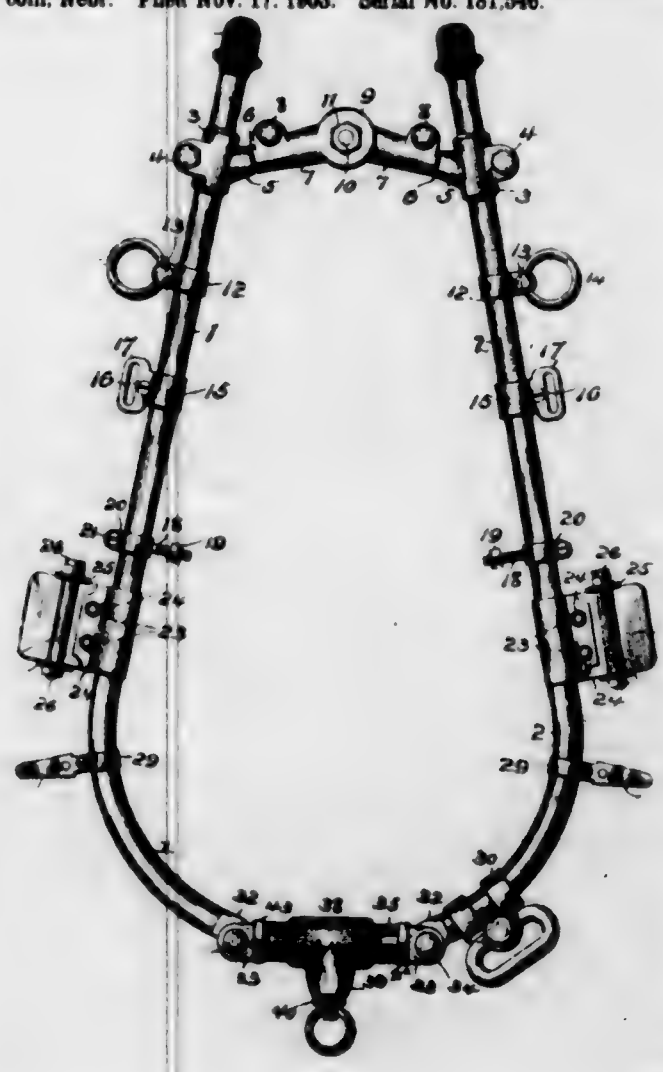


805,180. BREECHING. CHARLES A. ACKENHAUSEN, Leavenworth, Kans. Filed May 23, 1904. Serial No. 209,263.



Claim.—A breeching comprising a body, stays at each end thereof, the stays being each composed of three sections passing from the body of the breeching at different points and running into each other at their upper ends, said breeching body and stays being formed of an integral piece of leather cut into the specified form, hip-straps, means for connecting the hip-straps with the stays, holdback-straps, and means for connecting the holdback-straps respectively to the ends of the breeching, said means for connecting the holdback-straps comprising rings with which the straps are engaged, and layers of leather engaged with the rings and stitched to the breeching-body.

805,181. HAME. CLARENCE A. ADAMS and HORACE CLEMENT, Lincoln, Nebr. Filed Nov. 17, 1903. Serial No. 181,546.

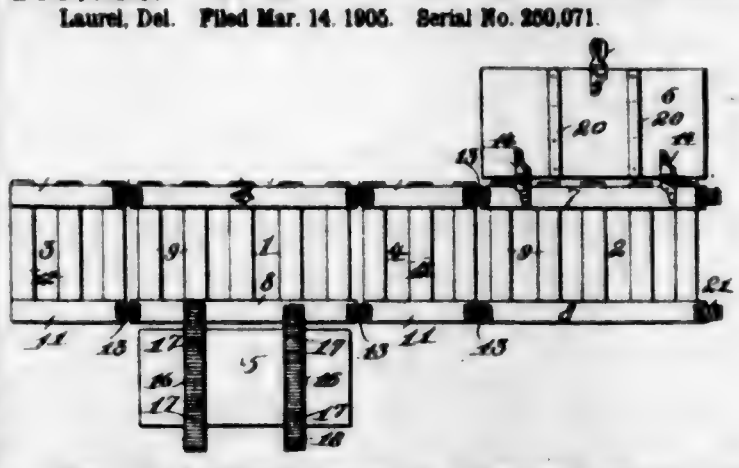


Claim.—1. A hame, comprising two curved tubular members, sleeves adjustably clamped on said members near one end and made with integral inclined hollow lugs, rods or bars secured in said lugs, sleeves clamped on said rods or bars, disk-like extensions on said last-mentioned sleeves located side by side, a screw and nut hinging said disk-like extensions together, and locking means at the other end of said hame.

2. The combination with hame members, of a hinge, each member of said hinge comprising longitudinally-adjustable sections, means for securing said sections together when adjusted, and sleeves clamped to the hame members and having sockets to receive the outer sections of the hinge members.

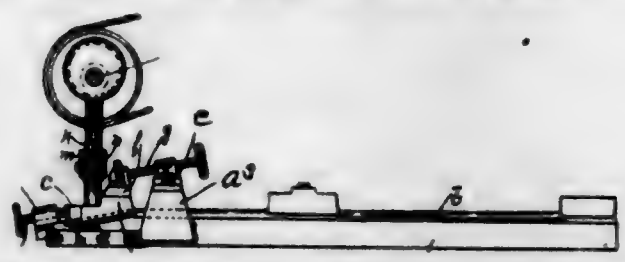
3. The combination with hame members and sleeves clamped thereto and having sockets, of a hinge, provided with a clamp on each member thereof, and rods constituting extensions of the hinge members and mounted in the sockets of said sleeves and adjustably secured in said clamps.

805,182. KNOCKDOWN FRUIT-CRATE. LEVIN R. BACON, Laurel, Del. Filed Mar. 14, 1905. Serial No. 250,071.



Claim.—In a knockdown crate, the combination with side and end sections of different lengths, respectively, arranged end to end in spaced alternate relation and connected one with the other by means of flexible metallic strips, means carried at the outer end of one of said sections whereby when the said sections are folded in crate form said section may be secured to an abutting section, a bottom adapted to be inserted within the side and end sections, flexible metallic straps connected at one end to the bottom of one of said side sections extending across and projecting beyond the outer side of, and being secured to said bottom, the projecting portions of said straps being adapted to be secured to the bottom of the other side section, and a lid hinged to the top of said other side section.

805,183. TENON-FORMING MACHINE. SAMUEL R. BAILEY, Amesbury, Mass. Filed Dec. 8, 1904. Serial No. 235,997.



Claim.—1. A tenon-forming machine, comprising a movable carriage, a gage-bar rigidly supported thereon, and having a work-engaging face on its under side, a vertically-movable work clamping and supporting device having a work-engaging face extending beneath and in front of said bar, and a series of tenon-cutting chisels vertically movable above and toward said clamping and supporting device adjacent said bar, substantially as described.

2. A tenon-forming machine, comprising a bed, a work-supporting carriage reciprocally mounted thereon, a gage-bar rigidly connected to said carriage and having a work-engaging face on its under side, above the work-supporting portion of the carriage, a clamping-wedge slidably mounted on said carriage beneath and in front of said bar, and having a work clamping and supporting face parallel to the face of said bar, means for forcing the clamping portion of said wedge beneath said bar to clamp the work therebetween, and to provide a rigid support for the work in front of said bar, and a series of tenon-cutting chisels vertically movable above and toward the supporting portion of said wedge, substantially as described.

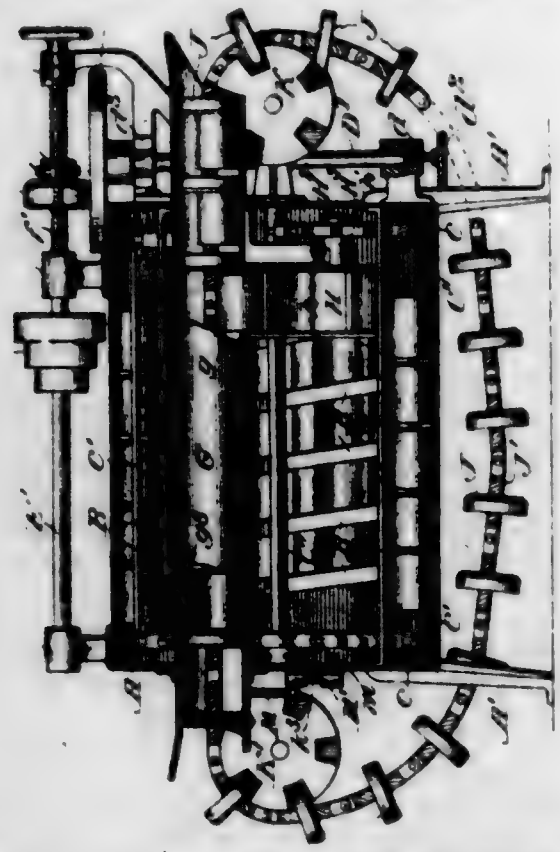
3. A tenon-forming machine, comprising a gang of chisels movable through a predetermined vertical distance, a bed, having a

series of parallel ways obliquely disposed to the horizontal, a carriage reciprocally mounted on said ways and having a horizontal work-supporting face, means for clamping the work on said face and means for moving the carriage beneath said chisels and for limiting its movement in one direction, substantially as described.

4. In combination with a tenon-forming machine, a head comprising two clamping members one of said members having two longitudinal ribs, one above the other, and the lower rib having transverse slots, a series of chisels having their shanks arranged in said slots, the other clamping member having a longitudinal rib which engages the upper rib of the first-named member at one side, and the other side of which engages the ends of the chisel-shanks, and means for securing said members together and for holding said chisels in said position in said slots, substantially as described.

5. In combination with a tenon-forming machine, a head comprising two clamping members, one of said members having two longitudinal ribs one above the other, and the lower rib having transverse slots, a series of chisels having their shanks arranged in said slots, said shanks being of greater width than the depth thereof, the other clamping member having a longitudinal rib engaging the upper rib of the first-named member at one side and serving as an abutment for the ends of the chisel-shanks, and means for clamping said members against the opposite edges of said shanks, substantially as described.

805,184. CANNING APPARATUS. JOHN S. BAKER, Jr., Muscatine, Iowa. Filed May 20, 1905. Serial No. 261,413.



Claim.—1. In a can-cooking machine, the combination of a tank or heating-chamber and a tube communicating therewith; with an endless series of conveyers entering said tube and adapted to feed cans thereinto.

2. In a can-cooking machine, the combination of a tank or heating-chamber and a tube communicating therewith; with an endless series of conveyers extending into said tube and adapted to deliver cans therefrom.

3. In a can-cooking machine, the combination of a tank or heating-chamber, and a tube communicating therewith; with an endless series of conveyers passing through said tube and adapted to feed cans thereinto at one point and to remove cans therefrom at another point.

4. In a can-cooking machine, the combination of a tank, a canway therein and means for moving cans along said way; with an endless series of conveyers entering the tank and adapted to feed cans to said canway.

5. In a can-cooking machine, the combination of a tank, a canway therein and means for moving cans along said way; with an endless series of conveyers entering the tank and adapted to receive cans from said canway and remove them from the tank.

6. In a can-cooking machine, the combination with a tank or heating-chamber, a canway therein, and means for moving cans along said way; with an endless series of conveyers passing through said tank and adapted to feed cans to the canway at one point and to receive cans from the canway at another point and deliver them from the machine.

7. In a can-cooking machine, the combination of a tank, a canway therein, a tube entering the tank, and an endless series of conveyers traversing said tube adapted to move cans thereinto and discharge them into the tank.

8. In a can-cooking machine, the combination of a tank, the canway, a tube entering the tank and having an opening through which the cans are discharged into the canway, and an endless series of conveyers traversing said tube adapted to move cans thereinto.

9. In a can-cooking machine, the combination of a tank, a canway therein, a tube entering the tank, and an endless series of conveyers traversing said tube adapted to move cans thereinto and discharge them into the tank; with means for moving the cans along said canway, and a feed-wheel below the tube adapted to receive cans from the tube and deliver them into the canway.

10. In a can-cooking machine, the combination of a tank, the canway, a tube entering the tank, and having an opening through which the cans are discharged into the canway, and an endless series of conveyers traversing said tube adapted to move cans thereinto; with means for moving the cans along said canway, and a feed-wheel below the opening in the tube adapted to receive cans from the tube and deliver them into the canway.

11. In a can-cooking apparatus, the combination of a tank, a canway therein, a tube entering said tank, means for directing cans from the canway into said tube, and an endless series of conveyers traversing said tube and adapted to remove the cans therefrom.

12. The combination of a tank, a canway therein, a tube extending into the tank adjacent to the canway, and into which the cans are discharged from the canway, means for moving the cans along the canway, an endless series of conveyers moving through said tube and adapted to discharge the cans therefrom, and a retarding device adjacent to the tube to prevent premature dropping of the cans thereinto.

13. The combination of a tank, a canway therein, a tube extending through the tank adjacent to the canway, and provided with an opening through which the cans are discharged from the canway into the tube, means for moving the cans along the canway, an endless series of conveyers moving through said tube and adapted to discharge the cans therefrom, and a retarding device adjacent to the opening of the tube to prevent premature dropping of the cans thereinto.

14. The combination of a tank, a canway therein, means for moving cans along the canway, a tube passing between the runs of the canway, and provided with openings respectively adapted to discharge cans from the tube into the canway and to receive cans from the canway into the tube, and means for moving cans into and out of the said tube.

15. In a can-cooking apparatus, the combination of a spiral canway, means for moving cans along the said way, a tube passing through the canway, and provided with openings through one of which cans may be fed into the canway, and through the other of which cans are received from the canway, and means for moving cans into and out of said tube.

16. In combination, a tank, a canway therein, means for moving cans along said way, a tube extending through the tank, and provided with an opening through which cans are discharged into the tank, another opening in said tube through which cans are received into the tube from the canway, and means adapted to move the cans into and from the tube.

17. In combination, a tank, a canway therein, means for moving cans along said way, a tube extending through the tank and canway, and provided with an opening through which cans are discharged into the tank, another opening in said tube through which cans are received into the tube from the canway, an endless series of conveyers traveling through said tube, adapted to move cans into the tube to feed same to the canway, and then to remove the cans delivered into the tube from the canway.

18. In a can-cooking apparatus, the combination of a tank, a canway therein, a tube extending through the tank, and provided with openings, a feed-wheel within the tank adapted to receive cans at one opening and deliver them to the canway, and the other opening in said tube communicating with the last run of the canway through which cooked cans are delivered into said tube, and means to first feed cans to the feed-opening in said tube, and remove the cooked cans from the tube.

19. In a can-cooking apparatus, the combination of a closed tank, a canway therein, a tube extending through the tank and can-

way, and provided with openings, a feed-wheel within the tank adapted to receive cans at one opening and deliver them into the first run of the canway, the second opening in said tube communicating with the last run of the canway through which cooked cans are delivered into said tube, and an endless series of conveyers traversing said tube and adapted to first move cans to the opening above the feed-wheel, and then to remove the cooked cans from the tube.

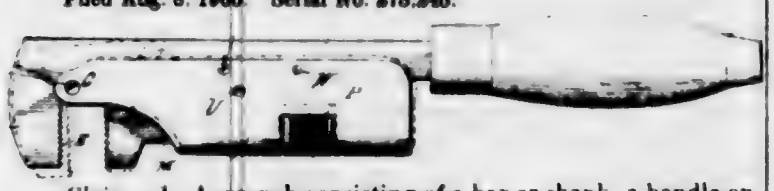
20. In combination, a tank, a canway therein, means for moving cans on said canway, a tube extending into said tank adjacent to the canway, provided with an opening, a flap for closing said opening, and a feed-wheel in the tank adjacent to said opening in the tube, adapted to receive cans from the tube and deliver them into the lower run of the canway, substantially as described.

21. In combination, a tank, a spiral canway therein, means for moving cans around said canway, a tube extending through said tank adjacent to the canway, and provided with an opening, a door for closing said opening, a feed-wheel in the tank adjacent to the opening in the tube adapted to receive cans and deliver them into the lower run of the canway, and means for operating said wheel from the can-pushing means.

22. In combination, a tank, a canway therein, means for moving cans on said canway, a tube extending into said tank adjacent to the canway, and provided with an opening, a flap for closing said opening, and a feed-wheel in the tank adjacent to said opening in the tube adapted to receive cans from the tube and deliver them into the lower run of the canway; means for directing cans from the last run of the canway into said tube, and an endless series of conveyers traversing said tube and adapted to alternately move cans to the feed-opening and to remove the cooked cans, substantially as described.

23. In combination, a tank, a spiral canway therein, means for moving cans around said canway, a tube extending through said tank adjacent to the canway, provided with an opening, a door for closing said opening, a feed-wheel in the tank adjacent to the opening in the tube adapted to receive cans and deliver them into the lower run of the canway, and means for operating said wheel from the can-pushing means; means for directing cans from the last run of the canway into said tube, and an endless series of conveyers traversing said tube and adapted to alternately move cans to the feed-opening and to remove the cooked cans, substantially as described.

805,185. **MONKEY-WRENCH.** GEORGE H. BELL, Passaic, N. J. Filed Aug. 8, 1905. Serial No. 273,343.



Claim.—1. A wrench consisting of a bar or shank, a handle on said shank, a jaw pivoted to said shank, a casing pivoted to said jaw and adjustably connected to said shank, a jaw secured in said casing, and means for opening and closing said last-mentioned jaw.

2. A monkey-wrench consisting of a bar or shank provided with a handle, a jaw pivoted to said shank, a casing pivoted to said jaw and secured to the shank, a jaw carried in said casing and means for opening and closing said jaw, said jaws adapted to grasp the object more tightly as pressure is applied to the handle.

3. A wrench consisting of a shank provided with a handle and having a head forming a jaw pivoted thereto, a casing pivoted to said jaw and carrying a complementary jaw, said jaws adapted to be compressed upon an article upon the application of pressure to the handle.

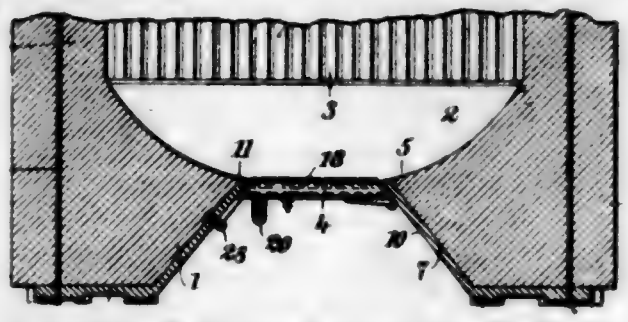
4. A wrench having a shank and a pivoted outer-jaw member, a casing connected with said jaw, a jaw and means for operating the same carried by said casing, said jaws adapted to be compressed upon an article when pressure is applied to the shank, and means for expanding said jaws when pressure is removed.

5. A wrench consisting of a shank provided with a handle, an outer jaw pivoted to said shank, a lever connected to the outer jaw, a casing pivotally secured to the jaw and adjustably secured to the shank, a jaw carried in said casing, a nut for operating said last-mentioned jaw, a lever connected to the outer jaw and formed with a recess to receive said nut, and means for normally holding the jaws in expanded position.

805,186. **FURNACE-FRONT.** JOHN BISHOP, Bartow, Fla. Filed Jan. 31, 1905. Serial No. 243,469.

Claim.—1. A water-jacketed fire-door having a hollow handle in communication with the water-space within said fire-door.

2. A fire-door for a furnace presenting a water-chamber, a hollow handle in communication with said chamber and presenting an opening adapted to receive water to replenish the supply within said chamber, and means for allowing water to drip through said opening.



3. A fire-door for a furnace having a water-chamber, a substantially vertical tubular handle attached to the outer face of said door, and presenting an opening, tubular thimbles connecting said handle with the water-chamber of said door, and means for supplying water to said opening.

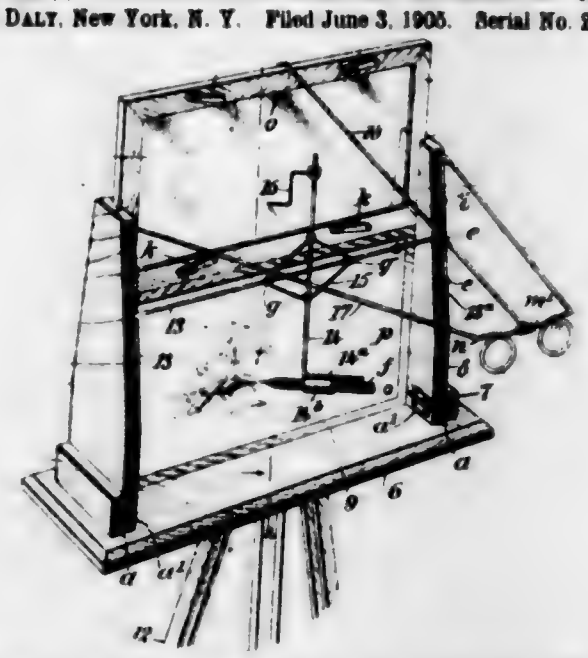
4. A furnace-front having a lintel supporting the brickwork thereabove, said lintel presenting a lower face exposed to the atmosphere, and a fire-door at the inner edge of said lintel, and protecting the same from the fire-heat.

5. A furnace-front having a wall with an opening therethrough, a lintel supporting said wall above said opening, and a door substantially flush with the inner edge of said lintel and protecting the same from the fire-heat.

6. A furnace-front having a wall with an opening thereth.ough, a lintel supporting the said wall above said opening, said wall projecting over the inner edge of said lintel to screen the same, and a fire-door substantially flush with the inner edge of said lintel, said fire door affording means for screening the under side of said lintel from the fire-heat.

7. A furnace-front having a wall built of blocks such as bricks, laid in the form of a curve disposed in a substantially horizontal plane and widening toward the side walls of the furnace.

805,187. **PANTOGRAPHIC DRAWING APPARATUS.** CHARLES M. DALY, New York, N. Y. Filed June 3, 1905. Serial No. 263,599.



Claim.—1. In drawing apparatus, the combination of a main frame, of a block upon one end of the frame, a longitudinal grooved standard hinged to the block, a second longitudinal grooved standard hinged to the frame, a drawing-board supported in the grooves of the standards, an image-receiver plate in the grooves of the standard above the drawing-board, and a pantographic device carried on the standards for drawing a view seen through the receiver-plate upon a medium mounted upon the drawing-board.

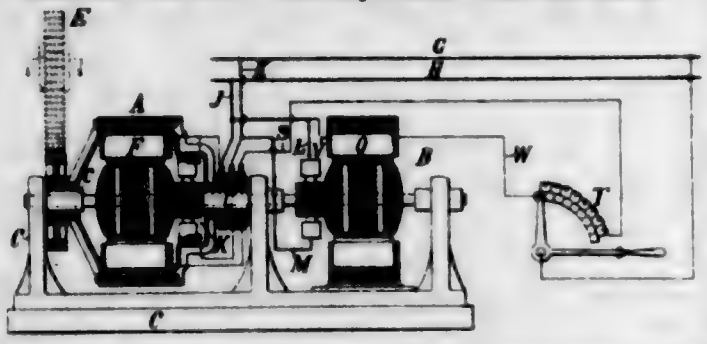
2. In drawing apparatus, the combination of a main frame, spaced standards hinged thereto, a transparent medium supported by the standards, a drawing-board below the transparent medium, a rod connecting the standards, a frame having eyes for engaging the rod, a second rod supported for vertical movement by the frame, and provided with a tracing-arm and a pencil-support.

3. In a drawing apparatus, the combination with a main frame having a base-board, standards hinged at either end to the base-board, a drawing-board supported by the standards, a transparent medium supported by the standards above the drawing-board, a

pantograph comprising a marking device detachably mounted on the standards, a spectacle-frame supported upon the frame and projecting forward therefrom, and a detachable brace for the spectacle-frame.

4. In a drawing apparatus of the character described, the combination with a main frame, a drawing-board, and a framed image-receiving plate supported on the frame above the drawing-board, of a spectacle-frame having sight-rings and arms supported in front of the image-receiving plate, and a brace-rod hinged on the spectacle-frame between the sight-rings and having a hook on the opposite end that engages the frame of the image-receiving plate.

805,188. APPARATUS FOR CONTROLLING ELECTRIC MOTORS. HARRY B. DEY, Brooklyn, N. Y., assignor to Ernest R. Redmond, New York, N. Y. Filed May 5, 1899. Serial No. 715,756.



Claim.—1. The combination with a dynamo-electric machine of the shunt type having both its members rotatable, of driven mechanism connected to one member of said machine, a second dynamo-electric machine, connected to the other member, said second machine being also of the shunt type and connected to the same constant-potential circuit with the first machine but in multiple therewith and a regulating resistance in the field-magnet circuit of said second machine.

2. The combination with an electric motor having both of its members rotatable, of driven mechanism connected to one member and a generator connected to the other member and provided with a field-magnet coil in the armature-circuit of the motor.

3. The combination with an electric motor having both of its members rotatable, of driven mechanism connected to one member and a compound generator connected to the other member with one field-magnet coil in shunt and another magnet-coil in series with the motor-armature, the said coils supplementing each other.

4. The combination with an electric motor having both its members rotatable and provided with two field-magnet coils opposing each other, one in shunt and the other in series with its armature, of driven mechanism connected to one motor element and a generator connected to the other.

5. The combination with a motor having both of its members rotatable, of driven mechanism connected to one member, a generator connected to the other member, both machines being of the shunt type and adjustable resistance in the field-magnet circuit of both machines controllable to simultaneously increase the current in one field-magnet and decrease that in the other.

6. The combination with a car-axle of a motor having both of its members rotatable and adapted to receive both direct and alternating current, of line connections supplying the said motor with alternating currents and a generator driven by a car-axle and supplying the said motor with direct current.

7. The combination with a dynamo-electric machine of the shunt type having both its members rotatable, of driven mechanism connected to one member, a second dynamo-electric machine connected to the other member, the said second machine being also of the shunt type and connected to the same constant-potential circuit as the first machine, and an adjustable resistance in the field-magnet circuit of each machine respectively.

8. The combination of mechanism to be driven of two dynamo-electric machines of the shunt type connected in multiple to the same constant-potential supply-circuit, one machine having both its members rotatable, one member being connected to the load and the other being connected to a member of the other machine and a regulating resistance in the field-magnet circuit of one or both machines.

9. The combination with a driven mechanism of an electric motor on a constant-potential supply-circuit having both its members rotatable, a dynamo of the shunt type driven by the said motor, and also feeding the motor, and a speed-regulator for the said mechanism comprising an adjustable rheostat in the field-magnet circuit of the generator aforesaid.

10. The combination with a driven mechanism of an electric motor on a constant-potential supply-circuit having both its members rotatable, a generator of the shunt type, driven by the said motor and also feeding the motor, and a speed-regulator for the said mechanism comprising an adjustable resistance in the field-magnet circuit of the dynamo aforesaid.

11. The combination with an electric motor of the synchronous alternating-current type, of a direct-current generator driven thereby, mechanism also driven thereby and a speed-regulator for the said mechanism comprising an adjustable resistance in the circuit of the said generator.

12. The combination with an electric motor of the synchronous alternating-current type, of a direct-current generator of the shunt type driven thereby, mechanism also driven thereby and a speed-regulator for the mechanism comprising an adjustable resistance in the shunt field-magnet circuit of the said generator.

13. The combination with an electric motor having its armature-winding connected to a direct-current commutator and also connected to alternating-current contact-rings, of a direct-current generator driven thereby and supplying current to the motor aforesaid through its direct-current commutator, mechanism driven by the said motor and a speed-regulator for the mechanism comprising an adjustable resistance in the circuit of the said generator.

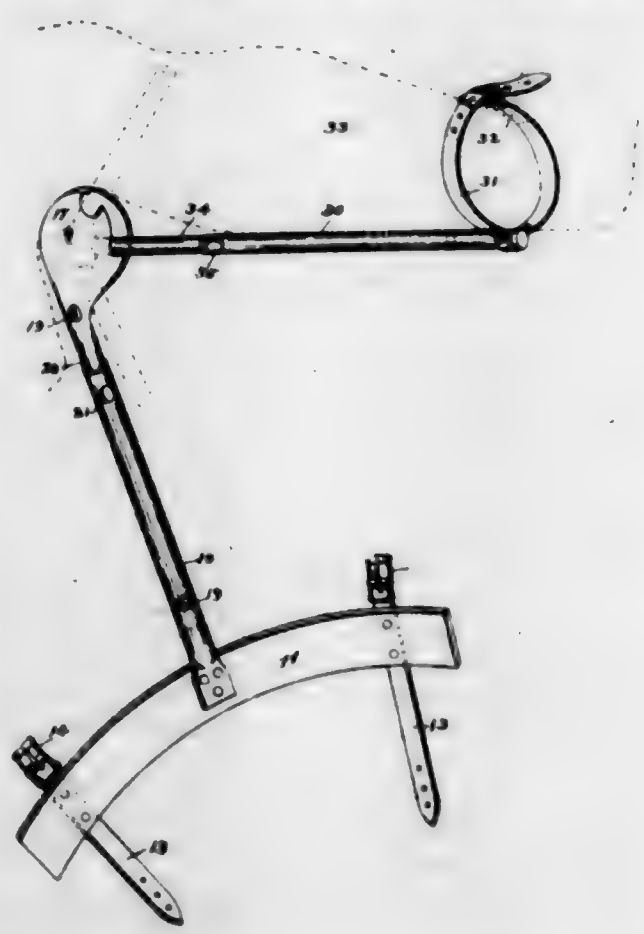
14. The combination with an alternating-current motor having both of its members rotatable and operating synchronously with respect to each other but at a variable speed with respect to external objects, of a driven mechanism and an electric generator, both operated by the said motor, and a speed-regulator for the mechanism comprising means for regulating the output of the said generator.

15. The combination with a driven mechanism of an alternating-current motor supplied with current from a line and operating the said mechanism, a generator also operated by said motor and connections for returning the energy developed by said generator to the said motor.

16. The combination with two shafts mechanically connected of a line-supplied motor driving one shaft and a generator intervening between the said motor and the other shaft and supplying energy to the motor.

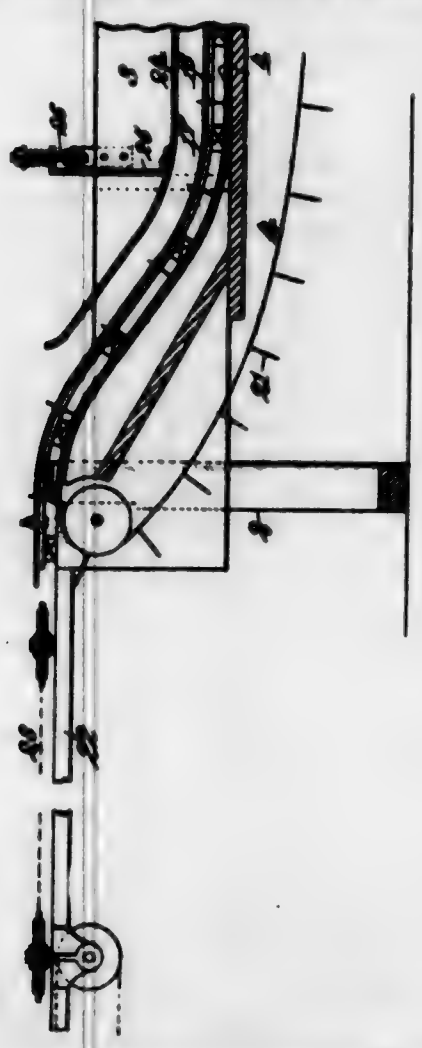
17. The combination with two driven shafts mechanically connected of a dynamo-electric machine having one of its members mechanically connected to one of said shafts and its other member rotatable and a second dynamo-electric machine having one of its members connected to the rotary member of the first machine and its other member to the second shaft.

805,189. FIREARM-SUPPORT. LOUIS J. DUBERT and WILLIAM E. DUBERT, Chicago, Ill. Filed Dec. 28, 1904. Serial No. 238,693.



Claim.—In an arm-rest, the combination with a waist-piece having means to secure it on the waist of the wearer, of an upright main support consisting of a tubular piece secured at its lower end to the waist-piece and members secured together and adjustably fastened to the tubular piece, one of said members having a concaved recess and curved grooves on its inner surface leading from said recess to its front edge and a downwardly-flared opening, the other member having a concaved recess and a downwardly-flared opening as well as a cut-away portion on its inner surface, an arm-supporting rod consisting of a tube and a rod adjustably secured together the said rod having on its inner end a spherical enlargement to fit and operate in the concaved recesses of the socketed members, and a strap on the outer end of the arm-supporting tube provided with means to fasten it around the arm of the user, substantially as described.

805,190. CAN-FILLING MACHINE. GEORGE H. DUNBAR, New Orleans, La. Filed Apr. 21, 1905. Serial No. 256,733.



Claim.—1. The combination of a tank, a table extending from and stationary relatively to the tank, a rotative table overlapping the stationary table between its ends, a conveyer to travel longitudinally of the first-mentioned table and adapted to move cans from the rotary table onto the first-mentioned table and to convey them along the latter to the tank, and conveying means extending through the tank for taking the cans from the said conveyer and moving them positively through the tank.

2. The combination of a tank having downward and upward inclinations, and an intermediate horizontal portion, a stationary table extending from one end of the tank, a rotative table overlapping the stationary table between the ends thereof, a conveyer to travel longitudinally of the stationary table and across the rotative table for moving cans from the rotative table and along the stationary table, and conveying means extending through the tank from the stationary table, adapted to receive cans from the conveyer and to positively move them through the tank.

3. The combination of a tank, a conveyer adapted to travel through said tank to move cans positively therethrough, a stationary table extending from the tank, a rotative table overlapping the stationary table between its ends, a conveyer to move cans from the rotative table and along the stationary table to the first-mentioned conveyer, the latter having a shaft and operative connections between the shafts and the second conveyer and table for driving said second conveyer and table.

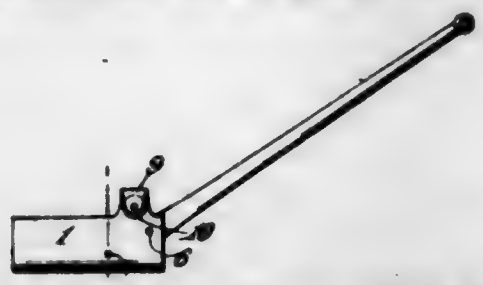
4. The combination of a tank, a stationary table extending from one end of the tank, a rotative table overlying the stationary table between the ends of the latter, a conveyer extending longitudinally of the stationary table and across the rotary table for moving cans from the rotative table onto and along the stationary table, means for positively moving the cans from the stationary table entirely through said tank, a second stationary table extending from and onto which the cans are delivered from said tank, and a conveyer for positively moving the cans along the second stationary table.

5. The combination of a tank, a stationary table extending from one end of said tank, a rotative table to overlap the stationary table, a conveyer extending longitudinally of the stationary table and across the rotative table and serving to move cans from the rotative table onto and along the stationary table, a conveyer for moving the cans from the stationary table through the tank, parallel rails in the tank for supporting the cans, and side rails extending through the tank and between which the cans travel.

6. The combination of a tank, a stationary table extending from one end of said tank, a rotative table to overlap the stationary table, a conveyer extending longitudinally of the stationary table and across the rotative table and serving to move cans from the rotative table onto and along the stationary table, a conveyer for moving the cans from the stationary table through the tank, parallel rails in the tank for supporting the cans, side rails extending through the tank and between which the cans travel, and yieldably-mounted presser devices for engaging tops of the cans

7. The combination of a tank, a stationary table extending from one end of said tank, a rotative table to overlap the stationary table, a conveyer extending longitudinally of the stationary table and across the rotative table and serving to move cans from the rotative table onto and along the stationary table, a conveyer for moving the cans from the stationary table through the tank, parallel rails in the tank for supporting the cans, side rails extending through the tank and between which the cans travel, yieldably-mounted presser devices for engaging tops of the cans, a second stationary table extending from the opposite end of said tank, and a conveyer to traverse the second table and to move cans from the tank along said second table.

805,191. TRIMMING AND WEEDING IMPLEMENT. WILLIAM C. FLUGAN, Lisbon, Ohio. Filed Aug. 22, 1905. Serial No. 275,226.



Claim.—1. In an implement of the class set forth, the combination of a head having sides of equal vertical extent which are perpendicularly straight and longitudinally flared toward the front extremity of the implement, the said sides merging regularly into a rounded bottom, the front edges of the sides and bottom being sharpened, and a handle having a lower enlarged extremity fitted in the rear portion of the head and disposed at a rearward and upward angle of inclination, the upper surface of the lower enlarged extremity of the handle being flat.

2. In an implement of the class set forth, the combination of a head having perpendicularly-straight sides of equal extent merging into a rounded bottom to avoid the formation of angles at the intersection of the sides and bottom, the front edges of the sides and bottom being sharpened, and a handle secured in the rear extremity of the head and having an upward angle of inclination with respect to the latter.

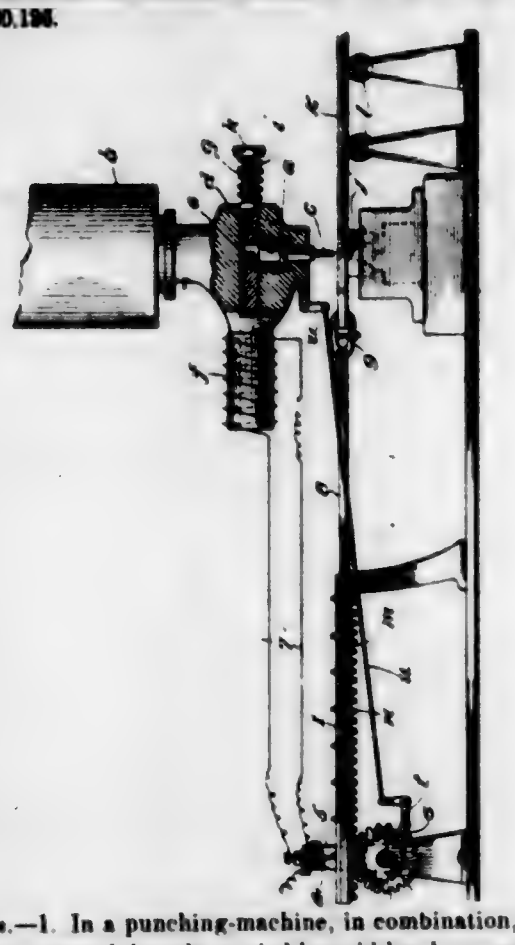
3. An implement of the class set forth, having a head with perpendicularly-straight sides of equal vertical extent merging into a rounded bottom, the sides longitudinally flaring toward the front edge of the head and the front terminals of the sides and bottom sharpened, and a handle secured to the rear extremity of the head and serving as a closing means for said extremity.

4. An implement of the class set forth, having vertical sides merging into a rounded bottom, one of the sides having an outwardly-bent bearing extension integrally formed therewith, an antifrictional roller held in the said bearing extension, and a handle secured to the rear portion of the head.

5. An implement of the class set forth, having vertical sides, one of the sides having an outwardly-bent bearing extension integrally formed therewith, an antifrictional roller held by the bearing extension, the downward maximum projection of the roller being in

line with the upper edge of the side against which it is positioned, and a handle secured to the rear portion of the head.

805,192. AUTOMATIC PUNCHING-MACHINE. CHARLES J. GAGG and DAVID J. JENKINS, Steelton, Pa. Filed Mar. 26, 1904. Serial No. 200,196.



Claim.—1. In a punching-machine, in combination, a reciprocating head, a punch loosely carried by said head, a gag carried by said head by means of which said punch may be operatively connected or disconnected with said head, electrically-operated means for operating said gag, a table, means operated by the movements of said head for intermittently driving said table, a connection between said table and the metal to be punched, a tape or templet having alternately-spaced electrically-energized and inert points carried by said table, and an electric contact-point, connected with the electrically-operated gag mechanism, adapted to be alternately energized and deënergized by contact with the points upon said tape or templet.

2. In a punching-machine, in combination, a reciprocating head, a punch loosely carried by said head, a gag carried by said head by means of which said punch may be operatively connected or disconnected with said head, a solenoid for operating said gag in one direction, a spring for operating said gag in the other direction, a rack, a pinion for driving said rack, means operated by the movements of said head for intermittently driving said pinion and rack, a connection between said rack and the metal to be punched, a tape or templet having alternately-spaced electrically-energized and inert points carried by said rack, and an electrical contact-point, connected with said solenoid, adapted to be alternately energized and deënergized by contact with the points upon said tape or templet.

805,193. BODY-BOLSTER. THOMAS M. GALLAGHER, Old Orchard, Mo. Filed Apr. 4, 1905. Serial No. 253,901.

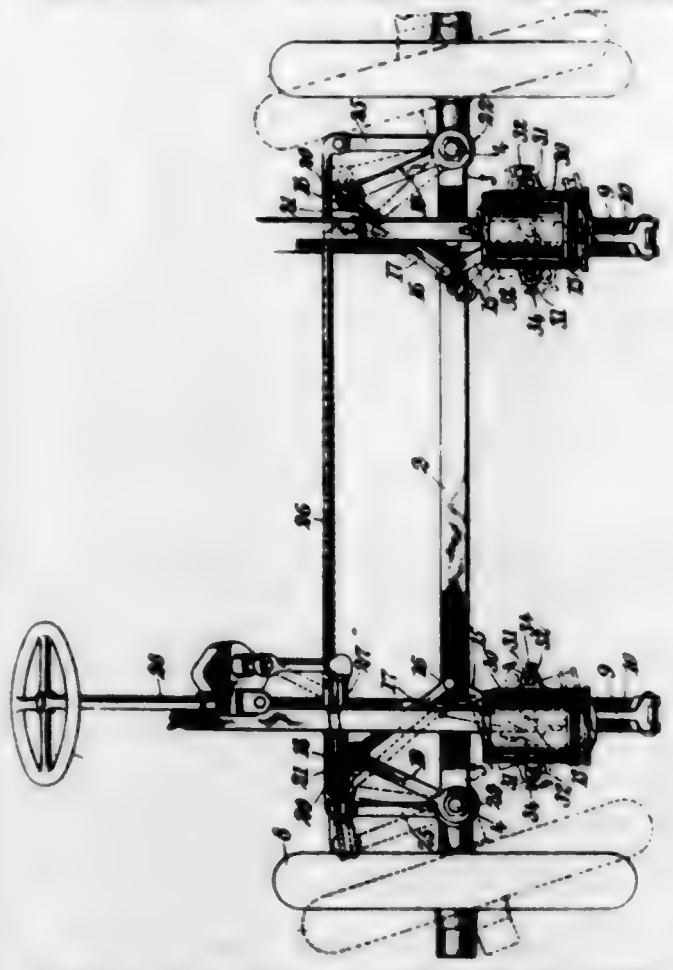
Claim.—1. The improved cast-metal bolster, having in its under side the usual draft-timber and removable compression-plate recesses, the vertical walls of said compression-plate recesses being curved; substantially as specified.

2. The improved cast-metal bolster, having in its under side the usual draft-timber and removable compression-plate recesses, the vertical walls of said compression-plate recesses being curved; and a combined compression-plate and center-bearing having its ends curved and located within the said compression-plate recess; substantially as specified.

3. The improved cast-metal bolster, having in its under side the usual draft-timber and removable compression-plate recesses, the vertical walls of said compression-plate recesses being curved; and a combined compression-plate and center-bearing, having curved ends, which are located within said compression-plate recess at a point exterior of the outer walls of the said draft-timber recesses, said compression-plate itself being recessed upon its upper side to receive the flanged central part of the bolster; substantially as specified.



805,194. LAMP OR HEADLIGHT FOR VEHICLES. EMIL C. GEISSBERGER, New York, N. Y., assignor of one-half to A. T. Demarest & Co., New York, N. Y. Filed July 13, 1905. Serial No. 269,481.



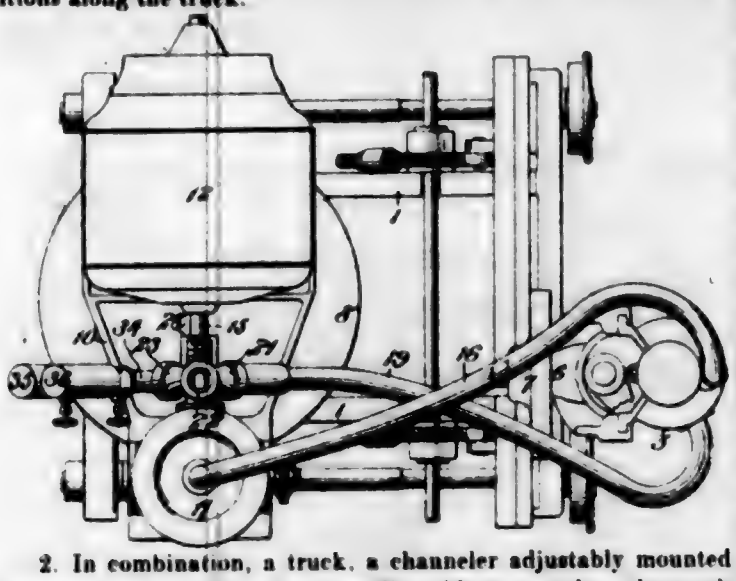
Claim.—1. In an automobile or similar vehicle, embodying a rotatable block and stub-axle for each of the forward propelling-wheels thereof, a crank-arm rotatably mounted upon a suitable part of the vehicle, a lamp or headlight supported thereby, an arm having rigid connection with said rotatable block, and a link movably connecting said arm and said crank-arm.

2. In an automobile or similar vehicle embodying a rotatable block and stub-axle for each of the forward propelling-wheels thereof, a crank-arm rotatably mounted upon a suitable part of the vehicle, a lamp or headlight supported thereby, an arm having rigid connection with said rotatable block, a link movably connected at one end to the end of said crank-arm, and a removable screw-bolt movably connecting the other end of the said link with said arm, said screw-bolt having a butterfly-nut.

805,195. ELECTROPNEUMATIC CHANNELER. ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed Apr. 27, 1905. Serial No. 257,737.

Claim.—1. In combination, a truck, a channeler adjustably

mounted thereon and a presser adjustably mounted on the truck whereby the channeler and presser cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.



2. In combination, a truck, a channeler adjustably mounted thereon and a presser and motor adjustably mounted on the truck whereby the channeler and presser cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

3. In combination, a truck, a channeler adjustably mounted thereon and a presser swiveled on the truck whereby the channeler and presser cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

4. In combination, a truck, a channeler adjustably mounted thereon and a motor and presser swiveled on the truck whereby the channeler and presser cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

5. In combination, a truck, a channeler adjustably mounted thereon and a radially-adjustable presser swiveled on the truck whereby the presser may be adjusted into close proximity to the channeler and kept in such relationship as the channeler is adjusted to different positions along the truck.

6. In combination, a truck, a channeler adjustably mounted thereon, a radially-adjustable motor and presser swiveled on the truck whereby the presser may be adjusted into close proximity to the channeler and kept in such relationship as the channeler is adjusted to different positions along the truck.

7. In combination, a truck, a channeler adjustably mounted thereon, a frame swiveled on the truck and a presser mounted on the frame whereby the channeler and presser may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

8. In combination, a truck, a channeler adjustably mounted thereon, a frame swiveled on the truck and a motor and presser mounted on the frame whereby the channeler and presser may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

9. In combination, a truck, a channeler adjustably mounted thereon, a radially-adjustable frame swiveled on the truck and a presser mounted on the frame whereby the channeler and presser may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

10. In combination, a truck, a channeler adjustably mounted thereon, a radially-adjustable frame swiveled on the truck and a motor and presser mounted on the frame whereby the presser may be adjusted into close proximity to the channeler and retained in such relationship as the channeler is adjusted to different positions along the truck.

11. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding ends of the two cylinders and means for automatically cushioning the channeler-piston comprising a cylinder surmounting the channeler-cylinder, connected ports in the two cylinders and a plunger carried by the channeler-piston, fitted to slide in the cushioning-cylinder and open and close its port as the channeler-piston is reciprocated.

12. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding ends of the two cylinders, means for cutting off the escape of air from one of the pipes for cushioning the downward stroke of the channeler-piston and means for automatically sustaining the pressure of air in the last-named pipe.

13. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding ends of the two cylinders, a receiver pressure-supply, manually-operated means for cutting off the escape of air from one of the pipes for cushioning the downward stroke of the channeler-piston and means for automatically supplying pressure to said pipe from the receiver pressure-supply to sustain the air-cushion for the downward stroke of the channeler-piston.

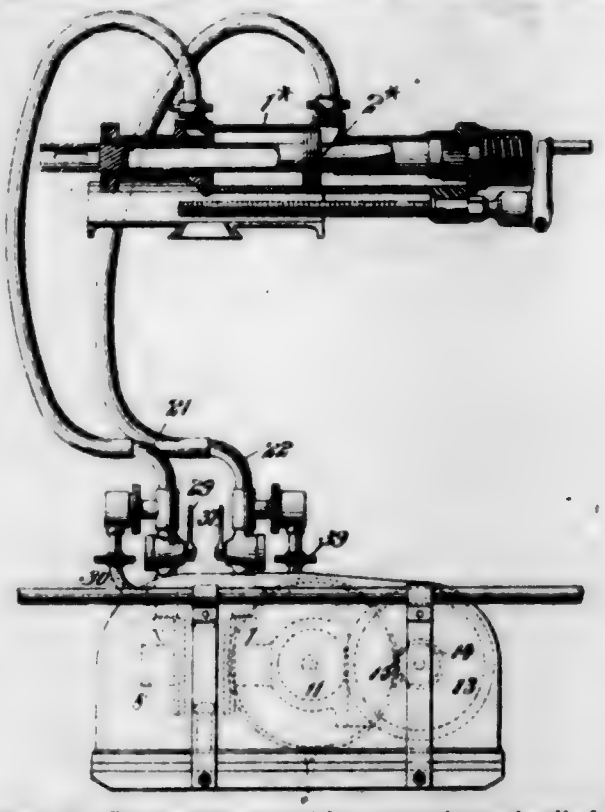
14. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding upper and lower ends of the two cylinders and a valve arranged to cut off the supply of air from the lower end of the presser-cylinder to the lower end of the channeler-cylinder and at the same time to open the lower end of the presser-cylinder to the atmosphere.

15. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding upper and lower ends of the two cylinders, a receiver pressure-pipe leading to the lower pipe, an automatically-operating valve in the receiver pressure-pipe and a valve arranged to cut off the supply of air from the lower end of the presser-cylinder to the lower pipe and to open the lower end of the presser-cylinder to the receiver pressure-pipe.

16. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding upper and lower ends of the two cylinders, a receiver pressure-pipe leading to the lower pipe, an automatically-operating valve in the receiver pressure-pipe, an exhaust to the atmosphere and a three-way valve arranged to open the lower end of the presser-cylinder at pleasure to the exhaust, to the receiver pressure-pipe or to the said lower pipe.

17. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the upper and lower ends of the two cylinders, an induction-valve for the presser-cylinder, a receiver pressure-pipe communicating with the lower pipe, a one-way valve in the receiver pressure-pipe, a manually-operated valve arranged to open communication from the lower end of the presser-cylinder to the said lower pipe or to the receiver pressure-pipe or to the atmosphere and means for holding the valve in its different positions.

805,196. **FLUID-PRESSER.** ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed Apr. 27, 1905. Serial No. 257,738.



Claim.—1. The combination with a percussive tool-cylinder and a piston therefor, of the cylinder of a presser, a piston therefor, pipes connecting the two cylinders upon opposite sides of the pistons and means for permitting the use of the presser as a compressor.

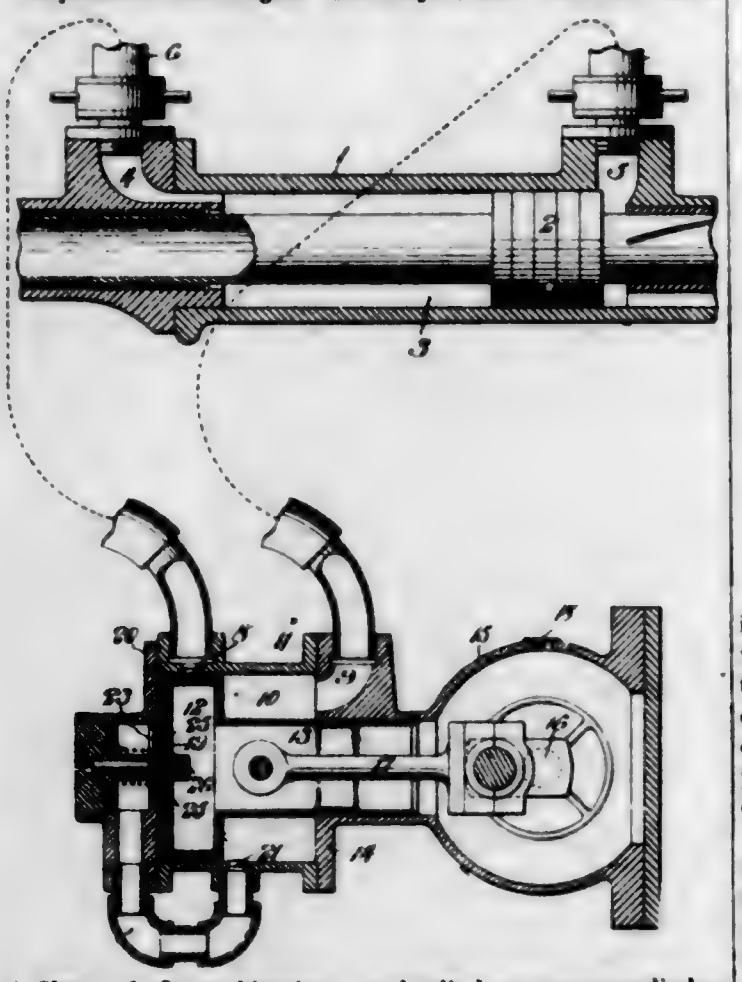
2. The combination with a percussive tool-cylinder and a piston therefor, of the cylinder of a presser, a piston therefor, pipes connecting the two cylinders upon opposite sides of their pistons, manually-operated cocks in the said pipes, branch pipes connecting the first-named pipes upon opposite sides of their cocks and puppet-valves in the branch pipes, whereby the presser-cylinder may be used as a compressor-cylinder when so desired, to raise the pressure in the first-named pipes.

3. The combination with a percussive tool-cylinder and a piston therefor, of the cylinder of a presser, a piston therefor, pipes connecting the two cylinders upon opposite sides of their pistons, manually-operated cocks in said pipes, branch pipes connecting the first-named pipes upon opposite sides of their cocks, puppet-valves in their branch pipes and an induction-valve arranged to be alternately opened to the opposite sides of the presser-piston as the piston is reciprocated.

4. A presser-cylinder, a piston therefor, a pipe leading from the cylinder upon one side of the piston, a manually-operated cock in the pipe, a branch pipe connecting the first-named pipe upon opposite sides of the cock and a puppet-valve in said branch pipe.

5. A presser-cylinder, a piston therefor pipes leading from the cylinder upon opposite sides of the piston, manually-operated cocks in said pipes, branch pipes leading around the manually-operated cocks and puppet-valves in the said branch pipes.

805,197. AIR-PRESSER. ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed May 27, 1905. Serial No. 262,698.



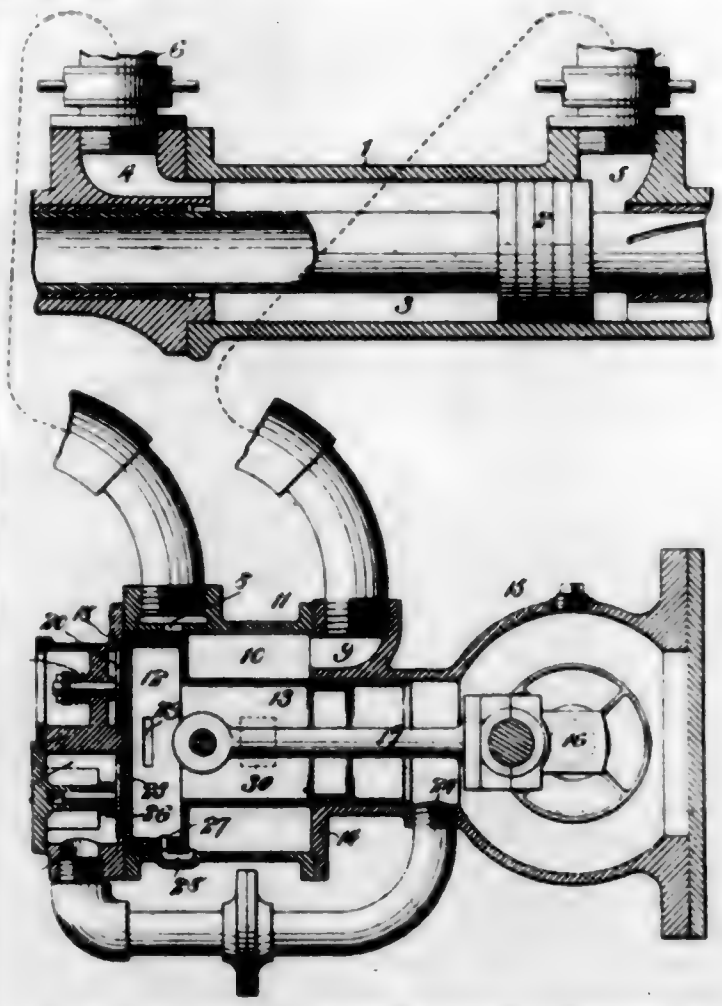
Claim.—1. In combination, a tool-cylinder, a presser-cylinder, their pistons and connecting-tubes, a port located in position to be alternately opened to the opposite sides of the presser-piston, a port in the end of the presser-cylinder, a passage connecting the ports and a one-way valve in the said passage.

2. In combination, a tool-cylinder, a presser-cylinder, their pistons and connecting-tubes, a valve in the presser-piston arranged to admit air from the interior of the presser-piston to the interior of the presser-cylinder chamber, when the piston is moved in one direction, a port located in position to be alternately opened to the opposite sides of the presser-piston, a port in the end of the presser-cylinder, a passage connecting the ports and a one-way valve in the said passage.

3. In combination, a tool-cylinder, a presser-cylinder, their pistons and connecting-tubes, the presser-cylinder port for one of the tubes being located a short distance from the end of the cylinder-chamber, a valve in the presser-piston arranged to permit the passage of air from the atmosphere through the interior of the piston into the chamber when the piston moves in one direction, a passage leading from a point in the chamber intermediate its ends to the end of the chamber and a one-way valve in said passage.

805,198. AIR-PRESSER. ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed May 27, 1905. Serial No. 262,699.

Claim.—1. In combination, a tool-cylinder, its piston, a presser-cylinder, its hollow piston, tubes connecting the two cylinders, a port through the peripheral wall of the presser-piston and a bridge-port in the wall of the cylinder arranged to coact with each other to open communication from the interior of the piston to the interior of the presser-cylinder when the piston is at the limit of its movement in one direction.



2. In combination, a tool-cylinder, its piston, a presser-cylinder, its hollow piston, a closed crank-chamber in open communication with the interior of the piston, a port through the peripheral wall of the piston and a bridge-port in the wall of the cylinder arranged to coact with each other to open communication from the interior of the closed crank-chamber through the piston to the interior of the presser-cylinder when the piston is at the limit of its movement in one direction.

3. In combination, a tool-cylinder, its piston, a presser-cylinder, its hollow piston, tubes connecting the two cylinders, separate ports through the peripheral wall of the piston and bridge-ports arranged to coact with the separate ports to alternately open communication from the interior of the piston to the interior of the presser-cylinder upon opposite sides of the piston

4. In combination, a tool-cylinder, its piston, a presser-cylinder, its hollow piston, tubes connecting the two cylinders, a closed crank-chamber in open communication with the interior of the hollow piston, separate ports through the peripheral wall of the piston and bridge-ports in the inner wall of the cylinder arranged to coact with the separate ports to alternately open communication from the closed crank-chamber through the interior of the piston to the interior of the presser-cylinder upon opposite sides of the piston.

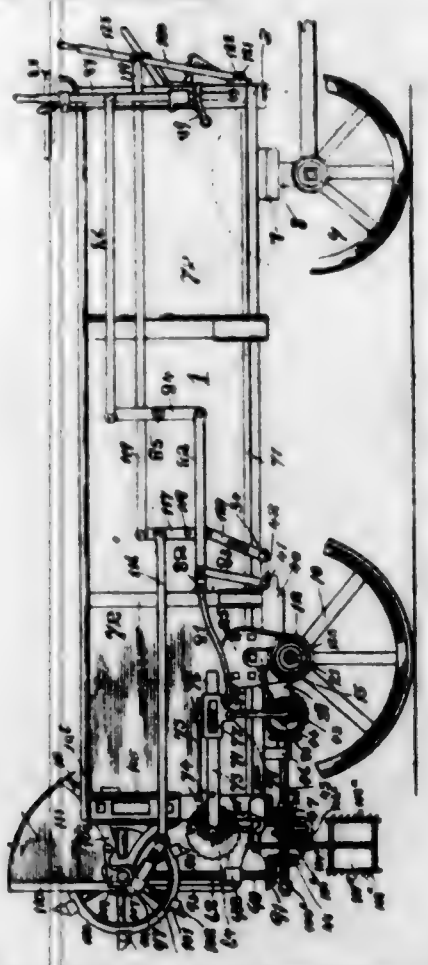
5. In combination, a presser-cylinder, its hollow piston having an open-ended trunk, and induction and discharge valves at the outer end of the presser-cylinder, a closed crank-chamber in communication with the interior of the hollow piston and a passage leading from the discharge-valve arranged to be opened and closed to the said crank-chamber by the movement of the piston-trunk.

6. In combination, a presser-cylinder, its hollow piston having an open-ended trunk, induction and discharge valves at the outer end of the presser-cylinder, a closed crank-chamber in open communication with the interior of the hollow piston, ports arranged to alternately open the interior of the piston to the interior of the presser-cylinder upon opposite sides of the piston and a passage leading from the discharge-valve arranged to be opened and closed to the crank-chamber by the movement of the piston-trunk.

7. In combination, a tool-cylinder, its piston, a presser-cylinder, its hollow piston having an open-ended trunk, tubes connecting the two cylinders, the presser-cylinder port of one of the tubes being located a distance from the outer end of the cylinder, induction and

discharge valves at the outer end of the presser-cylinder, means for opening and closing communication between the interior of the hollow piston and the interior of the presser-cylinder at the limits of movement of the hollow piston, a closed crank-chamber in communication with the interior of the hollow piston and a passage leading from the discharge-valve arranged to be opened and closed to the closed crank-chamber by the movement of the hollow piston-trunk.

805,199. MANURE-SPREADER. JACOB HAHN, DeKalb, Ill. Filed Dec. 20, 1904. Serial No. 237,667.



Claim.—1. In a manure-spreader, the combination of a vehicle-body having a solid floor, an apron-carrying frame adapted to be removably inserted into the vehicle-body and be supported thereby, journals at opposite ends of the frame, sprocket-wheels on the journals, an endless traveling apron carried by the sprocket-wheels and adapted to travel in the removable frame and be supported thereby out of contact with the floor, a driving-shaft, driving-wheels on the end of the driving-shaft, and means for imparting rotation from the driving-shaft to one of the apron-carrying journals, substantially as described.

2. In a manure-spreader, the combination of a vehicle-body having a horizontal floor, an apron-carrying frame adapted to be removably inserted into the vehicle-body and lie horizontally upon and be supported by the floor, journals at opposite ends of the frame, sprocket-wheels on the journals, an endless traveling apron passing around the sprocket-wheels and adapted to travel around from end to end of the frame within the bottom of the vehicle-body and out of contact with the floor, driving-wheels secured to the wagon-body, and means for imparting rotation from the driving-wheels to one of the apron-carrying journals, substantially as described.

3. In a manure-spreader, the combination of a vehicle-body, an apron-carrying frame adapted to be inserted into and removed from the vehicle-body, journals at opposite ends of the frame, sprocket-wheels on the journals, an endless traveling apron carried by the sprocket-wheels, a driving-shaft, drive-wheels on the end of the driving-shaft, a gear-wheel on the driving-shaft, a secondary shaft, a gear-wheel thereon meshing with the first-mentioned gear-wheel, a pitman at the end of the secondary shaft, a rocking arm pivoted to one of the apron-carrying journals, a ratchet-wheel secured to the said journal, a dog on the rocking arm adapted to engage with the ratchet-wheel, and means for throwing the dog into and out of engagement with the ratchet-wheel, substantially as described.

4. In a manure-spreader, the combination of a vehicle-body, an apron-carrying frame adapted to be inserted into and removed from the vehicle-body, journals at opposite ends of the frame, sprocket-wheels on the journals, an endless traveling apron carried by the sprocket-wheels, a driving-shaft, drive-wheels on the end of the driving-shaft, means for imparting rotation from the driving-shaft to one of the apron-carrying journals, a rotary spreader in suitable proximity to the traveling apron, a shield adapted to be lowered onto and raised up from the traveling apron, means for imparting rotation to the rotary spreader, and means for raising and lowering the shield, substantially as described.

5. In a manure-spreader, the combination of a vehicle-body, an apron-carrying frame adapted to be inserted into and removed from the vehicle-body, journals at opposite ends of the frame, sprocket-wheels on the journals, an endless traveling apron carried by the sprocket-wheels, a driving-shaft, drive-wheels on the end of the driving-shaft, a gear-wheel on the driving-shaft, a secondary shaft, a gear-wheel thereon meshing with the first-mentioned gear-wheel, a pitman at the end of the secondary shaft, a rocking arm pivoted to one of the apron-carrying journals, a ratchet-wheel secured to the said journal, a dog on the rocking arm adapted to engage with the ratchet-wheel, means for throwing the dog into and out of engagement with the ratchet-wheel, a rotary spreader in suitable proximity to the traveling apron, a shield adapted to be lowered onto and raised up from the traveling apron, means for imparting rotation to the rotary spreader, and means for raising and lowering the shield, substantially as described.

6. In a manure-spreader, the combination of a vehicle-body, a traveling apron in the vehicle-body, sprocket-wheels on which the traveling apron is mounted, journals carrying the sprocket-wheels, a ratchet-wheel on one of the journals, a driving-shaft, means for imparting intermittent rotation from the driving-shaft to the ratchet-wheel, a rearwardly-extending shaft adapted to receive rotation from the driving-shaft and provided on its rear end with a bevel-pinion, a vertically-extending shaft provided on its lower end with a bevel-pinion meshing with the first-mentioned bevel-pinion a bevel-pinion on the upper end of the vertically-extending shaft, a rotary spreader-shaft extending transversely of the vehicle-body and provided with a bevel-pinion meshing with the last-mentioned bevel-pinion, and spreader-wheels on the spreader-shaft provided with teeth in suitable proximity to the traveling apron, substantially as described.

7. In a manure-spreader, the combination of a vehicle-body, a traveling apron in the vehicle-body, sprocket-wheels on which the traveling apron is mounted, journals carrying the sprocket-wheels, a ratchet-wheel on one of the journals a driving-shaft, means for imparting intermittent rotation from the driving-shaft to the ratchet-wheel, a rearwardly-extending shaft adapted to receive rotation from the driving-shaft and provided on its rear end with a bevel-pinion, a vertically-extending shaft provided on its lower end with a bevel-pinion meshing with the first-mentioned bevel-pinion, a bevel-pinion on the upper end of the vertically-extending shaft, a rotary spreader-shaft extending transversely of the vehicle-body and provided with a bevel-pinion meshing with the last-mentioned bevel-pinion, spreader-wheels on the spreader-shaft provided with teeth in suitable proximity to the traveling apron, a shield hung onto the spreader-shaft, and means for raising and lowering the shield, substantially as described.

8. In a manure-spreader, the combination of a vehicle-body, a traveling apron in the vehicle-body, sprocket-wheels on which the traveling apron is mounted, journals carrying the sprocket-wheels, a ratchet-wheel on one of the journals, a driving-shaft, means for imparting intermittent rotation from the driving-shaft to the ratchet-wheel, a rearwardly-extending shaft adapted to receive rotation from the driving-shaft and provided on its rear end with a bevel-pinion, a vertically-extending shaft provided on its lower end with a bevel-pinion meshing with the first-mentioned bevel-pinion, a bevel-pinion on the upper end of the vertically-extending shaft, a rotary spreader-shaft extending transversely of the vehicle-body and provided with a bevel-pinion meshing with the last-mentioned bevel-pinion, spreader-wheels on the spreader-shaft provided with teeth in suitable proximity to the traveling apron, and brackets removably secured to the vehicle-body within which brackets the spreader-shaft is journaled, substantially as described.

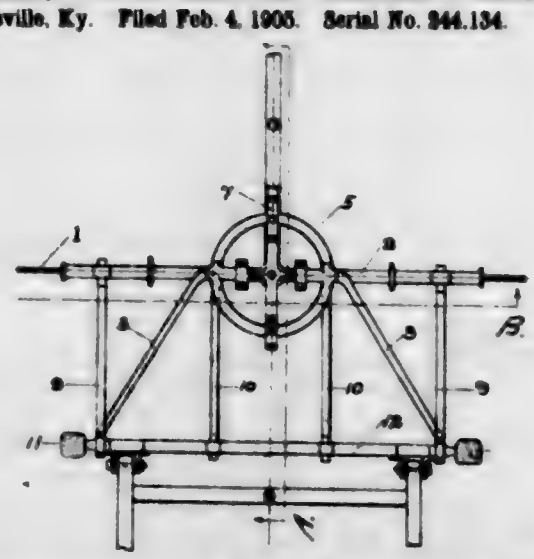
9. In a manure-spreader, the combination of a traveling apron, a horizontal rotary spreader at the rear end of and above the traveling apron, a transversely-extending shaft upon which the rotary spreader is mounted, provided near its center with a bevel-pinion, a vertically-extending shaft provided at its upper end with a bevel-pinion meshing with the first-mentioned bevel-pinion, a power-shaft, a rearwardly-extending shaft adapted to be actuated by the power-shaft, a bevel-pinion on the rearwardly-extending shaft, a bevel-pinion at the lower end of the vertically-extending shaft meshing with the bevel-pinion on the rearwardly-extending shaft, a sprocket-wheel on the rearwardly-extending shaft, two rotary spreaders on

opposite sides of and below the vertically-extending shaft, and sprocket-chains for imparting rotation to the lower spreaders, substantially as described.

10. In a manure-spreader, the combination of a traveling apron, a horizontal rotary spreader at the rear end of and above the traveling apron, a transversely-extending shaft upon which the rotary spreader is mounted, provided near its center with a bevel-pinion, a vertically-extending shaft provided at its upper end with a bevel-pinion meshing with the first-mentioned bevel-pinion, a power-shaft, a rearwardly-extending shaft adapted to be actuated by the power-shaft, a bevel-pinion on the rearwardly-extending shaft, a bevel-pinion at the lower end of the vertically-extending shaft meshing with the bevel-pinion on the rearwardly-extending shaft, a sprocket-wheel on the rearwardly-extending shaft, two vertically-extending shafts on opposite sides of and below the first-mentioned vertically-extending shaft, bevel-pinions on the last-mentioned shafts, rotary spreaders secured to the last-mentioned shafts, bevel-pinions meshing with the bevel-pinions thereof, and having sprocket-wheels connected therewith, and sprocket-chains passing over the sprocket-wheel on the rearwardly-extending shaft and adapted to impart rotation to all three of the spreaders simultaneously, substantially as described.

11. In a manure-spreader, the combination of a vehicle-body, an endless traveling apron rotatably mounted within the vehicle-body, a driving-shaft, driving-wheels on the end of the driving-shaft, a gear-wheel on the driving-shaft, a secondary shaft, a gear-wheel thereon meshing with the first-mentioned gear-wheel, a rearwardly-extending shaft having on its inner end a bevel-pinion, a bevel-pinion on the secondary shaft meshing therewith, a bevel-pinion on the end of the rearwardly-extending shaft, a horizontally-mounted rotary spreader in suitable proximity to the apron, a vertically-extending shaft having on its lower end a bevel-pinion meshing with the bevel-pinion on the outer end of the rearwardly-extending shaft, said vertically-extending shaft being adapted to impart rotation to the horizontally-mounted rotary spreader, two vertically-mounted spreaders below the horizontally-mounted rotary spreader, sprocket-wheels adapted to drive the last-mentioned spreaders, a sprocket-wheel on the rearwardly-extending shaft, and a sprocket-chain connecting the respective sprocket-wheels, substantially as described.

805,200. FRONT GEAR FOR VEHICLES. GEORGE HALLER, Louisville, Ky. Filed Feb. 4, 1905. Serial No. 244,134.



Claim.—A front gear for vehicles comprising an axle, a front bar, a cap supported on the axle, a post-plate secured to said cap, braces integral with and extending from the post-plate and connected with the ends of the front bar, a lower fifth-wheel supported on the post-plate, an upper fifth-wheel, an upper spring-brace and a lower king-pin brace extending to the forward side of the fifth-wheel circle and fastened together to form a guide to prevent the separation of the upper and lower fifth-wheels and means for securing the upper fifth-wheel to the vehicle-body.

805,201. PORTABLE FENCE-POST. WILLIAM R. HARRIS, Pelican, La. Filed July 12, 1905. Serial No. 269,264.

Claim.—1. A portable fence-post, comprising a trough-like base adapted to contain a ballast and having openings in the sides thereof out of alinement with each other, and a post mounted within the base, and provided with means entering said openings for detachably connecting the post to said sides.

2. A portable fence-post, comprising a trough-like base having an opening in each side thereof, the opposite edge portions of which are beveled reversely substantially from one face of said side to the other, and a post seated within the base and provided with a projection extending through the opening corresponding thereto.



3. A portable fence-post, comprising a trough-like base, having openings in the sides thereof out of alinement with each other, a post mounted within the base, and provided with means entering said openings for detachably connecting the post to said sides, the upper end of the post having notches therein, and an anchoring device for the post extending through said notches and having the ends thereof secured.

4. A portable fence-post, comprising a trough-like base having an opening in each side thereof, the opposite edge portions of which are beveled reversely substantially from one face of said side to the other, and a post seated within the base and provided with a projection extending through the opening corresponding thereto, said post embodying vertical parallel members secured together and formed with opposite notches for the reception of fence-wires.

5. A portable fence-post, comprising a trough-like base having an opening in each side thereof, the opposite edge portions of which are beveled reversely substantially from one face of said side to the other, a post seated within the base and provided with a projection extending through the opening corresponding thereto, and an anchoring device for the post having the ends thereof secured to the ends of the base.

6. A portable fence-post, comprising a trough-like base having an opening in each side thereof, the opposite edge portions of which are beveled reversely substantially from one face of said side to the other, a post seated within the base and provided with a projection extending through the opening corresponding thereto, the upper end of the post having notches therein, and an anchoring device for the post extending through said notches and having its ends secured to the ends of the base.

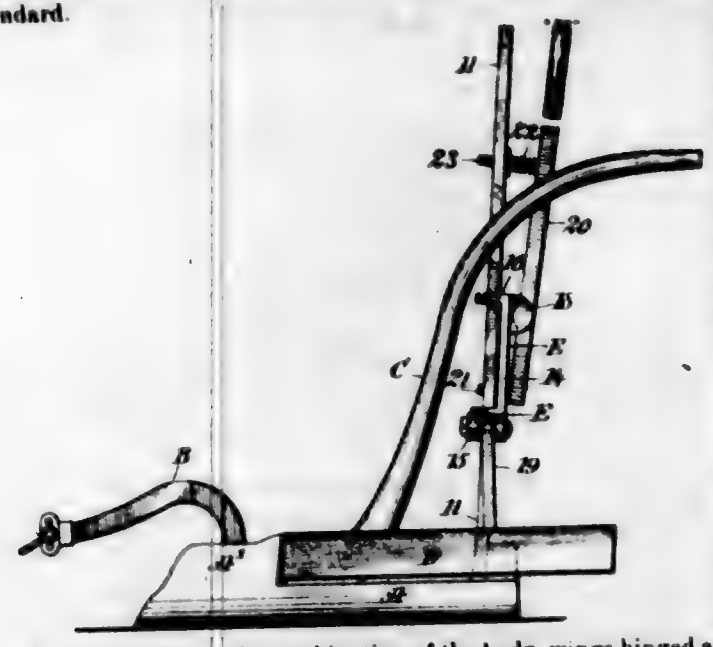
7. A portable fence-post, comprising a trough-like base having an opening in each side thereof, the opposite edge portions of which are beveled reversely substantially from one face of said side to the other, and a post seated within the base and provided with a projection extending through the opening corresponding thereto, said post embodying duplicate members and the sides of the base being provided with abutments, as and for the purpose set forth.

805,202. HORSE-HOE. EDGAR A. HARVEY, Hillsboro Bridge, N. H. Filed Feb. 16, 1905. Serial No. 245,834.

Claim.—1. In horse-hoes, wings hinged to a hoe, adapted for movement to and from each other, a standard secured to the hoe, a slide operating on the standard, connecting-bars pivotally attached to the slide and to the wings, and a lock-lever carried by the slide, through the medium of which lever the said slide is raised and lowered and locked in position.

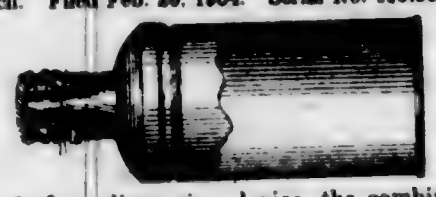
2. In a horse-hoe, the combination with the body of the hoe having a pilot extension, and wings hinged to the said pilot extension, of a standard secured to the rear portion of the hoe, having a series of apertures between its ends and a slot at its upper end, a slide mounted on the standard, having an aperture adapted to register with an aperture in the standard, links pivotally connecting the slide with the said wings, a spring-controlled lever carried by the slide, having an extension which enters the slot in the standard, and a pin which

enters the aperture in the slide and an adjacent aperture in the standard.



3. In a horse-hoe, the combination of the body, wings hinged at their forward ends to the body, a standard secured to the rear of the body and having a slot in its upper end and a plurality of apertures intermediate of its ends, an apertured slide mounted on the standard, links pivoted to the slide and wings, a lever pivoted to the slide intermediate of its ends and provided at one side of its pivot with a pin adapted to enter the aperture of the slide and one of the apertures of the standard, and at the other side of its pivot with a pin entering the slot of the standard, and a spring surrounding the last-named pin between the lever and standard.

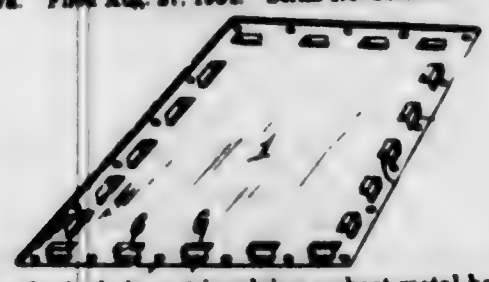
805,203. **DISPENSING DEVICE.** LAWRENCE B. HAYWARD, Detroit, Mich. Filed Feb. 26, 1904. Serial No. 195,363.



Claim.—1. In a dispensing device, the combination with the body thereof, of an inwardly-tapering discharge-nozzle, a casing secured to said body and surrounding the discharge-nozzle but diverging therefrom to form a space between the same and the nozzle, a cap hinged to the upper edge of said casing and adapted when closed to cover the end of the discharge-nozzle, and a spring located within said space and engaging said cap to move the same.

2. In a dispensing device, the combination with the body thereof, of an inwardly-tapering discharge-nozzle, a casing secured to said body and surrounding the discharge-nozzle but diverging therefrom to form a space between the same and the nozzle, a cap hinged to the upper edge of said casing and adapted when closed to cover the end of the discharge-nozzle, a catch located within said space and engaging said cap to retain the same in its closed position, means for operating said catch from the interior of said casing, and a spring also located within said space for engaging said cap, the tension of which tends to swing said cap open.

805,204. **CHAIR-SEAT.** JOHN JACKSON and CLAIR MUNSON, Clinton, Iowa. Filed Aug. 27, 1904. Serial No. 222,411.



Claim.—1. A chair-seat involving a sheet-metal backing member provided with openings to permit of the passage of holdfast devices and further provided with a series of independent and clasping lugs or holders struck therefrom for clamping a cover to said backing, combined with a cover adapted to surround said backing and folded over and under such lugs and adapted to be clamped to said backing by compressing said lugs toward the lower face of the backing.

2. A chair-seat involving a sheet-metal backing provided with independent non-penetrating clasping lugs or holders struck therefrom, forming thereby openings in the backing, combined with a cover adapted to inclose the upper face of said backing and extend over and under said lugs, said cover adapted to be clamped in said openings by compressing said lugs toward the backing.

3. A chair-seat involving a sheet-metal backing having its edges folded and further provided with openings arranged in parallelism with the perimeter thereof through which is adapted to extend holdfast devices for securing the backing to the seat-frame, said backing further provided with a series of dependable and non-penetrating clasping lugs or holders adapted to clamp a cover to said backing.

4. A chair-seat involving a metallic backing provided throughout the margin of its lower face with separate and dependable non-penetrating cover-clasping lugs or holders, combined with a cover adapted to fold over and be clamped by said lugs to said backing without penetrating said cover.

5. A chair-seat involving a sheet-metal supporting-section provided throughout the margin of its lower face with separate and dependable non-penetrating clasping lugs or holders projecting away from the perimeter of said backing when in their attaching positions, said supporting-section further provided with openings arranged in parallelism with the perimeter thereof through which is adapted to extend holdfast devices for securing the backing to the seat-frame.

6. A chair-seat involving a sheet-metal supporting-section provided with separate and dependable non-penetrating clasping lugs or holders projecting away from the perimeter of said backing, said supporting-section further provided with openings arranged in parallelism with the perimeter thereof through which is adapted to extend holdfast devices for securing the backing to the seat-frame.

7. A chair-seat involving a sheet-metal backing member provided with openings to permit of the passage of holdfast devices and further provided with a series of independent and dependable non-penetrating rectangular clasping-lugs struck therefrom for clamping a cover to said backing, combined with a cover adapted to surround said backing and folded over and under such lugs and adapted to be clamped to said backing by compressing said lugs toward the lower face of the backing.

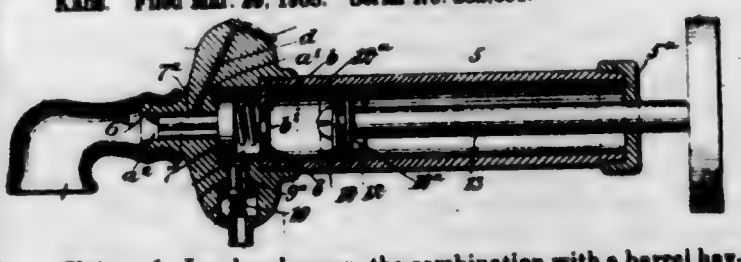
8. A chair-seat involving a metal backing provided throughout the margin of its lower face with separate non-penetrating rectangular cover-clasping lugs, combined with a cover adapted to fold over and be clamped by said lugs to said backing without penetrating said cover.

805,205. **BAG-CLOSURE.** CHARLES F. JENKINS, Washington, D. C. Filed Feb. 23, 1905. Serial No. 246,952.



Claim.—In a bag-closure, a spring member having each end provided with a hook, the plane of said hooks being at an angle to the plane of the said spring member, and adapted to grasp the outside of the bag to close the same by extension.

805,206. **HAND-OPERATED PUMP.** WILLIAM H. JORDAN, Hays, Kans. Filed Mar. 20, 1905. Serial No. 251,661.

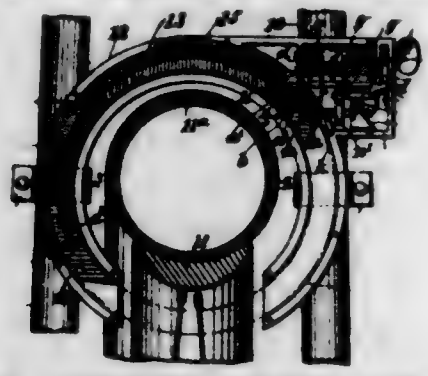


Claim.—1. In a hand-pump, the combination with a barrel having a centrally-perforated end wall, a centrally-perforated removable cap on the other end of the barrel, a double-cup piston, a piston-rod thereon working respectively in the barrel and through the cap, and a handle on the outer end of the piston-rod, of a bulbous-shaped valve-case having a central valve-chamber in one end, receiving the end of the barrel having the perforated end wall, an axially-perforated nipple extended from the opposite end of the valve-case, the passage through the nipple intersecting the valve-chamber, a spring-pressed valve having a fluted stem, the valve and its stem respectively working in the valve-chamber and passage in the nipple, a check-valve

controlling a lateral passage leading from the valve-chamber out of the valve-case, and an elastic suction-cup mounted at one end on the nipple.

2. A suction and force pump, embodying a cylindrical barrel, a double-cupped piston, a rod extended from the piston and working through a cap on one end of the barrel, a valve-case on the other end of the barrel, a nipple formed centrally on the case and having a perforation longitudinally therethrough, a valve in the case controlling the passage in the nipple, a lateral passage from the valve-case, a valve controlling said passage, the nipple having a lateral passage extended therefrom for induction of air thereinto, a relief-valve controlling said air-passage and manually operative from the exterior of the case, and a suction-cup mounted at one end on an end of the nipple.

805,207. LOCKING DEVICE FOR BICYCLES. EMIL P. KAEBER, Fresno, Cal. Filed Sept. 1, 1904. Serial No. 223,977.

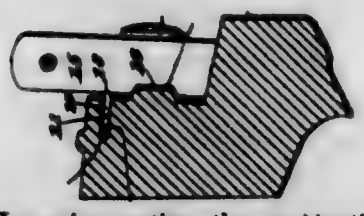


Claim.—1. A bicycle-lock, comprising a casing curved edgewise and having an opening therein, a cover-plate securable on the casing and having an arcuate slot therein, a locking-bolt longitudinally slidable in the casing by means of a handle that works in the slot, and a spring-pressed slot-cover loosely held in the casing.

2. A bicycle-lock, comprising a casing curved edgewise and having an opening therein, a cover-plate having an arcuate slot therein and securable on the casing, a slot-cover laterally spring-pressed toward the arcuate slot, normally closing it, a locking-bolt slidable in the casing, a handle on the bolt, working in the slot, said handle pressing the slot-cover against stress of the springs that engage it, and means for locking the bolt projected or retracted.

3. A bicycle-lock comprising a casing curved edgewise, two looped clamps located oppositely on the casing and holding it secured on the spaced wheel-controlling fork of a bicycle-frame, a cover securable on the casing, said cover having an arcuate slot therein, a curved locking-bolt reciprocal in the casing and manipulated by a handled shank working in the arcuate slot, a spring-pressed slot-cover normally closing the arcuate slot, and keeper-pins at the ends of the bolt for controlling its sliding movement, each end of the slot-cover being sloped edgewise to permit the handled shank on the bolt to press said slot-cover from over the slot.

805,208. ATTACHMENT FOR PIANO-ACTION FLANGES. CHARLES L. KALLSTROM, Chicago, Ill. Filed June 17, 1905. Serial No. 265,660.

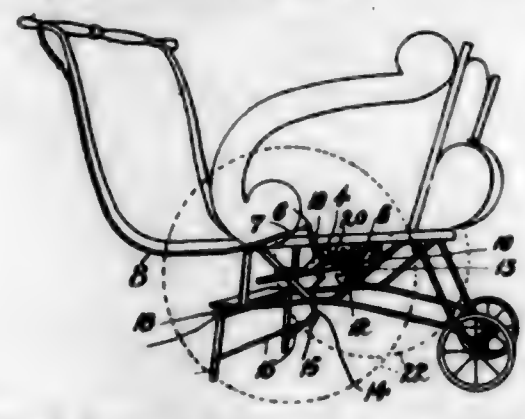


Claim.—1. In a piano-action, the combination with the main rail, of a series of flanges secured thereto, and a series of independently-acting springs connected together but spaced apart and interposed between the rail and said flanges, substantially as described.

2. In a piano-action, the combination with the main rail, of a series of flanges secured thereto, and a series of substantially elliptical and alternately oppositely disposed springs connected together and located longitudinally on the rail and in contact therewith as well as with said flanges, substantially as described.

3. In a piano-action, the combination with the main rail having in its side surface a longitudinal slot, of a series of flanges secured to said rail, and a series of substantially elliptical springs connected together but spaced apart and located in said slot, said springs being alternately extended in opposite directions, those projected in one direction being in contact with the rail and those projected in the other direction being in contact with the flanges, substantially as described.

805,209. UNDERGEAR FOR GO-CARTS AND THE LIKE. HARRY KITCHEN, Middle Park, near Melbourne, Victoria, Australia. Filed Jan. 27, 1905. Serial No. 243,232.



Claim.—1. Improved undergear for go-carts and the like consisting of a swinging axle-bar, a spring-clip for normally retaining same in position, a pair of approximately V-shaped frames, a crank-bar operating said spring-clip, and means for operating said crank-bar substantially as herein described.

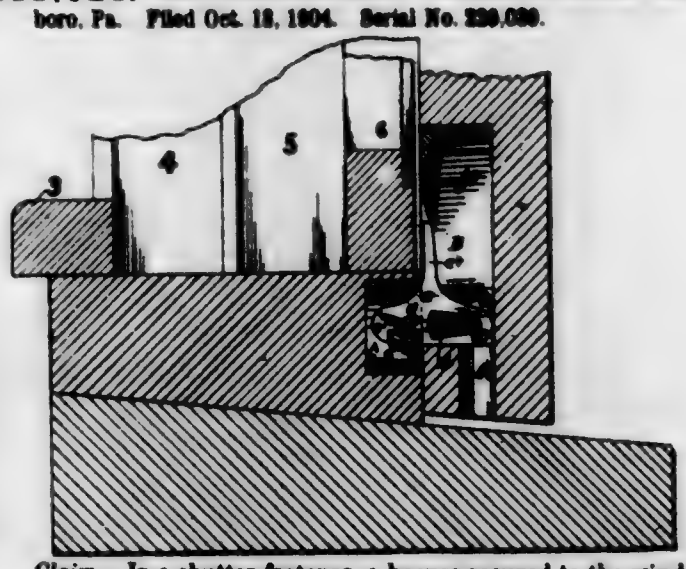
2. Improved undergear for go-carts and the like consisting of a swinging axle-bar revolubly-mounted arms on which said axle-bar is fastened, a spring-clip for normally retaining said axle-bar in position, means for operating said clip, a pair of hinged legs, a rigid bent piece attaching said legs to the axle-bar substantially as described.

3. Improved undergear for go-carts and the like consisting of a swinging axle-bar revolubly-mounted arms on which said axle-bar is fastened, a spring-clip for normally retaining said axle-bar in position, a crank-bar operating said spring-clip and on which said arms are revolubly mounted, a cord for operating said crank-bar, a projecting arm mounted on said axle, a rigid bent piece journaled therein, a pair of hinged legs to which said bent piece is attached and a stop to check the forward motion of same, substantially as herein described and illustrated.

4. In an undergear for go-carts and the like, a swinging axle-bar in combination with a spring-clip for normally retaining the axle-bar in a fixed position, means for operating the said clip for releasing the axle-bar, and means coöperative with the swinging axle-bar forming a stop to check the forward motion of the go-cart and the like.

5. In undergear for go-carts and the like, a swinging axle-bar, a spring-clip for normally retaining same in position and a pair of hinged legs attached to said axle-bar substantially as herein described.

805,210. SHUTTER-FASTENER. ABRAHAM B. LANDIS, Waynesboro, Pa. Filed Oct. 18, 1904. Serial No. 229,030.

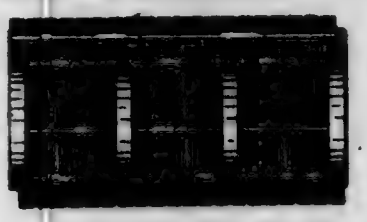


Claim.—In a shutter-fastener, a keeper secured to the window-sill, a housing inserted in the face of the shutter, a catch to engage said keeper, a hook on said catch to engage a cross-bar of said housing on the rear edge and a shoulder on said catch engaging the said cross-bar on its front edge, substantially as and for the purpose specified.

805,211. WELL-SCREEN. MARLOW B. LAYNE, Houston, Tex. Filed June 25, 1903. Renewed Jan. 3, 1905. Serial No. 239,426.

Claim.—1. A skeleton frame for a well screen formed of a series of rings having pairs of projecting lugs thereon, bars lying between said lugs and clenched in place by bending down the lugs.

2. A well screen comprising a frame formed of a series of rings with pairs of lugs at intervals thereon, a series of bars lying upon said rings and clenched within said lugs, and a series of wires wound upon the outside of said frame and being of cross sectional form wider at the outer side than the inner side.



3. A well screen comprising a frame having a wire spirally wound thereon with wedge-shaped openings between successive turns of the wire, said wire being of a cross sectional form of a truncated pyramid, and having thereon means to lock successive turns together, substantially as described.

4. A well screen comprising a skeleton frame, a series of turns of wire wrapped upon said frame so as to leave openings between successive turns thereof, and the said turns of wire being depressed and spread to touch each other at intervals along their length, substantially as described.

5. In a well screen a helix of wire having open spaces between turns, a series of lateral projecting portions along said wires to engage the adjacent turns, said lateral projections alternately lying above and beneath similar projections upon the next adjacent turns of wire on the two sides, substantially as described.

6. A well screen comprising a frame, a helix of wire thereon, the said helix of wire having portions thereof depressed or flattened on the outer edges so that said depressed portions touch the contiguous wires and hold the wires in parallel position, substantially as described.

A wire for forming well screens having at intervals along its length lateral upset projections, to engage similar projections upon the outer edges of contiguous turns of the wire, for the purpose set forth.

8. In a well screen a wire having along its length occasional laterally projecting lugs to engage contiguous wires in the screen, alternate ones of said lugs being depressed on the outside surface lower than the adjacent lugs, substantially as described.

9. In a well screen the combination with a supporting frame, of a series of helical turns of wire, said wire having a broadened face outermost and laterally projecting upset depressed portions at intervals along said outer face to engage contiguous wires, substantially as described.

10. In a well screen, the combination with a supporting frame, of a screening surface formed of turns of wedge-shaped wire having a greater depth than width wound upon the frame edgewise and spaced apart, and means on the wire to hold it edgewise on the support, substantially as described.

11. A screen having its screening surface formed of a helically wound wire which in cross section is of greater depth than width being wound edgewise, and the space between the turns of wire increasing in size toward the interior of the screen, and having the outer edges higher than the surface between them.

12. In a screen a straining wall composed of wire having a depression on the outer face between the edges of the wire.

13. A wire for well screens having a depressed longitudinal groove in its outer face, substantially as described.

14. A well screen comprising a supporting structure, and a screening surface formed of turns of band-shaped wire spaced apart and having one edge thinner than the other, the said wire being wound edgewise on said supporting structure and forming an underflow chamber between adjacent portions of the wire and the supporting structure.

805,212. **DOWELING DEVICE.** HERMAN A. LITZ, Danville, Pa. Filed Oct. 26, 1905. Serial No. 283,051.



Claim.—1. A doweling device comprising a sheet-metal strip having a series of pointed prongs or teeth projecting laterally therefrom at each side in the plane of the strip, said teeth having barbs at their adjacent sides.

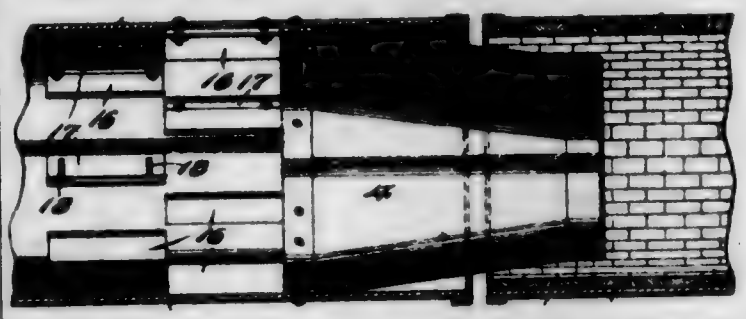
2. A doweling device comprising a zigzag sheet-metal strip having teeth at each side, the successive teeth projecting alternately in opposite directions from the lateral edges of the strip at its convex portions and in the plane of the strip.

3. A doweling device comprising a zigzag sheet-metal strip having teeth at each side, the successive teeth projecting alternately in opposite directions from the lateral edges of the strip at its convex portions and in the plane of the strip, said teeth having barbs.

4. A doweling device comprising a zigzag sheet-metal strip having teeth at each side, the successive teeth projecting alternately in opposite directions from the lateral edges of the strip and in the plane of the strip, said teeth having barbs at their adjacent edges.

5. A doweling device comprising a zigzag sheet-metal strip having barbed heads projecting from the lateral edges of the strip at its convex portions said barbed heads lying in the plane of the strip.

805,213. **ROTARY KILN.** JAMES H. LOGAN and WILLIAM H. SIMMONS, Pontiac, Mich. Filed July 25, 1905. Serial No. 271,226.



Claim.—1. A rotary kiln comprising communicating independently-rotatable sections, one of said sections being provided with agitating devices adjustable to lie at different angles to the axis thereof, and means for rotating said sections at varying speeds.

2. A kiln comprising alined independently-rotatable sections, the delivery end of one section being provided with a chute secured therein at one end and having a reduced end projecting into the receiving end of the other section.

3. A kiln comprising independently-rotatable sections, the delivery end of one section being provided with a frusto-conical chute projected into the receiving end of the other section.

4. A kiln comprising a receiving-section provided with agitators therein adjustable to lie at different angles to the axis thereof, a delivery-section, a chute secured at one end within the delivery end of the receiving-section and having a reduced end projecting into the receiving end of the delivery-section, and means for rotating the section at varying speeds.

5. A kiln comprising longitudinally-alined receiving and delivery sections, the receiving-section being adapted to receive the material in a wet-state and provided with agitators adjustable to lie at different angles to the axis thereof and agitate said material, and the delivery-section being adapted to receive the dried material from said receiving-section for calcining such dried material, the sections being in communication for the passage of waste heat from one section to the other, a chute within the outlet end of the receiving-section and having a contracted end projecting into the inlet end of the receiving-section, and means for rotating the sections at varying speeds.

805,214. **WOOD-IMPREGNATING APPARATUS.** CUTHBERT B. LOWRY, Lexington, Ky., and RICHARD BERNHARD, Chicago, Ill. Filed May 20, 1905. Serial No. 261,220.

Claim.—1. A timber-car for wood-impregnating cylinders having longitudinal side sills and two end sills, fastened together at their points of intersection, said end sills being curved upwardly and outwardly to conform to the inclosing cylinder.

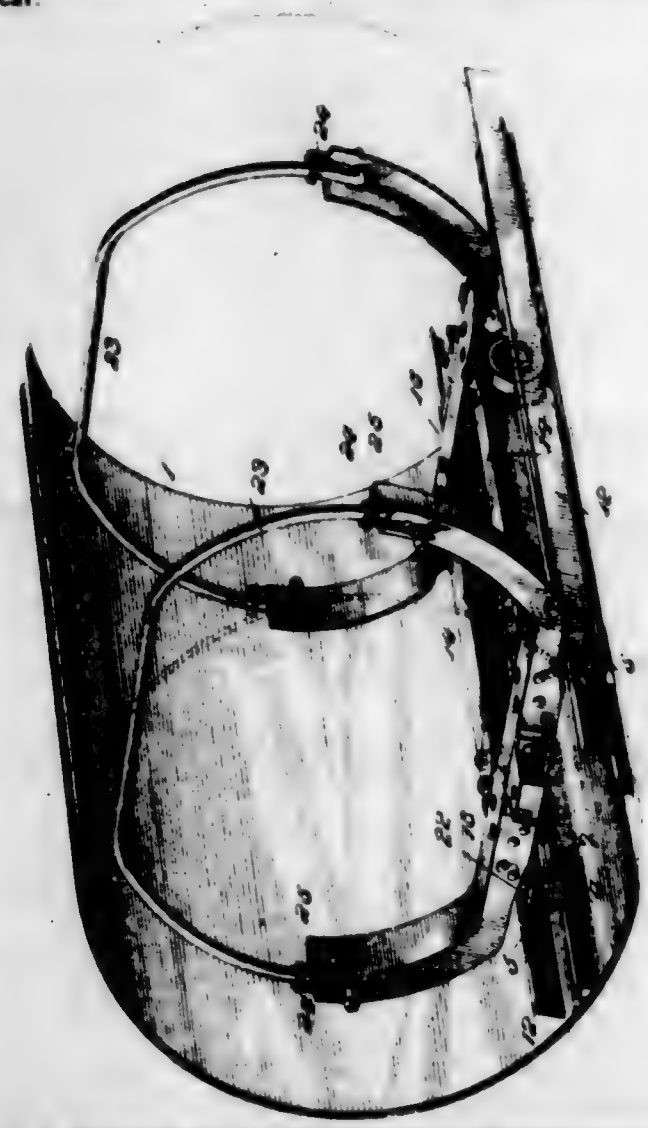
2. A timber-car for wood-impregnating cylinders having longitudinal side sills and two end sills, fastened together at their points of intersection, all of said sills being composed of angle-bars, and said end sills being curved upwardly and outwardly to conform to the inclosing cylinder.

3. A timber-car for wood-impregnating cylinders having longitudinal side sills and two end sills, castings at and held by the unions between said sills, said castings having flanges, and the holding-axles engaging said flanges.

4. A timber-car for wood-impregnating cylinders having upwardly-extended rigid bails thereon to limit the loading and prevent the timber from floating off the car while being impregnated.

5. In combination with a timber-car for wood-impregnating cylinders, upwardly-extended detachable rigid bails for limiting the loading and preventing the timber from floating off the car while be-

ing impregnated, and means for detachably securing such bails to the car.



6. A timber-car for wood-impregnating cylinders having end sills which at their ends are curved upwardly and outwardly, rigid bails extended transversely above the car, conforming to the upper portion of the cylinder, and means for detachably securing such bails to said sills.

7. A timber-car for wood-impregnating cylinders having end sills which at their ends are curved upwardly and outwardly, and formed with openings, rigid bails extended transversely above the car and having angular ends fitted in said openings, and locking-pins designed to be passed through openings in said angular ends.

8. The combination with the cylinder, the car, and the rigid bails secured thereto, of the angle-bar track-rails in close proximity to the longitudinal center of the bottom of said cylinder, and chairs for said rails secured to the cylinder.

9. The combination with the cylinder, the car, and the rigid bails secured thereto, of the angle-bar track-rails in close proximity to the longitudinal center of the bottom of said cylinder, and chairs for said rails secured to the cylinder, said rails being secured to some of said chairs and resting on the others.

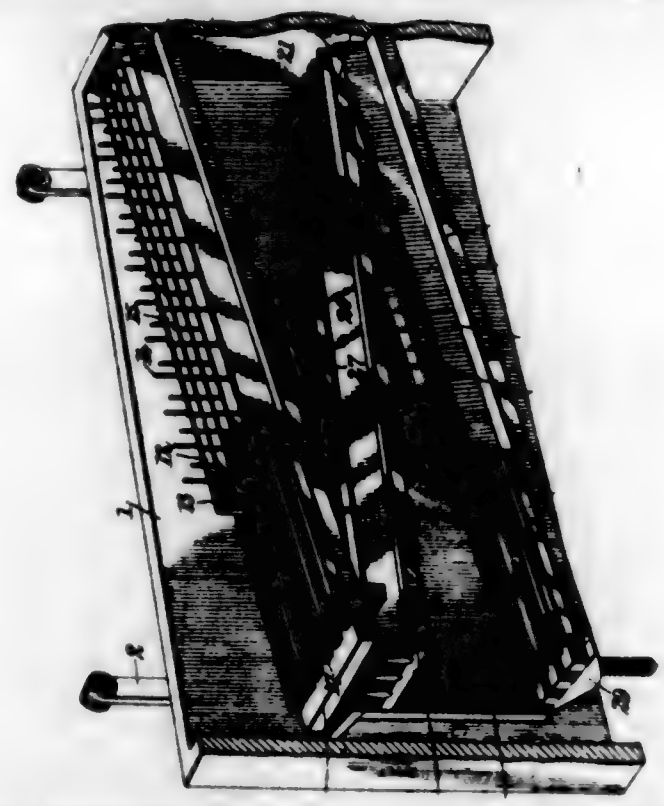
10. The cylinder composed of inner and outer courses, and the car, in combination with rails for said car composed of angle-bars, and chairs of different height secured to said courses.

11. The combination with the cylinder and the car, of the track-rails, chairs therefor secured to said cylinder having horizontal and vertical flanges, the horizontal flanges being for the track-rails, guard-rails secured to said vertical flanges and having upper horizontal flanges, adjustable means securing said rails to said chairs, and lugs carried by the car extended beneath said horizontal flanges of the guard-rails.

805,215. ORE-CONCENTRATOR. MATTHEW R. LYLE, Oakland, Cal. Filed Dec. 28, 1904. Serial No. 238,741.

Claim.—1. A concentrator of the class described comprising an inclined sluice-box having elongated openings at the bottom thereof, channels presenting elevated edges at the edges of said openings, and means for rocking said box so as to advance the material contained therein progressively by gravitation toward the lower extremities of said openings.

2. A concentrator of the class described, comprising an inclined box having a plurality of elongated substantially parallel openings formed in the bottom thereof, and a plurality of parallel channels disposed in the space between said openings and having upwardly-turned edges lying substantially above the edges of said openings.



3. A concentrator of the class described, comprising an inclined bottom, longitudinally-disposed dividing-boards disposed upon the upper face of said bottom and presenting gutters therebetween, and channels disposed at the lower ends of said gutters and adapted to receive material therefrom, said bottom having openings between said channels.

4. A concentrator, comprising an inclined bottom having a plurality of longitudinally-disposed dividing-boards attached to the upper face thereof and presenting gutters therebetween, and pins attached to said dividing-boards and projecting upwardly from the upper edges thereof.

5. A concentrator, comprising an inclined bottom, longitudinally-disposed dividing-boards upon the upper face of said bottom and tapering toward their upper edges, and pins attached at said upper edges and projecting upwardly therefrom.

6. A concentrator, comprising an inclined bottom having a plurality of longitudinally-disposed dividing-boards carried on the upper portion thereof, pins projecting upwardly from said dividing-boards, said dividing-boards presenting gutters therebetween, and channels carried by the upper face of said bottom and projecting into said gutters to receive material therefrom, said bottom having longitudinally-disposed openings lying between said channels, the upper edges of said channels being elevated with respect to said openings.

7. A concentrator, comprising an inclined bottom with openings therethrough and channels on the upper face thereof, and a deflecting-plate inclined transversely beneath said openings and adapted to eject material falling thereupon.

8. A concentrator, comprising a sluice-box having openings in the bottom thereof, channels disposed between said openings, a second sluice-box disposed beneath the first and adapted to receive the concentrates therefrom, and a deflecting-plate inclined transversely beneath said openings and adapted to eject material falling thereupon.

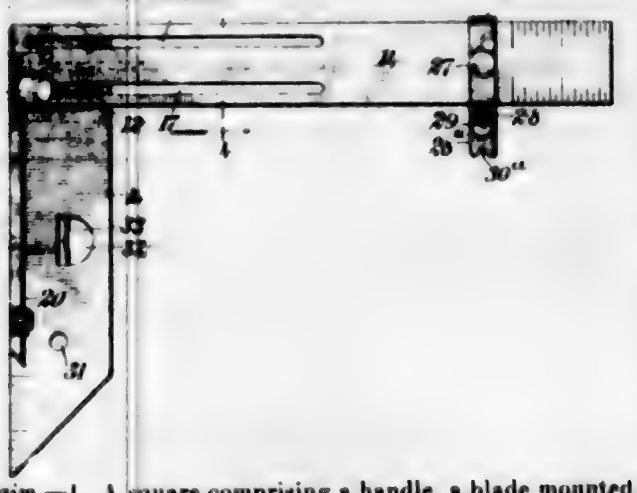
9. An ore-concentrator, comprising a sluice-box having longitudinally-disposed openings through the bottom thereof, channels disposed between said openings, said sluice-box being inclined, a second sluice-box disposed beneath the first, inclining in the opposite direction and adapted to receive concentrates from said first sluice-box, and a deflecting-plate disposed under said openings and adapted to eject material falling thereupon.

10. An ore-concentrator, comprising a plurality of sluice-boxes inclining alternately in opposite directions and disposed one above the other, whereby the lower sluice-boxes may receive concentrates from the upper, said sluice-boxes having inclined bottoms with longitudinally-disposed openings near the lower portions thereof, channels disposed longitudinally between said openings, and a plurality of dividing-boards disposed at the upper portions of said bottoms and presenting gutters therebetween delivering to said channels.

11. An ore-concentrator, comprising a casing, a substantially vertical partition dividing off a portion of said casing, an inclined sluice-box disposed within said casing and having openings therethrough through which the material may pass, and an inclined plate

beneath said openings and adapted to eject said materials into the space behind said partition.

805,216. SQUARE. DANIEL B. LYNCH, Reno, Nev. Filed Mar. 8, 1905. Serial No. 248,955.



Claim.—1. A square comprising a handle, a blade mounted at one end of the handle, a member surrounding the blade and having a depending leg from which extends a lateral foot, a clamping-screw threaded through the member for engagement with the blade, and a screw threaded through the foot of the leg and having a reduced end.

2. A square comprising a handle, a blade mounted thereon, a member surrounding the blade and having a foot extending at one side thereof, means for fixing the member in position upon the blade, and a marking-point carried by the foot.

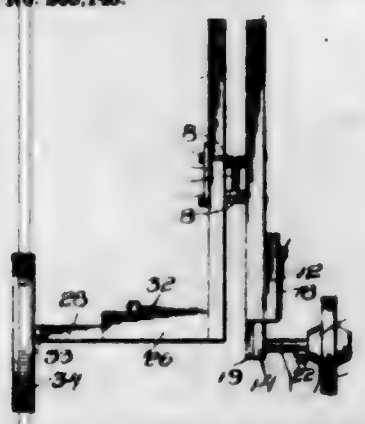
3. A gage, comprising a handle having a recess in one side edge, a blade carried by the handle, a gage member in the recess and provided with slots, projections in the recess of the handle and extending into the slots of the gage member, and a clamping-screw for holding the gage member in position.

4. A gage, comprising a handle provided in one side edge with a recess having undercut ends, a blade carried by the handle, a gage member having beveled ends and fitting the recess of the handle and provided with slots, projections in the recess of the handle and extending through the slots of the gage member, and a clamping-screw for holding the gage member in position.

5. In a gage, a handle provided with a transverse recess in one face, a tongue extending across the recess, and projections on opposite sides of the tongue, one of the projections being in the form of a clamping-screw, and a blade having a longitudinal groove in its under face, to receive the tongue and a longitudinal slot on each side of the groove to receive the projections.

6. A gage, comprising a handle having a recess in one edge, a gage member adjustably held in the recess, a blade mounted on one end of the handle to slide transversely thereon, means for locking the blade in position, a member adjustably mounted on the blade and having a laterally-projecting foot, the lower face of which lies in the same plane as the lower face of the handle, and a marking-point carried by the foot.

805,217. PLOW. PETER MATTHEWS, St. Clair, Mich. Filed May 31, 1905. Serial No. 263,143.

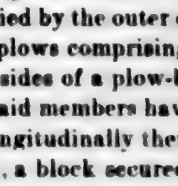


Claim.—1. A plow attachment comprising vertical members adapted for disposal at opposite sides of a plow-beam, means for detachably connecting the members with the plow-beam, said means being constructed and arranged for operation to permit of movement of the members longitudinally of the plow-beam and pivotally thereupon at times, one of said members extending downwardly below the other, a laterally-extending block carried by the downwardly-extending member and lying below the plow-beam, a horizontally-extending bar slidably mounted in the block for longitudinal movement, said bar extending away from the plow-beam, means for holding the bar at different points of its movement, a wheel revolubly mounted upon the outer end of the bar, a vertically-extending bar slidably engaged in the other member for movement longitudinally thereof, said bar extending beyond the lower end of said member, means for holding the bar at different points of its movement, means for limiting the upward movement of the bar, a laterally-extending axle carried by said bar and lying below the plow-beam, a sleeve mounted upon the axle for movement longitudinally thereof, means for holding the sleeve at different points of its movement and a wheel revolubly mounted upon the sleeve, said wheel being smaller than the first-named wheel.

2. A plow attachment comprising vertically-extending members adapted for attachment at opposite sides of a plow-beam and to extend therebelow, one of said members having a verically-extending groove in its outer face, a bar slidably engaged in the groove, an outwardly-extending axle carried by the lower end of the bar, a wheel rotatably mounted upon the axle and arranged for movement longitudinally thereof, means for holding the wheel at different points of its last-named movement, means for holding the bar at different points of its vertical movement, an outwardly-extending block carried by the lower end of the other member and having a longitudinally-extending groove in its lower face, a bar slidably engaged in the groove, means for holding the second bar at different points of its movement and a wheel carried by the outer end of the second bar.

3. An attachment for plows comprising two members adapted for attachment to opposite sides of a plow-beam and to extend vertically therebelow, one of said members having a dovetail groove in its outer face extending longitudinally thereof, a dovetail bar slidably engaged in the groove, a block secured over the groove at the lower end of the member and having a passage formed therethrough and communicating with the groove, said bar having a longitudinally-arranged series of perforations adapted for interchangeable engagement with the passage, a pin removably engaged in the passage and one of the perforations, a spring secured to the block and arranged to hold the pin yieldably in its just-named position, an outwardly-extending axle carried by the lower end of the bar, a wheel mounted upon the axle for rotary movement and for movement longitudinally of the axle, means for holding the wheel at different points of its last-named movement, an outwardly-extending block carried by the lower end of the other member and having a longitudinally-extending dovetail groove in its lower face and a passage communicating with the groove and opening through the upper face of the second-named block, a second dovetail bar slidably engaged in the last-named groove and having a longitudinally-arranged series of perforations adapted for interchangeable engagement with the second-named passage, a pin removably engaged in the second-named passage and one of the perforations, a spring carried by the second-named block and arranged to hold said pin yieldably in its last-named position and a wheel removably mounted upon the outer end of the second-named bar.

805,218. GUARD OR PROTECTOR FOR WATCHES. FREDERICK E. MEAD, Represa, Cal., assignor of one-half to Stuart Edward Bell, Represa, Cal. Filed Apr. 11, 1905. Serial No. 255,068.



Claim.—1. A watch-guard comprising an elastic ring provided with a series of radial projections, each projection having an integral right-angularly projecting spur.

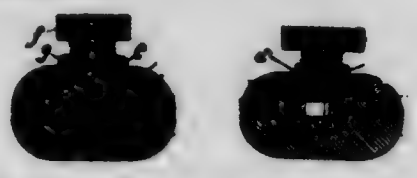
2. A watch-guard comprising an elastic ring provided with a series of radial pointed projections, each projection having an integral spur projecting at right angles therefrom adjacent to the pointed extremity thereof.

3. A watch-guard comprising an elastic ring provided with a series of basal pointed radial projections of less thickness than the body of the ring, each projection having an integral spur extending at right angles thereto, the upper outer surface of the ring being beveled and annularly corrugated.

805,219. TENSION DEVICE FOR SHEARS. MERRICK A. MILLS, Highland Park, Ill. Filed Nov. 19, 1904. Serial No. 233,398.

Claim.—1. In a pair of shears, two cutting members pivotally connected and each provided with a blade and a handle, one of said

members having a perforation near the pivot and in the handle end of the member, a shoe located in said perforation adjacent to the other member, an interiorly-screw-threaded thimble arranged in said perforation, a thumb-screw screwed into said thimble and provided with a longitudinal opening, a screw-bolt inserted in the longitudinal opening in the thumb-screw and having its inner end connected with said shoe, and a spiral spring surrounding said screw-bolt and having its opposite ends bearing against the shoe and the thumb-screw respectively.



2. In a pair of shears, two cutting members pivotally connected and each provided with a blade and a handle, one of said members having a perforation located near the pivot and between the latter and the handle and formed with an annular shoulder at its outer end, a thimble arranged in said perforation and provided on its inner end with an annular flange engaging said annular shoulder, a shoe located in said perforation between the thimble and the other member, a screw inserted in said thimble, and a spring located between the screw and the shoe for the purpose described.

3. In a pair of shears, two cutting members pivotally connected and each provided with a blade and a handle, one of said members having a perforation located near the pivot and between the latter and the handle and formed with an annular shoulder at its outer end, a thimble arranged in said perforation and provided on its inner end with an annular flange engaging said annular shoulder, a screw inserted in said thimble, and a spring located between the screw and the other member.

4. In a pair of shears, two cutting members pivotally connected and each provided with a blade and a handle, one of said blades having a perforation near the pivot and in the handle end of the member, a shoe located in said perforation, a thimble inserted in said perforation, a thumb-screw screwed into said thimble, and a spring located between the thumb-screw and the shoe for the purpose described.

5. In a pair of shears, two cutting members pivotally connected and each provided with a blade and a handle, one of said members having a perforation near the pivot and in the handle end of the member, a shoe located in said perforation adjacent to the other blade, a thimble removably secured in said perforation exterior of the shoe, a screw adjustably mounted in said thimble, and means connecting the screw with said shoe.

6. In a pair of shears, two cutting members pivotally connected and each provided with a blade at one end and with a handle at its opposite end, one of said members having a perforation near the pivot and in the handle end of the member, a shoe located in said perforation and engaging the other member, a screw adjustably mounted in the said perforation and provided on its inner end with a recess, and a coil-spring arranged in said recess and engaging the said shoe.

7. In a pair of shears, two cutting members pivotally connected and each provided with a blade at one end and with a handle at its opposite end, one of said members having a perforation located near the said pivot and in the handle end of the member and formed with an annular shoulder at its outer end, a thimble arranged in said perforation and provided on its inner end with an annular flange engaging said shoulder, a shoe lodged in the inner end of the said perforation and engaging the other member, and a screw inserted in the said thimble and having its inner end engaging the said shoe.

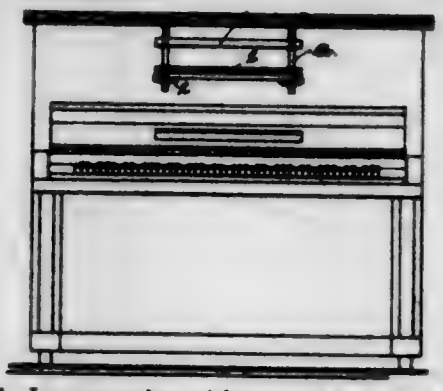
805,220. LACING-EYELET. JOHN A. ROBINSON, Upper Macedon, Victoria, Australia, assignor of one-half to David Gibb and William Gibb, Melbourne, Australia. Filed June 1, 1905. Serial No. 262,249.



Claim.—1. As an article of manufacture, an eyelet having an elongated opening terminating at its end in an enlarged opening said elongated opening being of a length greater than the diameter of said enlarged opening, substantially as described.

2. As an article of manufacture, an eyelet having the upper portion of its sides disposed in parallel juxtaposition and terminating at one end in a looped portion, forming a narrow elongated opening terminating in a slightly-enlarged substantially cylindrical opening said elongated opening being of a length greater than the diameter of said enlarged opening, substantially as described.

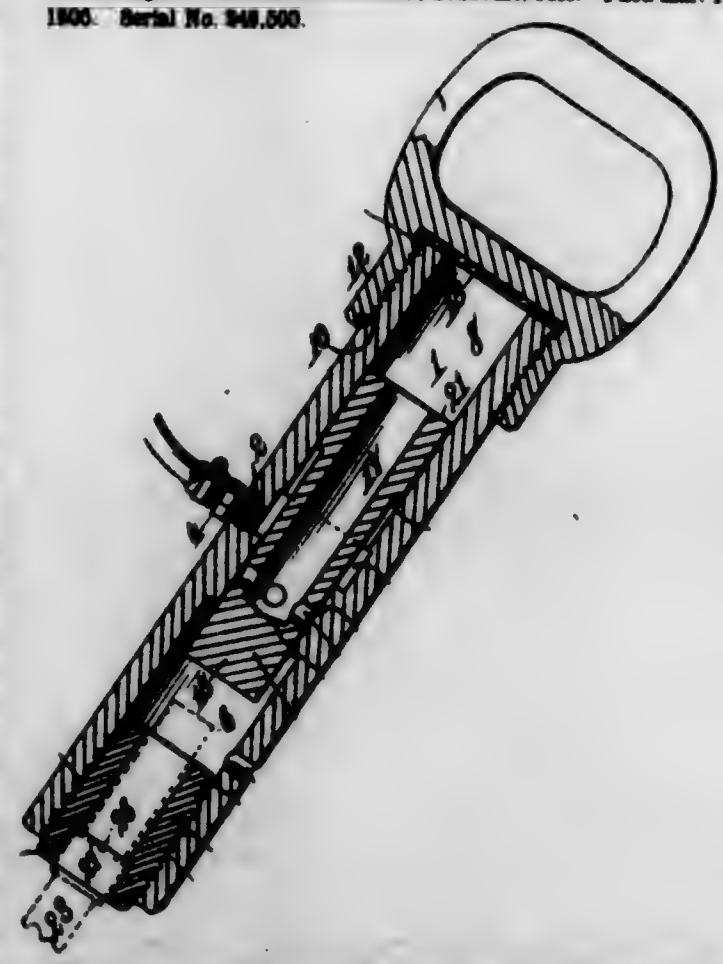
805,221. MUSIC-RACK FOR UPRIGHT KEYED INSTRUMENTS. FRIEDRICH MÜLLER, Magdeburg, Germany. Filed Oct. 20, 1904. Serial No. 230,071.



Claim.—1. In connection with an upright keyed instrument, a music-rack having wedge-shaped side supports, hooks on the upper ends of the same, horizontal braces movably attached to said supports by means of screws, and props having hinges attached to the lower part of the side supports, all as described and for the purpose set forth.

2. In connection with an upright keyed instrument, a music-rack having wedge-shaped side supports, hooks at the upper end of the same, a horizontal brace above connecting both side supports and consisting of several parts forming joints, a lower connecting horizontal brace, screws attaching said lower brace to the side supports a music-holder having hinges fastened to said horizontal brace, and props on hinges at the lower ends of the side supports, all as described and for the purpose set forth.

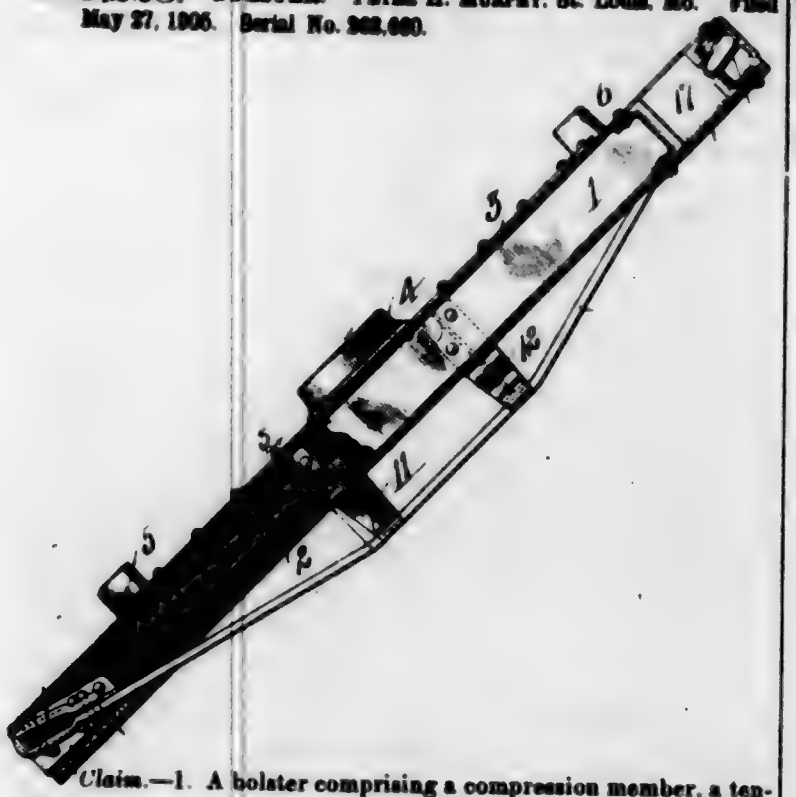
805,222. PNEUMATIC HAMMER. JEREMIAH MURPHY, Leadville, Colo., assignor to Charles T. Carnahan, Leadville, Colo. Filed Mar. 10, 1900. Serial No. 948,500.



Claim.—A portable pneumatic hammer comprising a cylinder having a transversely-arranged inlet extending entirely through the wall thereof and a transversely-arranged outlet extending entirely

through the wall thereof and with the remaining portion of the wall of the cylinder imperforated, said inlet and outlet being arranged out of alinement with respect to each other, said cylinder further provided with exterior screw-threads at its inner end and interior screw-threads at its outer end, a nipple secured in said inlet and adapted to be connected to an air-supply-pipe, an annular cap having interior screw-threads engaging the exterior screw-threads of the cylinder for connecting the latter therewith, said cap further provided with a recess, a sealing medium mounted in said recess and abutting against the inner end of the cylinder and retained in position by said cap, a handle formed integrally with said cap, a removable sleeve engaging the interior screw-threads of said cylinder and constituting a drill-socket, said sleeve provided at its inner end with a conical portion projecting away from the inner face of the cylinder, and a piston operating in said cylinder and having an expansion-chamber opening into the cylinder, and further provided with ports adapted to communicate with the interior of the cylinder, said piston acting as a valve for closing said outlet-port and adapted to engage the conical portion of said cylinder.

805,228. **BOLSTER.** PETER H. MURPHY, St. Louis, Mo. Filed May 27, 1905. Serial No. 262,660.



Claim.—1. A bolster comprising a compression member, a tension member, a strut spacing said tension and compression member intermediate of their ends, and an expansible member connecting adjacent ends of said tension and compression members.

2. A bolster comprising a compression member, a tension member, an expansible member removably mounted in one of said members and rigidly connected to the other of said members, and a strut spacing said tension and compression members intermediate of their ends.

3. A bolster comprising an I-beam compression member, bearing members mounted at the ends of said compression member and having flanges bearing against the ends of the I-beams, a tension member bent over said bearing member and secured to the same, and a strut spacing said compression and tension members.

4. A bolster comprising an I-beam compression member, a bearing member having a seat for a key mounted on each end of said compression member, keys in said bearing member, and a tension member extending over said keys.

5. A bolster comprising a compression member having I-beams, inclined slots in the webs at each end of said I-beams, bearing members between said I-beams and having parts fitting in said slots and a key-seat, keys in said bearing members, a tension member bent over and secured to said keys and a strut spacing said compression and tension members.

6. A bolster comprising an I-beam compression member, a plate tension member, and an expansible member connnecting the ends of said compression and tension members.

7. A bolster comprising an I-beam compression member, a plate tension member, and an expansible member removably mounted in one of said members and rigidly connected to the other of said members.

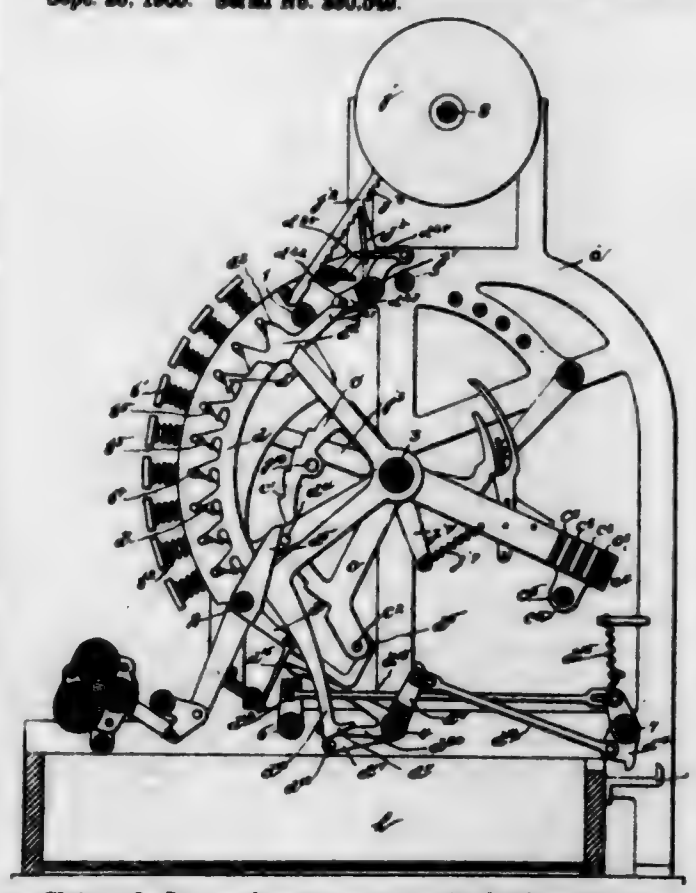
8. A bolster comprising a compression member having I-beams, a strut spacing said I-beams apart and bearing against and supporting the webs thereof, bearing members spacing said I-beams apart at their ends and bearing against and supporting the webs thereof, and a tension member spaced from said compression member by said strut and having its ends bent over and secured to said bearing members.

9. A bolster comprising a compression member having I-beams, struts upon opposite sides of the center of said compression member spacing said I-beams apart and bearing against and supporting the webs thereof, said struts having seats for a tension member, bearing members mounted at the ends of said compression member and a plate tension member bearing on said struts and having its ends bent over and secured to said bearing members.

10. A bolster comprising a compression member having I-beams, a tension member connected to the ends of said compression member, a strut spacing said members apart and plates mounted upon the ends of said compression member and arranged to be engaged with and disengaged from the lower flanges of said I-beams by movement longitudinally thereof.

11. A bolster comprising a compression member having spaced I-beams, a strut, a tension member spaced from said compression member by said strut and connected at its ends to said compression member, and plates having parts embracing the lower flanges of said I-beams at the ends of said compression member.

805,224. **CASH REGISTER AND INDICATOR.** JOHN H. MCCORMICK, Columbus, Ohio, and JAMES D. MORRISON, Washington, D. C., assignors, by mesne assignments, to The International Register Company, Columbus, Ohio, a Corporation of Ohio. Original application filed Apr. 5, 1895, Serial No. 544,583. Divided and this application filed Sept. 26, 1905. Serial No. 280,549.



Claim.—1. In a cash-register, a circular keyboard having a series of keys, and a registering mechanism independent of but adapted to be controlled by said keys, two pivoted segments adjacent said keys, one of said segments having hook-shaped projections adapted to engage said keys when depressed, and the other having beveled projections adapted to be moved by said keys so as to unlock the registering mechanism, substantially as specified.

2. In a cash-register, a circular keyboard, a series of keys thereon each having a laterally-projecting pin, a hook-segment and a plain segment pivoted so as to lie adjacent to said keys and in line with said projecting pins, a registering mechanism adapted to be controlled by said keys, a locking device for said registering mechanism, and a connection from said plain segment to said locking device whereby a movement of said segment will unlock the registering mechanism while the other segment engages the projecting pin on either of said keys which is depressed, substantially as specified.

3. In a cash-register, a normally locked operating member, a key, a detent-plate adapted to hold said key when depressed, a second plate operated by said key, and means controlled by said second plate for unlocking the operating member when the key is depressed.

4. In a cash-register, a normally locked operating member, a key, a detent-plate, hooks on said plate for engaging the key and holding the same depressed, a second detent operated by said key,

and means controlled by said second detent for unlocking the operating member when the key is depressed.

5. In a cash-register, a shaft, a plurality of keys arranged radially with respect to said shaft, a register, an operating mechanism for said register, means for locking said operating mechanism, a hooked detent for holding the keys depressed, and a second detent operated by the keys, said second detent being pivoted on said shaft and controlling the locking means.

6. In a cash-register, a register, a bank of keys, a hooked detent-plate for holding said keys depressed, a second detent operated by said keys, a normally locked operating mechanism, a pivoted locking device for said mechanism, and connections between said second detent and said locking device whereby, when a key in the bank is depressed, the said second detent will rock the locking device and release the operating mechanism.

7. In a cash-register, a shaft, a plurality of keys arranged radially with respect to said shaft, a register, an operating mechanism for said register, means for locking said operating mechanism, a detent-plate having hooks for engaging and holding the depressed keys, said plate having its edge with the hooks curved with the shaft as a center, a second detent pivoted on said shaft and adapted to be operated by the keys when they are depressed, and connections between said second detent and the locking means for the operating mechanism, whereby said operating mechanism is unlocked when the key is depressed.

8. In a cash-register, a register, a bank of keys, a hooked detent-plate for holding said keys depressed, a second detent operated by said keys, a normally locked operating mechanism, a pivoted device for locking said mechanism, and a pin or lug projecting from said second detent and adapted by contact with said locking device to rock the latter and unlock the operating mechanism.

9. In a cash-register, a register, a normally locked operating mechanism therefor, a bank of keys, a hooked segment-plate for holding said keys depressed, a second plate operated by said keys, a pivoted device for locking said operating mechanism, said device being provided with a hook for engaging a part of said mechanism, and connections between the said second plate and the pivoted device whereby the latter is rocked to disengage its hook from the operating mechanism when a key in the bank is depressed.

10. In a cash-register, a register, a normally locked operating mechanism therefor, a bank of keys, a hooked segment-plate for holding said keys depressed, a second plate operated by said keys, a pivoted device for locking said operating mechanism, said device being provided with a hook for engaging a part of said mechanism, and a pin or lug projecting from said second plate and adapted by contact with said pivoted device to rock the latter, whereby when a key in the bank is depressed the said device will be rocked and its hook disengaged from the operating mechanism.

11. In a cash-register, a register, a bank of keys, a hooked segment-plate for holding said keys depressed, a second plate operated by said keys, a normally locked operating mechanism, a pivoted device for locking said mechanism, a pin or lug projecting from said second plate and adapted by contact with said locking device to rock the latter and unlock the operating mechanism, said second plate and depressed key being adapted to hold the locking device in its unlocked position until the key is released.

12. In a cash-register, a plurality of keys, a normally locked operating mechanism, a hooked plate for retaining the keys when depressed, a second plate adapted to be moved by the keys, means operated by said second plate for unlocking the operating mechanism, and means for positively locking the hooked plate after the operating mechanism has been moved from normal position.

13. A keyboard having a series of keys adapted to be moved longitudinally, a lateral projection on each of said keys, and a pivoted segment having beveled teeth on its periphery in line with said projections, an indicator corresponding to said key, said indicator being normally held in operated position, a connection from said segment to the holding device of said indicator, and means as described for releasing the indicators corresponding to the other keys by a movement of said segment, substantially as specified.

14. A keyboard having a series of keys, a rotating indicator having numbers corresponding to the numbers on said keys and controlled by same, a normally locked actuating device adapted by its movement to operate said indicator, means for releasing the lock of said actuating device, a retaining-lever to hold said indicator in any position to which it may be moved by said actuating device and means actuated by said keys for releasing said indicator, substantially as specified.

15. A series of keys, and a pivoted vibrating segment adapted to be moved by the depression of either of said keys, an indicating-wheel having numbers corresponding to the numbers on said keys, and a rack for operating said indicating-wheel, and actuating devices controlled by said keys to cause said indicating-wheel to move to a predetermined position after a key has been depressed, a retaining-lever to engage with said rack and hold the indicator after the actuating device has returned to its normal position, and a connection from said pivoted vibrating segment to said retaining-lever whereby a succeeding movement of said segment releases said indicator, substantially as specified.

16. In a registering-machine, a key, a plate having a beveled tooth for engagement by said key, an indicator having a number corresponding to the number on the key, a normally locked actuating device adapted by its movement to operate said indicator, a connection from said plate to the lock of said actuating device, a retaining-lever for holding said indicator in any position to which it may be moved, and a connection from said plate to said retaining-lever whereby said indicator is released by movement of said plate.

17. In a cash-register of the class described, the combination with value-keys registering and indicating mechanisms, of rack-bars for the latter, a locking-frame for said rack-bars and a cam for positively forcing said frame in one of its directions said cam being operated by said keys.

18. In a cash-register, a key, a plate having a beveled tooth in line with said key, a normally locked indicator, and means on said plate for unlocking said indicator.

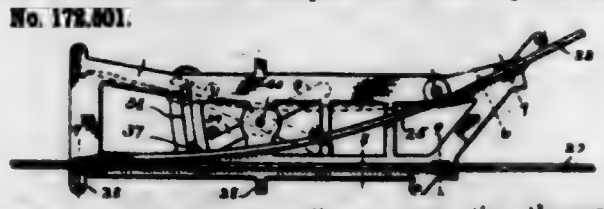
19. In a cash-register, a key, a normally locked registering mechanism controlled by said key, two plates adjacent to said key, one of said plates having means for locking said key when depressed and the other having means for engaging the key to unlock the registering mechanism.

20. In a cash-register, a key, a plate having a beveled tooth for engagement by said key, an indicator having a number corresponding to the number on the key, a normally locked actuating device adapted by its movement to operate said indicator, a connection from said plate to the lock of said actuating device, a retaining-lever for holding said indicator in any position to which it may be moved, and a connection from said plate to said retaining-lever whereby said indicator is released by a movement of said plate.

21. In a cash-register, a key, a detent for said key, a drawer, means controlled by the drawer for locking said detent, and other means controlled by the drawer for unlocking said detent.

22. In a cash-register, a key, a normally inoperative registering mechanism, two members adjacent said key, one of said members having means for locking said key when depressed and the other member being operated by said key to render the registering mechanism operative.

805,225. ELECTRIC TROLLEY-SWITCH. GEORGE H. HEDLEY and ISAAC L. BROWN, Indianapolis, Ind. Filed Sept. 11, 1903. Serial No. 172,801.

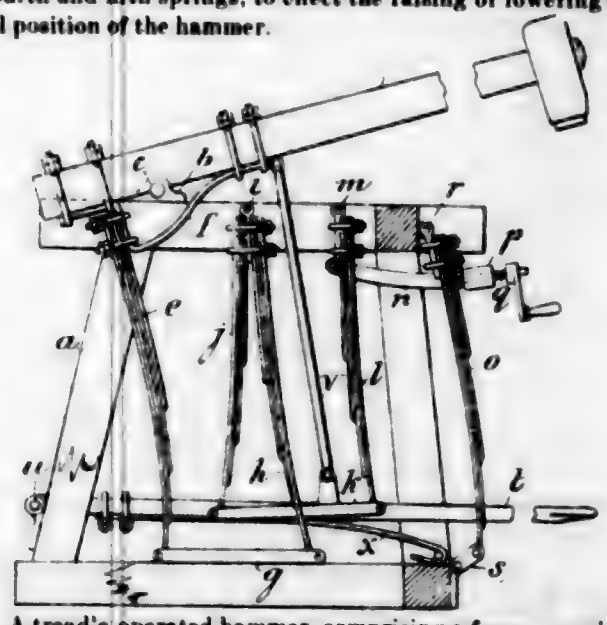


Claim.—1. In an electric-railway construction, the combination with a through trolley-wire and a side-track trolley-wire, of a switch-frame at their junction to which said trolley-wires are secured, span-wires for supporting said switch-frame, a switch on said switch-frame for connecting said side-track trolley-wire with the through trolley-wire, a lever centrally pivoted to said switch-frame and connected with said switch, and means connected with each end of said lever for actuating said lever and moving the switch.

2. In an electric-railway construction, a through trolley-wire, a switch-frame to the under side of which said trolley-wire is secured, said switch-frame having a slightly-curved substantially transverse slot in it extending to the through trolley-wire, span-wires for supporting said switch-frame, a side-track trolley-wire secured to the switch-frame at a point some distance from the through trolley-wire, a switch pivoted to said switch-frame adjacent and in line with the end of the side-track trolley-wire and widened so as to extend lower than the through trolley-wire, a headed bolt extending from the free end of the switch loosely through the slot in the switch-frame for supporting and guiding the free end of the switch, a lever pivoted between its ends upon said switch-frame that engages said headed bolt so as to actuate said switch, and means connected with each end of said lever for operating it.

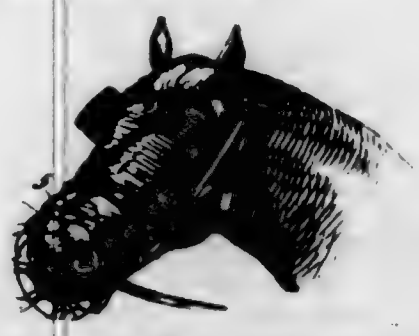
805,226. TREADLE-HAMMER. CARL M. HIELSEN, Roskilde, Denmark. Filed May 17, 1905. Serial No. 260,861.

Claim.—1. A treadle-operated hammer, comprising a frame, a swinging hammer mounted thereon, means for varying the striking position of the hammer, embodying a spring located at right angles to the hammer, rearwardly of its swinging support, a strap attached to this spring and extending forwardly of such support, a pair of similarly-disposed springs, a connection between one of the latter and the spring first named, fourth and fifth similarly-disposed springs, a connection between the fourth and second springs, an anchoring-link for the fifth spring, and an adjusting device coöperating with said fourth and fifth springs, to effect the raising or lowering of the normal position of the hammer.



2. A treadle-operated hammer, comprising a frame, a swinging hammer mounted thereon, means for varying the striking position of the hammer, embodying a spring located at right angles to the hammer, rearwardly of its swinging support, a strap attached to this spring and extending forwardly of such support, a pair of similarly-disposed springs, a connection between one of the latter and the spring first named, fourth and fifth similarly-disposed springs, a connection between the fourth and second springs, an anchoring-link for the fifth spring, and a shackle and adjusting-screw coöperating with said fourth and fifth springs, to effect the raising or lowering of the normal position of the hammer.

805,227. **MUZZLE.** ELISHA V. ONEAL, Ravenswood, La. Filed June 24, 1905. Serial No. 266,902.



Claim.—1. In a muzzle, the combination of end frames, link members connecting said frames, frame members for one of the end frames arranged to close the adjacent end of the muzzle, the end frames, links and frame members being adapted to be collapsed so that the muzzle will be of approximately flat form.

2. In a muzzle, a body including an end frame, and frame members operatively arranged for simultaneous movement carried by said end frame and movable to open and close the adjacent end of the muzzle.

3. In a muzzle, a body including an end frame, and frame members overlapping each other at adjacent ends, whereby they are movable simultaneously, said members being pivoted to the aforesaid frame and movable to open or close an end of the muzzle.

4. A muzzle composed of opposing end frames, link members connecting the end frames, and frame members carried by one of the end frames and movable to open or close the adjacent end of the muzzle.

5. A muzzle composed of opposing end frames, link members connecting said end frames, and frame members carried by each of the end frames and movable to open or close either end of the muzzle.

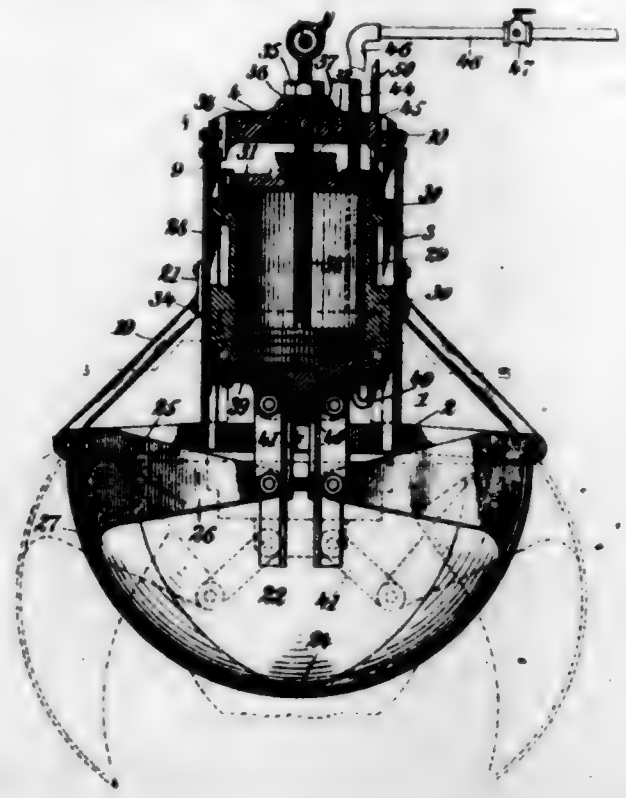
6. In a muzzle, a body including an end frame, frame members carried by the said frame and movable to open and close the adjacent end of the muzzle, and a member for connecting certain of the frame members to hold the same in a position closing an end of the muzzle.

7. A muzzle comprising a body, and means for closing or opening said muzzle at either of opposite ends.

8. A muzzle comprising opposing end frames, links pivoted to each end frame and hingedly connected so as to connect the end frames, frame members for each end frame adapted to close or open the adjacent end of the muzzle, means for holding the frame members in such a position as to close the adjacent end of the muzzle, said frame members being arranged for simultaneous movement, connections of the parts aforesaid being such that the muzzle may be collapsed to assume an approximately flat form when out of use.

9. A muzzle composed of opposing end frames, link members loosely connecting said frames and permitting movement of the frames toward each other, and frame members carried by each of the end frames to close either of opposite ends of the muzzle and operatively connected with each other for simultaneous movement.

805,228. **EXCAVATOR.** WILLIAM H. ONION, New Orleans, La. Filed Mar. 28, 1905. Serial No. 252,479.



Claim.—1. In an excavator, in combination, a frame, a piston supported thereupon, a bucket formed of separable segments, a cylinder receiving said piston, and connections between said cylinder and said segments for operating the same.

2. In an excavator, in combination, a frame, a piston depending therefrom, a cylinder receiving said piston, means for guiding said cylinder upon said frame, a bucket composed of separable segments, and connections between said cylinder and said segments.

3. In an excavator, in combination, a frame, comprising an upwardly-disposed cross-head, a piston having a rod passing freely through said cross-head and depending therefrom, a cylinder receiving said piston, means for guiding said cylinder upon said frame, a plurality of bucket-segments, and means for connecting the said bucket-segments with said cylinder.

4. In an excavator, in combination, a frame, comprising an elevated cross-head having an enlarged opening therethrough, a piston having a rod passing through said enlarged opening and having a collar attached thereto with a convex lower face, said cross-head having a cupped recess seating said collar, a cylinder receiving said piston, means for guiding said cylinder upon said frame, a sectional bucket, and means for actuating said bucket and mechanism connecting said bucket with said cylinder.

5. In an excavator, in combination, a frame comprising a ring in the lower portion thereof, vertically-disposed guides attaching to said ring and extending upwardly thereof, a cross-head attached to the upper extremity of said guides, a piston depending from said cross-head, a cylinder receiving said piston and having projections moving in said guides, arms carried by said ring, bucket-segments attaching at the extremities of said arms, and links attached to said cylinder and connecting with said bucket-segments.

6. In an excavator, in combination, a frame comprising a lower ring, channel members attaching to the inner face thereof and constituting guides, a cross-head attaching to the upper extremity of said

channel members, a piston depending from said cross-head, a cylinder receiving said piston and having lugs on the body thereof receiving said channels, radially-disposed arms attaching to the outer face of said ring, braces connecting the extremities of said arms, bucket-segments pivotally attaching at the extremities of said arms, and links connecting said cylinder with said bucket-segments.

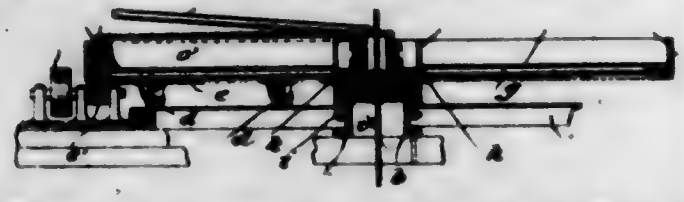
7. In an excavator, in combination, a frame, comprising a ring, vertically-disposed guide members attaching to the inner face thereof, a cross-head attaching to said guide members at the upper extremities thereof, radially-disposed arms attaching at the outer face of said ring, transverse bolts carried at the extremities of said arms, braces carried upon said bolts, and attaching to said guides, gusset-plates also carried by said bolts, a cylinder receiving said piston and moving between said guides, links connecting said cylinder with said gusset-plates, and segment-shells attaching to said gusset-plates.

8. In an excavator, in combination, a frame comprising a lower ring, vertically-disposed channel-guides attached to the inner face thereof, a cross-head attaching to the upper extremities of said channel-guides, a piston depending from the said cross-head, a cylinder receiving said piston and having lugs projecting into the channels of said channel-guides, radially-disposed arms attaching to the outer face of said ring, diagonal braces connecting the extremities of said arms, transversely-disposed bolts at the extremities of said arms and constituting pivots, main braces having heads attaching at said bolts and attaching at their upper extremities to said channel-guides, bucket-segments, gusset-plates attaching thereto and having ears mounted upon said bolts, and links connecting said cylinder with said gusset-plates.

9. In an excavator, in combination, a frame comprising a vertical guide, a cylinder movably mounted in said guide, bucket-segments carried by said frame, members connecting with said bucket-segments and projecting inwardly in the direction of said cylinder, said cylinder having a lower head with wings formed on the outer face thereof, and links attaching to said wings and connected to said members.

10. In an excavator, in combination, a frame, comprising a vertical guide, a cylinder adapted to reciprocate in said guide, radially-projecting arms attaching to said guide, a plurality of bucket-segments pivotally attaching at the extremities of said arms, the said cylinder having a lower head with a plurality of radially-disposed wings, gusset-plates projecting inwardly from said bucket-segments to points adjacent to said wings, and links connecting said gusset-plates with said wings.

805,229. APPARATUS FOR TREATING SLIMES. EDWARD PARRISH, Newport, R. I. Filed Apr. 12, 1905. Serial No. 255,170.



Claim.—1. In an apparatus of the character described, the combination of a horizontal filter-tank a plurality of partitions whereby the lower part of said tank is divided into a plurality of compartments, a filter-body closing and forming a slimes-chamber common to, all said compartments, means whereby said tank may be rotated, and means maintaining a vacuum in said compartments.

2. In an apparatus of the character described, the combination of a horizontal filter-tank a plurality of partitions whereby the lower part of said tank is divided into a plurality of compartments, a filter-body closing and forming a slimes-chamber common to, all said compartments, means whereby said tank may be rotated, means maintaining a vacuum in said compartments during the greater part of each revolution, and means cutting off each said compartment successively from said last-mentioned means and admitting air into said compartment.

3. In an apparatus of the character described, the combination of a horizontal filter-tank a plurality of partitions whereby the lower part of said tank is divided into a plurality of compartments, a filter-body closing and forming a slimes-chamber common to, all said compartments, means feeding slimes to said filter-body, means whereby said tank may be rotated, and means maintaining a vacuum in said compartments.

4. In an apparatus of the character described, the combination of a horizontal filter-tank, a plurality of radial air-tight partitions dividing the lower part thereof into a plurality of compartments, a filter-body closing said compartments whereby a slimes-chamber common to all said compartments is provided, means feeding slimes to said chamber, means whereby said tank may be rotated, means maintaining a vacuum in said compartments during the greater part of each revolution, and means cutting off each said compartment successively from last-mentioned means and admitting air into said compartment.

5. In an apparatus of the character described, the combination of a horizontal filter-tank, a plurality of radial air-tight partitions dividing the lower part thereof into a plurality of compartments, a filter-body closing said compartments whereby a slimes-chamber common to all said compartments is provided, a perforated metallic sheathing for said body, means feeding slimes to said chamber, means whereby said tank may be rotated, means maintaining a vacuum in said compartments during the greater part of each revolution, and means cutting off each said compartment successively from said last-mentioned means and admitting air into said compartment.

6. In an apparatus of the character described, the combination of a horizontal filter-tank, a plurality of radial air-tight partitions dividing the lower part thereof into a plurality of compartments, a filter-body closing said compartments whereby a slimes-chamber common to all said compartments is provided, means whereby said tank may be rotated, means maintaining a vacuum in said compartments during the greater part of each revolution, means cutting off each of said compartments successively from said last-mentioned means and admitting air into said compartment, means in advance of said last-mentioned means feeding slimes to said chamber, and a screen extending radially of said tank dividing said chamber between said cut-off means and said feeding means.

7. In an apparatus of the character described, the combination of a central bearing having a vacuum-chamber and a pressure-chamber therein, means whereby said vacuum-chamber may be connected with a vacuum-pump, means whereby said pressure-chamber may be connected with air under atmospheric pressure, or greater, a horizontal filter-tank mounted on and rotatable about said bearing, a plurality of air-tight partitions dividing the lower part of said tank into a plurality of compartments, a filter-body closing and forming a slimes-chamber common to, all said compartments means whereby said compartments are during each revolution placed in communication with said vacuum and said pressure chamber, and means rotating said tank.

8. In an apparatus of the character described, the combination of a central bearing having a vacuum-chamber and a pressure-chamber therein, means whereby said vacuum-chamber may be connected with a vacuum-pump, means whereby said pressure-chamber may be connected with air under atmospheric pressure, or greater, a horizontal filter-tank mounted on and rotatable about said bearing, a plurality of air-tight partitions dividing the lower part of said tank into a plurality of compartments, a filter-body closing and forming a slimes-chamber common to, all said compartments means whereby said compartments are during each revolution placed in communication with said vacuum and said pressure chamber, means rotating said tank, and means feeding slimes to said filter.

9. In an apparatus of the character described, the combination of a central bearing having a vacuum-chamber and a pressure-chamber therein, means whereby said vacuum-chamber may be connected with a vacuum-pump, means whereby said pressure-chamber may be connected with air under atmospheric pressure, or greater, a hub mounted on said bearing and rotatable about same, a filter-tank carried by said hub, a plurality of air-tight partitions dividing the lower part of said tank into a plurality of compartments, a filter-body closing said compartments, said hub having a plurality of passages therethrough, each adapted to communicate with said vacuum-chamber, and said pressure-chamber, successively, and said compartments respectively having openings therein registering with said passages, and means rotating said tank and said hub

10. In an apparatus of the character described, the combination of a central bearing having a vacuum-chamber and a pressure-chamber therein, a valve-block seated in said pressure-chamber, means whereby said vacuum-chamber may be connected with a vacuum-pump, means whereby said pressure-chamber may be connected with air under atmospheric pressure or greater, a hub mounted on said bearing and rotatable about same, a filter-tank carried by said hub, a plurality of air-tight partitions dividing the lower part of said tank into a plurality of compartments, a filter-body closing said compartments, said hub having a plurality of passages therethrough, each adapted to communicate with said vacuum-chamber, and said pressure-chamber, successively and said compartments having respectively openings therein registering with said passages, and means rotating said tank and said hub.

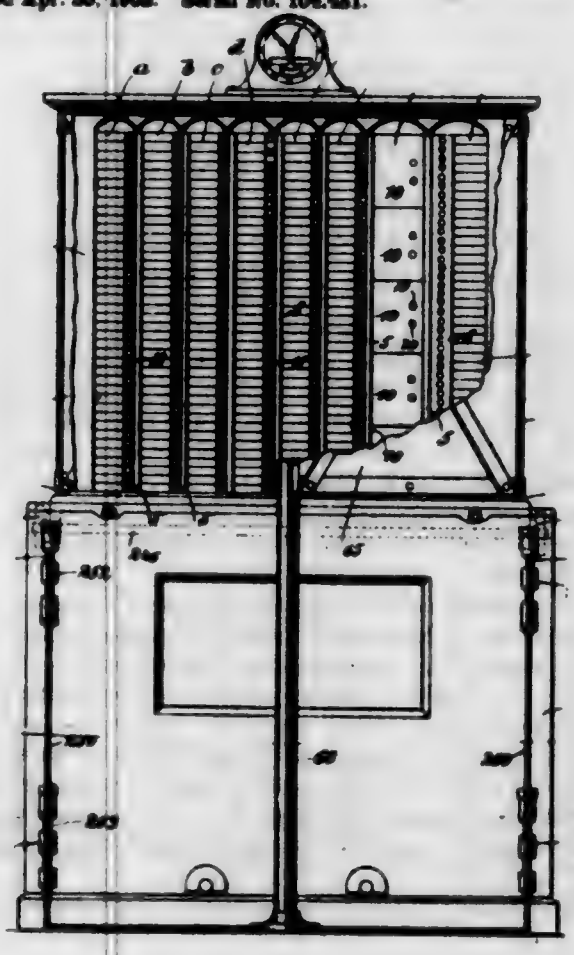
11. In an apparatus of the character described, the combination of a central bearing having a vacuum-chamber and a pressure-chamber therein, a spring-pressed valve-block whereby the vacuum-compartments are automatically connected with said pressure-chamber, means whereby said vacuum-chamber may be connected with a vacuum-pump, means whereby said pressure-chamber may be connected with air under atmospheric pressure or greater, a hub mounted on said bearing and rotatable about same, a filter-tank carried by said hub, a plurality of air-tight partitions dividing the lower part of said tank into a plurality of compartments, a filter-body closing said compartments, said hub having a plurality of passages therethrough, each adapted to communicate with said vacuum-chamber, and said pressure-chamber, successively and said compartments having respectively, openings therein registering with said passages, and means rotating said tank and said hub.

12. In an apparatus of the character described, the combination of a central bearing having a vacuum-chamber and a pressure-chamber therein, means whereby said pressure-chamber may be connected with a vacuum-pump, means whereby said pressure-chamber may be connected with air under atmospheire pressure, or greater, a hub mounted on said bearing and rotatable about same, a filter-tank carried by said hub, a plurality of air-tight partitions dividing the lower part of said tank into a plurality of compartments, a filter-body closing said compartments, said hub having a plurality of passages therethrough, each adapted to communicate with said vacuum-chamber, and said pressure-chamber, successively, and said compartments respectively having openings therein registering with said passages, a closure whereby said compartments are successively cut off from both said vacuum and said pressure chambers during a part of the charging interval, and means rotating said tank and said hub.

13. In an apparatus of the character described, the combination of a rotary filter-body, means creating a vacuum under successive sections of said body, means cutting off the vacuum and admitting air to said sections successively, and a launder or supply-pipe projected over and extended radially of said filter-body, whereby slimes will be discharged on said section at a point beyond that at which said last-mentioned means is situated.

14. In an apparatus of the character described, the combination of a rotary filter-body, means creating a vacuum under successive sections of said body, means cutting off the vacuum and admitting air to said sections successively, a launder or supply-pipe projected over and extended radially of said filter-body, whereby slimes will be discharged on said section at a point beyond that at which said last-mentioned means is situated, and a screen between said launder and said last-mentioned means.

805,230. VOTING-MACHINE. JOHN P. PAYNTER, Topeka, Kans. Filed Apr. 23, 1902. Serial No. 104,421.



Claim.—1. A voting-machine having individual-voting slides each having a locking device and an individual register, a series of straight-ticket-voting devices each having a locking device, a total-register mechanism, vertical register-slides, levers between the individual-voting slides and said register-slides to actuate the latter, a register-stem, means actuated by the register-slides and by either of the straight-ticket devices to move the register-stem, individual-register-actuating bars controllable by the straight-ticket devices to actuate any one series of individual registers, and means for releasing the voting devices

2. A voting-machine having individual-voting slides, each associated with a locking device and with an individual register, straight-ticket slides each associated with a locking device, a straight-ticket-voting lever operatively related to each straight-ticket slide, a register-actuating bar controllable by each straight-ticket lever and operatively connected to the individual registers in one column of individual-voting slides, a total-register mechanism, a register-stem, a series of vertical register-slides controllable by the columns of individual-voting slides, means actuated by either of the straight-ticket levers and the vertical register-slides to impart movement to the stem of said total-register mechanism, trip devices operatively related to the locking devices for the individual and straight ticket slides, and booth-actuated mechanism to shift the trip devices and release the locking devices from the voting-slides.

3. In a voting-machine, the combination with a series of voting devices disposed in columns, and a multiple register mechanism, of a register-actuating stem, a series of arms having a connecting-bar arranged to actuate said stem, a lever controlled by each voting device, and a series of reciprocating register-slides each having operative relation to one of said arms and to a series of voting-device-actuated levers.

4. In a voting-machine, an arbitrary locking device for voting-slides, comprising a series of shafts each having toothed wheels, reciprocating bars provided with removable pins adapted for engagement with said toothed wheels, and booth-actuated devices for reciprocating said bars, combined with a plurality of voting devices, and a train of operative connections between the voting devices and the series of shafts.

5. A voting-machine having two doors adapted to be opened by voters of different sexes, a plurality of voting devices, means for locking the devices when operated, an arbitrary locking mechanism including toothed wheels and bars having pins which are shiftable to restrain certain wheels and voting devices from actuation and normally occupying an inactive relation to said toothed wheels, means actuated by one of the booth-doors to automatically bring the locking-pins in operative relation to certain wheels and voting devices of the series, and trip devices controlled by either of the booth-doors to release the voting devices from restraint by the locking devices.

6. A voting-machine having individual-voting devices arranged in columns and rows, register devices actuated thereby, individual locking devices for the voting devices, another column of voting-slides disposed in pairs and with each slide of each pair provided with spaced notches, a pair of connected levers disposed adjacent to each pair of notched slides to have interlocking engagement therewith, means to shift the two levers on the inward movement of either slide of the pair, a locking-dog adjacent to one lever of each pair, and booth-actuated tripping devices to release the locking devices and the locking-dogs.

7. A voting-machine having columns of push-slides, locking-dogs therefor, individual registers associated with the slides, a multiple register, vertically-movable slides each connected with a series of push-slides in one column and arranged to actuate the multiple register, a pair of feed and take-up spools adjacent to each slide in one column of slides, a ratchet on each take-up spool, a shutter adjacent to each slide in one of said columns, and levers arranged to be individually shifted by slides in one column and each linked to one of the shutters and carrying a pawl which engages with the ratchet of one of the take-up spools of the series.

8. A voting-machine having a plurality of slides, and a cumulative voting mechanism comprising a series of shafts geared together for simultaneous rotation, sectors on said shafts, means carried by the slides and arranged to turn the sectors with a step-by-step motion, means for limiting the axial movement of the shafts, and means for locking the sectors and the slides against continued movement after the slides shall have been actuated a limited number of times.

9. A voting-machine having a group of voting-slides and a cumulative-voting mechanism, the latter comprising a series of sectors arranged to have interlocking engagement individually with the

slides, means carried by the slides to turn the sectors with a step-by-step movement, means connecting the sectors in series and simultaneously actuating the same when either slide is operated, and a detent mechanism for collectively controlling the movement of the group of sectors within a predetermined limit.

10. A voting-machine having columns of push-slides each associated with a register mechanism and a locking mechanism, a cumulative-voting mechanism having a series of locking-sectors arranged to be turned into locking engagement with a series of slides, and said locking-sectors limited in their movement by suitable detent devices, mechanism for holding certain slide-locking devices out of service, and booth-actuated trip devices for releasing the push-slides from restraint by the locking-sectors of the cumulative-voting mechanism.

11. A voting-machine having voting devices, registers actuated thereby, individual locking-dogs for said voting devices, trip-shafts having fingers normally free from engagement with the dogs, a group of vertical trip-slides operatively related to the rock-shafts to simultaneously turn the same, and a booth-actuated shaft connected with the group of said trip-slides.

12. A voting-machine having columns of individual slides each associated with a register mechanism and provided with a notch, a separate locking-dog arranged to engage with said notch of each slide, trip-shafts having the trips arranged to engage with a row of locking-dogs, trip-slides having means to engage with all the columns of trip-shafts, a booth having door-actuated mechanism, and a rock-shaft 80 having means operatively connected with the trip-slides and with said door-actuated mechanism of the booth whereby the locking-dogs will be disengaged from the push-slides by the opening and closing of the booth.

13. A voting-machine having push-slides, individual registers controlled thereby, a common register, a series of vertical gravity register-slides, intermediate connections between the register-slides and the register to actuate the latter on the elevation of said slides, and levers each having an arm connected with one push-slide and another arm connected with one register-slide, all of the register-slides of the series arranged to be raised by the operation of a push-slide and adapted to impose their weight on the actuated lever to return the pushed-in slide to normal position.

14. A voting-machine having columns of individual push-slides, locking devices therefor, an individual register for each side, a group of register-actuating slides, an individual lever connecting one push-slide with one slide of the group of register-actuating slides, a common or public register mechanism, a register-stem, and a connecting-bar united to the group of register-actuating slides and arranged to lift said stem of the public-register mechanism.

15. A voting-machine having a public register provided with separate tally devices, voting devices, a register-stem, means actuated by the voting devices to impart reciprocating play to the stem, and booth-doors actuating a train of operative connections with said register-stem to turn the latter axially and shift the same into operative relation to one or the other of said tally devices.

16. A voting-machine having columns of individual push-slides, each associated with a register mechanism, a multiple locking mechanism comprising locking-shafts provided with locking-wheels adapted for engagement by studs on a series of vertically-movable locking-bars, and time-controlled mechanism having operative engagement with said locking-bars and adapted to prevent the push-slides from being operated within certain time limits.

17. A voting-machine having columns of push-slides, a separate register therefor, booth-doors provided with cams, a slidable bar engaging with said cams, an arbitrary locking mechanism including vertically-movable slides arranged to lock certain of the individual push-slides from operation, and a train of operative connections between said arbitrary locking-slides and the slidable bar.

18. A voting-machine having columns of individual push-slides each associated with a register mechanism, a row of locking-shafts provided with columns of locking-wheels, connections between the locking-shafts and the individual slides, arbitrary locking-slides provided with shiftable pins adapted for engagement with all of the locking-wheels except certain reserve wheels, a row of rock-shafts having operative engagement with the arbitrary locking-rods, and a slidable door-actuated rod or bar having means for simultaneously rocking said shafts to bring the arbitrary locking devices into active positions.

19. A voting-machine provided with columns of individual push-slides, individual registers therefor, straight-ticket slides, a common register mechanism, a group of register-slides operatively related to all the push-slides and arranged to actuate the common register mechanism, straight-ticket-voting levers each connected with one of the straight-ticket slides and adapted to actuate the group of register-slides, and register-operating bars each connected with one of the straight-ticket-voting levers and carrying means for collectively operating all the registers associated with one column of push-slides.

20. A voting-machine having columns of individual push-slides, an individual-register mechanism for each push-slide, straight-ticket slides each having two notches, a group of register-bars actuated by the straight-ticket slides and each carrying devices for operating all of the registers in one column of individual push-slides, and a series of locking mechanism including a group of pawls movable into locking engagement with all of the notched straight-ticket slides by the operation of either of said slides.

21. A voting-machine having columns of individual push-slides, individual registers therefor, straight-ticket slides each having two notches, a group of register-bars each controlled by one straight-ticket slide and carrying means for actuating all the registers in one column of individual push-slides, a public-register mechanism, a group of vertically-movable slides adapted for actuation by either the individual push-slides or by the straight-ticket slides, and a row of locking-dogs controlled by the register-bars and adapted to be simultaneously thrown into engagement with one notch or the other of all the straight-ticket slides on the pushing in of either straight-ticket slide.

22. A voting-machine having voting devices, a public-register mechanism, booth-shafts provided with cams, an extensible slidable bar disposed between and normally engaging with said cams, and register-actuating devices controllable by said slidable bar and by the voting devices.

23. A voting-machine having columns of individual push-slides each provided with a register mechanism, a straight-ticket-voting mechanism having means for actuating all the registers in any one column, a series of locking-shafts provided with locking-wheels, a group of multiple locking-bars having means for engagement with said locking-wheels, and a rock-shaft adapted for actuation by either of the straight-ticket slides and having means for moving the multiple locking-bars into locking engagement with the locking-wheels.

24. A voting-machine having columns of independent push-slides each provided with a locking mechanism and with an individual-register mechanism, a booth provided with shafts, intermediate shafts geared to the booth-shafts and provided with cams, a two-part slidable bar disposed between said cams and adapted to be shifted thereby, means for holding the members of said bars normally in operative positions, an arbitrary locking mechanism having connection with said slidable bar, and a common register mechanism having devices adapted to be shifted by said slidable bar.

25. A voting-machine having columns of individual push-slides each associated with a register mechanism and with a locking mechanism, a booth having door-shafts geared to intermediate cam-shafts, a booth-actuated bar composed of two sections coupled together by an intermediate sleeve and normally pressed to operative positions by a resistance-spring, an arbitrary locking mechanism for restraining certain slides from operation and adapted to be controlled by said booth-actuated bar, and a register mechanism having shiftable devices adapted to be adjusted by said booth-actuated bar.

26. A voting apparatus comprising a base, a machine containing the register mechanism and adapted to be housed or inclosed within said base or to be supported in an elevated operative position thereby, shafts carried by said machine-casing and geared to suitable racks within the base, and means for rotating and locking said shafts.

27. A voting-machine having columns of individual push-slides and a cumulative-voting mechanism in active relation to a group of push-slides, and comprising a series of locking-shafts, toothed sectors on said shafts and having means for interlocking engagement with said slides, feed-pawls carried by the slides and arranged to engage with said locking-sectors to turn the latter with a step-by-step movement on the successive operation of the slides, a train of gearing connecting said shafts in series for simultaneous operation, and means to limit the turning movement of the locking-shafts and the group of sectors.

28. A voting-machine comprising columns of push-slides each associated with a register mechanism, locking-shafts provided with toothed sectors, each sector arranged to have interlocking engagement with one of the push-slides, and means carried by the push-slides for turning the locking-shaft with a step-by-step movement, a gear-train connecting certain locking-shafts in series, a coacting stop-pin and arm to limit the locking-shafts to movement under a certain number of pushes on the push-slides, and trip-actuating devices to release the detent mechanism of the cumulative-voting devices.

29. A voting-machine having columns of individual push-slides

each associated with a register mechanism, locking-shafts provided with gears arranged to mesh with intermediate gears and connecting said shafts in series to impel them all in one direction, an arm on one of the shafts, a shiftable element disposed in the path of the arm and adapted to be placed at variable distances from said arm in the normal position of the latter, and means actuated by the push-slides to turn the locking-shafts with a step-by-step movement, and adapted to restrain the push-slides from further actuation after said slides shall have been actuated a certain number of times.

30. A voting-machine having columns of individual push-slides each associated with a register mechanism, locking-shafts geared together by a train of active and idle gears and adapted to rotate in one direction, a stop-arm on one of said shafts, a shiftable stop element disposed in the path of said arm, locking-sectors carried by the shafts and having means for movement into locking engagement with the push-slides, and pawls carried by the push-slides and arranged to engage with said locking-sectors.

31. A voting-machine having columns of individual push-slides each provided with a register mechanism, a series of locking-shafts connected together by a train of intermediate gearing, a coacting stop arm and pin in operative relation to one of said shafts, locking-sectors on the shafts and arranged to be actuated by the push-slides and to have locking engagement with the latter, a pawl-and-ratchet locking mechanism for the train of geared shafts, and booth-actuated trip devices to automatically withdraw the pawl from engagement with the ratchet and release the train of geared shafts.

32. A voting-machine having columns of individual push-slides each associated with a register mechanism, individual locking-dogs for engagement with said slides, trip-shafts having means for lifting the locking-dogs from the push-slides, locking-arms attached to the trip-shafts and having means for locking said shafts and the dogs in inactive positions relative to the push-slides, a series of locking-shafts having means to limit the angular movement thereof, and locking-sectors on said locking-shafts and occupying operative relation to the push-slides.

33. A voting-machine having a cumulative-voting mechanism including a group of voting devices, a group of locking-shafts, a train of gears connecting said shafts, an arm on one of said shafts, a stop in the path of said arm, a group of sectors carried individually by the shafts and each having means for interlocking with one of the voting devices, and a feed-pawl actuated by each voting device and engaging with one of said sectors.

34. A voting-machine having a cumulative-voting mechanism comprising a group of voting devices, a group of locking-sectors each arranged to have interlocking engagement with one of said voting devices, a train of gearing connecting the sectors, means on the voting devices to turn the sectors of the group with a step-by-step feed, an arm movable with one of the sectors, a stop in the path of the arm, a pawl-and-ratchet detent to restrain the gear-train from movement in a backward direction, and booth-actuated means to release the detent.

35. In a voting-machine, the combination of a notched voting-slide, a locking-shaft adjacent thereto, a toothed sector on the shaft, a stud carried by the sector and arranged to fit in the notch of the slide, and a pawl mounted on the slide for engagement with the toothed sector.

36. In a voting-machine, the combination of voting devices, a series of locking-shafts, means for operatively connecting said locking-shafts with the voting devices, toothed wheels on said shafts, vertically-movable locking-slides having pins arranged to engage the locking-wheels, and a time-controlled mechanism for lifting the locking-slides and comprising a time-train and means to set the time-train for operation at a given period.

37. In a voting-machine, the combination of voting devices, a series of locking-shafts, means connecting said locking-shafts with said voting devices, toothed wheels on said shafts, vertically-movable locking-slides having pins arranged to engage the locking-wheels, and a time-controlled mechanism for lifting the locking-slides and comprising an upstanding rod 241 having a suitable retractor, a locking-lever, a locking-disk for controlling said lever and having operative connection with said rod, and a time-train to automatically release said locking-disk from restraint at a suitable period.

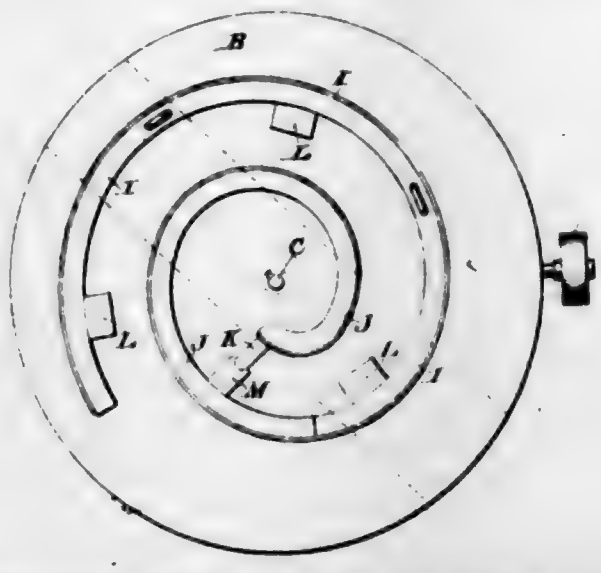
38. In a voting-machine, the combination of voting devices, a series of locking-shafts, means for operatively connecting said locking-shafts with said voting devices, toothed wheels on said shafts, vertically-movable locking-slides having pins arranged to engage said toothed wheels, and a time-controlled mechanism for lifting the locking-slides and comprising an upstanding spring-actuated rod, a locking-lever connected with said rod and provided with a gear-segment, a gear meshing with said segment, a notched disk fast with said gear, a spring provided with a finger engaging said disk, a shiftable clutch-gear having a notched hub and acted on by said spring, an arbor having a pin and adapted to be adjusted to any predetermined position, and a time-train having operative relation to the shiftable clutch-gear.

39. In a voting-machine, a series of voting devices, register mechanisms controllable by said voting devices, locking devices individually actuated by the voting devices on the operation of the latter, a multiple locking mechanism including a plurality of locking-detents and a corresponding number of slides having means for engagement with said locking-detents, and time-controlled mechanism connected operatively with the multiple locking mechanism to move the slides simultaneously into engagement with said detents and lock all the voting devices.

40. A voting-machine having a hollow or chambered base, a casing carrying voting devices and movable vertically with relation to said base, and casing-adjusting means connected with the base and the casing to move the latter to a raised position on the base and to lower said casing within the base.

41. In a voting-machine, the combination with voting-keys arranged in party rows, a series of locking-slides one arranged adjacent to the keys of each row, a time-train, and means operated by said time-train for automatically shifting said locking-slides into locking relation to said keys at a predetermined time.

805,231. **MACHINE FOR THE MANUFACTURE OF SCROLLS.** MICHAEL PENBROKE, Montpelier, Vt. Filed Apr. 3, 1906. Serial No. 310,696.



Claim.—1. In a machine for forming metal scrolls, a rotatable table, a central scroll-form thereon, means for rotating said table, means for detachably fastening the end of a metal strip to the inner end of said scroll-form, a scroll-shaped rib or section adapted to form when applied to said table a continuation of the scroll-form, and means for detachably holding said rib or section to the table.

2. In a machine for forming metal scrolls, a rotatable table, a scroll-form thereon, means for rotating the table, means for detachably fastening the end of a metal strip to the inner end of said scroll-form, a scroll-shaped rib or section adapted when applied to said table to provide a continuation of said scroll-form, and pins on said rib or section for entering holes in the table for removably holding said rib in place, substantially as described.

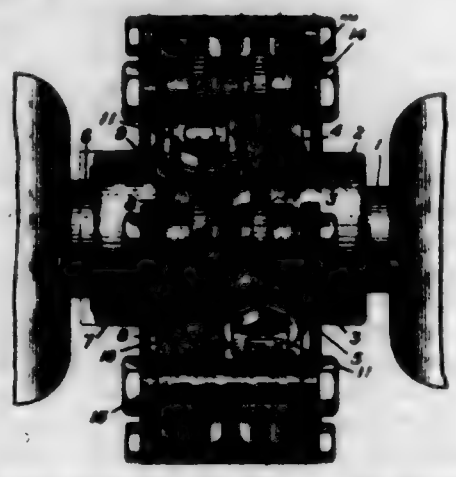
3. In a machine for forming metal scrolls, a rotatable table, a scroll-form thereon, having its outer end overlapping its inner, means for rotating the table, wedging means located between the overlapping ends for clamping the end of a metal strip against the inner end of the scroll-form, and a scroll section or rib having means for detachably connecting it to the table to form a continuation of the scroll-form, substantially as described.

4. In a machine for forming metal scrolls, a table with means for rotating it, a scroll-form thereon, means for clamping a strip of metal to the inner end of the form, a scroll section or rib, and means for detachably connecting the rib to the table at one end of the scroll-form providing a space or channel between its inner wall and the outer wall of the scroll-form exceeding in width the thickness of the metal strip to be bent, substantially as described.

5. In a machine for forming metal scrolls, a rotatable table, and a spiral scroll-forming flange on the face thereof providing an intervening spiral groove, means for holding the end of a metal strip

against the flange at the inner end of said groove said flange having an outer removable section, substantially as described.

805,232. SHAFT-COUPLING. RICHARD H. RICE, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Apr. 24, 1905. Serial No. 257,162.



Claim.—1. In a coupling, the combination of a pair of shafts, rollers mounted on the shafts in such manner that their axes are at right angles to those of the shafts, a drum or support surrounding the shafts, and rollers carried by the drum, which engage with the shaft-rollers.

2. In a coupling, the combination of a pair of shafts, rollers mounted on the shafts in such manner that their axes are at right angles to those of the shafts, a drum or support surrounding the shafts, rollers carried by the drum, which engage with the shaft-rollers, and spindles for the drum-rollers which extend parallel to the normal axes of the shafts.

3. In a coupling, the combination of a pair of shafts, heads carried thereby which are provided with radial studs, rollers mounted thereon, a drum or carrier which surrounds the shafts, rollers mounted on the drum, which engage with and turn on the shaft-rollers, and a plurality of spindles carried by the drum upon which the rollers are mounted.

4. In a coupling, the combination of two abutting shafts, a drum, one set of rollers carried by the shafts, a second set of rollers carried by the drum, the number of rollers carried by the drum exceeding that carried by the shafts, and pivots for the rollers which permit them to engage and turn on each other.

5. In a coupling, the combination of two abutting shafts, a drum surrounding the adjacent ends of the shafts, heads located at the ends of the drum, spindles supported by the heads, rollers carried by the spindles, and other rollers carried by the shafts and extending between and engaging the rollers on the drum.

6. In a coupling, the combination of two abutting shafts carrying radially-extending studs, rollers mounted thereon, a drum surrounding the shafts, an internal circumferential web on the drum and located between the ends, spindles extending parallel with the shaft-axes and passing through the web, rollers on the spindles turning on those carried by the shafts, and heads for supporting the ends of the spindles.

7. In a coupling, the combination of two shafts, rollers carried by each of the shafts, and means causing the rollers to turn slightly as the shafts move endwise with respect to each other.

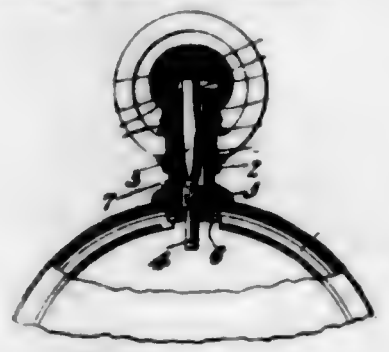
8. In a coupling, the combination of two shafts, a means for uniting the shafts which is provided with rollers, and means carried by the shafts which causes the rollers to turn slightly as the shafts revolve while out of alinement.

9. In a coupling, the combination of a pair of shafts located end to end, rollers carried by the shafts, and other rollers carried by a support which engage with and roll or turn on the first-mentioned rollers to compensate for changes in position of the shafts.

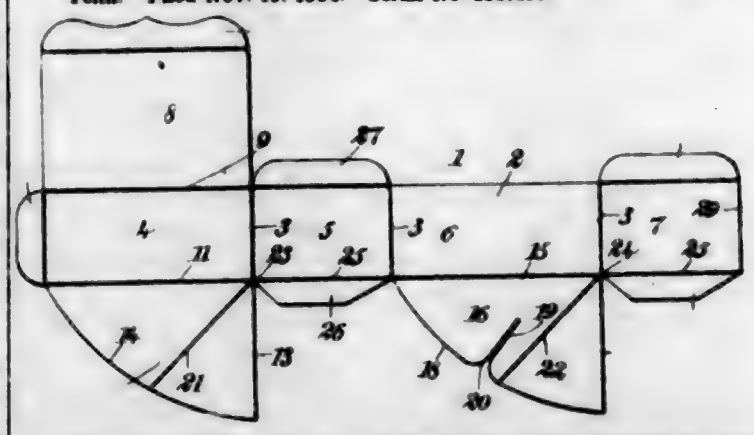
10. In a coupling, the combination of a pair of shafts located end to end, a set of rollers carried by each shaft, the said rollers occupying different transverse planes, a drum surrounding the shafts, rollers mounted on the drum and arranged in pairs, the members of each pair engaging with and turning on rollers mounted on the separate shafts, spindles for the rollers, and a means for holding the drum-rollers a fixed distance apart.

805,233. WATCHCASE-PENDANT. LOUIS P. ROGERS, Adrian, Mich. Filed Oct. 13, 1904. Serial No. 228,228.

Claim.—The combination with a watch-pendant having its upper portion reduced and internally and externally threaded, of a sleeve having a part to engage the internal threads, a stem projecting through the sleeve, a washer disposed upon the free end of the pendant, a dust-cap of the same transverse diameter as the pendant and engaging the external threads thereof to clamp the washer against the pendant and around the stem, the dust-cap being provided with an orifice through which the stem projects and a crown connected with the stem and partly housing the dust-cap.

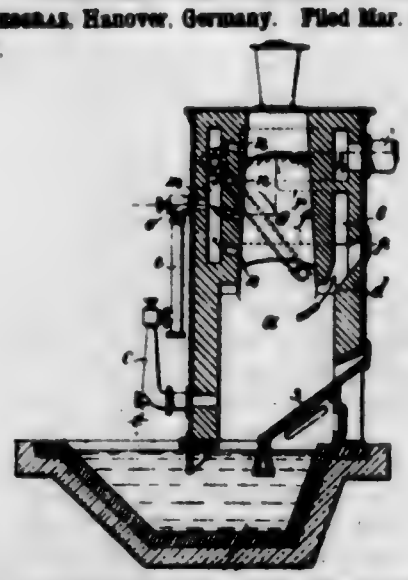


805,234. FOLDING BOX. CHARLES B. RUTLEDGE, Tullahoma, Tenn. Filed Nov. 19, 1904. Serial No. 233,481.



Claim.—A folding box consisting of four panels attached together at their vertical edges, one of said panels having a flap constituting a cover for said box, said panels being connected in pairs at their lower edges by extensions folding on lines passing from a pair of said vertical edges, said extensions being adapted to fold upon said folding-lines into the space between the panels they respectively connect and normally overlapping to constitute a bottom for said box, one of said extensions having a slit in the edge thereof receiving the opposite edge of the other of said extensions.

805,235. PRODUCER-GAS FURNACE. PAUL SCHMIDT and ADOLPHE DESGRAZ, Hanover, Germany. Filed Mar. 15, 1905. Serial No. 250,377.

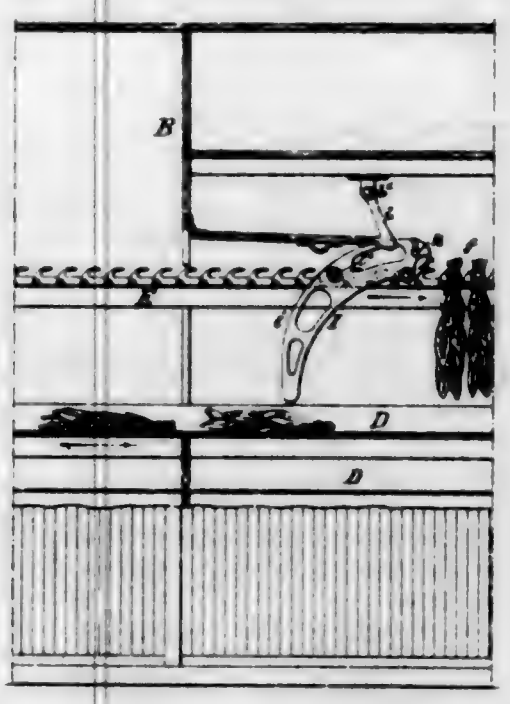


Claim.—1. A producer-gas furnace having a collecting-chamber in the wall and in communication with the upper part of the shaft thereof at superposed places, to receive distilled gases from said shaft, and means for drawing the gases from the said chamber and directing them into the zone of combustion of the fuel in the furnace, the wall of the latter being chambered and having a passage opening into said shaft above the point at which said gases are injected into the fuel, said passage serving to receive the gases passed through the fuel and to conduct them into the last-mentioned chambered portion of the furnace, so as to heat the gases in said last-mentioned chambered portion

2. A producer-gas furnace having a collecting-chamber in the wall and in communication with the upper part of the shaft thereof at superposed places, to receive distilled gases from said shaft, and means for drawing the gases from the chamber above the bottom thereof and for directing such gases into the zone of combustion of the fuel in the furnace, said chamber being in the wall of the furnace and having a removable cover to provide access to said chamber to withdraw the dust therefrom, settling onto the bottom thereof.

3. A producer-gas furnace having a collecting-chamber in communication at superposed places, with the upper part of the shaft thereof, to receive distilled gases from said shaft, and means for drawing gases from the chamber and for directing the same into the zone of combustion of the fuel in the furnace.

805,236. **DOOR-OPERATING DEVICE FOR DRYING-MACHINES.** WALTER M. SCHWARTZ, Philadelphia, Pa., assignor to The Philadelphia Textile Machinery Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Aug. 31, 1903. Serial No. 171,430.



Claim.—1. The combination in a drying-machine, of a partition therein, a door in the partition, a carrier passing through the partition, and a device detachably connected to the carrier and acting upon the door, with means for retaining the door in open position, substantially as described.

2. The combination in a drying-machine, of a partition therein, an opening in the partition, a carrier arranged to pass through the opening, a door hung to the partition and arranged to close the opening, a latch for retaining the door in its raised position, and a device detachably connected to the carrier for acting upon the door, substantially as described.

3. The combination in a drier, of a partition therein dividing the drier into two compartments, a pivoted door in the partition, an endless chain arranged to travel through the drier, with a reversible door-actuating device detachably connected to the chain so that when placed in one position on the chain it will open the door and when placed in the reverse direction will release the door, and allow it to close, substantially as described.

4. The combination in a drying-machine having a partition therein, a door in the partition, an endless chain arranged to convey material through the drying-machine, with a door-opening device detachably connected to the chain and having a curved member provided with arms resting on the chain, said curved member being so arranged that it will gradually open the door, and a latch arranged to engage the door when raised, substantially as described.

5. The combination of a carrying-chain having sockets, with a detachable door-opening device consisting of a central curved member having arms extending from each side, said arms being adapted to rest in the sockets of the chain, substantially as described.

6. The combination of a carrier with a detachable door-opening device consisting of a central curved member having arms extending from each side, said curved member having a pivoted arm at one end for the purpose of releasing a latch when the device is mounted on the carrier, substantially as described

7. The combination in a drying-machine having a partition therein, a pivoted door in said partition, a latch for holding the door in its raised position, an endless chain arranged to carry material through the drying-machine, a device having a curved member provided with arms arranged to rest on the chain and having a pivoted arm at the upper end so that when the device is hung on the chain and the arm raised it will strike the latch, release the door and allow it to gradually close, substantially as described.

8. The combination in a drying-machine having a partition therein, a door pivoted to the partition, an endless belt for carrying material through the machine, an endless chain also arranged to carry material through the machine and having its carrying-run above the belt, means for holding the door of the partition open to allow for the passage of material carried by the chain, with a door-opening device arranged to be detachably connected to the chain to open the door, substantially as described.

9. The combination in a drying-machine, of a series of transverse partitions therein dividing the machine into a series of compartments, a pivoted door in each partition, an endless carrier arranged to move in a longitudinal path through the machine and through the several partitions, with a device detachably connected to the carrier and arranged to operate the doors, and means for maintaining the doors in their open position, substantially as described.

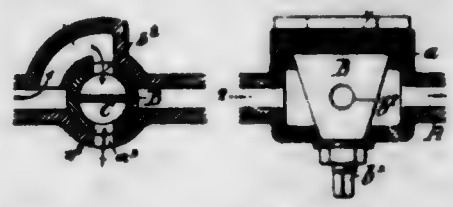
10. The combination in a drying-machine having a series of transverse partitions dividing the machine into compartments, an opening in each partition, an endless chain arranged to travel through the several compartments and through the openings in the partitions, a door in each partition, an endless belt also passing through the several compartments and passing under the doors of the partitions, and a device detachably connected to the endless chain for operating the doors, substantially as described.

11. The combination in a drying-machine, of a partition therein, a door hung in said partition, an opening in the partition at each side of the door, an endless chain passing through each opening, and a door-operating device detachably connected to the said endless chain for operating the door, substantially as described.

12. The combination in a drying-machine, of a partition therein, an opening a door hung in said partition and arranged to close the opening, openings in the partition at each side of the door, an endless chain arranged to travel through each opening, a latch for holding the door in its open position, and a device detachably connected to the chain for operating the door, substantially as described.

13. The combination in a drying-machine having a transverse partition therein, an opening in the partition, a door partly closing the said opening, a latch for holding the door in its open position, an endless belt arranged to travel through the opening in the partition under the door, chains arranged to travel through openings in the partition at each side of the door, a door-operating device detachably connected to the chain, substantially as described.

805,237. **SELF-CLEANING AIR-SCREEN VALVE.** WILLARD T. SEARS, Harrisburg, Pa. Filed Feb. 18, 1905. Serial No. 246,209.



Claim.—1. The combination of a conduit, a movable structure, and a screen carried by said structure independent of the walls thereof, there being an inlet and two outlets so arranged that when the movable structure is in one position, fluid in the conduit passes from the inlet in one direction through the screen to one of the outlets, and when said structure is in a second position said fluid passes through the screen in an opposite direction to the second outlet, substantially as described.

2. The combination of a conduit having main and auxiliary passages, a valve, and a screen carried within said valve transverse to the passage therethrough and independent of the outer walls thereof, the valve being movable to direct fluid either through the screen and the main passage, or through the screen in a reversed direction and through the auxiliary passage, substantially as described.

3. The combination of a conduit having a main passage and an auxiliary passage including a discharge-opening, a valve for the conduit, and a screen carried by the valve and in addition to the wall structure thereof, the valve being movable to direct fluid either through the screen and the main passage, or through the auxiliary passage, through the screen in a reverse direction and the discharge-opening, substantially as described.

4. The combination of a conduit having main and auxiliary passages, a valve for said conduit having a through-passage and a substantially plane screen transverse thereto, said valve being movable to direct fluid either through the main passage, or through the auxiliary passage and in a reversed direction through itself, substantially as described.

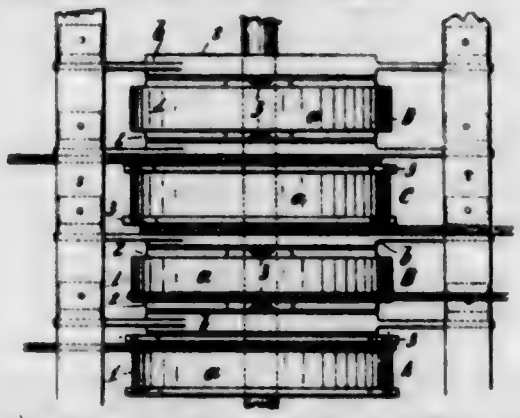
5. The combination of a conduit having an inlet and a main outlet, a single valve therefor, and a screen in addition to and functionally independent of the wall structures of said valve, the valve being constructed to either cause flow of fluid through the screen and the conduit in one direction, or flow from the conduit through the screen in a reverse direction, to a discharge-opening independent of the main outlet, substantially as described.

6. The combination of a conduit having main and auxiliary passages, there being also an opening for waste, a valve in the conduit having mounted in it a plane screen, said valve being movable so as to permit flow of fluid through the conduit, or from the conduit to the waste-opening, the direction of such flow through the screen being reversed in said two cases, substantially as described.

7. The combination of a casing having a main passage including a chamber, a valve in the chamber having a through-passage and a screen therein, there being an auxiliary passage from the conduit to said chamber and a waste-passage from the chamber, said valve being movable to connect either the two sections of the main passage, or the auxiliary and the waste passages, substantially as described.

8. The combination of a conduit having main and auxiliary passages, there being also an opening for waste, a revoluble valve in the conduit carrying a screen, said valve being movable so as to permit flow of fluid through the conduit or from the conduit through the auxiliary passage through the screen to the waste-opening, the direction of such flow through the screen being reversed in said two cases, substantially as described.

805,288. SPINNING-MACHINE. EUGENE SHACKLETON, Keighley, England, assignor to The Firm of Prince Smith & Son, Keighley, England. Filed Apr. 3, 1905. Serial No. 253,437.



Claim.—1. In an apparatus of the class described, a pulley having its rim of two diameters, the portion of greater diameter constituting a live or active face and the other portion a dead face, said pulley having means for transferring a band from the portion of smaller diameter to the portion of greater diameter.

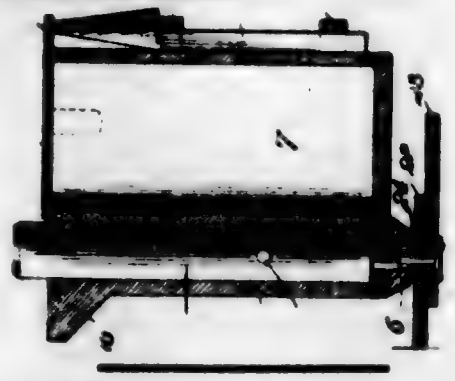
2. In an apparatus of the class described, a pulley, the rim of which is of two diameters, the portion of greater diameter constituting a live or active face and the other a dead face, said pulley having means for transferring a band from the portion of smaller diameter to the portion of greater diameter in combination with a rest-ring or dead-pulley.

3. In an apparatus of the class described, a pulley having a rim of two diameters, the portion of greater diameter serving as the operative part and the portion of smaller diameter as a dead or inoperative part, said pulley being provided with cams to effect the transfer of a band from the smaller diameter to the portion of greater diameter in combination with a dead-pulley separate from the other pulley and placed at the side of the latter, the diameter of the dead-pulley being substantially the same as that of the portion of smaller diameter of the first-mentioned pulley.

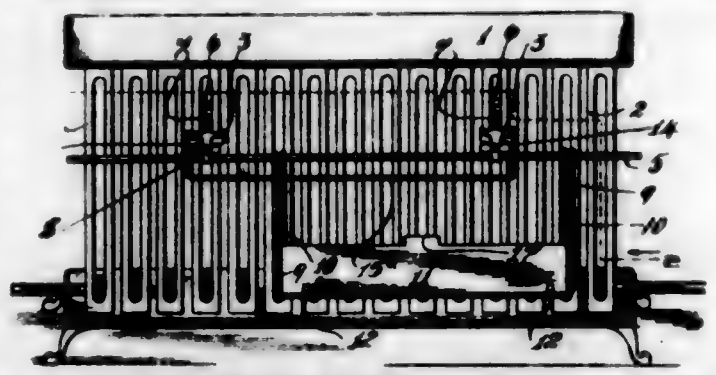
805,289. RIVETING DEVICE. FRANK SHEPPARD, Allandale, Ill. Filed Jan. 28, 1905. Serial No. 242,272.

Claim.—1. In a riveting device, a casing forming a rivet-chamber, punch-holders extending from the exterior of said rivet-chamber and having alined openings, and a cover closing the rivet-chamber and arranged so that one of its ends projects freely in alinement with said alined punch-holder openings for holding the punch in position when it is in the openings of said punch-holders.

2. In a riveting device, a casing forming a rivet-set chamber, and having a reduced lower end to receive the point of the rivet; a rivet-set having its lower end reduced in diameter and mounted in said chamber; a washer-set 6 projecting at the lower end of said casing, and a hammer-ledge 10 projecting laterally at one point only on the upper end of said chamber.



805,240. DRYING-RAIL AND FOOT-REST FOR HEAT-RADIATORS. MARY A. SIMS, New York, N. Y. Filed May 16, 1905. Serial No. 260,638.

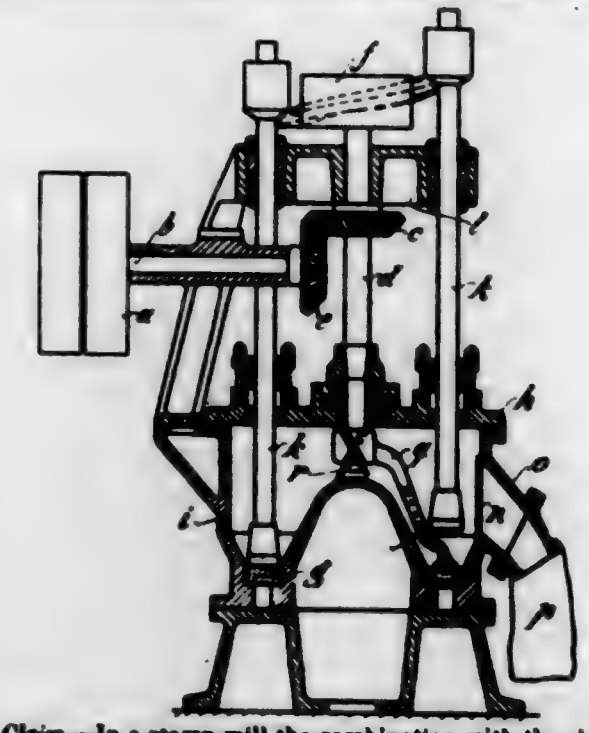


Claim.—1. An attachment for radiators comprising a plurality of clamp members adapted to be clamped to the radiator-sections, and a support carried thereby, said support being pivotally connected to the clamp members and adapted to be sprung into position thereon, said support being limited in its movement in one direction by said clamping members.

2. An attachment for radiators comprising a plurality of clamps adapted to be clamped to the radiator-sections, each of said clamps having a trunnion on its outer end, and a support pivotally mounted on said trunnions and having its movement in one direction limited by the clamps.

3. An attachment for radiators comprising a plurality of clamps adapted to be clamped to the radiator-sections, a rod removably mounted in said clamps, and a swinging shelf-support removably and adjustably carried by said rod, said support being foldable toward and from the face of the radiator-sections.

805,241. METAL-STAMPING MACHINE. FRIEDRICH SPORER, Nuremberg, Germany. Filed Mar. 28, 1905. Serial No. 252,577.



Claim.—In a stamp-mill the combination with the ring-shaped mortar and plurality of stamps codperating therewith, of a cam co-

operating with said stamps for raising them successively, a vertical shaft depending from said cam, and a stirrer-arm carried by said shaft, substantially as described.

805,242. **FIREPROOF QUARTS BRICK OR BLOCK.** ERNST STÖCKLIN, Zurich, Switzerland. Filed May 11, 1904. Serial No. 207,470.

Claim.—The herein-described process of making fireproof brick, which consists in mixing sand or its equivalent with magnesia alone as a binding material, molding the bricks, then hardening them with steam and then burning the hardened bricks.

805,243. **SPRING-TIRE FOR WHEELS.** RICHARD STONE, Wellington, England. Filed Feb. 18, 1905. Serial No. 246,209.



Claim.—1. In spring-tires for wheels, the combination with a tread provided at its bottom with an annular buffer-flange, plates secured on the sides of said tread and having lateral projections, side flange-plates bolted to the felly and having overhanging flanges adapted to engage over said buffer-flanges and provided with recesses for receiving said projections, and an endless flexible spring-band surrounding the felly at a distance therefrom and normally engaging the under side of said tread.

2. In spring-tires for wheels, the combination with a tread having annular buffer-flanges, of side flange-plates bolted to the felly and engaging over said buffer-flanges, an endless flexible spring-band encircling the felly at a distance therefrom and normally engaging the under side of said tread, and a cushion encircling said felly at a distance from said spring-band.

805,244. **WEAVING-DIAGRAM AND METHOD OF MAKING THE SAME.** JAN SZCZEPANIK, Vienna, Austria-Hungary, assignor, by direct and mesne assignments, to Barmen Bank-Verein, Hinsberg, Fischer & Comp., Barmen, Germany, a Corporation. Filed Mar. 25, 1897. Serial No. 629,255.



Claim.—1. The method of producing weaving-diagrams for making loom pattern-cards, which consists in passing light through a transparency and sets of fields, each set of fields of the same transparency arranged to indicate a weaving-crossing, onto a sensitized medium, substantially as described.

2. The method of producing weaving-diagrams, which consists in passing light through a finished photographic plate and sets of fields of different degrees of transparency, onto a sensitized medium, each set of fields arranged to indicate a weaving-crossing, substantially as described.

3. The method of producing weaving-diagrams, which consists in passing light through a transparency and sets of fields in the same plane onto a sensitized medium, each set of fields of different transparency and arranged to indicate a different weaving-crossing, substantially as described.

4. The method of producing weaving-diagrams, which consists in passing light through a finished photographic plate and sets of transparent fields onto a sensitized medium, all of the fields of the same set of the same degree of transparency and arranged to indicate a weaving-crossing, substantially as described.

5. The method of producing weaving-diagrams, which consists in passing light through a transparency and sets of fields of different transparency, each set of fields arranged to indicate a weaving-crossing, and sets of fields combining to indicate a different crossing, onto a sensitized medium, and varying the time of exposure, thereby producing images of the photograph indicated by different weaving-crossings, substantially as described.

6. The method of producing weaving-diagrams, which consists in passing light through sets of fields, the fields of a set having the same degree of transparency and arranged to produce a weaving-crossing onto a sensitized medium, thereby producing a photographic impression, then inserting between said fields and sensitized medium a finished photographic plate, whereby the image on said plate will be indicated on the sensitized medium by different sets of fields of different intensity, substantially as set forth.

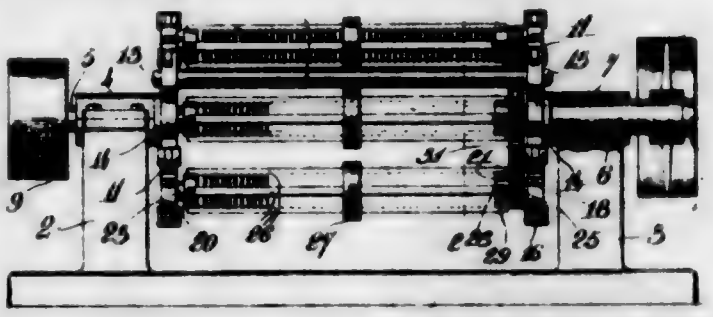
7. The method of producing weaving-diagrams, which consists in passing light through sets of rectangular fields, each set differing in degree of transparency from another set and the fields of each set arranged to indicate a weaving-crossing different from that indicated by another set, and through a finished photographic plate onto a sensitized medium, substantially as set forth.

8. The method of producing weaving-diagrams, which consists in arranging sets of fields in the order of weaving-crossings, the fields of each set differing in arrangement and intensity from those in the others, passing light simultaneously through the sets of fields and a transparency to a sensitized medium, substantially as set forth.

9. The method of producing weaving-diagrams, which consists in passing light through sets of rectangular fields, the fields of a set of the same degree of transparency and the sets of fields of different degrees of transparency, each set arranged to indicate a weaving-crossing and two or more sets combining to indicate a crossing different from an individual set, onto a sensitized paper, then passing light through said fields and a suitable transparency of the design to be woven, whereby said design will be printed on the said paper and the various parts thereof will directly indicate the weaving-crossing to be used, substantially as set forth.

10. A weaving-diagram, comprising a photographic impression of sets of fields, the fields of each set arranged to indicate a weaving-crossing and differing in intensity and arrangement from those of another set, substantially as set forth.

805,245. **APPARATUS FOR POLISHING SPINNING-RINGS.** FRANK H. THOMPSON, Milford, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Feb. 18, 1905. Serial No. 246,199.



Claim.—1. In apparatus of the class described, means to maintain a group of rings pressed together in axial alinement and thereby form a tube, and mechanism to effect simultaneously axial rotation of the ring-tube and bodily rotation thereof about a horizontal axis, whereby polishing material introduced into the ring-tube will act uniformly upon and polish the inner surfaces of the rings.

2. In apparatus of the class described, means to maintain a group of rings pressed together in axial alinement and thereby form a tube, a horizontally-rotatable carrier, on which the ring-tube is rotatably mounted eccentric to the carrier-axis, and mechanism to effect simultaneous axial rotation of the ring-tube as the latter is rotated bodily by the carrier.

3. In apparatus of the class described, a horizontally-rotatable carrier, means mounted thereon to maintain a plurality of groups of rings in parallelism eccentric to its axis, the rings of each group being pressed together in axial alinement to form a ring-tube and closed at each end, and mechanism to effect simultaneous axial rotation of the several ring-tubes as the latter are rotated bodily about the carrier-axis.

4. In apparatus of the class described, holding means, including end-closers, to press together and maintain in axial alinement a group of rings, forming a tube with closed ends, a carrier rotatable about a horizontal axis and adapted to rotatably support a plurality of such holding means parallel to the carrier-axis, and means to effect axial rotation of the several holding means simultaneously with the bodily rotation of said holding means with the carrier.

5. In apparatus of the class described, a horizontally-rotatable carrier comprising rigidly-connected heads provided each with a circularly-arranged series of bearings, a series of ring-cages rotatably mounted in the bearings, each cage having end pieces and connecting side rods, to receive and clamp together in axial alinement a group of rings, the end pieces closing the tube of rings, and means to effect axial rotation of each cage simultaneously with the bodily rotation thereof by the carrier.

6. In apparatus of the class described, a horizontally-rotatable carrier comprising rigidly-connected heads provided each with a circularly-arranged series of bearings, a series of ring-cages rotatably

mounted in the bearings, each cage comprising two opposite end disks each having an outwardly-extended journal, a pinion on one of said disks, and elongated side rods adjustably connecting the end disks, a group of rings being clamped together between the disks and maintained in axial alinement by the side rods, forming a ring-tube having closed ends and adapted to receive the polishing material, the journals being detachably mounted in the carrier-heads, and a gear adapted to mesh with the several pinions and rotated independently of the carrier, whereby individual axial rotation of each cage is effected simultaneously with the bodily rotation by the carrier.

7. In apparatus of the class described, a horizontally-rotatable carrier comprising rigidly-connected heads provided each with a circularly-arranged series of bearings, a series of ring-cages rotatably mounted in the bearings, each cage comprising two opposite end disks, elongated side rods connecting said disks, adjustably and detachably secured to one of the disks, and a journal on each disk to enter the bearings on the carrier, the disks clamping together a group of rings held in axial alinement by the side rods, and means to effect axial rotation of the several cages simultaneously with their bodily rotation by the carrier.

8. In apparatus of the class described, a horizontally-rotatable carrier, a series of ring-cages detachably and rotatably mounted thereon symmetrically with respect to its axis, each cage being adapted to clamp together in axial alinement a group of rings and to close the ends of the tube thereby formed, and means to effect opposite and axial rotation to the ring-cages as they are rotated bodily by the carrier, to cause a uniform action of polishing material in the ring-tubes, said material being thrown against the inner surfaces of the rings by centrifugal force.

9. In apparatus of the class described, a horizontally-rotatable carrier, a series of ring-cages detachably mounted thereon in a circle around its axis, each cage being adapted to clamp flange to flange and in axial alinement a group of double-flanged rings and to close the ends of the ring-tube so formed, and means to positively effect axial rotation of the several ring-tubes as they are rotated bodily by the carrier.

10. In apparatus of the class described, a horizontally-rotatable carrier, a series of ring-cages detachably mounted thereon in a circle around its axis, each cage comprising two end members, elongated side rods fixedly connected with one member, adjustable clamping connections between said rods and the other end member, to clamp together and maintain in axial alinement a group of rings and to close the ends of the tube formed thereby, a pinion on each cage, and a gear coaxial with the carrier and rotatable independently thereof, to mesh with the pinions and thereby effect axial rotation of the cages as they are rotated bodily by the carrier.

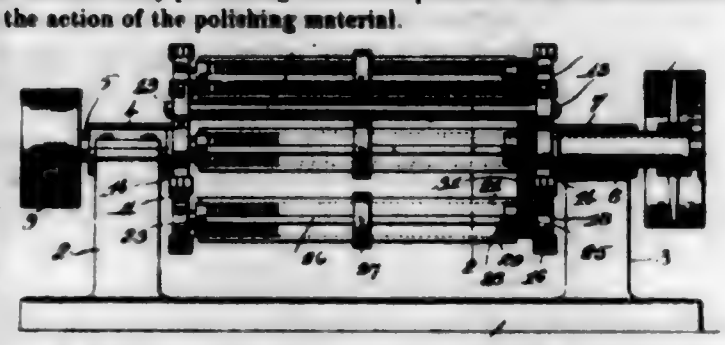
11. In apparatus of the class described, a carrier rotatable about a horizontal axis, means mounted on the carrier to clamp together a plurality of spinning-rings in axial alinement and thereby form a tube, rotation of the carrier effecting bodily rotation of said tube about the axis of the carrier, and means to effect simultaneous axial rotation of the clamped rings, whereby polishing material introduced into the tube will be forced outward by centrifugal force against the inner surfaces of the rings and its action thereupon equalized by the axial rotation.

12. In apparatus of the class described, a horizontally-rotatable carrier, means thereon to maintain a plurality of rings pressed together in axial alinement eccentric to the axis of the carrier, whereby the tube of rings so formed will be rotated bodily, said means including closures for the ends of the tube, and mechanism to effect axial rotation of the ring-holding means, whereby polishing material introduced into the ring-tube will be forced outwardly by centrifugal action and its effect upon the inner surfaces of the rings equalized by their axial rotation.

805,246. METHOD OF POLISHING SPINNING-RINGS. FRANK H. THOMPSON, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 1, 1905. Serial No. 258,166.

Claim.—1. The herein-described method of polishing spinning-rings, which consists in directing by centrifugal force polishing material against the inner surface of a plurality of rings in axial alinement, and simultaneously effecting axial rotation of the rings to equalize and distribute the action of the polishing material over their exposed surfaces.

2. The herein-described method of polishing double-flanged spinning-rings, which consists in forming a tube of a plurality of rings flange to flange in axial alinement; introducing polishing material to the tube and closing the ends thereof; directing said material by centrifugal action against the inner surface of the ring, and simultaneously presenting successive portions of the said surfaces to the action of the polishing material.



3. The herein-described method of polishing spinning-rings, which consists in rotating bodily about an external horizontal axis a tube closed at its ends and formed of a plurality of the rings clamped together and containing polishing material, to force the latter outward by centrifugal action, and simultaneously effecting axial rotation of the tube to equalize the action of the polishing material upon the inner surfaces of the rings.

4. The herein-described method of polishing the inner surface of a tubular body, which consists in directing by centrifugal force polishing material against the inner surface of the tubular body, and simultaneously effecting axial rotation thereof to equalize and distribute the action of the polishing material over the exposed surface.

5. The herein-described method of polishing the inner surface of a tubular body, which consists in directing by centrifugal force polishing material against the inner surface of the tubular body, and simultaneously imparting relative movement between the tubular body and polishing material.

805,247. DEFLECTOR FOR FANS. GEORGE L. THOMPSON, Philadelphia, Pa. Filed June 10, 1905. Serial No. 264,857.



Claim.—1. A deflector consisting of a supporting-frame having a plurality of sets of vanes of relatively flexible sheet material, adjustable by bending to direct a body of air in lines at different angles to the plane of the deflector, substantially as described.

2. A deflector consisting of a supporting-framework having integral sets of vanes on opposite portions of the same face, the vanes of the sets being inclined at different angles to the plane of the deflector, substantially as described.

3. A deflector consisting of a sheet-metal piece having integral portions bent at an angle to its plane so as to form deflecting-vanes, substantially as described.

4. A deflector consisting of a plate of sheet metal having a series of curved cuts, the pieces formed by said cuts being grouped in a plurality of sets and bent so as to be inclined to the surface of the plate, substantially as described.

5. A deflector consisting of a sheet of metal having a series of substantially concentric vanes struck up from its surface and inclined thereto, substantially as described.

6. A deflector consisting of a piece of sheet material having through it a number of unobstructed openings and other openings provided with deflecting-vanes inclined at an angle to the plane of the deflector, substantially as described.

7. A deflector consisting of a supporting-framework having a series of openings therethrough, vanes for the openings inclined to the plane of the framework and formed integral with said frame, with means for adjusting the inclination of said vanes, substantially as described.

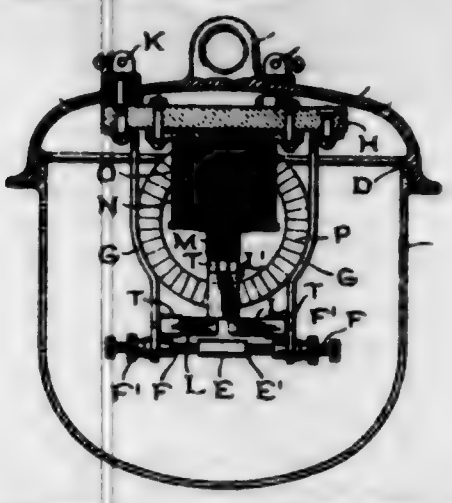
8. A deflector consisting of a supporting-framework having a plurality of sets of integral vanes inclined to the plane of said framework, with a device for simultaneously adjusting the angles of inclination of all of said sets of vanes, substantially as described.

9. A deflector consisting of a sheet of metal having integral por-

tions bent so as to form a plurality of series of vanes inclined to its plane, a rod connected to the vanes of each series, with means for moving the rod to vary the angle of inclination of the vanes, substantially as described.

10. A deflector consisting of a sheet of material having two series of vanes inclined at different angles to its surface, rods loosely connected one to the outer edge of each set of vanes, with a nut for simultaneously moving said rods toward and from one another to adjust the angles of inclination of the vanes, substantially as described.

805,248. ELECTRIC LAMP. ELIHU THOMSON, Swampscott, Mass., assignor to General Electric Company, a Corporation of New York. Filed May 8, 1899. Serial No. 715,932.



Claim.—1. The combination in an electric lamp, of a pyro-electrolytic conductor in an electric circuit, arcing-points in proximity thereto, means for establishing an arc for giving initial heat to the conductor, and means for breaking the arc when the conductor attains the proper temperature.

2. The combination in an electric lamp, of a pyro-electrolytic conductor, means for establishing an arc in proximity thereto, and means for directing the arc upon the conductor.

3. The combination with a pyro-electrolytic conductor, of arcing-points in multiple therewith, means for separating said arcing-points, and means for directing the arc between said points upon the electrolytic conductor.

4. The combination with a pyro-electrolytic conductor, of means for forming an arc in proximity thereto, and means for creating a magnetic field adapted to direct the said arc upon said conductor.

5. The combination in an electric lamp, of arcing-points and a pyro-electrolytic conductor in multiple, and a coil in series therewith for directing the arc from said arcing-points upon said conductor.

6. The combination in an electric lamp, of arcing-points and a pyro-electrolytic conductor in multiple, a coil in series therewith for directing the arc from said arcing-points upon said conductor, and means for separating said arcing-points when the conductor attains the proper temperature.

7. In an electric lamp, the combination with a pyro-electrolytic conductor connected or adapted to be connected in an electric circuit, of arcing-points for heating said conductor, and means for automatically separating said points to such an extent that the extinguishment of the arc is assured.

8. The combination in an electric lamp; with a pyro-electrolytic conductor connected or adapted to be connected in an electric circuit, of arcing-points for heating said conductor, and a device for automatically causing a cessation of said heating effect when the conductor has been heated.

9. The combination with a normally non-self-starting electric-light-giving body, of arcing-points in proximity thereto for causing or assisting the starting action, and means for directing the arc from said points upon the light-giving body.

10. The combination with a pyro-electrolytic illuminant in an electric circuit, of means for establishing an arc in proximity thereto, and means for establishing a magnetic field which deflects the arc toward the pyro-electrolyte and increases in intensity as the latter becomes more conducting, to eventually blow out the arc.

11. The combination with a pyro-electrolytic illuminant in an electric circuit, of means for establishing an arc in proximity thereto, and means for deflecting the arc toward the pyro-electrolyte, which means increases in intensity as the latter becomes more conducting, to eventually blow out the arc.

12. The combination with a pyro-electrolyte in an electric circuit, of arcing-points in proximity thereto, means for separating said arcing-points to rupture the arc, and means for establishing a magnetic field which coöperates with said means for separating the arcing-points, in order to insure the extinguishment of the arc.

13. The combination with a pyro-electrolyte in an electric circuit, of means for establishing a voltaic arc in proximity to said pyro-electrolyte, and means adapted to automatically rupture the arc when the pyro-electrolyte is sufficiently heated.

14. In an electric lamp, the combination with a pyro-electrolytic conductor connected or adapted to be connected in an electric circuit of arcing-points connected in parallel with said conductor, and a solenoid connected in series with the points for separating them to establish an arc for heating the conductor, said solenoid being in series with the conductor, whereby as the resistance of the latter decreases as its temperature increases, while the resistance of the path of the arcing-points is increasing, additional current will be supplied to the solenoid to separate the points to such an extent that the arc is broken.

15. In an electric lamp, the combination with a pyro-electrolytic conductor connected or adapted to be connected in an electric circuit, of arcing-points adapted to heat said conductor, a solenoid connected in series with the conductor and acting to separate the arcing-points, whereby as the resistance of the latter decreases as its temperature increases, additional current will be supplied to the solenoid to separate the points to such an extent that the arc is broken.

16. The combination with a pyro-electrolytic illuminant in an electric circuit, of arcing-points in proximity thereto, and means for gradually separating said points to form an arc for heating said pyro-electrolyte and eventually rupturing the arc thus formed, when the pyro-electrolyte is sufficiently heated.

17. In an electric lamp, the combination with a pyro-electrolytic conductor connected or adapted to be connected in an electric circuit, of arcing-points, and means regulated by the degree of current flowing through the pyro-electrolyte, for separating said points to such an extent when the conductor has become heated that the arc is extinguished.

18. In an electric lamp, the combination with a pyro-electrolytic conductor connected or adapted to be connected in an electric circuit, of arcing-points for heating the conductor, and means for automatically separating the points to such an extent when the conductor has become heated that the arc is thereby broken.

19. In an electric lamp, the combination with a pyro-electrolytic conductor connected or adapted to be connected in an electric circuit, of arcing-points for heating the conductor and means for breaking the arc when the conductor has been heated.

20. In an electric lamp, the combination with arcing-electrodes, of an illuminant in proximity thereto, and a magnetic field adapted to deflect and direct against the said illuminant, the arc formed between said electrodes.

805,249. ELECTRIC CONDUCTOR. LOUIS B. UNDERWOOD, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Apr. 1, 1905. Serial No. 253,283.



Claim.—1. In combination, a carbon block having a recess and a restricted passage leading away from the recess formed in it, and a flexible conductor having a portion in the form of a bight or loop located in said recess and an adjacent portion located in said restricted portion, said bight or loop being soldered to the carbon block.

2. In combination, a carbon block having formed in it a recess and a restricted passage leading away from the recess, and a flexible conductor having a portion in the form of a bight or loop located in said recess and an adjacent portion located in said restricted passage.

3. In combination, a carbon block having a hole or recess formed in one side and provided with a passage leading from said recess to another side of said carbon block, and a flexible conductor having a bight or loop in said recess and an adjacent portion passing through said passage.

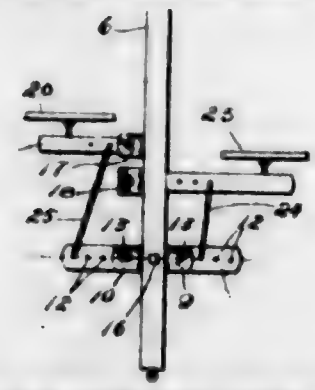
4. In combination, a carbon block having a hole or recess formed in one side and provided with a passage leading from said re-

cess to another side of said carbon block, and a flexible conductor having a bight or loop in said recess and another portion passing through said passage, said bight or loop being soldered to the carbon block.

5. In combination, a carbon block having a hole or recess formed in one side and provided with a passage leading from said recess to another side of said carbon block, a flexible conductor having a portion in the form of a bight or loop arranged in said recess and portions passing through said passage, said bight or loop being secured to said carbon block, and a clip to which the ends of said conductor are secured.

6. In combination, a carbon block formed with a recess in it and with a restricted passage leading away from the recess, and a flexible conductor having a portion in the form of a bight or loop in said recess and another portion in said restricted passage, said bight or loop being secured to said carbon block.

805,250. DRAFT-EQUALIZER. GEORGE W. WILEY, Estherville, Iowa. Filed July 18, 1905. Serial No. 270,248.



Claim.—1. In a draft-equalizer the combination with a support, of a transverse member pivotally connected with the support, said member being shiftable longitudinally, a laterally-extending arm pivoted at one side of the support, connections between said arm and one end of the member, a second arm pivotally connected with the support at the same side as the first-named arm and extending beyond the opposite side of the support, connections between the second arm and the other end of the member, said connections being arranged for movement of the two arms and the member simultaneously and being shiftable longitudinally of the arms and member, and attaching devices carried by the arms.

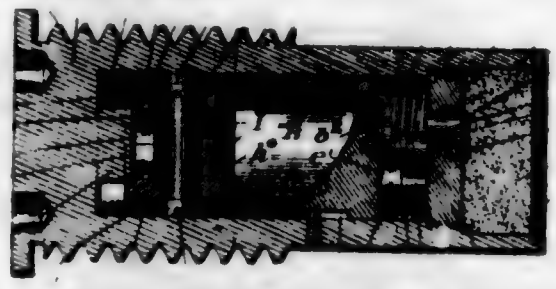
2. In a draft-equalizer the combination with a support, of a casting secured to the support and having a passage extending transversely of the support, a member disposed in the passage and having a longitudinal series of perforations therein, oppositely-extending pairs of lateral wings carried by the casting and lying above and below the member, the wings of each pair having registering perforations therein, a pin removably engaged in the casting and in one of the perforations of the member, the perforations of the wings being adapted to receive a pin engaged in a perforation of the member, oppositely-extending arms pivoted to the support and connections between the arms and the member for simultaneous movement thereof, said arms being adapted for the attachment of draft-animals thereto.

3. In a draft-equalizer the combination with a support, of a casting secured to the support, a transversely-extending member pivoted in the support and arranged for longitudinal adjustment, means for holding the member against pivotal movement, laterally-extending brackets carried by the support at one side thereof, oppositely-extending lateral arms pivoted in the brackets, one of said arms extending beneath the support and beyond the opposite side thereof, a guide for said arm and connections between the arms and the member at opposite sides of the support, said connections being shiftable longitudinally of the arms and member.

805,251. PERCUSSION-FUSE FOR SHELLS. HARRY WILSON, Washington, D. C., assignor to The Driggs-Seabury Ordnance Corporation, Philadelphia, Pa., a Corporation of New Jersey. Filed Sept. 21, 1904. Serial No. 225,171.

Claim.—1. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying the primer normally engaging the front of said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

2. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying the primer normally engaging the front of said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.



3. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a plug secured in the fuse-stock and perforated in front of said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging the front of said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

4. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a plug secured in the fuse-stock and perforated in front of said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging the front of said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and a spring connected to the primer-block for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

5. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a plug secured in the fuse-stock and perforated in front of said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging the front of said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

6. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying the primer normally engaging the front of said plunger eccentric to said firing-pin, spring-compressed segments normally holding the plunger in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

7. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying the primer normally engaging the front of said plunger eccentric to said firing-pin, spring-compressed segments normally holding the plunger in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

8. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying the primer normally engaging the front of said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, a coil-spring mounted in front of said plunger and moving same to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

9. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying the primer normally engaging the front of said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, a coil-

spring mounted in front of said plunger and moving same to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

10. In a fuse, the combination with a plunger, provided with a firing-pin, a block carrying the primer normally engaging the front of said plunger eccentric to said firing-pin, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved forward, substantially as described.

11. In a fuse, the combination with a plunger, provided with two recesses in its front face, and a firing-pin projecting into one of said recesses, a block carrying the primer normally engaging in the second recess in the front of said plunger eccentric to said firing-pin, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

12. In a fuse, the combination with a plunger, provided with two recesses in its front face, and a firing-pin projecting into one of said recesses, a plug secured in the fuse-stock and perforated in front of said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging the second recess in the front of said plunger eccentric to said firing-pin, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

13. In a fuse, the combination with a plunger, provided with two recesses in its front face, and a firing-pin projecting into one of said recesses, a plug secured in the fuse-stock and perforated in front of said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging in the second recess in the front of said plunger eccentric to said firing-pin, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and a spring connecting to the primer-block for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

14. In a fuse, the combination with a plunger, provided with two recesses in its front face, and a firing-pin projecting into one of said recesses, a plug secured in the fuse-stock and perforated in front of said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging in the second recess in the front of said plunger eccentric to said firing-pin, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

15. In a fuse, the combination with a plunger provided with a firing-pin and a recess eccentric to said pin, of a block carrying the primer normally engaging in said recess, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, a coil-spring mounted in front of said plunger and moving same to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

16. In a fuse, the combination with a plunger, provided with a firing-pin and a recess eccentric to said pin, of a block carrying the primer normally engaging in said recess, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, a coil-spring mounted in front of said plunger and moving same to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

17. In a fuse, the combination with a plunger, provided with a firing-pin and a recess eccentric to said pin, of a block carrying the primer normally engaging in said recess, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

18. In a fuse, the combination with a plunger, provided with a firing-pin and a recess eccentric to said pin, of a block carrying the primer normally engaging in said recess, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

19. In a fuse, the combination with a plunger, provided with a firing-pin and a recess eccentric to said pin, of a plug secured in the fuse-stock and perforated in front of said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging in said recess, means for normally holding the plunger forward in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

20. In a fuse, the combination with a plunger, provided with a firing-pin and a recess eccentric thereto, of a block carrying the primer normally engaging in said recess, spring-compressed segments normally holding the plunger forward in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer, and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

21. In a fuse, the combination with a plunger, provided with a firing-pin and a recess eccentric thereto, of a block carrying the primer normally engaging in said recess, spring-compressed segments normally holding the plunger in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

22. In a fuse, the combination with a plunger, provided with a firing-pin and a recess eccentric thereto, of a block carrying the primer normally engaging in said recess, spring-compressed segments normally holding the plunger in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, a coil-spring under compression mounted in front of said plunger for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

23. In a fuse, the combination with a plunger, provided with a firing-pin, a block carrying the primer normally held eccentric to said firing-pin, spring-compressed segments normally holding the plunger forward in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

24. In a fuse, the combination with a plunger, provided with a firing-pin, a block carrying the primer normally held eccentric to said firing-pin, spring-compressed segments normally holding the plunger forward in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, a coil-spring under compression mounted in front of said plunger for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

25. In a fuse, the combination with a plunger, provided with a firing-pin, a block carrying the primer normally held eccentric to said firing-pin, spring-compressed segments normally holding the plunger forward in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

26. In a fuse, the combination with a plunger, provided with a firing-pin, a block carrying the primer normally held eccentric to said firing-pin, spring-compressed segments normally holding the plunger forward in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, a coil-spring under compression mounted in front of said plunger for moving the

plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

27. In a fuse, the combination with a fuse-stock having a boss or lug projecting inwardly from the base thereof, of a plunger, provided with a firing-pin and a recess eccentric thereto, a block carrying the primer normally engaging in said recess, spring-compressed segments normally engaging the boss in the fuse-stock and holding the plunger forward in engagement with said block, but clearing said boss and releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer, and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

28. In a fuse, the combination with a fuse-stock having a boss or lug projecting inwardly from the base thereof, of a plunger, provided with a firing-pin and a recess eccentric thereto, a block carrying the primer normally engaging in said recess, spring-compressed segments normally engaging the boss in the fuse-stock and holding the plunger forward in engagement with said block, but clearing said boss and releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

29. In a fuse, the combination with a fuse-stock having a boss or lug projecting inwardly from the base thereof, of a plunger, provided with a firing-pin and a recess eccentric thereto, a block carrying the primer normally engaging in said recess, spring-compressed segments normally engaging the boss in the fuse-stock and holding the plunger forward in engagement with said block, but clearing said boss and releasing said plunger when thrown outward by centrifugal force, a coil-spring under compression mounted in front of said plunger for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

30. In a fuse, the combination with a fuse-stock having a boss or lug projecting inwardly from the base thereof, of a plunger, provided with a firing-pin and a recess eccentric thereto, a block carrying the primer normally engaging in said recess, spring-compressed segments normally engaging the boss in the fuse-stock and holding the plunger forward in engagement with said block, but clearing said boss and releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

31. In a fuse, the combination with a fuse-stock having a boss or lug projecting inwardly from the base thereof, of a plunger provided with a firing-pin, a block carrying the primer normally held eccentric to said firing-pin, spring-compressed segments normally engaging the boss or lug in the fuse-stock and holding the plunger forward in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, a coil-spring under compression mounted in front of said plunger for moving the plunger to the rear when released, and means for moving the primer in front of the firing-pin when the plunger is moved rearward, substantially as described.

32. In a fuse, the combination with a fuse-stock having a boss or lug projecting inwardly from the base thereof, of a plunger provided with a firing-pin, a block carrying the primer normally held eccentric to said firing-pin, spring-compressed segments normally engaging the boss or lug in the fuse-stock and holding the plunger forward in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, means for moving the plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

33. In a fuse, the combination with a fuse-stock having a boss or lug projecting inwardly from the base thereof, of a plunger provided with a firing-pin, a block carrying the primer normally held eccentric to said firing-pin, spring-compressed segments normally engaging the boss or lug in the fuse-stock and holding the plunger forward in engagement with said block, but releasing said plunger when thrown outward by centrifugal force, a coil-spring under compression mounted in front of said plunger for moving the plunger to the rear when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved to the rear, substantially as described.

34. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying a primer normally engaging said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger controlled by the spinning of the shell, means for moving the plunger longitudinally of the shell when released, and means for moving the primer in front of the firing-pin when the plunger is moved, substantially as described.

35. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying the primer normally engaging said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger controlled by the spinning of the shell, means for moving the plunger when released, and a spring engaging the block carrying the primer and adapted to throw the primer in front of the firing-pin when the plunger is moved, substantially as described.

36. In a fuse, the combination of a plunger, provided with an eccentric firing-pin, a plug secured in the fuse-stock and perforated opposite said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger when released, and means for moving the primary in front of the firing-pin when the plunger is moved, substantially as described.

37. In a fuse, the combination of a plunger, provided with an eccentric firing-pin, a plug secured in the fuse-stock and perforated opposite said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger longitudinally of the shell when released, and a spring connected to the primer-block for moving the primer in front of the firing-pin when the plunger is moved, substantially as described.

38. In a fuse, the combination of a plunger, provided with an eccentric firing-pin, a plug secured in the fuse-stock and perforated opposite said firing-pin, a block carrying the primer pivoted to said plug, and normally engaging said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger controlled by the spinning of the shell, means for moving the plunger longitudinally of the shell when released, and a spring engaging the block carrying the primer and adapted to throw the primer in line with the firing-pin when the plunger is moved, substantially as described.

39. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying the primer normally engaging said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, a coil-spring for said plunger and moving the same when released, and means for alining the primer with the firing-pin when the plunger is moved, substantially as described.

40. In a fuse, the combination with a plunger, provided with an eccentric firing-pin, a block carrying a primer normally engaging said plunger eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, a coil-spring for said plunger and moving the same longitudinally of the shell when released, and a spring engaging the block carrying the primer and adapted to aline the primer with the firing-pin when the plunger is moved, substantially as described.

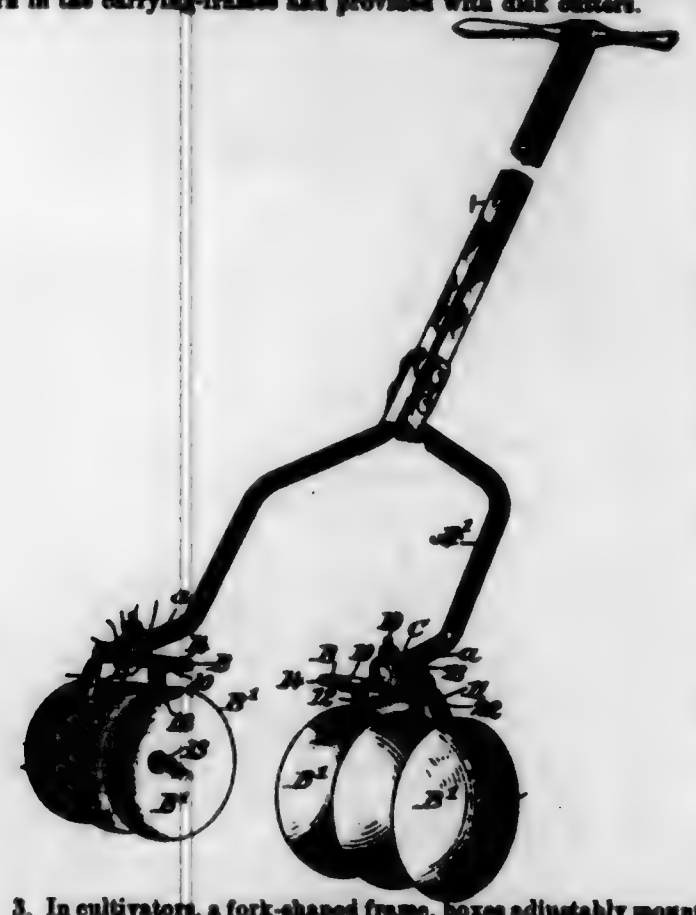
41. In a fuse, the combination with a plunger, provided with a firing-pin, a block carrying the primer normally engaging said plunger, eccentric to said firing-pin, means for normally holding the plunger in engagement with said block, and for releasing the plunger, controlled by the spinning of the shell, means for moving the plunger longitudinally of the shell when released, and means for alining the primer with the firing-pin when the plunger is moved, substantially as described.

805,252. CULTIVATOR. EDWARD B. WIFFRAM, Coffeyville, Kans., assignor to Coffeyville Implement and Manufacturing Company, Coffeyville, Kans. Filed Dec. 24, 1904. Serial No. 238,189.

Claim.—1. In a hand-cultivator, a fork-shaped frame, boxes adjustably mounted on the terminals of said fork-shaped frame, carrying-frames having lateral adjustment on the boxes, cutters supported by said carrying-frames, and a connection between each box and a carrying-frame to permit of giving the latter a forward and rearward inclination.

2. In a hand-cultivator, a fork-shaped frame, boxes adjustably

mounted on the terminal portions of the fork-shaped frame, the boxes being each provided with a lug at its bottom portion and with an arm at one side, carrying-frames provided with apertures to receive the lugs on the boxes, means for adjustably connecting the arms on the boxes with the carrying-frames, and shafts mounted to turn in the carrying-frames and provided with disk cutters.



3. In cultivators, a fork-shaped frame, boxes adjustably mounted on the terminal portions of the said fork-shaped frame, carrying-frames, an adjustable connection between each box and a carrying-frame, shafts mounted to revolve in the carrying-frames, and disk cutters secured to the said shafts.

4. In cultivators, a main frame, a box adjustably secured on the main frame, the said box being provided with a lug at its bottom portion and with a slotted arm at a side portion, a carrying-frame provided with a series of apertures, into any one of which said lug may enter, a bolt adapted to be passed through the slot in said arm and through one of the apertures in the carrying-frame, a shaft mounted to revolve in the carrying-frame, and disk cutters secured to said shaft.

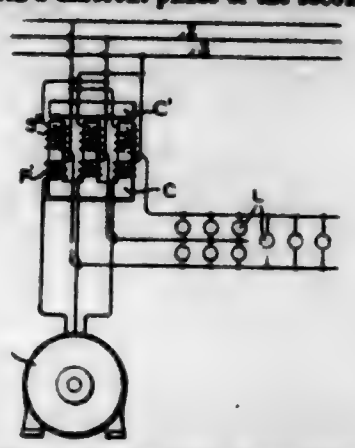
5. In cultivators, a handle, a fork-shaped main frame secured to the handle, inclining downward and forward therefrom, the terminals of said forked frame being substantially horizontal when the implement is in use, carrying-frames, each carrying-frame being provided with a series of openings in its upper portion, a shaft mounted to revolve in the frame, and disk cutters on the shaft, boxes having openings to receive the terminals of the forked frame, set-screws carried by said boxes, engaging with the terminal portions of the forked frame, each box being provided with a lug at its bottom portion and each box being adapted to engage with the apertured portion of a carrying-frame, horizontal arms secured to the side portions of the said boxes, which arms are provided with segmental slots, and retaining devices passed through said slots in said arms and through certain of the apertures in the carrying-frames, as described.

6. In cultivators, a main frame, a box adjustably mounted on the main frame, the said box having a horizontal side arm provided with a segmental slot, a carrying-frame having lateral adjustment on the box, a bolt adapted to be passed through the segmental slot in said arm and through an aperture in said carrying-frame, and cutters supported by said carrying-frame.

805,253. VOLTAGE-REGULATOR. ERNST F. W. ALEXANDERSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 10, 1905. Serial No. 249,688.

Claim.—1. In combination, an electric circuit, a source of current therefor, a transformer arranged with an open magnetic circuit and having its secondary windings in series with said electric circuit, and means for supplying to the primary of said transformer a current substantially in quadrature with the voltage impressed on said electric circuit and varying in magnitude with the drop in voltage of said source due to variation in amount of current-flow.

2. In combination, a source of polyphase current, two circuits supplied therefrom, and a transformer of the open-core type having a secondary winding in series with one of said circuits and a primary winding in series with a different phase of the second circuit.



3. In combination, a three-phase transmission system, two three-phase circuits supplied in parallel therefrom, and a transformer of the open-core type having a secondary winding in series with one of said circuits and a primary winding in series with a different phase of the second circuit.

4. In combination, a three-phase transmission system, two three-phase circuits supplied therefrom, and a three-phase transformer having an air-gap in each leg of its magnetic circuit and a primary and secondary winding on each leg, the primary windings being connected in series with one of said three-phase circuits and the secondary windings in series with the other, the windings on each leg being connected in different phases of their respective circuits.

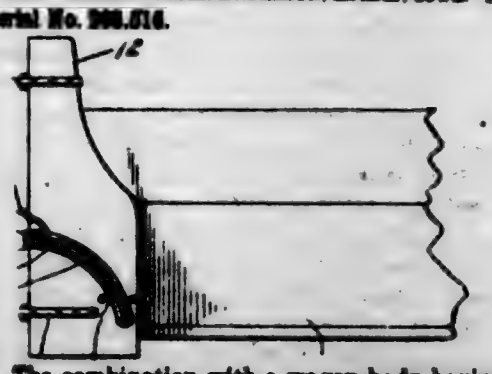
5. In combination, a source of current, two circuits supplied therefrom, a transformer arranged to produce a secondary terminal voltage substantially in quadrature with the primary current and having its secondary winding connected in series with one of said circuits, and connections for supplying to the primary winding of said transformer a current substantially in quadrature with the voltage impressed on the circuit in which said secondary winding is connected and varying in amount with the current-flow in the other circuit.

6. In combination, a source of polyphase current, two circuits supplied therefrom, and a transformer arranged to produce a secondary potential substantially in quadrature to the primary current and having its secondary winding connected in series with one of said circuits and its primary winding in series with a different phase of the other circuit.

7. In combination with a plurality of three-phase circuits, a three-phase transformer having an air-gap in each leg of its magnetic circuit, and a plurality of windings on each leg connected in said three-phase circuits, each of the windings on each leg being connected in a different circuit and in a different phase from the other winding or windings on that leg.

8. In combination, a three-phase transmission system, two three-phase circuits supplied therefrom, and a three-phase transformer having a primary and secondary winding on each leg of its magnetic circuit and arranged to produce a secondary terminal voltage substantially in quadrature with the primary current, the primary windings being connected in series with one of said three-phase circuits and the secondary windings in series with the other, the windings on each leg being connected in different phases of their respective circuits.

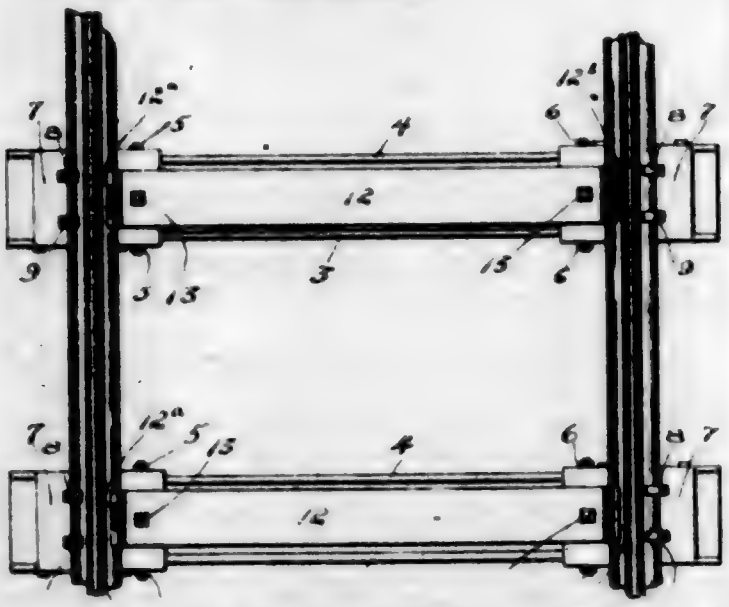
805,254. END-GATE. OSCAR ANDERSON, Arthur, Iowa. Filed July 8, 1905. Serial No. 268,516.



Claim.—1. The combination with a wagon-body having a bolt rotatably mounted upon each side near the rear end thereof, of a gate having its side members each provided with a curved slot for engagement with the aforesaid bolts, and means engaging the said bolts for locking the end-gate in its closed position.

2. The combination with a wagon-body having eyebolts mounted on each of its sides, and bolts provided with shanks pivotally mounted in said eyebolts, each of said bolts having a curved hooked end, of an end-gate having a curved slot, formed in each of its sides, the slots being adapted for engagement with the hooked ends of the said bolts whereby the end-gate may be hingedly connected with the wagon-body, and means for locking the end-gate in its closed position.

805,255. RAILROAD-TIE. WILLIAM A. AUSTIN, Wayne, Ind. Ter. Filed June 1, 1905. Serial No. 263,231.



Claim.—1. A rail-tie comprising spaced metallic boxes, tie-plates connecting the boxes and detachably secured upon the inner faces of the sides of the box at the inner ends of the latter, and a tie-plate detachably secured to the top faces of the boxes and provided with upwardly-turned rail-flange-engaging members, the upper face of each box being provided with spaced tongues struck up therefrom for engagement with the flange of the rail opposite to the flange engaged by the corresponding end of the top tie-plate.

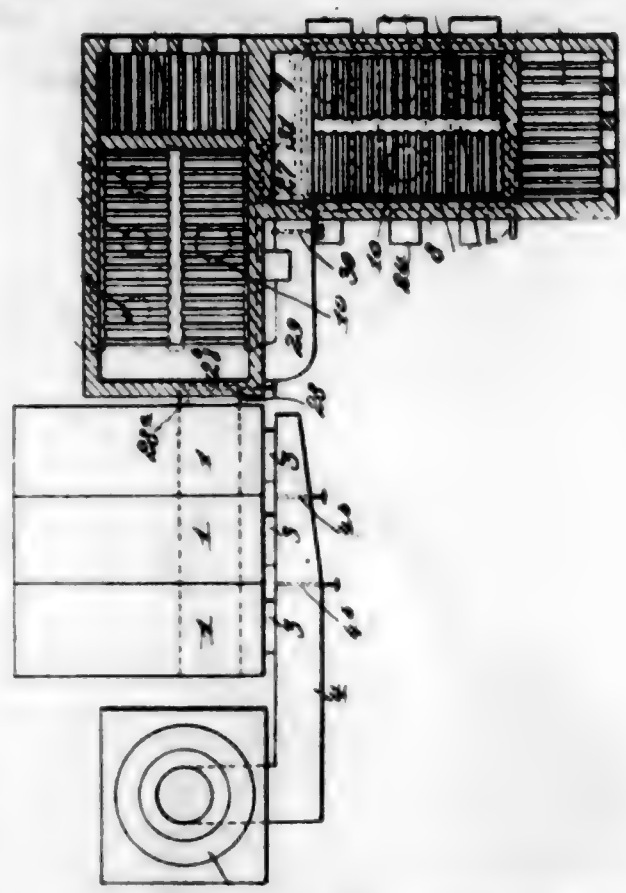
2. A rail-tie comprising spaced hollow boxes, each box having spaced alining tongues struck up from the top face thereof, tie-plates connecting the boxes and secured to the inner faces of the sides thereof, and a top tie-plate secured to the upper faces of the boxes and having upwardly-turned ends directed toward the aforesaid tongues for the wedging reception therebetween and the tongues of railway-rails.

3. A metallic railway-tie comprising spaced hollow boxes, each box having spaced alining tongues formed in its upper face, each tongue being bent to form a shoulder, tie-plates connecting the boxes and secured at their ends against the inner faces of the sides of the corresponding box, and a tie-plate having its ends secured to the top face of the corresponding box, the extremities of the last-named tie-plate being bent upwardly to provide shoulders, the said tongues and extremities of the top tie-plate having their shoulders arranged for the wedging reception therebetween of rails.

805,256. GARBAGE-INCINERATOR. JOSEPH G. BRANCH, St. Louis, Mo. Filed June 23, 1905. Serial No. 267,413.

Claim.—1. An incinerating-furnace having a fire-grate at one extremity, a garbage or refuse receiving grate disposed intermediately thereof and at a higher elevation than the fire-grate, a rear offset below the plane of the garbage or refuse receiving grate having an outlet means therethrough, the offset being in rear of both grates and reducing the vertical extent of the rear portion of the furnace and the outlet therethrough forming the sole escape for the products of combustion of both grates, and a second incinerating-furnace arranged at an angle to the first-named furnace and having communication with the outlet means through the said offset, the second incinerating-furnace also having rear outlet means.

2. An incinerating-furnace having a fire-grate at one extremity, a garbage or refuse receiving grate disposed intermediately thereof and at a higher elevation than the fire-grate, a rear offset below the plane of the garbage or refuse receiving grate having outlet means therethrough, the offset being in rear of both grates and reducing the vertical extent of the rear portion of the furnace and the outlet therethrough forming the sole escape for the products of combustion from both grates, a second incinerating-furnace of similar construction arranged at an angle to the first-named furnace and having communication with the outlet means of the latter, and a by-pass connecting the outlet means of the first-named furnace and the rear extremity of the second furnace.



3. An incinerating-furnace having a fire-grate at one extremity, an intermediate garbage or refuse receiving grate disposed at a higher elevation than the fire-grate, garbage or refuse receiving hoppers in the top of the furnace directly over the intermediate grate, a part of said hoppers having a greater diameter than the remaining ones, swill-pans removably disposed under the intermediate grate, and conduit means communicating with the pans and accessible from the exterior of the furnace.

4. An incinerating-furnace plant comprising individual incinerating-furnaces disposed in planes at right angles to each other and having flue communication between the rear of one furnace and the side of the other, the furnaces being capable of independent use and each having rear outlets provided with closing means, a battery of power-generating boilers and furnaces, the latter having direct communication with the rear outlet of one incinerating-furnace, a by-pass provided with closing means and connected to the rear of both incinerating-furnaces, whereby one or both of the latter furnaces may coöperate with the battery of generating boilers and furnaces, and outlet-conduit means for the boiler-furnaces.

5. A plant of the class set forth consisting of incinerating-furnaces having flue communication with each other, power-generating mechanism comprising a battery of boilers and furnaces, the latter having direct communication with one of the incinerating-furnaces, and an exteriorly-located by-pass connected to one of the incinerating-furnaces and also communicating with the boiler-furnaces, the flue between the incinerating-furnaces and the by-pass having closing means.

6. A plant of the class set forth consisting of angularly-disposed incinerating-furnaces provided with communicating means to direct the gases and products of combustion of one to pass into the other, power-generating boilers and furnaces having direct communication with one of the incinerating-furnaces, an exteriorly-located by-pass connected to the other incinerating-furnace and also to the boiler-furnaces, and means for cutting off communication between the incinerating-furnaces and between the latter and the boiler-furnaces to permit independent operation of either of the incinerating-furnaces and the boiler-furnaces or of the boiler-furnaces independent of the incinerating-furnaces.

7. In a plant of the class set forth, two independently-operative incinerating-furnaces disposed in planes at right angles to each other and having an opening directly between them and an exteriorly-located by-pass means connecting the same and located exteriorly of both furnaces, whereby either one or both furnaces may be operated, and power-generating boilers and furnaces having direct communication with one of the incinerating-furnaces and also in communication with the by-pass and adapted to receive the gases

and products of combustion from either one or both of the said incinerating-furnaces.

8. Two incinerating-furnaces disposed in planes at right angles to each other and having communicating means consisting of openings in the rear of one furnace and through the side of the remaining furnace, and an exterior by-pass conduit connecting the rear portions of the two furnaces, combined with power-generating boilers and furnaces in communication with the incinerating-furnaces, the latter and the power-generating furnaces being capable of independent operation.

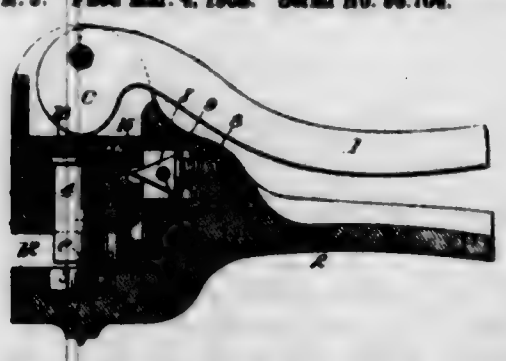
9. Two incinerating-furnaces arranged in planes at right angles to each other and each having a fire-grate near the front extremity and an intermediate garbage or refuse receiving grate, an opening being formed between the rear end of one furnace and the side wall of the other furnace adjacent to the garbage-receiving grate, whereby the gases and products of combustion of one furnace may pass into the other, the furnace receiving he gases and products of combustion from the other also having a rear outlet means, an exteriorly-located by-pass connected to the rear portions of both furnaces, means for cutting off communication between the furnace and also shutting out the by-pass, and power-generating boilers and furnaces in communication with the incinerating-furnaces and provided with a stack.

10. Two incinerating-furnaces disposed in planes at right angles to each other and having fire and garbage or refuse receiving grates, the garbage-receiving grates being tubular and having water inlet and outlet means at opposite extremities, the two furnaces having side and terminal communicating means so that the gases and products of combustion of one will pass into the other for consumption, and power-generating boilers and furnaces with which one of the incinerating-furnaces has direct communication, the outlet connections of the tubular grates being connected to the boilers, the boilers and their furnaces and the incinerating-furnaces being capable of independent operation.

11. Two incinerating-furnaces disposed in planes at right angles to each other and each having a fire-grate and a garbage or refuse receiving grate, the rear end of the one furnace and the one side wall of the other furnace having a communicating opening therethrough, and both furnaces also connected by a by-pass conduit provided with a damper, the furnace having communication with the rear extremity of the remaining furnace being provided with outlet means.

12. Two incinerating-furnaces disposed in planes at right angles to each other and having similar fire and garbage or refuse receiving grates, the garbage-receiving grates being tubular and having water inlet and outlet means at opposite extremities, the two furnaces having communicating means so that the gases and products of combustion of one will pass into the other for consumption, and power-generating boilers and furnaces with which one of the incinerating-furnaces also has communication, the outlet connections of the tubular grates being attached to the boilers.

805,257. **RATCHET SEAL-PRESS.** EDWARD J. BROOKS, East Orange, N. J. Filed Mar. 4, 1903. Serial No. 96,704.



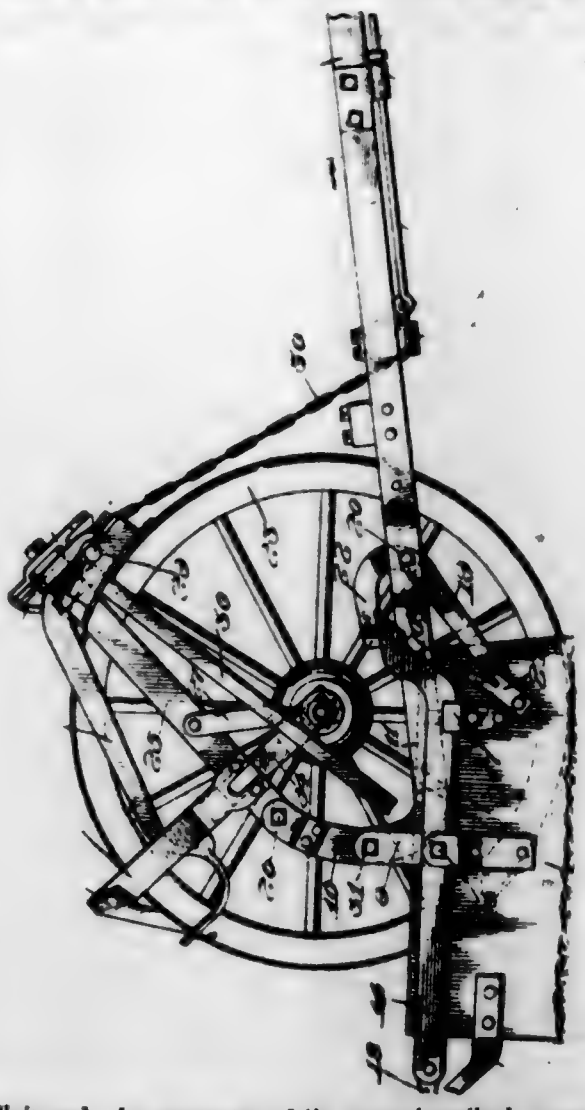
Claim.—1. A seal-press having an endwise-movable die, a ratchet device having a portion overlying the upper end of said die and a leg provided with a longitudinal series of ratchet-teeth, a spring-pressed pawl arranged to engage said teeth, means for moving said die and therewith said ratchet device in the pressing operation, means for permitting the retraction of the die at the end of the pressing movement, and means for effecting such retraction.

2. A seal-press having an endwise-movable die, a ratchet device having a portion overlying the upper end of said die and a leg provided with a longitudinal series of ratchet-teeth and a pair of reversing-notches at the respective ends of said series, a spring-pressed pawl arranged to engage said teeth and notches, and means for reciprocating said die and therewith said ratchet device.

3. A seal-press having an endwise-movable die constructed with a flanged upper end, a ratchet device having a disk overlying said upper end and a leg provided with a longitudinal series of ratchet-teeth and a pair of reversing-notches at the respective ends of said series, a spring-pressed pawl arranged to engage said teeth and notches, and a spiral spring, compressed beneath the flange of said die, serving to retract the die when its effective movement is fully completed.

4. In a ratchet-press, the combination of a pair of main parts comprising respectively a die-closing cam and a recessed head, a movable die within said head having a flanged upper end, a ratchet device having a disk interposed between said upper end of the movable die and the die-closing cam, a spring-pressed pawl arranged to engage said ratchet device and cooperating therewith to prevent the retraction of said die until the pressing operation is fully completed, means for permitting the retraction of the die at the end of the pressing movement, and a spiral spring compressed beneath the flange of the die for effecting such retraction, substantially as hereinbefore specified.

805,258. **WHEELED SCRAPER.** JAMES M. BROOKS, Moleno, Ga., assignor to Western Wheeled Scraper Company, Aurora, Ill., a Corporation of Illinois. Filed Apr. 22, 1905. Serial No. 256,898.



Claim.—1. An apparatus of the class described, comprising a pan, a carriage therefor, mechanism for raising the pan from its loading position, and means independent of the wheels for connecting the team with said pan-raising mechanism.

2. An apparatus of the class described, comprising a pan, a carriage therefor, and means operated by the draft of the team without progressive movement of the carriage for raising the pan.

3. An apparatus of the class described, comprising a scraper-pan, a carriage, a lever fulcrumed on said carriage for raising the pan, and draft means connected with said lever for operating the same.

4. An apparatus of the class described, comprising a scraper-pan, a carriage therefor, a lever fulcrumed on said carriage, said pan being suspended from one end of said lever, and draft means connected with the other end of said lever for raising the pan by the draft of the team without progressive movement of the apparatus.

5. The combination of a pan, a carriage, a lever fulcrumed on said carriage and adapted to be operated to raise the pan, and means independent of progressive movement of the carriage for actuating said lever to raise the pan.

6. The combination of a pan, a carriage, a lever fulcrumed on said carriage and adapted to be operated to raise the pan, means independent of progressive movement of the carriage for actuating said lever to raise the pan, and means for operating said lever by progressive movement of the carriage.

7. An apparatus of the class described, comprising a pan, a carriage therefor, means operated by the draft of the team without progressive movement of the carriage for raising the pan, and means for raising the pan by progressive movement of the carriage.

8. The combination of a pan, a carriage having an arched axle, a lever connected with said arched axle, said pan being suspended from said lever, and draft means connected with the opposite end of said lever.

9. The combination of a pan, a carriage having an arched axle, a lever connected with said arched axle, said pan being suspended from said lever, draft means connected with the opposite end of said lever, and brake mechanism carried by said lever and adapted to engage one or both of the carriage-wheels.

10. The combination of a pan, a carriage having an arched axle, a lever connected with said arched axle, said pan being suspended from said lever, draft means connected with the opposite end of said lever, brake mechanism carried by said lever and adapted to engage one or both of the carriage-wheels, and a lever for operating said brake mechanism.

11. The combination of a pan, a carriage, a lever fulcrumed on said carriage and connected with said pan for raising the same, a tongue, a flexible connection connected with the forward portion of said lever, and means supported by the tongue for connecting the team with said flexible connection, whereby the scraper-pan may be raised by the draft of the team independently of progressive movement of the carriage.

12. The combination of a pan, a carriage, a lever fulcrumed on said carriage and connected with said pan for raising the same, a tongue, a flexible connection connected with the forward portion of said lever, and means supported by the tongue and extending to the forward portion thereof for connecting the team with said flexible connection, whereby the scraper-pan may be raised by the draft of the team independently of progressive movement of the carriage.

13. In a wheeled scraper, the combination of a pan, a carriage, draft devices connected with the pan, a draft-hook pivotally mounted between its ends upon the draft devices, the end portions of said hook extending rearwardly from the pivot thereof, a retaining device at the side of the pan, the lower portion of said hook being adapted to engage said retaining device from below, and means carried by the pan and adapted to engage the upper end portion of said hook for normally holding said hook in engagement with said retaining device.

14. The combination of a pan, a carriage, draft connections, a pivotally-mounted draft-hook, a retaining device carried by the pan, said draft-hook being adapted to swing by gravity out of engagement with said retaining device, and means carried by the pan for holding said draft-hook in engagement with said retaining device when the pan is in loading or carrying position.

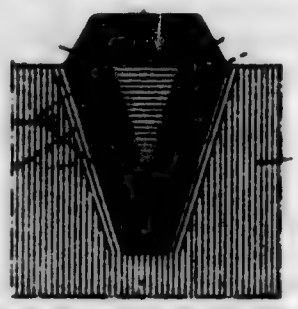
15. The combination of a pan, a carriage, draft connections, a U-shaped draft-hook pivotally supported between its ends by said draft connections, a retaining device carried by the pan and adapted to be engaged by the lower end portion of said draft-hook, and an arm carried by the pan and adapted to engage the upper end portion of said draft-hook and hold said hook in operative position when the pan is in loading or carrying position.

16. The combination of a pan, a carriage, draft connections, a pivotally-mounted draft-hook, a retaining device carried by the pan, said draft-hook being adapted to swing by gravity out of engagement with said retaining device, and means for holding said draft-hook in engagement with said retaining device when the pan is in loading position.

17. The combination of a pan, a carriage having an arched axle, a lever connected with said arched axle, means connecting said lever with the pan, draft means connected with the opposite arm of said lever, and brake mechanism for actuating said lever by the rotation of one of the carriage-wheels.

805,259. SWEATER. SYDNEY H. BROWN, Philadelphia, Pa., assignor to Leicester and Continental Mills Company, Germantown, Philadelphia, Pa., a Corporation of New Jersey. Filed June 6, 1905. Serial No. 263,513.

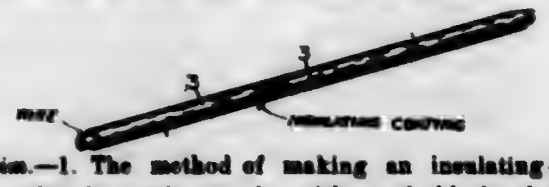
Claim.—1. In a knitted sweater comprising a body portion having a substantially V-shaped slotted opening central of the breast portion and extending to the neck-line, the combination therewith of a collar united thereto and composed of a rearward neck portion and oppositely-disposed breast portions, one of which is provided with a folding flap adapted to fill the space between the breast portions of the collar and extend to a line coincident with the neck portion thereof.



2. In a sweater comprising a knitted body portion having a V-shaped opening central of the breast portion, of a collar corresponding in exterior edge outline with said opening, and united to the coinciding edges thereof, said collar having a rearward neck portion and oppositely-disposed breast portions, one of the latter having a folding flap adapted to register with the opposite breast portion, with means to removably secure it thereto.

3. In a sweater comprising a knitted body portion having a V-shaped opening central of the breast portion, of a knitted double-ply collar corresponding in exterior edge outline with said opening and secured to the coinciding edges thereof, said collar having a rearward neck portion and oppositely-disposed breast portions, one of the latter being provided with a flap united thereto by a single-ply line of knitted stitches to adapt it to be folded on said line.

805,260. INSULATING-BUSHING. JOHN G. CALLAN, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Aug. 26, 1902. Serial No. 121,317.



Claim.—1. The method of making an insulating-bushing, which consists in coating a wire with a suitable insulating compound, stretching said wire to reduce its diameter, and then removing the coating of insulating compound.

2. The method of making an insulating-bushing, which consists in coating a wire of non-resilient material with an insulating compound, stretching said wire to reduce its diameter and loosen the coating, and then removing said coating.

3. The method of making an insulating-bushing which consists in coating a support a plurality of times in a bath of a non-adherent cellulose acetate, drying said coating, varying the relative diameter of the support and coating at the surface of junction, and then removing the coating.

4. The method of making an insulating-bushing which consists in applying to a wire a coating of non-adherent cellulose acetate in a liquid condition, stretching said wire to reduce its diameter and loosen the coating, and then removing the coating in tubular form from the wire.

5. The method of making an insulating-tube consisting in building up on a support of non-resilient material having a smooth surface a closely-fitting coating of an insulating compound which is relatively inelastic when hard, then varying the relative diameter of the coating and support at the surface of junction, and then removing the coating.

805,261. RAILROAD-TIE. JASPER L. CATLETT, Vincennes, Ind. Filed May 6, 1905. Serial No. 259,507.



Claim.—1. In apparatus of the class described, the combination of two parallel stringers, rails above the stringers, supports for

the rails and resting on the stringers, comprising a plurality of metallic ties, each tie being provided with laterally-projecting flanges on the horizontal faces thereof, shoulders formed in the flanges of the upper face of the alternate ties at each end thereof, the shoulders of one flange supporting the outer side of one rail-base, and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base, and the outer side of the second rail-base, shoulders formed in the flanges of the lower face of the alternate ties at each end thereof, and similarly arranged with respect to the shoulders of the corresponding flanges of the upper face, the shoulders of one flange, supporting the outer side of the stringer corresponding to the first rail-base, and the inner side of the stringer corresponding to the second rail-base, the shoulders of the other flange supporting the inner side of the stringer corresponding to the first rail-base, and the outer side of the stringer corresponding to the second rail-base, shoulders formed in the flanges on the upper face of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, shoulders formed in the flanges on the lower face of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, inwardly-facing undercut shoulders on the upper flanges without the rail-base-supporting shoulders, a guard-rail comprising an arched portion, a flange on the inner edge of the arched portion engaging the undercut shoulders, and a series of flanges on the outer edge of the arched portion, the alternate members of the series resting on the upper face of the adjacent tie, the intermediate members of the series depending between the ties and engaging the transverse notches in the flanges thereof, a plate engaging the lower faces of the flanges of the adjacent ties, and overlapping the dependent flange, a bolt traversing the overlapping parts and a nut engaging the bolt.

2. In apparatus of the class described, the combination of two parallel stringers, rails above the stringers, supports for the rails and resting on the stringers comprising a plurality of metallic ties, each tie being provided with laterally-projecting flanges on the horizontal faces thereof, shoulders formed in the flanges of the upper face of the alternate ties at each end thereof, the shoulders of one flange supporting the outer side of one rail-base, and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base, and the outer side of the second rail-base, shoulders formed in the flanges of the lower face of the alternate tie at each end thereof, and similarly arranged with respect to the shoulders of the corresponding flanges of the upper face, the shoulders of one flange, supporting the outer side of the stringer corresponding to the first rail-base, and the inner side of the stringer corresponding to the second rail-base, the shoulders of the other flange supporting the inner side of the stringer corresponding to the first rail-base, and the outer side of the stringer corresponding to the second rail-base, shoulders formed in the flanges of the upper face of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, shoulders formed in the flanges on the lower face of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, inwardly-facing undercut shoulders on the upper flanges without the rail-base supporting-shoulders, a guard-rail comprising an arched portion, a flange on the inner edge of the arched portion engaging the undercut shoulders, means on the guard-rail for maintaining the ties at regular intervals with respect to each other, and means for securing the guard-rail to the ties.

3. In apparatus of the class described, the combination of two parallel stringers, rails above the stringers, supports for the rails and resting on the stringers, comprising a plurality of metallic ties, each tie being provided with laterally-projecting flanges on the horizontal faces thereof, shoulders formed in the flanges of the upper face of the alternate ties at each end thereof, the shoulders of one flange supporting the outer side of one rail-base, and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base, and the outer side of the second rail-base, shoulders formed in the flanges of the lower face of the alternate tie at each end thereof, and similarly arranged with respect to the shoulders of the corresponding flanges of the upper face, the shoulders of one flange supporting the outer side of the stringer corresponding to the first rail-base, and the inner side of the stringer corresponding to the second rail-base, the shoulders of the other flange supporting the inner side of the stringer corresponding to the first rail-base, and the outer side of the stringer corresponding to the second rail-base, shoulders formed in the flanges on the upper face of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, inwardly-facing undercut shoulders on the upper flanges without the rail-base supporting-shoulders, a guard-rail engaging the inwardly-facing undercut shoulders for maintaining the ties at proper intervals with respect to each other, and means for securing the guard-rail to the ties.

4. In apparatus of the class described, the combination of two parallel stringers, rails above the stringers, supports for the rails and resting on the stringers comprising a plurality of metallic ties, each tie being provided with laterally-projecting flanges on the horizontal faces thereof, shoulders formed in the flanges of the upper face of the alternate ties at each end thereof, the shoulders of one flange supporting the outer side of one rail-base and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base, and the outer side of the second rail-base, shoulders formed in the flanges of the lower face of the alternate ties at each end thereof, and similarly arranged with respect to the shoulders of the corresponding flanges of the upper face, the shoulders of one flange, supporting the outer side of the stringer corresponding to the first rail-base, and the inner side of the stringer corresponding to the second rail-base, the shoulders of the other flange supporting the inner side of the stringer corresponding to the first rail-base, and the outer side of the stringer corresponding to the second rail-base, shoulders formed in the flanges on the upper face of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, shoulders formed in the flanges on the lower face of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, a guard-rail for maintaining the ties at proper intervals with respect to each other, and means for securing the guard-rail to the ties.

5. In apparatus of the class described, the combination of the oppositely-arranged stringers, rails above the stringers, supports for the rails, and resting on the stringers comprising a plurality of metallic ties, each tie being provided with laterally-projecting flanges on the horizontal faces thereof, shoulders formed in the flanges of the upper faces of the alternate ties at each end thereof, the shoulders of one flange supporting the outer side of one rail-base, and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base, and the outer side of the second rail-base, shoulders formed in the flanges of the lower face of the alternate ties at each end thereof, and arranged similarly with respect to the shoulders of the corresponding flanges of the opposite face, the shoulder of one flange supporting the outer side of the stringer corresponding to the first rail-base, and the inner side of the stringer corresponding to the second rail-base, the shoulders of the other flange supporting the inner side of the stringer corresponding to the first rail-base, and the outer side of the stringer corresponding to the second rail-base, shoulders formed in the flanges on the upper face of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, shoulders formed in the flanges on the lower faces of the intermediae ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, and means for maintaining the ties at the proper interval with respect to each other.

6. In apparatus of the class described, the combination of the oppositely-arranged stringers, rails above the stringers, supports for the rails and resting on the stringers comprising a plurality of metallic ties, each tie being provided with laterally-projecting flanges on the horizontal faces thereof, shoulders formed in the flanges of the upper face of the alternate ties at each end thereof, the shoulders of one flange supporting the outer side of one rail-base and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base, and the outer side of the second rail-base, shoulders formed in the flanges of the lower faces of the alternate ties at each end thereof, and arranged similarly with respect to the shoulders of the corresponding flanges of the upper face, the shoulders of one flange supporting the outer side of the stringer corresponding to the first rail-base, and the inner side of the stringer corresponding to the second rail-base, the shoulders of the other flange supporting the inner side of the stringer corresponding to the first rail-base, and the outer side of the stringer corresponding to the second rail-base, shoulders formed in the flanges on the upper faces of the intermediate ties and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, shoulders formed in the flanges on the lower faces

of the intermediate ties and reversely arranged with respect to the shoulders on the alternate ties and means for maintaining the ties at proper intervals with respect to each other.

7. In apparatus of the class described, the combination of oppositely-arranged stringers, rails above the stringers, supports for the rails and resting on the stringers, comprising a plurality of metallic ties, each tie being provided with laterally-projecting flanges on the horizontal faces thereof, shoulders formed in the flanges of the upper face of the alternate ties at each end thereof, the shoulders of one flange supporting the outer side of one rail-base and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base, and the outer side of the second rail-base; shoulders formed in the flanges of the lower face of the alternate ties at each end thereof, and arranged similarly to the shoulders of the corresponding flanges of the upper face, the shoulders in one flange supporting the outer side of the stringer corresponding to the first rail-base and the inner side of the stringer corresponding to the second rail-base, the shoulders of the other flange supporting the inner side of the stringer corresponding to the first rail-base, and the outer side of the stringer corresponding to the second rail-base; shoulders formed in the flanges on the upper faces of the intermediate ties and reversely arranged with respect to the shoulders of the alternate ties, means on the alternate pairs of shoulders for engaging the upper face of the rail-base; shoulders formed in the flanges on the lower face of the alternate ties and reversely arranged with respect to the shoulders of the alternate ties, means on the alternate pairs of shoulders for engaging the edges of the stringers and means for maintaining the ties at proper intervals with respect to each other.

8. In apparatus of the class described, the combination of oppositely-arranged stringers, rails above the stringers, supports for the rails and resting on the stringers comprising a plurality of metallic ties, means on one side of the longitudinal center of the upper face of the alternate ties at each end thereof for supporting the outer side of one rail-base and the inner side of the other rail-base, means on the other side of the longitudinal center of the upper face of the alternate ties for supporting the inner side of the first rail-base and the outer side of the second rail-base, means on one side of the longitudinal center of the lower face of the alternate ties and arranged similarly with respect to the supporting means on the corresponding side of the upper face of the tie, for supporting the outer side of the stringer corresponding to the first rail-base, and the inner side of the stringer corresponding to the second rail-base, means on the other side of the longitudinal center of the lower face of the alternate ties and similarly arranged with respect to the means on the corresponding side of the upper face for supporting the inner side of the stringer corresponding to the first rail-base, and the outer side of the stringer corresponding to the second rail-base, rail-supporting means on the intermediate ties symmetrically arranged with respect to the supporting means on the alternate ties, stringers-supporting means on the lower faces of the intermediate ties symmetrically arranged with respect to the stringers-supporting means on the lower faces of the alternate ties, and means for maintaining the ties at proper intervals with respect to each other.

9. In apparatus of the class described, the combination of oppositely-arranged stringers, rails above the stringers, supports for the rails and resting on the stringers, comprising a plurality of metallic ties, means on one end of the upper faces of the alternate ties for engaging the opposite edges of the rail-base at diagonally opposite points, means on the other end of the upper faces of the alternate ties for engaging the opposite edges of the other rail-base at diagonally opposite points, means on one end of the lower faces of the alternate ties for engaging the opposite edges of the stringers at diagonally opposite points, means on the other end of the lower faces of the alternate ties for engaging the opposite edges of the other stringer at diagonally opposite points, each pair of engaging means being similarly arranged with respect to each other pair of engaging means, engaging means on each end of the upper face of the intermediate ties for engaging the rail-base reversely arranged with respect to the rail-base-engaging means on the alternate ties, means on each of the ends of the lower face of the intermediate ties for engaging the stringers, reversely arranged with respect to the stringer-engaging means on the alternate ties, and means for maintaining the ties at proper intervals with respect to each other.

10. In apparatus of the class described, the combination of oppositely-arranged rails, supports for the rails comprising a plurality of metallic ties, means on each end of the upper surface of the alternate ties, for engaging the opposite edges of the rail-bases at diagonally opposite points, each pair of engaging means being similarly arranged with respect to the other pair, means on each end of the upper surface of the intermediate ties for engaging the opposite edges of the rail-bases at diagonally opposite points, each pair of engaging means being similarly arranged with respect to the other pair, and symmetrically arranged with respect to the corresponding pair on the alternate ties.

11. In apparatus of the class described, the combination of oppositely-arranged rails, supports for the rails, comprising a plurality of rectangular hollow ties each provided with a vertical longitudinally-arranged central web and a longitudinal raised portion centrally disposed on the upper surface of the tie, and of less width than such surface, laterally-projecting flanges on the raised portion, shoulders formed in the flanges of the upper faces of the alternate ties at each end thereof, the shoulders of one flange supporting the outer side of one rail-base and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base and the outer side of the second rail-base, shoulders formed in the flanges on the upper faces of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, means for securing the rails to the ties at the ends provided with square shoulders, comprising a plate arranged beneath one flange transversely of the rail, and provided with a flange for engaging the outer edge of the base thereof, a second plate arranged transversely of the first plate and of the raised portion of the tie and overlapping the first-named plate, a flange on the plate for engaging the opposite flange of the raised portion, a second flange on the edge of the plate adjacent to the web of the rail, a bolt traversing the overlapping parts, and a nut engaging the bolt.

12. In apparatus of the class described, the combination of oppositely-arranged rails, supports for the rails comprising a plurality of rectangular hollow ties each provided with a vertical longitudinally-arranged central web and a longitudinal raised portion centrally disposed on the upper surface of the tie, and of less width than such surface, laterally-projecting flanges on the raised portion, shoulders formed in the flanges of the upper faces of the alternate ties at each end thereof, the shoulders of one flange supporting the outer side of one rail-base and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base and the outer side of the second rail-base, shoulders formed in the flanges on the upper faces of the intermediate ties, and reversely arranged with respect to the shoulders of the alternate ties, overhanging lugs on the alternate pairs of shoulders, and means for securing the rails to the ties of the ends provided with square shoulders

13. In apparatus of the class described, the combination of oppositely-disposed rails, supports for the rails comprising a plurality of rectangular hollow metallic ties, each provided with a vertical longitudinally-arranged central web and a longitudinal raised portion, centrally disposed on the upper surface and of less width than such surface, laterally-projecting flanges on the raised portion, shoulders struck up in the flanges of the alternate ties at each end thereof, the shoulders of one flange, supporting the outer side of one rail-base, and the inner side of the other rail-base, the shoulders of the other flange supporting the inner side of the first rail-base and the outer side of the second rail-base, shoulders formed in the flange of the upper faces of the intermediate ties and reversely arranged with respect to the shoulders of the alternate ties, and means on the alternate pairs of shoulders for engaging the upper surface of the rail-base.

14. A rectangular cross-tie comprising a plate provided with a longitudinal centrally-arranged thickened portion, and bent to form two abutting rectangular tubes the abutting sides of the tubes supporting the thickened portion, laterally-projecting flanges on the thickened portion, square shoulders for engaging the opposite edges of a rail-base struck up from the opposite flanges, at one end of the ties, and undercut shoulders for engaging the opposite edges of a rail-base, struck up from the opposite flanges at the other end of the tie.

15. A metallic cross-tie, comprising a plate provided with a longitudinal centrally-arranged raised portion, and bent to form two abutting rectangular tubes, the abutting sides of the tubes supporting the raised portion, laterally-projecting flanges on the raised portion, means for engaging the edges of a rail-base at diagonally opposite points on one end of the raised portion, means for engaging a rail-base at diagonally opposite points on the other end of the tie and similarly arranged with respect to the first-named pair.

16. A metallic tie comprising a plate provided with a longitudinal centrally-arranged thickened portion, and bent to form two rectangular tubes, the abutting sides of the tubes beneath the thickened portion, laterally-projecting flanges on the thickened portion, and rail-supporting shoulders on the opposite ends of the tie.

17. A metallic tie comprising a rectangular tube having a lon-

gitudinal centrally-arranged vertical web, a thickened portion on the upper surface of the tie and of lesser width than such surface, laterally-projecting flanges on the thickened portion, and oppositely-disposed shoulders on the flanges, at the ends of the tie to form seats for the rail-bases.

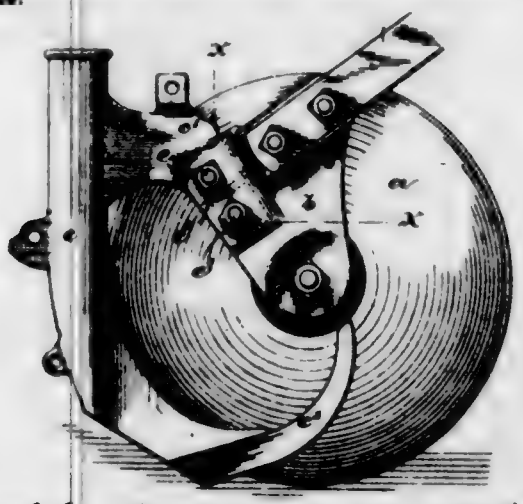
18. A metallic tie having a thickened portion on its upper surface and of less width than such surface, and undercut to form laterally-projecting flanges on the said thickened portion, portions of said flanges being deflected to form seats for the rail-bases.

19. A metallic tie having a thickened portion on its upper surface of less width than such surface, and undercut to form laterally-projecting flanges on the said thickened portion.

20. In apparatus of the class described, the combination of a rail, a tie for supporting the rail, and provided with laterally-projecting flanges on its upper surface, means for securing the rail to the tie comprising a plate in the groove beneath the flange and transversely of the rail, a flange on the plate for engaging the outer edge of the rail-base, a second plate transversely of the first plate and of the upper surface of the tie and resting on the inner edge of the rail-base, a flange on the second plate for engaging the opposite flanged portion of the tie, a bolt traversing the plate and a nut engaging the bolt.

21. In apparatus of the class described, the combination of oppositely-disposed rails, means for supporting the rails, comprising a plurality of metallic ties having laterally-projecting flanges on their upper surfaces, means for maintaining the ties at proper intervals with respect to each other, comprising a guard-rail provided with a series of depending flanges, for engaging transverse notches in the flanges of the adjacent ties, a plate having laterally-projecting lugs for engaging the under surface of the flanges of the adjacent ties and means for securing the plate to the guard-rail.

805,262. **DISK FURROW-OPENER.** EDWARD CHRISTMAN, Louisville, Ky., assignor to American Seeding Machine Company, Jersey City, N. J., a Corporation of New Jersey. Filed Dec. 16, 1904. Serial No. 237,069.



Claim.—1. In a furrow-opener, a main supporting-frame formed in two parts, a furrow-opening disk mounted on one of said parts, a conduit mounted on the other part, a shield or scraper carried by said conduit, means for varying the inclination of the conduit in its relation with the vertical whereby the shield or scraper will be adjusted in its relation with the furrow-opening disk.

2. In a furrow-opening device, a frame or support formed in two parts, a disk mounted on one of said parts, and a shield or scraper for said disk connected to the other part, means for varying the relative inclination of the said frame parts whereby the shield or scraper will be laterally adjusted in its relation to the disk, substantially as and for the purpose specified.

3. In a furrow-opener, a supporting-frame formed in two parts, a disk mounted on one of said parts and a shield or scraper for said disk on the other part, a fulcrum on one of said parts, an adjustable fastener on each side of said fulcrum whereby the position of one of the parts may be varied in its relation to the vertical to permit a relative adjustment of the shield and disk, substantially as specified.

4. In a furrow-opener, a supporting-frame in two parts, a disk mounted on one part and a conduit on the other part, a fulcrum or projection on one of said parts adapted to contact with the other part, and adjustable fastening means on each side of said fulcrum whereby the position of the conduit may be adjusted with reference to the disk, substantially as described.

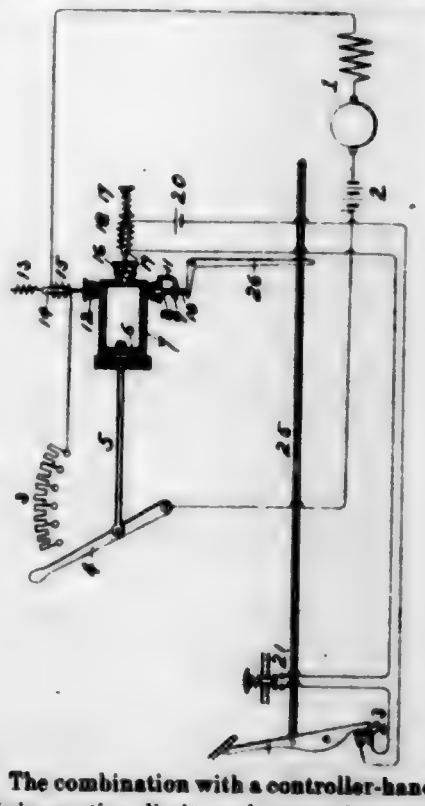
5. In a furrow-opener, a supporting-frame formed in two parts, one of said parts being provided with a recess and the other with an arm to fit in said recess, a transverse bearing between said parts, adjustable fastening means on each side of said transverse bearing, a disk mounted on one of said parts, and a conduit carrying a shield or scraper on the other part, for the purpose specified.

6. In a furrow-opening device, a two-part supporting-frame, a disk mounted on one of said parts, a conduit carrying a shield or scraper on the other part, one of said parts being formed with a recess and the other with an arm fitted into said recess, a transverse bearing between the respective parts, adjustable fastening devices on each side of said transverse bearing, whereby the conduit may be adjusted with reference to the disk.

7. In a furrow-opening device, a two-part supporting-frame, a disk mounted on one of said parts, a shield or scraper for said disk mounted on the other part, a transverse bearing having a fulcrum between the respective parts of said two-part frame and adjustable fastening means on each side of said transverse bearing whereby said shield or scraper may be adjusted to or from said disk and held in proper relation thereto, substantially as specified.

8. The combination with a main supporting-frame, a disk journaled thereon, a conduit carrying a shield or scraper, an arm on said conduit and a recess in said frame into which said arm is fitted, a rib on one of said parts and a groove in the other part, fastening devices on each side of said rib and groove, and means for adjusting said fastening devices to produce adjustment of said conduit with reference to said disk, substantially as specified.

805,263. **TIME-LIMIT DEVICE FOR CONTROLLERS.** ALEXANDER CHURCHWARD, New York, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 10, 1903. Serial No. 176,458.



Claim.—1. The combination with a controller-handle, of a dash-pot set for a minimum time limit, and means for automatically increasing said time limit if said handle is moved too quickly.

2. The combination with a controller-handle, of a dash-pot and two normally open valves thereon, one of which closes under a predetermined excess of current.

3. The combination with a controller-handle, of a dash-pot, an adjustable valve thereon, a solenoid responsive to an excess of current, and a valve on the dash-pot adapted to be closed by said solenoid.

4. The combination with a controller-handle, of a dash-pot set for a determined time limit, manually-controlled means for decreasing said time limit at will, and means for automatically restoring the determined time limit when the manual controlling influence ceases.

5. The combination with a controller-handle, of a dash-pot, a normally open valve thereon, a normally closed valve, said valves controlling independent passages and means under the control of the operator for opening said closed valve.

6. The combination with a controller-handle, of a dash-pot, a normally open valve thereon, a normally closed valve, and electromagnetic means for opening said closed valve, including a circuit-closer under control of the operator.

7. The combination with a controller-handle, of a dash-pot set for a certain time limit, a brake, and means whereby said time limit is increased if the brake is left on.

8. The combination with a controller-handle, of a dash-pot, a normally open valve thereon, a brake, and means for closing said valve when the brake is applied.

9. The combination with a controller-handle, of a dash-pot, a normally open valve thereon, a lever for closing said valve, a brake-rod, and connections between said rod and lever.

10. The combination with a controller-handle, of a dash-pot, a normally closed valve thereon, means for opening said valve at will, a brake, and means for preventing the opening of said valve when the brake is on.

11. The combination with a controller-handle, of a dash-pot, a normally closed valve thereon, electromagnetic means for opening said valve, a brake, and means for opening the circuit of the electro-magnet when the brake is applied.

12. The combination with a controller-handle, of a dash-pot set for a certain time limit, means for increasing said limit and automatically restoring it, and means for decreasing said limit.

13. The combination with a controller-handle, of a dash-pot for a certain time limit, means for automatically increasing said limit if current is turned on too fast, and means for decreasing said limit at the will of the operator.

14. The combination with a controller-handle, of a dash-pot set for a certain time limit, means for automatically increasing said limit if current is turned on too fast, means for decreasing said limit momentarily at will, a brake, and means whereby said limit is very greatly increased if the brake is left on.

15. The combination with a controller-handle, of a dash-pot set for a certain time limit, means for decreasing said limit at the will of the operator, and means for rendering said decreasing means inoperative if the brake is left on.

16. The combination with a controller-handle, of a checking device therefor set for a minimum time limit, and means for automatically increasing said time limit if the handle is moved too quickly.

17. The combination with a controller-handle, of a checking device therefor set for a minimum time limit, and means for automatically increasing said time limit under a predetermined excess of current.

18. The combination with a controller-handle, of a checking device therefor, means for automatically setting said checking device for a predetermined time limit, and means for decreasing said time limit at will.

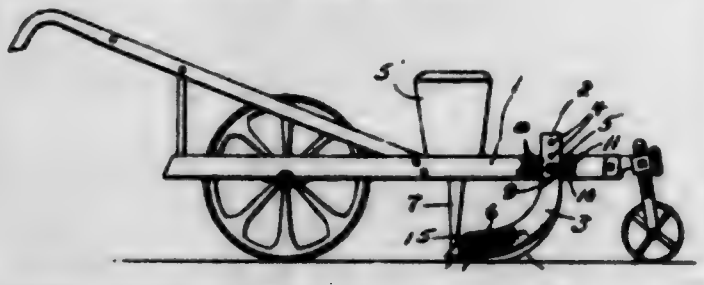
19. The combination with a controller-handle, of a checking device therefor, means for automatically setting said device for a predetermined time limit, and means for increasing said time limit at will.

20. The combination with a controller-handle, of a checking device therefor, means for automatically setting said device for determining the time limit, and means for varying said time limit at will.

21. The combination with a controller-handle, of a checking device therefor set for a certain time limit, means for increasing said limit, and means for automatically decreasing said limit.

22. The combination with a controller-handle, of a checking device therefor set for a certain time limit, means for automatically increasing said limit and automatically restoring it, and means for decreasing said limit and automatically restoring it.

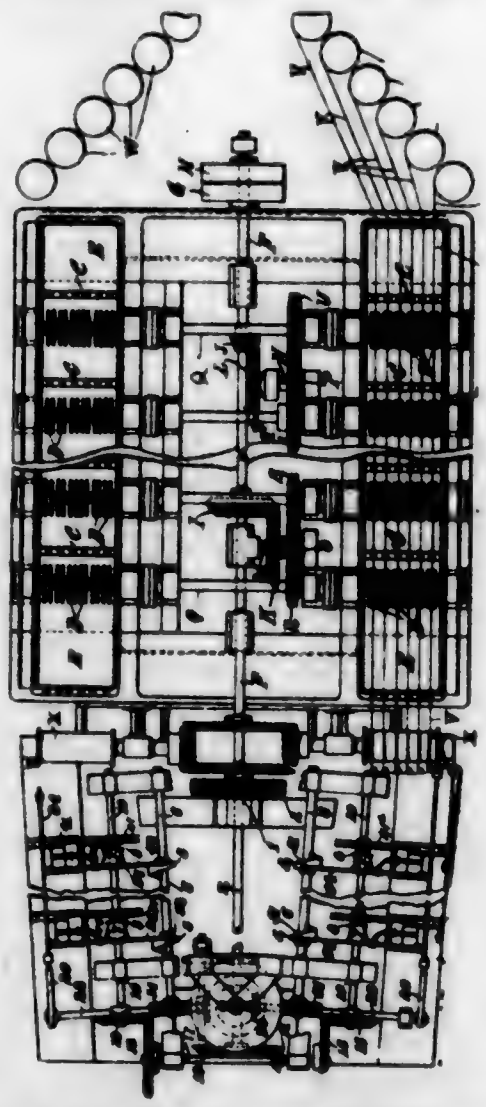
805,264. **FURROW-OPENER.** JOHN W. CLEVELAND, Paragould, Ark. Filed July 6, 1905. Serial No. 268,517.



Claim.—1. A furrow-opener comprising a single piece of material one end of the material having a series of preforations through its sides and a series of notches in one of its edges, the opposite end of the opener having its lower edge cut away and beveled in advance of the cut-away portions.

2. The combination with a beam and a hopper; of a furrow-opener having one of its ends bent in the direction of the hopper, the said end having its extremity beveled and its under edge cut away, the boot of the hopper being disposed directly over the said beveled end, the opposite end of the opener having a series of perforations therethrough, a bolt for passage through said perforations interchangeably and through the beam, one edge of the said opposite end being provided with a series of notches and a loop engaging said notches interchangeably at one end with its opposite end engaged in the beam.

805,285. **SPOOLING-MACHINE.** CHARLES A. COWLES and ERNEST O. POLLARD, Ansonia, Conn. Filed Apr. 1, 1903. Serial No. 150,562.



Claim.—1. In a spooling mechanism, the combination with a spooler having a spindle and spools, of means for operating said spindle, means for delivering wire to said spooler, means for automatically and successively winding said spools with wire, and means for decreasing the speed of rotation of the spindle as the diameter of the spool being wound increases, for substantially the purposes set forth.

2. In a spooling mechanism, the combination of series of spoolers having spindles and spools, means for rotating said spindles, means for varying the speed of rotation, means for leading wire to the spools, and means for successively winding the spools on the spindles with the wire, for substantially the purposes set forth.

3. In a spooling mechanism, the combination of a series of spoolers, means for leading wire thereto to be wound upon the spools, means for winding the wire upon the spools, and adjustable mechanism for enabling different series of spools to be filled at different times, for substantially the purposes set forth.

4. In a spooling mechanism, the combination of a spooler having a spindle adapted to receive spools for the wire, means for leading wire to said spooler, means for reciprocating the wire as it is wound, and mechanism for automatically and successively winding said spools, for substantially the purposes set forth.

5. In a spooling mechanism, the combination of a spooler having a spindle adapted to receive the spools upon which the wire is to be wound, a slidable plate and means for reciprocating the same, a guide carried by said plate for the wire to be wound, and means for automatically adjusting the position of said guide upon the reciprocating plate, whereby the spools may be wound in succession and from end to end upon each spool, for substantially the purposes set forth.

6. In a spooling mechanism, the combination of series of spoolers having spindles adapted to receive the spools for the wire, means for rotating said spindles, means for varying the speed of the spindles as the wire is wound, a guide for the wire, and means for re-

ciprocating said guide opposite the spools in succession, whereby the wire is wound upon the spools successively, for substantially the purposes set forth.

7. In a spooling mechanism, the combination of a series of spoolers adapted to receive the spools upon which the wire is to be wound, means for delivering the wire to said spools, and means for automatically and successively reciprocating the wire opposite each spool, whereby the spools may be wound with wire in succession, for substantially the purposes set forth.

8. In a spooling mechanism, the combination with spindles adapted to receive the spools for the wire, of a guide for delivering the wire to the spools, means for reciprocating said guide, and means for automatically moving said guide opposite each spool successively as one of the spools is wound, for substantially the purposes set forth.

9. In a spooling mechanism, the combination of a spindle adapted to receive the spools for the wire, a guide for delivering the wire to the spools, and means for constantly reciprocating the same, means for automatically moving said guide step by step opposite the spools in succession, and means for varying the speed of rotation of the spools as the wire is wound thereon, for substantially the purposes set forth.

10. In a spooler, the combination of a reciprocating guide for delivering the wire to the spools, and means for automatically moving said guide opposite another spool after one of the spools has been wound, for substantially the purposes set forth.

11. In a spooler, the combination of a reciprocating guide for delivering the wire to the spools, means for automatically moving said guide opposite another spool after one of the spools has been wound, and means for decreasing the speed of rotation of each spool as the wire is wound thereon, for substantially the purposes set forth.

12. In a spooling mechanism, the combination with the rotating spindle for the spools, of a slidable plate arranged adjacent the spools, means for reciprocating said plate, and other plates adapted to be moved relatively to the said first-named plate, one of said last-named plates being provided with a guide, and the other with stops for limiting the movement of said guide, whereby the spools may be wound with wire in succession, for substantially the purposes set forth.

13. In a spooling mechanism, the combination with means for delivering the wire to the spools and for winding it thereon, of a cam for controlling the speed of rotation of the spools and the position of the guide relatively thereto, for substantially the purposes set forth.

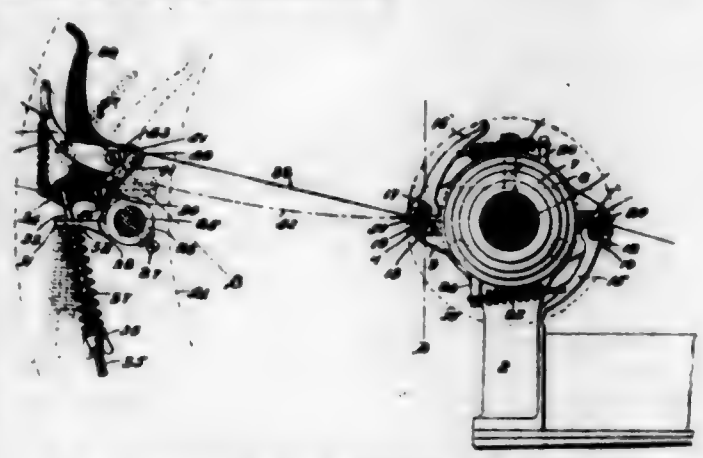
14. In apparatus of the class described, the combination with a multiple-wire-drawing machine for drawing a plurality of wires at a time, of a plurality of spooling devices one for each wire, a centrally-arranged driving-shaft for imparting power to the wire-drawing machine and the spooling devices from the same source, operative connections between said shaft and the wire-drawing machine, and operative connections between said shaft and the spooling devices, rollers about which the wires are passed arranged between the wire-drawing machine and spooling devices, suitable guides for the several wires, each wire being led from the rollers over the guides directly to a spooling device, and operative connections for driving the spooling devices to spool the wires as the wires are delivered from the wire-drawing machine, for substantially the purposes set forth.

15. In apparatus of the class described, the combination with a multiple-wire-drawing machine for drawing a plurality of wires at a time, of a plurality of spooling devices, one for each wire, a centrally-arranged driving-shaft for imparting power to the wire-drawing machine and the spooling devices from the same source, operative connections between said shaft and the wire-drawing machine, operative connections between said shaft and the spooling devices, means for guiding the several wires from the wire-drawing machine directly to the spooling devices, and operative connections for driving the spooling devices to spool the wires as the wires are delivered from the wire-drawing machine, for substantially the purposes set forth.

805,266. **CUTTING-WIRE ATTACHMENT FOR CLAY-CUTTING MACHINERY.** WILLIAM R. CUNNINGHAM, Bucyrus, Ohio, assignor to The American Clay Machinery Company, Bucyrus, Ohio, a Corporation of New Jersey. Filed Aug. 17, 1905. Serial No. 274,602.

Claim.—1. A wire attachment of the character described, comprising means for holding one end of the wire, and a pair of independently-pivoted jaw members between which the opposite end of said wire is gripped.

2. In a mechanism of the character described, the combination of a plain wire of uniform thickness from end to end, means for gripping one end of the wire, a swinging lever to which the opposite end of the wire is fitted, and a clamping member pivotally mounted on said swinging lever and adapted to grip said other end of the wire between itself and said swinging lever.



3. In a mechanism of the character described the combination of a plain wire devoid of enlargement at any point in its length, wire supporting and securing means for one end of said wire, and a combined wire gripping and tightening means for the opposite end of said wire said last-named means comprising a swinging member upon which the free end of the wire is placed and a clamping member pivotally carried by said swinging member and adapted to clamp the end of said wire thereto.

4. A cutting mechanism for a brick and tile cutting machine said mechanism comprising a plain wire devoid of enlargements at the ends whereby its diameter is uniform from end to end, and a clamp for each end of the wire said clamp comprising a seat for each end portion of the wire, said seat portion having a guide-opening for the wire, and cam-levers adapted to grip the plain ends of the wire to the seats.

5. A cutting mechanism for a brick and tile cutting machine said mechanism comprising a plain wire devoid of end enlargements, means for securing one end of the wire, a clamp for the opposite end of the wire said clamp including a member provided with a seat for the wire, and a pivoted clamping-lever carried by said member and adapted to grip the wire between itself and said seat, said member being pivotally mounted and capable of stretching the wire after it has been gripped.

6. A cutting mechanism for a clay-cutting machine said mechanism including a wire, means for securing one end thereof, and means for securing the opposite end of the wire said last-named means comprising a support, a ring mounted thereon and having a projecting portion with an offset wire-seat, and a lever pivotally mounted on the projection and having an eccentric or cam-head adapted to grip the wire between itself and said seat, and means for holding the lever in its locked position said seat portion having a guide for spacing the wire.

7. A cutting mechanism for a clay-cutting machine said mechanism including a cutting-wire, a fixed and a movable jaw between which each end of the wire is gripped, and means for spacing and guiding the wire between each pair of jaws.

8. A cutting mechanism for a clay-cutting machine said mechanism including a cutting-wire, a fixed wire-seat and a movable clamping member coacting therewith to grip the end of the wire, said wire-seat provided with an opening through which the wire is passed and by which it is spaced.

9. A cutting mechanism for a brick and tile cutting machine said mechanism including a wire having plain ends, means for securing one end of the wire, and means for securing the opposite end of the wire said last-named means comprising a pivoted lever having an offset seat portion and a second pivoted lever carried by the first lever and having substantially a cam-shaped head between which and the said seat portion the end of the wire is gripped said first lever capable of movement to stretch the wire after it is gripped.

10. A cutting mechanism for a brick and tile cutting machine said mechanism including a wire, means for securing one end thereof, and means for securing the opposite end of the wire said last-named means comprising a support, an annulus supported loosely thereon, and provided with an offset seat portion upon which the end of the wire is placed, and a pivoted lever carried by the annulus and having substantially a cam-shaped portion between which and the said seat portion the end of the wire is gripped.

11. A cutting mechanism for a clay-cutting machine said mechanism including a wire, means for securing one end thereof, and

means for securing the opposite end of the wire said last-named means comprising a support, a ring mounted loosely thereon, and provided with a projecting portion having a seat for the wire, and a pivoted substantially cam-shaped member mounted on the projection and acting in opposition to the seat portion to grip the wire between itself and said seat.

12. A cutting mechanism for a clay-cutting machine said mechanism including a wire, means for securing one end thereof, and means for securing the opposite end of the wire said last-named means comprising a support, a ring mounted thereon and having a projection with an offset portion forming a seat for the wire, and a lever pivotally mounted on the projection and having an eccentric or cam-head adapted to grip the wire between itself and said seat, and a spring engaging the lever to hold it in a closed gripping position.

13. A cutting mechanism for a clay-cutting machine said mechanism including a cutting-wire, means for holding one end thereof, and means for holding the opposite end of the wire said last-named means comprising a fixed support, a collar thereon having a projecting portion, a lever pivoted to said projecting portion and provided with an offset seat for the wire, means provided on the offset portion for guiding and spacing the wire, a lever having an eccentric or cam-head adapted to grip the wire between itself and said seat, and means for holding the lever in its closed gripping position.

14. A cutting mechanism for a clay-cutting machine said mechanism including a cutting-wire, means for holding one end thereof, means for securing the opposite end of the wire said last-named means comprising a fixed support, a collar thereon and provided with a projection, a lever fulcrumed to the projection and having an offset portion forming a seat for the wire, a second lever pivoted to the first lever and having an eccentric or cam-head adapted to grip the wire between itself and said seat, a rod connected to the first lever and provided with a spring, said collar having a projection serving as a seat for the spring, means for regulating the tension of said spring and the tension on the wire, and means for holding the second lever in its closed gripping position.

15. A cutting mechanism for a clay-cutting machine said mechanism including a cutting-wire, means for operatively holding one end thereof, and means for securing the opposite end of the wire said last-named means comprising a fixed support, a lever pivoted thereto and having portions projecting each side of the pivotal point, one of said projecting portions having a seat for the wire, a spring-actuated member connected to the other projecting portion of the lever, and a cam-lever pivoted to the first lever and adapted to grip the wire to said seat said second lever being connected to means for holding it in its closed gripping position.

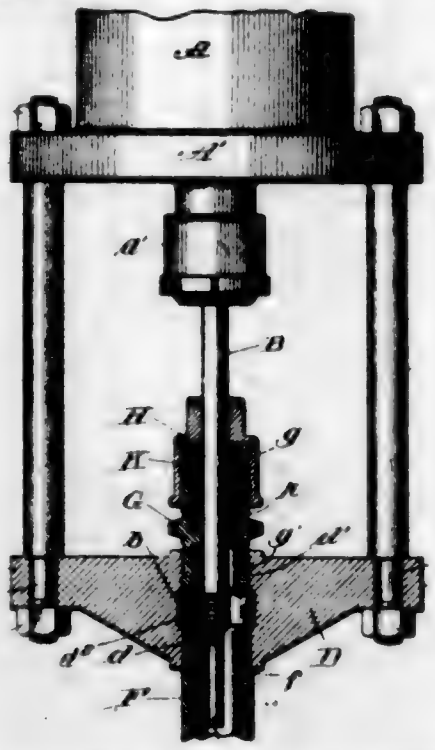
16. A cutting mechanism for a clay-cutting machine said mechanism including a cutting-wire, means for holding one end thereof, means for securing the opposite end of the wire said last-named means comprising a fixed support, a lever pivoted thereto and having portions projected to each side of its pivotal center, one of said projected portions having an offset seat for the wire and the other projected portion having an opening through it, a rod passing through said opening and hooking into engagement with the lever on the side thereof opposite to wire-seat, a spring on the rod and a follower-nut engaging the spring to regulate the tension thereof, a second lever pivoted on the first lever and having an eccentric or cam portion adapted to grip the wire between itself and said seat, and a spring connecting the second lever with a projected portion of the first lever.

805,267. **PUMPING-ENGINE.** FRANK W. DAVIS and ALBERT W. KING, Bradford, Pa. Filed Oct. 17, 1904. Serial No. 228,732.

Claim.—1. The combination with a vertically-reciprocating-plunger pumping-engine having a stuffing-box through which the piston-rod reciprocates, of a structure for operatively supporting said engine upon a well comprising a second stuffing-box through which the outer end of the piston-rod extends throughout its stroke, a yoke uniting said stuffing-box to the surface end of the delivery-pipe of the well, and means for rigidly connecting said yoke to the cylinder to maintain said stuffing-boxes in alinement.

2. The combination with a vertically-reciprocating-plunger pumping-engine comprising a cylinder having a stuffing-box through which the piston-rod reciprocates, of a structure for operatively supporting said engine upon a well comprising a second stuffing-box through which the outer end of the piston-rod extends throughout its stroke, a yoke uniting said stuffing-box to the surface end of the delivery-pipe of the well, and vertical columns interposed between and rigidly uniting the ends of said yoke and said cylinder.

3. The combination with a vertically-reciprocating-plunger pumping-engine comprising a cylinder having a stuffing-box through which the piston-rod reciprocates, of a structure for operatively supporting said engine upon a well comprising a second stuffing-box through which the outer end of the piston-rod extends throughout its stroke, a yoke uniting said stuffing-box to the surface end of the delivery-pipe of the well, and vertical columns having reduced upper and lower ends passing through alined holes in the sides of said yoke and in said cylinder.



4. The combination with a vertically-reciprocating-plunger pumping-engine, of a structure for operatively supporting said engine upon a well comprising an integral yoke, a stuffing-box through which the lower end of the piston-rod extends throughout its stroke, means for directly mounting said yoke upon the surface end of the delivery-pipe of a tubular well, means for rigidly supporting the engine above said yoke, and means located at all times below said yoke for uniting a pumping-rod to the lower end of said piston-rod.

5. The combination with a vertically-reciprocating-plunger pumping-engine, of a structure for operatively supporting said engine upon a well comprising a yoke having vertically-concentric interiorly-screw-threaded sockets, a stuffing-box surrounding the piston-rod supported in the upper one of said sockets, the lower socket surrounding the surface end of the delivery-pipe of the well, and means for rigidly supporting the engine upon said yoke.

6. The combinaton with a vertically-reciprocating-plunger pumping-engine comprising a cylinder and piston therein, of a structure for operatively supporting said engine upon a well comprising a yoke having vertically-concentric interiorly-screw-threaded sockets, a stuffing-box surrounding the piston-rod supported in the upper one of said sockets, the lower socket surrounding the surface end of the delivery-pipe of the well, and vertical columns having reduced upper and lower ends passing through alined holes in the ends of said yoke and in said cylinder.

805,268. **MARINE TRANSPORTATION UNIT.** WILLIAM T DONNELLY, Brooklyn, N. Y. Filed Sept. 19, 1905. Serial No. 279,068.

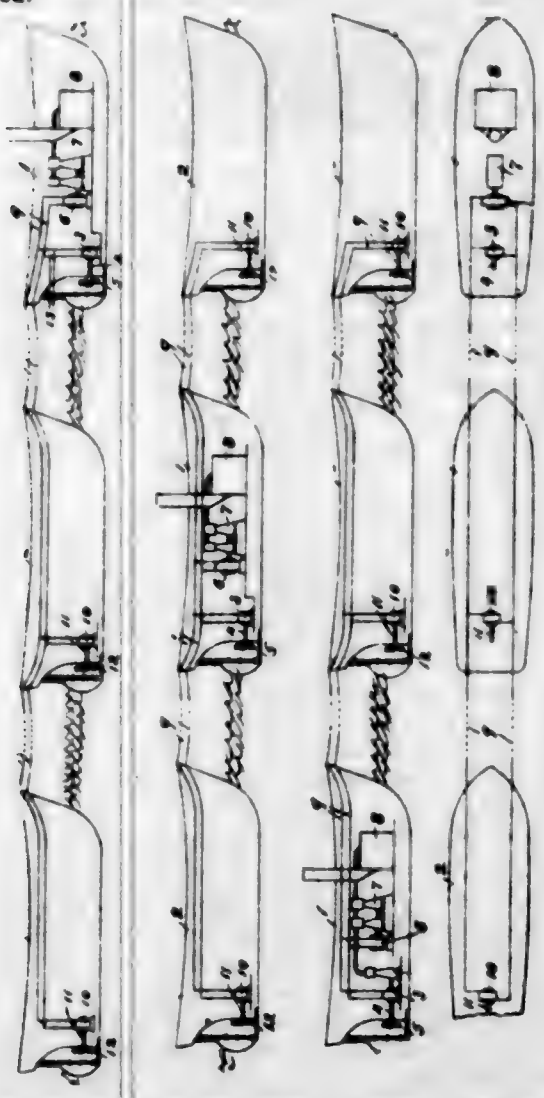
Claim.—1. A marine transportation unit comprising a plurality of independent vessels free to navigate relative to each other and each having means for power propulsion and steering means and all being connected together for the transmission of electric power, and a common source of electric power for propelling all the vessels, substantially as described.

2. A marine transportation unit comprising a plurality of independent vessels free to navigate relative to each other and each having means for electric power propulsion and steering means, a source of power upon one of them and means for transmitting said power to all the vessels, substantially as described.

3. A marine transportation unit comprising a plurality of vessels each having independent steering means and independent propelling means and a common source of electric power upon one of the vessels for operating the propelling means of all the vessels, substantially as described.

4. A marine transportation unit comprising a plurality of vessels, one of said vessels having propelling means, steering means and an electric generating plant for operating the propelling means, and each of the other vessels having independent steering means and in-

dependent propelling means operated by electric power supplied from the generating plant of the first-mentioned vessel, substantially as described.



5. A marine transportation unit comprising a plurality of independent vessels free to navigate relative to each other and each provided with mechanism for power propulsion and steering means, a source of electric-power supply upon one of them, means for distributing said power to the propelling mechanism of each and means for controlling the speed of each vessel independently of the others, substantially as described.

6. A marine transportation unit comprising a plurality of vessels connected for the transmission of electric power, steering and propelling means for utilizing said power on each of said vessels and a common source of electricity carried by one of said vessels, substantially as described.

7. A marine transportation unit comprising a plurality of vessels free to navigate relative to each other and each having means for power propulsion and steering means and all being connected for the transmission of electric power, a common source of electric power upon one of the vessels for propelling all the vessels and means regulating the amount of said power supplied to the various vessels so as to give all of said vessels a uniform speed, substantially as described.

8. A marine transportation unit comprising a plurality of vessels each having independent steering means and independent propelling means, means connecting said vessels adapted for the transmission of electric power, means for varying the length of said connecting means and electric-power-generating means upon one of the vessels for operating the propelling means of each vessel, substantially as described.

9. A marine transportation unit comprising a plurality of vessels each having independent steering means and independent propelling means, means connecting said vessels adapted for the transmission of electric power, electric-power-generating means upon one of the vessels for operating the propelling means of each vessel and means for controlling the distribution of said power to the propelling means of each vessel, substantially as described.

805,269. MEANS FOR HOLDING CLOSED UMBRELLAS AND PARASOLS. WARREN DORR, Gardiner, Me. Filed May 11, 1904. Serial No. 207,402.

Claim.—The combination with an umbrella, of a knob that is adapted to be mounted upon the top portion of the staff beyond where the cover is attached thereto, a rigid ring of less internal diameter than the greatest external diameter of the knob, the ring also bearing such relation as to its internal diameter to the staff, ribs, and cover that the ring may be slid over such parts to a point near the tip ends of the ribs to hold the umbrella closed, substantially as set forth.



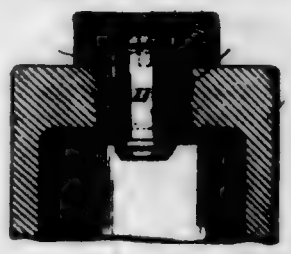
805,270. SHELL-FUSE. LOUIS L. DRIGGS, Washington, D. C., assignor to The Driggs-Seabury Ordnance Corporation, Sharon, Pa., a Corporation of Pennsylvania. Filed May 16, 1904. Serial No. 208,206.



Claim.—1. The combination with a shell-body provided with a screw-threaded opening for the fuse and a shoulder beneath said opening, of a fuse-stock provided with screw-threads, a shoulder beneath said screw-threads, and a layer of leather or other like material mounted between the said shoulder on the fuse-stock and the said shoulder on the shell, substantially as described.

2. The combination of a shell-body provided with a screw-threaded aperture for the fuse, and a shoulder below said aperture, of a fuse-stock having screw-threads adapted to engage those in the shell-body, and provided with a shoulder below said screw-threads, and a cylindrical portion below said shoulder, of a pouch or nipple of leather or other like material mounted over said cylindrical portion and having a flange adapted to be compressed between said shoulders and provided with an opening for the passage of the flame from the primer, substantially as described.

805,271. PERCUSSION-FUSE. LOUIS L. DRIGGS, Washington, D. C., assignor to The Driggs-Seabury Ordnance Corporation, Sharon, Pa., a Corporation of Pennsylvania. Filed July 26, 1905. Serial No. 271,357.



Claim.—1. In an explosive shell, the combination with the shell-body, of a screw-cap held thereon, and a fuse mounted in said shell-body beneath said screw-cap, and removable longitudinally therefrom, with a spline-pin locking said fuse against turning in said shell-body and held in place by said screw-cap, substantially as described.

2. In an explosive shell, the combination with the shell-body, of a screw-cap held thereon, a fuse provided with a flanged head mounted in said shell-body beneath said screw-cap, and removable longitudinally therefrom, and a washer of leather or similar material held firmly beneath said flange and preventing the sifting of fine powder past said flange, substantially as described.

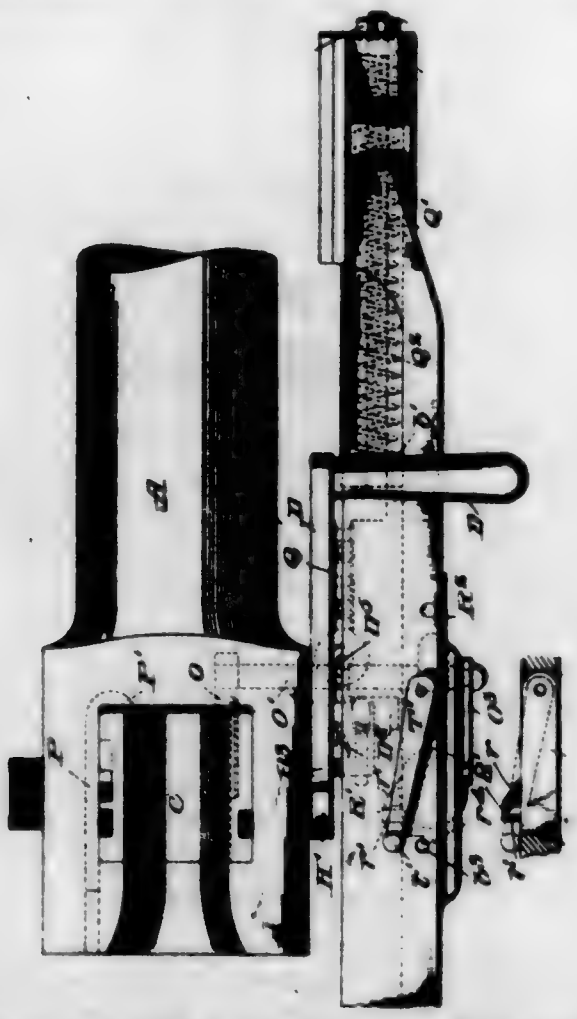
3. In an explosive shell, the combination with the shell-body, of a screw-cap held thereon, a fuse provided with a flanged head mounted in said shell-body beneath said screw-cap, and removable longitudinally therefrom, with means for holding said fuse against turning in said shell-body, and a washer of leather or similar material held firmly beneath said flange and preventing the sifting of fine powder past said flange, substantially as described.

4. In an explosive shell, the combination with the shell-body,

of a screw-cap held thereon, a fuse provided with a flanged head, mounted in said shell-body beneath said screw-cap, and removable longitudinally therefrom, with a spline-pin locking said fuse against turning in said shell-body and held in place by said screw-cap, and a washer of leather or similar material held firmly beneath said flange and preventing the sifting of fine powder past said flange, substantially as described.

5. In an explosive shell, the combination with the shell-body, of a screw-cap held thereon, and a fuse mounted to slide axially in said shell-body and normally held beneath said screw-cap, with means for holding said fuse against turning in said shell-body, substantially as described.

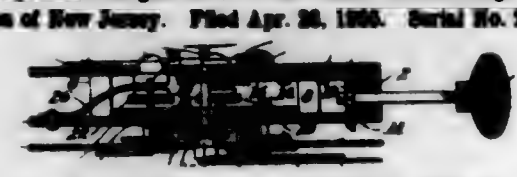
805,272. SEMI-AUTOMATIC GUN. WILLIAM H. DRIGGS, Washington, D. C., assignor to The Driggs-Seabury Ordnance Corporation, Sharon, Pa., a Corporation of Pennsylvania. Filed Apr. 10, 1905. Serial No. 254,857.



Claim.—1. In a gun, the combination with the gun-body, and the cradle in which said gun-body recoils, of an operating-lever carried by the gun-body, and breech mechanism operated thereby, a cam-lug on said lever, a swinging cam-piece having a cam on the inner side thereof, projecting inward toward the axis of the gun, and lying in a vertical plane between the pivot of said cam-piece and the axis of the gun, a vertical pivot-pin locked to said cam-piece and pivoted in said cradle, forming the pivot for said cam-piece, a resilient arm secured to said pivot-pin, and provided with a catch at its free end, for holding said pivot-pin and the cam-piece locked thereto in the desired position, and a spring normally tending to press the free end of said cam-piece inward against the action of said arm, substantially as described.

2. In a gun, the combination with the gun-body, and the cradle in which said gun-body recoils, of an operating-lever carried by the gun-body, and breech mechanism operated thereby, a cam-lug on said lever, a swinging cam-piece having a cam on the inner side thereof, projecting inward toward the axis of the gun, and lying in a vertical plane between the pivot of said cam-piece and the axis of the gun, a vertical pivot-pin locked to said cam-piece and pivoted in said cradle, forming the pivot for said cam-piece, a resilient arm secured to said pivot-pin, and provided with a catch at its free end, for holding said pivot-pin and the cam-piece locked thereto in the desired position, and a spring normally tending to press the free end of said cam-piece inward against the action of said arm, and a sliding extractor locking the breech-block in the open position until engaged by the rim of the cartridge-case in the operation of loading, substantially as described.

805,273. REGISTER. HERMAN J. HEMM, Jersey City, N. J., assignor, by mesne assignments, to The Pocket Auditor Mfg. Co., a Corporation of New Jersey. Filed Apr. 28, 1905. Serial No. 257,801.



Claim.—1. In a register, the combination with the main-dial spindle and subordinate-dial spindles, of gearing for operating said main-dial spindle, mechanism for manually operating said gearing at will, whereby the main-dial spindle may be operated to register on the main dial, a gear on the main-dial spindle, a gear on each of the subordinate-dial spindles, a spring-arm carrying a pinion for connecting the gear on the main-dial spindle with the gear on the subordinate-dial spindles and holding said pinion normally out of operative connection, and means for moving said spring-arm to cause the pinion to connect the gears of the main and subordinate dial spindles, substantially as described.

2. In a register, the combination with the main-dial spindle and subordinate-dial spindles, of gearing for operating said main-dial spindle, mechanism for manually operating said gearing at will, whereby said main-dial spindle may be operated to register on the main dial, a gear on the main-dial spindle, a gear on each of the subordinate-dial spindles, a spring-arm for each subordinate-dial spindle, a pinion carried by each of said spring-arms and normally disconnecte dfrom the subordinate-dial gear, a lever for each pinion adapted to be moved so as to press the pinion into operative engagement with the gears on the main and subordinate dial spindles, substantially as described.

3. In a register, the combination with the main and subordinate dial spindles, of normally inactive gearing for operating its main-dial spindle, means for manually operating said gearing at will, subordinate-dial spindles, gears on each of said spindles, pinions axially slidable into and out of engagement with said gears, spring-arms normally holding said pinions out of operative connection with the subordinate-spindle gears, and levers for moving said pinions axially into operative connection with any selected one of said subordinate-spindle gears and the main-spindle gear, substantially as described.

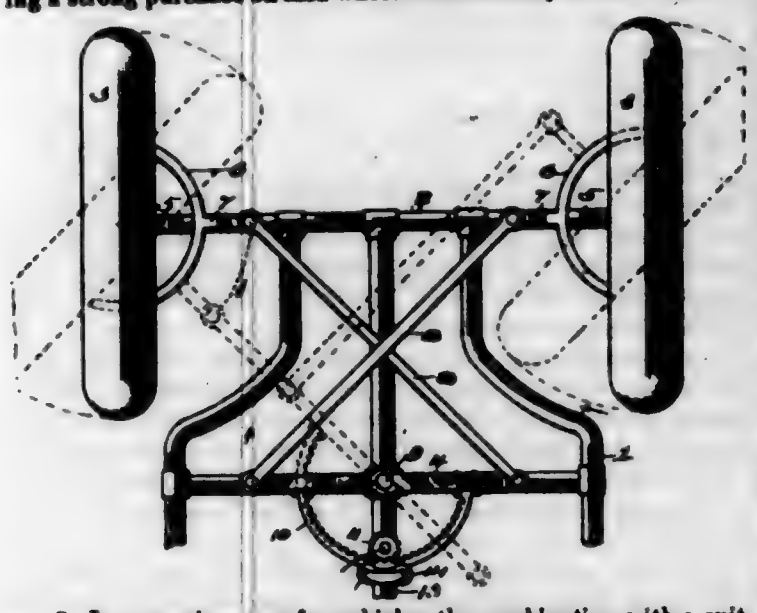
4. In a register, the combination with supporting-plates, a main-dial spindle, gearing on one of the supporting-plates for operating the main-dial spindle, a bevel-gear meshing with said gearing, and an operating-stem for rotating said bevel-gear at will, whereby the main-dial spindle may be operated at will, of a subordinate-dial spindle journaled on said plates, a gear on said latter spindle, a spring-arm fixed to one of the plates, a hub carried by said spring-arm having one end normally projecting through a hole in one of the plates and a pinion on the hub normally held out of operative engagement with the subordinate-dial-spindle gear, a lever pivotally supported on said latter plate and adapted to move over the end of the hub, whereby the pinion carried thereby may be pressed into operative connection with the subordinate-dial-spindle gear and the main-spindle gear, substantially as described.

5. In a register, the combination with two supporting-plates, a main-dial spindle, operating-gearing on one of said plates for operating the main-dial spindle, means for manually operating said gearing at will, of subordinate-dial spindles, a gear on each of said spindles normally disconnected from the gear on the main spindle, a pinion slidably mounted between the gear on the main spindle and each of the gears on the subordinate-dial spindles, a spring-arm for each of the subordinate-dial spindles fixed to one of the plates and normally holding the pinions out of operative connection with the subordinate and main dial gears, and lever mechanism for moving any selected one of said pinions into operative connection with the gear on the main spindle and the gear on one of the subordinate-dial spindles, substantially as described.

805,274. STEERING DEVICE FOR MOTOR-VEHICLES. JOHN W. RIEMENSCHNEIDER, Brooklyn, N. Y., assignor to The Bloomfield Horseless Vehicle Co., a Corporation of Maine. Filed May 25, 1905. Serial No. 262,262.

Claim.—1. A running-gear for vehicles comprising a suitable frame, guiding-wheels pivotally secured thereon having comparatively large non-revoluble web portions, yokes rigidly secured directly to the said webs, and means for moving the said yokes for moving the wheels in one direction or the other for directing the movements of the vehicle, the yoke affording a strong leverage on said wheels, substantially as described.

2. A running-gear for vehicles comprising a frame and a shaft carried thereby, wheels pivoted on the said shafts and provided with comparatively large non-revoluble web portions yokes rigidly secured directly to the said webs, a lever connected with the said yokes, and means for moving the lever in order to actuate the yokes and thereby guide the movements of the running-gear, the yokes providing a strong purchase on said wheels substantially as described.



3. In a running-gear for vehicles, the combination with a suitable frame, of a fixed shaft carried thereby, guiding-wheels pivoted to the ends of the said shaft, yokes secured to the inner surface of the said wheels, a lever pivoted upon the frame and having its ends connected with the yokes of the guiding-wheels, a rack secured to the said lever, a pinion adapted to engage the said rack and provided with suitable hand-operating mechanism whereby the lever may be actuated to move the guiding-wheels one way or the other, substantially as described.

4. In a running-gear for vehicles the combination with a suitable frame, of an axle carried thereby, wheels pivoted to the said axle, yokes secured to the wheels and having inwardly-projecting arms, a lever pivoted upon the frame of the running-gear, rods connecting the ends of the lever with the arms of the yokes upon the opposite sides of the said running-gear, the said rods crossing each other, a segmental yoke secured to the said lever having internally-arranged rack-teeth formed thereon, a pinion for engaging the said rack-teeth and thereby controlling the movement of the guide-wheels, an antifriction-guide engaging the periphery of the said segment comprising flanged antifriction-rollers, and a bracket for holding the same in position, substantially as described.

5. In a running-gear for vehicles, the combination with a suitable frame, of wheels having non-revoluble web portions, an axle carried thereby, yokes rigidly secured to the ends of the said axle, means for pivotally connecting the arms of said yokes directly to the central web portions of the wheels whereby the wheels may be permitted to turn one way or the other to guide the running-gear, while at the same time a good leverage is obtained on the web for holding the wheel vertical, and means connected with the said wheels for guiding them, substantially as described.

6. In a running-gear for vehicles, the combination with a suitable frame, of a fixed shaft carried thereby, wheels having non-revoluble web portions, rigid yokes formed upon the ends of the said shaft, pivot-pins carried by each arm of the said yokes and engaging apertures formed in the web portions of the guiding-wheels, the web portions of the guiding-wheels being thus pivoted upon said yokes, and means for turning the said guiding-wheels upon the said pivots, the construction being such that a strong leverage is obtained for holding the wheels vertical, substantially as described.

7. In a running-gear for motor-vehicles the combination with a suitable frame, of an affixed shaft mounted thereon, vertically-arranged yokes secured to the ends of the said shaft, wheels having non-revoluble web portions and revoluble rim portions, heads formed upon the ends of the said yokes having vertical bearings formed therein, pivot-pins adapted to be inserted in the said bearings, the said heads to the said pivot-pins being adapted to extend into apertures formed in the web portions of the guiding-wheels, and a means for holding the said pivot-pins in the said apertures, substantially as described.

8. In a running-gear for vehicles the combination with a suitable frame, of a shaft mounted thereon, wheel-engaging yokes secured to the ends of the said shaft, guiding-wheels secured to the said shaft having non-revoluble web portions and revoluble rim portions, means for pivotally connecting the said web portions to the said yokes comprising heads formed upon the ends of the said yokes having vertical bearings formed therein, pivot-pins adapted to engage the said bearings, bases supporting the said pivot-pins, depending flanges formed upon the said bases for embracing the web portions of the guiding-wheels, the said web portions of the guiding-wheels having elongated openings for receiving the heads of the yokes and their pivot-pins, plates for locking the said pivot-pins in the said apertures, some of said plates having spacing-blocks adapted to fill the aperture above the said pivot-pins whereby the parts are securely held in position, the construction being such that the web portions of the wheels may turn upon the yokes, and a means for turning the said wheels for guiding said running-gear, substantially as described.

9. In a running-gear for vehicles, the combination with a suitable frame, of a shaft mounted thereon, guiding-wheels secured to the said shaft having comparatively large non-revoluble web portions and revoluble rim portions, vertical yokes rigid on the said shaft and pivotally secured directly to the said webs, horizontal yokes rigidly secured to said webs for connecting the said wheels with a steering mechanism, and means for actuating the said horizontal yokes whereby the running-gear may be guided in its movements, the yokes affording powerful leverage for holding and guiding the said wheels, substantially as described.

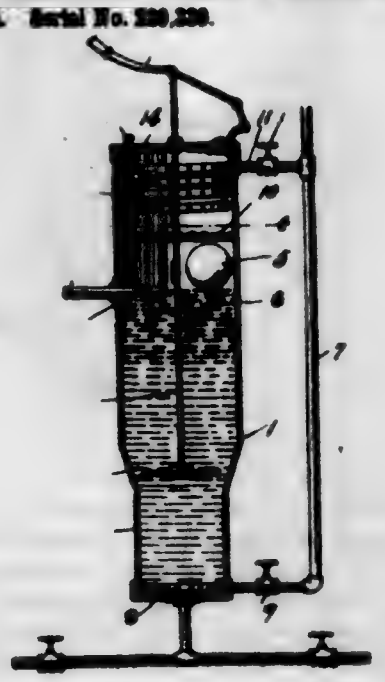
805,275. SHOESTRING-FASTENER. SAMUEL PERRIN, Butler, Pa., assignor of one-third to Eugene Morrison, Butler, Pa. Filed June 22, 1905. Serial No. 266,421.



Claim.—1. The combination with the upper of a shoe, of fasteners adapted to be secured to said upper adjacent to the lacing ends thereof, each fastener consisting of a rear wall having its sides bent to form tapering compartments, the formation of said compartments providing a longitudinally-disposed slot between the edges of said sides, said sides having angularly-disposed slots formed therein, pierced lugs carried by said rear wall, gripping-blocks mounted in said compartments, pins carried by said blocks and protruding through said slots, substantially as described.

2. The combination with a shoe, of fasteners attached to the shoe and adapted to temporarily retain the ends of shoestrings, each fastener consisting of a rear wall having its sides bent to form compartments, pierced lugs carried by said rear wall, gripping-blocks slidably mounted in said compartments, means to guide said blocks within said compartments, substantially as described.

805,276. DISSOLVER. WILLIAM J. FLETTON, Chicago, Ill. Filed Oct. 20, 1904. Serial No. 229,239.

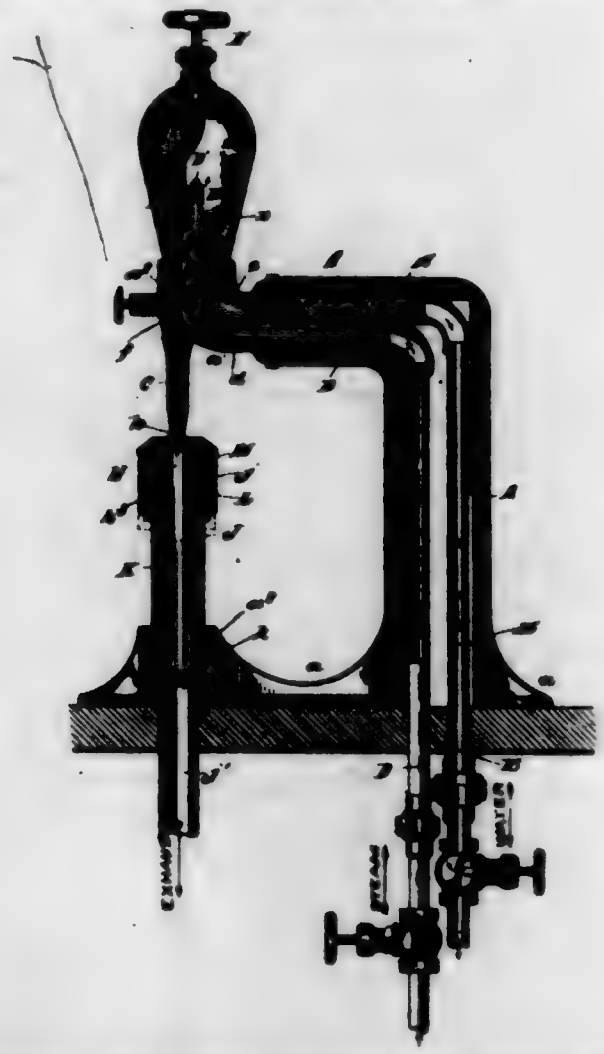


Claim.—1. A device of the character described, comprising a vessel, a perforated support mounted within the vessel, a pipe-coil adjacent to the support and adapted to admit steam for dissolving a substance upon the support, a pipe entering the vessel and adapted to be connected externally with a source of water-supply, a valve adapted to control the flow through the pipe, a float adapted to manipulate the valve and maintain the water at a constant height below the support to receive the solution and means for maintaining the water in a heated condition.

2. A device of the character described comprising a vessel, a perforated support mounted within the vessel, a pipe-coil adjacent to the support and adapted to admit steam for dissolving a substance upon the support, a pipe entering the vessel and adapted to be connected externally with a source of water-supply, a valve adapted to control the flow through the pipe, a float adapted to manipulate the valve, and maintain the water at a constant height below the support to receive the solution, a pipe entering the vessel below the water-line and adapted to admit steam to maintain the water in a heated condition and a gate adapted to permit the solution to be drawn from the vessel.

3. A soap-dissolver comprising a vessel provided with a cylindrical portion at the lower end, a perforated diaphragm mounted near the upper end, a pipe-coil mounted adjacent to the diaphragm and adapted to admit steam to dissolve soap upon the diaphragm, a pipe entering the vessel and adapted to be connected externally with a source of water-supply, a valve adapted to control the flow in the pipe, a float adapted to manipulate the valve and maintain the water at a constant height to receive the dissolved soap, a pipe entering the lower end of the vessel and adapted to admit steam to maintain the water in a heated condition, a discharge-pipe communicating with the lower end of the cylinder, a piston mounted to reciprocate within the cylinder and adapted to force a quantity of the solution through the pipe and a handle disposed for the manipulation of the piston.

805,277. **LAUNDRY DAMPENING APPARATUS.** HENRY M. FORBES, Portage, Wis., assignor of one-fourth to Jesse M. Russell, one-fourth to Richard H. Dalton, and one-fourth to Frank Thompson, Portage, Wis. Filed Mar. 2, 1905. Serial No. 248,065.



Claim.—1. The improved apparatus for the purpose specified, comprising a foundation plate or base, adapted to rest upon a horizontal support, a hollow arm rigidly connected with said base, a steam dome or chamber supported upon the arm and having a pendent nozzle for escape of steam, a steam-pipe whose upper portion is extended into the dome and a pipe for discharge of water of condensation having also a vertical extension in said dome, the mouth thereof being below the point of discharge of steam from the steam-pipe, whereby a considerable quantity of water of condensation is retained in the dome, as and for the purpose specified.

2. In an apparatus for the purpose specified, the combination with a steam dome or chamber having a pendent nozzle, of a steam-induction pipe extended vertically in the dome, and a pipe for discharge of water of condensation which is extended above the bottom of the dome but to a lower height than the steam-pipe, as and for the purpose specified.

3. In an apparatus for the purpose specified, the combination with a steam-dome having a pendent nozzle and a pipe communicating therewith and extending into the upper portion of the dome, a passage leading downward from said dome and communicating with the passage leading to the nozzle, a valve applied at the junction of the two passages for controlling discharge of water into the nozzle, and pipes for conducting steam into said dome and water of condensation therefrom, substantially as described,

4. In an apparatus for the purpose specified, the combination with a steam dome or chamber having a pendent nozzle, a steam-pipe leading thereinto, and a second pipe for discharge of water of condensation, the same being extended above the bottom of the dome, a third pipe for conducting steam to the nozzle, and a valve for regulating the passage of steam through said pipe, substantially as described.

5. In an apparatus for the purpose specified, the combination with a fixed steam-discharge nozzle, of a head or table arranged directly under the nozzle and serving to support the goods, said head having a pendent cylinder, a fixed head and a spring interposed between the two heads which are provided with alined steam-passages, substantially as described.

6. In an apparatus for the purpose specified, the combination with a fixed steam-discharge nozzle, of a vertically-movable spring-supported head, a tube fixed thereto in vertical alinement with the nozzle, a fixed head and a rigid support therefor, the said tube being guided in the fixed head, substantially as described.

7. In an apparatus for the purpose specified, the combination with a fixed steam-discharge nozzle, of a vertically-movable head or table for supporting the goods, the same being arranged below the nozzle and provided with an opening coincident with that in the nozzle, a slidable tube having a fixed connection with the movable head, and guides for such tube comprising an apertured disk and a fixed base-piece in which the same is fitted, a fixed head supported adjacent to the movable head and having a central opening in which the tube of the head is adapted to slide, and a spring for supporting the movable head normally in contact with the nozzle, substantially as described.

8. In an apparatus for the purpose specified, the combination with a fixed steam-discharge nozzle, and a fixed head arranged below and in alinement with the nozzle, a movable head arranged between the nozzle and the fixed head, and a spring interposed between the two heads, whereby the movable head is supported normally in contact with the nozzle but adapted to yield to the goods inserted between them, substantially as described.

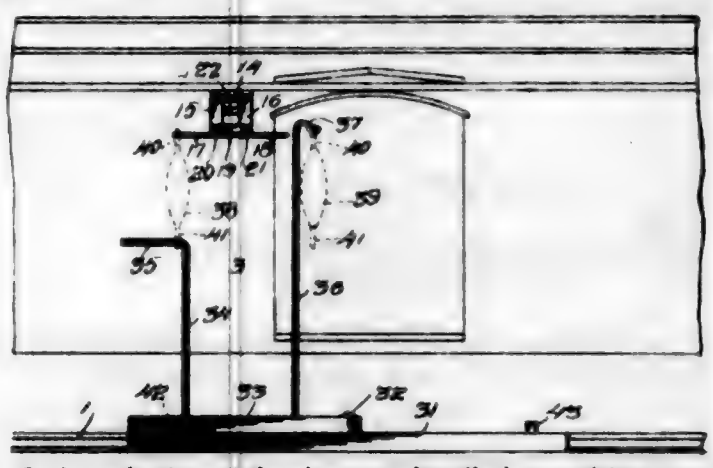
9. In an apparatus for the purpose specified, the combination with a fixed nozzle, of the vertically-movable spring-supported head or table for supporting goods, the same being beveled around the central portion and having a transverse part provided with a central opening and downwardly-curved end portions, substantially as described.

10. In an apparatus for the purpose specified, the combination with a goods-supporting head or table, of a nozzle having a cavity in the under side of its head, and the steam-passage that communicates with one end of said cavity, and a pipe I leading from the other end of the cavity, substantially as described.

805,278. **MAIL-CRANE.** SANFORD B. FORMAN, Lexington, Ky., assignor of one-fourth to James A. Chiles and one-fourth to Julius Thacker, Lexington, Ky. Filed Aug. 26, 1905. Serial No. 275,809.

Claim.—1. An apparatus of the character described including a car provided with an opening in one of its sides, transverse beams arranged near the top of the car, an arm slidably mounted upon said beams and provided with a handle depending between said beams whereby the arm may have sliding movement upon the beams through the aforesaid opening of the car, oppositely-disposed pivoted arms disposed at one end of the aforesaid arm, a crane mechanism disposed adjacent the line of travel of the car and provided with means for coöperation with the said oppositely-disposed arms for the discharge and delivery of mail-bags simultaneously, and a spring

connected with the said arm to retract the latter to its normal position.



2. A mechanism of the character described comprising a car having an opening in one of its sides, an arm mounted for sliding movement within the car through said opening, a spring secured to the top of the car and bearing against the upper face of the said arm, means for locking the arm in its extended position through said opening, means for retracting the arm to its normal position when disengaged from said locking means, a crane-mechanism arranged along the line of travel of the car, and means constructed and arranged at one end of said arm for coöperation with said crane mechanism, to deliver and discharge a mail-bag simultaneously to and from the car.

3. A mechanism of the character described comprising a car, an arm mounted for sliding movement with respect to the car, means for locking the arm in one position with respect to its sliding movement with relation to the car, means for retracting the arm when disengaged from said locking means, a crane mechanism arranged along the line of travel of the car, and spring-actuated arms secured to the first arm for coöperation with the crane mechanism to deliver and discharge mail-bags from and to the car simultaneously.

805,279. SLED. CHARLES R. FORWARD, Binghamton, N. Y. Filed Mar. 23, 1905. Serial No. 251,661.



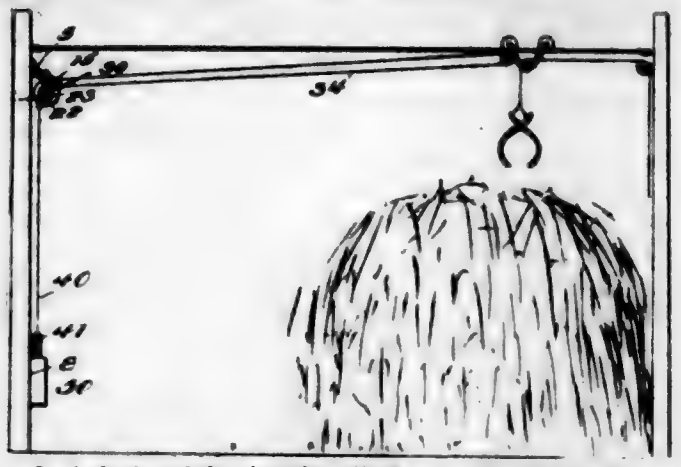
Claim.—1. A sled comprising a body portion, runners having upper and lower rails, and knees connecting said runners and body portion, each of said knees comprising a body member secured at its lower end to the lower rail, said body member being terminally provided with a flange to engage the upper surface of the rail and with a web to engage the outer surface of the rail, and an arm projecting laterally from the upper end of the body portion and connected to the upper rail of the runner, said knees being pivotally connected to the body portion at the junction of their arm and body member.

2. A sled comprising a body portion, reinforcing-plates secured to the bottom adjacent the side edges, runners including upper and lower rails and knees connecting the runners and body portion, said knees comprising a main body engaging the lower rail of the runner and pivotally connected at its upper end to the sled-body, an arm projecting laterally from the upper end of the knee-body and terminally secured at its outer end to the upper rail of the runner, said arm being recessed intermediate its ends to wholly receive the reinforcing-plate secured to the sled-body.

805,280. ELEVATED CARRIER. IRA L. FOSTER, Columbus Junction, Iowa. Filed Apr. 27, 1905. Serial No. 257,622.

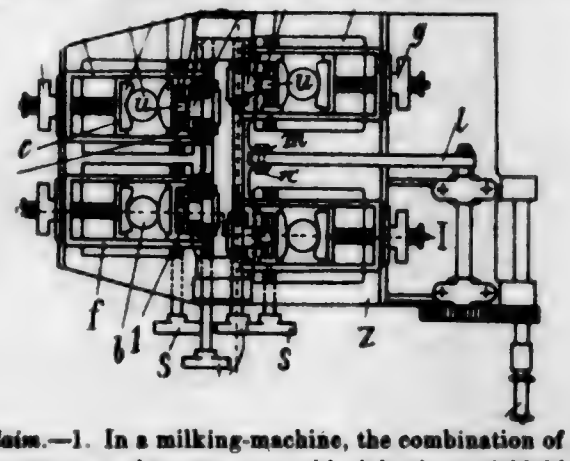
Claim.—1. A device of the class described comprising a bracket a yoke connected with the bracket and including spaced legs, drums revolubly mounted between said legs and arranged for simultaneous rotation, cables engaged with the drums and adapted to be wound thereupon in opposite directions, a weight connected with one of the cables and arranged to hold the latter unwound from its drum and guides for the ropes said guides being secured to the yoke and to each other to brace each other against movement with respect to the yoke.

2. A device of the class described comprising a yoke, drums revolubly mounted in the yoke, cables engaged with the drums and guides for the cables said guides being secured to the yoke and to each other to brace each other against movement with respect to the yoke.



3. A device of the class described comprising a bracket, drums connected with the bracket for rotation in a vertical plane, cables engaged with the drums and adapted to be wound thereupon or unwound therefrom when the drums are rotated, said drums being also shiftable pivotally in a horizontal plane with respect to the bracket and means for holding the drums at different points of their horizontal pivotal movement.

805,281. MILKING-MACHINE. ERNST V. GANDIL, Copenhagen, Denmark. Filed Oct. 14, 1904. Serial No. 228,028.



Claim.—1. In a milking-machine, the combination of a pair of squeezers supported to coöperate, a block having a yieldable connection with one of the squeezers at its upper part, and also a swinging engagement with the squeezers at it lower part, the block being movable to carry the squeezer to and from the other squeezer, and means for reciprocating the block.

2. In a milking-machine, the combination of a pair of squeezers, a member pivoted to one of the squeezers at its upper part, a block having a yieldable connection with said member, and having a swinging engagement with said latter squeezer at its lower part, the block being movably supported to carry said squeezer to and from the other squeezer, and means for reciprocating the block.

3. In a milking-machine, the combination of a pair of squeezers, a member pivoted to one of the squeezers at its upper part, a block having a yieldable connection with said member, a pin on the block arranged to impinge on said latter squeezer at its lower part, the block being movably supported to carry said squeezer to and from the other squeezer, and means for reciprocating the block.

4. In a milking-machine, the combination of a pair of squeezers, a member pivoted to one of the squeezers at its upper part, a block having a yieldable connection with said member, a pin on the block arranged to impinge on said latter squeezer at its lower part, the block being movably supported to carry said squeezer to and from the other squeezer, a stop for limiting the movement of the yieldably-supported member, and means for reciprocating the block.

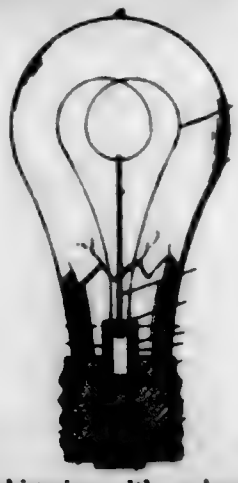
5. In a milking-machine, the combination of a pair of squeezers supported to coöperate, a block having a yieldable swinging connection with one of the squeezers at its upper part and also a swinging engagement with the squeezer at it lower part, the block being movable to carry said squeezer to and from the other squeezer.

6. In a milking-machine, the combination of a set of four milking devices, a single member arranged to operate all of the devices, and means for adjusting the positions of each of said devices relatively to the others.

7. In a milking-machine, the combination of a set of four milk-

ing devices, a single member arranged to operate all of the devices, and means for adjusting the relative positions of each said device in two transverse directions.

805,282. INCANDESCENT LAMP. Gustavo Gerrani, Pittsburg, Pa. Filed Oct. 13, 1904. Serial No. 228,269.

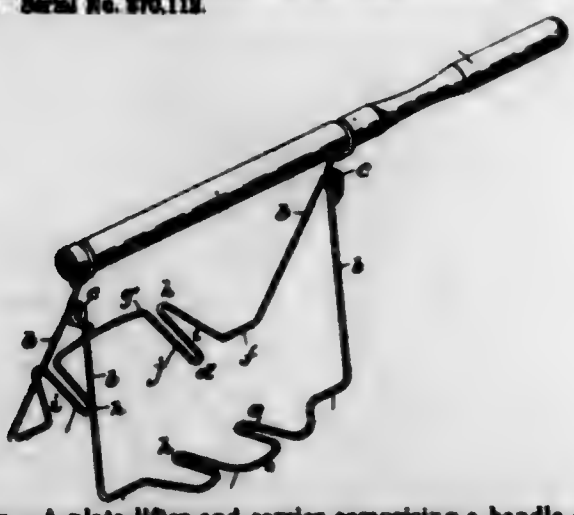


Claim.—1. The combination with an incandescent-lamp bulb, of a glass tube prolonged outside of the lamp-bulb and having leading-in wires mounted therein in the outside of the prolonged portion, whereby the expansion and contraction of said wires and glass tube are reduced, substantially as described.

2. The combination with an incandescent-lamp bulb, of a glass tube having an annular flange formed intermediate of its ends, said tube having leading-in wires embedded therein between one end of said tube and said flange and outside of said bulb to better protect the leading-in wires and the portion of glass wherein they are embedded from the internal heat of said bulb, substantially as described.

3. The combination with a lamp-bulb and a filament arranged within the bulb, of a glass tube extending into the bulb, leading-in wires sealed in said tube and an electrolytically-deposited material connecting said leading-in wires and said filament, said material extending into the vacuum-space in the bulb and serving to maintain said filament out of contact with said tube.

805,288. PLATE-LIFTER. Oscar Goodwin, Berlin, N. H., assignor of one-half to J. Howard Wight, Berlin, N. H. Filed July 17, 1905. Serial No. 270,112.



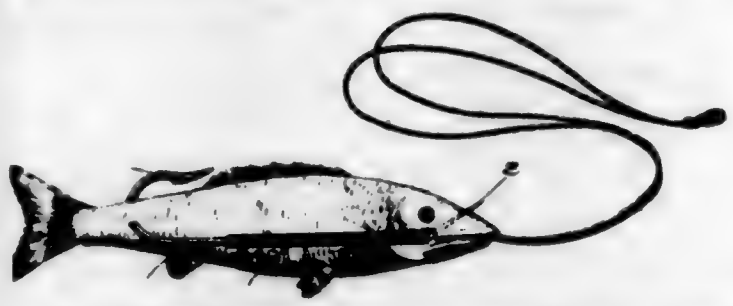
Claim.—A plate lifter and carrier comprising a handle of the character described, two pairs of arms composed of wire depending from the handle, a pair of jaws formed from the central portions of said wires and each jaw constructed on each side with a straight portion, a triangular bend, an inward return-bend forming a long finger, and a stretch of wire forming the outer margin of the central part of the jaws, each jaw being a counterpart of the other, excepting when closed the finger-bends of one jaw will extend parallel with and outside of the finger-bend of the other jaw, and into the triangular bend of the opposite jaw.

805,284. FISH-HOOK. Charles H. Greenway and Joseph Horner, Grand Rapids, Mich. Filed Feb. 14, 1905. Serial No. 245,676.

Claim.—1. A fish-hook having its line-engaging terminal provided with an impaling-point.

2. A fish-hook provided at its line-engaging end with an impaling-point disposed at an angle to the shank.

3. A fish-hook having the line-engaging end of its shank formed into an impaling-point obliquely disposed relatively to the shank and arranged at right angles to the bend of the hook proper.



4. A fish-hook having the line-engaging end of its shank formed with an eye and with an impaling-point adjacent thereto.

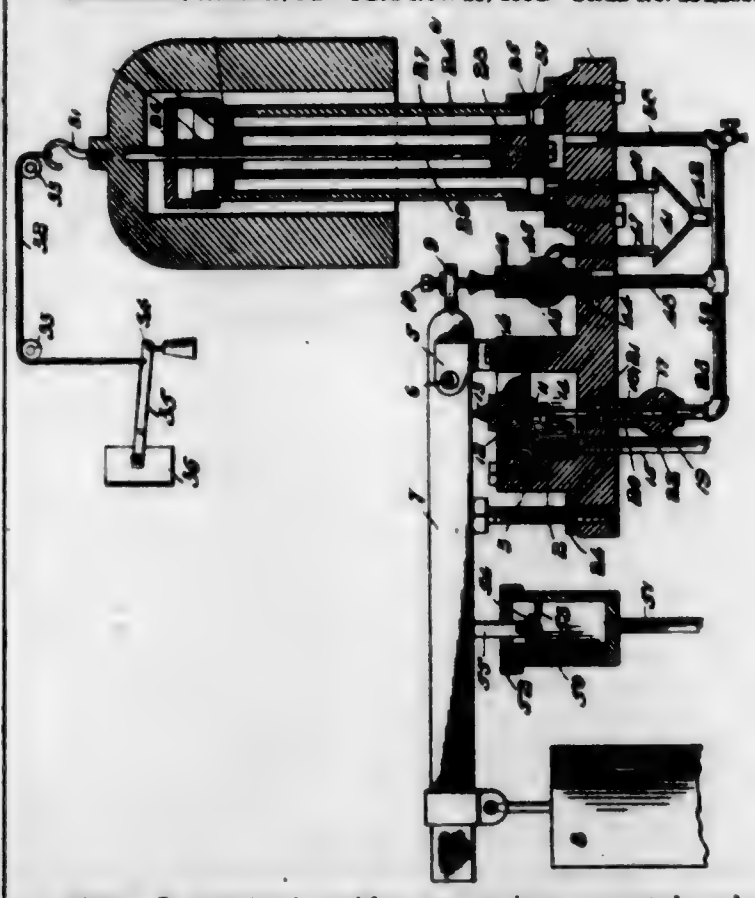
805,285. PRESERVING COMPOUND. Georges B. Grenard, Paris, France. Filed Sept. 8, 1904. Serial No. 223,735.

Claim.—1. A preserving compound composed of dilute acid, silicate of soda, phosphate of soda, sugar and water, mixed together in suitable proportions.

2. A preserving compound for alimentary substances, composed of dilute hydrochloric acid, silicate of soda, phosphate of soda, sugar and water, mixed together in suitable proportions.

3. A preserving compound composed of the following ingredients in substantially the following proportions: two hundred parts dilute hydrochloric acid at thirteen per cent.; two hundred parts silicate of soda; two parts phosphate of soda; two parts sugar, and six hundred parts water.

805,286. AUTOMATIC DAMPER-REGULATOR. Daniel M. Harlacher, Hanover, Pa. Filed Nov. 25, 1904. Serial No. 234,289.

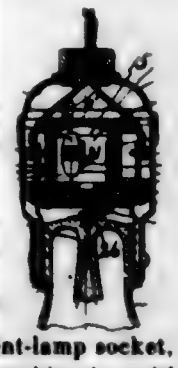


Claim.—In combination with a steam-pressure-actuated mechanism, a lever operated thereby, a water-pressure-actuated damper-operating mechanism, a water-supply pipe therefor, a pressure-chamber with which said supply-pipe communicates, a diaphragm in said chamber normally depressed by said lever, a valve to control the passage of water through said pipe to the damper-operating mechanism, said valve being connected to the said diaphragm and having a spring to open said valve when the latter is released by the lever, a branch pipe leading from the supply-pipe and a valve to open and close said branch pipe, the said valves being simultaneously reversely operated by the said lever, substantially as described.

805,287. INCANDESCENT-LAMP SOCKET. James J. Hartley, Syracuse, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 1, 1903. Serial No. 155,132.

Claim.—1. In an incandescent-lamp socket, a base of insulat-

ing material having a recess, in combination with a switch in the recess and including a pair of terminals and a rotary cam for connecting the terminals, one of the terminals consisting of a spring-arm extending in a direction at substantially right angles to the axis of the socket and having its free end movable laterally with reference to said axis.



2. In an incandescent-lamp socket, a base of insulating material having a recess, in combination with a switch in the recess and including a pair of terminals and a rotary cam for connecting the terminals, one of the terminals consisting of a flat spring disposed flatwise with reference to the axis of the socket and secured at one end, the free end extending in a direction at substantially right angles to the said axis and springing laterally.

3. In an incandescent-lamp socket, a base of insulating material having a recess in combination with a U-shape frame seated in the recess with its arms projecting in a direction at substantially right angles to the axis of the socket, a spring-terminal secured at one end to the frame and springing laterally with reference to said axis, a second terminal, and means for electrically connecting and disconnecting said terminals.

4. In an incandescent-lamp socket, a base comprising two separable insulator-sections secured together end to end and each having a seat, a U-shape frame disposed within the base at right angles to the axis and having its opposite edges engaged by said seats whereby the frame is held in position, and an electric switch within the base and having its movable member journaled in said frame.

5. In an incandescent-lamp socket, a base of insulating material comprising two sections secured together end to end, and each provided with a seat and a recess, a U-shape frame resting on said seats at right angles to the axis of the base, a rotary spindle journaled in the frame, a cam on the spindle revolving in the recesses, and terminals adapted to be contacted by said cam.

6. In an incandescent-lamp socket, the combination with a switch including terminals and a rotary cam, a U-shape frame the arms of which are provided with elongated slots closed at both ends, a rotary spindle inserted in the slots and receiving the cam, said spindle having laterally-projecting fins, one of the slots having its opposite walls compressed at one end to prevent the withdrawal of the spindle.

7. In an incandescent-lamp socket, a base of insulating material comprising two sections secured together end to end, one section having a recess opening from one end, a U-shape frame loosely mounted in the recess and held in position by the other section, a rotary spindle journaled on the frame, a cam on the spindle, a terminal secured to one of the sections, a second terminal secured to the frame, said terminals being adapted to be electrically connected and disconnected by the cam.

8. In an incandescent-lamp socket, an insulator-base composed of two sections secured together end to end, one section having a central recess opening from one end, a metallic frame disposed in the recess at right angles to the axis of the base, a spring-terminal secured to the frame, a second spring-terminal secured to one of the insulator-sections, a rotary spindle journaled in the frame, and a contact member on the spindle having a wiping or brush contact with said terminals and forming an electrical connection between said terminals.

9. In an incandescent-lamp socket, an insulator-base composed of two sections, one of the sections having a recess opening from one of its end faces, an electric switch having a rotary key, a U-shape frame lying wholly within the recess with its arms projecting in a direction at substantially right angles to the axis of the socket and supporting the rotary key and means for clamping the sections together.

10. In an incandescent-lamp socket, an insulator-base composed of two sections, one of the sections having a center recess and two side cut-outs opening from one of its end faces, an electric switch in the recess and including a pair of terminals and a rotary contact member, and binding-posts in the side cut-outs.

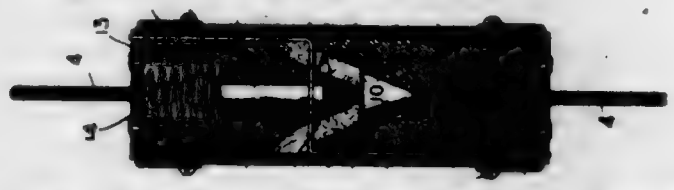
11. In an incandescent-lamp socket, an insulator-base composed of sections secured together end to end, one of the sections having a recess opening from the end adjacent to the other section, a U-shape frame in the recess having its arms extending laterally with reference to the axis of the socket, a spring-terminal electrically connected to the frame, a second spring-terminal, a rotary contact member for electrically connecting said terminals in combination with a lamp having a terminal electrically connected to the frame.

12. In an incandescent-lamp socket, an outer shell having a metal cap telescoping therewith, an insulator-cap within the metal cap, the latter having tongues stamped or pressed inwardly for holding the insulator-cap in position.

13. In an incandescent-lamp socket, an outer metal shell having a removable cap telescoping therewith, said shell being provided with an aperture and having a portion thereof at one side of the aperture cut or stamped to form a tongue, the latter being folded across the opening and provided with a threaded aperture alined with the former aperture, in combination with a screw entering said apertures for securing the cap to the main shell.

14. In an incandescent-lamp socket, a base of insulating material composed of sections secured together end to end, one section having a central recess and two side cut-outs independent of said recess, an electric switch mounted upon the other of the said sections, binding-posts for the line-wires secured to the latter section and a pair of contact members also secured to the latter section to contact with the lamp-terminals.

805,288. **INCLOSED FUSE.** CARYL D. HASKINS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 24, 1904. Serial No. 213,940.



Claim.—1. The combination with a fusible conductor, of an absorbent insulating material, and means to force said insulating material into intimate contact with the ends of said conductor upon disruption thereof.

2. The combination with a fusible conductor, of an absorbent insulating material, and means to separate the severed ends of said conductor and to force said insulating material into intimate contact therewith upon disruption of said conductor.

3. The combination with a fusible conductor, of an absorbent insulating material, and means to interpose a barrier between the severed ends of said conductor and to force said absorbent insulating material into intimate contact with said ends upon disruption of said conductor.

4. The combination with a fusible conductor, of an absorbent insulating material, and a biased shutter normally held in retracted position by said conductor and adapted upon disruption of the latter to move between the severed ends of the conductor and force the said absorbent insulating material into intimate contact with said ends.

5. The combination with a fusible conductor, of an absorbent insulating material surrounding said conductor, and a shutter provided with an air-space through which the said conductor is threaded.

6. The combination with a fusible conductor, of a support therefor provided with a vacant space, an absorbent insulating material, and a shutter adapted to move between the severed ends of said conductor into said vacant space and to force said absorbent material into intimate contact with said ends upon disruption of said conductor.

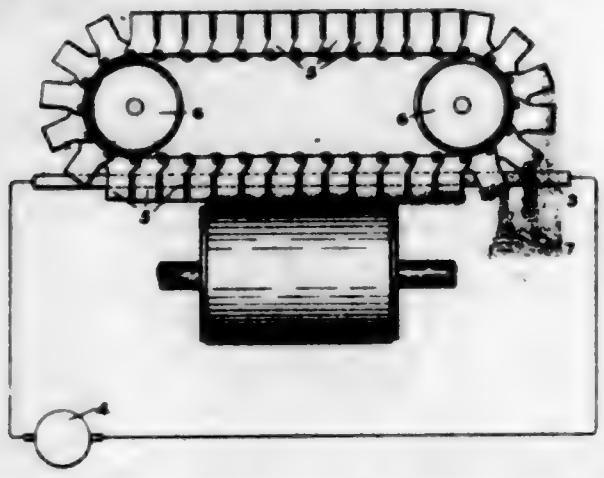
7. The combination with a fusible conductor and casing therefor, of a vacant space or chamber arranged in said casing and provided with a collapsible wall, a shutter normally held in retracted position, and an absorbent insulating material filling the space within said casing between the end of said shutter and said collapsible wall.

8. The combination with a fusible conductor and its casing, of an insulating-block in said casing provided with a vacant space or chamber having a collapsible wall, a spring-pressed shutter normally held in retracted position by said conductor, and an absorbent insulating material loosely filling the space within said casing between the end of the shutter and the said collapsible wall.

9. The combination of a casing, a fusible conductor extending therethrough and provided with a central transverse portion, an insulating-block having at one end a shoulder for engaging the transverse portion of said conductor and a vacant space or chamber provided with a collapsible wall, a spring-pressed shutter normally held in retracted position away from said collapsible wall by the

fusible conductor, and an absorbent insulating material filling the space between the adjacent ends of said block and shutter.

805,289. MAGNETIC SEPARATOR. HARRY B. HEATH, Windsor, Conn., assignor to General Electric Company, a Corporation of New York. Filed Sept. 17, 1903. Serial No. 173,807.



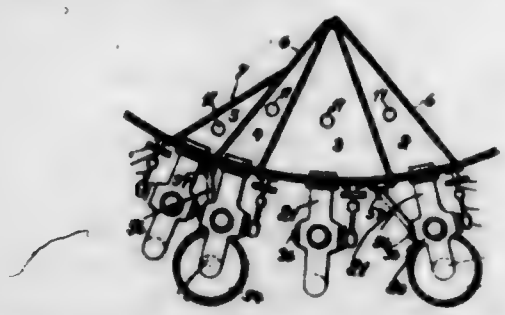
Claim.—1. In a magnetic separator, the combination with a stationary conductor, of a plurality of pole-pieces traveling longitudinally thereof and in proximity thereto, and means for conveying the material to be treated beneath said pole-pieces.

2. In a magnetic separator, the combination with a stationary conductor, of an endless series of soft-iron pole-pieces, and means for moving them in proximity to said conductor and to a conveyer.

3. In a magnetic separator, the combination with a stationary conductor, of a plurality of bifurcated pole-pieces straddling said conductor, and means for moving said pole-pieces along said conductor and above a conveyor.

4. In a magnetic separator, the combination with a carrier-belt, of a conductor transverse to said belt, a plurality of pole-pieces, and means for moving same in proximity to said conductor across said belt and up close to and away from the conductor at a point beyond the edge of the belt.

805,290. OIL-TANK. CASPER H. HENKEL, Allegheny, Pa. Filed Mar. 23, 1905. Serial No. 251,573.

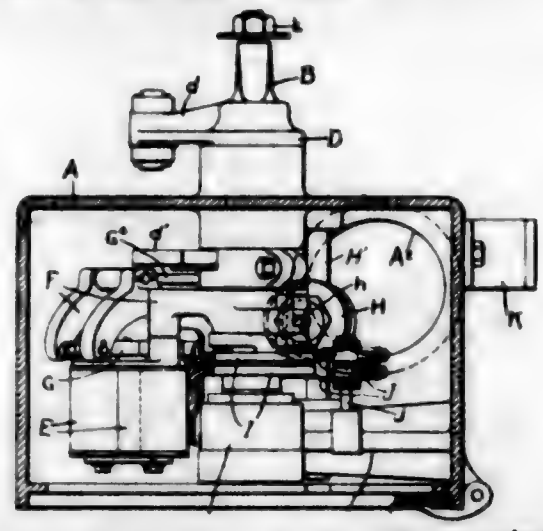


Claim.—1. An oil-tank comprising a main reservoir, a plurality of compartments of different capacities, faucets carried by said oil-tank, pipes establishing communication between said reservoir and said compartments, a ventilation-pipe connected to each of said compartments, revoluble dials mounted upon the front of said tank and actuated by the handle of said faucets, a funnel pivotally mounted upon the front of said tank and adapted to swing beneath said faucets, substantially as described.

2. An oil-tank comprising a main reservoir and a plurality of compartments of different capacities, three-way faucets carried by the front of said tank, pipes establishing communication between the main reservoir and said compartments and through said faucets, detachable ventilating-pipes for the aforesaid pipes, detachable ventilation-pipes connected to each of said compartments, a revoluble dial mounted upon the front of each compartment and actuated by the handles of said faucets, substantially as described.

3. An oil-tank comprising a main reservoir, having a plurality of compartments of different capacities, three-way faucets carried by the tank and in communication with the compartments, pipes establishing communication between the main reservoir of the tank, and said compartments, ventilating-pipes for the aforesaid pipes, and revoluble dials mounted on the tank adjacent to each faucet, arms secured in slotted handles of said faucets, and spring-pressed levers carried by said arm adapted when the handles are turned in one direction to rotate the dials, substantially as described.

805,291. SEMAPHORE-SIGNAL. REINHOLD HERMAN, Crafton, Pa., assignor to General Electric Company, a Corporation of New York. Filed Apr. 26, 1905. Serial No. 257,462.



Claim.—1. In a semaphore-signal, a casing, two relatively movable members comprising a sleeve journaled in said casing and a shaft extending through and journaled in said sleeve, a clutch mechanism within said casing adapted to clutch said members together, an operating-rod connected to one of said members, and a signal-arm carried by the other member.

2. In a semaphore-signal, a casing, a sleeve journaled in said casing, an operating-rod connected to said sleeve, a shaft extending through and journaled in said sleeve, a clutch mechanism within said casing adapted to clutch said sleeve to said shaft, and a signal-arm carried on the outer end of said shaft.

3. In a semaphore-signal, a casing, a sleeve journaled in said casing, an operating-rod connected to said sleeve, a shaft extending through and journaled in said sleeve, a signal-arm carried on the outer end of said shaft, and a clutch mechanism within the casing comprising a sector and electromagnet, carried the one by said shaft and the other by said sleeve, and a clutch-lever controlled by said electromagnet and adapted to engage said sector.

4. In a semaphore-signal, a casing, a sleeve journaled in said casing, an operating-rod connected to said sleeve, a shaft extending through and journaled in said sleeve, a signal-arm carried on the outer end of said shaft, an electromagnetic clutch mechanism within the casing adapted to clutch said sleeve to said shaft, and a dash-pot operatively connected to said shaft.

5. In a semaphore-signal, a casing, a sleeve journaled in said casing, an operating-rod connected to said sleeve, a shaft extending through and journaled in said sleeve, a journal for the inner end of said shaft within said casing, an electromagnetic clutch mechanism within said casing adapted to clutch said sleeve to said shaft, and a signal-arm carried on the outer end of said shaft.

6. In a semaphore-signal, a casing provided at its bottom with a tubular extension adapted to fit over a supporting-post, a sleeve journaled in one side of the casing, an operating-rod connected to said sleeve outside said casing, a shaft extending through and journaled in said sleeve, clutch mechanism within the casing adapted to lock said shaft to said sleeve, and a signal-arm carried on the outer end of said shaft.

7. In a semaphore-signal, in combination with the track-circuit of a railway-block, a casing, two relatively movable members comprising a sleeve journaled in said casing and a shaft extending through and journaled in said sleeve, a clutch mechanism within said casing comprising an electromagnet connected in the track-circuit and adapted to clutch said sleeve to said shaft, an operating-rod connected to one of said members, and a signal-arm carried by the other.

8. In a semaphore-signal, in combination with the track-circuit of a railway-block, a casing, a sleeve journaled in said casing, an operating-rod connected to said sleeve, a shaft extending through and journaled in said casing, a signal-arm carried on the outer end of said shaft, and a clutch mechanism within said casing comprising an electromagnet connected in the track-circuit and adapted to clutch said sleeve to said shaft.

9. In a semaphore-signal, in combination with the track-circuit of a railway-block, a casing, a sleeve journaled in said casing, an operating-rod connected to said sleeve, a shaft extending through and journaled in said casing, a signal-arm carried on the outer end of said shaft, and a clutch mechanism within said casing comprising a sector and an electromagnet connected in the track-circuit, carried the one by said shaft and the other by said sleeve, and a clutch-lever controlled by said electromagnet and adapted to engage said sector.

805,292. METHOD OF STARTING ELECTRIC GAS OR VAPOR DEVICES. PETER C. HEWITT, New York, N. Y., assignor to Cooper Hewitt Electric Company, a Corporation of New York. Filed Nov. 24, 1903. Serial No. 183,443.

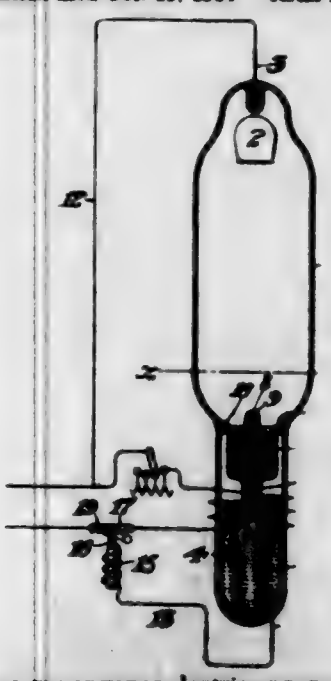


Claim.—1. The method of starting a gas or vapor electric device having electrodes, which consist in electromagnetically projecting a stream of fluid from one electrode into contact with another electrode and causing such stream to separate whereby conduction is established first through the stream of fluid and afterward through a vapor-path.

2. The method of starting and operating a gas or vapor device having electrodes, which consists in forcibly projecting a stream of conducting fluid from one electrode into contact with another electrode thus forming a conducting-path from one electrode to the other, afterward interrupting said stream and establishing a conducting-circuit through a vapor-path.

3. In an apparatus comprising a gas or vapor electric device, power-developing means located outside the same and jet-projecting means inside the same, the method of starting the apparatus, which consists in producing a jet of conducting fluid inside the apparatus and utilizing the natural separation of the said jet for starting current through a vapor-path.

805,293. STARTING DEVICE FOR MERCURY-VAPOR APPARATUS. PETER C. HEWITT, New York, N. Y., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Original application filed Nov. 24, 1903, Serial No. 183,443. Divided and this application filed Oct. 19, 1904. Serial No. 229,055.



Claim.—1. In a gas or vapor electric apparatus, two electrodes, one of which is a fluid and the other a solid, means for projecting a stream of said fluid into contact with another electrode, thereby causing the electric current to traverse the intervening vapor or gas.

2. The combination with a suitable container, a conducting fluid therein, and two electrodes also within the container, of an electromagnetic device, and means operated thereby for bringing the two electrodes into electrical connection inside the container by means of the mechanical action of said device on the fluid.

3. The combination, with a vapor electric lamp having a sealed casing, of power-developing means located outside of the sealed casing, and projecting means located within the sealed casing for projecting a conductive liquid from one electrode toward the other electrode, such interiorly-located liquid-projecting means being controllable by the exterior power means.

4. The combination with a vapor electric lamp having a sealed casing, of power-developing means located outside of the sealed casing, and projecting means located within the sealed casing and operatable upon the liquid illuminant for projecting the liquid illuminant from one electrode toward the other electrode, such interiorly-located illuminant-projecting means being controllable by the exterior power means.

5. A vapor electric lamp comprising a sealed casing, an electrode of vaporizable liquid illuminant at the lower part of the casing and another electrode at the upper part of the casing, and electrically-controlled starting means for projecting the liquid illuminant upward toward the upper electrode.

6. The combination, with an incandescent vapor electric lamp, of exteriorly-located power-developing means and interiorly-located jet-projecting means controllable by the exterior power means.

7. The combination, with a vapor electric lamp, of exteriorly-located power-developing means and an interiorly-located piston having a jet-orifice and controllable by the exterior power means.

8. The combination, with a vapor electric lamp, of exteriorly-located electrically-actuated power-developing means and interiorly-located jet-projecting means controllable by the exterior power means.

9. The combination, with a vapor electric lamp, of exteriorly-located electrically-actuated power-developing means and an interiorly-located piston having a jet-orifice and controllable by the exterior power means.

10. The combination, with a vapor electric lamp, of an exteriorly-located solenoid-coil and an interiorly-located piston having a jet-orifice and forming a core for the solenoid.

11. In a gas or vapor electric apparatus, separated electrodes relatively positive and negative, and means for projecting between such electrodes a stream of conducting fluid for accomplishing the starting action.

12. In a gas or vapor electric apparatus, separated electrodes relatively positive and negative, at least one of the said electrodes being a conducting liquid, and means for projecting between such electrodes a stream of conducting fluid for accomplishing the starting action.

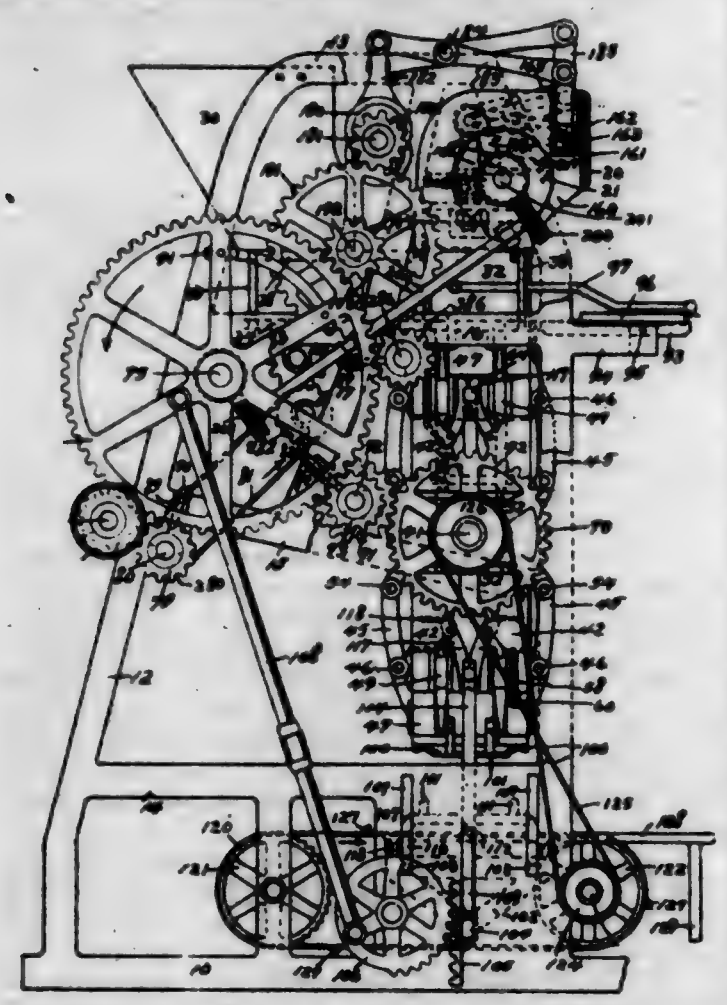
13. In a gas or vapor electric apparatus, a container, and electrodes therein relatively positive and negative, one of the said electrodes being a conducting liquid and placed relatively lower than the other inside the container, and means for projecting a portion of the conducting liquid against the force of gravity into contact with another electrode.

805,294. MACHINE FOR MAKING CEMENT BRICK AND THE LIKE. FRED C. HORN, Indianapolis, Ind. Filed June 13, 1905. Serial No. 264,857.

Claim.—1. In a brick-molding machine, the combination of a revoluble mold, a hopper for the material located to one side of the receiving position of the mold, a material-receiver movable from under the hopper to a position over the mold when it is in its receiving position, said receiver being open at the top and the bottom, a platform under the receiver when it is beneath the hopper, the edge of which next to the mold is located sufficiently far therefrom to permit the revolution of the mold, a plate hinged to the edge of the platform next to the hopper, means for supporting said plate in line with the platform and flush with the top edge of the hopper when in the receiving position, and means on the receiver for holding said plate down when the receiver is over the mold.

2. In a brick-molding machine, the combination of a revoluble mold, a hopper for the material located to one side of the receiving position of the mold, a material-receiver movable from under the hopper to a position over the mold when it is in its receiving position, said receiver being open at the top and bottom, a platform under the receiver when it is beneath the hopper, the edge of which next to the mold is located sufficiently far therefrom to permit the revolution of the mold, a plate hinged to the edge of the platform next to the hopper, means for supporting said plate in line with the platform and

flush with the top edge of the hopper when in the receiving position, means on the receiver for holding said plate down when the receiver is over the mold, and a spring tending to elevate the edge of said plate adjacent the hopper to permit the revolution of the hopper.



3. In a brick-molding machine, the combination of a revoluble mold that in the revolutions thereof moves alternately to a material-receiving position and a brick-depositing position, a material-receiver movable to and from position over the mold when in the material-receiving position, a pallet, means controlled by the material-receiver for moving said pallet upon the mold during the movement of the material-receiver from the mold, and means connected with the mold for holding the pallet thereon.

4. In a brick-molding machine, a revoluble mold that in the revolutions thereof moves alternately to a material-receiving position and a brick-depositing position, a material-receiver movable to and from position over the mold when in the material-receiving position, a platform on a level with the top of the mold, a pallet adapted to rest thereon, arms secured to the material-receiver that engage said pallet so that as the material-receiver moves from the mold it will draw the pallet upon the mold, and means connected with the mold for holding the pallet thereon.

5. In a brick-molding machine, the combination of an invertible mold, means for charging it in its upright position with material, a pallet, means movable with the mold for holding the pallet upon said mold, means for releasing said pallet-holding means when the mold is inverted, and means for receiving and removing the pallet with the bricks thereon when the pallet is released.

6. In a brick-molding machine, the combination of an invertible mold, a pallet connected with said mold and below the brick, means for receiving and removing the pallet with the bricks thereon, and means for releasing said pallet from said mold so it will be deposited on said receiving and removing means.

7. In a brick-molding machine, the combination of an invertible mold, a pallet connected with said mold and situated below the brick when the mold is inverted, a brick-receiver vertically movable to the mold, and means connected with the brick-receiver for releasing the pallet from the mold as the receiver approaches the pallet.

8. In a brick-molding machine, the combination of a mold formed of spreadable parts, a brick-receiver movable under said mold, and means connected with the brick-receiver for spreading the parts of the mold as the receiver approaches the mold whereby the bricks will be discharged upon the brick-receiver.

9. In a brick-molding machine, the combination of a mold formed of spreadable sides and ends and vertically-movable partitions, a brick-receiver movable vertically to said mold, and means connected with said brick-receiver for spreading the sides and ends of the mold and elevating the partitions therein as the receiver approaches the mold.

10. In a brick-molding machine, the combination of an invertible mold having a slotted bottom, partitions vertically movable in said slotted bottom, a brick-receiver movable vertically to the mold when inverted, and means connected with said brick-receiver for elevating said partitions as the receiver approaches the mold.

11. In a brick-molding machine, the combination of an invertible mold formed of spreadable parts, a pallet, means connected with the parts of the mold for holding the pallet upon the mold so as to be below the brick when the mold is inverted, a brick-receiver movable vertically to the mold, and means connected with the brick-receiver for spreading the parts of the mold whereby the pallet will be released and the brick discharged by gravity with the pallet upon the brick-receiver.

12. In a brick-molding machine, the combination of a mold, a pallet, a horizontal conveyer that receives the pallet from the mold, a stationary platform adjacent the conveyer, and means on the conveyer for forcing the pallet upon said platform.

13. In a brick-molding machine, an invertible mold, a brick-receiver vertically movable to the mold to receive the brick therefrom, a stationary platform, means for horizontally moving the brick-receiver to discharge the brick on said platform, and a single means for operating all parts of said combination.

14. In a brick-molding machine, the combination of a plurality of vertically-revoluble molds radially opposite to each other, a stationary hopper, a material-receiver horizontally movable from a position under said hopper to a position over the uppermost of said molds, a pallet movable upon said uppermost mold, means for holding said pallet thereon, a brick-receiver vertically movable to the lower one of said molds, means on said brick-receiver for releasing the pallet, and a single means for operating said parts so that while one mold is being charged with material the other mold is being discharged.

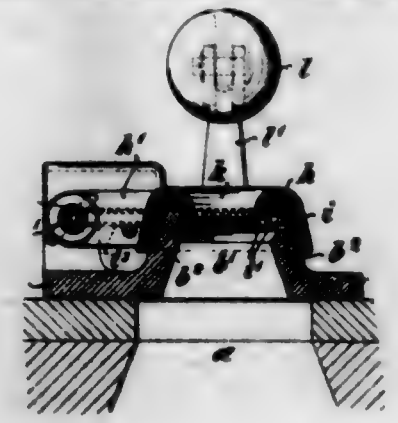
15. In a brick-molding machine, the combination of a mold, a material-receiver movable into and out of position over said mold for charging it, a tamper operable through said receiver when over the mold, and means for holding said tamper elevated while the receiver is being moved.

16. In a brick-molding machine, the combination of a compartment-mold, a vertically-movable tamping-shoe for each compartment, means for operating the same, a material-receiver horizontally movable over the mold for charging the same and through which said tamping-shoes operate, means for holding said shoes elevated above the material-receiver while it is being moved into and out of position over the mold, and a single means for moving said receiver and controlling said tamping-shoe-holding means.

17. In a brick-molding machine, the combination of a compartment-mold, a material-receiver movable into and out of position over said mold for charging it, a tamping-shoe for each compartment operable through said receiver, a stationary guide above the receiver for said tamping-shoes, means for vertically operating said tamping-shoes, and means controlled by the movement of said receiver for holding the tamping-shoes elevated while the receiver is being moved.

18. In a brick-molding machine, the combination of a plurality of vertically-revoluble molds radially opposite each other, a tamper that tamps the material in a mold when in its uppermost position, a brick-receiver vertically movable to the mold in its lower position for receiving the brick therefrom, and means for operating said parts so that one mold is being discharged while the other is being tamped.

805,295. APPARATUS FOR PREVENTING THE ESCAPE OF GAS FROM GAS-GENERATORS. JUSTUS HOFMANN, Witkowitz, Austria-Hungary. Filed Aug. 14, 1905. Serial No. 274,152.



Claim.—1. In an apparatus for preventing the escape of gas from gas generators and furnaces during the stoking and like operations, the combination of a lid or cover adapted to close the stoke-hole opening, an annular perforated steam-coil adapted to discharge into the stoke-hole, a carrier for said coil, and means for moving the lid and the carrier to and away from the stoke-hole opening, all substantially as set forth.

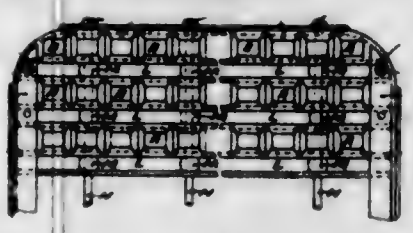
2. In an apparatus for preventing the escape of gas from gas generators and furnaces during the stoking and the like operations, the combination of a lid or cover adapted to close the stoke-hole opening, an annular perforated steam-pipe coil adapted to discharge into the stoke-hole, a carrier for said coil movable to and from the stoke-hole, and means connected with the carrier and the lid arranged and operating to move one of the same toward the stoke-hole opening when the other is being moved away from the said opening, all substantially as set forth.

3. In apparatus for preventing the escape of gas from gas generators and furnaces during the stoking and the like operations, an annular perforated steam-pipe coil adapted to discharge into the stoke-hole opening, a carrier for said coil movable to and from the stoke-hole opening, means for connecting the coil to a source of steam-supply, a cock for controlling the steam-supply, and connections whereby the cock is automatically turned on or off according as the carrier is moved to or from the stoke-hole, all substantially as set forth.

4. In an apparatus for preventing the escape of gas from gas generators and furnaces during the stoking and like operations, the combination of a lid adapted to close the stoke-hole opening, an annular perforated steam-pipe coil arranged to discharge into the stoke-hole, shafts to which said lid and carrier are respectively secured, supported in bearings at right angles to each other, and beveled gearing connecting the adjoining ends of said shafts, all substantially as set forth.

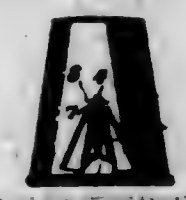
5. In an apparatus for preventing the escape of gas from gas generators and furnaces during the stoking and like operations, comprising a lid adapted to close the stoke-hole opening, a carrier allowing access to the stoke-hole, a perforated steam-pipe coil arranged in said carrier and supporting-shafts for said carrier and lid, connected by beveled gearing whereby when the lid is swung onto its seat over the stoke-hole opening, the carrier is swung away from the stoke-hole, and vice versa, the combination with the shaft of the steam-coil carrier and steam-supply connections for the coil, of a cock for controlling said steam-supply, adapted to be turned on and off by the movement of said shaft, all substantially as set forth.

805,296. **TRAM-CAR AND RAILWAY-CARRIAGE PLATFORM STEP-TREAD.** JOHN HUDSON, Newcastle-upon-Tyne, England. Filed Feb. 27, 1905. Serial No. 247,003.



Claim.—A step-tread composed of wooden blocks with beveled edges and arranged end-grain upward and provided with rectangular grooves in their sides, in combination with coacting rectangular bars adapted to fit in such grooves and to hold the blocks in position so that said blocks may be interchanged at will to compensate for wear, and puris or distance-pieces between said bars whereby intervening open spaces are formed so that the tread is self-draining and cleansing, substantially as described.

805,297. **THIMBLE.** SPENCER H. HUNTINGTON, Kerrville, Tex. Filed Feb. 25, 1905. Serial No. 247,336.



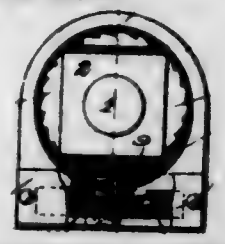
Claim.—1. A thimble and an integral needle-threader, said threader comprising a needle-cone and a threading-cone, the latter comprising two strips integral with the thimble-wall, and bent into cone shape.

2. A needle-threader comprising a body portion, a threading-cone secured thereto, said body being formed with a needle depression adjacent the end of the threading-cone, said body being formed with a groove including the needle depression and extending transverse the length of the threading-cone.

3. A needle-threader comprising a body provided with a threading-cone and formed with a needle depression and with a needle-receiving groove adjacent said cone.

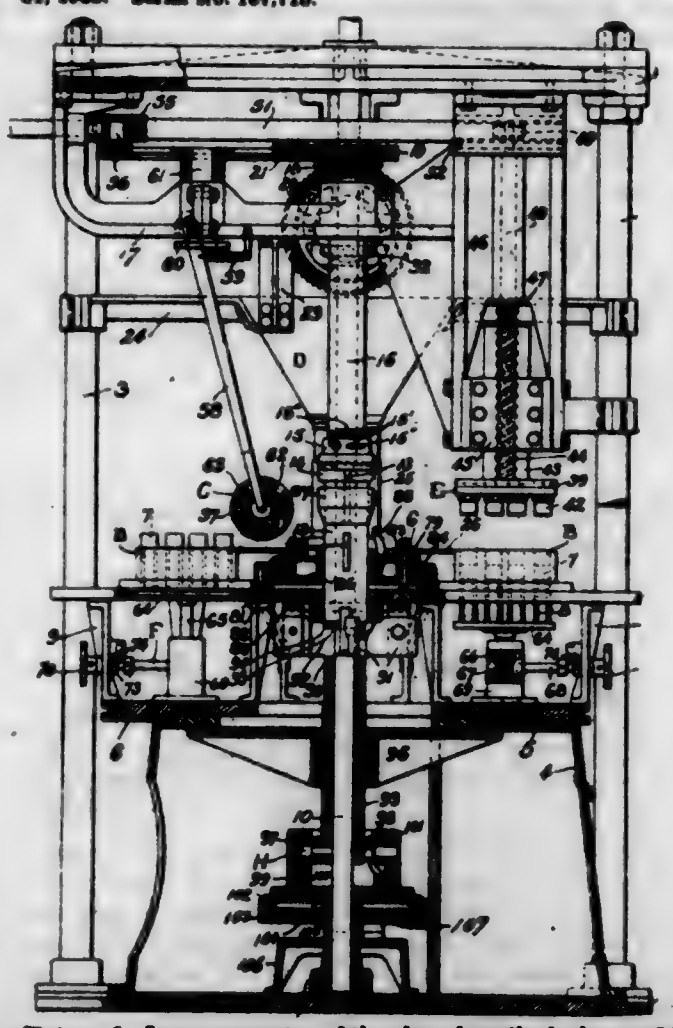
4. A thimble and an integral needle-threader, said threader comprising a threading-cone including two strips integral with the thimble and bent into cone shape, and a needle-cone formed in the material of the thimble-wall at right angles to the threading-cone.

805,298. **NUT-LOCK.** RICHARD JOHNSON, Bessemer, Ala. Filed Apr. 27, 1905. Serial No. 257,731.



Claim.—A nut-lock comprising a washer having a cavity and a communicating chamber, one wall of the chamber being provided with an opening therein, a cover-plate for the chamber, a pawl mounted within the chamber and comprising a strip of material folded or doubled to form arms connected by a knuckle pivotally connected with the washer, one of said arms terminating in a pawl projecting into the cavity and the other in a U-shaped keeper adapted to project through the opening and to be engaged by a suitable detent to hold the pawl retracted, a spring for projecting the pawl, and a ratchet-wheel disposed in the cavity and engaged by the tooth of the pawl and adapted to engage and hold the nut against retrograde rotation.

805,299. **APPARATUS FOR MOLDING PORCELAIN AND SIMILAR WARE.** EDWIN G. KASTENHUBER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 31, 1903. Serial No. 167,710.



Claim.—1. In an apparatus of the class described, the combination of a movable support upon which are mounted a series of molds, a stationary support upon which are mounted devices for delivering the material operated upon to said molds and for compressing said material therein, and a continuously-actuated drive-shaft arranged concentrically of said supports and adapted to be operatively con-

nected alternately to the movable support and to the said devices mounted on the stationary support.

2. In an apparatus of the class described, the combination of a movable support upon which are mounted a series of molds and corresponding ejecting means adapted to be actuated by the movement of said support, a stationary support upon which are mounted devices for delivering the material operated upon to said molds and for compressing said material therein, and a continuously-actuated drive-shaft arranged concentrically of said supports and adapted to be operatively connected alternately with said movable support and to the said devices mounted upon the stationary support.

3. In an apparatus of the class described, the combination of a reciprocating male die, an actuating-screw operatively connected therewith and provided with a pinion, a suitably-supported rack-bar engaging said pinion and provided with a transversely-slotted head, and a gear-wheel adapted to be operatively connected to the power-transmitting means and provided with a crank-pin entering said slotted head.

4. In an apparatus of the class described, the combination of a revoluble table provided with a series of molds, devices for delivering and compressing the material operated upon having a common actuating-shaft 16, a vertical drive-shaft 10, a reciprocating sleeve 12 feathered upon said drive-shaft and adapted to operatively engage said shaft 16 when in raised position and to operatively engage and rotate said table when in depressed position, and means for reciprocating said sleeve.

5. In an apparatus of the class described, the combination of the shaft 16 connected at one end by a lost-motion arrangement with a ratchet-collar, a reciprocating drive-sleeve 12 provided at one end with ratchet-teeth, a clutch feathered to said sleeve, a collar 87 adjustably secured to said sleeve and adapted to engage the operative member of said clutch, and means to periodically reciprocate said sleeve.

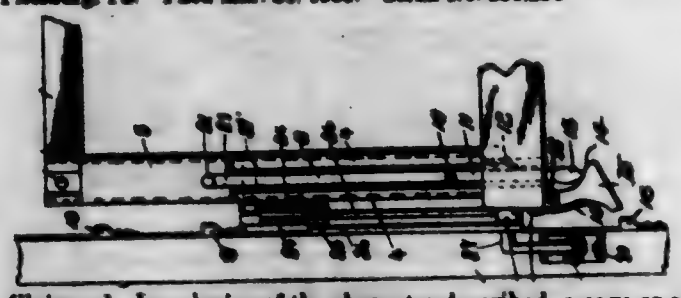
6. In an apparatus of the class described, the combination of a rotary table provided with a friction-ring, a reciprocating drive-sleeve having a clutch feathered thereto and adapted to engage said ring, means carried by said sleeve for actuating said clutch when reciprocated, and means for reciprocating said sleeve.

7. In an apparatus of the class described, the combination of a rotary table, a reciprocating drive-sleeve located concentrically and adapted to frictionally engage therewith, means for arresting the rotation of said table, and means for periodically reciprocating said sleeve.

8. In an apparatus of the class described, the combination of a rotary table provided with a series of notches, a non-rotatable reciprocating member 93 having a head provided with bolts adapted to engage said notches, a drive-sleeve 12 swiveled to said head and provided with means for rotating said table, and means for reciprocating said member 93.

9. In an apparatus of the class described, the combination of a movable support, a series of molds mounted thereon and provided with movable sections mounted on toothed plungers, and gears engaging said toothed plungers and fixed upon shafts mounted upon said movable support and adapted to engage some stationary part and actuate said movable sections.

805,300. ELEVATOR SAFETY DEVICE. MICHAEL A. KEELEY, Pittsburg, Pa. Filed Mar. 21, 1905. Serial No. 251,204.



Claim.—1. In a device of the character described, a cage or car having a hollow vertical side beam, and a guide-beam provided on its inner face with a plurality of stops, combined with a rod arranged in said hollow beam, a cross-pin carried by said rod and extending through the beam, a spring arranged on said rod between the cross-pin and the upper end of the beam, a second pin extending transversely through said rod and hollow beam, links pivotally connected to the elevator-car, and to said second cross-pin, shoes carried on the lower ends of said links to engage the sides of the guide-beam, a catch pivotally supported from the elevator-car, and held normally out of position to engage with the said stops, and a rod pivotally connected to the first-mentioned rod and engaging said catch and adapted, when the first-mentioned rod is released, to force the catch out into position to engage with one of said stops, substantially as described.

2. In a device of the character described, an elevator-car having a hollow beam at the side thereof, a guide-beam, stops carried by said guide-beam, links pivotally attached to the car, brake-shoes pivotally attached to said links, a catch pivoted on the car a vertically-movable rod arranged in the hollow beam and held normally in vertical position above said catch and means connected to said rod and connected to said links and adapted when the rod is released to force the brake-shoes into engagement with the sides of the guide-beam, and move the catch into position to engage with one of said stops on the guide-beam, substantially as described.

3. In a device of the character described, an elevator-car, a guide-beam arranged adjacent the car, stops carried by said guide-beam, links carried by the car, brake-shoes pivotally attached to said links and adapted to embrace said beam, means carried by said car for causing the brake-shoes to clasp the beam when the suspending means of the car is relaxed, a catch carried by the car and adapted to be moved into position to engage said stops by the movement of the brake-shoe-actuating devices when the latter are operated to bring the brake-shoes into contact with the beam.

805,301. CLEANER. JOHN KRAUS, Steubenville, Ohio. Filed Apr. 18, 1905. Serial No. 256,472.



Claim.—1. A pair of tongs of the character described comprising two members detachably pivoted together, a handle carried upon one end of each member, the opposite end of each member being curved, a clamping-jaw pivotally mounted in the curved end of each member, a sliding block arranged in each member and engaging each said jaw, a button slidably mounted upon each member, and connected to said sliding block, whereby said member can be adjusted relatively to the curved end of each member, substantially as described.

2. A pair of tongs of the character described comprising two members detachably pivoted together, the ends of said members being bent outwardly, a clamping-jaw pivotally mounted in one end of each member and opposing the end of said member, and means to adjust the clamping-jaw, substantially as described.

3. A pair of tongs of the character described comprising two members detachably pivoted together, pivoted clamping-jaws carried by the ends of said members, and means mounted within said members to adjust said jaws, substantially as described.

805,302. PRODUCING QUARTZ-GLASS FREE FROM AIR-BUBBLES. REINARD KOCH, Hanau, Germany, assignor to The Firm of W. C. Heraeus, Hanau, Germany. Filed Nov. 17, 1904. Serial No. 233,314.

Claim.—1. The method substantially as herein described of producing quartz-glass free from air-bubbles, which consists in slowly heating pieces of rock-crystal to a temperature exceeding 600° centigrade, then bringing the pieces to the temperature of vitrification and uniting the pieces by melting.

2. The method substantially as herein described of producing quartz-glass free from air-bubbles, which consists in slowly heating pieces of rock-crystal to a temperature exceeding 600° centigrade, then bringing the pieces successively to the temperature of vitrification, and successively uniting the vitrified pieces together by melting.

3. The method substantially as herein described of producing quartz-glass free from air-bubbles, which consists in slowly heating pieces of rock-crystal to a temperature exceeding 600° centigrade in a crucible or the like, successively withdrawing the heated pieces and bringing them to the temperature of vitrification, and successively uniting the vitrified pieces by melting.

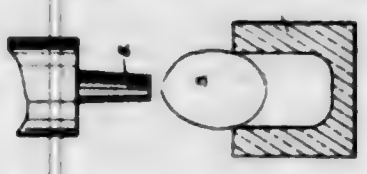
4. The method substantially as herein described of producing quartz-glass free from air-bubbles, which consists in slowly heating pieces of rock-crystal to a temperature exceeding 600° centigrade in a crucible or the like, successively withdrawing the pieces by means of a heated tool and bringing the pieces to the temperature of vitrification, and successively uniting the vitrified pieces by melting.

5. The method substantially as herein described of producing quartz-glass free from air-bubbles, which consists in slowly heating pieces of rock-crystal to a temperature exceeding 600° centigrade in a crucible or the like, successively withdrawing the heated pieces by means of a heated tool and bringing the pieces to the temperature of vitrification by exposing them to the flame of an oxyhydrogen-blowpipe, and successively uniting the vitrified pieces by melting.

6. The method substantially as herein described of producing quartz-glass free from air-bubbles, which consists in slowly heating pieces of rock-crystal to a temperature exceeding 600° centigrade, bringing the heated pieces to the temperature of vitrification by exposing to the flame of an oxyhydrogen-blowpipe, storing the several vitrified pieces, and finally uniting the vitrified pieces by heating them and adding them successively to the melting mass.

7. The method substantially as herein described of producing quartz-glass free from air-bubbles, which consists in slowly heating pieces of rock-crystal to a temperature exceeding 600° centigrade in a crucible, successively withdrawing the pieces by means of a heated tool and bringing the pieces to the temperature of vitrification by exposing to the flame of an oxyhydrogen-blowpipe, storing the several vitrified pieces, and finally uniting the vitrified pieces by heating and successively melting them together to form the mass.

805,303. **PRODUCING HOLLOW QUARTZ-GLASS ARTICLES.** RICHARD KOCH, Hanau, Germany, assignor to The Firm of W. C. Heraeus, Hanau, Germany. Filed Nov. 17, 1904. Serial No. 233,215.



Claim.—1. The herein-described method of producing hollow quartz-glass articles, which consists in first heating and softening a lump of quartz-glass by means of the flame of an oxyhydrogen-blowpipe, then forming the lump into a cylindrical block having a central hole open at the top and closed at the bottom, thereupon attaching this tubular block by melting to the end of a quartz-glass blowpipe, and afterward molding or working up this block with the aid of the flame of the oxyhydrogen-blowpipe as usual.

2. The herein-described method of producing hollow quartz-glass articles, which consists in first heating and softening a lump of quartz-glass by means of the flame of an oxyhydrogen-blowpipe and molding it to a solid cylindrical block, then allowing this block to become cold, next drilling a central hole in this cold block, so that a tubular block open at the top and closed at the bottom is produced, thereupon attaching this tubular block by melting to the end of a quartz-glass blowpipe or that of a quartz-glass tube or hollow body, and afterward molding or working up this block with the aid of the flame of the oxyhydrogen-blowpipe as usual.

3. The herein-described method of producing hollow quartz-glass articles, which consists in first heating and softening a lump of quartz-glass by means of the flame of an oxyhydrogen-blowpipe and molding it to a solid cylindrical block, then allowing this block to become cold, next drilling a central hole of about five millimeters diameter in this cold block, so that a short tubular block open at the top and closed at the bottom and of great thickness is produced, thereupon attaching this tubular block by melting to the end of a quartz-glass blowpipe or that of a quartz-glass tube or hollow body, and afterward molding or working up this block with the aid of the flame of the oxyhydrogen-blowpipe as usual.

4. The herein-described method of producing hollow quartz-glass articles, which consists in first heating and softening a lump of quartz-glass by means of the flame of an oxyhydrogen-blowpipe, then pressing it in a mold to form a solid cylindrical block, next drilling a central hole into this solid block when cold, so that a tubular block open at the top and closed at the bottom is produced, thereupon attaching this tubular block by melting to the end of a quartz-glass blowpipe or that of a quartz-glass tube or hollow body, and afterward molding or working up this block with the aid of the flame of the oxyhydrogen-blowpipe as usual.

5. The herein-described method of producing hollow quartz-glass articles, which consists in first heating and softening a lump of quartz-glass by means of the flame of an oxyhydrogen-blowpipe, then pressing it in a mold to form a solid cylindrical block, next drilling a central hole of about five millimeters diameter in this solid block when cold, so that a short tubular block open at the top and closed at the bottom and of great thickness is produced, thereupon attaching this tubular block by melting to the end of a quartz-glass blowpipe or that of a quartz-glass tube or hollow body, and afterward molding or working up this block with the aid of the flame of the oxyhydrogen-blowpipe as usual.

805,304. **METHOD OF PROTECTING QUARTZ-GLASS VESSELS.** RICHARD KOCH, Hanau, Germany, assignor to The Firm of W. C. Heraeus, Hanau, Germany. Filed July 24, 1905. Serial No. 271,100.

Claim.—1. The method of protecting quartz-glass vessels wholly or partly filled with metals, which are solid at the ordinary temperature, from breaking on the metals becoming torpid or liquid, consisting in coating the inside of the vessel in contact with the metal with carbon.

2. The method of producing a coating of carbon on the inside of a quartz-glass vessel, which consists in passing a current of a gaseous hydrocarbon (for instance ordinary illuminating-gas) through the vessel and in heating the respective walls of the vessel from without until the quartz-glass softens

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805,305. **AIR-FILTER.** ALBERT LIEBER, Indianapolis, Ind. Filed Nov. 9, 1904. Serial No. 232,045.

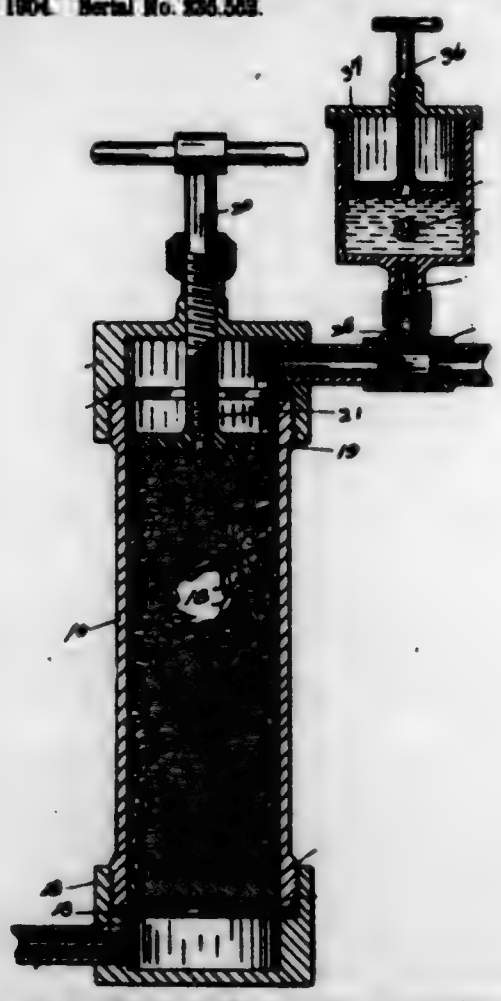


Claim.—1. An air-filter including a casing, an air-inlet pipe leading into one end of the casing, an air-outlet pipe leading from the other end thereof, a series of perforated partitional disks located within the casing at intervals between the inlet and outlet pipes, filtering material between said disks, and means for charging the incoming air with chemicals, substantially as set forth.

2. An air-filter including a cylindrical casing, an air-inlet pipe

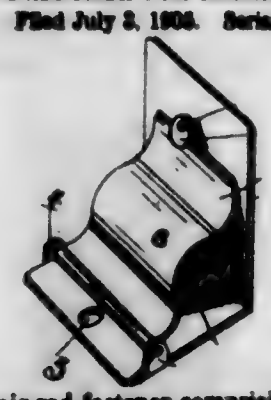
entering one end thereof, an air-outlet pipe leading from the other end thereof, a rod extending centrally and longitudinally through the casing that is continuously threaded, perforated disks mounted at intervals in said casing by being secured upon said rod, filtering material between said disks, and external means for turning said threaded rod.

805,306. AIR-FILTER. ALBERT LIEBER, Indianapolis, Ind. Filed Dec. 5, 1904. Serial No. 235,553.



Claim.—An air-filter including a casing, an outlet-pipe at one end, a perforated disk near said outlet end, a movable cap for the other end of the casing, a screw operative in said cap and extending into the casing when the cap is in place, a perforated disk secured to the inner end of said screw, and an inlet-pipe extending through said cap for the passage of the fluid to be filtered.

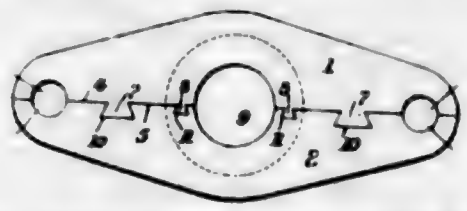
805,307. ROD-FASTENER FOR STAIRWAYS. JOHN MALLEN, Curwensville, Pa. Filed July 3, 1905. Serial No. 268,207.



Claim.—1. A stair-rod fastener comprising a plate having angularly-disposed integral members, each provided with an opening, screws passed through said opening to engage respectively the riser and tread of a stair, and lugs carried by the lower member near its outer end, a pin mounted in said lugs, a spring-clip having one end wrapped on said pin, said clip adapted to engage a stair-rod, and a button carried by the screw which secures the upright member of said plate to the riser, and having a lip to engage the upper end of said spring-clip.

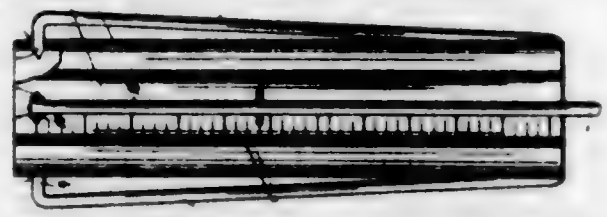
2. A stair-rod fastener comprising a plate having integral angularly-disposed members, a spring-clip pivotally secured to the lower of said members and adapted to engage and bind against a stair-rod placed between said clip and the plate, a screw passing through the upright member of said plate into the riser of a stair and securing said plate to the stairs, and a button eccentrically mounted on said screw and engaging the upper end of said clip to bind the same in engagement with said stair-rod.

805,308. GLAND FOR STUFFING-BOXES. JOHN MALOY and ALOIS TREMER, Dunbar, Pa. Filed Feb. 16, 1905. Serial No. 245,973.



Claim.—A gland comprising two parts each embodying a base and an integral grooved semicylindrical portion, one of said parts being provided with dovetail grooves, two of said grooves being located in the faces of the semicylindrical portion, and the other of said grooves being located between the first-mentioned grooves and the ends of the sections or parts, and dovetail tongues on the other of said sections or parts to engage in said grooves, substantially as described.

805,309. CARBON AND GLASS CUTTER. JOHN MALOY, Dunbar, and JAMES W. ABRAHAM, Uniontown, Pa. Filed Apr. 7, 1905. Serial No. 254,369.



Claim.—1. An instrument of the character described comprising a tube having a closed end, said tube having apertures formed therein adjacent to the open end thereof, diametrically-opposed rods carried by said tube, the ends of said rods being bent inwardly to protrude through said apertures, a substantially arc-shaped plate carried by said tube and having graduations thereon, said tube and said plate being slotted, an adjustable gage mounted in slots in said tube and plate, a rod carried by said tube adjacent to said plate, and a rotary cutter-wheel carried in the upper end of said rod, substantially as described.

2. An instrument of the character described consisting of a tube having a closed end, the opposite end of said tube having diametrically-opposed apertures formed therein, rods carried by said tube and protruding through said apertures into said tube, a gage adjustably mounted in said tube, a rod carried by said tube directly in front of said gage, and a rotary cutter-wheel carried by the upper end of said rod, substantially as described.

3. An instrument of the character described, consisting of a tube, said tube having diametrically-opposed apertures formed therein, rods carried by said tube, the upper end of said rods protruding through said apertures into said tube, a gage adjustably mounted upon said tube, and a rotary cutter-wheel mounted outside of said tube, substantially as and for the purpose described.

4. An instrument of the character described, consisting of a tube, an adjustable gage mounted in said tube, resilient rods carried by said tube and protruding within the tube, and a rotary cutter-wheel mounted outside of said tube, substantially as and for the purpose set forth.

5. An instrument of the character described comprising a tube, an adjustable gage carried by said tube, resilient rods carried by the tube, and projecting within said tube, a rod carried by said tube, and a rotary cutter-wheel carried by the end of said rod, substantially as described.

6. An instrument for cutting rods or tubes of brittle material, comprising a tube to receive the object to be cut, and cutting members secured on the outside of the tube, and having inturned cutting edges projecting into the tube, substantially as described.

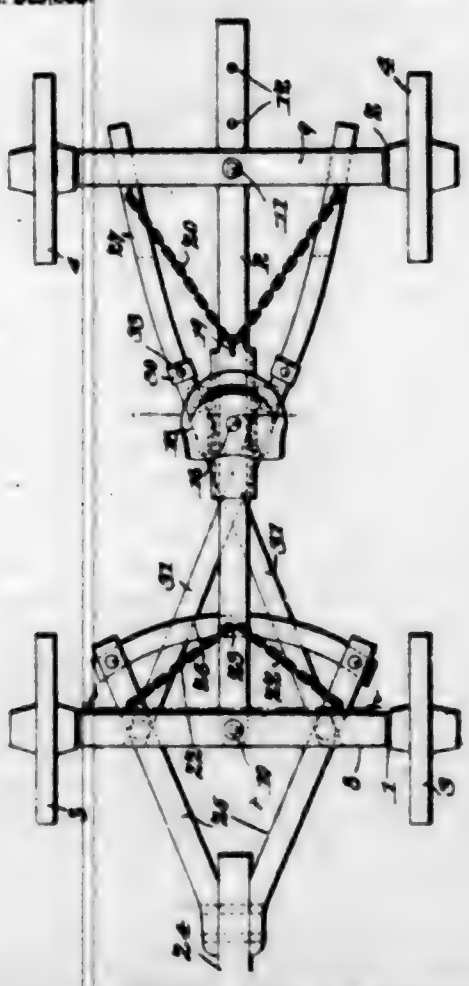
7. An instrument for cutting tubes or rods, comprising a hollow member to receive the article to be cut, and cutter-rods mounted on the exterior wall of said member and having inturned cutting ends projecting into the member to engage the periphery of the article being cut, substantially as described.

8. A cutting instrument of the type described, comprising a hollow member to receive the article to be cut, and having a longitudinal slot in its wall, a gage adjustably mounted in said slot, and cutters carried by said member, substantially as described.

9. A cutting instrument of the type described, embodying a slotted tube, a gage adjustably mounted in the slot of said tube, a slotted arch-shaped plate carried by the tube, and cutting means supported from the tube and lying opposite the plate, substantially as described.

10. In a cutting instrument of the type described, a receiving member for the article to be cut, an adjustable gage carried by said member and forming a support for the article to be cut, and cutters carried by the receiving member adapted to engage the periphery of the article to be cut, substantially as described.

805,310. **RUNNING-GEAR FOR VEHICLES.** VAN BUREN MARTIN and THOMAS R. STEWART, Hopkinsville, Ky. Filed Mar. 13, 1905. Serial No. 249,833.



Claim.—1. In a running-gear of the class described, a front and a rear axle, a reach pivotally connected with said axles the rear axle being longitudinally adjustable upon said reach, a slide movable upon the latter and provided with dovetailed grooves, bound members connected pivotally with the rear axle and having pivoted heads provided with dovetailed flanges working in said grooves, and bars connected pivotally with the front axle, crossing each other, and connected adjustably with the rear bounds.

2. In a running-gear, a rear axle, a reach connected pivotally and adjustably therewith, a slide upon said reach having dovetailed grooves in the side thereof, and bounds connected pivotally with the rear axle and having members engaging the dovetailed grooves in the slide.

3. In a running-gear, an axle, a reach connected pivotally and adjustably therewith, and bound members connected pivotally with the axle and longitudinally slidably with the reach.

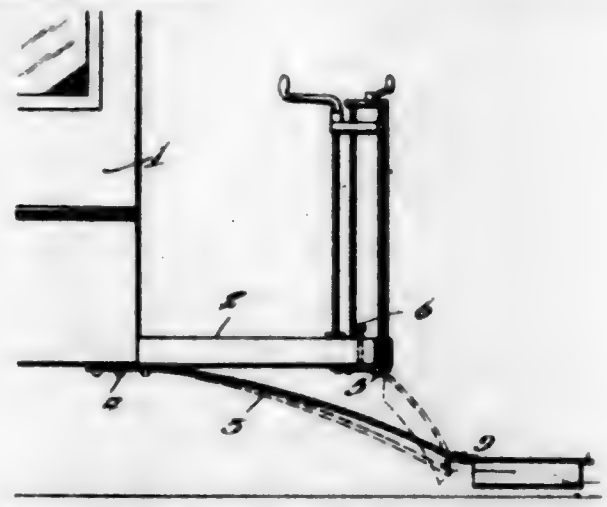
4. In a running-gear, an axle, a reach connected pivotally and adjustably therewith, bounds connected with the axle, and members connected pivotally with the bounds and having slidable groove-and-tongue connection with the reach.

5. In a running-gear, an axle, a reach connected pivotally and adjustably therewith, bounds connected with the axle, a sliding member mounted upon the reach and having dovetailed grooves, and members connected pivotally with the bounds and having tongues engaging said grooves.

6. In a running-gear of the class described a front and a rear axle, a reach pivotally connected with said axles, bounds pivotally connected with the rear axle, a slide adjustable upon the reach and having dovetailed grooves in the sides thereof, members connected with the rear bounds and operating in said dovetailed grooves, crossed members connected adjustably with the rear bounds and pivotally with the front axle, and a seat connected with the adjustable slide by means of the bolt whereby the latter is connected with the reach.

805,311. **FENDER.** JOHN L. MATTHEWS, Hydepark, Mass. Filed Aug. 1, 1905. Serial No. 272,252.

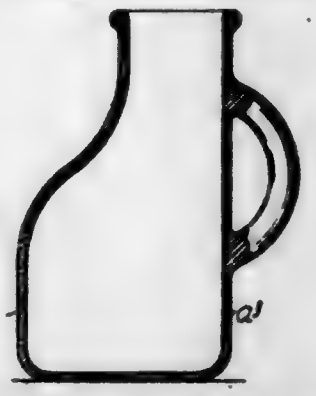
Claim.—1. A fender comprising a rear section and a front section pivotally connected therewith, said rear section including a spring-frame, and the front section having a front buffer element composed of soft rubber.



2. The combination with a car, of a fender secured thereto and including a front folded section, a keeper provided on said section, a catch adapted for engagement with said keeper, and a lever for operating the catch to release the keeper.

3. The combination with a car, of a fender secured thereto and comprising a rear spring-frame connected with said frame, a front section and adapted to fold backward thereon, a catch carried by the car, and a keeper provided on the front section for engagement with the catch.

805,312. **URINAL.** CHRISTIAN W. MEINECKE, Jersey City, N. J., assignor to Whitall Tatum Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 28, 1905. Serial No. 243,111.



Claim.—1. A urinal having a neck and a body, the back, sides and bottom of the latter being substantially flat, and the front side thereof being forwardly bellied, the inner surface of the bellied portion sloping at its upper portion rearwardly toward said neck.

2. A urinal having a neck and a body, the sides of the latter being flat and substantially in parallelism with the longitudinal axis of the urinal, and the bottom of the body being flat and approximately at right angles to said axis, the front side of the body being forwardly bellied and curved, and the bellied portion sloping at its upper portion rearwardly toward said neck.

805,313. **PUMP.** CHARLES W. MCGONIGLE, Walla Walla, Wash., assignor of one-fourth to Lars H. Larson and one-fourth to John Sawbridge, North Yakima, Wash. Filed Mar. 24, 1905. Serial No. 251,323.

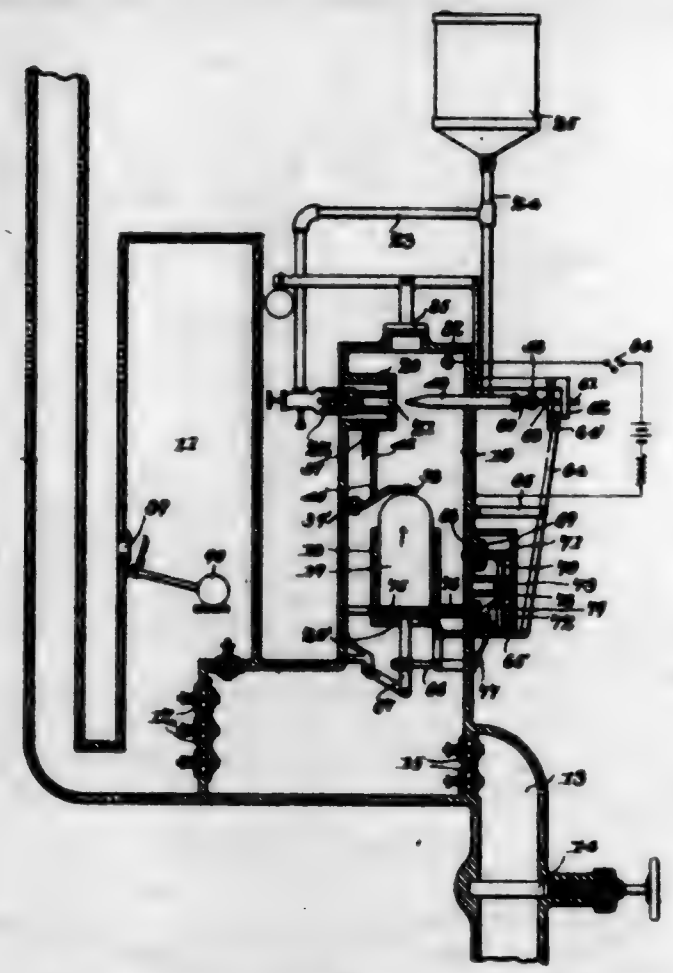
Claim.—1. In pumping mechanism, a pumping-chamber, liquid inlet and discharge openings, means for admitting an explosive charge thereinto, a float-controlled means for igniting the charge, and means for retarding the movement of the float.

2. In pumping mechanism, a pumping-chamber having liquid inlet and discharge openings, means for admitting an explosive charge to the chamber, means for igniting the charge, a float for controlling the operation of the igniting means, and mechanism for retarding the movement of the float until the liquid has reached a predetermined level.

3. In pumping mechanism, a chamber having liquid inlet and discharge openings, means for admitting an explosive charge to the chamber, means for igniting the charge, and a float for controlling the operation of the explosive-charge inlet and igniting means.

4. In pumping mechanism, a pumping-chamber having liquid inlet and discharge openings, a fluid-fuel injector, a float for operating the same, a vaporizer into which the fuel is injected, means con-

trolled by the float for admitting air into the chamber, and means controlled by the float for igniting the explosive charge.



5. In a pumping mechanism, the combination with a chamber having inlet and discharge openings, of a float, means normally restraining the float until the water has reached a predetermined level, a fluid-fuel injector controlled by the float, a vaporizer for the fluid fuel, an air-inlet controlled by the float, and an igniting device also controlled by the float.

6. In a pumping mechanism, the combination with a chamber having liquid inlet and discharge openings, of a normally restrained float, a fluid-fuel inlet, an air-inlet, and an igniting device, and means for connecting all of such mechanism to the float, whereby on upward movement of the latter the fuel will be injected, the air admitted, and the charge exploded in successive order.

7. In a pumping mechanism, the combination with a chamber having liquid inlet and outlet openings, of a nozzle for injecting fluid fuel into the chamber, a supply-tank connected to the nozzle, a spring-closed valve for the nozzle, a plunger arranged in the rear portion of the nozzle, means for adjusting the position of the plunger, and a float arranged within the chamber and to which said plunger is connected.

8. In pumping mechanism, the combination with a pumping-chamber having liquid inlet and outlet openings, of an injecting-nozzle having a spring-closed valve, a tank to which said nozzle is connected, a plunger arranged within the rear end of the nozzle, a spring tending to restore the plunger to the normally open position and permit closing movement of the valve, and a float arranged within the chamber and to which said plunger is connected, whereby on upward movement the plunger and valve will be opened, and a predetermined quantity of fuel will be forced through the nozzle.

9. In a pumping mechanism, the combination with a chamber having liquid inlet and discharge openings, of a fluid-fuel-injecting nozzle, a pipe connecting the same to a source of fuel-supply, a spring-closed valve in the nozzle, a plunger mounted on the rear portion of the nozzle, a threaded stem carried by the plunger, nuts adjustable on the stem, a float, and a lever mechanism connected to the float and adapted to make contact with said nuts, and thereby force the plunger forward within the nozzle to open the valve and discharge a predetermined quantity of fuel from the nozzle.

10. In a pumping mechanism, the combination with a pumping-chamber having liquid inlet and outlet openings, of a fluid-fuel injector, a vaporizer disposed in alinement with the injector, and in the form of an inwardly-projecting open-ended cylinder, means for admitting air to the chamber to mingle with the vapor, means for igniting the explosive charge, and a float for controlling the operation of said mechanisms.

11. In a pumping mechanism, the combination with a chamber having liquid inlet and outlet openings, a fluid-fuel injector, an air-port, a pair of inclined arms adjacent thereto, a wedge-shaped valve slidable between said arms, and the wall of the chamber and serving to close said port, a lug projecting from the valve, and a float operatively connected to said lug.

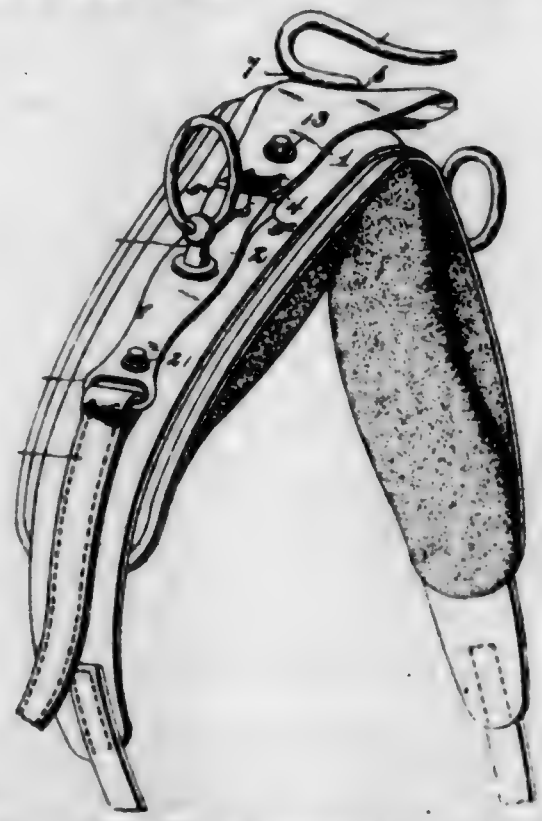
12. In a pumping mechanism, the combination with a pumping-chamber, having liquid inlet and outlet openings, of means for admitting an explosive charge to the upper portion of the chamber, means for exploding the charge, a normally locked valve for controlling the exhaust of a portion of the products of combustion, and a float for locking and unlocking said valve.

13. In a pumping mechanism, the combination with a pumping-chamber having liquid inlet and outlet openings, of means for admitting an explosive charge to the upper portion of the chamber, an igniting means, an exhaust-port for a portion of the products of combustion, a valve normally closing said port, a locking-rod for the valve, an inclined arm forming a cam for engagement with said rod, and a float having a recess or groove for engaging the end of the rod to effect locking and unlocking of said valve.

14. In a pumping mechanism of the class described, the combination with a pumping-chamber having fluid inlet and outlet openings, of a dash-pot disposed within the chamber and having an opening at its lower end, a float arranged within the dash-pot, a float-restraining means, means for admitting an explosive charge to the upper portion of the chamber, means for igniting said charge, and means connecting the float to the explosive-charge-inlet devices, the dash-pot and restraining means serving to retard movement of the float in both directions.

15. In mechanism of the class described, the combination with a pumping-chamber having inlet and discharge openings, of a dash-pot disposed within the chamber, a float within the dash-pot, said float being provided with a groove or recess having tapered walls, a fluid-fuel injector, an air-port, a valve controlling the same, means for connecting the fluid-fuel injector and valve to the float, a valve for controlling the exhaust of a portion of the products of combustion, a stem on said valve, a spring-pressed locking-rod for engaging the stem and provided with a pin or lug, and a rod arranged to engage the groove or recess and provided with a cam-shaped portion to engage with said lug.

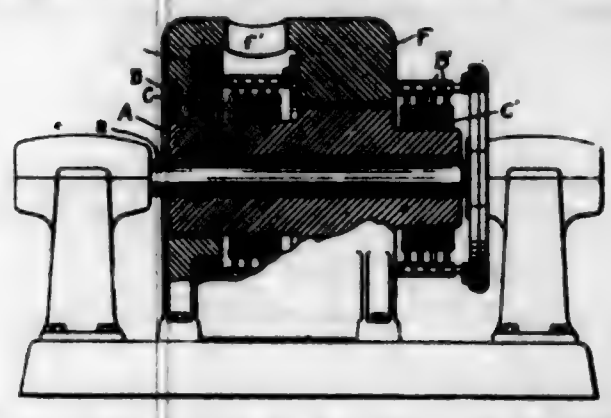
805,314. GIG-SADDLETREE. JAMES MCGUIRE, Belleville, Ill., assignor of one-half to John S. Carson, Belleville, Ill. Filed Sept. 9, 1901. Serial No. 74,838. (Model.)



Claim.—A gig-saddletree comprising a central section having at its lower ends rectangular slots, a side section provided with an opening at its lower end, a hook on the upper end of the side sections, and shoulders contiguous with said hook, the shoulders being arranged one above the other, the upper one of which forms with the hook a recess in which is detachably mounted the cross-bar of the slotted end of the central section, said hook being also detachably mounted in the slot and said lower shoulder being contiguous with said hook and adapted to rest on the upper surface of the said saddle

and serving to prevent displacement of said bar and hook from their respective seats, substantially as specified.

805,315. UNIPOLAR MACHINE. JAKOB B. ROSENBRATH, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 1, 1905. Serial No. 253,256.



Claim.—1. In a dynamo-electric machine, a unipolar field structure, a conducting armature-body rotatably mounted in said field, collector-rings having portions only in contact with said armature-body, the points of contact of said rings being distributed substantially uniformly around the armature, and groups of collecting-brushes bearing on said rings.

2. In a dynamo-electric machine, a unipolar field structure, a conducting armature-body rotatably mounted in said field, collector-rings having portions only in contact with said armature-body, the points of contact of said rings being arranged in spiral curves on the armature-body, and axially-alined groups of collecting-brushes bearing on said rings.

3. In a dynamo-electric mahine, a unipolar field structure, a cylindrical conducting armature-body rotatably mounted in said field, collector-rings having inward projections in contact with said armature-body, said projections being distributed substantially uniformly around the armature, and groups of collecting-brushes bearing on said rings.

4. In a dynamo-electric machine, a unipolar field structure, a cylindrical conducting armature-body rotatably mounted in said field, collector-rings having inward projections in contact with said armature-body, said projections being arranged in spiral curves on the armature-body, and axially-alined groups of collecting-brushes bearing on said rings.

805,316. ART OF PRODUCING METALLIC IRIDIUM. HERSCHEL C. PARKER, New York, N. Y., assignor to Parker-Clark Electric Company, Jersey City, N. J., a Corporation of New Jersey. Filed June 21, 1905. Serial No. 266,234.

Claim.—1. The herein-described improvement in the art of producing metallic iridium, which consists in mixing the iridium compound in powder form with a reducing agent, placing the powder on a refractory substance and then heating the substance so as to drive off the volatile matter and leave the metallic iridium on the refractory material.

2. The improvement in the art of producing metallic iridium which consists in mixing compounds of iridium chlorin and ammonium with an ammonium compound and then heating the mixture whereby the volatile matter is driven off and the iridium deposited in a coherent metallic form.

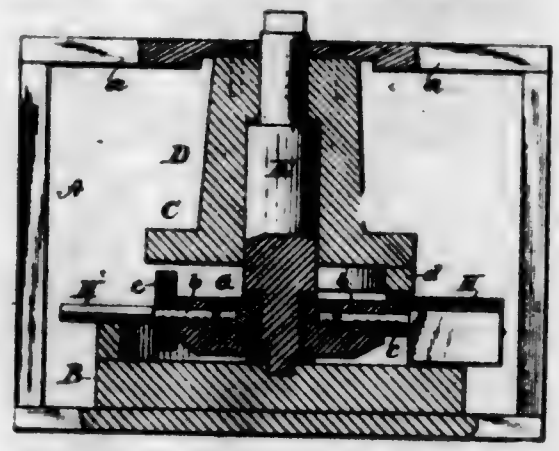
3. The improvement in the art of producing metallic iridium which consists in mixing compounds of iridium chlorin and ammonium with an excess of ammonium chlorid and then subjecting the mixture to heat whereby the volatile matter is driven off and coherent metallic iridium is deposited.

4. The improvement in the art of producing metallic iridium which consists in subjecting an iridium compound to a high heat in the presence of an ammonium compound whereby the volatile matter is driven off and coherent metallic iridium in sheet form is deposited.

5. The herein-described improvement in the art of producing metallic iridium which consists in mingling compounds of iridium ammonium and chlorin with an ammonium compound and then subjecting the mass to sufficient heat to drive off the volatile matter thereby depositing coherent metallic iridium.

6. The herein-described improvement in the art of producing metallic iridium which consists in mingling iridium-ammonium chlorid with a volatile reducing agent, confining the mass in a refractory substance, and then heating said refractory substance, thus driving off the volatile matter and depositing the iridium in metallic form.

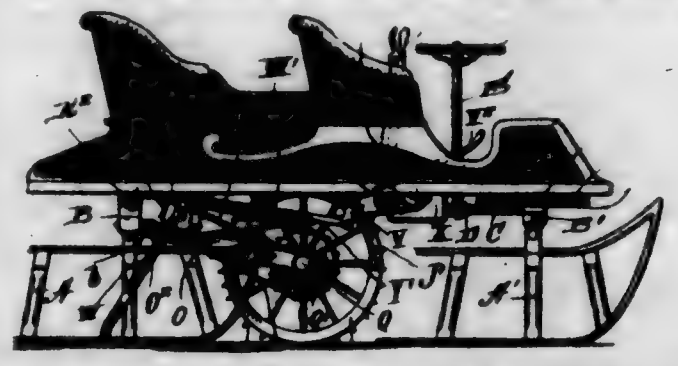
805,317. CURRENT-MOTOR. HIRAM D. PERRY, Glenwood Springs, Colo. Filed Apr. 1, 1905. Serial No. 253,317.



Claim.—1. In a feathering water-wheel of the character described, the combination, with the frame, of the large round hub and disk connected with the bottom; the stationary disk at the base; the shaft extended through the hub and stepped in the stationary disk; the rotary central disk, movable blades or buckets provided with journal-shafts set radially in the edge of the rotary disk; and cams on the disk of the hub and the stationary disk for acting on the flights or buckets to actuate them, as set forth.

2. In a feathering water-wheel of the character described, the combination, with the frame, of the large round hub and disk connected with the bottom; the stationary disk at the base; the shaft extended through the hub and stepped in the stationary disk; the rotary central disk, movable blades or buckets provided with journal-shafts set radially in the edge of the rotary disk; blocks on the journal-shafts and cams on the disk of the hub and the stationary disk for acting on the said blocks of the journal-shafts of the flights or buckets to actuate them, as set forth, one edge of the flights or buckets being sharpened.

805,318. APPARATUS FOR PORTABLE SLEIGHS. ALANSON K. RANDELL, Old Orchard, Me. Filed May 5, 1905. Serial No. 259,075.



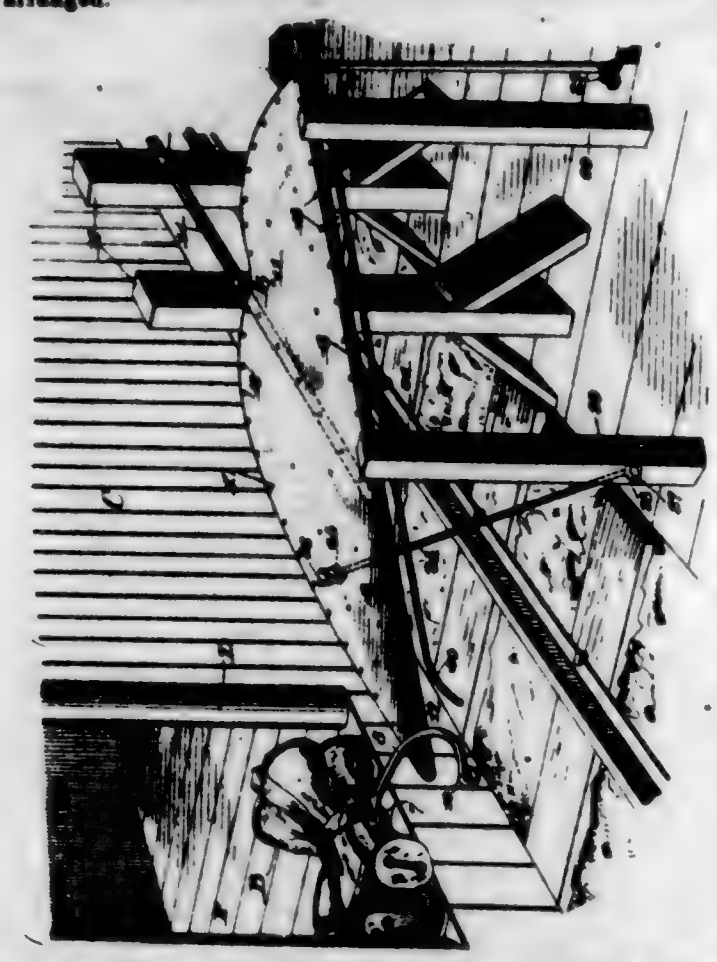
Claim.—1. A motor-sleigh comprising, in combination with the bobs, a platform connecting the same, a driving-wheel, a pivotally-mounted rack on which said wheel is mounted, springs secured to the platform of the sleigh and bearing against the rack carrying said driving-wheel, a shaft mounted upon the platform, chains adapted to wind upon said shaft passing over suitable pulleys and connected with said rack, and means for rotating said shaft, as set forth.

2. A motor-sleigh comprising, in combination with the bobs, a platform connecting the same, a driving-wheel, a pivotally-mounted rack on which said wheel is mounted, springs secured to the platform of the sleigh and bearing against the rack carrying said driving-wheel, a shaft mounted upon the platform, chains adapted to wind upon said shaft passing over suitable pulleys and connected with said rack, means for rotating said shaft, pivotal brake-levers mounted upon the sleigh, a brake-shaft journaled in suitable bearings upon the sleigh, and rod connections between said brake-shaft and brake-levers, as set forth.

805,319. MAIL-BAG CATCHER. ROBERT M. REAY, Hamilton, and MICHAEL LALLY, North Lawrence, Ohio. Filed June 6, 1905. Serial No. 264,824.

Claim.—1. A mail-bag catcher embodying a pivoted platform

having one edge disposed obliquely to the truck adjacent to which it is arranged.



2. A mail-bag catcher embodying a pivoted platform having one edge disposed obliquely to the track adjacent to which it is arranged, and a guard disposed parallel with the said edge.

3. A mail-bag catcher embodying a platform supported for swinging movement from vertical to horizontal position, and means for locking it in the latter position.

4. A mail-bag catcher embodying a platform mounted for swinging movement from a vertical to horizontal position, a keeper detachably combined with the rear part of the platform to hold it in horizontal position, and a brace-rod for holding the platform against lateral movement.

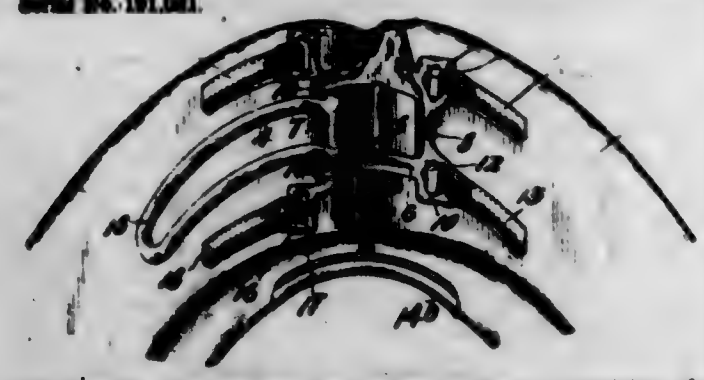
5. A mail-bag catcher comprising a platform having one end reduced to constitute a nose, and having one side disposed obliquely to the track adjacent to which the platform is mounted.

6. A mail-bag catcher comprising a platform having one end reduced to constitute a nose, and having one side disposed obliquely to the track adjacent to which the platform is mounted, and a guard spaced from and disposed parallel with one edge of the platform.

7. The combination with a railway-car, provided with a doorway, of a shield arranged at the doorway and disposed parallel with the floor and disposed obliquely to the side of the car.

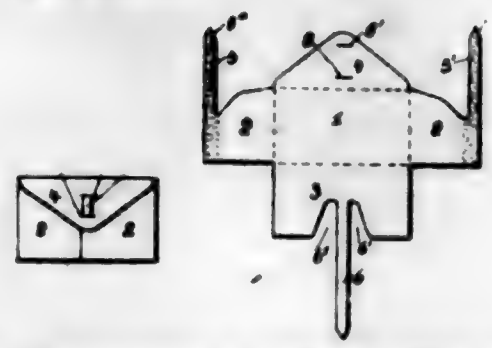
8. The combination with a railway-car provided with a doorway, of a hinged shield arranged at the doorway and disposed parallel with the floor and detachable means for holding the shield in oblique position relatively to the side of the car.

805,320. COLLAR-FASTENER. ADAM REMP, Middletown, Del., assignor to Joseph C. Parker, Middletown, Del. Filed Jan. 28, 1904. Serial No. 191,081.



Claim.—The herein-described collar-fastener comprising the keeper member and the coupling member, the latter comprising the cross-bar having the pair of eyes at its ends, offset laterally therefrom and projecting in the same direction from one side thereof, said rod having the cams at the inner ends of the eyes forming lateral offsets on the rod, projecting in the opposite direction from the eyes, and acting to rock upon the collar, and the lever having one end united to the cross-bar between and spaced from the eyes, the said lever extending from the cross-bar in the same general direction as the eyes.

805,321. ENVELOP. GEORGE H. RENNO, East Pittsburg, Pa., assignor of one-half to Frank Stewart, Wilkinsburg, Pa. Filed June 2, 1905. Serial No. 263,427.

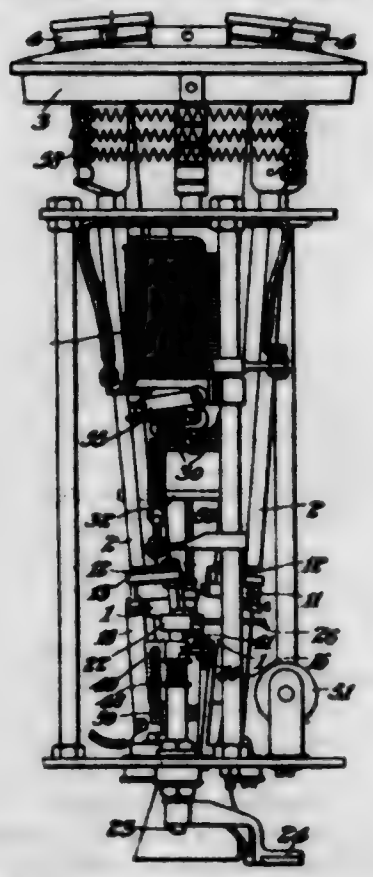


Claim.—1. An envelop of the character described consisting of a body portion having end flaps, a side flap and a sealing-flap, said sealing-flap having slots formed therein, upwardly-extending tongues carried by said end flaps, a tongue carried centrally of said side flap, adhesive material carried by said tongues, said tongues being adapted to be passed through the slots of said sealing-flap and secured within said envelop, substantially as described.

2. An envelop of the character described comprising a body portion having end flaps, a side flap and a sealing-flap, said sealing-flap having slots formed therein, tongues carried by the other of said flaps and adapted to be secured together, said tongues being passed through said slots and secured within said envelop, substantially as described.

3. An envelop of the character described comprising a body portion having end flaps, a side flap and a sealing-flap, said flaps being adapted to be folded upon one another, tongues carried by said end flaps, a tongue carried by said side flap, the tongues of both the end flaps and side flap overlapping and adapted to extend within said envelop, means to secure said tongues together, and means to secure said tongues within said envelop, substantially as described.

805,322. ELECTRIC-ARC LAMP. WILLIAM B. RIDINGS, Stretford, England, assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Mar. 1, 1904. Serial No. 196,036.



Claim.—1. In an electric-arc lamp, a holder for containing an electrode in operative position, and a magazine comprising a number of independent compartments or receptacles arranged around a common center and containing electrodes, a spring adapted to cause an automatic, periodical and partial rotation of the magazine when

the operating-electrode has been consumed to a predetermined extent, a magnet adapted to be energized by the effect of an abnormal resistance in the formation of the arc and a core for the said magnet, the said core being so related to the said spring as to compress the latter when the said magnet is energized.

2. An electric-arc lamp having electrodes feeding by gravity upon the release of a clutch operated by electromagnetic means, the coils for operating the feeding mechanism being cut out by a shunt-wound electromagnet when the arc is struck or when the arc does not exceed the normal length, the shunt-wound magnet having an armature, by means of which the circuit of the electrode-feeding coils is both opened and closed.

805,823. WAGON-BOX ROD. JOHN G. RIEFF, London, Wis. Filed June 22, 1905. Serial No. 266,494.



Claim.—1. In a device of the character described, the combination with a locking-rod having a right-angularly disposed lug formed on one end, means arranged on one side of the wagon with which said lug is adjustably engaged and means connected to the opposite ends of the rod to clamp the sides of the wagon-body together on said rod, substantially as described.

2. In a device of the character described, the combination with a locking-rod having a right-angularly-disposed lug formed on one end, a keeper-plate secured to one side of the wagon, graduated notches formed in said plate to receive said lug, and a clamping-lever pivotally connected to the opposite end of said rod to engage the opposite side of the wagon, substantially as described.

3. In a device of the character described, the combination with a locking-rod having a right-angularly-disposed lug formed on one end, a keeper-plate secured to one side of the wagon, said plate having formed thereon a boss, in which is formed an annular series of graduated radially-disposed notches to receive said lug, and a clamping-lever pivotally connected to the opposite end of said rod, to engage the opposite side of the wagon, substantially as described.

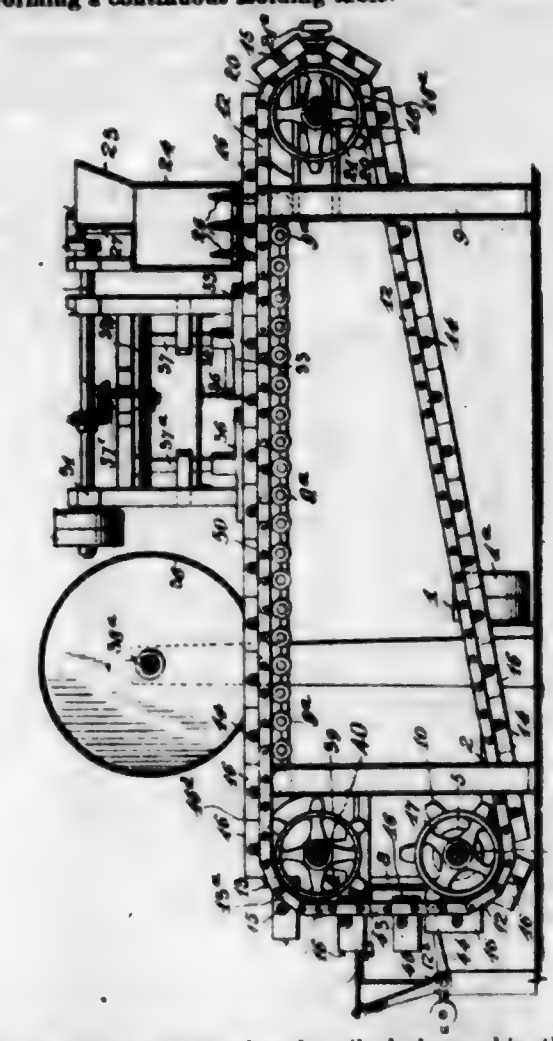
4. In a device of the character described, the combination with a locking-rod having a right-angularly-disposed lug formed on one end, a keeper-plate secured to one side of the wagon, said plate having formed thereon a boss in which is formed an annular series of graduated, radially-disposed notches to receive said lug, a clamping-lever, and offset right-angularly-disposed fulcrum-lugs formed on said lever one of said lugs having formed therein a series of apertures whereby said lever is adjustably connected to the opposite end of said rod, substantially as described.

5. In a device of the character described, the combination with a locking-rod having a right-angularly-disposed lug formed on one end, a keeper-plate secured to one side of the wagon, said plate having formed thereon a boss, an annular series of graduated surfaces formed on said boss said surfaces having formed therein radially-disposed notches to receive the lug on said locking-rod, a clamping-lever pivotally connected to the opposite end of said rod, means whereby said lever is adjustably pivoted on said rod, fulcrum-lugs formed on said lever, a stop-lug also formed on lever and a wear-plate against which said lugs are adapted to bear, substantially as described.

805,824. MOLDING APPARATUS. JOSEPH ROBIN-LANGLOIS, Paris, France. Filed Mar. 2, 1905. Serial No. 248,091.

Claim.—1. A rectilinear molding-machine of the character described, comprising sprocket-wheels 39, 39', sprocket-chains 12, 12' passed around said wheels and having links 13, 13', a plurality of mold-sections 16, alining trunnions 15, 15' upon the ends of said mold-sections above their centers of gravity, whereby said mold-sections will be maintained in a horizontal position when said chains pass around said wheels, said mold-sections forming a continuous mold-surface and being supported by the links, in order to facilitate the rupture or separation of the contents of each mold-section from that of the next adjacent one, substantially as shown and described.

2. In a machine of the class described, the combination of direction elements, an endless flexible carrier passed over the direction elements and having a horizontal lead and a vertical lead and mold-sections independently pivotally connected to the carrier and each having a weight to keep it in a horizontal position, said mold-sections forming a continuous molding-table.



3. In a machine of the class described, the combination of direction elements, an endless flexible carrier passed over the direction elements and having a horizontal lead and a vertical lead, and mold-sections independently pivotally connected to the carrier and forming a continuous molding-table, means to maintain said mold-sections in a horizontal position, means to feed material to the mold-sections on the horizontal lead of the carrier and means to eject the contents of the mold-sections on the vertical lead of the carrier.

4. In a machine of the class described, the combination of an endless traveling carrier, independently pivotally-mounted mold-sections carried by the carriers and forming a continuous molding-table, means to maintain said mold-sections in a horizontal position, means to feed material to the mold-sections, and automatically-operating means controlled by the movement of the endless carrier to eject the contents of the mold-sections successively.

5. A molding-machine comprising an endless carrier having a horizontal and a vertical stretch, mold-sections pivotally mounted upon said carrier and adapted to form a continuous molding-table upon the horizontal stretch of said carrier, said sections being so pivoted as to be maintained in a horizontal position upon the vertical stretch of said carrier, and means for ejecting or removing the contents of said mold-sections upon the vertical stretch of said carrier.

6. A mold-machine comprising an endless carrier having a horizontal and a vertical stretch, mold-sections pivotally mounted upon said carrier and adapted to form a continuous molding-table upon the horizontal stretch of said carrier, said sections being so pivoted as to be maintained in a horizontal position upon the vertical stretch of said carrier, means for feeding sugar or other material upon said molding-table, means for spreading and leveling said sugar, means for compressing said sugar, and means for ejecting or removing the contents of said mold-sections.

7. A mold-machine comprising a suitable support or frame, three sets of sprocket-wheels mounted in triangular relation upon said frame, two of said sets being in vertical alinement and two in horizontal alinement, sprocket-chains passing around said wheels to form horizontal and vertical stretches, mold-sections pivotally suspended from said chains, said sections being adapted to form a continuous molding-table upon the horizontal stretch of said chains and to maintain a horizontal position upon the vertical stretch of said chains, removable plates upon said mold-sections, a feed-hopper, a rake in said hopper, a spreader device, a pressure-roller, and means

for removing or ejecting said plates from said mold-sections, substantially as shown and described.

8. In a mold-machine, the combination of an endless carrier, mold-sections mounted thereon, removable plates upon said mold-sections, and means for removing said plates from said mold-sections, said means comprising a stop to lift said plates from said mold-sections, a sliding element to remove said plates from said stop, and means actuated by said carrier for operating said sliding plate, substantially as described.

805,825. MACHINE FOR TREATING IMPREGNATED FABRICS TO PRODUCE INCANDESCENT GAS-MANTLES. JOSEPH T. ROBIN, New York, N. Y. Filed Aug. 23, 1901. Serial No. 72,894.



Claim.—1. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a traveling support, a series of treating devices for the structure, and means for intermittently presenting the structure for treatment, said means comprising a continuously-moving chain and an independent chain geared with the traveling support and moved at intervals by the continuously-moving chain.

2. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a plurality of endless chains having means for supporting the structure, means consisting of a continuously-operating chain carrying bars, and a single chain having projections with which the bars engage for intermittently operating said single chain, and a series of treating devices, each adapted to perform a step in the manufacture of the incandescent mantle.

3. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a traveling support for said structure, mechanism for intermittently moving said traveling support, means for destroying the fabric and for causing an oxidation of the said substance, other means for hardening the oxidized substance and for shaping the structure, which means are raised to and lowered from the traveling support, a device for carrying a stiffening solution also adapted to be raised to and lowered from the traveling support, and other means for trimming the structure and removing it from the traveling support.

4. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a traveling support comprising a plurality of carrier-bars from each of which a structure is suspended, a series of devices each adapted to perform a step in the manufacture of the incandescent mantle, and means for moving said traveling support to present the structure to said devices successively and for moving the devices to and away from the carrier-bars.

5. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a traveling support, a series of devices for treating the structure to produce an incandescent mantle, movable tables on which some of said devices are mounted and means for intermittently moving said traveling support and for raising and lowering the said movable tables toward and away from the traveling support, said means comprising a continuously-operating chain having bars, a series of separate chains each having projections with which the said bars engage, and suitable connections between said individual chains and the traveling support and movable tables.

6. In a machine for treating structures to produce incandescent mantles originally consisting of fabrics impregnated with a suitable substance, the combination of a traveling support, comprising a plurality of carrier-bars for the structures, a series of treating devices, each adapted to perform a step in the manufacture of the incandescent mantle, and means for intermittently moving the traveling support to present the structures to the treating devices successively and for moving each of the devices to and away from each carrier-bar, comprising a continuously-moving endless chain carrying a number of bars and a plurality of independent chains each carrying a number of projections which are engaged by said bars.

7. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a traveling support comprising a plurality of carrier-bars from each of which a structure is suspended, a series of treating devices each adapted to perform a step in the manufacture of the incandescent mantle comprising movable tables, a pair of rods connected with each movable table, and means for moving each of said tables to and from the structures, said means consisting of a shaft carrying cranks, which cranks are connected to the rods of its table, and gearing for rotating the shafts intermittently.

8. A machine for treating structures to produce an incandescent mantle originally consisting of fabrics impregnated with suitable substances, having endless chains, bars connected with and extending between the chains, a series of suspension devices carried by said bars, in combination with a series of treating devices, each adapted to perform a step in the manufacture of the incandescent mantles and comprising movable tables carrying treating devices arranged to move toward and away from the suspension devices.

9. In a machine for treating structures to produce incandescent mantles originally consisting of fabrics impregnated with suitable substances, the combination of a plurality of endless chains, carrier-bars connected with and extending between the chains and having means for suspending the structures, means for intermittently moving the chains, and a series of treating devices each adapted to perform a step in the manufacture of the incandescent mantles.

10 In a machine for treating a structure to produce an incandescent mantle originally consisting of fabric impregnated with a suitable substance, the combination of chains, means for intermittently moving the said chains, rods intermediate said chains, carrier-bars for the structure hung from said rods, and a series of treating devices, each adapted to perform a step in the manufacture of the incandescent mantle.

11. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a traveling support, a suspension device for the said structures carried by the traveling support and comprising an arm and a pivoted hook which coacts with said arm, and a series of treating devices each adapted to perform a step in the manufacture of the incandescent mantle.

12. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a plurality of endless chains, means for intermittently moving said chains, rods extending between the chains, carrier-bars pivotally hung from each rod, suspension devices carried by each of said bars, each suspension device comprising an arm and a pivoted hook which coacts with said arm, and a series of treating devices, each adapted to perform a step in the manufacture of the incandescent mantle.

13. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a

suitable substance, the combination of a plurality of endless chains, means for intermittently moving said chains, means connected therewith for suspending the structure, a suspension device for the structure supported by said means, comprising an arm and a pivoted hook which coacts with said arm, a series of treating devices each adapted to perform a step in the manufacture of the incandescent mantle, a trimming mechanism, and means carried by said trimming mechanism which engage with the said hook for moving the hook on its pivot and disengaging it from the structure whereby the structure will drop into position to be acted upon by the trimming mechanism.

14. In a machine for treating structures to produce incandescent mantles originally consisting of fabrics impregnated with suitable substances, the combination of a traveling support comprising carrier-bars and suspension devices, a series of treating devices, and means comprised in said devices which engage with the carrier-bars for centering them in order to properly present the structures for treatment.

15. In a machine for treating structures to produce incandescent mantles originally consisting of fabrics impregnated with suitable substances, the combination of a plurality of chains, means for intermittently moving said chains, rods intermediate the chains, carrier-bars pivotally hung rom said rods, suspension devices for the structures provided on said carrier-bars a series of treating devices to which the bars are moved comprising movable tables, and means carried by each movable table for centering the carrier-bar adjacent to it in order to properly present the structure to the treating device.

16. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a traveling support, a plurality of carrier-bars connected therewith, means for intermittently moving the traveling support, a series of treating devices each adapted to perform a step in the manufacture of the incandescent mantle comprising movable treating devices, burners comprised in said devices, a gas-supply and an air-supply for such burners, a valve for separately controlling the air-supply and the gas-supply of the burners comprised in the movable treating devices, means for moving said movable treating devices toward and away from the carrier-bars, and means for opening and closing the valves of the air-supply and gas-supply of the movable treating devices.

17. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a plurality of endless chains, means for intermittently moving said endless chains, means connected therewith for suspending the structure, a series of treating devices each adapted to perform a step in the manufacture of the incandescent mantle, and a mantle-trimming mechanism, said mechanism comprising a mandrel, a knife for the mandrel and a bar carrying said knife and in engagement with the mandrel, which bar is adapted to be reciprocated and in its reciprocation to rotate the mandrel.

18. In a machine for treating structures to produce incandescent mantles originally consisting of fabrics impregnated with suitable substances, the combination of a traveling support having means for suspending a plurality of structures, means for intermittently moving said traveling support, a series of treating devices comprising movable tables, means for raising and lowering the movable tables, and counterbalance-weights connected with such movable tables.

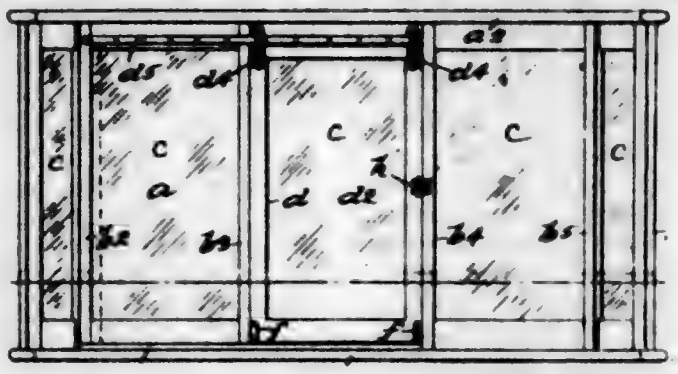
19. In a machine for treating structures to produce incandescent mantles originally consisting of fabrics impregnated with a suitable substance, the combination of a series of treating devices and a traveling support for the structures, said traveling support consisting of a plurality of endless chains, carriers between the chains, independent suspension devices connected with the carriers, and means for adjusting the suspension devices in such carriers.

805,326. CAR-VESTIBULE. JOHN P. SJOBERG and HENRY L. FOUGERON, New York, N. Y.; said Fougeron assignor to said Sjoberg. Filed July 31, 1905. Serial No. 271,899.

Claim.—1. A car-vestibule, comprising an angular frame composed of a plurality of plain surfaces, and a sash slidably movable from one of said plain surfaces to another thereof, substantially as shown and described.

2. A car-vestibule, comprising an angular frame composed of a plurality of plain surfaces, and a sash slidably movable from one of said plain surfaces to another thereof, said sash being supported on an overhead track arranged in said frame, substantially as shown and described.

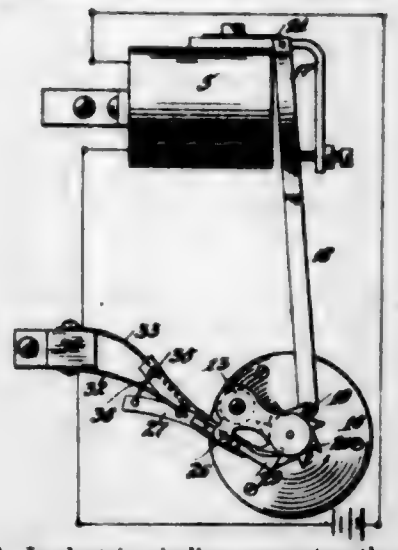
3. A car-vestibule, comprising an angular frame composed of a plurality of plain surfaces, and a sash slidably movable from one of said plain surfaces to another thereof, said sash being supported on an overhead track arranged in said frame, and being held thereon by means of swivel-hangers, substantially as shown and described.



4. In a car-vestibule composed of a plurality of plain surfaces or faces, an angular track, a sash, and swivel-hangers secured to said sash and onto said track, substantially as shown and described.

5. In a car-vestibule composed of a plurality of plain surfaces or faces, an angular track, a sash, and swivel-hangers secured to said sash and onto said track and antirattling devices arranged on the bottom of said sash adapted to guide the same in the movement thereof, substantially as shown and described.

805,327. ELECTRIC SELF-WINDING CLOCK. CHARLES F. A. STURTS, San Francisco, Cal. Filed June 3, 1904. Serial No. 211,064.



Claim.—1. In electric winding apparatus, the combination with an arbor of a timepiece, of a winding barrel and spring for actuating said arbor, an open electric circuit, a magnet and armature in the circuit adapted to give winding impulses to said barrel and spring, a controller comprising a recessed wheel fixed on the arbor, a guard-wheel loosely connected to the controller and having similar recesses normally out of register with the recesses in the controller, a pivoted lever carrying at one end a contact and at the other a detent, and a second contact; the detent being adapted to arrest the guard-wheel and so permit the said recesses to register, and then to enter the associated recesses and thereby cause the making of the contact.

2. In electrical winding apparatus, the combination with the arbor of a timepiece, of a controlling-wheel fixed upon said arbor and a guard-wheel loosely mounted alongside of and loosely connected to the controlling-wheel, the controlling-wheel having a circular periphery broken by recesses, and the guard-wheel having peripheral angles and broken by recesses; and a spring tending to keep the recesses in the guard-wheel out of alinement with those in the controlling-wheel.

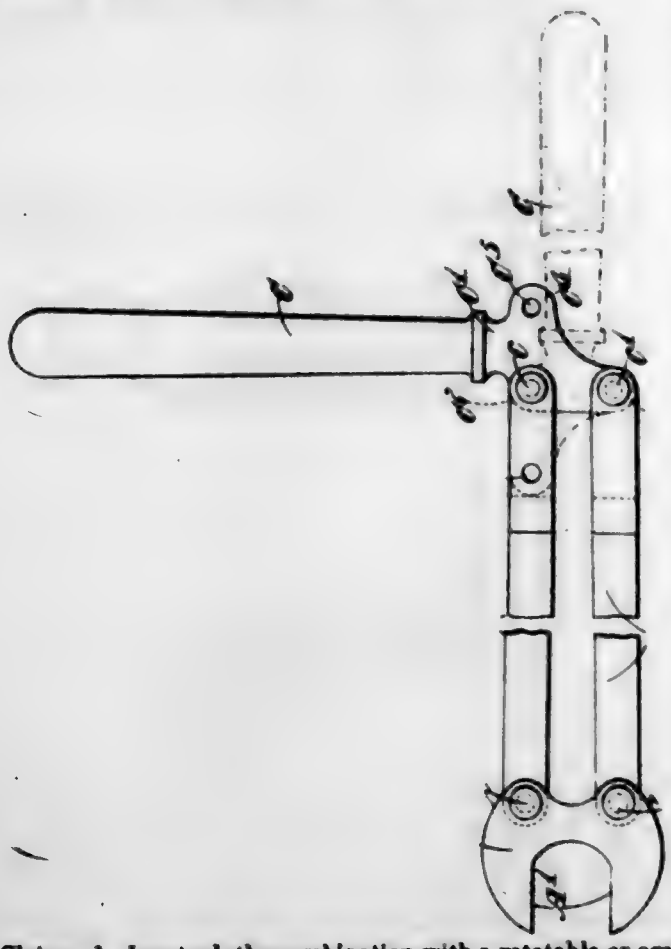
3. In an electric winding apparatus, the combination with a timepiece-arbor, of a spring-barrel having a ratchet-rim the teeth of which are beveled on one side, an electromagnet, an armature having an elastic arm capable of moving sidewise from its operative line of motion, and a beveled projection on the side of said arm adapted to actuate the ratchet and to move backward and sidewise over the beveled face of the ratchet-teeth.

4. In electricdl winding apparatus, the combination of the following elements: a timepiece-arbor, a winding spring and ratchet, means for giving successive impulses to the ratchet, a recessed wheel on the arbor, a guard-wheel loosely connected thereto, and also recessed, a spring-pressed arm having a detent and carrying a contact, another spring-pressed arm having a pawl for engaging the ratchet,

and a contact carried by said last-named arm; all constructed and arranged for the performance of the following operations: the alinement of the two recessed wheels, the entrance of the detent into two alined recesses thereof causing the making of the contacts and a movement of the ratchet, the riding of the pawl outwardly upon a tooth of the ratchet causing an increased pressure between the contacts and the retreat of the detent, the springing of the pawl in behind the said tooth of the ratchet causing the breaking of the contacts, and the reestablishment of the recessed wheels with their recesses out of alinement.

5. A controller for electrical winding apparatus, comprising in combination with an arbor of a timepiece, a recessed wheel fixed on said arbor, a loose guard-wheel also recessed and having a pin-and-slot connection with said wheel, a spring bearing on the pin and tending to keep the recesses in the two wheels out of alinement, and a detent for arresting the guard-wheel whereby the recesses can come into alinement and admit said detent.

805,328. **TOOL.** PERCY G. TACCHI and ALFRED J. JUNG, London, England. Filed Dec. 5, 1904. Serial No. 235,615.



Claim.—1. In a tool, the combination with a rotatable or oscillating head adapted to turn around the axis of the work and means connected to the head for engaging with the work, of a lever rotatable around an axis eccentric of the axis of rotation of the head, and means connected to the lever and to the head eccentric of their axes of rotation to transmit to the head the angular movement of the lever.

2. In a tool, the combination with a rotatable or oscillating head, of an operating-handle turning on an axis eccentric of the axis of rotation of the head, and rods engaging with the head and lever eccentric of their axes of rotation for the purpose described.

3. In a tool, the combination with a rotatable or oscillating head and means connected thereto for engaging with the work, of an operating-handle turning on an axis eccentric of and parallel to the axis of rotation of the head, and links operatively connecting the head and handle together to transmit to the head the angular movement of the handle.

4. In a tool, the combination with a rotatable or oscillating head and means for engaging with the work, of a lever having its axis of rotation situated at a point distant from the axis of rotation of the head and parallel to that axis, and links connected to the lever and engaging with the head to transmit thereto the rotative movement of the lever.

5. In a tool, the combination with a head adapted to rotate around the axis of the work, and means whereby the head engages with the work, of a lever rotatable around an axis distant from the axis of rotation of the head, and links engaging the head eccentric of its axis of rotation to transmit thereto the angular movement of the lever.

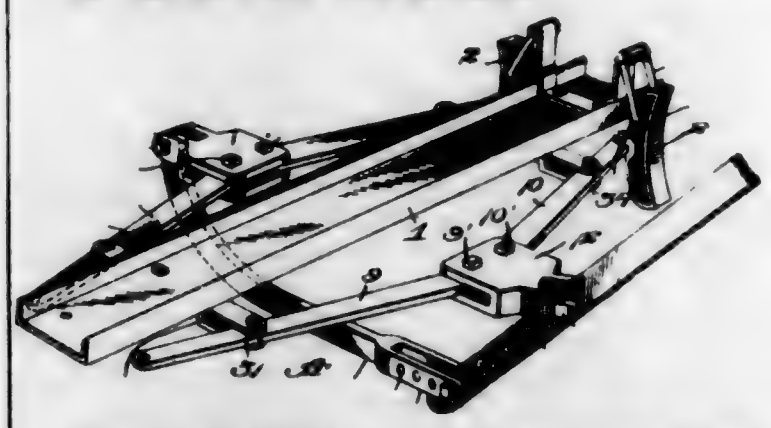
6. In a tool, the combination with a head having means for engaging with the work and rotatable around the axis of the work, of a lever rotatable around an axis parallel to and eccentric of the axis of rotation of the head, and two links pivoted to the head eccentric of its axis of rotation and pivoted also at their other ends to the lever eccentric of its axis of rotation.

7. In a tool, the combination with a rotatable or oscillating head, of a lever normally rotatable upon an axis situated at a point distant to the axis of rotation of the head, means connecting the lever to the head to transmit thereto the angular movement of the lever and means for connecting the handle to the head whereby both handle and head turn around the same axis substantially as and for the purpose described.

8. In a tool, the combination with a rotatable or oscillating head adapted to engage with the work, of two links pivoted to the head eccentric of its axis of rotation, a lever pivoted to the links at points eccentric of its axis of rotation and means whereby the lever can be locked to the links so that both head and lever rotate around the axis of rotation of the former.

9. In a tool, the combination with a rotatable head having means for engaging with the work, of a block surrounding the head, a one-way-acting clutch between the head and the block, two links pivoted to the block eccentric of the axis of rotation of the head, an operating-lever adapted to turn upon an axis eccentric of the axis of rotation of the head, lugs on the lever, pivot-pins detachably connecting the links to the lugs and an additional lug for locking the lever to the links whereby the lever and the head will rotate around the axis of rotation of the latter.

805,329. **BRAKE MECHANISM.** CASSIUS D. THOMAS, Moberly, Mo. Filed Nov. 1, 1904. Serial No. 230,864.



Claim.—1. In a brake mechanism, the combination of a support, opposite sets of divergently-arranged brake-levers fulcrumed to said support, brake-heads movably connected with the support and pivotally attached to the outer ends of the sets of divergent levers, twin fulcrums attached to the inner ends of the said sets of divergent levers, an operating-lever pivoted to one of said fulcrums, and a bar or rod pivoted at one end to the other fulcrum and at the opposite end to the operating-lever.

2. In a brake mechanism, a supporting-beam, lever-carriers extending transversely of the beam and provided with terminal fulcrums at opposite sides thereof, opposite sets of brake-levers mounted upon said terminal fulcrums, a fulcrum-piece pivotally connecting the levers of each set, a lever pivotally connected with one of the fulcrum-pieces, and a connecting member extending transversely of the beam and pivotally connected with said lever and the other fulcrum-piece.

3. In a brake mechanism, two sets of divergent levers, a single operating-lever connected to one set, and a direct connection between the operating-lever and the other set, whereby the movement of the single operating-lever will actuate both sets of brake-levers.

4. In a brake mechanism, a supporting-beam, sets of brake-levers disposed on opposite sides of said beam, means for directly operating one of said sets of brake-levers, and means extending transversely of said beam and forming a direct operating connection between said means and the other set of brake-levers.

5. Two sets of direct brake-levers, fulcrum devices connecting said levers, a bottom bar or rod directly pivoted to one of said fulcrum devices, and a lever directly pivoted to the other fulcrum device and to the said bottom bar or rod.

6. In a brake mechanism, a pair of direct brake-levers, an operating-lever, and a twin fulcrum-block operatively connecting said levers.

7. In a brake mechanism, two sets of divergent brake-levers, fulcrum-pieces connecting the levers of each set, an operating-lever

directly connected to one of said fulcrum-pieces, and a rod or bar directly connecting said lever with the other fulcrum-piece.

8. In a brake mechanism, a fulcrum-block having opposite forked portions, direct brake-levers pivotally mounted in one of said forked portions, and an operating-lever pivotally mounted in the other forked portion.

9. In a brake mechanism, the combination of a support, opposite sets of divergent direct brake-levers, twin fulcrum-blocks operatively connecting the levers of each set, an operating-lever pivoted to one of said blocks, and a direct connection between said lever and the other block.

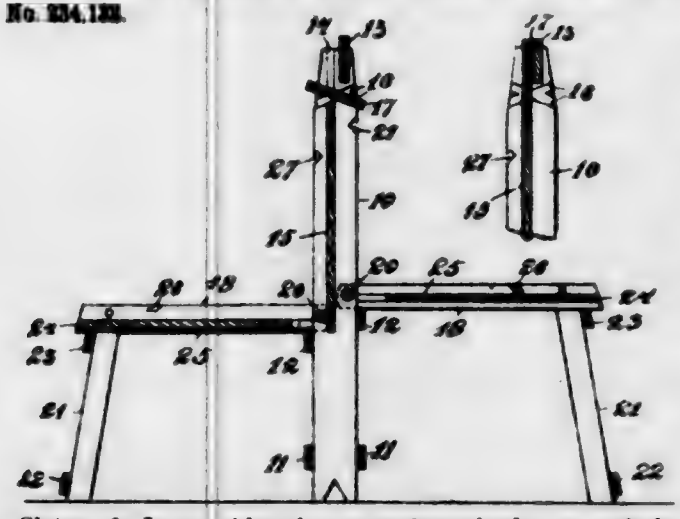
805,330. FASTENING DEVICE FOR MATTRESSES. DANIEL I. TOMPKINS, New York, N. Y. Filed May 18, 1905. Serial No. 260,936.



Claim.—1. A mattress provided with longitudinal strips secured to the bottom side portions thereof and adapted to be folded around the opposite side edges of a bed-spring, and means for securing said strips to said spring, consisting of a bar passed through pockets in said strips and hooks connected with said bars and adapted to engage said spring, substantially as shown and described.

2. A mattress having longitudinal flexible strips secured to the bottom side edges thereof and provided with longitudinal pockets, a rod or bar passed through said pockets, and hooks connected with said rod or bar and adapted to be connected with a bed-spring, substantially as shown and described.

805,331. COMBINATION-WASHBENCH. ADDAH T. WILCOX, Jamestown, N. Y., assignor of one-half to Edward F. Fenton, Jamestown, N. Y., and Ephestus N. Jackson. Filed Nov. 26, 1904. Serial No. 234,128.



Claim.—1. In a washbench, a central standard composed of two uprights and connecting cross-cleats, a vertical wringer-board in the top of said standard, intersecting slots on the inner sides of said uprights beneath said wringer-board, a drip-board removably inserted in said slots, vertical slots on the inner sides of said uprights, a partition slidably mounted in said vertical slots beneath said drip-board, and folding benches pivotally attached on opposite sides of said standard, substantially as and for the purpose specified.

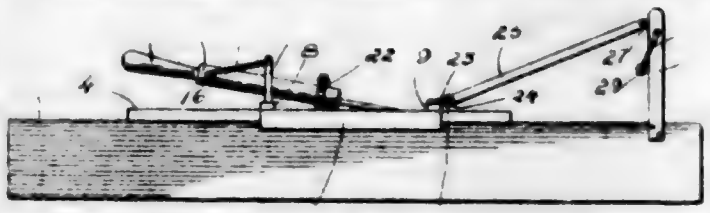
2. In a washbench, a central standard composed of two uprights and connecting cross-cleats, a partition or back board vertically secured between said uprights, folding bench side pieces pivotally attached on opposite sides of said central standard, leg-supports pivotally attached near the outer ends of said bench sides to fold onto the same, lengthwise slots on the inner sides of said bench sides, and seat or bench boards removably inserted in said slots.

3. In a washbench, a central standard composed of two uplights and connecting cross-cleats, bench side pieces pivotally attached on opposite sides of said central standard, leg-supports pivotally attached near the outer ends of said bench sides to fold onto the same, lengthwise slots on the inner sides of said bench sides and seat-boards removably inserted in said slots, cross-cleats on said legs and uprights arranged to form steps, and notches in said bench sides and uprights to receive one of said removable seat-boards in a bracing position between said parts to hold said uprights at an incline, substantially as and for the purpose specified.

4. In a washbench, a central standard 10 composed of two uprights and connecting cross-cleats 11 and 12 on opposite sides, a vertical wringer-board 13 in the tops of said uprights, intersecting slots 16 on the inner sides of said uprights beneath board 13, a drip-board 17 removably inserted in said slots, vertical slots 14 on the inner sides of said uprights, a partition-board 15 removably inserted in said vertical slots, folding bench side pieces pivotally attached on opposite sides of said uprights to bear on the cross-cleats 12, folding legs 21 pivotally attached near the outer ends of said side pieces, cross-cleats 23 near the upper end of legs 21 to bear against the under surface of sides 18 and cross-cleats 22 near the lower ends of legs 21, slots 24 on the inner sides of the side pieces and seat-boards 25 inserted in said slots, and notches 26 and 27 in said sides and uprights, to receive one of said seat-boards 25 in a bracing position to hold the uprights in an inclined position, substantially as and for the purpose specified

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805,332. DEVICE FOR SHARPENING EDGE-TOOLS. JOHN DU B. YOW, Avalon, Ga. Filed June 16, 1905. Serial No. 265,586.

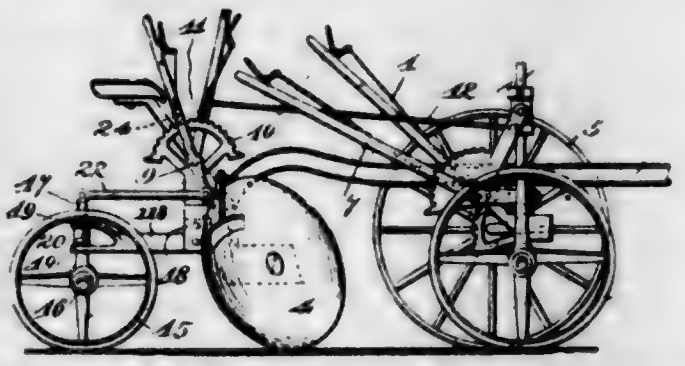


Claim.—1. A device of the character described, comprising a base having uprights at one end, and a recess in its upper face near its opposite end, guide-rails upon the base upon opposite sides of said recess, a stone fitted in said recess, a carriage mounted upon said rails, means upon the carriage for the support of a tool, a shaft connected in the aforesaid uprights, and a connection between said shaft and said carriage for causing a reciprocation of the latter and the tool carried thereby.

2. A device of the character described, comprising a base having uprights at one end, and a recess in its upper face near its opposite end, guide-rails upon the base upon opposite sides of said recess, a stone fitted in said recess, a carriage mounted upon said rails, means upon the carriage for supporting a tool, said means being yieldable in the direction of the stone to permit the tool to be held at various angles to the stone, a shaft connected in the aforesaid uprights, and a connection between said shaft and said carriage for causing a reciprocation of the latter and the tool carried thereby.

3. A device of the character described, comprising a base having a stone mounted thereupon, a carriage mounted for movement over said stone, means for yieldably supporting a tool upon said carriage with its edge in engagement with said stone, and means for reciprocating said carriage forwardly and backwardly over said stone.

805,333. SULKY-PLOW. JOHN S. ZANT, Aspermont, Tex. Filed June 15, 1905. Serial No. 265,358.

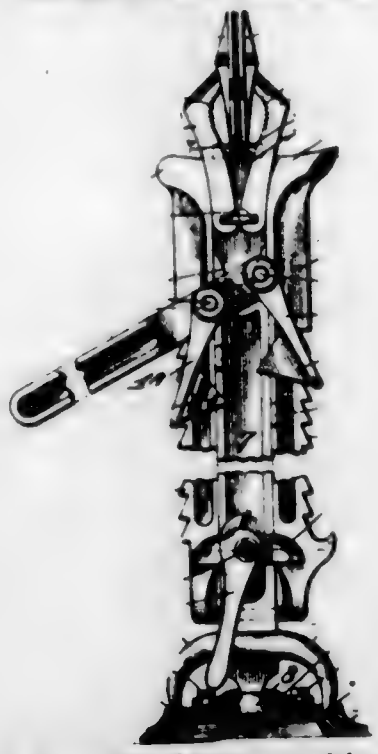


Claim.—1. A sulky-plow, having a beam, a front frame and a rear frame, land and furrow wheels on opposite sides of the front frame, a vertical shaft mounted in the front frame for angular movement, and having a spindle for the furrow-wheel and also provided with a crank, a disk carried by the beam, a follower-wheel in rear of the disk, a vertical shaft mounted in the rear frame for angular movement and having a spindle for the follower-wheel, and also provided with a crank, a segment-rack on the rear frame, levers on opposite sides of said segment-rack, each having a dog to engage the rack, and links connecting the respective levers to the respective cranks of the furrow and follower wheel vertical shafts.

2. A sulky-plow having a beam, a front frame and a rear frame,

each attached to the beam, said rear frame having a rearwardly-extending arm and an upwardly-extending segment-rack, land and furrow wheels on opposite sides of the front frame, a vertical shaft mounted in the front frame for angular movement and provided with a crank at its upper end and with a spindle at its lower end for the furrow-wheel, a disk carried by the beam, a follower-wheel in rear of the disk, a vertical shaft having its bearings in the arm of the rear frame and provided at its upper end with a crank and at its lower end with a spindle for the follower-wheel, levers on opposite sides of the segment-rack, each having a dog to engage the rack, and links connecting the respective levers to the respective cranks of the furrow and follower wheel vertical shafts.

805,334. COMBINED IMPLEMENT. WILLIAM H. AMES, St. Louis, Mo. Filed Apr. 17, 1905. Serial No. 256,162.



Claim.—1. In a combined implement of the character described, the combination of a base provided with a socket and having a pair of pockets therein, a post having one of its ends seated in said socket, arms extending laterally from said post and adapted to enter the pockets in said base, a ratchet-frame slidably fitted to said post, and means for reciprocating said ratchet-frame, substantially as set forth.

2. In a combined implement of the character described, the combination of a base provided with a socket and having a pair of pockets in its upper side, a post having one of its ends seated in the socket in said base, a notched cap for confining the end of said post in said socket, a pair of arms extending laterally and downwardly from said post to enter the pockets in said base, a ratchet-frame slidably fitted to said post, and means for reciprocating said ratchet-frame with respect to said post, substantially as set forth.

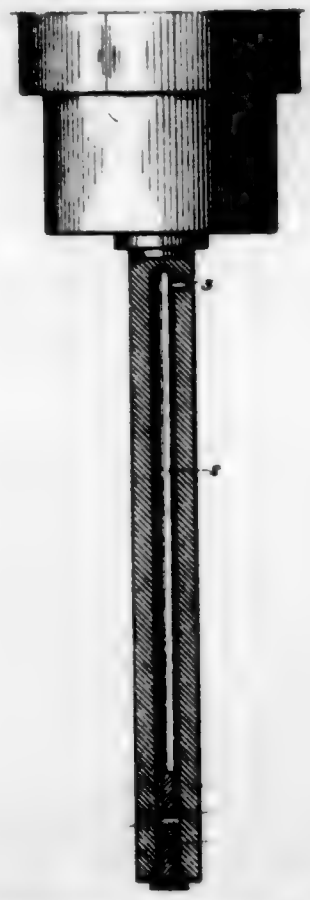
3. In a combined implement of the character described, the combination of a post provided with sockets at its sides, a ratchet-frame slidably fitted to said post, a hand-lever having forked arms provided at their inner sides with fulcrum-studs fitting in the sockets of said post, and ratchet-loops pivoted to the fork-arms of said lever at opposite sides of said fulcrum-studs, substantially as set forth.

4. In a combined implement of the character described, the combination of a post provided with an opening extending therethrough, a ratchet-frame slidably fitted to said post, a pair of vise-jaws straddling the head of said frame and having notches in their lower ends adapted to register with the opening in said post, a pin for detachably connecting said vise-jaws to said post by passing through the notches in the jaws and the opening in the post, and means for reciprocating said ratchet-frame with respect to said post, substantially as set forth.

5. In a combined implement of the character described the combination of a post, a ratchet-frame slidably fitted to said post, a hand-lever rockingly fitted to said post, ratchet members carried by said hand-lever, and automatic means for tripping said ratchet members out of engagement with said ratchet-frame, substantially as set forth.

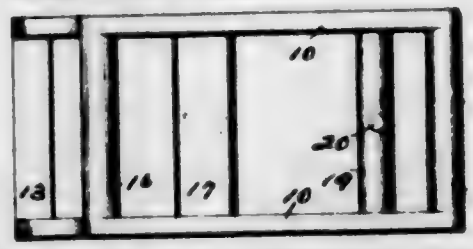
6. In a combined implement of the character described, the combination of a post, a ratchet-frame slidably fitted to said post, a hand-lever rockingly fitted to said post, ratchet-loops pivoted to said hand-lever and arranged for engagement with said ratchet-frame, trip-arms carried by said ratchet-loops, and trip-lugs projecting from said post and arranged to receive the engagement of said ratchet-loop trip-arms, substantially as set forth.

805,385. PLUNGER FOR GLASS-BLOWING MACHINES. HARRY BARD, Millville, N. J., assignor to Millville Machine Company, Millville, N. J., a Corporation of New Jersey. Filed Apr. 7, 1903. Serial No. 151,477.



Claim.—The combination of a hollow, elongated plunger for use with glass-blowing machines, having an upper opening communicating with the atmosphere and a lower opening with a flared or beveled mouth, a short movable plug fitting the hollow bore of the plunger at its lower end, said plug being grooved for the passage of air, a head carried by said plug and shaped to fit the flaring mouth of the plunger and serving to fully close the lower opening, and a pin carried by the plunger and confining the plug to the same, said plug being slotted to receive the pin and provide for slight movement with respect to the plunger.

805,386. HARNESS-BUCKLE. ISAAC E. BENNETT, Newton, Iowa. Filed July 3, 1905. Serial No. 268,578.



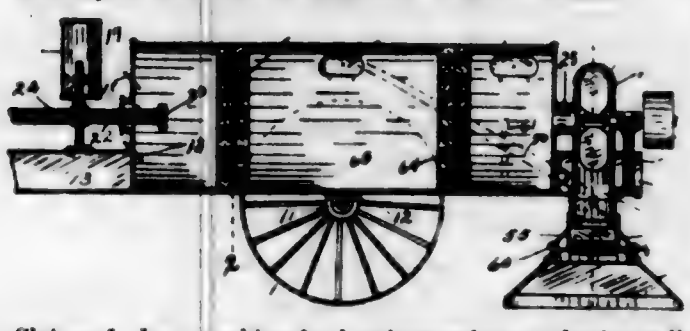
Claim.—1. As a new article of manufacture, a harness-buckle complete in one piece, consisting of two parallel sides wider at their central portions than at their ends, a cross-piece, flat on its under side, at the top at the one end, a cross-piece, flat on its top, at the bottom of the other end, a cross-piece, flat at the top and near said other end provided with a tongue projecting downward, a wedge-shaped cross-piece near the center provided with a tongue projecting upward and another cross-piece, flat on its top, on the under side near the end that has the cross-piece at its top.

2. As a new article of manufacture, a harness-buckle complete in one piece consisting of two parallel sides, a cross-piece at the top of the one end, a cross-piece at the bottom at the other end, a cross-piece at the top and near said other end provided with a tongue projecting downward, a cross-piece near the center provided with a tongue projecting upward and another cross-piece on the under side near the end that has the cross-piece at its top

3. A harness-buckle complete in one piece consisting of two parallel sides, a cross-piece at the top of the one end, a cross-piece at

the bottom at the other end, a cross-piece at the top and near said other end provided with a tongue projecting downward, a cross-piece near the center provided with a tongue projecting upward and another cross-piece on the under side near the end that has the cross-piece at its top and two straps combined with the buckle in the manner set forth.

805,337. MACHINE FOR HEATING SURFACES. FRANK O. BLAKE, Cincinnati, Ohio, and GEORGE H. LUTS and OBRA HUBBELL, Indianapolis, Ind. Filed Dec. 24, 1904. Serial No. 238,262.



Claim.—1. In a machine for heating surfaces, a horizontally-disposed air-heating tank with an air-inlet at one end thereof, means near the air-inlet for heating the air, a hood movable over the surface to be heated, a fan at the other end of said tank over the hood, and a connection between the fan and hood whereby air will be drawn into, longitudinally through and from said heating-tank and blown into said hood.

2. In a machine for heating surfaces, an air-heating tank with an air-inlet at one end, a fuel-supply near said air-inlet, a perforated partition in said tank, a hood movable over the surface to be heated, and a fan at the other end of said tank and intermediate the hood and tank for drawing the heated air through said partition and from said tank and blowing it into said hood.

3. In a machine for heating surfaces, an air-heating tank, a fuel-supply pipe entering one end of said tank a fuel-tank from which said fuel-supply pipe leads and which is located on a higher level than the outlet end of said fuel-supply pipe, a hood movable over the surface to be heated, and a fan at the other end of said tank and intermediate said tank and the hood that draws the fuel into said tank and draws the heated air therefrom and blows it into said hood.

4. In a machine for heating surfaces, an air-heating tank, a steam-pipe entering one end of said tank with its inner end perforated to form a burner, a fuel-supply pipe within said steam-pipe and extending to said burner, a tank for supplying fuel to said pipe, a hood movable over the surface to be heated, and a fan at the other end of said air-heating tank that draws the air therefrom and blows it into said hood.

5. In a machine for heating surfaces, an air-heating tank, a hood that is provided with a compartment adapted to contact with the surface to be heated, an antechamber upon said compartment with damper-controlled openings leading therefrom to the hood, and a fan intermediate the heating-tank and the hood that draws air from the tank and blows it into said antechamber.

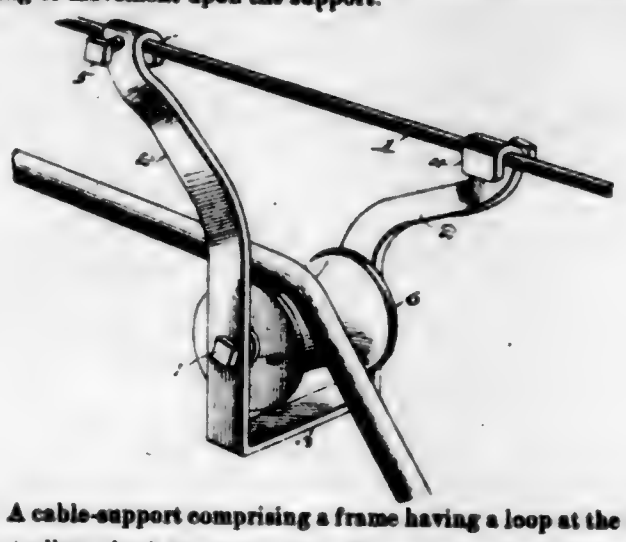
6. In a machine for heating surfaces, an air-heating tank, a hood with a compartment adapted to contact with the surface to be heated, an antechamber over said compartment with damper-controlled openings leading therefrom to the hood, a pipe leading into the antechamber, stationary deflectors in said hood and antechamber opposite all inlets, partitions in said hood between said deflectors, and a fan intermediate the hood and the tank for drawing air from the tank and forcing it through the inlet-pipe into said antechamber.

7. In a machine for heating surfaces, an air-heating tank, a fan-casing mounted in connection therewith and communicating with said tank and having a downwardly-extending pipe, a hood with an upwardly-extending pipe, an intermediate pipe-section, said pipes telescoping each other successively and having vertical slots in them, removable pins extending through said vertical slots for guiding and limiting the telescoping movement of said pipes and rendering them detachable, and means for elevating said hood.

805,338. CABLE-TROLLEY. JOHN B. BOYLE, Scranton, Pa. Filed Nov. 12, 1904. Serial No. 232,492.

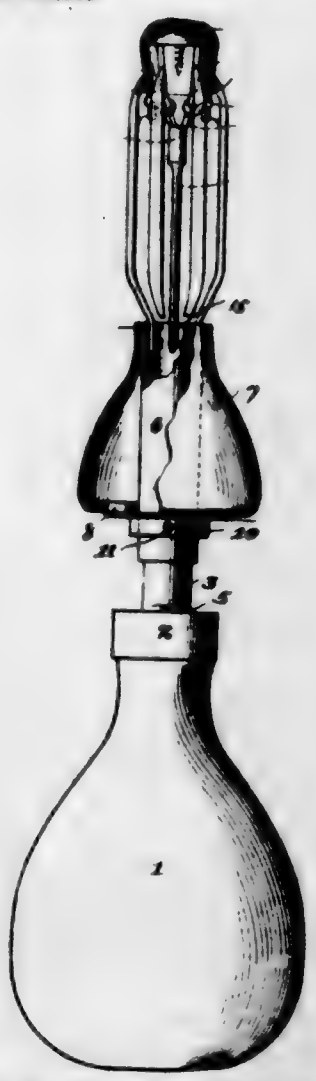
Claim.—1. A cable-support comprising a frame made of a single bar bent to form a loop and spread apart at the ends to form inclined supporting and bracing hangers, and a trolley-wheel journaled in said loop.

2. A cable-support comprising a frame, a trolley-wheel journaled therein, and upwardly and diagonally extending arms at each end of the frame forming supporting-hangers, the diagonal direction of the hangers operating to brace the frame against longitudinal swinging or movement upon the support.



3. A cable-support comprising a frame having a loop at the bottom, a trolley-wheel journaled in said loop, upwardly-extending arms, one projecting from each side of the frame and bent to extend diagonally upward from the said frame, hooks formed on the upper ends of said diagonal supports capable of engaging the supporting cable or wire, a clamp-screw for each hook to secure it upon its support, the diagonal arrangement of the arms operating to brace the trolley against movement longitudinally with respect to its support.

805,339. SYRINGE. JOSEPH J. BRIN, Chicago, Ill. Filed July 20, 1905. Serial No. 270,513.



Claim.—1. In a syringe the combination with a spray-tube of a series of distending-fingers surrounding said tube and means for distending said fingers comprising a head to which the outer ends of said fingers are slidably connected and means for imparting a relative sliding movement to said cone and finger members, substantially as described.

2. In a syringe the combination with a spray-tube, of a series of distending-fingers surrounding said spray-tube, a beveled head to which the outer ends of said fingers are slidably connected and means for imparting a relative sliding movement to said head and finger members, substantially as described.

3. In a syringe the combination with a spray-tube, of an expansible frame, a beveled head having tracks within it, the frame being

slidably connected to said tracks whereby the ends of the frame will lie concealed within said head when in a contracted position, and means for imparting a relative sliding movement to said head and frame, substantially as described.

4. In a syringe the combination with a spray-tube having fingers attached thereto, of a sleeve sliding upon said tube, a beveled cone attached to said sleeve, grooves within said cone to which the fingers are slidably connected, and means for imparting a relative sliding movement to said cone and finger members, substantially as described.

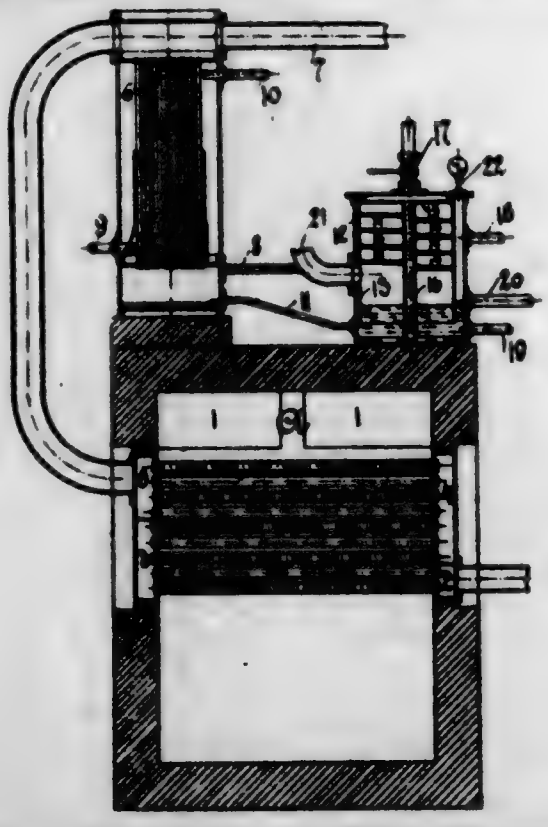
5. In a syringe the combination with a spray-tube of a series of distending-fingers, a sleeve sliding upon said spray-tube and provided with a cushion, a slotted cone attached to said sleeve, to which the outer ends of said fingers are slidably connected and means for imparting a relative sliding movement to said cone and finger members, substantially as described.

6. In a syringe the combination with a spray-tube, of a series of distending-fingers surrounding said tube, means for distending said fingers comprising a cone to which the outer ends of said fingers are slidably attached and project beyond the end of the cone, and means for imparting a relative movement to said cone and finger members, substantially as described.

7. In a syringe, the combination with a spray-tube, of a series of distending-fingers surrounding said tube, and means for distending said fingers comprising a head to which the outer ends of said fingers are slidably connected, said head being of a form and size to serve as a guard for the ends of said fingers, and means for imparting a relative sliding movement to said head and fingers, substantially as described.

8. In a syringe, the combination with a spray-tube, of a series of distending-fingers surrounding said tube, means for expanding and contracting said fingers comprising a longitudinally-grooved cone-shaped head to which the outer ends of said fingers are slidably attached, the grooved guides of said head being inwardly convergent at a greater angle throughout their inner portions than throughout their outer portions whereby said fingers resist compression through external contraction throughout the first part of their contracting movement and yield to external compression throughout the latter part of their contracting movement, substantially as described.

805,340. APPARATUS FOR UTILIZING EXHAUST-STEAM. JOHAN F. A. BRUUN, Copenhagen, Denmark. Filed Mar. 5, 1903. Serial No. 146,322.



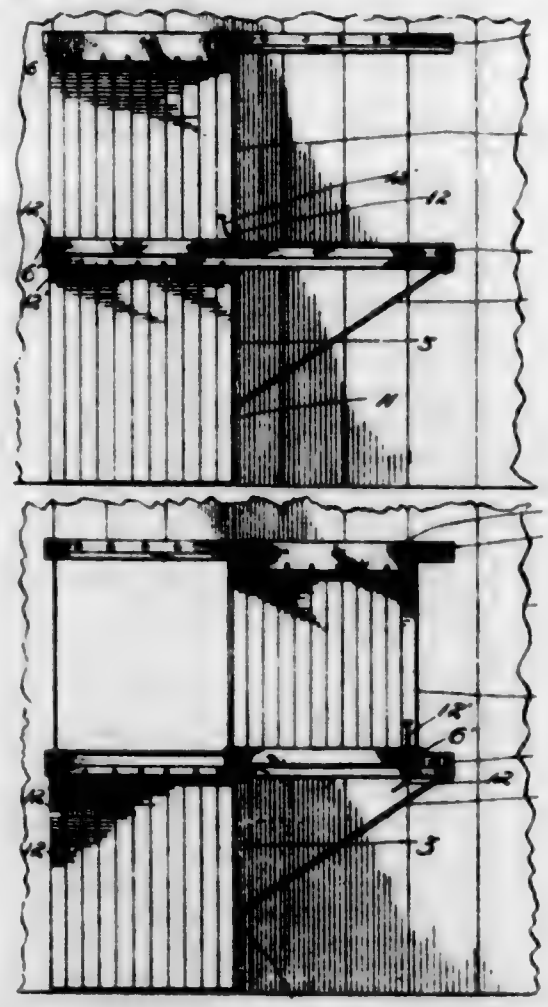
Claim.—1. In an apparatus for utilizing exhaust-steam, the combination of a superheater through which the exhaust-steam passes, a passage conveying the superheated exhaust-steam from said superheater, a feed-water heater in branched communication with said passage from which a portion of the steam passes to the heater to heat a supply of water, and a condenser to which the exhaust is finally led connected with said feed-heater and the steam-passage.

2. In an apparatus for utilizing exhaust-steam, a heating-chamber, and a superheater in said chamber comprising a plurality of groups of tubes through which the steam passes during the superheating, each group having a larger number of tubes than the preceding group whereby the area of the steam-passage is in approximately the same ratio as the expansion of the steam the speed of the steam being thereby rendered substantially constant.

3. In apparatus of the kind described, a superheater comprising a series of tubes, a closure at the inlet end of each tube said closure having therethrough a perforation or inlet-opening smaller than the size of the passage in the tube with which it communicates.

4. In an apparatus for utilizing exhaust-steam, a superheater comprising a plurality of tubes, a spirally-formed deflector dividing each tube into two or more longitudinal passages and acting to force particles of steam into contact with the wall of the tube, a closure at the inlet end of each tube having perforations or inlet-openings therethrough communicating respectively with the passages in its tube, each of said inlet-openings being smaller in size than the passage in the tube with which it communicates.

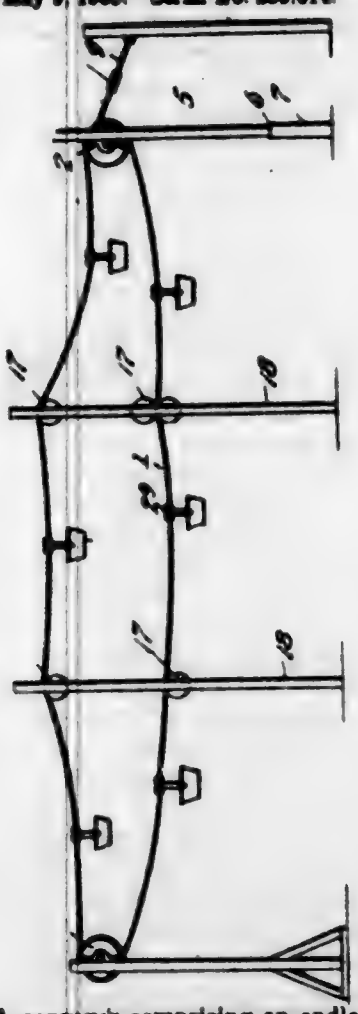
805,341. DOOR. ARTHUR BURDICK, Brighton, Ind. Filed Feb. 7, 1905. Serial No. 244,590.



Claim.—1. The combination with a barn having a door-opening, of a track secured along the side of the barn near the upper edge of said opening, an upper door-section having rollers associated therewith and mounted upon the said track, whereby the said section may be moved along the track, a guide secured to the lower edge of the upper door-section, a lower door-section having a track secured thereto and extended laterally beyond one side edge thereof, the second-mentioned track working within the said guide, whereby the upper and lower sections are interlocked and whereby one section may be moved independently of the other.

2. The combination with a barn having an opening therein, of a track secured to the barn near the top of said opening, an upper door-section slidably mounted upon said track, a guide secured to the lower edge of said upper door-section and having series of rollers mounted therein and in alinement one series with relation to the other, said guide also having a slot in its lower face, a lower door-section having a track secured upon its upper edge, the second-mentioned track extending beyond the sides of the lower door-section and fitted within the said guide for sliding movement upon the tops of the rollers within the latter, the lower door-section fitting within the slot of said guide, and the second-mentioned track extending beyond one side edge of the lower door-section and movable with the latter, and means for locking the sections together, whereby both sections may be moved simultaneously.

805,342. BUCKET-CARRIER. NORMAN BUTLER, Meadowcreek, Mont. Filed May 9, 1905. Serial No. 259,614.



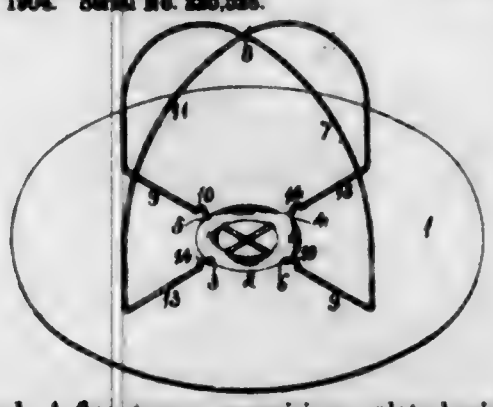
Claim.—1. A conveyer comprising an endless cable, supporting-drums at the opposite ends of the conveyer, one of said drums being formed with a cone-shaped section to laterally deflect articles carried by the cable.

2. A conveyer comprising an endless cable, a drive-drum at one end of the conveyer, a discharge-drum at the opposite end of the conveyer, said discharge-drum comprising a cone-shaped section, and buckets suspended from the cable.

3. A conveyer comprising an endless cable, buckets supported by said cable, a discharge-drum at one end of the conveyer and formed with a guideway to receive the cable, said drum having a cone-shaped section to deflect buckets laterally in their passage thereover.

4. A conveyer comprising an endless cable, buckets supported therefrom, end drums for the cable, one of said drums being formed with integral discharging means for the buckets, and pulleys intermediate said drum to support the cable, said pulleys comprising duplicate sections spaced apart to permit passage therebetween of the bucket-suspending means.

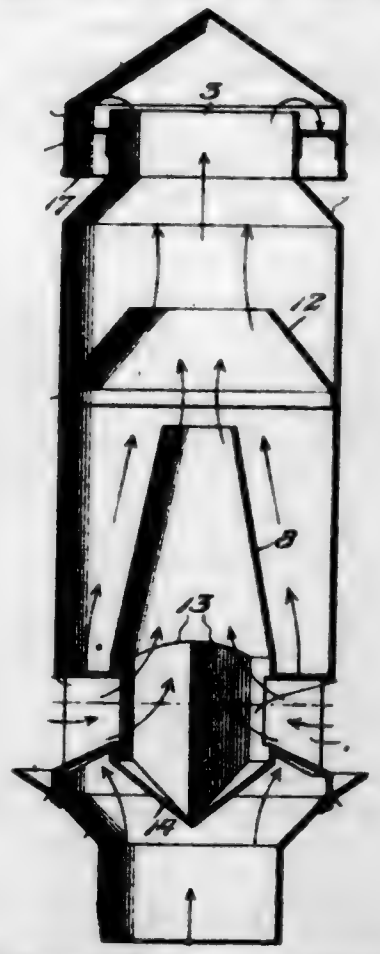
805,343. FLUE-STOPPER. JOHN L. CLARK, Rockford, Ill. Filed Sept. 23, 1904. Serial No. 225,526.



Claim.—1. A flue-stopper comprising a plate having near its center an annular upstanding rib or bead stamped up therefrom, said rib or bead provided with two pairs of alined openings extending transversely therethrough in the plane of a face of the plate, one pair of said openings being arranged at right angles to the other pair, and two bails pivotally connected with said plate at right angles to one another, each bail consisting of a semicircular section having inwardly-directed legs which extend through the alined openings in the upstanding rib or bead, and rest in flat contact with the face of the plate throughout their length.

2. A flue-stopper comprising a plate having near its center a raised annular rib or bead provided with two pairs of alined openings, one pair of said openings being arranged at right angles to the other pair, and two bails pivotally connected to said plate at right angles to each other, each bail consisting of a semicircular section having inwardly-directed legs which extend through the alined openings in the said raised rib or bead, and rest in flat contact with the face of the plate throughout their length, and each leg having an offset or crimp intermediate its ends.

805,344. CHIMNEY COWL AND VENTILATOR. DANIEL COLLINS, Mount Vernon, N. Y. Filed Sept. 24, 1904. Serial No. 225,816.



Claim.—1. A device of the class described comprising a tubular body having longitudinal air-passages, a reduced tubular member arranged within the body and having an upper contracted discharge-throat, and inclosed lateral ducts leading into the body and entering through the wall of the tubular member, the air-passages being disposed between and distinct from the ducts.

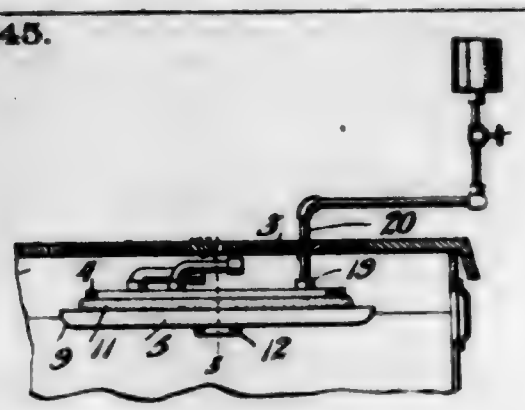
2. A device of the class described comprising a tubular body, a tubular member of reduced diameter arranged within the body, a shield having downwardly-convergent walls arranged beneath and closing the lower end of the tubular member, an inner tube arranged above the member and having a reduced discharge-mouth, inclosed lateral air-ducts leading into the tubular body and entering through the wall of the tubular member, division-plates arranged within the member for closing communication between the ducts, the body being provided with longitudinal air-passages leading between and distinct from the ducts, and a reduced deflector disposed above the inner tube.

3. A device of the class described comprising a tubular body having longitudinal air-passages, a tubular member of reduced diameter arranged within the body, inclosed lateral ducts leading into the body and entering through the wall of the tubular member, a deflector arranged beneath and closing the lower end of the tubular member, said deflector having downwardly-convergent walls, and an inner upwardly-convergent tube arranged above the tubular member and having a reduced discharge-throat.

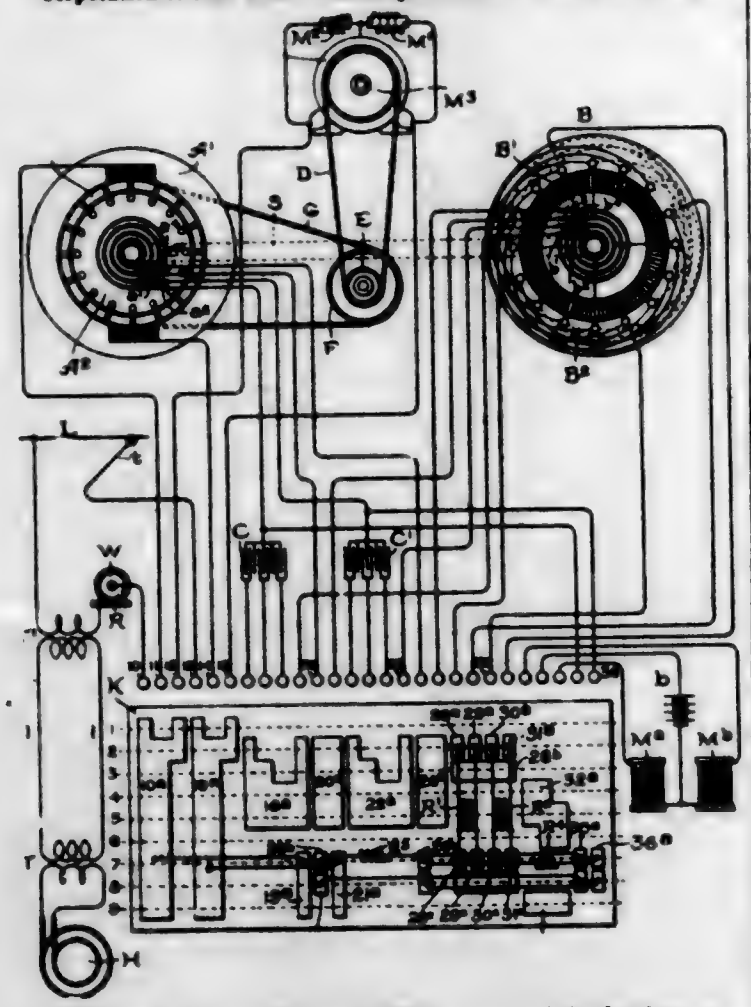
805,345. OIL-BURNER. EMELIOUS A. COX, Humble, Tex. Filed July 20, 1905. Serial No. 271,751.

Claim.—In a burner of the type described, a body having an internal vaporizing-chamber and a projecting marginal apron, the latter being provided with an upper concaved face, an absorbent material arranged in the concaved face of the apron, a plurality of burner-tubes connected for communication with the vaporizing-chamber and having jet-openings, and a feed-tube connected with the body for supplying fuel to the chamber.

805,345.



805,346. ALTERNATING-CURRENT MOTOR SYSTEM. ALBERT G. DAVIS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 4, 1896. Serial No. 676,306.



Claim.—1. The combination with a source of single-phase current, of a motor driven by electric energy from said source, a multiphase winding on the secondary of said motor, leads from said secondary to the primary of a second motor, and a secondary for said second motor, the two motors being coupled to perform mechanical work.

2. The combination with a source of single-phase current, of a motor driven by electric energy from said source, a multiphase winding on the secondary of said motor, leads from said secondary to the primary of a second motor, and a secondary for said second motor, the two motors being arranged to drive the same load.

3. The combination with a source of single-phase current, of a motor driven by electric energy from said source, a multiphase winding on the secondary of said motor, leads from said secondary to the primary of a second motor, and a secondary for said second motor, the two motors being coupled to perform mechanical work, and means for neutralizing or adjusting the phase displacement in the intermediate circuits.

4. The combination with a single-phase motor driving a load, of a multiphase motor connected in tandem with the single-phase motor, and also driving a load.

5. The combination with a single-phase motor, a multiphase motor in tandem therewith, and adjustable means for neutralizing the phase displacement of the intermediate circuits.

6. The combination of a single-phase motor, a multiphase motor having a variable-resistance secondary, and a switching device for connecting the two motors in tandem and for varying said resistance.

7. The combination of a single-phase motor, a multiphase motor having a variable-resistance secondary, and a switching device for connecting the two motors in tandem and for varying said resistance as well as the reactance of the intermediate circuits.

8. The combination with an alternating-current motor, of means for producing a rotary field therein by energy derived from a single-phase alternating current, a load for said motor, connections from the secondary of said motor, to a multiphase motor also driving a load, and a secondary for said multiphase motor.

9. The combination with a single-phase motor, of a multiphase motor, means for connecting the two motors in tandem to a source of single-phase current, for varying the speed of said motors, and for finally connecting the two motors in multiple to the said source.

10. The combination with a single-phase motor of a multiphase motor and a switch and coöperating circuits for connecting the two motors in tandem to a source of single-phase current, to vary the speed of said motors, the switch being also arranged to vary the reactance of the intermediate circuits.

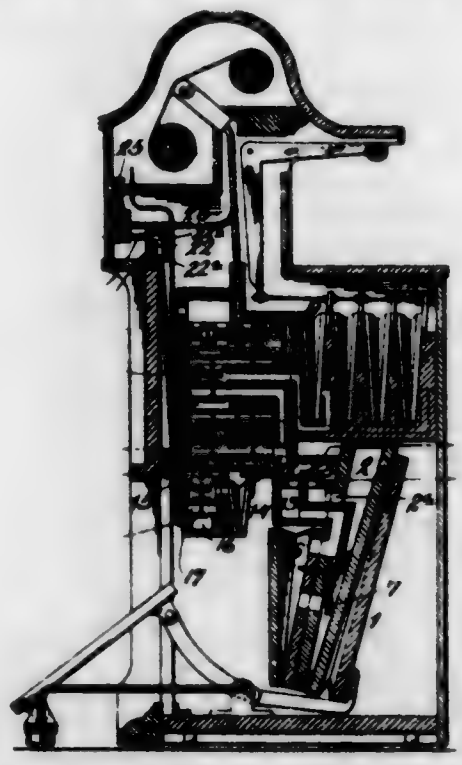
11. The combination with two motors, of means for reducing the effective resistance of a winding on the secondary of the first motor, and means for connecting said motors in tandem.

12. A tandem-motor system in which the first motor is provided with a secondary wound with a multiple winding, with means for short-circuiting conductors of said winding to reduce the resistance of the winding, and means for connecting the motors in tandem or disconnecting them.

13. The combination with a set of multiphase leads, of transformers each having its primary inserted in series in one of the leads a condenser and connections between the condenser and the secondaries of the transformers.

14. The combination with a set of multiphase leads, of transformers each having its primary inserted in series in one of the leads, the secondaries of the transformers being connected together at one end, and connected at the other end to different portions of a single condenser, and means for varying the effective length of said secondaries.

805,347. PNEUMATIC PIANO-PLAYER. EDWARD N. DICKERSON, Stovall, N. C. Filed Dec. 17, 1902. Serial No. 135,554.



Claim.—1. In an automatic pneumatic piano-player, a divided wind-chest having divisions separating it into three or more compartments and pneumatic mechanism including a single valve for connecting each of such compartments at will with either of two degrees of vacuum, substantially as described.

2. In an automatic pneumatic piano-player, a divided wind-chest having divisions separating it into three or more compartments, and mechanism including a single valve for automatically connecting each of said sections with different degrees of vacuum according to the control of the music-sheet, substantially as described.

3. In an automatic pneumatic piano-player, a divided wind-chest having divisions separating it into three or more compartments and mechanism including a single valve for connecting each of said sections with varying degrees of vacuum, either through the operation of the music-sheet or manually at the will of the operator, substantially as described.

4. In an automatic pneumatic piano-player, a divided wind-chest having divisions separating it into three or more compartments, and mechanism for changing automatically the degree of vacuum in one or more of said chambers by the operation of the music-sheet and mechanism for manually throwing high vacuum on all of said chambers, substantially as described.

5. In an automatic piano-player, the divided wind-chest 3, having three or more divisions, a single controlling-valve for connecting each of said divisions of the wind-chest with different degrees of vacuum, the pneumatics 15 for automatically controlling the valves 5 and the supplemental tracker-board openings 11 for controlling the pneumatics 15, substantially as described.

6. In an automatic pneumatic piano-player, the divided wind-chest 3, having three or more divisions, a single controlling-valve for connecting each of said divisions of the wind-chest with different degrees of vacuum, the pneumatics 15 for automatically controlling the valves 5 and the supplemental tracker-board openings 11 for controlling pneumatics 15 and the manual valves 25 for also controlling the pneumatics 15, substantially as described.

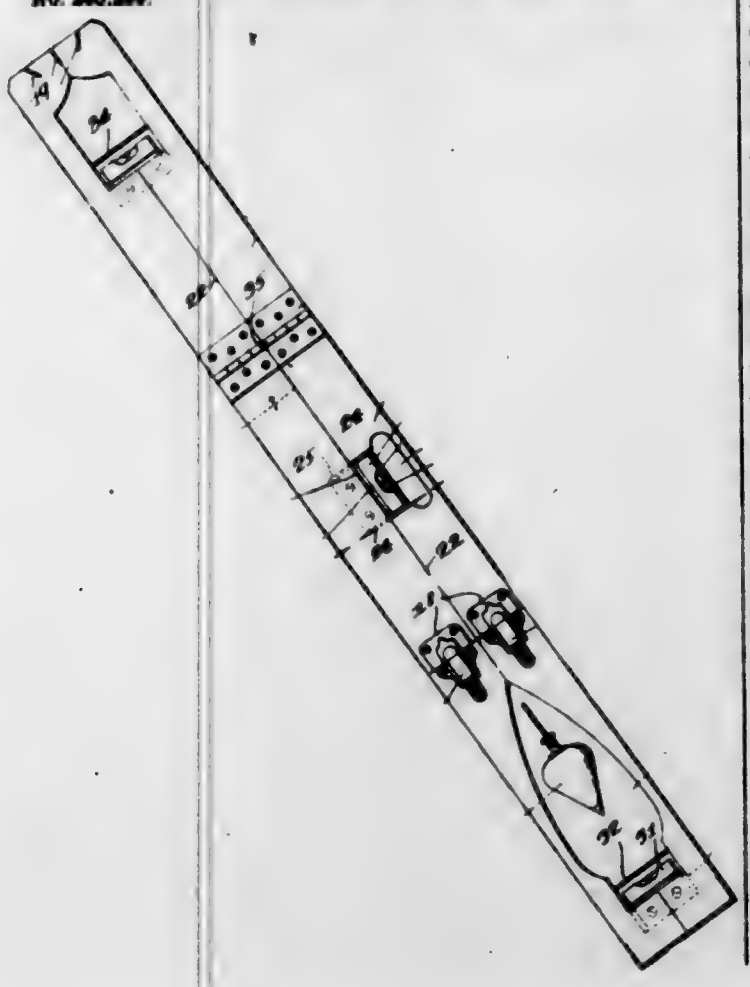
7. In an automatic piano-player, the divided wind-chest, 3, having three or more divisions, pneumatic mechanism including a valve 5 for connecting each of said divisions with either of two degrees of vacuum, the pneumatics 15 for automatically controlling the valves 5 and the supplemental tracker-board openings for controlling pneumatics 15 and mechanism for throwing out of connection the tracker-board openings 11 at will, substantially as described.

8. In an automatic pneumatic piano-player, a divided wind-chest having divisions separating it into compartments corresponding to the octaves on the piano, and pneumatic mechanism including a single valve for connecting each of said compartments with either of two degrees of vacuum, substantially as described.

9. In an automatic piano-player, a divided wind-chest having divisions separating it into three or more compartments, and pneumatic mechanism including a single valve for connecting each of said compartments at will with either of two degrees of vacuum, and manually-operable and automatic means for operating said valves, substantially as described.

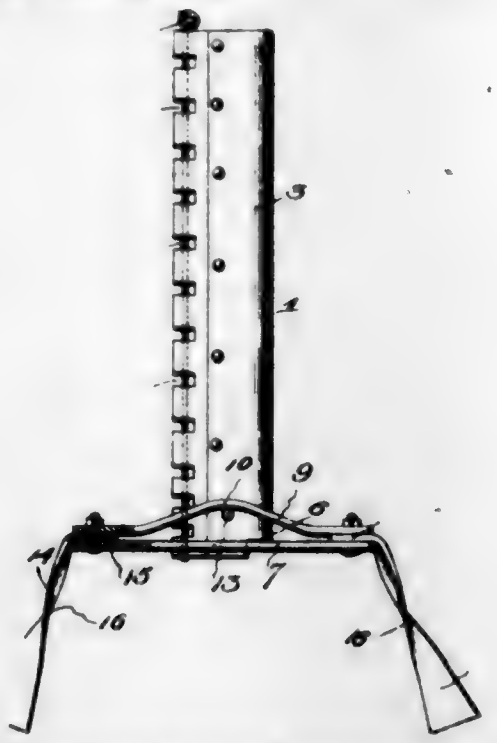
10. In an automatic piano-player, a divided wind-chest having divisions separating it into compartments corresponding to the octaves of the piano, and pneumatic mechanism including a single valve for connecting each of said compartments with either of two degrees of vacuum, and manually-operable and automatic means for operating said valves, substantially as described.

805,348. COMBINED FOLDING PLUMB-RULE AND LEVEL. HERBERT DICKS, West Washington, Pa. Filed May 13, 1905. Serial No. 260,599.



Claim.—A combined plumb-rule and level consisting of a stock formed of a plurality of longitudinal sections disposed end to end and provided with alined indicator-marks, hinges connecting the sections at the ends at alternate sides and extending transversely of the sections and with cavities transversely of the pintles in alinement with said indicator-marks, and an aperture disposed transversely of one of the intermediate sections of said stock with the inner wall of the aperture in alinement with said indicator and the cavity in said hinge-pintle and forming an intermediate portion of the indicator-mark.

805,349. FENCE-POST. WILLIAM A. DOUGLASS, Venice, Mo. Filed Sept. 11, 1905. Serial No. 277,966.



Claim.—1. A fence-post formed of sheet-metal sections folded and secured together, one of said sections having formed in its folded edge a vertical series of notches to receive the line-wires of the fence, a locking-rod inserted into said notched, folded edge, to hold said fence-wires in place, base-plates secured to the lower end of said post, and twisted anchor-plates secured to said base-plates and post, substantially as described.

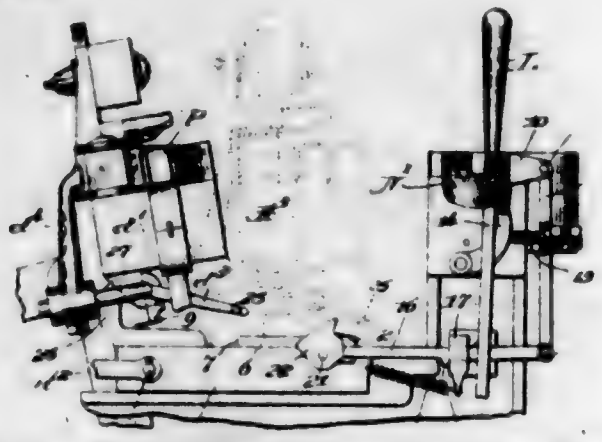
2. A fence-post formed of sheet-metal sections folded upon themselves and secured together, one of said sections having formed in its folded edge a vertical series of notches to receive the line-wires of the fence, a locking-rod to be inserted into said notched folded edge to hold said fence-wires in place, a shoulder formed on the lower end of said post, a lower apertured base-plate arranged on the lower end of said post to engage said shoulder, an upwardly-curved apertured base-plate arranged on said post above said lower base-plate and secured thereto, a transversely-disposed pin arranged through said post between said base-plates, and means whereby said base-plates are secured to the ground, substantially as described.

3. A fence-post formed of sheet-metal sections folded upon themselves and secured together, one of said sections having formed in its folded edge a vertical series of notches to receive the line-wires of the fence, a locking-rod to be inserted into said notched, folded edge to hold said fence-wires in place, a shoulder formed on the lower end of said post, a lower apertured base-plate arranged on the lower end of said post to engage said shoulder, an upwardly-curved apertured base-plate arranged on said post above said lower base-plate and secured thereto, a transversely-disposed pin arranged through said post between said base-plates, anchor-plates having angularly-bent upper ends, the edges of said angularly-bent ends being bent upwardly to receive the ends of said base-plates, and means whereby said ports are connected together, substantially as described.

805,350. CONTROLLING MEANS FOR LOOMS. WILLIAM F. DRAPER and CHARLES F. ROPER, Hopedale, Mass., assignors to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Mar. 6, 1906. Serial No. 305,376.

Claim.—1. In a loom, a lay, means adapted to effect stoppage of the loom, and an actuator for said means, acting during the backward stroke of the lay, when the shuttle has failed to enter the box properly after the lay has passed front center.

2. In a loom, means adapted to throw off the power, a lay, and an actuator for said means, rendered operative by or through the shuttle upon failure thereof to reach a predetermined point in its flight during movement of the lay from bottom-center to nearly top-center position.



3. In a loom, in combination, means to effect stoppage thereof, a lay, and an actuator for said means carried by the lay and controlled by or through the shuttle, said actuator operating on the backward stroke of the lay when the shuttle has failed to reach a predetermined point in its flight.

4. In a loom, a shipper, releasing means therefor, a lay, and an actuator for said means, carried by the lay and operative upon movement thereof from front center only upon failure of the shuttle to reach a predetermined point in its flight after the lay has passed front center.

5. In a loom, in combination, a lay, protector mechanism, including a dagger carried by the lay, means adapted to effect the operation of a stopping instrumentality, and an actuator for said means mounted on the dagger and operative on the backward stroke of the lay upon improper positioning of the shuttle as the lay approaches top center.

6. In a loom, a lay having a shuttle-box provided with a binder, a shuttle adapted to be picked when the lay is substantially at top center, means to throw off the power, and an actuator therefor controlled by or through the shuttle and rendered operative upon failure of the shuttle when picked to properly coöperate with the opposite binder before the lay reaches top center on the next pick.

7. In a loom, a shipper, releasing means therefor the operation whereof is effected by or through the shuttle when improperly positioned in its flight into the box and an instrumentality to prevent the operation of said means before the lay has passed front center.

8. In a loom, in combination, a lay, a shuttle, means to throw off the power, an actuator therefor governed by or through the shuttle and operative when the shuttle is improperly positioned after the lay has passed front center, and automatic means to prevent warp breakage when the shuttle stops in the shed.

9. In a loom, a lay, a shuttle, means to prevent warp breakage, operative automatically if the shuttle is improperly positioned when the lay reaches a predetermined point on its forward stroke, and independent means adapted to effect the operation of a stopping instrumentality if the shuttle fails to reach a predetermined point after the lay has passed front center.

10. In a loom, a lay, a shuttle-binder thereon, a shuttle adapted to be picked substantially at top center, means to throw off the power, and an actuator for said means, rendered operative by or through improper coöperation of the arriving shuttle and adjacent binder after the lay has passed bottom center, and acting after the lay has passed front center.

11. In a loom, a lay, protector mechanism, a shuttle adapted to be picked when the lay is substantially at top center, and means to throw off the power, by or through the operation of the protector mechanism if the arriving shuttle fails to reach a predetermined point, after the lay has passed from center, whereby the time for the flight and boxing of the shuttle is increased to nearly a complete cycle of the lay from picking position.

12. In a loom, a warp-tension-controlling instrumentality, means operated by or through improper boxing of the shuttle to cause said instrumentality to slacken the warp on the forward stroke of the lay, means to throw off the power when the shuttle is improperly boxed after the lay has passed front center, and mechanism to restore the tension of the warps positively and automatically when said power-controlling means remains inoperative.

13. In a loom, a movable whip-roll, a lay, means operated thereby on its forward beat, upon improper boxing of the shuttle, to move the whip-roll to slacken the warps, restoring means to return the whip-roll to operative condition, a shipper, and releasing means therefor, operated on the backward stroke of the lay, upon failure of the shuttle to reach a predetermined point in its flight at such time, to stop the loom, the whip-roll being restored to operative condition and the loom continuing to run if the shuttle has reached a predetermined point when the lay passes front center.

14. In a loom, a warp-tension-controlling instrumentality, means actuated by or through the shuttle when improperly positioned to effect the operation of said instrumentality and divert from the shuttle all strain due to such operation, a shipper, and releasing means therefor actuated after the lay has passed front center when the shuttle fails to box properly.

15. In a loom, a lay, a shuttle, an instrumentality to slacken the warps by or through the shuttle when improperly positioned as the lay beats up, means to act through said instrumentality on the backward stroke of the lay and restore the normal warp-tension, and means, operative after the lay has passed front center, to throw off the power when the shuttle fails to reach a predetermined point in its flight.

16. In a loom, in combination, a lay, a movable whip-roll, protector mechanism, including a frog having a frog-lift to be engaged and tilted by the dagger when the shuttle is improperly positioned, a connection between the whip-roll and frog, to move the former positively to slacken the warps, means to coöperate with the frog-lift when tilted and divert from the protector mechanism all pressure due to operation of the frog, shipper-releasing means operative after the lay has passed front center when the shuttle has failed to reach a predetermined point in its flight, and means actuated by the lay on its backward beat to return the whip-roll automatically and positively to operative position.

17. In a loom, a lay, a dagger thereon controlled by or through the shuttle, a warp-tension-controlling instrumentality, means, including a frog, to cause said instrumentality to positively slacken the warps when the dagger engages the frog on the forward beat of the lay, due to improper boxing of the shuttle, shipper-releasing means, an actuator therefor on the dagger and operative only when the shuttle has failed to reach a predetermined point in its flight after the lay has passed front center, and independent means to restore said instrumentality to normal position.

18. In a loom, a lay, protector mechanism, a shipper, and releasing means therefor actuated through the protector mechanism only after the lay has passed front center, combined with a warp-tension-controlling instrumentality operative automatically to slacken the warps if the shuttle is improperly boxed before the lay reaches front center, and means to act through said instrumentality and restore the normal tension of the warps if the shuttle reaches a predetermined point in its flight as the lay passes front center.

19. In a loom provided with a picking instrumentality and a shuttle, in combination, means for preventing warp breakage if the shuttle stops in the shed, stopping mechanism, and actuating means therefor controlled by or through the shuttle independently of the means for preventing warp-breakage and operative after actuation of said means for preventing warp breakage only after the lay has passed front center and prior to the succeeding picking operation.

805,351. MAIL-BOX. WILLIAM O. DRESSER, Cripplecreek, Colo. Filed Feb. 4, 1905. Serial No. 244,145.

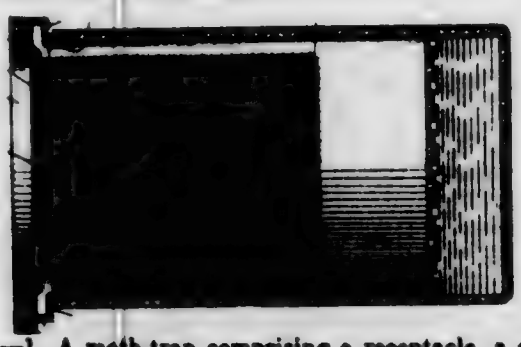
Claim.—1. The improvement in mail-boxes herein described comprising the base-plate, the main plate having the front and side sections and having the latter provided at their inner edges with lateral flanges lapping against and secured to the base-plate and the front plate or section being provided at its upper end with a letter-slot and at its lower end with a door-opening, the door fitted to said opening and hinged at one edge and provided at its other edge with a combination-lock having a bolt by which to hold the door closed, the side sections of the main plate being provided at their lower ends with inwardly-projecting flanges overlapping the bottom plate and also provided at their upper ends at their front corners with the upwardly-projecting lugs, the bottom plate secured to the inwardly-projecting flanges of the side sections and provided at its inner edge with the flange lapping against and secured to the base-plate, the top plate having at its inner edge the flange lapping against and secured to the base-plate, provided at its side edges with depending flanges overlapping the side sections of the main plate and having at its front edge a depending flange forming the top wall of the letter-opening, the drop-lid pivoted to the upwardly-projecting lugs of the side sections, and curving thence and adapted to close the letter-slot, the spring-bail for holding newspapers having its arms coiled and extending beyond said coils and secured to the sides of the letter-

box, and the hooks projecting from the box through and engaging with said coils, substantially as and for the purpose set forth.



2. The combination in a letter-box with the front plate or section having a letter-slot and the side plates or sections having the upwardly-projecting lugs at their front edges, of the top plate projecting at its front edge between said lugs, and the drop-lid pivoted to said lugs above the front edge of the top plate and adapted when lowered to close the letter-slot, substantially as set forth.

805,352. MOTH-TRAP. JAMES R. EDGAR, Sterling, Kans. Filed Apr. 6, 1905. Serial No. 254,206.



Claim.—1. A moth-trap comprising a receptacle, a centrally-apertured lid, legs secured to the lid and bent to rest upon the upper edge of the receptacle and to extend down within the receptacle to support the lid above the top of said receptacle, a cylindrical screen, and a reflector connected thereto, said screen being secured below the central aperture in the lid, substantially as described.

2. A moth-trap comprising a jar or receptacle, a lid supported above the top thereof, a screen and a reflector depending from the lid, substantially as described.

805,353. ILLUMINATED SIGN. ELIAS L. ELLIOTT, Lakewood, Ohio, and EUGÈNE LUCIEN, Paris, France. Filed Sept. 16, 1904. Serial No. 224,694.

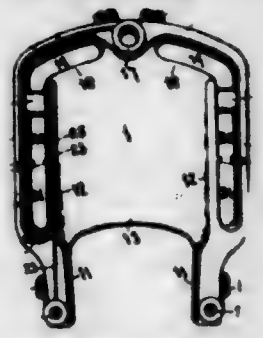


Claim.—1. In an illuminated sign, a support carrying the letters forming the sign, the surfaces of the letters being approximately parabolic, a light for illuminating the letters disposed at the focus of the parabolic surfaces in such manner as to illuminate the letters and cause the rays of light reflected therefrom to be thrown forward.

2. In an illuminated sign, a support carrying letters, said letters being concaved so as to present an approximately parabolic surface, a light for illuminating the sign placed at approximately the focus of the parabolic surfaces of the letters in such manner as to cause the rays of light reflected from the letters to travel forward and a shield placed in front of the light in order to prevent it from being normally visible.

3. In an illuminated sign, a concave support carrying letters in such manner as to present an approximately parabolic surface, and a light for illuminating the sign placed substantially at the focus of the parabolic curve, all arranged in such manner as to cause the reflected rays to travel forward in approximately parallel lines.

805,354. STEAM AND HOT-WATER HEATER. JOHN B. FROST, Watkin N. Y., assignor to Elmira Heater Company, Elmira, N. Y. Filed Jan. 14, 1905. Serial No. 241,083.



Claim.—1. In a steam or hot-water heater, the combination of a plurality of similarly-formed sections, each section comprising vertical side water-spaces, an upper water or steam space connecting the side water-spaces and of the same thickness, a central water-space of less thickness extending between the side water-spaces and communicating therewith and with the upper connecting-space, vertical flues passing through from front to rear and dividing the side water-spaces into two parts, flues passing through the upper connecting-space from front to rear at each side of the center and communicating with the side flues, and recesses in the side walls of the upper connecting-spaces below the top flues to form, when the sections are assembled, outlets for the products of combustion from the spaces between the sections into the top and side flues.

2. In a steam or hot-water heater, the combination of a plurality of similarly-formed sections, each section comprising vertical side water-spaces, an upper water or steam space connecting the side water-spaces and of the same thickness, a central water-space of less thickness extending between the side water-spaces and communicating therewith and with the upper connecting-space, vertical flues passing through from front to rear and dividing the side water-spaces into two parts, flues passing through the upper connecting-space from front to rear at each side of the center and communicating with the side flues, cross connections between the two parts of the side water-spaces constricting the passage from the top flues to the side flues, and recesses in the side walls of the upper connecting-spaces below the top flues to form, when the sections are assembled, outlets for the products of combustion from the spaces between the sections into the top and side flues.

3. In a steam or hot-water heater, the combination with a base containing a grate and ash-pit, of a vertical sectional boiler made up of front and back sections and one or more intermediate sections resting upon said base, each intermediate section comprising water-legs at the sides rising from said base, an upper water or steam space connecting said side water-spaces and of the same thickness, a central water-space of less thickness extending from the side water-spaces, forming a fire-box above the grate and communicating with the side water-spaces and the upper connecting-space, vertical flues passing through the side water-spaces from front to rear above the water-legs and dividing said spaces into two parts, flues passing through the upper connecting-space from front to rear at each side of the center and communicating with the side flues, recesses in the side walls of the upper connecting-space below the top flues to form, when the sections are assembled, outlets for the products of combustion from the spaces between the sections into the top and side flues, corresponding top and side flues in the back section, a smoke-box secured to said back section and inclosing the ends of said flues, and a damper to shut off direct communication from the top flues to the smoke-box.

4. In a steam or hot-water heater, the combination with a plurality of vertical sections, each having intercommunicating top and side flues at each side of the center and reduced central portion forming ducts between the sections into the top flues when the sections are assembled, of a back section having corresponding top and side flues, a smoke-box secured to said back section and inclosing the

ends of said flues, vertical baffle-plates on each side of the back section closing off intermediate portions of said flues, and a damper to shut off direct communication from the top flues to the smoke-box.

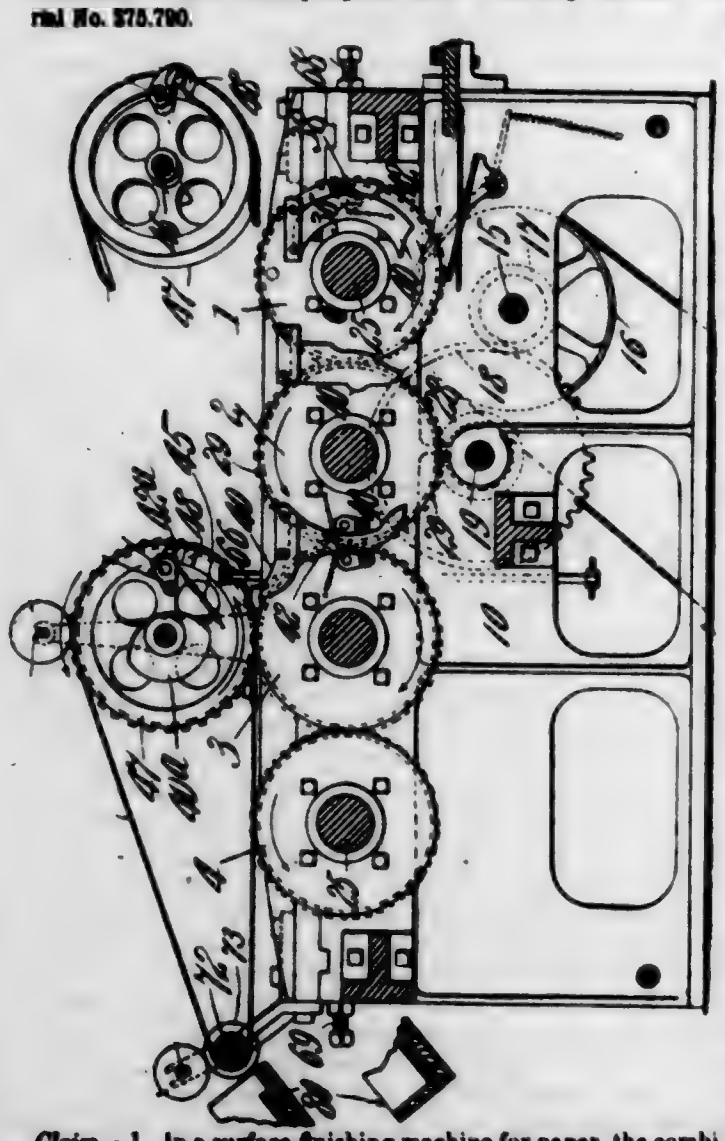
5. In a steam or hot-water heater, the combination with a plurality of vertical sections, each having intercommunicating top and side flues at each side of the center and reduced central portions forming ducts between the sections into the top flues when the sections are assembled, of a back section having corresponding top and side flues, a smoke-box secured to said back section, and inclosing the ends of said flues, vertical baffle-plates on each side of the back section closing off intermediate portions of said flues, horizontal baffle-plates extending forward from said vertical baffle-plates through the side flues in a portion of the sections, and a damper to shut off direct communication from the top flues to the smoke-box.

6. In a steam or hot-water heater, the combination with a plurality of vertical sections having vertical side flues extending from front to rear with an outlet for gases from the lower portions of the side flues, of horizontal baffle-plates with interspersed apertures in said flues above the outlet and a sectional apertured retarding-damper adapted to slide over said plates.

7. In a steam or hot-water heater, the combination with a plurality of vertical sections having vertical side flues extending from front to rear with an outlet for gases from the lower portions of the side flues, of horizontal baffle-plates with interspersed apertures in said flues above the outlet, and a damper made up of interlocking apertured plates adapted to slide over said baffle-plates.

805,855. MACHINE FOR SURFACE-FINISHING PAPER.

CHAUNCEY W. GAY, West Springfield, Mass. Filed Aug. 25, 1905. Serial No. 275,790.



Claim.—1. In a surface-finishing machine for paper, the combination with a pair of sidewise-adjacent rotary cylinders, peripherally covered with cloth, of a further pair of rotary cylinders having metallic peripheries, and means for carrying sheets of paper, to be subjected to pressure, between said two pairs of rolls.

2. In a surface-finishing machine for paper, the combination with a pair of sidewise-adjacent rotary cylinders peripherally covered with cloth, of a further pair of rotary cylinders having metallic peripheral surfaces with inequalities therein like those in the surface of cloth, and means for carrying sheets of paper, to be subjected to pressure, between said two pairs of rolls.

3. In a surface-finishing machine for paper, the combination with a pair of sidewise-adjacent cylinders peripherally covered with cloth, of a further pair of cylinders having peripheral coverings of cloth, and thin sheet metal overlying the cloth and formed with a multiplicity of indentations and prominent portions conforming to the inequalities in the surface of the cloth next thereunder, and means for carrying sheets of paper, to be subjected to pressure between said two pairs of cylinders.

4. In a surface-finishing machine for paper, the combination with a pair of sidewise-adjacent rotary cylinders having metallic peripheral surfaces formed with inequalities like those in the surface of cloth, and means for carrying sheets of paper, to be subjected to pressure, between said pair of rolls.

5. In a surface-finishing machine for paper, a pair of sidewise-adjacent rotary cylinders having peripherally-continuous end portions, having paper-surfacing peripheral portions between said end portions, and having longitudinal niches endwise terminating within said continuous peripheral end portions of the cylinders, and means for feeding sheets of paper between, and subject to the surfacing action of, said cylinders.

6. In a surface-finishing machine for paper, a pair of sidewise-adjacent rotary cylinders having coverings of cloth therearound, and having further coverings of thin sheet metal overlying the cloth coverings which are conformed to the inequalities of the cloth.

7. In a surface-finishing machine for paper, the combination with a supporting-frame, of two pairs of rotary cylinders, each peripherally adjacent the next and having parallel end journals, one of the intermediate cylinders having its journals in fixed bearings, means for adjusting the other of the intermediate cylinders transversely of its axis in opposite directions, and adjustable means for resisting the journal-bearings for the outer cylinders of the two pairs against transversely-outward displacements, cloth surfacings on one or more of the cylinders and means for carrying sheets of paper between the cylinders of both said pairs.

8. In a surface-finishing machine for paper, a pair of peripherally-adjacent rotary cylinders having longitudinally-extending niches, clamping-plates provided at opposite walls of said niches having rib-and-groove engagements with said walls, surface-finishing sheet material covering the peripheries of the said cylinders and marginally extending within said niches and engaged between the ribbed and grooved surfaces of the niche-walls and said clamping-plates, means for maintaining said plates in their clamping confinements, and means for carrying paper sheets between said paired cylinders.

9. In a surface-finishing machine for paper, a pair of peripherally-adjacent rotary cylinders having longitudinally-extending niches, clamping-plates provided at opposite walls of said niches having rib-and-groove engagements with said walls, surface-finishing sheet material covering the peripheries of the said cylinders and marginally extending within said niches and engaged between the ribbed and grooved surfaces of the niche-walls and said clamping-plates, means for maintaining said plates in their clamping confinements, rock-shafts carried by the cylinders and located in said niches, grippers carried by said rock-shafts and coacting with peripheral portions of the cylinders at the margins of the niches, levers on the ends of the rock-shafts, and stationary cams with which said levers in their revolutions coact for alternately opening and closing said grippers.

10. In a surface-finishing machine for paper, the axially-parallel cylinders 1, 2, 3 and 4, having peripheral paper-finishing surfaces, the cylinder 2 having fixed journal-bearings therefor, and the cylinder 3 having an adjustable journal-bearing provided with an inclined side, a block having an inclined side and in sliding engagement with the inclined side of the journal-bearing for the third cylinder, oppositely-arranged screws engaging through the machine-frame and against the upper and lower portions of said block, and the adjusting-screws horizontally engaged through the machine-frame and forming adjustable abutments for the movable journals of the first and fourth cylinders.

11. In a surface-finishing machine for paper, the combination with a plurality of sidewise-adjacent rotary cylinders having paper-surfacing peripheral portions and having longitudinal niches, grippers therein, and means for operating the grippers, a rotary cylindrical part located above one of the surfacing-cylinders, carrying a series of grippers and having gripper-operating means therefor, a horizontally-journaled shaft having tape-rolls thereon and delivery-tapes running around said rotary cylindrical part and said tape-rolls.

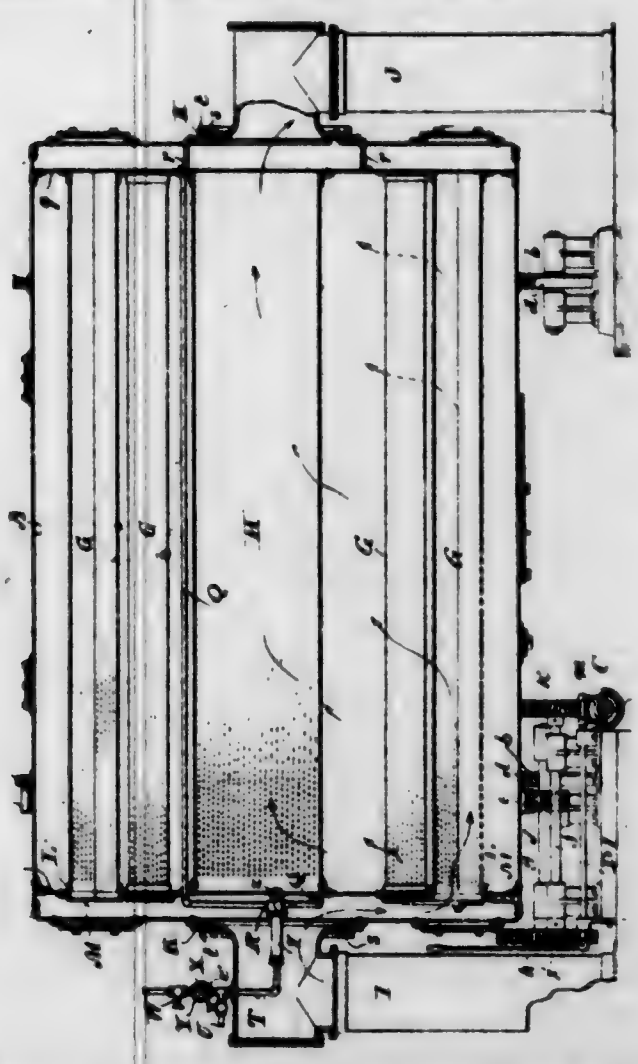
12. In a surface-finishing machine for paper, the combination with a plurality of sidewise-adjacent rotary cylinders having paper-surfacing peripheral portions and having longitudinal niches, grippers therein, and means for operating the grippers, a rotary cylindrical part located above one of the surfacing-cylinders, carrying a

series of grippers and having gripper-operating means therefor, a horizontally-journaled shaft having tape-rolls thereon forwardly beyond said rotary cylindrical part, a series of carrier-tapes running around said rotary parts and said tape-rolls, and series of guide-rolls above and in rolling contact with said rotary cylindrical part and said tape-rolls, and a receiver for the sheets of surface-finished paper in advance of said tape-rolls.

13. In a surface-finishing machine for paper, the combination with a plurality of sidewise-adjacent rotary cylinders having paper-surfacing peripheral portions, and having longitudinal niches, grippers therein, and means for operating the grippers, a rotary cylindrical part located above one of the surfacing-cylinders, carrying a series of grippers and having gripper-operating means therefor, a horizontally-journaled tape-shaft, delivery-tapes running around said rotary cylindrical part and said tape-shaft, and means adjacent the forwardly-located portions of the tapes for imparting a movement to the sheets in delivery faster than the travel of the tapes.

14. In a surface-finishing machine for paper, the combination with a plurality of sidewise-adjacent rotary cylinders having paper-surfacing peripheral portions, and having longitudinal niches, grippers therein, and means for operating the grippers, a rotary cylindrical part located above one of the surfacing-cylinders, carrying a series of grippers and having gripper-operating means therefor, a horizontally-journaled tape-shaft, delivery-tapes running around said rotary cylindrical part and said tape-shaft, rolls on said tape-shaft of greater diameter than said shaft, and friction-rolls running peripherally on said rolls.

805,356. **PNEUMATIC MALTING-DRUM.** FRANKLIN B. GISELER, Milwaukee, Wis. Filed Feb. 10, 1902. Serial No. 93,297.



Claim.—1. A rotatory malting-drum having a coupling connecting its sprinkling-pipes, a closed-end hollow conical spigot loose in the coupling and provided with a water-outlet, a water-conductor pipe coupled to the spigot, a sleeve having water-tight connection with said coupling, a stuffing box in the sleeve engaged by the water-conductor pipe, the latter being provided with a leak-port within said sleeve, and means for circulating air in the drum.

2. A rotatory malting-drum having a coupling connecting its sprinkling-pipes, a closed-end hollow conical spigot loose in the coupling and provided with a water-outlet as well as a series of steam-ports the latter corresponding in number and spacing to the ends of the sprinkling-pipes in connection with said coupling, a water-conductor pipe coupled to the spigot, a sleeve having water-tight connection with the aforesaid coupling, a stuffing-box in the sleeve engaged by the water-conductor pipe, the latter being provided with a leak-port within said sleeve, a cock-controlled steam-pipe coupled to said water-conductor pipe, and means for circulating air in the drum.

3. A rotatory malting-drum having a coupling connecting its sprinkling-pipes, a hollow spigot-terminal of a stationary water-conductor pipe engaging the coupling, the spigot being provided with a series of ports in addition to a larger outlet, these ports being the same in number and spacing as the coupling ends of said sprinkling-pipes, a cock-controlled steam-pipe coupled to the former pipe, and means for circulating air in the drum.

4. A rotatory malting-drum having a coupling connecting the sprinkling-pipes, a closed-end hollow conical spigot that serves as a bearing for the coupling and is provided with a water-outlet, a water-conductor pipe coupled to the spigot, means for regulating flow of water through said conductor, and means for circulating air in the drum.

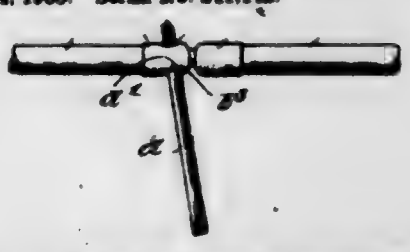
5. A rotatory malting-drum having a coupling connecting its sprinkling-pipes, a closed-end hollow conical spigot that serves as a bearing for the coupling, and is provided with a water-outlet, a water-conductor pipe coupled to the spigot, a casing in connection with said conductor, a hollow conical spigot that is rotatably adjustable in the casing, this spigot being provided with a series of graduated inlets and a single outlet, said outlet being of such length as to be always open regardless of the adjustment of said spigot, and means for circulating air in the drum.

805,357. **HARNESS-COLLAR FASTENER.** NAPOLEON B. GOULD, Houlton, Me. Filed Apr. 24, 1905. Serial No. 257,223.



Claim.—The herein-described horse-collar fastening, consisting of metal sockets 5, 6, secured to the lower sections of the collar, one of said sockets having a pair of rectangular slots 12 disposed vertically in the end thereof and having reduced upwardly-extended portions 15, and the other socket having a pair of buttons 13 thereon to engage the slots, the heads 17 of the buttons being rectangular and the necks 16 of said buttons being flat and disposed vertically to engage the reduced and upwardly-extended portions 15 of the slots, substantially as described.

805,358. **BELT-COUPLING.** JOHN M. GREIST, New Haven, Conn. Filed Jan. 14, 1905. Serial No. 241,142.



Claim.—1. A belt-coupling member comprising an internally-threaded sleeve adapted to be screwed onto an end of a belt, said member being provided, between its ends, with a recess or opening intersecting the belt-receiving chamber of the said sleeve and adapted to receive a combined wrench and cutter by which the said member may be screwed on an end of a belt and the material of the belt be simultaneously pared away for the purpose of shortening the belt.

2. A belt-coupling consisting of two internally-threaded sleeves adapted to be screwed onto the ends of a belt and having a swiveled connection with each other, one of said sleeves being provided, between its ends, with a recess or opening intersecting the belt-receiving chamber of said sleeve and adapted to receive a combined wrench and cutter by which said sleeve member may be screwed inward on an end of a belt and the material of the belt be simultaneously pared away for the purpose of shortening the belt.

3. A belt-coupling comprising two internally-threaded sleeves adapted to be screwed onto the ends of a belt and of such construction that they may be joined or coupled together, one of said members being provided with a diagonally-disposed hole, intersecting the belt-receiving chamber of the sleeve, for the reception of a combined wrench and cutter by which said sleeve may be turned and the material of the belt be simultaneously pared off to shorten said belt.

805,359. BELT-COUPLING. JOHN M. GUMBY, New Haven, Conn. Filed Jan. 14, 1905. Serial No. 241,142.

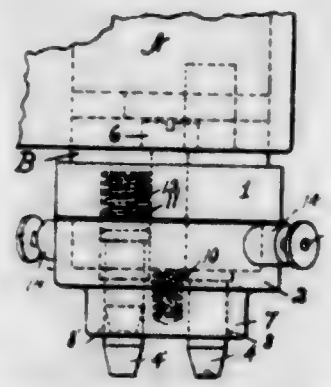


Claim.—1. In a belt-coupling, a coupling member consisting of an internally-threaded, unobstructed open-ended sleeve of equal diameter throughout its length and provided, between the ends of its belt-receiving chamber, with a recess intersecting said chamber, whereby said sleeve is adapted to be engaged by a combined wrench and cutter a part of which will abut against a wall of said recess, while the cutter will enter the belt-receiving chamber at said recess, so that when said sleeve is turned by the said combined wrench and cutter it may be screwed inward from the end of the belt and the latter be simultaneously pared away.

2. A belt-coupling comprising two internally-threaded unobstructed open-ended, tubular members which are both recessed or partly cut away at their adjacent ends to form interlocking hooks by which said members may be detachably joined together.

3. A belt-coupling comprising two internally-threaded unobstructed open-ended, tubular members which are of equal diameters throughout their lengths and which are both recessed or partly cut away at their adjacent ends, to form interlocking hooks by which said members may be detachably joined together, said tubular members having recesses between the ends of their belt-receiving chambers to adapt the said sleeve to be engaged by a combined wrench and cutter by which either of said sleeves may be screwed inward from an end of a belt, said recesses intersecting the belt-receiving chambers of said sleeves so that the cutter may enter a chamber to pare away the belt when a sleeve is turned inward on the end of a belt.

805,360. RIVETING ATTACHMENT FOR POWER-PRESSES. HENRY J. HINDS, Toledo, Ohio. Filed July 21, 1904. Serial No. 217,458.



Claim.—1. In a machine of the class described, a plunger, an anvil having two spaced concaved portions for forming the lower heads of a rivet, a member fixed to said plunger and reciprocal therewith, a swivel on said member, a series of riveting-tools carried by said swivel and adapted to be moved by a movement of said swivel to throw either one into operative position over one or the other of said concaved portions.

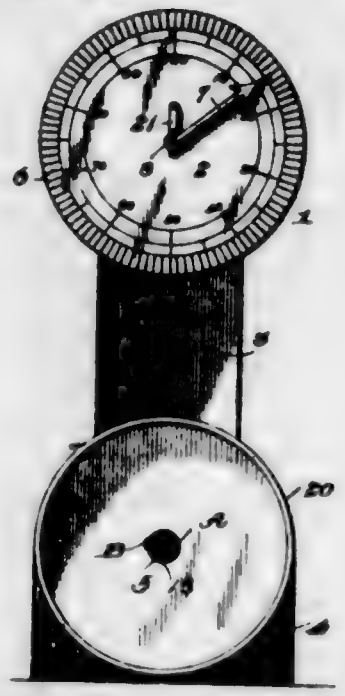
2. In a machine of the class described, the combination with a reciprocatory riveting-tool, of a work-supporting anvil having two spaced rivet-heading portions formed thereon, a pressure-plate mounted at one side of said spaced portions and having a tongue-projecting between them, and yieldable means for normally holding said plate with its surface elevated above said spaced portions for the purpose described.

3. In a machine of the class described, the combination with a plunger of a circular holder fixed to the end of said plunger and having its lower portion reduced, a swivel or turret-head having its upper portion bored to receive the reduced portion of said holder pivotally attached to said holder, an oblong projection on the under side of said swivel having vertical openings communicating with the lower side of the holder, riveting-tools mounted to reciprocate in said openings when in inoperative position of adjustment, and means for turning said swivel to move any one of the tools into operative position with its upper end abutting against the under side of the holder to prevent independent vertical movement thereof.

4. The combination in a machine of the class described, of a plunger, an anvil having two spaced rivet-heading portions thereon, a pressure-plate on the anvil in contiguous position to said spaced portions for normally holding the work out of contact therewith, a holder fixed to said plunger and reciprocal therewith, a swivel carried by and rotatable on said holder, a plurality of tools carried by said member and adapted to be moved by a movement of said member to bring any one of them into operative position over one of the spaced heading portions of the anvil, substantially as described.

5. In a machine of the class described, a plunger, an anvil, a riveting attachment suspended from said plunger and reciprocal therewith, said attachment comprising a holder fixed to said plunger, a member rotatably carried by said holder, a series of riveting-tools mounted in said member and adapted when in operative position to have a rigid bearing against the under side of said holder, substantially as described.

805,361. TARGET. AARON L. HOCKETT, Birmingham, Ala. Filed Mar. 24, 1904. Serial No. 199,725.



Claim.—1. In a target, the combination of a plate bearing a scale, a movable device having a platen designed to receive the impact of a projectile, a pointer movable with respect to the scale, and a step-by-step driving connection intermediate the movable device and the pointer for moving the latter on each movement of the former.

2. In a target, the combination of a plate having an opening and bearing a scale, a pointer movable step by step with respect to the scale, a ratchet fixed with respect to and movable step by step with the pointer, a pawl arranged, when moved in one direction, to engage and move the ratchet, and, when moved in the opposite direction, to leave the ratchet at rest, a movable device arranged opposite the opening in the plate so as to be moved by the impact of a projectile, and means intermediate the pawl and the movable device, for moving the former by the latter.

3. In a target, the combination of a plate having an opening and bearing a circular scale, a rotary pointer, a ratchet-wheel fixed to the pointer, a pawl arranged, when moved in one direction, to engage and turn the ratchet-wheel, and, when moved in the opposite direction, to ride over the ratchet-wheel, and a movable device connected with the pawl and arranged opposite the opening in the plate so as to be moved by the impact of a projectile.

4. In a target, the combination of a plate bearing a circular scale, a rotary pointer, a ratchet-wheel connected with the pointer, a rock-shaft journaled on the plate, a pawl connected to the rock-shaft and coöperating with the ratchet-wheel, and a pendulum connected to the shaft and having a projectile-engaged platen.

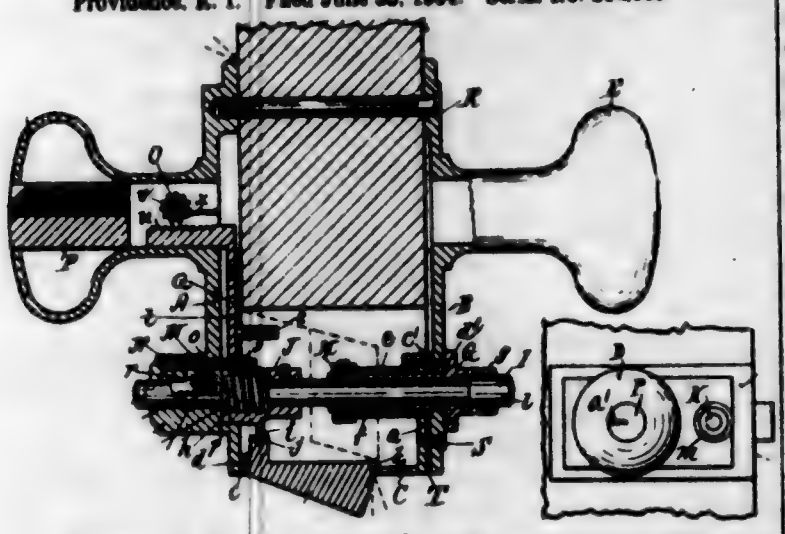
5. In a target, the combination of a plate having an opening 5 and bearing a circular scale, a sleeve or annulus 19 surrounding said opening and having a notch, a rotary pointer, a ratchet-wheel connected with the pointer, a rock-shaft journaled on the plate, a pawl connected to the rock-shaft and coöperating with the ratchet-wheel, and a pendulum connected to the shaft and having a projectile-operated platen disposed in the sleeve or annulus 19.

6. In a target; a plate bearing a scale and having an opening 5, and sleeves 20 and 19 disposed at its front and back, respectively, and surrounding the opening 5, a pointer movable with respect to the scale, a projectile-operated, movable platen arranged in the sleeve 19, and a permanent connection between the platen and the pointer for moving the latter step by step by the former.

7. In a target, the combination with a face-plate having an opening through it, of a dial having a scale on the exposed face of the plate, a rotary pointer over the dial, a ratchet-wheel connected with the pointer and arranged in rear of the face-plate, a rock-shaft jour-

naled in rear of the plate, a pawl connected to the rock-shaft and cooperating with the ratchet-wheel, and a pendulum suspended from the shaft and having a projectile-engaged platen covering the opening in the plate.

805,362. **DOOR LOCK AND LATCH.** JOHN HOPE, Jr., Providence, R. I., assignor of one-half to Charles H. Hope and William H. Hope, Providence, R. I. Filed June 30, 1904. Serial No. 214,809.



Claim.—1. In a door lock or latch, the combination of the inner plate provided with a fixed knob, and the outer plate provided with a fixed knob, and with a front plate extending over the edge of the door, the pivoted latch-bolt held in the opening in the front plate, the push-bar carried by the inner plate, and an operative connection between the push-bar and the pivoted latch-bolt.

2. In a door lock or latch, the combination of the inner plate and the outer plate provided with the front plate extending over the edge of the door, the pivoted latch-bolt held in the opening in the front plate, the push-bar carried by the inner plate, and operatively connected with the latch-bolt, and the spring arranged between the outer plate and the push-bar to cause the outward movement of the push-bar and latch-bolt.

3. In a door lock or latch, the combination of the inner plate, and the outer plate provided with the front plate extending across the edge of the door, the pivoted latch-bolt held in the opening in the front plate, the rotary stop for locking the latch-bolt against inward movement, and the push-bar passing through the axis of the rotary stop and operatively connected with the latch-bolt.

4. In a door lock or latch, the combination of the inner plate, and the outer plate each provided with a fixed knob, and with the front plate extending over the edge of the door, the pivoted latch-bolt held in the opening in the front plate, the push-bar carried by the inner plate and operatively connected with the latch-bolt, the spring for actuating the push-bar and the latch-bolt in the outward direction, the rack-arm projecting from the push-bar into the cavity of the knob of the outer plate, and the rack-actuating gear, adapted to cause the withdrawal of the latch-bolt, upon the proper engagement of the key with the teeth of the gear.

5. In a door lock or latch, the combination of the inner plate, and the outer plate each provided with a fixed knob, and with the front plate extending over the edge of the door, the pivoted latch-bolt held in the opening in the front plate, the push-bar carried by the inner plate and operatively connected with the latch-bolt, the spring for actuating the push-bar, and the latch-bolt in the outward direction, the rack-arm projecting from the push-bar into the cavity of the knob of the outer plate, the key-receiving case held in the knob, the key-actuated gear adapted for engagement with the rack-arm and the spring for causing the disengagement of the gear from the rack upon the withdrawal of the key

6. In a door lock or latch, the combination of the outer plate provided with a fixed knob, the corrugated key provided at its edge with the rack-teeth, the key-receiving case held in the knob and provided with the corrugated opening for the reception of the key, the gear held in the enlarged chamber of the key-receiving case, and adapted for engagement with the rack of the key.

7. In a door lock or latch, the combination of the outer plate provided with the fixed knob, the outer-plate push-bar provided with the rack-teeth, a stop for limiting the outward movement of the outer-plate push-bar, the gear pivoted within a recess of the outer plate and engaging with the rack-teeth of the push-bar, the rack-bar in mesh with the opposite side of the gear, and the spring for causing the outward movement of the outer-plate push-bar, and the corresponding inward movement of the rack-bar.

8. In a door lock or latch, the combination of the inner plate, provided with the fixed knob, and the outer plate provided with the fixed knob, and with the front plate extending over the edge of the door, the pivoted latch-bolt held in the opening in the front plate, the push-bar carried by the inner plate and operatively connected with the latch-bolt, the spring for causing the outward movement of the inner push-bar and latch-bolt, the outer push-bar carried by the outer plate, and provided with the rack-teeth, a stop for limiting the outward movement of the outer push-bar, the gear held within a recess of the outer plate and engaging with the rack-teeth of the outer push-bar, the rack-bar in mesh with the opposite side of the gear and provided with the engaging notch, the spring for causing the outward movement of the outer push-bar and rack-bar, the engaging catch connected with the inner push-bar, and means for causing the engagement of the catch with the notch of the rack-bar, whereby upon such engagement, the push-bars carried by the outer and inner plates will be caused to move simultaneously in opposite directions, and the outer push-bar may be employed to cause the withdrawal of the latch-bolt.

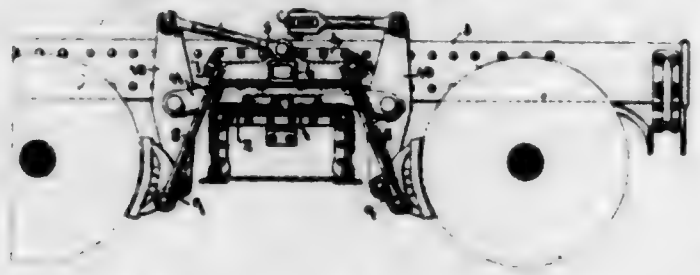
9. In a door lock or latch, the combination of the inner plate provided with the fixed knob, and the outer plate provided with the fixed knob, and with the front plate extending over the edge of the door, the pivoted latch-bolt held in the opening of the front plate, the rotary stop provided with the engaging pins, the inner push-bar passing through the axis of the rotary stop and operatively connected with the latch-bolt, the spring for causing the outward movement of the inner push-bar and latch-bolt, the outer push-bar provided with the rack-teeth, a stop for limiting the outward movement of the outer push-bar, the gear held within a recess of the outer plate and engaging with the rack-teeth of the outer push-bar, the rack-bar in mesh with the opposite side of the gear and provided with the engaging notch, the spring for causing the outward movement of the outer push-bar, and corresponding inward movement of the rack-bar, the engaging catch connected with the inner push-bar and provided with a projecting pin adapted for engagement with the engaging pins of the rotary stop, whereby upon the movement of the rotary stop in one direction, the catch will be caused to engage with the notch of the rack-bar, and in the opposite direction will be disengaged therefrom, so that by the movement of the rotary stop the outer push-bar may be either placed in engagement or disengagement with the latch-bolt.

805,363. **BELT-STRETCHER.** BURT O. KELLY, Petroleum, Ind., assignor of one-half to William R. Allyn, Poneto, Ind. Filed Nov. 19, 1904. Serial No. 233,457.



Claim.—A belt-stretcher comprising a guide-bar including spaced members having a connecting-web at one end and vertically-spaced braces intermediate of its ends, a pull-bar slidably disposed between the braces and sides of the guide-bar and having a longitudinal series of perforations, a lever pivoted between the free ends of the sides of the guide-bar, pawls pivoted to the lever at opposite sides of its fulcrum and disposed to engage the perforations of the pull-bar in the direction of the web portion of the guide-bar, means for holding the pawls yieldably in engagement with the perforations, said pawls being movable from engagement with the perforations when moved away from the web portion of the guide-bar, and belt-clamps connected respectively to the free ends of the guide-bar and pull-bar.

805,364. BRAKE-RIGGING. WILLIAM F. KIBBEL, Jr., Altoona, Pa. Filed Aug. 23, 1905. Serial No. 275,387.



Claim.—1. In a car-truck, the combination of independent brake-riggings on each side of the truck supported from the wheel-pieces, an equalizer-bar passing across the truck at a point adjacent to and above the center plate or pivot-point of the truck, operating-levers in both riggings coupled to said equalizer-bar, and a connection between said equalizer and the brake-operating system.

2. In a four-wheel truck, a brake-rigging comprising brake-heads suspended at points opposite each of the four wheels, vertical levers coupled to the brake-heads, bars passing over the top of the truck-bolster and coupling together the pairs of levers on each side of the truck, links coupling the free end of one lever on each side to fixed points on the truck, and connections between the free ends of the other two levers and the brake-operating system.

3. In a four-wheel truck, the combination, with the wheel-pieces, of hanger-bearings attached to the inside of each wheel-piece, hangers suspended therefrom opposite each of the four wheels, brake-heads carried by the hangers, vertical levers coupled to the brake-heads, bars coupling together the pairs of levers on each side of the truck, links coupling the free end of a lever on each side to the wheel-pieces, a transverse equalizer-bar coupled to the other two levers and having a central pivot-point positioned above the center plate of the truck, and a connection between said central pivot-point of the equalizer and the brake-operating system.

4. The herein-described hanger-bearing comprising a flanged casting adapted to be attached to a wheel-piece, said casting being provided with transverse upwardly-inclined lips at each end to receive brake-head hangers, and having a vertical lug to receive the eye of a lever-link.

5. In a brake-rigging, a pair of vertical levers coupled to longitudinally opposite brake-heads, in combination with a connecting-bar passing over the top of the truck-bolster and uniting the two levers at their fulcrum-points, one of said levers being coupled at its free end to a fixed point and the other lever being coupled at its free end to the brake-operating system.

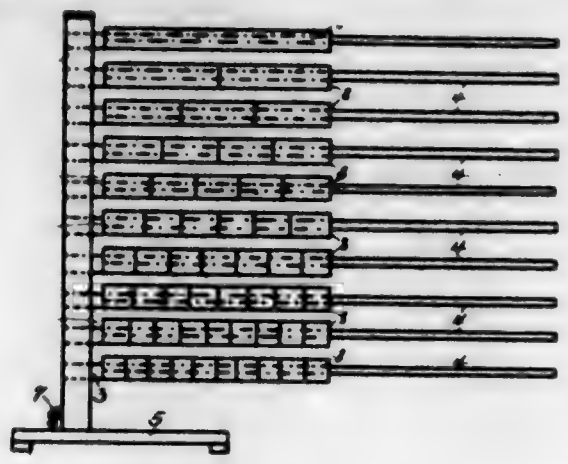
6. The channeled two-sided connecting-bar having forked ends, substantially as and for the purpose herein described.

7. The combination, with a truck comprising wheel-pieces and a transverse bolster, of a brake-rigging composed of brake-heads suspended from the wheel-pieces at each side of the bolster, brake-levers rising therefrom, and operating-links and connections located above the bolster.

805,365. CALCULATING-MACHINE. GUSTAV KNAPPE, Stettin, Germany. Filed Sept. 19, 1904. Serial No. 225,081.

Claim.—In a calculating device, an upright, a series of horizontal arms mounted one above the other in said upright, each arm having an enlarged portion fitted in the upright with a shoulder adjacent the upright and having its outer end free, a series of counters mounted on said arms and spaced away from the upright by said shoulders, all the counters of one series being when assembled of the same length as all the counters of the other series, and the counters of each series being different in number from the counters of every other series, said counters being slidably mounted on said rods and removable over the free ends thereof.

805,365.

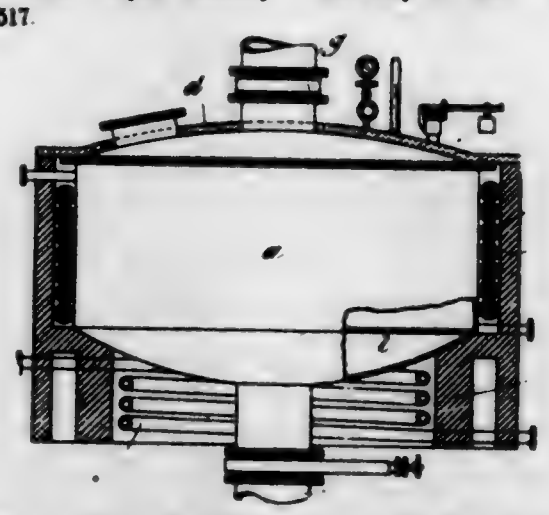


805,366. TEXTILE-FIBER MATERIAL. SIMON KOHN, Vienna, Austria-Hungary, assignor of one-fourth to Gustav Polak, Vienna, Austria-Hungary. Filed Mar. 4, 1903. Serial No. 146,081.

Claim.—1. In the manufacture of webs, textures, felts and pressed objects, fiber material consisting of animal tendons or sinews which are reduced to fibers and tanned.

2. In the manufacture of webs, textures, felt and pressed objects, fiber material consisting of animal tendons or sinews which are reduced to fibers, impregnated and tanned.

805,367. METHOD OF DRYING AND ROASTING GRAIN. VALENTIN LAPP, Leipsic, Germany. Filed May 31, 1904. Serial No. 210,517.



Claim.—1. The method of drying and roasting grain, which consists in first introducing a heated-air supply into the grain from above and withdrawing it from below, and then reversing the direction of the heated-air current during the latter part of the operation.

2. The method of drying and roasting grain, which consists in introducing the heated-air supply into the grain from above and withdrawing it by suction from below during approximately the first two-thirds of the operation, and then reversing the direction of the heated-air current during the latter one-third.

3. The method of drying and roasting grain, which consists in passing a heated-air current from above through the grain in a suitable drying-chamber upon a metallic grid, and minimizing the condensation of moisture therein by regulating the temperature of the chamber-walls, then reversing the direction of the air-current and applying external heat to the floor of the chamber during the latter part of the operation.

4. The method of drying and roasting grain, which consists in passing a heated-air current through the grain in a suitable chamber from above and withdrawing it from below, then reversing the direction of the air-current during the latter portion of the operation, and minimizing the condensation of moisture in the chamber and facilitating the roasting by regulating the temperature of the chamber-walls and heating the floor thereof.

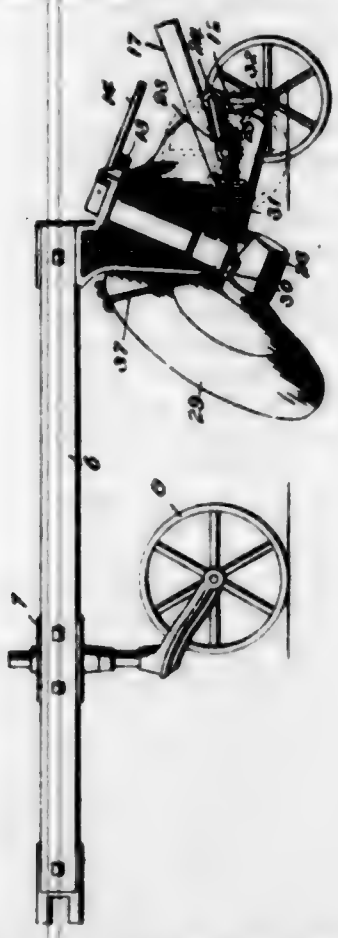
5. The method of drying and roasting grain, which consists in introducing the heated-air supply into the grain from above and withdrawing it by suction from below during approximately the first two-thirds of the operation, then reversing the direction of the air-current during the latter one-third, and applying external heat to the floor of the apparatus during the latter period.

6. The method of drying and roasting grain, which consists in introducing the heated-air supply into the grain from above and

withdrawing it from below by suction during approximately the first two-thirds of the operation; then reversing the direction of the air-current during the latter one-third, applying external heat to the floor of the apparatus during the latter period to facilitate the roasting, and regulating the temperature of the walls of the apparatus to minimizing the condensation of moisture therein

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805,368. **REVERSIBLE DISK PLOW.** MARTIN LUNDIN, Chattanooga, Tenn. Filed Mar. 14, 1906. Serial No. 350,003.



Claim.—1. In a reversible disk plow, in combination, a beam and stock, a disk carried by the stock and which may be turned to right or left, and a wheel-bracket connected to the stock and carrying convertible land and furrow wheels and vertically adjustable to vary the depth of the plow.

2. In a reversible disk plow, in combination, a beam and stock, a reversible disk carried by the stock, and a wheel-bracket carrying convertible land and furrow wheels and hinged to the stock for vertical adjustment.

3. In a reversible disk plow, in combination, a beam and stock, a disk-holder having a post which fits in the stock and which may be turned to right or left therein, a bracket connected to the stock, a cranked axle carried by the bracket and having convertible land and furrow wheels thereon, and connections between the holder and the axle adapted to simultaneously turn the same, to reverse the plow.

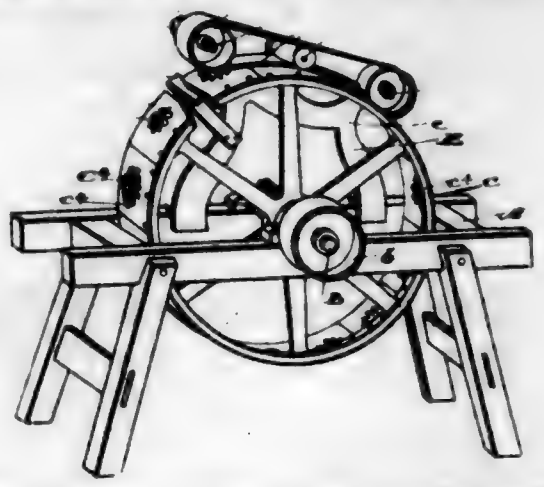
4. In a reversible disk plow, in combination, a beam and stock, a disk-holder carried by the stock and which may be turned therein to right or left, a bracket hinged to the stock, for vertical adjustment, a cranked axle supported by the bracket and carrying convertible land and furrow wheels, and connecting-rods between the holder and the axle, constructed to turn the latter when the former is turned.

5. In a reversible disk plow, the combination with a beam and stock, and a reversible disk carried by the stock, of a bracket hinged to the stock and having stops at its ends, a cranked axle extending through said bracket and which may be turned therein and arranged to strike said stops, and convertible land and furrow wheels upon the axle

6. In a reversible disk plow, the combination with the stock and the disk-holder which may be turned therein, of a pair of scrapers supported on the center pin of the disk and extending oppositely therefrom, and the arms extending from the holder and connected to the scrapers.

7. In a reversible disk plow, the combination of a beam and stock, a disk-holder which may be turned in the stock and has laterally-extending arms, an axle supported on the stock and having cranks at each end at an angle to each other, rods connecting the arms and the cranks, and convertible land and furrow wheels on the axle.

805,369. **TOMATO-PEELING MACHINE.** DAVID MARSHALL, Hamilton, Canada. Filed Oct. 14, 1904. Serial No. 228,454.



Claim.—1. In combination, in a tomato-peeling machine, a rotary drum having its periphery provided with openings through which the tomatoes are to be pressed, the said periphery overhanging the drum at one side and leaving an unobstructed space within it, means for pressing the tomato upon the periphery of the drum and cutting means extending into the unobstructed space, substantially as described.

2. In combination in a tomato-peeling machine, a frame a rotary drum having its supporting-spokes arranged near one edge thereof whereby its periphery overhangs an unobstructed space, said periphery having openings therein, a support extending up from the frame to one side of the drum, a band arranged over the drum for pressing the tomato through the openings, pulleys about which the band passes, said pulleys being carried by the support and a knife also carried by the support, said knife extending into the unobstructed space within the periphery of the drum, substantially as described.

3. A tomato-peeling machine comprising a rotatable wheel suitably supported and driven, a series of plates secured to the wheel and having annular openings therein provided with radially and inwardly extending V-shaped prongs with a central opening between the free ends of the prongs and with means for cutting the cores from the tomatoes and means for forcing the tomatoes through the openings as and for the purpose specified.

4. In a device of the class described, a plate having an annular opening provided with radially-arranged and inwardly-extending prongs, and a diametrically-located bridge having a central annular opening having upper sharpened edges, said prongs being of such a length as to leave a space between their inner ends and the said edges, as and for the purpose specified.

5. In a device of the class described, the combination of a drum provided with a series of arc-shaped plates secured thereto in proximity to each other and each having an opening therein provided with radially-arranged and inwardly-extending prongs, and a bridge and central ring sharpened on its upper edge, said ring being located within the opening formed by the inner ends of the prongs at a distance from said ends, and means for forcing the tomato through the opening as and for the purpose specified.

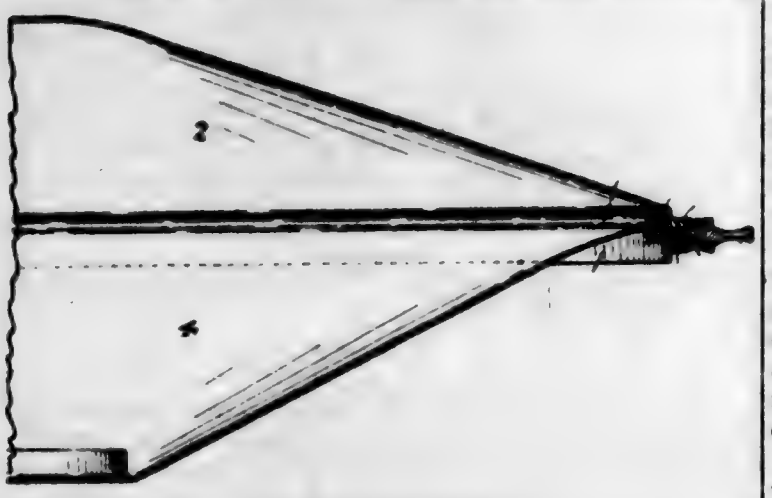
6. In a device of the class described, the combination of a drum provided with a series of arc-shaped plates secured thereto in proximity to each other and each having an opening therein provided with radially-arranged and inwardly-extending prongs, and a bridge and central ring sharpened on its upper edge, means for forcing the tomato through the opening, and a knife suitably supported and projecting under the plates as and for the purpose specified.

805,370. **ELECTRIC-LIGHT SHADE OR HOOD.** ALBERT S. MARTEN, East Orange, N. J. Filed Mar. 23, 1904. Serial No. 199,582.

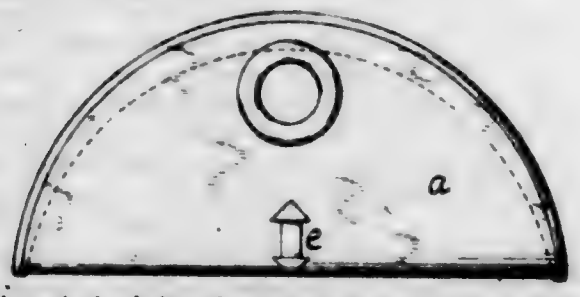
Claim.—1. The improved hood for an electric lamp comprising an upper, dished, sheet-metal member having a downwardly-flanged peripheral edge, a lower and oppositely-dished member separable from within the upper member and adapted to fit at its edges within the downward flange at said periphery, and lugs or pintles projecting inward, from the flange of the upper member, underneath the edge of said lower section, one of said pintles being movable outward from beneath the lower hood member to permit said lower hood member to drop from within said flange, substantially as set forth.

2. The improved shade or hood for electric lights, comprising two oppositely-dished sheet-metal sections, one having at its pe-

ripheral edge a depending flange, said flange having a plurality of fixed pintles projecting inwardly from its inner side and also having a threaded bearing and a threaded member adapted to project beneath said lower section of the hood or shade, the said lower section being removable from the upper section, substantially as set forth.

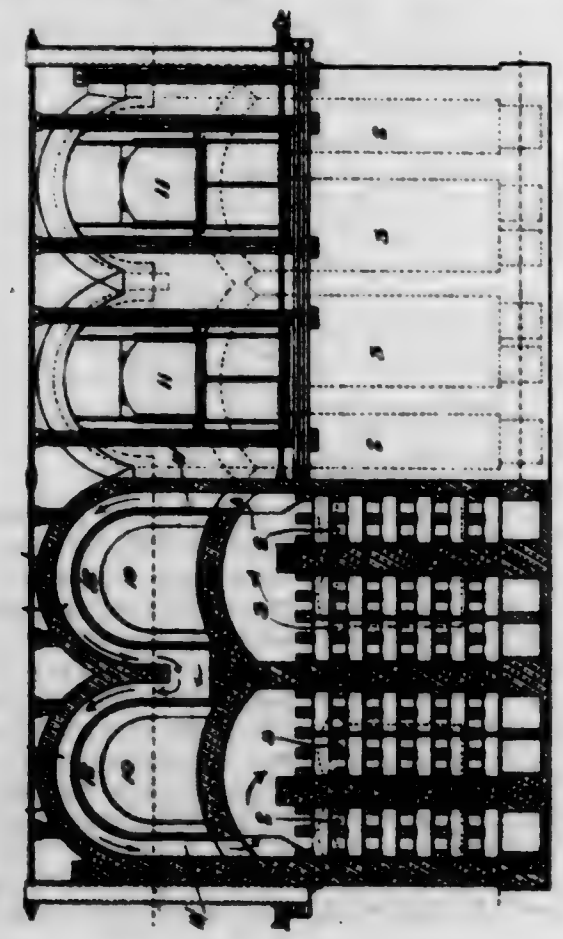


805,371. ICE-HELMET. CHRISTIAN W. MEINECKE, Jersey City, and DANIEL HOGAN, Hoboken, N. J., assignors to Whitall Tatum Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 26, 1904. Serial No. 230,103.



Claim.—An ice-helmet formed of a flat receptacle provided with an inwardly-foldable side wall, said receptacle adapted to have one portion thereof tucked within the other, thereby forming a substantially hollow hemispherical head-covering, the outer and inner portions of the receptacle being shiftable one with respect to the other so that the helmet can inclose various portions of the head.

805,372. REGENERATIVE MUFFLE-FURNACE. WILLIAM R. MILLER, Pittsburg, Pa., assignor to the Porter-Miller Engineering Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 23, 1904. Serial No. 234,085.



Claim.—1. The combination with the chambers of a regenerative furnace, of a radiating heating-chamber inclosed within surrounding side walls and an arched roof, an outer surrounding wall conforming thereto, with intervening continuous arched gas-circulation ports communicating with the regenerative chambers, substantially as set forth.

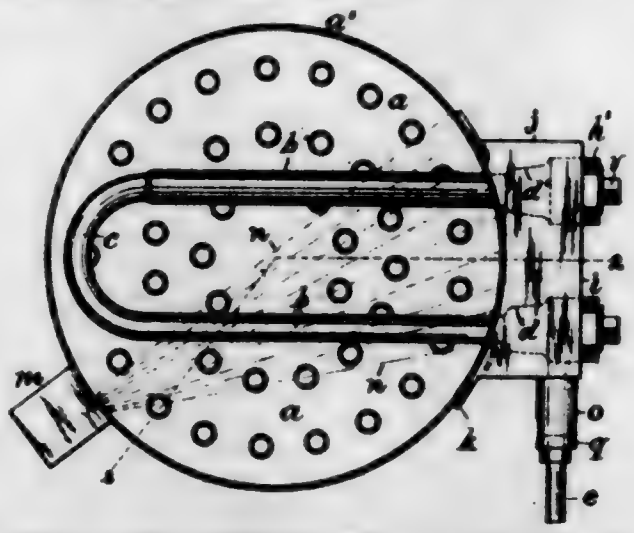
2. The combination with the chambers of a regenerative furnace, of a radiating heating-chamber inclosed within surrounding side walls and an arched roof, an outer surrounding wall conforming thereto, with intervening continuous arched gas-circulation ports communicating with the regenerative chambers, with a series of transverse strengthening-partitions providing a plurality of parallel circulating-gas ports, substantially as set forth.

3. The combination with a pair of regenerative chambers provided with gas and air inlet ports and radiating checker-work, of superimposed chambers provided with arched surrounding thin inclosing walls, outer surrounding walls, and continuous intervening arched gas-circulation ports communicating at opposite sides of the regenerative furnace-chambers, and traversing the exterior of the chamber-inclosing radiating walls, substantially as set forth.

4. The combination with a pair of regenerative chambers provided with gas and air inlet ports and radiating checker-work, of superimposed chambers provided with surrounding thin inclosing walls, outer surrounding walls, and continuous intervening gas-circulation ports communicating at opposite sides of the regenerative furnace-chambers, and traversing the exterior of the chamber-inclosing radiating walls, with transverse strengthening-partitions dividing the gas-circulation openings, into a series of parallel flues, substantially as set forth.

5. The combination with a pair of regenerative chambers provided with checker-work and gas and air inlet ports, of a plurality of superimposed radiating-chambers formed by thin vertical side walls arched at the top and converging toward each end, outer side walls similarly arched at the top and providing a connected series of intervening arched continuous gas-circulating ports, with downwardly-extending ports communicating with the regenerative chambers at the outer sides of the radiating-chambers respectively, substantially as set forth.

805,373. VAPORIZER FOR GASEOUS-FUEL BURNERS. ROBERT J. MILLER, Greenwich, Conn., assignor, by direct and mesne assignments, to Century-Auto Power Company, a Corporation of New Jersey. Filed Feb. 20, 1905. Serial No. 246,269.



Claim.—1. The combination, with a vaporizer-tube, of a pipe for supplying the same, a valve-chamber inserted in the pipe and having seats at opposite ends, a valve movable between the seats and fluted spirally to cause its rotation, and having a passage to permit the leakage of liquid past the valve when the valve is seated.

2. A gaseous-fuel burner having the gas-chamber with perforated top, the U-shaped vaporizer supported above the perforations with its legs projected beyond the edge of the burner, couplings upon the legs, a casing inclosing the couplings to protect them from radiation and open toward the burner, and a torch upon the opposite side of the burner arranged and operated to project its flame upon the vaporizer and into the casing, to maintain the temperature of the couplings and prevent the condensation of gas.

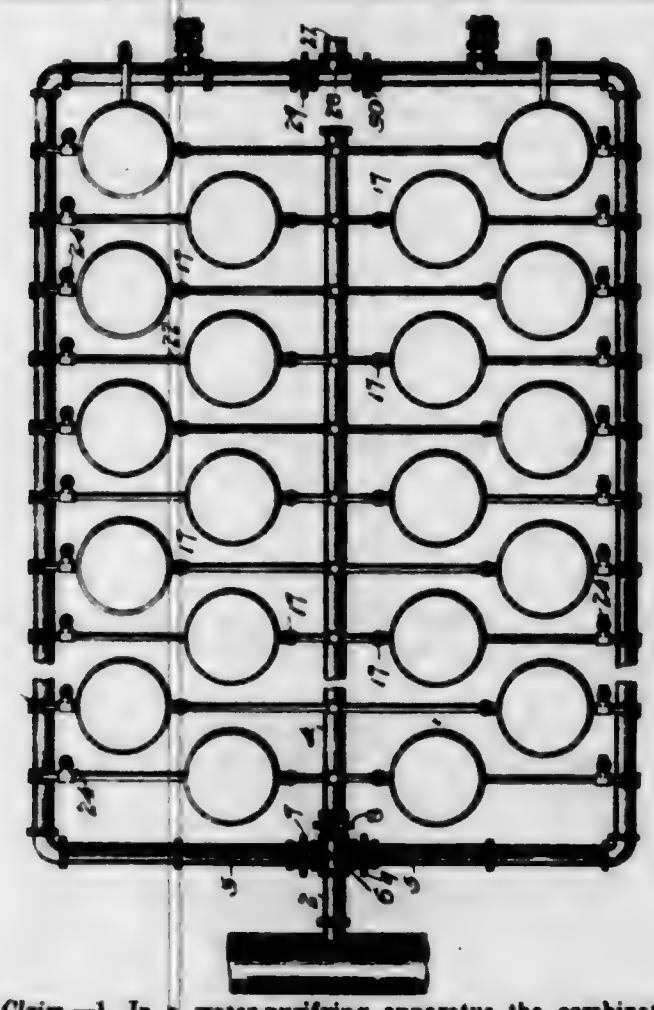
3. In a gaseous-fuel burner, the combination, with the body of the burner having chamber with perforated top and shell projected upwardly from the top, of the casing *j* fitted to the side of the shell with perforation through the shell into the casing, and the casing closed upon the bottom and all other sides, the branch couplings *d*, *d'* having shanks *k* locked in the outer side of the casing, the U-

shaped vaporizer having its legs connected with the couplings, and the supply-pipe *e* and gas-discharge pipe *f* being extended through the wall of the casing into the sides of their respective couplings, as and for the purpose set forth.

4. A vaporizer having a vaporizer-tube of U shape with parallel legs *b*, *b'*, with integral connection *c* at one end and provided at the opposite ends with branch couplings *d*, *d'*, connected respectively to the oil-supply and the vapor-discharge pipes, cylindrical "space-fillers" *t* a little smaller than the tube extended within the legs through the greater part of their parallel portions, and engaged in their respective couplings by screw-threads *u*, and provided upon their inner ends with flat scrapers having opposite parallel edges, with sharp corners, extended in the remainder of the parallel portions of the legs, the tube being of relatively thin metal, and the vapor-holding leg *b'* having the reinforcing-shell b^3 fitted thereon over the portion containing its "space-filler," to protect such leg from excessive heat.

5. In a vaporizer, the combination, with the body of the burner having chamber *a* with perforated top and shell *a'* projected upwardly from the top, of the U-shaped vaporizer-tube formed in one piece with two parallel legs *b*, *b'*, lying horizontally at equal distances from the top of the burner and equally exposed to the heat of the same, and having their ends extended through the side of the shell *a'* and connected outside of the shell respectively with the oil-supply and the vapor-discharge pipes, and the vapor-holding leg *b'* having the reinforcing-tube b^3 fitted thereon to protect it from excessive heat.

805,374. APPARATUS FOR PURIFYING WATER. JOSEPH H. MCDONALD, New York, N. Y. Filed Dec. 21, 1900. Serial No. 40,683.



Claim.—1. In a water-purifying apparatus the combination with a main and a plurality of pipes and means for converting any one of said pipes into a supply-pipe and another into a discharge-pipe, of a battery of filters operatively communicating as such therewith respectively.

2. In a water-purifying apparatus the combination with a main and a plurality of pipes and means for converting any one of said pipes into a supply-pipe and another into a discharge-pipe, of a battery of filters operatively communicating as such therewith respectively, and means for shutting the battery as a unit out of service without interrupting the flow from the main.

3. In a water-purifying apparatus the combination with a main, an intermediary branch pipe, and branch pipes upon opposite sides of said intermediary branch pipe, valves controlling said several branches respectively, two batteries of filters operatively communicating with said branches and intermediary respectively, and a delivery-pipe.

4. In a water-purifying apparatus the combination with a main, an intermediary branch pipe, and branch pipes upon opposite sides of said intermediary branch pipe, valves controlling said several branches respectively, two batteries of filters operatively communicating with said branches and intermediary respectively, and means for operating said batteries separately or as a unit.

5. In a water-purifying apparatus the combination with a main and a plurality of not less than three branch pipes, of a battery of filters operatively communicating with the branch pipes respectively, and means, including a wash-out pipe in each filter of said battery, for constituting any branch pipe into a supply-pipe and another into a discharge-pipe at will.

6. In a water-purifying apparatus, the combination with a main and a plurality of pipes and means for converting any one of said pipes into a supply-pipe and another into a discharge-pipe, of a battery of filters and means for throwing the battery as a unit into operative communication with said pipes alternatively as set forth.

7. In a water-purifying apparatus the combination with a main and a plurality of pipes and means for converting any one of said pipes into a supply-pipe and another into a discharge-pipe, of a battery of filters and means for throwing the battery as a unit into operative communication with said pipes alternatively, as set forth and means for dividing said unitary battery of filters into a plurality of batteries of filters.

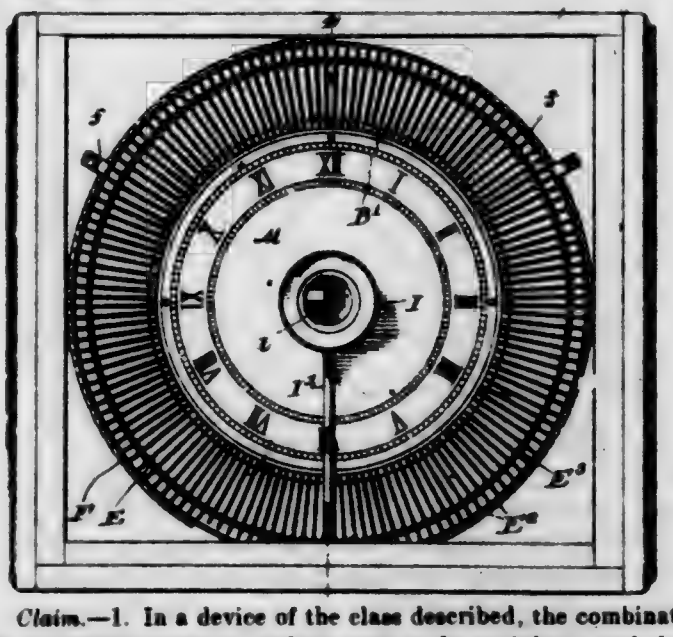
8. In a water-purifying apparatus the combination with a main, an intermediary branch pipe, and branch pipes upon opposite sides of said intermediary branch pipe, valves controlling said several branches respectively, two batteries of filters operatively communicating with said branches and intermediary respectively and means for operating said batteries through communication of the intermediary with the main or independently of such communication.

9. In a water-purifying apparatus, the combination with a main, a plurality of branch pipes and valves controlling said several branches respectively, of a plurality of batteries of filters in operative communication with the branch pipes and means for operating said batteries independently or successively for the purpose of single or double filtration.

10. In a water-purifying apparatus the combination with a main, an intermediary branch pipe, and branch pipes upon opposite sides of said intermediary pipe, valves controlling said several branches respectively, two batteries of filters operatively communicating with said branches and intermediary, respectively, and means for operating the members of said batteries singly from the intermediary branch or successively for double filtration between the lateral branches.

11. In a water-purifying apparatus, the combination with a main and a plurality of branches, of a battery of filters in operative communication with said branches, a delivery-pipe and means for supplying to the delivery-pipe from a single point of operation a volume of water direct from the main and around the filters.

805,375. TIMEKEEPER. ABRAHAM A. NEWMAN, Chicago, Ill. Filed Sept. 9, 1904. Serial No. 223,808.



Claim.—1. In a device of the class described, the combination with an annular series of pockets open at the periphery, and clock-controlled means for guiding checks successively into the pockets, of a ring surrounding the pockets and closing the peripheral sides thereof, said ring being relatively movable with respect to the pockets, a slot in the ring and a gate closing the slot and lying when

closed, within the ring in position to be engaged by a check in a pocket.

2. In a device of the class described, the combination with an annular series of pockets, open at the periphery, and clock-controlled means for guiding checks successively into the pockets, of a ring surrounding the pockets and closing the peripheral sides thereof, said ring being relatively movable with respect to the pockets, a slot in the ring, a gate adapted to close the slot, and means, movable with the gate, for aliming a pocket before the slot when the gate is opened.

3. In a device of the class described, the combination with an annular series of pockets, open at the periphery, and clock-controlled means for guiding checks successively into the pockets, of a ring surrounding the pockets and closing the peripheral sides thereof, said ring being relatively movable with respect to the pockets, a slot in the ring, a gate pivoted to the ring and adapted to swing into the slot and a hook on the upper end of said gate swinging through the slot when the gate is opened to aline a pocket in front of the slot.

4. In a device of the class described, the combination with an annular series of pockets, open at the periphery, and clock-controlled means for guiding checks successively into the pockets, of a ring surrounding the pockets and closing the peripheral sides thereof, said ring being relatively movable with respect to the pockets, a slot in the ring, a gate pivoted to the ring and adapted to swing into the slot, and a beveled hook on the upper end of said gate swinging through a slot when the gate is opened to aline a pocket in front of the slot.

5. In a device of the class described, the combination with an annular series of pockets, open at the periphery, and clock-controlled means for guiding checks successively into the pockets, of a ring surrounding the pockets and closing the peripheral sides thereof, said ring being relatively movable with respect to the pockets, a slot in the ring, a gate pivoted to the ring and lying, when closed, inside the slot in position to be engaged by a check in a pocket, and a hook on the gate, constructed and arranged to swing through the slot into one of the pockets when the gate is opened, to aline the pocket before the slot and prevent relative movement of the ring and pockets while the gate is open.

6. In a device of the class described, the combination with an annular series of pockets, each having an opening from which a check can be removed and clock-controlled means for guiding checks successively into the pockets, of a ring closing the said openings in all of the pockets, and relatively movable with respect to the same, said ring having a slot adapted to register with the opening of a single pocket, and a gate lying within the ring and adapted to be engaged by a check in the pocket.

7. In a device of the class described, the combination with an annular series of pockets, each having an opening from which a check can be removed and clock-controlled means for guiding checks successively into the pockets, of a ring closing the said openings in all of the pockets, and relatively movable with respect to the same said ring having a slot adapted to register with the opening of a single pocket, and a gate pivoted to the ring and arranged to close the slot, said gate lying in position to be engaged by a check in a pocket to prevent relative movement of the ring and the pockets, and means on the gate arranged to aline a pocket in front of the slot when the gate is opened and to prevent relative movement between the ring and the pockets until the gate is closed.

8. In a device of the class described, the combination with an annular series of pockets open at the periphery and clock-controlled means for guiding checks successively into the same, of a number-band mounted on the pockets, a ring surrounding the pockets and inclosing the open sides thereof, said ring being provided with a slot adapted to register with the open side of a single pocket, a gate pivoted to the ring and closing said slot, and a portion on said gate arranged to move when the gate is open to expose a single number on the number-band through the slot.

9. In a device of the class described, the combination with a series of pockets and clock-controlled means for directing checks successively thereto, of separately-removable portions in said pockets adapted when removed to expose openings in the pockets through which checks can pass without stopping, the apparatus being so constructed and arranged that said openings can be left exposed during the normal operation of the device.

10. In a device of the class described, the combination with a series of pockets and clock-controlled means for directing checks successively thereto, of separately-removable bottoms in the pockets which can be removed to leave the bottoms of the pockets open during the normal operation of the device.

11. In a time-recorder, the combination of a series of pockets, having separately-removable bottoms, clock-controlled means for directing checks into said pockets successively, and a tray under said pockets to receive checks passing through pockets from which the bottoms have been removed.

12. In a device of the class described, the combination with a ring, of a series of radial plates extending outward therefrom, lugs stamped up from said plates to space the same apart to form the side walls of an annular series of pockets, bottoms adapted to be secured in place between said side walls and means for directing checks into the pockets thus formed.

13. In a device of the class described, the combination with a ring, of a series of plates, tongues bent laterally from the inner end of said plate and having their ends turned over the edges of said ring to secure the plates in place, lugs stamped up from said plates to space the same apart to form the side walls of an annular series of pockets, bottoms adapted to be inserted in said pockets and means for directing checks into the pockets thus formed.

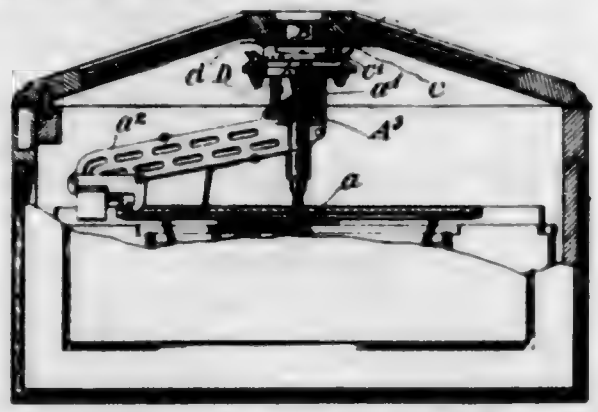
14. In a device of the class described, the combination with a ring, radially-extending plates secured thereto and lugs stamped laterally from said plates to space the same apart, of removable bottoms for said pockets, the ends of which extend under said ring, lugs at the inner ends of said bottoms to limit the inner movement of said bottoms, lugs near the forward ends of said bottoms to engage with the lugs on the plates to prevent the removal of the bottoms except when the bottoms are raised, and means for directing checks into the pockets thus formed.

15. In a device of the class described, the combination with a ring, radially-extending plates secured thereto and lugs stamped laterally from said plates to space the same apart, of removable bottoms for said pockets, the ends of which extend under said ring, lugs at the inner ends of said bottoms to limit the inner movement of said bottoms, lugs near the forward ends of said bottoms to engage with the lugs on the plates to prevent the removal of the bottoms except when the bottoms are raised, and an outer band outside said pockets overhanging the ends of said bottoms to prevent the raising of their ends, said band having a slot at which the bottoms can be raised and removed.

16. In a device of the class described, the combination with a cabinet, an annular series of pockets supported within the same, certain of which are constructed without bottoms, of clock-controlled means for directing checks successively into the pockets and trays, in the shape of annular sectors beneath said pockets.

17. In a device of the class described, the combination with a cabinet, an annular series of pockets supported within the same, certain of which are constructed without bottoms, of clock-controlled means for directing checks successively to the pockets, and trays in the shape of annular sectors hinged together, and a guide for directing the insertion of said trays.

805,376. **TIMEKEEPER.** ABRAHAM A. NEWMAN, Chicago, Ill. Filed Sept. 9, 1904. Serial No. 223,809.



Claim.—1. In a device of the class described, the combination with a series of check-receiving pockets, of a slot through which the checks are passed, clock-controlled mechanism for determining which of the series of pockets the checks enter and means for periodically closing said slot.

2. In a device of the class described, the combination with a cabinet slotted to receive checks, a time mechanism, and a dial carried by the time mechanism, of tripping-posts adjustably secured to the dial, a plate journaled adjacent to the slot and having perforations adapted to periodically register with the same and a star-wheel on the plate arranged to be engaged by the tripping-posts.

3. In a device of the class described, the combination with a timekeeper mechanism having a series of pockets to receive checks, clock-controlled guiding means for directing checks to said pockets

successively and a slot to introduce said checks to the guiding mechanism, of a clock-controlled device for periodically closing said slot.

4. In a device of the class described, the combination with a timekeeper mechanism having a series of pockets to receive checks, clock-controlled guiding means for directing checks to said pockets successively and a slot to introduce said checks to the guiding mechanism, of means under the control of the guiding means for periodically closing said slot.

5. In a device of the class described, the combination with a timekeeper mechanism having a series of pockets to receive checks, clock-controlled guiding means for directing checks to said pockets successively and a slot to introduce said checks to the guiding mechanism, of a perforated plate journaled adjacent to said slot and engaging devices carried by the guiding means for rotating said plate to periodically open and close slot.

805,377. **CABINET AND RACK FOR TIMEKEEPERS.** ABRAHAM A. NEWMAN, Chicago, Ill. Filed Sept. 9, 1904. Serial No. 223,810.



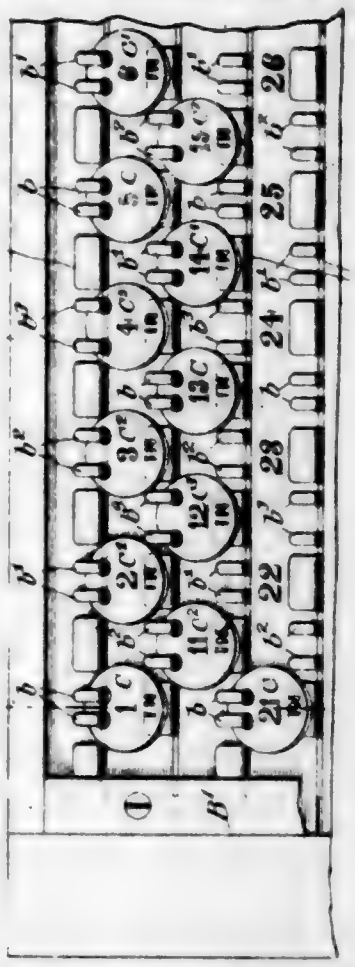
Claim.—1. In a device of the class described, the combination with a bottom, rear and side boards, of doors hinged outside the side boards, check-racks mounted on the side boards, a hinged front board having devices engaging with the side doors when closed to lock them shut and to prevent their closing when opened.

2. In a device of the class described, the combination with a bottom, a rear board and two side boards, and check-racks on the side boards, of doors hinged to the side boards and arranged to inclose the check-racks, a hinged front board, devices on the front board engaging the side doors to lock the same shut or to hold them open, a cover swinging down to meet the free edge of the front board, and means for locking the cover and front board together whereby a single lock secures the entire structure in the desired position.

3. In a device of the class described, the combination with a bottom, a rear board and two side boards, and check-racks on the side boards, of doors hinged to the side boards and arranged to inclose the check-racks, a hinged front board, perforated ears on the front edges of the doors, pins on the front board adapted to engage said ears, the cover swinging down to meet the free edges of the front board and means for locking the cover and front board together whereby a single lock secures the entire structure in position.

805,378. **CHECK-RACK AND CHECK FOR TIMEKEEPERS.** ABRAHAM A. NEWMAN, Chicago, Ill. Original application filed Sept. 9, 1904, Serial No. 223,810. Divided and this application filed Dec. 28, 1904. Serial No. 237,265.

Claim.—1. In a device of the class described, the combination with a supporting-board, of a plurality of checks bearing designating characters and provided with perforations varying on the different checks, and hooks upon which the checks can be placed, the hooks corresponding to the perforations in the checks.



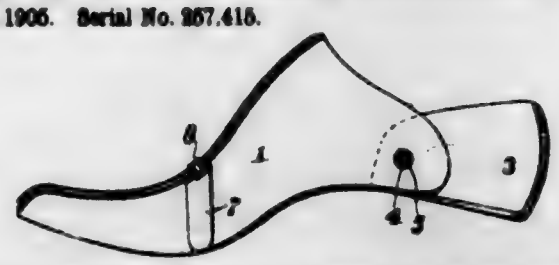
2. In a device of the class described, the combination with a supporting-board, of a plurality of checks bearing designating characters, and having perforations with a number of variations, and hooks upon which the checks may be placed, corresponding to the perforations in the checks, the similar hooks being spaced as far apart as possible.

3. In a device of the class described, the combination with a supporting-board, of a plurality of check-hook bars notched to form pairs of tongues, the pairs being variously spaced and the similar pairs being as far removed as possible from each other and a plurality of checks bearing designating characters and having pairs of perforations corresponding to the pairs of tongues.

4. In a device of the class described, the combination with a supporting-board, of a plurality of check-hook bars notched to form tongues secured in slots in the board, locking-bars covering the ends of said check-hook bars and holding them in place, and a plurality of checks bearing designating characters and perforated to engage with the tongues.

5. In a device of the class described, the combination with a check-rack having a plurality of differently-constructed check-engaging devices, of a plurality of time-checks each arranged to fit upon one of the devices upon the check-rack, but not upon any of the other adjacent devices.

805,379. **SHOE-FORM.** JAMES A. WILES, Lynn, Mass. Filed Apr. 26, 1905. Serial No. 257,415.



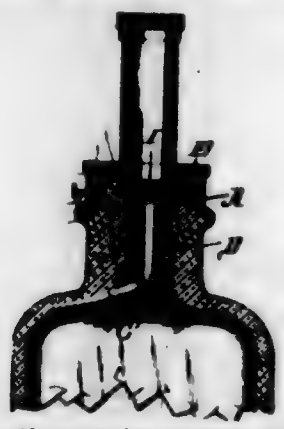
Claim.—1. A hollow form comprising a fore-part section and a heel-section formed of thin sheet material overlapping at their pivotal point, a pivot hinging the sections and a brace at the pivotal point to prevent lateral compression, substantially as described.

2. A hollow form comprising a fore-part section, a heel-section, a rivet or bar pivotally connecting the sections and a tubular brace supported upon the rivet or bar and bearing at its ends against the inner surfaces of the sides of the form, substantially as described.

3. A hollow form formed of thin sheet material open at the bottom and provided at or near the ball portion with a spring-brace ex-

tending transversely and conforming to the interior of the ball portion and pivotally secured thereto at or near its center, substantially as described.

805,380. SELF-MEASURING CORK. EDWIN S. RAYMOND and WILLIAM W. FRASER, Denver, Colo. Filed July 20, 1905. Serial No. 270,552.

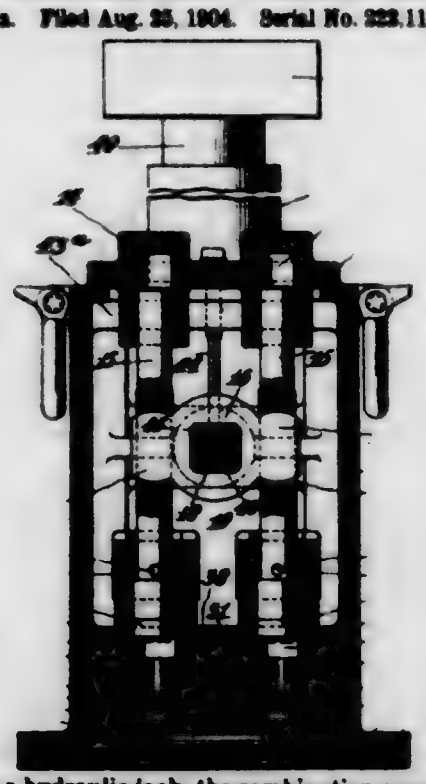


Claim.—1. A self-measuring stopper consisting of a body portion, having a tubular plug or cork depending from its under side, the body portion having an opening or throat in direct communication with the passage-way through the tubular plug, a valve in the body portion whereby the latter's opening or throat may be closed, a measuring-tube upon the body portion, with its lower open end over said opening or throat, and a detachable cap for closing the upper end of the measuring-tube, substantially as described.

2. The combination in a measuring-cork, of a body portion having a removable cap, a tubular plug depending from the body portion, the body portion, plug and removable cap having a free passage-way therethrough, a valve whereby to open or close said passage-way, a measuring-tube on the cap portion, in receiving line with said passage-way, and a cap for closure of the upper end of the measuring-tube, substantially as described.

3. The combination in a measuring-cork, employing a body portion having an inner suitable guideway, an opening or throat and a tubular depending plug, of a valve in said guideway having a projecting stem, and a tube on the body portion whereby to measure material in prescribed doses, substantially as described.

805,381. HYDRAULIC JACK. WILLIAM H. RUSSELL, Doughstown, Canada. Filed Aug. 25, 1904. Serial No. 223,114.



Claim.—In a hydraulic jack, the combination comprising a casing, a ram-cylinder disposed in said casing and in screw-threaded engagement therewith, a bridge disposed across one side of the casing, a rock-shaft disposed on the bridge, a yoke fixed on the rock-shaft and provided with rounded ends, a pair of pistons disposed in the casing, a piston-rod on each piston provided with an opening adapted to engage one end of the yoke, the said piston being provided with openings therein, a valve disposed in said pistons in each of the openings, a screw-threaded well disposed in the path of movement of each of said pistons, a screw-threaded conduit secured to the bottom of each of said wells, a spring-pressed valve disposed in each conduit, a tension-screw disposed beneath each of said latter valves, the said casing being provided with a channel from said conduits merging into a channel leading to the bottom of the cylinder under the ram, and a slotted vent-plug disposed in the upper part of the casing.

805,382. PROCESS OF CONCENTRATING ORES. WALTER M. SANDERS, Iola, Kans. Filed Feb. 7, 1905. Serial No. 244,640.

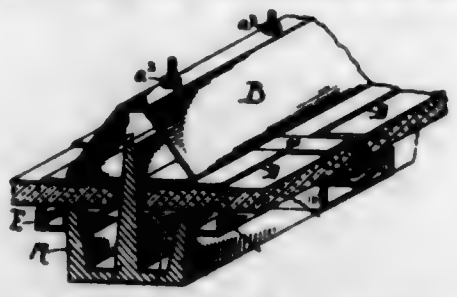
Claim.—1. The method of concentrating ore, which consists in subjecting it to a non-acid solution capable of reacting with evolution of gas, and collecting such particles as are sustained by the evolved gas, substantially as described.

2. The method of concentrating ore, which consists in subjecting it to a non-acid solution containing a sulfate of an earth metal, and collecting such particles as are sustained by the evolved gas, substantially as described.

3. The method of concentrating sulfid ores, which consists in subjecting them to a non-acid solution containing a sulfate of an earth metal, and collecting such particles as are sustained by the evolved gas, substantially as described.

4. The method of concentrating zinc-sulfid ore, which consists in subjecting it to a non-acid solution containing a sulfate of an earth metal, and collecting such particles as are sustained by the evolved gas, substantially as described.

805,383. GLAZED STRUCTURE. ROBERT N. SCHALKENBACH, Jersey City, N. J. Filed Mar. 18, 1904. Serial No. 198,309.



Claim.—1. The combination with an astragal and panes of glass supported thereby, of a resilient cap, approximately triangular in cross-section, and having downwardly-projecting, outwardly-spreading sides, each of which is returned at its lower edge, at an angle toward the central, longitudinal plane of the cap, to form a bearing-face for engaging the pane or panes thereunder, along the upper marginal surface thereof, said bearing-face terminating in a member having a grasp on said pane or panes, at or along the adjacent edge or edges thereof; and means for exerting a seating and spreading pressure on said cap whereby each side thereof will exert a downward pressure and an outward thrust on the engaged pane of glass, substantially as herein specified.

2. The combination with an astragal and panes of glass supported thereby, of a resilient cap, approximately triangular in cross-section, and having downwardly-bent, outwardly-spreading, flat sides extending diagonally downward at an angle from the apex of the cap, the lower edge of each of said sides bearing against the margin of the pane or panes thereunder; and means for exerting a seating and spreading pressure on said cap and whereby the sides thereof are spread outwardly whereby each side thereof will exert a downward pressure and an outward thrust on the engaged pane of glass, substantially as herein specified.

3. The combination with an astragal and panes of glass supported thereby, of a resilient cap, approximately triangular in cross-section, and having downwardly-bent, outwardly-spreading, flat sides, extending diagonally downward at an angle from the apex of the cap; an inwardly-bent, flat bearing-faces for bearing against the margin of the pane or panes thereunder, one of said bearing-faces being conjoined with each of said sides, and each terminating in a downwardly-turned lip having a grasp on or along said pane or panes at the adjacent marginal edge thereof; and a bolt connecting the astragal and the cap, said bolt being provided with a nut for forcing said cap downward to a seating engagement with said pane or panes, and thereby spreading said sides whereby the inturned lips will tend to force the panes of glass outward from the astragal, substantially as herein specified.

4. A cap for covering the abutting edges of adjoining panes of glass in a glazing system, each side thereof having an inturned, downwardly-inclined bearing-face, adapted to compress inwardly when the cap is forced downward into position, substantially as described.

5. A cap for covering the abutting edges of panes of glass in a glazing system, the said cap having two sides, and two inturned,

downwardly-inclined bearing-faces, each terminating in a lip, arranged at an angle thereto, for engagement with the adjacent pane of glass, said bearing-faces, respectively, being compressible inwardly under seating pressure applied to the cap, substantially as described.

6. For a glazing system, in combination with panes of glass, a clip formed from an integrant piece of sheet metal, said clip having a vertical web for insertion between the adjacent edges of the panes of glass, of a depth greater than the thickness of said glass, and being then bent upwardly at an angle to form a seat for one of the panes of glass, and then bent back on itself and upwardly past the vertical web aforenamed, to form a seat for the adjoining pane of glass, substantially as described.

7. For a glazing system, in combination with panes of glass, a clip formed from an integrant piece of sheet metal, the said clip having a horizontal portion g', a vertical web g deeper than the panes, an upward bend forming a seat g^2, and a returned bend underneath the vertical web and projecting upward to form a seat g^3, substantially as described.

8. For a glazing system, in combination with panes of glass, a clip having a vertical web and a resilient base upwardly inclined on each side from the bottom of the web to form seats for the said panes, substantially as described.

9. In a glazing system, the combination with panes of glass and a lateral gutter beneath said panes, of a joining-clip having a vertical web projecting below the panes of glass, an upwardly and outwardly inclined extension leading from the lower edge of the web and projecting to and supporting one of the panes of glass by an edge bearing, and an upwardly-inclined extension projecting to and supporting the other pane of glass; and packing material filling the space between the web, the pane, and one of the upwardly-inclined extensions, substantially as described.

10. In a glazing system, the combination with an astragal having upwardly-turned side flanges, panes of glass supported thereby, and a cap having inturned bearing-faces for bearing against the upper margins of the panes and covering the longitudinal joints between the same, of a lateral joint-clip having a central web deeper than the thickness of the glass to be supported and two upwardly-projecting, resilient extensions which bear at an angle against the lateral margins of the panes of glass, substantially as described.

11. In a glazing system, the combination with an astragal, of an eaves-trough having an upwardly-projecting front portion supporting the outer margin of the glass, and a rearward extension, the latter being continuous under the astragal, and the front portion of the trough, aforenamed, being cut away to receive the end of the astragal, substantially as described.

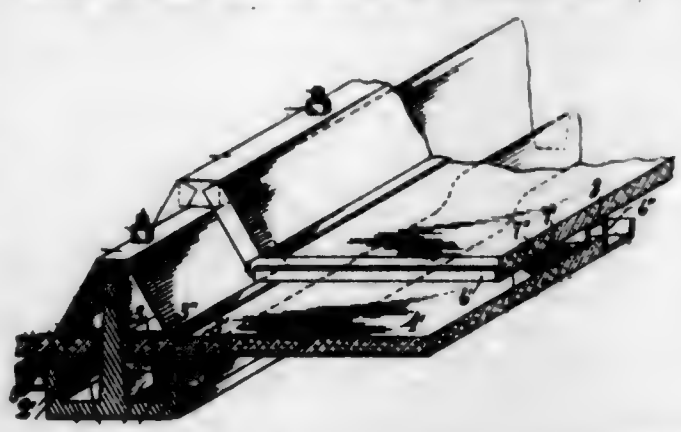
12. In a glazing system, the combination with an astragal having oppositely-turned side flanges, panes of glass supported on said side flanges, and a cap covering the astragal and the adjacent edge portions of the supported glass, of an eaves-trough having an upwardly-projecting front portion supporting the outer margin of the glass, and a rear extension, the latter being continuous longitudinally beneath the bottom of the astragal, the said front portion of the trough being cut away to receive the projecting end of the astragal, substantially as described.

13. The combination with an astragal and panes of glass supported thereby, of a resilient sheet-metal cap adapted to fit over the astragal and to cover the joints between the astragal and the panes of glass said cap being formed with normally upward and outward inclined bearing-faces and with a downward-extending lip or flange at the inner edge of each bearing-face, said lips being adapted to engage the edges of the panes of glass, and means for forcing the bearing-faces downward and outward, whereby when they engage the upper surface of the panes of glass a downward and outward pressure will be exerted on said panes of glass.

14. The combination with an astragal and panes of glass supported thereby, of a resilient sheet-metal cap adapted to fit over the astragal and to cover the joints between the astragal and the panes of glass, said cap being formed with normally upward and outward inclined bearing-faces and with a downward-extending lip or flange at the inner edge of each bearing-face, said lips being adapted to engage the edges of the panes of glass, means for forcing the bearing-faces downward and outward whereby, when they engage the upper surface of the panes of glass, a downward and outward pressure will be exerted on said panes of glass, and a yielding seat for the panes of glass carried by the astragal at a point below the bearing-faces of the cap.

15. The combination with an astragal and panes of glass supported thereby, of a resilient cap, approximately triangular in cross-section, and having downwardly-projecting outwardly-spreading sides, each of which is returned at its lower edge, at an angle toward the central, longitudinal plane of the cap, to form a bearing-face for engaging the pane or panes thereunder, along the upper marginal surface thereof, said bearing-face terminating in a member having a grasp on said pane or panes, at or along the adjacent edge or edges thereof, means for exerting a seating pressure on said cap, and a yielding seat for the panes of glass carried by the astragal at a point below the bearing-face of the cap.

805,884. GLAZED STRUCTURE. ROBERT M. SCHALKENBACH, Jersey City, N. J. Filed Aug. 10, 1904. Serial No. 220,188.



Claim.—1. A glazed structure comprising an astragal having a vertical side flange; a shielding packing-clip straddling said flange; packing material between said packing-clip and said flange and shielded by the former; panes of glass on said packing-clip; and means for exerting a yielding pressure downwardly on said panes of glass, substantially as herein specified.

2. The combination with an astragal having upwardly-turned side flanges, panes of glass supported thereby, and a cap bearing against the upper margin of the panes, of clips on the astragal-flanges, said clips, respectively, having downwardly-bent sides which grasp the side flanges of the astragal, one of said sides being bent at its lower edge upwardly at an angle and extending upward higher than the main body of the clip to bear against the lower margin of the pane or panes of glass above it, substantially as herein specified.

3. The combination with an astragal having upwardly-turned side flanges, panes of glass supported thereby, and a cap for bearing against the upper margin of the panes, of longitudinally-extending clips having downwardly-turned sides, respectively, fitting over and clasping said flanges, one of said sides being upwardly turned to form a resilient bearing edge to support the pane or panes above it, and the other side being bent to form a condensation-gutter, substantially as herein specified.

4. The combination with an astragal having upwardly-turned side flanges, panes of glass supported thereby, a cap having outwardly and downwardly flared straight sides, and means for forcing said cap downward on the margin of said panes, of clips having, respectively, sides fitting on and clasping said flanges, one of the sides of said clips, respectively, being bent upward and outward from its lower edge, and extending above the main body of the clip to form a resilient bearing edge for the under margin of the pane or panes above it, substantially as herein specified.

5. The combination with an astragal having side flanges for supporting panes of glass, of clips on said side flanges, said clips, respectively, having sides which grasp the said flanges, and one of said sides being bent, at its edge, upwardly at an angle, and extended above the main body of the clip to form a resilient support for a pane or panes of glass, substantially as herein specified.

6. A glazed structure comprising an astragal having a vertical side flange; a shielding packing-clip consisting of opposing, connected, depending side members, straddling said flange; panes of glass on said packing-clip, one of said side members being returned somewhat to form a condensation-gutter at the outer side of said flange, and the other being returned to form a packing-gutter at the inner side of said flange: packing material between said packing-clip and said flange: packing material in said packing-gutter; and means for exerting a yielding pressure downwardly on said glass, substantially as herein specified.

7. In a glazed structure, the combination with inclined panes of glass lapping in the direction of the inclination thereof, of a holding-clip between the lapped margins of said panes of glass, said clip comprising a main portion having longitudinal packing-channels at the opposite sides thereof, and oppositely-turned lips or holding

members at opposite edges thereof, for engagement, the one with the lower edge and the other with the upper edge of said panes of glass, respectively; and packing material inserted in said packing-channels between said clip and the lapping margins of said panes of glass, respectively, substantially as herein specified.

8. In a glazed structure, the combination with inclined panes of glass lapping in the direction of the inclination thereof, of a holding-clip between the lapped margins of said panes of glass, said clip comprising a main portion having a bearing-surface near its upper edge and a longitudinal packing-channel below said bearing-surface, and oppositely-turned lips or holding members at opposite edges thereof, for engagement, the one with the lower edge and the other with the upper edge of said panes of glass, respectively; and packing material inserted in said packing-channel between said clip and the lapped margin of the adjacent pane of glass, substantially as herein specified.

9. In a glazed structure, the combination with inclined panes of glass lapping in the direction of the inclination thereof, of a holding-clip between the lapped margins of said panes of glass, said clip comprising a main portion having a bearing-surface near its upper edge and a longitudinal packing-channel below said bearing-surface, and oppositely-turned lips or holding members at opposite edges thereof, for engagement, the one with the lower edge and the other with the upper edge of said panes of glass, respectively, and one of said holding members being returned to form a condensation-gutter above said bearing-surface; and packing material inserted in said packing-channel between said clip and the lapped margin of the adjacent pane of glass, substantially as herein specified.

10. A glazed structure comprising an astragal; lapped panes of glass supported by said astragal; a retaining-clip between said panes of glass at the lapped portions thereof, said clip consisting of a main, oppositely-channeled member, having oppositely-turned lips at its respective edges for the engagement of the respective panes of glass, and whereby the latter are held against displacement, one along the other; packing material in the opposite channels of said clip for the direct engagement of said panes of glass, respectively, and means for exerting a yielding pressure downwardly on said panes of glass, substantially as herein specified.

11. In a glazed structure, a retaining-clip for lapped panes of glass, consisting of a reversely-channeled, main member having upwardly and downwardly turned lips at opposite edges, respectively, thereof, one of said lips being returned to form a condensation-gutter, substantially as herein specified.

12. In a glazed structure, the combination with a packing-clip, consisting of opposing, depending, connected side members forming a recess for receiving and shielding packing material, of packing material disposed in said recess, one of said side members being returned to form a condensation-gutter on the outer side of the astragal, substantially as herein specified.

13. In a glazed structure, the combination with a packing-clip, consisting of opposing, depending, connected side members forming a recess for receiving and shielding packing material, of packing material disposed in said recess, one of said side members being returned to form a condensation-gutter, and the other returned to form a gutter for additional packing material, substantially as herein specified.

14. A glazed structure comprising an astragal having a vertical side flange; a packing-holder consisting of opposing, connected, depending side members; straddling said flange; panes of glass on said holder, one of said side members being returned to and in engagement with said panes of glass, within the gutter of said astragal; and means for exerting a yielding pressure downwardly on said panes of glass, substantially as herein specified.

15. A glazed structure comprising an astragal having a vertical side flange; a packing-holder consisting of opposing, connected, depending side members, straddling said flange; panes of glass on said holder, one of said side members being returned to form a packing-gutter within the gutter of said astragal; packing material within said packing-gutter; and means for exerting a yielding pressure downwardly on said panes of glass, substantially as herein specified.

805,385. LACING. ARTHUR SCHOENHERR, Chicago, Ill. Filed Feb. 28, 1905. Serial No. 247,346.

Claim.—1. The combination with a lacing, of a metallic stiffener therefor of less width than said lacing, said stiffener having a body portion and side wings over which latter the edge portions of the lacing are folded, said wings and their covering edge portions of the lacing being folded over upon said body portion, and the longitudinal halves of the stiffener being folded together flat on the longitudinal median line, substantially as described

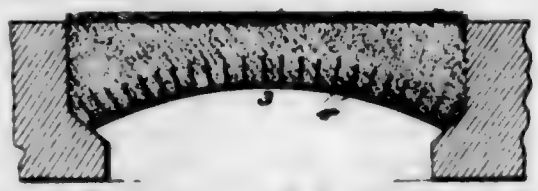
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2. The combination with a tubular lacing, of a metallic stiffener therefor having a body portion with side wings inserted into the end of said tubular lacing, said wings with the side portions of the lacing covering the same being folded over upon the fabric covering, said body portion thereby clamping the lacing between said wings and body portion, and the longitudinal halves of the stiffener being folded together flat on the longitudinal median line, substantially as described.

3. The combination with a lacing, of a metallic stiffener therefor having a head portion with side wings, an intermediate neck portion, and a body portion with side wings, the side wings of said body portion being folded over upon the latter and clamping the edge portions of the lacing between said wings and body portion, said head portion being bent back over the fabric covering the neck with its side wings folded inwardly over the latter, and the longitudinal halves of the stiffener thus formed being folded together flat on the longitudinal median line, substantially as described.

4. The combination with a tubular lacing, of a metallic stiffener therefor having a body portion with side wings and an intermediate neck portion inserted into the end of the lacing, and a head portion with side wings projecting from the end of said lacing, the side wings of said body portion being folded over upon the latter and clamping the edge portions of the lacing between said wings and body portion, said head portion being bent back over the fabric covering the neck with its side wings folded inwardly over the latter, and the longitudinal halves of the stiffener thus formed being folded together flat on the longitudinal median line, substantially as described.

805,386. CONSTRUCTION OF COLUMNS, ARCHES, FLOORS, BINS, &c. ALFRED V. SIMS, Iowa City, Iowa. Filed June 13, 1904. Serial No. 212,406.



Claim.—1. The herein-described improvement in columns, flooring, arching, bins, &c., consisting in a body of non-coherent granular substance, a support therefor as against gravity, and means interposed in the granular body for offering resistance to the internal stresses, such means being positioned at an angle to the line of stress.

2. The herein-described improvement in columns, flooring, arching, bins, &c., consisting in a body of non-coherent granular substance, a support therefor as against gravity, and plates or disks positioned in such granular body at an angle to the line of stress.

3. An arch or flooring consisting of laterals, an interposed body of sand or other granular substance, an under support therefor, and spaced-apart plates or disks embedded in the granular body in juxtaposition to the under support, said plates or disks offering reaction to the internal stresses induced by external loads or pressure.

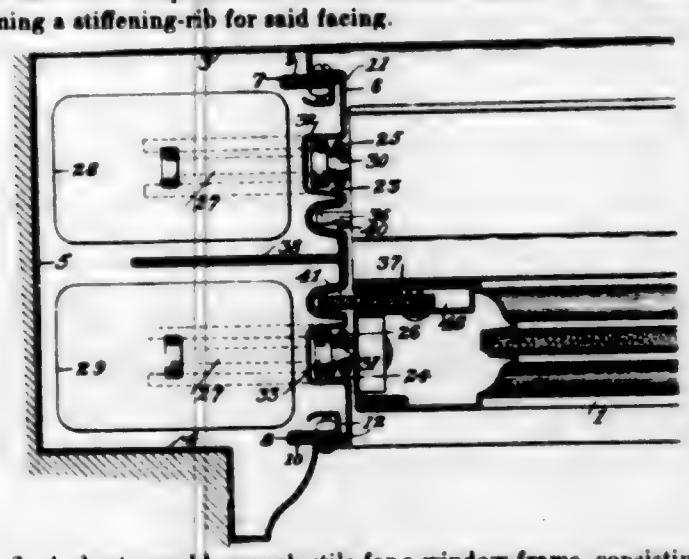
4. An arch or flooring consisting of lateral haunches or supports, an interposed body of sand or other non-coherent granular substance, an under support therefor, and spaced-apart plates, disks or other tension-resisting substances embedded in the granular body and attached to the under support, such plates or disks intersecting the internal stresses induced by the external forces and the reactions against said laterals.

5. The herein-described improvement in columns, flooring, arching, bins, &c., consisting of a body of granular substance and means intermixed therewith to prevent flow of the particles due to gravity, a support as against gravity, and means interposed throughout the granular mass for offering resistance to the internal compressive stresses, such means being positioned at an angle to the line of stress.

805,387. WINDOW. HENRY C. SMITH, New York, N. Y. Filed July 3, 1902. Serial No. 114,252.

Claim.—1. A sheet-metal boxwork-stile for a window-frame, consisting of back and front walls, an outer side wall and a detachable inner side wall or facing; said facing being formed with guideways for the sashes, and between said guideways being reflexly

folded to form a deep vertical partition dividing the interior of the stile into two compartments for the sash-weights; said partition forming a stiffening-rib for said facing.



2. A sheet-metal boxwork-stile for a window-frame, consisting of back and front walls, an outer side wall, and a detachable inner side wall or facing; said facing being formed with guideways for the sashes, and between said guideways being provided with a deep vertical stiffening-rib which projects inwardly from said facing and is detachable therewith and divides the interior of the stile into two compartments for the sash-weights.

3. A sheet-metal boxwork-stile for a window-frame, consisting of back and front walls, an outer side wall and a detachable inner side wall or facing; said facing being formed with guideways for the sashes, and between said guideways being provided with a deep vertical stiffening-rib which projects inwardly from said facing and is detachable therewith and divides the interior of the stile into two compartments for the sash-weights, said back and front walls being bent along their inner edges to form grooves, and the vertical edges of said facing being bent to form flanges which fit closely within said grooves.

4. A sheet-metal boxwork-stile for a window-frame, consisting of back and front walls, an outer side wall and a detachable inner side wall or facing; said facing being formed with guideways for the sashes, and between said guideways being reflexly folded to form a deep vertical partition dividing the interior of the stile into two compartments for the sash-weights; said facing being narrower than the stile, and the inner edges of the back and front walls being bent toward each other to meet said facing, and also having formed therein vertical grooves, and the vertical edges of said facing being bent to form flanges which fit closely within said grooves.

5. A sheet-metal boxwork window-frame comprising a pair of stiles, a sill and a head; each stile consisting of back and front walls, an outer side wall, and a detachable inner side wall or facing having guideways for the sashes; said back and front walls being bent along their inner edges to form grooves, and the walls forming the sides of said grooves being projected through the floor of the head to form fastening-ears which are bent over upon said floor; and the vertical edges of said facing being bent to form flanges which fit closely within said grooves and also are extended upwardly to form locking-lugs which project through the floor of the head between said ears.

6. A sheet-metal window-frame comprising a pair of stiles, a sill and a head; each stile consisting of back and front walls, an outer side wall, and a detachable inner side wall or facing having guiding-grooves for the sashes; said back and front walls being bent along their inner edges to form grooves, the walls forming the sides of said grooves being projected through the floor of the head to form fastening-ears which are bent over upon said floor, and the vertical edges of said facing being bent to form flanges which fit closely within said grooves and also are extended upwardly to form locking-lugs which project through the floor of the head between said ears, and ears bent out from the bottoms of the facings within said grooves and secured to the sill.

7. In a window-frame, a detachable stile-facing extending in one piece from sill to head and provided with sash-guiding grooves and having between said grooves a stiffening-rib which projects inwardly from said facing and is detachable therewith and forms a partition for separating the sash-weights.

8. In a window-frame, a detachable stile-facing extending in one piece from sill to head and provided with sash-guiding ways and having between said ways a vertical reflex bend forming an integral stiffening-rib which serves as a partition for separating the sash-weights.

9. In a window-frame, a detachable stile-facing extending in one piece from sill to head and provided with sash-guiding grooves and having between said grooves a vertical reflex bend forming an integral stiffening-rib which serves as a partition for separating the sash-weights, said facing having a locking projection at the top, and also having at the bottom an outwardly-bent ear within one of said grooves for securing to the sill.

10. A boxwork window-frame comprising a pair of stiles, a sill and a head; each stile comprising two pieces of metal, whereof one forms three sides of the stile and is permanently joined to the sill and head, and the other is detachably mounted in position to form the inner side or facing of the stile, and is provided with sash-guiding ways, said two stile-pieces interlocking with each other at their edges in such a manner that said facing may be detached, the edges of said three-sided piece being reflexly folded to form recesses, the edges of said detachable facing being bent inwardly to form flanges which fit closely within said recesses, and said facing being formed between said sash-guiding ways with an integral reflex inwardly projecting rib which forms a partition for separating the sash-weights.

11. In a boxwork sheet-metal window-frame, a detachable sash-guiding stile-facing plate formed with two pairs of vertical grooves and also formed between said pairs with an integral reflex rib for projecting into the interior of the stile and serving as a partition to separate the sash-weights.

12. In a boxwork sheet-metal window-frame, a detachable sash-guiding stile-facing provided with a midway vertical inwardly-projecting stiffening-rib which extends for substantially the entire length of the facing and is detachable therewith.

13. A boxwork sheet-metal window-frame comprising a detachable stile-facing which is formed with sash-guiding grooves and is also provided with reinforcing-plates within the grooves.

14. A boxwork sheet-metal window-frame comprising a stile-facing which is formed with sash-guiding grooves and is also reflexly bent between said grooves to form a stiffening-rib which projects within the stile and forms a partition for separating the sash-weights, and a reinforcing-plate covering said reflex bend, and formed with grooves which line the grooves in said facing and take the wear of the sash-guiding members.

15. A boxwork sheet-metal window-frame each of whose stiles has formed therein a plurality of sash-guiding grooves, and a reinforcing-strip for each of said stiles, said strip being provided with a plurality of grooved portions which fit within said grooves to take the wear of the sashes.

16. In a boxwork sheet-metal window-frame, a detachable sash-guiding stile-facing provided with a midway vertical inwardly-projecting stiffening-rib extending for substantially the entire length of the facing; said facing reaching from sill to head and having means for attachment to both sill and head.

17. The combination with a window-frame, of a sash therein; said sash being provided at each side with a guiding-tongue and a flexible connection side by side; and said window-frame being provided at each side with a pair of grooves side by side, one for said tongue and one for said flexible connections; and a counterbalance connected to said flexible connection.

18. The combination with a window-frame, of a sash therein; said sash being provided at each side with a releasable guarding-tongue and a flexible connection side by side, and being also provided with trunnions whereby it is hung upon its flexible connections; and said window-frame being provided at each side with a pair of grooves side by side, one for the tongue and one for the trunnion and its connection; and counterbalancing means connected to the flexible connections.

19. The combination with a window-frame of two sashes therein; said sashes being each provided at each side with a releasable guiding-tongue and a flexible connection side by side, and each sash being also provided with trunnions whereby it is hung upon its flexible connections; said window-frame comprising a sill, a head and a pair of stiles, each of the latter having two pairs of grooves, one groove in each pair to receive the sash-tongue, and one groove in each pair to receive the trunnion; and counterbalancing means connected to said flexible connections.

20. The combination with a window-frame of two sashes therein; said sashes being each provided at each side with a releasable guiding-tongue and a flexible connection by the side thereof, and each sash being also provided with trunnions whereby it is hung upon its flexible connections; and said window-frame comprising a sill, a head and a pair of stiles, each of the latter having a detachable facing provided with two pairs of grooves, one groove in each pair to receive the sash-tongue, and one groove in each pair to receive the

trunnion and counterbalancing means connected to said flexible connections.

21. A sheet-metal boxwork-sash provided upon its side with an upright guiding-tongue which is mounted for diagonal movement, the bottom bar of the sash being provided with an opening beneath said tongue, and a trap closing said opening and operatively connected to said tongue.

22. A sheet-metal boxwork-sash provided upon its side with an upright guiding-tongue which is mounted for lateral movement, a sliding member mounted upon one of the top and bottom bars of the sash, and a link connecting said sliding member to said tongue.

23. A sheet-metal boxwork-sash provided upon its side with an upright guiding-tongue which is mounted for diagonal movement, a sliding member mounted upon one of the top and bottom bars of the sash, and a link connecting said sliding member to said tongue, and normally locking the latter in its protruded position.

24. A sheet-metal boxwork-sash provided upon its side with an upright normally protruding guiding-tongue which is mounted for diagonal movement, the bottom bar of said sash being provided with an opening, a sliding trap for closing said opening, and a link connecting said trap to said tongue.

25. A sheet-metal boxwork-sash provided upon its side with an upright normally protruding guiding-tongue which is mounted for diagonal movement, the bottom bar of said sash being provided with an opening, a trap for closing said opening, and a link connecting said trap to said tongue; said opening being beneath the tongue, and the latter being retractable by the opening movement of the trap and adapted to protrude at its lower end through said opening.

26. A sheet-metal boxwork-sash provided upon its side with an upright guiding-tongue which is mounted for diagonal movement, the bottom bar of said sash being provided with an opening, a sliding trap for closing said opening, and a link connecting said trap to said tongue; said opening being beneath the tongue, and the latter being retractable by the opening movement of the trap and protruding at its lower end through said opening, and said link standing upright when the trap is closed and locking the tongue in its normal position.

27. A sheet-metal boxwork-sash provided upon its side with an upright normally protruding guiding-tongue which is mounted for diagonal movement, the lower bar of the sash being provided with an opening through which the lower end of the tongue may project when it is retracted, and a trap which closes said opening and locks said tongue in its normal position.

28. A sheet-metal boxwork-sash provided upon its side with an upright normally protruding guiding-tongue which is mounted for diagonal movement, the lower bar of the sash being provided with an opening through which the lower end of the tongue may project when it is retracted, and a trap for closing said opening and locking said tongue in its normal position; said trap being provided with a finger-hold, and said lower bar being provided with a long slot registering with said hold.

29. The combination with a pair of sash-chains, counterbalancing-weights attached thereto, and pulleys over which said chains run, of a sash and sash-prop both supported by said chains; said sash being swiveled at its points of connection to said chains, and being provided with retractable guiding-tongues, and said prop being capable of supporting the sash in an inclined position

30. The combination with a sash, of a pair of counterbalancing-weights, a pair of flexible connections, pulleys for said connections, trunnions for said sash, a link attached to one of said connections and having a bearing for one of said trunnions, a prop pivoted to said link, and means for supporting the other of said trunnions upon the other of said flexible connections.

31. The combination with a sash, of a pair of counterbalancing-weights, a pair of flexible connections, pulleys for said connections, trunnions for said sash, a link attached to one of said connections and having a bearing for one of said trunnions, said trunnion comprising a neck and a head, and said link having a keyhole-slot in which said neck has a bearing, a prop pivoted to said link, and means for supporting the other of said trunnions upon the other of said flexible connections.

32. The combination with a sash, of a pair of counterbalancing-weights, a pair of flexible connections, pulleys for said connections, trunnions for said sash, a link attached to one of said connections and having a bearing for one of said trunnions, a prop pivoted to said link and depending below said trunnion, and means for supporting the other of said trunnions upon the other of said flexible connections.

33. The combination with a sash, of a pair of counterbalancing-weights, a pair of flexible connections, pulleys for said connections, trunnions for said sash, a link attached to one of said connections and having a bearing for one of said trunnions, a prop pivoted to said link and depending below said trunnion, a series of holes in the adjoining stile of the sash, into any of which the tip of said prop is adapted to be inserted, and means for supporting the other of said trunnions upon the other of said flexible connections.

34. A sheet-metal boxwork-sash provided upon each side with an upright guiding-tongue which is mounted for diagonal movement, the bottom bar of said sash being provided upon its under side with openings, one beneath each tongue, traps for closing said openings, and operative connections between said traps and said tongues.

35. In a sheet-metal window, a jamb the facing of which is formed of a piece of sheet metal bent to form runways, and the edges of which are projected laterally; lateral folds along the edges of the sheet metal which form the remainder of the jamb within which the laterally-projecting edges of the facing-piece are received; an opening whereby one end of said facing is received and held within the frame; and screws whereby the other end of the facing is detachably secured to the frame, substantially as described.

805,388. **MOLAR-CHISEL.** HENRY M. STEVENSON, Perry, Iowa. Filed Feb. 23, 1905. Serial No. 246,970.



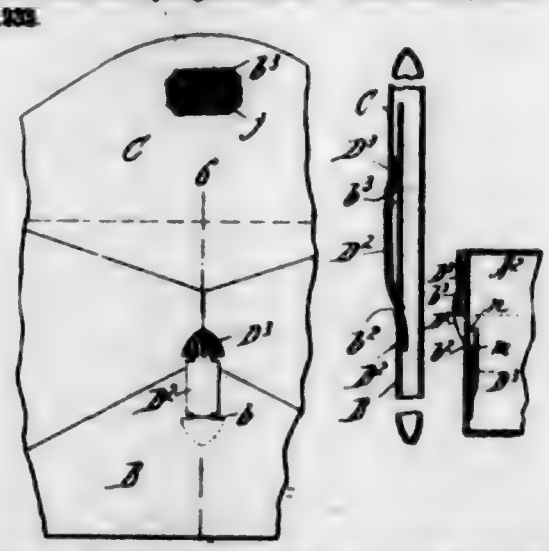
Claim.—1. A molar-chisel comprising an approximately U-shaped frame, one member or arm thereof being provided with a cutter or bit, substantially as set forth.

2. A molar-chisel comprising an approximately U-shaped frame deflected in the direction of its length and having one of its members provided with a bit or cutter.

3. A molar-chisel comprising a frame of approximately U form, and a cutter or bit adapted to be attached to either member near its extremity.

4. A molar-chisel comprising an approximately U-shaped frame, having openings in the end portions of its arms or members, and a bit or cutter adapted to be fitted in the opening of either member and secured therein against casual displacement.

805,389. **FASTENING FOR CLOSURES OF ENVELOPS.** LUDVIG G. SWANSON, Springfield, Mass. Filed Jan. 20, 1905. Serial No. 241,339.

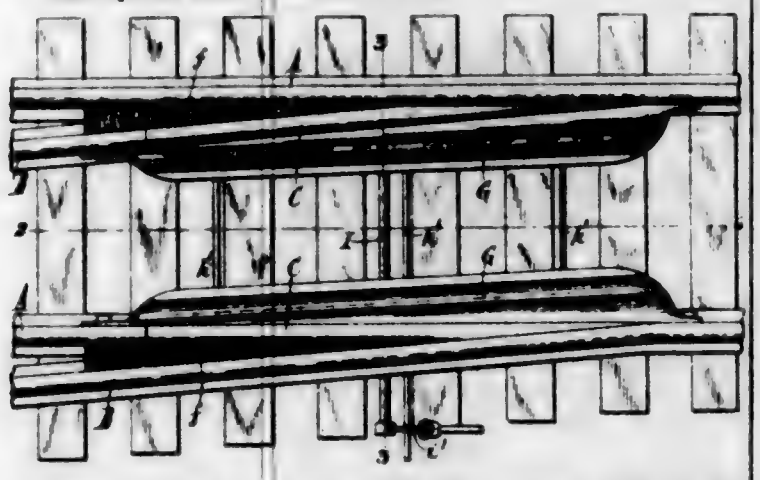


Claim.—1. A closure-fastening for envelops and the like operable between the flap and envelop-back, consisting of a tongue provided to the one part and a slit formed in the other part, said tongue being transversely shouldered back from its end and made with alternated longitudinal ridges and furrows, or flutes, and therefore transversely contractible and distensible.

2. In an envelop or the like having a closure-fastening, the parts, namely, the envelop-back and the flap to overlap on the outer side thereof, one of said parts having a slit, and a supplemental flap at its inner side unattached at one edge, and lying across the slitted portion of such part, and the other part having a fastening-tongue en-

gaged therewith, which is transversely shouldered back from its free end and made with alternated longitudinal ridges or furrows, or flutes, and adapted to be inserted for a locking engagement through the said slit and to have a facewise bearing against said supplemental flap.

805,390. RAILWAY-SWITCH. JOSEPH WAITE, Buffalo, N. Y. Filed Apr. 24, 1905. Serial No. 257,101.



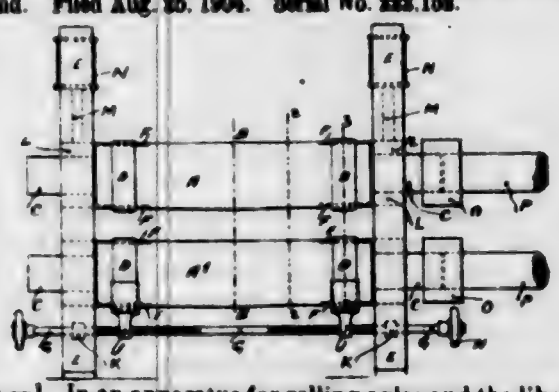
Claim.—1. The combination with the stationary rails of the main track and the siding and the vertically-movable switch-rails, of elevating devices for alternately raising the switch-rails to the level of the stationary rails, a locking device for each elevating device, and a connection between said locking devices constructed to simultaneously move the same, the one into its operative position and the other into its inoperative position, substantially as set forth.

2. The combination with the stationary rails of the main track and the siding and the vertically-movable switch-rails, of elevating devices for alternately raising the switch-rails to the level of the stationary rails, and a transverse shaft extending across the tracks below the same and provided with lugs arranged to interlock alternately with said elevating devices, substantially as set forth.

3. The combination with the stationary rails of the main track and the vertically-movable switch-rails, of cam-rollers for actuating the switch-rails, stationary walls or housings located opposite the cam portions of the rollers, and a transverse rock-shaft located below the rollers and having locking-lugs arranged to enter between the cam portions of the rollers and said walls, substantially as set forth.

4. The combination with the stationary rails of the main track and the siding and the vertically-movable switch-rails, of cam-rollers for actuating the switch-rails, housings inclosing the cam-rollers, and bottom plates for the housings interposed between the same and the ties and extending from end to end and from side to side of the housings, substantially as set forth.

805,391. APPARATUS FOR ROLLING AXLES AND THE LIKE. GEORGE E. WALKER and ABRAHAM PEACOCK, Scunthorpe, England. Filed Aug. 25, 1904. Serial No. 223,158.

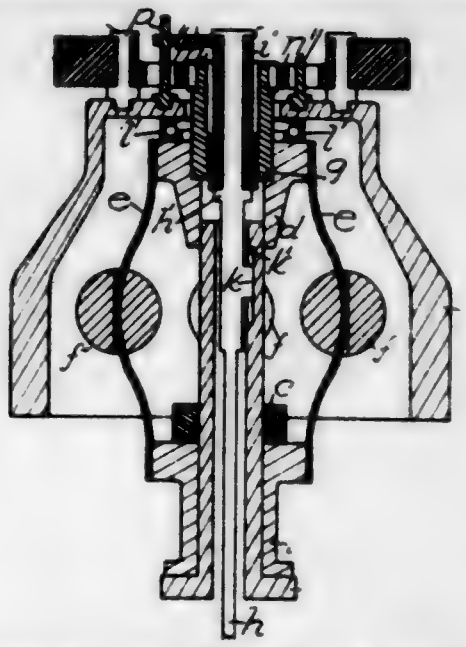


Claim.—1. In an apparatus for rolling axles and the like, a roll provided with a forming ring or collar slidable along the axis of the roll on the forming portion thereof, substantially as described.

2. In an apparatus for rolling axles and the like, a stand of rolls each provided with a plurality of forming rings or collars, said forming-rings being slidable along the axes of the rolls on the forming portions thereof, substantially as described.

805,392. SPEED-GOVERNOR. HENRY E. WARREN, Newton, Mass., assignor to The Lombard Governor Company, Ashland, Mass., a Corporation of New Jersey. Filed Mar. 28, 1905. Serial No. 251,419.

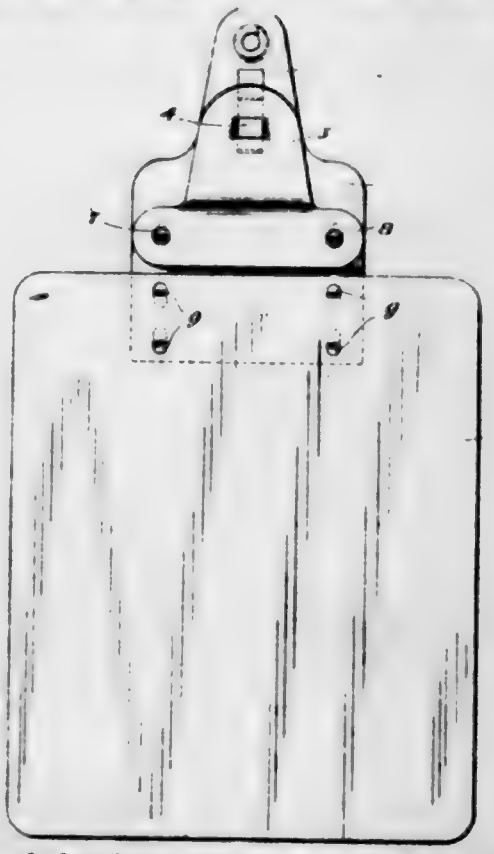
Claim.—1. In a speed-governor for motors, a centrifugal element which rotates at a fixed ratio of the speed which it controls, an inertia element which tends to rotate at a constant speed and centrifugally-controlled means which interconnect the centrifugal and inertia elements and tend to cause such elements to rotate synchronously.



2. In combination with a centrifugal ball-governor, an inertia member carried by and independently rotatable thereon, a pair of weights pivoted out of their gravity centers upon the inertia member, which weights are controlled by centrifugal force, so that by their interconnection with the centrifugal ball member they tend constantly to cause synchronous rotation of the inertia member therewith.

3. In a speed-governor a centrifugal member, an inertia member, carried by and independently rotatable upon the centrifugal member, centrifugally-controlled weights pivoted out of their gravity centers upon the inertia member and having limited rotation thereon, interconnecting means between the inertia member and the governor-controlled valve, to transpose independent rotary movements of the former to vertical movements in the latter, and means connecting the centrifugal member and the pivoted weights to cause the action of the latter to tend constantly to synchronize the speed of the centrifugal and inertia members.

805,393. LOOSE-SHEET HOLDER. EDWIN C. WASHBURN, Minneapolis, Minn. Filed Oct. 15, 1904. Serial No. 228,507.

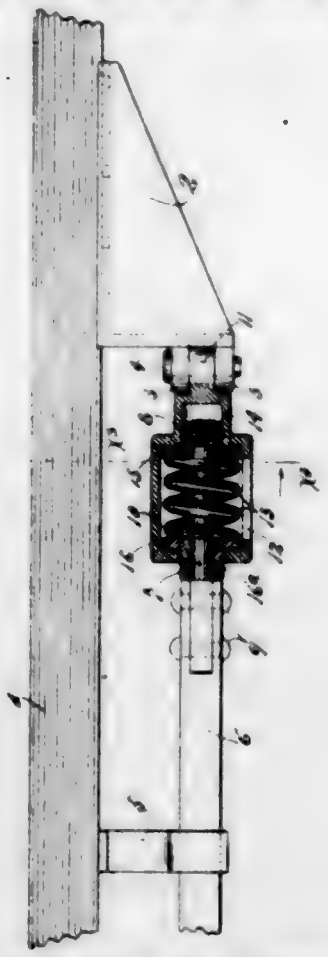


Claim.—1. In a device of the character described, the combination with the member 2 having the upturned barbs 7 stamped from the body thereof, and having the depressed yoke-like keeper 5, of the member 3, having the depressed yoke-like keeper 6, and perforations 8, through which perforations said barbs pass, and the U

shaped spring 4 having its ends inserted into said keepers 5 and 6, and affording a spring-hinge, connecting said two members, substantially as described.

3. The combination with the members 2 and 3, connected by a spring-hinge, and having respectively the coöperating barbs 7 and perforations 8, said barb 7 being stamped from the member 2, of the board 1, detachably secured to said member 2 by lips 9, also stamped from the said member 2, substantially as described.

805,394. **DRAFT-RIGGING FOR CARS.** EDWIN C. WASHBURN, Minneapolis, Minn. Filed Jan. 26, 1905. Serial No. 242,784.



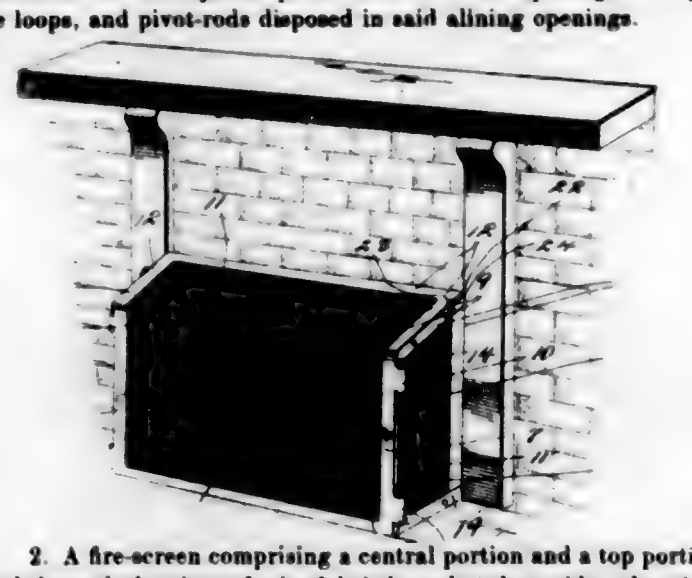
Claim.—1. In a draft-rigging, the combination with a draft-bar and a stem or bolt applied thereto, and having, at its projecting end, a nut, of a pair of followers on said stem or bolt between said nut and the draft-bar proper, a spring compressed between said followers, and a housing inclosing said spring and followers, affording bases of reaction for said followers, and having a seat in which said nut is free for sliding movements, but is held against rotation, substantially as described.

2. In a draft-rigging, the combination with a draft-bar 6 and a support with which the flat lower surface thereof normally engages, of a stem 7 attached to said draft-bar, the nut 8, engaging the end of said stem, the followers 15 and 16 on said stem, the spring 13 between the said followers, and the housing 10 embracing said spring and followers, and affording bases of reaction for said followers, said housing having an opening 12 in its bottom, and having a recessed hub portion 14 in which said nut 8 is free to slide but is held against rotation, subetantially as described.

3. The combination with a draft-bar support 5, and a bracket 2, both secured to a car-body, of a draft-bar 6 having the rigidly-attached stem 7, the nut 8 on the end of said stem, the followers 15 and 16 on said stem, the latter having a hub 16ª engageable with the end of said draft-bar, the spring 13 interposed between said followers, and the housing 10 inclosing said spring and followers, and affording bases of reaction for said followers, said housing having an opening 12 in its bottom, and a recessed hub portion 14 in which said nut is free to slide but is held against rotation, said hub having a projecting lug 11 pivotally connected to said bracket 2, substantially as described.

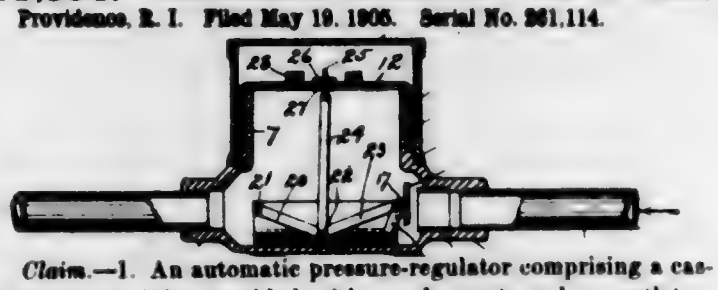
805,395. **FIRE-SCREEN.** RICHARD A. WEBSTER and WILLIAM H. BARNES, Mining City, Ky. Filed Sept. 7, 1904. Serial No. 223,605.

Claim.—1. A fire-screen including a plurality of portions each formed of wire fabric, the strand-wires of each portion extending beyond the edge thereof and being connected in pairs to form loops, each loop being turned to lie in a plane at right angles from the portion from which it projects, the loops of one portion being disposed with those of the adjacent portions to aline the openings through the loops, and pivot-rods disposed in said alining openings.



2. A fire-screen comprising a central portion and a top portion each formed of a piece of wire fabric bound at three sides, the wires of the fabric extending at their ends beyond the unbound edges thereof and being connected in pairs to form loops, said loops being turned to extend at right angles to the fabric, the loops of one portion being disposed in the spaces between those of the other portion and alining therewith, a rod engaged in the alining loops for pivotal movement of the two portions thereupon, rods carried by the ends of the central portion, and end portions each including a piece of wire fabric bound at three sides, the wires of the fabric extending beyond the unbound edges and being connected in pairs to form loops, said loops being given a half-turn, said end portions being disposed with their loops engaged by the rods of the central portion for movement of the end portions thereupon to lie at times against the central portion and at times to extend at an angle thereto.

805,396. **GAS-PRESSURE REGULATOR.** JOHN W. WEEKS, Providence, R. I. Filed May 19, 1905. Serial No. 261,114.



Claim.—1. An automatic pressure-regulator comprising a casing having an inlet provided with a valve-seat, and an outlet, a swinging member pivotally supported in the bottom of said casing adjacent said valve-seat, toggle members connected to said swinging member, a valve pivoted to the free end of said swinging member, and having a wiping contact with said valve-seat, a gasometer fitting over the top of said casing, and a connecting member extending from said toggle members to said gasometer.

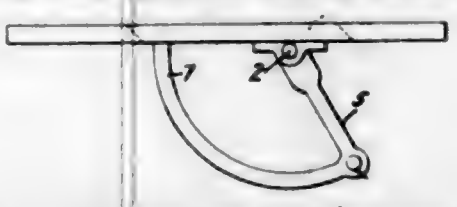
2. An automatic pressure-regulator comprising a casing provided with an inlet and an outlet and provided with a contracted semicircular bottom, a frame fitting in said bottom, a swinging member pivoted at one end of said frame, a toggle-joint carried by said frame and connected to said swinging member, a valve pivoted on the free end of said swinging member, a gasometer fitting over the top of said casing, and a connecting member extending from said gasometer to said toggle-joint.

3. An automatic pressure-regulator comprising a casing provided with an inlet and an outlet, said inlet being provided with a valve-seat, and an upper annular extension, said casing being also provided with an annular shoulder spaced apart from said extension, a shell or casing fitting in said shoulder and surrounding said extension, whereby an annular space or chamber is formed, a gasometer working in said space or chamber, a swinging member pivoted in the bottom of said casing, adjacent said valve-seat, a valve pivotally mounted on the free end of said swinging member, and having a wiping contact with said valve-seat, and connections between said gasometer and said swinging member.

4. An automatic pressure-regulator comprising a casing provided with an inlet and an outlet, said inlet being provided with a valve-seat, and also with an annular chamber, a gasometer arranged to work in said channel, an independent frame mounted in the bottom of said casing, means for securing said frame in position, a swinging member pivotally mounted in said frame, adjacent said valve-seat, a valve pivotally mounted on the free end of said swinging member, and having a wiping contact with said valve-seat, a

toggle-joint carried by said frame and also connected to the free end of said swinging member, and a connection between said gasometer and said toggle-joint.

805,397. COVER FOR MANHOLES. HEINRICH WILHELM, Hanau, Germany. Filed Sept. 3, 1904. Serial No. 223,149.



Claim.—1. In manhole shaft and similar covers, the liftable cover-plate, a slot in said cover-plate, said slot being substantially centrally disposed in said cover-plate, a pivoted closing member for said slot, a handle connected to the normal under side of said pivoted closing member and so disposed that when the closing member is opened or uplifted the handle shall be substantially centrally disposed with respect to the cover-plate, substantially as described.

2. In manhole shaft and similar covers, the cover-plate, a slot in said cover-plate, a pivoted closing member for said slot, a handle connected to the normal under side of said pivoted closing member, said handle being of segmental form, and a stop carried at the extremity of said handle for engagement with the under side of said cover, substantially as described.

3. In manhole shaft and similar covers, the cover-plate, a slot in said cover-plate inclined lateral and end faces for said slot, a pivoted closing member for said slot, inclined lateral and end faces for said closing member corresponding to the lateral and end faces of said slot, and a handle connected on the normal under side of said closing member, substantially as described.

4. In manhole shaft and similar covers, the liftable cover-plate, a slot in said cover-plate, said slot being substantially centrally disposed in said cover-plate, a closing member for said slot, said closing member being pivoted near its end, and a handle connected on the normal under face of said closing member, and so disposed that when the closing member is opened or uplifted the handle shall be substantially centrally disposed with respect to the cover-plate, substantially as described.

5. In manhole shaft and similar covers, the cover-plate, a slot in said cover-plate, a closing member for said slot, said closing member being pivoted near its end, a handle connected on the normal under face of said closing member, said handle being of segmental form, and a stop carried at the extremity of said handle for engagement with the under side of said cover, substantially as described.

6. In manhole shaft and similar covers, the cover-plate, a slot in said cover-plate, inclined lateral and end faces for said slot, a pivoted closing member for said slot, inclined lateral and end faces for said closing member corresponding to the lateral and end faces of said slot, a handle connected on the normal under side of said closing member, said handle being of segmental form, and a stop carried at the extremity of said handle for engagement with the under side of said cover, substantially as described.

7. In manhole shaft and similar covers, the liftable cover-plate, a slot in said cover-plate, said slot being substantially centrally disposed in said cover-plate, a pivoted closing member for said slot, said closing member having a top face normally flush with the top face of said cover, and a handle connected to the normal under side of said pivoted closing member, and so disposed that when the closing member is opened or uplifted the handle shall be substantially centrally disposed with respect to the cover-plate, substantially as described.

8. In manhole shaft and similar covers, the cover-plate, a slot in said cover-plate, a pivoted closing member for said slot, a handle connected to the normal under side of said pivoted closing member, and a radial member connecting the lower extremity of the handle to the under side of the closing member, and a stop carried by the lower extremity of said handle for engagement with the under side of the said cover-plate substantially as described.

805,398. OIL-CAN. THOMAS B. WILKINSON, Rivera, Cal. Filed Dec. 19, 1904. Serial No. 237,429.

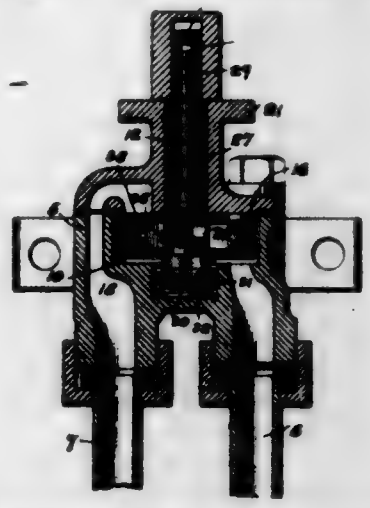
Claim.—1. The improvement in cans herein described comprising the body or can provided at one side with a handle and with a neck and a spout extending therefrom, the cylinder or barrel extending diametrically through the can and secured thereto near both ends and projecting at such ends beyond the can, the filling-cap on one end of the barrel, the cap on the other end of the barrel and having a stuffing-box, the barrel being provided near one end with a filling or feed opening and threaded internally from such end to a point in advance of the feed-opening, the valve-plug screwed in said threaded end of the barrel to a point in advance of the feed-opening, the connecting-tube connecting the end of the cylinder opposite the feed-opening, with the neck of the can, the piston operating in the cylinder and having its rod extending through the stuffing-box in the end cap and the pull-bar connecting with said piston and guided at its ends by the handle substantially as and for the purpose set forth.



2. The combination with the can, the cylinder and the piston therein, of the handle secured to the can and having guide-slots and the pull-bar guides at its ends in said slots, substantially as set forth.

3. The combination of the can or body, the cylinder therein, and provided near one end with a feed-opening and the cap closing such end of the cylinder and adapted to be removed in order to fill the can, and the operating devices in said cylinder, substantially as and for the purposes set forth.

805,399. POWER-CONTROLLING DEVICE. HERBERT H. WILLIAMS, New York, N. Y. Filed Jan. 20, 1902. Serial No. 90,440.



Claim.—1. The combination with a power-reservoir, of a brake-cylinder, connections between the reservoir and the brake-cylinder, a track-sander, connections between the reservoir and the track-sander, a valve for each set of connections, a single casing in which both valves are located, and means for operating the valves, substantially as described.

2. The combination with a power-reservoir, of a brake-cylinder, connections between the reservoir and the brake-cylinder, a track-

sander, connections between the reservoir and the sander, a valve for each set of connections, a single casing in which said valves are located, a handle for operating one of the valves, and an actuating means for the other valve carried by the handle, substantially as described.

3. The combination with a power-reservoir, of a brake-cylinder, a set of connections between the reservoir and the brake-cylinder, a track-sander, a set of connections between the sander and the reservoir, a chambered casing located in both sets of connections, a rotary valve for controlling the connections between the reservoir and the brake-cylinder, a reciprocating valve for controlling the other set of connections, both valves being located in the casing, and operating means for both valves, substantially as described.

4. The combination with a power-reservoir, of a brake-cylinder, a set of connections between the reservoir and the brake-cylinder, a track-sander, a set of connections between the sander and the reservoir, a chambered casing located in both sets of connections, a rotary valve for controlling the connections between the reservoir and the brake-cylinder, a reciprocating valve for controlling the other set of connections both valves being located in the casing, a handle for operating the rotating valve, and actuating means for operating the reciprocating valve carried by the handle, substantially as described.

5. The combination with a chambered casing, of means for admitting air under pressure to said chamber, a rotary valve working in said chamber, means for leading air under pressure from the chamber, a port extending through the valve for establishing communication between said means and the chamber, a port opening on one side of the valve only, a pipe with which said port may communicate, connections between said port and the chamber, a valve in said connections, and means for operating the valves, substantially as described.

6. The combination with a chambered casing, of means for admitting air under pressure to said chamber, a rotary valve working in said chamber, means for leading air under pressure from the chamber, a port extending through the valve for establishing communication between said means and the chamber, a port opening on one side of the valve only, a pipe with which said port may communicate connections between said port and the chamber, a valve in said connections, a handle for operating the rotary valve, and means carried by the handle for operating the other valve, substantially as described.

7. The combination with an air-reservoir, of a chambered casing, connections whereby open communication may be established between the air-reservoir and the chamber in the casing, a brake-cylinder, connections between the brake-cylinder and the chamber, a rotary valve for controlling said connections, means for leading off air under pressure from said chamber, a valve for controlling said leading-off means, a handle for operating the rotary valve, and means carried by the handle for operating the other valve, substantially as described.

8. The combination with an air-reservoir, of a chambered casing, means whereby open communication may be established between the reservoir and the chamber, means for leading off air under pressure from said chamber, a valve for controlling said means, a second means for leading off air under pressure, a port in the valve communicating with said second means for all positions of the valve, and a second valve for controlling the communication between said port and the chamber, substantially a described.

9. The combination with an air-reservoir, of a chambered casing, means whereby open communication may be established between the reservoir and the chamber, means for leading off air under pressure from said chamber, a valve for controlling said means, a second means for leading off air under pressure, a port in the valve communicating with said second means for all positions of the valve, a second valve for controlling the communication between said port and the chamber, a controller for operating the first valve, and means moving with the controller for operating the second valve, substantially as described.

10. The combination with an air-reservoir, of a chambered casing, means whereby open communication may be established between the reservoir and the chamber, means for leading off air under pressure from said chamber, a valve for controlling said means, a second means for leading off air under pressure, a port in the valve communicating with said second means for all positions of the valve, a second valve for controlling the communication between said port and the chamber, a controller for operating the first valve, and means carried by the controller for operating the second valve, substantially as described.

11. The combination with an air-reservoir, of a chambered casing, means whereby open communication may be established between the reservoir and the chamber, a brake-cylinder, means whereby communication may be established between the chamber and said cylinder, a rotary valve having a port extending through it for controlling said means, a long port located on one side only of the valve, means for leading off air under pressure in open communication with said port, means for establishing communication between the chamber and said long port, and a valve for controlling said means, substantially as described.

12. The combination with an air-reservoir, of a chambered casing, means whereby open communication may be established between the reservoir and the chamber, a brake-cylinder, means whereby communication may be established between the chamber and said cylinder, a rotary valve having a port extending through it for controlling said means, a long port located on one side only of the valve, means for leading off air under pressure in open communication with said port, a track-sander to which said means lead, means for establishing communication between the chamber and said long port, and a valve for controlling said means, substantially as described.

13. The combination with an air-reservoir, of a chambered casing, means whereby open communication may be established between the reservoir and the chamber, a brake-cylinder, means whereby communication may be established between the chamber and said cylinder, a rotary valve having a port extending through it for controlling said means, a long port located on one side only of the valve, means for leading off air under pressure in open communication with said port, means for establishing communication between the chamber and said long port, a valve for controlling said means, a handle for operating the rotary valve, and means carried by said handle for operating the other valve, substantially as described.

14. The combination with an air-reservoir, of a chambered casing, means whereby open communication may be established between the reservoir and the chamber, a brake-cylinder, means whereby communication may be established between the chamber and said cylinder, a rotary valve having a port extending through it for controlling said means, a long port located on one side only of the valve, means for leading off air under pressure in open communication with said port, a track-sander to which said means lead, means for establishing communication between the chamber and said long port, a valve for controlling said means, a handle for operating the rotary valve, and means carried by said handle for operating the other valve, substantially as described.

15. The combination with an air-reservoir, of a chambered casing, means whereby open communication may be established between the reservoir and the chamber in the casing, a brake-cylinder, connections between the chamber and said cylinder, a rotary valve for controlling said connections, said valve having a port extending therethrough, a long port opening on one side only of the valve, a pipe with which said long port is in open communication, means whereby communication may be established between the long port and the chamber, a stem on the rotary valve, a handle on the stem, a valve for controlling the communication between the long port and the chamber, a stem on said valve extending through the stem of the rotary valve, and means carried by the handle for operating said valve, substantially as described.

16. The combination with an air-reservoir, of a chambered casing, means whereby open communication may be established between the reservoir and the chamber in the casing, a brake-cylinder, connections between the chamber and said cylinder, a rotary valve for controlling said connections, said valve having a port extending therethrough, a long port opening on one side only of the valve, a pipe with which said long port is in open communication, a track-sander connected with said pipe, means whereby communication may be established between the long port and the chamber, a stem on the rotary valve, a handle on the stem, a valve for controlling the communication between the long port and the chamber, a stem on said valve extending through the stem of the rotary valve, and means carried by the handle for operating said valve, substantially as described.

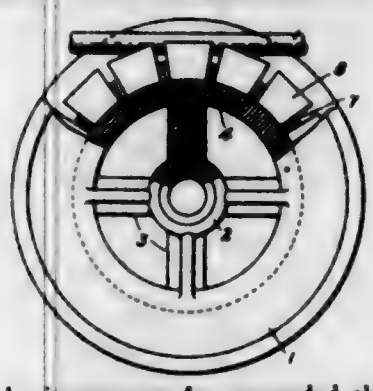
17. The combination with an air-reservoir, of a chambered casing, means for establishing open communication between the reservoir and the casing, two outlet-passages, a rotary valve for controlling one of the passages, a reciprocating valve for controlling the other passage, a stem on the rotary valve, a stem on the reciprocating valve extending through the stem of the rotary valve, a handle fitting the stem of the rotary valve, and means carried by the handle for operating the reciprocating valve, substantially as described.

18. The combination with an air-reservoir, of a chambered cas-

ing, means for establishing open communication between the reservoir and the casing, two outlet-passages, a rotary valve for controlling one of the passages, a reciprocating valve for controlling the other passage, a stem on the rotary valve, a stem on the reciprocating valve extending through the stem of the rotary valve, a handle fitting the stem of the rotary valve, and a lever carried by the handle for operating the reciprocating valve, substantially as described.

19. The combination with an air-reservoir, of a chambered casing means for establishing open communication between the reservoir and the casing, two outlet-passages, a rotary valve for controlling one of the passages, a reciprocating valve for controlling the other passage, a stem on the rotary valve, a stem on the reciprocating valve extending through the stem of the rotary valve, a handle fitting the stem of the rotary valve, a lever carried by the handle for operating the reciprocating valve, and a spring-pressed plunger for operating the lever, substantially as described.

805,400. **ICE-REMOVER FOR TROLLEY-WIRES.** MONTRAVILLE M. WOOD, Chicago, Ill., assignor to General Electric Company, a Corporation of New York. Filed Mar. 24, 1905. Serial No. 251,794.



Claim.—1. An ice-remover for suspended electric conductors comprising a plurality of impact devices adapted to be removably connected to the periphery of a trolley-wheel.

2. An ice-remover for suspended electric conductors comprising a plurality of impact devices, and means for removably attaching said devices to the periphery of a trolley-wheel.

3. An ice-remover for suspended electrical conductors comprising a plurality of conductor-engaging devices adapted to be carried by a trolley-wheel, and a band for holding said devices in engagement therewith.

4. An ice-remover for suspended electrical conductors comprising a plurality of conductor-engaging devices adapted to be carried by a trolley-wheel, and an elastic band for holding said devices in engagement therewith.

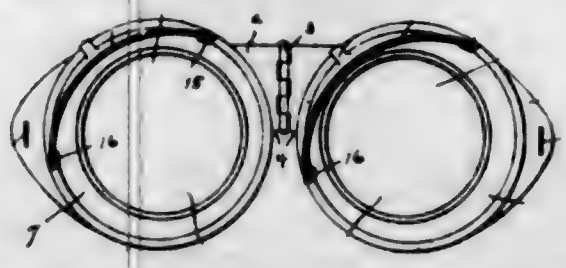
5. An ice-remover for suspended electrical conductors comprising a plurality of impact-blocks adapted to be carried by a trolley-wheel, and an elastic band for holding said devices in engagement therewith.

6. An attachment for trolley-wheels comprising a plurality of conductor-engaging devices, an elastic member connecting said devices, and means for locking the ends of said attachment together.

7. An attachment for trolley-wheels comprising a plurality of impact-blocks, an elastic member to which said blocks are attached at intervals, and interlocking means for connecting the ends of said attachment.

8. An attachment for trolley-wheels comprising a helical spring, a plurality of impact-blocks adapted to engage the peripheral groove of the trolley-wheel and permanently attached to said spring, and interlocking means for connecting the ends of said attachment.

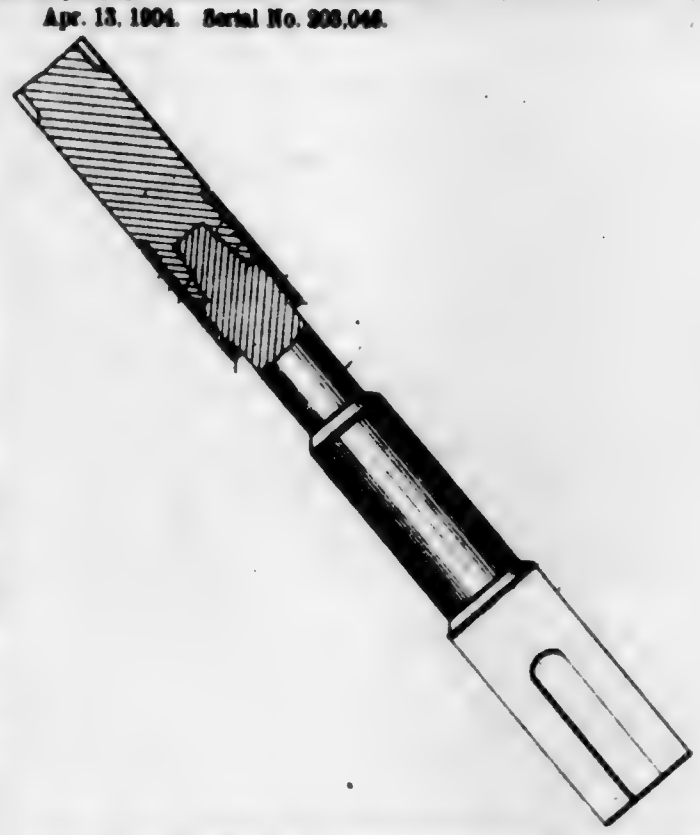
805,401. **EYE-SHIELD.** LYMAN L. ZARBAUGH, Toledo, Ohio. Filed June 15, 1904. Serial No. 212,653.



Claim.—1. In an eye-shield, the combination of a head-plate curved to fit the contour of the face around the eyes and provided with eye-openings; elongated, flanged, eyeglass-holders extending outward from the eye openings in the head-plate; a detachable extension-shade for each eye, each comprising a screen projecting outward from the flange of the glass-holder at substantially a right angle and covering only a segment of the circle described by each flanged glass-holder; a bead on the flange of each eyeglass-holder, adapted to engage the hooked clips on the extension eye-shades; clips on the extension eye-shades, having the hooked portions thereof arranged reversely to each other and adapted to engage the beaded flange of the eyeglass-holder; and means for securing and holding the eye-shield to the head of the wearer; all substantially as described.

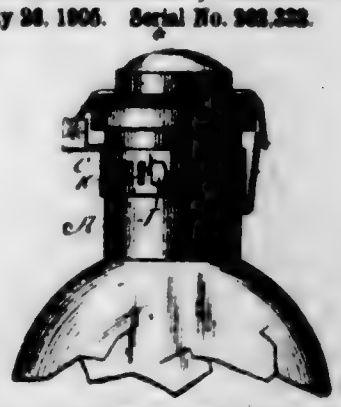
2. In combination with the lens-frames of a pair of goggles, of the pair of shades adapted to be bent or sprung to correspond to the curve of the lens-frames and each shade being formed with a central clip and a pair of end clips, arranged in opposite directions to engage the lens-frames to secure the shades and permit movement or adjustment of the shades with reference to the lens-frames.

805,402. **COUPLING.** STEPHEN A. AKINS, Chanute, Kans. Filed Apr. 13, 1904. Serial No. 203,046.



Claim.—In a coupling, the combination with a member having a frusto-conical threaded stem, a cylindrical portion at the base of the stem, having threads disposed reversely to those of the stem, and an unthreaded cylindrical portion in the rear of the last-named cylindrical portion, of a diameter less than that of said last-named cylindrical portion, of a second member having a frusto-conical end socket threaded for engagement of the threads of the frusto-conical stem and having a reduced free end provided with threads corresponding to those of the threaded cylindrical portion of the first member, and a sleeve engaged with the cylindrical threaded portions of the members and movable from the threaded portion of the second member to surround the threaded and unthreaded cylindrical portions of the first member, the inner end of the sleeve having an inwardly-turned flange for engagement with the unthreaded portion immediately beneath the second-mentioned screw-threaded portion of the first-mentioned member.

805,403. **BOTTLE-STOPPER.** JOSEPH A. ARNOLD, Providence, R. I. Filed May 26, 1905. Serial No. 262,232.



Claim.—1. In a stopper, the combination of an adjustable band or collar, a spring-catch arranged on one side of the band or collar,

an extension on the other side of the band or collar formed with a pair of ears, a stopper carrying a washer pivoted or hinged between said ears and adapted to be secured when closed by the spring-catch, and a spring secured between the ears for opening the stopper upon release of the spring-catch.

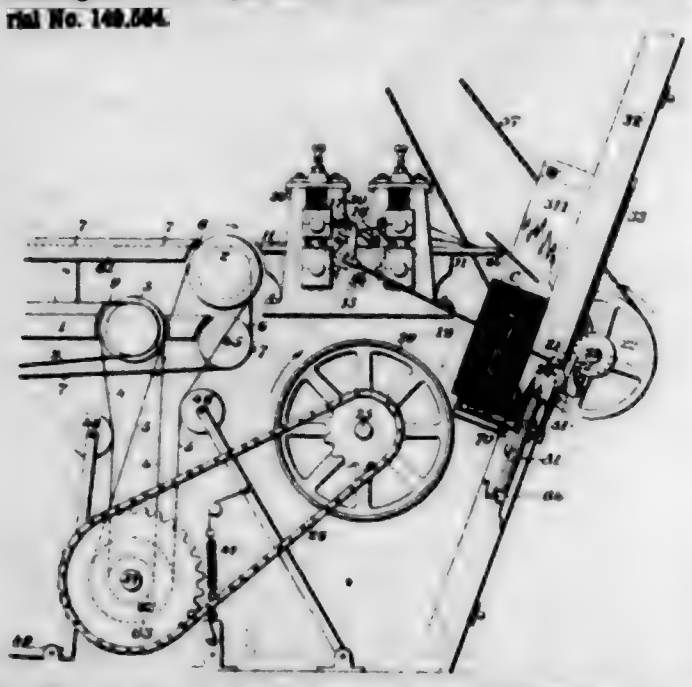
2. In a stopper, the combination of a split band or collar formed with a spring-arm having a catch and with a pair of ears located opposite said spring-arm, a pin fitting in said ears, a stopper carrying a packing or washer and hinged to said pin, a spring on the pin for opening the stopper automatically, and a catch carried by the stopper for engaging the catch of the band to secure the stopper when closed.

3. In a stopper, the combination of the cap, the packing disk or washer fitting in said cap, the hinge on one side of the cap, the spring-catch on the cap opposite said hinge, and the band having ears and a pin secured in said ears forming a journal for the hinge and the spring-arm formed with a catch to coöperate with the catch on the stopper to lock the stopper when closed and the spring secured to the journal and adapted to open the stopper upon release of the spring-catch

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805,404. APPARATUS FOR MOUNTING STEREOGRAPHS.

CHARLES S. BRAGG, Bennington, Vt., assignor to H. C. White Co., North Bennington, Vt., a Corporation of Vermont. Filed Mar. 25, 1903. Serial No. 149,584.



Claim.—1. In a stereograph-mounting apparatus, a table equipped with a series of mounting-frames, a print-carrier for transferring the pasted prints from the paster to the mounter, a conveyer for delivering the mounted pack to the roller-press, and a roller-press for closing together the constituent parts of the pack, substantially as specified.

2. In a stereograph-mounting apparatus, the combination of a table equipped with a series of mounting-frames, a print-carrier for transferring the pasted prints from the paster to the mounter, a conveyer for delivering the mounted prints to a roller-press, a roller-press, and a press-box for receiving the mounted prints, substantially as specified.

3. In a stereograph-mounting apparatus, the combination of a table equipped with a series of mounting-frames, a print-carrier for transferring the pasted prints from the paster to the mounter, a conveyer for delivering the mounted prints to a roller-press, a roller-press, a press-box for receiving the mounted prints, a carriage upon which the box is carried, and mechanism interposed between the press and the carriage adapted to be operated by the transit of a pack for advancing the press-box a definite distance, substantially as specified.

4. The combination with the roller-press and the box-carriage of a pawl-and-ratchet mechanism for dropping the carriage by a step-by-step movement, of an escapement consisting of a scape-wheel, verge and pallets, and a tripping device for actuating the pallets provided with a member which normally lies in the path of the pack as it passes through the roller-press, whereby the passage of the pack displaces the tripper and thereby, through the connection with the escapement causes the scape-wheel to rotate one step, substantially as specified.

5. The combination of the scape-wheel and its shaft having oppositely-disposed crank-wrists, pawls journaled on said wrists, ratchets with which said pawls are adapted to engage, a fulcrum-bar with which said pawls collide to evert their noses from engagement with said ratchets on the forward part of their stroke, and means to operate said scape-wheel, substantially as described.

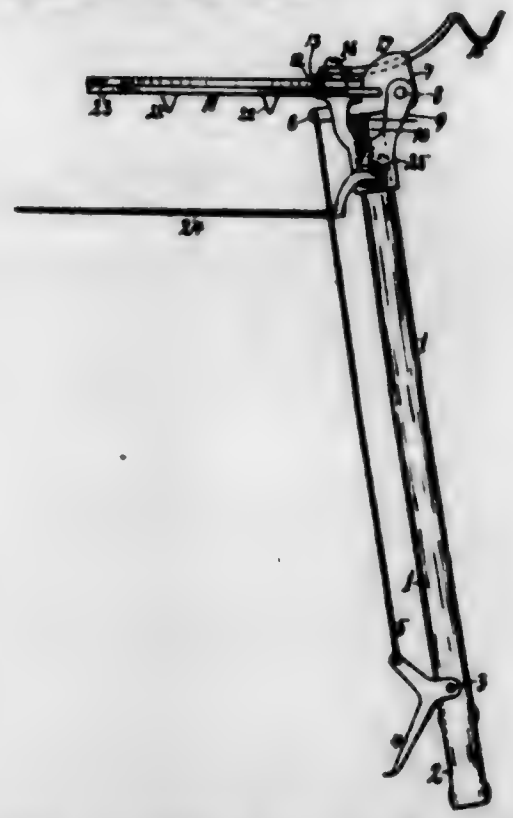
6. The combination with the roller-press of the tripping and escapement mechanism, press-box, box-carriage and attached ratchets, the scape-wheel and its crank-shaft and pawls carried in the latter and fulcrum-bar for tripping said pawls and intermittingly lowering said box, substantially as specified.

7. The combination with the ratchets, scape-wheel, verge and pallets, cranks and fulcrum-bar, of the pawls having provisions for engaging the bar to disengage their noses from the ratchets, and means for normally throwing their noses into engagement with the ratchets, the throw of the cranks being slightly greater than the pitch of the ratchet-teeth, all adapted to operate substantially in the manner described and for the purposes set forth.

9. The combination of the scape-wheel and its shaft having oppositely-disposed crank-wrists, pawls journaled on said wrists, ratchets with which said pawls are adapted to engage, a fulcrum-bar with which said pawls collide to evert their noses from engagement with said ratchets on the forward part of their stroke, pins on said scape-wheel opposite said crank-wrists, a verge and pallets to engage with said escapement-pins, and means for actuating said verge and ratchets, substantially as specified.

805,405. STORE-GOODS LIFTER.

JOHN H. BELTZ, St. Paul, Minn., assignor of one-half to Adolph W. Mohr, St. Paul, Minn. Filed Feb. 24, 1905. Serial No. 247,080.

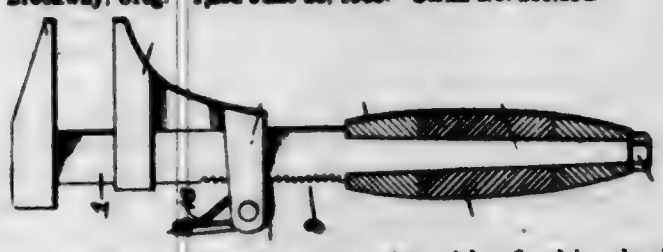


Claim.—1. A store-goods lifter comprising a rod or handle, a head piece or frame secured on the upper end thereof, a pair of horizontally-swinging jaws pivotally secured upon the frame and having rearward projections, a cam pivoted in the rear of the frame and being formed with converging guides engaging the rearward projections so as to spread and close the jaws as the cam oscillates, a spring arranged to hold the cam normally in a position opening the jaws, an arm on the cam, a cord, wire or similar means extending from said arm to the lower end of the rod, and a bell-crank lever pivoted to the rod and having one arm secured to said cord and the other arm in position to be operated by the fingers of the hand holding the lower end of the rod.

2. A store-goods lifter comprising a rod or handle, a head piece or frame secured on the upper end thereof, a pair of horizontally-swinging jaws pivotally secured upon the frame and having rearward projections, a cam pivoted in the rear of the frame and being formed with converging guides engaging the rearward projections so as to spread and close the jaws as the cam oscillates, a spring arranged to hold the cam normally in a position opening the jaws, an arm on the cam, a cord or similar means extending from said arm, to the lower end of the rod, and a bell-crank lever pivoted to the rod and having one arm secured to said cord or wire and the other arm in position to be operated by the fingers of the hand holding the lower end of the rod, and the supporting-arm 24 pivoted in a position to be swung below the jaws or away therefrom as may be required.

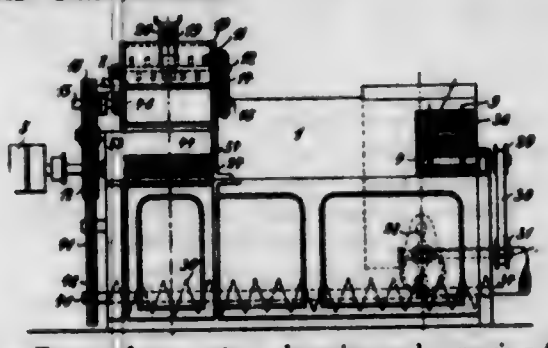
3. A store-goods lifter comprising a rod or handle, a pair of horizontally-swinging jaws pivotally mounted at or near the top of the rod, and means for closing and opening the jaws from the lower end of the rod, said jaws having at their lower edges lugs or fingers projecting inward and downwardly therefrom.

805,406. WRENCH. SAMUEL S. BOLENBER and JOHN M. BOWEN, Brockway, Oreg. Filed June 20, 1905. Serial No. 266,154.



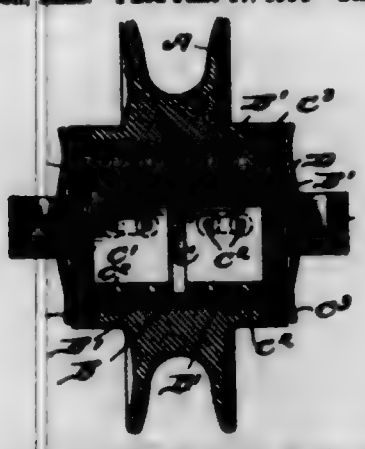
Claim.—In a wrench, the combination with a fixed jaw having teeth on the upper edge of its shank, and a movable jaw mounted to slide on said shank, having an angular bracket extending along the under edge of the shank of the fixed jaw and thence branching into two arms extending across said shank at opposite sides thereof, said arms projecting beyond the upper edge of said shank and provided with a cross-piece, of less width than said arms, arranged just above said upper edge, a pawl pivoted between the extensions of said arms and comprising a tooth-engaging portion normally arranged at right angles to said shank and adapted to abut against said cross-piece when in engagement with said teeth, and a lever portion extending parallel to said shank toward the fixed jaw, and a spring secured to said lever at one end and bearing at the other end upon said cross-piece between said arms.

805,407. PROCESS FOR CLEANSING, SCOURING, OR REMOVING OIL AND FAT FROM WOOL, HAIR, BRISTLES, AND OTHER MATERIAL. ALFRED BORN, Berlin, Germany. Filed Jan. 27, 1902. Serial No. 91,461.



Claim.—Process for scouring, cleansing and removing fat from wool, hair, bristles and other materials, consisting in mechanically whirling and beating the material in the form of separate flocks, tufts and fibers in a current of air laden with powdered absorbent material, substantially as described and for the purpose set forth.

805,408. TROLLEY-WHEEL. THOMAS BROADBENT and ISRAEL HEY, Wellesley, Mass. Filed June 17, 1904. Serial No. 213,261.



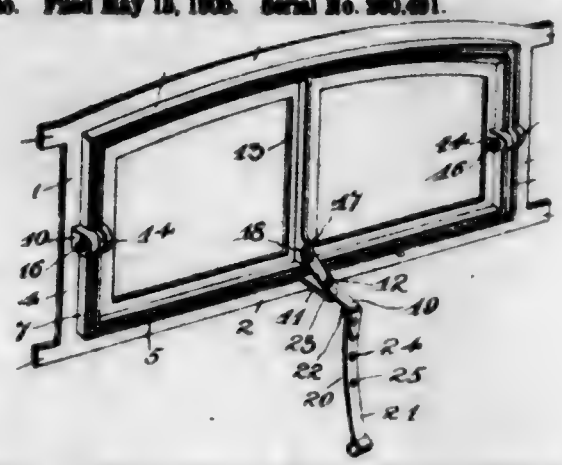
Claim.—1. A device of the kind described comprising a hollow transversely-divided axle having lubricating-openings, a cylindrical bushing provided with openings and surrounding the axle, and a trolley-wheel mounted on the bushing.

2. A hollow transversely-divided axle provided with openings and having flanged ends, a bushing provided also with openings and the trolley arranged upon the bushing between the flanges.

3. A trolley, the bushing upon which it is mounted, said bushing having openings and a transversely-divided hollow axle provided with openings and having flanged ends, said ends also having laterally-projecting lugs.

4. A trolley, the bushing upon which it is mounted, said bushing having openings, and a transversely-divided hollow axle provided with openings and having flanged ends, said ends also having laterally-projecting lugs, and the spring-plates arranged upon said lugs.

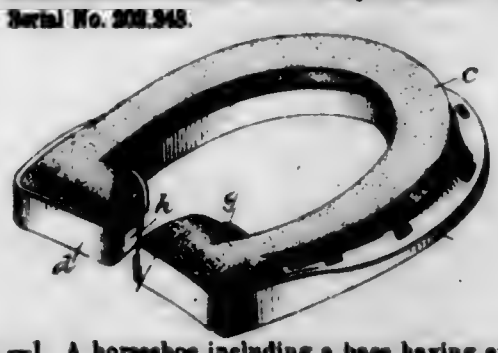
805,409. WINDOW-FRAME. MARIUS BROWN, New Comerstown, Ohio. Filed May 18, 1905. Serial No. 260,491.



Claim.—1. The herein-described window comprising the metallic window-frame provided at the sill, top and sides, respectively, with the lateral flanges 5, 6 and 7 which extend inwardly therefrom at right angles to the face thereof, said flanges 7 having the bearings 10 and said flanges 5 having the arm 11 provided with the stud 12, said frame being further provided at the corners with the outwardly-projecting ears 8 and being provided on its outer side, at the upper portion, with the inwardly-projecting flange 9; the sash in said frame being provided at its sides with the bearings 14 and formed at the lower portion, on the outer side, with the flange 15; the pivots engaging the bearings 10 and 14, and the locking-bar pivotally attached to the sash and having the opening for the reception of the stud 12.

2. In combination with a window-frame having a supporting device provided with an upwardly-projecting stud, a sash pivotally mounted in the frame, and an operating-rod loosely connected to the sash and comprising pivotally-connected sections respectively provided with openings for the reception of the said stud, to lock the sash in open, closed or partially-open position.

805,410. HORSESHOE. JOHN H. CAREY, Hartford, Conn.; Mary A. Carey administratrix of said John H. Carey, deceased. Filed Apr. 8, 1904. Serial No. 202,343.



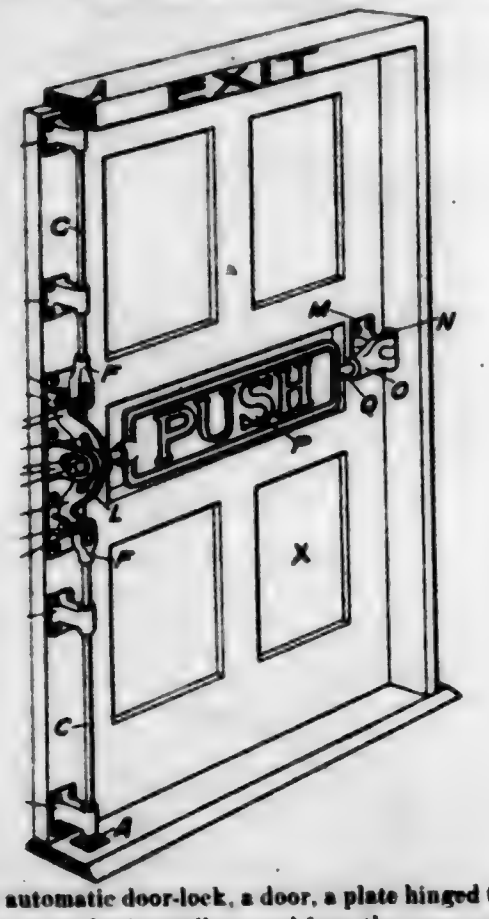
Claim.—1. A horseshoe including a base having at the heel a cross-bar with a socket therein, said socket having a rigid wall at the rear thereof, a cushion cross-bar located in said socket, and a spur projecting upward in front of the cushion, whereby blows upon the shoe in use will bend the spur over the cushion to hold the same firmly in place.

2. A horseshoe including a base having at the heel a cross-bar with a socket therein formed by a rigid rear wall, a narrow cushion located in said recess, and prongs projecting upward from the base in front of said cushion, whereby blows upon the shoe in use will force the prongs into close engagement to hold the cushion in place.

3. A horseshoe including a base having a cushion-groove extending a round the shoe, and at the heel a cross-bar having a socket for the reception of a cushion, a cushion located in the socket, said socket having a rigid rear wall and a prong projecting upward from the base in front of the cushion, whereby blows upon the shoe in use will force the prong into close engagement with the cushion to hold it in place.

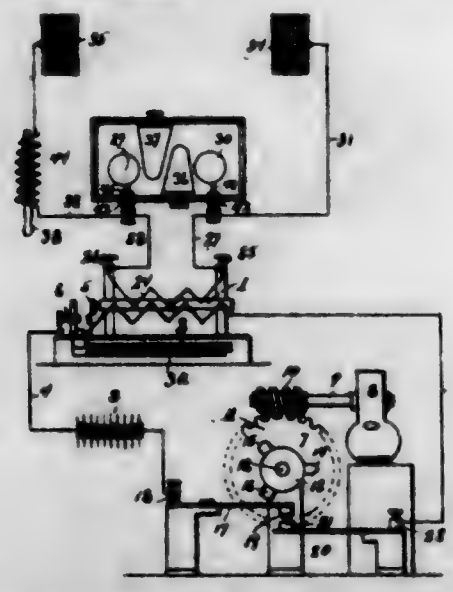
805,411. EMERGENCY EXIT-DOOR LOCK. HUGH B. CLARK, Rochester, N. Y. Filed Feb. 27, 1904. Serial No. 195,671.

Claim.—1. In an automatic door-lock, a door, a plate hinged to the door and adapted to move horizontally to and from the same and having a projecting pin, a guide-plate for said pin having a horizontal slot with a socket at the outer end of said slot for retaining said pin in position, an operating-lever having a slot spanning said pin, a bolt on said door adapted to be operated by said lever, and a socket on the door-casing adapted to be engaged by said bolt.



2. In an automatic door-lock, a door, a plate hinged to the door and adapted to move horizontally to and from the same and having a projecting pin, a guide-plate for said pin having a horizontal slot with a socket at the outer end of said slot for retaining said pin in position, an operating-lever having a slot in one arm spanning said pin, a bolt on said door connected to the other arm of said lever, and a socket on the door-casing adapted to be engaged by said bolt.

805,412. **SYSTEM FOR WIRELESS TELEGRAPHY.** THOMAS E. CLARK, Detroit, Mich., assignor to Thos. E. Clark Wireless Telegraph-Telephone Co., Detroit, Mich., a Corporation of Michigan. Filed Feb. 17, 1902. Serial No. 94,946.



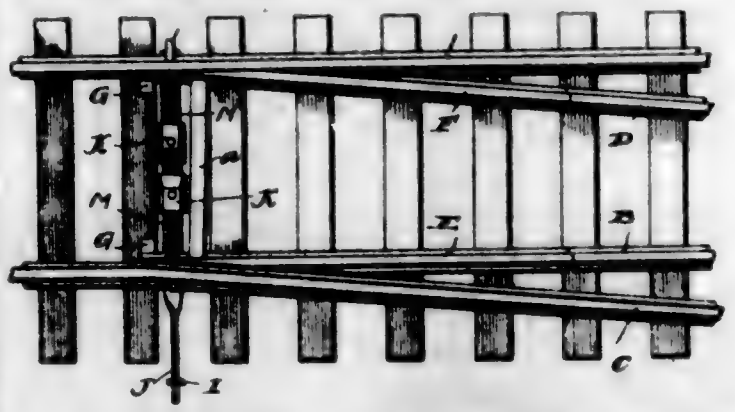
Claim.—1. In a system of wireless telegraphy and signaling, the combination, with an aerial conductor, of an induction-coil having each terminal of its secondary connected with said conductor through an external circuit, copper spheres included in said circuit, a conical body adjacent to but spaced from said spheres, which latter are adjustable so that the space between them and the conical body may be increased or decreased.

2. In a system of wireless telegraphy and signaling, the combination, with aerial conductors, of an induction-coil having its secondary connected with said conductors by external circuits, adjustable copper spheres in said circuits, conical bodies fixedly interposed between said sphere spaced therefrom and from each other, means for adjusting the spheres to regulate the spaces between them and the conical bodies, and an adjustable inductive resistance-coil included in the circuit of the aerial conductor.

3. In a system of wireless telegraphy and signaling, the combination with an emitting-conductor, of a transmitter adapted to produce electrical oscillations, an induction-coil having its secondary connected with said oscillator, an automatic circuit-closer or signal apparatus included in the primary of said induction-coil, said circuit-closer carrying continuously-movable pins of non-conducting material having varying engaging surfaces adapted to intermittently close the primary circuit in varying durations.

4. In a system of wireless telegraphy and signaling, the combination with a transmitter, of an automatic circuit-closer comprising a rotary cylinder having changeable non-conductive pins therein of varying engaging surfaces, a spring-terminal forming a part of an electric circuit connected with the transmitter located in the path of the pins of said cylinder, a contact-terminal immediately below the free end of said spring, whereby the circuit is closed through said spring and terminal by the engagement of the pins with the spring as the cylinder revolves, intermittently closing said circuit for periods of varying duration.

805,413. **RAILWAY-SWITCH.** GEORGE H. COLVIN, Brookston, Ind. Filed Apr. 8, 1905. Serial No. 254,573.



Claim.—1. In a railway-switch, the combination of fixed rails, laterally-movable switch-rails disposed between the fixed rails and connected so as to move together, a transverse operating-bar disposed below the rails and having abutments located between the switch-rails, rods fixed with respect to said abutments and extending loosely through the switch-rails and the fixed rails, coiled springs mounted on the rods and interposed between the switch-rails and the abutments, and means for holding the operating-bar against casual movement.

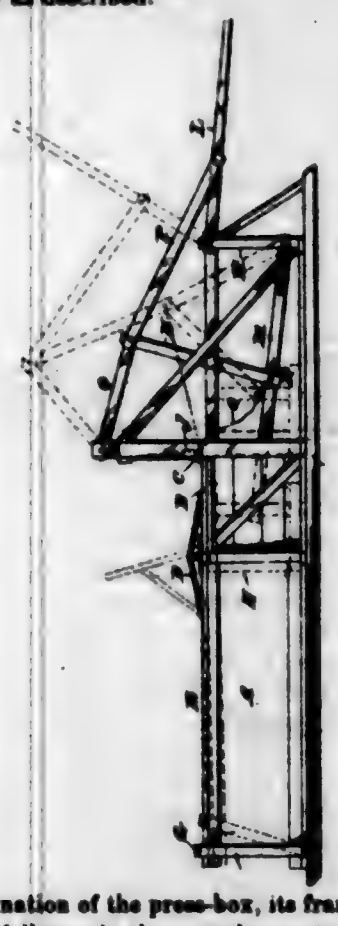
2. In a railway-switch, the combination of fixed rails, laterally-movable switch-rails disposed between the fixed rails and connected so as to move together, a transverse operating-bar disposed below the rails and having notches, abutments fixed to the bar and having grooves in their under sides snugly receiving the bar, rods fixed to said abutments and extending outwardly through apertures in the switch-rails and fixed rails, coiled springs surrounding the rods and interposed between the abutments and the switch-rails, and a fixed keeper arranged to be engaged by the notches of the operating-bar.

3. In a railway-switch, the combination of fixed rails having transverse apertures, laterally-movable switch-rails disposed between the fixed rails and connected together and having oblong apertures, wear-plates disposed below the movable ends of the switch-rails, a transverse operating-bar disposed below the rails and having notches, abutments fixed to the bar and having grooves in their under sides snugly receiving the bar, rods fixed to said abutments and extending through the apertures in the switch-rails and fixed rails, wear-plates mounted on said rods and arranged at the inner sides of the switch-rails, coiled springs mounted on the rods between the latter wear-plates and the abutments, and a fixed keeper arranged to be engaged by the notches of the operating-bar.

805,414. **HAY-PRESS.** COKE COTHAM, Monticello, Ark. Filed Dec. 2, 1904. Serial No. 235,161.

Claim.—1. The combination of the press-box, its frame employing suitable standards, a follower in the press-box, a toggle connecting the follower with said frame, an operating-lever, arms hingedly connected together and with their ends secured respectively to the operating-lever and one said standard, an arm extending from the hingedly-connected arms to the toggle, and a door to the press-

box held closed by a suitable locking device and under opening tension, substantially as described.



2. The combination of the press-box, its frame employing suitable standards, a follower in the press-box, a toggle-lever connecting the follower with said frame, an operating-lever, arms hingedly connected together and with their ends secured respectively to the operating-lever and one said standard, an arm extending from the hingedly-connected arms to the toggle, a door to the press-box held closed by a suitable catch device, springs operating to draw the door open, and means whereby the catch is drawn from holding position of the door, through operation of the follower-connecting devices, upon raising action of the operating-lever, substantially as described.

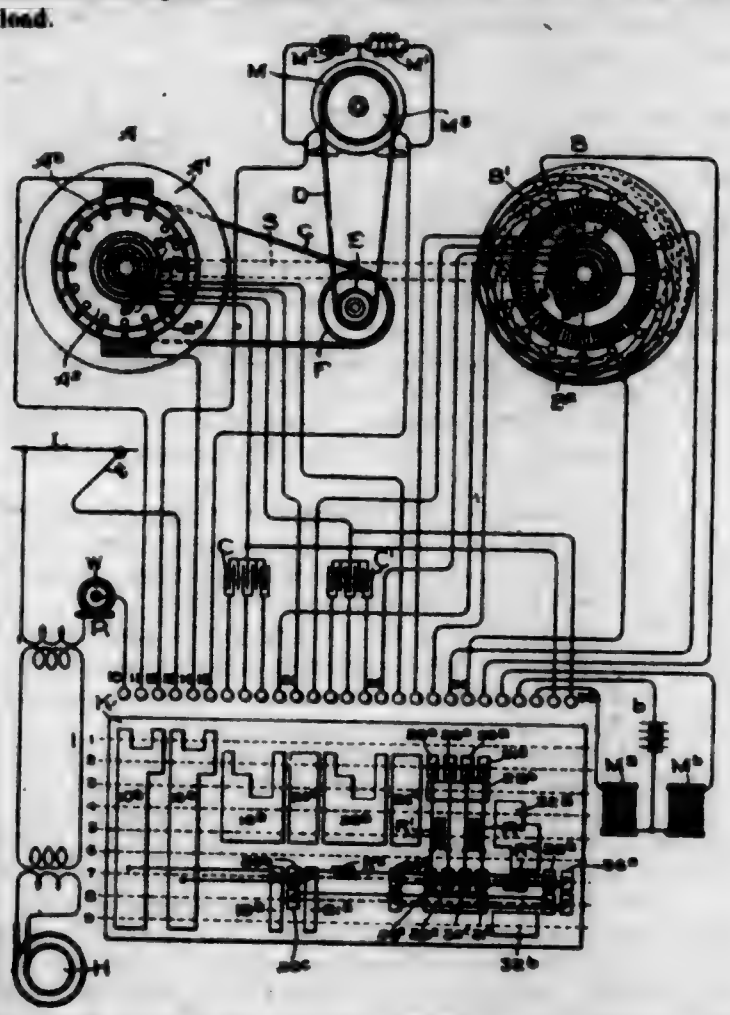
3. The combination with a press-box having a suitable feed-opening, of a follower and operating-levers, a door for closing the feed-opening, the door being hingedly supported at one edge adapted to swing upwardly to oper. position, a coil-spring extending across the hinge edge of the door having one end secured thereto, and its other end secured to the press-box at a location placing the spring under tension, a fixedly-located yielding catch adapted for holding the door closed, and means whereby the catch is drawn from holding positions of the door, through action of the follower-operating levers, substantially as described.

805,415. ALTERNATING-CURRENT MOTOR SYSTEM. ALBERT G. DAVIS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Original application filed Apr. 4, 1896, Serial No. 585,806. Divided and this application filed Apr. 9, 1902. Serial No. 102,014.

Claim.—1. The method of obtaining mechanical work from the energy of a single-phase alternating current, which consists in causing, by said single-phase alternating current, the rotation of an armature at a speed lower than synchronous rotation, converting thereby a portion of the energy of the current into mechanical work, and another portion into low-frequency multiphase currents; transmitting said low-frequency multiphase currents to a multiphase motor, producing a rotary field in said motor by the multiphase currents, and causing by said rotary field a rotation of the second motor.

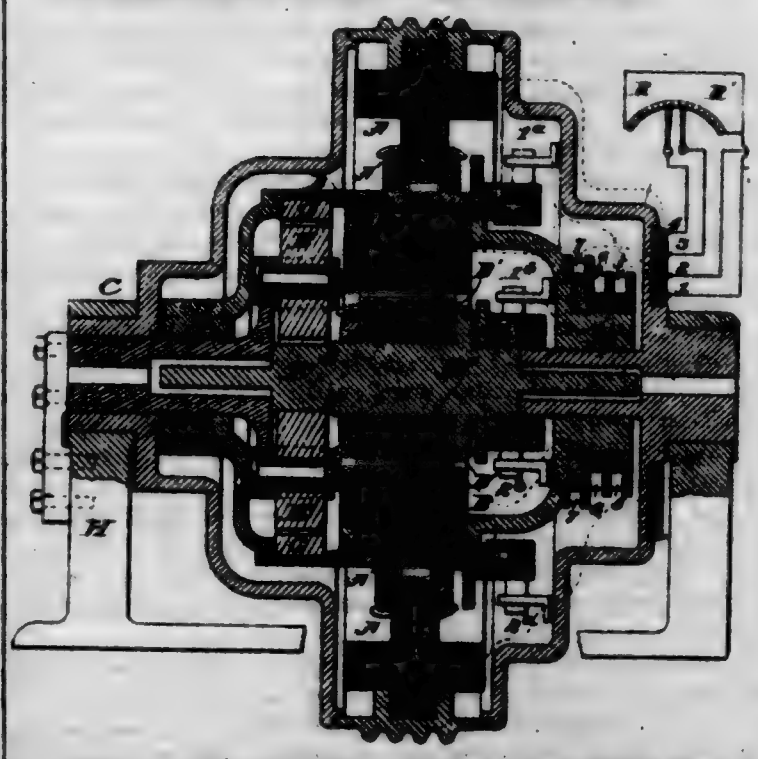
2. The method of converting the energy of single-phase alternating currents into mechanical work, which consists in causing said currents to create a rotary field in a member of an alternating-current motor, causing said rotary field to expend its energy partly in maintaining the motor in rotation, and partly in generating in said motor multiphase alternating currents of a frequency lower than the original frequency, and utilizing part or all of the energy of said low-frequency alternating currents in causing a second alternating-current motor to perform mechanical work.

3. The method of converting the energy of single-phase alternating currents into mechanical work, which consists in causing said currents to create a rotary field in a member of an alternating-current motor, causing said rotary field to expend its energy partly in maintaining the motor in rotation, and partly in generating in said motor multiphase alternating currents of lower frequency, and utilizing part or all of the energy of said low-frequency alternating currents in causing a second motor to assist the first motor in driving its load.



4. The method of reducing the spark on opening the intermediate circuits of a tandem-motor system, which consists in short-circuiting the induced winding of the first motor, and then opening the circuits.

805,416. ELECTRIC MOTOR. ERNST R. RENOND, New York, N. Y. Continuation of application Serial No. 73,937, filed Aug. 23, 1901. This application filed Oct. 26, 1904. Serial No. 229,970.



Claim.—1. The combination with two motors having three of the four motor members mechanically connected together, of means for regulating the speed of one or both of the said motors.

2. The combination with a motor having one of its members connected to the load, of a second motor for driving the other member, which motor has its own two members mechanically connected by intervening gearing.

3. The combination with two motors having all of their four members rotatable and mechanically connected in a suitable manner

to the load and to one another respectively, of means for regulating the speed of one or both motors.

4. The combination with two motors having all of their members rotatable, one of the said members being connected to the load and the other three mechanically connected together, of means for regulating the speed of one or both motors.

5. The combination with a motor having both of its members rotatable and geared together, of a second motor having one of its members driven by the first motor and the other member driving the load.

6. The combination with a motor having its two members rotatable and geared together, of a second motor having one of its members driven by the first motor and its other element connected with the load and means for regulating the speed of the first motor by changes in its field-magnet strength.

7. The combination with an electric motor of a second electric motor driving one of the elements of the first motor and having relatively rotatable members, and gearing for fixing the rate of rotation of the driven member with respect to the relative rate of rotation of the two members of the driving-motor.

8. The combination with an external motor connected mechanically to a driven load of a concentric internal motor running at a higher speed of rotation and provided with a stationary abutment and driving one of the members of the external motor.

9. The combination with a motor having its outer member movable and connected to its load, of a second motor driving the internal member of the first motor and being itself contained in the said driven member.

10. The combination with an external motor having both of its members rotatable, of a concentric internal motor having both of its members rotatable and driving one member of the external motor and a gearing permitting a difference of speed between one of the internal-motor members and the said driven member.

11. The combination with an external slow-speed motor of an internal concentric high-speed motor driving one of the members of the external motor and having its own two members geared together.

12. The combination with a slow-speed motor of a high-speed motor driving one of the members of the first-named motor and a gearing for fixing the relative rates of rotation of the members in one motor to those in the other.

13. The combination with an electric motor having both members rotatable, of a second electric motor driving one of the members of the first motor and having relatively rotatable members, and a gearing for fixing the speed of the members so driven with respect to the relative speed of the members of the driving-motor.

14. The combination with two electric motors having their several members concentric and relatively rotatable in each motor, of a driving connection between two of such members in different motors respectively, and a gearing for fixing the speed of the driven member at a definite ratio with respect to the relative speed of the respective members of the driving-motor.

15. The combination of two motors having all of their several members concentric, a mechanical connection between one of the members of one motor and a member of the other motor, a load connected to one motor and a stationarily-mounted mechanical driving connection between the members of the other motor.

16. The combination with a motor having one normal speed, of a second motor with relatively rotatable members, said second motor having a different normal speed and driving one of the members of the first-named motor and a gearing for fixing the relative speed of the members in one motor with respect to that of the members in the other motor.

17. The combination with a motor having both its members rotatable, but operated at different speeds, of a second motor also having both its members rotatable but operated at different speeds and a mechanical connection between the slower member of one and the faster member of the other motor.

18. The combination with a motor having a given speed at full field-magnet strength, of a second motor having one member connected to the load and the other driven by the first motor, and means for adjusting the speed of the driving member of the first motor from a speed substantially equal to the combined speeds of the members of the second motor down to a speed substantially equal to said combined speeds less the normal speed of the member connected to the load.

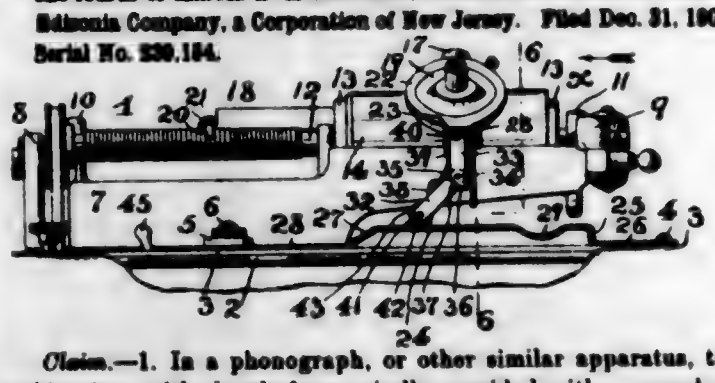
19. The combination with a motor having its members geared to run at a given relative speed but at different actual speeds, of a second motor having both members rotatable, one member being connected to the load and the other to the slower member of the first motor, and means for adjusting the speed of said slower member of the first motor from a speed substantially equal to that of the combined speeds of the members of the second motor down to a speed substantially equal to said combined speeds less the normal speed of the member connected to the load.

20. The combination of a motor having a gearing between its two members which operate at different speeds, of a second motor having both members rotatable, one member being connected to the load and the other driven by the first motor, and means for adjusting the speed of said driven member from its normal speed when both members of the second motor are rotating, up to a speed equal to said normal speed plus the speed of its associated member.

21. The combination with a driven load of two dynamo-electric machines both acting as motors with full field-magnet strength, one connected to and driving the load, the second connected to and driving a member of the first and adapted to release the load and run free when the field-magnet strength of one motor is reduced.

805,417. RETURNING DEVICE FOR PHONOGRAPHS.

HON FARR, Newark, N. J., assignor, by direct and mesne assignments of one-fourth to Marcus L. Mendelsohn, Newark, N. J., and one-half to Edisonia Company, a Corporation of New Jersey. Filed Dec. 31, 1904. Serial No. 239,184.



Claim.—1. In a phonograph, or other similar apparatus, the combination, with the shaft or spindle provided with a record-receiving means, and a forwardly-moving oscillating frame and sound-reproducer, of a returning device arranged and constructed to permit the forward operative engagement of the stylus of the sound-reproducer with a record, but at the end of the record raising said sound-reproducer and its stylus from engagement with the record and automatically returning the movable parts to their normal initial or starting positions, said returning device comprising a pair of connected arms adapted to assume a yielding relation during the forward movement of the sound-reproducer, and a rigid relation during the return movement of said sound-reproducer, substantially as and for the purposes set forth.

2. In a phonograph, or other similar apparatus, the combination, with the shaft or spindle provided with a record-receiving means, and a forwardly-moving oscillating frame and sound-reproducer, of a returning device arranged and constructed to permit the forward operative engagement of the stylus of the sound-reproducer with a record, but at the end of the record raising said sound-reproducer and its stylus from engagement with the record, and a compression-spring for returning the movable parts to their normal initial or starting positions, said returning device comprising a pair of connected arms adapted to assume a yielding relation during the forward movement of the sound-reproducer, and a rigid relation during the return movement of said sound-reproducer, substantially as and for the purposes set forth.

3. In a phonograph, or other similar apparatus, the combination, with the shaft or spindle provided with a record-receiving means, and a forwardly-moving oscillating frame and sound-reproducer, of a returning device arranged and constructed to permit the forward operative engagement of the stylus of the sound-reproducer with a record, but at the end of the record raising said sound-reproducer and its stylus from engagement with the record and automatically returning the movable parts to their normal initial or starting positions, said returning device comprising a pair of pivotally-connected arms, a spring on one of said arms having another portion in yielding contact with the other arm, said arms being adapted to assume a yielding relation during the forward movement of the sound-reproducer, and a rigid relation during the return movement of said sound-reproducer, substantially as and for the purposes set forth.

4. In a phonograph, or other similar apparatus, the combination, with a shaft or spindle provided with a record-receiving means, and a forwardly-moving oscillating frame and sound-reproducer, of a returning device arranged and constructed to permit the forward operative engagement of the stylus of the sound-reproducer with a record, but at the end of the record raising said sound-reproducer and its stylus from engagement with the record, and a compression-spring for returning the movable parts to their normal initial or starting

positions, said returning device comprising a pair of pivotally-connected arms, a spring on one of said arms having another portion in yielding contact with the other arm, said arms being adapted to assume a yielding relation during the forward movement of the sound-reproducer, and a rigid relation during the return movement of said sound-reproducer, substantially as and for the purposes set forth.

5. A returning device for phonographs and other similar apparatus, comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate provided with a raised portion, and a yielding post comprising a pair of hinged arms, one of said arms being secured to said oscillating frame, a roller attached to the lower end of said other arm, said roller being arranged in rolling engagement with said track-plate, said arms being arranged that during the forward movement of the parts the said sound-reproducer and its stylus will be in operative contact with a record, but at the end of the record said arms raising the said sound-reproducer and its stylus from the surface of the record, substantially as and for the purposes set forth.

6. A returning device for phonographs and other similar apparatus comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate provided with a raised portion, and a yielding post comprising a pair of hinged arms, one of said arms being secured to said oscillating frame, a roller attached to the lower end of said other arm, said roller being arranged in rolling engagement with said track-plate, said arms being arranged that during the forward movement of the parts the said sound-reproducer and its stylus will be in operative contact with a record, but at the end of the record said arms raising the said sound-reproducer and its stylus from the surface of the record, and means for returning the said sound-reproducer and its stylus and said yielding post to their normal initial positions, substantially as and for the purposes set forth.

7. A returning device for phonographs and other similar apparatus comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate provided with a raised portion, and a yielding post comprising a pair of hinged arms, one of said arms being secured to said oscillating frame, a roller attached to the lower end of said other arm, said roller being arranged in rolling engagement with said track-plate, a leaf-spring secured at one end to the lower one of said arms, said spring having its opposite end in engagement with the upper one of said arms, said arms being arranged that during the forward movement of the parts the said sound-reproducer and its stylus will be in operative contact with a record, but at the end of the record said arms raising the said sound-reproducer and its stylus from the surface of the record, substantially as and for the purposes set forth.

8. A returning device for phonographs and other similar apparatus, comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate provided with a raised portion, and a yielding post comprising a pair of hinged arms, one of said arms being secured to said oscillating frame, a roller attached to the lower end of said other arm, said roller being arranged in rolling engagement with said track-plate, a leaf-spring secured at one end to the lower one of said arms, said spring having its opposite end in engagement with the upper one of said arms, said arms being arranged that during the forward movement of the parts the said sound-reproducer and its stylus will be in operative contact with a record, but at the end of the record said arms raising the said sound-reproducer and its stylus from the surface of the record, and means for returning the said sound-reproducer and its stylus and said yielding post to their normal initial positions, substantially as and for the purposes set forth.

9. A returning device for phonographs, and other similar apparatus comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate consisting, essentially, of a raised portion 24 provided with a depression 29, an offset at one end of said portion 24 and an incline 27 at the other end thereof, end portions connected respectively with said offset and said incline, means in engagement with said end portions for securing said track-plate in position, and a yielding post connected with said oscillating frame, said post having its lower end in movable engagement with the incline and the raised portion of the track-plate, said post being arranged that during the forward movement along the said raised portion 24 the sound-reproducer and its stylus will be in operative contact with a record, but when the said post enters said depression 29 said post raising the said sound-reproducer and its stylus from the surface of the record, substantially as and for the purposes set forth.

10. A returning device for phonographs, and other similar apparatus, comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate consisting, essentially, of a raised portion 24 provided with a depression 29, an offset at one end of said portion 24 and an incline 27 at the other end thereof, end portions connected respectively with said offset and said incline, means in engagement with said end portions for securing said track-plate in position, and a yielding post connected with said oscillating frame, said post having its lower end in movable engagement with the incline and the raised portion of the track-plate, said post being arranged that during the forward movement along the said raised portion 24 the sound-reproducer and its stylus will be in operative contact with a record, but when the said post enters said depression 29 said post raising the said sound-reproducer and its stylus from the surface of the record, and means for returning the said sound-reproducer and its stylus and said yielding post to their normal initial positions, substantially as and for the purposes set forth.

11. A returning device for phonographs and other similar apparatus comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate consisting, essentially, of a raised portion 24 provided with a depression 29, an offset at one end of said portion 24 and an incline 27 at the other end thereof, end portions connected respectively with said offset and said incline, means in engagement with said end portions for securing said track-plate in position, and a yielding post comprising a pair of hinged arms, one of said arms being secured to said oscillating frame, a roller attached to the lower end of said other arm, said roller being arranged in rolling engagement with the incline and the raised portion of the track-plate, said arms being arranged that during the forward movement of the parts the sound-reproducer and its stylus will be in operative contact with a record, but when said roller enters said depression 29 said arms raising the said sound-reproducer and its stylus from the surface of the record, substantially as and for the purposes set forth.

12. A returning device for phonographs and other similar apparatus comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate consisting, essentially, of a raised portion 24 provided with a depression 29, an offset at one end thereof, end portions connected respectively with said offset and said incline, means in engagement with said end portions for securing said track-plate in position, and a yielding post comprising a pair of hinged arms, one of said arms being secured to said oscillating frame, a roller attached to the lower end of said other arm, said roller being arranged in rolling engagement with the incline and the raised portion of the track-plate, said arms being arranged that during the forward movement of the parts the sound-reproducer and its stylus will be in operative contact with a record, but when said roller enters said depression 29 said arms raising the said sound-reproducer and its stylus from the surface of the record, substantially as and for the purposes set forth.

13. A returning device for phonographs and other similar apparatus comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate consisting, essentially, of a raised portion 24 provided with a depression 29, an offset at one end of said portion 24 and an incline 27 at the other end thereof, end portions connected respectively with said offset and said incline, means in engagement with said end portions for securing said track-plate in position, and a yielding post comprising a pair of hinged arms, one of said arms being secured to said oscillating frame, a roller attached to the lower end of said other arm, said roller being arranged in rolling engagement with the incline and the raised portion of the track-plate, a leaf-spring secured at one end to the lower one of said arms, said spring having its opposite end in engagement with the upper one of said arms, said arms being arranged that during the forward movement of the parts the sound-reproducer and its stylus will be in operative contact with a record, but when said roller enters said depression 29 said arms raising the said sound-reproducer and its stylus from the surface of the record, substantially as and for the purposes set forth.

14. A returning device for phonographs and other similar apparatus comprising, in combination, with the main framework and a forwardly-moving oscillating frame carrying a sound-reproducer and its stylus, a track-plate consisting, essentially, of a raised portion 24 provided with a depression 29, an offset at one end of said portion 24 and an incline 27 at the other end thereof, end portions connected

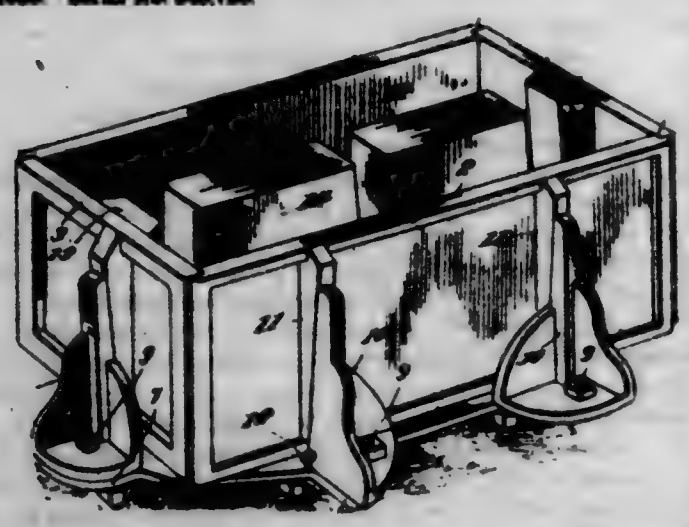
respectively with said offset and said incline, means in engagement with said end portions for securing said track-plate in position, and a yielding post comprising a pair of hinged arms, one of said arms being secured to said oscillating frame, a roller attached to the lower end of said other arm, said roller being arranged in rolling engagement with the incline and the raised portion of the track-plate, a leaf-spring secured at one end to the lower one of said arms, said spring having its opposite end in engagement with the upper one of said arms, said arms being arranged that during the forward movement of the parts the sound-reproducer and its stylus will be in operative contact with a record, but when said roller enters said depression in said arms raising the said sound-reproducer and its stylus from the surface of the record, and means for returning the said sound-reproducer and its stylus and said yielding post to their normal initial positions, substantially as and for the purposes set forth.

15. In a phonograph or similar apparatus, the combination, with a revolving shaft provided with a record-receiving means, of a back rod or guide 16, an oscillating frame slidably arranged on said rod, a sound-reproducer and stylus on said oscillating frame, means for raising said frame and said sound-reproducer and stylus above the surface of the record, and a spring encircling said rod or guide for returning said frame and its parts to their normal initial positions, substantially as and for the purposes set forth.

16. In a phonograph or similar apparatus, the combination, with a revolving shaft provided with a record-receiving means, of a back rod or guide 16, an oscillating frame slidably arranged on said rod, a sound-reproducer and stylus on said oscillating frame, means for raising said frame and said sound-reproducer and stylus above the surface of the record, consisting of a pair of hinged and spring-controlled arms, one of which is attached to said oscillating frame, and a spring encircling said rod or guide for returning said frame and its parts to their normal initial positions, substantially as and for the purposes set forth.

17. In a phonograph or similar apparatus, the combination, with a revolving shaft provided with a record-receiving means, of a back rod or guide 16, an oscillating frame slidably arranged on said rod, a sound-reproducer and stylus on said oscillating frame, means for raising said frame and said sound-reproducer and stylus above the surface of the record, consisting of a pair of hinged and spring-controlled arms, one of said arms being attached to said oscillating frame, and a roller connected with the other of said arms, a track-plate upon the framework of the phonograph, said track-plate being provided with a raised portion upon which said roller rides, and a spring encircling said rod or guide for returning said oscillating frame and its parts to their normal initial positions, substantially as and for the purposes set forth.

805,418. MOLD. ROBERT T. FROST, Dows, Iowa. Filed Feb. 15, 1905. Serial No. 245,720.



Claim.—1. In a mold, the combination of a base, a mold-box upon said base and comprising separate sides and ends, a plurality of laterally-adjustable independent standards mounted upon the base, and cams carried by the sides to engage the standards, as specified.

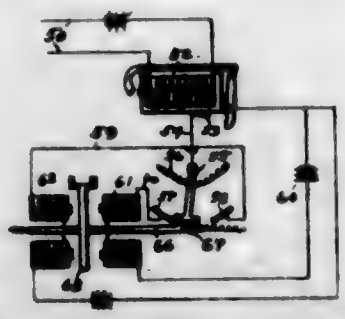
2. In a mold, the combination of a base, a plurality of independent standards extending upwardly from the base, a mold-box composed of separate sides and ends to be held together by the standards, the cams 11 carried by the sides and ends to engage the standards, and the lugs 12 projected from the sides for coöperation with the standards to facilitate positioning of the cams 11 with reference to said standards.

3. In a mold, the combination of a base, a mold-box thereon comprising a plurality of sides, a core for the mold-box having loose connection with the base aforesaid, and a flat spring attached to said core to normally hold the same in a predetermined position relative to the base, said spring being spaced from the core in its length to form a handle.

4. In a mold, the combination of a base, a mold-box thereon comprising a plurality of sides, a core for the mold-box having loose connection with the base aforesaid, and a spring attached at a point between its ends to the core and having its ends curved outwardly from the base to form handles.

5. In a mold, the combination of a base having laterally-extending arms, a plurality of standards adjustably mounted upon the arms aforesaid and having the inner sides thereof inclined, a mold-box mounted upon the base and comprising a plurality of sides, cams upon the outer faces of the sides of the mold-box and engaging the inclined portions of the standards as specified, the base being provided with a central longitudinal opening, core-pieces for the mold-box, members laterally connecting the core-pieces with the base, and a flat spring connected at a point between its ends with the core-pieces and having its ends spaced from the base to form handles.

805,419. BLOCK AND DESPATCHING SYSTEM FOR RAILWAYS. RICHARD W. GALLAGHER and CHARLES F. GILLETT, San Francisco, Cal., assignors of four-fifths to said Gallagher and one-fifth to Lionel A. Wolf, San Francisco, Cal. Filed Feb. 8, 1904. Serial No. 192,947.



Claim.—1. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, said circuit comprising a movable local contact, electromagnetic means for moving said contact, said means comprising a circuit, a battery therefor and a device in said circuit whereby the circuit can be closed by the passage of a train, substantially as described.

2. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, said circuit being normally opened, a series of movable devices along the track for closing said circuit, and means operated by the passage of a train for moving said devices in succession into an operative position to close the circuits of succeeding trains, substantially as described.

3. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, said circuit being normally opened, a series of movable devices along the track for closing said circuit, and electromagnetic means operated by the passage of a train for moving said devices in succession into an operative position to close the circuits of succeeding trains, substantially as described.

4. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, said circuit being normally opened, a series of movable devices along the track for closing said circuit, means operated by the passage of a train for moving said devices in succession into an operative position to close the circuits of succeeding trains, and means operated by the passage of a train at a farther point on the track for moving said devices back to their original position to render them inoperative on the succeeding train, substantially as described.

5. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, a series of movable devices at suitable intervals upon the track, adapted when in proper position to close the electrical circuit on the train as the train passes, means operated by the passage of a train to move said devices into a position operative upon a succeeding train, an additional series of devices arranged at suitable intervals upon the track for closing said circuit on a passing train, and means adapted to be operated in succession by a train coming in the opposite direction at a point sufficiently in advance of each device for moving said device into an operative position to arrest said first train, substantially as described.

6. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, a series of groups of devices, arranged at suitable intervals on the track, and arranged in succession to close said circuits, and means for actuating the several devices of each group, first to move one of said devices into operative position to close the electrical circuit of the succeeding train, and to move another device into operative position to close the electrical circuit of a train approaching in the opposite direction and then to replace said devices in their inoperative positions, substantially as described.

7. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, a transversely-movable safety-plate between the rails of the track, said safety-plate being in one position operative and in another position inoperative to close said circuit, means actuated by the passage of a train for moving said safety-plate transversely into its operative position, and means actuated by the passage of a train at a farther point on the track for moving said plate transversely in the opposite direction into its inoperative position, substantially as described.

8. In an apparatus of the character described, a combination of means on a train for arresting the train, an electrical circuit for energizing said means, a series of pairs of transversely-movable safety-plates between the rails of the track, one plate of the pair being on one side of the center and the other on the other side, and corresponding series of groups of devices for moving said safety-plates transversely, certain of said devices moving one of the plates into operative position to close the circuit in a succeeding train and to move the other plate into operative position to close the circuit on a train approaching in the opposite direction, and certain of the devices, operated at subsequent points in the track, moving said plates to their original position of inoperativeness, substantially as described.

9. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, transversely-movable safety-plates adapted in their operative position to close the circuit of a passing train, and electromagnetic means for transversely moving said safety-plates, said means comprising contacts adapted to be closed by the passage of a train, one to move a safety-plate into position to arrest a succeeding train, another to move a safety-plate into position to arrest a train approaching in the opposite direction and two others for withdrawing safety-plates to their original position, substantially as described.

10. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, a pair of brushes in said circuit, a transversely-movable safety-plate adapted in one position to contact with both of said brushes and in another with only one of them, and means operated by the passage of a train for so transversely moving said safety-plate, substantially as described.

11. In an apparatus of the character described, the combination of means on a train for arresting the train, an electrical circuit for energizing said means, a siding-switch, a transversely-movable safety-plate on the main track on each side of said switch, electromagnetic means for moving each safety-plate, and a circuit through said electromagnetic means, said circuit having a break adapted to be closed when the switch is opened into the siding, substantially as described.

12. In an apparatus of the character described, the combination of means on a train for arresting the train comprising a throttle-lever for the steam having a latch-handle, electromagnetic means adapted when energized to attract said latch-handle and release it, an electrical circuit containing said electromagnetic means, and means on the track, adapted to be operated by the passage of the train, for closing said circuit, substantially as described.

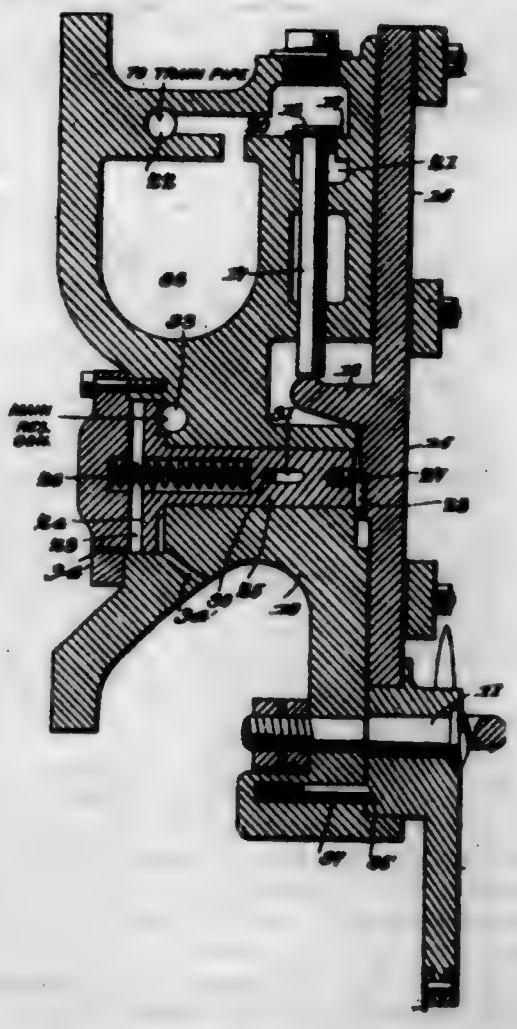
13. In an apparatus of the character described, means for applying the air-brake on the train comprising means for automatically reciprocating the valve of the air-brake pipe to open and close it a plurality of times in succession and means on the track actuated by the passage of a train, for applying said reciprocating means, substantially as described.

14. In an apparatus of the character described, the combination of a valve for controlling the air-brake pipe, automatic means for reciprocating said valve to open and close it a plurality of times in succession comprising an electrical circuit, and means operated by the passage of a train for closing said circuit, substantially as described.

15. In an apparatus of the character described, in combination with the air-brake pipe, and valve therein, an electromagnet arranged to open and close said valve by being energized or demagnetized, a vibrating switch for energizing and demagnetizing the electromagnet, and means whereby said switch is vibrated automatically, substantially as described.

16. In an apparatus of the character described, the combination, with the railroad-track, of contact-rails along the sides of said track, shoes carried by the train arranged to contact with said rails, electric circuits part of which are carried by the trains, the remainder being completed by the contact-rails and stationary connections therewith, batteries and magnets in the parts of said circuits carried by said trains, and means whereby the closure of said circuits actuates the throttle-lever and the air-brakes of the trains, and means whereby the closure of the circuit for operating the air-brake is made intermittently whereby the air-brake is applied slowly and without shock, substantially as described.

805,420. MECHANISM FOR AUTOMATICALLY ACTUATING AIR-BRAKES. CLAUS P. GERTZ, Kingsland, N. J. Filed Nov. 25, 1904. Serial No. 234,330.



Claim.—1. In an automatic brake-applying apparatus for railway-trains, a valve disposed in a train-pipe connection, a teppet-actuated member for opening said valve, a lock for retaining the valve in open position, and a fluid-pressure-actuated means controllable from the engine-cab for moving said lock to release position and permitting closing movement of the valve after a sufficient reduction of train-pipe pressure.

2. In automatic brake-applying mechanism, for railway-trains, a valve disposed in a train-pipe connection, means for opening the valve, means for locking the valve in open position, a piston connected to the locking means, a cylinder in which said piston is disposed, and means for connecting the piston to a source of pressure-supply.

3. In automatic brake-applying mechanism for railway-trains, a valve disposed in a train-pipe connection, means for opening said valve, a spring-pressed plunger having at one end a tooth for locking the valve in open position, a piston carried by the plunger, a cylinder within which the said piston is disposed, and means for connecting the cylinder to a source of pressure-supply.

4. In apparatus for automatically applying railway-brakes, a casing communicating with the train-pipe and with the outer air, a valve disposed in said casing, a slide guided by the casing and adapted to engage the stem of the valve, a rack on said slide, a plunger, a locking-tooth carried by the plunger and engaging the rack, a spring tending to maintain the plunger in locking position, a piston on the plunger, a cylinder within which the piston is disposed, means for

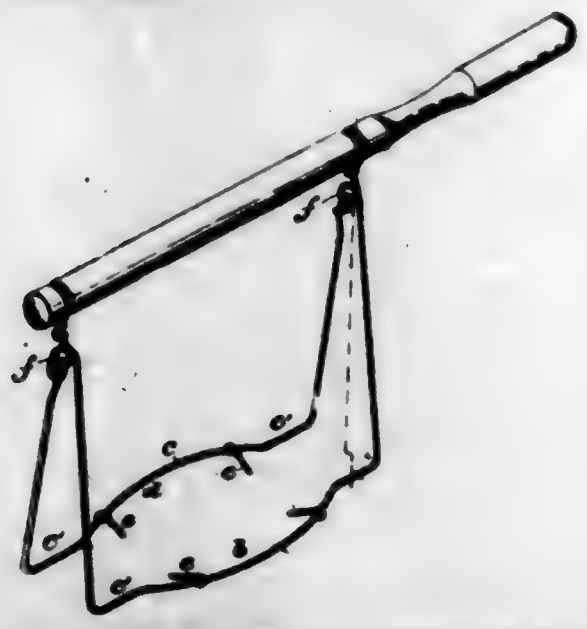
connecting said cylinder to a source of fluid-pressure supply, and a pivoted cam-lever arranged on the slide and operable by contact with a tappet or other obstruction in the road-bed.

5. In apparatus for automatically applying railway-brakes, a tappet-actuated lever carried by the train, means for communicating movement from the lever to the brake-applying devices, a hook pivotally connected to the lever and adapted to be engaged by the tappet, and a stationary member with which the hook engages.

6. In apparatus for automatically applying railway-brakes, a tappet-actuated lever carried by the train, means for communicating movement from the lever to the brake-applying devices, a hook pivoted to the lower end of the lever, and an arm with which said hook engages thereby to prevent accidental movement of the lever.

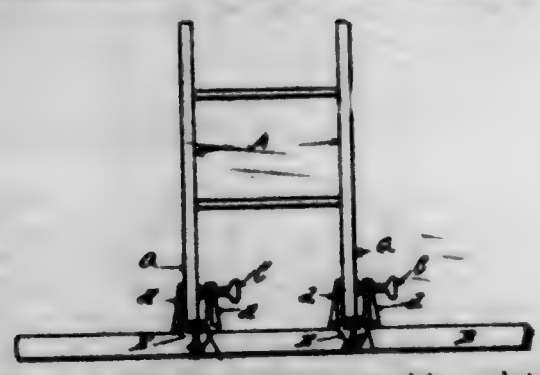
7. In apparatus for automatically applying railway-brakes, a tappet-actuated lever carried by therein, means for communicating movement from the lever to the brake-applying devices, a pair of hooks pivotally connected to the lower end of the lever, and a yoke having arms adapted to engage said hooks thereby to prevent accidental movement of the lever.

805,421. PLATE-LIFTER. OSCAR GOODWIN, Berlin, N. H., assignor of one-half to J. Howard Wight, Berlin, N. H. Filed Mar. 10, 1905. Serial No. 249,484.



Claim.—A plate-lifter consisting of a laterally-projecting handle of wood, two jaws composed of wire, one jaw having the upper ends of its arms rigidly connected with the handle, and eyes formed in said arms at a considerable distance from the handle, and the other jaw having the upper ends of its arms pivoted in said eyes, both jaws being coincident in form in their lower connecting parts, said parts being bowed outwardly to the same degree away from a central line, and each of said connecting parts being provided with two rigid fingers extending horizontally inward in position that their inner ends will barely touch when the jaws are closed, each of said fingers being located at a considerable distance inward from the outer ends of the jaws.

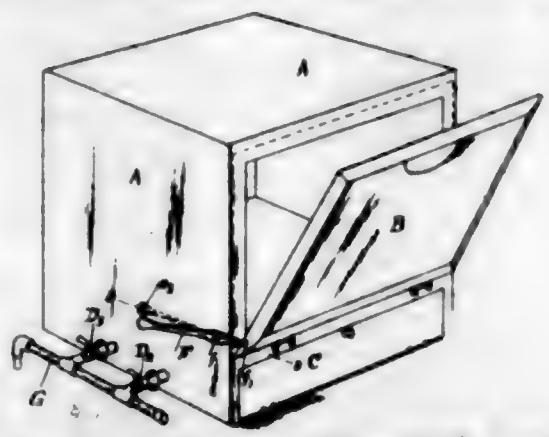
805,422. LADDER-FOOT CLAMP. BURTON P. HOGAN, Erie, Pa., assignor to American Manufacturing & Novelty Co., Erie, Pa., a Corporation of Pennsylvania. Filed June 9, 1905. Serial No. 264,488.



Claim.—1. A ladder-base clamp comprising substantially a pair of upwardly-projecting jaws adapted to embrace the sides of a ladder, means for clamping said jaws thereto, a socket between the bases of said jaws, a pair of jaws projecting downwardly from said socket so as to embrace a plank extending at right angles to the side of the ladder, and means for clamping said jaws to the plank, substantially as set forth.

2. The combination with a ladder of a clamp having upwardly-projecting jaws embracing the sides of and having a socket between them to receive the ladder-foot, and a pair of downwardly-projecting jaws, on said clamp adapted to embrace and be clamped to a plank at right angles to the jaws clamping the ladder-foot, substantially as set forth.

805,423. GAS-OVEN. WILLIAM J. KEEP and HENRY C. MAUL, Detroit, Mich., assignor to The Michigan Stove Company, Detroit, Mich., a Corporation of Michigan. Filed Dec. 26, 1903. Serial No. 186,584.



Claim.—1. In a gas-stove, in combination with an oven and the door thereto, a burner, a chamber surrounding the burner, an aperture through the walls of said chamber, a flame-conductor extending from the burner to said aperture, a cover to said aperture actuated by gravity to open a passage through said aperture and a projection on the door adapted to engage the cover and cause the same to engage over the aperture, substantially as described.

2. In a gas-stove, in combination with an oven, a door therefor, a combustion-chamber provided with an opening in its walls, a burner therewithin, a flame-conductor leading therefrom to said opening, a cover for said opening adapted to open a passage through said opening when it is displaced from its normal position, and an engaging piece carried by said door for displacing the cover, substantially as described.

3. In a gas-stove, the combination of an oven provided with a door, a combustion-chamber provided with an aperture through its wall, a burner therewithin, a channel leading therefrom through said aperture, a cover for said aperture, arranged to be displaced from closing position thereover, and engaging means carried by the door to effect such displacement, substantially as described.

4. In combination with an oven and a combustion-chamber provided with walls and an opening through said walls, two burners within said chamber having apertures for the escape of gas, a trunk extending between said burners and adapted to receive the gas escaping from an aperture in each of said burners, a branch of said trunk leading to said opening, a cover to said opening oscillated by gravity to uncover said opening contemporaneously with the opening of said door and by said door to close said opening, substantially as described.

805,424. SHEET-METAL PACKING-CASE. ALFRED T. KRUSE, Defiance, Ohio, assignor to The American Steel Package Company, Defiance, Ohio, a Corporation of Ohio. Filed Dec. 3, 1904. Serial No. 235,344.



Claim.—1. In sheet-metal packing-cases, the combination of a series of main supporting-bars extending longitudinally thereof and suitably secured to the end walls, a beading formed with the upper and lower edges of said main supporting-bars, a series of openings or recesses formed therein adjacent to said beading, a series of cross supporting-bars intersecting said main supporting-bars by passing through said openings formed therein, a series of recesses formed along the upper portion of said last-mentioned bars and adapted to

receive and form a seat for the beading of the main supporting-bars, and means for securing the ends of said cross-bars in the front and rear walls of the case.

2. In a sheet-metal packing-case, the combination of a series of main supporting-bars suitably secured to the end walls of the case and provided with a beading formed at the upper and lower edges thereof and a series of openings formed therein adjacent to said beading, a series of cross supporting-bars and provided with a series of recesses formed along the upper portion thereof and adapted to take over the beading of said main bars, and means for securing the ends thereof, to the front and rear walls of the case.

3. In a sheet-metal packing-case, the combination with a series of main supporting-bars secured to the end walls of the case, a beading formed with the upper and lower edges thereof, and a series of openings formed therein adjacent to said beading; of a series of cross supporting-bars mounted in said openings of said main supporting-bars, a series of recesses formed therein and adapted to take over and form a seat for said beading of the main bars, and means for securing the ends thereof in the walls of the case.

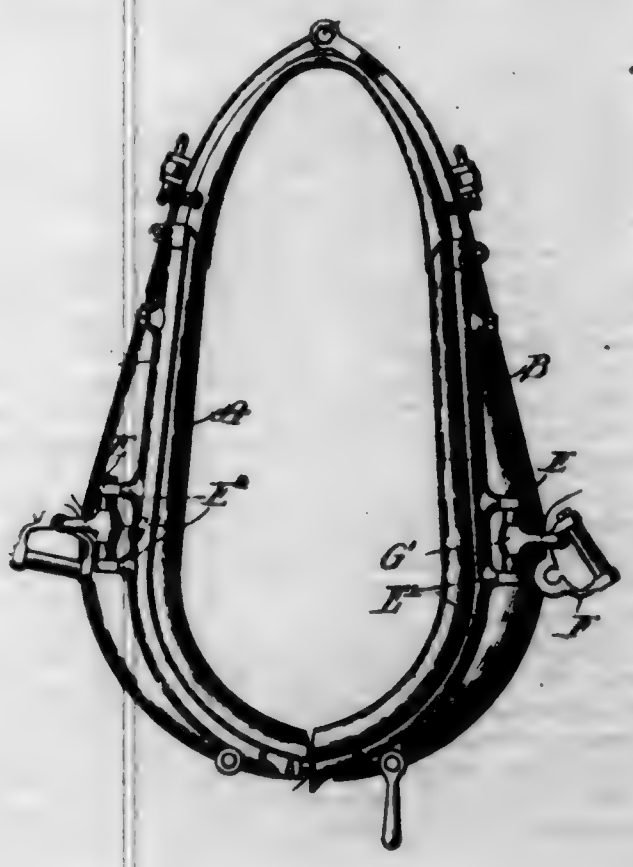
4. In sheet-metal packing-cases, the combination with a series of main supporting-bars suitably secured to the walls thereof; of a series of cross supporting-bars, suitably secured to the walls of the case and intersecting said first-mentioned bars, and each consisting of a piece of sheet metal bent upon itself into substantially inverted-U shape, in cross-section, and having its depending sides or edges bent inwardly or beveled.

5. In a sheet-metal packing-case, the combination with a series of main supporting-bars suitably secured to the walls of the case and provided with a series of openings near the upper and lower edges thereof; of a series of cross supporting-bars suitably secured to the walls of the case and intersecting said first-mentioned bars through said openings, and each consisting of a piece of sheet metal bent upon itself into substantially inverted-U shape in cross-section.

6. In a sheet-metal packing-case, the combination with a series of main supporting-bars secured to the walls of the case and provided with a series of openings near the upper edges thereof; of a series of cross supporting-bars, of inverted-U shape in cross-section, intersecting said first-mentioned bars through said openings and secured to the walls of the case.

7. In a sheet-metal packing-case, the combination with a main supporting-bar provided with a beading formed at the upper edge thereof and an opening formed therein adjacent to said beading; of a cross supporting-bar intersecting said main supporting-bar by passing through said opening formed therein, and a recess formed along the upper portion thereof and adapted to receive and form a seat for the beading of said main supporting-bar.

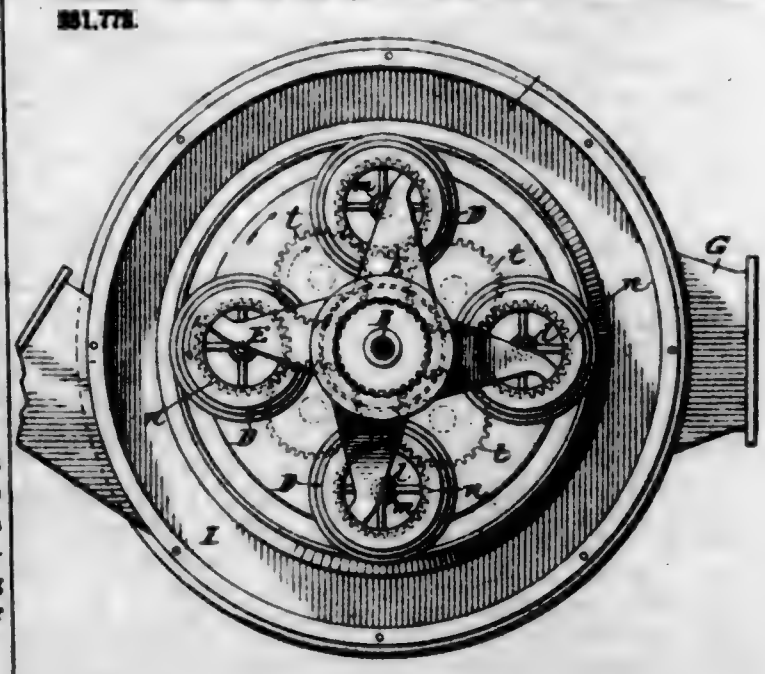
805,425. **HAME FOR HARNESS.** IVERT LARSEN, Chicago, Ill. Original application filed Apr. 7, 1903, Serial No. 151,648. Divided and this application filed Oct. 8, 1904. Serial No. 227,712.



Claim.—1. The combination of a hame, a tug-attaching loop, a link hinged thereto, and a tug-eye loosely connected with said link, said eye consisting of a body part embracing a central curved portion and two parallel arms and a bolt extending detachably between and connecting said arms of the eye and to which the tug is directly attached, said central part or body of the eye being provided with a recess which receives the body of the link, and is made of such size as to prevent detachment of the link from the recess when engaged with the outer end of the link, and said link being made thin at its inner end to permit said recess to pass thereover when the eye is shifted to the inner end of the link.

2. The combination with a rounded and longitudinally-curved hame, of a tug-attaching loop comprising two bolts which extend transversely through and are attached to said hames in the part thereof which is longitudinally curved, the heads of the outer end of said bolts being apertured, a vertical bolt extending through said apertures and forming the outer end of the loop, and washers on said transverse bolt between said head and hames, said washers being concaved to fit the rounded contour of the hame and also concave to fit the longitudinal curvature thereof.

805,426. **CENTRIFUGAL PULP-SCREEN.** JAMES W. PACKER, Glens Falls, N. Y. Original application filed May 20, 1905, Serial No. 261,327. Divided and this application filed Oct. 7, 1905. Serial No. 281,778.



Claim.—1. In a strainer for paper-pulp and the like, an individual screen having an unobstructed inner screening-surface, means for rotating said individual screen upon its own axis, means for rotating said individual screen simultaneously about an axis exterior thereto, and a supply-spout for delivering the unscreened stock to the interior of the screen at a point in advance of the plane of greatest centrifugal action; substantially as described.

2. In a strainer for paper-pulp and the like, a central shaft, a series of individual screens having unobstructed inner screening-surfaces mounted upon and revolving with said shaft, means for revolving each of the series of individual screens upon its own axis, and supply-spouts entering the several screens and discharging upon their inner surfaces at points in advance of the planes of greatest centrifugal action; substantially as described.

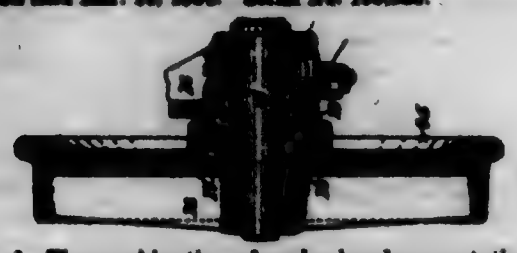
3. In a strainer for paper-pulp and the like, a central shaft, a series of individual screens having unobstructed inner screening-surfaces mounted upon and revolving with said shaft, means for revolving each of the series of individual screens upon its own axis, supply-spouts entering the several screens and discharging upon their inner surfaces at points in advance of the planes of greatest centrifugal action, and means for directing upon the exterior of said spouts a stream of water; substantially as described.

4. In a strainer for paper-pulp and the like, an individual screen having an unobstructed inner screening-surface, means for rotating said individual screen upon its own axis, means for rotating said individual screen simultaneously about an axis exterior thereto, and a supply-spout entering the screen and discharging at a point in advance of the plane of greatest centrifugal action; substantially as described.

5. In a strainer for paper-pulp and the like, an individual screen having an unobstructed inner screening-surface, means for rotating the said individual screen upon its own axis, means for rotat-

ing said individual screen simultaneously about an axis exterior thereto, and a supply-spout for delivering the unscreened stock to the interior of the screen, said spout being bent or inclined rearwardly with respect to the direction of rotation of the said screen.

805,427. WHEEL. HENRY H. PORTER, Jr., Chicago, Ill., assignor to Dynamic Company, Chicago, Ill., a Corporation of Delaware. Original application filed Mar. 17, 1903, Serial No. 98,094. Divided and this application filed Mar. 14, 1904. Serial No. 198,360.



Claim.—1. The combination of a wheel and non-rotative axle, a flange disk, a bearing sleeve for the disk engaging the axle by an elongated slot, and locking means therefor, the flange disk being movable independent of the wheel in turning.

2. The combination with an annular slotted wheel, of a flange attached thereto by bolts working in the slot, and means for shifting the flange on the wheel into and out of operative position and locking it in either position.

3. The combination of a wheel provided with a circumferential slot or groove, a flange attached to said wheel by bolts in said groove and mounted on a movable sleeve on the axis of the wheel for shifting the said flange vertically and means for locking said sleeve in place, whereby said flange may be thrown into and out of operative position and may revolve relatively to the said wheel.

4. The combination with a wheel and a fixed axle, of a movable hub upon said axle, a flange upon said hub, and means for shifting the hub to throw the flange into operative position, said hub being provided with a slot and a pin for engaging said slot to hold the eccentric in place.

5. The combination with a wheel of a shiftable flange attached thereto and mounted upon an eccentric hub, said hub being provided with lugs permitting a vertical motion but preventing a revolution thereof, and means to hold the hub in raised position.

6. The combination with a wheel and axle, of a shiftable flange mounted upon a movable hub on the axle, means for shifting the hub and a slot in the hub and co-operating bolts engaging said slot to prevent the hub from moving, substantially as described.

7. A wheel provided with a flange disk of greater diameter, said flange disk being attached to the wheel outside the axle by means allowing independent movement of the wheel and flange disk.

8. A wheel provided with a flange disk of greater diameter, said flange disk being attached to the wheel outside the axle by means allowing independent movement of wheel and flange disk, and means for shifting the flange out of operative position.

9. The combination of a fixed axle, a wheel, a shiftable flange disk, a vertically movable bearing sleeve for the disk, and means directly attaching the disk to the wheel but allowing independent rotation of the two.

10. The combination with a non-rotative axle and a pivoted arbor or bearing knuckle, of a wheel on the knuckle, a shiftable flange therefor and means for shifting and locking it in position.

11. The combination of a pivoted non-rotative arbor or bearing knuckle, a wheel thereon, a shiftable and rotative flange disk for the wheel mounted on the knuckle and attached directly to the wheel.

12. The combination with a fixed axle and a wheel thereon, of a rotative and shiftable disk forming a flange for the wheel, and a spring-pressed snap hook to hold the disk in operative position

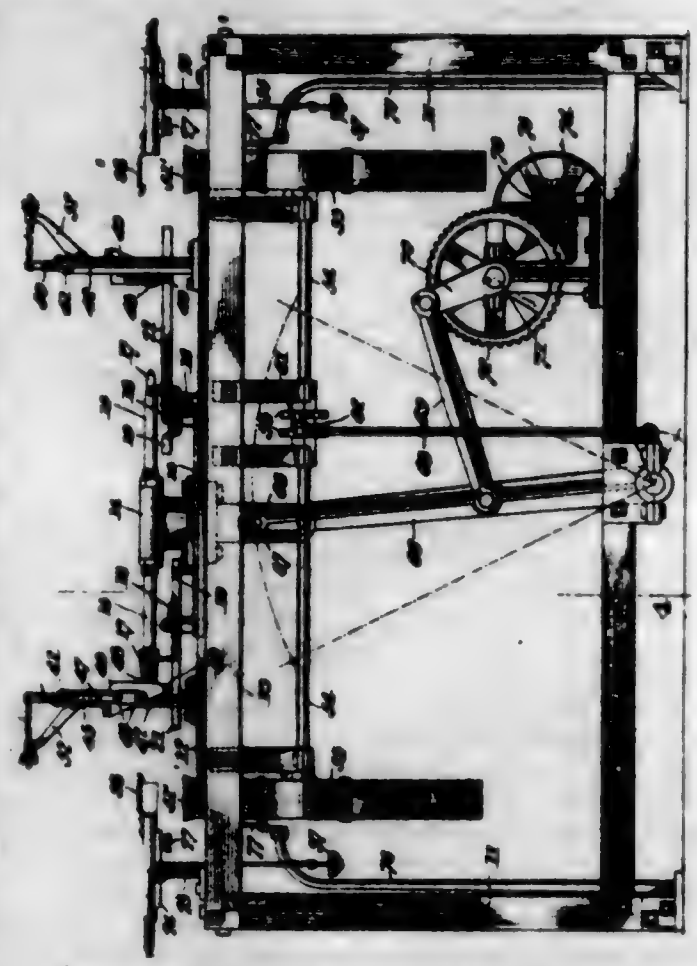
13. The combination with a non-rotative pivoted bearing knuckle of a wheel and a flange disk thereon, a slotted bearing sleeve for the disk and means to prevent its revolution and to lock it in operative position

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805,428. LABEL-ATTACHING MACHINE. GUSTAV C. SEIM, Washington, Ia., assignor to Phoenix-American Pipe Works, Washington, Ia. Filed Dec. 10, 1904. Serial No. 236,514.

Claim.—1. In a label-attaching machine, means for attaching a label to an article, a nozzle, means for forcing a jet of air therethrough, and means for conveying the labeled article to a position in alinement with the nozzle and for momentarily stopping the same in such position.

2. In a label-attaching machine, a label-magazine having a discharge-opening at one end, an article-receiving mandrel, means for moving the same toward and from the label-magazine, and an adhesive-supplying device with which the article engages during movement toward the magazine.



3. The combination with a label-holder, of an article-carrier, and an adhesive-supplying device arranged in the path of movement of said article-carrier and movable to inoperative position by engagement with said article.

4. The combination with a label-holder, of an article-carrier, means for moving said carrier toward and from the holder, and an adhesive-supplying means with which the article engages in advance of its arrival at the holder, said adhesive-applying means being movable to inoperative position by engagement of the article therewith.

5. The combination with a label-holder, of an article-carrier, and a movable adhesive-supplying device in the path of movement of the article, said adhesive-applying means being movable to inoperative position by engagement of the article therewith.

6. The combination with a label-holder, of an article-carrier, means for moving the same toward and from the label-holder, and a swinging adhesive-supplying device with which the article engages in advance of its arrival at the label-holder, said adhesive-applying means being movable to inoperative position by engagement of the article therewith.

7. The combination with a label-holder, of an article-carrier, means for moving the carrier toward and from the holder, and a swinging adhesive-supplying device with which the article engages, and by which said device is moved to inoperative position during movement of the carrier toward the label-holder.

8. The combination with a label-magazine having a discharge-opening, of a pipe-carrying mandrel, means for moving the same toward the discharge end of the magazine, and a stripper for removing the pipe from the mandrel.

9. The combination with a label-magazine having a discharge-opening, of a mandrel movable toward and from said magazine, and a yieldable stripper for engaging the pipe and removing the same from the mandrel.

10. The combination with a label-magazine having a discharge-opening, of a pipe-carrying mandrel, means for moving the same toward and from the magazine, a stripper carried by the magazine, and a swinging adhesive-supplying device disposed in the path of movement of the mandrel.

11. The combination with a label-magazine open at one end and provided with label-engaging fingers, of means for feeding labels toward the opening, a pipe-carrying mandrel movable toward and from the magazine, and means for supplying an adhesive to the pipe.

12. A label-magazine including an outer cylindrical casing, and a removable tube supported thereby and adapted for the reception of the labels, said tube having label-engaging fingers at one of its ends.

13. In a label-attaching machine, a label-magazine, a swinging adhesive-supplying device, a pipe-carrying mandrel, and means for moving said pipe-carrying mandrel to force the pipe first into contact with the adhesive-supplying device, and then with the magazine.

14. In a label-attaching machine, an adhesive-supplying device including a pivotally-mounted receptacle having a panel of absorbent material for contact with the articles to be supplied with adhesive, said adhesive-supplying device being moved to inoperative position by engagement of the articles therewith.

15. In a label-attaching machine, an adhesive-supplying device comprising a pivotally-mounted casing having a panel of absorbent material for contact with the article to be supplied with adhesive, said panel being free to yield outward under the weight of the adhesive in the casing, said adhesive-supplying device being moved to inoperative position by engagement of the articles therewith.

16. A swinging adhesive-supplying device in the form of a casing having in one of its walls a yieldable panel formed of an absorbent material, and means for forcing articles thereagainst and effecting movement of the casing to inoperative position.

17. A swinging adhesive-supplying casing movable from its normal position solely by engagement therewith of the articles to which adhesive is to be applied, and having in one of its walls a panel of absorbent material, and means for directing articles against the panel and effecting a wiping or scraping of the edges of such articles against the panel, thereby to remove adhesive material therefrom.

18. In a pipe-labeling machine, a label-magazine, a pipe-mandrel, a slide carrying the same, and a gripping-jaw mounted on the slide and adapted to engage the pipe.

19. In a pipe-labeling machine, a label-magazine, a pipe-carrying mandrel, a slide supporting the mandrel, gripping-jaws carried by the slide, and stationary cams or guides for closing the jaws on the pipe.

20. In a pipe-labeling machine, means for supplying labels to the pipes, a casing within which the labeled pipes are received, said casing having an opening in one of its side walls, means for stopping the movement of the pipes in alinement with the opening, and means for directing a jet of fluid through said opening and into contact with the label.

21. In a pipe-labeling machine, the combination with means for attaching labels to the pipes, of a chute to which the labeled pipes are delivered, a cylindrical casing with which the chute communicates, said casing having an opening in one of its side walls, a revoluble wheel arranged within the casing and having peripheral pockets for the reception of the pipes, means for stopping movement of the wheel and presenting successive pipes in alinement with the opening, and means for directing a jet of air through said opening.

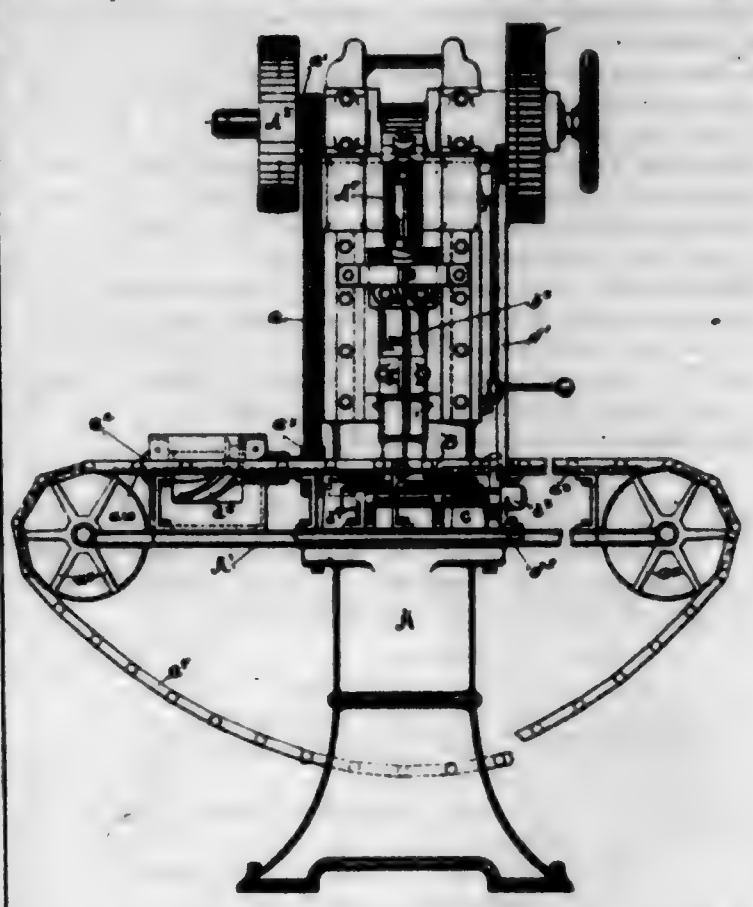
22. In a pipe-labeling machine, the combination with a frame, of a slide mounted thereon, mandrels carried by the slide, pipe-gripping jaws also carried by said slide, means for actuating said jaws, label-magazines arranged at opposite ends of the frame, means for feeding the labels to the magazine, adhesive-supplying devices carried by the frame, chutes into which the pipes are delivered, cylindrical casings with which said chutes communicate, revoluble wheels arranged within said casings, each casing having an opening in one wall, means for directing air-jets through said openings, a rock-shaft, a lever mounted thereon and connected to the slide, means for operating said lever, a pair of shafts connected to the wheels, oppositely-facing ratchet-wheels mounted on said shafts, a pair of pawls movable longitudinally into engagement with said wheels, and means for connecting the pawl to the rock-shaft.

805,429. **FLANGING-MACHINE.** CHARLES W. SLEEPER, Lancaster, N. H., assignor, by mesne assignments, to American Key Can Company, Chicago, Ill., a Corporation of New Jersey. Filed Jan. 20, 1903. Renewed Mar. 4, 1904. Serial No. 193,429.

Claim.—1. In a machine of the class described, the gate B consisting of the plates *b* and *b'* arranged to slide one upon the other with means for giving said plates longitudinal motion in opposite directions so as to lengthen or shorten the space inclosed between the inner edges of said plates.

2. In a machine of the class described the gate B consisting of a plate *b'* having its interior portion cut away and a plate *b* arranged to slide longitudinally across the opening in said plate, with means for giving said plates reciprocating longitudinal motion in opposite directions so as to lengthen or shorten the space between the inner edge of said plate *b* and the opposite side of said opening, substantially as described.

3. In a machine of the class described the gate B consisting of the plates *b* and *b'* arranged to slide longitudinally one upon the other in combination with the racks b^2 b^3 attached to said plates, pinion b^4 engaging said racks, and means for giving to one of said plates reciprocating longitudinal motion, substantially as described.



4. In a machine of the class described the gate B consisting of the plates *b* and *b'* arranged to slide longitudinally one upon the other, racks b^3 b^3 attached to said plates, pinion b^4 engaging said racks and means for giving said plate *b* longitudinal reciprocating motion consisting of the lever b^5 pivoted at its lower end to said plate *b* and at its upper end to a projection upon the frame A, pin and roller b^6 working in the cam-groove b^7 in the face of said lever b^5 and mounted upon the projection b^{11} on the vertically-moving ram A^3, substantially as described.

5. In a machine of the class described tables a^9, a^{10}, gate B between said tables consisting of the plates *b* and *b'* arranged to slide longitudinally one upon the other, and means for opening and closing said gate, in combination with the feed-chain a^7 and means for giving the same intermittent progressive motion, substantially as described.

6. In a machine of the class described the feed-chain a^7 with means for giving the same intermittent progressive motion, tables a^9, a^{10}, gate B between said tables, with means for opening and closing the same, and chuck C placed under said gate and adapted to receive and hold a cam dropped through said gate B, substantially as described.

7. In a machine of the class described, the chuck C having in its upper face four converging channels whose middle lines cross at a right angle with each other, jaws *c* sliding in said channels and having die-holders c^4 bolted thereto, each jaw having in its under side a transverse slot *c'*, and a block c^5 adapted to slide therein, a shank-pinion c^6 journaled in the body of the chuck C under each of the jaws *c*, and having a crank-pin in its upper end engaging with the block c^5 in the jaw above it, racks d^7 each engaging two of the pinions c^6 and means for giving said racks reciprocal motion, substantially as described.

8. In a machine of the class described a chuck C, having four die-carrying jaws sliding in converging channels in its upper face each jaw being operated by a shank-pinion c^6 journaled in the body of the chuck and having on its upper side a crank-pin engaging a block sliding in a transverse groove in the under side of said jaw, said pinions being moved in pairs by racks d^7 engaging therewith, in combination with means for giving said racks reciprocal motion consisting of the segment-gears d^8 engaging said racks and mounted upon a rock-shaft d^9 carrying a segment-gear d^{10} engaged by a rack upon a cam-rod d^{11} operated by the cam *d*, substantially as described.

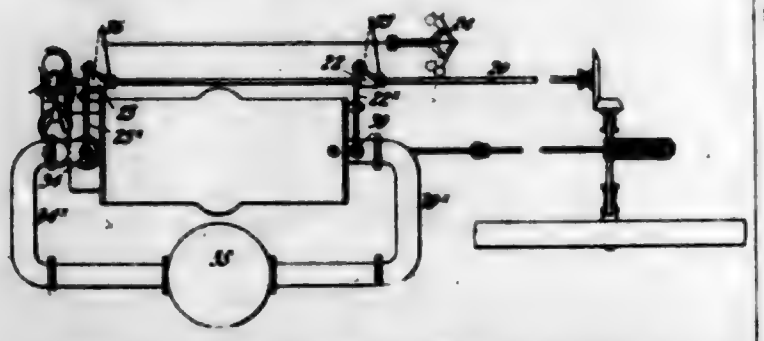
9. In a machine of the class described the feed-chain a^7 mounted upon sprocket-wheels a^8 with the described means for giving the same intermittent progressive motion consisting of a barrel-cam a^4 engaging rollers a^5 mounted upon and carried by the side of said

chain and means for giving rotary motion to said cam, substantially as described.

10. In a machine of the class described having a chuck C with dies e^6 and vertically-reciprocating dies f, f^3 coöperating with said dies e^6 in forming flanges upon the ends of a can, means for effecting the conjoint action of the dies f, f^3 upon the opposite ends of the can consisting of the ram A^3, carrying the die-holder f' and die f^3 with means for giving said ram reciprocating vertical motion, projections e upon said ram engaging the lever e', connecting-rod e^2 for transmitting the motion of the lever e' to one end of the lever e^1, die-carrier e^5 resting upon the opposite end of said lever e^1 and spring e^4 connected with said carrier e^5, all substantially as described.

11. In a machine of the class described the die-holder f' and flanged die f^3, f^3 attached to the vertically-reciprocating ram A^3 in combination with means for removing a flanged can from said die consisting of strippers g projecting downward through grooves in said die-holder and die-yoke g' attached to said strippers, spring g^4 connecting said yoke with the ram A^3 and forked lever e^3 engaging said yoke, substantially as described.

805,430. MEANS TO REGULATE THE POWER OF EXPLOSION-ENGINES. ADOLF VOGT, West Norwood, England. Original application filed Jan. 9, 1903. Serial No. 39,072. Divided and this application filed Dec. 16, 1903. Serial No. 185,379.



Claim.—1. In a two-stroke cycle internal-combustion motor, a cylinder having its front closed end acting as a pump for drawing in combustible charges through a suction-valve, an outlet-valve at said front end communicating by a pipe and connected reservoir to an inlet-valve at the back end of the cylinder, cams controlling said valves so as to cause them to allow a charge drawn into the front end of the cylinder to pass through said pipe into the back end of the cylinder, a governor controlling said cams adapted to bring these into position for holding the said outlet and inlet valves open during the first part of the compression-stroke of the piston, when the normal speed is exceeded, whereby a portion of the charge admitted at the back end of the cylinder will pass back into the front end again, substantially as and for the purpose described.

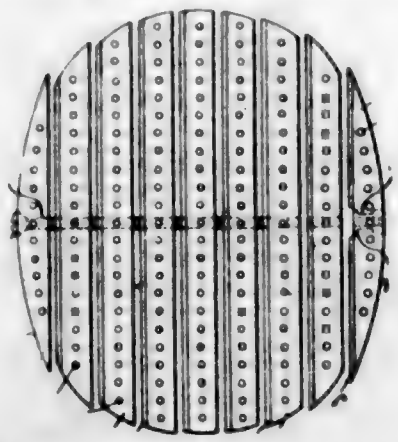
2. In a two-stroke cycle-motor, a cylinder having its front closed end acting as a pump for drawing in combustible charges through a suction-valve, an outlet-valve at said front end communicating by a pipe and connected reservoir to an inlet-valve at the back end of the cylinder, cams controlling said valves so as to cause them to allow a charge drawn into the front end of the cylinder to pass through said pipe into the back end of the cylinder, means for holding the outlet-valve and inlet-valve open during part of the compression-stroke when the normal speed is exceeded so as to cause a part of a charge to pass back to the front end of the cylinder again, so as to reduce the charge to be compressed, and a chamber for containing the compressed charges, means for the introduction of more or less liquid into said chamber to vary the capacity thereof to correspond with the variations of the compressed charges, substantially as described.

3. In a two-stroke cycle-motor, a cylinder having its front closed end acting as a pump for drawing in combustible charges through a suction-valve, an outlet-valve at said front end communicating by a pipe and connected reservoir to an inlet-valve at the back end of the cylinder, cams controlling said valves so as to cause them to allow a charge drawn into the front end of the cylinder to pass through said pipe into the back end of the cylinder, means for holding the outlet-valve and inlet-valve open during part of the compression-stroke, when the normal speed is exceeded, to cause a part of a charge to pass back to the front end of the cylinder again, and reduce the charge to be compressed, a chamber for containing the compressed charges, means for introducing liquid into said chamber during the forward stroke of the piston, and a loaded escape-valve communicating with said chamber, adapted to open automatically for the discharge of liquid from the chamber when the pressure of the compressed charge exceeds a predetermined amount, substantially as described.

4. In a two-stroke cycle-motor, a cylinder having its front closed end acting as a pump for drawing in combustible charges through a suction-valve, an outlet-valve at said front end communicating by a pipe and connected reservoir to an inlet-valve at the back end of the cylinder, cams controlling said valves so as to cause them to allow a charge drawn into the front end of the cylinder to pass through said pipe into the back end of the cylinder, means for holding the outlet-valve and inlet-valve open during part of the back stroke when the normal speed is exceeded so as to cause a part of a charge to pass back to the front end of the cylinder again, so as to reduce the charge to be compressed, and a snifting-valve in the back end of the cylinder for admitting air into the same when the combustion-gases expand below the atmospheric pressure, substantially as described.

5. In a two-stroke cycle internal-combustion motor, the combination with a cylinder having a piston therein dividing said cylinder into an explosion and a pump chamber; of a pipe connecting said chambers, a reservoir connected to the pipe, governor-controlled valves at each end of the pipe and held open during a portion of a stroke when the speed exceeds normal, and means to automatically vary the compression-space to maintain a substantially constant compression-pressure.

805,431. SECTIONAL BRUSH WITH TIE-BOLT. CHARLES A. PFEIFFER, New York, N. Y. Filed Mar. 8, 1905. Serial No. 249,086.



Claim.—1. A brush having the entire brush-block divided into longitudinal strips provided each with a row of bristle-tufts, ribs and grooves upon the strips at the opposite edges for holding them in alinement, a locking-bolt extended transversely through the strips with head resting upon the strip at one edge, and means swiveled in the opposite edge of the strip for engaging the end of the bolt.
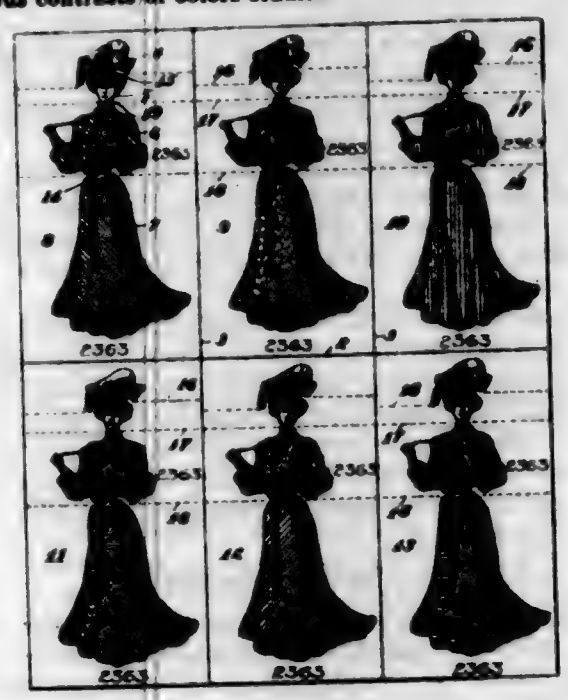
2. A brush having the entire brush-block divided into longitudinal strips provided each with a row of bristle-tufts, ribs and grooves upon the opposite edges of the strips for holding them in alinement, a locking-bolt extended transversely through the strips with head resting upon the strip at one edge, and the nut i having collar k upon its outer end fitted to socket l in the strip at the opposite edge, and flanged over upon the inner edge of the strip to swivel the nut therein.

805,432. FASHION-CHART. WILLIAM FREEMAN, Brooklyn, N. Y. Filed May 9, 1905. Serial No. 259,568.

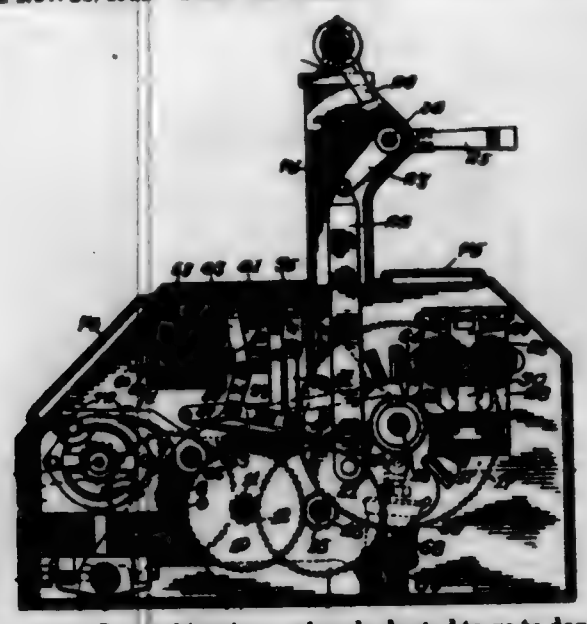
Claim.—1. As an article of manufacture, a sheet of paper having printed thereon a set of numerous similar miniature full figures, having skirts, waists, heads and hats and illustrating the appearance or style of one individual finished dress garment, and colored differently from one another, all the skirts slightly spaced apart from the waists, and all the hats likewise spaced apart, whereby the colors of the miniatures may first be studied with a view of selecting dress goods corresponding to one thereof, and whereby if no selection can be made from the original miniatures, the same may be cut up into skirt, waist and hat portions, and different waists may be juxtaposed to different skirts and correlated with different hats and the effect of the various contrasts of colors studied, until a selection is made.

2. As an article of manufacture, a sheet of paper having printed thereon a set of numerous similar miniature feminine full figures, dressed in skirts and waists, and all illustrating the appearance or style of one individual finished dress garment, each miniature colored differently from all the others, the figures so arranged that each waist portion may be severed from the skirt portion by a single sim-

ple cut directly across the body, whereby after such severance, different waists may be juxtaposed to different skirts and the effect of the various contrasts of colors studied.



805,433. SEMAPHORE-SIGNAL. REINHOLD HERMAN, Crafton, Pa., assignor to General Electric Company, a Corporation of New York. Filed Nov. 21, 1903. Serial No. 183,139.



Claim.—1. In combination, a signal adapted to go to danger position automatically by gravity, means for locking said signal in danger position, operating mechanism for shifting the signal to clear position, an electric motor for driving said mechanism, and an armature within the magnetic field of said motor adapted when attracted to move said locking means.

2. In combination, a signal adapted to go to danger automatically by gravity, operating mechanism for shifting the signal to clear position, an electric motor for driving said mechanism, a pivoted lever adapted to engage said signal to lock it at danger position, and an armature carried by said lever adjacent to the motor-field and adapted to be attracted thereby to move said lever out of engagement with said signal.

3. The combination with a signal normally locked in a danger position and movable to clear position, signal-operating mechanism for shifting the signal to clear position, means between the signal and the operating mechanism forming a connection and also acting as a counterweight to move the signal to danger position, a motor for actuating the operating mechanism, and an armature within the fields of the motor adapted when attracted to unlock the signal whereby it may be shifted to clear position.

4. In signals, the combination with a signal, and electrically-operated shifting means therefor, of a locking device for holding the signal in one of its positions, and embodying a bracket, toggle-links pivotally supported from the bracket, an armature carried by said links, studs carried by said bracket, a back plate secured to said studs, electromagnets having their cores threaded into said back plate, and a swinging lock-lever pivotally supported from the bracket and connected to the toggle-links.

5. In signals, the combination with a signal, and shifting means therefor, of a locking device embodying a bracket, a swinging lock-lever pivotally supported from the bracket, toggle-links pivotally supported from the bracket and pivotally connected to the swinging lock-lever, an armature connected to the toggle-links, a back plate connected to the bracket, electromagnets having one end of their cores engaged in said back plate with conical portions on their other ends, a strap fitted on said conical portions, and means for securing said strap.

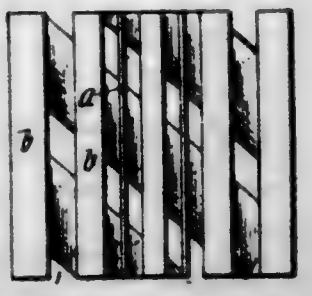
6. In a signaling mechanism, the combination with the signal, and the signal-operating mechanism, of a locking device embodying a back plate secured to the frame of the signal mechanism, studs carried by said plate, bolts engaging in said studs to secure the plate, electromagnets having one end of their cores threaded into said plate and their opposite ends provided with conical portions, a strap having conical apertures to receive said conical portions, and means engaging in the ends of said cores for securing the straps to the cores.

7. A locking device embodying a bracket, a swinging lock-lever pivoted thereto, studs carried by the bracket, a back plate having studs engaging the studs of the bracket and secured thereto, electromagnets having their cores permanently fastened at one end in the back plate and their other ends permanently held by a strap secured thereon.

8. In signals, the combination with the signal, and the signal-operating mechanism, of a locking device embodying a bracket secured to the frame of the signal mechanism, a swinging lock-lever pivotally suspended from the bracket and adapted to engage the part to be locked, toggle-levers pivotally connected to the bracket and to the swinging lock-lever, an armature carried by the toggle-levers, a back plate secured to the bracket, electromagnets having one end of their cores permanently fastened in said back plate, and a strap fitted on conical portions on the opposite end of said cores, and permanently secured thereto.

REISSUES.

12,409. KINDLING-BLOCK. EDWIN POLLARD, Douglas, Isle of Man. Filed Oct. 17, 1905. Serial No. 283,194. Original No. 733,678, dated July 14, 1903.



Claim.—1. A kindler-block having grooves in its upper and lower faces extending partially through the thickness of the block and a horizontal film between and closing said grooves, said film being thin so as to be easily ignitible.

2. A kindler-block having upper and lower grooved faces, a film between the upper and lower groove, and films in the grooves, substantially as described.

3. A kindler-block having upper and lower grooved faces the grooves in one face extending at an angle to the grooves in the opposite face, and an ignitible film located in the groove on one face of the block and extending across the position of the grooves in the other face of the block, substantially as described.

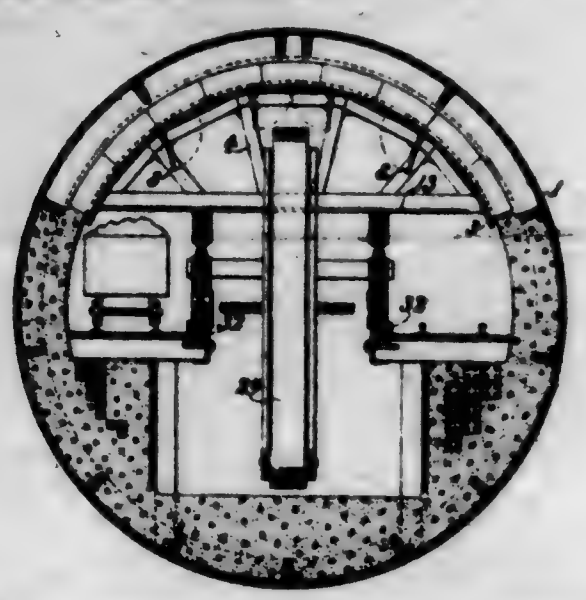
4. A kindler-block having upper and lower grooved faces, ignitible films located in the longitudinal grooves and crossing the grooves upon the opposite face of the block which extend at an angle to the longitudinal grooves, substantially as described.

12,410. TUNNEL APPARATUS. JAMES W. REMO, New York, N. Y. Filed Sept. 10, 1904. Serial No. 224,023. Original No. 761,786, dated June 7, 1904.

Claim.—1. In tunnel construction, elevated ways between entrance and heading, material-carriers on certain of said ways and devices mounted upon carriers on other of said ways for working upon the walls of the tunnel around all said ways without interference with the running of the material-carriers.

2. In tunnel construction, means for transporting materials to and from the heading along elevated paths spaced inwardly from the

tube side walls, a center or hood above and overhanging said paths, and means movable along parallel paths for carrying and operating said center for the purposes set forth.



3. In tunnel construction, means for applying a concrete lining to the tunnel-tube, comprising an arched hood or center conforming to the curvature of the tunnel-roof, means for carrying the same longitudinally and adjusting it radially within the tube, and means for transporting materials to and from the tunnel-heading within the radius of said hood and on each side of its carrier.

4. In tunnel construction, elevated interspaced ways spaced from the sides of the tunnel-passage, means for conveying materials along said ways to and from the heading, a way intermediate said first ways, and means movable along said central way, for applying a lining to the tunnel-tube.

5. In tunnel construction, means for simultaneously carrying on the several operations of driving the heading, erecting the tube, and applying a concrete lining thereto, comprising a substantially diametric platform or support erected progressively behind and following the advance of the heading, tracks upon the same for material-carriers, other parallel ways along the platform, a center overhanging said tracks and movable along said ways, and means for adjusting its position radially.

6. In a center for constructing the concrete lining of tunnels, the combination with an arched form and means for supporting said form, of an opening in said arched form and a closure for said opening.

7. In a center for forming concrete tunnel-linings, the combination with an arched form and support therefor, means for confining concrete, a ram adapted to exert pressure on the concrete and means for actuating said ram.

8. In an apparatus for forming concrete linings for tunnels, the combination with an arched form and a support therefor, of removable closures secured to the transverse edges of said arched form.

9. In an apparatus for forming concrete linings for tunnels, the combination with a cylindrical center and support therefor, of plates arranged along the transverse edges of and hinged to said cylindrical form to produce a substantially closed chamber for the reception of concrete, openings in said cylindrical form and closures for said openings.

10. In an apparatus for forming concrete linings for tunnels, the combination with an arched form and support therefor, of plates hinged to the edges of said form, a laterally-projecting extension to said form, a slidable member mounted on said extension having a face substantially normal thereto and means for forcing said slidable member against the concrete upon said form.

11. In an apparatus for forming concrete linings for tunnels, the combination with an arched form, of a framework adapted to support said arched form, tram-wheels secured to said frame, tracks for said tram-wheels and means for raising and lowering said tram-wheels into and out of operative position.

12. In an apparatus for constructing concrete linings for tunnels, the combination with an arched form and framework secured to said form, of a truck-frame adapted to support said form, tram-wheels secured to said truck-frame and means for raising and lowering said arched form and framework relative to said truck-frame.

13. In an apparatus for constructing concrete linings in tunnels, the combination with an arched form and framework secured thereto, of a truck-frame, tram-wheels secured to said truck-frame, means for lowering and raising said tram-wheels into and out of action and lifting-jacks between said truck-frame and said framework.

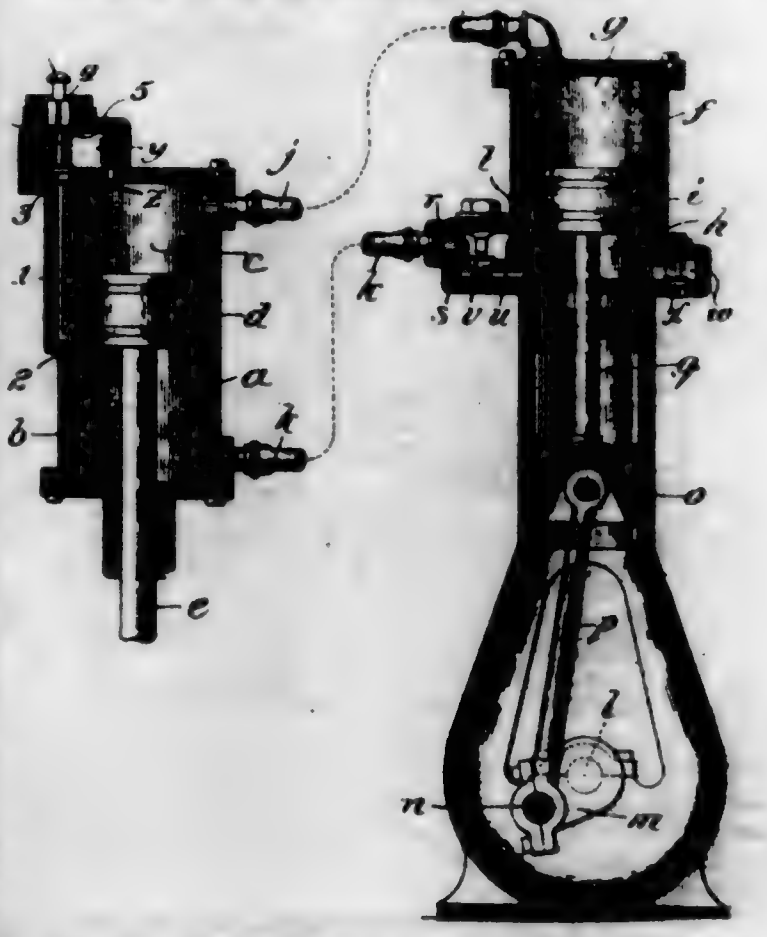
14. In an apparatus for constructing concrete linings in tunnels, the combination with an arched form and framework secured thereto, of a platform secured to said framework and a conveyer adapted to convey concrete from the base of the tunnel to said platform.

15. In an apparatus for forming concrete lining for tunnels, the combination with platforms arranged along the sides and at an elevation above the base of the tunnel, of a traversing concreting apparatus mounted on said platforms.

16. In an apparatus for forming concrete lining for tunnels, the combination with platforms arranged along the sides of the tunnel, leaving a central opening therebetween, of a traversing concreting apparatus mounted on and spanning the space between said platforms.

17. In an apparatus for forming concrete lining for tunnels, the combination with platforms arranged along the sides of the tunnel, leaving a central opening therebetween, of tracks along the inner edges of said platforms, a portable concrete form mounted on said tracks, having its sides extend over and at an elevation above said platforms, whereby the roof of the tunnel above said platforms may be lined with concrete without interfering with the use of said platforms for other purposes.

12,411. PNEUMATICALLY-ACTUATED TOOL. ROBERT TEMPLE, Denver, Colo., assignor to The Temple Gas Engine & Machine Company, Denver, Colo., a Corporation of Colorado. Filed May 1, 1905. Serial No. 258,406. Original No. 787,963, dated Apr. 25, 1905.



Claim.—1. In mechanisms of the class described, the combination of a tool-cylinder, a reciprocating tool-piston therein, pulsating-engine-cylinder mechanism the chambers of which are of less combined volume than the chambers of the tool-cylinder, pulsating-piston mechanism in the pulsating-engine-cylinder mechanism, and tubular mechanism connecting the chambers of the tool and pulsating-engine cylinders together, substantially as described.

2. In mechanisms of the class described, the combination of a tool-cylinder, a reciprocating tool-piston mounted therein and dividing it into two chambers, pulsating-engine-cylinder mechanism provided with a plurality of chambers which are of less combined volume than the chambers of the tool-cylinder, pulsating-piston mechanism in the pulsating-engine-cylinder mechanism, and tubular mechanism connecting the chambers of the tool and pulsating-engine cylinders together, substantially as described.

3. In mechanisms of the class described, the combination of a tool-cylinder, a reciprocating tool-piston mounted therein, pulsating-engine-cylinder mechanism, reciprocating pulsating-piston mechanism in such engine-cylinder mechanism, pipe or passage mechanism connecting the chambers of the pulsating-engine and tool cylinders together, a by-pass or passage leading from one end of the tool-cylinder to a point near the middle thereof, and an automatic valve

in said passage arranged to be opened and closed during the reciprocations of the tool-piston to admit air under pressure from one side of the tool-piston to the other, substantially as described.

4. In mechanisms of the class described, the combination of a tool-cylinder having a reciprocating piston therein dividing said cylinder into two chambers, a by-pass or passage leading from the chamber at one end of the tool-cylinder to a point substantially near the center thereof, and a check-valve in said passage arranged to be opened and closed during the reciprocations of the tool-piston to admit air under pressure from the chamber at the forward end to the chamber at the rear end of said tool-cylinder, substantially as described.

5. In mechanisms of the class described, the combination of a tool-cylinder having a reciprocating tool-piston mounted therein and dividing the same into two chambers, a pulsating-engine cylinder, a reciprocating piston therein, tubular mechanism connecting the chambers of the pulsating-engine and tool cylinders together, a double-ported passage connecting one chamber of the pulsating-engine cylinder with one end of the tubular mechanism that leads to the tool-cylinder mechanism, one of said ports being located adjacent to the head of the pulsating-engine cylinder and the other a short distance therefrom and arranged to be covered entirely during the reciprocations of the pulsating piston, a check-valve in the port adjacent to the cylinder-head, an emergency inlet-port connecting the last-designated chamber of the pulsating-engine cylinder with the open air and provided with an automatic check-valve arranged to be opened when the air under pressure therein falls below the atmospheric point, substantially as described.

6. In mechanisms of the class described, the combination of a tool-cylinder having a reciprocating piston therein dividing said cylinder into two chambers, a by-pass or passage leading from the chamber at one end of the tool-cylinder to a point substantially midway between both ends of the cylinder, a check-valve in said passage arranged to be opened and closed during the reciprocations of the tool-piston to admit air under pressure from the chamber at one end of said cylinder to the chamber at the other end, pulsating-engine-cylinder mechanism, reciprocating-piston mechanism in said engine-cylinder mechanism, tubular mechanism connecting the chambers of the pulsating-engine and tool cylinders together, and an emergency inlet port or passage in the chamber at one end of the pulsating-engine cylinder provided with an automatic check-valve for opening and closing the same when the pressure in said chamber falls below or rises above the atmospheric point, substantially as described.

7. In mechanisms of the class described, the combination of a tool-cylinder having a reciprocating tool-piston mounted therein and dividing the same into two chambers—a front and a rear chamber—a by-pass connecting the rear chamber at its rear end with said front chamber at a point substantially midway of the ends of said tool-cylinder, a check-valve in said by-pass arranged to open and close the same so as to admit air under pressure from the forward to the rear chamber, pulsating-engine-cylinder mechanism, a reciprocating piston mounted therein, tubular mechanism connecting the chambers of the pulsating-engine and tool cylinders together, a casing providing a supplemental chamber on the pulsating-engine cylinder with which one end of said tubular mechanism is connected, a main port connecting such supplemental chamber with the chamber at one end of the pulsating-engine-cylinder mechanism and a short distance from the head thereof so as to be covered and uncovered during the reciprocations of the pulsating pistons, an auxiliary passage provided with a check-valve connecting said supplemental chamber with the designated chamber of the pulsating-engine cylinder and adjacent to the head thereof so as to permit air to enter said chamber when the main port is closed but prevent its return from the supplemental chamber to said chamber of the pulsating-engine cylinder until such main port is again uncovered, and an emergency inlet-passage connecting the designated chamber of the pulsating-engine cylinder with the outer air and provided with a check-valve to open and close the same when the pressure in said chamber falls below and rises above atmospheric point, substantially as described.

8. In mechanisms of the class described, the combination of a tool-cylinder having a reciprocating piston therein dividing the same into front and rear chambers, a by-pass connecting the rear end of the rear chamber with the forward chamber at a point substantially between the ends of said tool-cylinder, a check-valve in said by-pass arranged to be opened during the reciprocations of the tool-piston to admit air under pressure from the forward to the rear chamber of said tool-cylinder, an emergency outlet-passage connecting the rear chamber of said tool-piston with the outer air and provided with a manually-operated valve for opening and closing said passage so as to exhaust the air under pressure from said chamber and permit the air under pressure in the front thereof to move the tool-piston rearwardly, pulsating-engine-cylinder mechanism, pulsating-piston mechanism therein, tubular mechanism connecting the chambers of the pulsating-engine and tool cylinders together, and an emergency inlet-passage connecting one chamber of the pulsating-engine-cylinder mechanism with the outer air and provided with a check-valve to open and close the same when the pressure in said designated chamber falls below or rises above the atmospheric point, substantially as described.

9. In mechanisms of the class described, the combination of a tool-cylinder having a reciprocating tool-piston in said cylinder dividing the same into two chambers—a forward and rear chamber, a supplemental chamber in said tool-cylinder and connected with the rear chamber at the rear end thereof, a by-pass in said tool-cylinder arranged to connect the supplemental chamber with the forward chamber at a point substantially midway of the ends thereof, a check-valve in said by-pass to admit air from the forward to the supplemental chamber and therethrough into the rear chamber of the tool-cylinder, an emergency outlet-passage in line with the by-pass for connecting said supplemental chamber with the open air, a manually-operated check-valve arranged therein and adapted to be opened to exhaust air from said supplemental chamber and thereby from the rear chamber of the tool-cylinder so as to permit air under pressure in the front chamber to force the tool-piston rearwardly, spring mechanism interposed between both of said check-valves to keep them normally seated, pulsating-engine-cylinder mechanism, a reciprocating piston mounted therein, tubular mechanism connecting the chambers of the pulsating-engine and tool cylinders together, a supplemental chamber on the pulsating-engine cylinder with which one end of said tubular mechanism is connected, a main port connecting such supplemental chamber with the chamber at one end of the pulsating-engine-cylinder mechanism and a short distance from the head thereof so as to be covered and uncovered during the reciprocations of the pulsating piston, an auxiliary passage connecting said supplemental chamber with the designated chamber of the pulsating-engine cylinder and adjacent to the head thereof and provided with a check-valve to permit air to enter said chamber when the main port is closed but prevent its return from said supplemental chamber into the designated chamber of the pulsating-engine cylinder until such main port is again uncovered, and an emergency inlet-passage connecting the last-designated chamber of the pulsating-engine cylinder with the outer air and provided with a check-valve to open and close the said passage when the pressure in the designated pulsating-engine chamber falls below and rises above the atmospheric point, substantially as described.

12,412. PAPER-GUIDE FOR TYPE-WRITING MACHINES.

FRANK X. WAGNER, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 27, 1905. Serial No. 252,440. Original No. 768,131, dated Feb. 16, 1904.

Claim.—1. The combination, with the platen and pressure-exerting devices adapted to engage the same, of a longitudinally-movable bar for throwing the said pressure-exerting devices off the platen, a lever arranged to be swung transversely by the longitudinal movement of the said bar, and a paper-guide arranged adjacent to the platen and adapted to be swung away therefrom when the said lever is operated by the movement of the said bar.

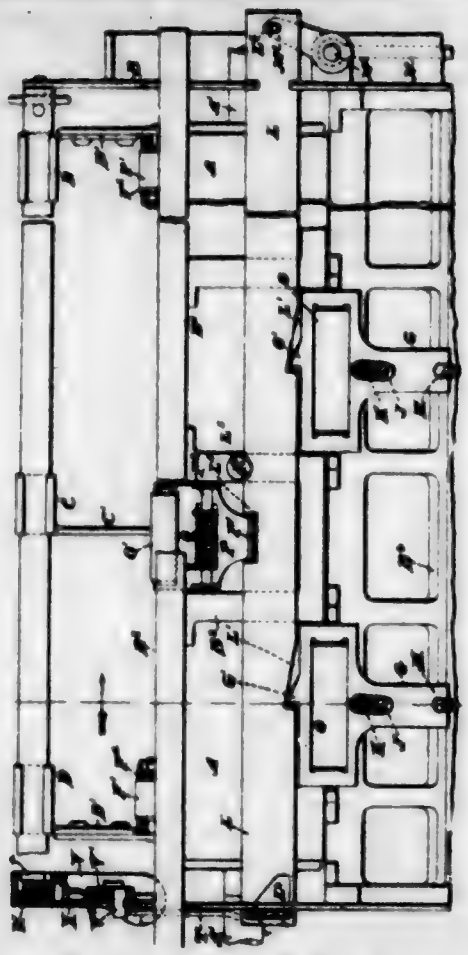
2. The combination, with the platen and pressure-exerting devices adapted to engage the same, of means for throwing said pressure-exerting devices off the platen, a paper-guide movable toward and from the platen, and means for operating said paper-guide, said means being in loose engagement with the means for throwing the pressure-exerting device off the platen, so that the paper-guide may be operated independently of the said pressure-exerting devices.

3. The combination, with the platen, of a lever fulcrumed thereon, a paper-guide carried by said lever, and another lever fulcrumed upon the first-named lever and in locking engagement with the platen-frame, said second lever being capable of an initial independent movement to disengage it from the platen-frame.

4. The combination, with the platen and its frame, of a lever fulcrumed on said frame, a front bar carried by said lever, a paper-guide supported by said front bar, and an auxiliary locking-lever fulcrumed upon the first-named lever and normally in locking engagement with the platen-frame.

5. The combination with the platen and its frame, of a plurality

of roller-carriers arranged adjacent to the platen and having their rollers running directly upon the platen and in longitudinal alinement with each other, means being provided for rendering each roller-carrier capable independently of the other of movement from said platen and for rendering said carriers capable of skewing motion away from the platen independently of one another, and means for throwing all of said carriers away from the platen.



6. The combination with the platen and its frame, of a plurality of carriers loosely mounted on said frame, means being provided for rendering said carriers movable independently of one another away from the platen, a plurality of alining rollers journaled on said carriers and extending parallel with the platen and running directly thereon, means being provided for rendering said carriers each capable of skewing motion away from the platen independently of one another, and means for throwing said carriers away from the platen.

7. The combination, with the platen and its frame, of pressure-exerting devices movable toward and from the platen, a sliding bar for throwing said pressure-exerting devices off the platen, said bar being provided with an inclined surface, a transversely-movable lever arranged to be operated by engagement with said inclined surface of the sliding bar, and a paper-guide movable toward and from the platen and arranged to be swung away from the platen by the movement of said lever.

8. The combination, with the platen and its frame, of a rigid carrier, a roller running directly upon the platen and having both of its ends journaled on said carrier, the carrier being pivotally and loosely supported so that the carrier and roller are capable of moving bodily away from the platen and of skewing motion from the platen, the axis of the roller being always in the same relation to the carrier during all of its motions, and means including a finger-piece for throwing said carrier and roller away from the platen.

9. In a type-writing machine, the combination with a platen, of a set of individual rolls extending end to end along the platen and running directly thereon, each roll pivotally and loosely supported so as to be capable of bodily motion away from the platen independently of the other rolls and also so that either of its ends may have independently of the other end and of the other rolls an indefinite oscillatory motion radially away from the platen.

10. In a type-writing machine, the combination with a platen, of a set of individual rolls all running directly upon the platen, means causing each roll to press against the platen independently of the others, each roll pivotally and loosely supported so as to be capable of bodily motion away from the platen independently of the other rolls and also so that either of its ends may have independently of the other end and of the other rolls an indefinite oscillatory motion radially away from the platen, and means for releasing said rolls simultaneously.

11. In a type-writing machine, the combination with a platen, of a set of individual rolls extending end to end and in a line along the platen and all running directly thereon, each roll pivotally and loosely supported so as to be capable of oscillatory motion away from the platen independently of the other rolls, springs for pressing the rolls individually against the platen, means being provided for causing the pressure of each spring to be borne by both ends of its roll, and means for releasing said rolls simultaneously.

12. In a type-writing machine, the combination with a platen, of a set of individual rolls extending along the platen and all running directly thereon, carriers for said rolls, each carrier pivotally and loosely supported so as to be capable of both bodily and skewing motion away from the platen independently of the other carriers, and springs pressing the carriers toward the platen.

13. In a type-writing machine, the combination with a platen, of a set of individual rolls extending along the platen and all running directly thereon, carriers for said rolls, each carrier pivotally and loosely supported so as to be capable of both bodily and skewing motion away from the platen independently of the other carriers, springs acting upon the carriers, a release handle or member, and means controlled by the latter for throwing the carriers and thereby releasing all of said rolls.

14. In a type-writing machine, the combination with a platen, of a set of individual rolls extending along the platen and all running directly thereon, carriers for said rolls, the carriers being loosely and pivotally supported in a plane extending between the ends of the rolls, in such a manner that they may independently of one another skew upon their bearings away from the platen and may also move bodily away from the platen, springs tending to keep both ends of the rolls against the platen, and means for throwing the carriers to release all of the rolls.

15. In a type-writing machine, the combination with a platen, of a set of individual rolls extending along the platen, carriers for said rolls, each carrier being pivotally and loosely supported so as to be capable of both skewing and bodily motion away from the platen independently of the other carriers, springs for the carriers a handle or member, and a series of cams, one for each roll, controlled by said handle, to move said carriers away from the platen.

16. In a type-writing machine, the combination with a platen and a platen-frame, of means beneath the platen for guiding and feeding the paper forwardly and upwardly around the front side of the platen, a bar being mounted in front of the platen, brackets mounted upon said bar and extending back therefrom toward the platen, said brackets being adjustable independently of each other along said bar, pressure-rolls mounted upon the rear ends of said brackets and running upon the upper front side of the platen, and means for moving said bar to move said rolls from the platen.

17. In a type-writing machine, the combination with a platen and a platen-frame, of a pair of rolls mounted to press against the front of the platen, brackets upon whose rear ends said pressure-rolls are mounted, a bar in front of the platen upon which said brackets are mounted and along which the brackets are independently adjustable, and means for moving said bar to release said rolls from the platen.

18. In a type-writing machine, the combination with a platen and a platen-frame, of releasable pressure-rolls beneath the platen, a pair of rolls to press against the upper front side of the platen, a bar in front of the platen, means whereby said front rolls are mounted upon said bar so as to be adjustable thereabout independently of each other, a handle or finger-piece, and means connected to the latter for releasing both of said front rolls simultaneously wherever they are adjusted along said bar and independently of the rolls beneath the platen.

19. In a type-writing machine, the combination with a platen and a platen-frame, of a bar mounted in front of the platen, brackets mounted upon said bar and extending back therefrom toward the platen, said brackets being adjustable independently of each other along said bar, a pair of rolls mounted upon the rear ends of said brackets to press against the upper front side of the platen, pressure-rolls beneath the platen and mounted independently of said bar, a manually-operable device or handle, and means for enabling the latter to release all of said rolls simultaneously.

20. In a type-writing machine, the combination with a platen and a platen-frame, of a pair of rolls to press against the front of the platen, a bar in front of the platen along which said rolls are independently adjustable, pressure-rolls beneath the platen, means for releasing all of said rolls simultaneously, and means, including a finger-piece or knob, for releasing said front rolls independently of the rolls beneath the platen.

21. In a type-writing machine, the combination with a platen

and a platen-frame, of a pair of rolls to press against the front of the platen, a movable bar mounted upon the platen-frame in front of the platen, a pair of brackets adjustable independently of each other along said bar, said rolls mounted on the rear ends of said brackets, pressure-rolls beneath the platen, means for releasing all of said rolls simultaneously, and a finger-piece connected to said bar for moving the same to release said front rolls independently of the rolls beneath the platen.

22. In a type-writing machine, the combination with a platen, of a set of individual rolls extending along the platen beneath the same, each roll mounted so as to be capable of oscillatory motion away from the platen independently of the other rolls, springs for pressing the rolls individually against the platen, a pair of rolls mounted to bear against the front of the platen and adjustable along the latter independently of each other, manually-controlled means for releasing all of said rolls simultaneously, and means for releasing said front rolls independently of the rolls beneath the platen.

23. In a type-writing machine, the combination with a platen, of a set of pressure-rolls beneath the platen, a set of rolls mounted to bear against the front of the platen and adjustable independently of each other along the platen, means controlled by a single manually-operable device for releasing both sets of rolls simultaneously, and means for releasing one set of rolls independently of the other set thereof.

24. In a type-writing machine, the combination with a platen, of a set of individual rolls extending along the platen beneath the same, each roll mounted so as to be capable of oscillatory motion away from the platen independently of the other rolls, a set of rolls mounted to bear against the front of the platen and adjustable along the latter independently of each other, and manually-controlled mechanism for releasing all of said rolls; said releasing mechanism including means for releasing one set of said rolls independently of the other set thereof.

25. In a type-writing machine, the combination with a platen, of a set of individual rolls extending end to end along the platen beneath the same and each mounted so as to be capable of oscillatory motion away from the platen independently of the other rolls, a manually-controlled releasing member common to said rolls, and a pressure-roll beneath the platen forward of said rolls and releasable by said releasing member.

26. In a type-writing machine, the combination with a platen, of a set of individual rolls extending end to end along the platen beneath the same, a carrier for each roll, each carrier pivotally and loosely supported so as to be capable of oscillation away from the platen and also so as to be capable of bodily movement away from the platen radially thereof, springs pressing said carriers toward the platen, a releasing member extending along the platen and having means for camming said carriers away from the platen, a pressure-roll forward of said rolls, and means for enabling said releasing member to cam said forward roll away from the platen.

27. In a type-writing machine, the combination with a platen and a platen-frame, of means for guiding and feeding paper forwardly beneath the platen and up in front of the same, a bar extending along the platen in front thereof, brackets extending between said bar and said platen and adjustable along the bar independently of each other, pressure-rolls mounted upon the rear ends of said brackets and bearing against the upper front side of the platen, said bar being movable in a direction to release said rolls from the platen, and a latch, V', preventing accidental movement of said bar from normal position.

28. In a type-writing machine, the combination with a platen and a platen-frame, of a bar extending along the platen in front thereof, brackets extending between said bar and said platen and adjustable along the bar independently of each other, pressure-rolls mounted upon the rear ends of said brackets and bearing against the platen, said bar being movable in a direction to release said rolls from the platen, a latch preventing accidental movement of said bar from normal position, and a finger-piece or knob capable of both releasing said latch and moving said bar to release said rolls.

29. In a type-writing machine, the combination with a platen and a platen-frame, of means for guiding the paper forwardly beneath the platen and up around the under front side thereof, a bar mounted in front of the platen, a pair of brackets mounted upon said bar and directed rearwardly therefrom toward the platen, said brackets adjustable independently of each other along said bar, rolls mounted upon the rear ends of said brackets and bearing against the upper front side of the platen, and a manually-operable part or finger-piece; means being provided for enabling a movement of said finger-piece to release simultaneously said front rolls wherever they are adjusted along said bar.

DESIGNS.

37,680. THIMBLE. HENRY A. WEINMAN, Philadelphia, Pa., assignor to John F. Simons and Thomas Maddock, Philadelphia, Pa., Frederick M. Simons, Swarthmore, Pa., and Edwin S. Simons, Elizabeth, N. J., trading as Simons Bro. & Co., Philadelphia, Pa. Filed Feb. 7, 1905. Serial No. 244,685. Term of patent 14 years.



Claim.—The ornamental design for a thimble as shown.

37,681. PLATE OR DISH. ELMER ELLSWORTH WALTER, Syracuse, N. Y., assignor to The Onondaga Pottery Company, Syracuse, N. Y., a Corporation of New York. Filed Oct. 11, 1905. Serial No. 282,347. Term of patent 7 years.



Claim.—The ornamental design for a plate or dish, as shown.

37,682. HANDLE FOR SATCHELS OR BAGS. GEORGE H. BUCHHEIMER, Baltimore, Md. Filed Sept. 27, 1905. Serial No. 280,368. Term of patent 7 years.



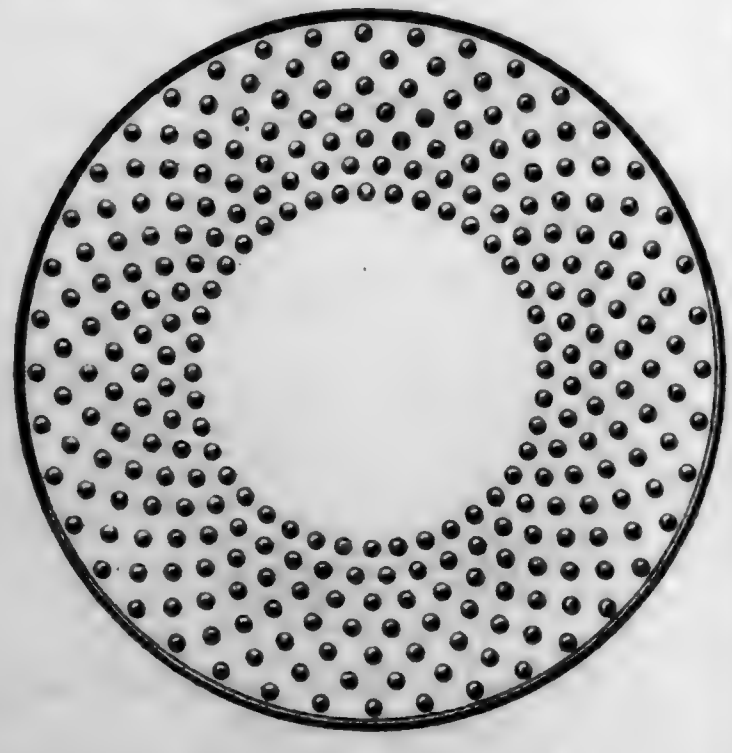
Claim.—The ornamental design for a handle for satchels or bags, as shown.

37,683. HAND-BAG. MEYER J. WOLF, New York, N. Y., assignor to Wolf, Hutterpert & Company, New York, N. Y., a Firm. Filed Sept. 18, 1905. Serial No. 279,055. Term of patent 7 years.



Claim.—The ornamental design for a hand-bag, as shown.

37,684. MAT. ANDREW J. O'BRIEN, Jersey City, N. J., assignor to The New Jersey Car Spring & Rubber Company, Jersey City, N. J., a Corporation of New Jersey. Filed June 27, 1905. Serial No. 267,330. Term of patent 14 years.



Claim.—The ornamental design for a mat as shown.

37,685. TOY AERIAL FLIGHT. SARA MAY ALLINGTON, Elmira, N. Y. Filed Oct. 7, 1905. Serial No. 281,869. Term of patent 7 years.



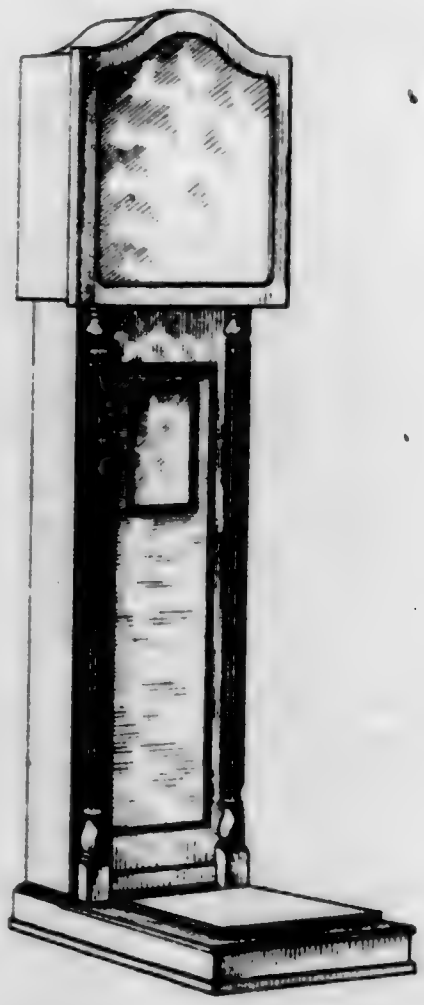
Claim.—The ornamental design for a toy aerial flight, as shown.

37,686. NEBULIZER. ARTHUR C. BECKER, New York, N. Y., assignor to Goodyear's India Rubber Glove Mfg. Co., New York, N. Y., a Corporation of Connecticut. Filed June 14, 1905. Serial No. 265,297. Term of patent 7 years.



Claim.—The ornamental design for a nebulizer, as shown.

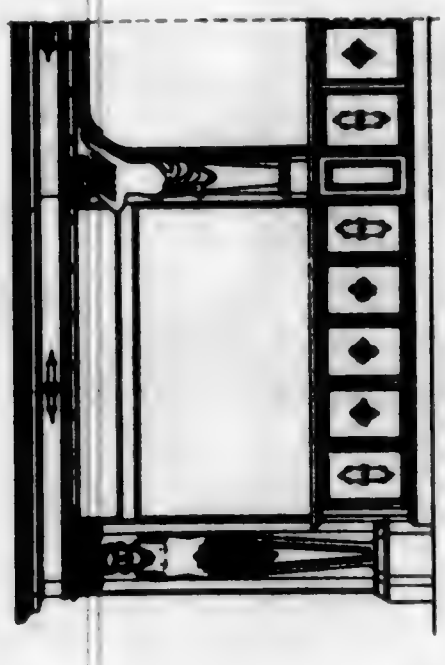
37,687. CASING FOR COIN-ACTUATED MACHINES. AUGUSTE A. CAILLE, GUY HAMILTON, and OTIS C. CURRIE, Detroit, Mich., assignors to The Caille Company, Detroit, Mich., a Copartnership. Filed Sept. 22, 1905. Serial No. 279,714. Term of patent 14 years.



Claim.—The ornamental design for casing for coin-actuated machines as shown.

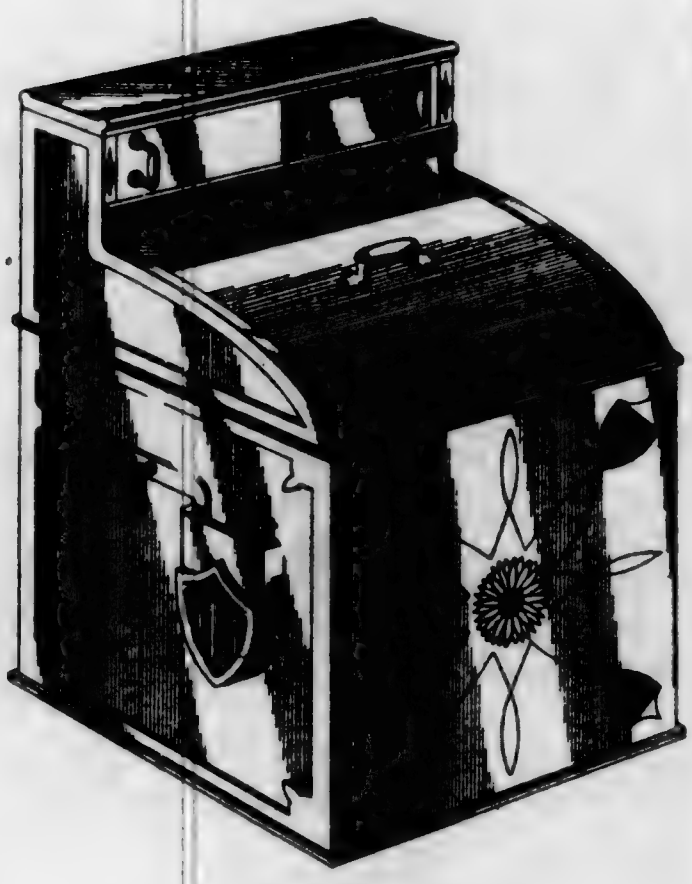
37,688. BAR-FIXTURE. WILLIAM C. HUSE, Cincinnati, Ohio. Filed May 10, 1905. Serial No. 260,236. Term of patent 7 years.

37,688.



Claim.—The new original and ornamental design for a bar-fixture as shown.

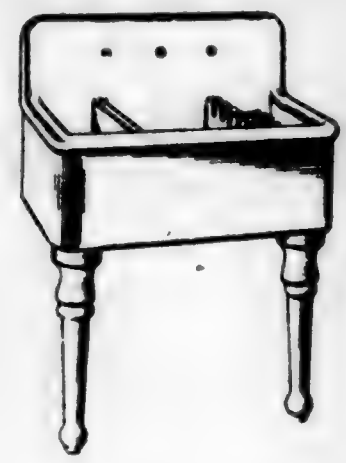
37,689. KITCHEN-BIN. HERMENA KESSLER, Locti, Kans. Filed Oct. 5, 1905. Serial No. 281,535. Term of patent 7 years.



Claim.—The ornamental design for a kitchen-bin, as shown.

37,690. SINK. EDWARD C. STOVER, Trenton, N. J., assignor to Trenton Potteries Company, Trenton, N. J., a Corporation of New Jersey. Filed Sept. 23, 1905. Serial No. 279,235. Term of patent 14 years.

37,690.



Claim.—The ornamental design for a sink, as shown.

37,691. WASHSTAND. JOSEPH A. FRAUENHEIM, Zelienople, Pa. Filed Sept. 25, 1905. Serial No. 280,067. Term of patent 7 years.



Claim.—The ornamental design for a washstand as shown.

37,692. WASHSTAND. JOSEPH A. FRAUENHEIM, Zelienople, Pa. Filed Sept. 25, 1905. Serial No. 280,068. Term of patent 7 years.



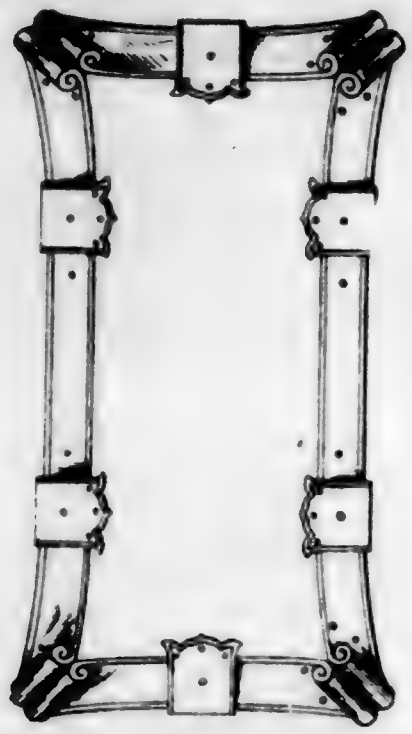
Claim.—The ornamental design for a washstand as shown.

37,693. AUTOMOBILE-BODY. ALLIE R. WELCH and FRED STINSON WELCH, Pontiac, Mich. Filed May 20, 1905. Serial No. 262,236. Term of patent 14 years.



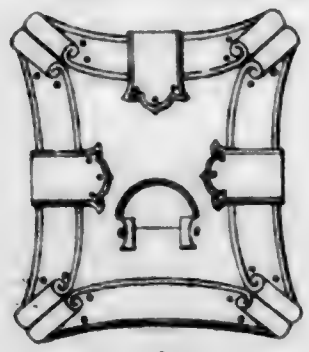
Claim.—The ornamental design for an automobile-body, as shown.

37,694. CASKET NAME-PLATE. OLIVER MCCARTHY, Meriden, Conn., assignor to International Silver Co., Meriden, Conn., a Corporation of New Jersey. Filed Sept. 22, 1905. Serial No. 279,715. Term of patent 7 years.



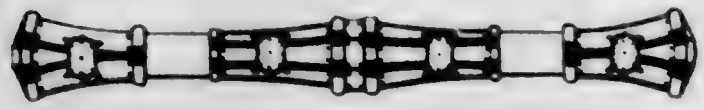
Claim.—The ornamental design for a casket name-plate as shown.

37,695. CASKET-HANDLE SOCKET-PLATE. OLIVER MCCARTHY, Meriden, Conn., assignor to International Silver Co., Meriden, Conn., a Corporation of New Jersey. Filed Sept. 22, 1905. Serial No. 279,716. Term of patent 7 years.



Claim.—The ornamental design for a casket-handle socket-plate as shown.

37,696. CASKET-HANDLE BAR. OLIVER MCCARTHY, Meriden, Conn., assignor to International Silver Co., Meriden, Conn., a Corporation of New Jersey. Filed Sept. 22, 1905. Serial No. 279,717. Term of patent 7 years.



Claim.—The ornamental design for a casket-handle bar as shown

37,697. TEXTILE FABRIC. GUSTAVE GEORGE, Paris, France, assignor to Cheney Brothers, a Corporation of Connecticut. Filed Oct 24, 1905. Serial No. 284,249. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric, as shown.

37,698. PRINTED TEXTILE FABRIC. EDWARD B. VANDERGAW, Brooklyn, N. Y. Filed Oct. 27, 1905. Serial No. 284,762. Term of patent 7 years.



Claim.—The ornamental design for a printed textile fabric as shown.

TRADE-MARKS

PUBLISHED NOVEMBER 21, 1905.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

SER. No. 775. KNIT HOSIERY AND UNDERWEAR. M. & C. MAYER. New York, N. Y. Filed Apr. 8, 1905.



The representation of a knight in armor, holding in the one hand a sword and in the other a shield, standing in front of the representation of a stocking that extends with its upper or knee end at one side above and with its lower or foot end at the other side below said figure.

SER. No. 784. MEN'S SUSPENDERS AND BRACES. HARRIS SUSPENDER CO., New York, N. Y. Filed Apr. 8, 1905.

HARRIS

The word "HARRIS."

SER. No. 1,042. MEDICINAL AND CHEMICAL PREPARATIONS FOR THE PREVENTION AND CURE OF DISEASES. DR. D. JAYNE & SON. Philadelphia, Pa. Filed Apr. 10, 1905.

SER. No. 1,042.

DJAYNE.

The name "D. JAYNE."

SER. No. 1,043. MEDICINAL AND CHEMICAL PREPARATIONS FOR THE PREVENTION AND CURE OF DISEASES. DR. D. JAYNE & SON. Philadelphia, Pa. Filed Apr. 10, 1905. Used ten years.

DJAYNE

The name "D. JAYNE," employed as a water-mark.

SER. No. 1,097. OLIVES. CHARLES GULDEN, New York, N. Y. Filed Apr. 11, 1905.

Banquet

The word "BANQUET."

Ser. No. 1,161. LEATHER POCKET-BOOKS, CARD-CASES, DRESSING-CASES, CIGAR-CASES, BANKERS' CASES, MUSIC-ROLLS, AND PHOTOGRAPH AND PICTURE FRAMES. C. F. Ruff & Sons, Inc., Philadelphia, Pa. Filed Apr. 11, 1905.



The representation of a keystone bearing the letter "R."

Ser. No. 1,204. BUTTERINE AND OLEOMARGARIN. Braun & Fitts, Inc., Chicago, Ill. Filed Apr. 12, 1905.



The words "Solid Gold," inclosed within a border.

Ser. No. 1,208. BUTTERINE OR OLEOMARGARIN. Braun & Fitts, Inc., Chicago, Ill. Filed Apr. 12, 1905.



The representation of a conventionalized horseshoe in connection with the words "Good Luck."

Ser. No. 1,303. BUTTERINE OR OLEOMARGARIN. Braun & Fitts, Inc., Chicago, Ill. Filed Apr. 12, 1905.

HOLSTEIN

The word "Holstein."

Ser. No. 1,343. BUTTERINE AND OLEOMARGARIN. Braun & Fitts, Inc., Chicago, Ill. Filed Apr. 13, 1905.



The words "Fruit of the Meadow," inclosed within a conventionalized border.

Ser. No. 1,378. MEDICINAL AND CHEMICAL PREPARATIONS FOR THE PREVENTION AND CURE OF DISEASES. Dr. D. Jayne & Son, Philadelphia, Pa. Filed Apr. 13, 1905.



The signature of Dr. D. Jayne, founder of the firm of Dr. D. Jayne & Son.

Ser. No. 1,492. PREPARATIONS FOR THE CURE OF NAUSEA, INDIGESTION, DYSPEPSIA, SICK STOMACH, AND VOMITING. William R. Warner & Co., Philadelphia, Pa. Filed Apr. 14, 1905.

GALLACIN

The word "Gallacin."

Ser. No. 1,493. PREPARATIONS FOR THE CURE OF INDIGESTION, DYSPEPSIA, SICK STOMACH, AND LIKE OR ALLIED AILMENTS. William R. Warner & Co., Philadelphia, Pa. Filed Apr. 14, 1905.

Ser. No. 1,498.

GALLINASIN

The word "GALLINASIN."

Ser. No. 1,495. PREPARATIONS FOR THE CURE OF VOMITING, INDIGESTION, DYSPEPSIA, AND SICK STOMACH. WILLIAM R. WARNER & Co., Philadelphia, Pa. Filed Apr. 14, 1905.

CALLOSIN

The word "CALLOSIN."

Ser. No. 1,496. PREPARATIONS FOR THE CURE OF INDIGESTION, DYSPEPSIA, SICK STOMACH, AND LIKE OR ALLIED AILMENTS. WILLIAM R. WARNER & Co., Philadelphia, Pa. Filed Apr. 14, 1905.

INGLUVIN

The word "INGLUVIN."

Ser. No. 1,522. TANNED LEATHER IN PIECES KNOWN TO THE TRADE AS SIDES, BACKS, BENDS, &c., AND CUT TO SHAPE, AS BLOCKS, HALF-BLOCKS, TAP-SOLES, &c. LEAS & MCVITTY, INCORPORATED, Philadelphia, Pa. Filed Apr. 14, 1905.

L.&M.

The letters and character "L. & M."

Ser. No. 1,563. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

TIGERS

The word "TIGERS."

Ser. No. 1,564. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

CAICEL

The word "CAICEL."

Ser. No. 1,569. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

COLOMBIANO

The word "COLOMBIANO."

Ser. No. 1,570. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

LOS LEONES

The words "LOS LEONES."

Ser. No. 1,571. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.
Used ten years.

BOSTON

The word "BOSTON."

Ser. No. 1,572. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

FULL HOUSE

The words "FULL HOUSE."

Ser. No. 1,573. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905. Used ten years.

COLUMBIA WHIST

The words "COLUMBIA WHIST."

Ser. No. 1,577. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

BIJOU

The word "BIJOU."

Ser. No. 1,580. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

Ser. No. 1,580.

NATIONAL CLUB

The words "NATIONAL CLUB."

Ser. No. 1,582. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

RAMBLER

The word "RAMBLER."

Ser. No. 1,586. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

PICKET

The word "PICKET."

Ser. No. 1,587. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

EL DORADO

The words "EL DORADO."

Ser. No. 1,590. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

ALADDIN

The word "ALADDIN."

Ser. No. 1,595. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

VICTORS

The word "VICTORS."

Ser. No. 1,596. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

MULTI

The word "MULTI."

Ser. No. 1,601. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

NEW ERA

The words "NEW ERA."

Ser. No. 1,603. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

Vanity Fair

The words "VANITY FAIR."

Ser. No. 1,604. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

IVORY

The word "IVORY."

Ser. No. 1,605. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

SPORTSMAN'S

The word "SPORTSMAN'S."

Ser. No. 1,609. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

CABINET

The word "CABINET."

Ser. No. 1,612. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

APOLLO

The word "APOLLO."

SER. No. 1,685. FRUITS AND VEGETABLES IN TINS OR GLASS. WM. NUMSEN & SONS, Inc., Baltimore, Md. Filed Apr. 15, 1905.



The representation of a wreath formed by garlands of roses and other flowers forming a border for the symbol "XTRAGOOD," which symbol is formed by the large letters "X" and "D," between which the smaller letters "TRAGOO" appear.

SER. No. 1,736. CANNED SOUPS. ELLIOTT H. KING, Brooklyn, N. Y. Filed Apr. 15, 1905.

THE BANK



The words "THE BANK" and the representation of an urn. The words are printed above the representation of the urn.

SER. No. 1,738. TONIC REMEDY FOR ANÆMIA AND NERVOUS DISEASES. CHARLES JOSEPH ULRICH, New York, N. Y. Filed Apr. 15, 1905.

NEURO-STRENGTHINE

The hyphenated word "NEURO-STRENGTHINE."

SER. No. 1,790. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

TROPHY WHIST

The words "TROPHY WHIST."

SER. No. 1,792. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

YE WITCHES

The words "YE WITCHES."

SER. No. 1,793. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

FAUNTLEROY

The word "FAUNTLEROY."

SER. No. 1,799. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

ARROW

The word "ARROW."

SER. No. 1,801. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

TENNIS

The word "TENNIS."

SER. No. 1,803. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

BICYCLE

The word "BICYCLE."

SER. No. 1,805. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

HELMET

The word "HELMET."

SER. No. 1,807. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

CADETS

The word "CADETS."

SER. No. 1,811. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

CRESCENT

The word "CRESCENT."

SER. No. 2,160. SILK PIECE GOODS. NA KAU TRADING CORPORATION, New York, N. Y. Filed Apr. 18, 1905.

NA KAU



The pictorial illustration of a Japanese lady holding a sunshade across one shoulder and with the other hand holding the rim of the sunshade, associated with the words "NA KAU."

SER. No. 2,187. GLOVES. ABRAHAM & STRAUS, New York, N. Y. Filed Apr. 18, 1905.

Odette

The word "ODETTE."

SER. No. 2,523. CORSETS. ABRAHAM & STRAUS, New York, N. Y. Filed Apr. 20, 1905.

THE MARQUISE A & S

The representation of an ornamental circular border, within which is arranged the representation of a Maltese cross. The words "THE MARQUISE" appear above said cross, and the letters and character "A. & S." are arranged below said cross.

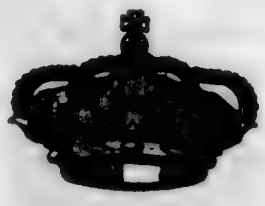
SER. No. 2,623. WITHDRAWN.

SER. No. 2,802. TRUNKS. THE J. F. PARKHURST & SON CO., Bangor, Me. Filed Apr. 24, 1905.



The representation of a trunk, with the letters and character "P & S" thereon surrounded by a border.

SER. No. 2,959. SYRUPS AND MOLASSES. STUART, KNAPP & CO., Baltimore, Md. Filed Apr. 26, 1905.



The pictorial representation of a crown.

SER. No. 2,974. FLOUR MADE FROM WHEAT. PILLSBURY-WASHBURN FLOUR MILLS COMPANY, LTD., Minneapolis, Minn. Filed Apr. 26, 1905. Used ten years.

Washburn's BEST

The words "WASHBURN'S BEST."

SER. No. 3,174. FRUIT-PRESSES. HENIS FRUIT PRESS CO., New York, N. Y. Filed Apr. 26, 1905. Used ten years.

HENIS PRESS

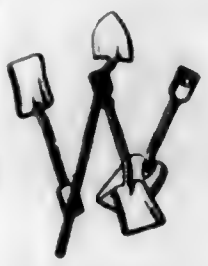
The representation of a circle, transversely of which is arranged the representation of an open fruit-press, while above and below the representation of the fruit-press are arranged, respectively, the words "HENIS" and "PRESS," both words being located within the circle.

SER. No. 3,847. WHISKY. BLUTHENTHAL & BICKART, Atlanta, Ga. Filed Apr. 26, 1905. Used ten years.

SILAS DEANE

The name "SILAS DEANE," inclosed in quotation-marks, beneath which is a fanciful shield design bearing a monogram composed of the letters and character "B & B."

SER. No. 3,486. SHOVELS, SPADES, AND SCOOPS. THE WYOMING SHOVEL WORKS, Wyoming, Pa. Filed Apr. 28, 1905.



The representation of a group of shovels arranged in the shape of the letter W.

SER. No. 3,510. CHOCOLATE, COCOA, AND A PREPARATION OF CHOCOLATE AND COCOA TO BE USED AS A BEVERAGE AND FOR COOKING PURPOSES. HENRIETTA J. DAMON, Danvers, Mass. Filed Apr. 28, 1905.

Cream Chocolate

The words "CREAM OF CHOCOLATE."

SER. No. 3,533. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 28, 1905.

JUNIOR

The word "JUNIOR."

SER. No. 3,543. BANK-CHECKS. LEVEY BROS. & CO., Indianapolis, Ind. Filed Apr. 29, 1905. Used ten years.

LEVEY IND'PLS.

The word and abbreviation "LEVEY IND'PLS."

SER. No. 3,585. BRUSHES. JOHN L. WHITING & SON CO., Boston, Mass. Filed Apr. 29, 1905. Used ten years.



The representation of a battle-ax having the letter "W" upon its blade.

SER. No. 3,686. LINIMENT. LORENZO B. START, Worcester, Mass. Filed Apr. 29, 1905.

MYSTERIOUS



The word "MYSTERIOUS" and the representation of a circular panel having thereon a monogram composed of the letters "S R," said panel being encircled by a chain.

SER. No. 3,888. CANNED OR PRESERVED FRUITS AND VEGETABLES. C. W. BAKER & SONS, Aberdeen, Md. Filed May 1, 1905. Used ten years.

BAKER'S

The word "BAKER'S."

SER. No. 3,967. BAKING-POWDER, CREAM OF TARTAR, AND BAKING-SODA. E. R. DURKEE & CO., New York, N. Y. Filed May 8, 1905.





The representation of a tiger's head and the full figure of a tiger, used singly or together.

SER. No. 3,980. SEEDS AND PREPARED MIXTURES OF SEEDS AS FOOD FOR BIRDS AND FOWLS. E. R. DURKEE & Co., New York, N. Y. Filed May 2, 1905.

CHALLENGE

The word "CHALLENGE."

SER. No. 3,981. SPICES AND MUSTARD. E. R. DURKEE & Co., New York, N. Y. Filed May 2, 1905.

CHALLENGE

The word "CHALLENGE."

SER. No. 4,017. TOBACCO AND TOBACCO PRODUCTS. G. W. CHASE & SON MERCANTILE Co., St. Joseph, Mo. Filed May 2, 1905.



The representation of a rectangular figure having a scroll border with circular gilt figures at intervals on its top and ends, each bearing a wreath and the letter "V." On the lower side of the rectangular figure is an elongated red band bearing the words "WARRANTED CLEAR HAVANA FILLER." Within the border is a red ellipse bearing the words "CHASE'S NICKEL SNAP."

SER. No. 4,333. STOVES, RANGES, FURNACES, AND PARTS THEREOF. SCRANTON STOVE WORKS, Scranton, Pa. Filed May 5, 1905.

DOCKASH

The word "DOCKASH."

SER. No. 4,436. JUTE BAGGING. LUDLOW MANFG. ASSOCIATES, Boston, Mass. Filed May 6, 1905. Used ten years.

DAISY

The word "DAISY."

SER. No. 4,437. JUTE BAGGING. LUDLOW MANFG. ASSOCIATES, Boston, Mass. Filed May 6, 1905. Used ten years.

YORK

The word "YORK."

SER. No. 4,438. JUTE BAGGING. LUDLOW MANFG. ASSOCIATES, Boston, Mass. Filed May 6, 1905. Used ten years.

HUB

The word "HUB."

SER. No. 4,439. JUTE BAGGING. LUDLOW MANFG. ASSOCIATES, Boston, Mass. Filed May 6, 1905. Used ten years.

DIXIE

The word "DIXIE."

SER. No. 4,440. JUTE BAGGING. LUDLOW MANFG. ASSOCIATES, Boston, Mass. Filed May 6, 1905. Used ten years.

ORLEANS

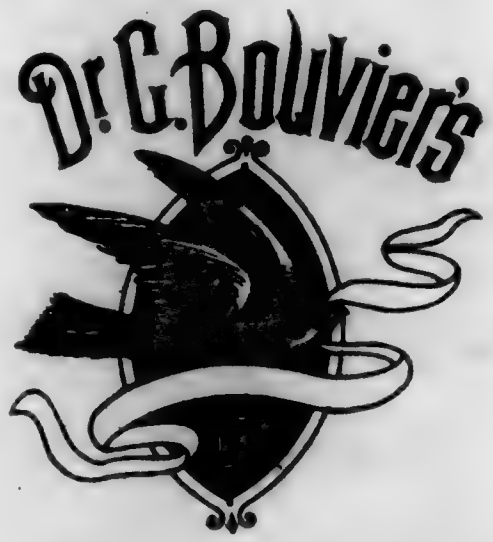
The word "ORLEANS."

SER. No. 4,441. JUTE BAGGING. LUDLOW MANFG. ASSOCIATES, Boston, Mass. Filed May 6, 1905. Used ten years.

LUDLOW

The word "LUDLOW."

SER. No. 4,552. GIN. DR. C. BOUVIER'S SPECIALTY Co., Louisville, Ky. Filed May 6, 1905.



The representation of an oblong shield, across which appears a flying bird carrying a scroll in its bill, associated with the abbreviation, letter, and word "DR. C. BOUVIER'S."

SER. No. 4,586. SALVE FOR TREATMENT OF INFLAMMATION, BURNS, SCALDS, BRUISES, STRAINED CORDS, BOILS, ECZEMA, SORE AND CHAPPED HANDS, CHAFING, CHILBLAINS, SORE AND SWEATING FEET, SORE EYELIDS, CANKER, SORE GUMS, COLD SORES, IRRITATION OF THE THROAT, POISON, SCRATCHES, GALLS, SORE MOUTH, AND STOPPING BLEEDING FROM CUTS. AID-ANT REMEDY CO., Concord, N. H. Filed May 8, 1905.

AID-ANT

The hyphenated word "AID-ANT."

SER. No. 4,914. POCKET-KNIVES AND RAZORS. ADOLPH KASTOR & BROS., New York, N. Y. Filed May 10, 1905.



The representation of a four-leaf clover.

SER. No. 5,372. SILK HAIR-NETS. A. HERBERT WOOLLEY & CO., Nottingham, England. Filed May 12, 1905.

ODIN

The word "ODIN."

SER. No. 5,561. WHISKY. MEHLIG & HAKIN, Albuquerque, N. Mex. Filed May 13, 1905.

Alvarado Club

The words "ALVARADO CLUB."

SER. No. 5,571. CANDIES OF ALL KINDS. J. G. MCDONALD CANDY CO., Salt Lake City, Utah. Filed May 13, 1905.



The representation of a parrot upon a perch in the act of eating from a package of candy held in one raised foot.

SER. No. 5,628. MOLASSES. THE EASTERN REFINING CO., New York, N. Y. Filed May 15, 1905. Used ten years.

SER. No. 5,561.



The words, character, and abbreviations "BREGARO & CO., PONCE, P. R."

SER. No. 5,718. LOZENGES. NEW ENGLAND CONFECTIONERY CO., Boston, Mass. Filed May 15, 1905. Used ten years.

PEERLESS

The word "PEERLESS."

SER. No. 5,728. EXPLOSIVE-ENGINES, INTERNAL-COMBUSTION MOTORS, AND GAS AND GASOLENE ENGINES. C. H. A. DIEDRICH & BRO., Wrightsville, Pa. Filed May 15, 1905.

CAPITAL

The word "CAPITAL."

SER. No. 5,849. RIDING AND WALKING PLOWS, LISTERS AND CULTIVATORS, AND DISK AND LEVER HARROWS. MORRISON MANUFACTURING COMPANY, Pierre, S. D., and Fort Madison, Iowa. Filed May 16, 1905.



A representation of the globe, the sun rising above the same, and the representation of a plow resting upon the globe, with the words "MORRISON PLOWS ARE ALWAYS ON TOP," and a scroll beneath the globe having thereupon the name and address "THE MORRISON MFG. CO., FORT MADISON, IOWA."

SER. No. 5,908. HOSIERY. CHARLES TAYLOR & COMPANY, Wilmington, Del. Filed May 17, 1905.

Ser. No. 5,903.

The GLADIATOR



The words "THE GLADIATOR" and the representation of a Roman gladiator holding in one hand a dagger and supporting about midway of his height a circular shield and wearing a Roman helmet, the figure assuming an attitude of defiance or alertness.

Ser. No. 6,195. COCKTAILS. SIGMUND HOCHSTADTER, New York, N. Y. Filed May 20, 1905.



The representation of a filled wine or liquor glass bearing a monogram composed of the letters and abbreviation "T H Co." About said glass are shown a number of dwarfs engaged in work upon the same, and below said glass and figures is disposed a band or ribbon. At one end of said band or ribbon is arranged a shield of ornamental outline, and to the side of said shield and below said band or ribbon appear the words and abbreviation "THE HOCHSTADTER Co." At the opposite ends of the band or ribbon are shown sprays of flowers and foliage extending upwardly from said band or ribbon.

Ser. No. 6,242. WHISKY. W. W. Coorse & Co., Marion, N. C. Filed May 23, 1905.



The words "LAUREL VALLEY" in connection with a picture representing a still in a log cabin in a mountain valley, mountains appearing in the distance and on either side. A stream spanned by a bridge on which a man is standing is also shown. At the right of the still is a negro loading barrels of liquor onto a cart, to which a team of oxen is hitched. In front of the still two men are standing, one holding a bottle of liquor, from which he is pouring a drink into a glass held by the other. In the interior of the cabin a man is shown at work.

Ser. No. 6,280. WHISKY. ABNER GOCKENHEIMER & BROS., Pittsburg, Pa. Filed May 22, 1905. Used ten years.

PENNBROOK

The word "PENNBROOK."

Ser. No. 6,284. WHISKY. THE STAR DISTILLERY COMPANY, Cincinnati, Ohio. Filed May 22, 1905.

FORREST-KING

The hyphenated word "FORREST-KING."

Ser. No. 6,349. SOLDERS, NEWSPAPER METALS, AND BABBITT METALS. MECHANICAL METAL MFG. CO., Philadelphia, Pa. Filed May 30, 1905.



The representation of a diamond-shaped figure inclosing the letter "M."

Ser. No. 6,367. SPURS, BITS, AND STIRRUPS. AUGUST BUHLMANN, Newark, N. J. Filed May 22, 1905.

DOM PEDRO

The words "DOM PEDRO."

Ser. No. 6,390. BEEF JUICE. THE BOVININE COMPANY, New York, N. Y. Filed May 23, 1905. Used ten years.

BOVININE

The word "BOVININE."

SER. No. 6,465. WHISKY. LOUIS BLOCH & Co., Paducah, Ky. Filed May 24, 1905. Used ten years.

PADUCAH CLUB

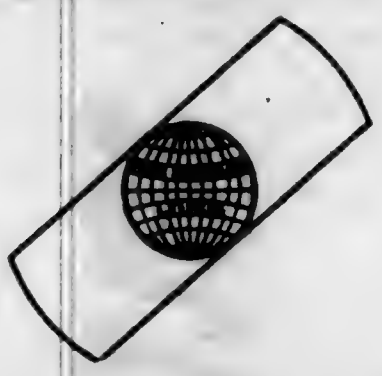
The words "PADUCAH CLUB."

SER. No. 6,470. CREAM FOR THE COMPLEXION AND WRINKLE LOTION. THE ARTESIA CREAM COMPANY, Waco, Tex. Filed May 24, 1905.

ARTESIA

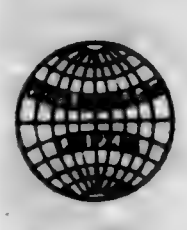
The word "ARTESIA."

SER. No. 6,591. PASTES, POMADES, LIQUIDS, POWDERS, AND CAKES OR BLOCKS FOR CLEANING, POLISHING, AND PRESERVING METALS, CHINA, GLASS, LEATHER, WOOD, &c. FRITZ SCHULZ, JUN., ACTIENGESELLSCHAFT, Leipzig, Germany, and Lincoln, N. J. Filed May 25, 1905.



A representation of the globe in connection with a red band or panel. The words "FRITZ SCHULZ JUN. LEIPZIG," appear within the globe.

SER. No. 6,592. PASTES, POMADES, LIQUIDS, POWDERS, AND CAKES OR BLOCKS FOR CLEANING AND POLISHING METALS, CHINA, GLASS, LEATHER, WOOD, &c. FRITZ SCHULZ, Jun., ACTIENGESELLSCHAFT, Leipzig, Germany, and Lincoln, N. J. Filed May 25, 1905.



A representation of the globe bearing the lines of longitude and latitude, associated with the words "FRITZ SCHULZ JUN. LEIPZIG."

SER. No. 6,593. PREPARATIONS FOR POLISHING, CLEANING, AND PRESERVING LEATHER. FRITZ SCHULZ, Jun., ACTIENGESELLSCHAFT, Leipzig, Germany, and Lincoln, N. J. Filed May 25, 1905.

GLOBIN

The word "GLOBIN."

SER. No. 6,594. POLISH EXTRACT, PASTES, POMADES, LIQUIDS, POWDERS, AND CAKES OR BLOCKS FOR CLEANING AND POLISHING METALS, CHINA, GLASS, LEATHER, WOOD, &c. FRITZ SCHULZ, JUN., ACTIENGESELLSCHAFT, Leipzig, Germany, and Lincoln, N. J. Filed May 25, 1905.

GLOBE

The word "GLOBE."

SER. No. 6,595. STOVE-POLISH. FRITZ SCHULZ, JUN., ACTIENGESELLSCHAFT, Leipzig, Germany, and Lincoln, N. J. Filed May 25, 1905.

Globeline

The word "GLOBELINE."

SER. No. 6,641. GARTERS. A. STEIN & Co., Chicago, Ill. Filed May 25, 1905.

Flexo

The word "FLEXO."

SER. No. 6,702. WRITING-INKS AND WRITING FLUIDS OF ALL KINDS. THE CARTER'S INK COMPANY, Boston, Mass. Filed May 26, 1905. Used ten years.

CARTER'S

The word "CARTER'S."

SER. No. 6,772. BOOTS AND SHOES MADE OF LEATHER AND OF CANVAS. V. K. AND A. H. JONES Co., Lynn, Mass. Filed May 27, 1905.

Melba

The word "MELBA" in script letters, the final stroke of the letter "M" of which incloses the other letters of the word.

SER. No. 6,811. SEAMLESS WOVEN BAGS. STARK MILLS, Manchester, N. H. Filed May 27, 1905.

ROYAL

The word "ROYAL."

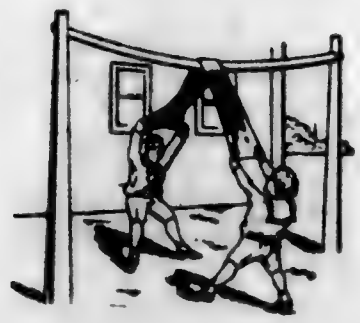
Ser. No. 6,813. SHOOTING, DRILLS, AND DUCKS. Stark Mills, Manchester, N. H. Filed May 27, 1905.



The representation of a landscape with a greyhound in the foreground.

Ser. No. 6,842. HOSIERY. Chas. Simon's Sons, New York, N. Y. Filed May 27, 1905.

Veribest



TEAR-PROOF

The representation of two boys pulling against each other at the ends of a stocking, upon which appear the letters "VERIBEST," and which is shown as stretched across a pole supported upon posts in front of a house. Associated with the mark are the words "Veribest" and "Tear-Proof."

Ser. No. 6,955. HATS AND CAPS. The Knox Hat Manufacturing Co., New York, N. Y. Filed May 29, 1905.



The word "Beacon" upon an ornamental panel surmounted by the representation of two eagles rampant against a shield. The lower part of the shield is striped perpendicularly, and the upper part has on it a device in the semblance of a rising sun with rays projecting therefrom. Above the shield is a scroll, and below the ornamental panel is another scroll.

Ser. No. 6,956. HATS AND CAPS. The Knox Hat Manufacturing Co., New York, N. Y. Filed May 29, 1905.



The word "Roxford," associated with the representation of a lioness and a stag rampant against a heraldic device inclosing a representation of the globe. Below the heraldic device is a scroll with the words "Movno et Provicio" thereon. Above the globe is the representation of a crown. Arranged above the crown is a second scroll.

Ser. No. 7,017. MIXED WINTER AND SPRING WHEAT FLOUR. James Charles, Marion, Ind. Filed May 29, 1905.



The words "Maid of the Mist."

Ser. No. 7,168. CASTOR-OIL. The Baker Castor Oil Company, New York, N. Y. Filed June 1, 1905. Used ten years.

SER. No. 7,168.

CRYSTAL

The word "CRYSTAL."

SER. No. 7,281. WHEAT-FLOUR. HIBBEN, HELLEBO COMPANY, East St. Louis, Ill. Filed June 2, 1905.



The words "MISSOURI BELLE" and the pictorial representation of the head of a lady within a circular border.

SER. No. 7,288. VACUUM-TUBES, X-RAY TUBES, AND PARTS THEREOF. C. H. F. MÜLLER, Hamburg, Germany. Filed June 2, 1905.



The representation of a seal having a serrated edge, and arranged within the seal is a concentric circle, and between the concentric circle and the serrated edge is a star. The words "ORIGINAL MÜLLER RÖNTGENRÖHRE" are arranged about the seal.

SER. No. 7,277. HOSIERY. CHARLES TAYLOR & Co., Wilmington, Del. Filed June 2, 1905.



The word "GLADIATOR," the initial letter of said word being considerably larger than the other letters and containing a diminutive representation of a gladiator.

SER. No. 7,287. BED-BOTTOMS AND BEDSTEADS HAVING A WIRE FABRIC TO SUPPORT THE MATTRESS. THE NATIONAL SPRING BED COMPANY, New Britain, Conn. Filed June 2, 1905.



The words "RIP VAN WINKLE SPRING BED," inclosed between two concentric circles.

SER. No. 7,333. REMEDY FOR THE DISEASES OF WOMEN. GUENTER MEDICINE CO., Chattanooga, Tenn. Filed June 3, 1905.

G.F.P.

The letters "G. F. P."

SER. No. 7,334. MEDICAL PREPARATION OF SARSAPARILLA. GUENTER MEDICINE CO., Chattanooga, Tenn. Filed June 3, 1905.

S.J.S.

The letters "S. J. S."

SER. No. 7,393. CIGARS. S. S. PIERCE CO., Boston, Mass. Filed June 5, 1905.



The words "LA MORA" on a panel above a figure of the head and shoulders of a female clad in Moorish costume, with floral adornments on either side in the foreground, and a house interior with representations of slaves on either side in the background.

SER. No. 7,412. STOVES, FURNACES, AND RANGES. THE FAVORITE STOVE & RANGE CO., Piqua, Ohio. Filed June 5, 1905.



The representation of a circle, in the lower portion of which is a cloudy outline, from which is seen emerging the upper half of a rising sun, the rays of which radiate toward the periphery of the circle above the clouds, the words "FAVORITE STOVES AND RANGES" appearing within the circle.

SER. No. 7,418. STOVES, FURNACES, AND RANGES. THE FAVORITE STOVE & RANGE CO., Piqua, Ohio. Filed June 5, 1905.

FAVORITE

The word "FAVORITE."

SER. No. 7,488. RAZORS. HERMAN CLAUSS, Fremont, Ohio. Filed June 5, 1905.

NEW DEPARTURE

The words "NEW DEPARTURE."

SER. No. 7,491. WHISKY. JACOB CARTUN, Philadelphia, Pa. Filed June 5, 1905.

ANTI-GRIPPINE

The hyphenated word "ANTI-GRIPPINE."

SER. No. 7,500. SLEEVE-BUTTONS, LINK-BUTTONS, COLLAR-BUTTONS, SHIRT-STUDS, AND EMBLEM-BUTTONS. PHOENIX JEWELRY CO., New York, N. Y. Filed June 5, 1905.

PHOENIX

The word "PHOENIX."

SER. No. 7,582. WASH FOR TREATMENT OF AFFECTIONS OF THE EYE. WILLIAM C. LEHMANN, New York, N. Y. Filed June 6, 1905.

EYETONAL

The word "EYETONAL."

SER. No. 7,577. SURGICAL BELTS AND BANDAGES. SHARP & SMITH, Chicago, Ill. Filed June 7, 1905.

SANDS

The letters and word "S AND S."

SER. No. 7,587. PAINTS, VARNISHES, COLORS, FILLERS, SURFACERS, STAINS, AND ENAMELS. THE THOMSON WOOD FINISHING CO., Philadelphia, Pa. Filed June 7, 1905.

SANALOID

The word "SANALOID."

SER. No. 7,588. PAINTS, VARNISHES, FILLERS, STAINS, AND ENAMELS. THE THOMSON WOOD FINISHING CO., Philadelphia, Pa. Filed June 7, 1905.

SER. No. 7,588.

ZANZIBOLIO

The word "ZANZIBOLIO."

SER. No. 7,593. POLISH FOR STOVES AND SIMILAR ARTICLES. AMOS L. PRESCOTT, New York, N. Y. Filed June 7, 1905.

X-CEL

The hyphenated word "X-CEL."

SER. No. 7,712. LAMPS, LANTERNS, AND PARTS THEREOF. FR. STÜBBEN & Co., Erfurt, Germany. Filed June 8, 1905. Used ten years.



The representation of a flying bat.

SER. No. 7,739. PREPARATION FOR THE TREATMENT OF COUGHS, COLDS, WHOOPING-COUGH, AFFECTIONS AND SORENESS OF THE THROAT AND LUNGS, GRIP, BRONCHITIS, ASTHMA, AND INCIPIENT CONSUMPTION. THE B. B. SUTHERLAND MEDICINE CO., Paducah, Ky. Filed June 8, 1905. Used ten years.

DR BELL'S PINE-TAR HONEY

The abbreviation and words "DR. BELL'S PINE-TAR-HONEY."

SER. No. 7,779. CIGARS. HAVANA COMMERCIAL COMPANY, New York, N. Y. Filed June 6, 1905.

SER. No. 7,779.



The words, letters, and abbreviation "LA MERIDIANA DE P. M. Y CA., the word "MERIDIANA" appearing on a scroll, which surmounts a wreath inclosing the letters "DE P. M. Y CA. and also inclosing the word "HABANA."

SER. No. 7,871. STRAW HATS. BRIGHAM, HOPKINS COMPANY, Baltimore, Md. Filed June 10, 1905. Used ten years.

A Gentleman's Hat.

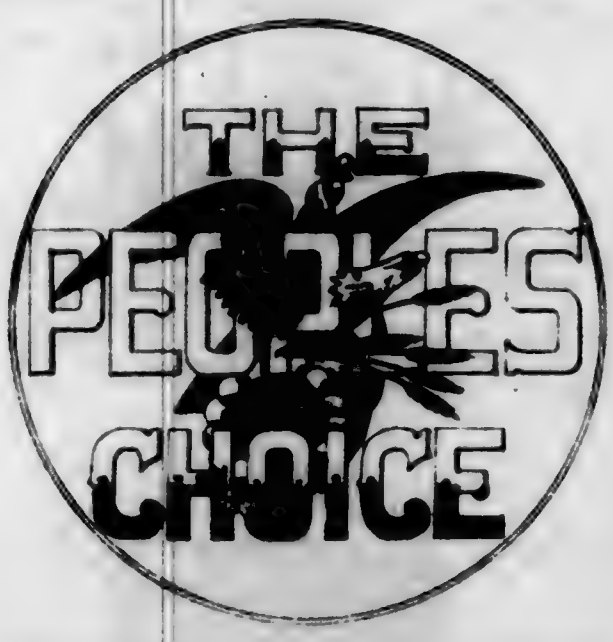
The words "A GENTLEMAN'S HAT."

SER. No. 7,983. CONDENSED MILK. ST. CHARLES CONDENSING CO., St. Charles, Ill. Filed June 12, 1905.



The word "PURITY," associated with the representation of a cow, with the word "CONDENSED" across the body of the said representation and the word "MILK" below the same.

SER. No. 7,990. LAGER-BEER AND BOTTLED BEER. TERRE HAUTE BREWING CO., Terre Haute, Ind. Filed June 12, 1905.



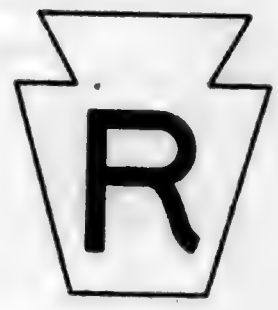
The representation of an eagle poised upon a cornucopia, the cornucopia being decorated with barley-heads and hop-blossoms. Athwart the eagle and cornucopia, in straight lines and in plain block letters, the following words are arranged: "THE PEOPLES CHOICE," the whole being surrounded by concentric circles.

SER. No. 8,037. MAY-APPLE PILLS. JOHN QUINCY PHILLIPS, Lawrens, S. C. Filed June 13, 1905.

BOOZER

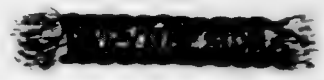
The word "BOOZER."

SER. No. 8,131. METAL ORNAMENTS FOR POCKET-BOOKS AND OTHER CASES, FRAMES, UMBRELLAS, CANES, AND GLASSWARE. C. F. RUHPP & SONS, INC., Philadelphia, Pa. Filed June 14, 1905.



The representation of a keystone bearing the letter "R."

SER. No. 8,261. SIZING STRENGTHENING COMPOUND. THE PAPYRESSION COMPANY, New York, N. Y. Filed June 15, 1905.



The word "PAPYRESSION" on a background consisting in the representation of a piece of rope with frayed ends.

SER. No. 8,315. WHISKY. MORRIS LARUE, Cincinnati Ohio. Filed June 16, 1905.

DUKE OF YORK

The words "DUKE OF YORK."

SER. No. 8,358. REMEDY FOR CHICKEN CHOLERA, ROUP, AND LIMBER NECK. JOHNATHAN ROBERT CRUME, Bardstown, Ky. Filed June 16, 1905.

℞

4-11-44

The character "℞" and the hyphenated numerals "4-11-44."

SER. No. 8,397. SEEDS. THE ALBERT DICKINSON COMPANY, Chicago, Ill. Filed June 17, 1905. Used ten years.

SUN

The word "SUN."

SER. No. 8,498. WHISKY. HOUCK & DIETER CO., El Paso, Tex. Filed June 19, 1905.

Sm. No. 8,496.

GLEN-ROCK

The compound word "Glen-Rock," below which is a monogram composed of the letters, abbreviation, and character "H & D Co," inclosed in a double circle, on either side of which is a spray of grain.

Sm. No. 8,523. WHEAT-FLOUR. Thresher Bros. & Co., Meridian, Miss. Filed June 19, 1905.

OUR DAILY BREAD

The words "Our Daily Bread."

Sm. No. 8,548. OAK-TANNED COWHIDE. Kullman, Salz & Company, San Francisco, Cal. Filed June 19, 1905.

MONARCH

The word "Monarch."

Sm. No. 8,577. PORTLAND, NATURAL-ROCK, AND IMPROVED CEMENT. American Cement Company, Philadelphia, Pa. Filed June 20, 1905. Used ten years.

UNION

The word "Union."

Sm. No. 8,676. COFFEE. Charles H. Hostater, New York, N. Y. Filed June 21, 1905. Used ten years.

Sm. No. 8,676.



The representation of a tiger-head.

Sm. No. 8,762. PETROLEUM BURNING-OILS. Gulf Refining Company, Port Arthur, Tex., and Pittsburg, Pa. Filed June 22, 1905.

HELIUM

The word "Helium."

Sm. No. 8,763. PETROLEUM BURNING-OILS. Gulf Refining Company, Port Arthur, Tex., and Pittsburg, Pa. Filed June 22, 1905.

SOLIUM

The word "Solium."

Sm. No. 8,764. PETROLEUM BURNING-OILS. Gulf Refining Company, Port Arthur, Tex., and Pittsburg, Pa. Filed June 22, 1905.

SUNBURST

The word "Sunburst."

Sm. No. 8,765. PETROLEUM BURNING-OILS. Gulf Refining Company, Port Arthur, Tex., and Pittsburg, Pa. Filed June 22, 1905.

LUSTERLITE

The word "Lusterlite."

Sm. No. 8,766. PETROLEUM BURNING-OILS. Gulf Refining Company, Port Arthur, Tex., and Pittsburg, Pa. Filed June 22, 1905.

RADIUM

The word "Radium."

Sm. No. 8,768. PETROLEUM LUBRICATING-OILS. Gulf Refining Company, Port Arthur, Tex., and Pittsburg, Pa. Filed June 22, 1905.



The representation of an Eskimo hunting seals, with a background of clouds and icebergs, and seals floating on cakes of ice in the foreground, the whole being inclosed in two concentric circles.

SER. No. 8,853. CATAMENIAL BANDAGES. THE SCHAFER SPECIALTY COMPANY, New York, N. Y. Filed June 28, 1905.

B. S. N.

The letters "B. S. N."

SER. No. 9,012. HAIR REMEDY. WALLACE G. GENTY, New York, N. Y. Filed Apr. 24, 1905.

RESTORINE

The word "RESTORINE" in fancy irregular type.

SER. No. 9,018. WHEAT-FLOUR. ACME MILLING COMPANY, Indianapolis, Ind. Filed June 26, 1905.



The representation of a large feather or plume, across which are the words "WHITE PLUME" in two curved lines, and at one side of the lettering and plume is the representation of a knight wearing a plumed helmet and riding on a horse.

SER. No. 9,038. KNIT UNDERWEAR. NORTHWESTERN KNITTING COMPANY, Minneapolis, Minn. Filed June 26, 1905.

THE Munsing

The words "THE MUNSING."

SER. No. 9,217. CANDY. THE BRADLEY SMITH & CO., New Haven, Conn. Filed June 27, 1905.

MADISON SQUARES

The words "MADISON SQUARES."

SER. No. 9,721. WHISKY. KAUFMANN, BASS & CO., Cincinnati, Ohio. Filed July 3, 1905.

Laurel

The word "LAUREL."

SER. No. 9,561. VEGETABLE AND FRUIT PRESERVES, JAMS, JELLIES, BUTTERS, AND MARMALADES. R. C. WILLIAMS & Co., New York, N. Y. Filed July 1, 1905.



The words "ROYAL SCARLET," associated with the representation of a bow of ribbon with a seal appearing thereon, on which is a shield with a winged dial appearing thereon.

SER. No. 10,376. BUFFED LEATHER. P. REILLY & SON, Newark, N. J. Filed July 15, 1905.



The representation of a running stag.

SER. No. 10,532. BISCUITS. GRIGGS, COOPER AND COMPANY, St. Paul, Minn. Filed July 18, 1905.



The representation of a red substantially rectangular panel having centrally disposed thereon a white disk with the word "WHYTKOT" thereon.

SER. No. 10,873. WORM MEDICINE. CURTIS AND BROWN MANUFACTURING COMPANY, LIMITED, New York, N. Y. Filed July 27, 1905. Used ten years.

BROWNS
VERMIFUGE
COMFITS
OR
WORM LOZENGES

The words "BROWN'S VERMIFUGE COMFITS OR WORM LOZENGES."

Ser. No. 10,895. CANNED FRUITS AND VEGETABLES. Gregory Frank, San Jose, Cal. Filed July 27, 1905.

SUNLIGHT

The word "Sunlight."

Ser. No. 11,064. DOG-BLANKETS. James A. Davis, Boston, Mass. Filed July 31, 1905.

Presto

The word "Presto."

Ser. No. 11,106. RAZOR-HONES, SHARPENING-STONES, AND SHARPENING-WHEELS. Franz Swaty, Marburg, Austria-Hungary. Filed Aug. 1, 1905.

SWATY-STEIN ALUMIN

The words "Swaty-Stein Alumin."

Ser. No. 11,185. REMEDY FOR CHILLS AND FEVER, BILIOUSNESS, DULL AND SHAKING AGUE, REMITTENT FEVERS, AND ALL MALARIAL DISORDERS. Van Vleet-Mansfield Drug Co., Memphis, Tenn. Filed Aug. 3, 1905. Used ten years.

WOOD'S PALATABLE CHILL TONIC

The words "Wood's Palatable Chill Tonic."

Ser. No. 11,186. MEDICINE OR REMEDY FOR DISEASES OF THE KIDNEYS AND BLADDER. Van Vleet-Mansfield Drug Co., Memphis, Tenn. Filed Aug. 3, 1905. Used ten years.

English

REMEDY

The words "English Remedy."

Ser. No. 11,198. PILLS FOR THE CURE AND ALLEVIATION OF DISEASES AND DISORDERS OF THE LIVER. Van Vleet-Mansfield Drug Co., Memphis, Tenn. Filed Aug. 3, 1905. Used ten years.

WOOD'S
ACTIVE
LIVER
PILLS

The words "Wood's Active Liver Pills."

Ser. No. 11,206. WASHING PREPARATION IN A DRY OR POWDERED FORM. Wilford H. Williams, Indianapolis, Ind. Filed Aug. 3, 1905.

Ser. No. 11,206.

NINE O'CLOCK

WASHING TEA

The representation of a clock dial or face indicating the hour of nine o'clock and associated with the words "Nine O'Clock Washing-Tea."

Ser. No. 11,223. SALVES. Wi-da-me Company, Fairmount, Ind. Filed Aug. 3, 1905.

WI-DA-ME

The hyphenated word "Wi-da-me."

Ser. No. 11,254. BOOTS, SHOES, AND SLIPPERS MADE OF LEATHER. Wingo, Elliott & Crump Shoe Co., Manchester, Va. Filed Aug. 4, 1905.

Quality Row

The words "Quality Row."

Ser. No. 11,379. PREPARATION FOR THE CURE OF HORSE AILMENTS. Dyer Remedy Company, Kansas City, Mo. Filed Aug. 7, 1905.



The representation of a group of mules' heads.

Ser. No. 11,380. REMEDIES FOR THE CURE OF DISEASES OF THE LIVER AND KIDNEYS, ALL INFLAMMATIONS AND SWELLINGS, MALARIA AND OTHER KINDRED AILMENTS, GENERAL-SYSTEM TONIC, HEADACHE, BOWEL COMPLAINT, NEURALGIA, AND OTHER LIKE ILLS, AND THROAT, LUNG, AND NASAL TROUBLES. Brown Mfg. Co., Greeneville, Tenn. Filed Aug. 7, 1905. Used ten years.

RAMON'S

The word "Ramon's."

Ser. No. 11,573. BAKING-POWDER. Price Baking Powder Company, Chicago, Ill. Filed Aug. 12, 1905. Used ten years.

SER. No. 11,573.

PRICE'S

The word "PRICE'S."

SER. No. 11,621. YELLOW HORSEHIDE GLOVES AND MITTENS. BOUTON AND GERMAIN CO., Ripon, Wis. Filed Aug. 12, 1905.

KROMATE

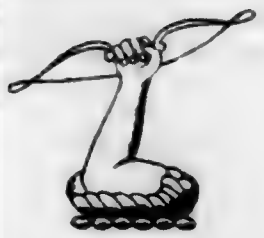
The word "KROMATE," inclosed within an ellipse.

SER. No. 11,628. DRESS-SHIELDS. I. B. KLEINERT RUBBER CO., New York, N. Y. Filed Aug. 14, 1905. Used ten years.

KLEINERT'S

The word "KLEINERT'S."

SER. No. 11,679. WICKS, WEBS, AND WEBBINGS. FLETCHER MANUFACTURING COMPANY, Providence, R. I. Filed Aug. 15, 1905.



The representation of an uplifted arm holding a bow and issuing from a heraldic scroll.

SER. No. 11,689. LIQUID PREPARATION FOR EXTERNAL USE FOR CURING BAD-SMELLING, SWEATING, AND TENDER FEET AND OFFENSIVE PERSPIRATION. ANGLO-AMERICAN MEDICAL CO., Chicago, Ill. Filed Aug. 16, 1905.



..ANTI-SWEATINE..

The representation of a rose, associated with the hyphenated word "ANTI-SWEATINE."

SER. No. 11,736. OINTMENTS FOR THE CURE OF BURNS, SCALDS, CUTS, AND WOUNDS, CHAPPED HANDS, SORE LIPS, CHAFED SKIN, HIVES, SORE THROAT, CATARRH, AND SORES OF ALL KINDS. NATIONAL FOOD CO., Fond du Lac, Wis. Filed Aug. 17, 1905.

Use It

The words "USE IT."

SER. No. 11,735. CORN REMEDY. THE FOWLER MEDICINE COMPANY, Rochester, N. Y. Filed Aug. 17, 1905. Used ten years.

CORN KING

The words "CORN KING."

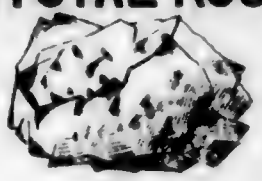
SER. No. 11,770. SMOKING AND CHEWING TOBACCO. JAMES A. CLARK, Bedford City, Va. Filed Aug. 18, 1905.

ROSEDALE

The word "ROSEDALE," inclosed in a diamond-shaped figure.

SER. No. 11,773. NATURAL WATER. WILLIAM B. MATTHEWS, Washington, D. C. Filed Aug. 18, 1905.

CRYSTAL ROCK



The words "CRYSTAL ROCK," associated with the representation of a rock.

SER. No. 11,799. BITTERS. A. ZANNATTI & CO., New York, N. Y. Filed Aug. 19, 1905.

BONA-VITA

The compound word "BONA-VITA."

SER. No. 11,860. COFFEE. BROWNELL & FIELD COMPANY, Providence, R. I. Filed Aug. 21, 1905.

AUTOCRAT

The word "AUTOCRAT."

SER. No. 11,874. REMEDY FOR HEADACHES, COLDS, AND DYSMENORRHEA. CAPUDINE CHEMICAL COMPANY, Raleigh, N. C. Filed Aug. 21, 1905.

CAPU

The word "CAPU."

SER. No. 11,882. REMEDY FOR COUGHS AND AILMENTS OF THE THROAT AND LUNGS. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 22, 1905. Used ten years.

SER. No. 11,882.



The words "MANSFIELD'S HUNGARIAN COUGH BALSAM" and the representation of a sick-room scene, comprising a sick person seated in a chair, a nurse, and the representation of an angel in the act of presenting a remedy which the nurse is in the act of receiving.

SER. No. 11,886. PILE-SALVE. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 22, 1905.

MAGIC

The word "MAGIC."

SER. No. 11,887. LINIMENT. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 22, 1905. Used ten years.



The words "MANSFIELD'S MAGIC ARNICA LINIMENT" and the representation of two male figures, one upon crutches and appearing to be in pain or suffering and the other representing the same person in the act of throwing away his crutches and appearing in a jubilant frame of mind.

SER. No. 11,888. REMEDY FOR THE CURE OF RHEUMATISM. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 22, 1905. Used ten years.



The words "MANSFIELD'S RHEUMATIC COMPOUND" and the representation of a tropical scene, comprising the representation of a tropical tree and fruit and two natives beneath the tree in the foreground of a minor scene comprising a native in a boat.

SER. No. 11,941. TONIC. JEREMIAH J. MCCROHAN, Chicago, Ill. Filed Aug. 23, 1905.

IRONAL

The word "IRONAL."

SER. No. 11,982. WINES. THE ROSENBLATT CO., San Francisco, Cal. Filed Aug. 24, 1905.

NATURE JUICE

The words "NATURE JUICE."

SER. No. 12,018. LAGER-BEER. CHRISTIAN FEIGENSPAN, a Corporation, Newark, N. J. Filed Aug. 26, 1905.



The representation of a goblet filled with foaming beer held at the stem by a hand, a scroll with the word "FEIGENSPAN'S" being arranged thereon and extending midway over the goblet.

SER. No. 12,056. REMEDIES FOR THE RELIEF AND CURE OF CATARRH, HAY-FEVER, COLD IN THE HEAD, AND ALL NASAL INFLAMMATION AND CATARRHAL AFFECTIONS. BROWN MFG. CO., Greeneville, Tenn. Filed Aug. 28, 1905.



The word "NOBENA."

SER. No. 12,068. EMOLLIENT AND MEDICINAL PREPARATION. THOMAS ELLWOOD CARPENTER, Mount Kisco, N. Y. Filed Aug. 29, 1905.

LUBRI-CHONDRIN

The hyphenated word "LUBRI-CHONDRIN."

SER. No. 12,128. BOYS' LEATHER BOOTS AND SHOES. WHITNEY, WAGEL & CO., Cleveland, Ohio. Filed Aug. 31, 1905.

RUF AND TUF

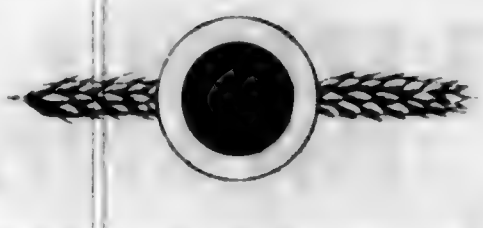
The words "RUF AND TUF."

SER. No. 12,183. INSECTICIDE. E. M. BOGLE, McKeesport, Pa. Filed Sept. 2, 1905.

KILLERINE

The word "KILLERINE."

SER. No. 12,280. MALT TONIC. MCAVOY BREWING CO., Chicago, Ill. Filed Sept. 5, 1905.



The representation of three hop-buds joined at their bases and superimposed upon a pair of barley-heads obliquely crossing each other and all arranged upon a circular disk and a large barley-head extending horizontally beneath the same and projecting on opposite sides thereof.

SER. No. 12,291. MEDICATED BLACKBERRY BRANDY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905. Used ten years.

DR. McCABE'S
MEDICATED
Blackberry Brandy.



The abbreviation and words "DR. MCCABE'S MEDICATED BLACKBERRY BRANDY" and the representation of a woman standing among blackberry bushes and fruit, holding in one hand a snake and pointing with the other toward the ground, all in the foreground of a minor scene comprising land, water, and pyramids.

SER. No. 12,293. WHISKY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905.

"OLD Southern Home"



The words "OLD SOUTHERN HOME" and the representation of a Southern mansion surrounded by trees, driveways, &c.

SER. No. 12,372. CLOCKS. SPAULDING & CO., Chicago, Ill. Filed Sept. 8, 1905.



The representation of a sailor at a steering wheel or helm.

SER. No. 12,464. BISCUITS AND CRACKERS. A. EXTON & CO., Trenton, N. J. Filed Sept. 11, 1905. Used ten years.

EXTON

The word "EXTON."

SER. No. 12,472. TYPE-WRITING MACHINES AND PARTS THEREFOR. THE OLIVER TYPEWRITER COMPANY, Chicago, Ill. Filed Sept. 11, 1905. Used ten years.

OLIVER

The word "OLIVER."

SER. No. 12,485. WAGONS. AUBURN WAGON CO., Martinsburg, W. Va. Filed Sept. 12, 1905



The representation of a scroll containing the words "NEW SOUTH" and a sprig of cotton in bloom.

SER. No. 12,491. TEA. ACKER, MERRALL & CONDIT COMPANY, New York, N. Y. Filed Sept. 12, 1905.

SOVEREIGN BLEND

The words "SOVEREIGN BLEND."

SER. No. 12,492. MONTHLY MAGAZINE. S. H. MOORE CO., New York, N. Y. Filed Sept. 12, 1905.

THE LADIES' WORLD

The words "THE LADIES' WORLD."

SER. No. 12,503. MACARONI, SPAGHETTI, VERMICELLI, AND NOODLES. ANGER BAKING CO., New York, N. Y. Filed Sept. 12, 1905.

GOLDEN SEAL

The words "GOLDEN SEAL."

SER. No. 12,510. ROLL-PAPER HOLDERS AND CUTTERS. THE KING MANUFACTURING CO., Piqua, Ohio. Filed Sept. 13, 1905.

KING

The word "KING."

SER. No. 12,521. ROLL-PAPER HOLDERS AND CUTTERS. THE CHAMPION PAPER CUTTER CO., Piqua, Ohio. Filed Sept. 13, 1905. Used ten years.

Buckeye

The word "BUCKEYE."

SER. No. 12,522. ROLL-PAPER HOLDERS AND CUTTERS. THE CHAMPION PAPER CUTTER CO., Piqua, Ohio. Filed Sept. 13, 1905. Used ten years.

CHAMPION

The word "CHAMPION."

SER. No. 12,523. ROLL-PAPER HOLDERS AND CUTTERS. UNITED STATES PAPER CUTTER CO., St. Louis, Mo. Filed Sept. 13, 1905. Used ten years.

CENTURY

The word "CENTURY."

SER. No. 12,524. ROLL-PAPER HOLDERS AND CUTTERS. UNITED STATES PAPER CUTTER CO., St. Louis, Mo. Filed Sept. 13, 1905.

REX

The word "REX."

SER. No. 12,569. DRIED AND EVAPORATED FRUITS. GRIFFIN & SKELLEY CO., San Francisco, Cal. Filed Sept. 14, 1905.

COMET BRAND

The words "COMET BRAND."

SER. No. 12,570. DRIED AND EVAPORATED FRUITS. GRIFFIN & SKELLEY CO., San Francisco, Cal. Filed Sept. 14, 1905.

PEACOCK BRAND

The words "PEACOCK BRAND."

SER. No. 12,571. DRIED AND EVAPORATED FRUITS. GRIFFIN & SKELLEY CO., San Francisco, Cal. Filed Sept. 14, 1905.

THISTLE BRAND

The words "THISTLE BRAND."

SER. No. 12,641. WHISKY. P. J. BOWLIN LIQUOR CO., St. Paul, Minn. Filed Sept. 15, 1905.

STRONGHOLD

The word "STRONGHOLD."

SER. No. 12,650. WHISKY. DREYFUS, WEIL & CO., Paducah, Ky. Filed Sept. 15, 1905.

Eclipse

The word "ECLIPSE."

SER. No. 12,651. WHISKY. DREYFUS, WEIL & CO., Paducah, Ky. Filed Sept. 15, 1905.

S. H. ROLLINS

The name "S. H. ROLLINS."

SER. No. 12,659. WHISKY. STRAUS BROTHERS COMPANY, Chicago, Ill. Filed Sept. 15, 1905.

WELLINGTON

The name "WELLINGTON."

SER. No. 12,681. WHISKY. WOOLNER & COMPANY, Peoria, Ill. Filed Sept. 15, 1905.

CRONIES

The word "CRONIES."

SER. No. 12,683. WHISKY. WOOLNER & COMPANY, Peoria, Ill. Filed Sept. 15, 1905.

SER. No. 12,682.

BETTER TIMES

The words "BETTER TIMES."

SER. No. 12,684. WHISKY. WOOLNER & COMPANY, Peoria, Ill. Filed Sept. 15, 1905.



EASTLAND

The word "EASTLAND" and a representation of the steamer *Eastland*.

SER. No. 12,701. JACKS. THE DUFF MANUFACTURING COMPANY, Allegheny, Pa. Filed Sept. 16, 1905. Used ten years.

BARRETT

The word "BARRETT."

SER. No. 12,704. COFFEE. MEYER BROTHERS COFFEE AND SPICE COMPANY, St. Louis, Mo. Filed Sept. 16, 1905.

DEW DROP

The words "DEW DROP."

SER. No. 12,705. COFFEE. MEYER BROTHERS COFFEE AND SPICE COMPANY, St. Louis, Mo. Filed Sept. 16, 1905.

MORICO

The word "MORICO."

SER. No. 12,706. COFFEE. MEYER BROTHERS COFFEE AND SPICE COMPANY, St. Louis, Mo. Filed Sept. 16, 1905.

OLD JUDGE

The words "OLD JUDGE."

SER. No. 12,752. COUNTER-SHAFTS AND APPURTENANCES THERETO. THE MORSE TWIST DRILL & MACHINE COMPANY, New Bedford, Mass. Filed Sept. 18, 1905.

SIM-PULL

The hyphenated word "SIM-PULL."

SER. No. 12,970. CHOCOLATE AND COCOA. FRANCIS H. LEGGETT & COMPANY, New York, N. Y. Filed Sept. 25, 1905.

NABOB

The word "NABOB."

SER. No. 13,135. PREPARATION FOR THE REMOVAL OF SUPERFLUOUS HAIR. MARSHALL M. CUSIC, Princeton, Ill. Filed Sept. 29, 1905.

HAIRILLA

The word "HAIRILLA."

SER. No. 13,162. LEATHER FOR THE UPPERS OF SHOES. ROBERT H. FOERDERER, INCORPORATED, Philadelphia, Pa. Filed Sept. 30, 1905.

VICI

The word "VICI."

SER. No. 13,184. SCREW-DRIVERS AND SCREW-DRIVER HOLDERS. PATTERSON, GOTTFRIED & HUNTER, LIMITED, New York, N. Y. Filed Oct. 2, 1905.



The representation of a right-angled triangle in red.

SER. No. 13,186. GRINDING AND POLISHING HEADS. PATTERSON, GOTTFRIED & HUNTER, LIMITED, New York, N. Y. Filed Oct. 2, 1905.



The representation of a right-angled triangle in red.

SER. No. 13,190. FORGES, BLOWERS, AND TWYER-IRONS. PATTERSON, GOTTFRIED & HUNTER, LIMITED, New York, N. Y. Filed Oct. 2, 1905.

Ser. No. 18,190.



The representation of a right-angled triangle in red.

Ser. No. 13,303. WHEELBARROW-WHEELS. THE KILBOURNE & JACOBS MANUFACTURING COMPANY, Columbus, Ohio. Filed Oct. 2, 1905. Used ten years.

LEWIS

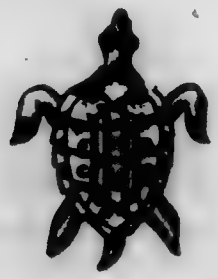
The word "LEWIS."

Ser. No. 13,383. SYRUPS, FLAVORINGS, TONICS, AND EXTRACTS FOR NON-INTOXICATING BEVERAGES. BOVRIL LIMITED, London, England, and Montreal, Canada. Filed Oct. 6, 1905.

BOVRIL

The word "BOVRIL."

Ser. No. 13,437. HAIR-PINS AND HAIR ORNAMENTS. RICE & HOCHSTIM, New York, N. Y. Filed Oct. 9, 1905.



The representation of a tortoise with flippers and head extended and a monogram composed of the letters and character "R & H" on its back.

Ser. No. 13,450. CIGARS. HENRY T. OPPENHEIMER, Washington, D. C. Filed Oct. 9, 1905.

AFTER DINNER

The words "AFTER DINNER."

Ser. No. 13,459. AUTOMATIC CAR-COUPLERS OF THE KARTER-CAR-BUILDERS' OR VERTICAL-PLANE TYPE AND PARTS THEREOF. THE MCCONWAY & TORLEY CO., Pittsburg, Pa. Filed Oct. 9, 1905. Used ten years.

JANNEY

The word "JANNEY."

Ser. No. 13,482. PATENT-LEATHER, CALFSKINS, AND WAXED CALFSKINS. CORNELIUS HEYL, Worms, Germany. Filed Oct. 11, 1905.



The representation of a heraldic shield and two dragons holding the same, associated with a monogram composed of the letters "C H" on the shield.

Ser. No. 13,516. LIQUID PAINT. NATURAL LIQUID PAINT CO., San Francisco, Cal. Filed Oct. 12, 1905.



The representation of a sarcophagus or mummy-case with concentric circles inscribed across the front, and a bar transverse of the circle. In the upper half of the circle are the words and abbreviation "NATURAL LIQUID PAINT CO." and upon the transverse bar the word "PRESERVATIVE."

Ser. No. 13,746. MAINSPRINGS FOR WATCHES. AMERICAN WALTHAM WATCH CO., Waltham, Mass. Filed Oct. 19, 1905. Used ten years.

RESILIENT

The word "RESILIENT."

Ser. No. 13,755. PREPARATION OR COMPOUND FOR CLEANING THE SURFACES OF ARTICLES AND STRUCTURES MADE FROM STONE, MARBLE, AND LIKE SUBSTANCES. JOHN FRANKLIN WHITMAN, Philadelphia, Pa. Filed Oct. 19, 1905.



The representation of the head of a bull-dog inclosed within a border of oval form, a rectangular bar being held within the open mouth of the dog bearing the word "GRITINA."

TRADE-MARKS

REGISTERED NOVEMBER 21, 1905.

47,738. WHISKY. ERNST AMMON, Chicago, Ill.

The words "CRESSON SPRINGS" and the representation of a large building surrounded by a lawn and trees.

Filed June 15, 1905. Serial No. 8,262. PUBLISHED SEPTEMBER 26, 1905.

47,739. WHISKY. DAVID BRUNNER, New Orleans, La.

The fanciful name "MANDY JONES," below which is a picture representing the head of an old negress inclosed in a circular outline.

Filed June 15, 1905. Serial No. 8,230. PUBLISHED SEPTEMBER 26, 1905.

47,740. WHISKY. DAVID BRUNNER, New Orleans, La.

The words "HANDY ANDY," below which is the monogram "D B" inclosed in a circle.

Filed June 15, 1905. Serial No. 8,231. PUBLISHED SEPTEMBER 26, 1905.

47,741. WHISKY. CHAS. SHAFFNER & Co., Chicago, Ill.

The words "OLD YORKSHIRE."

Filed June 15, 1905. Serial No. 8,165. PUBLISHED SEPTEMBER 26, 1905.

47,742. WHISKY. CHAS. SHAFFNER & Co., Chicago, Ill.

The word "AMES."

Filed June 15, 1905. Serial No. 8,167. PUBLISHED SEPTEMBER 26, 1905.

47,743. STARCH. E. R. DURKEE & Co., New York, N. Y.

The word "INVISIBLE."

Filed May 2, 1905. Serial No. 3,970. PUBLISHED JUNE 20, 1905.

47,744. STARCH. E. R. DURKEE & Co., New York, N. Y.

The word "IMPERCEPTIBLE."

Filed May 2, 1905. Serial No. 3,973. PUBLISHED JUNE 20, 1905.

47,745. MALT EXTRACT. FEDERAL BREWING COMPANY, New York, N. Y.

The words "BRAUNSCHWEIGER MUMME," the word "BRAUNSCHWEIGER" being printed upon a scroll.

Filed May 19, 1905. Serial No. 6,097. PUBLISHED SEPTEMBER 26, 1905.

47,746. WHISKY. SIG. & SOL. H. FREIBERG, Cincinnati, Ohio.

The word "HOLLERDING," under which is a descriptive picture representing three colored boys playing on a box with dice and the inscription immediately above in quotations "HOLLERDING TO ME."

Filed May 1, 1905. Serial No. 3,763. PUBLISHED SEPTEMBER 26, 1905.

47,747. WHISKY. FREIBERG MEYER & Co., Cincinnati, Ohio.

The word "PEMBROKE."

Filed May 25, 1905. Serial No. 6,584. PUBLISHED SEPTEMBER 25, 1905.

47,748. MINERAL WATERS. FRENCH LICK SPRINGS HOTEL Co., Frenchlick, Ind.

A conventional representation, printed in red, of the devil with a sword at his side and one hand upraised and holding a pair of tongs in the other hand.

Filed May 23, 1905. Serial No. 6,358. PUBLISHED SEPTEMBER 26, 1905.

47,749. MINERAL WATERS. FRENCH LICK SPRINGS HOTEL Co., Frenchlick, Ind.

The word "PLUTO" and a conventional representation, printed in red, of the devil with a sword at his side and one hand upraised and holding a pair of tongs in the other hand.

Filed May 23, 1905. Serial No. 6,359. PUBLISHED SEPTEMBER 26, 1905.

47,750. MINERAL WATERS. FRENCH LICK SPRINGS HOTEL Co., Frenchlick, Ind.

The words "PLUTO CONCENTRATED AMERICA'S PHYSIC" and a conventional representation, printed in red, of the devil with a sword at his side and one hand upraised and holding a pair of tongs in the other hand.

Filed May 23, 1905. Serial No. 6,360. PUBLISHED SEPTEMBER 26, 1905.

47,751. WHISKY. JOS. A. MAGNUS & Co., Cincinnati, Ohio.

The words "BONNIE BROOK."

Filed June 15, 1905. Serial No. 8,218. PUBLISHED SEPTEMBER 26, 1905.

47,752. WHISKY. JOS. A. MAGNUS & Co., Cincinnati, Ohio.

The name "ASA HOLT."

Filed June 15, 1905. Serial No. 8,219. PUBLISHED SEPTEMBER 26, 1905.

47,753. HOSIERY. NEW ALBANY HOSIERY MILL, New Albany, Ind.

A diamond-shaped figure having therein a second similar-shaped figure, and within the second figure is a third diamond-shaped figure, within which is the character "3," the figure being associated with the words "THE DIAMOND THREE."

Filed June 26, 1905. Serial No. 9,067. PUBLISHED SEPTEMBER 26, 1905.

47,754. HATS AND BANDEAUX. EUGENE V. ROSEMOND, New York, N. Y.

The representation of a coat of arms comprising a shield crossed by a saltire, in the angles of which appear scallops, and surmounted by a crest made up of a rhinoceros standing upon a heraldic roll. Below the shield is a ribbon bearing the words "CREST BRAND."

Filed May 31, 1905. Serial No. 7,106. PUBLISHED SEPTEMBER 26, 1905.

47,755. VARNISHES. THE AMERICAN VARNISH COMPANY, Chicago, Ill.

The word "AVER."

Filed July 10, 1905. Serial No. 9,959. PUBLISHED SEPTEMBER 26, 1905.

47,756. HOOKS AND EYES. THE DE LONG HOOK & EYE COMPANY, Philadelphia, Pa.

The word "DELCO."

Filed April 1, 1905. Serial No. 2. PUBLISHED SEPTEMBER 26, 1905.

47,757. CORSETS. EDWARD C. WEEKS, New York, N. Y.

The words "THE LILY OF FRANCE," associated with the representation of a lily inclosed in a circular border composed of leaves and petals of lilies.

Filed June 16, 1905. Serial No. 8,354. PUBLISHED SEPTEMBER 26, 1905.

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Filed June 23, 1905. Serial No. 8,819. PUBLISHED AUGUST 1, 1905.

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The design embodying a disk having radiating points there-

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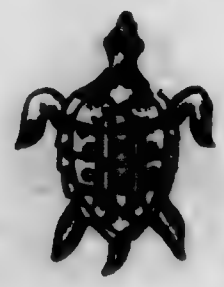
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REGISTERED NOVEMBER 21, 1905.

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The word "NABOB."
Filed June 23, 1905. Serial No. 8,819. PUBLISHED AUGUST 1, 1905.

47,760. WRITING-PAPER AND ENVELOPS. GEORGE H. HURD & Co., New York, N. Y.
The design embodying a disk having radiating points there-

about, with the representation of an envelop having a seal thereon bearing a monogram composed of the letters, character, and abbreviation "G B H & Co" obscuring a portion of the said disk and points, the whole being inclosed in a rectangular border.

Filed May 22, 1905. Serial No. 6,317. PUBLISHED AUGUST 8, 1905.

47,761. BOYS' AND MEN'S COATS, VESTS, AND TROUSERS. GILLESPIE SHIELDS & Co., Knoxville, Tenn.

The representation of a shield and the words "SHIELD BRAND" appearing thereon.

Filed April 1, 1905. Serial No. 89. PUBLISHED SEPTEMBER 26, 1905.

47,762. DRY INK IN TABLET FORM. HILL'S INK TABLET Co., New York, N. Y.

A design embodying a black disk having upon it a triangle in white with black balls at the angles thereof and having upon the sides the words "HILL'S ORIGINAL INK TABLETS," said triangle inclosing a black ink-bottle, upon which are arranged the capital letters "H I T."

Filed June 3, 1905. Serial No. 7,378. PUBLISHED SEPTEMBER 26, 1905.

47,763. DRY BATTERIES. NATIONAL CARBON COMPANY, Cleveland, Ohio.

The hyphenated word "STAND-BY."

Filed April 6, 1905. Serial No. 536. PUBLISHED SEPTEMBER 26, 1905.

47,764. POTATO-FLOUR, POTATO-STARCH, AND DEXTRIN. NORDDEUTSCHE KARTOFFELMEHL-FABRIK MIT BESCHRÄNKTER HAFTUNG, Cüstrin, Brandenburg, Germany.

The representation of an anchor and the letters "BKMF."

Filed May 26, 1905. Serial No. 6,733. PUBLISHED SEPTEMBER 26, 1905.

47,765. PIANOS, COMPRISING PNEUMATICALLY-CONTROLLED PLAYING MECHANISMS. THE ÆOLIAN COMPANY, New York, N. Y.

The words "PIANOLA PIANO."

Filed April 26, 1905. Serial No. 3,206. PUBLISHED AUGUST 15, 1905.

47,766. ENDLESS-BELT CONVEYERS. THE JEFFREY MANUFACTURING COMPANY, Columbus, Ohio.

The word "CENTURY."

Filed May 26, 1905. Serial No. 6,411. PUBLISHED SEPTEMBER 26, 1905.

47,767. VINEGAR. WM. HENNING Co., Chicago, Ill.

An elliptical band, a circle within said band, a circular field within said circle, said field bearing the letter "H," and the words "RED LABEL" in the space between said circle and said circular field.

Filed July 3, 1905. Serial No. 9,801. PUBLISHED SEPTEMBER 26, 1905.

47,768. COPPER. BALTIMORE COPPER SMELTING & ROLLING COMPANY, Baltimore, Md.

The letters "B S R."

Filed April 27, 1905. Serial No. 3,220. PUBLISHED SEPTEMBER 26, 1905.

47,769. COPPER. BALTIMORE COPPER SMELTING & ROLLING COMPANY, Baltimore, Md.

The letters "B C W."

Filed April 27, 1905. Serial No. 3,221. PUBLISHED SEPTEMBER 26, 1905.

74,770. TABLE AND DAIRY SALT. COLONIAL SALT COMPANY, Akron, Ohio.

The word "LIBERTY."

Filed May 10, 1905. Serial No. 4,850. PUBLISHED SEPTEMBER 26, 1905.

47,771. TABLE AND DAIRY SALT. COLONIAL SALT COMPANY, Akron, Ohio.

The words "LOG CABIN" printed in rustic letters.

Filed May 10, 1905. Serial No. 4,852. PUBLISHED SEPTEMBER 26, 1905.

47,772. LARD, LARD COMPOUNDS, TALLOW, AND SUBSTITUTES FOR LARD. CUDAHY BROTHERS Co., Cudahy, Wis.

The word "SNOWBALL."

Filed May 8, 1905. Serial No. 4,757. PUBLISHED AUGUST 8, 1905.

47,773. SHEETINGS AND DRILLINGS. EASLEY COTTON MILLS, Easley, S. C.

The representation of a basket with a girl seated therein holding a kitten in her lap.

Filed May 15, 1905. Serial No. 5,057. PUBLISHED SEPTEMBER 26, 1905.

47,774. PREPARATION OF THE PROTEIDS OF BEEF. FAIRCHILD BROS. & FOSTER, New York, N. Y.

The word "CIOSE."

Filed April 17, 1905. Serial No. 1,975. PUBLISHED SEPTEMBER 26, 1905.

47,775. HATS AND CAPS. JOHN B. STETSON COMPANY, Philadelphia, Pa.

The representation of a shield having a rampant beaver and eagle at opposite sides thereof surmounted by a liberty-cap with scroll designs below on which the eagle and beaver are standing, the shield having on its face the stars and stripes, the figure of an eagle with wings and claws extended and a shield on its breast, and a shield having thereon a ship, plow, and sheaves of wheat supported by two horses rampant, surmounted by a crest.

Filed April 7, 1905. Serial No. 672. PUBLISHED SEPTEMBER 26, 1905.

47,776. CERTAIN NAMED PAINTS AND SUPPLIES. JOHN LUCAS & Co., Philadelphia, Pa.

The representation of a shield surmounted by a crown supporting a fabulous bird. Upon the shield are a monogram of the letters, character, and abbreviation "J L & Co," the words "RESPICE FINEM," a transverse bar, and sets of rings.

Filed April 25, 1905. Serial No. 3,001. PUBLISHED SEPTEMBER 26, 1905.

47,777. MONTHLY MAGAZINE. NATIONAL METAL TRADES ASSOCIATION, Cincinnati, Ohio.

The words "THE OPEN SHOP."

Filed June 12, 1905. Serial No. 7,973. PUBLISHED SEPTEMBER 26, 1905.

47,778. COMPOUNDS DESIGNED TO CURE NERVOUS DEBILITY. PEAL MEDICINE COMPANY, Cleveland, Ohio.

The hyphenated word "SEX-INE," associated with the word "PILLS," with a paraph underneath said words.

Filed April 6, 1905. Serial No. 641. PUBLISHED SEPTEMBER 26, 1905.

47,779. STOMACHIC TONIC AND DIGESTANT. SCHLOTTERBECK & FOSS Co., Portland, Me.

The proper name "SCHLOTTERBECK'S," together with the words "COMPOUND MIXTURE HYDRASTIS."

Filed April 14, 1905. Serial No. 1,537. PUBLISHED SEPTEMBER 26, 1905.

47,780. REMEDY FOR DYSCRASIA. STRONG COBB & Co., Cleveland, Ohio.

The word "ECHITONE."

Filed April 26, 1905. Serial No. 3,428. PUBLISHED SEPTEMBER 26, 1905.

47,781. TEAS. STEWART BROTHERS COMPANY, Omaha, Nebr.

The representation of a wedgwood vase inclosed in a circle, in connection with which appears the word "WEDGWOOD."

Filed April 13, 1905. Serial No. 1,393. PUBLISHED SEPTEMBER 26, 1905.

47,782. WASHBOARDS. THE AMERICAN WASHBOARD COMPANY, Cleveland, Ohio.

The word "BUSTER."

Filed May 10, 1905. Serial No. 4,861. PUBLISHED AUGUST 1, 1905.

47,783. SALVE. THE YUCCA Co., Wichita, Kans.

The word "MENTHOLATUM."

Filed April 17, 1905. Serial No. 2,041. PUBLISHED SEPTEMBER 26, 1905.

47,784. CANNED FRUITS AND VEGETABLES. UTICA CANNING COMPANY, Utica, N. Y.

The words "SWEET CLOVER BRAND" with seven blossoms and seven clover-leaves falling carelessly in different directions, all on one sprig.

Filed May 11, 1905. Serial No. 5,019. PUBLISHED SEPTEMBER 26, 1905.

47,785. LEATHER BOOTS AND SHOES. WINGO, ELLETT & CRUMP SHOE Co., Richmond, Va.

The representation of a horse ridden by a man and jumping two wooden planks and over a shoe.

Filed May 25, 1905. Serial No. 6,664. PUBLISHED SEPTEMBER 26, 1905.

47,786. FLEXIBLE CONDUIT FOR ELECTRIC CONDUCTORS. ALFNADUCT MANUFACTURING COMPANY, New York, N. Y.

A trefoil in which the outline of the leaves and stem is constituted by a conventional representation of a flexible tube, the extremities of the tube being twisted together below to form the stem.

Filed May 20, 1905. Serial No. 6,589. PUBLISHED SEPTEMBER 26, 1905.

47,787. BALSAM. A. DAVIS ASHLEY, New Bedford, Mass.

The words "RED SEA" and the representation of a vessel floating upon a sea of red color.

Filed May 19, 1905. Serial No. 6,098. PUBLISHED SEPTEMBER 26, 1905.

47,788. THERMOMETER-TUBES. BUFFALO DENTAL MANUFACTURING CO., Buffalo, N. Y.

A straight red stripe extending lengthwise along the back of the white ground employed in thermometer-tubes.

Filed May 31, 1905. Serial No. 7,082. PUBLISHED SEPTEMBER 26, 1905.

47,789. IMITATION LEATHER. L. C. CHASE & CO., Boston, Mass.

The representation of a Roman warrior in armor and bearing a shield and drawn sword, standing with one foot on the neck of a prostrate bull, and the words "CHASE LEATHER."

Filed May 20, 1905. Serial No. 6,151. PUBLISHED SEPTEMBER 26, 1905.

47,790. CARBONATING-POWDER. CHURCH & DWIGHT COMPANY, New York, N. Y.

The word "ZENITH."

Filed April 20, 1905. Serial No. 2,388. PUBLISHED AUGUST 8, 1905.

47,791. LEATHER BOOTS, SHOES, AND SLIPPERS. CLARK-HUTCHINSON COMPANY, Boston, Mass.

The letters and abbreviation "C H Co" arranged diagonally one beneath the other and inclosed in a circle.

Filed May 29, 1905. Serial No. 6,982. PUBLISHED SEPTEMBER 26, 1905.

47,792. LEATHER SHOES. C. M. HAPGOOD SHOE CO., Easton, Pa.

The words "OUR MESSENGER."

Filed April 19, 1905. Serial No. 2,268. [PUBLISHED SEPTEMBER 26, 1905.

47,793. TABLE AND DAIRY SALT. COLONIAL SALT COMPANY, Akron, Ohio.

The words "BUNKER HILL."

Filed May 10, 1905. Serial No. 4,851. PUBLISHED SEPTEMBER 26, 1905.

47,794. WAGONS. COQUILLARD WAGON WORKS (INC.), Henderson, Ky.

The representation of a shield having at its center a wheel, and across the wheel and shield is a horizontal parallelogram having conventionalized foliage at its ends. In the corners, between the scroll and the edges of the shield, are represented, respectively, a boll of cotton, leaves of tobacco, an ear of corn, and heads of wheat. In the upper corners of the shield are represented two stars. Upon the upper portion of the shield appear the words "COQUILLARD WAGON WORKS," and upon the lower portion thereof are the words "HENDERSON, KENTUCKY." The words "INCORPORATED MANUFACTURERS" and the word and figures "ESTABLISHED 1865" appear upon the wheel at the upper and lower portions thereof, respectively.

Filed June 1, 1905. Serial No. 7,195. PUBLISHED SEPTEMBER 26, 1905.

47,795. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.

The representation of an implement known as a "jar" embraced by two complementary crescents.

Filed May 13, 1905. Serial No. 5,497. PUBLISHED SEPTEMBER 26, 1905.

47,796. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.

The representation of a drilling-bit inclosed by two complementary crescents.

Filed May 13, 1905. Serial No. 5,498. PUBLISHED SEPTEMBER 26, 1905.

47,797. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.

The word "CLIMAX."

Filed May 13, 1905. Serial No. 5,516. PUBLISHED SEPTEMBER 26, 1905.

47,798. PEPPER-SAUCE. D. C. DANOVE, New Orleans, La.

The representation of a pelican and its young in a nest.

Filed May 6, 1905. Serial No. 4,507. PUBLISHED JUNE 20, 1905.

47,799. STARCH. E. R. DURKEE & CO., New York, N. Y.

The word "MOURNING."

Filed May 2, 1905. Serial No. 3,971. PUBLISHED JUNE 13, 1905.

47,800. STARCH. E. R. DURKEE & CO., New York, N. Y.

The word "TRACELESS."

Filed May 2, 1905. Serial No. 3,972. PUBLISHED JUNE 13, 1905.

47,801. PREPARATION FOR ASTHMA, CATARRH, AND SIMILAR AFFECTIONS. HIMROD MANUFACTURING COMPANY, New York, N. Y.

The facsimile signature of Peter Himrod.

Filed May 17, 1905. Serial No. 5,899. PUBLISHED SEPTEMBER 26, 1905.

47,802. DENTIFRICE. JENNINGS COMPANY, Greenport, N. Y.

The representation of a shield with the letters "J C O" in Old English characters, the "J" being large and being placed between the "C" and "O." Under the letters are the words "NEW YORK."

Filed May 3, 1905. Serial No. 4,433. PUBLISHED SEPTEMBER 26, 1905.

47,803. HOES. KANAWHA IMPLEMENT COMPANY, Charleston, W. Va.

The hyphenated word "No-Bust."

Filed May 20, 1905. Serial No. 6,156. PUBLISHED AUGUST 8, 1905.

47,804. PROPRIETARY MEDICINE. LUKE M. KAZUNAS, Shenandoah Pa.

The word "TRAJANKA."

Filed April 25, 1905. Serial No. 2,955. PUBLISHED SEPTEMBER 26, 1905.

47,805. DRY BATTERIES. NATIONAL CARBON COMPANY, Cleveland, Ohio.

The word "GLOBE."

Filed April 6, 1905. Serial No. 507. PUBLISHED SEPTEMBER 26, 1905.

47,806. REMEDY FOR CERTAIN NAMED DISEASES. PATTON WORSHAM DRUG CO., Dallas, Tex.

The word "OXIDINE" appearing on the representation of a dragon.

Filed May 1, 1905. Serial No. 3,921. PUBLISHED SEPTEMBER 26, 1905.

47,807. COATED PIPES AND TUBES FOR ELECTRIC CONDUITS. SAFETY ARMORITE CONDUIT COMPANY, Pittsburg, Pa.

The word "GALVADUCT."

Filed June 8, 1905. Serial No. 7,642. PUBLISHED AUGUST 8, 1905.

47,808. TONIC AND BLOOD-PURIFIER. ADA LORETTA SMITH, New York, N. Y.

The representation of a draped female figure having wings and holding in one hand a scroll on which is the word "AZEA" and holding a flower in the other hand, the figure being represented as standing in the foreground of a landscape.

Filed May 3, 1905. Serial No. 4,151. PUBLISHED SEPTEMBER 26, 1905.

47,809. EXTRACTS OF WOODS AND BARKS FOR TANNING AND DYEING. CLINTON A. SPENCER, Boston, Mass.

The word "QUERMOS."

Filed May 29, 1905. Serial No. 6,947. PUBLISHED SEPTEMBER 26, 1905.

47,810. CHEMICAL PREPARATION FOR WASHING AND BATHING. THE CHARLES E. SHOLES COMPANY, New York, N. Y.

The word "TRIOLET."

Filed May 18, 1905. Serial No. 6,044. PUBLISHED SEPTEMBER 26, 1905.

47,811. SALVE. THE KICKAPOO INDIAN MEDICINE CO., Clintonville, Conn.

A representation of the head of a buffalo arranged within a segment of a circle, which rests upon a band, beneath which band is a canoe of Indians, and on opposite sides of the head are bows and arrows, the whole inclosed within a circle, the words "KICKAPOO INDIAN" appearing above the head and the word "SALVE" upon the band.

Filed April 10, 1905. Serial No. 971. PUBLISHED SEPTEMBER 26, 1905.

47,812. COUGH CURE. THE KICKAPOO INDIAN MEDICINE CO., Clintonville, Conn.

The picture of an Indian shown in side view and enveloped in a blanket and holding a bottle in one hand.

Filed April 10, 1905. Serial No. 972. PUBLISHED SEPTEMBER 26, 1905.

47,813. EYE REMEDIES. THE MURINE EYE REMEDY COMPANY, Chicago, Ill.

The word "MURINE."

Filed May 22, 1905. Serial No. 6,339. PUBLISHED SEPTEMBER 26, 1905.

47,814. MEDICAL COMPOUNDS FOR DISEASES OF THE URINOGENITAL ORGANS. THE NO-GON COMPANY, Cleveland, Ohio.

The hyphenated word "No-Gon."

Filed April 24, 1905. Serial No. 3,536. PUBLISHED SEPTEMBER 26, 1905.

47,815. HORSE-BOOTS. THE SELL HORSE GOODS COMPANY, Canton, Ohio.

The words "DAN PATCH."

Filed May 8, 1905. Serial No. 4,760. PUBLISHED SEPTEMBER 26, 1905.

47,816. FLAGS AND BANNERS. UNITED SOCIETY OF CHRISTIAN ENDEAVOR, Boston, Mass.

A monogram consisting of the letters "C E."

Filed June 2, 1905. Serial No. 7,227. PUBLISHED SEPTEMBER 26, 1905.

47,817. REMEDIES FOR DISEASES OF THE STOMACH AND BOWELS. SULTAN DRUG CO., St. Louis, Mo.

The word "SENO."

Filed May 22, 1905. Serial No. 6,268. PUBLISHED SEPTEMBER 26, 1905.

47,818. TILES. BARRETT MANUFACTURING COMPANY, New York, N. Y.

The word "ECONOMITE."

Filed August 21, 1905. Serial No. 11,873. PUBLISHED SEPTEMBER 26, 1905.

47,819. STOVES. COLE MANUFACTURING CO., Chicago, Ill.

The words "COLE'S HOT BLAST FROM CHICAGO" arranged within an oval having an ornamental border.

Filed May 3, 1905. Serial No. 4,061. PUBLISHED SEPTEMBER 26, 1905.

47,820. WATCHES. ELGIN NATIONAL WATCH COMPANY, Elgin and Chicago, Ill.

The words and abbreviation "ELGIN NATIONAL WATCH CO."

Filed April 11, 1905. Serial No. 1,116. PUBLISHED SEPTEMBER 26, 1905.

47,821. DOLLS. B. ILFELDER & Co., New York, N. Y.

The words "LITTLE SWEETHEART."

Filed April 14, 1905. Serial No. 1,462. PUBLISHED SEPTEMBER 26, 1905.

47,822. PILE CARPETS AND RUGS. IVINS, DIRTS & METZGER Co., Philadelphia, Pa.

The words "FRENCH WILTON."

Filed April 17, 1905. Serial No. 1,996. PUBLISHED JUNE 13, 1905.

47,823. PLASTER-OF-PARIS. J. B. KING & Co., New York, N. Y.

The representation of an ecclesiastical cap.

Filed April 27, 1905. Serial No. 3,247. PUBLISHED SEPTEMBER 26, 1905.

47,824. PLASTER-OF-PARIS. J. B. KING & Co., New York, N. Y.

The representation of a square within which the following letter, words, character, and abbreviation appear: "J. B. KING & Co., WINDSOR PLASTER MILLS, STATEN ISLAND, NEW YORK." The square is arranged with the vertex of two angles in a perpendicular line. At the upper and lower points of the square appears a star.

Filed April 27, 1905. Serial No. 3,248. PUBLISHED SEPTEMBER 26, 1905.

47,825. SLEEVE-BUTTONS, COLLAR-BUTTONS, AND STUDS. KREMENTZ & Co., Newark, N. J.

A figure having substantially the parts of an anchor, a shank, a stock, and two arms curled oppositely to each other.

Filed April 13, 1905. Serial No. 1,321. PUBLISHED SEPTEMBER 26, 1905.

47,826. BROOMS, BRUSHES, WHISKS, AND DUSTERS. LEE BROOM & DUSTER COMPANY, Lincoln, Nebr.

The word "LEE."

Filed June 14, 1905. Serial No. 8,097. PUBLISHED SEPTEMBER 26, 1905.

47,827. WRITING-PAPER AND ENVELOPS. MARCUS WARD COMPANY, New York, N. Y.

The word "MONARCH."

Filed April 14, 1905. Serial No. 1,486. PUBLISHED AUGUST 22, 1905.

47,828. CANDIES AND SWEETMEATS. MASON, AU & MAGENHEIMER CONF. MFG. CO., New York, N. Y.

The initial letters and abbreviation "M A M Co" arranged in a triangular-shaped figure.

Filed April 29, 1905. Serial No. 3,680. PUBLISHED SEPTEMBER 5, 1905.

47,829. FIRE-BRICK. NEWTON FIRE BRICK CO., Albany, N. Y.

The word "NEWTON."

Filed August 1, 1905. Serial No. 11,107. PUBLISHED SEPTEMBER 26, 1905.

47,830. MATTRESSES, PILLOWS, CUSHIONS, AND HASSOCKS. OSTERMOOR & Co., New York, N. Y.

The representation of expanded superimposed layers of a fabric material appearing from an opened-up cover on a table and a woman in the act of placing the uppermost layer in position.

Filed April 28, 1905. Serial No. 3,402. PUBLISHED AUGUST 8, 1905.

47,831. MATTRESSES, PILLOWS, CUSHIONS, AND HASSOCKS. OSTERMOOR & Co., New York, N. Y.

The representation of expanded superimposed layers of fabric material appearing from a partly-opened-up cover on a support.

Filed April 28, 1905. Serial No. 3,403. PUBLISHED AUGUST 8, 1905.

47,832. MATTRESSES, PILLOWS, CUSHIONS, AND HASSOCKS. OSTERMOOR & Co., New York, N. Y.

The representation of expanded superimposed layers of a fabric material appearing from a partly-opened-up cover on a table and a woman in the act of attaching a binding to the said cover.

Filed April 28, 1905. Serial No. 3,404. PUBLISHED AUGUST 8, 1905.

47,833. MATTRESSES, PILLOWS, CUSHIONS, AND HASSOCKS. OSTERMOOR & Co., New York, N. Y.

The representation of a tufted mattress in parts, of which one part appears finished or complete and the other part appears partly opened up, disclosing expanded superimposed layers of a fabric material.

Filed April 28, 1905. Serial No. 3,405. PUBLISHED AUGUST 8, 1905.

47,834. CARD GAMES. PARKER BROTHERS, INC., Salem, Mass.

The word "BLOCK."

Filed April 25, 1905. Serial No. 3,535. PUBLISHED AUGUST 29, 1905.

47,835. CIGARS. L. & I. RUBOVITS, Chicago, Ill.

The word "RUBO," associated with a monogram composed of the letters and character "L & I R" upon a circular background of contrasting color inclosed in an ornamental scroll design, the whole being inclosed within the representation of a wreath.

Filed June 2, 1905. Serial No. 7,237. PUBLISHED SEPTEMBER 26, 1905.

47,836. BATH-ROOM FITTINGS FOR HOLDING TOWELS, TUMBLERS, BRUSHES, SOAP, SPONGES, AND TOILET-PAPER. SILVER & COMPANY, New York, N. Y.

The representation of a suspension-bridge and segments of two concentric circles crossed obliquely from side to side by the bridge and forming two fields in the form of segments of an annulus.

Filed May 18, 1905. Serial No. 5,978. PUBLISHED SEPTEMBER 26, 1905.

47,837. FISHING-REELS. THE CHAMBERLIN CARTRIDGE AND TARGET CO., Cleveland, Ohio.

The letters, lines, and word "E—Z—APART."

Filed April 17, 1905. Serial No. 2,074. PUBLISHED SEPTEMBER 26, 1905.

47,838. BULBS AND GLOBES FOR INCANDESCENT AND ARC LIGHTS. THE FOSTORIA GLASS SPECIALTY CO., Fostoria, Ohio.

The word "NOBLAC."

Filed May 8, 1905. Serial No. 4,627. PUBLISHED SEPTEMBER 26, 1905.

47,839. CLAY. THE PHILADELPHIA CLAY COMPANY, Philadelphia, Pa.

The word "TOLANITE."

Filed June 16, 1905. Serial No. 8,230. PUBLISHED AUGUST 8, 1905.

47,840. LATHER-BRUSHES AND BRUSHES FOR APPLYING FLUIDS TO SURFACES. THE RUBBER & CELLULOID HARNESS TRIMMING COMPANY, Newark, N. J.

The word "RUBBERSET."

Filed June 17, 1905. Serial No. 8,432. PUBLISHED AUGUST 22, 1905.

47,841. BROOMS AND WHISK-BRUSHES. THE SOUTHWESTERN BROOM MFG. CO., Evansville, Ind.

The words "LITTLE LADY" and a representation of the full figure of a female holding a broom.

Filed August 5, 1905. Serial No. 11,267. PUBLISHED SEPTEMBER 26, 1905.

47,842. CEMENT PREPARATION FOR COATING METALS AND OTHER SURFACES. TOCH BROTHERS, New York, N. Y.

The word "TOCKOLITH."

Filed August 12, 1905. Serial No. 11,585. PUBLISHED SEPTEMBER 26, 1905.

47,843. COTTON PIECE GOODS. TREMONT & SUFFOLK MILLS, Lowell, Mass.

The word "WICCASSEE."

Filed May 10, 1905. Serial No. 4,970. PUBLISHED SEPTEMBER 12, 1905.

47,844. NEEDLES. FRANK W. WHITCHER, Boston, Mass.

The word "PERFECT."

Filed May 3, 1905. Serial No. 4,173. PUBLISHED JUNE 20, 1905.

47,845. FELT AND SHEATHING PAPER. W. H. RANKIN COMPANY, Elizabeth, N. J.

The representation of an arrow crossed by a crescent, upon which appears the word "PARAGON."

Filed August 21, 1905. Serial No. 11,869. PUBLISHED SEPTEMBER 26, 1905.

47,846. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.

The letters "H C" inclosed in two complementary crescents having their contiguous points united by diamond-shaped figures.

Filed May 13, 1905. Serial No. 5,504. PUBLISHED SEPTEMBER 26, 1905.

47,847. GLUE. CUDAHY BROTHERS CO., Cudahy, Wis.

The word "STICKO."

Filed May 8, 1905. Serial No. 4,755. PUBLISHED AUGUST 8, 1905.

LABELS

REGISTERED NOVEMBER 21, 1905.

12,486.—*Title:* "SALADA." (For Tea.) PETER CHARLES LARKIN, Toronto, Canada. Filed August 26, 1905.

12,487.—*Title:* "TOMATOSE." (For a Beverage.) WILLIAM F. GLANCY, Manchester, N. H. Filed October 5, 1905.

12,488.—*Title:* "FREEZE-EM PICKLE." (For Pickle Compounds.) B. HELLER & Co., Chicago, Ill. Filed June 15, 1905.

12,489.—*Title:* "HIGBEE HEADACHE COLOGNE." (For Cologne.) LYDA AUGUSTA HIGBEE, New York, N. Y. Filed October 7, 1905.

12,490.—*Title:* "POLLACK'S PERFECT." (For Stogies.) POLLACK STOGIE COMPANY, Pittsburg, Pa. Filed October 13, 1905.

12,491.—*Title:* "THE PANAMA ZONE." (For Cigars.) THE PRINCETON CIGAR CO., Chicago, Ill. Filed October 26, 1905.

12,492.—*Title:* "JINJARAIL DROPS." (For Candy.) WILLIAM H. SIMMEN & Co., Baltimore, Md. Filed August 26, 1905.

12,493.—*Title:* "GASTRO CURA." (For Medicine.) I. C. HINKLE GARST, Villa Rica, Ga. Filed October 26, 1905.

12,494.—*Title:* "CASCARA JELLETTES." (For Medicine.) MISSOURI CHEMICAL COMPANY, St. Louis, Mo. Filed October 23, 1905.

12,495.—*Title:* "PNEUMO-GRIPPE CURE." (For Medicine.) JOHN H. WATTS, Seattle, Wash. Filed October 23, 1905.

12,496.—*Title:* "RED STAR MEDICATED COUGH DROPS." (For Cough-Drops.) LEO A. HOGG, Buffalo, N. Y. Filed October 25, 1905.

12,497.—*Title:* "JAP-KOTE." (For Varnish Floor-Stain.) CHARLES STERNSCHUSS & Co., New York, N. Y. Filed September 21, 1905.

PRINTS

REGISTERED NOVEMBER 21, 1905.

1,486.—*Title:* "COOKS' PRIDE." (For Roasted Coffee.) THE EDWARD WESTEN TEA & SPICE Co., St. Louis, Mo. Filed October 23, 1905.

1,487.—*Title:* "BARON'S." (For Welsh Rarebit.) SAMUEL BARON, Brooklyn, N. Y. Filed September 5, 1905.

1,488.—*Title:* "LIBERTY OIL." (For a Liniment.) S. A. YELSCHERT, Galesburg, Ill. Filed September 26, 1905.

1,489.—*Title:* "MEN'S APPAREL." (For Men's Apparel.) W. C. BOTH, Chicago, Ill. Filed October 26, 1905.

1,490.—*Title:* "WOMEN'S APPAREL." (For Women's Apparel.) THE MEYER BOTH Co., Chicago, Ill. Filed October 26, 1905.

1,491.—*Title:* "SHANGHAI." (For Cotton Sheetings, Drills, &c.) JOHN W. HANNA, New York, N. Y. Filed August 29, 1905.

1,492.—*Title:* "SOMETHING NEW IN FURNITURE." (For Furniture.) CHARLES E. SPRATT, New York, N. Y. Filed October 7, 1905.

1,493.—*Title:* "PEERLESS." (For Hot-Water Heaters.) JAMES MCCARTNEY, Chicago, Ill. Filed October 7, 1905.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE KURZ.

Decided October 13, 1905.

1. FEE—FILING FEE NOT APPLIED TO ABANDONED APPLICATION.

A fee which is filed more than a year after the filing of the other parts of the application cannot be applied, inasmuch as the application is abandoned.

2. ABANDONMENT OF APPLICATION BY FAILURE TO COMPLETE—SECTION 4894, REVISED STATUTES.

Under section 4894, Revised Statutes, an application is abandoned by failure to complete it within one year, as well as by failure to prosecute it within one year after completion.

ON PETITION.

VAULT-HEADS.

Messrs. Davis & Davis for the applicant.

ALLEN, *Commissioner:*

This is a petition that a fee of fifteen dollars which has been paid be applied as the first fee upon an incomplete application filed by A. W. Kurz on May 4, 1904. The application of the fee was refused, because it was not paid within one year after the other parts of the application were filed in this Office.

Section 4894 of the Revised Statutes is as follows:

SEC. 4894. All applications for patents shall be completed and prepared for examination within one year after the filing of the application, and in default thereof, or upon failure of the applicant to prosecute the same within one year after any action therein, of which notice shall have been given to the applicant, they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable.

It is clear from the wording of this statute that an application is abandoned by failure to complete it within one year, as well as by failure to prosecute it after completion. The ruling that the present application was abandoned by failure to complete was therefore right, and it follows that the fee cannot be applied to the case.

The petition is denied.

STANDARD VARNISH WORKS v. THE DAVID B. CROCKETT COMPANY.

Decided October 23, 1905.

TRADE-MARKS—INTERFERENCE IN FACT—DIFFERENCE IN APPEARANCE.

Held that there is no interference in fact between two trade-marks including a diamond-shaped figure where each mark includes other features which make the marks in their entirety present very different appearances.

APPEAL on motion.

TRADE-MARK FOR VARNISHES.

Messrs. Brown & Seward for Standard Varnish Works.

Mr. F. W. Smith, Jr., for The David B. Crockett Company.

ALLEN, *Commissioner:*

This is an appeal by The David B. Crockett Company from the decision of the Examiner of Trade-Marks granting a motion for dissolution by the Standard Varnish Works on the ground that there is no interference in fact.

The issue is as follows:

The figure of a boat surrounded by a diamond-shaped border and an exterior diamond-shaped outline, or the representation of a flag, a diamond-shaped figure thereon, a rhomboid within the diamond-shaped figure; for varnishes.

The first part of this issue describes the mark of The David B. Crockett Company and the last part after the word "or" describes the mark of the Standard Varnish Works.

It is noted that both marks include a diamond-shaped figure and both include a broad mark lengthwise within the figure. The similarity, however, extends no further. Each mark has other features which bear no resemblance to each other. The flag in one case finds no counterpart in the other, and the diamond made up of the heavy broad lines in the Crockett Company's case is not present in the mark of the Standard Varnish Works.

While the specific differences would not be of consequence if the general effect upon the eye were substantially the same when the marks are viewed in their entirety, they become material when they make the marks in their entirety present decidedly different appearances. In the present case the marks are, in my opinion, so different that there is no likelihood of confusion in the trade.

The differences in appearance are very pronounced, even where both marks are represented in black and white on the Patent Office drawings, and become still more pronounced when the specimens of the marks as used are considered. In the specimens filed by the Crockett Company the heavy diamond and the boat are printed in red, whereas the mark of the Standard Varnish Works is printed entirely in black.

The Examiner was right in holding that there is no interference in fact, and his decision dissolving the interference is affirmed.

TEMPLIN v. SERGEANT.

Decided October 23, 1905.

1. SUGGESTION OF CLAIMS UNDER AMENDED RULE 96 TO PARTY HAVING NO ALLOWED CLAIMS—BROAD AND NARROW CLAIMS.

Where a party shows a certain structure and claims it broadly and his claims are all rejected and another party claims the same structure more narrowly and such claims are allowed and suggested to the other party, *Held* that there was no error in so suggesting such claims, as both parties were attempting to claim the same invention within the meaning of amended Rule 96.

2. INTERFERENCE—SUGGESTION OF CLAIMS NOT AN IRREGULARITY WARRANTING DISSOLUTION.

The improper suggestion of claims under Rule 96 is not considered such an irregularity in the declaration of the interference as will preclude a proper determination of the question of priority and is not, therefore, a sufficient warrant for dissolving the same.

APPEAL on motion.

PNEUMATIC TOOL.

Messrs. Wiedersheim & Fairbanks for Templin.

Messrs. Chapin, Haywood & Marble for Sergeant.

ALLEN, *Commissioner:*

This is an appeal by Templin from a decision of the Primary Examiner refusing to dissolve the interference on the ground of non-interference in fact and irregularity in the declaration thereof. In the brief filed in support of the appeal argument is made solely on the question of irregularity in the declaration, and as nothing can be found in the record of the proceedings below referring to the question of interference in fact which does not, in fact, relate to Sergeant's right to make the claims this ground will not be considered.

In support of the contention that there has been such irregularity in the declaration of the interference as to preclude the proper determination of priority it is pointed out that the claims of the issue were all originally made by Templin and were suggested to Sergeant at a time when all the claims of Sergeant's application were under final rejection. Attention is also called to the fact that Rule 96, relating to the suggestion of claims, has been recently amended and that such rule as amended has been construed in the decision of *Myers* v. *Brown*, (112 O. G., 2093,) in which it was stated that the purpose of the change in the rule was to effect a discontinuance of the old practice of suggesting claims taken from one case to another party who had disclosed the invention, but who had failed to file any claim based upon such disclosure. Appellant now contends that the Primary Examiner acted in violation of this rule as construed in the decision cited, for the reason that he suggested appellant's allowed claims to a party whose claims all stood under rejection. But while it is true that the Examiner did suggest the claims, as stated, this is not controlling. Both parties show a construction for performing the same function in substantially the same way, and the fact that the claims of one party are broader than the claims of the other does not bring the case within the provisions of the amended rule. In such a case it is clear that the parties were endeavoring to claim the same subject-matter; but it happened that one succeeded in making or chose to make broader claims than the other.

While it is held, for the reasons stated, that the parties to this interference were originally endeavoring to claim the same subject-matter, a determination of this question is entirely unnecessary to the proper disposition of this case. As was stated in the decision to which appellant has called attention, (*Myers* v. *Brown*, *supra*:)

> The question of irregularity in the declaration of an interference relates solely to such informalities in the declaration as prevent the proper determination of the question of priority of invention. No formal errors appear in the declaration of this interference. The issue is clear and the invention is properly defined. Even if it were conceded that the Examiner was not warranted under Rule 96 in suggesting to Brown the claims made by Myers, the fact that he did suggest the claims and that they were made by Brown in accordance with the suggestion would not constitute such an irregularity as to warrant the dissolution of the interference.

The decision of the Primary Examiner is therefore affirmed.

EX PARTE MYERS.

Decided October 28, 1905.

RECOMMENDATION OF CLAIM BY EXAMINERS-IN-CHIEF—REOPENING.

The recommendation of a certain claim by the Examiners-in-Chief under Rule 139 (a) does not act to reopen the case for the admission of any claim other than the one recommended.

ON PETITION.

MOP-WRINGING MACHINE.

Messrs. Risley & Love and *Mr. H. E. Peck* for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Primary Examiner refusing to enter an amendment presented May 18, 1905.

It appears that the Examiner finally rejected claims in this case, and the matter was taken before the Examiners-in-Chief on appeal. They, acting under Rule 139, recommended the allowance of a certain claim not in the case. The applicant thereafter presented the suggested claim in an amendment filed February 14, 1905, and on April 21, 1905, the Examiner rejected the claim on references not before cited. The applicant then presented the amendment of May 18, amending a claim and inserting three new claims.

The question here presented, therefore, is whether the recommendation of a claim by the Examiners-in-Chief reopens the case before the Primary Examiner for consideration of other claims than the one suggested. It is very clear that the recommendation does not have such effect under the specific provisions of the rules and that there are good reasons why it should not have such effect. When a case is ready for appeal, its consideration by the Examiner is closed, and the applicant is not entitled thereafter to amend or to present new claims. If recommendation is made by the Examiners-in-Chief under Rule 139, it is done as a matter of grace and not as something which the applicant has a right to demand. Such recommendation extends no further than to the particular claim or claims suggested and does not reopen the case for the presentation of other claims. The case is not sent back for a new trial, but is referred for action upon the specific claims mentioned. The applicant thereby receives more consideration than he is entitled to demand, and there is no principle upon which this act of grace can be construed as conferring upon him the right to make further demands upon this Office.

The petition is denied.

MARTIN v. MARTIN & BOWNE COMPANY.

Decided October 31, 1905.

1. TRADE-MARKS—NOTICE OF OPPOSITION MUST BE SIGNED BY PARTY DAMAGED.

The notice of opposition to the registration of a trade-mark must be signed and sworn to by the one who would be damaged by the registration.

2. SAME—SAME—NOTICE AND OATH CANNOT BE SIGNED BY ATTORNEY.

The notice of opposition to the registration of a trade-mark cannot be signed and sworn to by the attorney for the party who would be damaged, since the statute requires the personal oath of the party himself.

3. SAME—NOTICE OF OPPOSITION BY ATTORNEY—RATIFICATION BY PRINCIPAL.

Where notice of opposition to the registration of a trade-mark was filed by the attorney and after the thirty days allowed by

the statute the principal filed a paper attempting to ratify the attorney's acts, *Held* that the opposition will be dismissed.

4. SAME—EXTENSION OF TIME FOR OPPOSITION—JURISDICTION OF PATENT OFFICE.

This Office has no jurisdiction to extend the thirty days allowed by statute for oppositions to the registration of trade-marks, and therefore excuses for delay beyond that period are of no effect.

5. SAME—NOTICE OF OPPOSITION—SUFFICIENCY OF NOTICE.

Where the notice of opposition alleges adoption and use of the mark before the applicant company was incorporated and alleges that the mark has not been abandoned and that the opposer is still the owner, *Held* sufficient in substance to call for an answer by the applicant.

ON APPEAL.

TRADE-MARK FOR TOOTH-BRUSHES, ETC.

Messrs. Dunn & Turk for Martin & Bowne Company.

Mr. Joseph L. Levy and *Mr. Howard A. Coombs* for Martin.

ALLEN, *Commissioner:*

This is an appeal by William L. Martin from the decision of the Examiner of Interferences granting a motion by Martin & Bowne Company to quash Martin's notice of opposition to the registration of the word "Marguerite" as a trade-mark for tooth-brushes, etc.

Notice of the application of Martin & Bowne Company was published in the OFFICIAL GAZETTE of May 16, 1905, and within the thirty days fixed by law notice of opposition thereto was filed, signed by Joseph L. Levy as attorney for William L. Martin. Levy made the affidavit accompanying the notice of opposition upon information and belief and therein alleged that Martin was in Europe. Martin is the only one who is claimed to have an interest such as entitled him to oppose the registration. On July 11, 1905, after the thirty days allowed by statute had expired, William L. Martin filed a paper appointing Levy his attorney, and saying:

I * * * hereby confirm all of his acts made herein in my behalf.

On behalf of the Martin & Bowne Company motion was made to quash the opposition, and the Examiner of Interferences granted that motion, saying:

The notice of opposition is dismissed for the reason that it was not verified by the party filing it as required by the statute, and for the further reason that it does not set forth grounds that would warrant the refusal of the Martin and Bowne Company's application for registration.

Considering first the sufficiency of the allegations in the notice of opposition, it appears therefrom that William L. Martin is president of Martin & Bowne Company.

2. That prior to the incorporation of the said Martin & Bowne Co., the said Wm. L. Martin had adopted and used the word "Marguerite" as a trade-mark for tooth-brushes and other toilet-brushes, and had registered the same.

3. That the said William L. Martin has not abandoned his exclusive ownership of the word "Marguerite" as a trade-mark for toilet-brushes; and is now the owner of the legal title thereto.

It is urged, first, that the allegation of adoption and use before the incorporation of Martin & Bowne Company is insufficient, since that corporation may have derived title from some one who used the mark before that time. While it may be true that the corporation is the successor in business of a prior user, and thus derived valid title, notwithstanding the allegations by Martin, it is not believed that this Office would be justified in assuming such to be the fact in the absence of proof. In other words, the corporation may, if the facts warrant it, confess and avoid the allegations made by Martin. It may have a valid defense to the allegations; but it by no means follows that it is relieved of the necessity of alleging and proving it when that defense is not shown and established by the record.

It is further contended that the allegations that Martin has not abandoned the mark and is still the owner state conclusions of law and not the facts upon which they are based and that therefore they are insufficient. This contention cannot be sustained. The allegations are made in connection with the definite allegations of facts in regard to adoption and use by which title was acquired. They constitute sufficiently definite allegations of fact without including a statement of the steps taken in retaining and preserving the title which was acquired.

It must be held that the Examiner was wrong in holding that the allegations in the notice of opposition were insufficient in substance.

The fact that the notice of opposition was not signed and verified by the person in whose behalf it was filed is a vital defect which cannot now be cured and which justifies granting the motion to dismiss.

Section 6 of the act of February 20, 1905, contains this provision:

Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section 2 of this act.

It thus appears that the person making the opposition must be the one who would be damaged by registration and that such person must sign and verify the notice of opposition. The general principle that what a party may do in person he may do by agent has no application here, since the statute requires the personal oath of the party. The making of an oath to a statement of facts obviously cannot be delegated. It must be held, therefore, that the notice of opposition must be signed and verified by the party who would be damaged by registration.

The paper filed by Martin attempting to ratify the action of Levy in filing the notice of opposition can be given no force or validity. Even if it would have been effective if filed within the thirty days allowed by statute it can have no force when filed after the expiration of that time. There was clearly no valid notice of opposition filed within the time allowed. There was no such notice as contemplated by the statute, and it is specifically provided therein—

If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor as hereinafter provided for.

The suggestion is made that the period of thirty days is too short to enable parties to file notice of opposition under circumstances such as developed in this case; but if so the defect is in the statute. This Office has no jurisdiction to extend the period under any circumstances, since it is absolutely fixed by statute.

It must be held that the Examiner was right in dismissing the notice of opposition because not properly signed.

It is to be noted that it is claimed that Martin owns the trade-mark in issue and it may be that he can file an application for registration and secure an interference with Martin & Bowne Company; but that is a matter which need not be passed upon at this time.

The decision of the Examiner of Interferences is affirmed.

EX PARTE BLOCK.

Decided October 31, 1905.

ABANDONMENT—REVIVAL—UNAVOIDABLE DELAY NOT SHOWN.

Unavoidable delay is not made out by the statement that the attorney's copy of the papers in the application was submitted

to prospective buyers, and upon its return to the attorney's office it was mislaid and was not again discovered until after the expiration of the time allowed for action.

ON PETITION.

BOOK-HOLDER.

Mr. Richard W. Barkley for the applicant.

ALLEN, *Commissioner:*

This is a petition for the ruling that the above-entitled application is not abandoned, notwithstanding the fact that there was a delay of more than one year in prosecuting it.

It is stated that the attorney's copy of the papers in the case was submitted to prospective buyers, and upon its return to the attorney's office it was mislaid and was not again discovered until after the expiration of the time for action. It does not appear that there were any circumstances of a compelling nature preventing action at any time within the year, nor does it appear that the applicant wished or intended to act at any time within the year. It must be held, therefore, that the showing does not make it appear that the delay was unavoidable.

The petition is denied.

EX PARTE THE STAR DISTILLERY COMPANY.

Decided October 31, 1905.

1. TRADE-MARKS—"STAR" FOR WHISKY—ANTICIPATION.

A trade-mark for whisky including as an essential feature a star *Held* not registrable in view of prior marks including stars registered under the acts of 1870 and 1881.

2. SAME—ANTICIPATION—EFFECT OF REGISTRATIONS UNDER ACT OF 1870.

While the Trade-Mark Act of 1870 was invalid and registrations thereunder furnished no protection to the registrants, such registrations constitute some evidence of ownership and may be used by this Office as references until overcome in some way by the applicant.

3. SAME—SAME—REGISTRATIONS UNDER ACT 1881 AS REFERENCES.

Registrations under the act of 1881 are not rendered invalid by the act of 1905, and therefore they constitute *prima facie* evidence of ownership. They constitute valid references for applications for registration now filed.

ON APPEAL.

TRADE-MARK FOR WHISKY.

Mr. Alfred Bettman for the applicant.

ALLEN, *Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing to register as a trade-mark for whisky a mark described as follows:

The representation of a star, with a circular band interlaced with the points of the same, associated with the words "Star Distillery."

The refusal of registration was based upon the ground that the appellant's mark so nearly resembles prior known marks as to be likely to be mistaken therefor by the public. The prior known marks to which reference is made are as follows: H. Livingston, May 20, 1873, No. 1,279; Derby & Day, September 9, 1873, No. 1,443; W. H. Livingston, July 12, 1881, No. 8,451; W. L. Horne, November 5, 1889, No. 17,166; Large, Jr., & Rennebaum, August 11, 1891, No. 19,997; Rowland, Raphael & Co., August 13, 1872, No. 954; C. F. Eblen, July 24, 1877, No. 4,936; C. Amsinck & Co., March 16, 1886, No. 13,103; Belmont Distillery Co., December 25, 1888, No. 16,119; Daniel V. B. Henaris, January 9, 1894, No. 24,021; Martin Manning, May 29, 1894, No. 24,782.

In the appeal it is said that the applicant does not "base this appeal upon any question of priority." It may be assumed, therefore, for the purposes of this case that the dates of the references are prior to the date of adoption and use of the mark by the present applicant.

The grounds of appeal are stated as follows:

First, that as regards one of the aforesaid marks, namely No. 17,166, even were the marks identical, there would not be such interference or infringement as to justify a refusal of registration.

Second, that registration under the law of 1905 ought not to be refused by reason of any registrations under the laws of 1870 and 1881, and

Third, that our mark is not so similar to any of the aforesaid marks as to be identical with it, or so nearly resemble it as to be likely to cause confusion or mistake in the mind of the public or to deceive purchasers.

As to the first ground, it is alleged that Horne's registration, No. 17,166, is not sufficiently definite to anticipate this appellant's mark for whisky, since the registered mark is said to have been used upon "alcoholic and fermented beverages." Whisky is of course an alcoholic beverage; but specific mention of whisky is not made in the registration.

The first question to be determined is whether registrations under the act of 1870 and under the act of 1881 constitute such evidence of existing marks as warrants the rejection of an application under the act of February 20, 1905, where the marks disclosed are substantially the same.

The act of 1870 was declared unconstitutional by the Supreme Court, and consequently registrations thereunder were invalid and furnished no protection to the parties securing them. They constitute publications, however, in which the registrants made public claim and affidavit to ownership of the marks disclosed therein. They made that claim, furthermore, before the present applicant entered the field and long before it made claim to ownership. While those registrations do not constitute legal *proof* of ownership, they constitute evidence, and it is believed that this Office is warranted in accepting it as making out a *prima facie* case until overcome in some way by the applicant. The court of appeals said in *re Drawbaugh*, (77 O. G., 313:)

To ascertain these facts, the officials of the Patent Office are not confined to technical evidence, such as may be required in a court of justice. They may resort, and do constantly resort, to OFFICIAL GAZETTES, journals of science and art, and to books and publications of all kinds and descriptions for information that may enlighten them in their investigations, as well as to the files of the Patent Office itself. Any source which brings to them intelligence upon which they can reasonably and safely act, may be consulted and made the basis of their judgment.

Registrations under the act of 1881 are not rendered invalid by the act of February 20, 1905, and therefore those registrations under express provision of law constitute *prima facie* evidence of ownership in the registrants.

It must be held, therefore, that the references cited constitute bars to the registration by this appellant of similar marks. The only question which remains is whether the appellant's mark so nearly resembles those prior marks as to mislead the public.

The appellant's goods will undoubtedly be known as the "star" whisky or the "star brand" whisky.

The mark registered by Rowland, Raphael & Co., No. 954, consists of a star having a monogram thereon. That registered by Livingston consists of the words "Golden Star." That of Derby & Day consists of a star surrounded by a heavy ring. Eblen's mark, No. 4,936, consists of a star with the head of a buffalo thereon. The mark of Amsinck & Co. is described as follows:

Our trade-mark consists of the figure of a star having within it the letter "A."

The mark of the Belmont Distillery Co. consists of a star combined with the word "Astor." That of Large & Rensiehausen consists of a star and nothing else. Manning's mark consists of a star with a monogram and shield thereon. Henarie's mark consists of a star surrounded by the outline of a shield. Horne discloses a star with the word "Horne" and the outline of the moon thereon.

These various registrations show beyond question that this appellant is not the only one who has adopted a star as a trade-mark for whisky. The star has been printed in various forms, in various colors, and with various accessories. It is undoubtedly true that upon close examination the appellant's star and accessories can be distinguished from any one of the prior marks. This, however, is not sufficient to make the appellant's mark registrable. It must be so clearly distinguishable that the public will not be likely to be deceived, and in determining that matter it must be remembered that the public will not examine the marks critically side by side in order to discover differences. The ordinary purchaser has fixed in his mind only certain predominating features of the mark and is likely to be misled by a mark having those features. The star is such a prominent feature, both of the appellant's and of the registered marks, as to constitute the thing by which purchasers would be likely to identify it. It is believed, therefore, that the appellant's mark so nearly resembles prior known marks as to be likely to mislead the public.

It is to be noted that some of the registered marks mentioned above were not relied upon by the Examiner of Trade-Marks as anticipations, although they were cited, the reason for not relying upon them being that their dates were not sufficiently early to overcome the date of use alleged by the appellant. The date of use originally alleged was 1849; but an amendment was filed changing the date to 1888, and, as pointed out in the Examiner's supplemental statement, he now regards the references as anticipations.

The present application was filed under the last clause of section 5 of the act of February 20, 1905, and is supported by an affidavit alleging actual and exclusive use of the mark for ten years next preceding the passage of the act. In view of the prior registrations referred to above it must be held that the applicant has not had exclusive use of the mark for ten years.

It is held that the Examiner was right in refusing to register the appellant's mark, and his decision is therefore affirmed.

EX PARTE WAGNER.

Decided October 31, 1906.

ABANDONMENT OF APPLICATION—DELAY UNAVOIDABLE.

Where upon petition from holding that an application is abandoned it is pointed out that the practice under which the application had been held abandoned was an extension of prior practice and a surprise to applicant and it is further shown that the applicant had been diligently engaged upon the case and it appears that responsive action was taken as soon as the applicant was finally convinced of what was required, *Held* that the delay in taking such action may be considered unavoidable and that the application is not abandoned.

ON PETITION.

TYPE-WRITING MACHINE.

Mr. Burnham C. Stickney and *Mr. William L. Morris* for the applicant.

ALLEN, *Commissioner:*

This is a petition representing that the applicant's prior petition from the action of the Primary Examiner holding the above-entitled reissue application abandoned has been denied and stating that—

> petitioner now makes renewed application for reissue of said Letters Patent and prays that the original specification, oath and drawings may be used as a part of this application.

There is no question in this case of forfeiture and renewal in the sense in which these terms are customarily applied in the prosecution of applications for patent. The petition is evidently intended as a renewal of the prior petition from the action of the Examiner holding the reissue application to have become abandoned through the failure of the applicant to take proper action therein within the year following the final rejection of August 2, 1904. The present petition is accompanied by the affidavit of the attorney setting forth that he has been diligently engaged since the final rejection in endeavoring to advance the condition of the case. Briefs have also been filed in which the propriety of the final rejection is again attacked and the question of the application to reissue applications of the doctrine of abandonment through insufficient prosecution is treated. It is contended that this doctrine was extended by the decision upon the prior petition (*ex parte Wagner*, 118 O. G., 1684) beyond anything to be found in prior decisions and that the applicant was surprised by this decision. An appeal to the Examiners-in-Chief was filed immediately upon the denial of the prior petition.

In view of the allegations of diligence and surprise and in consideration of the fact that the responsive action required by the final rejection—namely, appeal to Examiners-in-Chief—has been taken promptly after the decision in which the applicant claims to have found an unexpected extension of prior practice, it is believed that the delay in taking such action may be considered unavoidable, and it is so held.

It is directed that the case be remitted to the Primary Examiner for such action under the rules as the condition of the application requires.

EX PARTE DONK.

Decided October 31, 1906.

CLAIMS—ALLEGED TO BE VAGUE AND INDEFINITE.

Claims for an apparatus which include, among other elements, an "arrester," a "mechanical separator," and a "chemical separator" are not vague and indefinite on account of their failure to state the specific characteristics of such elements where the description fully and clearly describes the construction referred to by such terms, the objection going to the breadth or scope of the claims rather than to their form.

ON PETITION.

WOOD-DISTILLING APPARATUS.

Mr. Henry A. Seymour for the applicant.

ALLEN, *Commissioner:*

This is a petition from the decision of the Primary Examiner refusing to give an action on the merits of certain claims submitted in an amendment on the ground that they are too vague and indefinite to be understood.

The Examiner has held that the claims are so vague and indefinite that no action can be given on the merits, because of the use of the terms "arrester," "mechanical separator," and "chemical separator." In the specification the mechanical parts to which these terms are applied

appear to be clearly pointed out; but the Examiner takes the position that although this is true "it leaves the scope of these terms undetermined." But the nature of this objection is not very clear, as it is not the purpose of the description to define what constructions other than those particularly described fall within the scope of the descriptive terms used. Where the description has clearly set forth the construction of the invention illustrated, its purpose is accomplished, and in doing this the applicant is permitted some latitude in the selection of terms.

In his action objecting to the form of the claims the Examiner said:

> By reference to the specification we find a certain structure called "an arrester-chamber," another, "a chemical separator" and a third, "a mechanical separator," but we have no means for determining whether the applicant intends to confine his claim to the particular structures, shown in the several cases, or wishes to embrace the several species of which they are, individually, members. No criterion is afforded for determining the limits of the class which the applicant desires to cover, if indeed he does desire to cover a class in each case.

Where a claim calls for a "mechanical separator" without naming the specific features of such separator, it is perfectly clear that it is not the intention to limit the claim to the particular construction shown. It may be true that the Examiner is not able to determine the "limits of the class which the applicant desires to cover;" but this is true of every broad claim. If the Examiner is able to find in the prior art any construction which can fairly be described by that term, it constitutes an anticipation as far as that feature is concerned, and it is unnecessary to determine what other constructions it may cover.

I am of the opinion that the Examiner's objection goes to the breadth or scope of the claims rather than to the form thereof, and it is therefore directed that action be given on the merits.

The petition is granted.

Amended Trade-Mark Rules.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 17, 1905.

The following amendments have been made in the Rules of Practice of this Office relating to the registration of trade-marks:

The following has been added to Rule 17:

> No trade-mark will be registered to an applicant residing or located in a foreign country until such applicant has filed in this Office a certified copy of the certificate of registration of his trade-mark in the country where he resides or is located; such certified copy must be duly authenticated by the certificate of a diplomatic or consular officer of the United States.

The rule so amended reads as follows:

> 17. No trade-mark will be registered to an applicant residing or located in a foreign country unless such country by treaty, convention, or law, affords similar privileges to the citizens of the United States, nor unless the trade-mark has been registered by the applicant in the foreign country in which he resides or is located. In such cases it is not necessary to state in the application that the trade-mark has been used in commerce with the United States or among the States thereof. (See Rule 31.)
>
> No trade-mark will be registered to an applicant residing or located in a foreign country until such applicant has filed in this Office a certified copy of the certificate of registration of his trade-mark in the country where he resides or is located; such certified copy must be duly authenticated by the certificate of a diplomatic or consular officer of the United States.

Present Rule 44 has been canceled and the following substituted therefor:

> 44. Whenever application is made for the registration of a trade-mark which is substantially identical with a trade-mark appropriated to goods of the same descriptive properties, for which a certificate of registration has been previously issued to another, or for registration of which another has previously made application, or which so nearly resembles such trade-mark, or a known trade-mark owned and used by another, as, in the opinion of the Commissioner, to be likely to be mistaken therefor by the public, an interference will be declared.
>
> The practice in trade-mark interferences will follow, as nearly as practicable, the practice in interferences between applications for patents.

The following rules have been added:

> 45. Before the declaration of interference, all preliminary questions must have been settled by the Examiner in charge of trade-marks, and the trade-mark which is to form the subject-matter of the controversy must have been decided to be registrable, and must have been published at least once in the OFFICIAL GAZETTE of the Patent Office.
>
> Whenever two or more applicants are found to be claiming the same registrable trade-mark, the Examiner of Trade-Marks, when the application of one of the applicants is ready for publication, may require the other applicants to put their applications in condition for publication within a time specified, in order that an interference may be declared. If any party fails to put his application in condition for publication within such time specified, the declaration of interference will not be delayed, but, after judgment of priority, the application of such party will be held for revision and restriction, subject to interference with other applications or registered trade-marks.
>
> 46. The Examiner in charge of interferences may, either before or in his decision on the question of priority, direct the attention of the Commissioner to any matter not relating to priority which may have come to his notice, and which, in his opinion, establishes the fact that no interference exists, or that there has been such irregularity in declaring the same as will preclude a proper determination of the question of priority, or which amounts to a statutory bar to registration of the mark to any or all of the parties to the interference. The Commissioner may, before judgment on the question of priority, suspend the interference and remand the same to the Examiner of Trade-Marks for his consideration of the matters to which attention has been directed. If the case be not so remanded, the Examiner in charge of trade-marks will, after judgment, consider any matter affecting the rights of either party to registration which may have been brought to his attention, unless the same shall have been previously disposed of by the Commissioner. From the decision of the Examiner of Trade-Marks, appeal may be taken, as in other cases.
>
> 47. Motions to dissolve an interference upon the ground that no interference in fact exists, or that there has been such irregularity in declaring the same as will preclude a proper determination of the question of priority, or which deny the registrability of an applicant's mark, should, if possible, be made not later than the twentieth day after the notices of the interference have been mailed. Such motions, and all motions of a similar character, should be accompanied by a motion to transmit the same to the Examiner in charge of trade-marks, and such motion to transmit will be noticed for hearing upon a day certain before the Examiner in charge of interferences. When in proper form, the motion presented will, with the files and papers, be transmitted by the Examiner in charge of interferences for determination to the Examiner in charge of trade-marks, who will thereupon fix a day certain when said motion will be heard before him upon the merits, and give notice thereof to all the parties. If a stay of proceedings be desired, a motion therefor should accompany the motion for transmission.
>
> Motions to shift the burden of proof should be made before, and will be determined by, the Examiner in charge of interferences. No appeal from the decision on such motion will be entertained, but the matter may be reviewed on appeal from the final decision upon the question of priority.
>
> 48. The decision of the Examiner in charge of trade-marks, upon a motion for dissolution, will be binding upon the Examiner in charge of interferences unless reversed or modified on appeal. Unless appeal be taken within the time limited for appeal, the Examiner in charge of trade-marks will return the files and papers with his decision to the Examiner in charge of interferences.

Rules 45 to 69, inclusive, have been renumbered as 49 to 73, inclusive.

F. I. ALLEN,
Commissioner.

THE

OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 119—No. 4. TUESDAY, NOVEMBER 28, 1905. PRICE—$5 per year.

CONTENTS.

	Page.
ISSUE OF NOVEMBER 28, 1905	967
TRADE-MARKS	967
ATTORNEYS	967
TRADE-MARK RULES	967
APPLICATIONS UNDER EXAMINATION	968
PRINTED COPIES OF PATENTS	968
PATENTS GRANTED	969
REISSUES	1231
DESIGNS	1231
TRADE-MARKS—REGISTRATION APPLIED FOR	1233
TRADE-MARKS—REGISTERED	1251
LABELS	1256
PRINTS	1256
COMMISSIONER'S DECISIONS—	
Taylor v. Westinghouse	1257
Ex parte Burschik	1258
Ex parte Stevens	1258
Ball v. Rego	1258
McGill v. Adams	1259
Ex parte Miller	1259
Vreeland v. Fessenden v. Schloemilch	1259
Steinmetz v. Thomas	1260
Hoyt v. Sanders v. Hawthorne	1260
Dunn v. Halliday	1261
Goldsmith v. United Shirt Vest Company	1261

ISSUE OF NOVEMBER 28, 1905.

Patents	656	No. 805,434 to No. 806,089, inclusive.
Designs	8	No. 37,699 to No. 37,706, inclusive.
Trade-Marks	129	No. 47,848 to No. 47,976, inclusive.
Labels	24	No. 12,498 to No. 12,521, inclusive.
Prints	9	No. 1,494 to No. 1,502, inclusive.
Reissues	1	No. 12,413.
Total issue	827	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	2	Nevada	.....	.....
Alaska, District of	1	.....	New Hampshire	2	.....
Arizona Territory	.....	.....	New Jersey	31	2
Arkansas	4	.....	New Mexico Ter't'y	1	.....
California	26	2	New York	87	42
Colorado	3	1	North Carolina	2	.....
Connecticut	15	3	North Dakota	3	.....
Delaware	.....	.....	Ohio	48	38
District of Columbia	1	.....	Oklahoma Territ'y	5	2
Florida	.....	.....	Oregon	4	1
Georgia	5	1	Pennsylvania	75	9
Hawaii Territory	1	.....	Porto Rico	.....	.....
Idaho	1	.....	Rhode Island	7	1
Illinois	60	4	South Carolina	.....	.....
Indian Territory	1	.....	South Dakota	1	.....
Indiana	15	5	Tennessee	3	4
Iowa	12	1	Texas	11	.....
Kansas	13	2	Utah	1	.....
Kentucky	3	3	Vermont	1	1
Louisiana	5	2	Virginia	4	4
Maine	1	.....	Washington	7	.....
Maryland	11	2	West Virginia	3	1
Massachusetts	33	7	Wisconsin	14	2
Michigan	31	3	Wyoming	1	1
Minnesota	7	2	U. S. Army	.....	.....
Mississippi	1	.....	U. S. Navy	.....	.....
Missouri	26	9			
Montana	2	.....	Total to citizens of the United States	805	157
Nebraska	3	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Netherlands	.....	.....
Austria-Hungary	3	.....	Newfoundland	.....	.....
Belgium	.....	.....	New South Wales	.....	.....
Brazil	1	.....	New Zealand	.....	.....
British West Indies	.....	.....	Norway	.....	.....
Canada	11	5	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Roumania	.....	.....
China	.....	.....	Russia	1	.....
Costa Rica	.....	.....	San Salvador	.....	.....
Cuba	.....	.....	Scotland	2	.....
Denmark	.....	.....	South Africa	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	15	.....	Sweden	3	.....
France	10	.....	Switzerland	1	.....
Germany	18	.....	Transvaal, South Africa	1	.....
India	.....	.....	Victoria	2	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	1	.....			
Japan	.....	.....			
Java	.....	.....	Total to citizens of foreign countries	69	5
Mexico	.....	.....			

Trade-Marks.

The publication of trade-marks under the act of February 20, 1905, in the OFFICIAL GAZETTE, commenced May 2, 1905, and will appear in each weekly number of the GAZETTE thereafter.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment therefor.

Attorneys.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington D. C., November 22, 1905.

This Office has been advised by the Secretary of the Interior of the disbarment of the following attorneys from practice before the Department or any Bureau thereof: Robert C. Taylor Stonycreek, Tenn., November 20, 1905; Orestes B. Wright, Scranton, Pa., November 20, 1905.

C. M. IRELAN,
Chief Clerk.

Trade-Mark Rules.

Amended Rule 17.

17. No trade-mark will be registered to an applicant residing or located in a foreign country unless such country by treaty, convention, or law, affords similar privileges to the citizens of the United States, nor unless the trade-mark has been registered by the applicant in the foreign country in which he resides or is located. In such cases it is not necessary to state in the application that the trade-mark has been used in commerce with the United States or among the States thereof (See Rule 31.)

No trade-mark will be registered to an applicant residing or located in a foreign country until such applicant has filed in this Office a certified copy of the certificate of registration of his trade-mark in the country where he resides or is located; such certified copy must be duly authenticated by the certificate of a diplomatic or consular officer of the United States.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business November 21, 1905.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
	In arrears—Under one month.			
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Nov. 11	Aug. 11	222
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Nov 7	Oct. 14	411
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Nov. 7	Oct. 12	250
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Nov. 7	Sept. 22	397
167	V. Fine Arts, Bookbinding, Harvesters, Jewelry, and Music.	Nov. 7	Sept. 20	276
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Nov. 7	July 17	572
222	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Nov. 6	Oct. 14	294
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Nov. 6	Sept. 14	416
303	XVII. Linotyping, Printing, Matrix-Making.	Nov. 6	Aug. 10	346
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Nov. 4	Sept. 20	209
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Nov. 3	Aug. 14	511
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Nov. 1	Sept. 25	214
147	XXIX. Coopering, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools.	Oct. 31	Aug. 26	359
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Oct. 30	Sept. 18	375
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Oct. 30	Sept. 18	217
312	VII. Velocipedes, Clutches, Fire-Escapes, Games and Toys, Ladders, Mechanical Motors, and Paper Manufactures.	Oct. 28	May 15	570
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Oct. 26	Aug. 25	254
222	X. Carriages and Wagons.....	Oct. 23	Aug. 14	602
	Between one and two months.			
234	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Oct. 19	Sept. 8	402
282	IV. Bridges, Conveyors, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Oct. 18	Oct. 16	338
237	XVIII. Steam-Engineering, etc ...	Oct. 16	Aug. 21	370
269	XVI. Telegraphy and Telephony..	Oct. 14	Sept. 25	197

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Oct. 13	July 22	576
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Sept. 28	June 14	664
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Optics, Signals, Time Controlling Mechanism.	Sept. 25	Aug. 9	611
307	XIV. Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Metal Personal Wear, Making, Nut and Bolt Locks, Sheet-Metal Ware, Making, Tools, Wire-Working.	Sept. 25	Aug. 3	307
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, Sewerage, and Water Distribution.	Sept. 25	May 22	950
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufacturing, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Sept. 23	July 11	436
123	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Sept. 21	June 15	507
	Between two and three months.			
154	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Sept. 20	July 2	663
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Sept. 14	July 13	589
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Sept. 5	July 3	457
220	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Sept. 1	Aug. 3	579
232	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Sept. 1	May 6	894
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Aug. 22	Apr. 10	684
	Between three and four months.			
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	July 29	June 6	636
	Between four and five months.			
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 17	July 20	534
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	July 17	May 8	606

Total number of applications awaiting action 17,845

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Between one and two months.			
	Trade-Marks.....	Oct. 10	Sept. 13	1328
	Under one month.			
	Designs.....	Nov. 20	Nov. 13	17
	Labels and Prints.....	Nov. 13	Nov. 16	35

Printed Copies of Patents.

A printed copy of the complete specification and drawings of any patent published herein can be obtained for five cents.

PATENTS

GRANTED NOVEMBER 28, 1905.

805,434. **VEHICLE-TIRE.** LEMUEL B. ALLEN and WILLIAM J. POTTER, Canton, Ohio. Filed May 11, 1905. Serial No. 260,020.

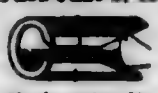


Claim.—1. In a tire for vehicles of the class described a series of chambers formed in the tire, said chambers separated by radial partitions, integral members located through the chambers and between the radial partitions, said integral members extended parallel with the felly upon which the tire is mounted, substantially as and for the purpose specified.

2. In a tire of the class described, a felly provided with a retaining-rib and a tire formed of elastic material, said tire provided with a neck portion adapted to be located in the felly, said neck portion provided with an annular groove, spaced openings communicating with the annular groove, spaced chambers formed in the tire and the spaced openings communicating with the spaced chambers, substantially as and for the purpose specified.

3. In a tire, the combination of a felly provided with inturned flanges and a center rib, a tire formed of elastic material and provided with a neck portion, said neck portion provided with a groove, said groove adapted to receive the center rib of the felly, spaced chambers formed in the tire and integral members adapted to span the chambers and said integral members formed of elastic material, substantially as and for the purpose specified.

805,435. **HORSESHOE-CALK.** CARL E. ANDERSON and DAVID GREEN, New York, N. Y. Filed June 9, 1905. Serial No. 264,519.



Claim.—1. A hollow calk longitudinally cleft throughout its entire length, the walls of the cleft being oppositely inclined for a portion of their length, and an expanding-wedge adapted to coact with the inclined parts.

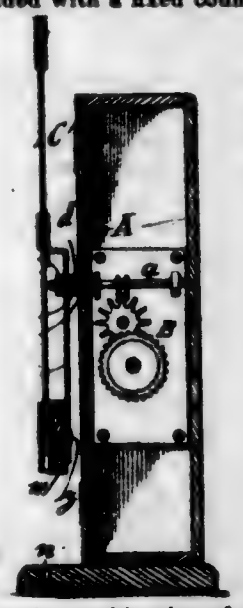
2. A longitudinally-cleft hollow calk, the walls of the cleft being oppositely inclined for a portion of their length, an expanding-wedge adapted to coact with the inclined parts, and a filler.

3. The combination with a horseshoe provided with a smooth-walled socket, of a longitudinally-cleft hollow calk seated within the socket, the walls of the cleft being oppositely inclined for a portion of their length, an expanding-wedge coacting with the walls to lock the calk within the socket, and a filler.

805,436. **METRONOME.** LUDWIG AUERBACHER, West Hoboken, N. J. Filed Sept. 27, 1904. Serial No. 226,124.

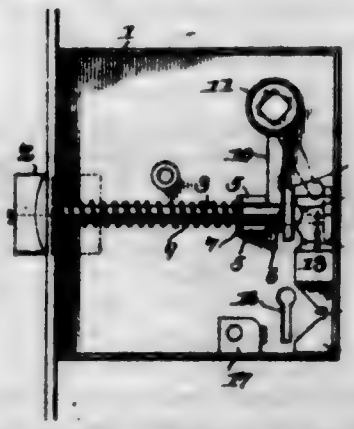
Claim.—1. In a metronome, the combination of an actuating mechanism, an arbor driven by the same and an extensible pendulum, comprising a weighted guide member attached to the end of said arbor and having alined terminal longitudinally-disposed guides, and an adjusting member movable in said guides, said adjusting member being provided with a fixed counterweight and having graduations extending from the lower toward the upper end for registering with the edge of the upper guide.

2. In a metronome, the combination of an actuating mechanism, an arbor driven by the same, and an extensible pendulum, comprising a guide member attached to said arbor, a guide-sleeve on the upper end of said member, a weight attached to the lower end of said guide member, said weight being provided with a guide, alined with the upper guide-sleeve, and a graduated adjusting member movable in said guides and provided with a fixed counterweight.



3. In the metronome, the combination of a casing having a forwardly-extending base provided upon the upper surface of its extension with a recess or notch, an actuating mechanism in said casing, an arbor driven by the same, and an extensible pendulum attached to the end of said arbor, said pendulum comprising a weighted guide member and an adjusting member, provided with a fixed counterweight at its upper end, the adjusting member being vertically in line with said notch and adapted to be retained by said notch when in inoperative position.

805,437. **DOOR-LOCK.** JOHN G. BAMER, Grand Rapids, Mich. Filed Mar. 3, 1905. Serial No. 248,263.



Claim.—1. In a lock, the combination with a casing, of a pair of guides, a knob-latch having a shank disposed between the guides and provided at its inner end with a head, a tumbler projecting between the guides and having a head mounted upon the shank, and a bolt having an abutment to be moved into and out of the path of movement of the head and provided with seats to be engaged by the tumbler to hold the bolt in operative or inoperative positions relatively to the latch.

2. The combination with a lock-casing provided with a pair of guides, of a knob-latch having a shank working between the guides and provided on its inner end with a head, a knob-shank hub carrying an arm having its free end disposed between the head and one of the guides, a tumbler projecting between the guides and having a head through which the shank projects, a spring mounted on the shank and bearing at one end against the tumbler-head, and a bolt having an abutment adapted to be moved into and out of the path

of movement of the shank-head and provided with seats to be engaged by the tumbler to lock the bolt at the desired adjustment.

805,438. BIFOCAL LENS. LOUIS BELL, Brookline, Mass. Filed June 16, 1905. Serial No. 265,516.

Claim.—1. A lens comprising two portions whereof one has a local convexity and the other a corresponding local concavity, the convexity and concavity juxtaposed.

2. A lens comprising two portions whereof one has a local convexity and the other a corresponding local concavity, the convexity and concavity juxtaposed with a medium between the two portions of the lens, said medium having a refractive index substantially the same as that lens portion on which is formed the local convexity.

3. A lens composed of two portions of different refractive index, one having a local concavity and the other a local convexity which fills the local concavity of the other.

4. A lens composed of two portions of different refractive index, one having a local concavity and the other a local convexity filling the local concavity of the other and in adhesive contact therewith.

5. A bifocal lens composed of two crown-glass portions which differ in refractive index, the one of higher refractive index having a local convexity and the other an opposed local concavity, the two lenses being placed in adhesive contact.

6. A bifocal lens composed of two crown-glass pieces which differ not less than .04 in their respective refractive indices, the one of the said lenses which has the higher refractive index having a local convexity and the other a corresponding opposed local concavity, and a medium, of refractive index substantially equal to that of the lens portion having the greater refractive index, to maintain the two pieces in adhesive contact.

7. A lens composed of two portions of different refractive index one having a local concavity and the other a local convexity opposed to the local concavity, and a cement whereof the refractive index is substantially the same as that of the lens portion which covers said local convexity, to maintain the two pieces in adhesive contact.

8. A bifocal lens composed of two portions one having a local convexity and the other an opposed local concavity of equal radius of curvature to that of the local convexity, and a medium of refractive index substantially equal to that of the portion carrying the local convexity, to cement the two portions together.

9. A bifocal lens composed of a base-lens having a local convexity developed on a surface elsewhere concave and a cover-glass of lower refractive index fitting the compound surface of the base-lens and cemented thereto by a medium of refractive index substantially equal to that of the base-lens.

805,439. LIGHTNING-ARRESTER. ARTHUR J. BERRY, Marion, Ohio. Filed Feb. 25, 1905. Serial No. 247,294.



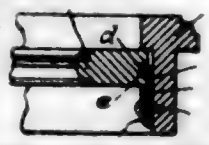
Claim.—1. A lightning-arrester comprising concentric tubes, and plugs of insulating material closing the ends of said tubes and supporting them in fixed relation, and having outer flanges notched in their edges to provide seats to properly position the coöperating wires.

2. A lightning-arrester comprising concentric tubes, plugs of insulating material closing the ends of the tubes and supporting the latter in fixed relation, and a wire having its end portions passed through openings of the plugs and bent against the outer ends thereof to retain the plugs in position.

3. A lightning-arrester comprising concentric tubes, plugs of insulating material closing the ends thereof and holding the tubes in fixed position, and a jumper-wire passed through openings of the plugs and having its end portions bent to engage with the outer ends of said plugs to hold them in place and serving as means for securing the arrester to the line-wire.

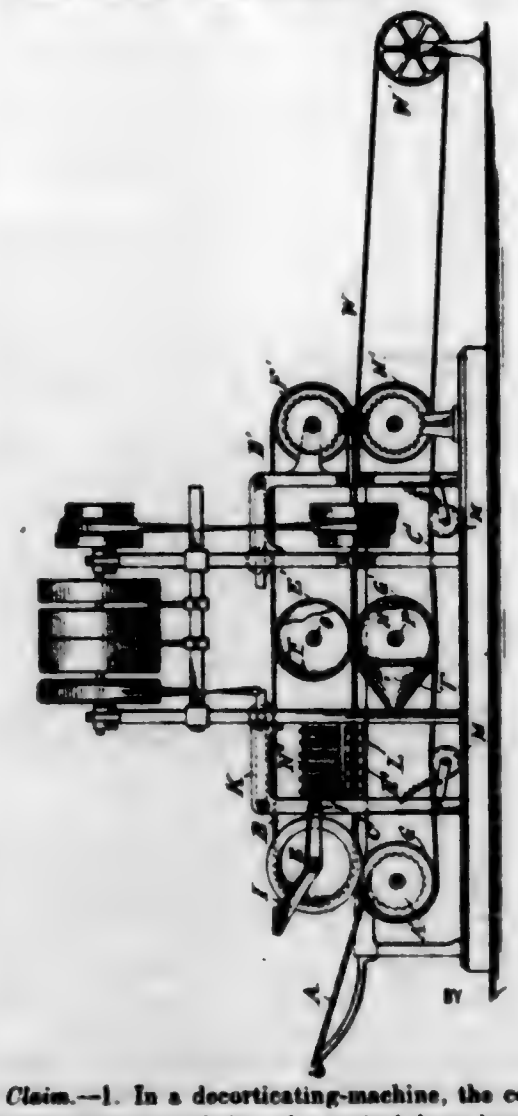
4. A lightning-arrester comprising concentric tubes, plugs of insulating material closing the outer ends of the tubes and supporting the same in determinate position, a jumper-wire for securing the tubes and plugs together and serving to connect the arrester to the line-wire, and a ground connection electrically connected with one of said tubes.

805,440. WINDOW. GEORGE A. BINGHAM, Swanzey, N. H. Filed Mar. 11, 1905. Serial No. 249,879.



Claim.—The combination with a window-frame and a sash arranged to slide in the frame and having a groove in its end face; of a stop-strip *c* arranged in the frame in front of the sash and having its face *m* adjacent to the stile of the frame cut away, a spring-strip bent transversely and having a free edge provided with a rib interposed between the frame and the sash and disposed in the groove of the latter and also having a portion interposed between the cut-away face *m* of stop-casing *c* and the stile of the frame, and means fixedly connecting the stop-strip *c* and the said portion of the spring-strip to the said stile of the frame.

805,441. FIBER-CLEANING MACHINE. HUBERT J. BOEKEN, Düren, Germany. Filed Dec. 20, 1904. Serial No. 237,671.



Claim.—1. In a decorticating-machine, the combination with two pairs of conveyer-belts, of a conical drum located between the upper and lower strands of one belt for conveying the leaves from one pair of belts to the other, means for rotating this drum and means for scraping leaves held by the pairs of belts, substantially as set forth.

2. In a decorticating-machine, the combination with two sets of conveyer-belts side by side, which overlap laterally at their inner ends, of a cone-drum located between the upper and lower strands of one belt, at the delivery end of the same, the larger diameter of the cone-drum being near the delivery end of the belt and means for rotating said cone-drum, which cone-drum serves for transferring leaves from one pair of belts to the other, substantially as set forth.

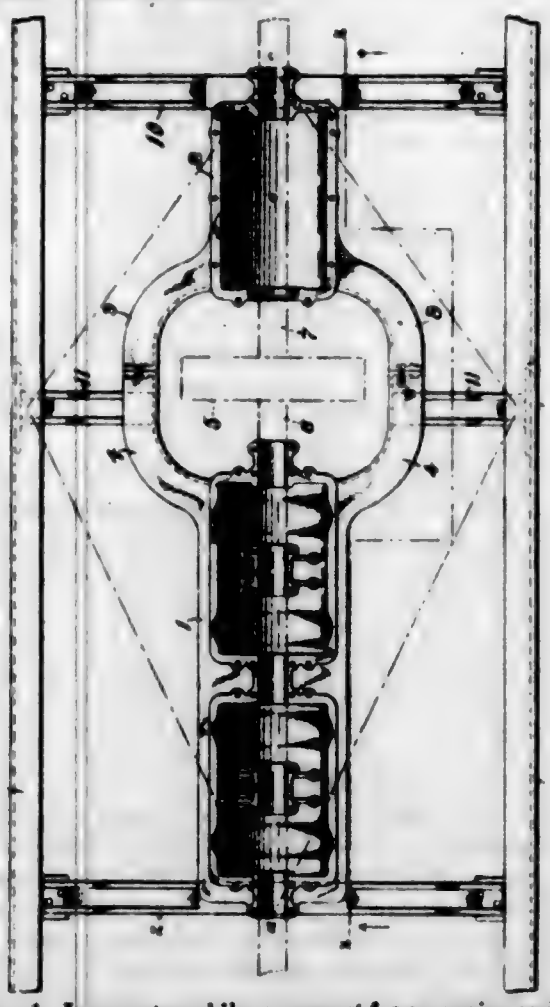
3. In a decorticating-machine, the combination with two sets of endless conveyer-belts side by side, and which overlap at their inner ends, of a cone-drum located between the upper and lower strands of one belt, at the delivery end of the same, the larger diameter of the cone-drum being near the delivery end of the belt, which cone-drum serves for transferring leaves from one set of belts to the other, and

means for rotating said drum from the shaft on which the inner belt-pulley is mounted, substantially as set forth.

4. In a decorticating-machine, the combination with two sets of endless conveyer-belts, each set consisting of an upper and a lower belt, the inner ends of said belts overlapping laterally, a scraping-drum mounted at one side of one belt, and a scraping-drum mounted on the other side of the other belt, and a conical transfer-drum located between the upper and lower strand of one lower belt at the delivery end of the same, substantially as set forth.

5. In a decorticating-machine, a holding and conveyer belt composed of groups of leather straps on edge, which groups are separated a short distance from each other, rivets passed through the groups of straps on edge, washers between the groups and sheet-metal links incorporated in the outer groups of straps, through which metal links the rivets pass, substantially as set forth.

805,442. AUTOMOBILE-ENGINE SUSPENSION. FRED H. BOGART, New Britain, Conn., assignor to The Corbin Motor-Vehicle Corporation, New Britain, Conn., a Corporation of Connecticut. Filed Apr. 4, 1905. Serial No. 253,817.



Claim.—1. In an automobile, a support for an engine and transmission mechanism comprising a continuous frame or base for said engine and transmission, said base being supported at or near its forward and rear ends in a line substantially parallel with the sills of the vehicle, and an intermediate support between the aforesaid supports and arranged at substantially right angles thereto.

2. In an automobile, a support for an engine and transmission mechanism comprising a frame or base for said parts, said base being supported at or near its forward and rear ends in a line substantially parallel with and centrally relatively to the sills of the vehicle, and a transverse support connecting said base with said sills at a point intermediate the length of said base.

805,443. PROCESS FOR THE PREPARATION OF WATER-SOLUBLE VASELINE. FRIEDRICH BOLEG, Cannstatt, Germany, assignor to Gesellschaft zur Verwertung der Boleg'schen Wasserlöslicher Mineralöle und Kohlenwasserstoffe, Gesellschaft mit Beschränkter Haftung, Berlin, a Corporation of Germany. Filed Mar. 8, 1904. Serial No. 197,171.

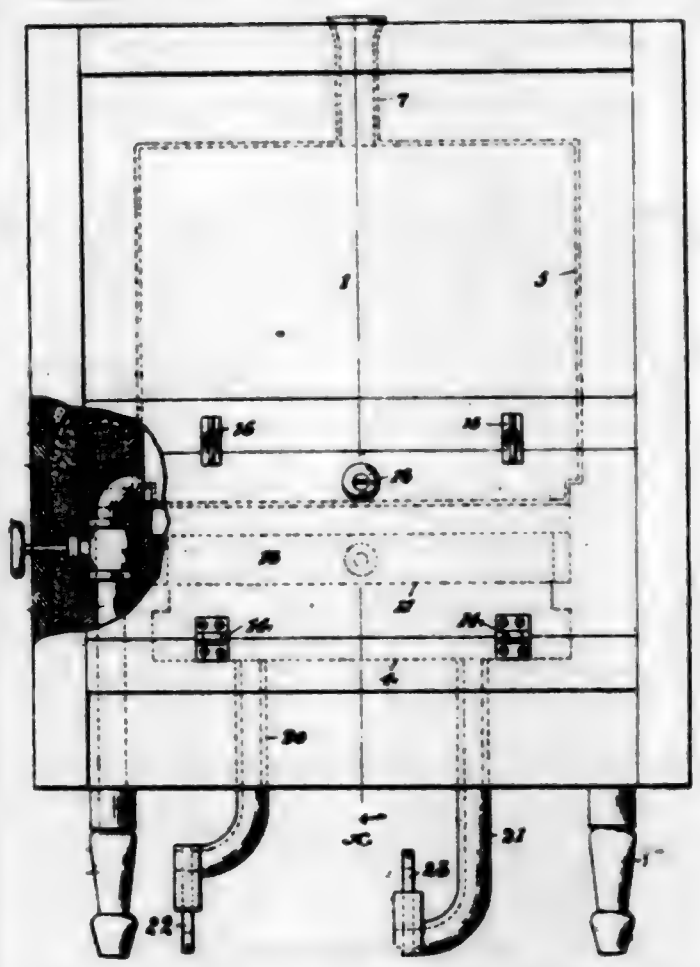
Claim.—1. The process of preparing water-soluble vaseline, which consists in adding to vaseline a water-soluble oil, intimately mixing and allowing to cool.

2. The process of preparing water-soluble vaseline, which consists in intimately mixing vaseline and ten to fifteen per cent. of water-soluble mineral oil.

3. The process of preparing water-soluble vaseline, which consists in intimately mixing with melted vaseline ten to fifteen per cent. of water-soluble oil at a low temperature and allowing to cool.

4. The process of preparing water-soluble vaseline, which consists in adding to melted vaseline ten to fifteen per cent. of water-soluble mineral oil at a temperature of 40° to 50° Celsius and intimately mixing while cooling.

805,444. INCUBATOR. RICHARD A. BOYER, Vallsburg, and FRED KINNEY, South Boundbrook, N. J. Filed Sept. 19, 1904. Serial No. 224,969.



Claim.—1. In an incubator, the combination with a body portion providing an interior chamber, means for heating the same, an egg-drawer in said chamber, and supporting-legs for said body portion, of a moisture-tube leading from said chamber through the bottom of the body portion of the incubator and being approximately of the same length as the said supporting-legs, whereby said moisture-tube terminates close to the ground.

2. In an incubator, the combination with a body portion providing an interior chamber, means for heating the same, an egg-drawer in said chamber, and supporting-legs for said body portion, of a moisture-tube leading from said chamber through the bottom of the body portion of the incubator and being approximately of the same length as the said supporting-legs, whereby said moisture-tube terminates close to the ground, and valve means at the extremity of said tube.

3. In an incubator, the combination with a body portion providing an interior chamber, means for heating the same, an egg-drawer in said chamber, and supporting-legs for said body portion, of a moisture-tube leading from said chamber through the bottom of the body portion of the incubator and being approximately of the same length as the said supporting-legs, whereby said moisture-tube terminates close to the ground, and a ventilating-tube also leading from said chamber through the bottom of the body portion of the incubator and terminating adjacent thereto.

4. In an incubator, the combination with a body portion providing an interior chamber, means for heating the same, an egg-drawer in said chamber, and supporting-legs for said body portion, of ventilating and moisture tubes leading from said chamber through the bottom of the body portion of the incubator, the moisture-tube being longer than the ventilating-tube, valve means at the extremities of said tubes, and supporting means for the incubator projecting below the same a distance substantially equal to the moisture-tube.

5. In an incubator, the combination with a chamber, means for heating the same and an egg-drawer adapted to slide in said chamber, of ventilating and moisture tubes leading from said chamber through the bottom of the incubator and providing open ends dis-

posed in vertical planes, the moisture-tube being longer than the ventilating-tube, and supporting means for the incubator projecting below the same a distance substantially equal to the moisture-tube.

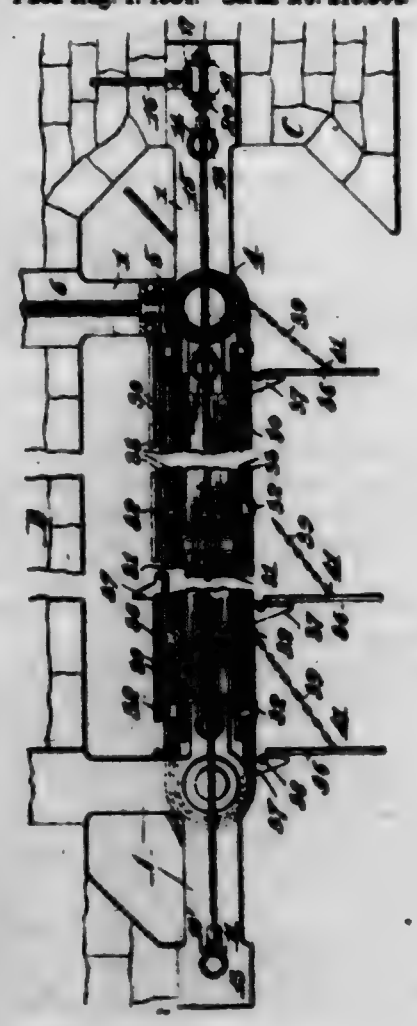
805,445. SEAL. EDWARD J. BROOKS, East Orange, N. J. Filed June 20, 1905. Serial No. 266,745.



Claim.—1. The combination, in a seal, of a shackle-wire having a resilient bow and a pair of shackle ends, one of them straight elongated and provided with a separation-preventing stop, and the other in the form of a hook, and a compressible seal part of lead adapted to permanently connect said shackle ends when the seal is press-fastened, said seal part being constructed with a hole within which said straight shackle end is slidable to open and close the seal preparatory to the press-fastening operation and with a recess adapted to interlock with said hook.

2. The combination, in a seal, of a shackle-wire having a resilient bow and a pair of shackle ends one of them straight elongated and provided with a separation-preventing stop, and the other in the form of an L-shaped hook the extremity of which projects laterally outward, and a compressible seal part of lead adapted to permanently connect said shackle ends when the seal is press-fastened, said seal part being constructed with a hole within which said straight shackle end is slidable to open and close the seal preparatory to the press-fastening operation, and with an L-shaped recess adapted to interlock with said hook and including a lateral portion fitted to its said extremity and extending outward through the adjacent edge of the seal part, whereby the parts are adapted to be inseparably connected with each other at the factory and both extremities of the shackle-wire are exposed to view after the seal is press-fastened, substantially as hereinbefore specified.

805,446. CURRENT-MOTOR. HAVILAH G. BROWN, Tuxedo Park, Mo., assignor of two-thirds to David C. Edwards and Frank Clark, St. Louis, Mo. Filed Aug. 1, 1904. Serial No. 218,964.



Claim.—1. In a current-motor, the combination of traveling water-impact-receiving members, means by which said members are carried, and means whereby said members and carrying means are raised; said raising means consisting of bed-slabs by which said carrying means are supported, and means for lifting said slabs, substantially as set forth.

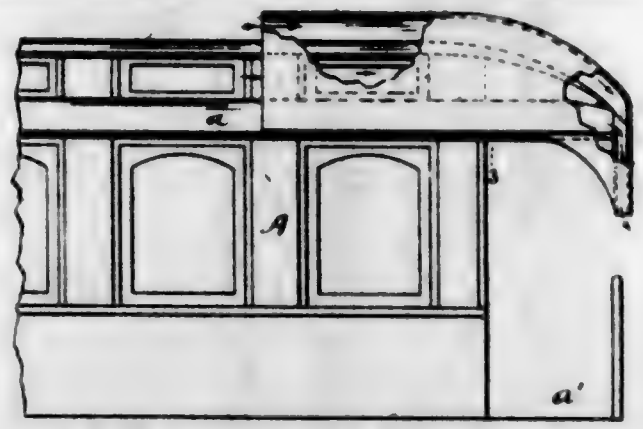
2. In a current-motor, the combination of traveling water-impact-receiving members, means by which said members are carried, and means whereby said members and carrying means are raised; said raising means consisting of bed-slabs by which said carrying means are supported, yokes connected to said slabs, and means for lifting said yokes, substantially as set forth.

3. In a current-motor, the combination of traveling water-impact-receiving members, means by which said members are carried, and means whereby said members and carrying means are raised; said raising means consisting of bed-slabs by which said carrying means are supported, yokes connected to said slabs, lift-screws fitted to said yokes and means for operating said lift-screws, substantially as set forth.

4. In a current-motor, the combination of a pair of vertical shafts, sleeves slidably fitted to said shafts, endless blade-carrying members operating on said sleeves, and means for lifting said sleeves and the endless blade-carriers operating thereon, substantially as set forth.

5. In a current-motor, the combination of endless chains, blades carried by said chains, shafts to which said chains are geared, boxes in which the lower ends of said shafts are stepped; said shafts being provided at their lower ends within said boxes with spiral grooves, substantially as set forth.

805,447. DUST-GUARD FOR RAILWAY-CARS. WILLIAM H. BROWN, Chicago, Ill. Filed Jan. 13, 1905. Serial No. 240,756.



Claim.—1. A dust-preventer for railway-cars comprising a hood secured to the car-roof and extending downwardly over the end thereof, there being air inlet and discharge spaces at the front and rear of said hood.

2. A dust-preventer for railway-cars comprising a hood secured to the car-roof and curving down over the end thereof substantially in line with the end of the platform, there being air inlet and discharge spaces at the front and rear of said hood.

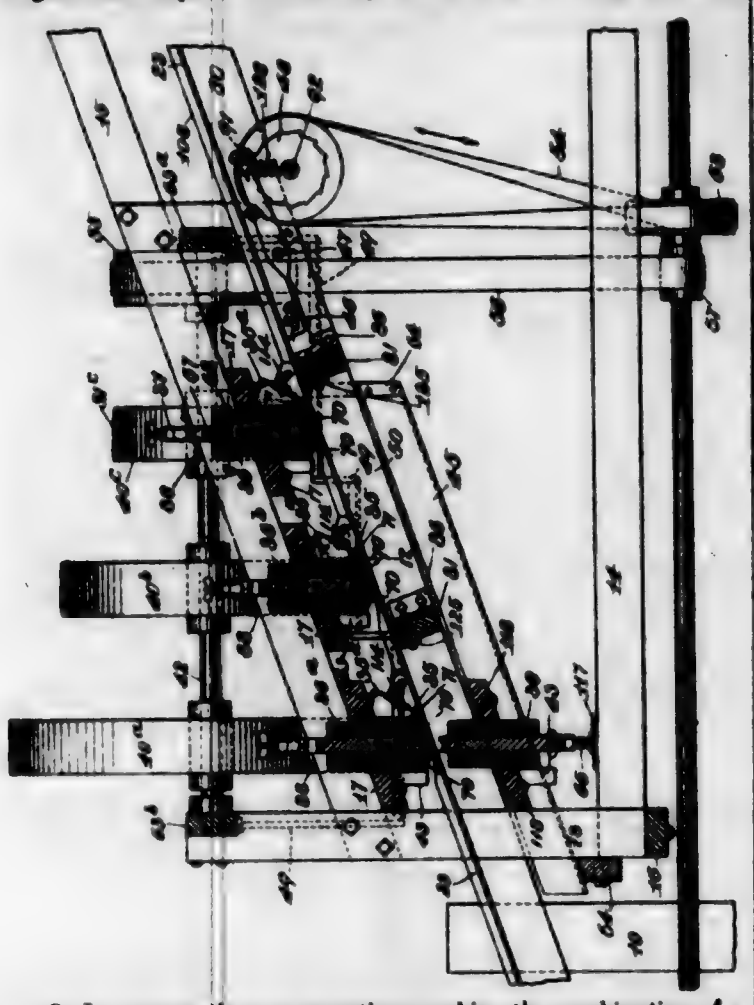
3. A dust-preventer for railway-cars comprising a hood which is secured upon the rear end of the car-roof, and is open at its front and rear ends, said rear end being in the form of a downturned spout which extends crosswise for substantially the width of the platform, whereby there will be discharged at the rear end of the platform a strong current of air taken in at the open front end of said hood.

805,448. MAGNETIC SEPARATOR FOR ORES. HENRY F. CAMPBELL, Melrose, Mass.; Jeannette L. Campbell executrix of said Henry F. Campbell, deceased. Filed Jan. 20, 1904. Serial No. 189,518.

Claim.—1. In a magnetic ore-separating machine the combination of a magnet, a flat table composed of non-magnetic material located beneath said magnet and secured against movement in the plane of the surface of said table, means for jarring the table without bodily raising the same and means for causing a film of comminuted ore of substantially uniform thickness to travel along said table and for presenting the said ore to the action of the magnet while separated from its poles by an intervening space.

2. In a magnetic ore-separating machine the combination of a magnet, a flat table composed of non-magnetic material located beneath said magnet and secured against movement in the plane of the surface of said table, means for jarring the table without bodily raising the same, said means for jarring consisting of a hammer pivotally mounted and normally held in contact with the table by a spring

and moved from it by the teeth of a ratchet, and means for causing a film of comminuted ore of substantially uniform thickness to travel along said table and for presenting the said ore to the action of the magnet while separated from its poles by an intervening space.



3. In a magnetic ore-separating machine the combination of a magnet, a flat table composed of non-magnetic material located beneath said magnet, said table resting freely upon knife-edge supports and secured against movement in the plane of the surface of said table, means for jarring the table without bodily raising the same and means for causing a film of comminuted ore of substantially uniform thickness to travel along said table and for presenting the said ore to the action of the magnet while separated from its poles by an intervening space.

4. In a magnetic ore-separating machine the combination of a magnet, a flat table composed of non-magnetic material located beneath said magnet and secured against movement in the plane of the surface of said table, means for jarring the table without bodily raising the same, and means for causing a film of comminuted ore of substantially uniform thickness to travel along said table and for presenting said ore to the action of the magnet while separated from its poles by an intervening space, the said magnet extending across the entire width of said table and projecting beyond one edge only thereof.

5. In a magnetic ore-separating machine the combination of a magnet, a flat table composed of non-magnetic material located beneath said magnet and secured against movement in the plane of the surface of said table, a main hopper for the material located above the table at its receiving end, and an intermediate hopper pivotally supported beneath the main hopper and above the table, and means for rocking the intermediate hopper consisting of an arm projecting therefrom and maintained in contact with the teeth of a ratchet-wheel by a yielding pressure, means for jarring the table without bodily raising the same, and means for causing a film of comminuted ore of substantially uniform thickness to travel along said table and for presenting said ore to the action of the magnet while separated from its poles by an intervening space.

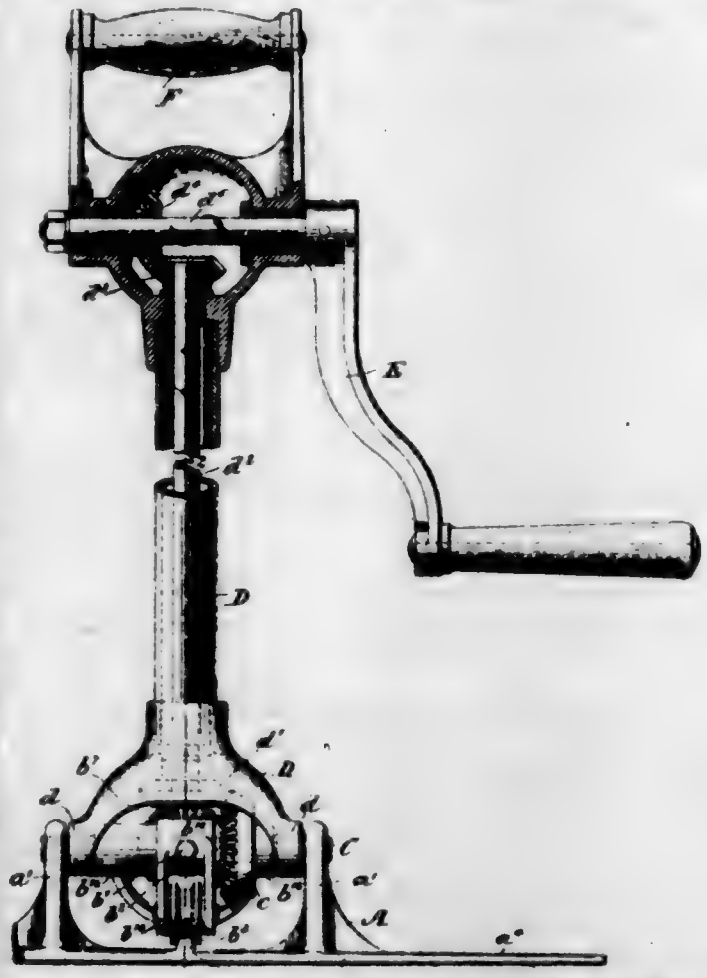
6. In a magnetic ore-separating apparatus, a magnet, a stationary table beneath the magnet, means for jarring the table consisting of a hammer pivotally mounted in a bearing provided with means for adjusting the bearing toward and away from the table.

7. In a magnetic ore-separating apparatus, one or more magnets, a table secured against movement in the plane of its surface, said table being located beneath the said magnets and separated from the poles thereof by an intervening space and means for jarring the table and agitating the particles of ore thereon, consisting of a hammer pivotally mounted, the handle of said hammer being flexible between the head and its pivotal point, and rigid beyond the same.

8. In a magnetic ore-separating apparatus, a magnet, a table secured against movement in the plane of its surface, said table being located beneath the said magnet, means for jarring the table consisting of a hammer mounted upon a pivot, said pivot being journaled in a box supported in a bracket secured beneath the table, a spring confined between said box and the inside of said bracket, and a screw connected with said box and adapted to adjust the same vertically within the bracket.

9. In a magnetic ore-separating apparatus, a magnet, a table beneath the same, a main hopper for the material located above the table at its receiving end, and an intermediate hopper pivotally supported beneath the main hopper and above the table in a recess formed in a plate secured to the inner side of an upright, said recess being closed against the removal of the hopper by the button secured to said upright, said button being arranged to swivel for the purpose of releasing the intermediate hopper when desired.

805,449. **DRILL.** JOHN P. COLEMAN, Edgewood, Pa., assignor to The Union Switch and Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed Apr. 28, 1905. Serial No. 257,965.



Claim.—1. In a drilling-machine, the combination with a support; of a drill-holder movable relatively thereto in a right line; a drill-spindle provided with means for clamping a drill journaled in the holder; a frame fulcrumed on the support and having suitable connection with the holder; and mechanism carried by the frame coupled to the drill-spindle for rotating the same.

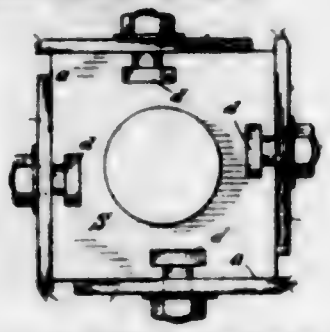
2. In a drilling-machine, the combination of a support, ways carried by said support, a drill-holder movable to and fro in said ways, a drill-spindle provided with means for clamping a drill journaled in said holder, a frame fulcrumed in said support and operatively connected with the drill-holder to produce its to-and-fro movements, and mechanism carried by the frame coupled to the drill-spindle for rotating it.

3. In a drilling-machine, the combination with a drill-holder mounted to have a to-and-fro movement in a right line; a drill-spindle provided with means for clamping a drill journaled in said holder, of a frame suitably fulcrumed, and having connection with the drill-holder for producing to-and-fro movements of the drill-holder when moved on its fulcrum; and mechanism carried by the frame coupled to the drill-spindle for rotating the same.

4. In a drilling-machine, the combination with a clamp; of a holder movable relatively thereto; a drill-spindle provided with means for clamping a drill, journaled in the holder; a frame fulcrumed on the clamp and having movement about its fulcrum; a suitable connection between the frame and holder; and actuating mechanism for the drill-spindle carried by the frame and holder.

5. In a drilling-machine, the combination with a rail-clamp, a carriage, a drill-spindle provided with means for clamping a drill journaled in the carriage, guides or ways for producing a movement of the carriage in a right line, a frame connected with the carriage for moving it in the ways or guides, a link connected with the rail-clamp and to which the frame is fulcrumed, and operating mechanism carried by the frame coupled to the drill-spindle for rotating it.

805,450. PLANER-KNIFE. FRANK L. COMFORTH, Ballard, Wash. Filed May 17, 1905. Serial No. 260,745.

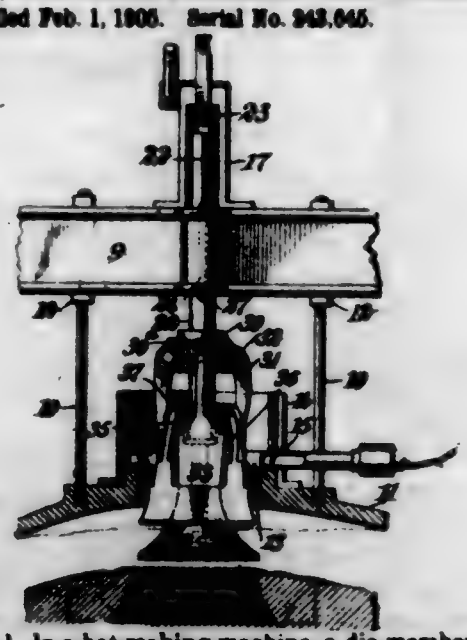


Claim.—1. As a new article of manufacture, a one-part planer-knife provided with a recess extending its entire length and positioned at the inner side of the cutting edge said recess having one wall at right angles to the inner surface of the knife and the other wall in a plane parallel to the said inner surface of the knife.

2. A one-part planer-knife, provided with a rabbet B having a wall *b* parallel with the knife-face *a* and a wall *b'* perpendicular thereto, said first-named wall forming with a bevel-face *a'* of the knife the cutting edge, substantially as described.

3. As a new article of manufacture, a one-piece planer-knife provided with a beveled edge and a recess adjacent the beveled edge, said recess having its walls at right angles one to the other, and said recess being of less depth than said beveled edge.

805,451. HAT-MAKING MACHINE. MARI A. CUMINO, New York, N. Y. Filed Feb. 1, 1905. Serial No. 243,645.



Claim.—1. In a hat-making machine, a die member comprising a substantially bell-shaped mandrel, a plurality of auxiliary sections disposed above said mandrel and adapted to move in a direction coincident with the axis of said bell-shaped member, said sections being thus free to approach and recede from a common center, and a plurality of other sections normally staggered relatively to said first-mentioned sections but free to move in a direction coincident with the axis of said bell-shaped member for the purpose of moving into and out of registry with said first-mentioned sections.

2. In a hat-making machine, the combination of a pair of die members mating each other, one of said die members being provided with a member projecting therefrom, an eccentric-strap connected with said member thus projecting, an eccentric engaging said eccentric-strap, and a hand-lever connected with said eccentric for the purpose of moving the same to different angles, thereby forcing one of said die members against the other.

3. In a hat-making machine, a die member comprising a plurality of auxiliary sections adapted to move toward and from each other, a plurality of main sections also adapted to move toward and from each other, said main and said auxiliary sections being normally in different planes, and mechanism controllable by a single lever for bringing said main and said auxiliary sections into a common plane.

4. In a hat-making machine, a composite die member provided with swinging sections adapted to move toward and from each other, other sections adapted to be inserted intermediate of said first-mentioned sections so as to form a composite member analogous to the crown of a hat, and mechanism controllable by the raising and lowering of said composite die member for alining said sections into a common plane.

5. In a hat-making machine, a die member comprising a plurality of auxiliary sections adapted to move radially outward and inward with reference to a common center, a plurality of main sections disposed normally in a different plane from said auxiliary sections but adapted to move laterally into alinement with said auxiliary sections and also to spread radially with reference to each other, and a rod common to all of said sections for actuating the same relatively to another die member.

6. In a hat-making machine, the combination of a substantially bell-shaped mandrel, a plurality of sections movable relatively to said mandrel and adapted to be brought into alinement with the lower edges thereof, and other sections located above said first-mentioned sections and adapted also to be brought into alinement with the lower edges of said bell-shaped mandrel.

7. In a hat-making machine, a die member comprising a substantially bell-shaped mandrel, a plurality of die-sections disposed about the same and movable in the general direction of the axis of said mandrel, and also movable angularly with reference to each other, a plurality of other die-sections to be sandwiched intermediate of said first-mentioned die-sections, and a single lever for actuating said mandrel and all of said die-sections.

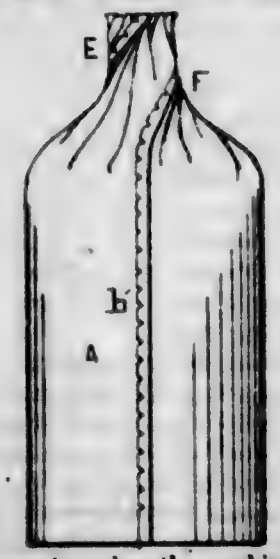
805,452. GARBAGE-BAG. EDWARD J. DEEGAN and CHARLES H. PROFFER, New York, N. Y. Filed Mar. 31, 1905. Serial No. 253,178.



Claim.—1. In a garbage-bag the combination with a bag-body of an air and water tight fabric; of an interior pocket of fragile fabric in said bag, arranged to contain a disinfectant-powder, and when ruptured to empty the said powder into the body of the said garbage-bag and disinfect its contents.

2. In a garbage-bag, the combination with a bag-body of strong air-tight and water-tight fabric, which will contain fluids and gases; of an interior pocket of fragile fabric, within said bag, strong enough while dry, to contain a disinfectant-powder, but which when wet by the contents of said bag is ruptured and empties said powder into the body of said bag and disinfects the contents thereof, while the said bag retains the gases and vapors generated by the contact of its contents with said powder.

805,453. GARBAGE-BAG. EDWARD J. DEEGAN and CHARLES H. PROFFER, New York, N. Y. Filed June 14, 1905. Serial No. 265,265.



Claim.—1. In a garbage-bag the combination with a bag-body of waterproof and air-tight fabric, so folded as to have only side seams, of reinforcing-strips having one deeply-corrugated edge and one shallow-corrugated edge clamped upon said seams and reinforcing said bag.

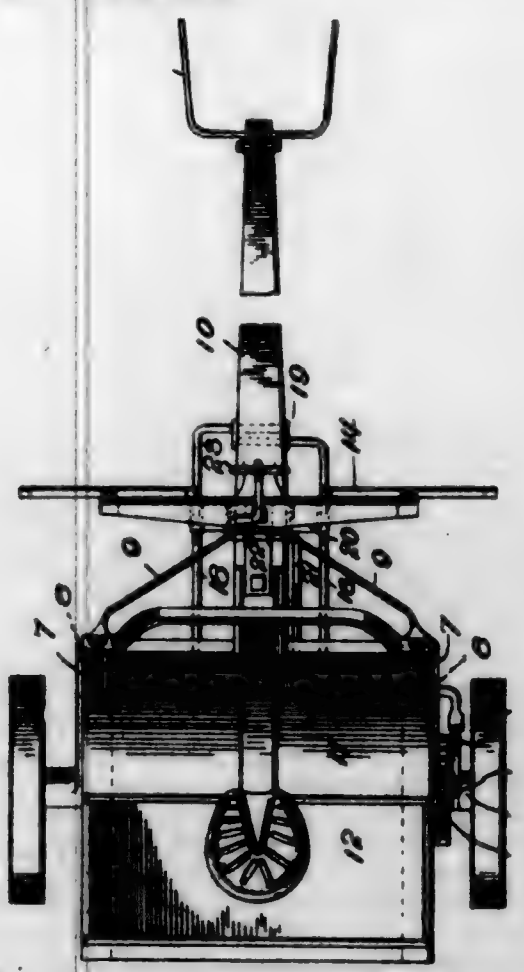
2. In a garbage-bag the combination with a bag-body of waterproof and air-tight fabric, treated with disinfecting media, and folded so as to have only side seams, of reinforcing-strips, having corrugated edges, one edge of each being notched deeper than the other edge thereof, said strips clamped on the said side seams, affording facility for closing and opening said bag, having each a folded edge contiguous to, and extending farther inward toward the said bag-body than, said deeper-notched edge, and in connection with said body turning said deeper-notched edge inward.

805,454. METALLIC BOX. WILLIAM R. DODD, London, England. Filed Mar. 4, 1904. Serial No. 196,584.



Claim.—A cover or lid for a square, oblong or other irregular-shaped metallic box, said cover or lid having slits therein, a cutter arranged upon the outer face of the cover and having flanges or projections which slidably engage within the said slits in the cover, said cutter also having its front end turned down at an angle and shaped to provide a cutting-point which is concave when viewed from the front, as set forth.

805,455. STALK-CUTTER. JOHN J. DORMAN, Marion, N. C. Filed May 13, 1905. Serial No. 260,966.



Claim.—1. A rotary cutter comprising spiders having arms the ends of which have opposite sides at an angle to each other, and blades attachable to either of said sides, to vary the angle with respect to the axis of the cutter.

2. In a stalk-cutter, the combination with a cranked axle, of a split bearing-sleeve thereon, and a rotary cutter having hubs mounted to turn upon said sleeve.

3. A stalk-cutter having a rotary cutter mounted upon an axle, and a projecting member mounted upon the axle within or between the blades of the cutter and arranged to prevent vines or the like winding upon the axle

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805,456. PROCESS OF BLEACHING ARTIFICIAL SILK. CHARLES A. ERNST, Lansdowne, Pa., assignor to Silas W. Pettit, Philadelphia, Pa. Filed July 8, 1905. Serial No. 268,837.

Claim.—1. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of subjecting the same to the action of soluble oil for removing the sulfur compounds, and secondly, to the action of a solution of a bleaching-salt.

2. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of removing the sulfur coloring composition by subjecting the silk to the action of a soluble oil and afterward to the action of a solution of sodium hypochlorite.

3. The process of bleaching artificial silk made from filaments of viscose or similar material, consisting of removing the sulfur coloring compound by subjecting the silk to an action of a sulfonated oil and afterward to the action of a solution of sodium hypochlorite.

4. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of removing the sulfur coloring-matter contained by subjecting the silk to the action of Turkey-red oil and afterward immersing the silk in a solution of sodium hypochlorite.

5. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of steeping the silk in Turkey-red oil, and secondly, removing other remaining impurities by subjecting the silk to a suitable bleaching solution.

6. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of steeping the silk in a bath of Turkey-red oil at a temperature of substantially 40° centigrade; which acts to dissolve the sulfur coloring impurities, and of removing the remaining impurities by subjecting the silk to the action of a suitable bleaching solution.

7. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of subjecting the silk to the continued action of a soluble oil at a temperature of substantially 40° centigrade and afterward subjecting the same to the action of a suitable bleaching solution.

8. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of subjecting the silk to the action of a soluble oil to remove the sulfur impurities, washing the silk to remove the adhering oil, and then subjecting the silk to the action of a bleaching solution composed substantially of sodium hypochlorite.

9. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of subjecting the silk to the continued action of a soluble oil to remove the sulfur coloring compounds and afterward bleaching the same in an acid solution of sodium hypochlorite.

10. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of subjecting the silk to the continued action of a sulfonated oil at a temperature of substantially 40° centigrade and afterward subjecting the same to the action of a suitable bleaching solution.

11. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of subjecting the silk to the action of a sulfonated oil to remove the sulfur impurities, washing the silk to remove the adhering oil, and then subjecting the silk to the action of a bleaching solution composed substantially of sodium hypochlorite.

12. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of subjecting the silk to the continued action of a sulfonated oil to remove the sulfur coloring compounds and afterward bleaching the same in an acid solution of sodium hypochlorite.

13. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of steeping the silk in a solution of Turkey-red oil to remove the soluble sulfur compounds, and then bleaching the same in a weak acid solution of sodium hypochlorite.

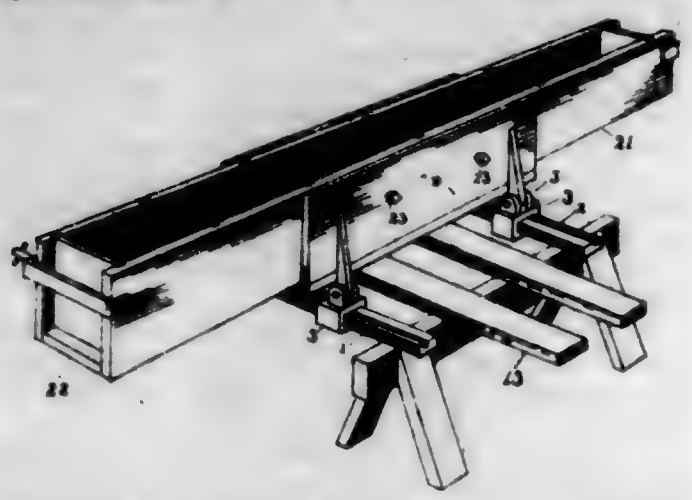
14. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of steeping the silk in a solution of Turkey-red oil at substantially 40° centigrade, and secondly, bleaching the same in a weak solution of sodium hypochlorite, to which has been added a small quantity of acetic acid.

15. The process of bleaching artificial silk made of filaments of viscose or similar material consisting of soaking the artificial silk in water, secondly, steeping the same in a five-per-cent. neutral solution of Turkey-red oil to remove the sulfur impurities, washing the same in warm water to remove the adhering oil, subjecting the silk to the action of a bleaching solution composed of a weak solution of sodium hydrochlorite and acetic acid, washing in clear water to remove the said bleach and drying the same.

16. The preparatory step in the bleaching of filaments made from viscose which consists in first subjecting the silk to the continued action of a neutral solution of Turkey-red oil for the purpose of removing or dissolving out sulfur coloring compounds.

17. The process for removing the objectionable sulfur coloring compounds of unbleached artificial silk, consisting of steeping the silk in a five-per-cent. solution of Turkey-red oil.

805,457. ADJUSTABLE MOLD FOR MAKING BUILDING-BLOCKS. Joseph B. Francisco, Columbus, Ohio. Filed Apr. 24, 1905. Serial No. 257,121.

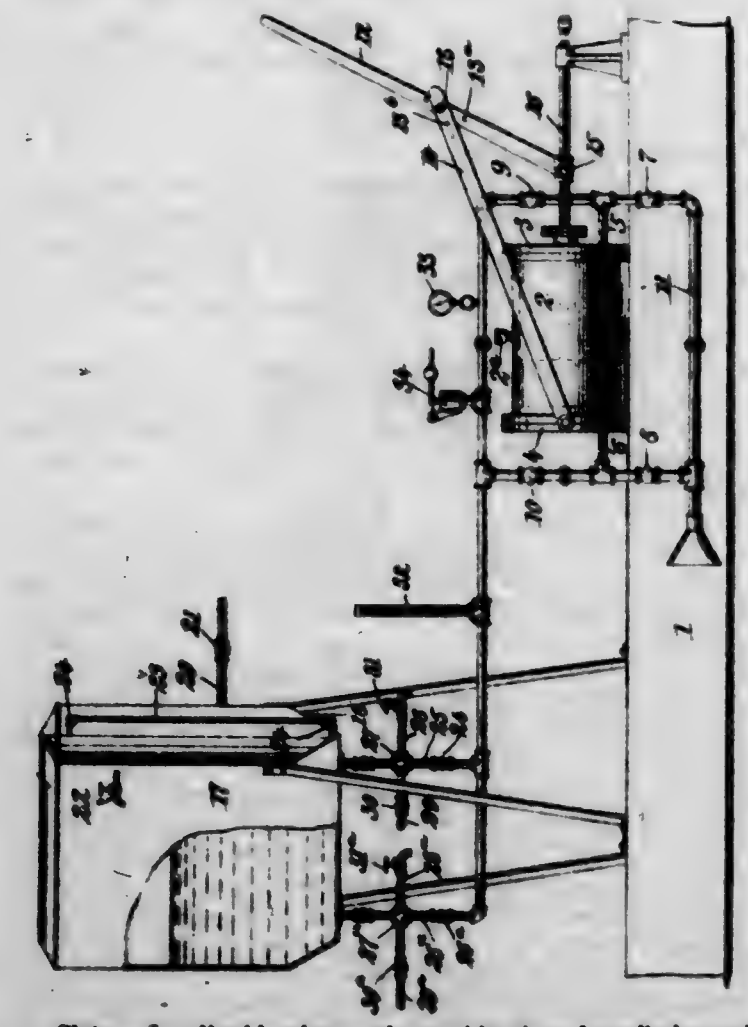


Claim.—1. A mold for the manufacture of concrete building-blocks, having a bottom supported by rockers, having arms secured to said bottom on which the side plates are slidably hinged, substantially as set forth.

2. A mold for the manufacture of concrete building-blocks having a bottom supported by a rocker, arms attached to said bottom; sides slidably hinged to said arms, and false sides secured to said side plates; false bottom 22 secured to bottom 7, substantially as set forth.

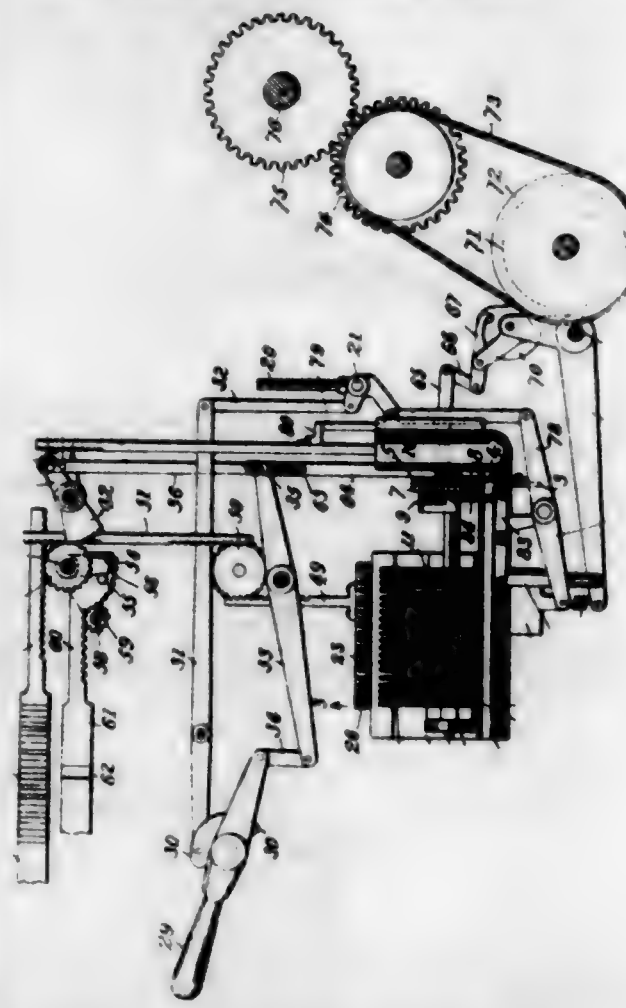
3. A mold for the manufacture of concrete building-blocks, having a bottom supported by rockers, arms attached to said bottom, side plates slidably hinged to said arms, false sides secured to said side plates; a multiplicity of slots for the reception of end plates spaced at desirable intervals along the false sides substantially as set forth.

805,458. LIQUID-AGITATOR. Adam Good, Claflin, Kans. Filed Oct. 27, 1904. Serial No. 230,271.



Claim.—In a liquid-agitator, the combination of a cylinder and a piston operating therein, valve-controlled air-inlets at opposite ends of said cylinder, valve-controlled discharge-pipes also at opposite ends of said cylinder, connections between the inlet and discharge pipes, means for establishing communication between said connections and the ends of said cylinder, a receptacle for a liquid, and a pipe connected with both discharge-outlets and with said receptacle for said liquid.

805,459. JUSTIFYING MECHANISM FOR COMPOSING-MACHINES. Abner Greenleaf, Baltimore, Md., assignor to Mergenthaler Linotype Company, New York, N. Y., a Corporation of New York. Filed June 13, 1903. Serial No. 161,344.



Claim.—1. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of the line, pistons movable in proportion to the justifying-space required for the line, and a duct between said pistons, for the purpose set forth.

2. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, a series of pistons of uniform diameter movable in proportion to the justifying-space required, means for selecting one or more of said latter pistons equal in number to the spaces in a line to be justified, and a duct connecting all of said pistons, for the purpose set forth.

3. In a justifying mechanism, the combination of a series of pistons of uniform diameter, a common bar or head adapted to coöperate with said pistons, means for selecting and locking one or more pistons to said head depending upon the number of spaces in the line to be justified, and means for operating the pistons in proportion to the justifying-spaces required.

4. In a justifying mechanism, the combination of a series of pistons in communication with a common duct, means for locking said pistons in normal position, a common bar or head coöperating with said pistons, means for unlocking a selected number of pistons, and means for locking said selected pistons to the common bar or head.

5. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, a series of pistons movable in proportion to the justifying-spaces required for a line, and a common duct communicating with all of said pistons, the upper wall of said duct being so arranged that air or gas occurring therein will always pass to a given point at which an outlet is located.

6. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, a series of pistons movable in proportion to the justifying-spaces required for a line, a common duct communicating with all of said pistons, and an outlet for said duct provided with a valve.

7. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, a series of pistons movable in proportion to the justifying-spaces required for a line, a common duct communicating with all of said pistons, and a stand-pipe communicating with said duct.

8. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, a series of pistons movable in proportion to the justifying-spaces required for a line, a common duct communicating with all of said pistons, and a stand-pipe communicating with said duct and provided with a valve.

9. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, a series of pistons movable in proportion to the justifying-spaces required for the line, means for locking the pistons of said series in normal position, and means for unlocking any desired number of said pistons.

10. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, a series of pistons movable in proportion to the justifying-spaces required for the line, means for locking the pistons of said series in normal position, and a space-key and connections for unlocking any desired number of said pistons.

11. In a justifying mechanism, the combination of a series of pistons, a movable head or bar, bolts sliding in stationary bearings adapted to lock said pistons in normal position, bolts sliding in bearings on said head or bar adapted to lock the pistons thereto, and a connection between the bolts which operate in conjunction with each piston.

12. In a justifying mechanism, the combination of a series of pistons, a common head or bar, means for locking the pistons in normal position, and unlocking means operated from a space-key comprising a series of teeth in staggered relation adapted to operate said bolts respectively, and devices for moving said series of teeth simultaneously.

13. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, a series of pistons movable in proportion to the justifying-spaces required for a line, a duct connecting all of said pistons, an outlet for said duct provided with a normally open valve, and means for closing said valve before the first-named piston is operated.

14. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, pistons movable in proportion to the justifying-spaces for a line, a conduit connecting said pistons, and means for restoring said pistons to normal position after the justification of the line has been determined.

15. In a justifying mechanism, the combination of a piston movable in proportion to the shortage of a line, pistons movable in proportion to the justifying-spaces for a line, a conduit connecting said pistons, and power-operated means for restoring said pistons to normal position after the justification of the line has been determined.

805,460. MANUFACTURE OF CAPS FOR ARMOR-PIERCING PROJECTILES.

ROBERT A. HADFIELD, Sheffield, England. Filed Mar. 1, 1905. Serial No. 247,906.

Claim.—1. In the manufacture of wrought-iron or mild-steel caps for projectiles, heating the metal to a temperature of between 950° centigrade and 1,100° centigrade; quickly cooling the metal, reheating to a temperature of between 600° centigrade and 800° centigrade, according to the degree of toughness desired, and finally slowly cooling.

2. In the manufacture of wrought-iron or mild-steel caps for projectiles, heating the metal to a temperature of between 950° centigrade and 1,100° centigrade; quickly cooling the metal by quenching in a liquid; reheating to a temperature of between 600° centigrade and 800° centigrade, according to the desired degree of toughness, and finally cooling slowly.

3. In the manufacture of wrought-iron or mild-steel caps for projectiles, heating the wrought-iron or mild steel to a temperature of about 1,100° centigrade; cooling quickly by quenching; reheating to a temperature above 600° centigrade and not higher than about 800° centigrade, and cooling slowly.

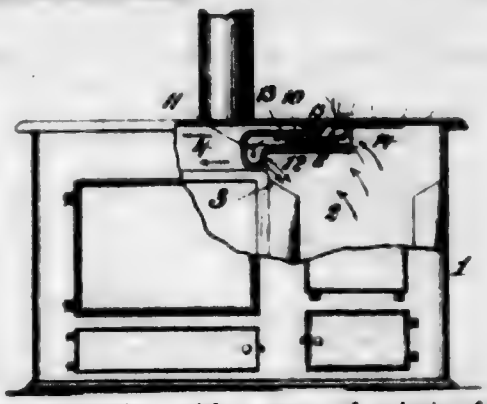
4. In the manufacture of wrought-iron and mild-steel caps for projectiles, toughening the same by heating the metal to about 1,100° centigrade; cooling quickly; reheating to a temperature not higher than 800° centigrade, and finally cooling slowly.

805,461. APPARATUS FOR PROMOTING COMBUSTION.

WILBUR F. HUBBACK, Haworth, N. J., assignor to Herrick Complete Combustion Company, New York, N. Y., a Corporation of Maine. Filed June 16, 1904. Serial No. 212,782.

Claim.—1. An apparatus for promoting combustion comprising an injecting device having an air-inlet, an inlet for products of combustion and a mixing-chamber, the device including a nozzle for assisting the induction of the products of combustion by the air-currents flowing therethrough, and means for regulating and controlling the passage of air therethrough.

2. An apparatus for promoting combustion comprising two passages, one for furnace-gases and the other for entering air, one passage substantially surrounding the other, said apparatus further comprising a mixing-chamber in which the gas and air mingle, and arranged to deliver the mixed gases into a combustion-chamber, at a point above the fuel therein.



3. The combination, with a stove, of a device for promoting combustion connected to the top thereof and comprising an injector having passages for air and for products of combustion and a mixing-chamber in which said products and air mingle, said injector arranged to deliver the mixed gases into the combustion-chamber of the stove above the fuel therein and at about the point at which the products of combustion pass away from the combustion-chamber.

4. As an article of manufacture a stove-lid including a device for promoting combustion comprising an injecting device supported beneath same, said injecting device having an air-passage with an inlet through said lid, a passage for the products of combustion having an inlet arranged to open into the combustion-chamber of a stove with which the lid is employed, a mixing-chamber, and a discharge for the mixed gases arranged to discharge into the said combustion-chamber.

5. As an article of manufacture a stove-lid including a device for promoting combustion comprising an injecting device supported beneath same, said injecting device having an air-passage with an inlet through said lid, a passage for the products of combustion having an inlet arranged to open into the combustion-chamber of a stove with which the lid is employed, a mixing-chamber, and a discharge for the mixed gases arranged to discharge into the said combustion-chamber, said device including a nozzle for assisting the induction of the products of combustion by the air-currents flowing therethrough.

6. As an article of manufacture, a stove-lid including a device for promoting combustion comprising an injecting device supported beneath same, said injecting device having an air-passage with an inlet through said lid, a passage for the products of combustion having an inlet arranged to open into the combustion-chamber of a stove with which the lid is employed, and a mixing-chamber having a downwardly-turned end portion provided with orifices arranged to discharge the mixed gases rearwardly into the said combustion-chamber.

7. As an article of manufacture, a stove-lid provided on its under side with an injector, said injector having passages for entering air and for products of combustion and a mixing-chamber in which the entering air and products of combustion mingle, said mixing-chamber comprising a downwardly-turned portion having orifices arranged to discharge the mixed gases in a rearward direction.

8. An apparatus for promoting combustion comprising as a single article of manufacture, a device provided with means for supporting same in a combustion-chamber, above the burning fuel therein, said device including injecting means having an air-inlet, an inlet for products of combustion from the said combustion-chamber, a mixing-chamber, and a discharge for mixed gases, substantially as specified.

9. An apparatus for promoting combustion comprising a device adapted to be suspended in a combustion-chamber, above the burning fuel therein, said device including an injecting device having an air-inlet, an inlet for products of combustion arranged to open directly into the combustion-chamber and receive products of combustion therefrom, a mixing-chamber, and a discharge for the mixed gases arranged to deliver same directly into the combustion-chamber at a point above the fuel therein, substantially as specified.

805,462. APPARATUS FOR PROMOTING COMBUSTION.

WILBUR F. HUBBACK, Haworth, N. J., assignor to Herrick Complete Combustion Company, New York, N. Y., a Corporation of Maine. Filed Feb. 25, 1905. Serial No. 247,588.

Claim.—1. As an article of manufacture, a device for promoting combustion comprising an injecting device having gas-admission,

air-admission, and mixing chambers, the device composed of a body portion having laterally-projecting walls constituting the walls of the said chambers, and a removable cover-plate therefor, whereby, when the cover-plate is removed, the entire interior is exposed, together with means for securing the cover-plate in position, and means for supporting the device in a combustion-chamber.



2. As an article of manufacture, a device for promoting combustion comprising an injecting device having gas-admission, air-admission, and mixing chambers, the device composed of a body portion having laterally-projecting walls constituting the walls of said chambers, a removable cover-plate therefor, whereby, when the cover-plate is removed, the entire interior is exposed, the cover-plate provided with lugs engaging the walls of the body portion, a bolt for securing the cover-plate in position, and means for securing the device in a combustion-chamber, said means connecting with the air-admission chamber and constituting means for admitting air thereto.

3. As an article of manufacture, a device for promoting combustion comprising an injecting device having gas-admission, air-admission, and mixing chambers, the device composed of a body portion having laterally-projecting walls constituting the walls of the said chambers, and a removable cover-plate therefor, whereby, when the cover-plate is removed, the entire interior is exposed, together with means for securing the cover-plate in position, and means for supporting the device in a combustion-chamber, said means comprising a pipe fitted to the air-admission chamber of the device and arranged to admit air thereto.

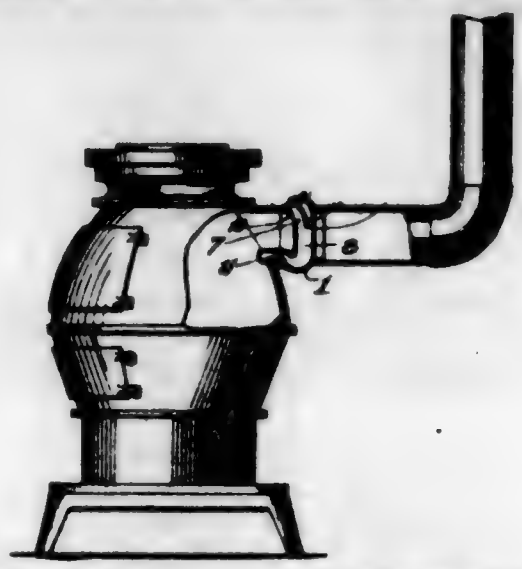
4. As an article of manufacture, a device for promoting combustion comprising an injecting device having gas-admission, air-admission, and mixing chambers, the device composed of a body portion having laterally-projecting walls constituting the walls of the said chambers, and a removable cover-plate therefor, whereby, when the cover-plate is removed, the entire interior is exposed, together with means for securing the cover-plate in position, and means for supporting the device in a combustion-chamber, said means comprising a pipe fitted to one of the said walls of the body portion, and opening therethrough into the air-admission chamber, said pipe arranged to admit air to the said chamber.

5. The combination with an air-heater containing a combustion-chamber and a hot-air chamber substantially surrounding same and having a firing-tunnel bridging across the hot-air chamber into the combustion-chamber, of a device for promoting combustion arranged within the combustion-chamber, said device comprising injecting means having an air-inlet, an inlet for the products of combustion, a mixing-chamber for the gases, and a discharge arranged to deliver the mixed gases to the combustion-chamber, and a pipe secured to a wall of the firing-tunnel and to the said device at its air-inlet, said pipe affording communication between the said hot-air chamber and the said air-inlet, and also forming a support for said device as a whole.

6. The combination with an air-heater containing a combustion-chamber and a hot-air chamber, and having a firing-tunnel bridging across the hot-air chamber into the combustion-chamber, of a device for promoting combustion arranged within the combustion-chamber, said device comprising injecting means having an air-chamber 8, an inlet 9 for products of combustion from the furnace, and a mixing-chamber 10 opening into the combustion-chamber, a pipe 11 secured at one end to a wall 15 of the firing-tunnel, and at the other end to the device, said pipe affording communication between the hot-air chamber of the furnace and the air-chamber 8 of the injecting means, and a supporting branch 17 secured to the said pipe 11.

805,483. APPARATUS FOR PROMOTING COMBUSTION. WILLIAM P. HEMANWAY, Haworth, N. J., assignor to Herrick Complete Combustion Company, New York, N. Y., a Corporation of Maine. Filed June 18, 1904. Serial No. 213,094.

Claim.—1. In an apparatus for promoting combustion, the combination with a combustion-chamber, of a draft-collar through which the products of combustion may pass, said draft-collar containing a mixing and heating chamber, and means for admitting air and a portion of the products of combustion thereto, and for delivering the mixed gases into the combustion-chamber above the fuel.



2. In an apparatus for promoting combustion, the combination with a combustion-chamber, of a draft-collar through which the products of combustion may pass, said draft-collar supporting an injector provided with an air-inlet, an inlet for products of combustion and a mixing and heating chamber, the device including a nozzle for assisting the induction of the products of combustion by the air-currents flowing therethrough, and a passage for discharging the mixed gases into the said combustion-chamber above the fuel.

3. In an apparatus for promoting combustion, the combination with the combustion-chamber of a heater, stove or the like, of a draft-collar located in open communication with the said combustion-chamber and between same and the smoke-pipe, said draft-collar supporting an injector comprising an air-inlet, an inlet for products of combustion, a mixing and heating chamber and a discharge for the mixed gases arranged to discharge same into said combustion-chamber above the fuel.

4. In an apparatus for promoting combustion, the combination with a stove, heater or the like, of a draft-collar arranged to be connected at the outlet of the combustion-chamber, and through which the products of combustion from the combustion-chamber may pass, said draft-collar containing an injector having an air-inlet, an inlet for products of combustion, a mixing and heating chamber and a passage leading therefrom to a point in proximity to the combustion-chamber, and having an outlet arranged to deliver mixed gases directly into the said combustion-chamber above the fuel.

5. In an apparatus for promoting combustion, the combination with a combustion-chamber, of a draft-collar through which the products of combustion may pass, said draft-collar containing a mixing and heating chamber, and means for admitting air and a portion of the products of combustion thereto, and for delivering the mixed gases into the combustion-chamber above the fuel, and means for regulating and controlling the passage of air to the mixing-chamber.

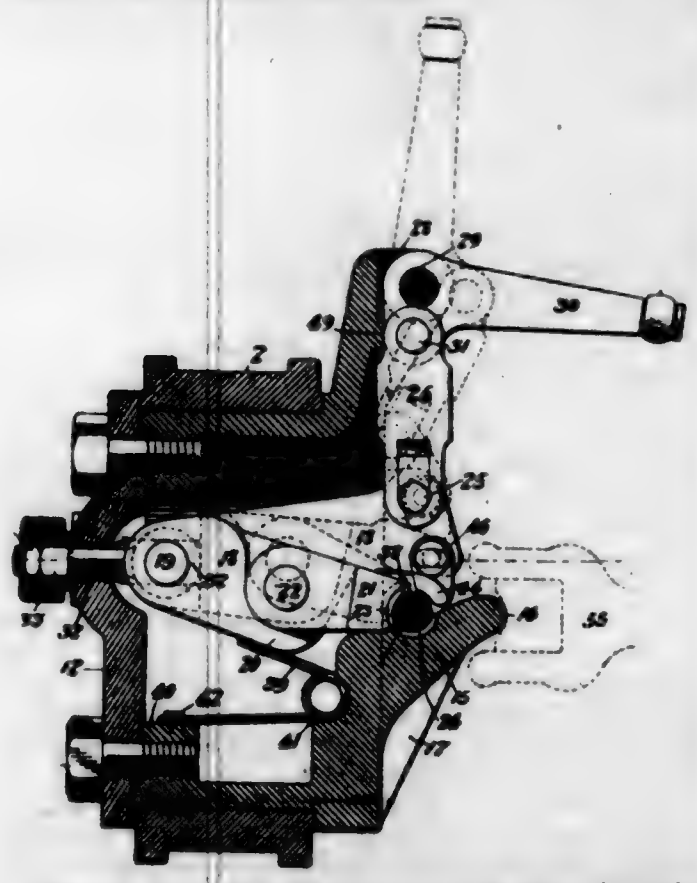
6. As an article of manufacture, a draft-collar arranged to be connected with the combustion-chamber of a stove, heater or the like, and through which the products of combustion from the combustion-chamber will pass, said draft-collar supporting an injector comprising an air-inlet, an inlet for products of combustion, a mixing and heating chamber, and a discharge for the mixed gases arranged to deliver same into the said combustion-chamber above the fuel.

7. As an article of manufacture, a draft-collar arranged to be connected with the combustion-chamber of a stove, heater, or the like, and through which the products of combustion from the combustion-chamber will pass, said draft-collar supporting an injector comprising an air-inlet, an inlet for products of combustion, a mixing and heating chamber, and a discharge for the mixed gases arranged to deliver same into the said combustion-chamber above the fuel, said injector having means for regulating and controlling the passage of air therethrough.

8. As an article of manufacture, a draft-collar arranged to be connected with the combustion-chamber of a stove, heater, or the like, and through which the products of combustion from the combustion-chamber will pass, said draft-collar supporting an injector arranged diametrically across the same, said injector having an air-inlet opening to the atmosphere, an inlet for the products of combustion, provided with an outwardly-flared mouth opening into the interior of the draft-collar, and facing toward the combustion-chamber, a mixing-chamber, and a discharge leading the mixed gases

back toward the combustion-chamber and arranged to discharge same into the said combustion-chamber.

805,464. GRIP MECHANISM. WILLIAM HEWITT, Trenton, N. J.
Filed June 23, 1905. Serial No. 266,675.



Claim.—1. In a grip mechanism, the combination of a stationary jaw, a movable jaw, an operating-lever, and a toggle connection between said operating-lever and said movable jaw, said movable jaw being pivotally mounted on one member of said toggle connection.

2. In a grip mechanism, the combination of a stationary jaw, a movable jaw, an operating-lever, and a toggle connection between said operating-lever and said movable jaw, said movable jaw being pivotally mounted on one member of said toggle connection and having its motion limited by a stop on said toggle member.

3. In a grip mechanism, the combination of a stationary jaw, a movable jaw, an operating-lever, and a toggle connection between said operating-lever and said movable jaw, said movable jaw being pivotally mounted on one member of said toggle connection, and held to its position, when said grip mechanism is closed, by the contact of said toggle member with said jaw.

4. In a grip mechanism, the combination of a stationary jaw, a movable jaw, an operating-lever, and a compound toggle-joint connecting and embodying said operating-lever and said movable jaw.

5. In a grip mechanism, the combination of a stationary jaw, a movable jaw, an operating-lever, a compound toggle-joint connecting and embodying said operating-lever and said movable jaw, and a spring contacting with a member of said toggle-joint, whereby the jaws of the mechanism may be opened when the toggle-joint is unlocked.

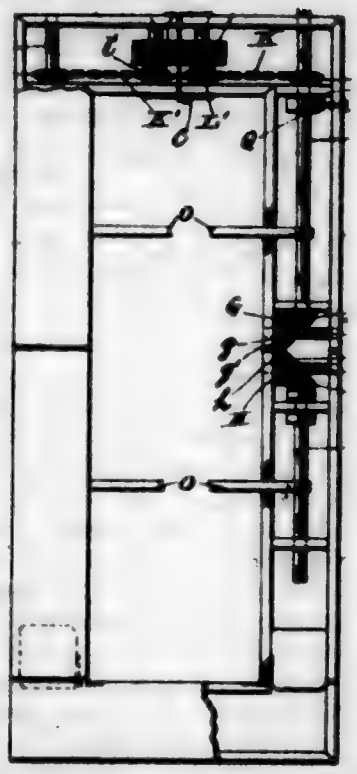
6. In a grip mechanism, the combination of a stationary jaw, a movable jaw, an operating-lever, and a toggle connection between said operating-lever and said movable jaw, one member of said toggle connection containing a spring-supported bearing, whereby the grip mechanism may automatically accommodate itself to variant diameters of the traction-rope.

7. In a grip mechanism, the combination of a stationary jaw, a movable jaw, an operating-lever, and a compound toggle-joint connecting and embodying said operating-lever and said movable jaw, the members of said compound toggle-joint having a spring-regulated connection with each other, whereby substantially uniform gripping power may be automatically exerted upon all parts of a traction-rope of variant diameters.

8. The combination of a conveying device, an oscillating grip mechanism, and a spring connection between said conveying device and said grip mechanism, whereby the jaws of said grip mechanism will be maintained in a position parallel to the traction-rope when disengaged therefrom.

9. In a cable-operated rail or wire-rope tramway, a gripping mechanism having a projection formed thereon adapted to contact with the end sheaves of said tramway, whereby the conveyer to which said gripping mechanism is attached may be carried around said end sheaves of the tramway without undue deflection, substantially as described.

805,465. BURIAL APPARATUS. JESSE A. HULWICK, Angola, Ind.
Filed Sept. 20, 1904. Serial No. 224,663.



Claim.—1. In a burial apparatus, an open frame to conform to the dimensions of the grave, said frame consisting of two L-shaped parts hinged together at the ends of the short arms thereof, frame-sections adapted to be removably secured to the ends of the long arms of said L-shaped parts, an end piece having projections to fit into the ends of said frame-sections, and operating means contained in said frame, substantially as shown and described.

2. In a burial apparatus, two L-shaped frame-sections hinged together at the meeting ends of two arms of said sections, a driven shaft journaled in the free arm of one of said sections, another shaft journaled in the free arm of the other section, short shafts journaled adjacent to the hinged ends of said L-shaped sections, gear-wheels secured to said shafts that mesh when the frames are in an operative position, means to transmit power between the shafts of each section, frame-sections adapted to be removably secured to the free ends of said L-shaped sections, shafts journaled in said sections, means to transmit power, from the shafts in the L-shaped sections to the shafts in the last-named sections, and an end piece adapted to be secured to the free end of said frame-sections, substantially as shown and described.

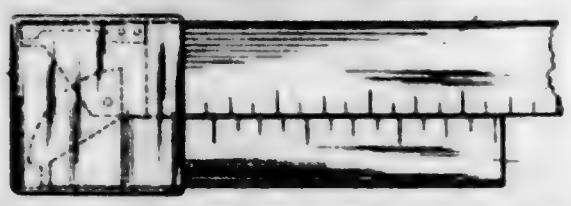
3. In a burial apparatus, an open frame to conform to the dimensions of the grave, the long sides of said frame being divided intermediate of its ends longitudinal shafts journaled in the sections of said long sides, short shafts journaled transversely of said sections and adjacent to their joined ends, gear-wheels keyed to said short shafts having meshing spur-gear faces and beveled gear-faces, a beveled gear-wheel secured to the adjacent end of each longitudinal shaft, and gearing connecting the longitudinal shafts for simultaneous operation, substantially as shown and described.

4. In a burial apparatus, an open frame consisting of two L-shaped frames hinged together at the abutting ends of the two short arms of said sections, frame-sections adapted to be removably and replaceably secured to the free end of the L-shaped arms, and an end section having hinged projections to fit into the ends of the last-named sections, shafts longitudinally journaled in the long portions of said L-shaped sections and in the removable and replaceable sections, beveled gear-wheels on the adjacent ends of said shafts, short shafts journaled transversely of said frames, gear-wheels on said short shafts having beveled gear-faces to mesh with the beveled gear-wheels on the ends of said longitudinal shafts, the gear-wheels on the short shafts having spur-gear faces to intermesh when the sections are in place, short shafts journaled adjacent to the hinged ends of said L-shaped sections, gear-wheels on said short shafts that mesh when the frame is in an operative position, sprocket-wheels keyed to said short shafts and the longitudinal shafts journaled in said L-shaped sections, and chains connecting the sprocket-wheels in each section, substantially as shown and described.

805,466. COMPOUND FOR FINISHING WOODEN AND OTHER SURFACES. FERDINAND HUNNEBEIN, Baltimore, Md. Filed June 6, 1905. Serial No. 263,629.

Claim.—A compound for finishing a wooden or other surface intended to be used mixed with varnish and composed of gum-copal, benzol, gum-para and celluloid, substantially as specified.

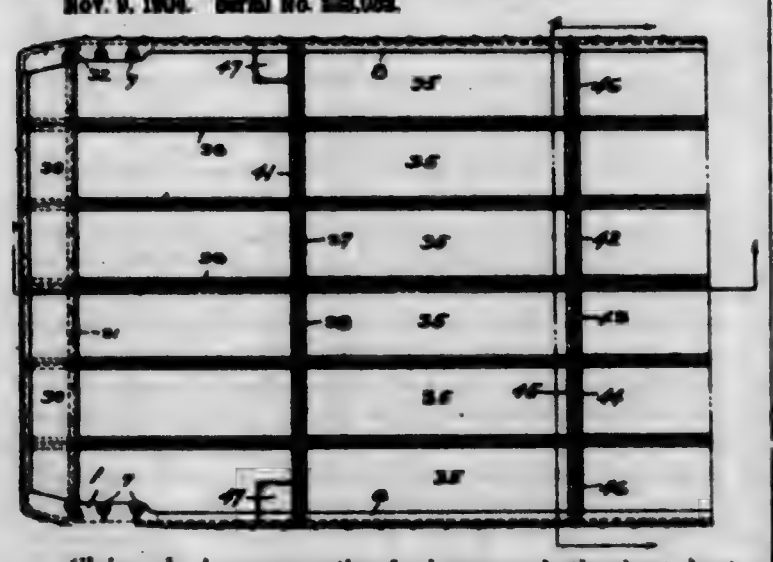
805,467. FOLDING SQUARE. THOMAS JARVIS, Chicago, Ill. Filed Oct. 24, 1904. Serial No. 229,747.



Claim.—1. In a folding square or the like, the combination of two arms pivotally connected at one end, a beveled shoulder on one of said arms, and a spring provided with a beveled shoulder on the other of said arms, said spring being adapted to engage with the beveled shoulder on the arm to hold the arms rigidly in open position and to take up lost motion between the parts.

2. In a folding square, the combination of an arm provided with a slotted end, a second arm provided with a projecting curved tongue adapted to engage with said slot and to extend therein at all times, whether the arms are in an open or folded position to hold said arms rigidly in alinement, engaging shoulders at the ends of said arms, a pivot through the first-named arm and said tongue, a notch in said tongue, and a spring secured to said first-named arm, and adapted to engage with said notch to hold said arms in position.

805,468. STEEL BARGE. WILLIAM C. JUPTE, Pittsburg, Pa. Filed Nov. 9, 1904. Serial No. 232,082.



Claim.—1. A corner-casting for barges and other boats having check-posts integral therewith.

2. A corner-reinforcing member for barges and other boats having side, end and top flanges, and inwardly-projecting strengthening or bracing webs.

3. A corner-casting for barges and other boats having side, end and top flanges, and inwardly-projecting bracing flanges or webs, and check-posts integral with the top flange of said casting.

4. A corner-casting for barges and other boats having side, end and top flanges, and having an inwardly-projecting horizontally-arranged strengthening-web, and vertically-arranged strengthening-webs joining said horizontal web and the top flange of the casting.

5. A corner-reinforcing member for barges and other boats having top, side and end flanges, and having said flanges rabbeted or offset inwardly at the end portions and lower edges in order to receive the side and end plates and leave a smooth or flush outer surface.

6. A corner-reinforcing member for barges and other boats having top, side and end flanges, and having the side and end flanges recessed or offset inwardly at the corner in order to receive a corner-fastening angle.

7. A corner-reinforcing member for barges and other boats having top, side and end flanges, and being provided at the ends and lower edges of the side and end flanges with rabbets or inwardly-offset portions for receiving the end and side plates, and being provided at the corners with a depression or inward offset of still greater depth for receiving a corner-connecting angle-bar.

8. A member for the sides and ends of barges and other boats comprising an angular-shaped beam having its flange disposed horizontally and the lower portion of its web offset toward the side on which the flange projects, whereby side and end plates can be secured thereto flush with the outer face of said beam.

9. A member for the sides and ends of barges and other boats composed of a rolled channel-beam having one flange bent parallel to its web and offset with reference to the outer face of said web, whereby side and end plates can be secured to said flange with their outer faces flush with the outer face of the web of said beam.

10. In a barge, the combination of a side top member comprising an angle-shaped beam having an inwardly-projecting flange at its upper edge and having the lower portion of its web offset inwardly, a corner member having the end portions, its top and side faces offset inwardly or formed with depressions for receiving the end of said side top member, and side plates riveted to the offset lower edge of said side member.

11. In a barge or other boat, the combination of a side top member comprising an angle-shaped beam having an inwardly-projecting flange at its top edge and having the lower portion of its web offset inwardly, a corner member having the end portions of its top and outer faces offset inwardly to receive the end of said side top member and having the lower edge of its outer face offset inwardly on a line with the inwardly-offset portions of the side top member, and plates riveted to the offset portions of the side top member and at the lower edge of the corner member.

12. In a barge or other boat, the combination of an end beam of angle shape having an inwardly-projecting flange at its upper edge and having the lower portion of its web offset inwardly, a corner member having the end portion of its outer face offset inwardly to receive the ends of said beam, and a plate riveted to the inwardly-offset portion at the lower edge of said beam.

13. In a barge or other boat, the combination of an end top member comprising a channel-beam placed with its flanges projecting inwardly, an angle-beam located below said channel-beam with its flange secured to the lower flange of the channel-beam and having the lower porton of its web offset inwardly, and plates riveted to said inwardly-offset portion.

14. In a barge or other boat, the combination of an end top member comprising two channel-beams placed with their flanges projecting inwardly and superimposed one over the other, the lower flange of the lower beam being bent parallel to its web and offset inwardly with reference thereto, and plates riveted to said offset portion.

15. In a barge or other boat, the combination of an end top member comprising a channel-beam placed with its flanges projecting inwardly, an angle-beam located below said channel-beam with its flange secured to the lower flange of the channel-beam and having its web projecting downwardly and offset inwardly, a corner-reinforcing member having a pair of projections fitting against the inner faces of the webs of said beams, the bottom flange of the upper beam and the top flange of the lower beam lying between said projections, and plates riveted to the offset lower edge of the lower beam.

16. In a barge or other boat, the combination of an end top member comprising a channel-beam placed with its flanges projecting inwardly, an angle-beam located below said channel-beam with its flange secured to the lower flange of the channel-beam and having its web projecting downwardly and offset inwardly at its lower edge, a corner-reinforcing member having a pair of projections offset inwardly with reference to its end face and fitting against the inner faces of said beams, the lower flange of the top beam and the upper flange of the lower beam lying in the space between said projections, and plates riveted to the offset portion at the lower edge of the lower beam and to the end-reinforcing member.

17. In a barge or similar boat, the combination of an end top member comprising a channel-beam placed with its flanges projecting inwardly, an angle-beam located below said channel-beam with its flange projecting inwardly and its web projecting downwardly and having the lower portion of its web offset inwardly, a deck-plate riveted between the contiguous flanges of said beams and projecting inwardly, and plates riveted to the lower inset portion of the lower beam.

18. In a barge or other boat, the combination of an end top member comprising a pair of flanged beams placed with their flanges projecting inwardly and one above the other, an end deck-plate riveted between the contiguous flanges of said beams, and a strengthening-bar secured to the inner edge of said deck-plate and to the sides of the barge or boat.

19. In a barge or other boat, the combination with the side and end plates, of corner-reinforcing members to which the same are riv-

eted, said members being provided with an inwardly-projecting bracket, an end deck-plate having its outer edge secured to the ends of the barge, a transverse beam secured to the inner edge of said deck-plate and having its ends secured to the inwardly-projecting brackets of the corner members.

20. In a barge or other boat, the combination with the side and end plates, corner-reinforcing members to which the same are riveted, said members being provided with an inwardly-projecting horizontal strengthening web or flange, and an end deck-plate secured to the end plates and having its ends resting upon and secured to the strengthening-webs of said corner members.

21. In a barge or other boat, the combination with the side and end plates, of corner-reinforcing members to which the same are secured, said members being provided with an inwardly-projecting horizontally-arranged strengthening web or flange, and an inwardly-projecting bracket, an end deck-plate secured to the end plates and having its ends resting upon and secured to the horizontal strengthening webs or flanges of the corner members, and a beam secured to the inner edge of said deck-plate and having its ends secured to the inwardly-projecting brackets of said members.

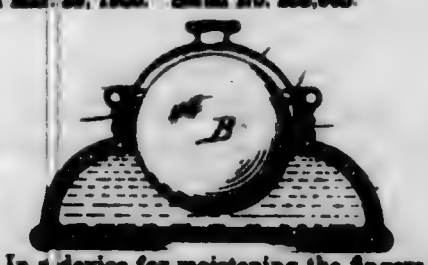
22. In a barge or other boat, the combination of corner-reinforcing members provided with an inwardly-projecting horizontally-arranged flange or web, an end member secured to said corner members and comprising two flanged bars superimposed one over the other, and an end deck-plate having its edge secured between the flanges of said end beams and having its ends resting upon and secured to the inwardly-projecting strengthening-webs of the corner members.

23. In a barge or other boat, the combination with the corner members provided with an inwardly-projecting strengthening web or flange, of an end including flanged beam having an inwardly-projecting flange, and an end deck-plate secured to the inwardly-projecting flange of the end beam and to the inwardly-projecting strengthening-flanges of the corner members.

24. In a metallic barge or other boat, the combination with side and bottom plates, of longitudinally-arranged strengthening-ribs on the inner faces of said plates, a transverse diaphragm comprising plates extending from side to side of the barge, flange-bars riveted to the top, bottom and end edges of said plates, those at the bottom and end being formed in short sections interposed between longitudinal ribs and being riveted to the bottom and side plates.

25. A metallic barge or other boat having side and bottom plates, a transverse diaphragm comprising plates and flanged bars riveted to the top and bottom edges thereof, triangular gusset-plates uniting the ends of said diaphragm with the upper portions of the side walls, and diagonal stiffening-bars riveted to the plates of the diaphragm and to the edges of said triangular gusset-plates.

805,469. FINGER-MOISTENER. JAMES M. KEEP, New York, N. Y. Filed Mar. 29, 1905. Serial No. 252,665.



Claim.—1. In a device for moistening the fingers, in combination, the ball, a removable disk-like cap and a water-reservoir having an expanded body portion contracted at the top to form a central opening and a rim around the opening having a screw-thread upon its outer surface, by which to confine said cap made of metal or other suitable material, said cap having a central opening through its disk of sufficient size to allow the ball to project upward through the disk and to operate as shown and described.

2. A device for moistening the fingers and similar purposes comprising a spherical ball, a removable disk-like cap and a reservoir having an expanded body portion contracted at the top to form a central opening surrounded by a rim having upon its outer surface means by which to confine thereon said cap of metal or of other suitable material, said cap having a central opening through its disk by which when attached to the rim of the reservoir, to retain the ball in a central position and allow it to project upward through the disk as and for the purpose shown and described.

3. A finger-moistener comprising a spherical ball a reservoir having an expanded body contracted to form a central opening and means as a tube to form lateral antifriction-bearings for the ball and retain the same in position, substantially as shown and described.

4. A finger-moistener comprising a spherical ball, a reservoir having an expanded body contracted at the top to form a central opening to which may be attached by any suitable means a cap of metal or other material, said cap having a central opening to retain the ball in position and allow it to project upward through the disk, as and for the purpose described and shown.

805,470. ART OF COVERING METALLIC ARTICLES. ELBRIDGE KEMPSHALL, Boston, Mass., assignor to Manhattan Manufacturing Company, Portland, Me., a Corporation of Maine. Filed Jan. 20, 1903. Serial No. 90,443.



Claim.—1. As an article of manufacture, a faced metallic article comprising a metal body-piece and a facing covering a surface of such body-piece and composed of a celluloid substance which is plastic when subjected to heat and pressure and which has incorporated therein a fibrous structure with spaces unfilled with the celluloid substance and located within the mass of such substance in position for receiving some of the solvent remaining in such substance during the heat-and-pressure treatment whereby the facing is made into shape on the metal surface.

2. As an article of manufacture, a solid metallic portion combined with a facing layer composed of celluloid substance having distributed therein composite strands of fibrous material whose interior spaces are only partially filled with the celluloid substance.

3. A faced metal article consisting in a metallic portion faced with a composite facing layer comprising a plurality of sheets of celluloid substance free of the principal part of the solvent originally existing therein and an intermediate sheet consisting of a fabric incorporated with such celluloid substance having a larger portion of solvent, said several sheets combined into a single sheet and firmly seated on the metallic portion through subjection to heat and pressure.

805,471. BALING-PRESS. ELISHA R. KERR, Erin, Tenn. Filed Nov. 26, 1904. Serial No. 234,360.



Claim.—1. In a baling-press of the character described, a plunger whose front upper portion is mortised, a head portion mounted in said mortise downwardly yieldable, the said plunger below the mortise being vertically slotted for the purposes described.

2. In a baling-press of the character described, a retainer device comprising a plate having its outer end inwardly beveled, at one edge, and projections at the opposite edge to limit the inward thrust of the beveled edge, the rear end of said plate being extended at right angles to the body of the plate and having the extensions rounded whereby to seat in rounded bearing-sockets in the side of the press-box.

3. In a baling-press of the character described, the combination with the horizontally-slotted press-box, the plunger having horizontal cavities that register with the press-box slots, of retainers movable in the slots of the press-box and cavities of the plunger, said retainers having means at their outer end to limit the inward thrust of said ends, their other ends being extended at right angles to their flat portion and formed with rounded bearing-surfaces, plates screwed upon the outside of the press-box having concaved sockets to receive the rounded bearing members of the retainers and flat springs secured to the press-box for engaging the retainers and holding their bearing ends in the sockets.

4. In a baling-press of the character described, the combination with a slotted press-box, the plunger, and the concaved vertically-disposed bearings on the press-box; of the retainers movable in the press-box slots, said retainers having beveled head portions at one end and having their other ends formed with rounded members projected at right angles therefrom and adapted to seat in the concaved bearings, and a means for holding the retainers under a yielding pressure, for the purposes specified.

5. In a baling-press of the character described, a plunger having its head portion, at the upper front end formed with a horizontal mortise and at its front end with a vertical recess, and with a vertical slot that extends the full length of the front end, spiral springs seated in the horizontal mortise, and angle metal cap that fits in the horizontal and vertical mortises in the plunger-head, rods that extend up through the said head, through the springs and through the flat portion of the angle-cap, and means for drawing the said rods with the cap-plate down against the tension of the springs, as set forth.

6. In a baling-press of the character described; in combination with the slotted press-box, the plunger and the concaved bearings or sockets mounted on the press-box; the retainers G having beveled inner edges for engaging the plunger, and rounded bearing members for engaging the concaved sockets, and right-angled wings on the outer edges thereof having recesses G^4, and the pressure-springs secured to the press-box and held to engage the recesses g^5 in the wing members, as set forth.

7. In a baling-press of the character described, the combination with the slotted press-box and the plunger, of the plates H, said plates having concaved seats on their inner face and loops h^3 on their outer faces; of the retainers G having beveled ends, their outer edges having recesses in the wings g', and having circular bearing members g^2 for engaging the concaved seats in the plates H, and the flat spring I having one end passed through the loops h^3 and the other end held to engage the recesses in the wings g', as specified.

805,472. PENCIL-BOX FOR SLATES. JULIUS KOSEL, Newark, N. J. Filed Apr. 13, 1905. Serial No. 255,262.

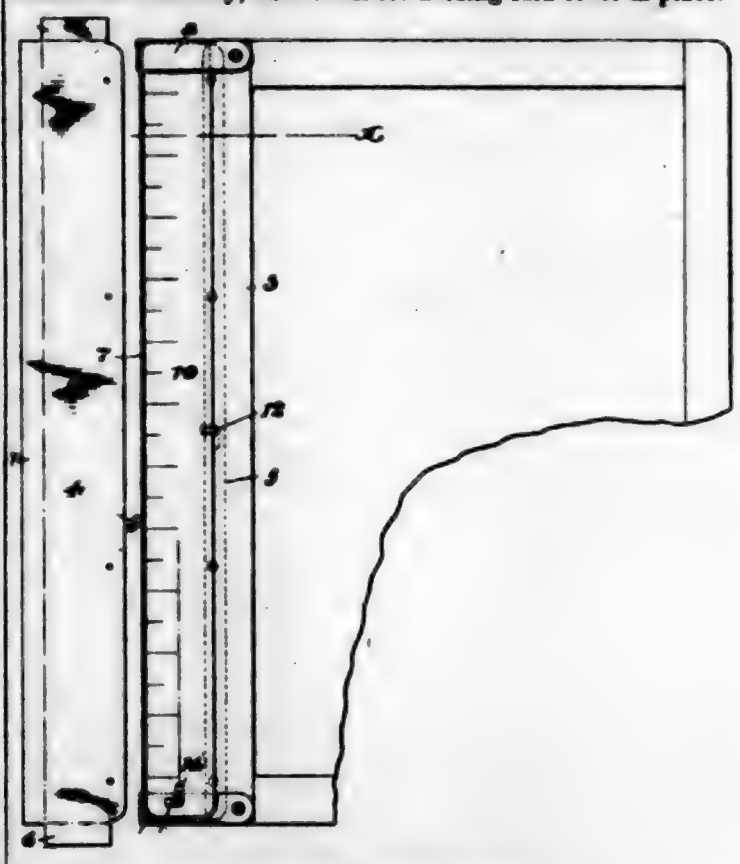
Claim.—1. In a pencil-box, a sheet-metal body part having upturned edges forming side walls, clasps around each end of said body part, one having a rotatable headed staple, and a sheet-metal cover or lid adapted at one end of the box to pass under the clasp and at the other end being slotted to receive said staple.

2. In a pencil-box, a sheet-metal body part having upturned edges forming side walls, a filler-block in one end of said body part, a rotatable headed staple projecting from said filler-block, a sheet-metal cover or lid for the box slotted at one end to receive said staple, and means for retaining the other end of said cover or lid.

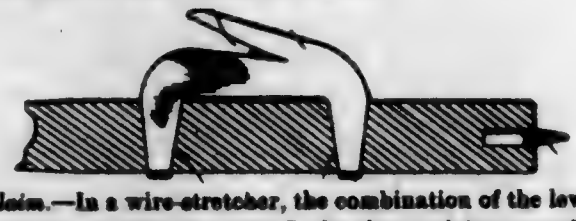
3. The combination with slate, of a pencil-box comprising a sheet-metal body part adapted to overlap upon the slate-frame portion and being secured thereto, end clasps extending around the said body portion and being secured to the slate-frame, and a removable cover for said body portion.

4. The combination with a slate having a wooden frame, of a sheet-metal box-body secured thereto at one edge and having side walls substantially equal in height to the thickness of the said frame, a cover or lid adapted to engage said side walls and frame, and means for holding said cover in place.

5. The combination with a slate having a wooden frame, of a sheet-metal box-body secured thereto at one edge and having side walls substantially equal in height to the thickness of said frame, end clasps extending around the said box-body and secured to the slate-frame, a cover or lid adapted to engage said end clasps and overlie the box-body, and means for holding said cover in place.



805,473. WIRE-STRETCHER. JOE LAMBERT, Catherine, Ala. Filed Mar. 20, 1905. Serial No. 251,123.



Claim.—In a wire-stretcher, the combination of the lever 1 provided at one end with the point 7, the claw or joint-engaging member 2 comprising a plate or body formed longitudinally thereof with the V-shaped slot 3, the lever 1 having spaced openings therein, and the extensions 5 projected from the claw 2 at its opposite extremities and passing through the openings in the lever, the outer ends of the extensions aforesaid being bent laterally to prevent displacement thereof from the lever.

805,474. MEANS FOR INFLATING RUBBER TIRES. ALFONSO G. LAVERTINE and JAMES R. MCNEILAN, Johannesburg, Transvaal. Filed Mar. 6, 1905. Serial No. 248,622.

Claim.—1. In an apparatus for inflating rubber tires by means of a cartridge containing compressed air or gas, means for releasing air or gas and conducting it to the tire to be inflated, said means comprising a needle adapted to perforate the cartridge to release the air or gas and a valve through which the air or gas may pass to the tire to be inflated, means for raising said valve and causing the needle to perforate the cartridge, and means whereby the valve is closed when the means which serve for opening it are released, to allow a portion only of the contents of the cartridge to be utilized.

2. In means for inflating rubber tires by means of cartridges containing compressed air or gas, the combination of a casing adapted to receive the cartridge, a valve seated in said casing, a needle fitted to said valve adapted to perforate the cartridge to release the air or gas when the valve is raised off its seat, a port in the valve for conducting the compressed air or gas to the tire to be inflated, and a piston formed on part of the valve which operates to close the valve when the pressure maintaining the valve in an open position is released, substantially as described.

3. In means for inflating rubber tires by means of cartridges containing compressed air or gas, comprising a casing adapted to receive the cartridge, a valve formed with a stem and seated in said casing, a needle fitted to said valve adapted to perforate the cartridge to release the air or gas when the valve is raised off its seat, a

port through the valve and stem, a rod or tube into which the stem of the valve is fitted, a cup-leather between said stem and rod forming a piston, a lever for moving said rod inward to open the valve and to perforate the cartridge and a port through the valve through which the compressed air or gas may pass to act on the piston to close the valve when the valve is released, and means for conducting the air or gas from the casing to the tire to be inflated, substantially as described.



4. In means for inflating rubber tires, in combination, a cartridge containing compressed air or gas fitted with a perforatable seal at one end, a casing fitted with a resilient ring adapted to receive the end of said cartridge, a cap screwed over the end of the casing to secure the cartridge in position in said resilient ring, a valve located in said casing and a resilient ring forming a seat for said valve, a needle fixed to said valve adapted to perforate the seal in the end of the cartridge, said needle being formed with grooves to permit of the escape of the air or gas from the cartridge when the needle penetrates it, a stem formed on the valve provided with a piston or annular enlargement and with a screw-thread, a rod or tube located in the casing into which the extremity of the stem is screwed, a cup leather or packing located round the piston inside the casing, a port which is closed by the valve, said port communicating with a hole or port formed through the stem and with a hole or passage formed through the rod or tube, a further port formed through the valve which allows the air or gas when released to act on the piston, an enlargement or boss formed on the tube provided with inclines and a guiding pin or screw working in a groove in the casing, a lever pivoted to the casing and a slide pivoted to the lever which operates to move the tube inward to open the valve and at the same time to cause the needle to perforate the cartridge, a bush screwed into the end of the casing for closing the latter and forming a guide for the tube operating the valve, and a flexible tube fitted to the end of said tube for conducting the compressed air or gas to the valve of the tire to be inflated, substantially as described and shown.

5. In an apparatus for inflating rubber tires by means of a cartridge containing compressed air or gas, a holder for a cartridge of the kind mentioned, a needle for perforating said cartridge to release the air or gas, a handle for causing perforation of the cartridge by the needle, a valve, operated by the handle aforesaid, through which the air or gas may pass to the tire to be inflated, and means to allow a portion only of the contents of the cartridge to be utilized.

6. In an apparatus for inflating rubber tires by means of a cartridge containing compressed air or gas, a holder for a cartridge of the kind mentioned, a needle for perforating said cartridge to release the air or gas, a handle for causing perforation of the cartridge by the needle, and a valve, operated by the handle aforesaid, to allow a portion only of the contents of the cartridge to be utilized.

805,475. MATERIAL FOR APPLYING OIL TO AXLE-BEARINGS.

WILLIAM E. LAYCOCK, Sheffield, England. Filed Nov. 17, 1904. Serial No. 233,054.

Claim.—1. The improved material for applying oil to axle-bearings, consisting of elastic fibers and fibers of absorbent material spun together.



2. The improved material for applying oil to axle-bearings, consisting of elastic hair and fibers of absorbent material spun together.

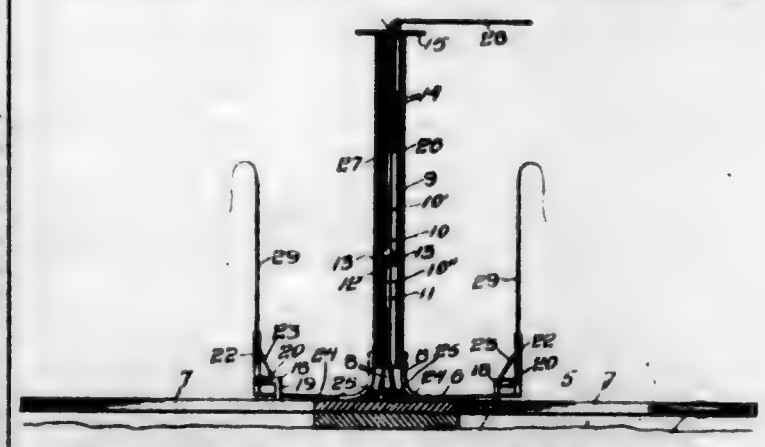
3. The improved material for applying oil to axle-bearings, consisting of elastic fibers and fibers of absorbent material spun together, in a compact curl.

4. The improved material for applying oil to axle-bearings, consisting of elastic fibers and fibers of absorbent material spun together, the elastic fibers having a permanent set in their spun position.

5. In the process of manufacturing a material for applying oil to axle-bearings, the spinning of elastic fibers and fibers of absorbent material together, soaking the product to soften the elastic fibers, and then drying the product to give the elastic fibers a permanent set in their spun position.

805,476. WHIP ATTACHMENT FOR HORSE-POWERS.

THOMAS J. LEIGH, Loraine, Ill. Filed Oct. 28, 1904. Serial No. 230,280.



Claim.—1. The combination with a horse-power including a central platform and radial arms for attachment of horses thereto, of whips pivotally connected with the arms for movement into and out of position to strike horses attached to the arms, means for holding the whips yieldably out of such position, a hollow upright mounted upon the platform, a rod disposed in the upright and arranged for vertical movement, said rod including upper and lower revolubly-connected sections, the lower section being connected with the upright for rotation therewith, connections between the whips and the lower section of the rod for movement of the whips against the action of the holding means when the rod is moved upwardly, said upper section having a longitudinal slot therein, a plate revolubly disposed upon the upper end of the upright, depending supporting-rods secured to the plate and having angular portions at their lower ends engaged in the slot, said plate having an opening formed therethrough, a pulley mounted adjacent to the opening, and a cord passed through the opening and engaged with the pulley, said cord being connected with the upper section of the rod, for movement of the rod vertically when the cord is pulled.

2. The combination with a horse-power including a central platform and radial arms arranged for attachment of horses thereto, of brackets secured to the arms, whips pivotally connected with the brackets for movement into position to strike horses attached to the arms, means for holding the whips yieldably out of such position, an upright mounted upon the platform, a rod disposed in the upright and arranged for vertical movement, said rod including two revolubly-connected sections, one of said sections being connected to the upright for rotation therewith, connections between the whips and the rod for movement of the former against the action of the holding means when the latter is moved upwardly and a cord connected with the upper end of the rod and extending outwardly of the upright, by means of which the rod may be raised.

805,477. PROCESS OF MANUFACTURING BOOT AND SHOE LASTS. ALOIS LEBANY, Budapest, Austria-Hungary. Original application filed Dec. 26, 1902, Serial No. 136,026. Divided and this application filed Jan. 21, 1904. Serial No. 189,088.

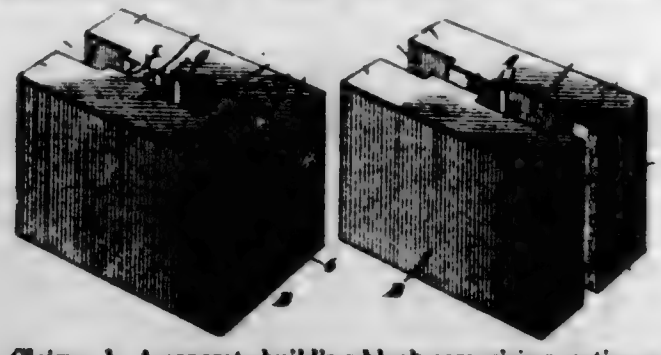
Claim.—1. The process for producing a boot or shoe last, which consists in shaping a plate to the curvature required of the last, covering the foot with a stocking, fitting said plate to the sole of the stocking-covered foot, placing caps on the foot at places required to be made larger in the last, fitting an elastic stocking over the so-prepared foot, then making a matrix therefrom, and lastly preparing a positive mold or last from such matrix.

2. The process for producing a boot or shoe last, corresponding correctly to the form of the foot, which consists in firstly, shaping a plate to the curvature required of the last, secondly, fitting said plate to the sole of the foot; thirdly, fitting on the point of the foot a cap having the required configuration of the point of the boot or shoe; fourthly, placing caps or coverings on any tender part of the foot; fifthly, fitting a stocking or covering over the foot so prepared; and lastly, making a copy of the foot so prepared, substantially as described.

3. The process for producing a boot or shoe last, corresponding correctly to the form of the foot, which consists in firstly, shaping a plate to the curvature required of the last, secondly fitting said plate to the sole of the foot; thirdly, fitting on the point of the foot a cap having the required configuration of the point of the boot or shoe; fourthly, placing caps or coverings on any tender part of the foot; fifthly, fitting a stocking or covering over the foot so prepared; and sixthly, surrounding the foot by means of gypsum or wax, or easily-fusible metal, sand, cement, or the like, so as to prepare a hollow mold thereof; and lastly preparing a positive mold from such hollow mold, substantially as described.

4. The process of preparing lasts from the human foot, consisting in covering the foot with an elastic stocking, shaping a plate of suitable material to correspond to the shape of the expanded foot, placing said plate beneath the foot, attaching a toe-cap to the foot and to said plate, fitting pads on the foot at points to be made larger in the last, covering the so-prepared foot with an elastic stocking, making a matrix therefrom, and then casting a last or positive mold from said matrix.

805,478. CONCRETE BUILDING-BLOCK. EDGAR L. LOBSENZ, Chicago, Ill. Filed Feb. 16, 1905. Serial No. 245,867.



Claim.—1. A concrete building-block comprising sections connected by readily-destructible webs and by permanent ties serving to maintain the rigidity of the block after the connecting-webs have been destroyed, substantially as described.

2. A concrete building-block comprising opposed sections connected by readily-destructible webs and by permanent ties embedded in the sections and extending through the webs and serving to maintain the rigidity of the block after the connecting-webs have been destroyed, substantially as described.

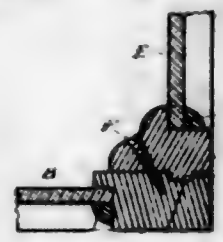
3. A concrete building-block comprising opposed sections and integral concrete webs proportioned and designed to be readily destroyed preliminary to the use of the block, and permanent tie-irons embedded in the sections and serving to maintain the rigidity of the block after the webs have been destroyed, substantially as described.

4. A concrete building-block consisting of the opposed wall-sections 1 originally molded with readily-destructible integral concrete connecting portions 3 formed with weakening-grooves 5 and permanent tie-irons 6 embedded in the sections 1 and maintaining the sections in rigid connection notwithstanding the destruction of said connecting portions, substantially as described.

5. A concrete building-block consisting of the opposed wall-sections 1 originally molded with readily-destructible integral concrete connecting portions 3 formed with weakening-grooves 5 and permanent tie-irons 6 embedded in the sections 1 and maintaining the sections in rigid connection notwithstanding the destruction of said connecting portions, the destructible webs or connecting portions being joined to the sections 1 by widened base portions 4, substantially as described.

6. A concrete building-block consisting of the opposed wall-sections 1 originally molded with readily-destructible integral concrete connecting portions 3 and permanent tie-irons 6 embedded in the sections 1 and maintaining the sections in rigid connection notwithstanding the destruction of said connecting portions, the destructible webs or connecting portions being joined to the sections 1 by widened base portions 4, substantially as described.

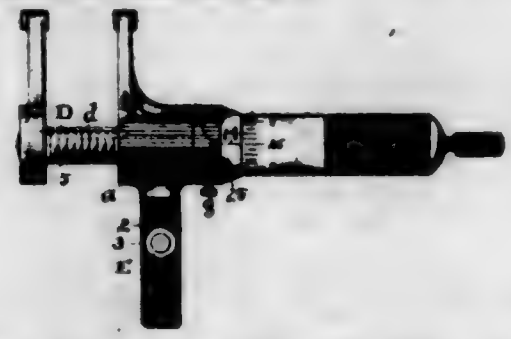
805,479. KNOCKDOWN SHOW-CASE. RAYMOND MANCHA, Detroit, Mich., assignor to Mancha Show Case Company, Detroit, Mich., a Corporation of Michigan. Filed Apr. 3, 1905. Serial No. 253,448.



Claim.—1. A knockdown show-case comprising a pair of meeting-rails for the adjoining sections, which are arranged in planes substantially perpendicular to each other, each of said rails being rabbeted to receive the transparent panel from the outside, and said rails when placed together forming a substantially square cross-section with the inner angle beveled off, and a securing-screw entering said beveled face and extending into engagement with the other rail at an oblique angle to the meeting plane.

2. A knockdown show-case comprising a pair of meeting-rails for adjoining sections, which are arranged in planes substantially perpendicular to each other, said rails having a longitudinally-extending tongue-and-groove engagement and each being rabbeted to receive the transparent panel from the outside, one of said rails being of rectangular cross-section and the other being beveled at its inner corner, and the dimensions of said rails being such that together they form a substantially uniform distance between the glass panels and the outer face of the rail, and a securing-screw engaging the beveled face of one rail and extending into engagement with the other rail at an oblique angle to the meeting plane.

805,480. MICROMETER. FRANK G. MARBACH, Medina, Ohio. Filed May 5, 1905. Serial No. 259,060.



Claim.—1. In micrometers, an inner jaw having a hub with a tubular bore, a substantially tubular barrel having a reduced portion projected into said bore and a handle portion at the other end, said reduced portion of the barrel having a threaded extremity and a nut thereon confining the said jaw upon the barrel, an outer jaw having a stem mounted and threaded in said barrel, said stem provided with a flat graduated face lengthwise on its outer portion, and a nut engaged over said flattened graduated portion of the stem and threaded in the hub of the inner jaw, thereby helping to hold said jaws in right working relations.

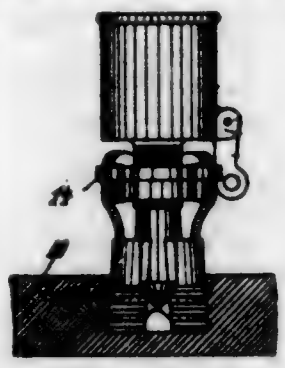
2. A micrometer having a barrel provided with a handle at one end and an inner jaw rotatably mounted on the opposite end of said barrel, a spring-pressed bolt adapted to frictionally engage said jaw with said barrel, and an outer jaw having a threaded stem projected into said barrel and provided with a flat-faced side lengthwise, and means about said stem engaged with said inner jaw and constructed to lock said parts together against separate rotation.

3. In micrometers, a pair of jaws and a barrel having one end mounted in the inner of said jaws and the outer jaw provided with a threaded stem engaged in said barrel and having a flat graduated face, a nut about said stem over said flattened portion and screwed into the face of said inner jaw and constructed to lock said stem and said inner jaw together against separate rotation.

4. In micrometers, an inner and an outer jaw and a barrel carrying said jaws, said outer jaw having a stem projecting into said barrel through the inner jaw and provided with a flat graduated portion lengthwise, a washer engaged over said stem having a flat portion corresponding to the flat graduated portion thereon and screwed into the said inner jaw, and a collar threaded onto said barrel behind said nut in the inner jaw.

5. In micrometers, inner and outer jaws and a handled barrel carrying said jaws, the inner jaw having a hub sleeved over one end of said barrel and provided with an annular recess on its outer side about the bore therein, a collar in said recess fixed on the end of said barrel and holding said parts operatively together, a graduated stem for the said outer jaw mounted in said barrel and a threaded washer sleeved over said stem and engaged in said recess outside said collar.

805,481. MEANS FOR SECURING HANDLES TO BROOMS, BRUSHES, AND THE LIKE. PETER MEYER, Cologne-Nippes, Germany, assignor to Hermann Heinrich Brumborn, Vegesack, Holstein, Germany. Filed Nov. 7, 1904. Serial No. 231,756.



Claim.—1. A detachable union for brushes and handles comprising an expanding member, comprising a threaded shank having a tapering end, an expansible device sunk in the brush-body comprising gripping-plates having interior tapering engaging surfaces, and a locking-ring to which said plates are loosely secured having interior threaded portions for engagement with said shank.

2. A detachable union for brushes and handles comprising an expanding member fastened to the handle and provided with a threaded shank having a lower tapering end, an expansible device sunk in the brush-body and comprising gripping-plates having interior tapering engaging surfaces, and a locking-ring to which said plates are loosely secured having interior threads for engagement with the shank.

3. A detachable union for brushes and handles comprising a socket provided with a threaded shank having a lower tapering end, an expansible device sunk in the brush-body and comprising gripping-plates having interior tapering engaging surfaces and exterior ribs, said plates having reduced upper ends provided with outwardly-opening jaws, and a locking-ring provided with recesses receiving said jaws and interior screw-threads for engagement with said shank.

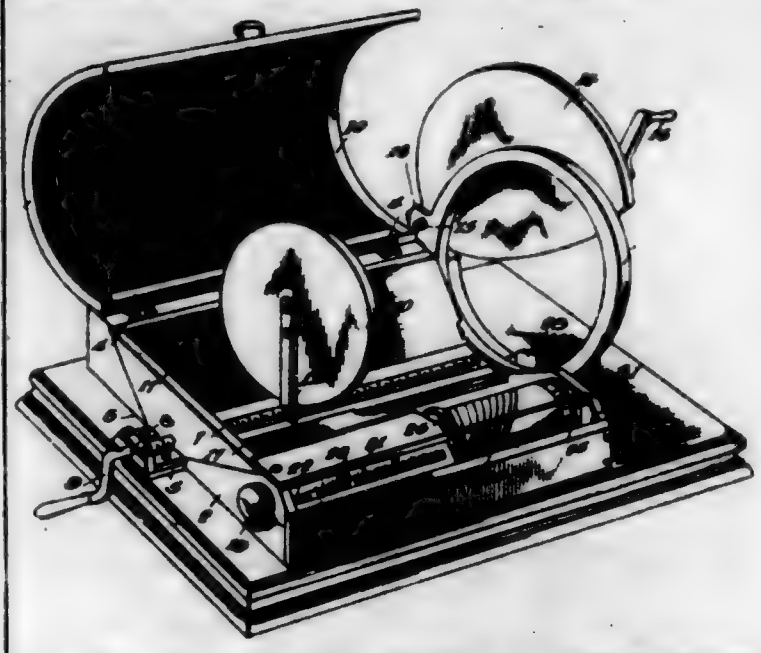
4. A detachable union for brushes and handles comprising a socket secured to the handle and provided with a threaded shank having a lower conical end, a locking-lever pivotally mounted on said socket, an expansible device sunk in the brush-body and comprising gripping-plates having interior tapering engaging surfaces and exterior ribs, said plates having reduced upper ends provided with jaws, and a locking-ring provided with radially-extending recesses for said jaws and interior screw-threads engaging said shank, said ring having exterior locking-teeth for engagement with said locking-lever.

805,482. COMPUTING CHEESE-CUTTER. PHILIP S. MCCROSKEY, Marvin, Kans. Filed Dec. 22, 1904. Serial No. 237,973.

Claim.—1. In a cheese-cutter, the combination of cutting mechanism embodying a cutter, a computing device consisting of a gross-value scale, a division-scale, a cheese-measuring scale associated with the division-scale, a divisional-value scale, an indicator coöperating with the divisional-value scale, and means determined by the relation of the measuring-scale to the division-scale for adjusting the computing device with relation to the indicator.

2. In a cheese-cutter, the combination of a cutting mechanism embodying a cutter, a computing device consisting of a gross-value scale, a division-scale, a cheese-measuring scale associated with the division-scale, a divisional-value scale, an indicator coöperating with the divisional-value scale, and means for adjusting the divisional-value scale relative to the indicator as determined by the relation of the measuring-scale and division-scale.

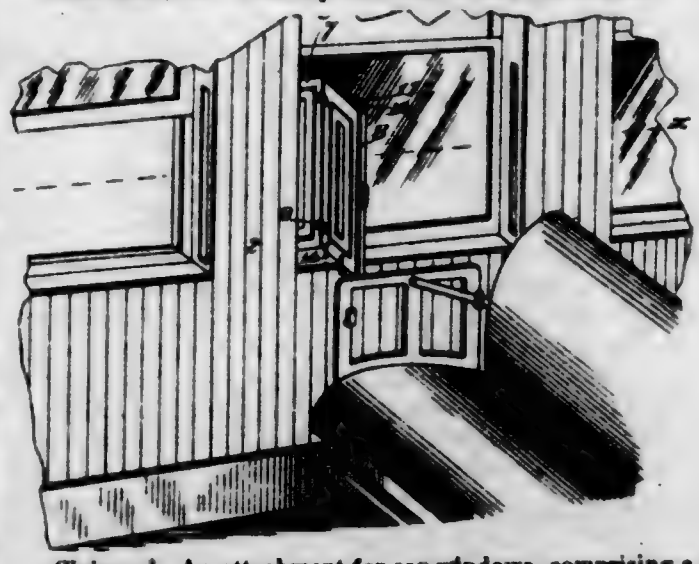
3. In a cheese-cutter, the combination of a cutting mechanism embodying a cutter, a computing device consisting of a gross-value scale, a division-scale, a cheese-measuring scale adjacent the division-scale, a divisional-value scale, an indicator coöperating with the divisional-value scale, and means for adjusting the divisional-value scale with relation to the indicator including an adjusting-scale embodying elements corresponding to the division-scale for positioning the computing device relative to the indicator.



4. In a cheese-cutter, the combination of a cutting mechanism embodying a cutter, an adjustable follower, a computing device comprising a roller having a gross-value scale, a divisional-value scale, and an adjusting-scale thereon, an indicator comprising a pointer coöperating with the divisional-value scale, and a gage device connected with said pointer and actuated by the material operated upon.

5. In a cheese-cutter, the combination of a cutting mechanism comprising a cutter, a follower, a roller provided with a gross-value scale surrounding the same, a division-scale, a cheese-length reference-scale associated with said division-scale, a divisional-value scale embodying spirally-arranged lines having the space therebetween gradually increasing to an ascertained point, an adjusting-scale for the roller composed of elements corresponding with the division-scale, a pointer coöperating with the adjusting-scale, an indicator comprising a spring-actuated rod, a pointer projected from said rod and coöperating with the divisional-value scale, and a gage carried by the spring-actuated rod.

805,483. DRAFT-DEFLECTOR FOR CAR-WINDOWS. PAUL H. NEFFLEN, Lonaconing, Md., assignor of one-half to Daniel Webster, Cumberland, Md. Filed Sept. 24, 1904. Serial No. 225,781.



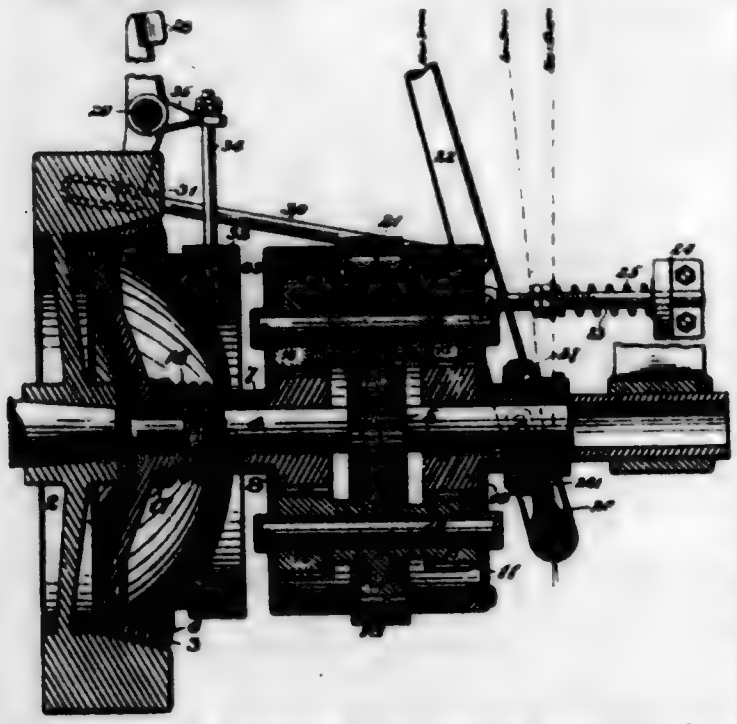
Claim.—1. An attachment for car-windows, comprising a protector having two or more members or sections hinged or pivoted together, the fixed rails, slides secured to the sections and working in the rails, and means connecting the slides with the rails to effect a sliding and swinging movement of the sections into the car.

2. An attachment for car-windows comprising a protector having two or more sections connected together to swing one from the other in either direction into a car, rails fixed to the car between the windows, slides secured to the sections and working in the rails, and

means loosely connecting the rails with the slides to effect the swinging and sliding movement of the sections.

3. The combination with a pair of straight fixed rails, of the protector-sections having swinging connections, a pair of slides divided at the juncture of the sections, and a loosely-swiveled stud connecting the slides with the rails to permit alinement of the sections for retraction and to permit a swinging movement of the sections into a car.

805,484. POWER-TRANSMITTING APPARATUS. CARLTON R. RADCLIFFE, New York, N. Y. Filed Jan. 17, 1903. Renewed May 27, 1905. Serial No. 262,621



Claim.—1. In an apparatus of the character described, a driving member and a driven member, intermediate mechanism comprising a shaft, a gear and a clutch supported thereby, the latter being adapted to be connected with or freed from the driving member, gears revolubly mounted on said shaft, a gear-case, gears of different ratios supported by said case, one of the same meshing with the gear on the aforesaid shaft, the others meshing with the gears revolubly mounted on said shaft, a clutch operatively connected with one of the latter gears, the other of said gears being connected with the driven member, and means for controlling certain members of the intermediate mechanism to produce changes in the speed of the driven part relatively to the driving part.

2. In an apparatus of the character described, a driving member, and a driven member, a gear carried by the driven member, a shaft in line with said driven member, a gear carried thereby, a clutch carried by said shaft to connect or disconnect the same with the driving member, the said clutch and shaft having longitudinal movement relatively to the driving member, a second clutch and a gear connected therewith said second clutch being adapted to connect said gear with said driving member, a planetary-gear system meshing with all of the aforesaid gears, and means to shift the planetary-gear system longitudinally relatively to said shaft and means to lock said second clutch, or said planetary-gear system against planetary movement, whereby the forward speed of the driven member may be qualified relatively to the rotation of the driving member and whereby the driving and driven members may be disconnected and whereby the direction of rotation of the driven member relatively to the driving member may be reversed.

3. In an apparatus of the character described, a driving member and a driven member, a planetary-gear system intermediate of said members said system including gears of different ratios, a gear-case supporting the same, an independent shaft, a gear carried thereby meshing with one of said planetary gears, said shaft having longitudinal movement relatively to the driving member, a clutch connected to said shaft, a second clutch revoluble about the axis of said shaft and a gear carried by said clutch and meshing with the planetary system, and means to shift said planetary system to free the clutch or clutches, and means for controlling certain members of the intermediate mechanism to produce changes in the speed of the driven part relatively to the driving part.

4. In an apparatus of the character described, a driving member, a clutch coacting therewith, a shaft secured to said clutch, a gear secured to said shaft, a second clutch revolubly mounted on said shaft, a gear secured to said second clutch, said second-clutch cooperating with the first-named clutch and the driving member, a driven member, a gear thereon, and a set of gears having planetary movement and in mesh with the aforesaid gears, all of said gears having different ratios, means for arresting and releasing the planetary movement of the planetary gears, and means for arresting or releasing the second clutch, and means for throwing the second clutch out of engagement with the first-named clutch and the first-named clutch out of engagement with the driving member, all arranged so that the forward speed of the driven member may be variably controlled or whereby the driven member may be disconnected from the driving member, or whereby the rotation of the driven member relatively to the driving member may be reversed.

5. In an apparatus of the character described, a driving member and a driven member, a planetary-gear system intermediate of said members, a shaft intermediate of said members and having rotative and longitudinal movement relative thereto, a clutch within the driving member and a second clutch within the first-mentioned clutch, said clutches being engaged with said shaft and with said planetary-gear system, respectively, and means to operate and control said parts to vary, cut out, or reverse the rotation of the driven member.

6. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft and means for connecting or disconnecting the same with the driving member, a gear on said shaft, a planetary-gear system operatively connected with said gear, a clutch within the first-mentioned clutch, a gear carried thereby and meshing with said planetary-gear system, a gear on the driven member meshing with the planetary-gear system, means for locking or unlocking the first-mentioned clutch with the driving member, means for locking or unlocking the second-mentioned clutch with the driving member, means for locking the second-mentioned clutch against rotation, means for locking the planetary-gear system against planetary movement, the ratio of the gears being such that the speed of the driven member may be varied in a forwardly direction, or reversed.

7. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a gear thereon, a clutch whereby said shaft may be engaged with or freed from the driving member, a second gear loosely mounted on said shaft, a clutch carried thereby whereby said gear may be connected to or disconnected from said driving member, planetary gears, a gear on said driven member meshing with the planetary gears, all of said gears being in mesh at all times, means for controlling the rotation of said parts independently, and means for shifting the planetary-gear system to control the operation of the clutches whereby the forward speed of the driven member may be qualified relatively to the driving member, or disconnected from said driving member, or reversed.

8. In an apparatus of the character described, a driving member and a driven member, an intermediate plantary-gear system constantly in mesh, the planetary gears being capable of longitudinal movement relatively to said driving and driven members and means operated thereby to impart variable speed in the driven member relatively to the driving member or disconnect the same or reverse the direction of rotation of the same, means for shifting said gears longitudinally, a single lever for controlling and varying the forward speed of the driven member or for disconnecting the same, a second lever coöperatively associated with the first lever whereby the transmission of power to the driven member to cause a forward rotation may be checked and whereby the parts may be controlled to set up differential action and a reverse rotation of the driven member.

9. In an apparatus of the character described, a driving member and a driven member, an intermediate planetary-gear system constantly in mesh, the planetary gears being capable of longitudinal movement relatively to said driving and driven members and means operated thereby to impart variable speed in the driven member relatively to the driving member or disconnect the same or reverse the direction of rotation of the same, means for shifting said gears longitudinally, a single lever for controlling and varying the forward speed of the driven member or for disconnecting the same, a second lever coöperatively associated with the first lever whereby the transmission of power to the driven member to cause a forward rotation may be checked and whereby the parts may be controlled to set up differential action and a reverse rotation of the driven member, the first-mentioned lever being capable of independently performing its functions, the second-mentioned lever being incapable of performing its functions independently of the first-mentioned lever.

10. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a gear thereon, a second gear revolubly mounted on said shaft, and means for connecting and disconnecting said gear with said driving member, a gear on the

driven part, all of said gears being of different ratios, a set of planetary gears revoluble around a common axis and in mesh with aforesaid gears at all times, and means for locking all of said gears against independent rotation, or for permitting the independent rotation of the said gears and arresting the planetary movement of the differential gears, or for imparting differential action in said gears to effect the reverse rotation of the driven part.

11. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a gear thereon, a second gear revolubly mounted on said shaft, and means for connecting and disconnecting said gear with said driving member, a gear on the driven part, all of said gears being of different ratios, a set of planetary gears revoluble around a common axis and in mesh with aforesaid gears at all times, and means for locking all of said gears against independent rotation, or for permitting the independent rotation of the said gears and arresting the planetary movement of the axis of the differential gears, or for imparting differential action forsaid gears to effect the reverse rotation of the driven part, all of said gears, excepting the gear on the driven part, being longitudinally movable as well as rotatable.

12. In an apparatus of the character described, a driving member, a driven member, a shaft intermediate of said members, the ends of said parts being telescopic and in line, a gear on the intermediate shaft, a planetary-gear system including gears of varying sizes, said gears having a planetary movement around said intermediate shaft, a gear fixed on the driven part and in mesh with one of the planetary gears, a second gear revolubly mounted on said shaft and in mesh with still another of the planetary gears, a clutch for engaging or disengaging the intermediate shaft with the driving member, and another clutch for engaging or disengaging the said second gear with said driving member, and means for controlling certain members of the intermediate mechanism to produce changes in the speed of the driven part relatively to the driving part.

13. In an apparatus of the character described, a driving member, a driven member, a shaft intermediate of said members, the ends of said parts being telescopic and in line, a gear on the intermediate shaft, a planetary-gear system including gears of varying sizes, said gears having a planetary movement around said intermediate shaft, a gear on the driven part in mesh with one of the planetary gears, a second gear revolubly mounted on said shaft and in mesh with still another of the planetary gears, a clutch for engaging or disengaging the intermediate shaft with the driving member, and another clutch for engaging or disengaging said second gear with said driving member, means for locking said planetary gears against planetary movement when the first-mentioned clutch is in operative engagement with the driving member, means for locking said second gear against rotation when the first-mentioned locking mechanism is freed, means for simultaneously locking the intermediate shaft against independent rotation relatively to the driving member and simultaneously locking the gear rotatably mounted thereon, against rotation thereon.

14. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a gear thereon, means whereby said shaft may be engaged with or freed from the driving member, a gear rotatably mounted on said shaft, means whereby the same may be connected with or disengaged from said driving member, a gear on the driven member and concentric with said shaft, all of said gears having clearance-space between them, the first two mentioned gears having longitudinal motion, planetary gears, means to carry said planetary gears, said planetary gears being in mesh with the aforesaid gears constantly, a brake for arresting the planetary movement of the planetary gears and for arresting the gear which is loosely mounted on the intermediate shaft, substantially as described.

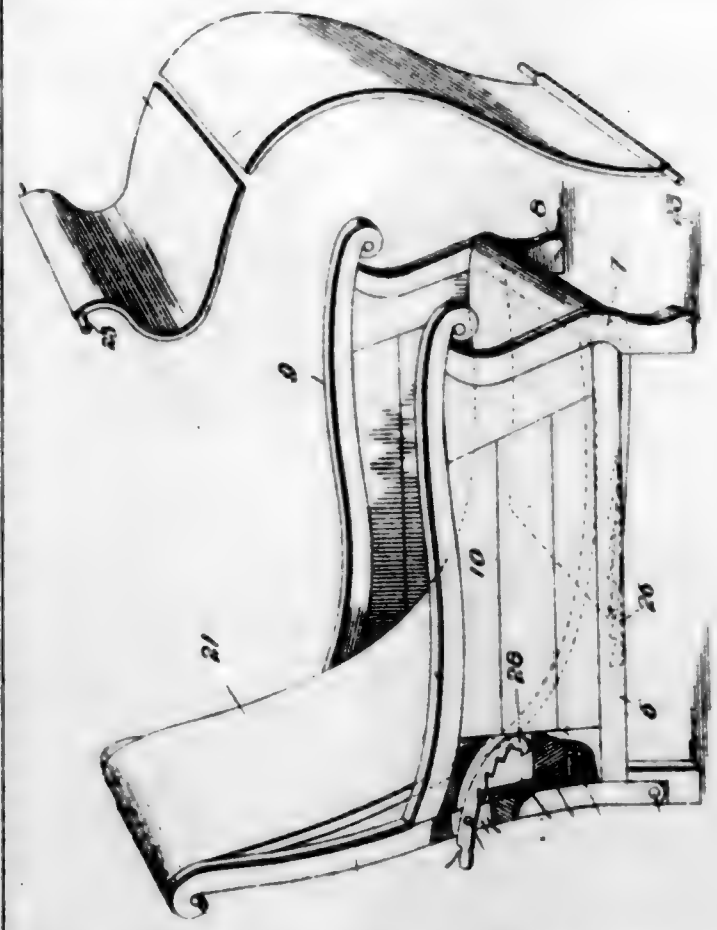
15. In a power-transmission apparatus, a driving member, a driven member, an intermediate train of differential gears, a case supporting the same said case having longitudinal and rotative movement relatively to said driving and driven members, and means coöperating with said gear-case and operated by the movement of said case whereby the forward speed of the driven member may be modified, or the driven member disconnected from the driving member, or the rotation of the driven member reversed relatively to said driving member.

16. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a train of differential gearing connecting the same and said intermediate shaft, a gear carried by said intermediate shaft, said shaft being located in line with the said driving member and driven member and supported thereby and having longitudinal movement independently thereof, means for producing said longitudinal movement, a pair of tapered annular friction-clutches coöperating one within the other, one of said clutches coöperating with the driving member, the differential-gear system being longitudinally movable to free one or both of said clutches.

17. In an apparatus of the character described, a driving member, a fly-wheel having an internally-tapered flange, a tapered clutch adapted to coact therewith, a shaft driven by said tapered clutch, a gear thereon, a second tapered clutch coacting with the first-named clutch and revolubly mounted on said shaft, a gear carried by said second clutch, a spring between said clutches, a driven member in line with said shaft, a gear carried by said driven member, all of said gears being of different ratios, a set of planetary gears having a common axis and meshing with the aforesaid gears, a gear-case supporting said planetary gears, means for shifting said gear-case to release one or both of said clutches, and means to arrest the rotation of the gear-case or the rotation of one of said clutches, neither of said arresting mechanisms being operated simultaneously

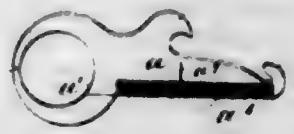
18. In a power-transmission apparatus, a driving member, a driven member, an intermediate shaft, a gear supported thereon and driven thereby, a planetary-gear system driven by said gear, said gear and said planetary system being relatively movable longitudinally, a clearance-space being provided to permit of said relative longitudinal movement, means for effecting said longitudinal movement, and means to check at will the planetary movement of said planetary system.

805,485. **RECLINING-CHAIR.** WILLIAM K. RICE, Winona, Minn. Filed Jan. 27, 1906. Serial No. 342,907.



Claim.—A chair having a seat-frame, and a back-frame, the seat-frame having racks secured to the side bars thereof, a seat and back made of flexible material connected at the top to the back and extending at the lower end around and under the front bar of the seat-frame, and having at said end a bar adjustably engaged in the racks.

805,486. **POCKET-TOOL.** JULIUS T. ROSENHEIMER, New York, N. Y. Filed Sept. 21, 1905. Serial No. 279,377.

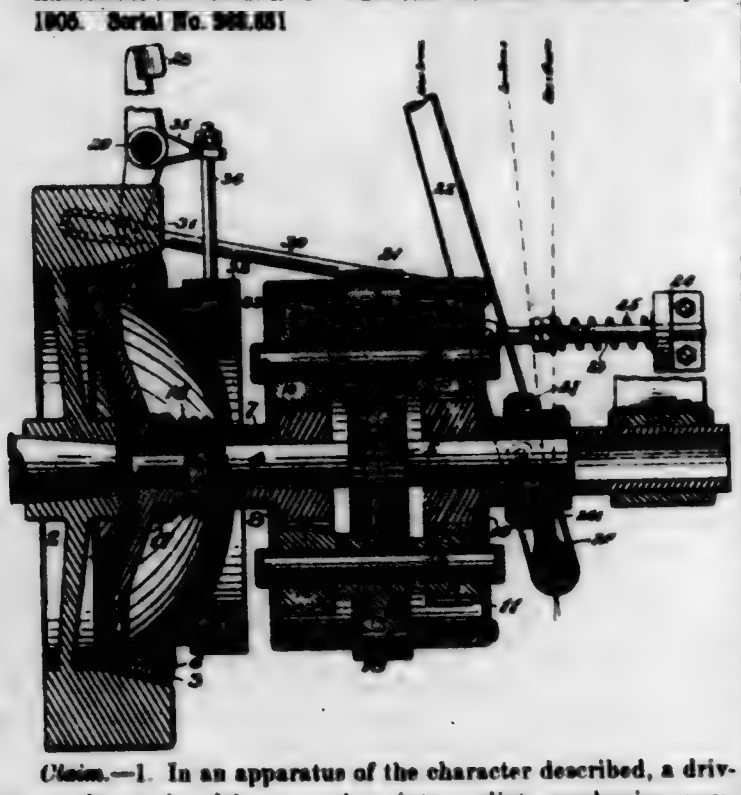


Claim.—A pocket-tool consisting of a blade having a handle, a curved bearing edge, and a pair of facing hooks that project above the central bulge of said edge, substantially as specified.

means loosely connecting the rails with the slides to effect the swinging and sliding movement of the sections.

3. The combination with a pair of straight fixed rails, of the protector-sections having swinging connections, a pair of slides divided at the juncture of the sections, and a loosely-swiveled stud connecting the slides with the rails to permit alinement of the sections for retraction and to permit a swinging movement of the sections into a car.

805,484. POWER-TRANSMITTING APPARATUS. CARLTON R. RADCLIFFE, New York, N. Y. Filed Jan. 17, 1903. Renewed May 27, 1905. Serial No. 262,651



Claim.—1. In an apparatus of the character described, a driving member and a driven member, intermediate mechanism comprising a shaft, a gear and a clutch supported thereby, the latter being adapted to be connected with or freed from the driving member, gears revolubly mounted on said shaft, a gear-case, gears of different ratios supported by said case, one of the same meshing with the gear on the aforesaid shaft, the others meshing with the gears revolubly mounted on said shaft, a clutch operatively connected with one of the latter gears, the other of said gears being connected with the driven member, and means for controlling certain members of the intermediate mechanism to produce changes in the speed of the driven part relatively to the driving part.

2. In an apparatus of the character described, a driving member, and a driven member, a gear carried by the driven member, a shaft in line with said driven member, a gear carried thereby, a clutch carried by said shaft to connect or disconnect the same with the driving member, the said clutch and shaft having longitudinal movement relatively to the driving member, a second clutch and a gear connected therewith said second clutch being adapted to connect said gear with said driving member, a planetary-gear system meshing with all of the aforesaid gears, and means to shift the planetary-gear system longitudinally relatively to said shaft and means to lock said second clutch, or said planetary-gear system against planetary movement, whereby the forward speed of the driven member may be qualified relatively to the rotation of the driving member and whereby the driving and driven members may be disconnected and whereby the direction of rotation of the driven member relatively to the driving member may be reversed.

3. In an apparatus of the character described, a driving member and a driven member, a planetary-gear system intermediate of said members said system including gears of different ratios, a gear-case supporting the same, an independent shaft, a gear carried thereby meshing with one of said planetary gears, said shaft having longitudinal movement relatively to the driving member, a clutch connected to said shaft, a second clutch revoluble about the axis of said shaft and a gear carried by said clutch and meshing with the planetary system, and means to shift said planetary system to free the clutch or clutches, and means for controlling certain members of the intermediate mechanism to produce changes in the speed of the driven part relatively to the driving part.

4. In an apparatus of the character described, a driving member, a clutch coacting therewith, a shaft secured to said clutch, a gear secured to said shaft, a second clutch revolubly mounted on said shaft, a gear secured to said second clutch, said second-clutch cooperating with the first-named clutch and the driving member, a driven member, a gear thereon, and a set of gears having planetary movement and in mesh with the aforesaid gears, all of said gears having different ratios, means for arresting and releasing the planetary movement of the planetary gears, and means for arresting or releasing the second clutch, and means for throwing the second clutch out of engagement with the first-named clutch and the first-named clutch out of engagement with the driving member, all arranged so that the forward speed of the driven member may be variably controlled or whereby the driven member may be disconnected from the driving member, or whereby the rotation of the driven member relatively to the driving member may be reversed.

5. In an apparatus of the character described, a driving member and a driven member, a planetary-gear system intermediate of said members, a shaft intermediate of said members and having rotative and longitudinal movement relative thereto, a clutch within the driving member and a second clutch within the first-mentioned clutch, said clutches being engaged with said shaft and with said planetary-gear system, respectively, and means to operate and control said parts to vary, cut out, or reverse the rotation of the driven member.

6. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft and means for connecting or disconnecting the same with the driving member, a gear on said shaft, a planetary-gear system operatively connected with said gear, a clutch within the first-mentioned clutch, a gear carried thereby and meshing with said planetary-gear system, a gear on the driven member meshing with the planetary-gear system, means for locking or unlocking the first-mentioned clutch with the driving member, means for locking or unlocking the second-mentioned clutch with the driving member, means for locking the second-mentioned clutch against rotation, means for locking the planetary-gear system against planetary movement, the ratio of the gears being such that the speed of the driven member may be varied in a forwardly direction, or reversed.

7. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a gear thereon, a clutch whereby said shaft may be engaged with or freed from the driving member, a second gear loosely mounted on said shaft, a clutch carried thereby whereby said gear may be connected to or disconnected from said driving member, planetary gears, a gear on said driven member meshing with the planetary gears, all of said gears being in mesh at all times, means for controlling the rotation of said parts independently, and means for shifting the planetary-gear system to control the operation of the clutches whereby the forward speed of the driven member may be qualified relatively to the driving member, or disconnected from said driving member, or reversed.

8. In an apparatus of the character described, a driving member and a driven member, an intermediate plantary-gear system constantly in mesh, the planetary gears being capable of longitudinal movement relatively to said driving and driven members and means operated thereby to impart variable speed in the driven member relatively to the driving member or disconnect the same or reverse the direction of rotation of the same, means for shifting said gears longitudinally, a single lever for controlling and varying the forward speed of the driven member or for disconnecting the same, a second lever cooperatively associated with the first lever whereby the transmission of power to the driven member to cause a forward rotation may be checked and whereby the parts may be controlled to set up differential action and a reverse rotation of the driven member.

9. In an apparatus of the character described, a driving member and a driven member, an intermediate planetary-gear system constantly in mesh, the planetary gears being capable of longitudinal movement relatively to said driving and driven members and means operated thereby to impart variable speed in the driven member relatively to the driving member or disconnect the same or reverse the direction of rotation of the same, means for shifting said gears longitudinally, a single lever for controlling and varying the forward speed of the driven member or for disconnecting the same, a second lever coöperatively associated with the first lever whereby the transmission of power to the driven member to cause a forward rotation may be checked and whereby the parts may be controlled to set up differential action and a reverse rotation of the driven member, the first-mentioned lever being capable of independently performing its functions, the second-mentioned lever being incapable of performing its functions independently of the first-mentioned lever.

10. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a gear thereon, a second gear revolubly mounted on said shaft, and means for connecting and disconnecting said gear with said driving member, a gear on the

driven part, all of said gears being of different ratios, a set of planetary gears revoluble around a common axis and in mesh with aforesaid gears at all times, and means for locking all of said gears against independent rotation, or for permitting the independent rotation of the said gears and arresting the planetary movement of the differential gears, or for imparting differential action in said gears to effect the reverse rotation of the driven part.

11. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a gear thereon, a second gear revolubly mounted on said shaft, and means for connecting and disconnecting said gear with said driving member, a gear on the driven part, all of said gears being of different ratios, a set of planetary gears revoluble around a common axis and in mesh with aforesaid gears at all times, and means for locking all of said gears against independent rotation, or for permitting the independent rotation of the said gears and arresting the planetary movement of the axis of the differential gears, or for imparting differential action foresaid gears to effect the reverse rotation of the driven part, all of said gears, excepting the gear on the driven part, being longitudinally movable as well as rotatable.

12. In an apparatus of the character described, a driving member, a driven member, a shaft intermediate of said members, the ends of said parts being telescopic and in line, a gear on the intermediate shaft, a planetary-gear system including gears of varying sizes, said gears having a planetary movement around said intermediate shaft, a gear fixed on the driven part and in mesh with one of the planetary gears, a second gear revolubly mounted on said shaft and in mesh with still another of the planetary gears, a clutch for engaging or disengaging the intermediate shaft with the driving member, and another clutch for engaging or disengaging the said second gear with said driving member, and means for controlling certain members of the intermediate mechanism to produce changes in the speed of the driven part relatively to the driving part.

13. In an apparatus of the character described, a driving member, a driven member, a shaft intermediate of said members, the ends of said parts being telescopic and in line, a gear on the intermediate shaft, a planetary-gear system including gears of varying sizes, said gears having a planetary movement around said intermediate shaft, a gear on the driven part in mesh with one of the planetary gears, a second gear revolubly mounted on said shaft and in mesh with still another of the planetary gears, a clutch for engaging or disengaging the intermediate shaft with the driving member, and another clutch for engaging or disengaging said second gear with said driving member, means for locking said planetary gears against planetary movement when the first-mentioned clutch is in operative engagement with the driving member, means for locking said second gear against rotation when the first-mentioned locking mechanism is freed, means for simultaneously locking the intermediate shaft against independent rotation relatively to the driving member and simultaneously locking the gear rotatably mounted thereon, against rotation thereon.

14. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a gear thereon, means whereby said shaft may be engaged with or freed from the driving member, a gear rotatably mounted on said shaft, means whereby the same may be connected with or disengaged from said driving member, a gear on the driven member and concentric with said shaft, all of said gears having clearance-space between them, the first two mentioned gears having longitudinal motion, planetary gears, means to carry said planetary gears, said planetary gears being in mesh with the aforesaid gears constantly, a brake for arresting the planetary movement of the planetary gears and for arresting the gear which is loosely mounted on the intermediate shaft, substantially as described.

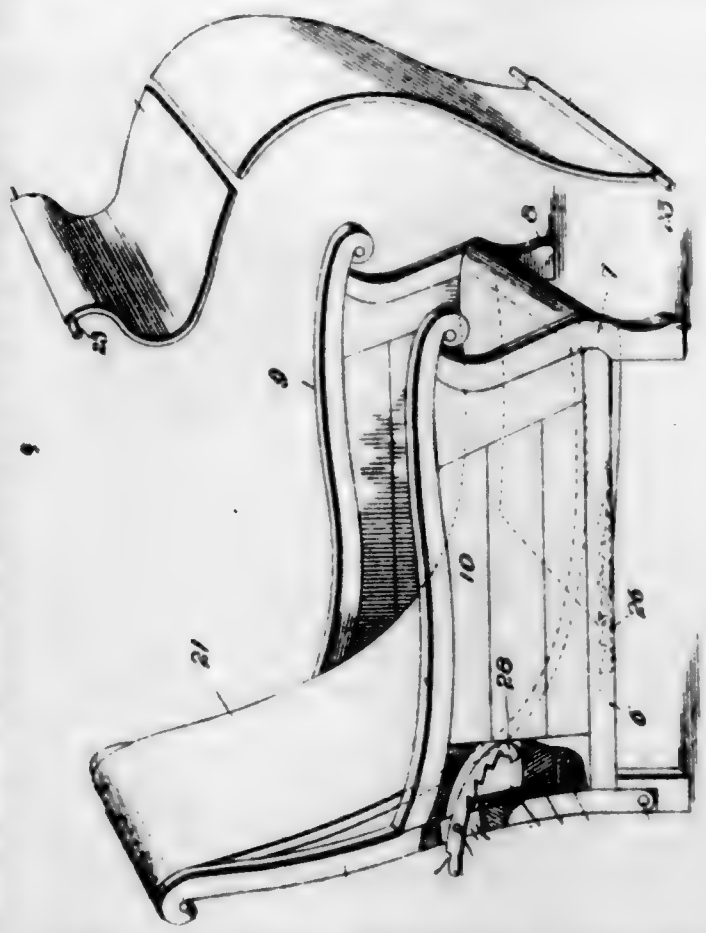
15. In a power-transmission apparatus, a driving member, a driven member, an intermediate train of differential gears, a case supporting the same said case having longitudinal and rotative movement relatively to said driving and driven members, and means coöperating with said gear-case and operated by the movement of said case whereby the forward speed of the driven member may be modified, or the driven member disconnected from the driving member, or the rotation of the driven member reversed relatively to said driving member.

16. In an apparatus of the character described, a driving member, a driven member, an intermediate shaft, a train of differential gearing connecting the same and said intermediate shaft, a gear carried by said intermediate shaft, said shaft being located in line with the said driving member and driven member and supported thereby and having longitudinal movement independently thereof, means for producing said longitudinal movement, a pair of tapered annular friction-clutches coöperating one within the other, one of said clutches coöperating with the driving member, the differential-gear system being longitudinally movable to free one or both of said clutches.

17. In an apparatus of the character described, a driving member, a fly-wheel having an internally-tapered flange, a tapered clutch adapted to coact therewith, a shaft driven by said tapered clutch, a gear thereon, a second tapered clutch coacting with the first-named clutch and revolubly mounted on said shaft, a gear carried by said second clutch, a spring between said clutches, a driven member in line with said shaft, a gear carried by said driven member, all of said gears being of different ratios, a set of planetary gears having a common axis and meshing with the aforesaid gears, a gear-case supporting said planetary gears, means for shifting said gear-case to release one or both of said clutches, and means to arrest the rotation of the gear-case or the rotation of one of said clutches, neither of said arresting mechanisms being operated simultaneously

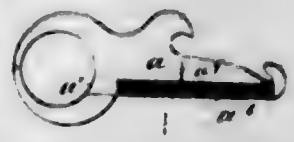
18. In a power-transmission apparatus, a driving member, a driven member, an intermediate shaft, a gear supported thereon and driven thereby, a planetary-gear system driven by said gear, said gear and said planetary system being relatively movable longitudinally, a clearance-space being provided to permit of said relative longitudinal movement, means for effecting said longitudinal movement, and means to check at will the planetary movement of said planetary system.

805,485. **RECLINING-CHAIR.** WILLIAM K. RICE, Winona, Minn. Filed Jan. 27, 1905. Serial No. 242,907.



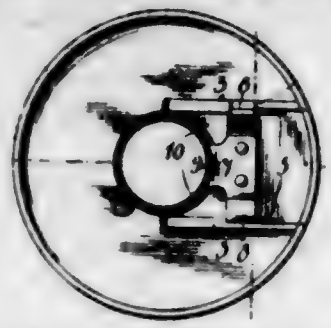
Claim.—A chair having a seat-frame, and a back-frame, the seat-frame having racks secured to the side bars thereof, a seat and back made of flexible material connected at the top to the back and extending at the lower end around and under the front bar of the seat-frame, and having at said end a bar adjustably engaged in the racks.

805,486. **POCKET-TOOL.** JULIUS T. ROSENHEIMER, New York, N. Y. Filed Sept. 21, 1905. Serial No. 279,377.



Claim.—A pocket-tool consisting of a blade having a handle, a curved bearing edge, and a pair of facing hooks that project above the central bulge of said edge, substantially as specified.

805,487. PIPE-COLLAR. MORTIMER C. ROOSEVELT, Cleveland, Ohio. Filed Jan. 11, 1905. Serial No. 240,606.

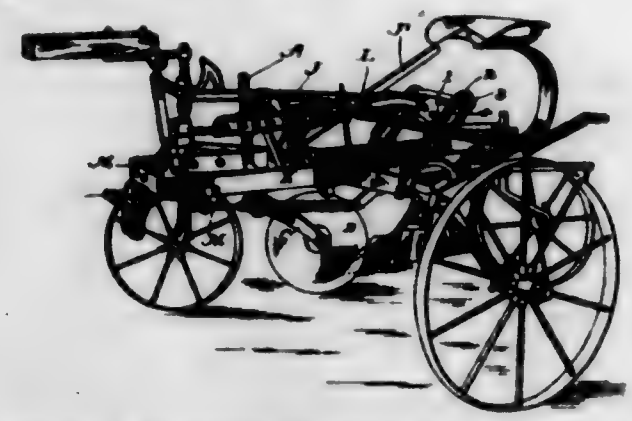


Claim.—1. A pipe-collar comprising a body portion having an opening in one side, a detachable section to fit and close said opening, and a yoke on said section, having devices to secure the section in place and also having a portion to bear frictionally against the pipe, to secure the collar thereto.

2. A pipe-collar comprising a body portion having an opening in one side and flanges at the sides of said opening, a detachable section to fit and close said opening and engage said flanges, and a yoke on said section having spring-arms to bear on said flanges and coact therewith to secure the detachable section in place, said yoke also having a portion to bear frictionally against the pipe.

3. A pipe-collar comprising a body portion having an opening in one side and flanges at the sides of said opening, one of said flanges having a notch, and a yoke on said section having spring-arms to bear on said flanges, one of said spring-arms being adapted to enter said notch, the said yoke being further provided with a portion to bear frictionally against the pipe.

805,488. WHEELED PLOW. CHARLES S. RUHP, Dixon, Ill. Filed Sept. 5, 1897. Serial No. 650,286.



Claim.—1. In a frame-plow, the combination of the plow-beam and plow, a vertical shaft secured in the front end of the plow-beam, a colter-carrying arm pivotally mounted upon the shaft, a colter therein, and a spring exerting tension on such colter-arm to yieldingly hold the same against lateral movement; substantially as described.

2. In a frame-plow, the combination of the plow-beam and plow, a vertical shaft secured in the front end of the plow-beam, a colter-carrying-arm supported by the shaft, a colter therein, and a spring whose ends bear against opposite sides of the colter-arm to yieldingly hold the same against lateral movement; substantially as described.

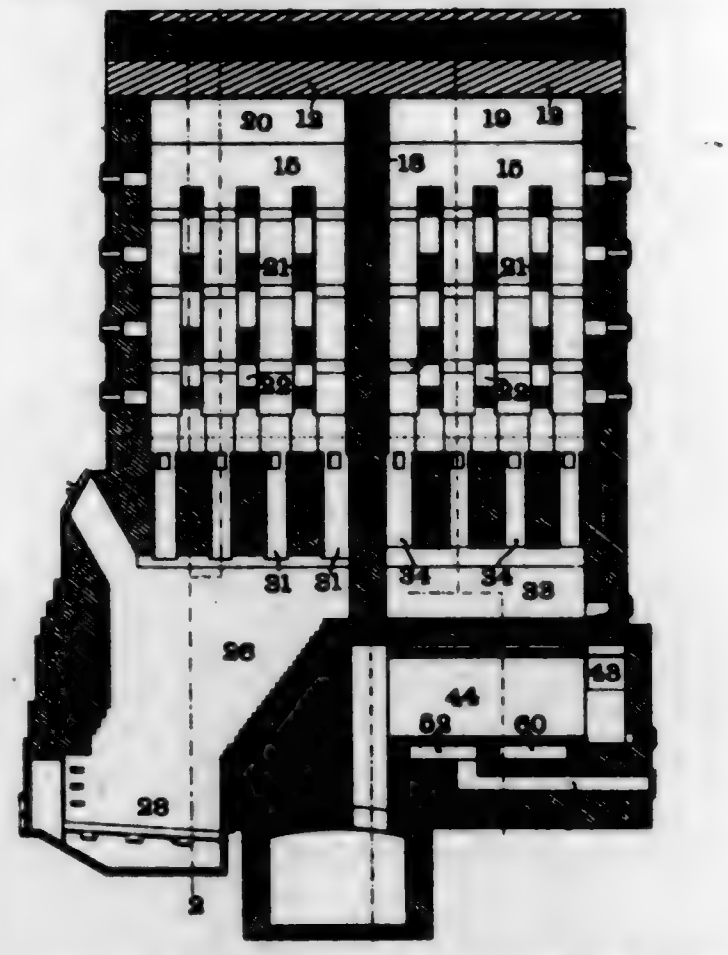
3. In a frame-plow, the combination, with the plow-beam and plow, of the vertical shaft A secured in the front end of the plow-beam, the arm C pivoted on the lower end of the shaft A, the collar B carried by the rear end of the arm C, and the spring-arms H H secured to a fixed support upon the shaft A and engaging the opposite sides of the arm C, substantially as described.

4. In a frame-plow, the combination, with the plow-beam and plow, of the vertical shaft A secured in the front end of the plow-beam, the bifurcated arm C pivoted upon the lower end of the shaft A, the colter B mounted in said arm, the plate D secured to the shaft A and having the depending stud F, and the spring G coiled around the stud F and having the rearwardly-extending arms H H bearing against the opposite sides of the arm C, substantially as described.

5. In a frame-plow, the combination, with the plow-beam and plow, of the vertical shaft A secured in the front end of the plow-beam, the bifurcated arm C pivoted on the lower end of said shaft and having the horizontal slot or recess E around said shaft, the colter B mounted in the arm C, the plate D fitting in the slot E in the arm C and secured to the shaft A by a set-screw, the stud or bolt F depending from the plate D in front of the arm C, and the spring G coiled around the stud F and having the rearwardly-extending ends H H engaging the opposite sides of the arm C substantially as described.

6. In a frame-plow, the combination of the plow-beam and plow, a vertical shaft secured in the front end of the plow-beam, a bifurcated colter-carrying arm pivotally mounted upon the lower end of the shaft, a colter therein, and a spring whose ends bear against opposite sides of the colter-arm to yieldingly hold the same against lateral movement; substantially as described.

805,489. GAS-RETORT BENCH. SILAS B. RUSSELL, St. Louis, Mo., assignor to Parker-Russell Mining & Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed May 22, 1905. Serial No. 261,537.



Claim.—1. In a gas-retort bench, the combination with a pair of combustion-chambers, one arranged at each end of the bench, of retorts passing through both of said combustion-chambers, a pair of furnaces arranged at one end of said bench, a communication leading from one of said furnaces to one of said combustion-chambers, and a communication extending from the other of said furnaces to the other of said combustion-chambers.

2. In a gas-retort bench, the combination with a pair of combustion-chambers, one arranged at each end of the bench, of retorts passing through both of said combustion-chambers, a pair of furnaces arranged at one end of said bench, a communication leading from one of said furnaces to one of said combustion-chambers, a communication leading from the other of said furnaces to the other of said combustion-chambers, and means for independently regulating the escape of gases from said combustion-chambers.

3. In a gas-retort bench, the combination with a pair of combustion-chambers, one arranged at each end of the bench, of retorts extending through both of said combustion-chambers, a pair of furnaces arranged at one end of said bench, a communication between one of said furnaces and one of said combustion-chambers, a communication between the other of said furnaces and the other of said combustion-chambers, and a common outlet for said combustion-chambers.

4. In a gas-retort bench, the combination with a pair of combustion-chambers, one arranged at each end of the bench, of retorts extending through both of said combustion-chambers, a pair of furnaces arranged at one end of said bench, a communication between one of said furnaces and one of said combustion-chambers, a communication between the other of said furnaces and the other of said combustion-chambers, a common outlet for said combustion-chambers, and means for independently regulating the escape of gases from said combustion-chamber to said outlet.

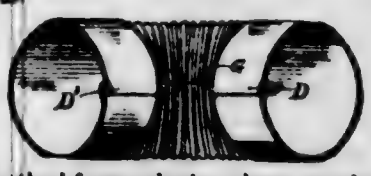
5. In a gas-retort bench, the combination with a pair of combustion-chambers, one arranged at each end of the bench, of a pair of furnaces arranged at the discharge end of the bench, a communication between one of said combustion-chambers and one of said furnaces, and a communication between the other of said combustion-chambers and the other of said furnaces.

6. In a gas-retort bench, the combination with a pair of combustion-chambers, one arranged at each end of the bench, of retorts passing through both of said combustion-chambers, a pair of furnaces arranged at one end of said bench, a communication leading from one of said furnaces to one of said combustion-chambers, a communication leading from the other of said furnaces to the other of said combustion-chambers, means for independently regulating the escape of gases from such combustion-chambers, regenerator-flues communicating with said combustion-chambers, and air-conduits adjacent to said regenerator-flues and discharging into said combustion-chambers.

7. In a gas-retort bench, the combination with a pair of combustion-chambers, one arranged at each end of the bench, of retorts extending through both of said heating-chambers, a pair of furnaces, communications between one of said combustion-chambers and one of said furnaces, communications between the other of said combustion-chambers and the other of said furnaces, regenerator-flues communicating with said combustion-chambers, and air-conduits adjacent to said regenerator-flues and discharging into said combustion-chambers.

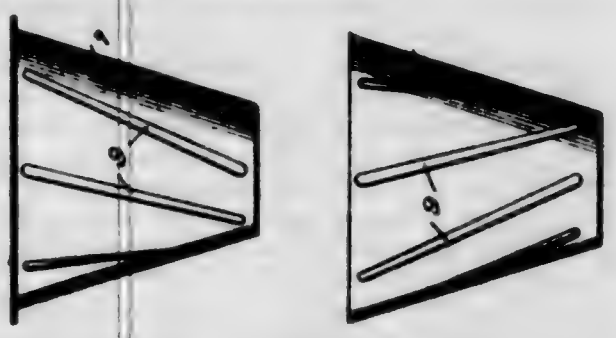
8. In a gas-retort bench, the combination with a pair of combustion-chambers, one arranged at each end of the bench, of retorts extending through both of said combustion-chambers, a pair of furnaces arranged at one end of said bench, communications between one of said furnaces and one of said combustion-chambers, communications between the other of said furnaces and the other of said combustion-chambers, regenerator-flues communicating with said combustion-chambers, a set of air-passages adjacent to said regenerator-flues and communicating with one of said combustion-chambers, and a second set of air-flues adjacent to said regenerator-flues and communicating with the other of said combustion-chambers.

805,490. METHOD FOR MAKING CORRUGATED STOVEPIPE-ELBOWS. ALBERT G. SCHERER, Chicago, Ill. Filed Aug. 7, 1903. Serial No. 168,843.



Claim.—A method for producing sheet-metal elbows consisting of providing a sheet of material with oppositely-arranged hooked edges upon opposite sides and ends of the blank, forming the same into a tube so that the central portion between the hooked ends overlaps and projects beyond the hooked ends as the hooked ends are engaged, corrugating the tube between the hooked or locked joints thereof, and compressing the corrugations at the lap-joint upon the inside of the elbow, whereby an absolutely-sealed joint is formed between the meeting edges of the section.

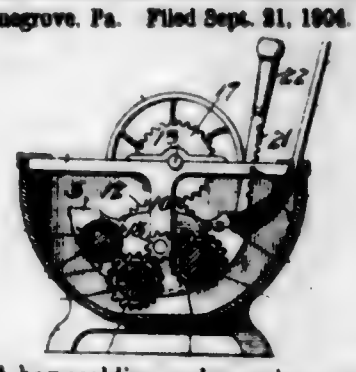
805,491. FLOWER-POT. RUDOLPH A. SEDLACEK, Glencoe, Ill. Filed July 10, 1905. Serial No. 269,021.



Claim.—1. A flower-pot consisting of two pots one of which fits within the other and is removable therefrom, said pots having registering openings in the walls thereof.

2. A flower-pot consisting of two pots one of which fits within the other and is removable therefrom, said pots having, respectively, oppositely-inclined slots in the walls thereof, which slots cross each other when the pots are together.

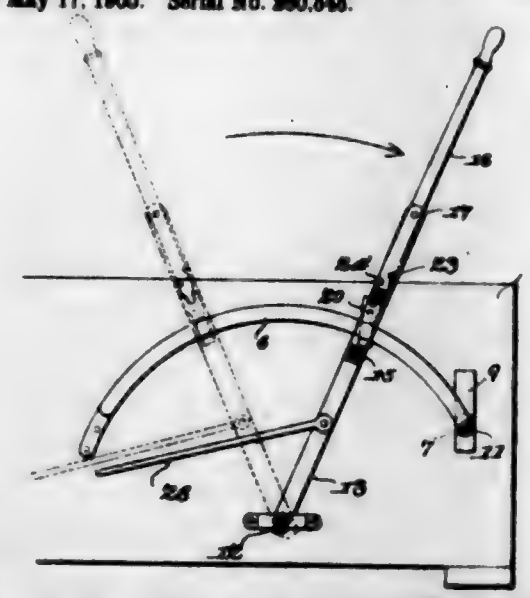
805,492. HOG SCALDING AND SCRAPING MACHINE. PETER F. SAMUEL, Pinegrove, Pa. Filed Sept. 21, 1904. Serial No. 225,358.



Claim.—1. A hog scalding and scraping machine comprising a trough or tank, a tilting cradle mounted therein and embodying body-turning rolls, and a hide-scraping roll, and means for tilting said cradle consisting of a movable rack-bar connected with the cradle, and an engaging device coöperating with the rack-bar.

2. A hog scalding and scraping machine comprising a trough or tank, a cradle mounted therein, and embodying body-turning rolls, a hide-scraping roll, and rockers in which said rolls are journaled, cradle tilting and adjusting mechanism, a master-gear, a pinion on the scraping-roll meshing therewith, a pinion on the shaft of the master-gear, gears on the turning-rolls meshing with the last-named pinion, and means for driving said master-gear.

805,493. BRAKE-LEVER. EDWARD L. SMITH, Burlingame, Kans. Filed May 17, 1905. Serial No. 260,848.



Claim.—1. In a device of the class described, a segment, a brake-lever coacting therewith, a clutch member pivoted to said lever and embracing the segment, a pivoted auxiliary lever adapted to actuate said clutch and having its longitudinal edges provided with oppositely-disposed recesses, and stop-pins secured to the brake-lever and adapted to engage the recesses for limiting the pivotal movement of said auxiliary lever.

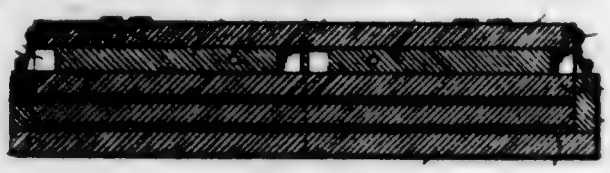
2. In a device of the class described, a segment, a brake-lever coacting therewith, a clutch member pivoted to said lever and having one end thereof provided with a terminal socket and its opposite end formed with an opening adapted to receive the segment, an auxiliary lever pivoted to the brake-lever and provided with a terminal tongue adapted to engage the socket in the clutch member for actuating the latter when the auxiliary lever is tilted, and stop-pins carried by the brake-lever and adapted to engage the auxiliary lever for limiting the pivoted movement of the latter.

3. The combination with a wagon-body, of a supporting-bracket detachably secured thereto and provided with a concaved face, a segment having one end thereof secured to the wagon-body and its opposite end seated in the concave face of the bracket and provided with an annular groove, a brake-lever pivoted to the wagon-body and coacting with the segment, a pivoted clutch member carried by the lever and adapted to engage the segment, an auxiliary lever pivoted to the brake-lever for actuating said clutch member, and an eyebolt passing through the wagon-body and bracket and engaging the annular groove in the segment.

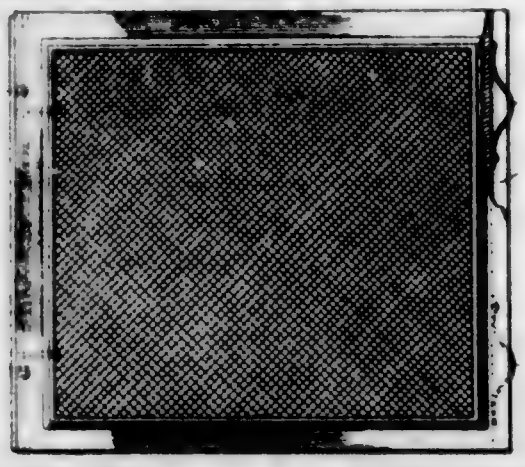
805,494. FOLDING EGG-CRATE. JOB SMITH, Hope, N. D. Filed Mar. 9, 1905. Serial No. 249,940.

Claim.—A collapsible crate comprising a holding member, said member constituting the top of the crate, a side wall, slidably-con-

nected hinge members secured to the side wall and holding member whereby said side wall is adapted to assume a position upon one face of the holding member or at right angles to the opposite face thereof, a base-section, slidably-connected hinge members secured to the base-section and to the side wall whereby said base-section is adapted to rest upon one face of the side wall or to extend at right angles from the opposite face of said wall, end sections hinged to the base member and adapted to fold thereon, a flange along one end of the base member equal in height to the thickness of the end members, a side wall hinged to the flange and adapted to overlap the end members when collapsed, means for binding the side wall and end sections together when the crate is set up, end flanges upon the holding member adapted to overlap the base and side wall of the crate when collapsed, and securing means upon the flanges for engaging one of the side walls to hold the crate in a collapsed position.



805,495. **WINDOW-SCREEN.** MOSES SOLESON, Baltimore, Md. Filed Mar. 20, 1906. Serial No. 307,033.



Claim.—In a window-screen adapted to slide vertically in the window-frame the combination of a groove in the edge of one side of the frame, the sides of the frame on each side of the groove being equal length, a justifying-strip, of the same length as the side of the frame, fitting the groove and filling the groove completely from one end of the frame to the other and from the bottom to the exterior edge of the groove, and provided upon its exterior edge with a groove for engaging the frame-guide of the window-frame, means for giving to the justifying-strip a positive adjustment in relation to the side of the frame in which it is seated, a groove in the opposite side of the frame having flexible springs therein for producing the desired tension of the frame upon its slides.

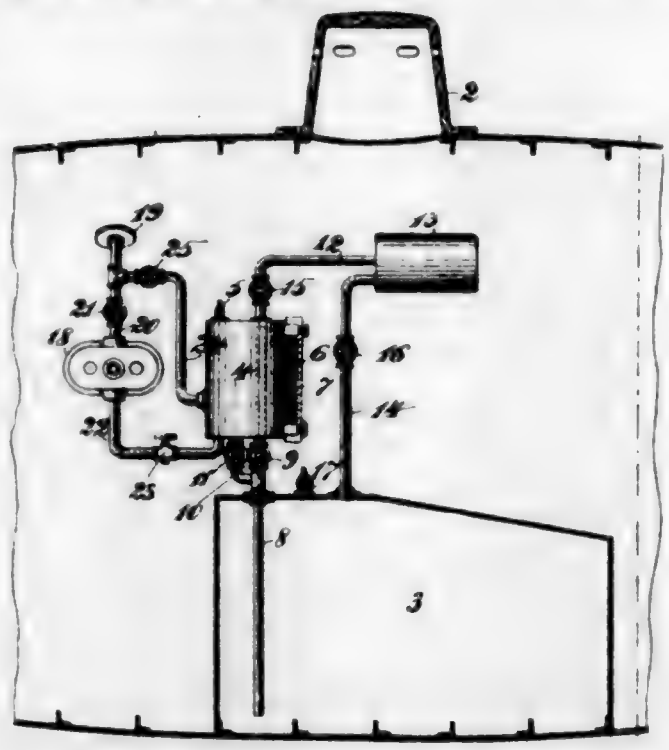
805,496. **BUOYANCY-REGULATING APPARATUS FOR SUBMARINE BOATS.** LAWRENCE Y. SPEAR, Greenport, N. Y., assignor to Electric Boat Company, New York, N. Y. Filed Aug. 10, 1904. Serial No. 220,252.

Claim.—1. A submarine boat having means for regulating its buoyancy, comprising a ballast-tank, a strong intermediate tank of relatively small capacity, a valve-controlled pipe connecting said tanks, a valve-controlled pipe connecting the stronger intermediate tank with the sea, and means for forcing water from the ballast-tank to said intermediate tank and from said intermediate tank to the sea, substantially as and for the purpose set forth.

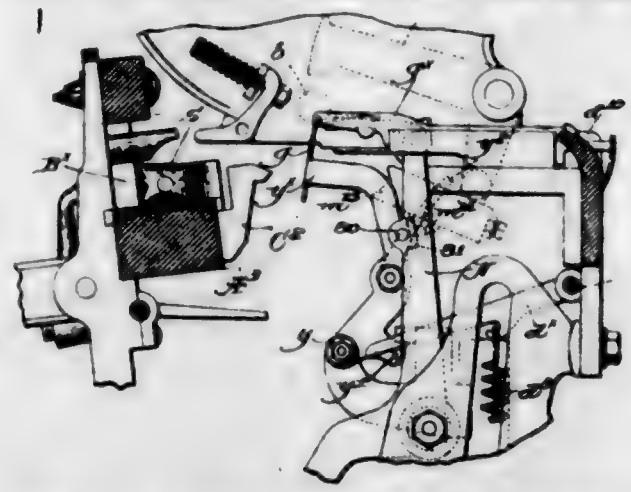
2. A submarine boat having means for regulating its buoyancy, comprising an auxiliary ballast-tank 3, an intermediate cylindrical tank 4, a valve-controlled pipe connecting the tank 3 with the tank 4, a gage and scale on the tank 4, a container or tank 13 for compressed air, a valve-controlled pipe connecting said tank 13 with the tank 3, a valve-controlled pipe connecting the tank 4 with the sea, and means for forcing water from the tank 4 to the sea through said pipe.

3. A submarine boat having means for regulating its buoyancy, comprising an auxiliary ballast-tank 3, an intermediate cylindrical tank 4, a valve-controlled pipe connecting said tanks, a gage and scale on the tank 4, an air-tank 13, valve-controlled pipes connecting the air-tank with the tanks 3 and 4, respectively, a valve-controlled pipe 24 connecting the tank 4 with the sea, a reversible pump, a valve-controlled pipe connecting said pump with the tank 4, and a valve-controlled pipe connecting the pump with the sea.

4. A submarine boat having means for regulating its buoyancy, comprising an auxiliary ballast-tank 3, an intermediate and relatively small tank 4, a valve-controlled pipe 8 connecting the upper part of the tank 4 with the lower part of the tank 3, a valve-controlled pipe 10, connecting the lower part of the tank 4 with the tank 3, a valve-controlled pipe 24 connecting the tank 4 with the sea, a tank for compressed air, and valve-controlled pipes connecting said air-tank with the respective tanks 3 and 4.



805,497. **FILLING-REPLENISHING LOOM.** ALFRED E. STAFFORD, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 29, 1905. Serial No. 262,807.



Claim.—1. In a loom, filling-replenishing mechanism at one side thereof, a filling-detecting instrumentality at each side of the loom, means to control the time of operation of said mechanism, including a member tending to be operatively positioned when filling failure is detected by either instrumentality, and means operative independently of the shuttle to prevent such operative positioning of said member when the shuttle is at the non-replenishing side of the loom.

2. In a loom, filling-replenishing mechanism at one side thereof, a filling-detecting instrumentality at each side of the loom, means to control the time of operation of said mechanism, including a member tending to be operatively positioned when filling failure is detected by either intrumentality, and means governed by the detecting instrumentality at the replenishing side of the loom to prevent such operative positioning of said member when the shuttle is at the opposite side of the loom.

3. In a loom, filling-replenishing mechanism at one side thereof, a filling-detector and its coöperating vibrator at each side of the loom, means to control the time of operation of said mechanism, including a member tending to move automatically into operative position upon detection of filling failure by either detector, and means governed by one of said vibrators to prevent such operative positioning of said member unless the shuttle is in the shuttle-box at the replenishing side of the loom.

4. In a loom, a lay provided with a bunter and having a shuttle box at each end, filling-replenishing mechanism at one side of the

loom, a filling-detecting instrumentality at each side of the loom, means to control the time of operation of said mechanism, including a member tending to move automatically into the path of the bunter when filling failure is detected by either detecting instrumentality, and means governed by or through one of said instrumentalities to prevent the movement of said member into the bunter-path when the replenishing shuttle-box is empty.

5. In a loom provided with filling-replenishing mechanism, a lay, means to control the time of operation of said mechanism, including a member on the lay and a member movable into position to coöperate therewith, two filling-detectors, means tending to effect coöperation of the said movable member and the member on the lay by or through detection of filling failure by either detector, and a device operative independently of the shuttle and the filling therein to counteract such tendency and thereby prevent the operation of the replenishing mechanism if the shuttle is not at the replenishing side of the loom.

6. In a loom provided with filling-replenishing mechanism, a lay provided with a shuttle-box at each end thereof, means to control the time of operation of said mechanism, two filling-detectors, connections between said controlling means and the detectors tending to effect the actuation of the replenishing mechanism by or through detection of filling failure by either detector, and a device operative independently of the shuttle and the filling therein to counteract such tendency and thereby prevent filling replenishment when the shuttle is in the non-replenishing shuttle-box.

7. In a loom provided with filling-replenishing mechanism at one side thereof, means to control the time of operation of said mechanism, including a normally inoperative member, two filling-detecting instrumentalities operating on alternate picks and both adapted to permit movement of said member into operative position upon detection of filling failure, and means governed by one of said instrumentalities to prevent such operative positioning of said member when the shuttle is at the non-replenishing side of the loom.

8. In a loom, in combination, filling-replenishing mechanism, filling-detecting devices at opposite sides of the loom, a rod or rock-shaft extending across the loom and having in connection therewith means to effect the actuation of the filling-replenishing mechanism, operative connections between said rock-shaft and both detecting devices whereby the rock-shaft is operated when either device detects filling failure, and means governed by one of said detecting devices to prevent the operation of said actuating means after operation of the rock-shaft unless the shuttle is at the replenishing side of the loom.

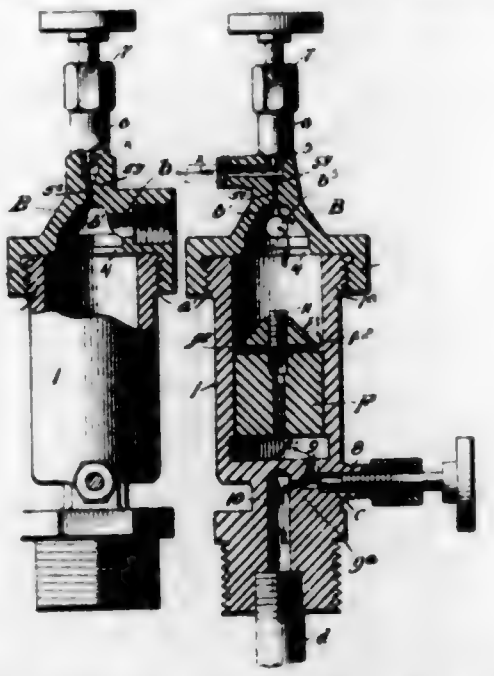
9. In a loom, a lay provided with shuttle-boxes, two filling-detecting devices located at opposite sides of the loom and adapted to change the operation of a take-up instrumentality upon detection of filling failure, filling-replenishing mechanism, means to control the time of its operation, including a member tending to move automatically into active position upon detecting action of either detecting device, and means governed by or through one of said detecting devices to prevent the automatic movement of said member into active position if the shuttle is not in the replenishing shuttle-box.

10. In a loom, a lay provided with shuttle-boxes and a bunter, two filling-detecting instrumentalities located at opposite sides of the loom and adapted to change the operation of a take-up instrumentality upon detection of filling failure, filling-replenishing mechanism, means to control the time of its operation, including a dog tending to move automatically into position to coöperate with the bunter upon detecting action of either of said detecting instrumentalities, and means governed directly and positively by one of said instrumentalities to prevent the automatic movement of the dog into operative position if the shuttle is not in the replenishing shuttle-box.

11. In a loom, in combination, filling-replenishing mechanism, a lay having a bunter and two shuttle-boxes thereon, two filling-detectors located at opposite sides of the loom, a weft-hammer to coöperate with each upon detection of filling failure thereby, means to control the time of operation of said mechanism, including a member adapted to move automatically into position to coöperate with the bunter upon detection of filling failure by either detector, and a detent on one of the weft-hammers to prevent such operative positioning of the said member if the replenishing shuttle-box is empty.

12. In a loom, in combination, filling-replenishing mechanism, a lay having a bunter and two shuttle-boxes thereon, a filling-detector and a coöperating weft-hammer at each side of the loom, means to control the time of operation of said mechanism, including a member movable automatically into operative position with relation to the bunter upon detection of filling failure by either detector, a shuttle-feeler to prevent such positioning of said member when the shuttle is improperly positioned in the replenishing shuttle-box, and a detent on the weft-hammer adjacent the shuttle-feeler and adapted to coöperate therewith at times, to prevent movement thereof into shuttle-feeling position, and thereby to prevent operative positioning of the said member controlled thereby, when the shuttle is out of the replenishing shuttle-box.

805,498. **AUTOMATIC SAFETY CHECK-VALVE.** THOMAS L. STEWART, Portland, Oreg. Filed May 22, 1905. Serial No. 261,599.



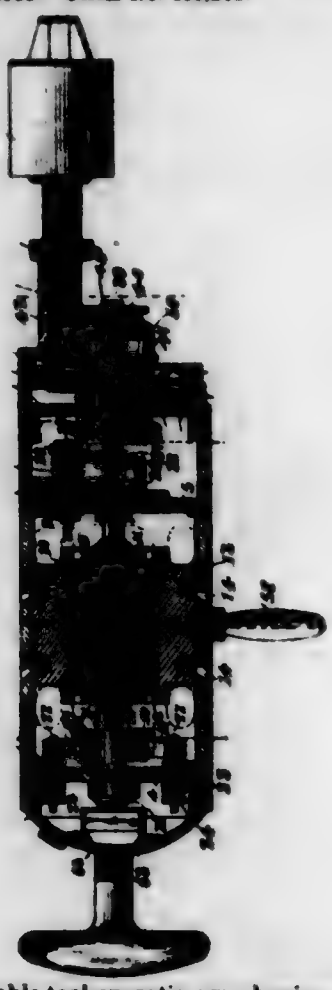
Claim.—1. An automatic valve mechanism of the character described, comprising a casing having a valve-chamber, a valve-inlet feeding into the bottom of said chamber, a detachable cap having a receiving-socket normally in communication with the valve-chamber and having a valve-outlet, a valve comprising a body of substantially the diameter of the valve-chamber in which it is held for free vertical movement, a valve-cap on the upper end of the body, said body having passages for connecting the bottom of the chamber with the receiving-socket in the casing-cap, said valve-cap having its face arranged to engage the valve-seat of the lower end of the receiving-socket, as set forth.

2. An automatic valve mechanism of the character described, comprising a casing including a body having a valve-chamber open at the top, an intake-opening in the lower end of said chamber, a cap detachably fitting on the top of said chamber having a receiving-pocket directly over the said chamber, said pocket being provided at the lower end with a valve-seat, an offtake-port, and a pressure-gage port communicating with the said pocket, a valve vertically movable within the chamber under the varying flow of the fluid or gas thereagainst, said valve including a cap at the upper end shaped to engage the receiving-pocket of the valve-seat, the said cap and the body of the valve having communicating passages that connect the upper and lower parts of the valve-chamber, as set forth.

3. In an automatic valve mechanism as described, a casing having a valve-chamber open at the top, an intake at the bottom, a valve-controlled port joining the said intake with the bottom valve-chamber, a cap detachably fitting the upper end of the casing provided with a receiving-pocket disposed centrally over the top of the valve-chamber, and a valve-controlled outlet from said pocket, the said pocket having a valve-seat at its lower edge, and a valve vertically movable under the varying fluid and gas flow in the valve-chamber, said valve including a body portion and a cap mounted on the upper end of the body portion and having a diameter less than that of the said body portion, the said valve-body and the cap having communicating passages joining the upper and lower parts of the valve-chamber, as set forth.

4. An automatic valve mechanism comprising a casing having a valve-chamber, a valve-controlled inlet feeding into the bottom of said chamber, a valve-controlled outlet communicating with the top of said chamber, a valve-seat near the top of said chamber below the valve-controlled outlet, an automatically-shifting valve within said valve-chamber for coöperating with said last-named valve-seat, said automatically-shifting valve having fluid-passages passing therethrough, and means carried by said automatically-shifting valve for varying the capacity of said fluid-passages, and a supplemental outlet communicating with the valve-chamber near the top for connecting with a pressure-gage, all being arranged substantially as shown and described.

805,499. ELECTRIC DRILL. STEPHEN D. STOCKERT, Toledo, Ohio. Filed June 26, 1902. Serial No. 113,263.



Claim.—1. In a portable tool-operating mechanism adapted for manual support, the combination with a casing, a motor-armature therein, and a tool-carrier extended from one end of the casing, of an operating connection between the armature and carrier, a friction-clutch in the line of such connection and housed within the casing, and means exposed upon the exterior of the casing for regulating the holding power of the clutch.

2. In a portable tool-operating mechanism adapted for manual support, the combination with a casing, a motor-armature therein, and a tool-carrier operatively connected with the motor-armature for actuation thereby, of means inclosed within the casing for automatically breaking the connection when a predetermined resistance is opposed to the carrier, and an adjustable regulating device, located exterior of the casing, to determine such resistance, and including a movable indicating-arm and an associated scale.

3. In a portable tool-operating mechanism adapted for manual support, the combination with a casing, of a motor-armature therein, and a tool-carrier mounted exterior of the casing and operatively connected with the armature for actuation thereby, a friction-clutch interposed in the line of connection between the tool-carrier and the armature, a spring urging the clutch members into engagement, said clutch and spring being housed within the casing an adjusting-nut for regulating the tension of the spring, and an indicator, associated with the nut and disposed exterior of the casing, to indicate the extent of adjustment of the nut, and the consequent resistance required to be overcome in order to break the connection between the carrier and motor.

4. In a portable tool-operating mechanism adapted for manual support, the combination with a casing, a motor-armature therein, and a tool-carrier outside of the casing, of an operating connection between the armature and carrier including a shaft and a clutch, a clutch-spring, a regulating-nut adjustably mounted in one wall of the casing to serve as a bearing for the shaft, and bearing against the spring to regulate the tension thereof and thus determine the holding power of the clutch, and an indicator upon the exterior of the casing, said indicator having a series of gradations and a pointer movable thereover and connected to the regulating-nut.

5. In a portable tool-operating mechanism adapted for manual support, the combination with a casing, an inclosed motor-armature, and a tool-carrier extended from one end of the casing, of an operating connection including a shaft geared to the armature and carrier respectively, a friction-clutch in the line of connection between the shaft and carrier and housed within the casing, one of the clutch members having the form of a pinion mounted on the shaft, and means exterior of the casing for regulating the holding power of the clutch.

6. In a portable tool-operating mechanism adapted for manual support, the combination with a casing, a cap closing one end of the casing, a device extending from the cap to facilitate the manipulation of the mechanism, a transverse head located in the casing and spaced from the cap, a motor-armature mounted in the casing and including commutator-brushes mounted on the head and removable therewith from the casing to expose the commutator of the motor, a resistance device mounted on the cap and designed to be exposed by the removal of the cap from the casing, and suitable wiring including said resistance device.

7. In a portable tool-operating mechanism adapted for manual support, the combination with a casing, and transverse heads spaced from the ends thereof, of a motor-shaft journaled in the heads, a commutator mounted on the shaft adjacent to one head, an armature mounted on the shaft between the commutator and the other head, pole-pieces secured to the wall of the casing opposite the armature, brushes carried by a head and engaging the commutator, suitable wiring, a tool-carrier at one end of the casing, and an operating connection between the carrier and the motor, said connection including speed-reducing gearing located between the other head and the adjacent end of the casing.

8. In a portable tool-operating mechanism adapted for manual support, the combination with a casing provided with transverse removable heads, and with a removable cap closing the end of the casing adjacent to one of said heads, an electrical resistance device carried by the cap, a motor-shaft journaled in the heads, and a tool-carrier operatively connected with the shaft and extended beyond one end of the casing, of an armature mounted on the shaft, a commutator likewise mounted on the shaft and disposed adjacent to that transverse head which is nearest the cap, brushes carried by said head and engaging the commutator, pole-pieces secured to the casing opposite the armature, and suitable wiring including the resistance device carried by the cap.

9. In a portable tool-operating mechanism adapted for manual support, the combination with a casing, and removable transverse heads spaced from the ends thereof, of a motor-shaft journaled in the heads, an armature and a commutator carried by the shaft between the heads, pole-pieces secured to the wall of the casing opposite the armature, brushes carried by one of the heads and engaging the commutator, gearing carried by the other head, a tool-carrier operated by said gearing and extending beyond one end of the casing, means within the casing for breaking the connection between the tool-carrier and the gearing when a predetermined resistance is opposed to the tool, means exterior to the casing for regulating such resistance, and suitable wiring.

10. In a portable tool-operating mechanism adapted for manual support, the combination with a casing provided with detachable end caps, and with removable transverse heads spaced from said caps, a motor-shaft afforded bearings in said heads, a motor mounted within the casing, and including an armature and a commutator mounted on the motor-shaft, pole-pieces secured to the casing opposite the armature, brushes carried by one of the heads and engaging the commutator, speed-gearing mounted in the casing between the other head and the adjacent end cap, a casing extension carried by said cap and having a bearing-sleeve, a tool-carrier journaled in said sleeve and having operative connection with the gearing, and a friction-clutch located in the line of connection and housed within the casing extension.

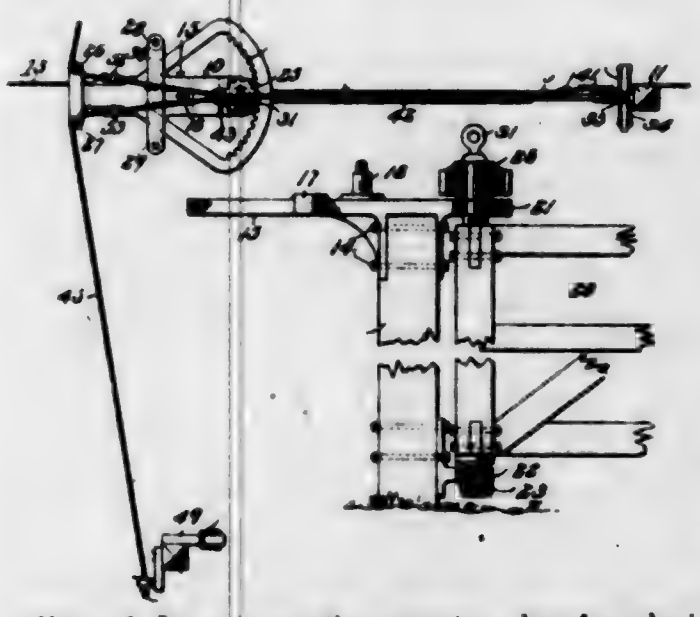
11. In a portable tool-operating mechanism adapted for manual support, the combination with a casing provided with a transverse head, a second transverse head located within the casing and spaced from one end thereof, a motor-shaft afforded a bearing in both heads, an armature mounted on the shaft between the heads, a commutator mounted on the shaft between the armature and the head first named, brushes carried by said first-named head and removable from the casing therewith, to expose the commutator, speed-reducing gearing located between the second head and the adjacent end of the casing, and a tool-carrier extended from the casing and connected to the motor through the medium of the gearing.

12. A portable tool-operating mechanism adapted for manual support, in combination with a casing and caps closing the opposite ends thereof, of a pair of removable heads located within the casing and spaced from the caps, a motor-shaft afforded a bearing in both heads, an armature and a commutator carried by the shaft, field-coils disposed opposite the armature, commutator-brushes carried by one of the heads and removable therewith from the casing to expose the commutator, speed-reducing gearing carried in part by the other head, and a tool-carrier extending beyond one end of the casing and geared to the motor-shaft through the medium of the gearing.

13. In a portable tool-operating mechanism, the combination with a casing provided with caps closing the ends thereof, a motor-armature mounted within the casing, a motor-shaft, a transverse head located in the casing between the motor and one of the caps and affording a bearing for the motor-shaft, speed-reducing gearing located between the head and the adjacent cap of the casing, a second shaft extended through said cap and driven by the motor-shaft through the medium of the gearing, a supplemental casing carried by the cap last named, and a spindle afforded a bearing in the supplemental casing and geared to the second shaft, said spindle being adapted to drive a tool.

14. In a portable tool-operating mechanism adapted for manual support, the combination with a casing, end caps therefor, and transverse heads located within the casing and spaced from the caps, of a motor-shaft journaled in the heads, an armature and a commutator mounted on the shaft, pole-pieces secured to the wall of the casing opposite the armature, commutator-brushes carried by one of the heads and removable from the casing therewith to expose the commutator, speed-reducing gearing carried in part by the other head and located between said head and the adjacent end cap, a second shaft extended through said cap and driven by the motor-shaft through the medium of the gearing, a supplemental casing carried by the cap last named, and a tool-operating spindle journaled in the supplemental casing and geared to the second shaft.

805,500. GATE. LAFAYETTE C. SWEET, Loami, Ill. Filed Aug. 26, 1905. Serial No. 275,861.

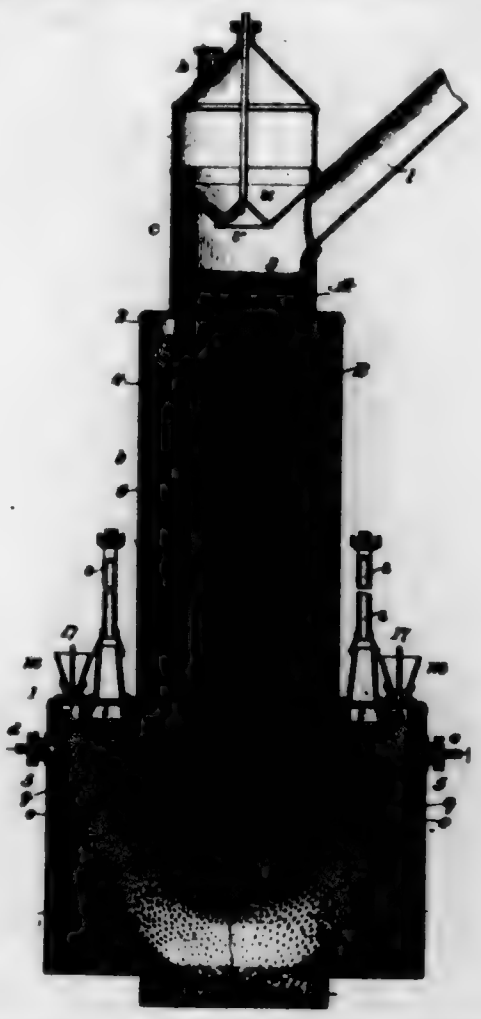


Claim.—1. In a gate-operating apparatus, a base-frame having lateral extensions provided with vertical stops at the ends, a frame swinging upon said base-frame and supported by said extensions and alternately bearing against said stops at the ends of its movements, said swinging frame formed with a segmental gear-rack at one end, a brace member connecting said stop members and extending above said swinging frame, a gate mounted to swing from said base-frame, a pinion carried by said gate and engaging said segment, and draw-cables connected to said swinging frame and leading to points convenient to the operator approaching the gate.

2. In a gate-operating apparatus, a hinge-post at one side and a latch-post at the opposite side of a gateway-opening, a base-frame connected to said hinge-post and extending from opposite sides of the same, a frame swinging from said base-frame and supported thereby and formed with a gear-segment at one end and with cable-guide members at the other end, a gate mounted to swing from said base-frame, a latch mechanism carried by the free end of said gate for detachable engagement with said latch-post, a pinion carried by said gate and engaging said segment, a cable-guide carried by said pinion, a cable connected at one end to said latch mechanism and leading through said cable-guide, two cables connected to the free ends of said latch-cable and extending thence through the guide members of said frame and stops connected to said divided cables for bearing against said frame cable-guide members to limit the movement of the cable.

805,501. METHOD OF PRODUCING CHEMICALS IN ELECTRIC FURNACES. EDWARD R. TAYLOR, Penn Yan, N. Y. Original application filed Apr. 4, 1901. Serial No. 54,266. Divided and this application filed Jan. 26, 1903. Serial No. 91,114.

Claim.—1. The method of operating an electric furnace which consists in introducing into the furnace at the respective sides of a charge streams of fragmentary conductive material adapted to serve as electrodes, feeding such streams downwardly into the bottom of the working chamber of the furnace and toward each other, and passing a suitable electric current through the charge by way of said fragmentary conductive material, whereby said fragmentary conductive material itself is made to constitute the electrodes of the furnace without the aid of relatively permanent electrodes.



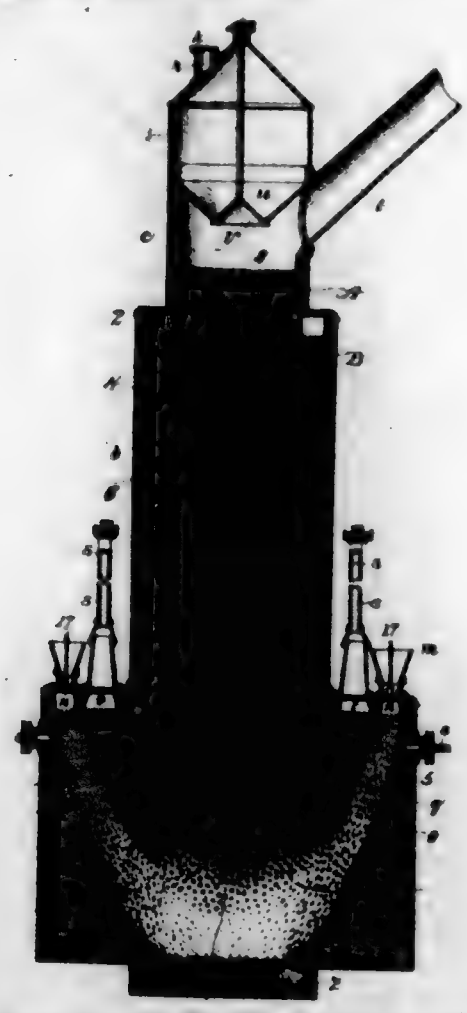
2. The method of continuously effecting reactions and reductions in an electric furnace which consists in introducing into the furnace streams of fragmentary conductive material adapted to constitute self-renewing electrodes, feeding the same into the bottom of the working chamber of the furnace and toward each other by gravity, feeding downwardly between and upon such electrodes material for a given reaction or reduction, and passing a suitable electric current through the charge by way of said fragmentary conductive material.

3. The method of making bisulfid of carbon in an electric furnace which consists in continuously charging the furnace from above with a suitable form of carbon and with crushed sulfur, continuously feeding into the working chamber of the furnace at the sides of the charge and downwardly into the bottom of said working chamber fragmentary conductive material adapted to constitute self-renewing electrodes in the working furnace, passing through the charge by way of said fragmentary conductive material a suitable electric current, thereby heating the carbon and vaporizing the sulfur, and continuously removing the bisulfid vapor, substantially as hereinbefore specified.

4. The method of making bisulfid of carbon in an electric furnace which consists in continuously charging the furnace from above with a suitable form of carbon and with crushed sulfur, continuously feeding into the working chamber of the furnace at the sides of the charge and downwardly into the bottom of said working chamber fragmentary conductive material adapted to constitute self-renewing electrodes in the working furnace, passing through the charge by way of said fragmentary conductive material a suitable electric current, thereby heating the carbon and vaporizing the sulfur, melting a portion of the sulfur outside of the working chamber and feeding the same downward in contact with the walls of said working chamber, and continuously removing the bisulfid vapor, substantially as hereinbefore specified.

805,502. METHOD OF PRODUCING CHEMICALS IN ELECTRIC FURNACES. EDWARD R. TAYLOR, Penn Yan, N. Y. Filed June 9, 1902. Renewed Feb. 8, 1904. Serial No. 192,715.

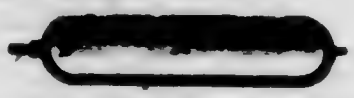
Claim.—1. In the art of producing chemicals in an electric furnace, the process which consists in feeding fragmentary conductive material into the bottom of the working chamber, charging said chamber with material capable of producing a gaseous product, passing a suitable electric current through such charge by means of said fragmentary conductive material, discharging a gaseous product, fusing the residue by a sufficient current therethrough, and drawing off such residue in fused condition.



2. In the art of making bisulfid of carbon in an electric furnace, the process which consists in feeding fragmentary conductive material into the bottom of the working chamber, continuously supplying said chamber with carbon and sulfur, passing a suitable electric current through the same by means of said fragmentary conductive material, discharging the bisulfid of carbon, fusing the residue by a sufficient current therethrough, and drawing off such residue in fused condition.

3. In the art of making bisulfid of carbon in an electric furnace, the improvement which consists in fusing the residue from the carbon and sulfur within the furnace and removing the same from the furnace in fused condition, substantially as hereinbefore specified.

805,503. VULCANIZING HARD-RUBBER ARTICLES HAVING INTERIOR CAVITIES. HEINRICH O. TRAUN, Hamburg, Germany. Filed Apr. 13, 1905. Serial No. 255,295.

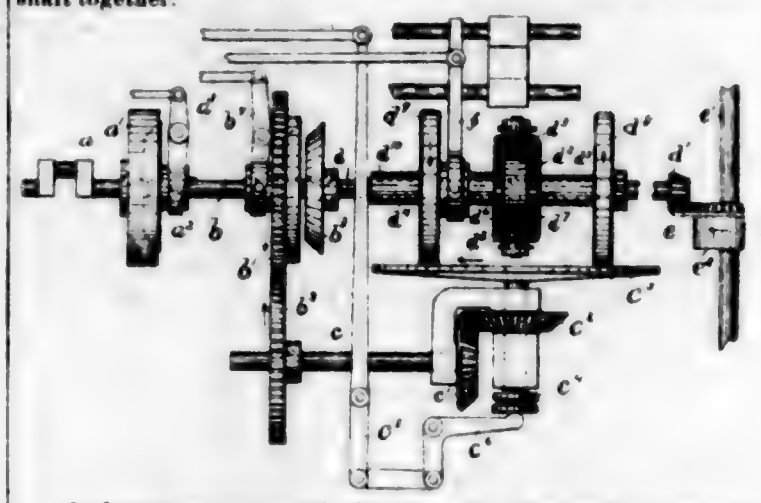


Claim.—1. A vulcanized hard-rubber article, having an interior cavity, and a tube extending from the outer surface of said article into said cavity, which tube is also made of hard rubber and is integral with the said article, substantially as set forth.

2. The improvement in the art of making vulcanized articles having interior cavities, consisting in incorporating with the unvulcanized material before vulcanizing, a tube which extends from the interior cavity to the outer surface of the mold, in which the vulcanizing takes place, incorporating said tube with the article by the vulcanizing process and cutting off the exteriorly-projecting end of said tube, substantially as set forth.

805,504. FRICTION-DRIVE SPEED-GEAR. WALTER E. TRUFANT, Whitman, Mass. Filed Apr. 26, 1904. Serial No. 204,663.

Claim.—1. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, an idler-gear carried by said driving-shaft, two rolls mounted on the driving-shaft, means for controlling the frictional contact between the rolls and disk, gears carried by said rolls which mesh with said idler, means for moving one of the rolls along the face of the disk, means for disconnecting the power-shaft from said disk, and means for connecting the power-shaft and the driving-shaft together.



2. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, an idler-gear carried by said driving-shaft, two rolls mounted on the driving-shaft, means for controlling the frictional contact between the rolls and disk, gears carried by said rolls which mesh with said idler, means for moving one of the rolls along the face of the disk, and means for disconnecting the power-shaft from said disk.

3. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, an idler-gear carried by said driving-shaft, two rolls mounted on the driving-shaft, means for controlling the frictional contact between the rolls and disk, gears carried by said rolls which mesh with said idler, means for moving one of the rolls along the face of the disk, and means for connecting the power-shaft and the driving-shaft together.

4. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft axially parallel with the face of the disk, an idler-gear carried by said driving-shaft, two rolls mounted on the driving-shaft, means for controlling the frictional contact between the rolls and disk, gears carried by said rolls which mesh with said idler, means for moving one of the rolls along the face of the disk, means for disconnecting the power-shaft from said disk, and means for connecting the power-shaft and the driving-shaft together.

5. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft axially parallel with the face of the disk, an idler-gear carried by said driving-shaft two rolls mounted on the driving-shaft, means for controlling the frictional contact between the rolls and disk, gears carried by said rolls which mesh with said idler, means for moving one of the rolls along the face of the disk, and means for disconnecting the power-shaft from said disk.

6. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft axially parallel with the face of the disk an idler-gear carried by said driving-shaft, two rolls mounted on the driving-shaft, means for controlling the frictional contact between the rolls and disk, gears carried by said rolls which mesh with said idler, means for moving one of the rolls along the face of the disk and means for connecting the power-shaft and the driving-shaft together.

7. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, an idler-gear carried by said driving-shaft, two rolls mounted on the driving-shaft, means for controlling the frictional contact between the rolls and disk, gears carried by said rolls which mesh with said idler, means for controlling the rotative distance of said rolls from the axis of said disk, means for disconnecting the power-shaft from said disk, and means for connecting the power-shaft and the driving-shaft together.

8. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, an idler-gear carried by said driving-shaft, two rolls mounted on the driving-shaft, means for controlling the frictional contact between the rolls and disk, gears carried by said rolls which mesh with said idler, means for controlling the rotative distance of said rolls from the axis of said disk, and means for connecting the power-shaft and the driving-shaft together.

9. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, an idler-gear carried by said driving-shaft, two rolls mounted on the driving-shaft, means for controlling the frictional contact between the rolls and disk, gears carried by said rolls which mesh with said idler, means for controlling the rotative distance of said rolls from the axis of said disk and means for disconnecting the power-shaft from said disk.

10. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, an idler-gear carried by said driving-shaft, two rolls mounted on the driving-shaft in frictional contact with said disk, gears carried by said rolls which mesh with said idler, means for moving one of the rolls along the face of the disk, and means for connecting the power-shaft and the driving-shaft together.

11. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft axially parallel with the face of the disk, a roll mounted in frictional contact with the face of said disk, means for moving the roll along the face of the disk, means for transmitting the power from said roll to said driving-shaft, means for disconnecting the power-shaft from the disk, and means for coupling the power-shaft and the driving-shaft together.

12. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft axially parallel with the face of the disk, a roll mounted in frictional contact with the face of said disk, means for moving the roll along the face of the disk, means for transmitting the power from said roll to said driving-shaft, and means for coupling the power-shaft and the driving-shaft together.

13. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, a roll mounted in frictional contact with the face of the disk, means for moving the roll along the face of the disk, means for transmitting the power from said roll to said driving-shaft, and means for disconnecting the power-shaft from the disk.

14. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, a roll mounted in frictional contact with the face of the disk, means for moving the roll along the face of the disk, means for transmitting the power from said roll to said driving-shaft, and means for coupling the power-shaft and the driving-shaft together.

15. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, a roll mounted in frictional contact with the face of the disk, means for moving the roll along the face of the disk, means for transmitting the power from said roll to said driving-shaft, means for disconnecting the power-shaft from the disk, and means for coupling the power-shaft and the driving-shaft together.

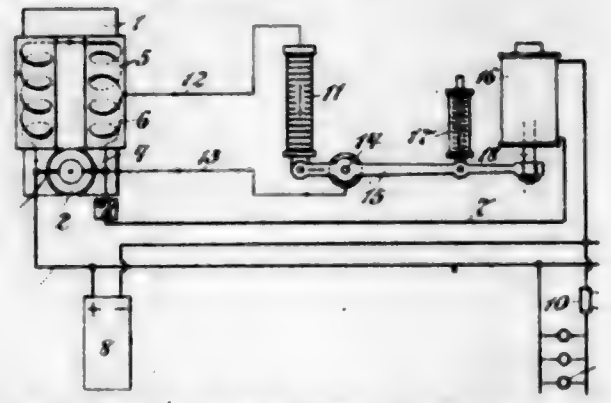
16. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, two rolls mounted in frictional contact with the face of said disk on the driving-shaft, means for changing the rotative distance of one of said rolls from the axis of said disk, means for transmitting the power from said rolls to said driving-shaft, means for disconnecting the power-shaft from said disk, and means for coupling the power-shaft and driving-shaft together.

17. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, two rolls mounted on the driving-shaft in frictional contact with the face of said disk, means for varying the rotative distance of said rolls from the axis of said disk, means for transmitting the power through said rolls to the driving-shaft at a speed equal to the difference in rotation of said rolls, and means for coupling the power-shaft and the driving-shaft together.

18. In an apparatus of the kind described the combination of, a power-shaft, a disk receiving power from said power-shaft, a driving-shaft, two rolls mounted on the driving-shaft in frictional contact with the face of said disk, means for varying the rotative distance of said rolls from the axis of said disk, means for transmitting the power through said rolls to the driving-shaft at a speed equal to the difference in rotation of said rolls, means for disconnecting the power-shaft from the disk, and means for coupling the power-shaft and the driving-shaft together.

805,505. AUTOMATIC REGULATOR FOR ELECTRIC CIRCUITS. MONTGOMERY WADDELL, New York, N. Y. Filed June 28, 1904. Serial No. 214,466.

Claim.—1. In a device of the class described, a dynamo having two sections of field-magnet coils wound so as to magnetically oppose each other, one end of each section being electrically connected to one armature-brush and the remaining ends of the two sections being electrically connected to each other between said brushes; in combination with a rheostat connected in shunt with one of the sections of said coils and means for varying the resistance in said rheostat, substantially as described.



2. In a device of the class described, a dynamo having two sections of field-magnet coils wound so as to magnetically oppose each other, one end of each section being electrically connected to one armature-brush and the remaining ends of the two sections being electrically connected to each other between said brushes; in combination with a rheostat connected in shunt with one of said coils and electromagnetic means in circuit with said dynamo for varying the resistance in said rheostat, substantially as described.

3. In a device of the class described, a dynamo having two sections of field-magnet coils wound so as to magnetically oppose each other, one end of each section being electrically connected to one armature-brush and the remaining ends of the two sections being electrically connected to each other between said brushes, in combination with a regulator comprising a variable-resistance device in shunt with the principal field-magnet coil, substantially as described.

4. In a device of the class described, a dynamo having two sections of field-magnet coils wound so as to magnetically oppose each other, one end of each section being electrically connected to one armature-brush and the remaining ends of the two sections being electrically connected to each other between said brushes; in combination with a regulator comprising a variable-resistance device in shunt with the reverse field-magnet coil substantially as described.

5. In a device of the class described, a dynamo having two sections of field-magnet coils wound so as to magnetically oppose each other, one end of each section being electrically connected to one armature-brush and the remaining ends of the two sections being electrically connected to each other between said brushes; in combination with a rheostat in shunt with each coil and electromagnetic means in circuit with said dynamo for simultaneously varying the resistance in both of said rheostats, substantially as described.

6. In a device of the class described, a dynamo having a principal field-magnet coil and a magnetically-opposing field-magnet coil in shunt with the armature and in series with each other, two separate rheostats in shunt with said armature and with the first-named shunt but in series with each other, a compensating wire connecting a point between said rheostats with a point between said field-magnet coils and means for simultaneously operating both of said rheostats, substantially as described.

7. In a device of the class described, a dynamo comprising two sections of field-magnet coils wound so as to magnetically oppose each other and a regulator comprising two separate rheostats electrically connected to said coils and means adapted to operate said rheostats simultaneously so as to increase the current in one of said coils while decreasing the current in the other, substantially as described.

8. In a device of the class described, a dynamo comprising two sections of field-magnet coils wound so as to magnetically oppose each other, an electromagnetic regulator in circuit therewith, two separate rheostats also connected to said coils and means operated by said electromagnetic regulator and adapted to operate said rheostats simultaneously so as to increase the current in one of said coils while decreasing the current in the other coil, substantially as described.

9. In a device of the class described, a dynamo having a principal winding and a reverse winding on the field-magnet thereof, two rheostats in series with each other and individually in shunt with said two field-magnet windings respectively and means for setting up simultaneous and opposite resistance changes in said two rheostats, substantially as described.

10. In a device of the class described, a dynamo having a principal field-magnet winding and a reverse field-magnet winding in shunt with the armature and in series with each other, two independent rheostats in series with each other and in shunt with said windings, a compensating wire connecting a point between said rheostats with a point between said field-magnet coils and means for setting up simultaneous and opposite resistance changes in said two rheostats, substantially as described.

11. In a device of the class described, a dynamo having two sections of field-magnet coils wound so as to magnetically oppose each other; in combination with a separate rheostat in shunt with each of said field-magnet coils and means for varying the resistance of each of said rheostats substantially as described.

12. In a device of the class described, a dynamo having two sections of field-magnet coils wound so as to magnetically oppose each other; in combination with a separate rheostat in shunt with each of said field-magnet windings and means for setting up simultaneous and opposite resistance changes in said two rheostats, substantially as described.

13. In a device of the class described, a dynamo having a principal exciting field-magnet coil and a reverse-wound coil magnetically opposed thereto; in combination with a separate column of resisting-bodies in shunt with each of said field-magnet coils and means for setting up simultaneous and opposite changes in the pressures existing on said two columns, substantially as described.

14. In a device of the class described, a dynamo having a principal field-magnet winding and a reverse field-magnet winding, in combination with a separate column of resisting-bodies in shunt with each of said field-magnet windings, a pivoted spring-pressed lever whose opposite ends bear on said two columns and means for changing the effective pressure exerted on said pivoted lever, substantially as described.

15. In a device of the class described, a dynamo having a principal exciting field-magnet coil and a reverse-wound field-magnet coil; in combination with a separate column of resisting-bodies in shunt with each of said field-magnet windings, a lever whose opposite ends bear on said two columns, means for exerting pressure to tilt said lever in one direction and means for exerting various degrees of force on said lever in opposition to said first-named means, substantially as described.

16. In a device of the class described, a dynamo having two reversely-wound sets of field-magnet coils in series with each other, two columns of resisting-bodies, a solenoid having two coils, and mechanical means connecting said columns and said solenoid for producing differential pressure changes in said columns under the influence of current changes in said solenoid; in combination with an electric connection between one end of the field-magnet coils and one end of one of said resisting-columns, a connection between one end of the other column and the working circuit of the dynamo, a connection between the remaining ends of both said columns and the junction between the two sets of field-magnet coils and a connection from the remaining end of the entire field-magnet system, through one coil of said solenoid to the working circuit of the dynamo, substantially as described.

17. In a device of the class described, a dynamo having two oppositely-wound sections of field-magnet coils in series with each other and together in shunt with the armature, and a rheostat connected in shunt with one of the field-magnet sections, substantially as described.

18. In a device of the class described, a dynamo having two oppositely-wound sections of field-magnet coils in series with each other and together in shunt with the armature, a rheostat connected in shunt with one of the field-magnet sections and means for varying the resistance of said rheostat, substantially as described.

19. In a device of the class described, a dynamo having a principal and a reverse-wound section of field-magnet coils in series with each other and together in shunt with the armature and an automatic regulator comprising a variable-resistance device in shunt with the principal field-magnet coils, substantially as described.

20. In a device of the class described, a dynamo having a principal and a reverse-wound section of field-magnet coils in series with each other and together in shunt with the armature and an automatic regulator comprising a variable-resistance device in shunt with the reverse field-magnet coil, substantially as described.

21. In combination with a dynamo having an exciting-coil producing operative magnetization of its field-magnet, a rheostat in series with the entire exciting-coil, a second rheostat in shunt around said entire exciting-coil and means for simultaneously producing opposite resistance changes in said two rheostats, substantially as described.

22. In combination with a magneto-electric generator having a principal or exciting coil and a coil magnetically opposed thereto, two rheostats so connected to said field-magnet coils as to exert opposite tendencies upon the flow of current in said coils and means for producing simultaneous and opposite resistance changes in said rheostats, substantially as described.

23. In a device of the class described, a dynamo having a principal and a magnetically-opposing section of field-magnet winding, an electromagnetic regulator having primary and secondary coils, said secondary coil being in series with said magnetically-opposing field-magnet coil, and a rheostat controlled by said regulator and connected in shunt around said field-magnet coil, substantially as described.

24. In a device of the class described, a dynamo having a principal and a magnetically-opposing section of field-magnet winding, an electromagnetic regulator having a primary coil in series with the main circuit of said dynamo and a secondary coil in series with said magnetically-opposing field-magnet winding, and a rheostat controlled by said regulator and connected in shunt around said magnetically-opposing field-magnet coil and said secondary regulator-coil, substantially as described.

25. In a device of the class described, a dynamo having a principal and a magnetically-opposing section of field-magnet winding, an electromagnetic regulator having a primary coil and a secondary coil, said secondary coil being in series with said magnetically-opposing field-magnet winding, and two rheostats both controlled by said regulator, one of which is connected in shunt around said magnetically-opposing field-magnet winding and said secondary regulator-coil while the other rheostat is in series with said last-named winding and coil, substantially as described.

26. In a device of the class described, a dynamo having a principal and a reverse section of field-magnet winding, an electromagnetic regulator therefor comprising a coil connected to form with said two field-magnet sections a single electric series, two rheostats in series with each other and connected in shunt with the entire aforesaid electrical series of coils, an electric connection from a point between said rheostats directly to a point between said two field-magnet sections and means controlled by said regulator for changing the resistances of said rheostats, substantially as described.

27. In a device of the class described, a dynamo, a rheostat in shunt with the exciting-coil of said dynamo, and an electromagnetic regulator for said dynamo having a primary and a secondary coil, said primary coil being in series with the main circuit of the dynamo and said secondary coil being in series with said rheostat, substantially as described.

805,506. **WRENCH.** FREDERICK C. WARREN and WILLIAM H. PRESTON, Valley Junction, Wis. Filed Sept. 5, 1905. Serial No. 276,949.



Claim.—1. A tool of the class described, comprising a fixed jaw and a shank depending therefrom, a handle member, a movable jaw integrally formed with said handle member and apertured to receive said shank of the fixed jaw, said handle member having portions for overlapping the shank of the fixed jaw, and a cut-away portion to form a hand-grip, said fixed-jaw shank having a serrated face and said movable jaw having a fulcrum for engaging said serrated face and an adjusting-fulcrum for engaging the opposite face of the shank, substantially as shown and described.

2. A tool of the class described, comprising a fixed jaw and a shank depending therefrom, a handle member, a movable jaw integrally formed with said handle member and apertured to receive said shank in the fixed jaw, said handle member having portions for

overlapping the shank of the fixed jaw, and a cut-away portion to form a hand-grip, said fixed-jaw shank having a serrated face, said movable jaw having a fulcrum for engaging said serrated face and an adjustable fulcrum for engaging the opposite face of the shank, and supplemental jaw members apertured to permit passage of said shank, one of said jaw members being secured adjacent the fixed jaw and the other supplemental jaw member being secured to the movable jaw, said supplemental jaw members having their adjacent faces serrated substantially as shown and described.

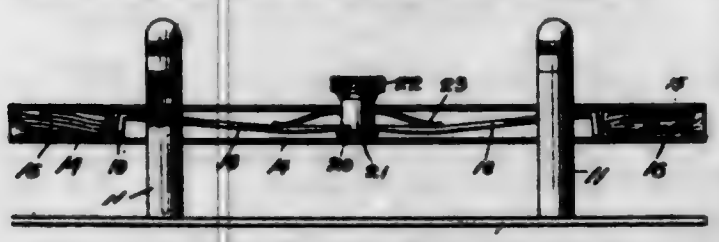
3. A tool of the class described, comprising a shank having a fixed head at one end having a nut-engaging face, a second jaw and a handle member integrally formed with each other, said second jaw having an aperture to permit passage of said shank, said shank having a rack-face and said second jaw having a tooth for coöperating with the rack-face of the shank, said second jaw having an adjustable fulcrum for coöperating with the opposite face of the shank and said handle member having its shank-adjacent face convexed and provided with portions for overlapping the shank substantially as shown and described.

4. A tool of the class described, comprising a shank having a fixed head at one end, having a nut-engaging face, a second jaw and a handle member integrally formed with each other, said second jaw having an aperture to permit passage of said shank, said shank having a rack-face and said second jaw having a tooth for coöperating with the rack-face of the shank, said second jaw having an adjustable fulcrum for coöperating with the opposite face of the shank, said handle member having its shank-adjacent face convexed and provided with portions for overlapping the shank, and said handle member having a cut-away portion 4° to form a hand-grip substantially as shown and described.

5. A tool of the class described, comprising a shank having a fixed head at one end, having a nut-engaging face, a second jaw and a handle member integrally formed with each other, said second jaw having an aperture to permit passage of said shank, said shank having a rack-face and said second jaw having a tooth for coöperating with the rack-face of the shank, said second jaw having an adjustable fulcrum for coöperating with the opposite face of the shank said handle member having its shank-adjacent face convexed and provided with portions for overlapping the shank, and said handle member having a cut-away portion 4° to form a hand-grip, a supplemental jaw having its upper face grooved and provided with an aperture to permit passage of the shank, said supplemental jaw adapted to receive the fixed jaw in its groove, means for securing said supplemental jaw to the shank, said supplemental jaw having its under face provided with a serrated portion, and a second supplemental jaw having an aperture to permit passage of the shank and a serrated portion on the face adjacent the first supplemental jaw, said second supplemental jaw having its lower face countersunk to receive the handle-jaw and having a wing provided with an aperture, means cooperating with said wing-aperture for securing said second supplemental jaw to the handle-jaw substantially as shown and described.

6. A tool of the class described comprising a fixed jaw and a shank depending therefrom, a handle member, a movable jaw integrally formed with said handle member and apertured to receive the shank in the fixed jaw, said handle member having portions for overlapping the shank of the fixed jaw, and a cut-away portion to form a hand-grip, said fixed-jaw shank having a serrated face, said movable jaw having a fulcrum for engaging said serrated face, an adjustable fulcrum for engaging the opposite face of the shank, and supplemental jaw members apertured to permit passage of said shank, one of said jaw members being held adjacent the fixed jaw, and the other supplemental jaw member being held adjacent the movable jaw, substantially as shown and described.

805,507. **FILE-BINDER FOR LOOSE SHEETS.** GEORGE F. WATT, Chicago, Ill. Filed Feb. 3, 1902. Serial No. 92,370.



Claim.—1. In a file-binder, the combination with the bottom bar, the posts and the clamping-bar movable upon the posts, of devices carried by the clamping-bar and frictionally engaging the posts, such devices consisting of levers encircling the posts and having bends 19 at their outer ends upon which these ends are supported, and having their inner ends supported by a device movable by hand and adapted to lift those ends, and a spring for depressing the inner ends, substantially as specified.

2. In a file-binder, the combination with the bottom bar, the posts secured to the bottom bar, and a clamping-bar movable vertically on the post, of friction devices carried by the clamping-bar for frictionally engaging the posts consisting of levers 18 encircling the posts and having their outer ends bent downward so as to form supports, and also having their inner ends connected so that both move together, substantially as specified.

3. In a file-binder, the combination with the bottom bar, the posts secured to the bottom bar, and a clamping-bar movable vertically on the posts, of friction devices carried by the clamping-bar for vertically engaging the posts consisting of levers 18 encircling the posts, and having their outer ends bent downward so as to form supports, a manually-operated device connected to the inner ends of both levers and serving as a means of raising them and a spring for depressing said inner ends.

805,508. **CASK-HEAD CLOSURE.** CARL WELLHÖFER, Sr., Heidingsfeld, near Würzburg, Germany. Filed Feb. 25, 1905. Serial No. 247,394.



Claim.—1. The combination, with a cask and a closure therefor, of feet arranged to rest upon the cask at both sides of the opening, a bar spanning the opening and connecting the feet, and means for attaching the closure to the bar at a point between the feet.

2. The combination, with a cask and a closure therefor, of feet arranged to rest upon the cask at both sides of the opening, a bar spanning the opening and movably connected at its ends to the feet, and tension-applying means for attaching the closure to the bar at a point between the feet.

3. The combination, with a cask and a closure therefor, of feet arranged to rest upon the cask at both sides of the opening, a bar spanning the opening and movably connected at its ends to the feet, a stud secured to the closure and passing through an aperture in the bar, and a nut threaded upon the end of the stud.

4. The combination, with a cask and a closure therefor, of feet arranged to rest upon the cask at both sides of the opening, an arched bar spanning the opening and pivotally connecting the feet, a stud secured to the closure and passing through a hole in the bar between the feet, and a nut threaded upon the end of the stud.

5. The combination, with a cask and a closure therefor, of feet having a broad bearing-surface arranged to rest upon the cask at both sides of the opening and ears extending upwardly, an arched bar spanning the opening and pivoted at its ends to the ears, a stud secured to the closure and passing through a hole in the bar between its two ends, and a nut threaded upon the end of the stud.

805,509. **ELECTRIC CUT-OUT.** WILLIS P. WRIGHT, Blandinsville, Ill. Filed June 13, 1904. Serial No. 212,407.



Claim.—1. The combination with a hollow bracket having a central and opposite side openings, of a tubular electrolier-standard having an open end fitted in the central opening of the bracket, a cut-out carried by the standard below the bracket, line-wires entering the bracket and passing out through one of the side openings to the cut-out, and lead-wires extending from the cut-out into the hollow bracket through the other side opening and thence into the tubular standard through its open end.

2. The combination with a hollow bracket having a central opening and side openings, of a tubular electrolier-standard having an open end fitted in the central opening of the bracket, a collar adjustable upon the standard below the bracket, a cut-out slidably

10. In a device of the class described, a dynamo having a principal field-magnet winding and a reverse field-magnet winding in shunt with the armature and in series with each other, two independent rheostats in series with each other and in shunt with said windings, a compensating wire connecting a point between said rheostats with a point between said field-magnet coils and means for setting up simultaneous and opposite resistance changes in said two rheostats, substantially as described.

11. In a device of the class described, a dynamo having two sections of field-magnet coils wound so as to magnetically oppose each other; in combination with a separate rheostat in shunt with each of said field-magnet coils and means for varying the resistance of each of said rheostats substantially as described.

12. In a device of the class described, a dynamo having two sections of field-magnet coils wound so as to magnetically oppose each other; in combination with a separate rheostat in shunt with each of said field-magnet windings and means for setting up simultaneous and opposite resistance changes in said two rheostats, substantially as described.

13. In a device of the class described, a dynamo having a principal exciting field-magnet coil and a reverse-wound coil magnetically opposed thereto; in combination with a separate column of resisting-bodies in shunt with each of said field-magnet coils and means for setting up simultaneous and opposite changes in the pressures existing on said two columns, substantially as described.

14. In a device of the class described, a dynamo having a principal field-magnet winding and a reverse field-magnet winding, in combination with a separate column of resisting-bodies in shunt with each of said field-magnet windings, a pivoted spring-pressed lever whose opposite ends bear on said two columns and means for changing the effective pressure exerted on said pivoted lever, substantially as described.

15. In a device of the class described, a dynamo having a principal exciting field-magnet coil and a reverse-wound field-magnet coil; in combination with a separate column of resisting-bodies in shunt with each of said field-magnet windings, a lever whose opposite ends bear on said two columns, means for exerting pressure to tilt said lever in one direction and means for exerting various degrees of force on said lever in opposition to said first-named means, substantially as described.

16. In a device of the class described, a dynamo having two reversely-wound sets of field-magnet coils in series with each other, two columns of resisting-bodies, a solenoid having two coils, and mechanical means connecting said columns and said solenoid for producing differential pressure changes in said columns under the influence of current changes in said solenoid; in combination with an electric connection between one end of the field-magnet coils and one end of one of said resisting-columns, a connection between one end of the other column and the working circuit of the dynamo, a connection between the remaining ends of both said columns and the junction between the two sets of field-magnet coils and a connection from the remaining end of the entire field-magnet system, through one coil of said solenoid to the working circuit of the dynamo, substantially as described.

17. In a device of the class described, a dynamo having two oppositely-wound sections of field-magnet coils in series with each other and together in shunt with the armature, and a rheostat connected in shunt with one of the field-magnet sections, substantially as described.

18. In a device of the class described, a dynamo having two oppositely-wound sections of field-magnet coils in series with each other and together in shunt with the armature, a rheostat connected in shunt with one of the field-magnet sections and means for varying the resistance of said rheostat, substantially as described.

19. In a device of the class described, a dynamo having a principal and a reverse-wound section of field-magnet coils in series with each other and together in shunt with the armature and an automatic regulator comprising a variable-resistance device in shunt with the principal field-magnet coils, substantially as described.

20. In a device of the class described, a dynamo having a principal and a reverse-wound section of field-magnet coils in series with each other and together in shunt with the armature and an automatic regulator comprising a variable-resistance device in shunt with the reverse field-magnet coil, substantially as described.

21. In combination with a dynamo having an exciting-coil producing operative magnetization of its field-magnet, a rheostat in series with the entire exciting-coil, a second rheostat in shunt around said entire exciting-coil and means for simultaneously producing opposite resistance changes in said two rheostats, substantially as described.

22. In combination with a magneto-electric generator having a principal or exciting coil and a coil magnetically opposed thereto, two rheostats so connected to said field-magnet coils as to exert opposite tendencies upon the flow of current in said coils and means for producing simultaneous and opposite resistance changes in said rheostats, substantially as described.

23. In a device of the class described, a dynamo having a principal and a magnetically-opposing section of field-magnet winding, an electromagnetic regulator having primary and secondary coils, said secondary coil being in series with said magnetically-opposing field-magnet coil, and a rheostat controlled by said regulator and connected in shunt around said field-magnet coil, substantially as described.

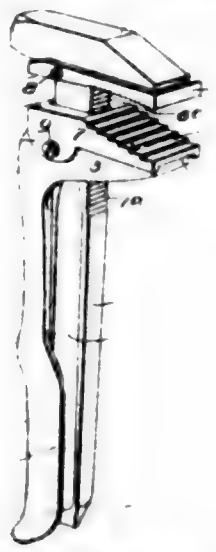
24. In a device of the class described, a dynamo having a principal and a magnetically-opposing section of field-magnet winding, an electromagnetic regulator having a primary coil in series with the main circuit of said dynamo and a secondary coil in series with said magnetically-opposing field-magnet winding, and a rheostat controlled by said regulator and connected in shunt around said magnetically-opposing field-magnet coil and said secondary regulator-coil, substantially as described.

25. In a device of the class described, a dynamo having a principal and a magnetically-opposing section of field-magnet winding, an electromagnetic regulator having a primary coil and a secondary coil, said secondary coil being in series with said magnetically-opposing field-magnet winding, and two rheostats both controlled by said regulator, one of which is connected in shunt around said magnetically-opposing field-magnet winding and said secondary regulator-coil while the other rheostat is in series with said last-named winding and coil, substantially as described.

26. In a device of the class described, a dynamo having a principal and a reverse section of field-magnet winding, an electromagnetic regulator therefor comprising a coil connected to form with said two field-magnet sections a single electric series, two rheostats in series with each other and connected in shunt with the entire aforesaid electrical series of coils, an electric connection from a point between said rheostats directly to a point between said two field-magnet sections and means controlled by said regulator for changing the resistances of said rheostats, substantially as described.

27. In a device of the class described, a dynamo, a rheostat in shunt with the exciting-coil of said dynamo, and an electromagnetic regulator for said dynamo having a primary and a secondary coil, said primary coil being in series with the main circuit of the dynamo and said secondary coil being in series with said rheostat, substantially as described.

805,506. **WRENCH.** FREDERICK C. WARREN and WILLIAM H. PRESTON, Valley Junction, Wis. Filed Sept. 5, 1905. Serial No. 276,949.



Claim.—1. A tool of the class described, comprising a fixed jaw and a shank depending therefrom, a handle member, a movable jaw integrally formed with said handle member and apertured to receive said shank of the fixed jaw, said handle member having portions for overlapping the shank of the fixed jaw, and a cut-away portion to form a hand-grip, said fixed-jaw shank having a serrated face and said movable jaw having a fulcrum for engaging said serrated face and an adjusting-fulcrum for engaging the opposite face of the shank, substantially as shown and described.

2. A tool of the class described, comprising a fixed jaw and a shank depending therefrom, a handle member, a movable jaw integrally formed with said handle member and apertured to receive said shank in the fixed jaw, said handle member having portions for

overlapping the shank of the fixed jaw, and a cut-away portion to form a hand-grip, said fixed-jaw shank having a serrated face, said movable jaw having a fulcrum for engaging said serrated face and an adjustable fulcrum for engaging the opposite face of the shank, and supplemental jaw members apertured to permit passage of said shank, one of said jaw members being secured adjacent the fixed jaw and the other supplemental jaw member being secured to the movable jaw, said supplemental jaw members having their adjacent faces serrated substantially as shown and described.

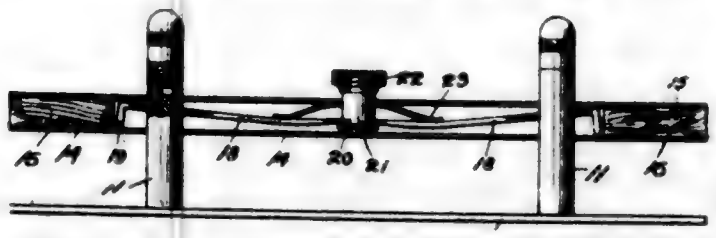
3. A tool of the class described, comprising a shank having a fixed head at one end having a nut-engaging face, a second jaw and a handle member integrally formed with each other, said second jaw having an aperture to permit passage of said shank, said shank having a rack-face and said second jaw having a tooth for coöperating with the rack-face of the shank, said second jaw having an adjustable fulcrum for coöperating with the opposite face of the shank and said handle member having its shank-adjacent face convexed and provided with portions for overlapping the shank substantially as shown and described.

4. A tool of the class described, comprising a shank having a fixed head at one end, having a nut-engaging face, a second jaw and a handle member integrally formed with each other, said second jaw having an aperture to permit passage of said shank, said shank having a rack-face and said second jaw having a tooth for coöperating with the rack-face of the shank, said second jaw having an adjustable fulcrum for coöperating with the opposite face of the shank, said handle member having its shank-adjacent face convexed and provided with portions for overlapping the shank, and said handle member having a cut-away portion 4ª to form a hand-grip substantially as shown and described.

5. A tool of the class described, comprising a shank having a fixed head at one end, having a nut-engaging face, a second jaw and a handle member integrally formed with each other, said second jaw having an aperture to permit passage of said shank, said shank having a rack-face and said second jaw having a tooth for coöperating with the rack-face of the shank, said second jaw having an adjustable fulcrum for coöperating with the opposite face of the shank said handle member having its shank-adjacent face convexed and provided with portions for overlapping the shank, and said handle member having a cut-away portion 4ª to form a hand-grip, a supplemental jaw having its upper face grooved and provided with an aperture to permit passage of the shank, said supplemental jaw adapted to receive the fixed jaw in its groove, means for securing said supplemental jaw to the shank, said supplemental jaw having its under face provided with a serrated portion, and a second supplemental jaw having an aperture to permit passage of the shank and a serrated portion on the face adjacent the first supplemental jaw, said second supplemental jaw having its lower face countersunk to receive the handle-jaw and having a wing provided with an aperture, means cooperating with said wing-aperture for securing said second supplemental jaw to the handle-jaw substantially as shown and described.

6. A tool of the class described comprising a fixed jaw and a shank depending therefrom, a handle member, a movable jaw integrally formed with said handle member and apertured to receive the shank in the fixed jaw, said handle member having portions for overlapping the shank of the fixed jaw, and a cut-away portion to form a hand-grip, said fixed-jaw shank having a serrated face, said movable jaw having a fulcrum for engaging said serrated face, an adjustable fulcrum for engaging the opposite face of the shank, and supplemental jaw members apertured to permit passage of said shank, one of said jaw members being held adjacent the fixed jaw, and the other supplemental jaw member being held adjacent the movable jaw, substantially as shown and described.

805,507. **FILE-BINDER FOR LOOSE SHEETS.** GEORGE F. WATT, Chicago, Ill. Filed Feb. 3, 1903. Serial No. 92,270.



Claim.—1. In a file-binder, the combination with the bottom bar, the posts and the clamping-bar movable upon the posts, of devices carried by the clamping-bar and frictionally engaging the posts, such devices consisting of levers encircling the posts and having bends 19 at their outer ends upon which those ends are supported, and having their inner ends supported by a device movable by hand and adapted to lift those ends, and a spring for depressing the inner ends, substantially as specified.

2. In a file-binder, the combination with the bottom bar, the posts secured to the bottom bar, and a clamping-bar movable vertically on the post, of friction devices carried by the clamping-bar for frictionally engaging the posts consisting of levers 18 encircling the posts and having their outer ends bent downward so as to form supports, and also having their inner ends connected so that both move together, substantially as specified.

3. In a file-binder, the combination with the bottom bar, the posts secured to the bottom bar, and a clamping-bar movable vertically on the posts, of friction devices carried by the clamping-bar for vertically engaging the posts consisting of levers 18 encircling the posts, and having their outer ends bent downward so as to form supports, a manually-operated device connected to the inner ends of both levers and serving as a means of raising them and a spring for depressing said inner ends.

805,508. **CASK-HEAD CLOSURE.** CARL WELLHÖFER, Sr., Heidingsfeld, near Würzburg, Germany. Filed Feb. 25, 1905. Serial No. 247,394.



Claim.—1. The combination, with a cask and a closure therefor, of feet arranged to rest upon the cask at both sides of the opening, a bar spanning the opening and connecting the feet, and means for attaching the closure to the bar at a point between the feet.

2. The combination, with a cask and a closure therefor, of feet arranged to rest upon the cask at both sides of the opening, a bar spanning the opening and movably connected at its ends to the feet, and tension-applying means for attaching the closure to the bar at a point between the feet.

3. The combination, with a cask and a closure therefor, of feet arranged to rest upon the cask at both sides of the opening, a bar spanning the opening and movably connected at its ends to the feet, a stud secured to the closure and passing through an aperture in the bar, and a nut threaded upon the end of the stud.

4. The combination, with a cask and a closure therefor, of feet arranged to rest upon the cask at both sides of the opening, an arched bar spanning the opening and pivotally connecting the feet, a stud secured to the closure and passing through a hole in the bar between the feet, and a nut threaded upon the end of the stud.

5. The combination, with a cask and a closure therefor, of feet having a broad bearing-surface arranged to rest upon the cask at both sides of the opening and ears extending upwardly, an arched bar spanning the opening and pivoted at its ends to the ears, a stud secured to the closure and passing through a hole in the bar between its two ends, and a nut threaded upon the end of the stud.

805,509. **ELECTRIC CUT-OUT.** WILLIS P. WRIGHT, Blandinsville, Ill. Filed June 13, 1904. Serial No. 212,407.



Claim.—1. The combination with a hollow bracket having a central and opposite side openings, of a tubular electrolier-standard having an open end fitted in the central opening of the bracket, a cut-out carried by the standard below the bracket, line-wires entering the bracket and passing out through one of the side openings to the cut-out, and lead-wires extending from the cut-out into the hollow bracket through the other side opening and thence into the tubular standard through its open end.

2. The combination with a hollow bracket having a central opening and side openings, of a tubular electrolier-standard having an open end fitted in the central opening of the bracket, a collar adjustable upon the standard below the bracket, a cut-out slidably

embracing the standard and adjustably supported upon the collar, line-wires extending into the hollow bracket and thence outward through one of the side openings and connected with the cut-out, and lead-wires extending from the cut-out through the other opening of the bracket and thence through the open end of the standard into the interior thereof.

3. The combination of a hollow bracket having central and side openings, a tubular electrolier-standard having an open end fitted in the central opening of the bracket, a cut-out embracing and carried by the tubular standard below the bracket and provided with binding-posts piercing the cut-out and accessible at the top and bottom thereof, line-wires extending into the hollow bracket and thence outward through one of the side openings and connected with certain of the binding-posts, and lead-wires extending from the other binding-posts through the other opening of the bracket and thence through the open end of the standard into the interior thereof.

4. A cut-out comprising a body having a central opening for the reception of the standard of an electrolier and provided upon its top with inner and outer upstanding annular flanges and upon its under side with a pendent cylindrical flange forming a continuation of the central opening, the peripheral edge of the body being intersected by slots, binding-posts fitted in the slots and provided with clamping-screws located in and accessible through said slots, fuse elements connecting opposite binding-posts, and an insulating-plate to rest upon the tops of the upstanding flanges and provided with a central opening to register with the central opening of the body and also having other openings to register with the binding-posts.

805,510. DEVICE FOR EFFECTING THE RADIATION OF HEAT. SCHUYLER W. ZENT, Evansville, Ind., assignor to The Zent Automobile Manufacturing Company, Bellefontaine, Ohio. Filed Mar. 16, 1904. Serial No. 198,500.



Claim.—1. In a device for effecting the radiation of heat, the combination with a surface, subject to heat effects, of open-ended heat-radiating tubes having one end flattened and broadened in a general crosswise direction thereof and secured by said end to the said surface.

2. In a device for effecting the radiation of heat, the combination with a surface, subject to heat effects, having recesses, of open-ended heat-radiating tubes having one end flattened and broadened in a general crosswise direction and secured by said end in said recesses

3. In a device for effecting the radiation of heat, the combination with a surface, subject to heat effects, having recesses, of open-ended heat-radiating tubes having one end flattened and broadened in a general crosswise direction and received in said recesses and expanded or tamped therein to secure the tubes by filling the recesses.

4. In a device for effecting the radiation of heat, the combination with a surface, subject to heat effects, of heat-radiating tubes having one end slit and spread to provide an air-opening and secured to the said surface.

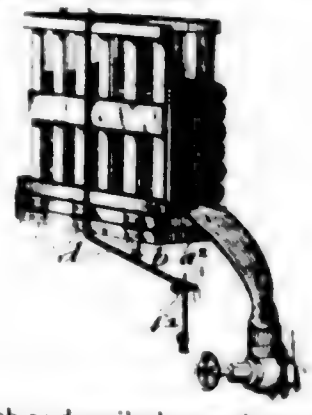
5. In a device for effecting the radiation of heat, the combination with a surface, subject to heat effects, having recesses, of heat-radiating tubes having flattened and bent ends received in said recesses and expanded therein.

6. In a device for effecting the radiation of heat, the combination with a surface, subject to heat effects, having recesses, of heat-radiating tubes having slit open ends provided with flattened portions received in the recesses and expaneдd therein.

7. In a device for effecting the radiation of heat, the combination with a surface, subject to heat effects, having undercut recesses, of open tubes having slit open ends provided with flattened bent portions received in the recesses and expanded therein.

805,511. DEVICE FOR SUPPORTING FIRE-HOSE, LIFE-PRESERVERS, &c. THOMAS F. ADAMS, New York, N. Y. Filed Jan. 12, 1905. Serial No. 240,761.

Claim.—1. The combination, with wall or other support, of a shelf supported thereon, a shelf-section hinged to said shelf, a rack hinged to said shelf-section and supported on said shelf, and means for dumping said rack from the latter.



2. A device such as described comprising a stationary shelf, a shelf-section hinged thereto, and a rack hinged to said shelf-section and adapted to extend over the same and be supported on said shelf.

3. A device such as described comprising a stationary shelf, a shelf-section hinged to the front edge thereof and capable of downward movement, and a rack hinged to the front edge of said shelf-section and of greater width than said shelf-section.

4. The combination, with a wall or other support, of a shelf supported thereon, a shelf-section hinged to said shelf and capable of downward movement, and a rack hinged to said shelf-section and adapted to be supported on said shelf.

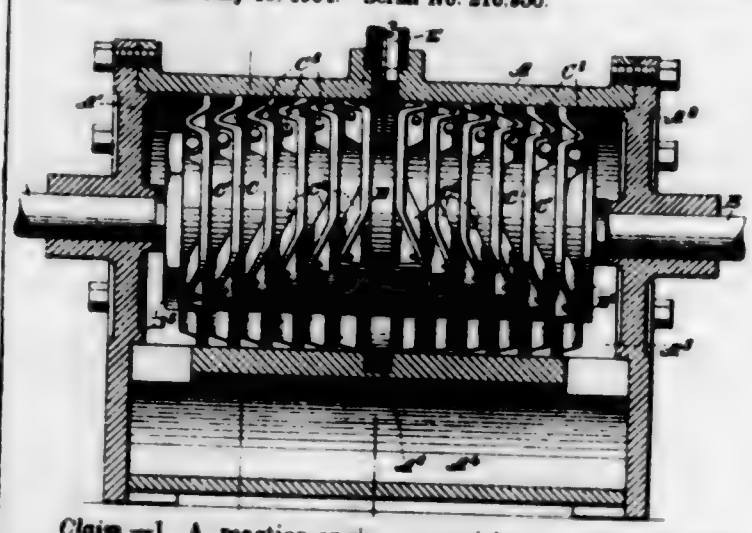
5. The combination, with a wall or other support, of a shelf attached thereto, a shelf-section hinged for downward movement at the front edge of said shelf, a rack hinged to said shelf-section and adapted to be supported on said shelf, and means for dumping said rack from the latter

6. The combination, with a wall or other support, of a shelf attached thereto, a shelf-section hinged to said shelf and capable of downward movement, and a rack hinged to the front edge of said shelf-section and adapted to be supported on said shelf.

7. A device such as described comprising in its construction a stationary shelf, a shelf-section hinged to the front edge thereof and capable of downward movement, and a rack hinged to the front edge of said shelf-section, said rack being of greater width than said shelf-section and adapted to extend over the same and be supported on said shelf.

8. In combination, a wall or other support, a shelf supported thereon, a shelf-section hinged to the front edge of said shelf and capable of downward movement, a rack hinged to the front edge of said shelf-section and of greater width than said section, means for locking said rack to said wall or other support, and means for releasing said locking means and dumping said rack from said shelf.

805,512. REACTION-ENGINE. THOMAS R. ALMOND, Yonkers, N. Y. Filed July 18, 1904. Serial No. 216,950.



Claim.—1. A reaction-engine comprising a casing provided with a continuous circumferential groove or chamber upon its inner surface and an inlet for the driving medium connected with said groove, in combination with a rotary member having an inlet-chamber communicating with said groove, and provided with a series of reaction members through which the driving medium is adapted to pass successively on its way from said inlet-chamber to the exhaust.

2. A reaction-engine having a rotary member with a series of reaction members, the edges of which lie in a surface generated by rotation, and a casing shaped to lie close to the paths of said edges.

3. A reaction-engine having a cylindrical casing provided with an inlet and an outlet for the driving medium, and a rotary member having reaction members the edges of which form a fit with the inner surface of the casing.

4. A reaction-engine having a cylindrical casing with a central inlet and end outlets for the driving medium, in combination with a rotary member having a double series of reaction members or plates having a peripheral fit against the inner surface of the casing and forming a series of chambers through which the driving medium is adapted to travel expansively, with a reaction effect, from the inlet to each of the outlets.

5. A reaction-engine having a casing with a peripheral inlet for the driving medium, and a series of rotary reaction members arranged to be driven by said medium.

6. A reaction-engine comprising a casing having an inlet for the driving medium, two sets of rotary reaction members having communicating passages, and a feed-chamber connected with said inlet and located between the two sets of reaction members.

7. A reaction-engine comprising a casing and a series of members mounted to rotate in unison therein and forming partitions to divide the interior of said casing into a series of chambers, said members having their peripheral portions spaced from each other, and placed close to the inner surface of the casing, and being provided with passages leading from one chamber to the next, the discharge ends of such passages being directed to rotate said members by a reaction effect.

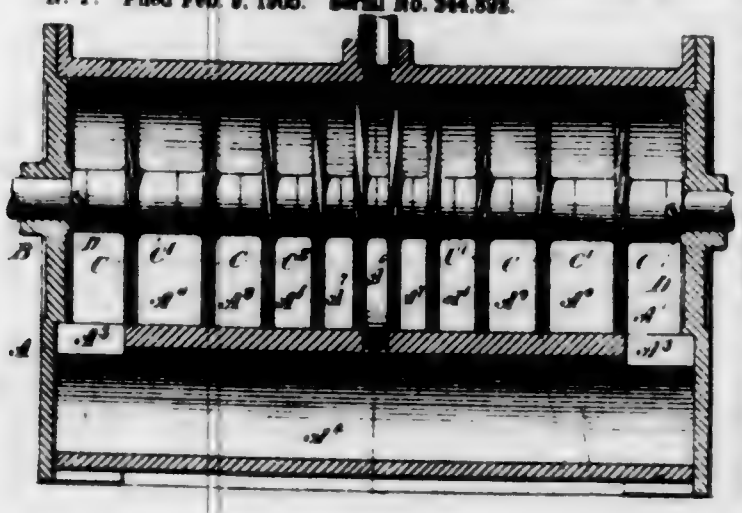
8. A reaction-engine comprising a casing and a series of members mounted to rotate in unison therein and forming partitions to divide the interior of said casing into a series of chambers, said members having their peripheral portions spaced from each other and placed close to the inner surface of the casing, and being provided with passages leading from one chamber to the next, the discharge ends of such passages being directed to rotate said members by a reaction effect, and the total area of such communicating passages increasing from chamber to chamber toward the exhaust.

9. A reaction-engine comprising a casing and a rotary member mounted within said casing and having its periphery close to the inner surface of the casing, so as to separate two chambers within the casing, said rotary member being provided with reaction-passages extending from one of its end faces to the other and connecting said two chambers so as to give the driving medium a motion which is partly lengthwise of the axis of rotation.

10. A reaction-engine comprising a casing having two outlets and an inlet located between said outlets, and a rotary member having a series of reaction members, the peripheries of which are close to the inner surface of the casing, said reaction members dividing the interior of the casing into a central chamber communicating with the inlet, and expansion-chambers located at both sides of said central chamber, each of the reaction members having passages which lead from one chamber to another and all of which have their discharge ends directed to rotate said members in the same direction by a reaction effect.

11. A reaction-engine comprising a casing and a rotary member located therein and provided with reaction members located at varying distances from each other and extending close to the inner surface of the casing with their peripheral portions, so as to subdivide the interior of the casing into a series of chambers of different sizes, said reaction members being provided with passages extending therethrough from one chamber to another, and having their discharge ends directed to rotate said members with a reaction effect.

805,513. **REACTION-ENGINE.** THOMAS R. ALMOND, Yonkers, N. Y. Filed Feb. 9, 1905. Serial No. 244,892.



Claim.—1. A reaction-engine composed of a casing having a chamber, and a rotary member mounted to turn in said chamber and comprising a series of disks subdividing said chamber into a series of compartments and provided with peripheral oblique passages extending from one compartment to the other.

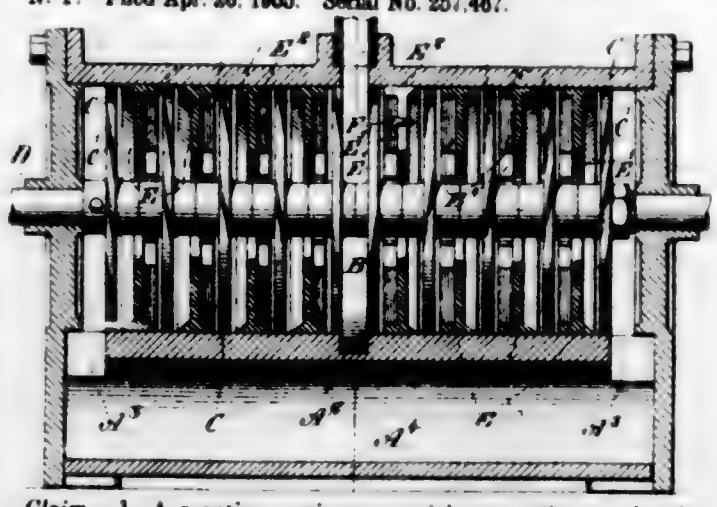
2. A reaction-engine composed of a casing having a chamber, and a rotary member mounted to turn in said chamber and comprising a plurality of disks spaced from each other to subdivide said chamber into compartments and having their outer edges close to the inner surface of the casing, said disks being provided with oblique passages extending from one compartment to the other.

3. A reaction-engine composed of a casing having a chamber, and a rotary member mounted to turn in said chamber, and comprising a shaft and a series of reaction members mounted on said shaft and provided with hubs projecting in opposite directions, the two hubs of each reaction member being of equal length, but differing in length from those of the other reaction members so as to subdivide the chamber of the casing into a series of compartments of different sizes.

4. A reaction-engine composed of a casing having a chamber, and a rotary member mounted to turn in said chamber and comprising a plurality of disks having their peripheries close to the inner surface of the casing and spaced to subdivide said chamber into compartments, the said disks having smooth end faces devoid of projections near their peripheries, and being provided with oblique passages extending from one compartment to the other.

5. A reaction-engine composed of a casing having a chamber, and a rotary member comprising a series of progressively-spaced reaction-disks held to rotate in unison within said chamber and subdividing it into a series of compartments of gradually-increasing sizes, each of said disks being provided with reaction-passages leading from one of its end faces to the other and terminating within the planes of said end faces, and the total area of the passages through which the compartments communicate with each other, increasing from compartment to compartment.

805,514. **REACTION-ENGINE.** THOMAS R. ALMOND, Yonkers, N. Y. Filed Apr. 26, 1905. Serial No. 257,467.



Claim.—1. A reaction-engine comprising a casing, a plurality of reaction members held to rotate in unison and having a running fit with a stationary part at their outer edges, said reaction members being spaced from each other so as to divide the casing into a series of chambers, and having reaction-passages connecting one chamber with the next, and stationary baffle members located between said reaction members and forming barriers to check the whirling of the driving medium issuing from said reaction-passages.

2. A reaction-engine comprising a casing, a plurality of reaction members held to rotate in unison and having a running fit with a stationary part at their outer edges, said reaction members being spaced from each other so as to divide the casing into a series of chambers, and having reaction-passages connecting one chamber with the next, and stationary baffle members disposed radially between said reaction members to check the whirling of the driving medium issuing from said reaction-passages.

3. A reaction-engine comprising a casing, a plurality of reaction members held to rotate in unison and having a running fit with a stationary part at their outer edges, said reaction members being spaced from each other so as to divide the casing into a series of chambers, and having reaction-passages connecting one chamber with the next, and stationary baffle members located between said reaction members and extending inward from points adjacent to the peripheries of the reaction members, to check the whirling of the driving medium issuing from said reaction-passages.

4. A reaction-engine comprising a casing, a reaction member held to rotate in the casing and provided with a reaction-passage extending from one of its faces to the other, said rotary member having a running fit with a stationary part at its outer edge, and a stationary baffle member located on the outlet side of the reaction member to check the whirling of the driving medium issuing from said reaction-passage.

5. A reaction-engine comprising a casing, a reaction member held to rotate in the casing and provided with a reaction-passage extending from one of its faces to the other, said rotary member having a running fit with a stationary part at its outer edge, and a stationary baffle member located on the outlet side of the reaction member, and disposed across the path of the whirling motion of the driving medium issuing from said reaction-passage, to check such whirling motion.

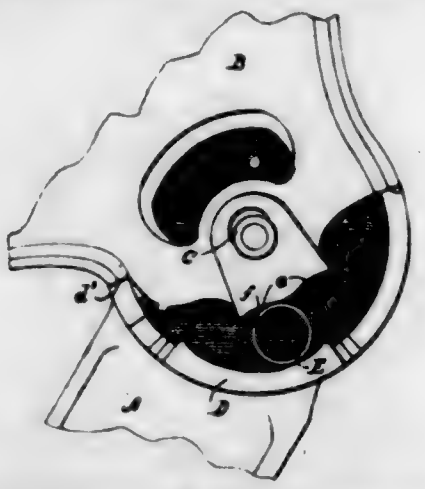
6. A reaction-engine comprising a casing, a reaction member held to rotate in the casing and provided with a reaction-passage extending from one of its faces to the other, said rotary member having a running fit with a stationary part at its outer edge, and a stationary baffle member located on the outlet side of the reaction member, and extending inwardly from a point adjacent to the periphery of said reaction member.

7. A reaction-engine comprising a casing, a reaction member held to rotate in the casing and provided with a reaction-passage extending from one of its faces to the other, said rotary member having a running fit with a stationary part at its outer edge, and a stationary baffle member located on the outlet side of the reaction member, and comprising an apertured web, and inwardly-extending ribs on that side of said web which faces the outlet side of the said reaction member.

8. A reaction-engine comprising a casing, a plurality of reaction members held to rotate in unison and having a running fit with a stationary part at their outer edges, said reaction members being spaced from each other so as to divide the casing into a series of chambers, and having reaction-passages connecting one chamber with the next, and stationary baffle members located between adjacent reaction members, each of said baffle members comprising an apertured web and inwardly-extending ribs on that side of said web which faces the outlet side of the adjacent reaction member.

9. A reaction-engine comprising a casing, a reaction member held to rotate in the casing and provided with a reaction-passage extending from one of its faces to the other, said rotary member having a running fit with a stationary part at its outer edge, and a stationary baffle member located on the outlet side of the reaction member and having inwardly-extending ribs or ledges forming barriers to check the whirling of the driving medium issuing from said reaction member.

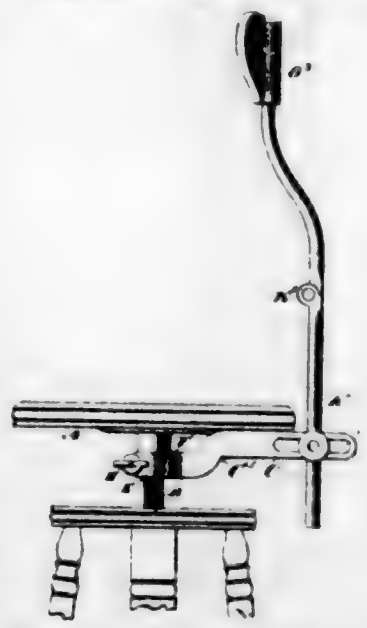
805,515. HINGE. GEORGE E. ANDERSON, Milwaukee, Wis., assignor to Mary Anderson, Milwaukee, Wis. Filed Nov. 6, 1903. Serial No. 180,089.



Claim.—1. In a device of the described class, the combination of pivotally-connected members; a segmental recess between said members radial to the pivotal connection; and a resilient cushion in said recess in direct contact with the opposing surfaces of the members, said surfaces being formed to converge at the ends of the line of roller travel, together with a clamping device rigidly secured to one of the members, and having a resilient member bearing against the other member axially to the pivotal connection.

2. In a device of the described class, the combination of a supporting stationary member; a stationary clamping member rigidly bound to the stationary member; an oscillatory member pivotally secured between the supporting member and the clamping member; a resilient member connected with the stationary member, a pivot-bolt arranged to draw said resilient member against the oscillatory member and a resilient roller located between said members in yielding contact with the same.

805,516. ADJUSTABLE BACK FOR STOOLS. CHARLES C. AUGUSTINE, Cedar Rapids, Iowa, assignor of one-half to A. B. Mulford, Cedar Rapids, Iowa. Filed Jan. 9, 1905. Serial No. 240,369.

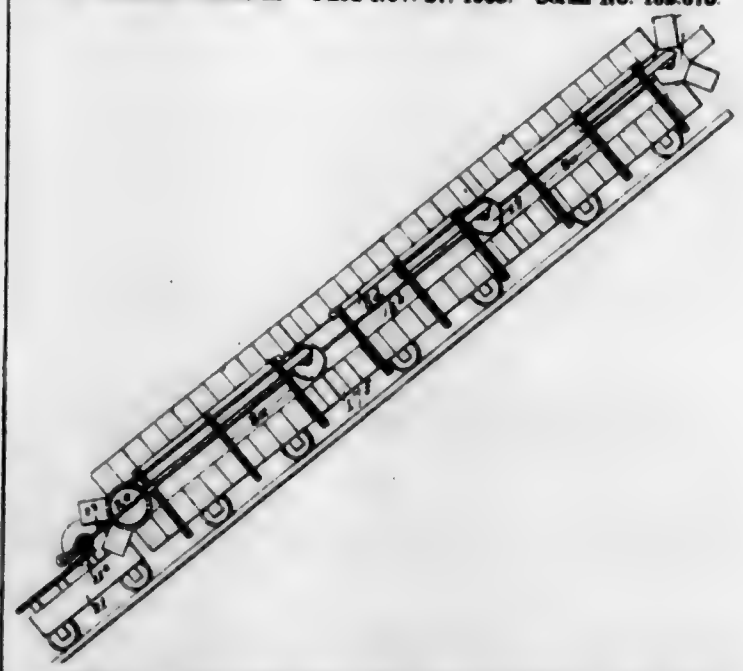


Claim.—1. An adjustable back for stools, comprising a bracket adapted to be clamped to the stool-seat spindle, and having an outwardly-projecting portion with a straight slot therein, a shouldered clamp adapted to slide in said slot and to hold the back-rod at a predetermined angle to the bracket, a back-rod transversely movable in said clamp, and a back-piece mounted at the upper end of said rod.

2. An adjustable back for stools, comprising a bracket adapted to be clamped to the seat-spindle, and having a straight slot in its outer portion to take a back-rod clamp, a shouldered clamp adapted to slide in said slot and to hold the back-rod at a predetermined angle to the bracket, and, when loosened, permit the back-rod to fold parallel with the bracket, a jointed back-rod, and a detachable back-piece mounted revolubly on said rod at the upper end.

3. In combination with a back-supporting rod and a bracket adapted for attachment to the spindle of a stool-seat, a clamp, comprising a bolt with a hole through it to take said rod, a thumb-screw for the threaded end of said bolt, and a washer adapted to engage the bracket without turning, and having recesses disposed at practically right angles, to take one side of said rod, whereby the rod may stand at right angles to, or parallel with said bracket.

805,517. SELF-DUMPING CAR. PATRICK R. BANNON and JAMES L. BANNON, Joliet, Ill. Filed Nov. 27, 1903. Serial No. 183,875.



Claim.—1. In mechanism of the class described, cars provided with suitable trucks and coupled together to form a train each of said cars provided with sectional and movable sides and floor, the floor composed of a series of sections hinged to each other, and the floor of one car connected with the floor of the adjacent car.

2. In mechanism of the class described, cars provided with suitable trucks and coupled together to form a train, each of said cars provided with a floor composed of a plurality of movable sections each consisting of a bottom plate and side walls, said sections hinged together to form an endless belt extending the length of said train, means for causing said sections to traverse said train, and means for supporting said sections when loaded and when unloaded.

3. In mechanism of the class described, a train composed of a series of cars, each of which is provided with movable and sectional sides and bottom connected to form an endless belt extending the length of the train and the end cars of the train also provided with rotatable drums over which said endless belt travels, and means for driving said belt.

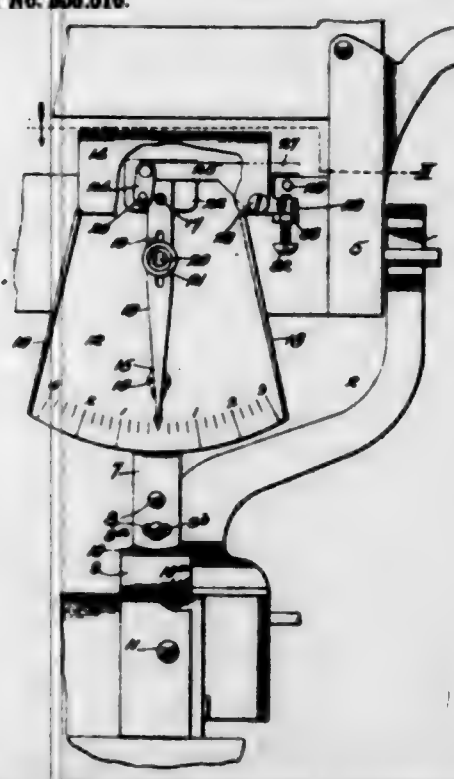
4. In mechanism of the class described, a series of cars coupled together to form a train, each of said cars composed of a rigid supporting-frame and movable and sectional sides and bottom, the sides and bottom of each car being flexibly connected to the corresponding portions of the adjacent cars, means secured to said frame for supporting the said sectional bottoms, means for guiding the same when in motion and means for transmitting motion to said sides and bottom.

5. In mechanism of the class described, a series of cars flexibly coupled together to form a train, each car consisting of longitudinal and transverse beams joined together to form a rigid frame, and of sides and bottom composed of a plurality of short sections extending the full width of the car, said sections flexibly connected together, toothed plates secured to the under side of the floor-sections, toothed wheels mounted on said frame and engaging the teeth of said plates, and means for driving said toothed wheels.

6. In mechanism of the class described, cars coupled together to form a train, each car consisting of a suitable frame mounted on trucks, and of sides and bottom formed in sections flexibly connected together, and the sections composing the floor of one car flexibly connected with the corresponding sections of the adjacent floor so as to form a continuous belt, and means for causing said sections to traverse the length of the train consisting of toothed plates secured to the bottom of the floor-sections, of toothed wheels engaging the teeth of said plates and mounted on shafts extending transversely of said cars, and means for transmitting motion to said shafts consisting of drive-rods and intermeshing gears, substantially as described.

7. In a train of the class described, a series of intermediate cars each composed of a frame supported on a truck, a mobile floor and sides formed in sections and the floor-sections flexibly connected together, end cars coupled with the intermediate cars and composed of a frame of mobile floor and sides formed in sections and the floor-sections coupled together and to the corresponding sections of the intermediate cars, and means mounted on the end cars for supporting the sections at their turning-points.

805,518. **INDICATOR FOR WEIGHING-SCALES.** JOHN BARRY and MICHEAL L. SHAUGHNESSY, Westphalia, Kans. Filed May 2, 1905. Serial No. 258,516.



Claim.—1. The combination with a weighing-scale, of an overweight and underweight computer and indicator, comprising a dial-frame containing indicia, an index-finger pivoted to said dial-frame to play back and forth across said indicia, a lever pivoted to the dial-frame and connected to operate the index-finger, means to cause the scale-beam to move the lever, and an adjustable device forming part of said means, and means for securing said device at the desired point of adjustment.

2. The combination with a weighing-scale, of an overweight and underweight computer and indicator, comprising a dial-frame containing indicia, an index-finger pivoted to said dial-frame to play back and forth across said indicia, a lever pivoted to the dial-frame and connected to operate the index-finger, an adjustable device carried by said lever, and a pin projecting from the scale-beam between the lever and said adjustable device.

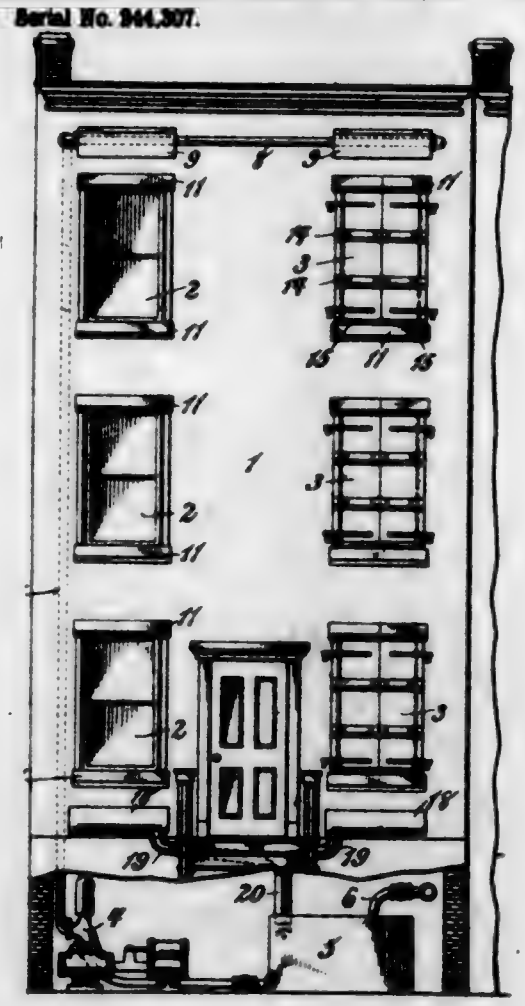
3. The combination with a weighing-scale, of an overweight and underweight computer and indicator, comprising a dial-frame, containing indicia, an index-finger pivoted to said dial-frame to play back and forth across said indicia, a lever pivoted to the dial-frame and connected to operate the index-finger, an adjustable device carried by the lever, and a pin detachably carried by the beam and interposed between said lever and said adjustable device.

4. The combination with a weighing-scale, of an overweight and underweight computer and indicator, comprising a dial-frame containing indicia, an index-finger pivoted to said dial-frame to play back and forth across said indicia, a lever pivoted to the dial-frame and connected to operate the index-finger, a set-screw carried by said lever, and a pin projecting from the scale-beam between the lever and said set-screw.

5. The combination with a weighing-scale, of an overweight and underweight computer and indicator, comprising a dial-frame containing indicia, an index-finger pivoted to said dial-frame to play back and forth across said indicia, a lever pivoted to the dial-frame and connected to operate the index-finger, a set-screw carried by said lever, a pin projecting from the scale-beam between the lever and said set-screw, and a lock-nut engaging the set-screw to prevent it working accidentally toward said pin.

6. The combination with a weighing-scale, of an overweight and underweight computer and indicator, comprising a dial-frame containing indicia, an index-finger pivoted to said dial-frame to play back and forth across said indicia, a lever pivoted to the dial-frame and connected to operate the index-finger, means to cause the scale-beam to move the lever, means whereby the movement of the lever shall be made to follow more or less quickly the movement of the scale-beam, a standard secured to the dial-frame, and an angle-bracket secured to said standard and to the scale.

805,519. **MEANS FOR PREVENTING THE SPREAD OF CONFLAGRATIONS.** EDWARD BAXTER, New York, N. Y. Filed Feb. 6, 1905. Serial No. 244,307.



Claim.—1. In means for fire protection, a reservoir near the ground and means for conveying water from said reservoir to the top of the wall of a building, in combination with a deflector-plate fastened to said wall between the eaves and the ground, and so placed as to leave a space between said plate and the wall for confining the water as it flows along said wall and means for returning the water after it has flowed over the wall to said reservoir near the ground, substantially as described.

2. In a device for fire protection, means for discharging water at the top of the wall in combination with deflectors placed at intervals between the eaves and the ground along the course of the water so discharged tending to divert the stream toward the wall, substantially as described.

3. In a device of the class described, a water-supply pipe at the top of the wall, in combination with transverse deflectors fastened to the wall at intervals and transverse retarders near said deflectors, substantially as described.

4. In a device of the class described, means for discharging water over a wall, windows in the wall, and shutters over said windows in combination with water-deflectors transversely arranged outside of said shutters, substantially as described.

5. In a device of the class described, and in combination with means for delivering a stream of water over a wall, a window in said wall, a shutter on said window, a transverse water-deflector fastened to the top of said shutter, a transverse deflector fastened to the wall beneath the window and a water-retaining plate transversely along the lower edge of the shutter, substantially as described.

6. In a device of the class described, a wall having a projection such as a window-sill, in combination with means for discharging water down over said wall and projection, and a deflecting trough surrounding the front of said projection and bent around the sides of the same, said trough being pivoted at the sides so as to tip upward, substantially as described.

7. In a device of the class described, a water-circulating system adapted to throw a stream of water down a wall, in combination with deflectors at intervals in the path of said stream, catch-basins at the bottom of the wall and pipes leading from said catch-basins back to the water-circulating system, substantially as described.

805,520. **TRAVELING CONVEYER SYSTEM.** CHARLES BERGNORFER, Chicago, Ill. Filed May 25, 1903. Serial No. 158,668.



Claim.—1. In a traveling conveyer system, in combination, a longitudinally-movable platform of elongated rectangular form; a bridge movable longitudinally of said platform, said bridge spanning the storage-space; and a traction-track extending over said platform and said bridge.

2. In a traveling conveyer system, in combination, a longitudinally-movable platform; a bridge movable longitudinally of said platform; and a continuous loop-track extending over said platform and said bridge.

3. In a traveling conveyer system, in combination, a longitudinally-movable platform; a bridge movable longitudinally of said platform; a continuous loop-track extending over said platform and said bridge; and an endless traction-cable for said loop-track.

4. In a traveling conveyer system, in combination, a platform; a bridge movable longitudinally of said platform; a traction-track in continuous loop form upon said platform; and a traction-track upon said bridge adapted to connect with the loop-track upon said platform.

5. In a traveling conveyer system, in combination, a platform; a bridge movable longitudinally of said platform; a traction-track in continuous loop form upon said platform; a traction-track upon said bridge adapted to connect with the loop-track upon said platform; and an endless traction-cable for said traction-tracks.

6. In a traveling conveyer system, in combination, a platform; a bridge movable longitudinally of said platform; a traction-track in continuous loop form upon said platform; a double traction-track on said bridge, the ends of the track upon the bridge being connected with one side of the loop-track on the platform by means of curves; and an endless traction-cable for said traction-tracks.

7. In a traveling conveyer system, in combination, a longitudinally-movable platform; a bridge movable beside and longitudinally of said platform; a traction-track in continuous loop form upon said platform; and a traction-track upon said bridge adapted to connect with the loop-track upon said platform.

8. In a traveling conveyer system, in combination, a longitudinally-movable platform; a bridge movable beside and longitudinally of said platform; a traction-track in continuous loop form upon said platform; a traction-track upon said bridge adapted to connect with the loop-track upon said platform; and an endless traction-cable for said traction-tracks.

9. In a traveling conveyer system, in combination, a longitudinally-movable platform; a bridge movable beside and longitudinally of said platform; a traction-track in continuous loop form upon said platform; a double traction-track on said bridge, the ends of the track upon the bridge being connected with one side of the loop-track on the platform by means of curves; and an endless traction-cable for said traction-tracks.

10. In a traveling conveyer system, in combination, a longitudinally-movable platform; a tower supported by said platform and movable longitudinally thereof; and a bridge movable beside and longitudinally of said platform.

11. In a traveling conveyer system, in combination, a longitudinally-movable platform; a tower supported upon said platform and movable longitudinally thereof; a bridge movable beside and longitudinally of said platform; and a traction-track extending over said platform and said bridge.

12. In a traveling conveyer system, in combination, a longitudinally-movable platform; a tower supported upon said platform and movable longitudinally thereof; a bridge movable beside and longitudinally of said platform; a traction-track extending over said platform and said bridge into proximity with said tower; and a traction-cable for said traction-track.

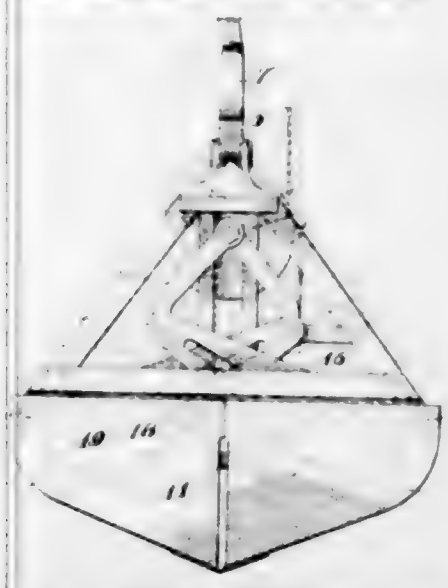
13. In a traveling conveyer system, in combination, a longitudinally-movable platform; a tower supported upon said platform and movable longitudinally thereof; a bridge movable beside and longitudinally of said platform; a continuous loop-track extending over said platform and said bridge into proximity with said tower; and an endless traction-cable for said traction-track.

14. In a traveling conveyer system, in combination, a longitudinally-movable platform; an unloading-tower supported upon said platform and movable longitudinally thereof; a bridge movable beside and longitudinally of said platform; a traction-track in continuous loop form upon said platform; a traction-track upon said bridge adapted to connect with the loop-track upon said platform; and an endless traction-cable for said traction-tracks.

15. In a traveling conveyer system, in combination, a longitudinally-movable platform; an unloading-tower supported upon said platform and movable longitudinally thereof; a bridge movable with relation to said platform; a traction-track in continuous loop form on said platform; a double traction-track on said bridge, the ends of

the track upon the bridge being connected with one side of the loop-track on the platform by means of curves and an endless traction-cable for said traction-tracks.

805,521. CLAM-SHELL BUCKET. CHARLES BERGHOEFER, Chicago Ill. Filed Mar 31. 1905. Serial No. 253,103.



Claim.—1. In a bucket, in combination, a rigid supporting-frame; bucket-sections movably connected with said frame; a winding-shaft mounted to travel in said frame; connections between said bucket-sections and said shaft for causing them to move together; and means for traveling said shaft.

2. In a bucket, in combination, a rigid supporting-frame; bucket-sections movably connected with said frame; a winding-shaft mounted to travel in said frame; a connection between said winding-shaft and said frame for translating the rotation of said shaft into a traveling movement in said frame; means for rotating said shaft; and connections between said bucket-sections and said shaft for causing them to move together.

3. In a bucket, in combination, a supporting-frame; bucket-sections movably connected with said frame; a winding-shaft mounted to travel in said frame; arms rigidly fixed to said bucket-sections; links pivotally connecting said arms with said shaft; and means for traveling said shaft.

4. In a bucket, in combination, a supporting-frame; two bucket-sections movably connected with said frame; an arm fixed with relation to each of said bucket-sections and overlapping the arm on the other section, the overlapping portions of said arms being slotted; a shaft rotatably mounted in the slots of said arms; and means for moving said arms.

5. In a bucket, in combination, a supporting-frame; bucket-sections movably connected with said frame; a rack fixed in said supporting-frame; a winding-shaft; a pinion on said shaft adapted to mesh with said rack; a winding-drum fixed on said shaft; an operating-chain for said winding-drum; and connections between said bucket-sections and said shaft for causing them to move together.

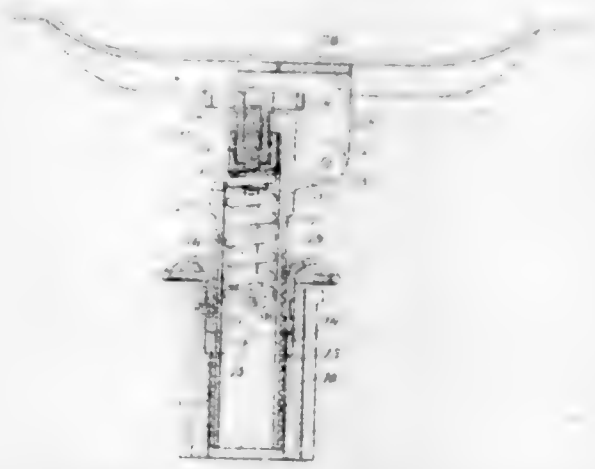
6. In a bucket, in combination, a supporting-frame; bucket-sections hinged to said frame; a rack fixed in said supporting-frame; a winding-shaft; a pinion on said shaft adapted to mesh with said rack; a winding-drum fixed on said shaft; an operating-chain for said winding-drum; arms fixed to said bucket-sections; and links pivotally connecting said arms with said winding-shaft.

7. In a bucket, in combination, a supporting-frame; a rack-bar and a guide-bar at each side of said frame; a winding-shaft; pinions on said shaft adapted to mesh with said racks and be guided by said guide-bars; means for rotating said winding-shaft; bucket-sections movably connected with said frame; and connections between said bucket-sections and said shaft for causing them to move together.

8. In a bucket, in combination, a supporting-frame; a rack-bar and a guide-bar at each side of said frame; a winding-shaft; pinions on said shaft adapted to mesh with said racks and be guided by said guide-bars; means for rotating said winding-shaft; bucket-sections hinged to said frame; arms fixed to said bucket-sections; and links pivotally connecting said arms with said winding-shaft.

805,522. CHAIR-IRON. BERNHARD BETHKE, Milwaukee, Wis., assignor to Gilson Manufacturing Company, of Wisconsin, Port Washington, Wis. Filed Dec. 10, 1904. Serial No. 236,273.

Claim.—1. In a chair-iron, a suitably-mounted tubular spindle, a head thereon, a chair-seat frame pivoted to the head, and a spring located within the tubular spindle and having connection with the head and with the chair-seat frame.



2. In a chair-iron, a suitably-mounted tubular spindle, a head thereon, a chair-seat frame pivoted to the head and positively limited in its movements by the head, and a spring contained within the tubular spindle and having connection with the head and the chair-seat frame.

3. In a chair-iron, a tubular stem, a head thereon having projecting ears, a chair-seat frame pivoted to the ears, a spring supported within the tubular stem, and a yoke carried by the chair-seat frame and bearing on the spring.

4. In a chair-iron, a hollow stem, a head thereon, a chair-seat frame pivoted to the head, an ear on the head overhanging the hollow of the stem, a yoke pivoted to the chair-seat frame and adapted to have a movement between the overhanging ear and the head, a bolt attached to the overhanging ear and passing through the yoke and into the hollow of the stem, and a coil-spring within the hollow of the stem and confined between the head of the bolt and the yoke.

5. In a chair-iron, a tubular spindle, a head thereon, a chair-seat frame pivoted to the head, an overhanging ear on the head, a yoke carried by the chair-seat frame, a bolt passing through the yoke and entering the tubular spindle, a nut on the overhanging ear threaded to the bolt and adapted to adjust said bolt, and a coil-spring surrounding the bolt and bearing on the bolt-head and on the yoke.

6. In a chair-iron, a tubular spindle, a head thereon, a chair-seat frame pivoted to the head, an overhanging ear on the head, a yoke pivoted to the chair-seat frame, a nut seated in an opening of the overhanging ear and bearing in a socket of the yoke, a bolt passing through the yoke and threaded to the nut, and a coil-spring on the bolt within the tubular spindle bearing on the head of the bolt and on the yoke.

7. In a chair-iron, a tubular spindle, a head thereon, a chair-seat frame pivoted to the head, an overhanging ear on the head, a yoke member pivoted to the chair-seat frame and limited in its movements by engagement with the head and the overhanging ear, a tubular nut having a hand-wheel thereon seated through an opening in the overhanging ear and bearing in a socket of the yoke, a bolt passing through the yoke and threaded to the nut, a shouldered ring keyed on the bolt and provided with a central boss, a shouldered boss on the yoke, and a coil-spring surrounding the bolt within the tubular spindle and bearing at one end against the shoulder of the ring and at the other end against the shoulder of the yoke with the bosses entering its ends.

8. In a chair-iron, a tubular spindle, a head on the end thereof, a pair of oppositely-extending arms on said head, parallel forwardly-extending ears on the arms, a pivotal pin connecting the ears, a chair-seat frame comprising a pair of chair-supporting rails with a connecting U-shaped web having its parallel side plates pivoted to the pivotal pin, an overhanging ear on the head, a yoke pivoted at its ends in the side plates of the chair-seat frame and having an upwardly-opening socket at its middle portion, a shouldered nut seated in an opening of the overhanging ear and provided with a hand-wheel on its upper end and bearing at its lower end in the socket of the yoke, a bolt passing through the yoke and threaded in the nut, and a coil-spring within the tubular spindle surrounding the bolt and bearing on the bolt-head and on the yoke.

9. In a chair-iron, a tubular stem, a chair-seat frame pivotally mounted on the tubular stem, and a compression-spring located in the tubular stem, said chair-seat frame being adapted to bear upon the compression-spring.

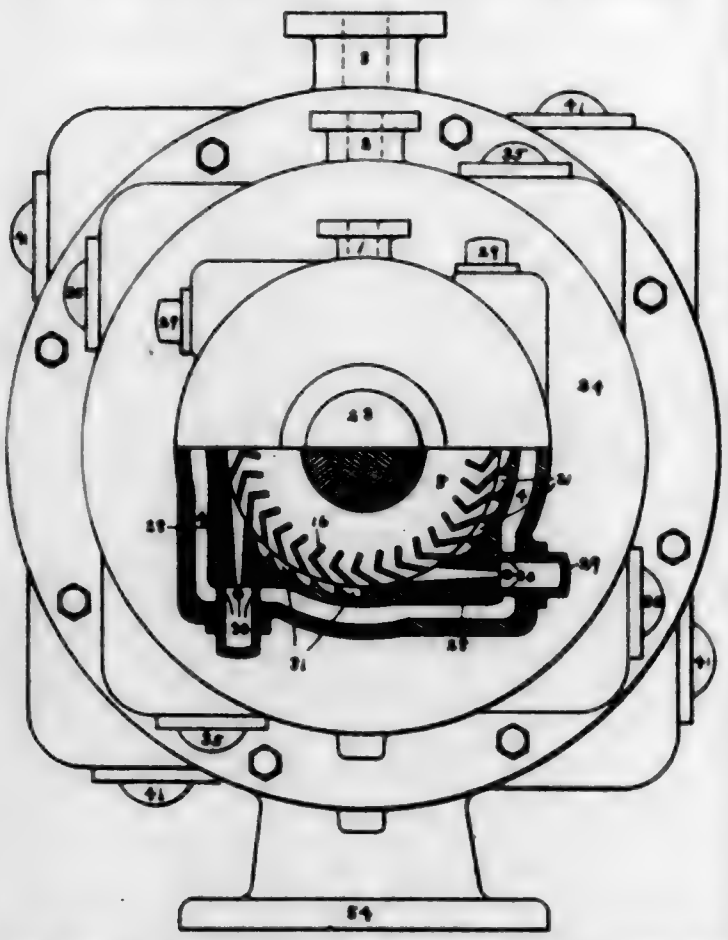
10. In a chair-iron, a tubular stem, a head thereon having projecting ears, a chair-seat frame pivoted to the ears, a spring supported within the tubular stem, and a yoke pivotally mounted on the chair-seat frame and bearing on the spring.

11. In a chair-iron, a tubular stem, a chair-seat frame pivotally mounted on the tubular stem, a coil compression-spring adjustably mounted within the tubular stem, and a member pivotally mounted on the chair-seat frame and bearing on the compression-spring.

12. In a chair-iron, a suitably-mounted tubular spindle, a head thereon, a chair-seat frame pivoted to the head, a compression-spring located within the tubular spindle and having adjustable connection with the head, and means carried by the chair-seat frame bearing on the compression-spring.

13. In a chair-iron, a suitably-mounted tubular spindle, a head thereon, a chair-seat frame pivoted to the head, a compression-spring located within the tubular spindle, means for adjustably connecting one end of the spring with the head, and means pivotally mounted on the chair-seat frame and bearing on the other end of the compression-spring.

805,523. STEAM-TURBINE. ELLSWORTH S. BRYANT and HENRY J. BERT, Detroit, Mich. Filed May 25, 1904. Serial No. 209,632.



Claim.—1. In a turbine-engine, a casing, a shaft revoluble in said casing, a plurality of pistons revoluble in said casing, means for directing a jet of steam to act tangentially on one piston, said casing having exhaust-passages for said steam, and means to direct a second jet steam to act tangentially against a second piston and adapted to cause said jet to force the exhaust-steam of the first piston to act tangentially against the second.

2. In a turbine-engine, a casing, a shaft revoluble in said casing, a plurality of connected pistons secured to said shaft and revoluble in the casing, said pistons each comprising walls and a ring of buckets secured near to and between the outer edges of said rings, tubes for directing jets of steam against the buckets of one of said pistons, said casing having longitudinal exhaust-passages at the circumference of the piston opening into a circular passage surrounding an adjacent piston and injectors for directing jets of steam against the buckets of the adjacent piston and to force the exhaust-steam from the first piston to act on the second.

3. In a turbine-engine, a revoluble cylindrical piston comprising parallel sides and a ring of buckets of angular form extending between said flanges at their outer edges, and forming an acute angle with their circumference, a casing for said piston having circumferential passages for steam of different pressures, injectors forming connecting-passages between said steam-passages and the piston, whereby a jet of high-pressure steam will force the lower-pressure steam against the bucket of said piston to revolve the same.

4. In a turbine-engine, the combination of a plurality of connected revoluble pistons, a casing for said pistons having exhaust-steam passages surrounding said pistons, and live-steam passages surrounding the exhaust-steam passages, and injectors for directing jets of live steam against a piston together with the exhaust-steam from and adjacent piston.

5. In a turbine-engine, the combination of a revoluble piston, a casing for said piston having concentric passages for steam of higher and lower pressure surrounding the piston, and injectors for directing jets of steam of the higher pressure tangentially against the piston together with the steam of lower pressure.

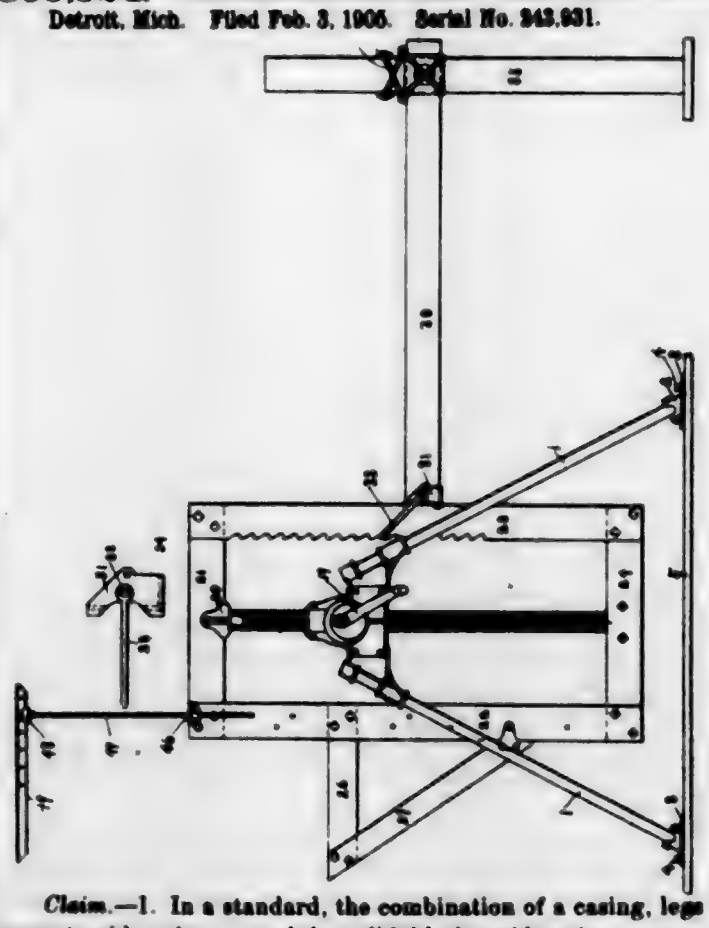
6. In a turbine-engine, the combination of a casing provided with live-steam inlets, rotary members mounted within said shell and provided with buckets in their peripheries, said casing having preliminary longitudinal exhaust-channels formed in its inner wall to receive exhaust-steam from one piston and deliver it to the other, and also having passages connecting the live-steam inlets, the exhaust-steam passages and the chambers for the pistons.

7. In a turbine-engine, the combination of a plurality of connected revoluble pistons, a casing for said pistons having exhaust-passages and live-steam passages adjacent to the exhaust-steam passages, and an injector for directing a jet of live steam against a piston together with the exhaust-steam from an adjacent piston.

8. In a turbine-engine, the combination of a revoluble piston, a casing for said piston having passages for steam of higher and lower pressures adjacent to each other, and an injector for directing a jet of steam of the higher pressure against the piston together with the steam of lower pressure.

9. In a turbine-engine, the combination of a revoluble piston comprising parallel walls and a ring of angular buckets secured near to and between the outer edges of said rings, a casing for said piston having passages for steam of higher and lower pressure concentric with and surrounding the piston, and injectors for directing jets of steam of the higher pressure against the piston together with the steam of lower pressure.

805,524. ADJUSTABLE STANDARD. ELLSWORTH S. BRYANT, Detroit, Mich. Filed Feb. 3, 1906. Serial No. 300,931.



Claim.—1. In a standard, the combination of a casing, legs to support said casing, a rack-bar slidable in said casing, means to slide said bar, a cross-bar carried by said slidable bar, side bars secured to said cross-bar, a bracket carried by one of said side bars, a beam adjustably connected to the other side bar, a post to support the outer end of the beam, and a second cross-bar connecting the lower ends of the side bars and rack-bar.

2. In a standard, the combination of a casing, legs to support the casing, a hollow tube slidable in said casing and having a longitudinal row of holes, toothed bars having lugs to fit in said holes to secure said bars to said tube, a gear to engage said toothed bar, and means to drive said gear.

3. In a standard, the combination of a casing, a hollow tube slidable in said casing and having a longitudinal row of holes, toothed bars having lugs to fit in said holes to secure said bars to said tube, a gear in said casing to engage the teeth of said bar, and means to drive said gear.

4. In a standard, the combination of a casing, legs to support said casing, a tube slidable in said casing and having a longitudinal row of holes, a rack having a series of lugs to fit in said holes to secure the bar to the tube, a gear in said casing to engage the teeth of said rack-bar, rollers in said casing to engage the rear of said tube, said casing having a groove to receive the rack-bar, and means to force said rack-bar into said groove to lock the tube within the casing.

5. In a standard, the combination of a casing having a tapering groove, a longitudinal member slidable within the casing, a rack secured to said member and having tapering sides, and means to force said rack into the said groove to lock the tube within the casing.

6. In a standard, the combination of a frame, means for raising and lowering said frame, a horizontal beam a link for adjustably securing one end of said beam to said frame, a post to support the other end of said beam, and an adjustable connection between said post and beam.

7. In a standard, the combination of a cross-bar, means to raise and lower the same, a side bar secured to the cross-bar, one of said side bars having a series of notches, a horizontal beam abutting against said side bar, a bracket fitting the end of said beam to support the same, and a stirrup pivoted on said bracket and adapted to engage in any desired notch in said side bar.

8. In a standard, the combination of a frame, means for raising said frame, a horizontal beam adjustably connected at one end to said frame, a post at each end of said beam to support the same, and adjustable connections between said posts and beam.

9. In a standard, the combination of a frame, means for raising said frame, a horizontal beam adjustably connected at one end to said frame, a post, a sleeve adjustable on said post, a jaw attached to said sleeve to receive the other end of said beam, a wedge in said sleeve to engage said post, and a screw in said wedge slidable in a slot in said sleeve.

10. In a scaffold construction, the combination of a frame, means for raising said frame, a horizontal beam, a post, a sleeve adjustable on said post, a wedge to lock said sleeve to said post, a second sleeve connected to the first and slidable on a portion of said frame, a yoke pivoted on said second sleeve and adapted to engage a portion of said frame, a jaw secured to said sleeves and adapted to engage one end of the horizontal beam to support the same, and means to support the other end of said beam.

11. In a scaffold construction, the combination of a frame, means to control the elevation of said frame, a bracket carried on one side of said frame, a beam connected at one end to the other side of said frame, and means to support the free end of said beam.

12. In a scaffold construction, the combination of a frame, means to control the elevation of said frame, a bracket adjustably connected to one side of said frame, a beam adjustably connected to the other side of said frame, and means to support the free end of said beam.

13. In a standard, the combination of a casing, a hollow tube slidable in said casing and having a longitudinal row of holes, a toothed bar having lugs to fit in said holes to secure the bar to said tube, and means to engage the toothed bar to actuate the same.

805,525. **SWIMMING DEVICE.** ANARA M. BULLOCK, Vancouver, Canada. Filed Oct. 18, 1904. Serial No. 228,965.



Claim.—1. As a swimming device; an open frame comprising side members provided at intervals with cross-wires secured to both side members as distance-pieces, vanes hinged by one edge on the cross-wires and extending across the space between the side frames and between the wires, a link rod or rods connecting the free ends of the vanes in such a manner as to allow unrestricted movement of the vanes to either side of the horizontal and means for securing the vane-frame to the limb of a swimmer.

2. As a swimming device, an open rectangular frame, a series of light vanes hinged at each end of one edge of the opposite sides of the open frame, such vanes being wider than the distance between the hinges, a link-rod connecting the free ends of the vanes together so as to allow unrestricted movement of the vanes to either side of the horizontal, and means for securing the vane-frame to the limb of the swimmer.

3. As a swimming device, a rectangular open frame and a series of parallelly-hinged vanes across the frame, the width of each vane being greater than the distance between the hinges, a buoyant frame secured to the rectangular frame, and means for attaching the buoyant frame to the limb of the operator.

4. As a swimming device; an open rectangular frame having a series of parallel hinged vanes across it susceptible of closing onto the approximate edge plane of the frame, means for securing such vane-frame to the leg of a swimmer, comprising a buoyant leg attachment adapted to fit and be secured on the front of the lower leg, a boss or sleeve secured to the vane-frame toward the center of its inclosed area, a rod or stem through the sleeve, parallel links connecting the ends of the stem to the buoyant leg attachment, a connecting-link pivotally attached to the links toward the foot, and means for connecting the other end of the connecting-link to the toe of a sandal or shoe on the foot of the swimmer.

5. As a swimming device; an open rectangular frame having a series of parallel vanes hinged within the frame, the free end of such vanes being connected by a stem or stems that will constrain them to move together without restricting their free movement, means for securing the vane-frame to the leg of a swimmer, comprising a buoyant leg attachment adapted to fit the front of the lower leg and be secured thereto, a sleeve or boss secured to the vane-frame toward its center, a rod or stem through the boss to which it is removably secured, two pairs of pivotally-connected parallel links from the buoyant leg attachment to the ends of the rod or stem, a link pivotally attached to the pair of links toward the foot, means for securing the free end of such link to the toe of a sandal or shoe, and means for connecting the free end of the link when disengaged from the toe to the buoyant leg attachment.

6. In a swimming device; means for securing a rectangular vane-frame of the character described to the connecting-stem of a parallel-link motion by which the frame is secured to the leg attachment, comprising a central boss or sleeve forming part of the vane-frame and designed to fit the link-connecting stem, a shoulder on the connecting-stem against which the sleeve is checked, a spring-latch secured to the stem and designed to retain the sleeve against the shoulder, and a spring-latch to retain one of the link connections to the stem.

7. As a swimming device, an open rectangular frame, a series of vanes hinged across the frame and opening to one side, means for connecting the free edge of the vanes together to move in unison, a buoyant frame secured to the rectangular frame, and means for securing the buoyant frame to the limb of the operator.

8. As a swimming device, an open rectangular frame, a series of vanes hinged across the frame and opening to one side, means for connecting the free edge of the vanes together, to move in unison, a buoyant frame secured to the rectangular frame, means for securing the buoyant frame to the limb of the operator, and means secured to the foot of the operator and coöperatively joined with the connection between the rectangular and buoyant frames for imparting motion to the rectangular frame from the foot of the operator

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805,526. **SWIMMING APPLIANCE.** ANARA M. BULLOCK, Vancouver, Canada. Original application filed Oct. 18, 1904, Serial No. 228,965. Divided and this application filed Feb. 21, 1905. Serial No. 246,719.



Claim.—1. A swimming device, which comprises a rectangular frame, a series of vanes pivotally secured in the said frame, disposed transversely thereof and adapted to swing in either direction to close against each other, and a handle-frame projected rearwardly from and secured to the rectangular frame for the purposes specified.

2. A swimming device comprising an open frame, a series of light vanes hinged therein and extended across the open frame, and opening to one side and a handle secured to the frame and extended therefrom in the direction to which the vanes open, as set forth

As a swimming device; a rectangular open frame having a series of parallel hinged vanes across it closing approximately onto the edge plane of the frame, a handle-frame secured to the open framework and having a backward extension beyond the handle, and means for attaching the backwardly-extended portion to the forearm of a swimmer

4. As a swimming device, a rectangular open frame having a series of parallel hinged vanes across it, the width of each vane being greater than the distance between the hinges, a buoyant handle-frame secured to the open framework the side members of which handle-frame extend beyond the handle from the frame, and a strap pivotally connected to the ends of such extensions and adapted to encircle the forearm

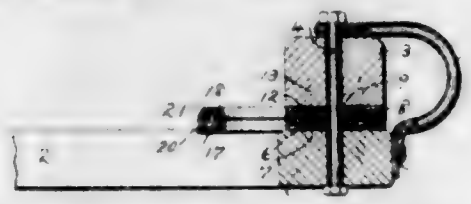
5. As a swimming device; an open rectangular frame having a series of light hinged vanes across it opening to one side, and a handle secured to the frame on the side toward which the vanes open.

6. A swimming device comprising an open rectangular frame, a series of light vanes hinged at one edge therefrom in said frame to close flatwise against each other, a rod connecting the free edge of said vanes to permit the vanes moving to either side of the horizontal, and means extending rearwardly from said frame for being attached to the arm of the swimmer, said means having a portion to be grasped by the hand of the swimmer.

7. A swimming device comprising an open frame, a series of light vanes hinged therein and extending across the frame, said vanes opening to one side, a rod connecting the free edge of said vanes so that the vanes move in unison to either side of the horizontal, and a handle secured to the frame and extending therefrom in a direction at approximately right angles to the plane of the closed vanes

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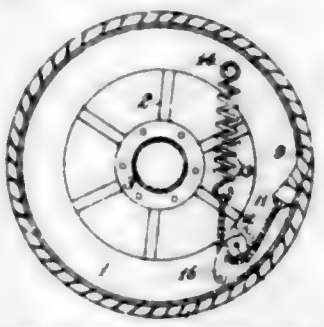
805,527. WHIFFLETREE-COUPLING. ANTON J. BURGER, Merrill, Wis. Filed Jan. 21, 1904. Serial No. 190,035.



Claim.—1. The combination with the cross-bar of a pair of thills, of an elongated plate secured to said bar and having a central upwardly-projecting hub; a semicircular forwardly-projecting member connecting the respective ends of the plate and extending in front of the cross-bar; a whiffletree provided with a counterpart plate centrally recessed to receive said hub; a pivot-bolt extending through the cross-bar, whiffletree and the respective plates and hub; a forwardly-extending, semicircular member on the whiffletree-plate registering with the similar member of the cross-bar plate; a brace provided with a plate at its lower end, secured directly to the evener-bar and projecting from the bar rearwardly, upwardly and forwardly along a curved line, with its upper end embracing the whiffletree and pivotally connected to said pivot-bolt above the whiffletree; one of said forwardly-extending semicircular members being provided with a segmental rib interacting in a corresponding channel in the other member; said members being unsupported except from their respective plates.

2. The combination with the cross-bar of a pair of thills, of an elongated plate secured to said bar and having a central upwardly-projecting hub 8, with a diameter nearly equal to the width of the plate and a central reduced portion 9 extending upwardly therefrom; a semicircular forwardly-projecting member connecting the respective ends of the plate and extending in front of the cross-bar; a whiffletree provided with a counterpart plate centrally recessed to receive said reduced upward extension 9 of the hub, and having a circular flange engaging the margin of the hub 8; a pivot-bolt extending centrally through the cross-bar, whiffletree, and the respective plates and hub; a forwardly-extending semicircular member on the whiffletree-plate, registering with the similar member of the cross-bar plate; a brace provided with a plate at its lower end, secured directly to the evener-bar and projecting from the bar, rearwardly, upwardly and forwardly along a curved line, with its upper end pivotally connected to said pivot-bolt above the whiffletree; one of said forwardly-extending semicircular members being provided with a rounded segmental rib interacting in a corresponding channel in the other member; said members being unsupported except from their respective plates.

805,528. VEHICLE-WHEEL. EUGENIO CANTONO, Rome, Italy. Filed Jan. 30, 1905. Serial No. 243,345.



Claim.—1. In a vehicle-wheel the combination of a tire comprising a rope tread one end of which is fixed and the other free, and a take-up device to which the free end of said rope is attached.

2. In a vehicle-wheel the combination of a tire comprising a rope tread one end of which is fixed and the other free, and a take-up device comprising a spring to which the free end of said rope is attached.

3. In a vehicle-wheel the combination of a tire comprising a rope tread one end of which is fixed and the other free, a take-up device to which the free end of said rope is attached, and means to prevent the return movement of said rope.

4. In a vehicle-wheel the combination of a felly, a tire secured to said felly, said tire comprising a rope tread one end of which is secured to the felly, and the other end free, and a take-up device secured to the felly to which the free end of the rope is attached.

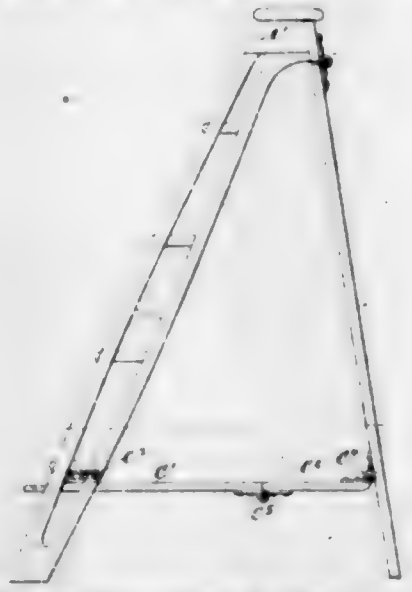
5. In a vehicle-wheel the combination of a felly, a tire comprising a rope tread one end of which is fixed and the other free, a chain to which the free end of the rope is attached, a sprocket-wheel mounted on a spindle secured to the side of the felly, a spring fixed at one end and attached at its other to said chain, and means to prevent a reverse movement of said sprocket-wheel

6. In a vehicle-wheel the combination of a felly, a tire comprising a rope tread one end of which is fixed and the other free, a chain to which the free end of the rope is attached, a sprocket-wheel mounted on a spindle secured to the side of the felly, a spring fixed at one end and attached at its other to said chain, a ratchet secured to said sprocket-wheel, and a pawl engaging said ratchet

7. A vehicle-wheel comprising a tire having a rim one half of which is offset from the other half and a rope tread seated in said rim.

8. A vehicle-wheel comprising a tire having a rim, a rope tread supported in said rim and a rope of smaller diameter interposed between said tread and rim.

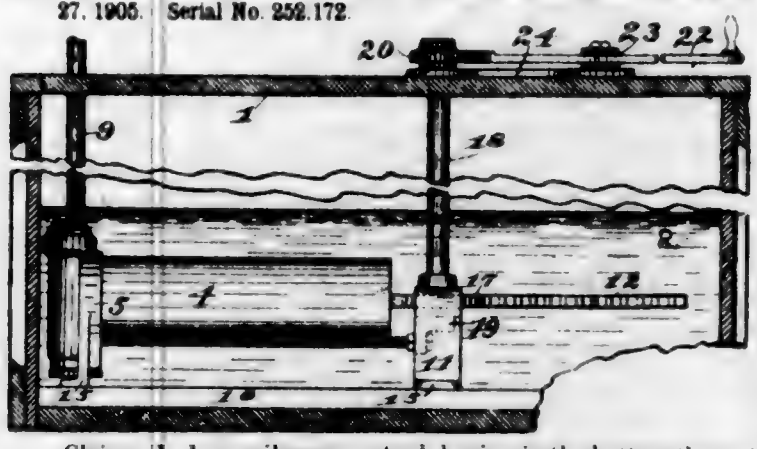
805,529. STEP-LADDER. ALBERT DAUGHERTY, Atlantic City, N. J. Filed Oct. 27, 1904. Serial No. 230,160.



Claim.—The folding step-ladder described, comprising a frame of side pieces and a top connecting the upper ends thereof, steps between said side pieces, a strut hinged to said top, and a folding brace connecting said strut and frame, said brace consisting of two abutting portions of different lengths disposed at the mid-width of the ladder, a hinge connecting the upper face of one end of one of said

portions with said strut, a hinge connecting the upper face of the opposite end of the other portion with the under face of the lowermost step and adapted to fold thereunder, and a hinge secured to the under faces of the abutting ends of said portions the last-named hinge lying outside of and below the line joining the centers of the hinges at the outer ends of said portions, the forward end of the longer of said portions extending but slightly beyond the front edge of the lowermost step, whereby the said extension may be operated by the foot to fold the ladder while the ladder is supported by the hands, all substantially as and for the purpose specified.

805,530. OIL-PUMP. JOHN B. DAVIS, Dayton, Ohio. Filed Mar. 27, 1905. Serial No. 252,172.



Claim.—1. In an oil-pump, a tank having in the bottom thereof a recess or compartment specially adapted to contain the pump, a pump at all times submerged in oil by reason of its occupying such compartment, such pump consisting of two cylinders lying horizontally within said compartment, each of said cylinders having an inlet and outlet valve occupying perpendicular positions, the said valves contained in a single pump-cap which unites the ends of the cylinders, pistons moving in said cylinders, racks connected with said pistons, means for maintaining said racks in horizontal positions, a pinion engaging both racks, and an operating-shaft extending vertically from said pinion and provided with means on the exterior of the tank for rotating said shaft to impart movement to the pump-pistons.

2. In an oil-pump, a tank having a pump-chamber in its bottom, in combination with two cylinder-pumps located within said pump-chamber and submerged in oil, a pump-cap uniting said cylinders and providing valve-chambers for each cylinder for the admission and discharge of oil, pistons movable within said cylinders, racks connected with said cylinders, a pinion engaging said racks, a shaft projecting vertically from said pinion and extending on the exterior of the tank, and means consisting of a segment-gear and a pinion for rotating said shaft to alternately operate the pistons to charge and discharge the cylinders.

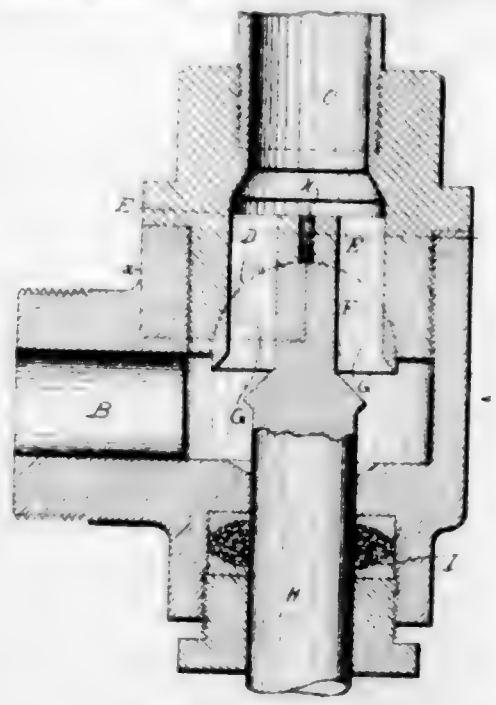
3. In an oil-pump, a tank having a recessed portion in its bottom providing a special chamber for the retention of oil, a pump horizontal within said chamber in a position to be submerged with oil at all times, the cylinders of said pump having inlet and outlet valves arranged in vertical alinement, pistons movable within said cylinders, racks connected with said pistons, a bracket providing guiding-supports for said racks, a pinion engaging said racks, a shaft extending from said pinion at right angles to said racks, and means on the exterior of the tank for rotating said shaft.

805,531. ROTARY VALVE. ROBERT L. DONALDSON, Milwaukee, Wis.; Theresa Anna Donaldson administratrix of said Robert L. Donaldson, deceased. Filed Dec. 19, 1903. Serial No. 185,772.

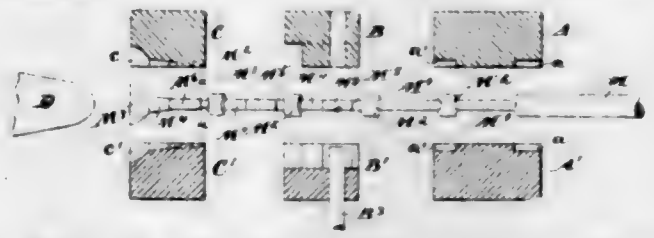
Claim.—1. The combination of a valve-casing provided with a substantially hemispherical valve-seat; a substantially hemispherical valve adapted to fit the seat; and means for rotating said valve on an axis projected from the center of the seat, said valve and seat having axially-extended ports adapted to be brought into and out of registry by the rotary movement of the valve, and said valve being exposed to pressure in the direction of its seat and free to move in that direction.

2. The combination with a substantially hemispherical valve-seat, of a substantially hemispherical valve adapted to fit the seat, and means for rotating said valve on an axis projected from the center of the seat; said valve and seat having ports between its axis and equatorial line adapted to be brought into and out of registry by the rotary movement of the valve; said valve being free to move in the direction of its seat to take up the wear of the contacting faces.

3. The combination with a substantially hemispherical valve-seat, of a substantially hemispherical valve adapted to fit the seat, and means for rotating said valve on an axis projected from the center of the seat; said valve and seat having ports between its axis and equatorial line adapted to be brought into and out of registry by the rotary movement of the valve, and said seat being formed with an aperture in the axial line of valve rotation; said valve being free to move in the direction of its seat to take up the wear of the contacting faces.

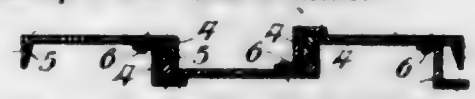


805,532. METHOD OF MANUFACTURING BUTTON-SHANKS. CHARLES R. FAAS, New York, N. Y. Filed Dec. 12, 1904. Serial No. 236,459.



Claim.—The method described of producing button-shanks continuously from wire stock, consisting first of flattening a portion of the wire by flattening-dies leaving an unflattened portion or head in advance of each flattened portion; second, removing parts of said flattened portion in succeeding dies to partially form the neck and eye; third, finishing said neck and eye in a succeeding set of finishing-dies; fourth, expanding said head by an axially-moving die to form a cup while held in such finishing-dies and attached to the succeeding shank; and fifth, severing such finished shank from the head of such next succeeding partially-formed shank.

805,533. METAL SHEET-PILING. WILLIAM G. FARGO, Jackson, Mich. Filed Apr. 3, 1905. Serial No. 253,516.



Claim.—In a metal sheet-piling, the combination of a series of channel-beams disposed edge for edge with their channel-faces alternating at the inner and outer sides of the piling and their flanges sucsively interengaged, each beam having a single Z-bar secured to its channel-face and projecting across one of the flanges of the beam and overlapping the adjacent beam, the Z-bars of the piling being successively disposed adjacent those edges only which are unconnected with the previously-erected piling during the driving of the beams, the other corresponding edges of the beams being free from Z-bars.

805,534. PIPE-CLEANING DEVICE. JAMES B. FLITCROFT, Ocean Grove, N. J. Filed Dec. 7, 1904. Serial No. 235,806.

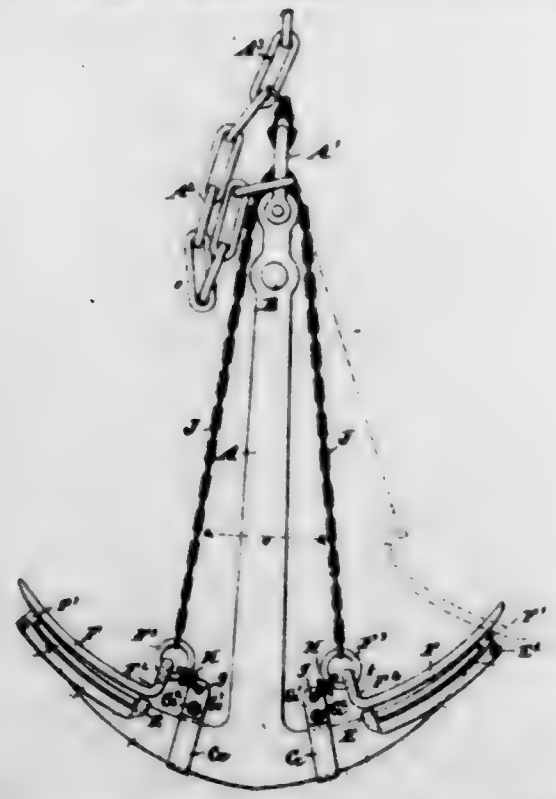
Claim.—1. A device of the class described, comprising a flexible tube provided at one end with a hollow handle member and at the opposite end with a closure device having perforations or openings, a flexible shaft extending longitudinally in said tube, and provided at its inner end with a stirrer which passes through said closure device and a turning device at the outer end of the handle member

and passing thereinto and connected with said flexible shaft, substantially as shown and described.



2. A device of the class described, comprising a flexible tube provided at one end with a casing adapted to serve as a handle and at the opposite end with a closure-plate having perforations or openings, a flexible device extending through said tube and connected at one end with a crank-shaft which passes through said casing and at the opposite end with a stirrer having a shank which passes through the closure-plate, said casing being also provided with a water-supply tube in communication with said flexible tube, substantially as shown and described.

805,535. ANCHOR. FERDINAND B. FORSTER, New York, N. Y. Filed Jan. 20, 1905. Serial No. 241,968.



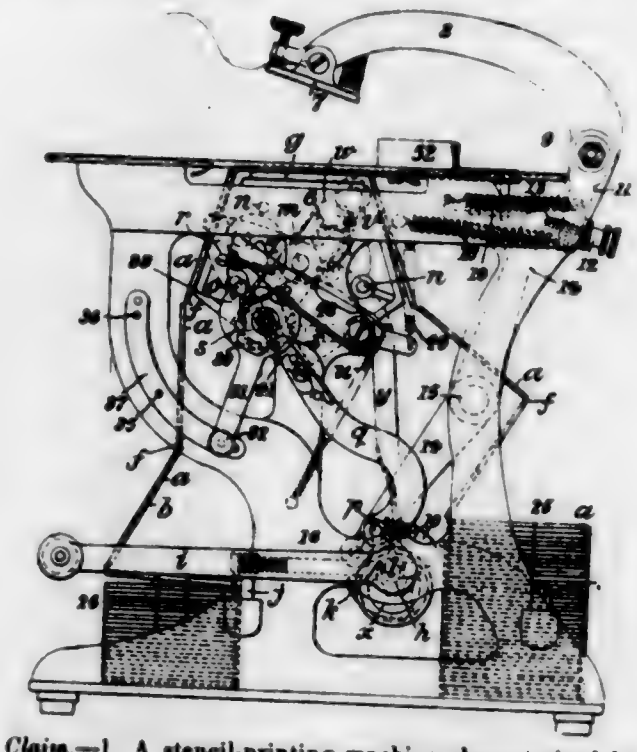
Claim.—1. In an anchor, a fluke connected to the anchor-arm by a hinge at the outer end of said fluke, a connection from the inner end of said fluke to the cable, and a relatively weak connection from said inner end to a fixed portion of said anchor.

2. An auxiliary fluke adapted to lie upon the main fluke of an anchor and connected to the anchor-arm by a hinge, a connection from the inner end of said auxiliary fluke to the cable, and a relatively weak connection from said inner end to a fixed portion of said anchor.

3. A saddle adapted to engage the arm of an anchor, an auxiliary fluke adapted to lie normally upon the upper face of the main fluke of such anchor and hinged to extensions from said saddle beneath said main fluke, a flexible connection from said auxiliary fluke to the anchor-cable, serving to tilt said auxiliary fluke relatively to said main fluke, and a relatively weak connection between said auxiliary fluke and the anchor.

4. A saddle E adapted to lie upon an anchor-arm at the junction of the latter with its fluke, legs E′ extending outwardly from said saddle and beneath said fluke, a pin joining the ends of said legs, an auxiliary fluke F lying upon said main fluke and having a lug F′ engaged by said pin, a link F^3 at the inner end of said auxiliary fluke, a flexible connection J from said link to the cable and passing through the anchor-ring, a clamp G secured to the anchor-arm, and a tie between said link and clamp, weaker than said flexible connection and adapted to be broken by excessive strain on the latter.

805,536. STENCIL-PRINTING MACHINE. DAVID GESTETNER, Tottenham Hale, England. Filed July 8, 1905. Serial No. 268,502.



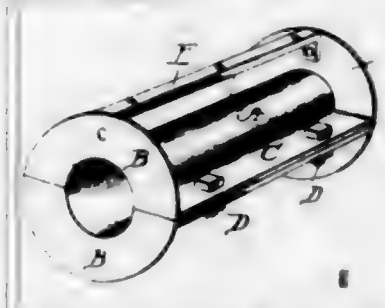
Claim.—1. A stencil-printing machine characterized by a series of frames, each carrying an ink-pad and a stencil, said frames being made of stiff material and having ink-proof material stretched over and attached to the sides and ends thereof, the ink-pad being placed on the ink-proof material centrally of the space in the frame and the stencil being placed above said ink-pad substantially as herein set forth.

2. A stencil-printing machine having ink-pad and stencil carrying frames connected together into a chain, a cylinder over which such chain of frames is passed and to which a step-by-step rotary motion is given, a spring-operated adjusting-stop to stop and hold the cylinder in proper position for printing, a platen receiving a rising-and-falling motion and pressing the paper downward for printing, an impression-roller underneath the ink-pad and stencil to press the latter upward for printing at each forward and backward motion of the roller, a driving-shaft having ratchet-teeth, a handle on said shaft having a spring-pawl acting in connection with said ratchet-teeth and receiving a reciprocating semirotation and mechanism operated by the shaft to give motion to the various parts of the machine, substantially as herein set forth.

3. A stencil-printing machine having ink-pad and stencil carrying frames connected together into a chain, a cylinder over which such chain of frames is passed and to which a step-by-step rotary motion is given, a spring-operated adjusting-stop to stop and hold the cylinder in proper position for printing, a platen receiving a rising-and-falling motion and pressing the paper downward for printing, an impression-roller underneath the ink-pad and stencil to press the latter upward for printing at each forward and backward motion of the roller, a driving-shaft having ratchet-teeth, a handle on said shaft having a spring-pawl acting in connection with said ratchet-teeth and receiving a reciprocating semirotation, mechanism operated by the shaft to give motion to the various parts of the machine, and

means for enabling the machine to print either once or twice from each stencil in succession or continuously from a single stencil, substantially as herein set forth.

805,537. PULLEY. GEORGE A. GILBERT, Chicago, Ill. Filed July 6, 1903. Serial No. 164,425.



Claim.—1. The herein-described sheet-metal structure for pulleys and the like, comprising the two halves, each composed of a hub portion A, end flanges B and side flanges C, and clamping-bolts D passed through the flanges C, and the two-part outer shell or covering F secured to said structure; substantially as described.

2. The herein-described sheet-metal structure for pulleys and the like, comprising the two halves, each composed of a hub portion A, end flanges B and side flanges C, the clamping-bolts D passed through the flanges C, and the two-part outer shell or covering F secured to said structure and having the end flanges B′ overlapping the end flanges B thereof; substantially as described.

3. The herein-described sheet-metal structure for pulleys and the like, comprising the two halves, each composed of the hub portion A, end flanges B provided with the projecting studs or rivets *c*, and the side flanges C, the clamping-bolts passed through the flanges C, and the two-part outer shell or covering secured to said structure and provided with the end flanges B′ overlapping the end flanges B of said structure and having the notches *b* engaging the studs or rivets *c*; substantially as described.

4. The herein-described sheet-metal structure for pulleys and the like, comprising the two halves, each composed of the hub portion A, end flanges B and side flanges C, and each having secured in it the longitudinal bar E, the clamping-bolts passed through the flanges C, the two-part outer shell or covering F secured to said structure, and screws passed through said shell and entering the bars E for so securing the shell to said structure; substantially as described.

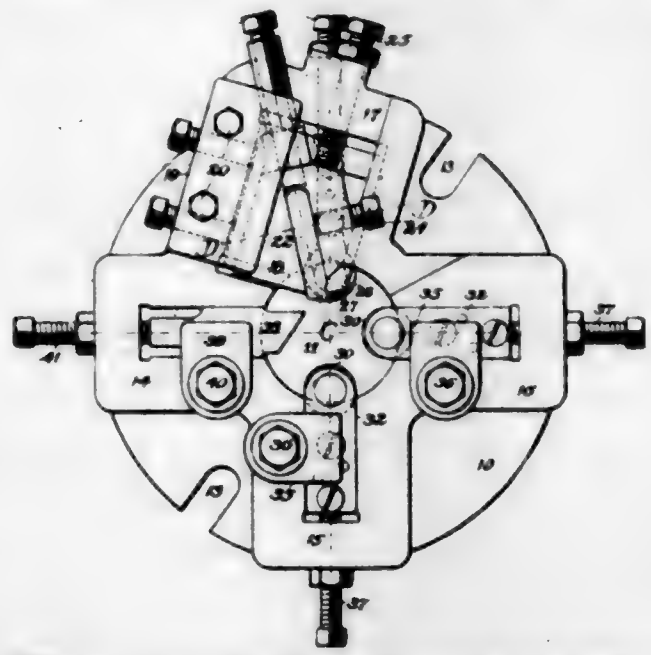
5. The herein-described sheet-metal structure for pulleys and the like, comprising the two halves, each composed of the hub portion A, end flanges B and side flanges C, and each having secured in it the longitudinal bar E, the clamping-bolts passed through the flanges C, the two-part outer shell or covering F, and screws passed through the latter and entering the bars E for securing the shell to said structure, said two-part shell F being provided with the end flanges B′ overlapping the end flanges B of the inner structure; substantially as described.

805,538. CATCHER'S GLOVE OR MITT. EDGAR J. GOLDSMITH, Cincinnati, Ohio. Filed May 14, 1903. Serial No. 157,063.



Claim.—A catcher's glove comprising a front or palm piece, a back piece, an edge strip united to said pieces and connecting them together so as to form a space to receive the padding, said edge strip being detached from the back piece at the rear of the glove, thus forming an opening, lacing-flaps secured to the glove by the same means that secures the edge strip to the front and rear pieces, said lacing-flaps being a little longer than the length of the opening and having their free edges turned up and secured to their body portions so as to form loops and means for connecting the looped portions together at a point equidistant from the edges of the edge strip.

805,539. CUTTER-HEAD FOR SHAFT-TURNING MACHINES. CHARLES J. GYLFE, Chicago, Ill. Filed Oct. 24, 1904. Serial No. 229,748.



Claim.—1. A cutter-head comprising a back plate having a central opening therethrough, a plurality of radial slots communicating with said opening, steady-rests adjustably mounted in said slots, a cutting-tool mounted on said head in front of one of said steady-rests and having its cutting edge substantially in line with the longitudinal bearing of said rest upon the work and means for adjusting said cutting-tool longitudinally in a radial line or laterally at an angle to said radial line.

2. A cutter-head comprising a back plate having a central opening therethrough, a plurality of radial slots communicating with said opening, steady-rests adjustably mounted therein, a finishing-cutter mounted on said head and radially adjustable relative thereto, the cutting operation of said cutter being directly opposed by the steady-rests, a primary cutting-tool mounted in said head in front of the steady-rest immediately preceding said finishing-cutter in the direction of rotation of said head, and having its cutting edge substantially in line with the longitudinal bearing of said steady-rest upon the work, and means for adjusting said primary cutting-tool longitudinally in a radial line or laterally at an angle to said radial line.

3. A cutter-head provided with a plurality of radial slots having steady-rests adjustably mounted therein, a block mounted on said head in front of one of said steady-rests and adjustable along a longitudinal medial line thereof passing outside the center of the plate, a cutting-tool mounted in said block and adjustable longitudinally along a radial line relative to the head, whereby the cutting edge of the tool may be maintained substantially in line with the longitudinal bearing of said steady-rest upon the work.

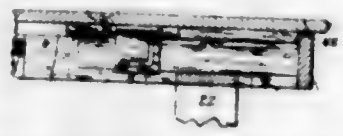
4. A cutter-head comprising a back plate having a central opening therethrough, a series of four radial slots extending outward from said opening on diametrical lines forming ninety-degree angles, roller-carriers adjustably held in three of said slots and having steady-rollers journaled at their inner ends, a finishing-cutter adjustably held in the remaining slot, a primary cutter mounted in said head in front of the adjustable roller-carrier immediately preceding said finishing-cutter in the direction of rotation of said head and having its cutting edge substantially in line with the axis of the steady-roller journaled in said block.

5. A cutter-head comprising a back plate having a central opening therethrough, a series of four radial slots extending outward from said opening on diametrical lines forming ninety-degree angles, roller-carriers adjustably held in three of said slots and having steady-rollers journaled at their inner ends, a finishing-cutter adjustably held in the remaining slot, a primary cutter mounted in said head in front of the adjustable roller-carrier immediately in advance of said finishing-cutter in the direction of rotation of said head, having its cutting edge substantially in line with the axis of the steady-roller carried by said block, and means for adjusting said primary cutter longitudinally in a radial direction relative to the head and laterally at an angle to the radial adjustment.

805,540. EXTENSION-TABLE. MILES A. HANSON, Sheboygan, Wis. Filed Mar. 6, 1903. Serial No. 146,510.

Claim.—1. In an extension-table, the combination of a main

frame comprising side pieces and a connecting top piece, an extension-frame comprising side pieces and a connecting end piece, said side pieces of the extension-frame having a sliding connection with the main frame, an extension-leaf, and a sliding pivotal connection between the inner end of the extension-leaf and the extension-frame comprising an angularly-slotted plate on the extension-leaf and a projection on the extension-frame working in the angular slot, whereby the extension-leaf is provided with a pivotal bearing at two different elevations so that it may be swung into position on top of the extension-frame and also be swung into position within the extension-frame, said change being accomplished by a reciprocal horizontal movement of the extension-leaf after being swung to an inclined position.



2. In an extension-table, the combination of a frame comprising side pieces and a connecting top piece, an extension-frame comprising side pieces and a connecting end piece, said side pieces of the extension-frame having a sliding connection with the main frame, an extension-leaf, a sliding pivotal connection between the inner end of the extension-leaf and the extension-frame comprising a pin on the extension-frame having a pair of bearings on the extension-leaf at different elevations and connected by means of an angular guideway so that the extension-leaf may have a lower pivotal bearing to lower it beneath the level of the table and an upper pivotal bearing to bring it onto the extension-frame at a horizontal position flush with the main table-top and forward of its lower position, and means for connecting the extension-leaf with the extension-frame guided in its engagement by the last-mentioned swinging movement of the extension-leaf.

3. In an extension-table, the combination of a main frame comprising side pieces and a connecting top piece, an extension-frame comprising side pieces and a connecting end piece, said side pieces of the extension-frame having a sliding connection with the main frame, and an extension-leaf having a sliding pivotal connection with the extension-frame comprising angularly-slotted plates on the extension-leaf and projections on the extension-frame slidable in the angular slots thereof, said plates forming a guide and double bearing for the projections and constituting a rigid support for the inner edge of the leaf when the leaf is in its upper position.

4. In an extension-table, the combination of a main frame, an extension-frame slidable beneath the main frame, an extension-leaf, and a pivotal connection between the extension-leaf and the extension-frame, said pivotal connection comprising a pin on the extension-frame having pivotal bearings at different elevations on the extension-leaf and at the ends of an angular guiding-slot on said extension-leaf connecting said pivotal bearings, whereby the leaf may be first tilted and raised from a lower folded position and then drawn forward and swung down to an elevated horizontal position for use, and supported in said elevated position

5. In an extension-table, the combination of a main frame, an extension-frame slidable with relation to the main frame, an extension-leaf, and a sliding pivotal connection between the extension-leaf and the extension-frame, said pivotal connection comprising a pin on the extension-frame and a slotted plate on the extension-leaf forming bearings at different elevations connected by an angular guideway for the pin, whereby the extension-leaf may be tilted and raised and then drawn forward and swung down into position on the extension-frame, with one edge projecting beyond the edge of the extension-frame to form the end of the extended table-top.

805,541. **LENS-MOUNTING.** FRANCIS A. HARDY, Chicago, Ill. Filed Dec. 23, 1904. Serial No. 238,126.



Claim.—1. As a new article of manufacture, an integral lens-mounting having, for each of the lenses, a bracing-tongue and a depending portion joining the upper end of the tongue, and a horizontal spring, the ends of which join the said depending portions edgewise, substantially as described.

2. As a new article of manufacture, an integral lens-mounting having, for each of the lenses, a bracing-tongue and a depending portion joining the upper end of the tongue and a horizontal spring the ends of which are reflexed and join the depending portions edgewise, substantially as described.

3. As a new article of manufacture, an integral lens-mounting having, for each of the lenses, a bracing-tongue, and a depending end joining the upper portion of the tongue, a guard-shank continuing downward from the lower end of the depending portion, and a spring the ends of which join the depending portions, substantially as described.

4. As a new article of manufacture, an integral lens-mounting having a horizontal spring, an inverted-U-shaped portion at each end of the spring, the outer side of each of said U-shaped portions extending downward and means for securing said downwardly-extending portion to the lens, substantially as described.

5. As a new article of manufacture an integral lens-mounting having a horizontal spring, an inverted-U-shaped portion at each end of the spring, the end of the spring joining, edgewise, the inner side of the U-shaped portion and the outer side of the U-shaped portion being continued outward and means for attaching the outer side of the U-shaped portion to the lens, substantially as described.

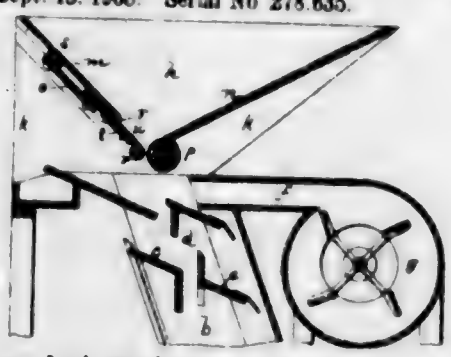
6. As a new article of manufacture a lens-mounting having a horizontal spring, the ends of which have rearwardly-extending portions, an inverted-U-shaped portion at each end of the spring, the rearwardly-extending portion of the spring joining, edgewise, the front edge of the inner side of the U-shaped portion, the outer side of said U-shaped portion being extended downward, and means for securing the latter portion to the lens, substantially as described.

7. As a new article of manufacture a lens-mounting having a horizontal spring, an inverted-U-shaped portion at each end of said spring, the end of the spring joining, edgewise, the inner side of said U-shaped portion and the outer side of said U-shaped portion being extended downward, means for securing the downwardly-extending portion to the lens, and a shank joining the inner side of the U-shaped portion and extending downward, substantially as described.

8. A blank for lens-mountings having an intermediate portion for forming the spring, portions, E, at the ends of said intermediate portion extending, substantially, at right angles thereto, portions, B, extending from the opposite sides of the portions E, and substantially at right angles thereto and adapted to form the straps for embracing the lenses, and a portion D extending beyond the portions B, substantially as described.

9. A blank for lens-mountings having an intermediate portion, I, adapted to form the spring, laterally-extending portions E at the ends of the portion, I, perforated portions B extending in opposite directions from opposite edges of each of the portions E and adapted to form the straps, portions D extending beyond the portions B and in line with the portions E, and portions J proceeding from the junctions of the portions I and E and adapted to form the shanks of the guards, substantially as described.

805,542. **FEED ATTACHMENT FOR CRANBERRY-SEPARATORS.** LOTHROP A. HAYDEN, South Carver, Mass. Filed Oct. 1, 1903. Renewed Sept. 15, 1905. Serial No. 278,635.

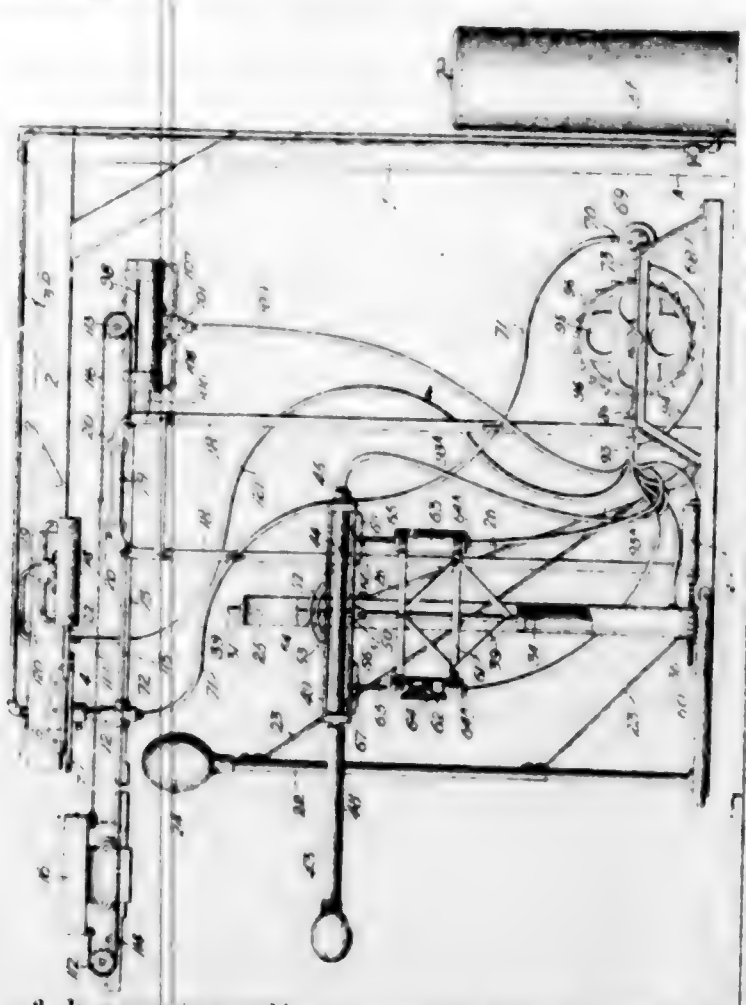


Claim.—In a feed attachment for cranberry-separators, the inclined floor *n*; the oppositely-inclined board *s*; the cross-bar *r* supported by said board; a series of springs extending downward from said cross-bar; a series of platforms or blocks *u* each of which is supported yieldingly by one of said springs; a roll supported by each platform near its lower edge; and a roll supported by the frame near the lower edge of said floor and opposite the row of rolls supported by the platforms, substantially as and for the purpose set forth.

805,543. **SPARRING-MACHINE.** JOHN HAYES, Denver, Colo. Filed Feb. 1, 1905. Serial No. 243,721.

Claim.—1. In a sparring-machine, a horizontally-movable, suspended platform, a dummy on the forward end of said platform; arms adjacent to said dummy supported in vertical, rotatable frames,

which arms are capable of a variety of movements and means carried by said platform for effecting the movement of said arms and frames and platform.



2. In a sparring-machine, a suspended platform capable of a back-and-forth movement, and a right-and-left movement in the arc of a circle; a dummy on the forward end of said platform; variably-movable arms adjacent to the sides of said dummy; vertical, rotatable frames which support said arms, and means for operating said platform, frames and arms independently of each other.

3. In a sparring-machine, a variably-movable, suspended platform, a dummy on the forward end of said platform; an upright frame attached to said platform, rear of said dummy, a pair of rotatable, upright frames, which are pivoted to said frame and platform; variably movable arms carried by said rotatable frames; and means carried by said platform for effecting the movement of the rotatable frames, the arms and the platform, independently of each other.

4. In a sparring-machine, a variably-movable, suspended platform, having a dummy on its forward end; an upright frame attached to said platform, rear of said dummy; a pair of rotatable frames bearing in said upright frame and said platform; cylinders carried by the rotatable frames, having piston-rods which extend through and beyond the top of said frames, horizontal cylinders pivoted to said piston-rods having piston-arms which extend beyond the dummy on each side; vertical cylinders carried by said piston-rod, having piston-rods which attach near the ends of the horizontal cylinder; pinions upon the lower ends of the rotatable frames; horizontal cylinders adjacent to said pinions, having piston-rods, the forward ends of which are in the form of racks, which engage said pinions; means for admitting air under pressure to said cylinders independently and at predetermined periods, and means for moving said platform.

5. In a sparring-machine, a striking-arm comprising a horizontal cylinder, having a piston, and a rod secured to said piston which extends beyond the cylinder and carries a padded mitt at its end; means for admitting air under pressure at the end of said cylinder to shoot said piston and rod forward, and means for returning said piston and rod when the air exhausts from said cylinder.

6. In a sparring-machine, a striking-arm comprising a cylinder having an inlet at one end; a piston in said cylinder, having a rod which extends beyond the cylinder and carries a padded mitt; a helical expansion-spring interposed between the piston and the forward end of the cylinder, and means for admitting air under pressure into the cylinder.

7. In a sparring-machine, a striking-arm comprising a horizontally-disposed cylinder, having an inlet at one end; a piston in said cylinder having a rod which extends beyond the cylinder and is provided at its end with a padded mitt, a sleeve having a sliding movement on the forward portion of the cylinder, and which is secured at its forward end to the said rod, and a helical expansion-spring interposed between said piston and the forward end of the cylinder.

8. In a sparring-machine, the combination with an upright, rotatable frame having a vertically-disposed cylinder, and a piston in said cylinder having a rod which extends through and beyond the top of said frame, of a rock-frame pivoted to said rod, a horizontally-disposed cylinder secured in said rock-frame, having an inlet at one end, and a piston having a rod which extends beyond the cylinder and is provided with a padded mitt, a sleeve attached to said rod which telescopes upon the forward portion of said cylinder; an expansive spring interposed between the piston and the forward end of the cylinder, and independent means for rotating said upright frame, for tilting said rock-frame, and for admitting air under pressure to said vertical and horizontal cylinders.

9. In a sparring-machine, the combination with an upright, rotatable frame having a vertically-disposed cylinder and a piston in said cylinder having a rod which extends through and beyond the top of said frame, of a rock-frame pivoted to said rod; a horizontally-disposed cylinder secured in said rock-frame, having an inlet at one end and a piston having a rod which extends beyond said cylinder and is provided with a padded mitt; a telescoping sleeve on the forward portion of said horizontal cylinder which is connected at its forward end to the said rod; an expansive spring interposed between said piston and the forward end of the cylinder, brackets secured to said vertical piston-rod below said rock-frame, upright cylinders at the ends of said brackets having pistons and rods which connect with the ends of said rock-frame; and means for rotating said upright frame and for admitting air under pressure to the various cylinders.

10. In a sparring-machine, the combination with an upright frame having a pinion at its lower end, and a cylinder adjacent to said pinion, having an inlet, a piston and a piston-rod, the outer end of which is in the form of a rack and engages said pinion, of an upright cylinder carried by said frame, having an inlet, a piston and a piston-rod which extends through the top of said frame, a rock-frame pivoted to said rod, carrying a horizontally-disposed cylinder having an inlet, a piston and a rod which extends beyond said piston and is provided at its end with a padded mitt; a sleeve attached to said rod which telescopes upon the forward portion of the said horizontal cylinder, and an expansive spring in said cylinder between the forward head thereof and the piston, upright cylinders secured to said vertical piston-rod, below the rock-frame, having inlets, pistons, and piston-rods, which engage slideways at the ends of the rock-frames, and means for admitting air into the said cylinders independently.

11. In a sparring-machine, the combination with an upright, a rotatable, frame, having a vertical slot in each side member, of an upright cylinder having an inlet, a piston, and a piston-rod which extends through the upper end of said frame, said rod being formed into a yoke near its upper end; a rock-frame pivoted in said yoke, and carrying an extensible arm, lugs on the sides of said yoke which extend through the slots in said rotatable frame; compressed-air-operated cylinders which effect the movement of said rock-frame, an extensible arm, and means for independently admitting air to said cylinder.

12. In a sparring-machine, a supporting structure; a track pivotally suspended from said structure; a platform having uprights carrying trolley-wheels which rest upon said track, a dummy on the forward end of said platform, variably-movable striking-arms at the sides of said dummy; and means for independently sliding the platform upon the track; for turning the same in the arc of a circle, and for operating said arms.

13. In a sparring-machine, the combination with a supporting structure, of a track pivotally suspended therefrom; a platform having a dummy and variably-movable striking-arms, which has a back-and-forth movement on said track; means for moving said platform on said track; means for turning said track in the arc of a circle, and means for equalizing the weight on each side of the pivotal point of the track when the platform is moved.

14. In a sparring-machine, the combination with a supporting structure of a track pivotally suspended therefrom; a platform having uprights carrying trolley-wheels which rest on said track; a counterbalancing-weight movably mounted on the opposite end of the track; a sprocket-wheel at each end of said track; chains which pass around the front and rear sprocket-wheels and which connect with the weight and with the uprights of the platform; means for moving said platform on the track, said movement causing the weight to move a corresponding distance in the opposite direction, and means for moving said track in the arc of a circle.

15. In a sparring-machine, the combination with a supporting

structure, of a vertically-disposed tube, revolubly mounted in said structure; a horizontal track secured at the end of said tube; a platform suspended from said track and movable thereon; a weight on the opposite end of said track, and means connected with said weight and platform whereby they are caused to move in unison and in opposite directions; a plate secured to said vertical tube, having upright pins thereon; a cylinder secured to the supporting structure, having a piston and rod, said rod having a projection which engages said pins, and means for admitting air under pressure alternately in front of and to the rear of the piston of said cylinder, and a similarly-operating cylinder, secured to the rear end of the track, the piston-rod of which is connected with the suspending means of said platform, and means for admitting air under pressure thereto

16. In a sparring-machine, a variably-movable, suspended platform; upright, rotatable frames carried thereby; vertically-disposed operating-cylinders carried by said frame, having pistons and rods, said rods having rock-frames pivoted thereto; operating-cylinders carried by said rock-frames, the pistons of which carry rods having padded mitts; operating piston-cylinders carried by said vertical rods, below the rock-frames, the rods of which have a sliding connection with the ends of the said frames; a compressed-air-receiving reservoir carried by said platform, having air-escape valves thereon; flexible tubes connecting said air-escape valves and said operating-cylinders; exhaust-valves in said tubes, means for opening both sets of said valves at predetermined periods, and a hose for connecting the reservoir, with a compressed-air storage-tank.

17. In a sparring-machine, the combination with a horizontal supporting-beam, having a ball-bearing adjacent to one end, of a flanged tube depending from said bearing and carrying a horizontal track at its lower end; a movable platform suspended from said track, having an air-receiving reservoir at one end, and rotatable supports carrying variably-movable and extensible arms at its other end; operating piston-cylinders connected with said arms and rotatable supports; air-escape valves in said reservoir, sections of hose connecting said valves and said operating-cylinders; valves in said hose which permit the air to escape therefrom; a hose connecting the lower end of said flanged tube and said reservoir; a pipe connecting the upper end of said tube with a source of compressed air, and a revolving drum located between the two sets of valves having teeth which operate said valve, to intermittently admit air into the operating-cylinders and to permit it to escape therefrom: said teeth being set to operate combinations of said valves successively or simultaneously.

18. In a sparring-machine, the combination with a variably-movable suspended platform, of an air-receiving reservoir thereon, connected with a source of compressed air; supply-valves in said reservoir having spring-controlled, sliding tubes, which control the opening of said valves; a blow-striking mechanism comprising rotatable frames supporting arms which are capable of a variety of vertical and horizontal movement; operating-cylinders having pistons and rods which connect with the frames and arms to effect their various movement; flexible tubes connecting said cylinders and said supply-valves; exhaust-valves in said tubes having spring-controlled sliding tubes, which control the opening of said valves, and a revolving drum located centrally between said supply and exhaust valves, having teeth which push said tubes to open said valves, said teeth being set to operate combinations of said valves simultaneously or successively.

19. In a sparring-machine, vertical, operating-cylinders having extended piston-rods; rock-frames attached to said piston-rods having cylindrical arms pivoted thereto; spring-controlled rods in said arms having padded mitts upon their extended ends; operating-cylinders attached to the vertical piston-rods having piston-rods which connect with the ends of the rock-frames; rotatable frames carrying said cylinders and arms having pinions on their lower ends; operating-cylinders having piston-rods the ends of which are in the form of racks, which engage said pinions; an air-receiving reservoir connected with a source of compressed air; supply-valves in said reservoir, having sliding vent-openers; flexible tubes connecting said supply-valves and said operating-cylinders, having exhaust-valves provided with sliding vent-openers, and a revolving drum mounted between said supply and exhaust valves, having adjustable teeth which engage said vent-openers at predetermined periods, said teeth being set to open combinations of said valves simultaneously or successively.

20. In a sparring-machine, the combination with a blow-delivering mechanism, and a plurality of compressed-air-operated cylinders, which effect the movements of said mechanism, of means for admitting air to and exhausting it from said cylinders, comprising an air-receiving reservoir, connected with a source of compressed air, a row of valves in said reservoir having sliding, apertured, tubes which apertures communicate with the reservoir and with air-outlets in said valves when said tubes are pushed in; flexible pipes connecting said valve-outlets with said compressed-air-operated cylinders; exhaust-valves in said pipes having sliding, apertured tubes which permit the air to exhaust from said pipes when said tubes are pressed in, and a revolving drum, having adjustable teeth, which are adapted to engage said sliding tubes successively or in combinations simultaneously.

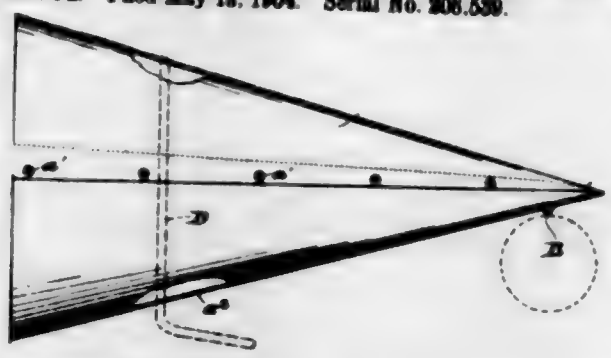
21. In a sparring-machine, the combination with a compressed-air-receiving reservoir, of valves threaded to said reservoir, having bores opening into said reservoir and outlet-passages intersecting said bores; spring-controlled sliding tubes in said bores, having closed ends, and apertures, which normally lie within the bores, the inner ends of said tubes normally closing the entrance to said reservoir, the apertures in said tubes being designed to register with the outlet and with the entrance to the reservoir, when the tubes are pressed in.

22. In a sparring-machine, the combination with a blow-striking mechanism, compressed-air-operated cylinders for operating said mechanism, and air-supply pipes attached to said cylinders, and with a source of compressed air, of exhaust-valves in said pipes having sliding tubes, which are apertured, within the valve, and open at the ends communicating with the pipes; springs on said tubes for holding them in an extended position, and means for retaining them within the valve, said aperture in the tube registering with an outlet in said valve, when said tube is pressed in.

23. In a sparring-machine, the combination with a compressed-air-receiving reservoir, supply-valves in said reservoir, having sliding, vent-opening tubes, pipes leading from said supply-valves, and exhaust-valves in said pipes having sliding, vent-opening tubes, of a revolving drum located between said supply and exhaust valves, comprising a cylinder having circular rows of bolt-holes, which alternate with said supply and exhaust valves; and rows of teeth of varying heights which are adjustable in said bolt-holes, and which operate the tubes in said valves.

24. In a sparring-machine, a platform having a cushioning medium around its front end; arms supported on said platform having a vertical, a swinging, a tilting and a striking movement; compressed-air-operated cylinders, connected with said arms; an air-receiving reservoir on said platform, having supply-valves; tubes connecting said supply-valves and said cylinders; exhaust-valves in said tubes; a revolving drum for operating said valves to supply the air to, or exhaust it from the cylinders; a swinging track for supporting said platform; means for moving said platform back and forth on said track, comprising a cylinder, the piston-rod of which attaches to said trolley, and a tube connecting said cylinder and air-reservoir, and means for swinging said track.

805,544. PHONOGRAPH REPRODUCING SOUND BOX OR HORN. ROBERT HEAD, New York, N. Y., assignor to Edwin Walker, Erie, Pa. Filed May 18, 1904. Serial No. 208,539.



Claim.—1. In a phonograph, or similar machine, a reproducing-horn having a stylus attached directly thereto.

2. In a phonograph, or similar machine, a reproducing-horn closed at one end, and a stylus connected directly to a vibratory part of said horn.

3. In a phonograph, or similar machine, a reproducing-horn having a vibratory part and a stylus connected directly to said vibratory part.

4. A phonograph reproducing device, having a curvilinear vibratory member, a part of said member being composed of a different material from the main body thereof, and a stylus connected with said vibratory part.

5. A phonograph reproducing device, having a vibratory member, a part of said member being composed of a different material from the main body thereof, and a stylus attached directly to said vibratory part.

6. A phonograph sound-reproducer, a part of which is a curvilinear surface forming a vibratory diaphragm, and a stylus attached rigidly and directly to said diaphragm.

7. A phonograph-horn having a curvilinear surface which forms a vibratory member, and a stylus projecting directly from the member and adapted to impart vibrations thereto.

8. A phonograph-horn having a non-metallic vibratory part or member continuous with the horn and composed of a different material from the main body of the horn, and a stylus adapted to impart vibrations to said part or member.

9. A phonograph-horn, having a non-metallic stylus attached directly to a side wall of said horn.

10. A phonograph-horn, having a non-metallic vibratory part located in the side of the horn, and a non-metallic stylus connected directly to said part.

11. A reproducing-horn, a part of said horn being under tension, and a stylus attached directly to said part under tension.

12. A phonograph reproducing device, the diaphragm of which is a curvilinear surface, and a stylus secured directly to said curvilinear surface.

13. A phonograph reproducing device, the diaphragm of which is a conical surface, and a stylus projecting from said surface and adapted to impart vibrations directly thereto.

14. A phonograph reproducing device consisting of a flexible horn and a stylus for imparting vibrations directly to said horn.

15. A phonograph reproducing device comprising a paper horn, having a stylus connected directly to the same near one end thereof.

16. A phonograph reproducing device comprising a non-metallic horn, having edges united along a longitudinal seam or joint, and a stylus secured directly to a part of the horn laterally of the seam or joint.

17. A phonograph reproducing device comprising a non-metallic horn united detachably at its edges, and a stylus for imparting vibratory movement directly to a part of the horn.

18. A phonograph reproducing device comprising a horn, having a vibratory section in one side thereof, and a stylus for vibrating the section.

19. A phonograph reproducing device comprising a horn, having a vibratory diaphragm made of a different material from the body of the horn and extending around the same, and a stylus for vibrating the diaphragm.

20. A phonograph reproducing device having a vibratory curvilinear diaphragm at one end composed of a different material from the main body thereof, and a stylus attached rigidly to the diaphragm.

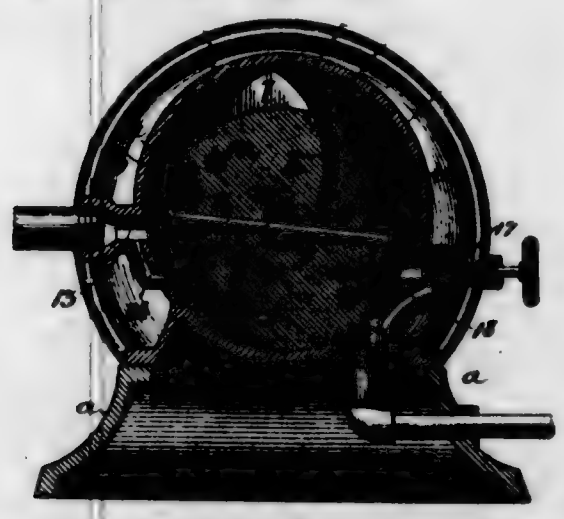
21. A phonograph-reproducer, having a vibratory conical member made of a different material from the body thereof, and a stylus for imparting vibrations to said member.

22. A sound-reproducer, comprising a horn having a stylus rigidly attached to the material of said horn and projecting therefrom intermediate its ends.

23. A sound-reproducer comprising a horn made of flexible material, and a stylus attached directly to said flexible material and projecting therefrom intermediate of its ends.

805,545. ROTARY ENGINE. FRANK A. HEADSON, Lafayette, Ind.

Filed Jan. 13, 1904. Serial No. 188,911.



Claim.—1. In a rotary engine, the combination of a cylinder provided with a fluid-pressure chamber and fluid-inlet passage, a piston-head rotatably mounted therein in sliding contact with the inner surface of the cylinder between the fluid-inlet passage and the pressure-chamber, wing mechanism pivotally mounted on such head, and means for positively swinging such wing mechanism by and during the rotation of the head, substantially as described.

2. In a rotary engine, the combination of a cylinder provided with a fluid-pressure chamber and fluid-inlet passage, a piston-head rotatably mounted therein in sliding contact with the inner surface of the cylinder between the inner opening of the fluid-inlet passage and the pressure-chamber, a plurality of wings pivotally mounted on such head, and eccentric mechanism for positively swinging such wing mechanism by and during the rotation of the head, substantially as described.

3. In a rotary engine, the combination of a cylinder provided with a fluid-pressure chamber and fluid-inlet port, a piston-head rotatably mounted therein in sliding contact with the inner surface of the cylinder on all sides of the inlet-port and provided with steam-pockets in operative connection with the inlet-port, a plurality of wings operating in such piston-head, a rock-shaft for each of such wings rockingly mounted in the piston-head, and means for operating each of such rock-shafts positively by and during the rotation of the head, substantially as described.

4. In a rotary engine, the combination of a cylinder provided with a fluid-pressure chamber and fluid-inlet port, a piston-head rotatably mounted therein in sliding contact with such cylinder and provided with valve-pockets adapted to communicate with the inlet-port, curved wings operating in grooves in the piston-head, a rock-shaft for each of such wings and to which such wings are rigidly secured and rockingly mounted in the piston-head, and eccentric mechanism connected with such rock-shafts and arranged to be positively operated by and during the rotation of the piston-head, substantially as described.

5. In a rotary engine, the combination of a cylinder provided with a fluid-pressure chamber and fluid-inlet port, a piston-head rotatably mounted therein in sliding contact with one side of the cylinder and provided with a plurality of pockets, a valve movably mounted in each pocket provided with a steam-pocket therein, means for automatically moving such valves, a main shaft to which such piston-head is secured rotatably mounted in the end walls of the cylinder, curved wing mechanisms movably mounted in slots or grooves in the piston-head, rock-shafts movably mounted in the piston-head—one for each of such wing mechanisms and to which such wing mechanisms are rigidly secured, a lever-arm on the end of each of such rock-shafts, and eccentric mechanisms—one arranged at each end of the piston-head for operating such rock-shafts by and during the rotation of the piston-head, substantially as described.

6. In a rotary engine, the combination of a cylinder provided with a fluid-pressure chamber, a piston-head rotatably mounted therein, a main shaft upon which such piston-head is mounted extending out of the end walls of the cylinder, curved wing mechanism movably mounted in grooves or pockets in the piston-head, a rock-shaft for each of such wing mechanisms movably mounted in the piston-head, a partition arranged at each end of the piston-head inclosing the ends of the fluid-pressure chamber and forming chambers between such partitions and the end walls of the cylinder, an immovable eccentric arranged in such pockets, and eccentric-straps mounted thereon—one on each—and connected with the rock-shafts for operating the same by and during the rotation of the piston-head, substantially as described.

7. In a rotary engine, the combination of a cylinder portion provided with a cylindrical fluid-pressure chamber, a piston-head rotatably mounted in such chamber eccentrically thereto, a plurality of piston-wings pivotally attached to such piston-head, a rock-shaft for each of such wings arranged in positive relation thereto and provided with lever-arms, a rotatable main shaft upon which the piston-head is mounted and to which it is secured extending out of the end walls of the cylinder, a stationary eccentric arranged at each end of the pressure-chamber eccentric with the main shaft and concentric with the axis of the pressure-chamber, eccentric strap and rod mechanism mounted upon such eccentrics extending outward radially from the main shaft and pivotally connected to the rock-shaft lever-arms, and a bearing portion for the main shaft adjustably secured to each of the end walls of the cylinder, substantially as described.

8. In a rotary engine, the combination of a cylinder provided with a fluid-pressure chamber, a rotatable piston-head provided with grooves, pivoted operating-wings for such grooves, eccentrics immovably secured to the end walls of the cylinder, and eccentric-straps pivotally connected with the wings to operate the same by and during the rotation of the piston-head, substantially as described.

9. In an engine of the class described, the combination of a cylinder provided with a fluid-pressure chamber and having a main

fluid-inlet passage and a by-pass adapted to communicate with such pressure-chamber, a piston-head rotatably mounted in such cylinder in sliding contact with the inner surface thereof between the inner end of the main fluid-passage and the inner opening of the by-pass at a point between the main inlet-passage and pressure-chamber, wing mechanism pivotally mounted on such piston-head, and means for swinging such wing mechanism by and during the rotation of the head, substantially as described.

10. In a rotary engine, the combination of a cylinder provided with a cylindrical pressure-chamber therein, a piston-head rotatably mounted in such pressure-chamber eccentrically thereof, piston-wings pivotally attached to such piston-head, stationary cylindrical cam mechanism or eccentrics arranged in alinement with the axial center of the pressure-chamber, eccentric strap and rod mechanism mounted upon the eccentrics, and a lever-arm arranged in positive relation to each wing and pivotally connected to the eccentric-arm, substantially as described.

11. In a rotary engine, the combination of a cylinder provided with a cylindrical pressure-chamber therein, a piston-head rotatably mounted in such pressure-chamber eccentrically and in contact with one side of the wall thereof, a shaft upon which such piston-head is mounted, cylindrical cam mechanism or eccentrics arranged eccentrically of the piston-head shaft and concentric with the axis of the pressure-chamber, rock-shafts pivotally mounted in the piston-head and provided with lever-arms, piston-wings mounted upon such rock-shafts and in positive relation thereto, and eccentric-arms mounted upon the eccentrics and pivotally connected with the lever-arms of the rock-shafts at a point the same distance from the axial center of the pressure-chamber as the outer edge of the wings, and thereby with the wings, for holding the outer edges of such wings constantly at the same distance from the axial center of the pressure-chamber, substantially as described.

12. In a rotary engine, the combination of a cylinder provided with a cylindrical pressure-chamber therein, a piston-head rotatably mounted within such chamber eccentrically thereto, and piston-wings each pivoted at independently-moving pivotal centers, one of such pivotal centers moving concentric to the piston-head and the other being substantially in alinement with the outer edge of the wing and movable in a true circle around the axial center of the pressure-chamber, substantially as described.

13. In a rotary engine, the combination of a cylinder provided with a pressure-chamber, a piston-head rotatably mounted within such chamber eccentric thereof, and piston-wings pivotally connected with such piston-head and also provided with attached pivot mechanism movable in a true circle eccentrically of the piston and arranged in substantial alinement with the outer edges of such wings, substantially as described.

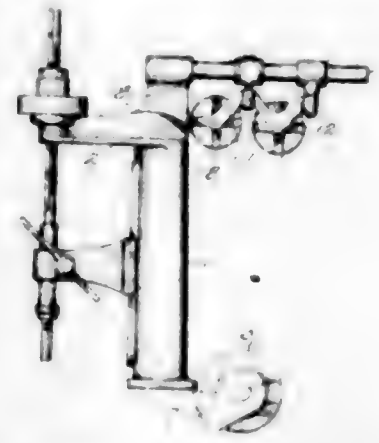
14. In a rotary engine, the combination of a cylinder provided with a pressure-chamber, a piston-head rotatably mounted within such chamber eccentric thereof, and piston-wings pivotally connected with the piston-head and provided with pivot mechanism attached thereto movable in a true circle coincident or parallel with the outer edges thereof, and means for movably supporting such pivot mechanism and thereby guiding the outer edges of the wings in a true circle, substantially as described.

15. In a rotary engine, the combination of a cylinder provided with a pressure-chamber, a piston-head rotatably mounted within such chamber eccentric thereof, piston-wings pivotally connected with the piston-head, and crank-arms for such piston-wings rotatably mounted at a point in substantial alinement with the center of the pressure-chamber and in pivotal engagement with the wings at points in substantial alinement with the outer edges thereof, substantially as described.

16. In a rotary engine, the combination of a cylinder provided with a pressure-chamber, a piston-head rotatably mounted within such chamber eccentric thereof, a plurality of piston-wings pivotally connected with the piston-head, and a pair of crank-arms rotatably mounted at points in substantial alinement with the center of the pressure-chamber at opposite ends of such chamber, each in pivotal engagement with the piston-wings at a point in substantial alinement with the outer edge of such wing, substantially as described.

805,546. DRILL-SPINDLE-DRIVING MECHANISM. ROBERT G. HENRY and DANIEL M. WRIGHT, Hartford, Conn. Filed Mar. 6, 1905. Serial No. 248,530.

Claim.—1. A drill-press column, a vertical spindle supported by the column, a step-pulley on said spindle, a horizontal shaft supported by said column, a step-pulley on said shaft, a single support extending rearwardly from the column, two brackets adjustably fixed on the support, a forwardly-extending fork swiveled to each bracket, an idler-pulley carried by each fork, and an endless belt extending around the step-pulleys and over the idler-pulleys, substantially as specified.



2. A drill-press column, a vertical spindle supported by the column, a step-pulley on said spindle, a horizontal shaft supported by said column, a step-pulley on said shaft, a single support extending rearwardly from the column, two brackets adjustably fixed on the support, a swiveled fork depending from one bracket beneath the support, a swiveled fork depending from the other bracket at one side of the support, an idler-pulley carried by each fork, and an endless belt extending around the step-pulleys and over the idler-pulleys, substantially as specified.

3. A drill-press column, a vertical spindle supported by the column, a step-pulley on said spindle, a horizontal shaft supported by said column, a step-pulley on said shaft, a single support extending rearwardly from the column, two brackets adjustable in and out along and adapted to be oscillated on the support, an offset fork swiveled to each bracket, an idler-pulley carried by each fork, and an endless belt extending around the step-pulleys and over the idler-pulleys, substantially as specified.

4. A drill-press column, a vertical spindle supported by the column, a step-pulley on said spindle, a horizontal shaft supported by said column, a step-pulley on said shaft, a single support extending rearwardly from the column, two brackets adjustably fixed on the support, a fork swiveled to one of said brackets, an idler-pulley carried by the swiveled fork, a vertically-adjustable fork carried by the other bracket, an idler-pulley carried by the adjustable fork, and an endless belt extending around the step-pulleys and over the idler-pulleys, substantially as specified.

5. A drill-press column, a vertical spindle supported by the column, a step-pulley on said spindle, a horizontal shaft supported by the column, a step-pulley on said shaft, a single support extending rearwardly from the column, a bracket adjustably fixed on the support and extending downwardly beneath the support, an idler-pulley swiveled to this downward bracket and rotating beneath and in a plane longitudinal with the support, a bracket adjustably fixed on the support and extending outwardly from one side of the support, an idler-pulley swiveled to this sidewise bracket and rotating below at one side of the support in a plane longitudinal therewith, and an endless belt extending around the step-pulleys and over the idler-pulleys, substantially as specified.

805,547. ARMATURE FOR ELECTRICAL MACHINES. WILLIAM T. HENSLEY, Boundbrook, N. J. Filed Mar. 25, 1905. Serial No. 252,057.



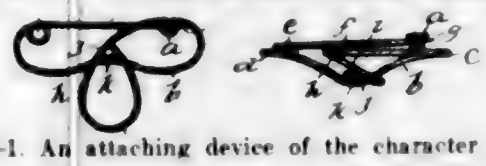
Claim.—1. In an armature, the combination of the armature-disks having teeth between which the armature-coils are arranged; said coils; and the spacing-pieces arranged along the coils and having shoulders engaging the teeth, the shoulders being of less width than the width of the teeth on the disk and forming ventilating-spaces between said spacing-pieces.

2. In an armature, the combination of the armature-disks having teeth between which the armature-coils are arranged; said coils; and the spacing-pieces arranged along the coils and having shoulders engaging the teeth, the shoulders being of less width than the width of the teeth on the disk and forming ventilating spaces be-

tween said spacing-pieces equal to the spaces between the inner edges of the armature-coils.

3. In an armature, the combination of the armature-disks having teeth between which the armature-coils are arranged; said coils, and the spacing-pieces arranged along the coils and having shoulders engaging the teeth, the shoulders being of less width than the width of the teeth on the disk and forming ventilating-spaces between said spacing-pieces; and the wrapping D extending around the armature and securing the spacing-pieces in place.

805,548. **SAFETY ATTACHING DEVICE.** HENRY C. HENZE, New York, N. Y. Filed Mar. 14, 1905. Serial No. 250,029.



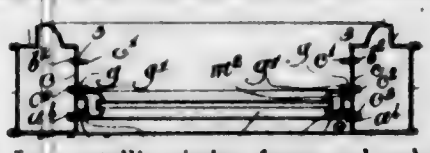
Claim.—1. An attaching device of the character described, comprising an oblong body portion consisting of a bottom spring-arm and a top spring-pin connected at one end with the arm and adapted at its free end to engage a hook connected with the corresponding end of said arm, said hook being provided with a curved arm which ranges transversely of the body portion and projects below the same and is formed into an open spring loop or ring the free end of which is provided with a head adapted to engage the central portion of the bottom spring-arm, substantially as shown and described.

2. An attaching device of the character described, comprising an oblong body portion consisting of a bottom spring-arm and a top spring-pin connected at one end with the arm and adapted at its free end to engage a hook connected with the corresponding end of said arm, said hook being provided with a curved arm which ranges transversely of the body portion and projects below the same and is formed into an open spring loop or ring the free end of which is provided with a head adapted to engage the central portion of the bottom spring-arm, and which is bent outwardly to form a projecting loop or bend in connection with which said head operates, substantially as shown and described.

3. A device of the class described, composed of spring-wire bent at a predetermined distance from one end to form a hook *a*, one end portion of the wire being then bent to form an arm *b* and a pin *f*, the other end portion of the wire being then bent to form a supplemental spring-arm *h* which ranges transversely of the arm *b* and the pin *f*, said last-named end portion of the wire being bent to form an open spring loop or ring *i* which extends below the arm *h*, the free end of which extends upwardly and is provided with a knob or head *j* adapted to detachably engage the arm *b*, substantially as shown and described.

4. A device of the class described, comprising an oblong body portion consisting of two substantially parallel members, one member of which comprises a spring-pin connected with the other member at one end and adapted to engage a hook at the opposite end, and a spring-arm connected with the hook portion and ranging diagonally and transversely of the body portion and the end of which is provided with an open spring coil or ring, the free end of which is provided with a knob or head adapted to engage the main body member, substantially as shown and described.

805,549. **METALLIC WINDOW FRAME AND SASH.** SAMUEL F. HICKS, Arlington, Mass. Filed Jan. 26, 1905. Serial No. 242,712.



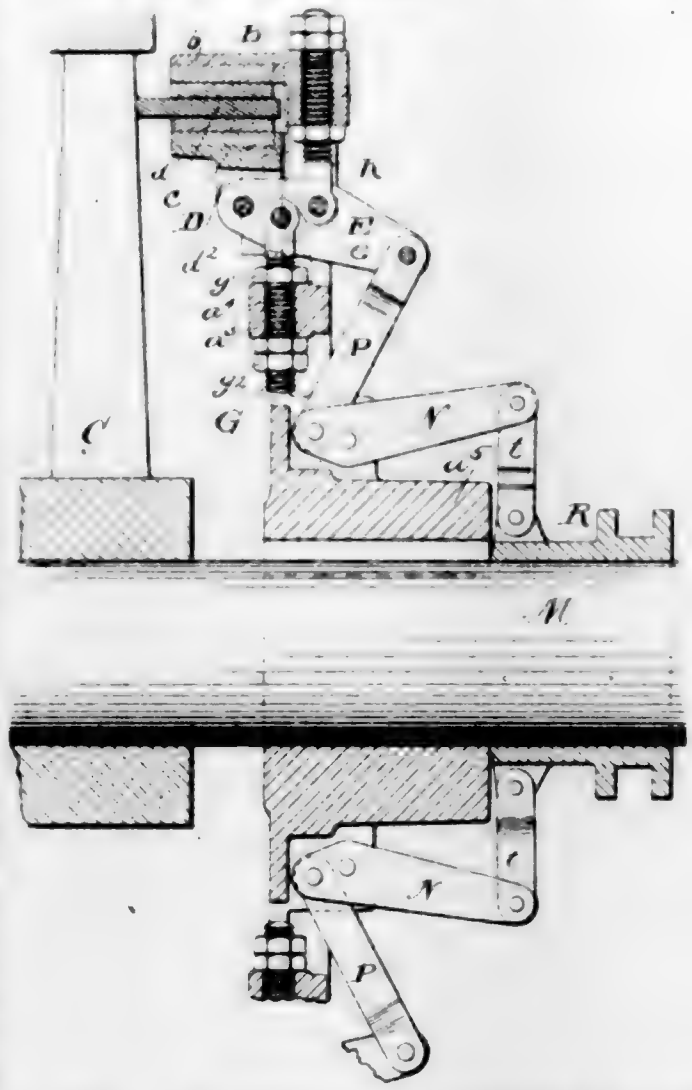
Claim.—1. In a metallic window frame and sash construction, a metallic window-casing having a groove and a parting-strip inserted in said groove, said parting-strip having a smooth inner face and flanged outer face combined with one sash resting against and sliding over the smooth inner face, and another sash provided with a groove in which the flange of the parting-strip enters.

2. In a window-frame construction, a window-casing, provided with two grooves, a flanged guiding-strip inserted in one groove and a flanged parting-strip inserted in the other groove, a sash received between the guiding-strip and parting-strip, and another sash having a groove in which the flange of the parting-strip enters.

3. In a window construction, a window-casing having at each side two grooves and a projecting flange, a guiding-strip received in one groove at each side of the window-casing, a parting-strip received in the other groove, each guiding-strip and parting-strip having one smooth face and a flange projecting from the other face, a window-sash received between the parting-strips and guiding-strips and having grooves in which the flanges on the guiding-strips enter, and another sash received between the parting-strips and the projecting flanges and provided with grooves in which the flanges of the parting-strips enter.

4. The combination with a metallic window-casing having separated flanged guiding-strips and parting-strips, of two metallic sashes, one having grooves to embrace and be guided by the flanges of the parting-strips and the other having grooves to embrace and be guided by the flanges of the guiding-strips.

805,550. **FRICTION-CLUTCH.** HARRY W. HILL, Cleveland, Ohio. Filed Mar. 15, 1905. Serial No. 250,221.



Claim.—1. In a friction-clutch, the combination of the clutch-frame, a pair of inversely and radially movable jaws mounted thereon, a rocker having a radially-adjustable fulcrum-pivot by which the rocker is connected with said frame, pivot connecting said rocker to one of the jaws, and a radially-adjustable pivot connecting the other jaw with said rocker on opposite side of the said fulcrum-pivot, and means for operating said rocker.

2. In a friction-clutch, in combination, a pulley having a cylindrical flange, a clutch-frame, a pair of inversely and radially movable jaws mounted upon said frame and adapted to grasp said flange between them, a bolt adjustably secured to the outer jaw, a rocker, pivot-pins connecting said rocker with the inner jaw and with said bolt, a bolt adjustably secured to the clutch-frame, a pivot-pin connecting this bolt with the rocker at a point midway between the two pivot-pins before mentioned, and mechanism for rocking said rocker.

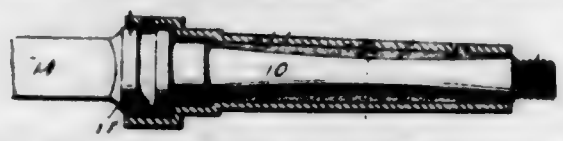
3. In a friction-clutch, in combination, a clutch-frame having a plurality of radial recesses through which the rocker may pass, and the following parts associated with each radial recess, to wit: two parallel ribs integral with and projecting from the inner face of said frame on opposite sides of said recess, which ribs have grooves in their proximate faces, a boss a^4 integral with and projecting from the inner face of said clutch-frame, a pair of inversely and radially movable jaws having shanks which, when in contact with each other, are slidably fitted in said grooves, the outer jaw having an outwardly-projecting boss b^3, a bolt adjustably secured in said boss b^3 and extending therefrom toward the axis of the clutch, a

rocker extending through the recess in the frame and pivotally connected with said bolt and with the inner jaw-shank, a bolt adjustably secured in boss b^3 and extending therefrom away from the axis of the clutch, a pivot-pin connecting said bolt with the rocker at a point midway between the two pivoted pins before mentioned, and mechanism for rocking said rocker.

4. In a friction-clutch, in combination, a pulley having a cylindrical flange, a clutch-frame, a pair of inversely and radially movable jaws mounted upon said frame and adapted to grasp said flange between them, a bolt adjustably secured to the outer jaw, a rocker, pivot-pins connecting said rocker with the inner jaw and with said bolt, a bolt adjustably secured to the clutch-frame, a pivot-pin connecting this bolt with the rocker at a point midway between the two pivot-pins before mentioned, a lever pivoted to the clutch-frame, a link connecting the inner end of said lever with the outer end of said rocker, a slidable sleeve, and a link connecting said sleeve with the outer end of said lever.

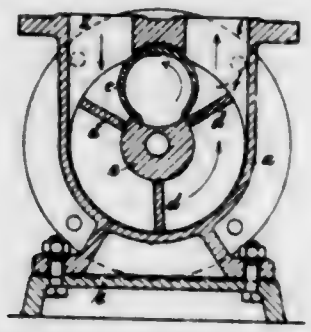
5. In a friction-clutch, in combination, a clutch-frame, a pair of inversely and radially movable jaws mounted thereon, a bolt adjustably secured to the clutch-frame and having a flattened outer end, a bolt adjustably secured to the outer jaw and having a flattened inner end, two rocker members *e* lying on opposite sides of said flattened bolt ends, three pivot-pins connecting the inner jaw-shank and both of said flattened bolt ends with said rocker members, a link P whose outer end extends between the outer ends of the rocker members and is pivoted thereto, a lever N pivoted to the frame and to the inner end of said link P, a slidable sleeve R, and a link *t* pivotally connecting with said sliding sleeve and with the outer end of the lever N.

805,551. SPINDLE-BUSHING. JESSIE J. HINES and ELDRED B. WILKERSON, Houston, Tex. Filed Sept. 30, 1903. Serial No. 125,412.



Claim.—The combination with an axle having a spindle and a sand-collar, the latter provided with an annular groove, of a device presenting a new wear-surface when the spindle has become worn; the same consisting of a sleeve of wear-resisting material fitted upon the spindle concentric with the axis thereof and having a portion extending over the sand-collar; said sleeve being provided with a plurality of perforations; and a filling of readily-fusible material introduced into the space between the spindle and the wear-resisting sleeve through the openings in the latter; said filling occupying the said intervening space, the annular groove in the sand-collar, and the perforations in the wear-resisting sleeve.

805,552. ROTARY PUMP. LEOPOLD VON HOFE, Lüdenscheid, Germany. Filed July 2, 1904. Serial No. 215,162.



Claim.—1. A rotary engine comprising a substantially circular working chamber, a stationary central longitudinally-recessed abutment, a series of radial blades adapted to turn about said abutment and a slotted circular tubular rotatory distributing-piston, all mounted and working within the circular working chamber substantially as set forth.

2. A rotary engine comprising a substantially circular working chamber, a stationary central longitudinally-recessed abutment, a series of radial blades adapted to turn about said abutment, a disk carrying said blades, a central spindle carrying said disk and a slotted circular tubular rotatory distributing-piston, all mounted and working within the circular working chamber substantially as set forth.

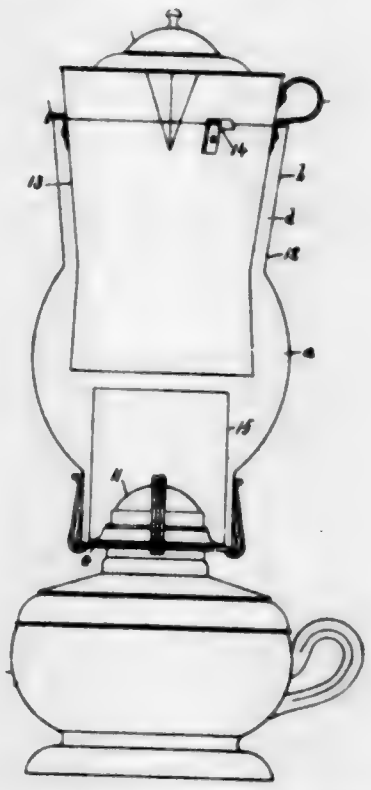
3. A rotary engine comprising a substantially circular working chamber, a stationary central longitudinally-recessed abutment, a series of radial blades adapted to turn about said abutment, and a rotatory circular tubular distributing-piston having a longitudinal slot of a width less than the depth of the radial blades, all mounted and working within the circular working chamber substantially as set forth.

4. A rotary engine of the kind described comprising a circular working chamber, a stationary central abutment, a slotted circular rotating tubular distributing-piston of an inner diameter substantially equal to the depth of the radial blades mounted within said working chamber and circularly-recessed surfaces in the inner wall of the working chamber and the opposed face of the central abutment substantially as set forth.

805,553. PROCESS FOR IMPROVING PAPER YARN. MARTIN HÖLKEN, Barmen-Rittershausen, Germany, assignor, by mesne assignments, to Fürst Guido von Donnersmarck, of Neudeck. Filed Apr. 10, 1905. Serial No. 254,719.

Claim.—The process for improving paper yarn, consisting therein, that the yarn is for a short time dipped into a finishing material and is immediately thereafter treated under tension in a brushing-machine, the brushes of which are supplied with paraffin, wax, fat or the like, substantially as described and for the purpose set forth.

805,554. LAMP-HEATER. HENRY T. HYATT, London, Canada. Filed Dec. 14, 1904. Serial No. 236,791.



Claim.—A device of the class described comprising a globe, and means for supporting said globe on a lamp, said globe being formed with a spherical combustion-chamber and a cylindrical outwardly-flaring exit-chamber of smaller diameter than said spherical combustion-chamber, a tapered vessel or receptacle located in said globe, means for supporting said vessel in said globe, said vessel forming with said cylindrical exit-chamber of said globe a tapered annulus of exit for the products of combustion between said globe and said vessel, and a tube open at both ends supported at its lower open end on the burner within the globe, and its upper open end extending above the burner and to within a short distance of the bottom of said vessel.

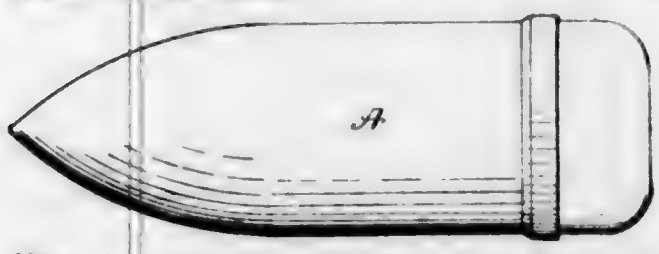
805,555. PROCESS FOR REFINING COPPER-NICKEL MATTE. NOAH V. HYBINETTE, Westfield, N. J. Filed Nov. 25, 1904. Serial No. 234,160.

Claim.—1. The process of separating copper from nickel in copper-nickel matte, consisting in first roasting the matte to oxids, then leaching with weak sulfuric acid; thereby extracting principally sulfate of copper, then heating with sulfuric acid at least to a temperature where hydrous sulfates do not exist, leaching with weak sulfuric acid, thereby extracting principally sulfate of copper, then heating with hydrochloric acid to a temperature enough for partial decomposition of the anhydrous chlorids, leaching with weak acid and repeating the said heatings when necessary thereby obtaining a nickel oxid, suitable for refining by ordinary means.

2. The process of separating oxids of copper and nickel by heating with sulfuric acid at least to a temperature where hydrous sulfates do not exist, leaching with weak sulfuric acid, thereby extracting principally sulfate of copper, then heating with hydrochloric acid to a temperature high enough for partial decomposition of the anhydrous chlorids, leaching with weak acid and repeating the said heatings when necessary thereby obtaining a nickel oxid, suitable for refining by ordinary means.

3. In the process of separating oxids by heating with sulfuric acid and leaching with weak acid, the method of heating the material to at least partial decomposition of the anhydrous sulfates and leaching with weak acid, thereby extracting copper oxid formed in said decomposition without extracting the nickel oxid formed at the same time.

805,556. **PROJECTILE.** ELIAS M. JOHNSON, New York, N. Y., assignor to Isaac G. Johnson and Company, New York, N. Y. Filed Feb. 15, 1905. Serial No. 245,764.

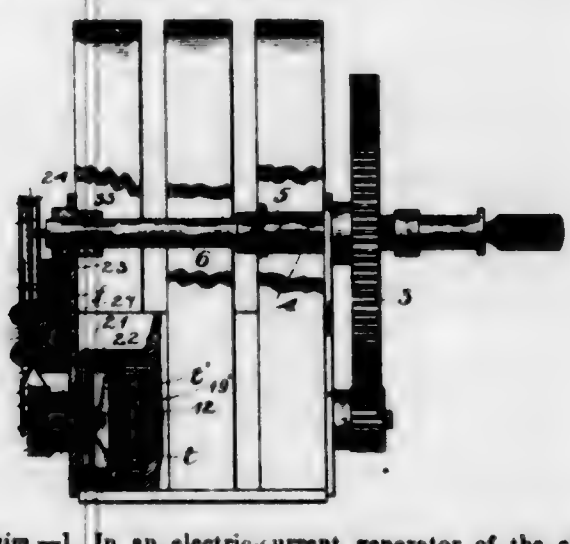


Claim.—1. A projectile provided with a band groove or score having the seat for the band constructed with numerous small holes or depressions swaged therein, and fins formed from the displaced metal surrounding the said depressions or holes.

2. The combination, of a band, with a projectile provided with a score, to receive the band, the seat for the band in said score having numerous fins swaged up from the metal of which the seat is formed.

3. The combination, of a band, with a projectile provided with a score, to receive the band, the seat for the band in said score having numerous fins swaged up from the metal of which the seat is formed, the said fins extending in the direction that the rifle-grooves tend to rotate the projectile.

805,557. **ELECTRIC-CURRENT GENERATOR.** WILLIAM KAISLING, Chicago, Ill., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed May 31, 1904. Serial No. 210,334.



Claim.—1. In an electric-current generator of the class described, the combination with an armature having a winding, of a commutator for said winding, switching mechanism connected with said commutator, a plurality of contact-terminals connected with said switching mechanism and said commutator, one pair of said terminals being the outlet of alternating current, a second pair being the outlet of direct current, a third pair being the outlet of positive intermittent current, and a fourth pair being the outlet of negative intermittent current.

2. In an electric-current generator of the class described, the combination with an armature having a winding, of a commutator for said winding, contact-springs for said commutator, switching mechanism connected with said commutator and said winding, a switching-spring for said switching mechanism, a normal contact-spring normally engaging said switching-spring to close a shunt of low resistance about said armature-winding, an alternate contact-spring to be engaged by said switching-spring upon actuation of said generator, and a plurality of contact-terminals for said commutator-springs and switching-springs, different pairs of said contact-terminals being outlets of different kinds of current from said winding.

3. In an electric-current generator of the class described, the combination with an armature having a winding, of a commutator for said winding, contact-springs for engaging the said commutator, switch mechanism connected with said commutator and winding, a switching-spring for said switch mechanism, a normal contact-spring engaged by said switching-spring when said generator is at rest to close a shunt path of low resistance about the armature-winding, an alternate contact for said switching-spring, a pinion connected with said armature, a driving-gear engaging said pinion, an actuating-shaft adapted upon actuation of said generator to move longitudinally and engage said switching-spring with said alternate contact-spring, and a plurality of contact-terminals for said switch-springs and commutator-springs, different pairs of said terminals being the outlets of different kinds of current-flow from said armature.

4. In an electric-current generator, the combination with an armature having a winding, of a commutator for said winding, a mounting-block adapted to be secured to the frame of said generator, commutator contact-springs secured to said mounting-block, a switching-spring secured to said mounting-block and connected with one terminal of said winding, a normal contact for said switching-spring, said switching-spring and normal spring serving to close a shunt-path of low resistance about said winding when said generator is at rest, an alternate contact-spring secured to said mounting-block, a plurality of contact-terminals for said springs, and automatic means upon actuation of said generator for causing said switching-spring to be moved from said normal contact to engage the alternate contact, whereby said shunt-path is broken, and whereby current is supplied to said contact-terminals, different pairs of said terminals being outlets of different kinds of current-flow from said winding.

5. In an electric-current generator of the class described, the combination with an armature having a winding, of a commutator for said winding, contact-springs for said commutator, switching mechanism, a normal contact-spring for said switching mechanism connected with one terminal of said winding, a switching-spring for said switching mechanism connected with the other terminal of said winding and normally connected with said normal contact-spring to close a path of low resistance in shunt of said winding, an alternate contact-spring for said switching mechanism, a plurality of contact-terminals for said commutator-springs and switch-mechanism springs, and automatic means upon actuation of said generator for moving said switching-spring from said normal contact-spring into engagement with said alternate spring, whereby said shunt-circuit is broken and whereby current is supplied to said contact-terminals, different pairs of said terminals being outlets of different kinds of current-flow from said winding.

6. In an electric-current generator of the class described, the combination with an armature having a winding normally shunted by a path of low resistance, of a commutator for said winding, contact-springs for said commutator, terminal contacts for said commutator-springs, a switching-spring permanently connected with one terminal of said winding, a contact-spring for said switching-spring, additional contact-terminals for said contact-spring and the other terminal of said winding, and automatic means upon actuation of said generator for breaking said shunt-path about said winding and for moving said switching-spring into engagement with said contact-spring, whereby current is supplied to said terminal contacts, different pairs of said terminal contacts being outlets of different kinds of current-flow from said winding.

7. In an electric-current generator of the class described, the combination with an armature having a winding, of a commutator for said winding, commutator-springs for said commutator, switch mechanism, a normal contact-spring for said switch mechanism permanently connected with one terminal of said armature, a switching-spring for said switch mechanism permanently connected with the other terminal of said armature and engaging said normal contact-spring to close a shunt-path of low resistance about said winding when said generator is at rest, an alternate contact-spring for said switching mechanism, and contact-terminals for said alternate spring, said commutator-springs and said normal spring, different pairs of terminal contacts being the outlets of different kinds of current-flow from said winding.

8. In an electric-current generator of the class described, the combination with an armature having a winding, of a commutator composed of two segments for said winding, a mounting-block secured to the frame of said generator, commutator contact-springs

secured to said mounting-block, switch mechanism secured to said mounting-block, a normal contact-spring for said switch mechanism permanently connected with one terminal of said winding, a switching-spring for said switch mechanism permanently connected with the other terminal of said winding and normally engaging said normal contact-spring to close a shunt-path of low resistance about said winding when said generator is at rest, an alternate contact-spring for said switch mechanism, contact-terminals for said alternate spring, said commutator-springs and said normal spring, and automatic means upon actuation of said generator for moving said switching-spring from said normal spring to open said shunt-path about said winding and to move said switching-spring into engagement with said alternate spring to raise said contact-terminals to a potential, one pair of said contact-terminals being the outlet of alternating current, a second pair being the outlet of direct current, a third pair being the outlet of positive pulsating current, and a fourth pair being the outlet of negative pulsating current.

9. In an electric-current generator of the class described, the combination with an armature having a winding, of a commutator for the winding, commutator-springs engaging said commutator, switch-springs connected with said commutator and said winding, and a plurality of contact-terminals for said switch-springs and commutator-springs, said switch-springs in their normal position serving to close a low-resistance shunt about the armature-winding, and different pairs of said contact-terminals being the outlets of different kinds of current from the winding upon actuation of said generator.

10. In an electric-current generator of the class described, the combination with an armature having a winding, of a commutator for the winding, commutator-springs engaging said commutator, switch-springs connected with said commutator and winding, said switch-springs in their normal position serving to close a low-resistance shunt about the armature-winding, and a plurality of contact-terminals for said switch-springs and commutator-springs, one pair of said terminals being the outlet for alternating current, a second pair being the outlet for direct current, a third pair being the outlet for positive intermittent current, and a fourth pair being the outlet for negative intermittent current.

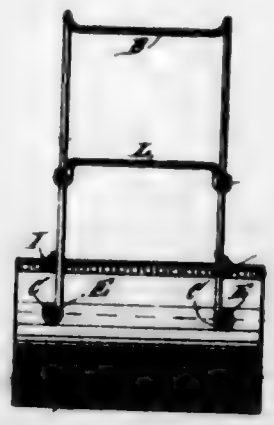
11. In an electric-current generator of the class described having a single armature, of a commutator for the winding of said armature, switching mechanism connected with said commutator and with said winding, a plurality of contact-terminals connected with said switching mechanism and with said commutator, one pair of said terminals being the outlet for alternating current, a second pair being the outlet for direct current, a third pair being the outlet for positive intermittent current, and a fourth pair being the outlet for negative intermittent current.

12. In an electric-current generator of the class described having a single armature, of a commutator for the winding of said armature, a mounting-block supported from the generator-frame, switch-springs supported on said mounting-block and connected with the armature-winding, commutator-brushes supported on said mounting-block and engaging the commutator, a contact-terminal for each switch-spring and brush, one pair of said terminals being the outlet for alternating current, a second pair being the outlet for direct current, a third pair being the outlet for positive intermittent current, and a fourth pair being the outlet for negative pulsating current, all emanating from said armature.

13. In an electric-current generator of the class described having an armature provided with a commutator for its winding, of a mounting-block supported from the generator-frame, switch-springs supported on said mounting-block and adapted for mechanical engagement with the actuating-shaft of the generator, brushes extending from said mounting-block and engaging the commutator, a contact-terminal for each switch-spring and brush, two of said switch-springs being connected with the armature-winding and normally in engagement with each other to short-circuit said winding, actuation of the generator causing opening of said short circuit and polarization of said contact-terminals, one pair of said terminals being the outlet for alternating current, a second pair being the outlet for direct current, a third pair being the outlet for positive intermittent current, and a fourth pair being the outlet for negative intermittent current, all emanating from the armature-winding.

805,558. DESK-LAMP. FRANK B. KINSMAN, Plainfield, N. J. Filed May 11, 1896. Serial No. 591,096.

Claim.—1. The combination with a frame to be fitted to a desk-top and provided with an adjustable keeper, of a shield and reflector, a pair of brackets, and bolts for securing the brackets together with the shield directly to the projecting ends of the frame, substantially as set forth.



2. The extensible frame consisting of the two rods, the clamping-sleeves connecting them, and the adjustment-screws in said sleeves, in combination with the shield and reflector, and the lamp-supporting brackets, substantially as and for the purpose set forth.

3. The combination with the supporting-frame, the shield and reflector, the perforated brackets F and G, and the lamp, of the fibrous ring in the aperture of bracket G, and the spring-clasp R, fitting about the socket of the lamp, and engaging at its ends with the periphery of the aperture in bracket F, as and for the purpose set forth.

4. The combination with a suitable support, of a combined shield and reflector, a perforated bracket for holding an incandescent lamp parallel to said reflector, each provided with a perforated ear, and means for securing said bracket, the combined shield and reflector, and the support together.

5. An electric-lamp support consisting of a substantially cylindrical concave shield having means for removably locating it where desired and provided with depending brackets supported by the shield, in combination with an incandescent lamp located in said brackets with its filament parallel to the longitudinal elements of the shield.

6. The combination with the supporting-frame adapted to be fitted to a desk-top, and extensible horizontally to and from said top, of a shield and reflector made in two parts as described to leave an opening K for ventilation, a bracket or brackets and suitable means for securing a bracket, frame and parts of the reflector together.

7 In a lamp-support and reflector for desks, the combination of an extensible frame consisting of the two rods, means for clamping them together, an adjustment-screw, a shield and reflector and a lamp-supporting bracket, as and for the purpose described.

805,559. SUPPORTER-LOOP. ISAAC B. KLEINERT, New York, N. Y., assignor to I. B. Kleinert Rubber Company, a Corporation of West Virginia. Filed May 9, 1905. Serial No. 259,617.



Claim.—1. A supporter-loop comprising a rigid back consisting of a metal plate having integral teeth intermediate of its edges, and a yielding face through which said teeth protrude and upon which they are bent downward.

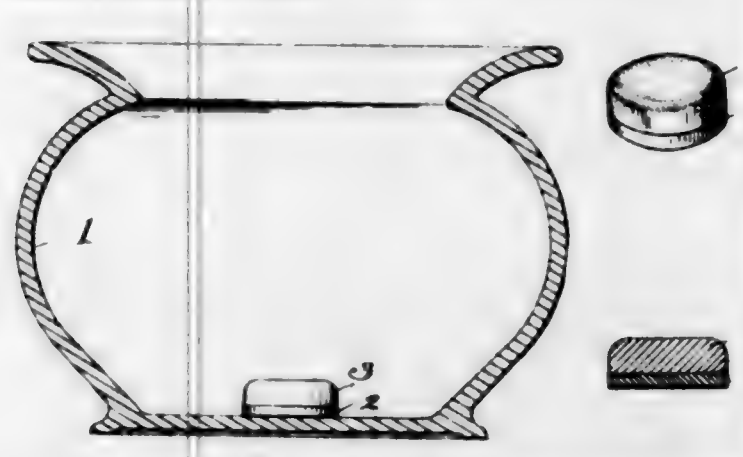
2. A supporter-loop comprising a rigid back consisting of a metal plate having integral teeth intermediate of its edges and an integral lug at its outer edge, and a yielding face through which said teeth protrude and upon which said teeth and said lug are bent downward.

3. A supporter-loop comprising a rigid back consisting of a metal plate having integral teeth intermediate of its edges, and a yielding face having a slot of less width than the slot in said back, through which face said teeth protrude and upon which they are bent downward.

805,560. GERMICIDAL CAKE. SIMON N. KOHN, Cleveland, Ohio. Filed May 1, 1905. Serial No. 258,174.

Claim.—1. A germicidal cake comprising a germicide and an adhesive insoluble in water.

2. A germicidal cake, comprising a soluble germicide and an adhesive insoluble in water.



3. A germicidal cake comprising a solid soluble germicide, and a solid adhesive insoluble in water.

4. A germicidal cake comprising a germicide and an adhesive adhering thereto, the adhesive insoluble in water and germicide being of different colors.

5. A germicidal cake comprising a solid slowly-soluble germicide, the undissolved portion being adapted to retain its form under water, and a fusible adhesive insoluble in water adhering to the germicide.

805,561. **RAZOR-HANDLE.** GEORGE W. KORN, Little Valley, N. Y. Filed Apr. 15, 1905. Serial No. 255,673.



Claim.—1. The combination, with the blade, of a handle consisting of two separable sections adapted to receive the blade between them, a pivot-pin connecting the said handle-sections and the blade at one end, a pin secured to one of the sections at the other end and provided with an enlarged head, the corresponding end of the other section being provided with an inwardly-extending keyhole-slot, and each section having its central or body portion bent outwardly to stiffen such portion, while the elastic end portions on which said keyhole-slot and its pin are located, are bent toward each other.

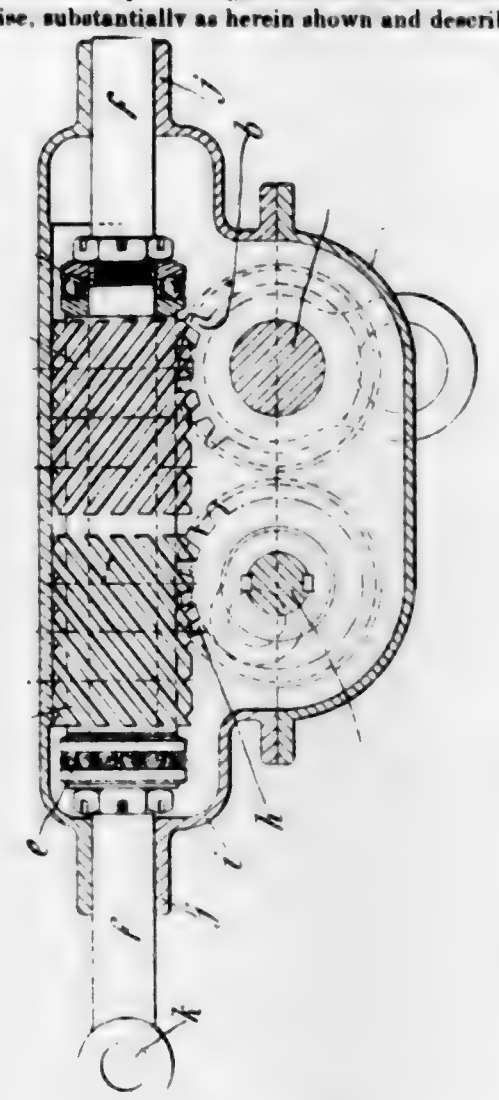
2. The combination, with the blade, of a handle consisting of two separable sections adapted to receive the blade between them, a pivot-pin connecting the blade and handle-section at one end and a pin-and-keyhole-slot connection at the other end of the handle-sections, at least one of the said sections being elastic so as to normally keep the pin-and-keyhole-slot connection against accidental separation.

3. The combination, with the blade, of a handle consisting of two separable sections adapted to receive the blade between them, a pivot-pin connecting the blade and handle-sections at one end, and a detachable locking connection at the other end of the handle-sections, at least one of the said sections being elastic so as to normally keep said locking connection against accidental separation.

4. The combination, with the blade, of a handle consisting of two separable sections adapted to receive the blade between them, a pivot-pin connecting the said handle-sections and the blade at one end, a pin secured to one of the sections at the other end and provided with an enlarged head, the corresponding end of the other section being provided with an inwardly-extending keyhole-slot, said section having its central or body portion bent outwardly to stiffen such portion, while the elastic end portions on which said keyhole-slot and its pin are located, are bent toward each other.

805,562. **VALVE-GEAR MECHANISM.** FREDERICK LANPLOUGH, Willesden, England. Filed Mar. 22, 1905. Serial No. 251,458.

Claim.—In mechanism for operating the valves of steam and gas engines and the like, the combination of a screw-toothed wheel fixed on the engine crank-shaft, a screw-toothed wheel of contrary direction to the above fixed on the shaft carrying the valve-cranks, eccentrics, a pair of right and left handed screw-toothed wheels fixed and rotating together, on a counter-shaft, one of such wheels gearing with the wheel on the engine crank-shaft and the other with the wheel on the shaft carrying the valve-cranks, eccentrics, and means for moving said conical pair of right and left handed screw-toothed wheels endwise, substantially as herein shown and described.



805,563. **MANUFACTURE OF STEEL.** HORACE W. LASH, Cleveland, Ohio, assignor to The Garrett-Cromwell Engineering Company, Cleveland, Ohio, a Corporation of Ohio. Filed Oct. 24, 1902. Serial No. 128,634.

Claim.—1. The process of manufacturing steel from iron containing silicon and phosphorus which comprises running a portion of the final charge of the crude metal into a basic-lined open hearth, blowing another portion of the final charge in an acid-lined converter until practically all the silicon has been removed and transferring the desiliconized metal to the open hearth while the total carbon of the combined charge is sufficient to allow the dephosphorization of the bath without carboniferous additions.

2. The process of manufacturing steel from iron containing silicon and phosphorus, the silicon being present in sufficient quantity to form, upon oxidation in the open hearth, a slag materially interfering with the removal of the phosphorus which comprises dividing the charge into separate portions, running one portion into a basic-lined open hearth, running another portion into an acid-lined converter and blowing the latter to the point of practical desiliconization and transferring the desiliconized metal to the open hearth, whereby the total silicon of the final charge is reduced so that the slag formed is materially lessened, thereby facilitating the removal of the phosphorus.

3. The process of manufacturing steel from iron containing substantial percentages of silicon and a metalloid incapable of practical removal by acid treatment, which comprises introducing into a basic-lined open hearth a quantity of such crude iron as a portion of the final charge, blowing another portion of the final charge in an acid-lined converter until practically desiliconized and transferring the desiliconized metal to the basic-lined open hearth containing the crude metal while the total carbon of the final charge is sufficient to admit of the removal of the said metalloid incapable of removal by acid treatment.

4. The process of manufacturing steel from crude iron containing phosphorus which comprises dividing the charge into separate portions, running one portion directly into a basic-lined open-hearth furnace, running another portion into an acid-lined converter, oxidizing the converter charge and transferring the same to the open hearth, the proportions of the separate portions being so made that the carbon contents of the final open-hearth charge will be sufficient

after oxidation by the oxygen carried into the bath by the converter charge to permit dephosphorization without the addition of carbon-bearing material.

5. The process of manufacturing steel from pig-iron which comprises dividing the charge into separate portions, running one portion directly into a basic-lined open hearth, running another portion into an acid-lined converter, oxidizing the converter charge, transferring the latter into the open hearth and dephosphorizing the resultant bath, the proportions of the initial unrefined portion of the charge and the subsequent oxidized addition being such as to afford oxidation of silicon and carbon contained in the unrefined metal by the oxygen carried by the said addition and to admit of dephosphorization without carboniferous additions.

6. The process of manufacturing steel from pig-iron which comprises dividing the charge into separate portions, running one portion into a basic-lined open hearth, running other portions successively into an acid-lined converter, oxidizing the converter charges, running said charges consecutively at intervals into the open hearth and dephosphorizing the resultant bath, the proportions of the initial unrefined portion of the charge and the subsequent oxidized additions being such as to afford a continuous oxidation of silicon and carbon contained in the unrefined metal by the oxygen carried by the said consecutive additions.

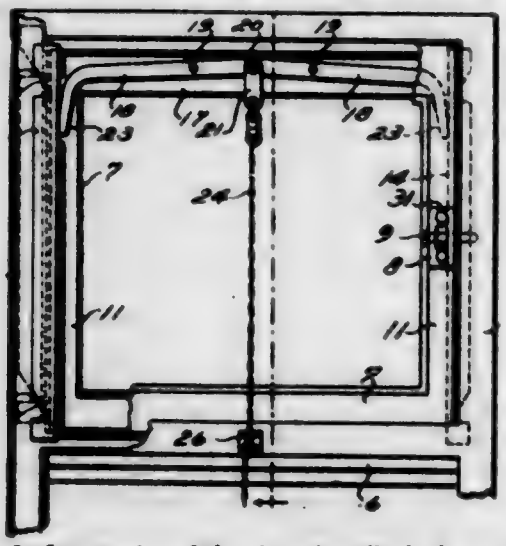
805,564. MANUFACTURE OF STEEL. HORACE W. LASH, Cleveland, Ohio. Filed Dec. 1, 1903. Serial No. 183,363.

Claim.—1. The process of manufacturing steel from pig-iron which comprises supplying a portion of unrefined iron to an acid-lined receptacle, eliminating the silicon therefrom and charging the same with iron oxid, supplying a second portion of unrefined iron to a basic-lined open-hearth furnace, pouring therein the partially-refined metal charged with iron oxid and making basic additions to the bath.

2. The process of manufacturing steel from pig-iron which comprises supplying a portion of unrefined iron to an acid-lined converter, blowing the same until the silicon is oxidized and the metal is charged with iron oxid, supplying a second portion of unrefined iron to a basic-lined open-hearth furnace, adding thereto the metal from the converter, and making basic additions to the bath

3. The process of manufacturing steel from pig-iron which comprises supplying a portion of unrefined iron to an acid-lined receptacle and oxidizing the same until charged with iron oxid, supplying a second portion to a basic-lined open-hearth furnace and adding thereto the metal charged with iron oxid, the proportions of the respective portions being such that the oxygen carried into the hearth by the first-mentioned portion will be sufficient to practically oxidize the metalloids contained in the second-mentioned portion.

805,565. WINDOW. BENJAMIN J. LESLIE, Chicago, Ill., assignor to Oscar W. Puhan, Cook county, Ill. Filed Feb. 1, 1906. Serial No. 243,706.



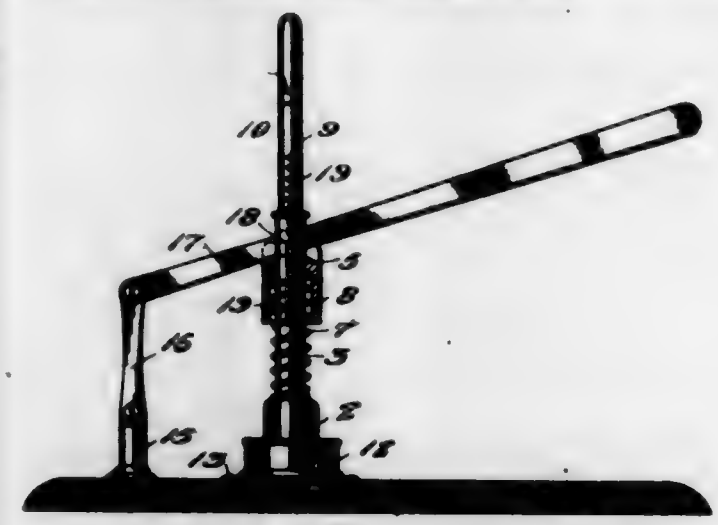
Claim.—1. In a device of the class described, the combination of a frame, a sash pivotally mounted in said frame, said sash having a longitudinal groove in one of its edges which is transverse to the pivotal axis, said frame having therein a groove registering with the groove in said sash when the sash is in its closed position, a movable tongue seated in one of said grooves and adapted when shifted lengthwise of the groove to move into and out of engagement with the other groove, said tongue being normally urged into such engagement, means for shifting the tongue into its retracted position, and a chain or the like for swinging said sash on its hinges, said chain being connected with said means and adapted to cause the retraction of said tongue when the chain is pulled for opening the sash, substantially as described.

2. In a device of the class described, the combination of a frame, a sash pivotally mounted on a horizontal axis in said frame and having hollow top and side bars, each of said side bars and the adjacent parts of said frame having longitudinal grooves in their opposed edges adapted to register when the sash is in its closed position, a movable tongue seated in each of the grooves in said frame and normally urged into engagement with the corresponding grooves in said sash, and a pair of levers fulcrumed within the hollow bars of said sash and each adapted to force one of said tongues out of engagement with the sash to permit the sash to be turned on its pivotal axis, and mechanism connecting said levers to cause their simultaneous operation, substantially as described.

3. In a device of the class described, the combination of a frame, a sash pivotally mounted on a horizontal axis in said frame and having hollow top and side bars, each of said side bars and the adjacent parts of said frame having longitudinal grooves in their opposed edges adapted to register when the sash is in its closed position, a movable tongue seated in each of the grooves in said frame and normally urged into engagement with the corresponding grooves in said sash, and a pair of levers fulcrumed within the hollow bars of said sash and each adapted to force one of said tongues out of engagement with the sash to permit the sash to be turned on its pivotal axis, the inner ends of said levers being connected together, and a chain or the like secured to said inner ends and adapted when pulled to cause said levers to release the sash, substantially as described.

4. In a device of the class described, the combination of a frame, a sash pivotally mounted on a horizontal axis in said frame and having hollow top and side bars, each of said side bars and the adjacent parts of said frame having longitudinal grooves in their opposed edges adapted to register when the sash is in its closed position, a movable tongue seated in each of the grooves in said frame and normally urged into engagement with the corresponding grooves in said sash, and a pair of levers fulcrumed within the hollow bars of said sash and each adapted to force one of said tongues out of engagement with the sash to permit the sash to be turned on its pivotal axis, said levers being normally urged out of engagement with said tongues, and a chain or the like for controlling the pivotal position of said sash, said chain being connected to each of said levers and adapted when pulled to cause said levers to release the sash from said tongues, substantially as described.

805,566. CORKING APPARATUS. GEORGE T. LIDDLE, Muskegon, Mich. Filed June 24, 1905. Serial No. 266,734.



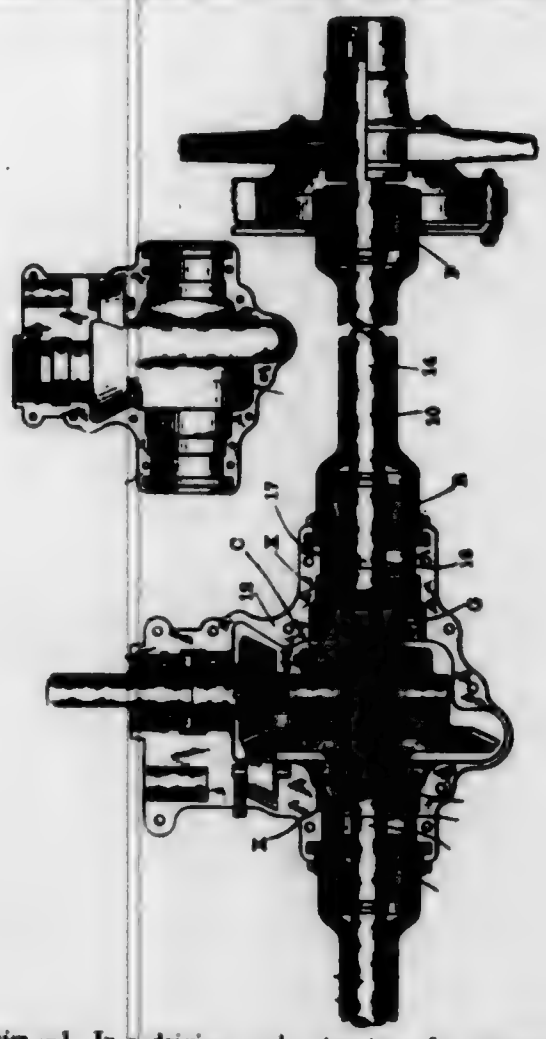
Claim.—1. A bottle-corking apparatus comprising a support having a tubular block secured thereto, a tubular guide member vertically movable in the block and having longitudinal slots arranged reversely in pairs therein and in diametrical opposite positions to each other, a spiral spring mounted on the guide member, a sleeve arranged to slide vertically on the guide member, an adjustable plunger mounted in the guide member and having vertical movement therein, a lever passing through one of the pairs of slots and pivotally secured at one of its ends, means passing through the other pair of slots and through the lever, said means also serving to contact with the upper surface of the sleeve, substantially as specified.

2. A bottle-corking apparatus comprising a support having a tubular screw-threaded block secured thereto, a tubular guide member vertically movable in the block and having longitudinal slots ar-

ranged reversely in pairs therein and in diametrical opposite positions to each other, a spiral spring mounted on the guide member, a sleeve arranged to slide vertically on the guide member, a plunger vertically movable in the guide member, an adjustable screw-threaded ring mounted on the screw-threads of the block, a lever passing through one of the pairs of slots and pivotally secured at one of its ends, means passing through the other pair of slots and through the lever, said means also serving to contact with the upper surface of the sleeve, substantially as specified.

805,567. DRIVING-AXLE STRUCTURE FOR AUTOMOBILES.

THOMAS J. LINDSAY, Indianapolis, Ind., assignor of one-half to Willard Harmon, Indianapolis, Ind. Filed Mar. 13, 1905. Serial No. 249,996.



Claim.—1. In a driving-axle structure for automobiles, the combination of a hollow-axle structure, a pair of shaft-sections mounted therein and having their adjacent ends separated, a compensating-gear structure journaled in the axle structure between the adjacent ends of the shaft-sections, and driving connections between the said shaft-sections and compensating gear permitting transverse withdrawal of the compensating gear without axial movement of the shaft-sections.

2. In a driving-axle structure for automobiles, the combination of a hollow-axle structure, a pair of shaft-sections rotatably mounted therein with their adjacent ends separated, a rotatable driving element mounted in said structure between the adjacent ends of the shaft-sections, and driving connections between said rotatable driving element and the adjacent ends of the shaft-sections permitting transverse withdrawal of the driving element without axial movement of the shaft-sections.

3. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure consisting of a pair of hollow casings, and an intermediate larger casing connecting the adjacent ends thereof and consisting of a main portion and a removable cap, a pair of shaft-sections mounted in said axle structure and having their adjacent ends separated but projecting into the intermediate casing, a compensating-gear structure arranged in said larger casing between the adjacent ends of the shaft-sections; and driving connections between said compensating-gear structure and the adjacent ends of the shaft-sections permitting transverse withdrawal of the compensating-gear structure without axial movement of the shaft-sections.

4. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure consisting of a pair of hollow-axle casings and an intermediate larger casing connecting the adjacent ends thereof and consisting of a main portion and a removable cap, a pair of shaft-sections mounted in said axle structure and having their adjacent ends separated but projecting into the intermediate casing, a compensating-gear structure independently journaled in the main portion of said larger casing, and driving connections between said compensating-gear structure and the adjacent ends of the shaft-sections permitting transverse withdrawal of the compensating-gear structure without axial movement of the shaft-sections.

5. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure, a pair of shaft-sections mounted therein and having their adjacent ends separated, a compensating-gear structure journaled in the axle structure between the adjacent ends of the shaft-sections, and a driving connection between the inner end of each shaft-section and the adjacent portion of the compensating gear consisting of a diametrical rib and corresponding slot permitting transverse withdrawal of the compensating gear without axial movement of the shaft-sections.

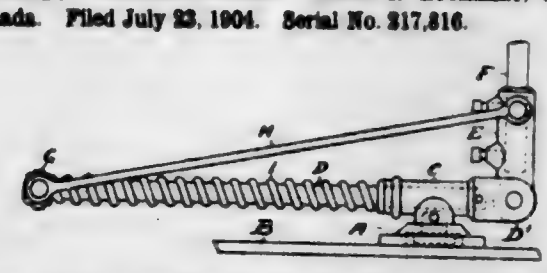
6. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure, a pair of shaft-sections rotatably mounted therein with their adjacent ends separated, a rotatable driving element mounted in said structure between the adjacent ends of the shaft-sections, and a driving connection between each end of the rotatable driving element, and the adjacent shaft-section end consisting of a diametrical rib and slot permitting transverse withdrawal of the driving element without axial movement of the shaft-sections.

7. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure consisting of a pair of hollow casings, an intermediate larger casing connecting the adjacent ends thereof and consisting of a main portion and a removable cap, a pair of shaft-sections mounted in said axle structure and having their adjacent ends separated but projecting into the intermediate casing, a compensating-gear structure arranged in said larger casing between the adjacent ends of the shaft-sections, and a driving connection between each end of said compensating-gear structure and the adjacent shaft-section end consisting of a diametrical rib and slot permitting transverse withdrawal of the compensating-gear structure without axial movement of the shaft-sections.

8. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure consisting of a pair of hollow-axle casings and an intermediate larger casing connecting the adjacent ends thereof and consisting of a main portion and a removable cap, a pair of shaft-sections mounted in said axle structure and having their adjacent ends separated but projecting into the intermediate casing, a compensating-gear structure independently journaled in the main portion of the larger casing, and a driving connection between each end of said compensating-gear structure and the adjacent shaft-section end consisting of a diametrical rib and slot permitting transverse withdrawal of the compensating-gear structure without axial movement of the shaft-sections.

805,568. TROLLEY-BASE.

HENRY R. LOCKHART, Westmount, Canada. Filed July 23, 1904. Serial No. 217,816.



Claim.—1. In a trolley-base, the combination of a trolley-pole socket, a bar, a bearing vertically pivoted in the car-roof in which the said bar is horizontally journaled, and pivotal connections between the socket and the bar at right angles to the bearing as described.

2. In a trolley-base, the combination of a trolley-pole socket, a bar, a bearing vertically pivoted in the car-roof in which the said bar is horizontally journaled, pivotal connections between the socket and the bar at right angles to the bearing, and a tension device connecting the socket and the bar as described.

3. A trolley-base comprising a socket secured to the car-roof, a horizontal bearing vertically pivoted in the socket, a tension-spring-carrying bar journaled in the horizontal bearing and a trolley-pole yoke horizontally pivoted to the bar at right angles to the vertically-pivoted bearing as described.

4. A trolley-base comprising a socket secured to the car-roof, a horizontal bearing vertically pivoted in the socket, a tension-spring-carrying bar journaled in the horizontal bearing, a trolley-pole yoke horizontally pivoted to the bar at right angles to the vertically-pivoted bearing, a cross-head sliding on said bar and linked to the trol-

after oxidation by the oxygen carried into the bath by the converter charge to permit dephosphorization without the addition of carbon-bearing material.

5. The process of manufacturing steel from pig-iron which comprises dividing the charge into separate portions, running one portion directly into a basic-lined open hearth, running another portion into an acid-lined converter, oxidizing the converter charge, transferring the latter into the open hearth and dephosphorizing the resultant bath, the proportions of the initial unrefined portion of the charge and the subsequent oxidized addition being such as to afford oxidation of silicon and carbon contained in the unrefined metal by the oxygen carried by the said addition and to admit of dephosphorization without carboniferous additions.

6. The process of manufacturing steel from pig-iron which comprises dividing the charge into separate portions, running one portion into a basic-lined open hearth, running other portions successively into an acid-lined converter, oxidizing the converter charges, running said charges consecutively at intervals into the open hearth and dephosphorizing the resultant bath, the proportions of the initial unrefined portion of the charge and the subsequent oxidized additions being such as to afford a continuous oxidation of silicon and carbon contained in the unrefined metal by the oxygen carried by the said consecutive additions.

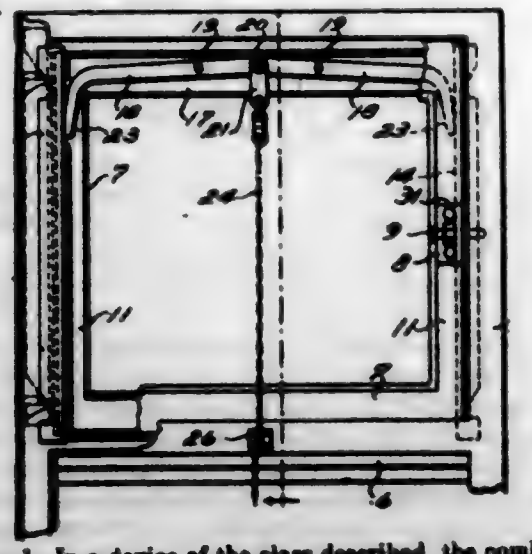
805,564. MANUFACTURE OF STEEL. HORACE W. LASH, Cleveland, Ohio. Filed Dec. 1, 1903. Serial No. 183,363.

Claim.—1. The process of manufacturing steel from pig-iron which comprises supplying a portion of unrefined iron to an acid-lined receptacle, eliminating the silicon therefrom and charging the same with iron oxid, supplying a second portion of unrefined iron to a basic-lined open-hearth furnace, pouring therein the partially-refined metal charged with iron oxid and making basic additions to the bath.

2. The process of manufacturing steel from pig-iron which comprises supplying a portion of unrefined iron to an acid-lined converter, blowing the same until the silicon is oxidized and the metal is charged with iron oxid, supplying a second portion of unrefined iron to a basic-lined open-hearth furnace, adding thereto the metal from the converter, and making basic additions to the bath

3. The process of manufacturing steel from pig-iron which comprises supplying a portion of unrefined iron to an acid-lined receptacle and oxidizing the same until charged with iron oxid, supplying a second portion to a basic-lined open-hearth furnace and adding thereto the metal charged with iron oxid, the proportions of the respective portions being such that the oxygen carried into the hearth by the first-mentioned portion will be sufficient to practically oxidize the metalloids contained in the second-mentioned portion.

805,565. WINDOW. BENJAMIN J. LESLIE, Chicago, Ill., assignor to Oscar W. Puhan, Cook county, Ill. Filed Feb. 1, 1905. Serial No. 243,704.



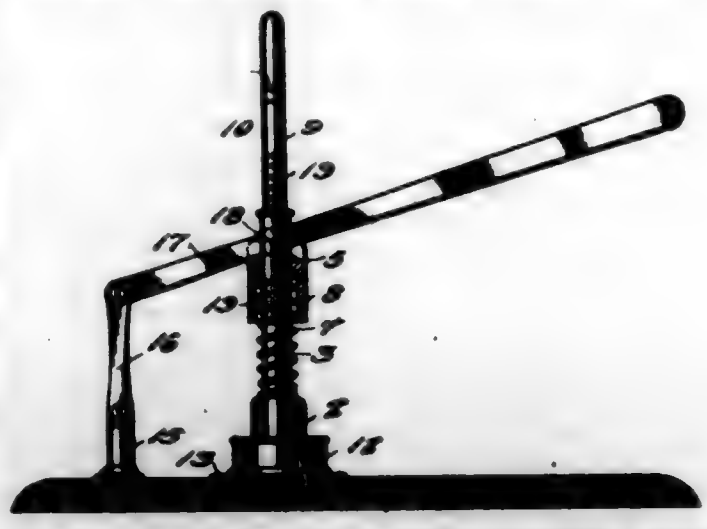
Claim.—1. In a device of the class described, the combination of a frame, a sash pivotally mounted in said frame, said sash having a longitudinal groove in one of its edges which is transverse to the pivotal axis, said frame having therein a groove registering with the groove in said sash when the sash is in its closed position, a movable tongue seated in one of said grooves and adapted when shifted lengthwise of the groove to move into and out of engagement with the other groove, said tongue being normally urged into such engagement, means for shifting the tongue into its retracted position, and a chain or the like for swinging said sash on its hinges, said chain being connected with said means and adapted to cause the retraction of said tongue when the chain is pulled for opening the sash, substantially as described.

2. In a device of the class described, the combination of a frame, a sash pivotally mounted on a horizontal axis in said frame and having hollow top and side bars, each of said side bars and the adjacent parts of said frame having longitudinal grooves in their opposed edges adapted to register when the sash is in its closed position, a movable tongue seated in each of the grooves in said frame and normally urged into engagement with the corresponding grooves in said sash, and a pair of levers fulcrumed within the hollow bars of said sash and each adapted to force one of said tongues out of engagement with the sash to permit the sash to be turned on its pivotal axis, and mechanism connecting said levers to cause their simultaneous operation, substantially as described.

3. In a device of the class described, the combination of a frame, a sash pivotally mounted on a horizontal axis in said frame and having hollow top and side bars, each of said side bars and the adjacent parts of said frame having longitudinal grooves in their opposed edges adapted to register when the sash is in its closed position, a movable tongue seated in each of the grooves in said frame and normally urged into engagement with the corresponding grooves in said sash, and a pair of levers fulcrumed within the hollow bars of said sash and each adapted to force one of said tongues out of engagement with the sash to permit the sash to be turned on its pivotal axis, the inner ends of said levers being connected together, and a chain or the like secured to said inner ends and adapted when pulled to cause said levers to release the sash, substantially as described.

4. In a device of the class described, the combination of a frame, a sash pivotally mounted on a horizontal axis in said frame and having hollow top and side bars, each of said side bars and the adjacent parts of said frame having longitudinal grooves in their opposed edges adapted to register when the sash is in its closed position, a movable tongue seated in each of the grooves in said frame and normally urged into engagement with the corresponding grooves in said sash, and a pair of levers fulcrumed within the hollow bars of said sash and each adapted to force one of said tongues out of engagement with the sash to permit the sash to be turned on its pivotal axis, said levers being normally urged out of engagement with said tongues, and a chain or the like for controlling the pivotal position of said sash, said chain being connected to each of said levers and adapted when pulled to cause said levers to release the sash from said tongues, substantially as described.

805,566. CORKING APPARATUS. GEORGE T. LIDDLE, Muskegon, Mich. Filed June 24, 1905. Serial No. 266,734.

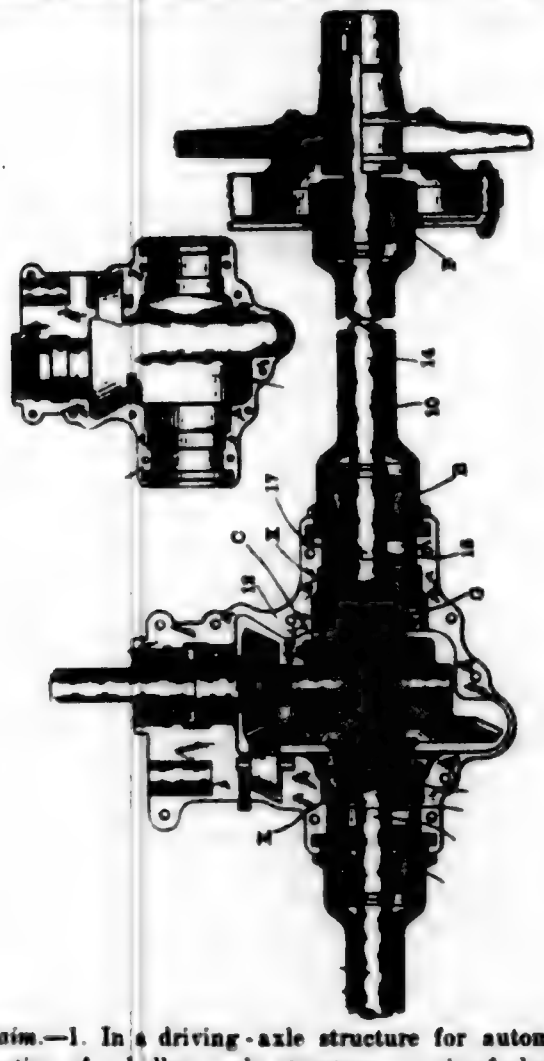


Claim.—1. A bottle-corking apparatus comprising a support having a tubular block secured thereto, a tubular guide member vertically movable in the block and having longitudinal slots arranged reversely in pairs therein and in diametrical opposite positions to each other, a spiral spring mounted on the guide member, a sleeve arranged to slide vertically on the guide member, an adjustable plunger mounted in the guide member and having vertical movement therein, a lever passing through one of the pairs of slots and pivotally secured at one of its ends, means passing through the other pair of slots and through the lever, said means also serving to contact with the upper surface of the sleeve, substantially as specified.

2. A bottle-corking apparatus comprising a support having a tubular screw-threaded block secured thereto, a tubular guide member vertically movable in the block and having longitudinal slots ar-

ranged reversely in pairs therein and in diametrical opposite positions to each other, a spiral spring mounted on the guide member, a sleeve arranged to slide vertically on the guide member, a plunger vertically movable in the guide member, an adjustable screw-threaded ring mounted on the screw-threads of the block, a lever passing through one of the pairs of slots and pivotally secured at one of its ends, means passing through the other pair of slots and through the lever, said means also serving to contact with the upper surface of the sleeve, substantially as specified.

805,567. **DRIVING-AXLE STRUCTURE FOR AUTOMOBILES.** THOMAS J. LINDSAY, Indianapolis, Ind., assignor of one-half to Willard Harmon, Indianapolis, Ind. Filed Mar. 13, 1905. Serial No. 249,926.



Claim.—1. In a driving-axle structure for automobiles, the combination of a hollow-axle structure, a pair of shaft-sections mounted therein and having their adjacent ends separated, a compensating-gear structure journaled in the axle structure between the adjacent ends of the shaft-sections, and driving connections between the said shaft-sections and compensating gear permitting transverse withdrawal of the compensating gear without axial movement of the shaft-sections.

2. In a driving-axle structure for automobiles, the combination of a hollow-axle structure, a pair of shaft-sections rotatably mounted therein with their adjacent ends separated, a rotatable driving element mounted in said structure between the adjacent ends of the shaft-sections, and driving connections between said rotatable driving element and the adjacent ends of the shaft-sections permitting transverse withdrawal of the driving element without axial movement of the shaft-sections.

3. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure consisting of a pair of hollow casings, and an intermediate larger casing connecting the adjacent ends thereof and consisting of a main portion and a removable cap, a pair of shaft-sections mounted in said axle structure and having their adjacent ends separated but projecting into the intermediate casing, a compensating-gear structure arranged in said larger casing between the adjacent ends of the shaft-sections; and driving connections between said compensating-gear structure and the adjacent ends of the shaft-sections permitting transverse withdrawal of the compensating-gear structure without axial movement of the shaft-sections.

4. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure consisting of a pair of hollow-axle casings and an intermediate larger casing connecting the adjacent ends thereof and consisting of a main portion and a removable cap, a pair of shaft-sections mounted in said axle structure and having their adjacent ends separated but projecting into the intermediate casing, a compensating-gear structure independently journaled in the main portion of said larger casing, and driving connections between said compensating-gear structure and the adjacent ends of the shaft-sections permitting transverse withdrawal of the compensating-gear structure without axial movement of the shaft-sections.

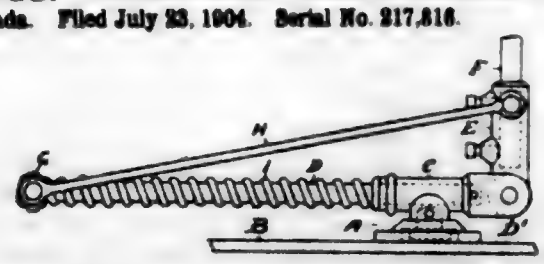
5. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure, a pair of shaft-sections mounted therein and having their adjacent ends separated, a compensating-gear structure journaled in the axle structure between the adjacent ends of the shaft-sections, and a driving connection between the inner end of each shaft-section and the adjacent portion of the compensating gear consisting of a diametrical rib and corresponding slot permitting transverse withdrawal of the compensating gear without axial movement of the shaft-sections.

6. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure, a pair of shaft-sections rotatably mounted therein with their adjacent ends separated, a rotatable driving element mounted in said structure between the adjacent ends of the shaft-sections, and a driving connection between each end of the rotatable driving element, and the adjacent shaft-section end consisting of a diametrical rib and slot permitting transverse withdrawal of the driving element without axial movement of the shaft-sections.

7. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure consisting of a pair of hollow casings, an intermediate larger casing connecting the adjacent ends thereof and consisting of a main portion and a removable cap, a pair of shaft-sections mounted in said axle structure and having their adjacent ends separated but projecting into the intermediate casing, a compensating-gear structure arranged in said larger casing between the adjacent ends of the shaft-sections, and a driving connection between each end of said compensating-gear structure and the adjacent shaft-section end consisting of a diametrical rib and slot permitting transverse withdrawal of the compensating-gear structure without axial movement of the shaft-sections.

8. In a driving-axle structure for automobiles, the combination of, a hollow-axle structure consisting of a pair of hollow-axle casings and an intermediate larger casing connecting the adjacent ends thereof and consisting of a main portion and a removable cap, a pair of shaft-sections mounted in said axle structure and having their adjacent ends separated but projecting into the intermediate casing, a compensating-gear structure independently journaled in the main portion of the larger casing, and a driving connection between each end of said compensating-gear structure and the adjacent shaft-section end consisting of a diametrical rib and slot permitting transverse withdrawal of the compensating-gear structure without axial movement of the shaft-sections.

805,568. **TROLLEY-BASE.** HENRY R. LOCKHART, Westmount, Canada. Filed July 23, 1904. Serial No. 217,816.



Claim.—1. In a trolley-base, the combination of a trolley-pole socket, a bar, a bearing vertically pivoted in the car-roof in which the said bar is horizontally journaled, and pivotal connections between the socket and the bar at right angles to the bearing as described.

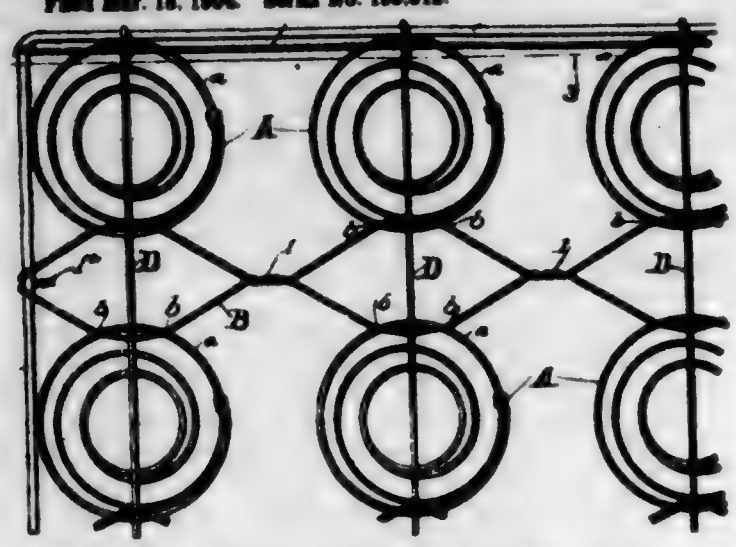
2. In a trolley-base, the combination of a trolley-pole socket, a bar, a bearing vertically pivoted in the car-roof in which the said bar is horizontally journaled, pivotal connections between the socket and the bar at right angles to the bearing, and a tension device connecting the socket and the bar as described.

3. A trolley-base comprising a socket secured to the car-roof, a horizontal bearing vertically pivoted in the socket, a tension-spring-carrying bar journaled in the horizontal bearing and a trolley-pole yoke horizontally pivoted to the bar at right angles to the vertically-pivoted bearing as described.

4. A trolley-base comprising a socket secured to the car-roof, a horizontal bearing vertically pivoted in the socket, a tension-spring-carrying bar journaled in the horizontal bearing, a trolley-pole yoke horizontally pivoted to the bar at right angles to the vertically-pivoted bearing, a cross-head sliding on said bar and linked to the trol-

ley-pole yoke, and a tension-spring surrounding said bar between the cross-head and the vertically-pivoted horizontal bearing as described.

805,569. SPRING-BOTTOM. GEORGE C. LOCKLIN, Chicago, Ill. Filed Mar. 18, 1904. Serial No. 198,812.



Claim.—A spring-bottom comprising frame-wires, a plurality of coil-springs arranged in rows inside of said frame-wires, tie-wire sections extending in one direction between the rows of springs, said tie-wire sections comprising two wires secured to each other at intervals and spread apart between such intervals to form loops of a substantially diamond shape, said wires being bent substantially into an M form transversely of their length, and at opposite sides of said loops, the central depression or bend in said wires extending inside of the top coils of the springs and the bends on each side thereof engaging said top coil, and lock-wires extending transversely of said tie-wires, said lock-wires extending across the rows of springs and passing alternately over the tie-wires and under the top coils of the springs, said lock-wires being secured at their extreme ends to the frame-wires on two sides of the structure, and said tie-wire sections being secured to the frame-wires on two other sides of the structure, substantially as described.

805,570. CURTAIN-FIXTURE. CHARLES MALDANER, Decatur, Ill., assignor to Lovington Mfg. Co., Lovington, Ill. Filed Nov. 5, 1904. Serial No. 231,519.



Claim.—1. In combination with a supporting-bracket, a curtain-pole provided at one end with a coupling member for connecting the curtain-pole with the supporting-bracket and comprising a split sleeve having a normal outwardly-springing tendency and interlocking devices on said bracket and coupling member including a projection on one and complementary receiving portion on the other.

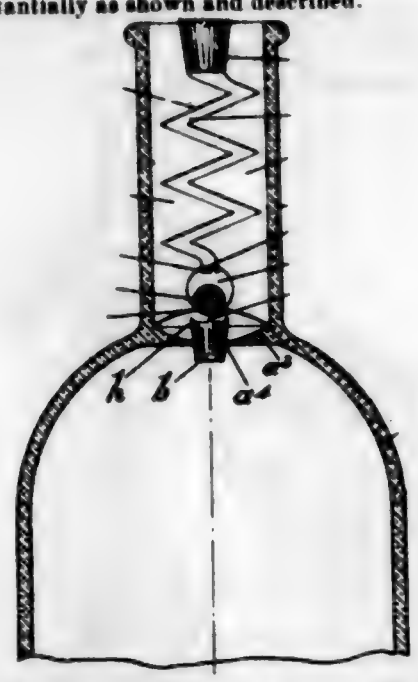
2. In combination with a supporting-bracket, a curtain-pole provided at one end with a coupling member for connecting the curtain-pole with the supporting-bracket and comprising a split sleeve of springy material and vertically-separable interlocking devices on said bracket and coupling member including a projection on one and complementary receiving portion on the other.

3. The combination with a supporting-bracket having inwardly-facing oppositely-disposed flanges connected at the bottom and opening upwardly, of a coupling member for connecting a curtain-pole with the supporting-bracket and comprising a split sleeve having a normal outwardly-springing tendency adapted to be inserted through said upward opening and between the flanges and having oppositely-disposed slots for the reception of said flanges.

4. In combination with a supporting-bracket, a coupling member comprising a split sleeve having a normal outwardly-springing tendency, one end of said sleeve adapted to engage the end of a curtain-pole and the opposite end of said sleeve and complemental instrumentalities on said coupling member and supporting-bracket adapted to interlock.

805,571. NON-REFILLABLE BOTTLE. JACOB MARTIN, New York, N. Y. Filed Mar. 15, 1905. Serial No. 250,134.

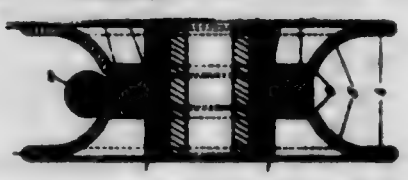
Claim.—1. A vessel provided with a neck in the bottom of which is an annular valve-seat forming a port or passage, a plug-valve mounted in and adapted to close said port or passage and movable therein so as to open said port or passage, a plug adapted to be secured in said neck and provided in its upper end with a socket and in its lower end with a chamber which opens downwardly so as to form a port or passage at the lower end of said plug, said plug being also provided with a zigzag passage forming a communication between said socket and said chamber, and a valve mounted in said chamber and adapted to close the port or passage in the bottom of said plug, substantially as shown and described.



2. A vessel provided with a neck in the bottom of which is an annular valve-seat forming a port or passage, a plug-valve mounted in and adapted to close said port or passage and movable therein so as to open said port or passage, a plug adapted to be secured in said neck and provided in its upper end with a socket and in its lower end with a chamber which opens downwardly so as to form a port or passage at the lower end of said plug, said plug being also provided with a zigzag passage forming a communication between said socket and said chamber, and a valve mounted in said chamber and adapted to close the port or passage in the bottom of said plug, the relative positions of the plug and said valve-seat being such as to limit the movement of the plug-valve, substantially as shown and described.

3. A vessel provided with a neck in the bottom of which is an annular valve-seat forming a port or passage, a cylindrical plug secured in said neck and provided with a zigzag passage extending from the bottom to the top portion thereof and terminating slightly above said annular valve-seat, a valve adapted to close the port or passage formed by said annular valve-seat, said plug being also provided in the lower end thereof with a valve-chamber with which said zigzag passage communicates and opening through the bottom of said plug so as to form a port or passage, and a valve placed in said valve-chamber, substantially as shown and described.

805,572. TROLLEY-WHEEL. ALEXANDER H. MATHESIUS, Brooklyn, N. Y. Filed May 24, 1900. Serial No. 17,863.



Claim.—1. A trolley-wheel for use with an electrical conductor, having a central bearing fitted with straight transverse contact-lines and made of harder material than the material of which the electrical conductor with which it may revolve in contact is made, shoulders which adjoin and project beyond the central bearing, but which are smaller than the largest diameter of the circular flanges of the trolley-wheel, for the purpose specified.

2. A trolley-wheel for use with an electrical conductor, having a central bearing fitted with straight transverse contact-lines and made of harder material than the material of which the electrical conductor with which it may revolve in contact is made, convex curves which adjoin and project beyond the central bearing, but which are smaller than the largest diameter of the circular flanges, for the purpose specified.

3. A trolley-wheel for use with an electrical conductor, having

a central bearing fitted with straight transverse contact-lines and made of harder material than the material of which the electrical conductor with which it may revolve in contact is made, flanges which are provided with a cavity which is composed of straight lines near their largest diameter, and concave curves joined thereto near the central bearing, for the purpose specified.

4. A trolley-wheel for use with an electrical conductor, having a central bearing fitted with straight transverse contact-lines, flanges which are fitted with convex curves near the central bearing, and concave curves joined thereto, for the purpose specified.

5. A trolley-wheel for use with an electrical conductor having a central bearing fitted with straight transverse contact-lines, flanges which are fitted with convex curves near the central bearing, concave curves joined thereto, and straight lines near their largest diameter, for the purpose specified.

805,573. HARNESS-LOOP. CHARLES A. MISSENDEN, Adams Center, N. Y. Filed Aug. 22, 1904. Serial No. 221,769.



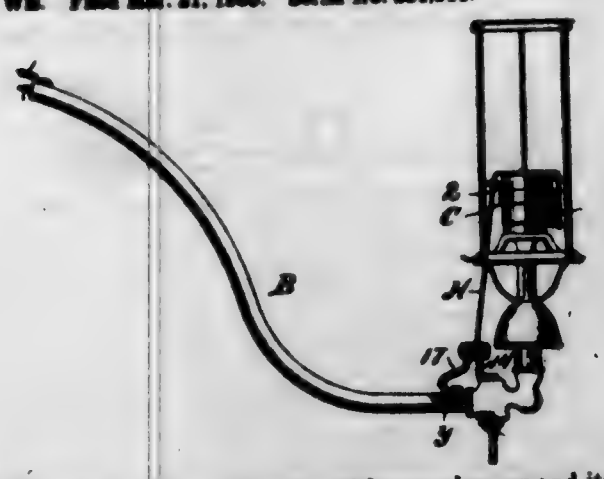
Claim.—1. In combination with a buckle, a metal plate folded around the pintle of the buckle and upon itself and having its ends brought together, said plate having a laterally-projecting wing which is folded transversely into the form of a loop and has its free end brought flatwise against one of the ends of the plate, and a leather strap folded around the loop of the metal plate and having its ends riveted to said plate.

2. In combination with a buckle, a metal plate folded around the pintle of the buckle and having its ends brought flatwise together, one of said ends having a lateral extension which is folded transversely to form a rectangular box or loop open at both ends, the end of said lateral extension bearing against said plate and a leather strap folded upon the metal plate and having its opposite ends secured to the ends of the plate by rivets passing through the strap the metal plate and the end of said extension.

3. A leather strap having one end folded backwardly upon the main body to form a loop, in combination with a metal plate having one end folded backwardly upon itself and also forming a loop, said metal plate being inserted between the folded parts of the leather strap, one of the ends of the metal plate having a lateral extension folded transversely and inclosing one of the parts of the strap and having its free extremity interposed between the opposite parts of the strap, said strap, said plate and the lateral extension of the plate being held in position by rivets passing through these parts.

4. In combination with a buckle, a metal plate folded around the pintle of the buckle and having its ends brought flatwise together; each of said ends having a lateral extension which is folded transversely to form a rectangular box or loop, and a leather strap folded upon the metal plate and riveted thereto.

805,574. ELECTRIC GAS-LIGHTER. JOSEPH MLADA, Manitowoc, Wis. Filed Mar. 21, 1905. Serial No. 251,311.



Claim.—1. The combination with a gas-burner and its controlling-cock, of an electric igniter, comprising a sparking electrode connected to said cock and having an arm movable across the gas-outlet from the burner, and a sparking electrode supported on the burner and having an arm also movable across the said gas-outlet, and means for yieldingly holding said arm above said outlet in the path of movement of the first-named arm, substantially as described.

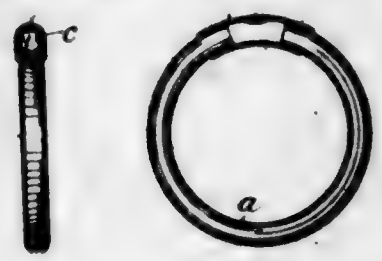
2. In an electric igniter for gas-burners, a sparking electrode, and means for yieldingly holding it either within or without the flame area of the burner, substantially as set forth.

3. In an electric igniter for gas-burners, a sparking electrode supported to have turning movement on the burner, and a spring for yieldingly holding said electrode within or without the flame area of the burner, as set forth.

4. In an electric igniter for gas-burners, a sparking electrode supported to have a turning movement on the burner and having flattened portions at an angle to each other, and a spring also supported by the burner to engage the said flattened portions and yieldingly hold the electrode in different positions, substantially as described.

5. The combination with a gas-burner, of a bracket supported thereon, a sparking electrode supported by said bracket to turn therein, said electrode having flattened sides at an angle to each other, and a flat spring connected at one end to said bracket with its free end in position to engage either of said flattened sides, substantially as set forth.

805,575. BOOK-RING WITH LOCKING-SLEEVE. LUCENA M. MORDEN, Waterbury, Conn. Filed May 5, 1904. Serial No. 206,401.



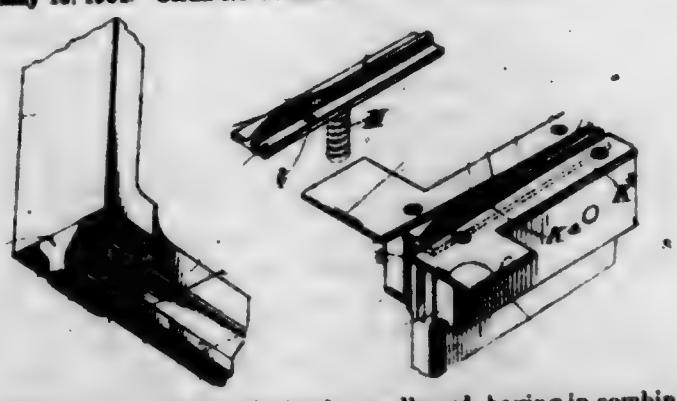
Claim.—1. A ring having an opening in one side, a sleeve fitted to slide upon the body of the ring to cover the opening, and a spring-tongue attached to the sleeve and having a projection to engage the opening to hold the sleeve over the same.

2. A ring having an opening in one side, a sheet-metal sleeve fitted to slide upon the body of the ring, and an integral leaf-spring punched from the metal of the sleeve and formed with a projection to engage the opening to hold the sleeve over the same.

3. A ring having an opening in one side, a sheet-metal sleeve fitted to slide upon the body of the ring, a longitudinal slot in the sleeve with integral leaf-spring attached to the opposite ends of the slot, and such leaf-spring having a projection to engage the opening to hold the sleeve over the same.

4. A ring having an opening in one side, a sheet-metal sleeve fitted to slide upon the body of the ring, a longitudinal slot in the sleeve with integral leaf-spring attached to the opposite ends of the slot, and such leaf-spring bent at the middle to form the projection *e*, and corrugated transversely to increase its flexibility.

805,576. CREASING-MACHINE. JOHN HAHL, Philadelphia, Pa., assignor to himself and Edward L. Bailey, Philadelphia, Pa. Filed May 18, 1904. Serial No. 208,583.



Claim.—1. A scoring device for cardboard, having in combination with means for feeding sheets of cardboard between fixed dies, a die over and through which the cardboard is passed, said die having an aperture with walls approaching each other in the direction of travel of the cardboard, and a coacting die having a tongue extending into the aperture of the first die and about which tongue the cardboard is progressively folded by the action of the converging walls of the first die.

2. A scoring device for cardboard having in combination with means for feeding sheets of cardboard between dies a die having a V-shaped aperture and an elastically-supported central rib lying within said aperture, and a coacting die having a tongue extending into said aperture between which and the rib aforesaid the cardboard

is fed and about which the cardboard is progressively folded by the converging walls of the first die.

3. A scoring device for cardboard having in combination with means for feeding sheets of cardboard between dies a die provided with a V-shaped aperture and a centrally-disposed rib, and a coacting die having a tongue extending into the aperture of the first die said tongue, in the part lying in the wider part of the aperture, having two projecting ribs adapted to press the board over the edges of the rib of the first die and said tongue having also in its part lying within the narrow part of the aperture a single centrally-disposed rib over which the board is folded by the walls of the aperture.

4. A scoring device for cardboard having in combination with means for feeding sheets of cardboard between dies a die provided with a V-shaped aperture and a centrally-disposed elastically-supported rib, and a coacting die having a tongue extending into the aperture of the first die said tongue in the part lying in the wider part of the aperture having two projecting ribs adapted to press the board over the edges of the rib of the first die and said tongue having also, in its part lying within the narrow part of the aperture, a single centrally-disposed rib over which the board is folded by the walls of the aperture.

5. A scoring device for cardboard having in combination with means for feeding sheets of cardboard between dies a die provided with a V-shaped aperture and a centrally-disposed elastically-supported rib having a curved and elevated rear portion L^3, and a coacting die having a tongue extending into the aperture of the first die, said tongue in the part lying in the wider part of the aperture having two projecting ribs adapted to press the board over the edges of the rib of the first die and said tongue having also in its part lying within the narrow part of the aperture, a single centrally-disposed rib over which the board is folded by the walls of the aperture.

805,577. TREATMENT OF ORES AND THE LIKE. JAMES NICHOLAS, Waterloo, England. Filed May 27, 1905. Serial No. 262,556.

Claim.—1. The treatment of materials containing zinc, by mixing the pulverized materials with water, and with a chlorid, and then heating the mixture with the exclusion of air.

2. The treatment of materials containing zinc, by mixing the pulverized materials with water, and with a chlorid, and then heating the mixture with the exclusion of air, leaching this so-treated mixture with water, and treating the solution obtained to recover zinc.

3. The treatment of materials containing zinc, by mixing the pulverized materials with water, and with a chlorid, and then heating the mixture, leaching this so-treated mixture with water, and reducing the metallic compounds contained in the leached residue to a metallic state.

4. The treatment of materials containing zinc, lead and precious metal, by mixing the pulverized materials with water, and with a chlorid, and then heating the mixture, leaching this so-treated mixture with water, reducing the metallic compounds contained in the leached residue to a metallic state, heating the lead and precious metal with aluminium, and separating the alloy of precious metal with aluminium from the lead.

5. The treatment of materials containing zinc, lead and precious metal, by mixing the pulverized materials with water, and with a chlorid, and then heating the mixture, leaching this so-treated mixture with water, reducing the metallic compounds contained in the leached residue to a metallic state, agitating the molten lead and precious metal with aluminium, cooling, then separating the alloy of precious metal with aluminium from the lead.

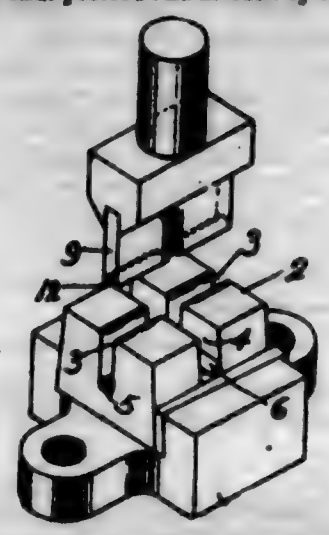
805,578. DIE FOR FORMING LACING-TIPS. ARTHUR T. PARKER, North Attleboro, Mass. Filed Mar. 24, 1905. Serial No. 251,785.

Claim.—1. A punch or die for forming lacing-tips, comprising a die that is provided with a slot in which the tips may be molded, a punch arranged to enter said slot to compress and mold the said tip therein into the desired form and means in said punch and die for cutting the tip in two.

2. A punch and die for forming lacing-tips, comprising a die that is provided with a slot in which the said tips may be molded, a punch arranged to enter said slot, cut the tip in two, compress the same and press and mold the severed ends.

3. In a punch or die for forming lacing-tips, said die being provided with a slot in which the lower portion of the tips may be molded, a punch arranged to enter said slot to compress and mold the said tip therein into the desired form, means in said punch and die for cutting the tip in two, and means in said punch and die for severing the tip and pressing and molding the severed ends of the same.

4. In a punch or die for forming lacing-tips, said die being provided with a slot in which the lower portion of the tips may be molded, a punch arranged to enter said slot to compress and mold the said tip therein into the desired form, and means whereby the tip is severed and its severed ends pressed and molded by said punch and die.



5. A punch and die for forming lacing-tips, comprising a die that is provided with a slot in which the said tips may be molded, a bifurcated punch arranged to enter said slot, cut the tip in two, compress the same and press and mold the severed ends.

6. In a punch and die for forming lacing-tips, said die being provided with a slotted portion, the stock at the bottom of said slot being shaped to form the lower half of the tip, said punch-blade arranged to enter the slot in said die the lower edge of said punch-blade being grooved to form the upper half of the tip.

7. In a punch and die for forming lacing-tips, said die being provided with a slotted portion the stock at the bottom of said slot being shaped to form the lower half of this tip said punch-blade arranged to enter the slot in said die, the lower edges of said punch-blade being grooved to form the upper half of the tip, and means for cutting the tip in two.

8. In a punch or die for forming lacing-tips, said die being provided with a slotted portion, the stock at the bottom of said slot being shaped to form the lower half of this tip, said punch-blade arranged to enter the slot in said die, the lower edges of said punch-blade being grooved to form the upper half of the tip, and means whereby the tip is severed by the downward stroke of the punch.

9. In a punch or die for forming lacing-tips, said die being provided with a slotted portion, the stock at the bottom of said slot being shaped to form the lower half of this tip, said punch-blade arranged to enter the slot in said die, the lower edges of said punch-blade being grooved to form the upper half of the tip, and means whereby the tip is severed and its severed ends pressed and molded by said punch and die.

10. A punch and die for forming lacing-tips comprising the die that is provided with a slot in which the said tips may be molded, a bridge or bar in said slot, a bifurcated punch arranged to enter said slot, straddle said bridge and cooperate therewith to cut the tip in two, compress the same and press and mold the severed ends.

805,579. ATTACHMENT FOR FLEXIBLE-SHAFT CASINGS. ALVAH U. PATCHEN, Syracuse, N. Y. Filed Jan. 14, 1905. Serial No. 241,162.



Claim.—1. In combination with a flexible-shaft casing and coupling-section secured thereto, a collar secured to the coupling-section, spring-arms attached to the collar and extending along the casing, and rings attached to the arms and embracing the casing.

2. In combination with a flexible-shaft casing, and a coupling-section secured thereto, a collar attached to the coupling-section, spring-arms secured to and converging from the collar and extending along one side of the casing and a ring on each of the spring-arms and embracing the casing.

3. In combination with a flexible-shaft casing, and a coupling-section secured thereto, a collar attached to the coupling-section, a spring-arm secured to the collar and extending along one side of the casing, a ring on said spring-arm and embracing the casing, and a second ring loosely connected to the spring-arm and embracing the casing between the first-named ring and collar.

4. In combination with a flexible-shaft casing and a coupling

section secured thereto, a collar attached to the coupling-section, a spring-arm secured at one end to the collar, and two rings mounted on the spring-arm at different distances from the collar and encircling the shaft-casing.

5. In combination with a flexible-shaft casing and a coupling-section secured thereto, a collar attached to the coupling-section, a ring encircling the casing and a spring-arm having one end connected to the ring and its other end secured to the collar, said spring-arm being provided with a coil or loop between the collar and ring to relieve the strain on the spring at its junction with the collar.

6. An attachment for flexible-shaft casings comprising two spring-arms of unequal lengths and means for clamping them at one end to the casing, and separate devices on their opposite ends embracing the casing.

7. An attachment for flexible-shaft casings comprising a collar and two spring-arms projecting therefrom, and separate devices one on each spring embracing the casing.

8. An attachment for flexible-shaft casings comprising two spring-arms, means rigidly connecting said arms, additional means rigidly secured to one spring-arm and loosely connected to the other spring-arm, and a ring on one of the spring-arms embracing the casing.

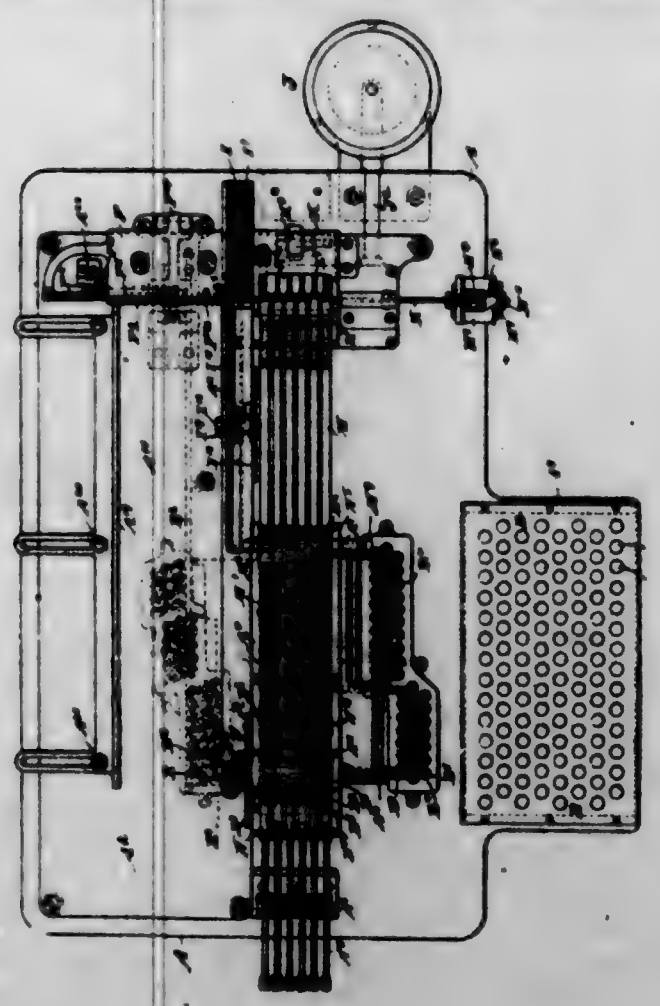
9. In combination with a flexible case and a fixed collar, separate rings encircling the flexible casing and separate spring-arms secured to the collar, each spring-arm having one end secured to one of the rings.

10. In combination with a flexible-shaft case and a collar, a spring-arm having one end secured to the collar and its other end extending along the flexible case, a ring or collar encircling the case, a second spring secured to the collar and of less length than the first-named spring, a ring on the second spring having loose connection with the flexible casing, and also with the first-named spring.

11. An attachment for flexible-shaft casings comprising a collar, spring-arms of unequal length attached at one end to the collar, a ring attached to the other end of the longer spring, and a second ring attached to the shorter spring and having an aperture through which the longer spring is inserted.

12. An attachment for flexible-shaft casings comprising two spring-arms fixed at one end, a ring fixed to one spring-arm and loosely connected to the other spring-arm.

805,580. **TYPE CASTING AND SETTING MACHINE.** JOHN R. PEARSON and GUSTAVE A. PEARSON, New York, N. Y., assignors, by mesne assignments, to The Pearson Type-Bar Company, New York, N. Y., a Corporation of Maine. Filed Aug. 20, 1904. Serial No. 222,521.



Claim.—1. In a type-casting machine, a type-body mold, a matrix-bar having a series of matrices arranged in a row on the face thereof, a vertically-movable centering device, and means for moving said bar longitudinally to present either matrix to said body-mold and means for moving said matrix-bar and centering device vertically to release the type.

2. In a type-casting machine, a type-body mold, a matrix-bar having a plurality of faces, a series of matrices on each face, means for moving said bar longitudinally to present either matrix of a series to said body-mold, and means for revolving said bar to present either series in operative relation to said mold.

3. In a type-casting machine, a plurality of type-body molds adapted to produce bodies of different thickness, and a plurality of matrix-bars each carrying a series of type-face matrices arranged in a single row and adapted to serve with one of said molds, a vertically-movable centering device, means for moving said bars longitudinally to present said matrices to said molds and means for moving said matrix-bar and centering device vertically to release the type.

4. In a type-casting machine, a plurality of type-body molds adapted to produce bodies of different thickness, a plurality of matrix-bars each having a plurality of faces, a series of type-face matrices arranged in a row on each of said faces, means for revolving said bars to present either series in operative relation to said molds, and means for moving said bars longitudinally to present either matrix of such series to its body-mold.

5. In a type-casting machine, a plurality of type-body molds adapted to produce bodies of different thickness, a plurality of matrix-bars each adapted to serve with one of said molds, a plurality of faces on each bar, each face containing a series of matrices for different fonts of type, means for revolving said bars simultaneously to present the same font series on all the bars in operative relation to said molds, and means for moving said bars to present either matrix of such series to its mold.

6. In a type-casting machine, a type-body mold a vertically-movable centering device, a matrix-bar having a series of matrices arranged in a row on its face, means for moving said matrix-bar longitudinally to present either matrix in operative relation to said mold means for moving said matrix-bar and the centering device vertically to release the type, and means for arresting said bar when the desired matrix is thus presented.

7. In a type-casting machine, a type-body mold, a matrix-bar having a series of matrices arranged in a row on its face, a sliding bar connected to said matrix-bar, and means for moving said sliding bar longitudinally, a series of stop-bars located along the path of said sliding bar, and means for moving said stop-bars into said path and into engagement with said sliding bar and arresting the movement of said sliding bar and matrix-bar.

8. In a type-casting machine, a type-body mold, a matrix-bar having a series of matrices arranged in a row on its face, a sliding bar connected to said matrix-bar and means for moving said sliding bar longitudinally, a series of stop-bars located along the path of said sliding bar, a series of magnets for moving said stop-bars into said path and into engagement with said sliding bar and arresting said sliding bar and matrix-bar, and keys for completing electric circuits and energizing such magnets.

9. In a type-casting machine, a plurality of type-body molds of different thickness, a matrix-bar above each of said molds, carrying matrices for types of corresponding thickness arranged in a row on its face, means for moving said matrix-bars longitudinally, a vertically-movable centering device, means for moving the matrix-bar and the centering device vertically to release the type, and a series of stop-bars for each matrix-bar arranged to arrest such longitudinal movement and present a desired matrix in operative relation to its mold.

10. In a type-casting machine, a plurality of type-body molds, a series of matrix-bars located one above each of said molds, and means for moving said matrix-bars longitudinally a vertically-movable centering device, means for moving the matrix-bar and the centering device vertically to release the type, a series of stop-bars for each matrix-bar, arranged to arrest such longitudinal movement and present the desired matrix in operative relation to its mold.

11. In a type-casting machine, a plurality of type-body molds, a guide above each of said molds, a matrix-bar in each of said guides, a sliding bar connected to each matrix-bar the connection constructed to permit the matrix-bar to revolve, means for moving said sliding bars longitudinally and means for lowering and raising said matrix-bars into and out of operative relation with said molds.

12. In a type-casting machine, a plurality of type-body molds, a plurality of matrix-bars, each received in a sleeve and free to slide

therein and revolve therewith, a pivotal bearing for said sleeve, a pinion on each of said sleeves, a rack engaging said pinions, whereby said matrix-bars are revolved simultaneously, and means for moving said matrix-bars longitudinally in said sleeves.

13. In a type-casting machine, a plurality of body-molds a guide-block common to all of said molds and forming one face thereof, a plurality of matrix-bars, arranged one above each of said molds and guided in said guide-blocks, a plurality of mold-plates forming the opposite faces of said molds, and mold-blocks arranged to slide between said plates and form the sides of said molds.

14. In a type-casting machine, a plurality of body-molds a guide-block common to all of said molds and forming one face thereof, a plurality of matrix-bars arranged one above each of said molds and guided in said guide-block, a plurality of mold-plates forming the opposite faces of said molds, mold-blocks arranged to slide between said plates and form the sides of said molds, and a cut-off bar arranged to slide beneath said molds and form the bottoms thereof.

15. In a type-casting machine, a plurality of body-molds a cut-off bar common to all of said molds and forming the bottoms thereof, and having an aperture for each of said molds, and a plurality of injectors, one for each mold, arranged to match to said apertures and supply melted metal therethrough to said molds.

16. In a type-casting machine, a plurality of body-molds a plurality of matrix-bars arranged one above each of said molds, means for lowering said bars into operative relation with said molds and holding them in such relation, a plurality of injectors arranged to supply melted metal to the bottoms of said molds, and connections between said injectors and holding means for inducing simultaneous action.

17. In a type-casting machine, a plurality of body-molds a guide-block common to all of said molds and forming one face thereof, a plurality of matrix-bars arranged one above each of said molds and guided in said guide-block, a plurality of mold-plates forming the opposite faces of said molds, mold-blocks arranged to slide between said plates and form the sides of said molds, a mold-slide to which said mold-blocks are attached, and means for moving said mold-slide, whereby said mold-blocks are retracted to lie flush with the edges of said plates and form an unobstructed channel for the delivery of a type therein.

18. In a type-casting machine, a plurality of body-molds, arranged side by side and adapted when open to present a straight unobstructed channel through all of the molds, means for maintaining the type vertically in said channel and preventing its falling sidewise, and an ejector-slide arranged to serve with all of said molds and to traverse said channel and eject a type cast therein.

19. In a type casting and setting machine, a plurality of body-molds arranged side by side and adapted when open to present a straight unobstructed channel therethrough, a magazine having a word-chamber adapted to form a continuation of said channel when presented thereto, and an ejector-slide arranged to traverse said channel and transfer a type therein to said chamber.

20. In a type casting and setting machine, a plurality of body-molds arranged side by side and adapted when open to present a straight unobstructed channel therethrough, a magazine having a plurality of word-chambers each adapted to form a continuation of said channel when presented thereto, means for moving said magazine to present successive word-chambers, and means for transferring a type in said channel to one of said chambers.

21. In a type casting and setting machine, a plurality of body-molds arranged side by side and adapted when open to present a straight unobstructed channel therethrough, a galley having a passage adapted to receive a line of type, a magazine between said molds and galley and having a plurality of word-chambers each adapted to form an open connection between said channel and passage, and means for transferring types from said channel and word-chamber to said passage.

22. In a type casting and setting machine, a plurality of molds, and means for casting types therein, a galley a magazine between said molds and galley and having a plurality of word-chambers, a follower and fence on said galley forming between them a passage for receiving a line of type, and means for transferring types from said molds to said passage.

23. In a type casting and setting machine, a plurality of molds and means for casting types therein, a galley, a follower and fence thereon forming between them a passage for receiving a line of type, means for transferring types from said molds to said passage, means for depressing said fence, moving said follower and line forward, and again elevating said fence and retracting said follower to condition said passage to receive a succeeding line.

24. In a type casting and setting machine, a plurality of molds and means for casting type therein, a galley, a follower and fence thereon forming between them a passage for receiving types from said molds, means for transferring types from said molds to said passage to form a line, and means actuated by the completion of said line for automatically depressing said fence and moving forward said follower and line, and again conditioning said passage for the reception of a succeeding line.

25. In a type casting and setting machine, a plurality of molds and means for casting types therein, a galley, a follower and fence thereon forming between them a passage for receiving types from said molds, a spring-actuated filling-piece adapted to slide in said passage, means for transferring types from said molds to said passage to form a line in opposition to said filling-piece, and means actuated by the movement of said filling-piece for automatically depressing said fence and moving said follower and line forward, and again conditioning said passage for the reception of a succeeding line.

26. In a type casting and setting machine, a plurality of molds, a magazine having a series of word-chambers each adapted to receive types from said molds, means for moving said magazine to present successive chambers to receive successive words, and means operated by said magazine for registering the number of words received

27. In a type casting and setting machine, a plurality of molds, a magazine having a series of word-chambers each adapted to receive types from said molds, means for moving said magazine to present successive chambers to receive successive words, a rack on said magazine, a pinion meshing with said rack, a dial operated by said pinion, and an index for said dial, whereby the number of words received in said chambers is indicated by said dial and index.

28. In a type casting and setting machine, a plurality of molds each adapted to produce a body of different thickness, a plurality of matrix-bars for such molds, each adapted to produce type-faces of corresponding thickness, means actuated by the movements of said matrix-bars for cumulatively registering the thickness of the types cast, whereby the space occupied in a line of successive words cast in said molds is shown and the space required to justify such line is indicated.

29. In a type casting and setting machine, a plurality of molds each adapted to produce a body of different thickness, a plurality of matrix-bars for such molds each adapted to produce type-faces of corresponding thickness, a magazine having a series of word-chambers each adapted to receive types from said molds forming a word, means for moving said magazine to present successive chambers to receive successive words, means actuated by said magazine for registering the number of words thus received, and means actuated by the movements of said matrix-bars for cumulatively registering the thickness of the type cast, whereby the number of words and the space occupied thereby in a line is shown, and the number and thickness of the spaces required to justify such line are indicated.

30. In a type casting and setting machine, a plurality of molds each adapted to produce a body of different thickness, a plurality of matrix-bars for such molds each adapted to produce type-faces of corresponding thickness, a magazine having a series of word-chambers each adapted to receive types from said molds forming a word, means for moving said magazine to present successive chambers to receive successive words, means actuated by said magazine for registering the number of words thus received, a galley, means for transferring words from said magazine to form a line in said galley, a follower adapted to move said line forward, and means for operating said follower, means actuated by the movements of said matrix-bars for cumulatively registering the thickness of the types cast, whereby the number of words and the space occupied thereby in the line is shown, and the number and thickness of the spaces required to justify such line are indicated, and means actuated by said follower for automatically conditioning said type-thickness register for similarly indicating the succeeding line.

31. In a type-casting machine, a matrix-bar having a plurality of faces formed to produce type-faces of a different font, said bar being rotatably mounted to bring different faces into operative position and means for reciprocating said matrix-bar.

32. In a type-casting machine, a rotatably-mounted matrix-bar having a plurality of faces formed to produce type-faces of a different font, and means for oscillating said rotatably-mounted matrix-bar.

33. In a type-casting machine, a rotatably-mounted matrix-bar having a plurality of faces formed to produce type-faces of a different font, and means for moving said matrix-bar longitudinally irrespective of its rotation.

34. In a type-casting machine, a rotatably-mounted matrix-bar having a plurality of faces formed to produce type-faces of a different

font, means for rotating said bar and means for moving said bar longitudinally irrespective of its other movements.

35. In a type-casting machine, a plurality of rotatably-mounted matrix-bars each having a plurality of faces formed to produce type-faces of a different font, and means for rotating all of said matrix-bars simultaneously.

36. In a type-casting machine, a plurality of rotatably-mounted matrix-bars each having a plurality of faces formed to produce type-faces of a different font, and means for rotating all of said matrix-bars simultaneously, and means for reciprocating each bar independently of its other movement.

805,581. **PROCESS OF PRODUCING FILLING MATERIAL.** JOHN D. PENNOCK, Syracuse, N. Y., assignor to The Solvay Process Company, a Corporation of New York. Filed June 8, 1904. Serial No. 211,639.

Claim.—1. The process of producing a filling material, which consists in passing carbonic acid and dry ammonia simultaneously into a concentrated solution of calcium chlorid, maintaining at a suitable temperature the solution and continuing the action of the carbonic-acid gas and the ammonia gas until all the calcium of the calcium chlorid is precipitated as calcium carbonate.

2. The process of producing a filling material, which consists in passing carbonic acid and dry ammonia simultaneously into a concentrated solution of calcium chlorid, maintaining at a suitable temperature the solution, continuing the action of the carbonic-acid gas and the ammonia gas until all the calcium of the calcium chlorid is precipitated as calcium carbonate, and filtering and washing the precipitated calcium carbonate.

3. The process of producing a filling material, which consists in passing carbonic acid and dry ammonia simultaneously into a concentrated solution of calcium chlorid, maintaining at a suitable temperature the solution, continuing the action of the carbonic-acid gas and the ammonia gas until all the calcium of the calcium chlorid is precipitated as calcium carbonate, and filtering, washing and drying the precipitated calcium carbonate.

4. The process of producing a filling material, which consists in passing carbonic acid and dry ammonia simultaneously into a concentrated solution of calcium chlorid, maintaining at a suitable temperature the solution, continuing the action of the carbonic-acid gas and the ammonia gas until all the calcium of the calcium chlorid is precipitated as calcium carbonate, and filtering, washing and drying the precipitated calcium carbonate with the air heated to a suitable temperature.

5. The process of producing a filling material, which consists in passing carbonic acid and dry ammonia simultaneously into a concentrated solution of calcium chlorid, maintaining at a suitable temperature the solution, continuing the action of the carbonic-acid gas and the ammonia gas until all the calcium of the calcium chlorid is precipitated as calcium carbonate, settling at suitable temperature and decanting the ammonium-chlorid solution to a crystallizing-reservoir.

6. The process of producing a filling material, which consists in passing carbonic acid and dry ammonia simultaneously into a concentrated solution of calcium chlorid, maintaining at a suitable temperature the solution, continuing the action of carbonic-acid gas and the ammonia gas until all the calcium of the calcium chlorid is precipitated as calcium carbonate, settling at a suitable temperature and decanting the ammonium-chlorid solution to a crystallizing-reservoir, and filtering and washing the precipitated calcium carbonate.

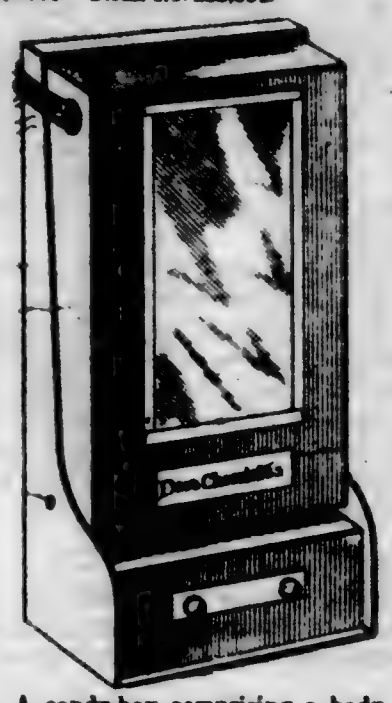
7. The process of producing a filling material, which consists in passing carbonic acid and dry ammonia simultaneously into a concentrated solution of calcium chlorid, maintaining at a suitable temperature the solution, continuing the action of the carbonic-acid gas and the ammonia gas until all the calcium of the calcium chlorid is precipitated as calcium carbonate, settling at a suitable temperature and decanting the ammonium-chlorid solution to a crystallizing-reservoir, and filtering, washing and drying of the precipitated calcium carbonate.

805,582. **LACING-LOOP.** SAMUEL W. PERRYMAN, Providence, R. I. Filed Apr. 24, 1905. Serial No. 257,662.



Claim.—As an improved article of manufacture, the lacing-loop herein described, the same formed from a piece of wire uniform in cross-section throughout its length, and consisting of a central closed loop *b* having a helical form, the lower ends of said loop being prolonged past each other in opposite directions to form table or base members *c* having their free ends terminating in attaching-prongs *c'*, constructed and arranged whereby the said loop portion forms a complete spiral in a plane substantially perpendicular to said base members.

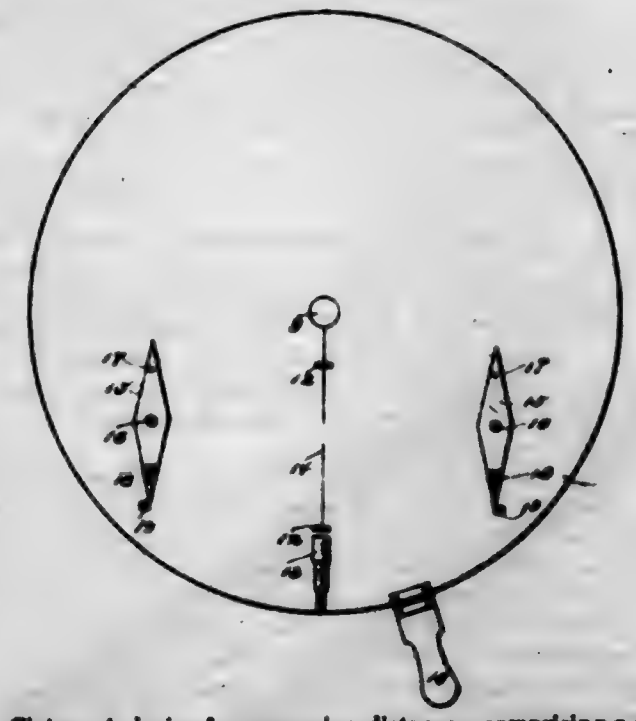
805,583. **CANDY-BOX.** ALEXANDER B. RUDLOFF, Chicago, Ill. Filed May 1, 1905. Serial No. 258,204.



Claim.—1. A candy-box comprising a body, a cover hinged thereto, a supplemental cover pivotally connected to the body intermediate of its ends, and a bail pivoted to the body and adapted to embrace the supplemental cover to hold the body housed therein.

2. A candy-box comprising a body, a cover hinged thereto, a supplemental cover to which the body is pivotally connected, and a roughened or corrugated bail pivoted to the body and adapted to embrace the supplemental cover to hold the body housed therein.

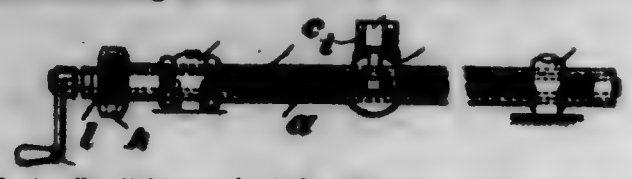
805,584. **RANGE-FINDER.** FREDERICK RUFF, Cheboygan, Mich. Filed June 17, 1905. Serial No. 265,219.



Claim.—A device for measuring distances, comprising a stand having a circular top, a plate pivoted upon the top and having a handle hinged thereto and arranged to engage the edge of the top to hold the plate as set, a scale marked on the plate, a fixed sighting device upon the plate, and a movable sighting device upon the plate having an index cooperating with the said scale.

805,585. **POLISHING AND GRINDING MECHANISM FOR PAPER-MACHINE PRESS-ROLLERS.** EBERHARD SEIFFERT, Wahlhad, Germany. Filed Apr. 16, 1904. Serial No. 203,471.

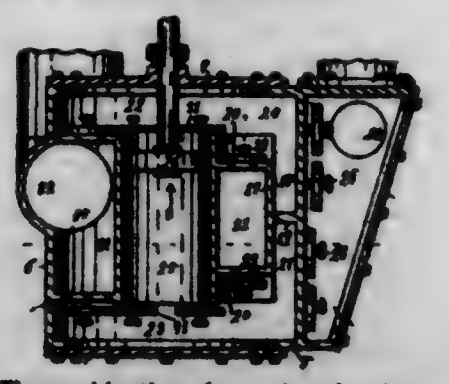
Claim.—1. A roll polishing and grinding device comprising a feed-screw journaled in suitable bearings, a traveling nut mounted on the screw, a guide extending parallel to the screw, a slide secured to the nut and movable upon the guide, a contact-shoe pivoted to the slide eccentric to the feed-screw, means for rotating the screw, and means for revolving the slide about the axis of the screw.



2. A roll polishing and grinding device comprising a feed-screw journaled in suitable bearings, a traveling nut mounted on the screw, a tubular guide inclosing the screw, a slide secured to the nut and movable on the guide, a contact-shoe pivoted to the guide, means for rotating the screw to adjust the slide longitudinally of the guide, and means for revolving the slide about the screw to adjust the position of the shoe laterally.

3. A roll polishing and grinding device comprising the combination, with a roll, of a feed-screw extending parallel thereto and journaled in suitable bearings, a nut threaded on the screw, a slotted tubular guide inclosing the screw, a slide secured to the nut and movable on the tubular guide, a contact-shoe pivoted to the guide eccentric to the screw, means for rotating the screw to adjust the slide longitudinally of the guide, and means for revolving the tubular guide about the axis of the screw to advance the contact-shoe toward and retract the same from the roll.

805,586. PUMP. WILLIAM H. SHAFER, Cincinnati, Ohio, assignor to The Ahrens Fire Engine Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Apr. 20, 1905. Serial No. 256,627.



Claim.—1. The combination of a suction-chamber, a pulsation-chamber, a partition between them having valved openings in different parallel planes, a pump-barrel provided with a plunger, a discharge-chamber having a discharge-opening and separated from the pulsation-chamber by a valved partition, and an emergency-valve in said partition.

2. The combination of a substantially cylindrical body, parallel partitions therein each having valved openings in different parallel planes and separating a middle suction-chamber from top and bottom pulsation-chambers, a pump-barrel extending through the suction-chamber concentric with the body and terminating in open ends within the respective pulsation-chambers, a reciprocating plunger therein, a supply-pipe communicating with the suction-chamber on a line tangent to the pump-barrel, a discharge-chamber and a vertical partition having groups of valved openings leading thereto from the respective pulsation-chambers.

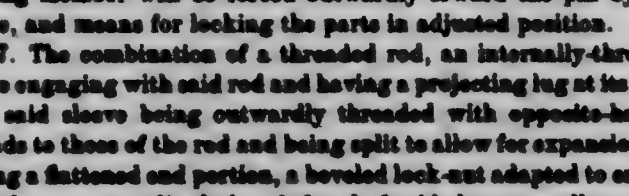
3. The combination of a body formed of two intersecting cylinders, a discharge-chamber integral therewith, pump-barrels concentric with the cylinders, plungers therein, valved partitions separating from a common suction-chamber, pulsation-chambers communicating with the respective ends of each barrel, valved offsets formed in the partitions channels leading from the respective offsets to the discharge-chamber, a valved partition adjacent to the offsets and parallel with the barrels separating the pulsation-chambers from the discharge-chamber.

4. In a pump, the combination of a body, a barrel therein, and a valved partition extending between them and formed with different valved portions in parallel planes, for the purpose specified.

5. A pump of the designated class having in combination a body, a barrel therein, a valved partition extending between the body and the barrel and a valved offset formed therein and in a plane parallel therewith, for the purpose specified.

6. A pump of the designated class having in combination, a cylindrical body, a concentric barrel therein parallel valved partitions extending between the body and the respective ends of the barrel, said partitions being each formed with a valved offset in registration with the other and in a plan parallel therewith, whereby increased valve area is obtained without interfering with the passage of water to the discharge-chamber from the pulsation-chambers.

805,587. VALVE-ROD AND WRIST-PIN CONNECTION. ANTON SEGSWORTH, Chicago, Ill. Filed Mar. 7, 1905. Serial No. 248,082.



Claim.—1. In a connecting device of the character set forth, the combination with a rod and wrist-pin, of an adjustable bearing member coacting with said rod and engaging with said pin, and means for adjusting said member whereby the center of rotation will be maintained when the bearing is adjusted.

2. The combination with a valve or connecting rod and a wrist-pin, of an adjustable bearing coacting with said rod and engaging with said pin, said bearing comprising movable parts and means for simultaneously adjusting said movable parts toward or away from the center of the wrist-pin.

3. The combination with a valve or connecting rod, of a threaded adjusting-sleeve, a bearing-piece carried by said sleeve and a second bearing-piece adapted to be adjusted by said sleeve.

4. The combination with a valve or connecting rod, of an adjusting-sleeve, an outer bearing-piece carried by said sleeve, an inner bearing-piece slidably secured in said outer bearing-piece, and adapted to be adjusted by said adjusting-sleeve, and means for locking said sleeve in adjusted position.

5. The combination of a rod having threaded end, an inwardly-threaded sleeve engaging with said rod and having outer threads of the same pitch, an outer bearing-piece threaded to engage with said sleeve, an inner bearing-piece slidably secured in said outer piece and having a recess therein adapted to engage with a projecting end on said sleeve and a lock-nut for said adjusting-sleeve.

6. The combination with a valve or connecting rod, and a wrist-pin, of an adjusting-sleeve adapted to engage with the threaded end of said rod, said sleeve having oppositely-turned threads of the same pitch on its outer circumference, a bearing member adapted to engage with said pin and the threaded portion of said sleeve, said outer bearing member being bored, a second coacting bearing member turned to engage with said bored portion of the first-named member, the arrangement being such that when the sleeve is turned, the inner bearing member will be forced outwardly toward the pin by said sleeve, and means for locking the parts in adjusted position.

7. The combination of a threaded rod, an internally-threaded sleeve engaging with said rod and having a projecting lug at its outer end, said sleeve being outwardly threaded with opposite-handed threads to those of the rod and being split to allow for expansion and having a flattened end portion, a beveled lock-nut adapted to engage with the correspondingly-beveled end of said sleeve, a collar engaging with said outer threaded portion of said sleeve, said collar being provided with a projecting loop having a guideway therein, a follower adapted to engage with said guideway and with the projecting end of said sleeve, and suitable bushings in said follower and said loop portion adapted to form the bearing for a wrist-pin.

806,588. FIREARM. FREMONT P. STAFFORD and WILLIAM D. STAFFORD, Chicago, Ill. Filed June 1, 1903. Serial No. 159,625.



Claim.—1. In combination, a repeating firearm having a single barrel and a magazine, clamping-arms for holding said magazine,

and said barrel together, a detachable rib for said barrel, ears carried by said rib to be engaged by said clamping-arms, and a spring-clamp at the butt-end of said rib engaging said barrel to hold said rib in place thereon.

2. In combination, a magazine repeating shotgun having a single tapering barrel, a metal rib adapted to fit the upper side of said barrel and to present a substantially straight upper surface, a spring-clamp at the butt-end of said rib to engage the butt-end of said barrel to hold said rib in place thereon, a sight having screw-threaded engagement with the muzzle end of said barrel, a flange on said sight engaging said rib to hold the same in place, a pair of retaining-ears on said rib, and clamping means having engagement with said barrel and with said ears to retain said rib in place on said gun-barrel.

3. In combination, a shotgun having a single barrel, a metal rib adapted to fit the upper side of said barrel and to present a substantially straight upper surface when in place on said barrel, a clamp at the butt-end of said rib to engage the butt-end of said barrel to hold said rib in place thereon, said rib having a slot near the muzzle end thereof, a sight passing through said slot and having screw-threaded engagement with the muzzle end of said barrel, a flange on said sight to engage the sides of said slot to hold said rib in place, a pair of retaining-ears on said rib, and clamping means for engaging with said barrel and with said ears to retain said rib in place on said gun-barrel.

4. In combination, a shotgun having a single barrel, a rib adapted to fit the upper side of said barrel and to present a substantially straight upper surface when in place on said barrel, clamping means at the butt-end of said rib for engaging the butt-end of said barrel to hold said rib in place thereon, a sight having screw-threaded engagement with the muzzle end of said barrel, and a flange on said sight for engaging said rib to hold the same in place.

5. In a firearm, the combination with the barrel and magazine thereof, of clamping-arms for holding said magazine and said barrel together, a detachable rib for said barrel extending along the entire length thereof, a spring-clamp consisting of ears 20 at the butt-end of said rib for retaining said end against the barrel, ears at the middle of said rib adapted to be clamped against the barrel by said clamping-ears a slot near the muzzle end of said rib, and a sight extending through said slot to hold said rib in place at the muzzle end of the barrel.

6. In a firearm, the combination with a barrel and magazine thereof, of clamping-arms for holding said magazine and said barrel together, a detachable rib for said barrel extending along the entire length of the top thereof, a spring-clamp consisting of ears 20 at the butt-end of said rib for spring engagement with said barrel, ears near the middle of said rib clamped against the barrel by said clamping-ears, a slot near the muzzle end of said rib, a sight extending through said slot and having threaded engagement with the muzzle end of said barrel, and a flange on said sight engaging the sides of said slot to hold said rib in place.

7. In combination, a firearm having a barrel, a detachable rib for the barrel of said firearm extending along substantially the entire length of the barrel, clamping means for securing the rib directly to the barrel at the butt-end, ears carried by said rib, and other clamping means adapted to engage said ears to hold said rib in place.

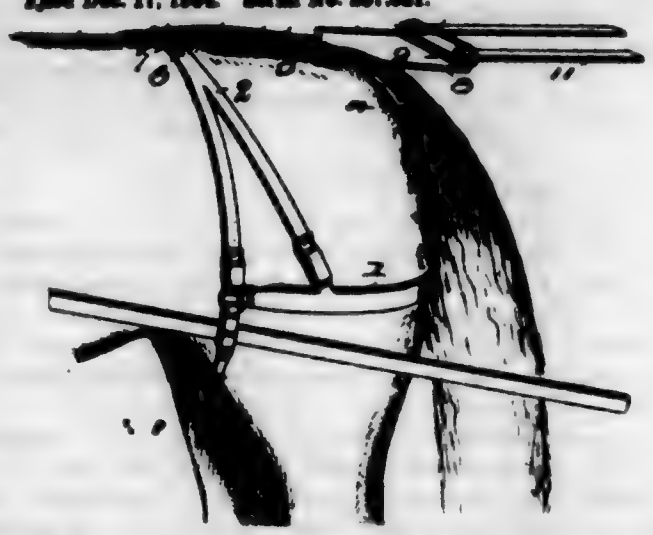
8. In combination, a firearm having a single barrel and a magazine, clamping-arms for holding said magazine and said barrel together, a detachable rib for said barrel, ears carried by said rib to be engaged between said clamping-arms and said barrel, clamping means at the butt-end of said rib engaging said barrel to hold said rib in place thereon, and means for securing said rib to said barrel near the muzzle end thereof.

9. In combination, a firearm having a single barrel and a magazine, clamping-arms for holding said magazine and said barrel together, a detachable rib for said barrel, ears carried by said rib to be engaged between said clamping-arms and said barrel, clamping means at the butt-end of said rib engaging said barrel to hold said rib in place thereon, means for securing said rib to said barrel near the muzzle end thereof, and a sight associated with said rib near the muzzle end thereof.

10. In a firearm, the combination with the barrel thereof, of a detachable rib for said barrel extending along substantially the entire length thereof, spring-ears at the butt-end of said rib adapted for spring engagement with said barrel to hold said rib in place thereon, ears intermediary of the ends of said rib, clamping means adapted to engage said ears to hold the middle portion of the rib in engagement with the barrel, and means for fastening said ribs to said barrel near the muzzle end thereof.

11. In a firearm, the combination with the barrel thereof, of a detachable rib for said barrel extending along substantially the entire length thereof, spring-ears at the butt-end of said rib adapted for spring engagement with said barrel to hold said rib in place thereon, ears intermediary of the ends of said rib, clamping means adapted to engage said ears to hold the middle portion of the rib in engagement with the barrel, means for fastening said ribs to said barrel near the muzzle end thereof, and a sight associated with said rib near the muzzle end thereof.

805,589. REIN-HOLDER. EDWARD G. STEVENS, Crawfordville, Fla. Filed Dec. 17, 1904. Serial No. 237,321.



Claim.—1. A rein-holding attachment for harness consisting of anchoring-stems, means for securing them longitudinally upon a portion of the harness, and a rearward extension movably connected to one end of the anchoring-stems, said extension having integral rein-receiving portions.

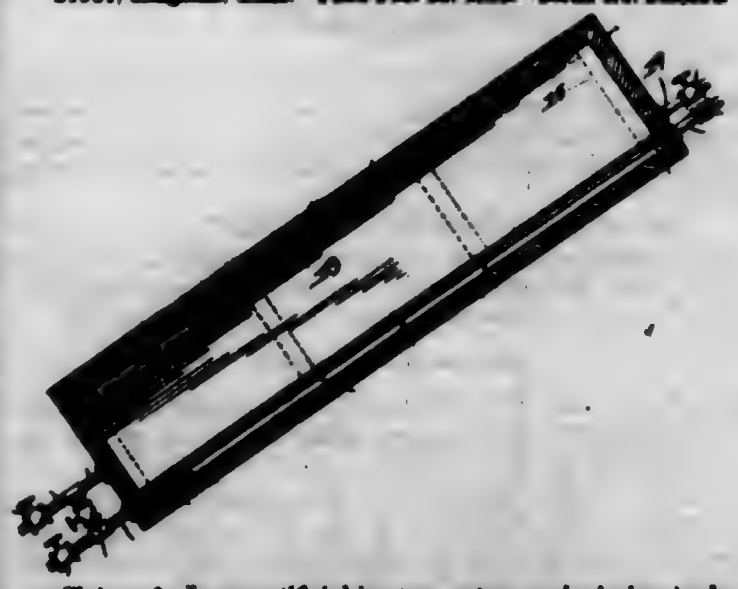
2. A rein-holding attachment for harness consisting of elongated anchoring-stems, having oppositely-projecting extensions at one end thereof, parallel integral securing-loops at the ends of the extensions, and a rearward extension movably connected to the other end of the stems, and having a rein-receiving portion.

3. A rein-holding attachment for harness consisting of elongated anchoring-stems, means for securing said stems at points between their ends, oppositely-projecting extensions at one end of the stems and substantially at right angles thereto, parallel strap-receiving loops integral with said extensions and at right angles thereto, a rearward extension to the stems, and means integral with said extension for surrounding reins.

4. A rein-holding attachment for harness consisting of anchoring-stems means for securing the stems to the harness, and a laterally-adjustable rearward extension mounted upon and adjustably secured to the stems, said extension having a rein-holding portion.

5. A rein-holding attachment for harness consisting of anchoring-stems, means for securing them to the harness, and a longitudinally and laterally adjustable rein-holding extension connected to the stems.

805,590. APPARATUS FOR FREEZING PLATE-ICE. HIRAM STOUT, Kingman, Kans. Filed Feb. 23, 1904. Serial No. 194,354.



Claim.—1. In an artificial-ice apparatus, an inclosing tank, a chamber for the freezing mixture within said tank and provided with a transverse partition spaced from the upper end and separating the portion of the chamber above the partition from the portion

below the partition, closed chambers extending laterally of said mixture-chamber and with no means of communication between them, means for introducing the freezing mixture into said mixture-chamber, and means for introducing a heating medium into all of said chambers.

2. In an artificial-ice apparatus, an inclosing tank, a chamber for the freezing mixture within said tank, a chamber for a heating medium between the bottom of said tank and said freezing-mixture chamber and extending laterally of the same, closed chambers extending laterally of said freezing-mixture chamber and communicating with said heating-chamber, a feed-pipe leading into said freezing-mixture chamber at one point and a discharge-pipe leading therefrom at another point, a feed-pipe leading into said heating-chamber at one point and a discharge-pipe leading therefrom at another point, a pipe connecting said feed-pipes exteriorly of said tank, and a controlling-valve within said connecting-pipe, whereby a heating medium may be caused to pass through all of said chambers.

3. In an artificial-ice apparatus, an inclosing tank, a chamber for the freezing mixture within said tank, closed chambers extending laterally of said mixture-chamber and having converging faces, a closed chamber disposed in horizontal position and communicating with said lateral chambers and with its upper walls diverging from the same, means for introducing the freezing mixture into said mixture-chamber, and means for introducing a heating medium into all of said chambers.

4. In an artificial-ice apparatus, an inclosing tank, a chamber disposed in horizontal position within said tank and open at the lower side and ends and bearing by said open lower side and ends respectively upon the bottom and against the ends of said tank, a chamber disposed in vertical position upon said lower chamber and secured thereon and bearing against the ends of said tank, a plurality of chambers spaced apart upon said lower chamber and communicating therewith and extending laterally of said vertical chamber, the outermost of said lateral chambers open outwardly and bearing by the open sides against the ends of the tank, means for introducing freezing mixture into said vertical chamber, and means for introducing a heating medium into all of said chambers.

805,591. NON-PUNCTURABLE TIRE. LUTHER A. DAVISON and JAMES M. LOGAN, Hartford, Conn. Filed June 8, 1905. Serial No. 264,276.



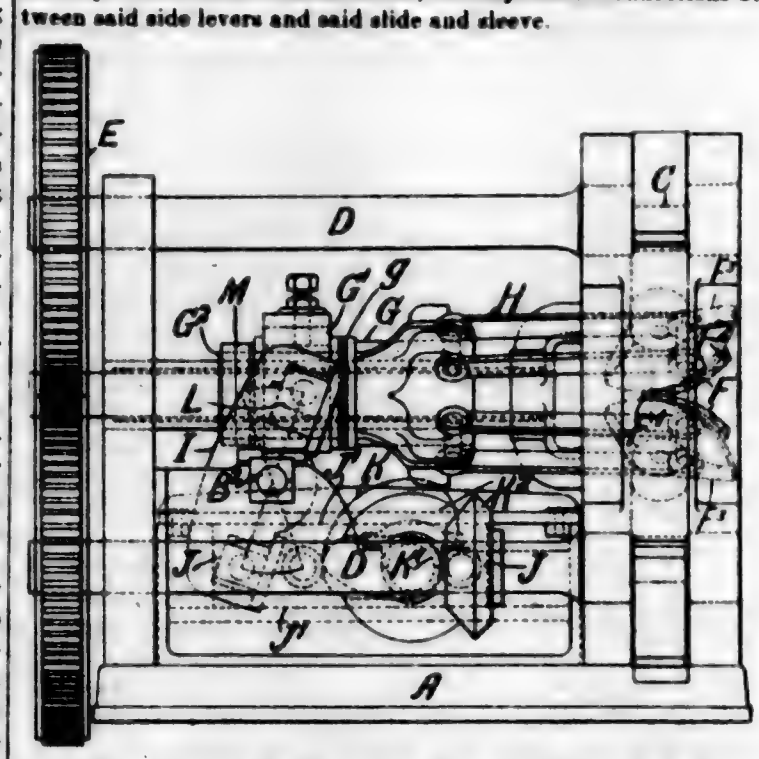
Claim.—1. In a non-puncturable tire the combination of an exterior cover provided with an interior chamber, a series of cylindrical cork sections compactly placed within the interior chamber, the rubber plugs 5 forming the end sections and vulcanized together and to the tire.

2. In a non-puncturable tire the combination of the tubular cover 3, the cylindrical cork sections 4 firmly united and within the tubular cover, the rubber plugs 5 forming end sections within the tubular cover and vulcanized together and to the tubular cover.

805,592. MACHINE FOR MAKING WELDLESS CHAINS. ALEXANDER G. STRATHERN, Glasgow, Scotland. Filed Mar. 28, 1905. Serial No. 252,442.

Claim.—1. In a machine for producing weldless chains from metal bars, the combination with a set of dies having curved acting faces, of means for moving said dies to press the bar, a hollow shaft through which the pressed bar passes, a hollow sleeve slidably mounted on said shaft, means connecting said sleeve and said dies, a slide, means for actuating said slide, and means adjustably connecting said slide and said sleeve, as and for the purpose set forth.

2. In a machine for producing weldless chains from metal bars, the combination with a set of radial dies having curved acting faces, of means for moving said dies radially, a hollow sleeve and links connecting said sleeve to said dies for controlling the turning movement of said dies, a slide, means for reciprocating said slide, side levers pivoted to the machine-frame, and adjustable connections between said side levers and said slide and sleeve.



3. In a machine for the production of weldless chains from metal bars, the combination with a set of dies having curved acting faces of means for moving said dies radially, a sleeve, means connecting said sleeve and said dies to control the turning movement of said dies, a slide, a cam for actuating said slide, side levers pivoted to the machine-frame and adjustable connections between said side levers, and said slide and sleeve.

4. In a machine for the production of weldless chains from metal bars, the combination with a set of dies having curved acting faces, of means for moving said dies radially, a hollow shaft through which the pressed bar passes, a hollow sleeve slidable on said shaft, links connecting said dies and said sleeve, a cross-head adjustably mounted on said sleeve to provide for longitudinal adjustment of said sleeve, and means for sliding said sleeve on said shaft.

5. In a machine for making weldless chains from metal bars, the combination with a framing, of radial guides, blocks sliding in said guides, dies pivoted to said blocks, a hollow shaft, a sleeve slidable on said shaft, links connecting said sleeve and said dies, a cross-head mounted on said sleeve, lock-nuts and wedge-pieces adjustably securing said cross-head, a slide, means for reciprocating said slide and adjustable connections between said slide and said cross-head.

6. In a machine for making weldless chains, the combination with a framing having radial guides, of slide-blocks fitted in said guides, means for moving said slide-blocks simultaneously, dies pivoted to said slide-blocks, said dies having curved acting faces eccentric to their pivots and a straight or tangential portion at one end, and means for controlling the turning movement of said dies around their pivots.

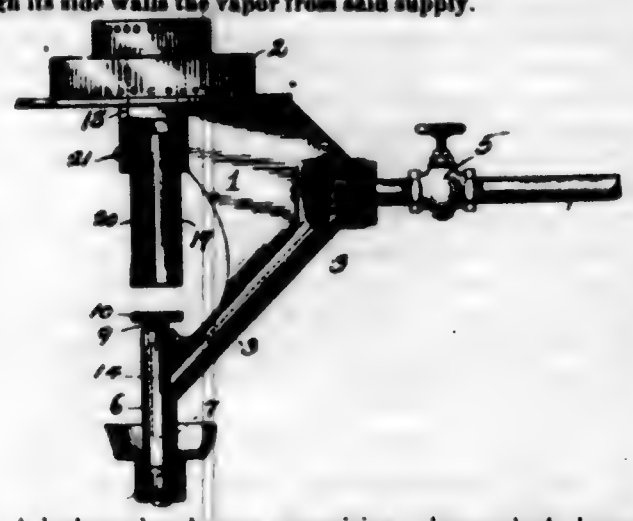
7. In a machine for making weldless chains the combination with a framing having radial guides, of slide-blocks fitted in said guides, means for moving said slide-blocks, dies pivoted to said slide-blocks, said dies having each a curved acting face eccentric to its pivot, and a straight or tangential portion at each end, a sliding sleeve, links connecting said sleeve and said dies and means for sliding said sleeve.

8. In a machine for making weldless chains, the combination with a frame having radial guides, of slide-blocks fitted in such guides, means for moving said slide-blocks, dies pivoted to said slide-blocks said dies having curved faces, means for controlling the turning movement of said dies, die-cooling devices, and connections, driven by the means for moving the slide-blocks, for controlling the die-cooling devices, substantially as described.

805,593. HYDROCARBON-BURNER. WILLIAM H. THAYER, Chicago, Ill. Filed Dec. 9, 1902. Serial No. 134,475.

Claim.—1. A hydrocarbon-burner comprising a burner-body having a burner proper and a vaper-supply passage, a flanged plug, provided with a central bore screwing into said passage and hav-

ing an injector-orifice communicating therewith, and a cylindrical strainer secured in said bore of the plug and removable therewith, said strainer consisting of a closed elongated tube adapted to filter through its side walls the vapor from said supply.



2. A hydrocarbon-burner comprising a burner-body having a burner proper and an injector-orifice in communication with a vapor-supply, and a strainer or guard arranged adjacent the orifice and consisting of an elongated tube of wire-cloth having an inner edge 16 extending inwardly and an overlapping outer edge 17

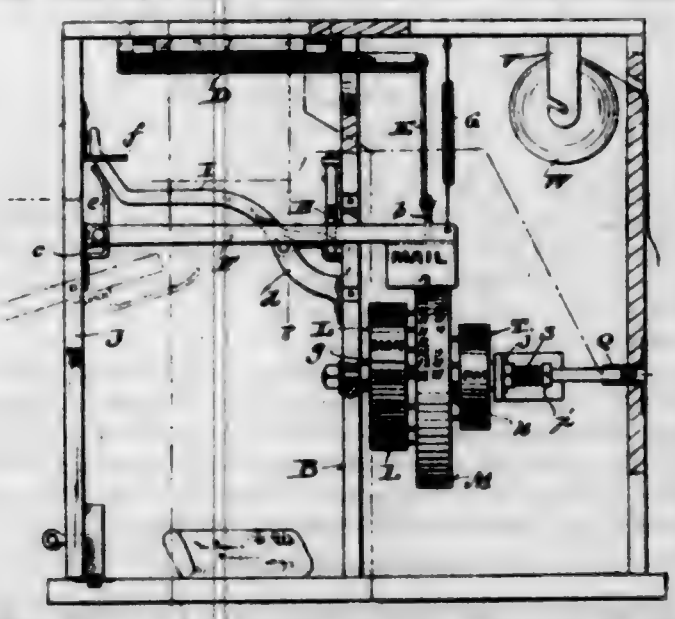
3. A hydrocarbon-burner comprising a burner-body having a burner proper and a vapor-supply passage, a plug removably fitting into such passage and having a central bore and injector-orifice communicating with such passage, said bore having internal screw-threads, and a cylindrical strainer inserted in said bore and retained by said screw-threads.

4. A hydrocarbon-burner comprising a burner proper and a burner-body having a supply-passage 3 and a cylindrical chamber 7 intermediate of whose ends such passage communicates, a plug fitting in the upper end of said chamber and having an injector-orifice, and a guard or strainer secured to said plug and depending therefrom past such supply-passage and into the chamber 7.

5. A hydrocarbon-burner comprising a burner proper and a burner-body having a supply-passage 3 and a cylindrical chamber 7 communicating therewith, a plug fitting in the upper end of said chamber and having an injector-orifice, and a cylinder 14 of wire-cloth secured to said plug and depending therefrom into the chamber 7.

6. The combination of a burner-body 1 having a supply-passage 3, a burner 2, a valve-governed supply-pipe 4 formed at the lower end of the burner-body and having a cylindrical chamber 7 connecting with the passage 3, a removable plug 9 fitting into the upper end of said cylinder and having an orifice 12, and a strainer 14, secured to the plug and depending therefrom into said chamber 7.

805,594. **INDICATOR.** FRANK P. THOMAS, Racine, Wis., assignor, by direct and mesne assignments, to Edward J. Schowalter, Racine, Wis. Filed May 4, 1903. Renewed Aug. 9, 1905. Serial No. 273,490.



Claim.—1. A casing provided with observation-slots, a main wheel within the casing peripherally inscribed with indices for hours in serial order and rigid on a spindle arranged to be turned from outside of said casing, other wheels in the aforesaid casing one of which is peripherally inscribed with indices for days of the week in successive order each repeated, the other being likewise inscribed with alternating indices for divisions of a day before and after noon of same, and means by which at each revolution of the main wheel there is predetermined limited rotatory movement of the other wheels, all of said wheels being peripherally exposed through the aforesaid slots.

2. A casing provided with observation-slots, a main wheel within the casing peripherally inscribed with indices for hours and hours plus arbitrary divisions thereof in serial order, said wheel being rigid on a spindle arranged to be turned from outside of said casing, other wheels in the aforesaid casing one of which is peripherally inscribed with indices for days of the week in successive order each repeated, the other being likewise inscribed with alternating indices for divisions of a day before and after noon of same, and means by which at each revolution of the main wheel there is predetermined limited rotatory movement of the other wheels, all of said wheels being peripherally exposed through the aforesaid slots.

805,595. **GLASS TILE, SLAB, OR THE LIKE.** CHARLES H. THOMPSON, Stourbridge, England, assignor of one-half to Maw & Company, Limited, Jackfield, England. Filed Apr. 4, 1905. Serial No. 253,878.

Claim.—1. The improved tile comprising a slab, a coating on the back of the slab, of a silicofluorid, which is insoluble in water after dehydration and pieces of silicious material applied thereto without fusing the silicofluorid, substantially as described.

2. The improved method of fixing pieces of silicious material to tiles consisting in the application, to the back of the tile of a solution of a silicofluorid which after dehydration is insoluble in water, and then sprinkling thereon the pieces of silicious material, and then drying, and warming without fusing the silicofluorid, and then gradually cooling the tile, substantially as described.

3. The improved method of fixing pieces of silicious material to tiles consisting in the application, to the back of the tile, of a silicofluorid of lime, aluminium and sodium which after dehydrating is insoluble in water, and then sprinkling thereon the pieces of silicious material and then drying, warming and gradually cooling the tile substantially as described.

4. The improved method of fixing pieces of silicious material to tiles consisting in the application to the back of the tile, of a solution in liquid silicate of sodium of double fluorid of sodium and aluminium, calcined dolomite, fluorid of sodium, and kaolin which after dehydration is insoluble in water and then sprinkling thereon the pieces of silicious material and then drying, warming and gradually cooling the tile substantially as described.

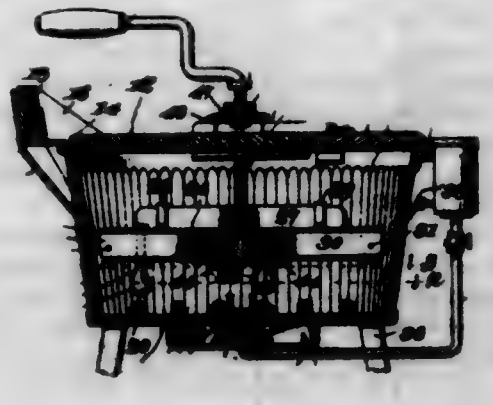
5. The improved tile comprising a slab having a coating containing an unfused silicofluorid, and having applied thereto a plurality of keys fixed in place by said coating.

6. The method of fixing keys of granular material or the like to a tile or similar article, which consists in applying thereto a coating containing a silicofluorid, applying such material to said coating, heating such coating to a point below the fusing-point of such silicofluorid, and then cooling it.

7. An improved tile comprising a slab having a coating containing an unfused silicofluorid, and having its surface roughened to aid said coating in adhering thereto, and having applied thereto a plurality of keys fixed in place by said coating.

8. The method of fixing keys of granular material or the like to a tile or similar article, which consists in applying thereto a coating containing a silicofluorid, applying such material to said coating, causing the fluorin contained in said coating to act upon the surface of the tile to roughen it by heating such coating to a point below the fusing-point of such silicofluorid, and then cooling it.

805,596. **WASHING-MACHINE.** LAWRENCE D. THORNBURGH, Forrest, Okla. Filed June 3, 1904. Serial No. 211,008.



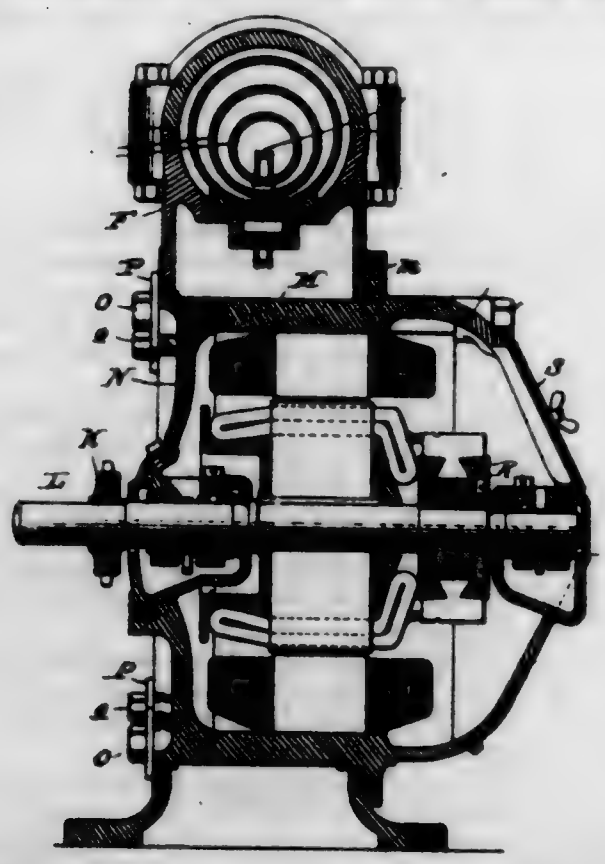
Claim.—1. In a washing-machine, a disk mounted for rotation and provided with radiating rubbing-ribs, and an annular rod passing through said ribs near their free ends and formed with a plurality of depending garment-supporting loops.

2. In a washing-machine, a disk mounted for rotation and provided with radiating rubbing-ribs, an annular rod passing through said ribs near their free ends and formed with a plurality of depending garment-supporting loops, an operating-shaft passing transversely through said disk and said rubbing-ribs at their meeting-points, a stay-plate engaging said rubbing-ribs and having V-shaped dividing-lugs extending between the rubbing-ribs, and a clamp-nut on the free end of said shaft bearing against said stay-plate.

3. In a washing-machine, a receptacle for the clothes having spaced rubbing-ribs in the side walls of the same, a vertically-adjustable disk provided with radiating rubbing-ribs mounted for rotation within the receptacle, an annular rod passing through said ribs and provided with a series of depending garment-supporting loops, and a rubbing member detachably supported within said receptacle and formed of spaced rubbing-ribs connected transversely by spaced sheet-metal straps.

4. In a washing-machine, a receptacle for the clothes, a disk having radiating rubbing-ribs, an annular rod passing through said ribs and provided with a series of depending garment-supporting loops, a threaded shaft extending through the cover portion of the machine, a nut engaging said shaft and held from movement toward and away from said cover member but free to turn thereon, and means for rotating said shaft and the rubbing member attached thereto.

805,597. TELESCOPIC RAMMER FOR ORDNANCE. ALFRED A. TRESSLER, Dayton, Ohio. Filed July 30, 1904. Serial No. 218,867.



Claim.—1. In a telescopic rammer for ordnance, the combination with the telescopic sections, mount in which they are supported having an opening extending transversely therethrough below the sections and gearing for operating the sections, of an electric motor for said gearing located in said transverse opening, a flange on the motor and bolts uniting the flange and mount; substantially as described.

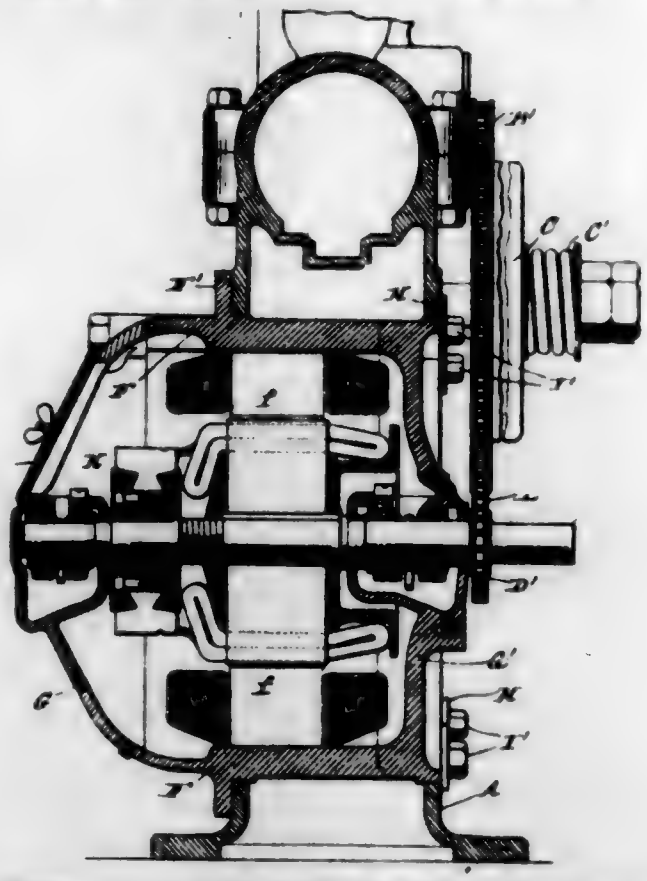
2. In a telescopic rammer for ordnance, the combination with the telescopic sections, the mount in which they are carried having transverse openings in its side walls below the sections and gearing for operating the sections, of an electric motor for said gearing having its frame extending through and fitting said openings and a flange seating against one of said side walls and connected thereto; substantially as described.

3. In a telescopic rammer for ordnance, the combination with the telescopic sections, the mount in which they are carried having transverse openings in its side walls below the sections and gearing for operating the sections, of an electric motor for said gearing having a frame extending into the mount through one of said openings and inclosing heads for said frame located at each side of the mount and having the bearings for the motor-shaft on their inner sides; substantially as described.

4. In a telescopic rammer for ordnance, the combination with the telescopic sections, mount in which they are carried having openings in its side walls below the sections and gearing for operating the sections, of the motor for said gearing having its frame fitting the openings in the side walls of the mount, the flange fitting against one of said walls and the bolts passing through said flange and walls; substantially as described.

5. In a telescopic rammer for ordnance, the combination with the telescopic sections, mount in which they are supported having a transverse opening therethrough below the sections, of an electric motor for operating said sections having a flanged field-ring fitting in said opening bolts uniting the flange and mount and heads for closing the ends of said ring having internal bearings for the motor-shaft; substantially as described.

805,598. TELESCOPIC-RAMMER MOTOR. ALFRED A. TRESSLER, Dayton, Ohio. Filed July 24, 1905. Serial No. 271,097.



Claim.—1. A motor for telescopic rammers embodying heads, armature, armature-shaft journaled in the heads and a field-ring connecting the heads said ring being of substantially uniform section to enter the rammer-mount and having an external flange near one end adapted to abut against one of the faces of the rammer-frame: substantially as described.

2. The combination with the mount, having openings in its side walls, of the electric motor formed with exterior configuration to fit each of said openings and means for securing the motor to the mount; substantially as described.

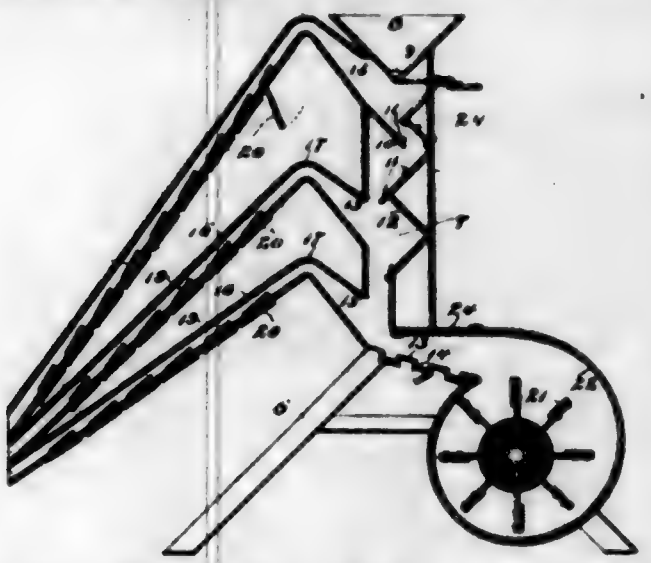
3. A motor for telescopic rammers embodying a field-ring having an external flange extending around the same for attachment to the motor-support and a head of less diameter than the flange whereby the said head may be passed through the opening in the support to the wall of which the flange is to be attached; substantially as described.

4. A motor for telescopic rammers embodying a cylindrical field-ring having an external flange extending entirely around the same and heads secured to the ends of the ring, one of said heads being of less diameter than the flange whereby said head may be passed through an opening in the motor-support and through which the flange will not pass; substantially as described.

805,599. ORE-SEPARATOR. LOUIS J. VANDERVOORT, Guthrie, Okla. Filed June 9, 1905. Serial No. 264,447.

Claim.—1. In an ore-separator, in combination, an upright chute down through which ore is fed, a series of riffle-boards therein, over which the ore flows, a collecting-pan under the lower end of the chute, upwardly-inclined pipes leading from one side of the chute,

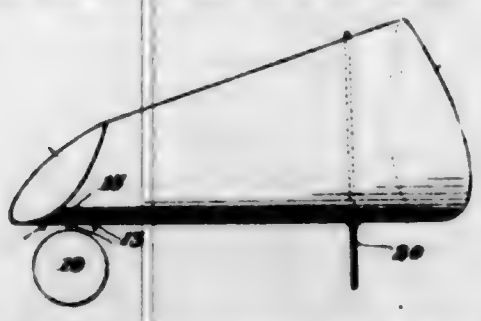
the mouth of the lowest pipe being at one side of the pan, and a fan having an air-duct entering said chute at the bottom, on the opposite side of the pan, and arranged to produce a blast up through the chute and into the said pipes.



2. The combination with an upright ore-chute and means to produce a blast through the same and to collect the concentrate therein, of a series of discharge-pipes from one side of the chute, said pipes each having an upwardly-inclined portion next the chute, and each having a separate downwardly-inclined portion beyond with riffles therein.

3. The combination, in an ore-separator, of an upright chute down which the ore falls, and having inclined riffle-boards therein, a receiver for concentrate, under the lower end of the chute, a series of upwardly-inclined discharge-pipes opening from the side of the chute at different heights therein, the mouth of the lowest pipe being at one edge of the receiver, and a fan having an air-duct opening into the chute below the mouths of the said discharge-pipes and at the opposite edge of the receiver, so as to produce a blast across the receiver.

805,600. COMPOSITE SOUND-PRODUCER. EDWIN WALKER, Erie, Pa. Filed Sept. 14, 1904. Serial No. 224,466.



Claim.—1. A composite sound-producer having a horn of flexible material, the cross-sectional form of said horn, substantially throughout its entire length having a base of greater curvature than its top and a stylus attached to the base of the horn.

2. A composite sound-producer having a flexible horn approximately egg-shaped in cross-section throughout its entire length, one end of said horn being closed, and a stylus attached to the under side of the horn and near the closed end thereof.

3. A composite sound-producer having a horn of flexible material, said horn being approximately egg-shaped in cross-section for substantially its entire length and having one end thereof larger than the other, and a stylus attached to said horn, intermediate the ends thereof.

4. In a composite sound-producer a horn, the plane of one of the ends of which is inclined at an angle to the plane of the other end, and a stylus connected with said horn.

5. A horn having one of its ends in a plane inclined at an angle to the longitudinal axis of the horn, and a stylus connected with said horn.

6. A horn having one of its ends in a plane inclined at an angle to the longitudinal axis of the horn, and a closure for said inclined end.

7. A horn having one of its ends in a plane inclined at an angle to the longitudinal axis of the horn, and a flexible closure for said inclined end.

8. A horn having one of its ends in a plane inclined at an angle to the longitudinal axis of the horn, and a flexible closure for said inclined end, parts of which closure occupy different planes.

9. A composite sound-producer having a horn composed of flexible material and one of the ends of which is in a plane inclined to the longitudinal axis of the horn and a stylus intermediate the ends of the horn.

10. A composite sound-producer having a horn composed of flexible material, and a plurality of styluses attached to said horn and in substantially the same longitudinal plane.

11. A composite sound-producer having a horn composed of flexible material and a plurality of styluses intermediate the ends of the horn attached thereto and in substantially the same longitudinal plane.

12. A composite sound-producer having a horn composed of flexible material, said horn having a less area in cross-section above the horizontal plane of its longitudinal axis than the area below said plane for substantially the entire length of the horn, said horn being closed at one end.

13. A composite sound-producer having a horn composed of flexible material, said horn having a less area above the horizontal plane passing through its axis than below said plane, said horn being closed at one end and having a stylus attached to said horn.

14. A composite sound-producer comprising a horn, the body of which is made of thin press-board, one end of said horn being in a plane inclined at an angle to a horizontal plane passing through the axis of the horn, and a stylus attached to the horn near said inclined end.

15. A sound-reproducer provided with a plurality of styluses in substantially the same plane.

16. A sound-reproducer adapted for endwise movement, and provided with a plurality of styluses in substantially the same plane.

17. A sound-reproducer composed of flexible material and provided with a plurality of styluses, the latter being attached to said flexible material.

18. A flexible sound-reproducer having a plurality of styluses located at different points longitudinally of the reproducer.

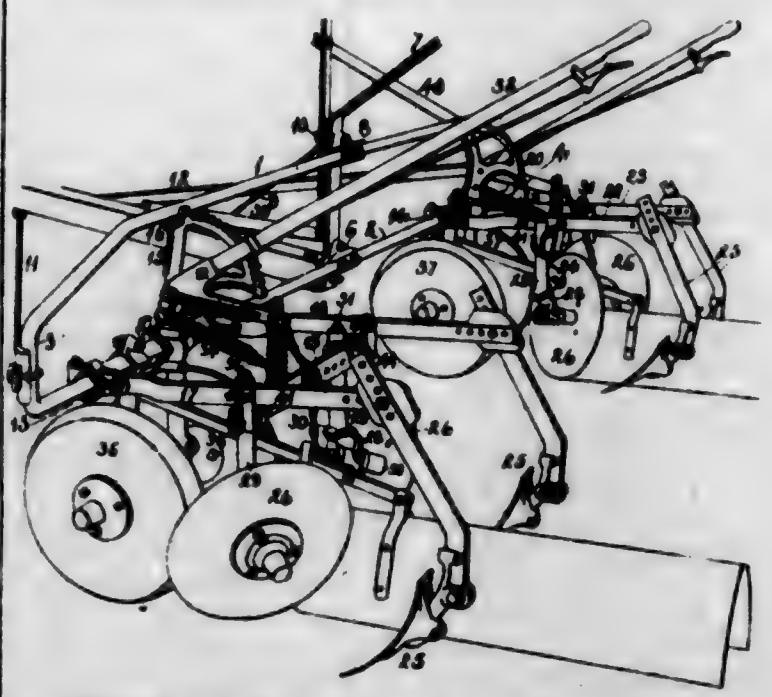
19. A composite sound-producer consisting of a flexible horn having a plurality of styluses, located in different positions intermediate its ends.

20. A composite sound-producer comprising a flexible horn, having a plurality of styluses located at different positions longitudinally of the horn.

21. A composite sound-producer comprising a horn composed of flexible material and having a less area above the horizontal plane passing through its axis than below said plane, the material of the horn being lapped at the upper edge thereof.

22. A composite sound-producer comprising a horn composed of flexible material and having a less area above the horizontal plane passing through its axis than below said plane, the sides of the horn being arched in cross-section from the upper edge to the base thereof.

805,601. LISTER-CULTIVATOR. LEWIS B. WATERMAN, Rockford, Ill., assignor to Emerson Manufacturing Company, Rockford, Ill., a Corporation of Illinois. Filed Mar. 30, 1904. Serial No. 200,309.



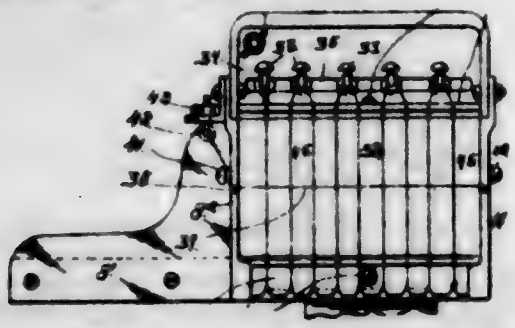
Claim.—1. In a lister-cultivator, a main frame composed of two bars, one arranged vertically over the other and having end sections, a center brace, a tongue connected to the lower bar, a brace

connecting the upper portion of the brace and tongue, and two side braces connecting the end sections with the tongue.

2. In a lister-cultivator, a main frame composed of two bars, one located over the other, and connected to the tongue by suitable braces, a lever having a pivotal connection with the frame, two sets of tools supported by the frame, and connections between the lever and tools, whereby the tools are moved bodily toward or from each other.

3. In a lister-cultivator, a frame composed of two bars, one located over the other and connected to the tongue by suitable braces, two sections of tubing supported by the lower bar, tools supported by each section of tubing, a toothed quadrant supported by each section of tubing and having a sliding engagement with the upper bar, a hand-lever for each quadrant, connections between the hand-levers and tools, and means for moving the sections of tubing in the lengthwise direction of the rods.

805,602. BUTTER-CUTTER. HARRY B. WATERS, Denver, Colo. Filed Sept. 2, 1905. Serial No. 276,795.



Claim.—1. In a butter-cutter the combination of a frame or casing having two compartments communicating with each other by an opening to allow the cake of butter to pass from the one compartment to the other, means arranged across said opening to divide the cake of butter into a plurality of pieces while moving from the first to the second compartment, the latter having an opening at its forward extremity, cutters arranged across the last-named opening, and removable pieces arranged on opposite sides of the opening upon which the cutters are mounted.

2. A butter-cutter provided with a butter-compartment having an escape-opening provided with wire cutters suitably arranged across the same, and removable pieces provided with spaced slots which the wires engage.

3. A butter-cutter consisting of a frame or casing having a butter-compartment provided with an escape-opening across which wire loops are suitably arranged, and removable pieces arranged on opposite sides of the opening and having spaced slots which the wire loops engage.

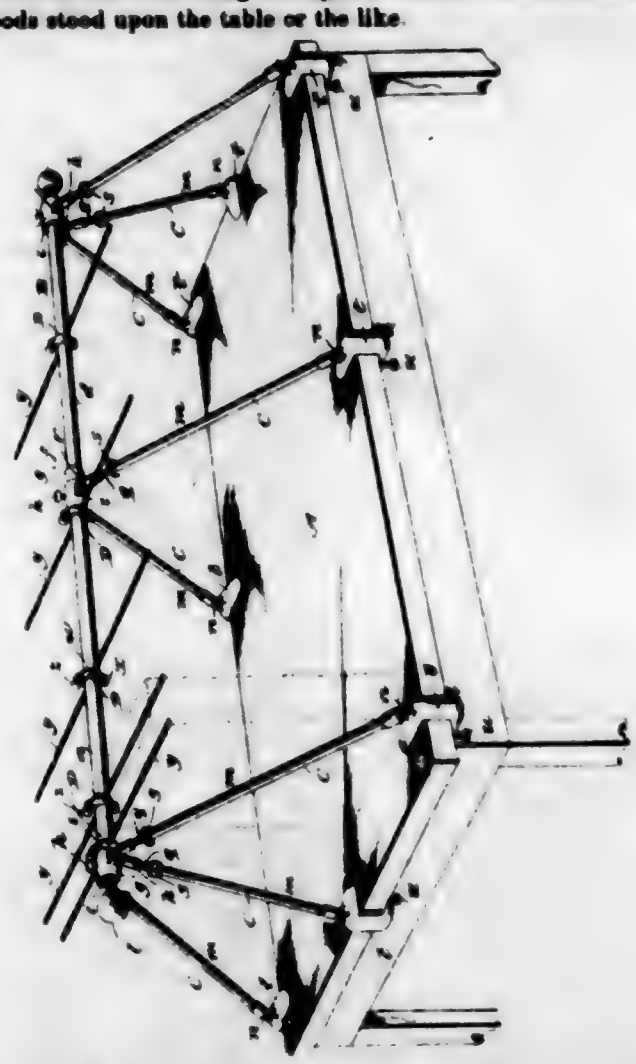
4. A butter-cutter provided with a butter-compartment having an escape-opening, removable pieces arranged on opposite sides of the opening and provided with slots correspondingly spaced, wire loops whose extremities engage the slots of the respective pieces, and a tension device connected with one extremity of each loop beyond the slotted piece.

5. A butter-cutter provided with a butter-compartment having an escape-opening, removable pieces arranged above and below the opening, and provided with spaced slots, wire loops forming cutters, the said loops engaging the slots of the said pieces, tension devices connected with the individual loops beyond the butter-cutter, the said loops occupying an inclined position, their upper extremities being rearmost, a cutter arranged at right angles to the inclined cutters, and in the rear of the same, and a plunger having a groove adapted to receive the rearwardly-located cutter, the said plunger having a handle hinged thereto to allow the plunger to assume an inclined position corresponding with that of the inclined cutters.

805,603. DISPLAY-STAND. GEORGE WAY and ROBERT KOLB, Spokane, Wash. Filed Dec. 13, 1904. Serial No. 236,720.

Claim.—1. A display-stand comprising a longitudinal bar, supports extending outwardly and downwardly from the longitudinal bar and provided with means for engaging the edge portion of a table or the like, and rods extending laterally from the longitudinal bar at intervals in the length thereof; the said rods being arranged to receive between them bolts of goods stood upon the table or the like.

2. A display-stand comprising a longitudinal bar, supports extending outwardly and downwardly in opposite directions from the longitudinal bar and provided with means for engaging the edge portions of a table or the like, and rods extending laterally and in opposite directions from the longitudinal bar at intervals in the length thereof; the said rods being arranged to receive between them bolts of goods stood upon the table or the like.



3. A display-stand comprising a longitudinal bar, supports hinged to and extending outwardly and downwardly in opposite directions from the longitudinal bar, clamp-bodies hinged to the lower ends of the supports and arranged to receive the edge portions of a table or the like, screws bearing in arms of the clamp-bodies and arranged to engage the edge portions of a table or the like, and rods extending laterally from the longitudinal bar at intervals in the length thereof; the said rods being arranged to receive between them bolts of goods stood upon the table or the like.

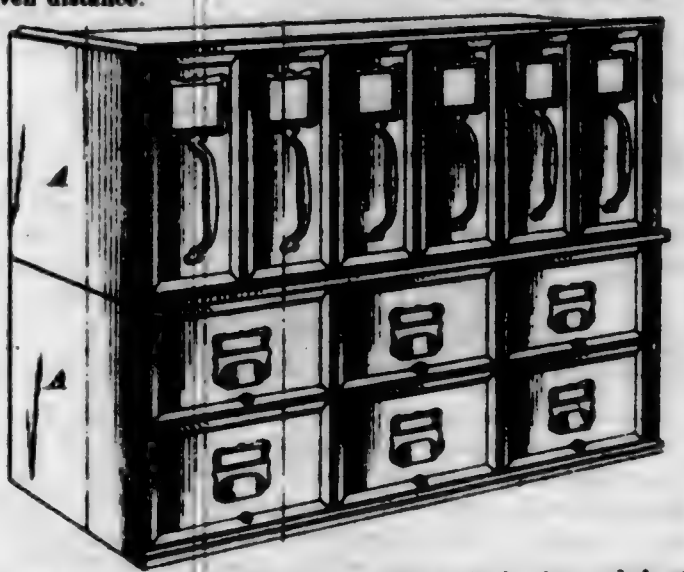
4. A display-stand comprising a longitudinal bar, lateral supports extending outwardly and downwardly in opposite directions from the longitudinal bar and provided with means for engaging opposite edge portions of a table or the like, and supports extending downwardly and outwardly from the longitudinal bar and provided with means for engaging opposite edge portions of the table or the like, and rods extending laterally from the longitudinal bar at intervals in the length thereof and arranged to receive between them bolts of goods stood upon the table or the like.

5. A display-stand comprising a longitudinal bar, extensible supports extending outwardly and downwardly in opposite directions from the longitudinal bar and provided with means for engaging opposite edge portions of a table or the like; said extensible supports being hinged to the longitudinal bar, and rods extending laterally from the longitudinal bar and provided with means whereby they may be adjustably fixed at various points in the length thereof; the said rods being arranged to receive between them bolts of goods stood upon the table or the like.

6. A display-stand comprising a longitudinal bar, extensible lateral supports hinged to and extending outwardly and downwardly in opposite directions from the longitudinal bar and provided with means for engaging opposite edge portions of a table or the like, extensible end supports hinged to and extending outwardly and downwardly from the longitudinal bar and provided with means for engaging opposite edge portions of the table or the like, and rods adjustably fixed on and extending laterally from the longitudinal bar at intervals in the length thereof; the said rods being arranged to receive between them bolts of goods stood upon the table or the like.

805,604. SECTIONAL STEEL CABINET. PETER M. WEIR, Youngstown, Ohio, assignor to The General Fireproofing Company, Youngstown, Ohio, a Corporation of Ohio. Filed July 11, 1905. Serial No. 269,212.

Claim.—1. A sectional steel cabinet comprising units having ends contracted in length to fit into the bottom of the next upper unit and means for locking the units together, and means coöperating with said locking means for preventing the top unit from being removed from the lower without first moving said top unit forward a given distance.



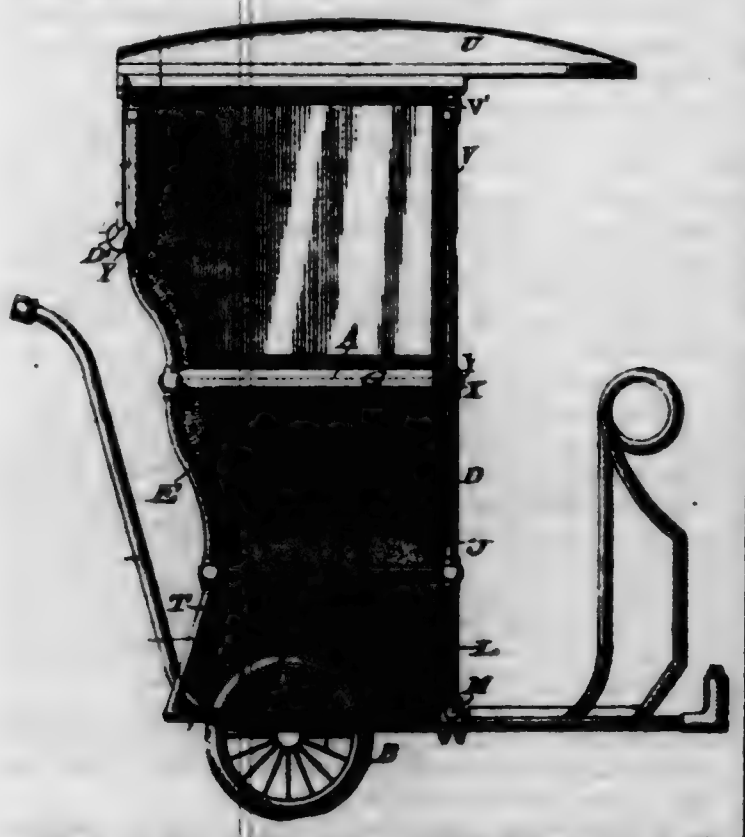
2. A sectional steel cabinet comprising units having end sheets bent inwardly and upwardly at both the top and bottom whereby the upper ends of the lower units are contracted in length to fit into the lower ends of the units.

3. A sectional steel cabinet comprising units having end sheets bent inwardly and upwardly at both the top and bottom whereby the upper ends of the lower units are contracted in length to fit into the lower ends of the upper units, and means for locking the units together.

4. A sectional steel cabinet comprising units having top sheets bent upwardly and outwardly at front and bottom sheets bent downwardly and inwardly at front to coöperate with the top sheets.

5. A sectional steel cabinet comprising units having top sheets bent upwardly and outwardly at front and bottom sheets bent downwardly and inwardly at front to coöperate with the top sheets, and means for locking the units together.

805,605. ROLLING-CHAIR. HARRY B. WEISSBERGER, Atlantic City, N. J. Filed Apr. 18, 1902. Serial No. 103,579.



Claim.—1. In a rolling-chair, a chair-body having a bodily, vertically removable top with posts forming continuations of those of the body, and removable sashes adapted to engage said chair body and top when the latter is mounted upon the former.

2. In a rolling-chair, a chair-body having upwardly-facing grooves, a bodily, vertically removable top having downwardly-facing grooves, and removable sashes adapted to enter said grooves when the top is mounted upon the chair-body.

3. In a rolling-chair, a chair-body having grooves in the arm-rests thereof, a removable top having folding supporting-posts and a grooved side bar, and sashes adapted to enter said grooves when the top is mounted upon the chair-body.

4. In a rolling-chair, a chair-body having a grooved cross-piece at the upper end of the back, a bodily, vertically removable top, a sash adapted to enter said grooved cross-piece, and means for securing the upper end of said sash to said top.

5. In a rolling-chair, a chair-body having a grooved cross-piece at the upper end of the back, a bodily, vertically removable top, a sash adapted to enter said grooved cross-piece and provided with means at its upper end to engage said top.

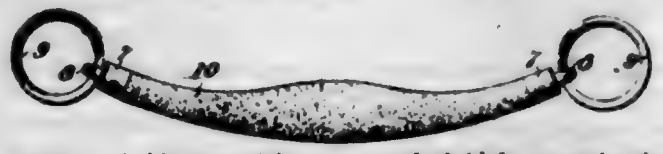
6. In a rolling-chair, a body, a top removable from said body, a plurality of posts each having pivotal connection with said top and pin-and-socket connection with said body, and means removable from said chair for preventing racking motion of said posts.

7. In a rolling-chair, a body, a top removable from said body, a plurality of posts between said top and said body and having pivotal connection with one of said parts and pin-and-socket connection with the other of said parts, and separate removable means between said posts for preventing racking motion of said posts.

8. In a rolling-chair, a body, a top removable from said body, and a plurality of posts having pivotal connection with said top and pin-and-socket connection with said body, and means engaging with said body and said top intermediate said posts for preventing racking motion thereof.

9. In a rolling-chair, a chair-body having front and rear uprights a top having depending posts forming vertical continuations of said uprights, laterally-projecting guide-bars on said top, removable sashes engaging said guide-bars and body, and a removable rear sash provided with means engaging the said guide-bars for locking said sash in position.

805,606. BRIDLE-BIT. HENRY T. WERK, Cleveland, Ohio. Filed Sept. 8, 1904. Serial No. 223,735.



Claim.—A bit comprising a curved rigid bar terminating in ferrules, and a rubber cover over the bar between the ferrules, the cover having an enlargement or bulge on the concave side of the bar.

805,607. PROCESS FOR PRODUCING TASTELESS ROASTED MALT DECOCTIONS. MICHAEL WEYERMANN, Bamberg, Germany. Filed May 13, 1902. Serial No. 107,160.

Claim.—1. The herein-described process for producing aqueous tasteless colored malt solutions for manufacturing dark beer, which consists in mixing colored malt-groats, revivified wood, animal or other charcoal—containing no noxious substance soluble in water—and water in or about the proportions stated, then boiling said mixture and separating the decoction from the colored malt-husks.

2. The herein-described process for producing aqueous tasteless colored malt solutions for manufacturing dark beer, which consists in mixing colored malt-groats, revivified wood, animal or other charcoal—containing no noxious substance soluble in water—and water in or about the proportions stated, then boiling said mixture and separating the decoction from the colored malt-husks and further lixiviating the colored malt-husks with hot water.

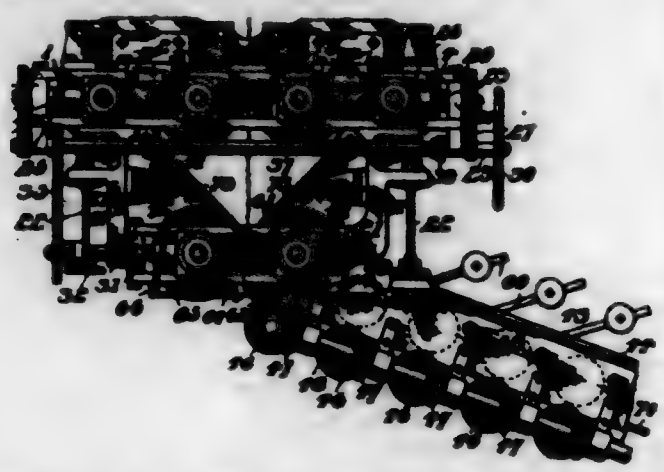
3. The herein-described process for producing aqueous tasteless colored malt solutions for manufacturing dark beer, which consists in mixing colored malt-groats, revivified wood, animal or other charcoal—containing no noxious subetance soluble in water—and water in or about the proportions stated, then boiling said mixture and separating the decoction from the colored malt-husks filtering the decoction, and concentrating the filtrate to an extract.

4. The herein-described process for producing aqueous tasteless colored malt solutions for manufacturing dark beer, which consists in mixing colored malt-groats, revivified wood, animal or other charcoal—containing no noxious subetance soluble in water—and water in or about the proportions stated, then boiling said mixture and separating the decoction from the colored malt-husks adding the decoction to the wort, filtering the whole and concentrating the filtrate to an extract.

5. The herein-described process for producing aqueous tasteless colored malt solutions for manufacturing dark beer, which consists in mixing water and colored malt-groats and adding dry malt-

grants rich in diastase in or about the proportions stated, mashing this mixture and heating it to about 150° Fahrenheit, adding wood, animal or other charcoal—containing no noxious substance soluble in water, then boiling this colored mash, and separating the decoction from the husks.

805,608. GLASS-ROLLING MACHINE. BRUCE C. WHITE, Mongrove, Pa. Filed Mar. 21, 1905. Serial No. 251,188.



Claim.—1. In a machine for rolling glass sheets, two pairs of horizontal rolls, each pair being arranged to roll a sheet of glass from a mass of molten glass, in combination with a pair of horizontal rolls arranged to receive the two sheets so formed and to unite them while plastic into one sheet.

2. In a machine for rolling glass sheets, two pairs of horizontal parallel rolls, each pair being arranged to roll a sheet of glass from a mass of molten glass, in combination with a pair of rolls so placed as to receive between them the sheets so formed and unite the said sheets between the meshes or strands of woven or twisted wire or other open metal network.

3. In a machine for rolling glass sheets, two pairs of forming-rolls, each pair being arranged to roll a sheet of glass between them, a pair of receiving-rolls arranged to receive and unite said sheets, means for rotating the said two pairs of forming-rolls at the same speed and independent means for rotating the said receiving-rolls at a speed different from that of the forming-rolls.

4. In a machine for rolling glass sheets, two pairs of forming-rolls, each pair being arranged to roll a sheet of glass between them, a pair of receiving-rolls arranged to receive and unite said sheets, means for rotating the said two pairs of forming-rolls at the same speed, independent means for rotating the said receiving-rolls at a speed different from that of the forming-rolls, and means for adjusting the speed of the receiving-rolls in relation to that of the forming-rolls.

5. In a machine for rolling glass sheets, two pairs of forming-rolls, each pair being arranged to roll a sheet of glass between them, a pair of receiving-rolls arranged to receive and unite said sheets, and means for adjusting the space between the two rolls of each pair simultaneously.

6. In a machine for rolling glass sheets, two pairs of forming-rolls, each pair being arranged to roll a sheet of glass between them, a pair of receiving-rolls arranged to receive and unite said sheets, and means for adjusting the space between the receiving-rolls independently of the forming-rolls.

7. In a machine for rolling glass sheets, two pairs of forming-rolls, each pair being arranged to roll a sheet of glass between them, a pair of receiving-rolls arranged to receive and unite said sheets, means for adjusting the forming-rolls and means for adjusting the receiving-rolls, and means for connecting the two adjusting means so that both forming and receiving rolls may be adjusted simultaneously.

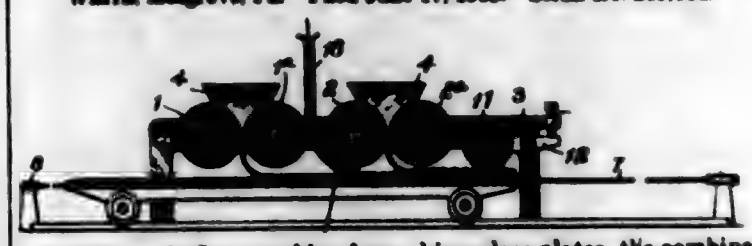
8. In a machine for rolling glass sheets, two pairs of forming-rolls, each pair being arranged to roll a sheet of glass between them, a pair of receiving-rolls arranged to receive and unite said sheets, means for adjusting the forming-rolls, means for adjusting the receiving-rolls, and means for connecting the two adjusting means so that both kinds of rolls may be adjusted simultaneously, the adjustment of the receiving-rolls being made proportional to that of the forming-rolls.

9. In a machine for rolling glass sheets, two pairs of forming-rolls, each pair being arranged to roll a sheet of glass between them, a pair of receiving-rolls arranged to receive and unite said sheets, and guides to receive the two sheets from the forming-rolls and deflect them toward the space between the receiving-rolls.

10. In a machine for rolling glass sheets, an inclined finishing-table, and a receiving-table to receive the sheets from the inclined table, the receiving-table movable in line with the inclined table and also into a horizontal position.

11. In a machine for rolling glass sheets, two pairs of forming-rolls, each pair being arranged to roll a sheet of glass between them, a pair of receiving-rolls arranged to receive and unite said sheets, and a secondary roll coacting with one of the receiving-rolls to deflect the sheet.

805,609. MANUFACTURE OF GLASS PLATES. BRUCE C. WHITE, Mongrove, Pa. Filed June 17, 1905. Serial No. 265,514.



Claim.—1. In a machine for making glass plates, the combination of two or more pairs of rolls each pair of rolls being adapted to form between them a sheet of glass and a bed or platen arranged to receive the sheets when formed, one of said elements, *i. e.* the pairs of rolls or the platen being movable relative to the other the rolls being arranged to deposit the sheets formed by them in succession on the platen.

2. In a machine for making glass plates, the combination of two or more pairs of rolls, each pair of rolls being adapted to form between them a sheet of glass, a bed or platen arranged to receive the sheets when formed one of said elements, *i. e.* the pairs of rolls or the platen being movable relative to the other the rolls being arranged to deposit the sheets formed by them in succession on the platen and means for pressing said sheets together.

3. In a machine for making glass plates, the combination of two or more pairs of rolls, each pair being adapted to form between them a sheet of glass, a bed or platen arranged to receive the sheets when formed, one of said elements, *i. e.* the pairs of rolls or the platen being movable relative to the other the rolls being arranged to deposit the sheets formed by them in succession on the platen, and means for placing a metallic web between the sheets.

4. In a machine for making glass plates, the combination of two or more pairs of rolls, each pair being adapted to form between them a sheet of glass, a bed or platen arranged to receive the sheets when formed one of said elements, *i. e.* the pairs of rolls or the platen being movable relative to the other the rolls being arranged to deposit the sheets formed by them in succession on the platen, means for placing a metallic web between the sheets and means for exerting pressure on the sheets.

5. In a machine for making glass plates, the combination of a bed or platen, a series of two or more pairs of rolls arranged in succession, each pair of rolls being adapted to form between them a sheet of glass, one pair of rolls coöperating with the bed or platen to deposit the sheet formed by the rolls on the bed or platen, and the other pair or pairs of rolls coöperating with the bed or platen to superimpose the sheet or sheets formed thereby on the previously-formed sheet or sheets.

6. In a machine for making glass plates, the combination of a bed or platen, a series of two or more pairs of rolls arranged in succession, each pair of rolls being adapted to form between them a sheet of glass, one pair of rolls coöperating with the bed or platen to deposit a sheet formed by the rolls on the bed or platen, the succeeding pair of rolls coöperating with the bed or platen to superpose the sheet formed thereby on the previously-formed sheet, and a roll for compressing the sheets when arranged on the table or platen.

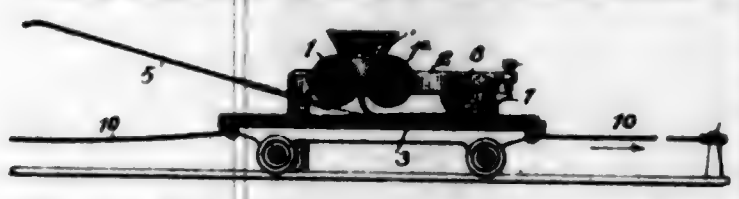
7. In a machine for making glass plates, the combination of a bed or platen, a series of two or more pairs of rolls, each pair of rolls being adapted to form between them a sheet of glass, said rolls and platen coöperating to deposit the sheets in succession on the bed or platen, means for depositing a metallic web on the glass sheet in advance of the placing the succeeding sheet thereon, and a roll coöperating with the platen to compress the sheets.

8. The method herein described of making glass plates which consists in forming two or more sheets of glass, depositing one of them along a supporting-surface and then depositing the second sheet on the previously-arranged sheet and subjecting the sheets to pressure.

9. The method herein described of making glass plates which consists of forming two or more sheets of glass, depositing them in succession one upon a supporting-surface and the other upon the

first sheet and interposing a metallic web or fabric between the sheets.

805,610. MANUFACTURE OF GLASS PLATES. BRUCE C. WHITE, Mosgrove, Pa. Filed June 17, 1905. Serial No. 265,815.



Claim.—1. The method herein described of making glass plates which consists in forming and distributing a portion of a sheet in one direction and another portion in the opposite direction and then pressing said portions together.

2. The method herein described of making glass plates, which consists in forming a portion of a sheet and forming the remaining portion on the first portion.

3. The method herein described of making glass plates, which consists in forming a glass sheet along a suitable bed or support and reversing the direction of distribution of the sheet without interrupting the formation thereof, thereby depositing a second portion of the sheet on the portion first formed.

4. The method herein described of making glass plates, which consists in forming a glass sheet along a suitable bed or support, placing a metallic web or fabric thereon and reversing the direction of distribution of the sheet without interrupting its formation, thereby inclosing the metal web or fabric between portions of a continuous sheet.

5. The method herein described which consists in forming a sheet doubling it on itself, interposing a metal fabric or web between the two portions of the sheet and subjecting the layers of glass and metal to pressure.

6. The method herein described which consists in forming a sheet doubling it on itself and interposing a metal fabric or web between the two portions of the sheet.

7. The method herein described which consists in reducing a portion of a mass of glass to sheet form, placing a metallic web or fabric on the sheet, forming another sheet from the same mass, depositing it on the metal web or fabric and subjecting the layers of glass and metal to pressure.

8. The method herein described which consists in reducing a portion of a mass of glass to sheet form, placing a metallic web or fabric on the sheet and forming another sheet from the same mass, depositing it on the metal web or fabric.

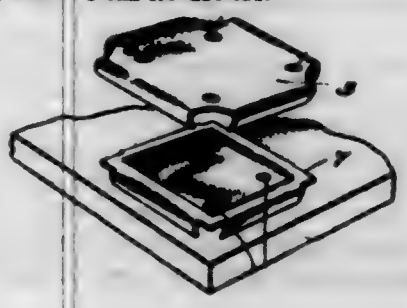
9. In an apparatus for the manufacture of glass plates, the combination of means for reducing a mass of glass to sheet form, a support for the sheet as formed, means for imparting a back-and-forth movement to one of said elements during the reduction of the glass to sheet form.

10. In an apparatus for the manufacture of glass plates, the combination of means for reducing a mass of glass to sheet form, a support for the sheet as formed, means for imparting a back-and-forth movement to one of said elements during the formation of the sheet and means for placing a metal web or fabric on the portion of the sheet first formed.

11. In an apparatus for the manufacture of glass plates the combination of means for reducing a mass of glass to sheet form, a support for the sheet as formed, means for imparting a back-and-forth movement to one of said elements during the reduction of the glass to sheet form and means for compressing the layers thus formed.

12. In an apparatus for the manufacture of glass plates the combination of a pair of rolls for reducing a mass of glass to sheet form, a movable bed or platen and means for imparting a back-and-forth movement to the bed or platen during the formation of a sheet and a pressing-roll.

805,611. RUG-FASTENER. JOHN R. WHITE, Jr., Los Angeles, Cal. Filed Apr. 17, 1905. Serial No. 256,125.



Claim.—1. As an article of manufacture, a snap-fastener for rugs, comprising two members each having a plurality of spring-flanges at the edge, the flanges of one member embracing the flanges of the other by a spring embrace, one member to be secured to the rug and the other to the floor.

2. As an article of manufacture, a snap-fastener for rugs, comprising two members of different sizes, one adapted to enter the other, one having means whereby it is secured to the floor, and the other means whereby it is secured to the rug or carpet to be fastened, each member having spring-flanges at the edge whereby one is constructed and adapted to embrace the other with a spring embrace.

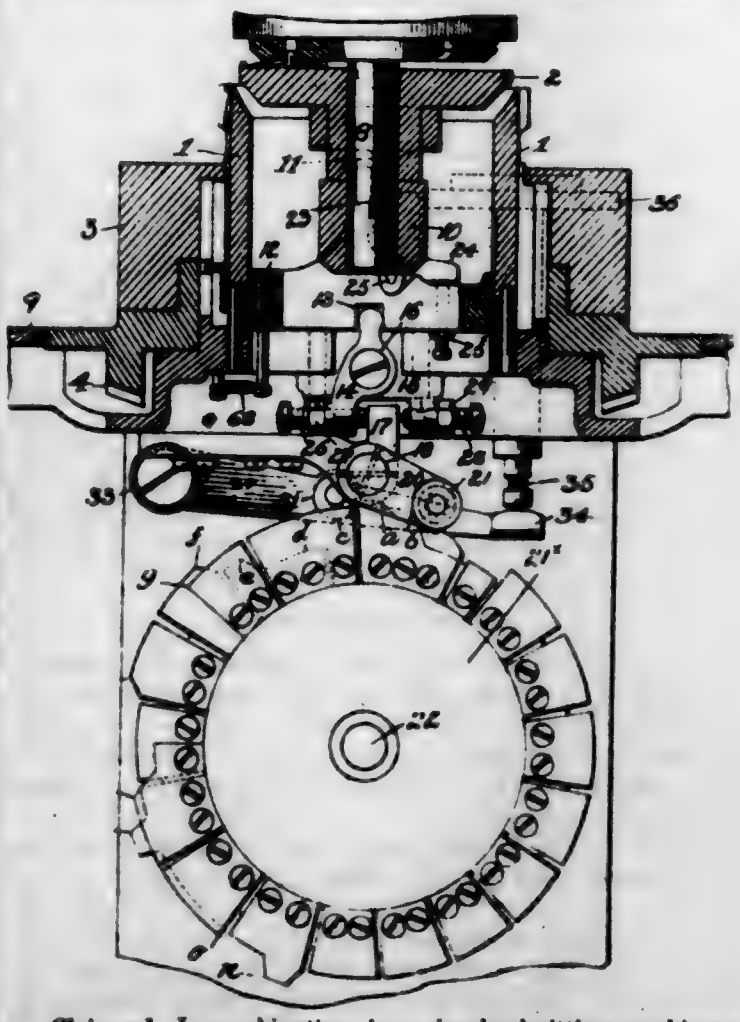
3. A rug-fastener composed of two members each of rectangular form, the corners of each of said members being cut out and its intermediate edges bent laterally to form flanges, and one member constructed and adapted to inclose the other by a spring embrace.

4. A rug-fastener composed of two members each of rectangular form, the corners of each of said members being cut out and its intermediate edges bent laterally to form flanges, and one member constructed and adapted to inclose the other by a spring embrace, one member being approximately flat and adapted to be secured to the rug and the other member having a depressed center adapted to rest upon the floor and afford the sole means by which it is secured thereto.

5. A rug-fastener composed of an upper resilient member of a substantially square form and having the corners cut away and the edges between the corners turned downwardly and inwardly and having holes therein near the corners; and a lower member of a square form having its corners cut away and its edges bent downwardly and inwardly and having the central portion depressed and having holes in the depressed portion near the corners, said lower member being slightly smaller than the upper member so that the turned-down portions of the upper member may be sprung thereon.

6. As an article of manufacture, a snap-fastener for rugs, composed of two members, one of which is offset through the center whereby to rest flat upon and be secured to the floor, said member provided with a plurality of spring-flanges located at intervals around the edge, the other member adapted to be secured to the rug, it being provided with spring-flanges at intervals of sufficient size to overlap and receive the flanges of the smaller member with a spring embrace.

805,612. CIRCULAR-KNITTING MACHINE. FRANK B. WILDMAN, Norristown, Pa. Filed Aug. 3, 1904. Serial No. 219,373.



Claim.—1. In combination, in a circular-knitting machine, a dial and cylinder with the needles and needle-cams, means for retracting the needle-cam of the dial, means for automatically chang-

ing the relation between the dial and cylinder from a two-and-two order of the needles to a one-and-one order, means for restoring the needle-cam of the dial to knitting position, means for causing the cylinder-needles to drop the thread and to aid the dial-needles in the formation of long loops, means for causing the resumption of knitting on the cylinder-needles, and the retraction and throwing out of action of the dial-needles and the knitting of the welt on the cylinder-needles, means for shifting the dial back to the two-and-two relation of the needles, and means for bringing the dial-needles into action to resume rib-knitting in two-and-two order, substantially as described.

2. In combination, in a circular-knitting machine, a dial and cylinder with the needle-cams, means extending within the cylinder from below for engaging a part of the dial for turning the same circumferentially, and automatically-operating means for moving the said means consisting of pattern mechanism, substantially as described.

3. In combination in a circular-knitting machine, a cylinder and dial, pattern mechanism and a ring having a portion extending within the cylinder and engaging a part of the dial for turning the same, substantially as described.

4. In combination in a circular-knitting machine, a cylinder and dial, a ring within the cylinder having engagement with a part of the dial, and pattern mechanism for turning the ring, substantially as described.

5. In combination with a dial, a cylinder, a ring within the cylinder having engagement with a portion of the dial, a lever engaging the ring and pattern mechanism for operating the lever, substantially as described.

6. In combination with a dial and cylinder, a ring adjustable circumferentially and having an arm, and an adjustable lever for engaging a part of the dial, and means for turning the ring automatically for changing the position of the dial, substantially as described.

7. In combination, the dial and cylinder, a ring within the cylinder having engagement with a part of the dial, a lever for operating the ring, an arm for operating the lever, a rock-shaft carrying the said arm, a pattern-wheel and an arm on the rock-shaft operated by the said pattern-wheel, substantially as described.

8. In combination in a circular-knitting machine, a dial, a cylinder, needle-cams, means for adjusting the said needle-cams, consisting of a vertically-movable disk, a vertical shaft having arms to be operated thereby and a link connection from the shaft to the dial needle-cam, a pattern-wheel with connections to the said adjusting means, and connections from the said pattern-wheel to the dial for adjusting the same circumferentially, substantially as described.

9. In combination, in a circular-knitting machine, a dial, a cylinder, the knitting-cams, a cam for one circular row of needles adapted to operate the same to throw off the stitches of all the needles of that row, and means for automatically controlling the said cam, substantially as described.

10. In combination in a circular-knitting machine, a cylinder, a dial, needles and cams therefor, a lug on the dial, a pattern-wheel, a rock-shaft operated by the said pattern-wheel, a connection extending from the said rock-shaft within the needle-cylinder to engage the lug on the dial, a vertically-arranged shaft connected with the dial-cam and means adjustable vertically and controlled by the pattern-wheel for turning the said vertical shaft, substantially as described.

11. In combination in a circular-knitting machine, a dial a cylinder, the knitting-cams, a cam for one circular row of needles adapted to operate the same to throw off the stitches of all the needles of that row means for automatically controlling the said cam and means for automatically changing the relation circumferentially between the cylinder and dial, substantially as described.

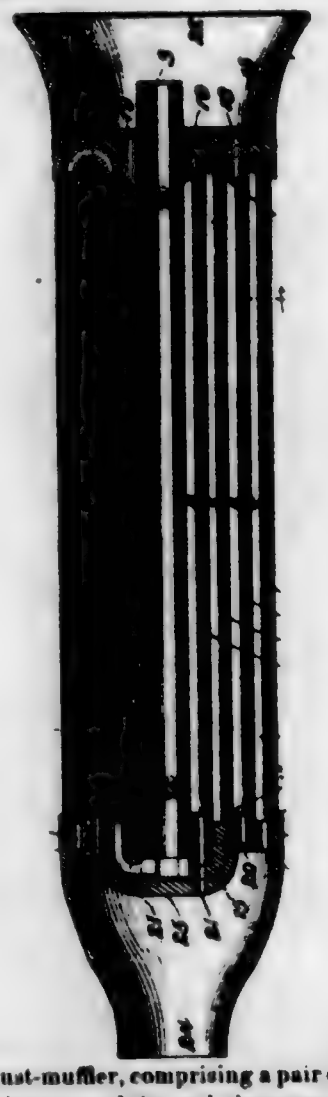
805,613. EXHAUST-MUFFLER. Frederick S. Williams, Amsterdam, N. Y., assignor of two-fifths to C. F. Hesser, Amsterdam, N. Y. Filed July 25, 1904. Serial No. 218,094.

Claim.—1. An exhaust-muffler, having communicating exhaust-conduits, and non-communicating open-ended air-passages arranged one within another.

2. An exhaust-muffler, having communicating exhaust-conduits, and non-communicating air-passages surrounding said conduits.

3. An exhaust-muffler, having longitudinal communicating exhaust-conduits, and non-communicating air-passages arranged one within another, said conduits and passages having alternating arrangement.

4. An exhaust-muffler, having concentric, communicating exhaust-conduits, and separate, concentric, non-communicating, open-ended air-passages alternating with the exhaust-conduits to facilitate cooling thereof.



5. An exhaust-muffler, comprising a pair of heads, and intermediate annular exhaust-conduits and air-passages, said heads having return-ports establishing communication between the conduits, and direct ports at the opposite ends of the air-passages.

6. An exhaust-muffler, comprising a pair of heads, and concentric cylinders extending between the heads and defining alternating exhaust-conduits and air-passages, each head having direct ports at opposite ends of the air-passages and return-ports establishing communication between the exhaust-conduits, and one of said heads having exhaust-ports adjacent to certain of the direct ports therein.

7. An exhaust-muffler, having a flared mouth at its front end, air-passages leading back from said mouth and arranged one within another, and exhaust-passages whose walls are also the walls of the air-passages.

8. An exhaust-muffler, having a flared mouth at one end a discharge-nozzle at its opposite end, and intermediate exhaust and air passages.

9. An exhaust-muffler, comprising a pair of heads, one having an entrance-funnel extending therefrom and the other a discharge-nozzle, and a series of concentric cylinders extending between the heads and defining exhaust and air passages.

10. An exhaust-muffler, comprising a front head having an entrance-funnel, annular series of direct ports and an annular series of return-ports, a rear head having a rearwardly-disposed discharge-nozzle, annular series of direct ports, an annular series of return-ports, and an annular series of exhaust-ports, the direct and exhaust ports opening into the nozzle, and a series of concentric cylinders extending between the heads and defining alternating exhaust-conduits and air-passages, substantially as described.

11. An exhaust-muffler, comprising a discharge-nozzle, exhaust-conduits, and air-passages, said conduits and passages discharging into the nozzle in close proximity to each other to induce an ejective action.

12. An exhaust-muffler, comprising a tapered discharge-nozzle, exhaust-conduits, and air-passages, said conduits and passages opening into the nozzle and having their discharge-orifices in close proximity to set up an ejective action tending to stimulate the circulation through the muffler.

13. An exhaust-muffler, comprising front and rear heads, and a series of intermediate concentric cylinders, the front head having an entrance-funnel.

14. An exhaust-muffler having a plurality of cooling-passages having no communication with each other, but arranged one within

another and open at both ends, and exhaust-conduits through which an exhaust fluid may be passed and cooled.

15. An exhaust-muffler having communicating exhaust-conduits through which the exhaust fluid circulates in opposite directions, and a cooling-passage through which a cooling fluid is lead between the exhaust-conduits to cool the walls thereof, said passage being open at both ends.

16. An exhaust-muffler having a series of exhaust-conduits each having communication at one end with the contiguous end of an adjacent conduit to permit the exhaust fluid to circulate in opposite directions in adjacent conduits, and cooling-passages located between adjacent exhaust-conduits, said passages having no communication with each other, but being open at both ends, whereby the air is permitted to pass freely through the passages and to escape at their rear ends.

17. An exhaust-muffler having a plurality of exhaust-conduits through which the exhaust fluid circulates in opposite directions, and cooling-passages having no communication with each other, each of said cooling-passages surrounding one of the exhaust-conduits and having its opposite ends open.

18. An exhaust-muffler having exhaust-conduits arranged one within another and communicating in a manner to permit the exhaust fluid to circulate in opposite directions in adjacent conduits, and cooling-passages having no communication with each other, but each surrounding an exhaust-conduit.

19. An exhaust-muffler having a constricted nozzle at its rear end, a series of cooling-passages discharging in said nozzle, and a circuitous exhaust-conduit likewise discharging into the nozzle and arranged to be cooled by the cooling medium passing through the cooling-passages.

20. An exhaust-muffler comprising a series of nested shells defining exhaust-conduits through which the exhaust fluid circulates in opposite directions, and cooling-passages alternating with the exhaust-conduits and having no communication with each other.

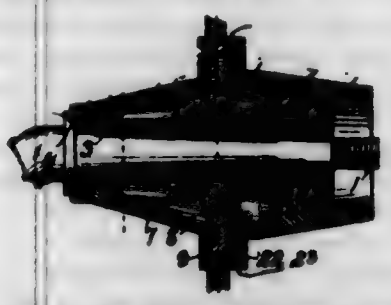
21. An exhaust-muffler comprising a series of nested shells defining exhaust-conduits through which the exhaust fluid circulates in opposite directions, cooling-passages alternating with the exhaust-conduits and having no communication with each other, and a constricted nozzle through which the exhaust fluid and cooling medium are discharged.

22. An exhaust-muffler comprising a series of nested shells defining exhaust-conduits through which the exhaust fluid circulates in opposite directions, cooling-passages alternating with the exhaust-conduits and having no communication with each other, a constricted nozzle through which the exhaust fluid and cooling medium are discharged, and a flared entrance-funnel at the front end of the muffler.

23. An exhaust-muffler including a discharge-nozzle, a plurality of exhaust-conduits through which the exhaust fluid circulates and is finally discharged through the nozzle, and a plurality of cooling-passages each discharging through the nozzle.

24. An exhaust-muffler through which the exhaust fluid and the cooling fluid are passed, including a head having a plurality of discharge-ports for the exhaust fluid and a plurality of discharge-ports for the cooling fluid, said ports being arranged in closely-adjacent relation to induce an ejective action, and a nozzle extending from the head and arranged to receive and discharge both the exhaust fluid and the cooling medium.

805,614. EXPANSIBLE HUB FOR SPOKED-WHEELS. HENRY W. WURTH, Leeds, Mo. Filed Oct. 18, 1904. Serial No. 228,978.



Claim.—1. In a spoke-expander, the combination with a member adapted to be mounted upon the axle, of an annular member carried thereby and provided with a plurality of swinging arms provided respectively with means for supporting and holding against lateral movement the inner ends of the spokes, and means for adjusting said arms toward and from the axle.

2. In a spoke-expander, the combination with a sleeve adapted to be mounted upon the axle, of an annular member carried thereby and provided with a plurality of swinging arms provided with means respectively for supporting and holding against lateral movement the inner ends of the spokes, and a conical member longitudinally adjustable upon the sleeve and having its periphery bearing against the inner sides of said arms.

3. In a spoke-expander, the combination with a sleeve adapted to be mounted upon and rotatable around the axle, of an annular member encircling said sleeve and provided with a plurality of swinging arms provided with means respectively for supporting and holding against lateral movement the inner ends of the spokes, and means for adjusting said arms radially.

4. In a spoke-expander, the combination with a sleeve adapted to be mounted upon and rotatable around the axle, of an annular member encircling said sleeve and provided with a plurality of swinging arms provided with means respectively for supporting and holding against lateral movement the inner ends of the spokes, and a conical member longitudinally movable upon the sleeve and having its periphery bearing upon the said arms.

5. In a spoke-expander, the combination with a sleeve having a screw-threaded periphery and adapted to be mounted on the axle, of a conical member provided with a hole fitted to said screw-threaded portion of the sleeve, and an annular member encircling and carried by said sleeve and provided with a plurality of swinging spoke-engaging arms arranged around and bearing upon the conical member, said arms having means for holding the spokes against lateral movement.

6. In a spoke-expander, the combination with a sleeve adapted to be rotatively mounted upon the axle and having a screw-threaded periphery, of a conical member having an axial screw-threaded hole fitted to said screw-threaded portion of said sleeve, and an annular member encircling and rotatable with the sleeve and provided with a plurality of swinging spoke-engaging arms arranged around and having a bearing upon the tapering portion of said conical member and having each a recess to receive the inner end of a spoke.

7. In a spoke-expander, the combination with a sleeve adapted to be mounted on the axle, of a conical member provided with an axial hole fitted to said sleeve and the said member being longitudinally movable on the sleeve, and a plurality of swinging spoke-engaging arms provided with means for being supported by the sleeve and arranged around and bearing upon the tapering portion of said conical member and having each a recess to receive the inner end of a spoke.

8. In a spoke-expander, the combination with a sleeve adapted to be mounted on the axle, of a conical member longitudinally adjustable upon the sleeve, and a plurality of swinging arms provided each with a recess adapted to receive the inner end of a spoke, arranged around and bearing upon said conical member and provided with means for being supported by the sleeve.

9. In a spoke-expander, the combination with a sleeve having a cylindrical screw-threaded periphery, of a conical member provided with an axial screw-threaded hole fitted to the screw-threaded periphery of the sleeve, and a ring internally screw-threaded and mounted upon the screw-threaded portion of the sleeve and provided with a plurality of arms arranged around and bearing upon the tapering periphery of the conical member and provided each with a recess for receiving the inner end of a spoke.

10. In a spoke-expander, the combination with a member adapted to be mounted upon the axle, of a flexible device carried by said member and provided with means for supporting and holding against lateral movement the inner ends of the spokes, means for expanding said flexible device for forcing the spokes outwardly, and a spacing device for engaging and holding in position the inner ends of the spokes.

11. In a spoke-expander, the combination with a member adapted to be mounted upon the axle, of a device carried by the said member and provided with flexible arms having recesses for receiving respectively the inner ends of the spokes, means for expanding said flexible arms for forcing outwardly the spokes, and a ring encircling said device and provided with a series of radial holes fitted to and adapted to receive respectively the inner ends of the spokes.

12. In a spoke-expander, the combination with a sleeve adapted to be mounted upon the axle, of a conical member longitudinally movable upon said sleeve, a series of swinging arms supported at their inner ends by the sleeve and provided at their outer ends with recesses for receiving respectively the inner ends of the spokes, the said arms bearing upon the tapering periphery of said conical member, and spacing means for retaining the inner ends of the spokes in position.

13. In a spoke-expander, the combination with a sleeve adapted to be mounted upon the axle, of a conical member longitudinally

adjustable upon the sleeve, an annular member provided with a plurality of swinging arms resting upon the tapering periphery of the conical member and having recesses for receiving respectively the inner ends of the spokes, the said annular member being mounted upon the sleeve, and a spacing device encircling said arms and engaging the spokes.

14. In a spoke-expander, the combination with a sleeve adapted to be mounted upon the axle, of a conical member longitudinally movable upon the sleeve, an annular member mounted upon the sleeve and provided with a plurality of swinging arms arranged around and bearing upon said conical member and having recesses for receiving respectively the inner ends of the spokes, and a ring encircling said arms and provided with means for engaging and holding the spokes in position.

15. In a spoke-expander, the combination with the sleeve adapted to be mounted upon the axle and provided with a cylindrical screw-threaded periphery, of a conical member provided with an axial screw-threaded hole fitted to the screw-threaded portion of the sleeve, an annular member encircling and supported by the sleeve and provided with a plurality of swinging arms having recesses for receiving respectively the inner ends of the spokes and resting upon the tapering portion of the conical member, and a ring encircling said arms and provided with a plurality of radial holes adapted to fit and hold the inner ends of the spokes.

16. In a spoke-expander, the combination with a sleeve adapted to be mounted upon the axle and provided with a screw-threaded periphery, of a conical member having an axial screw-threaded hole fitted to said screw-threaded portion of the sleeve, an internally-screw-threaded ring fitted to said sleeve and provided with a plurality of arms arranged around and resting upon the tapering portion of the conical member and provided each with a recess for receiving the inner end of a spoke, and a ring encircling said arms and provided with a plurality of radial holes adapted to receive and hold the inner ends of the spokes.

17. In a hub, the combination with an inner and an outer member provided with means for being secured together, one of said members being provided with radial recesses adapted to receive the spokes, of a sleeve adapted to be rotatably mounted upon the axle, a member mounted on said sleeve and provided with a series of swinging arms having means for supporting and holding against lateral movement the inner ends of the spokes, and means for adjusting said arms radially.

18. In a hub, the combination with an inner and an outer member provided with means for being secured together, one of said members having a series of radial recesses adapted to receive the spokes, of a sleeve adapted to be rotatively mounted on the axle and supporting one of said members, a member mounted on said sleeve provided with a plurality of swinging arms having means for supporting and holding against lateral movement the inner ends of the spokes, and a conical member longitudinally movable on the sleeve and having its periphery supporting the free ends of said arms.

19. In a hub, the combination with an inner and an outer member provided with means for being locked together, one of said members having a series of radial recesses adapted to receive the spokes, of a sleeve adapted to be rotatively mounted on the axle and supporting one of said members, said sleeve having a screw-threaded exterior, a member mounted on said sleeve and provided with a plurality of swinging arms having means for supporting and holding against lateral movement the inner ends of the spokes, and a conical member the periphery of which supports the inner sides of said arms, said conical member being provided with a longitudinal screw-threaded hole fitted to the screw-threaded portion of said sleeve.

20. In a hub, the combination with an inner and an outer member provided with means for being secured together, one of said members being provided with a plurality of radial recesses adapted to receive the spokes, of a sleeve adapted to be rotatively mounted on the axle and supporting one of said members, an annular ring mounted on said sleeve and provided with a plurality of swinging arms having means for supporting and holding against lateral movement the inner ends of the spokes, and a conical member movable lengthwise on the sleeve and supporting on its periphery the free ends of said swinging arms.

21. In a hub, the combination with an inner and an outer tubular member provided with means for being secured together, one of said members having a series of radial recesses adapted to receive the spokes, of a sleeve adapted to be rotatively mounted on the axle and encircled by and supporting one of said members, an annular member mounted on said sleeve and provided with a plurality of swinging arms having means for supporting and holding against lateral movement the inner ends of the spokes, a conical member adjustable lengthwise on said sleeve and supporting on its periphery said arms, and means by which one of said tubular members limits the movement of said conical member on said sleeve.

22. In a hub, the combination with two tubular members provided with means for being secured together, one of said members having a series of recesses adapted to receive the spokes, of a sleeve adapted to be rotatively mounted on the axle and encircled by and supporting one of said tubular members, and provided with a screw-threaded exterior, a member mounted on said sleeve provided with a plurality of arms radially movable and adapted to support the inner ends of the spokes, a conical member having a screw-threaded longitudinal hole fitted to the screw-threaded portion of the sleeve and adapted to support on its periphery said arms, and means by which rotation of said conical member on said sleeve may be limited by one of said tubular members.

23. The combination with two tubular members provided with means for being secured together, one of said members having a series of radial recesses adapted to receive the spokes, an annular member disposed between said tubular members and provided with a series of radial recesses adapted to receive the spokes, and a resilient ring disposed and adapted to be clamped between said annular member and one of said tubular members.

24. In a hub, the combination with two tubular members provided with means for being secured together, one of said members having a series of radial recesses adapted to receive the spokes, of a sleeve adapted to be rotatively mounted on the axle and encircled by and supporting one of said tubular members, of an annular member provided with a plurality of radially-adjustable devices adapted to support the inner ends of the spokes, a conical member adjustable lengthwise on the sleeve and supporting said radially-adjustable devices, a ring encircling said conical member and provided with a series of recesses adapted to receive the spokes, said ring being located between said tubular members and adapted to be held thereby against the spokes, and a resilient ring disposed and adapted to be pressed between one of said tubular members and the other ring.

25. In a hub, the combination with two tubular members provided with means for being locked together, one of said members being provided with a series of radial recesses adapted to receive the spokes, and one of said members being provided on its inner periphery with a longitudinal flange, of a sleeve adapted to be rotatively mounted on the axle and encircled by and supporting one of said tubular members, said sleeve being externally screw-threaded, of a conical member provided with a longitudinal screw-threaded hole fitted to the threaded portion of said sleeve, said conical member being provided with a peripheral projection adapted to engage said flange on one of the tubular members for preventing rotation of the conical member, and an annular member mounted on the sleeve and provided with a series of radially-adjustable devices adapted to support the inner ends of the spokes, and supported upon the periphery of the conical member.

26. In a hub, the combination with an exteriorly-screw-threaded sleeve adapted to be rotatively mounted on the axle, of a conical member having a longitudinal screw-threaded hole fitted to the threaded portion of the sleeve, a series of spoke-engaging devices supported by said conical member and radially adjustable when said conical member is rotated, and a casing encircling and supported by said sleeve, provided with a series of radial openings adapted to receive the spokes and provided with means for limiting the rotation of said conical member.

27. In a hub, the combination with an exteriorly-threaded sleeve adapted to be rotatively mounted on the axle, of a conical member provided with a longitudinal threaded hole fitted to the threaded portion of said sleeve, an annular member mounted on said sleeve and provided with a plurality of radially-adjustable arms adapted to support the inner ends of the spokes and supported upon the periphery of said conical member, and a casing encircling and supported by said sleeve, provided with a series of radial holes adapted to receive the spokes and provided with means for limiting the rotation of the conical member on the sleeve.

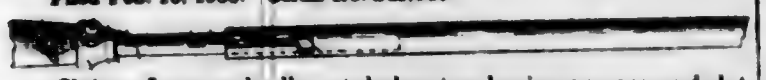
28. A hub-casing comprising two tubular members provided with means for being releasably locked together, each of said members being provided with a peripheral flange and one of said members having a series of radial holes adapted to receive the spokes, a ring encircling one of said members, disposed opposite the flange thereon and provided with a series of radial recesses adapted to receive the spokes, and a resilient ring disposed between the flange on the other member and between said other ring.

29. In a hub, the combination with two tubular members, one insertible within the other, the inner member having a series of hooks and the other member provided with a corresponding series of pe-

ripheral projections adapted to be engaged by said projections when the opposite member is rotated to the proper position in the outer member, of resilient means for normally forcing the members apart.

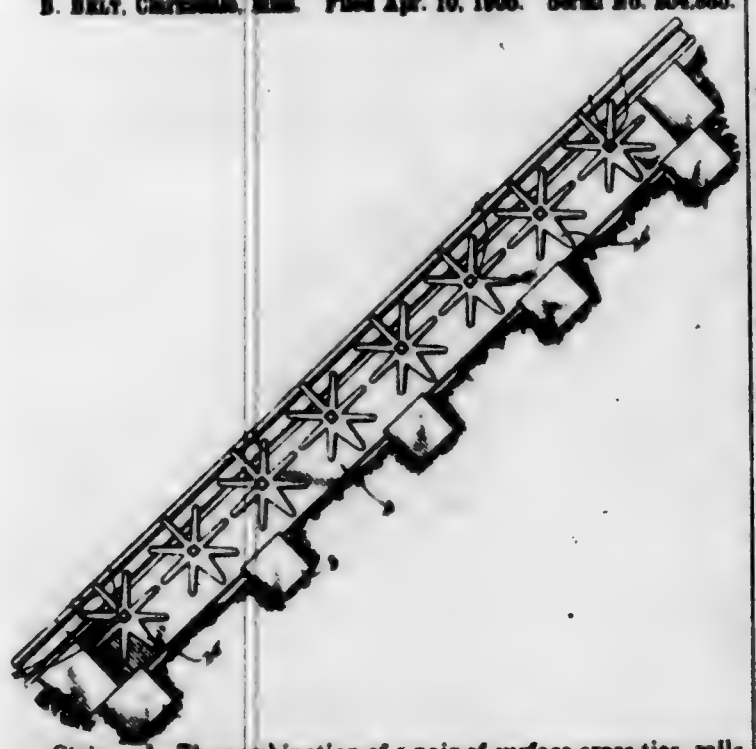
30. In a hub, the combination with two tubular members insertible one in the other, the inner member being provided with one or more hooks and the outer member having a corresponding number of inwardly-extending projections adapted to engage said hooks when one of the members is rotated on the other in the proper direction, each of said members being provided with an outer peripheral flange, and one of the members having a series of radial holes adapted to receive the spokes, of a ring encircling one of said members, disposed between said two flanges and provided with a plurality of radial recesses adapted to receive the spokes, and a resilient ring bearing against the other ring upon the side opposite the recesses therein and against the flange of the adjacent tubular member.

805,615. UMBRELLA-HANDLE. MEYER J. ADES, Baltimore, Md. Filed Feb. 16, 1905. Serial No. 245,846.



Claim.—In an umbrella, a tubular stem having an open-end slot provided with a laterally-offset notch, and a detachable tubular handle-shank having a slot, and a collar upon said shank having an open-end slot registering with the slot of said handle-shank, said collar having a recess leading into its slot, said handle-shank having an interior seat, and a depressible spring-catch having a reduced spring extension provided with an outwardly-directed shouldered termination engaging said seat, and an upward-extending button-head at the outer end of said catch adapted for depression into the recess of said collar, substantially as specified.

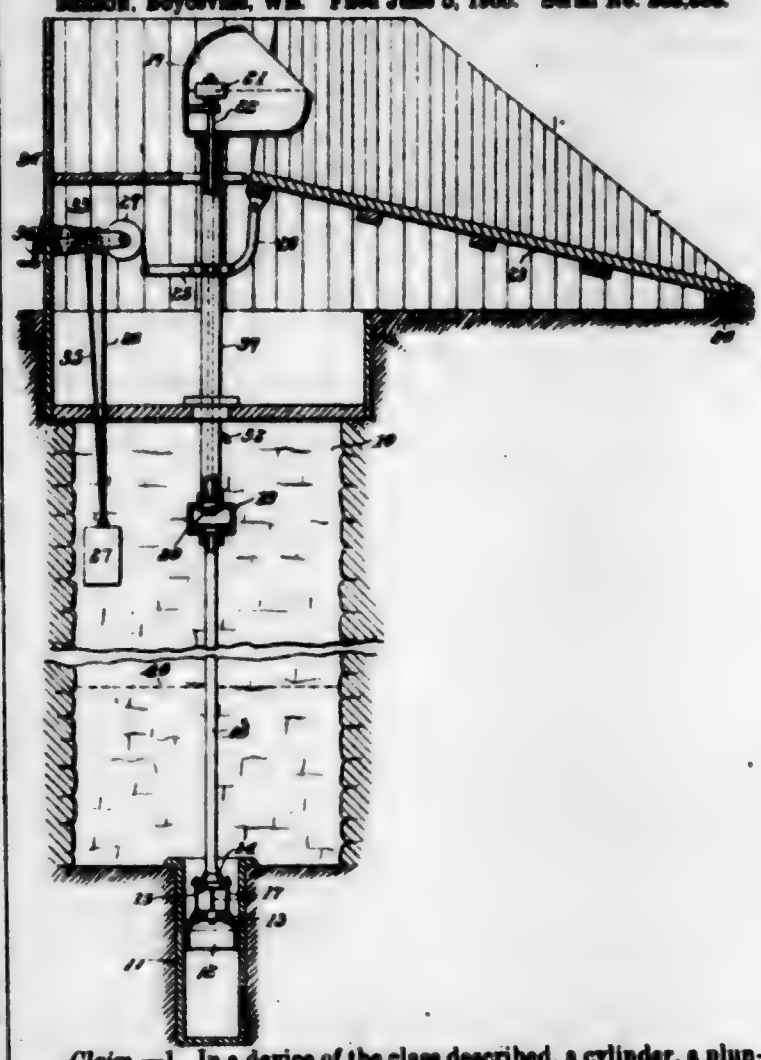
805,616. CATTLE-GUARD. WILLIAM A. ALCORN, Sr., and HARRY B. BELT, Clarksdale, Miss. Filed Apr. 10, 1905. Serial No. 254,885.



Claim.—1. The combination of a pair of surface cross-ties, rails supported upon the ties, a pit located between the ties, depressed ties located in the pit, stringers mounted upon the depressed ties with their ends connected to the surface ties and supporting the rails, beams supported upon the depressed ties at opposite sides of the rails with their ends overlapping and connected to the ends of the surface ties, the stringers being provided in opposite upright sides with bearing-sockets and the upper edges of the beams being provided with bearing-notches in alinement with the respective bearing-sockets of the stringers, bars having their ends supported in the bearing-sockets of the stringers and the bearing-notches of the beams, retaining devices closing the open tops of the bearing-notches, and rotary guard members mounted upon the bars and including radial wings.

2. The combination of a pair of surface cross-ties, a pit between the ties, stringers located in the pit and extending between the ties, rails supported upon the stringers and the ties, beams located in the pit and extending between the ties, and rotary guard members supported upon the stringers and the beams and including radial blades, the guard members being removable from the stringers and beams to permit the removal of debris accumulated in the pit.

805,617. STOCK-WATERING APPARATUS. WILLIAM H. ANDERSON, Boyceville, Wis. Filed June 5, 1905. Serial No. 263,336.



Claim.—1. In a device of the class described, a cylinder, a plunger operating in said cylinder, a receptacle for the liquid to be elevated, a tubular rod between said receptacle and plunger, a valve operating within said tubular rod, a float within said receptacle and connected to said valve, and means for actuating said plunger and the rod and receptacle associated therewith.

2. In a device of the class described, a cylinder, a plunger operating in said cylinder, a receptacle for the liquid to be elevated, a tubular rod between said receptacle and plunger and mounted for vertical movement, a valve within said tubular rod, a float within said receptacle and connected to said valve, and a platform movably disposed and connected to operate said plunger and the rod and receptacle associated therewith.

3. In a device of the class described, a cylinder, a plunger operating in said cylinder, a receptacle for the liquid to be elevated, a tubular rod between said receptacle and plunger and mounted for vertical movement, a valve within said tubular rod, a float within said receptacle and connected to said valve, a platform movably disposed and connected to operate said plunger and the rod and receptacle associated therewith, and a weight connected to maintain said platform yieldably in elevated position.

4. In a device of the class described, a cylinder, a plunger operating in said cylinder, a receptacle for the liquid to be elevated, a tubular rod between said receptacle and plunger and mounted for vertical movement, a valve within said tubular rod, a float within said receptacle and connected to said valve, a platform movably disposed and connected to operate said plunger and the rod and receptacle associated therewith, a weight connected to maintain said platform yieldably in elevated position, and a windlass associated with said weight and connected thereto by a cable, whereby the weight may be elevated independently of the platform.

5. In a device of the class described, a cylinder, a plunger for operation in said cylinder and open at the ends, a closure to said plunger, guide members connecting said closure member movably with said plunger, a tubular rod extending from said closure member, a receptacle connected to said rod, a valve within said tubular rod and means for operating said rod.

6. In a device of the class described, a cylinder, a plunger for operation in said cylinder and open at the ends and with an annular channel around the open upper end, a closure to said plunger with its rim for bearing within said channel, guide members connecting said closure movably upon said plunger, a tubular rod leading from said closure member, a receptacle connected to said tubular rod, a valve within said tubular rod, and means for operating said rod

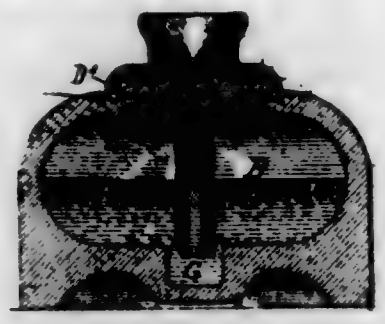
7. In a device of the class described, a well having a cylinder disposed below the bottom thereof and communicating therewith, a plunger operating in said cylinder, a receptacle for the liquid to be elevated, a tubular rod between said receptacle and plunger, a valve operative within said tubular rod, a float within said receptacle and connected to said valve, and means for actuating said plunger and the rod and receptacle associated therewith.

8. In a device of the class described, a well having a cylinder disposed therein, a plunger operating in said clyinder, a receptacle for the liquid to be elevated, a tubular rod between said receptacle and plunger, a valve operative within said tubular rod and below the upper line of the well, a float within said receptacle and connected to said valve, and means for actuating said plunger and the rod and receptacle associated therewith.

9. In a device of the class described, a well having a cylinder disposed therein, a plunger operating in said cylinder, a receptacle for the liquid to be elevated, a tubular rod between said receptacle and plunger, a valve operative within said tubular rod and below the upper line of the well, a vent in the tubular rod between said receptacle and valve and below the top line of the well, a float within said receptacle and connected to said valve, and means for actuating said plunger and the rod and receptacle associated therewith

10. In a device of the class described, a cylinder, a plunger operating in said cylinder, a receptacle for the liquid to be elevated, a tubular rod between said receptacle and plunger and mounted for vertical movement, a valve within said tubular rod, a float within said receptacle and connected to said valve, and a platform movably disposed and connected to operate said plunger and the rod and receptacle associated therewith, brace members between said receptacle and platform and between said receptacle and tubular rod.

805,618. **INKSTAND.** FRANK M. ASHLEY, New York, N. Y. Filed Mar. 22, 1905. Serial No. 251,204.



Claim.—1. In an inkstand, a body portion containing a reservoir, a rubber diaphragm held at the top thereof and having a central opening, and a dip-tube having a part of larger diameter than the normal diameter of the diaphragm-opening, the relative difference in diameters of said tube and opening resulting in a central depressed portion of the diaphragm.

2. In an inkstand, a body portion containing a reservoir, a rubber diaphragm held at the top thereof and having a central opening, a cover coöperating with said diaphragm, and a dip-tube having a part of larger diameter than the normal diameter of said diaphragm-opening, said tube part being frictionally engaged within said diaphragm-opening and thereby establishing a central depressed portion of the diaphragm.

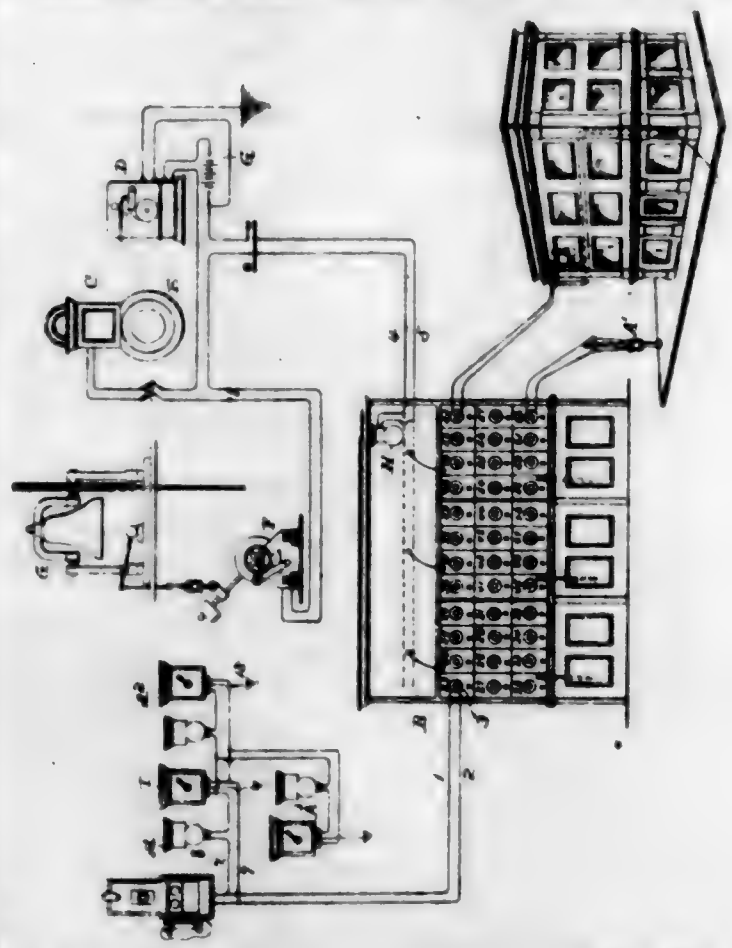
3. In an inkstand, a body portion containing a reservoir, a rubber diaphragm provided with a flange resting on the top of said body portion, said diaphragm also having a central opening, a cover cooperating with said diaphragm-flange, and a dip-tube having a part of larger diameter than the normal diameter of said diaphragm-opening, said tube part being frictionally engaged within said diaphragm-opening and thereby establishing a central depressed portion of the diaphragm.

4. In an inkstand, a body portion containing a reservoir, a rubber diaphragm fitted in the top thereof, and provided with a flange resting on the top of said body portion, a cover for said diaphragm provided with an annular groove within which the said flange is frictionally engaged, said cover normally being freely supported in position relative to said body portion and removable without removing the said flange from the body portion.

5. In an inkstand, a body portion containing a reservoir, a rubber diaphragm fitted in the top thereof and provided with a flange resting on the top of said body portion, a cover for said diaphragm provided with an annular groove into which said flange fits, said cover having a depending-ring portion fitting the inside walls of said diaphragm and pressing the same against said body portion, said cover being removable from the body portion without necessitating the removal of said diaphragm, and a dip-tube supported by said diaphragm.

6. In an inkstand, a body portion containing a reservoir with a central depression in the bottom thereof, a rubber diaphragm fitted in the top of said body portion and provided with a flange resting on the top of said body portion, a cover for said diaphragm provided with an annular groove within which said flange is frictionally engaged, said cover normally being freely supported in position relative to said body portion and removable without removing the said flange from the body portion, and a dip-tube the lower end of which depends within the central depression of the body portion of the stand.

805,619. **ELECTRIC SIGNALING SYSTEM.** WILLIAM S. AUNGST and ARTHUR S. AUNGST, Alliance, Ohio; said Arthur S. Aungst assignor to said William S. Aungst. Filed Mar. 20, 1905. Serial No. 251,066.



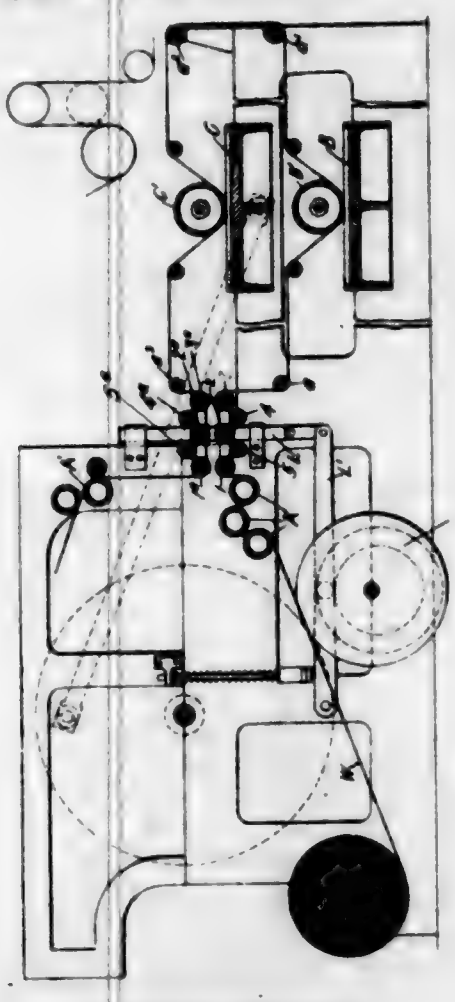
Claim.—The combination of a telephone central-office jack, a subscriber's line connected therewith, an alarm-station register having two markers, a circuit from said register to the central office, a plug in said circuit at the central office, a battery at the alarm-station and included in the line-circuit with one of the magnets of the register, a grounded circuit including said battery and the other magnet of the register, a make-and-break call mechanism independent of the local telephone-circuits looped on the subscriber's line, and a ground connection for said make-and-break call mechanism.

805,620. **WEB-MANIPULATING MECHANISM FOR PRINTING-PRESSES.** HENRY F. BECHMAN, Battlecreek, Mich., assignor to Duplex Printing Press Company, Battlecreek, Mich. Filed July 2, 1904. Serial No. 215,156.

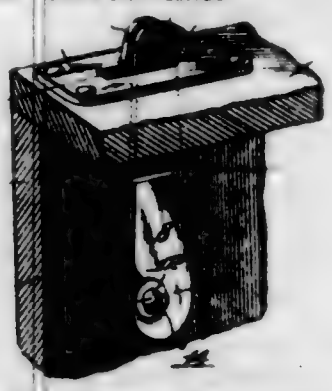
Claim.—1. The combination of printing mechanism comprising a pair of stationary beds and coacting impression-cylinders, and web feeding and delivery devices adapted to continuously feed and deliver a web to and from the printing mechanism; with two sets of web-looping devices intermediate the printing mechanism and the feed and delivery mechanisms, each set of devices comprising a plurality of fixed web-guides and a plurality of relatively movable web-loopers, the movable loopers being mounted on a common support, one set of looping devices operating to take up the web while the other set of looping devices is giving out web, and vice versa.

2. In a web-printing machine, the combination of continuously-operating web feeding and delivering devices, and web-printing mechanism comprising stationary beds and coacting cylinders intermediate the feed and delivery; with a web-looping mechanism between the feed and printing mechanisms, a second web-looping mechanism between the printing and delivery mechanisms, each of said looping mechanisms comprising four parallel web-guides and

three parallel movable loopers, and a reciprocating frame carrying both sets of the movable loopers, the movable loopers in each set being adapted to simultaneously form or give out loops in the web, and one set of the looping mechanisms operating oppositely to the other, all substantially as described.



805,621. BOX-FASTENER. CHARLES W. BEEHLER, St. Louis, Mo. Filed Jan. 26, 1905. Serial No. 242,706.



Claim.—1. In a box-fastener, the combination of an apertured lid-plate, a latch for engaging with said lid-plate provided with a notch in one of its sides, a pivot-pin fitted to said notch, a spring having one of its ends seated in said notch in engagement with said pivot-pin, and means for confining the other end of said spring, substantially as set forth.

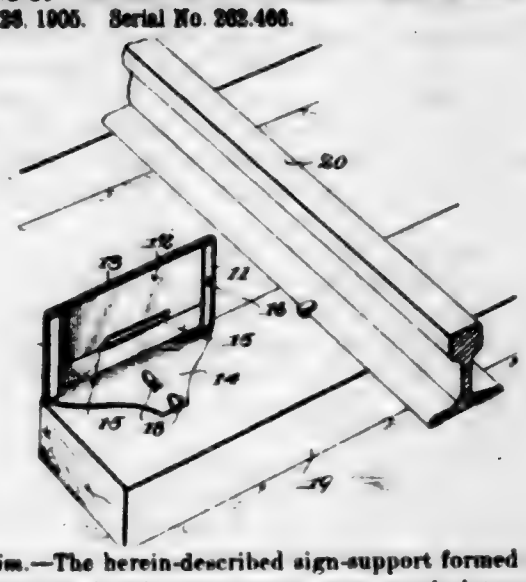
2. In a box-fastener, the combination of an apertured lid-plate, a latch for engaging with said lid-plate provided with a notch in one of its sides, a pivot-pin seated in said notch, a spring having one of its ends seated in said notch and curved around said pivot-pin, and means for confining the other end of said spring, substantially as set forth.

3. In a box-fastener, the combination of an apertured lid-plate, a latch for engaging with said lid-plate provided with a notch in one of its sides, a pivot-pin seated in said notch, a spring having one of its ends seated in said notch and curved around said pivot-pin, means for confining the other end of said spring, and means for holding said spring in said notch, substantially as set forth.

4. In a box-fastener, the combination of an apertured lid-plate, a latch for engaging with said lid-plate provided with a notch in one of its sides, a pivot-pin seated in said notch, a spring having one of its ends seated in said notch and curved around said pivot-pin, means for confining the other end of said spring, and a washer secured to said pivot-pin and bearing against the end of said spring seated in the notch in said latch to hold the spring in the notch, substantially as set forth.

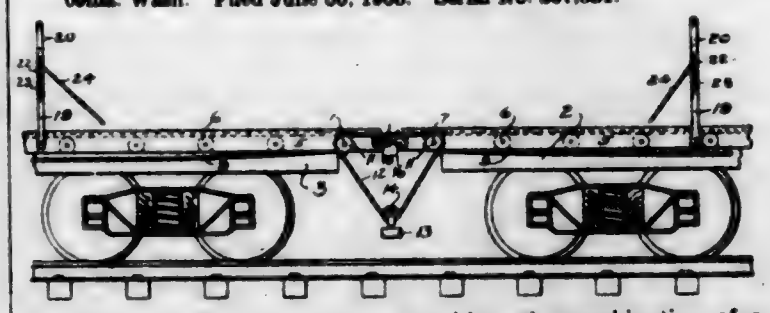
5. In a box-fastener, the combination of an apertured lid-plate, a latch for engaging with said lid-plate and having a notch in one of its sides, a pivot-pin seated in said notch, a spring having one of its ends seated in said notch and curving around said pivot-pin, and a staple for confining said latch and the other end of said spring, substantially as set forth.

805,822. SIGN-SUPPORT. ENDO L. BELL, Berkley, Va. Filed May 26, 1905. Serial No. 262,466.



Claim.—The herein-described sign-support formed from a single sheet of metal with a transverse aperture and a lateral projection forming a supporting-base, the metal folded upon itself at the ends to form guides for the sign and folded upon itself at the top to strengthen the structure and with spaced slits at the lower side of the aperture for bending in opposite directions to form a bearing for the sign.

805,823. TRACK-LAYING MACHINE. NELSON BENNETT, Tacoma, Wash. Filed June 30, 1905. Serial No. 267,831.



Claim.—1. In a track-laying machine, the combination of a series of separate conveyers supported on separate cars, and flexible means whereby the power of a forward conveyer is transmitted to a rearward conveyer irrespective of changes of angle and of distance therebetween.

2. In a track-laying machine, the combination of a series of separate conveyers flexibly supported on separate cars, and means whereby the power of a forward conveyer is transmitted to a rearward conveyer irrespective of changes of angle and of distance therebetween.

3. In a track-laying machine, the combination of a series of separate conveyers, means for flexibly supporting said conveyers on cars, means for flexibly connecting adjacent ends of conveyers, and means whereby the power of a forward conveyer is transmitted to a rearward conveyer irrespective of changes of angle and of distance therebetween.

4. In a track-laying machine, the combination with a series of cars, of pairs of cranes secured thereto, and separate conveyers flexibly supported from said cranes.

5. In a track-laying machine, the combination with a series of cars, of pairs of cranes secured thereto, of separate conveyers flexibly supported from said cranes, and flexible means joining adjacent ends of said separate conveyers.

6. In a track-laying machine the combination with a flat-car having stake-pockets on the sides thereof, cranes removably secured in said stake-pockets and projecting out from the car, and a conveyer flexibly hung from said cranes away from the side of said car.

7. In a track-laying machine, a rail-delivery roller supported at its outer end from a framework secured to and extending ahead of the forward car.

805,824. FOUNTAIN-PEN. JOHN BLAIR, Brooklyn, N. Y. Filed May 13, 1905. Serial No. 260,281.

Claim.—1. In a fountain-pen a pen-section adapted to be screwed into the pen-body and provided with a longitudinal recess, and a cap having a longitudinal central stem extending outward from its bottom to engage said recess in said pen-section to screw the latter into and out of said body as described.



2. In a fountain-pen a body having interior and exterior threads at its front end, a cap having interior threads to engage the exterior threads on said body, a pen-section having exterior threads to engage the interior threads on said body and provided with a longitudinal recess therein, and a central stem in said cap to engage said recess in said pen-section to screw the latter into and out of said body, as described.

3. A fountain-pen having interior and exterior threads at its front end, a cap having interior threads to engage the exterior threads on said body, a stem projecting from the hollow of said cap, a pen-section having exterior threads to engage the interior threads in said body, and a feeder in said pen-section having a longitudinal recess between its front, central portion and said pen-section, to engage said stem in said cap as described.

4. A fountain-pen having a pen-cap into which is fastened a stem having a form straight on one or both sides and a pen-section having a longitudinal recess of like cross-sectional form for engagement with said stem, as herein set forth.

805,625. CRACKER CONVEYER AND DISTRIBUTER. CHARLES C. BLANK, San Francisco, Cal. Filed July 6, 1905. Serial No. 268,541.



Claim.—1. A conveyer and distributer comprising an endless traveling belt, means for supplying articles upon the belt to be carried thereby, an endless traveling chain located above the conveyer-belt, the adjacent surfaces of the two belts moving in opposite directions, and a diagonally-disposed plow or scraper carried by the upper belt and moving in close proximity with the conveyer-belt.

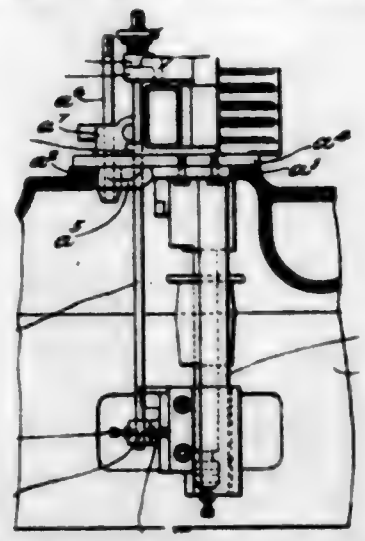
2. A conveyer and distributer comprising substantially parallel endless belts having contiguous surfaces movable in opposite directions, a chute by which articles are delivered upon one end of the lower belt, to be conveyed in the opposite direction, a plow carried by the upper belt and movable in close proximity with the conveyer-belt, and tables at the side of the conveyer-belt upon which articles carried thereby are distributed by the plow.

3. A conveyer consisting of an endless traveling belt and a chute by which articles are delivered upon that end of the belt from which the travel proceeds, a table located at the side of the belt, and an incline extending between the edge of the belt and the table, an endless belt traveling parallel and in opposite direction to the conveyer-belt, a plow or scraper carried by said belt, standing diagonally with the belt so as to discharge articles carried by the belt upon the incline and table.

4. The combination in a conveyer of parallel endless traveling belts having a vertical rib between their contiguous edges, a chute by which articles are delivered upon one end of the belt to be moved toward the opposite end, and a chain or like belt traveling above and in the opposite direction from the conveyer having plows or scrapers fixed to it to project so as to travel in close proximity with the conveyer-surface, said plows being disposed diagonally with the belts and having their inner ends traveling close to the dividing-rib, inclined surfaces extending downwardly from the outer edges of the conveyer-belt, and tables upon which articles forced from the conveyer-belt are delivered.

5. In a conveying and distributing apparatus, an endless belt traveling in one direction, a superposed chain belt having its contiguous surface traveling in the opposite direction, a diagonally-disposed plow or scraper whereby articles carried by the lower belt are successively brushed off at one side of said belt, said plow having a flexible brush upon its lower edge.

805,626. MATCHER-HEAD FOR WOOD-PLANERS. CHARLES W. H. BLOOD, Boston, Mass., assignor to S. A. Woods Machine Company, Boston, Mass. Filed July 16, 1904. Serial No. 216,793.



Claim.—1. In a machine of the kind described, a bed, a top plate transversely adjustable in the top of said bed, a depending leg rigidly secured to said top plate within said bed, vertical ways on said leg, a journal-box freely movable in said ways, a vertical shaft having a bearing beneath its lower end in said box and an upper bearing, a matcher-head fast on the upper end of said shaft above said plate, and an operating-rod for vertically moving said box and shaft, said rod extending parallel to said leg and provided at its upper end above said plate with hand-operating means located close to said matcher-head.

2. In a machine of the kind described, a bed, a top plate, a matcher-head and vertical shaft carried thereby, an end bearing supporting the lower end of said shaft, guiding means for said bearing, a rod supporting said bearing and longitudinally immovable with relation thereto, said rod having a threaded end extending above said bed, and a hand-nut on said threaded end engaging a fixed part of the machine, operation of said nut simultaneously moving said shaft and rod, whereby the adjustment of the matcher-head may be determined by the longitudinal movement of said rod with relation to said nut.

3. In a machine of the kind described, a bed, a top plate transversely adjustable in the top of said bed, a vertically-adjustable matcher-head and depending shaft carried by said plate, and adjusting means mounted in and moving with said plate for bodily moving said matcher-head and shaft vertically, said adjusting means being provided above said plate with hand-operating means.

4. In a machine of the kind described, a vertically-adjustable matcher-head, its driving-shaft, a lower journal-bearing for said shaft, a top plate and depending supporting-leg for said bearing and shaft, a lubricating-chamber for submerging the journal-bearing and shaft-bearing, and means operated from the top of the machine for simultaneously adjusting all of said parts with relation to said plate and leg.

5. In a machine of the kind described, a vertically-adjustable matcher-head, its driving-shaft, a top plate and depending supporting-leg for said shaft, a journal-box containing a lubricating-chamber for the lower end of said shaft; the latter being grooved adjacent its lower end, an arm fast in said box extending laterally into said

groove, a step bearing beneath the adjacent end of said shaft, and an adjusting-bolt in said box for adjusting said bearing toward said arm, whereby wear is taken up between said arm and bearing.

6. In a machine of the kind described, a bed over whose top surface the work to be matched travels, a top plate transversely adjustable in the top of said bed, a leg depending rigidly from said top plate within said bed, a journal-box supported by the lower end of said leg and vertically movable thereon, a shaft extending upwardly from said box, a matcher-head mounted on the upper end of said shaft, a bracket on said box, a rod held by said bracket and projecting upward through the top of said bed, a bearing for supporting the upper end of said rod and thereby supporting said box, and hand-operated means for vertically adjusting said rod, box, shaft and matcher-head simultaneously, said shaft adjacent its lower end having a peripheral groove, said box containing a journal-bearing and a stepped bearing separated from each other at said groove, and an arm rigidly supported in said box and extending in said groove for preventing the shaft from moving upwardly independently of said box.

7. In a machine of the kind described, a vertically-adjustable matcher-head, an adjusting-rod extending above the top of the machine for adjusting the same, and a chip-breaker for said matcher-head, pivoted on said rod.

8. In a machine of the kind described, a vertically-adjustable matcher-head, means located on top of the machine for adjusting the same, and a chip-breaker pivoted concentrically of said adjusting means.

9. In a machine of the kind described, a vertically-adjustable matcher-head, a chip-breaker surrounding the same comprising a stationary part and a movable part pivoted together at one end, and an adjusting-rod for said matcher-head extending at said pivotal end and supported on said stationary part of the chip-breaker.

805,627. **GUARD-RAIL CLAMP.** JASPER BUTCHER and JAMES L. THOMAS, Gainesville, Tex.; said Thomas assignor of one-third of his right to said Butcher. Filed July 21, 1905. Serial No. 270,732.



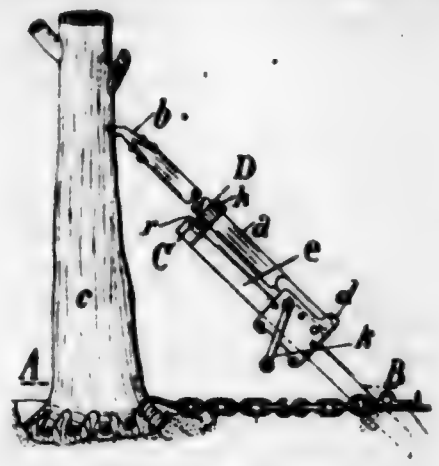
Claim.—1. In a device of the character described the combination of the main rail of a track, a guard-rail the ends of which are bent outwardly, filling-blocks between the two rails, clamping members extending beneath the rails and having their ends bent upward to embrace the outer sides of the rails, and means for holding the clamping members in engagement with the outturned ends of the guard-rail in order to clamp the various parts securely in position.

2. In a device of the character described the combination of the main rail of a track, a guard-rail the ends of which are bent outwardly, filling-blocks between the two rails, clamping members extending beneath the rails and having their ends bent upwardly to embrace the outer sides of the rails, and hook-bolts adapted to hook around the ends of the guard-rail and coöperating with the clamping members in order to force the same into engagement with the outturned ends of the guard-rail and clamping the various members securely in position.

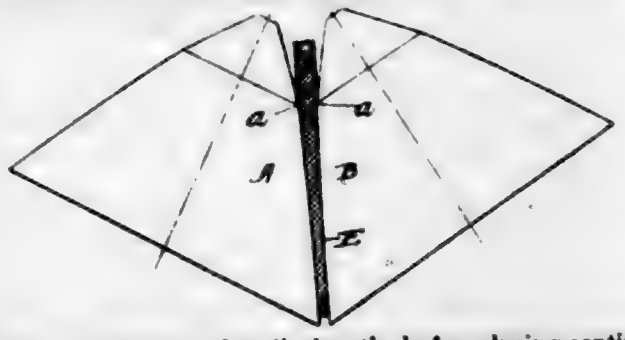
3. In a device of the character described the combination of the main rail of a track, a guard-rail the ends of which are bent outwardly, angular filling-blocks fitting between the outturned ends of the guard-rail and the main rail, clamping members extending beneath the two rails and having their ends bent upward to embrace the outer sides of the rails, and hook-bolts which hook around the ends of the guard-rail and coöperate with the clamping members in order to force the same into engagement with the outturned ends of the guard-rail, the free end of the hook engaging with the filling-block to prevent the same from slipping out of position.

805,628. **TREE-FELLING WINDLASS.** HEINRICH BÜTTNER, Lengd, near Hungen, Germany. Filed Apr. 11, 1905. Serial No. 255,087.

Claim.—In an appliance for felling trees, the combination with a toothed bar *s*, a windlass arrangement, which can be moved on the toothed bar, and a rod *a* which sits rigidly on the windlass arrangement and can be moved parallel with same, of means, to fasten this rod to the tree and to keep the friction arising by its movement as slight as possible, and of means, to take up the horizontal and vertical pressure arising in the bar, so as to prevent a slipping of the appliance.

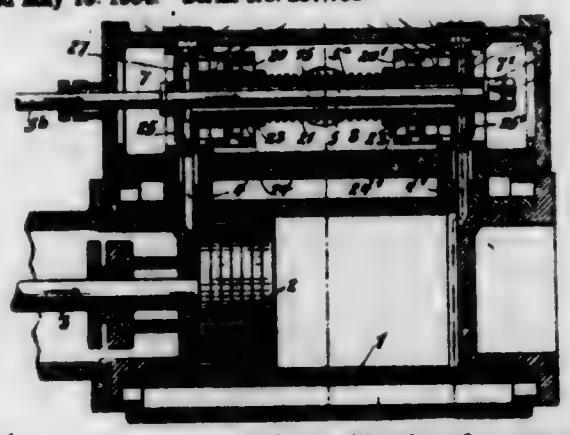


805,629. **METHOD OF MAKING SPIRAL CONVEYER-FLIGHTS AND THE LIKE.** FRANK C. CALDWELL, Oak Park, Ill. Filed Feb. 14, 1899. Serial No. 705,505.



Claim.—The herein-described method of producing continuous strip spiral conveyer-flights and the like, consisting in passing a strip of metal of substantially uniform thickness between a pair of cone-like pressure-rolls shaped and proportioned to form between them a tapering pass corresponding to a mathematical cross-section of a portion less than the complete width of the spiral to be produced, leaving the edge of the strip to project beyond the working portion of the pass at its wider end, whereby such projecting portion of the strip remains out of pressure contact with the surfaces of the rolls but is transformed into spiral shape by the action of the rolls upon the remaining portion of the width of the strip, substantially as described.

805,680. **AIR-PUMP.** THEODORE N. CASE, Mount Vernon, N. Y. Filed May 13, 1904. Serial No. 207,751.



Claim.—1. In an air-pump the combination of a pump-cylinder, a valve-chamber connected therewith by ports at each end of said cylinder, a main valve in said chamber having corresponding ports disconnected from one another and having an equalizing-passage formed entirely within the body of the valve and independent of the suction and discharge passages and adapted to connect the two ends of said cylinder, separate auxiliary valves for independently controlling said main valve-ports, said auxiliary valves being carried by said main valve, a discharge-passage leading from the discharge sides of said auxiliary valves and a suction-passage leading to the suction side of said main valve.

2. In an air-pump, the combination of a pump-cylinder, a valve-chamber having suction and discharge openings and connected to said pump-cylinder by ports at each end of said cylinder, a balanced

main valve in said chamber dividing it into a suction-chamber and a discharge-chamber, and having a passage corresponding to the ports at one end of said cylinder and adapted to register therewith, and also a passage corresponding to the ports at the other end of said cylinder and adapted to register therewith, said passages being disconnected from one another and leading to said discharge-chamber, separate auxiliary discharge-valves carried by said balanced main valve and seated thereon, one of said auxiliary discharge-valves being located between one of said passages and the discharge-chamber, and the other of said auxiliary valves being located between the other of said passages and the discharge-chamber, said auxiliary valves opening in such direction that the pressure of air delivered past one of said auxiliary valves coöperates with reservoir-pressure to hold the other closed, so that each of the auxiliary valves controls the discharge through its passage independently of the other valve.

3. In an air-pump, the combination of a pump-cylinder, a valve-chamber connected thereto by ports at each end of said cylinder, a main piston-valve therein having piston-heads with corresponding ports, separate and independently-actuated auxiliary valves mounted on the inner sides of the piston-heads of said main piston-valve, means for holding said valves to their seats with a yielding pressure, a discharge-passage leading from the inside of said piston-heads and a suction-passage leading to the other sides of said piston-heads.

4. In an air-pump, the combination of a pump-cylinder, a valve-chamber connected thereto by ports at each end of said cylinder, a main piston-valve therein having piston-heads with corresponding ports, separate auxiliary valves mounted on the inner sides of the piston-heads of said main piston-valve and surrounding the axis of the same, means for holding said valves to their seats with a yielding pressure, a discharge-passage leading from the inside of said piston-heads and a suction-passage leading to the other sides of said piston-heads.

5. In an air-pump, the combination of a pump, a cylinder, a valve-chamber connected thereto by ports at each end of said cylinder, a main piston-valve therein having piston-heads with corresponding ports, separate auxiliary cylindrical valves mounted on the inner sides of the piston-heads of said main piston-valve, and surrounding the axis of the same, means for holding said valves to their seats with a yielding pressure, a suction-passage leading to the outside of said piston-heads and a discharge-passage leading from the other sides of said piston-heads.

6. In an air-pump, the combination of a pump-cylinder, a valve-chamber connected thereto by ports at each end of said cylinder, a main piston-valve therein having piston-heads with corresponding ports, separate auxiliary valves mounted on the inner sides of the piston-heads of said main piston-valve, and surrounding the axis of the same, means for exerting upon said valves a spring-pressure, a suction-passage leading to the outside of said piston-heads and a discharge-passage leading from the other sides of said piston-heads.

7. In an air-pump, the combination of a pump-cylinder, a valve-chamber connected thereto by ports at each end of said cylinder, a main piston-valve therein having piston-heads with corresponding ports, separate auxiliary valves mounted on the inner sides of the piston-heads of said main piston-valve, and surrounding the axis of the same, a spring engaging with both of said valves to hold the same to their seats with a yielding pressure, a suction-passage leading to the outside of said piston-heads and a discharge-passage leading from the other sides of said piston-heads.

8. In an air-pump the combination of a piston, a pump-cylinder therefor, a valve-chamber connected to said cylinder and having suction and discharge passages, a piston-valve therein alternately connecting the two ends of said cylinder with said suction and discharge passages, said piston-valve having an equalizing-passage lying entirely within the body of said valve and independent of the suction and discharge passages and thereby at intermediate times connecting both ends of said cylinder with each other.

9. In an air-pump having a pump-cylinder and valve-chamber with suction and discharge passages, a piston-valve consisting of a rod, a hollow body having two piston-heads thereon, said piston-heads having passages connected with the hollow of said body and registering with ports at each end of the pump-cylinder at a time when said pump-cylinder is separated by said valve from both the suction and discharge passages.

10. In an air-pump, a piston-valve consisting of a rod, a divided body having two piston-heads thereon, auxiliary valves surrounding said body, means for holding said auxiliary valves to their seats and means for clamping the parts of said divided body upon said rod.

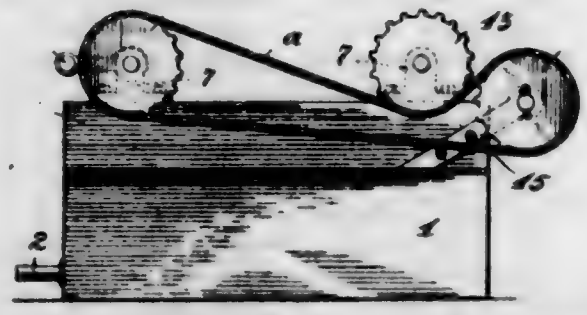
11. In an air-pump having a pump-cylinder and a valve-chamber with suction and discharge passages, a piston-valve consisting of a rod, a divided hollow body having two piston-heads thereon, provided with discharge-ports, auxiliary valves surrounding said hollow body, means for holding said auxiliary valves to their seats and means for clamping the parts of said divided body upon said rod, said piston-heads having additional passages connected to the hollow bore of said body and registering with ports at each end of the pump-cylinder at a time when said cylinder is separated by said valve from both the suction and discharge passages.

805,631. CLAMP. CHARLES L. CHAPMAN, Berlin, N. D. Filed Mar. 6, 1905. Serial No. 248,611.



Claim.—The herein-described wire-stretcher clamp comprising the elongated body portion flat on one side and formed at its lower side with the longitudinally-disposed stationary jaw having a friction-face in its upper side and the flange extending above said friction-face, the cam-lever pivotally mounted on the body portion, bearing against the flattened side thereof at a point opposite the stationary jaw and having the flange-guard, the anchoring-chain attached to one end of the body portion, and the movable jaw pivoted to the opposite end of the body portion, bearing against the flattened side thereof, between the fixed jaw and the cam-lever, and having the friction-face to coact with that of the fixed jaw, to grip the wire between them, and having the extended arm at its free end to lie under the cam-lever.

805,632. TOMATO-SCALDER. WILLIAM L. CLARK and JACOB L. TERRY, Vale, Md. Filed Nov. 28, 1904. Serial No. 234,623.



Claim.—The herein-described tomato-scalder, consisting of a covered tank having a central opening through its top, an upwardly-extending frame secured to the top at the margin of the opening and providing a well, a plurality of wire baskets adapted to be lowered into the well, rollers journaled upon the top of the frame, sprocket-wheels on one end of each roller, an idler sprocket-wheel mounted to revolve upon a bracket extending outward from the frame, a sprocket-chain passing around the sprocket-wheel on one of the rollers, around the idler sprocket-wheel and under the sprocket-wheel on the other roller, whereby both rollers are oppositely rotated simultaneously, chains secured to said rollers and extending down the

ends of the well, and a rack or platform secured to the lower ends of the chains for supporting the baskets, substantially as described.

805,633. PNEUMATIC TOOL. JOHN P. CLEMENT, Philadelphia, Pa. Filed Jan. 24, 1906. Serial No. 297,852.



Claim.—1. In a pneumatic tool, a casing, a piston therein, said piston having an enlarged head, a smaller head at the rear of said enlarged head, a neck adjacent to said smaller head and of less diameter than said smaller head, said neck controlling the admission of motive fluid to the piston to force the same forwardly, said smaller head always having constant pressure thereon and controlling the admission of motive fluid to return the piston, and said enlarged head controlling the exhaust of the motive fluid.

2. In a tool of the character described, a casing, a nose-piece, differential bores in said casing and said nose-piece, a differential piston reciprocating within said bores, a head on said piston at all times exposed to constant pressure, an enlarged head on said piston, an air-passage controlled by said first-mentioned head for permitting the motive fluid to act against said enlarged head at the beginning of the stroke, means for permitting intermittent pressure against a face of said piston and exhaust ports and passages alternately opened and closed by said piston.

3. In a pneumatic tool, a casing, a nose-piece, a differential piston within said casing, a reduced head on the rear of said piston always exposed to constant pressure for controlling the admission of motive fluid to both faces of the larger area of said piston and exhaust ports and passages controlled by the reciprocation of said larger area of said piston.

4. In a pneumatic tool, a casing, a piston therein, an enlarged head on said piston, a smaller head at the rear of said enlarged head and exposed at all times to constant pressure, a neck of less diameter than said smaller head and located between said heads, an air-passage always open to live air and controlled by said neck for permitting the live air to initially act on said enlarged head at the beginning of the stroke, exhaust ports and passages alternately opened and closed by said enlarged head, and ports and passages controlled by said smaller head for permitting the motive fluid to return the piston.

5. In a pneumatic tool, a casing, a piston therein, an enlarged head on said piston, a smaller head at all times exposed to constant pressure and located at the rear of said enlarged head, an extension for said smaller head of less diameter than the latter and controlling the admission of motive fluid to said enlarged head at the beginning of the stroke, said smaller head controlling the admission of motive fluid to return the piston, and exhaust ports and passages alternately opened and closed by said larger piston.

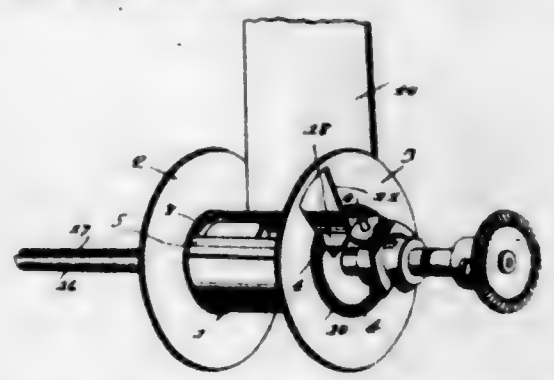
6. In a pneumatic tool, a casing, a piston therein, an enlarged head 16 thereon, a smaller head 17 at the rear end of said enlarged head, a neck 18 between said heads and of less diameter than said smaller head, an air-passage 21, 22, 23 always open to the motive fluid controlled by said neck for permitting motive fluid to act on the enlarged head 16 at the beginning of the stroke, and air-passages 27, 28, 29 for permitting motive fluid to act on said enlarged head at the end of the stroke and controlled by said smaller head and exhaust ports and passages alternately opened and closed by said piston.

7. In a pneumatic tool, a casing, a nose-piece at one end thereof, and having bores of different diameter therein, a piston having an enlarged portion 16, an extension 19 and a striker 20, each of the latter moving in said bores, a smaller head located at the rear of said piston, and a neck of less diameter than said head projecting forwardly thereof, said smaller head having constant pressure thereon, and said neck permitting motive fluid to act initially upon said enlarged portion of the piston to accelerate its forward movement.

805,634. TYPE-WRITER-RIBBON SPOOL. HOWARD M. COLVIN, Alva, Okla., assignor of one-half to Lewis Westhall, Alva, Okla. Filed Apr. 1, 1905. Serial No. 253,267.

Claim.—1. A type-writer-ribbon spool including a tubular hub bent from a blank, with the ends of the blank spaced to form a longitudinal slot, and heads connected to the ends of the hub and provided with concentric shaft-receiving openings, one of the heads having a radial opening in communication with the adjacent end of the slot of the hub.

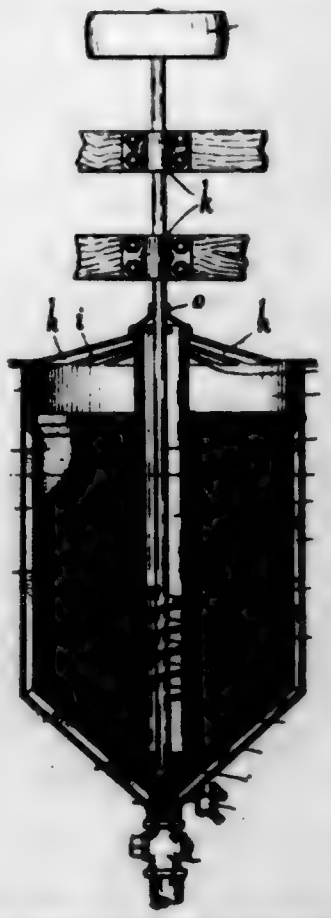
2. A type-writer-ribbon spool comprising a tubular hub bent from a blank with the ends of the blank spaced to form a longitudinal slot in the hub, the ends of the hub having integral bendable projections, one of said projections being disposed at each end of the blank, and heads fitted to the ends of the hub and provided with openings receiving the projections which are bent back against the heads, one of the heads having a radial opening in communication with the adjacent end of the slot in the hub.



3. A type-writer-ribbon spool comprising a tubular hub formed from a blank which has its ends spaced to form a longitudinal slot in the hub, and heads applied to opposite ends of the hub, one of the heads being provided with a radial opening in communication with the slot of the hub, and one edge of the slot in the hub having a bendable ribbon-fastening tongue.

4. As a new article of manufacture, a spool including a hub bent from a blank with the ends of the blank spaced to form a longitudinal opening in the hub, heads connected to the ends of the hub and provided with corresponding concentric shaft-receiving openings, one of the heads having a radial opening in communication with the opening of the hub and a type-writer ribbon wound upon the hub, one end of the hub-blank being folded over upon the inner end of the ribbon to permanently connect the latter to the spool.

805,635. APPARATUS FOR LIXIVIATION PROCESSES. ALFRED W. CONSTABLE, Nelson, Canada. Filed Mar. 3, 1905. Serial No. 248,297.

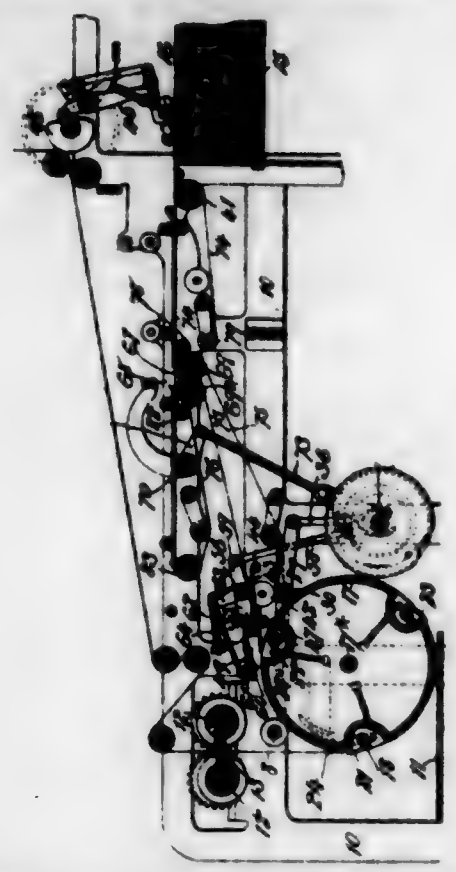


Claim.—1. In a machine of the class described, in combination, a receptacle for the matter having suitable elevating means and a filter of woven material therein arranged on slats having a wire-netting corresponding in surface area and covering said filter and secured to said slats, and means for distributing said matter over said netting, as and for the purpose specified.

2. In a machine of the class described, in combination, a receptacle for the matter having a central well and suitable elevating means therein and a filter of woven material therein arranged on slats having a wire-netting corresponding in surface area and covering

said filter and secured to said slats, and spreaders extending radially from the central well-casing, as and for the purpose specified.

805,686. SHEET-ASSEMBLING DEVICE FOR FOLDING-MACHINES. EDGAR H. COTTRELL, Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed May 31, 1904. Serial No. 210,260.



Claim.—1. In a machine for collecting and assembling sheets, the combination of two sources of sheet-supply, a rotary collecting-cylinder, and means for presenting sheets from said two sources to said cylinder in greater number from one of said sources than from the other for assemblage on said cylinder in a group.

2. In a machine for collecting and assembling sheets, the combination of two sources of sheet-supply, a rotary collecting-cylinder and means for presenting to said cylinder in regular succession a sheet from one of said sources and a plurality of sheets from the other of said sources for assemblage thereon in a group.

3. In a machine for collecting and assembling sheets, the combination with a sheet collecting and assembling device, of means for presenting in regular succession to said device two sheets from one of two sources and one sheet from the other to be thereby assembled together in a group.

4. In a machine for collecting and assembling sheets, the combination of two sources of sheet-supply, a rotary collecting-cylinder and means for presenting sheets to said cylinder and assembling them thereon in a series of three consisting of, first a sheet from one source, second a sheet from the other source, and third a sheet from said one source, and means for liberating and delivering the series together in a group.

5. In a machine for collecting and assembling sheets, the combination of two sources of sheet-supply, a sheet collecting and assembling device, means for presenting alternately to said device a sheet from one of said sources and a plurality of sheets from the other of said sources, and a table arranged to receive the so collected and assembled sheets from the said sheet collecting and assembling device.

6. In a machine for collecting and assembling sheets, the combination of a table and a rotary collecting-cylinder for collecting a plurality of sheets and assembling them one upon another on its periphery and imposing the so assembled sheets on the table, and means for presenting to said cylinder sheets from one and another of two sources of sheet-supply in regular succession.

7. In a machine for collecting and assembling sheets, the combination of a web-supply, a different source of sheet-supply, a rotary collecting-cylinder and means for presenting sheets from the web-supply and from the different source of sheet-supply in regular succession to the said cylinder for assemblage thereon.

8. In a machine for collecting and assembling sheets, the combination of a cut-sheet supply, a different source of sheet-supply, a rotary collecting-cylinder and means for presenting sheets from the source of cut-sheet supply and from the different source of sheet-supply in regular succession to said cylinder for assemblage thereon.

9. In a machine for collecting and assembling sheets, the combination of a web-supply, a cut-sheet supply, a rotary collecting-cylinder and means for presenting sheets from the web-supply and cut-sheet supply in regular succession to said cylinder for assemblage thereon.

10. In a machine for collecting and assembling sheets, the combination of a web-supply, means for cutting sheets therefrom, a cut-sheet supply, a rotary collecting-cylinder and means for presenting sheets from the two supplies in regular succession to said cylinder for assemblage thereon.

11. In a machine for collecting and assembling sheets, the combination of different sources of sheet-supply, a sheet collecting and assembling device, means for presenting sheets from one and another of said sources in regular succession to said sheet collecting and assembling device, and a sheet-folding device interposed between one source of sheet-supply and the collecting and assembling device for folding the sheets from that source on their way to the collecting and assembling device.

12. In a machine for collecting and assembling sheets, the combination of different sources of sheet-supply, a rotary collecting-cylinder, means for presenting sheets from said sources in regular succession to said cylinder for assemblage thereon and a sheet-folding device interposed between one of said sources of sheet-supply and the cylinder.

13. In a machine for collecting and assembling sheets, the combination of a source of cut-sheet supply, a different source of sheet-supply, a sheet collecting and assembling device, means for presenting sheets from the said sources in regular succession to said sheet collecting and assembling device, and a folding device interposed between the source of cut-sheet supply and the sheet collecting and assembling device.

14. In a machine for collecting and assembling sheets, the combination of a source of web-sheet supply, a source of cut-sheet supply, a sheet collecting and assembling device, means for presenting sheets from said sources in regular succession to the sheet collecting and assembling device and a folding device interposed between the source of cut-sheet supply and the sheet collecting and assembling device.

15. In a machine for collecting and assembling sheets, the combination of a source of cut-sheet supply, a different source of sheet-supply, a rotary collecting-cylinder, means for presenting sheets from said sources in regular succession to said cylinder for assemblage thereon, and a folding device interposed between the source of cut-sheet supply and the cylinder.

16. In a machine for collecting and assembling sheets, the combination of a source of web-sheet supply, a source of cut-sheet supply, a rotary collecting-cylinder, means for presenting sheets from said sources in regular succession to the cylinder for assemblage thereon, and a folding device interposed between the source of cut-sheet supply and the cylinder.

17. In a machine for collecting and assembling sheets, the combination of a rotary collecting-cylinder, a gripper thereon, means for opening the gripper at predetermined intervals during the rotary movement of the cylinder, two sources of sheet-supply, and means for feeding sheets in regular succession one from one of said sources and a plurality from the other of said sources to the gripper for collection and assemblage on the cylinder.

18. In a machine for collecting and assembling sheets, the combination of a table, a rotary collecting-cylinder, a gripper thereon, two sources of sheet-supply, means for feeding the sheets to the gripper from one and the other of said sources of supply in regular succession for assemblage on the cylinder, means for opening the gripper to receive the sheets, and means for opening the gripper to impose the assembled sheets in a group on the table.

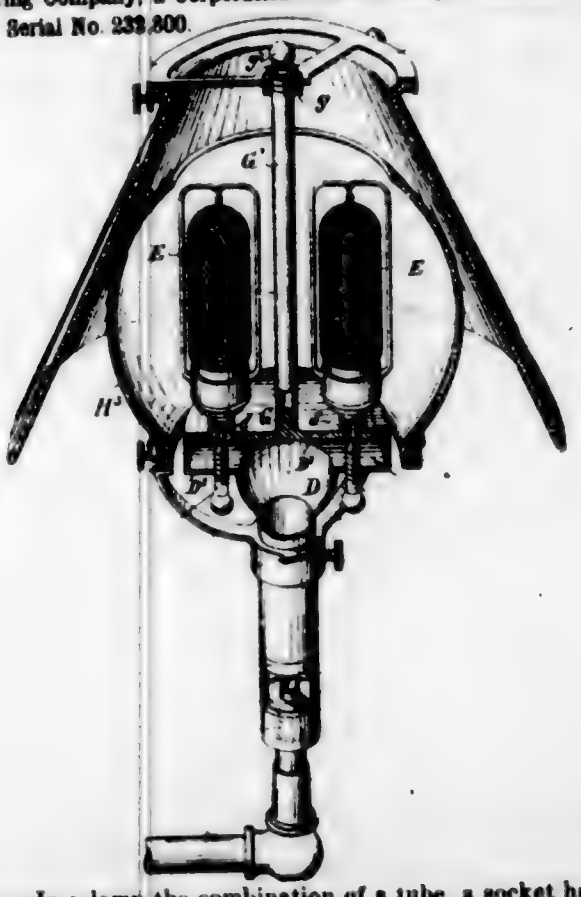
19. In a machine for collecting and assembling sheets, the combination of a table, a rotary collecting-cylinder, a plurality of grippers thereon, two sources of sheet-supply, means for feeding sheets from one and the other of said sources in regular succession to the grippers, means for opening each gripper at predetermined intervals to receive the sheets from the sources of supply and means for opening each gripper after the sheets are assembled on the cylinder for imposing the so assembled sheets in a group on the table.

20. In a machine for collecting and assembling sheets, the combination of a source of web-sheet supply, a source of cut-sheet supply, a sheet collecting and assembling device, means for presenting sheets in regular succession from one and the other of said sources to said sheet collecting and assembling device, and a cutting device

interposed between the source of web-sheet supply and the sheet collecting and assembling device.

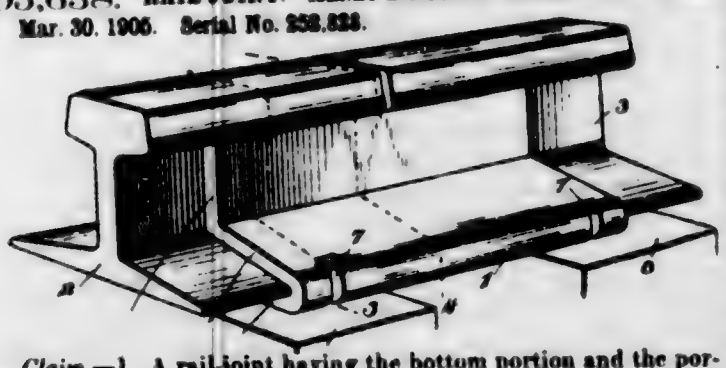
21. In a machine for collecting and assembling sheets, the combination of a source of web-sheet supply, a different source of sheet-supply, a rotary collecting-cylinder, means for presenting sheets in regular succession from one and the other of said sources to said cylinder for assemblage thereon, and a cutting device interposed between the source of web-sheet supply and the cylinder.

805,637. GAS-LAMP. THOMAS CRAIG, Philadelphia, and WILLIAM S. MCLEWEE, Yardley, Pa., assignors to The McLewee Gas Lamp Manufacturing Company, a Corporation of New Jersey. Filed Nov. 15, 1904. Serial No. 232,800.



Claim.—In a lamp the combination of a tube, a socket having an aperture formed therein to receive an ordinary gas-burner, an expansion-chamber on said tube, mantles connected to said expansion-chamber, regulating-screws in said expansion-chamber, a collar on said tube, a globe-holder supported by said collar, a set-screw to hold the said collar, a rod held by said expansion-chamber, a shade-holder carried by said rod, and means for securing said shade-holder to said rod, substantially as described.

805,638. RAIL-JOINT. HENRY DRIESAUS, Hendricks, Pa. Filed Mar. 30, 1905. Serial No. 253,838.



Claim.—1. A rail-joint having the bottom portion and the portion embracing the foot and web of the rail made integral and constructed to be passed on the end of a rail, said portion embracing the foot of the rail being downwardly inclined from the ends of the joint to the central point thereof to gradually engage the foot of the rails a the said joint is passed thereon substantially as described.

2. A rail-joint having the bottom portion thereof, and the portion embracing the foot of the rail made integral, said portion embracing the foot being so inclined as to gradually engage the foot of the rail as the said joint is passed thereon, substantially as described.

805,639. SASH-FASTENER. AARON W. DUNN, Lampasas, Tex. Filed June 9, 1905. Serial No. 264,513.

Claim.—1. A sash-holder comprising a base member having means for attachment to a window and provided at one end with a standard having a threaded aperture and with spaced longitudinal guide members, a stop member slidably disposed between said guide members and having longitudinal grooves for engaging the same, said stop member having a rigid extension provided with a socket in the rear face, and a clamp-screw operating through said threaded aperture in said base-standard and rotatively engaging the socket in said stop-member extension.



2. A sash-holder comprising a base member having means for attachment to a window-sash, a standard rigidly upstanding from one end of the base member and provided with a threaded aperture, inturned guide-flanges formed along the edges of the base member, a stop member slidably mounted on the base member and retained thereon by the flanges and having a rigid face for engagement with the other sash and a screw extending through the threaded aperture and arranged to operate the stop member.

805,640. CAR-VESTIBULE DOOR AND TRAP. JOSEPH FILION, Montreal, Canada, assignor, by direct and mesne assignments, to Volkert O. Lawrence, Philadelphia, Pa. Filed Mar. 31, 1905. Serial No. 253,084.

Claim.—1. In a vestibule-car door and trap, the combination with the car-body, vestibule and platform, of a folding trap diagonally split into two sections attached to the wall of the car and the door respectively, one of said sections having a suitable guideway arranged therein, and a plurality of levers pivotally secured to the platform-frame and steps having one of said levers engaging said section in said guideway, as and for the purpose specified.

2. In a vestibule-car door and trap, the combination with the car-body, vestibule and platform, of a folding trap diagonally split into two sections attached to the car-body and the door respectively, one of said sections having a grooved guideway in the edge thereof, and a chain of levers pivotally connected together, operating from fixed pivotal points and having a projecting pin-head extending into said grooved guideway at one end and a means for operating at the other end, as and for the purpose specified.

3. In a vestibule-car door and trap, the combination with the car-body, vestibule and platform, of a folding trap diagonally split into two sections attached to the car body and door respectively, one of said sections having a grooved guideway in the edge thereof, and a plurality of levers, one of said levers having a pin-head projecting therefrom into said groove and a curved lower end pivoted beneath the trap, a second lever curved and pivoted intermediate of its length and having a roller at the upper end thereof engaging the first-named lever, and a bell-crank lever also pivoted beneath the steps and having pivotal connection with the second lever and an operating-lever at the other end, as and for the purpose specified.

4. In a vestibule-car door and trap, the combination with the car-body, vestibule and platform, of a folding trap diagonally split into two sections, one of said sections having a groove in the edge extending toward the corner to be elevated, and a plurality of levers pivotally connected, one of said levers having a projection extending

into said groove and suitably held there and a curved lower end pivoted on a fixed point at its extremity below the trap, a lever having a curved upper end and projection therefrom, and pivoted on said fixed point intermediate of its length and engaging the aforesaid lever, a bell-crank lever pivoted from brackets extending downwardly from the steps having one section thereof pivotally connected by a rod to the second-named curved lever, and a foot-lever pivoted in a bracket on the platform and connected by a suitable rod to the other section of said bell-crank, as and for the purpose specified.

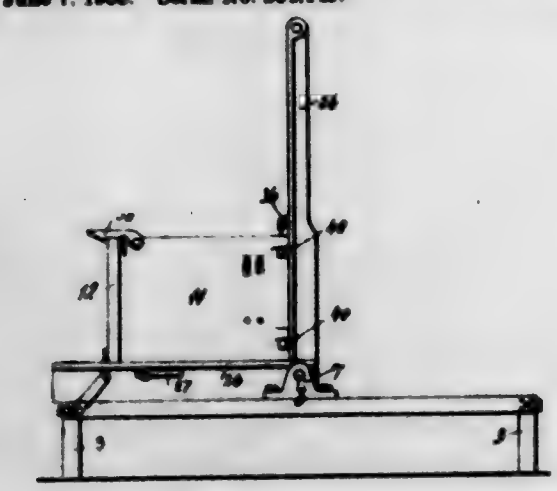
5. In a vestibule-car door and trap, the combination with the car-body, vestibule and platform, of a folding trap diagonally split into two sections, one of said sections having a groove in the edge extending toward the corner to be elevated, and a plurality of levers pivotally connected, one of said levers having a projection extending into said groove and suitably held there and a curved lower end pivoted on a fixed point at its extremity below the trap, a lever having a curved upper end and projection therefrom, and pivoted on said fixed point intermediate of its length and engaging the aforesaid lever, a bell-crank lever pivoted from brackets extending downwardly from the steps having one section thereof pivotally connected by a rod to the second-named curved lever, and a foot-lever pivoted in a bracket on the platform and connected by a suitable rod to the other section of said bell-crank, and a hand-lever pivoted in a bracket secured under the step, and having connection with said foot-lever, as and the purpose specified.

805,641. NURSING-BOTTLE. HUGH F. GALLAGHER, Saltsburg, Pa. Filed Dec. 17, 1904. Serial No. 237,291.



Claim.—A bottle having a rim triangular in cross-section, the pitch of both sides of which is the same, and with a base disposed at right angles to the long diameter of the neck, the periphery of the base being rounded.

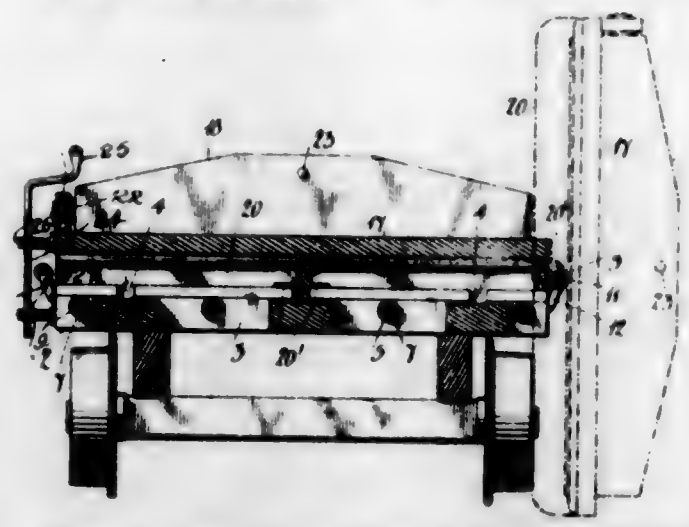
805,642. CEMENT-STONE MACHINE. JOS GEBES and WILLIAM MEBELS, Jersey City Heights, and JOHANN WIBBELS, Hoboken, N. J. Filed June 7, 1905. Serial No. 264,149.



Claim.—1. In a cement-stone machine, the combination of a transversely-extendible frame, a shaft revolubly borne therein, a mold extendibly mounted upon the latter, the said mold having a sectional core-door, side doors, and a sectional face-plate, the sections of the core-door and the face-plate being extendibly connected with each other, adjustable bearings at the rear of the face-plate, said bearings being loosely mounted upon the shaft and allowing a swinging movement of the face-plate and a displacement thereof transversally to the shaft, the core-door being hinged to the face-plate, extension means for the core-door and the face-plate, substantially and for the purpose as specified.

2. A cement-stone machine comprising a transversally-extendible base-frame, a shaft revolubly borne therein and extending longitudinally thereof, L-arms loosely borne upon the shaft adjacent to the bearings thereof and capable of a longitudinal displacement thereon, a mold composed of side doors hinged to said L-arms to swing horizontally, a face-plate loosely borne upon the shaft to swing vertically, the bearings of said face-plate being adjustable transversally to the shaft, a core-door hinged to the face-plate and capable of swinging vertically, the face-plate and core-door being extendible in longitudinal direction, an opening in the core-door, a core to be inserted through said opening, means applied to the L-arms to support the face-plate in working position, means for locking the side doors and the core-door with each other in working position and a pallet adapted to rest at the back of the mold against the L-arms, substantially and for the purpose as specified.

805,643. DUMPING-CAR. BERNARD GILLERAN, Hancock, Mich., assignor of one-half to Richard T. Looney, Hancock, Mich. Filed May 18, 1905. Serial No. 261,048.



Claim.—1. A car having a keeper at one side, in combination with a dumping-bed slidable thereon and having a keeper at one side, coacting means with which the bed and car are provided to hingedly connect the bed to the car when the bed is in position to dump its contents, and a screw-pin to engage threaded openings in and detachably connect the keepers to secure the bed against movement on the car.

2. In combination with a car having vertically-adjustable devices at the sides and ends thereof, a dumping-bed movable longitudinally and laterally on the car and having devices to coact with those of the car to hingedly connect the bed to the car when the bed is in dumping position.

3. A car having vertically-adjustable rollers at one side or end thereof, in combination with bed adapted to be slidably mounted on the car, and having devices to coact with said rollers when the latter are in elevated position, to hingedly connect said bed to the car to facilitate the dumping of the bed and to prevent its slipping from the car when in dumping position.

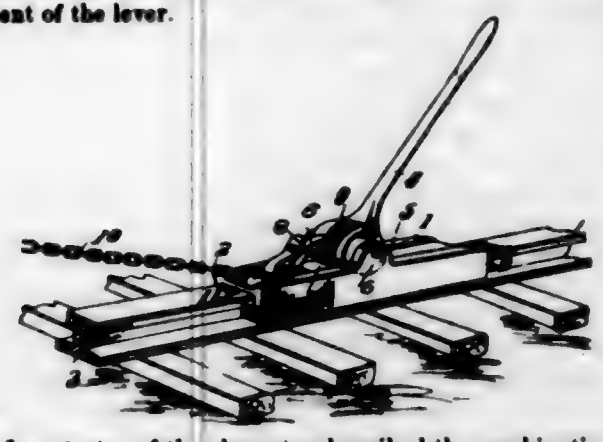
4. A car having a dumping-bed, the latter being open at opposite sides and provided with a single shiftable side-board pivotally connected thereto and capable of operating on either side of the car to close either side thereof.

805,644. RAIL-BRAKE. BENJAMINE V. GILMORE, Redhouse Shoals, W. Va. Filed May 15, 1905. Serial No. 260,422.

Claim.—1. In a device of the character described the combination of a guideway, a member sliding thereon, a shoe bearing against the guideway, and a lever mounted upon the sliding member and having an eccentric portion to bear against the shoe.

2. In a device of the character described the combination of a guideway, a member sliding thereon, a shoe bearing against the

guideway, a lever mounted upon the sliding member and having an eccentric portion to bear against the shoe, and a pawl adapted to engage notches in the eccentric portion to prevent any backward movement of the lever.



3. In a device of the character described the combination of a guideway, a sliding member having downwardly and inwardly projecting extensions to embrace said guideway and having an opening therein, a shoe located in said opening, and a lever mounted upon the sliding member and having an eccentric portion to operate upon the shoe.

4. In a device of the character described the combination of a guideway, a sliding member having downwardly and inwardly projecting extensions to embrace said guideway and having an opening therein, a shoe located in said opening, a lever mounted upon the sliding member and having an eccentric portion to operate upon the shoe, and a pawl adapted to engage notches in the eccentric portion to prevent any backward movement of the lever.

5. In a device of the character described the combination of a guideway, a sliding member having downwardly and inwardly projecting extensions to embrace said guideway and having an opening therein, removable portions upon the inwardly-projecting extensions of the sliding member, a shoe located in the before-mentioned opening, and a lever mounted upon the sliding member and having an eccentric portion to operate upon the shoe.

805,645. GASKET. JAMES W. GUILLOTT, Chicago, Ill. Filed Mar. 19, 1904. Serial No. 198,907.



Claim.—1. A corrugated metallic gasket having a reinforcement around its outer periphery.

2. A corrugated metallic gasket having concentric reinforcements surrounding its inner and outer peripheries.

3. A gasket consisting in an annular corrugated metallic disk a concentric portion of which is increased in thickness.

4. A corrugated metallic gasket having its outer periphery increased in thickness by a reinforcing-ring.

5. A corrugated metallic gasket having its inner and outer peripheries increased in thickness by concentric reinforcing-rings.

6. A metallic gasket having a concentric reinforcement and provided with concentric corrugations projecting in opposite directions beyond the plane of the reinforcement.

7. A metallic gasket having its outer periphery bent around a concentric reinforcing-ring and provided with concentric corrugations projecting in opposite directions beyond the plane of the ring.

8. A metallic gasket having its inner and outer peripheries bent around concentric reinforcing-rings and provided with concentric corrugations projecting in opposite directions beyond the pane of the rings.

9. A metallic gasket having its outer periphery increased in thickness by a reinforcing-ring and having concentric corrugations some of which are of greater depth than the thickness of the ring while other corrugations are of less depth than the thickness of the ring.

10. A metallic gasket having its inner and outer peripheries increased in thickness by reinforcing-rings and having concentric corrugations some of which are of greater depth than the thickness of the rings while other corrugations are of less depth than the thickness of the rings.

11. A metallic corrugated gasket having a reinforcing-ring at its inner periphery and a concentric reinforcing-ring at its outer periphery the outer ring being of less thickness than the inner ring.

12. The combination with two conduit-sections having flanges projecting radially around the adjacent ends thereof, means for securing the flanges together, and a corrugated metallic gasket interposed between the flanges and having its inner periphery increased in thickness.

13. The combination with two conduit-sections having flanges projecting radially around the adjacent ends thereof, means for securing the flanges together, and a gasket interposed between the flanges composed of a corrugated metallic disk having its inner and outer peripheries increased in thickness, the thickness of the inner periphery being greater than that of the outer periphery.

14. The combination with two elements united to form a joint, of a corrugated metallic gasket interposed between said elements, means for uniting said elements together, and means for limiting the movement of said elements toward each other thereby protecting the interposed gasket and preventing the corrugations thereof being flattened.

805,646. SNAP-HOOK. RICHARD W. HUBBARD, Ashtabula, Ohio. Filed Mar. 23, 1905. Serial No. 251,009.



Claim.—1. In a snap-hook, the combination of a body comprising a shank formed of parallel portions of wire having shoulders at an intermediate point in the length of the shank and also having an opening between said shoulders, a hook proper at one end of the shank, and an eye at the opposite end of the shank, a metallic sleeve surrounding the shank, between the shoulders thereof and the eye, and having notches in its ends receiving the shoulders and the inner bar of the eye, and also having teats disposed between the portions of wire adjacent to the opening between the shoulders and the eye, and a spring-tongue having an end portion interposed and secured between the sleeve and shank, and also having a free portion normally closing the mouth of the hook proper.

2. In a snap-hook, the combination of a body comprising a shank formed of parallel portions of wire and having the rear part of said portions of wire arranged close together, and the forward part of said portions arranged a distance apart, whereby the portions are provided with intermediate shoulders, a hook proper arranged at the forward end of the shank, and having its portions arranged a distance apart whereby an opening is provided at its bight, and an eye arranged at the opposite end of the shank, a metallic sleeve surrounding the shank, between the shoulders and the eye, and a spring-tongue having an end portion interposed and secured between the shank and the sleeve and terminating in a reduced end disposed in the opening between the shoulders of the shank, and also having a free portion terminating in a reduced end normally disposed in the opening in the bight of the hook proper.

3. In a snap-hook, the combination of a body comprising a shank formed of parallel portions of wire and having the rear part of said portions of wire arranged close together and the forward part of said portions arranged a distance apart, whereby the portions are provided with intermediate shoulders, a hook proper arranged at the forward end of the shank and having its portions arranged a distance apart whereby an opening is provided at its bight and an eye arranged at the opposite end of the shank, a metallic sleeve surrounding the shank, between the shoulders thereof and the eye, and having notches in its ends receiving the shoulders and the inner bar of the eye, and also having teats on its upper portion disposed between the portions of wire adjacent to the opening between the shoulders and the eye, and a spring-tongue having a portion interposed and secured between the shank and the lower wall of the sleeve and terminating in a reduced end disposed in the opening between the shoulders of the shank and in front of the forward teat of the sleeve and also having a free portion terminating in a reduced end normally disposed in the opening in the bight of the hook proper.

805,647. SPRING-WHEEL. WILLIAM H. JACKSON, Bakersfield, Cal. Filed July 15, 1904. Serial No. 216,720.

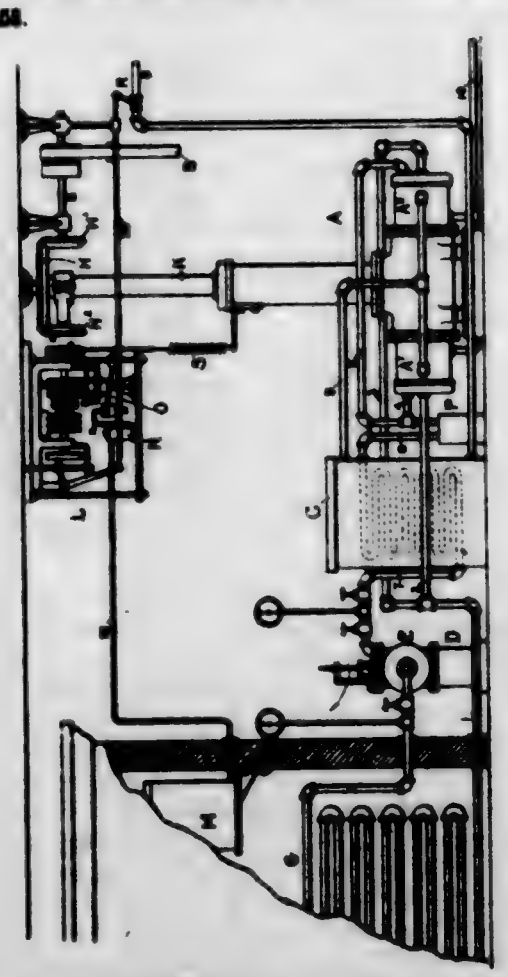
Claim.—1. A wheel comprising a hub, radial tubular spokes carried by the hub, a rim, spokes carried by the rim and having their inner end portions loosely working in the tubular spokes, a coil-spring encircling the point of juncture of the hub and rim spokes, respectively, and a sleeve inclosing the said spring.



2. A spring vehicle-wheel comprising the hub and rim, and a series of sectional telescopic spokes, each spoke consisting of a tubular section secured to the hub, a solid section secured to the rim, and having a threaded head at its outer end, a collar arranged upon the tubular section, a spiral spring surrounding the joint of the sections, and bearing against the collar and the threaded head, and the sleeve threaded at its outer end and adapted to be secured upon the threaded head, said sleeve having an opening at its inner end through which the tubular section passes.

3. A spring vehicle-wheel comprising in combination a hub, a rim having outwardly-projecting members, a cushion-tire secured by said members, the tubular spoke-sections secured to the hub, and having collars, the solid spoke-sections secured to the rim, and provided with threaded heads, the spiral springs surrounding the spoke-sections, between the heads and collars, and the sleeves secured to the heads and enveloping the springs, said sleeves having openings at their inner ends through which the tubular spoke-sections pass, all of said parts being constructed, arranged and adapted to operate substantially as shown and described.

805,648. MEANS FOR STORING AND APPLYING ENERGY.
SAMUEL L. G. KNOX, Schenectady, N. Y. Filed Feb. 24, 1902. Serial No. 95,258.



Claim.—1. In combination, a device to be operated, a longitudinally-movable and rotatable shaft operatively connected thereto, an energy-storing motor connected to said shaft, a spring for moving said shaft longitudinally, means whereby the rotation of the shaft puts said spring under tension, operating mechanism for rewinding the energy-storing motor, and means for preventing a longitudinal movement of the shaft, the said means being so constructed and arranged that when a predetermined point in the rotation of the shaft is reached the said shaft will be released so that it may be moved under the influence of the spring into engagement with said operating mechanism.

2. In combination, an operating mechanism, a rotatable and longitudinally-movable shaft operatively connected thereto, a spring for moving the said shaft out of engagement with the operating mechanism, means for putting said spring under tension as the shaft is rotated, and means for preventing longitudinal movement of the said shaft, the said means being so constructed and arranged that when a predetermined point in the rotation of the shaft is reached the said shaft will be released so that it may be moved under the influence of said spring.

3. In combination, a rotatable and longitudinally-movable shaft, a member rigidly connected to said shaft, a second member longitudinally movable thereon, an elastic connection between said members, means whereby the longitudinally-movable member is moved along the shaft as the same is rotated, and means whereby the shaft is released when a certain point in its rotation is reached.

4. In combination, a rotatable and longitudinally-movable shaft, a member having a grooved periphery rigidly connected to said shaft, a fixed pin engaging the groove, a second member longitudinally movable on the shaft and having a threaded exterior, a fixed threaded block with which said threaded exterior engages, and an elastic connection between said members, the member having the grooved periphery being provided with a longitudinally-extending opening at one side of the groove into which the pin is caused to move whenever the shaft has been rotated through a predetermined angle.

5. In combination, a rotatable and longitudinally-movable shaft, a member rigidly connected to said shaft, the periphery of the said member being provided with two grooves separated by a web having an opening at one point therein, a fixed pin arranged to engage one or the other of said grooves and adapted to pass through said opening, a second member longitudinally movable on the shaft and having a threaded exterior, a fixed threaded block with which said threaded exterior engages, and an elastic connection between the members.

6. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the device to be driven, and a motive device for operating the connecting device, the said motive device comprising a rotatable shaft arranged to operate the connecting device, means for rotating the shaft, pawls and a coöperating notched member for restraining and limiting the rotation of said shaft, and tripping devices coöperating with said pawls.

7. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the device to be driven, an energy-storing motive device for operating the connecting device, means for operating said device to store energy therein, and means for controlling the operation of the said motive device.

8. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the device to be driven, an energy-storing motive device for operating the connecting device, means for connecting the motive device to store energy whenever the connecting device makes the connection between the source of power and the device to be driven, and means for controlling the operation of the said motive device.

9. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the device to be driven, and an energy-storing motive device for operating the connecting device, the said motive device comprising a rotatable and longitudinally-movable shaft, in one of its extreme positions operatively connected to the connecting device and in the other of its extreme positions to the said source of power.

10. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the device to be driven, an energy-storing motive device for operating the connecting device, means for connecting the motive device to store energy whenever the connecting device makes the connection between the source of power and the device to be driven and for reconnecting the motive device to the connecting device after the storing of energy has been completed.

11. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the device to be driven, an energy-storing motive device for operating the connecting device, the

said motive device comprising a rotatable and longitudinally-movable shaft, in one of its extreme positions operatively connected to the connecting device and in the other of its extreme positions to the operating mechanism, means for shifting the shaft from one extreme position to the other, and means for controlling its rotation when operatively connected to the connecting device.

12. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the device to be driven, a motive device for operating the connecting device, the said motive device comprising a rotatable and longitudinally-movable shaft, in one of its extreme positions operatively connected to the connecting device and in the other of its extreme positions to the operating mechanism, an energy-storing motor for rotating said shaft, pawls and a coöperating notched member for restraining and limiting the rotation of the shaft, means for retaining the shaft in operative relation with the connecting device during a complete cycle of operation, and means for causing the said shaft to be operatively connected to the operating mechanism at the beginning of each cycle until sufficient energy is stored in the energy-storing motor to carry the motive device through another cycle in its operation.

13. In combination a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the said device, an energy-stor, ing motive device for operating the connecting device, means for operating said device to store energy therein, and an automatic means for controlling the operation of the motive device.

14. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the said device, an energy-storing motive device for operating the connecting device, means for connecting the motive device to the operating mechanism to store energy whenever the connecting device makes the connection between the source of power and the device to be driven and for reconnecting the motive device to the connecting device after the storing of energy has been completed, and means for controlling the operation of the motive device.

15. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the said device, an energy-storing motive device for operating the connecting device, the said motive device comprising a rotatable and longitudinally-movable shaft, in one of its extreme positions operatively connected to the connecting device and in the other of its extreme positions to the operating mechanism, pawls and a coöperating notched member for restraining and limiting the rotation of the shaft, tripping devices cooperating with said pawls, means for retaining the shaft in operative relation with the connecting device during a complete cycle of operation, and means for causing the said shaft to be operatively connected to the operating mechanism at the beginning of each cycle until sufficient energy is stored in the energy-storing motor to carry the motive device through another cycle in its operation.

16. In combination, a source of power, a device to be driven therefrom, a connecting device for making and breaking the connection between the source of power and the said device, and an energy-storing motive device for operating the connecting device, the said motive device comprising a rotatable and longitudinally-movable shaft, in one of its extreme positions operatively connected to the connecting device and in the other of its extreme positions operatively connected to the operating mechanism, pawls and a coöperating notched member for restraining and limiting the rotation of the shaft, tripping devices coöperating with said pawls, means for actuating said tripping devices, means for retaining the shaft in operative relation with the connecting device during a complete cycle of operation, and means for causing the said shaft to be operatively connected to the operating mechanism at the beginning of each cycle until sufficient energy is stored in the energy-storing motor to carry the motive device through another cycle in its operation.

17. In combination, a source of power, a device to be driven therefrom, means for making and breaking the connection between the source of power and the said device, an automatically-operating energy-storing motive device for actuating said means, means for operating said device to store energy therein, means for restraining the operation of the motive device, and means for removing said restraining means.

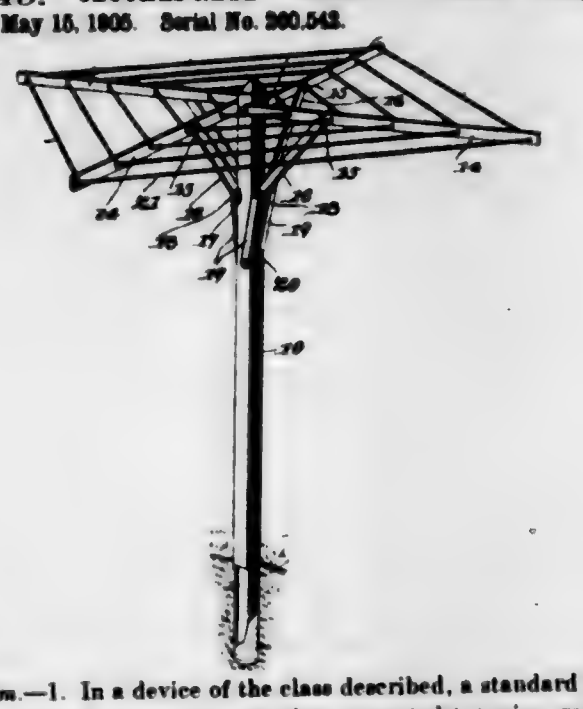
18. In combination, a source of power, a device to be driven therefrom, means for making and breaking the connection between the source of power and the said device, a motive device for actuating said means, an energy-storing device connected to the motive device, means for maintaining said motive device in a predetermined position, and means for releasing said device.

19. In combination, a source of power, a device to be driven therefrom, means for making and breaking the connection between the source of power and the said device, a motive device for actuating said means, means for putting said device under tension so that when released it will actuate the connection making and breaking means, a plurality of tripping devices determining the range of movement of the motive device, and means for operating one or the other of said tripping devices.

20. In combination, a source of power, a device to be driven therefrom, a motive device, connecting and disconnecting means arranged to be operated by said motive device to first break the connection between the source of power and the device to be driven and thereafter to remake said connection, a thermostat and means controlled thereby for releasing the motive device at a certain predetermined temperature so that it may operate to disconnect the device to be driven from the source of power, and for again releasing the motive device at a certain other predetermined temperature so that it may operate to again connect the device to be driven to the source of power.

21. In combination, a source of power, a device to be driven therefrom, a motive device arranged to be placed under tension by the operating mechanism and then automatically disconnected therefrom, connecting and disconnecting means arranged to be operated by said motive device to first break the connection between the source of power and the device to be driven and thereafter to remake said connection, a thermostat and means controlled thereby for releasing the motive device at a certain predetermined temperature so that the motive device may operate to disconnect the device to be driven from the source of power, and for again releasing the motive device at a certain other predetermined temperature so that it may operate to again connect the device to be driven to the source of power, and means operating automatically to connect the motive device to the operating mechanism whenever the connection between it and the source of power is completed.

805,649. CLOTHES-REEL. CHARLES L. KRABER, Quincy, Ill. Filed May 15, 1905. Serial No. 260,542.



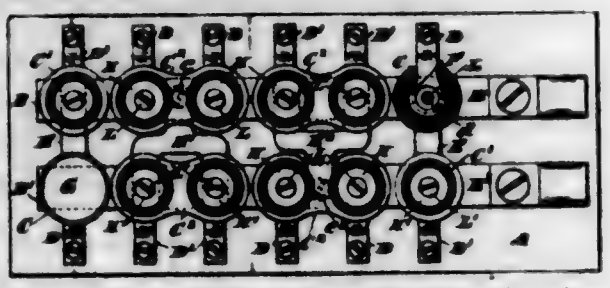
Claim.—1. In a device of the class described, a standard member, a plurality of supporting members mounted to swing radially from said standard member, a plurality of links and braces pivotally united and likewise pivotally connected respectively to said standard member and supporting members, said brace members extended at one end beyond the pivot of the same to support the members from movement in one direction.

2. In a device of the class described, a standard, bars swinging radially from said standard, brace members connected movably at one end to said bars and with the other ends bearing upon said standard when the bars are in elevated position, and links pivoted at one end to said standard, and pivoted at the other end to said bars intermediately of the same.

3. In a device of the class described, a standard having a plurality of angular faces, bars pivoted at one end and upon the several faces of said standard and swinging therefrom, a brace member pivoted at one end to each of said bars upon the face of the same adjacent to the standard and bearing by the other end against the standard when the bars are in elevated position, and a link pivoted at one end

to the outer faces of said brace members intermediately of the same and pivoted at the other end to the same face of the standard upon which its respective bar is pivoted.

805,650. PANEL-BOARD. HUBERT KRAFFT. New York, N. Y. Filed Dec. 20, 1904. Serial No. 237,710.



Claim.—1. In a panel-board, the combination of bus-bars, and cross-bars between the bus-bars, with fuse-plug receptacles mounted upon said bus-bars, and each having a branch-line contact-piece, one of said contact-pieces adapted to be electrically connected to the bus-bar beneath its receptacle by a fuse-plug, and another adapted to be electrically connected to a cross-bar by a fuse-plug, but insulated from the bus-bar beneath its receptacle.

2. In a panel-board, the combination of bus-bars and fuse-plug receptacles mounted thereon, with a cross-bar connected to one of said bus-bars and passing into a receptacle on the opposite bus-bar.

3. In a panel-board, the combination of bus-bars and fuse-plug receptacles mounted thereon, with a cross-bar connected to one of said bus-bars and passing into a receptacle on the opposite bus-bar, and branch-line contact-pieces adapted to be connected, within the receptacles, by fuse-plugs, one to the bus-bar beneath its corresponding receptacle and one to the cross-bar entering its receptacle.

4. In a panel-board, a fuse-plug receptacle, a bus-bar passing through the base thereof, a superposed cross-bar entering into and terminating within said receptacle, and a branch-line bar entering thereinto from the opposite side thereof.

5. In a panel-board, the combination of bus-bars and fuse-plug receptacles mounted thereover, with a cross-bar connected to one of said bus-bars and passing into a receptacle on the opposite bus-bar but out of contact with said bus-bar, and a branch-line contact-piece entering said receptacle from the opposite side thereof and adapted to be put into connection with the cross-bar but insulated from the bus-bar.

6. In a panel-board, the combination of bus-bars cross-bars branch-line contact-pieces and fuse-plug receptacles orificed for the passage of a bus-bar therethrough and, at right angles thereto, for the entry of a cross-bar and a branch-line contact-piece.

7. In a panel-board, a fuse-plug receptacle having openings on opposite faces and transversely grooved on its bottom, a bus-bar passing through said groove and a cross-bar and branch contact-bar passing, from opposite directions, through said openings and terminating within said receptacle, said terminations being normally insulated apart but to be connected by fuse-plugs inserted within said receptacles.

8. In a panel-board, the combination of bus-bars, fuse-plug receptacles straddled thereover and each providing a septum of insulating material above said bars, cross-bars passing from beneath said septa into opposite receptacles above the septa, being in and out of contact with the underlying bus-bars, respectively, and line contact-pieces entering said receptacles above said septa and connected to said cross-bars by suitable fuse-plugs.

805,651. PIANO-PLIERS. CARL H. LANE. Chicago, Ill. Filed Apr. 14, 1905. Serial No. 255,691.

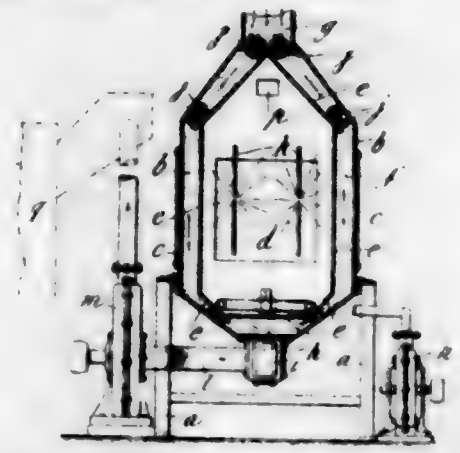


Claim.—1. A tool of the pliers type having a main jaw longitudinally and transversely curved, a supplemental jaw mounted on said main jaw and adapted to rock thereon both longitudinally and transversely, and positive connecting means between the main and supplemental jaws.

2. A tool of the pliers type having a main jaw, a supplemental jaw mounted upon the main jaw and adapted to receive both a longitudinal and a transverse rocking movement and having spaced lugs embracing said main jaw, and positive interlocking means between said spaced lugs and the main jaw for holding the supplemental jaw in place.

3. A tool of the pliers type provided with a jaw having an opening oppositely flared from a central point, a supplemental jaw provided with spaced lugs embracing opposite sides of the pliers-jaw, and a pin passing through corresponding openings of the pliers-jaw and spaced lugs to positively hold the supplemental jaw in place and admit of its having a limited play to automatically adapt itself to the nature of the work.

805,652. APPARATUS FOR BLEACHING FLOUR. PIERRE A. LEFERCHE, VICTOR ANGIOLINI SALVADORI, and VICTOR DENIS. Paris, France. Filed July 25, 1900. Serial No. 271,148.

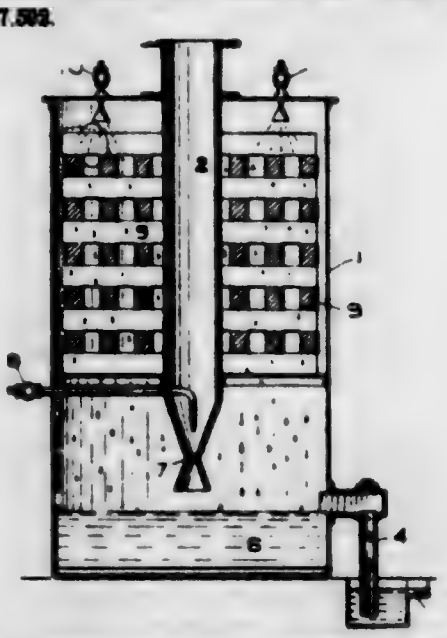


Claim.—1. An apparatus for bleaching flours, comprising channels for the fall of the flour in the form of rain and a chamber separated from said channels by glass walls and means for producing light inclosed in said chamber.

2. An apparatus for bleaching flours, comprising channels for the fall of the flour in the form of rain, a chamber separated from said channels by glass walls and means for producing light inclosed in said chamber; rollers for dividing up the flour before its entrance into the said channels; a suction-fan for drawing the flour through these channels and a blower-fan for cooling the apparatus.

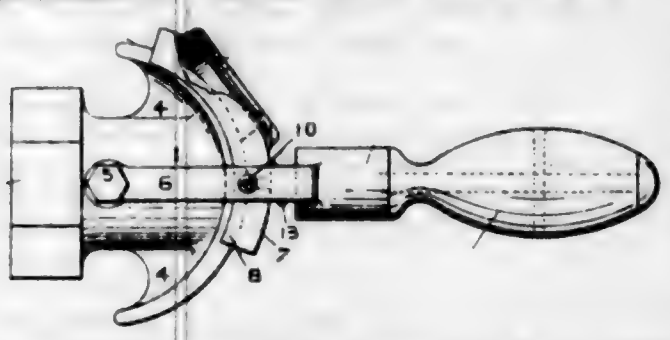
3. An apparatus for bleaching flours, comprising channels for the fall of the flour in the form of rain and a chamber separated from said channels by glass walls, closed chambers within said chamber and electric lamps burning in said closed chambers.

805,653. APPARATUS FOR CLEANING MANUFACTURED GASES. LEON P. LOWE, San Francisco, Cal. Filed Mar. 10, 1902. Serial No. 97,592.



Claim.—An apparatus for cleansing manufactured gases comprising a suitable casing to form a chamber, a gas-inlet having a constricted portion opening into the lower portion of said chamber, a steam-pipe discharging into said constricted portion of said gas-inlet, an outlet for the gas at the top of the chamber, an overflow-pipe connected with the chamber near the bottom and a water seal for said pipe whereby a body of water is collected therein whose level is determined by said overflow, the gas-inlet discharging directly downward toward the surface of the water, but the discharge-aperture being wholly above said surface, whereby the particles of greater density are projected into contact with the water, while the lighter gas escapes contact therewith, and means for providing a continual discharge of water into the upper portion of the chamber, substantially as described.

805,654. SIGHT-COCK FOR GAS-FURNACES. LEON P. LOWE. San Francisco, Cal. Filed June 17, 1903. Serial No. 161,791.



Claim.—1. In a device of the character described, a tubular member having a seat curved in a surface of revolution, a shutter on said seat similarly curved and having a sight-hole therein, a handle for operating said shutter, having its pivot on the axis of the surface of revolution, and a spring between the handle and shutter, substantially as described.

2. In a device of the character described, a tubular member having a convex seat curved in a surface of revolution, a shutter on said convex seat similarly curved and having a sight-hole therein and having flanges overlapping the sides of the convex seat, and a handle for operating said shutter, having its pivot on the axis of the surface of revolution, substantially as described.

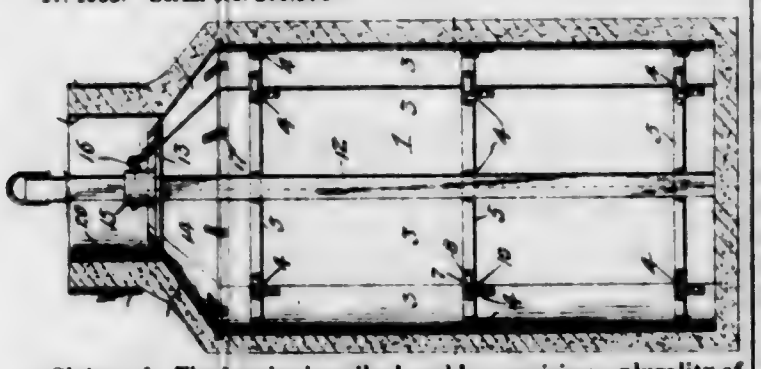
3. In a device of the character described, a tubular member having a convex seat curved in a surface of revolution, a shutter on said convex seat similarly curved and having a sight-hole therein, a handle for operating said shutter, having its pivot on the axis of the surface of the revolution, and means for positively clamping the shutter onto its convex seat at any desired position thereof, substantially as described.

4. In a device of the character described, a tubular member having a convex seat curved in a surface of revolution, a shutter on said convex seat similarly curved and having a sight-hole therein, said convex seat being sufficiently extended to permit the shutter to rest thereon wholly at one side of the aperture, whereby the latter can act as a vent-hole, and a handle for operating said shutter, having its pivot on the axis of the surface of revolution, substantially as described.

5. In a device of the character described, the combination of a tubular element having a seat, a shutter moving on said seat, and having an opening closed by suitable transparent material, a spring for pressing said shutter against said seat, and means for moving said shutter to and fro on its seat, substantially as described.

6. In a device of the character described, the combination of a tubular element having a seat, a shutter moving on said seat, and having an opening closed by suitable transparent material, a spring for pressing said shutter against said seat, means for moving said shutter to and fro on its seat, and means for clamping the shutter to its seat at any desired position thereof, substantially as described.

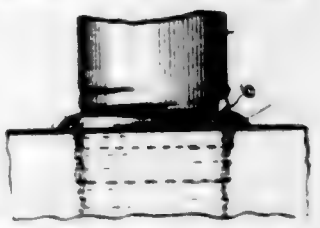
805,655. MOLD. WILLIAM H. LUCAS, Newark, Ohio. Filed July 17, 1905. Serial No. 270,074.



Claim.—1. The herein-described mold comprising a plurality of the side sections, each partly overlapping the next adjacent section at one edge, the band-sections on the inner sides of the side sections and disposed end to end and in abutting relation, the keepers secured each to one of the side sections on the inner side thereof and having its upper portion extending across and spaced from the band-section on said side section, and the latches each pivoted at one end to the inner side of one of the band-sections and disposed in the space between the next adjacent band-section and the upper portion of the keeper adjacent thereto, said latches thereby engaging the several keepers, connecting the band-sections end to end and extending across the joints between their abutting ends.

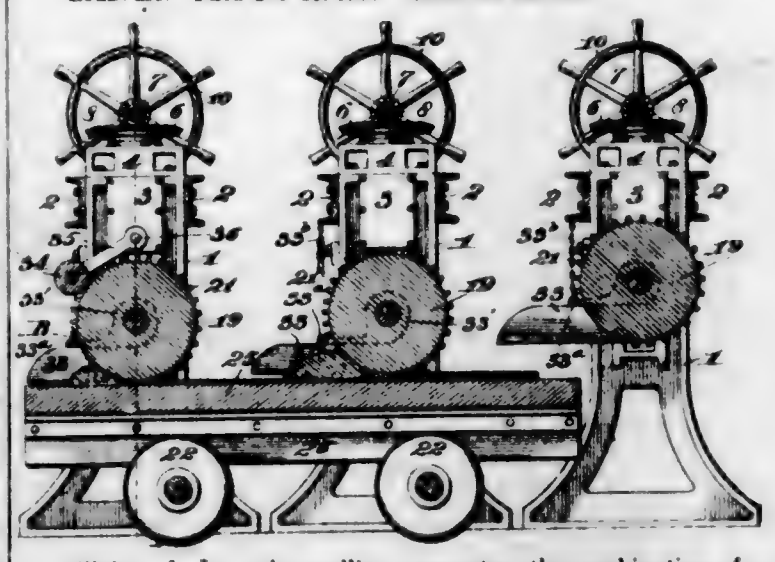
2. The herein-described mold comprising, in connection with the body portion, a top of conical form to bear on the upper edge of the body portion and composed of separable members and the angle-stops on the under sides of said separable members to engage the inner side of the body, at the upper edge thereof, the inner neck member bearing on the top, the latter having the opening in its center, the upright projecting upwardly through said opening, and the head slidable on said upright, adjustably connected thereto and bearing under the top to support the upper portion of the latter, the said top extending inwardly from said neck-section.

805,656. STOVEPIPE-THIMBLE CONNECTION. JOHN W. MAHAFFY, Ludlow Falls, Ohio. Filed June 17, 1904. Serial No. 213,002.



Claim.—In a chimney-thimble connection, the combination of a screw-threaded pipe, a cylindrical thimble screw-threaded externally to engage with the chimney and internally to engage with the screw-threaded pipe, and a screw-threaded collar adapted to fit upon and engage the screw-threads of the pipe and to bear and fit against the thimble.

805,657. GLASS-ROLLING APPARATUS. ANTON MEYER, St. Louis, Mo. Filed Oct. 10, 1904. Serial No. 227,808.



Claim.—1. In a glass-rolling apparatus, the combination of a table, a series of rolls surmounting said table, means for rotating said rolls, standards in which said rolls are mounted, a guide-roller associated with one of said rolls and occupying a position above the axis of the roll, and means whereby said guide-roller is gravitatingly connected with a pair of said standards in which said last-named roll is mounted, substantially as set forth.

2. In a glass-rolling apparatus, the combination of a reciprocating carriage having a table, rolls surmounting said table and geared to said carriage, and guard-plates carried by the shafts of said rolls and hanging suspended above said table, substantially as set forth.

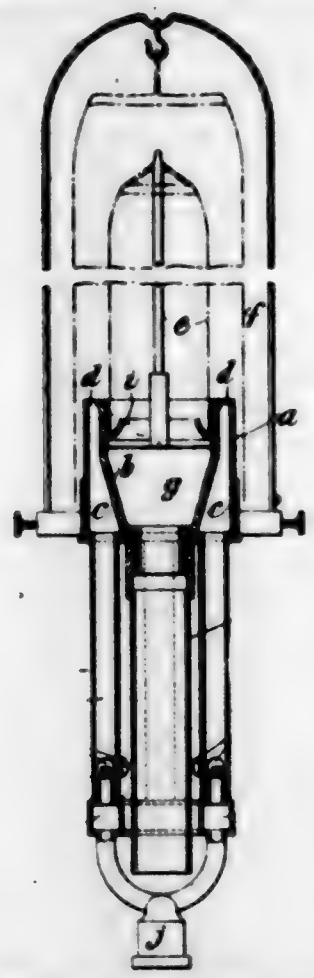
3. In a glass-rolling apparatus, the combination of a table, rolls surmounting said table, guard-plates located adjacent to said rolls, means whereby said guard-plates are adjustably supported; said supporting means consisting of hangers mounted upon the shafts of said rolls, and cross-bars to which said guard-plates are adjustably fitted, substantially as set forth.

4. In a glass-rolling apparatus, the combination of a table, a series of rolls surmounting said table, means for rotating said rolls, standards in which said rolls are mounted, links pivoted to one pair of said standards and a guide-roller gravitatingly supported by said links in a position above the axis of the adjacent roll mounted in the standards to which said guide-roller is connected, substantially as set forth.

805,658. BUNSEN BURNER FOR LIGHTING AND HEATING PURPOSES. JULIUS MOELLER, Westminster, London, England. Filed Aug. 1, 1904. Serial No. 219,691.

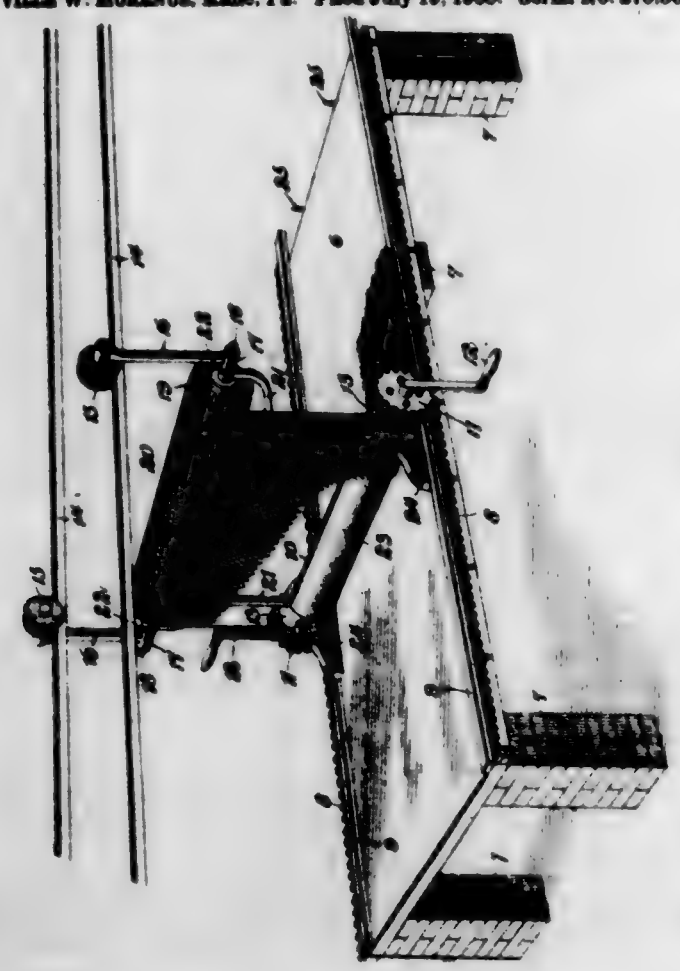
Claim.—1. An incandescent gas-burner having a head provided with a chamber, a passage connected therewith and leading to the open air, said chamber being surrounded by a second chamber,

an annular chamber connected with a gas-supply, and pipes connecting said annular chamber with the said second chamber, said connecting-pipes being provided with means for mixing air with the gas passing through them, substantially as described.



2. An incandescent gas-burner having means for supporting two incandescent mantles, one within the other, and being provided with a chamber connected with the open air and having a baffle-plate within the same, a second chamber provided with a burner-orifice between the said mantles, a third chamber annular in form connected to a gas-supply, and also connected with the second chamber by pipes each provided with means for mixing air with the gas passing through it, substantially as described.

805,659. APPARATUS FOR MAKING WIRE-GLASS. GRANVILLE W. MORGAN, Kane, Pa. Filed July 19, 1905. Serial No. 270,361.



Claim.—1. In apparatus of the character described, the combination with a casting-table having tracks, of a roller operating over the table, and annular tread-flanges carried by the roller and operating on the tracks, said flanges constituting guides around which the wire passes.

2. In apparatus of the character described, the combination with a casting-table having tracks, of a roller operating over the table, annular tread-flanges carried by the roller and operating on the tracks, said flanges constituting guides around which the wire passes, and means for feeding wire-netting to the roller and to the flanges.

3. In apparatus of the character described, the combination with a casting-table having tracks, of a roller operating over the table, and annular tread-flanges carried by the roller and tracks, said flanges projecting inside the tracks, said projecting portions constituting guides about which the wire passes, and said guides maintaining the wire that is between them in spaced relation to the table and the roller.

4. In apparatus of the character described, the combination with a casting-table having tracks, of a roller operating over the table, annular tread-flanges carried by the roller and operating on the tracks, said flanges constituting guides around which the wire passes, and means for feeding wire-netting to the roller and to the flanges with the margins of said netting between the tracks and flanges.

5. In apparatus of the character described, the combination with a casting-table, of a roller operating thereover and having a portion thereof between the side margins of the table spaced from said table, and means for feeding and directing wire-netting downwardly between the roller and table with the entire portion of said netting between the side margins of the table spaced from both the table and the roller.

6. In apparatus of the character described, the combination with a casting-table, of a roller movable thereover and having its main portion spaced therefrom, means rotatable with the roller to position the wire in spaced relation thereto, and a guide for the wire coöperating with the spacing means, said guide being disposed in advance of the roller and maintained against rotation therewith.

7. In apparatus of the character described, the combination with a casting-table, of a roller movable thereover and having its main portion spaced therefrom, spaced annular flanges carried by and rotatable with the roller to maintain said roller in spaced relation to the table and to position the wire in spaced relation to the roller, and a guide for the wire located between the flanges and held against rotation with the roller.

8. In apparatus of the character described, the combination with a casting-table, of tracks thereon, a roller movable over the table, spaced annular flanges carried by the roller, operating on the tracks and extending beyond the inner sides thereof, said flanges constituting means for spacing the wire-netting from the roller, and a guide interposed between the flanges and held against rotation therewith.

9. In apparatus of the character described, the combination with a casting-table, of tracks mounted thereon, a roller movable over the table, spaced annular flanges carried by the roller and operating on the tracks, a wire-guide interposed between the flanges, and means for securing the guide in spaced relation to the table, said guide bearing against the portion of the roller between the flanges.

10. In apparatus of the character described, the combination with a casting-table, of a track located over the table, means movably mounted on the track for movably suspending a spool of wire over the table, a roller operating over the table, and means for directing the wire from such suspended spool between and in spaced relation to the table and the roller.

11. In apparatus of the character described, the combination with a casting-table, of a track located above the table, means movably mounted on the track for movably suspending a spool of wire over the table, a roller operating over the table, and means for directing the wire from such suspended spool between and in spaced relation to the table and the roller, said means including a guide hung from the spool-suspending means and located in advance of the roller.

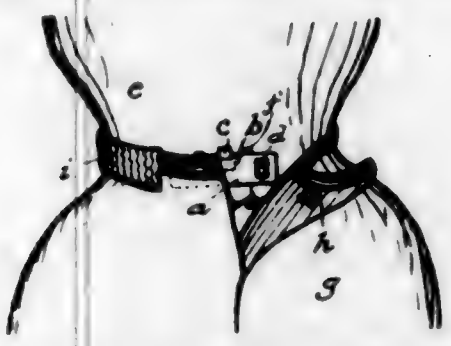
12. In apparatus of the character described, the combination with a casting-table having racks at the sides thereof, of tracks mounted on the table, a roller movable over the table, cog-wheels carried by the roller and operating on the racks, flanges carried by the ends of the roller and operating on the tracks, said flanges projecting beyond the inner sides of the tracks, a movable spool-carrier suspended over the casting-table, and a guide suspended from said

spool-carrier and located between the flanges and against the advance portion of the roller.

13. In apparatus of the character described, the combination with a casting-table, of means for rolling a sheet of glass thereupon, means for feeding netting beneath the sheet-rolling means, and means movable with the rolling means for simultaneously clamping the netting at the line of the rolling action.

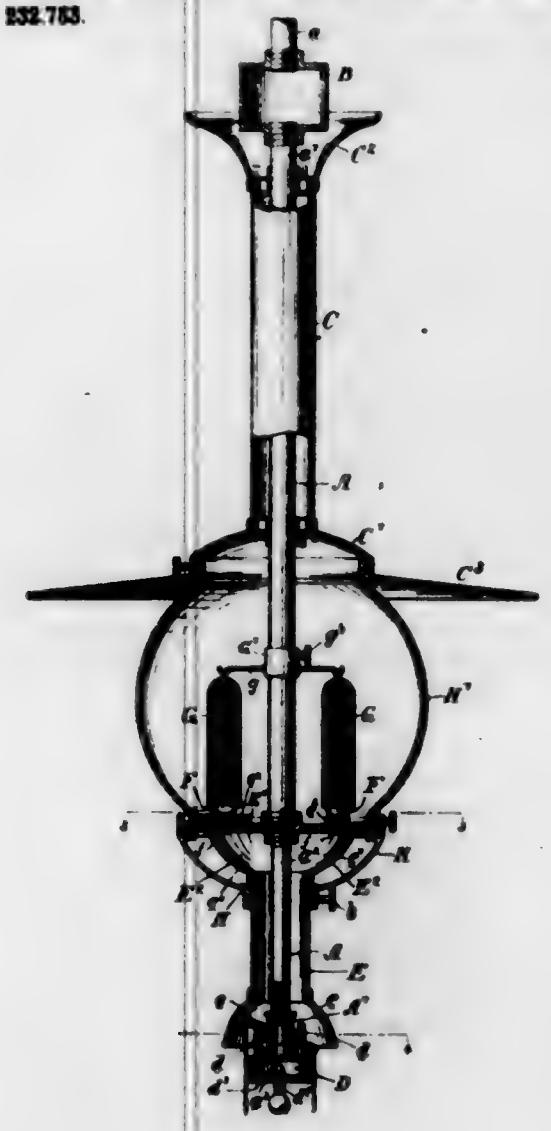
14. In apparatus of the character described, the combination with a casting-table, of a roller operating on the table for forming a sheet of glass thereupon, means for directing the netting beneath the roller, and coacting devices carried by the roller and table for simultaneously clamping the netting at the line of the rolling action.

805,660. **SKIRT-SUPPORTER AND WAIST AND BELT RETAINER.** DAVID MORROW, Reading, Pa. Filed Feb. 9, 1905. Serial No. 244,857.



Claim.—As an article of manufacture, a device of the class described constructed from a single piece of metal and comprising a body portion, oppositely-disposed and downwardly-bent hooks adjacent each other on the upper edge of said body intermediate its ends, and tongues stamped from the body portion, located on either side of the hooks and remote from the ends of said body, said tongues extending outward beyond the plane of the body and with their extremities bent inward and standing in close proximity to the body portion to form a spring-snap.

805,661. **REGENERATIVE GAS-LAMP.** WILLIAM S. MCLEWEE, Yardley, Pa., assignor to The McLewee Gas Lamp Manufacturing Company, a Corporation of New Jersey. Filed Nov. 15, 1904. Serial No. 232,753.



Claim.—The combination in a lamp, of a supply-pipe, a preheating-chamber, a draft-tube, an expansion-chamber, outlet-tubes in said expansion-chamber, a mixing-tube located above said expansion-chamber, a flaring lower portion on said mixing-tube, a mixing-chamber above said mixing-tube, and burners connected to said mixing-chamber, substantially as described.

805,662. **BOLT-ANCHOR.** FREDERIC D. OSBORN, New York, N. Y. Filed May 20, 1905. Serial No. 261,376.



Claim.—1. A bolt-anchor section formed with a plurality of interiorly transversely corrugated portions and a plurality of exteriorly-corrugated portions, said portions being alternately disposed, the exteriorly-corrugated portions being of the greater diameter.

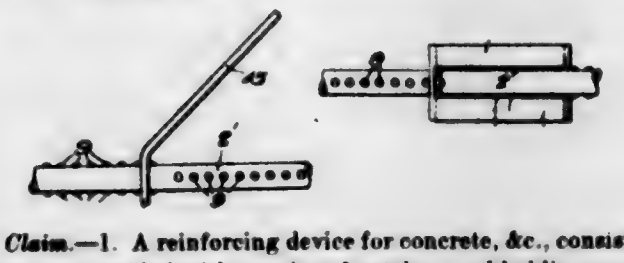
2. A bolt-anchor section formed with a plurality of interiorly transversely corrugated portions and a plurality of exteriorly-corrugated portions, said portions being alternately disposed, the exteriorly-corrugated portions being of the greater diameter, and the interior corrugations being spirally disposed.

3. A bolt-anchor section formed with a plurality of portions having interior spiral corrugations of progressively-decreasing diameter from front to rear and a plurality of exteriorly-corrugated portions of greater diameter than said interiorly-corrugated portions said portions being alternately disposed

4. A bolt-anchor section formed with a plurality of portions having interior spiral corrugations of progressively-decreasing diameter from front to rear and a plurality of exteriorly-corrugated portions of greater diameter than said interiorly-corrugated portions, said portions being alternately disposed and one of said exteriorly-corrugated portions being located at the forward end of the anchor-section.

5. A bolt-anchor section, the wall of which is of approximately equal thickness throughout and interiorly and exteriorly corrugated, the section having alternate portions the interior corrugations of a plurality of which are adapted to engage a bolt-thread, and a plurality of other alternately-disposed portions the exterior corrugations of which are adapted to bear against the walls of the aperture in which the anchor is engaged the exteriorly-corrugated portions being of the greater diameter.

805,663. **REINFORCING DEVICE FOR CONCRETE CONSTRUCTION.** GEORGE L. PEABODY, Pittsburg, Pa. Filed Sept. 29, 1904. Serial No. 226,533.



Claim.—1. A reinforcing device for concrete, &c., consisting of a main bar provided with a series of notches, and holding-arms surrounding the bar in engagement with said notches and projecting laterally from the bar, substantially as set forth.

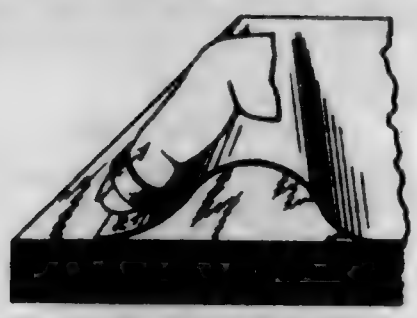
2. A reinforcing device for concrete, &c., consisting of a main bar provided with a series of notches, holding-arms surrounding the bar in engagement with said notches and projecting laterally from the bar, with securing devices for the arms, substantially as set forth.

3. The combination with a main bar provided with a series of notches formed between adjacent shoulders, of holding-arms surrounding the bar and in engagement with said shoulders, and provided with apertures adapted to provide clearance therefor in assembling the arms with the bar, substantially as set forth.

4. The combination with a main bar provided with a series of notches, of oppositely-disposed series of holding-arms surrounding the bar in engagement with said notches and projecting laterally from the bar and toward each end respectively beyond its middle portion, substantially as set forth.

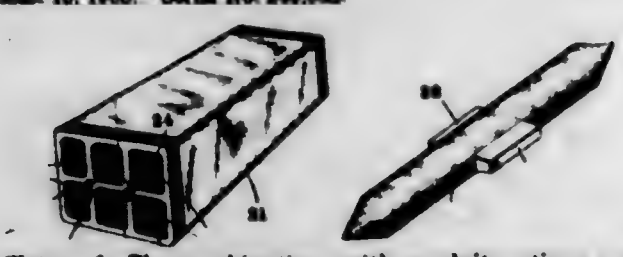
5. A reinforcing device for concrete, &c., consisting of a main bar provided with a series of notches, and holding-arms surrounding the bar in engagement with said notches and projecting upwardly and outwardly toward the ends of the bar, substantially as set forth.

805,664. LEAF-TURNING FINGER-RING. ALL. RAMAGE, Kansas City, Mo. Filed Aug. 12, 1904. Serial No. 220,543.



Claim.—A leaf-turning device comprising an annular device adapted to be worn upon a person's finger and provided with one or more holes extending radially therethrough and one or more sharp-eared pins disposed in said holes respectively with their points extending but slightly beyond the outer periphery of the said device.

805,665. CONDUIT. DANIEL B. REAGAN, Terre Haute, Ind. Filed Mar. 10, 1905. Serial No. 249,362.

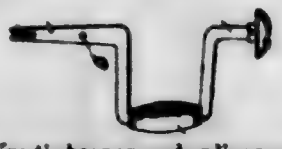


Claim.—1. The combination, with conduit-sections provided with longitudinal dowel-pin perforations having wing-like extensions, of dowel-pins provided with corresponding wings and adapted to enter said perforations and unite the ends of the sections.

2. The combination of conduit-sections having longitudinal dowel-pin perforations and wing-like recesses provided at the ends of said perforations, of dowel-pins adapted to be inserted in said perforations and having wings whose thickness is substantially equal to the corresponding dimension of the recesses, whereby said wings are adapted to support said pins in a substantially straight and true position, substantially as and for the purpose set forth.

3. The combination of conduit-sections having longitudinal openings for the reception of the devices to be carried thereby and also smaller longitudinal perforations parallel therewith for the reception of dowel-pins, said last-named perforations having wing-like recesses extending laterally therefrom, and dowel-pins the ends whereof are adapted to extend into the corresponding perforations in adjacent ends of the conduit-sections and the wings whereon are adapted to enter and be received by said wing-like recesses, all substantially as shown and described.

805,666. WIRE SPLICER AND TIGHTENER. JOHN O. RHORER and MARION F. HARDY, Fort McKavett, Tex. Filed July 6, 1905. Serial No. 268,317.



Claim.—1. A wire tightener and splicer comprising a metal rod provided with a crank portion, one end of the rod being adapted to serve as a handle while the opposite end of the rod is tapered toward the extremity and is provided with a transverse opening adapted to have the wire to be stretched passed therethrough.

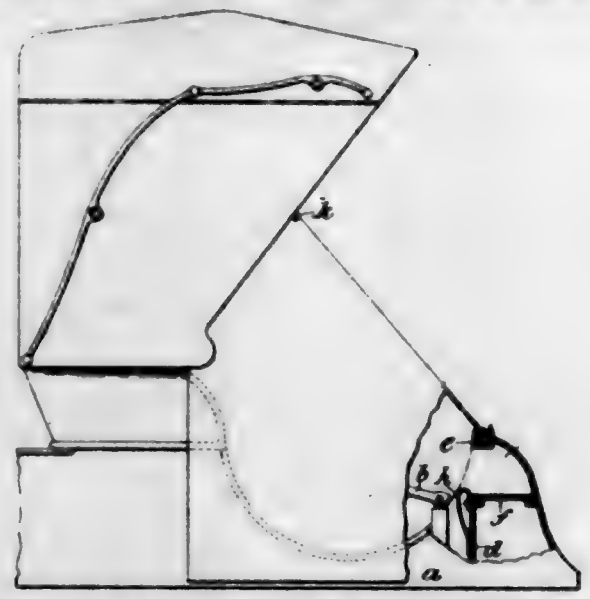
2. A wire tightener and splicer comprising a metal rod which is provided with a crank portion, one end of the rod being adapted to serve as a handle while the opposite end of the rod has a transverse opening adapted to have the wire to be stretched passed therethrough, and is provided at its extremity with a notch which may be employed in bending the wire in order to form loops.

805,667. ANKLE-SUPPORT FOR SKATES. ROYAL H. RIBLET, Spokane, Wash. Filed Mar. 14, 1905. Serial No. 250,072.

Claim.—In a leg-support a triangular-shaped support or brace curved to fit the contour of the heel and back of the leg, comprising a looped spring-wire, the loop of which forms the base of the triangle, and having the apex of said triangle formed by twisting the ends of said looped wire together, and having the ends of said looped wire bent at right angles to the vertical portion of said triangular-shaped standard and curved in opposite directions to form a yoke-shaped stirrup that is adapted to inclose the rear and sides of the leg, and a leg-clamping strap pivotally connected to the ends of said yoke-stirrup.



805,668. VEHICLE-BODY. HERBERT H. RICE, Indianapolis, Ind., assignor to Pope Manufacturing Company, Jersey City, N. J., a Corporation of New Jersey. Filed Jan. 23, 1905. Serial No. 242,288.



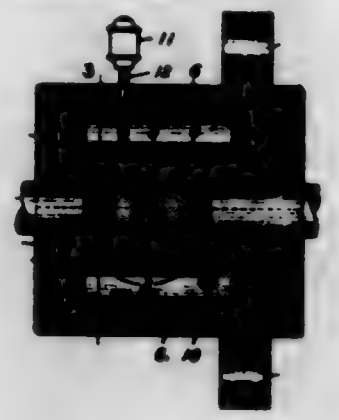
Claim.—1. In a vehicle-body, the combination with a dash, of a storm-apron permanently attached to the dash on the outside thereof, and means for storing said apron when not in use.

2. In a vehicle-body, the combination of a dash having a receptacle formed therein, a storm-apron adapted to be inclosed in said receptacle, and having one end permanently secured to the outside of the dash, a door for closing said receptacle, and means provided on the outside of the dash for securing the door.

3. In a vehicle-body, the combination of a dash having a receptacle formed therein, a storm-apron permanently attached to the dash on the outside thereof, a flexible door for closing said receptacle and adapted to overlap and conceal the storm-apron when said door is closed, and means on the outside of the dash to secure said door, substantially as described.

4. In a vehicle-body, the combination of a dash having two compartments formed therein, a horizontal partition separating said compartments, a storm-apron permanently secured to the dash upon the outside thereof and adapted when not in use to be stored in the upper compartment upon the horizontal partition.

805,669. PACKING. RICHARD H. RICE, Swampscott, Mass., assignor to General Electric Company, a Corporation of New York. Filed Apr. 12, 1904. Serial No. 202,784.



Claim.—1. In a packing-ring, the combination of a casing which is provided with an opening through which the device to be packed extends, a packing mounted within the casing, a chamber formed in the casing, which normally contains cooling fluid, an integral wall which entirely separates the chamber from the said opening, and inlet and outlet passages for conveying cooling fluid into and out of the chamber.

2. In a packing, the combination of a casing which is provided with an opening to receive the device to be packed, a packing-ring mounted within the casing, a fluid-containing chamber formed in the casing which is concentric with the opening, an integral or non-perforated wall which separates the chamber from the opening, and inlet and outlet passages for conveying cooling fluid into and out of the chamber, the inlet-passage being larger than the outlet-passage so as to keep the chamber filled at all times.

3. In a structure of the character described, the combination of a casing having an opening to receive the device to be packed, a plurality of grooves formed in the wall of the opening, packing-rings mounted in the grooves, a chamber formed in the casing, which is entirely separated from the packing-containing opening by a thin wall, and means for supplying cooling fluid to the chamber.

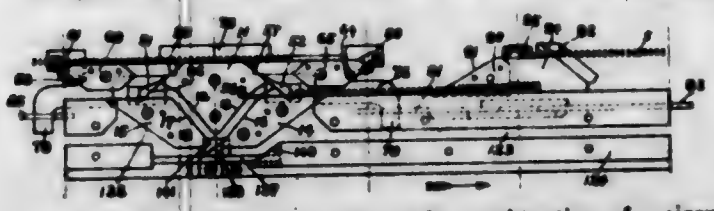
4. In a packing, a casing cast with a central longitudinal opening through which the piston rod or shaft passes, packing-rings contained within the opening, an annular chamber cast in the casing and surrounding the packing-rings which is independent of the opening, inlet and outlet openings communicating with the chamber and extending through the casing to the exterior thereof, as and for the purpose specified.

5. In a packing, a casing provided with a central longitudinal opening through which the piston rod or shaft is adapted to pass, packing-rings seated in the wall of the opening, an annular chamber formed in the casing around the wall and the packing-rings and separated from the shaft and the rings by the wall, inlet and outlet openings communicating with the chamber upon opposite sides and opposite ends, said openings extending through the casing to the exterior thereof, the inlet-opening being larger in diameter than the outlet-opening, as and for the purpose specified.

6. In a packing, a longitudinally-divided casing provided with annular grooves upon the interior, packing-rings adapted to said grooves, an annular chamber formed in the casing surrounding the packing-rings, and inlet and outlet openings communicating with the chamber and extending through the casing to the exterior, the inlet-opening being larger in diameter than the outlet, as and for the purpose specified.

7. In a packing, a casing, packing-rings contained within the casing, an annular chamber formed in the casing surrounding the packing-ring, inlet and outlet openings extending from the chamber to the exterior of the casing, and an oil-cup provided with a pipe extending through the casing to the central bore thereof, as specified.

805,670. KNITTING-MACHINE. JAMES E. ROWE, Pawtucket, R. I., assignor to E. Jenckes Manufacturing Company, Pawtucket, R. I., a Corporation of Rhode Island. Filed Nov. 26, 1901. Serial No. 83,736.



Claim.—1. In a knitting-machine the combination of a circularly-arranged series of needles, a single knitting-cam for operating the needles to draw the loops during reciprocating knitting, thread-guides on opposite sides of the knitting-cam, and means for shifting the thread from one guide to the other during reciprocating knitting, substantially as described.

2. In a knitting-machine the combination of a needle-cylinder, needles guided therein, a cam-cylinder provided with means for forming a knitting-wave in the needles in fixed relation to the cam-cylinder during reciprocating knitting, thread-guides on opposite sides of the knitting-wave, and means for shifting the thread from one guide to the other during reciprocating knitting, substantially as described.

3. In a knitting-machine the combination of a needle-cylinder, needles guided therein, a cam-cylinder provided with means for forming a knitting-wave in the needles in fixed relation to the cam-cylinder during reciprocating knitting, sinkers for holding the fabric as the needles rise, means for shifting the points at which the sinkers are advanced and withdrawn from side to side of the knitting-wave, thread-guides on opposite sides of the knitting-wave, and means for shifting the thread from one guide to the other during reciprocating knitting, substantially as described.

4. In a knitting-machine, the combination, with a series of needles, and means for causing a knitting-wave to travel back and forth along said series of needles, of a thread-guide on each side of the wave, and a guiding-slot connecting the two thread-guides, substantially as described.

5. In a knitting-machine a thread-guide provided with a thread-engaging surface at substantially right angles to the line of the thread as it passes from the guide to the needles during the knitting, a second thread-guide having a similar guiding-surface, and a slot extending from one guiding-surface to the other, substantially as described.

6. In a knitting-machine, a thread-guide 42 having an inclined guiding-surface 45, a second thread-guide 43 having an oppositely-inclined guiding-surface 46, and a slot 47 connecting said thread-guides, substantially as described.

7. In a knitting-machine, a thread-guide 42 having the inclined guiding-surface 45, the thread-guide 43 having the oppositely-inclined guiding-surface 46, the slot 47 between said guides and the guard 48, substantially as described.

8. In a knitting-machine the combination of a cam-cylinder, sinkers, a sinker cam-ring provided with movable cams for operating the sinkers, and connections between the sinker-cams and cam-cylinder for shifting the sinker-cams when the cam-cylinder reverses, substantially as described.

9. In a knitting-machine the combination of a cam-cylinder sinkers, a sinker cam-ring, movable cams on the sinker cam-ring for operating the sinkers, levers pivoted on the sinker cam-ring and connected with said sinker-cams, and a projection on the cam-cylinder engaging said levers, substantially as described.

10. In a knitting-machine the combination of a sinker-ring provided with radial grooves for guiding the sinkers, sinkers guided in said grooves, a sinker cam-ring mounted on said sinker-ring, a guiding-ring at the inner edge of the sinker-ring grooved for the passage of the sinkers, substantially as described.

11. In a knitting-machine the combination of a sinker-ring having radial grooves for the sinkers, sinkers mounted therein, a sinker cam-ring mounted on said sinker-ring, a guiding-ring 20 at the inner edge of the sinker-ring between the sinkers and the sinker cam-ring grooved for the passage of the sinkers, substantially as described.

12. In a knitting-machine the combination of cams 90 and 92 for raising and depressing the needles, a lever carrying said cams mounted on a vertical pivot, and means for rocking said lever to alternately move said cams into and out of operation, substantially as described.

13. In a knitting-machine the combination of cams 90 and 92 for raising and depressing the needles, a lever carrying said cams, a reciprocating slide for operating said lever, a slot in said slide and a movable pin engaging said slot, substantially as described.

14. In a knitting-machine the combination of switch-cams and depressing-pickers, means for projecting and retracting the same, connections whereby the two sets of mechanisms may be jointly and simultaneously operated, and means whereby the switch-cam-projecting devices may be operated independently of said connections.

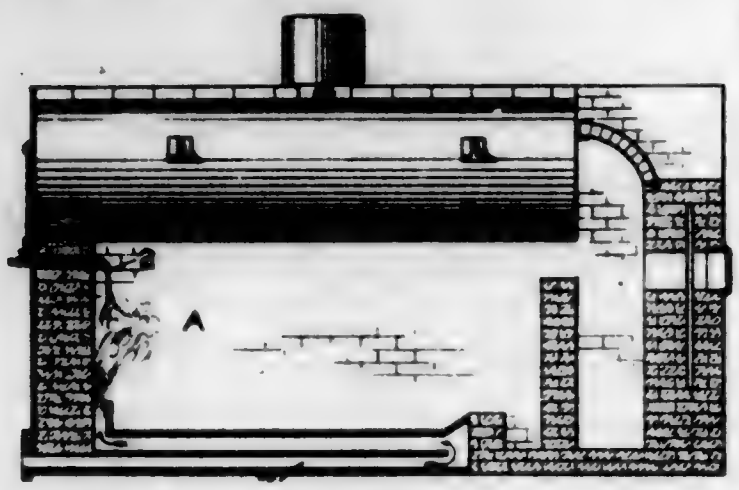
15. In a knitting-machine the combination of switch-cams and depressing-pickers, means for projecting and retracting the same, connections whereby the two sets of mechanisms may be jointly and simultaneously operated, and means whereby one of said mechanisms may be operated independently of said connections.

16. In a knitting-machine the combination of a switch-cam, mechanism for projecting and retracting the same, pickers, connections between said mechanism and pickers for throwing the pickers into and out of operation, and means whereby the switch-cam may be projected independently of said connections.

805,671. HOT-AIR APPLIANCE FOR HYDROCARBON BURNERS AND FURNACES. ARTHUR H. BAFFREY, Bakersfield, Cal., assignor of one-half to Richard J. Powers, San Leandro, Cal. Filed May 9, 1904. Serial No. 207,022.

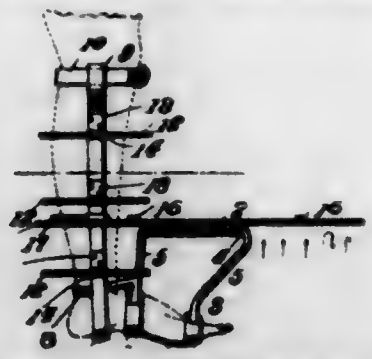
Claim.—1. The combination with a combustion-chamber, of a burner having its nozzle provided with a downwardly-directed discharge-opening proximate to the inner front wall of the chamber and arranged to direct the fuel discharge downwardly and parallel with said wall, a superheating-chamber arranged in the furnace and forming a tortuous passage in which air is superheated before being delivered to the combustion-chamber, said superheating-chamber having one end connecting through the front wall of the furnace-casing

and thence extending substantially the length of the combustion-chamber and returned upon itself to the front of the combustion-chamber and having its outlet arranged vertical and substantially in the plane of the oil-burner nozzle and adapted to deliver the heated air opposite to and against the oil-jet whereby direct impingement against the walls of the chamber is avoided and the combined vapors form a sheet of flame substantially across the whole of the chamber at the front end of the boiler.



2. The combination with a fire-box chamber, of a burner in the front end of said chamber and delivering substantially parallel with the front wall thereof, and an air-conduit in the bottom of the furnace and having a series of horizontal, parallel, staggered partitions forming a tortuous passage in which the air is superheated before it reaches the combustion-chamber, said conduit having its inlet exterior to the furnace and its outlet arranged vertical to deliver opposite to and substantially in line with the oil discharge and parallel with the front wall of the furnace whereby combustion of vapors occurs at the front end of the chamber and the direct impact of the flame-jet against the walls of the furnace is avoided.

805,672. SWIMMING APPLIANCE. WILLIAM P. SAMES, Enterprise, Oreg. Filed Apr. 21, 1905. Serial No. 256,782.



Claim.—1. In a swimming appliance of the class set forth, the combination of a frame adapted to be attached to the foot, blades or wings pivoted to the frame, a bar adapted to be secured longitudinally of a side of the leg, a plurality of wings pivoted to the bar, and a rod projected rearwardly and laterally from the bar and adapted to engage the upper sides of the wings which are pivoted to the frame first mentioned, so as to limit the spreading or opening movement of these wings.

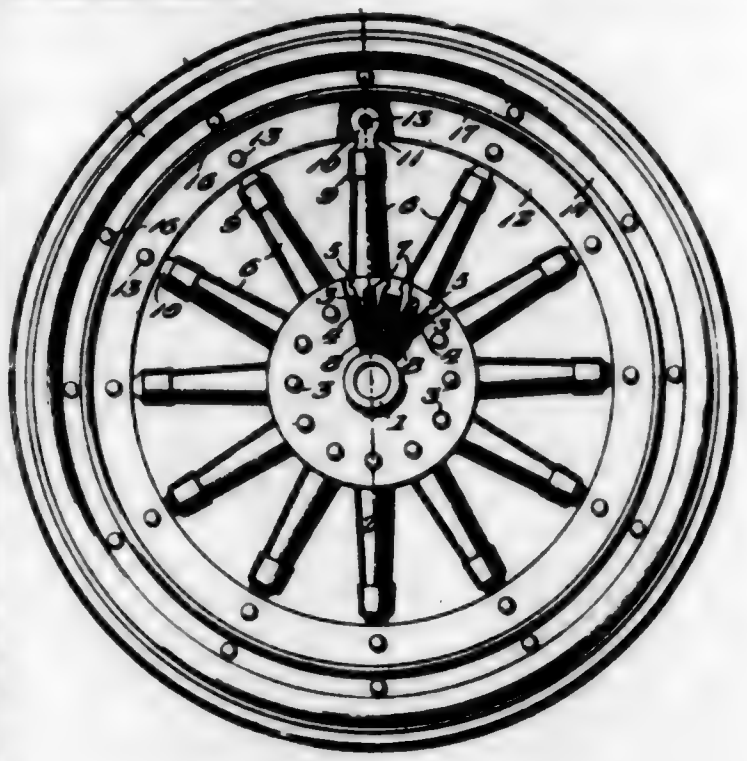
2. In a swimming appliance of the class set forth, the combination of a frame adapted to be attached to the foot, blades or wings pivoted to the frame, a bar adapted to be attached longitudinally of the leg, a plurality of wings or blades pivoted to the bar, and means carried by the bar for limiting the movement of the wings or blades carried by the frame first mentioned.

805,673. VEHICLE-WHEEL. GEORGE SCHRAM, Detroit, Mich. Filed Feb. 17, 1905. Serial No. 246,143.

Claim.—1. A wheel comprising a hub, spokes yieldingly connected with the hub, a supplemental rim separated longitudinally into a plurality of parts and connected with said spokes, clamping members engaging opposite sides of the supplemental rim, and a tire held between the clamping members.

2. A wheel having a hub formed with flared sockets, a coil-spring and a wedge-shaped casing in each of said sockets, a spoke connected with each of said casings, and a tire supported by said spokes.

3. A wheel having a hub constructed in two parts and having sockets, a coil-spring in each of said sockets, a slotted casing in each of said sockets, a bolt extending through the slots of each casing and serving to connect the two parts of the hub, a spoke connected with each of the casings, a cap on the outer end of each spoke, a supplemental rim having a plurality of sockets to receive the caps of the spokes, said rim being divided longitudinally into two parts, bolts connecting the two parts of the rim and extending through the rounded heads of the caps, clamping members having flanges engaging the opposite sides of the supplemental rim, and a solid tire held between the clamping members.



805,674. COUPLING. MARVIN L. SENDERLING, Jersey City, N. J. Filed June 30, 1904. Serial No. 214,697.



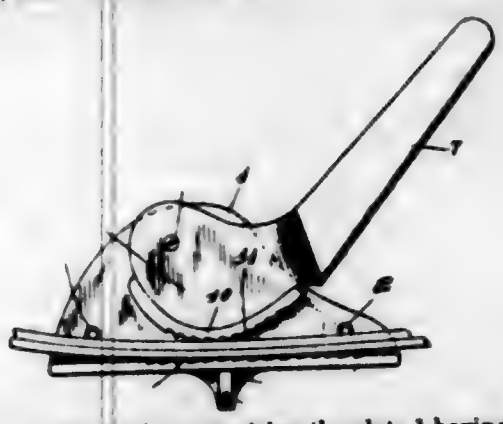
Claim.—1. A coupling comprising bolt and socket members, arranged to be locked by a longitudinal movement of the members toward each other and a rotary movement with respect to each other, a spring-actuated retainer movable relatively to the bolt and socket members and arranged to be forced back longitudinally to permit the engagement of the bolt and socket members and to automatically spring forward when the members are imparted a rotary movement with respect to each other and means carried by the retainer arranged to interlock with the bolt member to lock the bolt and socket members together.

2. A coupling comprising a socket member having a mutilated shouldered bore, a spring-actuated retainer located within the bore and a bolt member having a mutilated shouldered shank, the said retainer being arranged to be forced back by the shank as it is inserted into the bore and to automatically spring forward when they are turned laterally with respect to each other and means carried by the retainer arranged to interlock with the bolt member to lock the bolt and socket members together.

3. A coupling comprising a socket member having a mutilated screw-threaded bore, a spring-actuated retainer located within the bore and a bolt member having a mutilated screw-threaded shank, the said retainer being arranged to be forced back by the shank as it is inserted into the bore and to automatically spring forward when they are turned laterally with respect to each other and means carried by the retainer arranged to interlock with the bolt member to lock the bolt and socket members together.

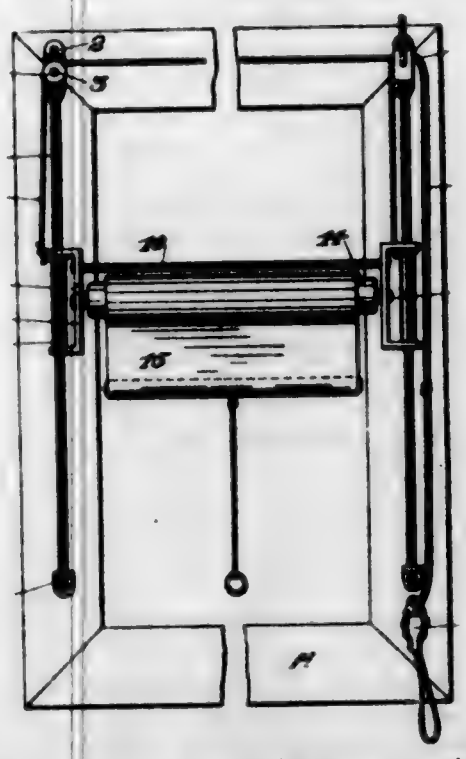
4. A coupling comprising a socket member having a mutilated shouldered bore, a spring-actuated retainer located within the bore, a bolt member having a mutilated shouldered shank, the said retainer being arranged to be forced back by the shank as it is inserted into the bore and to automatically spring forward when the members are turned laterally with respect to each other, means carried by the retainer arranged to interlock with the bolt member to lock the bolt and socket members together, and means for manually operating the retainer to permit the members to be released from each other.

805,675. REIN-HOLDER. CALEB C. SEIVE, Frederick, Okla. Filed Feb. 13, 1905. Serial No. 245,542.



Claim.—A rein-holder comprising the plate 1 having the flange 3 projected laterally from its lower portion, the upper surface of said flange being ribbed or roughened, the lever 7 pivoted to the plate 1, the boss 12 projecting from a side of the lever toward the plate 1 to space said lever therefrom, the cam 8 at the lower end of the lever, the laterally-extending flanges 10 projecting from the lever adjacent the cam 8, the under sides of the flanges 10 and the engaging surface of the cam 8 being roughened for coöperation with the roughened portion of the flange 3 aforesaid, and the lug 13 integral with the plate 1 and extending laterally therefrom in rear of the boss 12 for coöperation with the innermost flange 10 to limit the upward movement of the lever as specified.

805,676. WINDOW-SHADE AND CURTAIN-POLE ROLLER. FREDERICK SHOO, Oakland, Cal. Filed Aug. 12, 1905. Serial No. 273,923.



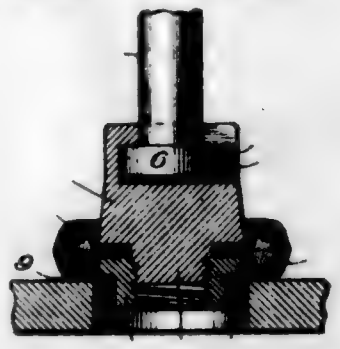
Claim.—1. A window shade and curtain, a pole-holder comprising yokes or brackets fixed to the upper part of the window-casing, shafts or rods extending centrally through the brackets having the outer ends upturned, grooved rollers journaled upon the shafts within the brackets, vertically-supported guide-rods and shade-roller-holding yokes or brackets slidable upon said rods.

2. An attachment for windows, said attachment consisting of yokes or brackets secured to the outer part of the window-casing, horizontal rods or shafts extending centrally through the yokes having the outer ends upturned to receive the curtain-poles, grooved rollers loosely turnable upon the shafts within the yokes, rods having their upper ends connected with the yokes, and brackets by which the lower ends of the rods are supported, yokes slidable upon the rods, a shade-roller supported by said yokes, cords passing over the grooved rollers connecting with the shade-roller frame at one end and a clamp by which the opposite ends of the cords are secured.

3. A window attachment comprising yokes fixed to the upper part of the window-casing projecting outwardly therefrom, rods or shafts extending horizontally from the casing through the outer bars of the yokes and having upturned ends, rollers journaled upon the rods within the yokes, single guide-rods upon each side of the window having their upper ends secured to the yoke, and brackets by which the lower ends are supported, yokes having the ends perforated and tubes or sleeves fixed therein, said tubes being slidable upon the vertical rods, a rod connecting the upper ends of said yokes, a shade-roller having its end pivoted in the yokes below the transverse rod, cords connecting with said shade-roller frame passing over the journaled pulleys at the top thence down one side of the window, and a clamp-bracket fixed to the window-casing through which the cords pass and by which they may be held at any desired adjustment.

4. In an adjustable window-shade holder, a pole-holder comprising yokes or brackets at top and bottom of the casing with vertically-movable slides and shade-rollers carried upon said slides, pulleys journaled in the upper brackets, cords connected with the shade-carriers and passing over the pulleys, and means fixed to the window-casing to receive the cords, upturned extensions projecting from the upper brackets to form supports for the curtain-poles, and spring-pressed arms movable with relation to said extension to receive the poles.

805,677. VALVE. FRANK L. SMITH, Chicago, Ill., assignor of one-third to Alva C. Rickenecker and one-third to Lewis A. Nichols, Chicago, Ill. Filed July 18, 1904. Serial No. 216,936.



Claim.—1. A valve comprising a head and a removable metal disk having a concavo-convex annular portion and a portion encompassed thereby and from which the annular portion protrudes, said disk being lodged on said head with the convex face of the protruding annulus outward; an axially-protruding threaded boss on said head and a nut having a peripheral diameter corresponding to the inner diameter of the protruding annulus at the outer face of the latter for fitting within said protruding annulus to center the latter on the head and bind the encompassed portion thereon.

2. A valve comprising a head and two removable metal disks having each an annular concavo-convex portion, said disks being mounted on said head with the concave faces of said annular portions facing each other, and their encompassed portions backed by the head, and means for binding said encompassed portions to the head.

3. A valve comprising a head and two removable metal disks having each an annular concavo-convex portion, said disks being mounted on said head with the concave faces of said annular portions facing each other, and means for binding their encompassed portions to the head; one of said disks being centered by the head and the other of said disks by said binding means.

4. A valve comprising a head and a removable metal disk having a concavo-convex annular portion lodged and secured on the head with the convex face of the annulus outward, the annulus being directly supported at both its inner and outer circumference but being free from restraint against spreading at one of its said circumferences.

5. A valve comprising a head and a removable metal disk having a concavo-convex annular portion lodged and secured on the head with the convex face of the annulus outward, the annulus being directly supported at both its inner and outer circumference but being free from restraint against spreading at the outer circumference.

805,678. CALENDAR-SUPPORT. FREDERICK H. SMITH, San Francisco, Cal. Filed Jan. 24, 1905. Serial No. 242,422.

Claim.—1. The calendar-holder comprising a base having a slightly-sloping front surface to support the calendar-sheets, and a steeply-sloping rear surface to form a rear wall or support, and having lateral ears extending vertically upward to provide side supports for said sheets, and a wire secured to said base, suitably shaped, and having a free end adapted to enter apertures in the calendar-sheets when raised, substantially as described.

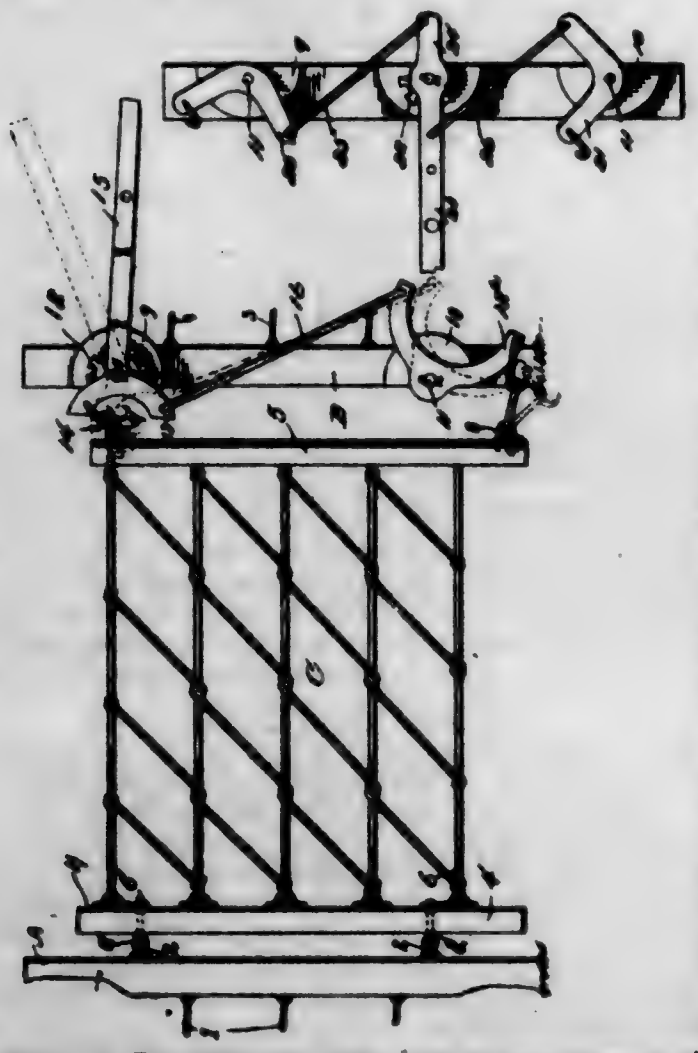
2. The calendar-holder comprising a base of a single piece of metal shaped to provide a sloping supporting-surface, ears extend-

ing upward from the lateral edges thereof, and a rear wall or support, and a wire stem the lower end of which is fixedly secured to the support at a point midway between the sides, said stem extending from the support, first, upwardly, then rearwardly, then upwardly again, and then forwardly to its free end, substantially as described.



3. In combination with calendar-sheets having holes near the top and bottom edges midway between the sides, a base and a wire stem secured to said base and extending upwardly therefrom, then rearwardly, then upwardly again and then forwardly to the free end, the distance between the rearwardly and forwardly extending portions of the stem being substantially the same as that between the holes in the sheets, whereby said sheets may be supported by the lower portion of the stem passing through one hole, and the free end of the stem passing through the other hole, substantially as described.

805,679. GATE. RANSOM R. SPOONER, Kent, Ohio. Filed Mar. 17, 1905. Serial No. 250,695.

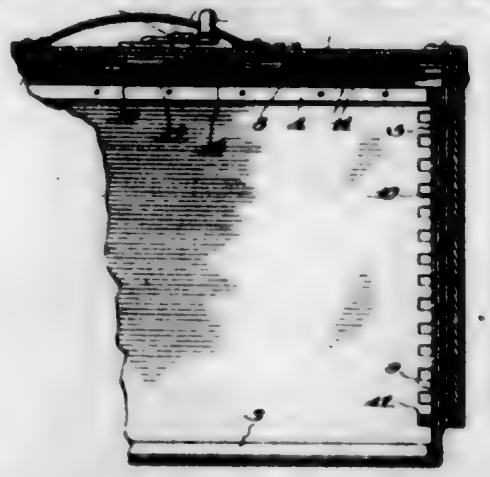


Claim.—1. The combination with a swinging gate of upper and lower eyes secured in the swinging end bar of the gate, a vertical post positioned adjacent to the opening end of the gate, upper and lower two-armed levers pivotally mounted on the post, detachable connections between the levers and the eyes on the gate-bar, a rod connecting the lower arm of the upper lever and the upper arm of the lower lever, and means to operate the levers.

2. The combination with a swinging gate of upper and lower eyes secured in the swinging end bar of the gate, a vertical post positioned adjacent to the opening end of the gate, a two-armed lever pivotally secured to the upper end portion of the post, and provided with an integral handle-lever, a two-armed lever pivoted to the post at the lower end portion and disposed in reverse to the arms of the upper lever, a bar connecting the lower arm of the upper lever and the upper arm of the lower lever, and detachable connections between the gate-bar and the said levers.

3. The combination with a swinging gate, of an end bar, upper and lower eyes secured in the end bar, a vertical post positioned adjacent to the opening end of the gate, upper and lower bearing-studs projecting from the vertical post, a toothed segment rigidly mounted on the upper bearing-stud, a two-armed lever fulcrumed on the upper bearing-stud and provided with a handle, a pawl on the lever to engage the toothed segment, a two-armed lever fulcrumed on the lower bearing-stud, a rod connecting the lower arm of the upper lever and the upper arm of the lower lever, and detachable connections between the lever and the eyes on the swinging post of the gate.

805,680. TELESCOPIC TRAVELING-BAG. ASA B. SPRAGUE, Hiawatha, Kans. Filed Mar. 14, 1905. Serial No. 250,097.



Claim.—1. A traveling-bag comprising telescoping sections, keepers housed in the corners between the bag-sections and carried by one of the sections, bolts located in the corners between the sections and carried by the other section for engagement with the respective keepers, and means carried by said other bag-section for controlling the bolts to simultaneously engage and disengage the same with the keepers.

2. A traveling-bag comprising telescoping sections, keepers externally embracing the corners of the inner section, upright rotatable bolts mounted within the upright corners of the other section and provided with lateral latch-heads for engagement with the respective keepers, and means mounted upon the upper section for rotating the bolts to simultaneously engage and disengage the same with respect to the keepers.

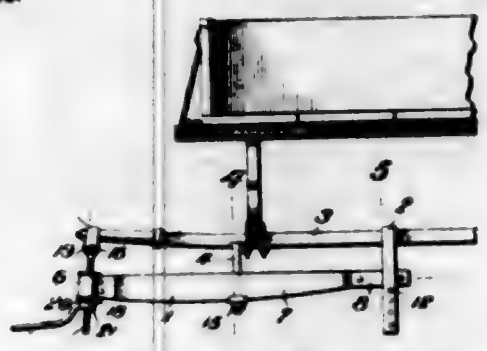
3. A traveling-bag comprising telescoping sections, keepers upon one of the sections, bolts carried by the other section for engagement with the keepers, and bolt-controlling means comprising a rotatable head and links extending in opposite directions from opposite ends of the head and connected to the respective bolts.

4. A traveling-bag comprising telescoping sections, keepers carried by one of the sections, bolts carried by the other section for engagement with the respective keepers, a rotatable rocking head mounted within said other section, links extending in opposite directions from opposite ends of the head, diverged links pivotally connected to the free ends of the first-mentioned links and also to the respective bolts, and bolt-controlling means accessible at the exterior of the bag and piercing the same in connection with the rocking head.

5. A traveling-bag comprising telescoping sections, keepers in the form of corner-irons embracing the upright corners of the inner bag-section and provided with vertical series of notches, upright rotatable bolts in the upright corners of the outer section and provided with lateral latch-heads for engagement with the notches of the respective keepers, a pivotal head mounted within the top section, crank-arms upon the upper ends of the bolts, links extending in opposite directions from the opposite ends of the heads and connected to the respective crank-arms for rotating the bolts, a controlling

crank-handle located upon the exterior of the bag and piercing the top section in connection with the head, and a lock carried by the top section for locking engagement by the crank-handle when the bolts are engaged with the keepers.

805,681. **AXLE-STRAIGHTENER.** JOHN S. STRADHAM and WILLIAM H. STRADHAM, Boyce City, Tex. Filed Aug. 21, 1905. Serial No. 275,083.

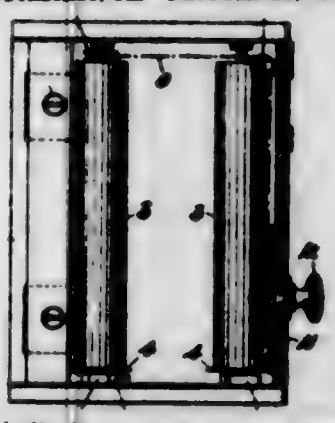


Claim.—1. An axle-straightening device comprising a body, an adjustable axle-engaging clip at one end of said body, an adjustable brace intermediate the ends of said body, an eyebolt extending transversely through the other end of said body, a nut upon the threaded end of said bolt and an axle-engaging clip pivoted to the eye of said bolt.

2. An axle-straightening device comprising a body having an opening at one end and a longitudinally-extending slot intermediate its ends, a screw-bolt extending through the opening in said end, a nut upon the threaded end of said bolt, an axle-engaging clip upon the opposite end of said bolt, an axle-engaging clip adjustable upon the opposite end of said body and an axle-engaging brace having a screw-threaded stem projecting through the slot in said body and a nut upon said stem, substantially as described.

3. An axle-straightening device comprising a body formed of a strip of metal bent upon itself to provide a tubular portion at one end and a slotted portion intermediate its ends, the two ends of said body being riveted together, a sleeve or spool in the tubular portion of said body, an eyebolt extending through said sleeve or spool, a nut upon the threaded end of said bolt, an axle-engaging clip pivoted to the eye of said bolt, an axle-engaging clip adjustably mounted upon the opposite end of said body, an axle-engaging brace having a screw-threaded stem projecting through the opening in said body, and a nut upon said screw-threaded stem, substantially as described.

805,682. **ADVERTISING AND DISPLAY APPARATUS.** KARL STENGEL, San Francisco, Cal. Filed Jan. 21, 1905. Serial No. 242,007.



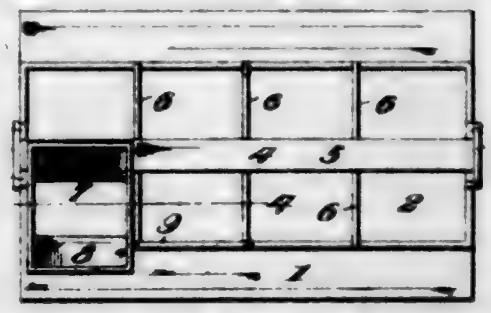
Claim.—1. A display apparatus comprising an exterior casing having a display-aperture and a hinged door affording access to the interior, rollers journaled vertically within the casing said rollers having journals, means including journal-boxes and step-blocks fitting the same whereby the lower journals of the rollers are removably secured, an endless display-band fitting the rollers and adapted to pass in close proximity to the display-opening, and means for operating the band.

2. A display apparatus comprising an exterior casing having a display-aperture, rollers journaled in the casing having flanges at one end and journals extending beyond the flanges, journal-boxes in the casing for receiving said journals and step-blocks fitting the boxes and detachably securing the lower journals, magnifying-lenses covering the sight-aperture, an endless band passing around the rollers, a pulley on one roller, a pulley journaled at right angles to the rollers, an endless cord passing around said last-named pulley and also the pulley on the roller and a knob on the axis of the second-named pulley for operating the cord.

3. In a display and advertising apparatus, a casing having the form and finish of a book, a vertically-disposed aperture formed in one side of the casing, vertically-journaled rollers, an endless band fitting said rollers and pulleys and a belt whereby the band may be advanced to pass the aperture, and means whereby the rollers and band may be removed and replaced, said means comprising step-blocks, the inner ends of which are adapted to support the lower spindles of the rollers said journal-boxes having slots made transversely therein in which said step-blocks are fitted.

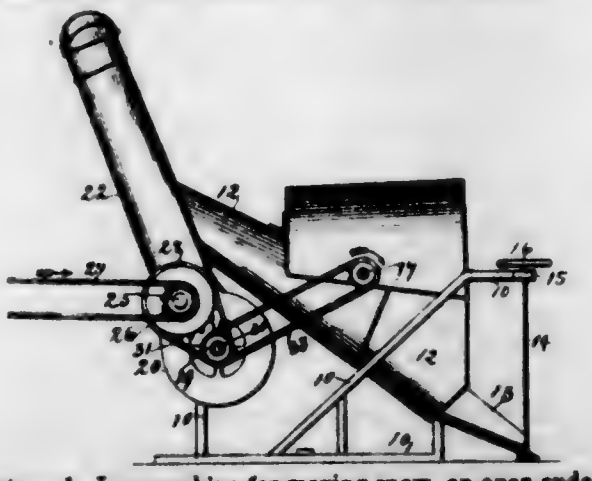
4. In a display and advertising apparatus, a book-shaped casing having a display-aperture formed vertically in one side of the casing, vertically-journaled rollers having an endless display-band fitted thereto, pulleys and an endless cord and means exterior to the casing by which the parts may be turned to advance the band, a hinged door forming one side of the casing and to allow access to the interior, said door having a trough or conductor in line with and below the joint of closure substantially as described.

805,683. **FEED-TROUGH.** JAMES B. STRAIGHT, Bates City, Mo. Filed June 19, 1905. Serial No. 266,022.



Claim.—In a feed-trough the combination with a receptacle of a rack adapted to rest on said receptacle, said rack consisting of a central longitudinally-disposed partition and a series of transversely-disposed partitions arranged to form feeding-compartments, upwardly-projecting guide-standards secured to the ends of the receptacle to receive the ends of said rack thereby removably securing the rack on the receptacle and a feed-chute arranged in said receptacle and removably supported by said rack, substantially as described.

805,684. **MACHINE FOR MOVING SNOW.** OWEN SULLIVAN, Belmond, Iowa. Filed Mar. 22, 1905. Serial No. 251,062.

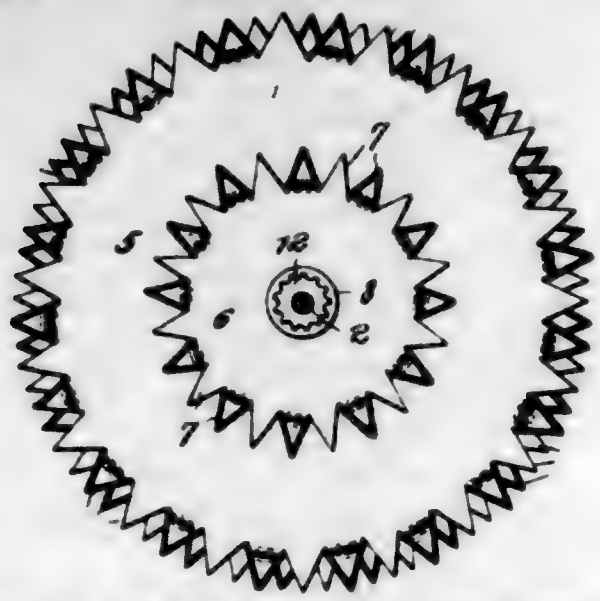


Claim.—1. In a machine for moving snow, an open-ended conveyer fixed to a frame to incline upward and rearward and an adjustable extension, open at its top and ends, hinged to its front end, means for adjusting the hinged extension, a hood on the front end portion of the conveyer and a wheel mounted in the conveyer and under the hood to move snow upward through the conveyer.

2. In a machine for moving snow, an open-ended conveyer fixed to a frame to incline upward and rearward and an adjustable scoop and scraper hinged to its front end, means for adjusting the scoop and scraper, a wheel mounted in the front of the conveyer to move snow upward, a rotary fan under the rear end portion of the conveyer and a blowpipe connected with the fan-case and the top of the conveyer, as set forth.

3. A machine for moving snow comprising an open-ended conveyer fixed to a frame to incline upward and rearward and an adjustable scoop and scraper hinged to its front end, means for adjusting the scoop and scraper, a wheel mounted in the front of the conveyer to move snow upward, a rotary fan under the rear end portion of the conveyer and a blowpipe connected with the fan-case and the top of the conveyer, and a screen in the lower end of the blowpipe, arranged and combined as set forth.

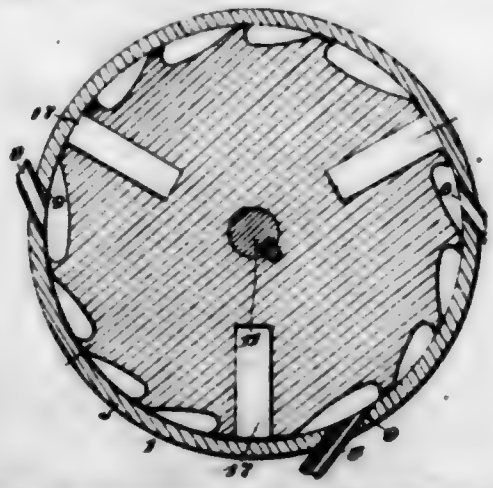
805,685. **MINING-MACHINE.** JOHN SWANSON, Mystic, Iowa. Filed Apr. 3, 1905. Serial No. 253,659.



Claim.—1. A device of the character described, having a pair of superposed cutting-disks having toothed peripheries, the teeth of each of said disks being bent alternately in opposite directions and the teeth of one disk being opposite the spaces between those of the other, the alternate teeth of the respective disks being parallel.

2. A device of the character described, having a pair of superposed cutting-disks having toothed peripheries, the teeth of each of said disks being bent alternately in opposite directions and the teeth of one disk being opposite the spaces between those of the other, the alternate teeth of the respective disks being parallel, and a small cutting-disk disposed beneath the lowermost of the first-mentioned disks and having a toothed periphery.

805,686. **ROTARY ENGINE.** CYRUS O. SYLVESTER, Leavenworth, Kans., assignor of one-third to James B. Williams, Leavenworth, Kans. Filed Mar. 15, 1905. Serial No. 249,954.



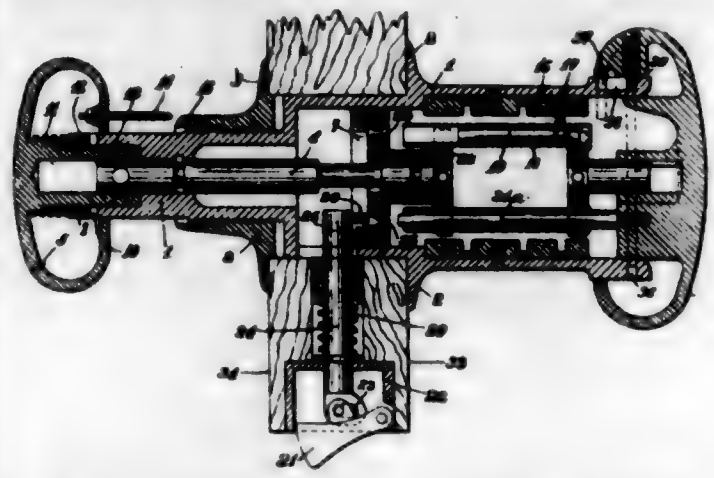
Claim.—1. In a rotary engine, the combination of a casing, a motor-wheel mounted therein and provided at its peripheral portion with a plurality of buckets, the casing having inlets to admit a fluid for impact with the buckets aforesaid, annular exhaust-chambers at opposite sides of the motor-wheel and provided in the casing between the periphery of said motor-wheel and the hub portion thereof, the motor-wheel having a plurality of exhaust-slots extending from the periphery thereof toward the hub and terminating at the inner extremities and approximately opposite the central portion of the exhaust-chambers, and exhaust means leading from the casing.

2. In a rotary engine, a casing, a motor-wheel mounted in said casing and provided at its peripheral portion with a plurality of buckets, inlets in the casing to admit a fluid for impact with the buckets, annular exhaust-chambers at opposite sides of the wheel, exhaust-ports leading fom the peripheral portions of the wheel to the exhaust-chambers aforesaid, and suitable inlet and exhaust means for the casing.

805,687. **LOCK.** FRED J. VIEWEG, Plainfield, N. J. Filed June 23, 1904. Serial No. 213,501.

Claim.—1. In a lock in combination, latch mechanism, a rotatable knob, and means controlled by the rotation of the knob from either side of the door adapted to render the latch mechanism inoperative and operative as to both sides of the door.

2. In a lock in combination, latch mechanism, a rotatable knob, means controlled by the rotation of the knob from either side of the door adapted to render the latch mechanism inoperative and operative as to both sides of the door, and independent means operative at all times from one side of the door adapted to render the bolt operative as to both sides of the door.



3. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, and means actuated by the rotation of said spindle and adapted to bring said spindle into and out of operative relation with said latch mechanism.

4. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, means operative from either side of the door adapted to unite and disunite said spindle and latch mechanism, and independent means operative at all times from one side of the door adapted to unite and disunite the spindle and latch mechanism.

5. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a movable member, and means actuated by the rotation of the spindle adapted to move said member to unite and disunite the spindle and latch mechanism.

6. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a movable member, and means actuated by the rotation of said spindle adapted to move said member to unite and disunite the spindle and latch mechanism, and independent means operative at all times from one side of the door adapted to unite and disunite the spindle and latch mechanism.

7. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, two members relatively movable by the rotation of the said spindle, said members being adapted to unite and disunite the spindle and the latch mechanism.

8. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, two members relatively movable and adapted to unite and disunite the spindle and the latch mechanism, means actuated by the rotation of the spindle adapted to move one of said members, and independent means operative at all times from one side of the door adapted to unite and disunite the spindle and latch mechanism.

9. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a collar and a pin, movable in relation to each other and adapted to unite the spindle and latch mechanism

10. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a fixed collar and a movable pin, said pin being adapted to unite and disunite the spindle and latch mechanism, and means actuated by the rotation of the spindle adapted to move said pin.

11. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a fixed collar and a movable pin, the latter being adapted to unite and disunite the spindle and the latch mechanism, means actuated by the rotation of the spindle adapted to move the pin, and independent means operative from one side of the lock adapted to unite and disunite the spindle and the latch mechanism.

12. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a pin connected loosely to said spindle, and a collar adapted to move said pin laterally to unite and disunite the spindle and the latch mechanism.

13. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a pin connected loosely to said spindle and a collar adapted to move said pin laterally to unite and disunite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite the spindle and the latch mechanism.

14. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a collar having a labyrinth of grooves, a pin connected loosely to said spindle and adapted to engage in said grooves, said pin and collar being relatively movable and adapted to unite and disunite the spindle and the latch mechanism.

15. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a collar having a labyrinth of grooves, a pin adapted to engage in said grooves, loosely connected to said spindle, and movable thereby, said pin being adapted to unite and disunite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

16. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a collar having a labyrinth of grooves, a pin adapted to engage in said grooves and movable by the rotation of said spindle, a knob connected to said spindle and adapted, when rotated, to cause the pin and the grooved collar to travel with relation to each other to unite and disunite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

17. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a collar having a labyrinth of grooves, a pin adapted to engage in said grooves and movable by the rotation of the spindle, a knob connected to the spindle and adapted, when rotated, to cause the pin and grooved collar to travel with relation to each other, and which, when turned a variably-predetermined number of times and a variably-predetermined distance in opposite directions, will cause said pin to take certain passages through said labyrinth and to move a predetermined distance to unite the spindle and the latch mechanism.

18. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a collar having a labyrinth of grooves, a pin adapted to engage therein and movable by the rotation of the spindle, a knob connected to the spindle and adapted, when rotated, to cause the pin and the grooved collar to move with relation to each other, and which, when turned a variably-predetermined number of times and a variably-predetermined distance in opposite directions, will cause said pin to take certain passages through said labyrinth and to move a predetermined distance to unite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

19. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a collar having a series of cam-surfaces, a pin adapted to engage therewith, said spindle being adapted to move the pin in relation to the collar, whereby the spindle and the latch mechanism are united or disunited.

20. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a collar having a series of cam-surfaces, a pin adapted to engage therewith, said pin being loosely connected to said spindle and movable in relation to said collar and adapted to unite and disunite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

21. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a pin movable thereby, a collar having a labyrinth of cam-surfaces adapted to move the pin laterally to unite and disunite the spindle and the latch mechanism.

22. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, a pin movable thereby, a collar having a labyrinth of cam-surfaces adapted to move the pin laterally to unite and disunite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

23. In a lock in combination, latch mechanism, a door-knob and means actuated by the rotation of the said knob adapted to render the latch mechanism operative or inoperative from both sides at will.

24. In a lock of the character described, a roll-back provided with an aperture, a spindle, a member connected to the knob and carried by the spindle and adapted to engage with the aperture of the roll-back to connect the latter with the spindle and knob.

25. In a lock of the character described, a roll-back provided with an aperture, a spindle, a member carried by the spindle, a knob laterally movable and connected to said member, the latter being adapted to engage with the aperture of the roll-back to connect the latter with the spindle and knob.

26. In a lock of the character described, a roll-back provided with an aperture, a spindle, a member carried thereby, a knob connected to said member and laterally movable and adapted, by its lateral movement, to bring the member into or out of engagement with the aperture to unite or disunite the roll-back and the spindle and knob.

27. In a lock of the character described, a roll-back provided with an aperture, a spindle, a member carried thereby, a knob laterally movable and connected to said member, and adapted, by its lateral movement, to bring said member into or out of engagement with the aperture, means adapted to allow the free rotation of the knob when the member is out of engagement with the aperture and to positively limit its rotation when the member is in engagement with the aperture.

28. In a lock of the character described, a roll-back provided with an aperture, a spindle, a member carried thereby, a knob connected to said member, and adapted to move the latter into or out of engagement with the aperture, a pin fixed to said knob, grooves adapted to receive the pin and to permit the free rotation of the knob when the member is out of engagement with the aperture and to limit the rotation of the knob when the member is in engagement with the aperture.

29. In a lock of the character described, a roll-back provided with an aperture, a spindle, a member carried thereby, a knob connected to said member, and adapted to move the latter into or out of engagement with the aperture, a pin fixed to said knob, grooves adapted to receive the pin and to permit the free rotation of the knob when the member is out of engagement with the aperture and to limit the rotation of the knob when the member is in engagement with the aperture, and means for determining when the member and aperture are in alinement.

30. In a lock of the character described, a roll-back provided with an aperture, a spindle, a member carried by the spindle, a knob laterally movable and connected to said member, the latter being adapted to engage with the aperture of the roll-back to connect the latter with the spindle and knob, and means for determining when the member and aperture are in alinement.

31. In a lock of the character described, a roll-back provided with an aperture, a spindle, a member carried thereby, a knob laterally movable and connected to said member, and adapted, by its lateral movement, to bring said member into or out of engagement with the aperture, means adapted to allow the free rotation of the knob when the member is out of engagement with the aperture and to positively limit its rotation when the member is in engagement with the aperture, and means for determining when the member and aperture are in alinement.

32. In a lock of the character described, the combination with means for operating the same, of latch mechanism comprised in part of a member having a depressed portion, the sides of which form cam-surfaces, a latch-arm connected to a latch and adapted to engage with said cam-surfaces.

33. In a lock of the character described, the combination with means for operating the same, of latch mechanism comprised in part of a member having a depressed portion, the sides of which form cam-surfaces, a latch-arm detachably connected to a latch and adapted to engage with said cam-surfaces.

34. In a lock of the character described, the combination with means for operating the same, of latch mechanism comprised in part of a member having a depressed portion, the sides of which form cam-surfaces, a latch-arm adapted to engage with said cam-surfaces, a latch, a spring-seated latch-bolt connecting said latch and latch-arm and adapted to hold the latch-arm against the cam-surfaces and the latch in its closed position.

35. In a lock of the character described, the combination with means for operating the same, of latch mechanism comprised in part of a member having a depressed portion, the sides of which form cam-surfaces, a latch-arm adapted to engage with said cam-surfaces, a latch, a spring-seated latch-bolt slidably connected to said latch and removably connected to said latch-arm adapted to hold the latter against the cam-surfaces and the latch in its closed position.

36. In a combination-lock, means for determining the operation of the combination, comprising: a knob, a member rotated by said knob and provided with a plurality of teeth, another member provided with indents adapted to receive said teeth and a spring adapted to keep said teeth and indents normally in engagement.

37. In a combination-lock, means for determining the operation of the combination, comprising: a knob, a thimble carried by said knob and provided with a plurality of teeth, a frame having a series of indents adapted to receive said teeth and a spring adapted to keep said teeth and indents normally in engagement.

38. In a combination-lock, means for determining the operation of the combination, comprising: a knob, having a slot, a thim-

ble provided with a plurality of teeth, a pin sliding loosely in said slot and connecting said thimble and knob, a lock-frame having a series of indents adapted to receive said teeth, and a spring adapted to keep said teeth and indents normally in engagement.

39. In a combination-lock of the character described, latch mechanism, a spring, means for uniting and disuniting said spindle and latch mechanism, comprised in part of a collar having a labyrinth of grooves, a pin adapted to engage therein, and means adapted to keep the pin in the proper course when the combination is properly operated and to cause the pin to take the wrong course when the combination is not properly operated.

40. In a combination-lock of the character described, latch mechanism, a spindle, means for uniting and disuniting said spindle and latch mechanism comprised in part of a collar having a labyrinth of grooves, a pin adapted to engage therein, the portion of said pin in engagement with the grooves having a length greater than the width of the grooves, clearances formed in the collar at certain points in the labyrinth adapted to permit the pin to pivot freely.

41. In a combination-lock of the character described, latch mechanism, a spindle, means for uniting and disuniting said spindle and latch mechanism comprised in part of a collar having a labyrinth of grooves, a pin adapted to engage therein, the portion of said pin in engagement with the grooves having a length greater than the width of the grooves.

42. In a combination-lock of the character described, latch mechanism, a spindle, means for uniting and disuniting said spindle and latch mechanism comprised in part of a collar having a labyrinth of grooves, a pin adapted to engage therein, the portion of said pin in engagement with the grooves having a length greater than the width of the grooves, and being formed of two superimposed opposed segments, and clearances formed in the collar at certain points in the labyrinth adapted to permit the pin to pivot freely.

43. In a combination-lock of the character described, latch mechanism, a spindle means for uniting and disuniting said spindle and latch mechanism comprised in part of a collar having a labyrinth of grooves, a pin adapted to engage therein, the portion of said pin in engagement with the grooves having a length greater than the width of the grooves, and being formed of two superimposed opposed segments, clearances formed in the surface of the collar adapted to permit the upper segment to pivot at certain points in the labyrinth and other clearances formed beneath the surface of the collar adapted to permit the lower segment to pivot at certain points in the labyrinth.

44. In a lock in combination, latch mechanism, a rotatable knob, means controlled by the rotation of the knob adapted to render the latch mechanism operative or inoperative as to both sides of the door, and independent means operative at all times from one side of the door adapted to render the bolt inoperative as to both sides of the door.

45. In a lock in combination, latch mechanism, a spindle rotatable from either side of the door, means actuated by the rotation of said spindle adapted to unite and disunite said spindle and latch mechanism, and independent means operative at all times from one side of the door adapted to unite and disunite said spindle and latch mechanism.

46. In a lock in combination, latch mechanism, a spindle, means actuated by the rotation of said spindle adapted to unite and disunite said spindle and latch mechanism, and independent means operative at all times from one side of the door adapted to unite and disunite said spindle and latch mechanism.

47. In a lock in combination, latch mechanism, a spindle rotatable at all times from either side of the door, means actuated by the rotation of said spindle and adapted to bring said spindle into and out of operative relation with said latch mechanism, and independent means operative at all times from one side of the door, adapted to unite and disunite said spindle and latch mechanism.

48. In a lock in combination, latch mechanism, a spindle, means actuated by the rotation of said spindle and adapted to bring said spindle into and out of operative relation with said latch mechanism, and independent means operative at all times from one side of the door adapted to unite and disunite said spindle and latch mechanism.

49. In a lock in combination, latch mechanism, a spindle, means adapted to unite the spindle and latch mechanism, and independent means operative at all times from one side of the door adapted to unite and disunite the spindle and latch mechanism.

50. In a lock in combination, latch mechanism, a spindle, a movable member, means actuated by the rotation of said spindle adapted to move said member to unite and disunite the spindle and latch mechanism, and independent means operative at all times from one side of the door adapted to unite and disunite the spindle and latch mechanism.

51. In a lock in combination, latch mechanism, a spindle, two members relatively movable and adapted to unite and disunite the spindle and the latch mechanism, and means operative at all times from one side of the door adapted to unite and disunite the spindle and latch mechanism.

52. In a lock in combination, latch mechanism, a spindle, two members relatively movable and adapted to render the latch mechanism operative or inoperative, and independent means operative at all times from one side of the door adapted to render the latch mechanism operative or inoperative.

53. In a lock in combination, latch mechanism, a spindle, a collar and a pin, movable in relation to each other and adapted to render the latch mechanism operative or inoperative, and independent means operative at all times from one side of the door adapted to render said latch mechanism operative or inoperative.

54. In a lock in combination, latch mechanism, a spindle, a collar and a pin, movable in relation to each other and adapted to unite and disunite the spindle and latch mechanism, and independent means operative at all times from one side of the door adapted to unite and disunite the spindle and latch mechanism.

55. In a lock in combination, latch mechanism, a spindle, a fixed collar and a movable pin, said pin being adapted to unite and disunite the spindle and latch mechanism, and means actuated by the rotation of the spindle adapted to move said pin, and independent means operative at all times from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

56. In a lock in combination, latch mechanism, a spindle, a pin connected loosely to said spindle, and a collar adapted to move said pin laterally to unite and disunite the spindle and the latch mechanism, and independent means operative at all times from one side of the door adapted to unite the spindle and the latch mechanism.

57. In a lock in combination, latch mechanism, a spindle, a collar having a labyrinth of grooves, a pin adapted to engage in said grooves, loosely connected to said spindle, and movable thereby, said pin being adapted to unite and disunite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

58. In a lock in combination, latch mechanism, a spindle, a collar having a labyrinth of grooves, a pin adapted to engage in said grooves and movable by the rotation of said spindle, a knob connected to said spindle and adapted, when rotated, to cause the pin and the grooved collar to travel with relation to each other to unite and disunite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

59. In a lock in combination, latch mechanism, a spindle, a collar having a labyrinth of grooves, a pin adapted to engage therein and movable by the rotation of the spindle, a knob connected to the spindle and adapted, when rotated, to cause the pin and the grooved collar to move with relation to each other, and which, when turned a variably-predetermined number of times and a variably-predetermined distance in opposite directions, will cause said pin to take certain passages through said labyrinth and to move a predetermined distance to unite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

60. In a lock in combination, latch mechanism, a spindle, a collar having a series of cam-surfaces, a pin adapted to engage therewith, said pin being loosely connected to said spindle and movable in relation to said collar and adapted to unite and disunite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

61. In a lock in combination, latch mechanism, a spindle, a pin movable thereby, a collar having a labyrinth of cam-surfaces adapted to move the pin laterally to unite and disunite the spindle and the latch mechanism, and independent means operative from one side of the door adapted to unite and disunite the spindle and the latch mechanism.

62. In a lock in combination, latch mechanism, a spindle, a movable member, and means actuated by the rotation of the spindle adapted to move said member to bring the spindle into and out of operative engagement with the latch mechanism.

63. In a lock in combination, latch mechanism, a spindle, two members relatively movable by the rotation of said spindle and adapted thereby to bring the spindle into and out of operative engagement with the latch mechanism.

64. In a lock in combination, latch mechanism, a spindle, a collar and a pin, movable in relation to each other and adapted to bring the spindle into and out of operative engagement with the latch mechanism.

65. In a lock in combination, latch mechanism, a spindle, a fixed collar and a movable pin, said pin being adapted to unite and disunite the spindle and latch mechanism, and means actuated by the rotation of the spindle adapted to move said pin.

66. In a lock in combination, latch mechanism, a spindle, a pin connected loosely to said spindle, and a collar adapted to move said pin laterally to unite and disunite the spindle and the latch mechanism.

67. In a lock in combination, latch mechanism, a spindle, a collar having a labyrinth of grooves, a pin connected loosely to said spindle and adapted to engage in said grooves, said pin and collar being relatively movable and adapted to unite and disunite the spindle and the latch mechanism.

68. In a lock in combination, latch mechanism, a spindle, a collar having a labyrinth of grooves, a pin adapted to engage with said grooves, a knob connected to said spindle and adapted, when rotated, to cause the pin and grooved collar to travel with relation to each other to unite and disunite the spindle and the latch mechanism.

69. In a lock in combination, latch mechanism, a spindle, a collar having a labyrinth of grooves, a pin adapted to engage in said grooves and movable by the rotation of the spindle, a knob connected to the spindle and adapted, when rotated, to cause the pin and grooved collar to travel with relation to each other, and which, when turned a variably-predetermined number of times and a variably-predetermined distance in opposite directions, will cause said pin to take certain passages through said labyrinth and to move a predetermined distance to unite the spindle and the latch mechanism.

70. In a lock in combination, latch mechanism, a spindle, a collar having a series of cam-surfaces, a pin adapted to engage therewith, said pin and collar being relatively movable and adapted to unite and disunite the spindle and the latch mechanism.

71. In a lock in combination, latch mechanism, a spindle, a pin movable thereby, a collar having a labyrinth of cam-surfaces adapted to move the pin laterally to unite and disunite the spindle and the latch mechanism.

72. In a lock in combination, latch mechanism, a door-knob, means adapted to render said latch mechanism operative or inoperative from both sides at will, said means being actuated solely by the said knob and adapted to effect such change.

73. In a lock in combination, latch mechanism, a door-knob, means adapted to render said latch mechanism operative or inoperative from both sides at will, said means being actuated solely by the said knob and adapted to effect such change, and independent means operative on one side of the door adapted to render said latch mechanism operative or inoperative.

74. In a lock in combination, latch mechanism, a door-knob, means adapted to operate said latch mechanism from both sides of the door, and means actuated by the rotation of the door-knob adapted to render said latch mechanism inoperative and operative from both sides of the lock at will.

75. In a lock in combination, latch mechanism a door-knob, means adapted to operate said latch mechanism from both sides of the door, and means actuated by the rotation of the door-knob adapted to render said latch mechanism inoperative and operative from both sides of the lock at will, and independent means operative on one side of the door adapted to render said latch mechanism operative or inoperative.

76. In a lock in combination, latch mechanism, a door-knob, and means actuated by the rotation of the said knob adapted to render the latch mechanism operative or inoperative from both sides at will, and independent means operative on one side of the door adapted to render said latch mechanism operative or inoperative.

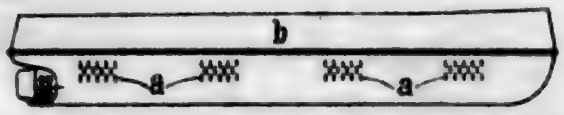
77. In a lock, means for operating said lock comprising in part: a fixed collar, a pin movable in relation thereto, and means adapted to move said pin.

78. In a lock, means for operating said lock comprising in part: a fixed collar having a labryinth of grooves, a rotatable pin adapted to engage therein, and to be moved lengthwise as it rotates, and means for rotating said pin.

79. In a lock, means for operating said lock comprising in part: a fixed collar having a labyrinth of grooves, a rotatable pin adapted to engage therein and to be moved lengthwise as it rotates, means for rotating said pin, and means for determining the passage of said pin through the grooves.

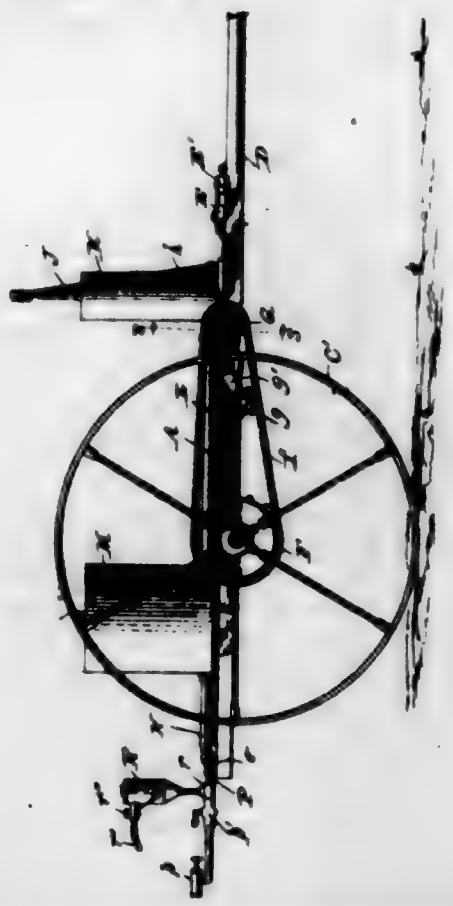
805,688. **MEANS FOR STOPPING THE MOTION OF VESSELS.** EUGÈNE P. A. VILLEVIEU, Lille, France. Filed Jan. 11, 1905. Serial No. 240,640.

Claim.—1. In apparatus for quickly stopping vessels in movement, plates consisting of two sections telescoping into each other when at rest and arranged vertically in zigzag form and in group along the length of the hull of the vessel: the inner section having projections and the outer one stops to limit the movement of the interior one: and the outer plates having projections adapted to abut against the wall of the hull for the same purpose, substantially as described.



2. In apparatus for quickly stopping vessels in movement, plates consisting of two sections telescoping into each other when at rest and arranged vertically in zigzag form and in groups along the length of the hull of the vessel, the inner section having projections and the outer one stops to limit the movement of the interior one, and the outer section having projections adapted to abut against the wall of the hull for the same purpose, in combination with a casing for each telescoping plate, in which casing said plate is adapted to operate as described and means for admitting an operating fluid into and withdrawing it from the casing to effect the operation of the plate.

805,689. **POISON-DISTRIBUTER FOR PLANTS.** NOBLE W. WARD, PLEASANT S. WARD, and LEE WARD, Yancey, Tex. Filed Feb. 28, 1905. Serial No. 247,230.



Claim.—A machine mounted on carrying-wheels for distributing poison in liquid or powder form on a series of rows of plants, consisting of a compression-pump having its piston-rod connected to a double crank-shaft and yoke operated by one of the carrying-wheels, an air and liquid reservoir connected to said pump and centrally located with reference to a horizontal supply-pipe extending crosswise from side to side of the machine provided with a series of independent branch pipes having spray-nozzles said supply-pipe and branch pipe serving in common to convey either air or liquid and a series of powder-receivers connected at their lower ends to said branch pipes and having outlet-pipes at their upper ends.

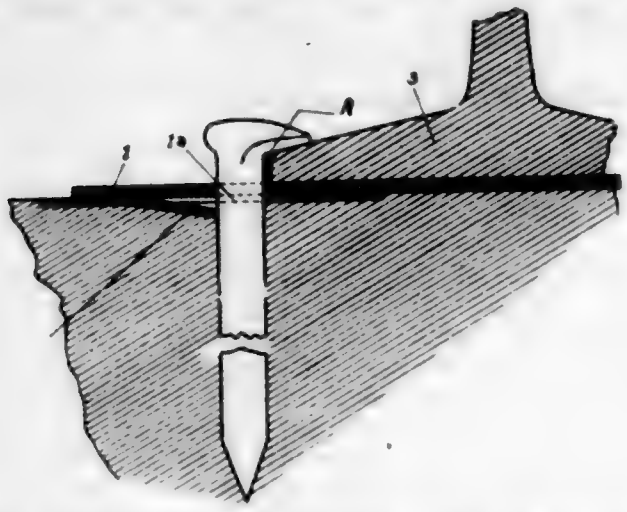
805,690. **SPIKE-LOCK.** HARRY S. WATERMAN, East Tawas, Mich. Filed May 15, 1905. Serial No. 260,486.

Claim.—1. A spike-lock of the class described having an upwardly-projecting flange at one edge of the spike-opening for the purposes set forth.

2. A spike-lock comprising a plate having a spike-opening and having one edge formed with a locking-tongue and one edge formed with an upwardly-projecting flange.

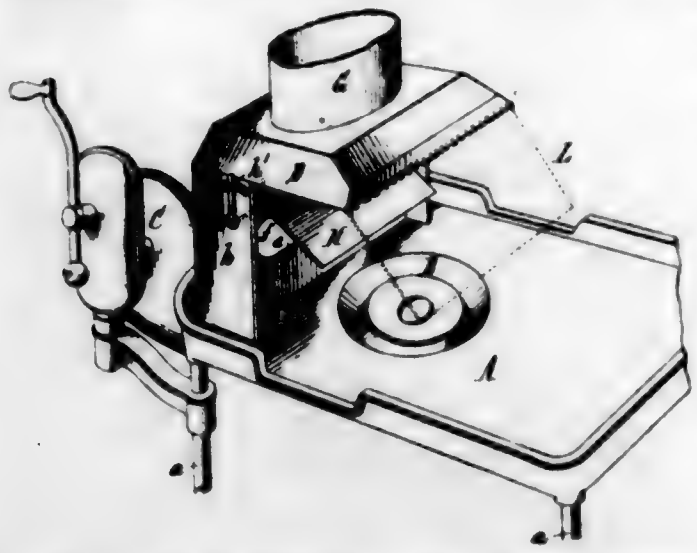
3. A spike-lock comprising a plate having a spike-opening; a locking-tongue at one side of said opening adapted to engage the

back of the spike; and an upwardly-projecting flange at the opposite edge of said opening and adapted to engage the throat of the spike.



4. A spike-lock comprising a plate having a spike-opening; a locking-tongue at one side of said opening adapted to engage the back of the spike; and an upwardly-projecting flange formed integral with said plate at the opposite edge of said opening and adapted to engage the throat of the spike.

805,691. FORGE. WILLIAM F. WENDT, Buffalo, N. Y., assignor to Buffalo Forge Company, Buffalo, N. Y. Filed Mar. 6, 1905. Serial No. 248,651.



Claim.—1. The combination of a hearth having a fireplace, a smoke-hood above the hearth, a smoke-pipe ascending from said hood, and an ascending smoke-flue which has a smoke-inlet opening located adjacent to the fireplace, said flue connecting at its upper portion with said smoke-pipe, substantially as set forth.

2. The combination of a hearth having a fireplace, a smoke-pipe, a hood above the hearth for directing the smoke into the lower portion of said smoke-pipe, an ascending smoke-flue which has a smoke-inlet opening located adjacent to the fireplace, said flue connecting at its upper portion with said smoke-pipe, and means for causing the smoke to enter said inlet-opening of the ascending smoke-flue, substantially as set forth.

3. The combination of a hearth having a fireplace, a smoke-hood above the hearth, a smoke-pipe ascending from said hood, an ascending smoke-flue located at one side of the fireplace and having a smoke-inlet opening adjacent to the fireplace, and means for directing the smoke from the fire into said opening, substantially as set forth.

4. The combination of a hearth having a fireplace, a smoke-hood above the hearth, a smoke-pipe leading from said hood, an ascending smoke-flue having a smoke-inlet opening located at one side of and adjacent to the fireplace, said flue connecting at its upper portion with said smoke-pipe, and a shield above said inlet-opening for directing the smoke from the fire into said flue, substantially as set forth.

5. The combination of a hearth having a fireplace, a smoke-hood above the hearth, a smoke-pipe leading from said hood, an upright smoke-flue located at one side of the fireplace and having a smoke-inlet opening adjacent to the fireplace, and a shield of smaller dimensions than said hood adjustably mounted over said opening for directing the smoke from the fire into said opening, substantially as set forth.

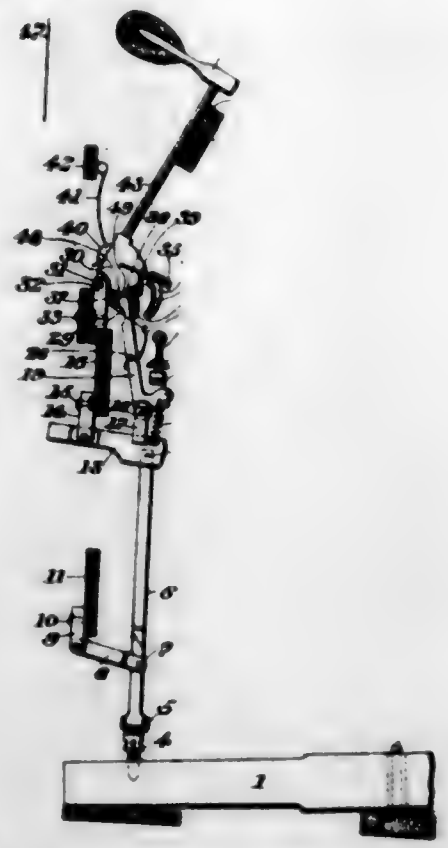
6. The combination of a hearth having a fireplace, a smoke-hood above the hearth having an upright hollow back located in rear of the fireplace and provided in its front wall with a smoke-inlet opening adjacent to the fireplace, a smoke-pipe leading from said hood and connecting with the said hollow back, and a shield above said inlet-opening for directing the smoke from the fire into said opening, substantially as set forth.

7. The combination of a hearth having a fireplace, a smoke-hood above the hearth, a smoke-pipe ascending from said hood, an ascending smoke-flue located at one side of the fireplace and having a smoke-inlet opening adjacent to the fireplace, means for directing the smoke from the fire into said opening, and an air-forcing device connecting with said fireplace and provided with means for inducing an upward draft in said smoke pipe and flue, substantially as set forth.

8. The combination of a hearth having a fireplace, a smoke-hood above the hearth, a smoke-pipe leading from said hood, an ascending smoke-flue located at one side of the fireplace and having a smoke-inlet opening adjacent to the fireplace, means for directing the smoke from the fire into said opening, a blower connected with said fireplace, and a suction-pipe connecting the intake of said blower with said upright smoke-flue, substantially as set forth.

9. The combination of a hearth having a fireplace, a smoke-hood above the hearth, a smoke-pipe leading from said hood, an upright smoke-flue located at one side of the fireplace and having a smoke-inlet opening adjacent to the fireplace, means for directing the smoke from the fire into said opening, a blower having a blast-pipe leading to the fireplace, a blast-pipe for inducing an upward draft in said smoke pipe and flue, and a suction-pipe connecting the intake of said blower with said upright smoke-flue, substantially as set forth.

805,692. PIANO-ACTION FOR PIANOS. EMIL WERNER, Philadelphia, Pa., assignor of one-third to Gustava A. Walther, Philadelphia, Pa., and one-third to Charles Schwerdfeger, Landsdale, Pa. Filed Apr. 3, 1905. Serial No. 253,436.



Claim.—In a piano-action, a hammer-butt having a thread therein, a back-check having a thread therethrough and a screw having a greater number of threads per inch on a portion thereof, adapted to engage corresponding threads in said hammer-butt and said back-check.

805,693. SCRUBBING-BRUSH. JULIE WOLFF, New York, N. Y. Filed Jan. 26, 1905. Serial No. 242,651.

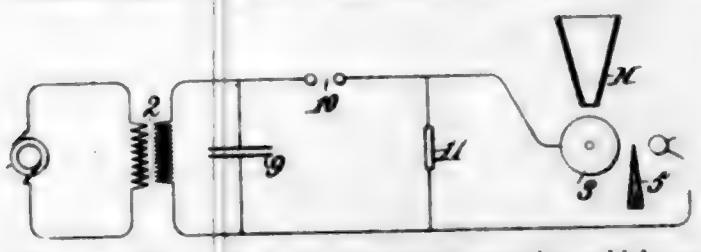


Claim.—1. A scrubbing-brush comprising a perforated tuft-supporting web, a covering provided with a soap-receptacle having its bottom constituted by said web, and a follower in said receptacle.

2. A scrubbing-brush the back of which comprises a perforated tuft-supporting web, a covering provided with a cavity adjacent said web, and a soap-receptacle within said cavity and having its bottom constituted by said web.

3. A scrubbing-brush provided with a tuft-supporting web having water-supply holes between the tufts, a covering attached to said tuft-supporting web and provided with a cavity, a receptacle within said cavity, stays at both sides of said receptacle, and a follower in said receptacle.

805,694. METHOD OF ELECTROSTATIC SEPARATION. PHILIP H. WYNNE, Boston, Mass., assignor to Charles Henry Huff, Brockton, Mass. Filed Aug. 2, 1904. Serial No. 219,340.



Claim.—1. The method of electrostatic separation, which consists in subjecting a mixture to static electricity applied in potential accessions whereof the effective durations are adjusted to operate separatively on the better conductive particles of the mixture.

2. The method of separating commingled particles of different conductivities, which consists in subjecting them to effective contact with a body whereon a charge is produced by briefly-enduring potential accessions, whereof the durations are adjusted to communicate charge to the particles of better conductivity.

3. The method of separating commingled particles according to differences in their conductivities, which consists in applying thereto under conditions favorable to effective charge transmission, a static charge characterized by recurrent potential accessions, whereof the duration is adjusted to operate separatively on the better conductive particles.

4. The method of separating commingled particles according to their diverse conductivities which consists in subjecting them to static electricity applied in a recurrent cycle of potential periods, which periods are brief in relation to the complete cycle, and are of effective duration to charge the better conductors, and of ineffective duration to charge inferior conductors.

5. The method of separating commingled particles according to their diverse conductivities, which consists in passing them through a static field under mechanical conditions favorable to conductive charge of the particles, the said static field produced by recurrent accessions of potential, each of brief duration adjusted to operate separatively on particles of better conductivity than others, and whereof the frequency is such that several accessions occur during the time required for a particle to complete its transit from the point of entrance into the effective field to that of departure therefrom.

6. The method of separating commingled particles according to their diverse conductivities, which consists in subjecting them to static electricity on an electrode, under conditions of effective contact with the electrode, the said static electricity applied in recurrent potential accessions whereof the durations are adjusted to operate separatively upon the particles of better conductivities, and maintaining relatively long time intervals of substantially no potential between the said recurrent accessions.

7. The method of separating commingled particles according to their diverse conductivities which consists in subjecting them to static electricity on an electrode under conditions favorable to effective contact therewith, the said static electricity applied in recurrent accessions of potential all of one sign, whose durations are adjusted to operate separatively upon the particles of better conductivities.

8. The method of separating particles of matter which consists in separating them to the convective force of a static field produced by recurrent accessions of potential adjusted to less time duration than required to convey the less conductive particles, but to sufficient time duration to convey the more conductive particles.

9. The method of electrostatic separation, which consists in subjecting a mass of material to a recurrent series of static electric charges, each of infinitesimal duration, the successive charges separated by relatively long time intervals, and the duration of the charges being adjusted to operate separatively on the particles of better conductivity.

805,695. FIREARM. CHARLES A. YOUNG, Enon, Ohio. Filed Mar. 2, 1903. Serial No. 145,786.



Claim.—1. In a firearm, the combination of a breech-frame, a firing-pin and a cocking-lever therefor, a sliding barrel and a sliding grip on the barrel, a cocking-rod connecting the cocking-lever and the grip, a latch for latching the barrel in its closed position, means operative by the grip for disengaging the latch upon the opening of the gun, and a spring-actuated device to lock the barrel-latch when the firing-pin is cocked.

2. In a firearm, the combination of a breech-frame, a firing-pin and cocking-lever therefor, a sliding barrel, and a sliding grip on the barrel, a cocking-rod connecting the cocking-lever and grip, a barrel-latch for latching the barrel in its closed position, means operative by the grip for disengaging the latch from the barrel upon the opening of the gun, a spring-actuated device to automatically lock the barrel-latch when the firing-pin is cocked, and means whereby said spring-actuated device may be operated manually to unlock the barrel-latch.

3. In a firearm, the combination of a breech-frame, a firing mechanism including a firing-pin and a sear, a cocking-lever for the firing-pin, a sliding barrel, a sliding grip, a cocking-rod connecting the grip and the cocking-lever, a barrel-latch for latching the barrel in its closed position, a spring-actuated device for locking said latch when the barrel is closed, and means for locking the sear when the barrel-latch is unlocked.

4. In a firearm the combination of a breech-frame, a firing mechanism including a sear, a sliding barrel, a barrel-latch for latching the barrel in its closed position, a device for locking the sear, and means for simultaneously locking the barrel-latch and releasing the sear.

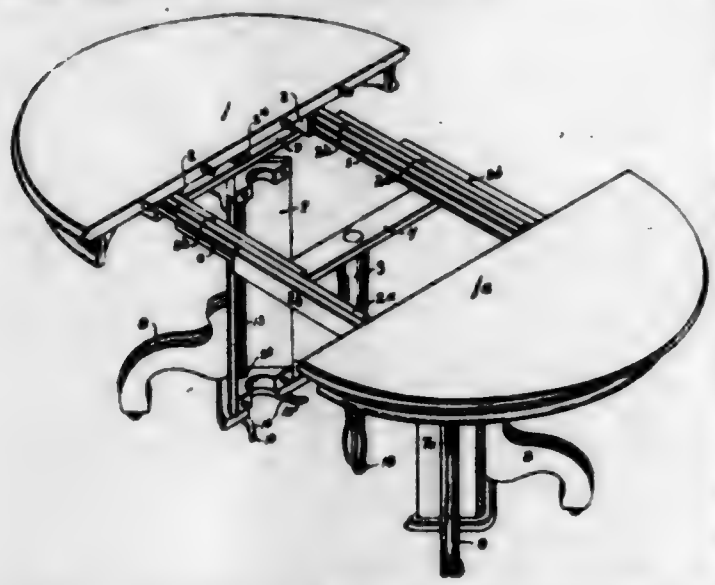
5. In a firearm, the combination of a breech-frame, a sliding barrel, a latch for engaging the barrel in both the closed and open positions thereof, a sliding grip with means thereon for operating the barrel-latch to permit the opening of the barrel, and a spring-actuated device for locking said barrel-latch in the closed position of the barrel, and means for preventing the operation of said spring-actuated device in the open position of the barrel.

6. In a firearm, the combination of a breech-frame, a firing mechanism, a sliding barrel, a barrel-latch, a sliding grip, means for locking the barrel-latch operative by the firing mechanism to unlock said latch, and means on the grip for operating said latch after it is unlocked by the operation of the firing mechanism.

7. In a firearm, the combination of a breech-frame, a firing mechanism including a firing-pin, a sliding barrel having at its un-

der side the rear notch a^8 and the forward notch a^9, the former being shallower than the latter, the spring-actuated barrel-latch a^{10} adapted to engage either of said notches to lock the barrel, the barrel-latch-locking rod A^{33}, the lever A^{31} to which said rod is attached, a spring to project said rod under the barrel-latch to lock the same when engaged with the forward notch a^9, said lever being arranged to be operated by the firing-pin to withdraw the rod from under the barrel-latch when the gun is fired.

805,696. **EXTENSION-TABLE LOCK.** John L. Arnold, Canton, Ohio. Filed Mar. 9, 1905. Serial No. 249,223.



Claim.—1. A lock for a divided-pedestal extension-table comprising two posts spaced apart on one pedestal part, a rotatable shank having a cross-head on the other pedestal part, two fingers pivoted on the same part on opposite sides of the shank with links connecting the adjacent ends of the fingers and cross-head, the free ends of the fingers being curved laterally outward and being adapted to operate against the inner sides of the posts when the pedestal parts are approximately closed, and means for stopping the shank against rotation.

2. A lock for a divided-pedestal extension-table comprising two vertical posts spaced sidewise apart on one pedestal part, a rotatable shank on the other pedestal part, two fingers pivoted on the same part with operative connections between the shank and the fingers, the ends of the fingers being curved laterally outward and being adapted to operate in opposite directions against the inner sides of the posts when the pedestal parts are approximately closed, and means for stopping the shank against rotation.

3. A lock for a divided-pedestal extension-table comprising two vertical posts spaced sidewise apart on one pedestal part, a rotatable shank on the other pedestal part, and two fingers pivoted on the same part with operative connections between the shank and the fingers, the ends of the fingers being curved laterally and being adapted to operate in opposite directions against the sides of the two posts when the pedestal parts are approximately closed.

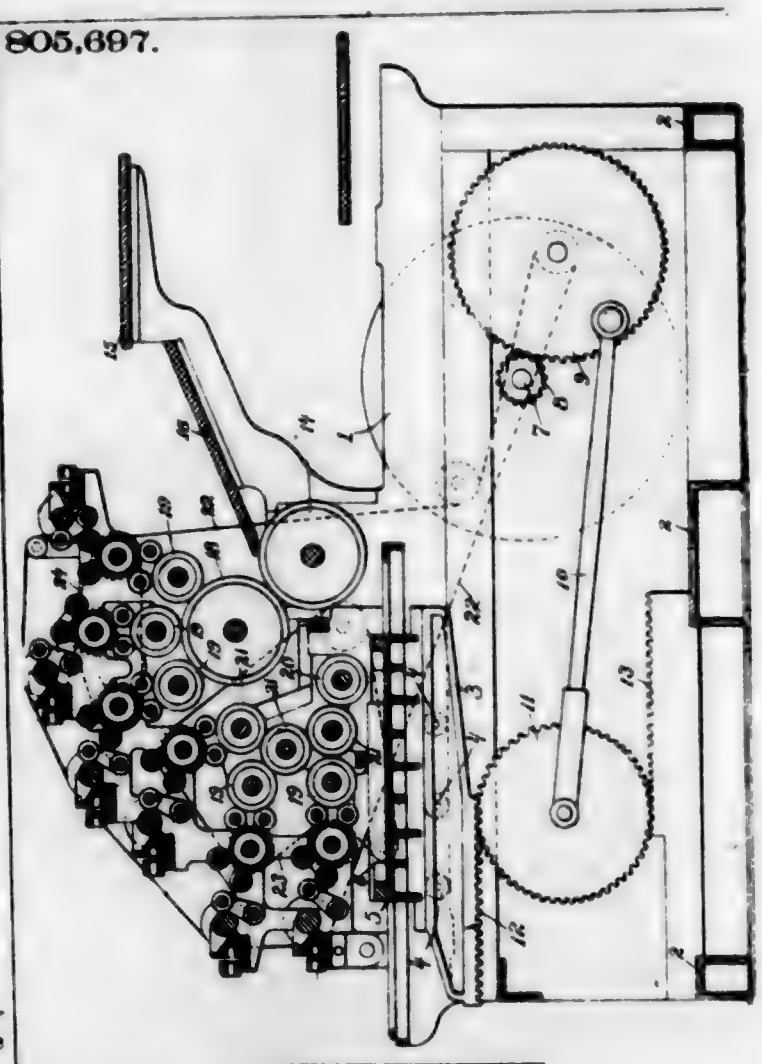
805,697. **EMBOSSING AND PRINTING MACHINE.** Paul V. Avril, Paris, France, assignor to Marinier, Havoit and Jeanson, Paris, France, a Copartnership. Filed Feb. 27, 1904. Serial No. 195,559.

Claim.—1. An embossing and printing machine comprising in its construction, a reciprocating embossing member, a rotary counterpart coöperating therewith, means for delivering a series of colors, and a collector for receiving and transferring such colors to the embossing member.

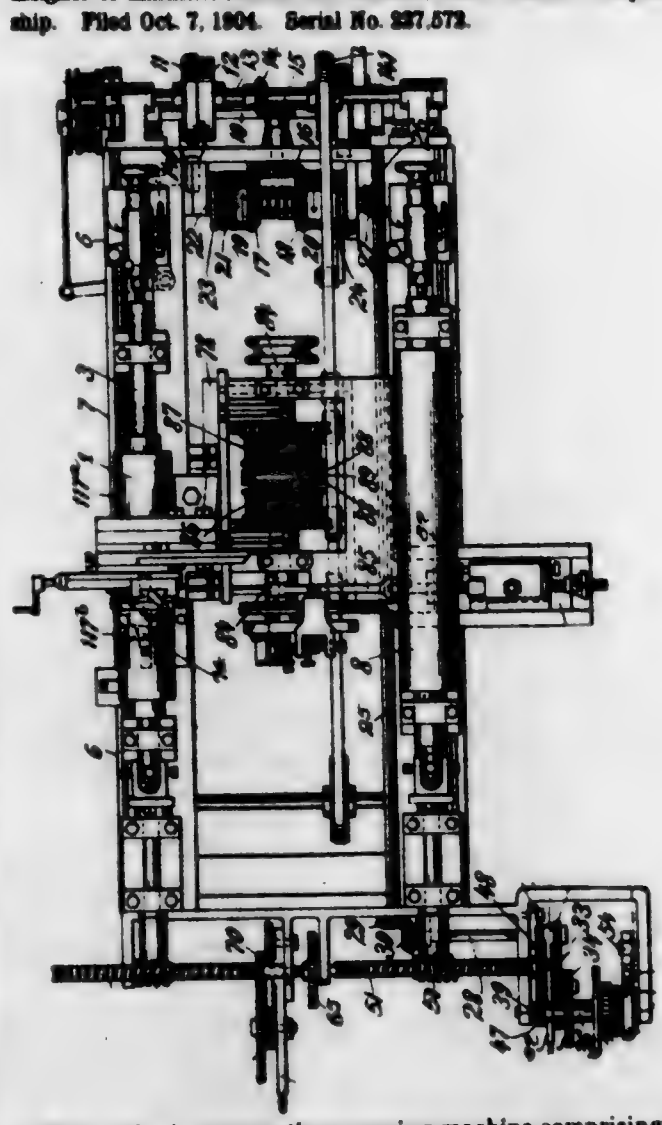
2. An embossing and printing machine comprising in its construction, a reciprocating embossing member, a rotary counterpart coöperating therewith, means for delivering a series of colors, a collecter-roll for receiving and transferring certain of such colors directly to a sheet, and a second collector for receiving and transferring the remaining colors to the embossing member.

3. An embossing and printing machine comprising in its construction, a reciprocating embossing member, said embossing member being in the form of a flat plate, a rotary counterpart coöperating therewith, means for delivering a series of colors, a collector for receiving and transferring such colors to said plate, and means interposed between the color-delivery means and the collector for forming and arranging the colors in accordance with the matter to be printed.

805,697.



805,698. **ENGRAVING-MACHINE.** Paul V. Avril, Paris, France, assignor to Marinier, Havoit and Jeanson, Paris, France, a Copartnership. Filed Oct. 7, 1904. Serial No. 227,573.



Claim.—1. An automatic engraving-machine comprising a pattern-cylinder having a design represented thereon by an insulating material covering portions of its surface, a traversing style coöperating therewith, a source of current-supply, means for connecting the pattern-cylinder and style in circuit with the source of supply, means for supporting a cylindrical blank, an engraving-tool coöperating

with the blank, means for rotating the pattern-cylinder and cylindrical blank alternately in opposite directions in unison, means for feeding the style and tool lengthwise of their respective cylinders, means for automatically reversing the feed to cause the style and tool to reciprocate between predetermined points, and means for moving the tool in and out of engagement with the blank in accordance with the action of the style in opening and closing the circuit in traversing the surface of the pattern-cylinder.

2. An automatic engraving-machine comprising a pattern-cylinder having a design represented thereon by an insulating material covering portions of its surface, a traversing style coöperating therewith, a source of current-supply, means for connecting the pattern-cylinder and style in circuit with the source of supply, means for supporting a cylindrical blank, an engraving-tool coöperating with the blank, means for rotating the pattern-cylinder and cylindrical blank alternately in opposite directions in unison, a device for imparting a step-by-step rotary feed to the cylinders, said device being adjustable to vary the feed thereof, mechanism for reciprocating the style and tool lengthwise of their respective cylinders between predetermined points, and means for moving the tool in and out of engagement with the blank in accordance with the action of the style in opening and closing the circuit in traversing the surface of the pattern-cylinder.

3. An automatic engraving-machine comprising a pattern-cylinder having a design represented thereon by an insulating material covering portions of its surface, a traversing style coöperating therewith, a source of current-supply, means for connecting the pattern-cylinder and style in circuit with the source of supply, means for supporting a cylindrical blank, an engraving-tool coöperating with the blank, oppositely-acting clutches geared to rotate the pattern-cylinder and cylindrical blank alternately in opposite directions in unison, means for automatically controlling the clutches, a device for imparting a step-by-step rotary feed to the cylinders, and means for moving the tool in or out of engagement with the blank in accordance with the action of the style in opening and closing the circuit in traversing the surface of the pattern-cylinder.

4. An automatic engraving-machine comprising a pattern-cylinder, means for supporting a cylindrical blank, a traversing style movable lengthwise of the pattern-cylinder, an engraving-tool having a like movement relatively to the blank, oppositely-acting clutches geared to rotate the pattern-cylinder and cylindrical blank alternately in opposite directions in unison, means for automatically controlling the clutches, and means for moving the tool in or out of engagement with the blank as the style in traversing the surface of the cylinder passes over portions of the design thereon.

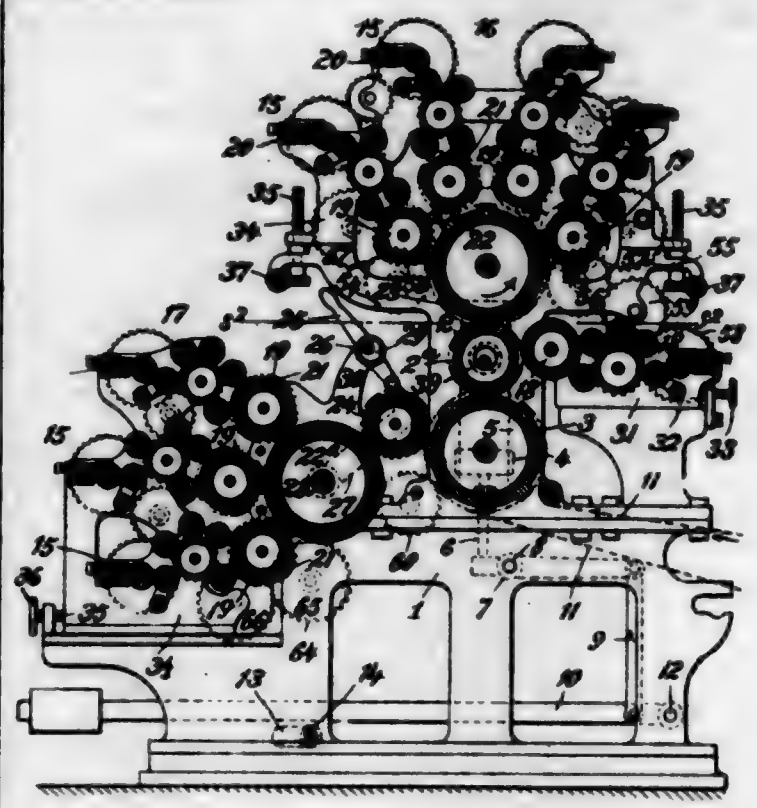
5. An automatic engraving-machine comprising a pattern-cylinder, means for supporting a cylindrical blank, a traversing style movable lengthwise of the pattern-cylinder, an engraving-tool having a like movement relatively to the blank, electrically-operated clutches geared to rotate the pattern-cylinder and cylindrical blank alternately in opposite directions in unison, an automatic switch-controlling current to the clutches, and means for moving the tool in or out of engagement with the blank as the style in traversing the surface of the cylinder passes over portions of the design thereon.

6. An automatic engraving-machine comprising a pattern-cylinder, means for supporting a cylindrical blank, a traversing style movable lengthwise of the pattern-cylinder, an engraving-tool having a like movement relatively to the blank, electrically-operated clutches geared to rotate the pattern-cylinder and cylindrical blank alternately in opposite directions in unison, a device interposed between the clutches and cylinders to regulate the rotation of the cylinders and give the same a step-by-step rotary feed, an automatic switch-controlling current to the clutches, and means for moving the tool in or out of engagement with the blank as the style in traversing the surface of the cylinder passes over portions of the design thereon.

805,699. **EMBOSSING AND PRINTING MACHINE.** PAUL V. AVRIL, Paris, France, assignor to Marinier, Havolt and Jeanson, Paris, France, a Copartnership. Filed Oct. 7, 1904. Serial No. 227,573.

Claim.—1. An embossing and printing machine comprising requisite embossing members, a series of color-delivery rollers, a coöperating series of transfer-rollers containing figures corresponding with portions of the design upon the embossing members and registering therewith, and means for supporting the delivery-rollers in adjustable relation to the transfer-rollers.

2. An embossing and printing machine comprising requisite embossing members, a series of color-delivery rollers, a coöperating series of transfer-rollers containing raised figures upon the surface thereof which correspond and register with portions of the design upon the embossing members, and means for simultaneously adjusting the various rollers of the color-delivery series relatively to the transfer-rollers.



3. An embossing and printing machine comprising embossing members, a series of color-delivery rollers, a coöperating series of transfer-rollers containing raised figures upon the surface thereof which correspond and register with portions of the design upon the embossing members, a support common to the various rollers of the color-delivery series, and means for adjusting the support

4. An embossing and printing machine comprising an embossing-cylinder, an impression-cylinder, a series of color-delivery rollers and transfer-rollers registering with portions of the design upon the embossing-cylinder, a second series of color-delivery rollers and transfer-rollers coöperating with the impression-roller, and means common to each series of color-delivery rollers for supporting the same in adjustable relation to the transfer-rollers with which they coact.

5. An embossing and printing machine comprising an embossing-cylinder, an impression-cylinder, a collector upon which colors are deposited, means for maintaining said cylinders and collector in contact under a yielding pressure, and requisite color-delivery and transfer rollers coöperating therewith to produce a continuous impression in embossed and colored effects.

6. An embossing and printing machine comprising an embossing-cylinder, an impression-cylinder, bearings for the cylinders movable in guides, pressure-applying means acting upon the bearings in the plane of the axes of the cylinders to yieldingly maintain the latter in contact, and requisite color-delivery and transfer rollers coöperating therewith to produce a continuous impression in embossed and colored effects.

7. An embossing and printing machine comprising means for delivering a series of colors, a collector upon which the colors are deposited, an embossing-cylinder rotatable in contact with the collector, an impression-cylinder, and means for maintaining said cylinders and collector operatively assembled under a yielding pressure.

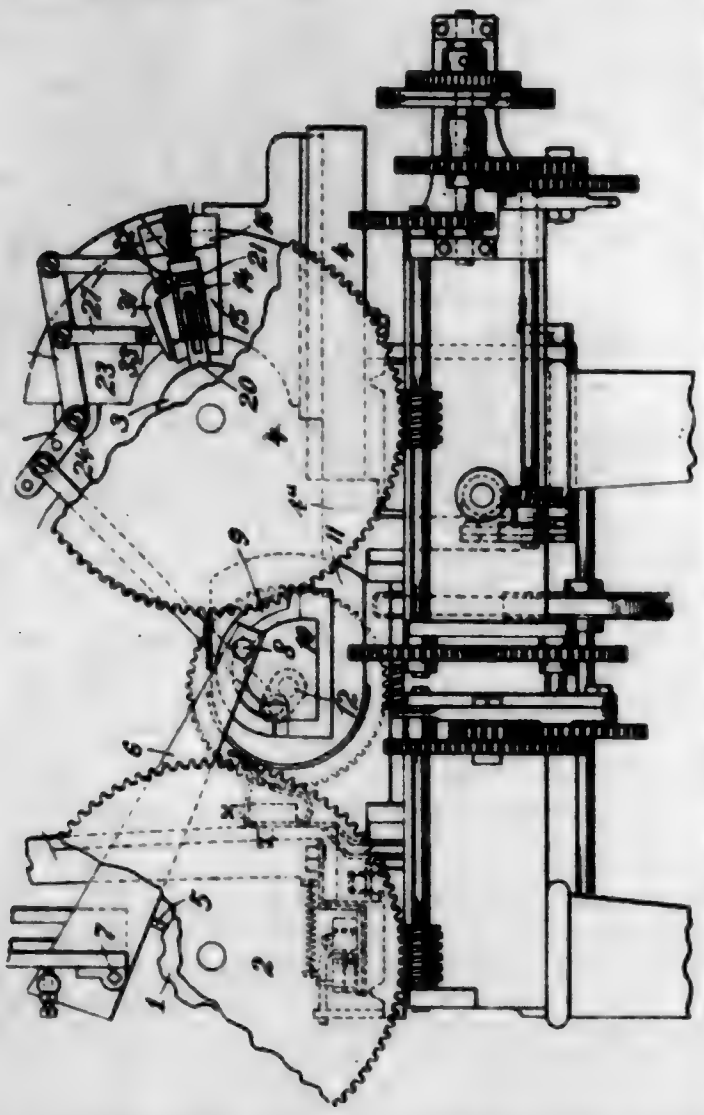
8. An embossing and printing machine comprising requisite embossing members, means for delivering a series of colors, a collector upon which the colors are deposited, a transfer-roller interposed between the collector and one of the embossing members, and means for mounting said transfer member in adjustable relation to the embossing member with which it coacts.

9. An embossing and printing machine comprising requisite embossing members, means for delivering a series of colors, a collector upon which the colors are deposited, a transfer-roller interposed between the collector and one of the embossing members, and means for mounting said transfer-roller in planetary relation to the collector with which it coacts.

805,700. **ENGRAVING-MACHINE.** PAUL V. AVRIL, Paris, France, assignor to Marinier, Havolt and Jeanson, Paris, France, a Copartnership. Filed Dec. 13, 1904. Serial No. 236,678.

Claim.—1. An automatic engraving-machine comprising means for rotatably supporting a cylindrical blank, a tool, means for giv-

ing the tool motion longitudinally of the blank, and means for automatically adjusting the tool through an arc struck from the axis of the blank as a center.



2. An automatic engraving-machine comprising means for rotatably supporting a cylindrical blank, a tool, means for giving the tool motion longitudinally of the blank, means for adjusting the tool through an arc struck from the axis of the blank as a center, a design-cylinder, and a coöperating style connected to control the adjustment of the tool.

3. An automatic engraving-machine comprising supporting means for a cylindrical blank, means for giving the blank a step-by-step rotary feed, a tool, means for giving the tool motion longitudinally of the blank, and means for adjusting the tool through an arc struck from the axis of the blank as a center.

4. An automatic engraving-machine comprising a design-cylinder, a traversing style coöperating therewith, supporting means for a cylindrical blank, means for giving the design and blank cylinders a step-by-step rotary feed in unison, a tool, means for adjusting the tool through an arc struck from the axis of the blank as a center, and interposed mechanism through which the adjustment of the tool is controlled by the style.

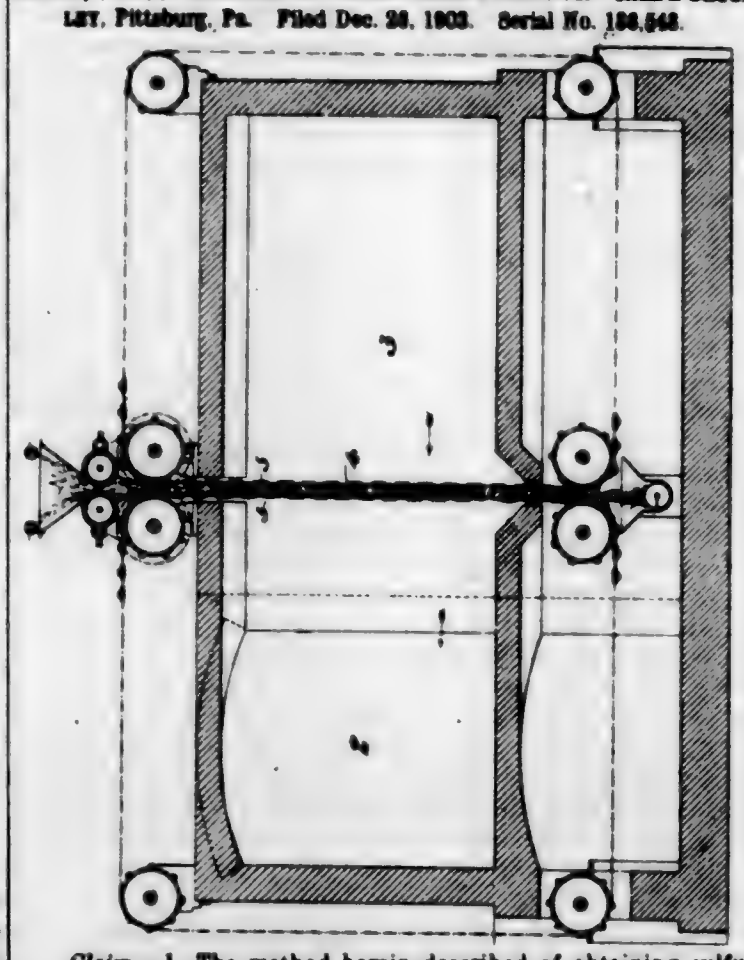
5. An automatic engraving-machine comprising means for rotatably supporting a cylindrical blank, a tool movable through an arc struck from the axis of the blank as a center, a lever connected in parallel relation to the tool, a design-cylinder, a coöperating traversing style, and a connection between the style and lever through which motion of the tool is controlled.

6. An automatic engraving-machine comprising means for rotatably supporting a cylindrical blank, a tool, a guide concentric with the blank on which the tool is movable, a pivoted lever, links connecting the lever in parallel relation with the tool, a design-cylinder, a coöperating traversing style, and a connection between the style and lever through which motion of the tool upon the guide is controlled.

7. An automatic engraving-machine comprising supporting means for a cylindrical blank, a spring-advanced tool, a guide concentric with the blank on which the tool is adjustable, a gage for regulating the depth of cut of the tool, a pivoted lever, links connecting the lever in parallel relation with the tool, a design-cylinder, a coöperating traversing style, and a connection between the style and lever through which motion of the tool upon the guide is controlled.

8. An automatic engraving-machine comprising supporting means for a cylindrical blank, a spring-advanced tool, a gage for regulating the depth of cut of the tool, a guide concentric with the blank, a tool-supporting member movable on the guide, a pivoted lever, connecting-links between said member and lever, an automatic trip for giving the tool motion in opposition to the spring by which it is advanced, a design-cylinder, a coöperating traversing style, and a connection between the style and said pivoted lever through which motion of the tool-supporting member upon the guide is controlled.

805,701. **PROCESS OF RECOVERING SULFUR.** RALPH BAGGALEY, Pittsburg, Pa. Filed Dec. 28, 1903. Serial No. 186,548.



Claim.—1. The method herein described of obtaining sulfur, which consists in passing sulfur-bearing fumes from a smelting-furnace through a combustible screen and depositing sulfur thereon, and then burning the screen and sublimating and collecting the sulfur; substantially as described.

2. The method herein described of obtaining sulfur, which consists in passing sulfur-bearing fumes from a smelting-furnace through a combustible screen of waste material and depositing sulfur thereon, and then burning the screen and subliming and collecting the sulfur; substantially as described.

3. The continuous method herein described of obtaining sulfur, which consists in passing sulfur-bearing fumes from a smelting-furnace through a traveling combustible screen of waste material and depositing sulfur thereon, and then burning the screen and subliming and collecting the sulfur; substantially as described.

805,702. **APPARATUS FOR PRODUCING VITRIFIED BRICKS, TILES, AND OTHER ARTICLES.** RALPH BAGGALEY, Pittsburg, Pa. Filed Apr. 19, 1904. Serial No. 203,685.

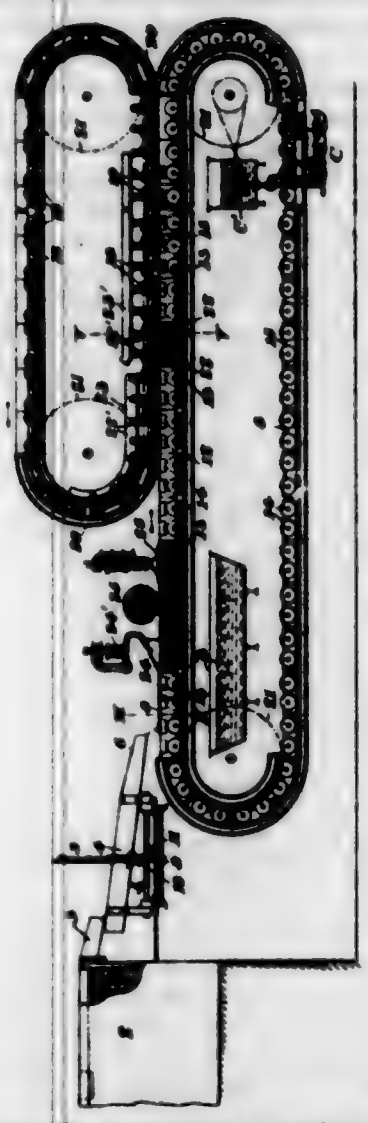
Claim.—1. Apparatus for the manufacture of vitrified articles from slag, comprising molds means for feeding molten slag thereto, gravity-retained covers for said molds, and movable pieces adapted to press upon a portion of the slag in the molds and to shape the same; substantially as described.

2. Apparatus for the manufacture of vitrified articles from slag, comprising movable molds means for feeding molten slag thereto, gravity-retained covers for said molds, and movable pieces adapted to press upon a portion of the slag in the molds and to shape the same, means for moving the molds and means for applying the covers to the molds automatically; substantially as described.

3. Apparatus for the manufacture of vitrified articles from slag, comprising molds means for feeding molten slag thereto, covers for said molds, and plungers, said mold covers and plungers mounted in said covers being arranged in series and adapted to travel in contact; substantially as described.

4. Apparatus for the manufacture of vitrified articles from slag, comprising molds means for feeding molten slag thereto, gravity-re-

tained mold-covers and plungers mounted in said covers, said molds traveling in series, and means for applying the covers to the molds; substantially as described.



5. Apparatus for the manufacture of vitrified articles from slag, comprising molds adapted to receive molten slag from a slag-supply, plungers for shaping the articles, covers for said molds of greater gravity than the pressure to be applied to the plungers, and means for applying pressure to the plungers; substantially as described.

6. The mold-covers having plungers in their middle portions, arranged in traveling series and independent means for supporting the plungers; substantially as described.

7. The mold-covers having plungers in their middle portions, arranged in traveling series, independent means for supporting the plungers, and means for depressing them; substantially as described.

8. Apparatus for the manufacture of vitrified articles from slag, comprising molds adapted to receive molten slag from a slag-supply, said molds being arranged in endless series, mold-cleaning devices, and traveling plungers adapted to meet the molds; substantially as described.

9. Apparatus for the manufacture of vitrified articles from slag, comprising molds adapted to receive molten slag from a slag-supply, said molds being arranged in endless series, traveling plungers adapted to meet the molds, and covers; substantially as described.

10. Apparatus for the manufacture of vitrified articles from slag, comprising molds adapted to receive molten slag from a slag-supply, conveying mechanism to which the articles are delivered from the molds, and means for supplying a protective covering material to the articles to retard their cooling; substantially as described.

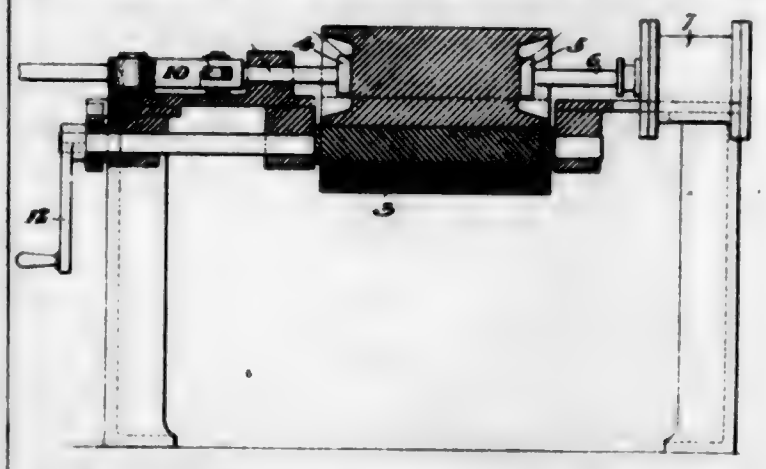
11. Apparatus for the manufacture of vitrified articles from slag, comprising molds adapted to receive molten slag from a slag-supply, a heat-retaining conveying mechanism to which the articles are delivered from the molds, and an annealing-chamber into which the articles are discharged by the conveying mechanism; substantially as described.

12. Apparatus for the manufacture of vitrified articles from slag, comprising molds adapted to receive molten slag, means for moving the molds in a series for a sufficiently long period of time to permit setting of the articles, and an annealing-chamber into which the articles are discharged, said annealing-chamber having a sloping bottom and an opening for the discharge of the annealed articles; substantially as described.

13. Apparatus for the manufacture of vitrified articles from slag, comprising molds adapted to receive molten slag from a slag-supply, means for moving the molds for a sufficiently long period of time to permit setting of the articles, an annealing-chamber into which the articles are discharged, said annealing-chamber having a sloping bottom and an opening for the discharge of the annealed articles and an open discharge-slide by which the articles are separated from the protective material used in annealing; substantially as described.

14. Apparatus for the manufacture of vitrified articles from slag, comprising molds adapted to receive molten slag from a slag-supply, conveying mechanism to which the articles are delivered from the molds, an annealing-chamber into which the articles are discharged by the conveying mechanism, and means for delivering the annealed articles mechanically from the annealing-chamber to a car to load the same; substantially as described.

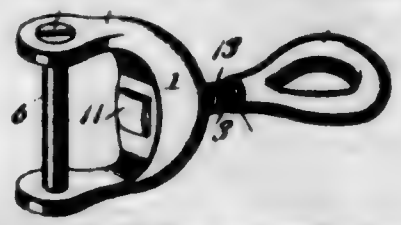
805,703. **MACHINE FOR STAMPING COPPER.** RALPH BAGGALEY, Pittsburg, Pa. Filed May 25, 1904. Serial No. 209,623.



Claim.—1. Apparatus for stamping, comprising a die and means for moving it, an opposite resistance-piece, and a rotatable support for the article to be stamped; substantially as described.

2. Apparatus for stamping, comprising a die and means for moving it, an opposite resistance-piece, a rotatable support for the article to be stamped, and means for locking the support; substantially as described.

805,704. **TRACE-ATTACHING MEMBER.** ANDREW K. BALTZER, Wentzville, Mo. Filed May 24, 1905. Serial No. 262,017.



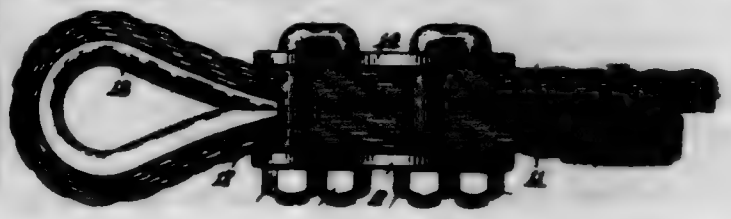
Claim.—1. A device of the class described comprising a head and a cockeye, said parts being connected for relative rotation for adjustment in a common plane or in planes at right angles to each other, and means for locking the parts relatively in their adjusted positions.

2. A device of the class described comprising a head and a cockeye, said parts being connected for relative rotation, and means for locking the parts relatively against movement.

3. A device of the class described comprising a head and a cockeye, said parts being connected for relative rotation, a non-circular head carried by one of the parts, and a socket provided in the other part to receive the head for fixing the parts against relative movement.

4. A device of the class described, comprising a trace-receiving member and a cockeye, one of said parts having a bearing-opening and a non-circular seat, a shank on the other parts rotatively disposed in said opening, a non-circular portion provided on the shank to enter said seat, and a spring for maintaining said portion in seated position.

805,705. **WIRE-ROPE CLAMP.** CHARLES H. BULLMAN, Boston, Mass. Filed Feb. 18, 1905. Serial No. 246,261.



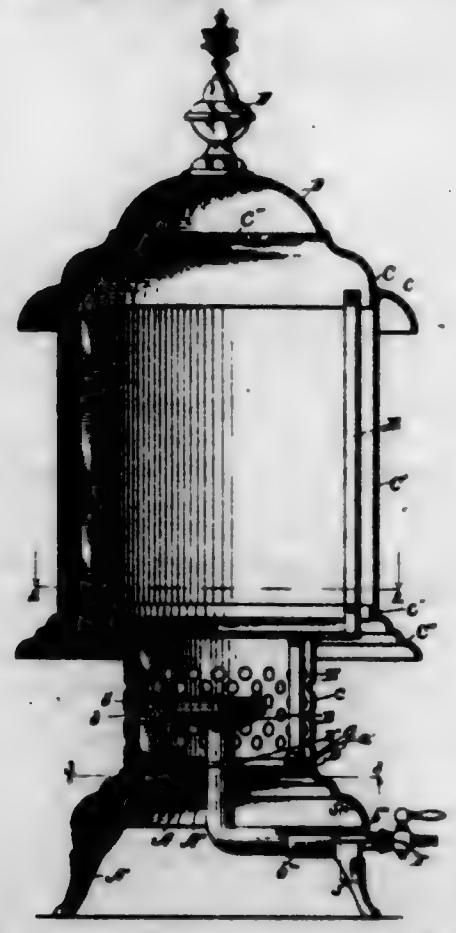
Claim.—1. A clamp for wire ropes consisting of two plates, each provided with a plurality of openings in two lines, a distance apart equal to the diameter of the rope to be clamped, the openings in said lines being staggered, a plurality of bails adapted to pass through said plates and straddle said rope, and clamping means therefor.

2. A clamp for wire ropes consisting of two plates each provided with a plurality of openings in two lines, a plurality of bails passing through said openings, and clamping means therefor, said bails and plates being so arranged relative to each other that said plates will form two opposing walls for the object being clamped and said bails will form therefor the side walls.

3. A clamp for wire ropes consisting of two plates, each provided with a plurality of openings in two parallel lines, the openings in said lines being staggered, a plurality of members provided with threaded ends adapted to pass through said plates on either side of said rope, and clamping means for each member.

4. A clamp for wire ropes consisting of two plates each provided with a plurality of openings in two parallel lines the openings in said lines being staggered, a plurality of members adapted to pass through said plates, and clamping means therefor.

805,706. GAS-STOVE. HENRY J. BERESON, Kalamazoo, Mich. Filed July 31, 1905. Serial No. 272,062.



Claim.—1. In a gas-stove, the combination of a base having an upwardly-projecting flange thereon; a cross-piece on said base; a base-plate arranged on said cross-piece; a burner; a burner-tube having a supporting-flange thereon arranged through said cross-piece; an open-ended burner-casing arranged on the said flange on said base; a drum-like body, having a diameter exceeding that of the burner-casing and overhanging the upper end thereof, consisting of a barrel-like portion; a top having a downwardly-projecting flange on which the upper end of the said barrel is arranged; an outwardly and downwardly projecting bottom rim, having an upwardly-projecting flange on which the upper end of said barrel is arranged; a lid for said top; a removable cap for said top for affording access to said lid; and supporting-standards for said body, having suitable offsets therein to adapt them to fit within the same and said burner-casing arranged to secure the parts thereof together and to said base, said standards being secured to the said flanges of said top, bottom rim, and base, and to said burner-casing at its upper end, for the purpose specified.

2. In a gas-stove, the combination of a base having an upwardly-projecting flange thereon; a cross-piece on said base; a base-plate arranged on said cross-piece; a burner; a burner-tube having a supporting-flange thereon arranged through said cross-piece; an open-ended burner-casing arranged on the said flange on said base; a drum-like body, having a diameter exceeding that of the burner-casing and overhanging the upper end thereof, consisting of a barrel-like portion; a top having a downwardly-projecting flange on which the upper end of the said barrel is arranged; an outwardly and downwardly projecting bottom rim, having an upwardly-projecting flange on which the upper end of said barrel is arranged; a lid for said top; a removable cap for said top for affording access to said lid; and supporting-standards for said body, having suitable offsets therein to adapt them to fit within the same and said burner-casing arranged to secure the parts thereof together and to said base, said standards being secured to the said flanges of said top, bottom rim, and base and to said burner-casing at its upper end, for the purpose specified.

3. In a gas-stove, the combination of a base having an upwardly-projecting flange thereon; a burner; an open-ended burner-casing arranged on the said flange on said base; a drum-like body, having a diameter exceeding that of the burner-casing and overhanging the upper end thereof, consisting of a barrel-like portion; a top having a downwardly-projecting flange on which the upper end of the said barrel is arranged; an outwardly and downwardly projecting bottom rim, having an upwardly-projecting flange on which the upper end of said barrel is arranged; a lid for said top; a removable cap for said top for affording access to said lid; and supporting-standards for said body, having suitable offsets therein to adapt them to fit within the same and said burner-casing arranged to secure the parts thereof together and to said base, said standards being secured to the said flanges of said top, bottom rim, and base and to said burner-casing at its upper end, for the purpose specified.

4. In a gas-stove, the combination of a base having an upwardly-projecting flange thereon; a burner; an open-ended burner-casing arranged on the said flange on said base; a drum-like body, having a diameter exceeding that of the burner-casing and overhanging the upper end thereof, consisting of a barrel-like portion; a top having a downwardly-projecting flange on which the upper end of the said barrel is arranged; an outwardly and downwardly projecting bottom rim, having an upwardly-projecting flange on which the upper end of said barrel is arranged; and supporting-standards for said body, having suitable offsets therein to adapt them to fit within the same and said burner-casing arranged to secure the parts thereof together and to said base, said standards being secured to the said flanges of said top, bottom rim, and base, and to the said burner-casing at its upper end, for the purpose specified.

5. In a gas-stove, the combination of a base, having an upwardly-projecting flange thereon; a cross-piece on said base; a base-plate arranged on said cross-piece; a burner; a burner-tube having a supporting-flange thereon arranged through said cross-piece; an open-ended burner-casing arranged on the said flange on said base; a drum-like body, having a diameter exceeding that of the burner-casing and overhanging the upper end thereof, consisting of a barrel-like portion; a top having a downwardly-projecting flange on which the upper end of the said barrel is arranged; an outwardly and downwardly projecting bottom rim, having an upwardly-projecting flange on which the upper end of said barrel is arranged; a lid for said top; a removable cap for said top for affording access to said lid; and supporting-standards for said body, for the purpose specified.

6. In a gas-stove, the combination of a base having an upwardly-projecting flange thereon; a cross-piece on said base; a base-plate arranged on said cross-piece; a burner; a burner-tube having a supporting-flange thereon arranged through said cross-piece; an open-ended burner-casing arranged on the said flange on said base; a drum-like body, having a diameter exceeding that of the burner-casing and overhanging the upper end thereof, consisting of a barrel-like portion; a top having a dowawardly-projecting flange on which the upper end of the said barrel is arranged; an outwardly and downwardly projecting bottom rim, having an upwardly-projecting flange on which the upper end of said barrel is arranged; and supporting-standards for said body, for the purpose specified.

7. In a gas-stove, the combination of a base having an upwardly-projecting flange thereon; a burner; an open-ended burner-casing arranged on the said flange on said base; a drum-like body, having a diameter exceeding that of the burner-casing and overhanging the upper end thereof, consisting of a barrel-like portion; a top having a downwardly-projecting flange on which the upper end of the said barrel is arranged; an outwardly and downwardly projecting bottom rim, having an upwardly-projecting flange on which the upper end of said barrel is arranged; a lid for said top; a removable cap for said top for affording access to said lid; and supporting-standards for said body, for the purpose specified.

8. In a gas-stove, the combination of a base having an upwardly-projecting flange thereon; a burner; an open-ended burner-casing arranged on the said flange on said base; a drum-like body, having a diameter exceeding that of the burner-casing and overhanging the upper end thereof, consisting of a barrel-like portion; a

top having a downwardly-projecting flange on which the upper end of the said barrel is arranged; an outwardly and downwardly projecting bottom rim, having an upwardly-projecting flange on which the upper end of said barrel is arranged; and supporting-standards for said body, for the purpose specified.

9. In a gas-stove, the combination of a base; a cross-piece on said base; a base-plate arranged on said cross-piece; a burner; a burner-tube having a supporting-flange thereon arranged through said cross-piece; an open-ended burner-casing; a drum-like body, open at its lower end, having a diameter exceeding that of the burner-casing, consisting of a barrel-like portion; a top; an outwardly and downwardly projecting bottom rim; a lid for said top; a removable cap for said top for affording access to said lid; and supporting-standards for said body, having suitable offsets therein to adapt them to fit within the same and said burner-casing arranged to secure the parts thereof together and to said base, for the purpose specified.

10. In a gas-stove, the combination of a base; a cross-piece on said base; a base-plate arranged on said cross-piece; a burner; a burner-tube having a supporting-flange thereon arranged through said cross-piece; an open-ended burner-casing; a drum-like body, open at its lower end, having a diameter exceeding that of the burner-casing, consisting of a barrel-like portion; a top; an outwardly and downwardly projecting bottom rim, and supporting-standards for said body, having suitable offsets therein to adapt them to fit within the same and said burner-casing arranged to secure the parts thereof together and to said base, for the purpose specified.

11. In a gas-stove, the combination of a base; a burner; an open-ended burner-casing; a drum-like body open at its lower end, having a diameter exceeding that of the burner-casing, consisting of a barrel-like portion; a top; an outwardly and downwardly projecting bottom rim; a lid for said top; a removable cap for said top for affording access to said lid; and supporting-standards for said body, having offsets therein to adapt them to fit within the same and said burner-casing arranged to secure the parts thereof together and to said base, for the purpose specified.

12. In a gas-stove, the combination of a base; a burner; an open-ended burner-casing; a drum-like body open at its lower end, having a diameter exceeding that of the burner-casing, consisting of a barrel-like portion; a top; an outwardly and downwardly projecting bottom rim; and supporting-standards for said body, having suitable offsets therein to adapt them to fit within the same and said burner-casing arranged to secure the parts thereof together and to said base, for the purpose specified.

13. In a gas-stove, the combination of a base; a cross-piece on said base; a base-plate arranged on said cross-piece; a burner; a burner-tube having a supporting-flange thereon arranged through said cross-piece; an open-ended burner-casing; a drum-like body; open at its lower end, having a diameter exceeding that of the burner-casing, consisting of a barrel-like portion; a top; an outwardly and downwardly projecting bottom rim; a lid for said top; a removable cap for said top for affording access to said lid; and supporting-standards for said body, for the purpose specified.

14. In a gas-stove, the combination of a base, a cross-piece on said base; a base-plate arranged on said cross-piece; a burner; a burner-tube having a supporting-flange thereon arranged through said cross-piece; an open-ended burner-casing; a drum-like body open at its lower end, having a diameter exceeding that of the burner-casing, consisting of a barrel-like portion; a top; an outwardly and downwardly projecting bottom rim; and supporting-standards for said body, for the purpose specified.

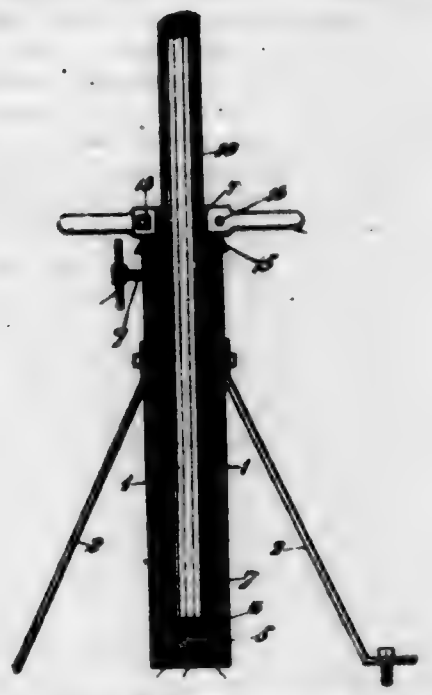
15. In a gas-stove, the combination of a base; a burner; an open-ended burner-casing; a drum-like body open at its lower end, having a diameter exceeding that of the burner-casing, consisting of a barrel-like portion; a top; an outwardly and downwardly projecting bottom rim; a lid for said top; a removable cap for said top for affording access to said lid; and supporting-standards for said body, for the purpose specified.

16. In a gas-stove, the combination of a base; a burner; an open-ended burner-casing; a drum-like body open at its lower end, having a diameter exceeding that of the burner-casing, consisting of a barrel-like portion; a top; an outwardly and downwardly projecting bottom rim; and supporting-standards for said body, for the purpose specified.

17. In a gas-stove, the combination of a base; a cross-piece on said base; a base-plate arranged on said cross-piece; a burner; a burner-tube having a supporting-flange thereon arranged through said cross-piece; an open-ended burner-casing on said base; a drum-like body open only at its lower end, having a diameter exceeding that of the burner-casing; and supports for said body, for the purpose specified

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805,707. **FLAGSTAFF-SUPPORT.** GEORGE BROWN, Indianapolis, Ind. Filed Feb. 9, 1905. Serial No. 244,803.



Claim.—1. In a flagstaff-supporting base, the combination with a fixed supporting frame or casing, of a lower foot-step bearing, a staff, a coned or staff-base-supporting bearing end pivotally mounted in said bearing, and projecting at its top end above the top end of said frame or casing, and means situated above said bearing and connected to said supporting frame or casing for adjusting said staff into vertical position, a clamping-collar surrounding and secured to said staff and situated above the upper adjusting-bearing means, outwardly-extending arms formed on said collar on diametrically opposite sides thereof.

2. In a flagstaff-supporting base, the combination with a fixed supporting frame or casing, of a lower foot-step bearing, a staff, a coned or staff-base-supporting bearing end pivotally mounted in said bearing, and projecting at its top end above the top end of said frame or casing, and means situated above said bearing and connected to said supporting frame or casing for adjusting said staff into vertical position, a clamping-collar situated above the upper adjusting-bearing means of said staff, and means for positively connecting the said clamping-collar with said staff, and outwardly-extending arms situated on diametrically opposite sides of said collar.

3. In a flagstaff-supporting base, the combination with a rigidly-fixed outer cylindrical casing and a base or foot-step bearing, of a flagstaff-supporting tube or socket situated within said fixed cylindrical casing, a foot-step or base pivot on said socket, and means situated at or near the top end of said cylindrical casing whereby the top end of said socket is centered and maintained centrally with and revolubly in said casing.

4. In a flagstaff-supporting base, the combination with a rigidly-fixed outer cylindrical casing having an open top end and a base or foot-step coned bearing, of a flagstaff-supporting tube or socket situated within said fixed cylindrical casing, a flagstaff-supporting tube coned foot-step or pivot, and adjustable set-screws situated at or near the top end of said outer cylindrical casing and having their binding ends directed radially toward said flagstaff-supporting tube or socket.

5. In a flagstaff-supporting base, the combination with a rigidly-fixed outer cylindrical casing having an open top end and a base or foot-step coned bearing, of a flagstaff-supporting tube or socket situated within said fixed cylindrical casing, a flagstaff-supporting-tube coned foot-step or pivot, a pair of adjustable set-screws and a hand-wheel binding-screw situated at or near the top end of said outer cylindrical casing arranged at equal intervals around said casing having their binding ends directed radially toward said flagstaff-supporting tube or socket.

6. In a flagstaff-supporting base, the combination with a rigidly-fixed outer cylindrical casing having its top end open, and a base or foot-step self-centering bearing, of a flagstaff-supporting tube or socket having an open upper end situated within said fixed cylindrical casing, said flagstaff-supporting tube or socket having its upper end projecting above the top open end of said outer fixed casing, a flagstaff-supporting-tube base or foot-step pivot, means situated at or

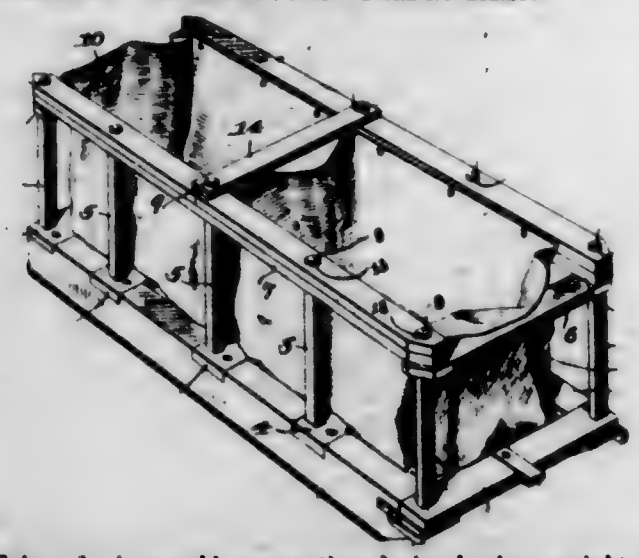
near the top end of said fixed casing whereby the top projecting end of said flagstaff-supporting tube is centered and maintained centrally with and revolubly in said fixed casing, and means secured to the projecting end of said flagstaff-supporting tube for rotating the same.

7. In a flagstaff-supporting base, the combination with a rigidly-fixed outer cylindrical casing having its top end open, and a base or foot-step self-centering bearing, of a flagstaff-supporting tube or socket having an open upper end situated within said fixed cylindrical casing, said flagstaff-supporting tube or socket having its upper end projecting above the top open end of said outer fixed casing, a flagstaff-supporting-tube base or foot-step pivot, means situated at or near the top end of said fixed casing whereby the top projecting end of said flagstaff-supporting tube is centered and maintained centrally with and revolubly in said fixed casing, and outwardly-extending arms projecting radially from the upper or top projecting end of said flagstaff-supporting tube or socket.

8. In a flagstaff-supporting base, the combination with a rigidly-fixed outer cylindrical casing having its top end open, and a base or foot-step self-centering bearing, of a flagstaff-supporting tube or socket having an open upper end situated within said fixed cylindrical casing, said flagstaff-supporting tube or socket having its upper end projecting above the top open end of said outer fixed casing, a flagstaff-supporting-tube base or foot-step pivot, means situated at or near the top end of said fixed casing whereby the top projecting end of said flagstaff-supporting tube is centered and maintained centrally with and revolubly in said fixed casing, a clamping-collar surrounding the upper or top projecting end of said flagstaff-supporting tube or socket means for positively connecting said collar to said tube to turn therewith and radially-projecting arms on diametrically-opposing sides of said collar.

9. In a flagstaff-supporting base, the combination with a rigidly-fixed outer cylindrical casing having its top end open, and a base or foot-step self-centering bearing, of a flagstaff-supporting tube or socket having an open upper end situated within said fixed cylindrical casing, said flagstaff-supporting tube or socket having its upper end projecting above the top end of said outer fixed casing, a flagstaff-supporting-tube base or foot-step pivot, means situated at or near the top end of said fixed casing whereby the top projecting end of said flagstaff-supporting tube is centered and maintained centrally with and revolubly in said fixed casing, a clamping-collar surrounding the upper or top projecting end of said flagstaff-supporting tube or socket, means for positively connecting said collar to said tube to turn therewith and radially-projecting arms on diametrically-opposing sides of said collar, a water-shed surrounding said latter tube adjacent the top open end of said fixed casing.

805,708. COTTON-PICKER'S SACK-CARRIER. WADE A. BYRD, Swifton, Ark. Filed Mar. 27, 1905. Serial No. 252,237.



Claim.—1. A movable supporting device having uprights reduced at their upper ends, side rails connecting said uprights, and flexible receptacles supported between the uprights and having apertured slats detachably engaging the reduced upper ends of the uprights.

2. A movable supporting device having uprights reduced at their upper ends, braces connecting the front and rear uprights in pairs, side rails connecting the uprights at the sides of the device, and flexible receptacles supported between the uprights and having apertured slats to engage the reduced upper ends of said uprights.

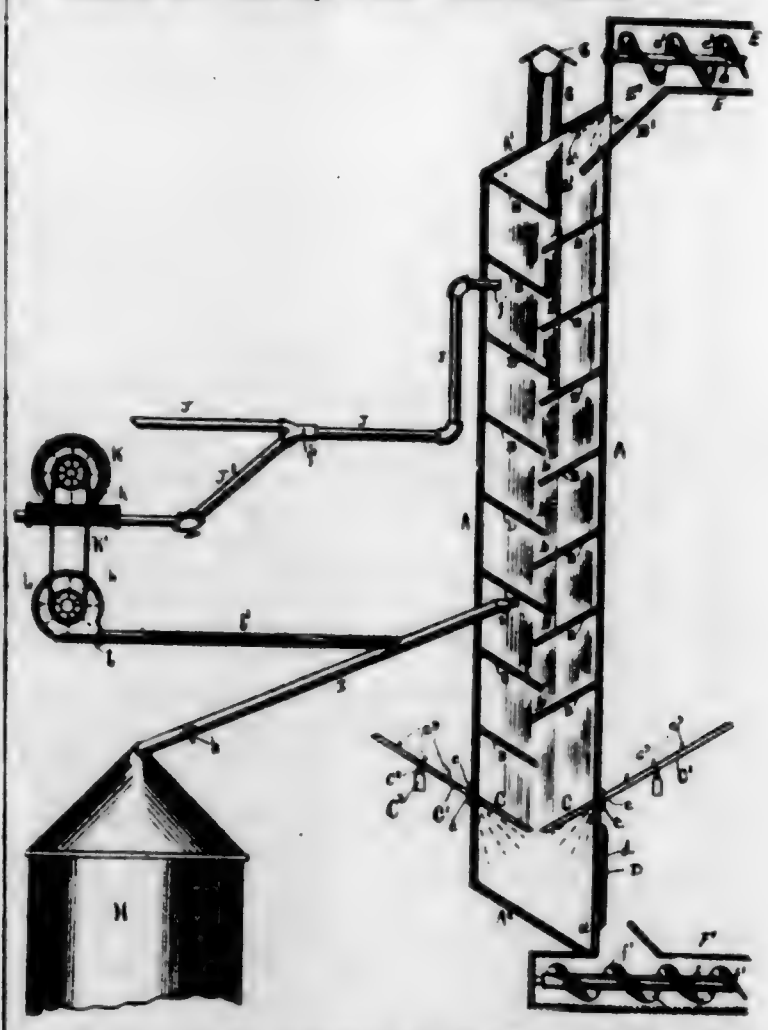
3. A movable supporting device having uprights reduced at their upper ends, flexible receptacles having slats provided with apertures to engage the reduced upper ends of the uprights, and a cross-bar having perforations engaging the reduced upper ends of the uprights above the slats.

4. A movable supporting device having uprights reduced at their upper ends, flexible receptacles having slats provided with notches at their abutting ends, and provided with apertures to engage the reduced upper ends of the uprights, and a cross-bar provided with perforations engaging the uprights engaged by the notched ends of the slats.

5. A movable supporting device having uprights reduced at their upper ends, cross members spacing the front and rear uprights, side rails supported by the reduced upper ends of the uprights at the sides of the device, flexible receptacles having slats engaging the reduced upper ends of the uprights, and auxiliary means for securing said slats detachably in position.

6. A pair of runners, spacing and connecting means for said runners, uprights rising from said runners and reduced at their upper ends, and flexible receptacles supported between and having slats adapted to engage the reduced upper ends of the uprights.

805,709. APPARATUS FOR PURIFYING, CONDITIONING, AND DRYING GRAIN. HARRY J. CALDWELL and JAMES R. BARR, Earlpark, Ind. Filed Sept. 2, 1903. Serial No. 171,816.



Claim.—1. In an apparatus for purifying, conditioning and drying grain, the combination of a spout or conduit provided on its interior with a zigzag passage and having an inlet at one end and an outlet at the opposite end, a pipe supplying steam to the spout or conduit at one side of the center thereof for moistening grain passing therethrough, a furnace for generating the treating-fumes, a pipe leading from the furnace into the spout or conduit at the opposite side of the center thereof to the steam-supply pipe, and means for projecting air under pressure into the last-named pipe and forcing the fumes to circulate through and come in contact with the grain, substantially as described.

2. In an apparatus for purifying, conditioning and drying grain, the combination of a spout or conduit provided on its interior with a zigzag passage and having an inlet at its upper end and an outlet at its lower end, a pipe supplying steam to the spout or conduit above the center thereof for moistening the grain passing therethrough, a furnace for generating the treating-fumes, a pipe leading from the furnace into the spout or conduit below the center thereof, and means for projecting air under pressure into the pipe for the fumes, forcing the fumes to circulate through and in contact with the descending grain, substantially as described.

3. In an apparatus for purifying, conditioning and drying grain, the combination of a spout or conduit having an inlet at its up-

ber end and an outlet at its lower end, a series of inclined deflectors arranged within and extending inwardly from two opposite sides of the spout or conduit with their inner edges alternately passing each other, a pipe supplying steam to the interior of the spout or conduit near its upper end and below the inlet, a furnace for generating the treating-fumes, a pipe leading from the furnace into the interior of the spout or conduit at its lower half and above the outlet, and means for projecting air under pressure through the pipe for the fumes, forcing the fumes to circulate through and come in contact with the descending grain, substantially as described.

4. In an apparatus for purifying, conditioning and drying grain, the combination of a spout or conduit having an inlet at its upper end and an outlet at its lower end, a series of inclined deflecting-boards arranged within and extending inwardly from two opposite sides of the spout or conduit with their inner edges alternately passing each other, a pipe supplying steam to the interior of the spout or conduit near its upper end and below the inlet, a furnace for generating the treating-fumes, a pipe leading from the furnace into the interior of the spout or conduit at its lower half and above the outlet, and an air-blast fan in communication with the pipe for the fumes for projecting a blast of air through the pipe carrying with it the fumes into the spout or conduit for the air and fumes to circulate through and come in contact with the descending grain, substantially as described.

5. In an apparatus for purifying, conditioning and drying grain, the combination of a spout or conduit having an inlet at its upper end and an outlet at its lower end, a series of inclined deflecting-boards arranged within and extending inwardly from two opposite sides of the spout or conduit with their inner edges alternately passing each other, a pipe supplying steam to the interior of the spout or conduit near its upper end below the inlet, a furnace for generating the treating-fumes, a pipe leading from the furnace into the interior of the spout or conduit at its lower half and above the outlet, an air-blast fan in communication with the pipe for the fumes for projecting a blast of air through the pipe carrying with it the fumes into the spout or conduit for the air and fumes to circulate through and in contact with the descending grain and a motor actuated from the steam passing through the supply-pipe for driving the fan, substantially as described.

6. An apparatus for the purpose set forth, comprising a vertically-elongated purifying-chamber, means for continuously supplying grain to the top and withdrawing it from the bottom of said chamber, means for supplying sulfur fumes commingled with air under pressure to said chamber, means for supplying a dampening agent to the said chamber above the inlet of the commingled sulfur fumes and air, and means for controlling the supply of the sulfur fumes, of the air and of the dampening agent to said chamber.

7. An apparatus for the purpose set forth, comprising a vertically-elongated purifying-chamber, means for continuously supplying grain to the upper, and withdrawing it from the lower, part of the chamber, a furnace for generating sulfur fumes, connected with the purifying-chamber by a passage, means in said passage for withdrawing fumes from the furnace and forcing them into the chamber, controllable means for commingling air with said sulfur fumes before entering said chamber, and means for dampening the grain before it is acted upon by the fumes entering said chamber.

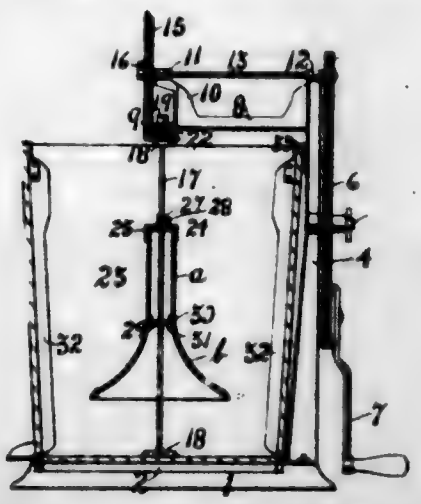
8. In an apparatus for purifying, conditioning and drying grain, the combination of a spout or conduit having an inlet at its upper end and an outlet at its lower end, means for retarding and agitating the grain during its passage through said conduit, means for supplying steam to the interior of the spout or conduit below the inlet, and means for supplyng air under pressure commingled with fumes or vapors to the interior of the spout or conduit above the outlet and means for separately controlling the amount of air commingled with said fumes below the point of the steam-supply, substantially as described.

9. In an apparatus for purifying, conditioning and drying grain, the combination of a spout or conduit closed at its lower end and having an exhaust-opening at its upper end having an inlet at its upper end and an outlet at its lower end, a series of inclined deflectors within the spout or conduit, means for supplying steam to the interior of the spout or conduit below the inlet, and means for supplying air under pressure commingled with fumes or vapors to the interior of the spout or conduit above the outlet and means for separately controlling the amount of air commingled with said fumes below the point of the steam-supply, a gate for the inlet controlling the inflow of the grain, and a pair of gates in the spout or conduit at its delivery end above the outlet controlling the outflow of the grain coincidingly with the inflow, substantially as described.

10. In an apparatus for purifying, conditioning and drying grain, the combination of a spout or conduit, having an inlet at its upper end and an outlet at its lower end, a series of inclined deflectors located within and projecting inwardly from opposite sides of the spout or conduit, a pair of downwardly-opening gates at the delivery end of the spout or conduit, controlling the discharge of the grain, means for supplying steam to the interior of the spout or conduit below the inlet, means for projecting air under pressure commingled with treating-fumes into the interior of the conduit above the outlet, and an escape for steam, air and fumes at the upper end of the conduit, substantially as described.

11. In an apparatus for purifying, conditioning and drying grain, the combination of a spout or conduit, having an inlet at its upper end and an outlet at its lower end, a series of inclined deflectors located within and projecting inwardly from opposite sides of the spout or conduit, a gate controlling the admission of the grain at the inlet, a pair of downwardly-opening gates at the delivery end of the spout or conduit controlling the discharge of the grain at this outlet, a pipe for supplying steam to the interior of the spout or conduit below the inlet, a furnace for burning a fume or vapor producing substance, a pipe leading from the furnace into the spout or conduit below the steam-supply and above the lower controlling-gates, a blow-fan connected with the fume-carrying pipe for projecting air under pressure commingled with treating-fumes into the interior of the conduit above the outlet, and an escape for steam, air and fumes at the upper end of the conduit, substantially as described.

805,710. CHURN. THOMAS J. CHENEY, Lodi, Ohio. Filed July 29, 1905. Serial No. 271,734.



Claim.—1. A churn, consisting of a base-plate, a standard secured thereto, a horizontal bar formed integral with said standard, gearing secured to said standard and bar, a receptacle mounted on said base-plate, a vertical shaft mounted in said receptacle, an aerator and agitator adjustably mounted on said vertical shaft, and consisting of a tubular stem and an enlarged outwardly-extending end portion, an annular recess formed about the upper end of said vertical shaft, and a vertically-arranged cylindrical bearing or block mounted in a bearing, formed at the end of said horizontal bar and adapted to take into said annular recess and about the upper end of said vertical shaft.

2. In a churn, a vertical shaft suitably mounted in the receptacle, an aerator and agitator adjustably mounted on said vertical shaft and consisting of a tubular stem and an enlarged outwardly-extending end portion, a bevel-pinion mounted on the upper end of said shaft, a recess formed in said bevel-pinion and surrounding the upper end of said shaft, an arm provided with gearing meshing with said bevel-pinion and having a bearing immediately above said bevel-pinion, and a vertically-arranged cylindrical bearing or block mounted in said bearing and adapted to take into said recess and about the upper end of said vertical shaft.

3. In a churn, a suitable receptacle, gearing mounted adjacent thereto, a vertical shaft mounted therein, a horizontal arm suitably mounted and provided at its end with a bearing above the center of said receptacle, an aerator and agitator adjustably mounted on said vertical shaft, a bevel-pinion mounted on the upper end of said shaft, a recess formed in said bevel-pinion and surrounding the upper end of said shaft, a vertically-arranged cylindrical bearing or block mounted in said bearing of said horizontal arm and adapted to take into said recess and about the upper end of said vertical shaft, and means for retaining said bearing or block in its normal position.

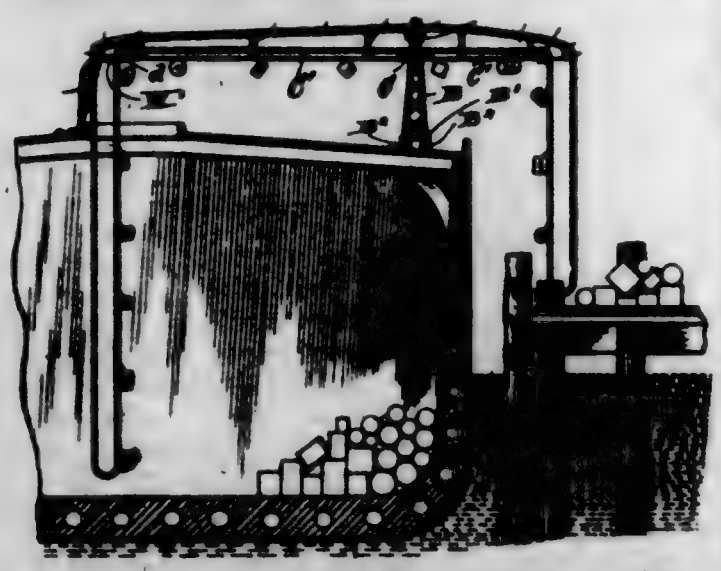
4. In a churn, the combination with a suitable receptacle, and a vertical shaft mounted at the center thereof and carrying an adjust-

ably-mounted aerator and agitator; of a horizontal arm suitably mounted and provided at its end with a bearing above the center of said receptacle, a bevel-pinion mounted on the upper end of said shaft, an annular recess formed in said bevel-pinion, a cylindrical bearing or block mounted in said bearing above the center of the receptacle and adapted to take into said annular recess, an annular recess formed about said cylindrical bearing or block, and a set-screw adapted to take into said last-mentioned recess when the cylindrical bearing or block is in its normal position.

5. In a churn, a vertical shaft suitably mounted at the center of the receptacle, and provided with an adjustably-mounted aerator and agitator, a bevel-pinion mounted at the upper end of said vertical shaft, an annular recess formed in said bevel-pinion and about the upper end of said shaft, a horizontal arm suitably mounted and provided with a bearing above the upper end of said shaft, a movable bearing or block mounted in said bearing and adapted to take into said annular recess, an annular recess formed about said movable bearing or block, a set-screw mounted in the side of said bearing formed at the end of said horizontal arm and adapted to take into said annular recess of said movable block or bearing, and means for revolving said vertical shaft.

6. In a churn, the combination with a vertical shaft suitably mounted, a bevel-pinion suitably mounted at the upper end thereof, and an annular recess formed in the upper face of said bevel-pinion; of a horizontal arm suitably mounted and provided with a bearing above said annular recess, a vertically-arranged cylindrical bearing or block mounted in said first-mentioned bearing and adapted to be lowered into said annular recess, an annular recess formed about said cylindrical bearing or block, and a set-screw suitably mounted and adapted to take into said last-mentioned annular recess.

805,711. APPARATUS FOR LOADING AND UNLOADING SHIPS. FRANKLIN B. CLARK, Washington, D. C., assignor to The American Loading and Unloading Machine Co., (Inc.,) of Virginia. Filed Dec. 20, 1904. Serial No. 237,894.



Claim.—1. A loading and unloading apparatus, comprising a standard, a truss-frame supported upon said standard, tracks mounted upon said truss-frame, an endless carrier mounted to travel upon said tracks, a support for one end of said truss-frame and through which said endless carrier is adapted to travel, as set forth.

2. A loading and unloading apparatus comprising a standard, a truss-frame made up of an upper and a lower set of tracks connected together and mounted upon said standards, the upper set of said tracks extending beyond the ends of the lower set and downwardly inclined, sprocket-wheels mounted in suitable bearings at the ends of said tracks, an endless carrier mounted to travel upon said tracks and over said sprocket-wheels, and a support for corresponding ends of said tracks and through which support said carrier is adapted to travel, as set forth.

3. A loading and unloading apparatus comprising a standard, a truss-frame made up of an upper and a lower set of tracks connected together and mounted upon said standards, the upper set of said tracks extending beyond the ends of the lower set and downwardly inclined, sprocket-wheels mounted in suitable bearings at the ends of said tracks, and an endless carrier made up of links, antifriction-wheels mounted upon said links and adapted to travel upon said tracks, a driving-wheel engaging, at points diametrically opposite thereon, the links of said carrier, and means for driving the carrier, as set forth.

4. An apparatus for loading and unloading ships, &c., comprising a truck, standards rising therefrom, a truss-frame supported by said standards, tracks spaced apart and forming a part of said frame, sprocket-wheels mounted upon the frame, an endless-chain carrier made up of links, antifriction-wheels mounted upon said links and adapted to travel upon said track, a driving-wheel engaging at points diametrically opposite thereof, the links of said carrier, a motor and connections between the same and said driving-wheel, and hooks arranged at intervals upon said endless carrier, as set forth.

5. An apparatus for loading and unloading ships, &c., comprising a truck, standards rising therefrom, two sets of tracks, yokes connecting said tracks and forming a truss-frame mounted upon said standards, sprocket-wheels at the ends of tracks, the upper of said tracks projecting beyond the ends of the lower tracks and downwardly inclined, a removable standard designed to support corresponding ends of said tracks, an endless carrier made up of links, rollers upon said links adapted to travel upon said tracks, and means carried by said truck for driving the carrier, as set forth.

6. An apparatus for loading and unloading ships, &c., comprising a truck, standards spaced apart and mounted upon said truck, an upper and a lower set of tracks, said lower set being horizontal and the ends of the upper set projecting beyond the ends of the lower set and inclined, sprocket-wheels mounted upon the outer sides of the lower tracks and adjacent to their ends, sprocket-wheels mounted between the ends of the upper set of tracks, a support for corresponding ends of said tracks, an endless-chain carrier traveling about said sprocket-wheels and traveling upon said tracks, as set forth.

7. An apparatus for loading and unloading ships, &c., comprising a truss-frame, angle-bars spaced apart and forming a part of said frame, a truck, standards mounted thereon and supporting said frame, sprocket-wheels mounted at the ends of said angle-bars and spaced apart, tracks mounted above said angle-bars, an endless-chain carrier, antifriction-rollers mounted upon the links of the carrier and adapted to travel upon said track, a standard having horizontally-disposed projections adapted to engage flanges upon said angle-bars to hold the end of the truss-frame, as set forth.

8. An apparatus for loading and unloading ships, &c., comprising a truss-frame, angle-bars spaced apart and forming a part of said frame, a truck, standards mounted thereon and supporting said frame, sprocket-wheels mounted at the ends of said angle-bars and spaced apart, tracks mounted above said angle-bars, an endless-chain carrier, antifriction-rollers mounted upon the links of the carrier and adapted to travel upon said track, and a support for one end of said frame, a standard having horizontally-disposed projections near the upper end thereof designed to engage flanges upon said angle-bars, said carrier adapted to pass through an aperture in said standard at the end of the frame, as set forth.

805,712. PROCESS FOR PREPARING CALCIMINE COMPOSITIONS. HERBERT H. CHURCH, Bellows Falls, Vt., assignor to Casein Company of America, a Corporation of New Jersey. Filed Apr. 14, 1904. Serial No. 203,181.

Claim.—1. The herein-described process of producing a calcimine compound, consisting in dissolving animal glue with water by the aid of heat, then evaporating the glue solution into thin films, then pulverizing said films, and then mixing the pulverized glue with a suitable proportion of a mineral or earthy base, as talc or whiting, or both.

2. The herein-described process of producing a calcimine compound, consisting in dissolving animal glue with water by the aid of heat, then adding dissolved soap to the glue solution, then evaporating the glue-and-soap solution into thin films, then pulverizing said films, and then mixing the pulverized glue and soap with a suitable proportion of a pulverized mineral or earthy base, as talc or whiting, or both.

805,718. TELLTALE. ROBERT H. COBB, Rat Portage, Canada. Filed Apr. 12, 1905. Serial No. 255,142.

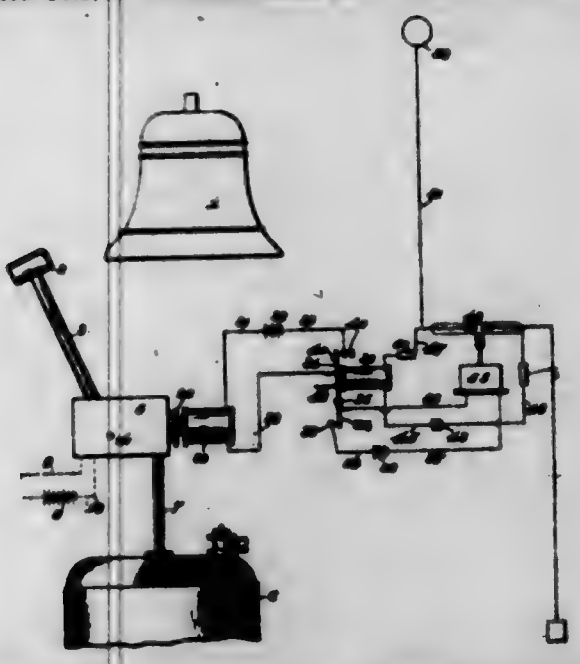
Claim.—1. In a telltale for semaphores, a plurality of semaphore-posts, a bell-crank lever on one post, a bell-crank lever on the other post, a plurality of pivotally-supported semaphore-arms, cables connecting said bell-crank levers and one of said semaphore-arms, a cable connecting two of said bell-crank levers, and a cable extending from the third bell-crank lever to manipulating means.

2. In a telltale for semaphores, a plurality of semaphore-posts, a pivoted arm on each of said posts, a pair of bell-crank levers pivotally supported on one post, cables connecting the horizontal arms of said bell-crank levers with the semaphore-arm on said post, a bell-

crank lever on the other post, a cable connecting the horizontal arm of said bell-crank lever with the telltale-arm on said post, a cable connecting the vertical legs of two of said bell-crank levers, and a cable running from the other bell-crank lever to manipulating means.



805,714. VISIBLE AND AUDIBLE SIGNAL. JOHN L. CHEVELDING, New York, N. Y. Filed Oct. 27, 1900. Serial No. 34,579.



Claim.—1. The combination with a distantly-communicative signal, and local means for actuating the same, of a prime mover adapted to control the operation of said local means, and wireless telegraphic means for operatively actuating said prime mover, whereby the said signal may be operated at a point remote and detached from the point of installation of the signal.

2. As a system of signaling, the combination with a source of energy, means producing by said energy visible or audible signals, and means controlling said signal-producing means, comprehending a detector responsive to Hertzian waves or oscillations, of means of setting up Hertzian waves or oscillations controllable by the operator to whom the said signal is visible or audible.

3. The combination with a distantly-communicative signal and electrically-operative means for controlling said signal, of wireless telegraphic means adapted to operate the signal-controlling means, and means for preventing the operation of the signal-controlling means by other telegraphic impulses than those of a determinate nature.

4. The combination with a distantly-communicative signal, its actuating mechanism, and a prime mover adapted to control the movement of said actuating mechanism, of electrically-operative means for actuating the prime mover, an electric circuit adapted to operate the same, a movable member for making and breaking said circuit, and wireless telegraphic means for actuating said movable member at a point remote and detached from the point of location of said member.

5. The combination with a signal, its actuating mechanism, and a prime mover adapted to control the movement of said actuating mechanism, of electrically-operative means for actuating the prime mover, an electric circuit adapted to operate the same, a movable member for making and breaking said circuit, means for actuating said movable member at a point remote and detached from the point of location of said member, and means for retarding the movement of said movable member.

6. The combination with a prime mover, an electric circuit, comprehending instrumentalities for actuating the prime mover, and a movable member adapted to make and break said circuit, of an electromagnet adapted to actuate said movable member, in electrical circuit with a coherer, and means for operatively communicating electrical waves, generated at a distance, to said coherer, for actuating the movable member of the first-named circuit.

7. The combination with a prime mover, an electric circuit, comprehending instrumentalities for actuating the prime mover, and a movable member adapted to make and break said circuit, of an electromagnet adapted to actuate said movable member, in electrical circuit with a coherer, means for operatively communicating electrical waves, generated at a distance, to said coherer for actuating the movable member of the first-named circuit, and means for decohering the coherer.

8. The combination with a prime mover, an electric circuit comprehending instrumentalities for actuating the prime mover, and a movable member adapted to make and break said circuit, of an electromagnet adapted to actuate said movable member, in electrical circuit with a coherer, means for operatively communicating electrical waves, generated at a distance, to said coherer for actuating the movable member of the first-named circuit, and means for decohering the coherer, comprising a tapper in broken circuit with the movable member, said circuit being adapted to be closed by the movement of said member.

9. The combination with a prime mover, means for electrically actuating the same, and a broken electric circuit adapted when closed to operate said means, of a movable member adapted to make and break said circuit, retarding mechanism connected with said member, electromagnetic means for actuating said member, and means for exciting said means through electric waves generated from a point remote and detached from the point of location of said means.

10. The combination with a prime mover, means for electrically actuating the same, and a broken electrical circuit adapted when closed to operate said means, of a spring-actuated movable member, adapted to make and break said circuit, retarding mechanism comprising a ratchet-wheel supported upon the pivot of said member, and a pawl upon the member adapted to engage the teeth of the ratchet-wheel, connected with said member, electromagnetic means for actuating said member, and means for exciting said electromagnetic means through electric waves generated from a point remote and detached from the point of location of said means.

11. The combination with a distantly-communicative signal and electrically-operative means for controlling said signal, of wireless telegraphic means adapted to operate the signal-controlling means, and mechanically-actuated means for controlling the telegraphic impulses.

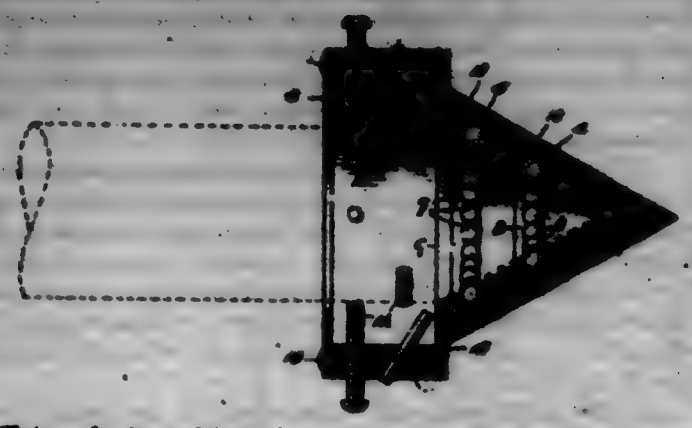
12. Means for transmitting distant communicative signals, means for storing energy for operating said signals combined with wireless telegraphic means for actuating said signal means.

13. The combination with means for storing a limited supply of energy, a signaling device operated by said energy, and giving distant communicative signals, of means for causing the signaling device to operate under the influence of wireless waves or impulses.

14. In combination, means for transmitting distant observable signals through natural media, means for storing a supply of energy, means for operating said transmitting means by said energy, means for causing said operating means to operate under influence of impulses or disturbances of the said natural media, and means for setting up such impulses or disturbances.

15. The combination of a station capable of sending out wireless signals or impulses, with an automatic receiving-station adapted to receive said impulses, and, under the influence of said impulse, to transmit distant communicative signals substantially as described.

805,715. TURNING-LATHE CHUCK. Charles J. Bailey, Bristol, R. I. Filed Sept. 24, 1900. Serial No. 31,129.



Claim.—1. An article of the class described comprising a collar provided with securing means, and a hollow cup rotatably mounted within the collar with its point projecting therefrom.

2. An article of the class described comprising a collar carrying a plurality of radially-arranged securing-screws and provided with an inturned flange, and a hollow cone-shaped cup rotatably mounted within the collar and engaging the flange and having its point projecting from the collar.

3. An article of the class described comprising a collar provided with a retaining-flange, securing means carried by the collar, and a cone-shaped cup rotatably mounted within the collar and held in operative position by the flange and having its point projecting from the collar.

4. An article of the class described comprising a collar provided on one side with a retaining-flange, a dust-guard secured to the other side of the collar, adjusting-screws combined with the collar, a pointed cup having its base portion in engagement with the flange, and ball-bearings arranged upon the interior of the cup.

5. An article of the class described comprising a collar carrying securing-screws, and a hollow cone-shaped cup rotatably mounted within the collar and provided internally with ball-bearings and having its point corrugated or grooved and projecting from the collar.

805,716. AUTOMOBILE-AXLE. Adam R. Dubbert, Canton, Ohio, assignor to The Timken Roller Bearing Axle Company, Canton, Ohio, a Corporation. Filed July 15, 1905. Serial No. 269,915.



Claim.—1. A pivotal connection for an axle and a spindle comprising a yoke on the one having a bearing and an aperture in its respective jaws, an adjustable bushing having a bearing therein and adapted to be entered and locked in the aperture, and a cross-pivot on the other having journals adapted to be entered and to operate in the respective bearings, there being shoulders on the pivots adapted to abut against the bearings.

2. A pivotal connection for an axle and a spindle comprising a yoke on the one having a bearing and an aperture in its respective jaws, a bushing having a bearing therein and adapted to be entered in the aperture, and a cross-pivot on the other having journals adapted to be entered and to operate in the respective bearings.

3. A pivotal connection for an axle and a spindle comprising a yoke on the one having a bearing and an aperture in its respective jaws, a bushing having a bearing therein and adapted to be entered in the aperture, and a cross-pivot on the other having journals adapted to be entered and to operate in the respective bearings, one of the journals being extended and having means for attaching operative parts thereon outside of its bearing.

805,717. DUST-GUARD. Edward Dunbar, Chicago, Ill., assignor to McCord & Company, Chicago, Ill., a Corporation of New Jersey. Filed Jan. 7, 1896. Serial No. 183,968.

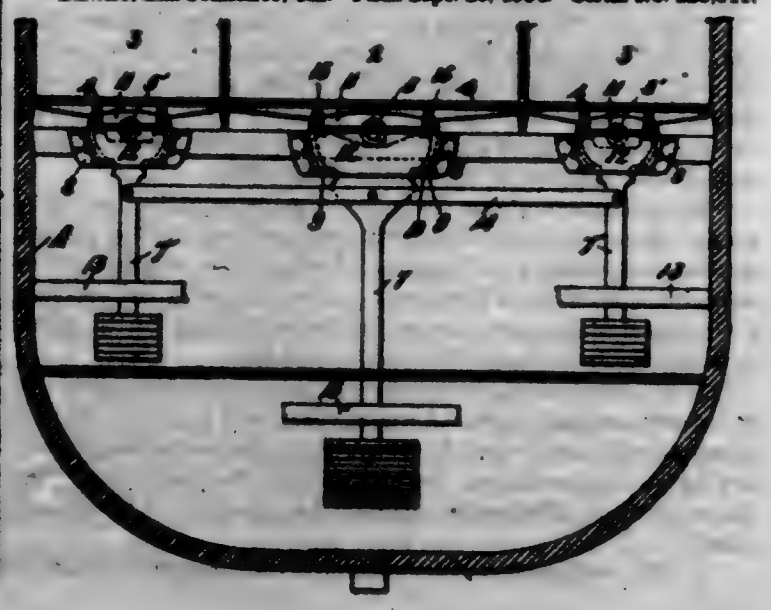


Claim.—1. The combination with a journal-box, of a guard-plate having means for detachable engagement with the box, a sectional packing-ring interposed between the guard-plate and the box and adapted to pack both the box and the axle, and a spiral helical spring located between the guard-plate and the packing-ring and serving yieldingly to clamp the dust-guard to the box, and to hold the sectional packing-ring tightly hugging the box and axle surfaces packed thereby, substantially as described.

2. The combination with a journal-box, of a guard-plate having means for detachable engagement with the box, a sectional packing-ring interposed between the guard-plate and the box and adapted to pack both the box and the axle, which packing-ring is provided with both flat and beveled spring-seating surfaces, and a spiral helical spring located between the guard-plate and the packing-ring and operating yieldingly to clamp the dust-guard to the box and to deliver its tension on the packing-ring both in an axial and in a radial direction, thereby causing the ring to hug both the box and the axle surfaces to be packed thereby, substantially as described.

3. The combination with a journal-box having lock-flanges b^2, of the guard-plate c having the hook-like lugs c' for engagement with said lock-flanges b^2 of the box, the sectional packing-ring d, having the spring-seating surfaces d^3, d^4, and d^5, as described, and the spiral helical spring e interposed between the packing-ring and the guard-plate, and applied under compression when the parts are in working position, substantially as and for the purposes set forth.

805,718. BALANCED FLOOR FOR SHIPS' CABINS. Robert P. Dewey, San Francisco, Cal. Filed Sept. 24, 1904. Serial No. 226,911.



Claim.—1. A pivotal connection for an axle and a spindle comprising a yoke on the one having a bearing and an aperture in its respective jaws, an adjustable bushing having a bearing therein and

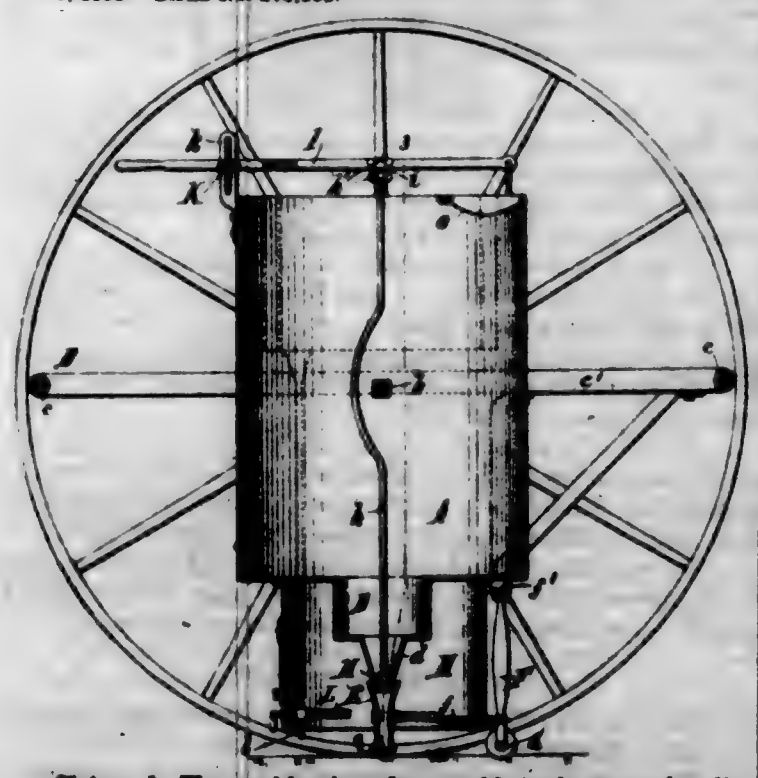
Claim.—1. In a ship, the combination of a movable floor or deck section, a shaft to which the floor-section is fixed, a weighted pendulum detached from the floor so as to be independent thereof, and a cross-head or bearing on the shaft and extending beyond opposite sides thereof said pendulum engaging the cross-head to effect the oscillation of the shaft and floor-section and thereby maintain the floor-section in horizontal position irrespective of the movements of the ship.

2. In a ship, the combination of a movable floor or deck section, a shaft to which the floor-section is fixed, a weighted pendulum detached from and independent of the floor-section, and having an enlarged head provided with lateral segments the curve of which is in the arc of a circle concentric with the shaft, corresponding curved bearings fixed to the deck, in which the said pendulum-head is supported, and a cross-head or bearing fixed to the shaft and having its arms extending to opposite sides thereof and within the range of action of the upper portions of the segments.

3. In a ship, the combination of a movable floor or deck section, a shaft to which the floor-section is fixed, a weighted pendulum detached from and independent of the floor-section, and having an enlarged head provided with lateral segments the curve of which is in the arc of a circle concentric with the shaft, corresponding curved bearings fixed to the deck, in which the pendulum-head is mounted, a cross-head or bearing fixed to the shaft and having its arms extending to opposite sides thereof and within the range of action of the segments, and adjustable screws on the arms of the cross-head adapted to bear on the segments whereby the floor-section is leveled.

4. In a ship, the combination of a movable floor or deck section, a shaft to which the floor-section is fixed, a weighted pendulum detached from and independent of the floor-section, and having an enlarged head provided with lateral segments the curve of which is in the arc of a circle concentric with the shaft, corresponding curved bearings fixed to the deck, in which the pendulum-head is mounted, a cross-head or bearing fixed to the shaft and having its arms extending to opposite sides thereof and within the range of action of the segments, and adjustable screws on the arms of the cross-head adapted to bear on the segments whereby the floor-section is leveled, and the plates 12 covering the head of the pendulum and removably secured to allow the loose pendulum to be removed from its bearings.

805,719. MACHINE FOR POURING FILLING MATERIAL IN CREVICES. THOMAS FITZGERALD, Jr., Fredonia, N. Y. Filed Aug. 7, 1906. Serial No. 329,115.



Claim.—1. The combination of a movable tank or vessel, a discharge-spout therefor, and a guide device for said spout constructed to engage a guiding-surface and cause said spout to follow and discharge along the direction of movement of said guide device as said tank or vessel is moved along a supporting-surface, substantially as set forth.

2. The combination of a movable tank or vessel, a discharge-spout therefor, and a guide device adapted to enter and follow a crevice in the surface supporting said tank or vessel to direct the stream from said discharge-spout into said crevice, substantially as set forth.

3. The combination of a movable tank or vessel, a discharge-spout therefor having a movable discharge portion, and a guide device connected to said movable portion of the discharge-spout and adapted to follow a crevice in the surface supporting said tank or vessel to direct the stream from said discharge-spout into said crevice, substantially as set forth.

4. The combination of a tank or vessel, a wheeled support therefor, a movable discharge-nozzle for said vessel, a guide device movably connected to said support and adapted to follow a crevice in the pavement, and means connecting said guide device and movable nozzle to hold said nozzle over said crevice, substantially as set forth.

5. The combination of a tank or vessel, a wheeled support therefor, a leg connected to one of said parts and provided with a guide device adapted to yield and follow a crevice in the pavement, and a movable discharge-nozzle for said tank or vessel connected to and moved by said guide device, substantially as set forth.

6. The combination of a tank or vessel, a wheeled support therefor, a flexible leg connected to one of said parts, a guide-wheel at the lower end of said leg adapted to follow a crevice in the pavement, and a movable discharge-nozzle for said tank or vessel connected to and moved by said guide device, substantially as set forth.

7. The combination of a tank or vessel, a wheeled support therefor, a flexible leg connected to one of said parts, a beveled brick-spreading and guide wheel at the lower end of said leg adapted to follow a crevice in the pavement, and a movable discharge-nozzle for said tank or vessel connected to and moved by said guide device, substantially as set forth.

8. The combination of a movable tank or vessel having a discharge-spout, a leg connected to said tank or vessel and provided with a guide device adapted to follow a crevice in the pavement, and a movable nozzle for said discharge-spout supported and held by said guide device over the crevice, substantially as set forth.

9. The combination of a movable tank or vessel, a discharge-spout therefor, a guide device for said spout constructed to engage a guiding-surface and cause said spout to follow and discharge along the direction of movement of said guide device as said tank or vessel is moved along a supporting-surface, and a valve for controlling the flow of material from said spout, substantially as set forth

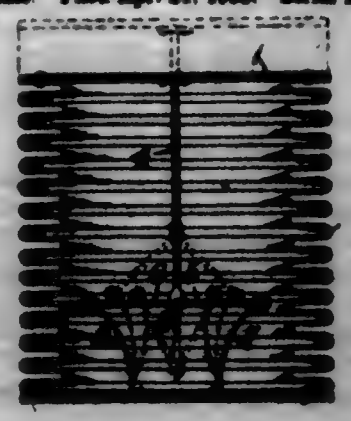
10. The combination of a movable tank or vessel, a discharge-spout therefor, a guide device for said spout constructed to engage a guiding-surface and cause said spout to follow and discharge along the direction of movement of said guide device as said tank or vessel is moved along a supporting-surface, and means for heating said tank and spout, substantially as set forth.

11. The combination of a movable tank or vessel, a discharge-spout therefor, a guide device for said spout constructed to engage a guiding-surface and cause said spout to follow and discharge along the direction of movement of said guide device as said tank or vessel is moved along a supporting-surface, a valve for controlling the flow of material from said spout, and means for heating said spout, substantially as set forth.

12. The combination of a movable tank or vessel provided with a series of discharge-spouts having fixed portions and movable discharge portions, valves controlling the fixed portion of each of said spouts, an operating device for said valves to which the valves are adjustably connected, and means for holding said operating device in different relations, substantially as set forth.

13. The combination of a movable tank or vessel provided with a discharge-spout having a conical fixed portion and a movable discharge portion below the fixed portion, a valve controlling said conical portion of the spout, and means for heating said spout, substantially as set forth.

805,720. COLLAPSIBLE VESSEL. WESTON E. FULTON, Knoxville, Tenn., assignor to The Fulton Company, Knoxville, Tenn., a Corporation of Maine. Filed Apr. 21, 1903. Serial No. 153,707.



Claim.—1. A collapsible vessel having a flexible corrugated wall which resists a force tending to change the volume of said vessel, and means operatively connected to said vessel whereby the resistance offered by its wall may be neutralized.

2. A collapsible vessel having a sheet-metal corrugated wall which resists a force tending to change the volume of said vessel, and means operatively connected to said vessel whereby the resistance offered by its wall may be neutralized.

3. The combination of a collapsible vessel having a flexible corrugated wall which resists any force tending to expand or collapse it, and automatic compensating means for controlling such resistance, and enabling the vessel to exert a uniform force during expanding or collapsing.

4. The combination of a collapsible vessel which resists any force tending to expand or collapse it, and automatic compensating means for controlling such resistance, and enabling the vessel to exert a uniform force during expanding or collapsing.

5. The combination of a collapsible vessel which resists any force tending to expand or collapse it, and spring-actuated means for controlling such resistance, and enabling the vessel to exert a uniform force during expanding or collapsing.

6. The combination of a collapsible vessel which resists any force tending to expand or collapse it, and automatically compensating means comprising a spring, and means connecting the spring and vessel whereby the spring may exert a varying force on the walls of the vessel to enable the latter to exert a uniform force during expanding and collapsing.

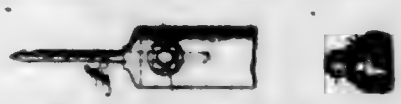
7. The combination of a collapsible vessel which resists any force tending to expand or collapse it, a spring and a pivoted connection between said spring and vessel whereby the spring may exert a varying force on the vessel as the latter expands or collapses.

8. The combination of a collapsible vessel which resists any force tending to expand or collapse it, a spring, and an eccentric pulley connected to the spring and to said vessel whereby the spring may exert a varying force on the vessel as the latter expands or collapses.

9. The combination of a collapsible vessel which resists any force tending to expand or collapse it, a spring having one end fast to the inner wall of the vessel, a pivoted connection between said spring and vessel whereby the spring may exert a varying force on the vessel as the latter expands or collapses.

10. In combination, a collapsible vessel having a flexible corrugated wall and rigid end walls, a spring having one end fast to one end wall, an eccentric pulley supported in the vessel and connected to said spring, and a flexible connection between said pulley and vessel whereby the spring may exert a varying force on the vessel as the latter expands or collapses.

805,721. NEEDLE-CLAMP. JAMES GAUER, Melbourne, Victoria, Australia, assignor to Stanley Manufacturing Company, Boston, Mass.; F. F. Stanley, principal trustee. Filed Nov. 4, 1901. Serial No. 81,157.



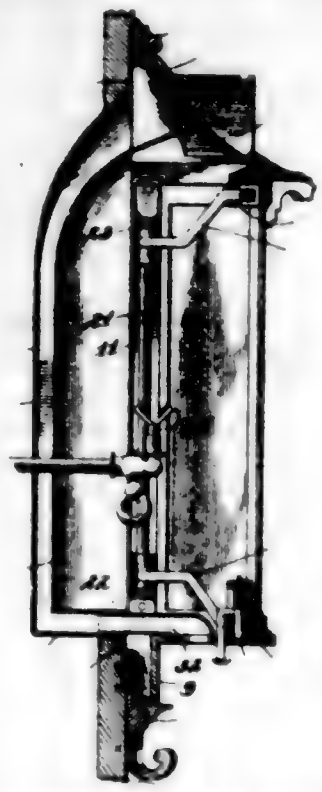
Claim.—A needle-bar slabbed off at its front and rear sides to form parallel faces, and having a longitudinal bore and an intersecting diametrical bore of three different diameters, the diametrical bore being larger at one than at its opposite end, and a threaded needle-clamping bolt having a transverse bore to receive the shank of the needle, and provided at one end with a screw-thread, and a nut applied to the threaded part of said bolt, the head of the bolt entering the larger part of the diametrical bore, the bolt forcing the sides of the needle against the sides of the longitudinal bore.

805,722. LAMP. WILLIAM S. HAHN, Lakeside, and JOHN A. HOGUM, Partridge, Ill., assignors to The Adams & Westlake Company, a Corporation of Illinois. Filed Aug. 29, 1904. Serial No. 223,649.

Claim.—1. As an article of manufacture, a lamp comprising a chambered body portion having a transparent front and opaque back and a laterally-projecting wall-plate intermediate of its front and back, a burner within its body-chamber, and a discharge-flue leading from the combustion-chamber forward of the wall-plate.

2. As an article of manufacture, a chambered lamp-body provided with a laterally-projecting wall-plate and having its back extended back of such plate, and a discharge-flue leading from the combustion-chamber forward of the wall-plate.

3. As an article of manufacture, a chambered lamp-body having a laterally-projecting attaching-plate and bowing backwardly and forwardly from such plate and having a discharge-flue leading from the combustion-chamber forward of the wall-plate.



4. In a lamp, in combination, a back wall, a reflector forward of and spaced apart from the back wall and terminating at the top within the body of the lamp, and an air-duct leading to the bottom of the chamber inclosed between the back wall and the reflector.

5. In a lamp, in combination, an attaching-frame; a double back extending rearwardly from the frame and comprising a rear wall and a reflector-plate, such members being spaced apart to form an air-flue; and a front attached to the frame and having a bottom apertured to supply air to the flue.

6. In a lamp, in combination, an attaching-frame, a back, pivoted links connected to the side of the frame, and a front connected to the ends of the links by means of lugs on its interior.

7. In a lamp, in combination, a lamp-body adapted to be secured to a wall and to extend within the same, and having double back walls containing an air-flue such flue opening at its lower end through the bottom of the body and at its upper end within the body.

8. In a lamp, in combination, a lamp-body adapted to be secured to a wall and to extend within the same, and having double back walls and an apertured cap, such walls inclosing an air-flue and the forward wall terminating below the cap whereby an opening for the air-flue is provided within the cap.

9. In a wall-lamp, in combination, an attaching-bracket having an upstanding wall-plate; a lamp-bottom having a depending upturned foot resting on and secured to the bracket; side bars having instanding screw-lugs; a cap secured to the side bars; a bracket projecting rearwardly from the line of the wall-surface; and a front extending forwardly from such line.

10. A wall-lamp provided with a body having side flanges for bearing against the surface of the wall intermediate of the front face and back of the body, said flanges being provided with internal attaching-lugs, and a front hinged to the body by internal hinges.

11. In a lamp, in combintion, a body, pivoted links connected to the interior of the body adjacent to its side, and a front connected near its vertical median line to the links by lugs on the interior.

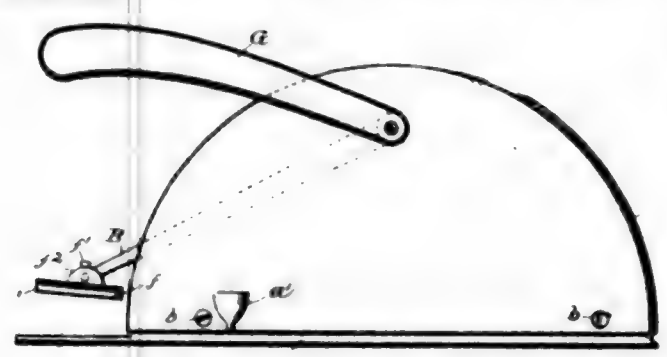
805,723. STAMP-AFFIXER. LEON B. HAMPTON, Salt Lake City, Utah. Filed Sept. 20, 1904. Serial No. 225,020.

Claim.—1. In a stamp-affixer having an arm on its rocking shaft, a stamp-presser on said arm comprising a pad, a cutter thereon, a vertical blade at one edge of said cutter, a perforated lug on said cutter a set-screw in said lug to adjustably secure said cutter and pad to the lateral support on the arm which carries it, and a stamp-guide having a sharpened end to coact with said cutter, for the purpose herein set forth.

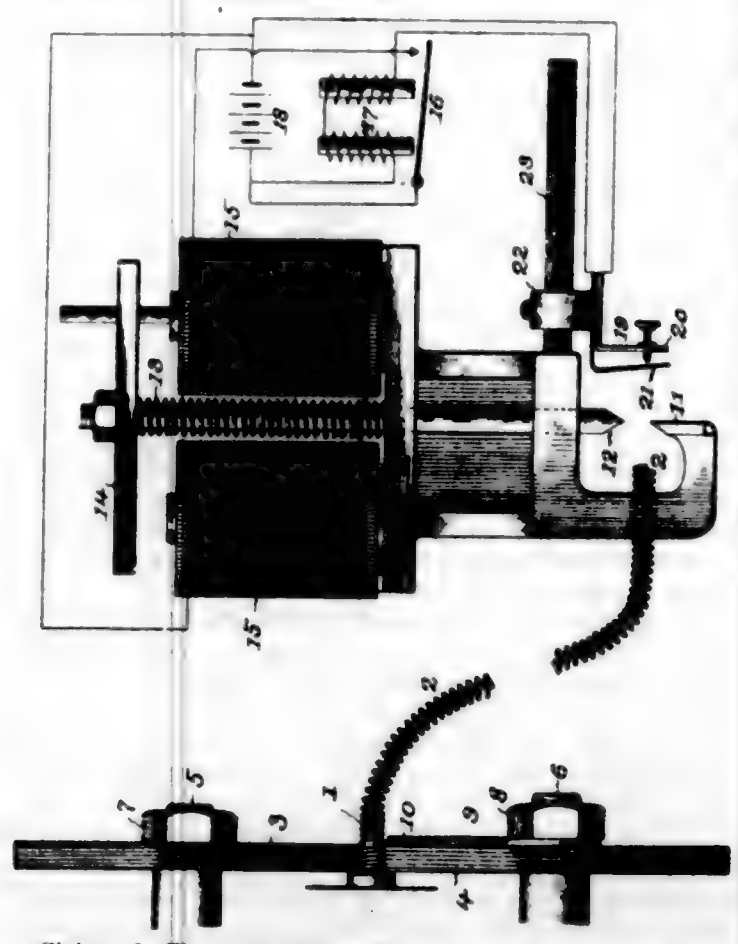
2. A stamp-affixer comprising a base provided with a water-tray, a case on said base, a water-cup attached to said case, and a groove connecting said cup and said tray as specified.

3. A stamp-affixer comprising a base, a projecting table at its

front end, a rock-shaft journaled in posts on said base, a hand-lever on said shaft, an arm on said shaft carrying a pad adapted to press upon said table, a stamp-guide on said base, a roller having a terminal cog-wheel, an arm on said shaft to which is pivoted a ratchet adapted to engage said cog-wheel, a moistening-roller impelled by said ratchet-impelled roller, a water-tray beneath said moistening-roller, a cover on said base, a water-cup on said cover, a groove connecting said water-cup with said tray, openings at the front and rear of said cover for the passage of the stamps, a stamp-guide between said openings having its front edge sharpened, and a cutter on said pad adapted to coact with said sharpened edge for the purposes herein set forth.



805,724. **WIRE-CUTTING MECHANISM.** NOAH S. HARTER, Chicago, Ill., assignor of one-half to Charles R. Barrett, Chicago, Ill. Filed Dec. 30, 1904. Serial No. 238,935.



Claim.—1. The combination of a mechanism adapted to feed a wire coil or the like in a longitudinal direction, a fixed cutter and a reciprocating cutter arranged in the path of said wire coil or the like, an electromagnet adapted to impart rectilinear movement to said reciprocating cutter, a circuit-closer arranged in the path of the wire coil or the like passing beyond the cutting mechanism, and a source of electromotive force embracing said electromagnetic mechanism, and controlled by said circuit-closer, substantially as set forth.

2. The combination of a mechanism adapted to feed a wire coil or the like in a longitudinal direction, a fixed cutter and a reciprocating cutter arranged in the path of said wire coil or the like, an electromagnet adapted to impart rectilinear movement to said reciprocating cutter, a circuit-closer arranged in a longitudinally-adjustable manner in the path of the wire coil or the like passing beyond the cutting mechanism, and a source of electromotive force embracing said electromagnetic mechanism and controlled by said circuit-closer, substantially as set forth.

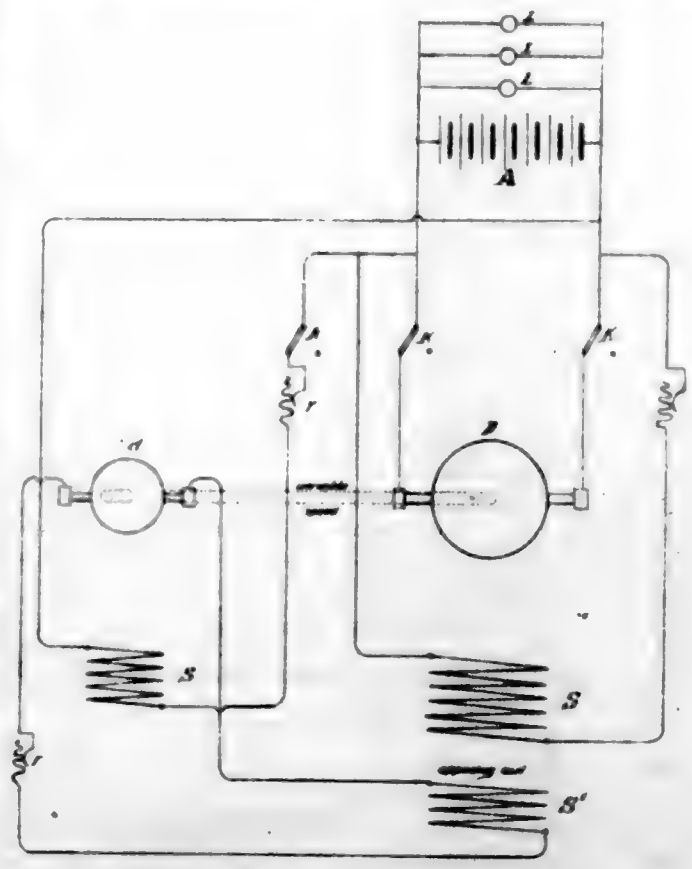
3. The combination of a coil-forming mechanism, a fixed cutter and a reciprocating cutter arranged in the path of said wire coil or the like, an electromagnet adapted to impart rectilinear movement to said reciprocating cutter, a circuit-closer arranged in the path of the wire coil passing beyond the cutting mechanism, and a source of electromotive force embracing said electromagnetic mechanism and controlled by said circuit-closer, substantially as set forth.

4. The combination of a coil-forming mechanism, a fixed cutter and a reciprocating cutter arranged in the path of said wire coil or the like, an electromagnet adapted to impart rectilinear movement to said reciprocating cutter, a circuit-closer arranged in a longitudinally-adjustable manner in the path of the wire coil passing beyond the cutting mechanism, and a source of electromotive force embracing said electromagnetic mechanism and controlled by said circuit-closer, substantially as set forth.

5. The combination of a mechanism adapted to feed a wire coil or the like in a longitudinal direction, a cutting mechanism arranged in the path of said wire coil or the like, an electromagnetic mechanism for operating said cutting mechanism, an electromagnetic circuit-closer, a local source of electromotive force embracing the electromagnetic operating mechanism of the cutting mechanism and controlled by said electromagnetic circuit-closer, a secondary circuit-closer arranged in the path of the wire coil passing beyond the cutting mechanism, and a local source of electromotive force embracing the operating electromagnet of the electromagnetic circuit-closer aforesaid and controlled by said secondary circuit-closer, substantially as set forth.

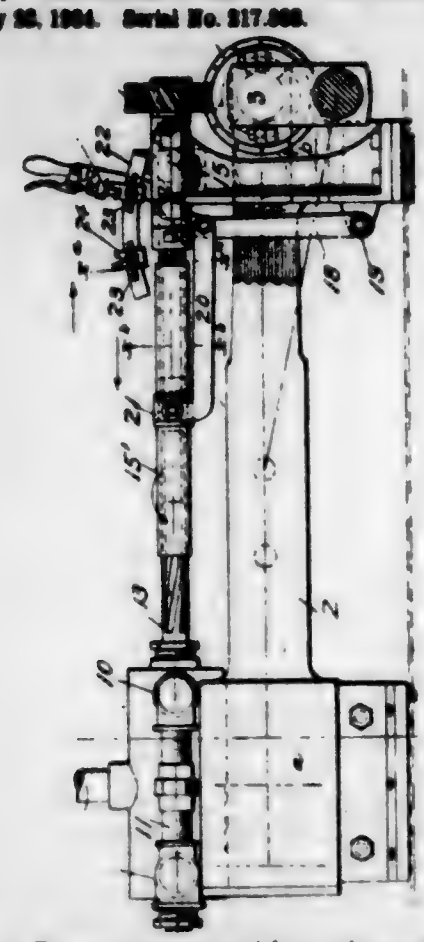
6. The combination of a mechanism adapted to feed a wire coil or the like in a longitudinal direction, a cutting mechanism arranged in the path of said wire coil or the like, an electromagnetic mechanism for operating said cutting mechanism, an electromagnetic circuit-closer, a local source of electromotive force embracing the electromagnetic operating mechanism of the cutting mechanism and controlled by said electromagnetic circuit-closer, a secondary circuit-closer arranged in a longitudinally-adjustable manner in the path of the wire coil passing beyond the cutting mechanism, and a local source of electromotive force embracing the operating-electromagnet of the electromagnetic circuit-closer aforesaid and controlled by said secondary circuit-closer, substantially as set forth.

805,725. **CONTROLLING DEVICE FOR ELECTRIC GENERATORS.** MORITZ VON HOOR, FRIEDRICH REINITZ, and LEOPOLD STARK, Budapest, Austria-Hungary. Filed Apr. 17, 1901. Serial No. 56,243.



Claim.—In a controlling device for producing a uniform voltage in electric generators, the combination with a main dynamo running at variable speed, and an auxiliary dynamo running at a speed proportional to that of the main dynamo, a circuit of constant potential supplied by said main dynamo, a single field-magnet winding for the auxiliary dynamo, said winding being connected across said circuit, main and opposing field-windings for said main dynamo, said main field-winding being connected across said circuit and said opposing field-winding being connected across the brushes of said auxiliary dynamo.

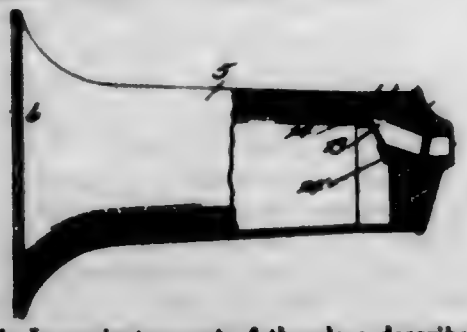
805,726. REVERSING-VALVE. OLE HOVE, Ellsworth, Wis. Filed July 25, 1904. Serial No. 217,008.



Claim.—1. The combination, with a reciprocating engine having double cylinders, of a valve-casing arranged between said cylinders and having exhaust-ports in each end and steam-inlet ports to said cylinders between said exhaust-ports, a rotary valve in said casing having a centrally-arranged annular passage communicating with the steam-supply, and also having in its periphery on each side of said annular passage a series of longitudinally-arranged steam inlet and exhaust ducts communicating respectively with said annular passage and with an exhaust-port, the steam-inlet ducts on each side of said annular passage being opposite the corresponding exhaust-ducts on the other side, and mechanism for reversing said valve, substantially as described and for the purpose specified.

2. The combination, with a reciprocating engine having double cylinders, of a valve-casing located between said cylinders and having exhaust-ports in each end and steam-inlet ports to said cylinders between said exhaust-ports, a rotary valve in said casing having a centrally-arranged annular passage or groove communicating with the steam-supply and also having in its periphery on each side of said annular passage a series of longitudinally-arranged steam inlet and exhaust ducts, said inlet-ducts communicating with said annular passage and with said cylinder inlet-ports and separated from said exhaust-ports, and said exhaust-ducts communicating with said cylinder inlet-ports alternately with said inlet-ducts and with said exhaust-ports and separated from said annular passage, and the steam-inlet ducts in one end of said valve and on one side of said annular passage being in line substantially with the corresponding exhaust-ducts in the other end of said valve and on the opposite side of said passage, and mechanism for reversing said valve, substantially as described and for the purpose specified.

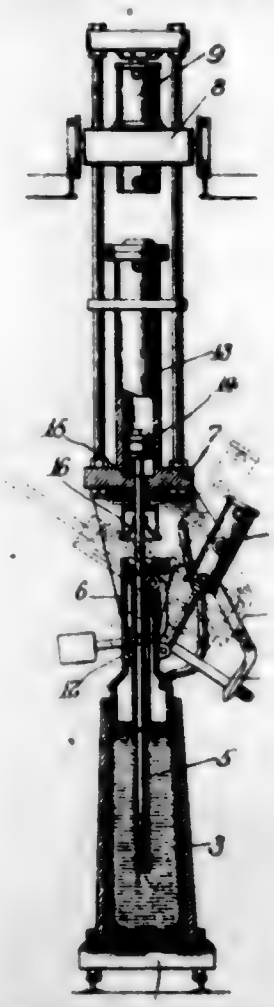
805,727. MUSICAL TOY. DAVID HOWE, Dalton, Mass. Filed Nov. 18, 1902. Serial No. 131,743.



Claim.—1. In an instrument of the class described, a mouthpiece provided with a blowing-orifice and oppositely-disposed grooves or recesses, a vibratory reed disposed at an oblique angle to the vertical axis of the mouthpiece, and a clip engaging said grooves or recesses for clamping said reed in position.

2. In an instrument of the class described, a mouthpiece provided with a blowing-orifice and oppositely-disposed grooves or recesses, a vibratory reed carried by the mouthpiece, and a clip having its opposite ends bent to form laterally-extending lips adapted to engage the grooves or recesses for clamping the reed in position on said mouthpiece.

805,728. PROCESS OF PERFECTING CAST-STEEL INGOTS. ROBERT W. HUNT, Chicago, Ill. Filed May 20, 1903. Serial No. 158,042.



Claim.—1. The herein-described improvement in the art of casting and perfecting simple ingots that consists in first casting molten metal in a suitable mold or chill, then permitting the ingot to cool until the top crust thereof has formed, then by the introduction of a relatively small bar or rod, of like metal, through said top crust and into the molten interior of the ingot, initiating and forcing the solidification of the axial portion of the ingot mass, thereby creating from and in the ingot mass an initially small but increasing solid column of denser metal that occupies the center of the ingot and prevents the development of a central pipe therein, and thereafter removing the mold from the ingot and heating the ingot, substantially as and for the purpose specified.

2. The herein-described improvement in the art of casting and perfecting simple steel ingots, that consists in casting molten metal in a suitable mold and then permitting the ingot to cool in the mold until all of the crusts of the ingot have formed, then driving through the end crust of the ingot a small steel rod and incorporating the same with the axial portion of the ingot, said rod first replenishing the shrunken central portion of the ingot and thereafter effecting the formation of a central column of denser steel within said mass, which column prevents the development therein of a central pipe or cavity, the ingot being finally removed from its mold and reheated, substantially as and for the purpose specified.

3. The herein-described improvement in the art of casting and perfecting simple steel ingots that consists in casting the molten steel in a metal ingot mold or chill and incorporating with the axial portion of the ingot mass a quantity of better steel, the latter being supplied in the form of a steel rod, which is forcibly placed axially within the mass after the top crust has formed and which effects the formation of a pipe-excluding column from and within said mass, the ingot being finally removed from its mold and reheated, substantially as described.

4. The herein-described improvement in the art of casting and perfecting rail-steel ingots and the like, that consists in casting molten steel in a mold, then permitting the external portions of the ingot to solidify until the top crust has formed, then hastening the solidification of the axial portion of the ingot and thus forming from and

within the ingot mass a central column of denser steel substantially coextensive with and preventing the formation of the usual central pipe or cavity and then stripping the ingot and reheating the same, substantially as and for the purpose specified.

5. The improvement in the art of manufacturing simple metal ingots that consists in pouring the molten metal into a mold, then cooling or permitting the metal to cool in said mold until the walls or crusts of the ingot have formed and inclose a still molten body of metal, then thrusting a slender rod of like metal through the end crust into the axial portion of said molten body within said crust, meantime subjecting said crusts to sufficient restraint to prevent the eruption thereof, thereby excluding collected gases, filling any existing cavity and effecting the formation of a central column of plastic metal, then removing the mold from the ingot and finally increasing the temperature of the partially-cooled ingot containing said rod, substantially as described.

6. The herein-described improvement in the art of manufacturing steel ingots, that consists in pouring the steel into a mold, then cooling or permitting the metal to cool in the mold until the dimensions of the ingot are determined by the solidification of all the crusts or walls of the ingot, then piercing the top crust of the ingot to relieve pressure internal thereto, and placing or locating a steel rod or bar in the axial portion of said ingot, thereby supplying the deficiency previously created within the ingot, and also creating a central column of denser or plastic steel within the ingot to exclude gases and metalloids from the center of the ingot and then removing the ingot from its mold and reheating the ingot, substantially as described.

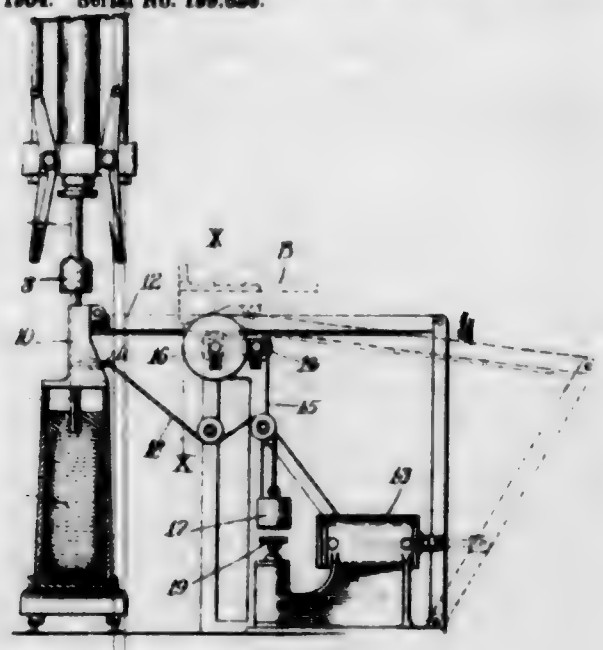
7. That step of the herein-described process that consists in forcibly thrusting a slender steel rod or bar through the upper crust of a partially-solidified steel ingot and lodging the said bar therein, thereby compensating for the internal shrinkage of the ingot, and creating a column of denser steel within the ingot, as and for the purpose specified.

8. The herein-described process of improving the quality of a partially-solidified steel ingot that consists in forcibly driving a bar or rod of steel of better quality through the crust of said ingot and into the interior thereof, retaining said bar or rod in the axial portion of the ingot and thereafter raising the temperature of the ingot, substantially as described.

9. That step of the herein-described process of improving steel ingots that consists in expelling and displacing the gases contained in a partially-cooled fully-crusted ingot by driving a rod or bar of steel through the end crust and into the interior of the ingot, and retaining said rod or bar in the ingot, thereby initiating and creating from and within the ingot mass a column of denser or plastic steel which permanently prevents the collection of gases in the central portion of the ingot, substantially as described.

10. The herein-described improvement in the art of perfecting steel ingots that consists in first pouring the molten metal into the mold, then permitting the ingot to cool until the upper crust thereof has formed and then supplying any deficiency of metal within the ingot by thrusting a rod or billet through the crust of the ingot, permitting the same to remain therein, and stripping and reheating the ingot, substantially as described.

805,729. **PROCESS OF PERFECTING CAST-STEEL INGOTS.** ROBERT W. HUNT, Chicago, Ill. Filed May 20, 1903. Renewed Mar. 23, 1904. Serial No. 199,626.

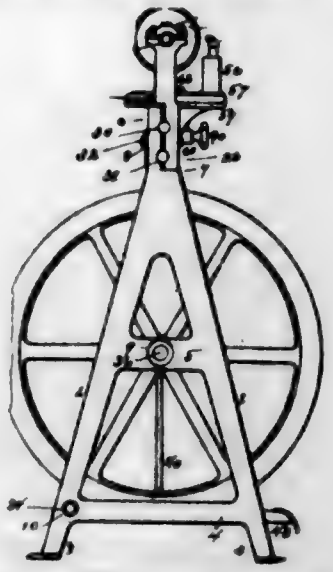


Claim.—1. The herein-described improvement in the art of casting and perfecting simple ingots that consists in casting the molten metal in a mold, then permitting the ingot to cool preparatory to the stripping operation, then driving a relatively small bar or rod of like metal through the end crust of the ingot and lodging the same axially within the ingot, thereby initiating and forcing the formation of an initially small but increasing column of denser or plastic metal from and within the ingot mass, then immediately removing the mold from the ingot, and, finally, reheating the ingot, substantially as described.

2. The herein-described improvement in the art of casting and perfecting simple steel ingots, that consists in casting molten steel in a mold, then permitting the ingot to cool in said mold until it becomes self-sustaining, then placing the same in position to be operated upon by a stripping-machine, then forcibly driving a relatively small steel bar or rod through the top crust of the ingot and into the molten interior of the ingot, thereby filling or replenishing the interior of the ingot, and initiating and forcing the formation of an initially small but increasing solid column of denser steel upon the axis of the ingot, thus forming from and within the ingot a body that is substantially coextensive with and which prevents the formation of the usual pipe or cavity, then immediately stripping the ingot, and then reheating the same, substantially as described.

3. The herein-described improvement in the art of manufacturing steel ingots, that consists in pouring the steel into a mold, then cooling or permitting the metal to cool until the ingot is ready to be removed from its mold, then forcibly driving a relatively small steel bar or rod through the end crust of the ingot and thereby occupying the axial portion of the ingot, thus, first, relieving entrapped gases, second, filling the shrinkage-cavity, and, third, initiating and forcing the formation of an initially small but increasing solid central column of denser metal from and within the ingot mass, then immediately stripping the ingot and then reheating the ingot, substantially as described.

805,730. **WOOD-TURNING LATHE.** FRED R. INMAN, Providence, R. I. Filed Apr. 13, 1904. Serial No. 203,049.



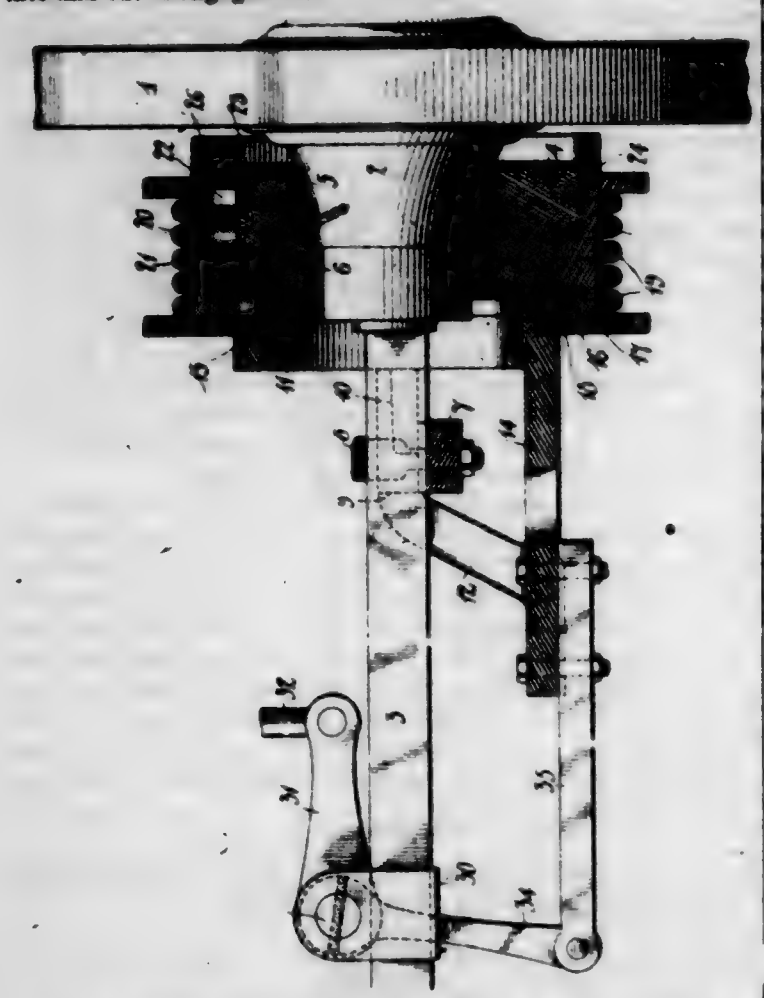
Claim.—In a lathe, the combination of two standards each having a plate at its upper end with two parallel concave seats therein, a head-stock having a base provided with two parallel concave seats, a clamping-plate having two parallel concave seats, two bars or rods mounted at their ends in said seats respectively, and clamping-screws adapted to clamp said standard-plates, clamping-plate and head-stock, substantially as shown and for the purpose specified.

805,731. **APPLIANCE FOR CHECKING HORSES.** ALBERT A. JAMES, Oklahoma, Okla., assignor to The James Manufacturing Company, Oklahoma, Okla. Filed Dec. 30, 1904. Serial No. 239,009.

Claim.—1. In an appliance for checking horses the combination with a wheel-hub and wheel-axle and with a seat supported to be moved vertically, of a sleeve on said hub, a collar slidable on said axle, a rotatable drum connected to said collar to be moved laterally thereby, arms extending from said collar and connected together at one side of said axle, a rock-shaft, a crank-arm on the rock-shaft, a vertical rod connected to the crank-arm and arranged in the path of said seat, a second crank-arm on said shaft and a rod connecting the last-named crank-arm and the joined arms of said collar.

2. In an appliance for checking horses the combination with a wheel-hub and wheel-axle, of a sleeve fixed to said hub to rotate

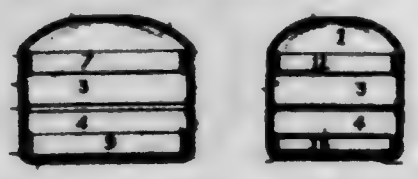
therewith and having an enlargement provided with a recess, a spring-pressed pawl in said recess projecting beyond the face of said enlargement, a shoulder in the recess for limiting the outward movement of said pawl, a drum encircling and conforming to said sleeve, an annular series of ratchet-shaped teeth carried by said drum, and means for moving said drum laterally to bring the teeth and pawl into and out of engagement.



3. In an appliance for checking horses the combination of a wheel, a cable-drum adapted to be moved laterally to and from the wheel, coupling means between the drum and wheel, a collar encircling the axle and engaging the drum laterally, a bracket on the axle forming a guide for the movement of the collar and drum, a vertically-movable seat, a spring-pressed rod supporting said seat, a rock shaft, a crank-arm on the shaft connected to said rod, and a second crank-arm on said shaft having rod connection with said collar.

4. In an appliance for checking horses, the combination of a wheel, a cable-drum adapted to be coupled to and uncoupled from said wheel, a vertically-movable seat, a connection between said seat and drum to effect movement of the latter, and antirattling means for said parts comprising a spring for elevating the seat and retracting the drum, and a stop with which the drum engages at the end of its retractive movement.

805,732. **JEWELER'S CASE.** WILLIAM KAHLE, Boston, Mass. Filed July 16, 1904. Serial No. 216,805.



Claim.—1. In a case, the combination of a body portion, a cover, said cover comprising a top and a section forming the sides; said top being provided with a flange which engages the upper interior surfaces of said section forming the sides, a nappy covering material secured to the top and extending down on the flange thereof, and a nappy covering material secured to the side section and terminating flush with the upper edge thereof, whereby, when the parts are assembled, the upper edge of the covering material on the side section will be embedded in the nappy surface of the covering material on the top to form a concealed joint.

2. In a case, the combination of a body portion, a cover therefor, said cover comprising a top and a section forming the sides arranged with their edges abutting, a covering material for the top arranged with its free edge passing between the abutting edges of the top and side sections, and a flange on the top section extending downwardly into the side section a sufficient distance to clamp the free edge of said covering material between the same and the inner surface of said side section.

3. In a case, the combination of a body portion, a cover therefor, said cover comprising a top and a section forming the sides arranged with their edges abutting, a covering material for the top arranged with its free edge passing between the abutting edges of the top and side sections, a flange on the top section extending downwardly into the side section a sufficient distance to clamp the free edge of said covering material between the same and the inner surface of said side section, and a covering material for said side section.

4. In a case, the combination of a body portion, a cover therefor, said cover comprising a plurality of sections, one of said sections being provided with a flange adapted to engage the interior surface of the adjacent section, and a covering material for said section arranged with its free edge passing between the adjacent edges of said sections and held in place by the coöperation of the flange with the adjacent section.

5. In a case, the combination of a body portion, a cover therefor, said cover comprising a plurality of sections, one of said sections being provided with a flange adapted to engage the interior surface of the adjacent section, a covering material for said first-mentioned section arranged with its free edge passing between the adjacent edges of said sections and held in place by the coöperation of the flange with the adjacent section, and a covering material for the other section.

6. In a case, the combination with a body portion, a cover therefor, said cover comprising a top and a section forming the sides arranged with their edges abutting, a nappy covering material for the top having its free edge passing between the abutting edges of the top and section forming the sides, and a nappy covering material secured to the side section and terminating flush with the upper edge thereof whereby when the parts are assembled the upper edge of the covering material on the side section will be embedded in the nappy surface of the covering material on the top to form a sealed joint.

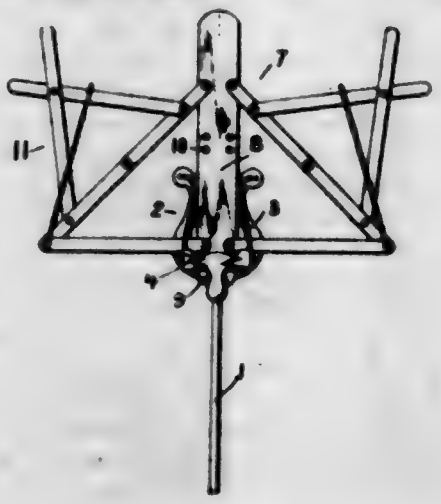
805,733. **TOOTH-BRUSH.** EDUARDO W. KEY, Southwest City, Mo. Filed Mar. 21, 1905. Serial No. 251,269.



Claim.—1. In a tooth-brush, the combination, with a brush-back provided with bristles on its face and a passage having outlet-holes between the bristles, of lugs projecting from the front end portion of the back, a rotary brush journaled between the said lugs and projecting below the points of the said bristles, a handle provided with a chamber for liquid, a valve between the said chamber and passage, and means for operating the said valve.

2. In a tooth-brush, the combination, with a brush-back provided with bristles and a passage having outlet-holes between the bristles, of a handle provided with a chamber for liquid, a valve between the said chamber and passage, a plug screwed into the front end of the said passage, a valve-stem which slides in the said plug and which is provided with a projection inside the said passage for the said plug to bear against to open the valve, a button on the free end of the said stem, and a spring which normally closes the valve, substantially as set forth.

805,734. **MUSIC-RACK.** ALBERT KRAUTH, Hamilton, Ohio. Filed Aug. 26, 1904. Serial No. 222,294.



Claim.—1. The combination with a spring-clamp member attachable to a band instrument, of an attachment for said clamp member, comprising a central member, foldable side members pivoted thereto, and provision for removably securing said central member to said clamp member.

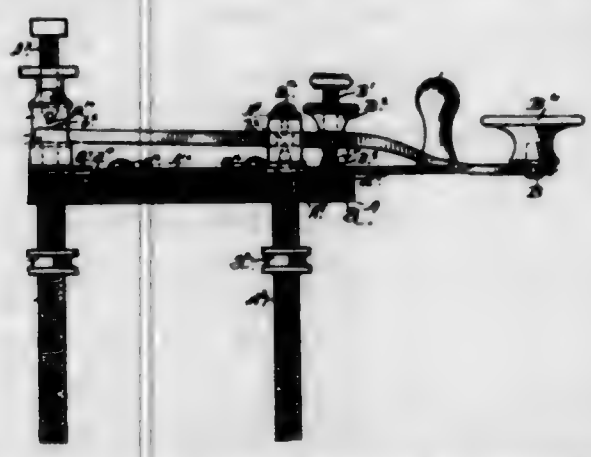
2. The combination of a flat-backed spring-clamp member attachable to a band instrument or the like, and an attachment therefor, comprising a main or body member, foldable side members pivotally secured to said body member, and a flat spring-clip secured to said body member for removably securing the same to said spring-clamp member.

3. The combination of an approximately flat member having an upper and a lower bar, a pivoted spring-clamp secured to said member, and an attachment for said member, comprising a main or central member, side pieces pivotally attached thereto, and provision for removably securing said central member to said approximately flat member

4. In a music-rack, the combination, substantially as set forth, of a shank adapted for attachment to a band instrument, an open back clamp member carried by said shank and having an upper and a base bar, a rack having a vertical central member to take position against the face of said back clamp member, a blade-spring to the rear of said vertical central member and having its upper end secured thereto, said spring engaging the rear of the top bar and the front of the base-bar of the back clamp member, and a pivoted spring-pressed front clamp member coöperating with the face of the rack.

5. In a music-rack, the combination, substantially as set forth, of a shank adapted for attachment to a band instrument, a skeleton back clamp member carried thereby and having a top bar and a base-bar, a pivoted spring-pressed front clamp member carried by the shank, a rack having a vertical central member adapted to take position between the back and front clamp members, and a pair of separated blade-springs having their upper ends secured to the rear of said vertical central member, their free portions engaging the rear side of said top bar and the front side of said base-bar.

805,735. REAR-END-CONTACT TELEGRAPH-KEY. SAMUEL B. LEPLEY, Florinel, Pa. Filed Aug. 26, 1903. Renewed July 13, 1905. Serial No. 269,570.



Claim.—1. A rear-end-contact telegraph-key comprising: a base-plate to be mounted upon and secured to the top of an operating-table, and adapted to be in electric connection with an electric source; a contact-post with an underlying circuit-closing tongue mounted upon and rigidly secured to the rear end of said plate, both being electrically insulated therefrom but in electric connection with the electric source, said post having an oblong vertical aperture forwardly and rearwardly therethrough, with an insulating-plug in said aperture and projecting above the base thereof, and a contact-adjusting screw axially seated through the top of said post and extending into said aperture, with a platinum contact-point projecting from the entered end of the screw; a transmitting lever-arm, as described, centrally pivoted between supporting-posts erected on said base-plate near the forward end thereof and in electric connection therewith, said lever-arm having its forward end provided with an operating-button, and its rear end or contact end within the aperture of said rear-end post to engage between the insulating-plug and the contact-point therein, with a platinum plate secured to the top surface thereof to engage against said contact-point, with an adjustable tension-spring provided to hold said lever-arm in operating position; and a circuit breaking and closing strap, as described, movable lengthwise back and forth on the base-plate to bring its rear end into and out of engagement with the forward end of said circuit-breaking tongue, all substantially as described and for the purpose hereinbefore set forth.

2. In a rear-end-contact telegraph-key having the base-plate, a, supporting the lever-arm, B, the tension-spring, B^3, the circuit-breaking strap, A^{10}, and the front leg, A^5, all as shown and described, the combination with the rear end of said plate having the vertical cylindrical orifice, a^3, being greater in diameter in the lower than in the upper portion with a circular offset at the center between the portions; the tubular rubber bushing, A^6, as described, seated in said orifice, being even with its lower end and a trifle below its upper one, of the leg, A′, having its screw-threaded stem, a^4, projecting through the bore of said bushing, and its shoulder, a^5, against the bottom thereof, having the rubber washer, a^6, in engagement with the stem and with the top surface of the plate a, having also the washer-plate, A^4, with the tongue, a^7, seated on said rubber washer, and the post, A^4, with its base screwed home onto said washer-plate, whereby the several parts are firmly secured together and the post with the washer-plate electrically insulated from said base-plate, a, said post having the aperture, a^9, through its body, the axial orifice, a^9, through its base, with the rubber plug, A^4, seated therein, and having also the axial orifice, a^9, through its top with the contact-adjusting screw, A^7, engaging therethrough and the platinum contact-point, a^{10}, projecting from the inner end of said screw, all substantially as described and for the purpose hereinbefore set forth.

3. The combination in a rear-end-contact telegraph-key of the character described, with the base-plate, a, as described, having the rear-end-contact post A^3, with the aperture, a^3, both as described; the lever-arm-supporting side posts, A^2 A^2, in position as shown, with the conical tension-spring, B^3, seated in the recess, a^{13}, in the forward end thereof, and the bridge-bar, C, with its end legs, c c, seated in the recesses, a^{14}, of said plate, a, and in the axial plane of said latter posts, said bar having at the extremities of its upper edge the upwardly-projecting top knife-edge blades, c' c', of the key-lever arm B, having the central cross-bar formed by the side projecting arms, b^2 b^2, with the inverted-V grooves, b^2 b^2, in the under surface of said cross-bar adjacent to the extremities of said arms, said top knife-edges seated in said grooves to support said lever-arm in operative position, with central top means provided to hold it in said operative position, said lever-arm having its rear or contact end, b, engaging in said aperture, a^3, with the platinum plate, b^4, secured to the top surface of said contact end, and its operating end, b', provided with the finger or press button, B^4, and the tension-controlling screw, B′, passing through the lever-arm, with the jam-nut, B^2, on the body of said screw, and the point, b^5, projecting from its end and inserted into the apex of said spring, with said end on the top thereof, and said nut on the top surface of said lever-arm, all substantially as described and for the purpose hereinbefore set forth.

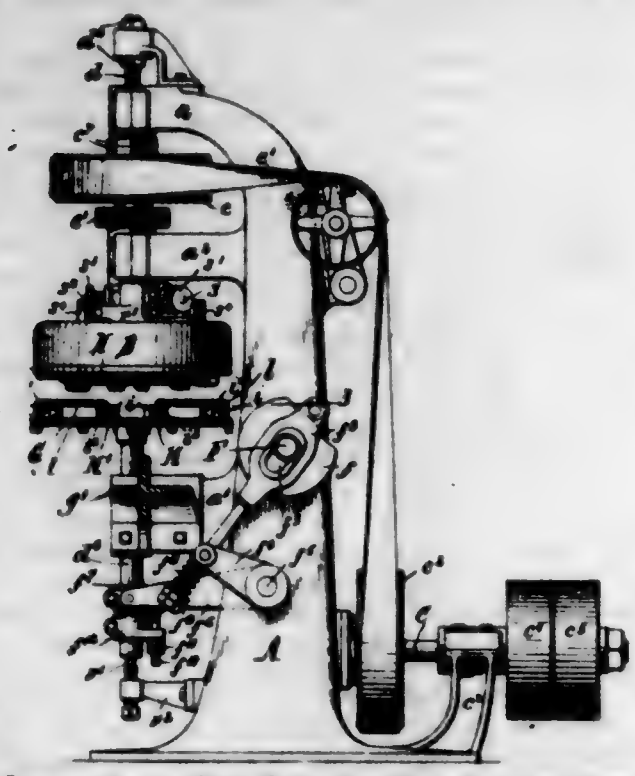
4. The combination, in a rear-end-contact telegraph-key of the character described, with the key-lever arm, B, as described and supported in operative position on the top knife-edges of the blades, c' c', between the lever-arm-supporting side posts, A^2, as shown, with the bridge-plate, A^9, having its ends rigidly secured to the tops of said posts, and having at the center of its under surface the inverted-V groove, a^{12}, and said lever-arm, B, having in its upper surface, in the vertical plane of said groove, a^{12}, the V-groove, b^6, of the two-edged knife-blade, C, with its lower edge, c^2, seated in said groove, b^6, and the upper edge thereof seated in said groove, a^{12}, the resiliency of said bar, A^9, allowing said blade, C′, to be snapped thereinto, all substantially as described and for the purpose hereinbefore set forth.

5. The combination in a rear-end-contact telegraph-key of the character described, with the base-plate a, having the rear-end-contact post, A^3, the washer-plate, a^6, with the contact-point, a^7, and the key-lever arm, B, all as described and mounted thereon as shown, of the circuit-breaking strap, A^{10}, having the contact-point, a^{17}, and the handle-knob, A^{11}, said strap being movable longitudinally back and forth thereon, with the screws, a^{16} a^{16}, passed through the oblong slots in the body of said strap and tapped into the body of said plate, all substantially as described and for the purpose hereinbefore set forth.

805,736. MACHINE FOR HEADING CANS AND BOXES. BROR J. LINDGREN, Buffalo, N. Y., assignor to Niagara Machine & Tool Works, Buffalo, N. Y. Filed Mar. 25, 1905. Serial No. 251,966.

Claim.—1. In a seaming-machine, the combination of an intermittently-moving conveyer provided with holders for non-circular cans, a chuck for moving a can out of its conveyer-holder and holding the can and end stationary, a seamer, a carrier for the seamer which revolves around the chuck, and mechanism for imparting to said seamer during its revolutions around the chuck a movement toward the chuck to bring the seamer into action and a movement away

from the chuck to bring the seamer out of action, substantially as set forth



2. In a seaming-machine, the combination of an intermittently-moving conveyer provided with holders for non-circular cans, a chuck for moving a can out of its conveyer-holder and holding the can and end stationary, a seamer which revolves around the chuck, and mechanism for moving said seamer in a path substantially parallel with the seam, and for imparting to said seamer during its revolutions around the chuck a movement toward the chuck to bring the seamer into action and a movement away from the chuck to bring the seamer out of action, substantially as set forth.

3. In a seaming-machine, the combination of an intermittently-moving conveyer provided with non-circular pockets for the cans, a chuck for separately moving the cans out of the pockets and holding the cans and their ends stationary, a seamer, a carrier for the seamer which revolves around the chuck, and mechanism for imparting to said carrier during its revolutions around the chuck a movement toward the chuck to bring the seamer into action and a movement away from the chuck to bring the seamer out of action, substantially as set forth.

4. In a seaming-machine, the combination of a straightway intermittently-moving conveyer provided with holders for non-circular cans, a chuck for moving the cans separately out of the conveyer-holders and holding the cans and their ends stationary, a seamer, a carrier for the seamer which revolves around the chuck, and mechanism for imparting to said carrier during its revolutions around the chuck a movement toward the chuck to bring the seamer into action and a movement away from the chuck to bring the seamer out of action, substantially as set forth.

5. In a seaming-machine, the combination of an intermittently-moving conveyer provided with holders for non-circular cans, a chuck for moving a can out of its conveyer-holder and holding the can and end stationary and then returning the can to its conveyer-holder, a seamer which revolves around the chuck, and mechanism for imparting to said seamer during its revolutions around the can while the same is held stationary by the chuck, a movement toward the chuck to bring the seamer into action and a movement away from the chuck to bring the seamer out of action, substantially as set forth.

6. In a seaming-machine, the combination of an intermittently-moving conveyer provided with holders for the cans, a non-circular chuck for moving the cans separately out of the holders and holding the cans and their ends stationary, a seamer, a carrier for the seamer which revolves about said chuck, and mechanism for imparting to said carrier during its revolutions around the chuck a movement toward the chuck to bring the seamer into action, then a movement parallel with the chuck during more than a complete revolution of the carrier to press the seam, and a movement away from the chuck to bring the seamer out of action, substantially as set forth.

7. In a seaming-machine, a moving conveyer comprising substantially parallel endless carriers provided with complementary parts which form a series of straightway moving pockets between the adjacent runs of said carriers for the cans, and mechanism for moving the cans out of said pockets and seaming them, substantially as set forth.

8. In a seaming-machine, the combination of a moving conveyer comprising opposite endless carriers provided with complementary parts which together form holders for non-circular cans, a chuck for moving a can out of its conveyer-holder and holding the can and end stationary, and mechanism for seaming the can and end while held stationary by said chuck, substantially as set forth.

9. In a seaming-machine, a moving conveyer comprising opposite endless carriers provided with complementary parts which together form a moving pocket for the can, means for contracting said pocket about the can as the pocket moves along, and mechanism for seaming the can, substantially as set forth.

10. In a seaming-machine, the combination of an intermittently-moving conveyer comprising opposite endless carriers provided with complementary parts which together form pockets for the cans, guide means for causing said pocket parts to converge whereby the pockets contract as they move along, a chuck for moving the cans out of the conveyer-pockets and holding the cans stationary, and seaming mechanism which operates upon the cans while they are held stationary by the chuck, substantially as set forth.

11. In a seaming-machine, the combination of a table and an intermittently-moving conveyer comprising opposite endless chains arranged on the table and provided with complementary parts forming pockets between said chains for the cans, a chuck-head above said conveyer, a chuck-head movable vertically through the conveyer-pockets to lift the can against said other chuck-head and hold it stationary, and means for seaming the can while held by said chuck, substantially as set forth.

12. In a seaming-machine, the combination of a conveyer comprising endless carriers provided with parts which form holders for the cans, and means for intermittently driving the conveyer comprising a revolving wheel provided with a straight peripheral groove having adjacent oblique inlet and outlet openings at opposite edges of the wheel, and a wheel connected to the conveyer and provided with a series of studs which are successively engaged and moved through the groove of said first-mentioned wheel, substantially as set forth.

13. In a seaming-machine, the combination of a chuck for holding a non-circular can and its end stationary, a seamer which revolves around said chuck, a carrier for said seamer, and worm-gear mechanism for imparting to said seamer a movement toward the chuck to bring it into action, a movement parallel with the seamer, and a movement away from the chuck to bring the seamer out of action, substantially as set forth.

14. In a seaming-machine, the combination of a non-circular stationary chuck, a seamer which revolves around said chuck, a carrier for said seamer, a stationary worm, and mechanism operated by said worm for imparting to said carrier during its revolutions around the chuck a movement toward the chuck to bring the seamer into action, then a movement parallel with the chuck during more than one complete revolution of the carrier to press the seam, and then a movement away from the chuck to bring the seamer out of action, substantially as set forth.

15. In a seaming-machine, the combination of a non-circular stationary chuck, a seamer which revolves around said chuck, a contour-carrier and a seamer-carrier for said seamer, means for operating said contour-carrier to cause the seamer to travel in a path substantially parallel with the seam to be formed, a stationary worm, and mechanism which revolves around and is operated by said worm for imparting to said seamer-carrier during its revolutions around the chuck a movement toward the chuck to bring the seamer into action and a movement away from the chuck to bring the seamer out of action, substantially as set forth.

16. In a seaming-machine, the combination of a non-circular stationary chuck, a seaming-head which revolves around said chuck, a seamer, a contour-carrier mounted on said head, means for operating said contour-carrier to cause the seamer to travel in a path substantially parallel with the seam to be formed, a seamer-carrier, a stationary worm, a shaft journaled on said seaming-head, a worm-wheel on said shaft meshing with said stationary worm, and connections between said shaft and said seamer-carrier for oscillating the seam-carrier on said contour-carrier to move the seamer into and out of action during the revolutions of the seaming-head, substantially as set forth.

17. In a seaming-machine, the combination of a non-circular stationary chuck, a seaming-head which revolves around said chuck, a seamer, a contour-carrier mounted on said head, a seamer-carrier pivoted on said contour-carrier, means for operating said contour-carrier to cause the seamer to travel in a path substantially parallel with the seam to be formed, a stationary worm, a shaft journaled on said seaming-head, a worm-wheel secured to said shaft and meshing with said worm, a cam on said shaft, a plunger movable in said head

and provided with a cam-face which engages said seamer-carrier, and connections between said cam and said plunger for reciprocating the latter, substantially as set forth.

18. In a seaming-machine, the combination of a non-circular stationary chuck, a stripper for releasing the can from said chuck, a seaming-head which revolves around said chuck, a seamer, mechanism carried by said head for imparting to said seamer during its revolutions around the chuck a movement toward the chuck to bring the seamer into action and a movement away from the chuck to bring the seamer out of action, said mechanism including a part which positively operates said stripper, substantially as set forth.

19. In a seaming-machine, the combination of a non-circular stationary chuck, a stripper for releasing the can from said chuck, a seaming-head which revolves around said chuck, a seamer, a contour-carrier and a seamer-carrier for said seamer, means for operating said contour-carrier to cause the seamer to travel in a path substantially parallel with the seam to be formed, a stationary worm, and mechanism mounted on said seaming-head and operated by said worm for actuating said seamer-carrier and said stripper, substantially as set forth.

20. In a seaming-machine, the combination of a non-circular stationary chuck, a stripper mounted in said chuck and movable relative thereto to release the can, a seaming-head which revolves around said chuck, a contour-carrier mounted on said seaming-head, a seamer-carrier pivoted on said contour-carrier, means for operating said contour-carrier to cause the seamer to travel in a path substantially parallel with the seam to be formed, a stationary worm, a shaft journaled on said seaming-head, a worm-wheel secured to said shaft and meshing with said worm, connections between said shaft and said seamer-carrier for oscillating the seamer-carrier on the contour-carrier, and a device secured to said shaft for operating said stripper, substantially as set forth.

21. In a seaming-machine, the combination of a stationary chuck for holding the can, a stripper which is mounted in said stationary chuck, a seaming-head which revolves around said chuck, mechanism carried by said head for producing the seam, an operating-plate for said stripper which revolves with said seaming-head, and means carried by the head for actuating said plate to move the stripper, substantially as set forth.

22. In a seaming-machine, the combination of a stationary chuck for holding the can, a stripper for releasing the can from the chuck, a seaming-head which revolves around said chuck, mechanism carried by said seaming-head for producing the seam, and an annular plate which revolves with said seaming-head and is movable axially thereof to operate said stripper, and means mounted on the seaming-head for actuating said annular operating-plate, substantially as set forth.

805,737. APPARATUS FOR CHARGING FURNACES. EDWARD W. LINDQUIST, Chicago, Ill., assignor to Ralph Baggaley, Pittsburg, Pa. Filed Mar. 16, 1903. Serial No. 147,874.

Claim.—1. Furnace-charging apparatus comprising in combination with a furnace having a charging-opening, a traveling conveyer discharging into said opening, and means for moving said conveyer along the opening to distribute the charge; substantially as described.

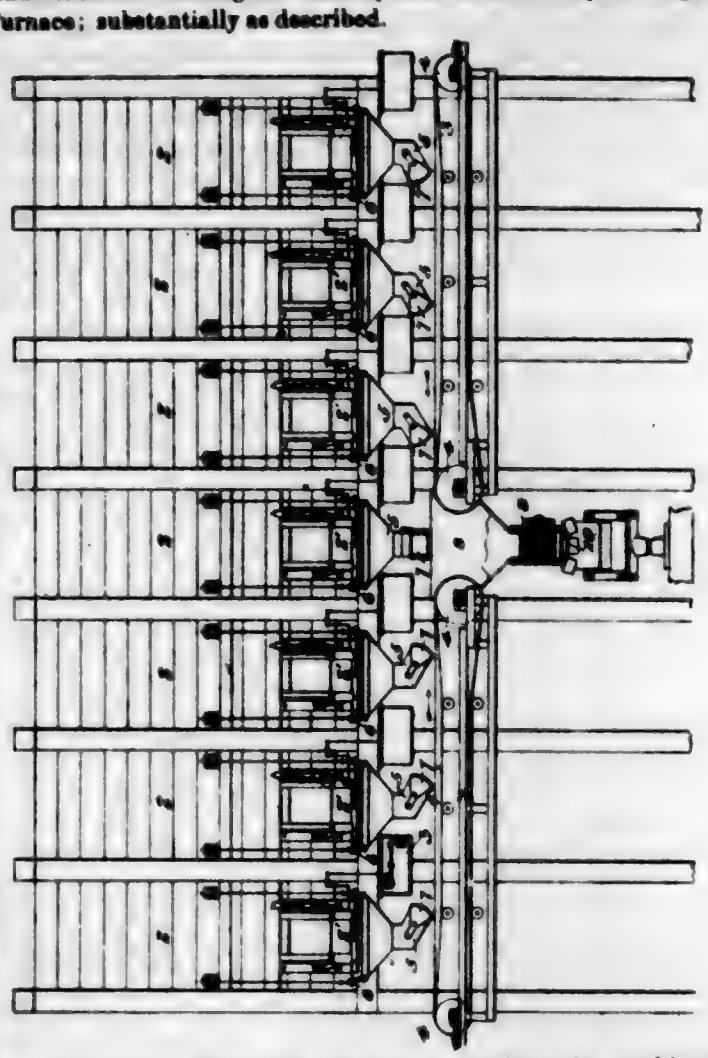
2. Furnace-charging apparatus comprising in combination with a furnace having a charging-opening, a traveling conveyer discharging into said opening, said conveyer being pivoted, and means for oscillating it on its pivot to distribute the charge; substantially as described.

3. Furnace-charging apparatus comprising a feeding device discharging into the opening of a furnace, means for moving said device along the opening to distribute the charge, and means for delivering the charge at a regulated rate to the feeding device; substantially as described.

4. Furnace-charging apparatus comprising a feeding device discharging into the opening of a furnace, means for moving said device along the opening to distribute the charge, and a feed roller adapted to deliver the charge to the feeding device; substantially as described.

5. Furnace-charging apparatus comprising a traveling conveyer discharging into the feed-opening of the furnace, means for moving said conveyer along the opening to distribute the charge, and a supplementary conveyer arranged to receive the ingredients of the charge from bins and to deliver it to the movable conveyer; substantially as described.

6. Furnace-charging apparatus comprising a traveling conveyer, means for delivering the charge thereto at a regulated rate, and means for moving the delivery end of the conveyer along the furnace; substantially as described.

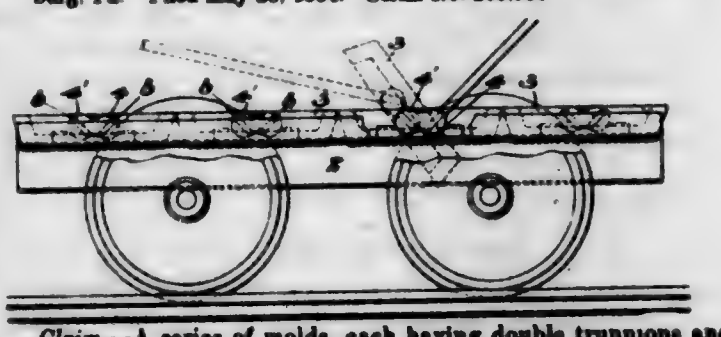


7. Furnace-charging apparatus comprising in combination with a furnace weighing-hoppers supported by scales, means for delivering into the several hoppers the materials which constitute the components of the charge, and a continuously-operating, distributing-feeder by which the weighed charge is conveyed to and distributed in the furnace; substantially as described.

8. Furnace-charging apparatus comprising weighing-hoppers supported by scales, means for delivering into the several hoppers the materials which constitute the components of the charge, a common hopper into which the material from the weighing-hoppers is delivered, and a feeding device leading therefrom to the furnace; substantially as described.

9. The combination with a furnace having a charging-opening, of a suitable charger adapted to travel to and fro along said opening, said charger comprising a traveling carriage and an independently-actuated conveyer, and means for permitting the discharge of the material from the conveyer into the furnace for any position of the carriage; substantially as described.

805,738. TILTING MOLD FOR CASTING COPPER PLATES. EDWARD W. LINDQUIST, Chicago, Ill., assignor to Ralph Baggaley, Pittsburg, Pa. Filed May 20, 1904. Serial No. 208,968.

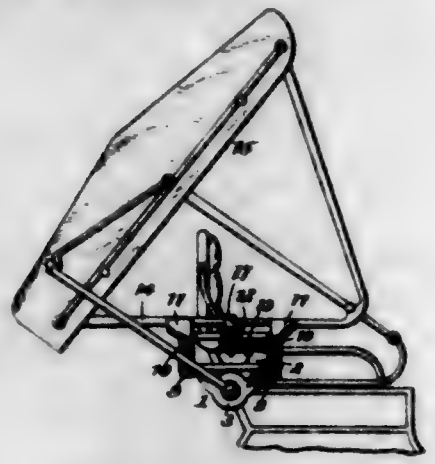


Claim.—A series of molds, each having double trunnions and mounted adjacently on a car; substantially as described.

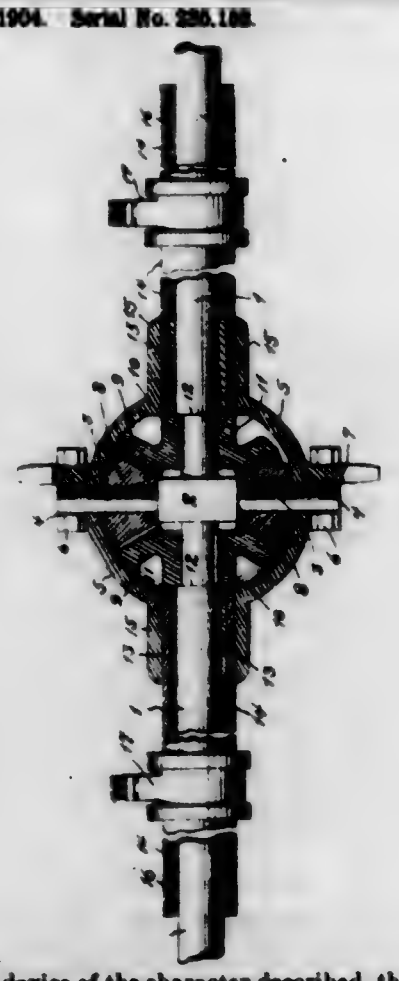
805,739. BUGGY-BOW REST. CRAWFORD D. LOGAN, Coalhill, Ark., assignor of one-half to Henry T. Hackney, Coalhill, Ark. Filed Apr. 20, 1905. Serial No. 256,076.

Claim.—A device of the class described, comprising a base having an opening to receive a rail-bolt and provided in advance and in rear of the same with guide-openings, a bow-receiving support provided with spaced seats and having an intermediate connecting por-

tion or bar located below the plane of the upper faces of the seats and provided with a slot, arms depending from the seats and slidable through the guide-openings of the base and having means at their lower ends for engaging the base, springs disposed on the arms and interposed between the bow-receiving support and the base for cushioning the said support, and a strap arranged in the slot for retaining a bow in the said seats.

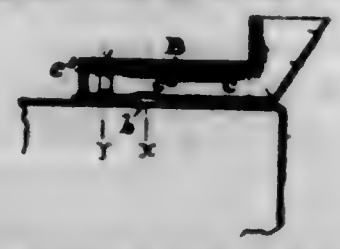


805,740. MOTOR-VEHICLE. WILLARD D. LOWE, Columbus, Ohio. Filed Dec. 2, 1904. Serial No. 235,182.



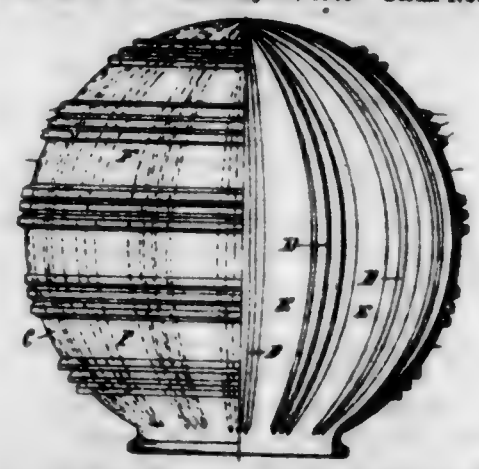
Claim.—In a device of the character described, the combination with a divided axle of a housing consisting of two parts having outwardly-disposed flanges, a shaft, with an enlarged central portion, secured within and extending through recesses in said flanges, pinions loosely mounted on said shaft having their inner faces engaging the enlarged portion thereof, and their outer faces engaging bearing-faces on the interior surface of the housing, and gears secured to said axle-sections meshing with said pinions.

805,741. FILLING AND CLOSING FUNNEL FOR LIQUID. JOHN E. LUNDY, Edmonton, Canada, assignor of one-half to George J. Brill, Cleveland, Ohio. Filed Apr. 13, 1905. Serial No. 255,446.



Claim.—A vessel having an opening in its top and a tubular barrel fixed horizontally upon said top and over said opening, said barrel being closed at its inner end and open at its outer end and provided with an opening in its bottom registering with the said opening in the top of the vessel, in combination with a funnel having a tubular cylindrical body at right angles to the mouth thereof rotatably mounted in said barrel, said funnel provided with a flaring mouth at its outer end adapted to be turned into a vertical position and having an opening in its body in line with the bottom of said mouth and registering with the openings in the said tube and top of the can, whereby when the funnel is in receiving position all said openings register, and the said tube and body of the funnel constructed at their inner ends to lock the said funnel rotarily in position.

805,742. PRISMATIC-GLASS GLOBE OR SHADE. OTIS A. MYGATT, New York, N. Y. Filed July 13, 1905. Serial No. 269,548.

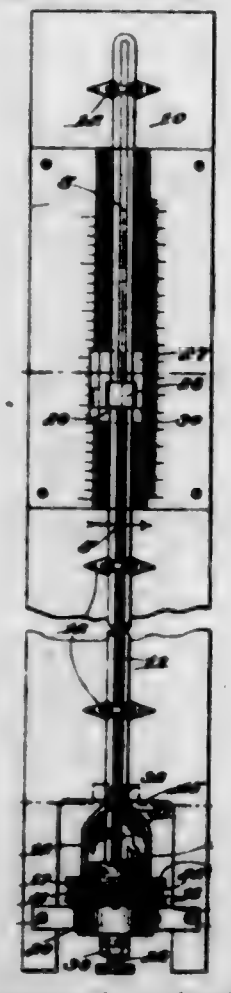


Claim.—1. A shade of transparent glass having on its inner surface diffusing-ribs with intermediate plain surfaces, and on its outer surfaces distributing-prisms with interposed plain surfaces.

2. A shade of transparent glass having lunes composed of a plurality of diffusing-ribs, and plain surfaces between the lunes, and having externally light-distributing prisms.

3. A shade of transparent glass having lunes composed of light-distributing ribs and interposed lunes of plain glass, and having external zones composed of a plurality of light-distributing prisms, and interposed zones with plain surfaces.

805,743. BAROMETER. ALEXANDER H. MCCONNELL, Wilmette, Ill., assignor to Central Scientific Company, a Corporation of Illinois. Filed Jan. 7, 1905. Serial No. 240,002.



Claim.—1. In a barometer, in combination, an inverted cup; a tube extending upward from the cup and integral therewith, the

lower end of the tube being prolonged into the chamber of the cup; a flexible closure for the mouth of the cup; and means for flexing the closure.

2. In a barometer, in combination, an inverted cup having an outstanding flange at its rim; a tube extending upwardly from the cup and integral therewith, the lower end of the tube being prolonged into the chamber of the cup; a flexible closure for the mouth of the cup; and means for flexing the closure.

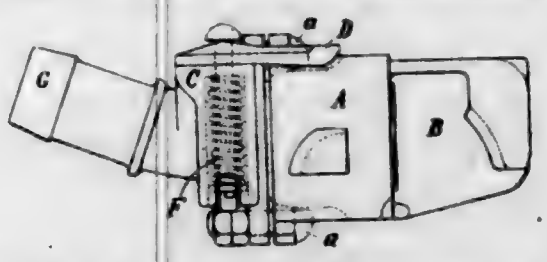
3. In a barometer, in combination, a cup; a tube rising therefrom, the lower end of the tube being prolonged into the body of the cup; a zero-point projecting into the chamber between the cup and the tube and integral with the wall of such chamber; and means for varying the level of the liquid contents of the cup.

4. In a barometer, in combination, a cup; a tube rising therefrom; a zero-point projecting laterally from the tube and integral therewith; and means for varying the level of the liquid contents of the cup.

5. In a barometer, in combination, an inverted cup having an outstanding flange at its rim; a tube extending upwardly from the cup and integral therewith, the lower end of the tube being prolonged into the chamber of the cup; a flexible sack at the mouth of the cup; a flanged base-plate and a ring for gripping the rim of the sack and the flange of the cup; and a set-screw extending through the base-plate and bearing against the sack.

6. A barometer provided with an indicating liquid-containing vessel having integral with it a zero-point projecting into said chamber, and means for varying the level of the liquid contents of the vessel.

805,744. **HOSE-COUPLING.** JAMES F. MCELROY, Albany, N. Y., assignor to Consolidated Car Heating Company, Albany, N. Y., a Corporation of West Virginia. Filed Mar. 19, 1904. Serial No. 198,895.

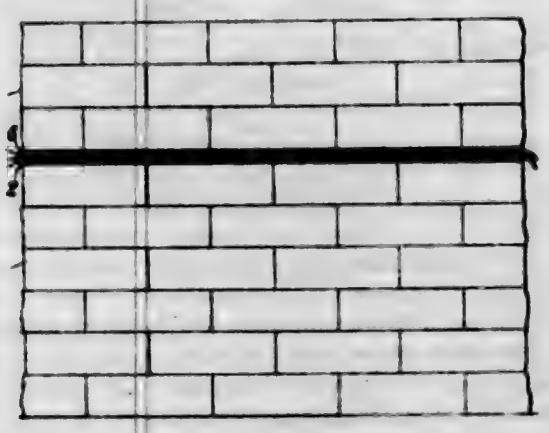


Claim.—1. A hose-coupler half comprising a body portion formed with a gasket-face, a forwardly-projecting wing adapted to interlock with the complementary coupler half, and a lug adapted to interlock with the wing of said complementary half, a nozzle portion separably connected with said body portion, and a supplementary latch mounted on said nozzle portion and adapted to engage the complementary coupler half.

2. The combination with a coupler half, having separable nozzles and body portions, the latter provided with a forwardly-projecting side wing to overlap and engage with a similar complementary half, of a supplementary spring-latch mounted on the nozzle portion and adapted to engage with the complementary part when said part is in its interlocking position.

3. The combination with a coupler half, having a side wing to overlap and engage a complementary half and also provided with separable nozzle and body portions, of a pivoted latch mounted on the nozzle portion but adapted to be turned inwardly to overhang the complementary half when in its interlocking position, and a spring serving to retain the latch but adapted to yield to permit the uncoupling of the two halves.

805,745. **WATERPROOFED MASONRY.** FREDERICK N. PEASE, New York, N. Y. Filed Jan. 3, 1905. Serial No. 239,503.

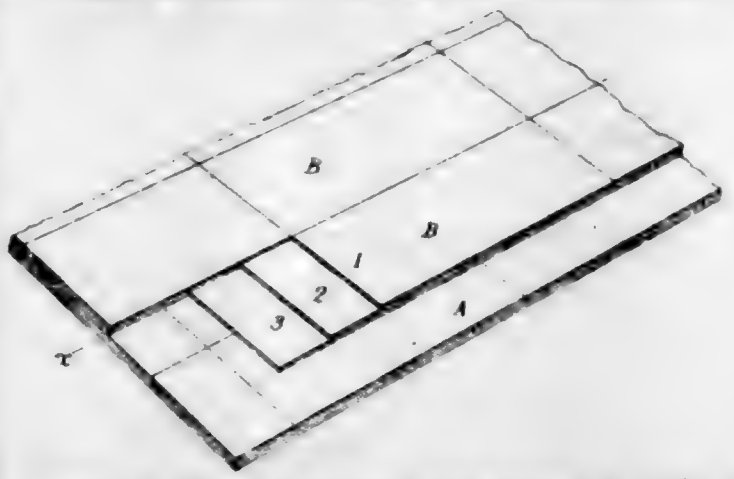


Claim.—1. In waterproof-masonry construction, the method of first heating coal-tar to about 338° Fahrenheit and allowing the same to cool, then laying a stratum of masonry, then applying thereto a coating of such prepared coal-tar without the use of solvents or heat, and then applying a stratum of masonry or other material thereon.

2. In waterproof-masonry construction, the method of first preparing a normally plastic pitch by heating coal-tar to about 338° Fahrenheit and allowing the same to cool, then applying a coat of such pitch without the use of solvents or heat to the freshly-laid masonry, then laying thereupon a flexible waterproof fabric, and then coating said fabric in like manner with such pitch.

3. In waterproof-masonry construction, the method of first preparing a normally plastic pitch by heating coal-tar to about 338° Fahrenheit and allowing the same to cool, then preparing a stratum of masonry, then applying thereto while still moist a coating of such pitch without the use of solvents or heat, then applying a waterproof fabric thereto, then coating the same with such pitch without solvents or heat, and then applying a covering of masonry thereon.

805,746. **FELT WATERPROOF CONSTRUCTION.** FREDERICK N. PEASE, New York, N. Y. Filed Jan. 12, 1905. Serial No. 240,705.



Claim.—1. The combination of a layer made up of a series of similar superposed felt sections having their ends flush and edges parallel and uniformly offset, similar laterally-adjacent and overlapping series and abutting end-to-end series; and a similar superposed layer the side and end joints of which are severally offset from those of the underneath layer.

2. A waterproof layer of the class described, comprising a series of sections, each made up of a plurality of plies of felt with their ends flush and edges parallel and uniformly offset, said sections having their ends abutting and the edges of the adjacent courses severally overlapping, so that the total thickness is uniform, and a superposed series of sections similarly laid thereon with their lateral and longitudinal joints offset with relation to the joints of the first series.

805,747. **OIL-BURNER.** CHARLES A. PETERSON, Franklin, La. Filed Mar. 20, 1905. Serial No. 251,107.

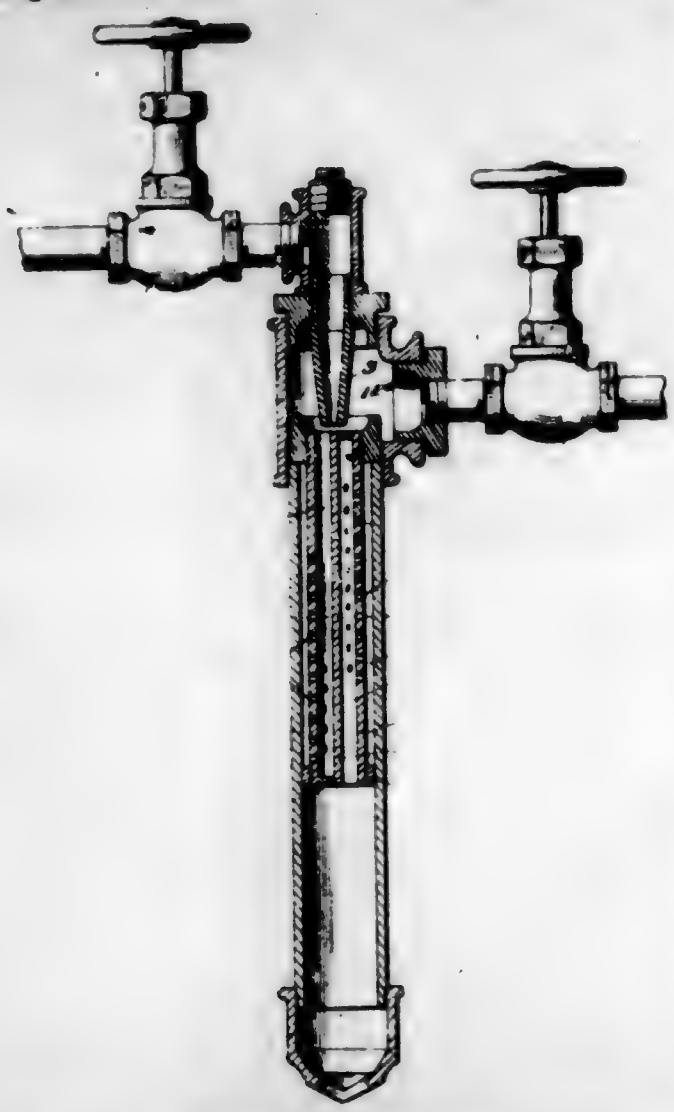
Claim.—1. In an oil-burner, the combination of a mixing-chamber divided into a plurality of compartments, a vaporizing-chamber surrounding the mixing-chamber, the mixing-chamber being provided with apertures for the compartments thereof, and means for forcing fuel into an end of one compartment of the mixing-chamber whereby the fuel is conducted through said apertures and vaporizing-chamber to a second compartment and discharged.

2. In an oil-burner, the combination of a mixing-chamber composed of a tubular body divided into a plurality of compartments, an opposite end of each compartment being closed, apertures in the body of the mixing-chamber for each compartment thereof, a vaporizing-chamber surrounding the mixing-chamber, and means for supplying steam and oil to one end of one compartment of the mixing-chamber.

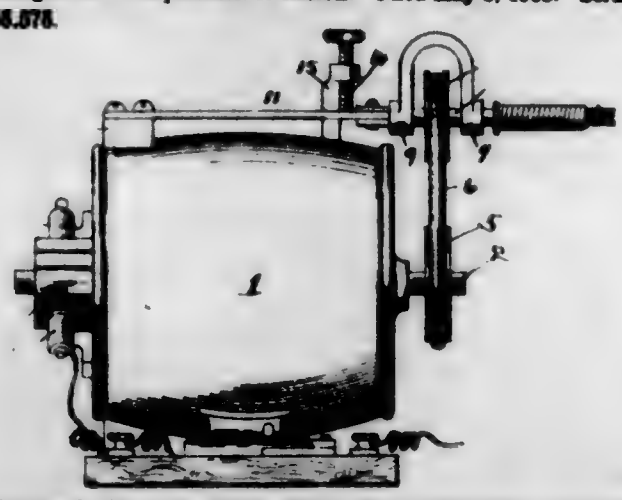
3. In an oil-burner, the combination of a mixing-chamber comprising a tubular body, a partition longitudinally of said body dividing the same into a plurality of compartments, a vaporizing-chamber surrounding the mixing-chamber, an opposite end of each compartment of the mixing-chamber being closed, apertures establishing communication between each compartment of the mixing-chamber and the space between said mixing-chamber and the vaporizing-chamber, means for supplying steam and oil to one end of the mixing-chamber, and means at the opposite end of the mixing-chamber for closing the space between this chamber and the vaporizing-chamber.

4. In an oil-burner, the combination of the mixing-chamber comprising the tubular body 6, the inlet-chamber 2 for said mixing-

chamber, the compartments 6^a and 6^b of the mixing-chamber having outlet-apertures, the closures 12^a and 12^b for said compartments, and the vaporizing-chamber comprising a tubular body surrounding the mixing-chamber.



805,748. SPEED-REGULATOR FOR POWER TRANSMISSION. CHARLES PFANSCHMIDT, Chicago, Ill., assignor to Vibratone Company, Chicago, Ill., a Corporation of Illinois. Filed May 3, 1905. Serial No. 258,578.



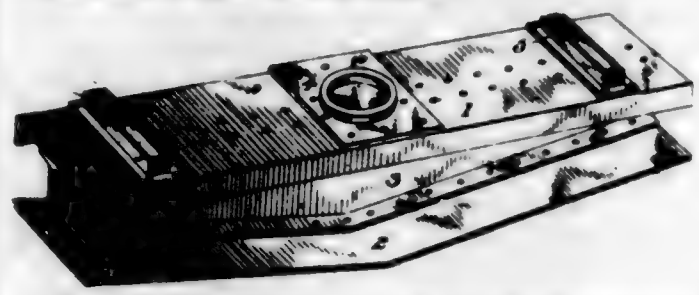
Claim.—1. In a speed-regulator, the combination of a power-shaft, a power-pulley secured thereto, a spring-plate, a regulating-pulley, journals on the spring-plate in which the regulating-pulley is mounted, a belt passing around the pulleys and means for adjusting the position of the spring-plate to vary the distance between the pulleys and vary the tension exerted on the belt, substantially as described.

2. In a speed-regulator, the combination of a power-shaft, a pulley mounted thereon, a power-transmission shaft, a regulating-pulley mounted thereon, a yoke in which the power-transmission shaft is journaled, a spring-plate rigidly secured at one end, and having a yoke secured to its free end, and a set-screw adapted to bear against the spring-plate to regulate its position and vary the distance between the pulleys and the tension exerted on the belt, substantially as described.

3. In a speed-regulator, the combination of a power-shaft, a pulley mounted thereon, a power-transmission shaft, a regulating-pulley mounted thereon, a yoke in which the power-transmission shaft is journaled, a spring-plate rigidly secured at one end, and having a yoke secured to its free end, a set-screw adapted to bear against the spring plate to regulate its position and vary the distance between the pulleys and the tension exerted on the belt, the spring-plate having a resiliency to hold the belt taut when normal but to prevent the stoppage of the power-shaft by an excessive tension on the belt, substantially as described.

4. In a speed-regulator, the combination of a motor having projecting therefrom a power-shaft, a grooved power-pulley rigidly mounted on the shaft, a spring-plate secured to the motor at one end and having at its free end a yoke, a grooved regulating-pulley mounted on a power-transmission shaft, a thumb-screw adapted to bear against the spring-plate and regulate the distance between the two pulleys, and a power-transmission belt passing around the pulleys, substantially as described.

805,749. CAR-BOLSTER. OSWALD S. PULLIAM, Pittsburg, Pa. Filed July 31, 1905. Serial No. 270,686.



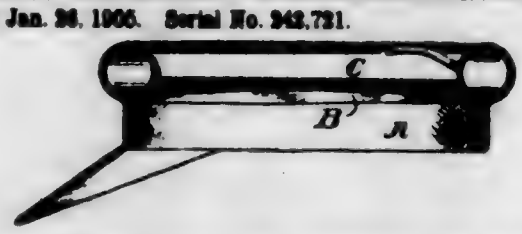
Claim.—1. A car-bolster consisting of a top compression member, a bottom tension member, and a continuous I-beam filler interposed between said members and extending substantially throughout the length of the bolster.

2. A car-bolster consisting of a top compression member, a bottom tension member, and a continuous tapering I-beam filler interposed between said members and extending substantially throughout the length of the bolster.

3. A car-bolster consisting of a straight compression member, a bent tension member, and a continuous tapering I-beam filler interposed between the compression and tension members and extending substantially throughout the length of the bolster.

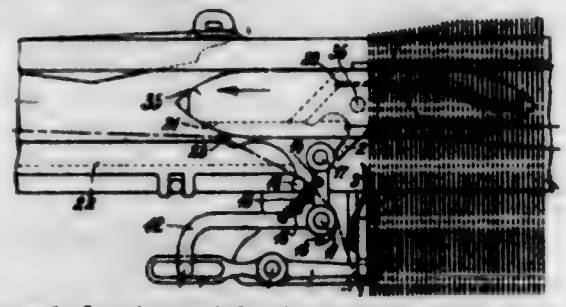
4. A car-bolster consisting of a top compression member, a bottom tension member, and a continuous cast-metal I-beam filler interposed between said members and extending substantially throughout the length of the bolster.

805,750. HAT AND CAP. MONTAGUE REDGRAVE, Jersey City, N. J. Filed Jan. 26, 1905. Serial No. 242,721.



Claim.—An article of headwear, provided with an annular pneumatic expansible and contractible pad, having means for inflation attached thereto and arranged within the crown of said article at the periphery thereof, leaving the middle part of the crown unoccupied by said pad for ventilation and coolness substantially as set forth.

805,751. LOOM. CARL REINSCH, Rio de Janeiro, Brazil. Filed Feb. 23, 1905. Serial No. 246,831.



Claim.—1. In a loom of the character described, the combination, with the shuttle, the reversible gripper provided in the same, and the catch for the weft-loop shot in, of a stop adapted to receive a limited movement from the gripper and to impart to the said catch a positive to-and-fro movement, substantially as herein set forth.

2. In a loom of the character described, the combination, with the shuttle, the reversible gripper provided in the same, and the

catch for the weft-loop shot in, of a stop adapted to receive a limited movement from the said gripper and to impart to the catch a positive to-and-fro movement, and a fixed stop adapted to limit the movement of the movable stop and to reverse the gripper of the shuttle on the passage of the same, substantially as herein set forth.

3. In a loom of the character described, the combination, with the shuttle, the reversible gripper provided in the same, and the catch for the weft-loop shot in, of a stop adapted to receive a limited movement from the gripper and to impart to the catch a positive to-and-fro movement, a fixed stop adapted to limit the movement of the movable stop and to reverse the gripper of the shuttle on the passage of the same, a fixed pivot, a lever arranged to turn upon this pivot, the said lever carrying the aforesaid movable stop at its free end and another stop at its pivoted end, a second lever arranged to turn upon the said pivot and having a stop at its pivoted end, the said two levers being connected by a spring, a fixed pivot, a rocking lever arranged to turn upon this pivot, one arm of the rocking lever being yieldingly connected with the second lever and the other arm engaging the movable catch, substantially as herein set forth.

4. In a loom of the character described, the combination, with the shuttle, the reversible gripper provided in the same, and the catch for the weft-loop shot in, of a stop adapted to receive a limited movement from the gripper and to impart to the said catch a positive to-and-fro movement, a vertical spindle for carrying a bobbin of weft-thread, two fixed eyes for guiding the weft-thread, a movable eye, a lever carrying this eye, a pivot for the said lever, a spring tending to pull the movable eye out of the path of the weft-thread, and an adjustable stop for the aforesaid lever, substantially as herein set forth.

5. In a loom of the character described, the combination, with the shuttle, the reversible gripper provided in the same, and the catch for the weft-thread shot in, of a stop adapted to receive a limited movement from the gripper and to impart to the said catch a positive to-and-fro movement, a vertical spindle for carrying a bobbin of weft-thread, two fixed eyes for guiding the weft-thread, a movable eye, a lever carrying this eye, a pivot for the said lever, a spring tending to pull the movable eye out of the path of the weft-thread, an adjustable stop for the aforesaid lever, a spring-clamp arranged between the two fixed eyes, and a projection provided on the eye-carrying lever and adapted to pass into the said clamp for opening the same, substantially as herein set forth.

6. In a loom of the character described, the combination of the shuttle, the reversible gripper provided in the same, this gripper having two flat faces extending at the right angle to each other and two parallel prongs, a spring adapted to bear against either of the flat faces of the gripper, the catch of the weft-loop shot in, and a stop adapted to receive a limited movement from the gripper and to impart to the said catch a positive to-and-fro movement, substantially as herein set forth.

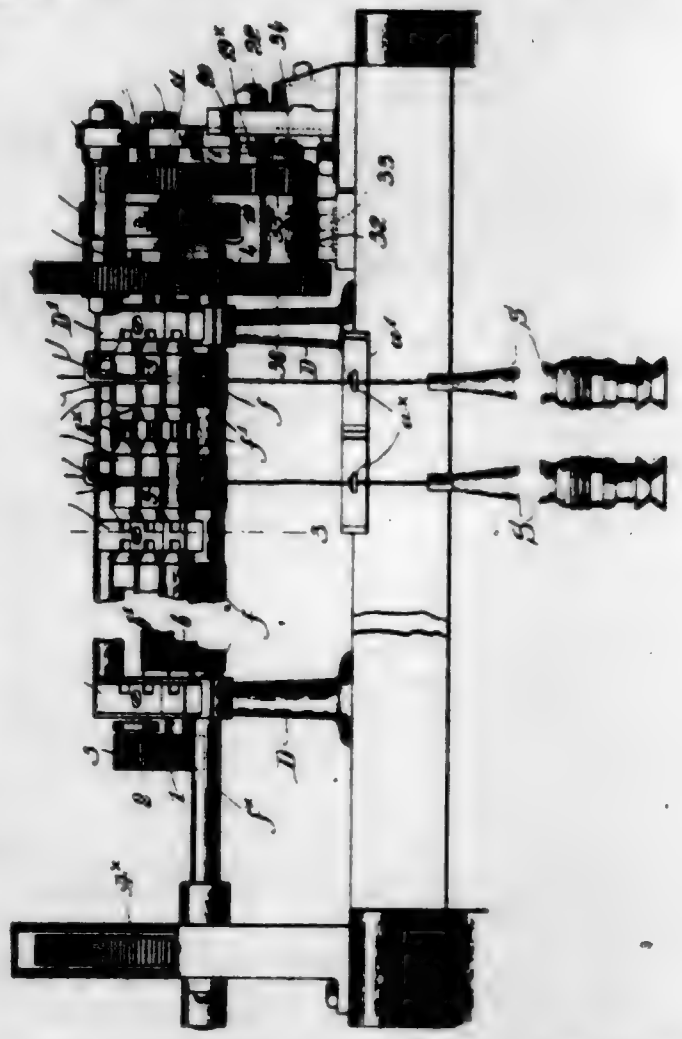
7. In a loom of the character described, the combination of the shuttle having a longitudinal groove in its front side, the reversible gripper provided in the shuttle, this gripper having two flat faces extending at a right angle to each other and two parallel prongs, a spring adapted to bear against either of the flat faces of the gripper, the catch for the weft-loop shot in, and a stop adapted to receive a limited movement from the gripper and to impart to the said catch a positive to-and-fro movement, substantially as herein set forth.

8. In a loom of the character described, the combination of the shuttle having a longitudinal groove in its front side, the reversible gripper provided in the same, the shuttle-box having in its front wall a longitudinal groove designed for the passage of the gripper, the said front wall being forwardly inclined at its fore end, the catch for the weft-loop shot in, and a stop adapted to receive a limited movement from the gripper and to impart to the said catch a positive to-and-fro movement, substantially as herein set forth.

805,752. **YARN-TWISTING APPARATUS.** ALONZO B. REOADES, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 25, 1905. Serial No. 262,126.

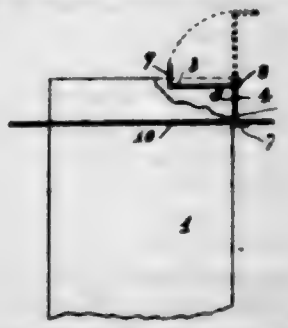
Claim.—1. In apparatus of the class described, a twisting instrumentality, a front set of continuously-driven rolls to deliver thereto a plurality of binder-yarns to be twisted together, a back set of intermittingly-driven rolls for a relatively weak yarn or roving, to deliver the latter intermittingly to and to be twisted or bound with the binder-yarns, and adjustable means to vary the delivery periods of the intermittingly-driven rolls, the bunch-forming portions passing through both sets of rolls and being severed by arrest of the back set of rolls

2. In apparatus of the class described, a front set of delivery-rolls, a back set of delivery-rolls adjacent thereto, continuously-running actuating means directly connected with the front set of rolls, a clutch intermediate said means and the back set of rolls, and comprising two coöperating members respectively fast and loose with relation to the back set of rolls, the loose member being driven by said actuating means, a clutch-controller adapted to be driven by said means with a differential speed relative to the loose-clutch member, to intermittingly effect disengagement of the clutch members and thereby arrest the operation of the back set of rolls, removable transmitting-gearing between the actuating means and the clutch-controller, and a device to lock the latter from rotation when said transmitting-gearing is removed, whereby a change in the time of the rest and delivery periods of the back set of rolls will be effected.



3. In apparatus of the class described, a set of delivery-rolls, a ratchet rotatable with one of the rolls of the set, a coöperating pawl, a rotatable pawl-carrier loose with relation to said roll and continuously driven, a controller concentric with the pawl-carrier, and having an adjustable cam to intermittingly engage said pawl and withdraw it from coöperation with the ratchet, means, including removable transmitting-gearing, to continuously rotate the controller at a slower speed than the pawl-carrier, and a device to hold the controller from rotation when the transmitting-gearing is removed.

805,753. **STOVEPIPE-FASTENER.** FRANK P. RICHARDS, Springfield, Ill. Filed May 3, 1905. Serial No. 258,732.

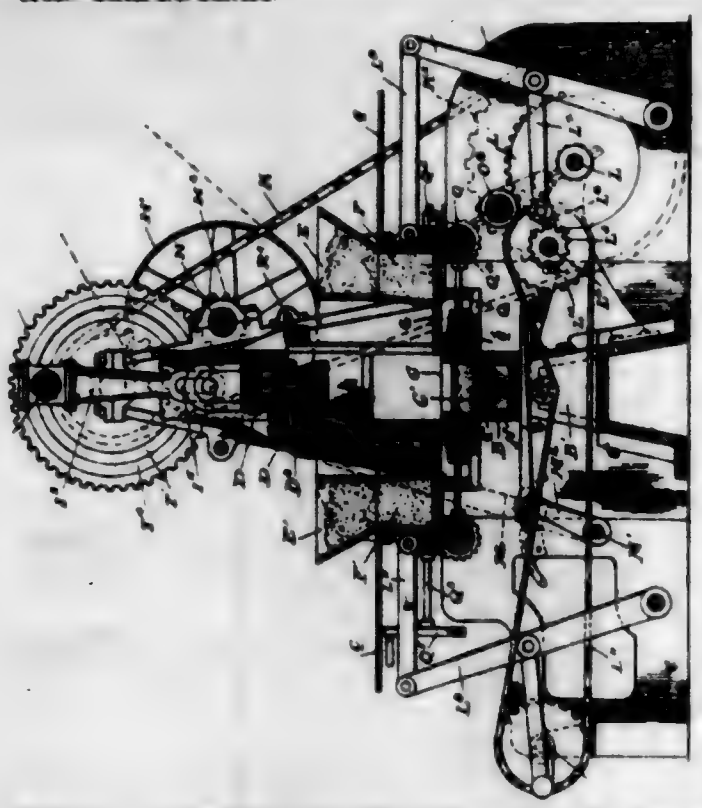


Claim.—1. The combination of a pipe, a latch oscillative on the pipe and adapted to engage the wall of a flue, a plate connected with said latch and a collar slidable on the pipe and coöperating with said plate to move said latch.

2. The combination of a pipe, a collar slidable on said pipe, a rod mounted on said pipe, a latch mounted on said rod and having a member turned outwardly with respect to the pipe and a plate pivot-

ally connected with said latch and having an outwardly-turned part with which said collar engages to operate the latch by the sliding of the collar on the pipe.

805,754. **MACHINE FOR PRESSING PLASTIC MATERIAL.** [redacted] W. Ryan, Detroit, Mich., assignor to Concrete Machinery Company, Detroit, Mich., a Corporation of Michigan. Filed Feb. 13, 1905. Serial No. 245,496.



Claim.—1. In a machine for molding plastic material, the combination with a mold, of means for filling said mold with plastic material, means for subsequently depositing a second layer of plastic material above the mold, and a compression-plunger for simultaneously compressing both layers of material.

2. In a machine for molding plastic material, the combination with a mold, of means for completely filling said mold with plastic material, means for superposing and holding a second layer of plastic material above the first deposit and a plunger for compressing both layers within the mold.

3. In a machine for molding plastic material, the combination with a mold, of means for completely filling the cavity of said mold with plastic material, means for extending the mold to vertically enlarge the mold-cavity thereof, means for filling the extended cavity with a second layer of plastic material, and a plunger for compressing both layers in the mold.

4. In a machine for molding plastic material, the combination of a mold, a carrier for plastic material mounted for the lateral reciprocation across said mold to completely fill the same, and a second carrier mounted for reciprocation across the mold subsequent to the operation of the first carrier, and means for enlarging the mold-cavity intermediate the movements of said carriers, whereby a layer of material from the second carrier will be superposed upon the deposit from the first.

5. In a machine for molding plastic material, the combination with a mold, of a vertically-reciprocating plunger, a pitman and a crank connection for actuating said plunger, a drive connection for said crank, and a clutch intermediate said drive and crank, permitting the acceleration of the descent of the plunger by gravity.

6. In a machine for molding plastic material, the combination with a mold, of a vertically-reciprocating plunger, a pitman and a crank connection for actuating said plunger, and a lost-motion connection for said pitman, permitting the continued rotation of the crank, after the movement of said plunger is arrested.

7. In a machine for molding plastic material, the combination with a mold, of a vertically-reciprocating plunger, a pitman and a crank connection for actuating said plunger, a drive connection for said crank, a clutch intermediate said drive and crank, permitting the acceleration of the descent of the plunger by gravity, a lost-motion connection for said pitman, permitting the continued rotation of said crank after the arrest of said plunger in its downward movement, and means for automatically disengaging said clutch before the limit of lost motion in the return movement of the pitman is reached, whereby said plunger remains in lowered position within the mold.

8. In a machine for molding plastic material, the combination with a mold, of a vertically-reciprocating plunger, a pitman and a crank connection for actuating said plunger, a drive connection for said crank and a clutch intermediate said drive and crank, permitting the acceleration of the descent of the plunger by gravity, a lost-motion connection for said pitman permitting continued rotation of the crank after the arrest of said plunger, means for automatically disengaging said clutch before the limit of lost motion is reached in the upward movement of the pitman, means for again automatically disengaging said clutch after reëngagement before said crank has passed the upper dead-center, and means for preventing backward rotation of the crank.

9. In a machine for molding plastic material, the combination with a mold, of a vertically-reciprocating plunger, a pitman and crank connection for actuating said plunger, a drive connection for said crank, a clutch intermediate said drive and crank permitting acceleration of the descent of the plunger by gravity, means for automatically disengaging said clutch before the upward movement of said plunger, means for raising said mold to disengage the same from the compressed brick, and means for automatically locking said plunger to hold the same from movement during the raising of said mold.

10. In a machine for compressing plastic material, the combination with a mold, of a reciprocating plunger for compressing the material within the mold actuated by gravity in its compression-stroke, means for raising the plunger after compression, means for raising the mold during the arrest of said plunger to disengage the compressed block, and means for automatically locking said plunger from movement during the raising of said mold, and for unlocking the same at the completion of the raising of said mold.

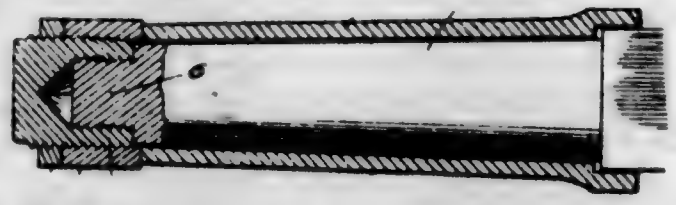
11. In a machine for compressing plastic material, the combination with a mold, a plurality of pallets or bottom plates therefor, a laterally-reciprocating carrier for filling the mold with plastic material, and a vertically-reciprocating plunger for compressing the plastic material within said mold against the pallet, of timed mechanism for effecting successively in each cycle, the locking of the plunger in its lowered position, the raising of the mold, the unlocking of the plunger the feeding of one pallet from beneath the mold and another pallet in registration therewith, the raising of the plunger, the reciprocation of the carrier to fill the mold and the arrest of the timed mechanism; independently-controlled means for effecting the downward movement of the plunger, and means whereby one or more succeeding operations of the plunger may be accomplished while the automatic mechanism remains stationary.

12. In a machine for molding plastic material, the combination with a bed and a vertically-reciprocating plunger, of simultaneously coöperatively adjustable side plates for varying the width of the space for the mold-cavity.

13. In a machine for molding plastic material, the combination with a bed and a vertically-reciprocating plunger, of a plurality of pallets or bottom plates, an endless chain for feeding said pallets periodically, longitudinally of the bed, in and out of registration with said plunger, and a mold-box containing a series of separate molds extending longitudinally of the bed.

14. In a machine for compressing plastic material, the combination with a bed, of a vertically-reciprocating plunger, a laterally-reciprocating carrier for the plastic material, a laterally-adjustable side plate for varying the width of the mold-cavity above said bed, and a wing or plate integral with said side plate forming a bottom for said carrier.

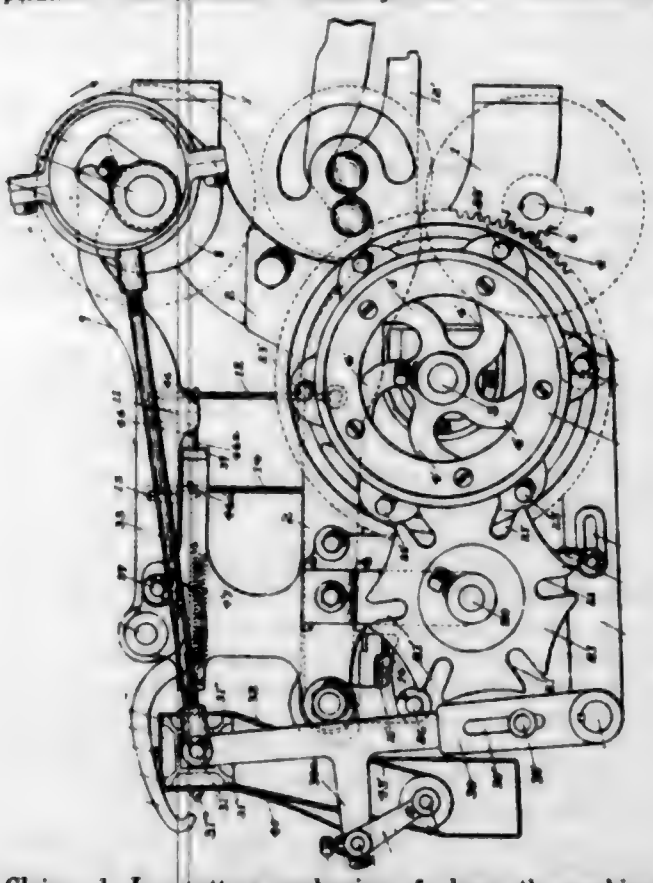
805,755. **AXLE-NUT DEVICE.** LEONARD J. ROBICHAUX, Charenton, La. Filed Feb. 25, 1905. Serial No. 247,207.



Claim.—In a device of the class described, the combination of the spindle 1 having the reduced threaded end portion 6, the axle-box 2 carried by the spindle 1, the externally and internally threaded axle-nut 3 secured upon the threaded portion 6 of the spindle 1 and having its outer end portion squared as shown at 7, the internally-threaded portion of the axle-nut receiving the reduced threaded end of the spindle, the wear-nut 4 secured upon the externally-threaded portion of the axle-nut 3, and the jam-nut 5 also secured upon the externally-threaded portion of the axle-nut 3 for coöperation with

the wear-nut to prevent unscrewing of the latter, the outer squared end portion 7 of the axle-nut being smaller than the threaded openings in the wear and jam nuts for the purpose specified.

805,756. **PATTERN MECHANISM FOR LOOMS.** EPPA H. RYON, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed July 23, 1904. Serial No. 217,831.



Claim.—1. In a pattern mechanism of a loom, the combination with a rotary pattern-cylinder, indicator-needles, hooks controlled by said needles, and vibrator-levers, of means for moving said pattern-cylinder to change the plane thereof relatively to the engaging ends of the indicator-needles, said means, comprising a rotary pattern-surface having pattern indicators or projections thereon of different length, substantially as shown and described.

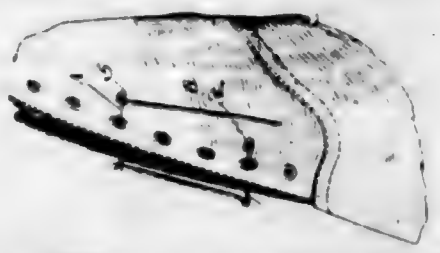
2. In a pattern mechanism of a loom, the combination with a rotary pattern-cylinder, indicator-needles, hooks controlled by said needles, and vibrator-levers, of means for moving said pattern-cylinder to change the plane thereof relative to the engaging ends of the indicator-needles, said means comprising a rotary pattern-surface having pattern indicators or projections thereon of different length, and connections intermediate said pattern-surface and said rotary pattern-cylinder, substantially as shown and described.

3. In a pattern mechanism of a loom, the combination with a rotary pattern-cylinder, indicator-needles, hooks controlled by said needles, and vibrator-levers, of means for moving said pattern-cylinder to change the plane thereof relative to the engaging ends of the indicator-needles, said means comprising a rotary pattern-surface having pattern indicators or projections thereon of different length, and a pin-wheel and star-wheel mechanism for operating said rotary pattern-surface, substantially as shown and described.

4. In the pattern mechanism of a loom, a rotary pattern-card cylinder, pattern-cards thereon, means for rotating said cylinder, longitudinally-moving indicator-needles operated by said pattern-cards, and connected with hook-wires, and said hook-wires connected with vibrator-levers, and said vibrator-levers, and means for raising said hook-wires, of a supplemental longitudinally-moving indicator-needle operated by said pattern-cards, a hook-wire connected with said supplemental indicator-needle, means for engaging said hook-wire and raising it at predetermined intervals, connections intermediate said hook-wire and a rotary pattern-surface, and means to rotate said pattern-surface, and said pattern-surface, and connections intermediate the same and said pattern-card cylinder, to raise and lower said cylinder, and bring the pattern-cards thereon in position to operate the indicator-needles, according to the indications of said pattern-surface, substantially as shown and described.

5. In a pattern mechanism of a loom, the combination with the upper and lower cylinder gears, vibrator-gears, vibrator-levers, hook-wires connected to said levers, longitudinally-moving indicator-needles connected to said hook-wires, means for raising said hook-wires, a rotary pattern-card cylinder carrying pattern-cards for operating the indicator-needles, and means for rotating said pattern-card cylinder, of a supplemental longitudinally-moving indicator-needle operated by said pattern-cards, a hook-wire connected therewith, means for raising said hook-wire, connections intermediate said hook-wire and a rotary pattern-surface, and means for rotating said pattern-surface at predetermined intervals, and said pattern-surface, and connections intermediate the same and the rotary pattern-card cylinder, to raise and lower said cylinder according to the indications of said rotary pattern-surface, to cause the longitudinally-moving indicator-needles to be operated, according to the different patterns on the pattern-cards, substantially as shown and described.

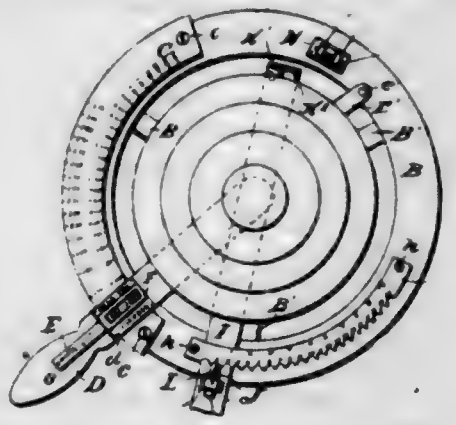
805,757. **FASTENER FOR SHOE-UPPERS.** CHARLES K. SEAGOOD, St. Paul, Minn. Filed Feb. 16, 1905. Serial No. 245,972.



Claim.—1. A fastener for shoe-uppers comprising opposite substantially parallel end bars terminating at corresponding ends in rebent loops upon the same sides of the bars, a side bar connecting the loops, the other end of one of the end bars terminating in a rebent loop, and a latch-bar carried by the last-mentioned loop in substantial parallelism with the side bar, the free extremity of the other end bar terminating in a keeper for detachable engagement by the latch-bar.

2. A shoe-upper fastener consisting of a substantially U-shaped wire having one side longer than the other, the short side terminating at its free end in a hook, each of the short and long sides being provided at their inner ends with loops upon their same sides, the long side being provided with an intermediate loop upon the same side thereof as the other loops, and the free end portion of the long side extending at substantially right angles thereto to form a latch-arm for detachable engagement with the hook.

805,758. **GROCER'S COMPUTING-SCALE.** HENRY J. SILVA and JAMES VASSALLO, Stockton, Cal. Filed May 6, 1903. Serial No. 155,903.



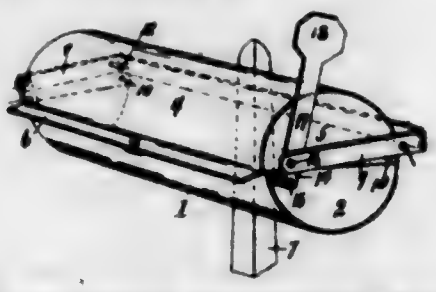
Claim.—1. In a cheese-cutter, the combination of a revolving platform A, the base B on which said platform is mounted and having a ring surrounding said platform, a plurality of differently-colored scales on said ring, indicating total cheese values, a lever D swinging adjacent to said scales, a plurality of differently-colored scales on said ring indicating values of pieces of cheese to be cut off corresponding to each of the first-mentioned scales, the lever I swinging adjacent to the latter scales and mechanism controlled by said levers D and I for turning said platform A so that pieces of cheese of various predetermined values may be cut off from cheeses of different total values.

2. In a cheese-cutter, the combination of the revolving platform A, the base B on which said platform is mounted, said base having a ring extending beyond the edge of said platform, a plurality of differently-colored scales on said ring indicating total cheese values, a lever D swinging adjacent to said scales, a slotted chamber F carried by said lever, a color designating plate E entering said chamber, a plurality of differently-colored scales on said ring indicating values of pieces of cheese to be cut off corresponding to each of the first-mentioned scales, the lever I swinging adjacent to the latter scales, and mechanism controlled by said levers D and I for turning the said

platform A so that pieces of cheese of various predetermined values may be cut off from cheeses of different total values.

3. In a cheese-cutter, the combination of the revolving platform A, the base B on which said platform is mounted, and having a ring surrounding the said platform, a plurality of differently-colored scales on said ring indicating total cheese values, a lever D swinging adjacent to said scales, a plurality of differently-colored scales on a notched plate mounted on said ring, indicating values of pieces of cheese to be cut off corresponding to each of the first-mentioned scales, the lever I swinging adjacent to said notched plate, the guide M attached to the lever I, the plunger J sliding in said guide M and adapted to engage with the notches on the said notched plate, and mechanism controlled by said levers D and I for turning said platform A so that pieces of cheese of various predetermined values may be cut off from cheeses of different total values.

805,759. MAIL-BOX. SACH D. TALLMAN, Adrian, Mich. Filed Mar. 31, 1905. Serial No. 253,993.



Claim.—1. In a mail-box, the combination with the body of the box, of a cover fitting upon said body, the cover and body being pivoted together at their ends, bracket-arms embracing the ends of the box, the cover pivoted to said arms above the point of pivotal union between the cover and box, links pivoted to the outer ends of the bracket and to the ends of the body near the forward edge thereof.

2. In a mail-box, the combination with the body, the cover pivoted to the body at the ends, supporting bracket-arms standing adjacent the ends of the box and cover, and means connecting the box and cover with said arms to cause the box to swing outwardly and upwardly in the arc of a circle, and maintain a horizontal position when the cover is opened.

3. In a mail-box, the combination with a semicylindrical body, a semicylindrical top fitting upon the body, and having ends that overlap the ends of the body of the box, pins passing through the ends of the box and cover to pivotally unite said parts, bracket-arms standing adjacent the ends of the box and body, the ends of the cover pivoted to said arms eccentric to the pivotal union between the cover and box, and movable members connecting the ends of the box near its forward edge with the ends of said arms to allow the box to swing outwardly and upwardly and maintain a true horizontal position when the cover is opened.

4. In a mail-box, the combination with the box and cover pivoted together, supporting-arms standing adjacent the ends of the box and cover, said cover being pivoted to said arms eccentric to the pivotal union between the cover and box, pivoted links connecting the forward ends of said arms with the ends of the body, a target-arm pivotally and slidably connected to the end of the cover near the front, said arm having an engaging notch in its lower end adapted to embrace the pivot-bolt that connects the link with the end of the body.

805,760. BLOCK. ALFRED B. TARBOX, Boston, Mass. Filed June 24, 1905. Serial No. 266,737.



Claim.—1. A block having cheeks or sides, a sheave interposed between the same, a sheave-pin for said sheave extending through said cheeks, a strap the arms of which extend outside and alongside said cheeks or sides to make connection with said sheave-pin, and metal bands forming an integral part of said cheeks and extending therefrom to pass over said strap-arms for combining said cheeks and strap-arms.

2. A block having cheeks or sides, a sheave interposed between the same, a sheave-pin for said sheave extending through said cheeks, a strap the arms of which extend outside and alongside said cheeks or sides to make connection with said sheave-pin, and metal plates or bands extending integrally from said cheeks or sides to pass over said strap-arms above and below said sheave-pin in a manner substantially as described.

3. A block having cheeks or sides, a sheave interposed between the same, a sheave-pin for said sheave extending through said cheeks, a strap the arms of which extend outside and alongside said cheeks or sides to make connection with said sheave-pin, and metal plates or bands extending integrally from said cheeks or sides above and below said sheave-pin, which bands below the sheave-pin form also housings for concealing and protecting the ends of the strap-arms.

4. A block having flat metal cheeks or sides, sheaves interposed between the same, a sheave-pin, a strap the arms of which extend outside and alongside said cheeks or sides, the edges of which cheeks are provided with a reinforcing bead or rim acting in the vicinity of said sheaves as a protection and guard therefor, which cheeks have also in the vicinity of the sheaves, portions a^6 offset therefrom, whereby said cheeks are protected from the wear of the same, and portions or bands a^7, a^8, uniting with said strap-arms, substantially as described.

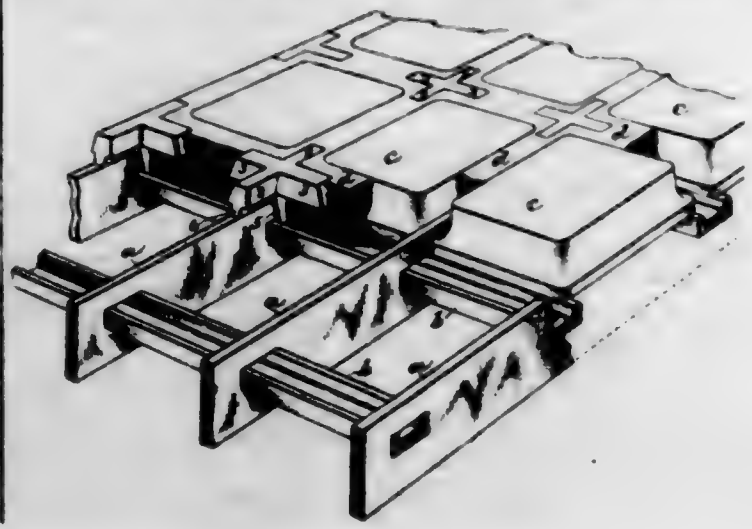
5. A block having flat metal cheeks or sides, each of which comprises a central sheave-protecting portion a^3, and portions, a^4, a^4, respectively, extending therefrom, which cheeks also along the edges of said portions are provided with a reinforcing bead or rim which for the central sheave-protecting portion a^3, acts as a protection to the sheave, members interposed between said extensions of the cheeks for spacing the cheeks apart to permit of the insertion of the sheave, said sheave and a sheave-pin bearing the same, extending between said cheeks.

6. A block having cheeks or sides, a space member interposed between the same, a slot formed in the space member at the bottom end of the block, a becket-carrying link member extending through said slot so as to be contained within said block, a bolt or rivet passed through the lower extremity of the block for holding said link member, and a rest or bearing carried by said lower space member for supporting said bolt or rivet.

7. A block having flat metal cheeks or sides, each of which comprises a central sheave-protecting portion a^3 and portions a^4, a^4, respectively, extending therefrom, which cheeks also along the edges of said portions are provided with a reinforcing bead or rim, which for the central sheave-protecting portion a^3 acts as a protection to the adjacent sheave, a plurality of sheaves interposed between said cheeks, a flat metal sheave-plate between said sheaves of construction similar to the cheeks as aforesaid, space members between the extended portions of said cheeks and plate for spacing the same apart, and rivets or other means of fastening extending through said cheeks, plate and space members for fastening the same together, substantially as described.

8. A block having cheeks, a plurality of sheaves interposed between the same, a sheave-pin for said sheaves extending between said cheeks, a sheave-separating plate or plates between said sheaves, space members or blocks between said cheeks and interposed plate or plates for holding the same properly spaced apart, a main strap the arms of which extend down outside and alongside said cheeks to make connection with said sheave-pin, and an auxiliary strap inside said main strap the arms of which are passed down through slots formed in said upper space members, and a bolt or rivet extending transversely through the upper extremity of said block to which said auxiliary strap-arms are secured.

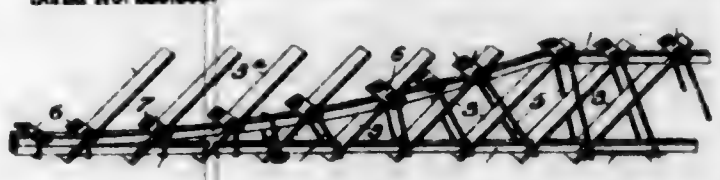
805,761. TREAD-PIECE FOR SIDEWALK-LIGHTS, &c. EDGAR R. TAYLOR, Boston, Mass. Filed Feb. 1, 1905. Serial No. 243,696.



Claim.—1. The combination with a grating composed of intersecting bars, one of said bars being grooved or recessed and the upper edge of the intersecting bar being in a plane above the plane of the grooved bar, of a tread-piece composed of a body formed to be seated on the upper bar and having ears projecting downwardly on opposite sides of the tread-piece-supporting bar, one or both of said ears entering the grooved upper surface of the other bar, whereby said tread-piece is engaged with both of said bars to prevent lateral displacement in any direction

2. For application to a grating comprising a series of tread-supporting bars, and a series of intersecting bars the top surfaces of which are grooved and are lower than the top surfaces of the supporting-bars, a tread-piece formed to be seated on one of the supporting-bars and having downwardly-projecting ears adapted to bear on the sides of said bar, one of said ears being longer than the other to engage the groove of one of the lower bars, said ear being of a length greater than the height of the top surface of the supporting-bar above the uppermost part of the lower or intersecting bar.

805,762. **FRAMEWORK FOR CEMENT STRUCTURES.** JOHN S. THOMAS and WILLIAM M. THOMAS, St. Louis, Mo. Filed Oct. 13, 1904. Serial No. 228,333.

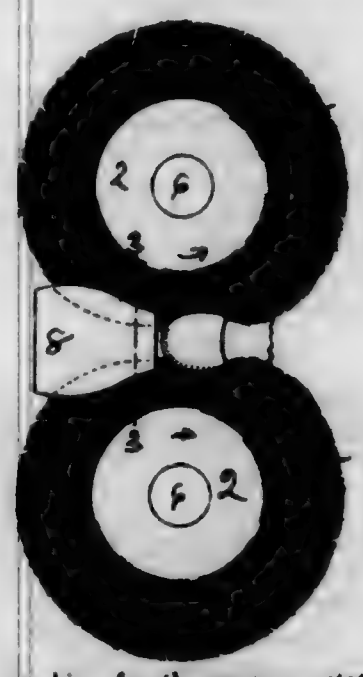


Claim.—1. In a framework of the character described, the combination of a pair of beams, apertured struts threaded thereonto and disposed in positions oblique to the beams, and ties connecting said beams and struts, substantially as set forth.

2. In a framework of the character described, the combination of a pair of beams, apertured struts threaded thereonto and disposed in positions oblique to the beams, and ties connecting said beams; said ties being arranged to embrace said struts at the outer faces of said beams, substantially as set forth.

3. In a framework of the character described, the combination of a pair of beams, struts fitted to said beams in positions oblique thereto, ties fitted to and embracing said beams, and retaining-stripe fitted to one of said beams to receive said ties, substantially as set forth.

805,763. **MACHINE FOR FINISHING HEELS, &c.** CALVIN B. TUTTLE, Lynn, Mass., assignor to United-Xpedite Finishing Company, Berwick, Me., a Corporation of Maine. Filed May 20, 1902. Serial No. 108,340.



Claim.—1. A machine for the purposes stated, comprising work-rubbing means having a plurality of parts or faces which are composed of bendable material, said faces being relatively disposed adjacent to each other for treating opposite sides of the heel without necessarily turning the heel, and means to bend the said parts or faces preparatory for engaging the work.

2. A machine for the purposes stated, comprising work-rubbing means adapted for yielding under pressure of the work to increase the area of contact with the work, and having different parts or faces relatively disposed for acting on opposite sides of a heel without necessarily turning the heel, and means for gaging the position of the work relative to said faces.

3. A machine for the purposes stated, comprising a revoluble work member adapted for yielding to increase the area of contact with the work by pressure and return to normal shape when said pressure is removed, combined with means to shape the working face of the members into a form having a cross-sectional contour adapted to fit approximately that of a heel.

4. A machine for the purposes stated, comprising a revoluble work member provided with work-engaging means composed of bendable materials, which project peripherally therefrom, and means to bend the materials during the operation of the member preparatory for engagement with the work.

5. A machine for the purposes stated, comprising a plurality of revoluble work members adapted for yielding under pressure to increase the area of contact with the work said members being disposed with their working faces opposed one to another and suitably spaced apart for treating simultaneously the opposite sides of a heel interposed therebetween, and means to gage the position of the work with relation to said members.

6. A machine of the class described, comprising a pair of rotary brushes arranged to act upon opposite sides of a heel, combined with a work-rest arranged relatively to said brushes to be engaged by the heel when presented to either brush.

7. A machine of the class described, comprising a plurality of rotatable brushes arranged to act on opposite sides of a heel, and means arranged between said brushes for imparting to the brushes adjacent to the point where they engage the heel a shape corresponding approximately to the contour of the portion of the heel to be acted upon by the brushes.

8. A machine of the class described, comprising a plurality of rotatable brushes arranged to act upon opposite sides of a heel simultaneously, and a combined gage and shaping device arranged between said brushes for resting the heel, said device being adapted to be engaged by the brushes for imparting thereto a shape corresponding approximately to the contour of the portions of the heel to be acted upon by the brushes.

9. A machine for finishing parts of boots and shoes comprising a pair of rotary work members arranged one above the othr in position to act simultaneously upon opposite sides of the work advanced between them, and a stop for determining the position to which the work may be advanced between said members in a direction transverse to their axes of rotation.

10. A machine for finishing parts of boots and shoes comprising a pair of rotary work members rotated in opposite directions and arranged one above the other to act simultaneously upon opposite sides of the work advancing between them, and a stop for determining the position to which the work may be advanced.

11. A machine for finishing parts of boots and shoes, comprising a plurality of rotary work members having yielding peripheries and mounted with their acting peripheral faces adjacent and arranged to permit the heel of a boot or shoe to be advanced curved end foremost between them, said work members being rotatable in directions to cause the movement of their acting faces to be from said curved end toward the breast of the heel.

12. A machine for finishing parts of boots and shoes, comprising a plurality of rotary work members, having their respective acting faces arranged in an opposed relation and adjacent to each other, to permit the work to be advanced between them, said work members being arranged for relative yielding to accommodate work of varying width, and a stop arranged to limit the introduction of the work between said faces in a direction approximately perpendicular to the axes of rotation of said work members.

13. A machine for finishing parts of boots and shoes, comprising a plurality of rotary work members arranged with their acting faces adjacent in position to permit the heel of a shoe to be inserted between them, and a stop arranged to limit the introduction of the heel between said faces in a direction transverse to the axes of rotation of said members, said stop and work members being arranged to permit opposite sides of the heel adjacent to the breast edge to be acted upon simultaneously.

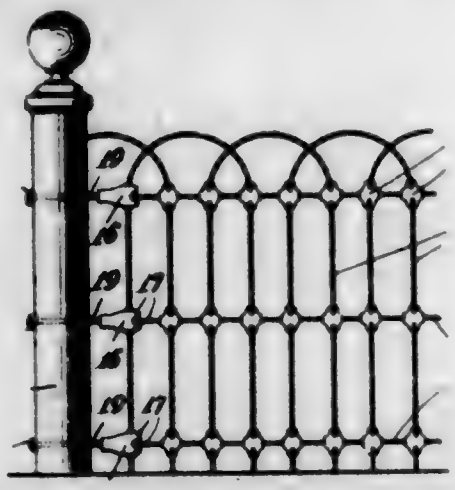
14. A machine for finishing parts of boots and shoes, comprising a plurality of rotary work members arranged with their acting faces adjacent in position to permit the heel of a shoe to be advanced between them in the line of movement of said faces, and a stop arranged to limit the introduction of the heel between said faces, said stop being so positioned with relation to said work members that opposite sides of the heel may be simultaneously and progressively acted upon by said members from curved end to breast edge.

15. A machine for finishing parts of boots and shoes, compris-

ing a plurality of rotary work members having yielding peripheries and arranged in approximately the same plane and adjacent to each other to permit a shoe to be advanced in the plane of said members and foremost between their peripheral faces, and a stop arranged in position to engage the shoe to limit its introduction between said faces.

16. A machine for finishing parts of boots and shoes, comprising a plurality of rotary work members arranged in approximately the same plane and adjacent to each other to permit the work to be advanced in the plane of said members between their acting faces, and a stationary stop arranged in position to engage the work and limit its introduction between said members.

805,764. **ANCHORAGE FOR WIRE FENCING.** JOHN H. WEBBLOCK and GEORGE M. WEBBET, Worcester, Mass. Filed Jan. 19, 1905. Serial No. 241,739.



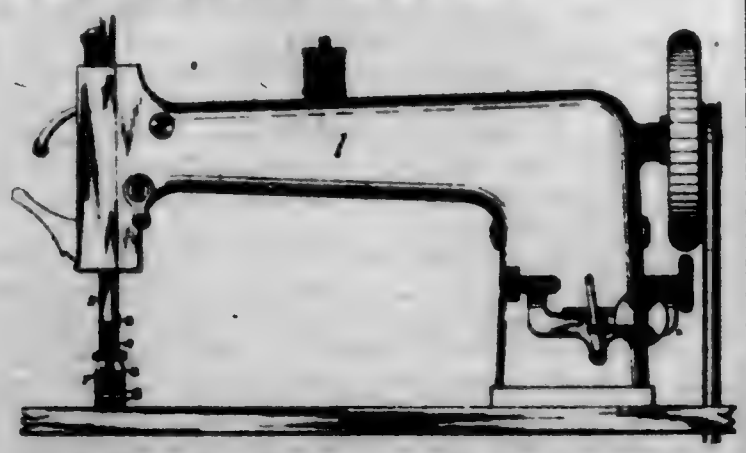
Claim.—1. In a wire fence, the combination of a vertical wire, a cross-wire, a sheet-metal joint-clip fastening said wires together, a hook-piece receiving the joint-clip, and means for connecting the hook-piece to a post or other support.

2. In a wire fence, the combination of a vertical wire, a cross-wire, a sheet-metal joint-clip connecting the vertical wire and cross-wire while the end of the cross-wire is turned back to form a hook, a hook-piece receiving the joint-clip, and means for connecting the hook-piece to a post or other support.

3. In a wire fence, the combination of a vertical wire, a cross-wire, a sheet-metal joint-clip having two perforations through which the vertical wire is threaded, while the cross-wire is bent back or hooked at its ends, a hook-piece receiving the joint-clip and having hooked ends engaging the joint-clip at opposite sides of the cross-wire, a screw extending from the hook-piece, and a nut for tightening the hook-piece in place with reference to a post or support.

4. In a wire fence, the combination of a vertical wire, a cross-wire, a sheet-metal joint-clip having two perforations through which the vertical wire is threaded, while the cross-wire is hooked or bent back at its ends, a hook-piece receiving the sheet-metal clip and having malleable or flexible fingers which are bent and engage the joint-clip at opposite sides of the cross-wire, a screw having a head holding the same in place in the hub of the hook-piece, and a nut threaded onto the screw for tightening the hook-piece into place with respect to a post or support.

805,765. **STENCILING DEVICE.** ANN E. WILLIAMS, Stockton, Cal. Filed June 10, 1905. Serial No. 264,575.



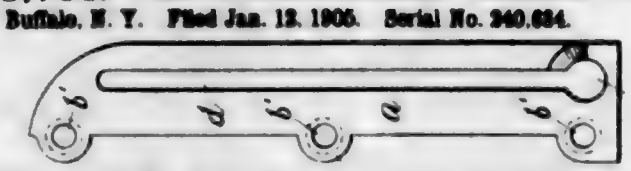
Claim.—1. A needle-holder for stenciling-needles comprising a member semicircular in cross-section and provided with a longitudinally-disposed groove on its flat side and extending from end to end thereof, a band encircling said member and conforming in shape thereto, and a set-screw passing through the wall of said band and bearing on the convex side of the member.

2. In a stenciling device the combination with the needle-bar of the sewing-machine of a removable stencil-needle holder having a square groove therein, a stencil-needle seated in said groove, and means for binding said stencil-needle therein as set forth.

3. In a stenciling device the combination of a stencil-needle holder adapted to be detachably secured to the needle-bar of a sewing-machine and provided with a square groove in the side thereof, a stenciling-needle seated in said groove and having one side rounded and protruding slightly beyond the periphery of the said holder, and means for binding said needle in said groove as set forth.

4. In a stenciling device the combination of a stencil-needle holder having a square longitudinal groove therein, said holder being adapted to be inserted in the needle-bar of a sewing-machine and held therein by the needle-securing devices thereof, a binding-band secured around the lower end of said stencil-needle holder, a set-screw extending through said binding-band, and bearing against the side of the said stencil-needle holder opposite the said groove, as set forth.

805,766. **WINDOW-SASH FASTENER.** CHARLES H. WILLIAMS, Buffalo, N. Y. Filed Jan. 12, 1905. Serial No. 240,634.



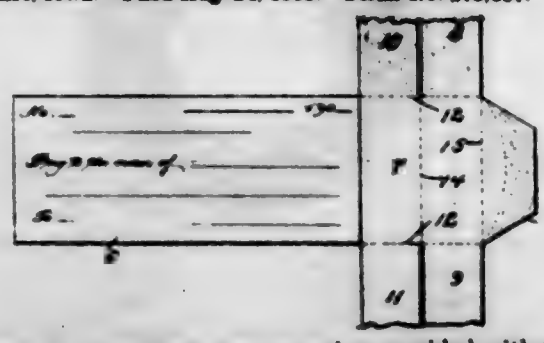
Claim.—1. The combination, in a window-sash fastener, with a locking-plate adapted to be attached to and extend beyond a side bar of the upper sash, having a slot and a bolt-hole therein and provided with a cam, such slot, bolt-hole and cam being in and on that portion of said locking-plate which projects beyond said side bar, of a bolt provided with a lug adapted to pass through said bolt-hole and slot and said lug engaging said cam when said bolt is turned, and a keeper for the bolt capable of being attached to the upper rail of the lower sash.

2. The combination, in a window-sash fastener, with a locking-plate adapted to be attached to and extend beyond a side bar of the upper sash, having a slot and a bolt-hole therein and provided with a cam, a casting adapted to be attached to the upper rail of the lower sash and having longitudinal and transverse slots therein, and a bolt operating in said casing and provided with a lug adapted to pass through said bolt-hole and said slot in said locking-plate and the lug engaging said cam when said bolt is turned, the bolt being also provided with a thumb-piece arranged to operate in the slots in the casing.

3. A bolt-casing, for a window-sash fastener, comprising a longitudinally and transversely slotted barrel and a hood at one end of larger diameter than said barrel, a slot being provided in the vertical wall of said hood and opening into the longitudinal slot in the barrel.

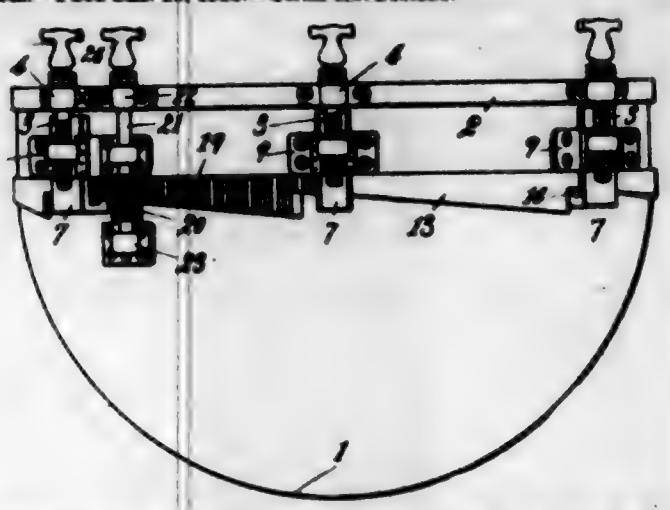
4. A bolt-keeper, for a window-sash fastener, consisting of an independent base-plate provided with a ribbed guide for the bolt, and a casing adapted to be superimposed on said base-plate and comprising a longitudinally and transversely slotted barrel and a hood at one end of larger diameter than said barrel, a slot being provided in the vertical wall of said hood and opening into the longitudinal slot in the barrel.

805,767. **IDENTIFICATION DEVICE.** CHARLES R. WILLIAMS, Clarence, Iowa. Filed Aug. 24, 1905. Serial No. 275,607.



Claim.—A paper having an extension provided with two laterally-extending flaps on each side and a longitudinally-extending flap at the end, the flaps on opposite sides being folded over the extension and stuck upon each other, and the extension being doubled or folded upon itself to bring said flaps upon each other, and the end flap being folded in and stuck under the inclosure so formed.

805,768. KETTLEDRUM. DEXTER M. WRIGHT, San Francisco, Cal. Filed Jan. 16, 1905. Serial No. 241,350.



Claim.—1. In a kettledrum the combination with the shell of the drum of the adjusting-ring, a plurality of adjusting-screws adapted to bear down upon said ring, means external to said shell for simultaneously drawing down all of said adjusting-screws, and means for independently adjusting each screw, substantially as described.

2. The combination of the adjusting-ring, a plurality of adjusting-screws adapted to bear down upon said ring, means for simultaneously drawing down all of said adjusting-screws, comprising a band around the drum, operatively connected with each screw, means for moving said band around the drum, and means for independently adjusting each screw, substantially as described.

3. The combination of the adjusting-ring, a plurality of adjusting-screws adapted to bear down upon said ring, means for simultaneously drawing down all of said adjusting-screws, comprising a vertically-sliding plate attached to each screw, a band around the drum operatively connected with each plate, and means for moving the band around the drum, and means for independently adjusting each screw, substantially as described.

4. In a kettledrum, in combination with the shell of the drum, a ring around the shell, bearings on said ring, lower bearings, screws sliding smoothly through the bearings on said ring and having screw-threaded connections with the lower bearings, and means for simultaneously moving the lower bearings, substantially as described.

5. In a kettledrum, in combination with the shell of the drum, a ring around the shell, smooth bearings thereon, lower bearings, movable nuts therein, and screws passed through said upper bearings and screwed into the nuts in the lower bearings and means for simultaneously moving the lower bearings, substantially as described.

6. In a kettledrum, in combination with the shell of the drum, a ring around the shell, smooth bearings thereon, lower bearings, movable nuts therein, screws passed through said upper bearings, and screwed into the nuts in the lower bearings, and studs connecting said nuts with the lower bearings while permitting angular movement of the nuts, substantially as described.

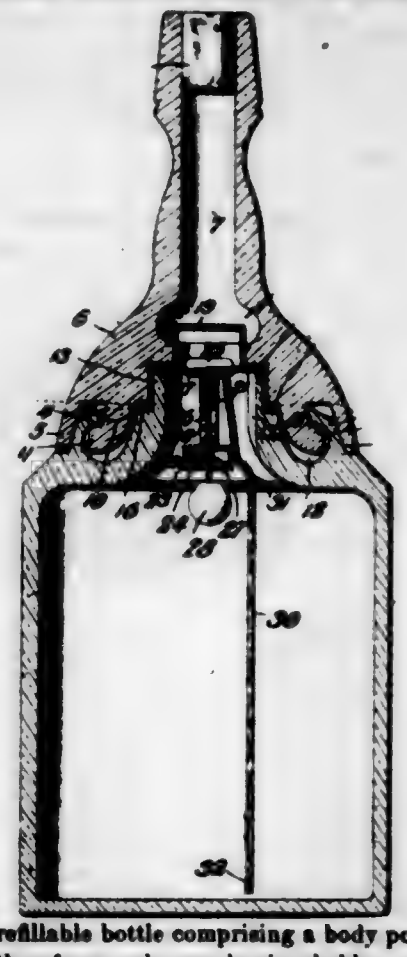
7. In a kettledrum, in combination with the shell of the drum, a ring around the shell, lower bearings, screws for drawing said ring down to said bearings, said screws having shoulders and the ring having bearings for the screws, and antifriction devices between said shoulders and bearings, substantially as described.

805,769. NON-REFILLABLE BOTTLE. OBADIAH YATES, Portland, Oreg. Filed Apr. 27, 1905. Serial No. 257,714.

Claim.—1. In a non-refillable bottle, a body having an upstanding flange formed with a shoulder, and a valve-controlling mechanism embodying a cap having a flange to engage the shoulder of the first-mentioned flange, in combination with a detachable neck having a recess provided with shoulders engaged with the cap and the flange thereof to hold the parts in intimate contact.

2. In a non-refillable bottle, a body portion having an upstanding flange 13 provided with a shoulder, and a cap 15 provided with a flange to engage the shoulder of the first-mentioned flange, suitable packing for the flange and the top of the cap, a detachable neck having a recess provided with shoulders adapted to engage with the packing of the cap and its flange to form a seal for the detachable neck and the cap, and a valve mechanism carried by said cap.

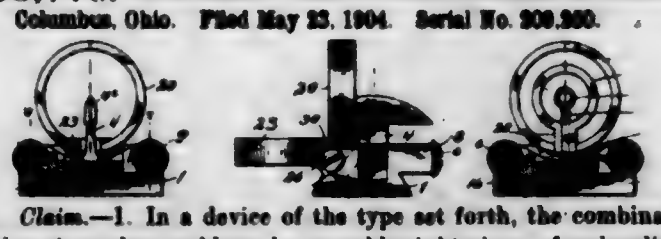
3. A non-refillable bottle comprising a body portion and a detachable neck therefor, a valve mechanism held upon the body portion by the detachable neck, said valve mechanism having a valve-seat and a valve to close said seat, and a vent-tube terminating in the seat of the valve and adapted to be normally closed by the latter and extending downward toward the bottom of the bottle.



4. A non-refillable bottle comprising a body portion and a detachable neck therefor, a valve mechanism held upon the body portion by the detachable neck, said valve mechanism embodying a cap having a valve-seat and a valve, a frame depending from the cap, a controller-casing secured to said frame, a jointed valve-stem extending through the frame and casing and having a weight upon its lower end, and a vent-tube secured to the controller-casing and terminating at its upper end in the seat of the valve and having an offset to permit free oscillation of the weight of the valve-stem.

5. In a non-refillable bottle, a body portion having an upstanding flange provided with a groove 13ª, a neck fitted to said body portion, a cap fitted on the flange, a frame depending from the cap, a controller-casing secured to the end of the frame, said cap having a valve-seat at its upper end, a valve to engage the seat, a joined valve-stem having a weight upon its lower end, and a vent-tube secured to the controller-casing and having an offset adjacent to the casing and in line with the groove of the upstanding flange, said vent-tube terminating at its upper end in the valve-seat and adapted to be closed by the valve.

805,770. GUN-SIGHT. JOHN Y. BASSELL and FRED C. BLENKNER, Columbus, Ohio. Filed May 23, 1904. Serial No. 209,260.



Claim.—1. In a device of the type set forth, the combination with an interchangeable and removable sight-piece, of a plurality of hinged rings independent of each other and each independent of the sight-piece.

2. In a device of the type set forth, the combination with a base and a sight-piece arranged thereon, of a movable ring and a reflector mounted upon the base.

3. In a device of the type set forth, the combination with a base and an interchangeable sight-piece thereon, of a pivoted ring, and a hinged reflector arranged on the base.

4. In a device of the type set forth, the combination with a base and an interchangeable reversible sight-piece arranged thereon, of a plurality of independently-movable rings adapted to be alined with the sight-piece, and a reflector arranged on the base to act in combination with the sight-piece.

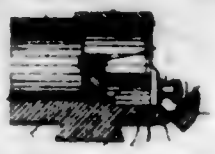
5. In a device of the type set forth, the combination with a base-block formed to receive a sight-piece, of an interchangeable and removable sight-piece mounted thereon, locking means for holding the sight-piece in position, and a ring pivoted out of transverse and vertical alinement with the sight-piece and adapted to be adjusted to

cause the sight-piece to stand in longitudinal alinement with its center.

6. In a gun-sight, a plurality of pivoted independent rings having a common center, in combination with a non-pivoted and independent interchangeable and removable sight-piece having a sight-center adapted to aline with the common center of any one of the rings when the same are elevated.

7. In a device of the type set forth, a base-block having a groove and a recess, an interchangeable sight-piece mounted in the groove, means for locking the sight-piece in the groove, a reflector hinged to the sight-piece and normally lying in the recess, and a plurality of independently-movable rings pivoted on the base-block.

805,771. GUN-SIGHT. JOHN Y. BASSELL and FRED C. BLENKNER, Columbus, Ohio. Filed July 11, 1904. Serial No. 215,977.



Claim.—1. In a gun-sight, an interchangeable sight-piece, a movable hood, and a reflector.

2. In a gun-sight, the combination with a base having guides and an interchangeable sight-piece, of a hood movable in said guides, and a reflector.

3. The combination with a gun-sight having a movable hood, of a hinged reflector, and means for holding the reflector in position.

4. In a gun-sight, the combination with a base having guides, of a hood slidable in said guides, an interchangeable sight-piece, and spring-held means for locking the sight-piece in position.

5. In a gun-sight, the combination with a base having guides and a sight-piece, of a slidable hood, and means carried by the base for limiting the movement of the hood thereon.

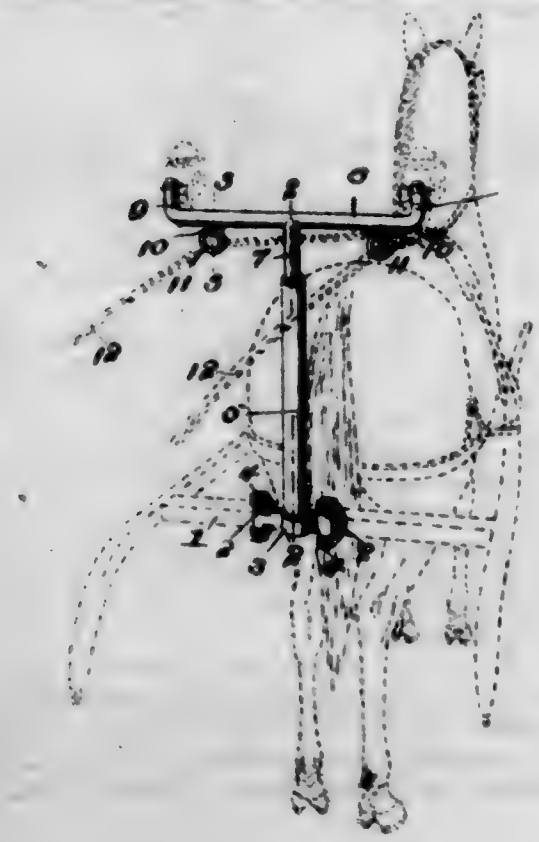
6. In a gun-sight, the combination with a base, of a removable adjustable hood, an interchangeable sight-piece, and a reflector.

7. The combination with an elongated base and a sight-piece, of a hood shorter than the base longitudinally and movable on the base so as to cover or uncover the sight-piece without being removed from the base.

8. In a gun-sight, the combination with a base having a concaved recess and provided with grooves, of an interchangeable sight-piece arranged on the base, a removable hood conforming to the contour of the recess and movable in the guides, and means for limiting the movement of the hood.

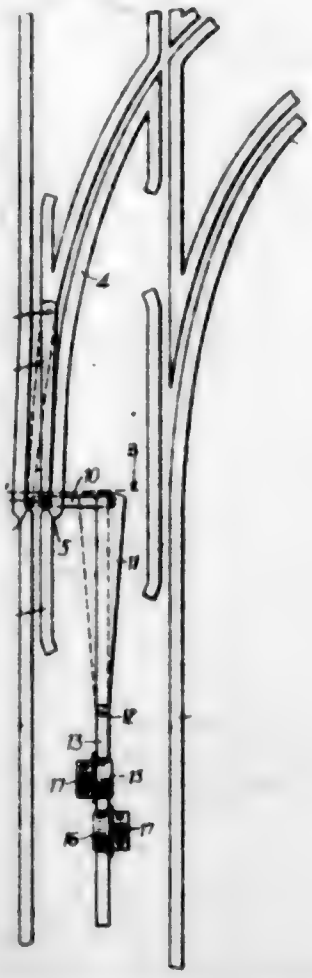
9. In a gun-sight, the combination with a base having a concaved recess, of an interchangeable sight-piece arranged on the base, and a movable hood conforming to the contour of the recess to form therewith a globe.

805,772. REIN-SUPPORT. JOHN M. BETHEL and HORACE C. PEACHEY, Wichita, Kans. Filed Nov. 12, 1904. Serial No. 232,451.



Claim.—In a device of the character described, the combination of an adjustable upright member having horizontal arms with their extremities bent upward as shown, eyes secured to the horizontal arms near the vertical extremities, rings loosely secured in the said eyes, and a horizontally-disposed base terminating in upwardly and downwardly extending projections each provided with openings for the reception of clips and means bearing upon such projections for holding said clips securely about a suitable support, substantially as described.

805,773. RAILWAY-SWITCH. LEWIS L. BIGELOW, Sultan, Wash. Filed Nov. 9, 1904. Serial No. 232,038.



Claim.—1. In switch-point-throwing mechanism, in combination with a switch-point, a pivoted wedge-shaped bar between and extending lengthwise of the track-rails, a connection between said pivoted bar and the switch-point, wheels carried by the car and being movable vertically independently of one another, and means whereby said wheels may be independently lowered for engagement with opposite sides of said bar.

2. In switch-throwing mechanism, in combination with a switch-point and a guide-rail extending longitudinally of the track-rails, a wedge-shaped bar pivoted at its reduced end by a pin to said guide-rail, and a link pivoted to said switch-point and wedge-shaped bar.

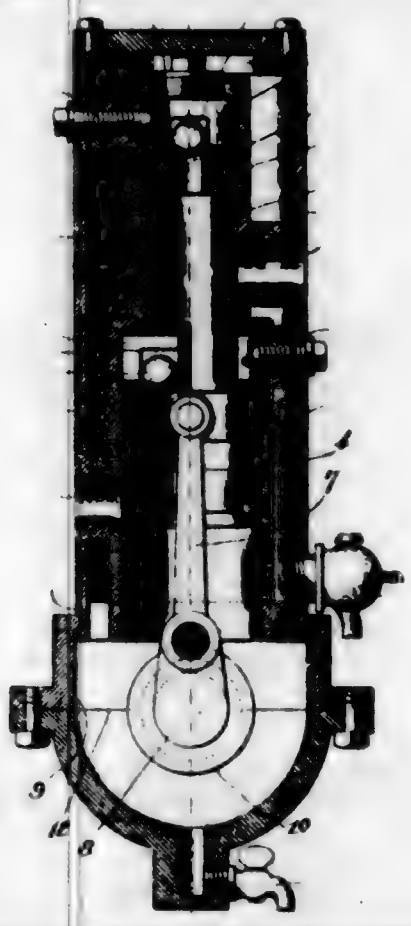
805,774. INTERNAL-COMBUSTION ENGINE. JOSEPH D. BLAISDELL, Boston, Mass. Filed Mar. 17, 1904. Serial No. 198,568.

Claim.—1. In an internal-combustion engine, two connected cylinders, each having a combustion-chamber, two connected pistons operating simultaneously in the same direction in said cylinders, each piston having a valved passage therethrough opening directly into the combustion-chamber of the corresponding cylinder and means to supply gaseous fuel to the combustion-chambers through said valved passages.

2. In an internal-combustion engine, two connected cylinders of different diameter, each having at one end a combustion-chamber in one end of and one of said cylinders being open at the other end, a closed crank-case communicating with said open end of said cylinder, means to admit gaseous fuel to the crank-case, and two connected pistons of different diameter operating in said cylinders, each piston having a valved passage therethrough through which gaseous fuel is admitted from the crank-case to the corresponding combustion-chamber.

3. In an internal-combustion engine, two connected cylinders of different diameter each having a combustion-chamber, two connected piston of different diameter operating in said cylinders, each piston having a valved passage therethrough opening into the corre-

sponding combustion-chamber of the corresponding cylinder, and means to supply gaseous fuel to the combustion-chambers through said valved passages.



4. In an internal-combustion engine, two connected cylinders of different diameters, each having a combustion-chamber, and one of said cylinders being open at one end, a closed crank-case communicating with said open end, two connected pistons operating in said cylinders, each piston being hollow and having a port communicating with the combustion-chamber, and automatically-operating valves closing said ports.

5. In an internal-combustion engine, a cylinder having a combustion-chamber and open at one end, said cylinder also having a jacket-chamber thereabout which communicates with the open end thereof, a piston in said cylinder, said piston having a valved aperture therethrough which connects the open end of the cylinder with the combustion-chamber, and means to admit vaporized fuel to the jacket-chamber of the cylinder, whereby said fuel after circulating through said jacket is delivered to the open end of the cylinder and through the piston to the combustion-chamber.

6. In an internal-combustion engine, a cylinder having a combustion-chamber, said cylinder being open at one end and also having a jacket-chamber thereabout, a closed crank-case, the interior of which communicates with both the open end of the cylinder and the jacket-chamber, a piston having a valved aperture therethrough, means to admit vaporized fuel to the jacket-chamber of the cylinder, and means to cause said fuel to circulate completely through the chamber before passing to the crank-case.

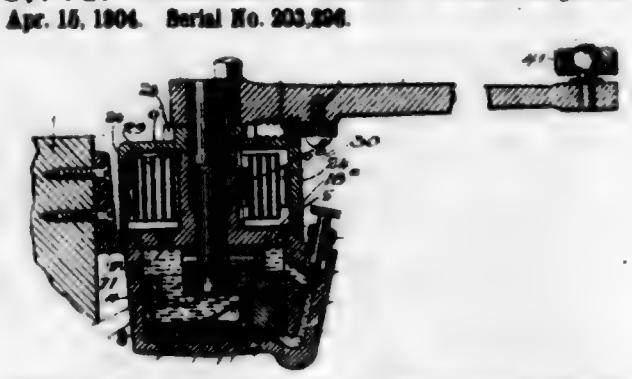
7. In an internal-combustion engine, an open-ended cylinder having a jacket-chamber thereabout, and a combustion-chamber therein, longitudinal partitions in said jackt-chamber, a crank-case having a closed crank-chamber which communicates with the jacket-chamber at one side of the partition and also with the open end of the cylinder, means to admit vaporized fuel to the jacket-chamber on the other side of the partition, and a piston in the cylinder having a valved aperture therethrough.

8. In an internal-combustion engine, two connected cylinders of different diameter each having a combustion-chamber and one being open at its lower end, a jacket-chamber surrounding said cylinders, a crank-case having a closed crank-chamber communicating with both the jacket-chamber and open end of the cylinder, two pistons in said cylinders, each piston having a valved passage therethrough connecting the crank-chamber with the corresponding combustion-chamber, and means to admit vaporized fuel to the jacket-chamber.

9. In an internal-combusion engine, a cylinder having a combustion-chamber, a jacket-chamber surrounding the cylinder, partitions extending longitudinally and dividing the jacket-chamber into two compartments which communicate with each other, one compartment communicating with the combustion-chamber, and means to admit gasolene to the other compartment.

10. In an internal-combustion engine two cylinders opening directly into each other, each cylinder having a combustion-chamber, two connected pistons operating in said cylinders, each piston having a valved passage therethrough opening directly into the combustion-chamber of the corresponding cylinder, and means to supply gaseous fuel to the combustion-chambers through said valved passages.

805,775. **DOOR-CHECK.** GEORGE J. BLUM, Chicago, Ill. Filed Apr. 15, 1904. Serial No. 203,296.



Claim.—1. In a door-check, in combination, a door-closing mechanism comprising a coiled spring upon the inner end of which is a projection having an inclined face, a fixed member having a recess therein in which said projection is adapted to project and from which it is adapted to slip upon being moved in a certain direction, and a rotatable support for the outer end of said spring; and a checking mechanism for said door-closing mechanism.

2. In a door-check, in combination, a door-closing mechanism comprising a coiled spring, the inner portion of which is provided at a little distance from its end with an inclined tang punched from the substance of said spring, a fixed member having a recess therein in which said tang is adapted to project and from which it is adapted to slip upon being moved in a certain direction, and a rotatable support for the outer end of said spring; and a checking mechanism for said door-closing mechanism.

3. In a door-check, in combination, a door-closing mechanism comprising a rotatable spring-casing having a recess in its inner walls; a coiled spring lying within said casing and having its hooked outer end lying in said recess, a fixed member to which the inner end of said spring is releasably connected, said spring having an opening therein near its outer end, and a band surrounding said spring and passing through said opening, said spring being adapted to be withdrawn from said casing, inverted and replaced; and a checking mechanism for said door-closing mechanism.

4. In a reversible door-check, in combination, a door-closing mechanism comprising a rotatable spring-casing, a coiled spring lying within said casing and having its outer end releasably connected therewith, the inner portion of which spring is provided at a little distance from its end with a projection having an inclined face, a fixed member having a recess therein in which said projection is adapted to project and from which it is adapted to slip upon a rotation of the spring-casing in a certain direction; and a checking mechanism for said door-closing mechanism.

5. In a door-check, in combination, a closing mechanism; and a checking mechanism comprising a member having a valve-opening therein, a stud on said member, a valve-disk slidably supported on said stud and adapted to cover said valve-opening, and a valve-cage fixed with relation to said stud and adapted to limit the extent of the movement of said valve-disk in one direction.

6. In a door-check, in combination, a closing mechanism; and a checking mechanism comprising an oil-cylinder, a piston therein having a plurality of valve-openings extending through it, a stud on said piston, a valve-disk slidably supported on said stud and adapted to cover said valve-openings, a valve-cage fixed with relation to said stud and having projections adapted to limit the extent of the movement of said valve-disk in one direction, and a packing-ring between said valve-cage and said piston.

7. An extensible arm for door-checks comprising two pairs of sections, each section being substantially of quadrant form in cross-section, the members of each pair being connected together, and the two pairs being releasably held with relation to each other.

805,776. **HOLDER FOR THE FLIES OF BOOTS AND SHOES.** MATTHIAS BROCK, Boston, Mass., assignor to Victoria Self-Lacing Company, Portland, Me. Filed Feb. 10, 1899. Serial No. 705,190.

Claim.—1. A holder for the eyeleted flies of boots and shoes, composed of spring-wire bent to present a plurality of pairs of engag-

ing members having their ends bent to enter opposed eyelets in opposite flies, the wire connecting one pair of engaging members with another pair being bent into spring form whereby it may yield and enable one pair of engaging members to be moved toward or away from the other pair to adapt the holder to the spacing of the eyelets.



2. A holder for the flies of boots and shoes, presenting a plurality of pairs of engaging members, each pair of engaging members having a hook to enter an eyelet in one fly and a projecting prong to enter an eyelet in the opposed fly, the said prongs being turned substantially in the direction of the length of the holder, and a spring connecting said plurality of pairs of engaging members, substantially as described.

3. A holder for the flies of boots and shoes, composed of wire bent to present a central spring, and a pair of engaging devices at each end, one engaging device of each pair being shaped as a hook and the other device as a single prong, the said prongs at the free ends of the wire being adapted to enter eyelet-holes in one fly to retain the holder in place.

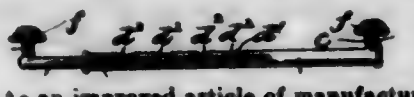
4. A holder for the flies of boots and shoes, composed of spring-wire provided at or near each end with a pair of eyelet-engaging devices, one device of each pair consisting of a hook presenting two thicknesses of wire, the other device of each pair being turned in opposite directions and capable of being moved one toward and from the other in the direction of the length of the row of eyelets in the fly, substantially as described.

805,777. ORDNANCE. JOHN H. BROWN, Reading, Pa., assignor to Brown Wire Gun Company, New York, N. Y., a Corporation of Maine. Filed June 25, 1904. Renewed July 27, 1905. Serial No. 271,561.



Claim.—A core-tube for guns having its exterior provided with one or more steps or shoulders extending longitudinally thereof and overlapping sheets or segments arranged with their inner edges engaged with the steps or shoulders on the core-tube and means for holding the said sheets or segments in assembled adjustment.

805,778. ADJUSTABLE COLLAR-SUPPORTER. WILLIAM F. CADY, Edgewood, R. I. Filed Oct. 6, 1905. Serial No. 281,616.



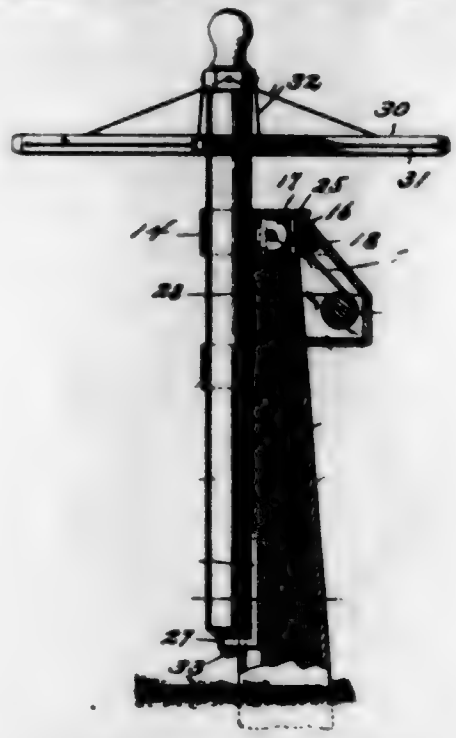
Claim.—1. As an improved article of manufacture, a telescoping collar-supporter consisting of a tubular body member having a longitudinal main opening or slot through its wall and a plurality of suitably-spaced shorter openings or slots in open communication with said main opening, a bar member movably mounted in said tubular member having a fixed lug arranged to engage said slots and interlock with said tube, and oppositely-disposed setting or button members connected with the said body and bar members.

2. The improved adjustable collar-supporter herein described, consisting of the outer and inner members, *a* and *b*, the latter capable of endwise movement in said outer member, means integral with said members for varying the length of the collar-supporter and holding it in such adjusted positions, an inner spring in yielding engagement with the member *b*, a post at each end of the supporter and a setting or button member removably secured to each post.

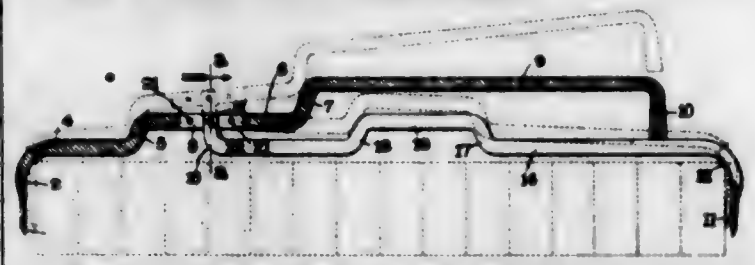
3. The two-part telescoping collar-supporter having the outer one of said parts relatively stationary and provided with a longitudinal slot and a plurality of intercommunicating shorter slots, the other of said parts being endwise and axially movable in said outer member and provided with a fixed lug arranged to interlock with said shorter slots, and button members detachably secured to the opposite ends of the collar-supporter, substantially as described.

805,779. CLOTHES-DRIER. THOMAS A. CAMPBELL, Eureka, Cal. Filed Mar. 15, 1904. Serial No. 198,383.

Claim.—In a clothes-reel, the combination of a standard having a pair of spaced longitudinal flanges constituting a guideway with the inner edges of the flanges beveled to converge inwardly, a vertically-movable mast working against the beveled edges of the flanges as guides, said flanges closing the opposite sides of the space between the mast and the standard to exclude foreign matter therefrom, a clothes-reel carried by the top of the mast, a hanger working in the guideway with the mast supported thereon, and elevating means carried by the standard and connected to the hanger.



805,780. BRICK-TONGS. WILLIAM R. CARY and CHARLES R. CARY, Anthony, Kans., assignors of one-third to Hugh M. Pantier, Anthony, Kans. Filed Mar. 3, 1905. Serial No. 248,347.



Claim.—1. A device of the class described comprising two angular members, one of which has a holding-jaw and an intermediate slotted portion, and the other of which has a holding-jaw at one end and its opposite end pivoted in said slot.

2. A device of the class described comprising two angular members, one of which has a holding-jaw and a slot and the other of which has a portion at one end supported in said slot and a holding-jaw at the opposite end.

3. A device of the class described comprising two angular members, one of which has a holding-jaw and a slot and the other of which has one end bent upwardly and pivoted in said slot and the opposite end bent downwardly and constituting a holding-jaw.

4. A device of the class described comprising two angular members each having a holding-jaw and one of said members being slotted at least in part, and the other of said members having the end opposite its holding-jaw pivoted in said slot.

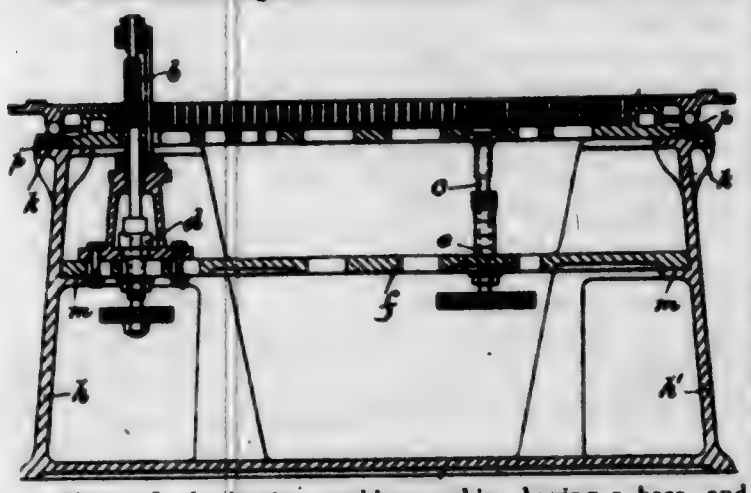
5. A device of the class described comprising two pivotally-joined members, one of which has its opposite ends bent to extend in opposite directions and one of said ends constituting a holding-jaw and the other a pivotal element, and the other of which has its opposite ends bent to extend in the same direction and one of said ends constituting a holding-jaw and the other a stop which is arranged to abut against the remaining member to limit the opening movement of said members.

6. A device of the class described comprising an outer or slotted member consisting of an enlarged transversely-arranged blade-like end portion, which conforms substantially to the rectangular shape of the side face of an ordinary brick and constitutes one of the holding clamping-jaws of the device, a comparatively short portion or shank extending upward from said end which bends at substantially right angles, a short portion extending longitudinally from the said bend, and terminating at a diagonally upwardly extending portion, an intermediate longitudinal portion extending from the opposite or up-

per extremity of the diagonal portion, and terminating at a second diagonal upwardly extending portion; said intermediate longitudinal portion being in part enlarged and having a longitudinal slot, a comparatively long longitudinal portion extending from the upper extremity of the diagonal portion and terminating at a downwardly-extending portion which constitutes the other end of the member, an inner member consisting of a transverse blade-like end portion which constitutes the other holding or clamping jaw and has a short upwardly-extending shank that terminates at a bend, a comparatively long longitudinal portion extending from the bend and bends at its opposite end to constitute an upwardly-extending end portion and a pin for pivoting said members together, substantially as described.

7. A device of the class described comprising an outer member consisting of an end portion which constitutes one of the holding-jaws of the device, a longitudinal portion which is at least in part enlarged and has a longitudinal slot, an inner member consisting of an end portion which constitutes the other holding-jaw, a longitudinal portion extending from said jaw which bends at its opposite end to constitute an upwardly-extending end portion and a pin for pivoting said members together, substantially as set forth.

805,781. **WOOL-COMBING MACHINE.** EDMUND COLBURN, Moreton, near Leeds, England. Filed Jan. 24, 1905. Serial No. 242,478.



Claim.—1. A circular combing-machine having a base, and sides integral therewith, the latter having integral flanges, said flanges having planed or turned surfaces.

2. A circular combing-machine having a base, and sides integral therewith, the latter having integral flanges, said flanges having planed or turned surfaces, and a gearing-plate and a bearing-plate having planed or turned under surfaces to rest upon the upper surfaces of said flanges.

3. A circular combing-machine comprising an integral base and sides, the latter having integral internal flanges to support a gearing-plate and integral top flanges to support the bearing for the comb-carriage, said flanges having planed or turned upper surfaces.

805,782. **COUPLING FOR BRUSH-HEADS.** GARDNER P. COPP, Stockton, Cal. Filed May 26, 1904. Serial No. 209,871.

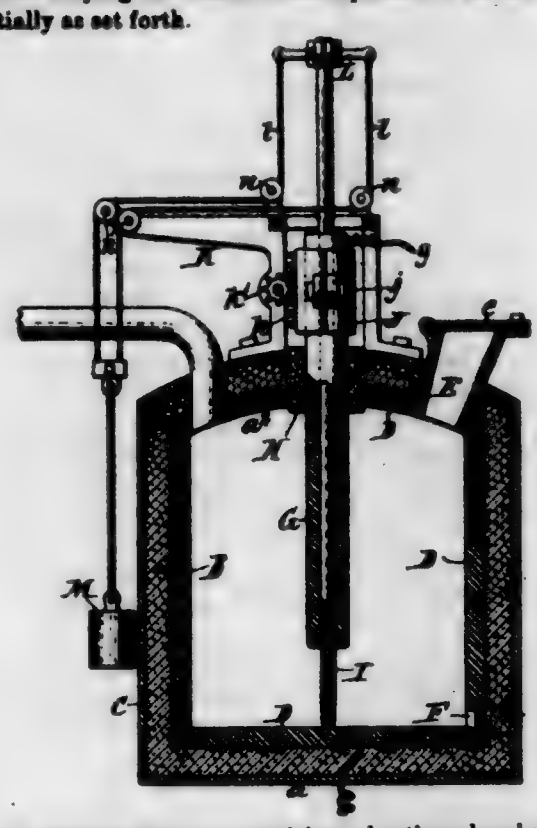


Claim.—A coupling for brush-heads, comprising an elongated tubular male member provided on opposite sides with elongated longitudinally-disposed flanges, and on other opposite sides with transversely-disposed corrugations, and having an annular outwardly-extending flange on its outer end, and a female member having an inturned flange at its lower end to engage with the flange on the male member, and having interior threads, as and for the purpose described.

805,783. **ELECTRIC FURNACE.** JOHN S. DORIAN, Niagara Falls, N. Y., assignor to Cora M. Dorian, Niagara Falls, N. Y. Filed Mar. 27, 1905. Serial No. 252,143.

Claim.—1. An electric furnace comprising a heating-chamber, a pair of electrodes arranged in the chamber, and a resistance member electrically connecting said electrodes, one of said electrodes being movable lengthwise of the resistance member for varying the extent of its exposure or its heating effect, substantially as set forth.

2. An electric furnace comprising a heating-chamber, a pair of electrodes arranged in said chambers one of which is stationary while the other is movable toward and from the stationary one, and a resistance member engaging endwise at one end with one of said electrodes while its opposite end engages sidewise with the other electrode, said movable electrode being adjustable lengthwise of the resistance member for varying the extent of its exposure or its heating effect, substantially as set forth.



3. An electric furnace comprising a heating-chamber, a pair of electrodes arranged in said chamber, one of which is stationary while the other is movable toward and from the stationary one and constructed of tubular form, and a resistance member having the form of a rod which is arranged at one end in said tubular electrode and bears at its opposite end against the other electrode, substantially as set forth.

4. An electric furnace comprising a heating-chamber, a pair of electrodes one of which is stationary and arranged on the bottom of the chamber while the other is of tubular form and movable through the top of said chamber toward and from the stationary electrode, and a resistance member arranged at one end in said movable tubular electrode and engaging at its opposite end with the stationary electrode, substantially as set forth.

5. An electric furnace, comprising a heating-chamber, a pair of electrodes arranged in the chamber, and a resistance member contacting with one of said electrodes and movable thereon to engage the other electrode, substantially as set forth.

6. An electric furnace, comprising a heating-chamber, a pair of electrodes arranged in the chamber, a resistance member connecting said electrodes, and means for automatically moving said resistance lengthwise of one of said electrodes and into engagement with the other electrode, substantially as set forth.

7. An electric furnace comprising a heating-chamber, a pair of electrodes arranged in the chamber, a resistance member connecting said electrodes, and means for automatically moving said resistance lengthwise of one of said electrodes and into engagement with the other electrode comprising a draft-cable connected at one end with said resistance member and at its opposite end with a weight, substantially as set forth.

8. An electric furnace comprising a heating-chamber, a pair of electrodes one of which is stationary and arranged on the bottom of the chamber while the other is of tubular form and extends through the top of the chamber, a resistance member constructed in the form of a rod which is arranged in said tubular electrode and bears at its inner end against said stationary electrode, and means for automatically moving said resistance member lengthwise of the tubular electrode and toward the stationary electrode comprising a cable connected at one end to the upper end of said resistance member, a weight connected with the opposite end of said cable, and guide-pulleys for the intermediate part of said cable, substantially as set forth.

9. An electric furnace comprising a heating-chamber, a pair of electrodes arranged in said chamber, one of said electrodes being stationary while the other is movable toward and from the stationary one, and a resistance member movable at one end lengthwise of the movable electrode and adapted to engage at its opposite end with the stationary electrode, substantially as set forth.

805,784. BOTTLE-CLOSURE. Otto Eick, Baltimore, Md. Filed Apr. 22, 1904. Serial No. 204,461.



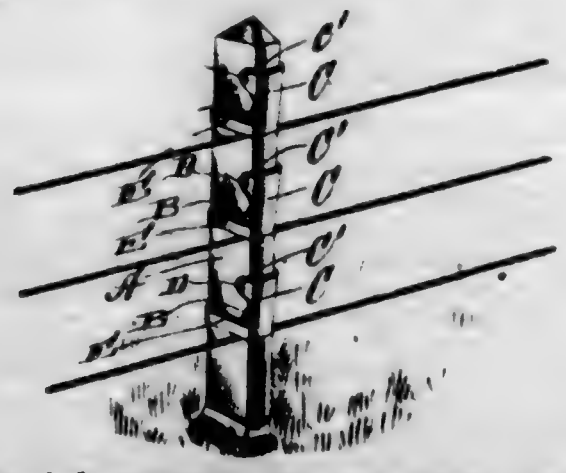
Claim.—1. In combination with a receptacle having a rib or shoulder extending around the same; a closure therefor comprising a body portion having downwardly-projecting arms embracing said rib or shoulder; and integrally-formed links connecting the ends of said arms in pairs.

2. In combination with a receptacle having a rib or shoulder extending around the same; a closure therefor comprising a body portion having downwardly-projecting arms embracing said rib or shoulder; and integrally-formed links connecting the ends of said arms in pairs, the links being bent away from the arms to form loops or bails, substantially as described.

3. In combination with a receptacle having a rib or shoulder extending around the same; a closure therefor comprising a body portion having downwardly-projecting arms embracing said rib or shoulder; and integrally-formed links connecting said arms in pairs, said links throughout a portion of their length embracing the neck of the receptacle beneath the shoulder, and being bent outwardly at their central portions to form bails or loops, substantially as described.

4. A closure comprising a body portion having retaining-arms formed integrally therewith, and links connecting the ends of said arms in pairs, the links being bent to form bails or loops intermediate the arms, substantially as described.

805,785. COMBINED FENCE-POST AND WIRE-FASTENER. Albert B. Engbretson, Birch Hills, Canada. Filed July 17, 1906. Serial No. 270,153.



Claim.—1. In combination with a post, having a series of recesses formed in one face thereof, locking members pivotally mounted upon the post, oppositely-extending arms projecting from the lower free end of each of said members, the ends of said arms being angled and adapted to engage about the corners of the post, as set forth.

2. In combination with a post, having a series of recesses formed in one face thereof, locking members pivotally mounted upon the post, oppositely-extending arms projecting from the lower free end of each of said members, the ends of said arms being angled and adapted to engage about the corners of the post, and the lower ends of said members adapted to contact with the marginal edges of said recesses, as set forth.

3. In combination with a post, having recesses formed in one face thereof, locking members having ears which are perforated, pins carried by the post and upon which said members are mounted, arms projecting from the lower free ends of said members and designed to engage about the post and retain wires in said recesses, as set forth.

805,786. DEVICE FOR DISPLAYING ADVERTISING MATTER. Henry W. Evans, Philadelphia, Pa., assignor to Unique Advertising Company, a Corporation of South Dakota. Filed Jan. 13, 1903. Renewed Mar. 24, 1905. Serial No. 251,726.

Claim.—1. In a device of the type recited, the combination of a clock, a chain of cards, an electric circuit, a motor, connections between said motor and said chain for displaying said cards consecutively, an electromagnet included in said circuit, a circuit-closer mounted upon an insulated moving part of the clock for periodically completing and breaking the circuit through the electromagnet, and means responding to the energising and demerging of the magnet for alternately releasing and stopping the motor, substantially as described.



2. In a device of the type recited, the combination of a clock, a chain of cards, an electric circuit, a motor, connections between said motor and said chain for displaying said cards consecutively, an electromagnet included in said circuit, an armature adapted to be attracted by said magnet when the latter is energized, a circuit-closer mounted upon an insulated moving part of the clock for periodically completing and breaking the circuit through the electromagnet, and a mechanical connection between the armature and the motor for alternately releasing and stopping the motor in response to the making and breaking of the circuit, substantially as described.

3. In a device of the type recited the combination of a clock, a generally polygonal carrier, a chain of cards having hinged connections, an electric circuit, a motor, connections between the motor and the carrier for displaying said cards consecutively, and electrical means controlled by a moving part of the clock for alternately releasing and stopping the motor, substantially as described.

4. In a clock-controlled advertising device, the combination of a clock, a carrier, a chain of cards, an electric circuit, mechanical means acting as a motor, connections between said means and the carrier for displaying said cards consecutively, and electrical means controlled by a moving part of the clock for alternately releasing and stopping the motor, substantially as described.

5. In a clock-controlled advertising device, the combination of a journaled carrier arranged to display an endless chain of cards, a motor to operate said carrier, an escapement on the shaft of the carrier, a dog or pawl normally engaging the same, a clock, an electric circuit, an electromagnet and its complemental armature included in said circuit and located above the escapement, a circuit-closer mounted upon an insulated moving part of the clock for periodically completing and breaking the circuit through the electromagnet, and a mechanical connection between the armature and pawl, whereby the motor is alternately released and stopped in response to the making and breaking of the circuit, substantially as described.

805,787. PHONOGRAPH ATTACHMENT. George First and Frank Kretzer, New York, N. Y. Filed Apr. 5, 1905. Serial No. 253,067.



Claim.—1. An apparatus for the purposes specified, comprising a hollow body, means for attaching the same to a sound-reproducing apparatus and a horn, a tubular portion closed at one end arranged in said hollow body, and openings in said tubular portion, substantially as specified.

2. An apparatus for the purposes specified comprising a hollow body, means for attaching the same to a sound-reproducing apparatus and a horn, a tubular portion closed at one end, extending into said hollow body from the receiving end thereof, and openings in said tubular portion, substantially as specified.

3. An apparatus for the purposes specified comprising a hollow body, tube-sections secured thereto and communicating with the interior of said hollow body, and a tubular portion closed at one end arranged in said hollow body, and communicating with one of the tube-sections, and openings arranged in said tubular portion, substantially as specified.

4. An apparatus for the purposes specified comprising a hollow spherical body, tube-sections secured thereto and communicating with the interior of said hollow body, and a tubular portion closed at one end arranged in said hollow spherical body and communicating with one of said tube-sections at its junction with the hollow spherical body, and apertures arranged in said tubular portion, substantially as specified.

5. An apparatus for the purposes specified comprising a hollow, spherical body, tube-sections secured thereto opposite to each other, and communicating with the interior of said hollow, spherical body, and a tubular portion secured at one end to one of said tube-sections, and extending into said hollow spherical body, and provided at its inner end with a conical top, and lateral openings, substantially as specified.

6. An apparatus for the purposes specified comprising a hollow spherical body consisting of two corresponding semispherical sections united at their edges, tube-sections extending from the top and bottom of said spherical body and communicating with the interior thereof, and a tubular portion secured at one end within one of the tubular sections aforesaid and extending into said hollow spherical body, said tubular portion being closed at its upper end and provided with openings in its side below said closed upper end, substantially as specified.

7. An apparatus comprising a hollow, spherical body consisting of two corresponding semispherical sections united at their meeting edges, tube-sections secured to and extending outwardly in opposite directions from said hollow, spherical body, and communicating with the interior thereof, a deflector arranged within said hollow, spherical body consisting of a tubular portion secured at its lower end to one of the tubular sections extending outwardly from said hollow spherical body, and its other end extending upwardly into said hollow, spherical body, said tubular portion having a conical head or top, and lateral openings in its side below said conical head or top, substantially as specified.

8. An apparatus for the purposes specified, comprising a hard hollow, spherical body, a relatively soft lining therefor, tube-sections secured to and extending outwardly in opposite directions from said hollow, spherical body, and a deflector arranged within said hollow, spherical body, and communicating directly with one of the tubular sections thereof, substantially as specified.

9. An apparatus for the purposes specified comprising a hollow, spherical body consisting of two corresponding semispherical metal sections united at their meeting edges, a lining for said hollow, spherical body consisting of two corresponding semispherical sections, composed of a relatively softer metal, and conforming in shape to the interior surface of said hollow, spherical body, two sections secured to said hollow, spherical body, and communicating with the interior thereof, and a deflector disposed within said hollow, spherical body consisting of a tubular portion secured at its lower end within one of the tubular sections aforesaid, said tubular portion having a conical head or top and circular openings in its side below said head or top, substantially as specified.

805,788. **ELECTRIC STRAIN-INSULATOR.** SAMUEL L. FOSTER, San Francisco, Cal. Filed Jan. 16, 1905. Serial No. 241,230.



Claim.—1. An electric strain-insulator consisting of an open, link-like metallic body having a flat centrally-perforated base, a metallic bolt passing into said body through its perforated base and insulated therefrom, a nut on the inner end of the bolt, and an apertured insulating-block under compression between the nut and the flat base of the body, said block having a tapering wall terminating in an enlarged flat base.

2. An electric strain-insulator consisting of an open, link-like metallic body having a flat centrally-perforated base, a metallic bolt passing into said body through its perforated base and insulated therefrom, a nut on the inner end of the bolt, an insulating-block under compression between the nut and the flat base of the body, said block having a recess in its upper end for the reception of said nut, a cushion-washer within said recess between the nut and the upper end of the block, and a cushion-washer between the lower end of the block and the flat base of the body.

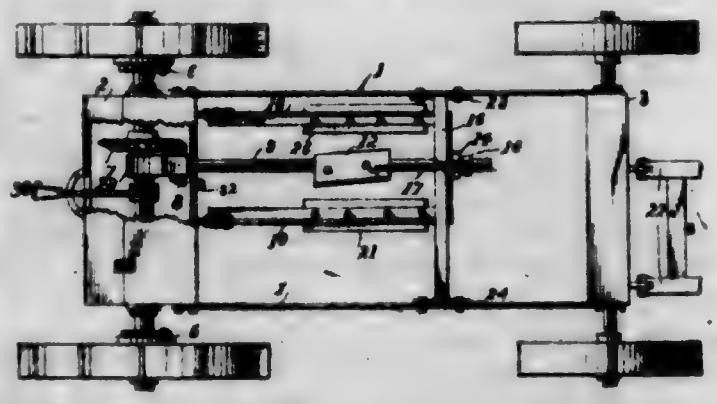
3. An electric strain-insulator consisting of an open, link-like metallic body having a flat centrally-perforated base, a metallic bolt passing into said body through its perforated base and insulated therefrom, a nut on the inner end of the bolt, and an insulating-block having a tapering wall terminating in an enlarged flat base and being under compression between said nut and the flat base of the body, said block having an extension from its lower end projecting through the perforated base of the body and electrically separating the bolt therefrom.

4. An electric strain-insulator consisting of an open, link-like metallic body having a flat centrally-perforated base, a metallic bolt passing into said body through its perforated base and insulated therefrom, a nut on the inner end of the bolt, an insulating-block having an enlarged flat base engaging over the base of said body and an extension therebelow projecting through the perforated base of the body and electrically separating the bolt therefrom, a cushion-washer between the upper end of the block and the nut, and a cushion-washer between said base of the block and the flat base of the body.

5. An electric strain-insulator consisting of an open link-like metallic body having a flat centrally-perforated base, and having in its other end a countersunk hole extending therethrough and communicating with the open space between said link portion of the frame, a cable secured within said hole, a metallic bolt passing into said body through its perforated base, said bolt having in its outer end a countersunk hole communicating with an open space thereabove, a cable secured within said hole, a nut on the inner end of the bolt and an insulating-block under compression between the nut and the flat base of the body, said block having an extension from its lower end projecting through the flat base of the body and electrically separating the bolt therefrom.

6. An electric strain-insulator consisting of an open, link-like metallic body having a flat centrally-perforated base, and having in its other end a countersunk hole for the cable connection, a metallic bolt passing into said body through its perforated base, said bolt having in its outer end a countersunk hole for the cable connection, a nut on the inner end of the bolt, an insulating-block under compression between the nut and the flat base of the body, said block having an extension from its lower end projecting through the flat base of the body and electrically separating the bolt therefrom, a cushion-washer between the upper end of the block and the nut, and a cushion-washer between the lower end of the block and the flat base of the body.

805,789. **CULTIVATOR.** WARREN S. FRARY and JULIUS L. KNIEPER, Grand Rapids, Mich., assignors to Julius L. Knieper, Grand Rapids, Mich. Filed Sept. 8, 1904. Serial No. 223,686.

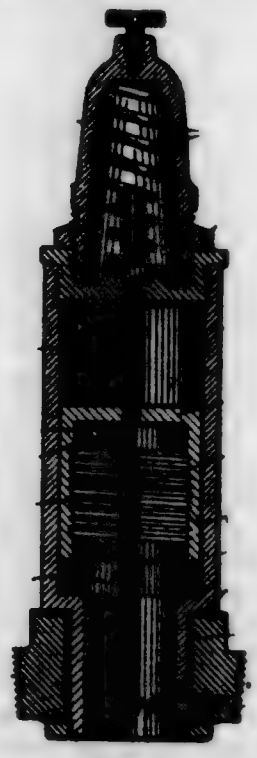


Claim.—1. In a wheeled cultivator having a fixed main frame, a revolving shaft having adjustable cutters movably supported in the main frame, frames connected to the said main frame and to one

end of the shaft for automatically adjusting the latter, and means for maintaining said shaft in an adjusted position.

2. In a wheeled cultivator having a main frame, a rotatable shaft having cutters, frames having one of their ends connected to the main frame and the other ends slidably connected thereto, said shaft supported in the main and slidable frame for automatically adjusting the same, shoes on said slidable frames, and a flexible means for positive adjustment of said shaft.

805,790. SPARKING DEVICE. BENJAMIN G. GILBOUGH, Chicago, Ill. Filed Dec. 30, 1904. Serial No. 238,888.



Claim.—1. An ignition device for the purpose set forth, comprising an oscillating contact member presented to the charge in the engine-cylinder, a gas-actuated member serving to oscillate said contact member, and means for restoring said last-named member to its normal position after the gas-pressure is relieved.

2. An ignition device comprising a cylinder, a gas-actuated spring-retracted piston provided with a part having an undulating surface, and relatively movable contact members, one of which is actuated through the medium of the undulating surface of the piston, for the purpose set forth.

3. An ignition device comprising a bushing, a cylinder insulatingly mounted thereon, a contact member carried by the bushing, a contact member pivoted in the cylinder, and a gas-actuated spring-retracted piston having an undulating surface presented to said second-named contact member, for the purpose set forth.

805,791. METAL FENCE-POST. JOHN H. GOULDSTONE, Portland, Oreg. Filed Oct. 10, 1903. Serial No. 176,861.

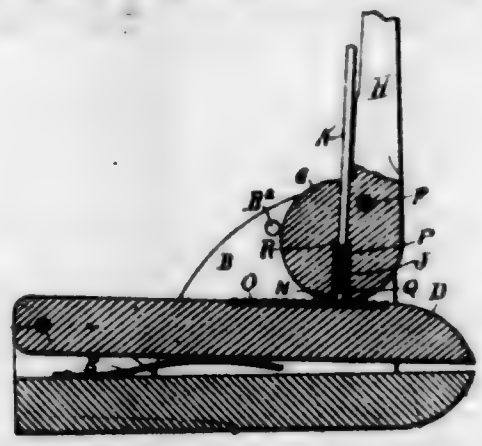


Claim.—A metal post comprising a tubular body and lateral projecting feet, rigidly attached to the bottom thereof, whereby to anchor the same; said feet being made of flat strips, the extremities of which are bent at an angle; and wire wound around the projecting feet in such manner as to criss-cross the open bottom of the tubular body, and partially close the same for the purpose of holding coarse and weighty material as a filling in the bottom of such tubular body, to anchor the same in upright position on the ground.

805,792. VISE. THOMAS HARDEN, Ferguson, Ky. Filed Mar. 22, 1905. Serial No. 251,295.

Claim.—1. A vise or clamp, consisting of a pair of clamping-jaws, a rack carried by one of said jaws, a lever-cam engaging one of the jaws, and means for retaining said lever-cam consisting of a spring-actuated rod arranged in the cam of the lever and adapted to engage the rack.

2. A vise or clamp consisting of a pair of jaws, a rack carried by one of said jaws, a lever-cam and a rod carried by the lever and having a concealed spring for forcing said rod into engagement with said rack for securing the jaws in the adjusted position.

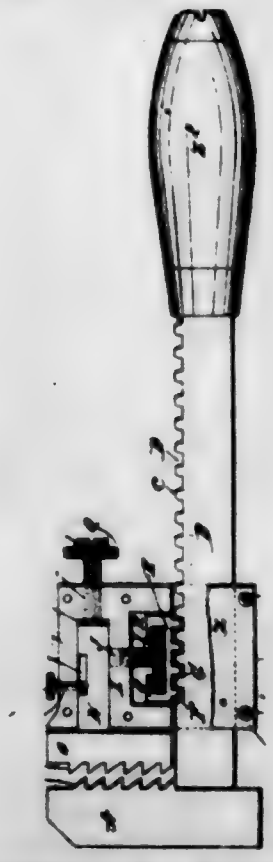


3. A vise or clamp consisting of a stationary jaw, a pair of plates carried by said jaw, a pivoted jaw mounted in said plates, a rack carried by the pivoted jaw, a lever-cam adjustably fulcrumed in said plate, a spring-actuated rod arranged within said cam, and a pivoted handle-lever connected to said rod for disengaging it from the rack of the pivoted jaw.

4. A vise or clamp consisting of a pair of jaws provided with knives or cutters, a lever-cam engaging one of the jaws, a rack carried by the jaw engaged by said cam, and a rod passing through said cam and engaging the rack for securing the jaws in adjusted position.

5. A vise or clamp, consisting of a pair of pivoted jaws, a pair of plates secured to one of the jaws and provided with a series of openings, a lever having a cam adapted to be fulcrumed in any of the series of said openings, a rack on one of the jaws, and a spring-actuated rod carried by the cam and engaging the rack to retain the lever.

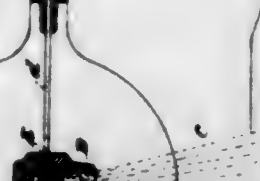
805,793. WRENCH. JOSEPH P. A. HARLOW, Somerville, Mass. Filed June 17, 1905. Serial No. 265,521.



Claim.—The combination with a rack-bar having a fixed jaw, of a frame having spacing-blocks above and below the rack-bar, the block above the rack-bar having an opening, a cross member, and a guide-slot, side plates connecting said spacing-blocks, a thumb-screw the shank of which is engaged in a screw-threaded perforation of said cross member, a clamping member having teeth adapted to engage with the teeth of the rack-bar and arms embracing the thumb-screw, a slide movable in the guide-slot of the upper block and having a groove in one edge and a jaw, a thumb-screw working in a screw-threaded perforation of said upper block and extending into the groove in said slide, and a screw working in a screw-threaded perforation in said upper block and bearing against the end of said slide, said latter screw having a thumb-nut and slotted squared projection

whereby said screw may be engaged by the fingers, by a screw-driver, or by a wrench, substantially as and for the purpose described.

805,794. CLASP FOR LOOSE-LEAF BINDERS. WILLIAM F. HEYNER, Benton Harbor, Mich., assignor of one-fourth to Henry Spahn and one-fourth to John L. Taylor, Benton Harbor, Mich. Filed June 22, 1905. Serial No. 266,488.

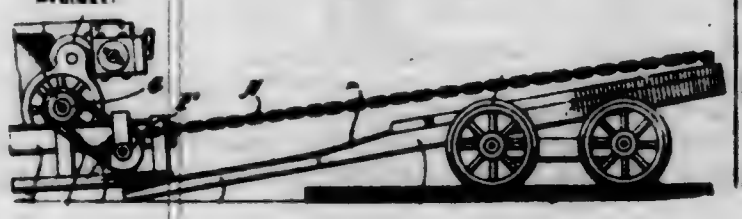


Claim.—A clasp for loose-leaf binders comprising a plate adapted for attachment to the cover of a binder, said plate having longitudinal flanges upon its opposite edges, lugs projecting from said flanges at positions opposite each other, a clasp member I having its base passing underneath said lugs, a spring resting upon the base of said clasp-piece and engaged by said lugs which are bent toward each other, a pivotal clasp-section having outwardly-extending lugs which are journaled in recesses in said flanges, a portion of said pivotal clasp-section having an aperture therein through which the free end of said spring passes, a portion of the pivotal clasp-section being bent at an angle and positioned underneath said spring, as shown and described.

805,795. X-RAY TUBE. JOHN O. HEINER, Jr., Lowell, Mass. Filed Mar. 16, 1905. Serial No. 250,266.

Claim.—In an X-ray tube, a cathode; a shield made out of metal, and mounted on the end portion of an anode-stem; said shield having two holes; the first hole passing through it, a portion of said hole having a thread cut therein; the second hole leading into the first hole to receive the cathode-stream; a plug having a hard metal surface, mounted on the end thereof, and being provided with a screw-thread, whereby it may be screwed into the thread portion of said second hole, to secure the point of bombardment of the anode in the path of the cathode-stream.

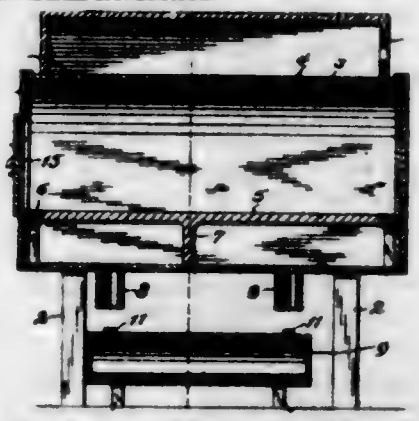
805,796. DEVICE FOR LOADING MACHINES UPON TRUCKS. ANDREW HOLBREN, Misco, Ohio. Filed Aug. 31, 1905. Serial No. 276,617.



Claim.—1. An apparatus for loading Jeffrey machines upon trucks comprising, in combination with the motor of the machine, a winding reel or drum mounted in suitable bearings in the frame of the machine, sprocket chain and wheel connections between said winding-drum and motor, a truck, a loading-chain anchored to one end of the truck and its other end fastened to and adapted to wind upon said reel or winding-drum, whereby as the motor is actuated, the machine may be drawn upon the truck, as set forth.

2. In combination with a machine-frame and motor thereon, a winding-reel journaled in suitable bearings upon said frame, sprocket wheel and chain connections between said motor and reel, a truck having projecting ends which are adapted to be tilted down to allow means up which said machine may be drawn upon the truck, a loading-chain anchored to said truck at the end opposite its projecting portions and adapted to wind upon said reel, whereby as the motor is actuated, the machine may be drawn upon the truck, as set forth.

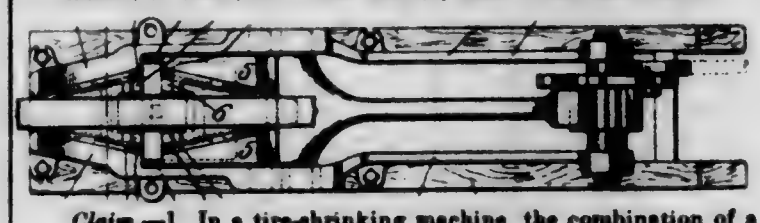
805,797. FURNACE. JACOB B. HOOVER, Columbus, Ohio. Filed Dec. 8, 1904. Serial No. 236,006.



Claim.—1. In a furnace of the character described, the combination with an oven having an escape-opening near one end and a heating apparatus, of an independent deflecting-table arranged in the oven above the heating apparatus and constructed to cause the heat to pass up its sides and ends and over its surface before passing out through the escape-opening.

2. In a furnace of the character described, the combination with an oven having an escape-opening near one end and a heating apparatus, of an independent deflecting-table arranged in the oven above the heating apparatus and constructed to cause the heat to pass up its sides and ends and over its surface before passing out through the escape-opening, and a hot-plate arranged on the oven over the escape-opening thereof.

805,798. COLD-TIRE-SHRINKING MACHINE. SAMUEL H. HOUSE, St. Louis, Mo. Filed June 24, 1905. Serial No. 266,779.



Claim.—1. In a tire-shrinking machine, the combination of a frame having a bed member, a reciprocating block opposing said bed member, a reciprocating-block-actuating power-lever provided with trunnions integral therewith fitting in openings in the sides of said frame, one of which is of greater dimensions than the dimension of the trunnion it receives, and a bearing-block removably seated in the larger of said openings, substantially as set forth.

2. A gripping-wedge for tire-shrinking machines provided with a rib located at its lower side, substantially as and for the purpose set forth.

3. In a tire-shrinking machine, the combination of a frame having a bed member provided with ribs and grooves, a reciprocating-block opposing the said bed member and provided with ribs and grooves, gripping-wedges resting upon said bed member and reciprocating-block ribs; said gripping-wedges being provided at their lower sides with ribs arranged to operate in the grooves of said bed member and reciprocating block, substantially as set forth.

805,799. SELF-CLOSING SEAT AND CHAIR. THOMAS S. JAMES, Chiswick, England. Filed Mar. 6, 1905. Serial No. 248,567.

Claim.—1. A self-closing seat or chair comprising a flexible seat fixed at one end to a support, a hollow back or casing within

which the other end of the flexible seat is arranged and means whereby when the back is moved relatively with the said fixed end of the flexible seat the latter will be drawn into or out of the casing, substantially as described.



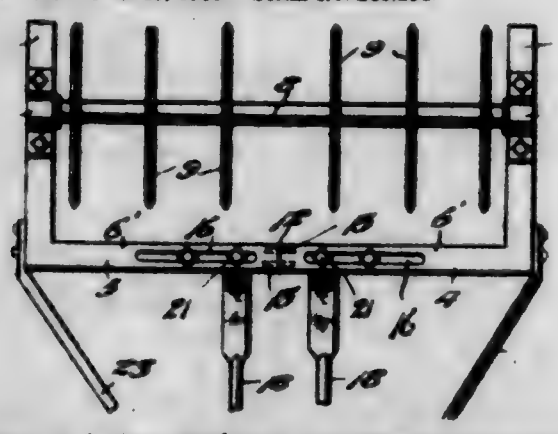
2. A self-closing seat or chair comprising a flexible seat, a support to which one end of the flexible seat is fixed, a hollow back or casing, a spring connection within the casing for the other end of the flexible seat, a back-frame pivoted to the support and attached to the hollow back, and means for determining the position of the back-frame when inclined to expose the flexible seat, substantially as described.

3. A self-closing seat or chair comprising a flexible seat, a support to which one end of the flexible seat is fixed, a hollow back or casing, a spring-roller within the casing and to which the flexible seat is connected, a back-frame pivoted to the support and to the hollow back, means for determining the position of the latter when inclined to expose the flexible seat and a lever-frame also pivoted to the support and connected by sliding joints to the hollow back and back-frame, substantially as described.

4. A self-closing seat or chair comprising a flexible seat, a support to which one end of the flexible seat is fixed, a hollow back or casing, a spring-roller within the casing and to which the flexible seat is connected, a back-frame pivoted to the support and to the hollow back, stops on the support and back-frame for determining the position of the back-frame when inclined to expose the flexible seat and a lever-frame also pivoted to the support and connected by sliding joints to the hollow back and back-frame, substantially as described.

5. A self-closing seat or chair comprising a flexible seat, a support to which one end of the flexible seat is fixed, a hollow back or casing, a spring-roller within the casing and to which the flexible seat is connected, a back-frame pivoted to the support and to the hollow back, legs or an extension on the hollow back for supporting the same when the back-frame is inclined to disclose the flexible seat and a lever-frame also pivoted to the support and connected by sliding joints to the hollow back and back-frame, substantially as described.

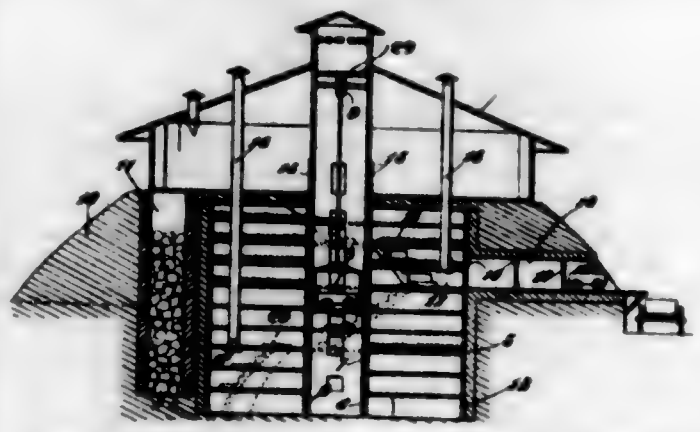
805,800. **PLOW ATTACHMENT.** ISAAC JEFFERSON, Langston, Okla. Filed Feb. 18, 1905. Serial No. 246,291.



Claim.—1. A plow attachment comprising a frame made in separable parts, each of said parts being formed with a pair of longitudinal slots intersecting each other at a right angle, a cutting element journaled between the parts of said frame and adapted to be removed by the separation of said parts, a pair of supporting-arms, each of said arms having a lateral extension fitted into one of the slots of one of the parts of the frame, and bolts extending through the other slot in each part of the frame and being connected with the adjacent lateral extension.

2. A plow attachment comprising a frame made in separable parts having a pin-and-socket connection with each other, each of said parts being formed with a pair of longitudinal slots intersecting each other at a right angle, a cutting element journaled between the parts of said frame and adapted to be removed by the separation of said parts, a pair of supporting-arms formed with longitudinal slots in their forward ends, each of said arms having a lateral extension fitted into one of the slots of one of the parts of the frame, bolts extending through the other slot in each part of the frame and being connected with the adjacent lateral extension, and brace-rods connected with each of the parts of the frame.

805,801. **CULTIVATION OF MUSHROOMS.** RUDOLPH D. KLIVE, Streator, Ill. Filed June 7, 1905. Serial No. 264,178.



Claim.—1. A structure of the class described comprising a circular inclosure surrounded by earth and having tiers of chambers arranged therein, a shaft communicating with the chambers, a lateral tunnel communicating with the interior of the structure, and a plurality of doors for closing the tunnel.

2. A structure of the class described comprising an inclosure surrounded by earth and having tiers of chambers arranged therein, a shaft communicating with the chambers, a lateral tunnel communicating with the interior of the structure, means for ventilating the chambers, and a plurality of doors for closing the tunnel.

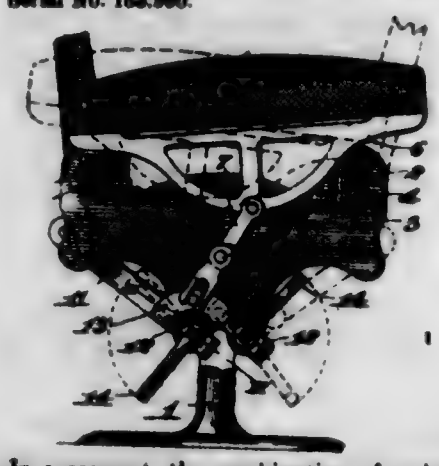
3. A structure of the class described comprising a circular inclosure surrounded by earth and having tiers of chambers arranged therein, stairways arranged around the inner wall of the structure and communicating with the chambers, a shaft, doors for controlling communication between the shaft and the chambers, a lateral tunnel communicating with the interior of the structure, and means for ventilating the chambers.

4. A structure of the class described comprising an inclosure having tiers of chambers therein, a shaft communicating with the chambers, doors for controlling communication with the chambers, and hinged platforms arranged within the shaft opposite the chambers.

5. A structure of the class described comprising an inclosure surrounded by earth and having tiers of chambers arranged therein, a shaft communicating with the chambers, a lateral tunnel communicating with the interior of the structure, and a plurality of doors for closing the tunnel.

6. A structure of the class described comprising a sunken inclosure, tiers of chambers arranged therein, a shaft communicating with the chambers, and wells or depressions disposed exteriorly of the inclosure and adapted to receive a refrigerant.

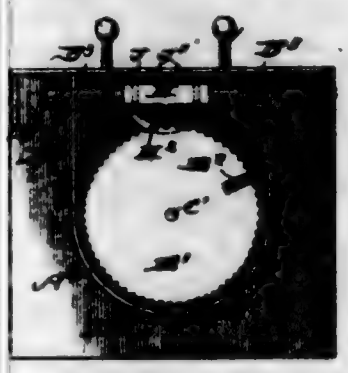
805,802. **CAR-SEAT.** FREDERICK KOHOUT, St. Louis, Mo., assignor to St. Louis Car Company, St. Louis, Mo., a Corporation. Filed Dec. 5, 1903. Serial No. 183,990.



Claim.—In a car-seat the combination of end frames, a seat-back, a cushion-carrying frame, a lever pivoted intermediate of its length to each end frame and having its upper end pivotally secured to the cushion-carrying frame, a cross-piece loosely connected to the

lower end of each lever, a pair of links having their lower ends upturned to straddle the end frame and pivotally secured to each crosspiece and having their upper ends pivotally secured to the seat-back, foot-rest bars rigidly secured to the upturned ends of said links and having gudgeons loosely seated in the end frames.

805,803. COMBINATION-LOCK. ELISHA E. LATHROP, Hartford, Conn. Filed Feb. 25, 1904. Serial No. 195,237.



Claim.—1. The combination with bolts adapted to slide to and away from each other, said bolts being in horizontal alinement, a block adapted to move vertically and rest between the inner ends of the blocks, a cam adapted to lift the block, a cam-shaft, a pointer on the cam-shaft, a dial, and means for holding the block between the bolts until the pointer has been moved to predetermined positions on the dial.

2. A device of the kind described comprising alining, slidable bolts, a block having a depending extension with a curved under surface, said block being movable vertically, a cam-shaft, a cam fixed on the shaft and adapted to engage the curved surface of the block extension and project the block between the inner end of the bolts, a pointer fixed on the shaft, a dial, disks adapted to hold the block in position between the bolts, and means for rotating the disks and permitting the block to fall when the pointer is moved to predetermined positions on the dial.

3. The combination with a casing, keepers adapted to extend into the casing, and bolts adapted to engage the keepers, of a block arranged in the casing and adapted to be moved between the ends of the bolts and lock them in engagement with the keepers, a shaft journaled in the casing and having an intermediate squared portion, disks loosely mounted on the shaft adjacent the squared portion, said disks having radial slots extending from their peripheral portions, the said block having webs adapted to rest on the peripheries of the disks and to fit in the slots, a cam fixed on the squared portion of the shaft adapted to move the block between the bolts, means carried by the shaft adapted to rotate the disks in opposite directions, a dial, a pointer fixed on the shaft, and a winding-knob carried by the outer end of the shaft.

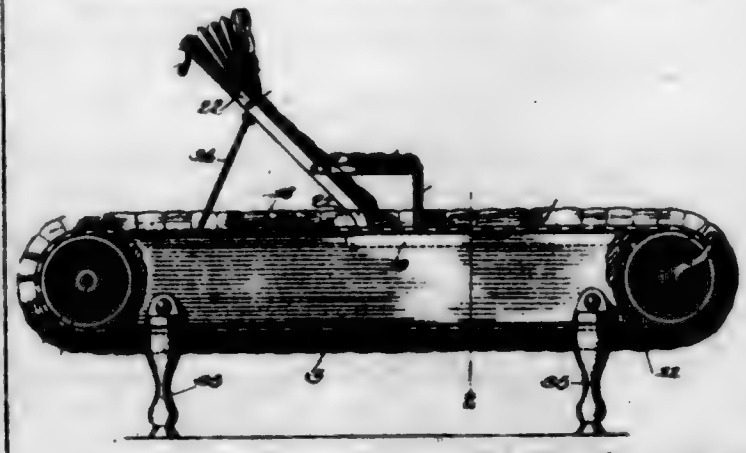
4. The combination with a casing, bolts adapted to slide toward each other in the casing, a shaft transverse to the bolts and adapted to be rotated in either direction from without the casing, slotted disks loosely mounted on the shaft within the casing and spaced apart, a block adapted to move vertically between the disks and to rest between the inner ends of the bolts, a cam on the shaft adapted to move the block into position between the bolts, webs on the blocks adapted to rest on the peripheries of the disks and to fall into the slots, a dial on the outer face of the casing, a pointer fixed on the shaft adjacent the dial, and means carried by the shaft and disks, respectively, adapted to rotate one disk when the shaft is rotated in one direction and to bring the slot of the said disk below its coacting web when the pointer reaches a predetermined point on the dial, and to rotate the other disk when the shaft is rotated in the reverse direction and to bring the slot in the last-mentioned disk below the other web when the pointer reaches a second predetermined point on the dial, as and for the purpose set forth.

805,804. HEATER. DIO LEWIS, Prescott, Ark. Filed Aug. 2, 1904. Serial No. 219,211.

Claim.—The combination of a stove 1, having a partly-open top; a heat-pipe 4, extending upwardly from the opening in the top of said stove; a cap 5, fitting on the top of said pipe, and provided with a central perforation; a draft-pipe 8, secured in the center of said perforated cap 5, and passing down through the center of said heat-pipe, nearly to its lower end and up above said perforated cap; arms 9, secured to the lower end of said heat-pipe, extending downwardly; a plate 10, larger in diameter than the diameter of said draft-pipe, secured horizontally to the lower ends of said arms; a water-tank, provided with an inlet near its lower end, situated on the top of said stove and around said heat-pipe 4; a lid, fitting on the top of said water-tank provided with a manhole 12; a lid 13, removably secured over said manhole; a steam-pipe 14, passing up through a perforation in the lid of said tank and into said draft-pipe, substantially as shown and described and for the purposes set forth.



805,805. COMBINED COUCH AND INVALID-CHAIR. EZRA LOCKE, Jonestown, Pa. Filed Mar. 8, 1905. Serial No. 248,360.



Claim.—1. A couch comprising parallel side rails, a mattress mounted for rotation thereon, a back-rest carried by the mattress, and a rack-bar movable with said mattress for adjusting the back-rest with respect to the side rails.

2. A couch comprising parallel side rails provided with longitudinal guides, a mattress mounted for rotation on said side rails, a back-rest carried by the mattress and engaging the longitudinal guides, and a rack-bar movable with said mattress for adjusting the back-rest with respect to the side rails.

3. A couch comprising parallel side rails, shafts journaled in said side rails and provided with sprocket-wheels, rack-bars adjustable longitudinally of said rails, sprocket-chains secured to the rack-bars and engaging the teeth on said sprocket-wheels, a mattress secured to the sprocket-chains, a back-rest carried by said chains, and rods pivoted to the back-rest and engaging the teeth on the rack-bars for adjusting said back-rest with respect to the side rails.

4. A couch comprising parallel side rails having their opposite ends bifurcated, sprocket-wheels journaled in the bifurcated ends of the side rails, rack-bars slidably mounted on said side rails, chains secured to the rack-bars and engaging the teeth on the sprocket-wheels, a mattress secured to the sprocket-chains and mounted for rotation therewith, a back-rest carried by said chains, and means pivoted to the back-rest and engaging the teeth on the rack-bars for adjusting the back-rest with respect to the side rails.

5. A couch comprising parallel side rails, guiding members seated in the upper edges of the side rails, a mattress mounted for rotation on said side rails, a rack-bar movable with the mattress, a back-rest carried by the mattress and provided with laterally-extending lugs for engagement with the guiding members, and means pivoted to the back-rest and engaging the teeth on the rack-bar for adjusting said back-rest with respect to the side rails.

6. A couch comprising parallel side rails, guiding members seated in the upper edge of the side rails and provided with spaced inwardly-extending flanges, a mattress mounted for rotation on said side rails, an adjustable back-rest carried by the mattress and having its end portions fitting between the flanges of the guiding members and provided with laterally-extending lugs for engagement with said guiding members, rack-bars slidably mounted on the side rails and movable with the mattress, and a rod pivoted to the back-rest and adapted to engage the teeth on the rack-bars for adjusting said head-rest with respect to the side rails.

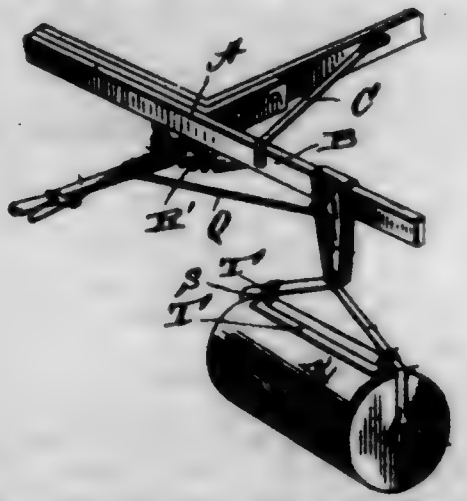
7. A couch comprising parallel side rails connected at their opposite ends by transverse shafts having sprocket-wheels mounted therein, feet pivoted to the side rails, rack-bars slidably mounted on the upper edges of the side rails, sprocket-chains secured to the rack-bars and engaging the teeth on the sprocket-chains, an endless mattress secured to the sprocket-chain, a back-rest carried by the chains, a rod pivoted to the back-rest and adapted to engage the rack-bars for adjusting the back-rest with respect to the side rails, and a crank secured to one of said transverse shafts for adjusting the mattress and back-rest longitudinally of the side rails.

805,806. CHEWING-TOBACCO PACKAGE. ALFRED MARSCHNER, Omaha, Nebr. Filed July 1, 1905. Serial No. 267,901.



Claim.—A new article of commerce consisting of a cigar-shaped core of chewing-tobacco having the usual percentage of nicotin common to chewing-tobacco, and covered to about one-fourth its greatest diameter with a hollow cylindrically-shaped, compact, porous and elastic substance containing a trace of nicotin as a second portion, said second portion to be inclosed within tobacco-leaf; said package being practically non-susceptible to air or smoke draft longitudinally therethrough.

805,807. ROLLER ATTACHMENT. HENRY F. HOSEM, Brasil, N. D. Filed May 27, 1905. Serial No. 263,000.

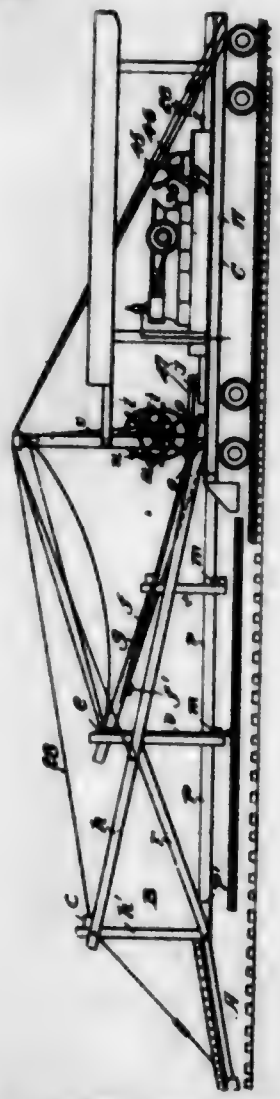


Claim.—In combination with a plow-beam, a bar securely fastened thereto, a clevis movably mounted upon said bar, a pivotal lever fixed to said bar, a link connecting said lever with said clevis, a bail pivotally mounted upon said clevis, a shaft supported by said bail, a roller journaled upon said shaft, and a scraper adjustably held upon said bail, as set forth.

805,808. TRACK-LAYING MACHINE. FRANK W. MCCABE, Cairo, Ill., and VERNON B. STERR, Kansas City, Mo. Filed Aug. 26, 1905. Serial No. 275,903.

Claim.—1. A track-laying machine comprising a machine-car provided with an operating-motor, outrigging mechanism carried in front of said machine-car, mechanism carried by said outrigging mechanism for heeling a pair of rails into position on the track, a tie storage and distributing apron carried by said outrigging mechanism in front thereof and pivotally connected to said outrigging mechanism, means for raising and lowering the forward end of said apron, and means for delivering cross-ties and steel rails to said outrigging mechanism.

2. A track-laying machine comprising a machine-car provided with an operating-motor, outrigging mechanism carried by and in front of said machine-car, a tramway and a center rail-run for delivering ties and rails to said outrigging mechanism, gearing actuated by said motor for driving said tramway, means carried by said outrigging mechanism for heeling rails into position, a tie storage and distributing apron pivotally connected to the forward end of said outrigging mechanism, and means for raising and lowering the forward end of said apron.



3. A track-laying machine having a center rail-run, dolly-rollers forward of said rail-run to receive rails therefrom, said dolly-rollers being arranged in two series, each series being adapted to receive and support a rail, the forward end of said rail-run being shiftable for delivering a rail to each series of dolly-rollers, and suitable levers for shifting the forward end of said rail-run.

4. A track-laying machine having a machine-car, outrigging mechanism carried by and in front of said car, a rail-boom carried in said outrigging mechanism, two series of dolly-rollers carried by said rail-boom, a center rail-run for delivering rails to said machine-car and to said dolly-rollers, and means for shifting the forward end of said rail-run whereby rails may be delivered from said rail-run to either one of said series of rollers.

5. A track-laying machine having means for heeling a pair of rails into position consisting of means for receiving and supporting two rails above their position to be laid, cables provided with hooks for grasping said rails at their central parts, crabs and suitable pulleys for raising and lowering the rails, and friction-brakes for controlling the operation of lowering said rails.

6. A track-laying machine having a machine-car, outrigging mechanism for laying rails, a tie storage and distributing apron pivotally connected to the forward end of said outrigging mechanism, means for raising and lowering the forward end of said apron, a tramway for delivering ties to the forward end of said outrigging mechanism, said tramway being curved at the forward end to deliver ties across said apron, and means for operating said tramway.

7. A track-laying machine having a machine-car, outrigging mechanism carried by and in front of said car, a tie storage and distributing apron pivotally connected to said outrigging mechanism, and means operable from said machine-car for raising and lowering the forward end of said apron, said apron consisting of a suitable frame and having antifriction-rollers journaled in said frame whereby ties will travel by gravity when said apron is inclined forward.

8. A track-laying machine having a machine-car provided with an operating-motor, outrigging mechanism carried by and in front of said machine-car for distributing ties and heeling rails into position, a tramway carried on the side of said machine-car for delivering ties to said outrigging mechanism, a center rail-run extending under said

motor for delivering rails to said outrigging mechanism, and gearing for said tramway operable by said motor.

9. A track-laying machine comprising a machine-car provided with an operating-motor, outrigging mechanism carried by and in front of said machine-car, a train of cars connected with said machine-car, a center rail-run extending under said motor from said train of cars for delivering rails to said outrigging mechanism, a tramway in sections hung on the sides of the cars for delivering ties to said outrigging mechanism, and gearing operable by said motor for driving the ties on said tramway.

10. A track-laying machine having outrigging mechanism for distributing ties, a tramway in sections for delivering ties from a train of cars to said outrigging mechanism, means for hanging said tramway-sections on the sides of the cars, and connections flexible laterally uniting each tramway-section with the adjacent tramway-section.

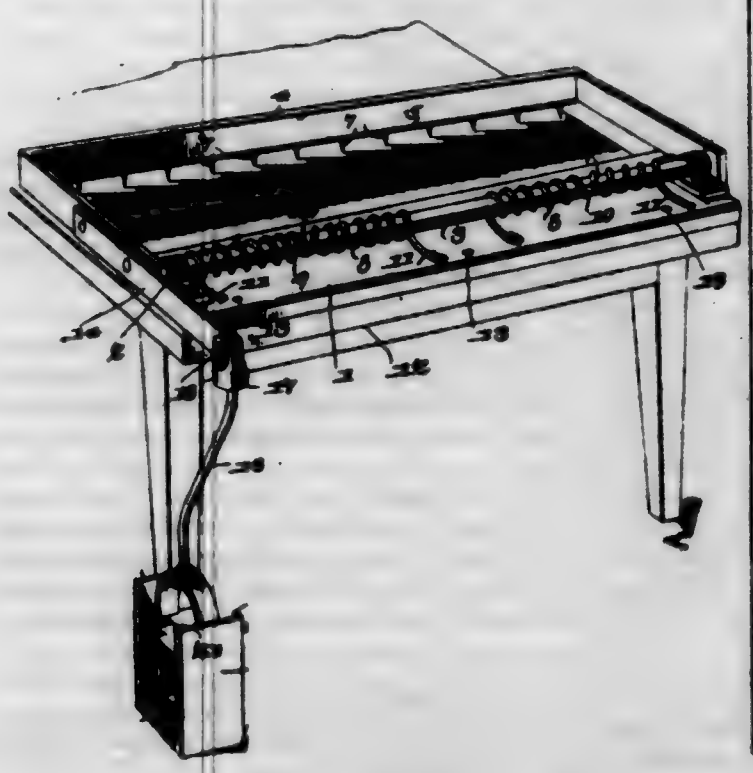
11. In a track-laying machine provided with a train of cars and outrigging mechanism carried in front of said train of cars; a tramway in sections for delivering ties from the cars to said outrigging mechanism and flexible connections for connecting each tramway-section with the adjacent tramway-section consisting of flexible joints for one side of the tramway and flexible and expansible joints for the other side of the tramway.

12. A tramway in sections for delivering ties in a track-laying machine having at each junction of sections a cylinder attached to the inside of the inner part of the tramway, an eyebolt operating in said cylinder, a strap engaging said eyebolt and bolted to the inside of the inner part of the adjacent section, a U-shaped angle-iron attached to the inside of the outer part of the tramway provided with an elongated bolt-hole through the ends of said iron, and an iron strap placed in the end of the outer part of the adjacent tramway-section and engaging said U-shaped angle-iron.

13. In a track-laying machine provided with a train of cars and outrigging mechanism for distributing ties, a tramway for delivering ties from the cars to the outrigging mechanism and means for hanging the tramway on the side of the cars consisting of trusses and pockets on the sides of the cars, each truss being composed of a slotted upright having a hook on the upper end to engage one of said pockets, a curved brace adjustably attached to the lower end of said upright, a shaft having a flattened end attached to said upright near the upper end thereof and attached to the upper end of said curved brace, a set-screw pressing against the side of the car for adjusting said truss, a plain antifriction-roller on the outer end of said shaft, and a flanged roller on the inner end of said shaft for preventing lateral motion of the tramway.

14. In a track-laying machine provided with a train of cars and outrigging mechanism for distributing ties; a tramway for delivering ties from the cars to said outrigging mechanism, tracks for said tramway mounted on the side of the cars, and flanged rollers in said tracks for preventing lateral motion of said tramway.

805,809. CLOTH-HOLDING CLAMP. WILLIAM B. HUNNALLY, Atlanta, Ga. Filed Feb. 2, 1905. Serial No. 243,914.



Claim.—1. A cloth-holder comprising an attaching-base, a clamping-jaw pivotally mounted thereon, a tension device for the jaw a jaw-moving lever, a stirrup loosely hung therefrom, and an upright guide for the stirrup.

2. A cloth-holder comprising an attaching-base, a clamping-jaw pivotally mounted upon the base, a tension device for the jaw, a jaw-moving lever, a stirrup loosely hung from the lever, and a substantially U-shaped guide receiving the stirrup between the sides thereof with its sides provided with flanges overlapping the ends of the stirrup.

3. A cloth-holder comprising an attaching-base, a clamping-jaw pivotally mounted upon the base, a tension device for the jaw, a jaw-moving lever projected away from the jaw beyond the axis thereof, a stirrup, and a stirrup-carrying hanger depending from the rear end of the lever and deflected forwardly to locate the lever in advance of the rear portion of the lever.

4. A cloth-holder comprising an attaching-base, a rock-bar mounted upon the base, a tension device for the rock-bar a yoke-shaped jaw having its ends connected to the rock-bar and projected in front thereof, a lever carried by one end of the jaw and projected at the opposite side of the rock-bar, a hanger pivotally depending from the rear end of the lever and inclined forwardly therefrom, a stirrup carried by the lower end of the hanger, and an upstanding guide receiving the stirrup.

805,810. NON-REFILLABLE BOTTLE. CHARLES S. ORR, Providence, R. I. Filed Jan. 21, 1905. Serial No. 242,044.



Claim.—1. In a non-refillable bottle, the combination with a bottle-neck, of a guard beneath the stopper, a plug beneath said guard, a cylinder in said plug, a valve seated on said cylinder, a float between said guard and valve, a plunger beneath said plug, a guide for said plunger held in said cylinder, and a ball adapted to contact with said plunger.

2. In a non-refillable bottle, the combination with a bottle-neck having a guard therein beneath the stopper, of a plug beneath said guard, a cylinder in said plug, a valve seated on said cylinder, a float between said guard and valve, a plunger beneath said plug, a guide for said plunger held in said cylinder, a spring around said guide and plunger and having both ends fixed, and a ball adapted to contact with said plunger.

3. In a non-refillable bottle the combination with the neck, of a guard mounted in the neck, an annular plug mounted in the neck below the disk, a valve-seat in the plug, a tube fixed in the valve-seat, a plunger slidably mounted upon the fixed tube, spring means for forcing the plunger away from the valve-seat, a valve-stem loosely mounted in the tube, a valve upon the valve-stem adapted to register with the valve-seat, and a ball adapted to contact with the plunger when the bottle is in inverted position.

4. In a non-refillable bottle, the combination with a bottle-neck having a guard therein beneath its stopper, of a plug beneath said guard, a cylinder in said plug with one end projecting above said plug and beveled to form a seat for a valve, a valve seated on the upper beveled end of the cylinder, a float between the guard and valve, a plunger beneath the plug, a guide for the plunger held in said cylinder, a spring around said guide and plunger, said spring having both ends fixed, a float between the guard and valve and contacting with the valve, and a ball adapted to contact with the plunger.

805,811. METHOD OF MAKING BOOKS BY MACHINERY. JOSEPH ORTLA, Boston, Mass., assignor to Herbert M. Plimpton & Co., Boston, Mass., a Firm. Filed Mar. 3, 1905. Serial No. 248,276.



Claim.—The method of making books by machinery herein described, consisting in sewing together the signatures of the book, se-

curing attaching-sections to the end signatures thereof by attaching said signatures to the inner portions of folds or reversely-extending pieces at the back edges of the attaching-sections, compressing the whole and rounding the back of the book without materially increasing the thickness of the book, closely fitting the back of the cover to the book, and fastening the cover thereto by means of the attaching sections.

805,812. BOOK. JOSEPH ORTLA, Boston, Mass., assignor to Herbert M. Plimpton & Co., Boston, Mass., a Firm. Filed Mar. 3, 1905. Serial No. 248,277.



Claim.—1. In a book, end signatures having one or more outside leaves, the inner edges of which leaves are attached together and folded over, other leaves of said end signatures attached near their inner edges to the folded-over portion of said outside leaves, and the book-cover attached to said outside leaves.

2. In a book, a cover, the back and sides of which cover are directly united without interposed grooved joints, end signatures for the book-body, and signatures intermediate the same, the end signatures having one or more outside leaves, the edges of which are attached together and folded over, other leaves of said end signatures attached near their edges to the folded-over portion of said outside leaves, said other leaves of said end signatures and said intermediate signatures being sewed together.

3. A book, comprising the body, the cover having back and sides, end leaves of said book-body, attached to the sides of the cover and provided at their inner edges with reversely-extending portions arranged between the said leaves and the remainder of the body of the book and united to such remaining portion of the body of the book forward of the back thereof.

4. In a book, as a means of securing the body of the book to its cover, one or more of the end leaves of the book-body having reversely-extending sections united at intermediate points thereof to the signatures of the body of the book said leaves being also united to the sides of the cover.

5. In a book, the combination of a cover having a back and sides closely hinged to the back without the intervention of hinge-grooves, the body of the book, and hinge connections between the body of the book and the sides of the cover, the same comprising flexible end leaves of the book-body folded to have extending from the back thereof extensions, the sides of the cover being attached to said leaves and the remainder of the body of the book being attached to said extensions.

805,813. COLLAR-SUPPORTER. FRANK C. OSMUN, Englewood, N. J., assignor to Frank C. Osmun Company, New York, N. Y., a Corporation of New York. Filed July 31, 1905. Serial No. 271,899.



Claim.—1. In a collar or belt supporter the combination of a hollow casing having a post at one end adapted to pass through the fabric, a rod having a similar post, said casing being provided with a longitudinal slot, a spring-arm secured to said rod and means for locking said arm and thereby said rod in any desired position, and for adjusting said arm along said slot.

2. In a collar or belt supporter the combination of a hollow casing having a post at one end adapted to pass through the fabric, a rod having a similar post, said casing being provided with a longitudinal slot, a spring-arm secured to said rod and projecting through said slot, and means for locking said arm and thereby said rod to the casing.

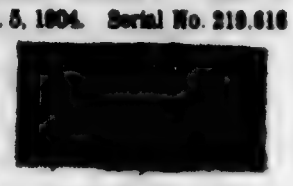
3. In a collar or belt supporter the combination of a hollow casing having a post at one end adapted to pass through the fabric, a rod having a similar post, said casing being provided with a longitudinal slot, a spring-arm secured to said rod, a thumb-piece having a shank carried by said arm, said shank projecting through said slot, and means for locking said arm and thereby said rod to the casing.

4. In a collar or belt supporter the combination of a hollow casing having a post at one end adapted to pass through the fabric, a rod having a similar post, said casing being provided with a longitudinal slot and a plurality of transverse slots intersecting said longitudinal slot, a spring-arm secured to said rod, and means thereon for locking it in any one of said transverse slots for the purpose described.

5. In a collar or belt supporter the combination of a hollow casing having a post at one end adapted to pass through the fabric, a rod having a similar post, said casing being provided with a longitudinal slot and a plurality of transverse slots intersecting said longitudinal slot, a spring-arm secured to said rod, a thumb-piece having a shank carried by said arm, said shank projecting through said slot and adapted to be locked in any one of said transverse slots for the purpose described

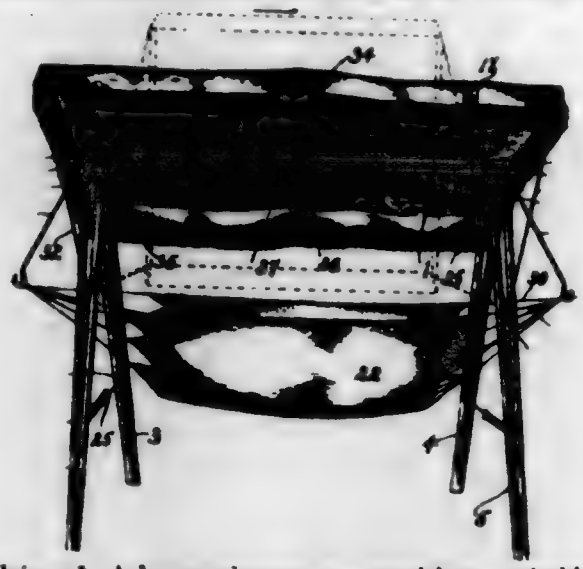
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805,814. NETTING-CANOPY. ISAAC B. PALMER, Middletown, Conn. Filed Aug. 5, 1904. Serial No. 219,616.



Claim.—A netting-canopy having a woven reinforcement integral with the fabric, the said reinforcement being turned over and stitched upon itself along the edges formed by meeting walls of the canopy.

805,815. HAMMOCK AND HAMMOCK-SUPPORT. ISAAC B. PALMER, Middletown, Conn. Filed Mar. 28, 1905. Serial No. 252,552.



Claim.—1. A hammock-support comprising a suitable framework, suspension-arms journaled in the ends of the framework and extending outwardly and downwardly therefrom and means for attaching a hammock to the free ends of the suspension-arms.

2. A hammock-support comprising pairs of legs, a ridge-pole, fastening devices for connecting the legs and ridge-pole, the said fastening devices being provided with sockets and hammock suspension-arms journaled in the sockets in position to swing laterally.

3. A hammock-support comprising pairs of legs and a ridge-pole, hammock suspension-arms journaled in the support and extending beyond the pairs of legs, means for attaching a hammock to said arms and means connected with the legs for locking the hammock against a swinging and tilting movement.

4. A hammock-support comprising pairs of legs and a ridge-pole, suspension-arms journaled in the support and extending outwardly beyond the pairs of legs, means for attaching a hammock to the free ends of the suspension-arms and hooks connected with the legs for receiving the hammock suspension-cords to lock the hammock against tilting.

5. A hammock-support comprising a ridge-pole, clips arranged to slide along the ridge-pole, legs hinged to the clips and provided with clamping-noses adapted to engage the ridge-pole, when the legs are closed, the said clips being provided with sockets and hammock suspension-arms journaled in the sockets in the clips in position to swing laterally.

6. A hammock-support comprising a ridge-pole, clips on the ridge-pole, legs hinged to the clips, suspension-arms journaled in the clips and flexible connections between the members of each pair of legs for holding the legs in closed adjustment.

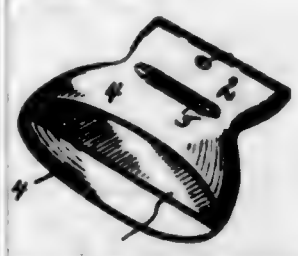
805,816. HAMMOCK. ISAAC B. PALMER, Middletown, Conn. Filed June 8, 1905. Serial No. 264,253.



Claim.—1 A hammock comprising a body portion of suitable flexible material, side rails from which the body portion depends, spreaders hinged to the opposite ends of the side rails for spacing them apart and suspension devices at the opposite ends of the hammock for suspending it from a suitable support.

2. A hammock comprising a body portion of suitable flexible material, side rails from which the body portion depends, spreaders having a general U shape and hinged at their ends to the side rails for spacing them apart, the said spreaders having a swinging movement into a position approximate to the plane of the side rails and suspension devices at the opposite ends of the hammock for suspending it from a suitable support.

805,817. WHISTLE. WILLIAM A. PARDOE, New York, N. Y. Filed July 24, 1905. Serial No. 270,869.



Claim.—1. A whistle comprising a mouthpiece formed of two separated plates open at the front and having registering air-inlet openings; and a resonator expanding outward from the front opening of the mouthpiece; said resonator being rounded in general contour, substantially as described.

2. A whistle comprising a mouthpiece formed of two separated plates open at the front and having registering air-inlet openings and a resonator expanding outward from the front opening of the mouthpiece, said resonator being elliptical in section, the major axis of the ellipse being parallel to the plane of the said mouthpiece, substantially as described.

3. A whistle comprising a mouthpiece formed of two separated plates, closed at the rear and open at the front and provided with registering air-inlet openings, and a resonator expanding outward from the front opening of the mouthpiece, said whistle having corrugations on its upper and lower outer faces for engagement by the lips of the user, substantially as described.

4. A whistle comprising a mouthpiece formed of two separated plates closed at the rear and open at the front and provided with two registering air-inlet openings; a resonator expanding from the front opening of the mouthpiece and a reed located in said resonator across the opening of the mouthpiece, substantially as described.

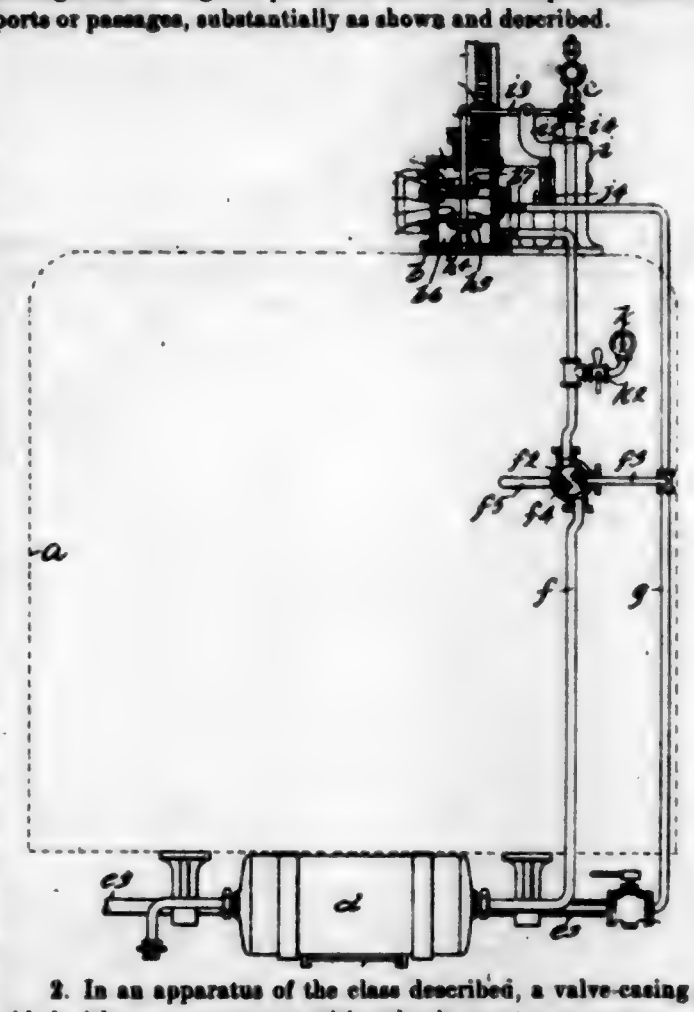
5. A whistle comprising a mouthpiece formed of two separated plates closed at the rear and sides but open at the front and having two registering air-inlet openings, a resonator of a general elliptical contour expanding from the front opening of the mouthpiece and a reed located transversely across said resonator, the inner edge of said reed being adjacent to the opening of the mouthpiece into the resonator, substantially as described.

6. A whistle comprising a mouthpiece formed of two separated plates closed at the rear and sides, but open at the front and having two registering air-inlet openings, a resonator of a general elliptical contour expanding from the front opening of the mouthpiece, the major axis of the ellipse being parallel to the plane of the mouthpiece, corrugations on the outer surfaces of the whistle at the junction of the resonator with the mouthpiece, and a reed located transversely across said resonator, whose inner edge is adjacent to the opening of the mouthpiece into the said resonator, substantially as described.

7. A whistle comprising a mouthpiece formed of two separated plates open at the front, closed at the sides, and having registering air-inlet openings; and a resonator expanding outward from the front opening of the mouthpiece, substantially as described.

805,818. BRAKE APPARATUS FOR ELEVATOR-CARS. VITO REGINA, New York, N. Y. Filed July 24, 1905. Serial No. 270,942.

Claim.—1. In an apparatus of the class described, a valve-casing provided with two transverse partitions having ports or passages and dividing the valve-casing into top, bottom and intermediate compartments, the top and bottom compartments being also placed in communication, and a spring-supported valve-rod passing vertically through said casing and provided with valves adapted to close said ports or passages, substantially as shown and described.



2. In an apparatus of the class described, a valve-casing provided with two transverse partitions having ports or passages and dividing the valve-casing into top, bottom and intermediate compartments, the top and bottom compartments being also placed in communication, and a spring-supported valve-rod passing vertically through said casing and provided with valves adapted to close said ports or passages, said port or passage in the bottom partition being larger than that in the top partition, substantially as shown and described.

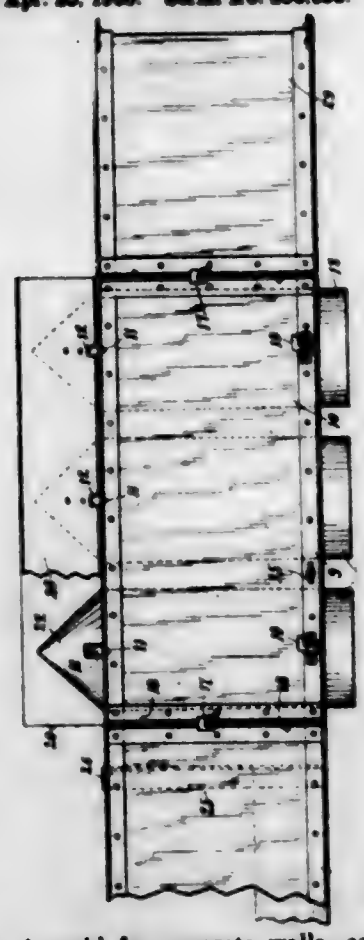
3. An air-brake apparatus for elevator-cars, comprising a valve-casing placed on the top of the car and divided into top, bottom and intermediate compartments by partitions arranged therein, said partitions being provided with ports or passages, means for placing the top and bottom compartments in communication, a spring-supported valve-rod mounted vertically in said valve-casing and provided with valves adapted to close said ports or passages, a governor connected with said valve-rod and adapted to operate the same to open said ports or passages, a brake-cylinder placed beneath the car, a main pipe communicating with the central compartment in the valve-casing and with the central portion of the brake-cylinder, two pistons mounted in the brake-cylinder and provided with rods which pass through the opposite ends thereof, brake-shoes connected with said rods, a supplemental pipe connected with the bottom compartment in the valve-casing and with a tank beneath the car, and a pipe connecting the main pipe and the supplemental pipe and provided with a three-way valve which controls its connection with the latter, the pistons in the brake-cylinder being also provided with springs which normally force them inwardly, substantially as shown and described.

4. In an air-brake apparatus for elevator-cars, a brake-cylinder supported beneath the car and provided with two pistons having rods which pass through the opposite ends thereof and are provided with brake-shoes, springs for forcing said pistons inwardly, an air-pipe communicating with the central portion of said cylinder and means whereby an increase in the speed in the descent of the car beyond normal will automatically operate said pistons and force said brake-shoes outwardly, substantially as shown and described.

5. In an air-brake apparatus for elevator-cars, a brake-cylinder supported beneath the car and provided with two pistons having rods which pass outwardly through the opposite ends thereof and are provided with brake-shoes, springs for forcing said pistons inwardly, a valve-casing mounted on the car and divided into top, bottom and intermediate compartments, a main pipe communicating with the in-

termediate compartment and with the central portion of the brake-cylinder, a supplemental pipe communicating with the bottom compartment and with an air-tank beneath the car, means for placing said main and supplemental pipes in communication, a pipe forming a communication between the top and bottom compartments and the valve-casing, a spring-supported valve-rod mounted vertically in the valve-casing and provided with valves adapted to close communications between said compartments, a governor in operative connection with the valve-rod and means whereby an increase of speed in the descent of the car beyond normal will operate said governor, substantially as shown and described.

805,819. MOLD FOR CONCRETE WALLS. AUGUST F. REICHERT, Milwaukee, Wis., assignor of one-half to Richard C. Fargo, Milwaukee, Wis. Filed Apr. 20, 1905. Serial No. 256,653.



Claim.—1. A mold for concrete walls, comprising mold-sections formed of side plates of rectangular angle-iron-frame construction, screws passed through the side plates near their lower ends, a tie-plate with which the screws are adapted to engage, and a stay-rod connecting the side plates near their upper edges to properly space them apart, said screws serving to hold the side plates in position on the wall to form a support for other side plates thereabove.

2. A mold for concrete walls, comprising opposite side plates of rectangular angle-iron-frame construction, means for connecting the side plates together near their lower edges, and a stay-rod having an adjustable pin-and-perforation connection with the outstanding flanges of the frames of the side plates.

3. A mold for concrete walls, comprising opposite side plates of sheet-metal and rectangular angle-iron-frame construction, a tie-rod consisting of a strip of metal with its ends folded back, thumb-screws passing through the side plates and threaded in the bent-over ends of the tie-rod, and a stay-rod having a series of pins to adjustably engage with perforations in the upper flanges of the side plates.

4. In a mold for concrete walls, a tie-rod for mold-sections comprising a strip of metal with its ends bent over upon themselves, and screws threaded through the bends thereof and having engagement with the main portion and the bent-over portions.

5. A mold for concrete walls, comprising mold-sections formed of side plates suitably connected together near their lower edges, a stay-rod connecting the side plates at their upper edges, a tapering cylindrical core carried by the stay-rod to form an opening through the wall, and screws threaded through the stay-rod and bearing on the side plates to loosen the core from the wall.

6. A mold for concrete walls, comprising mold-sections formed of side plates with means for connecting them together near their lower edges, stay-rods connecting the side plates at their upper edges, cylindrical cores carried by the stay-rods, and a hopper comprising inclined side plates, cross-rods extending therebetween, and conical caps carried by the cross-rods and located over the cylindrical cores.

7. A mold for concrete walls, comprising mold-sections formed of side plates with means for connecting them together near their lower edges, stay-rods connecting the side plates at their upper edges, cylindrical cores carried by the stay-rods, and a hopper comprising inclined side plates with their lower edges bent back to form ledges resting upon the edges of the side plates of the mold-sections, and conical caps mounted on the cross-rods by having tongues cut from their lower edges and connected to the cross-rods, the spaces formed by the cutting away of said tongues receiving the cross-rods and the stay-rods.

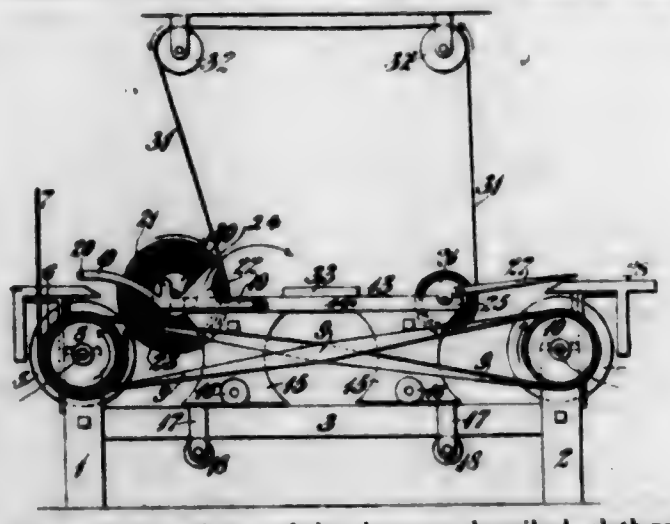
8. In a mold for concrete walls, an attachment for the side plate of said mold comprising a hook adapted to engage the edge of the side plate, a spring-pressed finger pivoted to the hook, and a marking-strip held by the finger against the side plate to produce ornamentation on the surface of the wall.

9. A mold for concrete walls, comprising mold-sections formed of side plates with angle-iron-frame construction forming outwardly-extending flanges, a means for locking the side plates of adjoining mold-sections together comprising a lever pivoted to an outstanding flange of one side plate and having a hook to embrace and clamp together the abutting outstanding flanges of said side plates.

10. A mold for concrete walls, comprising mold-sections formed of side plates with rectangular angle-iron-frame construction, means for securing the side plates of the mold-sections of each course together, and means for connecting each side plate with the side plate of a mold-section of the course therebeneath, comprising a sliding bolt mounted on the side plate and adapted to be projected through the abutting flanges of the two side plates.

11. A mold for concrete walls, comprising opposite mold-sections formed of sheet metal with rectangular angle-iron-frame construction having surrounding outstanding bearing-flanges, tie-rods formed of strips of metal with their ends bent back upon themselves, thumb-screws passed through the side plates near their lower edges and threaded into the bent-over ends of the tie-rods and thereby serving to connect the opposite side plates together near their lower edges, stay-rods having series of pins for engaging perforations in the top flanges of the opposite side plates and serving to properly space the side plates apart, tapering cylindrical cores carried by the stay-rods, clamp-levers pivoted to vertical flanges of the side plates and adapted to engage the abutting bearing-flanges of adjoining mold-sections in the same course, sliding bolts mounted on the side sections and adapted to enter registering perforations in the abutting bearing-flanges of mold-sections of adjoining courses, and a hopper, comprising inclined side plates with their edges bent back to bear upon the upper bearing-flanges of the side plates, cross-rods connecting the inclined side plates, and conical caps carried by the cross-rods and covering the ends of the cylindrical cores.

805,820. BURLING OR PERCHING MACHINE. ARTHUR L. ROBERTSHAW, Philadelphia, Pa. Filed May 19, 1905. Serial No. 261,107.



Claim.—1. In a device of the character described, cloth-rolls, longitudinally-movable supporting means and front and rear driving means between which said supporting means is adapted to be moved in one position to drive the rolls in one direction and in another position to drive them in the opposite direction and in its intermediate position no motion being imparted.

2. In a device of the character described, cloth-rolls, a movable carriage for supporting the cloth-rolls and means for rotating the rolls in one direction or the other depending upon the position of the carriage.

3. In a device of the character described, cloth-rolls, a movable carriage for supporting the cloth-rolls, means for rotating said rolls

in one direction and means for rotating the rolls in the opposite direction, said means being brought into operative relation with the rolls by movement of the carriage.

4. In a device of the character described, a movable carriage, means for supporting the cloth-rolls thereon, a front driving-roller adapted to rotate the rolls in one direction when the carriage is moved to its forward position and a rear driving-roller adapted to rotate the rolls in the opposite direction when the carriage is moved to its rearmost position.

5. In a device of the character described, a movable carriage, means for supporting the cloth-rolls thereon, a front driving-roller, a rear driving-roller and means for rotating said rollers continuously in opposite directions.

6. In a device of the character described, a movable carriage, a track upon which said carriage travels, front and rear driving-rollers situated adjacent the ends of said track and cloth-rolls carried by said carriage and adapted to be rotated forwardly or backwardly depending upon the position of the carriage.

7. In a device of the character described, a movable carriage, cloth-rolls adapted to be carried thereby, front and rear driving-rollers, and tables adapted to protect said driving-rollers.

8. In a device of the character described, a movable carriage, cloth-rolls adapted to be carried thereby, front and rear driving-rollers, a table protecting each of said rollers, and pivoted levers on said carriage and serving as a track from said carriage to one of said tables.

9. In a device of the character described, a movable carriage, cloth-rolls adapted to be carried thereby, front and rear driving-rollers adapted to actuate said rolls, and a pivoted bracket on said carriage for one of said cloth-rolls and adapted to be elevated for the removal of the roll.

10. In a device of the character described, a movable carriage, a track on which said carriage moves, means for guiding and balancing said carriage and front and rear driving-rollers for actuating said cloth-rolls.

11. In a device of the character described, a movable carriage, a track for said carriage, means for guiding said carriage on said track, front and rear driving-rollers adjacent the ends of said track, means for rotating said rollers in opposite directions, tables for protecting said rollers, devices pivoted to said carriage and serving as a track to one of said tables, a pivoted bracket on said carriage and cloth-rolls adapted to be carried by said carriage and to be rotated by one of said driving-rollers in a direction depending on the rollers in contact.

12. In a device of the character described, cloth-rolls, longitudinally-movable supporting means, front and rear driving means between which said supporting means is adapted to move in order to drive the rolls in different directions as desired, and perches over which the cloth is adapted to pass from one roll to the other.

13. In a device of the character described, cloth-rolls, longitudinally-movable supporting means, front and rear driving means between which said supporting means is adapted to be moved in order to drive the rolls in either direction as desired, perches over which the cloth is adapted to pass from one roll to the other, and an adjustable board suitably supported

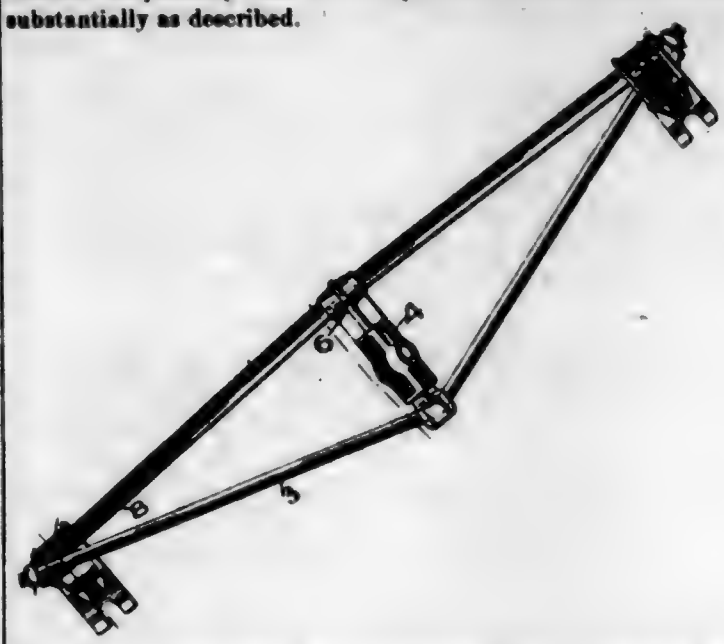
14. In a device of the character described, cloth-rolls, longitudinally-movable supporting means, front and rear driving means between which said supporting means is adapted to be moved in order to drive the rolls in either direction as desired, perches over which the cloth is adapted to pass from one roll to the other, an adjustable board suitably supported, and means for supporting said board in its adjusted position.

805,821. **BRAKE-BEAM.** HENRY B. ROSSCHUNE, Kalamazoo, Mich., assignor to Chicago Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed July 15, 1905. Serial No. 269,289.

Claim.—1. In a brake-beam, the combination with a strut and a tension member, of a channel-shaped compression member, the exterior of which is in the form of a parabola and the inner portion of which is curved in the form of a deep crescent, whereby the central longitudinal portion of the compression member is materially thicker than the remaining portions; substantially as described.

2. In a brake-beam, the combination with a compression member having an exterior parabolical portion and a crescent-shaped inner wall, of a tension member snugly engaging the inner wall of the compression member, and a strut; substantially as described.

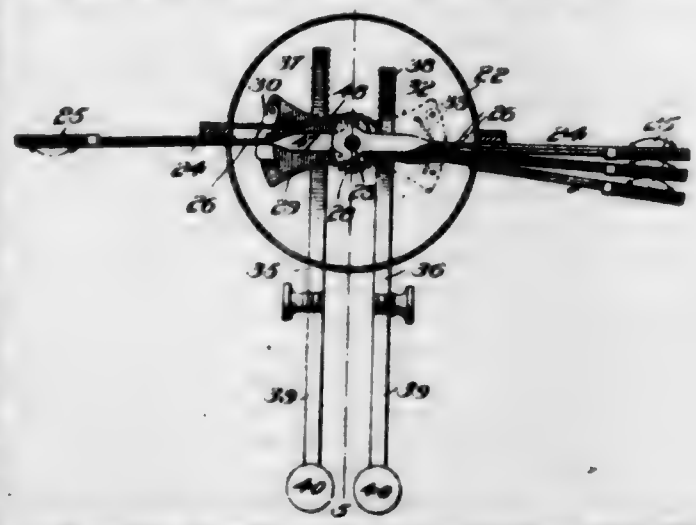
3. In a brake-beam, the combination with a compression member having a concavo-convex form, the central longitudinal portion being of considerably greater thickness than the sides, a tension member coöperating with the compression member, and a strut; substantially as described.



4. In a brake-beam, the combination with a U-shaped compression member, the convex portion of which is in the form of a parabola and the concave portion of which is in the form of a deep crescent, of a tension member engaging the concave portion of the compression member, and a strut; substantially as described.

5. In a brake-beam, the combination with a U-shaped compression member whose middle portion is materially thicker than the remaining portions, the exterior of said U-shaped member being in the form of a parabola, a tension member engaging the concave portion of said U-shaped compression member, and a strut; substantially as described.

805,822. **SHEET-MUSIC-LEAF TURNER.** CHESTER R. SHULER, Clifton, Kans. Filed June 5, 1905. Serial No. 263,803.



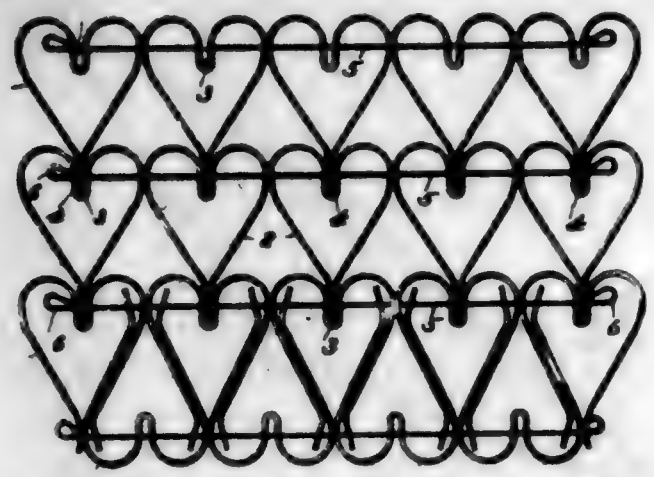
Claim.—1. A leaf-turner consisting of a means for holding a sheet, rotatable arms adapted to engage the sheet and move in front of said sheet-holding means, the inner ends of said arms being substantially triangular, and a spring having an end provided with tongues, each of said tongues having a longitudinally-extending groove which receives the edge of the triangular end of one of the arms.

2. A leaf-turner consisting of a means for holding a sheet, rotatable arms adapted to engage the sheet and move in front of said sheet-holding means, the inner ends of said arms being substantially triangular, and having rollers, and a spring having an end provided with tongues, each of said tongues having a longitudinally-extending groove which receives one of the rollers of the triangular end of one of the said arms.

805,823. **METALLIC MAT.** GEORGE C. SLEETH, Newark, N. J. Filed Mar. 14, 1905. Serial No. 250,035.

Claim.—1. A metallic mat comprising a plurality of sheet-metal members, each member being formed from a strip of metal and provided at one side with an inward-extending socket and the adjoining member being formed with an outward-extending projection, whereby when the members are assembled the projection of one member will fit in the socket of an adjoining member, transverse tie-rods extending through the interlocked sockets and projections, and heads formed on the outer ends of said tie-rods within the outermost

members, said heads bearing against the walls of the sockets of said outermost members and preventing any lateral movement of said tie-rods.



2. A member for a metallic mat formed of a single strip of sheet metal having a substantially continuous wall and provided with an inwardly-extending socket at one side said socket extending within the margin of the member, and with an outward-extending projection at a diametrically opposite point.

3. A member for a metallic mat formed of a single metal strip bent into a substantially heart shape having a continuous wall and provided at one end with an inward-extending socket said socket projecting within the margin of the member and at a diametrically opposite point with an outward-extending projection the walls of the socket and the projection and the sides of the member being provided with suitable perforations for the passage of tie-rods.

4. A metallic mat comprising a plurality of open sheet-metal members each of which is formed of a strip of sheet metal bent into suitable shape and provided at one point with an inturned socket portion the walls of which lie within the margins of the member, and at an opposite point with an outward-extending projection adapted to fit closely within the socket formed in the adjoining member, whereby a fastening device may be passed through the interlocked projection and socket of two adjoining members and the heads of said fastening device arranged within the walls of the member in which the socket is formed.

5. A metallic mat comprising a plurality of identically-shaped sheet-metal members, each member being formed of a strip of sheet metal bent into suitable shape, the ends of said strip being brought together so that the member will have a continuous wall, a portion of said wall being extended inward to form a socket lying within the main portion of the member, the two ends of the strip being brought together at a point directly opposite said socket and bent to form an outward-extending projection adapted to fit closely within the socket of an adjoining member, and a tie-rod extending through a plurality of interlocked projections and sockets, said tie-rod being headed.

6. A metallic mat comprising a plurality of members, each member being formed of a strip of sheet metal bent to form converging side walls, the two ends of the strip being brought together to form a downward-extending projection at the point where said side walls meet, the outer ends of said walls being connected by two outward-curved parts said outward-curved parts being connected at a point directly opposite the outward-extending projection by an inward-extending socket part, said socket part lying between the side walls at the broadest portion of the member, said socket being adapted to receive the downward-extending projection of an adjoining member, and a tie-rod passed through the walls of the socket and the inclosed projection of the adjoining member.

7. A member for a metallic mat formed of a strip of sheet metal bent to form converging side walls, the two ends of the strip being brought together to form an outward-extending projection at the point where said side walls meet, the outer ends of said side walls being connected by two outward-curved parts, said outward-curved parts being connected at a point directly opposite the outward-extending projection by means of an inward-extending socket part, said socket part lying between the side walls of the broadest portion of the member and within the margin thereof, said socket being adapted to receive the downward-extending projection of an adjoining member.

8. A member for a metallic mat formed of a strip of sheet metal bent to suitable form and having its two ends brought closely together and extended outward to form a projection, the walls of the member being extended inwardly at a point opposite the outward-extending projection to form a socket within the margin of the member and adapted to receive the outward-extending projection of an adjoining member whereby the ends of the strip forming each member will be confined within the walls of the socket of the adjoining member and held therein against lateral movement, the walls of the socket and the projection being apertured for the passage of a suitable fastening means.

9. A member for a metallic mat formed of a strip of sheet metal bent substantially into heart shape and provided at the point of juncture of the lobes with an inward-extending, narrow, longitudinal socket which lies within the margin of the member, the two ends of the strip being brought together at the point of the heart shape and extended outward in a line parallel with the walls of the socket, whereby the member will have a substantially continuous metal wall, said projection being adapted to fit closely within the socket of the adjoining member, the walls of the socket and the projection being apertured horizontally for the passage of a fastening device.

10. A metallic mat comprising a plurality of members, each member being formed of a sheet-metal strip bent to form a continuous wall for said member, a portion of said wall extending inward within the margin of the member to form a socket, and a portion thereof extending outward beyond the margin of said member, the socket and the projection being at diametrically opposite points whereby the projection of one member may be fitted into the socket of the adjoining member, the walls of the socket and of the projection and the sides of the members being apertured, and tie-rods passing through the interlocked sockets and projections and the sides of the members, said rods being headed on their ends.

11. A metallic mat comprising a plurality of members, each member being formed of a sheet-metal strip bent to form a continuous wall for said member, a portion of said wall extending inward within the margin of the member to form a socket, and a portion thereof extending outward beyond the margin of said member, the socket and the projection being at diametrically opposite points whereby the projection of one member may be fitted into the socket of the adjoining member, the walls of the socket and of the projection and the sides of the member being apertured, and tie-rods passing through the interlocked sockets and projections and the sides of the members, said rods being headed on their ends within the margins of the outermost members.

805,824. APPARATUS FOR SETTLING DUST RAISED BY MOTOR-VEHICLES. SAMUEL S. STITT, Cambridge, England. Filed Sept. 26, 1905. Serial No. 280,511.



Claim.—1. An apparatus for settling dust raised by the wheels of motor road-vehicles, said apparatus comprising means for producing a spray of finely-divided liquid behind the wheels of the vehicle, and means for supplying liquid and gas under pressure to the spraying apparatus.

2. An apparatus for settling dust raised by the wheels of motor road-vehicles, said apparatus comprising spraying-nozzles and means for supporting the same behind the vehicle-wheels, a tank for liquid and pipes for conveying the liquid to the nozzles, a source of gas under pressure and means for supplying said gas to the spraying-nozzles.

3. An apparatus for settling dust raised by the wheels of motor road-vehicles, said apparatus comprising a shoe behind each wheel and in proximity to the point of contact of the wheel-tire with the road, means for supporting each shoe, spraying apparatus inside each shoe, means for supplying liquid to said spraying apparatus, and means for supplying gas under pressure to the spraying apparatus.

4. In an apparatus for settling dust applicable to motor road-vehicles, the combination with the motor-car and engine thereof, of a shoe behind each wheel and in proximity to the point of contact of the wheel-tire with the road, means for supporting each shoe, spraying apparatus inside each shoe, means for supplying liquid to said spraying apparatus, and means for conveying the exhaust-gases of the engine to the spraying apparatus whereby said gases are utilized for making the liquid spray.

5. An apparatus for settling the dust raised by the wheels of motor road-vehicles, said apparatus comprising means for confining the dust to a certain space, and means for producing a spray of finely-divided liquid within the space.

8. An apparatus for settling the dust raised by the wheels of motor road-vehicles, said apparatus comprising a shoe adapted to confine the dust within a certain space, a pipe mounted in said shoe, spraying-nozzles mounted on said pipe, means for conveying gas under pressure to said nozzles, means for supplying water to said nozzles, and means for clearing the nozzles from obstruction.

805,825. **FLEXIBLE TUBING.** LEON SUSSMAN, Bayonne, N. J., and ELIAS R. WILKER, New York, N. Y. Filed Oct. 25, 1904. Serial No. 229,901.

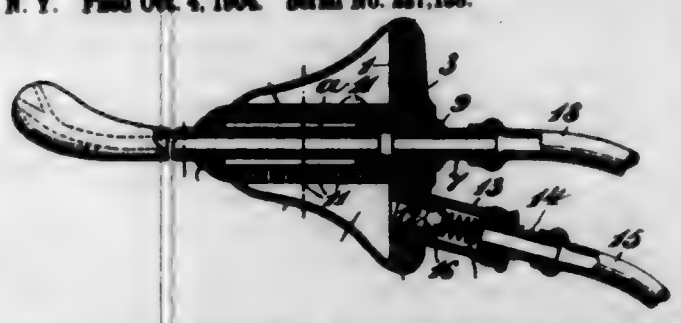


Claim.—1. Flexible tubing comprising a spirally-coiled strip of resistant material which in longitudinal section of the tubing is S-shaped, with the returning ends or edges overlapped and interlocking, and a suitable packing contained between said returning ends or edges.

2. Flexible tubing comprising a spirally-coiled strip of resistant material which in longitudinal section of the tubing is S-shaped, with the returning ends overlapped and having concave opposing faces, and a convex-faced packing engaging said opposing faces of the returning coil ends.

3. Flexible tubing comprising a spirally-coiled strip of resistant material which in longitudinal section of the tubing is S-shaped, with the returning ends overlapped and interlocked, each of these ends being fitted between the return end portion and the body portion of the interlocking coil.

805,826. **VAGINAL IRRIGATOR.** MAXWELL VIDAVER, New York, N. Y. Filed Oct. 4, 1904. Serial No. 227,138.



Claim.—1. An instrument for the purpose specified, having a closure or shield, a nozzle, an outlet for the liquid forced through the nozzle, and automatic means at the outlet offering a yielding resistance to the outflow of the liquid and retaining it under pressure.

2. An instrument for the purpose specified, having a closure or shield, a nozzle mounted therein, an inlet and outlet for the fluid, and regulable automatic means at the outlet offering a yielding resistance to the outflow of the liquid.

3. An instrument for the purpose specified, having a closure or shield, a nozzle mounted therein, an inlet and an outlet for the fluid, a valve-casing at the outlet for the fluid, a valve therein, and a spring therein behind the valve which presses the latter up yieldingly to the liquid-outlet to close the same.

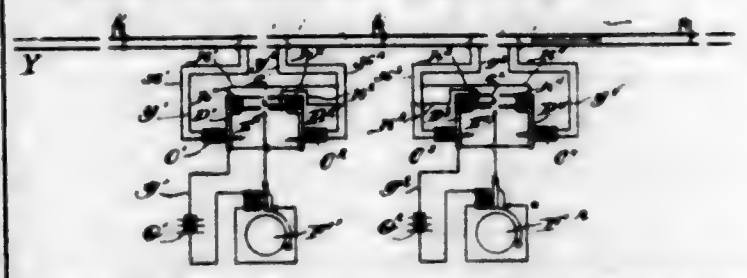
4. An instrument for the purpose specified, having a closure or shield, a nozzle mounted therein, an inlet and outlet for the fluid, a valve-casing at the outlet, a valve therein, a spring behind the valve and pressing it yieldingly up to the liquid-outlet to close the same, and means for varying the tension of the said spring.

5. An instrument for the purpose specified, having a closure with a hollow, flexible, bell-like part 6, a nozzle and inlet-nipple, a part admitting liquid which has passed through the nozzle to the chamber in said part 6, an outlet for the liquid, and regulable means offering a yielding resistance to the outflow of the liquid thereat.

6. An instrument for the purpose specified, having a disk 1 and tubular part 2, a nozzle 8 screwed into the latter and having a shoulder 9, a nipple 7, screwed into the disk 1 and having a shoulder 9, a disk 3 with a clamping-rim 4, a disk 5, and a bell-shaped hollow part 6, of flexible material clamped at its larger end between the rim 4 and disk 1, and at its lesser end between the disk 5 and the inner end of the tubular part 2.

7. In an instrument for the purpose specified, the combination of the following coacting instrumentalities, namely, the disk 1 and tubular part 2, the latter projecting perpendicularly from the former and provided with ports 11, the disk 3, having a rim 4 which takes over the disk 1, the inlet-nipple 7, provided with a shoulder 9, said nipple extending through the disk 3 and screwing into the disk 1, the shouldered discharge-nozzle 8, extending into the larger bore of the tubular part 2 and leaving an annular chamber a in the latter, the clamping-disk 5, on the nozzle and having in it a port 10, the hollow bell-like part or closure 6, of flexible material secured at its ends as described, and a valve-controlled outlet for the injected liquid.

805,827. **RAILROAD SIGNAL-CIRCUIT.** EUGENE W. VOGEL, Chicago, Ill., assignor to The Railroad Supply Company, a Corporation of Illinois. Filed Sept. 20, 1901. Serial No. 75,893.



Claim.—1. In a railroad signal system, the combination with a plurality of signals, of closed track-circuits controlling the operation of said signals, an insulated track-section between said signals to the rails of which said circuits are connected, and a source of electricity directly connected to the rails of said track-section whereby when the first truck of a train enters said insulated track-section said source of electricity is short-circuited, substantially as described.

2. In a railroad signal system, the combination with a plurality of signals, of normally open circuits for operating said signals, interlocking relays controlling said signal-circuits, closed track-sections including magnets of said relays, an insulated track-section between said signals to which are connected track-circuits including magnets of both relays, and a source of electricity directly connected to the rails of said insulated track-section, whereby when the first truck of a train enters said insulated track-section said source of electricity is short-circuited and the magnets connected thereto de-energized, substantially as described.

3. In a railroad signal system, the combination with a plurality of signals, of normally open circuits for operating said signals, insulated track-sections at each side of said signals, an insulated track-section extending between said signals, track-batteries directly connected to the rails of each insulated track-section, closed track-circuits leading from said insulated track-sections at either side of each signal, electromagnets in said track-circuits, armatures controlling the signal-circuits operated by said magnets, means for short-circuiting the track-battery connected to said track-section extending between the signals whenever a train approaches either signal thereby demagnetizing a magnet at a second signal and rendering operative said signal, substantially as described.

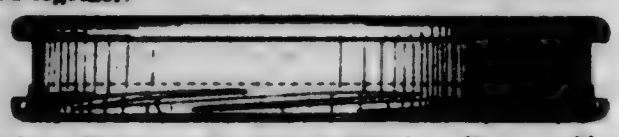
4. In a railroad signal system, the combination with a plurality of signals, of circuits for operating said signals, insulated track-sections at each side of said signals, an insulated track section extending between said signals, track-batteries directly connected to the rails of each insulated track-section, closed track-circuits leading from said insulated track-sections at either side of each signal, electromagnets in said track-circuits, armatures controlling the signal-circuits operated by said magnets, contacts carried by an armature at one signal controlling a short circuit around a magnet at a second signal thereby demagnetizing said magnet and rendering operative said second signal, substantially as described.

5. In a railroad signal system, the combination with a plurality of signals, of closed track-circuits controlling the operation of said signals, a plurality of insulated track-sections to one of which two of the said track-circuits are connected and to each of the other of which a single track-circuit is connected, track-batteries of equal strength directly connected to said insulated track-sections, and magnets in said track-circuits for controlling the signals the coils of those in the circuits connected to the single track-section having a resistance twice that of the magnets in the other track-circuits, whereby the batteries are consumed with equal rapidity, substantially as described.

805,828. **VEHICLE-WHEEL RIM.** ERNST WEILER, Berlin, Germany. Filed Mar. 7, 1905. Serial No. 248,833.

Claim.—1. A wheel rim or felly in two parts, comprising a de-

tachable ring or flange in which the ring and the outer edge of the rim carry helically-formed ribs bearing mutilated screws engaging one with the other and a tire-engaging flange on each part by which the tire is wedged into and held firmly in position when the parts are screwed together.



2. In a device of the class described, a dismountable outer wheel-rim combined with an inner rim in which wedge ribs on each form a screw engagement so formed as to hook one within the other, so that they present conical pairs of wedge faces parallel with each other, by means of which the centering and joint formation between the two assembled parts is simultaneously obtained, and a flange on the wheel-rim, and on the inner rim, between which the tie is held.

3. In a device of the class described, a wheel felly or member having a flange on one side adapted to engage the securing edge of a rubber tire, a mutilated or non-continuous screw-thread formed upon the unflanged edge of the felly, and an annular like threaded and flanged member adapted to engage with the felly to secure the tire in place.

4. In a device of the class described, a wheel felly or member having a flange on one side adapted to engage the securing edge of a rubber tire, a mutilated or non-continuous screw-thread formed upon the unflanged edge of the felly, an annular like threaded and flanged member adapted to engage with the felly to secure the tire in place, and a packing-gasket of elastic material interposed between the two screw-threaded parts.

5. In a device of the class described, a wheel-rim having a flange for securing one side of the elastic tire and an annular member with a coacting flange fitted to the wheel-rim by means of a wedging bayonet-joint.

6. In a device of the class described, a wheel-rim having a flange for securing one side of the elastic tire, and an annular member with a coacting flange fitted to the wheel-rim by means of a wedging interrupted screw-joint.

805,829. LOCK-NUT. CHARLES G. WERNING, St. Louis, Mo. Filed Apr. 6, 1905. Serial No. 254,122.



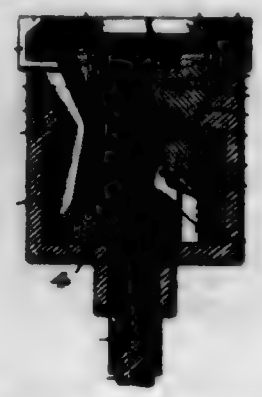
Claim.—1. A nut having a cavity extending transversely of its bore, a locking member located within said cavity, said locking member being provided on one end with a notch 5, and on the opposite end with a hole 10, the entrance to said hole being larger than the remaining portion, a block 7 having a threaded hole therein fastened in the entrance of the cavity in the nut, a screw operatively located in said threaded hole, said screw having a spindle of smaller diameter than the hole 10 exending into said hole, and a spring having one end bearing in the said notch 5 and the opposite end against the wall of the cavity in the nut, substantially as specified.

2. A nut having a cavity extending transversely of its bore, the outer wall of the cavity being a plane, a locking member having a hole in one end, located within said cavity and bearing against the said outer wall of the cavity, a spring against the end of the locking member which is opposite from the hole, a block fastened in the entrance of the cavity, and a screw operatively carried by said block and having a spindle of smaller diameter than the hole in the locking member, projecting into said hole, substantially as specified.

3. A nut having a cavity extending transversely of its bore, a locking member located within and bearing closely against the outer wall of said cavity, said locking member being provided on one end with a notch 5, and on the opposite end with a hole 10, extending parallel with the outer edge of the locking member, a block secured in the entrance of the cavity in the nut, and a screw operatively carried by said block, and said screw having a spindle of smaller diameter than the hole 10, extending into said hole, substantially as described.

4. A nut having a cavity extending transversely of its bore, a locking member located within and bearing closely against the outer wall of said cavity, said locking member being provided on one end with a hole 10, a block secured in the entrance of the cavity and having a hole therein in alinement with the hole in the locking member, a movable member located in said hole formed in said block and projecting into the hole 10 in the locking member, and a spring against the end of the locking member, which is opposite from the hole 10, substantially as shown and described.

805,830. SNAP FOR HOLDING GLASSWARE, &c., FOR FINISHING. FREDERICK C. ALBRECHT, Philadelphia, Pa. Filed May 31, 1905. Serial No. 262,162.



Claim.—1. In a device of the character described, a head, clamping-jaws carried thereby, cam-faces on the outer surface of said jaws, and means engaging said cam-faces for actuating said jaws.

2. In a device of the character described, a head suitably supported, clamping-jaws carried thereby, a cam-face inclining outwardly and upwardly and a cam-face inclining outwardly and downwardly on the outer surface of each of said jaws, and means engaging said cam-faces for actuating said jaws.

3. In a device of the character described, a head suitably supported, clamping-jaws carried thereby, angularly-disposed cam-faces on said jaws, and a casing engaging said cam-faces and adapted to actuate said jaws.

4. In a device of the character described, a head suitably supported, clamping-jaws carried thereby, a cam-face extending outwardly and upwardly and a cam-face extending outwardly and downwardly on the outer surface of each of said jaws, and means adapted to coact with said upwardly-extending cam-faces to close said jaws, and to coact with said downwardly-extending cam-faces to open said jaws.

5. In a device of the character described, a head, clamping-jaws carried thereby, reversely-disposed cam-faces on the outer surface of said jaws, and means engaging said cam-faces for actuating said jaws.

6. In a device of the character described, a head, clamping-jaws carried thereby, a casing surrounding said head, and an internal flange on said casing engaging said jaws and adapted to actuate the same on the longitudinal movement of said casing.

7. In a device of the character described, a head, a rib extending outwardly therefrom, clamping-jaws carried by said head, a casing surrounding the latter, an internal flange within said casing engaging said jaws and actuating the latter on the longitudinal movement of said casing, and a slot in said flange with which said rib has engagement and which prevents the rotation of said casing.

8. In a device of the character described, a head, slots therein, clamping-jaws, lugs extending therefrom, adapted to engage said slots, a casing for said head, an internal flange carried by said casing and adapted to engage said jaws and means for automatically closing said jaws.

9. In a device of the character described, a casing suitably supported, a head movably mounted with respect to said casing, an internal flange on the latter, clamping-jaws carried by said head, and a cam-face on said jaws adapted to be engaged by said flange when said casing is moved with respect to said head whereby said jaws are opened and closed.

10. In a device of the character described, a casing suitably supported, a head movably mounted within said casing, slots in said head, clamping-jaws, lugs extending therefrom adapted to engage said head, a cam-face on said jaws, an internal flange on said casing adapted to engage said cam-face and actuate said jaws when said casing is longitudinally moved with respect to said head, and means for preventing the rotation of said casing.

11. In a device of the character described, a head suitably supported; a casing movably mounted with respect to said head, recesses in the latter, a bar formed between said recesses, an internal flange on said casing, clamping-jaws supported between said bar and said flange, lugs extending from said jaws and adapted to be received in said slots, a cam-face on each of said jaws adapted to coact with said flange when said casing is moved with respect to said head, a top

flange for said head, and a grasping edge on each of said jaws between which and said top flange the object is held.

12. In a device of the character described, a head, clamping-jaws carried thereby, body portions therefor, cam-faces on the rear surfaces of said body portions, a casing and an internal flange on said casing engaging said cam-faces and adapted to actuate said jaws on the longitudinal movement of said casing.

13. In a device of the character described, a head, clamping-jaws carried thereby, body portions therefor, angularly-disposed cam-faces on the rear surfaces of said body portions, a casing and an internal flange on said casing engaging said cam-faces and adapted to actuate said jaws on the longitudinal movement of said casing.

14. In a device of the character described, a head, a flange extending laterally therefrom, a curved face on said flange, clamping-jaws carried by said head, angularly-disposed cam-faces on said jaws, a casing, a grasping edge therefor between which and said curved face the object is held, and an internal flange on said casing engaging said cam-faces and adapted to actuate said jaws on the longitudinal movement of said casing.

805,831. **RAIL-JOINT.** JOHN B. ALEXANDER, Covington, Va., assignor of one-half to Ira Dew, Covington, Va. Filed June 22, 1905. Serial No. 266,427.



Claim.—1. The rail-joint herein described comprising the rails having their webs provided with slots elongated in the direction of length of the rails, and fish-plates having bolt-openings and one of said plates being provided on its inner side with inwardly-projecting lugs to fit in the slots of the rails and having its bolt-holes formed through said lugs, the fish-plates being provided on their outer faces at their lower edges with inwardly-tapering surfaces, the chair provided at its edges with inwardly-projecting clasp portions overlying the base of the rails and having their inner edges tapered outwardly from a middle point toward their ends, said inner faces being also corrugated and tapering outwardly from their upper to their lower edges, the bolts passing through the fish-plates and rail-sections, and the keys tapering longitudinally and transversely and corrugated on their outer edges to interlock with the corrugations of the clasp portions of the chair when driven and operating between said clasp portions and the inwardly-sloping surfaces at the lower edges of the fish-plates, substantially as set forth.

2. The combination of the chair, the rail-sections having their webs provided with slotted openings, the fish-plates, one of which is provided with lugs fitting said slotted openings and having bolt-holes formed through said lugs and the opposite fish-plate, the bolts passing through said holes, and the keys operating between the chair and the fish-plates, substantially as set forth.

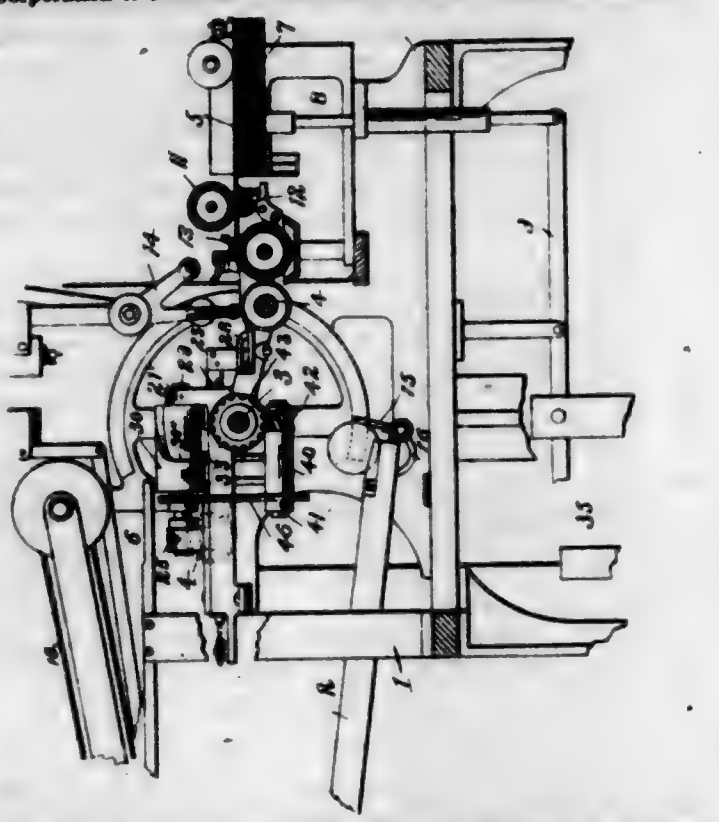
3. In a rail-joint the combination of the rail-sections, the chair provided at its ends with clasp portions overlying the base of the rail-sections and tapering on their inner edges from their middles outwardly toward their ends and undercut on their inner edges, the fish-plates and the keys operating between the tapered undercut edges of the chair and the said fish-plates, substantially as set forth.

4. The combination in a rail-joint with the rail-sections having slotted openings, of the fish-plates, one of which is provided with inwardly-projecting lugs entering the slots in the fish-plates and with bolt-holes through said lugs, the opposite fish-plate having openings coinciding with those in the lugs and the bolts passing through said openings, substantially as set forth.

5. The combination of the rail-sections, the fish-plates provided on their outer sides at their lower ends with the undercut surfaces, the chair receiving the rail-sections and provided at its edges with the clasp portions overlying the base of the rails and tapering on their inner edges from their middles toward their ends, and the keys operating between said surfaces of the chair-clasps and the undercut surfaces of the fish-plates, substantially as set forth.

6. The combination of the rails, the fish-plates, the chair receiving the rails and having clasp portions overlying the base of the rails and corrugated on their inner edges, and the keys operating between the fish-plates and the corrugated edges and formed to cooperate with the latter, substantially as set forth.

805,882. **LABELING-MACHINE.** JOHN B. AUFDERHEIDE, Dayton, Ohio, assignor to The Automatic Machines Company, Pittsburg, Pa., a Corporation of Delaware. Filed July 14, 1904. Serial No. 216,546.



Claim.—1. In a machine of the character described, the combination of can-feeding means, the main operating means, means for placing the label in position to be applied to the can, means for operatively controlling the label-placing means, and driving means intermediate to the main operating means and the means for controlling the label-placing means capable of operating said label-placing means at a speed relatively two to one with the main operating means.

2. In a machine of the character described, the combination of can-feeding means, label-feeding means, a main operating means, label-gripping devices for placing the label in position to be applied to the can, means for operatively controlling the label-gripping devices, and driving means intermediate to the means for controlling the label-gripping devices and the main operating means for giving the means for controlling the label-gripping devices a two-to-one operative relation with the main operating means for the purpose explained.

3. In a machine of the character described, the combination of can-feeding means, label-feeding means, a main operating means, reciprocating label-gripping devices for placing the label in position to be applied to the can, a cam for operatively controlling the reciprocating label-gripping devices, and driving means intermediate to the cam and main operating means for placing the cam and the main operating means, respectively, in two-to-one rotative relation with each other, for the purpose explained.

4. In a machine of the character described, the combination of can-feeding means, label-feeding means, a main operating means, reciprocating label-gripping devices for placing the label in position to be applied to the can, a cam for operatively controlling the reciprocating label-gripping devices, gear-wheels intermediate to the cam and main operating means for placing the cam and main operating means, respectively, in two-to-one relation with each other, for the purpose explained.

5. In a machine of the character described, the combination of can-feeding means, label-feeding means, a main operating means, reciprocating label-gripping devices for placing the label in-position to be applied to the can, a cam for moving the reciprocating label-gripping devices into position to seize the label, driving means intermediate to the main operating means and the cam for giving said cam a two-to-one operative relation with the main driving means, and means for returning the label-gripping means to normal position, for the purpose explained.

6. In a machine of the character described, the combination of can-feeding means, label-feeding means, a main operating means, reciprocating label-gripping devices for placing the label in position

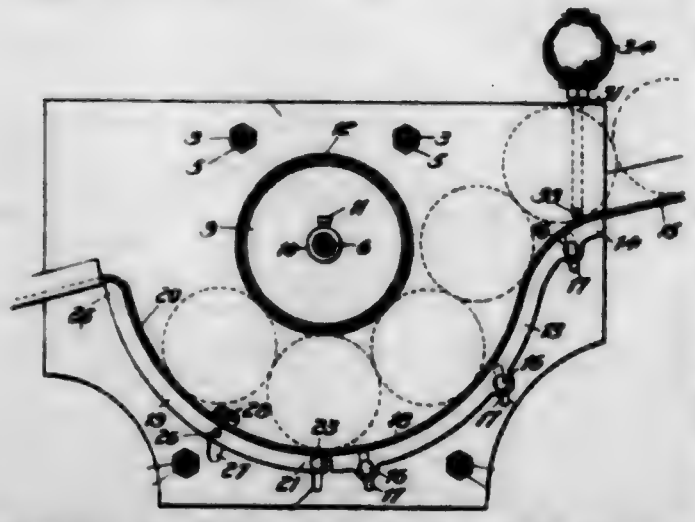
to be applied to the can, a cam rotating transversely to the movement of the label-gripping devices, means attached to the label-gripping devices adapted to ride against the face of the cam and give said label-gripping devices a longitudinal movement, and means for driving said cam operatively controlled by the main operating means, for the purpose explained.

7. In a machine of the character described, the combination of can-feeding means, label-feeding means, a main driving-shaft, reciprocating label-gripping devices supported in transverse relation to the main driving-shaft, a cam supported adjacent to the reciprocating label-gripping devices, means attached to the label-gripping devices adapted to ride against the face of the cam, and driving means intermediate to the main driving-shaft and the cam for giving said cam a two-to-one operative relation with the main driving means, and capable of rotating the cam in a direction transversely to the movement of the reciprocating label-gripping devices for the purpose explained.

8. In a machine of the character described, the combination of label-feeding means, a main driving-shaft, reciprocating label-gripping devices, a cam for moving the label-gripping devices into position to seize the label, and a spiral gearing intermediate to the cam and the main operating-shaft for giving said cam a two-to-one operative relation with said operating-shaft.

9. In a machine of the character described, the combination of label-feeding means, a main driving-shaft, reciprocating label-gripping devices, a bracket supported on the driving-shaft and forming a guideway for the label-gripping devices, a cam supported by said bracket adjacent to the label-gripping devices and operating transversely to the movement of said label-gripping devices, a cam-roller secured to the label-gripping devices and adapted to ride against the face of the cam, and means for yieldingly holding the cam-roller against the face of the cam for the purpose explained.

805,833. MACHINE FOR APPLYING FLUX TO CYLINDRIC BODIES. CHARLES H. AYARS, Salem, N. J., assignor to Ayars Machine Company, Salem, N. J., a Corporation of New Jersey. Filed Feb. 6, 1905. Serial No. 244,239.



Claim.—1. In a machine for fluxing cylindric bodies the combination with parallel curved concentric surfaces between which the bodies are sustained, of means for revolving one of said surfaces to advance the bodies by revolving them and means for applying and distributing the flux through said curved surfaces.

2. In a machine for fluxing cylindric bodies the combination with a curved supporting-surface on which the bodies are sustained, of a device having a circular surface concentric with the supporting-surface and spaced from the latter to form a curved way for the bodies, means for revolving said device to advance the bodies by rolling them, and means for applying flux to the bodies as they advance in said curved way.

3. In a machine for fluxing cylindric bodies the combination with a curved supporting-surface on which the bodies are sustained, of a revolving device to contact with the bodies and advance them along the supporting-surface, and means for supplying flux to one of said surfaces to transfer it to the advancing bodies.

4. In a machine for fluxing cylindric bodies the combination with a curved supporting-surface, of a revolving device sustained so as to revolve in a path concentric with but spaced from said supporting-surface to form a curved way for the bodies; a flux-distributing material on said surface, and means for supplying flux to said material.

5. In a machine for fluxing cylindric bodies the combination with a curved supporting-surface on which the bodies are sustained, of a revolving device having a circular surface to contact with the bodies and advance them along the supporting-surface; means for permitting adjustment of one of said surfaces with respect to the other to alter the distance between them, and means for applying flux to said bodies while they are advancing.

6. In a machine for fluxing cylindric bodies the combination with a curved supporting-surface, of a revolving device sustained so as to revolve in a path concentric with but spaced from said supporting-surface to form a curved way for said bodies; flux-distributing material on said supporting-surface and means for supplying flux to the material on said supporting-surface to be transferred to the bodies as they advance.

7. In a machine for fluxing cylindric bodies the combination with a concave supporting-surface, of a revoluble device sustained so as to revolve in a vertical plane and concentric with but spaced from said concave surface to form a concave curved way for said bodies; means for revolving said device to advance the bodies through said concave way, and means for applying flux to said bodies as they advance through said way.

8. In a machine for fluxing cylindric bodies, the combination with a concave trackway, of a flux-distributing material on said concave trackway; means for supplying flux to said material; a circular head sustained above said trackway and spaced from the latter, and means for revolving said head while in contact with the bodies to roll them along said trackway on the flux-distributing material and apply the flux.

9. In a machine for fluxing cylindric bodies the combination with a stationary concave support of a circular revoluble head above said support; a yielding concave support, and means for supplying flux to the stationary support.

10. In a machine for fluxing cylindric bodies the combination with a stationary concave support, of a circular head above said support; means for adjusting the positions of said support and head; a yielding support at the end of the stationary support; a flux-distributing material on said supports and means for supplying flux.

11. In a machine for fluxing cylindric bodies the combination with an adjustable concave support, of a circular head above said support; a curved support pivoted at one end adjacent the lower end of the adjustable support and having its end movable in a direction toward or away from said head and means for supplying flux.

12. In a machine for fluxing cylindric bodies the combination with a concave support, of a circular head above said support; means for adjusting the position of the concave support with respect to the circular head; a curved support pivoted at the lower end of said first-named support; means for adjusting the pivoted support with respect to the circular head; means for yieldingly sustaining the free end of said pivoted support, and means for supplying flux to said concave support.

13. In a machine for fluxing cylindric bodies the combination with the parallel concave supports spaced from each other, of circular heads to coact with each of said supports; means for revolving said heads while in contact with the edges of the bodies to be fluxed and means for supplying flux to concave supports to be applied to the bodies as the latter are advanced by said heads.

14. In a machine for fluxing cylindric bodies the combination with the parallel spaced-apart concave supports; means for adjusting the position of the supports in a direction toward or away from each other; circular heads to coact with said supports; means for adjusting the positions of the supports with respect to said heads; means for revolving said heads, and means for supplying flux to said supports.

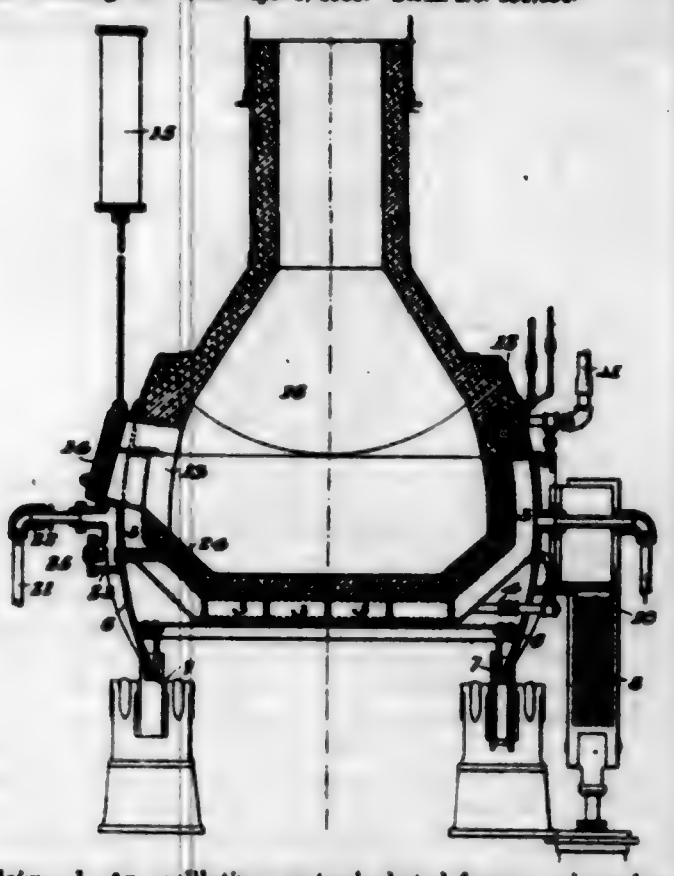
15. In a machine for fluxing cylindric bodies the combination with a plurality of parallel concaved supports, of means for adjusting said supports in a vertical plane; movable concave supports each having one end pivoted adjacent the lower end of said first-named supports and the ends of each of said pivoted supports being movable; a flux-distributing material on said supports and on which the bodies may roll; means for supplying flux to said material; a circular head above said adjustable supports to contact with the bodies to be fluxed, and means for revolving said head to advance the bodies.

16. In a machine for fluxing cylindric objects the combination with the side plates, of a concave support secured to each of said side plates; a circular head above each of said supports and adjacent each side plate; means for supplying flux to each of said supports and means for revolving said circular heads.

17. In a machine for fluxing cylindric objects the combination with the side plates, of means for adjusting the side plates in a direction toward or away from each other; a concave support secured to each of said side plates; means for vertically adjusting said sup-

ports on said side plates, a circular head above said supports; means for revolving said head to advance the circular objects, and means whereby flux may be applied to said circular objects as they are advanced between the side plates.

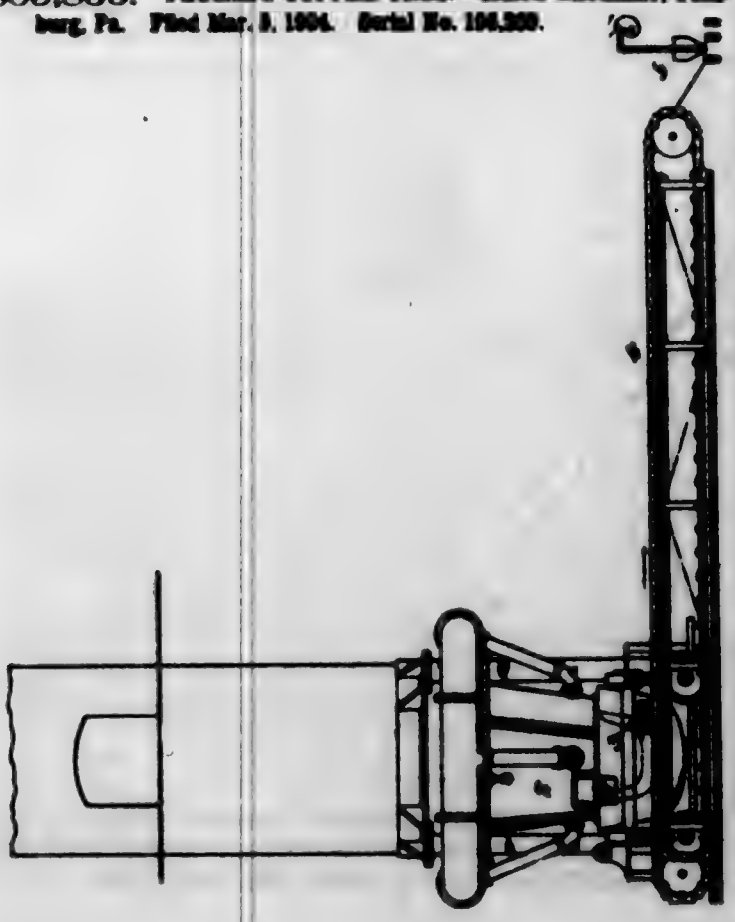
805,884. FURNACE FOR REFINING COPPER. RALPH BAGGALEY, Pittsburg, Pa. Filed Apr. 3, 1903. Serial No. 151,696.



Claim.—1. An oscillating, water-jacketed furnace adapted to refine copper, having a removable roof-section, means for heating the furnace, a working door at one end thereof suitable for the insertion of a refining instrument, a tuyer below the surface level of the charge to be refined, means for supplying a hydrocarbon gas to said tuyer, and means for oscillating the furnace to empty the refined charge; substantially as described.

2. An oscillating furnace adapted to refine charges of copper, having a removable roof-section, a working door at the end of said furnace suitable for the insertion of a refining instrument, means for heating the furnace, a water-jacket and flexible supply connections therefor, a gas-tuyer below the level of the working door, and means for supplying a hydrocarbon gas to said tuyer; substantially as described.

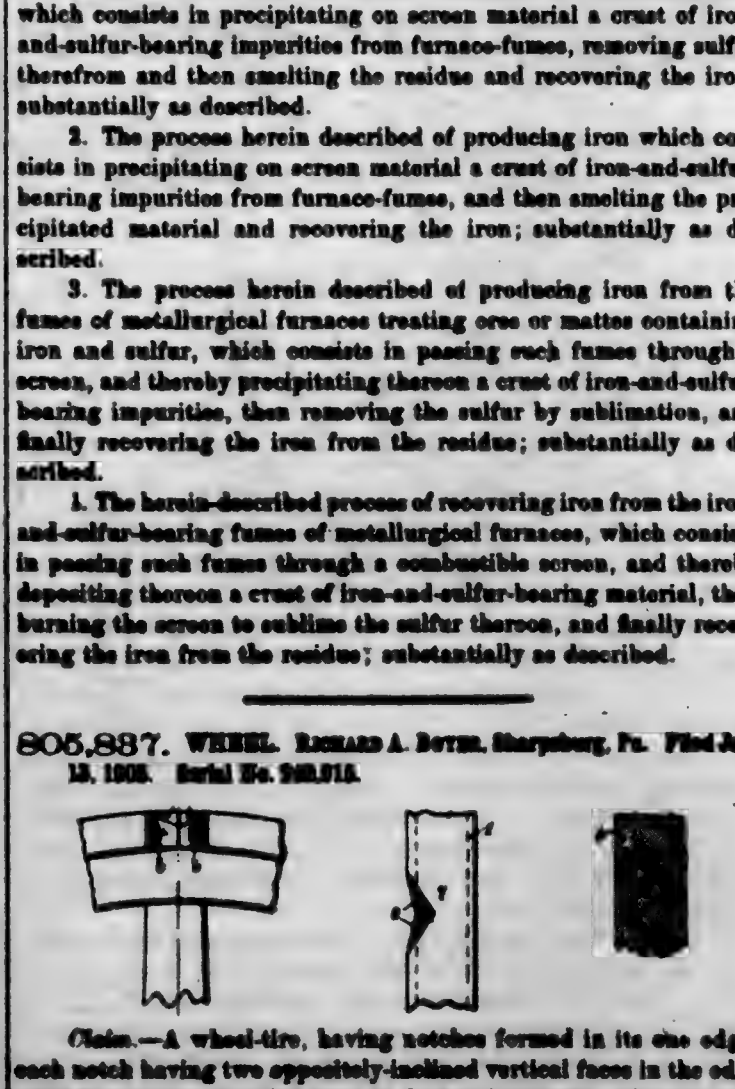
805,885. FLUXING COPPER ORES. RALPH BAGGALEY, Pittsburg, Pa. Filed Mar. 3, 1904. Serial No. 196,269.



Claim.—1. The method herein described which consists in charging into a copper-smelting blast-furnace metallic iron as a flux; substantially as described.

2. The method herein described which consists in charging into a copper-smelting blast-furnace metallic iron in divided form as a flux; substantially as described.

805,886. METHOD OF PRODUCING IRON. RALPH BAGGALEY, Pittsburg, Pa. Filed Oct. 11, 1904. Serial No. 228,044.



Claim.—1. The process herein described of producing iron which consists in precipitating on screen material a crust of iron-and-sulfur-bearing impurities from furnace-fumes, removing sulfur therefrom and then smelting the residue and recovering the iron; substantially as described.

2. The process herein described of producing iron which consists in precipitating on screen material a crust of iron-and-sulfur-bearing impurities from furnace-fumes, and then smelting the precipitated material and recovering the iron; substantially as described.

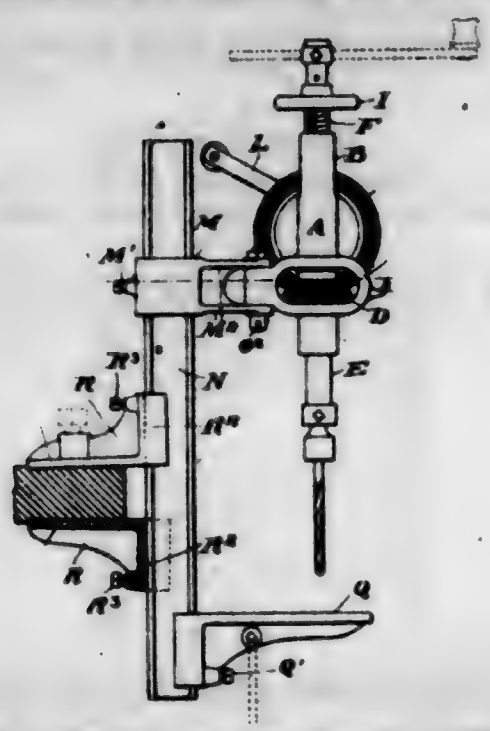
3. The process herein described of producing iron from the fumes of metallurgical furnaces treating ores or mattes containing iron and sulfur, which consists in passing such fumes through a screen, and thereby precipitating thereon a crust of iron-and-sulfur-bearing impurities, then removing the sulfur by sublimation, and finally recovering the iron from the residue; substantially as described.

4. The herein-described process of recovering iron from the iron-and-sulfur-bearing fumes of metallurgical furnaces, which consists in passing such fumes through a combustible screen, and thereby depositing thereon a crust of iron-and-sulfur-bearing material, then burning the screen to sublime the sulfur thereon, and finally recovering the iron from the residue; substantially as described.

805,887. WHEEL. RICHARD A. BOYER, Sharpsburg, Pa. Filed Jan. 13, 1905. Serial No. 240,918.

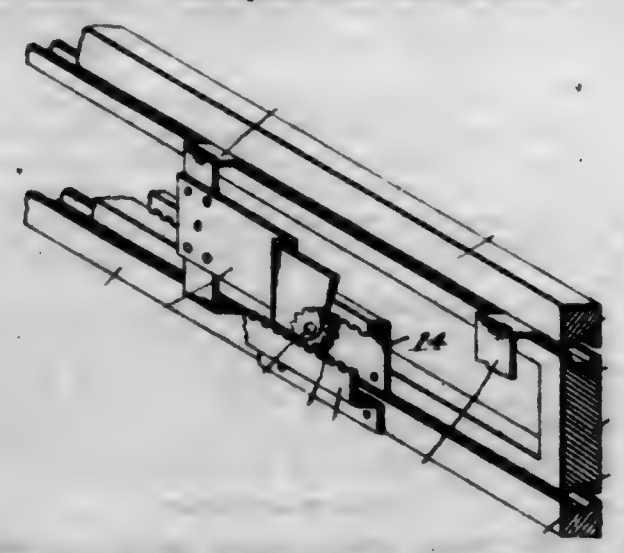
Claim.—A wheel-tire, having notches formed in its one edge, each notch having two oppositely-inclined vertical faces in the edge of the tire and two beveled faces in the tread of the tire, the said beveled faces in the tread of the tire joining with the faces in the edge of the tire, substantially as described.

805,838. COMBINATION DRILL AND DRILL-FRAME. PETER BROADBOOKS, Batavia, N. Y. Filed June 21, 1904. Serial No. 213,509.



Claim.—In a drill of the character described, a drill-frame, a drill-support connected to the drill-frame and extending outward at right angles thereto, a standard channeled longitudinally so as to provide a flange at its rearward and forward side, the support provided with an eye, said eye being of the same contour as the cross-section of the standard, the standard adapted to pass over the eye so that the support may fit and slide upon said standard, means for securing the support in any position placed, standard-supports for securing the standard to a bench, wall or horizontal surface, said standard-supports constructed to embrace one flange of the standard and so proportioned as to extend less than one-half way across the standard, means for securing said supports in any position placed along the standard, a work-support also adjustable along the standard, said support embracing the opposite flange of the standard and extending less than one-half of the distance across the standard toward the opposite flange so that the work-support may pass the standard-supports when being adjusted along the standard, as and for the purpose specified.

805,839. ANTIFRICTION-BEARING. GEORGE W. CAMPBELL, New York, N. Y. Filed Sept. 20, 1904. Serial No. 225,175.

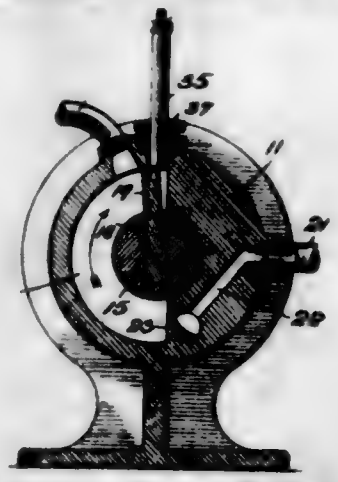


Claim.—1. In an antifriction-bearing, the combination with a guideway, an antifriction-roller traveling in said guideway, a carriage sustained by said roller, a stationarily-mounted rack, a holder for said roller, a pinion carried by said holder and traveling on said stationary rack, and a rack mounted to travel with the carriage and traveling on said pinion.

2. In an antifriction-bearing, the combination with a guideway, an antifriction-roller in said guideway, and a carriage sustained by said antifriction-roller, of a stationary rack, a holder for said roller, a pinion mounted on said holder and traveling on said rack, and a rack mounted to travel with said carriage traveling over said pinion and propelling said pinion along said stationary rack.

3. In an antifriction-bearing, the combination with a guideway, an antifriction-roller mounted to travel in said guideway, and a carriage sustained by said antifriction-roller, of a roller-holder for said roller, a pinion mounted on said holder, a stationary rack engaging one side of said pinion, and a rack mounted to travel with said carriage engaging a point on the periphery of said pinion diametrically opposite to the point engaged by said stationary rack.

805,840. ROTARY ENGINE. BARTHOLOMEW A. CARMODY, St. Louis, Mo. Filed Mar. 22, 1905. Serial No. 251,459.

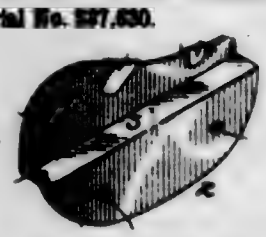


Claim.—1. In a rotary engine, a cylindrical casing, which casing is provided with semicircular chamber; a rotary piston longitudinally disposed within said casing; a valve arranged to slide through the piston, and means located on the exterior of the casing for reversing the position of the valve every time the piston has completed a half-revolution, substantially as specified.

2. In a rotary engine, casing in which is formed a semicircular chamber, an inlet-valve located at the lower end of said chamber, and there being an outlet-port at the upper end of said chamber; a rotary piston longitudinally arranged in the casing, and being provided with a diametrically-arranged slot; a plate arranged to slide through the slot in the piston; a plurality of arms projecting through the casing at the upper end of the chamber therein, and means whereby said arms are moved inwardly and outwardly corresponding to the rotation of the piston and the position of the valve therein, substantially as specified.

3. In a rotary engine, a casing provided with a semicircular chamber, an inlet-valve at the lower end of said chamber, and there being an outlet-port at the upper end of said chamber; a rotary piston arranged longitudinally in the casing and being provided with diametrically-arranged slot; a plate arranged to slide through said slot; a pair of arms arranged to move vertically through the top of the casing and engage the edge of the plate; a shaft to which said arms are fixed, means whereby said shaft is moved, and means whereby said shaft is quickly returned after it has been elevated, substantially as specified.

805,841. JOINTER-GAGE. ROY CARSON, Pasadena, Cal. Filed Dec. 30, 1904. Serial No. 237,630.



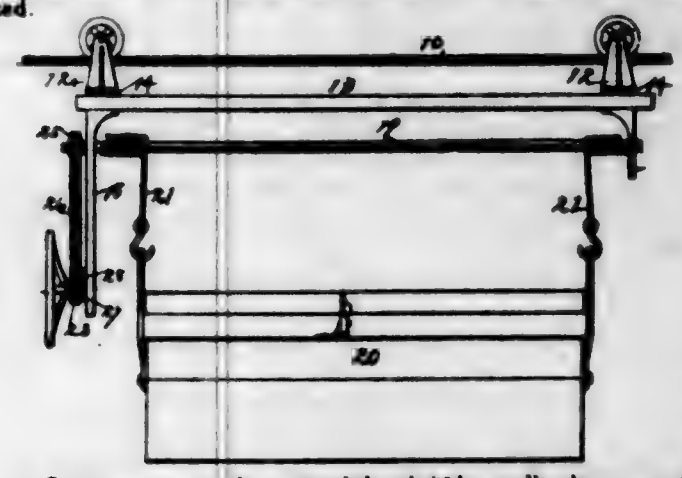
Claim.—1. A gage for planes consisting of a plate bent to form two offset wings and an intermediate shoulder portion rigidly connecting the wings, one of said wings having lugs extending therefrom and bent over to form spring-clips facing the shoulder portion.

2. A gage for planes consisting of a plate having an intermediate shoulder portion and wings extending rigidly and oppositely therefrom in definite angular relation, one of said wings being provided with a plurality of spring-clips facing the shoulder portion arranged at different distances from the shoulder portion.

3. A gage for planes consisting of a plate having an intermediate shoulder portion and wings extending rigidly and oppositely therefrom in definite angular relation, one of said wings being provided with spring-clips facing the shoulder portion and the other having fastening means for the purpose set forth.

805,842. MANURE-CARRIER. DAVID B. CHENEY, Knoxville, Iowa, assignor to Lennox Machinery Company, Fairfield, Iowa, a Corporation of Iowa. Filed Jan. 9, 1904. Serial No. 188,416.

Claim.—1. In a manure-carrier, a roller-bearer, having a flat bottom provided with a bolt-hole in the center of the bottom in combination with a straight bar and a shaft-bearer fixed to the under side of the bar by means of a screw-bolt extended through coinciding perforations in the roller-bearer, the straight bar and the shaft-bearer to rotate on the bar in the manner set forth for the purposes stated.



2. In a manure-carrier, a straight rigid bar roller-bearers rotatably mounted on top at each end portion of said bar, a shaft-bearer fixed on the under side of each end portion of said bar, a shaft rotatably mounted in said bearers to extend parallel with the said bar, one of said shaft-bearers extended downward, an axle fixed to the lower end of the said extension, a hub having a fixed sprocket-wheel mounted on said axle, a sprocket-wheel on the end of the rotatable shaft, a chain on the said sprocket-wheels and means for rotating the sprocket-wheel on said axle, arranged and combined to operate in the manner set forth for the purposes stated.

3. A manure-carrier comprising an elevated track, a straight bar having roller-bearers swiveled on the top of its end portions to support rollers adapted to traverse the top of the track, shaft-bearers fixed to the under side and end portions of the straight bar, a rotatable shaft in said bearers on the under side of said bar, one of said fixed bearers extended downward and an axle fixed to its lower end to extend outward, a sprocket-wheel mounted on said axle, a hand-wheel fixed to the hub of said sprocket-wheel, a sprocket-wheel fixed to the end of the rotatable shaft, a chain on said sprocket-wheel, ratchet-wheel fixed to the inner end of the lower sprocket-wheel, a pawl pivoted to the bearer to engage the ratchet-wheel, ropes fixed to the end portions of the rotatable shaft, an open-topped receptacle, a frame pivotally connected with the end of the receptacle and detachably connected with the ends of the ropes and means for locking the receptacle to said frame, arranged and combined to operate in the manner set forth for the purposes stated.

4. In a manure-carrier, a horizontally-disposed bar, roller-bearers mounted on the upper side thereof, and adapted to run on an overhead track, shaft-bearers affixed to the under side of said bar, a shaft rotatably mounted in said bearers to extend parallel with said bar, one of said shaft-bearers being extended downward, an axle fixed to the lower end of said extension, a sprocket-wheel mounted on said axle, a corresponding sprocket-wheel on the end of the rotatable shaft, a chain on the said sprocket-wheels and means for rotating the sprocket-wheels on said axles, substantially as and for the purposes set forth.

5. In a carrying device, a track, trucks adapted to run thereon, a bar swiveled to the trucks, brackets depending from the bar, an extension on one of the brackets, a shaft rotatable near the top of the brackets, a short shaft journaled in the lower end of the extended bracket, means for rotating the short shaft, and means whereby the movement of the said shaft is communicated to the upper shaft, substantially as described.

6. In a carrying device, a suitable track, trucks adapted to run thereon, a bar, bolts for swiveling the trucks to the bar, brackets depending from the bar, one of said brackets having an extension, a shaft journaled in the bracket, a short shaft journaled in the extension of the bracket, means for rotating the shaft, means for communicating motion of the said short shaft to the upper shaft and suitable connections wound on the upper shaft for supporting a receptacle.

7. In a carrying device of the character described, a suitable track, trucks supported thereby, a bar, bolts run through the truck and bar for connecting the said truck and bar and permitting the rotation of the truck with relation to the bar, brackets depending from the bar, one of said brackets having an extension, a shaft mounted to rotate in the brackets, a short shaft mounted to rotate in the extension of the bracket, a sprocket-wheel on the short shaft, a sprocket-wheel on the upper shaft, a chain connecting the sprocket-wheels, means for rotating the short shaft, and flexible connections wound on the upper shaft for supporting a receptacle.

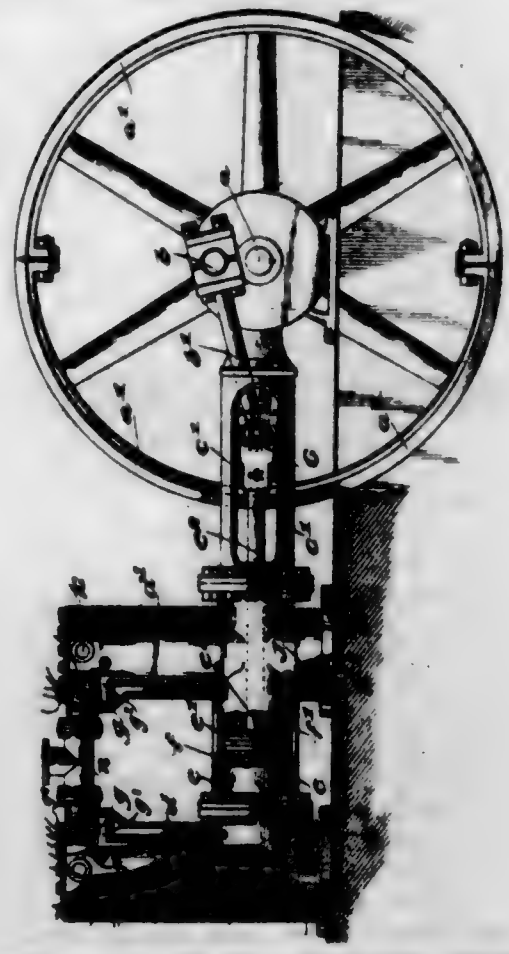
8. In a feed and litter carrier, the combination with a track, of a substantially right-angular frame, brackets mounted upon the upper side of said frame and carrying wheels adapted to run on the track, an elevating-spindle journaled in the frame, a box depending therefrom, and means for turning the spindle.

9. In a feed or litter carrier, the combination with a track, of the substantially right-angular frame, the brackets carried intermediate the length of the frame and provided with grooved wheels supported on the track, the elevating-spindle journaled in the frame, the box depending therefrom, and means for turning the spindle.

10. In a feed or litter carrier, the combination with a track, of the substantially right-angular frame, the brackets carried intermediate of the length of the frame and provided with grooved wheels supported on the track, the elevating-spindle journaled in the frame, the box depending therefrom, the sprocket-wheel on the end of the spindle, the counter-spindle and sprocket-wheel supported at the bottom of the upright portion of the right-angular frame, the sprocket-chain connecting the aforesaid sprockets, the ratchet and dog engaging the same, and the crank-handle for turning the spindle.

11. In a feed or litter carrier, the combination with a track, of the substantially right-angular frame, the brackets pivoted vertically and carried intermediate of the length of the frame and provided with grooved wheels supported on the track, the elevating-spindle journaled in the frame, the box depending therefrom, and means for turning the spindle.

805,848. AIR OR GAS COMPRESSOR. HENRY L. DOHERTY, Madison, Wis. Filed Feb. 27, 1904. Serial No. 195,588.

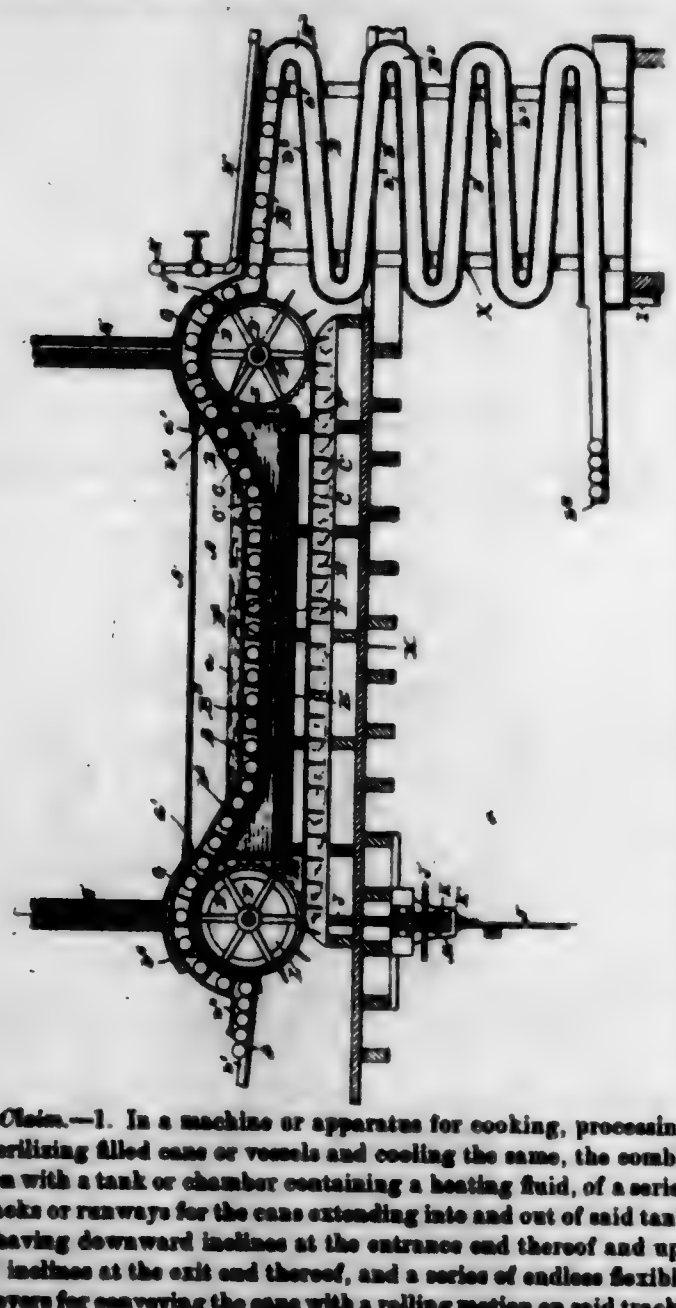


Claim.—1. In an air or gas compressor, the combination of a compression chamber or cylinder, tube-plates at each end thereof forming water-containers between the tube-plates and the ends of the cylinder, circulating-tubes secured in the tube-plates and connecting the water-containers, a water-jacket surrounding the said tubes and communicating with one of the water-containers and having an inlet and outlet at the exterior of the cylinder, means for circulating cooling-water through the water-containers, through the connecting-tubes and through the water-jacket, inlet and outlet valves connected with the remaining portion of the space in the cylinder around and between the tubes, and means for forcing an air or gas compressing medium into said space around and between the tubes.

2. In an air or gas compressor, the combination of a compression chamber or cylinder, tube-plates at each end thereof forming water-containers between the tube-plates and the ends of the cylinder, circulating-tubes secured in the tube-plates and connecting the water-containers, a water-jacket surrounding the said tubes and communicating with one of the water-containers, means for circulating

cooling-water through the water-containers, through the connecting-tubes and through the water-jacket, the compression-chamber of the cylinder being situated around and between the said tubes and being provided with a laterally-projecting portion at its top, inlet and outlet valves communicating with said projecting portion of the compression-chamber, and means for forcing an air or gas compressing medium into said compression-chamber around and between the tubes.

805,844. AUTOMATIC PROCESSING OR COOKING AND COOLING MACHINE. SAMUEL J. DUDLEY, Kalamazoo, Mich., assignor to Dudley Company, Kalamazoo, Mich., a Corporation of Michigan. Filed May 13, 1902. Serial No. 107,623.



Claim.—1. In a machine or apparatus for cooking, processing or sterilizing filled cans or vessels and cooling the same, the combination with a tank or chamber containing a heating fluid, of a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit end thereof, and a series of endless flexible conveyers for conveying the cans with a rolling motion on said tracks through the heating fluid in said tank, means for independently driving said conveyers and adjusting the speed thereof, a series of convoluted runways for cooling the cans, and means for applying water to the cans in the cooler-runways, substantially as specified.

2. The combination with a tank or chamber containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently and simultaneously movable endless flexible conveyers extending under and along the runways in the tank for moving the cans in and out of the tank and immersing them in the heating fluid therein, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

3. The combination with a tank or chamber containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently-movable endless flexible conveyers extending under and along the runways in the tank for moving the cans or vessels in, through and out of the tank and immersing them in the heating fluid therein, and means for simultaneously driving the several conveyers at different speeds as may be required for cooking, processing or sterilizing different food products, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

4. The combination with a tank or chamber containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently-movable endless flexible conveyers extending under and along the runways in the tank for moving the cans or vessels in, through and out of the tank and immersing them in the heating fluid therein, means for simultaneously driving the several conveyers at different speeds as may be rquired for cooking, processing or sterilizing different food products, means for automatically delivering the cans or vessels to said conveyers, and chutes or runways for delivering the cans from the conveyers, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

5. The combination with a tank or chamber containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently-movable endless flexible conveyers extending under and along the runways in the tank for moving the cans or vessels in, through and out of the tank and immersing them in the heating fluid therein, means for simultaneously driving the several conveyers at different speeds as may be required for cooking, processing or sterilizing different food products, means for automatically delivering the cans or vessels to said conveyers, and chutes or runways for delivering the cans from the conveyers, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

6. The combination with a tank or chamber containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently and simultaneously movable endless flexible conveyers extending under and along the runways in the tank for moving the cans or vessels in, through and out of the tank and immersing them in the heating fluid therein, and a series of chutes or runways for automatically delivering the cans or vessels to the conveyers, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

7. The combination with a tank or chamber containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently and simultaneously movable endless flexible conveyers extending under and along the runways in the tank for moving the cans or vessels in, through and out of the tank and immersing them in the heating fluid therein, a series of chutes or runways for automatically delivering the cans or vessels to the conveyers, and a series of discharge chutes or runways for receiving the cans or vessels from the conveyers, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

8. The combination with a tank or chamber containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently and simultaneously movable endless flexible conveyers extending under and along the runways in the tank for moving the cans or vessels in, through and out of the tank and immersing them in the heating fluid therein, a series of chutes or runways for automatically delivering the cans or vessels to the conveyers, a series of discharge-chutes or runways for receiving the cans or vessels from the conveyer, and a series of convoluted runways for cooling the cans, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

9. The combination with a tank or chamber containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently and simultaneously movable endless flexible conveyers extending under and along the runways in the tank for moving the cans or vessels in, through and out of the tank and immersing them in the heating fluid therein, a series of chutes or runways for automatically delivering the cans or vessels to the conveyers, a series of discharge chutes or runways for receiving the cans or vessels from the conveyer, a series of convoluted runways for cooling the cans, and means for applying water to the cans in the cooler-runway, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

10. The combination with a tank or chamber containing a heat-

ing fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently and simultaneously movable endless flexible conveyers extending under and along the runways in the tank for moving the cans or vessels in, through and out of the tank and immersing them in the heating fluid therein, a series of chutes or runways for automatically delivering the cans or vessels to the conveyers, and means for driving the several conveyers at different speeds, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

11. The combination with a tank or chamber containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof a series of independently and simultaneously movable endless flexible conveyers extending under and along the runways in the tank for moving the cans or vessels in, through and out of the tank and immersing them in the heating fluid therein, a series of chutes or runways for automatically delivering the cans or vessels to the conveyers, and mechanism for driving the conveyers, comprising a series of friction-disks and a series of independently-adjustable friction-wheels to vary the speed of the different conveyers as may be required, said conveyers and runways coacting to roll the cans as they are conveyed substantially as specified.

12. The combination with a tank containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof an endless flexible conveyer extending under and along the runways in the tank for conveying and rolling the cans in, through and out of the tank and immersing them in the heating fluid, said conveyer and runway coacting to roll the cans as they are conveyed substantially as specified.

13. The combination with a tank containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof an endless flexible conveyer extending under and along the runways in the tank for conveying and rolling the cans in, through and out of the tank and immersing them in the heating fluid, and means for varying or adjusting the speed of the conveyer to regulate the amount or extent of cooking or processing as may be required according to the particular character of the food products being treated, said conveyer and runway coacting to roll the cans as they are conveyed substantially as specified.

14. The combination with a tank containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof an endless flexible conveyer extending under and along the runways in the tank for conveying and rolling the cans in, through and out of the tank and immersing them in the heating fluid, and mechanism for driving the conveyer, comprising a friction-disk and a sliding friction-wheel to regulate the speed of the conveyer as required for different food products, substantially as specified.

15. The combination with a tank containing a heating fluid, of a heater, a series of tracks or runways for the cans extending into and out of said tank and having downward inclines at the entrance end thereof and upward inclines at the exit ends thereof an endless flexible conveyer extending under and along the runways in the tank for conveying and rolling the cans in, through and out of the tank and immersing them in the heating fluid, and a chute or runway for automatically delivering the cans or vessels to the conveyer, said conveyer and runway coacting to roll the cans as they are conveyed, substantially as specified.

16. The combination with a tank containing a heating fluid, of a heater track or runway in the tank along which the cans may be rolled, an endless flexible conveyer extending under and along the can-runway in the tank for conveying and rolling the cans in, through and out of the tank and immersing them in the heating fluid, a chute or runway for automatically delivering the cans or vessels to the conveyer, a track or guide for the conveyer, said track or runway for the cans of vessels having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, said conveyer and runway coacting to roll the cans as they are conveyed, substantially as specified.

17. The combination with a tank containing a heating fluid, of a heater track or runway in the tank along which the cans may be rolled, an endless flexible conveyer extending under and along the can-runway in the tank for conveying and rolling the cans in, through and out of the tank and immersing them in the heating fluid, said track or runway in the tank for supporting the cans having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, the conveyer operating to give the cans a rolling or turning movement while immersed in the heating fluid, said conveyer and runway coacting to roll the cans as they are conveyed substantially as specified.

18. The combination with a tank containing a heating fluid, of a heater, an endless flexible conveyer for conveying and rolling the cans in, through and out of the tank and immersing them in the heating fluid, a chute or runway for automatically delivering the cans or vessels to the conveyer, and a track or runway upon which the cans roll as they are conveyed through the tank and heating fluid, said conveyer and runway coacting to roll the cans as they are conveyed and said conveyer extending under and along the runway in the tank, substantially as specified.

19. The combination with a tank containing a heating fluid, of a heater, an endless flexible conveyer, pulleys therefor at each end of the tank, a continuous runway for the cans extending to the conveyer over the conveyer-pulleys and through the tank, and having inclines at each end of the track, said conveyer operating to roll the cans along said runway through the tank and said conveyer extending under and along the runway in the tank, substantially as specified.

20. The combination with a tank containing a heating fluid, of a heater, an endless flexible conveyer for conveying and rolling the cans through the heating fluid, pulleys therefor at each end of the tank, a continuous runway for the cans extending to the conveyer over the conveyer-pulleys and through the tank, and having inclines at each end of the tank, said runway comprising a pair of rails and a pair of side guides for the ends of the cans, said conveyer and runway coacting to roll the cans as they are conveyed and said conveyer extending under and along the runway in the tank, substantially as specified.

21. The combination with a tank containing a heating fluid, of a heater, an endless flexible conveyer for conveying and rolling the cans through the heating fluid, pulleys therefor at each end of the tank, a continuous runway for the cans extending to the conveyer over the conveyer-pulleys and through the tank, and having inclines at each end of the tank, and a convoluted can-cooling runway connecting with said first-mentioned runway, said conveyer and runway coacting to roll the cans as they are conveyed and said conveyer extending under and along the runway in the tank, substantially as specified.

22. The combination with a tank containing a heating fluid, of a heater, an endless flexible conveyer for conveying and rolling the cans through the heating fluid pulleys therefor at each end of the tank, a continuous runway for the cans extending to the conveyer over the conveyer-pulleys and through the tank and having inclines at each end of the tank, and a convoluted can-cooling runway connecting with said first-mentioned runway, said can-cooling runway having a stop for the cans at its lower end to enable the same to be kept full of cans, said conveyer and runway coacting to roll the cans as they are conveyed and said conveyer extending under and along the runway in the tank, substantially as specified.

23. The combination with a tank or chamber containing a heating fluid, of a heater, a series of independently and simultaneously movable endless flexible conveyers for moving the cans in and out of the tank and immersing and rolling them in the heating fluid therein, a series of tracks or runways for the cans extending through the tank and having inclines at the ends thereof, said conveyers and runways coacting to roll the cans as they are conveyed and said conveyers extending under and along the runways in the tank, substantially as specified.

24. The combination with a tank or chamber containing a heating fluid, of a heater, a series of independently and simultaneously movable endless flexible conveyers for moving the cans in and out of the tank and immersing and rolling them in the heating fluid therein, and a series of tracks or runways and having inclines at the ends thereof for the cans along which they roll through the heating fluid, said conveyers and runways coacting to roll the cans as they are conveyed and said conveyers extending under and along the runways in the tank, substantially as specified.

25. The combination with a tank or chamber containing a heating fluid, of a heater, a series of independently and simultaneously movable endless flexible conveyers for moving the cans in and out of the tank and immersing and rolling them in the heating fluid therein, a series of tracks or runways and having inclines at the ends thereof for the cans along which they roll through the heating fluid, and chutes or runways for delivering the cans to the conveyers, said conveyers and runways coacting to roll the cans as they are conveyed and

said conveyers extending under and along the runways in the tank, substantially as specified.

26. The combination with a tank containing a heating fluid and a plurality of tracks or runways for the cans extending into and out of the tank and having downward inclines at the entrance end thereof and upward inclines at the exit end thereof, of a plurality of independently and simultaneously movable traveling conveyers for conveying and rolling the cans through the heating fluid in the tank, said conveyers and runways coacting to roll the cans as they are conveyed and said conveyers extending under and along the runways in the tank, substantially as specified.

27. The combination with a tank containing a heating fluid and a plurality of tracks or runways for the cans extending into and out of the tank and having downward inclines at the entrance end thereof and upward inclines at the exit end thereof, of a plurality of independently and simultaneously movable traveling conveyers for conveying and rolling the cans through the heating fluid in the tank, and independent means for regulating the speed of each of the conveyers, said conveyers and runways coacting to roll the cans as they are conveyed and said conveyers extending under and along the runways in the tank, substantially as specified.

28. The combination with a tank containing a heating fluid and a plurality of tracks or runways for the cans extending into and out of the tank and having downward inclines at the entrance end thereof and upward inclines at the exit end thereof, of a plurality of independently and simultaneously movable traveling conveyers for conveying and rolling the cans through the heating fluid in the tank, and means for automatically delivering the cans or vessels to the conveyers, said conveyers and runways coacting to roll the cans as they are conveyed and said conveyers extending under and along the runways in the tank, substantially as specified.

29. The combination with a tank containing a heating fluid and a runway for the cans extending into and out of said tank, and having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, of a can-conveyer for conveying and rolling the cans through the heating fluid in the tank, and means for varying or adjusting the speed of the conveyer to the time required for cooking or processing different food products, said conveyer and runway coacting to roll the cans as they are conveyed and said conveyer extending under and along the runway in the tank, substantially as specified.

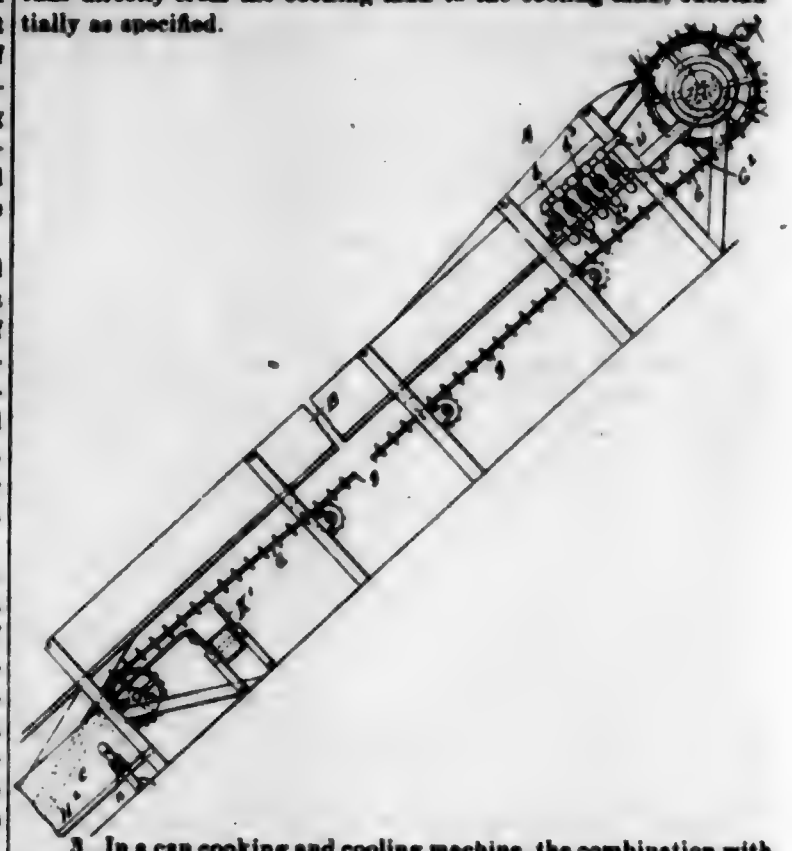
30. The combination with a tank containing a heating fluid, of a track or runway for the cans or vessels extending downward into through and upward out of the tank, and means for rolling the cans or vessels along said runway, said conveyer and runway coacting to roll the cans as they are conveyed and said conveyer extending under and along the runway in the tank, substantially as specified.

31. The combination with a tank containing a heating fluid, of a track or runway for the cans or vessels extending downward into through and upward out of the tank, means for rotating the cans or vessels along said runway, and means for adjusting or regulating the speed of the cans as they are rolled through the tank, said conveyer and runway coacting to roll the cans as they are conveyed and said conveyer extending under and along the runway in the tank, substantially as specified.

805,845. MACHINE OR APPARATUS FOR AUTOMATICALLY PROCESSING OR COOKING AND COOLING CANNED FOOD. Samuel J. Dunkley, Kalamazoo, Mich., assignor to Dunkley Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 1, 1904. Serial No. 235,892.

Claim.—1. In a machine for processing or cooking and cooling cans or vessels, the combination of a cooking-tank with a cooling-tank arranged beneath the cooking-tank, and an endless conveyer the upper portion of which being situated within the cooking-tank and the lower portion within the cooling-tank, said tanks and conveyer being so arranged that the cans are transferred directly by said conveyer from the cooking-tank to the cooling-tank, substantially as specified.

2. In a can cooking and cooling machine, the combination with a cooking-tank, of a cooling-tank arranged beneath the cooking-tank, a can-runway in the cooking-tank having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, a can-runway in the cooling-tank having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, and an endless conveyer having its upper run or portion in said cooking-tank and its lower run or portion in said cooling-tank, and furnished with pusher-arms forming open pockets or receptacles for the cans or vessels between the pusher-arms for pushing and rolling the cans along said runways and through the cooking-tank and the cooling-tank, said endless conveyer transferring the cans directly from the cooking-tank to the cooling-tank, substantially as specified.



3. In a can cooking and cooling machine, the combination with a cooking-tank, of a cooling-tank arranged beneath the cooking-tank, a can-runway in the cooking-tank having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, a can-runway in the cooling-tank having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, and an endless conveyer having its upper run or portion in said cooking-tank and its lower run or portion in said cooling-tank, and furnished with pusher-arms forming open pockets or receptacles for the cans or vessels between the pusher-arms for pushing and rolling the cans along said runways and through the cooking-tank and the cooling-tank, said endless conveyer transferring the cans directly from the cooking-tank to the cooling-tank, and a feed chute or runway for automatically delivering the cans or vessels to the conveyer, substantially as specified.

4. In a can cooking and cooling machine, the combination with a cooking-tank, of a cooling-tank arranged beneath the cooking-tank, a can-runway in the cooking-tank having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, a can-runway in the cooling-tank having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, and an endless conveyer having its upper run or portion in said cooking-tank and its lower run or portion in said cooling-tank, and furnished with pusher-arms forming open pockets or receptacles for the cans or vessels between the pusher-arms for pushing and rolling the cans along said runways and through the cooking-tank and the cooling-tank, said endless conveyer transferring the cans directly from the cooking-tank to the cooling-tank, and a feed chute or runway for automatically delivering the cans or vessels to the conveyer, and a discharge chute or runway to receive the cans or vessels from said conveyer, substantially as specified.

5. In a can cooking and cooling machine, the combination with a cooking-tank, of a cooling-tank arranged beneath the cooking-tank, a can-runway in the cooking-tank having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, a can-runway in the cooling-tank having a downward incline at the entrance end thereof and an upward incline at the exit end thereof, and an endless conveyer having its upper run or portion in said cooking-tank and its lower run or portion in said cooling-tank, and furnished with pusher-arms forming open pockets or receptacles for the cans or vessels between the pusher-arms for pushing and rolling the cans along said runways and through the cooking-tank and the cooling-tank, said endless conveyer transferring the cans directly from the cooking-tank to the cooling-tank, and guides or tracks for said conveyer.

6. In a can cooking and cooling machine, the combination with a cooking-tank, of a can-runway extending into, through and out of said tank, a cooling-tank arranged beneath said cooking-tank, a can-runway extending into, through and out of said cooling-tank, an endless conveyer having its upper run or portion within said cooking-

tank, and its lower run or portion within said cooling-tank, and furnished with pusher-arms for rolling the cans along said runways in said tanks, pulleys for said endless conveyer, said endless conveyer being arranged and combined with the tanks to transfer the cans directly from the cooking-tank to the cooling-tank, substantially as specified.

7. In a can cooking and cooling machine, the combination with a cooking-tank, of a can-runway extending into, through and out of said tank, a cooling-tank arranged beneath said cooking-tank, a can-runway extending into, through and out of said cooling-tank, an endless conveyer having its upper run or portion within said cooking-tank, and its lower run or portion within said cooling-tank, and furnished with pusher-arms for rolling the cans along said runways in said tanks, pulleys for said endless conveyer, said endless conveyer being arranged and combined with the tanks to transfer the cans directly from the cooking-tank to the cooling-tank, and guides for said conveyer, substantially as specified.

8. In a can cooking and cooling machine, the combination with a cooling-tank, of a can-runway extending into, through and out of said tank, a cooling-tank arranged beneath said cooking-tank, a can-runway extending into, through and out of said cooling-tank, an endless conveyer having its upper run or portion within said cooking-tank, and its lower run or portion within said cooling-tank, and furnished with pusher-arms for rolling the cans along said runways in said tanks, pulleys for said endless conveyer, said endless conveyer being arranged and combined with the tanks to transfer the cans directly from the cooking-tank to the cooling-tank, and a can-feed chute or runway, substantially as described.

9. In a can cooking and cooling machine, the combination with a cooking-tank, of a can-runway extending into, through and out of said tank, a cooling-tank arranged beneath said cooking-tank, a can-runway extending into, through and out of said cooling-tank, an endless conveyer having its upper run or portion within said cooking-tank, and its lower run or portion within said cooling-tank, and furnished with pusher-arms for rolling the cans along said runways in said tanks, pulleys for said endless conveyer, said endless conveyer being arranged and combined with the tanks to transfer the cans directly from the cooking-tank to the cooling-tank, and a can-discharge chute or runway, substantially as specified.

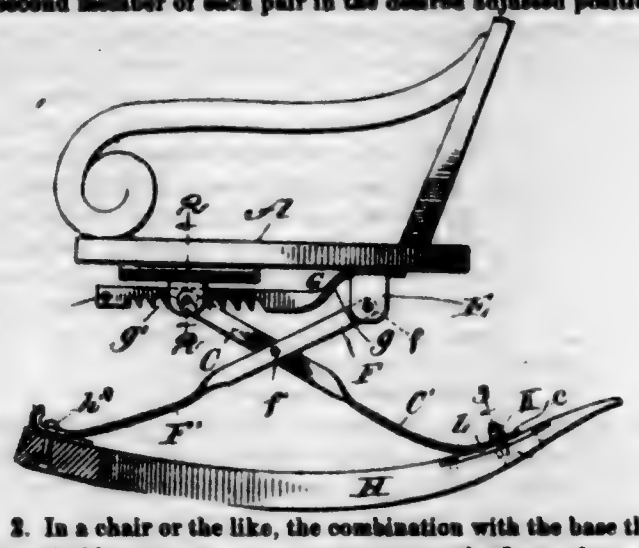
10. In a can cooking and cooling machine, the combination with a cooking-tank, of a can-runway extending into, through and out of said tank, a cooling-tank arranged beneath said cooking-tank, a can-runway extending into, through and out of said cooling-tank, an endless conveyer having its upper run or portion within said cooking-tank, and its lower run or portion within said cooling-tank, and furnished with pusher-arms for rolling the cans along said runways in said tanks, pulleys for said endless conveyer, said endless conveyer being arranged and combined with the tanks to transfer the cans directly from the cooking-tank to the cooling-tank, and a series of steam-heater pipes in said cooking-tank for heating the water or liquid therein, substantially as specified.

11. In a can cooking and cooling machine, the combination with a cooking-tank, of a can-runway extending into, through and out of said tank, a cooling-tank arranged beneath said cooking-tank, a can-runway extending into, through and out of said cooling-tank, an endless conveyer having its upper run or portion within said cooking-tank, and its lower run or portion within said cooling-tank, and furnished with pusher-arms for rolling the cans along said runways in said tanks, pulleys for said endless conveyer, said endless conveyer being arranged and combined with the tanks to transfer the cans directly from the cooking-tank to the cooling-tank, and a series of closed steam-pipes and a series of open or perforated steam-pipes in said cooking-tank for heating the water or liquid therein, substantially as specified.

12. In a can cooking and cooling machine, the combination with a cooking-tank, of a can-runway extending into, through and out of said tank, a cooling-tank arranged beneath said cooking-tank, a can-runway extending into, through and out of said cooling-tank, an endless conveyer having its upper run or portion within said cooking-tank, and its lower run or portion within said cooling-tank, and furnished with pusher-arms for rolling the cans along said runways in said tanks, pulleys for said endless conveyer, said endless conveyer being arranged and combined with the tanks to transfer the cans directly from the cooking-tank to the cooling-tank, and means for regulating the speed of said conveyer to adjust the apparatus for cooking different materials, substantially as specified.

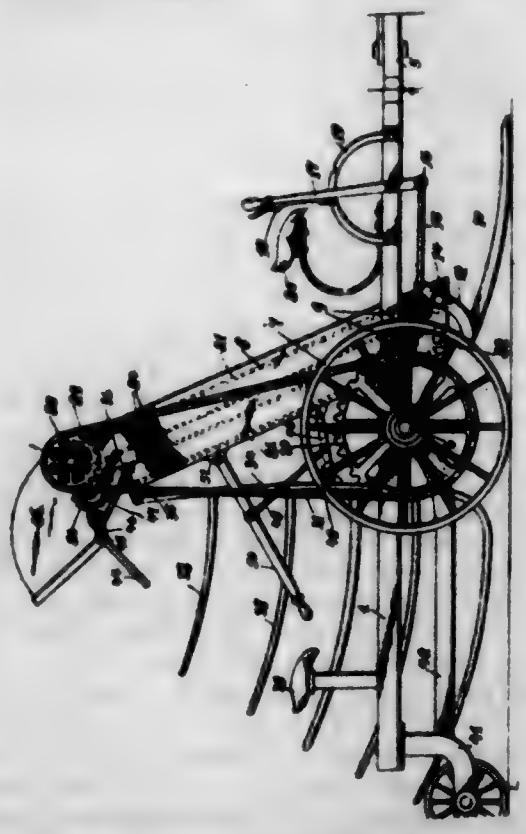
805,846. ADJUSTABLE SUPPORT FOR CHAIRS. JOHN FLEBALL, Chicago, Ill. Filed Feb. 18, 1904. Serial No. 194,219.

Claim.—1. In a rocking-chair, the combination with a seat, of a pair of rockers, an adjustable support interposed between each side of said seat and one of said rockers comprising a pair of members pivotally united, means for securing the lower end of one member of each pair to a rocker, means for pivotally securing the upper end of said member to the seat, means for securing the lower end of the second member of each pair in sliding engagement with the rocker, means for positively securing the upper end of said second member of each pair in sliding engagement with the seat, and a yielding rack-bar secured to the seat for retaining the upper end of the second member of each pair in the desired adjusted position.



2. In a chair or the like, the combination with the base thereof and a suitable support or supports to rest on the floor, of an adjustable support between the two comprising two sets of members, each set consisting of two members pivoted together in the form of a letter X, the lower end of one member having a sliding engagement with the stationary support while the lower end of the other member is also engaged to said support, the upper end of one member pivoted to the base of the chair, while the upper end of the other member is engaged by a rod to the upper end of the corresponding member on the other side, two rack-bars, one engaged to each side of the base connected together by a rod, the teeth on the rack-bars depending downwardly and adapted to engage the connecting-rod between the two supporting members and means for holding said connected upper ends in sliding engagement with the base.

805,847. HAY RAKING AND STACKING MACHINE. EPHRAIM J. FOSTER and JAMES M. FOSTER, Steubenville, Ohio. Filed Jan. 19, 1905. Serial No. 241,776.

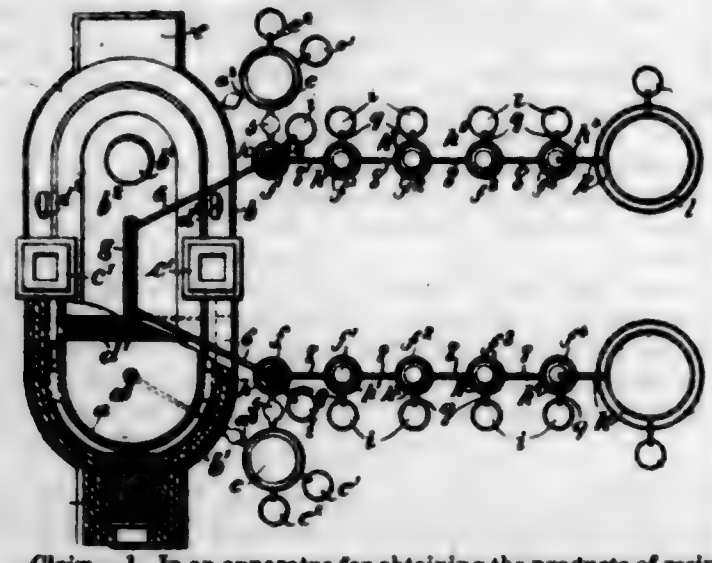


Claim.—1. In a machine of the type described, a frame, an elevator-casing carried by the frame and extending below the same, a rake pivotally suspended from said elevator-casing, means attached to the frame and connected to the rake for adjusting the position of the latter, conveyer-belts within said casing and disposed to receive the material accumulated on the rake, a discharge-chute at the upper end of the conveyer-casing to receive the material from the conveyer-

belts, tiltable carrying-arms pivotally suspended from the elevator-casing and disposed to receive the material from the discharge-chute, a gate pivotally connected to the discharge-chute, and connections between said gate and the carrying-arms whereby when the carrying-arms are operated the gate is moved into position to temporarily restrain the material within the discharge-chute.

2. In a device of the type described, the combination of a frame, suitably supported to travel, a conveyer-casing carried by said frame, a rake pivotally suspended from the conveyer-casing, means for regulating the position of said rake, conveyer-belts traveling within the casing and disposed to receive the material from said rake, a discharge-chute arranged at the upper end of the conveyer-casing to receive the material from the conveyer-belts, a carrying-frame pivotally suspended from the conveyer-casing, and comprising a series of substantially L-shaped arms adapted to receive the material from the discharge-chute, toggle-levers connecting the said carrying-frame to the discharge-chute, a lever connected to the elevator-casing and attached by a link to said toggle-levers for actuating the carrying-frame, a gate pivotally attached to the discharge-chute, and connections between the carrying-frame and the gate whereby the latter will operate to temporarily restrain the material within the discharge-chute when the carrying-frame is lowered.

805,848. APPARATUS FOR OBTAINING THE PRODUCTS OF RESINOUS WOODS BY DRY DISTILLATION. JUSANI PEIN, Gamla, Russia. Filed June 21, 1904. Serial No. 213,474.

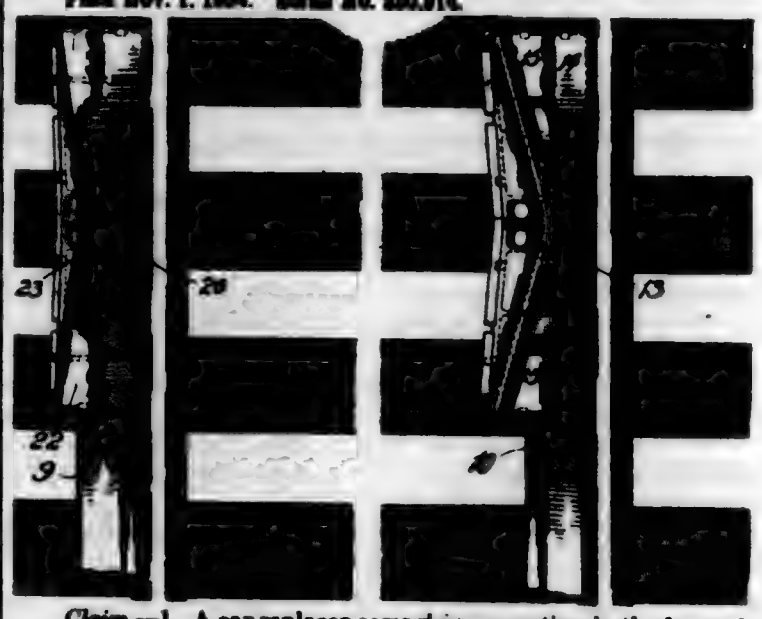


Claim.—1. In an apparatus for obtaining the products of resinous woods by dry distillation, the combination with a condensing apparatus, of an elongated double oven, furnaces at the opposite and extreme ends of the same, transverse pipes passing through the oven from side to side, inclosing walls which are at an appreciable distance from the shell of the ovens, horizontally-disposed partitions providing in the intervening space for tortuous passage-ways for the products of combustion, and partitions of angular form at one end joining the aforesaid partitions, and together partly compassing the entrances to the said transverse pipes which compel the products of combustion from the furnaces to follow zigzag circuitous paths for the complete heating of the ovens and through which transverse pipes the products of combustion are also obliged to pass for internally heating the oven, and chimneys for finally conveying away the heated products of combustion.

2. In an apparatus for obtaining the products of resinous woods by dry distillation, the combination with a condensing apparatus, of an elongated double oven, furnaces at the opposite and extreme ends of the same, inclosing walls which are at an appreciable distance from the shell of the oven, a series of staggered partitions 2, 3 and 4 in the space intervening between the oven and the inclosing walls, the partitions 3 being short and horizontal, the partitions 2 being long and horizontal and the partitions 4 of angular form joining at one end with the partitions 2 and providing tortuous passage-ways for the products of combustion which compel such products of combustion from the furnaces to follow zigzag circuitous paths for the complete heating of the ovens, transverse pipes passing through the oven from side to side and from which the products of combustion are obliged to pass for internally heating the oven, and chimneys for finally conveying away the heated products of combustion.

3. In an apparatus for obtaining the products of resinous woods by dry distillation, the combination with a condensing apparatus, of an elongated double oven with rounded ends, a furnace at either rounded end, inclosing walls which are at an appreciable distance from the shell of the oven, a series of staggered partitions providing in the intervening space for tortuous passage-ways for the products of combustion which partitions are common to both furnaces and the passage-ways between which communicate with the furnaces at their lower portions, said passage-ways compelling said products of combustion from the furnace to follow zigzag circuitous paths for the complete heating of the ovens, transverse pipes passing through each of the ovens for the products of combustion to pass from one side to the other to internally heat the ovens, and chimneys for finally conveying away the heated products of combustion.

805,849. CAR-REPLACER. HENRY K. GILBERT, Chicago, Ill. Filed Nov. 1, 1904. Serial No. 230,914.



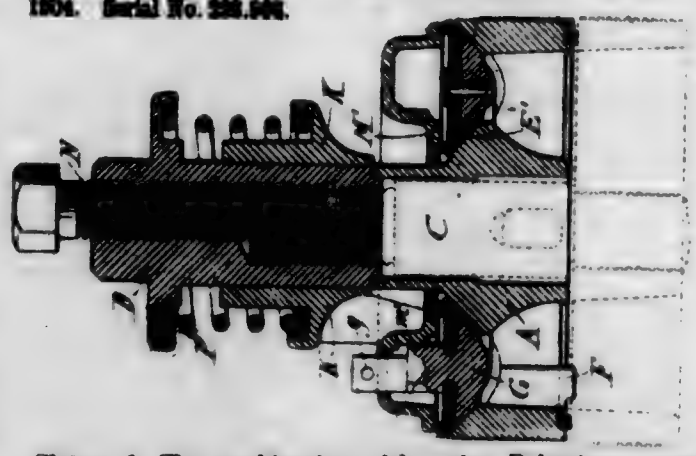
Claim.—1. A car replacer comprising a casting in the form of a double-ended wedge or incline, each end of the incline having a continuous surface to engage the flange of the wheel and a partial bulge at the beginning of the incline to engage the tread of the wheel before contact with the flange, and the surface gradually altering in shape toward the apex where there is a steep incline and continuous surface from the apex to the rail.

2. A car replacer comprising a casting having a double wedge form, each end of the wedge having an incline with a surface to engage the flange of the wheel but with a short portion of the surface being raised to engage the tread only of the wheel, and the apex of the wedge being a continuous slanting surface to allow of freely sliding the flange on to the rail after it has been elevated, substantially as described.

3. In a car replacer a member comprising an integral casting having the stiffening ribs 18 and the tooth lugs 17 and a surface comprising the vertical sides 13, the compound curved hollow surface 14, and the apex 16, substantially as described, formed to engage the wheel first on the tread only then upon both the tread and flange and near the apex to engage only the flange, as the wheel is rolled up on the casting.

4. A car replacer comprising a shell having a double wedge incline and provided with a handle on the side formed by a rib intervening between two slots formed in the side, substantially as described.

805,850. VALVE. HENRY G. GUAGA, Honolulu, Hawaii, assignor of two-fifths to Hans O. C. Isenberg, Honolulu, Hawaii. Filed Oct. 18, 1904. Serial No. 228,906.



Claim.—1. The combination with a ring B having a central stem C, of a valve-casing A surrounding said stem and having inner and outer valve-seats E' and E, a nut D having a flange and engaging with said stem to clamp said casing to said ring, a valve G adapted to be seated upon said seats and having integral lugs G', a flexible washer H above said valve, a piece K having at its lower end, concentric rings M and M' with plane lower surfaces above and adapted

to engage with the edges of said washer, said piece K also having a flange and a guide-surface m^3 against which the lugs G bear, a spring interposed between the flange on said nut and the flange on said piece K, and means for limiting the downward movement of said valve with respect to the piece K.

3. The combination with a ring B having a central stem C, of a valve-casing A surrounding said stem and having inner and outer valve-seats E' and E, a nut D having a flange and engaging with said stem to clamp said casing to said ring, a valve G having a groove adapted to be seated upon said seats and having integral lugs G', a flexible washer H held in said groove by its resilience above said valve, a piece K having at its lower end, concentric rings M and M' with plane lower surfaces above and adapted to engage with the edges of said washer, said piece K also having a flange and a guide-surface m^3 against which the lugs G' bear and a spring interposed between the flange on said nut and the flange on said piece K

3. The combination with a ring B having a fixed central stem C of a valve-casing A surrounding said stem and having valve-seats E' and E, a valve G adapted to be seated upon said seats, a nut D having a flange and adapted to engage with said stem to clamp said casing to said ring, a set-screw carried by said nut and bearing eccentrically upon the end of said stem, and a spring interposed between said flange and valve.

4. The combination with a ring B having a central stem C, of a valve-casing A surrounding said stem and having inner and outer valve-seats E' and E, a nut D having a flange and engaging with said stem to clamp said casing to said ring, a valve G adapted to be seated upon said seats and having integral lugs G' and teats G^3, a flexible washer H above said valve, a piece K having at its lower end, concentric rings M and M' with plane lower surfaces above and adapted to engage with the edges of said washer, said piece K also having a flange and a guide-surface m^3 against which the lugs G' bear, a spring interposed between the flange on said nut and the flange on said piece K, said teats extending through openings in said piece K, and means secured to the upper ends of said teats adapted to prevent their withdrawal from said openings.

805,851. **MEDICINAL INJECTOR.** NATONIUS J. GOLDWARD, Düsseldorf, Germany. Filed May 16, 1903. Serial No. 157,650.



Claim.—1. A medicinal injector composed of a tube, means for forcing air into the same, a diaphragm secured to the tube and adapted to be projected beyond the same, and a spring for retracting the diaphragm into the tube, substantially as specified.

2. A medicinal injector composed of a tube, means for forcing air into the same, a diaphragm secured to the tube and adapted to be projected beyond the same, a spring connected to the diaphragm, and a valve for discharging air from the tube, substantially as specified.

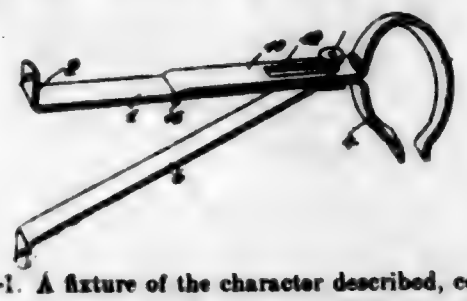
805,852. **LACE-FASTENER.** JOHN B. HALL, Philadelphia, Pa. Filed May 1, 1905. Serial No. 258,212.



Claim.—1. The combination with the upper of a shoe, of a plurality of fastening devices arranged to extend in a line substantially parallel to each other, each of said devices consisting of a portion having a resilient, corrugated member at one end adapted to contact with said shoe-upper and to receive and retain the bow of a shoe-lace, and a body portion at one extremity of said member, said body portion being provided with a sleeve extending at a right angle therefrom, said sleeve being adapted to be inserted in a shoe-eyelet and clenched thereupon.

2. As an improved article of manufacture, a lace-fastener comprising a resilient corrugated tongue having its terminal deflected to form an inwardly-turned lip adapted to contact with the shoe-upper, a body portion from which said tongue extends and a ring or annulus extending at substantially a right angle from said body portion, said ring being adapted to be clenched upon the eyelet of a shoe-upper.

805,853. **FIXTURE FOR WINDOW-FRAMES, DOORWAYS, &c.** ARTHUR H. HAUK, Greensburg, Pa. Filed Apr. 20, 1905. Serial No. 256,622.



Claim.—1. A fixture of the character described, comprising a fixed member and an adjustable member, said fixed member consisting of a metallic strip having a slot formed therein, the one end of said strip being bent downwardly upon a compound curve, the opposite end of said strip being bent upwardly and pierced, an angularly-disposed strip secured to the first-named strip, the end of said strip being bent downwardly and pierced, said adjustable member consisting of a strip having a slot formed therein, the one end of said strip being substantially hook-shaped, a substantially T-shaped head carried by the opposite end of said strip and adapted to engage in the slot of the fixed member, and means to adjustably secure said member upon said fixed member, substantially as described.

2. A fixture of the character described comprising a fixed member and an adjustable member, said fixed member consisting of strips of metal having pierced ends, one of said strips having a slot formed therein, said strip having one of its ends bent downwardly upon a compound curve, a screw carried by said strip, said adjustable member consisting of a slotted strip having its one end substantially hook-shaped, the other end of said strip being bent downwardly and sheared to form a T-shaped head adapted to engage in said slot, said strip having a slot formed therein adapted to engage over said screw, and a nut mounted upon said screw, substantially as described.

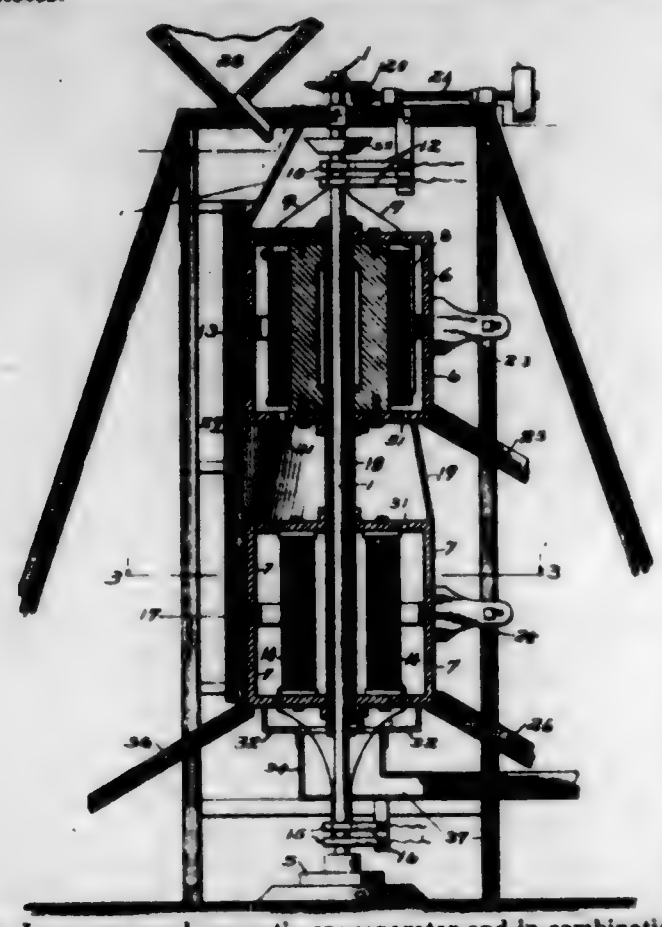
3. A fixture of the character described comprising a bracket having a slot formed therein, an adjustable member mounted upon said fixture, the end of said member being substantially hook-shaped and adapted to lie in close proximity to the end of said bracket, means to lock said adjustable member in engagement with said bracket, substantially as described.

805,854. **MAGNETIC ORE-SEPARATOR.** ERIC HENDUKS, Joplin, Mo., assignor, by mesne assignments, to American Reduction Company, Chicago, Ill., a Corporation of Arizona. Filed Jan. 15, 1904. Serial No. 189,081.

Claim.—1. In a compound magnetic ore-separator, and in combination a vertical shaft, an upper electromagnet mounted axially thereon said magnet including two pole-pieces forming a shell which incloses the windings of the magnet, a ring of non-magnetic material separating the proximate edges of the pole-pieces, a spreader-apron above said upper electromagnet, a lower electromagnet mounted axially on said shaft, said lower magnet having two pole-pieces which inclose its windings, a non-magnetic ring separating the proximate edges of the pole-pieces, the outer surfaces of the respective rings being in line with and forming continuations of the outer surfaces of the pole-pieces, means for rotating the magnets, and a flat-surfaced scraper arranged adjacent the outer surface of the magnets and overlapping the contiguous portions of the pole-pieces for removing adhering ores from the rotating pole-pieces.

2. In a compound magnetic ore-separator, and in combination a vertical shaft, an upper electromagnet mounted axially thereon, said magnet including two pole-pieces forming a shell which incloses the winding of the magnet, a ring of non-magnetic material separating the proximate edges of the pole-pieces, a spreader-apron above said upper electromagnet, a lower electromagnet mounted axially on said shaft, said lower magnet having two pole-pieces which inclose its windings, a non-magnetic ring separating the proximate edges of the pole-pieces, means for more strongly energizing the lower electromagnet than the upper one, means for rotating the magnets, and scrapers arranged adjacent said rings and extending upon

opposite sides thereof for removing adhering ores from the rotating pole-pieces.



3. In a compound magnetic ore-separator and in combination a vertical shaft, an upper and a lower electromagnet mounted axially thereon, each magnet being provided with two pole-pieces which form a shell inclosing the windings, and with a non-magnetic ring having a central outwardly-extended flange upon which the contiguous edges of the pole-pieces rest whereby the latter are separated, said pole-pieces having air-passages therethrough, means for supplying a current of air to the interior of the lower magnet, and means for conducting the current of air from the lower magnet into the interior of the upper magnet.

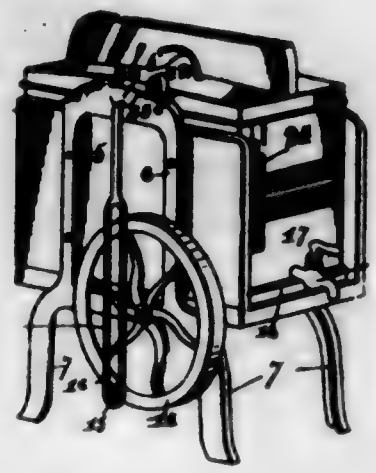
4. In a compound magnetic ore-separator, the combination of a vertical shaft, an upper electromagnet mounted axially thereon, said magnet including two pole-pieces forming a shell which incloses the windings of the magnet, and a ring of non-magnetic material separating the proximate edges of the pole-pieces and affording no obstruction beyond the outer surface of the same, with a lower electromagnet mounted axially on said shaft, said lower magnet having two pole-pieces which inclose its winding, a non-magnetic ring separating the proximate edges of the pole-pieces and affording no obstruction beyond the outer surface of the same, a spreader-apron above said electromagnet, a semicylindrical inclosing shield or guard arranged beneath the spreader-apron to conduct the falling material in proximity to the magnets, means for rotating the magnets, and means for removing adhering ores from the rotating pole-pieces.

5. In a compound magnetic ore-separator and in combination, a vertical shaft, an upper electromagnet mounted axially thereon, said magnet including two pole-pieces forming a shell which incloses the winding of the magnet, a ring of non-magnetic material separating the proximate edges of the pole-pieces, a lower electromagnet mounted axially on said shaft, said lower magnet having two pole-pieces which inclose its windings, a non-magnetic ring separating the proximate edges of the pole-pieces, a spreader-apron arranged above said upper electromagnet, a shield or guard spaced from the magnets having inwardly-extending flanges in proximity thereto below the spreader-apron, means for rotating the magnets, and means for removing adhering ores from the rotating pole-pieces.

6. In a magnetic ore-separator, a vertical shaft, an electromagnet mounted axially thereon, said magnet including two pole-pieces forming a shell which incloses the windings of the magnet, a ring of non-magnetic material separating the contiguous edges of the pole-pieces but affording a continuous outer surface for the magnet, a spreader-apron, and a scraper engaging said outer surface, said scraper extending over the non-magnetic ring and overlapping the adjacent edges of the respective poles, and an inclosing housing extending below said spreader, said housing having inwardly-extended vertical flanges in close proximity to the magnet, but cut away at the non-magnetic ring portion thereof.

7. In a magnetic ore-separator, a vertical shaft, an electromagnet mounted axially thereon, said magnet comprising two pole-pieces which form a shell inclosing the windings, and a non-magnetic cylinder abutting the inner surfaces of the respective pole-pieces, said cylinder having an annular flange upon which the adjacent edges of the pole-pieces rest, the outer edge of the flange forming a continuation of and offering no obstruction beyond the outer edge of the pole-pieces.

805,855. CHURN. HENRY HOUSHOLDER, Elizabeth, Pa. Filed Aug. 11, 1905. Serial No. 273,783.



Claim.—1. A churn embodying a housing, a container removably supported therein, a rock-shaft removably journaled in said housing, a dasher mounted upon said shaft, means for imparting rotary movement to said shaft and a clamp for holding said shaft upon said housing composed of vertical side frames and a casing arranged therebetween embodying a member formed with depending sides engaging said shaft in concentric disposition, said member being formed with a hooked end and means for engaging said hooked end to lock said clamp in position.

2. A churn embodying a housing, a container removably supported within said casing, a rock-shaft removably journaled in said side frames adjacent the top of said housing, a depending dasher carried by said shaft and projecting into said container, means for imparting vibratory motion to said rock-shaft, said shaft being formed on each side with spaced peripheral parallel grooves and clamps for holding said shaft in said side frames embodying a metallic clamping member pivotally mounted adjacent each side of said housing, said clamping member being formed with depending side walls adapted to interfit in said grooves, and being further formed with a hooked end, and a pivoted yoke mounted adjacent said clamping member and adapted to engage the hooked end thereof to lock the same in position.

805,856. BLOCK SYSTEM FOR RAILROADS. ALBERT N. IRELAND and JOHN T. REESE, Sioux City, Iowa. Filed Apr. 6, 1905. Serial No. 254,091.

Claim.—1. In a railway block system, an electric battery, electromagnetic coils and a gong secured in the cab of an engine, a hammer pivotally secured therein and means connected therewith whereby the hammer is released and allowed to strike the gong when the electric current is closed, ground connection for said battery and coils, an arm secured to one end of the pilot of the engine and adapted to come in contact with a block secured to the end of the railway-ties, metallic connection between said arm and said battery and coils, in combination with a block having a metallic covering secured to the ties and adapted for contact with the arm on the pilot of the engine, a signal-board in the railway-station, metallic connection between said signal-board and said block and electric means provided in said station for operating said board when the arm on the engine strikes the block and the electric current is closed, substantially as described.

2. In a railway block system, a signal-board pivotally secured to the railway-station, a lever pivotally secured to the station and connected with the signal-board for normally holding the board in an elevated position, electromagnetic coils in said station adapted to operate said lever and release the signal-board when the electric current is closed, a metallic block secured to the railway-ties, metallic connection between said block and said coils, and ground connection for said coils, in combination with an electric battery and electromagnetic coils in the cab of an engine on the railway, a signal-gong operated by said battery and coils, a metallic arm secured to the engine and adapted for contact with the block on the ties, ground connection for said battery and coils and metallic connection between said battery and coils and said arm whereby when the arm strikes the block the electric current is closed, the gong in the engine sounded and the signal-board in the station is dropped, substantially as described.

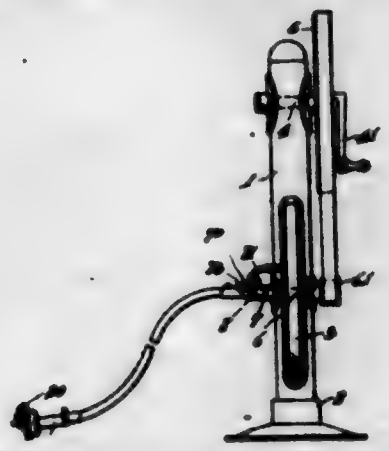
3. In a railway signal system, a metallic block secured to the railway-ties, a wire connecting said block with the signal-board in the railway-station, a signal-board in the station, electric means for operating the board when the electric current is closed, means for disconnecting the electric current and means for connecting said wire with a telephone in the station, in combination with a metallic arm secured to an engine of the road adapted to strike said block when the engine passes, a signal in the cab of the engine, a wire connecting said arm with the signal, electric means for operating said signal when said arm and block are in contact and the electric current is closed, and means in said engine for disconnecting said current, substantially as described.

4. In a railway signal system, a metallic arm pivotally secured at one end to the pilot of an engine, the free end of said arm having a slot, a brace adjusted in said slot and pivotally secured to the pilot, a wheel with a notched surface secured to the arm and adapted to press upon the surface of a contact-block secured to the ties, a signal in the cab of the engine, metallic connections between said arm and said signal, electric means for operating said signal when the electric current is closed by contact of the arm with said block, in combination with a block secured to the ties of the railway, a signal-board in the railway-station, electric means for operating said board when the electric current is closed, and metallic connection between the block and signal-board whereby the electric current is closed, the signal-board operated and the signal in the cab given when the arm strikes said block, substantially as described.

5. In a railway block system, an electric battery, electromagnetic coils and a watch-clock secured in the cab of an engine, a hammer pivotally secured therein and means connected therewith whereby the hammer is released and allowed to strike the clock when the electric current is closed, thus registering the time, ground connection for said battery, and coils, an arm secured to the pilot of the engine and adapted to come in contact with a block secured to the end of the railway-ties, metallic connection between said arm and said battery and coils, in combination with a metallic block secured to the ties and adapted for contact with the arm on the pilot of the engine, a signal-board in the railroad-station, metallic connection between said signal-board and the block and electric means provided in said station for operating said board when the arm on the engine strikes the block and the electric current is closed, substantially as described.

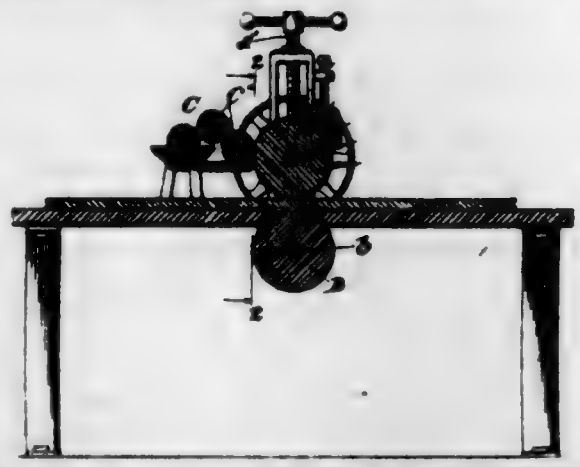
805,857. PORTABLE GRINDING AND ABRADING WHEEL. ANASTASY F. JANUSZKI, Detroit, Mich. Filed Dec. 10, 1904. Serial No. 236,174.

Claim.—1. In a portable grinding mechanism, in combination with an actuator and a flexible shaft connected therewith, a grinding-wheel actuated thereby, said wheel being mounted with its axis in line with that part of the shaft nearest thereto, a guard for said shaft, a handle on said guard, and a dust-guard attached to the inner edge of the periphery of the grinding-wheel and extending inwardly therefrom over the outer end of the handle and the unprotected portion of the shaft at the end thereof, substantially as described.



2. In a portable grinding-machine, in combination with an actuator and a flexible shaft, said shaft consisting of a plurality of coupling members, with alternating sections of cable and links joined thereto, a grinding-wheel carried on the end of said shaft and adapted to be rotated thereby, a handle on said shaft whereby the grinding-wheel and shaft may be located and held while in use, and a dust-guard attached to the periphery of the grinding-wheel to the rear of the abrading portion and extending therefrom to the outer portion of the handle, substantially as described.

805,858. MACHINE FOR GRAINING AND OTHERWISE ORNAMENTING WOOD. HENRY C. JOHNSON, Chicago, Ill. Filed May 16, 1904. Serial No. 208,267.



Claim.—1. In a machine of the class described, the combination of a printing-roll having a sinuous profile and having a design wrought in numerous narrow depressions in the face thereof, means for applying paint to the roll and a wiper contacting with the roll at a point ahead of the point at which the paint is applied, said wiper having a body of absorbent material conforming to the profile of the roll and means for holding said body in place, substantially as described.

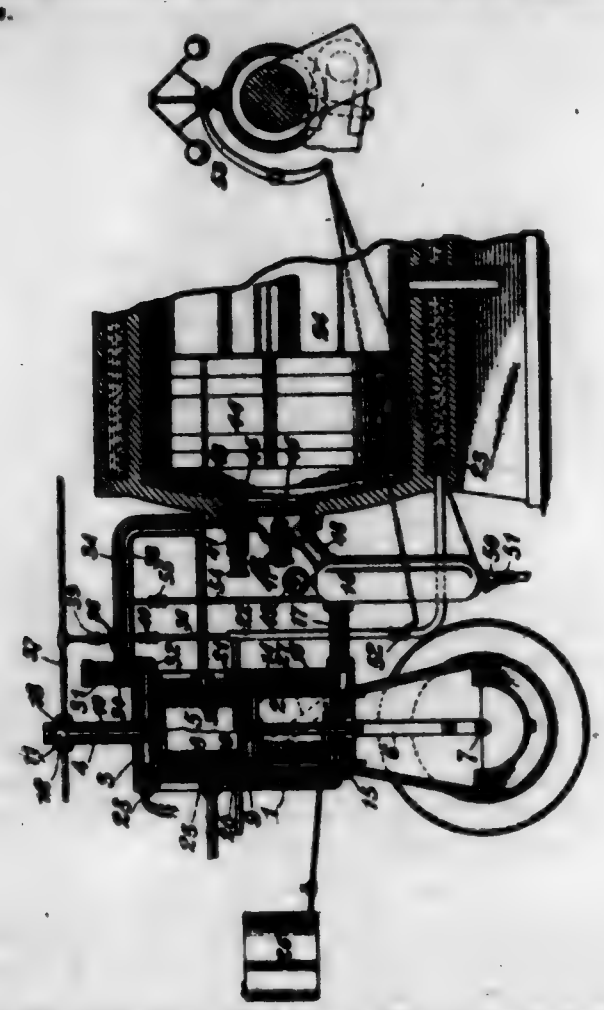
2. In a machine of the class described, the combination of a printing-roll having a design wrought in numerous narrow depressions in the face thereof, means for applying paint to the roll, and a wiper contacting with the roll at a point ahead of the point at which the paint is applied, said wiper having a body of absorbent material conforming to the surface of the roll and a presser bar or shoe for holding said body in place, said bar or shoe being shaped to provide a wedge-shaped pocket between it and the roll, substantially as described.

805,859. HEAT-ENGINE. FRANZ E. JUNGE, New York, N. Y. Filed July 11, 1903. Serial No. 165,035.

Claim.—1. The combination with a heat-engine, of air and fuel pumping devices, an independent motor in which said devices are combined, and means for controlling the speed of said motor by the main-engine governor so as to vary the output of said devices according to the load, while the respective proportions of air and fuel remain the same.

2. The combination with a heat-engine, of separate air and fuel pumping devices independent thereof and arranged to pump air and fuel separately thereto, a motor in which such pumping devices are incorporated, and means, controlled by the engine-governor, for

running the motor at different speeds according to the load on the engine.



3. The combination with a heat-engine, of separate air and fuel pumping devices therefor, an independent motor in which said pumping devices are incorporated, said motor being arranged for regulation by the main-engine governor and capable of running at variable speeds according to the load, and such pumping devices compressing the air and fuel, separate from each other, to such temperatures that the fuel will ignite after being injected into the main-engine cylinder by mere contact with the air injected therein.

4. The combination with a heat-engine, of an auxiliary motor independent thereof and providing the main engine with dynamic medium, said motor being influenced in its speed by the engine-governor so as to vary the quantity of such dynamic medium according to the load while its quality remains the same.

5. The combination with a heat-engine, of fuel, water, and air pumping devices connected therewith, and a motor in which said pumping devices are incorporated, said motor being provided with its own variable igniting device which is under the control of the main-engine governor, whereby it may run at various speeds according to the load on the engine.

6. The combination with a heat-engine, of a fuel-pumping device connected therewith and arranged to pump fuel to the engine separate from the air necessary for its complete combustion, said pumping device being provided with its own impelling or driving power which is independent of the engine and which is arranged for regulation by the governor of the engine.

7. The combination with a heat-engine, of a motor provided with a fuel-pumping device arranged to pump fuel into the engine and also provided with a combustion-chamber, means for mixing the incandescent combustion-gases with the fuel exclusive of air, means for admitting air into the engine-cylinder separately from the mixture of incandescent combustion-gases and fuel, and means for admitting the mixture of incandescent combustion-gases and fuel into the engine-cylinder to there mix with the air and ignite.

8. The combination with a heat-engine, of a motor provided with a fuel-pumping device arranged to pump fuel to the engine, and also provided with a compression and combustion chamber and a piston working therein, means for igniting the compressed gases in said chamber, and means for mixing the combustion-gases with the fuel before they are admitted to the engine.

9. The combination with a heat engine, of a motor provided with a fuel-pumping device, a fuel-receiver connected therewith and with the engine, and a compression and combustion chamber, a piston working in said chamber, means for incandescing the compressed combustion-gases in said chamber, there being a passage connecting the said chamber and the fuel-receiver, and a valve controlling the said passage.

10. The combination with a heat-engine, of a motor provided with a fuel-pumping device, a fuel-receiver connected therewith and with the engine, and a compression and combustion chamber, a piston working in said chamber, means for incandescing the compressed combustion-gases in said chamber, there being a passage connecting said chamber and the fuel-receiver, and a valve controlling said passage and adjustable to predetermined pressures.

11. The combination with a heat-engine, of a motor provided with a fuel-pumping device having a receiver arranged to deliver fuel into the engine, and also provided with a compression and combustion chamber, a piston working in said chamber, there being a passage connecting the said chamber with the fuel-receiver, and a valve in said passage, said valve being arranged to permit, at a predetermined pressure, a portion of the combustion-gases to mix with the fuel in the receiver, and the remaining portion of the gases serving to work the piston by expansion.

12. The combination with a heat-engine, of a motor provided with a fuel-pumping device arranged to pump fuel into the engine, and also provided with a compression and combustion chamber and a piston working therein, means for igniting the compressed combustion-gases in said chamber, means for mixing the combustion-gases with the fuel, and means whereby the piston will work the pumping devices.

13. In a device of the character described, a motor provided with a cylinder constituting an air-pump chamber, a water-pump chamber, a gas compression and combustion chamber, and a fuel-pump chamber, and a piston working in said cylinder and serving for all of said chambers.

14. The combination with a heat-engine, of separate air and fuel pumping devices independent of the engine and arranged to pump air and fuel separately thereto, means for compressing said air and fuel separately to any desired degree, and means for injecting said compressed air and fuel separately into the engine to there mix and ignite, a motor in which said devices are incorporated, and means for regulating the speed of the motor according to the load of the engine.

15. In a device of the character described, a motor provided with a cylinder having air aspiration and delivery ports, gas inlet and delivery ports, water inlet and delivery ports, and fuel inlet and delivery ports, and a piston working in said cylinder and controlling said ports.

16. The combination with a heat-engine of the four-cycle type, of air and fuel pumping devices independent of said engine, a separate motor in which said devices are incorporated and arranged to run at variable speeds and having its own impelling power, means for controlling the speed of said motor according to the load on the engine, and means controlled by the engine for admitting the charge of air and fuel into the engine-cylinder once at each revolution of the engine, whereby the four-cycle engine is transformed into a two-cycle engine.

17. In a device of the character described, a motor provided with a cylinder having two communicating compartments and an extension, one of said compartments being of larger diameter than the other, and one of said compartments constituting an air-pump chamber and a water-pump chamber, while the other constitutes a gas compression and combustion chamber, and the extension constituting a fuel-pump chamber, and a piston working in said cylinder, said piston consisting of a body portion working in the compression and combustion chamber, a stepped or enlarged portion working in the air-pump and water-pump chamber, and a stem working in the fuel-pump chamber.

18. The combination with a heat-engine of the four-cycle type, of an auxiliary motor arranged to pump air and fuel separately into said engine and having means for precompressing said air and fuel separately to any desired degree, means for recompressing and igniting the charge in the main engine, and means for regulating the admission and ignition of the air and fuel charge to take place once at every revolution of the main engine.

19. Means for transforming a four-cycle engine into a two-cycle engine, consisting in the combination of the four-cycle engine with an independent motor, said motor having means for delivering air and fuel into the main engine once at each revolution of the same, said means being controlled by the main engine.

20. The combination with a heat-engine, of a fuel-pumping device separate from the engine and arranged to pump fuel thereto, means for preheating said fuel to its own ignition temperature so that it will ignite when brought into contact with air even of lower temperature and pressure in the main-engine cylinder, a motor in which said means are incorporated, and means for varying the speed of the motor according to the load on the main engine.

21. The combination with a heat-engine, of a motor provided

with air and fuel pumping devices having receivers arranged to deliver air and fuel into the engine, and said motor also provided with a compression and combustion chamber and means for mixing combustion-gases with the fuel, and means for automatically admitting air from the air-receiver into the compression and combustion chamber.

22. The combination with a heat-engine, of a motor provided with air and fuel pumping devices having receivers arranged to deliver air and fuel to the engine, and said motor also provided with a compression and combustion chamber and means for mixing combustion-gases with the fuel, means for automatically admitting air from the air-receiver into the compression and combustion chamber, and means for carbureting the air on its way to the said chamber.

23. The combination with a heat-engine, of separate air and fuel pumping devices, an independent motor in which said pumping devices are incorporated, and means for injecting said air and fuel separately under variable pressures and during any part of the stroke of the main-engine piston into the cylinder of the main engine, said pressures being controlled according to the load on the main engine.

24. The combination with a heat-engine, of a fuel-pumping device separate from the engine and arranged to pump fuel thereto, a gas-motor in which said pumping device is incorporated, and a variable ignition-regulating device for said motor, said ignition-regulating device being arranged for control or influence by the governor of the engine.

25. The combination with a heat-engine, of air and fuel pumping devices separate therefrom and provided with a combustion-chamber and an igniting device therefor, means for mixing the incandescent combustion-gases produced in said chamber with the fuel to form a superheated inexplosive mixture, means for admitting such mixture to the engine-cylinder, and means for admitting air to the said cylinder separately from the said mixture, whereby the latter will, in said cylinder, mingle with the air and ignite.

26. The combination with a heat-engine, of means combined in a motor separate from the engine, for injecting air and combustibles into the engine, and means controlled by the engine-governor for regulating the motor to various speeds according to the load on the engine.

27. The combination with a heat-engine, of a motor provided with a fuel-pumping device and an air-pumping device both arranged to deliver to the engine, and said motor also provided with a compression and combustion chamber and with means whereby a portion of the gases incandesced in said chamber will mix with the fuel and the remainder will actuate or drive the motor.

28. The combination with a heat-engine, of a motor provided with a fuel-pumping device arranged to deliver to the engine, and said motor also provided with a combustion-chamber and a piston working therein and arranged to actuate the pumping device, means for incandescing gases in said chamber whereby to drive said piston, and means whereby a portion of the incandescent combustion-gases, at a predetermined pressure, will be permitted to mix with the fuel and be pumped to the engine.

29. The combination with a heat-engine, of air and fuel pumping devices, combined in an independent motor which is arranged for regulation by the main-engine governor, such devices precompressing the air and fuel separately and injecting them into the main engine-cylinder, where they may be recompressed and ignited.

30. The combination with a heat-engine, of a pumping device connected therewith and arranged to pump air to the engine separate from the fuel necessary for combustion, said pumping device being provided with its own impelling or driving power arranged for regulation by the governor of the engine.

31. The combination with a heat-engine, of an auxiliary motor providing the main engine with cooling medium the quantity of which is regulated by the governor of the engine.

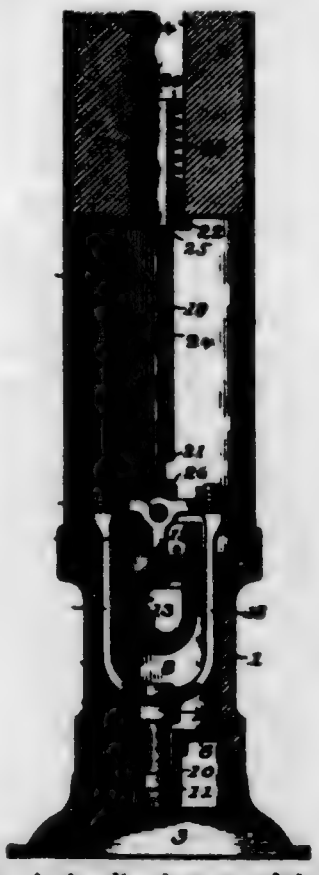
32. The combination with a heat-engine, of an auxiliary motor whose speed is regulated by the governor of the main engine, and delivering into said engine air, fuel, and cooling medium in quantities varying with the load.

33. The combination with a heat-engine, of an auxiliary pumping-motor which aspirates air from the surrounding atmosphere and gas from some source of production and delivers these two constituents separately into the main engine, said motor being arranged for regulation by the main-engine governor so as to vary the quantity of such air and gas delivery according to the load.

34. The combination with a heat-engine, of an air-pumping device separate from the engine and arranged to pump air thereto means for preheating the air by recompression in the auxiliary pump and by precompression in the main-engine cylinder to such temperatures that the fuel will ignite when brought into contact with such compressed air in the main-engine cylinder, a fuel-pumping device for delivering fuel to the main-engine cylinder, a motor in which said means are incorporated, and means for varying the speed of the motor according to the load on the main engine.

35. The combination with a heat-engine, of an auxiliary engine embodying air and fuel pumping devices separate from the engine and arranged to pump air and fuel thereto, means for heating the air or fuel or both the constituents separately by compression, first in the auxiliary and then in the main engine, to such temperatures that combustion will ensue when the air and fuel are brought in contact in the main-engine cylinder, and means for varying the speed of the auxiliary according to the load on the main engine.

805,860. HYDRAULIC AIR-PUMP. GEORGE J. KEEGAN, Chicago, Ill. Filed Oct. 10, 1904. Serial No. 227,824.



Claim.—1. In a hydraulic air-pump of the character herein described, the combination of a vertical cylinder, a weighted piston arranged therein, a valve-housing at the lower end of said cylinder, a partition in said housing dividing the same into upper and lower chambers, a vertical valve-casing in said partition connecting said chambers together, a vertically-moving piston-valve in said casing controlling such connection, a vertical valve-casing in the upper chamber aforesaid, a lateral horizontal neck connected to the lower end of said valve-casing, a vertically-moving piston-valve in said casing controlling communication between the upper chamber and the horizontal neck aforesaid, the said valves having a vertical alinement one with the other, a connection between the upper ends of said valves arranged in the upper chamber of the housing outside the upper valve-chamber and lateral neck and adapted to impose simultaneous movement on both valves, and operative connections between said valves and the pump-piston, substantially as set forth.

2. In a hydraulic air-pump of the character herein described, the combination of a vertical cylinder, a weighted piston arranged therein, a valve-housing at the lower end of said cylinder, a partition in said housing dividing the same into upper and lower chambers, a vertical valve-casing in said partition connecting said chambers together, a vertically-moving piston-valve in said casing controlling such connection, a vertical valve-casing in the upper chamber aforesaid, a lateral horizontal neck connected to the lower end of said valve-casing, a vertically-moving piston-valve in said casing controlling communication between the upper chamber and the horizontal neck aforesaid, the said valves having a vertical alinement one with the other, a yoke connection between the upper ends of said valves arranged in the upper chamber of the housing outside the upper valve-chamber and lateral neck and adapted to impose simultaneous movement on said valves, and operative connections between said valves and the pump-piston, substantially as set forth.

3. In a hydraulic pump of the character herein described, the combination of a vertical cylinder, a weighted piston arranged therein, a valve-housing at the lower end of said cylinder, a partition in

said housing dividing the same into an upper chamber having direct communication with the under side of the pump-piston, and into a lower fluid-pressure-supply chamber, a vertical valve-casing in said partition connecting both chambers together, a vertically-moving piston-valve in said casing controlling the admission of fluid-pressure into said upper chamber, a vertical valve-casing in the upper chamber aforesaid, a lateral horizontal outlet-neck connected to the lower end of said valve-casing, a vertically-moving piston-valve in said casing controlling communication between the chamber beneath the pump-piston and the outlet-neck aforesaid, the said valves having a vertical alinement one with the other, a connection between the upper ends of said valves arranged in the upper chamber of the housing outside the upper valve-chamber and lateral neck and adapted to impose simultaneous movement on both valves, and operative connections between the said valves and the pump-piston, substantially as set forth.

4. In a hydraulic air-pump of the character herein described, the combination of a vertical cylinder, a weighted piston arranged therein, a valve-housing at the lower end of said cylinder, a partition in said housing dividing the same into an upper chamber having direct communication with the under side of the pump-piston, and into a lower fluid-pressure-supply chamber, a vertical valve-casing in said partition connecting both chambers together, a vertically-moving piston-valve in said casing controlling the admission of fluid-pressure into said upper chamber, a vertical valve-casing in the upper chamber aforesaid, a lateral horizontal outlet-neck connected to the lower end of said valve-casing, a vertically-moving piston-valve in said valve-casing controlling communication between the chamber beneath the pump-piston and the outlet-neck aforesaid, the said valves having a vertical alinement one with the other, a yoke connection between the upper ends of said valves arranged in the upper chamber of the housing outside the upper valve-chamber and lateral neck and adapted to impose simultaneous movement on said valves, and operative connections between said valves and the pump piston, substantially as set forth.

5. In a hydraulic air-pump of the character herein described, the combination of a vertical cylinder, a weighted piston arranged therein, a valve-housing at the lower end of said cylinder, a partition in said housing dividing the same into upper and lower chambers, a vertical valve-casing in said partition connecting said chambers together, a vertically-moving inlet piston-valve in said casing controlling such connection, a vertical valve-casing in the upper chamber aforesaid, a lateral horizontal neck connected to the lower end of said valve-casing, a vertically-moving outlet piston-valve in said casing controlling communication between the upper chamber and the horizontal neck aforesaid, the said valves having a vertical alinement one with the other, a connection between the upper ends of said valves arranged in the upper chamber of the housing outside the upper valve-chamber and lateral neck and adapted to impose simultaneous movement on both valves, and operative connections between said valves and the pump-piston, the same comprising a tubular member moving in a vertical cavity of the pump-piston, and a cylindrical member telescoping in said tubular member and having engagement with the outlet-valve aforesaid, substantially as set forth.

6. In a hydraulic air-pump of the character herein described, the combination of a vertical cylinder, a weighted piston arranged therein, a valve-housing at the lower end of said cylinder, a partition in said housing dividing the same into upper and lower chambers, a vertical valve-casing in said partition connecting said chambers together, a vertically-moving inlet piston-valve in said casing controlling such connection, a vertical valve-casing in the upper chamber aforesaid, a lateral horizontal neck connected to the lower end of said valve-casing, a vertically-moving outlet piston-valve in said casing controlling communication between the upper chamber and the horizontal neck aforesaid, the said valves having a vertical alinement one with the other, a connection between the upper ends of said valves arranged in the upper chamber of the housing outside the upper valve-chamber and lateral neck and adapted to impose simultaneous movement on said valves, and operative connections between said valves and the pump-piston, the same comprising a tubular member moving in a vertical cavity of the pump-piston, a spring interposed between the upper end of said member and the lower end of said cavity, and a cylindrical member telescoping in said tubular member and having engagement with the outlet-valve aforesaid, substantially as set forth.

7. In a hydraulic air-pump of the character herein described, the combination of a vertical cylinder, a weighted piston arranged therein, a valve-housing at the lower end of said cylinder, a partition in said housing dividing the same into upper and lower chambers, a vertical valve-casing in said partition connecting said chambers together, a vertically-moving inlet piston-valve in said casing controlling such connection, a vertical valve-casing in the upper chamber aforesaid, a lateral horizontal neck connected to the lower end of said valve-casing, a vertically-moving outlet piston-valve in said casing controlling communication between the upper chamber and the horizontal neck aforesaid, the said valves having a vertical alinement one with the other, a yoke connection between the upper ends of said valves arranged in the upper chamber of the housing outside the upper valve-chamber and lateral neck and adapted to impose simultaneous movement on said valves, and operative connections between said valves and the pump-piston, the same comprising a tubular member moving in a vertical cavity in the pump-piston, and a cylindrical member telescoping in said tubular member, and having engagement with the outlet-valve aforesaid, substantially as set forth.

8. In a hydraulic air-pump of the character herein described, the combination of a vertical cylinder, a weighted piston arranged therein, a valve-housing at the lower end of said cylinder, a partition in said housing dividing the same into upper and lower chambers, a vertical valve-casing in said partition connecting said chambers together, a vertically-moving inlet piston-valve in said casing controlling such connection, a vertical valve-casing in the upper chamber aforesaid, a lateral horizontal neck connected to the lower end of said valve-casing, a vertically-moving outlet piston-valve in said casing controlling communication between the upper chamber and the horizontal neck aforesaid, the said valves having a vertical alinement one with the other, a yoke connection between the upper ends of said valves arranged in the upper chamber of the housing outside the upper valve-chamber and lateral neck and adapted to impose simultaneous movement thereon, and operative connections between said valves and the pump-piston, the same comprising a tubular member moving in a vertical cavity of the pump-piston, a spring interposed between the upper end of said member and the lower end of said cavity, and a cylindrical member telescoping in said tubular member and having engagement with the valves aforesaid, substantially as set forth.

805,861. SELF-THREADING SHUTTLE FOR LOOMS. HENRY A. KENNEDY, Warwick, R. I., assignor to James Smith, Providence, R. I. Filed Feb. 7, 1905. Serial No. 244,530.



Claim.—1. As an improved article of manufacture a loom-shuttle for carrying weft yarn or thread, said shuttle having a threading device consisting of a substantially tubular endwise-movable spring-pressed threading-eye member mounted transversely therein, the said eye member being provided with a slit or passage adapted to freely receive therein the delivery end portion of the yarn or thread when the eye member is pressed rearwardly from its normal or closed position in the shuttle to uncover the outer end of the tube.

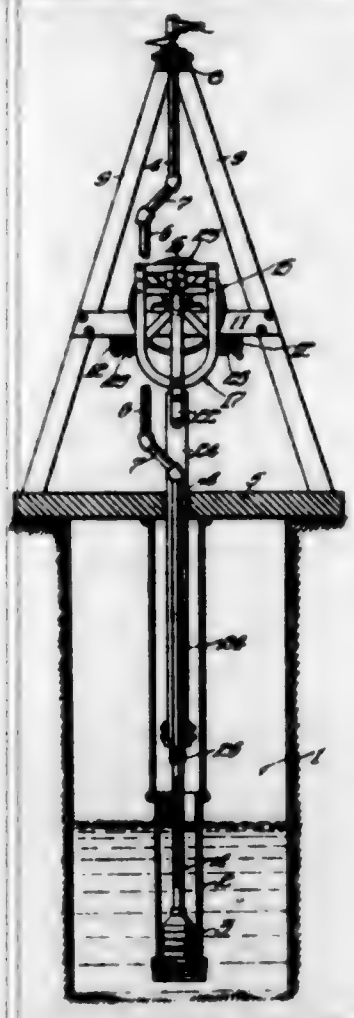
2. In a shuttle of the character described, a movably-mounted eye member having a passage or slit therein to receive the yarn or thread, means for securing said member in the open or retracted position to readily permit the introduction therein of the yarn and means for imparting an endwise movement to the eye member, whereby the latter automatically delivers the yarn through the side of the shuttle, substantially as described.

3. In a shuttle of the character described, an endwise-movable spring-pressed threading-eye member mounted in a transversely-arranged hole or seat located in the forward end portion of the shuttle, said member having an opening or slot extending through its wall to receive the weft yarn or thread, a pin or latch secured to the eye member, a slotted opening formed in the shuttle's base communicating with said seat and having the latch extending downwardly therethrough, and a lateral notch into which the latch may be swung for temporarily locking the eye member in the retracted or open position while the yarn is being introduced into it.

4. In a shuttle of the character described, having a transverse hole or seat *a* and a slot *b* formed in the base thereof, the combination therewith of the longitudinally-movable spring-pressed apertured eye member *b* mounted in said seat, a latch or device secured to said eye and extending therefrom through the slot *b* whereby the eye may be forced rearwardly in its seat and past the inner face of the front side of the shuttle to temporarily uncover or open said eye to freely receive the weft-yarn, and a stop for limiting the forward movement of the eye member, substantially as described and for the purpose set forth.

5. In a loom-shuttle, the combination of the endwise-movable spring-pressed tubular eye member having a slot or aperture in its wall to receive the weft-yarn, a wing, d^3, having its free end extending above the periphery of the tubular portion of the eye arranged to guide the yarn into said slot, means connected with the eye whereby the latter may be temporarily retracted while it is being threaded, and a stop for limiting the forward movement of the eye member and maintaining it in the normal working position in the shuttle.

805,862. **PUMP-OPERATING MECHANISM.** AARON E. KEPNER, Lemon, Cal. Filed Mar. 22, 1905. Serial No. 251,261.



Claim.—1. In a pump apparatus a pipe through which the water is elevated, a standard, a crank-shaft supported thereby, a reciprocating pump-head comprising a yoke, cross-bars uniting the upper ends of the yoke, a split bushing between the cross-bars and mounted upon the crank, a pair of bars extending from the lower cross-bar to the lower part of the yoke and spread apart at the lower bar to form a crutch, a bracket fastened to the pipe, and a connecting-rod bolted to the crutch and bracket.

2. In a pump apparatus a pipe through which the water is elevated, a standard, a crank-shaft supported thereby, a reciprocating pump-head comprising a yoke, cross-bars uniting the upper ends of the yoke, a split bushing between the cross-bars and mounted upon the crank, a connection from the yoke to the pipe, a pair of rollers mounted on the standard and bearing against opposite ends of the yoke for guiding in a straight path.

3. In a pump apparatus a pipe through which the water is elevated, a standard, a crank-shaft supported thereby, a reciprocating pump-head comprising a yoke, cross-bars uniting the upper ends of the yoke, a split bushing between the cross-bars and mounted upon the crank, a pair of bars extending from the lower cross-bar to the lower part of the yoke and spread apart at the lower bar to form a crutch, a bracket fastened to the pipe, and a connecting-rod bolted to the crutch and bracket, the upper end of said pipe being slidably mounted in the upper end of said standard.

4. In a pump apparatus a pipe through which the water is elevated, a standard, a crank-shaft supported thereby, a reciprocating pump-head comprising a yoke, cross-bars uniting the upper ends of the yoke, a split bushing between the cross-bars and mounted upon the crank, a pair of bars extending from the lower cross-bar to the lower part of the yoke and spread apart at the lower bar to form a crutch, a bracket fastened to the pipe, and a connecting-rod bolted to the crutch and bracket, the upper end of said pipe being slidably mounted in the upper end of said standard, said pipe having an offset portion adjacent the pump-head.

5. A pump-head comprising a yoke, cross-bars uniting the ends of the yoke and forming parallel bearing-faces for receiving a crank, and a brace extending from a cross-bar to the bowed part of the yoke.

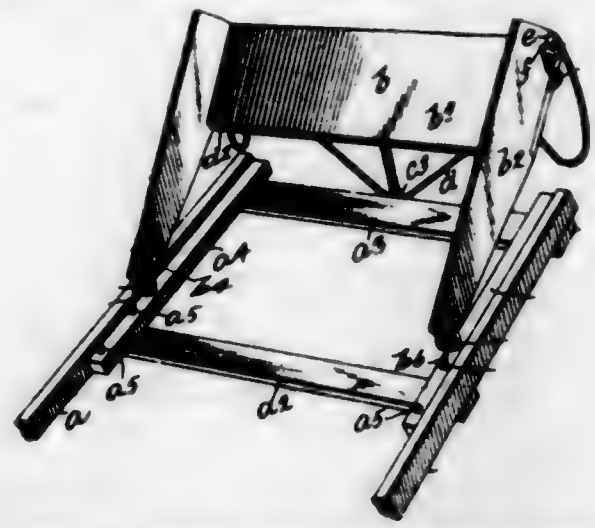
6. A pump-head comprising a U-shaped yoke, cross-bars L-shaped in cross-section uniting the ends of the yoke and forming parallel bearing-faces for receiving a crank, and a pair of braces extending from the lower cross-bar to the bowed part of the yoke.

7. A pump-head comprising a yoke, cross-bars uniting the ends of the yoke and forming parallel bearing-faces for receiving a crank, a brace extending from a cross-bar to the bowed part of the yoke, and means on the lower end of the brace for attaching a pump-operating rod.

8. A pump-head comprising a U-shaped yoke, cross-bars L-shaped in cross-section uniting the ends of the yoke and forming parallel bearing-faces for receiving a crank, a pair of braces extending from the lower cross-bar to the bowed part of the yoke, and means on the lower ends of the braces for attaching a pump-operating rod.

9. A pump-head comprising a yoke, cross-bars uniting the ends of the yoke and forming parallel bearing-faces for receiving a crank, a split sleeve between the cross-bars and around the crank, and a brace extending from a cross-bar to the bowed part of the yoke.

805,863. **ADJUSTABLE HEAD-REST FOR RECLINING-CHAIRS.** CHARLES H. KNIGHT, Kingston, N. Y. Filed Mar. 16, 1905. Serial No. 250,380.



Claim.—1. A head-rest for reclining-chairs the back of which is provided with side rails, said head-rest comprising a frame, coil-springs secured to said frame and detachably connected with said side rails, and a cable in operative connection with said chair-back and said frame for adjustably securing said frame against the action of said coil-springs, substantially as shown and described.

2. In a reclining-chair the back of which is provided with side rails, a head-rest comprising a frame consisting of side members and a transverse member, a coil-spring secured to the inner end of each of said side members and detachably and adjustably connected with said side rails, and a cable connected with said chair-back and said frame for adjustably holding the same in any desired position, substantially as shown and described.

3. In a chair the back of which is provided with side rails, a head-rest consisting of a spring-operated frame in operative connection with said side rails, said chair-back and frame being provided with a plurality of guides or staples, a cable passing through said guides or staples and a securing device for holding said cable in any desired position, substantially as shown and described.

4. In a chair the back of which is provided with side rails, a head-rest comprising a frame consisting of side and transverse members, a spring secured to the inner end of each of said side members, said springs being detachably and adjustably connected with said side rails, a guide or staple in said chair-back and centrally thereof, a guide or staple in said transverse member and centrally thereof, a guide or staple at each end of said frame and adjacent to the top thereof, a cable passing through said staples, and securing devices for said cable, substantially as shown and described.

5. In a chair the back of which is provided with side rails, a head-rest comprising a spring-operated frame, said springs serving to force said frame upwardly, a cable in operative connection with said chair-back and said frame, and securing devices for said cable comprising a tube through which said cable passes, a V-shaped slot in said tube adapted to bind and hold said cable, and means for securing said securing devices to said head-rest, substantially as shown and described.

6. In a chair the back of which is provided with side rails, a head-rest comprising a spring-operated frame, said springs serving to force said frame upwardly, a guide or staple in said chair-back and centrally thereof, a guide or staple in said frame and centrally thereof, a guide or staple at each end of said frame and adjacent to the top thereof, a cable passing through one of said end staples, said chair-back staple, said centrally-arranged staple, said chair-back staple and the other of said end staples, and securing devices for holding the free ends of said cable, substantially as shown and described.

805,864. INJECTOR-BURNER. LOUIS K. LEARY, Los Angeles, Cal. Filed Nov. 25, 1904. Serial No. 234,515.



Claim.—1. A burner comprising a body provided with a series of oilways terminating in two parallel discharge slots or ducts, and a series of steamways arranged between said oilways for heating the same, said steamways connected with a steam-discharge slot, and said ducts being arranged beyond the discharge-opening of said steam-discharge duct and discharging across the plane of discharge therefrom.

2. An injector-burner comprising a body provided with oilways, inner and outer oil-discharge slots or ducts and steamways arranged between said oilways, said ducts discharging right-angularly across the plane of discharge from said steamways, the end of the outer wall of the inner duct terminating above the plane of the upper edge of the steamway and the outer wall of the outer duct terminating above the plane of the edge of said outer wall of said inner duct.

3. An injector-burner comprising a body provided with oil and steam ways, inner and outer oil-discharge ducts and a steam-discharge slot, said oil and steam ways being arranged alternately and side by side in said body, the lower wall of the steam-discharge slot extending outwardly across the plane of the inner duct, the outer wall of the inner duct terminating above the plane of the upper edge of the discharge-slot.

4. An injector-burner comprising a body provided with oil and steam ways arranged alternately side by side adapting the steam to heat the oil, inner and outer oil-discharge ducts and a steam-discharge duct, the lower wall of the steam-discharge slot extending outwardly across the plane of the inner duct, the outer wall of the inner duct terminating above the plane of the discharge-slot, and the outer wall of the outer duct terminating above the plane of the edge of said outer wall of said inner duct.

5. An injector-burner comprising a body provided with oilways terminating in two discharge slots or ducts with steamways arranged between the oilways and terminating in a thin, wide discharge-outlet, one of said oil-discharge ducts communicating into the steam-discharge slot, the other duct discharging across the plane of discharge from said steam-discharge slot.

6. An injector-burner comprising a body having oilways terminating in two discharge-slots separated by an inwardly-projecting lip or partition extending above one of said slots, and with steamways arranged between alternate oilways adapting the steam to pass through said ways to heat the oil in said oilways, said steamways terminating in a thin discharge-slot, one of said oil-ducts communicating into the steam-discharge slot, the other duct discharging across the plane of discharge from said steam-discharge slot.

7. An injector-burner having an oil-chamber and a series of longitudinal oilways leading therefrom, the wall of said chamber forming a screen for straining the oil passing into said oilways, a series of longitudinal steamways arranged between the oilways and adapted to heat the same, an oil-outlet chamber into which said oilways discharge, an oil-discharge from said chamber, and a steam-discharge, an oil-pipe connected with the oilways, and a steam-pipe connected with the steamways.

8. A hydrocarbon-burner having longitudinal oilways and steamways extending between said oilways, an expansion-chamber connected with said steamways, a screen in said expansion-chamber, a steam-supply pipe connected with said expansion-chamber, a blow-out pipe connected with said expansion-chamber, a valve for said blow-out pipe, an oil-supply pipe connected with said oilways and steam and oil discharge slots.

9. An injector-burner having a series of long, wide, thin oilways and steamways between the walls thereof, an oil-outlet chamber into which said oilways discharge, an oil-discharge from said chamber and a steam-discharge, means for supplying oil to said oilways, and means for supplying steam to said steamways, said oil-discharge positioned with respect to said steam-discharge to project the oil therefrom into the steam from said steam-discharge outside the burner.

10. An injector-burner having an oil-chamber and a series of wide, thin oilways leading therefrom having thin walls spaced apart to form alternate steamways between said oilways, the wall of said chamber forming a screen for straining the oil passing into said oilways, an outlet-chamber into which said oilways discharge, an oil-discharge from said chamber, a steam-discharge, means for supplying oil to said oilways, and means for supplying steam to said steamways.

11. An injector-burner having a series of wide, thin oilways and steamways arranged between alternate oilways, a steam-discharge, an oil-discharge, and a steam-chamber communicating into said steamways, means for supplying steam to said steam-chamber, means for supplying oil to said oilways, means for straining the steam supplied to said chamber, and means for blowing out said steam-chamber to clear the same.

12. An injector-burner having series of alternate oil and steam ways, a steam-discharge, an oil-discharge, and a steam-chamber communicating into said steamways, means for supplying steam to said steam-chamber and oil to said oilways, a cylindrical screen in said steam-chamber inside of which said steam-supplying means communicates, and a regulable blow-out connection with said steam-chamber.

13. An injector-burner comprising a body having series of alternate oil and steam ways, a steam-chamber communicating into said steamways, in combination with means for supplying steam to said steam-chamber, and oil to said oilways, a screen in said steam-chamber, a regulable blow-out connection with said steam-chamber, said body provided with a steam-discharge slot into which said steamways communicate and with an oil-discharge slot into which said oilways communicate, said oil-discharge slot arranged to discharge across the plane of discharge from said steam-discharge slot.

805,865. AIR-BRUSH. OSCAR LIEBERMAN, Pittsburg, Pa. Filed June 10, 1905. Serial No. 264,781.



Claim.—1. An air-brush of the character described consisting of a casing, a spout carried by one end of said casing and forming a reservoir for a suitable fluid, a needle mounted in said spout and extending into said casing, a pivotally-mounted pitman movably connected to said needle, a sliding block on which said pitman is pivotally mounted, a stationary block having guide-ribs to receive said sliding block, means to reciprocate said needle, means to adjust the sliding block on which the needle is pivotally mounted and means to control the first-named means, substantially as described.

2. An air-brush of the character described, consisting of a casing, a substantially V-shaped closed reservoir carried by said casing

and having a suitable lid, a needle mounted in said reservoir and extending within said casing, a pipe located adjacent to said reservoir and adapted to be connected to a supply of air, a wind-wheel journaled in stationary bearings to control said supply of air, means to reciprocate said needle, means to guide said needle, and means to adjust the stroke of said needle, substantially as described.

805,866. GARMENT-FASTENER. RENNO LITTAUER, Newark, N. J. Filed May 10, 1905. Serial No. 260,155.



Claim.—1. In a fastening device for securing the meeting edges of a garment in their closed relation, a tape secured upon the inner face of one of said meeting edges, a series of fastening-cords all secured at their inner ends to the said tape, a second tape secured upon the inner face of the other meeting edge, and means connected with said second tape corresponding to the number of said fastening-cords, with which the fastening-cords are movably connected, so as to pull the said meeting edges together and cause them to overlap, substantially as and for the purposes set forth.

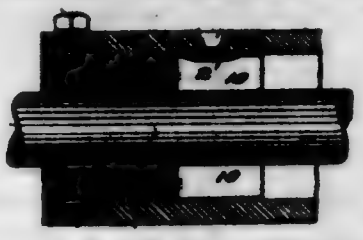
2. In a fastening device for securing the meeting edges of a garment in their closed relation, a tape secured upon the inner face of one of said meeting edges, a series of fastening-cords all secured at their inner ends to the said tape, a second tape secured upon the inner face of the other meeting edge, and a series of eyelets in said second tape corresponding to the number of said fastening-cords, in which the fastening-cords are movably arranged, so as to pull the said meeting edges together and cause them to overlap, substantially as and for the purposes set forth,

3. In a fastening device for securing the meeting edges of a garment in their closed relation, a tape secured upon the inner face of one of said meeting edges, a series of fastening-cords all secured at their inner ends to the said tape, a second tape secured upon the inner face of the other meeting edge, a series of eyelets 14 in said second tape corresponding to the number of said fastening-cords, in which the fastening-cords are movably arranged, and a pair of eyelets 16 and 17 in said second tape, the end portions of said fastening-cords extending in two bunches from said eyelets 16 and 17, so as to pull the meeting edges together and cause them to overlap, substantially as and for the purposes set forth.

4. In a garment, the combination, with the two meeting edges of the garment, of a tape secured upon the inner face of one of said meeting edges, a second tape secured upon the inner face of the other meeting edge, there being a series of receiving-pockets formed beneath the said second tape, a series of fastening-cords, each cord having its inner end secured to the first-mentioned tape, and a series of eyelets in said second tape, each eyelet being arranged directly above a receiving-pocket, the main body of each fastening-cord being passed through a receiving-pocket and the eyelet arranged above the same, so as to pull the said meeting edges together and cause them to overlap, substantially as and for the purpose set forth.

5. In a garment, the combination, with the two meeting edges of the garment, of a tape secured upon the inner face of one of said meeting edges, a second tape secured upon the inner face of the other meeting edge, there being a series of receiving-pockets formed beneath the said second tape, a series of fastening-cords, each cord having its inner end secured to the first-mentioned tape, and a series of eyelets in said second tape, each eyelet being arranged directly above a receiving-pocket, the main body of each fastening-cord being passed through a receiving-pocket and the eyelet arranged above the same, and a pair of eyelets near the lower end of said tape from which the end portions of said fastening-cords extend in two bunches, so as to pull the meeting edges together and cause them to overlap, substantially as and for the purposes set forth.

805,867. CORE FOR ROLLS. CHESTER W. LYMAN, New York, N. Y., assignor to International Paper Company, New York, N. Y., a Corporation of New York. Filed Jan. 11, 1905. Serial No. 240,554.



Claim.—1. In a core for rolls, the combination with a shell, of a locking projection carried by the shell and located wholly within the interior of the shell.

2. In a core for rolls, the combination with a shell, of a stud passed through the material of the shell and firmly secured thereto, the head of the stud forming a locking projection.

3. In a core for rolls, the combination with a shell, of a stud passed through the material of the shell and firmly secured thereto, the head of the stud lying in the interior of the shell and forming a locking projection.

4. In a core for rolls, the combination with a shell, of a stud passed through the material of the shell and secured thereto by clenching, the head of the stud forming a locking projection.

5. The combination with a shell forming a core for rolls, of a locking member extending into the interior of the shell and permanently secured thereto, a shaft, and a recessed locking member coacting with the locking projection.

6. The combination with a shell forming a core for rolls, of a stud passed through the material of the shell and firmly secured thereto, the head of the stud forming a locking projection, a shaft, and a recessed locking member coacting with the locking projection.

7. The combination with a shell forming a core for rolls, of a stud passed through the material of the shell and firmly secured thereto, the head of the stud forming a locking projection, a shaft, and a recessed locking member secured to the shaft and coacting with the locking projection

8. The combination with a shell forming a core for rolls, of a stud passed through the material of the shell and firmly secured thereto, the head of the stud lying within the shell and forming a locking projection, a shaft, and a recessed locking member secured to the shaft and coacting with the head of the stud.

9. The combination with a shell forming a core for rolls, of a stud passed through the material of the shell and firmly secured thereto by clenching, the head of the stud forming a locking projection, a shaft, and a recessed bushing secured to the shaft and coacting with the stud.

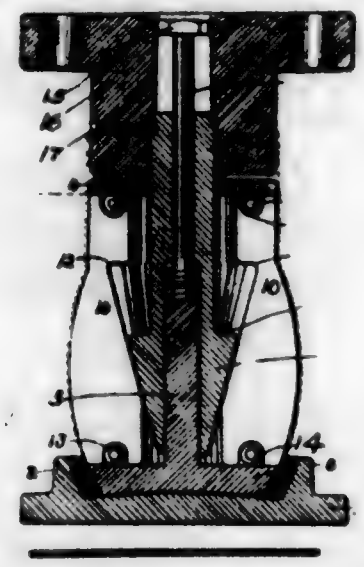
10. The combination with a shell forming a core for rolls, of a stud passed through the material of the shell and firmly secured thereto by clenching, the head of the stud lying within the interior of the shell and forming a locking projection, a shaft, and a recessed bushing secured to the shaft and coacting with the stud.

11. The combination with a shell forming a core for rolls, of a stud passed through the material of the shell and firmly secured thereto by clenching, the head of the stud forming a locking projection, a shaft, and a bushing secured to the shaft and having a plurality of recesses therein, one of said recesses coacting with the head of the stud to hold the shell in place.

12. The combination with a shell forming a core for rolls, of a stud passed through the material of the shell and firmly secured thereto by clenching, the head of the stud lying within the interior of the shell and forming a locking projection, a shaft, and a bushing secured to the shaft and having a plurality of recesses therein, one of said recesses coacting with the head of the stud to hold the shell in place.

805,868. EXPANDING-PUNCH. WILLIAM J. MARSHALL, New Castle, Pa., assignor to New Castle Stamping Company, New Castle, Pa., a Corporation of Pennsylvania. Filed July 12, 1904. Serial No. 216,266.

Claim.—A device of the character described having a standard with an outwardly-extending flange at its lower end, blocks arranged around said standard, and resting upon said flange, a cover-plate for said blocks, a wedge-shaped plunger carried by a tubular member mounted around said standard, said wedge having a shoulder at its upper extremity and said blocks having a beveled cut-out portion ending in a shoulder, whereby, when the wedge is raised, the shoulders on the wedge will engage the shoulders on the blocks, whereby said blocks may be raised with the wedge by grasping said tubular member.



805,869. GARMENT-HOOK. CYRUS R. MEYER, St. Louis, Mo.
Filed May 15, 1905. Serial No. 260,444.



Claim.—1. A hook comprising a shank member having a slot extending transversely therethrough, a bill member, and a spring member having a transverse part extending into said slot; substantially as described.

2. A garment-hook comprising a shank member, a bill member, a longitudinal slot transversely extending through said shank member, and a spring member between said shank and bill members having a part extending into said slot; substantially as described.

3. A garment-hook comprising a shank member, a bill member, an elongated slot transversely extending through said shank member, and a spring member between said shank and bill members, said spring member having a lateral part at its forward end extending into said slot; substantially as described.

4. A garment-hook comprising a shank member, a bill member, a spring member between said bill and shank members, an offset in said spring member for coöperating with said bill member, and a longitudinal slot transversely extending through the forward end of said shank member, said spring member being bent laterally at its forward end and extending into said slot; substantially as described.

5. A garment-hook comprising a shank formed of two parallel members, a bill also formed of two parallel members, elongated slots formed transversely through said shank members at their forward end, a spring-tongue between said bill and shank, and an offset in said spring-tongue for coöperating with said bill, said spring-tongue being laterally upset at its forward end into two portions which extend into said slots; substantially as described.

6. A garment-hook comprising a shank, said shank being increased in width at one end, a bill, a spring-tongue, and an elongated slot formed transversely through the widened portion of said shank, the spring-tongue being bent laterally at its forward end to extend into said slot; substantially as described.

7. A garment-hook comprising a shank, a bill, a spring-tongue, and longitudinal slots transversely extending through said shank member for the passage of fastening means for securing the hook to a garment; substantially as described.

8. A garment-hook comprising a shank member, a bill member, a spring-tongue coöperating with said shank and bill members, sewing-eyes at one end of said shank member, and longitudinal slots formed transversely through said shank member at its opposite end for the passage of fastening means for securing the hook to a garment; substantially as described.

9. A garment-hook comprising a shank member, sewing-eyes at one end thereof, a bill member, elongated slots in said shank member at the forward end thereof, and a spring member between said bill and shank members, the forward end of said spring member projecting into said slots, said slots also allowing the passage of fastening means for securing the hook to a garment; substantially as described.

10. In a garment-hook, the combination with a shank, of a bill connected to said shank, elongated slots transversely extending through the forward end of said shank, and a spring-tongue connected to said shank and projecting forwardly between said bill and shank, said spring-tongue being formed into two portions at its forward end which extend into said slots and have play therein on pressure being applied on said tongue; substantially as described.

11. In a garment-hook, the combination with a shank, of a bill connected to said shank, longitudinal slots transversely extending through the forward end of said shank, a spring-tongue connected to said shank at one end and projecting forwardly between said bill and shank, an offset in said spring-tongue for coöperating with said bill, and sewing-eyes on said shank for the passage of fastening means for securing the hook to a garment, the forward end of said spring-tongue being upset into two portions which project laterally into said slots; substantially as described.

12. In a garment-hook, the combination with a shank formed of two parallel members, of a bill connected to said shank and also formed of two parallel members, longitudinal slots in said shank members at the forward end thereof, and a spring-tongue member integral with one of said shank members and projecting forwardly between said shank members into said slots; substantially as described.

13. In a garment-hook, the combination with a shank formed of two parallel members, of a bill connected to said shank and also formed of two parallel members, longitudinal slots in said shank members at the forward end thereof, thread-eyes at the ends of said shank members, a spring-tongue connected to one of said shank members and extending forwardly between said shank members, and an offset in said tongue intermediate its ends for coöperating with said bill, the end of said tongue being upset into two portions which project laterally into said slots and ride therein on pressure being applied on said tongue; substantially as described.

14. In a hook, the combination with a shank, of a bill, thread-eyes on said shank, a spring-tongue having an offset for coöperating with said bill, and a slot transversely extending through, and being substantially concentric with, the curved portion of said shank, said tongue having a lateral part extending into said slot; substantially as described.

15. In a garment-hook, the combination with a shank formed of two members, of a bill also formed of two members, thread-eyes on said shank members, a spring-tongue between said shank members and having an offset intermediate its ends for coöperating with said bill, and slots formed through and being concentric with the curved portions of said shank members, the end of said tongue being upset and extending into said slots and having play therein on pressure being applied to said tongue; substantially as described

805,870. THREAD-CONTROLLING MECHANISM FOR SEWING-MACHINES. DANIEL MILLS, Philadelphia, Pa., assignor to The Standard Sewing Machine Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 9, 1897. Serial No. 657,809.

Claim.—1. In a sewing-machine, the combination with the stitch-forming mechanism, of a thread-pull-off, and means for operating said pull-off to act upon the thread only at each alternate stitch.

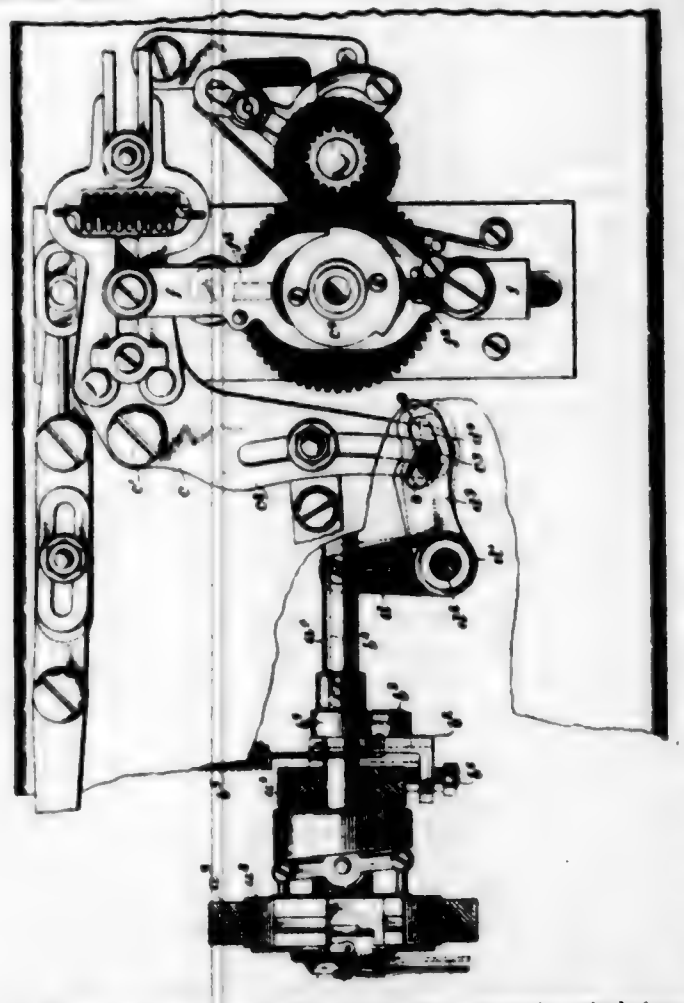
2. In a sewing-machine, the combination with the stitch-forming mechanism, of a bobbin-thread pull-off, and means for operating said pull-off to act upon the bobbin-thread only at each alternate stitch.

3 In a sewing-machine, the combination with the stitch-forming mechanism, of a thread-pull-off operative in a path at one side of the path of the needle, and means for operating said pull-off to act upon the thread only at each alternate stitch.

4. In a sewing-machine, the combination with the stitch-forming mechanism, of a thread-pull-off, means for operating said pull-off to act upon the thread only at each alternate stitch, and adjusting means for regulating the action of the pull-off.

5. In a sewing-machine, the combination with the stitch-forming mechanism, of a thread-pull-off, and means for operating said pull-off to act upon the thread during the formation of certain predetermined stitches and to maintain said pull-off in inoperative position

relative to said thread during the formation of certain other predetermined stitches.



6. In a sewing-machine, the combination with the stitch-forming mechanism, of a bobbin-thread pull-off, and means for operating said pull-off to act upon the bobbin-thread during the formation of certain predetermined stitches and to maintain said pull-off in inoperative position relative to said bobbin-thread during the formation of certain other predetermined stitches.

7. In a sewing-machine, the combination with the stitch-forming mechanism, of a thread pull-off, a slidably-mounted rock-shaft carrying said pull-off, means for rocking said shaft to cause the pull-off to act upon the thread, and means for moving said shaft longitudinally to shift the pull-off to and from its operative path of movement for acting on the thread.

8. In a sewing-machine, the combination with the stitch-forming mechanism, of a thread-pull-off, means for operating said pull-off to act upon the thread, a slidably-mounted shaft carrying said pull-off, a lever having connection with said shaft and provided with a cam, and a second lever engaging with the said cam of the first-mentioned lever and operating the latter to communicate a reciprocating movement to the pull-off-carrying shaft, for the purpose set forth.

9. In a sewing-machine, the combination with the stitch-forming mechanism, of a thread-pull-off, means for operating said pull-off to act upon the thread, a slidably-mounted shaft carrying said pull-off, a pivoted elbow-lever having one arm connected with said shaft and its other arm provided with a cam-slot, and a lever having means extending and operating within said cam-slot in the elbow-lever to operate the latter and communicate a longitudinal movement to the pull-off-carrying shaft, for the purpose set forth.

10. In a buttonhole-sewing machine, the combination with the work-holder-operating mechanism, of a thread-pull-off, means for operating said pull-off to act upon the thread, and means forming an operative connection between said pull-off and the work-holder-operating mechanism whereby the pull-off is operated by the latter to alternately assume an operative and inoperative position for acting upon the thread.

11. In a buttonhole-sewing machine, the combination with the work-holder-operating mechanism embodying a vibrating lever, of a thread-pull-off, means for operating said pull-off to act upon the thread, and means forming an operative connection between said vibrating lever and the pull-off whereby the latter is moved by said lever to and from its operative path of movement at certain predetermined stitches.

12. In a buttonhole-sewing machine, the combination with the stitching mechanism, and the work-holder-operating mechanism for presenting first one side of a buttonhole and then the other to said stitching mechanism, of a thread-pull-off, means for operating said pull-off to act upon the thread, and means for changing the time of action of the pull-off upon the shifting of the work-holder for presenting the opposite sides of the buttonhole to the stitching mechanism.

13. In a buttonhole-sewing machine, the combination with the stitching mechanism, and the work-holder-operating mechanism for presenting first one side of a buttonhole and then the other to said stitching mechanism, of a thread-pull-off, means for operating said pull-off to act upon the thread only at each alternate stitch, and means for changing the time of action of the pull-off upon the shifting of the work-holder for presenting the opposite sides of the buttonhole to the stitching mechanism.

14. In a buttonhole-sewing machine, the combination with the stitching mechanism, and the work-holder-operating mechanism for presenting first one side of a buttonhole and then the other to said stitching mechanism, of a thread-pull-off, means for operating said pull-off to act upon the thread during the formation of certain predetermined stitches and to remain inoperative during the formation of certain other predetermined stitches, and means for changing the time of action of the pull-off upon the shifting of the work-holder for presenting the opposite sides of the buttonhole to the stitching mechanism.

15. In a buttonhole-sewing machine, the combination with the stitching mechanism, and the work-holder-operating mechanism for presenting first one side of a buttonhole and then the other to said stitching mechanism, of a thread-pull-off, means for operating said pull-off to act upon the thread during the formation of certain predetermined stitches and to remain inoperative during the formation of certain other predetermined stitches, and means forming an operative connection between the work-holder-operating mechanism and the pull-off whereby the time of action of the latter will be automatically changed upon the shifting of the work-holder for presenting the opposite sides of the buttonhole to the stitching mechanism.

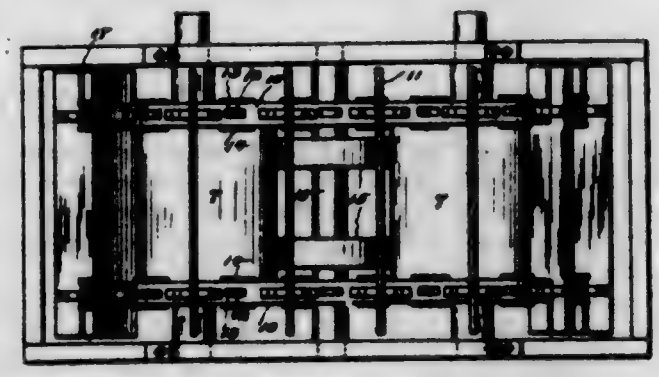
16. In a sewing-machine, the combination with the stitch-forming mechanism, of a rock-shaft provided with a pull-off arm, means for movably holding the rock-shaft with its said pull-off in an adjustable stationary position, and means for operating the rock-shaft to cause the pull-off to act upon the bobbin-thread.

17. In a sewing-machine, the combination with the stitch-forming mechanism, of a rock-shaft provided with a pull-off arm and with a second operating-arm, said operating-arm being provided with an adjusting-screw for engagement with a stationary part of the machine, a spring for movably holding said operating-arm in a normal stationary position with its screw in contact with said stationary part, and a driving-shaft having a cam or eccentric thereon for operating said rock-shaft and connected pull-off.

18. In a buttonhole-sewing machine, employing an upper and an under thread, a throat-plate, and means for feeding the material, in combination with stitch-forming mechanism including a bobbin, and a thread-pull-off operatively mounted beneath the throat-plate and adapted to engage the under thread on its way from the bobbin to the material, means for actuating the thread-pull-off whereby a predetermined quantity of under thread is drawn from the bobbin at alternate stitches, and means for reversing the action of said pull-off for overseaming the respective sides of the buttonhole.

19. In a buttonhole-sewing machine, using an upper and an under thread, a throat-plate, and means for feeding the material, in combination with stitch-forming mechanism including a bobbin, and a thread-pull-off operatively mounted beneath the throat-plate and adapted to engage the under thread on its way from the bobbin to the material, and means for actuating said pull-off whereby a predetermined quantity of under thread is drawn from the bobbin at alternate stitches only.

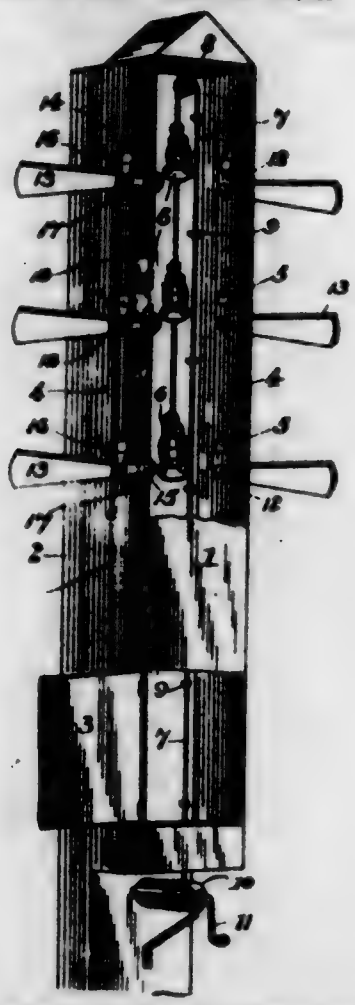
805,871. **PROPELLER.** FRANCIS W. MCCAIN, Midway, W. Va. Filed Oct. 8, 1904. Serial No. 227,661.



Claim.—1. In a propeller for vessels, the combination with flexible metal bands and means to drive the same, of paddles having at the ends slots at the median line through which the bands extend, straps extending around the ends of the paddles and fastened to the bands, and braces between the straps and bands.

2. In a propeller for vessels, the combination with pairs of wheels having a series of notches in the rims, and drums between the wheels, of endless bands which pass around said wheels, and paddles which are carried by the bands at the same distance apart as the notches, which paddles extend inwardly from the bands, and enter the notches to contact with the drums.

805,872. **RAILWAY-SIGNAL.** CHARLES M. MCGUIRE, Beaverdam, Va. Filed Mar. 20, 1905. Serial No. 251,108.



Claim.—1. In a railway-signal, the combination with a support, a light, an arm pivoted on the support and having a hub, operating means for the arm engaging the hub, projections carried by the hub, and braces connected to said projections and the support.

2. In a railway-signal, a casing provided with a bull's-eye, an arm pivoted on the outside of the casing, a hub carried by the arm, operative means connected to the hub, projections carried by the hub, and braces connected to said projections and the casing.

3. In a railway-signal, a casing provided with a bull's-eye, an arm pivoted on the outside of the casing, a hub carried by the arm, operative means for the arm connected to the hub, means arranged on the casing for guiding said operative means, projections carried by the hub, and braces connected to said projections and the casing.

4. In a railway-signal, a casing provided with openings, a plurality of semaphore-arms pivoted to the casing and provided with bull's-eyes designed to register with the openings, said casing also provided with guides, and lamps traveling on said guides.

5. In a railway-signal, a casing provided with openings, a plurality of semaphore-arms pivoted to the casing and provided with bull's-eyes designed to register with the openings, said casing also provided with guides, lamps traveling on said guides, and operative means for said lamps.

6. In a railway-signal, a casing provided with a plurality of vertically-spaced openings, a plurality of semaphore-arms pivoted to the casing each adjacent one of said openings and provided with bull's-eyes designed to register with said openings, guides arranged inside of said casing, and a plurality of lamps operatively related to said guides and adapted to be brought respectively into alinement with the openings.

7. In a railway-signal, a casing provided with a plurality of vertically-spaced openings, a plurality of semaphore-arms pivoted to the casing each adjacent one of said openings and provided with bull's-eyes designed to register with said openings, guides arranged inside of said casing, a plurality of lamps traveling upon said guides, an endless cable carrying the lamps, and a windlass for raising and lowering the lamps through the medium of said cable.

8. In a railway-signal, a casing provided with openings, guides arranged within the casing, a series of lamps having engagement with said guides, and operative means for the lamps.

9. In a railway-signal, a casing provided with a plurality of vertically-spaced openings, a plurality of lamps within the casing and adapted to be brought respectively into alinement with the openings, a plurality of semaphore-arms pivoted to the casing each adjacent one of the openings and provided with bull's-eyes designed to register with the latter.

10. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing also provided with a pair of oppositely-disposed vertical guides, and a series of lamps operatively related to said guides.

11. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing provided also with guides, and lamps traveling on said guides.

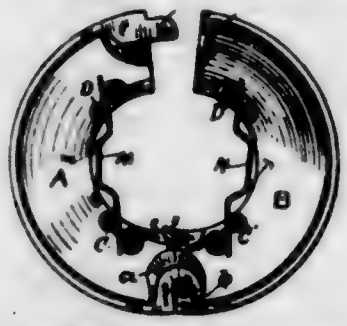
12. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing provided also with guides, and lamps having recesses for sliding engagement with said guides.

13. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing also provided with guides, lamps traveling on said guides, and operative means for said lamps.

14. In a railway-signal, a casing provided with a bull's-eye opening, a semaphore pivoted upon the casing and provided with a bull's-eye adapted to register with the opening, said casing also provided with guides arranged on the interior thereof, lamps traveling upon said guides, an endless cable carrying said lamps, and a windlass for raising and lowering the lamps through the medium of said cable.

15. In a railway-signal, a casing provided with interior guides, a series of lamps having recesses for engagement with said guides, and operative means for the lamps.

805,873. **CEILING-PLATE.** JUDSON NEAL, Southington, Conn., assignor to Peak, Stowe & Wilcox, Southington, Conn., a Corporation of Connecticut. Filed Dec. 8, 1903. Serial No. 134,991.



Claim.—1. A ceiling-plate formed in two members or halves and having a central aperture; a lug on one member at one side of the aperture overlying the other member, a latch on the same member at the opposite side of said aperture adapted to engage with a web on the other member to lock the parts together against the spring of the metal; and means for producing a strain within the members transverse to their plane, comprising an ear on the other member overlying the first-mentioned member between said lug and the aperture.

2. In a ceiling-plate formed in two members or halves and having a central aperture, the combination with a pair of locking parts at one side of said aperture to lock the members together against the spring of the metal; of a pair of lugs at the opposite side of the aperture constituting a hinge-joint, and an ear located between said pair of lugs and the aperture, said ear projecting from one member and riding over the other, whereby said pair of lugs and ear tend to produce a vertical displacement of the latch and web when forced into engagement.

3. In a ceiling-plate formed in two members or halves and having a central aperture, the combination with a pair of locking parts at one side of said aperture, one of said parts being a web standing on one member and the other a latch projecting from the opposite member and having a radial groove on its lower face adapted to receive

said web; of a pair of lugs at the opposite side of the aperture constituting a hinge-joint, and an ear located between said pair of lugs and the aperture, said ear projecting from one member and riding over the other, whereby said pair of lugs and ear tend to produce a vertical displacement of the latch and web when forced into engagement.

4. In a ceiling-plate formed in two members or halves and having a central aperture, the combination with a pair of locking parts at one side of said aperture, one of said parts being a web standing on one member and the other a latch projecting from the opposite member and having a radial groove on its lower face adapted to receive said web; of a pair of lugs at the opposite side of the aperture constituting a hinge-joint, and a pair of ears located between said pair of lugs and the aperture, one of said ears projecting over the other and riding thereon, whereby said pair of lugs and ears tend to produce a vertical displacement of the latch and web when forced into engagement.

5. In a ceiling-plate formed in two members or halves and having a central aperture, the combination with a pair of locking parts at one side of said aperture, one of said parts being a web standing on one member and the other a latch projecting from the opposite member and having a radial groove on its lower face adapted to receive said web; of a pair of lugs at the opposite side of the aperture constituting a hinge-joint, and a pair of ears located between said pair of lugs and the aperture, one of said ears projecting over the other and having a beveled lower face riding frictionally thereon, whereby said pair of lugs and ears tend to produce a vertical displacement of the latch and web when forced into engagement.

6. In a ceiling-plate formed in two members or halves and having a central aperture, the combination with a pair of locking parts at one side of said aperture, one of said parts being a web standing on one member and the other a latch projecting from the opposite member and having a beveled lower face provided with a radial groove adapted to receive said web; of a pair of lugs at the opposite side of the aperture constituting a hinge-joint, one of said lugs projecting from the last-named member and riding over the other member, and a pair of ears located between said pair of lugs and the aperture, one of said ears projecting in opposed relation to the projecting lug and riding frictionally over the other ear, whereby said lugs and ears tend to produce a vertical displacement of the latch and web when forced into engagement.

7. A ceiling-plate formed in two members or halves and having a pair of lugs at one side thereof constituting a hinge-joint, coöperating parts at the other side serving as a latch to lock the members together against the spring of the metal, and means for producing a strain within the members when locked transverse to the plane thereof, comprising a pair of coacting ears located adjacent to the hinge-joint and between said joint and said latch.

8. A ceiling-plate formed in two members or halves having a central aperture, a pair of coöperating lugs at one side of said aperture, coöperating parts on the members at the opposite side of said aperture serving as a latch to lock the members together against the spring of the metal, and a pair of coacting ears located adjacent to said lugs between said lugs and said latch said ears and lugs being so arranged that they are adapted to produce a strain within the members transverse to the plane thereof, when said members are locked.

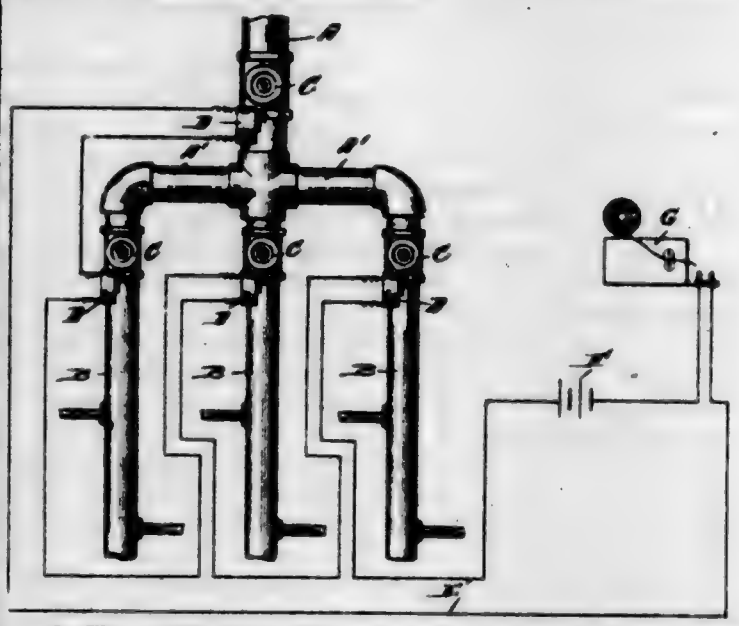
9. A ceiling-plate formed in two members or halves and having a central aperture; a lug and a latch on one member at opposite sides of said aperture, said lug overlying the second member and said latch engaging a web thereon to lock the parts together against the spring of the metal; and means for producing a strain within the members transverse to the plane thereof, comprising an ear on the second member overlying the first-mentioned member between the lug and the aperture, substantially as described.

805,874. AUTOMATIC FIRE-EXTINGUISHER SYSTEM.

JAMES G. NOLEN, Chicago, Ill., and JOHN D. NOLEN, Toledo, Ohio; said John D. Nolen assignor to said James G. Nolen; said James G. Nolen assignor of one-half to Frank B. Cook, Chicago, Ill. Filed Sept. 11, 1902. Serial No. 122,926.

Claim.—1. The combination with a valve of a fire-extinguisher system, of a transmitter adapted to transmit a plural-impulse signal, a signal-responsive device, suitable circuit connections for said transmitter and responsive device, and means for actuating said signal-transmitter to cause it to transmit a signal and condition it for another signaling operation, said means being controlled by the valve for operation upon the movement of said valve from one position to another.

2. The combination with a valve of a fire-extinguisher system, of a transmitter adapted to transmit a plural-impulse signal, a signal-recorder, suitable circuit connections for said transmitter and recorder, and suitable connections between said transmitter and valve whereby movement of the valve from one position to another conditions said transmitter to transmit a signal and condition itself for transmitting a second signal, and restoration of the valve conditions the parts for repetition of said action.

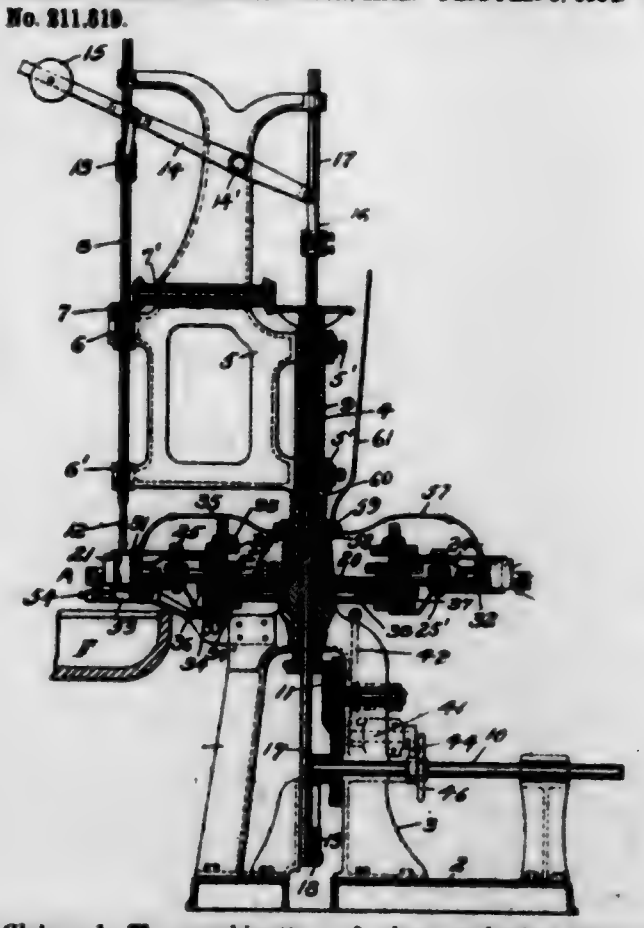


3. The combination with a valve of an automatic signal device arranged adjacent thereto having a spring-controlled oscillating handle, means operatively associated with said valve arranged to contact with said handle to move it a predetermined distance in one direction only upon the operation of the valve in one direction, and to escape said handle upon the operation of the valve in another direction, an electric circuit including in series therein said signal device, a source of electrical supply and an indicator responsive to the action of said signal device.

4. The combination with a valve having a vertically-movable stem and a signal device arranged adjacent to the valve having a spring-controlled oscillating handle, of an arm secured to the valve-stem, and a finger yieldable in one direction, mounted on said arm and arranged to project into the path of oscillation of the handle of the signal device, whereby said handle will be moved by the arm and finger upon the movement of the valve-stem in one direction only.

805,875. MACHINE FOR GATHERING AND DELIVERING GLASS.

FRANK O'NEILL, Detroit, Mich. Filed June 9, 1904. Serial No. 211,819.



Claim.—1. The combination of glass-gathering means and gather-transferring mechanism movable in planes which intersect,

whereby the transferring mechanism is adapted to engage and remove the gather.

2. The combination of vertically-movable glass-gathering means, and horizontally-movable gather-transfer mechanism adapted to intersect the plane of movement of the gathering means and remove the gather.

3. The combination of a vertically-movable and revoluble glass-gathering tool, and a gather-transfer device adapted to remove the gather from the gathering-tool.

4. The combination of means for drawing a gather of glass, and a gather-transfer receptacle adapted to receive and remove the gather from the drawing means.

5. The combination of means for drawing a column of molten glass, and glass-embracing transfer mechanism adapted to receive and remove a portion of the drawn column.

6. The combination of means for drawing a column of molten glass, and a molten-glass transfer-receptacle adapted to receive and remove a portion of the drawn column.

7. The combination of means for drawing a column of molten glass, a molten-glass transfer-receptacle adapted to receive a portion of the column, and means for severing from the column the glass received by the receptacle.

8. The combination of means for drawing a column of molten glass, a glass-embracing transfer device adapted to embrace a portion of the column, and means for severing the column above and below the transfer device.

9. The combination of glass-gathering means, and an intermittently-movable transfer device adapted to intersect the plane of movement of the gathering means, the transfer device being constructed and arranged to pause in its movement when adjacent the gathering means and during the operation of the latter and to engage and remove the gather at the completion of the gathering operation.

10. The combination of means for drawing a column of molten glass, a vertically-divided transfer-receptacle adapted to embrace a portion of the column, and means for severing from the column the glass thus embraced.

11. The combination of a gathering-iron, means for rotating the iron and for moving it toward and from a bath of molten glass, and a transfer device adapted to engage the gather after the iron has moved from the bath.

12. The combination of a gathering-iron, means for rotating the iron and for moving it toward and from a bath of molten glass, transfer mechanism adapted to engage a portion of the gather, and means for severing from the gather the portion thereof thus engaged.

13. The combination of a divided transfer device, a gathering-iron movable between the members of said device toward and away from a bath of molten glass, means for closing together the members of the transfer device after the iron has moved from the bath thereby engaging the gather, and means for moving the transfer device out of the line of movement of the gathering-iron.

14. The combination of glass-drawing means, and a transfer device adapted to embrace a portion of the gather, the transfer device being in separable parts formed on their adjacent sides with depressions which register when the parts are closed together, the depressions opening through the upper and lower ends of said parts.

15. The combination of glass-drawing means, and a transfer device adapted to embrace a portion of the gather, the transfer device being formed in separable halves having oval depressions which register when the halves are closed together and which open through the upper and lower ends of the same.

16. The combination of glass-drawing means, a transfer device adapted to embrace a portion of the gather, the transfer device being in separable parts formed on their adjacent sides with depressions which register when the parts are closed together and which open through the upper and lower ends of the same, and glass-severing means above and below the transfer device.

17. The combination of glass-gathering means, and a plurality of molten-glass-transfer devices adapted successively to engage and remove the gather.

18. The combination of glass-drawing means, and a succession of intermittently-movable transfer devices adapted to intersect the plane of movement of the glass-drawing means, each of said devices being constructed and arranged to pause in its movement when adjacent the gathering means and during the operation of the latter and to automatically engage and remove the gather at the completion of the gathering operation.

19. The combination of glass-gathering means, a molten-glass-transfer device adapted to receive and remove the gather from the gathering means, and means for causing the transfer device to discharge the gather.

20. The combination of upwardly and downwardly movable glass-gathering means, laterally-movable transfer mechanism constructed and arranged to automatically engage and remove the gather from the gathering means, and means for causing the transfer device to automatically discharge the gather.

21. The combination of glass-drawing means, and a succession of transfer devices adapted successively to intersect the plane of movement of the glass-drawing means and automatically engage the gather and remove the same from the drawing means.

22. The combination of glass-gathering means, a gather-transfer device consisting of parts movable toward and from each other, means for automatically closing the parts of said device around a gather, means for moving bodily the transfer device, and mechanism operating to automatically open the transfer device for discharging the gather

23. In a machine of the character described, a transfer device consisting of parts movable toward and from each other and recessed on their adjacent sides to form a glass-holding cavity when closed around a gather of molten glass, said recesses opening through the opposite ends of said parts, and means for severing the portions of the gather extending through said open ends.

24. The combination of vertically-movable and revoluble glass-gathering means, and a transfer device consisting of parts recessed on their adjacent faces and constructed and arranged to close around the rotating gathers, the recesses of said parts tapering toward and opening through opposite ends of said parts and combining to form openings of oval shape

25. The combination of vertically-movable glass-gathering means, a horizontally-movable carrier, and a plurality of gather-transfer devices mounted thereon and adapted successively to remove the gather from the gathering means.

26. The combination of glass-gathering means, a horizontally-rotatable carrier, and a circular series of gather-transfer devices mounted on the carrier and adapted successively to remove the gather from the gathering means.

27. The combination of a carrier, a series of vertically-divided transfer devices mounted thereon, glass-gathering means adapted to position a gather between the members of each of said devices while the same are separated, and mechanism for closing each of the transfer devices after the gather has been positioned therein.

28. In a machine of the character described, a horizontally-rotatable carrier, a series of recessed and vertically-divided transfer devices mounted thereon, mechanism for closing the successive devices around gathers of molten glass and for subsequently opening the same to release the gathers, and mechanism operating to sever the gather above and below said devices when they close therearound.

29. In a machine of the character described, intermittently-movable glass-gathering means, and a transfer device movable intermittently and alternately with the gathering means and constructed and arranged to engage and transfer the gather.

30. In a machine of the character described, a carrier, a series of transfer devices mounted on the carrier and adapted successively in one position of the carrier to engage a gather and in another position to disengage the same, and reciprocating actuating means adapted in one movement thereof to operate some of said devices for disengaging and engaging their respective gathers without moving the carrier, and when moving in the opposite direction constructed and arranged to advance the carrier without operating the transfer devices.

31. In a machine of the character described, a rotatable carrier, a series of transfer devices thereon adapted to close and open for embracing and releasing gathers of molten glass, gears operatively connected to said devices, an oscillating actuating-wheel adapted to operate said gears for opening and closing said devices, and means for operating the carrier.

32. In a machine of the character described, a rotatable carrier, a series of transfer devices thereon adapted to open and close for embracing and releasing gathers of molten glass, shears above and below the transfer devices for severing the gathers at said points, separate gears for operating the shears and for opening and closing the transfer devices, and actuating means for both of said gears.

33. In a machine of the character described, a rotatable carrier, a circular series of vertically-divided transfer-receptacles thereon, a pair of levers for each receptacle fulcrumed between their ends and at their outer ends secured to the receptacle-sections, a rotatable cam operatively connected to the inner ends of each pair of levers, a gear rotatable with each cam, oscillating wheel 38 concentric with

the carrier, and teeth on said wheel adapted to engage said gears for opening and closing the transfer devices.

34. In a machine of the character described, rotatable carrier 20, a circular series of vertically-divided transfer-receptacles 21 thereon, levers 24 fulcrumed between their ends and at their outer ends connected to the receptacle-sections, shears 31 and 32 operative above and below the receptacle, cam 28 operatively connected to the inner ends of the shears, gear 36 for turning the cam, cams 33 and 34 operatively connected, respectively, to shears 31 and 32, gear 37 for rotating cams 33 and 34, the latter being rotatable together and independently of cam 28, oscillating wheel 38, teeth 39 and 39' on said wheel for operating gear 36, and teeth 40 thereon for operating gear 37.

35. The combination of an upright gathering-iron, means for rotating the iron, a lever for moving the iron in the plane of its axis while rotating, and mechanism for intermittently actuating the lever.

36. The combination of an upright gathering-iron, means for rotating the iron, a lever for moving the iron in the plane of its axis while rotating, a rod connected to the lever, and a cam for reciprocating the rod.

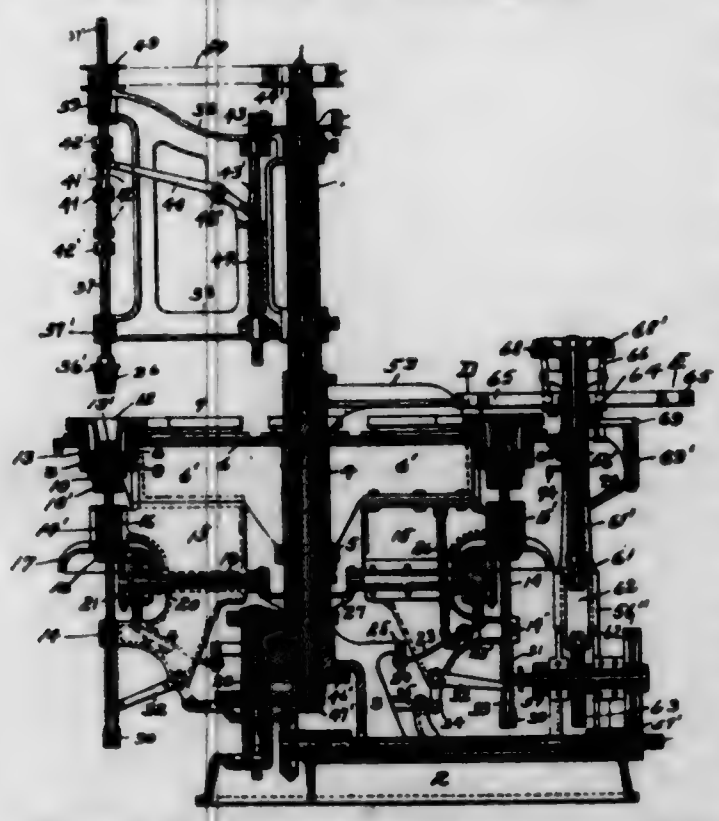
37. The combination of a vertical gathering-iron, means for rotating the iron, and continuously-moving actuating mechanism for the iron constructed and arranged to lower and raise the iron while rotating with a pause between the raising and lowering movements thereof.

38. The combination of a vertical gathering-iron, means for rotating the iron, a lever connected to the iron for raising and lowering it while rotating, an actuating-rod connected to the lever, and a cam operatively connected to the rod and having a concentric portion for causing the iron to move intermittently.

39. In a machine of the character described, an upright gathering-iron, a gear through which the iron is splined, an upright tubular shaft operatively connected to said gear, means for driving the tubular shaft, a rod movable longitudinally in the tubular shaft, a lever operatively connecting said rod and the gathering-iron, and means for intermittently reciprocating the rod.

40. In a machine of the character described, an upright tubular post, a laterally-projecting bracket on the post, a vertically-movable gathering-iron supported by the bracket, and mechanism extending through the hollow post and operatively connected to the iron for rotating and vertically reciprocating the same.

805,876. GLASS-FINISHING APPARATUS. FRANK O'NEILL, Detroit, Mich. Filed Oct. 21, 1904. Serial No. 229,473.



Claim.—1. Glass-finishing apparatus comprising a ware-carrier, ware-shaping mechanism, ware-heating means above the carrier and operative in advance of the shaping mechanism, and ware raising and lowering mechanism constructed and arranged to hold the ware elevated while passing the heating means and to hold the same in lowered position when operated upon by the shaping mechanism.

2. In apparatus for finishing formed glass articles, the combination of a hollow holder adapted to receive the formed article and corresponding to the exterior shape thereof, and a finishing-tool corresponding to the contour of the interior of the formed article, the tool and holder coöperating to finish the interior and exterior of the article.

3. In apparatus for finishing formed glass articles, the combination of a hollow holder open at one end to receive and discharge a formed article and corresponding to the exterior shape of the latter, and a finishing-tool adapted to enter the open end of the holder and corresponding to the interior contour of the formed article, the tool and holder coöperating to finish the interior and exterior of the article.

4. In apparatus for finishing formed glass articles, the combination of a hollow holder adapted to receive a formed article and corresponding in shape to the exterior of the article, and a finishing-tool corresponding to the interior contour of the article and having a projection which overhangs and operates on the edge of the formed article, the finishing-tool and holder coöperating to finish the interior and exterior of the article and the edge thereof.

5. In apparatus for finishing formed glass articles, the combination of a hollow holder conforming to the shape of the exterior of the article, a finishing-tool operative on the interior of the article and adapted to coöperate with the holder for finishing the interior and exterior thereof, heating means, and means for projecting the article from the holder while being heated.

6. Glass-finishing apparatus comprising a carrier, a hollow ware-holder thereon conforming to the shape of the exterior of the ware, a shaping-tool operative on the interior of the ware, ware-heating means in advance of the shaping-tool, and ware raising and lowering mechanism operating to elevate the ware within the holder while passing the heating means.

7. Glass-finishing apparatus comprising a carrier, a vertically-movable ware-holder rotatively mounted on the carrier, ware-shaping means, ware-heating means above the carrier and in advance of the shaping means, means for rotating the holder for the heating and shaping operations, and mechanism for moving the holder vertically while the same is rotating.

8. Glass-finishing apparatus comprising ware-transferring mechanism, heating means, a shaping means, a carrier movable past the transfer mechanism heating means and shaping means successively, a ware-holder rotatably mounted on the carrier, and holder-rotating mechanism operative while the holder is passing the heating means and shaping means.

9. In glass-finishing apparatus, a hollow receiver adapted to rotate on a vertical axis, a hollow-ware holder removably fitting within and rotatable with the receiver, and a shaping-tool.

10. Glass-finishing apparatus comprising a horizontally-movable ware-carrier, a vertically reciprocating and rotating shaping-tool, and actuating means common to the carrier and tool for moving the former and for reciprocating and rotating the latter.

11. Glass-finishing apparatus comprising a horizontally-rotatable ware-holder, ware-heating means, a vertically reciprocating and rotating shaping-tool, and means for rotating the holder at different speeds for the heating and shaping operations.

12. Glass-finishing apparatus comprising a carrier, a series of vertically-movable ware-supports on the carrier, support-elevating means, a shaping-tool, and ware-heating means to which the ware is presented while elevated before reaching the shaping-tool.

13. Glass-finishing apparatus comprising a rotatable ware-carrier, a circular series of vertically-movable ware-supports on the carrier, a cam around which the supports are adapted to be moved by the carrier, support-lifting means in engagement with the cam, and finishing mechanism.

14. Glass-finishing apparatus comprising a rotatable ware-carrier, a circular series of vertically-movable ware-supports on the carrier, support-lifting levers rotatable with the carrier, a cam which the levers are adapted to engage for actuating the same, and ware-finishing means.

15. Glass-finishing apparatus comprising a rotatable ware-carrier, a circular series of ware-supports revolubly mounted on the carrier, support-rotating mechanism common to all of the supports, and ware-finishing means.

16. Glass-finishing apparatus, comprising a rotatable carrier, a circular series of ware-holders rotatably mounted on the carrier, a gear-wheel concentric with the carrier, gearing operatively connecting all of the holders with said gear-wheel, and finishing mechanism.

17. Glass-finishing apparatus comprising a rotatable carrier, a circular series of vertically-movable ware-supports revolubly mounted on the carrier, a gear-wheel concentric with the carrier, gearing

interposed between each of said supports and said gear-wheel, a cam around which the supports are moved by the carrier, support-lifting means actuated by said cam, and ware-finishing mechanism.

18. Glass-finishing apparatus comprising a ware-carrier, ware-finishing means, and automatically-operating finished-ware-transferring mechanism which the carrier passes after leaving the finishing means, the transfer mechanism being constructed and arranged to remove the finished ware from the carrier.

19. Glass-finishing apparatus comprising a ware-carrier, ware-finishing means, and an automatically-operating ware-transferring mechanism coöperating with the carrier and constructed and arranged to move the ware to and from the latter.

20. Ware-finishing apparatus comprising a rotatable ware-carrier having a circular series of ware-stations, ware-heating means and ware-shaping mechanism to which the several ware-stations of the carrier are successively presented, and ware-transferring mechanism.

21. Glass-finishing apparatus comprising a carrier having depressed ware-stations, ware-supports movable vertically in said stations, ware-heating means, ware-shaping mechanism, means for raising the supports after passing the shaping mechanism for the purpose of elevating the ware, and ware-transferring mechanism

22. Glass-finishing apparatus comprising a carrier having depressed ware-stations, vertically-movable ware-supports in said stations, ware-heating means, ware-shaping mechanism, means for raising the supports before and after passing the shaping mechanism, and ware-transferring mechanism.

23. The combination of two horizontally-separated ware-holding positions or stations, finishing mechanism which includes one of said stations, and vertically and horizontally movable ware-transfer mechanism constructed and arranged to lift ware from one position or station and move it horizontally to and lower it at the other position or station

24. The combination of glass-finishing mechanism having a ware-support, an unfinished-ware-delivery station, and ware-transfer mechanism constructed and arranged to transfer the unfinished ware from said station to the support of the finishing mechanism.

25. The combination of glass-finishing mechanism, an unfinished-ware-delivery station at one side of the finishing mechanism, and vertically and horizontally movable transfer mechanism constructed and arranged to lift the unfinished ware from said delivery-station and transfer the same to the finishing mechanism.

26. The combination of glass-finishing mechanism, a finished-ware-receiving station apart from the finishing mechanism, and transfer mechanism constructed and arranged to lift the ware from the finishing mechanism and transfer the same to the finished-ware station.

27. The combination of finishing mechanism having an intermittently-movable ware-support, a ware-delivering station, and intermittently-movable ware-transfer mechanism constructed and arranged to transfer the ware from the delivery-station to the ware-support, the movement of the transfer mechanism alternating with the movement of said holder.

28. The combination of finishing mechanism having an intermittently-movable ware-support, a receiving-station, and intermittently-movable ware-transfer mechanism constructed and arranged to transfer the ware from the ware-support to the receiving-station, the movement of the transfer mechanism alternating with the movement of the ware-support.

29. The combination of finishing mechanism having a ware-support, a ware-delivering station, a ware-receiving station, and ware-transferring mechanism interposed between the support and said stations and constructed and arranged to transfer ware from the delivery-station to said support and to transfer the ware from the support to the receiving-station.

30. The combination of finishing mechanism having a ware-carrier, a ware-delivering station, a ware-receiving station, and rotatable transfer mechanism positioned between the finishing mechanism and said stations, said mechanism having four outwardly-projecting ware-supports adapted to turn above the carrier and said stations.

31. The combination of finishing mechanism having a ware-support, a ware-station adjacent said support, and vertically and horizontally-movable ware-grasping mechanism adapted to grasp the ware and move the same between the support and said station.

32. The combination of finishing mechanism having a ware-support, ware delivering and receiving stations, and transfer mechanism rotatable between the finishing mechanism and said stations, the transfer mechanism having outwardly-projecting automatically-operating ware grasping devices adapted to move the ware between the support and said stations.

33. The combination of finishing mechanism having a ware-support, ware delivering and receiving stations, and vertically-movable and horizontally-rotatable transfer mechanism adapted to overhang the support and said stations, said transfer mechanism having automatically-operating ware-grasping devices adapted to move the ware between the support and said stations.

34. The combination of finishing mechanism having a ware-support, ware delivering and receiving stations, and vertically-movable and horizontally-rotatable transfer mechanism overhanging the finishing mechanism and said stations, the transfer mechanism having projecting ware-grasping tongs adapted to grasp the ware and move it between the support and said station, and means for operating said tongs.

35. The combination of ware-finishing mechanism which includes a carrier having ware-stations, ware delivering and receiving stations adjacent the carrier, and rotatable transfer mechanism having four outwardly-projecting ware-sustaining devices movable over all of said stations, and operating means for said devices constructed and arranged to cause the diametrically opposite devices to sustain the ware and the other diametrically opposite devices to release the ware.

36. The combination of ware-finishing mechanism which includes a carrier having ware-stations, ware delivering and receiving stations adjacent the carrier, and rotatable transfer mechanism having outwardly-projecting ware-sustaining devices movable over all of said stations, and operating means for said devices whereby two of said devices simultaneously engage articles on the carrier and the delivery-table and two other of said devices release ware on the carrier and at the said receiving-station, and vice versa.

37. The combination of finishing mechanism having a ware-support, ware delivering and receiving stations adjacent the support, and transferring mechanism having ware-grasping devices adapted to move over the support and said stations, means for causing two of said devices to simultaneously grasp ware on the support and at one of said stations, and operating means for the transfer mechanism constructed and arranged to elevate, turn, and lower the transfer mechanism while thus grasping the ware.

38. The combination of a ware-support, ware delivering and receiving stations, transfer mechanism having outwardly-projecting devices adapted to overhang the support and said stations, each of said devices being adapted to close and open for the purpose of grasping and releasing the ware, operating means adapted to cause two of said devices to grasp ware on the support and one of said stations, and means for elevating, turning, and lowering the transfer mechanism while the ware is thus held.

39. The combination of ware-finishing mechanism, and vertically and horizontally movable ware-transferring mechanism adapted to move the ware with relation to the finishing mechanism.

40. The combination of finishing mechanism having depressed ware-holding stations, and vertically and horizontally movable ware-transferring mechanism adapted to move the ware vertically and horizontally with relation to the finishing mechanism

41. The combination of separated ware-stations, finishing mechanism which includes one of said stations, transfer mechanism adapted to turn on a vertical axis, the transfer mechanism having projecting ware-sustaining devices adapted to move the ware from one station to another, and means for raising and lowering the transfer mechanism.

42. The combination of ware-stations, finishing mechanism which includes one of said stations, transfer mechanism having outwardly-projecting ware-clasping devices adapted to close and open for engaging and disengaging the ware, operating means for moving the supports vertically and horizontally with relation to the stations, and means operating to open and close the ware-clamping devices while the latter are in lowered position.

43. The combination with ware-finishing mechanism, of ware-transferring mechanism comprising a movable support, ware-clasping devices carried by and projecting from the support, and operating means for said devices.

44. The combination with ware-finishing mechanism, of ware-transferring mechanism comprising a movable support, ware-grasping tongs carried by and movable with the support, and means operating to engage and disengage the tongs from the ware.

45. The combination with ware-finishing mechanism, of ware-transferring mechanism comprising a movable support, and ware-grasping devices carried by and projecting from the support, each of said devices consisting of coöperating spring-arms adapted normally

to spring toward each other for grasping the ware, and means for springing the said arms apart for releasing the ware.

46. The combination of ware-finishing mechanism, a carrier therefor having depressed ware-stations, vertically-movable ware-sustaining bottoms for said stations, and ware-transferring mechanism.

47. The combination of finishing mechanism, a horizontally-movable ware-carrier therefor, transfer mechanism, means for moving the transfer mechanism horizontally simultaneously with the movement of the carrier, and mechanism for moving the transfer mechanism vertically while the carrier is at rest.

48. The combination of ware-finishing mechanism, a carrier therefor, transfer mechanism, actuating mechanism for imparting intermittent horizontal movement to the carrier and transfer mechanism simultaneously, and means for raising and lowering the transfer mechanism while the carrier is at rest.

49. The combination of ware-finishing mechanism, a carrier therefor, transfer mechanism including a plurality of outwardly-projecting ware-gripping devices adapted to close and open for engaging and releasing the ware, mechanism for imparting intermittent movement simultaneously to the carrier and transfer mechanism in a horizontal direction, means for moving the transfer mechanism vertically while the carrier is at rest, and means operative when the transfer mechanism is in lowered position for closing certain of said ware-gripping devices and for opening other of said devices.

50. The combination of finishing mechanism, a horizontally-rotatable ware-carrier therefor, a horizontally-rotatable transfer mechanism having radially-projecting ware-gripping devices movable over the carrier and adapted to close and open for engaging and disengaging the ware, means for intermittently and simultaneously rotating the carrier and transfer mechanism, means for raising and lowering the transfer mechanism while the carrier is at rest, and means for closing and opening the ware-gripping devices of the transfer mechanism while the latter is in lowered position.

51. The combination of ware-finishing mechanism, a carrier therefor having ware-receiving depressions, ware-supports movable vertically in the carrier depressions, and transfer mechanism constructed and arranged to deposit ware on said supports while they are in raised position.

52. The combination of ware-finishing mechanism, a carrie therefor having ware-receiving depressions, ware-supports movable vertically in the carrier depressions, and transfer mechanism constructed and arranged to engage and remove ware from said supports while they are in raised position.

53. The combination of ware-finishing mechanism, a carrier therefor having ware-receiving depressions, ware-supports movable vertically in the carrier depressions, transfer mechanism having a plurality of ware-carrying devices, and operating means for the carrying devices constructed and arranged to release an article positioned over one of said supports and to simultaneously engage an article positioned on another support.

54. The combination of ware-finishing mechanism, a carrier therefor having ware-receiving depressions, ware-supports movable vertically in the depressions, a series of horizontally-rotatable ware-gripping devices movable over the depressions, and operating means for said devices constructed and arranged to release an article positioned over one of said supports and to engage for subsequent removal an article on another of said supports.

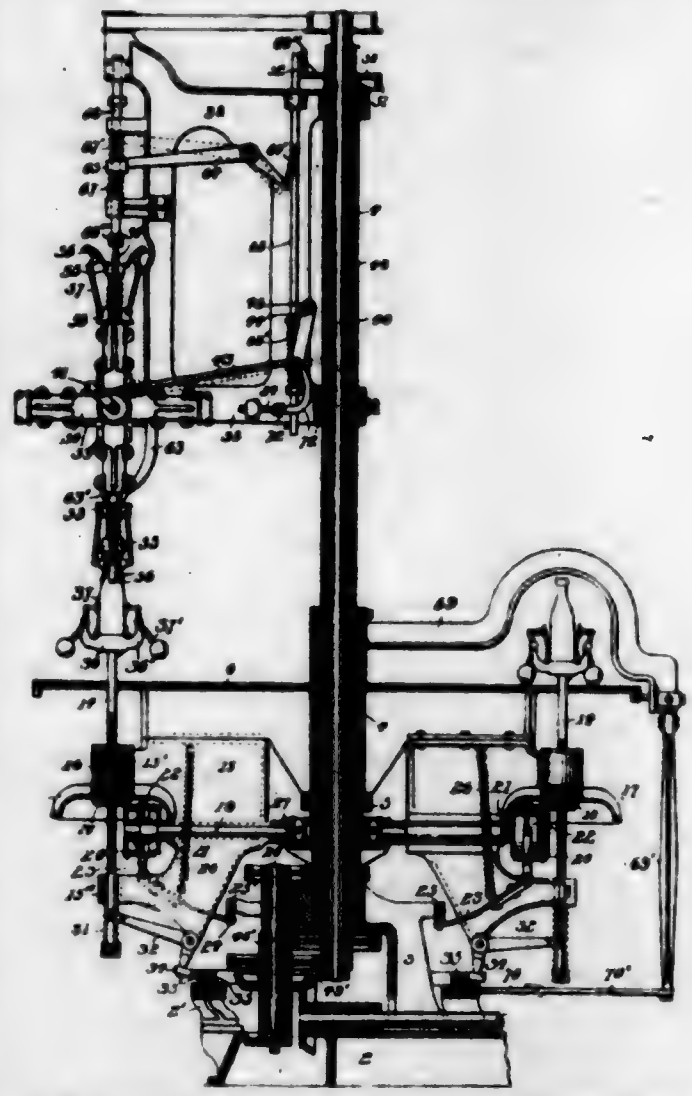
805,877. BOTTLE-FINISHING MACHINE. FRANK O'NEILL, Detroit, Mich. Filed July 12, 1905. Serial No. 269,538.

Claim.—1. In a bottle-finishing machine, neck-forming mechanism having devices for operating on the interior and exterior of a bottle-neck, a series of bottle-holders movable intermittently past the forming mechanism, and means operating while the holders are at rest for causing the neck-forming mechanism and one of the holders to coöperate in finishing a bottle.

2. In a bottle-finishing machine, an intermittently-movable carrier, neck-forming mechanisms on the carrier and adapted successively to be moved into operative position, each of said mechanisms having devices for operating on the interior and exterior of a bottle-neck, a bottle-holder, and means operating while the carrier is at rest for causing the operative neck-forming mechanism and the bottle-holder to coöperate in finishing a bottle.

3. A holder for a bottle-finishing machine comprising a rotatable support, and bottle-securing means carried thereby and adapted to be actuated by centrifugal force.

4. A holder for a bottle-finishing machine comprising a rotatable support, bottle-securing devices hinged thereto, and pivoted weighted arms carried by the support and connected to the bottle-securing devices, the arms being actuated by centrifugal force.



5. Bottle-finishing mechanism comprising a forming device, a series of bottle-holders movable intermittently past the forming device with one of said holders alining therewith at each pause in the movement of the holders, and means operating while the holders are at rest for raising and lowering the holder alining with the forming device.

6. Bottle-finishing mechanism comprising a forming device adapted to close and open, a series of bottle-holders movable intermittently past the forming device with one of said holders alining therewith at each pause in the movement of the holders, means operating while the holders are at rest for raising and lowering the holder alining with the forming device, and means for closing and opening the forming device while the holder is raised.

7. Bottle-finishing mechanism comprising a depending forming device, a series of bottle-holders movable horizontally beneath and in line with said device, means for intermittently moving the holders with one of the same in line with the forming device at each pause in the movement of said devices, and means operating to raise and lower the alining-holder while the holders are at rest.

8. Bottle-finishing mechanism comprising a depending forming device adapted to close and open around the bottle to be finished, an intermittently-movable series of bottle-holders beneath and adapted successively to aline with the forming device at each pause in their movement, means operative while the holding devices are at rest for raising and lowering the alining holding device, and means operating while said device is raised for closing and opening the forming device.

9. Bottle-finishing mechanism comprising an intermittently-movable carrier, forming devices on the carrier and adapted successively to be moved thereby into operative position, a bottle-holder, and means for moving the holder toward and from the operative finishing device while said carrier is at rest.

10. Bottle-finishing mechanism comprising an intermittently-movable carrier, forming devices on the carrier and adapted successively to be moved thereby into operative position, the forming devices being adapted to open and close with means for holding them normally open, a bottle-holder movable toward and from the operative forming device while said carrier is at rest, and means for closing said forming device while the bottle-holder is projected toward the same.

11. Bottle-finishing mechanism comprising a rotatable carrier,

forming devices rotatably mounted in the carrier and adapted successively to be moved thereby into operative position, rotating means common to all of said devices and operating to rotate each one while in operative position, and bottle-holding means.

12. Bottle-finishing mechanism having an intermittently-rotatable carrier, a series of forming devices rotatably mounted in the carrier and adapted successively to be moved thereby into operative position, each of the forming devices being adapted to open and close with means for holding the same normally open, mechanism for rotating the forming devices, a bottle-holder movable toward and from the operative forming device, and means for closing and opening said devices while the bottle-holder is projected toward the same.

13. Bottle-finishing mechanism comprising an intermittently-rotatable carrier, neck-forming devices arranged radially thereon in such manner that two of the devices aline through the center of the carrier, the devices being adapted successively to be moved by the carrier into operative position, bottle-holding means, and means adapted to coöperate with the forming device alining with the active forming device for holding the latter in proper position.

14. Bottle-finishing mechanism comprising a rotatable carrier, a series of neck-forming devices on the carrier, means for intermittently rotating the carrier for moving the forming devices successively into operative position, an intermittently-movable series of bottle-holders movable simultaneously with said carrier, and means operating while said carrier and holders are at rest for causing the operative forming device and one of the bottle-holders to coöperate in finishing a bottle.

15. In a glass-finishing machine, forming mechanism adapted to bear inwardly upon and shape the exterior surface of an article, and means for admitting air into the article to resist distortion thereof due to the pressure of the forming mechanism.

16. In a glass-finishing machine, forming mechanism adapted to bear inwardly upon and shape the exterior surface of an article, interior shaping means, and means for admitting air into the article to resist distortion thereof due to the pressure of the exterior forming mechanism.

17. In a glass-finishing machine, a device adapted to fit within and shape the interior of the mouth or neck of the article, the device having an air-passage, forming devices adapted to close and bear upon the exterior surface of the article, and means for admitting air into the article through the interior shaper for resisting distortion due to the pressure of the exterior formers.

18. Glass-finishing mechanism comprising an intermittently-rotatable carrier, a series of shaping devices on the carrier adapted, successively, to be moved thereby into operative position, each of said devices including a tubular plug which enters the neck or mouth of the article being finished, air-passages extending from each of said plugs to the axial center of the carrier, and an air-passage opening through the carrier-axis with which the passages of the carrier are adapted to register as each finishing device is moved into operative position.

19. In a bottle-finishing machine, heating means, mechanism for finishing the inner and outer surfaces of a bottle-neck, and a bottle-carrier adapted to present a bottle to the heating means before it is operated on by the finishing mechanism.

20. In a bottle-finishing machine, heating means, bottle-finishing mechanism consisting of interior and exterior forming devices adapted to operate on the inner and outer surfaces of a bottle, and a bottle-carrier adapted to present the bottle to the heating means before it is operated on by the finishing mechanism.

21. In a bottle-finishing machine, neck-forming mechanism and a bottle-carrier adapted to coöperate by a movement in the direction of the bottle-axis, and heating means to which the bottle is presented by the carrier before it is operated on by the forming mechanism.

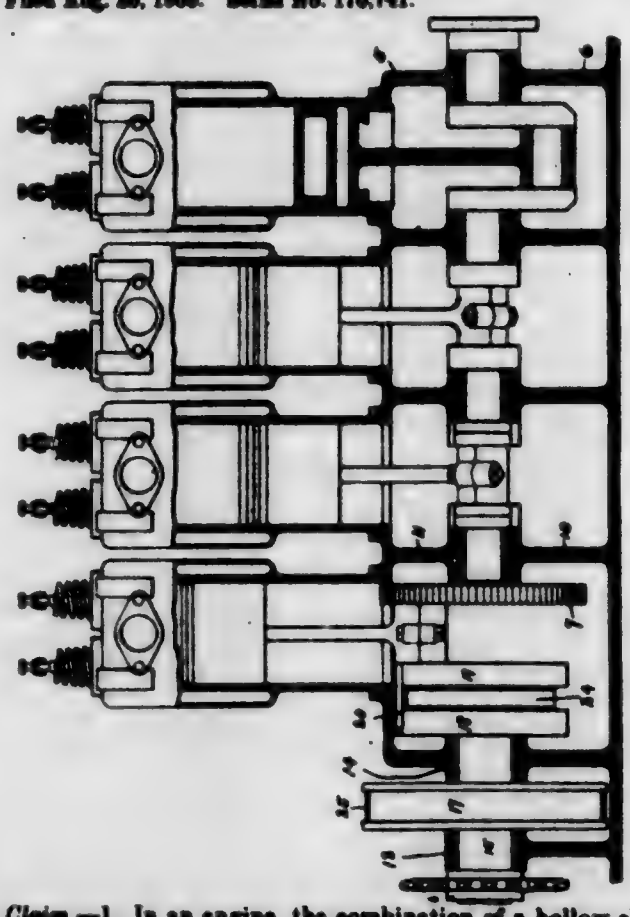
22. In a glass-finishing machine, heating means, finishing mechanism, and a carrier movable past the heating means and finishing mechanism and adapted to present the article to the heating means in advance of the finishing mechanism.

23. In a bottle-finishing machine, heating means, neck-finishing mechanism operating from above and adapted to operate on an upright bottle, and a carrier adapted to hold a bottle upright and present it to the heating means before it is operated on by the finishing mechanism.

24. In an automatic bottle-finishing machine, the combination of bottle-neck-heating means, automatic intermittently-operating neck-finishing mechanism, and an intermittently-movable bottle-holder adapted to present the bottle first to the neck-heating means and then into position to be finished.

25. In an automatic bottle-finishing machine, the combination of a bottomless reheating-chamber, automatic intermittently-operating neck-finishing mechanism, an intermittently-movable bottle-holder adapted to sustain the bottle in upright position and first move it beneath the reheating-chamber and then move the bottle into position to be finished, and means operating at said position for causing the finishing mechanism to engage the bottle-neck.

805,878. CRANK-SHAFT. FRANCIS C. OSBORN, Detroit, Mich. Filed Aug. 25, 1900. Serial No. 170,741.



Claim.—1. In an engine, the combination of a hollow shaft, a disk secured to the same, a lug on said disk, a crank-shaft revoluble within the hollow shaft, a disk secured to said crank-shaft, means to prevent backward rotation of said shaft, a lug on said second disk, and a spring whereby the crank-shaft may drive the hollow shaft said lugs enabling the hollow shaft to turn the crank-shaft.

2. In an engine, the combination of a hollow shaft, a disk secured to the same, a lug on said disk, a crank-shaft revoluble within the hollow shaft, a disk secured to said crank-shaft, a lug on said second disk, a spring whereby the crank-shaft may drive the hollow shaft, and a ratchet mechanism to prevent the reverse movement of the crank-shaft, said lugs enabling the hollow shaft to turn the crank-shaft.

3. In an explosive-engine, the combination of a crank-shaft having a plurality of crank-pins, means to prevent backward rotation of said shaft, a disk on said shaft, a second shaft, a disk and a brake-wheel secured to said second shaft, a brake for said wheel and a spring forming a resilient connection between said disks.

4. In an explosive-engine, the combination of a crank-shaft, a disk on said shaft, a second shaft, means to prevent backward rotation of said shaft, a disk and a brake-wheel secured to said second shaft, a brake for said wheel, a spring forming a resilient connection between said disks, and a lug on each disk, said lugs moving in the same path.

5. In an explosive-engine, the combination of a crank-shaft, a disk on said shaft, a second shaft, a disk and a brake-wheel secured to said second shaft, a brake for said wheel, a spring forming a resilient connection between said disks, a lug on each disk, said lugs moving in the same path, and a ratchet mechanism to prevent the reverse movement of the crank-shaft.

6. In an explosive-engine, the combination of the frame of said engine, a crank-shaft journaled in said frame, a disk on said crank-shaft, a lug on the outside of said disk, a second shaft, a disk on said second shaft, a lug on the outside of said second disk, and a spring connecting said disks, the said lugs traveling in the same path.

7. In an explosive-engine, the combination of a shaft, a fly-wheel on said shaft, a disk secured to said shaft, a lug on said disk, a crank-shaft for said explosive-engine, a disk secured to said crank-shaft, a lug on said second disk, a ratchet-stop mechanism for said crank-shaft, and a spring whereby the explosions of the engine will

drive said first shaft, said lugs preventing an excess of relative rotation between said shafts and permitting the fly-wheel to drive the crank-shaft, the ratchet mechanism preventing the spring from reversing the motion of said crank-shaft.

8. In an explosive-engine, the combination of a shaft, a brake-wheel on said shaft, a crank-shaft for said explosive-engine, a spring connecting said shafts, a brake for said wheel, and ratchet mechanism for preventing the spring from rotating said shaft in the reverse direction, said brake serving to stop said brake-wheel while the crank-shaft moves under the force of an explosion and said ratchet mechanism holding said shaft so that said spring may start said wheel and first shaft and thereby cause said crank-shaft to revolve.

9. In an explosive-engine, an explosive-cylinder and piston therefor, a revolving shaft, means to prevent backward rotation of said shaft, a rod and crank connection between the piston and revolving shaft, a wheel on said shaft, a brake coacting with said wheel, means to limit the relative angular movement between the crank and shaft, whereby the shaft may drive said crank, a spring connecting the crank and shaft whereby the crank may drive said shaft, and means for preventing backward movement of the crank.

10. In an explosive-engine, an explosion-cylinder and piston therefor, a revolving shaft, a rod and crank connection between the piston and the revolving shaft, a resilient connection between the crank and shaft, and means for preventing backward movement of the crank.

11. In an explosive-engine, explosion-cylinders and pistons therefor, a revolving shaft, a fly-wheel on said shaft, a crank, a resilient flexible connection between the crank and shaft, and means to prevent backward movement of the crank.

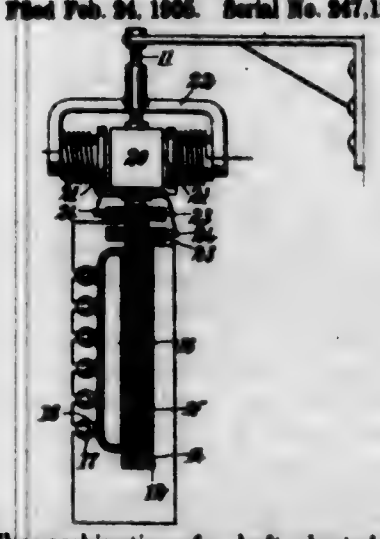
12. In an explosive-engine, explosion-cylinders and pistons therefor, a crank having a plurality of crank-pins equally spaced circumferentially, rods between the pins and pistons, a revolving shaft, a resilient connection between the crank and shaft, and means to prevent backward movement of the crank.

13. In an explosive-engine, an explosion-cylinder and piston therefor, a revolving shaft, a rod and crank connection between the piston and the revolving shaft, means to limit the relative angular movement between the crank and shaft, a spring connecting the crank and shaft, and means for preventing backward movement of the crank.

14. In an explosive-engine, the combination of the explosive-cylinder and piston therefor, a revolving shaft, a rod and crank connection between the piston and revolving shaft, means to limit the relative angular movement between the crank and shaft whereby the shaft may drive said crank, a spring connecting the crank and shaft whereby the crank may drive the shaft, and means for preventing backward movement of the crank.

15. In an explosive-engine, the combination of a plurality of explosive-cylinders and pistons therefor, a revolving shaft, a rod and crank connection between each piston and the revolving shaft, means to limit the relative angular movement between the cranks and shaft whereby the shaft may drive said cranks, resilient flexible connecting means between the cranks and shaft whereby the cranks may drive the shaft, and means for preventing backward movement of the cranks.

805,879. ILLUMINATING DEVICE. ADOLPH RICHTER, New York, N. Y. Filed Feb. 24, 1905. Serial No. 247,124.

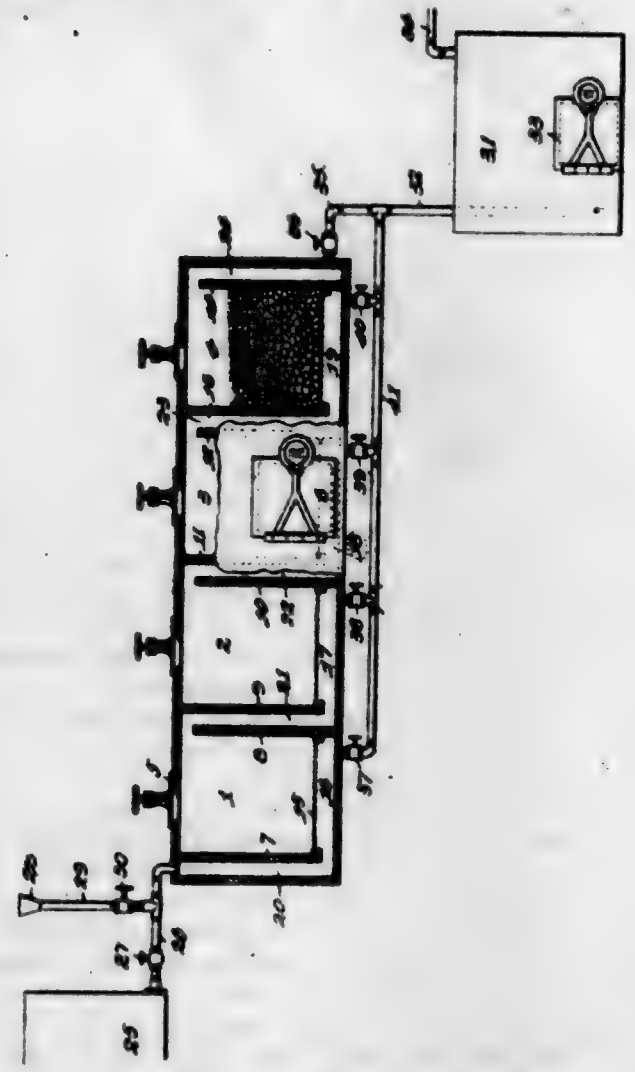


Claim.—1. The combination of a shaft adapted to be supported vertically, a pole-piece fastened thereto intermediate its ends, motor-fields carried by the pole-piece at each side of the shaft, a sleeve mounted to turn freely on the shaft, a motor-armature attached to the sleeve, an electric lamp carried by the sleeve, and an electrical circuit in which the lamp and motor are included.

2. The combination of a shaft adapted to be supported vertically, motor-fields supported on the shaft, a sleeve revolubly mounted on the shaft, a motor-armature attached to the sleeve, an electric lamp supported by the sleeve, and means for supplying an electric current to the lamp and motor.

3. The combination of a shaft adapted to be supported vertically, motor-fields secured to the shaft, a sleeve revoluble on the shaft, a motor-armature attached to the sleeve, an electric lamp supported on the sleeve, and an electrical circuit in which the lamp and motor are included.

805,890. APPARATUS FOR DISSOLVING AND SEPARATING VALUES CONTAINED IN ORES, &c. CHARLES H. RIDER, St. Louis, Mo. Filed Mar. 1, 1905. Serial No. 247,923.



Claim.—1. A device of the class described, consisting of a single closed tank divided into compartments, by partitions arranged to admit the passage of suitable agents, such as gas, fluid or air to the bottom of the first compartment upwardly through the compartment then to the bottom of the second compartment and upwardly through the second compartment, and so on through the series; air-tight manholes in the tops of the compartments; air-tight doors in the sides thereof; and an air-tight tank arranged to receive the liquid from said compartments.

2. A device of the class described, consisting of a single closed tank divided into compartments by partitions arranged to admit the passage of suitable agents, such as gas, fluid or air to the bottom of the first compartment upwardly through the compartment, then to the bottom of the second compartment and upwardly through the second compartment, and so on through the series; air-tight manholes in the tops of the compartments; air-tight doors in the sides thereof; and an air-tight tank arranged to receive the liquid from said compartments, there being connections between the receiving-tank and the top of the last compartment; and there being connections between the receiving-tank and the bottom of each compartment.

3. A device of the class described, consisting of a single closed tank divided into compartments by partitions arranged to admit the passage of suitable agents to the bottom of the first compartment upwardly through the compartment, then to the bottom of the second compartment, and so on through the series; air-tight manholes in the tops of the compartments; air-tight doors in the sides thereof; and

an air-tight tank arranged to receive the liquid from said compartments; means of admitting the dissolving agents to the passage; and means of admitting oxidizing agents to the passage.

805,881. APPARATUS FOR LAYING AND TAKING UP RAILWAYS. GEORGE L. RIVOIRE, Cromwell, Ark. Filed July 13, 1905. Serial No. 269,502.



Claim.—1. The combination of a train of flat-cars, a locomotive at one end thereof, a loader at the other end thereof, and a carriage movable along the train of flat-cars.

2. The combination of a train of flat-cars, a loader at one end thereof, a locomotive at the other end, a carriage movable along the flat-cars, and means for connecting the carriage with either the loader or locomotive, whereby to move the carriage in one or the other direction over the train of flat-cars.

3. The combination of a train of cars, a carriage movable along the same, a loader at one end of the train, and a locomotive at the other end of the train.

4. The combination of a train of cars, a carriage movable along the same, a locomotive at one end of the train, a loader at the other end, and means for connecting the carriage with either the locomotive or the loader, for the purpose specified.

5. The combination of a train of cars, a carriage movable over the same, a loader at one end of the train of cars, means for connecting the carriage with said loader to move the carriage toward the loader, and means at the other end of the train of cars adapted to move the carriage in the other direction.

6. The combination of a train of cars, a carriage movable over the same from one to the other car, and a means at each end of the train for drawing the carriage toward one or the other end.

7. The combination of a train of cars, a carriage movable over the same from one car to the other, a loader at one end of the train, and means for moving the carriage over the train toward and from the loader.

8. The combination of a train of cars, a carriage movable over the same, a loader at one end of the train, said loader being capable of loading track-sections onto or unloading track-sections from the carriage, and also being capable of drawing the carriage toward the loader, and a means at the other end of the train for drawing the carriage away from the loader.

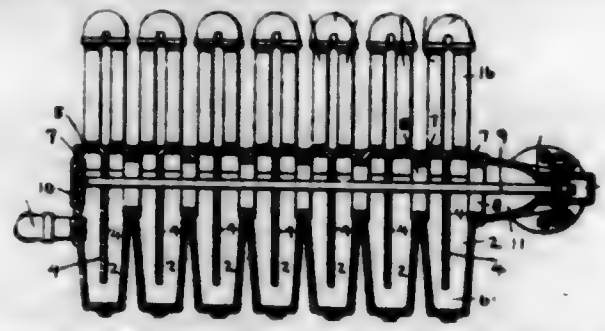
9. The combination of a train of cars, a carriage movable over the same, a loader at one end of the train, said loader being capable of loading track-sections onto or unloading track-sections from the carriage, and also being capable of drawing the carriage toward the loader, and a means at the other end of the train for drawing the carriage away from the loader, said means comprising a locomotive also capable of hauling the train.

10. The combination of a train of cars, a carriage movable over the same, means for moving the carriage back and forth along the train, said carriage being formed of sled-rails, and means for rigidly connecting the rails together.

11. The combination of a train of cars, a sled movable along the train from one part to the other, a loader at one end of the train, and means for moving the sled over the train in either direction.

12. The combination of a train of cars, guiding means extending longitudinally thereon, a carriage movable over the train from one car to the other and held by said guiding means, a loader at one end of the train, and means for moving the carriage on the train.

805,882. RADIATOR. GEORGE I. ROCKWOOD, Worcester, Mass. Filed Dec. 17, 1903. Serial No. 185,559.



Claim.—1. In a radiator, the combination of a series of headers having openings in alinement and at the central section of the headers, each of said headers having a depending water-chamber at the central section of the header, with the bottom of the header inclined from each end toward the water-chamber, a vertical partition in each header dividing the same into two chambers communicating at the bottom of the water-chamber, pipes connecting said chambers and means for uniting said headers with their alined openings in communication, substantially as described.

2. In a radiator, the combination of a series of contacting headers having openings in alinement and at the central section of the headers, each of said headers having a depending water-chamber, a vertical partition in each header dividing the same into two chambers communicating at the bottom of the depending water-chamber, radiating-pipes connecting said chambers and means for holding said headers in contact.

3. In a radiator, the combination of a series of contacting headers having openings in alinement, a vertical partition in each header dividing the same into two chambers communicating at the bottom, radiating-pipes connecting said chambers, and means for holding said headers in contact.

4. In a radiator, the combination of a series of shells having vertical partitions dividing each shell into two chambers communicating at the bottom of said shells, holes in the side walls of said shells and at their central section, thimbles inserted in said holes and connecting adjacent shells, pipes connecting the chambers in each shell, a bolt passing through said central openings, and through said vertical partitions, said bolt being of considerably less diameter than the holes in the side walls of the shells, but of substantially the same size as the holes in said vertical partitions, whereby said shells are united, substantially as described.

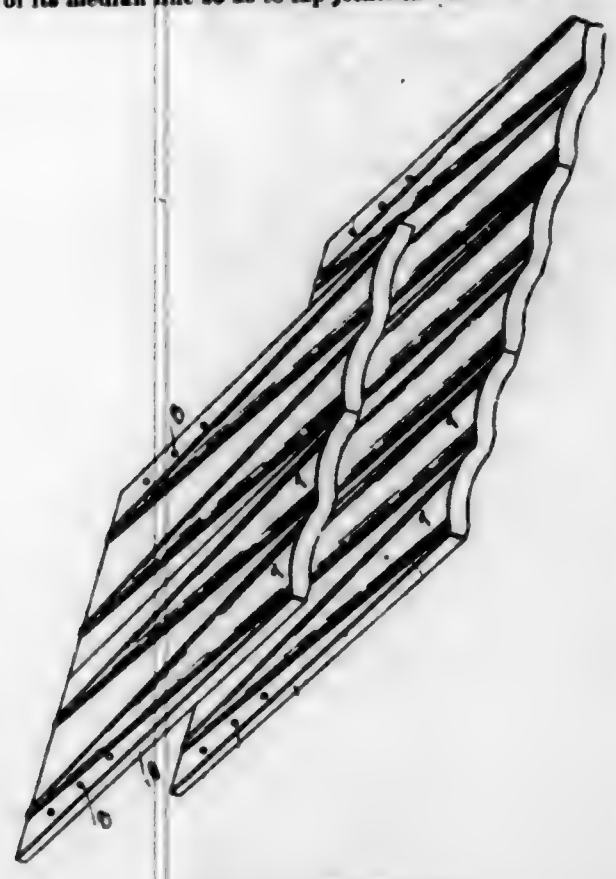
805,883. APPARATUS FOR FORMING CONCRETE WALLS. COLONEL E. RUSSELL, Chicago, Ill. Filed July 21, 1905. Serial No. 270,609.



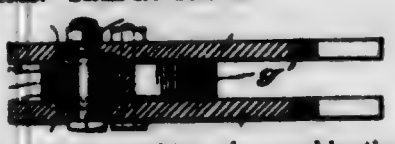
Claim.—The improved wall-building apparatus herein described, comprising parallel boards spaced apart a distance corresponding to the thickness of the wall, cross-bolts passing transversely through the boards at points above their lower edges, and having nuts applied thereto, the bolts serving to hold the said boards detachably connected and yet adapted for adjustment toward and from each other, the hollow core-box having its inner side open and arranged in contact with one of said boards, and a device attached to the upper side of the core-box and engaging a pin set in the upper edge of said board whereby the core-box is supported detachably and adapted for lateral adjustment with the parallel boards as required for walls of different thickness, as described.

805,884. ROOFING-TILE. LLOYD G. SAYERLEE, Rochester, Mich. Filed Feb. 6, 1905. Serial No. 244,442.

Claim.—A tile molded of plastic material and comprising a flat slab which tapers from butt to head and has ribs extending lengthwise thereof, said ribs being convex on the upper side and correspondingly concave on the lower side so as to fit over the ribs of the next lower course, and which ribs also taper from a greatest width at the butt of the tile to a point at the head, the tile being alike on both sides of its median line so as to lap joints in successive courses.

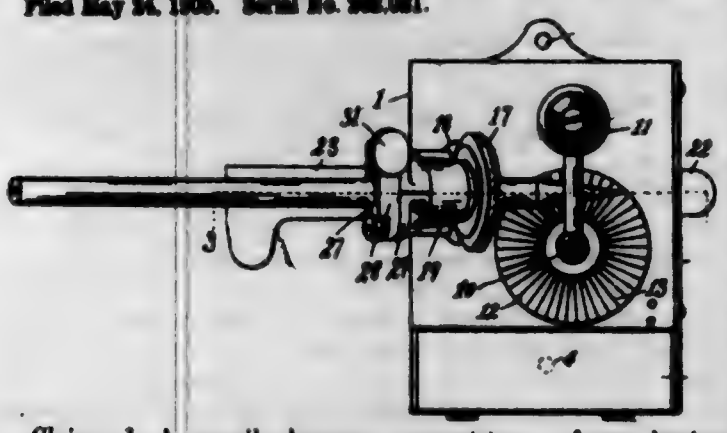


805,885. MINING-MACHINE. WILLIAM H. SEXTON, Sullivan, Ind. Filed July 6, 1905. Serial No. 268,262.



Claim.—In a mining-machine the combination of the bed-frame, a carriage slidably mounted in the frame and comprising side bars connected at the front by a cross-bar comprising upper and lower plates, guide-wheels journaled between the ends of the plates, a drive-wheel journaled at the rear of the carriage, a cutter-chain supported on the drive-wheel, and the guide-wheels, and means for supporting the cutter-chain between the guide-wheels comprising shafts of relatively large diameter engaging counterbored openings in the plates and provided with a longitudinal opening and with radial openings communicating therewith, bolts traversing the shafts and the plates, nuts engaging the bolts for securing the shafts and plates together and rollers on the shafts.

805,886. PENCIL-SHARPENER. FREDERICK H. SMITH, San Francisco, Cal., assignor of one-half to John L. Lindale, San Francisco, Cal. Filed May 24, 1905. Serial No. 262,021.



Claim.—1. A pencil-sharpener comprising a frame having front and rear walls and provided with means for securing it to any suitable support, a shaft having bearings in said walls, a rotary cutter and a handle upon the front end of the shaft, a pinion upon the shaft between the walls, means for holding a pencil so that its end rests upon the face of the cutter, and an operative connection between said pinion and pencil-holding means to rotate the latter from the movement of the pinion, substantially as described.

2. A pencil-sharpener comprising a frame having front and rear walls and provided with means for securing it to any suitable support, a shaft having bearings in said walls, a rotary cutter and a handle upon the front end of the shaft, a pinion upon the shaft between the walls, means for holding a pencil so that its end rests upon the face of the cutter, a toothed wheel carried by said pencil-holding means, and an intermediate toothed wheel meshing with the former toothed wheel and the pinion, substantially as described.

3. A pencil-sharpener comprising a frame having front and rear walls and provided with means for securing it to any suitable support, a shaft having bearings in said walls, a rotary cutter and a handle upon the front end of the shaft, a pinion upon the shaft between the walls, means for holding a pencil so that its end rests upon the face of the cutter, a movable support for the pencil-holding means permitting the pencil to be moved to and from the cutter, and an operative connection between said pencil-holding means and pinion, unaffected by the to-and-fro movement of the support, substantially as described.

4. A pencil-sharpener comprising a frame having front and rear walls, and provided with means for securing it to any suitable support, a shaft having bearings in said walls, a rotary cutter and a handle upon the front end of the shaft, a pinion upon the shaft between the walls, means for holding a pencil so that its end rests upon the face of the cutter, a toothed wheel carried by said pencil-holding means, an intermediate toothed wheel meshing with the former toothed wheel and the pinion, the front wall having a slot through which the toothed wheel attached to the wall passes, to engage said intermediate wheel, substantially as described.

5. A pencil-sharpener comprising a frame having front and rear walls, and provided with means for securing it to any suitable support, a shaft having bearings in said walls, a rotary cutter and a handle upon the front end of the shaft, a pinion upon the shaft between the walls, means for holding a pencil so that its end rests upon the face of the cutter, said means carrying a crown-wheel, and an intermediate toothed wheel engaging said pinion and crown-wheel, the front wall having a slot through which the crown-wheel passes, substantially as described.

6. A pencil-sharpener comprising a frame having front and rear walls, and provided with means for securing it to any suitable support, the front wall being bent back at the top and bottom to abut against the rear wall and having also a forwardly-extending side wall, a box removably held beneath the lower rearward extension and abutting against said side wall, said box extending forwardly beyond the front wall, a rotary cutter on the front side of the front wall, means for turning said cutter, means for holding a pencil so that its end rests upon said cutter, and gearing operatively connecting the cutter-shaft with the pencil-holding means and located between the walls, substantially as described.

7. A pencil-sharpener comprising a wall, a shaft passing therethrough, a rotary cutter and a handle upon the front end of the shaft, a pinion on the shaft behind the wall, means for holding a pencil so that its end rests upon the face of the cutter, a toothed wheel carried by said pencil-holding means, and an operative connection between said toothed wheel and the rotary cutter-shaft, and located behind said wall, substantially as described.

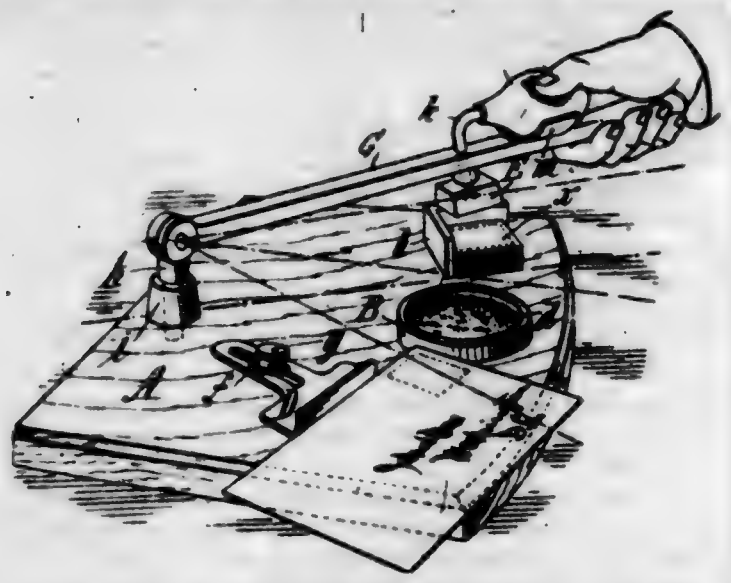
8. A pencil-sharpener comprising a wall, a shaft passing entirely therethrough, a rotary cutter and a handle upon the front end of the shaft, a swinging support for a pencil to hold the same so that its end rests upon the face of the cutter, means for rotating the pencil, an operative connection between said cutter and means an arm extending from said pencil-holding means, and a spring engaging said arm to hold the pencil against the cutter, substantially as described.

9. A pencil-sharpener comprising a wall, a shaft passing entirely therethrough, a rotary cutter and a handle upon the front end of the shaft, a swinging support for a pencil to hold the same so that its end rests upon the face of the cutter, means for rotating the pencil, an operative connection between said cutter and means arms extending in both directions from the pencil-holder, and a spring operating upon said holder to hold the pencil against the cutter, substantially as described.

805,887. STAMP-AFFIXING DEVICE. LUTHER E. SMITH, Shelburne Falls, Mass. Filed June 10, 1905. Serial No. 264,694.

Claim.—1. In a device for moistening and affixing stamps or the like, a base or support for a pile of stamps, and a moistening-pad on said base, a lever having a swivel engagement with the base, for a horizontal swinging movement relatively thereto, and also jointed for

vertically-swinging motions, a dependent head carried by said lever and having a downwardly-opening aperture therein, and a collapsible pneumatic carried by said lever and having the chamber therein in communication with said downwardly-opening aperture.



2. In a device for moistening and affixing stamps or the like, a base or support for a pile of stamps, an angular stamp-positioning gage, and a moistening-pad on said base, a lever, having a swivel engagement with the base for horizontal swinging movements relatively thereto, and also jointed for vertically-swinging motions, a dependent head carried by said lever having a downwardly-opening aperture therein, and a collapsible pneumatic carried by said lever and having the chamber therein in communication with said downwardly-opening aperture.

3. In a device for moistening and affixing stamps or the like, a base or support for a pile of stamps, a moistening-pad, and a letter-positioning gage on said base, a lever having a swivel engagement with the base, for horizontal swinging movements relatively thereto, and also jointed for vertically-swinging motions, a dependent head carried by said lever having a downwardly-opening aperture therein, and a collapsible pneumatic carried by said lever and having the chamber therein in communication with said downwardly-opening aperture.

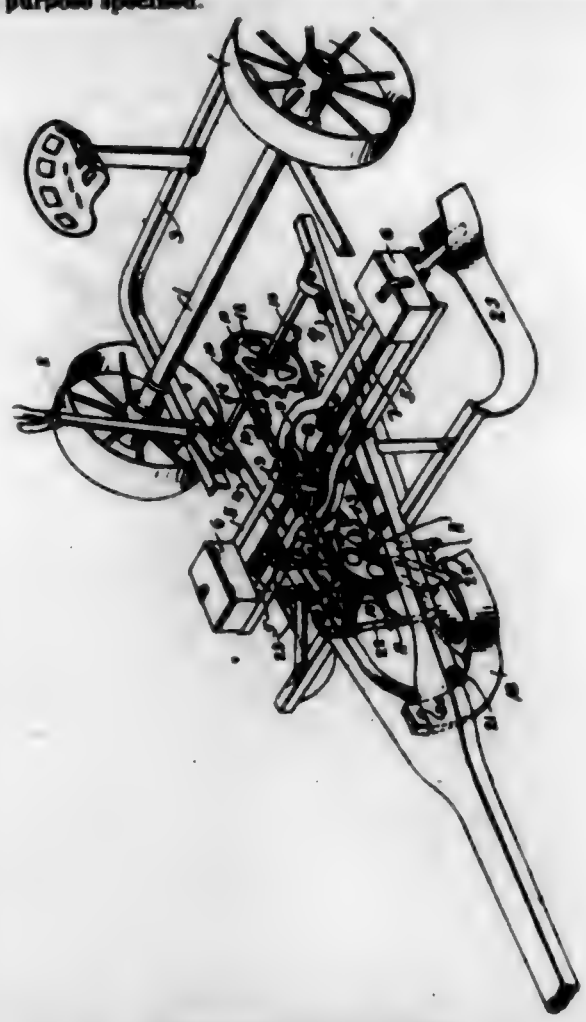
4. In a device for moistening and affixing stamps or the like, a base or support for a pile of stamps, a moistening-pad, a stamp-positioning angular gage, and a letter-positioning gage on said base, a lever having a swivel engagement with the base, for horizontal swinging movements relatively thereto, and also jointed for vertically-swinging motions, a dependent head carried by said lever having a downwardly-opening aperture therein, and a collapsible pneumatic bulb carried by said lever and having the chamber therein in communication with said downwardly-opening aperture, and the bulb-guard provided on said lever and extending adjacent the opposite sides of said bulb.

805,888. CORN-PLANTER. RUSSELL H. SNYDER, Canton, Ohio. Filed Sept. 8, 1905. Serial No. 277,899.

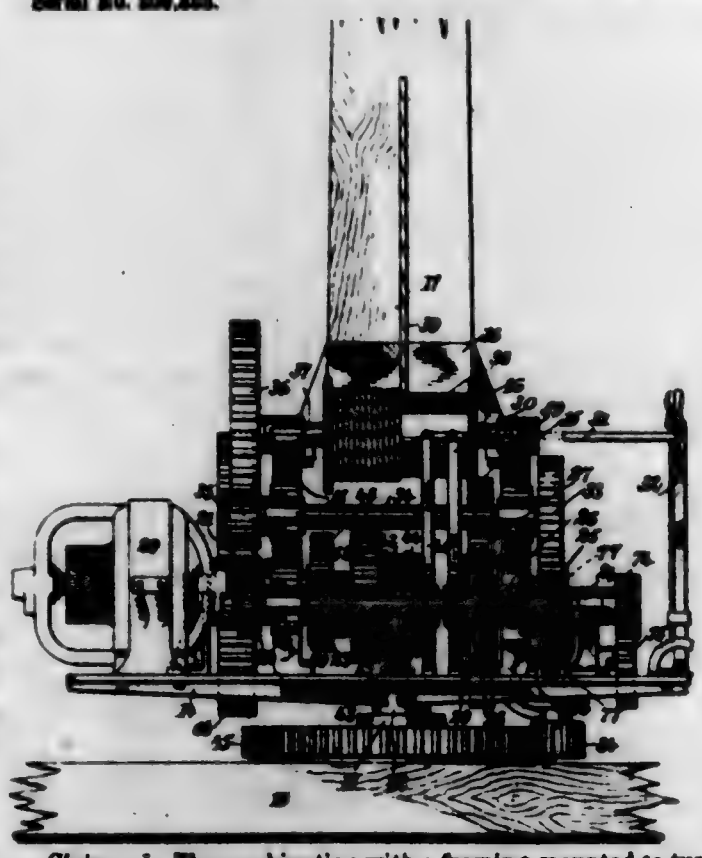
Claim.—1. In a planter of the class described, a traveling frame, seeding mechanism carried by the frame, an intermittent-rotating shaft adapted to actuate the seeding mechanism, a shaft carried by the frame said shaft provided with a wheel having ground-engaging spokes, the shaft upon which the ground-engaging wheel is located provided with an endless-operating-chain-propelling wheel, a wheel mounted upon the intermittent-rotating shaft, and means secured to the operating-chain adapted to actuate the wheel and the intermittent-rotating shaft, substantially as and for the purpose specified.

2. In a planter of the class described, a traveling frame, seeding mechanism carried by the frame, an intermittent-rotating shaft, shafts located upon opposite sides of the intermittent-rotating shaft, said shafts provided with sprocket-wheels, an operating-chain located around said sprocket-wheels and a propelling-wheel adapted to rotate by ground engagement, and a bifurcated runner located forward of the operating-chain-propelling wheel, substantially as and for the purpose specified.

3. In a planter of the class described, a traveling frame, seeding mechanism carried by the frame, an intermittent-rotating shaft, said intermittent-rotating shaft provided with a wheel having curved arms, an endless operating-chain provided with means adapted to intermittently rotate the seed-actuating shaft, shafts located upon opposite sides of the intermitting-rotating shaft, said shafts provided with sprocket-wheels adapted to carry and propel the operating-chain, and one of the shafts provided with a spoked wheel, the spokes thereof adapted for ground engagement, substantially as and for the purpose specified.



805,889. DERRICK. EDWARD A. SOHN, Bedford, Ind., assignor to Bedford Foundry & Machine Co., Bedford, Ind. Filed May 11, 1905. Serial No. 259,888.



Claim.—1. The combination with a framing mounted to turn, a motor carried thereby, a main shaft driven from the motor, a counter-shaft, a variable-speed connection between the main shaft and the counter-shaft, a hoisting means, a gear connection between the counter-shaft and the hoisting means, and a clutch for controlling the said connection.

2. The combination with the framing mounted to turn, of a motor carried thereby, a main shaft driven from the motor, a counter-shaft, a plurality of trains of gearing connecting the main shaft and the counter-shaft, means whereby to connect the counter-shaft to either train of gearing, a hoisting means, a gear connection between

the counter-shaft and the hoisting means and a clutch for controlling the said connection.

3. The combination with the framing mounted to turn, of a motor carried thereby, a main shaft driven from the motor, a counter-shaft, a plurality of pinions having different diameters on the main shaft, a plurality of pinions having different diameters loosely mounted on the counter-shaft and meshing with the pinions on the main shaft, means whereby to connect the counter-shaft with either of the pinions thereon, a hoisting means, a gear connection between the counter-shaft and the hoisting means and a clutch for controlling the said connection.

4. The combination of a framing, means for mounting the same to turn, a mast-step supported by the framing, a mast carried in said step, a boom having jaws pivotally connected with the framing to permit the boom to swing, a boom-line drum mounted on the framing at the heel of the mast, a hoisting-line drum mounted on the framing between the jaws of the boom, a motor supported by the framing, a main shaft driven by the motor, means operated by said shaft for turning the framing and its attachments, and two trains of gearing connecting the said shaft with the said drums, each train of gearing including a controlling or clutch means.

5. The combination of a framing mounted to turn, a hoisting means mounted thereon, a main shaft connected with the hoisting means to drive the same, a motor adapted to drive the main shaft, a second shaft supported on the framing, gearing connecting the main and the second shafts, a third shaft mounted on the framing and having a worm-and-gear connection with the second shaft, a fourth shaft carried vertically on the framing, a friction-gearing connecting the fourth shaft and the third shaft, a gear attached to the fourth shaft, and a stationary gearing in mesh with said gear for the purpose specified.

6. The combination of a framing mounted to turn, a motor mounted thereon, a shaft driven from the motor, a hoisting means driven from the shaft, a second shaft carried by the framing, gearing connecting the two shafts, a third shaft carried by the framing, a worm and worm-wheel connecting the second and third shafts, a fourth shaft mounted vertically in the framing, friction-gearing connecting the third and fourth shafts, a pinion carried by the fourth shaft, and a stationary gear with which the pinion is meshed.

7. The combination of a framing, means for revolubly mounting the same, a hoisting means carried by the framing, a motor also carried by the framing, a shaft driven from the motor and having connection with the hoisting means, a stationary gear, a pinion meshing with the gear, a shaft carried by the framing and having the pinion attached thereto, a second shaft, a worm and gear for driving said second shaft from the main shaft and a reversible friction-gearing connecting said second shaft with the first shaft.

8. The combination of a framing, means for mounting the same to turn, two hoisting-drums carried thereon, a main driving-shaft carried by the framing, means for driving said shaft, two gears loose on the shaft, two clutch members respectively connected with said gears, clutch members splined on the shaft and coacting with the first-named clutch members whereby either of said gears may be fastened to the shaft, and devices connecting said gears respectively with the hoisting-drums.

9. The combination of a framing, means for mounting the same to turn, a main driving-shaft carried by the framing, controllable means driven from said shaft for turning the framing, means for driving the main driving-shaft, a hoisting-drum carried on the framing, a counter-shaft also carried on the framing, gearing connecting said drum and counter-shaft, an additional gear on the counter-shaft, a gear meshed with the additional gear and loose on the driving-shaft, a clutch member mounted loose on the driving-shaft and connected with the gear thereon, and a clutch member splined on the driving-shaft and coacting with the first-named clutch member.

10. The combination of a framing, means for mounting the same to turn, a main driving-shaft carried by the framing, controllable means driven from said shaft for turning the framing, means for driving the main driving-shaft, a hoisting-drum carried on the framing, a counter-shaft also carried on the framing, gearing connecting said drum and counter-shaft, an additional gear on the counter-shaft, a gear meshed with the additional gear and loose on the driving-shaft, a clutch member mounted loose on the driving-shaft and connected with the gear thereon, a clutch member splined on the driving-shaft and coacting with the first-named clutch member, a brake-band coacting with the first-named clutch member, and a means for operating said brake-band.

11. The combination of a framing, means for mounting the same to turn, a main driving-shaft carried by the framing, controllable means driven from said shaft for turning the framing, means for driving the main driving-shaft, a hoisting-drum carried on the framing, a counter-shaft also carried on the framing, gearing connecting said drum and counter-shaft, an additional gear on the counter-shaft, a gear meshed with the additional gear and loose on the driving-shaft, a clutch member mounted loose on the driving-shaft and connected with the gear thereon, a clutch member splined on the driving-shaft and coacting with the first-named clutch member, and a brake coacting with the first-named clutch member.

12. The combination of a framing, means for mounting the same to turn, a main driving-shaft mounted on the framing, controllable means mounted on said shaft for turning the framing, means for driving the main shaft, a gear loose on the main shaft, a clutch member connected with said gear, a second clutch member splined on the main shaft and coacting with the first-named clutch member, a counter-shaft, a gear fast thereon and meshed with the gear on the main shaft, a second counter-shaft, means for driving the second counter-shaft from the first counter-shaft at variable speed, a hoisting-drum, and means for driving the same from the second counter-shaft.

13. The combination of a framing, means for mounting the same to turn, a main driving-shaft mounted on the framing, controllable means mounted on said shaft for turning the framing, means for driving the main shaft, a gear loose on the main shaft, a clutch member connected with said gear, a second clutch member splined on the main shaft and coacting with the first-named clutch member, a counter-shaft, a gear fast thereon and meshed with the gear on the main shaft, a second counter-shaft, means for driving the second counter-shaft from the first counter-shaft at variable speed, a hoisting-drum, means for driving the same from the second counter-shaft, said means for driving the second counter-shaft from the first counter-shaft comprising two unlike gears loose on the first counter-shaft, means for fastening either gear to said shaft, and unlike gears attached to the second counter-shaft and respectively meshed with the gears on the first counter-shaft.

14. The combination of a framing, means for mounting the same to turn, a main driving-shaft mounted on the framing, controllable means mounted on said shaft for turning the framing, means for driving the main shaft, a gear loose on the main shaft, a clutch member connected with said gear, a second clutch member splined on the main shaft and coacting with the first-named clutch member, a counter-shaft, a gear fast thereon and meshed with the gear on the main shaft, a second counter-shaft, means for driving the second counter-shaft from the first counter-shaft at variable speed, a hoisting-drum, means for driving the same from the second counter-shaft, said means for driving the hoisting-drum from the second counter-shaft comprising a gear in connection with the drum, a gear loose on the second counter-shaft and meshed with the gear on the drum, and a clutch for fastening the gear of the counter-shaft to said shaft at will.

15. The combination of a framing, a main driving-shaft mounted thereon, a gear loose on said shaft, a means for connecting said gear to said shaft at will, a counter-shaft, a gear fastened thereon and meshed with the gear on the main shaft, a second counter-shaft, means for driving the second counter-shaft from the first counter-shaft at varying speed, a hoisting-drum, and means for driving the hoisting-drum from the second-named shaft.

16. The combination of a framing, a main driving-shaft mounted thereon, a gear loose on said shaft, a means for connecting said gear to said shaft at will, a counter-shaft, a gear fastened thereon and meshed with the gear on the main shaft, a second counter-shaft, means for driving the second counter-shaft from the first counter-shaft at varying speed, a hoisting-drum, means for driving the hoisting-drum from the second-named shaft, said means for driving the second counter-shaft from the first counter-shaft comprising two unlike gears loose on the first counter-shaft, means connecting either gear to the shaft at will, and unlike gears fast on the second counter-shaft and meshed respectively with the gears on the first shaft.

17. The combination of a framing, a main driving-shaft mounted thereon, a gear loose on said shaft, a means for connecting said gear to said shaft at will, a counter-shaft, a gear fastened thereon and meshed with the gear on the main shaft, a second counter-shaft, means for driving the second counter-shaft from the first counter-shaft at varying speed, a hoisting-drum, means for driving the hoisting-drum from the second-named shaft, said means for driving the drum from the second counter-shaft comprising a gear in connection with the drum, a gear meshed therewith and carried loose on the second counter-shaft, and a clutch for attaching the counter-shaft gear to said shaft at will.

805,890. DIAMIDOFORMYL DIPHENYLAMIN AND PROCESS OF MAKING SAME. OTTO SCHMT, Höchst-on-the-Main, Germany, assignor to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Feb. 4, 1903. Serial No. 141,822. (Specimens.)

Claim.—1. The process of making diamidoformyldiphenylamin which consists in reducing dinitroformyldiphenylamin with iron in the presence of little acid, separating the base from the excess of iron by means of the easily-soluble sulfate and then isolating it with sodium acetate.

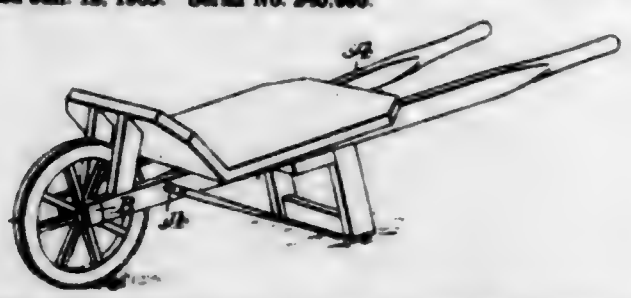
2. The process of making diamidodiphenylamin, which consists in reducing dinitroformyldiphenylamin with iron and then decomposing the diamidoformyldiphenylamin by heating it with acids.

3. As a new article of manufacture, the para-para$_1$-diamidoformyldiphenylamin having the formula

$$HCO—N=(C_6H_4NH_2)_2,$$

said product crystallizing from water in small crystals and being soluble in almost all solvents.

805,891. WHEELBARROW-BEARING. JAMES STANLEY, New York, N. Y., assignor of one-half to Mae E. Payne, New York, N. Y. Filed Jan. 13, 1905. Serial No. 240,893.



Claim.—1. A wheelbarrow having converging side beams, ferrules at the converging ends of the said side beams, provided with slots on the inside walls, the slots extending from the rear ends of the walls to within a distance of the front ends, and a wheel having the ends of its hub adjacent to the said inside walls, the axle of the wheel being formed with annular recesses near its ends, to engage the said slots.

2. A wheelbarrow having converging side beams, ferrules at the converging ends of the said side beams, provided with slots on the inside walls, the slots extending from the rear ends of the walls to within a distance of the front ends, a wheel having the ends of its hub adjacent to the said inside walls, the axle of the wheel being formed with annular recesses near its ends, to engage the said slots, and apertured bearing-blocks held in the ferrules and engaged by the end portions of the said axle.

3. A wheelbarrow having converging side beams, ferrules at the converging ends of the said side beams, provided with slots on the inside walls, the slots extending from the rear ends of the walls to within a distance of the front ends, a wheel having the ends of its hub adjacent to the said inside walls, the axle of the wheel being formed with annular recesses near its ends, to engage the said slots, and apertured bearing-blocks held in the ferrules and engaged by the end portions of the said axle, the said blocks abutting against the inner faces of the said inside walls.

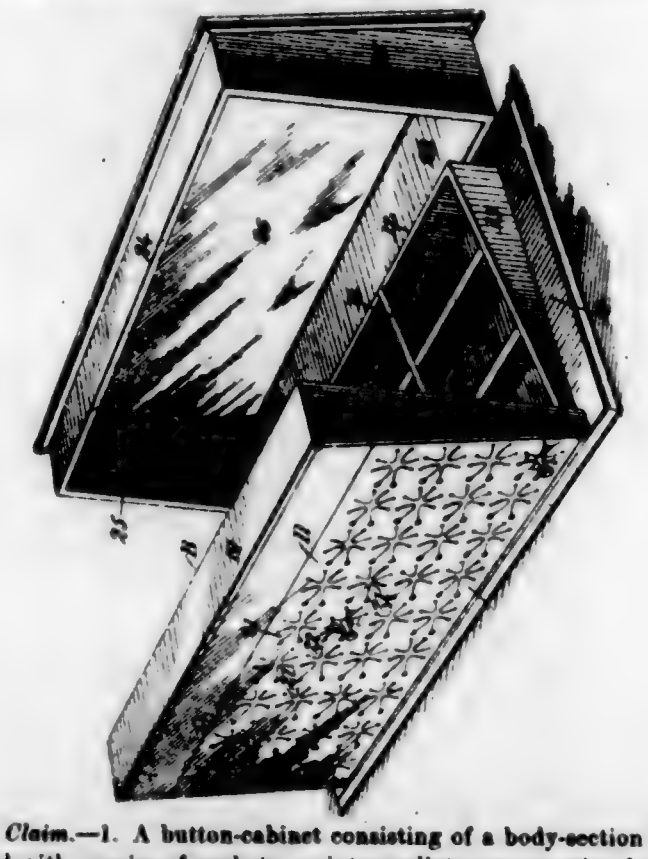
4. A wheelbarrow having converging side beams, ferrules at the converging ends of the said side beams, provided with slots on the inside walls, the slots extending from the rear ends of the walls to within a distance of the front ends, a wheel having the ends of its hub adjacent to the said inside walls, the axle of the wheel being formed with annular recesses near its ends, to engage the said slots, and apertured bearing-blocks held in the ferrules and engaged by the end portions of the said axle, the said blocks abutting against the inner faces of the said inside walls and fitting into recesses formed in the ends of the said side beams.

5. A wheelbarrow having converging side beams, ferrules at the converging ends of the said side beams, provided with slots on the inside walls, the slots extending from the rear ends of the walls to within a distance of the front ends, a wheel having the ends of its hub adjacent to the said inside walls, the axle of the wheel being formed with annular recesses near its ends, to engage the said slots, and tongues on the said side beams, extending into the entrance ends of the said slots.

6. A wheelbarrow having a ferrule on the forward end of each diverging side beam, the ferrule having a rubbing-face for the wheel-hub, the said rubbing-face standing at a right angle to the axis of the wheel-axle, and the inner ferrule-wall carrying the said rubbing-face having a longitudinal slot extending from the rear end of the ferrule forwardly, to within a distance of the forward end of the ferrule.

7. A wheelbarrow having side beams, provided with tongues, ferrules on the forward ends of the side beams, and having longitudinal slots into which the tongues of the side beams project, and a wheel having the ends of its axle projecting through the slots of the ferrules.

805,892. BUTTON-CABINET. ISAAC STEINAU, New York, N. Y. Filed Sept. 29, 1905. Serial No. 280,626.



Claim.—1. A button-cabinet consisting of a body-section provided with a series of pockets, an intermediate cover-section for the pockets, a display-sheet located upon the top of the intermediate cover-section, being provided with clamping members for individual buttons, and an outer cover-section for the intermediate cover, which outer cover-section is provided with a transparent panel, the cover-sections being hinged to opposite portions of the body.

2. A button-cabinet consisting of a base-section having a series of pockets formed therein, a cover-section for the pockets, hinged adjacent to one edge portion of the said body, a display-sheet made of a spring material and secured upon the upper face of the said intermediate cover-section, which display-sheet is provided with a series of clamping members formed in groups, each group of clamping members being adapted to receive the back of a button, and an outer cover-section adapted to inclose the intermediate cover-section, which outer cover-section is hinged to the body at an edge opposite that at which the intermediate cover-section is hinged, the outer cover-section being provided with a transparent panel.

3. A cabinet for buttons, consisting of a body-section comprising a base, and a box structure erected on the base and having series of pockets therein, the upper edge of the box structure inclining from its back in direction of the front, a cover for the box structure, hinged to the base and having a corresponding inclination to the inclination of the box structure, and a display-sheet made of a spring material secured upon the upper face of the said cover, which sheet is provided with clamping members to receive individual buttons, as described.

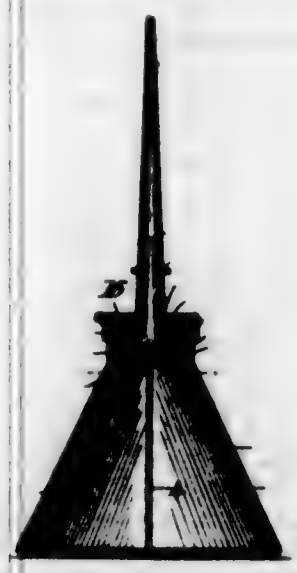
805,893. HAND OIL-CAN. GEORGE H. THOMAS, Elmira, N. Y. Filed June 22, 1905. Serial No. 266,531.

Claim.—1. An oil-can comprising plural compartments for oils of different kinds, a rotatable discharge-nozzle for the can, means whereby the discharge-nozzle may be brought into communication with either of said compartments and closed to the other, and a pressure device for regulating the turning of said nozzle.

2. An oil-can comprising plural compartments for oils of different kinds, a rotatable discharge-nozzle for the can, means whereby the discharge-nozzle may be brought into communication with either of said compartments and closed to the other, a pressure device for regulating the turning of the nozzle, and means for adjusting the pressure device.

3. An oil-can comprising two compartments, and a top therefor

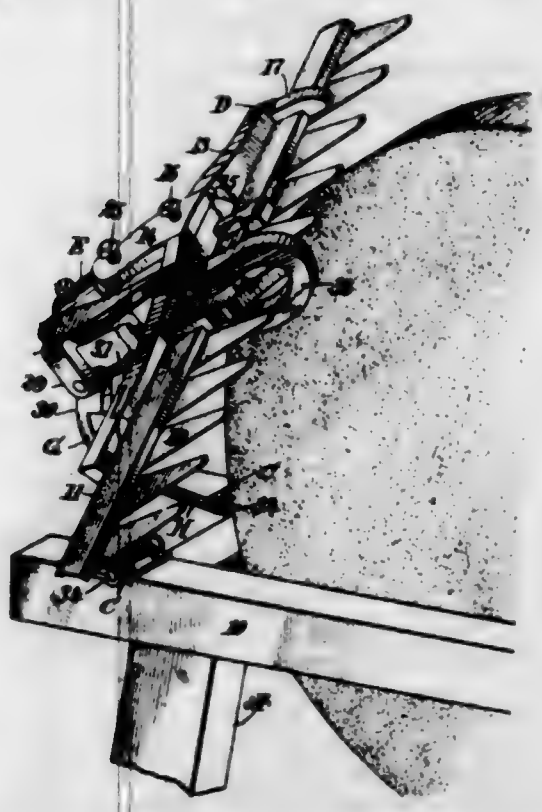
having an opening therein for each compartment, a threaded flange standing upwardly from the edge of the top, a rotatable discharge-nozzle having a base member seating upon said top and provided with a passage extending diagonally therethrough from the interior of the nozzle, a cap screwing upon said flange and a pressure device between the cap and said base member.



4. An oil-can comprising two compartments, and a top therefor having an opening therein for each compartment, a threaded flange standing upwardly from the edge of the top, a rotatable discharge-nozzle having a base member seating upon said top and provided with a passage extending diagonally therethrough from the interior of the nozzle, a cap screwing upon said flange and a spring between the cap and said base member.

5. An oil-can comprising two compartments and a top therefor, having an opening therein for each compartment, a threaded flange standing upwardly from the edge of the top, a rotatable discharge-nozzle having a base member seating upon said top and provided with a diagonally-extending passage therethrough from the interior of the nozzle, a pressure device for said base member and means for regulating the same.

805,894. **SICKLE-HOLDER.** JOHN WALTER, Yates Center, Kans. Filed Feb. 23, 1905. Serial No. 246,593.



Claim.—1. In sickle-holding attachments to grindstones, a body member, guide or check devices for the sickle-bar carried by the said body member, a rest-arm also carried by the said body member, a clamping-yoke pivoted on the rest-arm and extending above and below said arm, and a lever for operating the clamping-yoke.

2. In sickle-holding attachments to grindstones, a body member, guides and check devices for the sickle-bar, a rest-arm extending from the said body member, a yoke-clamp pivoted on the rest-arm extending above and below said arm, a lever pivotally attached to the yoke-clamp above the rest-arm, provided with a downwardly-extending cam-finger for engagement with the rest-arm, a support, and a pivotal connection between the said support and the said body member.

3. In sickle-holding attachments to grindstones, a body member provided with guide and locking means for a sickle-bar, a head, a pivotal connection between the said head and the said body member, the body member being mounted to turn on the head, a pivoted and adjustable support, a swivel connection between the said support and the said head, and means for locking the body member and the head in adjusted positions.

4. In sickle-holding attachments to grindstones, a body member provided with guide and locking means for a sickle-bar, a head, a pivotal connection between the head and the body member, a pivoted and adjustable support, a cap pivoted to said support, a swivel connection between the said head and the said cap, and means for locking the body member and the head in adjusted position.

5. In sickle-holding attachments to grindstones, a body member, guide and locking devices carried by the said body member, a rearward extension from said body member, a head, a pivotal connection between the said extension from the body member and the head, a cap, a swivel connection between the cap and the head, a standard pivotally connected with the under portion of the cap, the standard being at an angle to the said cap, the head and the body member, a hinge connecting member adjustable upon the standard, the said hinge connecting member being provided with oppositely-extending pins, bearings for the said pins, and means for securing the body member and the head in adjusted position.

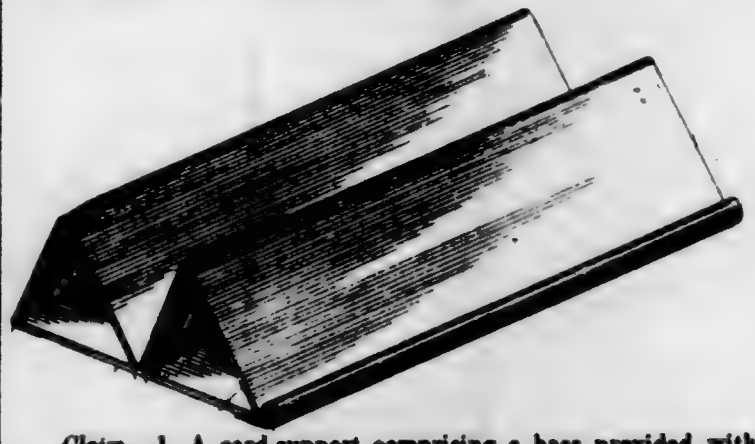
6. In a sickle-holding attachment for grindstones, a body member, a clamp carried by the body member for engaging the forward edge of the sickle-bar, a fixed guide at one end of the body member, and an adjustable guide at the other end of said body member.

7. In a sickle-holding attachment for grindstones, a body member, guides on the body member in which a sickle-bar is free to slide endwise, a rest-arm projecting forwardly from the body member, a hook-shaped clamp pivoted to the forward end of the rest member and extending above and below the rest-arm, and a cam-lever pivoted to one end of the clamp.

8. In a sickle-holding attachment for grindstones, a body member, means for clamping a sickle-bar to said body member, a head pivoted to the body member and provided with a socket at its rear end, a standard, and a cap pivoted to the standard and provided with a member fitting in the socket of the head.

9. In a sickle-holding attachment for grindstones, a body member, means for clamping a sickle-bar to the body member, a head pivoted to the body member, and provided with a socket in its rear end, a standard, a cap pivoted to the standard and provided with a member fitting in the socket of the head, and a hinge connecting member adjustably secured to the standard.

805,895. **CARD-SUPPORT FOR DUMMY HANDS.** GERTRUDE F. WEDDERBURN, Chevy Chase, Md. Filed May 9, 1905. Serial No. 259,612.



Claim.—1. A card-support comprising a base provided with means for supporting different series of cards face to face with the faces of said cards exposed.

2. A card-support comprising a base provided with means for supporting cards thereon in two upwardly-diverging series.

3. In a card-support, the combination of a base, a collapsible section carried thereby, and a common means for bracing said collapsible section in expanded position and for supporting a series of cards thereagainst.

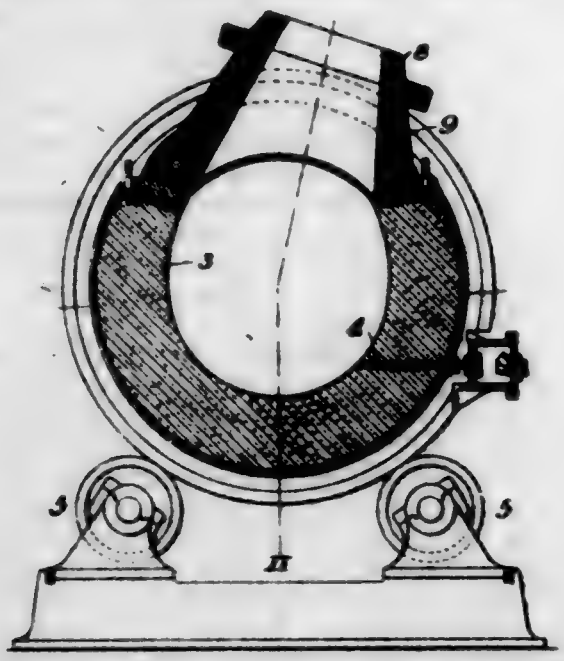
4. In a card-support, the combination of a base, a collapsible section hinged at one edge thereto, and means carried by said base for engaging the free edge of said collapsible portion for bracing it in expanded position.

5. In a card-support, the combination of a base, collapsible sections hinged at one edge thereto, the free edges of said sections arranged to cooperate for bracing said sections in expanded position.

6. In a card-support, the combination of a base, an inclined support carried thereby for supporting a series of cards, and means for holding the upper portions of the cards away from said inclined support.

7. In a card-support, the combination of a base, an inclined support carried thereby for supporting a series of cards, and a projection on said inclined support for engaging the upper portions of the cards.

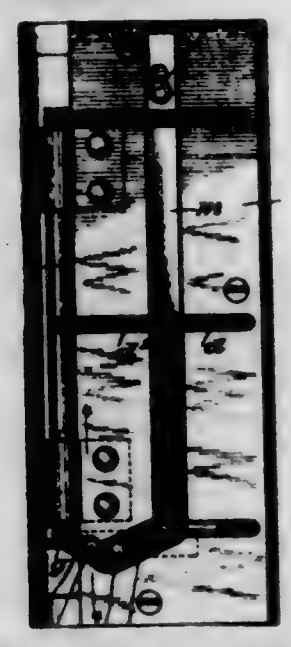
805,896. FINISHING-CONVERTER. CHARLES M. ALLEN, Lolo, Mont., assignor to Ralph Baggaley, Pittsburg, Pa. Filed Apr. 17, 1905. Serial No. 255,629.



Claim.—1. A converter having a refractory lining and a top composed of thick metal of sufficient bulk to withstand the heat produced by the converting process; substantially as described.

2. A converter-top, composed of unlined thick metal of sufficient bulk to withstand the heat produced by the converting process; substantially as described.

805,897. ARCH-FILE. EDWARD M. ANDERSON, New York, N. Y., assignor to Anderson & Prigge, New York, N. Y., a Firm. Filed Aug. 25, 1904. Serial No. 222,600.



Claim.—1. A file comprising a back or body, a filing-pin formed of two sections, one of which is fast to the back or body, means for mounting the other section to move from or toward the first section, devices including a dog for holding the second section in engagement with the fixed pin-section, a pin attached to the dog, a swinging member adapted to engage the pin and move the dog into inactive position, and a slide-rod connected with the swinging member to impart movement thereto.

2. A file comprising a back or body, a filing-pin formed of two sections, one of which is securely attached to the back or body, a rock-shaft on which the other section is mounted, and means for holding the rock-shaft with the second section in engagement with the fixed pin-section and for releasing the same, said means comprising a ratchet-disk attached to the rock-shaft, a spring-dog coacting with the ratchet-disk, a beveled pin attached to the dog, and a swinging member coacting with the pin whereby to permit throwing the dog into inactive position.

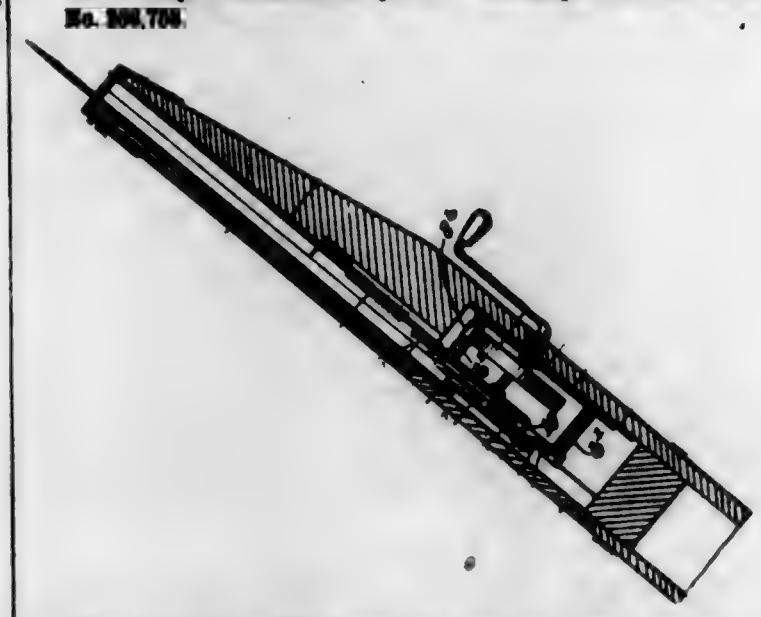
3. A file comprising a back or body, a filing-pin formed of two sections, one of which is securely attached to the back or body, a rock-shaft on which the other section is mounted, and means for holding the rock-shaft with the second section in engagement with the fixed pin-section and for releasing the same, said means comprising a ratchet-disk attached to the rock-shaft, a spring-dog coacting with the ratchet-disk, a beveled pin attached to the dog, a swinging member coacting with the pin whereby to permit throwing the dog into inactive position, and a push-link in connection with the swinging member extending longitudinally along the back or body, to permit the operation of said member.

4. A file comprising a back or body, a filing-pin formed in two sections, one of which is fast to the back or body, means for mounting the other section to move it from or toward the first section, devices including a dog for holding said second section in engagement with the fixed pin-section, a pin attached to the dog, a member arranged to ride over the pin to move the dog into inactive position, and a means for operating said member.

5. A file comprising a back or body, a filing-pin, means for mounting the same to swing on the back or body, devices including a dog for holding said pin in one position, a pin attached to the dog, a member arranged to ride over the second-named pin to move the dog into inactive position, and means for operating said member.

6. A file comprising a back or body formed of a main part, and a plate fastened rigidly to the inner side thereof, a stationary filing-pin section attached to the plate near one side edge thereof, a rock-shaft, bearings attached to the opposite side edge of said plate, in which bearings the rock-shaft is mounted, the bearings projecting beyond said edge of the plate to carry the rock-shaft in a position beyond the edge, a movable filing-pin section carried by the rock-shaft and coacting with the first-named section, a means for locking the rock-shaft to hold the movable filing-pin section in active position, said means including an intermediately-fulcrumed lever mounted on the said plate, a push-rod pivoted to one end of the said lever and having a slot therein, and a pin fitting in the slot to permit the push-rod limited movement.

805,898. BIRD-KILLING DEVICE. JOHN A. BRIESCHEITT, Lester township, Blackhawk county, Iowa. Filed Apr. 21, 1905. Serial No. 256,758.



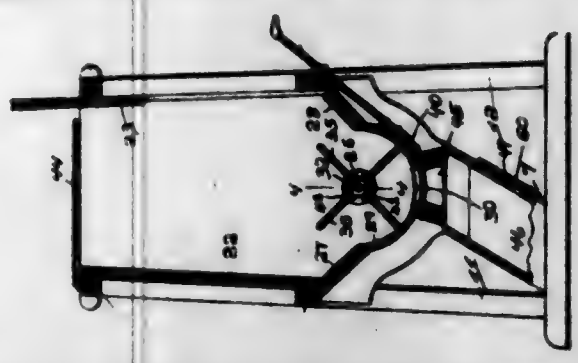
Claim.—1. The combination with a casing, a supported rotatable arbor in the casing, means for rotating the arbor, and means for arresting the rotation thereof, of a depressible cap-piece on the top of the casing, a spring-drawn connection between the cap-piece and the arresting means, adapted to raise the cap-piece, said means being actuated by the arresting means, and a stabbing-rod, reciprocated by a turning movement of the arbor, which is released for semirotation by the depression of the cap-piece that is effected by weight imposed thereon.

2. The combination with a casing, a supported rotatable arbor in the casing, a detent-disk on one end of said arbor, a dog pivoted on the casing, and a spring-drawn pawl pivoted on the dog and adapted for arresting rotation of the detent-disk, of a loose cap-piece

on the top of the casing, a rod connection between the dog and the cap-piece, a spring connecting said rod with the casing and normally raising the cap-piece, a stabbing-rod reciprocated by a turning movement of the disk and working through the cap-piece, and means for rotating the arbor.

3. The combination with a casing tapered toward the upper end, a frame secured in the casing, an arbor rotatable on the frame, a motor-spring adapted for turning the arbor, a circular detent-disk mounted upon one end of the arbor, a toe projected from the edge of the disk, and means for winding the spring by its engagement with the other end of said arbor, of a cap-piece movably mounted upon the small upper end of the casing, a spring-drawn rod connection pivoted at one end on the detent-disk and secured at its opposite end on the cap-piece, a stabbing-rod pivoted by one end on the disk adjacent to the toe thereon, said rod being pointed at the opposite end that works in the small end of the casing and through the cap-piece, a dog pivoted on the frame and adapted for engaging the toe, said dog being released from the toe so as to permit a revolution of the disk when the cap-piece is depressed.

805,899. **DUSTLESS FEEDER AND MIXER FOR FLOUR-MILLS.** ROBERT B. BOLL, Mulkeytown, Ill., assignor of one-half to Hermann Liebster, Mulkeytown, Ill. Filed Jan. 28, 1905. Serial No. 243,744.



Claim.—In a dustless feeder and mixer for flour-mills: a shaft rotatably mounted; a hopper having walls curved and concentric to the shaft, and having a discharge-opening; a screen in the discharge-opening; a beater-arm adjustably mounted upon the shaft; a curved shutter for regulating the passage through the screen and a handle connected to said shutter and extending outwardly therefrom.

805,900. **LAWN-MOWER.** JAMES H. BRYANT, Sparta, Tenn., assignor of one-half to Reuben T. Drake, Rock Island, Tenn. Filed July 3, 1905. Serial No. 268,113.



Claim.—1. In a lawn-mower, the combination of a frame comprising a longitudinal portion and an inverted-U-shaped beam, or arch, arranged vertical and at right angles to the vertical plane of the longitudinal portion, the two being secured together at their middle, stub-axles projecting from the pendent end portions of the beam and running-wheels mounted thereon, cutting mechanism arranged upon the front end of the longitudinal portion and extending laterally and equally on each side thereof, and means for operating the said mechanism, substantially as described.

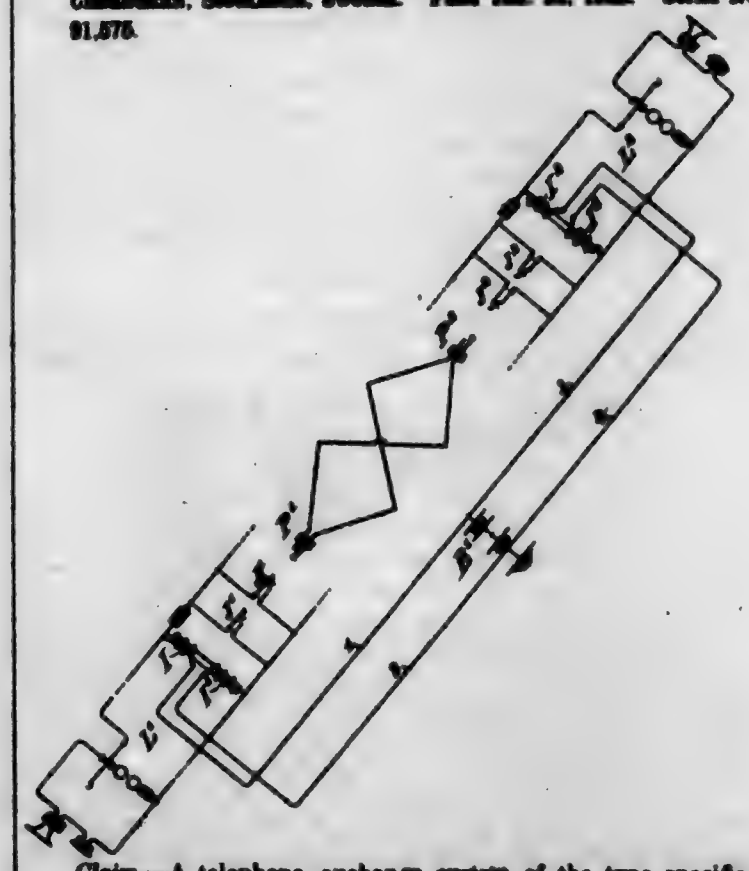
2. In a lawn-mower, the combination, with a longitudinal frame, cutting mechanism arranged at the front end of the same and including a reciprocating cutter, an oscillating lever pivoted in the frame and operatively connected with the reciprocating cutter and having in its upper end a head provided with an elongated vertical slot, a rotary shaft in substantial alinement with the oscillating lever, and having an eccentric pin which works in the aforesaid slot, and means for operating the rotary shaft substantially as described.

3. In a lawn-mower, the combination, with a longitudinal frame comprising a bar and inverted-U-shaped transverse beam having pendent arms carrying stub-axles, running-wheels mounted on such axles, and cutting mechanism arranged at the front of the frame, an oscillating lever for operating the reciprocating cutter, a rotary shaft operatively connected with the oscillating lever, transverse shafts whose inner ends are geared with such rotary shaft, internal toothed gears secured to the running-wheels, and supplemental gearing for operatively connecting the transverse shaft therewith, substantially as described.

4. In a lawn-mower, the combination, with a longitudinal frame and an inverted-U-shaped beam secured together at their middle, axles secured to the pendent arms of the beam, running-wheels mounted on such axles, reciprocating cutting mechanism arranged at the front of the frame, an oscillating lever for imparting reciprocation to the cutter, a rotary shaft operatively connected with the oscillating lever and provided with bevel-pinions arranged opposite and spaced apart, transverse shafts I, I', geared with the respective pinions and operatively connected with the running-wheels whereby rotation is imparted as the machine advances, substantially as described

5. In a lawn-mower, the combination, of a longitudinal frame comprising a practically straight bar and an inverted-U-shaped beam the two being secured together at the middle of the upper side of the arch, axles secured to the pendent arms of the beam and adapted for vertical adjustment thereon, running-wheels mounted on said axles, a reciprocating cutter arranged at the front of the frame, and an oscillating lever and rotary axles connected and arranged for imparting reciprocation thereto, substantially as described.

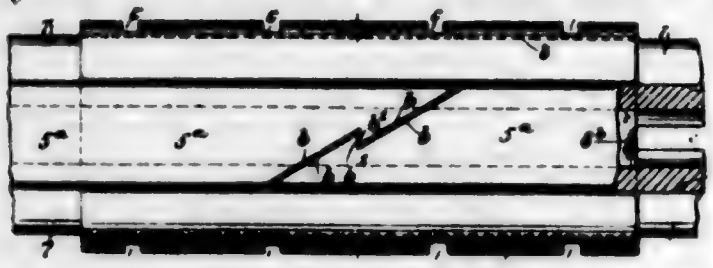
805,901. **TELEPHONE-EXCHANGE SYSTEM.** HENRIK T. CEDERGREN, Stockholm, Sweden. Filed Jan. 21, 1902. Serial No. 91,575.



Claim.—A telephone-exchange system of the type specified, having a central battery, conductors which connect the poles of said

battery respectively with the two branches of the line conductors, the connecting-points of the said conductors with said branches being situated between the respective spring-jacks of the line's corresponding subsidiations, inductive resistances interposed between the central battery and the line conductors, plug conductors to unite the spring-jacks of different subscribers, and means for preventing the central-battery current from flowing at any time through any part of the jack-field and cord conductors, substantially as described.

805,902. TRACK-RAIL AND RAIL-JOINT CONNECTION. CHARLES W. CLARK, Chama, N. Mex., assignor of three-tenths to George Saxon, Chama, N. Mex. Filed May 22, 1905. Serial No. 261,741.



Claim.—1. A shoe for connecting the ends of track-rails, comprising a flat base-plate, a perpendicular web centrally thereon, a head-block on the web, and return-bent flanges on the side edges of the base-plate.

2. The combination with a pair of track-rails, each having a longitudinally-apertured ball, a web depending from the ball, said web having a longitudinal slot intersecting the aperture, and two similar base-flanges extending oppositely from the lower ends of the web, of a shoe for connecting ends of the rails in sequence, comprising a base-plate whereon the base-flanges seat, a web projected up from the base-plate and occupying the slots in the rail-webs, a head-block on the projected web occupying the aperture in the balls of the meeting track-rails, and return-bent flanges on the outer edges of the base-plate, said flanges bearing against the tops of the base-flanges and against adjacent sides of the slotted webs on the track-rails.

805,903. METHOD OF DISSOLVING AND RECOVERING RUBBER. GEORGE A. L. CLIFT, West Bromwich, England, assignor to Robinson Brothers, Limited, an English trading company, West Bromwich, England. Filed Mar. 3, 1905. Serial No. 248,294.

Claim.—1. The herein-described method of recovering rubber, which consists in first dissolving out the rubber with a base of the pyridin group, and then separating the rubber from such solution with a reagent.

2. The herein-described method of recovering rubber from waste, which consists in first dissolving out the rubber with a base of the pyridin group, then precipitating the rubber from such solution with a reagent, and then recovering the base by suitable means.

3. The herein-described method of forming a solution of rubber in a volatile solvent, which consists in first dissolving waste rubber in a base of the pyridin group, then treating such solution with an acid in the presence of the volatile solvent for the separation of the rubber from the said base and its solution in the said solvent, and then separating off the said solvent, with the rubber in solution therein.

805,904. DUST-PAN ATTACHMENT FOR BROOMS. LOUIS B. DESPAIN, Pacific Grove, Cal. Filed May 9, 1905. Serial No. 259,594.



Claim.—1. An attachment for a broom, comprising, in combination, a body adapted to receive dirt, an arm freely attached thereto, a saddle adapted to be attached to the handle of the broom and constituting a guide through which said arm may slide, said arm having means for grasping the handle of said broom.

2. An attachment for a broom comprising, in combination, a saddle adapted to grasp the broom-handle and presenting guiding-eyes, an arm having bars passing through said guiding-eyes and having a throat formed at the extremity thereof adapted to grasp said handle, and a pan-body attached to said arm.

3. An attachment for a broom comprising a body constituting a receptacle for the dirt and having a cleat projecting on the rear side thereof and adapted to be pressed by the sweeper's foot, an arm pivotally attached to said body and a saddle adapted to be attached to the broom-handle and making a running connection with said arm.

4. An attachment for a broom comprising, in combination, a saddle presenting throats adapted to grasp the handle of said broom and having guiding-eyes disposed between said throats, an arm presenting bars passing freely through said guiding-eyes and having a throat at the upper extremity thereof adapted to grasp the handle of said broom, and a body constituting a receptacle for dirt and having a mouth on one side thereof, and a movable lid opposite said mouth.

805,905. RAILWAY-RAIL JOINT. JOHN T. EVANS, New York, N. Y. Filed July 14, 1904. Serial No. 216,495.



Claim.—1. The combination with railway-rails having longitudinal channels in their base-flanges, of joint-plates substantially L-shaped in cross-section and having ribs for engaging in said channels, the said ribs and channels being so arranged as to permit sliding movement of the rails on the plates.

2. The combination with railway-rails having longitudinal channels in the under side of their heads and longitudinal channels in their base-flanges, of joint-plates having vertically-disposed portions, the upper edges of which engage in the channels in the heads, and ribs on the lower portions for engaging in the channels in the rail base-flanges, the parts being so arranged as to permit movements of the rails lengthwise of the joint-plates.

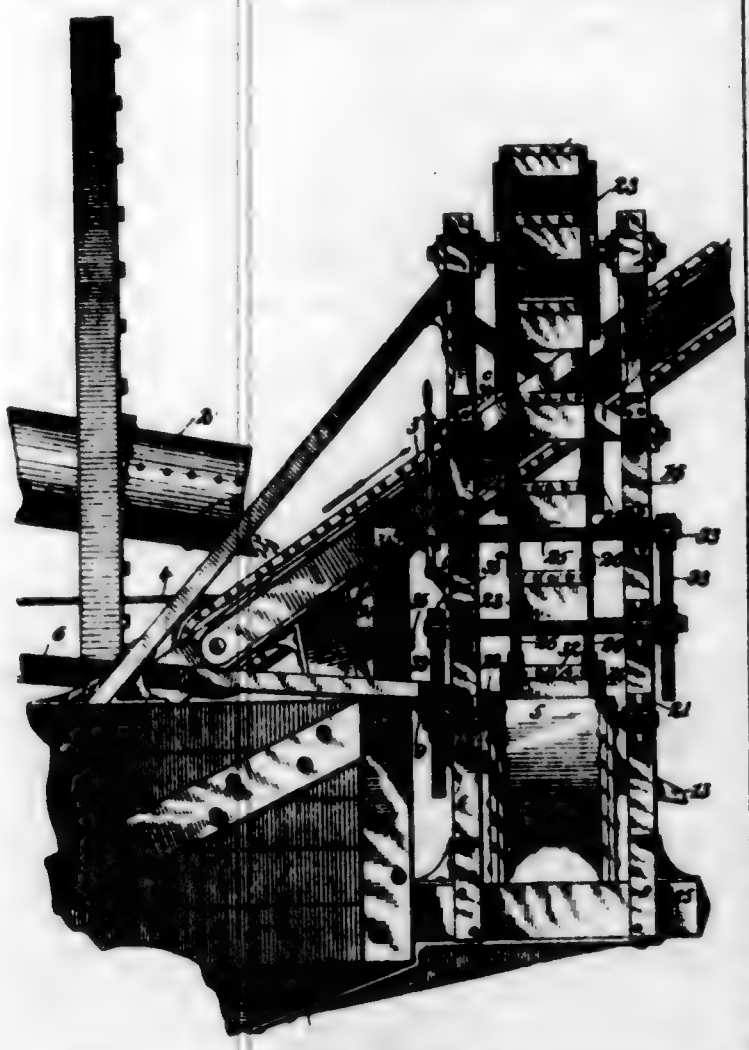
3. The combination with railway-rails having longitudinal channels in the under sides of their heads and longitudinal channels in their base-flanges, of joint-plates substantially L-shaped in cross-section, the upper continuous edges of which engage in the channels in said heads and ribs at the lower sides of the plates for engaging in the channels in the base-flanges, the said ribs being extended the entire length of the plates whereby the rails may slide thereon.

4. The combination with railway-rails having longitudinal channels formed in the under sides of the head portions and longitudinal channels formed at the junction of the rail-webs and base-flanges, the said base-flanges being provided with elongated openings, of joint-plates substantially L-shaped in cross-section, the upper edges of said plates engaging in the channels in the rail-heads, the base-flanges of said plates being provided with openings for spikes, and ribs on said plates for engaging in the channels formed at the junction of the webs and the base-flanges.

5. The combination with railway-rails, of joint-plates substantially L-shaped in cross-section, the said rails being provided with longitudinal channels, the said plates having portions for engaging

in said channels, and connections between the plates and rails whereby the rails may slide by expansion and contraction.

805,906. ATTACHMENT FOR DREDGERS. HERBERT P. FRANCIS, Oroville, Cal., assignor of one-half to said Francis and one-half to Richard Saville, Oroville, Cal. Filed June 10, 1904. Serial No. 211,965.



Claim.—1. In a dredging-machine, the combination of a stacker, means for supplying material thereto, a sand-box, a sluice emptying into said sand-box, and an endless conveyer for removing sand and water from said sand-box and emptying the sand on said stacker

2. In a dredging-machine, the combination of a stacker, means for supplying material thereto, a sand-box, a sluice emptying into said sand-box, an endless conveyer for removing sand and water from said sand-box and discharging the same, means for directing the sand from said conveyer to said stacker, and means for directing the water from said conveyer away from said stacker.

3. In a dredging-machine, the combination of a stacker, means for supplying material thereto, a sand-box having an overflow, a plurality of sluices emptying into said sand-box, and an endless conveyer for removing the material from said sand-box and discharging it on the stacker.

4. In a dredging-machine, the combination of a stacker, a sand-box having an inclined bottom, a plurality of sluices emptying into said sand-box, and an endless conveyer for removing material from said sand-box and discharging it on said stacker.

5. In a dredging-machine, the combination of a stacker, a sand-box, and an endless conveyer for removing material from said sand-box and discharging it on said stacker; said conveyer comprising a series of buckets and links, and a plurality of rotary drums over which said links pass.

6. In a dredging-machine, the combination of a stacker, a sand-box, and an endless conveyer for removing material from said sand-box and discharging it on said stacker; said stacker passing through said conveyer.

7. In a dredging-machine, the combination of a stacker, a sand-box, and an endless conveyer for removing material from said sand-box and discharging it on said stacker; said conveyer comprising a frame, and a plurality of rotary drums mounted on said frame, one of said drums being located higher than the others, said stacker passing through said conveyer at a point near said highest drum.

8. In a dredging-machine, the combination of a stacker, means for supplying material thereto, a sand-box, a sluice emptying into said sand-box, a frame, and an endless conveyer for removing material from said sand-box and discharging it on said stacker; said conveyer comprising a series of buckets and links, and a plurality of rotary drums mounted on said frames, two of said drums being located at the upper part of said frame, one higher than the other, said stacker passing through said conveyer at a point adjacent to the highest drum.

9. In a dredging-machine, the combination of a stacker, a sand-box, and an endless conveyer for removing material from said sand-box and discharging it on the stacker, comprising a series of buckets having links rigidly attached thereto, and means for pivotally attaching said links together end to end.

10. The combination of two endless conveyers, and a box for receiving sand and water, one of said conveyers being adapted to take material from the box and deposit it on the other conveyer.

11. In a dredging-machine, the combination of two endless conveyers and a box for receiving sand and water, one of said conveyers being adapted to take material from the box and deposit it on the other conveyer, and comprising a series of links each formed of two pieces of metal and having means for pivotally securing the links together end for end, and buckets rigidly attached to said links between the two pieces of metal.

12. In a dredging-machine, the combination of a stacker, means for supplying material thereto, a sand-box, a plurality of sluices emptying into said sand-box, and an endless conveyer for removing material from said sand-box and discharging it on the stacker; said conveyer comprising two series of links pivotally attached together end for end, and a bucket rigidly attached to each pair of links, said buckets having end pieces for attachment to the links.

13. In a dredging-machine, the combination of a stacker, a sand-box having an inclined bottom, a plurality of sluices emptying into said sand-box, and an endless conveyer for removing material from said sand-box and discharging it on said stacker; said conveyer comprising a pair of series of links pivotally attached together end to end, and a bucket rigidly attached to each pair of links, the said buckets comprising end pieces for attaching to the links, and two sides, one of said sides being shorter than the other and making an acute angle therewith.

14. In a dredging-machine, the combination of a stacker, a sand-box, and an endless conveyer for removing material from said sand-box and discharging it on said stacker, said stacker passing through said conveyer, and said conveyer comprising a pair of series of links pivotally attached together end for end, and buckets rigidly attached to each pair of links, said buckets comprising end pieces for attachment to the links, and two sides, one of said sides being shorter than the other and making an actue angle therewith.

15. In a dredging-machine, the combination of a stacker, a sand-box, and an endless conveyer for removing material from said sand-box and discharging it on said stacker, said stacker passing through said conveyer, and said conveyer comprising a series of links pivotally attached together end to end, and a series of buckets rigidly secured to said links, each of said buckets being provided with a lip removably attached to the working edges thereof.

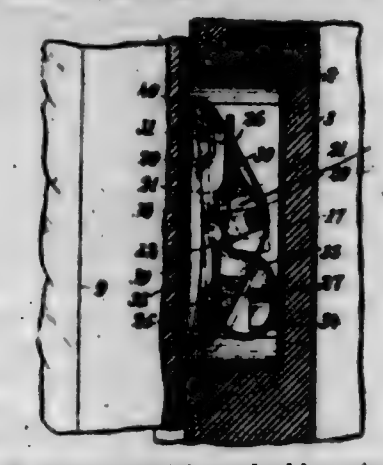
16. In a dredging-machine, the combination of a stacker, a sand-box, and an endless conveyer for removing material from said sand-box and discharging it on said stacker, said stacker passing through said conveyer, and said conveyer comprising a series of links each formed of two pieces of metal and having means for pivotally securing said links together end for end between the two pieces of metal.

805,907. COMBINED HOLDER AND LOCKING DEVICE FOR WINDOW-SASHES. DORUS G. FREEMAN, Canastota, N. Y. Filed May 29, 1905. Serial No. 262,536.

Claim.—1. A sash-fastener comprising a double-acting swinging bolt on the window-frame, an engaging device therefor on the sash, and means for normally maintaining the bolt in neutral position and for causing either end thereof to be carried into operative relation with said engaging device, at will, embodying a rotatable shaft, a cam and a spring-lever, said cam having a circumferentially-disposed groove therein, and the spring-lever having an extremity thereof located within said groove.

2. A sash-fastener comprising a double-acting swinging bolt on the window-frame, an engaging device therefor on the sash, and means for normally maintaining the bolt in neutral position and for causing either end thereof to be carried into operative relation with said engaging device, at will, embodying a rotatable shaft, a cam and a spring-lever, said cam having a circumferentially-disposed groove therein, one side of which has an extended portion, and the

spring-lever having an extremity thereof working within the groove and exerting lateral pressure against said extended portion.



3. A sash-fastener comprising a double-acting top-heavy swinging bolt on the window-frame, a device on the sash for engagement therewith of an end thereof, and means for normally maintaining the bolt out of engagement with said device and for releasing the bolt to cause the upper end thereof to gravitate to operative relation with the device, comprising a rotatable shaft, a cam thereon and a spring-lever.

4. A sash-fastener comprising a double-acting top-heavy swinging bolt on the window-frame, a device on the sash for engagement therewith of an end thereof, and means for normally maintaining the bolt out of such engagement and for releasing the bolt and carrying the lower end thereof into operative relation with said device, comprising a rotatable shaft, a cam thereon and a spring-lever.

5. A sash-fastener comprising a double-acting top-heavy swinging bolt on the window-frame, a device on the sash for engagement therewith of an end thereof, means for normally maintaining the bolt out of engagement with said device and for releasing the bolt to cause the upper end thereof to gravitate to operative relation with the device, comprising a rotatable shaft, a cam thereon and a spring-lever, and means for preventing the cam from being carried past a predetermined position inwardly until pivotally operated from said shaft.

6. A sash-fastener comprising a double-acting swinging bolt on the window-frame, an engaging device therefor on the sash, and means for normally maintaining the bolt in neutral position and for causing either end thereof to be carried into operative relation with said engaging device, at will, embodying a rotatable shaft, a cam, and a spring-lever coöperating therewith and formed with a bow, the latter maintaining operative relation between said cam and lever.

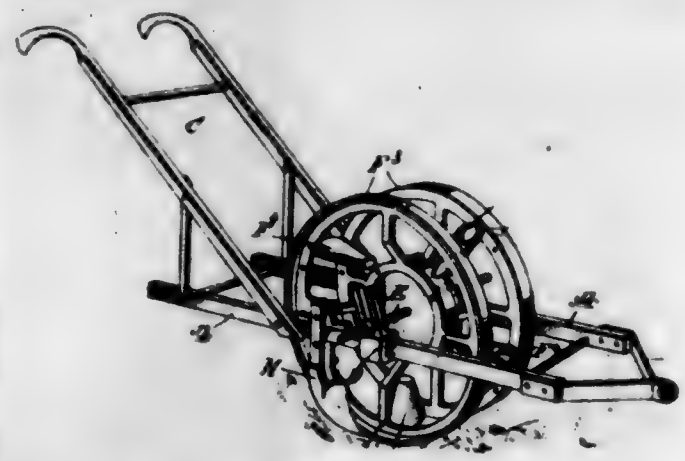
7. A sash-fastener comprising a double-acting swinging bolt on the window-frame, an engaging device therefor on the sash, and means for normally maintaining the bolt in neutral position and for causing either end thereof to be carried into operative relation with said engaging device, at will, embodying a rotatable shaft, a cam and a spring-lever, said shaft having a flattened portion and the cam having a groove in its lower edge, the sides of which embrace the sides of said flattened portion.

8. A sash-fastener comprising a supporting-frame seated in a mortise therefor in the window-frame and constructed of a back section and side sections, the former having a forward projection therefrom and of the latter having an opening therein, and also provided with a projection, a rotatable shaft working in openings therefor in each of the frames referred to, a cam mounted to turn with the shaft, a double-acting bolt on the shaft having independent swinging movement and formed at one side thereof with projections, a spring-lever formed with a bow having its extremity fastened in said opening, said bow being held between said forward projection and one of said side sections, and the free extremity of the lever having coöperative relation with the cam, and a plate on the sash having means for engagement by the ends of said bolt.

805,908. COTTON CUPPER OR SPACER. JOHN W. GILLILAND, Athens, Ga., assignor of one-half to Percy Lamar Huggins, Athens, Ga. Filed May 3, 1905. Serial No. 258,467.

Claim.—A cotton-cupper comprising a frame, bearings on the frame, a shaft journaled in the bearings, a hub on the shaft, rings secured to either side of the hub, integral spokes on the rings and comprising a portion bent outwardly from the rings, a portion parallel with the rings, rims connected with the parallel portions, elliptical cups between the rims, the major axis of the cups being transverse to the rings, and bolts for securing the cups to the rings.

805,908.

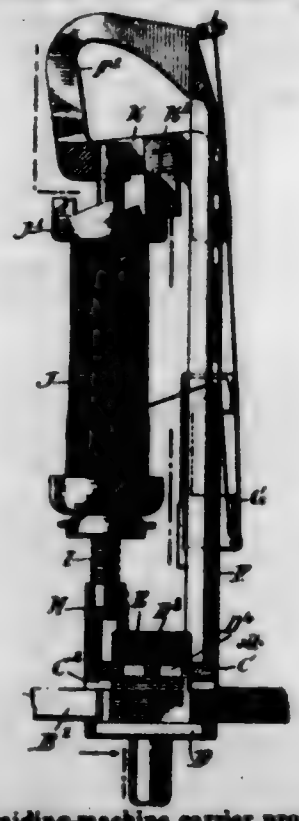


805,909. COMBINED SWIVEL, RING, AND LAP-RING. JOHN C. HACKETT, St. Louis, Mo. Filed Feb. 20, 1905. Serial No. 246,500.



Claim.—An improved connecting device, comprising a ring-like portion, the U-shaped portion swiveled thereto and having one of its arms extended and curved to form the half-ring portion, and the meeting half-ring pivoted thereto and spring-pressed.

805,910. BRAIDING-MACHINE CARRIER. RUDOLF HAFFORDE, New York, N. Y. Filed Jan. 17, 1905. Serial No. 241,434.



Claim.—1. A braiding-machine carrier provided with a racer-base comprising an apertured top plate, a bottom plate having a pin projecting from one face and a guide from its other face, said guide having an extension projecting through the aperture of the top plate, and means engaging the extension of the guide and locking the same in the aperture of the top plate.

2. A braiding-machine carrier provided with a racer-base having a top plate provided with an aperture, a bottom plate, a carrier-pin on the bottom plate, a guide also on the bottom plate and from which extends upwardly an apertured shank, extending through the said top-plate aperture, and a key engaging the said shank-aperture and resting on the top plate.

3. A braiding-machine carrier provided with a racer-base comprising a top plate having an aperture, a pin and a guide carried by the pin and having a shank extending through the aperture in said top plate, and a key for engagement with the said shank, to lock the pin and guide in position on the top plate.

4. A braiding-machine carrier provided with a racer-base, comprising an apertured top plate, a bottom plate having a pin on one face and a guide on the other face, said guide having an extension projecting through the aperture of the top plate and provided with two apertures, and a bifurcated key extending through the apertures of the extension of the guide and having a groove to receive the upper portion of said extension.

5. In a braiding-machine, a racer-base, a post on said base and having an outwardly and downwardly extending arm at its upper end formed with a bearing for a bobbin, a yarn-guide on the post, and an angular bifurcated lever pivoted to the arm of the post and having the free ends of its members extending on opposite sides of the post into the path of the yarn-guide, the lever being provided intermediate of its ends with a pawl for engaging a bobbin.

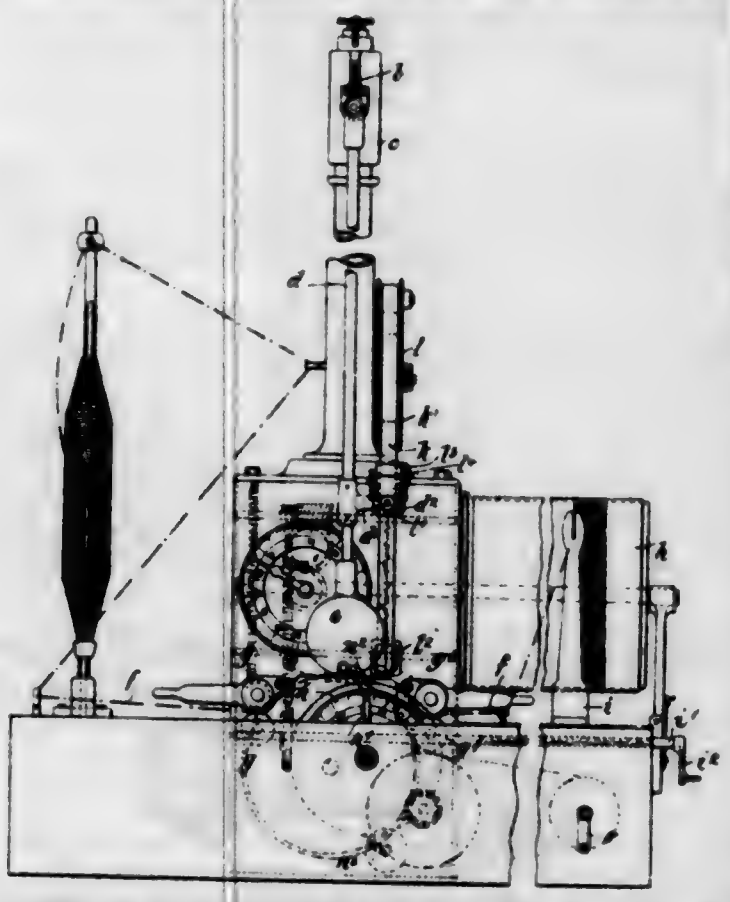
805,911. **HOLDER OR HEAD FOR INCANDESCENT GAS-MANTLES.** HUGO HEIMORN, Hamburg, Germany. Filed Aug. 6, 1903. Serial No. 168,444.



Claim.—1. A support for incandescent mantles, comprising a mantle-supporting disk, a clamping-disk, and means for pressing said clamping-disk against the mantle-supporting disk for securing the mantle interposed between the disks.

2. In an incandescent-mantle support, the combination, with a mantle-supporting disk having inwardly-projecting teeth and having a curved upper face, of a second disk having a cross-piece and a curved upper face, said disks being adapted to clamp the interposed mantle on bending the teeth of the mantle-supporting disk against the second disk.

805,912. **APPARATUS FOR TESTING AND REGISTERING THE DEGREE OF INEQUALITY OF YARN, &c.** EDUARD HERZOG, Erlach, Austria-Hungary. Filed Apr. 27, 1904. Serial No. 205,125.



Claim.—1. An apparatus for testing cord, comprising a support, means for moving the cord over the support, a contact member mounted for movement in the direction of advance of the cord, and means for indicating the movement of the contact member.

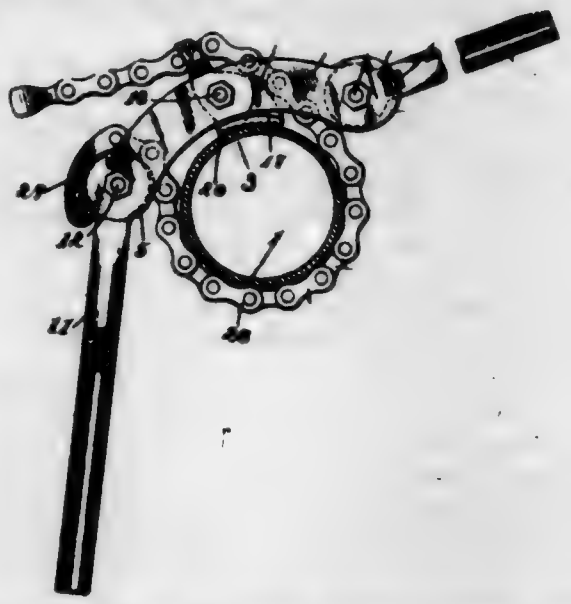
2. An apparatus for testing cord, comprising a support, means for moving the cord over the support, a pendulum mounted to swing in the direction of advance of the cord, and means for indicating the movement of the pendulum.

3. An apparatus for testing cord, comprising a support, means for moving the cord over the support, a contact member mounted for movement in the direction of advance of the cord, and means for indicating, through the movements of the contact member, the total amount of inequality of the cord.

4. An apparatus for testing cord, comprising a support, means for moving the cord over the support, a pendulum mounted to swing in the direction of advance of the cord, and a style carried by the pendulum.

5. An apparatus for testing cord, comprising a support, means for moving the cord over the support, a pendulum mounted to swing in the direction of advance of the cord, and a counter mechanism with which the pendulum coacts.

805,913. **PIPE-TONGS.** HENRY R. HILL, Caldwell, Ohio. Filed Sept. 8, 1905. Serial No. 277,542.

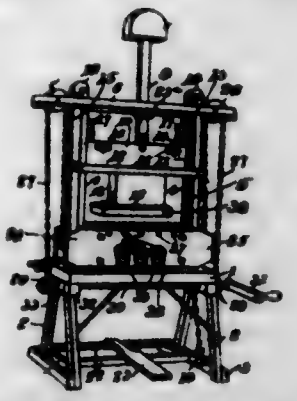


Claim.—1. A yoke, a jaw pivotally attached thereto, a chain engaging said jaw, and a lever pivotally attached to said yoke and engaging said chain.

2. In a chain tongs, in combination, a yoke, a jaw pivotally attached thereto and having a shoe adapted to engage the face of a pipe, said jaw further having a tail projecting therefrom, a chain adapted to engage said tail, and a lever pivotally attached to said yoke and having a dog adapted to engage said chain.

3. In a chain tongs, in combination, a yoke consisting of a pair of plates disposed apart, a jaw pivotally attached to said yoke between said plates and having a shoe adapted to engage the surface of a pipe, said jaw further having a tail projecting rearwardly therefrom, a chain adapted to engage said tail, and a lever pivoted to said yoke and having a dog adapted to engage said chain.

805,914. **MACHINE FOR MAKING CEMENT OR CONCRETE BLOCKS.** JACOB HOUK, Mechanicsburg, Ohio. Filed June 8, 1905. Serial No. 264,214.



Claim.—1. A machine for making cement blocks, comprising a supporting-table provided with vertical guideways, a permanent mold-body mounted on said guideways, means for raising and lowering said mold-body and holding it in a raised position, a tamping-plunger vertically movable in said guideways and provided with a top plate adapted to enter and fit the mold-body, means for reciprocating said tamping-plunger, and means for locking said tamping-plunger against vertical movement in either direction at different points of its path, substantially as described.

2. A machine for making cement blocks, comprising a supporting-table provided with vertical guideways, a permanent mold-body mounted on said guideways, means for raising and lowering said

mold-body and holding it in a raised position, a tamping-plunger vertically movable in said guideways and provided with a top plate adapted to enter and fit in the mold-body, said top plate having a pattern on its under side, means for reciprocating said tamping-plunger, and means for locking said tamping-plunger against vertical movement in either direction at different points of its path, substantially as described.

3. A machine for making cement blocks, comprising a supporting-table provided with vertical guideways, a permanent mold-body mounted on said guideways, means for raising and lowering said mold-body and holding it in a raised position, a tamping-plunger vertically movable in said guideways, a top plate detachably connected to said tamping-plunger and adapted to enter and fit the mold-body, means for reciprocating said tamping-plunger, and means for locking said tamping-plunger against vertical movement in either direction at different points of its path, substantially as described.

4. A machine for making cement blocks, comprising a supporting-table provided with vertical guideways, a permanent mold-body mounted on said guideways, means for raising and lowering said mold-body and holding it in a raised position, a tamping-plunger vertically movable in said guideways and provided with a top plate adapted to enter and fit the mold-body, means for reciprocating said tamping-plunger, and means for locking said tamping-plunger against vertical movement in either direction with its top plate in contact with the finished block within the mold, and for holding said plunger in a raised position, substantially as described.

5. A machine for making cement blocks, comprising a supporting-table provided with vertical guideways, a permanent mold-body mounted on said guideways, means for raising and lowering said mold-body and holding it in a raised position, a removable bottom board or plate interposed between said mold-body and supporting-table, a tamping-plunger vertically movable in said guideways and provided with a top plate adapted to enter and fit the mold-body, means for reciprocating said tamping-plunger, and means for locking said tamping-plunger against vertical movement in either direction at different points of its path, substantially as described.

6. A machine for making cement blocks, comprising a supporting-table provided with vertical guideways, a permanent mold-body mounted on said guideways, means for raising and lowering said mold-body and holding it in a raised position, a tamping-plunger vertically movable in said guideways and provided with a top plate adapted to enter and fit the mold-body, means for reciprocating said tamping-plunger, means for locking said tamping-plunger against vertical movement in either direction at different points of its path, and a stop carried by said plunger and arranged to be engaged by the mold-body after said mold-body has cleared the block in its upward movement, substantially as described.

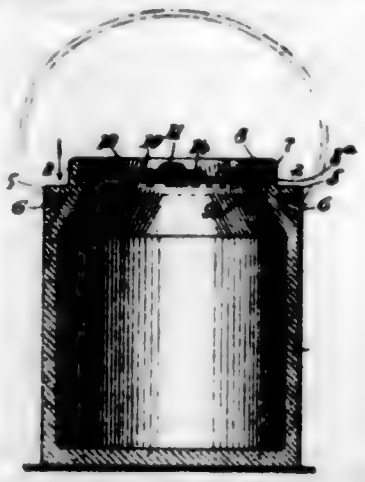
7. A machine for making cement blocks, comprising a supporting-table provided with vertical guideways, a permanent mold-body mounted on said guideways, means for raising and lowering said mold-body and holding it in a raised position, said means comprising a crank-shaft supported below the table, pulleys supported on the guideways, and flexible connections between said mold-body and crank-shaft passing around said pulleys, a tamping-plunger vertically movable in said guideways and provided with a top plate adapted to enter and fit the mold-body, means for reciprocating said tamping-plunger, and means for locking said tamping-plunger against vertical movement in either direction at different points of its path, substantially as described.

8. A machine for making cement blocks, comprising a supporting-table provided with vertical guideways, a permanent mold-body mounted on said guideways, means for raising and lowering said mold-body and holding it in a raised position, a tamping-plunger vertically movable in said guideways and provided with a top plate adapted to enter and fit the mold-body, and means for reciprocating said tamping-plunger, comprising a treadle located below the table, pulleys mounted on the guideways, and flexible connections between said treadle and plunger passing over said pulleys, substantially as described.

9. A machine for making cement blocks, comprising a supporting-table provided with vertical guideways, and cross-pieces connecting said guideways, a permanent mold-body mounted on said guideways and provided with means for raising and lowering the same, a tamping-plunger vertically movable in said guideways and having a stem extending upward between the cross-pieces, means for reciprocating said plunger, and means for locking said plunger against vertical movement, comprising a locking-lever pivotally mounted on one of said cross-pieces and having a cam-shaped or eccentric head adapted to engage the plunger-stem and clamp the same against the other cross-piece, substantially as described.

10. In a machine for making cement blocks, the combination, with a vertically-movable mold-body and reciprocating tamping-plunger, of a table provided with guideways for said mold-body and plunger, and a removable bottom board or plate interposed between said mold-body and table, said table being provided with a supporting-frame having an extension at one side of and below the table, and a hand-barrow or the like removably supported on said extension in position to receive the bottom board and completed block, substantially as described.

805,915. JAR. EUGENE HOUGHTON, Dalton, Ohio. Filed Mar. 17, 1905. Serial No. 250,096.



Claim.—1. A jar provided with bail-holes and also provided with a neck, the inner portion of which is slightly offset and provided with a shoulder, a member for engaging said shoulder, and a spring member for engaging said offset portion and thereby forcing said member against said shoulder, said spring member being further provided with portions for engaging said bail-holes.

2. A jar provided with bail-holes, a closure member for said jar, and a spring-bail for securing said closure member in position, said spring-bail being provided with portions for engaging said bail-holes.

3. The combination of a jar provided with bail-holes and also provided with a neck, a disk for closing said neck, and a spring-bail adapted to be carried within said neck, said spring-bail being provided with portions for engaging said bail-holes.

4. The combination of a jar provided with bail-holes and further provided with a neck having an annular surface disposed internally thereof, and a spring-bail fitting into said neck and adapted to engage said annular surface, said spring-bail being provided with portions for engaging said bail-holes.

5. The combination of a jar provided with bail-holes and provided with a portion for detachably carrying a bail, and a bail normally engaging said portion but provided with portions for engaging said bail-holes.

6. The combination of a jar provided with bail-holes and further provided with a neck, a closure member fitting into said neck, and a spring member detachably mounted within said neck and adapted to secure said closure member in position, said spring member being provided with portions for engaging said bail-holes.

805,916. NUT-LOCK. HENRY L. JIMER, Crowell, Tex. Filed June 1, 1905. Serial No. 263,312.



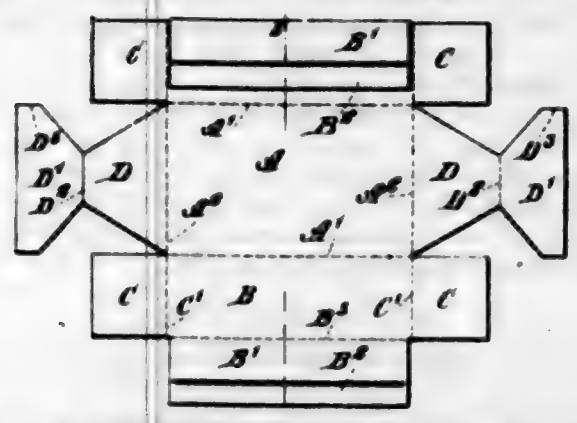
Claim.—1. A nut-lock comprising a nut, a bolt, said bolt being provided with a transverse groove having inclined walls connected with a longitudinal groove, a locking-pin adapted to fit into said grooves and having a flexible end adapted to lock said nut, substantially as described.

2. A nut-lock comprising a nut, a bolt having a longitudinal groove, and a transverse groove, said transverse groove being provided with inclined walls, a locking-pin adapted to fit into said grooves, and engaging one of said inclined walls whereby said pin will be firmly locked to the bolt, and means for locking said nut, substantially as described.

3. A nut-lock comprising a nut, a bolt having a longitudinal groove terminating at its inner end in a transverse groove, said transverse groove terminating in recesses, a locking-pin having a resilient cross-head, said cross-head being provided with a pair of projections engaging recesses on opposite sides of said bolt, substantially as and for the purpose described.

4. A nut-lock comprising a nut, a bolt, having a longitudinal groove terminating in a transverse groove, said transverse groove having inclined walls, an approximately T-shaped locking-pin adapted to fit into said grooves, substantially as described.

805,917. **BOX.** WALTER B. KREBS, New York, N. Y., assignor to The United States Printing Company, Brooklyn, N. Y., a Corporation of Ohio. Filed May 10, 1905. Serial No. 259,663.



Claim.—A folding bottom or cover for a box, comprising a body, side members and end members connected with said body, the side members having doubled portions B' slightly shorter throughout than the side members and free so as to stand inward in the completed box and form locking-flaps, the remainder of said doubled portions being secured together, the side members also having end flaps C, the free or inner ends of the end members being as long as the bases of said end members so as to be locked by said inwardly-standing locking-flaps.

805,918. **MONOAZO DYE AND PROCESS OF MAKING SAME.** THEO KNOSPE, Basel, Switzerland, assignor to The Firm of Society of Chemical Industry in Basle, Basel, Switzerland. Filed May 23, 1905. Serial No. 261,896. (Specimens.)

Claim.—1. The process for the manufacture of monoazo dyestuffs, which consists in acidylizing 1-2-amidonaphtholsulfonic acids in the hydroxyl group, then diazotizing the so-obtained 1-amido-2-acidyloxynaphthalenesulfonic acids and combining the resulting diazo compounds with sulfonic acids of 1:8-dioxynaphthalene.

2. The process for the manufacture of monoazo dyestuffs, which consists in acetylizing 1-2-amidonaphtholsulfonic acids in the hydroxyl group, then diazotizing the so-obtained 1-amido-2-acetyloxynaphthalenesulfonic acids and combining the resulting diazo compounds with sulfonic acids of 1-8-dioxynaphthalene.

3. The process for the manufacture of a monoazo dyestuff, which process consists in acetylizing 1-2-amidonaphthol-4-sulfonic acid in the hydroxyl group, then diazotizing the obtained 1-amido-2-acetoxynaphthalene-4-sulfonic acid and combining the resulting diazo compound with 1-8-dioxynaphthalene-3-6-disulfonic acid.

4. As new products, the monoazo dyestuffs derived from sulfonic acids of 1-2-amidonaphthol and sulfonic acids of 1-8-dioxynaphthalene, which dyestuffs dissolve in water with violet-blue to blue coloration, and in concentrated sulfuric acid with greenish-blue coloration and dye unmordanted wool in clear blue shades, which shades become bluish green on treatment with chromium compounds.

5. As a new product, the monoazo dyestuff derived from 1-2-amidonaphthol-4-sulfonic acid, and 1-8-dioxynaphthalene-3-6-disulfonic acid, which dyestuff is soluble in water with a pure violet-blue color, soluble in concentrated sulufric acid with a greenish-blue color and dyes unmordanted wool in clear blue shades, which become bluish green on treatment with chromium compounds.

805,919. **CURTAIN-POLE RING.** JOHN KNOBEL, New York, N. Y. Filed Apr. 18, 1905. Serial No. 256,209.

Claim.—1. A curtain-pole ring comprising a ring having a transverse slot and inwardly-bent flanges, a bearing fitting the said slot and having spring-tongues adapted to abut against the said flanges, and a roller journaled in the said bearing.

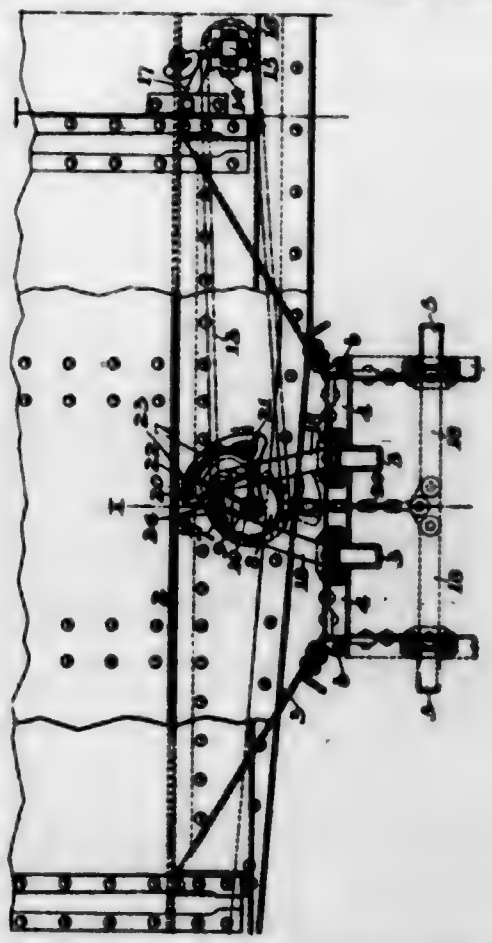
2. A curtain-pole ring provided with a bearing made of a single piece of material and having side arms formed with integral trunnions and integral shoulders, the bearing also having integral spring-tongues engaging the inner surface of the ring, and a roller journaled on the said trunnions.



3. A curtain-pole ring provided with transverse slots and with inwardly-projecting flanges at the ends of the slots, bearings having tongues for engaging the flanges and rollers journaled in the bearings and projecting through the slots.

4. A curtain-pole ring provided with transverse slots and with inwardly-projecting flanges at the ends of the slots, bearings fitting the slots, and provided with shoulders for engaging the ends thereof, and with spring-tongues for engaging the flanges, and rollers journaled in the bearings.

805,920. **CAR-DOOR MECHANISM.** CHARLES A. LINDSTRÖM, Allegheny, Pa., assignor to The Pressed Steel Car Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Oct. 19, 1904. Serial No. 229,119.



Claim.—1. In car-door-operating mechanism, a rotatable operating member, links connected to the doors, an equalizing-bar for said links and means adapted to raise the equalizing-bar to a locking position on the operating member, substantially as described.

2. Car-door-operating mechanism comprising a rotatable operating member, a plurality of links, and an equalizing-bar for said links, one of said links being adapted to pass the axis of the operating member when the doors are operated; substantially as described.

3. Car-door-operating mechanism comprising a circular arm or segment, an equalizing-bar, means for raising the equalizing-bar to a locking position on said arm and a plurality of links connecting the equalizing-bar to the doors; substantially as described.

4. Car-door-operating mechanism comprising a rotatable operating member, a flexible connection, an equalizing-bar and links connecting the equalizing-bar and the doors, said connection being

adapted to lift the equalizer to a locking position on the operating member; substantially as described.

5. Car-door-operating mechanism comprising a rotatable operating member, a flexible connection, an equalizing-bar and links connecting the equalizing-bar and the doors, said connection being adapted to lift and support the equalizer in a locking position on the operating member; substantially as described.

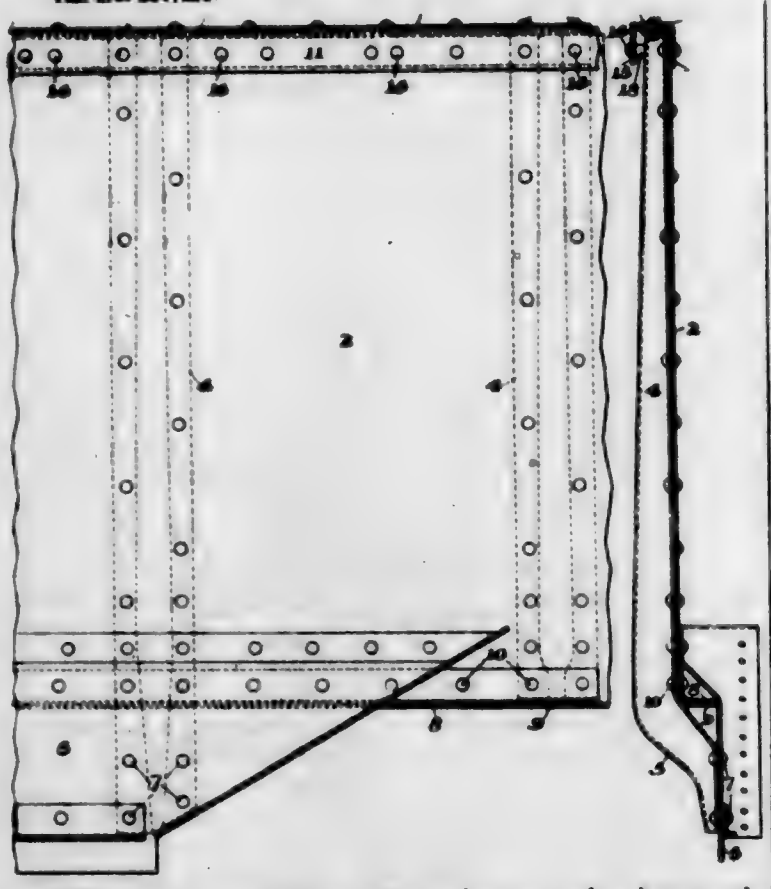
6. Car-door-operating mechanism comprising an operating member, links and equalizing connecting means for raising the adjacent ends of said links to a point above the axis of the operating member, said links diverging from said point to the doors, when said doors are in closed position; substantially as described.

7. Car-door mechanism comprising in combination with the doors, rotatable arm, links and equalizer, means on said arm which directly support the equalizer when the doors are closed; substantially as described.

8. Car-door mechanism comprising in combination with the doors, lifting-chain and segment, a clevis, and means on the segment which take the weight off the chain when the doors are closed; substantially as described.

9. Car-door mechanism comprising in combination with the doors and lifting-bars, an equalizer, chain, clevis and segment, and a pin connecting the equalizer and the clevis and adapted to engage projections on the segment; substantially as described.

805,921. **STEEL CAR-SIDE STRUCTURE.** CHARLES A. LINDSTROM, Allegheny, Pa., assignor to The Pressed Steel Car Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Dec. 19, 1904. Serial No. 237,421.



Claim.—1. A gondola car having a hopper, and an inner angle extending between the hopper-sheet and the car side, said car side having a stake with a lower extension secured to the hopper-sheet; substantially as described.

2. A car having depending hoppers below its bottom, side stakes extended below the level of the bottom and secured to the hopper-sheets, and angles riveted between the lower portions of the car sides and the hopper-sheets, said angles extending through the intermediate portions of the car; substantially as described.

3. A steel car side having an independent vertically-extending flange spaced apart from the top of the side, and securing devices extending through said flange and the side; substantially as described.

4. A steel car side having at its top an independent outer, spaced-apart flange connected to the side by separate spacing devices; substantially as described.

5. A car side having an independent reinforcing member secured along its upper edge and having a depending flange spaced apart from the car side, and securing devices connecting said depending flange to the car side; substantially as described.

6. A car side having at its top an outwardly-projecting flange, and an independent outer, depending flange spaced apart from the car side and secured thereto by connections extending through the flange and the car side; substantially as described.

7. A steel car side having an angle with an inner vertical leg secured along the inner surface of its upper edge, and another angle with a horizontal flange overlapping the flange of the inner angle and secured thereto; substantially as described.

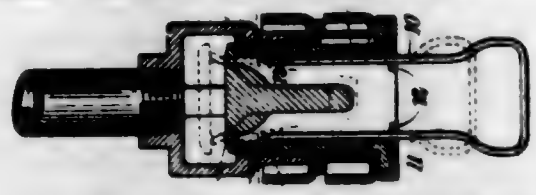
8. A steel car side having an upper girder comprising two angles arranged oppositely with overlapping horizontal flanges secured together, and spacers between the vertical leg of the outer angle and the car side; substantially as described.

9. A car side having an upper girder comprising two oppositely-arranged angles with overlapping horizontal flanges secured together, the leg of the inner angle being secured to the car side by spacers extending through the vertical leg of the outer angle; substantially as described.

10. A hopper gondola car having a top-girder construction comprising two angles extending through the intermediate part of the car, through the twin-hopper portion thereof, the upper angle having an outer, depending flange; substantially as described.

11. A car side having the stakes extended at the hopper-points and secured to the hopper-sheets, angles secured between the hopper-sheets and the car side, and overlapping angles forming a girder construction for the upper edge of the side through the hopper portions of the side; substantially as described.

805,922. **TUBULAR WELL-PLUNGER.** ELIAS B. LOCKWOOD, Pratt, Kans. Filed May 5, 1905. Serial No. 258,891.

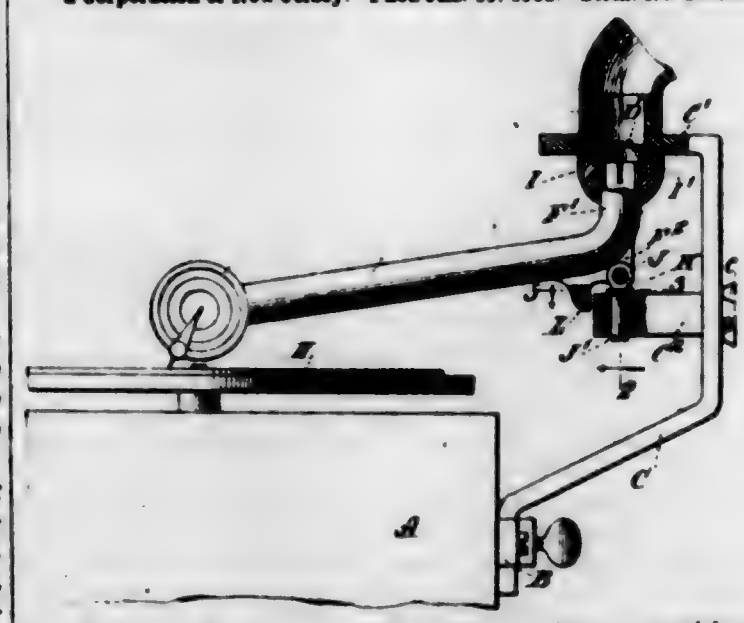


Claim.—1. A tubular well-plunger having opposite notches in its inner side, and a length of spring metal formed with side members movable in the plunger, the upper ends of said side members being turned outward to engage in said notches.

2. A tubular well-plunger having notches in its inner sides, the walls of said notches at the upper end being curved upward and inward, and a length of spring metal formed with side members movable in the plunger and having outwardly-turned ends for engaging in said notches.

3. A tubular well-plunger having notches in its inner side, perforated lugs at its lower end, and a length of spring metal formed with side members passing through the perforations of said lugs and having their upper ends turned outward to engage in said notches.

805,923. **TALKING-MACHINE ATTACHMENT.** JULIUS H. LUTZ, New York, N. Y., assignor to Victor Talking Machine Company, a Corporation of New Jersey. Filed Jan. 19, 1905. Serial No. 241,723.



Claim.—1. An attachment for talking-machines comprising a stationary support or bracket having a spherically-concaved surface with a central aperture for the escape of the sound, a sound-conducting tube provided at one end with a spherically-convexed member arranged to swing adjacent to said concave surface, a reproducer at the other end of said tube, a vertical stem or spindle pivoted to a member of said bracket, said member having an edge concentric

with said stem, and said tube having a stop adapted to engage said edge, and a horizontal pivot connecting said stem with said tube.

2. An attachment for talking-machines comprising a stationary member having a spherically-concaved surface and an aperture therein for the escape of the sound, a sound-conducting tube, a spherically-convexed member adjustably fitted on one end of said tube adjacent to said convexed surface, a reproducer carried by the other end of said tube, and a universal joint for supporting said tube.

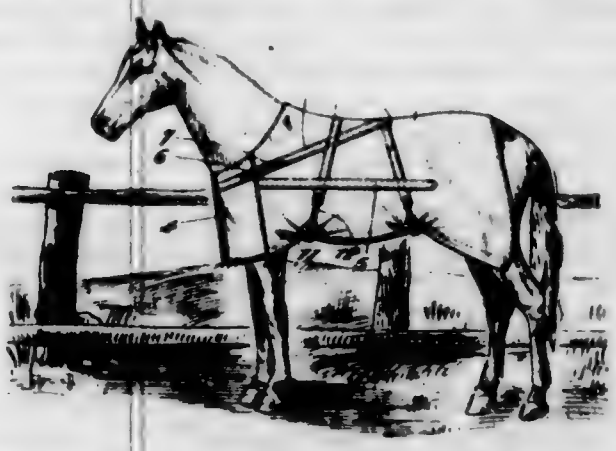
805,924. Δ4-CYCLOGERANIC ACID AND PROCESS OF MAKING SAME. GEORG MERLING, Frankfort-on-the-Main, and ALADAR RÉNYA, Höchst-on-the-Main, Germany, assignors to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Aug. 31, 1905. Serial No. 276,680.

Claim.—1. The process herein described for the manufacture of Δ4-cyclogeranic acid, which consists in producing monochlorodehydro-Δ2, 4-cyclogeranic ester from isophorone carboxylic ester and phosphorus pentachlorid and in treating this ester with reducing agents.

2. The process herein described for the manufacture of Δ4-cyclogeranic acid, which consists in producing monochlorodehydro-Δ2, 4-cyclogeranic ester from isophorone carboxylic ester and phosphorus pentachlorid and in treating this ester after saponification with reducing agents.

3. As a new product, the Δ4-cyclogeranic acid being readily soluble in alcohol, ether, benzene and acetone, crystallizing from hot ethyl acetate or ligroin on cooling in large, well-formed, glassy prisms which melt at 103° centigrade; under six millimeters pressure it boils at 123° centigrade undecomposed; the distillate, clear as water, immediately solidifies on cooling to a hard crystalline mass.

805,925. HORSE-BLANKET. AUGUST H. MEYERS, Lexington, Ky., assignor of one-half to Shelby T. Harbison, Asa H. Jewell, and Jacob W. Patterson, Lexington, Ky. Filed June 27, 1905. Serial No. 267,283.

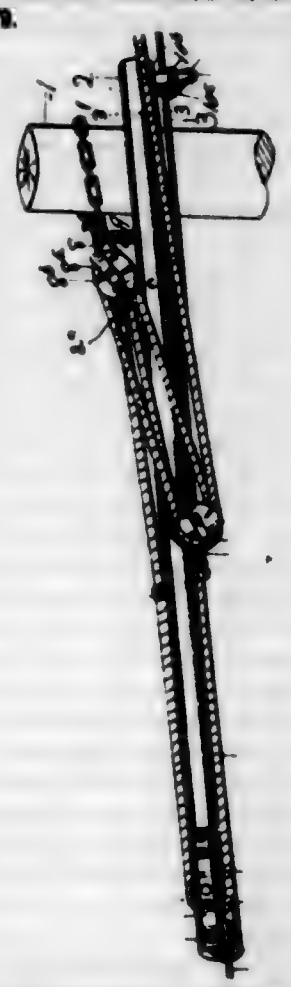


Claim.—1. A horse-blanket formed with reversible breast-flaps conforming to the neck of an animal and having breast-stays stitched concentrically with the neck curve of the flaps and extending in an upward and diagonal direction, their point of juncture terminating in rear of the shoulder-line, in combination with fastening devices located at a locality coincident with the cavity formed at the juncture between the shoulders and neck of the animal, substantially as and for the purpose hereinbefore set forth.

2. In a horse-blanket such as described and provided with the curved reversible breast-flaps, and diagonal breast and shoulder stays, longitudinal stays stitched to the blanket with their front terminals concentric with the curved neck portion of the reversible flaps, and terminating at their rear ends at a locality approximate to the hip-line, and provided at their front terminal ends with means for connection with the diagonal breast and shoulder stays, substantially as and for the purpose hereinbefore set forth.

3. In a horse-blanket such as described and formed with curved reversible breast-flaps, two surcingles stitched to the blanket and each diverging from the other from the back-seam; a horizontal stay stitched to each side of the blanket and extending around the curved edge of each breast-flap; diagonal stays extending from the back-seam at the point of juncture with the rear surcingle and intersecting the forward surcingle and extending around the curved upper edge of the breast-flap and provided with a fastening device; and straps at the upper front edge of the flaps, adapted to interlock with the fastening devices of the diagonal stays, substantially as hereinbefore set forth.

805,926. COMBINED WIRE STRETCHER, SPLICER, AND TIGHTENER. WILLIAM D. MILLER, Bozeman, Mont. Filed Aug. 10, 1905. Serial No. 273,579.



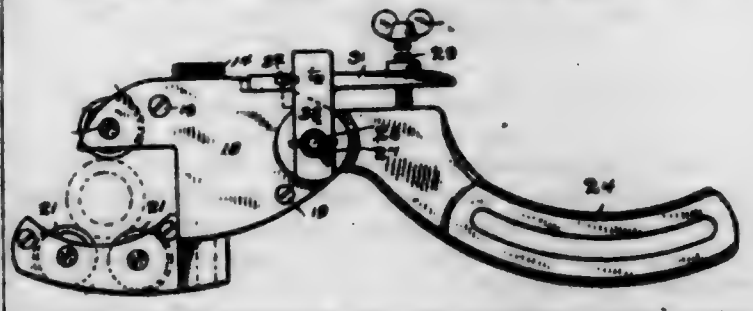
Claim.—1. In a wire-stretcher, a hitching-frame having at one end a rope-eye, at the other end a wire-clamp, and pivoted thereon a grooved pulley having on its exposed side a flange greater in circumference than the inner flange, a bar projecting out over said pulley, and a rope engaging the rope-eye and the pulley.

2. In a wire-stretcher, a bracket-frame with a pulley held to rotate on its side, said pulley having its exposed flange greater in circumference than the inner flange, and a rope engaging said pulley.

3. In a wire-stretcher, a bracket-frame, a grooved pulley held to rotate therein, a dog to engage the rope, a spring to regulate the said dog, shoulders on frame to hold spring, a grooved pulley held to rotate on the side of said frame, said pulley having on its exposed side a flange greater in circumference than the inner flange, a bar projecting over the pulley, and a rope engaging the pulleys.

4. In a wire-stretcher, a spar, a wire-support with a shoulder for locking it on the spar, a wire-clamp to secure the wire to the spar, a bracket-frame with a grooved pulley held to rotate therein and another grooved pulley held to rotate on the side thereof, a hitching-frame with a grooved pulley pivoted thereon and a rope-eye at one end of said hitching-frame, and a stretcher-rope, one end of which is secured to the said bracket-frame and the main portion making two loops, the first loop, by passing from the bracket-frame, to which one end is secured, over grooved pulley in the spar thence to and through the rope-eye in the said hitching-frame and back to the bracket-frame and over the pulley therein, the second loop, the rope passes from the bracket-frame to and around the pulley on the hitching-frame thence back again to the bracket-frame and around the pulley on the side thereof.

805,927. WRENCH AND PIPE-CUTTER. FERDINAND MINCK, Danbury, Conn. Filed Aug. 22, 1905. Serial No. 275,256.



Claim.—1. In a tool of the character described a body portion having a fixed jaw, a movable jaw having a slidable engagement with said body portion, a handle pivoted in said body and having means

adapted to engage with and move the slidable jaw, a bracket carried by the body portion, and means carried by the said bracket adapted to retain the handle in a position whereby the handle will hold the movable jaw in an operative position.

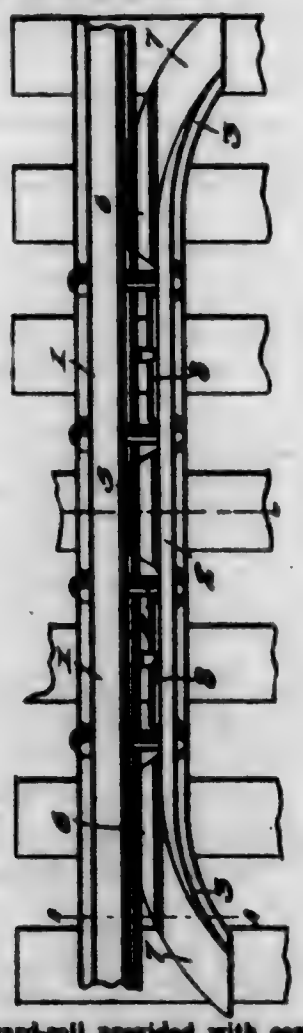
2. In a tool of the character described, a body portion provided with a fixed jaw, a movable jaw having a slidable engagement with the said body portion, a handle pivoted to said body portion, said handle having a portion adapted to engage with and move the movable jaw, a bracket provided with means for limiting the movement of said handle to retain the movable jaw in operative position, and means for detachably securing said bracket to the body portion.

3. A tool of the character described comprising a body having a transverse way and a fixed jaw, a movable jaw adapted to be slidingly mounted in said transverse way, a handle pivoted in the body and engaging with said movable jaw, a bracket detachably secured to the body and a locking-screw in said bracket adapted to bear against the handle to lock the movable jaw in operative position.

4. In a tool of the character described the combination with a body having a fixed jaw provided with a recess, said body being provided with a transverse way, a movable jaw slidingly mounted in said transverse way, a handle pivoted to the body and adapted to engage with the said movable jaw, for the purpose set forth, a bracket, a locking-screw in said bracket adapted to engage the handle to lock the movable jaw in operative position, and means for detachably securing said bracket to the body portion.

5. In a tool of the character described the combination with a body having a fixed jaw provided with a recess, a movable jaw slidingly mounted in said body, said movable jaw being provided with recesses, a handle pivoted to the body and adapted to engage with the movable jaw, a detachable bracket, a locking-screw in said bracket adapted to lock the movable jaw in operative position and a yoke inclosing the bracket and secured to the body for retaining the bracket rigidly in place.

805,928. GUARD-RAIL. WILLIAM H. HOCKER, Waveland, Ind. Filed Aug. 29, 1905. Serial No. 276,266.



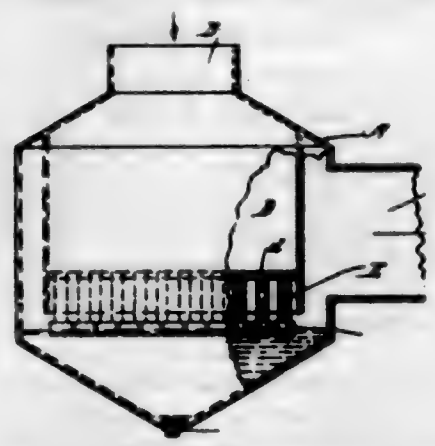
Claim.—1. A guard-rail provided with central and terminal projections to space it from the main rail.

2. A guard-rail having inturned ends, a central spacing projection, a terminal spacing projection formed upon the inturned ends, said projections being adapted to engage the main rail and space the guard-rail therefrom.

3. A guard-rail provided with inturned ends having beveled outer faces, and terminal projections extending from the outer face thereof to bear upon the main rail, said projections forming continuations of the beveled surfaces of the inturned ends.

4. The combination with a main rail, of a guard-rail having spacing projections bearing upon the main rail, and bolts connecting said rails intermediate said projections.

805,929. GAS-WASHER. BENJAMIN J. MULLEN, Leetonia, Ohio. Filed Mar. 8, 1905. Serial No. 249,963.



Claim.—1. In a gas-washer, the combination, with a vessel for holding water at a prearranged level provided with an inlet-gas chamber and a head, of small chambers or pipes connected with the said gas-chamber, each said small chamber or pipe being provided with an enlargement at its lower part which has an outlet arranged above the water-level and out of line with the said small chamber or pipe.

2. In a gas-washer, the combination, with a vessel for holding water at a prearranged level provided with a gas-inlet chamber and a head, of pipes depending from the said head and provided at their lower ends with enlargements having gas-outlet openings arranged above the water-level and above the level of the bottoms of the said pipes.

3. In a gas-washer, the combination, with a vessel for holding water at a prearranged level provided with a gas-inlet chamber and a head, of pipes depending from the said head, and caps secured to the lower ends of the said pipes and provided with gas-outlet openings at their tops around the said pipes, said outlet-openings being arranged above the water-level and constantly communicating with the main outlet from the said vessel.

4. In a gas-washer, the combination, with a vessel for holding water provided with a gas-inlet chamber and a head, of pipes depending from the said head and provided with projections at their lower ends, and caps which are slidable on the said pipes and which are provided with projections which rest on the aforesaid projections and outlet-holes for gas between the said projections.

805,930. MACHINE FOR MANUFACTURING INCANDESCENT MANTLES. JEAN L. HUILLIER, Suresnes, near Paris, and JOSEPH BONNET, Paris, France. Filed Dec. 11, 1900. Serial No. 39,569.

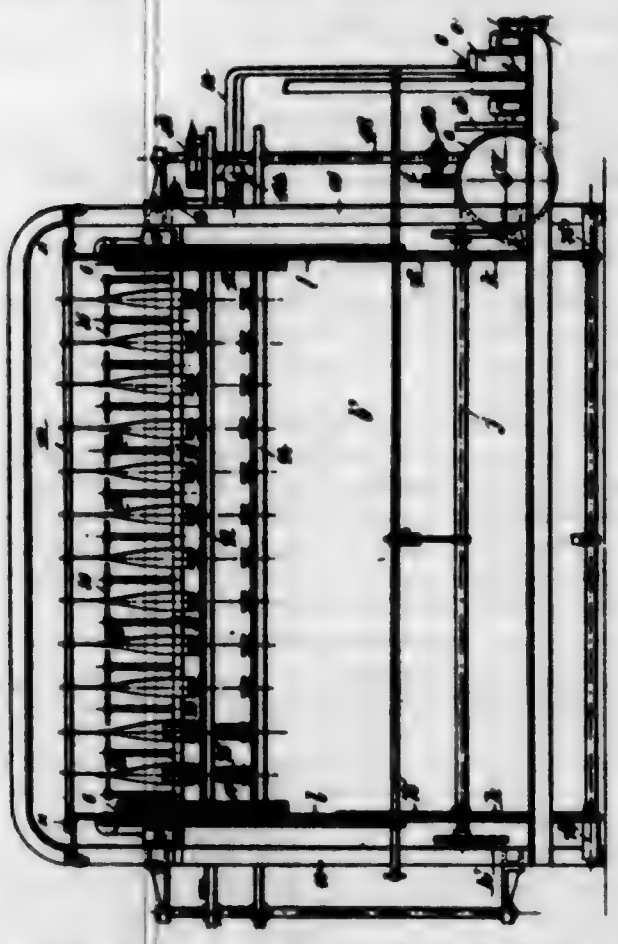
Claim.—1. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a series of devices suitable for treating the structure, means for intermittently moving the structure from one to another of the treating devices and means for producing operative relative positions between said treating devices and the intermittently-moving structure when the structure is at rest.

2. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a series of devices for treating the structure, a traveling support for the structure, means for intermittently moving said support from one to another of the said treating devices, and means for producing operative relative positions between said treating devices and the intermittently-moving structure when the structure is at rest.

3. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a series of devices for treating the structure, a traveling support for the structure, means for intermittently moving said support from one to another of the said treating devices, and means for producing operative relative positions between said treating devices and the intermittently-moving structure when the structure in at rest.

4. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of means for destroying the

fabric and for causing an oxidation of the substance, other means for hardening the oxidized substance, still other means for applying a stiffening solution, a traveling support for the structure, means for intermittently moving said traveling support, and means for producing a relative movement between said traveling support and some of said several treating means transverse to that movement of the traveling support which is from one treating means to the next, whereby the structure and said means which are moved will be in such relation one to the other as to have the structure treated.



5. In a machine for treating a structure to produce an incandescent mantle originally consisting of a fabric impregnated with a suitable substance, the combination of a traveling support for the structure, means for intermittently moving said traveling support, a series of treating devices for said structure comprising movable tables, and means for moving said movable tables toward and away from the structure.

6. In a machine for treating incandescent-light mantles, a series of mechanisms for performing different steps of the treatment, carriers upon which the mantles are suspended, means for intermittently advancing the carriers to the different mechanisms *seriatim*, and means for producing operative relative positions between the said mechanisms and the intermittently-moving mantles when the latter are at rest.

7. In a machine for treating incandescent-light mantles, a series of mechanisms for performing different steps of the treatment, carriers upon which the mantles are suspended, means for simultaneously and intermittently advancing the carriers to bring them successively to the different mechanisms *seriatim*, and means for producing operative relative positions between the said mechanisms and the intermittently-moving mantles when the latter are at rest.

8. In a machine for automatically treating incandescent-light mantles, firing mechanism, calcinating mechanism, dipping mechanism, carriers upon which the mantles are suspended, means for intermittently advancing the carriers to the different mechanism *seriatim*, and means for moving said mechanisms into operative relation to the intermittently-moving mantles when the latter are at rest.

9. In a machine for treating incandescent-light mantles, a series of mechanisms for performing different steps of the treatment, carriers upon which the mantles are suspended, a way leading to the mechanisms in succession, propelling mechanism for intermittently moving the carriers along the way, and means for moving said mechanism and mantles into operative relation when the mantles are at rest.

10. In a machine for treating incandescent-light mantles, a series of mechanisms for performing different steps of the treatment, carriers upon which the mantles are suspended, a way leading to the mechanisms in succession, propelling mechanism adapted to simultaneously and intermittently operate upon a plurality of carriers to move them along the way, and means for moving said mechanisms and mantles into operative relation when the mantles are at rest.

11. In a machine for treating incandescent-light mantles, a series of mechanisms for performing different steps of the treatment, carriers upon which the mantles are suspended, means for intermittently advancing the carriers to the different mechanism *seriatim*, and means for moving the mechanisms into operative relation to the mantles when the latter are at rest.

12. In a machine for treating incandescent-light mantles, a series of mechanisms for performing different steps of the treatment, carriers upon which the mantles are suspended, means for simultaneously and intermittently advancing the carriers to the different mechanisms *seriatim*, and means for moving the mechanisms into operative relation to the mantles when the latter are at rest.

13. In a machine for treating incandescent-light mantles, a series of mechanisms for performing different steps of the treatment, carriers upon which the mantles are suspended, a way leading to the mechanisms in succession, a reciprocatory frame, means for reciprocating the frame, catch devices arranged at intervals along the frame adapted to engage the carriers and move them along the way on the forward movement of the frame only, and means for moving said mechanism and mantles into operative relation when the mantles are at rest.

14. In a machine for automatically treating incandescent-light mantles, firing mechanism for igniting the previously-prepared mantles, holders from which the mantles are suspended, propelling mechanism for moving the holders through the machine, forms adapted to engage in the open ends of the mantles to hold the same open or spread during the firing operation, form-operating mechanism for successively engaging the forms in the mantles respectively in advance of the firing mechanism, and propelling mechanism for moving the forms to the firing position simultaneously with the movement of the mantles.

15. In a machine for automatically treating incandescent-light mantles, firing mechanism for igniting the previously-prepared mantles, holders from which the mantles are suspended, propelling mechanism for moving the holders through the machine, forms adapted to engage in the open ends of the mantles to hold the same open or spread during the firing operation, elevating means for raising the forms into the lower open ends of the mantles in advance of the firing mechanism, propelling mechanism for moving the forms to the firing position simultaneously with the movement of the mantles, and lowering mechanism for withdrawing the forms from engagement with the mantles at the end of the firing operation.

16. In a machine for treating incandescent-light mantles, calcinating mechanism comprising one or more burners, reciprocating means therefor, and automatically-operating regulating means for varying the amplitude of reciprocation of the burner or burners to compensate for the contraction of the mantles during calcination.

17. In a machine for treating incandescent-light mantles, calcinating mechanism comprising one or more burners, reciprocating means therefor, automatically-operating regulating means for varying the amplitude of reciprocation of the burner or burners to compensate for the contraction of the mantles during calcination, and regulating means for varying the rapidity of the change of amplitude and the duration of the calcination period.

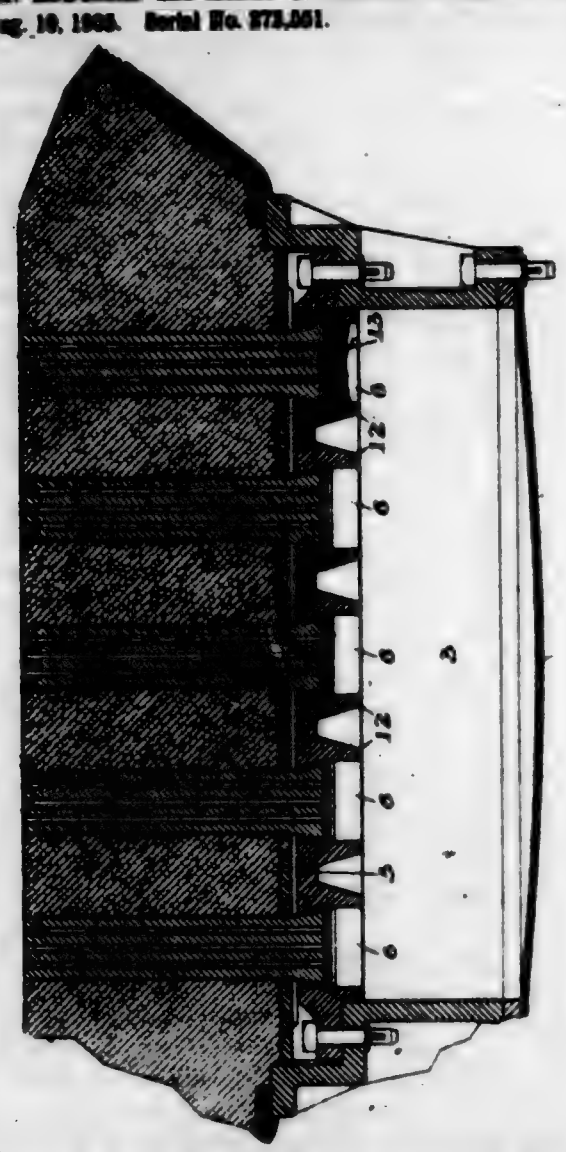
18. In a machine for treating incandescent-light mantles, calcinating mechanism comprising one or more burners, forms or spreaders operating in conjunction with the burners, means for elevating the forms above the burners and into the lower ends of the mantles for opening or spreading the same for entry of the burners at the beginning of the calcinating operation, and means for reciprocating the burners.

19. In a machine for treating incandescent-light mantles, calcinating mechanism comprising one or more burners valves controlling the supply of gas to said burners, means for elevating and lowering the burners to bring the flame into and out of action on the mantles, and automatic valve-operating means acting to open the valves to increase the burner-flame when the burners are elevated and to close the valves to lower the burner-flame when the burners are lowered.

20. In a machine for treating incandescent-light mantles, calcinating mechanism comprising one or more burners, and burner-rotating mechanism for rotating the burners and thereby equalizing the calcinating effect over the entire surface of the mantle.

21. In a machine for treating incandescent-light mantles, mechanism for steeping the mantles in a preserving liquid comprising a vessel or vessels containing the steeping liquid, and automatically-operating mechanism for raising and lowering said vessel or vessels to momentarily submerge the mantles in the steeping liquid.

805,931. TWYER-PLATE FOR BESSEMER CONVERTERS. Louis H. McDonald and Henry C. Morgan, Youngstown, Ohio. Filed Aug. 19, 1905. Serial No. 274,351.



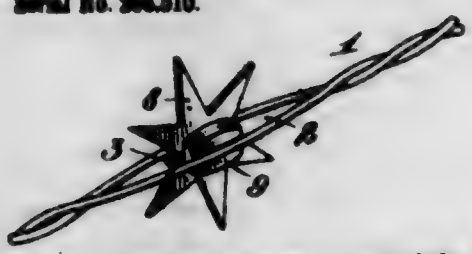
Claim.—1. A twyer-plate for Bessemer converters comprising a plate having openings adapted to receive the twyers, said openings having recesses extending beyond the end of said twyers; substantially as described.

2. A twyer-plate for Bessemer converters comprising a plate having openings adapted to receive the twyers, said openings having annular flanges forming recesses extending beyond the end of said twyers; substantially as described.

3. A twyer-plate for Bessemer converters comprising a plate having openings adapted to receive the twyers, said openings having annular flanges forming recesses extending beyond the face of said plate; substantially as described.

4. A twyer-plate for Bessemer converters comprising a plate having openings adapted to receive the twyers, said openings having annular flanges forming recesses extending beyond the end of said twyers, recessed slots in the outer surface of said flanges, a yoke having projections on its ends adapted to be removably held in said recessed slots and an adjusting-screw on said yoke; substantially as described.

805,932. BARBED WIRE. Carl B. Neubauer, Chisholm, Minn., assignor of one-fourth to Joseph Schrems, Chisholm, Minn. Filed June 22, 1905. Serial No. 266,510.



Claim.—1. A strand for a fence structure and the like, consisting of a doubled wire having open seats therein at regular intervals, and a barb organization including a detachable rotatable barb member and opposite heads having grooves in their outer sides to receive portions of the strand, one of the heads being removable.

2. A strand for fence structures and the like, consisting of a doubled wire having open seats arranged therein at regular intervals, and a barb organization consisting of a rotatable barb member and opposite heads engaged by portions of the wire defining the seats, the several parts of the barb organization including the said barb member being readily detachable.

3. A strand for wire-fence structures and the like, consisting of a doubled wire having open seats therein at intervals, and a barb organization including a rotatable member and heads between which said member is mounted, the heads being separable from the member and held in assembled relation by engagement therewith of opposite portions of the wire.

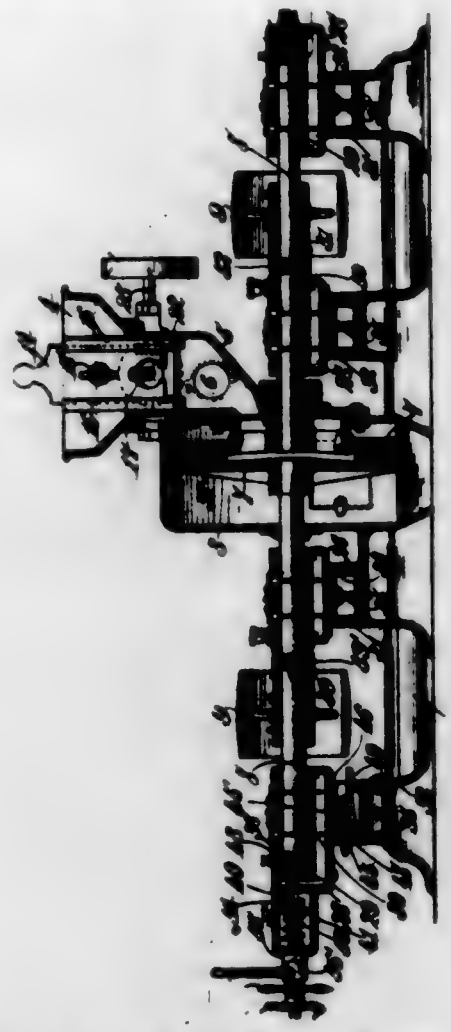
4. A barb organization for wire-fence structures or the like, consisting of a head having a bearing-stud extending inwardly therefrom and a coupling-shank continuous with the stud, a rotatable barb member held on the stud, and a second head removably applied to the shank.

5. A barb organization for use in fence structures or the like, consisting of a head having bearing means projecting therefrom, a rotatable barb member disposed on the said bearing means, and a second head removably applied to the bearing means.

6. A barbed-wire organization consisting of a head having a groove in its outer side and an inwardly-projecting bearing-stud with a continuous shank angular in cross-section, a rotatable barb member disposed on the bearing-stud, and a second head having a groove in its outer side and a central angular opening to removably fit over the said shank.

7. A barb organization consisting of a head having a groove in its outer side and an inwardly-projecting bearing-stud provided with a continuous shank angular in cross-section, a star-shaped barb member disposed on the bearing-stud, and a second head with a groove in its outer side and a central angular opening to receive the shank, the free end of the shank being grooved to coincide with the groove in the head engaging the same.

805,933. GRINDING-MILL. Harry C. Robinson, Muncy, Pa. Filed Feb. 27, 1903. Serial No. 145,396.



Claim.—I. In a grinding-mill, a bed provided with a stationary casing, a pair of grinding-disks in said casing, provided with oppositely-extending shafts, projecting from the casing, and a plurality of bearings for supporting the shafts, one of the bearings being movable in the direction of the length of its shaft, and the other bearings being fixed against such movement, and the shaft supported by the movable bearing being longitudinally movable.

2. In a grinding-mill, a pair of grinding members and their shafts combined with bearings for said shafts, one of said bearings being movable in the direction of the length of its shaft and the latter being longitudinally movable and said movable bearing having a

rack, a manually-operable shaft having a pinion for engaging the rack, a ratchet-wheel on said shaft, and a pawl coöperative with the ratchet-wheel.

3. In a grinding-mill, a pair of grinding-disks set face to face, shafts to which the grinding-disks are fastened, extending outward from said disks, one of the disks being adjustable toward and from the companion disk, and its shaft being longitudinally movable, bearings for supporting said shafts the bearing for the longitudinally-movable shaft being movable in the direction of the length of its shaft, an end bearing for the longitudinally-movable shaft carried by said movable shaft-supporting bearing, a threaded rod provided with a head for holding said end bearing against the coöperating shaft and supported by said movable shaft-supporting bearing, an adjusting device in threaded engagement with said rod, a lever freely carried by said rod between said adjusting member and said movable shaft-supporting bearing, the latter having an annular series of teeth provided with angular faces and the lever having similar teeth coöperating with the other teeth, and manually-controlled means for shifting the said movable shaft-supporting bearing.

4. In a grinding-mill, a pair of grinding-disks set face to face, shafts to which the grinding-disks are fastened, extending outward from said disks, one of the disks being adjustable toward and from the companion disk, and its shaft being longitudinally movable, bearings for supporting said shafts the bearing for the longitudinally-movable shaft being movable in the direction of the length of its shaft, an end bearing for the longitudinally-movable shaft, carried by said movable shaft-supporting bearing, a threaded rod provided with a head for holding said end bearing against the coöperating shaft and supported by said movable shaft-supporting bearing, an adjusting device in threaded engagement with said rod, a lever freely carried by said rod between said adjusting member and said movable shaft-supporting bearing, the latter having an annular series of teeth provided with angular faces and the lever having similar teeth coöperating with the other teeth, manually-controlled means for shifting the said movable shaft-supporting bearing, and means for limiting the movement of said lever.

5. In a grinding-mill, a pair of grinding-disks set face to face, shafts to which the grinding-disks are fastened, extending outward from the respective disks and one of the shafts being longitudinally movable, whereby its disk is adjustable toward and from the companion disk, boxes for supporting said shafts, the box for the longitudinally-movable bearing having a tubular extension, an end bearing in the said last-mentioned box, a threaded rod extending through said tubular extension and having a head at its inner end to engage said end bearing for holding the latter against the coöperating shaft, a nut threaded upon the rod in said tubular extension, a coiled spring surrounding the rod in the tubular extension and bearing against the latter and also against said nut, an adjusting device threaded onto the outer end of said rod, and a lever free on the rod between said adjusting device and the tubular extension, the latter having a hub provided with angular teeth and the lever having similar teeth to coöperate with said other teeth.

6. In a grinding-mill, a pair of grinding-disks set face to face, shafts to which the grinding-disks are fastened, extending outward from the respective disks and one of the shafts being longitudinally movable, so that disk is adjustable toward and from the companion disk, boxes for supporting said shafts, the box for the longitudinally-movable bearing having tubular extensions, an end bearing in said last-mentioned box, a threaded rod extending through said tubular projection and having a head at its inner end to engage said end bearing for holding the latter against the coöperating shaft, a nut threaded upon the rod in said tubular extension, a coiled spring surrounding the rod in the tubular extension and bearing against the latter and also against said nut, an adjusting device threaded onto the outer end of said rod, a lever free on the rod between said adjusting device and the tubular extension, the latter having a hub provided with angular teeth and the lever having similar teeth to coöperate with said other teeth, and said lever having a rounded protuberance upon one of its teeth adapted to engage any one of a series of sockets in the teeth on said hub to thereby limt the throw of the lever.

7. In a grinding-mill, the combination of a bed, a pair of grinding members and their shafts, adjustable supports for said shafts each support including a wedge and vertical flanges in parallelism with each other integral with and rising from the bed, the upper sides of the flanges being inclined to receive the correspondingly-inclined portions of the wedges, a slide supported upon the top of said wedges and provided with a shaft-bearing, means for actuating the wedge, and independent means for actuating the slide carried thereby.

8. In a grinding-mill, the combination of a bed, a pair of grinding members and their shafts, wedges, slides supported on the tops of said wedges provided with bearings for said shafts, vertical flanges rising from the bed and integral therewith and having inclined upper sides to receive the wedges, and screws arranged above each other for engaging the opposite ends of said slide and said wedge.

9. In a grinding-mill, the combination of grinding mechanism, a supply-hopper for delivering material to the grinding mechanism, a rotary shaft extended into said hopper, and a cylindrical disk in the hopper, fixed to and disposed diagonally of said shaft, the axis of the disk being inclined to the axis of the shaft.

10. In a grinding-mill, the combination of grinding mechanism, a supply-hopper for delivering material to the grinding mechanism, a shaft in the hopper provided with an agitator for the material, a vertical dividing-wall in the hopper having an orifice for the passage of said material, a vertically-slidable gate for controlling the flow of such material through said orifice, bifurcated at its lower end to straddle said shaft when said gate is lowered, and a horizontally-movable gate for controlling the discharge of material from the outlet of the hopper.

11. In a grinding-mill, the combination of a base or bed having inwardly-extending open-ended slots or apertures formed in the forward edge of said bed, a pair of grinding members and their shafts, bearings for the shafts on the upper side of said bed and alined longitudinally of said bed and located at opposite sides of the respective slots, and band-driven members fixed to the shafts approximately in vertical line with and above said open-ended slots or apertures, the latter being situated at opposite sides of said grinding members.

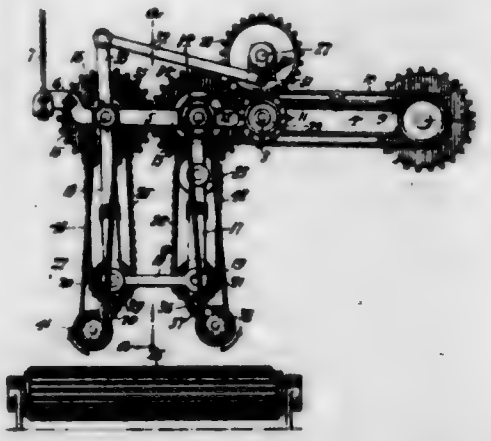
12. In a grinding-mill, the combination of grinding mechanism, a supply-hopper for delivering the material to the grinding mechanism, a dividing-wall vertically disposed in the hopper, having an aperture for the passage of such material, a vertically-slidable gate upon said dividing-wall for controlling the passage of material through said orifice, and a horizontally-slidable gate for controlling the discharge of material from the hopper.

13. In a grinding-mill, the combination with a casing, of a pair of oppositely-rotative disks in said casing, one of the disks having an eye, a supply-hopper for delivering material through said eye to the disks, a rotary shaft projected into said hopper, and a cylindrical disk in the hopper, fastened to and disposed diagonally of said shaft, the axis of the disk being inclined to the axis of the shaft.

14. The combination in a grinding-mill of a frame, a rotatable shaft carrying a grinding-disk, a fixed thrust-box on the frame adjacent to the end of the disk-shaft, a laterally-movable thrust-shaft mounted in the thrust-bearing, a spring operating on the thrust-shaft to move it toward the disk-shaft, a manually-operatable rocking plate or disk mounted on the thrust-shaft and having cam projections or faces engaging the end of the thrust-bearing, and means for adjustably locating the rocking disk on the thrust-shaft, substantially as set forth.

805,934. LAP-FEEDING DEVICE FOR CARDING-MACHINES.

CHARLES SCHOFIELD and ISAAC REEDER, Philadelphia, Pa., assignors to William Schofield Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 10, 1905. Serial No. 245,063.



Claim.—1. The combination of the delivery-apron of a carding-machine, and a transverse conveyer-apron at a lower level, with mechanism for receiving the web or fleece from said delivery-apron and lapping it upon the transverse conveyer-apron, said mechanism comprising a fixed top frame and a depending swinging frame comprising arms connected at their lower ends and pivoted at their upper ends to said fixed top frame, substantially as specified.

2. The combination of the delivery-apron of a carding-machine and a transverse conveyer-apron at a lower level, with mechanism for receiving the web or fleece from said delivery-apron and lapping it upon the transverse conveyer-apron, said mechanism comprising a fixed top frame, a depending swinging frame comprising arms connected at their lower ends, and pivoted at their upper ends to said fixed top frame, and directing-aprons carried by said swinging frame, substantially as specified.

3. The combination of the delivery-apron of a carding-machine and a transverse conveyer-apron at a lower level, with mechanism for receiving the web or fleece from said delivery-apron and lapping it upon the transverse conveyer-apron, said mechanism comprising a fixed top frame, a depending swinging frame comprising arms connected at their lower ends, and pivoted at their upper ends to said fixed top frame, directing-aprons carried by said swinging frame, and laying-rollers on the swinging frame below said aprons, substantially as specified.

4. The combination of the delivery-apron of a carding-machine and a transverse conveyer-apron at a lower level, with mechanism for receiving the web or fleece from said delivery-apron and lapping it upon the transverse conveyer-apron, said mechanism comprising a fixed top frame and a depending swinging frame comprising arms connected at their lower ends, and pivoted at their upper ends to the fixed top frame, directing-aprons carried by said swinging frame, and laying-rollers below said aprons, said laying-rollers being carried by links which are pivoted to the swinging frame, substantially as specified.

5. The combination of the delivery-apron of a carding-machine, a transverse conveyer-apron at a lower level, and mechanism for receiving the web or fleece from said delivery-apron and lapping it upon the conveyer-apron, said mechanism comprising an upper frame, a swinging frame depending therefrom, and carrying mechanism for directing the web or fleece onto the conveyer-apron, and mechanism mounted on the top frame for imparting swinging movement to said depending frame, substantially as specified.

6. The combination of the delivery-apron of a carding-machine, a transverse conveyer-apron at a lower level, and mechanism for receiving the web or fleece from said delivery-apron and lapping it upon the conveyer-apron, said mechanism comprising an upper frame, a swinging frame depending therefrom and carrying mechanism for directing the web or fleece onto the conveyer-apron, and mechanism driven from one of the shafts of the delivery-apron of the carding-machine and mounted upon said upper frame for imparting swinging movement to said depending frame, substantially as specified.

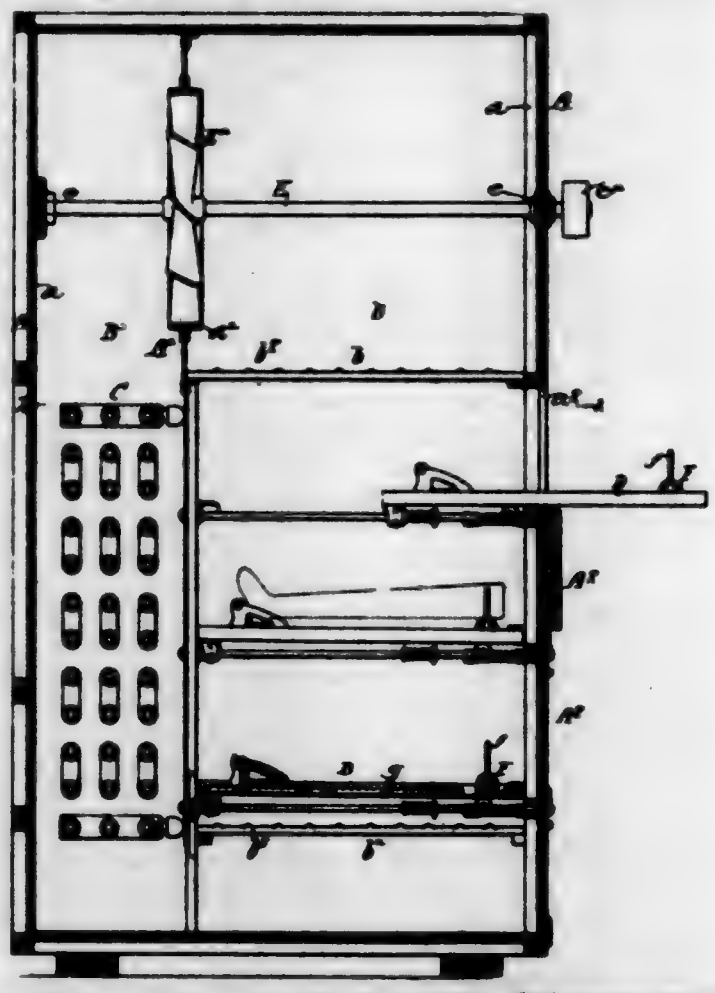
7. The combination of the delivery-apron of a carding-machine, a transverse conveyer-apron at a lower level, and mechanism for receiving the web or fleece from said delivery-apron and lapping it upon the conveyer-apron, said mechanism comprising an upper frame and a swinging frame depending therefrom and carrying mechanism for directing the web or fleece onto the conveyer-apron, and mechanism driven from one of the shafts of the delivery-apron and mounted upon said upper frame for imparting swinging movement to said depending frame, and also to the web-directing devices carried thereby, substantially as specified.

8. The combination of the delivery-apron of a carding-machine, a transverse conveyer-apron at a lower level, and mechanism for receiving the web or fleece from said delivery-apron and lapping it upon the conveyer-apron, said mechanism comprising a pair of depending and swinging directing-aprons, and a web supporting and directing device located above that one of said directing-aprons which is adjacent to the delivery-apron, substantially as specified.

9. The combination of the delivery-apron of a carding-machine, a transverse conveyer-apron at a lower level, a frame carrying said delivery-apron, a drum for receiving the fleece therefrom, depending devices for directing said fleece onto the transverse conveyer-apron, means for imparting rotary movement to one of the shafts of the delivery-apron, and a chain and sprocket-wheels whereby said shaft is caused to impart movement to the other shaft of the delivery-apron, and also to the drum which receives the fleece therefrom, substantially as specified.

10. The combination of the delivery-apron of a carding-machine, a transverse conveyer-apron at a lower level, an upper frame, a depending swinging frame carrying devices for directing the web or fleece onto said transverse conveyer-apron, spur-pinions on one of the shafts of the delivery-apron, spur-wheels meshing therewith, and each having a crank-pin, and a connection between said crank-pin and an element of the swinging frame, said gearing being mounted upon the upper frame, substantially as specified.

805,935. STOCKING-DRYING APPARATUS. Charles W. Schwartz, Jr., Philadelphia, Pa., assignor to The Philadelphia Textile Machinery Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 4, 1904. Serial No. 201,462.



Claim.—1. The combination in a stocking-drying apparatus, of a drawer made in the form of an open frame having a cross-bar at the front end of the drawer provided with vertical pins, an adjustable frame mounted on the drawer, side rails, rollers mounted on the side rails and supporting the sides of the drawer, a central bar and a bracket on the drawer engaging the bar, substantially as described.

2. The combination of a frame, rails on the side of the frame a central bar secured to the frame a drawer having an open center, rollers mounted between the rails and the side members of the drawer, a bracket on the rear member of the drawer having rollers, one mounted above the bar and the other below it, substantially as described.

3. The combination of a frame, side rails and a central bar carried by the frame, a drawer having an open center, rollers mounted between the rails and the side members of the frame, a bracket carried by the drawer and engaging the bar, and a spring-buffer on the bar, substantially as described.

4. The combination of a frame, a drawer mounted on said frame, a central rod for guiding the drawer, and a bracket secured to the rear portion of the frame and so arranged in respect to the drawer that when the drawer is forced in to its full extent it will ride upon the bracket, substantially as described.

5. The combination in a stocking-drying apparatus, of a frame having a metallic lining, a metallic partition forming two compartments a heating apparatus in one compartment, and a series of metallic drawers in the other compartment, a circulating-fan in the partition, a series of rods for the drawers, each drawer having a bearing with two rollers engaging one of said rods, and an adjustable metallic frame carried by each drawer acting with a cross-bar on the drawer to support the stockings, substantially as described.

805,936. CONCRETE PILE AND METHOD OF MAKING THE SAME. Frank Seaman, Philadelphia, Pa. Filed Jan. 9, 1905. Serial No. 240,226.

Claim.—1. The mode herein described of making a concrete pile, said mode consisting in first driving or sinking a preparatory pile, then withdrawing the same and introducing concrete into the opening formed thereby, and, before or during such introduction of the concrete, inserting a metallic reinforce into the opening, substantially as specified.

2. The mode herein described of making a concrete pile, said mode consisting in first driving or sinking a hollow preparatory pile,

then slowly or intermittently withdrawing the same, and, during such withdrawal, introducing the concrete into the opening formed by the pile, and, before or during the introduction of the concrete, inserting a metallic reinforce into said opening, substantially as specified.



3. The mode herein described of forming a concrete pile, said mode consisting in first driving into the ground a hollow preparatory pile having a movable point, then slowly or intermittently withdrawing said preparatory pile, and, during such withdrawal, introducing concrete into the opening formed thereby, and, before or during the introduction of the concrete, inserting a metallic reinforce into the opening, substantially as specified.

4. The mode herein described of forming a concrete pile, said mode consisting in first driving or sinking a preparatory pile, then withdrawing the same and introducing concrete into the opening formed thereby, and, before or during such introduction of the concrete, inserting into the opening a tubular metallic reinforce having openings through which the concrete can pass laterally so as to embed the reinforce therein, substantially as specified.

5. The mode herein described of forming a concrete pile, said mode consisting in first driving or sinking a hollow preparatory pile, then slowly or intermittently withdrawing the same, and, during such withdrawal, introducing concrete into the opening formed thereby, and, before or during such introduction of the concrete, inserting into the opening a tubular metallic reinforce, having openings for the lateral passage of the concrete, substantially as specified.

6. The mode herein described of forming a concrete pile, said mode consisting in first driving a hollow preparatory pile having a movable point, then slowly or intermittently withdrawing said preparatory pile, and, as it is being withdrawn, introducing concrete through the same into the opening formed by it, and, before or during such introduction of the concrete, inserting into the opening a tubular metallic reinforce having openings through which the concrete can pass laterally so as to embed the reinforce therein, substantially as specified.

7. The mode herein described of forming a concrete pile, said mode consisting first in driving or sinking a hollow preparatory pile, then slowly or intermittently withdrawing the same, and, during such withdrawal, introducing concrete through the hollow pile into the opening formed thereby, inserting a metallic reinforce into the hollow preparatory pile after the same has been partially withdrawn and then continuing such withdrawal and the introduction of the concrete, so as to embed the metallic reinforce therein, substantially as specified.

8. The mode herein described of forming a concrete pile, said mode consisting in first driving a hollow preparatory pile having a movable point, then slowly or intermittently withdrawing said pile, and, as it is being withdrawn, introducing concrete through it into the opening formed by it, inserting a metallic reinforce into the hollow pile after the same has been partially withdrawn and then continuing such withdrawal, and the introduction of the concrete so as to effect the embedding of the metallic reinforce in the latter, substantially as specified.

9. The mode herein described of forming a concrete pile, said mode consisting in first driving or sinking a hollow preparatory pile and then slowly or intermittently withdrawing the same, and, as it is being withdrawn, introducing concrete through the same into the opening which it has formed, introducing into the hollow preparatory pile, after the partial withdrawal of the same, a tubular metallic reinforce having openings through which the concrete can escape laterally, and then continuing the withdrawal of the hollow preparatory pile and introducing the concrete through said tubular metallic reinforce, substantially as specified.

10. The mode herein described of forming a concrete pile, said mode consisting in first driving a hollow preparatory pile having a movable point, then slowly or intermittently withdrawing said pile, and, as it is being withdrawn, introducing concrete through it into the opening which it has formed, introducing into the preparatory pile, after it has been partially withdrawn, a tubular metallic reinforce having openings through which the concrete can escape laterally, and then continuing the withdrawal of the pile and introducing the concrete through said tubular metallic reinforce, substantially as specified.

11. The mode herein described of forming a concrete pile, said mode consisting in driving or sinking a hollow preparatory pile, then partially withdrawing said pile and filling concrete through it into the opening which it has formed, then introducing into the hollow preparatory pile, a casing or sheathing structure and then continuing the withdrawal of the hollow preparatory pile and filling the remainder of the concrete into said casing or sheathing structure, substantially as specified.

12. The mode herein described of forming a concrete pile, said mode consisting in first driving or sinking a hollow preparatory pile, then partially withdrawing the same and introducing concrete through it into the opening which it has formed, and, before or during such introduction of the concrete, inserting into the hollow preparatory pile a metallic reinforce and a casing or sheathing structure and then completing the withdrawal of the preparatory pile and filling in the remaining concrete through said casing or sheathing structure, substantially as specified.

13. The mode herein described of forming a concrete pile, said mode consisting in first driving or sinking a hollow preparatory pile, then partially withdrawing the same and introducing concrete through it into the opening which it has formed, and, before or during such introduction of the concrete, inserting into the hollow preparatory pile a casing or sheathing structure, and a tubular metallic reinforce having openings through which the concrete can escape laterally, and then completing the withdrawal of the preparatory pile, and filling in the remaining concrete through said casing or sheathing structure and the tubular metallic reinforce, substantially as specified.

14. The mode herein described of forming a concrete pile, said mode consisting in driving a hollow preparatory pile having a movable point, then partially withdrawing said pile and filling concrete through it into the opening which it has formed, then introducing into the hollow preparatory pile a casing or sheathing structure, and then continuing the withdrawal of the hollow preparatory pile and filling the remainder of the concrete into said casing or sheathing structure, substantially as specified.

15. The mode herein described of forming a concrete pile, said mode consisting in first driving a hollow preparatory pile having a movable point, then partially withdrawing said pile and introducing concrete through it into the opening which it has formed, and, before or during such introduction of the concrete, inserting into the hollow preparatory pile a metallic reinforce and a casing or sheathing structure, and then completing the withdrawal of the preparatory pile and filling in the remaining concrete through said casing or sheathing structure, substantially as specified.

16. The mode herein described of forming a concrete pile, said mode consisting in first driving or sinking a hollow preparatory pile, then partially withdrawing the same and introducing concrete through it into the opening which it has formed, then inserting a metallic reinforce into the hollow pile, continuing the withdrawal of the same and filling in the concrete so as to embed the metallic reinforce therein, then inserting a casing or sheathing structure into the hollow pile, completing the withdrawal of the same and filling the remaining concrete into said casing or sheathing structure, substantially as specified.

17. The mode herein described of forming a concrete pile, said mode consisting in first driving or sinking a hollow preparatory pile, then partially withdrawing the same and introducing concrete through it into the opening which it has formed, then inserting into the hollow pile a tubular metallic reinforce having openings through which the concrete can escape laterally, then continuing the withdrawal of the pile and introducing the concrete through said tubular

metallic reinforce, then inserting a casing or sheathing structure into the hollow pile, and then completing the withdrawal of said pile and filling the remaining concrete into said casing or sheathing structure, substantially as specified.

18. A concrete pile having its lower portion of greater diameter than the upper portion and having a metallic reinforce contained in said contracted upper portion of the pile and extending down into the lower portion of the same, substantially as specified.

19. A concrete pile having its lower portion of greater diameter than the upper portion and having a metallic reinforce contained in said contracted upper portion of the pile and extending part way into the expanded lower portion of the pile, substantially as specified.

20. A concrete pile having its lower portion of greater diameter than its upper portion and having embedded in said upper portion a tubular metallic reinforce which extends down into the lower portion of the pile, substantially as specified.

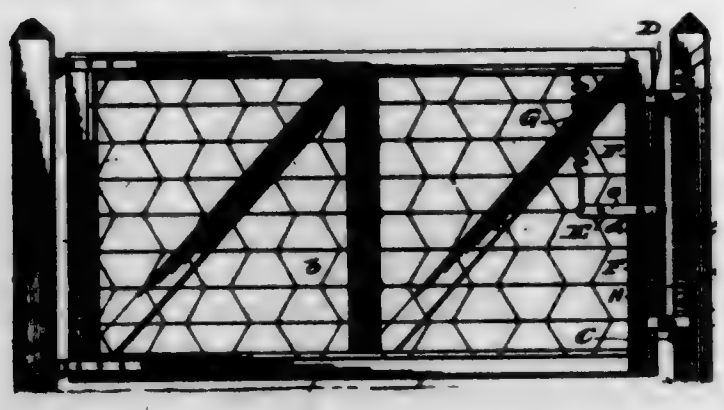
21. A concrete pile having its lower portion of greater diameter than its upper portion, said upper portion having a casing or sheathing and an internal metallic reinforce, substantially as specified

22. A concrete pile having its lower portion of greater diameter than its upper portion, said upper portion having a casing or sheathing and an internal metallic reinforce, consisting of a tubular structure with openings therein for the reception of the concrete, substantially as specified.

23. A concrete pile having an internal metallic reinforce and an external casing or sheathing which extends throughout only the upper portion of the pile, substantially as specified.

24. A concrete pile having a tubular metallic reinforce embedded therein, and having an external casing or sheathing which extends throughout only the upper portion of the pile, substantially as specified.

805,937. GATE-LATCH. JOHN H. [illegible], Merwood, Mich. Filed Oct. 18, 1904. Serial No. 228,949.



Claim.—In a gate-latch, the combination of posts, a gate hinged to one of the posts, lower and upper keepers fixed to the other post, at right angles to the face thereof, and having beveled heads, lower and upwardly vertically swinging latch-levers pivoted to the gate and arranged parallel to the said face of the keeper-post in position to rest back of the heads of the keepers, a vertically-swinging lever pivoted to the gate, at a point between the latch-levers, links connecting one arm of said lever with the lower and upper latch-levers, a spring connecting the other arm of the lever and the gate at a point above the lever, and retainers pivoted on the said face of the keeper-post, above the keepers, and frictionally engaging the face, whereby they are adapted when raised out of engagement with the latch-levers to remain in such position.

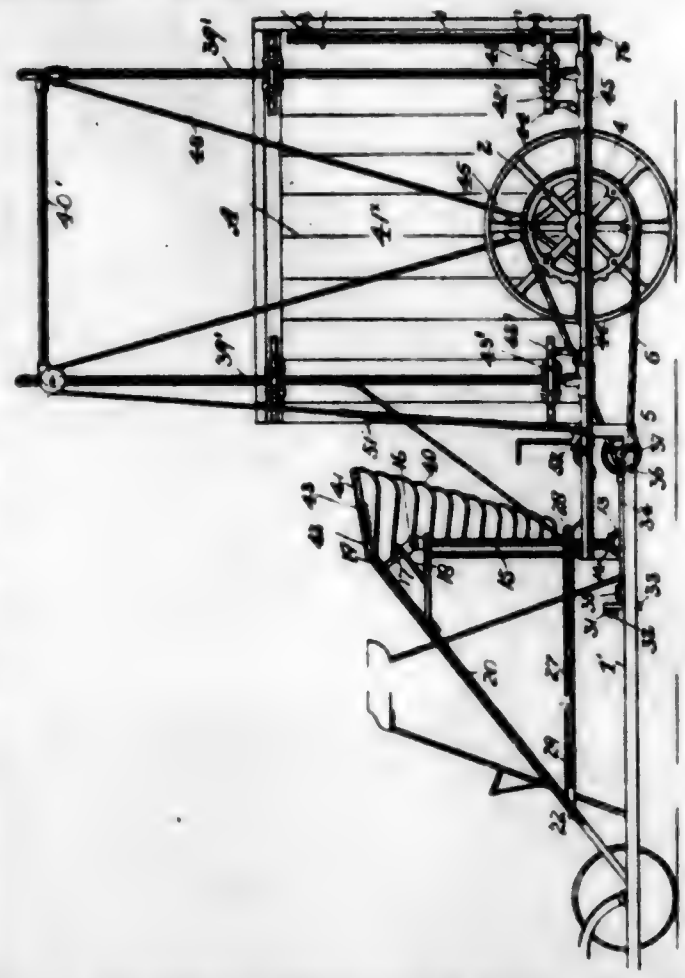
805,938. CORN-HARVESTER. FRANK T. TARBOX, Xenia, Ohio. Filed Oct. 6, 1903. Serial No. 175,965.

Claim.—1. In combination in a machine of the class described, cutting means, carrying means, a collector at the rear end of the carrying means and a cage or box in rear of the collecting means having vertical sides against which the cornstalks are packed, said cage or box being movably supported and means for raising or lowering the same, substantially as described.

2. In combination in a machine of the class described a framework, means for cutting the corn, a vertically-movable cage or box to receive the cut corn, said cage or box having a movable bottom, adapted to open and close the box substantially as described.

3. In combination in a machine of the class described cutting means for the stalks, a vertically-movable cage or box with means for operating the same, said cage or box having a pair of bottom doors hinged to swing down from a closed position with means for controlling the same, substantially as described.

4. In combination in a machine of the class described, cutting means for the cornstalks, a vertically-movable cage or box with means for operating the same vertically to deposit the cornstalks, said cage or box having a movable bottom door swinging downwardly and a rear door with means for controlling the said doors, substantially as described.



5. In combination, cutting means for the cornstalks, a vertically-movable cage or box having a bottom door swinging downwardly and a rear door arranged to be opened and closed, the said rear door being automatically released by the swinging downwardly of the bottom door, substantially as described.

6. In combination, cutting means, a vertically-movable cage or box, a pair of bottom doors, spring-pressed pivoted rods carried by the said doors, catches on the frame to engage the said rods to hold the doors closed and means for releasing the said rods from the catches, substantially as described.

7. In combination, cutting means, a vertically-movable cage or box, a pair of bottom doors, spring-pressed pivoted rods carried by the said doors, catches on the frame to engage the said rods to hold the doors closed and means for releasing the said rods from the catches, said means comprising a lever having notches to engage the said rods, substantially as described.

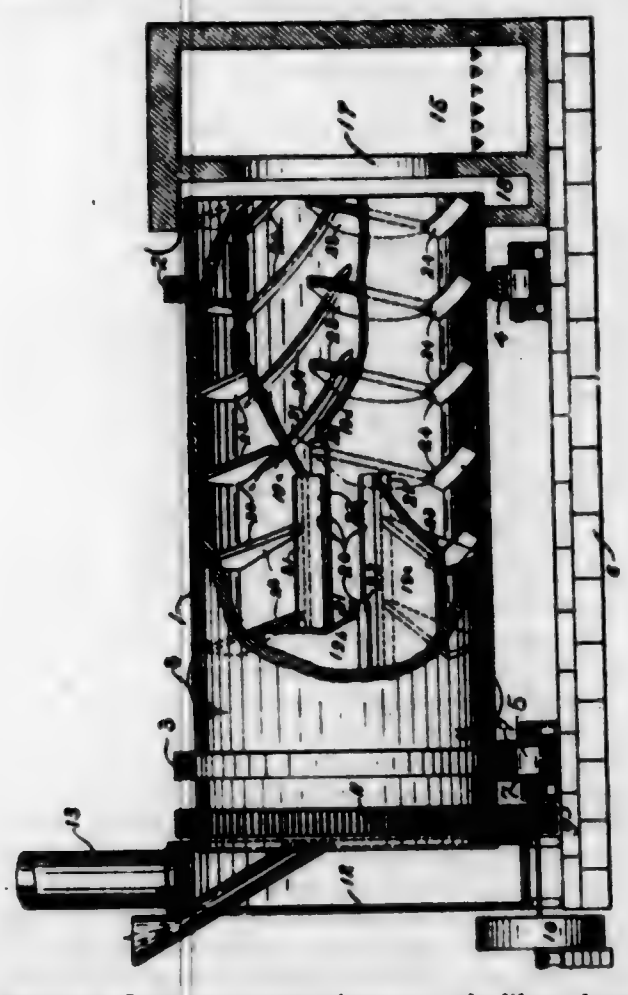
8. In combination, cutting means, a vertically-movable cage, a hinged bottom door, a rear door, a vertically-movable rod having holding means for the rear door, the said rod being operated to release the rear door by the movement of the bottom door, substantially as described.

9. In combination, cutting means and a cage or box having a rear door a rod extending along its inner side and an arm pivotally and slidably held by the said rod and arranged to hold the stalks between itself and the rear door, said arm being arranged to swing downwardly to occupy a vertical position along the inner side of the cage, substantially as described.

10. In combination in a machine of the class described cutting means, a cage or box arranged to have vertical movement, a suspension-frame, a sprocket-wheel and sprocket-chain, a rope attached at one end to the suspension-frame and passing under the pulley on the cage and thence over a pulley on the suspension-frame and connected to the sprocket-chain and means for operating the sprocket-wheel, substantially as described.

11. In combination in a corn-harvesting machine, cutting mechanism, carrier mechanism, means against which the cut stalks are collected, a vertically-movable cage or box in rear of the said collecting means and into which the attendant carries the stalks from the collecting means and means for raising and lowering the cage in relation to the collecting and carrier means, substantially as described.

805,939. RABBLING DEVICE FOR ORE-ROASTING FURNACES. CHRISTOPHER C. WILSON, Denver, Colo. Filed Feb. 28, 1904. Renewed Oct. 9, 1905. Serial No. 282,016.



Claim.—1. In an ore-roasting furnace or the like, a longitudinally-revoluble cylinder provided upon its interior surface with longitudinal shelves projecting inwardly tangential to an imaginary cylinder, whose axis coincides with that of the cylinder and whose diameter is less than that of the cylinder, and equally distant apart, and rabbling-ribs extending from the walls of the cylinder between adjacent shelves, substantially as described.

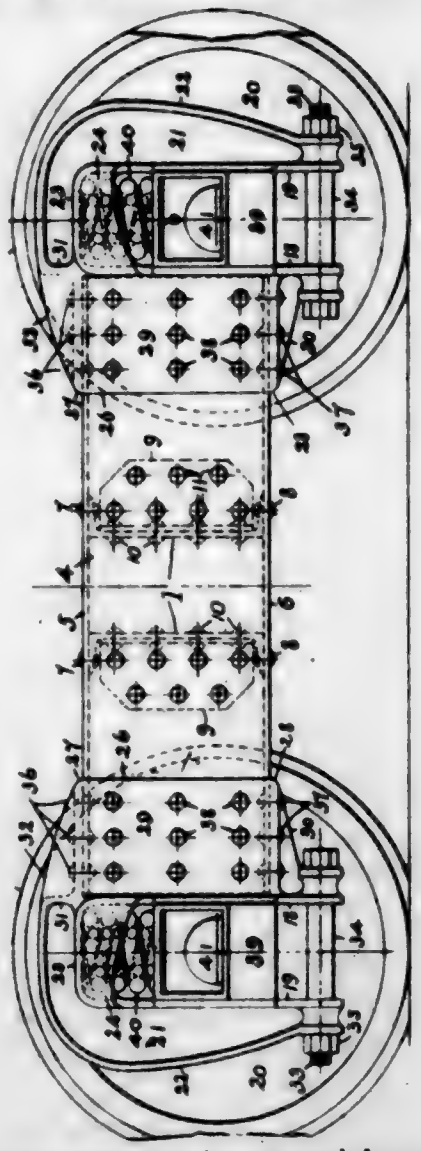
2. In an ore-roasting furnace or the like, a longitudinally-revoluble cylinder provided upon its interior surface with the longitudinal shelves projecting inwardly tangential to an imaginary cylinder whose axis coincides with that of the cylinder and whose diameter is less than that of the cylinder, and equally distant apart, and partition-plates extending from the lifting-surface of said shelves having a longitudinal inclination forward in the direction of the travel of the ore from the circumference of the cylinder to the projecting edge of the shelves, substantially as described.

3. In an ore-roasting furnace or the like, a longitudinally-revoluble cylinder provided upon its interior surface with longitudinal shelves projecting inwardly tangential to an imaginary cylinder, whose axis coincides with that of the cylinder, and whose diameter is less than that of the cylinder, and equally distant apart, rabbling-ribs extending from the circumferential walls of the cylinder between adjacent shelves in a line inclined longitudinally forward from their ascending ends, substantially as described.

4. In an ore-roasting furnace or the like, a longitudinally-revoluble cylinder provided upon its interior surface with longitudinal shelves projecting inwardly tangential to an imaginary cylinder, whose axis coincides with that of the cylinder, and whose diameter is less than that of the cylinder, and equally distant apart, partition-plates extending from the lifting-surfaces of said shelves having a longitudinal inclination forward in the direction of the travel of the ore from the circumference of the cylinder, to the projecting edge of the shelves, and rabbling-ribs extending from the walls of the cylinder between adjacent shelves so that the forward inclined end of each rabbling-rib terminates at a point opposite the shelf-pocket which is forward of the shelf-pocket diametrically in line with the other end of the rabbling-rib, substantially as described.

5. The combination with the revoluble cylinder, of an ore-roasting furnace, of shelves projecting from the interior surface of said cylinder tangential from an imaginary cylinder, whose axis coincides with that of the cylinder, and whose diameter is less than that of the cylinder, and equally distant apart, of partition-plates extending from the lifting-surfaces of said shelves in lines longitudinally inclined forward from their joining with the circumference of the cylinder to their termination at the projecting edge of said shelves, and rabbling-ribs extending from the walls of the cylinder joined at one end to the non-lifting or lowering surface of the shelves and terminating at their other end longitudinally forward, substantially as described.

805,940. CAR-TRUCK FRAME AND PEDESTAL. RANSOM C. WRIGHT, Philadelphia, Pa., and FRANK H. STERRINS, Washington, D. C. Filed Aug. 31, 1904. Serial No. 222,852.



Claim.—1. The combination in a car-truck frame, of a transom or transoms located between the pairs of wheels and adapted to support the end of a car-body; flanged side pieces with their flanges turned inwardly and secured adjacent their centers to the transom ends; and metallic pedestals attached upon the extreme ends of the side pieces so that the journal-boxes and springs will be located beyond the ends of said side pieces; each pedestal having a neck or extension on one side only with a perforated top flange, bottom flange and web and secured upon the end of a side piece by rivets passed through the flanges and webs of both the pedestal-neck and side piece.

2. The combination in a car-truck frame, of a transom or transoms located between the pairs of wheels and adapted to support the end of a car-body; flanged side pieces with their flanges turned inwardly and secured adjacent their centers to the transom ends by gusset-plates and connection-angles; and metallic pedestals attached to the ends of the side pieces; each pedestal having a neck orextension on one side only, with a perforated top flange, bottom flange and web and secured upon the end of a side piece by rivets passed through the flanges and webs of both the pedestal-neck and side piece; the said side pieces extending only between the inner bearing-flanges of the pedestals whereby the sides and transom or transoms may be located below the tops of the pedestals.

3. The combination in a car-truck and with a frame comprising two flanged transoms; two side pieces each having a top flange, bottom flange and a web, said flanges extending inwardly, and the ends of the transoms being located and secured between the top and bottom flanges of the sides; and cast-metal pedestals upon the vertical ends of the side pieces, each pedestal having a neck on one side only with top and bottom flanges and a web riveted to the web and flanges of a side piece, a head, and an outer jaw substantially I-shaped in cross-section; of journal-boxes; and springs between the journal-boxes and heads of the pedestals.

4. A truck-frame comprising a transom or transoms; side pieces secured to the transom ends, each side piece having a top flange and a bottom flange extending inwardly toward the truck center, the bottom flange being wider at the center than at the ends, and metallic pedestals each having a flanged neck on one side only projecting at right angles to the jaws, and said pedestals attached by rivets upon the vertical ends of the side pieces; the entire vertical ends of the side pieces terminating adjacent the bearing-flanges of the inner pedestal-jaws, whereby the sides and transoms may be located relatively near the truck and the pedestals abut the entire vertical ends of the side pieces.

5. A truck-frame comprising a transom or transoms; side pieces secured to the transom ends, each side piece having a top flange and a bottom flange extending toward the truck center, the top flange being wider at the center than at the ends; and metallic pedestals each having a flanged and recessed neck projecting on one side only and at right angles to the jaws and said pedestals attached by rivets upon the vertical ends, of the side pieces so as to abut the entire vertical ends of the side pieces and project beyond the same.

6. A truck-frame comprising a transom or transoms; plate-steel side pieces each having a top flange and a bottom flange bent or turned on lines to positions at right angles to the body of the plate, said sides being riveted by suitable connections to the transom ends; and metallic pedestals each having a flanged and recessed neck on one side only, and said pedestal-necks secured to the vertical ends of the said side pieces by rivets passed through the flanges of the necks and the flanges of the ends of the side pieces, the entire vertical ends of the side pieces abutting the metallic pedestals.

7. The combination in a car-truck frame, of a transom or transoms; side pieces; and metallic pedestals each having flanged jaws, a seat for a spring, and a neck on one side only with a top flange, bottom flange and web and said pedestals secured onto the vertical ends of the side pieces; each of said side pieces being of plate-steel and having a top flange and a bottom flange extending the length of the side piece, each flange being wider at the center than at the ends and each flange located at right angles to the web of the plate.

8. The combination in a car-truck frame, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side pieces with their flanges turned inwardly and secured to the transom ends by gusset-plates; and cast-metal pedestals, each having flanged jaws, a seat for a spring, a neck on one side only with top and bottom flanges and a web, and said pedestals attached to the vertical ends of the side pieces by rivets passed through the webs and flanges of the pedestal-necks and ends of the side pieces.

9. The combination in a car-truck frame, of flanged transoms located between the pairs of wheels; flanged side pieces each made by turning the edges of a sheet-steel plate to positions perpendicular to the body thereof constituting the web; means for securing the side pieces to the transom ends; and cast-metal pedestals, each having a head with a seat for a spring, an inner flanged jaw, a neck at right angles to the said flanged jaw, said neck having top and bottom flanges and a web, and said pedestals attached upon the vertical ends of the side pieces by rivets passed through the webs and flanges of both the pedestal-necks and the ends of the side pieces.

10. The combination in a car-truck frame, of a transom or transoms located between the pairs of wheels; flanged side pieces made by turning the edges of a sheet-steel plate to positions perpendicular to the body thereof constituting the web; means for attaching the side pieces to the transom ends; and cast-metal pedestals having necks or extensions secured upon the ends of the side pieces by rivets; the entire vertical end of each side piece abutting the pedestal and being seated within a recess formed in the extension or neck of the pedestal.

11. The combination in a car-truck frame, of flanged transoms; sides formed from steel plates by bending the edges of each plate to positions at right angles to the body of the same; means uniting the transom ends and side pieces; and cast-metal pedestals each with an extension having flanges and a web riveted to the flanges and web at an end of a side piece; said pedestals being located upon and abutting the extreme vertical ends of the side pieces and projecting therefrom.

12. A side frame for a car-truck comprising a channel-beam made by bending the edges of a sheet-steel plate to positions perpendicular to the body portion thereof which constitutes the web so as to form flanges, and metallic pedestals each having a neck or extension at right angles to the jaws with a web and flanges and a head with a bearing for a spring, and said pedestals secured upon the vertical ends of the channel-beam by rivets passed through the webs and flanges of both the pedestal-neck and the ends of the channel-beam, the entire vertical ends of the channel-beam abutting the pedestals.

13. A side frame for a car-truck comprising a channel-beam made by bending the edges of a sheet-steel plate to positions perpendicular to the body portion thereof which constitutes the web so as to form flanges, both of which are wider at the centers than at the ends, and metallic pedestals each having a neck or extension at right angles to the jaws with a web and flanges and a head with a bearing for a spring, and said pedestals secured upon the vertical ends of the channel-beam by rivets passed through the webs and flanges of both the pedestal-necks and the ends of the channel-beam, the entire vertical ends of the channel-beam abutting the pedestals.

14. A side frame for a car-truck comprising a channel-beam made by bending the edges of a sheet-steel plate to positions perpendicular to the body portion thereof which constitutes the web so as to form flanges, one of which is wider at its central portion than at its ends, and metallic pedestals each having a neck or extension at right angles to the jaws or legs with a web and flanges and a head with a bearing for a spring, and said pedestals secured upon the vertical ends of the channel-beam by rivets passed through the webs and flanges of both the pedestal-necks and the ends of the channel-beam, the entire vertical ends of the channel-beam abutting the pedestals.

15. A composite car-truck side piece or frame comprising a flanged metallic beam and two cast-metal pedestals with means for uniting the legs thereof at the bottom, each pedestal having ∩-shaped bearings for a journal-box and the end of a spring, a web 21 and an enlargement or flange at the outer edge of the web both of which extend upwardly and over the bearing or seat for the spring, and a neck or extension on one side only at right angles to the bearings for the journal-box, said neck being provided with top and bottom flanges and a web; and said pedestal secured upon the extreme ends of the beam by rivets passed through the webs and flanges of both the beam and the pedestal-necks.

16. A composite car-truck side piece or frame comprising a flanged metallic beam and two cast-metal pedestals with means for uniting the legs thereof at the bottom, each pedestal having ∩-shaped bearings for a journal-box and the end of a spring, a web 21 and an enlargement or flange at the outer edge of the web both of which extend upwardly and over the bearing or seat for the spring, and a neck or extension on one side only at right angles to the bearings for the journal-box, said neck being provided with top and bottom flanges, a web and a seat for the end of the flanged beam; and said pedestals secured upon the extreme ends of the beam by rivets passed through the webs and flanges of both the beam and the pedestal-necks.

17. A composite car-truck side piece or frame comprising a flanged metallic beam and two cast-metal pedestals each pedestal having an inner bearing-flange 18, outer bearing-flange 19, a pocket for the end of a spring, a web 21 and an enlargement or flange at the outer edge of the web both of which extend upwardly and over the bearing and pocket for the spring, and a neck or extension on one side only at right angles to the bearings for the journal-box, said neck being provided with top and bottom flanges and a web; and said pedestals secured upon the extreme ends of the beam by rivets passed through the webs and flanges of both the beam and the pedestal-necks.

18. A composite car-truck side piece or frame including a channel-shaped metallic beam and two metallic pedestals with means for uniting the jaws or legs thereof at the bottom; each pedestal having a neck on one side only, ∩-shaped bearings for a journal-box and the end of a spring, a web and a flange or enlargement at the outer edge thereof forming part of the outer leg of the pedestal, said web and flange or enlargement extending upwardly and over the seat or bearing for the spring to the neck, which neck is provided with a top flange, a bottom flange and a web forming a single seat for the end of the channel-beam; and said pedestals secured upon the extreme ends of the channel-beam by rivets passed through the necks and the ends of the channel-beam.

19. A cast metallic pedestal having a ∩-shaped bearing for a journal-box and spring comprised of the parts 18, 19, and 23; a web 21 and an enlargement at the outer edge of the web 21 constituting with the flange 19 the outer leg of the pedestal, said web and enlargement extending upwardly and over the flange 23; a neck or extension at right angles to the flange 18 and having a top flange, bottom flange and a web; a web 31; two flanges 32 joining web 31 and the top flange of the neck; and a flange 30 uniting the flange 18 and the lower flange of the neck; the said flanges 18, 19 being provided with means to receive a tie piece or bolt.

20. A cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring comprised of the parts 18, 19 and 23;

a web 21 constituting with the flange 19 an outer leg of the pedestal, said web extending upwardly and over the flange 23; an extension at right angles to the flange 18 and having a top flange, bottom flange and web; a web 31; and a flange or flanges 32 joining the web 31 and the upper flange of the neck or extension; the said flanges 18, 19 being provided with means to receive a tie piece or bolt.

21. A cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring comprised of the parts 18 19 and 23; a web 21 constituting with the flange 19 an outer leg of the pedestal, said web extending upwardly and over the flange 23; a neck at right angles to the flange 18 and having a top flange bottom flange and web; and flanges 32 joining the web 21 and the upper flange of the neck; the said flanges 18, 19, being provided with means to receive a tie piece or bolt, and the edges of flange 23 being extended downwardly to form a spring-pocket.

22. A cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring comprised of the parts 18, 19 and 23; a web 21 constituting with the flange 19 an outer leg of the pedestal, said web extending upwardly and over the flange 23; a neck at right angles to the flange 18 and having a top flange and web; and flanges 32 joining the web 21 and the upper flange of the neck; the said flanges 18, 19 being provided with means to receive a tie piece or bolt.

23. A cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring; a web forming with flange 19 an outer leg of the pedestal, said web extending upwardly and over the seat for the spring; a neck having a web and top flange; and two flanges 32, 32, joining the web 21 and the top flange of the neck; the pedestal-legs being provided with means to receive a tie piece or bolt.

24. A cast-metal pedestal for a car-truck having jaws or legs, a bearing for a spring, and a neck or extension at right angles to the jaws or legs, said neck being provided with top and bottom flanges, a web and two flanges with an open space between extending from the head of the pedestal along the top of the neck.

25. A cast-metal pedestal, constructed substantially as set forth, and provided with a neck and two flanges, as 32 32, extending from the head of the pedestal along the neck with a space between said flanges.

26. The combination with the vertical end of a car-truck side piece having a web and flanges, of a cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring, a web 21 and an enlargement at the outer edge thereof both extending upwardly and over the seat for the spring, and a neck provided with top and bottom flanges, a web and a recess or seat to receive the end of the side piece; said neck being secured to the end of the side piece by rivets passed through the webs and flanges of the neck and side piece.

27. A cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring; a web 21 and an enlargement at the outer edge thereof both extending upwardly and over the seat for the spring; a pocket for a spring; and a neck provided with top and bottom flanges and a web forming a recess to receive the end of a flanged beam.

28. The combination with the vertical end of a car-truck side piece having a web and flanges, of a cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring, a web 21 and an enlargement at the outer edge thereof both extending upwardly and over the seat for the spring, and a neck provided with a top flange, a web and a recess or seat to receive the end of the side piece; the neck being secured to the end of the side piece by rivets passed through the webs and flanges of both the neck and side piece.

29. A cast or forged metallic pedestal having a ∩-shaped bearing for the journal-box and spring; a web 21 and an enlargement at the outer edge thereof both extending upwardly and over the seat for the spring; a spring-pocket; and a neck with a top flange, bottom flange and web forming a recess; the legs of the pedestal being adapted to receive a tie piece or bolt.

30. A cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring; a web 21 and an enlargement at the outer edge thereof both extending upwardly and over the seat for the spring; a spring-pocket; and a neck with a top flange and web located at right angles to the bearing-flange 18 and forming a recess or seat for the end of a flanged side piece.

31. A cast or forged metallic pedestal having a ∩-shaped flanged bearing for a journal-box and a spring; a neck upon one side only projecting from the inner jaw and located opposite the space for the spring and journal-box for securing the pedestal to a side piece of a truck-frame; and a web 21 and flange extending upwardly and over the seat for the spring and to the neck; the legs of the pedestal being adapted to receive a tie piece or bolt.

32. A cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and a spring; a neck upon one side only projecting from the inner jaw and located opposite the space for the spring and journal-box for securing the pedestal to a side piece of a frame; a web 21 and flange extending upwardly and over the seat for the spring and to the neck; and a flange 30; the pedestal-legs having means to receive and retain a tie piece or bolt.

33. A cast-metal pedestal having a ∩-shaped bearing for a journal-box and a spring; a web 21 and flange 22 extended upwardly and over the seat for the spring; and a neck on one side only joining the web 21 flange 22 and flange 18; the head and outer jaw of the pedestal both being substantially I-shaped in cross-section.

34. A cast-metal or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring comprising the flanged portions 18, 19, 23; a web projecting from and at right angles to the flange 18; flanges located at right angles to the web; and a web 21 and enlargement 22 extended upwardly and over the seat for the spring; the pedestal-legs being adapted to receive a tie piece or bolt.

35. A cast or forged metallic pedestal having a ∩-shaped bearing for a journal-box and spring comprising the flanged portions 18, 19, 23; a web 29; two flanges 27, 28 located at right angles to both the flange 18 and the web 29; and a web 21 and enlargement 22 extended upwardly and over the seat for the spring; the pedestal-legs being adapted to receive a tie piece or bolt, and the flange 23 having its edges extended to form a pocket.

36. The combination in a car-truck and with the wheels, axles, journal-boxes, and springs above the boxes, of a transom or transoms located between the pairs of wheels and adapted to support the end of a car-body; flanged side pieces secured adjacent their centers to the transom ends; and cast or forged metal pedestals attached upon the extreme ends of the side pieces and projecting therefrom, each pedestal having a ∩-shaped bearing for the spring and journal-box and an extension or neck on one side only by which the pedestal is riveted to the end of a side piece; both the outer jaw and head of the pedestal being substantially I-shaped in cross-section.

37. The combination in a car-truck and with the wheels, axles, journal-boxes and springs above the boxes, of a transom or transoms located between the pairs of wheels and adapted to support the end of a car-body; channel side pieces secured between their ends to the transom or transoms; and cast or forged metal pedestals attached to the extreme ends of the channel side pieces and projecting therefrom, each pedestal having a recess with bearings therein for the journal-box and a spring, and an extension or neck on one side only by which the pedestal is riveted to the end of a side piece; the outer edge of the outer jaw or leg and the head of the pedestal being strengthened by an enlargement or flange extending up the outer jaw and over the seat for the spring.

38. A metallic pedestal comprising flanged jaws or legs to engage the sides of a journal-box, said jaws being open at the bottom and provided with openings for a tie-piece; a seat or bearing at the under surface of the head for the upper end of a spring; a flanged neck or extension with a single recess for the end of a flanged beam, said neck projecting horizontally from one of the jaws, the other and outer jaw constituting the other side of the pedestal, said outer jaw or leg having a web and a flange or enlargement at the outer edge of the web; and a strengthening flange or rib extending from the top end of the outer jaw over the seat for the spring and to the neck.

39. A metallic pedestal comprising flanged jaws or legs to engage the sides of a journal-box, said jaws being open at the bottom and provided with openings for a tie-piece; a seat or bearing at the under surface of the head with extended edges forming a pocket for the upper end of a spring; a flanged neck or extension projecting horizontally from one of the jaws with a single recess for the end of a flanged beam, the other and outer jaw constituting the other side of the pedestal, said outer jaw or leg having a web and a flange or enlargement at the outer edge of the web; and a strengthening flange or rib extending from the top end of the outer jaw over the seat for, the spring and to the neck.

40. A cast-metal pedestal having jaws open at the bottom with a space between the same for a journal-box and a spring, a neck flanged, recessed and perforated adapting the same for attachment, said neck projecting horizontally from one of the jaws, the opposite jaw or leg being provided with a web and a flange both of which extend upwardly and over the space for the spring and to and along the neck.

41. A metallic pedestal having a neck or extension on one side only, ∩-shaped bearings for a journal-box and the end of a spring, a web and a flange or enlargement at the outer edge thereof forming

part of the outer leg of the pedestal, said web and flange or enlargement extending upwardly and over the seat or bearing for the spring and to the neck, which neck is provided with a top flange, a bottom flange and a web forming a recess or seat to receive the end of a flanged beam.

42. A metallic pedestal having a neck or extension on one side only, inner and outer bearing-flanges 18 and 19, a pocket for the top end of a spring, a web and a flange or enlargement at the other edge thereof forming part of the outer leg of the pedestal, said web and flange or enlargement extending upwardly and over the seat or bearing for the spring and to the neck, which neck is provided with a top flange, a bottom flange and a web forming a recess or seat to receive the end of a flanged beam.

43. A composite car-truck side piece including a flanged metallic beam and two metallic pedestals with means for uniting the legs thereof at the bottom; each pedestal having a neck on one side only, U-shaped bearings for a journal-box and the end of a spring, a web and flange or enlargement at the outer edge thereof forming part of the outer leg of the pedestal, said web and flange or enlargement extending upwardly and over the seat or bearing for the spring and to the neck, which neck is provided with a vertical web and a flange at right angles thereto forming a seat for the end of the flanged beam; and said pedestals secured upon the extreme ends of the flanged beam by rivets passed through the pedestal-necks and the ends of the flanged beam.

44. A cast-metal pedestal having jaws with bearing-flanges for a journal-box, a flanged and recessed neck projecting from and at right angles to the inner bearing-flange, a head with a bearing 23 for a spring, a vertical web above the bearing 23, said web being enlarged or flanged at its top edge and both said web and the enlargement or flange extending from the bearing 23 along the top edge of the pedestal-neck.

45. A cast-metal pedestal having jaws with bearing-flanges for a journal-box, a flanged and recessed neck projecting from and at right angles to the inner bearing-flange, a head with a bearing 23 having its edges extended downwardly to form a pocket for a spring, a vertical web above the bearing 23, said web being enlarged or flanged at its top edge and both said web and the enlargement or flange extending from the bearing 23 along the top edge of the pedestal-neck.

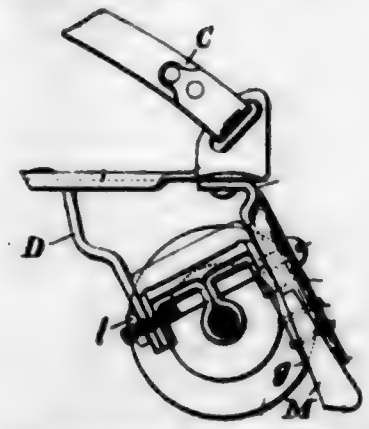
805,941. ANIMAL-TRAP. ANDREW ARNESEN, Des Moines, Iowa. Filed Feb. 24, 1905. Serial No. 247,201.



Claim.—1. An animal-trap comprising a cage, a door in one end of said cage and an entrance-port in the opposite end of said cage, the trap device communicating with said entrance-port, a door mounted for oscillation in the top of said trap device, a trigger-plate in said door, a trigger carrying said plate, a stop adapted to be engaged by said trigger, and an entrance-cage arched over said trap device.

2. An animal-trap, comprising a cage and an entrance-port at one end and a door at the other end, a trap device communicating with the entrance-port of the cage and comprising a bottom, side walls, an end wall and a cross-bar opposite the end wall, a trap-door pivotally mounted in the top of said trap device, a trigger carried by said door and normally engaging said cross-bar, a trigger-plate in said door carried by said trigger, a housing depending from said door, a spring in said housing engaging said trigger, a weight on said door opposite said trigger, a stop on said end wall adapted to be engaged by said weight, and an entrance-cage arched above said trap device.

805,942. ROLLER-SKATE BRAKE. GEORGE M. BEALS, Lowell, Mass., assignor of one-half to Hayward M. Bartlett, Lowell, Mass. Filed Apr. 29, 1905. Serial No. 258,561.



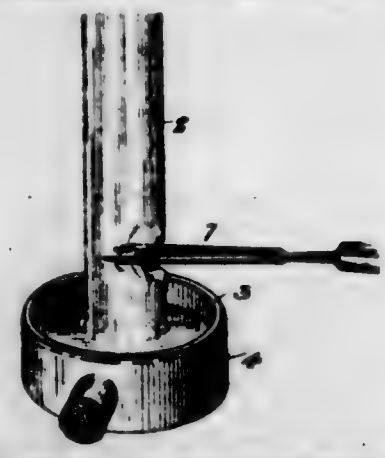
Claim.—1. In a detachable roller-skate brake, a friction-pad, a metal holder so formed at one end as to fit the rear-axle supports and so cleft at its other end as to receive said pad, axle-bearings, and supports therefor, combined with a bolt and nut adapted to pass through and hold in place the rear-axle bearings, its supports and said holder.

2. In a detachable roller-skate brake, a metal holder so formed at one end as to fit the rear-axle supports, a friction-pad carried by said holder, and a bolt and nut adapted to pass through and hold in place, the rear-axle bearings, its supports and said holder together with said rear-axle bearings, and its supports as described.

3. In a roller-skate brake, a wedge-shaped friction-pad, combined with a metal holder so cut away at one end as to fit the rear-axle supports and so cleft at its other end as to carry said pad and to present a rounding surface between the end of its top member and said pad and rear-axle supports, as described.

4. In a roller-skate brake, a wedge-shaped friction-pad, a metal holder adapted at one end to fit the rear-axle supports and so cleft at its other end as to carry said pad, a bolt and nut adapted to hold said holder to the frame of the skate, and pins adapted to hold the pad and holder together combined with rear-axle supports, as described.

805,943. METHOD OF SEVERING DRAWN-GLASS CYLINDERS. JAMES CAMPBELL, Pittsburg, Pa., assignor to James A. Chambers, trustee, Pittsburg, Pa. Filed Aug. 1, 1903. Serial No. 167,851.

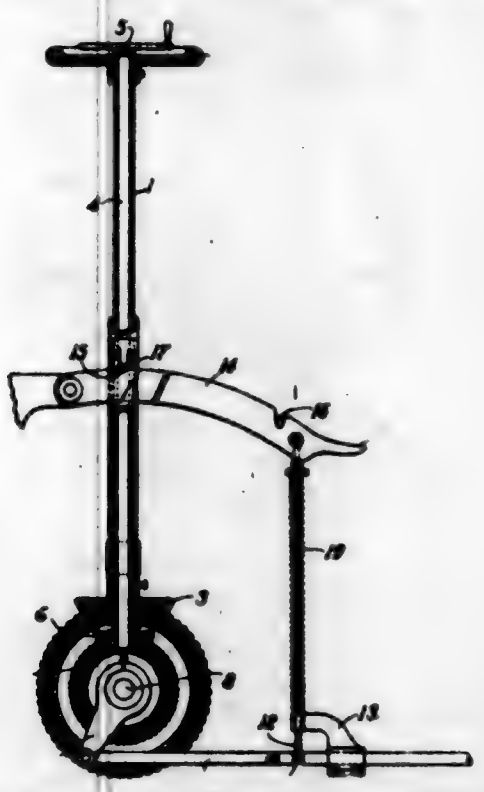


Claim.—1. The method of separating drawn-glass cylinders from the body of glass from which they are drawn, which consists in perforating the wall of the cylinder near its base and then shearing the cylinder around its circumference; substantially as described.

2. The method of separating drawn-glass cylinders from the body of glass from which they are drawn, which consists in perforat-

ing the wall of the cylinder near its base, enlarging the opening thus formed and then shearing the cylinder around its circumference; substantially as described.

805,944. CONTROLLING APPARATUS. EDWARD S. CLARK, Boston, Mass. Filed Feb. 8, 1905. Serial No. 245,975.

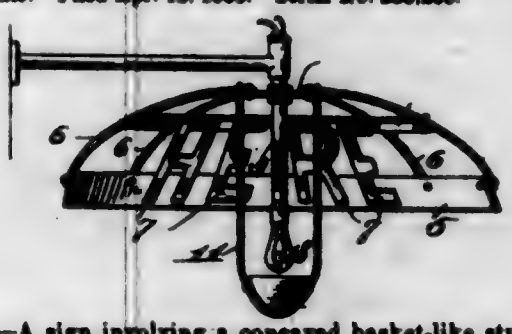


Claim.—1. In a safety controlling apparatus, a device for simultaneously locking the steering-wheel shaft in an operative position and releasing the starting mechanism, consisting of a hinged steering-wheel shaft, a hinged quadrant engaging therewith, means for compelling said engagement, said engagement in an operative position of said steering-wheel shaft releasing means for operating the starting mechanism.

2. In a safety controlling apparatus, a device for simultaneously locking the starting mechanism in an inoperative position, when the steering-wheel is unlocked, so as to be moved from an operative position, consisting of a hinged steering-wheel shaft, a hinged quadrant engaging therewith, means for compelling said engagement, said engagement in an inoperative position of said steering-shaft, locking the starting mechanism in an inoperative position.

3. In a safety controlling apparatus, a safety device consisting of a hinged steering-wheel shaft, a hinged quadrant engaging therewith, means for compelling said engagement; means for releasing said engagement in an operative position of said steering-wheel shaft and simultaneously locking the starting mechanism, in an inoperative position.

805,945. SIGN. EUGENE L. CREEDEN and JOHN N. BUWEN, Youngstown, Ohio. Filed Apr. 13, 1905. Serial No. 255,200.



Claim.—A sign involving a concaved basket-like structure, a series of characters fastened to the concaved side of said structure, a lamp mounted in advance of the characters, a yoke-like frame extending forward from the said structure, and a reflector supported by said frame, the latter having a bowed portion within which the reflector fits.

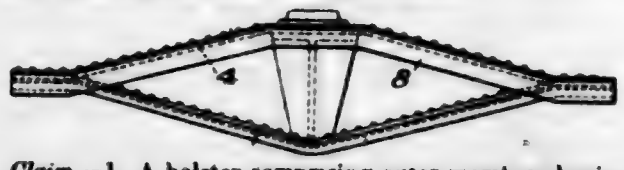
805,946. WRENCH. ALBERT L. CRITTENDEN, Shellman, Ga., assignor of one-half to F. Reid Crittenden, Shellman, Ga. Filed Aug. 26, 1905. Serial No. 275,855.

Claim.—1. A wrench comprising a stock having a jaw at one end, a shank having a jaw at one end for coöperation with the jaw of the stock, a strap having openings therethrough for the reception of the stock and the shank, the shank having a longitudinal bore and a longitudinal slot in communication with each other, a helical spring removably arranged within the bore of the shank, a projection carried by the said strap and extending through said slot into the bore of the shank for engagement with the said helical spring, and a flat spring secured to the stock for engagement in the opening receiving the stock to hold the jaw of the latter normally out of engagement with said shank.



2. A wrench comprising a stock having a jaw removably fitted at one end thereof, a shank having a jaw at one end for coöperation with the jaw of the stock, a strap having openings therethrough for the reception of the stock and the shank, the shank having a longitudinal bore and a longitudinal slot in communication with each other, a yieldable element mounted within the bore of the shank, means detachably connected with the shank at one end of said bore whereby the yieldable element may be inserted in or removed from the bore, a projection carried by the said strap and extending through said slot into the bore of the shank for engagement with the said yieldable element, and means arranged between the stock and the opening receiving the stock to hold the jaw of the latter normally out of engagement with said shank.

805,947. CAR PART. ETHAN I. DODDS, Avalon, Pa., assignor to Pressed Steel Car Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Feb. 23, 1904. Serial No. 194,645.



Claim.—1. A bolster comprising outer members having rolled flanges in a plurality of planes at angles to each other and a middle member bent away from said outer members; substantially as described.

2. A bolster comprising outer members having lateral flanges for the attachment of a strut, a middle member bent away from said outer members, and an interposed strut; substantially as described.

3. A bolster having two members, the outer edges of which have rolled flanges, and a middle member bent away from the said two members, said middle member being reinforced by an attached flange or flanges; substantially as described.

4. A bolster having two members, the outer edges of which have rolled flanges, and a middle member bent away from said two members, said middle member being reinforced by an attached flange or flanges, and connected with the other members by a strut; substantially as described.

805,948. CONTAINER FOR LIGATURES, &c. FRED EVANS, Summit, N. J., assignor to Johnson and Johnson, New York, N. Y., a Corporation of New York. Filed May 9, 1905. Serial No. 259,603.



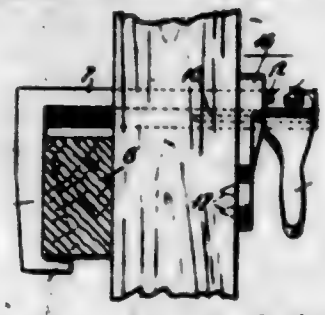
Claim.—1. The herein-described hermetically-sealed container for ligatures, and other uses, consisting of a glass tube, with a cap fused over the end of the tube and presenting a shoulder to receive a blow in the direction of the length of the tube to break the same, as and for the purpose described.

2. The herein-described hermetically-sealed container for ligatures and other uses, consisting of a glass tube with a short cap fitted over the end of the tube and fused thereto, and presenting a shoulder to receive a blow in the direction of the length of the tube to break it.

805,949. STAGING-CLAMP. ULYSSES FACHTH, Hartford, Conn. Filed Feb. 6, 1905. Serial No. 244,942.

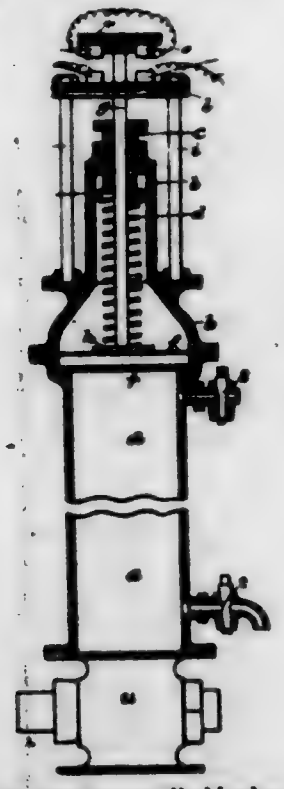
Claim.—1. A staging-clamp comprising a bar having arms at an angle to each other, a support for a stringer projecting laterally from and inclined to the plane of the arms on one of the arms, a clamping-plate, and means for actuating said clamping-plate carried by the other arm.

2. A staging-clamp consisting of a bar having two arms, one of which is provided with a lateral support inclined to the plane of the arms for a stringer, and the other of which is bifurcated, a clamping-plate fitted for sliding movement on the bifurcated arm, and a lever having a cam bearing against said clamping-arm.



3. A staging-clamp comprising a bar having arms at right angles to each other, one arm having a lateral support inclined to the plane of the arms for a stringer, and the other being bifurcated and provided with a series of perforations, a clamping-plate having a spur for entering an upright, said plate being fitted on the bifurcated arm, a cam-lever, and a bolt on which the cam-lever is pivoted, said bolt being adapted to be inserted in any perforation of the arm.

805,950. GOVERNOR FOR MARINE ENGINES. RODOLPHE J. W. GRASSET, South Yarra, Victoria, Australia. Filed Jan. 10, 1905. Serial No. 240,424.

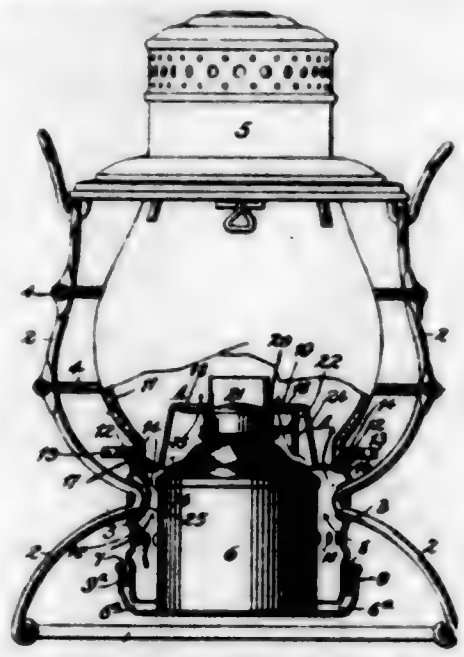


Claim.—1. In an electrical-controlled hydropneumatic governor for marine engines the combination with the steam-valve thereof of a solenoid having its cores connected directly to the valve and means for energizing the solenoid, said means consisting of an air-chamber in communication with the sea, a diaphragm in the upper part of said chamber, a sliding rod connected with said diaphragm contacts carried by said rod, stationary contacts with which the contacts on the rod are adapted to engage and wires connecting the said stationary contacts with the solenoid.

2. In an electrically-controlled hydropneumatic governor for marine engines, the combination with the steam-valve thereof, of a solenoid having its cores connected directly with said valve and means for energizing the solenoid, said means consisting of an air-chamber in communication with the sea, a diaphragm in the upper part of said chamber, a sliding rod connected with said diaphragm, a spring controlling the upward movement of said diaphragm, means for regulating the pressure of said spring, contacts carried by said rod, stationary contacts with which the before-mentioned contacts are adapted to engage and wires connecting the stationary contacts with the solenoid, substantially as described.

805,951. WICK-RAISING ATTACHMENT FOR LANTERNS. WILLIAM S. HAHN, Chicago, Ill., assignor to The Adams and Westlake Company, of Illinois. Filed Nov. 2, 1904. Serial No. 231,195.

Claim.—1. In a lantern, a body-hoop and a rotatable cap forming a seat for the globe and fitting said hoop, said cap being provided with a skirt and a top having rack-teeth, combined with a burner having wick-raising means including a gear-wheel in engagement with the rack, substantially as set forth.



2. In a lantern, a body-hoop provided with perforations for the admission of air, and a rotatable cap forming a seat for the globe and fitting said hoop, said cap being provided with a skirt and a top having rack-teeth and means for admitting air into close proximity to the center of the cap, combined with a burner having wick-raising means including a gear-wheel meshing with the rack, substantially as set forth.

3. In a lantern, a body-hoop provided with perforations for the admission of air, and a rotatable cap forming a seat for the globe and fitting said hoop, said cap being provided with a skirt and perforations at the base thereof and having its top furnished with rack-teeth and means for admitting air into close proximity to the burner, combined with a burner having wick-raising means including a gear-wheel in engagement with the rack, substantially as set forth.

4. In a lantern, a body-hoop and a rotatable cap forming a seat for the globe and fitting said hoop and furnished with exterior fingers, a skirt and a top having rack-teeth, combined with a burner having wick-raising means including a gear-wheel in engagement with the rack, substantially as set forth.

5. In a lantern, a body-hoop and a rotatable cap forming a seat for the globe and fitted to said hoop, said cap having means for frictional engagement with the hoop and being provided with a skirt and a top furnished with rack-teeth, combined with a burner having wick-raising means including a gear-wheel in engagement with the rack, substantially as set forth.

6. In a lantern, a body-hoop provided with air-inlets, and an oil-pot removably fitted to the hoop and having a burner provided with a wick-raising spindle and a gear-wheel mounted thereon, combined with a ventilated rotatable cap forming a seat for the globe and fitted upon the hoop and provided with a skirt and a top furnished with rack-teeth, said teeth engaging the gear-wheel of the wick-raising spindle, substantially as set forth.

7. In a lantern, a body-hoop and a rotatable cap forming a seat for the globe and fitted to said hoop and provided with a skirt, combined with a burner and wick-raising means, the latter having rotative contact with the top wall of said cap, substantially as set forth.

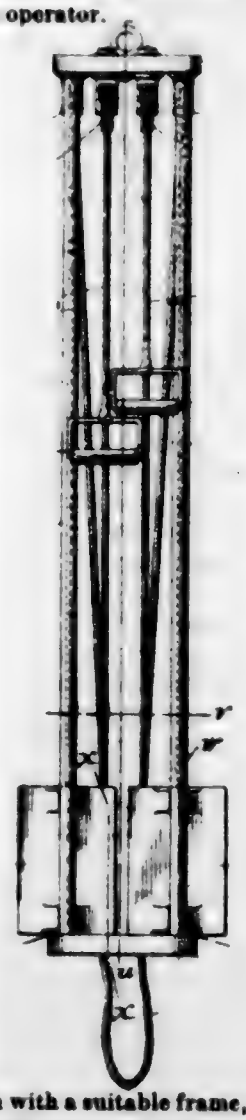
8. In a lantern, a body-hoop and a one-piece rotatable cap forming a seat for the globe and fitted to said hoop, combined with a burner and wick-raising means, the latter having rotative contact with the top wall of said cap, substantially as set forth.

805,952. ELECTRICAL MUSCULAR EXERCISING MACHINE. ROBERT O. HAMMOND, Buffalo, N. Y., assignor to Josiah S. Andrews, Buffalo, N. Y. Filed May 23, 1905. Serial No. 261,347.

Claim.—1. The combination with a suitable frame, of an electric generator movable on said frame, and electric conducting and operating cords arranged in circuit and connected to operate the generator and convey the current through the operator when moving the generator on the frame.

2. The combination with a suitable frame, of a weight guided on said frame, an electric generator in said weight, and electric conducting and operating cords for operating said weight and said generator and having suitable electric connection with said generator to convey the current through the operator.

3. The combination with a suitable frame, of a pair of movable weights guided on said frame, an electric generator movable with one of said weights, and combined electric conducting and operating cords for operating said weights and said generator and having suitable electric connection with the generator to convey the current through the body of the operator.



4. The combination with a suitable frame, of a magneto-electric generator movable on said frame and having a pulley on the armature thereof, and electric conducting and operating cords in circuit, one of said cords passing over said pulley to simultaneously cause the generator to move on the frame and revolve the armature of said generator.

5. The combination with a suitable frame having guides, of a pair of weights movable on said guides, a magneto-electric generator within one of said weights and having a pulley on the armature thereof, a pulley within the other weight, suitable pulleys on the frame, electric conducting and operating cords passing over said pulleys and provided with handles, and an electric conducting-cord between the generator and the last-mentioned weight, said cords being arranged in circuit to convey the current through the operator.

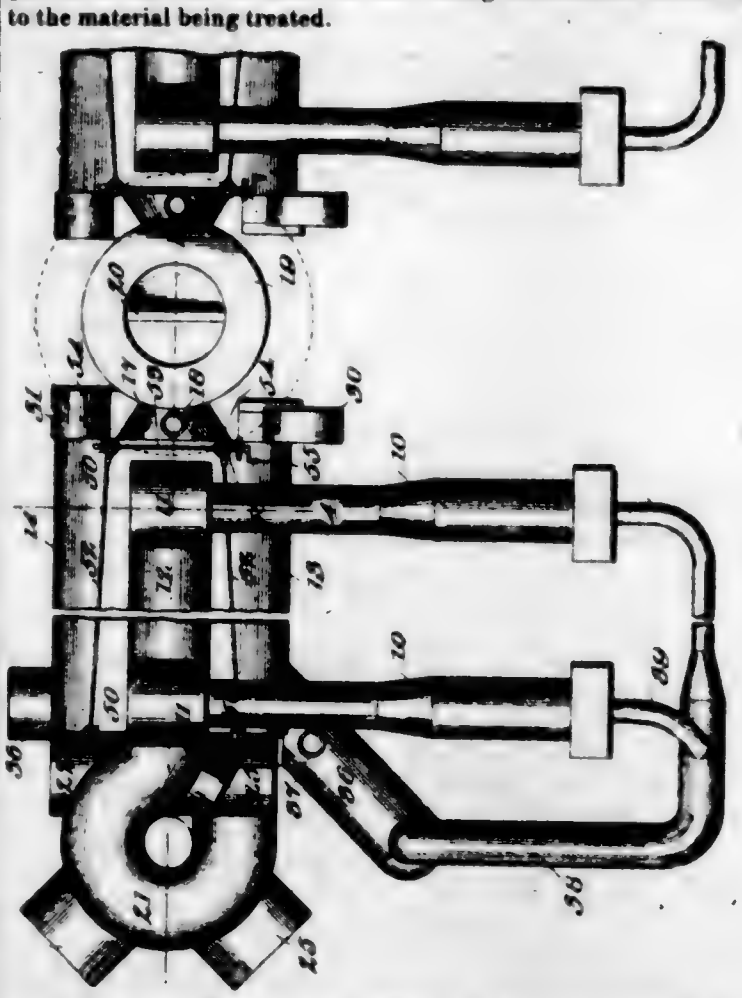
6. The combination with a suitable frame, of a weight guided for movement on said frame, an electric generator, and electric conducting and operating cords connected to said weight and to said generator to operate both and having electric connection with the generator to convey the current through the operator.

7. The combination with a suitable frame having guides, of a pair of weights movable on said guides, a magneto-electric generator within one of said weights and having a pulley on the armature thereof, a pulley within the other weight, suitable pulleys on the frame, electric conducting and operating cords passing over said pulleys and provided with handles, and an electric connection between the generator and the last-mentioned weight, said electric connection and said cords forming a circuit to convey the current through the operator.

805,953. CEMENT-BURNING KILN. GUY D. HELMICK, Fort Russell, Wyo. Filed Mar. 27, 1905. Serial No. 252,296.

Claim.—1. The combination with a burning-furnace, of a regenerator located below said furnace, a spirally-descending flue communicating between said furnace and said regenerator and provided with an aperture in its peripheral surface, a dust-collecting box adjacent said aperture, and flue connections between said regenerator and said furnace for introducing the returned heated air to the material being treated.

2. The combination with a plurality of burning-furnaces, of a plurality of regenerators below said furnaces, a spirally-descending flue communicating between said furnaces and said regenerator and provided with apertures in its peripheral surface, dust-collecting boxes adjacent said apertures, and flue connections between said regenerator and said furnaces for introducing the returned heated air to the material being treated.



3. The combination with a plurality of burning-furnaces, of a plurality of regenerators, a single spiral flue connecting up all of said furnaces with said regenerators and controlling means between said spiral flue and regenerators, dust-collecting means for said spiral flue, and independent flue connections between said regenerators and furnaces.

4. The combination with a burning-furnace, of a regenerator, a spirally-descending flue communicating between said furnace and said regenerator, provided with an aperture in its periphery, a dust-collecting box adjacent said aperture, said box having a slanting floor and an exit-opening, and independent flue connections between said regenerator and said furnace arranged out of the limits of said spiral flue.

805,954. RAIL. HENRY HERDEN, Wellsboro, and SQUIRE E. FITCH and JOHN H. BURGOYNE, Jr., Galeton, Pa. Filed Aug. 15, 1905. Serial No. 274,283.



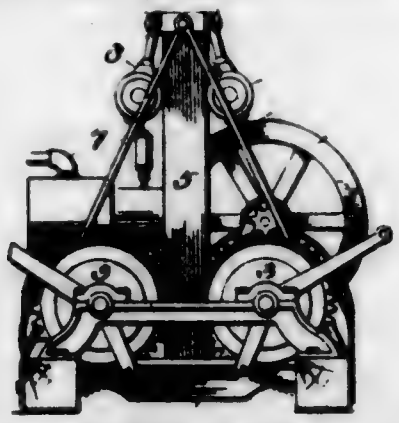
Claim.—1. A rail having a vertical bar of uniform height on the end integrally welded to the web thereof, and adapted to overlap and be secured to the web of an adjacent rail.

2. A rail having a vertical bar of uniform height on the end integrally welded to the web thereof, and adapted to overlap and be secured to the web of an adjacent rail, the inside surface of said bar being flush with the outside surface of the web of the rail upon which it is located.

3. A rail having two bars integrally welded thereto along the web portion thereof, said bars being of uniform height and placed in vertical position on opposite ends and opposite sides of the rail and projecting beyond the ends in opposite directions, said bars being of such shape as to fit between the base and head of a normal rail placed adjacent to the one upon which they are mounted, and their inside surfaces being flush with the outside surface of the rail.

4. A railway composed of rails each having a straight uniform bar integrally mounted on its end before being laid, and extending from the web of the rail longitudinally, said bar fitting between the horizontal projections of an adjacent rail and constituting a portion of a beam for assisting in supporting any load applied to the rail, the web of each rail being uniform from end to end.

805,955. COMBINED MOUNT AND DERRICK FOR ENGINES AND WINDING-SPOOLS. HENRY A. HEFFNER, Bridgeton, N. J. Filed Dec. 2, 1904. Serial No. 235,271.



Claim.—In combination with an engine and a pair of spools geared thereto, horizontal parallel pieces serving as a base for the engine and spools, a cross-piece connecting said parallel pieces, a post erected upon said cross-piece and extending vertically between the spools and braces extending from the upper portion of said post and being secured at their lower ends to the outer sides of the parallel base-pieces.

805,956. TYPE-WRITING MACHINE. FREDERIC W. HILLARD, Tottenville, N. Y. Original application filed May 18, 1894, Serial No. 511,656. Divided and this application filed Dec. 20, 1899. Serial No. 749,153.



Claim.—1. In a writing-machine, the combination of a carriage, a carriage-propelling power, a rack, a pair of dogs which alternately engage with the rack, one of the dogs having a square or unbeveled carriage-controlling face and independently pivoted relatively to the other dog, the last-named dog having a beveled rack-engaging face on the side thereof opposing the carriage-feed, the said rack having teeth provided with square or unbeveled dog-engaging faces, and beveled to an edge on their rear faces, and the engaging face of the independently-pivoted dog being arranged and disposed relatively to the face of the other dog and relatively to the faces of the rack-teeth that the carriage can be advanced by the propelling power when the independently-pivoted dog is disengaged, far enough to permit that dog to enter a succeeding tooth on reëngaging with the rack.

2. In a writing-machine, the combination with a power-driven carriage, of a rack, a dog-rocker pivoted to vibrate transversely to the direction of the carriage-feed, and a pair of dogs mounted on the rocker and vibrating therewith to alternately engage with the rack, one of the dogs having a square or unbeveled carriage-controlling face and independently pivoted on the rocker and the other dog having a beveled rack-engaging face on the side thereof opposing the carriage-feed, the said rack having teeth provided with square or unbeveled dog-engaging faces beveled to an edge on their rear faces on the side with which the independently-pivoted dog engages, the engaging face of the independently-pivoted dog arranged and disposed relatively to the face of the other dog and relatively to the faces of the rack-teeth to allow the carriage to be advanced by the propelling power when the independently-pivoted dog is disengaged, far enough to permit that dog to enter a succeeding tooth on reëngaging with the rack.

3. In a writing-machine, the combination with a power-driven carriage, of a rack, a dog-rocker pivoted to vibrate transversely to the direction of the carriage-feed, and a pair of dogs mounted on the rocker and vibrating therewith to alternately engage with the rack, one of the dogs having a square or unbeveled carriage-controlling face, and being pivoted on the rocker and spring-actuated thereon to vibrate toward and from the other dog, and normally engaging with the rack; and the other dog being rigid upon the rocker and normally disengaged from the rack, the rack having teeth provided with square or unbeveled dog-engaging faces and beveled to an edge on their rear faces on the side with which the pivoted dog engages, and the rigid dog having an inclined carriage controlling and engaging face along which the rack feeds during the disengagement of that dog from the rack and which is arranged and disposed relatively to the pivoted dog to allow the rack to be advanced along said face by the propelling power when the pivoted dog is withdrawn from the rack, far enough to permit the pivoted dog to enter a succeeding tooth on reëngaging with the rack.

4. In a writing-machine escapement, the combination of a rack and a dog member which engage together, the dog member having a normally engaged pivoted spring-actuated dog which is substantially square unbeveled on its carriage-controlling face and a normally disengaged rigid dog which is separated from the pivoted dog by an open space, the rigid dog having an inclined carriage-controlling face on the edge thereof adjacent to the pivoted dog, the length of the inclined face and open space between the dogs being together of a measurement at least equal to the width of the normal engagement between the escapement members.

5. In a writing-machine escapement, the combination of a spaced member and a spacing member, square or unbeveled faces on the said members, which faces normally engage together, an inclined carriage-controlling face on one of the members which is normally out of the path of the other member but which is adapted to be brought into the path thereof, means for bringing the inclined face into the path of the other member, and a carriage-propelling power acting upon the inclined face when in engagement to move it out of the path of the other member of the escapement, substantially as described.

6. In a writing-machine escapement, the combination of a rack, a pivoted spring-actuated dog which normally engages the rack and is substantially square or unbeveled, a holding-dog which is normally out of the path of the rack but which is adapted to be moved into the path thereof, a finger-key and suitable connections for moving the holding-dog into the path of the rack, the holding-dog having a beveled carriage-controlling face which engages with the rack and allows the carriage-mainspring to move the holding-dog out of the path of the rack, substantially as described.

7. In a writing-machine escapement, the combination of a spaced member and a spacing member, square or unbeveled faces on said members which faces normally engage together, an inclined carriage-controlling face on one of the members of a width at least equal to the normal engagement between the members and which is normally out of the path of the other member but which is adapted to be brought into the path thereof, means for bringing the inclined face into the path of the other member and a carriage-propelling power acting upon the inclined face when in engagement to move it out of the path of the other member.

8. In a writing-machine escapement, the combination of a spaced member and a spacing member, square or unbeveled faces in said members which faces normally engage together, an inclined carriage-controlling face on one of the members which is normally out of the path of the other member but adjacent to said square or unbeveled part, and separated therefrom by a space and adapted to be brought into the path of the other member, the combined width of said inclined face and open space being at least equal to the normal engagement between the members, means for bringing the inclined

face into the path of the other member, and a carriage-propelling power acting upon the inclined face to move it out of the path of the other member.

9. In a writing-machine escapement, the combination of a power-driven spaced member and a spacing member, each of the members having a square or unbeveled controlling-face thereon, which face is normally in engagement, and one of the members having an inclined controlling-face, which face is normally out of engagement, a printing member, and a key and connections to drive the printing member against the impression-surface and to bring the inclined controlling-face into engagement prior to printing, and to cause the feed of the spaced member of the escapement to vary with the speed with which the printing member is driven against the impression-surface, substantially as described.

10. In a writing-machine escapement, the combination with a power-driven rack, of a dog which normally engages therewith and has a straight or unbeveled rack-engaging face, a dog normally disengaged from the rack and having an inclined rack controlling and engaging face, a printing member, and a key and suitable connections to drive the printing member against an impression-surface and to bring the inclined face of the disengaged dog into engagement with the rack at the instant of printing, whereby the feed of the spaced member of the escapement varies with the speed with which the printing member is driven against the impression-surface.

11. In a writing-machine escapement, the combination with the keys, of a spaced member and a spacing member, square or unbeveled carriage-controlling faces on said members which normally engage together, an inclined carriage-controlling face on one of the members which is normally out of the path of the other member but which is adapted to be brought into the path thereof, means operated by the keys for bringing the inclined face into the path of the other member and for thereby retracting the spaced member by aid of the inclined face, and a carriage-propelling power acting upon the inclined face to move it from the path of the other member.

12. In a writing-machine escapement, the combination of a power-propelled spaced member and a spacing member, two carriage-controlling faces in one of the members, one of which is square or unbeveled and normally engages with the other member, and the other of which is normally disengaged therefrom but arranged and disposed to engage therewith and inclined relatively to the direction of feed of the spaced member, and a key and connection for operating the escapement and thereby retracting the spaced member by aid of the said inclined face, substantially as described.

13. In a writing-machine, the combination with a power-propelled carriage, of an escapement therefor which comprises two engaging members, both of which members are provided with square or unbeveled carriage-controlling faces that engage together in the normal or unused condition of the machine, a printing member, and a key connected with the printing member to move it to the printing-point and connected with the escapement for moving it in one direction, one of the escapement members having an inclined carriage-controlling face thereon which is brought into engagement with the other escapement member by the movement of the key, whereby the carriage-propelling power operates through the escapement and intermediate connections to move the printing member toward normal position.

14. In a writing-machine, the combination with a power-driven carriage, of an escapement to control the feed thereof comprising a rack, a pivoted spring-actuated feeding-dog which is square or unbeveled on the side opposing the carriage-feed and normally engages with the rack and a rigid holding-dog which is normally disengaged, a type-bar, a key connected with the type-bar to move it to and from the printing-point and connected with the escapement to disengage the feeding-dog from the rack and to engage the holding-dog therewith, and an inclined carriage-controlling face on the holding-dog which is brought into engagement with the rack by the movement of the key, whereby the carriage-propelling power operates by aid of said inclined face and intermediate connection to move the type-bar toward normal position, and to disengage the holding-dog from the rack, substantially as described.

15. In a writing-machine, the combination with a power-driven carriage, of an escapement therefor comprising a rack member and a dog member, the dog member consisting of two parts, staggered in respect to each other, and two faces in one of the escapement members on the side opposing the carriage-feed, one of which faces is square or uninclined relatively to the line of feed and normally engages with the other member, and the other of which is inclined relatively to the line of feed and is normally disengaged, but is arranged and disposed to engage with the other member when the square or uninclined face is disengaged, substantially as described

16. In a type-writing escapement, the combination with a rack, of a dog normally disengaged therefrom, one of the said parts having a beveled or inclined holding-face which is normally out of engagement with the other part, a normally engaged dog, the rack and normally engaged dog having square or unbeveled holding-faces thereon which normally engage together, a key and connections for disengaging the normally engaged dog from the rack and for engaging the normally disengaged dog with the rack, an escapement-retracting spring, and a carriage-mainspring acting through said beveled face to assist the escapement-retracting spring in disengaging the normally disengaged dog from the rack, substantially as described.

17. In a type-writing machine, the combination of type-bars and keys for actuating them, connections between each key and its type-bar whereby the type-bar is positively moved by the depression of its key, and by the return of its key to normal position, a power-driven carriage, an escapement to control the feed of the carriage comprising two members, one of the members having two parts, one of which parts is square or unbeveled on the side oppocing the carriage-feed, and normally engages with the other member, and the other of which parts is normally disengaged and provided with a beveled face on the side opposing the carriage-feed, an operative connection between the several said keys and the escapement, arranged and adapted to disengage said normally engaged part from the other member, and to engage said beveled face therewith to control the carriage-feed when the keys are depressed, substantially as described.

18. In a type-writing machine, the combination of type-bars and keys for actuating the same, a connection between each key and its type-bar, whereby the type-bar is positively moved by the depression of its key, and by the return of its key to normal position, a power-driven carriage, and an escapement to control the feed of the carriage, comprising a rack, a pivoted dog, which normally engages the rack and is substantially square or unbeveled on the side opposing the carriage-feed, a rigid dog which is normally disengaged from the rack and provided with a beveled face on the side opposing the carriage-feed and an operative connection between the several keys and the escapement, arranged and adapted to disengage said pivoted dog from the rack and to engage said beveled face on the fixed dog therewith to control the carriage-feed when the keys are depressed.

19. In a type-writing machine, the combination with a power-driven carriage, of an escapement therefor, the engaging parts of the said escapement having normally engaging square or unbeveled faces, and having a normally disengaged beveled working face, a plurality of type-actuating keys, a corresponding plurality of type-bars, connections for positively moving each type-bar by the depression of its key, and by the return of its key to normal position, and an operative connection between the several keys and the escapement to move a part of the escapement from normal position by the depression of the keys and to permit the movement of the said part toward normal position during the return movement of the keys, substantially as described.

20. In a type-writer escapement, the combination with keys, of a rack and a rocker, a normally disengaged dog fixedly mounted on the rocker, the said dog having a beveled carriage-controlling face arranged and adapted to engage the rack when the keys are depressed, a normally engaged dog, having a square or unbeveled carriage-controlling face thereon, which normally engages the rack, said normally engaged dog being pivotally mounted on the rocker and spring-pressed toward the normally disengaged dog, but capable of yielding on its pivot in a direction to increase the width of the opening between the two dogs, substantially as described.

21. In a writing-machine escapement, the combination of a power-propelled spaced member and a spacing member, one of which has two controlling-faces, one of the faces being square or unbeveled and normally engaging with the other member, and the other of the faces being normally disengaged from the other member, and a key for moving one member of the escapement in a path inclined relatively to said normally disengaged face, substantially as described.

22. In a writing-machine escapement the combination of a spaced member and a spacing member, each of which has a square or unbeveled face thereon which faces normally engage together, one of the members having an inclined carriage-controlling face which is normally out of the path of the other member, a key and connections for bringing the inclined face into the path of the other member and a carriage-propelling power acting upon the spacing member when the inclined face thereof is in engagement with the spaced member to retngage the said square or unbeveled faces which normally engage together, substantially as described.

23. In a type-writer, the combination, with the keys, of an escapement comprising a spaced member and a spacing member, the

members having square or unbeveled carriage-controlling faces which are normally in engagement and one of the members having a beveled carriage-controlling face which is normally out of engagement with the other member, and connections between the keys and the escapement to disengage the square or unbeveled faces and release the spaced member prior to the full depression of the keys and to engage the beveled face with the other member at the full depression of the keys, substantially as described.

24. In a type-writer, the combination with the keys, of an escapement comprising a power-propelled rack and a rocker having two dogs, one of the dogs being pivoted on the rocker and having a square or unbeveled carriage-controlling face normally in engagement with the rack, and the other dog being rigid on the rocker and having a beveled carriage-controlling face which is normally out of engagement with the rack, and connections between the keys and the rocker to disengage the pivoted dog and release the rack prior to the full depression of the keys and to engage the rigid dog with the rack at the full depression of the keys, substantially as described.

25. In a writing-machine escapement, the combination of a spaced and spacing member which engage together, one of the members having two series of carriage-controlling faces on that side thereof which opposes the carriage-feed, one series being formed in planes which are oblique to the planes of the other series, the faces in one series being inclined to the direction of the movement of the member they are on and the faces of the other series being at right angles to the direction of the movement of the same member and a carriage-mainspring for feeding the spaced member, substantially as described.

26. In a writing-machine escapement, the combination of a spaced and spacing member which engage together, one of the members having two carriage-controlling faces fixedly located in respect to each other on that side thereof which opposes the carriage-feed, one face being in a plane which is oblique to the plane of the other face, one face being inclined to the line of movement of the member it is on and the other face being at right angles to the line of movement of the same member and a carriage-mainspring for feeding the spaced member, substantially as described.

805,957. **UMBRELLA.** WILLMOT G. HOFFMAN, San Francisco, Cal. Filed May 14, 1904. Serial No. 208,084.

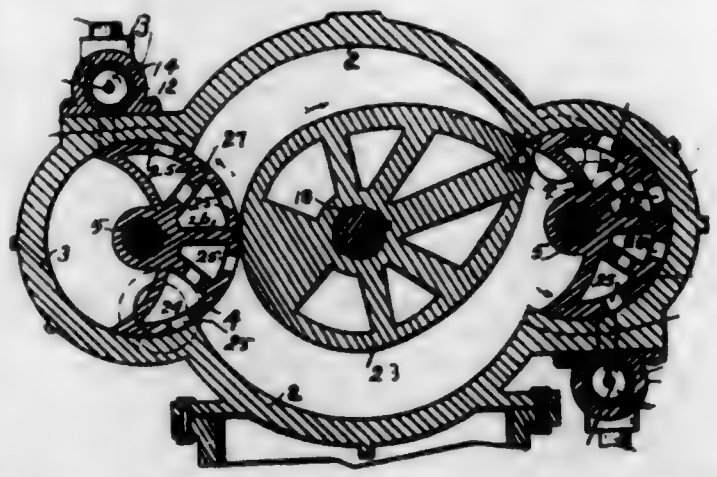


Claim.—1. In an umbrella, the combination of a stick comprising three telescopic sections, means for holding said sections extended, a runner slidable on the upper stick-section and having an enlarged portion to receive the intermediate stick-section when the stick is telescoped, folding supporting-ribs pivoted to the upper stick-section, each rib comprising two parts having sockets at their meeting ends pivotally connected with each other, the socket on one part having a hook to engage the other part and the latter having a pivot-lug, stretchers pivoted to the runner and to the pivot-lugs of the ribs and adapted to engage intermediately of their ends the enlarged portion of the runner and to be held away from the stick thereby when said stretchers and ribs are closed, and a handle on the lower stick-section provided with a depression to receive the hinged ends of the folded ribs and stretchers when the latter are drawn toward the stick, whereby the joined ends of the ribs and stretchers will be held under spring tension, substantially as described.

2. In a folding umbrella, the combination of ribs, each formed in two parts, a socket on each part having a lug for a hinge-pin, and a finger or hook projecting from the socket on one part adapted to support the second part when extended.

3. In a folding umbrella, the combination of ribs each formed in two parts, a socket on each part having a lug for a hinge-pin, a finger or hook projecting from the socket, on one part adapted to support the second part when extended, and a stretcher pivoted to the end of said second part.

805,958. **ROTARY ENGINE.** EUGENE H. HOLDEN, Keene, N. H., assignor of one-half to George H. Giffin, Keene, N. H. Filed May 15, 1905. Serial No. 260,530.



Claim.—1. The combination of the cylinder having the extensions provided with exhaust-ports, the piston, the abutments provided with openings for the exhaust-steam, said piston and abutmehts having each the same length as the cylinder interior, the piston-shaft, an eccentric on said shaft at each end of the cylinder, abutment-shafts, steam-admission valves, valve-stems, connections between the eccentrics and the abutment-shafts, and connections between said shafts and the valve-stems, all substantially as set forth whereby upon admission of steam the piston and abutments are driven oppositely, steam exhausted and fresh live steam admitted and exhausted continuously.

2. In a rotary engine, the combination of the cylinder and cylinder extension, with a piston, means for admitting and exhausting steam, an abutment having a peripheral opening for exhaust and an open end and the cylinder extension having a coacting exhaust-port and a distinct steam-admission port outside the abutment.

3. In a rotary engine, the combination of the cylinder and cylinder extension, with a piston, means for admitting and exhausting steam, and an abutment having a peripheral opening for exhaust and an open end, and the cylinder extension having a coacting exhaust-port, said abutment having also ports communicating with the expanding live steam, and a distinct steam-admission port outside the abutment.

4. In a rotary engine, the combination of the cylinder and piston, with hollow rotating abutments of approximately semicylindrical form, each having a face entire to receive live-steam pressure on opposite sides of the abutment-shaft and having on its periphery opposite said face live-steam ports to cushion the abutment, and exhaust-ports to transmit steam to an exhaust-port in the cylinder.

5. In a rotary engine, a piston, hollow rotating abutments having each an approximately semicylindrical form, a partition dividing the abutment hollow into two parts, ports adapted to admit live steam on one side of said partition, ports to admit exhaust-steam on the other side of the partition, and an exhaust-port in the cylinder to coact with the exhaust-ports of the abutment.

6. In a rotary engine, the combination of the cylinder, piston, piston-shaft, abutments, abutment-shafts, valves, valve-stems, said stems having crank-arms, and the abutment-shafts having crank-arms at each end, an eccentric on the piston-shaft at each end of the cylinder, and connections for rotating the abutments from the eccentrics and mediately rotating the valves.

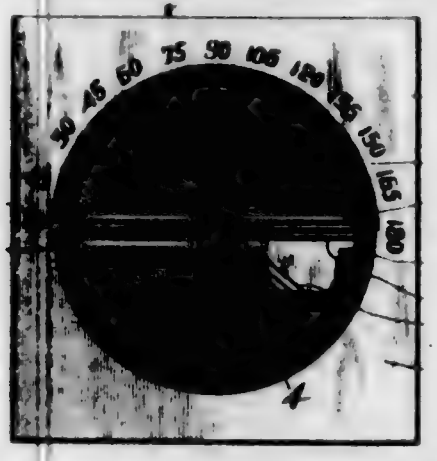
7. In a rotary engine, the combination of the cylinder, piston, piston-shaft, abutments, abutment-shafts, valves, valve-stems, said stems having crank-arms, and the abutment-shafts having crank-arms at each end, an eccentric on the piston-shaft at each end of the cylinder, and connections for rotating the abutments from the eccentrics and mediately rotating the valves, said abutment-shaft cranks being set at an angle to each other to avoid dead-centers.

8. In a rotary engine, the combination of the cylinder, piston, piston-shaft, abutments, abutment-shafts, valves, valve-stems, said stems having crank-arms, and the abutment-shafts having crank-arms at each end, an eccentric on the piston-shaft at each end of the cylinder, and connections for rotating the abutments from the eccentrics and mediately rotating the valves, said connections comprising rods loosely connecting the valve-stems and abutment-shaft cranks, and rods connecting the latter cranks with the eccentrics.

9. In a rotary engine, the combination of the cylinder, piston, piston-shaft, abutments, abutment-shafts, valves and valve-stems, said stems having crank-arms, and the abutment-shafts having crank-arms at each end, an eccentric on the piston-shaft at each end of the cylinder, and connections for rotating the abutments from the eccentrics and mediately rotating the valves, said connections comprising rods loosely connecting the valve-stems and abutment-shaft cranks, and rods connecting the latter cranks with the eccentrics, said latter rods having each its effective length variable.

10. In a rotary engine, the combination of the cylinder, piston, piston-shaft, abutments, abutment-shafts, valves and valve-stems, said stems having crank-arms, and the abutment-shafts having crank-arms at each end, an eccentric on the piston-shaft at each end of the cylinder, and connections for rotating the abutments from the eccentrics and mediately rotating the valves, said connections comprising rods loosely connecting the valve-stems and abutment-shaft cranks, and rods connecting the latter cranks with the eccentrics, the connections between the abutment-shafts and the eccentric-connecting rods being slidable.

805,959. **ASTIGMATIC CABINET.** GEORGE E. HOLMES, Lockhaven, Pa. Filed Jan. 19, 1905. Serial No. 241,582.



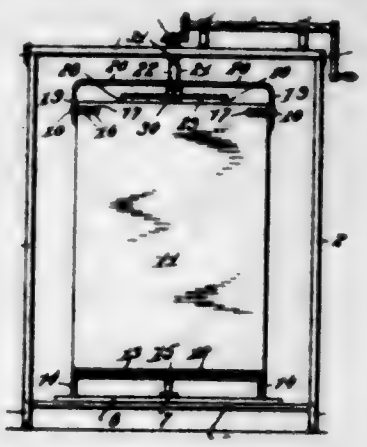
Claim.—1. An astigmatic cabinet having an opening in its front side, a scale on its front side, an arbor in the cabinet, a face-disk having a tubular axle revoluble on the arbor, and a pinion on said tubular axle, the said face-disk being further provided with radial openings and with a pointer, the latter coacting with the scale on the front side of the cabinet, an astigmatic disk in rear of the face-disk and having a tubular axle revoluble on that of the face-disk and provided with a pinion, vertically-movable racks mounted and guided in the cabinet and engaging the respective pinions and operating-cords for the respective racks to coact with the racks and pinions to independently turn the said disks to any desired angle, substantially as described.

2. An astigmatic cabinet having an opening in its front side, and a scale, and further provided with a removable back, a face-disk, an astigmatic disk, supports therefor, and means to independently turn them to any desired angle, said disks, supports and turning means being mounted on and carried by the removable back of the cabinet, substantially as described.

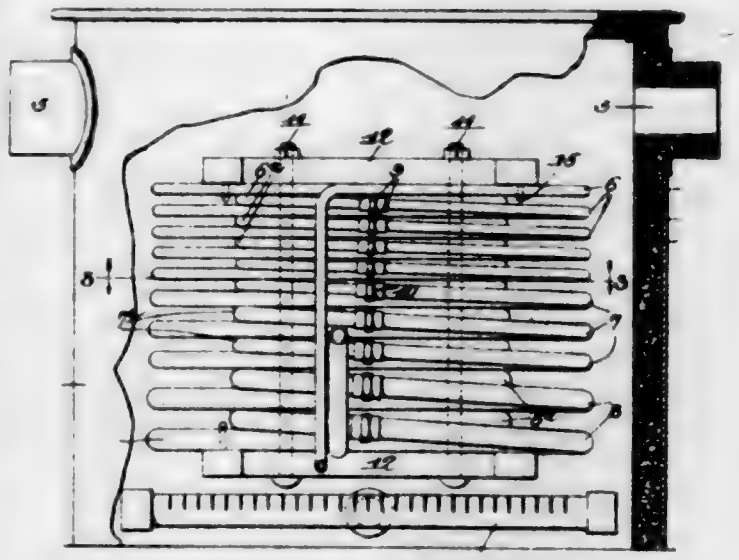
805,960. **CHURN.** WILLIAM H. HULL, St. John, Wash. Filed June 1, 1905. Serial No. 263,227.

Claim.—In a churn, the combination with a yoke having downwardly-turned ends and an upright socket provided with a rectangular-shaped bore, of a churn-body, and metallic traps mounted upon the said churn-body and adapted to receive the downturned ends of the said yoke.

805,960.



805,961. **INSTANTANEOUS STEAM-GENERATOR.** FRANKLIN P. HUNNEL, Bellevue, Ohio. Filed Dec. 22, 1904. Serial No. 237,878.



Claim.—1. In a flasher, a plurality of coils for the generating and superheating of steam, the tubing of the superheating-coils being disposed nearest the source of heat and of greater cross-sectional area than that of the generating-coils.

2. In a flasher, a casing, heating means, and a plurality of coils for the generating and superheating of steam; the tubing of the superheating-coils being of greater cross-sectional area than that of the generating-coils; the coils of the largest tubing being disposed in closest proximity to and the coils of the smallest tubing most remotely from the heating means.

3. A steam-generator composed of groups of coils formed of tubing of different cross-sectional area; the tubing of the coils disposed most nearly to the point of introduction of feed-water and most distant from the source of heat being of the smallest relative cross-sectional area, while the tubing of the groups of coils more distant from the point of introduction of feed-water and nearer the source of heat are of relatively larger cross-sectional area; the tubing of the coils from which the steam escapes being nearest the source of heat and relatively the largest.

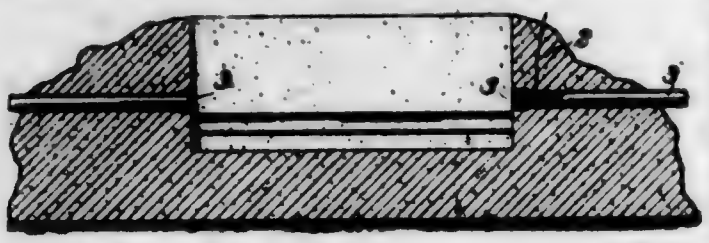
4. In a flasher, a plurality of groups of coils of tubing of gradually-increasing cross-sectional area from the point of introduction of feed-water, which is remote from the source of heat to the point of escape of steam which is closely adjacent to the source of heat.

5. In a flasher, a plurality of groups of coils of tubing, of gradually-increasing cross-sectional area from the point of introduction of feed-water to the point of escape of steam which is nearest the source of heat; each group being composed of elongated and approximately spiral coils arranged in alternate order; and unions detachably connecting the coils of adjacent groups.

6. In a flasher, a plurality of groups of coils of tubing of gradually-increasing cross-sectional area from the point of introduction of feed-water to the point of escape of steam which is nearest the source of heat; some of said coils being elongated and others approximately spiral, and said elongated and approximately spiral coils being disposed in alternate order; and unions detachably connecting the individual coils and the different-sized types of adjacent groups.

7. A plurality of coils for generating and superheating steam, and a connecting-frame including spiders and bolts separably connecting said spiders; the latter being provided with hooks engaging and supporting the upper and lower coils.

805,883. MOLD FOR ARTIFICIAL STONE. JAMES M. HUTCHINSON, New York, N. Y., assignor to D. Howard Haywood, trustee, New York, N. Y. Filed Apr. 8, 1905. Serial No. 254,469.



Claim.—1. A mold for artificial stone, composed of plastic material, substantially impervious to water, and provided with means for draining the mold-cavity.

2. A mold for artificial stone, composed of plastic material, substantially impervious to water, and provided with means for draining the mold-cavity through the end walls thereof.

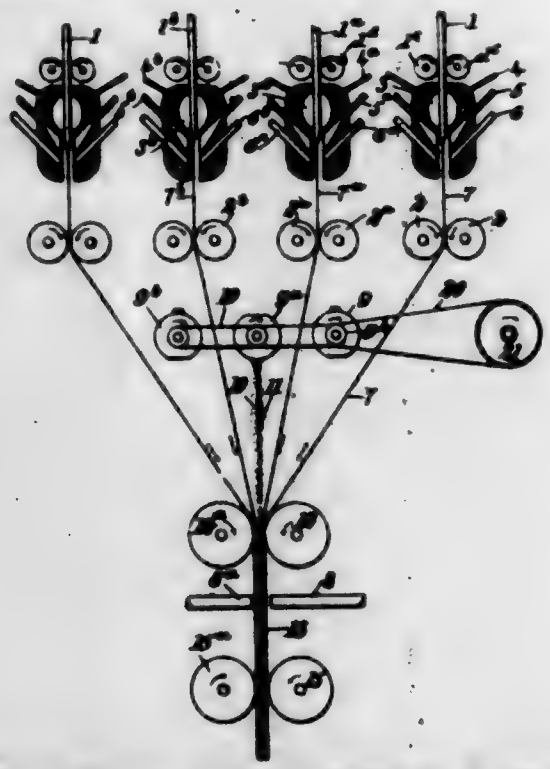
3. A mold for artificial stone, composed of plastic material, substantially impervious to water, and provided with laterally-arranged drainage-tubes communicating with the mold-cavity through the end walls thereof.

4. A mold for artificial stone, composed of plastic material, substantially impervious to water, and provided with laterally-arranged drainage-tubes communicating with the mold-cavity through the end walls thereof, said tubes provided with a mesh at their inner ends.

5. A mold for artificial stone, composed of clay, and provided with drainage means connecting with the mold-cavity at points above the bottom thereof.

6. A mold for artificial stone, composed of kaolin, and provided with drainage means connecting with the mold-cavity at points above the bottom thereof.

805,963. FLEXIBLE FABRIC AND PROCESS FOR MAKING SAME. JOHN G. JACKSON, New York, N. Y. Filed Mar. 14, 1905. Serial No. 249,998.



Claim.—1. The process herein described for the manufacture of flexible fabrics from silica, glass or the like, which consists in continuously feeding, in the form of a sheet, the material to be operated upon, applying heat to said material so as to fuse the same while still in the form of a sheet, and simultaneously drawing out the material thus fused so as to reduce the thickness thereof and thus form a comparatively thin film.

2. The process herein described of manufacturing flexible fabrics from silica, glass or the like, which consists in continuously feeding the material operated upon as a comparatively solid sheet, fusing the edge of said sheet, and drawing out said edge to a comparatively thin film.

3. The process herein described for the manufacture of flexible fabrics from silica, glass or the like, which consists in feeding a sheet of material to be operated upon, directing upon said sheet one or more gaseous jets, for the purpose of fusing the same, and drawing out said material while thus fused so as to form a comparatively thin film.

4. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in feeding, in the form of a plate, the material to be operated upon, subjecting said material to the successive action of means whereby it is first heated and then immediately cooled, and simultaneously drawing said material to a comparatively thin section while thus acted upon.

5. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in feeding the material as a sheet, fusing said sheet, drawing the same to a comparatively thin section without destroying its character as a sheet, and subjecting the fused portion to the action of gaseous jets adapted to continuously exert a pressure thereupon while in the state of fusion.

6. The process herein described for the manufacture of flexible fabrics from silica, glass or the like, which consists in feeding in a substantially sheet form the material to be operated upon, drawing the same to a comparatively thin section while in a state of fusion, and directing upon said material gaseous agents adapted to impel the fused material in the general direction of drawing.

7. The process herein described for the manufacture of flexible fabrics from silica, glass or the like, which consists in feeding the material to be operated upon in substantially sheet form, fusing successive portions of said material while thus fed, continuously drawing said material out to a thin section, and directing upon said material while thus being drawn gaseous jets inclined obliquely to the general direction of drawing.

8. The process herein described for the manufacture of flexible fabrics from silica, glass and the like, which consists in fusing the material operated upon, continuously drawing the same to a comparatively thin section while in substantially sheet form, and subsequently assembling the resultant thin sheets or films so as to form a laminated fabric.

9. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in fusing the material to be operated upon, drawing the same to a comparatively thin section while in substantially sheet form, subsequently assembling the resultant thin sheets or films with an interposed binding material, and pressing the whole into a laminated fabric.

10. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in fusing the material, drawing the same to a comparatively thin section while in substantially sheet form, assembling the resultant thin sheets, and causing the same to cohere so as to form a laminated fabric.

11. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in assembling a plurality of comparatively thin sheets of the material to be operated upon, raising the temperature of said sheets thus assembled, and applying pressure to said sheets so as to promote the cohesion thereof.

12. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in assembling a plurality of films to be operated upon, and fusing said films so as to cause the same to adhere at certain points of contact between said films, but not at all points of contact therebetween.

13. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in assembling thin sheets or films of the material operated upon so as to form a laminated fabric, introducing intermediate of the laminæ thereof a material having a different temperature of fusion, and subjecting the whole to suitable pressure and to a temperature lower than that required to fuse the more refractory elements and yet sufficient to effect the cohesion of the more fusible components.

14. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in forming and assembling thin films of the material to be operated upon so as to build up a laminated fabric and during the formation of said fabric intermittently introducing between the individual laminæ thereof a more easily-fusible vitreous material, and subjecting the whole to heat and pressure sufficient to promote the cohesion thereof.

15. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in assembling thin films of the material to be operated upon, thereby forming a laminated fabric, and during the formation of said fabric introducing between the laminæ thereof asbestos or other heat-resistant fibrous material, and subjecting the whole to heat and pressure sufficient to promote the cohesion thereof.

16. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in assembling thin films of the material to be operated upon so as to form a laminated fabric, and introducing between the laminæ of said fabric during the formation a heat-resistant fibrous material together with a readily-

fusible vitreous material, and subjecting the whole to heat and pressure sufficient to effect the cohesion thereof.

17. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in assembling thin films of the material to be operated upon, thereby forming a laminated fabric, during the formation of said fabric introducing between said films pulverized glass, and finally subjecting the whole to heat and pressure sufficient to promote the cohesion thereof.

18. The process herein described of manufacturing flexible fabrics from silica, glass and the like, which consists in assembling thin films of material to be operated upon so as to build up a laminated fabric, and during the formation of said fabric introducing intermediate of the laminæ thereof a mixture of pulverized glass and a heat-resistant fibrous material.

19. As an article of manufacture, a laminated fabric consisting of thin films of fusible material, the successive laminæ of said fabric being intermittently fused together over their adjoining surfaces.

20. As an article of manufacture, a laminated fabric consisting of thin films of silica, glass or the like built up as laminæ, and a more easily fusible material interspersed intermediate of said laminæ.

21. As an article of manufacture, a laminated fabric consisting of comparatively thin films of silica, glass or the like, and a heat-resistant fibrous material interspersed intermediate of the successive films.

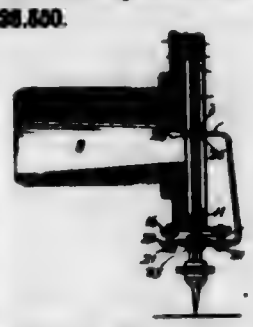
22. As an article of manufacture, a laminated fabric consisting of thin films of silica, glass or the like, a heat-resistant fibrous material, and a more readily fusible vitreous material.

23. As an article of manufacture, a laminated fabric consisting of thin sheets of vitreous material interspersed with asbestos and united by fusion into a coherent mass.

24. As an article of manufacture, a laminated fabric consisting of thin films of silica, glass or the like, a quantity of pulverized glass intermittently distributed between said films, and the whole being fused together.

25. A laminated fabric, consisting of thin films of vitreous material interspersed by an admixture of asbestos and pulverized glass, the whole being united by fusion.

805,964. SOUND-BOX FOR SOUND RECORDING AND REPRODUCING MACHINES. JULIUS JETTER, Camden, N. J., assignor, by direct and mesne assignments, to Nonpareil Machine Manufacturing Company, Camden, N. J., a Corporation of New Jersey. Filed Oct. 1, 1904. Serial No. 228,800.



Claim.—1. A sound-box for sound recording and reproducing machines, comprising a ring having an internal annular groove or recess, a cap-piece fitting said ring and secured thereto, a diaphragm held between said ring and cap-piece, and a washer for the peripheral edge of said diaphragm, the outer edge of said washer being disposed in the annular groove or recess of the ring.

2. In a sound-box for sound recording and reproducing machines, the combination with a ring and a cap-piece forming the sound-box, the former having an internal annular groove or recess, of a diaphragm, and a washer embracing the edge of said diaphragm, said washer having a portion fitting the internal annular groove or recess.

3. In a sound-box for sound recording and reproducing machines, the combination of a ring forming one portion of the box, said ring having an internal annular groove or recess, a cap-piece forming the other portion of the box, a diaphragm held between said members, a washer embracing the edge of said diaphragm, and a flange carried by the cap-piece and arranged to engage said washer in line with the peripheral edge of the diaphragm, the outer edge of said washer fitting said internal annular groove or recess.

4. A sound-box for sound recording and reproducing machines, comprising a ring having an internal annular recess, said member being beveled outwardly from said recess, a cap-piece fitting said ring and secured thereto, said cap-piece having a beveled engaging rim, a diaphragm held between said parts, and a washer for said diaphragm, also confined between said parts and extending into the internal annular recess of the ring.

5. In a sound-box for sound recording and reproducing machines, the combination of a ring forming one portion of the box and having an internal annular recess, a cap-piece forming the other portion of the box and fitting said ring, a diaphragm held between said members, the latter being beveled outwardly from said diaphragm, an insulating-washer embracing the edge of said diaphragm, said washer having its outer portion disposed within the internal annular recess of the ring, and a flange carried by the cap-piece and arranged to engage said washer in line with the peripheral edge of the diaphragm.

6. In a sound-box for sound recording and reproducing machines, the combination of a ring forming one portion of the box and having an internal annular groove, a cap-piece forming the other member of the box and having a beveled flange fitting said ring, a diaphragm confined between said parts, and a washer embracing the edge of said diaphragm and adapted to rest in the groove of the ring, the flange of the cap-piece engaging said washer in line with the peripheral edge of the diaphragm.

7. In a sound-box for sound recording and reproducing machines, the combination of a ring forming one member of the box and having an internal annular groove or recess, a cap-piece forming the other member of the box and having a flange fitting said ring, a diaphragm confined between said parts, and a washer embracing the edge of said diaphragm, the outer edge of which washer rests in the annular groove of the ring, the flange of the cap-piece engaging said washer in line with the periphery of the diaphragm, and said flange and ring being beveled or flared outwardly from the annular groove or recess to permit movement of the washer due to the undulations or vibrations of the diaphragm.

8. In a sound-box for sound recording and reproducing machines, the combination of a ring forming one member of the box and having an internal annular groove or recess, a cap-piece forming the other member of the box and having a flange fitting said annular ring, a diaphragm confined between said parts, a washer embracing the edge of said diaphragm, the outer edge of which washer rests in the annular groove of the ring, the flange of the cap-piece engaging said washer in line with the periphery of the diaphragm, and said flange and ring being beveled or flared outwardly from the annular groove or recess to permit movement of the washer due to the undulations or vibrations of the diaphragm, a stylus-lever connected to the outer surface of the box at one end and to the diaphragm at the other, pivot-points mounted on the casing in line with the diaphragm and engaging the stylus-lever, and an adjustable spring arranged between the stylus-lever and the casing whereby said lever may be rocked on said points to increase or diminish the tension on the diaphragm.

9. In a sound-box for sound recording and reproducing machines, the combination of the box proper, a stylus-lever connected thereto, a diaphragm, said stylus-lever having an integral bent and threaded end passed through the diaphragm, and nuts engaging said threaded end and disposed on both faces of the diaphragm to lock the stylus-lever thereto.

10. In a sound-box for sound recording and reproducing machines, the combination of a ring having an inner beveled surface, a cap-piece having an inner beveled surface, and a diaphragm confined between said parts, said diaphragm being confined at its periphery adjacent to said beveled portions, the latter permitting undulations or vibrations of said diaphragm.

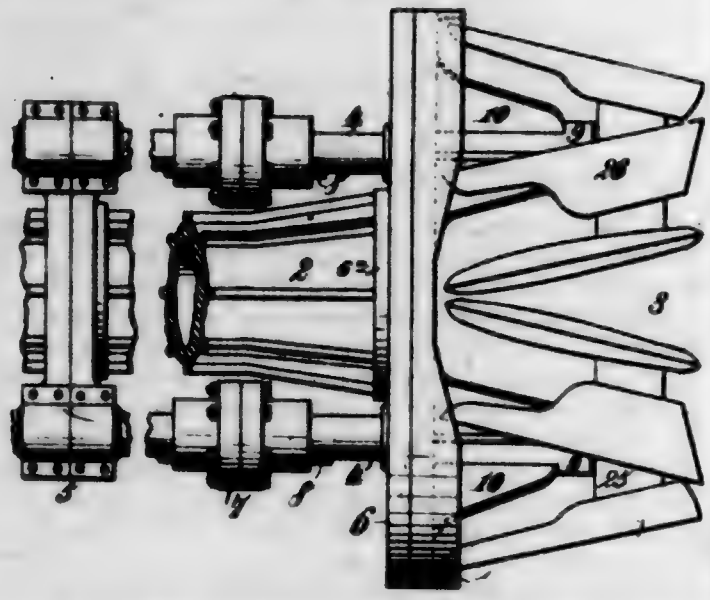
11. In a sound-box for sound recording and reproducing machines, the combination of a ring having an inner beveled surface and an internal annular groove or recess, a cap-piece having an inner beveled surface, a diaphragm confined between said parts, and a washer for said diaphragm held by said parts, the beveled portions of the members composing the box being so disposed as to permit expansion of the washer due to the undulations or vibrations of the diaphragm, and the outer edge of said washer fitting within the internal annular groove or recess of the sound-box.

805,965. DREDGING APPARATUS. FRED A. JONES, Houston, Tex. Filed May 20, 1905. Serial No. 261,458.

Claim.—1. A dredging apparatus having a suction-pipe, cutters to operate at the inlet end of the suction-pipe, shafts carrying the respective cutters and extending longitudinally of the suction-pipe, and bearings on the suction-pipe, for the shafts, one bearing being located at the inlet end of said pipe and supporting the outer ends of both of said shafts.

2. In a dredging apparatus, a suction-pipe, a cutter to work at the inlet end of the suction-pipe, a shaft to which the cutter is connected and extending longitudinally of the suction-pipe, and bearings

on the suction-pipe for said shaft, one bearing being located at said inlet end of said pipe to support the outer end of the shaft, the cutter having blades extending longitudinally of the suction-pipe, and said last-mentioned bearing having a guard for said blades.



3. In a dredging apparatus, a suction-pipe, a cutter to work at the inlet end of the suction-pipe, a shaft to which the cutter is connected and extending longitudinally of the suction-pipe, and bearings on the suction-pipe, for said shaft, one bearing being located at said inlet end of said pipe to support the outer end of the shaft, the cutter having a plurality of blades extending longitudinally of the suction-pipe and said last-mentioned bearing having a part-annular flange to protect the inner portions of the blades.

4. In a dredging apparatus, a suction-pipe, cutters to work at the inlet end of the suction-pipe, parallel shafts to which the respective cutters are connected and extending longitudinally of the suction-pipe, bearings on the suction-pipe, for said shafts, the outermost bearing being located at the inlet end of and extending laterally from the suction-pipe to support the extreme outer portions of the shafts, and means for oppositely rotating the shafts.

5. In a dredging apparatus, a suction-pipe, cutters to work at the inlet end of the suction-pipe, shafts to which the cutters are connected and extending in parallelism longitudinally of the suction-pipe, means for oppositely rotating the shafts, bearings on the suction-pipe, for said shaft, the outermost bearing being located at said inlet end and serving to support the outermost portions of the shafts, the cutters having blades, and the said last-mentioned bearing having part-annular flanges at opposite sides of the longitudinal axis of the suction-pipe, for protecting the inner portions of said blades.

6. In a dredging apparatus, a cutter comprising a hub provided with arms having enlarged outer ends, the outer faces of which are flat and angular to the axis of motion of the cutter, and flat blades fitted to the said flat faces and provided along one side with a straight cutting edge, the cutter having a widened portion extending from its center to the outer end thereof.

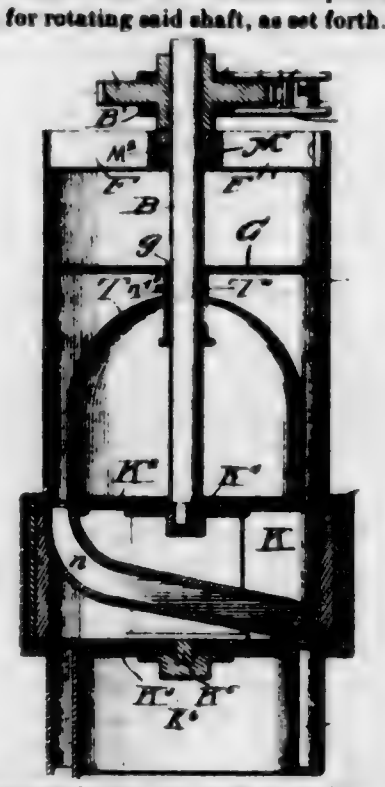
7. In a dredging apparatus, a suction-pipe, cutters to work at the inlet end of the suction-pipe, shafts arranged in parallelism and extending longitudinally of the suction-pipe, the cutters being fixed to said shafts, means for rotating the shafts oppositely, and bearings upon the suction-pipe for supporting the shafts, the outermost bearing having a hole to receive the inlet end of the suction-pipe and being removably fastened to said suction-pipe.

8. In a dredging apparatus, a suction-pipe, a cutter to work at the inlet end of the suction-pipe, a shaft to which the cutter is connected and extending longitudinally of the suction-pipe, and bearings on the suction-pipe for said shaft, one bearing being located at said inlet end of said pipe to support the outer end of the shaft, and the cutter having blades extending longitudinally of the suction-pipe.

805,966. AUTOMATIC BOTTLE-CAP-FEEDING MACHINE.

CHARLES O. KALLINS, Baltimore, Md. Filed Aug. 12, 1904. Serial No. 220,502.

Claim.—1. An automatic bottle-cap-feeding machine, comprising a casing, a shaft, a rotatable member mounted within the casing and rotating with said shaft, passage-ways leading through said member, a circular passage-way depending from the bottom of the casing and provided with an exit-pipe, the exit ends of said passage-ways being adapted to continuously register with said circular passage-way, a dome-shaped shell rotating with said shaft within said casing and above said member, and adapted to direct caps toward the circumference of said member to be fed into the passage-ways of the latter, and means for rotating said shaft, as set forth.



2. An automatic bottle-cap-feeding machine, comprising a casing, a shaft, a rotatable member mounted within the casing and rotating with said shaft, passage-ways leading through said member, a circular passage-way depending from the bottom of the casing and provided with an exit-pipe, the exit ends of said passage-ways being adapted to continuously register with said circular passage-way, a shell rotating with said shaft within said casing and above said member, and direct caps toward the circumference of said member to be fed into the passage-ways of the latter, means for rotating said shaft, and a pivotal finger mounted intermediate the wall of said feeding-shell and the surrounding wall of the casing, as set forth.

3. An automatic bottle-cap-feeding machine, comprising a casing, a shaft, a rotatable member mounted within the casing and rotating with said shaft, passage-ways opening through the top of said member at right angles to each other and leading through said member, a circular passage-way depending from said casing and provided with an exit-pipe, means actuated by said member for moving caps in said circular passage-way which is adapted to continuously register with the exit ends of passage-ways leading through said member, and means for feeding the caps over the openings into the passage-ways of said member, as set forth.

4. An automatic bottle-cap-feeding machine, comprising a casing, a shaft, a rotatable member mounted within the casing and rotating with said shaft, passage-ways opening through the top of said member at right angles to each other, and leading through said member, a circular passage-way depending from said casing and provided with an exit-pipe, means actuated by said member for moving caps in said circular passage-way, which is adapted to continuously register with the exit ends of passage-ways leading through said member, means for feeding the caps over the openings into the passage-ways of said member and a mechanism for moving any caps, which might rest in the openings of said passage-ways, as set forth.

5. An automatic bottle-cap-feeding machine, comprising a casing, a shaft, a rotatable member mounted within the casing and rotating with said shaft, passage-ways leading through said member, a circular passage-way depending from the bottom of the casing and provided with an exit-pipe, a finger depending from the bottom of said member and traveling in said circular passage-way and means for feeding caps contained within said casing to the opening in the passage-ways through said member, as set forth.

6. An automatic bottle-cap-feeding machine, comprising a casing, a shaft, a rotatable member mounted within the casing and rotating with said shaft, passage-ways leading through said member, a circular passage-way depending from the bottom of the casing and provided with an exit-pipe, a finger depending from the bottom of said member and traveling in said circular passage-way and adapted to move caps which rest in said circular passage-way toward said exit-pipe, and means for rotating said shaft, as set forth.

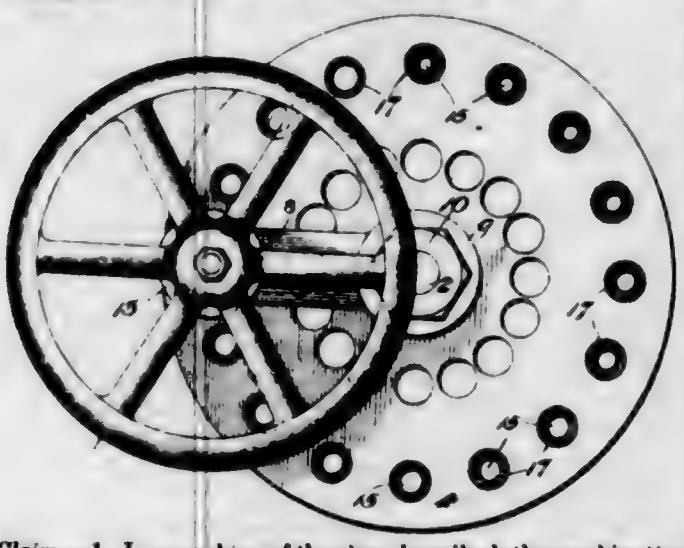
7. An automatic bottle-cap-feeding machine, comprising a casing, a shaft, a rotatable drum mounted within the casing and rotating with said shaft, passage-ways having openings leading through the top of the drum at right angles with each other, one of said pas-

sage-ways being vertical, and the other undulating, and having an exit end through the bottom of the drum, a circular passage-way depending from said casing and adapted to continuously register with the exit ends, and means, connected to said drum, for moving caps in said circular passage-way, a dome-shaped shell fixed to said shaft and positioned within the casing and over said drum, means for rotating the shaft, and a finger carried by said casing and positioned intermediate said shell and surrounding casing, as set forth.

8. An automatic bottle-cap-feeding machine, comprising a casing, a shaft, a rotatable drum mounted within the casing and rotating with said shaft, passage-ways, having openings leading through the top of the drum at right angles with each other, one of said passage-ways being vertical and the other undulating and having an exit end through the bottom of the drum, a circular passage-way depending from said casing and adapted to continuously register with the exit ends, the contour of the openings into said passage-ways being reversely arranged to receive caps facing in one direction or the other, a dome-shaped shell fixed to said shaft and positioned within the casing over said drum, means for rotating said shaft, and a finger positioned intermediate said shell and the surrounding casing, as set forth.

9. An automatic bottle-cap-feeding machine, comprising a casing, a shaft, a rotatable member mounted within the casing and rotating with said shaft, passage-ways leading through said member, a circular passage-way depending from the bottom of the casing and provided with an exit-pipe, the exit ends of said passage-ways being adapted to continuously register with said circular passage-way, a dome-shaped shell rotating with said shaft within said casing and above said member, means, carried by said member for moving caps in said circular passage-way, a finger intermediate said dome-shaped shell and the surrounding casing and means for rotating said shaft, as set forth.

805,967. **DRAW-PRESS FOR SHEET METAL.** JOHN L. KELLY, St. Paul, Minn. Filed Mar. 24, 1904. Serial No. 199,759.



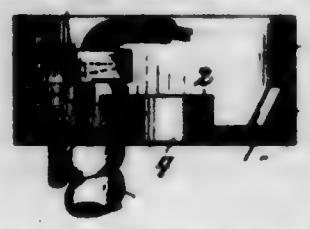
Claim.—1. In a machine of the class described, the combination of a punch, and a die-plate formed with holes uniformly varying in diameter; the difference in size between each hole and the next larger hole corresponding to the thickness of the metal to be punched, whereby accurate telescoping of the tubes formed is assured.

2. In a machine of the class described, the combination of a punch, and a die-plate having a series of holes gradually increased in size in regular sequence; the difference in size between each hole and the next larger hole corresponding to the thickness of the metal to be punched, whereby accurate telescoping of the series of tubes formed in the series of holes is assured.

3. In a machine of the class described, the combination of a die-plate having a circular series of holes, a post disposed in the center of said circular series of holes, a horizontally-swinging arm mounted on said central post and having an upright bearing-box disposed above the series of holes in the die-plate, a threaded punch-head movable vertically in said bearing-box, a punch carried by said head, a feed-screw engaging the punch-head and having a stem extending through the upper end of the bearing-box, and a hand device mounted on said stem and disposed above the bearing-box.

4. In a machine of the class described, the combination of a die-plate having a circular series of holes, a post disposed in the center of said circular series of holes, a horizontally-swinging arm mounted on said central post and having an upright bearing-box disposed above the series of holes in the die-plate, a threaded punch-head movable vertically in said bearing-box, a punch carried by said head, a feed-screw engaging the punch-head and having a stem extending through the upper end of the bearing-box, a hand device mounted on said stem and disposed above the bearing-box, and a guide-plate disposed above the die-plate and having one or more holes alined with a hole or holes of said die-plate.

805,988. **JUNCTION-BOX.** EDWIN T. GREENFIELD, Monticello, N. Y. Filed Oct. 24, 1904. Serial No. 229,734.



Claim.—1. A junction-box provided with an internal curvilinear extension in its bottom and one or more pairs of inleading conduit openings surrounding the same; in combination with a single clamp for each pair of conduits, said clamps being provided with means for effecting lateral pressure between the inner wall of the box, the ends of the conduit and the internal extension.

2. A junction-box provided with an internal curvilinear extension in its bottom; pairs of inleading conduit-openings surrounding the same; pairs of curvilinear clamps provided with means for giving to the same a clamping action between the ends of the conduits, the inner wall of the box and the internal extension.

3. A junction-box provided with an internal curvilinear extension and an inclined surface between the inner wall and the bottom, and a series of inleading openings; in combination with pairs of clamps provided each on one side with a curvilinear inclined surface and on the other with a cylindrical surface corresponding to the contour of the conduit; together with means for adjustably securing said clamps to the bottom of the box.

4. A junction-box made in one integral piece having an internal curvilinear extension and an inclined surface between the bottom and the inner wall of the box; in combination with one or more openings between the extension and lower end of the inclined surface; together with one or more clamps provided each with an inclined surface corresponding to the first-named inclined surface and means for securing the same adjustably with relation to the bottom of the box.

5. A junction-box provided with an internal curvilinear extension in its bottom; an inclined surface between the inner wall and the bottom of the box; a series of inlets or openings between said inclined surface and the extension; a series of curvilinear clamps each provided exteriorly with a curvilinear inclined surface and interiorly with a cylindrical surface corresponding to the contour of the conduit or cable to be clamped; in combination with a corresponding set of adjusting-screws for adjustably securing said clamps to the bottom of the box.

6. A junction-box provided with an internal curvilinear extension and an inclined surface between the interior wall and the bottom of the box; a series of inlets or openings between the inclined surface and the extension; pairs of curvilinear clamps having each an exterior surface contour corresponding to the inclined surface in the bottom of the box; an interior semicylindrical contour corresponding to the curvature of the conduit or cable to be clamped; a transverse slot and adjusting-screws adapted to secure said clamps directly to the bottom of the box.

7. A junction-box provided with inlets or openings for armored conduits or cables and clamps located wholly within the box, said clamps being provided with means for surrounding the ends of the armor.

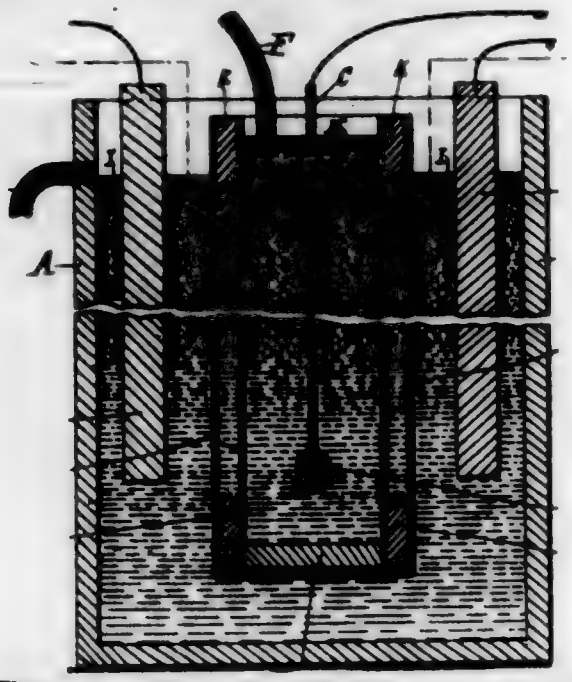
8. A junction-box provided with inlets or openings for armored conduits or cables and clamps located wholly within the box; together with means for giving to the clamps lateral movement so as to grip the ends of said conduits or cables, and additional means integral with the clamps for surrounding the ends of the armor.

805,989. **SEPARATION OF METALS.** NOAH V. HEINRICH, Westfield, N. J. Filed Nov. 25, 1904. Serial No. 234,139.

Claim.—1. The process of separating nickel from copper consisting in electrolyzing an anode containing substantially an alloy of copper and nickel in a solution consisting of nickel sulfate and a weak acid, regenerating the solution and returning the same.

2. The process of separating nickel from copper consisting in electrolyzing an anode containing substantially an alloy of copper and nickel in a solution consisting of nickel sulfate and a weak acid, removing the copper partly at least from such solution by cementa-

tion on a metal containing nickel and returning the regenerated solution.



3. The process of separating nickel from copper consisting in electrolyzing an anode containing substantially an alloy of copper and nickel in a solution consisting of nickel sulfate and a weak acid, removing the copper partly at least from such solution by cementation on a metal containing copper-nickel alloy and returning the regenerated solution.

4. The process of separating nickel from copper consisting in electrolyzing an anode containing substantially an alloy of copper and nickel in a solution consisting of nickel sulfate and a weak acid, circulating such solution in a direction from cathode to anode, regenerating the solution and returning the same to the cathode.

5. The process of separating metals consisting in electrolyzing an alloy, circulating the solution from cathode to anode, causing the solution surrounding the cathode to contain only one of the metals constituting the anode, regenerating the solution partly at least by cementation on the metal produced in the electrolytic bath.

6. The process of separating metals consisting in electrolyzing an alloy, circulating the solution from cathode to anode, causing the solution surrounding the cathode to contain only one of the metals constituting the anode, regenerating the solution partly at least by cementation on an alloy consisting mainly of the metal produced in the electrolytic bath.

7. The process of separating nickel from copper consisting in electrolyzing an alloy and removing the copper from the solution partly at least by cementation on slabs of metal consisting mainly of nickel and refined at least to a point at which carbon, silicon, and sulfur are practically eliminated.

8. The process of separating nickel from copper consisting in electrolyzing an alloy and removing the copper from the solution partly at least by cementation on slabs of metal consisting mainly of copper-nickel alloy refined at least to a point at which carbon, silicon, and sulfur are practically eliminated.

9. The process of separating nickel from copper consisting in electrolyzing an alloy circulating the solution from cathode to anode, causing the solution surrounding the cathode to contain nickel only, and removing the copper from the solution partly at least by cementation on slabs or metal consisting mainly of nickel and refined at least to a point at which carbon, silicon, and sulfur are practically eliminated.

10. The process of separating nickel from copper consisting in electrolyzing an alloy, circulating the solution from cathode to anode, causing the solution surrounding the cathode to contain nickel only, and removing the copper from the solution partly at least by cementation on slabs of copper-nickel alloy refined at least to a point at which carbon, silicon, and sulfur are practically eliminated.

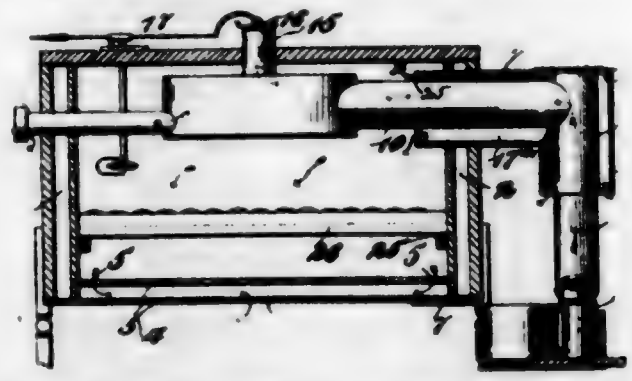
11. The process of separating nickel from copper consisting in electrolyzing an alloy, circulating the solution from cathode to anode through a porous diaphragm, causing the solution surrounding the cathode to contain nickel only, the solution on the other side of the diaphragm and surrounding the anode containing copper and nickel, preventing the passing of the copper through the diaphragm by maintaining a pressure on the cathode side of said diaphragm and by circulating the solution from cathode to anode, regenerating the anode solution by substituting nickel for copper and returning said regenerated solution to the cathode-compartment.

12. The process of separating metals, consisting in electrolyzing an alloy, circulating the solution from cathode to anode through a porous diaphragm, causing the solution surrounding the cathode to contain only one of the metals constituting the alloy, and the solution surrounding the anode containing all the metals dissolved from the anode, preventing the passage of the metals contained in the anode solution into the cathode-compartment by maintaining a pressure on the cathode side, and circulating the solution through said diaphragm.

13. The process of separating nickel from copper by electrolysis of an alloy in an electrolyte of nickel sulfate and a weak acid, circulating the solution from cathode to anode through a porous diaphragm and maintaining a pressure on the cathode side and regenerating the solution partly at least by cementation on nickel.

14. The process of separating nickel from copper by electrolysis of an alloy in a solution of nickel sulfate and a weak acid, circulating the solution from cathode to anode through a porous diaphragm, maintaining a pressure on the cathode side and regenerating the solution partly at least by cementation on copper-nickel alloy.

805,970. INCUBATOR. HENRY H. KELLER, Decatur, Ind. Filed July 3, 1905. Serial No. 268,107.



Claim.—1. In combination, a receptacle having openings in the bottom thereof, a drum within the receptacle, branches on the drum communicating with the atmosphere, said branches having their longitudinal axes in the same vertical plane, a cap slidably held by one of the branches for controlling the opening thereof; the remaining branches of the drum being adapted to communicate with a source of heat.

2. In combination, a receptacle having openings in the bottom thereof, a drum within the receptacle, branches on the drum communicating with the atmosphere, said branches having their longitudinal axes in the same vertical plane, a cap, spring-arms carried by the cap, said arms being adapted to extend within one of the branches of the drum, and bind against the walls thereof, said cap controlling the opening of the branch the remaining branch being in communication with the source of heat.

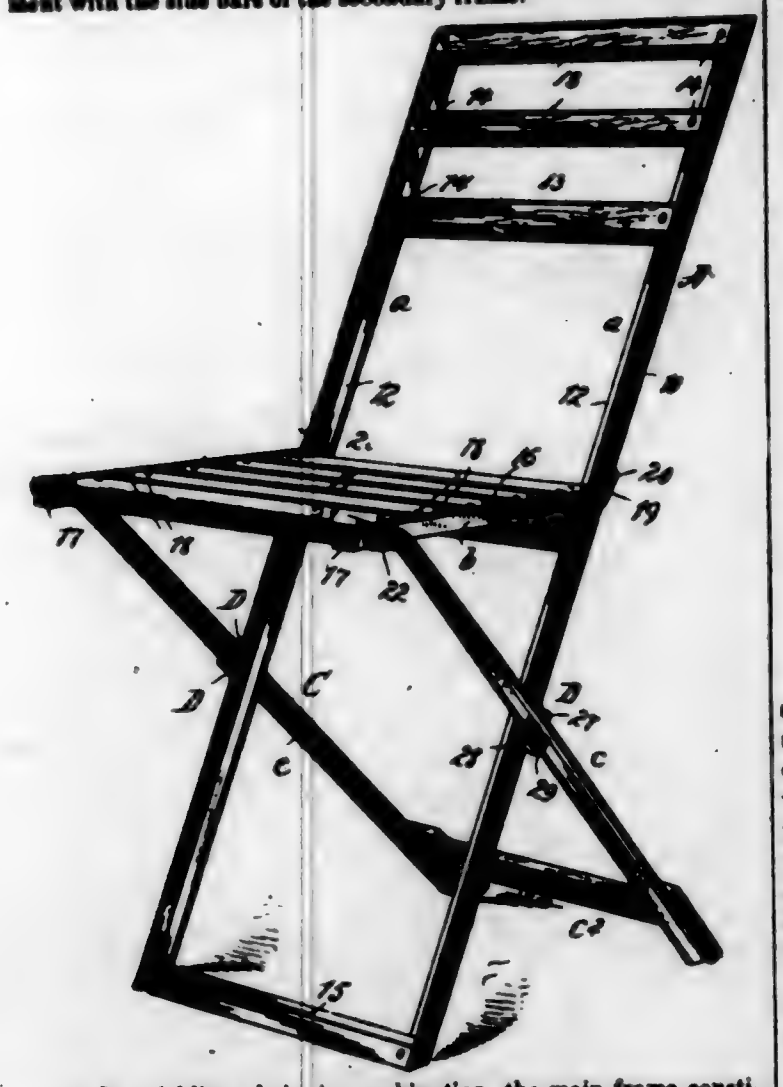
3. In combination, a receptacle having openings in the bottom thereof, a drum within the receptacle, branches on the drum extending through the sides of the receptacle, a cap slidably held by one of the branches for controlling the opening thereof, one of said branches being in communication with a source of heat, a branch on the drum extending through the top of the receptacle, and an automatically-operated valve for the last-named branch.

4. In combination with a receptacle having openings, a drum therein, branches on the drum communicating with the atmosphere, an L-shaped branch on the drum, a shorter member of the branch being exterior of the receptacle, flanges formed on the upper end of the shorter member, an L-shaped section carried by the L-shaped branch, said section resting on the flanges of the shorter member of the L-shaped branch, said L-shaped member forming with the exterior of the L-shaped branch, a chamber for the passage of air.

805,971. FOLDING CHAIR. CASPAR METTLER, New Haven, Conn., assignor of one-half to Rollin S. Woodruff, New Haven, Conn. Filed Nov. 5, 1903. Serial No. 179,880.

Claim.—1. In a folding chair, in combination, the main frame constituted by opposite parallel metallic angle-bars with a flange member of each outwardly arranged and in a vertical plane, and transverse upper back-constituting bars and a lower brace-bar attached to the transversely-disposed portions of said angle-bars, the seat comprising an oppositely-arranged pair of angle-bars, the rear extremities of which are pivoted at the outer side, and at intermediate portions of the main-frame bars, and having cross-boards or

seat-supporting material secured thereto, the secondary frame comprising a pair of shorter bars, the upper forward portions of which are pivoted to the forward extremities of the seat side bars at the outer sides thereof, and having a lower cross uniting-bar, a clip pivotally connected to and at the outer side of each main-frame side bar below the seat, and having an embrace and slide permitting engagement with the side bars of the secondary frame.



2. In a folding chair, in combination, the main frame constituted by opposite parallel metallic angle-bars with a flange member of each outwardly arranged and in a vertical plane, and transverse upper back-constituting bars and a lower brace-bar attached to the transversely-disposed portions of said angle-bars, the seat comprising an oppositely-arranged pair of angle-bars, the rear extremities of which are pivoted at the outer side, and at intermediate portions of the main-frame bars, and seat-supporting material secured thereto, the secondary frame comprising a pair of shorter bars, the upper forward portions of which are pivoted to the forward extremities of the seat side bars, clips pivotally connected to and at the outer side of each main-frame side bar below the seat and having a slide-permitting embrace about the side bars of the secondary frame, and a stud on each secondary-frame side bar arranged to engage the adjacent clip and to act as a step.

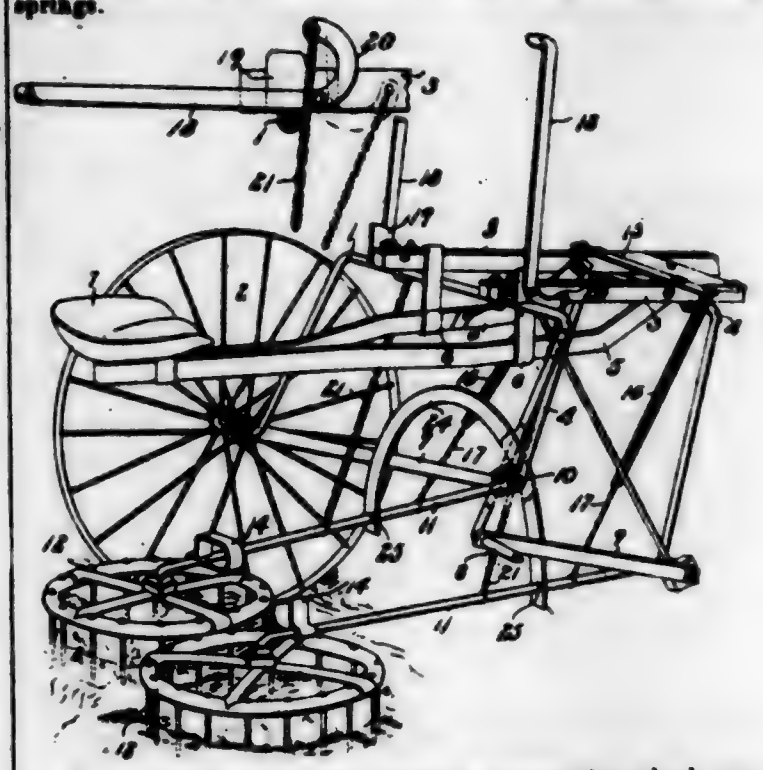
805,972. ROTARY CULTIVATING IMPLEMENT. FLOYD A. PRICE, Bemidji, Minn., assignor of one-half to Frank Silvernale, Bemidji, Minn. Filed Aug. 19, 1905. Serial No. 274,896.

Claim.—1. In a device of the class described, a wheel-supported arched axle, an arch member spaced therefrom, bars rigidly connecting the spindles of the axle with the lower ends of the side members of the arch by means of connecting members, and disk-carrying bars pivoted upon the members connecting the bars with the side members of the arch.

2. A wheel-supported arched axle, an arched member spaced therefrom, and arms connected pivotally with the lower ends of the arch members; in combination with approximately horizontal toothed disks supported for rotation by said arms.

3. A wheel-supported arched axle, tongue members connected therewith, an arch supported by said tongue members, rigid connecting means between said arch and the spindles of the axle, implement-carrying arms supported pivotally at the lower ends of the arch members, and an intermediate arch member having apertures slidably engaging the implement-carrying arms.

4. A wheel-supported arched axle, an auxiliary arch spaced therefrom and rigidly connected therewith, implement-carrying arms supported pivotally by the auxiliary arch, springs exerting tension to elevate the free ends of said arms, and stirrups upon said arms whereby they may be depressed against the tension of said springs.



5. An arched axle having spindles, transporting-wheels upon said spindles, tongue members connected with the axle-arch, an auxiliary arch connected with said tongue members, bars rigidly connecting the free ends of the side members of the auxiliary arch with the spindles of the axle, implement-carrying arms connected pivotally with the free ends of the side members of the auxiliary arch, foot-rest brackets secured upon the tongue members, bell-cranks pivoted upon said foot-rest members and having short curved arms, and flexible means connecting said arms with the implement-carrying arms.

6. A supporting-arch, implement-carrying arms connected pivotally with said supporting-arch, and an arch member having apertures slidably engaging the implement-carrying arms.

805,973. SHADE-BRACKET. HERMANN KIRCHHOFER, Parnassus, Pa. Filed Nov. 5, 1904. Serial No. 231,468.



Claim.—1. In shade-brackets, a clip-base formed of two sections overlying one another and adapted to be secured together in flat engagement, one section having at each end a socket on its inner face, a carrier comprising straight parallel members and a connecting member, said parallel members having sliding movement between the sections of the base-clip in the sockets thereof, and a bracket-arm secured to the connecting member of the carrier and projecting at right angles therefrom.

2. In shade-brackets, a clip-base constructed in two spring-sections connected at one end and free at their opposite ends, one section having a socket formed at each of its end portions, said sockets facing the opposing section, a bracket-arm, means for securing the free end of the sections together, and a carrier to which the bracket-arm is attached, the said carrier being provided with parallel members which enter the sockets in the clip-base.

3. In shade-brackets, a clip-base consisting of a spring-plate bent upon itself, forming a rear section and a front section, both of the sections having corresponding openings therein and the front section having sockets formed in its rear face, a carrier consisting of two parallel members, which enter and are adjustable in the said sockets of the clip-base, and a connecting member, and a bracket-arm secured to the connecting member of the carrier.

4. A shade-bracket, comprising a carrier having spaced and parallel members, a bracket-arm secured to and projecting from one end of the carrier, and a clip-base formed of spring-sections connected at one end and free at the opposite ends, the free ends of the sections being adapted to be secured together, the clip-base being provided at its ends with sockets in which the members of the carrier enter and are adapted to be clamped when the free ends of the sections are secured together.

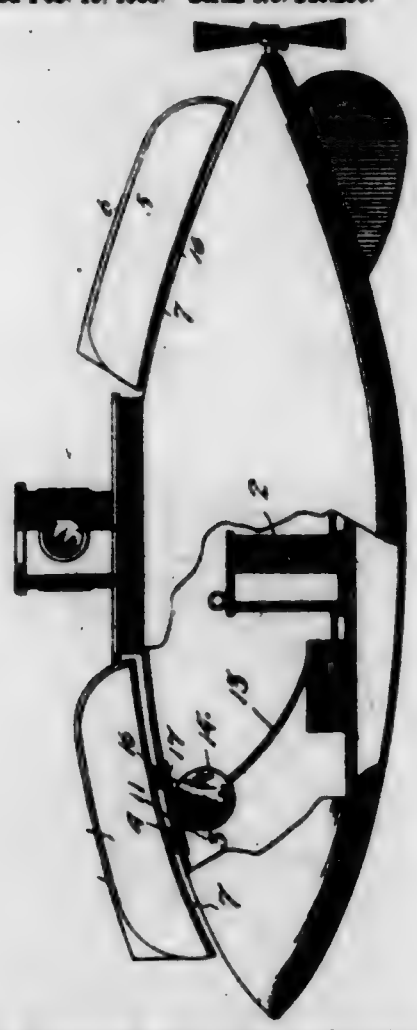
5. A shade-bracket, comprising a carrier having spaced and parallel members, a bracket-arm secured to and projecting from one end of the carrier, a clip-base formed of two apertured spring-sections connected at one end and free at the opposite ends, the clip-base being provided at its ends with sockets in which the members of the carrier enter, and screws for securing the base-clip in position and the sections thereof in flat engagement.

805,974. MANUFACTURE OF ROOF DENTAL PLATES. PETER J. MALONE, Altoona, Pa. Filed Apr. 26, 1905. Serial No. 257,478.



Claim.—A dental-plate mold having the roof-mouth impression, with the inner surface thereof for producing the gum portions, formed with a continuous lateral indentation or recess intermediately of the roof impression proper and the outer extremities of said gum-producing portion.

805,975. LIFE-SAVING BOAT. JESSE A. MARLEY, New York, N. Y. Filed Feb. 18, 1905. Serial No. 246,290.

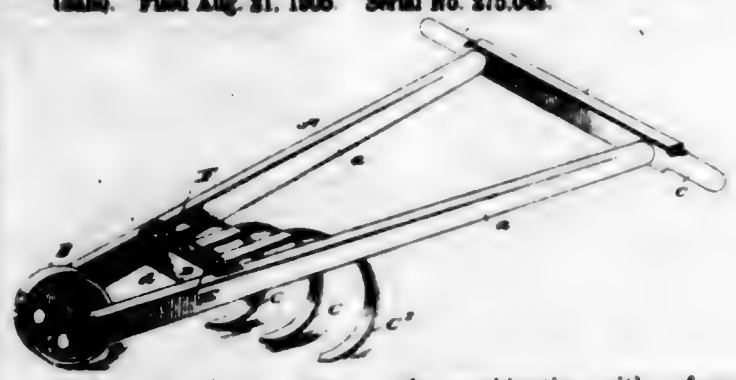


Claim.—1. The combination with a submarine vessel, having one of its walls provided with an opening, a life-boat detachably coupled and having an opening designed to register with the opening in the vessel, a valve for closing the opening in the life-boat, and a flexible air-duct coupled to the valve, said duct being led through the opening in the vessel and communicating with an air-supply source in the latter.

2. The combination with a vessel, of a life-boat detachably coupled thereto and having an opening communicating with the vessel, said boat being weighted to automatically right itself, means for closing the above-named opening, and a flexible air-duct connected with the boat and communicating with an air-supply source.

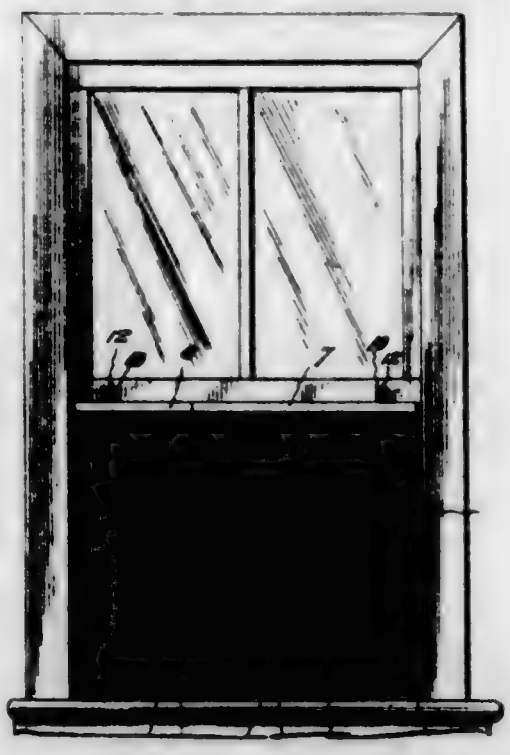
3. The combination with a vessel, of a life-boat detachably coupled thereto and having an opening communicating with the vessel, said boat being weighted to automatically right itself and having a removable cover, means for closing the above-named opening, and a flexible air-duct connected with the boat and communicating with a source of supply within the vessel.

805,976. HAND-CULTIVATOR. PHILIP P. MARSHALL, Bellgrove, Idaho. Filed Aug. 21, 1905. Serial No. 275,048.



Claim.—In a hand-cultivator, the combination with a frame comprising forwardly-converging side bars, a rear cross-bar fixed to the side bars and having handles extending beyond the same, and a forward cross-bar interposed between and fixed to the forward portions of the side bars; of a supporting-wheel mounted between the forward ends of the side bars of the frame, light, spring-teeth having their forward portions arranged on the upper side of the forward cross-bar of the frame, and extending rearwardly from said cross-bar and then downwardly and forwardly, a plate disposed at the under side of the forward cross-bar of the frame, bolts passed downwardly through the springs, the forward cross-bar of the frame and the plate in the order named, shackles disposed in rear of the bolts and straddling the springs and having their legs passed downwardly through the forward frame-bar and the plate, and nuts mounted on the lower ends of the bolts and the lower ends of the legs of the shackles.

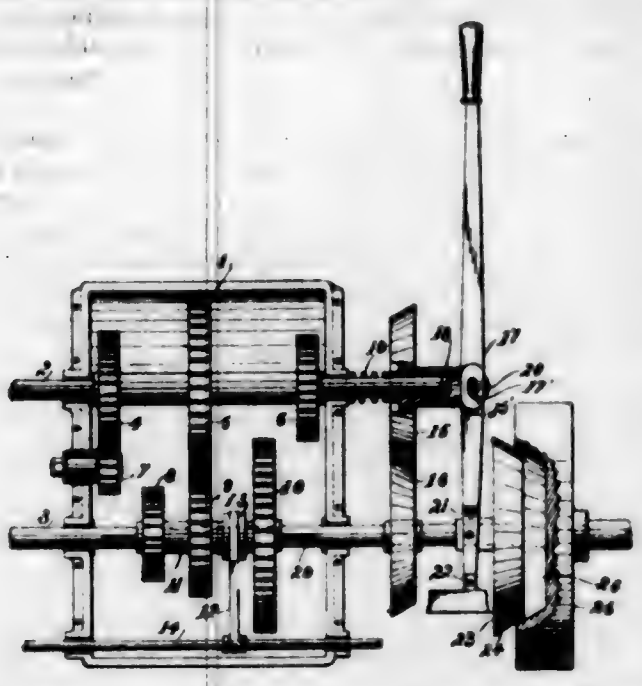
805,977. WINDOW-SCREEN. CHARLES W. MATTERN, Butler, Pa. Filed May 11, 1905. Serial No. 259,911.



Claim.—A window-screen formed in two parts and adapted to be unwound from and wound upon a roller on the opening and closing of the window, a spring winding-roller formed in two sections having on their inner ends interlocking fingers whereby the roller may be adjusted to increase its length, an adjustable bracket secured to the window-sill to receive said roller, telescopic attaching-strips secured to the upper and lower edges of said screen parts, whereby the strips at the inner edge of the screen are secured to the roller by means of a hook and nail, and means whereby the outer strips are detachably connected with fastening devices on the lower rail of the window-sash, substantially as described.

805,978. TRANSMISSION-GEAR. ALBERT C. MEMONS, Grand Rapids, Mich., assignor to William Harrison, Grand Rapids, Mich. Filed Sept. 14, 1904. Serial No. 224,468.

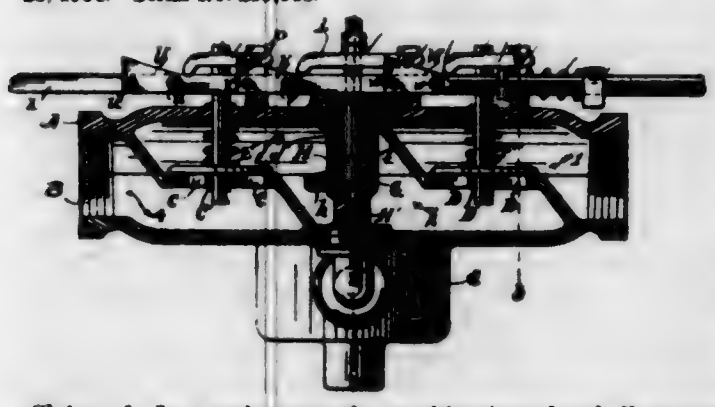
Claim.—1. In a transmission-gear, the combination of a main shaft and a secondary shaft, driving-gears carried by each shaft, friction-disks upon the shafts adapted to engage with one another and mechanisms for engaging and disengaging the disks and for moving the gears on one of the shafts.



2. The combination with a main shaft, a secondary shaft, gears on the shafts having operative engagement, friction-disks on the shafts, suitable mechanism for throwing the friction-disks into and out of engagement, and means for moving the gears on the main shaft into and out of engagement with the gears on the secondary shafts.

3. In combination with a main shaft and driving-shaft, a sleeve, gears secured thereto and keyed to the main shaft so the said sleeve and gears may be moved longitudinally thereon, means for giving a longitudinal movement to said sleeve and gears, a secondary shaft, gears on the secondary shaft in position to be engaged by the gears on the main shaft, said shafts having frictional disks thereon, means for engaging and disengaging said friction-disks and means coöperating therewith for engaging and disengaging the main shaft with the driving-shaft.

805,979. **CARBURETER.** ALBERT C. MENGES, Grand Rapids, Mich., assignor to William Harrison, Grand Rapids, Mich. Filed Dec. 23, 1904. Serial No. 238,141.



Claim.—1. In a carbureter, the combination of a shell or case having separated valve-seats therein, valves coöperating with said seats and having stems, the said valves controlling the admission of air and the outlet of the commingled air and gasolene, a gasolene-valve located intermediate of the said valve-seats and valves and regulating the supply of gasolene to the carbureter, movable projecting devices connected to the stems of the valves and located exteriorly of the carbureter, and a longitudinally-slidable rod having cams thereon with which the free extremities of the projecting devices loosely engage, the said projecting devices being normally out of engagement with respect to the cams and automatically returning to normal position when out of engagement with the cams to permit the valves to close.

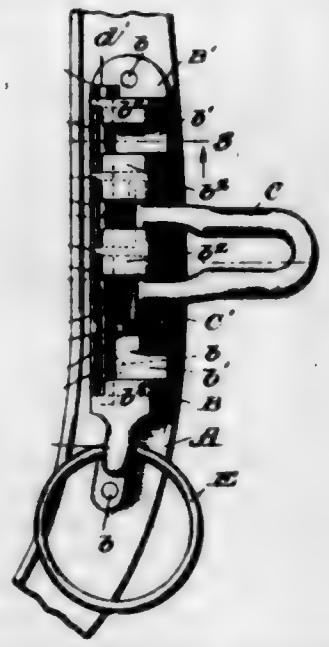
2. The combination with a carbureter having valves for controlling communication between the several parts of the carbureter and provided with valve-stems projecting exteriorly of the latter, levers attached to the valve-stems and having their free terminals disposed in longitudinal alinement, and a longitudinally-slidable rod carrying a plurality of cams to individually engage the free terminals of the levers, the levers operating to automatically open the valves when engaged by the cams and automatically returning to normal position when released from the cams to close the valves.

3. The combination with a carbureter, of valves controlling communication between the several parts thereof and the admission of gasolene thereto, and provided with exteriorly-projecting valve-stems, and a longitudinally-movable rod carrying a plurality of fixed cam devices which individually engage movable portions of the valve-stems to automatically open the valves, the cams being normally disengaged from the valve-stems.

4. The combination with a carbureter, of inlet and outlet valves therefor having valve-stems projecting exteriorly of the carbureter, a gasolene-valve also having a stem projecting exteriorly of the carbureter between the inlet and outlet valve stems, and a longitudinally-slidable rod carrying a plurality of cams to individually engage portions of the stems of the inlet, outlet and gasolene valves, the valve-stems being normally disengaged from the cams, and each cam provided with means for independently adjusting the same.

5. The combination with a carbureter, of inlet and outlet valves therefor having valve-stems, a gasolene-valve also having a stem, a longitudinally-slidable rod having thereon independent inclined surfaces for operation with the several valves, and a lever for each valve-stem secured to the carbureter and having a free extremity to loosely bear on its corresponding inclined surface, for the purpose of throwing its valve open when the rod is moved longitudinally.

805,980. **HAME ATTACHMENT.** JOHN A. MILLER, Waco, Tex., assignor of one-half to Joseph H. McKenzie, Jacksonville, Tex. Filed July 3, 1905. Serial No. 268,138.



Claim.—1. In a hame attachment, the combination with a plate attached to the hame and provided with holding-lugs, with horizontal slots between said lugs, of a loop having T-shaped ends engaging said holding-lugs, and slotted vertically, and a locking-pin having a rib thereon adapted to register with said vertical slots in one position only of said loop, and to lock said loop in place in all other positions, substantially as described.

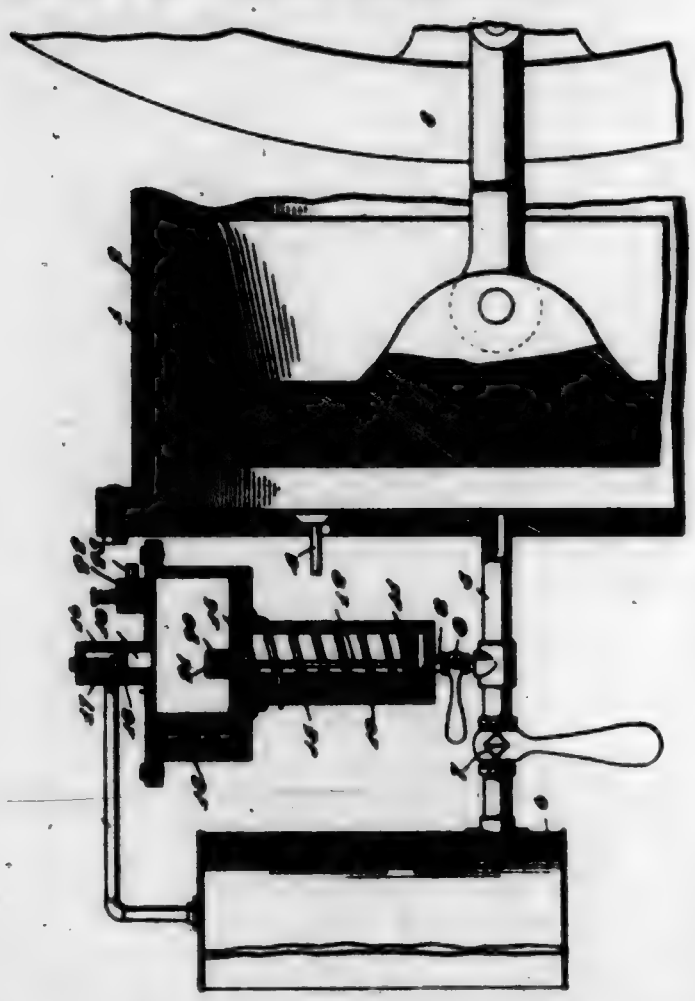
2. In a hame attachment, the combination with a plate secured to the hame and provided with holding-lugs, with overhanging lips and slotted webs beneath said lips, with transverse slots between said lugs, of a loop having T-shaped ends adapted to engage beneath said lips and between said webs, said T-shaped ends being provided with a vertical slot adapted to register with the slot in said webs in one position only of said loop, and a locking-pin provided with an interrupted rib, said rib being adapted to pass through the slots in said lug and in said webs, when said slots are in alinement, and the interruptions in said rib being adapted to register with said webs, substantially as and for the purposes described.

3. In a hame attachment, the combination with a plate attached to the hame and provided with curved holding-lugs, with horizontal slots between said lugs, of a loop having T-shaped ends engaging said curved lugs, and slotted vertically, and a locking-pin provided with a head, and with a rib thereon adapted to register with said longitudinal slots in one position only of said loop, and to lock said loop in said holding-lugs in all other positions, substantially as described.

4. In a hame attachment, the combination with a plate secured to the hame and provided with curved holding-lugs, with overhanging lips and slotted webs beneath said lips, with transverse slots between said lugs, of a lug having T-shaped ends adapted to engage

beneath said lips and between said webs, said T-shaped ends being provided with a vertical slot adapted to register with the slot in said webs in one position only of said loop, and a locking-pin provided with a rib, said rib being adapted to pass through the slots in said legs and said webs, when said slots are in alinement, substantially as described.

805,881. PUMP ATTACHMENT FOR INTERNAL-COMBUSTION ENGINES. REUBEN A. MITCHELL and LEWIS L. LEWIS, Oil City, Pa. Filed Oct. 22, 1903. Serial No. 178,091.



Claim.—1. In a mechanism of the class described, the combination with a gas-engine, of a cylinder connected to and communicating with the explosion end of the cylinder of said engine, a piston within said first-mentioned cylinder adapted to be actuated by the pressure from the gas-engine cylinder, means actuated by the piston of said first-mentioned cylinder for compressing a charge of air or gas, and means for cushioning the termination of the operation of the compressing means.

2. In a mechanism of the class described, the combination with a gas-engine cylinder and a piston operating therein, of a pump-cylinder, a pump-piston arranged therein independent of the gas-engine piston, means actuated by the explosion of the gaseous charge of the gas-engine for operating said pump-piston, and means for producing a cushioning effect upon the pump-piston as the same approaches the termination of its stroke.

3. In a mechanism of the class described, the combination with a gas-engine cylinder and a piston operating therein, of a pump-cylinder, a pump-piston independent of the gas-engine piston arranged within the pump-cylinder free for having the full stroke for the entire length of the pump-cylinder, means driven by the explosion of the gaseous charge of the gas-engine cylinder for operating said pump-piston, and means for producing a cushion within the pump-cylinder for retarding the termination of the stroke of said pump-piston.

4. In a mechanism of the class described, the combination with a gas-engine, of a cylinder formed with an apertured recess, a check-valve closing the aperture of said recess, a piston within said cylinder, a plug carried by said piston and adapted to fit within said recess, means for admitting gas to said cylinder, and means actuated by the charge within said gas-engine for reciprocating said piston.

5. In a mechanism of the class described, the combination with a gas-engine of a cylinder formed with a recess in one of its heads, a piston within said cylinder, an intake-valve for said cylinder, a discharge-valve for the cylinder, a plug carried by said cylinder in line with said recess and formed with a passage, and means actuated by the charge within said engine for reciprocating said piston.

6. In a mechanism of the class described, the combination with a gas-engine of a cylinder formed with an apertured recess, a valve normally closing the aperture of said recess, an intake-valve for said cylinder, a piston within the cylinder, a plug projecting from said piston in line with said recess and formed with a restricted passage extending from its free end to one side thereof near said piston, and means actuated by the charge within said engine for reciprocating the piston.

7. In a mechanism of the class described, the combination with a gas-engine cylinder and a piston therefor, of a cylinder spaced from and connected with the cylinder of said gas-engine, an exhaust and an intake valve for the first-mentioned cylinder, a piston within said last-mentioned cylinder independent of said first-mentioned piston, means actuated by the exploded charge within said gas-engine for reciprocating said piston, and means for producing a cushion for the last-mentioned piston.

8. In a mechanism of the class described, the combination with a gas-engine, of a cylinder communicating therewith, a pumping-piston arranged within said cylinder, and adapted to be actuated by exploded gases supplied through said communication between said cylinder and said gas-engine, and means for producing a cushioning effect upon the pumping-piston at the termination of a pumping stroke thereof.

9. In a mechanism of the class described, the combination with a gas-engine, of a cylinder spaced therefrom, a tube communicating between said cylinder and the explosion end of said gas-engine, a pumping-piston arranged within said cylinder in position for being subjected to and actuated by the charge of live pressure admitted through said tube, and means for producing a cushioning effect upon said piston at the conclusion of a pumping stroke thereof.

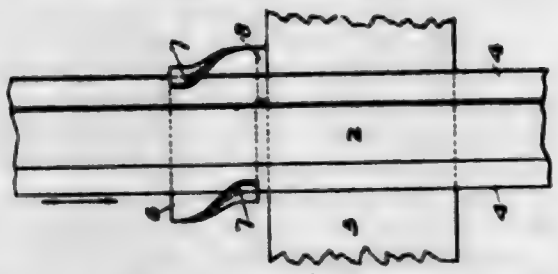
10. In a mechanism of the class described, the combination with a gas-engine, of a cylinder spaced therefrom, a tube communicating between said cylinder and the explosion end of said gas-engine, a pumping-piston arranged within the cylinder, in position for being driven by live pressure admitted through said tube, and means for producing a cushion between said piston and the end of said cylinder at the termination of a pumping stroke of the piston.

11. In a mechanism of the class described, the combination with a gas-engine cylinder, and a piston therefor, of a pump-cylinder, a pump-piston arranged within said pump-cylinder independent of said engine-piston and free to move the full length of said pump-cylinder, means actuated by the exploded charge of gas within said engine-cylinder for operating said pump-piston, and means for producing a gaseous cushion between the pump-piston and the pump-cylinder just prior to the termination of the working stroke of the pump-piston.

12. In a mechanism of the class described, the combination with a gas-engine cylinder, and a piston operating therein, of a pump-cylinder, a pump-piston operating therein, means independent of said first-mentioned piston and arranged to be actuated by the exploded charge within said gas-engine cylinder for actuating said pump-piston, and means for producing an increasing, graduated cushion for the termination of the stroke of said pump-piston.

13. In a mechanism of the class described, the combination with a gas-engine of a cylinder formed with a recess in one of its heads, a piston within said cylinder, means actuated by the charge within said engine for reciprocating said piston, an intake-valve and an exhaust-valve for said cylinder, a plug carried by said piston in line with said recess and adapted to enter the same when the piston is at one extreme of its movement, and means for preventing formation of vacuum within said recess.

805,882. ANTIRAIL-CREEPER. ANDREW MORRISON, Pittsburg, Pa. Filed Mar. 17, 1905. Serial No. 250,532.



Claim.—1. An anticreeping device for railroad-rails, having gripping portions on opposite sides, and a tie-abutting portion on one side only, arranged to be located between the rail-gripping portion and the tie at this side of the device; substantially as described.

2. An anticreeping device, having staggered clip portions on

opposite sides or ends, and an abutment portion at the end having the clip farthest removed from the tie; substantially as described.

3. An anticreeping device, having a tie-abutting portion at one side, and clip portions at opposite sides spaced apart from the tie, substantially as described.

4. An anticreeping device, having staggered clip portions arranged to slip on the rail when in an angular position relative thereto; substantially as described.

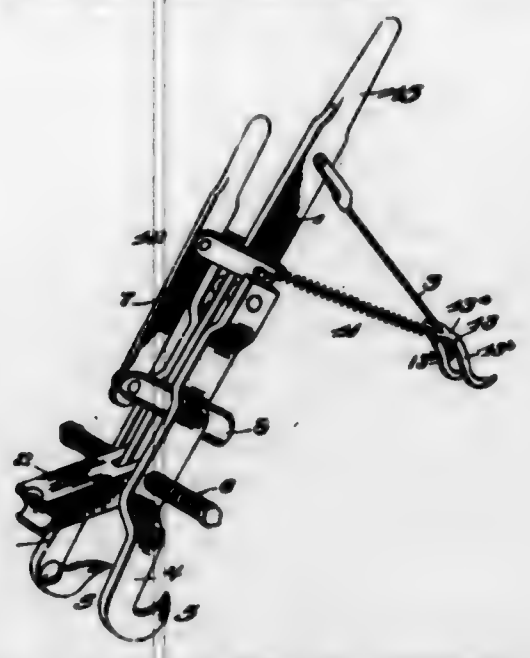
5. An anticreeping device, having integral staggered clip portions; substantially as described.

6. An anticreeping device, having integral staggered clip portions arranged to slip on the tie when in an angle relative thereto, and provided with an abutment portion on the end having the clip farthest removed from the tie; substantially as described.

7. An anticreeping device, consisting of a plate having integral staggered clip portions at opposite ends and provided with a downwardly-extending abutment portion at the end having the clip farthest removed from the tie; substantially as described.

8. An anticreeping device, consisting of a plate having integral staggered clip portions at opposite ends and provided with a downwardly-extending abutment portion at the end having the clip farthest removed from the tie, said device being arranged to slip on the the rail when in an angle relative thereto; substantially as described.

805,983. CARPENTER'S TOOL. EDWIN L. MCDANIEL, Lenora, Kans. Filed Jan. 31, 1905. Serial No. 243,596.



Claim.—1. In a carpenter's tool, the combination of a lever, a work-engaging member projecting from one side of the lever, a brace extending from the other side of the lever and movably attached thereto, and a guide device carried by said brace and embodying spaced guide members.

2. In a carpenter's tool, the combination of a lever, a pivoted work-engaging member projecting from one side of the lever, a brace pivoted to the lever and extending from the other side thereof, a transverse bar secured to the lower end portion of said brace, spaced guide members projecting downwardly from said bar, and a spring connected at one end with the transverse bar of the brace and at its opposite end with the lever.

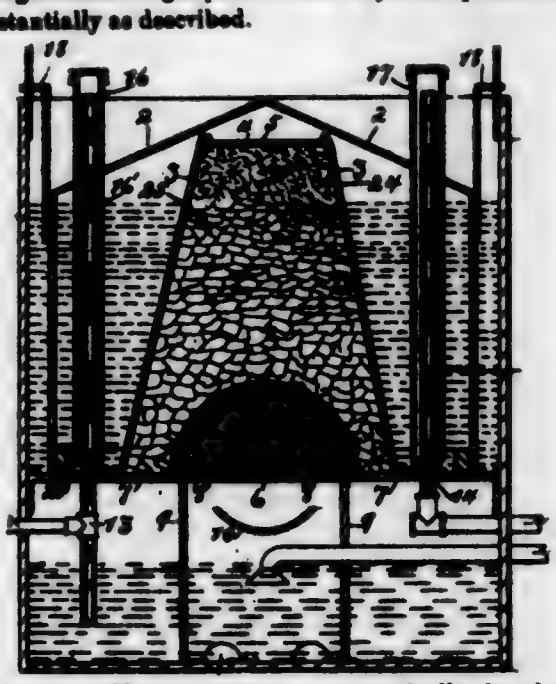
805,984. PROCESS OF TREATING PAINT. MARION E. MCMASTER, Monroe City, Mo. Filed Nov. 16, 1904. Serial No. 233,065.

Claim.—1. The herein-described method of treating paint, which consists in incorporating therewith milk to which has been added mercuric chlorid in solution.

2. The herein-described method of treating paint which consists in adding to sweet milk, mercuric chlorid in solution, thoroughly incorporating the antiseptic with the milk, then heating the milk, and stirring it into the paint.

805,985. GAS-PURIFIER. MATHIAS F. MCNELLY, Chicago, Ill. Filed Oct. 6, 1904. Serial No. 227,270.

Claim.—1. A gas-purifier consisting of a plurality of chambers in operative connection, one of said chambers being arranged to contain a liquid and to receive the flow of the gas; a dry chamber in operative connection with a recess or pocket having foraminated walls arranged to receive the gas from the chamber containing the liquid and allow it to escape into the dry chamber, said dry chamber being charged with pieces of material having a pitted face or surface around and over which the gas passes, and also a pith-like surface over and through which the gas passes on its way to the point of consumption substantially as described.

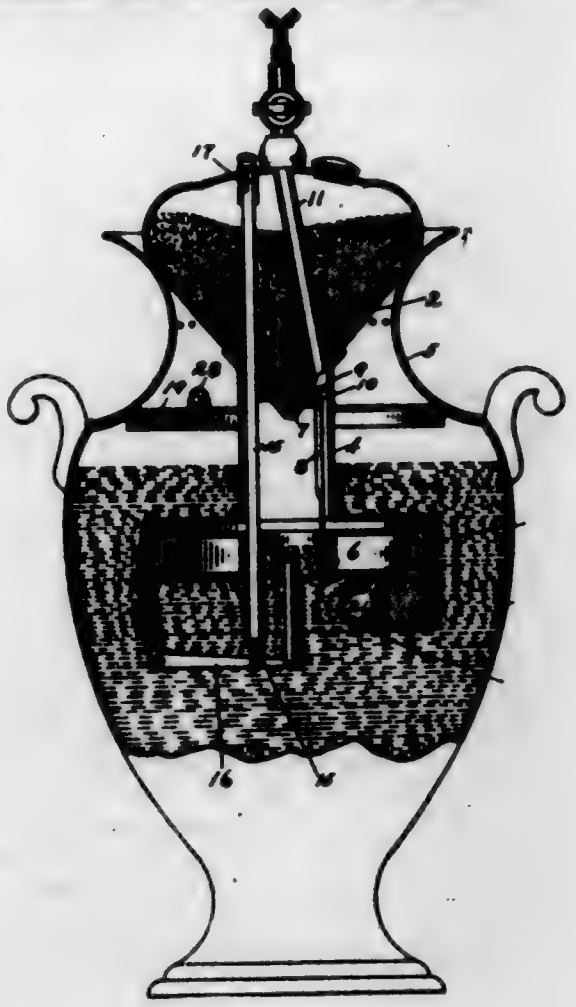


2. A gas-purifier consisting of a practically dry chamber arranged to receive the gas; a charge for said chamber consisting of pieces of material having pitted and rough surfaces over which, and also pith-like surface through which the gas is forced to pass and means for conveying the gas to and away from said dry chamber substantially as described.

3. In a gas-purifier a practically dry chamber; circular or cylindrical-like bodies having their outer surfaces pitted and other portions pith-like, suitably packed therein and arranged so that the gas may be forced to pass among said packing and means for conveying the gas to said chamber and away therefrom after it has passed among the packing substantially as described.

4. In a gas-purifier a practically dry chamber; a charge for said chamber consisting of material having a pitted surface and a material pith-like in substance arranged so that the gas may be forced to pass among the charge and be cleaned substantially as described.

805,986. ACETYLENE-GAS-GENERATOR LAMP. WILLIAM O. NELSON, Baltimore, Md., assignor of one-tenth to Charles Selden, Baltimore, Md. Filed Oct. 9, 1902. Serial No. 126,262.



Claim.—1. The combination of a carbid-chamber having a conical lower end, a tunnel fitting around said chamber and connecting with the gas-generating chamber, a pair of perforated rings fitting the annular space between the carbid-chamber and the tunnel, filtering material interposed between said rings, and a gas-pipe connected with the space above the pair of rings and leading through the carbid-chamber to a gas-burner.

2. The combination with a carbid-lamp, of a valve controlling the egress of carbid from said chamber, an operating-float sustained in the liquid of the gas-generator chamber, and a centering-lever pivoted on a fixed support and connected with the float, as and for the purpose described.

3. In an acetylene-gas lamp, the combination substantially as described, of a font and gas-generating chamber, a carbid-chamber and connecting-tube, said carbid-chamber, generating-chamber and tube being all secured together, and separable from the body or font, a burner surmounting the carbid-chamber, gas-tube extending through said chamber and connected with the tube, a float within the generator-chamber, a valve closing and opening at the lower end of the carbid-chamber, and a connecting-rod extending through the tube from the valve to the float, as and for the purpose described.

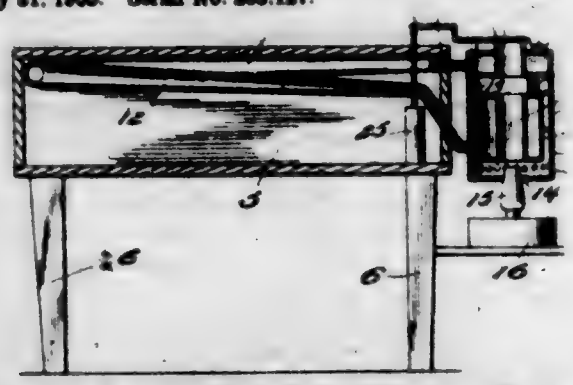
4. In an acetylene-gas lamp, the combination with a water-containing font, of a carbid-chamber, a gas-generator, a tube or tunnel attached to the carbid-chamber and to said generator, a carbid-feed valve, a float, a rod by which the float is attached to said feed-valve, and a burner mounted on the carbid-chamber and connecting with the tunnel by a pipe passing through said chamber, said parts constituting a unitary structure, removable as a whole from the font, as and for the purpose described.

5. The combination in an acetylene-gas lamp, of a carbid-chamber, a valve at the lower end thereof, a gas-generating chamber, a float connected with the valve, a rod passing down through the carbid-chamber and connected with the float, and means for locking said rod in position to keep the valve closed.

6. In an acetylene-gas lamp, the combination with a generator feed-valve, of a weight-sustaining shelf or support, and a weight connected to said valve, but normally sustained upon said shelf or support so as to be out of action and adapted when the lamp is upset to keep said valve closed

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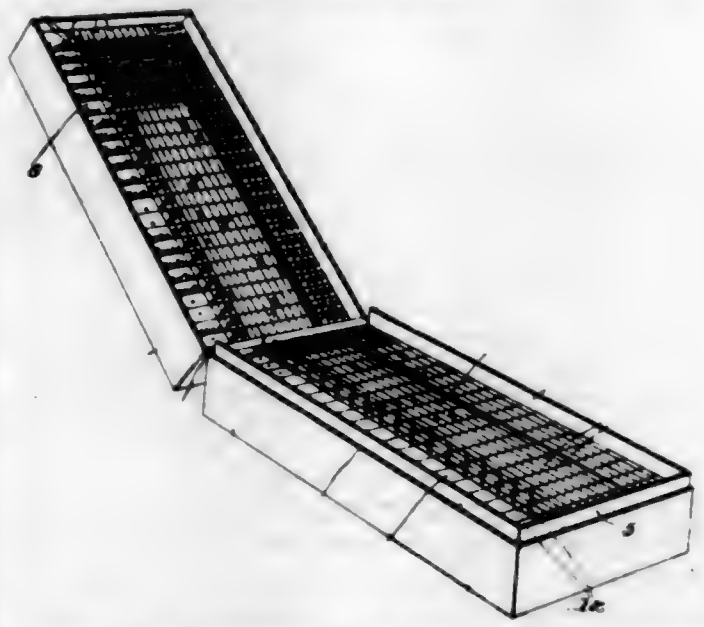
805,987. INCUBATOR. EMIL OCHSNER, Saronville, Nebr. Filed May 31, 1905. Serial No. 263,127.



Claim.—1. In an incubator the combination with a body portion, of spaced pipes disposed therewithin, one of said pipes being of greater diameter than the other, the smaller pipe being tapered inwardly from its ends, an outwardly-extending pipe communicating with said smaller pipe at the meeting-point of its tapered portions, tapered pipes communicating at their minor ends with the smaller of the first-named pipes and at their major ends with the larger of the first-named pipes, a tapered pipe communicating at its major end with the larger of the first-named pipes between the second-named pipes and extending at its minor end outwardly of the body portion and a fluid heating apparatus disposed outwardly of the body portion said first and second named outwardly-extending pipes communicating with the heating apparatus at the upper and lower portions thereof respectively.

2. In an incubator the combination with a body portion, of fluid-pipes disposed therewithin, upper and lower fluid-pipes communicating with the first-named pipes and extending outwardly of the body portion, a casing located exteriorly of the body portion and having an opening in its bottom, a heating device disposed to discharge heat through the opening into the casing, a receptacle disposed within the casing in spaced relation thereto, said receptacle having a vertical flue, a horizontal partition disposed within the casing above the receptacle to form an upper chamber, said chamber having a vertical flue therethrough, a pipe communicating with the upper chamber and with the receptacle, a cap movable into and out of position to close the last-named flue, a thermostat, operative connections between the thermostat and cap, said upper and lower outwardly-extending pipes communicating with the upper chamber and the receptacle respectively, said casing having air-ports formed therein.

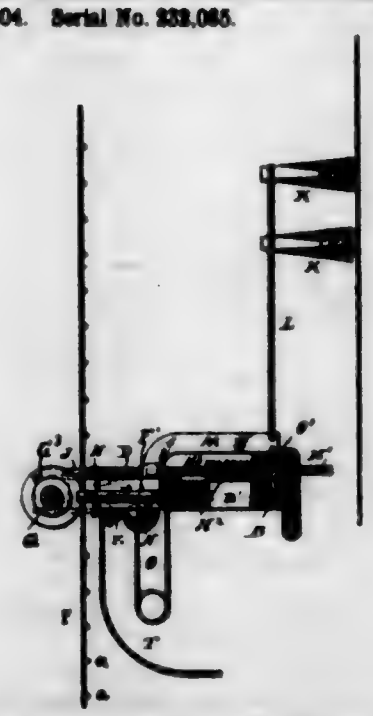
805,988. LAUNDRY-INDICATOR. JAMES F. PALMER, Augusta, Ga. Filed Mar. 8, 1905. Serial No. 249,137.



Claim.—1. An indicator of the character described comprising a pair of box members having corresponding open sides and hinged to fold inwardly against their open sides, a record-card contained within each section and provided with intersecting longitudinal and transverse columns, one set of columns being provided with appropriate headings and the other set of columns numbered consecutively, and a plurality of record-pins capable of being placed in any of the blocks formed by the intersecting columns of the cards, the transverse columns of one card being offset with respect to the transverse columns of the other card whereby when the indicator is folded the pins of one section will enter between the pins of the other section.

2. An indicator of the character described comprising a pair of box members having corresponding open faces and hinged to fold inwardly against their open faces to close the same, one of the sections having a projecting marginal flange at its open side to enter the open side of the other section when the indicator is closed, supports within each section at the inner walls thereof, and removable record-cards resting against the respective supports, the flange of the first-mentioned section bearing against the card of the other section when the indicator is folded to hold said card in place.

805,989. AUTOMATIC PIANO. FERDINAND SCHAUB, Jersey City, N. J., assignor to Edmond T. Otto, trustee, Jersey City, N. J. Filed Nov. 10, 1904. Serial No. 232,065.



Claim.—1. In an automatic musical instrument, the combination with strings, of a plurality of hammers for the strings pertaining to each tone, a single damper for each set of hammers, a star-wheel

for each hammer and damper for operating the same, said star-wheels being arranged in groups, and a note-disk having concentric rows of projections for the star-wheels in each group, substantially as set forth.

2. In an automatic musical instrument, the combination with a series of strings, of hammers, there being two or more hammers for the strings pertaining to each tone, a star-wheel for each hammer-lever, a single damper for each set of said hammer-levers, and a separate star-wheel for each damper-lever, substantially as set forth.

3. In an automatic musical instrument, the combination with a group of strings, of a plurality of hammers for the strings pertaining to each tone, a star-wheel for each hammer, for actuating the same, a single damper for the strings pertaining to each tone, a star-wheel for operating each damper-lever, the star-wheel for the damper-lever being located between the star-wheels for the hammers of each tone, substantially as set forth.

4. In an automatic musical instrument, the combination with a series of strings, of a transverse bar in front of the strings, a series of hammers mounted in said bar and projecting from the same, a series of damper-levers mounted in said bar and projecting downward from the same, and star-wheels mounted in the bar for operating said damper and hammer levers, substantially as set forth.

5. In an automatic musical instrument, the combination with strings, of two hammers pertaining to the strings for each tone, a damper for the strings pertaining to each tone, a star-wheel for each hammer for operating the same, and a star-wheel for each damper for operating the same, two hammers and a damper with their star-wheels, pertaining to the strings for each note being arranged in groups of three, substantially as set forth.

6. In an automatic musical instrument, the combination with a star-wheel rack, star-wheels in the same for operation by a rotating note-disk, of a rod mounted on said star-wheel rack to move toward and from the plane in which the note-disk is to rotate, and means for pressing said rod toward the note-disk, substantially as set forth.

7. In an automatic musical instrument, the combination with a star-wheel rack, and means for supporting a rotating note-disk, of a rod mounted at said star-wheel rack, a retaining-bar movable toward and from the plane in which the note-disk rotates, means for pressing said rod toward the plane in which the note-disk rotates, and means on said retaining-bar for pressing said rod in the direction from the plane in which the note-disk rotates, substantially as set forth.

8. In an automatic musical instrument, the combination with a star-wheel rack, and a support for a rotating note-disk, of a rod mounted on said rack parallel with the rack and to move toward and from the plane in which the note-disk rotates, means for pressing said rod in the direction toward the plane in which the note-disk rotates, a retaining-bar, and means located beyond the circumference of the disk for pressing said rod in the direction from the plane in which the note-disk rotates, by means of said retaining-bar, substantially as set forth.

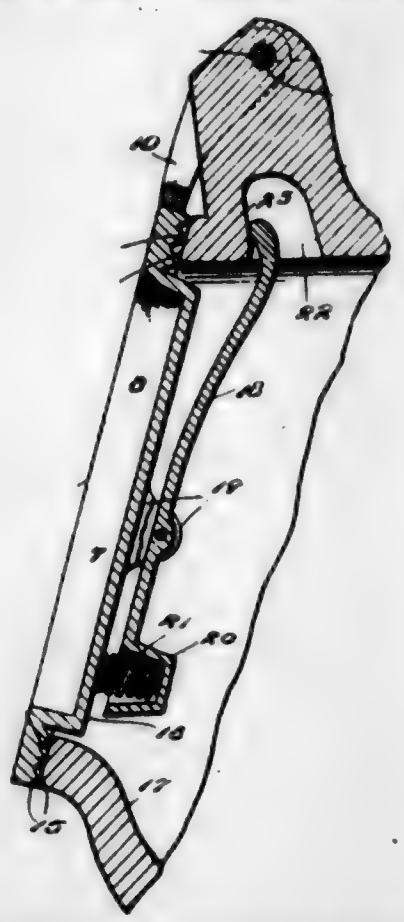
805,990. **JOURNAL-BOX LID.** JAMES S. PATTEN, Baltimore, Md., assignor, by direct and mesne assignments, to Baltimore Journal Box Company, of Baltimore City, a Corporation of Maryland. Filed Aug. 17, 1904. Serial No. 221,089.

Claim.—1. The combination with a journal-box for railway-cars having an end opening for the introduction of a lubricant and a bearing-face surrounding said opening, of a lid for the box having a bearing-face for contact with the bearing-face of the box, one of said bearing-faces being formed for initial rapid wear against the opposing face to produce a continuous contacting surface and the lid being so loosely connected with the box as to permit of rubbing movement of the contacting surfaces.

2. The combination with a journal-box for railway-cars having an end opening therein and a bearing-face surrounding the opening, of a lid for the box having a bearing-face for contact with the first-named bearing-face, one of said bearing-faces being ribbed and the lid being so loosely connected with the box as to permit of rubbing movement of the contacting surfaces.

3. The combination with a journal-box for railway-cars having an end opening therein and a bearing-face surrounding the opening, of a lid for the box having a bearing-face for contact with the first-named bearing-face, one of said faces having a rib formed thereon and disposed for contact with the other face, the contacting portion of said rib being of lesser width than the base of the rib and the lid being so loosely connected with the box as to permit of rubbing movement of the contacting surfaces.

4. The combination with a journal-box for railway-cars having an end opening for the introduction of a lubricant and a bearing-face surrounding said opening, of a lid for the box having a bearing-face for contact with the bearing-face of the box, one of said bearing-faces being formed for initial rapid wear against the opposing face to produce a continuous contacting surface, the lid being connected to the box and having slight movement in a plane transverse to the box.



5. The combination with a journal-box for railway-cars having an end opening therein and a bearing-face surrounding the opening, of a lid for the box having a bearing-face for contact with the first-named bearing-face, one of said bearing-faces being ribbed, the lid being connected to the box and having slight movement in a plane transverse to the box.

6. The combination with a journal-box for railway-cars having an end opening therein and a bearing-face surrounding the opening, of a lid for the box having a bearing-face for contact with the first-named bearing-face, one of said faces having a rib formed thereon and disposed for contact with the other face, the contacting portion of said rib being of lesser width than the base of the rib, the lid being connected to the box and having a slight movement in a plane transverse to the box.

7. The combination with a journal-box having a recess in the inner face of its top, of a lid for the box, a lever pivoted to the inner face of the lid and lying with one end in said recess, and a spring disposed between the opposite end of the lever and the lid.

8. A journal-box having an opening for introduction of a lubricant, a lid for such opening hinged to the box, a lever pivoted to the lid and bearing with one end against a portion of the box at one side of said pivot, and a spring disposed between the lid and the lever at the opposite side of the pivot of the latter.

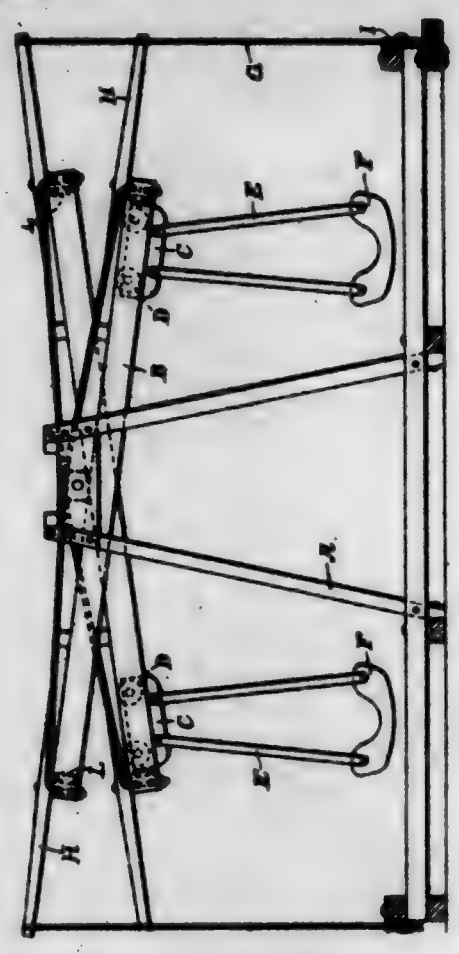
805,991. **AMUSEMENT APPARATUS.** LEMUEL PATTERSON, Philadelphia, Pa. Filed Sept. 9, 1905. Serial No. 277,702.

Claim.—1. A walking-beam, a truck adapted to run to and fro, a swing suspended from the truck and means for oscillating the walking-beam, as specified.

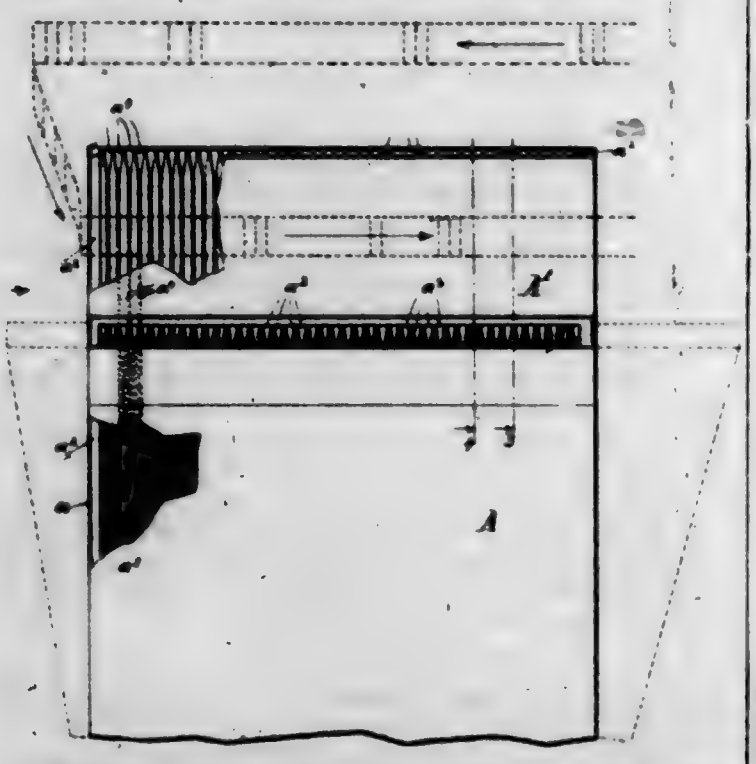
2. In combination, a support-frame, a walking-beam journaled therein, tracks formed upon the walking-beam, a truck adapted to travel upon said tracks, a car so suspended from the truck as to be free to swing back and forth and means for oscillating the walking-beam, as and for the purpose set forth.

3. A pleasure apparatus consisting of two or more supporting-frames, a walking-beam journaled in each frame, tracks formed upon each of the walking-beams, a truck adapted to run upon said tracks, a passenger-car suspended from each of the trucks so as to have a free swinging movement, a cable attached to each end of each of the walking-beams, said cables passing downward and around suitable pulleys, upward and around similar pulleys and attached to the outer ends of the next walking-beam, a sliding bar to which the ca-

bles are secured and means for moving the sliding bars back and forth as specified.



805,992. LINOTYPE-MACHINE. DAVID PETRI-PALMEDO, Hoboken, N. J., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Aug. 30, 1905. Serial No. 276,370.



Claim.—1. A magazine for a typographic machine having alternate channels extended at the receiving end beyond intermediate channels.

2. A magazine for a linotype-machine having channels and inlets to the alternate channels arranged in two different lines.

3. A channeled magazine having the inlets to the alternate channels arranged out of line with each other.

4. A channeled magazine, in combination with two distributers communicating respectively with alternate channels.

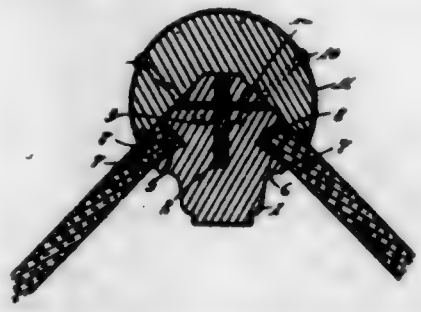
5. A magazine having channels extended in a straight line therethrough and intermediate channels deflected at the receiving ends out of line with the receiving ends of the other channels.

6. A magazine having a series of channels each widened or flared at the receiving end, certain of the channels being extended beyond those lying between them, to permit an increased widening of the end or mouth as described.

7. In combination a channeled magazine, a distributer, arranged to deliver matrices to alternate channels of the magazine, and a second distributer to deliver matrices to the remaining channels of said magazine.

8. In combination a magazine, a distributer arranged to deliver matrices to a portion only of the magazine-channels, a second distributer arranged to deliver to the remaining channels of said magazine, and a series of matrices comprising matrices adapted for distribution by the first distributer and also matrices adapted for delivery by the first distributer to the second and for distribution by the latter; whereby a composed line may be delivered through the two distributers to the different channels of one magazine.

805,993. SUPPORT FOR GLAZING. JOHN PETE, Detroit, Mich., assignor of one-half to Herbert Malott, Detroit, Mich. Filed Oct. 31, 1904. Serial No. 230,761.



Claim.—In a sash-bar, the combination of a wooden post having converging sides, a flat iron bar inserted therein from a point adjacent to the intersection of the planes of the surfaces of said sides and in a plane making substantially equal angles with said planes, said post being provided with grooves upon its sides for receiving the edges of the glass, a securing-rail grooved to fit against said converging surfaces and adapted to cover the exposed portion of said bar and fit against the glass in said grooves, and securing means extending through said rail and through said converging surfaces at approximately right angles to said surfaces.

805,994. DISPENSING VESSEL. FRANK PFEIFER and GEORGE RAYMOND, Chippewa Falls, Wis.; said Pfeifer assignor to said Raymond. Filed Apr. 12, 1905. Serial No. 255,246.

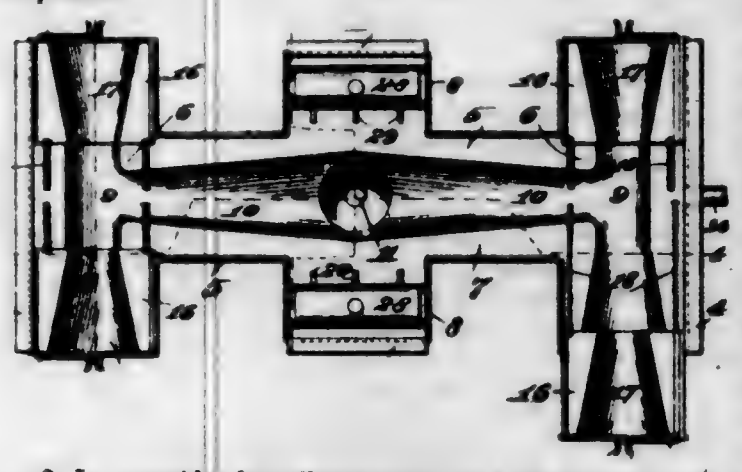


Claim.—1. The combination with a conical-shaped vessel having an annular upwardly-disposed flange surrounding its base and a cylindrical liquid-containing reservoir therein, of a tapering cover having a disk-shaped lid therein, a tube carrying a piston on one end within said reservoir and an inverted hood on its opposite end, and a spring surrounding said tube interposed between the top of the cover and the inverted hood, substantially as and for the purposes described.

2. In a vessel of the class described, the combination with a conical-shaped vessel, having a liquid-containing reservoir therein, of a tapering cover and a disk-shaped lid closing said reservoir, a tube carrying a piston on one end within said reservoir and an inverted hood on its opposite end adapted to discharge the liquid contents of the vessel and shed the drip over the cover, and an annular upwardly-disposed flange surrounding the base of the vessel to catch the drip, substantially as described.

805,995. RAILWAY-CAR CUSPIDOR. ERNEST H. PYRE, Jackson, Mo. Filed June 15, 1905. Serial No. 265,419.

Claim.—1. In a cuspidor for railway-coaches and street-cars, a casing, a discharge-pipe leading therefrom; drawers arranged to slide in said casing, there being gutters formed in the bottoms of said drawers, and there being gutters formed in the bottom of the casing that gradually decline toward the discharge-opening, substantially as specified.

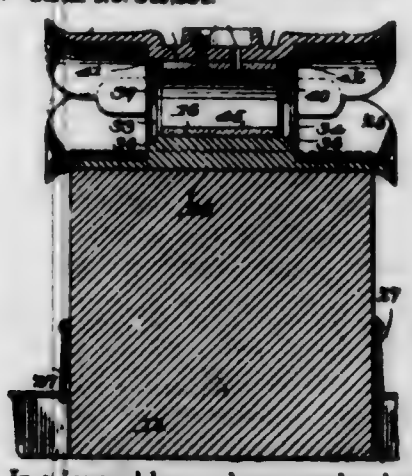


2. In a cuspidor for railway-coaches and street-cars, a casing adapted to be positioned beneath a car-seat, a series of drawers arranged to slide in said casing, means whereby said drawers are held in a closed position, means whereby said drawers are held in an open position; a discharge-spout leading downwardly from the center of the casing, there being gutters formed in the bottom of the casing that decline toward said discharge-spout, and there being gutters formed in the bottoms of the drawers, and suitable disinfectant-tubes located in the casing adjacent the discharge-spout, substantially as specified.

3. In a railway-car cuspidor, a casing removably positioned in the frame of a car-seat, there being gutters formed in the bottom of the casing that gradually decline toward a discharge-opening, drawers arranged to slide in said casing, there being gutters formed in the bottoms of said drawers to correspond with the gutters in the bottom of the casing, and retractile coil-springs secured to the drawers and to the casing for normally holding said drawers in a closed position; substantially as specified.

4. In a railway-car cuspidor, a casing removably positioned in the frame of a car-seat, there being gutters formed in the bottom of the casing that gradually decline toward a discharge-opening, drawers arranged to slide in said casing, there being gutters formed in the bottoms of said drawers to correspond with the gutters in the bottom of the casing, retractile coil-springs secured to the drawers and to the casing for normally holding said drawers in a closed position, and means whereby said drawers are held open; substantially as specified.

805,996. **JOURNAL-BOX.** JAMES G. POUTIOUS, Bonsami, La. Filed Mar. 3, 1905. Serial No. 248,294.



Claim.—1. In a journal-box, a base member having means for attachment to a supporting structure and carrying the lower half-box and with longitudinally-extending conductor-troughs and upwardly-extending side ribs merging into the upper edges of said troughs, and a cap member carrying the upper half-bearing and having means for attachment over said lower half-bearing with its side edges bearing against the inner faces of said ribs.

2. In a journal-box, a base member having means for attachment to a supporting structure and carrying the lower half-box and with longitudinally-extending conductor-troughs and upwardly-extending side ribs merging into the upper edges of said troughs, and a cap member carrying the upper half-bearing and having means for attachment over said lower half-bearing with its side edges bearing against the inner faces of said ribs, and with longitudinally-extending hoods having the lower edges fitting within the longitudinal troughs and spaced from the same.

3. In a journal-box, a base member having means for attachment to a supporting structure and carrying the lower half-box and with longitudinally-extending conductor-troughs and upwardly-extending side ribs merging into the upper edges of said troughs, and a cap member carrying the upper half-bearing and having means for attachment over said lower half-bearing with its side edges bearing against the inner faces of said ribs, the contiguous surfaces of said lower half-bearing and of said cap member provided with registering channels leading into said conductor-troughs.

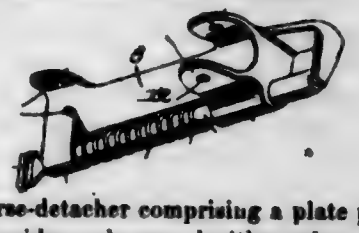
4. In a journal-box, a base member having means for attachment to a supporting structure and carrying the lower half-box and with longitudinally-extending conductor-troughs and upwardly-extending side ribs merging into the upper edges of said troughs, and a cap member carrying the upper half-bearing and having means for attachment over said lower half-bearing with its side edges bearing against the inner faces of said ribs, the ends of said bearings having registering semi-annular channels communicating with said conductor-troughs and with longitudinally-disposed registering channels in the contiguous surfaces of the lower and upper half-bearings and leading into said semi-annular channels.

805,997. **PNEUMATIC STACKER.** OWEN PUTERBAUGH, Laura, Ohio. Filed Apr. 18, 1905. Serial No. 256,208.



Claim.—A stacker-tube composed of telescoping tubular members, a hood-carrying sleeve supported for rotation upon the outer member, a longitudinally-slotted pipe supported for rotation in bearings upon said outer member, one of said bearings serving to support the hood-carrying sleeve against displacement, a member telescoping in said pipe and having an operating-crank and a stud engaging the slot in the pipe, a cap upon the outer end of the slotted pipe and constituting a closure for the latter, and means for transmitting motion from said cap to the rotary hood-supporting sleeve.

805,998. **HORSE-DETACHER.** HENRY H. REED, Reedsville, W. Va. Filed Feb. 4, 1905. Serial No. 244,197.



Claim.—A horse-detacher comprising a plate provided on one side with a pair of guides and one end with a reduced approximately L-shaped abutment arranged in alinement with one of the guides, a spring-pressed bolt mounted in the guides and coacting with the abutment to form a trace-retainer, a curved orificed arm projecting from the side of one end of the plate, and a pair of spaced curved orificed arms projecting from the same side of the other end of the plate.

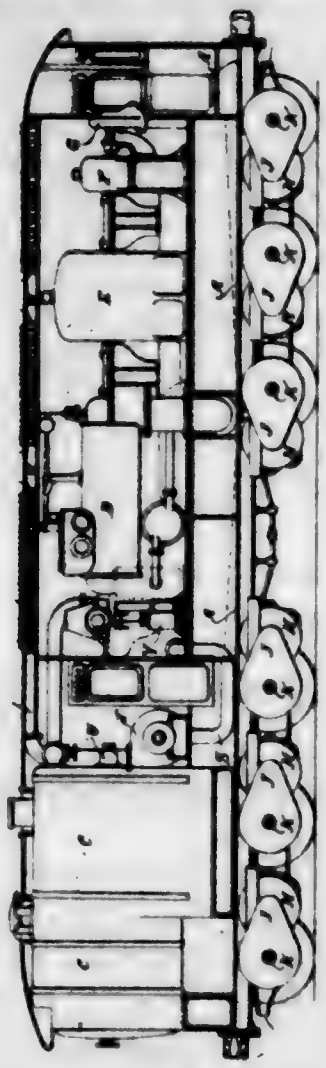
805,999. **LOCOMOTIVE.** HUGH REID, Springburn, and DAVID M. RAMSAY, Mount Florida, Scotland. Filed July 1, 1904. Serial No. 215,085.

Claim.—1. A motor-car carrying an isolated steam electric generating plant, having a steam-turbine in combination with an air-cooled condenser consisting of piping for the exhaust-steam, means for maintaining a vacuum therein, and means for producing a current of air therein, as described.

2. A motor-car carrying an isolated steam electric generating plant, having a steam-turbine in combination with an air-cooled condenser consisting of piping for the exhaust-steam, means for maintaining a vacuum therein, an air-chamber in which said piping is located, means for producing a current of air therein, and means for introducing air heated therein into the steam-generator of the plant to maintain combustion, as described.

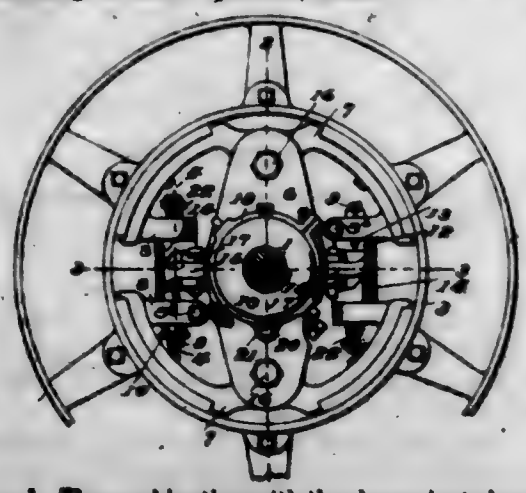
3. A motor-car carrying an isolated steam electric generating plant, having a steam-turbine in combination with an air-cooled condenser consisting of piping for the exhaust-steam, means for maintaining a vacuum therein, an air-chamber in which said piping is lo-

cated, means for producing a current of air therein, means for introducing air heated therein into the steam-generator of the plant to maintain combustion, and a structure inclosing said isolated plant and having said air-chamber located in its walls and roof and provided with openings to the outside, as described.



4. A motor-car carrying an isolated steam electric generating plant, having a steam-turbine in combination with an air-cooled condenser consisting of piping for the exhaust-steam, means for maintaining a vacuum therein, an air-chamber in which said piping is located, means for producing a current of air therein, means for introducing air heated therein into the steam-generator of the plant to maintain combustion, a structure inclosing said isolated plant and having said air-chamber located in its walls and roof and provided with openings to the outside, and shutters for said openings, some of said shutters projecting forward and some rearward, as described.

806,000. **FRICTIONAL CLUTCH.** JOHN RIEPPEL, Cowanesque, Pa. Filed Aug. 11, 1904. Serial No. 220,288.



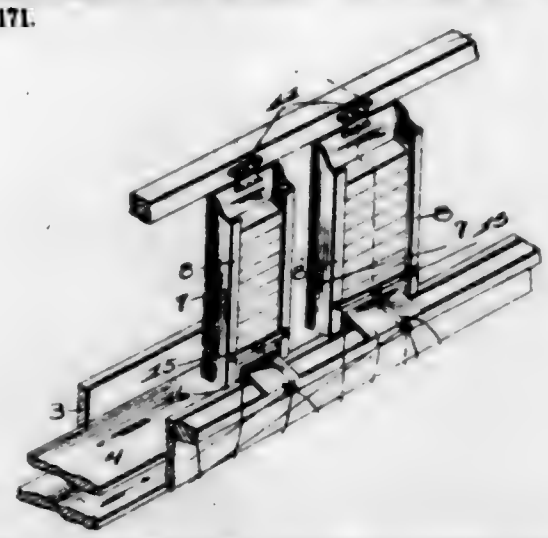
Claim.—1. The combination with the shoes pivoted each at one end and free at the other, said shoes having at their free ends angularly-extended flanges, one flange of adjacent shoes having a cam-surface, the other flange having clamping-jaws, a sleeve adjustably held by said jaws, a pivot-rod passed through said former flange and said sleeve, an adjusting-arm mounted on said pivot-rod having on one side a cam-surface to engage the corresponding surface of one of the flanges, its other side engaging the face of said adjustable sleeve, and means for actuating said arm.

2. The combination with the shoes pivoted each at one end and free at the other, said shoes having at their free ends angularly-extended flanges, rods passed through said flanges, adjusting-arms mounted on said rods intermediate said flanges, means for actuating the arms, means for forcing said shoes outwardly as the arms are moved in one direction, and springs encircling said rods for returning said shoes to their normal positions when relieved of the pressure of said arms.

3. The combination with the sleeve and the lateral arms, of the shoes arranged in pairs, the shoes of each pair being pivoted at adjacent ends to said arms, said shoes at their outer ends having angularly-extended flanges, the flange of one shoe having a cam-like surface, an adjustable flanged sleeve fitted in the flange of the other shoe, rods passed through adjacent flanges, springs on said rods, adjusting-arms mounted on said rods having each on one side a cam-like surface for coacting with the corresponding surface of the adjacent flange, an endwise-movable sleeve, and links connecting the latter to the outer ends of said arms.

4. The combination with the cross-piece forming lateral arms, of the clutch-shoes arranged in pairs, the shoes of each pair being pivoted to said cross-piece, adjusting-arms fitted between the free ends of adjacent shoes for forcing the latter outwardly, a longitudinally-movable sleeve to which said adjusting-arms are connected, and a guide extended outwardly from said cross-piece, said collar having an apertured flange to accommodate said guide.

806,001. **PACKAGE-DELIVERING APPARATUS FOR STORES.** EDGAR ROBERTS, East St. Louis, Ill. Filed June 7, 1905. Serial No. 264,171.



Claim.—1. In an apparatus of the class described, a rail, boxes for the reception of the packages hinged to said rail and depending therefrom; spring-actuated discharging-plates arranged to the side of the lower ends of said boxes, and connections to each box for swinging it over its corresponding discharge-plate, substantially as specified.

2. In an apparatus of the class described, the combination with a table, of a rail extending outwardly from the table, an endless carrier operating below and in front of said rail, a second rail arranged above the first-mentioned rail, a series of package-containing boxes hinged to the upper rail, package-discharging mechanism arranged on the lower rail in the paths of travel of the lower ends of the boxes, and suitable connections from the boxes to the table whereby said boxes are swung over the package-discharging means; substantially as specified.

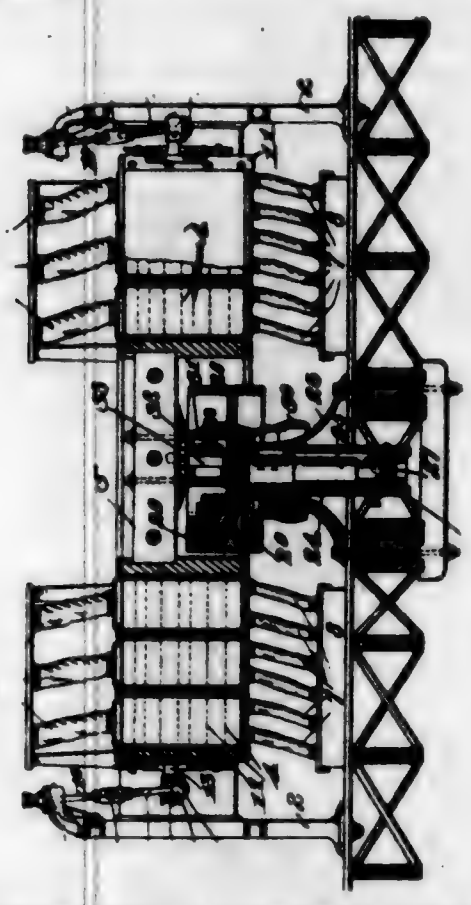
3. In an apparatus of the class described, a pair of rails, a series of package-containing boxes hinged to the upper rail, spring-actuated discharging-plates arranged on the lower rail in the path of travel of the lower ends of said boxes, means whereby said boxes are swung over the discharging-plates, and an endless carrier operating beneath and in front of the lower rail for delivering all of the discharged packages to a common point; substantially as specified.

806,002. **BOLTING-MACHINE.** HARRY C. ROBINSON, Muncy, Pa. Filed Mar. 14, 1905. Serial No. 249,825.

Claim.—1. In a bolting-machine, a gyratory sifter, and a plurality of vibratory rods adjustably connected with the sifter at points intersected approximately by a horizontal line passing through the center of gravity of said sifter, and means for actuating the sifter, the actuating power being applied thereto at substantially the center of gravity thereof.

2. In a bolting-machine, a gyratory sifter, and a plurality of

vibratory rods adjustably connected with the sifter at points intersected approximately by a horizontal line passing through the center of gravity of said sifter, each of said rods consisting of a plurality of adjustably-connected sections, and means for actuating the sifter, the actuating power being applied thereto at substantially the center of gravity thereof



3. In a bolting-machine, an approximately rectangular gyratory sifter, a plurality of plates fastened to the sifter substantially at the corners thereof having feet at their lower ends fitted against the bottom of the sifter, vertically-adjustable slides fitted against said plates, and vibratory rods united with said slides and constituting supports for said sifter.

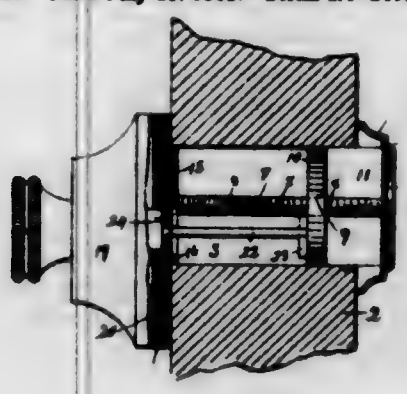
4. In a bolting-machine, a gyratory sifter, means for supporting said sifter approximately in horizontal line with the center of gravity thereof, and means for actuating the gyratory sifter, the actuating power being applied thereto substantially at its center of gravity.

5. In a bolting-machine, an approximately rectangular gyratory sifter, a plurality of plates fastened to the sifter substantially at the corners thereof, and vertically-adjustable slides fitted against said plates substantially centrally of the depth of said sifter, having means for the junction therewith of vibratory rods.

6. In a bolting-machine, an approximately rectangular sifter, a plurality of angular plates fastened to the sifter at the corners thereof, and angular slides fitted against said plates for vertical adjustment and having bearings for supporting-links.

7. In a bolting-machine, an approximately rectangular gyratory sifter, a plurality of angular plates fastened to the sifter at the corners thereof, vertically-adjustable angular slides fitted to said plates, having longitudinal slots, set-screws extending through said slots, adjusting-screws adapted to bear against the slides and carried by the plates, and vibratory rods constituting supports for the sifter and united with the slides.

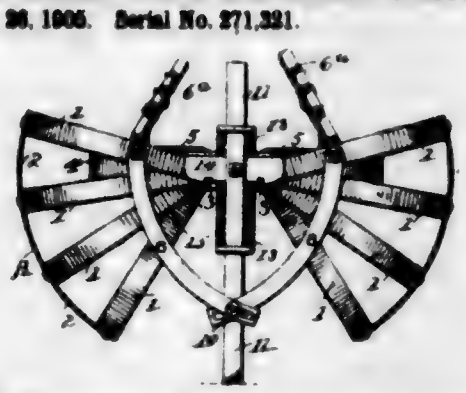
806,003. CYLINDER NIGHT-LATCH. JAMES ROCHE, Terryville, Conn., assignor to The Eagle Lock Co., Terryville, Conn., a Corporation of Connecticut. Filed July 15, 1905. Serial No. 269,800.



Claim.—1. In a cylinder night-latch, the combination with the cylinder thereof, of a retaining-plate, screws passing through the said plate from rear to front and engaging with the cylinder and having their rear ends formed with irregular heads, and means engaging with the said heads of the screws for preventing them from turning after the cylinder has been seated in its home position.

2. In a cylinder night-latch, the combination with the cylinder thereof, of a retaining-plate, screws passing from rear to front through the said plate and engaging with the cylinder for holding the same in place, and provided at their rear ends with irregular heads, and a lock-case having its inner plate formed with locking-openings receiving the said irregular screw-heads, whereby the screws are prevented from turning after the cylinder has been seated in its home position.

806,004. MUZZLE. FRANCIS M. ROWLAND, Webbers Falls, Ind. Ter. Filed July 26, 1905. Serial No. 271,321.



Claim.—1. The improved muzzle comprising a nose-band, sections hinged thereto at opposite points and comprising a series of semicircular bands whose divergent ends are rigidly connected, guide-brackets attached to the nose-band at opposite points and between the pivots of the hinged sections, push-bars arranged slidably in said brackets, and side bars pivoted to the sections and also to push-bars, and a locking device comprising catches, attached to the push-bars, and studs projecting from the sections and engaging the catches when the muzzle is closed, substantially as described.

2. The improved muzzle comprising a nose-band, skeleton sections comprising a series of semicircular bands which are pivoted to the nose-band at common points and rigidly connected so that their outer ends are held divergent, push-bars arranged vertically on opposite sides of the nose-band, and guides therefor in which said bars are adapted to slide vertically, and means for connecting said push-bars with the sections whereby, when the lower ends of the push-bars strike upon the ground, the sections are open so that the animal may graze without restraint, substantially as described.

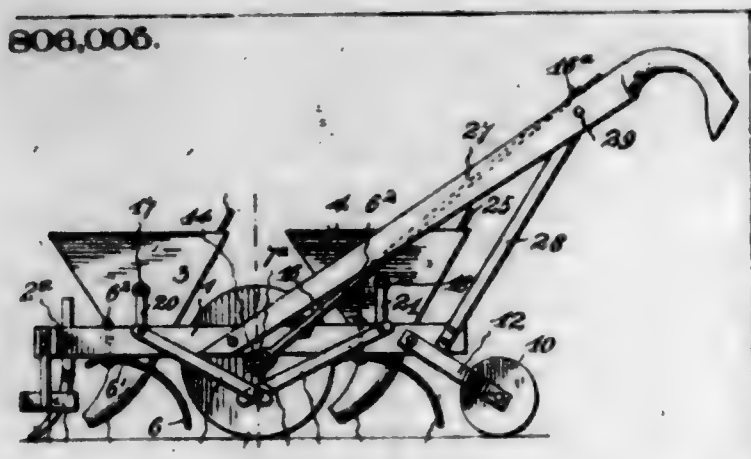
3. The improved muzzle comprising a nose-band, hinged sections which are pivoted to the nose-band at opposite points and adapted when closed to cover the nose of the animal, push-bars arranged on opposite sides of the nose-band and adapted to slide vertically in suitable guides, means for connecting such push-bars with the hinged sections, and means for automatically locking and unlocking the sections as the push-bars slide downward and upward respectively, substantially as described.

4. In a muzzle of the character described, the combination, with a nose-band and hinged sections adapted to close together by gravity and thus cover the nose of the animal, of guides arranged at opposite points and suitably attached to the nose-band, push-bars adapted to slide in such guides and projecting below the sections, side bars pivotally attached to the sections and having their lower ends slotted, screws passing through the slots and thus connecting the push-bars and side bars adjustably, substantially as described.

806,005. COMBINED FERTILIZER-DISTRIBUTER AND COTTON-SEED PLANTER. JOHN W. RUDER, Monroe, N. C. Filed Aug. 7, 1905. Serial No. 273,159.

Claim.—The herein-described combined fertilizer-distributer and cotton-seed planter, comprising the beam, the supporting and power roller having its bearings at the center of the beam and having its shaft provided with the loose crank, the furrow-opener at the front end of the beam, the trailing roller at the rear end of the beam, the hoppers near the front and rear ends of the beam and each having an oscillating agitator provided at one end with a crank, pitmen connecting the power-roller crank to the agitator-cranks, the movable clutch element on the power-roller shaft, and the lever to shift such movable clutch element into and out of engagement with the loose crank.

806,005.



806,006. PROCESS OF MANUFACTURING CALCIUM. OTTO RUFF, Berlin, and WILHELM PLATO, Colberg, Germany. Filed Jan. 20, 1905. Serial No. 241,231.

Claim.—1. Process of manufacturing calcium metal consisting in electrolyzing calcium chlorid containing only additions of calcium salts which are capable of depressing the melting-point of calcium chlorid.

2. The process of manufacturing calcium metal consisting in melting calcium chlorid containing only additions of calcium salts which are capable of depressing the melting-point of calcium chlorid and electrolyzing the molten mass.

3. The process of manufacturing calcium metal consisting in melting calcium chlorid containing only additions of calcium salts which are capable of depressing the melting-point of calcium chlorid and electrolyzing the molten mass while maintaining the temperature above the melting-point of calcium metal.

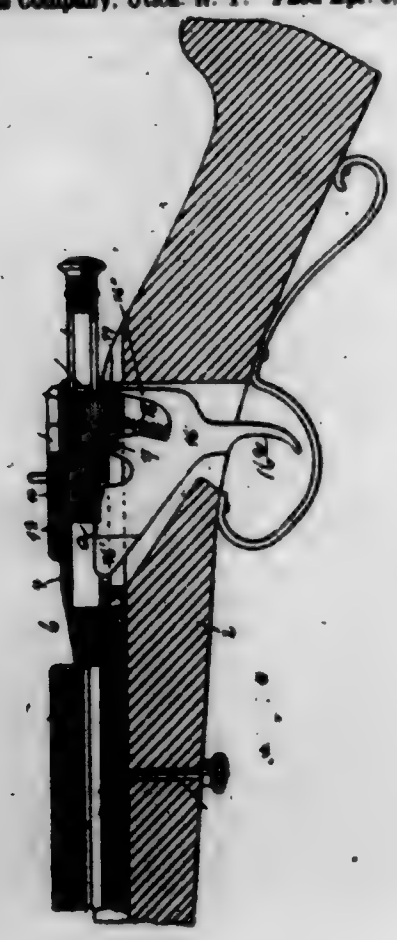
4. The process of manufacturing calcium metal consisting in electrolyzing calcium chlorid containing calcium fluorid.

5. The process of manufacturing calcium metal consisting in electrolyzing calcium chlorid containing calcium fluorid, while maintaining the temperature above the melting-point of calcium metal.

6. The process of manufacturing calcium metal consisting in electrolyzing calcium chlorid containing calcium fluorid and other calcium salts which are capable of depressing the melting-point of calcium chlorid.

7. The process of manufacturing calcium metal consisting in electrolyzing calcium chlorid containing calcium fluorid and other calcium salts which are capable of depressing the melting-point of calcium chlorid while maintaining the temperature above the melting-point of calcium metal.

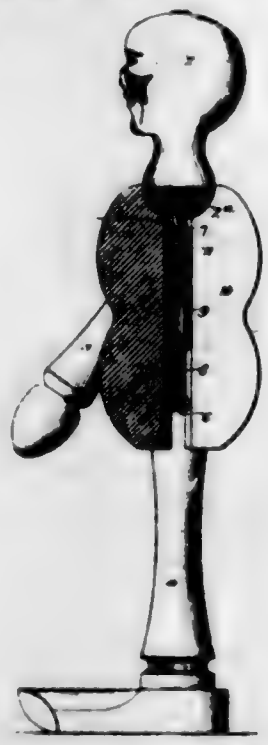
806,007. FIREARM. ARTHUR W. SAVAGE, Utica, N. Y., assignor to Savage Arms Company, Utica, N. Y. Filed Apr. 8, 1904. Serial No. 202,129.



Claim.—1. The combination in a firearm of a reciprocating breech-bolt, a reciprocating firing-pin, mounted in the breech-bolt, a cartridge-extractor mounted on the breech-bolt, and a pivoted part providing a trigger, a catch for the firing-pin, a stop for the breech-bolt and a shell-ejector, substantially as set forth.

2. The combination in a firearm of a reciprocating breech-bolt having an axial opening, a reciprocating firing-pin received in the opening in the breech-bolt having an axial spring-receiving opening or cavity closed at each end and having slotted openings in the walls providing clearance-slots, a pin passing through the breech-bolt and the slots of the firing-pin, a sliding block mounted in the spring opening or cavity of the firing-pin, the same being slotted longitudinally to afford an independent longitudinal movement thereof within the firing-pin, and to receive the holding-pin and adapt it to engage the closed rear end of the firing-pin, and the mainspring arranged between the sliding block and the forward closed end of the firing-pin, substantially as set forth.

806,008. JOINTED FIGURE. ALBERT SCHOENHUT, Philadelphia, Pa. Filed Apr. 16, 1904. Serial No. 203,457.



Claim.—1. A jointed figure comprising a body, a head, and arm and leg members, said body being constructed to retain the head and arm and leg members in proper position, connections for said arm and leg members, and retaining means carried by the head and engaging the connection for the leg members, said body having an open slot extending inwardly from its surface for the passage of said retaining means.

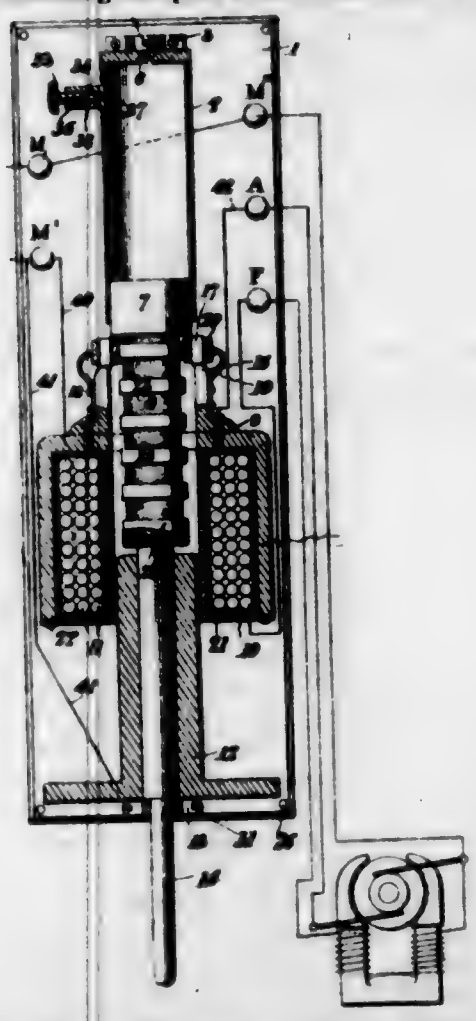
2. A jointed figure comprising a body, a head, and arm and leg members, said body being constructed to retain the head and arm and leg members in proper position, connections for said arm and leg members, and retaining means carried by the head and engaging the connection for the leg members, said body having a straight-walled vertical open slot extending inwardly from its surface for the passage of said retaining means.

3. A jointed figure comprising a body, a head, and arm and leg members, said body being constructed to retain the head and arm and leg members in proper position, connections for said arm and leg members, and retaining means carried by the head and engaging the connection for the leg members, said body having a central bore to accommodate the retaining means when the figure is assembled and an open slot extending inwardly from its surface for the passage of said retaining means to said central bore.

806,009. AUTOMATIC MOTOR-STARTING RESISTANCE. RALPH SCOTT, Wilkesbarre, Pa. Filed June 15, 1904. Serial No. 212,744.

Claim.—1. In a device of the class specified, a resistance-bar, a plurality of contact members on said resistance-bar, a contact member for engaging the contacts of the resistance-bar, said contact member and resistance-bar constituting two members of a circuit-controlling device, one of which is movable with respect to the other, a solenoid having an iron casing, a movable core connected to the movable member and having an enlarged flange that is attracted by

the casing when the solenoid is energized, a non-magnetic spacing means preventing contact between the flange and the casing, and a dash-pot for controlling the speed of movement of said core.



2. In a device of the class specified, a solenoid, a movable core, a resistance-bar carried by the core, a plurality of contact members on said resistance-bar, contact members carried by the solenoid for engagement with the contacts of the resistance-bar, a plunger secured to the resistance-bar, and a dash-pot into which said plunger extends.

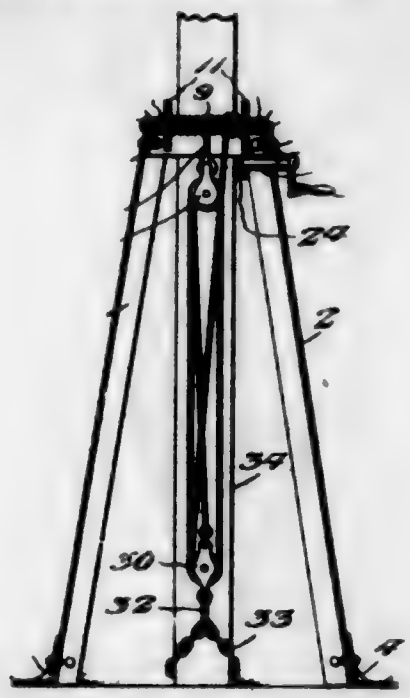
3. In a device of the class specified, a solenoid, a solenoid-core, a resistance-bar supported by the core, a plurality of contact-rings on said resistance-bar, a pair of diametrically-opposed contacts carried by the solenoid for engagement with the contacts of the resistance-bar, a plunger secured to the resistance-bar, and a dash-pot into which said plunger extends.

4. In a device of the class specified, a solenoid, a solenoid-core, a resistance-bar secured to the core, a plurality of spaced contact-rings carried by the resistance-bar, a pair of spring-held contact-blocks supported by the solenoid and adapted to engage the contact-rings of the resistance-bar, a plunger secured to the resistance-bar, and a dash-pot into which said plunger extends.

5. In a device of the class specified, a solenoid having a soft-iron casing or housing, a core having an enlarged flange that is attracted by the casing or housing when the solenoid is energized, a non-magnetic spacing means preventing contact between the flange and the casing, a resistance-bar supported by the core and having a plurality of spaced contacts, a contact carried by the casing and adapted to engage the contacts of the resistance-bar, and means for retarding movement of the solenoid-core.

6. In a device of the class specified, a solenoid, an inverted-cup-like casing or housing for said solenoid, a non-magnetic spool for the solenoid-winding, said spool having an enlarged flange, a non-magnetic means for securing said flange to the casing, insulating material surrounding the solenoid-winding, a core having an enlarged flange adapted to engage the securing means and prevent direct contact between the core-flange and the casing, a metallic rod secured to the core, a guiding-bracket for the rod, said bracket serving also to limit movement of the core, a resistance-bar supported by the rod and core, a plurality of contacts on said bar, a pair of spaced spring-pressed contact-blocks carried by the casing and adapted to engage the contacts of the resistance-bar, a plunger secured to said resistance-bar, a cylindrical dash-pot into which said plunger enters, a valved air-inlet for the dash-pot, a nipple projecting from the dash-pot and provided with an air-outlet port, and a needle-valve carried by the nipple and serving to adjust the effective area of said outlet-port.

806,010. **POWER APPLIANCE.** WILLIAM B. SEAVER, Weldon, Ill. Filed Apr. 23, 1904. Serial No. 204,633.



Claim.—1. A power appliance comprising a head-frame, provided with bearings, a removable shaft mounted in said bearings and provided with retaining means, a drum loose on said shaft, detachable ratchet-gears carried by said drum, a lever embodying a yoke which embraces the gears and is journaled on said shaft, operating-pawls connected with the yoke, and detents pivotally mounted on the head-frame, said pawls and detents engaging the ratchet-gears.

2. A power appliance comprising a frame provided with bearings, a removable shaft mounted in said bearings and provided with retaining means, a drum loose on said shaft, ratchet-gears removably engaging the opposite ends of the drum, an operating-lever provided with a yoke embracing said gears, and provided with bearing-sleeves interposed between the ratchet-gears and bearings on the frame, whereby said sleeves hold the ratchet-gears in engagement with the drum, operating-pawls carried by the yoke and engaging the ratchet-gears, and detents on the head-frame also engaging the ratchet-gears, said shaft serving to connect the drum, ratchet-gears and lever-yoke with the frame, whereby the removal of the shaft will disassociate said parts, substantially as described.

3. A combination-hoist comprising a frame, a shaft journaled therein and removable therefrom, a drum on said shaft provided with ratchet-gears, an operating-lever journaled on said shaft and coöperating with said ratchet-gears, and separable auxiliary operating mechanism comprising a bracket removably applied to the frame, a counter-shaft journaled in said bracket, a pinion on said shaft meshing with one of the ratchet-gears, an operating-crank on said shaft, and detachable fasteners at opposite ends of the counter-shaft whereby the shaft is held in operative relation to the bracket and the operating-crank is retained in position on the counter-shaft.

4. A power appliance comprising a frame, a shaft removably mounted thereon, a drum carried by the shaft, ratchet-wheels removably fitted upon the ends of the drum, and a yoke-lever journaled on the shaft and provided with pawls engaging the ratchet-wheels, said lever coöperating with the frame to retain the ratchet-wheels in engagement with the drum, the construction being such that the removal of the shaft effects the disassemblage of the parts.

5. A power appliance comprising a frame provided with bearings, a shaft mounted in said bearings and removable endwise therefrom and provided with retaining means, a drum loosely journaled upon the intermediate portion of said shaft, ratchet-wheels detachably fitted upon the ends of the drum, a yoke-lever having collars journaled on the shaft between the bearings and ratchet-wheels and maintaining the latter in engagement with the ends of the drum, and pawls actuated by said lever to turn the ratchet-wheels.

806,011. **REAMER.** ALBERT J. SMART, Greenfield, Mass., assignor to Wiley & Russell Manufacturing Company, Greenfield, Mass., a Corporation of Massachusetts. Filed Feb. 11, 1905. Serial No. 245,223.

Claim.—1. In a reamer, the combination with a body portion of circular section provided with a longitudinally-arranged groove open at both ends, of a longitudinally-adjustable cutter, triangular in cross-section, seated therein, substantially as described.

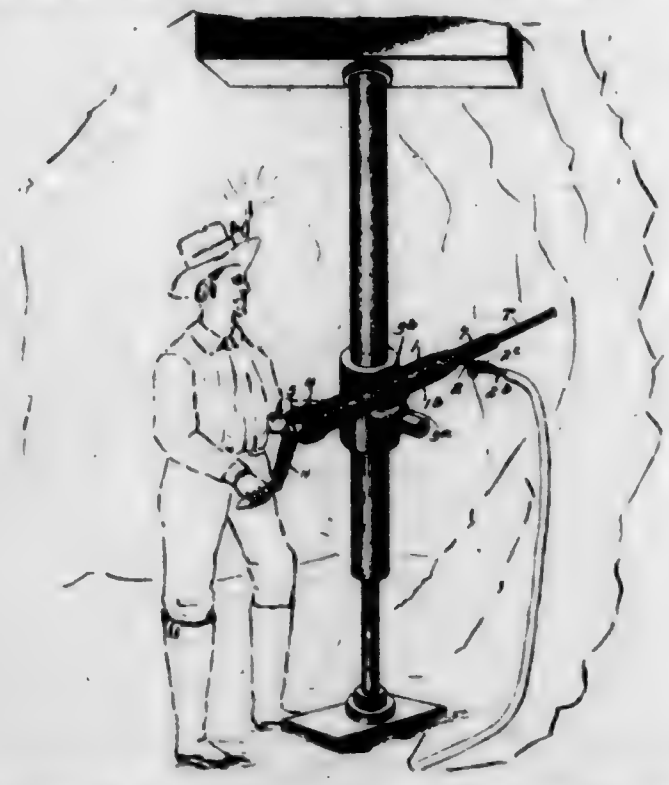
2. In a reamer, the combination with a body portion circular in

cross-section and provided with a longitudinally-extending groove on its peripheral surface, of a reversible cutter provided with a plurality of cutting edges, and coöperating means for securing said cutter in said groove with one of its cutting edges projecting for its full length slightly beyond the peripheral surface of said body portion and with its other cutting edges lying within said groove in a protected position, substantially as described.



3. In a reamer, the combination with a body portion, circular in cross-section, provided with a longitudinally-extending groove on its peripheral surface, one side of said groove being undercut, of a reversible cutter, triangular in cross-section, located beneath said undercut side, and coöperating means for securing said cutter with its main body portion within said groove and with one of its cutting edges only projecting for its full length slightly beyond the peripheral surface of said body portion, substantially as described.

806,012. ROCK-DRILL. GRANT W. SMITH, Ottumwa, Iowa. Filed Nov. 21, 1904. Renewed Oct. 19, 1905. Serial No. 283,490.



Claim.—1. A rock-drilling mechanism comprising a fixedly-held casing and a pneumatic hammer longitudinally adjustable within said casing and telescopically arranged with respect to the casing, means for adjusting said hammer within said casing, means for detachably securing the hammer and hammer-adjusting means within the casing, said hammer and said adjusting means being bodily removable from the casing.

2. A rock-drilling mechanism comprising a casing, a pneumatic hammer held within said casing, means operating with said hammer and casing to move said hammer longitudinally within said casing, said hammer and said hammer-moving means being bodily removable from the casing.

3. In an apparatus of the character stated, a base, a cylindrical casing fixedly secured to said base, a pneumatic hammer mechanism within said casing, a detachably-secured cap for one end of said casing, means within said casing and connected with said hammer mechanism and said cap for moving the hammer mechanism longitudinally within said casing, said hammer mechanism, said hammer-mechanism-moving means and said cap being bodily removable from the casing.

4. A rock-drilling mechanism comprising a plurality of telescopic sections, a pneumatic hammer mechanism carried by one of said sections, and means for extending and contracting said telescopic sections, means for holding one section stationary, and means for detachably connecting said telescopic sections with each other to permit of the inner section being bodily removable from the outer section

5. In a rock-drilling mechanism, a plurality of telescopic tubular sections, a base to which the outer section is secured, a pneumatic hammer mechanism in the inner section, means connected with the outer and the inner tubular sections for extending and contracting the same, means for detachably securing the inner section and its parts within the casing, said inner section and its parts being bodily removable from the outer section.

6. In an apparatus of the character stated, a base, a tubular casing fixedly secured thereto, said base and said casing having a longitudinal slot, a detachably-secured closure-cap for one end of said casing, a pneumatic hammer mechanism longitudinally adjustable within said casing, said hammer mechanism comprising a tubular shell and a reciprocating valve having a hammer-head within said tubular shell, a coupling-joint secured to the shell for coupling with the source of fluid-supply to admit the fluid into said shell to operate said valve, said casing and said shell being telescopically arranged and said shell and its carried parts being bodily and endwise removable from the casing, the coupling-joint being slidable through said casing, and base-slots from end to end while the shell is being withdrawn from or entered into the casing substantially as shown and described.

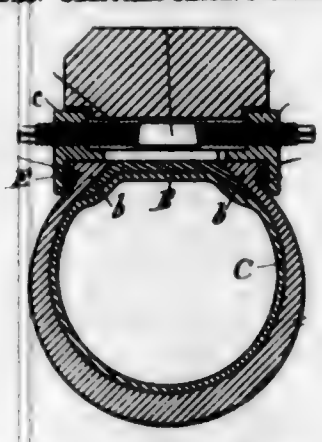
7. In a mechanism of the character stated, a base, a tubular casing secured thereto, said tubular casing and said base having a longitudinal slot extending from end to end thereof, a pneumatic hammer mechanism within said casing and comprising an outer tubular shell telescopically held within said casing, and an inner shell tightly fitted within said outer shell, said inner shell having a plurality of internal grooves forming chambers, a reciprocating valve within said inner shell, said valve having a hammer-head, a drill-receiving bushing held in the outer ends of the outer and inner shells, a closure-disk for the other end of the inner shell, said outer shell having one end internally threaded, a supplemental tubular member having a threaded end for engaging the threaded end of the outer shell to form a continuation thereof, a screw-plug in the opposite end of the supplemental tubular sections, a cap detachably secured to one end of the casing, a screw passing through the cap and the screw-plug for adjusting the hammer mechanism, a coupling-joint secured to the outer shell and communicating with the interior of the inner shell for feeding the working agent into the said inner shell to operate the valve.

8. In a mechanism of the character stated, a base, a tubular casing secured thereto, said tubular casing and said base having a longitudinal slot extending from end to end thereof, a pneumatic hammer mechanism within said casing and comprising an outer tubular shell telescopically held within said casing, and an inner shell tightly fitted within said outer shell, said inner shell having a plurality of internal grooves forming chambers, a reciprocating valve within said inner shell, said valve having a hammer-head, a drill-receiving bushing held in the outer ends of the outer and inner shells, a closure-disk for the other end of the inner shell, said outer shell having one end internally threaded, a supplemental tubular member having a threaded end for engaging the threaded end of the outer shell to form a continuation thereof, a screw-plug in the opposite end of the supplemental tubular sections, a cap detachably secured to one end of the casing, a screw passing through the cap and the screw-plug for adjusting the hammer mechanism, a coupling-joint screwed to the outer shell and communicating with the interior of the inner shell for feeding the working agent into the said inner shell to operate the valve, a screw-plug for the threaded end of the supplemental tubular section which engages the threaded end of the outer shell to extend said end to tightly fit said outer shell substantially as shown.

9. In a mechanism of the character stated, a base, a tubular casing secured thereto, said tubular casing and said base having a longitudinal slot extending from end to end thereof, a pneumatic hammer mechanism within said casing and comprising an outer tubular shell telescopically held within said casing, and an inner shell tightly fitted within said outer shell having a plurality of internal grooves forming chambers, a reciprocating valve within said inner shell, said valve having a hammer-head, a drill-receiving bushing held in the outer ends of the outer and inner shells, a closure-disk for the other end of the inner shell, said outer shell having one end internally

threaded, a supplemental tubular member having a threaded end for engaging the threaded end of the outer shell to form a continuation thereof, a screw-plug in the opposite end of the supplemental sections, a cap detachably secured to one end of the casing, a screw passing through the cap and the screw-plug for adjusting the hammer mechanism, a coupling-joint secured to the outer shell and communicating with the interior of the inner shell for feeding the working agent into said inner shell to operate the valve, a screw-plug for the threaded end of the supplemental tubular section which engages the threaded end of the outer shell to extend said end to tightly fit said outer shell end, all of the parts within the casing, and the cap, being bodily removable from the casing, the coupling-joint passing through said longitudinal slot in the casing-base from end to end during the removing operation, substantially as shown and for the purposes specified.

806,013. MEANS FOR SECURING PNEUMATIC TIRES TO RIMS OF WHEELS. SHEFFIELD SMITH, Providence, R. I. Filed Mar.

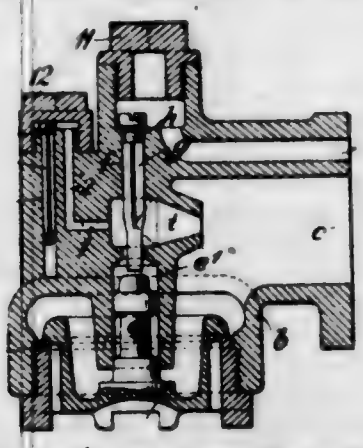


Claim.—1. The combination of the wheel, and a pneumatic tire, with a clamping-hook, having its shank extending inwardly between the metallic tire of the wheel and the felly, and screw-threaded means also extending inwardly between the metallic tire and the felly, to actuate the said hook to clamping engagement with the edge of the cover of the pneumatic tire, for clamping the said edge to the wheel.

2. The combination of the wheel, and a pneumatic tire, with clamping-hooks having their shanks extending inwardly between the metallic tire of the wheel and the felly, and screw-threaded means for actuating the said clamping-hooks for clamping the edges of the cover of the pneumatic tire to the wheel.

3. The combination of the wheel, and a pneumatic tire, with clamping-hooks having their shanks extending inwardly between the metallic tire of the wheel and the felly, and the right and left hand screw, for actuating the said hooks to clamp the edges of the cover of the pneumatic tire to the wheel.

806,014. LOCOMOTIVE-ENGINE LUBRICATOR. WALTER M. SMITH, Newcastle-upon-Tyne, England. Filed Jan. 23, 1905. Serial No. 242,366.



Claim.—1. In a locomotive-engine, the combination with a working cylinder, of a chamber adapted to contain lubricant under a pressure above that in the working cylinder when the locomotive is running with steam shut off, there being a communication between said cylinder and chamber, means adapted to permit the admission of steam to the cylinder when the pressure therein is below atmospheric pressure and means so arranged that the placing of the locomotive under steam will prevent lubricant passing to the cylinder and cut off said chamber from all communication with the steam-supply, as set forth.

2. In a locomotive-engine, the combination with a working cylinder, of a chamber adapted to contain lubricant under a pressure above that in the working cylinder when the locomotive is running with steam shut off, there being a communication between said cylinder and chamber, means adapted to permit the admission of steam to the cylinder when the pressure therein is below atmospheric pressure and in said communication a non-return valve adapted when the locomotive is placed under steam to cut off said chamber from all communication with the steam-supply, as set forth.

3. In a locomotive-engine, the combination with a working cylinder, of a chamber adapted to contain lubricant under a pressure above that in the working cylinder when the locomotive is running with steam shut off, a communication between said cylinder and chamber, a valve adapted to admit air to the cylinder when the pressure therein is below atmospheric pressure, and means so arranged that the placing of the locomotive under steam will prevent lubricant passing to the cylinder and steam to the chamber, as set forth.

4. In a locomotive-engine, the combination with a working cylinder, of a chamber adapted to contain lubricant under a pressure above that in the working cylinder when the locomotive is running with steam shut off, there being a communication between said cylinder and chamber, a valve adapted to admit air and a valve adapted to admit steam to the cylinder when the pressure therein is below atmospheric pressure, and means so arranged that the placing of the locomotive under steam will prevent lubricant passing to the cylinder and steam to the chamber, as set forth.

5. In a locomotive-engine, the combination with a working cylinder, of a chamber adapted to contain lubricant under a pressure above that in the working cylinder when the locomotive is running with steam shut off, there being a communication between said cylinder and chamber, a non-return valve in said communication, a separate communication between the atmosphere and said cylinder, and a valve adapted to admit air through said separate communication to the cylinder when the pressure therein is below atmospheric pressure, as set forth.

6. In a locomotive-engine, the combination with a working cylinder, of a chamber adapted to contain lubricant under a pressure above that in the working cylinder when the locomotive is running with steam shut off, there being a communication between said cylinder and chamber, a valve adapted to admit air and a valve adapted to admit steam to the cylinder when the pressure therein is below atmospheric pressure, and a non-return valve in said communication, as set forth.

7. In a locomotive-engine, the combination with a working cylinder, of a chamber adapted to contain lubricant under a pressure above that in the cylinder when the locomotive is running with steam shut off, a casing under the same pressure, means adapted to permit the transference of lubricant from the said chamber to said casing, there being a communication between said casing and the working cylinder, means adapted to permit the admission of steam to the cylinder when the pressure therein is below atmospheric pressure, and in said communication a non-return valve adapted when the locomotive is placed under steam to cut off said chamber from all communication with the steam-supply, as set forth.

8. In a locomotive-engine, the combination with a working cylinder, of a chamber adapted to contain lubricant under a pressure above that in the cylinder when the locomotive is running with steam shut off, a casing under the same pressure, means adapted to permit the transference of lubricant from the said chamber to said casing, there being a communication between said casing and the working cylinder, a valve adapted to admit air to the cylinder when the pressure therein is below atmospheric pressure, and a non-return valve in said communication, as set forth.

9. In a locomotive-engine, the combination with a working cylinder, of a chamber adapted to contain lubricant under a pressure above that in the cylinder when the locomotive is running with steam shut off, a casing under the same pressure, means adapted to permit the transference of lubricant from the said chamber to said casing, there being a communication between said casing and the working cylinder, a valve adapted to admit air and a valve adapted to admit steam to the cylinder when the pressure therein is below atmospheric pressure, and a non-return valve in said communication, as set forth.

10. Means for supplying lubricant to the cylinders of locomotive-engines when running with steam shut off comprising a casing adapted to be placed in communication with the working cylinders, an air-inlet thereto, an air-valve controlling said inlet, a steam-inlet thereto, a steam-valve controlling said inlet, and adapted to be opened by the opening of the air-valve, a lubricant-containing chamber in communication with the atmosphere, there being a communication between said chamber and the interior of said casing and a non-return valve adapted to prevent lubricant passing to the cylin-

der or steam to the chamber when the locomotive is placed under steam, as set forth.

11. Means for supplying lubricant to the cylinders of locomotive-engines when running with steam shut off comprising a casing adapted to be placed in communication with the steam-chest of an engine, there being an air-inlet thereto and a steam-inlet, an air-valve controlling said air-inlet, a steam-valve controlling said steam-inlet and adapted to be opened by the opening of the air-valve, a nozzle within the casing and terminating the steam-inlet, a lubricant-containing chamber in communication with the atmosphere, a communication between said chamber and the said nozzle, and a non-return valve adapted to prevent lubricant passing to the cylinder or steam to the chamber when the locomotive is placed under steam as set forth.

806,015. **EYEGLASSES.** WILLIAM H. SPANGLER, Pittsburg, Pa. Filed Sept. 24, 1904. Serial No. 225,301.



Claim.—1. An eyeglass comprising lenses, posts and a bridge having a plurality of loops at each end, one loop at each end of the bridge being disposed in a plane parallel to the plane of the lenses and being concealed behind the adjacent posts, said loops together providing the resiliency of the bridge, the other loop at each end of the bridge being closed and attached to the adjacent post.

2. An eyeglass comprising lenses, posts and upwardly-extending springs adapted to engage beneath the eyebrows, and a bridge having two loops at each end, one of each of said pair of loops being disposed in a plane parallel to the plane of the lenses and concealed behind the adjacent posts, said loops together providing the resiliency of the bridge, the other loop of each pair being disposed at a right angle with respect to the first-mentioned loop and detachably fastened to the adjacent post, the springs, bridge and loops being all formed of a single piece of wire

806,016. **SPINNING-FRAME.** HARRY SPENCE, Sanford, Me., assignor of one-fourth to Louis B. Goodall, one-fourth to George B. Goodall, and one-fourth to Joseph Hollinrake, Sanford, Me. Filed Oct. 9, 1902. Serial No. 126,407.



Claim.—1. A spindle having a flier detachably fixed thereto at its upper end, a disk also detachably fixed to the upper end of the spindle, and a fixed guide embracing said disk and within which the disk may revolve to prevent gyration of the spindle at high speed.

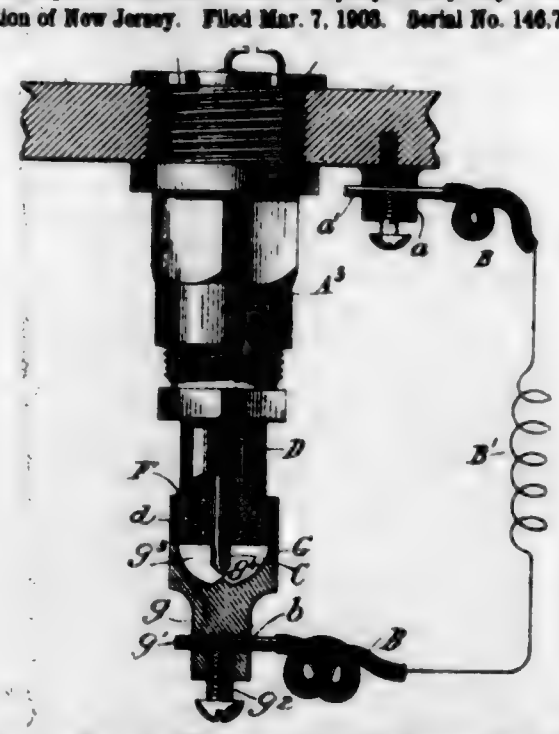
2. In a spinning-frame, a spindle having a flier fixed to its upper end, and also a disk having an opening through which the material being spun may be led about the flier-leg to the flier-eye on its way to the bobbin, and a guide embracing said disk to prevent gyration of the spindle at high speed.

3. In a spinning-frame, a spindle having an attached flier, a slotted disk rotatable with the spindle and provided with a stop, and a bearing fitting the exterior of said disk and steadying the spindle in its rapid rotation.

4. A spindle having a flier fixed thereto at its upper end, a disk also fixed to the upper end of the spindle, and an open guide constituting a top bearing for the spindle and embracing said disk to steady the upper end of the spindle at high speeds.

5. A spinning-spindle having a flier fixed thereto at its upper end, a disk rotatable with said spindle and provided with stops for engagement with the yarn or thread, and a fixed bearing fitting the exterior of said disk and steadying the spindle in its rapid rotation

806,017. **IGNITION-PLUG.** CHARLES F. SPLITDORF, New York, N. Y., assignor to Electric Vehicle Company, Jersey City, N. J., a Corporation of New Jersey. Filed Mar. 7, 1903. Serial No. 146,778.



Claim.—1. In an ignition-plug for explosive-engines, opposed electrodes located in a secondary circuit of an induction-coil, a plug-conductor or conducting-rod for one of said electrodes, an insulator for said conductor or rod, a metallic cap at the end of said insulator, the latter being separated from contact with said conductor or rod by an air-space, and a binding-post upon said cap to receive one of the terminals of said circuit.

2. In a sparking plug included in an electric circuit, an electrode having a sparking point, an opposed sparking member, an insulating-envelop for said electrode, an exteriorly-threaded collar about the outer end of said envelop, an open metallic cap adjustably screwed upon said collar to provide an air-space between said cap and electrode, and a binding-post upon said cap, a terminal of the circuit being connected to said binding-post.

3. Sparking mechanism comprising a plug with a pair of electrodes or terminals at each of two separate portions thereof to form spark-gaps, and provisions whereby said plug may be attached to an engine-cylinder with one pair of terminals visible.

4. Sparking mechanism comprising a plug with electrodes or terminals at each end to form spark-gaps.

5. A plug for combustion-engines, having a plurality of pairs of stationary electrodes, each forming a spark-gap, and means whereby said plug may be secured to an engine with one pair of electrodes in active igniting position, and the other pair visible.

6. Sparking mechanism for combustion-engines having two stationary sparking gaps in series in stationary relationship, one of said spark-gaps being located within the engine-cylinder, and the other outside the same.

7. An igniting mechanism for combustion-engines comprising a circuit having two pairs of stationary electrodes or terminals in series, each pair separated to form a spark-gap, one pair of electrodes or terminals being located within the cylinder and the other being located externally thereto in position to be observed by the operator.

808,018. **ELECTROMAGNETIC RELAY OR SOUNDER.** THOMAS M. ST. JOHN, New York, N. Y. Filed Apr. 13, 1905. Serial No. 255,166.

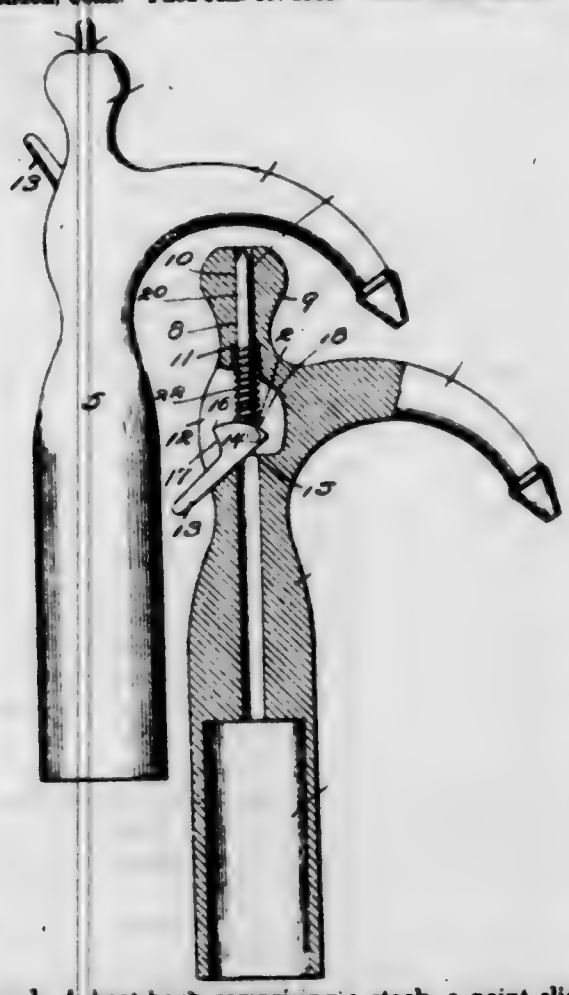


Claim.—1. The combination with a vibrating core, having an appropriate winding, pivotally supported at one end, and front and back stops between which its free end plays, of a resilient plate of magnetic material having an upturned end supporting the core adjacent its pivot, and means for raising or lowering such upturned end to adjust the spring tension applied to the core.

2. The combination of a vibrating core, having an appropriate winding, a resilient plate of magnetic metal having an upturned end supporting the core between its pivot and winding, means for adjusting such end of the plate to adjust the spring tension applied to the core, a stationary armature arranged opposite the core, constituting a front stop therefor and magnetically insulated from such plate and a back stop for the core.

3. The combination of a base-plate, a vibrating core, having a suitable winding and pivotally supported at one end upon the base-plate, a resilient plate of magnetic metal having upturned ends secured to the base-plate beneath the free end of the core, one upturned end supporting the core suitably adjacent its pivot and the other arranged in proximity to the free end of the core but never contacting therewith, a stationary armature for the core constituting a front stop therefor and magnetically insulated from said resilient plate, a back stop for the core, and means for adjusting the core-supporting end of the resilient plate to adjust the spring tension applied to the vibrating core.

806,019. **BOAT-HOOK.** JOHN SULLIVAN and ALEXANDER MACK, New London, Conn. Filed Jan. 19, 1905. Serial No. 241,856.



Claim.—1. A boat-hook comprising a stock, a point slidably engaged in the stock and retractable thereinto, means for holding the point normally within the stock and means for moving the point to project from the stock and for holding it projected therefrom.

2. A boat-hook comprising a stock a point slidably connected with the stock and movable into and out of operative position means for holding the point normally in inoperative position, and means for moving the point against the action of said holding means and for holding it against such action and in operative position.

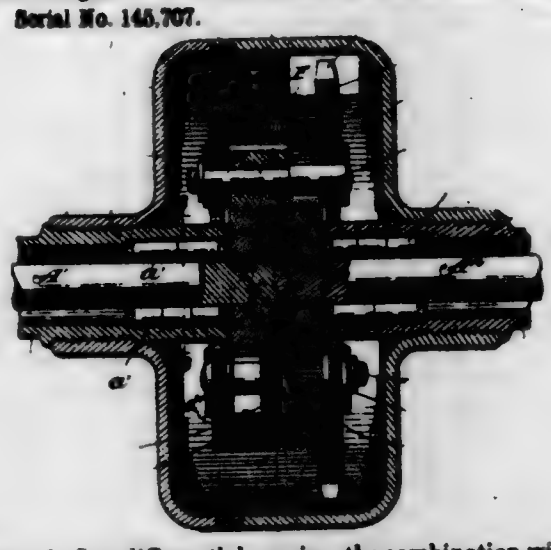
3. A boat-hook comprising a stock having a recess therein, a pointed pin slidably engaged in the recess and arranged for movement to lie within the recess or to project at its pointed end therefrom, a spring arranged to hold the pin yieldably within the recess, and a lever arranged for movement to move the pin against the action of the spring.

808,020. **TRACK-BRACKET.** GEORGE A. SWINEFORD, Canton, Ohio. Filed July 11, 1904. Serial No. 216,021.



Claim.—As an improved article of manufacture, a track and bracket provided with an attaching-flange and an arm or angle portion extended therefrom and provided with spaced tangs and having a track-contact shoulder formed upon the arm portion of the bracket and located between the spaced tangs, and a track provided with spaced apertures corresponding in size and shape with the size and shape of the spaced tangs, and the spaced tangs located through the spaced apertures in the track and the track seated against the shoulder of the bracket-arm and in close contact therewith, substantially as and for the purpose specified.

806,021. **DIFFERENTIAL GEARING.** ROBERT SYMMONDS, Kenosha, Wis., assignor to Thomas B. Jeffery, Kenosha, Wis. Filed Mar. 3, 1903. Serial No. 145,707.



Claim.—1. In a differential gearing, the combination with a hollow power-transmission member, of a pair of meshed pinions, bearings formed integrally with said member in which said pinions are journaled, a pair of gears meshing with the respective pinions in said pair, alined shafts upon which said pair of gears are respectively fixed, a bearing also formed integrally with said member and surrounding the adjacent ends of said alined shafts between said gears, tubular supports surrounding said shafts, and roller-bearings interposed between the portions of said shafts adjacent said gears and the surrounding tubular supports.

2. In a differential gearing, the combination with a hollow power-transmission member, of a pair of meshed pinions, bearings formed integrally with said member in which said pinions are journaled, a pair of gears meshing with the respective pinions in said pair, alined shafts the adjacent ends of which are surrounded by the hubs of said pair of gears, a bearing also formed integrally with said member and surrounding the adjacent hubs on said gears thereby supporting said member concentrically with respect to said shafts and retaining said shafts in alinement, hollow supports surrounding said shafts, and a two-part casing inclosing the transmission member and having hubs secured to said hollow supports.

3. In a differential gearing, an integral hollow power-transmission member comprising a ring, circular parallel side walls united to said ring between which pairs of meshed pinions are adapted to be journaled, a circular bearing, and spokes interposed between and concentrically uniting said bearing and said ring.

4. In a differential gearing, an integral hollow power-transmission member comprising a ring and parallel side walls between which pairs of meshed pinions are adapted to be journaled, a circular bearing, connecting means interposed between said bearing and said ring for retaining the same concentrically, and a driving-wheel projecting radially around one of said side walls.

5. In a differential gearing, the combination with two alined

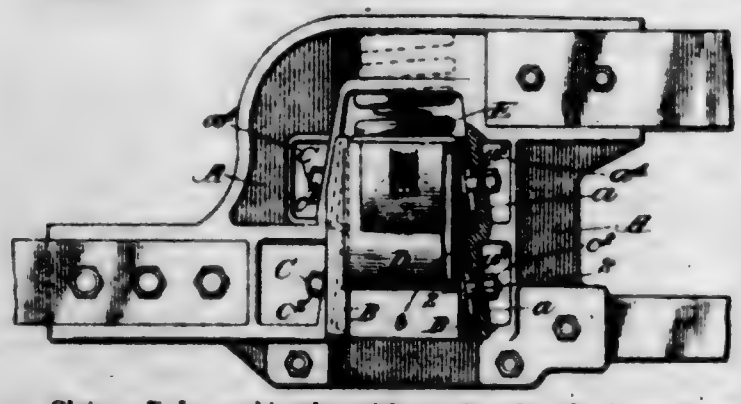
shafts, of two gears located side by side and fixed respectively to the adjacent ends of said shafts, hubs projecting into contact with each other formed on said gears, a circular bearing interposed between said gears and closely surrounding said hubs, a hollow power-transmitting member formed integrally with said circular bearing having opposite side walls integral therewith, and a pair of pinions interposed between said circular bearing and the outer wall of said hollow power-transmitting member and journaled in bearings formed in said side walls, said pinions meshing with each other and respectively engaging said gears bearings in which said shafts are supported located adjacent said gears, and a two-part casing inclosing the gearing and having hubs secured to said bearings.

6. In a differential gearing, the combination with two alined shafts, of two gears fixed respectively on the adjacent ends of said shafts, a hollow power-transmitting member, a circular bearing surrounding the adjacent ends of said shafts and retaining the same in alinement, means for rigidly supporting said bearing concentrically within said hollow power-transmitting member, a pair of meshed pinions journaled in bearings supported by and formed integral with said member and meshing respectively with the gears secured to the ends of the alined shafts and bearings in which said shafts are journaled located adjacent said gears, and means connecting said bearings and thereby preventing the adjacent ends of said shafts from separating.

7. In a differential gearing, the combination with two alined shafts, of two gears located side by side and fixed respectively to the adjacent ends of said shafts, hubs formed on the respective gears and projecting into contact with each other, a hollow power-transmission member, a circular bearing interposed between said gears and closely surrounding the hubs thereon, means for rigidly supporting said bearing concentrically within said hollow power-transmitting member, a pair of pinions inclosed within said hollow member and journaled in bearings formed in the integral side walls thereof, said pinions meshing with each other and each engaging one of said gears and bearings in which said shafts are journaled located adjacent said gears, and means connecting said bearings and thereby preventing the adjacent ends of said shafts from separating.

8. In a differential gearing, the combination with two alined shafts, of a pair of gears located side by side and fixed respectively to the adjacent ends of said shafts, a hollow power-transmitting member within which said gears are located comprising parallel side walls united by an interposed ring, said side walls having openings around the respective shafts slightly greater in diameter than the diameter of said gears, a circular bearing interposed between said gears and surrounding the ends of said alined shafts, means rigidly supporting said bearing concentrically within the ring of said hollow power-transmitting member, pairs of meshed pinions journaled in bearings in said side walls, said pinions respectively engaging said gears, the ring of said hollow power-transmitting member having openings through which said pinions are inserted.

806,022. CAR-TRUCK. JOHN TAYLOR, Troy, N. Y., assignor to Taylor Electric Truck Company, Troy, N. Y. Filed Aug. 31, 1906. Serial No. 331,564.



Claim.—1. In combination with a pedestal, and a journal-box; of a wear-take-up plate interposed between the side of the journal-box and the pedestal, and having a plurality of inclined or wedge surfaces engaging opposed wedge surfaces on the pedestal, substantially as described.

2. In combination with a truck-pedestal and an axle journal-box guided therein; of a vertically-adjustable wear-take-up plate interposed between the journal-box and the pedestal, said plate having inclined or wedge surfaces engaging similar opposed surfaces on the pedestal, and a securing-bolt transfixing the plate and pedestal-jaw, substantially as described.

3. In combination with a truck-pedestal and an axle journal-box; of a vertically-adjustable wear-take-up plate interposed between the side of the journal-box and the pedestal-jaw, and having inclined or wedge surfaces engaging similar opposed surfaces on the jaw, and also having side flanges engaging the edges of the jaws to prevent lateral displacement of the plate.

4. In combination with a truck-pedestal and an axle journal-box guided therein; of a vertically-adjustable wear-take-up plate interposed between the side of the journal-box and the pedestal-jaw, and having inclined or wedge surfaces engaging similar opposed surfaces on the jaw, and also provided with elongated slots and countersunk recesses around the slots, and bolts transfixing the jaw and engaging said slots and having their heads seated in said recesses, substantially as described.

5. In combination with a truck-pedestal, and a journal-box guided in said pedestal; of a wear-take-up plate interposed between the side of the journal-box and the pedestal-jaw, and having a plurality of wedge or inclined surfaces on its inner face engaging opposed wedge-surfaces on the jaw, and a plurality of securing-bolts transfixing the jaw and plate and arranged at right angles to the wedge-surfaces, substantially as described.

6. In combination with a pedestal and a journal-box; of wear-take-up plates interposed between the sides of the journal-box and the jaws of the pedestal, said plates having a plurality of inclined or wedge surfaces engaging opposed wedge-surfaces upon the pedestal jaws, substantially as described.

7. In combination with a truck-pedestal and an axle journal-box guided therein; of vertically-adjustable wear-take-up plates interposed between the opposite sides of the journal-box and the adjacent faces of the pedestal-jaws, said plates having inclined or wedge surfaces on their inner faces engaging similarly inclined or beveled surfaces on the pedestal-jaws, and transversely-arranged bolts transfixing the plates and jaws for securing the plates in position.

8. In combination with a truck-pedestal and an axle journal-box; of vertically-adjustable wear-take-up plates interposed between the opposite sides of the journal-box and the pedestal-jaws, and having inclined or wedge surfaces engaging opposed inclined or wedge surfaces on the jaws, and side flanges engaging the edges of the jaws to prevent lateral displacement of the plates, and securing-bolts transfixing the plates and jaws, substantially as described.

9. In combination with a truck-pedestal, an axle journal-box guided therein, and vertically-adjustable wear-take-up plates interposed between the sides of the journal-box and the pedestal-jaws, and having inclined or beveled faces engaging similar opposed wedge-surfaces on the jaws and also having elongated slots and recesses around the slots in the outer faces of the plates, with bolts transfixing the jaws and passing through said slots and having their heads seated in the recesses, substantially as described.

10. In combination with a truck-pedestal, a journal-box guided in said pedestal, and wear-take-up plates interposed between the sides of the journal-box and the pedestal-jaws, and having a plurality of wedge or inclined surfaces on their inner faces engaging opposed inclined or wedge surfaces on the jaws; with a plurality of securing-bolts transfixing the jaws and plates, and having their heads confined in recesses in the plates, said bolts being arranged at right angles to the inclines, substantially as described.

11. A wear-take-up plate having a plurality of inclined or wedge-shaped surfaces on its inner face, and slots for engagement of securing-bolts.

12. A wear-take-up plate for truck journal-boxes, having a plurality of inclined or wedge-shaped surfaces on its inner face, side flanges, and recessed slots, substantially as described.

13. A wear-take-up plate for truck journal-boxes, having a plurality of inclined or wedge-shaped surfaces on its inner face, side flanges, and recessed slots, said wedge-surfaces being longitudinally grooved, substantially as described.

14. In combination with a journal-box, a truck-pedestal embracing the box and provided with a plurality of inclined or wedge surfaces on the inner faces of the jaws adjacent the journal-box, and wear-take-up plates interposed between the journal-box and the jaws, having beveled or wedge surfaces opposite and engaging the wedge-surfaces on the jaws; of securing-bolts transfixing the jaws and plates, and having their heads confined in recesses in the inner faces of the plates, and nuts on the outer ends of the bolts, substantially as described

15. In combination with a journal-box, a truck-pedestal embracing the box and provided with a plurality of inclined or wedge surfaces on the inner faces of the jaws adjacent the journal-box, and wear-take-up plates interposed between the journal-box and the jaws, having beveled or wedge surfaces opposite and engaging the

wedge-surfaces on the jaws, and lateral side flanges engaging the sides of the jaws, and longitudinal slots; of securing-bolts transfixing the jaws and plates, and having their heads confined in recesses in the inner faces of the plates, and nuts on the outer ends of the bolts, said bolts being arranged at right angles to the inclined or wedge surfaces, substantially as described.

806,023. RAIL-JOINT. GEORGE W. THURMAN, Cache, Okla. Filed Dec. 27, 1904. Serial No. 238,349.



Claim.—1. A rail-section, a splice-bar carried wholly by the web of and projected beyond the terminal of the section, said bar having upon its normally inner face a horizontal longitudinally-extending rib, and a corresponding groove formed in alinement with said rib.

2. A rail-section, a splice-bar carried wholly by the web of and projected longitudinally beyond said section and constituting an extension, the section having a longitudinally-extended recess formed wholly therein, and a horizontal rib formed upon the normally inner face of the extension in alinement and adapted to conform to said recess.

3. In a rail-joint, a pair of rail-sections adapted to be assembled in endwise relation, splice-bars carried wholly by the webs of the rail-sections and each adapted to overlap the end of the companion section, longitudinal grooves provided wholly in the rail-sections, and horizontally-projecting longitudinal ribs formed wholly upon the inner faces of the splice-bars and each designed to fit in the groove of the companion rail-section.

4. In a rail-joint, a pair of rail-sections having overlapping splice-bars, longitudinal laterally-projecting ribs formed upon the inner faces of the splice-bars, the sections being provided with longitudinal grooves each adapted to receive the rib of the companion section, vertically-depending engaging lugs provided adjacent the terminals of the rail-sections, and vertically-opening seats formed in the sections each for the reception of the lug on the companion section to lock the sections against longitudinal movement.

5. A rail-section comprising a tread, web and base-flange, a splice-bar carried wholly by the web of and projecting beyond the terminal of the rail-section, said bar being designed to seat between the tread and base-flange and to lie against one side face of the web of a companion rail-section, the rail-section having a longitudinally-extended groove formed in its web between its tread and base-flange, and a longitudinally-extending rib formed wholly upon the bar in alinement with and adapted to conform to the groove.

806,024. THREAD-GUIDE FOR SPINNING-FRAMES. JOHN R. TYTLER and WILLIAM H. BOWKER, Manchester, England. Filed Feb. 25, 1905. Serial No. 247,274.

Claim.—A metallic hinged thread-guide for spinning, twisting and like frames provided with a turned-under portion on its bottom side, a turned-up portion projecting therefrom a grooved nut adapted to embrace the turned-up portion and a screwed thread-guide wire flattened in cross-section and passed through a hole of similar shape in the thread-rail and provided with a screwed end to engage with the grooved nut substantially as described.

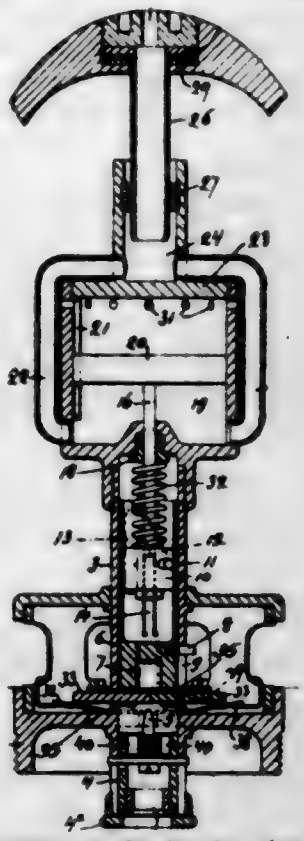


806,025. COMPOSITION FOR FUSES AND PROCESS OF MAKING SAME. WILHELM T. UNGE, Stockholm, Sweden. Filed Oct. 2, 1903. Serial No. 175,485.

Claim.—1. A slow-burning composition for fuses and the like, composed of compressed pulverous combustion material, having its particles greased throughout its mass with a non-volatile greasing material in about the proportions set forth, whereby the combination is rendered non-shrinking, expansive, elastic, and its hygroscopic tendency is reduced.

2. The herein-described process of producing an elastic, expansive, and non-hygroscopic combustion material for fuses or the like, consisting of incorporating with the loose fuse material a non-volatile greasing material in about the proportions set forth and then compressing the mass.

806,026. IGNITING MECHANISM FOR AIR-TORPEDOES, &c. WILHELM T. UNGE, Stockholm, Sweden. Filed Oct. 2, 1903. Serial No. 175,486.



Claim.—1. An igniting mechanism for air-torpedoes, and the like, comprising a fuse-body supporting an inertia-operated percussion-hammer adapted to be operated on striking a solid body, in combination with a cylinder having a piston therein and hammer therefor, said piston being open to outside influences whereby upon plunging into water, the water will operate the piston and hammer.

2. An igniting mechanism for air-torpedoes or the like, comprising a fuse-body supporting a firing-pin, a hammer and a cylinder having a piston therein for the said hammer, said piston being open to outside influences, whereby upon the torpedo plunging into water, the water will operate the piston.

3. An igniting mechanism for air-torpedoes and the like, comprising a cylinder, a fuse-body supporting a firing-pin, a hammer and a piston for the said hammer, said piston being mounted in said

cylinder and open to outside influences on the side away from the nose of the torpedo, and means whereby the piston will be moved forwardly upon the plunging of the torpedo into water.

4. An igniting mechanism for air-torpedoes and the like, comprising a cylinder, a fuse-body supporting the firing-pin, a hammer and a piston within said cylinder for the hammer, said piston being open to outside influences, an opening in the nose of the torpedo, a removable plug therein, and means to vary the area of the opening between the piston and the outside influences.

5. An igniting mechanism for air-torpedoes and the like, comprising a fuse-body supporting a firing-pin, and a hammer, in combination with a cylinder, a piston working therein, said cylinder being in communication with a hole in the fore end of the projectile open to outside influences, means for varying the area of said hole, a spring for actuating the hammer and compressed by the piston, and means for releasing the hammer when said spring has been properly compressed.

6. An igniting mechanism for air-torpedoes and the like, comprising a cylinder, a fuse-body supporting a firing-pin, and a hammer provided with a recess for the igniting material within said body, in combination with a piston working in said cylinder, said piston being open to outside influences, for operating the same, a spring for actuating said hammer adapted to be compressed by said piston, and means for releasing said hammer when said spring has been sufficiently compressed.

7. An igniting mechanism for air-torpedoes and the like, comprising a cylinder and a fuse-body supporting firing means therein, in combination with a piston working in said cylinder, said piston being open to outside influences adapted to actuate the said piston in said cylinder for releasing said firing means.

8. An igniting mechanism for air-torpedoes and the like, comprising a cylinder, a fuse-body supporting firing means therein, and a piston within said cylinder for actuating said means, said piston being open to outside influences through a hole in the forward end of the torpedo, and means for varying the area of said hole.

9. An igniting mechanism for air-torpedoes and the like, comprising a cylinder, a fuse-body supporting the firing-pin therein, and a spring-actuated hammer provided with a recess for the igniting material, in combination with a piston working in said cylinder, a hole in the end of the projectile in communication with said cylinder and with external influences adapted to actuate said piston and compress the spring of said spring-actuated hammer on entering the water, and means for releasing said hammer when its spring has been sufficiently compressed

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806,027. **FASTENING DEVICE.** ARTHUR E. VANCE, Forest, Canada. Filed June 13, 1904. Serial No. 212,294.



Claim.—1. The combination comprising a post, formed from plastic matter, and a plurality of frustum-shaped members, formed of a plurality of pieces, each provided with a channel having diverging branches.

2. The combination comprising a post, formed from plastic matter, and a plurality of frustum-shaped members, formed of a plurality of pieces, each provided with a registering channel having diverging branches

3. The combination comprising a post, formed from plastic matter, and a plurality of frustum-shaped members, formed of a plurality of pieces secured together and each provided with a channel having diverging branches.

4. The combination comprising a post, formed from plastic matter, and a plurality of frustum-shaped members, formed of a plurality of pieces riveted together and each provided with a channel having diverging branches.

5. A fastening device for plastic structures adapted to be embedded therein while being molded or otherwise formed, said device comprising two metal plates, one of which has two grooves diverging in the same plane to receive the shanks of a staple or other like fastening, substantially as and for the purposes set forth.

6 A fastening device for plastic structures adapted to be embedded therein while being molded or otherwise formed, said device comprising two metal plates, one of which has two curved grooves diverging in the same plane to receive the shanks of a staple or other like fastening, substantially as and for the purpose described.

7. The combination with a plastic fence-post of staple-holders embedded therein and having separate sockets, portions of said sockets being tortuous, staples secured in said sockets, and fencing elements extending through the staples.

8. A fence-post formed of plastic material, a staple-fastener embedded therein having a plurality of plates, a curved channel in the fastener to receive a leg of a staple, each plate forming one wall of the channel.

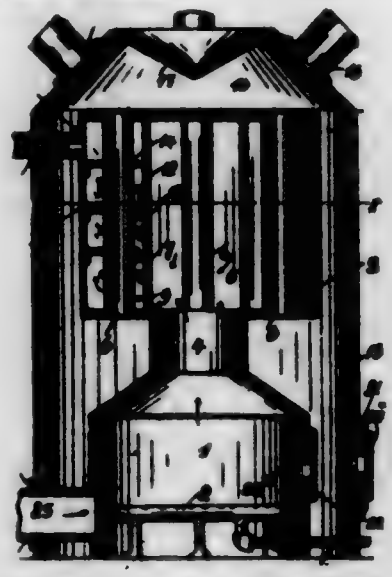
806,028. **CLOSURE FOR RECEPTACLES.** JOHN H. VAN KLEECK, Brooklyn, N. Y. Filed Aug. 11, 1905. Serial No. 273,788.



Claim.—1. The combination with a receptacle, of a yoke pivotally connected to said receptacle adjacent to its opening, a cap adapted to fit over the opening of said receptacle, a piece of wire carried by said yoke, said piece of wire being bent to form two substantially semicircular arches having cam-surfaces against which said yoke is adapted to bear when the receptacle is closed, substantially as described.

2. In a closure for receptacles, the combination with a receptacle having an opening, of a yoke pivotally connected to said receptacle adjacent to said opening, a cap adapted to fit over said opening, a piece of wire carried by said yoke, said piece of wire being bent to form two substantially semicircular arches having cam-surfaces, said yoke being adapted to bear against said surfaces, and hold the end of said arches in engagement with said cap when said receptacle is closed, substantially as described.

806,029. **FURNACE.** JOHN S. WALKER, Pittsburg, Pa. Filed May 11, 1905. Serial No. 260,918.



Claim.—1. In a furnace of the type described, the combination with an outer casing or shell having flues leading therefrom, of a combustion-chamber, a drum carried by said combustion-chamber, a plurality of vertically-disposed flues mounted within said drum, a housing surrounding one of said flues, an exhaust-pipe carried by said drum, said housing being provided with openings affording a communication through said housing between the interior of said drum and said exhaust-pipe and a plurality of plates staggeredly arranged within said housing between said openings.

2. In a furnace of the type described, the combination with a suitable burner, of a combustion-chamber surrounding said burner, a drum carried by said combustion-chamber, a plurality of flues mounted within said drum, a housing surrounding one of said flues, a plurality of plates staggeredly arranged within said housing and providing a tortuous passage-way through the housing, said housing having openings formed therein, an exhaust-flue carried by said drum and opening into said housing, a casing surrounding said drum and combustion-chamber, said casing having openings formed therein, substantially as described.

3. In a furnace of the type described, the combination with a suitable burner, of a combustion-chamber, a drum carried by said

combustion-chamber, a plurality of flues mounted within said drum, a housing surrounding one of said flues, said housing having inlet and exhaust openings formed therein, an exhaust-pipe leading from the exhaust-opening of the housing and means to baffle the products of combustion passing through said housing, substantially as described.

806,080. FILING-TRAY. LOUIS C. WALKER, Muskegon, Mich. Filed Nov. 1, 1902. Serial No. 129,685.



Claim.—1. The combination with a tray of a locking-rod for the contents of the tray, a guide-rod extending from the front to the rear of the tray, a follower movable on said guide-rod, a connection between the locking-rod and the guide-rod at either end of said locking-rod for supporting said locking-rod, and means for raising and lowering said locking-rod into and out of position, substantially as described.

2. The combination of a tray, an oscillatory guide-rod extending from the front to the rear of the tray, a follower movable upon the guide-rod, a locking-rod bodily movable with respect to the guide-rod and connections between the locking-rod and the guide-rod for rocking the guide-rod when the locking-rod is raised or lowered, substantially as described.

3. The combination of a tray having a recessed bottom, a guide-rod seated in said recess and journaled at its opposite ends in the front and rear ends of the tray, a follower movable upon said guide-rod, a locking-rod, means for connecting said guide and locking rods together, and means for raising and lowering said locking-rod into and out of position, said locking-rod adapted when raised to lock the contents of the tray in place and when lowered to seat in the said recess, substantially as described.

4. The combination of a tray having a recessed bottom, a guide-rod seated in said recess and journaled at its opposite ends in the front and rear ends of the tray, a follower movable upon said guide-rod, a locking-rod, a link at each end of the guide-rod for connecting it to the locking-rod, and means for raising and lowering said locking-rod into and out of position, said locking-rod adapted when raised to lock the contents of the tray in place and when lowered to seat in said recess.

5. The combination of a tray having a recessed bottom, a guide-rod seated in said recess and journaled at its opposite ends in the front and rear ends of the tray, a follower movable upon and locked by said guide-rod, a locking-rod, a link at each end of the guide-rod for connecting it to the locking-rod, and means for raising and lowering said locking-rod into and out of position, said locking-rod adapted when raised to lock the contents of the tray in place and when lowered to seat in said recess.

6. The combination of a tray having a recessed bottom, a guide-rod seated in said recess and journaled at its opposite ends in the front and rear ends of the tray, a follower movable upon said guide-rod, a locking-rod, links connecting each end of the guide-rod to each end of the locking-rod, and a plate engaging with said locking-rod and adapted when operated to move said locking-rod into and out of locking position, substantially as described.

7. The combination of a tray having a recessed bottom, a guide-rod seated in said recess and journaled at its opposite ends in the front and rear ends of the tray, a follower movable upon and locked by said guide-rod, a locking-rod, links connecting each end of the guide-rod to each end of the locking-rod, and a plate engaging with said locking-rod and adapted when operated to move said locking-rod into and out of locking position, substantially as described.

8. The combination of a tray having a recessed bottom, a guide-rod seated in said recess and journaled at its opposite ends in the front and rear ends of the tray, a follower movable upon said guide-rod, a locking-rod, a link at each end of the guide-rod for connecting it to the locking-rod, and an eccentrically-mounted plate engaging with said locking-rod and adapted when operated to move said locking-rod into and out of locking position, said locking-rod adapted when raised to lock the contents of the tray in place and when lowered to seat in said recess, substantially as described.

9. The combination of a tray having a recessed bottom, a guide-rod seated in said recess and journaled at its opposite ends in the front and rear ends of the tray, a follower movable upon and locked by said guide-rod, a locking-rod, a link at each end of the guide-rod for connecting it to the locking-rod, and an eccentrically-mounted plate engaging with said locking-rod and adapted when operated to move said locking-rod into and out of position, said locking-rod adapted when raised to lock the contents of the tray in place and when lowered to seat in said recess, substantially as described.

10. The combination with a suitable tray of a pair of locking-rods, suitable means for raising and lowering said locking-rods, a follower and suitable means carried by the said follower for supporting the locking-rods in proper position to retain the cards in the tray when said locking-rods are in locking position substantially as described.

11. The combination with a tray of a pair of guide-rods supported at one end by the front of the tray and at the other end by the rear end of the tray, the follower moving on said rods, a pair of locking-rods, each rod being rigidly connected at each end to one of the guide-rods, a downward projection from the follower between the locking-rods and in position to retain the locking-rods in locking position, substantially as described.

12. In combination with a pair of guide-rods F a pair of locking-rods G, links for connecting the guide-rods and locking-rods at each end thereof, a slotted plate I, a pivot connected to the locking-rods and engaging with the said slot, a handle B, and a shank S connected to the said slotted plate and adapted to raise and lower the locking-rods G, said tray having a slot in its bottom adapted to entirely receive said locking-rods when not in locking position, substantially as described.

13. The combination with a suitable tray of a pair of locking-rods and plates H, H, suitable means for raising and lowering said locking-rods, a follower and suitable means carried by the said follower for supporting the locking-rods in proper position to retain the cards in the tray when said locking-rods are in locking-position, substantially as described.

14. The combination of a tray having a recessed bottom, guide-rods seated in said recess and journaled at their opposite ends in the front and rear ends of the tray, locking-rods connected at their ends to the guide-rods and adapted to turn therewith, means for raising and lowering said locking-rods into and out of locking position, a follower movable upon said guide-rods, means carried by said follower for holding said locking-rods when raised in locking position, and a locking-plate movably connected to said follower having its lower end adapted to engage and disengage with said guide-rods for locking and unlocking said follower upon the guide-rods, substantially as described.

15. The combination of a tray having a recessed bottom, guide-rods seated in said recess and journaled at their opposite ends in the front and rear ends of the tray, locking-rods connected at either end to the guide-rods and adapted to turn therewith, means for raising and lowering said locking-rods into and out of locking position, a follower movable upon said guide-rods, said follower having a downward projection on its lower end for holding said locking-rods when raised in locking position, and a locking-plate movably connected to said follower having its lower end adapted to engage and disengage with said guide-rods for locking and unlocking said follower upon the guide-rods, substantially as described.

16. The combination of a tray having a recessed bottom, guide-rods seated in said recess and journaled at their opposite ends in the front and rear ends of the tray, locking-rods connected at either end to the guide-rods and adapted to turn therewith, means for raising and lowering said locking-rods into and out of locking position, a follower consisting of a substantially inverted-U-shaped piece of suitable material having one of its faces beveled, a plate-support rigidly secured to said follower and movable upon said guide-rods and having a downward projection for holding said locking-rods in locking position when raised, and a locking-plate movably connected to the plate-support and adapted to lock said follower upon the guide-rods, substantially as described.

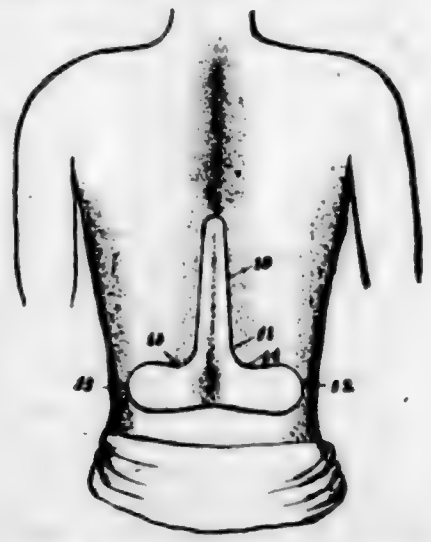
17. The combination of a tray having a recessed bottom, guide-rods seated in said recess and journaled at their opposite ends in the front and rear ends of the tray, locking-rods connected at either end to the guide-rods and adapted to turn therewith, means for raising and lowering said locking-rods into and out of position, a follower consisting of a substantially inverted-U-shaped piece of suitable material having one of its faces beveled, a plate-support rigidly secured to said follower and movable upon said guide-rods and having a downward projection for holding said locking-rods in locking position when raised, and a locking-plate movably connected to the plate-support and adapted to engage with said guide-rods for locking said follower, substantially as described.

18. The combination with a tray having a slotted bottom, of a guide-rod mounted within the slot and extending from the front to

the rear of the tray, a follower movable on said guide-rod, a locking-rod for the contents of the tray, a connection between the locking-rod and the guide-rod at either end of said locking-rod for supporting said locking-rod, and means for raising and lowering said locking-rod into and out of position, said locking-rod adapted when out of locking position to rest within said slot, substantially as described.

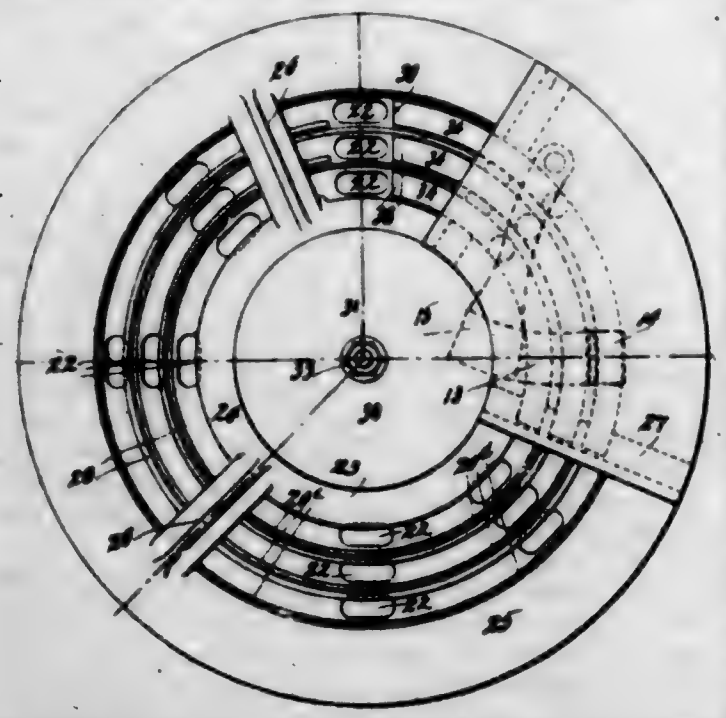
19. The combination of a tray having a slotted bottom, of an oscillatory guide-rod mounted within said slot and extending from the front to the rear of the tray, a follower movable upon the guide-rod, a locking-rod bodily movable with respect to the guide-rod and adapted when out of locking position to lie within said slot, and connections between the locking-rod and the guide-rod for locking the guide-rod when the locking-rod is raised or lowered, substantially as described.

806,031. **ADHESIVE PLASTER.** HENRY G. WEBER, Knoxville, Iowa. Filed Jan. 23, 1905. Serial No. 242,288.



Claim.—An adhesive plaster formed of a single piece of material, and comprising a spinal portion, kidney portions extending laterally in opposite directions from the lower end of the spinal portion, and a comparatively thin and flexible portion interposed between and joining the adjacent parts of the spinal portion and kidney portions.

806,032. **CORN-PLANTER.** WILLIAM H. WERTZ, Elmwood, and ALBERT C. WARNER, Peoria, Ill., assignors of one-half to James D. Putnam, Elmwood, Ill. Filed Oct. 6, 1903. Serial No. 176,163.



Claim.—1. In a corn-planter, the combination of a seed-plate having a series of annular rings, seed-cups spaced between the rings, and plates supported between the rings and carried adjacent to the face thereof to form a contracted channel between the same, substantially as described.

2. In a corn-planter, the combination of a seed-plate, having a series of annular rings, a series of rows of seed-cups in said plates, and a cap-plate having an annular ring carried adjacent to the outer wall of the outer ring and a series of spacing-plates supported between the rings of the seed-plate, substantially as described.

3. A seed-plate for corn-planters, having a series of annular rings extended from its upper face, the outer ring removed within the circle bounded by the edge of the plate, and each ring having cut-out portions in their upper edges, substantially as described.

4. A seed-plate for corn-planters, having a series of annular rings, their upper edges having cut-out portions forming agitators, and the inner faces of said rings beveled, substantially as described.

5. A seed-plate for corn-planters, having a series of annular rings, their upper edges having cut-out portions, leaving intermediate extended portions of said rings as shown, and their inner faces beveled, in combination with seed-cups arranged in the body of the plate and between the rings, substantially as described.

6. In a seed-planter, the combination of a seed-plate having a series of annular rings, seed-cups spaced between the rings, and plates supported between the rings, substantially as described.

7. In a corn-planter, the combination of a seed-plate having annular feedways, formed by a series of rings, and a portion of said channels contracted by the interposed spacing-plates suitably supported in said channel-ways and between the rings, substantially as described.

8. In a corn-planter, the combination of a seed-plate having a series of annular rings separating a series of seed-cups, spacing-plates supported between the rings and overlying the seed-cups and forming contracted openings thereof, the rings of the plate revoluble therewith and the spacing-plates stationary, substantially as described.

9. In a corn-planter, and in combination substantially as described, a seed-plate having a series of annular rings projecting upwardly, separating a series of rows of circumferentially-arranged seed-cups, a series of filling-plates supported between the aforesaid rings and extending only a part way around the channel formed by said rings, said filling-plates adapted to contract the seed-cup openings in said plate and serve as a feeder to conduct and deliver grain or seed on edge from the supply to the seed-cup.

10. In a corn-planter, and in combination substantially as described, a seed-plate having a series of annular rings projecting upwardly and forming circumferential seedways between the same, seed-cups arranged in series oppositely to each other and in the channel formed by the rings, and a series of filling-plates supported by a cap-plate and supported between the rings to contract the channel-ways formed by the rings which will only admit grain edgewise between the walls formed by the rings and filling-plates and feed said grains edgewise to the seed-cups in the plate.

11. In a corn-planter, the combination of a seed-plate, having its seed-cups elongated circumferentially and in a series, annular rings of the plates lying between said seed-cups, and suitable cut-offs supported between the rings and coacting with the seed-cups of each series, substantially as described.

12. In a corn-planter, the combination of a seed-plate, having its seed-cups elongated circumferentially and in a series of rows, annular rings of the plate forming seedways, supplemental rings extended down into the channels formed by said rings, adapted to contract the seedways where the rings and plates are coadjacent and three cut-offs lying between the rings and coacting with the seed-cups of the plate as they are brought coincident, substantially as described.

13. In a corn-planter, a seed-plate having seed-cups elongated circumferentially, a series of channels formed on the plate by a series of upwardly-extended annular rings, filling-plates interposed between the walls of the channels formed by the said rings, and suitable cut-offs and knockers disposed over the seed-cups and between the ends of the filling-plates, substantially as described.

14. In a corn-planter, a seed-plate revoluble on a hopper-base, having seed-cups elongated circumferentially in the plate and arranged in series of three rows, a valve operatively carried within a discharge-opening in the base, channel-ways formed on the plate by a series of annular rings, and means for contracting said channels and thereby direct the seed to the cups in said plate on edge, substantially as specified.

15. In a corn-planter, a seed-plate revoluble on a stationary base, having seed-cups elongated circumferentially and arranged in sets of three lying parallel with each other, and a valve operatively carried within a discharge-opening in the base to facilitate in dropping kernels of corn singly, or two or three, substantially as specified.

16. In a corn-planter, a seed-plate revoluble on a stationary base, having seed-cups elongated circumferentially and arranged in sets of three lying parallel, a series of annular rings extending up from the plate spaced between the seed-cups in the plate forming an

nular channel-ways, a cap-plate overlying the central body part of the seed-plate and having a series of filling-plates suspended therefrom and coacting with the rings for directing grains edgewise into the seed-cups in the seed-plate, substantially as described.

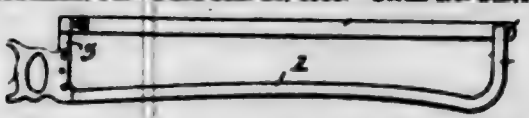
17. In a corn-planter, the combination with a dropping-plate, a cap-plate having an annular ring supported away therefrom, and a series of plates suspended between the body and annular ring, substantially as described.

18. In a seed-planter, the combination of a seed-plate having a series of annular rings, seed-cups spaced between the rings, and filling-plates supported between the rings which partially overlie the seed-cups, in said plate, substantially as specified.

19. A seed-plate provided with seed-cells, annular channel-ways formed by a series of rings, and a portion of said channels contracted by the interposition of spacing-plates supported therein, substantially as specified.

20. A seed-plate for planters, having a series of annular rings, their upper edges having cut-out portions leaving intermediate extended portions of said rings as shown, and their inner faces beveled, in combination with seed-cups arranged in the body of the plate and between the rings, and filling-in plates partially overlying the seed-cups of said plate, substantially as specified.

806,033. BUTCHER'S SAW. GEORGE WESTON and WILLIAM PETTEE, Newcastle, Pa. Filed Jan. 28, 1905. Serial No. 243,127.



Claim.—1. In a saw of the type described, the combination with a body portion having slots formed therein, the side wall of one of said slots having a recess formed therein, of a saw-blade, a pin carried by one end of said saw-blade and adapted to engage the edges of one of said slots, a lug carried by the opposite end of said saw-blade and adapted to seat in said recess, the side of the saw opposite said lug bearing against the wall of the slot opposite said recess, and means to secure said saw-blade within said slots, substantially as described.

2. In a saw of the type described, the combination with a body portion having depending ends, said ends having slots formed therein, the wall of one of said slots having a recess formed therein, of a saw-blade, a pin carried by the one end of said saw-blade and adapted to engage the edges of one of said slots, a lug carried by the opposite end of said saw-blade and adapted to seat in said recess, the side of the saw opposite said lug bearing against the wall of the slot opposite said recess, a set-screw carried by said saw-body, and adapted to bear against said lug whereby said lug can be adjusted within said recess, substantially as described and for the purpose set forth.

3. In a device of the type described, the combination with a saw-blade having a transversely-disposed pin at one end and having an integral lug on one side of its opposite end, of a body portion having slotted depending ends, one of said ends being formed with an enlargement on one side and a recess in said enlargement adapted to receive the lug on the saw-blade, the side of the saw opposite said lug bearing against the wall of the slot opposite said recess, a set-screw passing through one side of said enlarged portion alongside of the saw-blade and bearing against the inner end of said lug, substantially as described.

806,034. ARTIFICIAL-TOOTH FASTENING FOR BRIDGE-WORK. THOMAS H. WHITEHEAD, Youngstown, Ohio. Filed June 5, 1905. Serial No. 263,509.



Claim.—1. In an artificial-tooth fastening for bridgework, a backing carrying an anchor-pin and rib projections, and a tooth-body provided in its lingual side with a pin-socket and holding-notches.

2. In an artificial-tooth fastening for bridgework, a backing carrying an anchor-pin and having rib projections at opposite sides of the pin, and an artificial-tooth body provided in its lingual side with a pin-socket and oppositely-arranged holding-notches.
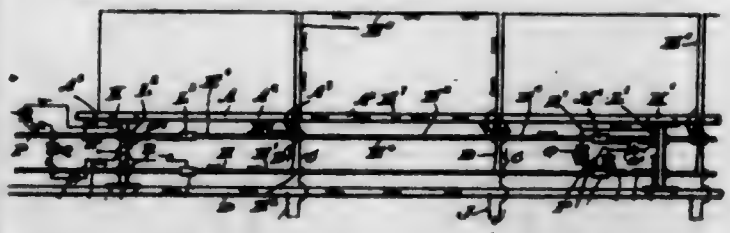
3. In an artificial-tooth fastening for bridgework, a backing carrying an anchor-pin and having inclined locking-ribs at opposite sides of the pin, and a tooth-body having in its lingual side a pin-socket and oppositely-arranged inclined holding-notches.

4. In an artificial-tooth fastening for bridgework, the tooth-body having in its lingual side a pin-socket, convergently-related angular holding-notches at opposite sides of the socket, and a projecting transversely-disposed retaining-flange producing a fastening-seat about the socket, and a metal backing carrying the anchor-pin and having a configuration complementary to that of the lingual side of the tooth-body.

5. In an artificial-tooth fastening for bridgework, the tooth-body provided in its lingual side with a pin-socket, and convergently-related angular holding-notches arranged at opposite sides of the socket, said tooth-body being further provided at one side of the plane of both the notches and the socket with a projecting transversely-disposed retaining-flange, and also with a marginal reinforce-shoulder arranged in approximate parallel relation to said flange but nearer the biting surface or edge of the tooth, and a metal backing carrying the anchor-pin and having a configuration complementary to that of the lingual side of the tooth-body.

6. A dental bridge comprising adjoining backings provided in their lingual surfaces with contiguous communicating holding-notches, the tooth-bodies secured to the labial sides of the backings, and facing-pieces fitted to and covering the lingual sides of the backings.

806,035. ELECTRIC SIGNALING AND ELECTROPNEUMATIC TRAIN-CONTROL SYSTEM. JOHN A. WEITH, Toronto, Canada. Filed Sept. 2, 1904. Serial No. 223,160.



Claim.—1. In a system of the class described, the combination with the east-bound block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; suitable wiring for connecting said insulated section of the said conductor to the immediately preceding insulated section of said first track-rail, and suitable wiring for connecting the said immediately preceding section of said first track-rail to the said second track-rail, of a west-bound block comprising one insulated section of a second conductor which is divided into a series of insulated sections, and a line-wiring connecting one end of said insulated section of said second conductor to the extreme end of the immediately preceding insulated section of said second track-rail.

2. In a system of the class described, the combination with the east-bound block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; suitable wiring for connecting said insulated section of the said conductor to the immediately preceding insulated section of said first track-rail; suitable wiring for connecting the said immediately preceding section of said first track-rail to said second track-rail, and a resistance-coil in the wiring for said block, of a west-bound block comprising one insulated section of a second conductor which is divided into a series of insulated sections, and a line-wiring connecting one end of said insulated section of said second conductor to the extreme end of the immediately preceding insulated section of said second track-rail.

3. In a system of the class described, the combination with the east-bound block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; suitable wiring for connecting said insulated section of the said conductor to the immediately preceding insulated section of said first track-rail; suitable wiring for connecting the immediately preceding section of said first track-rail to the said second track-rail; a source of electrical energy placed in the first cab; electrically-operated signaling means in said first cab in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit is open, and means for completing the circuit between said block and source of electrical energy, of a west-bound block comprising one insulated section of a second conductor which is divided into a series of insulated sections; line-wiring connecting one end of said

insulated section of said second conductor to the extreme end of the immediately preceding insulated section of said second track-rail; a source of electrical energy placed in the second cab; electrically-operated signaling means in said second cab and in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit is open, and means for completing the circuit between said block and said second source of electrical energy

4. In a system of the class described, the combination with the east-bound block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; suitable wiring for connecting said insulated section of the said conductor to the immediately preceding insulated section of said first track-rail; suitable wiring for connecting the immediately preceding section of said first track-rail to the said second track-rail; a resistance-coil in the wiring for said block; a source of electrical energy placed in the first cab; electrically-operated signaling means in said first cab in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit is open, and means for completing the circuit between said block and said source of electrical energy, of a west-bound block comprising one insulated section of a second conductor which is divided into a series of insulated sections; line-wiring connecting one end of said insulated section of said second conductor to the extreme end of the immediately preceding insulated section of said second track-rail; a source of electrical energy placed in the second cab; electrically-operated signaling means in said second cab and in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit is open, and means for completing the circuit between said block and said second source of electrical energy

5. In a system of the class described, the combination with the east-bound block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; suitable wiring for connecting said insulated section of the said conductor to the immediately preceding insulated section of said first track-rail; suitable wiring for connecting the immediately preceding section of said first track-rail to the said second track-rail; a source of electrical energy placed in the first cab; electrically-operated signaling means in said first cab in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit has been short-circuited, and means for completing the circuit between said block and said source of electrical energy, of a west-bound block comprising one insulated section of a second conductor which is divided into a series of insulated sections; line-wiring connecting one end of said insulated section of said second conductor to the extreme end of the immediately preceding insulated section of said second track-rail; a source of electrical energy placed in the second cab; electrically-operated signaling means in said second cab and in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit has been short-circuited, and means for completing the circuit between said block and said second source of electrical energy.

6. In a system of the class described, the combination with the east-bound block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; suitable wiring for connecting said insulated section of the said conductor to the immediately preceding insulated section of said first track-rail; suitable wiring for connecting the immediately preceding section of said first track-rail to the said second track-rail; a resistance-coil in the wiring for said block; a source of electrical energy placed in the first cab; electrically-operated signaling means in said first cab in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit has been short-circuited, and means for completing the circuit between said block and said source of electrical energy, of a west-bound block comprising one insulated section of a second conductor which is divided into a series of insulated sections; line-wiring connecting one end of said insulated section of said second conductor to the extreme end of the immediately preceding insulated section of said second track-rail; a source of electrical energy placed in the second cab; electrically-operated signaling means in said second cab and in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit has been short-circuited, and means for completing the circuit between said block and said second source of electrical energy.

7. In a system of the class described, the combination with the east-bound block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; suitable wiring for connecting said insulated section of the said conductor to the immediately preceding insulated section of said first track-rail; suitable wiring for connecting the immediately preceding section of said first track-rail to the said second track-rail; a source of electrical energy placed in the first cab; electrically-operated signaling means operated when the circuit is open; electrically-operated signaling means operated when the circuit has been short-circuited, both placed in said first cab, and on same circuit with said source of electrical energy, and means for completing the circuit between said block and said source of electrical energy, of a west-bound block comprising one insulated section of a second conductor which is divided into a series of insulated sections; line-wiring connecting one end of said insulated section of said second conductor to the extreme end of the immediately preceding insulated section of said second track-rail; a source of electrical energy placed in the second cab; electrically-operated signaling means operated when the circuit is open and electrically-operated signaling means operated when the circuit has been short-circuited, both placed in the said second cab and on same circuit with said source of electrical energy and with said block, and means for completing the circuit between said block and said second source of electrical energy.

8. In a system of the class described, the combination with the east-bound block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; suitable wiring for connecting said insulated section of the said conductor to the immediately preceding insulated section of said first track-rail; suitable wiring for connecting the immediately preceding section of said first track-rail to the said second track-rail; a resistance-coil in the wiring for said block; a source of electrical energy placed in the first cab; electrically-operated signaling means operated when the circuit is open, and electrically-operated signaling means operated when the circuit has been short-circuited, both placed in said first cab, and on same circuit with said source of electrical energy, and means for completing the circuit between said block and said source of electrical energy, of a west-bound block comprising one insulated section of a second conductor which is divided into a series of insulated sections; line-wiring connecting one end of said insulated section of said second conductor to the extreme end of the immediately preceding insulated section of said second track-rail; a source of electrical energy placed in the second cab; electrically-operated signaling means operated when the circuit is open and electrically-operated signaling means operated when the circuit has been short-circuited, both placed in the said second cab and on same circuit with said source of electrical energy and with said block, and means for completing the circuit between said block and said second source of electrical energy.

9. In a system of the class described, a block comprising one insulated section of a conductor which is divided into a series of insulated sections: an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; line-wiring connecting one end of said section of said conductor with the extreme end of the immediately preceding insulated section of said first track-rail, and suitable wiring for connecting the other end of said immediately preceding insulated section of said first track-rail to the second track-rail.

10. In a system of the class described, a block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; line-wiring connecting one end of said section of said conductor with the extreme end of the immediately preceding insulated section of said first track-rail; suitable wiring for connecting the other end of said immediately preceding insulated section of said first track-rail to the second track-rail, and a resistance-coil in the wiring for said block.

11. In a system of the class described, the combination with a block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section of a first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; line-wiring connecting one end of said section of said conductor with the extreme end of the immediately preceding insulated section of said

first track-rail, and suitable wiring for connecting the other end of said immediately preceding insulated section of said first track-rail to the second track-rail, of a source of electrical energy placed in the cab; electrically-operated signaling means in said cab in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit is open, and means for completing the circuit between said block and the said source of electrical energy.

12. In a system of the class described, the combination with a block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section, of a first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; line-wiring connecting one end of said section of said conductor with the extreme end of the immediately preceding insulated section of said first track-rail; suitable wiring for connecting the other end of said immediately preceding insulated section of said first track-rail to the second track-rail, and a resistance-coil in the wiring for said block, of a source of electrical energy placed in the cab; electrically-operated signaling means in said cab in circuit therewith and with said block for the purpose of indicating to the engineer when the circuit is open, and means for completing the circuit between said block and the said source of electrical energy.

13. In a system of the class described, the combination with a block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; line-wiring connecting one end of said section of said conductor with the extreme end of the immediately preceding insulated section of said first track-rail, and suitable wiring for connecting the other end of said immediately preceding insulated section of said first track-rail to the second track-rail, of a source of electrical energy placed in the cab; electrically-operated signaling means operated when the circuit is open; electrically-operated signaling means operated when the circuit has been short-circuited, both placed in the cab and on same circuit with said source of electrical energy, and means for completing the circuit between said block and said source of electrical energy.

14. In a system of the class described, the combination with a block comprising one insulated section of a conductor which is divided into a series of insulated sections; an insulated section of the first track-rail which is divided into a series of insulated sections; a second track-rail used as a common conductor for all the blocks; line-wiring connecting one end of said section of said conductor with the extreme end of the immediately preceding insulated section of said first track-rail to the second track-rail; suitable wiring for connecting the other end of said immediately preceding insulated section of said first track-rail to the second track-rail, and a resistance-coil in the wiring for said block, of a source of electrical energy placed in the cab; electrically-operated signaling means operated when the circuit is open; electrically-operated signaling means operated when the circuit has been short-circuited, both placed in the cab and on same circuit with said source of electrical energy, and means for completing the circuit between said block and said source of electrical energy

806,036. WITHDRAWN.

806,037. NAIL-CLIPPER OR WIRE-CUTTER. HENRY WILCOX, Newark, N. J. Filed Nov. 16, 1904. Serial No. 232,936.



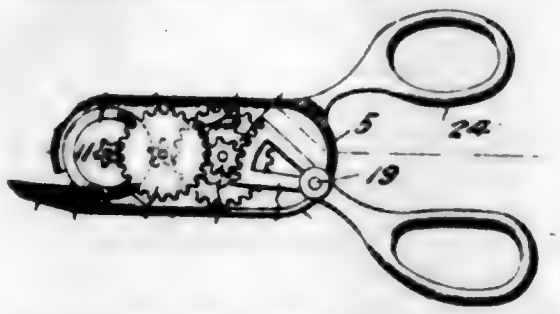
Claim.—1. A clipper having the two jaws formed in one piece of sheet metal with an elastic loop, a pivot inserted in the loop and two hand-levers jointed upon the pivot and provided respectively with the fingers *h* and *i* extended over the outer sides of the loop for closing the jaws.

2. A clipper having the two jaws formed in one piece of sheet metal with an elastic loop and the loop notched to admit pivot-lugs, a pivot inserted in the loop, hand-levers having pivot-lugs fitted to the notches and jointed upon the pivot, and provided respectively with the fingers *h* and *i* for closing the jaws.

3. A clipper having the two jaws formed in one piece of sheet metal, with an elastic loop, the loop having two notches formed transversely of the loop and a pivot inserted in the loop, and a pair of hand-levers each having two side plates united by an integral finger-plate, and such side plates provided with lugs inserted in the notches and jointed upon the pivot, and with the fingers *h* and *i* extended outside of the jaws for closing the same.

4. A nail-clipper having two jaws formed in one piece of sheet metal with an elastic loop, a pivot inserted in the loop, hand-levers jointed upon the pivot and the jaws and hand-levers pressed normally apart by the elasticity of the loop, and the casing constructed as described and adapted to embrace the hand-levers when closed and to hold the jaws shut for transportation, and extended only to the rear end of the loop, with the jaws projecting beyond the sides of the casing and extended beyond the end of the same, substantially as herein set forth.

806,038. CUTTING DEVICE. CHARLES F. WILLIAMS, Madison, Ind. Filed June 23, 1905. Serial No. 266,626.



Claim.—1. A cutting device provided with a stationary cutting member, a coacting rotary cutting member, stationary and movable handles, and means actuated by said movable handle for operating the rotary cutting member.

2. A cutting device provided with a stationary cutting-blade, a coacting rotary cutting-disk, stationary and movable handles, and means actuated by said movable handle for rotating the disk.

3. A cutting device provided with coacting stationary and rotating cutting elements, an operating member, and intervening gearing for operating the rotary cutting element, said gearing being adapted when the operating member is moved in one direction to rotate the disk and to permit the operating member to move in the opposite direction without actuating the disk.

4. A cutting device provided with stationary and rotary cutting members, an operating device, and connections between said operating device and rotary cutting member, said connections being adapted to permit the operating member to have independent movement in one direction and to actuate the rotary cutting member when moved in the opposite direction.

5. A cutting device comprising a frame or casing provided with a stationary cutting element, a rotary cutting element coacting therewith, an oscillatory operating device carrying a toothed sector, and gearing between said sector and rotary cutting element, said gearing including a clutch member to permit the operating device to have movement in one direction without operating said rotary cutting element.

6. A cutting device provided with a stationary cutting member, a coacting rotary cutting member, a manually-operable lever, and means actuated by said lever for imparting motion to the rotary cutting member.

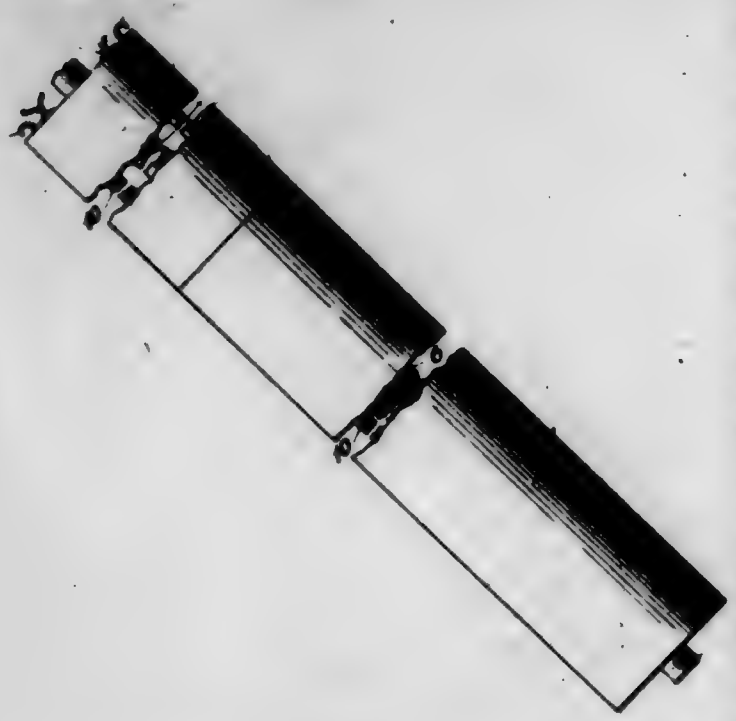
806,039. ELECTRIC HEATER FOR OIL-WELLS. JAMES B. WILLIAMSON and CHARLES E. COLLINS, Allegheny, Pa., assignors, by mesne assignments, of one-third to Amalia S. Connelly, Pittsburg, Pa. Filed Jan. 23, 1896. Serial No. 576,561.

Claim.—1. In an electric heater for oil-wells, the combination, with the oil-pumping tube, of a heater separate and separately removable therefrom, and having a casing and an inner tube surrounding said pumping-tube, means connecting said casing and inner tube and forming a closed annular chamber, an electric resistance in said chamber, having suitable terminals leading out of the same and means for raising and lowering the heater around the pumping-tube, whereby different sections of said tube may be heated.

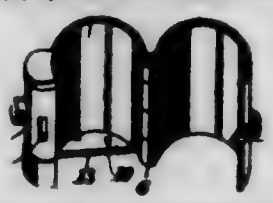
2. In an electric heater for oil-wells, the combination with the pump-tube of an electric resistance in an electric circuit arranged to surround said tube and adapted to be adjusted longitudinally thereof to heat said tube at whatever point desired, substantially as set forth.

3. In an electric heater for oil-wells, the combination with the tube or pipe adapted to conduct the oil from the well, of an electric resistance adapted to be adjusted longitudinally of said tube to heat the tube at whatever point desired.

808,039.

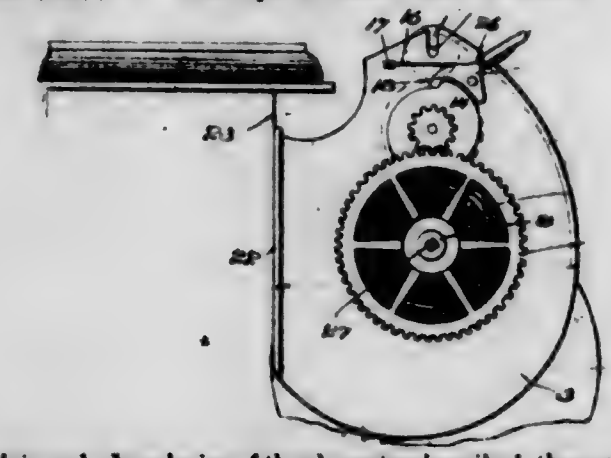


808,040. UMBRELLA-LOCK. Frederick A. Wilson, New York, N. Y. Filed Mar. 10, 1905. Serial No. 249,498.



Claim.—A device of the class described, consisting of a sleeve comprising a pair of hinged sections, said sleeve having a lip adapted to lie adjacent to the handle of an umbrella, and means for locking said sections together.

808,041. CONTINUOUS WRITING-TABLET. Peter H. Wise, New York, N. Y. Filed Sept. 26, 1904. Serial No. 226,065.



Claim.—1. In a device of the character described, the combination with a casing, of a sheet-supplying roll carried thereby, a plurality of rolls journaled upon said casing above said supplying-roll, a gearing mechanism carried by said casing, comprising a shaft, a gear-wheel loosely mounted upon said shaft, a coiled spring secured to said shaft at one end and to said gear-wheel at the opposite end, an extension projecting from one of said rolls above the supplying-roll, a pinion secured to said extension and meshing with said gear-wheel, means for winding said coiled spring and retaining the same in a locked position, a cam provided with a shouldered portion keyed to the extension of said roll, a release-key pivotally mounted upon said casing and normally in engagement with said cam, and means for normally retaining said key in locking engagement with said cam.

2. In a device of the character described, the combination with a casing, of a supply-roll journaled in said casing, a pair of rolls positioned above said supply-roll, a spring-motor secured to said casing and connected in an operative position with one of said pair of rolls, said spring-motor capable of causing continuous rotary movement of said pair of rolls for feeding a sheet from said supply-roll therebetween, eccentric means connected with one of said pair of rolls and coacting with said motor, and a manually-operated locking member secured upon said casing and normally in engagement with said eccentric means capable of securing the same in a fixed position.

3. The combination with a casing, a partition formed within said casing near one end thereof, said partition providing a compartment within said casing, a supply-roll secured within said casing, feeding-rolls positioned within said casing, a driving mechanism for said feeding-rolls mounted within the compartment of said casing, said driving mechanism comprising a shaft, a gear-wheel loosely mounted upon said shaft, a spring secured to said shaft and wheel, pawl-and-ratchet means carried by said casing and coacting with said shaft for normally preventing movement thereof in one direction, and manually-controlled locking means positioned within said compartment and coacting with said driving mechanism for controlling movement of said feeding-rolls.

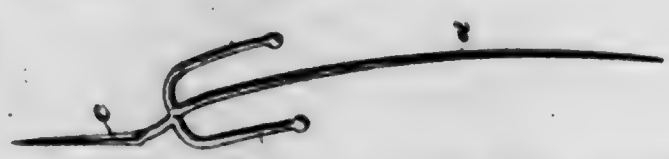
4. In a mechanism of the class described, the combination with a casing, of a supply-roll journaled in said casing, a partition secured in one end of said casing, a pair of feeding-rolls journaled in said casing contiguous to said supply-roll, a driving mechanism for said feeding-rolls mounted within said casing between one end thereof and the partition, said driving mechanism comprising a shaft, a gear-wheel mounted upon said shaft, a spring secured to said wheel and shaft, means for retaining said shaft in a fixed position, a pinion secured to one of said feeding-rolls and meshing with said gear-wheel, a cam connected to said feeding-rolls and pinion, and manually-operated means engaging said cam for normally preventing movement of the same.

5. A device of the character described, comprising a casing, feeding-rolls journaled in said casing, a driving mechanism for said feeding-rolls, comprising a shaft, a pinion secured to said shaft, a pawl secured to said casing and normally engaging said pinion, a gear-wheel mounted upon said shaft, a coiled spring secured to said shaft near one end and to the gear-wheel near its opposite end, a pinion coacting with said feeding-rolls and meshing with said gear-wheel, eccentric means connected to said pinion, a release-key carried by said casing normally engaging said eccentric means for preventing movement of the same.

6. A device of the character described, comprising a support, a feeding mechanism carried by said support, a driving means for said feeding mechanism, said driving mechanism comprising a shaft journaled in said support, a pinion secured to said shaft, a pawl carried by said support and normally engaging said pinion, a gear-wheel loosely mounted upon said shaft, a spring secured to said shaft and wheel, a pinion mounted upon said support and coacting with said feeding mechanism, said pinion meshing with the gear-wheel, a cam connected to said pinion, and locking means carried by said support and engaging said cam.

7. A device of the character described, comprising a support, a feeding mechanism carried by said support, a driving mechanism positioned upon one side of said support, said driving mechanism comprising a shaft, a wheel loosely mounted upon said shaft, a coil-spring secured to said shaft and wheel, a pinion carried by said shaft, a pawl carried by said support and engaging said pinion, connecting means for said feeding mechanism and wheel, and locking means coacting with said connecting means.

808,042. FODDER-FORK. John M. Wolfe, Kellogg, Minn. Filed Sept. 13, 1905. Serial No. 278,260.

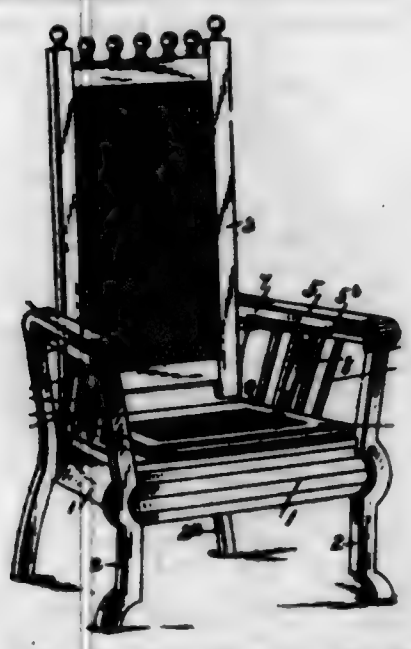


Claim.—1. A fodder-fork having a handle, and a centrally-arranged long piercing-tine extending forward from the forward end thereof and having a recurvate bend therein, combined with relatively short laterally-arranged, non-piercing prongs, branching out from the base of the said piercing-tine.

2. A fodder-fork having a handle, and a centrally-arranged long piercing-tine extending forward from the forward end thereof and having a recurvate bend therein, combined with relatively short laterally-arranged bracing or supporting prongs, one on each side of the piercing-tine, the said laterally-arranged bracing-prongs two in number being provided on their ends with non-piercing devices.

3. A fodder-fork having a pole-handle, a centrally-arranged long, piercing-tine extending forward from the forward end thereof, combined with short laterally-arranged non-piercing devices.

806,043. **CHAIR.** CHARLES ACKER, Rushville, Ill. Filed July 20, 1904. Serial No. 217,268.



Claim.—A chair comprising a leg-connecting frame, provided with strengthening blocks or braces within its corners; the leg members with their upward extensions; arms, each comprising two members, the upper member having a longitudinal groove or slot opening through its lower or under side, and pendent end portions; and the lower edgewise member being let into the said slot or groove of the aforesaid upper member, with its ends abutting the said pendent end portions; a pivoted back member; offset straps, with their forward portions fixed laterally to said edgewise-disposed arm member, to sink it out of the general plane of the body of the occupant, and having its rear offset or outward deflected portion connected to said back member; and a suspended seat member, having its suspending-straps offset toward and dependable from said edgewise-arranged arm-members, said seat and back members being connected together by straps pivoted together and having fixed relation to said seat and back.

806,044. **SPEED-INDICATOR.** HENRY ANDREWS, Hollis, Alaska. Filed Feb. 8, 1905. Serial No. 244,757.

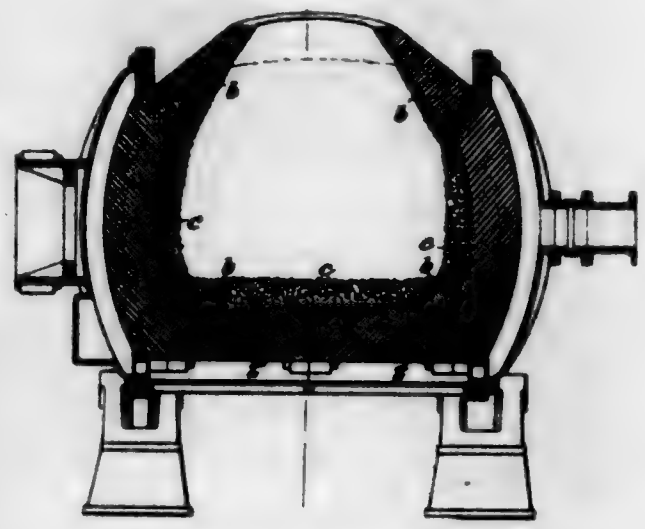


Claim.—1. A speed-indicator for vehicles, comprising a casing, a dial in said casing, a pointer movable over the dial, a spindle on which the pointer is mounted, a lever integral with the spindle and adapted to be engaged by a part carried by a wheel of the vehicle, a ratchet-wheel on the spindle within the casing, a pawl for engaging with the ratchet-wheel, a coiled-spring connection between the pawl and spindle and a radial arm-wheel adapted to be engaged by said part carried by the vehicle-wheel and operating to release the pawl from the ratchet-wheel.

2. A speed-indicator comprising a casing, a dial in the casing, a glass over the dial, a pointer movable over the dial, a spindle on which the pointer is mounted, a lever integral with the outer end of said spindle, a part carried by a wheel of the vehicle for engaging with said lever, a ratchet-wheel on the spindle within the casing, a pawl in the casing for engaging with said ratchet-wheel, a coiled-spring connection between said pawl and spindle, a shaft extended through the bottom wall of the casing, a pin eccentrically arranged on the inner end of said shaft, and a wheel on the shaft and having a plurality of radial arms adapted to be engaged by said part carried by the vehicle-wheel.

3. A speed-indicator comprising a casing, means for securing the casing to a fixed portion of a vehicle, a dial in the casing, a pointer movable over the dial, a spindle on which the pointer is mounted, a lever on the outer end of the spindle, a ratchet-wheel on the spindle within the casing, a pawl for engaging with said ratchet-wheel, a coiled-spring connection between said pawl and the spindle, a shaft extended through the bottom wall of the casing, a pin eccentrically arranged on the inner end of said shaft for engaging with said pawl, a wheel having radial arms attached to the outer end of said shaft, a pin on the casing for stopping the lever at normal position, and a swinging tappet adapted to be attached to a vehicle-wheel for engaging with the wheel on the short shaft and also for engaging with said lever.

806,045. **METHOD OF CONVERTING MATTE.** RALPH BAGGALEY, Pittsburg, Pa., and CHARLES M. ALLEN, Lolo, Mont.; said Allen assignor to said Baggaley. Filed July 13, 1904. Renewed Apr. 6, 1905. Serial No. 254,113.



Claim.—1. The method herein described of converting matte, which consists in subjecting matte to an air-blast in a converter having an uncompacted lining, composed of the same material as the ore to produce the matte to be converted; substantially as described.

2. The method herein described of converting matte, which consists in introducing a body of matte into a converter lined with a body of value-bearing ore loosely held together, and subjecting the matte to an air-blast; substantially as described.

3. The method herein described of converting matte, which consists in introducing a body of matte into a converter lined with a body of value-bearing ore loosely held together without aluminous bonding material, and subjecting the matte to an air-blast; substantially as described.

4. The method herein described of converting matte, which consists in introducing matte into a converter having a lining containing silica and sulfids of the base metals, as a means of increasing the volume of the matte and fluxing the same, and subjecting the matte to an air-blast; substantially as described.

5. The method herein described of converting matte, which consists in applying to a converter a lining of ore containing matte-making material, introducing matte thereinto and subjecting the same to an air-blast; substantially as described.

6. The method herein described of converting matte, which consists in applying to a converter a lining of ore containing silica and matte-making material; adding thereto a body of low-grade matte; fluxing the iron of such matte with the silica of the ore and augmenting its volume with the matte-making material; substantially as described.

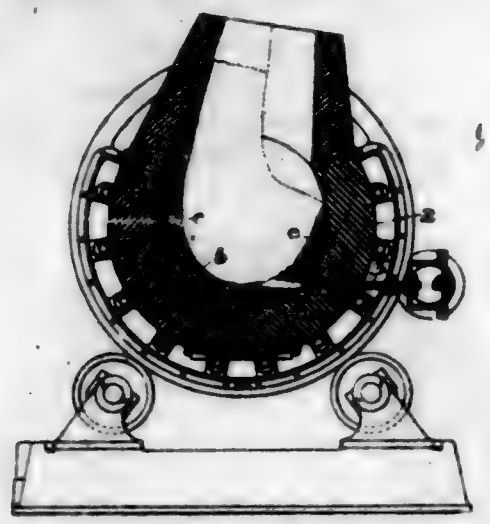
7. The method herein described of converting matte, which consists in applying to a converter a lining of ore; supplying matte thereto; blowing air thereinto and consuming the entire body of the lining in the converting operation; substantially as described.

8. The method herein described of converting matte, which consists in applying to a converter a lining containing ore in a predetermined amount; supplying matte thereto; blowing air thereinto and consuming the entire body of the lining in the converting operation; substantially as described.

9. The method herein described of converting matte, which consists in applying to a non-silicious converter-wall a loose body containing matte-making compounds and silica and introducing low-grade matte thereto, and subjecting the same to an air-blast; substantially as described.

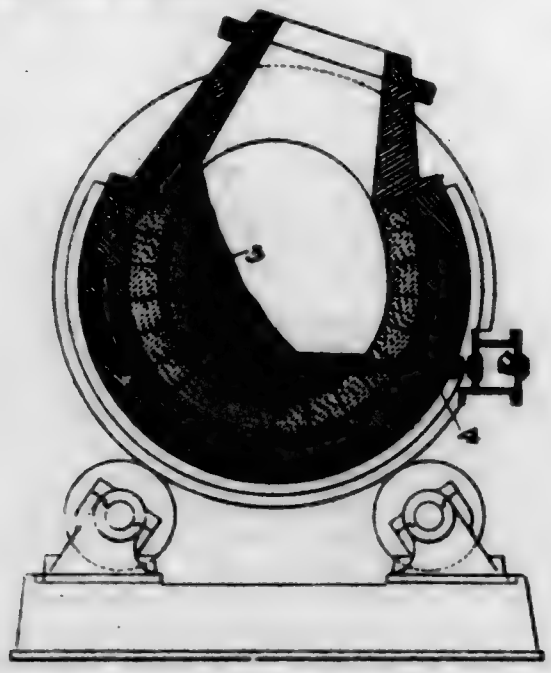
10. The method herein described of converting matte, which consists in applying to a non-silicious converter-wall, a loose lining containing matte-making compounds and silica, in amount sufficient to flux the compounds of the matte to be fluxed; introducing low-grade matte thereto and consuming said lining in a single converting operation; substantially as described

808,046. METHOD OF CONVERTING MATTE. RALPH BAGGALEY, Pittsburg, Pa., and CHARLES H. ALLEN, Lolo, Mont.; said Allen assignor to said Baggaley. Original application filed July 18, 1904, Serial No. 217,113. Divided and this application filed Aug. 15, 1904. Renewed Apr. 6, 1905. Serial No. 254,113.



Claim.—The method herein described of converting matte, which consists in applying to a compact silicious converter-wall, a loose lining containing matte-making compounds and silica in amount sufficient to flux the compounds of the matte to be fluxed, charging matte into the converter and subjecting the same to a blast of air; substantially as described.

808,047. METHOD OF SMELTING AND CONVERTING ORES. RALPH BAGGALEY, Pittsburg, Pa. Filed Oct. 11, 1904. Renewed Oct. 13, 1905. Serial No. 282,677.



Claim.—1. The method of smelting and converting ores, which consists in placing in a vessel a relatively large mass of raw ore, and adding a relatively small proportion of molten matte high in fuel values, and subjecting the matte to an air-blast; substantially as described.

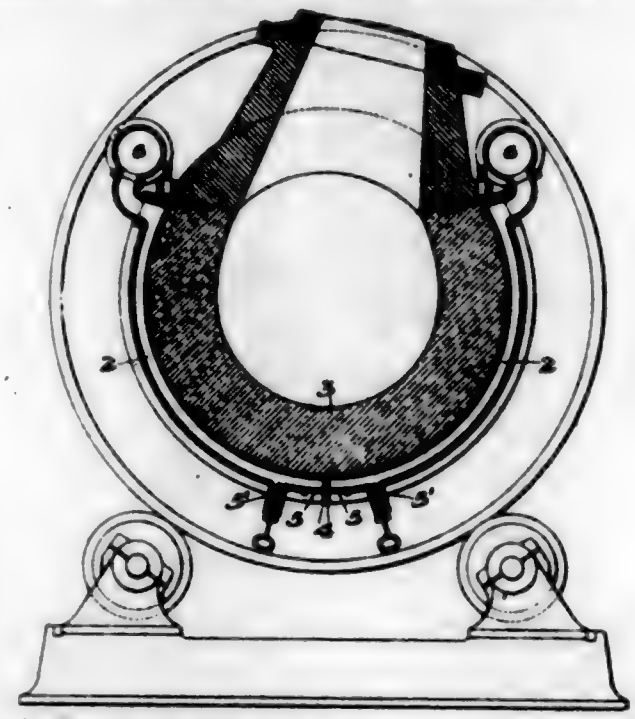
2. The method of smelting and converting ores, which consists in placing in a vessel a relatively large mass of raw ore, sealing it in position, and adding a relatively small proportion of molten matte high in fuel values, and subjecting the matte to an air-blast; substantially as described.

3. The method of smelting and converting ores, which consists in placing in a vessel a relatively large mass of raw ore, sealing it in position opposite to the twyers and adding a relatively small proportion of molten matte high in fuel values, and subjecting the matte to an air-blast; substantially as described.

808,048. HEAT-TRAVEL CONTROLLER FOR FURNACE-WALLS. RALPH BAGGALEY, Pittsburg, Pa. Filed Jan. 26, 1905. Serial No. 242,799.

Claim.—1. The combination of a converter, and a series of separate, adjacent, metal air-jackets forming an exterior casing for said converter.

2. The combination of a converter, and a series of separate, adjacent, narrow metal air-jackets forming an exterior casing for said converter, each jacket provided with a controlling-valve.

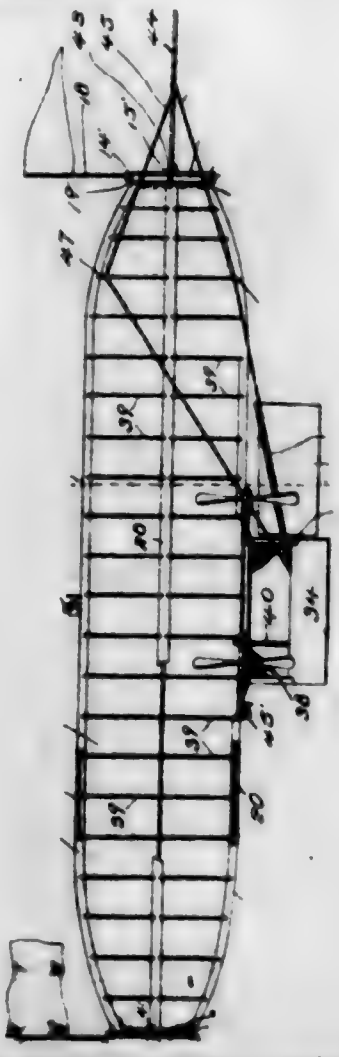


3. The combination of a converter, a series of separate, adjacent, metal air-jackets forming an exterior casing for said converter, and means for creating an induced draft through said jackets.

4. The combination of a converter, a series of separate, adjacent, metal air-jackets forming an exterior casing for said converter, each jacket provided with a controlling-valve, and a stack connected with said jackets.

5. The combination of a converter, a series of separate, adjacent, narrow metal air-jackets forming an exterior casing for said converter, each jacket provided with a controlling-valve, a stack, and a flue connecting said jackets and stack.

808,049. AIR-SHIP. DEWITT C. BASSETT, Woonsocket, S. D. Filed Dec. 1, 1904. Serial No. 235,084.

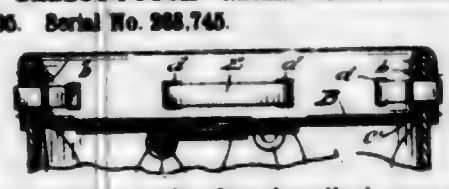


Claim.—1. An air-ship comprising a gas-bag having vertical edges at its ends, a tubular stem at the forward end of the bag against its vertical edge, a tubular stern-post at the rear end of the bag against

its vertical edge, said posts being slotted, eyes engaged in said slots and having members lying exterior thereto, staffs engaged in the stem and stern-posts and through the eyes, and stay-cables connecting the outlying portions of the corresponding eyes.

2. An air-ship comprising a gas-bag having sharp vertical end edges, tubular uprights against the end edges and provided with slots, eyes engaged in the slots and having portions lying exterior thereto, staffs engaged in the uprights and through the eyes, cables extending longitudinally of the gas-bag and connecting the outlying portions of the corresponding eyes, strips secured over the cables to the gas-bag, circumscribing-cables around the gas-bag and passed beneath the longitudinal cables, a cab having transverse end beams beneath which certain of the longitudinal cables are passed, shafts journaled at the ends of the beams propellers carried by the shafts, means for rotating the shafts, and means for steering the ship.

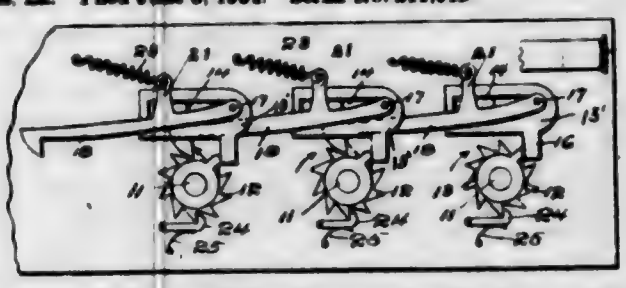
806,050. BALLOT-POUCH. NATHAN BEMAN, Seattle, Wash. Filed July 7, 1905. Serial No. 268,745.



Claim.—1. A device of the class described, comprising a flexible sack provided with a series of apertures positioned in proximity of its open end, a cover for said open end of the sack, said cover being provided with a ballot-inserting slot and a series of apertures corresponding to the apertures of the said sack, a strap adapted to be laced in and out through the respective said apertures of the sack and cover for detachably securing these parts together, and means for securing said strap in its engaged laced position, substantially as described.

2. In a device of the class described, the combination with the sack having a number of lacing-apertures in proximity of its open end, of a slotted cover adapted to close said end and provided with a flange having therein a series of apertures corresponding with the apertures of the said sack, a lacing-strap, an openable closure for the slot of said cover, and detachable means to prevent the opening of the said closure, substantially as described.

806,051. ADDING-MACHINE. AUGUSTIN M. BENEDIC, New Orleans, La. Filed June 3, 1904. Serial No. 211,013.



Claim.—1. A device of the character described, comprising a casing, a plurality of dial mechanisms assembled with said casing, each mechanism comprising a movable shaft, a dial carried thereby near one end thereof, a plurality of keys secured to said dial, a stationary dial having an integral arched member and an aperture secured to said casing and mounted above said dial provided with keys, a ratchet-wheel and a cam member carried by said shaft, a lever mechanism comprising an approximately rectangular frame, having a right-angle extension assembled with and engaging the cam member, a lever movably mounted upon said frame comprising a body portion bent intermediate its length and provided with a hooked end, and flexible means assembled with said lever for retaining the same in an engaging position with the ratchet-wheel of an adjacent dial mechanism.

2. In a device of the character described, the combination with a casing, of revoluble key-carrying means, stationary means having openings and arched portions secured to said casing above said key-carrying means, lever means assembled with said casing and coacting with said revoluble means, flexible means for normally retaining said revoluble and lever means in a stationary position.

3. A device of the character described, comprising a casing, stationary arched, indicating means assembled with said casing, a plurality of key-carrying members carried by said casing and assembled with said arched indicating means, ratchet means assembled within said casing and with each of said key-carrying members, a frame secured contiguous to and in engagement with each of said ratchet means, a lever assembled with each of said frames, and flexible means normally retaining said levers and frames in a stationary, engaging position with said ratchet means.

4. A mechanism of the class described, comprising a casing, a plurality of pairs of dials secured exteriorly of said casing, each pair of dials comprising a revoluble key-carrying dial having indicating means, an arched stationary dial having an aperture and indicating means secured upon said revoluble dial, a shaft secured to said movable dial, a plurality of members provided with teeth carried by said shaft, a plurality of lever mechanisms carried by said casing contiguous to said members and normally in engagement therewith, each lever mechanism comprising a stationary guide, a frame slidably mounted upon said guide, a lever mounted upon said frame and normally in engagement with a ratchet-wheel, and means for normally retaining said lever mechanism in a stationary position.

5. In a device of the character described, the combination with a casing, of a ratchet mechanism mounted within said casing, a plurality of dials mounted upon the outside of said casing and provided with connecting means securing the same in engagement with said ratchet mechanism, and means for positively retaining said ratchet mechanism in coacting position with said dials.

6. In a device of the character described, the combination with a casing, of a plurality of pairs of dials mounted exteriorly thereof, one of said dials in each pair provided with an extension, ratchet means carried by said extension, and lever means secured in an operative position with said ratchet means permitting of synchronous movement of one dial in each pair.

7. In a device of the character described, the combination with a support of a plurality of pairs of dials mounted upon said support, and slidable lever means coöperating with each pair of said dials permitting of synchronous actuation of one dial in two or more of the pairs.

8. A device of the character described comprising a base, a plurality of shafts journaled thereon, a cam member and a ratchet-wheel journaled upon each shaft, dials carried by said shafts, a frame and a lever secured upon said base contiguous to each shaft and in engagement with said cam member and ratchet-wheel, and means normally holding said shafts in a stationary position.

9. In a device of the character described, the combination with a casing, of a dial mechanism carried thereby, comprising revoluble key-carrying means, stationary means having an opening and an integral angular extension secured to said casing above said key-carrying means, lever means carried by said casing and coacting with said revoluble means, and flexible means for normally retaining said revoluble and lever means in a stationary position.

10. In a device of the character described, the combination with a support, of a pair of dials mounted thereon, one of said dials provided with an angular extension secured to said support, ratchet means mounted upon said support and coacting with said dials, an auxiliary dial mechanism carried by said support, and connecting means engaging said ratchet means and coöperating with said auxiliary dial mechanism.

11. In a device of the character described, the combination of a casing, a plurality of shafts journaled upon said casing, revoluble key-carrying means secured to said shaft exteriorly of said casing, ratchet means secured to each of said shafts within said casing, lever means positioned within said casing and coacting with the ratchet means, and means normally retaining said lever means in an operative position, whereby the same may be actuated for causing movement of two or more of said key-carrying means.

12. The combination with a support, of shafts journaled in alinement thereon, ratchet means secured to each of said shafts, key carrying and indicating means secured to each of said shafts, lever mechanisms secured in alinement upon said support and coacting with the ratchet means, and means for retaining said lever mechanisms and ratchet means in their normal stationary position.

13. The combination with a suitable support, of a plurality of revoluble indicating means positioned in alinement upon said support, longitudinally-slidable lever means positioned in alinement upon said support and coacting with said revoluble indicating means, whereby two or more of said revoluble indicating means may be actuated.

14. The combination with a support, of a plurality of movable indicating means carried by said support, movably-connected, slidably-mounted members secured to said supports contiguous to each of said movable indicating means, and means for retaining said members and movable indicating means in an operative position.

15. The combination with a flat support, of movable indicating means carried by said support, movably-connected, approximately flat members secured to said support and coacting with said mov-

able indicating means, and means normally retaining said members and movable indicating means in a stationary position.

16. In a mechanism of the class described, the combination with a support, of pairs of dials mounted upon said support, and a bodily-slidable lever mechanism comprising a frame and a lever coacting with each pair of dials and permitting of synchronous movement of one dial in two or more of the pairs.

17. The combination with a support, of a plurality of revoluble indicating means positioned in alinement upon said support, longitudinally, bodily slidable lever means positioned in alinement upon said support and coacting with said revoluble indicating means, whereby two or more of said indicating means may be actuated.

18. In a mechanism of the class described, the combination with a support, of a plurality of revoluble indicating members positioned in alinement upon said support, longitudinally, bodily slidable lever mechanisms positioned in alinement upon said support contiguous to and coacting with said dials capable of causing synchronous movement of part of the dials.

19. In combination with a support, of a series of revoluble indicating members positioned in alinement upon said support, and a series of longitudinally, bodily slidable lever means secured in alinement upon said support and capable of causing movement of one or more of said members.

20. In a mechanism of the class described, the combination with a support, of a plurality of movable indicating means positioned in alinement upon said support, longitudinally-slidable mechanisms positioned in alinement upon said support and coacting with said indicating means for actuating the same.

21. In a mechanism of the class described, the combination with a support, of a plurality of dial mechanisms spaced apart upon said support, longitudinally, bodily, movable lever mechanisms carried by said support and coacting with said dial mechanism.

808,052. RECEIVER FOR WIRELESS TELEGRAPHY. HENRY S. BLACKMORE, Mount Vernon, N. Y. Filed May 8, 1901. Serial No. 59,357.



Claim.—1. An apparatus for indicating electrical disturbances, comprising two electrically-conductive terminals, a material of relatively higher resistance, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, interposed between the conductive terminals, means whereby the said material of variable ohmic resistance is excluded from the action of visible light, and means whereby the conductive terminals may be interposed in an electrical circuit.

2. An apparatus for indicating electrical disturbances, comprising two electrically-conductive terminals, one of which is aluminium, a material of relatively higher resistance, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, interposed between the conductive terminals, means whereby the said material of variable ohmic resistance is excluded from the action of visible light, and means whereby the conductive terminals may be interposed in an electrical circuit.

3. An apparatus for indicating electrical disturbances, comprising two metallic terminals, a material of relatively higher resistance, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, interposed between the metallic terminals, means whereby the material of variable ohmic resistance is excluded from the action of visible light, and means whereby the metallic terminals may be interposed in an electrical circuit.

4. An apparatus for indicating electrical disturbances, comprising two aluminium terminals, a material of relatively higher resistance, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, interposed between the aluminium terminals, means whereby the material of variable ohmic resistance is excluded from the action of visible light, and means whereby the aluminium terminals may be interposed in an electrical circuit.

5. An apparatus for indicating electrical disturbances, comprising two electrically-conductive terminals, selenium interposed between the conductive terminals, means whereby the selenium is excluded from the action of visible light, and means whereby the conductive terminals may be interposed in an electrical circuit.

6. An apparatus for indicating electrical disturbances, comprising two electrically-conductive terminals, one of which is aluminium, selenium interposed between the conductive terminals, means whereby the selenium is excluded from the action of visible light, and means whereby the conductive terminals may be interposed in an electrical circuit.

7. An apparatus for indicating electrical disturbances, comprising two metallic terminals, selenium interposed between the metallic terminals, means whereby the selenium is excluded from the action of visible light, and means whereby the metallic terminals may be interposed in an electrical circuit.

8. An apparatus for indicating electrical disturbances, comprising two aluminium terminals, selenium interposed between the aluminium terminals, means whereby the selenium is excluded from the action of visible light, and means whereby the aluminium terminals may be interposed in an electrical circuit.

9. An apparatus for indicating electrical disturbances, comprising two electrically-conductive plates, a stratum of material of relatively higher resistance, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, interposed between the conductive plates, means whereby the said material of variable ohmic resistance is excluded from the action of visible light, and means whereby the conductive plates may be interposed in an electrical circuit.

10. An apparatus for indicating electrical disturbances, comprising two conductive plates, one of which is aluminium, selenium interposed between the conductive plates, means whereby the selenium is excluded from the action of visible light, and means whereby the conductive plates may be interposed in an electrical circuit.

11. An apparatus for indicating electrical disturbances, comprising two aluminium plates, a stratum of material of relatively higher resistance, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, interposed between the aluminium plates, means whereby the said material of variable ohmic resistance is excluded from the action of visible light, and means whereby the aluminium plates may be interposed in an electrical circuit.

12. An apparatus for indicating electrical disturbances, comprising an inner and outer electrically-conductive terminal of cylindrical form, each having a dome-shaped top, a separating stratum of material, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, interposed between the said conductive terminals, means whereby the material of variable ohmic resistance is excluded from the action of visible light, and means whereby the conductive terminals may be interposed in an electrical circuit.

13. An apparatus for indicating electrical disturbances, comprising an inner and outer electrically-conductive terminal of cylindrical form, one of which is almuinium, each having a dome-shaped top, a separating stratum of material, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, interposed between the said conductive terminals, means whereby the material of variable ohmic resistance is excluded from the action of visible light, and means whereby the conductive terminals may be interposed in an electrical circuit.

14. An apparatus for indicating electrical disturbances, comprising two aluminium plates, a stratum of selenium interposed between the aluminium plates, means whereby the selenium is excluded from the action of visible light, and means whereby the aluminium plates may be interposed in an electrical circuit.

15. An apparatus for indicating electrical disturbances, comprising an inner and outer electrically-conductive terminal of cylindrical form, each having a dome-shaped top, a separating stratum of selenium interposed between the said conductive terminals, means whereby the selenium is excluded from the action of visible light, and means whereby the conductive terminals may be interposed in an electrical circuit.

16. An apparatus for indicating electrical disturbances, comprising an inner and outer electrically-conductive terminal of cylindrical form, each having a dome-shaped top, a separating stratum of material capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, interposed between the said

conductive terminals, a base-plate adapted to connect with the open end of the outer terminal, an annular insulator interposed between the inner terminal and the base-plate, and binding posts and wires communicating with the electrical terminals, as set forth.

17. An apparatus for indicating electrical disturbances, comprising an inner and outer electrically-conductive terminal of cylindrical form, each having a dome-shaped top, a separating stratum of selenium interposed between the said conductive terminals, a base-plate adapted to connect with the open end of the outer terminal, an annular insulator interposed between the inner terminal and the base-plate, and binding posts and wires communicating with the electric terminals, as set forth.

18. An apparatus for indicating electrical disturbances, comprising a primary electric circuit having interposed therein a receiving device of the character hereinbefore set forth, together with a means for recording and reproducing electrical waves or rays acting upon the receiver whereby the circuit is completed, thereby actuating the recording or reproducing device.

19. A detector for electrical disturbances, comprising a device having as an element thereof a material of relatively high electrical resistance, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, and means for excluding visible while admitting invisible rays of energy.

20. A detector for electrical disturbances, comprising a device having as an element thereof a material of relatively high electrical resistance, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, means whereby the material is excluded from the action of visible light, and means for transmitting, indicating, or recording the effects of such electrical rays.

21. A relay for use in wireless telegraphy, containing a substance of relatively high resistance, capable of having its resistance lowered when exposed to the action of electrical rays of high frequency and capable of automatically regaining ohmic resistance, substantially as described.

22. A detector for indicating electrical disturbances, including a substance capable of varying and regulating its conductivity when acted upon by variable lines of force, and automatically increasing its ohmic resistance when no longer under the influence of such force.

23. The combination in a receiver for wireless telegraphy, of an actuating element consisting of a substance capable of having its ohmic resistance lowered when exposed to the action of high-frequency energy and automatically regaining ohmic resistance on the disappearance of such energy, associated with a substance capable of absorbing or abstracting the energy taken from or induced by the electrically-disturbing energy, thereby assisting the substance in naturally regaining ohmic resistance.

24. The combination in a receiver for wireless telegraphy, of an actuating element consisting of selenium, associated with a substance capable of absorbing or abstracting the energy taken from or induced by the electrically-disturbing energy, thereby assisting the selenium in naturally regaining ohmic resistance.

806,053. **NAPHTHALENE DYE AND PROCESS OF MAKING SAME.** RENÉ BOHN, Mannheim, Germany, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation of Baden. Filed Aug. 19, 1903. Serial No. 170,267.

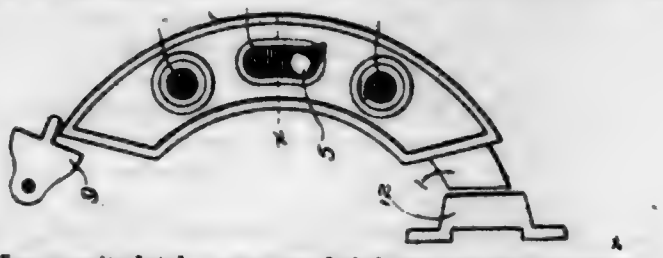
Claim.—1. The process for the production of coloring-matter of the naphthalene series by heating naphthazarin in aqueous solution with more than two molecular proportions of caustic soda.

2. The process for the production of coloring-matter of the naphthalene series by heating naphthazarin in aqueous solution with more than two molecular proportions of caustic soda and treating the product obtained with sodium bisulfite.

3. As a new article of manufacture the coloring-matter which can be derived from naphthazarin, which coloring-matter is soluble in water and which in the form of its bisulfite compound is more easily soluble in water and which can be recrystallized from benzene and thus be obtained in the form of red needles which are soluble in sulfuric acid with a fuchsin-red color and in nitrobenzene with an orange-red color and which dye wool from an acetic-acid bath orange-red shades which upon treatment with a bichromate are converted into reddish-black shades.

806,054. **LATCH.** WILLIS O. BOYKIN, St. Louis, Mo. Filed Dec. 29, 1903. Renewed May 6, 1905. Serial No. 259,434.

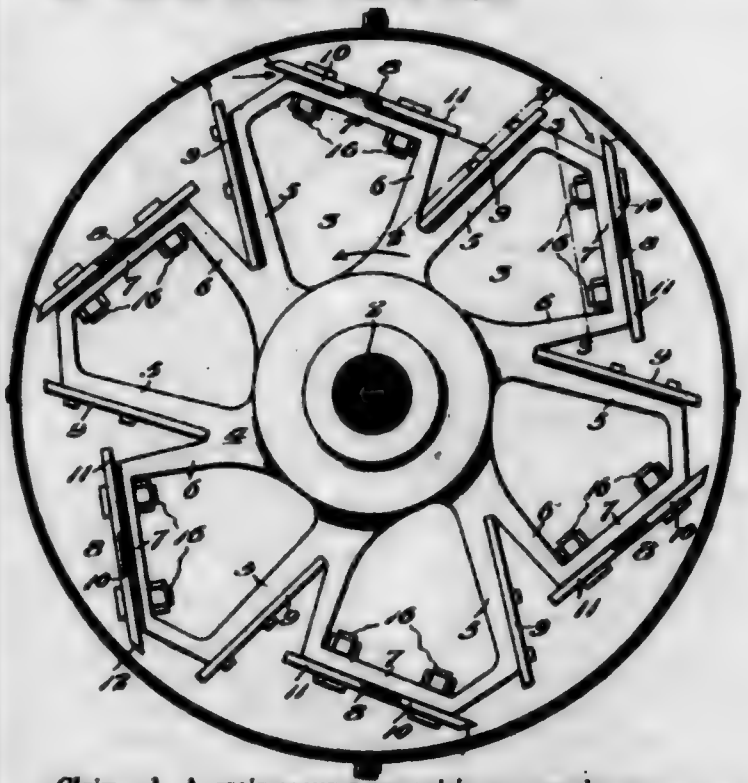
Claim.—1. In a reversible gravity-latch, an arcuate bolt, an arcuate casing adapted to entirely house said bolt on all sides, but having its ends entirely open, said bolt longer than said casing and having either end adapted to project from said casing to lock the door.



2. In a gravity-latch, an arcuate bolt having an integral operating-piece and a slot for the passage of a fastening medium, an arcuate casing for said bolt, said casing being in two sections, one section housing three sides of said bolt and having a slot through which said operating-piece projects and in which it works, said section also having a perforation for the passage of the fastening medium, the other section adapted to inclose the bolt at its other side, and having an elongated slot through which the fastening medium passes, and means to prevent the lateral movement of said sections with relation to each other.

3. In a gravity-latch, a bolt, a casing in two sections, one section housing three sides of said bolt and having ribs interiorly of its sides extending from the inner face of the middle portion outward for engagement with the other section, said other section comprising a skeleton plate adapted to fit within the external edges of said first section upon the ends of said ribs, said first section and the bolt each having perforations for the passage of the fastening medium, and means for operating said bolt.

806,055. **GRAIN-SCOURER.** WILLIAM C. BRENNEM, Rockport, Ind. Filed Mar. 16, 1904. Serial No. 198,496.



Claim.—1. A grain-scourer comprising a scouring-case, a rotary cylinder therein, and a series of centripetal and centrifugal beaters carried by said cylinder, each centripetal beater having a plane gathering portion and a corrugated delivery portion to deliver the grain endwise against the following centrifugal beater.

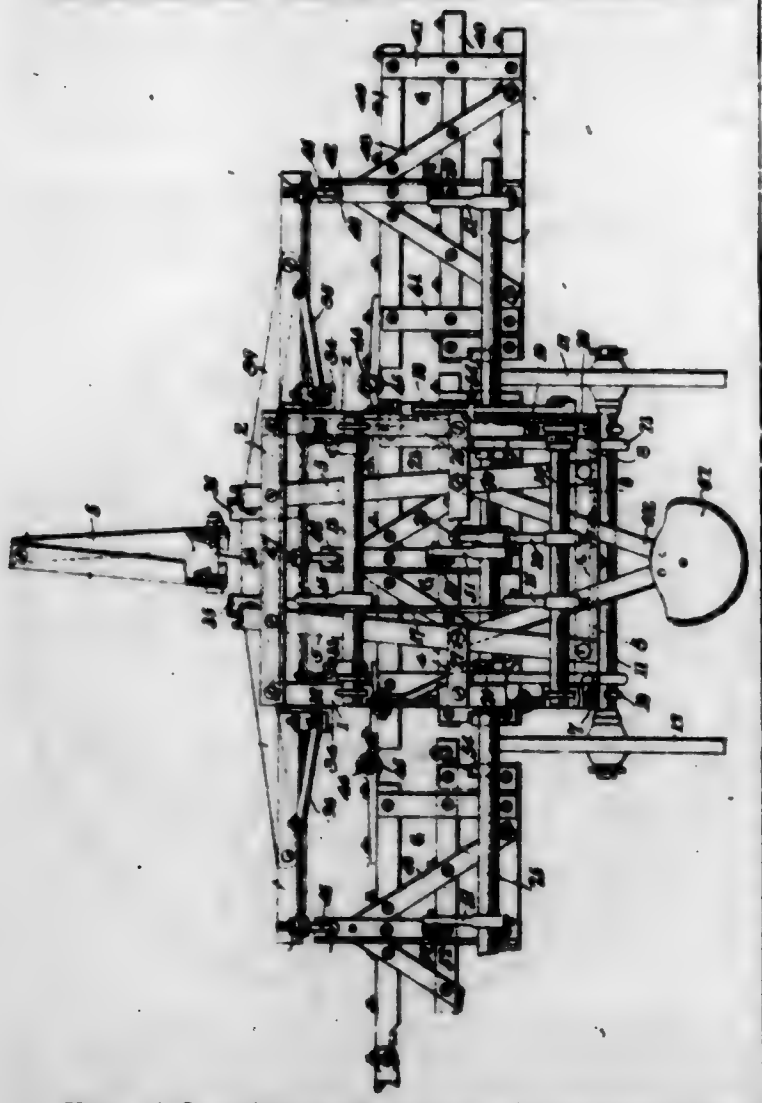
2. A grain-scourer comprising a scouring-case, a rotary cylinder therein, and a series of centrifugal and centripetal beaters carried by the cylinder, each centrifugal beater having a corrugated working face and each centripetal beater a plane gathering portion and a corrugated delivery portion to deliver the grain endwise against the corrugated surface of the following centrifugal beater, the latter acting to deliver the grain in like manner against the case.

3. A grain-scourer comprising a scouring-case, a rotary cylinder therein, and a series of centripetal and centrifugal beaters carried by said cylinder, said beaters being arranged in pairs, the centripetal beater of each pair being arranged in advance of the centrifugal beater and consisting of adjustable gathering and delivery sections, said sections being respectively adjustable toward and from the casing and toward and from the working surface of the centrifugal beater.

4. A grain-scourer comprising a scouring-case, a rotary cylinder therein, and a series of beaters carried by said cylinder, said beaters being arranged in pairs, each beater comprising a centripetal and a centrifugal beater, the centripetal beater being arranged in advance of the centrifugal beater in the direction of rotation of the cylinder, and each centripetal beater comprising gathering and delivery sections independently adjustably connected to the cylinder, whereby said centripetal beater may be adjusted bodily toward and from the casing or its sections adjusted independently relative to the case and the working face of the centrifugal beater.

5. A grain-scourer comprising a scouring-case, a rotary cylinder therein, a series of centripetal beaters carried by said cylinder and each comprising adjustable delivery and gathering sections, the former having a plane and the latter a corrugated working face, and a series of centrifugal beaters also carried by said cylinder and provided with working faces corrugated transversely thereof relative to the direction of rotation of the cylinder, said beaters being arranged in pairs, each pair comprising a centripetal beater and a following centrifugal beater, the construction and arrangement being such that the sections of each centripetal beater are respectively adjustable toward and from the case and toward and from the working face of the coöperating centrifugal beater.

808,056. CULTIVATING IMPLEMENT. BENJAMIN A. BRIGGS, Jr., St. Peter, Minn. Filed June 17, 1905. Serial No. 265,782.



Claim.—1. In a cultivating implement, a wheel-supported frame, arms connected pivotally with the side members of the frame, a rock-shaft journaled in said arms, and gang-supporting arms extending from said rock-shaft.

2. In a cultivating implement, a wheel-supported frame, arms connected pivotally with the side members of the frame, a rock-shaft journaled in said arms, gang-supporting arms extending from said rock-shaft, and means for effecting vertical adjustment of said rock-shaft and its supporting-arms.

3. In a cultivating implement, a wheel-supported frame, arms connected pivotally with the side members of the frame, a gang-supporting rock-shaft journaled in said arms, a rock-shaft supported upon the frame, arms extending radially from the latter rock-shaft and from the gang-supporting rock-shaft, and a link connecting said arms.

4. In a cultivating implement, a wheel-supported frame, arms connected pivotally with the side members of the frame, a gang-supporting rock-shaft journaled in said arms, a draw-bar, means for effecting simultaneous vertical adjustment of the draw-bar and the gang-carrying rock-shaft, and means for connecting the draw-bar with the gangs carried by said rock-shaft.

5. A frame having an axle and wheels mounted for rotation thereon, arms connected pivotally with said frame and having their free ends normally supported upon said axle, and a gang-supporting rock-shaft journaled in said arms.

6. A wheel-supported frame, arms pivotally connected with said frame and adapted to rest upon the wheel-carrying axle, a rock-shaft journaled in said arms, means for effecting vertical adjustment of said rock-shaft, arms extending radially from the latter, a vertically-adjustable draw-bar, cultivating-gangs connected with said draw-bar, link-rods extending through said gangs and connected with the arms extending from the rock-shaft, and springs coiled upon said links above the gangs.

7. In a cultivating implement, a frame, arms pivotally connected with said frame, a rock-shaft supported by said arms, cultivating-gangs connected with said rock-shaft, means for effecting vertical adjustment of the latter, a flexibly-supported vertically-adjustable draw-bar, means for connecting said draw-bar with the cultivating-gangs, and guide-bars rising from the draw-bar and engaging the sides of the frame to prevent lateral displacement of the draw-bar and related parts.

8. A wheel-supported frame, bars connected therewith and converging forwardly to form a main tongue, a flexibly-supported vertically-adjustable draw-bar, side members connected with said draw-bar and converging forwardly to constitute a subtongue, and pivotal connecting means between the subtongue and the main tongue.

9. A wheel-supported frame, bars connected therewith and converging forwardly to form a main tongue, a flexibly-supported vertically-adjustable draw-bar, cultivating-gangs connected with said draw-bar, and a subtongue connected with said draw-bar extending forwardly and connected pivotally with the main tongue.

10. A wheel-supported frame, a main tongue connected with said frame, a draw-bar, cultivating-gangs connected therewith, a subtongue connected with the draw-bar and having pivotal connection with the main tongue, and means for effecting vertical adjustment of the draw-bar and the cultivating-gangs.

11. A wheel-supported frame, a main tongue connected with said frame, a flexibly-supported vertically-adjustable rock-shaft, cultivating-gangs connected with and supported by said rock-shaft, a flexibly-supported vertically-adjustable draw-bar, means for flexibly connecting said draw-bar and cultivating-gangs, and a tongue extending from the draw-bar and connected pivotally with the main tongue.

12. A wheel-supported frame, rock-shafts supported upon said frame, means connecting said rock-shafts for simultaneous movement, an operating-lever connected with one of said rock-shafts, arms connected pivotally with the frame, a gang-carrying rock-shaft supported upon said arms, a draw-bar, means connecting said draw-bar and said gang-carrying rock-shaft with the frame-supported rock-shafts for simultaneous vertical adjustment, cultivating-gangs supported by the gang-carrying rock-shaft and connected with the draw-bar, a tongue extending forwardly from the frame, a subtongue connected with the draw-bar, and means for pivotally connecting the subtongue with the main tongue.

13. A wheel-supported frame, cultivating-gangs connected with said frame for vertical adjustment, and rub-irons connected with said gangs and having wheel-engaging rollers.

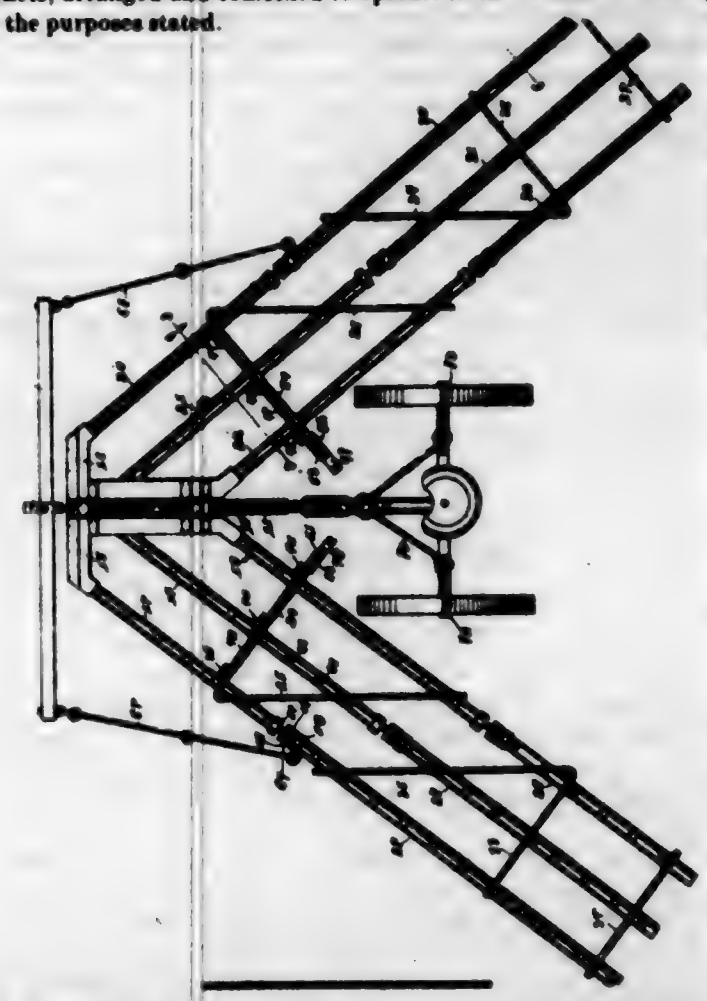
808,057. ADJUSTABLE HARROW-SECTION. DANIEL H. BROWN, Fort Dodge, Iowa. Filed May 26, 1904. Serial No. 209,969.

Claim.—1. In an adjustable harrow, a draft-bar, a runner fixed to its front end and L-shaped socket members hinged to the sides of the front end of the draft-bar and harrow-sections pivotally connected with the socket members, arranged and combined as shown and described for the purposes stated.

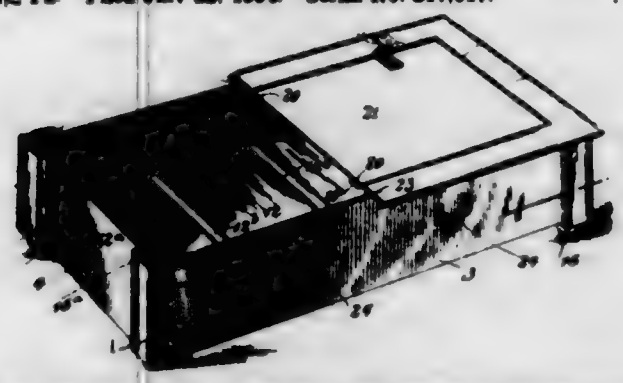
2. In an adjustable harrow, a draft-bar, a runner fixed to its front end, a doubletree connected with the front end of the runner and L-shaped socket members hinged to the sides of the front end of the draft-bar and harrow-sections pivotally connected with the socket members, arranged and combined as shown and described for the purposes stated.

3. In an adjustable harrow, a draft-bar, a runner fixed to its front end and L-shaped socket members hinged to the sides of the front end of the draft-bar and jointed harrow-bars pivoted to said socket member, arranged and combined as shown and described for the purposes stated.

4. In an adjustable harrow, a draft-bar, a runner fixed to its front end, L-shaped socket members hinged to the sides of the front end of the draft-bar, jointed harrow-bars pivoted to said socket member and means to adjust the jointed harrow-bars in the L-shaped sockets, arranged and combined to operate in the manner set forth, for the purposes stated.



806,058. KNOCKDOWN OR COLLAPSIBLE BOX. WILSON E. BROWN, Pittsburg, Pa., assignor of one-half to James W. Brown, Pittsburg, Pa. Filed July 22, 1904. Serial No. 217,617.



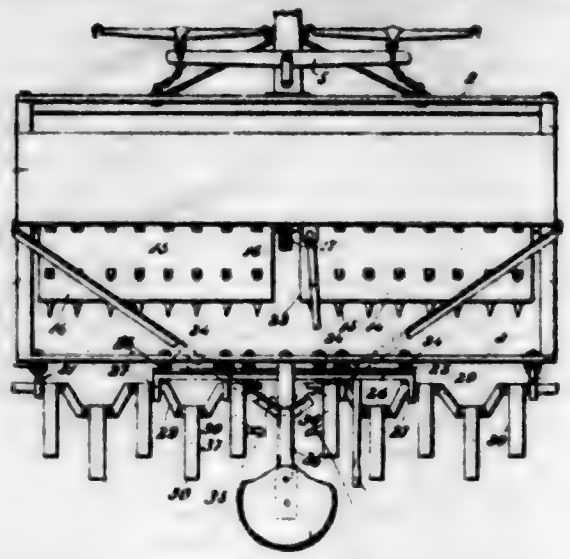
Claim.—A knockdown or collapsible receptacle, comprising detachable side and end walls having keepers at their outer extremities, corner-pieces adapted to engage said keepers whereby the said side and end walls are locked, a removable bottom made up of interlocking sections, and a cover having a packing on its under side adapted to rest on the edges of the walls, whereby dust is excluded from the interior.

806,059. CULTIVATOR, PLANTER, AND ROLLER. FRANKLIN P. BURDER, Muncie, Ind., assignor of one-third to Addison E. Hoppes, Muncie, Ind. Filed Sept. 7, 1905. Serial No. 277,287.

Claim.—1. In an implement of the class described, a frame, spiked rollers supported for rotation in said frame, a bar connected hingedly with the rear cross-bar of said frame and having rearward-extending brackets, and a zigzag bar supported in said brackets; said zigzag bar including a detachable central tool-carrying section.

2. In an implement of the class described, a frame, spiked rollers supported for rotation in said frame, a hinged bar connected with the rear cross-bar of said frame and having rearward-extending brackets, a tool-carrying bar of zigzag formation supported in said brackets, and additional means for hingedly connecting the ends of the zigzag bar with the rear frame-bar.

3. In an implement of the class described, a frame, spiked rollers supported for rotation in said frame, a supporting-bar connected hingedly with the rear cross-bar of the frame and having rearward-extending brackets and a hand-lever, a zigzag bar supported in the brackets of the supporting-bar, auxiliary means for hingedly connecting the ends of the zigzag bar with the rear cross-bar of the frame, and tools connected, in staggered order, with the zigzag bar; the latter including a detachable central tool-carrying section.



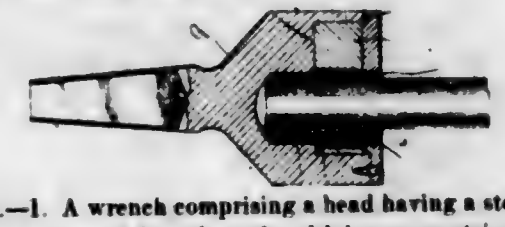
806,080. COMPOUND FOR HARDENING IRON. CORNELIUS A. BURNS and CORNELIUS E. RAAB, Pittsburg, Pa. Filed Mar. 17, 1905. Serial No. 250,600.

Claim.—1. A compound for hardening cast-iron consisting of three parts chlorid of sodium, three parts saltpeter, three parts rock-alum, three parts carbonate of ammonia, three parts salt of tartar, one part yellow prussiate of potassium, one part white cyanid of potassium and one part red prussiate of potassium.

2. A compound for hardening cast-iron consisting of chlorid of sodium, saltpeter, rock-alum, carbonate of ammonia, salt of tartar, yellow prussiate of potassium, cyanid of potassium and red prussiate of potassium.

3. A compound for hardening iron containing chlorid of sodium, saltpeter, alum, carbonate of ammonia, salt of tartar, prussiate of potash and cyanid of potassium.

806,081. WRENCH. JOHN W. BUTLER, Shreveport, La. Filed May 9, 1905. Serial No. 259,536.

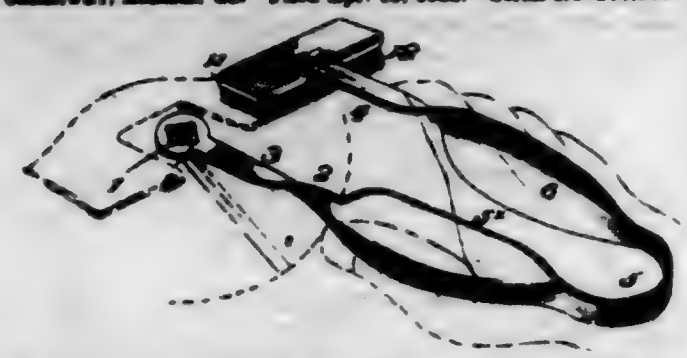


Claim.—1. A wrench comprising a head having a stem extending from the rearward face thereof and lying concentric therewith, said head having an eccentrically-located cylindrical recess in its forward face and a second recess in the inner wall of said recess, a disk revolubly disposed within the recess and having an eccentric passage formed therethrough, said disk being rotatable to register its passage with the second-named recess, said passage having a toothed wall and a cover-plate disposed against the outer face of the head and having a passage formed therethrough alining with the second-named recess.

2. A wrench comprising a head having an eccentrically-located recess in one of its faces and having a recess in the inner wall of said first-named recess, a disk revolubly disposed in the first-named recess and having a passage formed therethrough, said disk being movable to bring its passage into and out of registration with the second-named recess, the wall of said passage having oppositely-directed series of transverse teeth formed thereupon, and a cover-plate for the first-named recess, said cover-plate having a passage formed therethrough registering with the second-named recess.

3. A wrench comprising a head provided with an angular stem, a recess formed in the head and lying eccentrically to the stem, a recess formed in the inner wall of the first-named recess, a jaw member slidably disposed in the first-named recess and having a passage formed therethrough and disposed for registration with the second-named recess through movement of the disk, said passage having oppositely-directed series of teeth upon its wall, a cover-plate disposed over the first-named recess and the head and having a boss extending into said recess, an attaching device engaged in said cover-plate and the head, said cover-plate having a passage formed therethrough and alining with the second-named recess.

808,082. TYPE-CLEANER FOR TYPE-WRITERS. SAMUEL C. GALLAWAY, Atlanta, Ga. Filed Apr. 18, 1905. Serial No. 256,256.



Claim.—1. A type-cleaner comprising a pair of yielding arms, one of said arms being formed with a type-receiver, and the other arm carrying a brush adapted to be reciprocated over the receiver.

2. A type-cleaner comprising a pair of arms, a yielding connection between the arms, a type-receiver formed in one of the arms, and a brush carried by the other arm and adapted to be reciprocated across the type-receiver.

3. A type-cleaner comprising a pair of arms yieldingly connected together, an opening formed in one arm to receive a type, and a detachable brush carried by the other arm and adapted to be passed over the opening.

4. A type-cleaner comprising a type-holder, and a brush adapted to be reciprocated over the type-holder.

5. A type-cleaner comprising a type-holder, a brush, a yielding brush-carrier, said carrier adapted to yield transverse and longitudinal of the type-holder.

6. A type-cleaner comprising a handle, a type-holder, a brush, and a yielding connection whereby when the handle is squeezed the brush will pass over the type-holder, and when released the brush will assume its normal position.

7. A type-cleaner comprising a type-holder which is normally exposed, a brush normally distanced from the type-holder, and a yielding connection between the type-holder and the brush.

8. A type-cleaner comprising a type-holder and a brush-holder yieldingly connected, the brush-holder consisting of an abutment and means to grip and hold a brush.

808,083. TOY PISTOL. FRANK CAMPBELL, Carlcover, Va. Filed Oct. 15, 1904. Serial No. 228,051.



Claim.—1. An arm of the character described composed of sections having grooves forming a discharge-bore and a magazine in communication with each other, the outer ends of the barrel portions of said sections being provided with transverse registering grooves across the inlet of the magazine and locking-shoulders in rear of said grooves, and a clip seated in said grooves and having rearwardly-extending arms provided with inwardly-projecting hooks engaging said shoulders, said clip thus serving to connect the forward ends of the sections and close the inlet to the magazine.

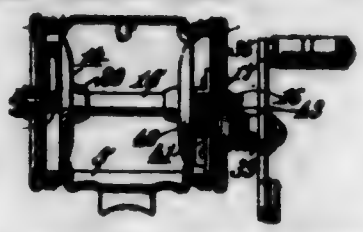
2. In an arm of the character described, the combination of a body having a discharge-bore, a plunger operating in said bore, a shank slidably mounted in the body and connected with said plunger, a detent-plate having an opening for the passage of the shank and arranged to slide at an angle thereto, said plate being adapted to engage a portion of the shank to hold the same and the plunger retracted, a spring for projecting the plunger and the shank, and a trigger for sliding and retracting said detent-plate.

3. In an arm of the character described, the combination of a body having a discharge-bore and a receptacle for a detonator, a plunger operating in the discharge-bore, a shank mounted to slide within the body and connected with the plunger, said shank having a notch or shoulder and a hammer-supporting portion, a hammer mounted upon said supporting portion and adapted upon the outward movement of the plunger to enter said receptacle, a spring cooperating with the shank to project the same and plunger, a sliding detent-plate having an opening for the passage of the shank and adapted to engage the notch or shoulder therein to hold the shank therein, and a trigger for sliding and releasing said detent-plate.

4. In an arm of the character described, the combination of a projectile-expelling device, a shank connected thereto and provided with a notch or shoulder, a spring for projecting said shank and expelling device, a detent-plate having an opening for passage of the shank and arranged to slide at an angle thereto, said plate being adapted to engage said shoulder or opening to hold the shank and expelling device retracted, a trigger for sliding the plate out of engagement with said notch or shoulder.

5. An arm of the character described comprising members having recesses forming a discharge-bore and receptacles for its operating parts, clips engaging the base portions of said members, and a connection between said clips, said connection having a contractible and expansible portion, whereby the clips are held in engagement and may be drawn outward for removal, substantially as described.

808,084. FISHING-REEL. WILLIAM CARTER, Louisville, Ky. Filed July 8, 1903. Serial No. 114,787.



Claim.—1. A fishing-reel comprising a reel-frame having its edges at each end formed with a plurality of notches forming seats, and end plates suitably mounted in the ends of the reel-frame and adapted to engage in the notches to prevent the movement of said end plates.

2. In a fishing-reel, a reel-frame consisting of a pair of collars exteriorly screw-threaded and having notched edges, a series of raised bars formed integral with said collars for connecting them together, end plates adapted to engage in the said collars and one of the notches thereof to prevent the movement of said plates, and means engaging the collars for securing the plates thereto.

3. In a fishing-reel, a reel-frame, a spool mounted therein, means connected with said frame and with said spool for operating the latter, and a removable arbor suitably attached to said spool.

4. In a fishing-reel, a removable arbor consisting of a pair of sections adapted to be connected together.

5. In a fishing-reel, a reel-frame having its ends formed with a plurality of notches, plates mounted in the ends of the frame and adapted to engage in one of the said notches at each end to prevent their movement, a spool mounted in the said frame and engaging in the said plates, a removable arbor suitably connected with said spool, and means carried by one of the said plates for operating said reel.

6. In a fishing-reel, a reel-frame provided in its outer edges with a plurality of notches and further provided with raised bars, plates mounted in the ends of the said frame and adapted to engage in the notches thereof to prevent their movement, a spool mounted in the said frame and engaging the said plates, a removable arbor for said spool, and means carried by one of the plates for operating the said spool.

7. In a fishing-reel, a tubular frame provided with integral bars and collars having their outer edges notched to form seats, and adjustable end pieces engaging in the seats of the said collars, said end pieces adapted to carry the bearings for the reel-spool.

8. In a fishing-reel, a reel-frame, and a shiftable click and drag mechanism supporting plate removably connected to the rear end of the reel-frame, said plate when shifted adapted to vary the position of the click and drag mechanism.

9. In a reel, the combination with a reel-frame and a spool mounted therein, of means connected to one end of the frame and acting as a bearing for one end of the spool, adjustable means connected to the other end of the frame and acting as a bearing for the other end of the spool and adapted to carry the operating mechanism for the spool, and a removable arbor for said spool.

10. In a fishing-reel, a tubular reel-frame provided at one end with a plurality of seats, click and drag mechanisms, a plate for supporting said mechanisms, said plate provided with a shoulder adapted to engage in one of the said seats, and means for securing said plate to the said frame.

11. In a fishing-reel, a removable arbor consisting of a pair of detachable sections, and means carried by one of the sections and engaging with the other of the sections for connecting them together.

12. In a fishing-reel, a reel-frame provided with a plurality of raised bars and a pair of collars integral therewith, a spool mounted

therein, shiftable end plates forming bearings for said spool mounted in the said collars, and means engaging with the said collars for securing the end plates in position.

13. In a fishing-reel, a reel-frame provided with a plurality of raised bars and a pair of collars integral therewith, a spool mounted therein, shiftable end plates forming bearings for said spool mounted in the said collars, means engaging with the said collars for securing the end plates in position, and a reel-seat formed integral with one of said bars.

14. In a fishing-reel, a reel-frame provided with a plurality of raised bars and a pair of collars integral therewith, a spool mounted therein, shiftable end plates forming bearings for said spool mounted in the said collars, means engaging with the said collars for securing the end plates in position, a reel-seat formed integral with one of said bars, and a removable arbor adapted to be connected with the said spool.

15. In a fishing-reel, a reel-frame provided at one end with an exteriorly-screw-threaded collar having a plurality of notches formed therein, a click and drag mechanism supporting plate adapted to engage in one of said notches, and means engaging the screw-threads of said collar for removably connecting said plate to the frame.

16. In a fishing-reel, a reel-frame having one edge formed with a series of seats, and a handle-carrying plate provided with a shoulder adapted to engage in the said seats thereby adjusting the position of the handle carried thereby.

17. In a fishing-reel, a reel-frame consisting of a pair of collars, a plurality of raised bars formed integral with the collars for connecting them together and a reel-seat integral with one of the said bars, adjustable end plates engaging the said collars and forming bearings for the reel-spool, and means for securing the said plates to the collars.

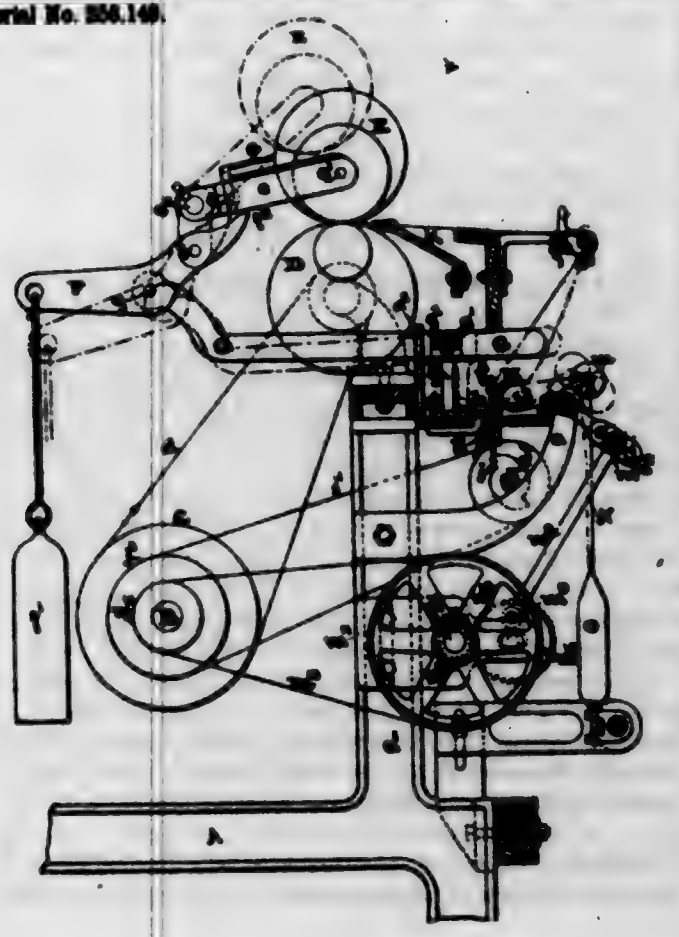
18. In a fishing-reel, a reel-frame, and a shiftable plate extending and engaging in one end of said frame, a click and a drag mechanism carried by said plate, and means for removably connecting said plate to the frame.

19. In a fishing-reel, a reel-frame, a plate extending therein, a click and drag mechanism carried by said plate and means for removably connecting the plate to the frame.

20. A fishing-reel comprising a tubular reel-frame provided with integral bars and collars, said bars having their ends bent toward and terminating in the collars.

21. In a fishing-reel, a tubular frame provided with integral bars and collars, said bars having their ends bent toward and terminating in the collars, a removable head-plate mounted on one of said collars, a removable head-plate mounted in the other of said collars, and means for securing the head-plates to the collars.

806,065. **WINDER.** CLARENCE H. CHILDS, Lowell, Mass., assignor of one-half to Oliver H. Moulton, Lowell, Mass. Filed Apr. 17, 1905. Serial No. 256,149.



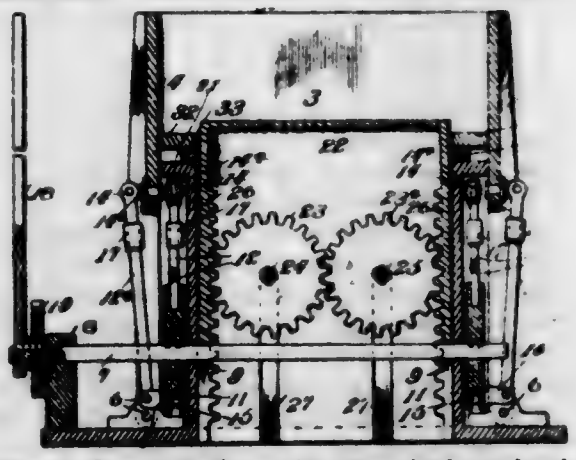
Claim.—1. The combination of a tension device, a knot-arresting yarn-scraper, winding means for drawing a yarn successively through said tension device and said scraper, a drop normally suspended on said yarn between said tension device and said scraper, automatic means for slackening said yarn between said tension device and said scraper, when the progress of said yarn is interrupted by a knot or bunch at said scraper, to permit the falling of said drop, and means operated by the falling of said drop to stop the winding of said yarn.

2. The combination of a tension device, a knot-arresting yarn-scraper, winding means for drawing yarn successively through said tension device and said scraper, a drop normally suspended on said yarn between said tension device and said scraper, automatic means for continuously alternately shortening and lengthening the distance between said tension device and said scraper, to slacken said yarn between said tension device and said scraper when the progress of said yarn is interrupted by a knot or bunch at said scraper, to permit the falling of said drop, and means operated by the falling of said drop, to stop the winding of said yarn.

3. The combination in a winding-machine, of a cop-holder, means of rotating the same, a stop-motion therefor, a tension device, a knot-arresting yarn-scraper, a drop normally suspended by the tension of the yarn or thread passing through said tension device and said scraper, means for operating said stop-motion by the falling of said drop, and automatic means for continually varying the distance between said scraper and said tension device.

4. The combination of a driving-drum, means for rotating the same, a cop-holder normally rotated by frictional contact between said drum and said holder or cop, a knot-arresting yarn-scraper, a rock-shaft, means for rocking the same, a tension device rigidly secured to said rock-shaft and vibrated by the rocking of the same, means for moving said cop-holder with its cop away from said drum, said last-named means being normally prevented from operation by the drop supported by a yarn passing between said tension device and said scraper and operated upon the falling of said drop by the slacking of said yarn, and said drop.

806,066. **MOLD.** EDUARDO A. CHERRY and NOAH W. MOTTINGER, Manistee, Mich. Filed Jan. 20, 1905. Serial No. 242,096.



Claim.—1. In a mold, the combination of sides and ends, a hollow core, and means for operating said core embodying actuating devices mounted and housed therein.

2. In a mold, the combination of sides and ends, a hollow core, and means for operating the core embodying rack and gear devices mounted and housed within the hollow body thereof.

3. In a mold, the combination of sides and ends, a hollow core therefor, rack-teeth arranged upon the inner sides of the core, gears mounted and housed within the core in mesh with said rack-teeth, and means for actuating the gears aforesaid to effect movement of the core.

4. In a mold, the combination of a base, the sides and ends, a core-box extended from the base, a core movably mounted in said core-box and comprising a hollow body, rack-teeth projecting from the inner sides to the hollow body of the core, intermeshing gears mounted within the core in mesh with rack-teeth thereof, and means for actuating said gears.

5. In a mold, the combination of a base, the sides and ends, a core-box projecting from the base, a hollow core mounted in said core-box, shafts mounted transversely in the sides of the core-box, and wheels mounted in the core-box upon the shafts aforesaid and operably connected with the gear for actuation thereof.

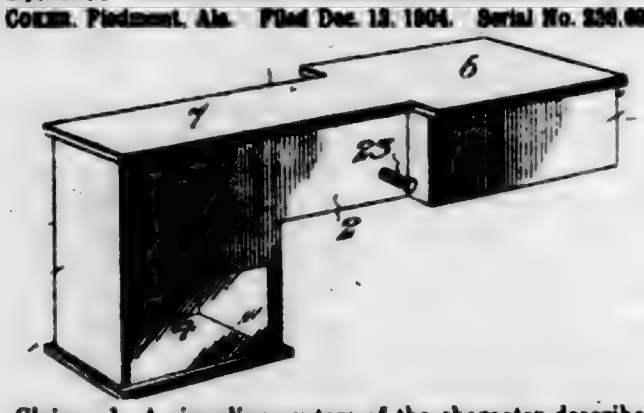
6. In a mold, the combination of a base, the sides and ends, a core-box projecting from the base, a hollow core mounted in said core-box, shafts mounted transversely in the sides of the core-box,

and wheels mounted in the core-box upon the shafts aforesaid and operably connected with the core for actuation thereof, sides of the core being longitudinally slotted to receive the shafts aforesaid and forming guides for directing the movement of the core.

7. In a mold, the combination of a base, a mold-box embodying a vertical side and vertical end mounted upon the base, a vertical wheel and actuating means therefor, a bar connected at one end with the side and having its opposite end pivotally connected with the wheel at its peripheral portion, and a second bar connected with the end of the mold-box aforesaid and having eccentric swivel connection with the wheel upon one side thereof.

8. In a mold, the combination of a base, a core-box projecting upwardly from the base, a movable core mounted in said core-box, means for raising and lowering the core, sides and ends, legs extending from the sides and ends and pivotally attached to the base, a shaft mounted in the core-box, wheels carried by said shaft at opposite end portions of the core-box, bars having pivotal connection at one end with certain sides and ends of the mold, the opposite ends of said bars having eccentric connection with the wheels aforesaid, and means for actuating the shaft.

808,067. ELECTRICAL SIGNALING MECHANISM. DAVID H. COLEE, Piedmont, Ala. Filed Dec. 13, 1904. Serial No. 236,695.

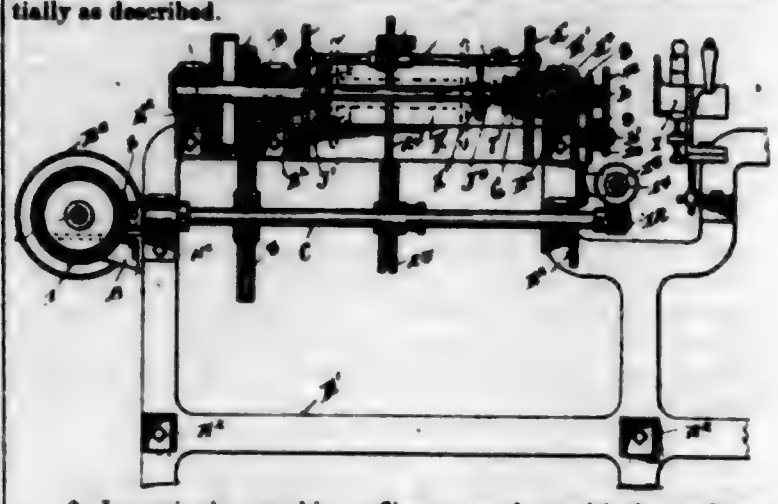


Claim.—1. A signaling system of the character described embodying signaling and receiving stations, a circuit-controller at the signaling-station, a circuit governed by said controller, a casing at the receiving-station provided with end compartments arranged at different elevations, and a connecting portion joining said compartments, an electromagnet arranged within the upper compartment of said casing and connected with said circuit, an armature therefor, an eccentrically-pivoted signal-lever having its long arm connected with the armature and projecting through said connecting portion of the casing into the lower compartment thereof, and having its short arm disposed within the upper compartment, a signal connected to the long arm of the lever in the lower compartment, the latter having an observation-panel to expose said signal when the long signal-arm is lowered, means connected with the short arm of the lever within the upper compartment for normally holding the long arm thereof elevated, a return-conductor connected to the circuit at one side of the battery at the signal-station, and a switch device for connecting said conductor to the circuit on the opposite side of the battery at the receiving-station.

2. In a signaling mechanism of the character described, a casing provided with a main compartment, a signaling-compartment extending below the plane thereof and provided in its lower portion with an observation-panel, and an elongated extension connecting said compartments, an electromagnet arranged within the main compartment, an operating-lever eccentrically pivoted within the main compartment and carrying upon the long arm thereof adjacent to the pivotal connection an armature, the long arm of the lever extending through the connecting portion of the casing into the upper portion of the signaling-compartment, a retracting-weight connected to the short arm of the lever within the main compartment, and a flag or similar signal connected with the long arm of the lever within the signaling-compartment and adapted when the said arm of the lever is depressed to be exposed through the said observation-panel.

808,068. SPINNING-MACHINE. GEORGE J. COLLINS, Miamisburg, Ohio. Filed Oct. 28, 1903. Serial No. 178,071.

Claim.—1. In a spinning-machine, a flier, means for positively revolving the same, a capstan journaled on the flier, power-transmitting means between the flier and capstan, a sectional bobbin-shaft independently journaled within the flier, the sections being universally connected, means for detachably supporting one end of said sectional shaft, retarding mechanism for said sectional bobbin-shaft, guiding means mounted upon the flier, means for reciprocating the same comprising a feed-shaft and intermediate transmission means, and means for manually operating the feed-shaft, substantially as described.



2. In a spinning-machine, a flier, means for positively revolving the same, a capstan journaled on the flier, power-transmitting means driven by the flier for operating the capstan, an independently-journaled bobbin-shaft, retarding mechanism for said shaft comprising a wheel fixed to said shaft, a stationary brake-shoe mounted transverse to the bobbin-shaft and frictionally engaging under tension the rim-face of said wheel, means for adjusting the tension, feeding means mounted on the flier, means for reciprocating the same, substantially as described.

3. In a spinning-machine, a main power-shaft, a flier, means for revolving the same, a capstan journaled on the flier, power-transmitting means between the flier and capstan, guiding devices mounted on the flier provided with means allowing for the contraction and expansion of the flier-arms incident to the rotation of the flier, a traverse-shaft, intermediate transmission means between the guiding devices and traverse-shaft mounted on the power-shaft having connection with said guiding devices and traverse-shaft for traversing said guiding devices and means whereby the guiding devices may be operated manually when the power-shaft is at rest, substantially as described.

4. In a spinning-machine, a flier, capstan and bobbin, a single drive for the flier, and transmission devices from the flier to the capstan, driven by said flier, a traverse-ring slidably mounted on the flier, a traverse-shaft engaging said ring, for reciprocating the same, means for manually operating said traverse-shaft, substantially as described.

5. In a spinning-machine, a flier, capstan and bobbin, a single drive for the flier, and transmission devices from the flier to the capstan, driven by said flier, a traverse-ring slidably mounted on the flier, a traverse-shaft engaging said ring, for reciprocating the same, and means for manually operating the traverse-shaft, substantially as described.

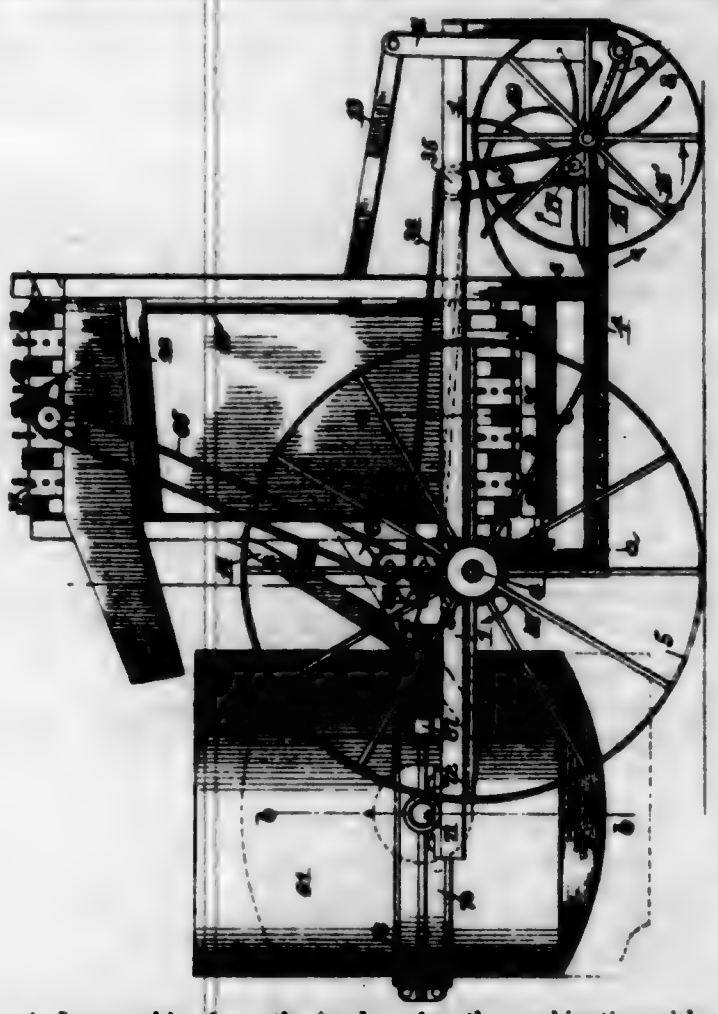
6. In a spinning-machine, a reciprocating twine-guide, a driving-shaft for traversing said guide, driving devices for rotating said shaft, manually-operated devices for rotating said shaft, and connections between said driving mechanism whereby the shaft rotation may be continued by hand, when the power-drive is suspended, substantially as described.

808,069. MACHINE FOR GATHERING HAY, &c. GEORGE M. DEPEW, Canandaigua, N. Y. Filed Mar. 1, 1902. Serial No. 96,225.

Claim.—1. In a machine for gathering hay, the combination with a frame, raking devices at one end thereof and a receptacle located at the other end, a platform located above the receptacle and between it and the raking devices, conveying devices receiving the hay from the rakes and transporting it to the platform and a fork pivotally mounted above the platform and adapted to move the hay delivered upon the latter into the receptacle, of devices for operating the latter to deposit its contents, driving mechanism for oscillating the fork and devices for arresting its movement controlled by the receptacle-operating devices and means for operating the conveying and raking devices.

2. In a machine for gathering hay, &c., the combination with a frame having rotary raking devices at its forward end and means for operating the latter, a receptacle located at the rear end of the frame and a platform arranged above the receptacle and between it and the raking devices of a conveyer adapted to receive the hay from the rakes, an elevator separate from and coöperating with the conveyer to move the hay to said platform, and a device arranged above the platform for pitching the hay from the platform into the receptacle.

3. In a machine for gathering hay, &c., the combination with a frame having rotary raking devices thereon, means for operating the latter, and a receptacle, of a platform arranged above the latter, a conveyer receiving the hay from the rakes, and an elevator for delivering it upon the platform, mechanism for operating the conveyer and elevator, a pitching device for moving the hay into the receptacle, and means for interrupting the operation of said pitching device.



4. In a machine for gathering hay, &c., the combination with a frame provided with the wheels and the driving-shaft operated thereby, raking devices on the frame, and driving connections between said devices and the shaft, of a receptacle revolubly mounted on the frame, and a platform arranged above the receptacle, a conveyer adapted to receive the hay from the rake, an elevator for delivering the hay upon the platform, and a fork operating above the platform to move the hay into the receptacle, and operating connections between said devices and the driving-shaft.

5. In a machine for gathering hay, &c., the combination with a frame having the wheels thereon, a driving-shaft operated thereby and raking devices mounted on the frame and operated by the shaft, of a receptacle, conveying and elevating devices for conducting the hay to a point above the receptacle, and a hay-pitching device for moving it into the latter, operating connections between the driving-shaft and the conveying and elevating devices and separate operating mechanism between the driving-shaft and pitching device, means for operating the receptacle to deposit its contents, and a controlling mechanism between said means and the operating mechanism for the pitching device.

6. In a machine for gathering hay, &c., the combination with a frame provided with wheels and a driving-shaft operated thereby, raking devices and a receptacle on the frame, of conveyers extending laterally on the frame and movable relatively toward each other, rotary driving devices therefor, a similar driving device arranged parallel with said devices and a vertically-extending conveyer operated thereby to elevate the hay to a point above the receptacle and driving connections between said conveyer-driving devices and the driving-shaft.

7. In a machine for gathering hay, &c., the combination with a frame provided with wheels and a driving-shaft operated thereby, raking devices and a receptacle on the frame, of conveyers extending laterally on the frame and movable relatively toward each other, rotary supports therefor, and an elevating-conveyer, a support therefor arranged in proximity to and parallel with the aforementioned supports and means for driving the conveyers operated by the driving-shaft.

8. In a machine for gathering hay, &c., the combination with a frame, raking devices and a receptacle thereon, of a laterally-moving conveyer, a rotary support therefor and an elevating-conveyer, a support for the latter arranged in proximity to and parallel with said rotary support, a channel leading from the first-mentioned conveyer to a point above the receptacle, pins or projections on the elevating-conveyer extending into the channel and means for operating said conveyer.

9. In a machine for gathering hay, &c., the combination with a frame having wheels thereon and a driving-shaft, supporting-wheels at one end of the frame, and adjusting devices between the latter and the supporting-wheels, of rotary raking devices journaled on the frame and operated from the driving-shaft, a receptacle pivotally mounted on the frame, and a platform arranged above the receptacle, conveying and elevating devices operated by said shaft adapted to receive the hay from the rakes and deposit it upon the platform, and a device for moving the hay into the receptacle, operating devices therefor, and a lever for tilting the receptacle and controlling the operation of the hay-moving device.

10. In a machine for gathering hay, &c., the combination with a frame, raking devices thereon, conveying and elevating mechanism, and a driving-shaft on the frame for operating the latter, of a support provided with the pivots journaled on the frame, a receptacle revolubly mounted in the support having a gear thereon, and a shaft journaled in one of the pivots of the support and having the pinion engaging the gear on the receptacle, operating connections between said shaft and driving-shaft, and a means for tilting the receptacle.

11. In a machine for gathering hay, &c., the combination with a frame provided with wheels and having a driving-shaft operated thereby, raking devices on the frame, and conveying and elevating devices operated by the driving-shaft, of a receptacle mounted upon trunnions journaled on the frame, springs secured to the latter and surrounding the trunnions and attached thereto for retaining the receptacle in its normal position, and a lever for tilting it upon the trunnions.

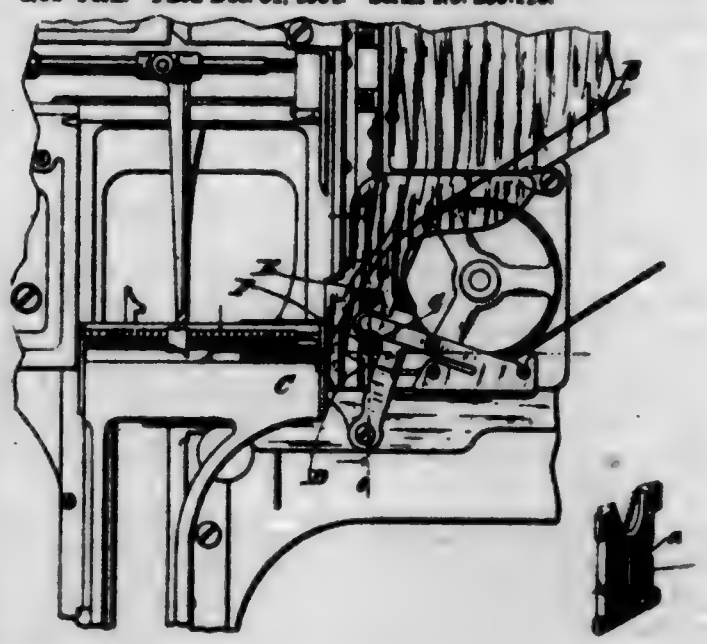
12. In a machine for gathering hay, &c., the combination with a frame provided with the wheels, and a driving-shaft, of a shaft operated therefrom and provided with raking-fingers arranged in rows, and a single clip on the shaft securing each row.

13. In a machine for gathering hay, &c., the combination with the frame, and a revoluble shaft journaled thereon, of raking-fingers extending radially of the shaft in rows and having laterally-extending inner ends, and clips on the shaft each adapted to secure the plurality of fingers in a separate row of one set of fingers and to engage the ends of the fingers in an adjacent row.

14. The combination with the main frame, of a hay-lifter thereon embodying a shaft having radially-extending spring-fingers provided with coils and laterally-extending ends, and collars on the shaft engaging said ends and provided with projections adapted to engage the coils to secure the arms to the shaft.

15. The combination with the main frame, of a hay-lifter thereon embodying a rotary shaft provided with fingers, arranged in rows and extending radially of the shaft having the loops at their inner ends and the laterally-extending portions, and collars on the shaft engaging said portions of one row of fingers and provided with projections engaging through the loops on an adjacent row of fingers.

806,070. **LINOTYPE-MACHINE.** PHILIP T. DODGE, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Dec. 31, 1904. Serial No. 239,116.



Claim.—1. A linotype-matrix provided with an inverted matrix character in the forward edge and with a large non-inverted reading character on its right side face, substantially as described, whereby plain indication will be given of the last character in the line as composition progresses.

2. A linotype-matrix having in one edge the matrix proper, at the opposite edge a corresponding reading character, and on the side face a large reading character arranged, as described, to be exposed when the matrix stands at the end of a composed line.

3. In a linotype-machine, mechanism for assembling matrices successively side by side in line, in combination with individual matrices, each having a matrix proper in one edge and a corresponding character of large size on the side next to the assembling or composing devices; whereby the characters added to the line are clearly and successively indicated.

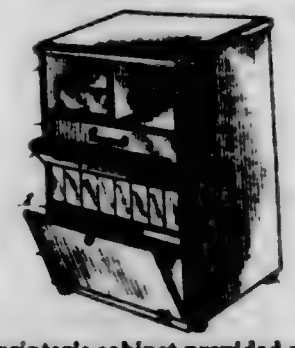
4. In combination, a composing mechanism adapted to assemble successive matrices side by side in line, and matrices each having in the edge toward the operator a reading character, in the opposite edge the matirx proper, and on the side nearest the assembling devices the seam character of large size; whereby the operator is enabled to determine instantly the last character in the line and also enabled to read connectedly all the characters in the line.

5. In a linotype-machine, the combination of matrices having their matrix characters in one edge and reading characters on one side, means for assembling them in line, means for illuminating the side face of the terminal matrix, and means for reflecting the image of said character.

6. In a linotype or kindred machine, matrices having reading characters in one side, means for assembling them in line, and means for reflecting the image of the character on the side of the end matrix in an angular direction.

7. In a linotype-machine, matrices having matrix characters in their edges and reading characters on their sides, in combination with means for assembling them side by side in line, and means for projecting light upon the side of the end matrix.

806,071. PRINTER'S CABINET. HENRY DORSEY, Dallas, Tex. Filed Jan. 30, 1905. Serial No. 243,394.



Claim.—1. A printer's cabinet provided with suitable compartments for the reception of different articles, one of said compartments constituting a drawer and being adapted to be withdrawn from the cabinet, and said cabinet being provided with a chute or hopper formed upon one side which communicates with the said drawer from the opposite side of the cabinet from which the drawer is constructed to be withdrawn.

2. A printer's cabinet provided with suitable compartments for the reception of different articles, one of said compartments constituting a drawer and being adapted to be withdrawn from the cabinet and said cabinet being provided with a chute or hopper which communicates with the said drawer from the opposite side of the cabinet from which the drawer is constructed to be withdrawn, said chute or hopper projecting from the cabinet and extending substantially the entire width thereof.

3. A printer's cabinet provided with suitable compartments for the reception of different articles, one of said compartments constituting a drawer and being adapted to be withdrawn from the cabinet, the said cabinet being provided with a chute or hopper communicating with said drawer and extending substantially the entire width of the cabinet, an open-ended compartment beneath the said drawer-compartment closed by means of spring-actuated doors, open-ended compartments above the said drawer-compartment accessible from opposite sides of the cabinet and a glass or stone plate forming a top for the cabinet.

4. A cabinet provided with an open-ended compartment formed in the lower portion thereof, said compartment extending across said cabinet, movable means for closing the opened ends of said compartment, a drawer positioned directly above said open-ended compartment, a chute formed upon said cabinet and providing a passage from the outside of said cabinet into said drawer, said cabinet provided with compartments and a drawer above said chute, and a plate, constituting a top, positioned upon said cabinet.

5. A cabinet provided with upper and lower open-ended compartments, drawers positioned between said compartments, a chute formed upon said cabinet between said drawers, and spring-actuated means for closing the opened ends of the lower compartment.

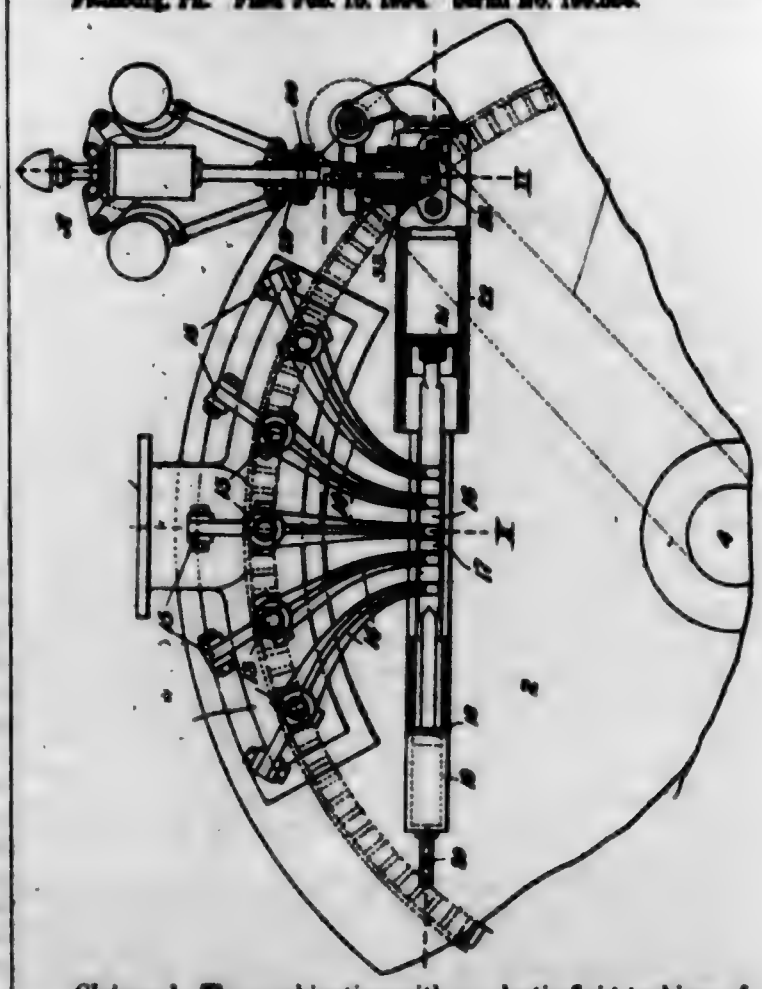
6. A cabinet provided with upper and lower compartments, upper and lower removable receptacles positioned between the upper and lower compartments, and a chute extending entirely across said cabinet and providing a passage from the outside of said cabinet into the interior of the lower receptacle.

7. A cabinet provided with upper and lower compartments, slidable receptacles positioned between said compartments, and stationary, inclined means formed upon said cabinet between said receptacles and capable of directing articles or material into one of said receptacles.

8. A cabinet provided with upper opened-end compartments and an open-ended lower compartment, a receptacle positioned between said compartments, stationary, inclined means formed upon one side of said cabinet and being capable of directing articles or material into said receptacle, and diametrically opposite, laterally-movable, spring-actuated means secured to said cabinet for closing the opened ends of the lower compartment.

9. A cabinet provided with an upper and lower compartment, a slidable receptacle positioned between said compartments, and inclined, stationary means formed upon one side of said cabinet and capable of directing articles or material into said receptacle.

806,072. ELASTIC-FLUID TURBINE. WILLIAM S. ELLIOTT, Pittsburg, Pa. Filed Feb. 15, 1904. Serial No. 193,584.



Claim.—1. The combination with an elastic-fluid turbine, of a series of valves adapted to admit fluid successively, levers therefor, and a governing device to operate the levers actuated by variable pressure.

2. The combination with an elastic-fluid turbine, of a series of valves adapted to admit fluid successively, levers therefor, and an automatic governing device therefor actuated by variable pressure and arranged to control the operation of said levers and valves.

3. The combination with an elastic-fluid turbine, of a series of supply-valves adapted to open and close successively, levers therefor, and a lifting-cam with actuating means therefor controlled by variations in the speed of the turbine.

4. The combination with an elastic-fluid turbine, of a series of supply-valves adapted to open and close successively, levers therefor, a lifting-cam, means for actuating the lifting-cam, and a governing device controlling the operation of said means.

5. The combination with an elastic-fluid turbine, of a series of supply-valves and levers, a lifting-cam provided with a constant-pressure piston, and a variable-pressure piston, and a governing device adapted to control the supply to and exhaust from the variable-pressure piston.

6. The combination with an elastic-fluid turbine, of a series of supply-valves and levers, a lifting-cam provided with a constant-pressure piston, and a variable-pressure piston, cylinders for said pistons, a pressure and exhaust valve respectively controlling the inlet and outlet of the cylinder of the variable-pressure piston, and a governing device adapted to control the operation of said valves.

7. The combination with an elastic-fluid turbine, of a series of supply-valves and levers, a lifting-cam provided with a constant-pressure and a variable-pressure piston, cylinders for said piston, a pressure and exhaust valve respectively controlling the inlet and outlet of the cylinder of the variable-pressure piston, and a governing device geared with the turbine-shaft and provided with a yoke connected with said valve.

8. The combination with an elastic-fluid turbine, of a series of supply-valves and levers, a lifting-cam provided with a constant-pressure and a variable-pressure piston, cylinders for said pistons, a pressure and exhaust valve respectively controlling the inlet and outlet of the cylinder of the variable-pressure piston, and a governing device geared with the turbine-shaft and provided with a pivoted yoke connected with said valves.

9. Valve-controlling mechanism for an elastic-fluid turbine consisting of the combination with inlet-valves, of two pistons having unequal areas, means for supplying fluid-pressure thereto, and a controlling-cam adapted to actuate the valves.

10. Valve-controlling mechanism for an elastic-fluid turbine consisting of two pistons having unequal areas, means for supplying fluid-pressure thereto, said pistons controlling a cam adapted to actuate the valves.

11. Controlling mechanism for an elastic-fluid turbine consisting of a nozzle-valve-actuating cam, pistons connected with said cam having unequal areas, means for supplying constant pressure to one of said pistons, and means controlling the supply and exhaust to and from the other of said pistons, said means being actuated by a governor so as to vary the pressure of said pistons during changes of the load.

12. Means for controlling the supply to an elastic-fluid turbine consisting of two pistons having unequal areas, means for supplying fluid-pressure to said pistons, and a cam-bar adapted to actuate the device for controlling the supply of fluid to the turbine.

13. Means for controlling the supply to an elastic-fluid turbine consisting of two pistons having unequal areas, means for supplying fluid-pressure to said pistons, and a cam-bar adapted to actuate the device for automatically controlling the supply of fluid to the turbine.

14. A controlling device for elastic-fluid turbines consisting of a constant-pressure cylinder, a piston therein, a variable-pressure cylinder, a piston therein, a cam-bar connecting said pistons, and valve mechanism controlling the supply and exhaust to and from the variable-pressure cylinder, adapted to automatically vary the pressure in the variable cylinder.

15. A controlling device for elastic-fluid turbines consisting of a cam-bar in engagement with nozzle-valve levers, balanced pistons connected therewith, and means for throwing said pistons out of balance upon changes of the speed or load of the turbine.

16. A controlling device for elastic-fluid turbines consisting of a cam-bar in engagement with nozzle-valve levers, balanced pistons connected therewith, and means for varying the pressure on one of said pistons upon changes of load or speed of the turbine.

17. Controlling mechanism for an elastic-fluid turbine consisting of a pair of balanced pistons adapted to be thrown out of balance by change of loads or speed of the turbine, whereby the movement of the pistons operates a device for opening and closing the supply-nozzles leading to the turbine.

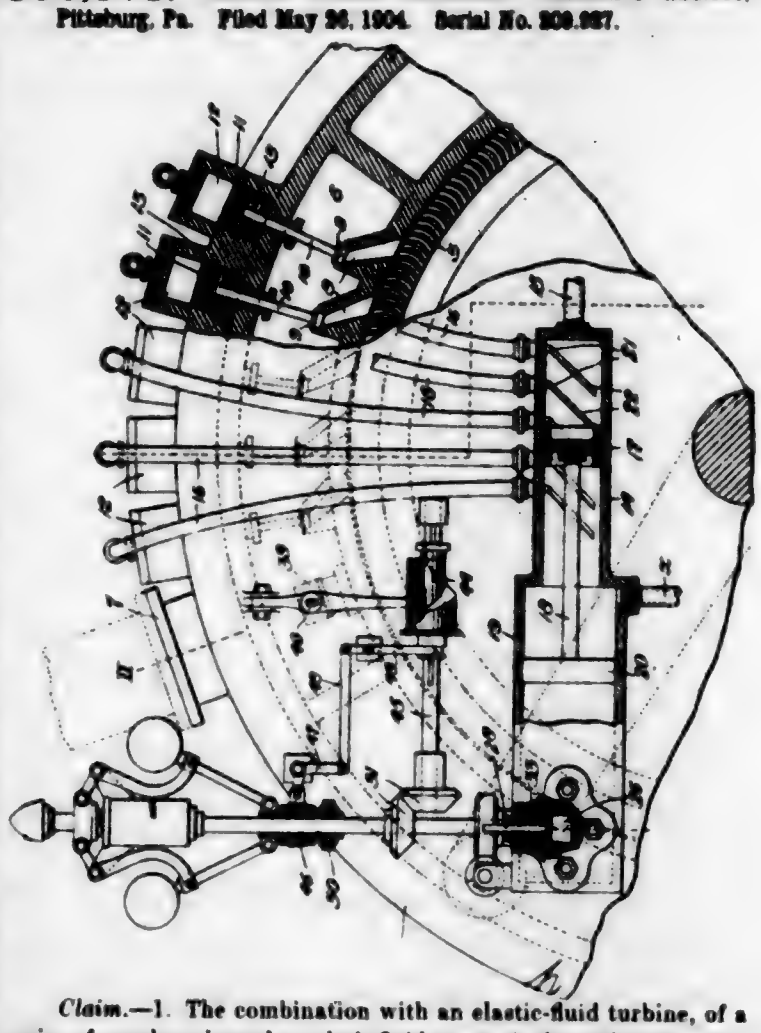
18. A fluid-actuated controller for varying the mass of the elastic fluid impinging against the vanes of the turbine automatically with the load, by means of a series of successively-operated lever-actuated nozzle-valves controlled by a variable-pressure medium.

19. Regulating mechanism for an elastic-fluid turbine consisting of a variable-pressure fluid-actuated controller, a cam connected therewith, a series of nozzle-valves, and levers connected therewith and engaging the cam.

20. The combination in an elastic-fluid turbine provided with a series of valves adapted to admit fluid successively, and corresponding actuating-levers therefor, of a lifting-cam arranged to engage and maintain engagement with said devices, and operating means connected therewith, actuated by variable pressure, substantially as set forth.

21. In combination with an elastic-fluid turbine, a fluid-actuated controller having pressure-balanced pistons, adapted to vary the supply by becoming unbalanced upon change of the load.

806,078. **ELASTIC-FLUID TURBINE.** WILLIAM S. ELLIOTT, Pittsburg, Pa. Filed May 26, 1904. Serial No. 209,987.



Claim.—1. The combination with an elastic-fluid turbine, of a series of nozzles adapted to admit fluid successively, and a pulsating nozzle-valve with means for controlling the supply of said nozzles in conformity with the speed of the engine.

2. The combination with an elastic-fluid turbine of a series of valves, pistons connected therewith, a supply of elastic fluid therefor, with means for controlling the supply thereof; and a supplemental pulsating nozzle-valve adapted to admit a variable volume of fluid to the vanes.

3. The combination with an elastic-fluid turbine, of a series of nozzle-valves adapted to admit fluid to the nozzles successively with means for actuating said valves, a valve adapted to admit a variable volume, a graduated cam adapted to impart movement to said valve, and means for varying the operative position of the cam according to the load of the engine.

4. In an elastic-fluid turbine, the combination with a series of nozzle-valves adapted to admit uniform volumes of elastic fluid to the vanes, of a fluid-supply-controlling valve adapted to admit a variable volume to the vanes, a graduated cam adapted to impart movement to said valve, and means for varying the operative position of the cam according to the load on the engine.

5. In an elastic-fluid turbine, the combination with a series of nozzle-valves adapted to admit uniform volumes of elastic fluid to the vanes, of a fluid-supply-controlling valve, adapted to admit a variable volume to the vanes, a graduated cam adapted to impart movement to said valve, a governor, and means connecting the governor with the cam whereby it is shifted in conformity with variations in the load of the engine.

6. In an elastic-fluid turbine, the combination of a series of nozzle-valves adapted to admit fluid successively, a series of pistons connected therewith, a pressure-supply-governing device, a governor connected with the pressure-supply-governing device, a nozzle controlled by a pulsating valve, a graduated cam adapted to impart movement to said valve, and means connecting the governor with the cam.

7. An elastic-fluid turbine, the combination of a series of nozzle-valves adapted to admit fluid successively, a series of spring-retracted pistons connected therewith, a cylinder provided with pressure-supply connections between the piston-chambers and the pres-

sure-supply cylinder, a piston-valve mounted in the pressure-cylinder, actuating means therefor controlled by variations in the speed of the turbine, a valve, and a graduated actuating-cam therefor also controlled by variation in the speed of the turbine.

8. In an elastic-fluid turbine, the combination of a series of nozzles adapted to admit fluid successively, and a nozzle having an intermittent flow.

9. In an elastic-fluid turbine, a series of non-pulsating nozzle-valves adapted to admit fluid successively in combination with a pulsating nozzle-valve.

10. In an elastic-fluid turbine, adapted to expand the fluid by stages, a series of nozzles for each stage, nozzle-valves therefor provided with pistons, and pressure connections between the pistons of successive stage-nozzles whereby the fluid-supply to the different stages is controlled simultaneously, and means independent of the pressure connections for retracting the pistons.

11. In an elastic-fluid turbine, adapted to expand the fluid by stages, a series of nozzles for each stage, nozzle-valves therefor provided with pistons, and pressure connections between the pistons of successive stage-nozzles whereby the fluid-supply to the different stages is controlled simultaneously and automatically in combination with stage-nozzles having an intermittent flow.

12. An elastic-fluid turbine adapted to expand the fluid by stages, nozzle-valves for each stage, fluid-actuated operating devices therefor, and pressure connections communicating with said devices throughout the different stages and with a source of pressure, with means controlling the supply therethrough in conformity with the speed of the engine.

13. An elastic-fluid turbine adapted to expand the fluid in stages and provided with successively-increasing numbers of nozzles for each succeeding stage, nozzle-valves therefor, fluid-actuated operating devices for said valves, and pressure connections communicating with said devices throughout the different stages and with a source of pressure.

14. An elastic-fluid turbine provided with a plurality of single series vanes, separate cylinders therefor within the walls of which cylinders the single series vanes rotate and whereby the fluid is expanded in stages, successively-increasing numbers of nozzles adapted to deliver the fluid thereto in proportion to the increasing volume of steam due to expansion, chambers communicating with said nozzles, controlling-valves therefor, fluid-actuated operating devices for the valves, and pressure connections communicating with said devices throughout the different stages and with a source of pressure.

15. An elastic-fluid turbine provided with a plurality of single series vanes adapted to expand the fluid by stages, and provided with a successively-increasing number of nozzles for each succeeding stage and supply-chambers communicating with said series of nozzles, with governor-controlled nozzle-valves adapted to admit the fluid to the nozzles in proportion to the load, and fluid-actuating operating devices therefor, with connections communicating therewith throughout the different stages and with a source of pressure.

16. An elastic-fluid turbine provided with a series of constant-volume nozzles and nozzle-valves therefor, in combination with a nozzle provided with a pulsating valve adapted to admit fluid periodically.

17. An elastic-fluid turbine provided with a series of constant-volume nozzles and nozzle-valves therefor, in combination with a nozzle and a pulsating valve adapted to admit fluid periodically, the capacity of said valve being sufficient to compensate for variations in the capacity of any two loads between the nozzles.

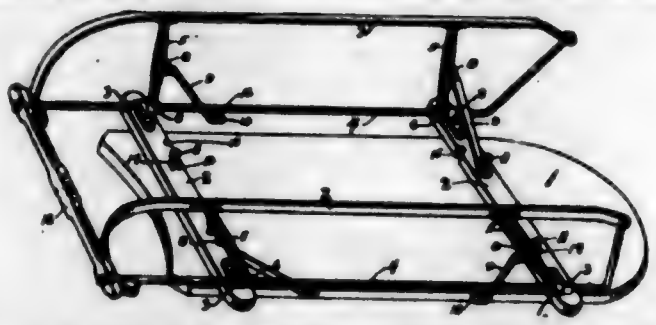
18. An elastic-fluid turbine provided with a series of successively-supplied constant-flow nozzles in combination with an intermittently-supplied nozzle, adapted to compensate for variations in the load between the capacity of any two constant nozzles.

19. An elastic-fluid turbine provided with a series of successively-supplied constant-flow nozzles in combination with an intermittently-supplied nozzle, adapted to supply a varying volume of fluid in addition to the volume furnished by the constant-flow nozzle.

20. An elastic-fluid turbine provided with a number of constant-flow nozzles, each of which supplies a fixed volume, in combination with an intermittent flow adapted to supply a variable volume.

806,074. SLED. OTHA A. REESE, Canton, Ohio. Filed Nov. 10, 1904. Serial No. 232,156.

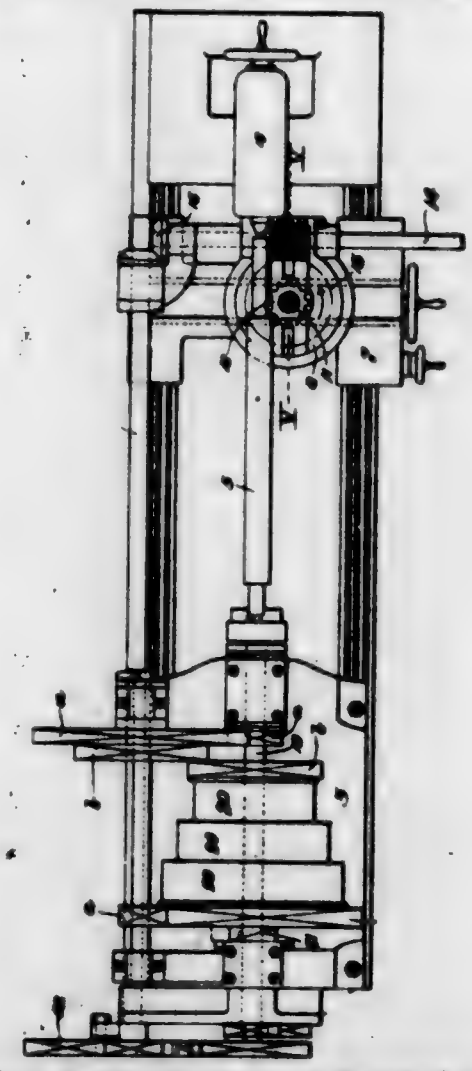
Claim.—1. In a sled, the combination of a sled-body, cross-bars secured to said body, and provided with clips, said clips adapted to receive and hold the top rods of the runners, and the top rods extended rearward, and their rear ends curved or bent downward, runners secured to the rear lower ends of the downward curved portions of the rods, said runners extended forward and upward at their forward ends and secured to the forward ends of the rods, said rods constituting the journals for the standards, braces pivoted to the standards and adapted to be secured to the cross-bars, and a front cross-bar carried by the top rods, substantially as and for the purpose specified.



2. In a sled of the class described, a sled-body provided with hinged runner members, said runner members constituting rods, standards secured to the rods, and the runners secured to the rods at their upper forward ends and the rods provided with rear downward extended portions and the runners secured to the lower ends thereof, and braces carried by the standards of the runner members and their free ends adapted to be secured in fixed relation with reference to the sled-body, substantially as and for the purpose specified.

3. In a sled of the class described, hinged runner members, braces pivotally attached to the runner members, eye or lug bolts located in the sled-body, the braces provided with notched ends, and pins secured to the sled-body and adapted to engage the non-recessed edges of the notched ends of the braces, substantially as and for the purpose specified.

806,075. SPIRAL-GEAR-CUTTING MACHINE. THOMAS FAWCUS, Pittsburg, Pa. Filed Aug. 19, 1904. Serial No. 221,418.



Claim.—1. In apparatus for generating spiral gear-teeth, the combination with a main power-driven spindle, of a longitudinally-traveling carriage provided with a vertical spindle, a spline-shaft and gearing arranged to rotate the vertical spindle, gearing arranged to transmit motion from the main power-driven spindle to the spline-shaft, a feed-screw geared with the main spindle arranged to propel the carriage, and compensating mechanism consisting of differential gearing interposed between the main spindle and the spline-shaft actuated by the feed-screw gearing, substantially as set forth.

2. The combination with a main longitudinal rotating spindle, driving mechanism therefor, a longitudinally-traveling carriage pro-

vided with a vertical spindle, a feed-screw for the carriage, gearing arranged to transmit motion from the main longitudinal rotating spindle to the feed-screw, and a spline-shaft and gearing arranged to rotate the vertical spindle; of compensating mechanism adapted to transmit motion from the main longitudinal rotating spindle to the spline-shaft consisting of a shaft geared with the main longitudinal rotating spindle and provided with a toothed wheel, a similar toothed wheel mounted on the spline-shaft, and a rotatably-mounted ring-gear provided with one or more idlers gearing into said toothed wheels, and gearing arranged to transmit motion to the ring-gear from the feed-screw gearing, substantially as set forth.

3. The combination with a rotating main spindle, driving mechanism therefor, a longitudinally-traveling carriage provided with a cutter-spindle having a cutter, gearing adapted to transmit motion to said cutter-spindle, and means for imparting longitudinal motion to the carriage; of compensating mechanism adapted to transmit motion from said main spindle to the carriage-spindle consisting of a shaft geared with said main spindle and provided with a bevel-wheel, a similar bevel-wheel connected with the cutter-spindle-driving mechanism, and a rotatably-mounted ring-gear provided with one or more bevels gearing into said bevel-wheels, with gearing arranged to transmit motion to the ring-gear from the means for imparting longitudinal motion to the carriage, substantially as set forth.

806,076. **CLIP.** ROBERT T. FROST, Dows, Iowa. Filed Feb. 15, 1905. Serial No. 245,724.



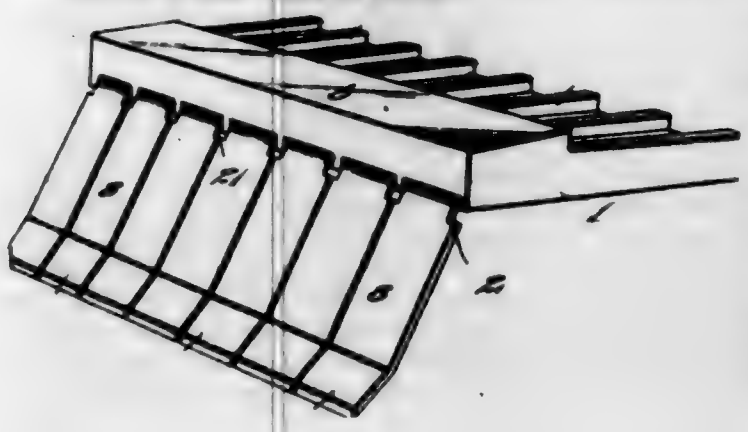
Claim.—A clip made from a single length of wire bent upon itself at a point between its ends to form a clip portion composed of spaced sides, one of said sides being projected angularly to form a head portion and thence extended to form a clip portion opposing the clip portion above mentioned, the other side of the first-mentioned clip portion being projected angularly at one end to form an arm thence bent to form a loop receiving the head of the clip portion aforesaid, the head and arm being arranged at angles to a plane including the sides.

806,077. **AZO COLORING-MATTER.** ERNST FUSSENEGGER, Ludwigshafen-on-the-Rhine, Germany, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation of Baden. Filed Aug. 4, 1905. Serial No. 272,767.

Claim.—1. As new articles of manufacture the azo coloring-matters which can be obtained by combining a diazo compound with 1.3-dihydroxy-quinolin, which dye unmordanted wool from yellow to orange-red shades, which in the form of their lakes possess from yellow to orange-red shades and which upon reduction with tin and hydrochloric acid yield amido-dihydroxy-quinolin.

2. As a new article of manufacture the azo coloring-matter which can be obtained by combining diazotized sulfanilic acid with 1.3-dihydroxy-quinolin, which dyes unmordanted wool yellow shades, which in the form of its lakes possesses yellow shades and which upon reduction with tin and hydrochloric acid yields sulfanilic acid and amido-dihydroxy-quinolin.

806,078. **CHIP-BREAKER.** JOHN B. GARNER, Philadelphia, Pa. Filed Mar. 1, 1905. Serial No. 247,968.



Claim.—1. A chip-breaker comprising a body having upper and lower sets of grooves and intersecting slots, spring-fingers having shanks slidably mounted in the lower grooves, and fastening devices passing through said slots and adjustably connecting the shank with the body, said fastening devices having guide members occupying the upper grooves.

2. A chip-breaker comprising a body having upper and lower sets of grooves and intersecting slots, spring-fingers having shanks slidably mounted in the lower grooves, bolts engaging said shanks and projecting upward through the slots into the upper grooves, and nuts upon the upper ends of the bolts.

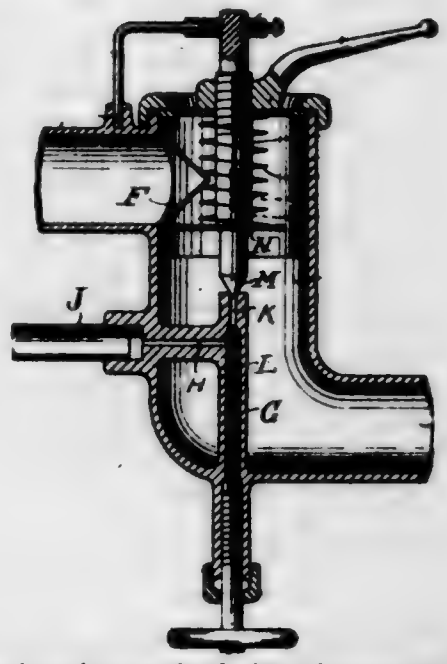
3. In a chip-breaker, a body, a spring bearing-finger having a curved shank adjustable in a path corresponding to its curvature, and means for mounting said finger upon the body.

4. In a chip-breaker, a body, a support adjustably mounted upon the body, a spring bearing-finger slidably adjustable in a circular path upon said support, and means for securing the finger in adjusted position upon the support and the latter to the body.

5. In a chip-breaker, a body, a supporting-block having a segmental recess, a spring bearing-finger having a segmental shank seated in said recess, a block to clamp the shank in the recess, and means for securing said block and support to the body.

6. A chip-breaker comprising a body having upper and lower sets of grooves and intersecting slots and a reinforcing portion disposed above the forward terminals of the upper slots, spring-fingers having shanks slidably mounted in the lower grooves and bearing at their forward ends against said reinforcing portion, and fastening-bolts engaging said shanks and projecting upward through the slots into the upper grooves and provided with clamping and guide members occupying said upper grooves.

806,079. **CARBURETER FOR HYDROCARBON-ENGINES.** OSCAR GAVELEK, Chicago, Ill., assignor of one-half to William L. Paul and Guy W. Mervin, Chicago, Ill. Filed July 25, 1904. Serial No. 218,048.

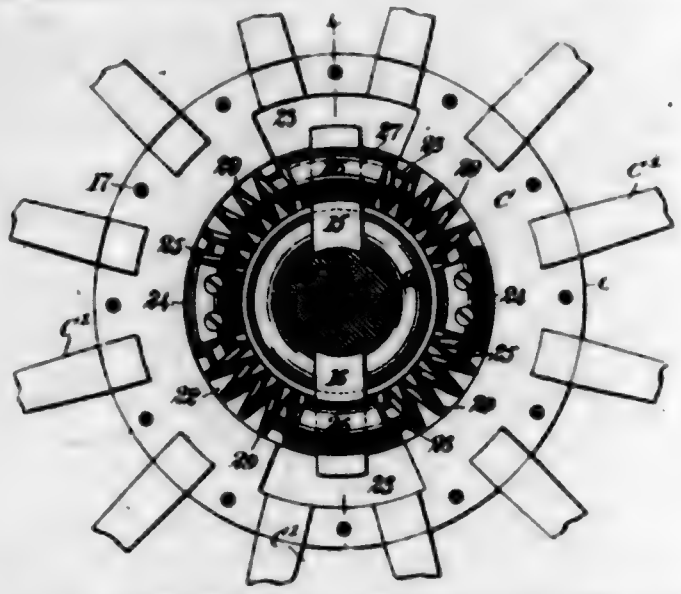


Claim.—A carbureter for hydrocarbon-motors, comprising a cylindrical casing provided at one end with inlets for air and hydrocarbon liquid respectively, and at its other end with an outlet for carbureted air, a throttle-valve controlling said outlet, a valve controlling said inlet for liquid, fluid-pressure-actuated means on said last-named valve for opening same, a longitudinally-movable plunger disposed in the path of said valve and controlling the degree of opening movement of same, said plunger being threaded between its ends and passing through a threaded opening in said throttle-valve, means for holding said plunger against revolution, and means for holding said throttle-valve against longitudinal movement, whereby when said throttle-valve is turned said plunger will be moved longitudinally.

806,080. **VEHICLE-WHEEL.** GEORGE L. GLASER, New York, N. Y., and JOHN OLSEN, Jersey City, N. J. Filed Dec. 19, 1904. Serial No. 237,462.

Claim.—1. In a vehicle-wheel hub, an outer rim having a chamber, an inner rim provided with projections extending into the chamber of the outer rim, a cushion between the rims, and a cushion in the chamber of the outer rim and engaging the projection of the inner rim.

2. In a vehicle-wheel hub, an outer rim having a chamber and a pocket exterior to the chamber, an inner rim provided with a projection extending into the pocket of the outer rim, a cushion between the rims, and a cushion in the chamber of the outer rim and engaging the projection of the inner rim.



3. In a vehicle-wheel hub, an outer rim provided with an annular chamber and oppositely-arranged pockets exterior to the chamber, an inner rim provided with a plurality of projections having their ends extending into the said pockets, a cushion between the rims, and cushions in the annular chamber of the outer rim and engaging the projections of the inner rim.

4. In a vehicle-wheel hub, an inner rim having projections, an outer rim, a cushion between the rims, and loose spring-pressed blocks mounted in the outer rim with which the projections on the inner rim engage.

5. In a vehicle-wheel hub, an inner rim having projections, an outer rim having an annular groove and pockets exterior of the groove, a cushion between the rims and loose spring-pressed blocks in the groove, said blocks being apertured, the projections of the inner rim extending through the apertures of the blocks into the pockets.

6. In a vehicle-wheel hub, an inner rim having oppositely-arranged projections, an outer rim having an annular groove and segment-shaped pockets, a cushion between the rims stationary blocks held in the groove, loose segmental blocks between the first-named blocks provided with openings through which the projections of the inner rim extend into the said pockets, and springs arranged between the said blocks.

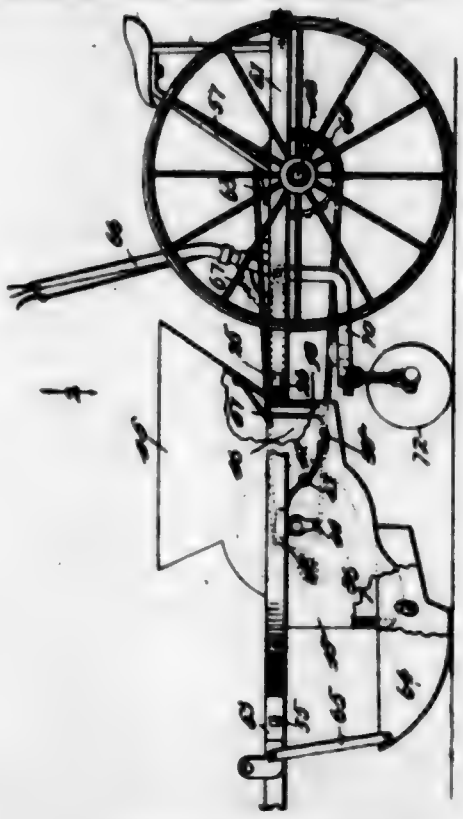
7. In a vehicle-wheel hub, an inner rim having radial fins, an outer rim having an annular groove and pockets exterior to the groove, loose segmental blocks in the groove opposite the mouths of the pockets, said blocks being provided with apertures through which the fins of the inner rim project into the pockets, springs between the said blocks, and cushions between the rims.

806,081. **POTATO-PLANTER.** THOMAS L. GOOD and CHARLES H. GERLINE, Edwardsville, Ill., assignors of one-third to Peter Bernhardt and one-sixth to Henry P. Holtz, both of Edwardsville, Ill. Filed May 1, 1905. Serial No. 258,416.

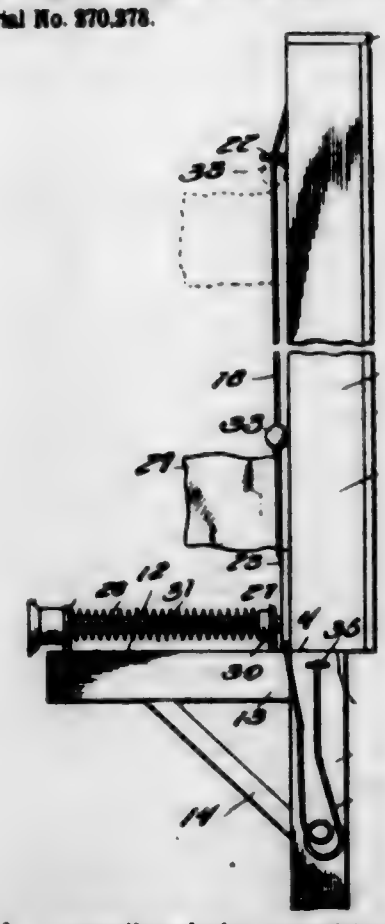
Claim.—1. In a potato-planter, a hopper having discharge-openings in its forward end, a transversely-arranged shaft in said hopper, means whereby said shaft is rotated, a disk located on said shaft within the hopper, pickers mounted upon said disk and adapted to pick up potatoes and drop them through the openings in the hopper, an agitator-plate arranged in the rear end of the hopper, a shaft carrying the agitator-plate, a crank fixed upon the end of the shaft, a cam fixed upon one end of the shaft that carries the disk, and an agitator-lever arranged so that one end bears on the end of the agitator-plate and the opposite end being in the path of travel of the cam; substantially as specified.

2. In a potato-planter, a frame, traction-wheels supporting said frame, a furrow-opener carried by the frame, a hopper carried by the frame above and to the rear of the furrow-opener, a disk arranged for rotation in the hopper, a plurality of pickers alternately arranged on the sides of said disk, cams located adjacent the disk, with which portions of the pickers engage to open said pickers during a portion of their travel, an agitator arranged in the rear end of the hopper, and means whereby said agitator is operated; substantially as specified.

3. In a potato-planter, a frame, traction-wheels supporting said frame, a furrow-opener carried by the forward end of the frame, a hopper carried by the frame above the rear end of the furrow-opener in the forward end of which hopper is formed discharge-openings, furrow-coverers arranged behind the furrow-opener, means whereby said furrow-coverers are elevated from the ground, a disk rotatably arranged in the hopper, a series of pickers alternately arranged on the sides of said disk, cams located adjacent the sides of the disk with which portions of the pickers engage to open said pickers during a portion of their travel, means whereby the disk is rotated, an agitator arranged in the rear end of the hopper, and means whereby said agitator is actuated; substantially as specified.



806,082. **SIGNAL.** PERRY A. GORDON, Jet, Okla. Filed July 18, 1905. Serial No. 270,378.

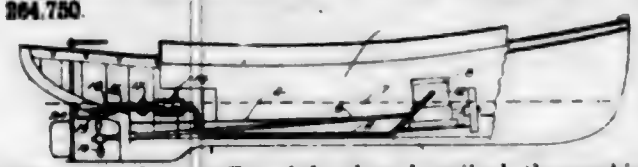


Claim.—1. A signaling device comprising a post having an opening in its upper end, a hollow casing embracing the post with its rear portion extending rearwardly of the post to form a hollow passage between the post and the rear of the casing, a pulley-wheel mounted in the said opening in the post, a support secured to the post, a spring-actuated bolt mounted upon said support, a latch-plate, a cord attached to the latch-plate and passed over said pulley and having a weight connected to its opposite end for sliding move-

ment in the passage between the rear of the casing and the post, the said cord having a flag secured thereto and adapted to be held in its lowered position by means of the spring-actuated bolt engaging the aforesaid latch-plate.

2. A signaling device comprising a post, having an opening in its upper ends, a support secured to the post beneath said opening, a pulley-wheel, mounted in said opening, a cord passed from said pulley and secured at one of its ends to a latch-plate and at its opposite end to a weight, a flag secured to the cord, said post having a perforation therein beneath the said opening, the latch-plate having a perforation therein, and a spring-actuated bolt passed through the perforation of the latch-plate and the bolt to hold the latch-plate in its lower position whereby the latch-plate, the cord and the flag may be released upon disengagement of the spring-actuated bolt from the perforations of the latch-plate and the post.

806,083. **MUFFLER FOR INTERNAL-COMBUSTION ENGINES.** FRED J. GOWING, Sacket Harbor, N. Y., assignor of one-half to Jerome B. Roseboom, Sacket Harbor, N. Y. Filed June 12, 1905. Serial No. 264,750.



Claim.—1. In a muffler of the class described, the combination with a boat or other water craft and an engine to operate the same mounted thereon, of a pipe adapted at one end to receive the exhaust from said engine, a drum or like part connected with said exhaust-pipe, an extension-pipe, a check-valve connected with said extension-pipe, and a nozzle adapted to discharge the exhaust from said engine beneath the surface of the water, substantially as described.

2. A muffler of the class described, comprising a pipe in connection with, and adapted to receive the exhaust from, an engine carried by a boat, a drum connected with said pipe, an extension-pipe, a check-valve in said last-named pipe, and a nozzle having a free open end forming the outlet for said exhaust through the stern of the boat, substantially as described.

3. A muffler of the class described, comprising a pipe adapted at one end to receive the exhaust from an engine carried by a boat, a drum or cylinder connected to the other end of said pipe, a second pipe connected with said drum or cylinder and extending through the keel of the boat, a nozzle secured to the outer surface of the boat, and adapted to receive the end of said second pipe and to effect the discharge of said exhaust beneath the surface of the water, and a check-valve in said second pipe adapted to prevent the flow of water into said pipe and drum, substantially as described.

4. In a muffler of the class described, the combination with the exhaust-pipe of an engine, of a drum connected with said exhaust-pipe, an extension-pipe connected with said drum, a check-valve in said extension-pipe, and a nozzle connected with, and forming a discharge port or outlet for said exhaust through, said extension-pipe, substantially as described.

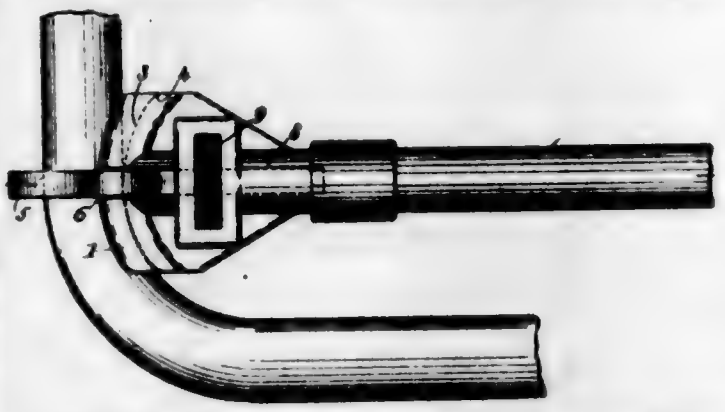
5. In a muffler of the class described, the combination with a boat or launch having an engine connected therewith, of a pipe adapted at one end to receive the exhaust from said engine, a drum connected with said exhaust-pipe, an extension-pipe, a check-valve, and a nozzle having an unrestricted opening therethrough connected with said extension-pipe and adapted to discharge the exhaust from the engine beneath the surface of the water, substantially as described.

806,084. **NOZZLE FOR TOBACCO-BAGS.** MAYER GRANAT, San Francisco, Cal. Filed May 24, 1905. Serial No. 261,962.



Claim.—A normally closed, discharge-nozzle for tobacco-bags and the like, comprising two lever-sections each of which has an outer, flat, inwardly-inclined arm the free edge of which is square, a vertical base at the inner end of said arm, side flanges extending inwardly at right angles from the outer arm and the vertical base and tapered toward their upper ends, flanges extending laterally from the vertical base and the lower portions of the side flanges and an inner arm fixed with respect to the outer arm; the outer portion of one of said lever-sections being of a less width than the outer portion of the other so as to normally rest within the latter portion, a pintle extending through the lower portions of the side flanges of the lever-sections and pivotally connecting said sections together, and a coiled spring mounted on the pintle and having terminal arms bearing upwardly against the bases of the outer arms of the lever-sections.

806,085. **PIPE-BENDER.** STEPHEN M. GREEN and WILLIAM T. MCFARLAND, New York, N. Y. Filed Apr. 22, 1905. Serial No. 256,821.



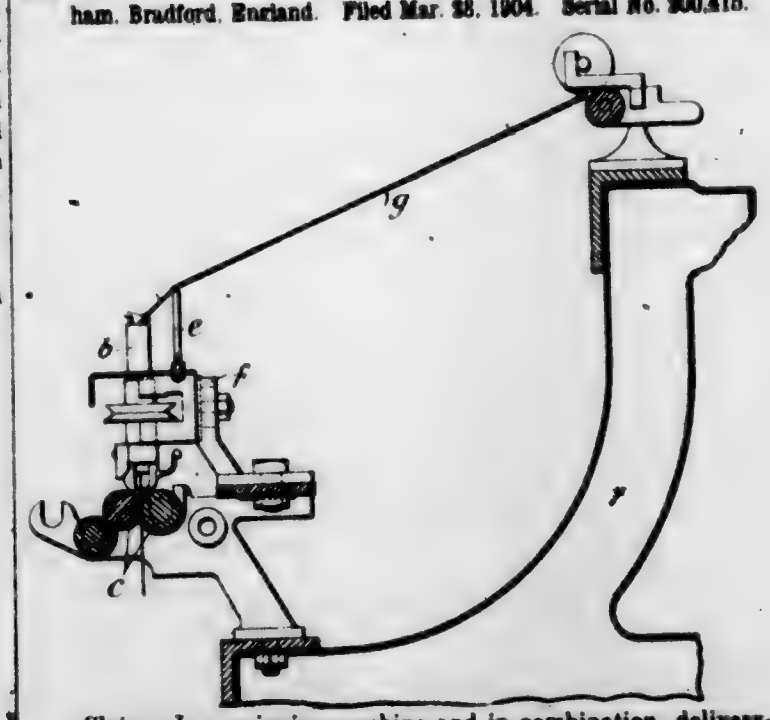
Claim.—1. A pipe-bender comprising a head having a longitudinally-curved and transversely V-shaped work-engaging surface, and a hook-jaw coacting with said head.

2. A pipe-bender comprising a head having a longitudinally-curved and transversely V-shaped work-engaging surface, the ends of the curve being somewhat abrupt with relation to the main portion thereof, and an adjustable hook-shaped jaw coacting with the head.

3. A pipe-bender comprising a head, longitudinally curved on its work-engaging side and having divergent walls, a tubular shank extended from the head and having lateral openings, a hook-shaped jaw having a threaded stem passing into the tubular shank, and an adjusting-nut engaging with said stem and extending outward through said lateral openings.

4. A pipe-bender comprising a head having divergent walls, the said head being longitudinally curved at the base or junction of said walls, one of said walls being slotted, a tubular shank extended from the head, a hook-shaped clamp adapted to move in said slot of said wall, a threaded stem extended from the clamp into the tubular shank, and an adjusting-nut engaging with the said stem.

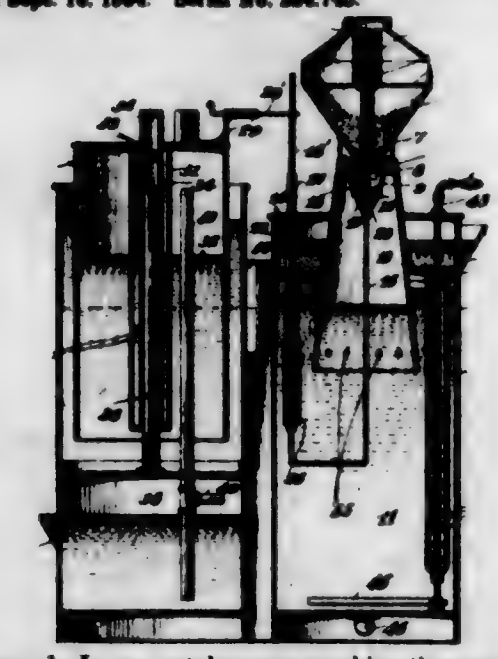
806,086. **SPINNING-MACHINE.** DURELL O. PEASE, Manningham, Bradford, England. Filed Mar. 28, 1904. Serial No. 200,415.



Claim.—In a spinning-machine and in combination, delivery-rollers, a twister-head having a plurality of yarn-engaging pins to

give a succession of alternate stretchings and releasings to the yarn at each revolution of the twister-head, a rigid yarn-deflector between the said delivery-rollers and said twister-head, means for adjusting said deflector to vary the angle of the delivery of the yarn to the twister-head, and drawing-rollers.

806,087. ACETYLENE-GAS GENERATOR. HENRY SYMONDS, Long Beach, Cal., assignor, by direct and mesne assignments, to Superior Light and Heat Co., Los Angeles, Cal., a Corporation of California. Filed Sept. 16, 1904. Serial No. 224,745.



Claim.—1. In an acetylene-gas machine the combination of a generating-chamber; a carbid-chamber above said generating-chamber; a safety-chamber below said carbid-chamber and connected thereto and to the generating-chamber, said safety-chamber having a port in the top thereof communicating with the carbid-chamber and a second port in the bottom thereof communicating with the generating-chamber; a valve in said safety-chamber; and means to move said valve to close the communication between the carbid-chamber and the safety-chamber whenever the gas-pressure in the generating-chamber rises above a predetermined pressure, whereby the flow of carbid is stopped at the top of the safety-chamber.

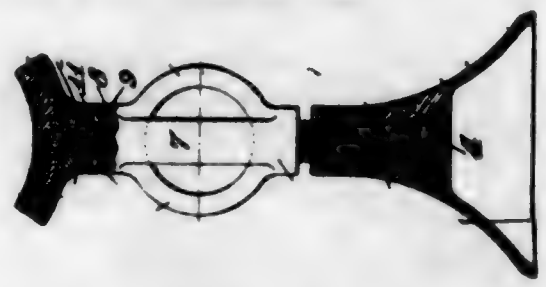
2. In an acetylene-gas machine the combination of a generating-chamber; a carbid-chamber above said generating-chamber and having a port in the bottom thereof; a safety-chamber below said carbid-chamber having a port in the bottom thereof; a collar secured to said safety-chamber on the outside of and near the port in the bottom thereof; a valve adapted to normally control the port in the bottom of the carbid-chamber, and also to control the port in bottom of the safety-chamber; a second valve connected to the first valve, said second valve being adapted normally to close the port in the bottom of the safety-chamber to deflect the carbid from a vertical line as same passes out of the safety-chamber; means to operate said valves.

3. In an acetylene-gas machine the combination of a generating-chamber; a carbid-chamber above said generating-chamber and having a port in the bottom thereof; a safety-chamber below said carbid-chamber having a port in the bottom thereof; a collar surrounding the lower end of said safety-chamber and projecting downwardly thereinto and provided with a plurality of openings near the bottom of said hood, said hood surrounding said safety-chamber; a U-shaped rod having one arm thereof passing through the ports in the carbid and safety chambers and the other arm passing through the top of the generating-chamber; a supporting-cone rigidly secured to the arm of said rod which passes through said safety-chamber; conical-shaped valves slidably mounted on said rod above said cone one of said valves being adapted to close the ports in the carbid and safety chambers; a brace in said chamber through which said rod passes; a nut on the end of said rod above said brace; a spring on said rod intermediate said rod and brace; a yoke on the other end of said rod; a spring on said rod intermediate said yoke and generator; a gas-bell; a support secured thereto; an arm slidably mounted in said support and adapted to be passed into and out of the yoke on the end of the valve-operating rod.

4. In an acetylene-gas machine of the character herein described, a safety-chamber intermediate the carbid-chamber and generating-chamber, having a port in the bottom thereof; a carbid-chamber above said safety-chamber having a port in the bottom thereof opening into said safety-chamber; a valve-rod passing through said ports; valves on said rod, one valve being within said safety-chamber and adapted to control the flow of carbid from the generating-chamber and to close the port in the bottom of the safety-chamber when the carbid is exhausted, the other valve being below the safety-chamber and adapted to close the port in the bottom thereof when the other valve closes the port in the bottom of the carbid-chamber; and means to operate said rod.

5. In an acetylene-gas machine of the character herein described a U-shaped valve-operating rod; valves on said rod; springs on said rod adapted to hold the valves in a closed position; a yoke on the end of said rod; a gas-bell; means carried thereon to enter said yoke and operate with it said valves.

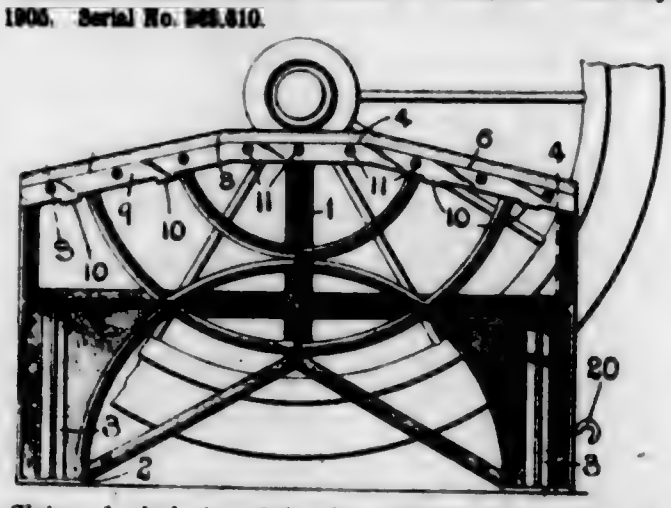
806,088. JACK FOR RELIEVING PRESSURE ON PNEUMATIC TIRES OF MOTOR-VEHICLES. JOHN C. WANDS, St. Louis, Mo. Filed May 18, 1905. Serial No. 260,995.



Claim.—1. The combination with a lifting-jack base having a flange provided with a straight side and a curved portion, of an upstanding tubular threaded portion integral therewith, a threaded shank in the threaded tubular portion, outwardly-curved handholds carried by the shank, integral shouldered jaw-engaging portions above the handholds, and an arcuate jaw rotatably carried thereby; substantially as described.

2. In a lifting-jack for vehicles, the combination with a base, the contour of which is approximately semicircular, an upstanding tubular portion carried by the base and having threads, an arcuate jaw for engaging the hub of the vehicle, and an operating device for said jaw comprising a shank engaging the threaded portion on the base, handholds 7 carried by the shank, and a constricted portion engaging a recess in the jaw; substantially as described.

806,089. DEVICE FOR RELIEVING PRESSURE ON MOTOR-VEHICLE TIRES. JOHN C. WANDS, St. Louis, Mo. Filed May 27, 1905. Serial No. 262,610.



Claim.—1. A device of the class described comprising a base having a horizontal hub-receiving portion and an inclined portion for guiding the wheel-hub onto the horizontal portion; substantially as described.

2. A device of the class described comprising a base having a hub-receiving bed provided with an intermediate horizontal portion and oppositely-inclined guide portions; substantially as described.

3. A device of the class described comprising a base having a rigid bed-receiving jaw and a movable jaw coöperating with the rigid jaw; substantially as described.

4. A device of the class described comprising a base provided with transversely-inclined braces, the upper portion of said base having an intermediate horizontal portion and oppositely-inclined end portions, and a yielding bed supported by said horizontal and inclined portions and conforming to the configuration thereof; substantially as described.

5. Means for elevating wheels provided with pneumatic tires comprising two alining bases having hub-receiving beds and an adjustably-attached flexible connection between the two alining bases; substantially as described.

6. A device of the class described comprising a vertical frame provided with a flange, a resilient bed on said frame for receiving a vehicle-hub, and an adjustable part attached to said frame and cooperating with said flange for holding the resilient bed in position; substantially as described.

REISSUES.

12,413. MECHANISM FOR RECORDING OR REGISTERING THE MAXIMUM MOVEMENT OF ANY MECHANISM. LLEWELYN B. ATKINSON, London, England, assignor to The General Electric Company, a Corporation of New York. Filed June 22, 1903. Serial No. 162,695. Original No. 706,146, dated Aug. 5, 1902.

Claim.—1. In an instrument for recording the maximum demand in an electric circuit, the combination of a pivoted member the position of which is a measure of the demand in said circuit, means responsive to the demand in said circuit for moving said member, and a movable solid part cooperating with said member and normally held by gravity in one position of equilibrium relative to the member but moved to a second position of equilibrium when a predetermined movement of said member takes place.

2. In an electrical maximum-demand instrument, a pivoted arm, a current-carrying coil for oscillating said arm in response to the demand in an electric circuit, a curved tube or channel carried by said arm, and a rolling element in said tube or channel.

3. In an electrical maximum-demand instrument, a pivoted movable arm, a current-carrying coil for moving said arm, a curved tube or channel carried by said arm, two end portions of said tube or channel being normally beneath a portion intermediate them, but one of the end portions being moved above the intermediate portion by a certain movement of said arm, and a rolling element normally located in one of the end portions of said tube or channel but moved to the other end of said tube or channel when said certain movement of the arm takes place.

4. In an electrical maximum-demand instrument, a pivoted arm, a current-carrying coil for oscillating said arm, a curved tube or channel carried by said arm, and a rolling element and damping fluid in said tube or channel.

5. In an instrument for recording the maximum demand in an electric circuit, the combination of a curved tube or channel moving to different positions in response to different demands in said circuit, and a series of movable elements in said curved channel or tube adapted to move from one position of equilibrium to another position of equilibrium, one by one, as the channel or tube moves into successive definite positions.

6. In combination, a tube or channel, means for moving it in accordance with changes in value of an electric quantity, a moving solid element in said channel tending to occupy one position of equilibrium or another in accordance with the position of the tube, and a damping fluid in said tube.

7. In a recording mechanism in combination an electromagnet, an armature, a pivoted arm carrying said armature, a curved tube or channel carried by said arm, the ends of said tube being normally below an intermediate connecting portion, and a rolling element in said tube or channel, said element being normally located at one end of said tube but being moved to the other end of said tube by a predetermined movement of said pivoted arm.

8. In a recording mechanism, a tube or channel comprising two substantially straight portions and a connecting portion, a solid element in said tube or channel, an electric circuit and means for causing the movable element in the tube or channel to move from a position of equilibrium in one of said portions to another position of equilibrium in the other of said portions in response to a certain predetermined change in the electrical condition of said circuit.

9. In an instrument for recording the maximum demand of an electric circuit, a part having a channel formed in it, a solid element carried in said channel, electromagnetic means for causing the element to pass from one position of equilibrium in said channel to another position of equilibrium in said channel upon a predetermined demand in said circuit, and means for preventing the return of said element to the original position of equilibrium upon the cessation of the predetermined demand in said circuit.

10. In an instrument for recording the demand in an electric circuit a part having a channel, said channel comprising two portions out of line with one another, a movable solid element carried by the channel, and electromagnetic means operatively connected to said circuit for causing said element to move from a position of equilibrium in one of said portions to a position of equilibrium in the other of said portions upon a predetermined demand in said circuit.

DESIGNS.

37,699. HANDLE FOR SPOONS, FORKS, OR SIMILAR ARTICLES. GEORGE C. LUNT, Greenfield, Mass., assignor to Rogers Lunt & Bowlen Company, Greenfield, Mass., a Corporation of Massachusetts. Filed Oct. 23, 1905. Serial No. 284,115. Term of patent 14 years.



Claim.—The ornamental design for a handle for a spoon, fork or similar article, as shown.

37,700. TOP FOR SHEET-METAL CANS. HERBERT O HYATT, New York, N. Y. Filed June 10, 1905. Serial No. 264,738. Term of patent 7 years.



Claim.—The ornamental design for a sheet-metal can as shown.

37,701. TEXTILE FABRIC. ALEXANDRE GUILLE, Paris, France, assignor to Cheney Brothers, a Corporation of Connecticut. Filed Oct. 5, 1905. Serial No. 281,533. Term of patent 3½ years.

37,701.



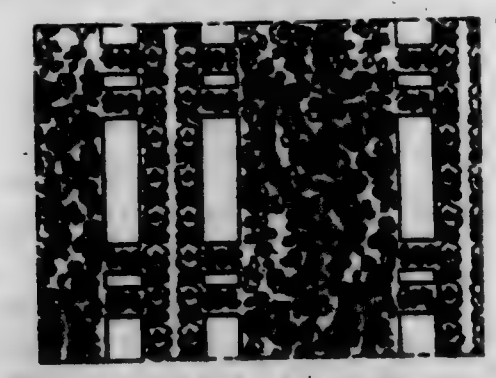
Claim.—The ornamental design for a textile fabric, as shown.

37,702. TEXTILE FABRIC. Alexandre Guelle, Paris, France, assignor to Cheney Brothers, a Corporation of Connecticut. Filed Oct. 5, 1905. Serial No. 281,534. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric, as shown.

37,703. TEXTILE FABRIC. Paul Mouton, Paris, France, assignor to Cheney Brothers, a Corporation of Connecticut. Filed Oct. 24, 1905. Serial No. 284,250. Term of patent 3½ years.



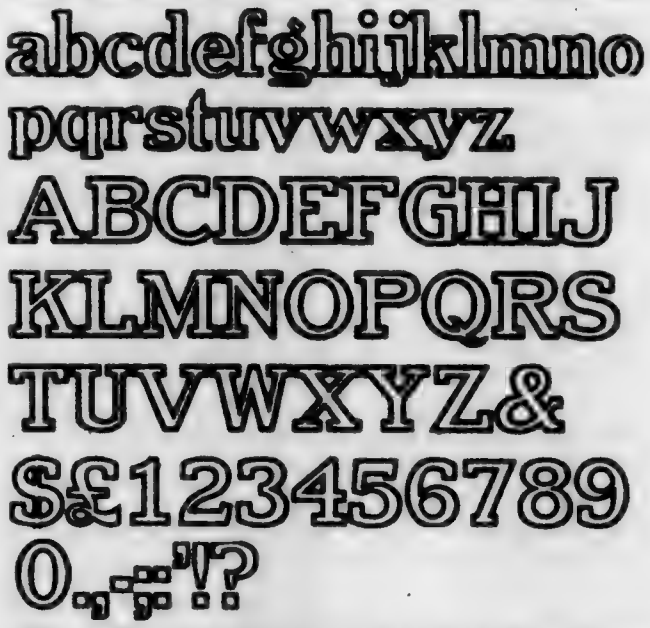
Claim.—The ornamental design for a textile fabric, as shown.

37,704. TEXTILE FABRIC. John Frederick Christian Deele, Sacramento, Cal. Filed Oct. 17, 1905. Serial No. 283,195. Term of patent 7 years.



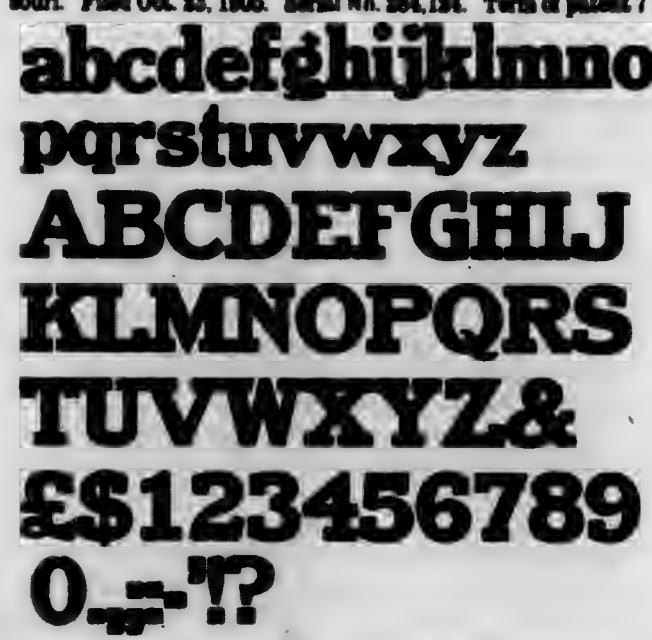
Claim.—The ornamental design for a textile fabric, as shown

37,705. FONT OF TYPE. Carl Schraubstadter, St. Louis, Mo., assignor to Inland Type Foundry, St. Louis, Mo., a Corporation of Missouri. Filed Oct. 23, 1905. Serial No. 284,123. Term of patent 7 years.



Claim.—The ornamental design for a font of type shown.

37,706. FONT OF TYPE. Carl Schraubstadter, St. Louis, Mo., assignor to Inland Type Foundry, St. Louis, Mo., a Corporation of Missouri. Filed Oct. 23, 1905. Serial No. 284,124. Term of patent 7 years.



Claim.—The ornamental design for a font of type shown.

TRADE-MARKS

PUBLISHED NOVEMBER 28, 1905.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 116. WHISKY. BROWN-FORMAN CO., Louisville, Ky. Filed Apr. 1, 1905. Used ten years.

OLD FORMAN

The words "OLD FORMAN."

Ser. No. 119. WHISKY. BROWN-FORMAN CO., Louisville, Ky. Filed Apr. 1, 1905. Used ten years.

OLD TUCKER

The words "OLD TUCKER," arranged on a fanciful scroll.

Ser. No. 473. CANDIES. HAWLEY & HOORE, New York, N. Y. Filed Apr. 5, 1905. Used ten years.

EMPIRE STATE.

The words "EMPIRE STATE."

Ser. No. 1,080. CLOTHS FOR LADIES', MEN'S, AND CHILDREN'S WEAR. GRIFFON COMPANY, New York, N. Y. Filed Apr. 10, 1905.

Ser. No. 1,080.

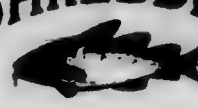


GRIFFON

The representation of a griffon and the word "GRIFFON."

Ser. No. 1,102. SALTED AND BONELESS FISH. J. W. BEARDSLEY'S SONS, New York, N. Y. Filed Apr. 11, 1905. Used ten years.

SHREDDED



The word "SHREDDED" and the representation of a fish.

Ser. No. 1,346. MALT TONIC. INDEPENDENT BREWING ASS'N, Chicago, Ill. Filed Apr. 18, 1905.

SER. No. 1,346.



The representation of a female in conventional nurse's garb and carrying a small waiter, on which is a bottle and a glass. On the apron of the figure are printed the words "I BRING YOU HEALTH."

SER. No. 1,411. HATCHETS, AXES, AND ADZES. JAMES C. LINDSAY HARDWARE CO., Pittsburg, Pa. Filed Apr. 13, 1905.

TRUE BLUE

The words "TRUE BLUE."

SER. No. 1,484. WHISKY. ROSENAU, GERSTLEY & Co., Philadelphia, Pa. Filed Apr. 14 1905. Used ten years.

Old Saratoga

The words "OLD SARATOGA."

SER. No. 1,808. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

FLORAL SERIES

The words "FLORAL SERIES."

SER. No. 1,810. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

SER. No. 1,810.

FASHION SERIES

The words "FASHION SERIES."

SER. No. 2,073. COD-LIVER OIL. WATERBURY CHEMICAL COMPANY, Des Moines, Iowa. Filed Apr. 17, 1905.

Waterbury Chemical Co.
Des Moines Ia.

The words and abbreviations "WATERBURY CHEMICAL CO., DES MOINES, IA.," in the facsimile handwriting of Frank Waterbury, the president of the applicant corporation.

SER. No. 2,188. GLOVES. ABRAHAM & STRAUS, New York, N. Y. Filed Apr. 18, 1905.

Yvonne

The word "YVONNE."

SER. No. 2,337. WHISKY. PHILIP FREILER, Elgin, Ill. Filed Apr. 20, 1905.



The bust picture of a woman in fanciful costume inclosed in an ornamental circle, associated with the words "BELLE OF NAVARRE."

SER. No. 2,384. PORTLAND CEMENT. GERMAN-AMERICAN PORTLAND CEMENT WORKS, Lasalle, Ill. Filed Apr. 20, 1905.

OWL

The word "OWL."

SER. No. 2,330. TEA. SHERMAN BROTHERS AND COMPANY, Chicago, Ill. Filed Apr. 20, 1905.



The word "SEETA," appearing twice in quotation-marks and associated with the words "CEYLON TEA," and busts of an oriental female repeated three times and having a background of palms and mosques. Border-lines also appear.

SER. No. 2,617. ASPHALT MASTIC. GABRIEL & SCHALL, New York, N. Y. Filed Apr. 21, 1905. Used ten years.

BRUNSWICK

The word "BRUNSWICK."

SER. No. 2,832. BOND-PAPER. W. B. WEBB & COMPANY, Chicago, Ill. Filed Apr. 24, 1905.

CONSTRUCTION



The word "CONSTRUCTION," below which is a shovel crossing a pickax.

SER. No. 2,828. SHEETINGS AND DRILLINGS. G. L. MONTGOMERY, New York, N. Y. Filed Apr. 24, 1905.

雙天官為記



The representation of two Chinese mandarins in native costume, with five Chinese characters appearing above the representation of the two mandarins, which characters, when translated, read "DOUBLE CELESTIAL MANDARIN."

SER. No. 2,852. CHEWING AND SMOKING TOBACCO. THE BLOCH BROTHERS TOBACCO COMPANY, Wheeling, W. Va. Filed Apr. 24, 1905.



The representation of a leather mail-pouch and the words "MAIL POUCH."

SER. No. 2,997. RAZORS. GEORGE R. SPRINGER, Kansas City, Mo. Filed Apr. 26, 1905.

TheMARS

The words "THE MARS."

SER. No. 3,242. DRY, FRESH, AND CANNED FISH. REED AND GARAGE, Gloucester, Mass. Filed Apr. 27, 1905.

"STAR"



The representation of a star, associated with the word "STAR," inclosed in quotation-marks.

SER. No. 3,291. COFFEE. CRESCENT MANUFACTURING CO., Seattle, Wash. Filed Apr. 27, 1905.

99

The numerals "99," arranged side by side.

SER. No. 3,371. WHISKY. DAVID WISE, Chicago, Ill. Filed Apr. 28, 1905. Used ten years.



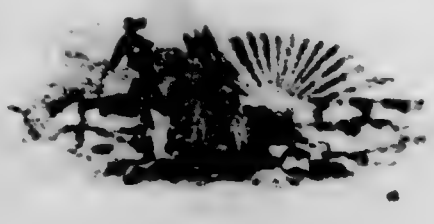
The words "OLD TOM BENTON," associated with the word "WHISKEY" and inclosed in an ornamental circular border.

SER. No. 3,372. WHISKY. DAVID WISE, Chicago, Ill. Filed Apr. 28, 1905. Used ten years.



The word "CLEARFIELD," associated with the words, firm name, and address "OLD MONONGAHELA RYE, DAVID WISE & CO., DISTILLERS, CHICAGO," on a rectangular background of contrasting color inclosed by a rectangular outline.

SER. No. 3,421. NATURAL MINERAL WATER. THE MANITOU MINERAL SPRINGS COMPANY, Manitou, Colo. Filed Apr. 26, 1905. Used ten years.



A representation of the upper part of the body of an Indian rising above the clouds, with the setting sun in the background, the Indian holding a glass in one hand and a pipe in the other.

SER. No. 3,373. WHISKY. DAVID WISE, Chicago, Ill. Filed Apr. 28, 1905. Used ten years.



The hyphenated word "AK-SAR-BEN," associated with the firm-name and words "DAVID WISE & CO'S CHICAGO OLD RYE," the whole being inclosed in an ornamental circular border.

SER. No. 3,518. METAL BEDSTEADS. MARION IRON & BRASS BED CO., Marion, Ind. Filed Apr. 28, 1905.

Sanitaire

The word "SANITAIRE."

SER. No. 3,953. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 2, 1905. Used ten years.

SQUEEZERS

The word "SQUEEZERS."

SER. No. 3,955. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 2, 1905. Used ten years.

HUSTLER

The word "HUSTLER."

SER. No. 3,960. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 2, 1905. Used ten years.

MONTANA

The word "MONTANA."

SER. No. 4,076. DRIED, SMOKED, PICKLED, SALTED, AND CANNED FISH. WILLIAM T. SMITH, Gloucester, Mass. Filed May 3, 1905.

GOLD WEDGE

The words "GOLD WEDGE."

SER. No. 4,222. REMEDY FOR BLOOD AND NERVE DISEASES. PERCY REGINALD PALETHORPE, Louisville, Ky. Filed May 3, 1905.

"CANDOIDS"

The word "CANDOIDS," inclosed in quotation-marks.

SER. No. 4,247. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed May 4, 1905.

CAPITOL

The word "CAPITOL."

SER. No. 4,312. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 5, 1905. Used ten years.

MASCOTTE

The word "MASCOTTE."

SER. No. 4,314. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 5, 1905. Used ten years.

"BEE"

The word "BEE," inclosed in quotation-marks.

SER. No. 4,322. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 5, 1905. Used ten years.

CROWN

The word "CROWN."

SER. No. 4,561. REMEDY FOR RHEUMATIC AFFECTIONS GENERALLY, GOUT, AND LUMBAGO. WILLIAM R. WARNER & CO., Philadelphia, Pa. Filed May 6, 1905. Used ten years.

ELIXIR SALICYLIC COMP

The words "ELIXIR SALICYLIC COMP."

SER. No. 4,570. POWDER FOR DRYING THE HAIR. WALDSTEIN & BERTH, New York, N. Y. Filed May 6, 1905.

"W. & B."

The letters and character "W. & B.," inclosed in quotation-marks.

SER. No. 4,581. MERCERIZED COTTON FABRICS. CLARENCE WHITMAN & CO., New York, N. Y. Filed May 6, 1905.

SOIESETTE

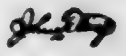
The word "SOIESETTE."

SER. No. 4,582. COTTON PIECE GOODS. CLARENCE WHITMAN & CO., New York, N. Y. Filed May 6, 1905.



The representation of two entwined winged serpents having griffon-like heads, with a shuttle interposed between the bodies thereof.

SER. No. 4,645. LEATHER BOOTS AND SHOES. GUTHMANN CARPENTER & TELLING, Chicago, Ill. Filed May 8, 1905. Used ten years.



The facsimile signature of John Telling, deceased.

SER. No. 4,671. DYES AND DYESTUFFS. THE JOHNSON-RICHARDSON CO., LIMITED, Montreal, Canada. Filed May 8, 1905.

DY-O-LA

The hyphenated word "DY-O-LA."

SER. No. 4,702. COFFEE. THE G. B. FARRINGTON COMPANY, New York, N. Y. Filed May 8, 1905.



The word "CASTLE" and the representation of a round battlemented tower erected upon a natural-rock foundation, showing other towers or turrets in the distance on each side.

SER. No. 4,980. ART-LITHOGRAPHS. RAPHAEL TUCK AND SONS CO., LTD., New York, N. Y. Filed May 10, 1905. Used ten years.

SER. No. 4,930.



The representation of an easel supporting a panel on which is placed a monogram of the letters and sign "R T & S," a palette being arranged below the panel and brushes extending through the thumb-opening of the palette, the words "ARTISTIC SERIES" being placed on the palette.

SER. No. 4,937. PIANOS. HUGO WORCH, Washington, D. C. Filed May 10, 1905.

Clementi



The word "CLEMENTI" and a portrait of Muzio Clementi, deceased, inclosed in a wreath.

SER. No. 5,005. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 11, 1905.

CORAL

The word "CORAL."

SER. No. 5,006. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 11, 1905.

Crow

The word "CROW."

SER. No. 5,015. CLEANING AND RENOVATING COMPOUNDS ADAPTED FOR APPLICATION TO POLISHED AND VARNISHED SURFACES. COLUMBIA REFINING CO., New York, N. Y. Filed May 11, 1905.

AMBERZO

The word "AMBERZO."

SER. No. 5,083. DRIED, PICKLED, SMOKED, SALTED, AND CANNED FISH. WILLIAM T. SHUTE, Gloucester, Mass. Filed May 11, 1905.

Diamond Wedge

The words "DIAMOND WEDGE."

SER. No. 5,084. DRIED, CANNED, PICKLED, SMOKED, AND SALTED FISH. WILLIAM T. SHUTE, Gloucester, Mass. Filed May 11, 1905. Used ten years.

TID-BITS

The hyphenated word "TID-BITS."

SER. No. 5,243. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905. Used ten years.

OLYMPIA

The word "OLYMPIA."

SER. No. 5,287. CROCHET QUILTS. UNION MANUFACTURING COMPANY, Peterboro, N. H. Filed May 12, 1905.



A monogram composed of the letters "C M."

SER. No. 5,309. WINE. HENRY BLOCK CO., LIMITED, New Orleans, La. Filed May 12, 1905.

VINO
USO SICILIA

The words "VINO USO SICILIA."

SER. No. 5,327. MANUFACTURED COLORS FOR PRINTING AND DYEING. AMERICAN DYEWOOD CO., Philadelphia, Pa. Filed May 12, 1905.

TETRAZODE

The word "TETRAZODE."

SER. No. 5,348. WHISKY. SQUIRE T. HARVEY & SON, Chicago, Ill. Filed May 12, 1905. Used ten years.

Inglenide

The word "INGLESIDE."

SER. No. 5,364. SOLUBLE THIOSINAMINE COMPOUND FOR MEDICINAL USE. E. MERCK, a Firm, Darmstadt, Germany. Filed May 13, 1905.

FIBROLYSIN

The word "FIBROLYSIN."

SER. No. 5,369. PREPARATION FOR CLEANING AND POLISHING METALS AND GLASS. THE ELECTRO-SILICON CO., New York, N. Y. Filed May 12, 1905.



The arbitrarily-coined title "ELECTRO-SILICON," arranged in a curved line within two concentric circles and above a smaller circle inclosing the words "OR MAGIC BRILLIANT," and the figure of a woman apparently in the act of polishing a silver pitcher resting upon a table and upon which is shown a reflection of her face.

SER. No. 5,475. STEEL BARS, RODS, BILLETS, BLOOMS SHEETS, PLATES, SLABS, STRIPS, BLOCKS, AND FORGINGS. PARK STEEL COMPANY, Pittsburg, Pa. Filed May 13, 1905.

BLACK IMP



The words "BLACK IMP," associated with the representation of an imp seated upon a trident and inclosed within a circle

SER. No. 5,478. STEEL BARS, RODS, BLOOMS, BILLETS, SLABS, BLOCKS, AND FORGINGS. PARK STEEL COMPANY, Pittsburg, Pa. Filed May 13, 1905.

ACME

The word "ACME."

SER. No. 5,631. NIPPERS, PINCERS, AND CUTTING-PLIERS. UTICA DROP FORGE & TOOL COMPANY, Utica, N. Y. Filed May 15, 1905.



A representation of three oblong links surrounding the letters "U TI CA."

SER. No. 5,681. ANVILS. CARL F. BOKER, New York, N. Y. Filed May 15, 1905. Used ten years.



The word "TRENTON," arranged within a diamond-shaped figure.

SER. No. 5,678. WHISKY. H. SWARTZ & CO., Boston, Mass. Filed May 15, 1905.



The representation of a golden dome surmounting a pediment on a black background, the words "GOLDEN DOME" being printed in gilt letters upon a red rectangular panel as a background and the whole surrounded by scrollwork in gilt, the said scrollwork being arranged in an irregular figure upon either side of the dome and in a generally rectangular figure beneath the panel.

SER. No. 5,702. WHISKY. ALFRED E. NORRIS, Philadelphia, Pa. Filed May 15, 1905.



The word "TROOPER" and the representation of a trooper mounted on horseback inclosed within a fanciful border, associated with the words, letter, character, and abbreviation "OLD BLENDED RYE WHISKEY, ALFRED E. NORRIS & CO., PHILADELPHIA."

SER. No. 5,755. LATHER-BRUSHES. RUBBER & CELLULOID HARNESS TRIMMING CO., Newark, N. J. Filed May 15, 1905.

BLUE RIBBON

The words "BLUE RIBBON."

SER. No. 5,868. VERMIFUGE. B. A. FAHNESTOCK CO., Pittsburg, Pa. Filed May 12, 1905.



A portrait of B. A. Fahnestock, deceased, surrounded by a wreath, below which is an oval die, in which are the letters and word

"B. A. FARNESTOCK'S." At one side of the said oval is the representation of a niche containing a standing female figure representing a mother administering medicine to her sick child. On the other side, in a similar niche, is a standing figure of Esculapius holding in his arms a child in full health. At each of the upper corners, to the right and left of the portrait, is an oval rosette, the intervening space being filled with ornamental scrollwork. At the bottom is a panel containing the word "VERMIFUGE" and ornamental scrollwork.

SER. No. 5,884. WIRE ROPES. A. LESCHEN & SONS ROPE CO., St. Louis, Mo. Filed May 17, 1905.

"HERCULES"

The word "HERCULES," incloseed in quotation-marks

SER. No. 5,886. SILK FLOSS OR EMBROIDERY-SILK. INCORPORATED NEW LONDON WARP SILK CO., New London, Conn. Filed May 17, 1905.

QUINEBAUG

The word "QUINEBAUG."

SER. No. 5,917. WHISKY. S. ALTHAYER, Macon, Ga. Filed May 17, 1905. Used ten years.

OLD SHARPE WILLIAMS

The words "OLD SHARP WILLIAMS."

SER. No. 6,073. RUBBER HEELS AND SOLES. MASSACHUSETTS CHEMICAL COMPANY, Boston, Mass. Filed May 19, 1905.

CAT'S PAW

The words "CAT'S PAW."

SER. No. 6,075. WHISKY. M. SHAUGHNESSY DISTILLING COMPANY, St. Louis, Mo. Filed May 19, 1905. Used ten years.

COAL PORT

The words "COAL PORT."

SER. No. 6,155. FLUID SOAPS. ARNOLD WOOD, New York, N. Y. Filed May 23, 1905.

PRESTOCLEAN

The word "PRESTOCLEAN."

SER. No. 6,167. HARNESS AND SADDLERY LEATHER. W. W. MOONEY & SONS, INCORPORATED, Columbus, Ind. Filed May 20, 1905.

W. W. Mooney & Sons

The facsimile signature "W. W. MOONEY & SONS" as written by William A. Mooney.

SER. No. 6,169. HARNESS AND SADDLERY LEATHER. W. W. MOONEY & SONS, INCORPORATED, Columbus, Ind. Filed May 20, 1905. Used ten years.

PURE OAK

The words "PURE OAK."

SER. No. 6,170. HARNESS AND SADDLERY LEATHER. W. W. MOONEY & SONS, INCORPORATED, Columbus, Ind. Filed May 20, 1905. Used ten years.

MOONEY

The word "MOONEY."

SER. No. 6,175. SPICES. E. B. MILLAR & CO., Chicago, Ill. Filed May 20, 1905. Used ten years.

PENANG

The word "PENANG."

SER. No. 6,218. MOLASSES. MCCANN & CO., New Orleans, La. Filed May 22, 1905.

CANE FRUIT

The words "CANE FRUIT," surrounded by a wreath of sugar-cane.

SER. No. 6,341. LEATHER SHOES. J. P. HARTRAY SHOE CO., Chicago, Ill. Filed May 22, 1905.

KINDERGARTEN

The word "KINDERGARTEN."

SER. No. 6,358. SWITCHES AND SOCKETS, RECEPTACLES, CONNECTIONS, AND FITTINGS THEREFOR FOR ELECTRICAL USE. THE HART MANUFACTURING COMPANY, Hartford, Conn. Filed May 23, 1905.



The representation of a diamond-shaped figure inclosing the letter "H."

SER. No. 6,363. RIVET AND SCREW BOLTS. AMERICAN IRON & STEEL M'F'G CO., Lebanon and Reading, Pa. Filed May 23, 1905.

S

The letter "S."

SER. No. 6,365. RAILWAY-TRACK BOLTS. AMERICAN IRON & STEEL M'F'G CO., Lebanon and Reading, Pa. Filed May 23, 1905. Used ten years.

HARVEY GRIP

The words "HARVEY GRIP."

SER. No. 6,375. LARD AND LARD COMPOUND. THE CUDAHY PACKING COMPANY, Chicago, Ill., and South Omaha, Nebr. Filed May 23, 1905.

WHITE RIBBON

The words "WHITE RIBBON."

SER. No. 6,448. WHISKIES, BOTH RYE AND BOURBON. B. J. SEMMES & CO., Memphis, Tenn. Filed May 24, 1905. Used ten years.



The words "OLD YANNISSEE WHISKEY," which are arranged above the coptic word "UZUQ," signifying "Memph." Below said words are the words, letters, character, and abbreviation "DISTILLED ONLY BY B. J. SEMMES & CO., the whole being arranged on the representation of the head of a barrel.

SER. No. 6,455. WIRE NAILS. CHARLES F. BAKER & CO., Boston, Mass. Filed May 24, 1905. Used ten years.



The representation of two interlocked nails.

SER. No. 6,462. CAKE-SOAP. A. KLIPSTEIN & COMPANY, New York, N. Y. Filed May 24, 1905. Used ten years.



The words "SAVON DU CARMEL," associated with sprigs of olive and characters and words in the Hebrew and Syrian languages.

SER. No. 6,468. WHISKY. CALHOUN DISTILLING COMPANY, Birmingham, Ala. Filed May 24, 1905. Used ten years.

HICKORY CORN



The words "HICKORY CORN," associated with the representation of three ears of corn.

SER. No. 6,506. ALTERATIVE MEDICINE. BILLINGS CLAFF COMPANY, Boston, Mass. Filed May 24, 1905. Used ten years.

IODIDE OF LIME

The words "IODIDE OF LIME."

SER. No. 6,696. MUCILAGE. THE CARTER'S INK COMPANY, Boston, Mass. Filed May 26, 1905.



The representation of a box, on the side of which appear the words "THE GREAT STICKIST." On this box is seated a man

whose coat has stuck to the box behind him, and on the tail of his coat rests an overturned bottle with a brush beside it. A small boy with upraised hands and an expression of surprise and delight on his face stands behind the man, while a negro in the foreground is pulling the man's arms, evidently with all his strength, as he has one foot braced against the box and his hat has fallen to the ground beside him. Above this representation appear the words "GREAT STICKIAT," inclosed in quotation-marks.

SER. No. 6,735. BOILER COMPOUNDS FOR PREVENTING INCRUSTATION AND SCALE IN BOILERS. GEO. W. LORD CO., Philadelphia, Pa. Filed May 26, 1905.

LORD'S BOILER COMPOUNDS

The words "LORD'S BOILER COMPOUNDS."

SER. No. 6,737. MEN'S UNDERSHIRTS, DRAWERS, AND UNION SUITS. ROBERT A. HOWE, Boston, Mass. Filed May 26, 1905.

HUB

The word "HUB."

SER. No. 6,780. CONDENSED MILK. ST. CHARLES CONDENSING CO., St. Charles, Ill. Filed May 27, 1905. Used ten years.



The words "SILVER COW" and the representation of a cow, with the word "CONDENSED" arranged in the arc of a circle across the body of the cow and the word "MILK" below the same.

SER. No. 6,808. LEATHER BOOTS, SHOES, AND SLIPPERS AND UPPER AND SOLE LEATHER USED IN THEIR MANUFACTURE. PACKARD & FIELD, Brockton, Mass. Filed May 27, 1905.

BURROJAPS

The word "BURROJAPS."

SER. No. 7,040. CUT GLASSWARE. THE O. F. EGGINTON CO., Corning, N. Y. Filed May 30, 1905.



The representation of a star and crescent in connection with the word "EGGINTON." The star is arranged between the horns of the crescent and the word "EGGINTON" appears on the latter below the star.

SER. No. 7,084. STEAM AND HOT-WATER HEATERS AND RADIATORS. GURNEY HEATER MANUFACTURING COMPANY, Boston, Mass. Filed May 31, 1905. Used ten years.

GURNEY

The word "GURNEY."

SER. No. 7,217. HAY-BALING PRESSES. SANDWICH MANUFACTURING CO., Sandwich, Ill. Filed June 3, 1905.

THE NEW WAY PRESS

The words "THE NEW WAY PRESS."

SER. No. 7,477. HORSE-CLIPPERS. CHICAGO FLEXIBLE SHAFT COMPANY, Chicago, Ill. Filed June 5, 1905.

20TH CENTURY

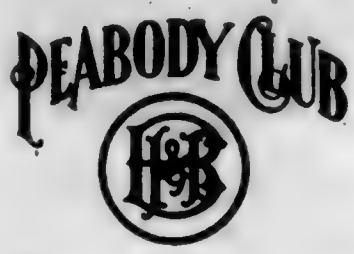
The numerals, letters, and word "20TH CENTURY."

SER. No. 7,531. PORTLAND CEMENT. DEXTER PORTLAND CEMENT COMPANY, Nazareth, Pa. Filed June 6, 1905.

DEXTER

The word "DEXTER."

SER. No. 7,672. WHISKY. BLUTHENTHAL & HEILBRONNER, Memphis, Tenn. Filed June 8, 1905.



The words "PEABODY CLUB" and a monogram composed of the letters and character "B & H," inclosed in a circle.

SER. No. 7,570. LEATHER BOOTS AND SHOES. JOHN W. RUSS COMPANY, Haverhill, Mass. Filed June 7, 1905.



The figure of a man in the dress of an ancient Roman seated within a structure, at the top portion of which is a horizontal bar bearing the word "DICTATOR" and resting at each end upon a plain column. The figure of the man is represented with the left hand resting upon the hilt of a sword, and a shield stands at his right hand. Back of the features above described is a square panel of contrasting color so arranged as to form a diamond background.

SER. No. 7,724. VARNISHES AND JAPANS. MAYER & LOEWENSTEIN, New York, N. Y. Filed June 9, 1905.

FLINT FILLER

The words "FLINT FILLER."

SER. No. 7,809. PIGMENTS FOR PAINTS. KREBS PIGMENT & CHEMICAL CO., Wilmington, Del. Filed June 10, 1905.

PONOLITH

The word "PONOLITH."

SER. No. 8,121. COCOA, CHOCOLATE, AND COCOA PREPARATIONS. WALTER BAKER & COMPANY, LIMITED, Boston, Mass. Filed June 14, 1905.

PREMIUM

The word "PREMIUM."

SER. No. 8,263. ROASTED AND GROUND COFFEE. NEW ORLEANS COFFEE CO., LTD., New Orleans, La. Filed June 15, 1905. Used ten years.



The words "FRENCH MARKET" upon a panel having a scroll at each end and the representation of a market-building and people and vehicles about the same, the whole representing a French market scene.

SER. No. 8,324. MEDICINE FOR THE TREATMENT OF NERVOUS EXHAUSTION, TORPID LIVER, AND DYSPEPSIA. A. H. KELLER, Sioux Falls, S. D. Filed June 16, 1905.

ALVINO

The word "ALVINO."

SER. No. 8,364. POWDERS FOR CLEANING SOLID AND PLATED WARES AND METALS. CHARLES A. EVERETT, Detroit, Mich. Filed June 16, 1905.

ZY-MO

The hyphenated word "ZY-MO," inclosed in a geometrical figure composed of arcs of circles united by parallel lines.

SER. No. 8,366. STUFFING FOR LEATHER. WILLIAM L. ALEXANDER, Emlenton, Pa. Filed June 16, 1905.



The representation of a steer's head and the word "STERO" supported above the same by a rope extending between the tips of the horns of the steer's head.

SER. No. 8,443. GLOVES. FOWNES BROTHERS & CO., London, England. Filed June 17, 1905. Used ten years.

FOWNES

The word "FOWNES."

SER. No. 8,784. STEEL SHOVELS, SCOOPS, AND SPADES. THE AVERY STAMPING COMPANY, Cleveland, Ohio. Filed June 28, 1905.

"KNOCKS-ALL"

The hyphenated word "KNOCKS-ALL," inclosed in quotation-marks.

SER. No. 8,682. REMEDY FOR DEHORNING CALVES AND TREATMENT OF LUMPY-JAW CATTLE. OSMOND O. HATTERVIG, Viborg, S. D. Filed June 21, 1905.

DEHORNDINE



The word "DEHORNDINE" and the representation of a calf and two men and a cow and two men, one of the men appearing leading the calf and another man standing adjacent to said first man and holding a cup in one hand and a bucket in the other, another man appearing as tying the cow to a post, and another man standing near the cow and holding a cup in one hand and a bucket in the other.

SER. No. 8,861. INCANDESCENT ELECTRIC LAMPS. THE COLUMBIA INCANDESCENT LAMP CO., St. Louis, Mo. Filed June 23, 1905. Used ten years.

COLUMBIA

The word "COLUMBIA."

SER. No. 8,974. CHAINS. DIAMOND CHAIN AND MANUFACTURING COMPANY, Indianapolis, Ind. Filed June 24, 1905.

DIAMOND

The word "DIAMOND."

SER. No. 9,049. CATARRH CURE. FRANK J. CHENEY, Toledo, Ohio. Filed June 26, 1905. Used ten years.

HALL'S
CATARRH CURE.

The words "HALL'S CATARRH CURE."

SER. No. 9,050. PILLS FOR THE CURE OF SICK HEADACHE, VERTIGO OR DIZZINESS, AND CONSTIPATION. FRANK J. CHENEY, Toledo, Ohio. Filed June 26, 1905. Used ten years.

HALL'S FAMILY PILLS

The words HALL'S FAMILY PILLS."

SER. No. 9,094. COFFEE. THE G. B. FARRINGTON CO., New York, N. Y. Filed June 26, 1905.

SER. No. 9,094.



The word "TOWER" and the representation of a battlemented castle-tower erected upon a natural-rock foundation and showing other towers and turrets in the distance on each side.

SER. No. 9,138. TOILET POWDER. BYRON C. GOULD, INC., New York, N. Y. Filed June 27, 1905.

By-lo

The hyphenated word "BY-LO," written in script.

SER. No. 9,157. BOOTS, SHOES, AND SLIPPERS OF LEATHER OR TEXTILE MATERIAL OR BOTH AND SOLES THEREFOR. MOSES & ROSENS, New York, N. Y. Filed June 27, 1905.

MERCURY

The word "MERCURY."

SER. No. 9,205. INHALERS AND RESPIRATORS. MILTON D. GOOD, Kansas City, Mo. Filed June 27, 1905.

U=TAH=NA

The hyphenated word "U-TAH-NA."

SER. No. 9,215. CANDY. THE BRADLEY SMITH & CO., New Haven, Conn. Filed June 27, 1905. Used ten years.

PEANUT CRISP

The words "PEANUT CRISP."

SER. No. 9,216. CANDY. THE BRADLEY SMITH & CO., New Haven, Conn. Filed June 27, 1905. Used ten years.

SATIN PUFFS

The words "SATIN PUFFS."

SER. No. 9,242. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY. New York, N. Y. Filed June 27, 1905.

Are You a Buffalo?

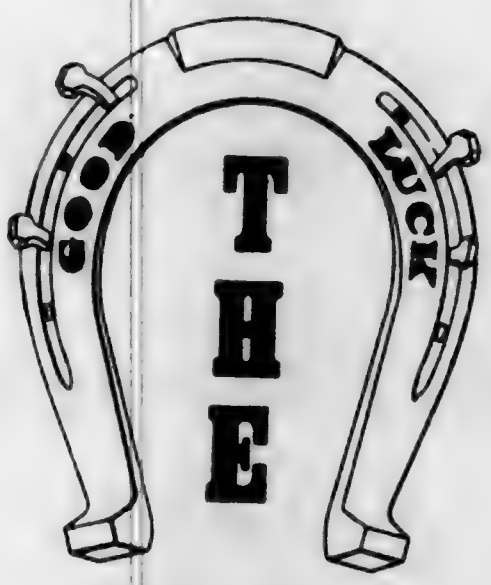
The words and interrogation-point "ARE YOU A BUFFALO?"

SER. No. 9,280. RUBBER FOR DENTAL PURPOSES. TRAUB RUBBER CO., New York, N. Y. Filed June 27, 1905.



The representation of a man in the act of throwing stones, the lower limbs of said man terminating in snakes.

SER. No. 9,300. HATS FOR WOMEN. JOSEPH L. ROSENBERG, New York, N. Y. Filed June 22, 1905.



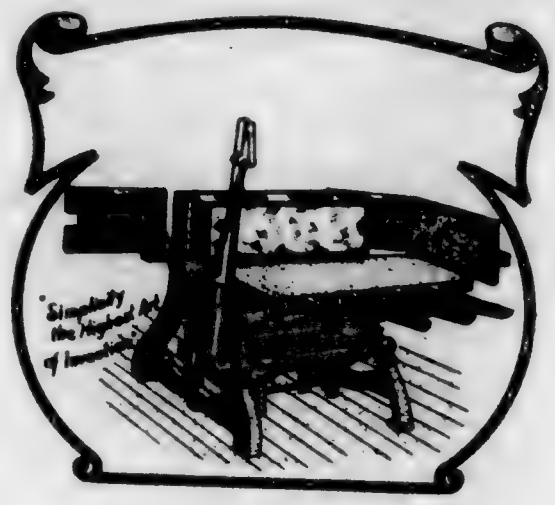
The representation of a horseshoe with the words "GOOD LUCK" appearing thereon and the word "THE" in the space confined by said horseshoe.

SER. No. 9,327. OUTER SHIRTS AND DRESS-SHIRTS. CLUETT, PEABODY & CO., Troy, N. Y. Filed June 26, 1905.

Monarch

The word "MONARCH."

SER. No. 9,333. MACHINES FOR MAKING CONCRETE BUILDING-BLOCKS. CEMENT MACHINERY CO., Jackson, Mich. Filed June 23, 1905.



The pictorial representation of a concrete-building-block machine, a finished concrete block thereon, and the phrase "SIMPLICITY THE HIGHEST ART OF INVENTION," associated with a picture of the machine, and all inclosed within an ornamental border.

SER. No. 9,335. MACHINES FOR MAKING CONCRETE BUILDING-BLOCKS. CEMENT MACHINERY CO., Jackson, Mich. Filed June 23, 1905.



The words "NON DIN," with an interposed figure of a workman, and a machine for making concrete building-blocks showing behind the man, and building-blocks at either side of and adjacent to his feet, all inclosed in a diamond-shaped figure having a border of contrasting color.

SER. No. 9,391. OVERALLS AND WORKMEN'S SHIRTS, COATS OR JACKETS, AND PANTS. HARRY S. PETERS, Dover, N. J. Filed June 20, 1905. Used ten years.

BROTHERHOOD

The word "BROTHERHOOD."

SER. No. 9,395. HARROWS AND CULTIVATORS. ATLANTA AGRICULTURAL WORKS, Atlanta, Ga. Filed June 29, 1905.

LITTLE JOE

The words "LITTLE JOE."

SER. No. 9,400. WEEKLY NEWSPAPER. CURTIS GUILD & CO., Boston, Mass. Filed June 29, 1905.

The Commercial Bulletin

The words "THE COMMERCIAL BULLETIN."

Ser. No. 9,510. SMALL ROUND CANDIES OF VARIOUS FLAVORS. D. Auerbach & Sons, New York, N. Y. Filed June 30, 1905.

LEMONADE DROPS

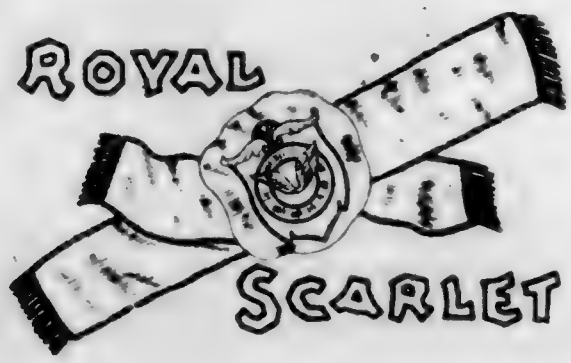
The words "Lemonade Drops" in shaded block letters.

Ser. No. 9,541. PROPRIETARY REMEDY FOR DISEASES PECULIAR TO WOMEN. French Drug Company, New York, N. Y. Filed June 29, 1905. Used ten years.

Dr. Martel's FRENCH FEMALE PILLS

The words and abbreviation "Dr. Martel's French Female Pills."

Ser. No. 9,562. CANNED FISH, CANNED CLAMS, AND CANNED OYSTERS. R. C. Williams & Co., New York, N. Y. Filed July 1, 1905.



The words "Royal Scarlet," associated with the representation of a seal placed at the intersection of two crossed ribbons and having thereon a shield bearing a winged dial.

Ser. No. 9,672. RAZORS. The International Cutlery Company, Fremont, Ohio. Filed July 3, 1905.



The representation of a star.

Ser. No. 9,749. COTTON PIECE GOODS. Martin I. Cooley, Plainfield, N. J. Filed July 3, 1905.

PLANTATION

The word "Plantation."

Ser. No. 9,748. STEAM AND WATER PACKING. American Steam Packing Company, Boston, Mass. Filed July 3, 1905.



The representation of the head of an American Indian in full head-dress surrounded by a circular border and associated with the words "The Original American."

Ser. No. 9,988. MEN'S AND BOYS' COATS AND OVERCOATS. Mayer, Scheuer, Offner & Co., Cincinnati, Ohio Filed July 10, 1905. Used ten years.

Sterling

The word "Sterling," surrounded by a rectangular serrated border.

Ser. No. 10,062. REMEDY FOR SKIN DISEASES AND A PREVENTIVE OF BLOOD POISON. X-Zalia Corporation, Boston, Mass. Filed July 11, 1905.



The hyphenated word "X-Zalia," associated with the representation of a plant known as the "cat-tail flag."

Ser. No. 10,239. GINGER-ALE. Luttiss Brothers, New York, N. Y. Filed July 13, 1905.

GOLDEN ARROW

The words "Golden Arrow," separated by the representation of an arrow placed horizontally.

Ser. No. 10,427. MUSTARD AND SPICES. Brownell & Field Company, Providence, R. I. Filed July 17, 1905.

AUTOCRAT

The word "Autocrat."

SER. No. 10,449. COUGH-DROPS. AARON D. WORK, Jamestown N. Y. Filed July 17, 1905.

E and M

The letters "E AND M," with the connective word "AND" between the letters printed in red.

SER. No. 10,808. GUN AND PISTOL CARTRIDGES AND PARTS THEREOF. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

U

The letter "U."

SER. No. 10,884. DRIED FRUITS. GEORGE FRANK, San Jose, Cal. Filed July 27, 1905.

SUNLIGHT

The word "SUNLIGHT."

SER. No. 10,911. SUGAR. BOSTON MOLASSES CO., Boston, Mass. Filed July 27, 1905.

OSOSWEET

The word "OSOSWEET."

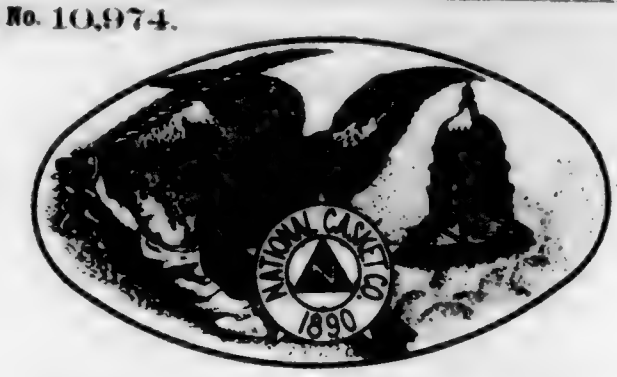
SER. No. 10,971. HARNESS, SADDLES, COLLARS, AND BRIDLES. PADUCAH SADDLERY COMPANY, INCORPORATED, Paducah, Ky. Filed July 28, 1905.



A full-length picture of an Indian in war attire near the center of an oval-shaped figure having a border of scrollwork and inclosing a series of intersecting diamond-shaped figures.

SER. No. 10,974. CASKETS, COFFINS, AND FIXTURES THEREFOR. NATIONAL CASKET CO., New York, N. Y. Filed July 28, 1905.

SER. No. 10,974.



A circular band overlying a portion of the spurs of a five-pointed star, in the center of which appears a triangle inclosing the letter "N." Upon the band appear the words, abbreviation, and figures "NATIONAL CASKET CO. 1890." Behind the band and star are shown portions of two flags, above which and upon the band an eagle rests with outstretched wings. In the background, at the left, an angel, draped and soaring, is shown bearing outstretched in the right hand a palm-leaf with streamers. In the background, at the right, appears the representation of a portion of the National Capitol, whereof the base is shrouded in clouds.

SER. No. 11,024. PROPRIETARY MEDICINE FOR THE TREATMENT OF KIDNEY, LIVER, STOMACH, BLADDER, GALL, URINARY, AND NERVOUS TROUBLES, BRIGHT'S DISEASE, DROPSY, SWELLING OF THE FEET, PAIN IN THE BACK, JOINTS, OR BONES, RHEUMATISM, SKIN DISEASES, AND BLOOD DISORDERS. DR. KILMER & CO., Binghamton, N. Y. Filed July 31, 1905. Used ten years.

SWAMP-ROOT

The words "SWAMP-ROOT."

SER. No. 11,381. OLIVE-OIL. MARCHESINI BROS., New York, N. Y. Filed Aug. 7, 1905.





The representation of a field with foliage and a fence shown in the distance. In the foreground appears the representation of a draped female figure and adjacent thereto the representation of a basket of fruit, beside which is a cupid. At one side of the device appears a tree and above the same the title-phrase "OLIO D'OLIVA SOPRAFFINO," the whole inclosed by a plain rectangular border. To the side of said rectangular field appears a circular panel inclosing the representation of three legs united at their upper portions and a cherub arranged at the junction of said united upper portions.

SER. No. 11,680. COMBS. SCHRADER & EHLERS, New York, N. Y. Filed Aug. 16, 1905.

REFORM

The word "REFORM."

SER. No. 11,398. SUSPENDERS. MORRIS BROS., New York, N. Y. Filed Aug. 7, 1905.

CHAMPION

The word "CHAMPION."

SER. No. 11,568. CHOCOLATE CONFECTIONERY. H. GREENFIELD'S SON & CO., New York, N. Y. Filed Aug. 12, 1905. Used ten years.

Greenfields

The word "GREENFIELD'S."

SER. No. 11,846. COTTON, SILK, LINEN, AND TINSEL THREADS, CHENILLE, AND ARRASENE. HENRY B. FRANKENBURG COMPANY, New York, N. Y. Filed Aug. 21, 1905. Used ten years.

UTOPIA

The word "UTOPIA."

SER. No. 11,851. SILKS. HENRY B. FRANKENBURG COMPANY, New York, N. Y. Filed Aug. 21, 1905. Used ten years.



The representation of a winged cupid seated astride a lion and in the act of playing on a lyre.

SER. No. 12,450. COTTON DUCK. MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed Sept. 11, 1905. Used ten years.

GREENWOODS

The word "GREENWOODS."

SER. No. 12,640. WHISKY. A. J. HEISELER, Peoria, Ill. Filed Sept. 15, 1905.

OLD BEECH NUT

The words "OLD BEECH NUT."

SER. No. 12,662. WHISKY. STRAUS BROTHERS COMPANY, Chicago, Ill. Filed Sept. 15, 1905. Used ten years.

Sycamore

The word "SYCAMORE."

SER. No. 12,829. PIGMENT COLORS AND COLORED PAINTS. JOHN T. LEWIS & BROS. CO., Philadelphia, Pa. Filed Sept. 30, 1905.

ARAMINGO

The word "ARAMINGO."

SER. No. 12,858. DENTAL VARNISH. THE S. S. WHITE DENTAL MFG. CO., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic; Berlin, Germany, and St. Petersburg, Russia. Filed Sept. 21, 1905.

IMPERIAL

The word "IMPERIAL."

SER. No. 12,859. CEMENT. THE S. S. WHITE DENTAL MFG. CO., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic; Berlin, Germany, and St. Petersburg, Russia. Filed Sept. 21, 1905.

ZINCOID

The word "ZINCOID."

SER. No. 12,870. LATHES. THE S. S. WHITE DENTAL MFG. CO., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic; Berlin, Germany, and St. Petersburg, Russia. Filed Sept. 21, 1905.

UNIQUE

The word "UNIQUE."

SER. No. 12,885. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y. Filed Sept. 1, 1905. Used ten years.

DRAUGHTING

The word "DRAUGHTING."

Ser. No. 12,880. BAKING-POWDER. SAMUEL W. WILLIAMS, Hartman, Tenn. Filed Sept. 21, 1905.

BLUE SEAL

The words "BLUE SEAL," associated with the representation of a seal bearing said words and having a tape projecting therefrom and inclosed by an angular border, the whole being printed in blue.

Ser. No. 12,906. PAPER-CLIPS. THE CUSHMAN & DENISON MANUFACTURING COMPANY, New York, N. Y. Filed Sept. 22, 1905.

PINCH

The word "PINCH."

Ser. No. 12,907. WHISKY. THE STAR DISTILLERY COMPANY, Cincinnati, Ohio. Filed Sept. 22, 1905.

SILVER SPOON

The words "SILVER SPOON."

Ser. No. 12,960. WHISKY. MITCHELL, FLETCHER & COMPANY, INCORPORATED, Philadelphia, Pa. Filed Sept. 25, 1905.

TRAMRICK

The word "TRAMRICK."

Ser. No. 13,051. CONCRETE WASH-TRAYS. ECONOMY MANUFACTURING CO., New Haven, Conn. Filed Sept. 27, 1905.

CRESCENT CONCRETE TRAY

The words "CRESCENT CONCRETE TRAY."

Ser. No. 13,172. CRACKER AND BISCUIT CARTONS. GREEN GREEN & CO., Dayton, Ohio. Filed Sept. 30, 1905.

Ser. No. 13,172.

GOOD GG GOODS

A monogram composed of the letters, character, and abbreviation "G G & Co.," with the capital letters "G G" face to face and the character and abbreviation "& Co." between the letters, and the word "GOOD" above and the word "GOODS" below the monogram, the whole being inclosed in a circle.

Ser. No. 13,181. CARTRIDGES. WINCHESTER REPEATING ARMS CO., New Haven, Conn. Filed Oct. 2, 1905.

S.L.

The letters "S. L."

Ser. No. 13,393. WASHBOARDS. BENJAMIN SHERER JENKINS, Coalingville, N. Y. Filed Oct. 6, 1905.

THE SARATOGA SOAP BOX

The words "THE SARATOGA SOAP BOX."

Ser. No. 13,481. WAGONS. MOLINE WAGON COMPY., Moline, Ill. Filed Oct. 11, 1905. Used ten years.

MOLINE

The word "MOLINE."

Ser. No. 13,517. SINGLE WOODEN BOXES OR A SERIES OF WOODEN BOXES EACH CLOSELY OR APPROXIMATELY FITTING INTO THE NEXT LARGER BOX OF THE SERIES. THE NEW ENGLAND BOX CO., Greenfield, Mass. Filed Oct. 12, 1905.

Yankee Nests

The words "YANKEE NESTS."

Ser. No. 13,562. GOLF-BALLS. A. G. SPALDING & BROS., New York, N. Y. Filed Oct. 13, 1905.

The representation of a spot or dot of color contrasting with the surface color of the goods on which it is placed.

Ser. No. 13,715. INSULATING-TAPE. The Standard Paint Company, New York, N. Y. Filed Oct. 13, 1905.



The representation of a peacock with his tail spread out within a circle, in which also appear the letters "S P C." This is surrounded by a black ring on which appears at the top the word "Peacock."

Ser. No. 13,718. ALARM-CLOCKS. Albert C. Becker, Chicago, Ill. Filed Oct. 18, 1905.

TORNADO

The word "Tornado."

Ser. No. 13,719. WATCHES AND PARTS THEREOF. The Waltham Manufacturing Company, Hartford, Conn. Filed Oct. 18, 1905.

BBB

The letters "B B B."

Ser. No. 13,787. PULL-SOCKETS. Harvey Hubbell, Incorporated, Bridgeport, Conn. Filed Oct. 18, 1905.



The representation of a sphere having meridian lines and across the center thereof the word "Hubbell."

Ser. No. 13,758. CHOCOLATE. Knickerbocker Chocolate Company, New York, N. Y. Filed Oct. 19, 1905.



The representation of two ovals with their long axes in a common line, in one of which ovals is the numeral "16" and in the other of which is the word "to" and the numeral "1."

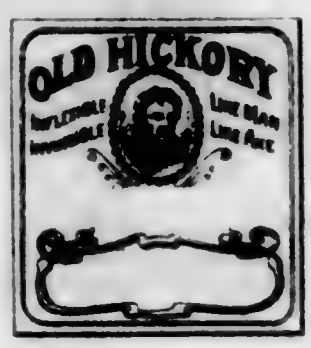
Ser. No. 13,835. BURIAL-CASKETS AND CASKET ATTACHMENTS. National Casket Co., Allegheny, Pa. Filed Oct. 21, 1905.

Ser. No. 13,835.

NACASCO

The word "Nacasco."

Ser. No. 13,832. AXES, HATCHETS, AND ADZES. Supplee Hardware Co., Philadelphia, Pa. Filed Oct. 21, 1905.



The words "Old Hickory" and the representation of a bust portrait of Andrew Jackson, a former President of the United States, a medallion inclosing the same, and a scroll-shaped figure and the words "Inflexible, Invincible, Like Man Like Axe."

Ser. No. 13,869. CHOCOLATES. Van Emden Cocoa Co., San Francisco, Cal. Filed Oct. 25, 1905.

KNAPSACK

The word "Knapsack."

Ser. No. 13,952. CANDY. The Murrace Company, Baltimore, Md. Filed Oct. 28, 1905.



The words "Smart Set Sweets," associated with the letters "S. S. S."

Ser. No. 13,960. FILES AND RASPS. Carver File Company, Philadelphia, Pa. Filed Oct. 26, 1905.



The Greek capital letter "Δ" containing the representation of a file upright and associated with the word "Delta."

Ser. No. 14,175. WHISKY. John Wagner & Sons, Philadelphia, Pa. Filed Nov. 1, 1905. Used ten years.

WAGNER

The word "Wagner."

TRADE-MARKS

REGISTERED NOVEMBER 28, 1905.

47,848. PLUG-CUT, PLUG, AND SMOKING TOBACCO. JOSEPH G. DILL, INC., Richmond, Va.

The words "DILL'S BEST" within a circular border above the representation of a young woman leaning against a window-frame with her hands crossed above her head, above which foliage appears and below which appears the representation of a coping or section of roof.

Filed May 1, 1905. Serial No. 3,861. PUBLISHED OCTOBER 3, 1905.

47,849. COATS, PANTS, OVERALLS, AND BLOUSES. LARNED, CARTER AND CO., Detroit, Mich.

The word "SEARCHLIGHT."

Filed May 18, 1905. Serial No. 5,961. PUBLISHED OCTOBER 3, 1905.

47,850. CABINETS FOR MANIFOLDING ACCOUNT-BOOKS. NATIONAL CASH REGISTER COMPANY, Dayton, Ohio.

A Napoleonic wreath encircling the letter "N."

Filed July 19, 1905. Serial No. 10,577. PUBLISHED OCTOBER 3, 1905.

47,851. CERTAIN NAMED PAINTS AND SUPPLIES. STANDARD VARNISH WORKS, New York, N. Y.

The representation of a flag, a diamond-shaped figure thereon, and a rhomboid within the diamond-shaped figure.

Filed April 8, 1905. Serial No. 768. PUBLISHED JUNE 20, 1905.

47,852. NURSERY-GROWN PLUM-TREES. THE ALBAUGH NURSERY AND ORCHARD CO., Phoneton, Ohio.

The representation of a plum with leaf and twig forming the background for a scroll, on which appears the word "MURDY."

Filed May 17, 1905. Serial No. 5,881. PUBLISHED OCTOBER 3, 1905.

47,853. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.

A representation of two grotesque pages seated tailor fashion, one page being upside down. Each page wears an elaborate hat with feather plumes and holds outspread in one hand five playing-cards.

Filed July 12, 1905. Serial No. 10,138. PUBLISHED OCTOBER 3, 1905.

47,854. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "THE MAYFLOWER."

Filed May 3, 1905. Serial No. 4,185. PUBLISHED OCTOBER 3, 1905.

47,855. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "IN CASTLE LAND."

Filed May 3, 1905. Serial No. 4,186. PUBLISHED OCTOBER 3, 1905.

47,856. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "YOUNG FOLKS' AUTHORS."

Filed May 3, 1905. Serial No. 4,187. PUBLISHED OCTOBER 3, 1905.

47,857. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "SHAKESPEARE."

Filed May 3, 1905. Serial No. 4,190. PUBLISHED OCTOBER 3, 1905.

47,858. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "FLOWERS."

Filed May 3, 1905. Serial No. 4,191. PUBLISHED OCTOBER 3, 1905.

47,859. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "DOMESTIC ANIMALS."

Filed May 3, 1905. Serial No. 4,197. PUBLISHED OCTOBER 3, 1905.

47,860. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "NILOE."

Filed May 3, 1905. Serial No. 4,198. PUBLISHED OCTOBER 3, 1905.

47,861. WITHDRAWN.

47,862. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "BIRDS."

Filed May 3, 1905. Serial No. 4,200. PUBLISHED OCTOBER 3, 1905.

47,863. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "IN DIXIE-LAND."

Filed May 3, 1905. Serial No. 4,201. PUBLISHED OCTOBER 3, 1905.

47,864. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "FRACTIONS."

Filed May 3, 1905. Serial No. 4,202. PUBLISHED OCTOBER 3, 1905.

47,865. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "STRANGE PEOPLE."

Filed May 3, 1905. Serial No. 4,203. PUBLISHED OCTOBER 3, 1905.

47,866. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "POPULATION."

Filed May 3, 1905. Serial No. 4,204. PUBLISHED OCTOBER 3, 1905.

47,867. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "ADDITION AND SUBTRACTION."

Filed May 3, 1905. Serial No. 4,205. PUBLISHED OCTOBER 3, 1905.

47,868. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "WORDS."

Filed May 3, 1905. Serial No. 4,206. PUBLISHED OCTOBER 3, 1905.

47,869. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "INDIANS."

Filed May 3, 1905. Serial No. 4,207. PUBLISHED OCTOBER 3, 1905.

47,870. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "WILD ANIMALS."

Filed May 3, 1905. Serial No. 4,208. PUBLISHED OCTOBER 3, 1905.

47,871. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "OUR NATIONAL LIFE."

Filed May 3, 1905. Serial No. 4,209. PUBLISHED OCTOBER 3, 1905.

47,872. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "FLAGS."

Filed May 3, 1905. Serial No. 4,210. PUBLISHED OCTOBER 3, 1905.

47,873. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The word "POEMS."

Filed May 3, 1905. Serial No. 4,211. PUBLISHED OCTOBER 3, 1905.

47,874. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "NEW TESTAMENT."

Filed May 3, 1905. Serial No. 4,212. PUBLISHED OCTOBER 3, 1905.

47,875. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The words "IN THE WHITE HOUSE."

Filed May 3, 1905. Serial No. 4,213. PUBLISHED OCTOBER 3, 1905

47,876. CORSETS. BAY STATE CORSET CO., Springfield, Mass.

The letters "Q. C."

Filed April 26, 1905. Serial No. 3,083. PUBLISHED OCTOBER 3, 1905.

47,877. TOILET SOAP. FRANK GAINS BURKE, New York, N. Y.

The word "SWEETHEART."

Filed May 13, 1905. Serial No. 5,502. PUBLISHED OCTOBER 3, 1905.

47,878 LAUNDRY, TOILET, AND SHAVING SOAPS. F. L. FALCK & CO., Allegheny, Pa.

The words "OLD HONESTY SOAP."

Filed June 2, 1905. Serial No. 7,262. PUBLISHED OCTOBER 3, 1905.

47,879. MINERAL WATERS. FRENCH LICK SPRINGS HOTEL CO., Frenchlick, Ind.

The word "PLUTO."

Filed May 23, 1905. Serial No. 6,357. PUBLISHED OCTOBER 23, 1905.

47,880. SUSPENDERS AND BRACES. HARRIS SUSPENDER CO., New York, N. Y.

The word "MYSTIC."

Filed April 8, 1905. Serial No. 781. PUBLISHED OCTOBER 3, 1905.

47,881. CANDY. STANAFORTH T. HOPKINS, New Orleans, La.

The words "JOHNNY CROOK."

Filed May 8, 1905. Serial No. 4,611. PUBLISHED OCTOBER 3, 1905.

47,882. KNITTED HOSIERY, UNDERWEAR, AND SWEATERS. KNOXVILLE KNITTING MILLS COMPANY, Knoxville, Tenn.

The initial letter "K" and a straight line between the syllables "NOX" and "NIT."

File May 1, 1905. Serial No. 3,886. PUBLISHED OCTOBER 3, 1905.

47,883. CORSETS. KOPS BROS., New York, N. Y.

The words "SELF REDUCING."

Filed May 11, 1905. Serial No. 5,000. PUBLISHED OCTOBER 3, 1905.

47,884. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass.

The representation of a yoke of oxen, in which the pair of oxen is shown as facing partially toward the front and as being yoked together by the horns.

Filed May 11, 1905. Serial No. 5,262. PUBLISHED OCTOBER 3, 1905.

47,885. LOZENGES. NEW ENGLAND CONFECTIONERY CO., Boston, Mass.

The representation of a circular field upon which appears a landscape with the capital letter "C" in the foreground and a fence in the background and with men on horseback in the act of jumping over the fence and through the letter "C."

Filed May 15, 1905. Serial No. 5,720. PUBLISHED OCTOBER 3, 1905.

47,886. BAR BELT-DRESSING. NEW YORK LEATHER BELTING CO., New York, N. Y.

The word "PHOENIX" in connection with a representation of the mythological bird the phœnix rising from a bed of flames. About its neck a circular disk is suspended on a chain, the disk bearing the monogram "N Y L B Co."

Filed May 6, 1905. Serial No. 4,543. PUBLISHED OCTOBER 3, 1905.

47,887. WOOLEN AND WORSTED FABRICS. ROBERT F. SHARN, Philadelphia, Pa.

The word "PLUETTE" inclosed within quotation-marks.

Filed May 16, 1905. Serial No. 5,823. PUBLISHED OCTOBER 3, 1905.

47,888. MATERIALS USED FOR BONNETS AND HAT-FRAMES. STADECKER & EMSHEIMER, New York, N. Y.

The representation of a griffon with its fore paws resting on a medallion, on which appears a monogram of the letters and character "S & E," the medallion being inclosed within a wreath.

Filed April 24, 1905. Serial No. 2,821. PUBLISHED SEPTEMBER 19, 1905.

47,889. UNDERWAISTS AND UNDERWEAR. THE FERRIS BROS. CO., New York, N. Y.

The phrase "FERRIS GOOD SENSE."

Filed April 18, 1905. Serial No. 2,132. PUBLISHED OCTOBER 3, 1905.

47,890. MINIATURE BRACELETS, LOCKETS, AND BROOCHES. WIGHTMAN & HOUGH CO., Providence, R. I.

The letters, character, and abbreviation "W. & H. Co" inclosed in a heart-shaped border.

Filed April 4, 1905. Serial No. 370. PUBLISHED MAY 23, 1905.

47,891. HATS. BOOGHER, FORCE & GOODBAR HAT COMPANY St. Louis, Mo.

The word "STATESMAN."

Filed May 8, 1905. Serial No. 4,773. PUBLISHED OCTOBER 3, 1905.

47,892. OVERALLS, COATS, JUMPERS, AND TROUSERS. BRATTLEBORO OVERALL CO., Brattleboro, Vt., and Boston, Mass.

The word "BRATTLEBORO."

Filed May 9, 1905. Serial No. 4,811. PUBLISHED OCTOBER 3, 1905.

47,893. SAFETY-PINS. CONSOLIDATED SAFETY PIN COMPANY, Bloomfield, N. J.

The word "STEWART'S."

Filed May 3, 1905. Serial No. 4,184. PUBLISHED JULY 18, 1905.

47,894. CHILDREN'S HAND-AND-FOOT-PROPELLED VEHICLES. GENDRON WHEEL CO., Toledo, Ohio.

The word "PIONEER."

Filed May 18, 1905. Serial No. 6,028. PUBLISHED OCTOBER 3, 1905.

47,895. READY-MIXED PAINTS. GEO. D. WETHERILL & CO., INC., Philadelphia, Pa.

The word "ATLAS" and a representation of Atlas supporting a globe.

Filed June 13, 1905. Serial No. 8,063. PUBLISHED OCTOBER 3, 1905.

47,896. LEATHER BOOTS AND SHOES. GEO. D. WITT SHOE CO., Lynchburg, Va.

The words "ROXIE WARD."

Filed May 29, 1905. Serial No. 6,931. PUBLISHED OCTOBER 3, 1905.

47,897. LEATHER BOOTS AND SHOES. MAGNUS HESSBURG, Richmond, Va.

The representation of the head and bust of a man in Quaker costume surrounded by two concentric circles containing above the head the word "HONESTY" and below it the words "QUAKER CITY SHOES."

Filed April 24, 1905. Serial No. 3,790. PUBLISHED OCTOBER 3, 1905.

47,898. LEATHER BOOTS AND SHOES. MAGNUS HESSBURG, Richmond, Va.

A representation of the head and bust of a woman attired in Quaker costume inclosed in concentric circles and used in connection with the words "PURITY QUAKER CITY SHOES" arranged between the circles.

Filed April 24, 1905. Serial No. 2,791. PUBLISHED OCTOBER 3, 1905.

47,899. WITHDRAWN.

47,900. CIGARETTE-PAPER. ALEXANDER A. KOHÁRY, Pittsburg, Pa.

A man in Hungarian costume seated on a white horse bearing in one hand an upright spear and in the other hand a mace, associated with the words "KRALJEVIĆ MARKO."

Filed August 3, 1905. Serial No. 11,220. PUBLISHED OCTOBER 3, 1905.

47,901. UNDERWEAR AND HOSE. LAWRENCE MANUFACTURING COMPANY, Lowell, Mass.

The representation of an eagle with arrows in the left foot and an olive branch in the right foot having its wings outstretched and perched upon the upper margin of a belt or buckled band bearing the words "LAWRENCE MANF'G. COMP'Y.," around the lower portion and sides of which belt or band are arranged two crossing branches of leaves and berries, such branches being large and prominent with relation to the band and eagle.

Filed May 1, 1905. Serial No. 3,885. PUBLISHED OCTOBER 3, 1905.

47,902. MOTH SHEETS AND BAGS. MARGARET E. MANAHAN, New York, N. Y.

The word "TARINE."

Filed June 9, 1905. Serial No. 7,775. PUBLISHED OCTOBER 3, 1905.

47,903. MOTH-PAPER AND MOTH-BAGS. THOMAS MANAHAN, New York, N. Y.

The words "MANAHAN'S PINE TAR MOTH SHEETS."

Filed May 11, 1905. Serial No. 5,167. PUBLISHED OCTOBER 3, 1905.

47,904. MOTH-BAGS. THOMAS MANAHAN, New York, N. Y.

The words "MANAHAN'S TAR MOTH BAG."

Filed May 11, 1905. Serial No. 5,168. PUBLISHED OCTOBER 3, 1905.

47,905. BONE-BLACK. MICHIGAN CARBON WORKS, Detroit, Mich.

The word "COSMIC."

Filed June 10, 1905. Serial No. 7,854. PUBLISHED OCTOBER 3, 1905.

47,906. HOOKS AND EYES. PERT BROS., Philadelphia, Pa.

The word "TRIANGLE."

Filed April 7, 1905. Serial No. 716. PUBLISHED JUNE 13, 1905.

47,907. ENVELOPS. ALFRED PLANT, New York, N. Y.

A strip printed across the face of an envelop and divided into separate spaces by a buckle, in one of which spaces appear the words "NAME OF TOWN" and in the other space the word "STATE."

Filed August 18, 1905. Serial No. 11,775. PUBLISHED OCTOBER 3, 1905.

47,908. LOOSE-LEAF BINDERS. SIEBER & TRUSSELL MFG. CO., St. Louis, Mo.

The word "ROTAMATIC" arranged upon a scroll, associated with a band bearing the corporate name of the proprietor, and a second complementary scroll arranged upon the opposite side of the band and bearing the phrase "LOOSE LEAF BOOK" and the words and letters "ST. LOUIS, U. S. A." imprinted between the band and one of the scrolls.

Filed July 31, 1905. Serial No. 11,036. PUBLISHED OCTOBER 3, 1905.

47,909. LOOSE-LEAF BINDERS. SIEBER & TRUSSELL MFG. CO., St. Louis, Mo.

The letters and character "S & T" arranged as a monogram.

Filed July 31, 1905. Serial No. 11,036. PUBLISHED OCTOBER 3, 1905.

47,910. LOOSE-LEAF BINDERS. SIEBER & TRUSSELL MFG. CO., St. Louis, Mo.

The letters and character "S & T."

Filed July 31, 1905. Serial No. 11,040. PUBLISHED OCTOBER 3, 1905.

47,911. LOOSE-LEAF BINDERS. SIEBER & TRUSSELL MFG. CO., St. Louis, Mo.

The word "MAJESTIC."

Filed August 9, 1905. Serial No. 11,456. PUBLISHED OCTOBER 3, 1905.

47,912. CHAIN-BLOCKS FOR HOISTING MACHINERY. JOHN GEORGE SPEIDEL, Reading, Pa.

The word "SIMPLEX."

Filed April 22, 1905. Serial No. 2,701. PUBLISHED AUGUST 1, 1905.

47,913. DYNAMO-ELECTRIC MOTORS AND GENERATORS. SPRAGUE ELECTRIC COMPANY, New York, N. Y.

The word "LUNDELL."

Filed April 22, 1905. Serial No. 2,711. PUBLISHED JUNE 6, 1905.

47,914. CUTTERS FOR METAL PIPES. THE BARNES TOOL COMPANY, New Haven, Conn.

The letter "B" inclosed within a diamond-shaped figure.

Filed June 26, 1905. Serial No. 9,091. PUBLISHED OCTOBER 3, 1905.

47,915. VARNISHES. THE DAVID B. CROCKETT COMPANY, Bridgeport, Conn.

The figure of a boat surrounded by a diamond-shaped border and an exterior diamond-shaped outline.

Filed April 1, 1905. Serial No. 103. PUBLISHED MAY 9, 1905.

47,916. GAGE-GLASSES. THE SCHAEFFER AND BUDENBERG MFG. CO., New York, N. Y.

Concentric circular panels which surround the representation of a lion's head holding a bar in his mouth, the inner panel bearing the inscription "DURAX, THE KING OF ALL GAUGE GLASSES," while upon the outer panel is printed "THE SCHAEFFER & BUDENBERG MFG. CO., SOLE AGENTS, U. S. & CANADA."

Filed May 27, 1905. Serial No. 6,833. PUBLISHED OCTOBER 3 1905.

47,917. CLEANING, SCOURING, AND POLISHING COMPOUNDS. THE SEL-ON-SITE MANUFACTURING COMPANY, Cheyenne, Wyo., and Denver, Colo.

The coined hyphenated word "SEL-ON-SITE," associated with the representation of a woman holding against her left shoulder a pan, in the bottom of which her face and shoulders are reflected and the side of which she is apparently scrubbing with a cloth, and the words "THE GREAT CLEANER."

Filed June 7, 1905. Serial No. 7,598. PUBLISHED OCTOBER 3, 1905.

47,918. GRAIN-DRILLS AND SEEDERS. THE VAN BRUNT MFG. CO., Horicon, Wis.

The name "VAN BRUNT."

Filed May 13, 1905. Serial No. 5,551. PUBLISHED OCTOBER 3 1905.

47,919. WHISKY. CAVANAGH & CO., Chicago, Ill.

The word "HENDRYX" accompanied by a design of a coat of arms consisting of a shield with fanciful characters thereon surmounted with the head-piece of a knight, above which an arm is raised grasping a spear, all embellished in scrollwork. Underneath the design is placed a ribbon scroll with the letters "G. I. M. U. W. C. W. U. S."

Filed April 28, 1905. Serial No. 3,483. PUBLISHED JUNE 27, 1905.

47,920. MEDICINAL PREPARATION FOR CATARRH, ASTHMA, HAY-FEVER, AND LUNG TROUBLES. DOCTOR BLOSSER COMPANY, Atlanta, Ga.

The representation of a human face holding a pipe in the mouth, a part of the face being removed to show the smoke passing through the inner passages of the head, and the words "DOCTOR BLOSSER'S CATARRH CURE CONTAINS NO TOBACCO," all inclosed in a rectangular border.

Filed May 20, 1905. Serial No. 6,173. PUBLISHED OCTOBER 3, 1905.

47,921. MEDICINES FOR STOMACH AND BOWEL TROUBLES AND RHEUMATIC PAINS. G. G. NORRIS' SONS, Cleveland, Ohio.

The words "PORTER'S CURE OF PAIN."

Filed April 26, 1905. Serial No. 3,186. PUBLISHED OCTOBER 3, 1905.

47,922. CRACKERS AND CAKES. INDEPENDENT BAKING CO., Davenport, Iowa.

The picture of a woman skating, with the word "INDEPENDENT" irregularly written in script and terminating in a flourish, which is connected with one of the skates, giving the word the appearance of having been cut into the ice by the skater.

Filed May 25, 1905. Serial No. 6,672. PUBLISHED OCTOBER 3, 1905.

47,923. BLOOD AND NERVE MEDICINES. L. C. GEISER MEDICAL CO., Schenectady, N. Y.

A picture of Mrs. Mary Wheaton, deceased, wearing spectacles, inclosed in a fancy frame.

Filed April 28, 1905. Serial No. 3,506. PUBLISHED OCTOBER 3, 1905.

47,924. BAY-RUM TABLETS. CHARLES S. MASCHAL, Kingston, N. Y.

A monogram of the letters and abbreviation "A S Co" surrounded by a star-like figure with a circular open center and having ten points or petals comprising symmetrical extensions of equal size, each having curved edges extending into proximity to the edge of the open center. A circular line extends through the outer extremities of the star points or petals, and a second circular line surrounds the first-mentioned line in proximity thereto and equidistant therefrom at all points.

Filed May 16, 1905. Serial No. 6,211. PUBLISHED OCTOBER 3, 1905.

47,925. OXID OF TIN. THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y.

The representation of a five-pointed star in Mosaic pattern and the characters "A1" thereon.

Filed May 23, 1905. Serial No. 6,369. PUBLISHED AUGUST 15, 1905.

47,926. WHISKY. THE STAR DISTILLERY COMPANY, Cincinnati, Ohio.

The word "HEARTHSTONE."

Filed May 22, 1905. Serial No. 6,281. PUBLISHED OCTOBER 3, 1905.

47,927. WHISKY. THE STAR DISTILLERY COMPANY, Cincinnati, Ohio.

The words "FRANKLIN CROSS ROADS."

Filed May 22, 1905. Serial No. 6,283. PUBLISHED OCTOBER 3 1905.

47,928. WITHDRAWN.

47,929. WHISKY. THE STAR DISTILLERY COMPANY, Cincinnati, Ohio.

The words "HIGH SPORT."

Filed May 22, 1905. Serial No. 6,289. PUBLISHED OCTOBER 3 1905.

47,930. TONIC. THE VALLEY CHEMICAL CO. INCORPORATED, Danbury, Conn.

The word "APETOL."

Filed April 19, 1905. Serial No. 2,302. PUBLISHED MAY 30, 1905.

47,931. ROPE, CORD, AND TWINE. CHRISTOPHER BAILEY & SON, Philadelphia, Pa.

The word "VICTOR."

Filed July 24, 1905. Serial No. 10,747. PUBLISHED SEPTEMBER 26, 1905.

47,932. WHISKY. CALHOUN DISTILLING COMPANY, Birmingham, Ala.

The word "SEABOARD," the monogram "S & L," and the picture of an engine and train of cars on a track near a body of water inclosed in a rectangle.

Filed May 24, 1905. Serial No. 6,467. PUBLISHED OCTOBER 3, 1905.

47,933. WHISKY. CHARLES DENNEHY & COMPANY, Chicago, Ill.

The words "OLD UNDEROOF."

Filed June 15, 1905. Serial No. 8,234. PUBLISHED OCTOBER 3, 1905.

47,934. GLASS CHIMNEYS, LANTERN-GLOBES, AND REFLECTORS. GILL BROTHERS COMPANY, Steubenville, Ohio.

The word "MONARCH."

Filed April 20, 1905. Serial No. 2,427. PUBLISHED JUNE 27, 1905.

47,935. WHISKY. MAX KIRSCHBAUM, Kansas City, Mo.

The words "COUNTRY MAID" and a monogram composed of the letters, character, and abbreviation "M K & Co" in a circle.

Filed May 11, 1905. Serial No. 5,206. PUBLISHED JULY 18, 1905.

47,936. GIN. GEORGE W. MEREDITH, East Liverpool, Ohio.

The words "TIGER HEAD" and the representation of a tiger's head.

Filed June 19, 1905. Serial No. 8,510. PUBLISHED OCTOBER 3, 1905.

47,937. WHISKY. MUELLER, WATHEN & KOBERT, Lebanon, Ky.

The words "ROLLING FORK."

Filed May 13, 1905. Serial No. 5,437. PUBLISHED OCTOBER 3, 1905.

47,938. WHISKY. LOUISA NELSON, Nashville, Tenn.

The words "NELSON'S TENNESSEE" ornamented above and below by a spray of leaves.

Filed May 25, 1905. Serial No. 6,604. PUBLISHED OCTOBER 3, 1905.

47,939. REMEDY FOR CERTAIN NAMED DISEASES. THE ANTIKAMNIA CHEMICAL COMPANY, St. Louis, Mo.

The word "ANTIKAMNIA."

Filed April 18, 1905. Serial No. 2,099. PUBLISHED SEPTEMBER 5, 1905.

47,940. COMPOUNDS FOR BLEACHING AND WASHING LINENS. THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y.

The word "OXYGENOL."

Filed May 16, 1905. Serial No. 5,810. PUBLISHED AUGUST 15, 1905.

47,941. WHISKY. H. VARWIG & SON, Portland, Oreg.

The word "VIM," around which is a circular scroll design with sun radiations and sprays of grain on each side.

Filed June 15, 1905. Serial No. 8,268. PUBLISHED OCTOBER 3, 1905.

47,942. WHISKY. WM. HOELSCHER & CO., INC., San Francisco, Cal.

The word "MERIDIAN," below which is a globe inclosed in a segmental circular band, while above is a representation of the sun shining over all.

Filed May 22, 1905. Serial No. 6,305. PUBLISHED OCTOBER 3, 1905.

47,943. WHISKY. D. WOLFF & SONS, Oklahoma, Okla.

The word "UTESTER."

Filed June 15, 1905. Serial No. 8,228. PUBLISHED OCTOBER 3, 1905.

47,944. WHISKY. D. WOLFF & SONS, Oklahoma, Okla.

The words "PLANTERS CLUB," beneath which is a monogram composed of the letters and words "D W AND SONS" inclosed in a circle, at the base of which is a ribbon holding four sprays of grain.

Filed June 15, 1905. Serial No. 8,229. PUBLISHED OCTOBER 3, 1905.

47,945. BIRD-FOODS. BROOKMAN MANUFACTURING COMPANY, Chicago, Ill.

The words "GOLDEN HARVEST."

Filed April 26, 1905. Serial No. 3,105. PUBLISHED OCTOBER 3, 1905.

47,946. BICARBONATE OF SODA, SALERATUS, AND BAKING-POWDER. CHURCH & DWIGHT COMPANY, New York, N. Y.

The words "COW BRAND."

Filed April 4, 1905. Serial No. 364. PUBLISHED SEPTEMBER 19, 1905.

47,947. SALERATUS, BICARBONATE OF SODA, AND SALSODA. CHURCH & DWIGHT COMPANY, New York, N. Y.

The representation of a bared arm, the hand grasping the handle of a hammer, the arm being raised in a position which it would assume when about to strike with the hammer, and the words and character "ARM & HAMMER."

Filed April 4, 1905. Serial No. 365. PUBLISHED SEPTEMBER 19, 1905.

47,948. PEPPER-SAUCE. D. C. DANOVE, New Orleans, La.

The words "MAUNSEL WHITE EXTRACT OF PEPPER."

Filed May 6, 1905. Serial No. 4,506. PUBLISHED OCTOBER 3, 1905.

47,949. MOLASSES. P. DUFF & SONS, Pittsburg, Pa.

A figure whose outline is that of a very wide keystone and having in the center a colored disk surrounded by circles or rings of contrasting color and having over its face a ribbon or scroll, a scroll also appearing at the bottom and the right side, and the representation of growing sugar-cane appearing at either side inside of the outline of the figure.

Filed July 14, 1905. Serial No. 10,269. PUBLISHED OCTOBER 3, 1905.

47,950. DENTIFRICES. LEE W. DUTRO, Memphis, Tenn.
The letters "W T A" in the form of a monogram and the words "DR. ARRINGTON'S CARBOLISED TOOTH CREAM."
Filed June 8, 1905. Serial No. 7,637. PUBLISHED OCTOBER 3, 1905.

47,951. ALE. C. H. EVANS & SONS, Hudson, N. Y.
The representation of a crescent partially surrounding a lion rampant, which appears upon a sheaf of barley or grain, the crescent bearing the word and figures "EVANS 1786."
Filed May 1, 1905. Serial No. 3,706. PUBLISHED AUGUST 22, 1905.

47,952. OLIVES. CHARLES GULDEN, New York, N. Y.
A representation of the two halves of a split olive filled with red peppers.
Filed April 11, 1905. Serial No. 1 100. PUBLISHED OCTOBER 3, 1905.

47,953. MALT EXTRACTS AND PEPTONIZED MALT FOODS. ALBERT LIEBER, Indianapolis, Ind.
The artificial coined compound word "LITHIA-MALT," which is shown printed in Old English type and associated with an ornamental scroll.
Filed April 6, 1905. Serial No. 577. PUBLISHED OCTOBER 3, 1905.

47,954. SALT FISH. WILLIAM HENRY LORD, Dedham, Mass.
The representation of a fisherman, sailor, or "old salt" standing alone and wearing a tarpaulin and oil-skins, with one hand shading his eyes and the other holding a coil of rope thrown over his shoulder.
Filed May 26, 1905. Serial No. 6,748. PUBLISHED OCTOBER 3, 1905.

47,955. PREPARATION FOR DISEASES OF THE MUCOUS MEMBRANE AND SKIN. MARVELINE COMPANY, Leavenworth, Kans.
The word "MARVELINE," associated with the representation of a Greek cross in solid red, the letters of the word "MARVELINE" being arranged on the face of the cross both horizontally and perpendicularly.
Filed April 29, 1905. Serial No. 3,689. PUBLISHED OCTOBER 3, 1905.

47,956. WHISKY. MONHEIMER & Co., Chicago, Ill.
The words "PHOENIX CLUB," associated with the picture of a phenix and a monogram composed of the letter, character, and abbreviation "M & Co" surrounded by two concentric circles.
Filed April 21, 1905. Serial No. 2,542. PUBLISHED OCTOBER 3, 1905.

47,957. PLASTERS. CATHERINE A. STAAB, Cleveland, Ohio.
The words and abbreviation "ST. BENEDICT WONDER PLASTER," associated with a pictorial representation of the figure of St. Benedict holding in one hand a book and in the other hand a crucifix and surrounded by a circular border.
Filed May 9, 1905. Serial No. 4,826. PUBLISHED AUGUST 29, 1905.

47,958. YEAST. SNYDER YEAST COMPANY, Arkansas City, Kans.
The words "EVERYBODY'S YEAST."
Filed May 29, 1905. Serial No. 7,039. PUBLISHED OCTOBER 3, 1905.

47,959. MALT EXTRACT FOR BREWERS' USE. THE INDIANAPOLIS BREWING COMPANY, Indianapolis, Ind.
The word "OXOTONIC."
Filed April 6, 1905. Serial No. 553. PUBLISHED OCTOBER 3, 1905.

47,960. BEER. THE INDIANAPOLIS BREWING COMPANY, Indianapolis, Ind.
The word "TONICA."
Filed April 6, 1905. Serial No. 554. PUBLISHED OCTOBER 3, 1905.

47,961. TOBACCO EXTRACTS FOR INSECTICIDES. THE KENTUCKY TOBACCO PRODUCT CO., Louisville, Ky.
The words "ROSE LEAF."
Filed May 12, 1905. Serial No. 5,481. PUBLISHED OCTOBER 3, 1905.

47,962. QUININ. THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y.
The words "GOLD AND SILVER."
Filed May 23, 1905. Serial No. 6,368. PUBLISHED AUGUST 15, 1905.

47,963. WORM-PELLETS. THE W. H. COMSTOCK COMPANY LIMITED, Morristown, N. Y.
The words "COMSTOCK'S DEAD SHOT WORM PELLETS."
Filed April 28, 1905. Serial No. 3,286. PUBLISHED AUGUST 15, 1905.

47,964. POPCORN AND CANDIED POPCORN. CHARLES M. WAITE, New York, N. Y.
The words "GOLDEN BRITTLE BY THE EAR."
Filed May 17, 1905. Serial No. 5,920. PUBLISHED AUGUST 29, 1905.

47,965. REMEDY FOR ASTHMA AND ASTHMATIC DISEASES. WM. R. WARNER & Co., Vergennes, Vt.
The word "ARMOLA."
Filed May 12, 1905. Serial No. 5,379. PUBLISHED OCTOBER 3, 1905.

47,966. SUGAR, SYRUP, MOLASSES, AND GLUCOSE. GOYER ALLIANCE REFINING COMPANY, Memphis, Tenn.
The word "CONFECTO."
Filed August 23, 1905. Serial No. 11,029. PUBLISHED SEPTEMBER 26, 1905.

47,967. RYE AND BOURBON AND ALL KINDS OF WHISKY. SOLOMON C. HERBST, Milwaukee, Wis.
The words "BENSON CREEK."
Filed April 19, 1905. Serial No. 2,263. PUBLISHED OCTOBER 3, 1905.

47,968. SODA. HULMAN & Co., Terre Haute, Ind.
The word "CHURN," beneath which is a drawing representing a girl churning, with a fanciful design of a wreath on each side.
Filed June 21, 1905. Serial No. 8,648. PUBLISHED SEPTEMBER 5, 1905.

47,969. GIN. THE ALBERT M. GUGENHEIM COMPANY, Cincinnati, Ohio.
The words "PLEASANT DREAMS."
Filed May 27, 1905. Serial No. 6,845. PUBLISHED AUGUST 15, 1905.

47,970. GLASS VESSELS FOR TABLE USE. THE CAMBRIDGE GLASS CO., Cambridge, Ohio.
The word "NEARCUT."
Filed May 1, 1905. Serial No. 3,918. PUBLISHED AUGUST 22, 1905.

47,971. WHISKIES. THE EDGEWOOD DIST'G CO., Cincinnati, Ohio.
The word "EDGEWOOD," associated with the representation of a man in full dress with a fez upon his head and his hands in his pockets standing upon a box.
Filed May 6, 1905. Serial No. 4,493. PUBLISHED OCTOBER 3, 1905.

47,972. WHISKY. THE ROXBURY DISTILLING CO., Baltimore, Md.
The word "ROXBURY."
Filed April 7, 1905. Serial No. 675. PUBLISHED JUNE 27, 1905.

47,973. FLEXIBLE CONDUIT FOR ELECTRIC CONDUCTORS. ALFRADUCT MANUFACTURING COMPANY, New York, N. Y.
The word "ALFRADUCT."
Filed May 29, 1905. Serial No 6,888. PUBLISHED AUGUST 15, 1905.

47,974. CLOTH FABRICS FOR SUITINGS FOR MEN AND BOYS. THOS. OAKES & Co., Bloomfield, N. J.
The representation of an oak-leaf and acorns at the stem of the leaf, together with a monogram produced on said leaf consisting of the letters "D O S" and the character "&."
Filed May 18, 1905. Serial No. 5,995. PUBLISHED AUGUST 22, 1905.

47,975. DECORATIVE FABRICS FOR WALLS AND CEILINGS. FR. BECK & COMPANY, New York, N. Y.
The hyphenated word "LINCRUSTA-WALTON."
Filed April 17, 1905. Serial No. 2,053. PUBLISHED AUGUST 29, 1905.

47,976. PEANUTS. GARCIA & MAGGINI, San Francisco, Cal.
The word "JUMBO."
Filed May 4, 1905. Serial No. 4,270. PUBLISHED AUGUST 29, 1905.

47,923. BLOOD AND NERVE MEDICINES. L. C. GEISER MEDICAL CO., Schenectady, N. Y.

A picture of Mrs. Mary Wheaton, deceased, wearing spectacles, inclosed in a fancy frame.

Filed April 26, 1905. Serial No. 3,506. PUBLISHED OCTOBER 3, 1905.

47,924. BAY-RUM TABLETS. CHARLES S. MASCHAL, Kingston, N. Y.

A monogram of the letters and abbreviation "A S Co" surrounded by a star-like figure with a circular open center and having ten points or petals comprising symmetrical extensions of equal size, each having curved edges extending into proximity to the edge of the open center. A circular line extends through the outer extremities of the star points or petals, and a second circular line surrounds the first-mentioned line in proximity thereto and equidistant therefrom at all points.

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47,925. OXID OF TIN. THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y.

The representation of a five-pointed star in Mosaic pattern and the characters "A1" thereon.

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The word "HEARTHSTONE."

Filed May 22, 1905. Serial No. 6,281. PUBLISHED OCTOBER 3, 1905.

47,927. WHISKY. THE STAR DISTILLERY COMPANY, Cincinnati, Ohio.

The words "FRANKLIN CROSS ROADS."

Filed May 22, 1905. Serial No. 6,283. PUBLISHED OCTOBER 3 1905.

47,928. WITHDRAWN.

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The words "HIGH SPORT."

Filed May 22, 1905. Serial No. 6,289. PUBLISHED OCTOBER 3 1905.

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The word "VICTOR."

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47,936. GIN. GEORGE W. MEREDITH, East Liverpool, Ohio.

The words "TIGER HEAD" and the representation of a tiger's head.

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The words "ROLLING FORK."

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The words "NELSON'S TENNESSEE" ornamented above and below by a spray of leaves.

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47,940. COMPOUNDS FOR BLEACHING AND WASHING LINENS. THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y.

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The word "UTESTER."

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47,950. DENTIFRICES. LEE W. DUTRO, Memphis, Tenn.
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47,951. ALE. C. H. EVANS & SONS, Hudson, N. Y.
The representation of a crescent partially surrounding a lion rampant, which appears upon a sheaf of barley or grain, the crescent bearing the word and figures "EVANS 1786."
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A representation of the two halves of a split olive filled with red peppers.
Filed April 11, 1905. Serial No. 1,100. PUBLISHED OCTOBER 3, 1905.

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The artificial coined compound word "LITHIA-MALT," which is shown printed in Old English type and associated with an ornamental scroll.
Filed April 6, 1905. Serial No. 577. PUBLISHED OCTOBER 3, 1905.

47,954. SALT FISH. WILLIAM HENRY LORD, Dedham, Mass.
The representation of a fisherman, sailor, or "old salt" standing alone and wearing a tarpaulin and oil-skins, with one hand shading his eyes and the other holding a coil of rope thrown over his shoulder.
Filed May 26, 1905. Serial No. 6,748. PUBLISHED OCTOBER 3, 1905.

47,955. PREPARATION FOR DISEASES OF THE MUCOUS MEMBRANE AND SKIN. MARVELINE COMPANY, Leavenworth, Kans.
The word "MARVELINE," associated with the representation of a Greek cross in solid red, the letters of the word "MARVELINE" being arranged on the face of the cross both horizontally and perpendicularly.
Filed April 29, 1905. Serial No. 3,089. PUBLISHED OCTOBER 3, 1905.

47,956. WHISKY. MONHEIMER & Co., Chicago, Ill.
The words "PHOENIX CLUB," associated with the picture of a phenix and a monogram composed of the letter, character, and abbreviation "M & Co" surrounded by two concentric circles.
Filed April 21, 1905. Serial No. 2,542. PUBLISHED OCTOBER 3, 1905.

47,957. PLASTERS. CATHERINE A. STAAB, Cleveland, Ohio.
The words and abbreviation "ST. BENEDICT WONDER PLASTER," associated with a pictorial representation of the figure of St. Benedict holding in one hand a book and in the other hand a crucifix and surrounded by a circular border.
Filed May 9, 1905. Serial No. 4,826. PUBLISHED AUGUST 29, 1905.

47,958. YEAST. SNYDER YEAST COMPANY, Arkansas City, Kans.
The words "EVERYBODY'S YEAST."
Filed May 29, 1905. Serial No. 7,039. PUBLISHED OCTOBER 3, 1905.

47,959. MALT EXTRACT FOR BREWERS' USE. THE INDIANAPOLIS BREWING COMPANY, Indianapolis, Ind.
The word "OZOTONIC."
Filed April 6, 1905. Serial No. 553. PUBLISHED OCTOBER 3, 1905.

47,960. BEER. THE INDIANAPOLIS BREWING COMPANY, Indianapolis, Ind.
The word "TONICA."
Filed April 6, 1905. Serial No. 554. PUBLISHED OCTOBER 3, 1905.

47,961. TOBACCO EXTRACTS FOR INSECTICIDES. THE KENTUCKY TOBACCO PRODUCT CO., Louisville, Ky.
The words "ROSE LEAF."
Filed May 13, 1905. Serial No. 5,481. PUBLISHED OCTOBER 3, 1905.

47,962. QUININ. THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y.
The words "GOLD AND SILVER."
Filed May 23, 1905. Serial No. 6,368. PUBLISHED AUGUST 15, 1905.

47,963. WORM-PELLETS. THE W. H. COMSTOCK COMPANY LIMITED, Morristown, N. Y.
The words "COMSTOCK'S DEAD SHOT WORM PELLETS."
Filed April 28, 1905. Serial No. 3,396. PUBLISHED AUGUST 15, 1905.

47,964. POPCORN AND CANDIED POPCORN. CHARLES M. WAITE, New York, N. Y.
The words "GOLDEN BRITTLE BY THE EAR."
Filed May 17, 1905. Serial No. 5,920. PUBLISHED AUGUST 29, 1905.

47,965. REMEDY FOR ASTHMA AND ASTHMATIC DISEASES. WM. R. WARNER & Co., Vergennes, Vt.
The word "AEMOLA."
Filed May 12, 1905. Serial No. 5,379. PUBLISHED OCTOBER 3, 1905.

47,966. SUGAR, SYRUP, MOLASSES, AND GLUCOSE. GOYER ALLIANCE REFINING COMPANY, Memphis, Tenn.
The word "CONFECTO."
Filed August 23, 1905. Serial No. 11,929. PUBLISHED SEPTEMBER 26, 1905.

47,967. RYE AND BOURBON AND ALL KINDS OF WHISKY. SOLOMON C. HERBST, Milwaukee, Wis.
The words "BENSON CREEK."
Filed April 19, 1905. Serial No. 2,263. PUBLISHED OCTOBER 3, 1905.

47,968. SODA. HULMAN & Co., Terre Haute, Ind.
The word "CHURN," beneath which is a drawing representing a girl churning, with a fanciful design of a wreath on each side.
Filed June 21, 1905. Serial No. 8,048. PUBLISHED SEPTEMBER 5, 1905.

47,969. GIN. THE ALBERT M. GUGENHEIM COMPANY, Cincinnati, Ohio.
The words "PLEASANT DREAMS."
Filed May 27, 1905. Serial No. 6,845. PUBLISHED AUGUST 15, 1905.

47,970. GLASS VESSELS FOR TABLE USE. THE CAMBRIDGE GLASS CO., Cambridge, Ohio.
The word "NEARCUT."
Filed May 1, 1905. Serial No. 3,918. PUBLISHED AUGUST 22, 1905.

47,971. WHISKIES. THE EDGEWOOD DIST'G CO., Cincinnati, Ohio.
The word "EDGEWOOD," associated with the representation of a man in full dress with a fez upon his head and his hands in his pockets standing upon a box.
Filed May 6, 1905. Serial No. 4,483. PUBLISHED OCTOBER 3, 1905.

47,972. WHISKY. THE ROXBURY DISTILLING CO., Baltimore, Md.
The word "ROXBURY."
Filed April 7, 1905. Serial No. 675. PUBLISHED JUNE 27, 1905.

47,973. FLEXIBLE CONDUIT FOR ELECTRIC CONDUCTORS. ALPHADUCT MANUFACTURING COMPANY, New York, N. Y.
The word "ALPHADUCT."
Filed May 29, 1905. Serial No 6,886. PUBLISHED AUGUST 15, 1905.

47,974. CLOTH FABRICS FOR SUITINGS FOR MEN AND BOYS. THOS. OAKES & Co., Bloomfield, N. J.
The representation of an oak-leaf and acorns at the stem of the leaf, together with a monogram produced on said leaf consisting of the letters "D O S" and the character "&."
Filed May 18, 1905. Serial No. 5,905. PUBLISHED AUGUST 22, 1905.

47,975. DECORATIVE FABRICS FOR WALLS AND CEILINGS. FR. BECK & COMPANY, New York, N. Y.
The hyphenated word "LINCRUSTA-WALTON."
Filed April 17, 1905. Serial No. 2,052. PUBLISHED AUGUST 29, 1905.

47,976. PEANUTS. GARCIA & MAGGINI, San Francisco, Cal.
The word "JUMBO."
Filed May 4, 1905. Serial No. 4,270. PUBLISHED AUGUST 29, 1905.

LABELS

REGISTERED NOVEMBER 28, 1905.

12,498.—*Title:* "PEACOCK BRAND." (For Syrup.) SOUTHERN SYRUP CO., Montgomery, Ala. Filed November 1, 1905.

12,499.—*Title:* "MOTHER KISSES." (For Candy.) SAGINAW KISS COMPANY, Saginaw, Mich. Filed October 30, 1905.

12,500.—*Title:* "EDEN GARDEN REMEDY." (For Medicine.) ALONZO EDWARD NELSON, Campello, Mass. Filed October 27, 1905.

12,501.—*Title:* "BORALA POWDER." (For a Medicine.) JOSEPH A. BEGY, Rochester, N. Y. Filed October 27, 1905.

12,502.—*Title:* "SHOFFNERS SURE CURE." (For Medicine.) SHOFFNER-HAYES MEDICINE CO., Paducah, Ky. Filed October 31, 1905.

12,503.—*Title:* "LA PAMPAS." (For Cigars.) JOSEPH KNECHT, Cincinnati, Ohio. Filed October 5, 1905.

12,504.—*Title:* "SALADA, 15 CENTS, CEYLON AND INDIA GREEN TEA." (For Tea.) PETER CHARLES LARKIN, Toronto, Canada. Filed October 30, 1905.

12,505.—*Title:* "SALADA, 20 CENTS, BLACK." (For Tea.) PETER CHARLES LARKIN, Toronto, Canada. Filed October 30, 1905.

12,506.—*Title:* "SALADA, 15 CENTS, BLACK." (For Tea.) PETER CHARLES LARKIN, Toronto, Canada. Filed October 30, 1905.

12,507.—*Title:* "SALADA, 20 CENTS, CEYLON AND INDIA GREEN." (For Tea.) PETER CHARLES LARKIN, Toronto, Canada. Filed October 30, 1905.

12,508.—*Title:* "OWATONNA VICHY." (For Mineral Water.) MINERO-CHEMICAL CO., St. Paul, Minn. Filed November 2, 1905.

12,509.—*Title:* "PERFECTION, GUARANTEED NINE MONTHS OLD." (For Beer.) FRED H. HORLACHER, Allentown, Pa. Filed October 28, 1905.

12,510.—*Title:* "MAGNETO COCKTAILS." (For Cocktails.) FLEGENHEIMER BROS. INC., New York, N. Y. Filed October 31, 1905.

12,511.—*Title:* "MEDICO GIN." (For Holland Gin.) FLEGENHEIMER BROS. INC., New York, N. Y. Filed October 31, 1905.

12,512.—*Title:* "GINGO-BLACKBERRY." (For Blackberry Brandy.) FLEGENHEIMER BROS. INC., New York, N. Y. Filed October 31, 1905.

12,513.—*Title:* "PULMO ROCK AND RYE." (For Rye Whisky.) FLEGENHEIMER BROS. INC., New York, N. Y. Filed October 31, 1905.

12,514.—*Title:* "COLUMBIA MALT WHISKEY." (For Malt Whisky.) FLEGENHEIMER BROS. INC., New York, N. Y. Filed October 31, 1905.

12,515.—*Title:* "CRESTO RYE." (For Rye Whisky.) FLEGENHEIMER BROS. INC., New York, N. Y. Filed October 31, 1905.

12,516.—*Title:* "TOGO." (For a Cleaning Fluid.) OKE B. SMITH, Denver, Colo. Filed October 31, 1905.

12,517.—*Title:* "EXCELSIOR SURFACING SOLUTION FOR DRAFTSMEN AND BOOKKEEPERS FOR USE AFTER MAKING ERASURES." (For a Surfacing Solution.) AUDLEY H. STOW, Switchback, W. Va. Filed June 30, 1905.

12,518.—*Title:* "RUBEROID ROOFING." (For Roofing.) THE STANDARD PAINT CO., New York, N. Y. Filed November 2, 1905.

12,519.—*Title:* "ESSELMANN FRAME FOR QUALITY." (For Frames.) GEO. ESSELMANN COMPANY, Baltimore, Md. Filed October 30, 1905.

12,520.—*Title:* "THE IDEAL CHAMBER ORGAN ORGUE DE SALON." (For Organs.) THE ART ORGAN COMPANY, New York, N. Y. Filed October 31, 1905.

12,521.—*Title:* "MORAVIAN RUGS." (For Rugs.) RUDOLPH DEUTSCH, New York, N. Y. Filed October 31, 1905.

PRINTS

REGISTERED NOVEMBER 28, 1905.

1,494.—*Title:* "THE FEDERAL LITHOGRAPH CO., SHOE POSTER." (For Shoes.) THE FEDERAL LITHOGRAPH COMPANY, New York, N. Y. Filed October 18, 1905.

1,495.—*Title:* "CLOTHES OF QUALITY." (For Clothing.) M. WILE & COMPANY, Buffalo, N. Y. Filed October 27, 1905.

1,496.—*Title:* "NEURILLA." (For Medicine.) DAD CHEMICAL COMPANY, New York, N. Y. Filed Oct. 25, 1905.

1,497.—*Title:* "DR. COLE'S YELLOW DRAGON VITALIZER." (For Medicine.) ALFRED L. COLE, Minneapolis, Minn. Filed October 28, 1905.

1,498.—*Title:* "DR. WILLIAMS FLY & INSECT DESTROYER." (For Insecticide.) THE F. WILLIAMS CO., Morrisburg, Canada. Filed October 30, 1905.

1,499.—*Title:* "FRONT VIEW OF THE IDEAL SEED CABINET." (For Seed-Cabinets.) THE PLANTERS SEED COMPANY, Springfield, Mo. Filed October 16, 1905.

1,500.—*Title:* "REAR VIEW OF THE IDEAL SEED CABINET." (For Seed-Cabinets.) THE PLANTERS SEED CO., Springfield, Mo. Filed October 16, 1905.

1,501.—*Title:* "THE FEDERAL LITHOGRAPH CO., FURNITURE POSTER." (For Furniture.) THE FEDERAL LITHOGRAPH COMPANY, New York, N. Y. Filed October 18, 1905.

1,502.—*Title:* "BUOB & SCHEU'S ORDER CHART FOR PROPELLER TOPS." (For Propeller-Tops.) BUOB & SCHEU, Cincinnati, Ohio. Filed October 28, 1905.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

TAYLOR v. WESTINGHOUSE.

Decided October 24, 1905.

1. INTERFERENCE—LACK OF DILIGENCE.

Where T. conceived the invention and made drawings and a model more than three years before his opponent conceived the invention and reduced it to practice and during that time T. did nothing with it save work occasionally upon a second model and it appears that he secured patents upon other inventions in the same art, *Held* that T. was lacking in diligence.

2. SAME—SAME—WORK ON ILLUSTRATIVE MODEL.

Where after making drawings and a model a party made no attempt to reduce the invention to practice, but merely worked occasionally upon a second model intended merely for illustrative purposes, *Held* that the making of the second model was not a step forward in the development of the invention and that work thereon was not diligence in adapting and perfecting the invention.

3. SAME—SAME—WORK ON OTHER INVENTIONS—DELAY FOR BUSINESS REASONS.

Where T. laid aside the invention in issue and as a matter of choice, based upon business considerations devoted his time and attention to other inventions and secured patents upon them, *Held* that he was lacking in diligence.

APPEAL from Examiners-in-Chief.

ROTARY ENGINE.

Messrs. Dudley, Browne & Norton for Taylor.

Mr. Wesley G. Carr and *Mr. Jonathan S. Green* for Westinghouse.

ALLEN, *Commissioner:*

This is an appeal by Taylor from the decision of the Examiners-in-Chief affirming the decision of the Primary Examiner awarding priority of invention to Westinghouse upon an issue relating to rotary engines.

The disposition of this case does not call for a discussion of the specific features of the invention involved, and therefore it is unnecessary to quote the issue.

Westinghouse has taken no testimony and is therefore confined to his filing date, June 24, 1903, for both conception and reduction to practice of the invention. Taylor can prevail only by showing invention before that date.

Taylor alleged in his preliminary statement disclosure and the making of drawings and a model in 1900. He alleged reduction to practice between May 9 and June 4, 1904. It is to be noted that the alleged reduction to practice was nearly one year after the date of Westinghouse's constructive reduction to practice, and therefore, according to Taylor's own allegations, he cannot prevail without showing that he exercised diligence in adapting and perfecting his invention. On behalf of Westinghouse it is admitted that Taylor has established the dates alleged in his preliminary statement, and therefore the whole case turns upon the question of his diligence.

In the brief filed on behalf of Taylor it was said:

> Taylor conceived the invention in issue the latter part of August, 1900. He filed his application for patent February 15, 1904, or about three and one-half years after his date of conception. In this time he applied for and obtained three patents for turbines, which patented turbines are for general utilization, whereas the invention in issue is adapted for marine work, or work in which there is a constant load. Taylor, according to his testimony, had no intention whatever of abandoning the invention in issue, but inasmuch as the greater demand in the market at the time of his conception of the invention, and since that time, was and is for a turbine capable of being employed for general work, he gave his attention to the turbine constructions for which he has obtained Letters Patent.

It thus appears that Taylor devoted his attention to other matters in preference to work upon this invention. It was a mere matter of choice with him, based upon business considerations and not upon circumstances which compelled the laying aside of this invention. It is not satisfactorily shown, furthermore, that he could not have proceeded with this invention at the same time that he was at work upon the others. As pointed out by the Examiner of Interferences and the Examiners-in-Chief, the alleged facts advanced in justification of the delay rest for their proof almost, if not entirely, upon the unsupported testimony of Taylor. The testimony of other witnesses as to the times and places where Taylor worked cannot be considered corroborative of his statement of the circumstances connected with such employment which prevented work upon this invention.

He says that he commenced building a full-sized machine in January, 1903, and completed it in April, 1904; but it does not appear even from his own testimony that he was diligently at work on it during all of that time. His work at best seems to have been spasmodic and not a continuous effort to perfect the invention. He says that he worked upon one feature in January, 1903, and again in March or April and that he did work upon another part of the machine in August. The machine, furthermore, was not adapted or intended for practical use, but was made for the mere purpose of illustration, as appears from the testimony of Taylor in regard to it. He says in answer to question 66:

> I never made the attempt to operate it from the fact that originally I was constructing it simply with a view to a model and the wheel was never balanced for a high rotating speed, though it could be operated at a slow speed by admitting fluid.

Since this machine was not intended for practical use, work upon it was no more a perfection of the invention than would have been work upon drawings. It is to be noted that Taylor had made drawings and a model long before this time, and therefore it is not apparent how the making of this second model can be regarded even as an

attempted step forward in the development of the invention.

Since Taylor had made drawings and a model of the invention in 1900, he could have filed an application for patent on it at any time thereafter. According to his own admissions he filed other applications during that time. He did not delay application during work leading to actual reduction to practice, for, as above stated, he has not proved that he did such work, and it appears that he filed his application finally before actually reducing the invention to practice. The delay in filing the application therefore stands unexcused. It is very clear that Taylor was lacking in diligence.

The decision of the Examiners-in-Chief awarding priority of invention to Westinghouse is affirmed.

EX PARTE BURSCHIK.

Decided October 28, 1905.

DRAWING—CANCELLATION OF FIGURES—NEW DRAWING REQUIRED WITH REMAINING FIGURES.

Where all figures were canceled from the drawing except some at one end of sheet, so that the drawing would present peculiar and inartistic appearance in the patent, *Held* that new drawing should be furnished.

ON PETITION.

RESILIENT WHEEL FOR VEHICLES.

Mr. B. Singer for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Primary Examiner requiring that the applicant furnish a new drawing in the above-entitled case.

It appears that the original drawing included one sheet containing ten figures and that by amendment all of the figures have been canceled except the first three, which appear in a small space at the upper left-hand corner of the drawing. The Examiner states that the three figures now remaining properly illustrate the invention claimed, and the requirement for a new drawing is based upon the objection by the chief draftsman that the present drawing as a whole has been so mutilated by amendment as to make it necessary to furnish a new drawing. A patent including the three figures now remaining in the case would present a peculiar and inartistic appearance, and under the circumstances the requirement for a new drawing including those figures placed in proper position upon the sheet is not unreasonable.

The petition is denied.

EX PARTE STEVENS.

Decided October 31, 1905.

APPLICATION—INSUFFICIENT DISCLOSURE—PRACTICE.

Where upon petition from the Examiner's objection to the specification for insufficient disclosure it appeared that the objection should not be overruled and that in view of previous prosecutions further amendment would seem to be useless, *Held* that the Examiner should reject the claims.

ON PETITION.

SURVEYING AND NAVIGATION.

Mr. Robert L. Stevens pro se.

ALLEN, *Commissioner:*

This is a petition from the action of the Primary Examiner holding that the specification is insufficient to enable him to understand the operation of the device.

The record shows that a number of letters attempting to explain the operation of the device or its manner of use and an exhibit of the same have been filed by applicant, and although the Examiner has evidently carefully considered all of these he is yet unable to see that the function claimed for the mechanism can be accomplished thereby.

It appears that the Examiner does not regard the present disclosure as sufficiently clear and definite to support a valid patent, although he seems to think it possible that the defects may be cured by amendment. It seems to have been for this reason that he made objection to the disclosure instead of rejecting the claims because of inoperativeness or lack of utility of the supposed invention.

An examination of the entire record shows that the disclosure in the specification is not so clear and full as to warrant overruling the Examiner's objection that it is insufficient. The statute requires that the applicant describe his invention in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention appertains to make and use the same, and therefore this Office must insist upon clearness in the disclosure in applications.

In the present case the obscurity in the disclosure may be due to the fact that the mechanism shown and described will not perform the functions ascribed by the applicant to it. However this may be, the applicant has had ample opportunity to cure the defects in the disclosure and seems unable to do so. There must be an end to the prosecution of the case some time, and since further discussion of the matter of amendment would seem to be useless the Examiner should reject the claims because of the insufficiency in the disclosure.

The petition is denied.

BALL *v.* REGO.

Decided October 31, 1905.

INTERFERENCE—MOTION FOR DISSOLUTION—APPEAL—RIGHT TO CLAIM NOT CONSIDERED WHERE APPEAL IS BASED UPON IRREGULARITY IN DECLARATION.

Where it was contended that the interference was irregularly declared because a party did not show and did disclaim one of the elements of the issue, *Held* that the only question raised went to the right of the party to make the claim and that such questions would not be considered upon appeals from decisions upon irregularity in declaration.

APPEAL on motion.

MECHANICAL MUSICAL INSTRUMENT.

Mr. George H. Benjamin for Ball.

Mr. A. Miller Belfield for Rego.

ALLEN, *Commissioner:*

This is an appeal by Ball from the decision of the Primary Examiner refusing to dissolve the interference.

The appeal is taken from that part of the Examiner's decision holding that there was no irregularity in the declaration of the interference. It was urged before the Primary Examiner that the declaration of interference was irregular, first, because the exact meaning of the word "duplicate" as applied in the issue is not clear, and, second, because the issue includes as a positive element the expression "pneumatic key-striking mechanisms," whereas Rego shows no key-striking mechanism and disclaims key-striking mechanism as part of his invention.

I am unable to find any error in the conclusion of the

Examiner that the meaning of the word "duplicate" in the issue is clear and that there can be no difficulty in understanding the claim when the simple structures upon which it is drawn are considered. The question of Rego's disclosure of pneumatic key-striking mechanism goes to the right of Rego to make the claim in issue. It is well settled that such questions will not be considered upon appeals from decisions upon irregularity in declaration.

The decision of the Primary Examiner finding no irregularity in the declaration of interference and refusing to dissolve the same upon that ground is affirmed.

McGILL v. ADAMS.

Decided November 18, 1905.

APPEAL—BURDEN OF PROOF IN INTERFERENCES.

No appeal is permitted prior to final judgment on a motion to shift the burden of proof, and any supposed error in the decision thereon will be reviewed in connection with the decision upon the question of priority of invention.

ON PETITION. Appeal on motion.

BABY-CARRIAGES.

Mr. Francis A. Hopkins for McGill.

Messrs. Dyrenforth, Dyrenforth & Lee for Adams.

ALLEN, *Commissioner:*

The party McGill has filed an appeal from the decision of the Examiner of Interferences denying his motion to shift the burden of proof in the above-entitled interference. He has also filed a petition asking for a review and reversal of the above-noted decision by the Examiner of Interferences.

For the reason stated in the case of *Raulet and Nicholson* v. *Adams* (114 O. G., 1827) no appeal is permitted prior to final judgment in matters relating to the burden of proof. The question upon whom the burden of proof is to be placed is determined by the Examiner of Interferences, and any supposed error by him in regard to the matter will be reviewed in connection with the decision upon the question of priority of invention. No good reason appears for departing from the usual practice in the present case, and therefore the merits of the question involved will not be reviewed either upon the appeal or petition.

The appeal and petition are dismissed.

EX PARTE MILLER.

Decided November 21, 1905.

DRAWINGS—SUPERFLUOUS ILLUSTRATION—FINALLY PASSED UPON ONLY WHEN CASE HAS BEEN RESTRICTED TO ALLOWABLE CLAIMS.

When petition was taken from the requirement for the cancellation of certain sheets of the drawings as superfluous, but it appeared that the claims in the case were not considered allowable, *Held* that the question of superfluous illustration must, in general, be decided in view of the limitations which are included by the claims and should be insisted upon only when the case has been restricted to allowable claims.

ON PETITION.

GAS-ENGINES.

Mr. Francis A. Hopkins for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner requiring the cancellation of Sheets 1 and 2 of the application drawings.

In the Office letter of October 14, 1904, division was required, and it was stated that definite action on the merits of the case could not be given until the entire application was restricted to one invention, and it was noted that in the opinion of the Examiner many of the applicant's claims were aggregations. It was also required that Sheets 1 and 2 of the drawings should be canceled and the specification correspondingly limited to the invention claimed and so much of the general structure shown in the remaining drawings as might be necessary to make the invention readily intelligible. In response to this action of the Office the applicant, on October 7, 1905, filed an amendment complying with the requirement for division and brought the present petition from the requirement for the cancellation of drawings, pointing out that the latter requirement had been twice made and that such petition might be considered necessary by the Office to save the application from abandonment through failure on the part of the applicant to take complete responsive action.

It is clear from the Examiner's letter of October 14, 1904, and from his statement in answer to the petition that the claims remaining in this case are not regarded as allowable, and it does not appear that the drawings whose cancellation is required correspond exclusively to the invention eliminated by the compliance of October 7, 1905, with the requirement for division. Whether certain figures of the drawings are superfluous depends, in general, upon what limitations are included by the claims in their final allowable form, and until all the claims have been found to be allowable the question of restriction of the drawings is ordinarily a moot one. The Examiner states that the drawings objected to would not be rendered necessary by any proper claim which could be allowed in this case; but I am of the opinion, nevertheless, that the general rule should be followed that the question of superfluous illustration should be finally raised only after the application has been restricted to allowable claims.

While the merits of the requirement for cancellation of drawings will not be passed upon at this time, it may be well to state here that the comparatively simple invention to which the claims are drawn would hardly seem to require five sheets of drawings for its proper illustration and that it is probable that this number should be reduced, amending, if necessary, certain of the remaining figures or presenting substitute drawings showing on few sheets features of the invention which are now spread over many.

The petition is dismissed.

VREELAND v. FESSENDEN v. SCHLOEMILCH.

Decided November 20, 1905.

1. INTERFERENCE—MOTION FOR DISSOLUTION—DEFINITENESS REQUIRED.

A motion for dissolution alleging that there is no interference in fact, but not specifying the counts of the issue in regard to which the contention is to be made, is not sufficiently definite.

2. SAME—SAME—POINTS TO BE ARGUED MUST BE STATED.

A motion for dissolution should give the opposing party a reasonably definite idea of the points to be considered when the hearing is had.

3. SAME—SAME—REQUIREMENT FOR DEFINITENESS NO HARDSHIP.

No motion for dissolution should be brought unless the moving party has some definite point in mind which he wishes to make, and it is no hardship to require him to state the point in his motion.

4. SAME—SAME—GROUNDS SHOULD BE PROPERLY NAMED.

Where a motion for dissolution alleges irregularity in the declaration, but the specific statement of facts upon which the allegation is based shows that the real question goes to the right of a party to make the claim, *Held* that they should be included under the allegation that the opposing party has no right to make the claim.

APPEAL on motion.

SPACE TELEGRAPHY.

Messrs. Dyer & Dyer for Vreeland.

Mr. Darwin S. Wolcott and *Messrs. Kenyon & Kenyon* for Fessenden.

Messrs. Briesen & Knauth for Schloemilch.

ALLEN, *Commissioner:*

This is an appeal by Fessenden from the decision of the Examiner of Interferences transmitting to the Primary Examiner motions for dissolution filed by Vreeland and Schloemilch.

Vreeland's motion was not filed within the twenty days allowed by the rule, but is an amendment of or substitute for a motion filed within the time. The first motion was refused transmission because it was not sufficiently definite, as set forth in the decision of June 17, 1905. The present motion was therefore filed in the effort to cure the formal defects in the first. In behalf of Fessenden it is contended that the present motion is not sufficiently definite.

The motion alleges that there is no interference in fact; but it does not say whether this objection is to be made as to all counts of the issue. There are seven counts involved in this interference, and it is urged on behalf of Fessenden that the motion should specify the counts to which the argument will be directed. This contention is well founded, and it must therefore be held that the amended motion is not in proper form for consideration by the Primary Examiner.

There seems to be no good reason why parties bringing motions should not give the opposing party a reasonably definite idea of the points to be considered when the hearing is had. It is no hardship to require definiteness in the motion, for the reason that no motion should be brought unless the moving party has some definite point in mind which he wishes to make. If he has such point in mind, there will be no difficulty in stating it in the motion.

In addition to the question of interference in fact Vreeland's motion includes the allegation that there was irregularity in the declaration.

In specifying the points of alleged irregularity the motion includes five paragraphs, no one of which alleges anything constituting irregularity within the meaning of that term as used in the rule. It is alleged that the claim of the issue constitutes new matter in Fessenden's case; that he is estopped from claiming it; that he has abandoned it, and that there is a statutory bar to the allowance of the claims to Fessenden. These are clearly matters relating to the merits and not to the form of the declaration or to the procedure. They should be included under the allegation that Fessenden has no right to make the claim.

The motion by Schloemilch is similar to the one made by Vreeland and is subject to the same objections. It furthermore was not filed until long after the twenty days allowed by the rule, and no excuse is given for the delay. No reason is apparent for transmitting it. It should not be transmitted on the theory that it may be considered with Vreeland's motion and that thus no harm will be done and no delay caused. It is impossible to tell in advance what delays may be caused in future by consideration of that motion. Schloemilch is not entitled to demand that it be considered, and the opposing parties have good cause for objecting to its consideration.

The decision of the Examiner of Interferences is reversed.

STEINMETZ *v.* THOMAS.

Decided November 23, 1905.

INTERFERENCE—DISSOLUTION—DELAY IN FILING MOTION—TRANSMISSION.

A motion to dissolve an interference filed five days after the expiration of the twenty days allowed for such motions was properly transmitted to the Primary Examiner in view of a verified showing that copies of the interfering applications were ordered immediately after the declaration of the interference, but that such copies were not received until three days after the expiration of the twenty-day period. In such showing it was not necessary to distinctly allege that such copies were ordered directly from the Patent Office and not through an agent.

APPEAL on motion.

ALTERNATING-CURRENT RECTIFYING APPARATUS.

Mr. A. G. Davis for Steinmetz. (*Mr. A. D. Lunt* of counsel.)

Mr. Charles A. Terry for Thomas. (*Mr. G. C. Dean* of counsel.)

ALLEN, *Commissioner:*

This is an appeal from the action of the Examiner of Interferences transmitting to the Primary Examiner a motion by Steinmetz to dissolve the above-entitled interference.

The motion was brought five days after the expiration of the time allowed in Rule 122, and it was transmitted because the Examiner of Interferences was of the opinion that the excuse made for the delay was sufficient. That excuse is set forth in the affidavit by counsel for Steinmetz, in which it is said that a copy of Thomas's application was ordered from Washington immediately after the declaration of the interference; but there was delay in furnishing it, and it was not finally received until August 30, and a copy of his original application was not received until September 9. The present motion was filed on September 12.

On behalf of Thomas it is contended that the showing was insufficient, since it is not distinctly alleged that the copies of the application were ordered from the Patent Office, and it is urged that the delay may have been due to the negligence of counsel or of some agent in Washington. The length of the delay is not such as to raise any strong presumption of negligence, and in view thereof the statement that counsel was proceeding diligently to obtain the copies must be accepted as sufficient.

The decision of the Examiner of Interferences is affirmed.

HOTT *v.* SANDERS *v.* HAWTHORNE.

Decided November 23, 1905.

1. PRELIMINARY STATEMENT—AMENDMENT.

Where motion to amend preliminary statement to carry date back of those alleged by opponent is brought after opportunity to see opponent's statement and case has been afforded, *Held* that the motion will be denied unless supported by a most satisfactory and convincing showing.

2. SAME—SAME.

Where in support of motion to amend preliminary statement to carry dates back of those of opponent it is merely alleged that search for certain evidence now possessed was originally unsuccessful, but no satisfactory explanation is made why the search could not have been completed in time for the original statement instead of later, *Held* that the showing is not satisfactory and convincing.

APPEAL on motion.

SOUND-RECORD.

Messrs. Briesen & Knauth for Hoyt.

Messrs. Lyons & Bissing for Sanders.

Messrs. Emery, Booth & Powell for Hawthorne.

ALLEN, *Commissioner:*

This is an appeal by Hoyt from the decision of the Examiner of Interferences denying his motion for leave to amend his preliminary statement.

The record shows that this amendment was made nineteen days after the preliminary statements of all parties were approved and after Hoyt had an opportunity to see the applications and the statements filed by the opposing parties. It appears, further, that Hoyt's original statement alleged dates later than the dates alleged by one of the opposing parties and that his amended statement carries his dates back of the corresponding dates of that party.

The purpose of the rule requiring the filing of preliminary statements is to make the parties state their dates while in ignorance of the dates to be alleged by the opposing parties. To permit amendment, therefore, after the dates of the parties have been disclosed has the practical effect of nullifying the rule in that particular case. A preliminary statement has very little practical utility if filed after the dates of the opposing parties are known. In a case like the present, where Hoyt seeks to carry his dates back of the dates of one of the opposing parties, the amendment should not be permitted except upon a most satisfactory and convincing showing. The showing which Hoyt has made is neither satisfactory nor convincing. He merely alleges in support of his motion that when preparing his original statement he searched for a memorandum-book which he had possessed and which he remembered; but he was unable to find it. Subsequently and after further search he found the book and wishes now to amend his statement in accordance with certain entries which, it is said, appear therein. It would seem that the book should have been found originally if a sufficiently thorough search had then been made, and there is no satisfactory explanation why the search was not then continued instead of after learning the dates of the opposing parties.

The Examiner of Interferences was right in refusing permission to amend, and therefore his decision is affirmed.

DUNN *v.* HALLIDAY.

Decided November 23, 1905.

1. PRELIMINARY STATEMENT—MOTION TO AMEND.

Where motion to amend a preliminary statement is brought after the statements have been open to inspection and seeks to carry the party's reduction to practice from a date subsequent to that of his opponent to a date prior thereto, *Held* that such amendment will not be permitted unless supported by a clear and satisfactory showing that justice requires it and that the alleged error was not due to negligence.

2. SAME—SAME.

Where upon motion to amend preliminary statement it is stated in excuse of alleged error in the original statement that the party did not correctly understand what was meant by reduction to practice, *Held* that it was clearly his duty to discover the meanings of the allegations which he made and that he apparently could have discovered them from his atterney.

3. SAME—SAME.

Where in excuse of alleged error in preliminary statement upon motion to amend the same it is stated that party did not understand the meaning of the words *reduction to practice* and it appears that these words were not used in the statement, which, on the other hand, gave the date of construction of full-sized operative apparatus, *Held* that the excuse was insufficient.

APPEAL on motion.

CHEESE-CUTTER.

Mr. E. W. Anderson and *Mr. V. H. Lockwood* for Dunn.

Messrs. Parker & Burton for Halliday.

ALLEN, *Commissioner:*

This is an appeal by Dunn from the decision of the Examiner of Interferences denying his motion for leave to amend his preliminary statement.

The motion to amend was made long after Dunn was permitted to see and obtain copies of the preliminary statement filed by Halliday and, according to the showing made, was based upon conversations had between Dunn and his attorney in preparing to take testimony in the case. In the motion it was sought to carry Dunn's date of reduction to practice back from December, 1903, to the first part of January, 1903. Halliday alleges reduction to practice in October, 1903, and therefore the proposed amendment carries Dunn's date back of the corresponding date alleged by Halliday. Under such circumstances the amendment should not be permitted unless supported by the clear and satisfactory showing that justice requires it. It must be shown that the alleged error in the statement was not due to negligence and that the moving party made all reasonable effort to ascertain and set forth the correct dates originally. In excuse for the alleged error in the original statement Dunn says that he did not correctly understand what was meant by a reduction to practice of the invention. No other explanation or excuse was given, and there is nothing to show how he was misled or deceived. It was clearly his duty to discover the meaning of the allegations which he was required to make in his statement, and it seems clear that he could have discovered the meaning from his attorney.

It is to be noted that in his original statement Dunn did not use the words "reduction to practice," and therefore it is not clear how any misunderstanding as to the meaning of those words could have led to an error in the allegations of fact contained in his statement. He there alleged—

* * * that he made no model of the invention; that he made a full-size operative apparatus embodying the invention in December, 1903.

In his proposed amended statement he says—

* * * that he made no model of the invention: that he reduced the invention to practice by making a full-sized operative and complete machine, embodying the invention in the first part of January, 1903.

It would seem that Dunn should have known when he made a machine embodying the invention even if he did not know what was meant by reduction to practice, and since he alleged merely the building of a machine no reason is apparent for his alleged mistake.

The decision of the Examiner of Interferences is affirmed.

GOLDSMITH *v.* UNITED SHIRT VEST COMPANY.

Decided November 29, 1905.

1. TRADE-MARK INTERFERENCE—APPLICANT AGAINST REGISTRANT—BURDEN OF PROOF.

Since a trade-mark registration is *prima facie* evidence of ownership, an applicant in interference with a prior registrant

has the burden of overcoming the presumption in favor of his opponent.

2. SAME—SAME—SAME—OWNERSHIP.

An applicant in interference with a registrant must show that he was the first to adopt and use the mark or that the registrant is not now the owner by reason of his abandonment of the mark.

3. SAME—ABANDONMENT OF MARK—TEMPORARY INACTIVITY.

Where a party shows that his opponent is not actively engaged in selling goods having thereon the trade-mark, but it appears that the inactivity covers only a few months, due to business troubles, that the party intends to resume operations, and that he has on hand a stock of the goods for sale, *Held* that abandonment of the mark is not proved.

4. INTERFERENCE—TESTIMONY—PARTY BOUND BY STATEMENTS OF HIS WITNESS—OPPOSING PARTY.

Where one party to an interference calls as his witness the opposing party, *Held* that he is bound by the testimony of the witness unless it is overcome by stronger evidence to the contrary. The rule that the unsupported testimony of a party is insufficient does not apply.

5. SAME—SAME—RIGHT TO TAKE REBUTTAL EVIDENCE.

Where the senior party takes no testimony, the junior party cannot take testimony in the time allotted to him for rebuttal, since there is nothing to rebut. Testimony so taken in this case for the purpose of strengthening the direct proofs refused consideration.

APPEAL from the Examiner of Interferences.

TRADE-MARK FOR DRY GOODS.

Messrs. Wiedersheim & Fairbanks for Goldsmith.

Mr. Charles H. Roberts for United Shirt Vest Company.

ALLEN, *Commissioner:*

This is an appeal by Goldsmith from the decision of the Examiner of Interferences adjudging that the United Shirt Vest Company was the first to adopt and use the trade-mark in controversy and is the owner of that mark.

The issue is as follows:

The hyphenated word "Keep-Kool" as a trade-mark for vests or shirt-vests.

The mark was registered by the United Shirt Vest Company on September 2, 1902, and it is not claimed that Goldsmith adopted and used the mark until September, 1904. Under the express provision of the statute the registration of the mark by the United Shirt Vest Company constitutes *prima facie* evidence of ownership. It is clear, therefore, that Goldsmith can prevail here only by showing that the United Shirt Vest Company was not the owner and was not entitled to registration or that it has abandoned the mark and was not the owner at the time that Goldsmith began to use it.

It is not denied that the United Shirt Vest Company adopted and used the mark, and there is no evidence in the case upon which to base such denial. The whole case here turns upon the question whether or not the United Shirt Vest Company abandoned the use of the mark after adopting and using it.

The contention on behalf of Goldsmith is that the United Shirt Vest Company stopped using the mark and gave up the business of selling the goods to which it is supposed to have been applied as early as the summer of 1904. It is therefore urged that the mark was abandoned and that Goldsmith acquired valid title to it when he began using it in September, 1904.

To show abandonment, Goldsmith called as his witness Bovee, president of the United Shirt Vest Company. Bovee said that at the time he was testifying, March, 1905, his company was not making and was not actively selling the shirt-vests to which the trade-mark was applied and that this condition had continued since the summer of 1904. He further said that the company intended to resume active business and that it then had on hand about one hundred dozen shirt-vests which it intended to sell.

While the testimony of this witness shows a cessation of active operations, it does not show an intention to abandon the business and permanently retire from the field. He expressly says that the intention was to resume—

just as soon as I can find a location where I am not bothered with any strikes.

There is much controversy as to the weight which should be given to the testimony of this witness Bovee. He was called by Goldsmith; but he was president of the opposing company and testified under *subpœna*.

The contention of counsel for Goldsmith seems to be that his testimony should be accepted where he makes admissions against interest and should be regarded as insufficient to establish allegations which tend to support his side of the case unless corroborated. I cannot accept this view of the law. The witness was called by Goldsmith, and he is as much bound by his testimony upon one point as another. It is not intended to rule that Goldsmith was bound to accept the testimony in the sense that he could not call witnesses to contradict it; but it seems clear that having called the witness he is bound to accept what he says until he presents some stronger evidence to the contrary.

A controversy has arisen in this case as to certain additional testimony taken by Goldsmith with the purpose of showing abandonment of the mark in issue. That testimony is known as the "Salisbury testimony" and was taken by Goldsmith during the time allotted to him for taking rebuttal evidence. The United Shirt Vest Company took no testimony, and therefore it was held by the Examiner of Interferences that Goldsmith had no right to take rebuttal testimony. It seems clear that this ruling was right and that the Salisbury testimony should not be considered. There was nothing for Goldsmith to rebut, and the evidence was obviously presented in the effort to strengthen the showing made in his *prima facie* evidence.

It must be held that the failure of the United Shirt Vest Company to engage actively in business during the comparatively short period covered by the evidence is not sufficient to show an intention to abandon the trade-mark and the business. When taken in connection with Bovee's positive statement that he intended to resume active operations and continue in business and with the further statement that the company had on hand for sale many shirt-vests, it is clear that there was no abandonment of the trade-mark right by the United Shirt Vest Company. As above stated, the burden was upon Goldsmith to show abandonment, and since he has failed the decision must be against him.

The decision of the Examiner of Interferences is affirmed.

THE

OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 119—No. 5. TUESDAY, DECEMBER 5, 1905. PRICE—$5 per year.

CONTENTS.

	Page.
ISSUE OF DECEMBER 5, 1905	1263
TRADE-MARKS	1263
FOREIGN PATENTS	1263
THE OFFICIAL GAZETTE	1263
APPLICATIONS UNDER EXAMINATION	1264
PRINTED COPIES OF PATENTS	1264
PATENTS GRANTED	1265
REISSUES	1551
DESIGNS	1553
TRADE-MARKS—REGISTRATION APPLIED FOR	1555
TRADE-MARKS—REGISTERED	1577
LABELS	1582
PRINTS	1582
COMMISSIONER'S DECISIONS—	
Newell v. Clifford v. Rose	1583
Ex parte Person	1583
Kops Brothers v. Royal Worcester Corset Company	1584
Van Auken v. Osborne v. Harrison v. Canfield and Van Auken	1584
Ex parte McClain	1585
DECISIONS OF THE U. S. COURTS—	
Computing Scale Company of America v. The Automatic Scale Company	1586

ISSUE OF DECEMBER 5, 1905.

Patents	671	No. 806,090 to No. 806,760,	inclusive.
Designs	13	No. 37,707 to No. 37,719,	inclusive.
Trade-Marks	109	No. 47,977 to No. 48,085,	inclusive.
Labels	17	No. 12,522 to No. 12,538,	inclusive.
Prints	7	No. 1,503 to No. 1,509,	inclusive.
Reissues	3	No. 12,414 to No. 12,416,	inclusive.
Total issue	820		

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	.....	Nevada	.....	.....
Alaska, District of	.....	.....	New Hampshire	1	.....
Arizona Territory	.....	.....	New Jersey	35	3
Arkansas	1	.....	New Mexico Ter't'y	.....	.....
California	23	.....	New York	117	26
Colorado	5	1	North Carolina	3	.....
Connecticut	10	4	North Dakota	3	.....
Delaware	2	.....	Ohio	49	11
District of Columbia	2	.....	Oklahoma Territ'y	4	.....
Florida	1	.....	Oregon	3	.....
Georgia	10	.....	Pennsylvania	61	10
Hawaii Territory	.....	.....	Porto Rico	.....	.....
Idaho	1	1	Rhode Island	5	3
Illinois	65	17	South Carolina	.....	1
Indian Territory	3	.....	South Dakota	1	.....
Indiana	23	.....	Tennessee	3	.....
Iowa	17	6	Texas	6	.....
Kansas	6	.....	Utah	4	.....
Kentucky	4	4	Vermont	2	.....
Louisiana	4	.....	Virginia	4	4
Maine	2	1	Washington	7	.....
Maryland	10	7	West Virginia	5	.....
Massachusetts	34	11	Wisconsin	12	4
Michigan	15	2	Wyoming	.....	.....
Minnesota	8	2	U. S. Army	.....	.....
Mississippi	2	1	U. S. Navy	.....	.....
Missouri	20	10			
Montana	4	.....	Total to citizens of the United States	609	132
Nebraska	10	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Netherlands	2	.....
Austria-Hungary	2	.....	Newfoundland	.....	.....
Belgium	.....	.....	New South Wales	.....	.....
Brazil	.....	.....	New Zealand	.....	.....
British West Indies	.....	.....	Norway	.....	.....
Canada	12	.....	Queensland	.....	.....
Cape Colony	.....	.....	Roumania	.....	.....
Chile	.....	.....	Russia	2	.....
China	.....	.....	San Salvador	.....	.....
Costa Rica	.....	.....	Scotland	1	.....
Cuba	.....	.....	South Africa	.....	.....
Denmark	.....	.....	Spain	.....	.....
Ecuador	.....	.....	Sweden	1	.....
England	14	1	Switzerland	6	.....
France	7	.....	Tasmania	1	.....
Germany	21	.....	Transvaal, South Africa	2	.....
Honduras	1	.....	Victoria	1	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	1	.....			
Japan	.....	.....	Total to citizens of foreign countries	75	1
Java	.....	.....			
Mexico	1	.....			

Trade-Marks.

The publication of trade-marks under the act of February 20, 1905, in the OFFICIAL GAZETTE, commenced May 2, 1905, and will appear in each weekly number of the GAZETTE thereafter.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment therefor.

Foreign Patents.

RULE 29. The receipt of Letters Patent from a foreign government will not prevent the inventor from obtaining a patent in the United States, unless *the application on which the foreign patent was granted was filed more than twelve months prior to the filing of the application in this country, in which case no patent shall be granted in this country.*

The Official Gazette.

The OFFICIAL GAZETTE is published every Tuesday, simultaneously with the weekly issue of patents. From January 1, 1872, (the commencement of its publication,) to June 30, 1883, it was published and bound in semi-annual volumes; from July 1, 1883, to December 31, 1902, in quarterly volumes; since January 1, 1903, in bimonthly volumes. Terms: To subscribers within the United States, Canada, and Mexico, $5 per annum; to foreign subscribers, $10; single copies, 10 cents; if mailed to foreign countries, 10 cents additional for postage. *Payment in advance required. No club rates. No discount to newsdealers. No sample copies.* All subscriptions must commence with the beginning of a volume. None taken for less than an entire volume. All orders should be addressed to "The Commissioner of Patents, Washington, D. C.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business November 28, 1905.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
	In arrears—Under one month.			
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Nov. 18	Aug. 17	225
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Nov. 17	Oct. 5	344
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Nov. 15	Oct. 23	280
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Nov. 15	Oct. 21	200
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Nov. 15	Aug. 1	582
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Nov. 14	Oct. 18	258
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Nov. 14	Oct. 16	417
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Nov. 14	Oct. 2	397
167	V. Fine Arts, Bookbinding, Harvesters, Jewelry, and Music.	Nov. 14	Sept. 29	272
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Wax, Water Purification.	Nov. 13	Oct. 13	173
368	XVII. Linotyping, Printing, Matrix-Making.	Nov. 13	Aug. 24	337
126	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Nov. 8	Sept. 1	261
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Nov. 7	Sept. 28	240
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Nov. 6	Oct. 5	378
147	XXIX. Coopering, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools.	Nov. 6	Aug. 25	373
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Nov. 6	Aug. 18	510
322	X. Carriages and Wagons	Nov. 6	Aug. 14	695
312	VII. Velocipedes, Clutches, Fire-Escapes, Games and Toys, Ladders, Mechanical Motors, and Paper Manufactures.	Nov. 6	May 15	515
	Between one and two months.			
282	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Oct. 27	Oct. 27	312
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Oct. 27	Sept. 11	385
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Oct. 25	June 14	653

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
327	XVIII. Steam-Engineering, etc	Oct. 20	Sept. 9	373
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Oct. 19	July 31	576
109	XVI. Telegraphy and Telephony	Oct. 18	Sept. 26	205
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufacturing, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Oct. 18	July 11	415
307	XIV. Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Metal Personal Wear, Making, Nut and Bolt Locks, Sheet-Metal Ware, Making, Tools, Wire-Working.	Oct. 12	Aug. 3	305
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Oct. 10	Apr. 10	688
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents and Umbrellas.	Oct. 6	July 3	693
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Optics, Signals, Time Controlling Mechanism.	Oct. 3	Aug. 9	604
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Oct. 2	June 15	596
	Between two and three months.			
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, Sewerage, and Water Distribution.	Sept. 25	May 24	966
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Sept. 21	July 3	445
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Sept. 20	July 13	581
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Sept. 11	Aug. 3	597
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Sept. 1	Mar. 26	892
	Between three and four months.			
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Aug. 7	June 6	629
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Aug. 7	May 8	634
	Between four and five months.			
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 21	July 20	487

Total number of applications awaiting action 17,502

Room No.				
159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Between one and two months.			
	Trade-Marks	Oct. 14	Oct. 2	4337
	Under one month.			
	Designs	Nov. 23	Nov. 18	22
	Labels and Prints	Nov. 27	Nov. 25	12

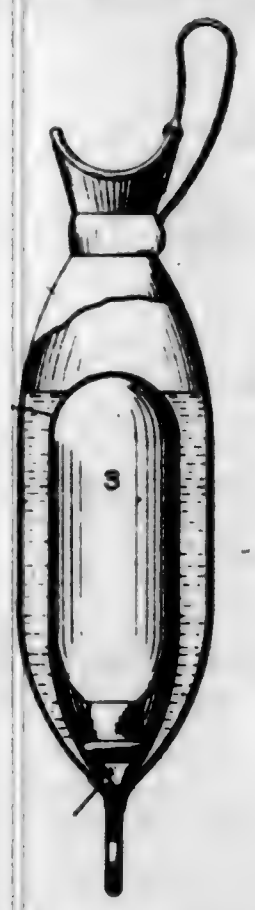
Printed Copies of Patents.

A printed copy of the complete specification and drawings of any patent published herein can be obtained for five cents.

PATENTS

GRANTED DECEMBER 5, 1905.

806,090. **HOT-WATER BAG.** Leo Allememe, San Francisco, Cal. Filed Jan. 17, 1905. Serial No. 241,425.



Claim.—As an article of manufacture, a hot-water bag provided with a centrally-arranged interior pocket for the reception of a nursing-bottle, said pocket being opened to the exterior of the water-bag at a point adjacent the lower end thereof.

806,091. **ADJUSTABLE BED.** Hervey N. Andrews, Greenfield, Ind. Filed Apr. 20, 1905. Serial No. 256,671.



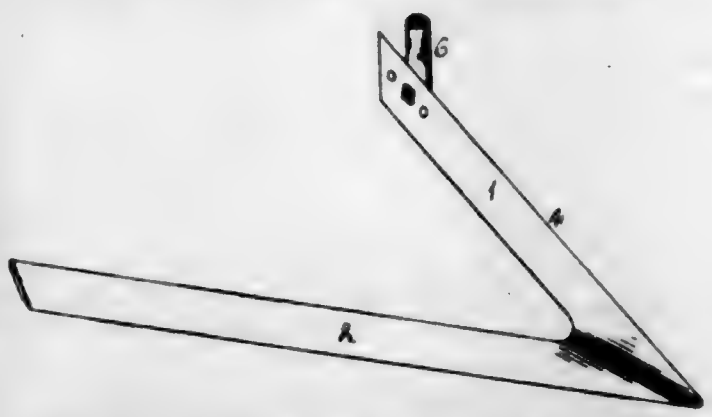
Claim.—1. In a bed, the bed-rails, blocks secured to the inner side of said bed-rails at the foot, said blocks having upper edges which slope downwardly toward the head of the bed, horizontal vertically-movable boards each having oblique ends resting upon the oblique edge of its respective block, bars for each bed-rail pivoted to its rail and hinged at its end to the lower corner of its adjacent board, a second bar hinged to the upper corner of each board and bearing upon the underlying pivoted bar.

2. In a bed, the bed-rails, blocks secured to the inner side of said bed-rails at the foot, said blocks having upper edges which slope downwardly toward the head of the bed, horizontal vertically-movable boards each having oblique ends resting upon the oblique edge of its respective block, bars for each bed-rail pivoted to its rail and hinged at its end to the lower corner of its adjacent board, a second bar hinged to the upper corner of each board and bearing upon the underlying pivoted bar, and means to hold a given adjustment of the above parts.

3. In a bed, the bed-rails, a bar pivoted to each bed-rail, a board hinged to the end of said bar having vertical adjustments against a bed-rail, means to support and guide the opposite end of the board, a second bar for each rail hinged to the end of said board and bearing upon the pivoted bar, a longitudinally-slotted bar pivotally secured at one end to the pivoted bar, a bolt passing through the slotted bar, and a nut on said bolt.

4. In a bed, the bed-rails, a bar pivoted to each bed-rail, a roller on each of said bars, a board hinged to the end of said bar and having vertical adjustment against a bed-rail, means to support and guide the opposite end of the board, a second bar for each rail hinged to the end of said board and bearing upon the roller on the pivoted bar, a longitudinally-slotted bar pivotally secured at one end to the pivoted bar, a bolt passing through the slotted bar, and a nut on said bolt said bolt being located between the pivotal connection of the slotted bar and the hinge between the pivoted bar and board.

806,092. **CULTIVATOR SHOVEL OR WEEDER.** Philip Atwood, Owen, Ill. Filed July 19, 1905. Serial No. 270,435.

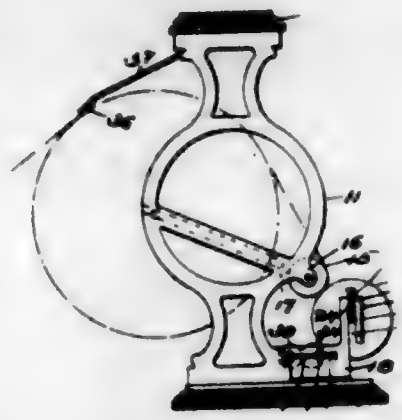


Claim.—1. A cultivator shovel or weeder comprising two sections located at substantially right angles to each other, in use, one section located in substantially a vertical plane, and inclining rearwardly and upwardly from its point and having its upper edge sharpened, and the other section located in substantially a horizontal plane and extending rearwardly and outwardly from the point and having its front edge sharpened, the space between the sections being open.

2. A cultivator shovel or weeder comprising two sections located at substantially right angles to each other, in use, one section located in substantially a vertical plane and inclined rearwardly and upwardly from its point and having its upper edge sharpened, and the other section located in substantially a horizontal plane and extending rearwardly and outwardly from the point and having its front edge sharpened, the rear edge of the horizontal section being elevated above its front edge, the space between the sections being open.

3. A cultivator shovel or weeder comprising two sections located at substantially right angles to each other, in use, one section located in substantially a vertical plane and inclined rearwardly and upwardly from its point and having its upper edge sharpened, the other section located in substantially a horizontal plane and extending rearwardly and outwardly from the point and having its front edge sharpened, and means for supporting the shovel or weeder connected to the rear portion of the vertical section, the space between the sections being open.

806,093. STORE FURNITURE. MARVIN L. BAKER, Atlanta, Ga., assignor to William M. Wishart, Atlanta, Ga. Filed July 19, 1904. Serial No. 217,267.



Claim.—1. In serving apparatus, a supporting-frame provided with opposite inclined grooves forming elongated bearings or runways, an impression-roll mounted adjacent to the lower ends of said grooves, a shaft for carrying the paper-roll journaled at its ends in said grooves and moved by the weight of the paper toward the lower ends of said grooves, and a printing-roll coacting with said impression-roll.

2. In serving apparatus, a supporting-frame provided with opposite inclined grooves, a shaft for carrying a paper-roll journaled at its ends in said grooves, an impression-roll journaled adjacent to the lower ends of said grooves, a friction-roll interposed between said shaft and said impression-roll and journaled at its ends in said grooves, and a printing-roll coacting with said impression-roll.

3. In serving apparatus, a supporting-frame provided with opposite inclined grooves forming elongated bearings or runways, an impression-roll mounted adjacent to the lower ends of said grooves, a shaft for carrying the paper-roll journaled at its ends in said grooves and moved by the weight of the paper toward the lower ends of said grooves, a printing-roll coacting with said impression-roll, and a friction-roll interposed between said shaft and said impression-roll to transmit the pressure exerted by the paper-roll to the impression-roll.

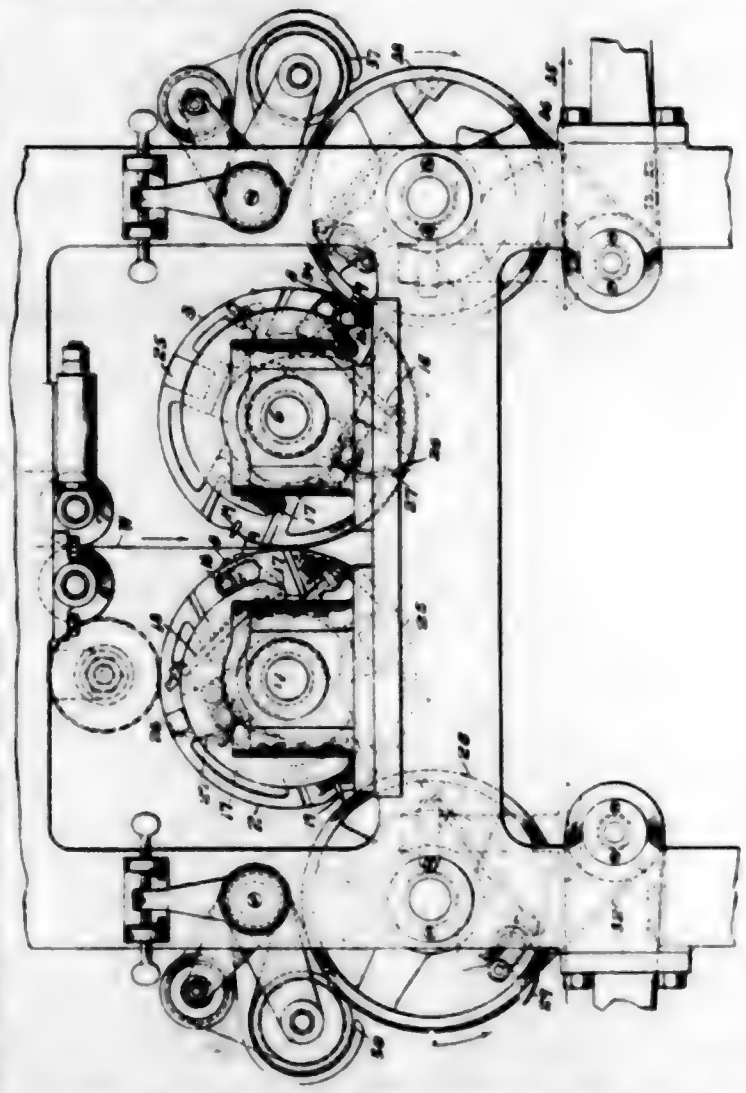
4. In serving apparatus, a supporting-frame provided with opposite inclined grooves forming elongated bearings or runways, an impression-roll mounted adjacent to the lower ends of said grooves, a shaft for carrying the paper-roll journaled at its ends in said grooves and moved by the weight of the paper toward the lower ends of said grooves, a printing-roll coacting with said impression-roll, a rotatable ink-magazine formed of a cylindrical casing having perforations in its walls, and a distributing-roll for transferring ink from said magazine to said printing-roll.

5. In serving apparatus, a supporting-frame provided with opposite inclined grooves forming elongated bearings or runways, an impression-roll mounted adjacent to the lower ends of said grooves, a shaft for carrying the paper-roll journaled at its ends in said grooves and moved by the weight of the paper toward the lower ends of said grooves, a printing-roll coacting with said impression-roll, a friction-roll interposed between said shaft and said impression-roll to transmit the pressure exerted by the paper-roll to the impression-roll, a rotatable ink-magazine formed of a cylindrical casing having perforations in its walls, and a distributing-roll for transferring ink from said magazine to said printing-roll.

6. In serving apparatus, a supporting-frame provided with opposite inclined grooves, a shaft for carrying a paper-roll journaled at its ends in said grooves, an impression-roll journaled adjacent to the lower ends of said grooves, a printing-roll coacting with said impression-roll a friction-roll interposed between said shaft and said impression-roll and journaled at its ends in said grooves, a rotatable ink-magazine formed of a cylindrical casing having perforations in its walls, and a distributing-roll for transferring ink from said magazine to said printing-roll.

7. In serving apparatus, a supporting-frame provided with opposite inclined grooves forming elongated bearings or runways, an impression-roll mounted adjacent to the lower ends of said grooves, a shaft for carrying the paper-roll journaled at its ends in said grooves and moved by the weight of the paper toward the lower ends of said grooves, a printing-roll coacting with said impression-roll, and a friction-roll interposed between said shaft and said impression-roll and journaled at its ends in said grooves and operating to transmit the pressure exerted by the paper-roll to the impression-roll.

806,094. FOLDING MECHANISM. JOHN C. F. BALZE, New York, N. Y., assignor to Robert Hoe, New York, N. Y. Filed Feb. 1, 1904. Serial No. 191,471.



Claim.—1. In a folder, a pair of rotating carriers, one of said carriers being provided with a fold-retainer comprising a pair of jaws and the other a tucking-blade, and means for moving the jaws to nip the fold, the retainer and blade during the folding operation being each arranged to lie partly within the pitch-line of the carriers, substantially as described.

2. In a folder, the combination with a rotating carrier having a recess therein extending behind the pitch-line and a tucking-blade mounted within the recess of the carrier and arranged when in operation to project beyond the pitch-line, of a second carrier, a fold-retainer comprising a pair of jaws mounted on the second carrier and projecting beyond the pitch-line, the fold-retainer during the folding operation entering the recess in the tucking-blade coöperating carrier, and means for moving the jaws to nip the fold, substantially as described.

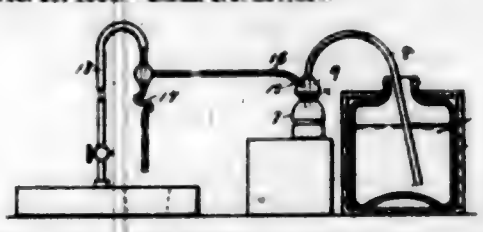
3. In a folder, the combination with a rotating carrier having a fold-retainer comprising a pair of jaws arranged to project beyond the pitch-line, and means for moving the jaws to nip the fold, of a second rotating carrier having a tucker arranged to project beyond the pitch-line, the tucker having beveled faces, said tucker and fold-retainer during the folding operation each partly extending beyond the pitch-line of the carriers, substantially as described.

4. In a folder, the combination with a folding-cylinder having a recess therein extending behind its pitch-line, of a tucker having beveled faces mounted thereon, said tucker extending beyond the pitch-line, a second cylinder having a fold-retainer mounted thereon and extending beyond the pitch-line, said retainer comprising a pair of jaws, and means for moving the jaws to nip the fold, the fold-retainer during the folding operation entering the recess in the cylinder carrying the tucker and the tucker and folder during this operation each lying across the pitch-line of the cylinders, substantially as described.

5. In a folder, the combination with a folding-cylinder having a recess therein extending behind its pitch-line, of a tucker mounted therein and stationary with respect thereto, said tucker having beveled faces and extending beyond the pitch-line, a second cylinder having a fold-retainer mounted thereon and extending beyond the pitch-line, said retainer comprising a pair of jaws, and means for moving the jaws to nip the fold, the fold-retainer during the folding operation entering the recess in the cylinder carrying the tucker and

the tucker and folder during this operation each lying across the pitch-line of the cylinders, substantially as described.

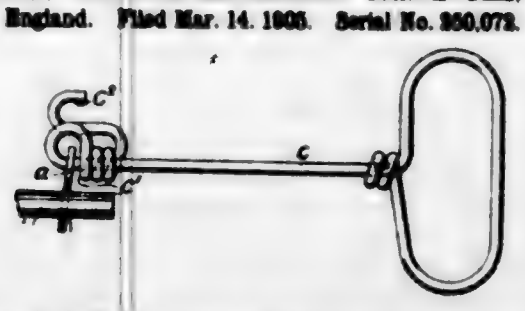
806,095. **BOTTLE-FILLING DEVICE.** CLYDE BARROW, Sharonville, Ohio, assignor of one-half to Raymond M. Hughes, Oxford, Ohio. Filed Dec. 19, 1904. Serial No. 237,465.



Claim.—1. As a new article of manufacture, a bottle-closure consisting of a single piece of elastic material in the form of a disk with an axial opening and formed with a sleeve on one side in registration with the opening for the adjustable insertion therethrough of a supply-pipe, a concave surface on the other side and a suction-passage extending through the disk from the juncture of the opening with the concave surface.

2. A bottle-filling device of the designated character having in combination a supply-pipe arranged to carry and discharge liquids from a lower to a higher level, an annular flange thereon having an elastic concave under surface adapted to removably cover and close the mouth of a bottle and formed with a suction-passage extending through said flange from a point in said surface contiguous to the pipe, and means to maintain a continuous suction through the passage for the purpose specified.

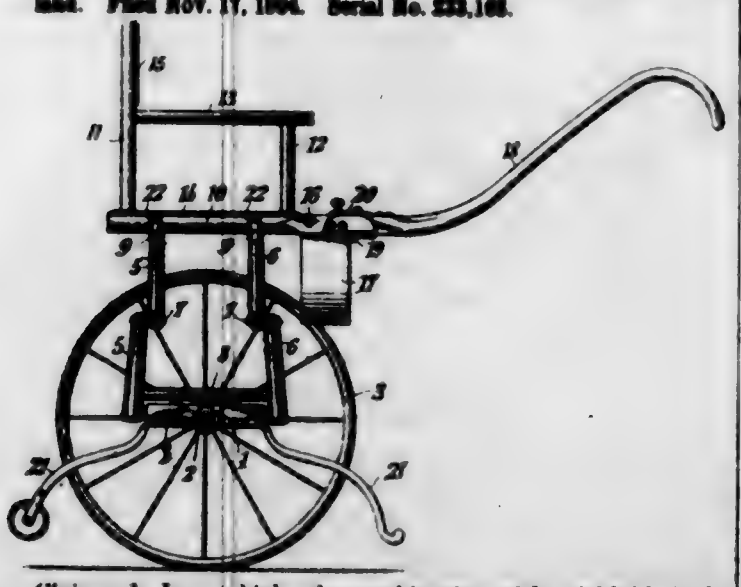
806,096. **SKEWER-EXTRACTOR.** JOHN E. BASS, Willesden Green, England. Filed Mar. 14, 1905. Serial No. 250,072.



Claim.—1. In a skewer-extractor, the combination, with a handle, of a metal plate pierced with a hole adapted to receive the shank of a skewer, said plate being mounted to move freely on said handle.

2. In a skewer-extractor, the combination, with a handle, of a metal plate pierced with a hole adapted to receive the shank of a skewer, said plate being mounted to move freely on said handle, and an abutment, rigid with said handle, adapted to contact with and support said plate when the same is being passed about the shank of the skewer.

806,097. **FOLDING VEHICLE.** EMIL BAUMANN, Horgen, Switzerland. Filed Nov. 17, 1904. Serial No. 233,168.



Claim.—1. In a vehicle, the combination with a foldable body and a foldable wheel-axle, of pivoted crossed legs supported on the axle and supporting the body, whereby the weight of the load will keep the vehicle in unfolded position, substantially as described.

2. In a vehicle, the combination with a body foldable on a longitudinal plane, of a foldable wheel-axle whose parts are pivoted together and crossed legs pivoted together at substantially right angles to the pivots in the axle, said legs supported from the axle and supporting the foldable body, whereby the parts of the wheel-axle will be moved horizontally to fold the body and the legs be moved at right angles to the direction of movement of the foldable axle to fold, the weight of the load keeping the vehicle in unfolded position, substantially as described.

3. In a vehicle, the combination with a foldable body, shafts hinged thereto and a foldable wheel-axle, each of said parts foldable into different planes and each of the planes at right angles to the others, substantially as described.

4. In a vehicle, the combination of two pairs of crossed legs pivoted together at their crossing-points, and a jointed axle fixed to the lower ends of said legs and provided with wheels on its ends, substantially as described.

5. In a vehicle, the combination of two pairs of crossed legs pivoted together at their crossing-points, a jointed wheel-axle, and bearers attached thereto to which the lower ends of the said legs are pivoted, substantially as described.

6. In a vehicle, the combination of two pairs of crossed legs pivoted together at their crossing-points, a jointed wheel-axle and bearers on the axle, substantially as described.

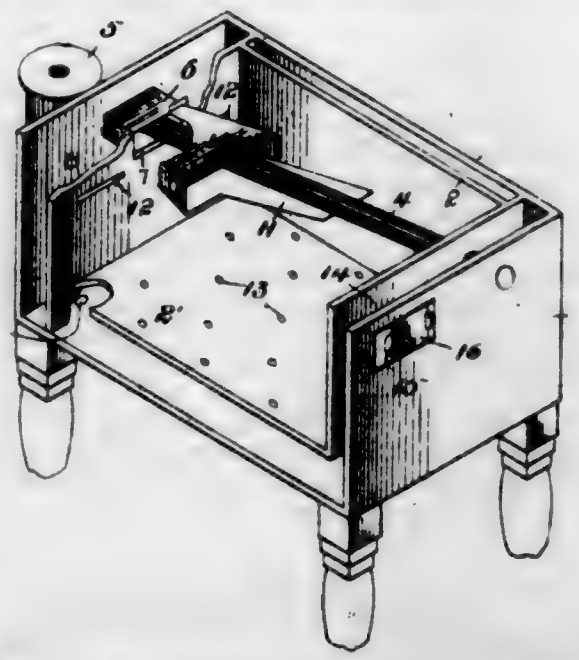
7. In a vehicle, the combination of two pairs of crossed legs pivoted together at their crossing-points, a jointed wheel-axle, armrests, bars connecting the ends of the legs, and shafts connected to said bars, substantially as described.

8. A vehicle, comprising a wheel-axle jointed to fold in a horizontal plane, a seat, and seat-supports jointed together and to the wheel-axle to fold into a vertical longitudinal plane and elevate the seat; in combination with shafts jointed to the seat to fold between the wheels when the vehicle is folded, substantially as described.

9. In a vehicle, the combination of two pairs of crossed legs pivoted together at their crossing-points, a jointed wheel-axle, armrests, bars connecting the legs, shafts attached to the said bars, and fastening-catches attached to the said bars and to the shafts, substantially as described.

10. In a vehicle, the combination of two pairs of crossed legs pivoted together at their crossing-points, a jointed wheel-axle, armrests, bars connecting the upper ends of the legs, and a folding footrest attached to said bars, substantially as described.

806,098. **INCUBATOR.** HARVEY H. BLACKMAN, Ithaca, N. Y., assignor to Cornell Incubator Mfg. Co., Ithaca, N. Y., a Corporation of New York. Filed May 17, 1904. Serial No. 208,377.



Claim.—1. In an incubator, the combination with the body thereof comprising inner and outer walls spaced from each other to provide communicating air-spaces at one end and the bottom of said body, the latter having at its opposite end a fresh-air space which communicates with the atmosphere, the space within said inner walls forming an egg-chamber, of a hot-air flue projecting through said fresh-air space and passing horizontally through an opening in the inner wall of the fresh-air space, the opening extending some distance below the bottom of the flue to form an air-passage which communicates with the aforesaid fresh-air space, and an air-distributer arranged within the egg-chamber and surrounding the mouth of the hot-air flue and the air-passage immediately therebeneath, whereby the hot air fed by said hot air flue and the fresh air introduced from

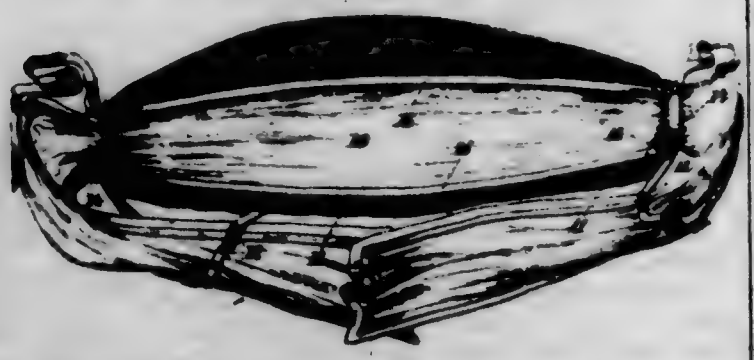
said fresh-air space are caused to mix in the distributer and be discharged by the latter into the egg-chamber.

2. In an incubator, the combination with the body thereof comprising inner and outer walls spaced from each other to provide communicating air-spaces at one end and the bottom of said body, the latter having at its opposite end a fresh-air space which communicates with the atmosphere, the space within said inner walls forming an egg-chamber, of a hot-air flue projecting through said fresh-air space and passing horizontally through an opening in the inner wall of the fresh-air space, the opening extending some distance below the bottom of the flue to form an air-passage which communicates with the aforesaid fresh-air space, and an air-distributer arranged within the egg-chamber and surrounding the mouth of the hot-air flue and the air-passage immediately therebeneath, whereby the hot air fed by said hot-air flue and the fresh air introduced from said fresh-air space are caused to mix in the distributer and be discharged by the latter into the egg-chamber, said distributer having an elongated equalizer to cause the air introduced into the egg-chamber to gravitate at different points therein.

3. In an incubator, the combination with the body thereof comprising inner and outer walls spaced from each other to provide communicating air-spaces at one end and the bottom of said body, the latter having at its opposite end a fresh-air space which communicates with the atmosphere, the space within said inner walls forming an egg-chamber, of a hot-air flue projecting through said fresh-air space and passing horizontally through an opening in the inner wall of the fresh-air space, the opening extending some distance below the bottom of the flue to form an air-passage which communicates with the aforesaid fresh-air space, and an air-distributer arranged within the egg-chamber and surrounding the mouth of the hot-air flue and the air-passage immediately therebeneath, whereby the hot air fed by said hot-air flue and the fresh air introduced from said fresh-air space are caused to mix in the distributer and be discharged by the latter into the egg-chamber, the bottom of the egg-chamber being perforated to establish communication between said chamber and the space immediately therebeneath, whereby the air in the egg-chamber will be exhausted in the space beneath the same and discharged to the atmosphere through the end air-space in communication with said bottom space.

4. In an incubator, the combination with the body thereof comprising inner and outer walls spaced from each other to provide communicating air-spaces at one end and the bottom of said body, the latter having at its opposite end a fresh-air space which communicates with the atmosphere, the space within said inner walls forming an egg-chamber, of a hot-air flue projecting through said fresh-air space and passing horizontally through an opening in the inner wall of the fresh-air space, the opening extending some distance below the bottom of the flue to form an air-passage which communicates with the aforesaid fresh-air space, and an air-distributer arranged within the egg-chamber and surrounding the mouth of the hot-air flue and the air-passage immediately therebeneath, whereby the hot air fed by said hot-air flue and the fresh air introduced from said fresh-air space are caused to mix in the distributer and be discharged by the latter into the egg-chamber, the inner end wall being provided at a point below said distributer with a series of feed-openings which communicate directly with the fresh-air space for introducing fresh air into the egg-chamber.

808,099. LADY'S HEAD-DRESS. ALEXANDER BOEHM, New York, N. Y., assignor to Boehm & Levine, New York, N. Y., a Corporation of New York. Filed July 11, 1905. Serial No. 269,255.



Claim.—1. The head-dress comprising the elongated soft flexible main fabric having fastened by sewing along one edge of its middle portion one edge of a veil 11 and being provided at opposite edges of said middle portion with the pockets 15 and with the pairs of draw-strings 12 therein for drawing said portion into hood form around the top, sides and back of the head, with the end parts of said main fabric at the front where they may be brought together, the corresponding ends of two of said draw-strings being secured at the left-hand end of said middle portion and thence extending through said pockets to the right-hand end thereof, and the corresponding ends of the other two of said draw-strings being secured at the right-hand end of said middle portion and thence extending through said pockets to the left-hand end thereof, whereby the draw-strings of each pair thereof extend in opposite directions along the length of the said middle portion of the main fabric and the free ends of both pairs of strings may be brought together and secured below the chin; substantially as set forth.

2. The head-dress comprising the soft flexible main fabric having at one edge of its middle portion a veil and at opposite edges of said portion the draw-strings for drawing said portion into hood form around the top, sides and back of the head, with the end parts of the main fabric at the front where they may be brought together under the chin, said fabric at the ends of said middle portion being provided with means whereby said fabric may be drawn out from its hood shape to form a scarf; substantially as set forth.

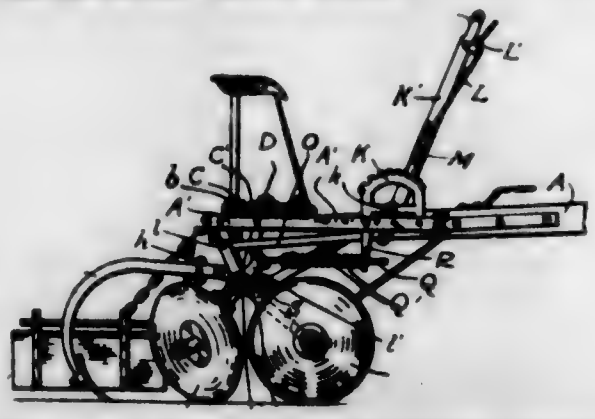
3. The head-dress comprising the elongated soft flexible main fabric having at one edge of its middle portion a veil, at opposite edges of said portion the draw-strings for drawing said portion into hood form, and at opposite ends of said portion the transverse tapes which hold the fabric at said ends gathered in: substantially as set forth.

4. The head-dress comprising the elongated soft flexible main fabric having at one edge of its middle portion a veil, at opposite edges of said portion the draw-strings for drawing said portion into hood form, at opposite ends of said portion the transverse tapes which hold the fabric at said ends gathered in, and at said tapes means for enabling said fabric to be drawn out from its hood shape; substantially as set forth.

5. The head-dress comprising the elongated soft flexible main fabric having at opposite edges of its middle portion the draw-strings for drawing said portion into hood form, at opposite ends of said portion the transverse tapes which hold the fabric at said ends gathered in, and at said tapes means for enabling said fabric to be drawn out from its hood shape; substantially as set forth.

6. The head-dress comprising the elongated soft flexible main fabric having at one edge of its middle portion the veil, at opposite edges of said portion draw-strings for converting said portion into a hood, and at opposite ends of said portion means for reducing the width of the fabric at said points; substantially as set forth.

808,100. CULTIVATOR. CHARLES J. BOEHM, St. Joseph, Mo. Filed Jan. 13, 1905. Serial No. 240,883.



Claim.—1. In a lister-cultivator the combination with the frames, the tongues and the disks, of a seat-board of two parts each pivotally attached to the top of a tongue, the angle-irons to carry and guide said seat-board, the lower roller and its bracket, the upturned ends of the angle-irons and the upper roller therein, the lever and loop and its handhold-lever and the ratchet, the supports on the frames, bars journaled in the supports, castings on the bars, an arm on one of said castings and the strap forming pivotal connection between said arm and the lever, the casting-arm provided with adjustment-perforations, the rod and spiral spring thereon bearing at one end against said adjustment-arm and at the other end against a support extending below the frame, said mechanism allowing the disk and gang to relieve themselves when extraordinary pressure is brought to bear upon them by uneven ground or obstructions, substantially as shown and set forth.

2. In a two-row lister-cultivator the combination with the cultivator frames and tongues, of a seat-board in two parts each part pivotally attached near its outer end across the top of a tongue of the

cultivator, the angle-irons in which the two sections of said board travel back and forth as the cultivator travels in rows varying in width from each other, the upturned ends of the angle-irons and the roller supported thereby above the seat-board, a bracket turned down below the angle-iron and the roller supported thereby under said seat-board, said rollers assisting the board in easy adjustment to the varying widths between the rows, substantially as shown and described.

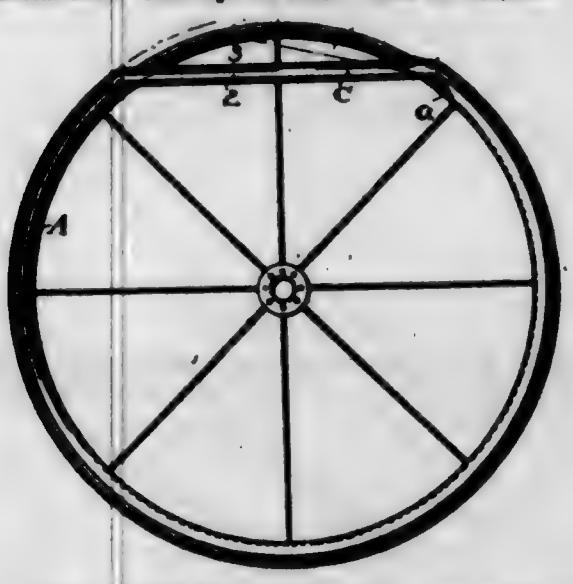
3. In a lister-cultivator the combination with the frame, tongue, wheels and disks of a ratchet and lever, a handhold-lever and a loop and a plunger, supported on said frame, a casting adapted to support the frame, a square bar journaled into the lower part of said casting, a casting-arm rigidly attached to and adapted to operate said journaled bar, a strap pivotally connected at one end with said arm and at the other end with the fulcrum end of said lever, an arm provided with perforations to allow for adjustment, an arm extending vertically below the frame, a rod one end of which is carried by said arm the other end having connection with the perforations in said adjustment-arm, a spiral spring carried on said rod, the arms attached to the disks and having rigid connection with said journaled bar so that when said ratchet and spiral spring operate on the casting the arms will press the disks into or withdraw them out of the ground, substantially as set forth and shown.

4. In a lister-cultivator the combination with cultivator-frames provided with cultivating devices, of cultivator tongues and disks, a divided seat-board pivotally carried on and permanently fastened to the tops of said tongues at corresponding opposite points, angle-irons carried by the sections of said seat-boards and by which said sections are guided automatically end to end, in and out, as the disks and frames follow rows separated by varying widths, and the rollers above and beneath which the sections travel, substantially as shown and described.

5. In a two-row cultivator the combination with the frames, wheels, guiding-irons and tongues, of a divided seat-board each part pivotally attached on the top of a tongue the inner ends of said divided seat-board adapted to be in proximity with each other when the frames are at a minimum distance apart and to be drawn away from each other as the frames pass to a maximum distance apart, substantially as shown and set forth.

6. In a cultivator the combination with the cultivator frames, tongues and disks, of a seat-board consisting of two sections carried pivotally on and permanently attached to said tongues at corresponding opposite points, and angle-irons carried by said seat-board sections and forming guides for them as the disks and frames follow rows of varying widths, substantially as set forth and shown.

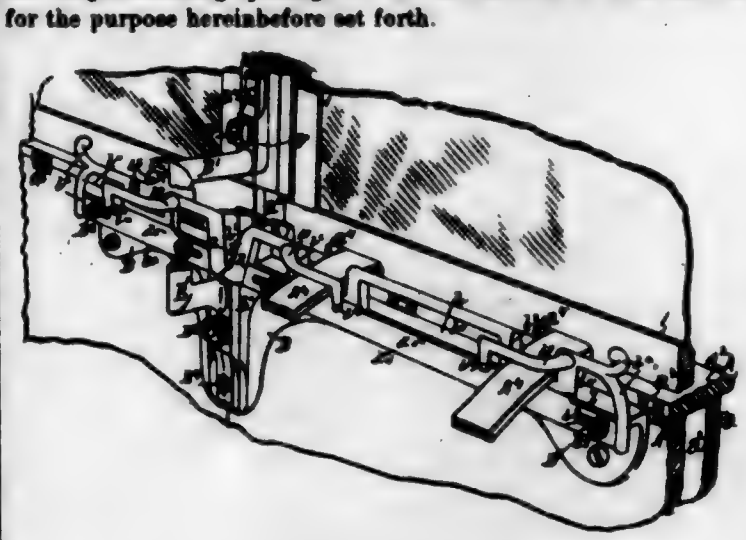
806,101. ENDLESS SOLID-RUBBER TIRE. ROBERT D. BRADLEY, Canton, Ohio. Filed Apr. 10, 1905. Serial No. 254,662.



Claim.—As a new article of manufacture, a tire for children's vehicles consisting of a solid endless annular body of rubber adapted to be rolled onto a rim and having a lining of closely-woven fabric cemented to the inner circumference thereof and covering the entire inner surface of the tire.

806,102. LINE-GUIDE. EMANUEL F. BUCH, Manheim township, Lancaster county, Pa. Filed July 6, 1905. Serial No. 268,472.

Claim.—In a line-guard the combination with the lower portion A of the front end wall having the outside casing a and the inside casing a' with the open space a^3 therebetween, and the hinged lid A^3 to cover and uncover said open space; the central post A′ with the cut-out opening a^3 through its body and the sash-guide grooves a^5 in side edges thereof, with the side posts of the sashes 1 in engagement with said grooves, said sashes having through their under edges in the lower side rails thereof the line-guide notches a^4; the base-plate B, rigidly secured to the surface of the inside casing a' adjacent to the upper edge thereof, said plate having the upper-edge side projecting ledge b with the upwardly-projecting ears b' forming therebetween the opening b^3 to register with the opening a^3 of the post A′; the clevis-shaped bar B′ placed over said opening a^3 and the end ears b^3 rigidly secured to the adjacent surface of said post with the lower ear b^3 in contact with the adjacent surface of said plate B; the line-guide rod B^3 comprising the parts b^3 and b^4 projected upward from the plates b^3 and by reason of the oblong slots b^7 adjustably secured to the body of the base-plate B, said rod portions having the extreme end scrolls b^4, the inner-end inclined bars 2, the line-guide notches b^9, the curving guide-arms b^9 with the end retaining-hooks b^{10}, and the weight-reducing openings b^{11}; all substantially as described and for the purpose hereinbefore set forth.



806,103. CONVEYER. PAUL BURCHARDT, Kramfors, Sweden. Filed Sept. 14, 1904. Serial No. 224,426.



Claim.—1. In a conveyer, the combination, with a chute having a bottom and longitudinal ribs located within said chute and near the bottom thereof, of a belt consisting of a plurality of flat sheet-metal plates hinged together, said belt being movable longitudinally within said chute and bearing on said longitudinal ribs.

2. In a conveyer, the combination, with a chute having closed sides and a bottom, of longitudinal ribs carried by the sides of said chute and near the bottom, and a belt movable longitudinally within said chute and composed of a plurality of sheet-metal plates hinged together, each plate being provided with an upturned integral portion forming an upward-extending shovel, said belt bearing on the longitudinal ribs within the chute.

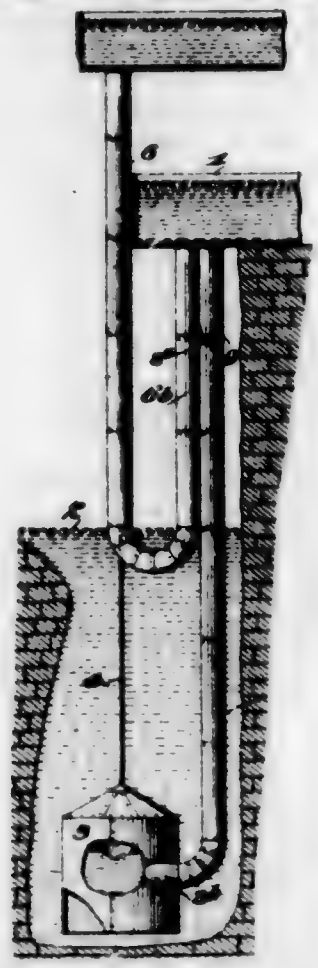
3. In a conveyer, the combination, with a chute having closed sides and bottom, of longitudinal ribs carried by the sides of said chute and near the bottom thereof, and a belt movable longitudinally within said chute and bearing upon said ribs, said belt being composed of a plurality of sheet-metal plates hinged together, each plate being provided with an upturned end bent to form a hinge portion and an upward-extending shovel.

806,104. APPARATUS FOR UTILIZING WATER-POWER. WALTER R. BURKHARD, Blue, Idaho. Filed Jan. 27, 1904. Serial No. 190,966.

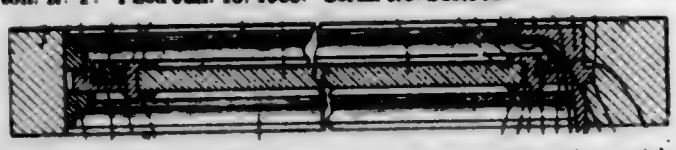
Claim.—1. In combination, a source of water-supply having an effective head, a basin below the source of supply, an air-compression chamber in open relation with the water in said basin, a conduit connecting the source of supply with the compression-chamber and having opening or openings for the admission of air, a conduit connected to the said source of supply, looped down below the same and extending to the point of required lift above said supply, and a conduit connecting the lift portion of said looped conduit with said air-compression chamber, substantially as and for the purpose set forth.

2. In combination, a source of water-supply having an effective

head, a basin below the source of supply, an air-compression chamber in open relation with the water in said basin, a conduit connecting the source of supply with the compression-chamber and having opening or openings for the admission of air, a conduit connected to said source of supply, looped below the same and extending to the point of required lift above said supply, and a reservoir connecting with the discharge end of said conduit and having its water-level above said discharge end of the conduit, and means for introducing into the lifting portion of said conduit compressed air from said compression-chamber, substantially as and for the purpose set forth.



806,105. WINDOW-VENTILATOR. BURL S. BURROUGHS, Kingston, N. Y. Filed Jan. 18, 1905. Serial No. 241,566.



Claim.—1. In a window-ventilator, the combination with a window-sash, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base, a flanged head and a web connecting said base and said head and having therein a plurality of openings.

2. In a window-ventilator, the combination with a window-sash, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base, a flanged head, a web connecting said base and said head and having therein a plurality of openings, and a flange on said base forming with said web a gutter within said support, communicating with said openings.

3. In a window-ventilator, the combination with a window-sash, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base, a flanged head, a web connecting said base and said head and having therein a plurality of openings, and means regulating the size of said openings.

4. In a window-ventilator, the combination with a window-sash, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base, a flanged head, a web connecting said base and said head and having therein a plurality of openings, said head and said base having oppositely-disposed ways adjoining said web, a slide having a plurality of openings therein adapted to register with the openings in said web, and means whereby said slide may be actuated to regulate the size of said openings in said web.

5. In a window-ventilator, the combination with a window-sash, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base, a flanged head, a web connecting said base and said head and having therein a plurality of openings, said base being projected over said sash whereby a shield therefor is provided, and a flange on said base forming with said web a gutter within said support substantially flush with said shield and communicating with said openings.

6. In a window-ventilator, the combination with a window-sash, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base, a flanged head, a web connecting said base and said head and having therein a plurality of openings, said head and said base having oppositely-disposed ways adjoining said web, a slide having a plurality of openings therein adapted to register with the openings in said web, means whereby said slide may be actuated to regulate the size of said openings in said web, said base being projected over said sash whereby a shield therefor is provided, and a flange on said base forming with said web a gutter within said support substantially flush with said shield and communicating with said openings.

7. In a window-ventilator, the combination with a window-sash, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base, a flanged head, a web connecting said base and said head and having therein a plurality of openings, said head and said base having oppositely-disposed ways adjoining said web, a slide having a plurality of openings therein adapted to register with the openings in said web, said base being projected over said sash whereby a shield therefor is provided, a flange on said base forming with said web a gutter within said support substantially flush with said shield and communicating with said openings, and an arm on said slide bearing upon said flange whereby said slide may be actuated to regulate the size of the openings in said web.

8. In a window-ventilator, the combination with a window-sash, the lower bar of which has a channel therein, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base having a fillet on the under side thereof adapted to enter said channel, a flanged head, a web connecting said base and said head and having therein a plurality of openings, said base being projected over said sash whereby a shield therefor is provided, and a flange on said base forming with said web a gutter within said support substantially flush with said shield and communicating with said openings.

9. In a window-ventilator, the combination with a window-sash, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base, a flanged head, a web connecting said base and said head and having therein a plurality of openings, and a top cap comprising a head adapted to pass between the top sash-strips, a base presenting downwardly oppositely disposed flanges, and a web connecting said head and said base having therein a plurality of openings.

10. In a window-ventilator, the combination with a window-sash, a pane or plate therefor, and sash-strips, of a pane or plate support comprising a base, a flanged head, a web connecting said base and said head and having therein a plurality of openings, means regulating the size of said openings, and a top cap comprising a head adapted to pass between the top sash-strips, a base presenting downwardly oppositely disposed flanges, a web connecting said head and said base having therein a plurality of openings, said base and said head having oppositely-disposed ways therein adjoining said web, and a slide having a plurality of openings therein adapted to register with the openings in said web whereby the size of said openings in said web may be regulated.

806,106. SASH-HOLDER. SANFORD D. CASE, Brooklyn, N. Y. Filed Jan. 6, 1904. Serial No. 187,808.

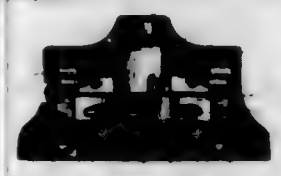


Claim.—1. The combination with a window-sash, having side pockets, the spring-wire frame formed from a single piece of wire secured to the sash, intermediate the pockets, the oppositely-extending portions being bent in the form of a U, rollers carried by the ends of the wire frame, and the spring-brakes secured to one side of each of the U-shaped bends, and extending over the other, and adapted to engage the rollers, carried by the frame, as set forth.

2. The combination with a window-sash having pockets as described, of the spring-wire frame, the leather rollers and the spring brake-shoes, the frame being constructed from a single piece of wire bent upon itself in opposite directions adjacent the center, the oppo-

sitely-extending portions being bent in the form of a U, the ends of the wire being bent to form a rectangle and providing an axle for the rollers, the spring brake-shoes being connected to the frame at the U-shaped bend and adapted to engage their respective rollers, substantially as described.

806,107. COMBINED SOCKET AND ROSETTE. WALTER A. CHURCH, Binghamton, N. Y., assignor to The Bristol Brass & Clock Company, Bristol, Conn., a Corporation of Connecticut. Filed Dec. 6, 1902. Serial No. 134,122.



Claim.—1. A base of insulating material, contacts secured to the base, each including a foot, an arm extending upward from the foot and having its end bent at an angle to the main part and forming a coöperating contact, and a second arm extending upward from the same base and having its bent end overlying said first-named contact part, all of the several parts formed from a single piece of material bent to shape, a cap, and contacts arranged thereon each provided with an end adapted to enter between the contacts of the base and be clamped thereby.

2. A base of insulating material, contact devices mounted therein each consisting of a base, an arm projecting upward from one side of the base with its end bent to form the contacting surface, an arm projecting upward from the opposite side of the same base, with its bent end overlying said contacting part, the several parts formed from a single piece of material bent to shape, a cap, and contacts borne by the cap each having an end adapted to enter between the ends of the contact on the base and coöperating therewith to hold the base and cap securely together.

3. A base of insulating material, a contact consisting of a foot having means for attachment of a line-wire, arms extending upward from opposite sides of the foot, each having bent ends one overlying the other and parallel with relation to each other, one of said arms having a part projecting into the space between the parallel overlying ends and forming a detent for a coöperating contact member, a cap, and contacts arranged upon the cap and adapted to enter between the ends of the contact on the base, and be engaged and held by the said base-contacts.

4. A base, contacts secured to the base each including a foot, arms projecting upward therefrom and with their ends bent the one overlying the other, the several parts formed from a single piece of material bent to shape, a cap, contacts secured to the cap each having an end adapted to enter between the ends of the contact on the base, and means for securing the wires to said parts

5. A base, contacts secured to the base each having arms extending upward from opposite sides of the base and with their ends bent inward the one overlying the other in parallel relation, a cap, contacts secured to the cap each having its end adapted to enter between the bent ends of the conductors on the base, and means for securing wires to said parts.

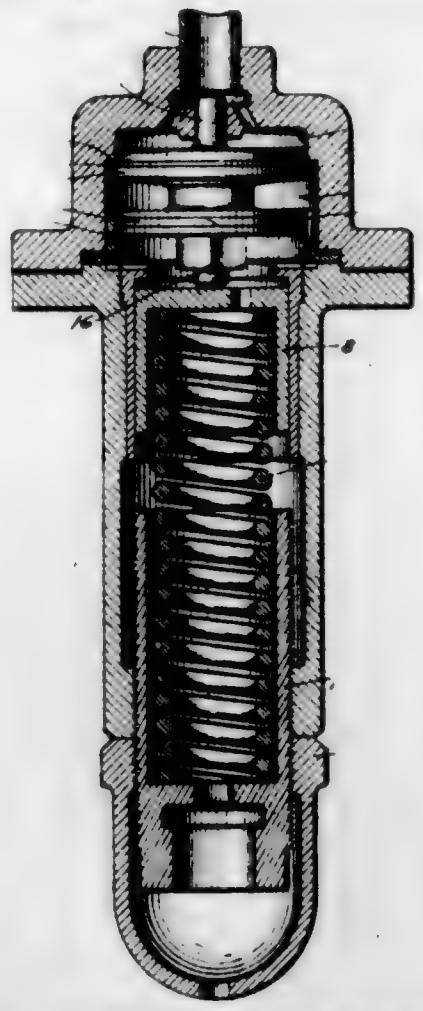
6. A base, contact-recesses arranged on opposite sides of the center of said base, contacts located within said recesses, and having a part extending above the base-recesses, an outer rim upon the base extending above the contacts, a cap having a projection from the central portion thereof extending within and meeting the base, clamps secured in recesses formed in the side of said projection, cap-contacts located in recesses formed in said central projection and with their ends only projecting beyond the projection, said contacts adapted to engage the base-contacts upon partial rotation.

7. A base having contacts, said base having a peripheral flange extending above the contacts, a cap having a central projection, extending within and meeting the base, and provided with a central opening, wire-clamps located in recesses formed in the periphery of and on diametrically opposite sides of the projection, grooves from the central opening through the body of the projection into said recesses, contacts located as to their body parts in recesses formed in the body of, and on diametrically opposite sides of said cap projection, said contacts having their contacting ends projecting beyond the cap projection, and arranged to engage the contacts of the base, and connections between the clamps and contacts.

8. In combination in a rosette, a base of insulating material having depressed recesses to receive contacts whereby the contacts are isolated and insulated one from the other, contacts arranged in said depressed recesses, a cap bearing coöperating contact members, the latter arranged within depressions in the cap and an integral boss projecting from the cap about and beyond the contacts and engaging the base and coöperating therewith to form isolated chambers for each of the contact members when in engagement.

9. A base of insulating material having contact-recesses at its bottom, and provided with an outer rim extending above the contacts carried therein, recesses formed in the inner wall of said rim, and joining the contact-recesses at the base, base-contacts located in the base-recesses, and with contacting parts projecting upward along the wall-recesses, a cap having a central boss fitting within the rim of the base, and projecting to the bottom thereof, contact-recesses formed in said boss, grooves and a central opening connecting with said recesses, and contacts having their body part located in the recesses of the boss, and with their contacting ends projecting beyond the periphery of said boss, said contacts adapted to engage the base-contacts in the wall-recesses.

806,108. AUTOMATIC PRESSURE-REDUCING VALVE. FRANCIS L. CLARK, Pittsburg, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 15, 1903. Serial No. 139,159.



Claim.—1. A pressure-reducing-valve device, comprising a casing containing a chamber having a shoulder or seat, a movable abutment having a head normally engaging said seat and means for balancing the additional area exposed to fluid-pressure when the abutment-head is moved away from its seat.

2. A pressure-reducing-valve device, comprising a casing containing a chamber having a shoulder or seat, a movable abutment exposed on one side to fluid-pressure, a load device for normally holding the abutment against said seat and a balancing-piston which is exposed to the fluid-pressure when the abutment is forced away from its seat.

3. A pressure-reducing-valve device comprising a casing containing a fluid-pressure chamber having a seat, a movable abutment, and means for normally holding the same against said seat, said abutment adapted to move away from its seat under high pressure and having its effective area exposed to fluid-pressure substantially constant for all positions.

4. A pressure-reducing-valve device comprising a casing having an interior chamber provided with a shoulder or seat, a sliding abutment having a valve-head adapted to engage said seat and a piston-head of substantially the same diameter as the chamber above the valve.

5. A pressure-reducing-valve device comprising a casing containing a chamber having an annular seat or shoulder, a sliding abut-

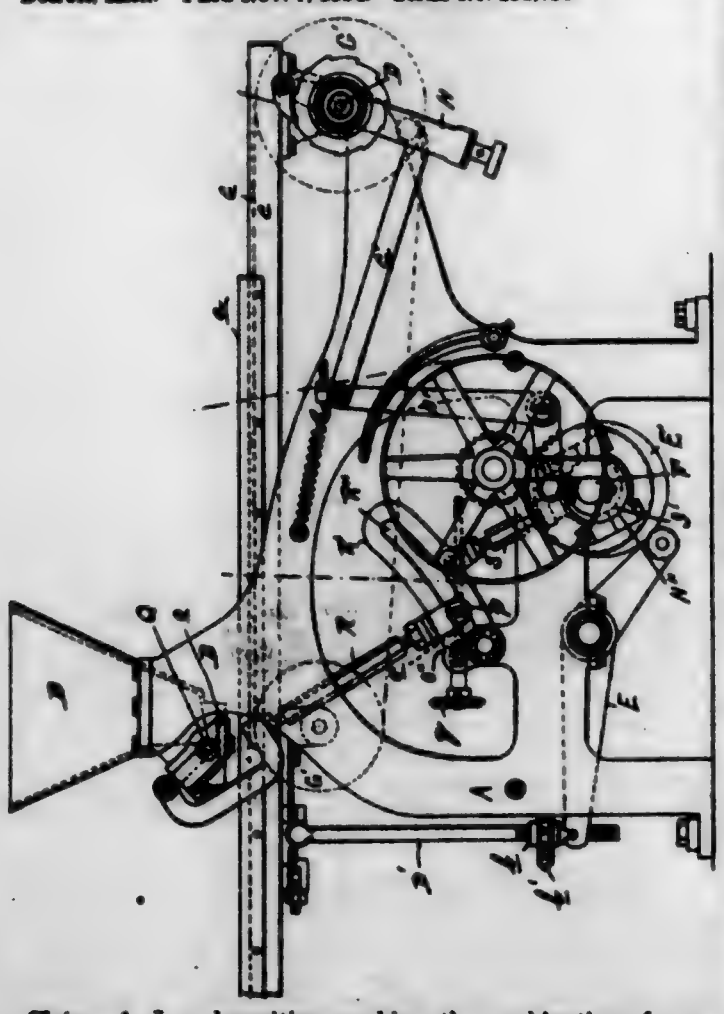
ment normally engaging said seat and having a substantially constant effective area exposed to fluid-pressure, and a spring acting on said abutment in opposition to the fluid-pressure.

6. A pressure-reducing valve comprising a casing containing a chamber having an annular seat or shoulder, a sliding abutment having one head normally engaging said seat, and another head of substantially the same area as the chamber above the shoulder, means for establishing communication around the first-mentioned head when the same is moved away from its seat, a spring bearing against said abutment and an escape-port controlled by the movement of said abutment.

7. A pressure-reducing-valve device comprising a casing containing a chamber having an annular seat or shoulder, a sliding abutment in said chamber having a valve-head normally seated against said shoulder, a balancing piston-head, an escape-groove in the wall of said chamber around the piston-head and a spring acting against said piston.

8. A pressure-reducing-valve device comprising a casing containing a chamber having an annular seat or shoulder, a piston or abutment exposed on one side to fluid-pressure for operating the valve, a spring for normally holding the piston seated against said shoulder and means for maintaining the effective area subject to fluid-pressure substantially constant for all positions of the piston.

806,109. DEPOSITING-MACHINE. ALEXANDER W. COPLAND, Detroit, Mich. Filed Nov. 7, 1904. Serial No. 231,731.



Claim.—1. In a depositing-machine, the combination of a material-receptacle having a discharge-port at its lower end, a cylinder arranged with its end adjacent to the discharge of the receptacle, a member below these two and having perforations adjacent to the ports in the lower ends of the receptacle and cylinder, a valve interposed at the juncture of these three passages, means for moving the valve to directly connect the receptacle and cylinder, or the cylinder and discharge-ports, and a piston in the cylinder.

2. In a depositing-machine having a receptacle having a discharge-passage, a cylinder and piston and a perforated depositing-plate, the discharge-ports thereof arranged in proximity, a valve arranged at the juncture of the said ports, having a passage therethrough, means for moving said valve to cause said passage to connect the receptacle and cylinder, or to connect the cylinder and the perforations in the plate.

3. In a depositing-machine, the combination of a discharge-spout, feed mechanism for intermittently depositing charges of batter or dough therefrom, and mechanism for effecting a relative movement forward and reverse between the discharge-spout and the deposited dough.

4. In a depositing-machine, the combination of a discharge-spout, feed mechanism for intermittently discharging charges of batter or dough therefrom, and mechanism for causing the nozzle to move laterally over the charge, to thereby break the connecting-thread and lay it upon the deposited dough.

5. In a depositing-machine, the combination of a movable carrier to receive the deposit, a receptacle, a discharge-spout from the receptacle adapted to intermittently discharge deposits upon the carrier, and means for effecting a relative movement forward and reverse between the deposit on the carrier and nozzle.

6. In a depositing-machine, the combination of an apron having an intermittent forward feed movement, a discharge-nozzle above the apron through which deposits are adapted to be intermittently made on the apron, and means for moving the nozzle back over the dough, such movement being in the same direction as the feed movement of the apron.

7. In a depositing-machine, the combination of a vertically-movable table and feed devices for the material thereon, a receptacle, a discharge-spout above the table, and means for effecting an intermittent discharge of deposits upon the table, means for effecting a relative movement forward and reverse between the table and spout, and means for lowering the table from the spout and feeding the deposited material forward after each deposit.

8. In a depositing-machine, the combination of the receptacle, cylinder, piston, and perforated plate with mechanism for connecting the receptacle and cylinder, and the cylinder and perforations in the plate, a movable nozzle, and means for moving the nozzle into and out of registration with the perforations in the plate.

9. In a depositing-machine, the combination of the receptacle, cylinder, plunger, perforated plate and a valve, means for moving the valve to connect the receptacle and cylinder, and the cylinder and the perforation in the plate, of a movable nozzle below the plate and means for operating the nozzle by the valve-operating means.

10. In a depositing-machine, the rotary three-way valve, a toothed wheel thereon, a sliding nozzle, and a rack on the nozzle for operating the nozzle by and upon the operation of the valve.

11. In a depositing-machine, the combination of a receptacle, a cylinder, its piston, piston-operating means, and a discharge-port, means for alternatively connecting the receptacle and cylinders, and the cylinder and discharge-port, and means for effecting a vibration of the material during the discharge movement of the piston.

12. In a depositing-machine, the combination of a receptacle, a cylinder, its piston, piston-operating means and a discharge-port, of means for alternately connecting the receptacle and cylinder and the cylinder and discharge-port, and means for vibrating the piston during the discharge movement thereof.

13. In a depositing-machine, the combination of a receptacle, a cylinder, its piston, piston-operating means, and a discharge-port, of means alternately connecting the receptacle and cylinder and the cylinder and discharge-port, and means for longitudinally vibrating the piston during its discharge movement.

14. In a depositing-machine, the combination of a receptacle, a cylinder, its piston, piston-operating means, and a discharge-port, of means for alternately connecting the receptacle and cylinder, and the cylinder and discharge-port, toggle-levers connecting the piston-operating means and piston, and means for reciprocating the middle joint of said toggle-levers during the travel of the piston for the purpose described.

15. In a depositing-machine, the combination of a materials-receptacle, a cylinder and piston, and a discharge-passage, means for connecting the receptacle and cylinder, or the cylinder and discharge-passage, of an agitator for the material in the receptacle, and means for causing said agitator to press the material downward as the piston withdraws.

16. In a depositing-machine, the combination of a materials-receptacle, of a moving agitator for the material in the receptacle, and means for imparting to said agitator a tremulous movement during its agitating movement.

17. In a depositing-machine, the combination of a materials-receptacle, a cylinder and its piston, and an agitator in the receptacle, of means for imparting a tremulous movement to the piston, and means for actuating the agitator from the piston-actuating means, whereby said agitator also has a tremulous movement.

18. In a depositing-machine, the combination with a receptacle, a cylinder, its piston, piston-operating means, and a discharge-port, of means alternately connecting the receptacle and cylinder, and the cylinder and discharge-port, and means for producing relative vibration between the cylinder and piston during the discharge movement thereof.

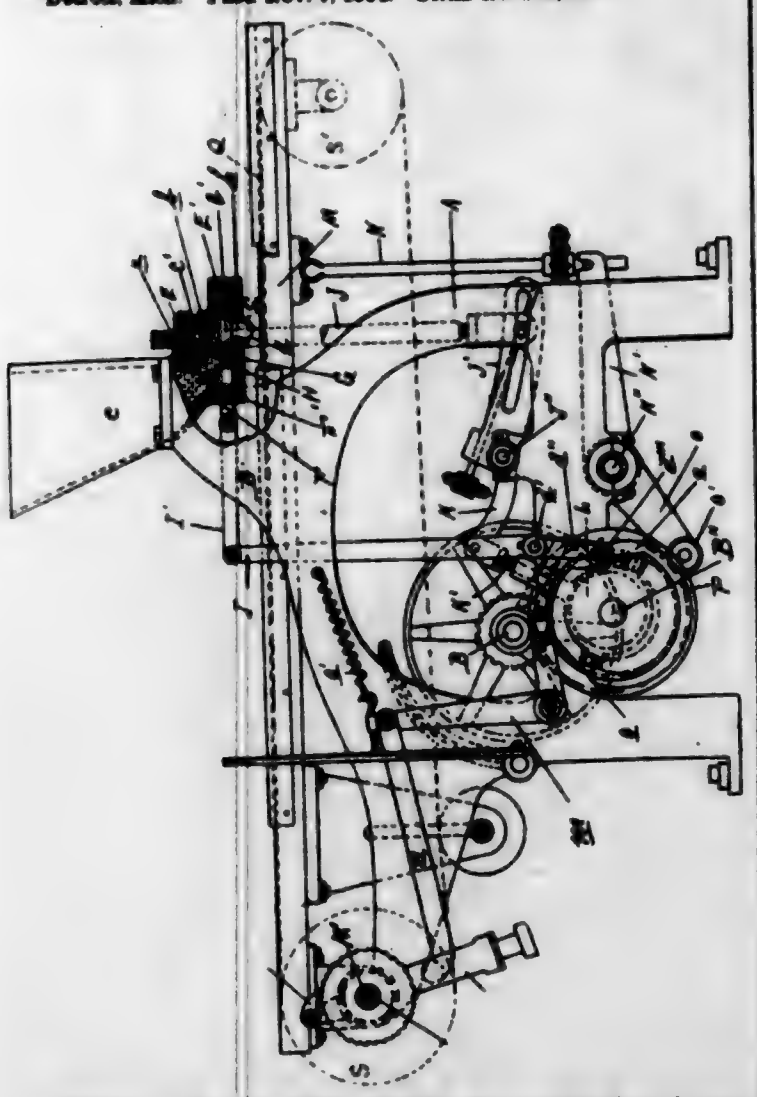
19. In a depositing-machine for such materials as chocolate and

the like, the combination of a material-receptacle having a discharge-port and means for discharging the material therefrom, of means imparting a tremulous movement to the material in the receptacle.

20. In a depositing-machine for such materials as chocolate and the like, the combination of a material-receptacle, a piston and a cylinder for withdrawing portions of the contents of said receptacle and discharging the same, and means for imparting a tremulous motion to the material in the receptacle.

21. In a depositing-machine, the combination with a receptacle, a cylinder, its piston, piston-operating means, and a discharge-port, of means for alternately connecting the receptacle and cylinder and the cylinder and discharge-port, and means for vibrating the piston during its intake movement.

808,110. DEPOSITING-MACHINE. ALEXANDER W. COPLAND, Detroit, Mich. Filed Nov. 7, 1904. Serial No. 231,723.



Claim.—1. In a depositing-machine, the combination of a stationary material receptacle and cylinder having their discharge-ports side by side, a perforated nozzle-plate below the same and a valve between those discharge-ports and said plate having an opening therein, means for reciprocating said valve to connect the two discharge-ports and close the port in the nozzle-plate, or to shut off the discharge from the receptacle and connect the cylinder-port with the perforations in the plate.

2. In a depositing-machine, the combination of a hopper having a vertical discharge-port, a cylinder arranged beside the same, a piston therein, a horizontally-reciprocating valve-plate below the discharge-ports from the cylinder and receptacle having an opening or openings therein adapted to connect or disconnect the two ports, a perforated plate below the valve-plate, the ports therein adapted to be registered with the openings in the valve-plate when the hopper connection is shut off and nozzles on the perforated plate.

3. In a depositing-machine, the combination of a hopper, having a discharge-port at the bottom, and having a plain face *a* on one side thereof, of a cylinder D formed in the shape of a U-shaped casting bolted against the face *a*, a piston in the cylinder thus formed, a nozzle-plate detachably secured to the base of the hopper and a reciprocating valve between the nozzle-plate and the hopper and the cylinder discharge, for the purpose described.

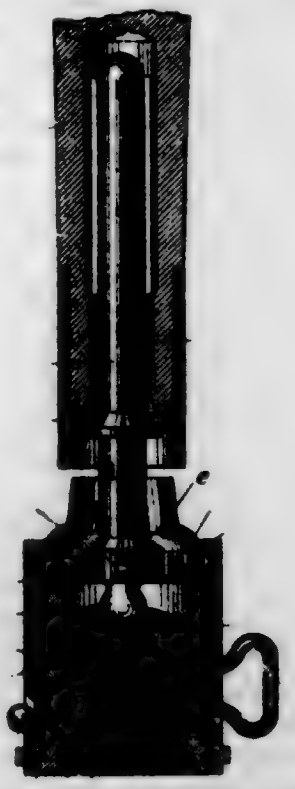
4. In a depositing-machine, the combination of a material-hopper, a nozzle-plate below the same, means for discharging material from the hopper to said nozzle-plate intermittently, a reciprocating table below the nozzle-plate, means for feeding the deposited material on said table, the parts being combined so that as the table is lowered the deposits are fed forward whereby the deposit will move downwardly and forwardly in relation to the nozzle for the purpose described.

5. In a depositing-machine, the combination of a material-receptacle, the nozzle-plate below the same, nozzles thereon having a rearward discharge, a reciprocating table below the nozzle-plate, means for feeding the material along the table, the table-reciprocating means and the feeding means being so combined that the forward feed will take place as the table lowers for the purpose described.

6. The combination with a material-receptacle and with a nozzle-plate below the same, of means for intermittently discharging material from the receptacle to said nozzle-plate, the nozzles on said plate having a passage *h* and an inclined face *d*, and means for feeding the deposited material downward and forward in relation to said nozzle for the purpose described.

7. In a depositing-machine, the combination of a discharge-spout, feed mechanism for intermittently depositing charges of batter or dough therefrom, and means for moving the deposit beneath the nozzle by a downward-and-forward movement, for the purpose described.

808,111. STAMPING DEVICE. FRÉDÉRIC DE COPPET, Lausanne, Switzerland. Filed Feb. 26, 1903. Serial No. 147,354.



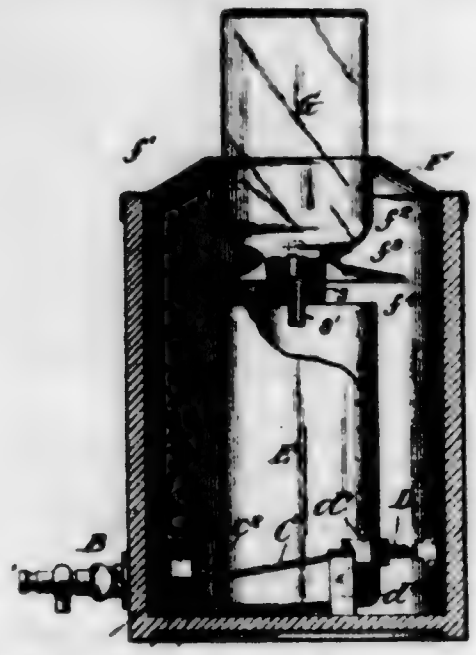
Claim.—In a hand stamping device, the combination of a casing; a sleeve mounted therein, the ends of the inner wall of which are beveled outwardly; a plurality of disks rotatably mounted upon said sleeve and each formed with a series of holes adapted to register with the holes in the disk adjacent to it; said disks bearing upon their circumferences the engraved letters which are to be stamped; and a U-shaped pin one of the arms of which is pointed and adapted thereby to enter the holes in said disks, and the other arm of which is formed with a spherical enlargement adapted to engage the beveled end of said sleeve; whereby said disks are securely held against displacement due to the shocks of stamping.

808,112. LIQUID-COOLER. HENRY G. COMBLEY, Glenridge, N. J. Filed July 6, 1904. Serial No. 215,921.

Claim.—1. In a liquid-cooler the combination of a tank provided with a discharge-faucet having a socket within the tank, an inner receptacle provided with a nozzle engaging the socket, and means for holding the inner receptacle in position comprising a frame extending around the inner receptacle provided with means at its forward end for engaging the faucet and provided with legs adapted to rest on the bottom of the tank for supporting its rear portion, substantially as described.

2. In a liquid-cooler the combination of a tank provided with a discharge-faucet having a socket within the tank, an inner receptacle provided with a nozzle engaging the socket, and means for holding the inner receptacle in position comprising a frame extending around the inner receptacle provided with means at its forward end for engaging the faucet and provided in its rear portion with adjust-

able means bearing against the inner receptacle, substantially as described.



3. In a liquid-cooler the combination of a tank provided with a discharge-faucet having a socket within the tank, an inner receptacle provided with a nozzle engaging the socket, and means for holding the inner receptacle in position comprising a frame engaging the faucet and having side stays and a rear strap and means carried by the rear strap bearing against the inner receptacle, substantially as described.

4. In a liquid-cooler the combination of a tank, provided with a discharge-faucet having a socket within the tank, an inner receptacle provided with a nozzle engaging the socket, and means for holding the inner receptacle in position, comprising a frame engaging the faucet and having side stays and a rear strap, the rear strap having its ends extended to form supporting-legs adapted to rest on the bottom of the tank and means carried by the rear strap bearing against the inner receptacle, substantially as described.

5. In a liquid-cooler the combination of a tank, provided with a discharge-faucet having a socket within the tank, an inner receptacle provided with a nozzle engaging the socket and means for holding the inner receptacle in position consisting of a frame comprising a ring engaging the faucet forward of the socket and provided with lateral eyes, side stays engaging the lateral eyes, and a rear strap secured to the rear ends of the side stays, substantially as described.

6. In a liquid-cooler the combination of a tank provided with a discharge-faucet, an inner receptacle communicating with said faucet, means for holding the inner receptacle in position, and a lid for the tank embodying a bowl-shaped depending part adapted to receive and support a liquid-reservoir and having a lower contracted throat and a flaring shield secured to the latter, substantially as described.

806,113. MACHINE FOR BENDING AND STRETCHING LEATHER FOR THE MANUFACTURE OF BOOTS AND SHOES.

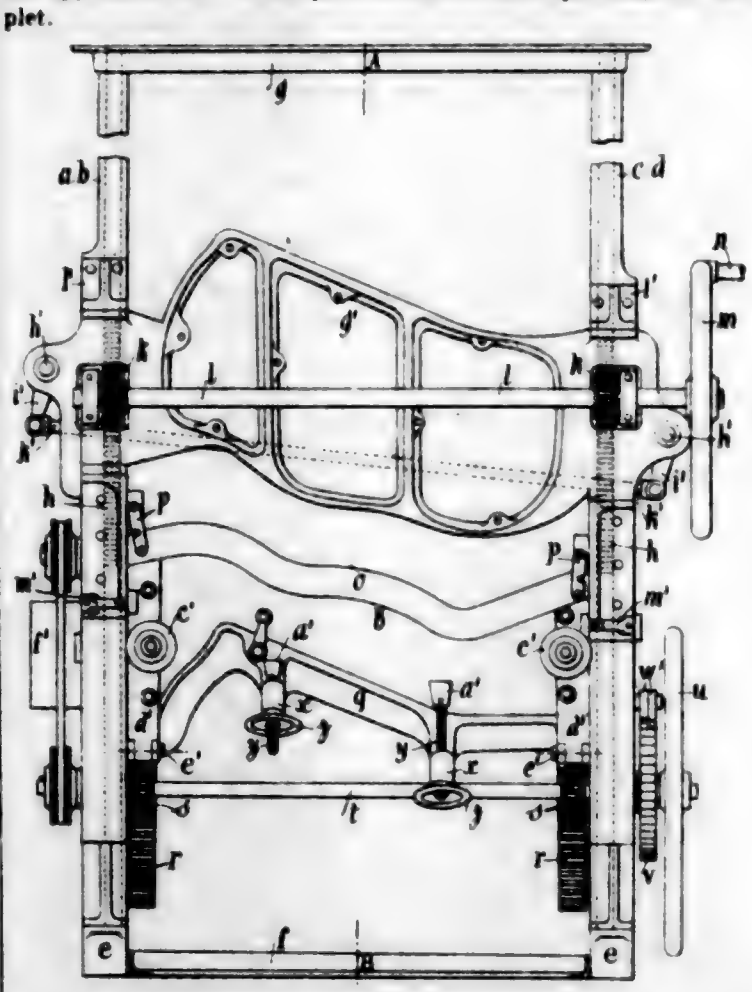
PIERRE COCHET, Grenoble, France. Filed Mar. 2, 1903. Serial No. 146,627.

Claim.—1. The combination with a supporting-frame, of upper cheek-pieces spaced apart as described, lower cheek-pieces also spaced apart, means for raising and lowering the lower cheek-pieces, a templet arranged between the upper and lower cheek-pieces and means for operating the templet.

2. The combination with a supporting-frame, of upper cheek-pieces spaced apart as described, lower cheek-pieces also spaced apart, means for raising and lowering the lower cheek-pieces, a templet arranged between the upper and lower cheek-pieces, means for operating the templet, and means for adjusting the lower cheek-pieces toward each other to cause them to firmly grip the leather between them and the templet in the manner set forth.

3. In a machine of the character described, the combination with a supporting-frame, of upper cheek-pieces spaced apart as described, lower cheek-pieces also spaced apart, means for raising and lowering the lower cheek-pieces, a templet arranged between the upper and lower cheek-pieces, means for operating the templet, means for adjusting the lower cheek-pieces toward each other to cause them to firmly grip the leather between them and the templet, and means for gripping the leather and stretching the same while confined between the lower cheek-pieces and the templet.

4. In a machine of the character described, the combination with a supporting-frame, of upper cheek-pieces spaced apart, lower cheek-pieces also spaced apart, one of the lower cheek-pieces being pivotally supported for the purposes specified, means for raising and lowering the lower cheek-pieces, a templet arranged intermediate the upper and lower cheek-pieces and means for operating the templet.



5. In a machine of the character described, the combination with a supporting-frame, of upper cheek-pieces spaced apart, lower cheek-pieces also spaced apart, means for raising and lowering the lower cheek-pieces, a templet arranged intermediate the upper and lower cheek-pieces, means for operating the templet, a support for the lower cheek-pieces, rods adjustably mounted in the said support and adapted to press against the lower cheek-pieces to force them toward each other, and jaws carried by each rod and adapted to cooperate to grip the leather between them in the manner set forth.

6. In a machine of the character described, the combination with a supporting-frame, of upper cheek-pieces spaced apart, lower cheek-pieces also spaced apart, means for raising and lowering the lower cheek-pieces, a templet arranged between the upper and lower cheek-pieces, means for operating the templet, screws h' threaded as described and working in the upper cheek-pieces, the links i' and the connecting-rod k'.

7. The combination with a supporting-frame comprising standards, of racks sliding therebetween, pinions in mesh with the racks, gearing for operating the pinions, a templet detachably connected with the racks, the upper cheek-pieces, the lower cheek-pieces and means for raising and lowering the lower cheek-pieces.

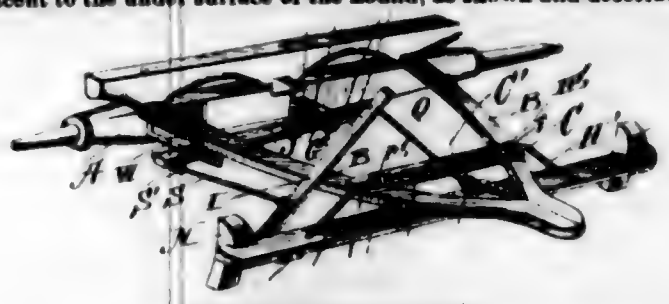
8. The combination with a supporting-frame comprising standards, of upper cheek-pieces supported by the standards, lower cheek-pieces, a support q' for the latter cheek-pieces, adapted to slide at its ends between the standards, a counterbalance for the support q, racks, pinions meshing with the racks, gearing for operating the pinions, a templet detachably connected with the racks, all arranged as and for the purpose specified.

806,114. WAGON-BRAKE.

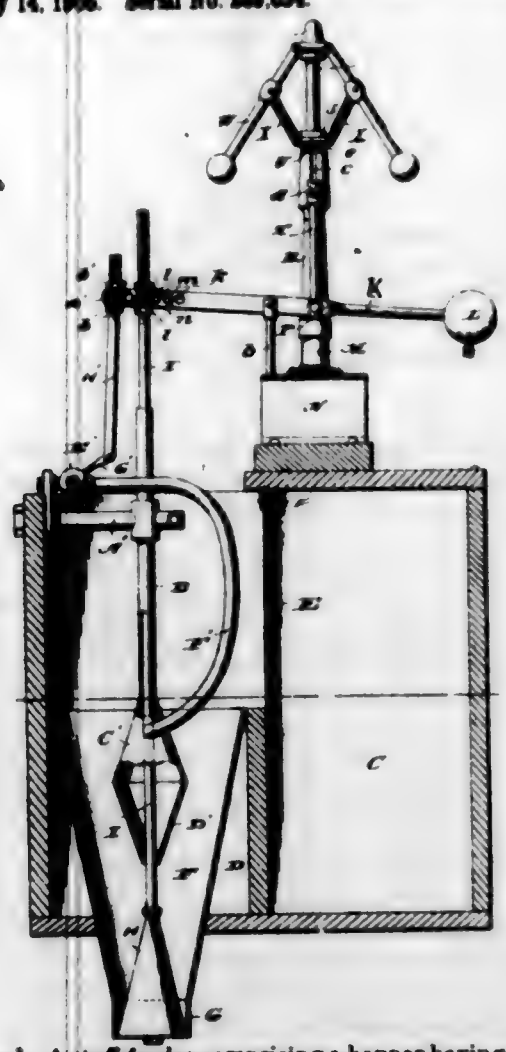
JOSEPH R. CRISP, LEWIS F. SAWYER, and CHARLES H. C. RICE, Almond, N. C. Filed July 17, 1905. Serial No. 270,149.

Claim.—A brake for wagons comprising, in combination with a running-gear, a grooved bar supported by the hound of the gear and having its ends cut away in alinement with said groove, a rock-shaft having a bearing in said groove, the end portions of said rock-shaft being downwardly inclined, a brake-shoe-carrying bar fixed to the ends of said rock-shaft, a bracket member fixed to the rear axle of the gear, a lever pivotally and adjustably mounted upon said bracket member, a link connecting said pivotal lever with the brake-shoe-

carrying bar, an operating-lever having pivotal connection with the brake-shoe-carrying bar, a link connecting said operating-lever with said pivotal and adjustable lever, and a strap for holding the latter adjacent to the under surface of the hound, as shown and described.



806,115. STUFF-FEEDER. ELWIN S. DANIELS, Alpena, Mich. Filed July 14, 1905. Serial No. 269,634.



Claim.—1. A stuff-feeder comprising a hopper having a vertical discharge at its lower end, a vertically-movable, downwardly-opening valve tapered toward its upper end and arranged in and adapted to control said discharge of the hopper and having an upwardly-extending stem, a lever having one of its arms weighted and its other arm connected with the stem of the said valve, and a mechanical governor connected with the weighted arm of the lever and adapted to be driven from a paper-pulp engine, a paper-making machine or an engine from which said paper-pulp engine and paper-making machine derive motion.

2. A stuff-feeder comprising a mechanical governor adapted to be driven from a paper-pulp engine, a paper-making machine or an engine from which said paper-pulp engine and paper-making machine derive motion, a lever having a weighted arm connected with the said governor, a valve connected with the other arm of said lever for delivering stuff at a speed corresponding to the speed of the machine, and a valve connected with the last-mentioned arm of the lever for supplying water to the stuff at a speed corresponding to the speed of the machine.

3. A stuff-feeder comprising a hopper having a discharge at its lower end, a vertically-movable valve controlling the discharge of the hopper and having an upwardly-extending stem, a water-supply conduit communicating with the interior of the hopper, a valve controlling the said conduit and having a stem, a lever having a weighted arm and also having an arm connected with the stems of the valves, and a mechanical governor connected with the weighted arm of the lever and adapted to be driven from a paper-pulp engine, a paper-making machine or an engine from which said paper-pulp engine and paper-making machine derive motion.

4. A stuff-feeder comprising a hopper having a discharge at its lower end, a vertically-movable and downwardly-opening valve controlling the discharge of the hopper and having an upwardly-extending stem, a lever having one of its arms weighted and its other arm connected with the stem of the said valve, and a mechanical governor connected with the weighted arm of the lever and adapted to be driven from a paper-pulp engine, a paper-making machine or an engine from which said paper-pulp engine and paper-making machine derive motion.

5. A stuff-feeder comprising a hopper having a vertical discharge at its lower end, a vertically-movable, downwardly-opening valve tapered toward its upper end and arranged in and adapted to control said discharge of the hopper and having an upwardly-extending stem, a lever having one of its arms weighted and its other arm connected with the stem of the valve, and a mechanical governor connected with the weighted arm of the lever and adapted to be driven from a paper-pulp engine, a paper-making machine or an engine from which said paper-pulp engine and paper-making machine derive motion.

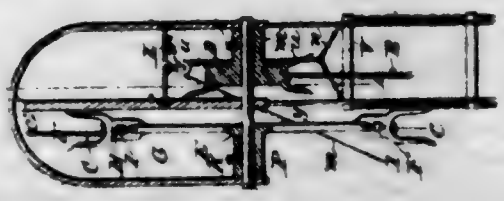
6. A stuff-feeder comprising a hopper having a vertical discharge at its lower end, a vertically-movable, downwardly-opening valve tapered toward its upper end and arranged in and adapted to control said discharge of the hopper and having an upwardly-extending stem, a lever having one of its arms weighted and its other arm connected with the stem of the valve, a water-supply conduit communicating with the interior of the hopper, a valve arranged to control said conduit and connected with the unweighted arm of the lever, and a mechanical governor connected with the weighted arm of the lever and adapted to be driven from a paper-pulp engine, a paper-making machine or an engine from which said paper-pulp engine and paper-making machine derive motion.

7. In a stuff-feeder, the combination of a hopper having a discharge at its lower end, a mechanical governor, a hollow body having an aperture, a vertically-movable valve controlling the discharge of the hopper and having a stem guided in the hollow body and connected with the governor, a valve connected with the hollow body and adapted to be connected with a source of water-supply, and a connection intermediate the governor and said valve.

8. In a stuff-feeder, the combination of a drive-shaft, a vertical shaft connected by gearing with said drive-shaft, centrifugal governor-arms hinged to said shaft so as to swing vertically, a vertically-movable sleeve loosely surrounding the vertical shaft, connections between said sleeve and the governor-arms, a vertically-movable lever having one of its arms connected with the vertically-movable sleeve, a weight for depressing said arm of the lever and a dash-pot for cushioning downward movement of the lever, a hopper having a discharge in its bottom, a valve for controlling said discharge connected with the other arm of the lever, and a valve for supplying the hopper with water also connected with the latter arm of the lever.

9. A stuff-feeder comprising a mechanical governor, a stuff-box having a compartment extending throughout its width, a corner-compartment extending from its bottom to a point adjacent to its top and a comparatively shallow corner-compartment arranged alongside the first-mentioned corner-compartment, a slidable cut-off movable between the compartment which extends throughout the width of the box and the corner-compartment, a funnel-shaped hopper arranged in the shallow corner-compartment and having a discharge at its lower end, and a vertically-movable valve controlling said discharge and connected with the mechanical governor.

806,116. HOISTING-MACHINE. LEWIS W. DELP, Peoria, Ill. Filed Nov. 19, 1903. Serial No. 181,864.



Claim.—1. A hoisting-machine comprising a supporting-frame substantially in the form of an inverted U for attachment at its top to the barn, a shaft having bearings in said frame, a wheel affixed to said shaft and constituting a winding-drum, a cable for such wheel, the said wheel being capable of adjustment to increase or decrease its diameter for the purposes set forth, a second smaller wheel on the said shaft also constituting a winding-drum, a cable attached to said latter wheel a series of weights, suspended beneath said wheel to the lowest of which the said cable is attached, and means for supporting

all of the weights and adjusting them vertically all for the purposes set forth.

2. A hoisting-machine comprising a supporting-frame substantially in the form of an inverted U for attachment at its top to the barn and adjustable at any angle, a shaft having bearings in said frame, a wheel affixed to said shaft to constitute a winding-drum, a cable attached to said wheel and also to the hay-carrier for the purposes described, the said wheel capable of adjustment for increasing or decreasing the diameter thereof for the purposes set forth, a second smaller wheel on said shaft also constituting a winding-drum, a cable affixed thereto, a series of weights suspended beneath said latter wheel and having the said cable attached to the lowest one, both cables being oppositely wound upon their respective wheels, one of them unwinding as the other is wound up all for the purposes indicated.

3. A hoisting-machine comprising a supporting-frame substantially in the form of an inverted U there being slots in the top of said frame for adjustable attachment thereby by means of bolts to the barn at any angle, a shaft having bearings in said frame and lying in a horizontal position therein, a wheel affixed to said shaft and constituting a winding-drum, the same being capable of adjustment for increasing or decreasing its diameter for the purposes set forth, a cable attached to said wheel and adapted to wind thereon, a second smaller wheel on said shaft also constituting a winding-drum, a series of weights suspended beneath the latter wheel, a cable attached to said wheel and to the lowermost weight and adapted to raise the weights by the revolution of the said wheel, and means for adjustably supporting the weights, the revolution of the first wheel adapted to raise the weights, and the falling of the weights adapted to wind the cable upon the first said wheel as set forth.

4. A hoisting-machine comprising a supporting-frame substantially of an inverted-U form, there being slots in the top thereof as shown by which to adjustably attach the frame to the barn at any angle, a common horizontal shaft having bearings in said frame, a convertible winding-wheel secured thereto for the purposes set forth, a cable carried thereon, a second smaller winding-wheel on said shaft and rigidly secured to the latter, a series of weights suspended beneath the latter wheel, means for suspending said weights, and a cable attached to the said second wheel and also to the weights as described, the unwinding of the cable on the first wheel winding the cable on the second to raise the weights, and the falling of said weights rewinding the cable on the first wheel all for the purposes set forth and described.

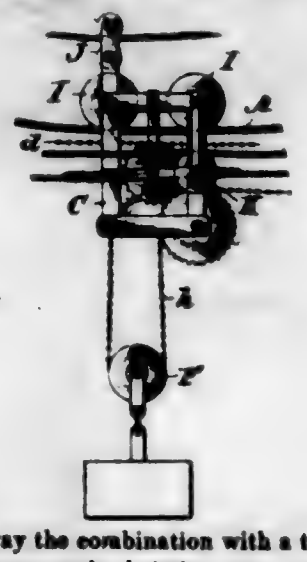
5. A hoisting-machine comprising a supporting-frame substantially in the form of an inverted U for adjustable attachment to the barn, there being slots in said frame for purposes of said adjustment, a horizontal shaft having bearings in said frame, a winding-drum secured to said shaft, the same having radiating flattened extensions lying in a plane at right angles to the plane of rotation of the drum, there being slots in said extensions, a fork for each extension, each fork having a flattened base adapted to be adjustably clamped to the said flattened extension, a bolt for securing the fork to the extension, the said fork being adjustable toward and away from the shaft by means of the said slots for the purposes set forth, a second smaller winding-drum on the shaft, a series of weights suspended below said latter drum, means for suspending them, a cable attached to the drum at one end and to the weights at the other and a cable attached to the first said drum and also to the hay-carrier, the unwinding of said cable adapted to winding the other cable upon the second drum, and the descent of the weights adapted to unwind the cable from the latter to rewind the cable upon the first drum for the purposes described.

808,117. HOISTING AND CONVEYING DEVICE. JOSEPH H. DESMOND, Atlanta, Ga., assignor to The Lidgerwood Manufacturing Company, a Corporation of New York. Filed Jan. 24, 1902. Serial No. 91,181.

Claim.—1. The combination with a carriage for cableways and similar conveying devices having two wheels therein connected to turn together, of a hoisting and a lowering rope adapted each to engage one of said wheels and extending from the carriage to the head-support.

2. In a cableway or similar conveying device the combination with a trackway, a carriage adapted to run thereon, and a hauling-rope connected with said carriage to move it, of a hoisting-rope extending from the carriage to one end of the cableway, a lowering-rope extending past the carriage, two wheels upon the carriage adapted to respectively engage said hoisting-rope and the lowering-rope to turn therewith, said wheels being connected to turn together.

3. In a cableway the combination with a trackway, a carriage thereon, a hauling-rope and a hoisting-rope extending from the carriage to one end of the cableway, of a lowering-rope extending past the carriage, two wheels connected to turn together and adapted respectively to actuate the hoisting-rope and to be actuated by the lowering-rope.



4. In a cableway the combination with a trackway, a carriage thereon, a hauling-rope and a hoisting-rope extending to the head-support, of a lowering-rope, two wheels upon the carriage connected to turn together and provided with means for positively engaging one with the hoisting-rope and the other with the lowering-rope, whereby the hoisting-rope may be positively lowered from the carriage.

5. In a cableway the combination with a trackway, a carriage adapted to run on said trackway and having two wheels connected to turn together and adapted to receive respectively the hoisting and the lowering rope, of a hauling-drum, a hauling-rope connecting the hauling-drum and the carriage to move it, a hoisting-drum, a hoisting-rope extending from the hoisting-drum to the carriage and over one of said connected wheels on the carriage, a lowering-drum, and a lowering-rope extending from said drum to the carriage and engaging the other of said connected wheels on the carriage.

6. The combination with a trackway, and a carriage adapted to travel thereon, of a hoisting-drum, a hoisting-rope extending from said drum to the carriage, a lowering-drum, a lowering-rope extending from its drum to the carriage, and two connected wheels adapted one to receive the hoisting-rope and the other to receive the lowering-rope.

7. A hoisting device comprising two wheels connected to turn together, a hoisting-rope extending from a distance to and about one of said wheels and a lowering-rope extending from a distance to and about the other of said wheels, whereby the outer end of the hoisting-rope may be caused to descend by pulling upon the lowering-rope.

8. In a hoisting and conveying device the combination with a trackway, a carriage adapted to travel on the trackway, a hauling-rope connected with the carriage and a hoisting-rope extending from the carriage to one end of the trackway, of a lowering-rope, and two connected wheels upon the carriage adapted one to receive the hoisting-rope and the other to receive the lowering-rope, said ropes and wheels having driving engagement with each other.

9. In a hoisting device the combination with a hoisting-rope, a hoist lowering-rope, of separate sheaves for said ropes, a driving connection between said sheaves, and means independent thereof for raising the hoisting-rope.

10. In a hoisting apparatus, in combination, a sheave at the top of the fall and a hoisting-rope extending over said sheave and containing two sections of different capacities for engagement; one of said sections forming a clutching engagement with said sheave and the other not.

11. In an apparatus of the class described a trolley and an endless hoist-operating cable therefor in rope-supporting engagement with the said trolley with both its outgoing and return strands.

12. In an apparatus of the class described a trolley and an endless operating-cable therefor in rope-supporting engagement with the trolley at substantially equal distances on either side of the longitudinal center thereof.

808,118. TOY GUN. FREDERICK W. DELL and JOHN R. HULL, Lincoln, Kans. Filed Apr. 14, 1905. Serial No. 255,643.

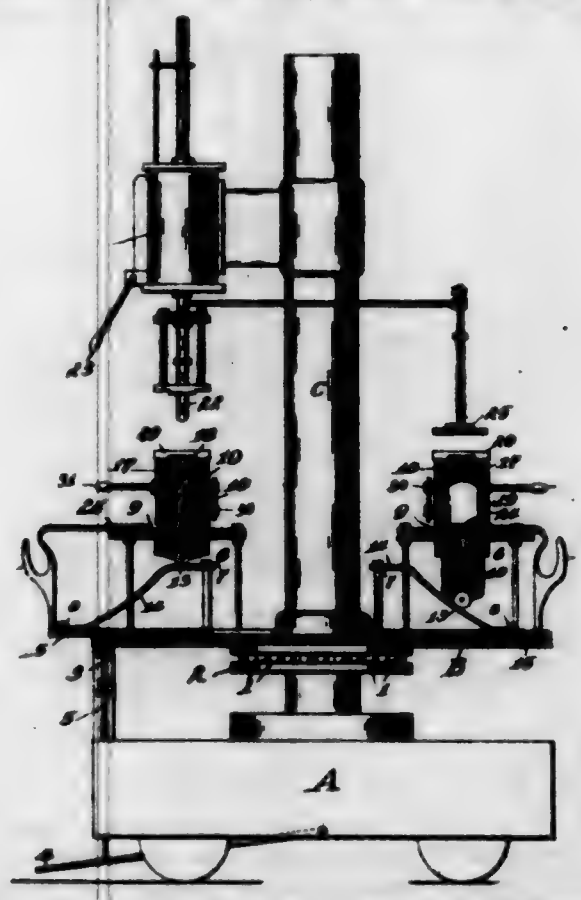
Claim.—1. In a device of the class described, the combination of a stock, a barrel carried by the stock and adapted to receive a projectile, the outer end of the barrel being cut away, a movable section

secured to the barrel at the cut-away portion thereof and of concave form in cross-section to conform with the contour of said barrel, and means for ejecting a projectile from the barrel, and spring means co-acting with the movable section of the barrel to cause the same to engage a projectile in said barrel.



3. In a device of the class described, the combination of a stock, a barrel carried by the stock, a piston slidable in said barrel, a spring for actuating the piston, a projection extended from the piston, a ratchet-spring provided with a plurality of teeth arranged to engage the projection extended from the piston, a trigger connected at its upper end with the ratchet-spring, and an arm projected from the trigger at a point between the ends of the latter and pivotally connecting the trigger with the stock.

806,119. **DEVICE FOR MANUFACTURING BOTTLES.** JOHN D. DILWORTH, Salem, N. J. Filed Mar. 9, 1905. Serial No. 249,288.

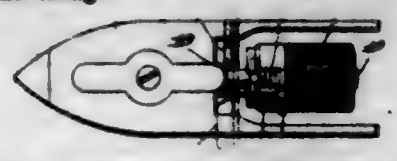


Claim.—1. In a machine for forming glassware, the combination with a table, a frame erected thereon and comprising a top and legs, said top having an orifice in its center and a groove in the table thereboneath, of a press-blank mold fitted to the orifice and provided with oppositely-located vertically-disposed grooves and set-screws extending into said groove, for guiding the press-blank mold in its upward and downward movements, said press-blank mold having an antifriction-roller, of a sliding device fitted to the groove and having a cam which operates upon the antifriction-roller to raise and lower the press-blank mold a blow-mold, a bottom therefor carried by the sliding device, a plunger, a blow-head, and means for supplying air for the operation of said parts.

2. In a machine for making glassware, the combination with a suitably-supported frame and a blow-mold mounted thereon, the frame provided with an aperture therethrough, of a press-blank mold receivable in the aperture in the frame, means for raising and lowering the press-blank mold, the press-blank mold provided with a plurality of external longitudinally-extending grooves, and adjustable means carried by the frame and receivable in the grooves to guide the press-blank mold in its movements.

806,120. **LOOM-CONTROLLING MECHANISM.** WILLIAM DORMAN, Binghamton, N. Y. Filed Apr. 14, 1905. Serial No. 255,494.

Claim.—1. A shuttle, an actuator slidably mounted in the side thereof, a filling-controlled retainer slidably mounted on the shuttle-spindle and operating to hold normally said actuator in its inoperative position, and automatically-operative means to move the actuator into its operative position when the retainer is released by the exhaustion of the filling.



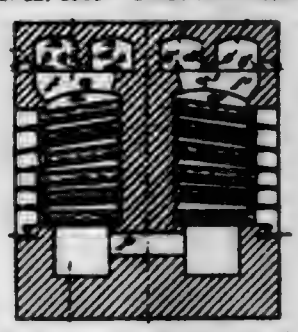
2. A shuttle, an actuator-pin movably mounted in the side of the shuttle, a filling-controlled retainer to hold said actuator-pin retracted, said retainer being slidably mounted on the shuttle-spindle and automatically-operative means to throw said actuator-pin into operative position when it is disengaged from the retainer.

3. A shuttle, an actuator-pin slidably mounted in the side thereof, a retainer slidably mounted on the shuttle-spindle, said retainer being held in engagement with the actuator-pin by the filling in the shuttle thereby to hold the actuator-pin in its inoperative position, and automatically-operative means to throw the actuator-pin into its operative position when released from the retainer.

4. In a shuttle, an actuator-pin slidably mounted in the shuttle, and a spring-pressed retainer slidably mounted on the shuttle-spindle and having a tail to engage the actuator-pin and hold it in its inoperative position, said retainer being held in engagement with the actuator-pin by the filling in the shuttle.

5. In a loom, a shuttle-box, loom-controlling mechanism including a slide carried by the shuttle-box, a shuttle, an actuator carried by the shuttle, a filling-controlled retainer to hold the actuator in its inoperative position, said retainer being slidably mounted on the shuttle-spindle and automatically-operative means to throw the actuator into position to engage the slide when the filling is nearly exhausted.

806,121. **ZINC-FURNACE.** EMILE DOR-DELATTRE, Budel, Netherlands. Filed Apr. 13, 1905. Serial No. 255,247.



Claim.—1. A zinc-furnace having air and gas channels *m*, *n*, *m'*, *n'* communicating with the chambers *a*, *a'* by burners *f*, *f'* consisting of long and narrow gaps or openings, which also serve as passages for the air and gas, these burners being provided with movable blocks, slabs or equivalent means whereby the currents of gas or gas and air can be altered at the moment of entering the furnace, thus providing for the easy regulating of the furnace and insuring complete combustion.

2. In a gas-heated zinc-furnace, the combination with a furnace-chamber, of air and gas channels adapted to communicate with the chamber through a common passage, adjustable means for regulating the admission of air and gas to said common passage, and means within the chamber in alinement with said passage to deflect laterally the currents entering the chamber through said passage.

3. In a gas-heated zinc-furnace, the combination with a furnace-chamber adapted to support a series of retorts, of air and gas channels arranged to communicate with said chamber through a common passage, said passage being in alinement with a retort in the chamber, whereby the gaseous currents will be deflected in opposite directions on entering said chamber.

4. A gas-heated zinc-furnace having independent air and gas channels, and a chamber adapted to support a series of retorts, the roof of the chamber having formed therein a plurality of narrow apertures each communicating with both said air and gas channels, said apertures being each arranged in line with a retort in said chamber, and a plurality of retorts being arranged in each of the spaces between said apertures.

5. A gas-heated zinc-furnace having two furnace-chambers each adapted to support a series of retorts, independent air and gas channels communicating with each of said furnace-chambers through apertures each communicating with both said air and gas channels arranged in line with a retort in the chamber, a plurality of retorts

being arranged in each of the spaces between said apertures, and a series of passages extending through the wall separating the furnace-chambers and corresponding in number to the vertical rows of retorts.

806,122. FURNACE-GRATE BAR. GEORGE A. ELLIS, Mount Vernon, N. Y. Filed Dec. 26, 1902. Serial No. 136,664.

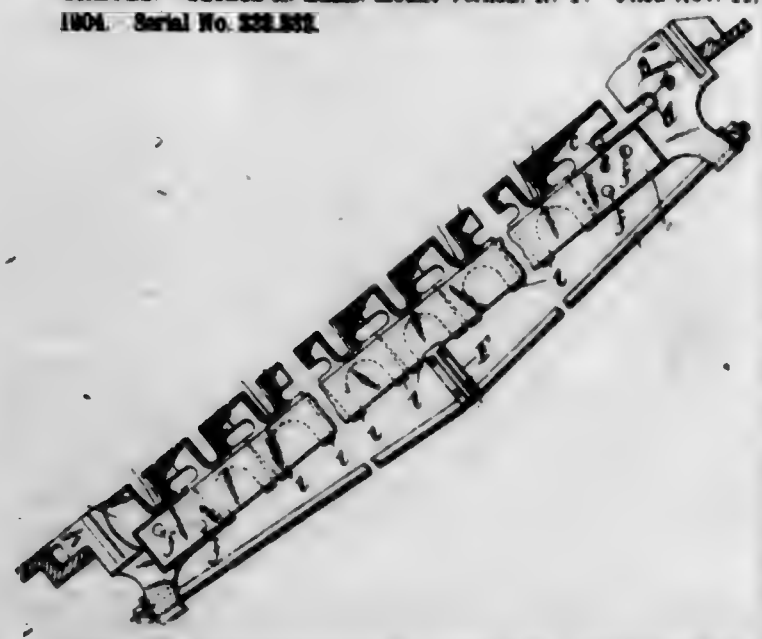


Claim.—1. In a pocketing and cutting-off bar for grates, the combination with a supporting-bar of separate fuel-supporting sections mounted thereon, and means for keying the sections in place, said sections being each recessed as explained and adapted to be hooked over the top of the supporting-bar and having projections formed integrally with them and extending under and beyond the supporting-bar and being keyed to the bar and removable therefrom without disturbing the remaining sections, substantially as and for the purposes set forth.

2. In a grate-bar of the character herein set forth, the combination with the supporting-bar, of the separate grate-bar sections mounted thereon, the supporting-bar being provided with a number of recesses on its under side, the sections being supplied with projections for entering said recesses, and means for locking the said projections, substantially as shown and described.

3. In a grate-bar of the character herein set forth, the combination with the supporting-bar recessed on its under side of separate fuel-supporting sections held on the bar by projections on the sections extending in the corresponding recesses from one side of the bar beyond the other side and there secured, each fuel-supporting section mounted on the bar and made removable therefrom without disturbing the other sections, one of said sections being provided with means for receiving the power appliance and arranged to move the grate-bar, substantially as shown and described.

806,123. JOURNAL-BEARING BAR FOR ROCKING-BAR GRATES. GEORGE A. ELLIS, Mount Vernon, N. Y. Filed Nov. 11, 1904. Serial No. 232,552.



Claim.—1. In a journal-bearing bar for grates, the combination with the two end castings or sections, tie-rod and strut or compression member, of the wrought-metal side bars secured to said castings, and the separate bearing-blocks, said side bars being adapted to sustain the separate bearing-blocks between them, substantially as and for the purposes set forth.

2. In a journal-bearing bar for grates, the two end castings or sections, the two wrought-metal side bars secured to the end sections, a tie-rod connecting the end sections, and a strut or compression member located between the tie-rod and the wrought-metal side bars, substantially as and for the purposes set forth.

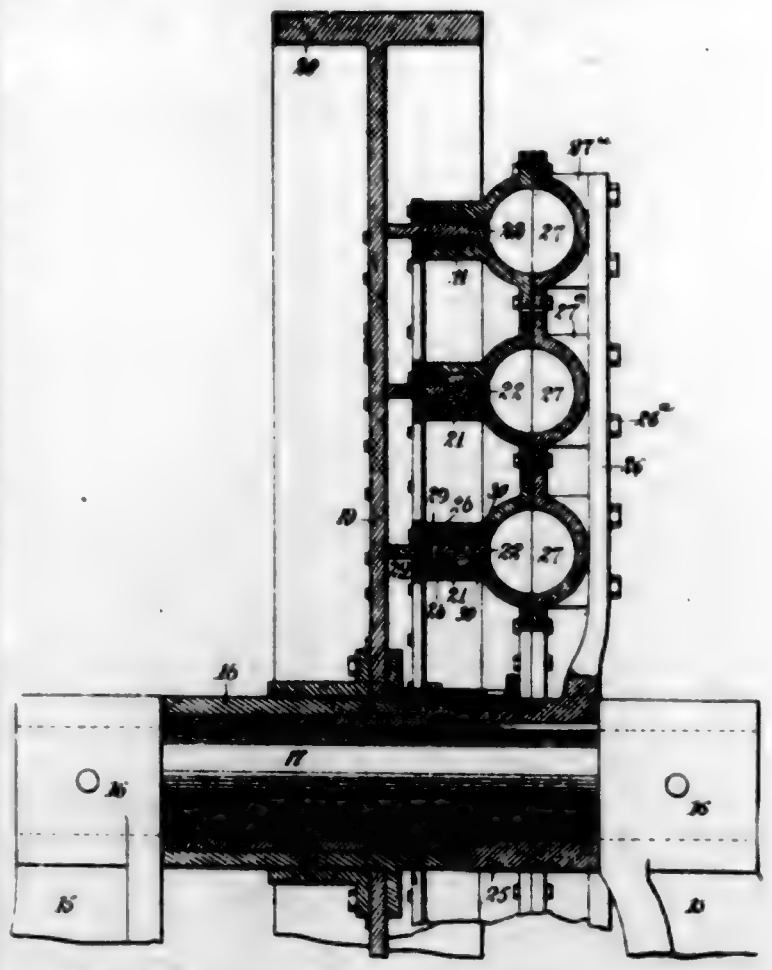
3. In a journal-bearing bar for grates, the combination with the two side bars, the end sections, and a tie-rod and strut, of the separate bearing-blocks mounted between said side bars and sustained thereon, the blocks projecting below the bars and being enlarged at their lower portions to bear against the lower margins of the side bars, substantially as and for the purposes set forth.

4. The combination with the side bars and end sections, of the tie-rod secured at its ends, and the strut or compression member, said strut bearing upon the tie-rod and embracing the lower margins of the side bars, substantially as and for the purposes set forth.

5. The herein-described bar for supporting the journals of rocking grate-bars, the same being composed of wrought-metal side bars, end sections connected with said side bars, a tie-rod and strut or compression member, and separate bearing-blocks fitted on the side bars, substantially as shown and described.

6. In a journal-bearing bar for grates, the combination with the end sections, tie-rod, strut and side bars inclined toward each other, of separate bearing-blocks mounted on the side bars and correspondingly inclined at their lower parts to fit between said inclined bars, substantially as and for the purposes set forth.

806,124. ROTARY ENGINE. JOHN M. ELLSWORTH, New York, N. Y. Filed Mar. 24, 1906. Serial No. 251,840.



Claim.—1. The combination of a central shaft, a rotor mounted thereon, a plurality of concentric annular ribs attached to the rotor, a piston attached to each rib, annular cylinders having openings extending throughout the same in which openings said ribs are loosely fitted, the pistons working within the cylinders, means for mounting the cylinders, and means for controlling fluid movement in the cylinders.

2. The combination of a central shaft, a rotor mounted thereon, a plurality of concentric annular ribs attached to the rotor, a piston attached to each rib, annular cylinders having openings extending throughout the same in which openings said ribs are loosely fitted, the pistons working within the cylinders, means for mounting the cylinders, means for controlling fluid movement in the cylinders, and means for packing the connection between the ribs and the cylinders.

3. The combination of a stationary shaft or support, a rotor mounted thereon, an annular rib attached to the rotor, a piston attached to the rib, an annular cylinder having an opening extending throughout the same in which opening the rib is loosely received, a piston operating within the cylinders, means for packing the connection between the rib and cylinder, an arm rigidly mounted on the said shaft and fastened to the cylinder to support the same, and means for controlling fluid movement within the cylinder.

4. The combination of a rotor, a plurality of pistons in connection therewith, a plurality of concentric cylinders through which the pistons are respectively adapted to move, means for mounting the rotor, means for mounting the cylinders, and independent operative means controlling fluid movement in said cylinders.

5. The combination of an annular cylinder having an opening extending throughout the same, a rib fitting loosely in the opening in the cylinder, a piston attached to the rib and working in the cylinder, means for controlling fluid movement to and from the cylinder, and means for forming a fluid-tight inclosure for said parts.

6. The combination of a rotor, an annular rib attached thereto, a piston attached to the rib, an annular cylinder having an opening extending around the same, the rib being loosely received in the opening and the piston operating within the cylinder, means controlling fluid movement to and from the cylinder, and a hood attached to the rotor and forming with the rotor a fluid-tight inclosure for the cylinder.

7. The combination of a central shaft having admission and exhaust passages therein, a rotor arranged to turn around the shaft, an annular rib attached to the rotor at one side, a piston carried by said rib, an annular cylinder having an opening extending around the same, said opening loosely receiving the said rib and the piston operating within the cylinder, means controlling fluid movement to and from the cylinder, said means communicating respectively with the admission and exhaust passages of the shaft, and a hood attached to the side of the rotor having said rib, the hood inclosing the cylinder and including the shaft to form a fluid-tight inclosure for the cylinder.

8. In a rotary engine, the combination of a shaft, a rotating disk or wheel mounted thereon, an annular rib attached to the side of the disk and disposed concentrically to the center of rotation thereof, a piston attached to said disk, an annular cylinder having an opening extending around the same into which opening said rib is loosely fitted, the piston working in the cylinder, packing acting between the cylinder and rib, and means for controlling the admission and exhaust of the motive agent.

9. In a rotary engine, the combination of a shaft, a rotating disk or wheel mounted thereon, an annular rib attached to the side of the disk and disposed concentrically to the center of rotation thereof, a piston attached to said disk, an annular cylinder having an opening extending around the same into which opening said rib is loosely fitted, the piston working in the cylinder, packing acting between the cylinder and rib, means for controlling the admission and exhaust of the motive agent, said means comprising an abutment movable in and out of the cylinder, the cylinder having admission and exhaust ports respectively at the sides of the abutment, a valve controlling the admission-port, and devices for operating the valve and abutment in unison with the movement of the piston.

10. In a rotary engine, the combination of a shaft, a rotating disk or wheel mounted thereon, a plurality of annular ribs attached to the side of the disk and disposed concentrically to the center of rotation thereof, a piston attached to each rib, annular cylinders having openings extending continuously around them in which openings the ribs are respectively fitted, the pistons operative respectively in the cylinders, and independently operative means for controlling the admission and exhaust of the motive agent to the several cylinders.

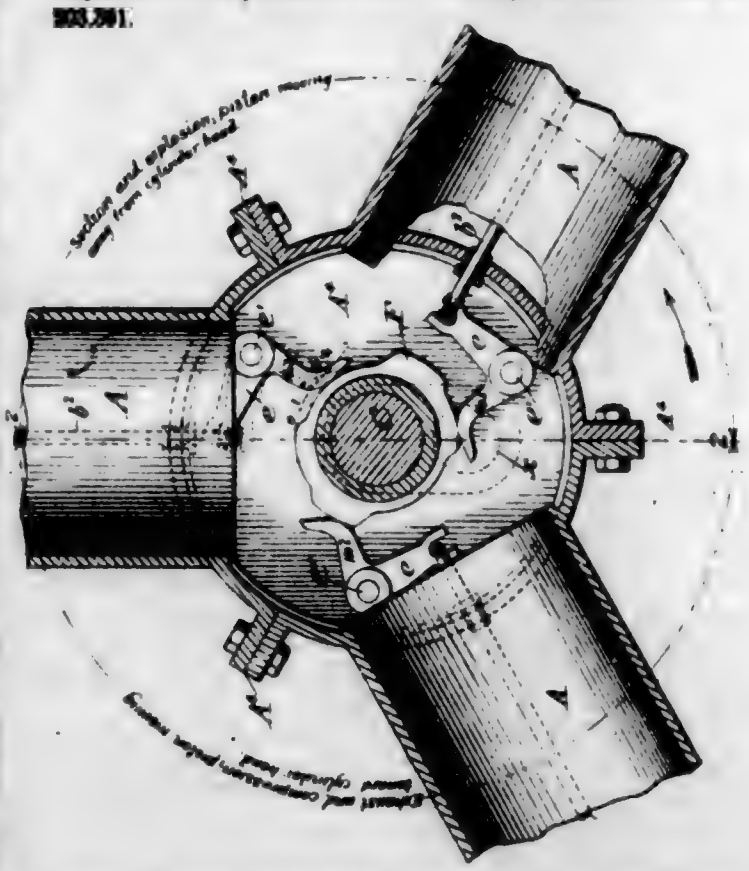
11. In a rotary engine, the combination of a shaft, a rotatable disk or wheel mounted thereon, an annular rib engaging the side of the disk and disposed concentrically to the axis of the center of rotation thereof, a piston engaging the outer edge of the rib, a tie-bolt extending through the piston-rib and disk to hold said parts rigidly connected, an annular cylinder having an opening extending continuously around the same in which opening the rib is loosely fitted, the piston working in the cylinder, means for mounting the cylinder, and means for controlling the admission and exhaust of the motive agent.

12. In a rotary engine, the combination of a shaft, a rotating disk or wheel mounted thereon, an annular rib attached to the side of the disk, a piston attached to the outer edge of the rib, an annular cylinder having an opening extending continuously around the same, in which opening the rib is loosely received, the piston operating in the cylinder, and means for controlling the movement of the motive agent in the cylinder, the said means including an abutment movable in and out of the cylinder, and the abutment having a packing-strip at its inner edge, said backing-strip being arranged to engage with the edge of the rib which runs in the cylinder.

13. In a rotary engine, the combination of a stationary shaft, a rotatating disk or wheel mounted thereon, an annular rib attached to the side of the disk concentrically to the center of rotation thereof, a piston attached to the disk, an annular cylinder having an opening extending continuously around the same into which opening the rib is loosely received, the piston working within the cylinder, an abutment arranged to move in and out of the cylinder, an arm engaging the abutment to move the same, a rock-shaft on which the arm is mounted, the rock-shaft extending radially of the disk, a cam moving with the disk and adapted periodically to actuate the rock-shaft, the cylinder having admission and exhaust ports respectively at the sides of the abutment, a valve controlling the admission-port, a rocker engaged with the valve, a shaft carrying the rocker, said shaft extending radially of the disk, and a second cam moving with the disk and adapted to operate the last-named shaft.

14. In a rotary engine, the combination of a shaft, means for rigidly mounting the same, a rotating disk or wheel mounted on the shaft, a plurality of annular ribs attached to the side of the disk concentrically to the shaft, a plurality of annular cylinders having openings extending around the same in which openings the ribs are respectively fitted, a piston attached to each rib, the pistons operating in the cylinders, a spider attached to the shaft and sustaining the cylinders, an abutment arranged to move in and out of each cylinder, means for operating the abutment, the cylinder having admission and exhaust ports on opposite sides of the abutment, a valve-chest surrounding each admission-port, a motive-fluid connection leading to each valve-chest, a valve in each valve-chest coacting with the admission-port, and means for operating said valves.

806,125. ROTARY EXPLOSIVE-ENGINE. PAT O. FARWELL, Dubuque, Iowa, assignor of one-half to The Adams Company, Dubuque, Iowa, a Corporation of Iowa. Filed Apr. 16, 1904. Serial No. 203,391.



Claim.—1. An explosive-engine, comprising a mixing-chamber and an explosion-chamber, an inlet-valve controlling the passage between said chambers, an exhaust-valve for the explosion-chamber, and a cam-ring common to both of said valves and having projections of different heights controlling the opening and closing of the respective valves, said cam-ring having adjustable means for varying the period of time the inlet-valve is held open during the compression-stroke of the engine.

2. An explosive-engine, comprising a mixing-chamber and an explosion-chamber, an inlet-valve controlling the passage between said chambers, an exhaust-valve for the explosion-chamber, and a cam-ring common to both of said valves and having projections of different heights controlling the opening and closing of the respective valves, said cam-ring having an adjustable section for varying the period of time the inlet-valve is held open during the compression-stroke of the engine.

3. An explosive-engine, comprising a mixing-chamber and an explosion-chamber, an inlet-valve controlling the passage between said chambers, an exhaust-valve for the explosion-chamber, and mechanism common to both of said valves controlling the opening and closing of each, said mechanism comprising a cam-ring having projections of different heights for controlling the operation of the respective valves, and an adjustable ring having a projection cooperating with and modifying the operation of the inlet-valve controlling projection on the cam-ring to vary the period of time the inlet-valve is held open during the compression-stroke of the engine.

4. An explosive-engine, comprising a series of rotary cylinders, pistons working therein, a mixing-chamber common to said cylin-

ders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, and a cam for controlling the operation of all of said inlet-valves, said cam having adjustable means for varying the period of time the respective inlet-valves are held open during the compression-strokes of the corresponding pistons.

5. An explosive-gas engine, comprising a series of rotary cylinders, pistons working therein, a mixing-chamber common to said cylinders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, and a cam for controlling the operation of said inlet-valves, said cam having an adjustable section to vary the period of time the respective inlet-valves are held open during the compression-strokes of the corresponding pistons.

6. An explosive-engine, comprising a series of rotary cylinders, pistons working therein, a mixing-chamber common to said cylinders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, exhaust-valves for the individual cylinders, a cam for controlling the operation of all of said valves, said cam having an adjustable section for varying the period of time the respective inlet-valves are held open during the compression-strokes of the corresponding pistons.

7. An explosive-gas engine, comprising a series of rotary cylinders, pistons working therein, a crank-shaft to which said pistons are connected, inlet-valves for the respective cylinders, a cam controlling the operation of all of said valves and having a differential rotation with respect to the rotatory motion of the cylinders, and an adjustable cam coöperating with said first-mentioned cam to vary the period of time the respective inlet-valves are held open during the compression-strokes of the corresponding pistons.

8. An explosive-gas engine, comprising a series of rotary cylinders, pistons working therein, a crank-shaft to which said pistons are connected, a mixing-chamber common to said cylinders, inlet-valves for the respective cylinders, a cam controlling the operation of all of said valves and having a differential rotation with respect to the rotatory motion of the cylinders, and an adjustable cam coöperating with said first-mentioned cam to vary the period of time the respective inlet-valves are held open during the compression-stroke of the corresponding pistons.

9. An explosive-engine, comprising a stationary crank-shaft, a series of cylinders and coöperating pistons rotating about said shaft, a mixing-chamber common to said cylinders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, a cam for controlling the operation of said inlet-valves, a second cam coöperating with and adjustable with respect to said first-mentioned cam to vary the period of time the respective inlet-valves are held open during the compression-strokes of the corresponding pistons, and means for imparting a differential rotation to said cams with respect to the rotation of the engine.

10. An explosive-gas engine, comprising a stationary crank-shaft, a series of cylinders and coöperating pistons rotating about said shaft, a mixing-chamber common to said cylinders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, valve-rods for operating said inlet-valves, rock-levers for actuating said rods, a rotary cam coöperating with said rock-levers to control the inlet-valves, a second cam coöperating with and adjustable with respect to said first-mentioned cam to vary the period of time the respective inlet-valves are held open during the compression-strokes of the corresponding pistons, and means for imparting a differential rotation to said cams with respect to the rotation of the engine.

11. An explosive-gas engine, comprising a stationary crank-shaft, a series of cylinders and coöperating pistons rotating about said shaft, a mixing-chamber common to said cylinders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, exhaust-valves for the several cylinders, a rotary cam controlling the operation of the inlet and exhaust valves, a second cam coöperating with and adjustable with respect to said first-mentioned cam to vary the time of closing of the respective inlet-valves during the compression-strokes of the corresponding pistons, and means for imparting a differential rotation to said cams with respect to the rotation of the engine

12. An explosive-gas engine, comprising a stationary crank-shaft, a series of cylinders and coöperating pistons rotating about said shaft, a mixing-chamber common to said cylinders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, exhaust-valves for the several cylinders, a rotary cam controlling the operation of the inlet and exhaust valves, a second cam coöperating with and adjustable with respect to said first-mentioned cam to vary the time of closing of the respective inlet-valves during the compression-strokes of the corresponding pistons, means for imparting a differential rotation to said cams with respect to the rotation of the engine, and connections between said cams and the inlet and exhaust valves of the respective cylinders, each connection comprising a rock-lever coöperating with both valves, a rock-lever engaging said cams, and a rod or link between said rock-levers.

13. An explosive-gas engine, comprising a stationary crank-shaft, a series of cylinders and coöperating pistons rotating about said shaft, a mixing-chamber common to said cylinders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, a cam surrounding said crank-shaft for controlling the operation of said inlet-valves, a second cam coöperating with and adjustable with respect to the first-mentioned cam to vary the time of closing of the respective inlet-valves during the compression-strokes of the corresponding pistons, and planetary gearing connecting said cams and said crank-shaft to impart a differential rotation to said cams with respect to the rotation of the engine.

14. An explosive-gas engine, comprising a stationary crank-shaft, a series of cylinders and coöperating pistons rotating about said shaft, a mixing-chamber common to said cylinders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, a cam surrounding said crank-shaft for controlling the operation of said inlet-valves, a second cam coöperating with and adjustable with respect to the first-mentioned cam to vary the time of closing of the respective inlet-valves during the compression-strokes of the corresponding pistons, planetary gearing connecting said cams and said crank-shaft to impart a differential rotation to said cams with respect to the rotation of the engine, and means for shifting the relation of the second cam with respect to the first cam.

15. An explosive-gas engine, comprising a stationary crank-shaft, a series of cylinders and coöperating pistons rotating about said shaft, a mixing-chamber common to said cylinders, inlet-valves controlling the passages between the mixing-chamber and the respective cylinders, a main cam surrounding said crank-shaft for controlling the operation of said inlet-valves, a second cam coöperating with and adjustable with respect to said main cam to vary the time of closing the respective inlet-valves during the compression-strokes of the corresponding pistons, gears on the respective cams, resistance-gears on the stationary crank-shaft, planetary gears connecting the respective gears on the cams and the resistance-gears, to impart a differential rotation to said cams with respect to the rotation of the engine, a rotatory shaft in said crank-shaft connected to the resistance-gear actuating the adjustable cam, and means for rotating said shaft to vary the position of said adjustable cam with respect to the main cam.

16. An explosive-gas engine, comprising multiple rotary cylinders, a mixing-chamber common to said cylinders, valves controlling the passages to said cylinders, and a common regulable means for holding said valves open during predetermined portions of the compression-strokes of the corresponding pistons, whereby portions of the respective explosive charges are blown back and passed to successive cylinders.

17. An explosive-gas engine, comprising multiple rotary cylinders, a mixing-chamber common to said cylinders, inlet-valves controlling the passages to said cylinders, and an adjustable cam for holding all of said valves open during predetermined portions of the compression-strokes of the corresponding pistons, whereby portions of the respective explosive charges are blown back and passed to successive cylinders.

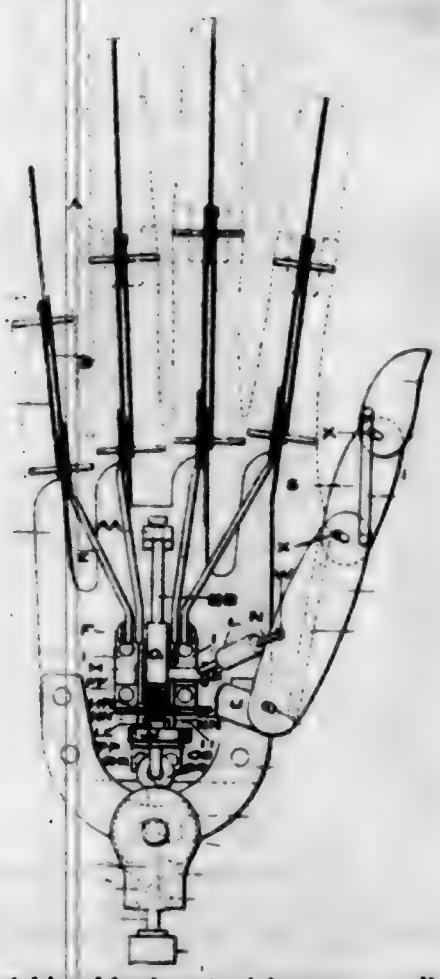
806,126. ARTIFICIAL HAND. HARRY L. FELIO, Zion City, Ill. Filed Jan. 4, 1905. Serial No. 239,667.

Claim.—1. An artificial hand consisting of a main section, four fingers and the thumb, all of which parts are composed of thin plates of steel, iron or other suitable material, to which all the mechanism for operating the fingers and thumb are attached, the fingers being divided into two or three sections or joints, and the thumb into three sections or joints having aluminium, wood, or other suitable material riveted to each side of the plates to stiffen the plates and also to shape the hand and fingers so as to resemble a natural hand, all arranged substantially as shown and described.

2. An artificial hand in which the thumb and fingers, by means of cross-links between alternate sections thereof, and by means also of connecting rods or links, are connected with a worm-gear, arranged in the hollow of the hand, which worm-gear is connected with, and wholly operated by the movement of the forearm, all arranged substantially as shown and for the purposes set forth.

3. An artificial hand in which the thumb is attached to the palm of the hand, by an angle-shaped piece of iron, steel or other suitable material, one side of which is bolted to the third or lower section of the thumb, and the other side of which is fastened by

means of a bolt and spring, and held in different positions by a knob or pin projecting from the lower side of this angle-shaped piece, fitting into holes or indentations in the bar or plate of steel, iron or other material, which crosses the upper surface or palm of the hand, by which means the thumb may be placed in three or more positions, all substantially as shown and for the purposes described



4. An artificial hand having at a joint corresponding with the wrist of the natural hand, a hollow steel or iron ball to the upper and lower sides of which are attached irons from the upper arm, the ends of which are cupped so as to fit over the top of the hollow ball, and which are secured to the ball by means of a bolt, which bolt has a hollow or opening in its center, to allow the shaft connecting the worm-gear with the forearm to pass through, to which bolt are also attached, on opposite sides of said opening, springs to bring the hand to its natural position after being moved either to the right or to the left all substantially as shown and for the purposes described.

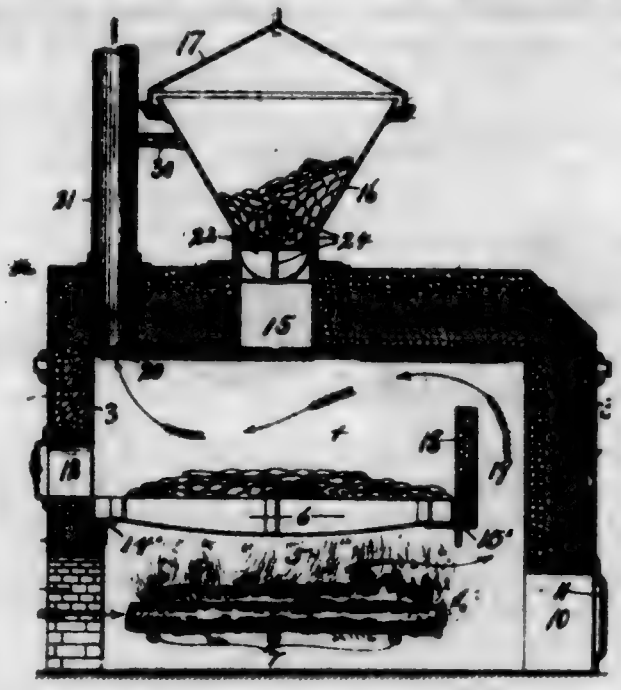
5. An artificial hand having in the wrist-joint a hollow steel or iron ball to which are attached, on opposite sides, irons from the upper arm, in which arm-irons are slotted holes, through which a bolt connecting the irons to the hollow ball passes, and springs bearing against the bolt so as to bring the hand into a straight position when moved up or down toward the palm or back, all substantially as shown and for the purposes described.

6. An artificial hand having connecting rods or links from the finger or thumb attached to a rotating disk, to which is attached a spring to cause the fingers to open, which disk is regulated by a worm-gear attached to a shaft, which in turn is operated by means of a disk, circular in shape having one side cut away, which disk is connected by means of a shaft with the forearm, so that a turn of the forearm will turn the worm-gear, and cause the rotating disk to close in or open the fingers as desired, all substantially as shown, and for the purposes described.

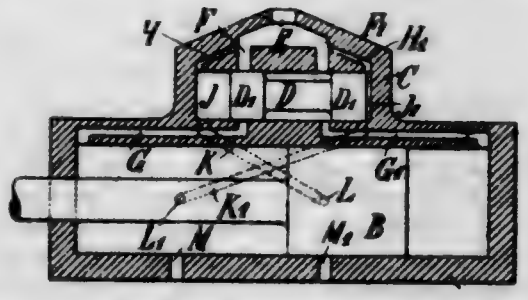
806,127. REDUCTION-FURNACE. FREDERICK W. FIELD, Syracuse, N. Y. Filed July 8, 1903. Serial No. 164,673.

Claim.—1. A furnace comprising a front wall, a rear wall, side walls, a top and a bottom, said front wall having a transverse ledge on the inner side thereof, a T-iron having the portion of its head on one side of its web seating on said ledge and having its web engaging said front wall, a second T-iron secured to the side walls and spaced from the rear wall, a grate seating on the head of the first-named iron and on a portion of the head of the second-named iron, and a transverse wall seating on the remainder of the head of said second iron and extending considerably above said grate.

2. A reduction-furnace having two combustion-chambers of substantially equal length disposed one above the other, each chamber having an open grate-bottom of substantially the same length from front to rear, a bridge-wall rising from the rear end of and considerable distance above the upper surface of the upper grate, said chambers communicating at the rear of the bridge-wall, a smoke-conduit leading from the upper front end of the upper chamber, and a sealed hopper having its lower end discharging into the upper chamber, a revolving damper in the discharging end of the hopper and a conduit connecting the hopper with the smoke-conduit.

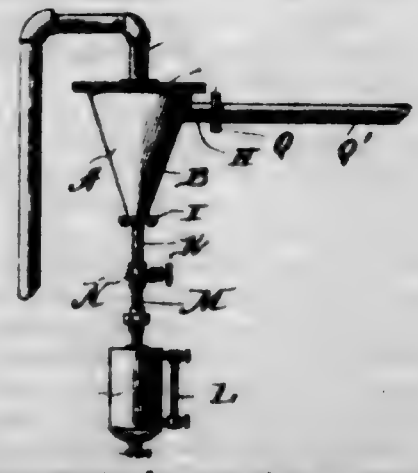


806,128. ROCK-BORING MACHINE. HEINRICH FLOTTMANN, Bochum, Germany. Filed Oct. 15, 1903. Serial No. 177,182.



Claim.—In valve-gears for engines driven by compressed air and like driving mediums in combination with a cylinder and a single working piston therein a valve-casing, a valve-piston located therein and having enlarged heads at both ends and a reduced middle portion, an admission-port, channels H, H′ leading from said admission-port to spaces at both sides of the said valve-piston, other channels K, K′ leading at opposite sides into the working-cylinder space and exhaust-openings M, M′ corresponding in position with the openings L, L′ of the channels K, K′ into the working cylinder.

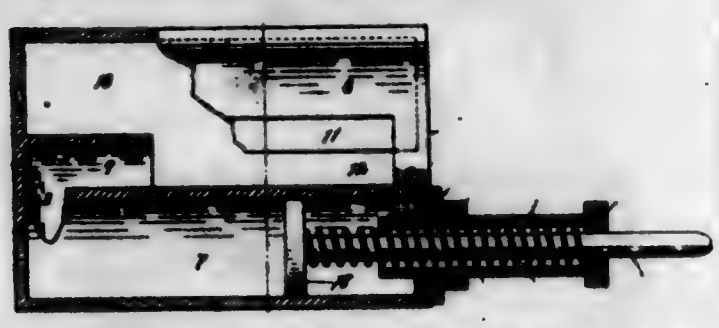
806,129. STEAM-SEPARATING APPARATUS. EDWARD L. FORD, Swolle, La., assignor of one-half to T. V. Wilson, Swolle, La. Filed July 7, 1905. Serial No. 268,607.



Claim.—An apparatus for separating excessive moisture from steam, comprising an outer conical shell, with a flanged top and bottom, a spiral angle-bar fitted to the inner circumference of said shell, an inner conical shell with perforated circumference, with a space intervening between said inner shell and the inner marginal edge of

said spiral angle-bar, a common top to said shells fastened to the flanges projecting from the outer shell, a pipe leading through said top and into said inner shell, a passage-way leading into the space intermediate said shells near the top thereof, and an exit passage-way leading from the bottom of the outer shell, as shown and described.

806,180. APPARATUS FOR LUBRICATING ENGINE-TRUCKS AND DRIVING-JOURNALS. JOHN FERGUSON, Kansas City, Mo., assignor, by direct and mesne assignments, to Charles B. Royal, River Forest, Ill. Filed Jan. 3, 1905. Serial No. 239,343.



Claim.—1. In a device of the class described, in combination with a suitable driving-box, a lubricant-cellar block mounted in said box comprising a suitable cellar having a feed-opening to the axle, a compression-cylinder adjacent to said cellar and a smaller cylinder connected with said compression-cylinder and opening into said cellar, a piston in said compression-cylinder, and means for maintaining a yielding inward pressure on said piston.

2. In a device of the class described, in combination with a suitable driving-box, a lubricant-cellar block mounted in said box, comprising a suitable cellar having a feed-opening to the axle and a compression-cylinder adjacent to and connected with said cellar, a piston in said cellar having a rod projecting through the head of said cylinder, and a coil-spring surrounding said rod, and maintaining an inward pressure on said piston for the purpose set forth.

3. In a device of the class described, in combination with a suitable driving-box, a lubricant-cellar block mounted in said box, comprising a suitable cellar having a feed-opening to the axle and a compression-cylinder adjacent to and connected with said cellar, a suitable head in said cylinder, a hollow plug having a central spring-pocket threaded into said head, a piston in said cylinder, a rod on said piston projecting through said spring-pocket and through a perforation in the head of said plug, and a coil-spring surrounding said rod with one end within and seated against the base of said pocket, and its other end bearing against said piston substantially as and for the purpose set forth.

4. In a device of the class described, the combination with an open-bottom driving-box, of a plate secured to the bottom of said box, means on said plate for yieldingly supporting a cellar-block within the box, and a suitable cellar-block supported by said means.

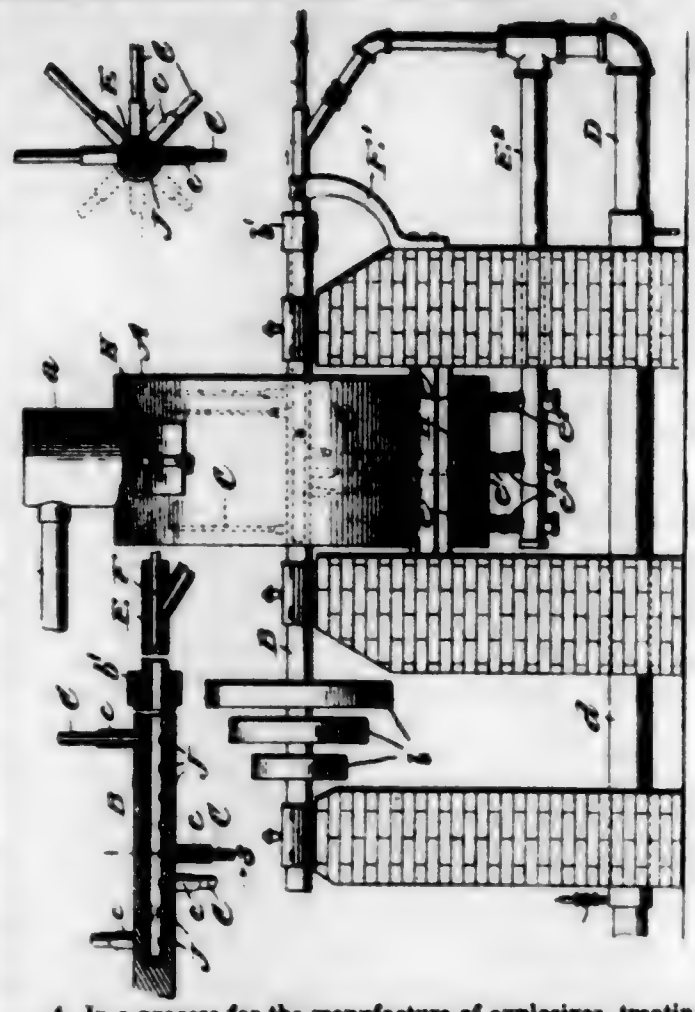
5. In a device of the class described, the combination with a journal-box and a cellar-block carried therein, of a bottom plate, having threaded perforations therein, adapted to be secured to the bottom of said journal-box, threaded studs, having nests in their upper ends, projecting through said perforations, and coil-springs seated in said nests and supporting said cellar-block substantially as set forth.

806,181. PROCESS OF MAKING SMOKELESS POWDER. ERNEST W. GOLTHER and RAGNER S. WADDELL, Peoria, Ill. Filed Aug. 14, 1905. Serial No. 274,194.

Claim.—1. The herein-described process for the manufacture of explosives which consists in treating nitrocellulose with jets of compressed air and agitating it, to break it up into porous grains, then forcing a solvent with compressed air into the porous grains so formed, to uniformly colloid the same and continuing the agitation to preserve the granular formation, then introducing heated air under pressure and at comparatively low temperature into the material to remove the surplus solvent and dry the grains.

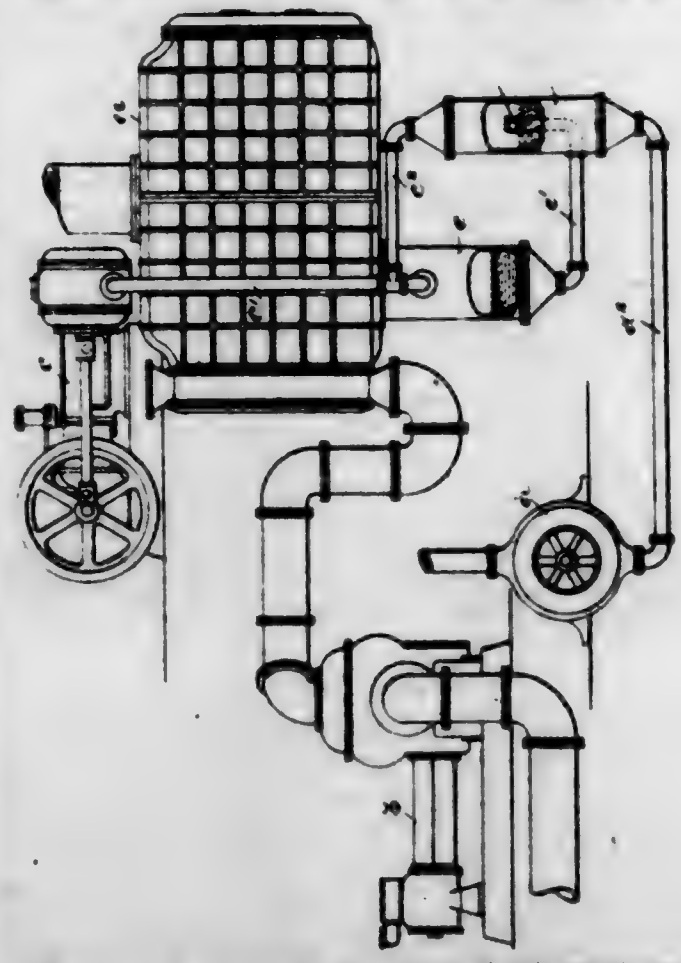
2. The herein-described process for the manufacture of explosives which consists in subjecting nitrocellulose to the action of jets of compressed air and agitating it, to break it up into porous grains, then forcing a solvent with compressed air into the porous grains, so formed, to uniformly colloid the same, and continuing the agitation to preserve the granular form, then removing the surplus solvent and drying the grains.

3. In a process for the manufacture of explosives, treating nitrocellulose with jets of compressed air and while agitated, to break it up into porous grains, and forcing a solvent into said porous grains to uniformly colloid the same, substantially as described.



4. In a process for the manufacture of explosives, treating nitrocellulose with jets of compressed air and while agitated, to break it up into porous grains, substantially as described.

806,182. SURFACE-CONDENSING PLANT. ARTHUR GIESLER, Dayton, Ohio, assignor to The Platt Iron Works Company, Dayton, Ohio, a Corporation of Ohio. Filed July 28, 1905. Serial No. 271,568.



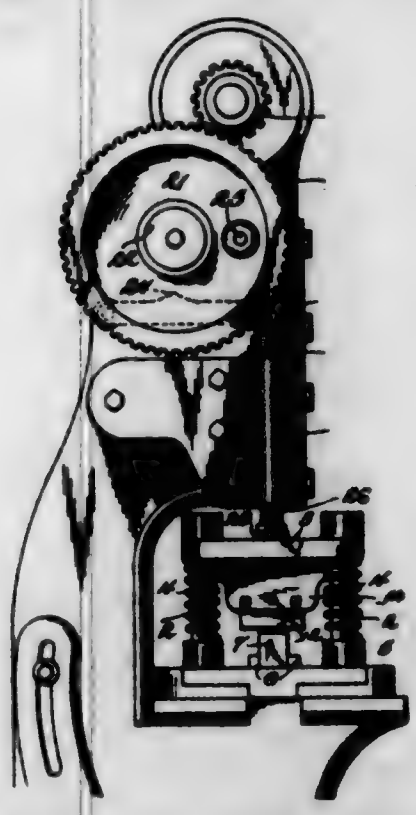
Claim.—1. In a condenser plant, a centrifugal pump for removing the waters of condensation, an intermediate chamber between the hot-well and said pump, and a dry-air pump connected to said intermediate chamber and said hot-well, substantially as specified.

2. The combination with a condensing plant of a dry-air pump,

a centrifugal pump for removing the waters of condensation, an intermediate chamber between said condenser and said pump, and an overflow-pipe in said intermediate chamber, and a connection from the top of said intermediate chamber to said dry-air pump, substantially as specified.

3. The combination with the centrifugal pump, the intermediate chamber, the condenser and hot-well as described, of a pipe leading from said hot-well to said intermediate chamber and adapted to overflow into said intermediate chamber, said intermediate chamber being extended above and below the center of the centrifugal pump to maintain the water-level below the top of said overflow-pipe, substantially as specified.

806,188. **CUT-OFF ATTACHMENT FOR METAL-FORMING PRESSES.** DAVID T. GRAHAM, St. Louis, Mo. Filed Mar. 11, 1905. Serial No. 249,944.



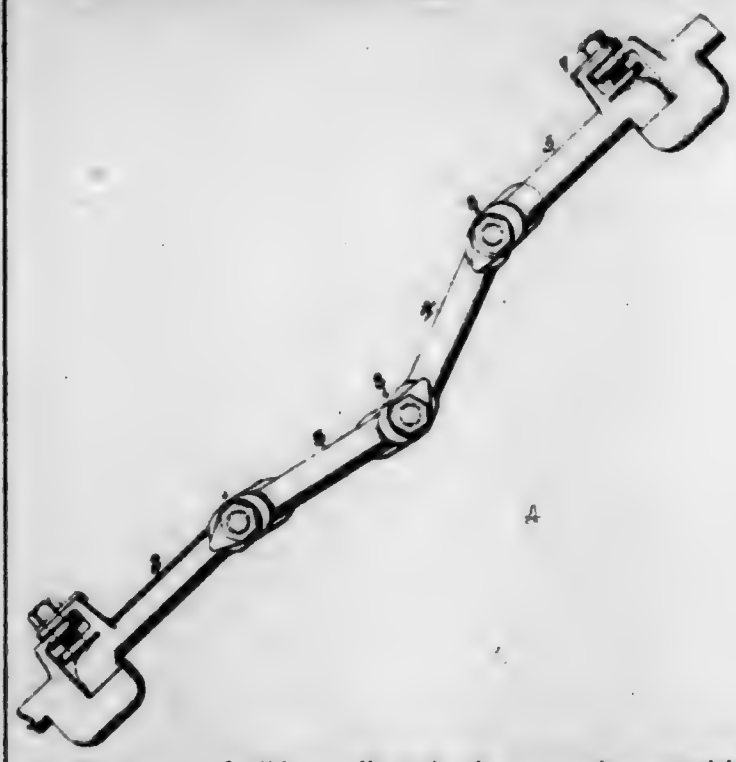
Claim.—1. A metal forming or shaping machine comprising an operating-shaft, means connected thereto for operating a forming-die at each revolution of the shaft, stationary dies spaced apart and forming an outlet-opening therebetween, a movable die adapted to project between the stationary dies and to simultaneously sever a plurality of similar articles from a strip fed to the movable and stationary dies from the forming-die, and means connecting the movable die to the operating-shaft for depressing said die after a predetermined number of revolutions of the operating-shaft.

2. In a metal forming or shaping machine the combination with an operating-shaft and means connected thereto for actuating a forming-die at each revolution of the shaft; of a cut-off attachment comprising alining stationary dies spaced apart and forming an outlet-opening therebetween, a movable die adapted to project between the stationary dies, and means connecting the movable die to the operating-shaft for depressing said die after a predetermined number of operations of the forming-die, said movable die adapted to simultaneously sever a plurality of similar articles from a strip fed thereto during each downward movement of said movable die.

3. In a metal forming or shaping machine the combination with an operating-shaft and means connected thereto for actuating a forming-die at each revolution of the shaft; of a cut-off attachment comprising alining stationary dies spaced apart and forming an outlet-opening therebetween, means for adjusting said dies from or toward each other, a spring-supported movable die adapted to project between the stationary dies to sever a strip fed to said dies from the forming-die, said movable die simultaneously severing a plurality of similar articles from the strip during each downward movement, one of said articles being discharged into the opening between the stationary dies, and means connecting the movable die to the movable shaft for depressing said die after a predetermined number of revolutions of the operating-shaft.

4. In a metal forming or shaping machine the combination with an operating-shaft and means connected thereto for operating a forming-die at each revolution of the shaft; of a cut-off attachment comprising alining stationary dies spaced apart and forming an outlet-opening therebetween, a movable die, one face of which is adapted to project between the stationary dies, said face being equal in length to the length of an article to be severed by the movable die, and means connecting the movable die to the operating-shaft for depressing said die when a strip fed thereto passes beyond the opening between the stationary dies a distance equal to the distance between said dies whereby, when the movable die is depressed, a plurality of similar articles is simultaneously produced, one of said articles being discharged through the opening between the stationary dies.

806,184. **TRAIN-PIPE CONNECTION.** JORDAN H. GREEN, Jackson, Mich., assignor of one-half to Daniel P. Sagendorph, Jackson, Mich. Filed Oct. 13, 1904. Serial No. 228,143.



Claim.—1. A flexible metallic train-pipe connection comprising a plurality of jointed pipe-sections, the contiguous ends of adjacent pipe-sections having bends seated together to form a fluid-tight pivotal joint, and said sections having overlapping wings through which a screw-bolt is inserted coaxially with said joint and tapped through the wing of one section and loosely inserted through the wing or wings of the other and bearing pivotally against said other section, substantially as described.

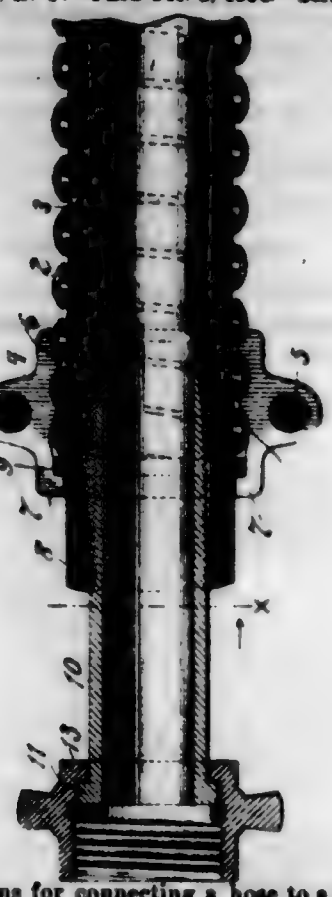
2. A flexible metallic train-pipe connection having, in combination, a plurality of jointed pipe-sections, contiguous ends of adjacent sections having one a quarter-turn and the other a return-bend seated together to form a fluid-tight pivotal joint, and said sections having overlapping wings through which a screw-bolt is inserted coaxially with said joint, said screw-bolt being loose in the wing of one section and having its point pivotally bearing against said section and having its threaded part tapped through the wing of the other section, substantially as described.

3. A metallic train-pipe connection comprising, in combination, a plurality of jointed pipe-sections, the terminal joints of which allow oscillation about vertical axes, while the intermediate joints allow oscillation about horizontal axes, each joint swiveled and turning on a pivot-pin concentric with and perpendicular to the plane of connection and supported and held by interfitting ledges or wings on the pipe-section, substantially as described.

4. A flexible metallic train-pipe connection consisting of a series of jointed pipe-sections, adjacent sections having curved corresponding ends pivotally seated, forming a U-shaped internal passage, said ends being held in contact by a set-screw passing through projecting wings or ledges on the pipe-sections, opposite said pivotal seat, a wing of one member being threaded and adapted to engage said set-screw which bears on the second member concentrically with and perpendicularly to the plane of connection, substantially as described.

5. A flexible metallic train-pipe connection comprising a plurality of jointed pipe-sections whose contiguous ends are seated together to form a pivotal joint, allowing relative oscillation or flexure of the pipe-sections, and means external to the piping holding said ends to their pivotal seat, said means comprising overlapping wings or ledges projecting from said sections and a screw inserted loosely through the outer wing on one section and tapped through the inner wing on the other section and bearing pivotally against the latter section coaxially with said joint.

806,135. COUPLING FOR ARMORED HOSE. EDWIN T. GREENFIELD, Monticello, N. Y. Filed Oct. 6, 1904. Serial No. 227,314.



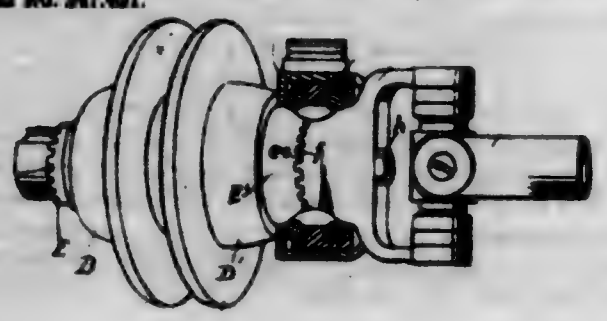
Claim.—1. Means for connecting a hose to a metallic coupler embracing a metallic coupling-sleeve having a shoulder at one end adapted to bear internally against the shoulder of the coupler and screw-threaded intermediate its ends; in combination with a screw-threaded metallic coupling-nut and a two-part coupling-ring, both the nut and the ring being provided with interlocking shoulders and the latter with means for firmly gripping the end of the hose between the end of the coupling-sleeve and the inner faces of the two-part ring.

2. Means for connecting a hose to a metallic coupler embracing a metallic coupling-sleeve shouldered at one end and cone-shaped at the other and screw-threaded intermediate its ends; in combination with a screw-threaded metallic coupling-nut adapted to be secured thereon and a two-part coupling-ring, said nut and ring being provided with interlocking shoulders and the latter with internal screw-threads and bolts and bolt-holes for gripping the end of an armored hose between it and the end of the cone-shaped sleeve.

3. A hose-coupler for a flexible hose provided with a screw-threaded armor embracing half coupling-rings screw-threaded interiorly and provided with a shoulder at one end; in combination with a coupling-sleeve cone-shaped at one end and screw-threaded upon its exterior surface; together with a nut screw-threaded interiorly to fit the screw-threads of the coupling-sleeve and having a shoulder adapted to bear against the shoulder of the coupling-ring, said half-rings being provided with bolt-holes and bolts for securing them together about the end of the hose, substantially as described.

4. A hose-coupler embodying two half coupling-rings screw-threaded interiorly and provided with bolt-holes for receiving bolts and a shoulder at one end; in combination with a cone-shaped coupling-sleeve screw-threaded at its cone-shaped end and a hexagonal screw-threaded nut provided with a shoulder adapted to bear against the shoulder of the half coupling-rings, the shoulders of the latter being provided with hexagonal surfaces adapted to surround and prevent the nut from turning when the coupling-sleeve is rotated, substantially as described.

806,136. VEHICLE-HUB. WILLIAM T. HANNA, Cincinnati, Ohio, assignor to Martha A. Hanna, Cincinnati, Ohio. Filed Feb. 27, 1905. Serial No. 247,451.



Claim.—1. The combination of a short axle having in its periphery a longitudinal groove intercepted by a bridge, a hub to fit over the axle and having a groove to form a keyway with the groove in the axle, keys seated in the keyway upon opposite sides of the bridge and nuts to engage the hub and to abut against the keys.

2. A short axle having in its periphery a longitudinal groove intercepted by a bridge, a hub to fit over the axle and having a groove to form a keyway with the groove in the axle, keys seated in the keyway upon opposite sides of the bridge, nuts to engage the hub and to abut against the keys and having bearing-surfaces formed upon their exteriors in combination with two journal-bearings adapted to receive the nuts and a coupling to engage the hub at one side to impart rotation thereto.

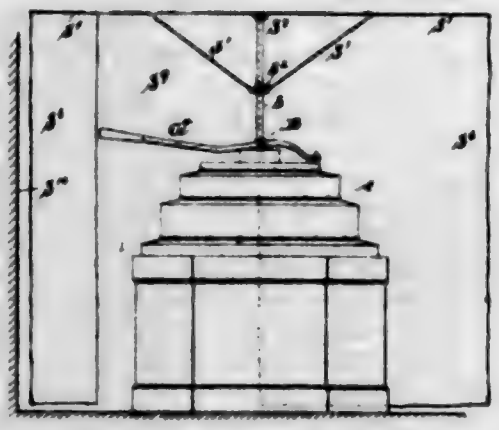
3. The combination of a short axle having in its periphery a longitudinal groove intercepted by a bridge, a hub consisting of an interior sleeve and an external housing, the sleeve to fit over the axle and having a groove to form a keyway with the groove in the axle, keys seated in the way upon opposite sides of the bridge and nuts to engage the sleeve and abut against the ends of the housing and against the keys.

4. The combination of a short axle having in its periphery a longitudinal groove intercepted by a bridge, a hub consisting of an interior sleeve and an external housing, the sleeve to fit over the axle and having a groove to form a keyway with the groove in the axle, the housing consisting of two shells, one having an elongated annular flange to fit over the sleeve and a transverse flange, and the other shell fitting over the annular flange of the first shell and having a transverse flange to form with the aforesaid transverse flange a way for the spokes and nuts to engage the sleeve and to bear against the outer ends of the shells.

5. The combination of a short axle having a longitudinal groove intercepted by a bridge in its periphery, a hub consisting of an internal sleeve and a housing, the sleeve having an internal groove to register with the groove in the axle and having its ends reduced, the reduced ends having their periphery formed angularly, the housing consisting of two shells having at their ends downwardly-projecting angular flanges to engage the reduced end of the sleeve, keys seated in the keyway upon opposite sides of the bridge and nuts engaging the ends of the sleeve and abutting against the shells.

6. The combination of two journal-bearings, a hub, a short axle passing through the hub, keys for engaging the axle, nuts for engaging the hub and the keys to lock the hub upon the axle, the nuts being formed with bearing-surfaces for seating in the journal-bearings, caps for engaging the nuts and means for locking the caps upon the axle.

806,137. BOOTH FOR VOTING-MACHINES. ELIZA A. HARRINGTON, Lyndhurst, N. J., executrix of Charles F. Harrington, deceased, assignor to The Dial Voting Machine Company, Lyndhurst, N. J., a Corporation of New Jersey. Original application filed Oct. 10, 1904, Serial No. 227,800. Divided and this application filed Feb. 1, 1905. Serial No. 243,776.



Claim.—1. In a booth for a voting-machine, a vertically-arranged shaft and means for turning it, a standard carried by such shaft, a frame supported by such standard and turning therewith, a curtain suspended from said frame and having an opening, the said frame and curtain arranged to present said opening for easy ingress when the shaft is in one position, and to carry said opening to an adjacent wall when the shaft is partially rotated, and to return said opening to the original position when said shaft is turned to permit the egress of a voter and condition the booth for a succeeding voter.

2. In a booth for a voting-machine, a vertical shaft and means for turning it, a removable standard carried by said shaft and forming an extension thereof, a series of sockets on said standard, a flange having a series of apertures at the upper end of said standard, a

series of arms having their inner ends received in said sockets, a series of links each hinged to one of said arms and having its free end engaged in one of said apertures, and a curtain suspended from said arms and adapted to move with the latter and said standard and shaft.

806,138. VALVE-GEAR. WILLIAM P. HASKITT, Gwynneville, Ind. Filed Mar. 21, 1905. Serial No. 251,294.



Claim.—1. The combination with an engine having a slide-valve; of a rotatable eccentric, a strap surrounding the eccentric and connected to the slide-valve, a ring of varying width interposed between the eccentric and the strap, means for manually rotating said ring independently of the movement of the eccentric and strap, and means for locking the ring in adjusted position.

2. The combination with an engine having a slide-valve; of means for reversing said engine comprising a rotatable eccentric, a strap surrounding the eccentric and connected to the slide-valve, a ring of varying width interposed between the eccentric and the strap, and means for manually rotating said ring independently of the movement of the eccentric and strap for shifting the valve to reverse the engine.

3. The combination with an engine having a slide-valve; of means for reversing said engine comprising a rotatable eccentric, the strap surrounding the eccentric and connected to the slide-valve, a ring of varying width interposed between the eccentric and the strap, an arm extending from the ring, an operating-lever, connecting devices secured to the arm and lever, and means for locking the lever in any position to which it may be adjusted.

806,139. DEVICE FOR VAPORIZING LIQUIDS. ALBERT HAYES, New York, N. Y., assignor, by mesne assignments, to Theodore J. Lindley. Filed Feb. 27, 1905. Serial No. 247,514.



Claim.—1. In a device for vaporizing liquids, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, means for supplying liquid to the valve-seat, a lift-valve for the valve-seat arranged to control the passage of air through the conduit and means carried by the valve adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

2. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, means for supplying liquid to the valve-seat, a lift-valve for the valve-seat arranged to control the passage of air through the air-conduit, the valve being provided with inclined vanes or wings adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

3. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, means for supplying liquid to the valve-seat, a lift-valve for the valve-seat arranged to control the passage of air through the air-conduit, the valve being provided on its under side with inclined vanes or wings adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

4. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided at its upper end with a valve-seat, means for supplying liquid to the valve-seat, a lift-valve for the valve-seat arranged to control the passage of air through the air-conduit, the valve being provided on its under side with inclined vanes or wings extending into the air-passage adapted to be acted on by the air passing through the conduit to rotate the valve to distribute the liquid.

5. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well surrounding the valve-seat and in communication therewith, means for supplying liquid to the groove or well, a lift-valve for the valve-seat arranged to control the passage of air through the conduit and means carried by the valve adapted to be acted on by the air passing through the conduit to rotate the valve to distribute the liquid.

6. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well surrounding the valve-seat and in communication therewith, means for supplying liquid to the groove or well, a lift-valve for the valve-seat arranged to control the passage of air through the air-conduit, the valve being provided with inclined vanes or wings adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

7. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well surrounding the valve-seat and in communication therewith, a lift-valve for the valve-seat arranged to control the passage of air through the air-conduit, the valve being provided on its under side with inclined vanes or wings adapted to be acted on by the air passing through the conduit to rotate the valve to distribute the liquid.

8. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided at its upper end with a valve-seat, a groove or well surrounding the valve-seat and in communication therewith, means for supplying liquid to the groove or well, a lift-valve for the valve-seat arranged to control the passage of air through the air-conduit, the valve being provided on its under side with inclined vanes or wings extending into the air-passage adapted to be acted on by the air passing through the conduit to rotate the valve to distribute the liquid.

9. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well in the upper face of the diaphragm surrounding the valve-seat and in communication therewith, means for supplying liquid to the groove or well, means for heating the diaphragm to heat the liquid in the groove or well, a lift-valve for the valve-seat arranged to control the passage of air through the conduit, and means carried by the valve adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

10. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well in the upper face of the diaphragm surrounding the valve-seat and in communication therewith, means for supplying liquid to the groove or well, means for heating the diaphragm to heat the liquid in the groove or well, a lift-valve for the valve-seat arranged to control the passage of air through the air-conduit, the valve being provided with inclined vanes or wings adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

11. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat at its upper end, a groove or well in the upper face of the diaphragm surrounding the valve-seat and in communication therewith, means for supplying liquid to the groove or well, means for heating the diaphragm to heat the liquid in the groove or well, a lift-valve for the valve-seat arranged to control the

passage of air through the air-conduit, the valve being provided on its under side with inclined vanes or wings extending into the air-passage adapted to be acted on by the air passing through the conduit to rotate the valve to distribute the liquid.

12. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well in the upper face of the diaphragm surrounding the valve-seat and in communication therewith, means for supplying liquid to the groove or well, a lift-valve for the valve-seat arranged to control the passage of air through the conduit, the valve being provided with a flange extending over and covering the groove or well, and means carried by the valve adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

13. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well in the upper face of the diaphragm surrounding the valve-seat and in communication therewith, means for supplying liquid to the groove or well, a lift-valve for the valve-seat arranged to control the passage of air through the air-conduit, the lift-valve being provided with a flange extending over and covering the groove or well and being also provided with inclined vanes or wings adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

14. In a device for vaporizing liquid, the combination of an air-conduit, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well surrounding the valve-seat and in communication therewith, means for supplying liquid to the groove or well, means for heating the diaphragm or heat the liquid in the groove or well, a lift-valve for the valve-seat arranged to control the passage of air through the conduit, the valve being provided with a flange extending over and covering the groove or well and also provided with means adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

15. In a device for vaporizing liquid, the combination of a casing having an air-conduit formed therein, a diaphragm in said conduit having two air-passages therein, each provided with a valve-seat, means for supplying different liquids to the two valve-seats, a lift-valve for each valve-seat and means carried by the valves adapted to be acted on by air passing through the conduit to rotate the valves to distribute the liquid.

16. In a device for vaporizing liquid, the combination of a casing having a passage therethrough for a heating medium and having an air-conduit formed therein surrounding the passage for the heating medium, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, means for supplying liquid to the valve-seat, a lift-valve for the valve-seat arranged to control the passage of air through the conduit, and means carried by the valve adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

17. In a device for vaporizing liquid, the combination of a casing having a passage therethrough for a heating medium and having an air-conduit formed therein surrounding the passage for the heating medium, a diaphragm in said conduit having therein two air-passages each provided with a valve-seat, means for supplying liquid to the valve-seats, a lift-valve for each of the valve-seats arranged to control the passage of air through the conduit, and means carried by the valves adapted to be acted on by air passing through the conduit to rotate the valves to distribute the liquid.

18. In a device for vaporizing liquid, the combination of a casing having a passage therethrough for a heating medium and having an air-conduit formed therein surrounding the passage for the heating medium, said air-conduit leading downward about the passage for the heating medium and then upward about the passage for the heating medium, a diaphragm near the lowest point of said air-conduit having an air-passage therein provided with a valve-seat, means for supplying liquid to the vave-seat, a lift-valve for the valve-seat arranged to control the passage of air through the conduit, and means carried by the valve adapted to be acted on by air passing through the conduit to rotate the valve to distribute the liquid.

19. In a device for vaporizing liquid, the combination of a casing having a passage therethrough for a heating medium and having an air-conduit formed therein surrounding the passage for the heating medium, said air-conduit leading downward about the passage for the heating medium and then upward about the passage for the heating medium, a diaphragm in said conduit near its lowest point provided with a valve-seat, a second diaphragm in said air-conduit near its end having therein an air-passage provided with a valve-seat, means for supplying liquid to said valve-seats, a lift-valve for each of said valve-seats arranged to control the passage of air through the conduit, and means carried by each of the valves adapted to be acted on by air passing through the conduit to rotate the valves to distribute the liquid.

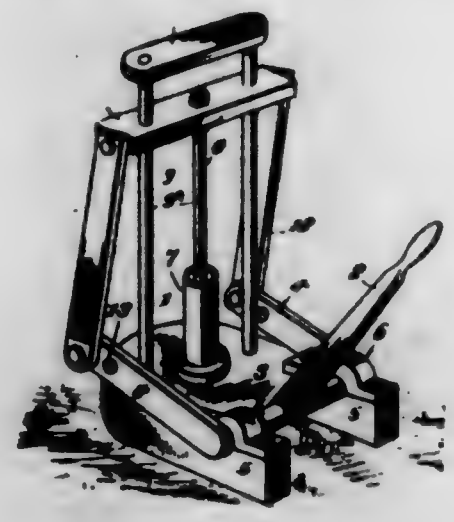
20. In a device for vaporizing liquid, the combination of a casing having a passage therethrough for a heating medium and having an air-conduit formed therein surrounding the passage of the heating medium, said air-conduit leading downward about the passage for the heating medium and then upward about the passage for the heating medium, a diaphragm in the air-conduit near its lowest point having therein two air-passages each provided with a valve-seat, means for supplying oil to one of said valve-seats and means for supplying water to the other of said valve-seats lift-valves for said valve-seats arranged to control the passage of air through the conduit, and means carried by each of the valves adapted to be acted on by air passing through the conduit to rotate the valves to distribute the liquids.

21. In a device for vaporizing liquid, the combination of a casing having a passage therethrough for a heating medium and having an air-conduit leading downward about the passage for the heating medium and then leading upward about the passage for the heating medium, a diaphragm in the air-conduit near its lowest point having therein two air-passages each provided with a valve-seat, means for supplying oil to one of said valve-seats and means for supplying water to the other of said valve-seats, a lift-valve for each of said valve-seats, a second diaphragm in said air-conduit near its end having therein an air-passage provided with a valve-seat, means for supplying oil to said valve-seat, and a lift-valve for said valve-seat, each of the valves being provided with means adapted to be acted on by air passing through the conduit to rotate the valves.

22. In a device for vaporizing liquid, the combination of a casing having an air-conduit formed therein, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well surrounding the valve-seat and communicating therewith, means for supplying liquid to the groove or well, a lift-valve for the valve-seat, provided with a flange extending over the groove or well and adapted to form a covering therefor when the valve is in its seat.

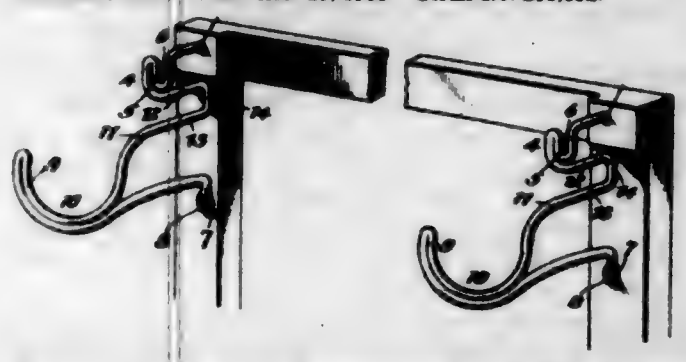
23. In a device for vaporizing liquid, the combination of a casing having an air-conduit formed therein, a diaphragm in said conduit having therein an air-passage provided with a valve-seat, a groove or well surrounding the valve-seat and communicating therewith, a lift-valve for the valve-seat provided with a flange extending over the groove or well and adapted to form a cover therefor when the valve is in its seat and means for limiting the movement of the valve.

806,140. **PUMPING-JACK.** EUGENE F. ELLIS, Montpelier, Ind. Filed Jan. 19, 1905. Serial No. 241,841.



Claim.—1. In a pumping-jack, the combination of a casing-head, a pump-rod, extensions projecting from the casing-head, a shaft mounted in said extensions, a lever projecting upwardly from said shaft, crank-arms extending from the ends of the shaft in spaced relation and provided longitudinally thereof with a plurality of openings, a vertical guide-frame projecting upwardly from the casing-head and embodying spaced uprights, a sliding cross-head provided with openings receiving the spaced uprights of the guide-frame and connected at a point intermediate its ends with the pump-rod, and bars connected at their upper ends with the ends of the cross-head and at the lower ends with the crank-arms, said bars or links having adjustable pivotal connection with the crank-arms.

806,141. CURTAIN-FIXTURE SUPPORT. JOHN D. HENSON, Lakeview, Ohio. Filed Mar. 23, 1905. Serial No. 251,632.



Claim.—1. As an article of manufacture, a single-piece curtain-fixture having an outstanding roller-supporting bracket and an outstanding pole-supporting bracket, said brackets being located one above the other and spaced from each other, an integral rearwardly-extending threaded fastening-terminal shank carried by the outer end of one of the brackets, the outer end of the other bracket having an eye to receive a fastener, and a rearwardly-extending integral connection between the brackets located between the threaded shank and the eye and spaced therefrom, said connection separating the brackets and furthermore constituting an abutment that engages a window-frame.

2. As an article of manufacture, a curtain-fixture support formed from a single wire and comprising an upper threaded fastening-terminal, said wire adjacent to the threaded terminal being bent into a roller-supporting bracket, an eye formed at the lower end of the wire for the reception of a fastening device, the wire adjacent to said eye being bent into a pole-holding bracket, and an integral rearwardly-looped connecting portion between the roller-supporting bracket and the pole-bracket, the rear portion of said loop abutting against the window-frame between the fastenings and constituting an intermediate brace for the fixture.

806,142. REAR SIGHT FOR GUNS AND THE LIKE. GERARD P. HERRICK. New York, N. Y. Filed Mar. 17, 1905. Serial No. 250,509.



Claim.—1. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole.

2. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole and less than one-quarter the diameter of said hole.

3. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole and having a substantially vertical slit running upward from said hole and located between the sides of said hole.

4. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole, each slit forming at least one sharply-defined angle where it meets said hole.

5. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole, and means whereby said opaque portion may be raised and lowered.

6. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole, in combination with a gun having a front sight comprising an opaque portion the tip of which is adapted to be alined with said peep-hole.

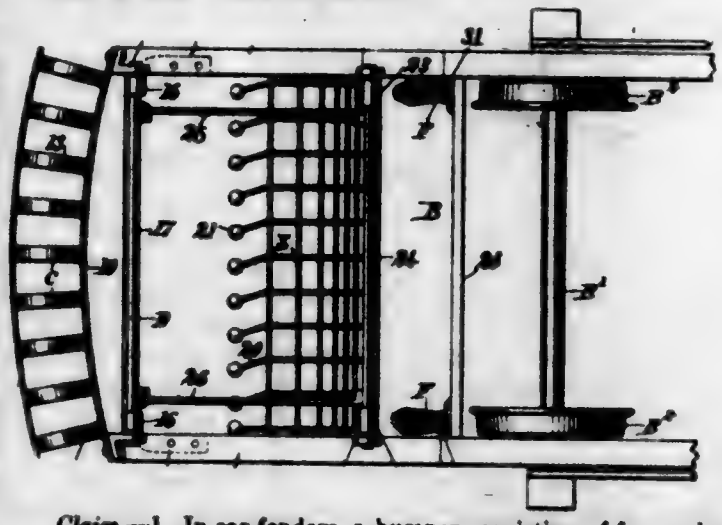
7. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole and less than one-quarter the diameter of said hole, in combination with a gun having a front sight comprising an opaque portion the tip of which is adapted to be lined with said peep-hole.

8. A rear sight comprising an opaque portion having a peep-hole through the same and provided with a substantially horizontal slit extending from each side of said hole and located between the top and bottom of said hole, each slit forming at least one sharply-defined angle where it meets said hole, in combination with a gun having a front sight comprising an opaque portion the tip of which is adapted to be alined with said peep-hole.

9. A rear sight comprising an opaque portion having a peep-hole through the same and radial openings joining said peep-hole and, at the point where they join said peep-hole, less than it in width, and forming with said peep-hole a substantially symmetrical figure with the center of said peep-hole as a common center for the whole figure.

10. A rear sight comprising an opaque portion having a peep-hole through the same and provided with three or more radial openings joining said peep-hole and, at the point where they join said peep-hole, less than it in width and forming with said peep-hole a substantially symmetrical figure with the center of said peep-hole as a common center for the whole figure, in combination with a gun having a front sight comprising an opaque portion the tip of which is adapted to be alined with said peep-hole.

806,143. CAR-FENDER. JOHN J. HOEY, New York, N. Y. Filed Mar. 13, 1905. Serial No. 249,796.



Claim.—1. In car-fenders, a bumper consisting of forward and rear curved plates and nested bands connecting the plates.

2. In car-fenders, a bumper consisting of a front and a rear plate correspondingly curved, and nested bands of yielding metal connecting the said plates, the said bands being graduated in diameter, the outer band of each nest of bands being secured to the outer plate and all of the bands of each nest to the inner plate.

3. In car-fenders, an apron located at the end of a car, a yielding support for the said apron, a fender pivoted beneath the car at the rear of the apron, and a connection between the apron and fender, whereby when the apron is pushed inwardly the fender simultaneously drops to a receiving position.

4. In cars, an apron having a yielding support and located at the end portion of the car beneath the same, a shaft beneath the car at the rear of said apron, a plate having eyes mounted to turn on the shaft, a fender having the upper edge thereof secured to said plate, and links pivotally connecting the apron with the fender whereby when the apron is pushed inward, the fender drops downward, the fender being supported in upper position while the apron is in its normal position.

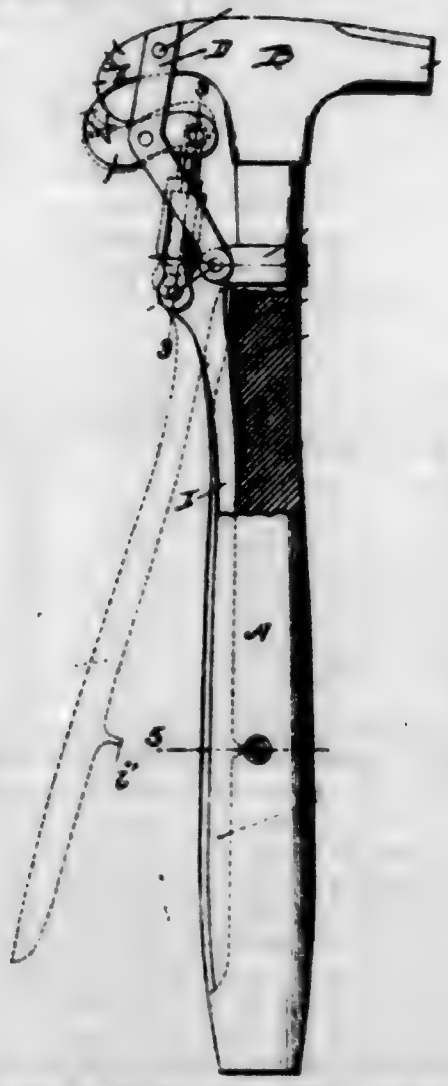
5. In cars, a fender having a concaved forward face and a convexed rear face, the said fender being constructed of a woven wire of predetermined gage, the transverse wires extending beyond the lower longitudinal wire, the extending portions of the transverse wires being given an inclination in direction of one side of the car, and heads at the outer ends of the extended portions of the said transverse wires.

6. In cars, a brush-guard, consisting of a shoe having a downward and forward inclination, means for supporting said shoe, said shoe being circular at its upper end and recessed at its forward portion from a point near its center to its lower end, and a brush of metallic bristles secured in the circular portion of the shoe, being exposed at the opening in the shoe, the said bristles normally flaring outward at their lower portions, for the purpose described.

7. In cars, the combination with a car-body, the truck and its

wheels, of a bumper located at the end portion of the car-body, comprising inner and outer arched plates, nested metal bands connecting the plates, the bands in the nest being eccentrically located and gradually decreasing in diameter, an apron having a yielding support and located at an end of the car beneath the body, a fender pivotally connected with the truck of the car at the rear of the apron, the fender having its forward face concaved, links connecting the fender with the said apron, and brush-guards carried by the truck, located in front of the tread of the said wheels, said brush-guards consisting of shoes downwardly and forwardly curved, having circular upper portions and semicircular lower portions, the lower portions being open at the front, and metallic bristles bunched and secured in the shoes, being exposed at the open portions of the same.

806,144. FARRIER'S TOOL. ALEXANDER C. HOPKINS, Mackey, Ind. Filed Apr. 18, 1904. Serial No. 203,814.



Claim.—1. The combination with a hammer, the head of which is provided with a fixed jaw, of a pivoted jaw carried by the hammer, a lever pivoted to the handle and connected to the pivoted jaw, a hook projecting from the lever, a longitudinal slot formed in the handle, and means secured in said slot for engaging said hook, for the purpose described.

2. The combination with a hammer, the head of which is provided with a fixed jaw, of a pivoted jaw carried by the hammer, a lever provided with a hook pivoted to the handle, a slot formed in the handle adapted to receive the lever, and a spring-catch secured in the handle for locking the lever to the handle for the purpose described.

3. The combination with a hammer, the head of which is provided with a fixed jaw, of a pivoted jaw carried by braces connected to the fixed jaw and the handle, a lever pivoted to the handle, a bolt connected to the pivoted jaw, a nut connected to the lever adapted to receive the said bolt, a spring secured to the handle under the lever, and means carried by the handle for locking the lever to the handle, for the purpose described.

4. The combination with a hammer, the head of which is provided with a fixed jaw, of a pivoted jaw carried by braces connected to the fixed jaw and the handle, a lever pivoted to the handle, and an adjustable link, connecting the lever with the pivoted jaw, for the purpose described.

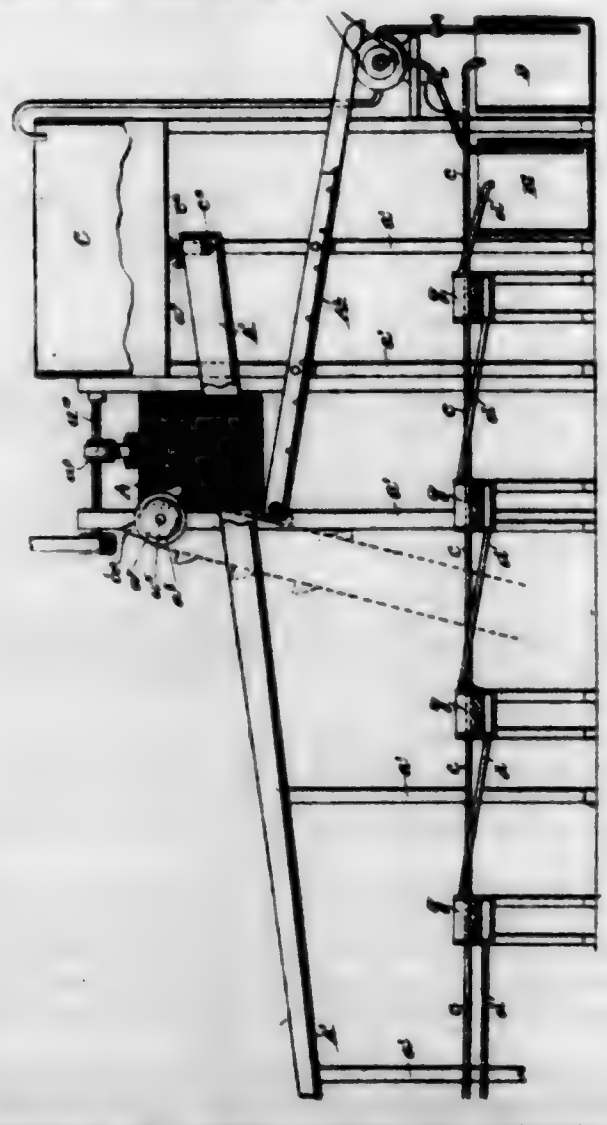
5. The combination with a hammer, the head of which is provided with a fixed jaw, of a handle secured in said head, a band surrounding said handle, braces secured to the said band and the fixed jaw, a jaw pivoted between the said braces, a lever pivoted to the band on the handle, and an adjustable link connecting said lever to the pivoted jaw, for the purpose described.

6. The combination with a hammer, the head of which is provided with a fixed jaw, of a pivoted jaw carried by braces secured to the fixed jaw and the handle, a lever pivoted to the handle, an adjustable link connecting the pivoted jaw to the lever, a spring secured to the handle under the lever, and means for locking said lever to the handle, for the purpose described.

7. The combination with a hammer, the head of which is provided with a fixed jaw, of a pivoted jaw carried by the hammer, a lever pivoted to the handle, and having a hook projecting therefrom, a link connecting the lever with the pivoted jaw, and means carried by the handle for engaging the hook of the lever and locking the lever to the handle, for the purpose described.

8. The combination with a hammer, the head of which is provided with a fixed jaw having a detachable cutter secured therein, of a pivoted jaw carried by the hammer provided with a detachable cutter, a lever pivoted to the handle, an adjustable link connecting the lever to the pivoted jaw, and means carried by the handle for opening said jaw, for the purpose described.

806,145. MINING-MILL. FREDERICK J. HOYT, Chicago, Ill. Filed June 9, 1902. Serial No. 110,813.



Claim.—1. In a mining apparatus, the combination in one structure of a shaking-screen, a chemical sluiceway, both inclined, the latter placed directly under the said screen, and both joined at their heads at the point of ore and chemical-solution supplies, an amalgamating apparatus forming a part of the same structure and receiving the run both from the said screen and the sluiceway, said sluiceway having an extension beyond the amalgamator, a revolving tail-screen at the end of said extension, a tail-tank for receiving the solution, over which the screen revolves, receiving-tanks under the head of the machine, return-pipes from said tail-tank to the head-tanks, zinc vats on the line of said pipes in which the solution is precipitated on its way back to the head, and pumping means to pump the solution from said head tank or tanks back to the original supply-tank, whereby a continuous constant operation of the mill and a continuing circulation of the solution around the mill are obtained, substantially as described.

2. The combination of a screen and chemical sluiceway having its head beneath the screen, with an amalgamating device on which

the said sluiceway discharges, an extension of the sluiceway beyond the amalgamating device, a revolving screen at the end of said extension, a receiving-tank for the solution under said screen, a water-tank above said screen, and pipes leading onto said screen from the tank above, to wash the screen free from the solution and to carry the tailings beyond said screen to place of discharge, substantially as described.

3. The combination of an inclined shaking head screen and a sluiceway having its head beneath the screen, both leading from the ore-supply, a tank for a chemical solution for dissolving the ore at the head of said screen and sluiceway, a distributing, perforated pipe for spreading the solution over said sluiceway, and at the opposite end of said sluiceway, a receiving-tank for the solution, a revolving screen for the tailings, a pipe system from said receiving-tank to end tanks under the head of the shaking-screen and the sluiceway, said end tanks, and pumping means to pump the solution back up to the said chemical tank, substantially as described.

4. In a mining apparatus the combination with a shaking-screen on which the material to be treated is first thrown, of an inclined sluiceway receiving the material from said screen at its head, a tank of cleansing and dissolving solution placed at the head of said sluiceway, means for feeding the same to the sluiceway simultaneously with the ore, a tank placed at the lower end of said sluiceway to receive the said solution and the dissolved and cleansed ore, a third regenerating-tank, and a pipe leading direct from said second tank to said regenerating-tank, substantially as described.

5. In a mining apparatus the combination with a shaking-screen on which the material to be treated is received, of an inclined sluiceway to receive the material from said screen at its head, a tank of cleansing and dissolving solution placed at the head of said sluiceway and means for feeding the same to the sluiceway simultaneously with the ore, a revolving screen and a tank placed at the lower end of said sluiceway, a third tank for regenerating placed under the first tank at the head of the machine, and a pipe connection from said second tank to the third tanks, substantially as described.

6. In a mining-mill, a main sluice and an auxiliary sluice, means for feeding ore to said sluices adapted to distribute fine ore to the former and coarse ore to the latter, means for distributing over the fine ore a chemical solution adapted to cleanse and dissolve the same, means for distributing water over the coarse ore, an amalgamator adapted to catch the cleansed fine ore, riffles adapted to catch nuggets from the coarse ore, means for separating the saturated solution from the tailings and for disposing of said tailings, a tank for receiving said solution, means for redelivering the solution freed from metal, and means for connecting the receiving-tank with either of said redelivering means, substantially as described.

7. In a mining-mill the combination of a sluice, a screen at the head of said sluice, means for feeding ore through the screen to the sluice, means for depositing on the sluice simultaneously with the ore a chemical solution adapted to scour and dissolve said ore, an amalgamator adapted to catch the cleansed ore, a tank to receive said solution, means for redelivering the solution freed from metal, and means for connecting the receiving-tank with either of said redelivering means, substantially as described.

806,146. **PROCESS OF MANUFACTURING PORTLAND CEMENT.** EDWARD H. HURRY, Bethlehem, and HARRY J. SEAMAN, Catasauqua, Pa. Filed July 17, 1900. Serial No. 23,942.

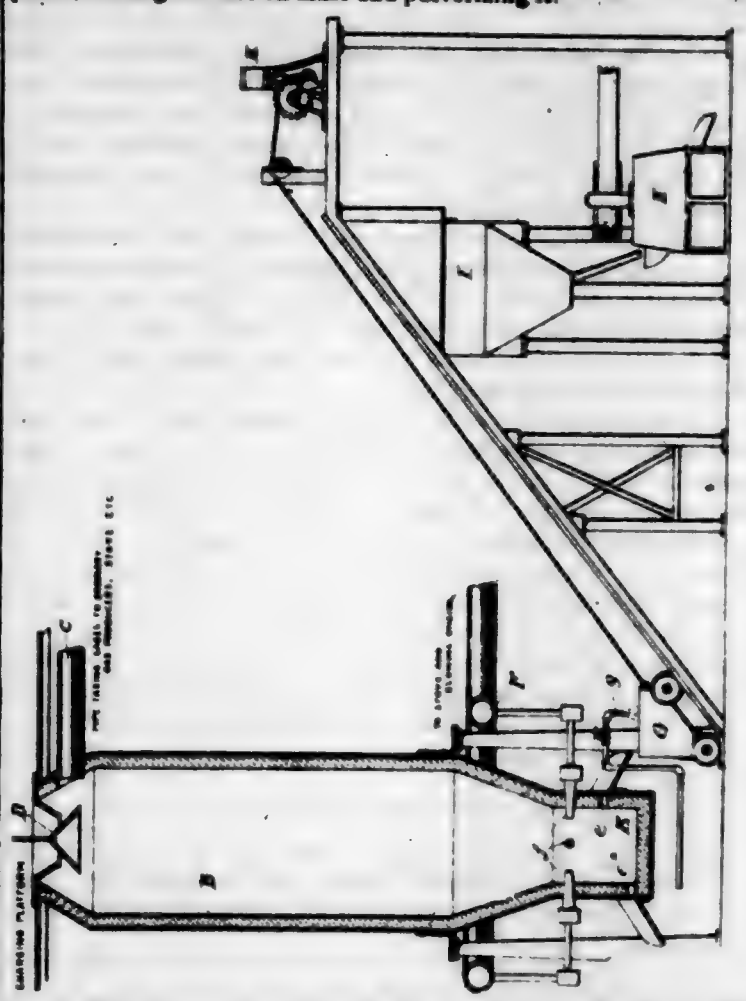
Claim.—1. The process of making Portland cement consisting of fusing the cement materials to a liquid mass under a pressure greater than that of the atmosphere, cooling the molten mass and pulverizing it.

2. The process of making Portland cement consisting of melting to a liquid the cement materials in a reducing atmosphere under a pressure greater than that of the atmosphere, cooling the molten mass and pulverizing it.

3. The process of making Portland cement consisting in melting the cement materials in a reducing atmosphere, at the same time reducing iron oxid contained in the cement materials to the form of metallic iron, permitting the metallic iron to separate from the molten cement materials, drawing off the molten cement product so depleted of iron, cooling and pulverizing it.

4. The process of making Portland cement consisting in melting the cement materials in a reducing atmosphere under pressure, at the same time reducing iron oxid contained in the cement materials to the form of metallic iron, permitting the metallic iron to separate from the molten cement materials, drawing off the molten cement product so depleted of iron, cooling and pulverizing it.

5. The process of making Portland cement which consists in mixing the cement material with carbonaceous fuel, melting the cement materials by the combustion of said fuel supported by an air-blast at a pressure materially in excess of the pressure of the atmosphere, cooling the molten mass and pulverizing it.



6. The process of making Portland cement consisting of preliminarily calcining the carbonate of lime to eliminate carbonic acid, then mixing carbonaceous fuel with the cement materials, then maintaining the combustion of the fuel by an air-blast under pressure and thereby melting the cement materials in a reducing atmosphere, drawing off the molten cement product, cooling and pulverizing it.

7. The process of making Portland cement consisting of preliminarily calcining the carbonate of lime to eliminate carbonic acid, then mixing carbonaceous fuel with the cement materials, then maintaining the combustion of the fuel by an air-blast under pressure and thereby melting the cement materials in a reducing atmosphere at a pressure materially greater than that of the atmosphere, drawing off the molten cement material, cooling and pulverizing it.

8. The process of making Portland cement consisting of preliminarily calcining the carbonate of lime to eliminate carbonic acid, then mixing carbonaceous fuel with the cement materials, then maintaining the combustion of the fuel by an air-blast under pressure and thereby melting the cement materials at a pressure materially greater than that of the atmosphere, drawing off the molten cement material, cooling and pulverizing it.

9. The process of making Portland cement consisting of mixing the cement materials with coal or coke, maintaining the combustion of such fuel by an air-blast, maintaining a pressure in the presence of the cement materials and fuel and adjacent to the air-blast of from ten to twenty pounds per square inch above the atmosphere, thereby melting the cement material in an area or zone of high pressure, drawing off the molten cement material, cooling and disintegrating it and pulverizing it.

10. The process of making Portland cement consisting of mixing carbonate of lime, argillaceous matter containing silica and alumina, and coal or coke, maintaining the combustion of such fuel under high temperature and pressure by means of an air-blast, thereby disassociating carbonic acid from the carbonate of lime, causing the conversion of the carbonic acid into carbonic oxid in the presence of the highly-incandescent fuel, and also thereby melting the cement materials, drawing off the molten cement material and cooling and pulverizing it.

11. The process of making Portland cement consisting of mixing carbonate of lime, argillaceous matter containing silica and alumina, and coal or coke, maintaining the combustion of such fuel under high temperature, and a pressure of from ten to twenty pounds above the atmosphere by means of a high-pressure air-blast, thereby

dissociating carbonic acid from the carbonate of lime, causing the conversion of the carbonic acid into carbonic oxid in the presence of the highly-incandescent fuel, and also thereby melting the cement materials, drawing off the molten cement material, cooling and pulverizing it.

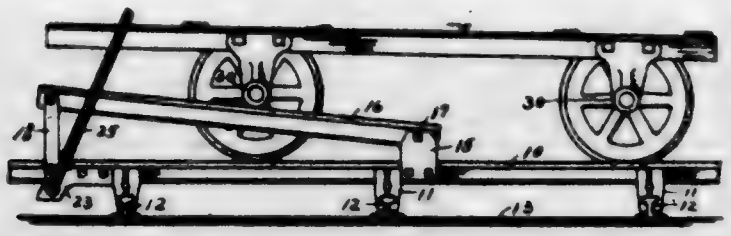
12. The process of making Portland cement consisting of first fusing carbonate of lime at a pressure greater than that of the atmosphere, then driving off the carbonic acid of the fused carbonate of lime by further heating in the presence of silica and alumina, fusing the silicates and aluminates of lime so produced, cooling the molten mass and pulverizing it.

13. The process of making Portland cement from raw material containing carbonate of lime, silica and alumina, consisting in dissociating carbonic acid from the carbonate of lime by heat, heating the cement materials to produce the requisite reactions or combinations, and converting the carbonic acid into carbonic oxid by contact with the incandescent carbon.

14. The process of making Portland cement from raw materials containing carbonate of lime, silica and alumina, consisting in dissociating carbonic acid from the carbonate of lime by heat, heating the cement materials by the aid of an air-blast to produce the requisite reactions or combinations, converting the carbonic acid into carbonic oxid by contact with incandescent carbon, and burning the carbonic oxid to heat the air-blast or effect the driving of the blower.

15. The process of making Portland cement from raw materials containing carbonate of lime, silica and alumina, consisting in melting the cement materials (lime, silica and alumina) and disassociating carbonic acid from the carbonate of lime employed by the heat from the waste gases or products of combustion of the melting operation.

806,147. MEANS FOR STOPPING CARS. WILLIAM P. HUSSEY, Indianapolis, Ind., assignor to Standard Dry Kiln Company, Indianapolis, Ind., a Corporation of Indiana. Filed July 31, 1905. Serial No. 271,054.



Claim.—1. The combination with a railway-track and cars adapted to run thereon, of a stop-bar pivotally mounted in the path of the cars, and means connected with the farther end thereof for elevating the same and inclining the stop-bar so that it will engage some part of the car.

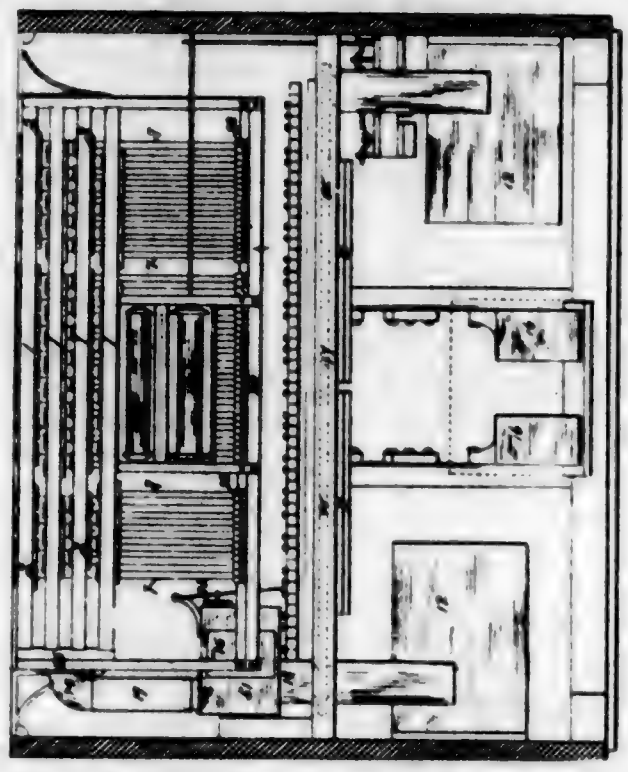
2. The combination with a railway-track and cars adapted to run thereon, of a stop-bar with the end next to the approach of the cars pivotally mounted at the outer side of each rail of the track, and means for simultaneously elevating and lowering the other ends of said stop-bars so that when elevated said bars will be inclined and will engage and stop the car.

3. The combination with a railway-track and a car adapted to run thereon, of wheel-housings extending down from each side of the frame thereof, a bearing-plate secured to the outer side of each rail, a stop-bar with the end next to the approach of the car pivoted to said bearing-plate at each side of the track, a connecting-bar pivotally mounted at the other end of each of said stop-bars, a crank-shaft for elevating and lowering the connecting-bars at both sides of the track, and a hand-lever for actuating said crank-shaft whereby said stop-bars may be inclined in position to engage the housings of a car.

4. The combination with a railway-track and cars adapted to run thereon, of a stop-bar at each side of the car with the end next to the approach of the car being pivotally mounted in connection with the track, plates secured to the track-rails at each side of the track with downwardly-extending portions, sleeves rotatably mounted thereon with arms extending from said sleeves, connecting-bars pivotally connecting said arms with one end of said stop-bars, and a crank-shaft extending through the sleeves at each side of the track for oscillating the same, substantially as set forth.

5. The combination with a railway-track and cars adapted to run thereon, of a pair of oppositely-extending stop-bars, means for pivotally mounting the extreme ends of said stop-bars in connection with the track, and means for elevating and lowering the adjacent ends of said stop-bars.

806,148. AUTOMATIC PIANO. LAWRENCE U. JOSEPH, Cincinnati, Ohio. Filed Feb. 28, 1905. Serial No. 247,236.



Claim.—1. A manually and pneumatically operative piano having valves and their actuating-pneumatics, and striking-pneumatics grouped above the hammers of the action; a lever-rail carrying a series of striking-levers disposed below the striking-pneumatics and in front of the action on a line with the wippens, said levers being actuated by the striking-pneumatics, substantially as described.

2. A manually and pneumatically operative piano having valves, their actuating-pneumatics, and striking-pneumatics controlled by said valves grouped above the hammers of the action; a lever-rail carrying a series of striking-levers disposed below the striking-pneumatics and in front of the action on a line with the wippens; said levers being actuated by the striking-pneumatics and adapted to operate the piano-action; the whole being adapted for removal together from the piano-case, substantially as described.

3. A manually and pneumatically operative piano having valves, their actuating-pneumatics, and striking-pneumatics controlled by said valves grouped above the hammers of the action; a lever-rail carrying a series of striking-levers disposed below the striking-pneumatics and in front of the action, said levers being connected with and actuated by said striking-pneumatics by vertical tracker-wires, substantially as described.

4. A manually and pneumatically operative piano having the pneumatic devices grouped above the hammers of the action; a lever-rail carrying a series of striking-levers disposed below said pneumatic devices and in front of the piano-action on a line with the wippens; a tracker-range disposed between the striking-levers and pneumatic devices and connected with the latter by a series of pipes; the whole being adapted for removal together from the piano-case, substantially as described.

5. In combination with the action of a pianoforte of a pneumatic-action consisting of primary and puppet valves, their actuating-pneumatics and striking-pneumatics placed above said pianoforte-action; a lever-rail disposed below said pneumatic-action, supporting a series of levers; a series of tracker-wires connecting said levers with said striking-pneumatics and means for operating the wippens of said pianoforte-action in conjunction with said levers, substantially as described.

6. In combination with the action of a pianoforte of a valve-box placed above said action; said box containing both the primary and puppet valves in the upper wall thereof and having a pneumatic-chamber extending its entire length containing the primary and puppet valve pneumatics; said box having a series of striking-pneumatics attached to the bottom of the same and communicating therewith; a lever-rail disposed below said valve-box and in front of the action supporting a series of levers; a series of brackets secured to the wippens of said action with which said levers engage and a series of tracker-wires connecting said levers with said striking-pneumatics, substantially as described.

7. In combination with the action of a pianoforte of a valve-box placed above said action; said box containing both the primary and puppet valves in the upper wall thereof, and having a pneumatic-chamber extending its entire length containing the primary and pup-

pet valve pneumatics; said box having a series of striking-pneumatics attached to the bottom of the same and communicating therewith; a lever-rail disposed below said valve-box supporting a series of levers; a series of brackets secured to the wippens of said action with which said levers engage; a series of tracker-wires connecting said levers with said striking-pneumatics; a tracker-range placed between said levers and said valve-box and connected with the latter by a series of pipes, and means for passing the music-sheet over said tracker-range, substantially as described.

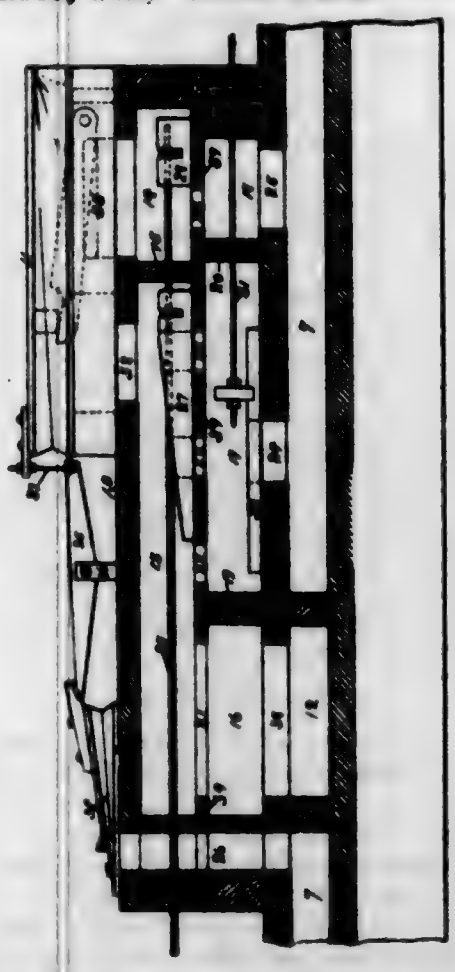
8. In a pianoforte the combination of a pneumatic mechanism consisting of a valve-box containing both the primary and puppet valves in the upper wall thereof and having a pneumatic-chamber extending its entire length containing the primary and puppet valve pneumatics; said box having a series of striking-pneumatics attached to the bottom of the same and communicating therewith; a lever-rail disposed below said valve-box supporting a series of levers; a series of tracker-wires connecting said levers with said striking-pneumatics; a tracker-range placed between said levers and said valve-box and connected with the latter by a series of pipes; the whole being placed in the upper part of the instrument above the manual keyboard, with an exhaust consisting of bellows and pedals for operating the same, located in the lower part of the instrument under the manual keyboard and detachably connected with said pneumatic mechanism by an air-trunk, substantially as described.

9. In a manually and pneumatically operative piano a manual keyboard-bed having an exhaust-passage therein extending longitudinally from end to end connecting the bellows of the exhaust system, substantially as described.

10. In a manually and pneumatically operative piano the combination of the pneumatic devices grouped above the hammers of the action with a manual keyboard-bed having an exhaust-passage therein extending longitudinally from end to end connecting the bellows of the exhaust system; said exhaust-passage being connected with said pneumatic devices by an air-trunk, substantially as described.

11. In a manually and pneumatically operative piano the combination of the pneumatic devices grouped above the hammers of the action with the exhaust system disposed below the manual keyboard; a keyboard-bed having an exhaust-passage therein extending longitudinally from end to end connecting the bellows of the exhaust system, and an air-trunk connecting said exhaust-passage with said group of pneumatic devices, substantially as described.

806,149. AUTOMATIC MUSICAL INSTRUMENT. LAWRENCE U. JOHNS, Cincinnati, Ohio, assignor to The Baldwin Company, Cincinnati, Ohio. Filed July 1, 1905. Serial No. 267,875.



Claim.—1. In a pneumatic musical-instrument player the combination of a governor-pneumatic with an auxiliary presser-pneumatic, said auxiliary pneumatic being connected with and operated by the exhaust of the bellows, and connected also with the governor-pneumatic, and provided with means whereby the latter is maintained in an expanded condition by the action of the exhaust upon the former, substantially as described.

2. In a pneumatic musical-instrument player the combination of a governor-pneumatic with an auxiliary presser-pneumatic, said auxiliary pneumatic being connected with the exhaust of the bellows by an air-passage leading thereto, and with the governor-pneumatic by a lever, the ends of which engage the movable members of both pneumatics and through the action of which the governor-pneumatic is maintained in an expanded condition through the action of the exhaust on the auxiliary pneumatic, substantially as described.

3. In a pneumatic musical-instrument player the combination of a governor-pneumatic with an auxiliary presser-pneumatic, said auxiliary pneumatic being connected with the exhaust of the bellows by an air-passage leading thereto, and with the governor-pneumatic by a lever, the ends of which engage the movable members of both pneumatics and through the action of which the governor-pneumatic is maintained in an expanded condition through the action of the exhaust on the auxiliary pneumatic; one end of said lever being provided with means for regulating the action of the auxiliary pneumatic upon the governor-pneumatic, substantially as described.

4. In a pneumatic musical-instrument player the combination with the windway leading from the striking-pneumatics to the bellows, of a main cut-off valve, a governor-pneumatic, a regulating-valve controlled thereby, an auxiliary presser-pneumatic and connections for maintaining the governor-pneumatic in an expanded condition and an independent regulating-valve, substantially as described.

5. In a pneumatic musical-instrument player the combination with a windway from the striking-pneumatics to the bellows, of a main cut-off valve, a governor-pneumatic, a regulating-valve controlled thereby, an auxiliary presser-pneumatic and connections for maintaining the governor-pneumatic in an expanded position, and an independent regulating-valve; said auxiliary pneumatic being directly connected with the exhaust of said windway, substantially as described.

6. In a pneumatic musical-instrument player a cut-off expression-box divided horizontally into two sections; the upper division being further divided into two chambers 13 and 14; and the lower division into three chambers 16, 17 and 18; the chambers 13 and 16 being connected by the passage 21, the chambers 13 and 17 by the ports 22, and the chambers 14 and 18 by the port 23; said box being provided with valves and means for controlling said ports 22 and 23, substantially as described.

7. In a pneumatic musical-instrument player, a cut-off expression-box divided horizontally into two sections, the upper division being further divided into two chambers 13 and 14, and the lower division into three chambers 16, 17 and 18; the chambers 13 and 16 being connected by the passage 21; the chambers 13 and 17 by the ports 22; and the chambers 14 and 18 by the port 23; the chamber 16 being connected with the windway from the striking-pneumatics by the passage 38; the chamber 18 with the wind-chest by the passage 25 and the chamber 17 with the wind-chest by the port 24; said port being controlled by the regulating-valve 30, substantially as described.

8. In a pneumatic musical-instrument player, the combination of a cut-off expression-box with a governor-pneumatic; an auxiliary presser-pneumatic; a striking-pneumatic passage, and a wind-chest; said auxiliary pneumatic having connections maintaining the governor-pneumatic in an expanded position; said expression-box having chambers 13, 16, 14 and 18 and a main air-passage leading from the striking-pneumatic passage 12 to the wind-chest through said chambers; through the governor-pneumatic 11 and through the passages 38, 21, 32 and 25; the gate-valve 33 and the main port 23; said port being controlled by a cut-off valve 28, substantially as described.

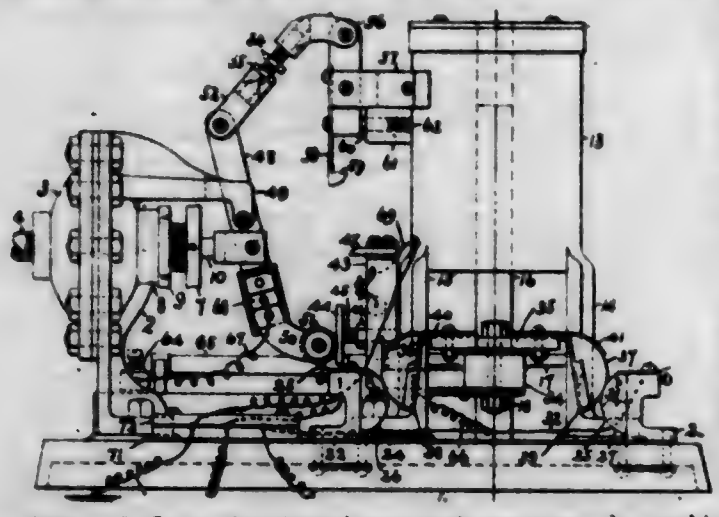
9. In a pneumatic musical-instrument player the combination of a cut-off expression-box with a governor-pneumatic and an auxiliary presser-pneumatic, a striking-pneumatic passage and a wind-chest; said auxiliary pneumatic maintaining the governor-pneumatic in an expanded position; said expression-box having chambers 16, 13, 14, 17 and 18 and a main air-passage leading from the striking-pneumatic passage 12 to said wind-chest through the chambers 16, 13, 14 and 18, the governor-pneumatic 11, the passages 38, 21, 32 and 25, the gate-valve 33 and the main port 23; said port being controlled by the valve 28; and a secondary air-passage leading

from said striking-pneumatic passage to said wind-chest independent of the governor-pneumatic through the chambers 16, 13 and 17, the passages 38 and 21, and the ports 22 and 24; said ports being controlled by the valves 27 and 30, substantially as described.

10. In a pneumatic musical-instrument player the combination of a cut-off expression-box with a governor-pneumatic and an auxiliary presser-pneumatic, a striking-pneumatic passage and a wind-chest; said auxiliary pneumatic maintaining the governor-pneumatic in an expanded position; said expression-box having chambers 16, 13, 14, 17 and 18 and a main air-passage leading from the striking-pneumatic passage 12 to the wind-chest 7 through the chambers 16, 13, 14 and 18, the governor-pneumatic 11, the passages 38, 21, 32 and 25, the gate-valve 33, and the main port 23; also a secondary air-passage leading from the striking-pneumatic passage 12 to the wind-chest, independent of said governor-pneumatic, through the chambers 16, 13 and 17, the passages 38 and 21 and the ports 22 and 24; the valve 30 controlling the port 24 and regulating the amount of air passing through the secondary passage; and the valves 27 and 28 controlling the ports 22 and 23 and cutting off the circulation of air through both the main and secondary passages, substantially as described.

11. In a pneumatic musical-instrument player the combination of a cut-off expression-box with a governor-pneumatic and an auxiliary presser-pneumatic, the striking-pneumatic passage and the wind-chest; said auxiliary pneumatic having connections maintaining the governor-pneumatic in an expanded position; said expression-box having a passage therethrough connecting said auxiliary pneumatic with said wind-chest; also a main air-passage leading from the striking-pneumatic passage to the wind-chest, controlled by a main valve and said governor-pneumatic; and a secondary air-passage leading from the striking-pneumatic passage to the wind-chest, independent of said governor-pneumatic; said secondary passage being controlled by a regulating-valve, substantially as described.

806,150. ELECTRIC AND PNEUMATIC GOVERNOR. THOMAS F. KELLY, Philadelphia, Pa., assignor to John H. Rayburn, Philadelphia, Pa. Filed Nov. 11, 1904. Serial No. 232,300.



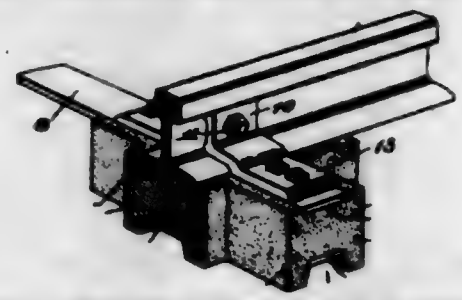
Claim.—1. In an electric and pneumatic governor, the combination with a pneumatically-actuated diaphragm, a solenoid and a pole-plate for the solenoid, of a bracket carried by the pole-plate and having an adjustable contact-plate and a latch-plate, a stem and a lever operative by the diaphragm, a contact-wheel carried by the lever and adapted to engage the contact-plate, a spring-latch adapted to engage the latch-plate upon the accumulation of maximum pressure when the solenoid is energized and raises the pole-plate, and to be disengaged therefrom upon a reduction to minimum pressure, an adjustable connection from the spring-latch to the diaphragm-lever, and electrical connections substantially as described.

2. In an electric and pneumatic governor, a base-plate, a diaphragm and a solenoid mounted thereon, a pole-plate carrying movable carbons and a bracket with an adjustable contact-plate and a latch-plate, fixed carbons on brackets attached to the base-plate, a contact-wheel operative by the diaphragm, and an adjustable connection from the diaphragm and contact-wheel mechanism to a spring-latch adapted to engage the latch-plate upon the action of the solenoid, which lifts and holds up the pole-plate and the movable carbons until a minimum decrease of pressure is obtained.

3. In a pneumatic and electric governor, a diaphragm and a solenoid, pneumatic connections to the diaphragm and electrical connections to the solenoid, a pole-plate for the solenoid, a bracket on the pole-plate which upwardly reaches and carries at one side an adjustable contact-plate, and at its top a latch-plate, a lever for the diaphragm having at its lower end a rotatable contact-wheel and at its upper end a connection adjustable as to length which forms a connection to a center fulcrumed lever carrying a spring-latch at its lower end so that upon an accumulation of pressure the contact-wheel will be moved to energize the solenoid, which will lift the pole-plate and cause the latch-plate to engage the latch adapted to engage the latch-plate aforesaid.

4. In an electric and pneumatic governor, a diaphragm and a solenoid, a stem and a lever operative by the diaphragm, a contact-wheel carried by the lever, a pole-plate having a contact-plate and a latch-plate carried by the pole-plate, a latch-lever fulcrumed on the solenoid-case and carrying a spring-latch adapted to engage the latch-plate aforesaid, and a connection from the diaphragm-lever to the latch-lever having means for its longitudinal expansion and contraction.

806,151. ROAD-BED EQUIPMENT. JOHN D. KNEEDLER, Sioux City, Iowa. Filed Sept. 20, 1905. Serial No. 279,343.



Claim.—1. A block for road-beds formed of artificial stone and having intersecting channels in one face, metallic reinforcing-rods embedded within the block and disposed at right angles to each other, said rods having projections thereon, and a tie-receiving groove disposed longitudinally within one face of the block.

2. The combination with an artificial-stone supporting-block having a channeled groove in one face thereof; of a tie set in one face thereof and flush with the surface of the block, a reinforcing-plate contacting with the opposite face of the block, a tie-securing device extending through the plate and block and seated at one end upon the plate.

3. The combination with an artificial-stone supporting-block having intersecting channels in one face and a groove in its opposite face; of a tie set in the groove and flush with the surface of the block, a reinforcing-plate within one of the channels, rail-clamping plates upon the tie, and securing devices extending through the reinforcing-plate, the block, tie and clamping-plates and bearing one end upon the reinforcing-plate.

4. The combination with an artificial-stone block having lateral extensions, said extensions and block being provided with intersecting channels and a groove within the block; of a tie seated within the groove and flush with the block, a reinforcing-plate within the channel in the block, rail-clamping plates mounted upon the tie and adapted to secure the rail upon the block and its extensions, and securing devices extending through the block and tie and through the reinforcing and clamping plates said devices bearing upon the clamping-plate.

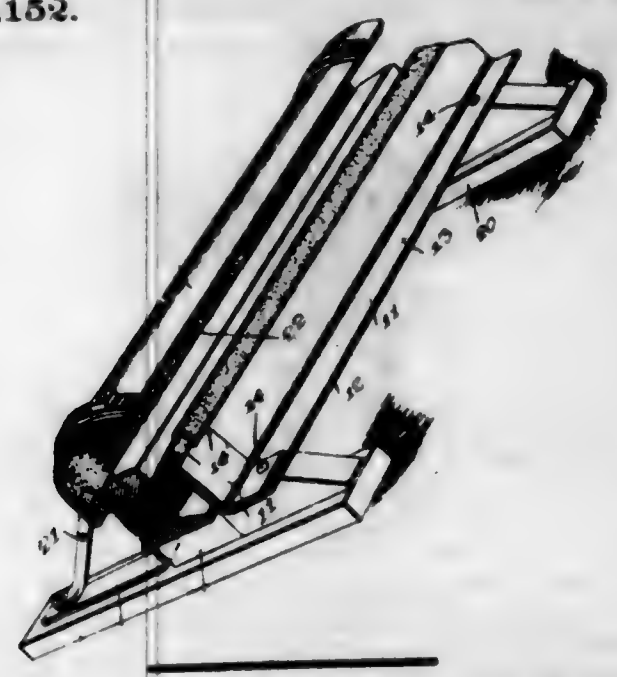
5. A device of the character described comprising an artificial-stone supporting-block having reinforcing-rods embedded therein and provided with extensions, said block having a channel and a groove in opposite faces, a reinforcing-plate within the channel, a tie within the groove, and securing devices extending through the block and tie and engaging and adapted to bear upon the plate.

6. A device of the character described comprising an artificial-stone supporting-block having metallic reinforcing-rods embedded therein and a channel and groove in opposite faces, a reinforcing-plate within the channel and headed bolts extending through the plate and block and extending into the groove, the heads of said bolts bearing upon the plate and the opposite ends of the bolt adapted to engage a tie within the groove.

806,152. THIRD-RAIL PROTECTOR. WILLIAM H. KOHER and CHARLES B. WATTS, Lancaster, Ohio. Filed Mar. 6, 1905. Serial No. 248,758.

Claim.—In a third-rail system, a shield member formed of a plurality of transversely-curved metallic strips, each having an insulating-lining, the ends of the strips and the linings overlapping, and the lining of the outer strip serving to insulate the strips from each other, insulated securing-bolts connecting said strips, and supporting-brackets extending over the strips and rigidly secured thereto to form strengthening-braces for the shield.

806,152.

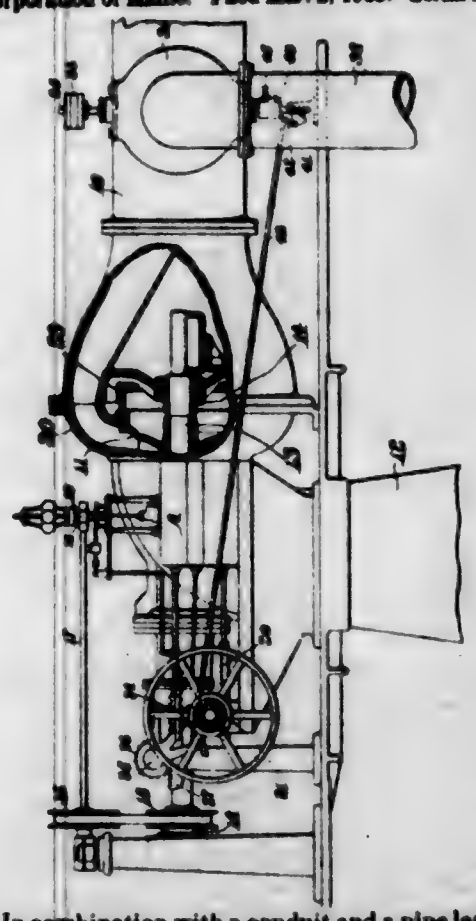


806,153. PROCESS OF MAKING SPECKLED-ENAMELED WARE AND THE PRODUCT THEREOF. WALTER J. KOHLER, Sheboygan, Wis., assignor to J. M. Kohler Son's Company, Sheboygan, Wis., a Corporation of Wisconsin. Filed Sept. 28, 1904. Serial No. 226,515.

Claim.—1. In the process herein described of producing speckled-enamel ware, the process consisting of mixing a comparatively small amount of comminuted carborundum with dry pulverized enameling material of one color, the carborundum being of a different color from the enameling material and non-fusible at such low temperature as fuses the enameling material, putting the mixture on the article to be coated with the enamel, and then subjecting the article to such heat as fuses the enameling material but less than sufficient to fuse the carborundum.

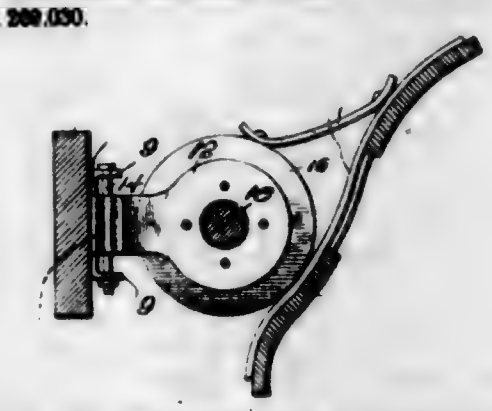
2. A new article of manufacture of metal enameled ware, the enamel coating of which has been made by the dry process and is composed of fused enameling material of one color and comminuted non-fused carborundum of a different color mixed in the enameling material while in pulverized condition and before the enamel was fused on the metal.

806,154. RELIEF MECHANISM FOR WATER-WHEEL CONDUITS. NATHANIEL LOMBARD, Brookline, Mass., assignor to The N. Lombard Improved Governor Company, Waterville, Me., and Boston, Mass., a Corporation of Maine. Filed Mar. 2, 1903. Serial No. 145,936.



Claim.—In combination with a conduit and a pipe leading therefrom, a shaft projecting into said conduit and being provided at its inner end with a water-wheel, a gate for closing said conduit, racks connected to said gate, a shaft lying parallel to said last-named shaft, sheaves mounted on said shafts, a belt passing over said sheaves, a cross-shaft carrying pinions meshing with said racks, a governor, means whereby the governor is operated from said second-named or parallel shaft, a rack operated by the movement of the governor, a lateral shaft, a pinion mounted thereon and meshing with said last-named rack, another pinion carried by the last-named shaft, a toothed segment secured to said cross-shaft and meshing with the last-named pinion, a valve in said pipe, a valve-stem, the lower end of said valve-stem being provided with a piston and cylinder in which said piston works, a rack connected to said cylinder, a toothed segment meshing with said rack, a rocker-arm secured to said segment and a rod connected to said arm, and to the first-named segment.

806,155. COMBINED CURTAIN-POLE AND CORNICE SUPPORT. FERDYNAND MARCINEK, Chicago, Ill. Filed July 10, 1905. Serial No. 269,030.

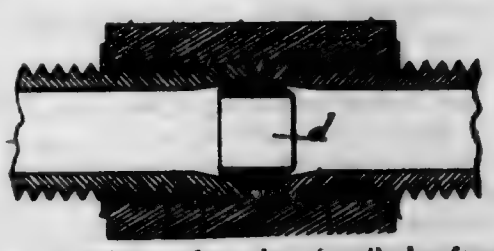


Claim.—1. The combination with a curtain-pole-supporting ring adapted for attachment to a window-casing, of a cornice-support mounted on said ring and which may be turned thereon to vary the inclination of the cornice, and means engaging between the ring and support to hold the latter at adjustment.

2. The combination with a ring forming a pole-support and having means for attachment to a window-casing, of a ring which fits and may be turned upon said ring and carries a cornice, and devices engaging between the rings, to hold them at relative adjustment.

3. A combined curtain-pole and cornice support comprising a bracket, a ring detachably connected thereto and adapted to receive the end of a curtain-pole, another ring rotatably mounted on said ring and carrying cornice-supporting arms, and yielding devices engaging between the rings to hold them as set.

806,156. LOCK FOR NUTS AND BOLTS AND THE LIKE. DALE MARSHALL, Cheltenham, England. Filed Mar. 28, 1905. Serial No. 252,451.



Claim.—1. In a device of the class described, a female member provided with a threaded bore or socket, a male member provided with a threaded end, a sleeve or lining placed between the threaded portions of said members and shorter than the threaded portion of either of said members, and means for expanding the inner end of the male member, substantially as shown and described.

2. In a device of the class described, a female member provided with a threaded bore or socket, a male member provided with a threaded end, a sleeve or lining placed between the portion of either of said members, and means for expanding the inner end of the male member, consisting of an expander placed in the female member and projecting side portions at the end of the male member, substantially as shown and described.

806,157. INFANT-EXERCISER. LOUIS K. MARTIN, Toronto, Canada. Filed Mar. 7, 1905. Serial No. 248,885.

Claim.—1. In an infant-exerciser the combination of a jacket; supporting-straps therefor; and a hammock extension secured to the back of the jacket, substantially as described.

2. In an infant-exerciser the combination of a jacket; supporting-straps therefor; and a hammock extension detachably connected to the back of the jacket, substantially as described.



3. In an infant-exerciser the combination of a jacket; supporting-straps therefor; a hammock extension secured to the back of the jacket; a head-rest flap secured to the upper part of the back of the jacket; and means for detachably connecting the free edge of the flap to the supporting-straps, substantially as described.

4. In an infant-exerciser the combination of a jacket; supporting straps therefor; a hammock extension secured to the back of the jacket; and a stiff bar secured to the free end of the hammock extension, substantially as described.

5. In an infant-exerciser the combination of a jacket; supporting-straps therefor; a hammock extension detachably connected to the back of the jacket; and a stiff bar secured to the free end of the hammock extension, substantially as described.

6. In an infant-exerciser the combination of a jacket; supporting-straps therefor; a seat-flap connected at each end to the jacket; a saddle; and means for adjusting the saddle back and forth on the seat-flap, substantially as described.

7. In an infant-exerciser the combination of a jacket; supporting-straps therefor; a seat-flap connected to and vertically adjustable relative to the jacket; a saddle; and means for adjusting the saddle back and forth on the seat-flap, substantially as described.

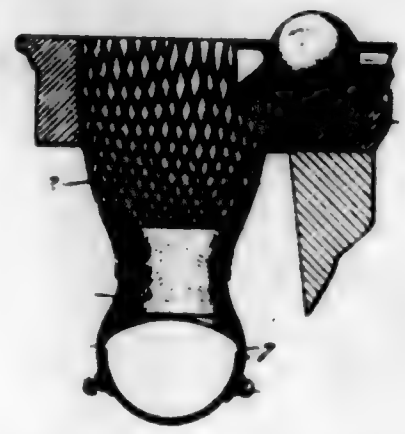
8. In an infant-exerciser the combination of a jacket; supporting-straps therefor; a hammock extension secured to the back of the jacket; side flaps secured to the sides of the hammock extension; and means for detachably connecting the free sides of the flaps, substantially as described.

9. In an infant-exerciser the combination of a jacket; supporting-straps therefor; a hammock extension secured to the back of the jacket; side flaps secured to the sides of the hammock extension; means for detachably connecting the free sides of the flaps; and means for detachably securing the outer ends of the flaps to the end of the hammock extension, substantially as described.

10. In an infant-exerciser the combination of a jacket; supporting-straps therefor secured to the upper edge of the jacket back and front at each side of the median plane; shoulder-straps connecting the back and front of each supporting-strap; and a seat-flap connected at each end to the jacket, substantially as described.

806,158. POOL-TABLE ATTACHMENT. PAUL MASCHER, East Palestine, Ohio, assignor of one-half to Patrick Dolan, East Palestine, Ohio. Filed Nov. 15, 1904. Serial No. 232,942.

Claim.—1. The combination with a pool-table, of a track or raceway, and a supporting device comprising a substantially cylindrical-shaped body portion having an intermediate portion thereof reduced and extended into the pocket of the table and its lower end provided with inwardly-projecting arms adapted to engage said raceway.

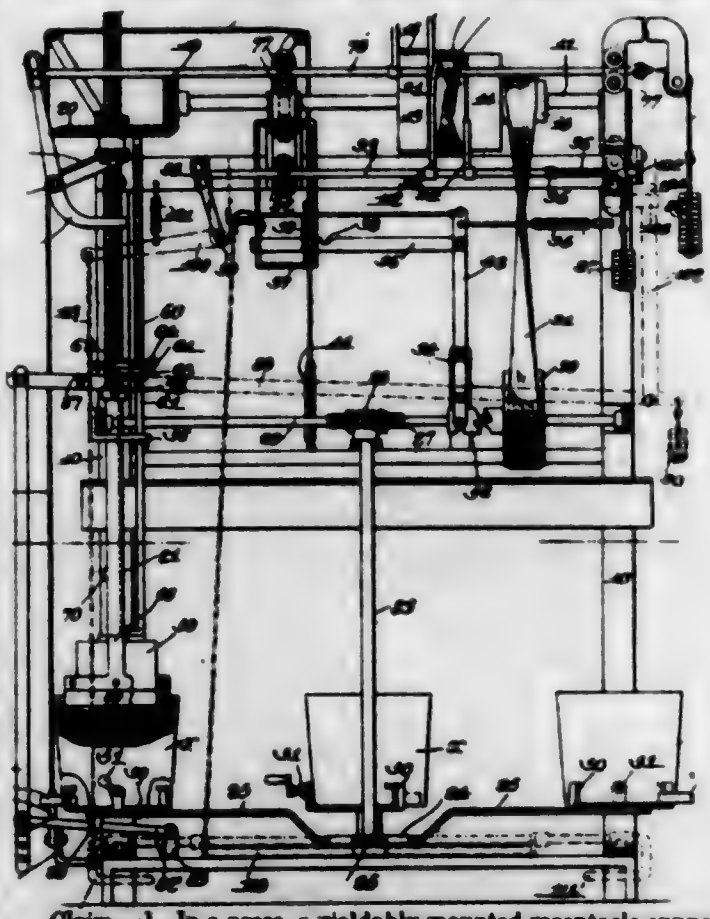


2. The combination with a pool-table, of a track or raceway, and a supporting device for the raceway comprising a substantially cylindrical-shaped body portion having a reduced neck the walls of which are curved outwardly and adapted to engage the pocket of the table.

3. The combination with a pool-table, of brackets secured to the table at points between the pockets, a track or raceway secured to the brackets, supporting devices each comprising a substantially cylindrical-shaped body portion the upper end of which is extended within the pocket and the lower end thereof provided with inwardly-projecting arms, and clamping devices carried by the arms and adapted to engage the raceway.

4. The combination with a pool-table, brackets secured to the table at points between the pockets, a track or raceway secured to the brackets and provided with an extension adapted to serve as a support for the balls, supporting devices each comprising a substantially cylindrical-shaped body portion the upper end of which is extended within the adjacent pocket and the lower end thereof provided with inwardly-projecting perforated arms, and clamping screws passing through the perforations in said arms for engagement with the raceway.

806,159. BUTTER-PACKING MACHINE. JOHN MATTSON, Dresser Junction, Wis. Filed May 23, 1905. Serial No. 261,657.



Claim.—1. In a press, a yieldably-mounted receptacle-support, a compression member in alinement therewith, an operating means for the compression member, and a controlling device arranged under the yieldable support and movable by engagement of the support therewith when the pressure has reached a predetermined point.

2. In a press, a yieldably-mounted receptacle-support, a com-

pression member in alinement therewith, an operating means for the compression member, and a controlling device for stopping and reversing the direction of movement of the operating member, said controlling device being arranged under the yieldable support and operable by the engagement of the support therewith.

3. In a press, a scale-beam, a receptacle-support connected thereto, and an operating means under the control of the scale-beam.

4. In a press, a scale-beam, a compression member the movement of which is transmitted to the beam, and operating means under the control of the beam.

5. In combination, a scale-beam, a compression member the movement of which is resisted by the beam, and a compression-member-operating means under the control of the beam.

6. In combination, a scale-beam, a receptacle the weight of which is imposed on the load end of the beam, a compression member for packing material in the receptacle and the movement of which is resisted by the poise end of the beam, and a compression-member-operating means under the control of the beam.

7. In a press, a scale-beam having an adjustable poise, a compression member, a receptacle for receiving material to be acted upon by the compression member, the movement of the compression member and the weight of the receptacle and its contents being imposed on the load end of the beam during a portion of the pressing operation, and a compression-member-operating means under the control of the scale-beam.

8. In combination, a scale-beam, a lever connected thereto, a receptacle-support arranged over the lever, a plunger in the line of the support, a threaded rod carrying said plunger, a nut engaging said threaded rod, a nut-operating means, and mechanism under the control of the scale-beam for determining the direction of movement of the nut.

9. The combination with a scale-beam, of a yieldable receptacle-support, a lever connected to the scale-beam and arranged under the support, a plunger for packing material in the receptacle, a threaded rod carrying said plunger, a nut on said threaded rod, and automatic means controlled by the extent of movement of the scale-beam for stopping the downward movement of the plunger when the compression has reached a predetermined stage.

10. In apparatus of the class described, a plunger, a stripper surrounding the plunger and movable therewith, the downward movement of the stripper being checked by engagement with the material being packed.

11. In apparatus of the class described, a plunger, a stripper surrounding the same and movable therewith, and means for locking the stripper for movement during the initial back stroke of the plunger.

12. In apparatus of the class described, a plunger and stripper, an operating means for effecting an initial movement of the plunger and then a simultaneous movement of the plunger and stripper.

13. In apparatus of the class described, a plunger and stripper, means for locking the stripper from movement, and means for unlocking the stripper after initial movement of the plunger.

14. In apparatus of the class described, a plunger and stripper, a stripper-locking means, a plunger-operating mechanism, and means controllable by the movement of the plunger for unlocking the stripper and permitting its upward movement with the plunger.

15. The combination with an intermittently-revoluble receptacle-support, of a plunger, a threaded rod carrying the same, a bevel-wheel the hub of which forms a nut on said threaded rod, a shaft, the bevel-wheel carried thereby and intermeshing with the bevel-wheel on the rod, and means controllable by the movement of the plunger for determining the stopping and direction of rotation of said shaft.

16. The combination with a revoluble receptacle-support, of a plunger, a threaded rod carrying the same, a bevel-wheel forming a nut on said threaded rod, a shaft having a bevel-wheel intermeshing with the first bevel-wheel, pulleys on the shaft, belts running over said pulleys, and belt-shifters controlled by the movement of the plunger in opposite directions.

17. The combination with an intermittently-revoluble receptacle-support, of a compression-plunger, a threaded rod carrying the same, a bevel-wheel forming a nut on said rod, a shaft, the bevel-gear carried thereby and intermeshing with the bevel-wheel, pulleys on said shaft, belt-shifters movable on completion of the upward movement of the plunger, and means operable at the completion of the downward movement of the plunger for operating said belt-shifters.

18. The combination with a revoluble receptacle-support, of a plunger, a threaded rod carrying the same, a bevel-wheel mounted on the rod and forming a nut therefor, a shaft, a bevel-gear carried by the shaft and intermeshing with the bevel-wheel, pulleys on said shaft, belts passing over the pulleys, a belt-shifter, a lever carrying the same and operable at the completion of upward movement of the plunger, a second belt-shifter, a treadle for operating the same in one direction, a locking-lever for maintaining said second belt-shifter in adjusted position, and means operable on downward movement of the receptacle-carrier for moving said lever to released position.

19. The combination with an intermittently-revoluble receptacle-support, of a plunger, a threaded rod carrying the same, a bevel-wheel forming a nut on said rod, a shaft, a bevel-gear carried thereby and intermeshing with the bevel-wheel, a fast pulley, and a pair of loose pulleys mounted on the shaft, a pair of belts arranged to drive the pulleys, said belts running in opposite directions, respectively, a pair of belt-shifters engaging said belts, means tending to move the belt-shifters in one direction, a locking device releasable on complete downward movement of the plunger for permitting movement of the belts to reverse the direction of rotation of the bevel-wheel, a lever operable on completion of upward movement of the plunger for shifting one of the belts, and a pedal-actuated mechanism for shifting the second belt.

20. In an apparatus of the class described, a revoluble receptacle-support, a plunger, means for raising and lowering the plunger, a stripper for said plunger, a stripper-carrying bar, a pawl supported thereby, a rack-bar with which said pawl may engage, and means controllable by the movement of the plunger for releasing the pawl.

21. In an apparatus of the class described, the combination with an intermittently-revoluble receptacle-support, a plunger, a threaded rod carrying the same, a revoluble nut on said rod, a vertically-guided bar secured to the plunger and extending parallel with the threaded rod, a plate or frame secured to said vertically-guided rod, a pawl carried by the plate, a rack-bar with which said pawl may engage, a cam carried by the threaded rod and adapted to engage said pawl, said cam having a recessed shoulder for positively engaging the threaded rod with the plate, and a stripper supported by and movable with the plate.

22. The combination with an intermittently-revoluble receptacle-support, of a shaft carrying the same, a worm-wheel on the shaft, a worm meshing with the wheel, a worm-shaft, a loose driving-pulley arranged on the shaft and having a clutch-face, a clutch member feathered to the shaft, a clutch-operating lever, means for locking said lever in clutching position, and means controlled by the revoluble movement of the receptacle-support for releasing said lever.

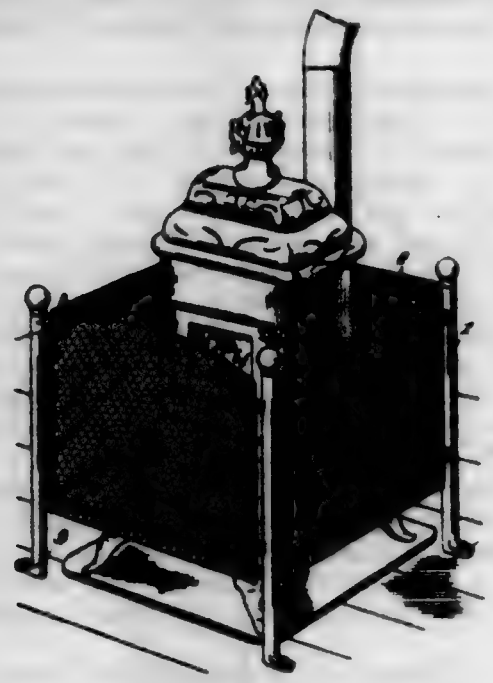
23. The combination with a receptacle-support, of a shaft carrying the same, a worm-wheel on the shaft, a worm intermeshing with the worm-wheel, a worm-carrying shaft, a loose pulley mounted on the worm-carrying shaft and having a clutch-face, a clutch member feathered on the worm-shaft, an operating-lever engaging said clutch, a locking-bar connected to the lever and having a notch, a locking-lever arranged to engage said notch, means controlled by the receptacle-support for moving the locking-lever to released position, a pedal-actuated mechanism for moving the clutch-lever in one direction, and a spring for moving said clutch-lever in the opposite direction.

24. In an apparatus of the class described, a frame, a revoluble receptacle-support comprising a plurality of yieldable arms, a shaft to which said arms are secured, a worm-wheel on said shaft, a worm intermeshing with the worm-wheel, a worm-carrying shaft, a loose belt-wheel mounted thereon and having a clutch-face, a clutching member feathered on the worm-shaft, a clutch-operating lever, a spring tending to move the lever in one direction, a pedal mechanism for moving the lever in the opposite direction, a notched locking-bar connected to the pedal-lever, a locking-lever arranged to engage in said notch, a cam-lever connected to the locking-lever and having an arm in the path of movement of the receptacle-carrier, a plunger, means for operating the same, a scale-beam, and a lever connected to the scale-beam and having a cam-shaped block arranged below the plunger and over which the receptacle-carrying arms are successively moved.

806,160. **FIRE-PROTECTOR.** BENJAMIN F. METZ, Lowry City, Mo. Filed Oct. 10, 1904. Serial No. 227,944.

Claim.—A protector embodying the panels 2, the corner-posts 1 and a hinged connection between the posts and the panels embodying a lug projecting from the side of each post and provided with the vertical pintle-opening 5, said lug having the radial slot 6 at its up-

per extremity extending from the openings 5, the lug also having the recess 7 in a side thereof and in communication with the pintle-opening also, and the L-shaped pintle member 8 projecting from the panels and received in the pintle-opening 5 of the lug 4 aforesaid, the recess 7 of said lug forming overhanging portions 11 to engage over the pintle member 8 and prevent displacement of the latter.



806,161. MANUFACTURE OF HYDRAULIC CEMENT. WILHELM MICHAELIS, Berlin, Germany, assignor to Fried. Krupp, Grusonwerk at Magdeburg-Buckau, Germany, a Firm. Filed Mar. 28, 1901. Serial No. 53,330.

Claim.—1. The process for manufacturing a hydraulic cement which consists in preparing a mixture of ores and ore residues of peroxids of heavy metals of the iron group practically free from alumina with silica and lime and submitting the mixture to burning and sintering the same to incipient fusion, in the presence of air and finally grinding the resultant product.

2. The process of manufacturing a hydraulic cement which consists in mixing ores of peroxids of any of the heavy metals of the iron group practically free from alumina with lime and silica, adding this mixture in any state or condition to a suitable quantity of ordinary Portland-cement mixture in any state or condition, substantially as described.

3. The process of manufacturing a hydraulic cement which consists in submitting mixtures of ores of peroxids of any of the heavy metals of the iron group practically free from alumina with lime and silica and of ordinary Portland-cement mixtures to the action of a sintering temperature and to incipient fusion and comminuting and subdividing the particles of the mixture, substantially as described.

4. The process for manufacturing a hydraulic cement with heavy metals as a base which consists in comminuting and mixing silicious peroxidic ores of heavy metals of the iron group and limestone and burning the mixture to incipient fusion and with the exclusion of reducing agents in the presence of air.

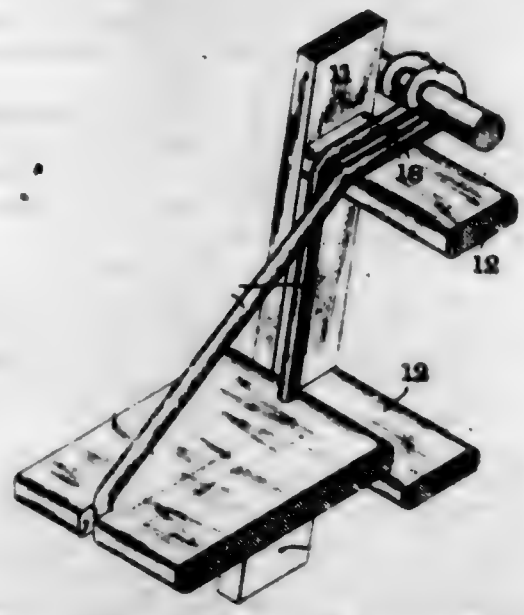
5. The process for manufacturing a hydraulic cement with heavy metals as a base which consists in disintegrating and intimately mixing together peroxid containing ores of the heavy metals of the iron group and silicious limestone, sintering or burning the mixture to incipient fusion and with the exclusion of reducing agents and grinding the burnt product.

6. The process for manufacturing a hydraulic cement with heavy metals as a base which consists in comminuting and mixing silicious ores of peroxids of the heavy metals of the iron group and limestone and burning the mixture to incipient fusion and with the exclusion of reducing agents in the presence of air, and clinkering and grinding the resultant product.

7. The process for manufacturing a hydraulic cement with heavy metals as a base which consists in comminuting and mixing silicious ores of peroxids of heavy metals of the iron group and ore residues practically free from alumina with lime and silica, burning the mixture to incipient fusion and in the presence of an excess of air, grinding the product and mixing the same with ordinary cement mixtures in any form or condition.

8. The process for manufacturing a hydraulic cement with heavy metals as a base which consists in comminuting and mixing silicious peroxids containing ores of heavy metals of the iron group and ore residues practically free from alumina with silicious lime, burning the mixture to incipient fusion and in the presence of an excess of air, grinding the product and mixing the same with ordinary cement mixtures in any form or condition.

806,162. PLATFORM ATTACHMENT FOR LADDERS. GUSTAVE A. MILBRADT, St. Louis, Mo. Filed Apr. 3, 1905. Serial No. 253,367.



Claim.—1. The combination with a bar adapted to bear against the rear of a ladder, of hangers carried by said bar and arranged to pass between the sides of the ladder so that the device will fold against the ladder, and a platform carried by said hangers and adapted to bear against the front of the ladder.

2. The combination with a bar adapted to bear against the rear of a ladder, of hangers carried by said bar and substantially parallel with the sides of the ladder, said hangers being adapted to pass between the sides of the ladder so that the device will fold against the ladder, and a platform carried by said hangers.

3. The combination with hangers adapted to bear on a step or rung of a ladder, of a bar secured to said hangers and adapted to bear on the rear of said ladder above said step or rung, and a platform carried by said hangers and adapted to bear on the front of said ladder below such step or rung.

4. The combination with spring-metal hangers adapted to bear on the step or rung of a ladder and provided with loops, of a bar removably carried in said loops and adapted to bear on the rear of the ladder, and a platform having notches adapted to be sprung into engagement with said hangers, said platform being adapted to bear on the front of the ladder.

806,163. BROOM-SEWING MACHINE. ANDREW E. MILLER, Baltimore, Md., assignor, by mesne assignments, to Hamilton Casnard, Baltimore, Md. Filed June 11, 1903. Serial No. 161,097.

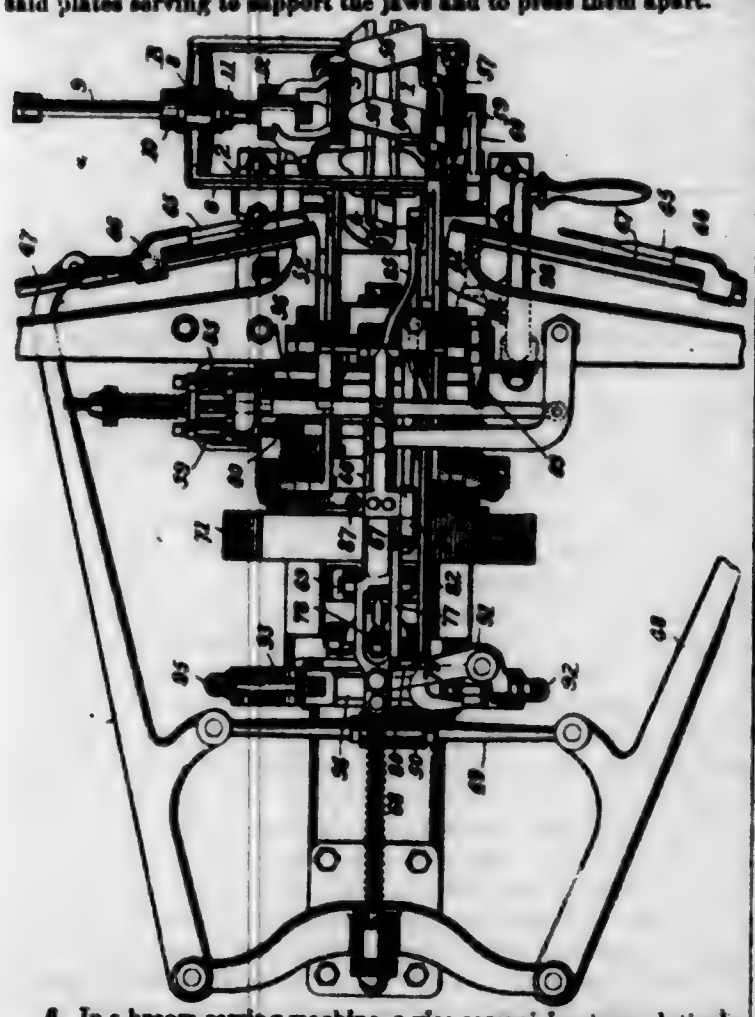
Claim.—1. In a broom-sewing machine, the combination of a vise arranged to rock about an axis, a curved plate connected to the vise and concentric with its axis, a cam and cam-lever operating to alternately grip and release said plate, and an intermittently-movable stop for regulating the amount of movement of the plate.

2. In a broom-sewing machine, the combination with a vise arranged to rock about an axis, a curved plate connected with vise and concentric with its axis, a stop-lever arranged to rock about the axis of the vise, and provided with a similar curved plate, and means for moving said plates alternately.

3. In a broom-sewing machine, the combination with a vise arranged to rock about an axis, a curved plate connected with the vise and concentric with its axis, a stop-lever arranged to rock about the axis of the vise, and provided with a similar curved plate, means for moving said vise and lever alternately, and an adjustable connection between said curved plates, whereby their relative movement is limited.

4. In a broom-sewing machine, the combination with a vise arranged to rock about an axis, of a curved plate connected with the vise and concentric with its axis, a stop-lever arranged to rock about the axis of the vise, and provided with a similar curved plate, cams and cam-levers arranged to alternately grip and release said plates, and means for moving said plates when released, whereby a step-by-step movement is imparted to the vise.

5. In a broom-sewing machine, the combination with a vise adapted to open and close, of inner broom-supporting jaws arranged to slide vertically within the vise, spring-plates connected to said jaws and a sliding block or head to which said plates are connected, said plates serving to support the jaws and to press them apart.



6. In a broom-sewing machine, a vise comprising two relatively movable jaws in combination with a pair of links pivoted to one of said jaws, and a lever pivoted to the other jaw and connected to said links, said lever being adjustable relatively to said links to vary the closing of the jaws.

7. In a broom-sewing machine, a vise comprising two relatively movable jaws in combination with a pair of links pivoted to one of said jaws, and a lever pivoted to the other jaw and connected to said links, said lever providing a threaded connection between said links and the jaw to which the lever is pivoted, whereby said jaw may be adjusted relatively to its companion jaw.

8. In a broom-sewing machine, the combination with a vise comprising two relatively movable jaws, of a pair of links connected to one of said jaws and embracing the other jaw, a collar to which said links are connected at their free ends, a lever passing through said collar and arranged to turn therein, means for preventing longitudinal movement of the lever in the collar, and a part pivotally connected to the other jaw and having a threaded connection with said lever for the purpose set forth.

9. In a broom-sewing machine, the combination with the vise, of broom-supporting clamps movable within the vise, a rack connected to said clamps, links connected to one of the vise-jaws, a lever connected to the other vise-jaw and to said links, a pawl coöperating with the rack and connections between said links and said pawl for operating the latter.

10. In a broom-sewing machine, the broom-dropping devices comprising the rack, the pawl coöperating with the rack, the arm connected to said pawl, the movable part arranged to operate said arm to release the pawl from the rack, and means operated by the pawl for releasing said part from said arm, whereby said pawl is permitted to immediately reengage said rack.

11. In a broom-sewing machine, the combination with the vise and the inner broom-supporting clamps, of the rack connected to said clamps, the pawl 23 engaging said rack and having an arm 27, the rod 24 having a projecting portion adapted to engage said arm, the arm 29 on said rod arranged to be engaged by the pawl, and the spring 28 connecting said pawl with said rod.

12. In a broom-sewing machine, the combination with the vise, of arms pivoted to the vise and provided with parts extending across the jaws of the vise, means for causing said parts to impinge upon the edges of the broom in the vise, and means connected to one of said arms for effecting the starting of the machine.

13. In a broom-sewing machine, the combination with the vise, of arms pivoted to the vise and provided with parts extending across the jaws of the vise, means for causing said parts to impinge upon the edges of the broom in the vise, and means connected to one of said arms for effecting the stopping of the machine.

14. In a broom-sewing machine, the combination with a power-shaft, and a clutch, of a clutch-lever for opening and closing the clutch, a rod connected to said lever, a spring connected to said rod and tending to cause engagement of the clutch members, a latch adapted to engage said rod to hold the clutch members out of engagement, and means for disengaging said latch, said means being controlled by the width of the broom in the vise.

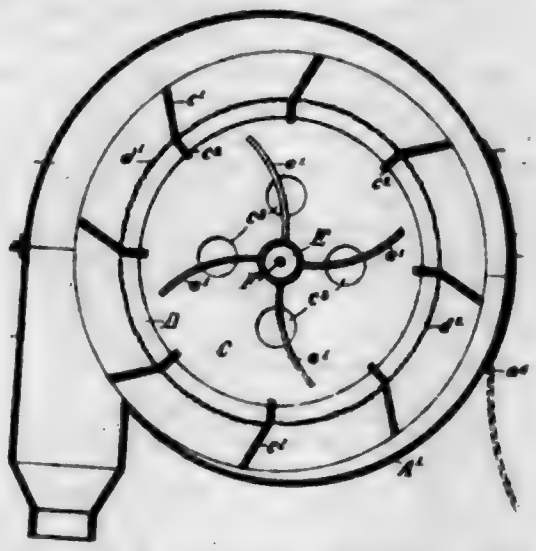
15. In a broom-sewing machine, the combination with the vise movable relatively to the sewing mechanism, and the clutch for connecting and disconnecting the sewing mechanism with the power-shaft, of a hook or projection 86 carried by the vise and adjustable relatively thereto, a coacting hook or projection 83, and means operated by the engagement of said hooks or projections for releasing the clutch to stop the machine.

16. In a broom-sewing machine, the combination with a clutch-lever and the brake-lever, of a bar 67 to which said levers are connected, a spring tending to draw said bar in one direction, a latch arranged to hold said bar against the tension of said spring, a vise, a hook or projection supported on the vise and adapted to operate the stopping mechanism, and a part connected with said latch and coöperating with said hook or projection, for the purpose set forth.

17. In a broom-sewing machine, the combination with a power-shaft, and the clutch, of the clutch-lever 69, and the parallel pivoted arm 73, the head 72 connected to said lever and arm, a cam-roll carried in said head, a rotating cam 81, and means for moving said cam-roll into the path of said cam, whereby said cam is caused to operate the clutch.

18. In a broom-sewing machine, the stopping mechanism comprising a clutch-lever 69, a head 72, a cam-roll movably mounted in said head, the spring tending to move said roll into the path of its cam, the latch for holding the roll out of the path of said cam, and means for connecting to the vise for withdrawing said latch.

806,164. **BAG-DUSTING MACHINE.** CYRUS R. MILLER, Milwaukee, Wis. Filed Nov. 19, 1904. Serial No. 233,539.



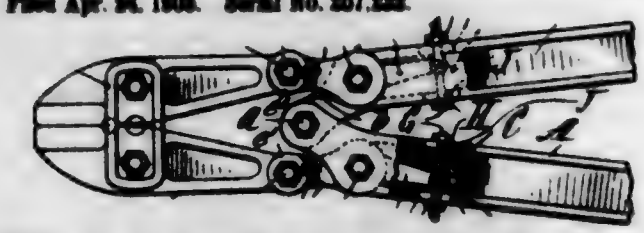
Claim.—1. In a dust-extracting apparatus, a casing having a suitable discharge-spout, air-inlets and door, a cylindrical cage rotatably mounted in said casing and having its periphery formed of reticulated material and provided with suitable air-inlets in its heads and having a door, flexible beater-arms mounted within said cage to rotate in the direction opposite thereto, and means for driving said cage and for operating said beater-arms.

2. In a dust-extracting apparatus, a casing having suitable discharge-spout at one side thereof, air-inlet openings in its heads, and a door in its periphery, a cylindrical cage rotatably mounted within said casing and arranged eccentric thereto, said cage having its periphery formed of reticulated material, provided with a suitable door, and with openings in its ends, beater-arms mounted in said cage and adapted to rotate in the direction opposite thereto, and means for driving said cage and for operating said beater-arms.

3. In a dust-extracting apparatus, a cylindrical casing having suitable discharge-spout, openings in its heads and door in its periphery, a cage rotatably mounted within said casing, said cage having its periphery formed of reticulated material and provided with radial blades extending externally and internally from its periphery,

said cage having a suitable door and with openings in its heads, flexible beater-arms mounted in said cage and adapted to rotate in the direction opposite thereto, means for driving said cage and means for operating said beater-arms.

808,165. BOLT-CLIPPER. ARTHUR L. MOORE, Springfield, Mass. Filed Apr. 24, 1905. Serial No. 257,222.

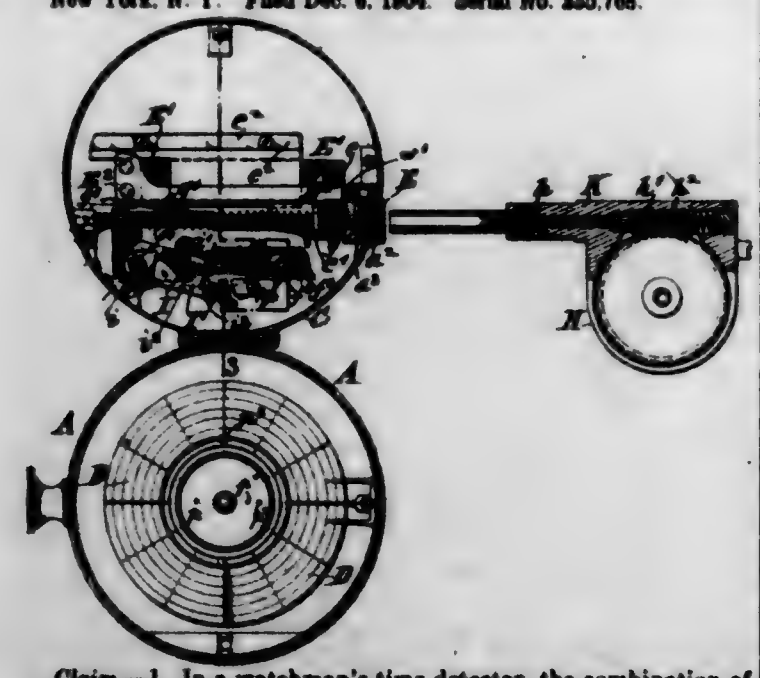


Claim.—1. In a bolt-clipper of the class described, in combination, the hinge-connected handles having semicircular depressions therein adjacent the hinge-pivot thereof and having cavities formed in, and extending lengthwise from said depressions, into the handles toward their free ends, cutter-jaw-adjusting levers having centrally-located shouldered or hub portions fitting into and supported by the partially-circular walls of the handle depressions, and also supported by their pivotal attachment therein; and each having by one arm, pivotal connection with one of the cutting-jaw levers, and each having its other arm extending into said cavity, double-screw members each engaging one of the cavity-inclosed arms and having their extremities outwardly protruding through the upper and lower edge portions of the handle, and means for operating said screw members for moving the adjusting-levers.

2. In a bolt-clipper, in combination, the hinge-connected handle-levers having the semicircular sidewise-opening depressions *b* therein, and having cavities C extending lengthwise therein, and opening to said depressions, and also having the apertures J J in their upper and lower edges, the cutter-jaws, and adjusting-levers, therefor, and connected therewith, having the intermediate sidewise-extending hub or shoulder portions 10, fitting in said depressions,—and the confining-bolts *d*, therefor,—and each lever having its arm *c* extending into the handle-cavity and having pivotally connected thereto the alined oppositely and transversely extending bolts, G, extending through said apertures J, and the nuts, H H, threading on said bolts G and engaging against the upper and lower edges of the handle-lever, substantially as described and shown.

3. In a bolt-clipper, the combination with the handle-levers pivotally connected together at their forward ends, a pair of adjusting-levers intermediately pivotally mounted on the forward extremities of the handle-levers, and having the arms thereof forwardly and rearwardly extended, from the pivot-points, relatively to the length of the handle-levers, the cutter-lever members having the rearward arms thereof jointed to the forward end portions of the adjusting-levers, and an adjusting device for each adjusting-lever which, as an entirety, is located adjacent, and coöperates with, the free, rearward arm of the adjusting-lever.

808,166. WATCHMAN'S TIME-DETECTOR. PAUL MOOSMANN, New York, N. Y. Filed Dec. 6, 1904. Serial No. 235,768.



Claim.—1. In a watchman's time-detector, the combination of a guided and spring-actuated slide-plate located on the cover of the detector and provided with a perforated bracket, a spindle guided in said bracket, a key-box provided with a keyhole in line with the spindle and a recess for the end of the same, a key provided with a tubular barrel and a ward on said barrel for actuating the slide-plate, a spring-plate attached to the reciprocating slide-plate and provided at its free end with a marker, and a spring-actuated guard device projecting through the spindle-bracket for directing the key for actuating the spring-plate and permitting its return into position for withdrawing from the key-box.

2. In a watchman's time-detector, the combination, with a spindle located on the cover of the detector, of a guided and spring-actuated slide-plate provided with a perforated bracket for said spindle, a key-box provided with a keyhole in line with the spindle and a recess for the end of said spindle, a key provided with a tubular barrel and a ward on said barrel for actuating the slide-plate, a spring-plate attached at one end to the reciprocating slide-plate and provided at the opposite end with a marker, and a spring-actuated guard device projecting through an arc-shaped slot in the spindle-bracket into the path of the ward of the key for directing the key for actuating the marking-plate and permitting its return into position for withdrawing it from the key-box.

3. In a watchman's time-detector, the combination, with a spindle located on the cover of the casing and provided with a tapering end, of a spring-actuated slide-plate provided with a perforated bracket for guiding the spindle, means for guiding the reciprocating slide-plate on the inner surface of the cover, a key-box provided with a keyhole for the key and an interior recess for the end of the spindle, a spring-actuated guard extending through the spindle-bracket of the slide-plate, a spring-plate attached at one end to the slide-plate and provided at its opposite free end adjacent to the key-box with a pointed marker, and a key provided with a tubular barrel for moving over the spindle and an interior controlling mechanism adapted to be actuated by the tapering end of the spindle.

4. In a watchman's time-detector, the combination, with a spindle guided at one end in a socket of the cover of the detector, of a slide-plate provided with a perforated bracket for guiding the opposite end of the spindle, means for guiding the slide-plate on the cover, a spring-plate attached at one end to the slide-plate and provided at its free end with a marking device, a second slide-plate provided with a perforated bracket near the guide-socket of the spindle, a helical spring interposed between the guide-bracket on the first slide-plate and the guide-bracket of the second slide-plate, locking mechanism for permitting the locking or releasing of the second slide-plate and spindle in stationary position, and a key provided with a tubular barrel and an interior controlling device adapted to be actuated by the spindle, said controlling device being placed out of engagement with the spindle when the locking mechanism of the second slide-plate is released.

5. In a watchman's time-detector, the combination, with a spindle one end of which is supported in a guide-socket of the cover, of a slide-plate provided with a perforated bracket for guiding the opposite end of the spindle, a second slide-plate, means for guiding the same on the cover, said second slide-plate being provided with a perforated guide-bracket for guiding the spindle adjacent to its guide-socket, a locking-lever pivoted to the second slide-plate, a spring for actuating said locking-lever, said locking-lever being provided with a recess at its outer end, a stationary pin on the cover adapted to be engaged by the recess of the locking-lever, a helical spring on the spindle between the guide-brackets on the first and second slide-plates, and a key provided with a barrel and an auxiliary controlling device, said locking-lever locking the spindle in position for engaging and actuating the controlling device of the key.

6. In a watchman's time-detector, the combination, with a spindle one end of which is guided in a socket of the cover, of a slide-plate provided with a perforated bracket for guiding the opposite end of the spindle, a spring-plate attached at one end to the slide-plate and provided with a marking device at its free end, a guard device projecting in front of the spindle-bracket for directing the key toward the spring-plate, a second slide-plate guided on the cover and provided with a perforated bracket for guiding the spindle adjacent to its guide-socket, a helical spring placed on the spindle between the brackets of the two slide-plates, a pivoted and spring-actuated locking-lever, a lever-arm on the pivot of the locking-lever, a roller on the cover on one side of the second slide-plate, a pin on the cover on the opposite side of the said slide-plate, said roller and pin being adapted to be engaged by the locking-lever, and a pin on the face of the dial of the clock-train adapted to engage said lever-arm so as to throw the locking-lever automatically out of engagement with the pin and into engagement with the roller.

7. In a watchman's time-detector, the combination, with a spindle one end of which is guided in a socket of the cover, of a slide-plate provided with a perforated bracket for guiding the opposite end of the spindle, a second slide-plate provided with a perforated guide-bracket for guiding the spindle adjacent to its guide-socket, a locking-lever pivoted to the second slide-plate, a spring for actuating said locking-lever, said locking-lever being recessed at its outer end, a stationary pin on the cover adapted to be engaged by the recessed locking-lever, a helical spring placed on the spindle between the guide-brackets of the first and second slide-plates, and a pivoted stop device adapted to engage recesses in the edge of the second slide-plate so as to lock it in position for holding the spindle in forward or backward position.

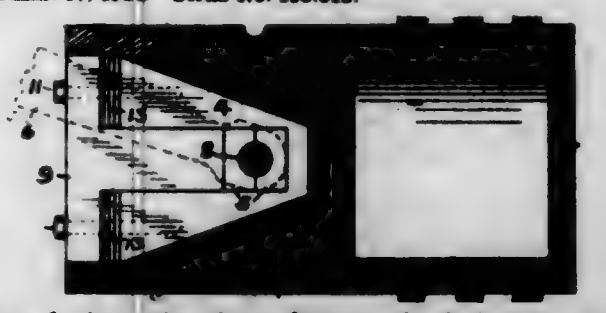
8. In a watchman's time-detector, the combination, with a spindle guided at one end in a guide-socket of the cover, of a primary slide-plate provided with a perforated bracket for guiding the opposite end of the spindle, means for guiding said primary slide-plate on the cover, a second slide-plate provided with a perforated bracket for guiding the spindle adjacent to its guide-socket, means for guiding said second slide-plate on the cover, a spring-actuated locking-lever provided with two recesses at its end, a stationary pin adapted to be engaged by the outer one of said recesses, a roller on the cover adapted to be engaged by the inner one of said recesses, a lever-arm attached to the pivot of the locking-lever, and a pin on the dial of the clock-train arranged in the path of the upper lever so as to release the locking-lever automatically by the action of the clock-train when the locking-lever is to be released from its engagement with the pin on the cover.

9. In a watchman's time-detector, the combination, with a spindle guided on the cover of the detector, of a spring-actuated slide-plate guided on the cover and provided with a perforated bracket for the end of the spindle, a key-box on the cover having a keyhole in line with the spindle, a stationary guard-hook adjacent to the inner end of the key-box, a spring-plate attached at one end to the slide-plate and provided with a marker at its free end, and a key provided with a ward adapted to be engaged by said guard-hook for being prevented from being turned in opposite direction after actuating the spring-plate.

10. In a watchman's time-detector, the combination, with a spindle guided on the cover of the detector, of a spring-actuated slide-plate guided on said cover and provided with a perforated bracket for the spindle, a key-box having a keyhole in line with the spindle, a spring-plate attached at one end to the slide-plate and provided with a marker at its free end, a spring-actuated angular guard-plate extending around the marker adjacent to the key-box, and a flange at the rear portion of the angular guard-plate extending over the spring-plate, and a key having a ward engaging the spring-plate and guard-plate and producing the proper actuating of the marker.

11. In a watchman's time-detector, the combination, with a spindle guided on the cover of the detector, of a spring-actuated slide-plate also guided on said cover and provided with a perforated bracket for said spindle and a raised face portion at its upper part, a spring-plate attached at one end to the slide-plate and provided at its free end with a marker, a key-box having a keyhole in line with the spindle, a spring-actuated guard-plate extending around the marker and toward the key-box, said guard-plate being provided with a flange extending over the spring-plate and a marking-pin on its rear portion, and a key having a ward adapted to engage the spring-plate and guard-plate and produce the clearance of the marker by the guard-plate by the key but the non-marking of the time-disk by the marker and the marking of the same by the marking-pin on the guard-plate when an imitation key is inserted.

806,167. **PISTON.** DUDLEY R. MORRISON, Hartford City, Ind. Filed Mar. 17, 1904. Serial No. 198,615.



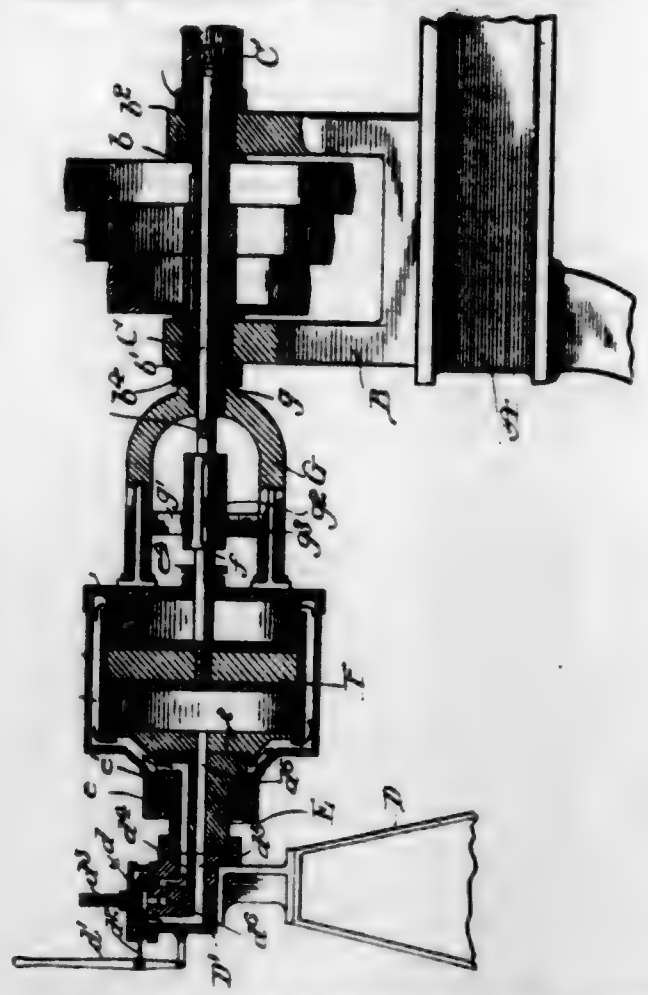
Claim.—1. An engine-pitman having a fixed pin at its piston end, and a piston having journal-boxes at each side of the piston to receive the ends of said pin, means extending to that end of the piston which the pitman enters, for adjusting said boxes, and bolts having heads projecting from the same piston end for adjusting said means

2. A hollow piston approximately twice the length of its diameter divided by a transverse wall into two compartments one of which is closed and in the other of which the pitman is connected, a pitman having a fixed pin, two-part journal-boxes mounted in the piston to receive the ends of the pin projecting on each side of the pitman, blocks bearing against the other box-half and extending to that end of the piston which the pitman enters, and bolts to hold the blocks firmly against the boxes.

3. A piston having a longitudinal end recess, a pitman entering said recess, a pin fixed in the inserted end of the pitman, two-part journal-boxes mounted in the piston to receive the ends of the pin, which project on each side of the pitman, blocks bearing against the outer box-half and extending to that end of the piston which the pitman enters, spacing-plates between the blocks and the piston to regulate the adjustment of the block longitudinally of the piston, and bolts to hold the block firmly against the boxes.

4. A hollow piston, a pitman having a fixed pin, journal-boxes mounted in the piston to receive the ends of the pin, outside oil-grooves across the top of the piston connecting the pin-holes, T-shaped blocks bearing against the boxes and extending to that end of the piston which the pitman enters, spacing-plates between the vertical arms of the blocks and the piston, and bolts to force the blocks against the boxes.

806,168. **MEANS FOR OPERATING CHUCKS.** JOHN MORRISON, Dubuque, Iowa. Filed Mar. 7, 1904. Serial No. 196,833.



Claim.—1. In a device of the class described the combination with a rotative chuck-shaft, of a cylinder rotative therewith, a piston-head in said cylinder and engaged on said shaft, a valve-casing in axial alinement with said cylinder, an extension thereon forming a bearing for the inner end of the cylinder and a valve-closure in said casing.

2. A fluid-operated chuck comprising a tubular arbor, a chuck-shaft longitudinally movable therein, a cylinder, a piston therein adapted to operate the shaft, a valve-casing, an extension thereon in axial alinement with said cylinder, and forming a bearing for one end of the shaft, said extension affording passages opening both into said casing and said cylinder.

3. In a device of the class described, the combination with a chuck-shaft, of a piston rigidly engaged on one end thereof, a cylinder inclosing said piston, a valve-casing provided with ports therethrough, an extension thereon bored to form a continuation of the ports in said casing and providing a bearing for one end of said cylinder and a valve-closure in said casing controlling said ports.

4. In a device of the class described, the combination with a rotative cylinder having a piston therein, of a chuck-shaft rigidly engaged on said piston, a valve-casing, a valve therein adapted to control the ports in said cylinder and an extension on said casing seated in the end of said cylinder and affording a bearing therefor.

5. A combination with a cylinder, of a piston therein, an outwardly-extending piston-rod, a slidable chuck-shaft in operative connection with the piston-rod, a valve-casing, a part thereon affording a bearing upon which the cylinder rotates and operating means adapted to admit fluid-pressure into either end of the cylinder through said bearing and to move the chuck-shaft in either direction.

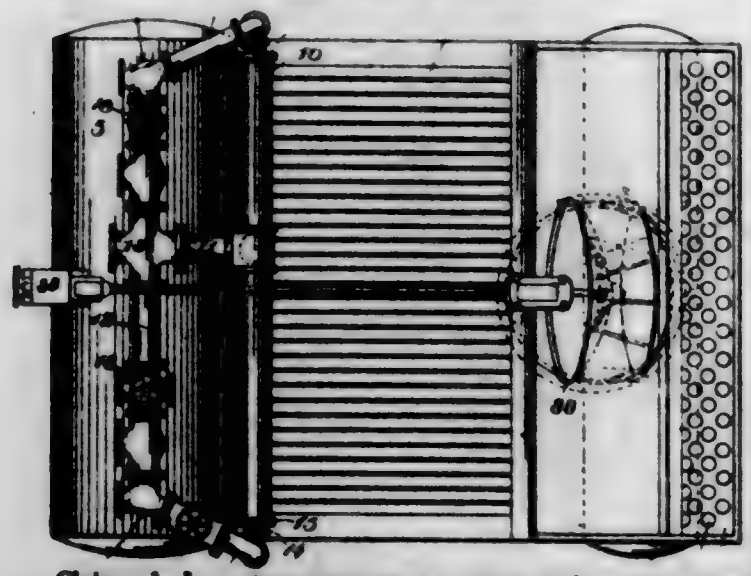
6. In a device of the class described the combination with a tubular arbor of a chuck-shaft slidably engaged therein, a cylinder, a piston therein operatively connected with said shaft, a standard, a valve-casing rigidly engaged thereon and an extension on said valve-casing opening into said cylinder and affording a bearing therefor.

7. In a device of the class described the combination with a standard, of a valve-casing thereon, a valve in said casing, a laterally-directed extension on said valve-casing provided with ports leading therefrom, a cylinder journaled on said extension, a piston therein, a hollow spindle to which the cylinder is secured and a chuck-operating shaft therein operatively connected with said piston.

8. In a device of the class described, the combination with a head-stock and a standard, of a tubular arbor journaled in said head-stock, a chuck-shaft slidably engaged therein, a rotative cylinder secured to the tubular arbor, a piston operatively connected with said chuck-shaft, a valve and casing carried on said standard and an extension from the casing in axial alinement with said arbor affording a bearing for said cylinder and having ports communicating with the cylinder and controlled by the valve.

9. In a fluid-operated chuck, a rotative tubular arbor, a cylinder rigidly engaged thereon, a piston in said cylinder, a chuck-operating shaft connected with said piston and slidably engaged in said arbor, a valve-casing, an extension thereon affording a bearing for one end of said cylinder and provided with passages communicating with the ports in said casing and with the cylinder at each end of the piston and a valve controlling said passages.

808,169. **SUPERHEATER.** CHARLES D. MONNER, New York, N. Y. Filed July 17, 1903. Serial No. 166,054.

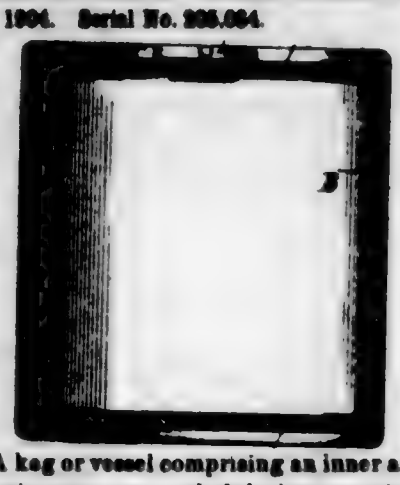


Claim.—1. In a steam-generator, a steam and a water drum connected together by a plurality of generating-tubes, in combination with a superheater above said tubes comprising a transverse pipe along the steam-main and connected therewith intermediate its ends, a series of open-ended tubes projecting therefrom rearwardly and substantially parallel with the generating-tubes below the top casing of the generator a pipe inclosing said transverse pipe also connected with the steam-main, having tubes with closed ends surrounding said open-ended tubes.

2. In a steam-generator an outer pipe centrally connected with the steam-discharge with a plurality of projecting tubes closed at their outer ends, in combination with a head at each end, an inner pipe passing through the heads of the outer pipe and connecting with a steam-supply, and provided with small open-ended tubes within the aforesaid projecting tubes, as set forth.

3. In a steam-generator the combination of a steam and a water drum connected together by a plurality of generating-tubes, a transverse pipe across the generating-tubes connected with the steam-discharge pipe having a head at each end and a plurality of projecting tubes with closed ends extending along parallel with the generating-tubes, a pipe within the transverse pipe having tubes which rest within the aforesaid projecting tubes, said pipe being secured through the heads of the outer pipe and connected with the steam-supply pipe from the steam-drum, and valves for controlling the supply of steam to said superheater, as set forth.

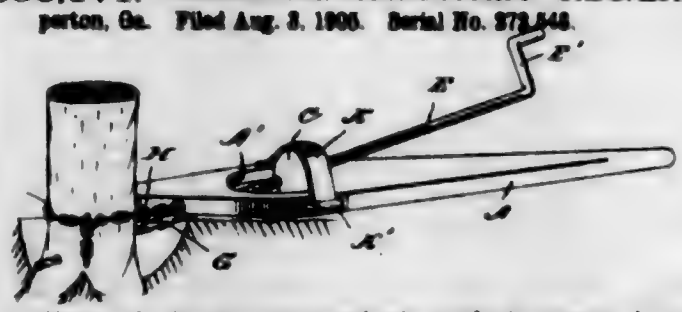
808,170. **KEG OR VESSEL.** BENNET MOXHAM, Wilmington, Del. Filed Apr. 27, 1904. Serial No. 205,604.



Claim.—1. A keg or vessel comprising an inner and outer body-section, a head resting upon one end of the inner section, a head resting upon the other end of the inner section, the ends of the outer sections being bent against the outer faces of their corresponding heads and maintained in locking contact therewith by longitudinal shrinkage of the outer body-section.

2. A keg or vessel comprising an inner and outer body-section, a head resting upon one end of the inner section, a head resting upon the other end of the inner section, the ends of the outer section being bent against the outer faces of their corresponding heads, the two sections being secured together by circumferential shrinkage and the heads maintained in position by longitudinal shrinkage of the outer body-section.

808,171. **MACHINE FOR BORING STUMPS.** OTIS B. MOYE, Soperton, Ga. Filed Aug. 3, 1905. Serial No. 272,548.

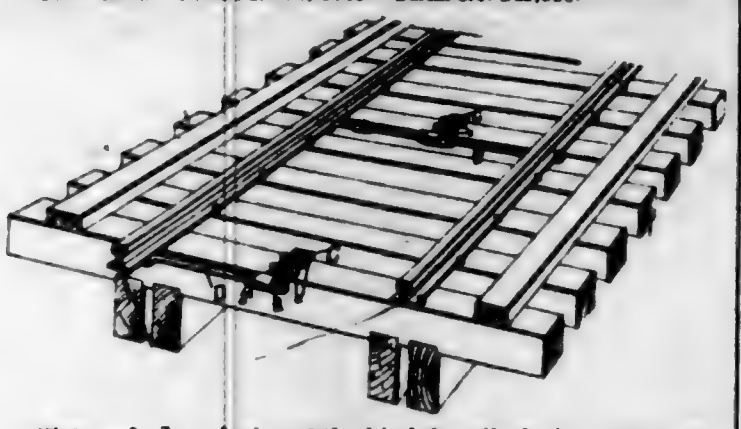


Claim.—1. An apparatus for boring holes in stumps, &c., comprising a lever with an opening therein, which opening is adapted to permit a shaft to pass diagonally therethrough means for anchoring one end of said lever to a stump, a threaded shaft, a bit with auger connected thereto, a bearing member having a threaded aperture through which said shaft passes, and means for holding said bearing member frictionally against the marginal outline of said opening, as set forth.

2. An apparatus for boring holes in stumps, &c., comprising a lever with an opening therein, which opening is adapted to permit a shaft to pass diagonally therethrough means for anchoring one end of said lever to a stump, a threaded shaft, a bit with auger connected thereto, a spherical bearing member having a threaded aperture therein engaged by the threads of said shaft, a strap hinged at one end to the edge of said lever and concaved upon one side and engaging said spherical bearing member and designed to hold the same frictionally against the inclined marginal wall of said opening of the lever, as set forth

3. An apparatus for boring holes in stumps, &c., comprising a lever with an opening therein, which opening is adapted to permit a shaft to pass diagonally therethrough means for anchoring one end of said lever to a stump, a threaded shaft, a bit with auger connected thereto, a spherical bearing member having a threaded aperture therein engaged by the threads of said shaft, a strap hinged at one end to the edge of said lever and concaved upon one side and engaging said spherical bearing member and designed to hold the same frictionally against the inclined marginal wall of said opening of the lever, a bolt passing through said lever and engaging the free end of said strap, and a thumb-nut upon said bolt adapted to hold the strap against said bearing member, as set forth.

806,172. TRACK-ALINING DEVICE. EDWARD MURPHY, Iowa Falls, Iowa. Filed Jan. 31, 1905. Serial No. 243,511.



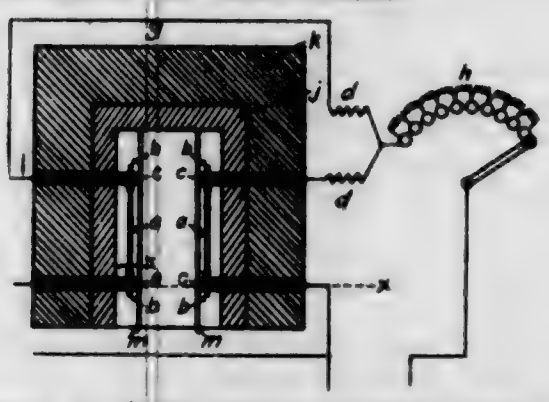
Claim.—1. In a device of the kind described, the combination with a rail, of a plate provided with an eye secured to the cross-tie and a rod provided with a jaw to receive the rail at one end, and the other end projecting through the eye, in said plate, said end being screw-threaded and provided with nuts on each side of the eye for drawing the track in or shoving the track out, for the purpose described.

2. In a device of the kind described, the combination with a rail of a flat plate provided with an eye at one end, and notches formed in its side, secured to the cross-tie, a rod screw-threaded at one end and provided with a jaw at the other end connecting the eye to the rail and means carried by said rod for adjusting said rail, for the purpose described.

3. In a device of the kind described, the combination with a rail, of a plate provided with an eye secured to the cross-tie, a rod provided with a jaw at one end passing through said eye, said rod having screw-threads cut at the other end, and at its center a jaw connected by a nut to said rod, and nuts carried by said rod for adjusting the said rail, for the purpose described.

4. In a device of the kind described, the combination with a rail, of a flat plate provided with an eye at one end, secured to the cross-tie and a rod connected to said rail, and projecting through the eye in said plate and being screw-threaded and provided with nuts on each side of the eye for drawing the track in, or shoving the track out, for the purpose described.

806,173. ELECTRIC FURNACE. ROSAIRE W. MYERS, Fruitvale, Cal. Filed Feb. 14, 1905. Serial No. 245,595.



Claim.—1. An electric furnace comprising a heat-resisting shell, a plurality of pyro-electrolytic bars within said shell, the protecting heat-resisting rods *m*, and conducting-supports sustaining the ends of said bars.

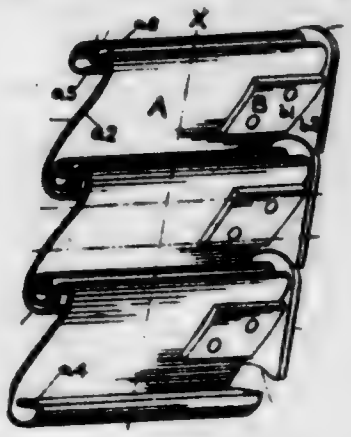
2. An electric furnace comprising a heat-resisting shell, a plurality of pyro-electrolytic bars within said shell, conducting-supports arranged in parallel circuits sustaining the ends of said bars, and means of supplying electrical currents to said supports.

3. An electric furnace comprising a heat-resisting shell, a plurality of pyro-electrolytic bars within said shell, conducting-supports sustaining the ends of said bars, means of electrically connecting said supports in parallel with a source of electrical currents and resistance-wires in said parallel circuits.

4. An electric furnace comprising a heat-resisting shell, a plurality of pyro-electrolytic bars within said shell, conducting-supports sustaining the ends of said bars, means of electrically connecting said supports in parallel circuits with a source of electrical currents, resistance-wires in said parallel circuits, and a variable rheostat in the lead-wire to said parallel circuits.

5. In an electric furnace having a plurality of pyro-electrolytic bars within a heat-resisting shell, means of protecting the substance to be heated and the said bars during the insertion and withdrawal of said substance, consisting of the heat-resisting rods *m*, arranged in parallel with said bars, between said bars and the space occupied by said substance.

806,174. FLEXIBLE FIRE-RESISTING CURTAIN. EDWARD H. MCCLOUD, Columbus, Ohio. Filed Feb. 9, 1905. Serial No. 244,983.



Claim.—1. A flexible fire-resisting curtain, composed of sections; the central portion of each section describing an inclined plane, its lower edge forming a semicylindrical surface, and terminating in an angular inward bend; its upper edge forming a reverse curve and an elliptical surface terminating under the downward portion of the reverse curve, adapted to form a hinge in conjunction with the lower edge of the adjoining section.

2. A flexible fire-resisting curtain composed of sections; the lower edge of each section forming in part a cylindrical surface, terminating in an inward bend; the upper edge forming a reverse curve; the downward portion acting as a fulcrum on the horizontal plane of the inward bend of the adjoining section.

3. A flexible fire-resisting curtain composed of a plurality of hinge-sections; the ends of each section fitted with a piece having a flange with an outwardly-curved end extending over the adjoining sections, and an inwardly-curved end adapted to receive the outwardly-curved end on the adjacent section.

4. A flexible fire-resisting curtain composed of a plurality of hinge-sections; the ends of each section closed by a piece consisting of a flange parallel to the section, and a flange at right angles to the same; the right-angle flange having an outwardly-curved side and end, a straight side and inwardly-curved end.

5. A flexible fire-resisting curtain composed of hinge-sections; the ends of each section closed by a piece having a projecting flange; one side of said flange being straight and parallel to the general plane of the curtain.

806,175. CLOSURE. JAMES A. NEE, New York, N. Y. Filed Mar. 31, 1905. Serial No. 253,171.



Claim.—1. An improved closure which comprises a cap with a flange, inset portions on the flange adapted to engage with a receptacle and lugs on the flange which when ruptured will permit the cap to be flexed and the insets disengaged.

2. The combination with a receptacle, of a cap having a continuous flange unweakened at any point and in set portions engaging with the receptacle, and means on the flange whereby its continuity may be broken and the cap permitted to be flexed.

3. An improved closure which comprises a cap with a continuous unweakened flange, means carried by the flange for engaging with a receptacle and means to permit the flexing of the cap to disengage it from the receptacle.

4. An improved closure which comprises a cap with a flange, means carried by the flange for engaging with a receptacle and lugs on the flange which will break the continuity of the flange by being ruptured and permit the flexing of the cap.

5. An improved closure which comprises a cap of sheet metal with an integral flange, lugs on the flange on the same side of the

medial line, inset portions on the flange between the lugs, and a finger-piece on the flange.

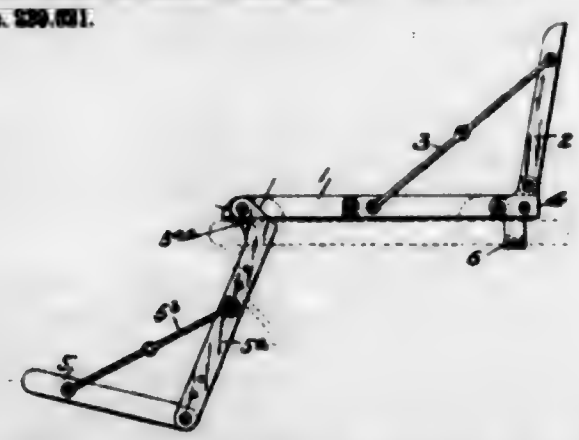
6. An improved closure which comprises a sheet-metal cap with a flange, means carried by the flange to permit the rupturing of the flange and breaking its continuity, and an inset portion on the flange adapted to engage with a receptacle and extending between the rupturing means and more than half of the circumference of the flange, and a second inset and finger-piece on the flange between the rupturing means and opposite the first inset.

7. An improved closure which comprises a sheet-metal cap with a flange, lugs on the flange, which upon being ruptured will break the continuity of the flange, and an inset portion on the flange adapted to engage with a receptacle and extending between the lugs and more than half of the circumference of the flange, and a second inset and finger-piece on the flange between the lugs and opposite the first inset.

8. An improved closure which comprises a cap with an integral continuous flange, inset portions on the flange adapted to engage with a receptacle and means on the flange which when ruptured will destroy the continuity of the flange, the said flange being unweakened adjacent to the rupturing means.

9. An improved closure which comprises a cap with a flange, inset portions on the flange adapted to engage with a receptacle and lugs on the flange which when ruptured will permit the cap to be flexed and inset portions disengaged, the said lugs having inset tops.

806,176. COMMODE ATTACHMENT FOR WATER-CLOSETS FOR CHILDREN. JESSE R. OAKLEY, Braddock, Pa., assignor of one-half to James H. Mullen, Monongahela, Pa. Filed Jan. 4, 1905. Serial No. 239,631.



Claim.—1. A child's commode attachment for water-closets, comprising a seat having applied to its appropriate surface, clamps adjustable with relation to, and adapted to clamp, the closet-bowl.

2. A child's commode attachment for water-closets, comprising a seat having applied to its appropriate surface, clamps adjustable with relation to, and adapted to clamp, either the inner or outer lateral surfaces of the closet-bowl, at its top edge.

3. A child's commode attachment for water-closets, comprising a seat having applied to its appropriate surface two sets of clamps, adjustable with relation to the closet-bowl, at its top edge, and adapted to engage the inner and outer lateral surfaces of the closet-bowl at its top edge, respectively.

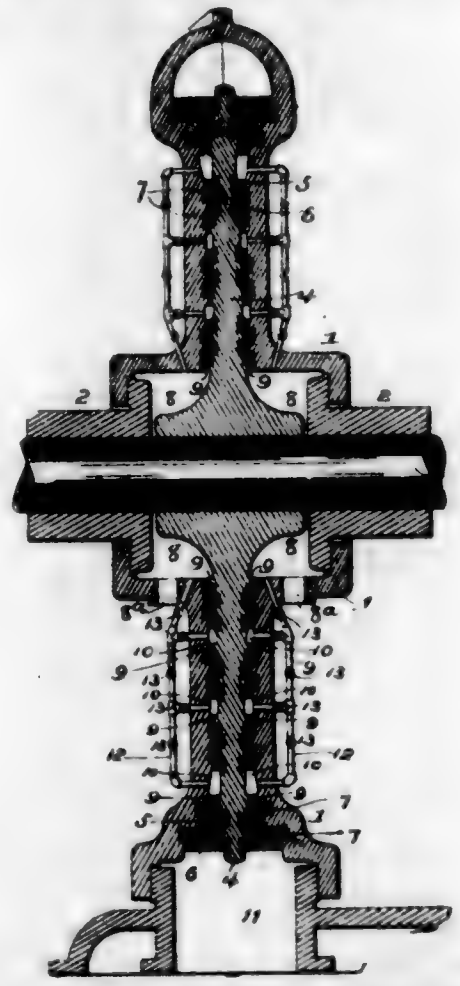
4. An article of the character described, comprising a seat having applied to its under side means for securing it to a closet-bowl, at its upper edge, and a foot-rest having suspenders provided with upper angular end portions connected laterally to said seat, said seat having lateral recesses at its forward edge to receive said suspender angular end portions for the purpose specified.

5. An article of the character described, comprising a seat having lateral recesses, at its forward edge, the shoulders formed by said recesses having downward and rearward inclined surfaces, and a foot-rest having lateral suspenders provided with upper end angular portions connected laterally to said seat, within said recesses, and adapted to bear against said inclined shoulders of the seat.

6. A child's commode attachment for water-closets, comprising a seat having applied to the appropriate surface thereof opposed clamps having normally outer downward-curved terminals, effective for engagement with the closet-bowl upper edge and set-screws working in slots in said clamps.

7. A child's commode attachment for water-closets having applied to the appropriate surface thereof two sets of clamps, one set being arranged oppositely to the other set, and each set consisting of two clamp-bars having opposite downward-curved terminals effective to engage the inner and outer upper edges of the closet-bowl, respectively, and set-screws working in slots of said clamp-bars.

808,177. STEAM-TURBINE. PAUL C. OSCANYAN, East Orange, N. J., assignor of one-fourth to George A. Thomson, Somerville, N. J., and one-fourth to The Adams Bagnall Electric Company, Cleveland, Ohio. Filed Mar. 18, 1905. Serial No. 250,767.



Claim.—1. In an elastic-fluid turbine, the combination of a rotary element, and a series of annular chambers constructed to adiabatically expand the elastic fluid.

2. In a turbine, the combination with a rotating element, a series of buckets on said rotating element, and annular chambers on opposite sides of the buckets constructed to adiabatically expand an elastic fluid and compel the buckets to absorb the kinetic energy developed by said chambers.

3. In a turbine, the combination with a rotating element, a stationary element, and said elements so constructed as to form annular chambers to adiabatically expand the elastic fluid.

4. In a radial-flow turbine, the combination of a stationary element, a rotary element, and both elements constructed to form between them annular chambers to adiabatically expand the elastic fluid.

5. In a radial-flow turbine, the combination with a casing, and a shaft therein, of a rotary element in the casing secured on the shaft, several series of buckets on both sides of the rotary element, several series of directing-vanes on the casing, and said rotary element and casing so constructed as to form annular chambers at each series of buckets to adiabatically expand the elastic fluid.

6. In a radial-flow turbine, the combination with rotating and stationary elements forming a series of annular chambers for the adiabatic expansion of steam, said chambers increasing in area from the axis to the periphery of the rotating element.

7. A radial-flow turbine having a rotary member balanced against pressure and a stationary member, each inner side of said stationary member and each side of the rotating member forming a series of annular chambers constructed to adiabatically expand the elastic fluid.

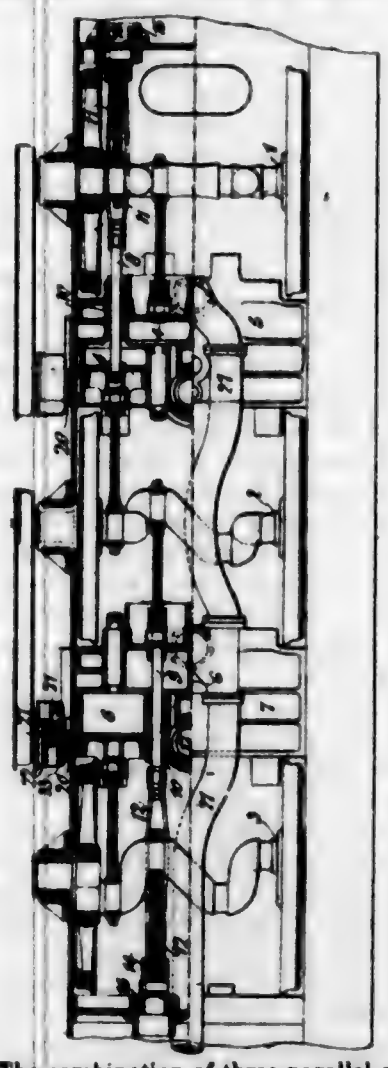
8. A radial-flow turbine, the combination of a balanced rotary member, vanes or buckets on each side of said rotary member, and a stationary member on each side of said rotary member constructed to form a series of annular chambers for the adiabatic expansion of the elastic fluid.

9. An elastic-fluid turbine having a series of annular chambers constructed to adiabatically expand the elastic fluid, each chamber having a by-pass by which the pressure in said chambers can be adjusted.

10. A radial-flow turbine having a series of annular chambers constructed to adiabatically expand the elastic fluid, and each chamber having a by-pass by which the pressure in said chambers may be adjusted.

11. In a radial-flow turbine, the combination of a rotating and stationary element forming a series of annular chambers constructed to adiabatically expand the elastic fluid, each chamber having a by-pass by which the pressure therein may be adjusted.

806,178. LOCOMOTIVE. CECIL W. PAGET, Sutton Bonnington, England. Filed Sept. 1, 1905. Serial No. 276,727.



Claim.—1. The combination of three parallel crank-axles, cylinders in the spaces between them, pistons working in the cylinders and connections from the pistons to the cranks on the crank-axles, the pistons of the cylinders in the space between the central and one outside axle driving cranks on these axles and those in the space between the central and other outside axle driving other cranks on these axles, so that all three crank-axles are coupled without the use of outside connecting-rods.

2. The combination of three parallel crank-axles, cylinders in the spaces between them, pistons working in the cylinders and connections from the pistons to the cranks on the crank-axles, the pistons of the cylinders in the space between the central and one outside axle driving cranks on these axles and those in the space between the central and other outside axle driving other cranks on these axles, and with the cranks driven by the pistons of one set of cylinders at right angles to the cranks driven by the pistons of the other set.

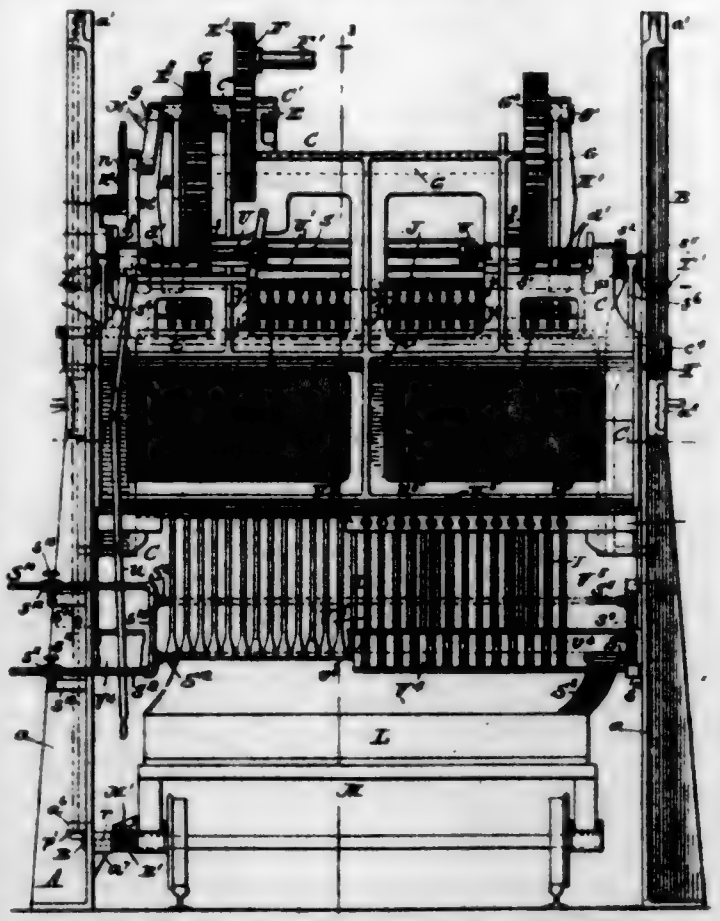
3. The combination of three parallel crank-axles each having four cranks upon it, two pairs of single-acting cylinders set back to back situated in each of the spaces between the axles, the pistons of one cylinder of each pair in one space coupled by connecting-rods to opposite cranks on the central axle, rods led back from these pistons through stuffing-boxes, means for driving opposite cranks on the adjacent outer axle from these rods and connecting-rods coupling the pistons of the other two cylinders to opposite cranks on this outer axle.

4. The combination of three parallel crank-axles each having four cranks upon it, two pairs of single-acting cylinders set back to back situated in each of the spaces between the axles, the pistons of one cylinder of each pair in one space coupled by connecting-rods to opposite cranks on the central axle, rods led back from these pistons through stuffing-boxes, means for driving opposite cranks on the adjacent outer axle from these rods and connecting-rods coupling the pistons of the other two cylinders to opposite cranks on this outer axle, and the cranks driven by the pistons of the two pairs of cylinders in one space at right angles to those driven by the pistons of the cylinders in the other space.

5. The combination of three parallel crank-axles each having four cranks upon it, two pairs of single-acting cylinders set back to back situated in each of the spaces between the axles, the pistons of one cylinder of each pair in one space coupled by connecting-rods to opposite cranks on the central axle, rods led back from these pistons through stuffing-boxes, means for driving opposite cranks on the adjacent outer axle from these rods and connecting-rods coupling the pistons of the other two cylinders to opposite cranks on this outer axle, and rotary valves driven from and at the same speed as the crank-axles for admitting steam at one time to the two cylinders of one pair and at another time to the two cylinders of the other pair.

6. The combination of three parallel crank-axles each having four cranks upon it, two pairs of single-acting cylinders set back to back situated in each of the spaces between the axles, the pistons of one cylinder of each pair in one space coupled by connecting-rods to opposite cranks on the central axle, rods led back from these pistons through stuffing-boxes, means for driving opposite cranks on the adjacent outer axle from these rods and connecting-rods coupling the pistons of the other two cylinders to opposite cranks on this outer axle, rotary valves driven from and at the same speed as the crank-axles for admitting steam at one time to the two cylinders of one pair and at another time to the two cylinders of the other pair, and exhaust-ports in the sides of the cylinders uncovered by the pistons at the end of their outstrokes for effecting the exhaust.

806,179. MOLDING-MACHINE. WILLIAM J. PATCHELL, St. Louis, Mo. Filed June 6, 1904. Serial No. 211,262.



Claim.—1. In a sand-molding machine, an adjustable frame, a ramming-head carrying rams and reciprocable in said frame, power-driven means for adjusting said frame and ramming-head, and means for throwing said power-driven means into and out of operation, substantially as described.

2. In a sand-molding machine, the combination of an adjustable frame, a ramming-head reciprocable in said frame and divided into chambers, cylinders depending from said head and in communication with said chambers, piston-headed rams in the cylinders, means for admitting a pressure fluid to the chambers, power-driven means for adjusting said frame and ramming-head, and means for throwing said power-driven means into and out of operation, substantially as described.

3. In a sand-molding machine, an adjustable frame in combination with a ramming-head adapted to reciprocate vertically within said frame, said ramming-head being provided with a series of cylinders arranged in rows and having a chamber in communication with each row of cylinders, a piston-headed ram in each cylinder, and means for admitting a pressure fluid to the chambers.

4. In a sand-molding machine, an adjustable frame, a reciprocable ramming-head carried by said frame, mechanism on said frame for reciprocating said head, power-driven means for adjusting said

frame and ramming-head, and means for throwing said power-driven means into and out of operation, substantially as described.

5. In a sand-molding machine the combination of fixed uprights or supports, a frame adjustably connected thereto, operating mechanism on said frame, a screw on each upright, a rotatable nut on each end of said frame in engagement with said screws, gearing between the operating mechanism and the rotatable nuts, and means for engaging and disengaging said gearing.

6. In a sand-molding machine, a ramming-head containing a series of cylinders and chambers, each chamber being in communication with a cylinder, combined with a ram in each cylinder, and means for connecting each chamber with sources of pressure fluid of different pressures.

7. In a sand-molding machine, a ramming-head containing a series of cylinders and chambers, each chamber being in communication with a cylinder, combined with a ram in each cylinder, means for independently connecting each chamber with a source of pressure fluid and a valve for exhausting the pressure fluid from any desired chamber.

8. In a sand-molding machine, a ramming-head carrying a bank of cylinders and vertically adjustable to various heights above a flask-supporting truck, a ram in each cylinder and extending below the same, an elastic cushion to resist the inward movement of the rams, said cushion consisting of an elastic fluid of a predetermined pressure to suit the conditions of the work and resistance to be offered, means for reciprocating the head and bank of cylinders, a flask-carrying truck adapted to move transversely beneath the rams, and means connected with and actuated fromt he ramming mechanism under the various vertical adjustments of the vertically-adjustable ramming-head for moving the truck as the rams are moved in one direction.

9. In a ramming-head for sand-molding machines, the combination with the head, of a series of cylinders, the head containing a series of chambers, each chamber being arranged to communicate with one of the cylinders, a ram in each cylinder, a main fluid-pressure pipe on each side of the cap-piece, a valved connecting-tube between each main pipe and each chamber, and an escape-valve.

10. In a ramming-head for sand-molding machines, the combination with the head, of a series of cylinders the head containing a series of chambers in communication with the cylinders, a ram in each cylinder, a source of pressure fluid, means for cutting off the supply of the fluid from the chambers, independently of each other and means for reciprocating the ramming-head.

11. In a sand-molding machine, the combination of fixed uprights or supports, a frame carried by said uprights and adjustable thereon, a ramming-head carrying rammers and adapted to move vertically in said frame, mechanism for reciprocating the ramming-head, a truck beneath the rammers, a rack thereon, and gearing, including a pinion, in engagement with said rack, and operated by said ramming-head-reciprocating mechanism, for moving the truck.

12. In a sand-molding machine, the combination of a vertically-adjustable frame, a ramming-head carrying rammers and vertically movable in said frame, a riddle supported from said vertically-adjustable frame, and mechanism for moving the ramming-head and reciprocating the riddle.

13. In a sand-molding machine, the combination of an adjustable ramming-head carrying rammers for packing the sand in a flask, venting wires or needles adjustable with the ramming-head and having adjustment independent of the head to conform to irregularities in the pattern, and mechanism for reciprocating the needles as the rammers are raised and lowered.

14. In a sand-molding machine, the combination of a rammer-head carrying rammers for packing the sand in a flask, wires or needles supported from and carried by the rammer-head for perforating the packed sand and a fixed bar supported from the machine-frame at a point below the rammers and provided with apertures to receive and guide the wires or needles, substantially as described.

15. In a sand-molding machine, the combination of a ramming-head carrying rammers for packing sand in a flask, and a scraper for removing surplus sand from the flask hinged at one end and obliquely adjustable from the opposite end.

16. In a sand-molding machine, the combination of a ramming-head carrying rammers for packing sand in a flask, and a vertically and obliquely adjustable scraper for removing surplus sand from the flask.

17. In a sand-molding machine, the combination of a flask-carrying frame provided with gudgeons, vertically-movable bars provided with boxes to receive the gudgeons of the frame and suspended from a support above the flask-carrying frame, means for raising the bars to lift the frame, and power-driven means for "turning over" the flask-carrying frame.

18. In a sand-molding machine, the combination of a flask-carrying frame provided with gudgeons, vertically-movable rack-bars provided with boxes to receive said gudgeons, a shaft carrying pinions engaging the rack-bars, driving means, a clutch for clutching and unclutching said means to and from said shaft for actuating the rack-bars, and power-driven means for "turning over" the flask-carrying frame.

19. In a sand-molding machine, the combination of a flask-carrying frame provided with gudgeons, vertically-movable rack-bars provided with boxes to receive said gudgeons, a shaft carrying pinions engaging the rack-bars, driving means adapted to be clutched to and unclutched from said shaft for actuating the rack-bars, a bevel-gear connected to said shaft, a vertically-movable shaft provided at one end with a bevel-gear meshing with a bevel-gear connected to one of the gudgeons of the flask-carrying frame, and a bevel-gear adapted to be clutched to the shaft and meshing with the bevel-gear connected to the bevel-gear on the rack-actuating shaft for "turning over" the flask-carrying frame.

20. In a sand-molding machine, the combination of a flask-carrying frame provided with gudgeons, a frame having boxes to receive said gudgeons, a gear, a pin for locking together said gear and one of the gudgeons, and a shaft carrying a gear meshing with the gudgeon-gear for "turning over" the flask-carrying frame.

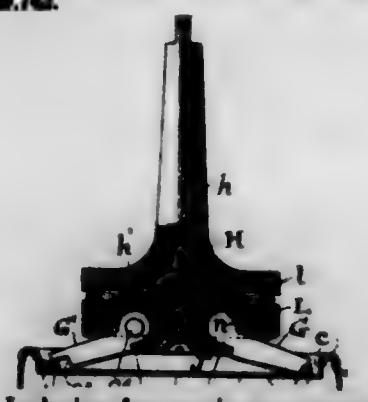
21. In a sand-molding machine, the combination of a flask-carrying frame provided with gudgeons, a swinging frame provided with vertically-moving racks formed at their lower ends with boxes for the gudgeons of the flask-carrying frame, means for raising the racks to lift the flask-carrying frame, and means for "turning over" the flask-carrying frame.

22. In a sand-molding machine, the combination of a swinging frame provided with vertically-moving racks formed with boxes at their lower ends, a flask-carrying frame provided with gudgeons journaled in said boxes, a driven shaft provided with pinions meshing with the vertically-movable racks, a pinion connected with one of the gudgeons of the flask-carrying frame, a rotatable shaft provided with a pinion engaging the pinion of the flask-carrying frame. pinions connecting said shaft and the driven shaft, and mechanism for throwing said shafts into and out of action.

23. In a sand-molding machine, the combination of a swinging frame provided with vertically-movable racks and formed with boxes at their lower ends, a flask-carrying frame provided with gudgeons journaled in said boxes, a shaft provided with pinions meshing with the racks, a worm-wheel mounted loosely on said shaft, a worm engaging said worm-wheel, a clutch for locking the worm-wheel to said shaft, a pinion connected to one of the gudgeons of the flask-carrying frame, a shaft carrying a pinion engaging the pinion of the flask-carrying-frame gudgeon, a pinion loosely mounted on said shaft, a clutch for locking said pinion to the shaft, and a pinion actuated from the shaft carrying the worm-wheel and engaging the clutch-pinion on the other shaft.

24. In a sand-molding machine, the combination of a flask-carrying frame provided with flanged supports for a flask, a flanged flask resting on said supports, and sliding clamps engaging the flanged supports and formed with lips to engage the flange of the flask, to clasp the flask to the supports.

806,180. EXPANDING DEVICE. JOSEPH E. PENFOLD, WARREN, Ohio, assignor to Clarence A. Crane, Warren, Ohio. Filed Mar. 13, 1905. Serial No. 249,743.



Claim.—1. In devices for securing covers on cans and other vessels, a series of radially-disposed members having their outer edges curved to the segment of a circle, a head from which said segments are pivotally suspended at their inner ends at a downward inclination and a device adapted to exert a yielding pressure downward on

said members between their ends, whereby when said members are pressed to a horizontal position they spread on a larger radius and separate laterally.

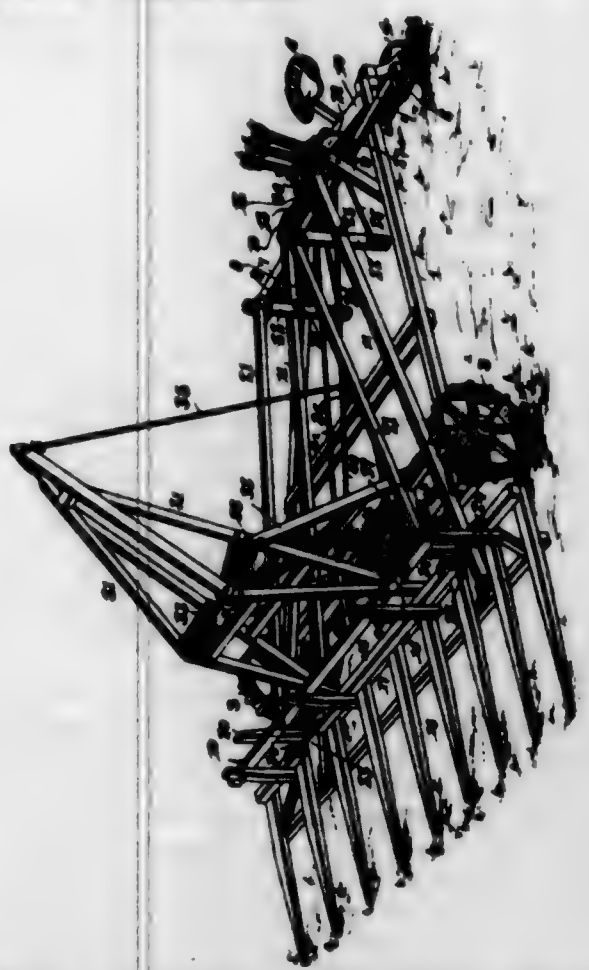
2. A device for securing covers on vessels comprising a head constructed to apply power on the top thereof, a series of segments having outer curved edges disposed in a circle about the bottom of the said head, means fixed to the bottom of the said head overlapping the inner bearing ends of said segments, and means about the outer portion of said head to exert a yielding downward pressure on said segments.

3. A device consisting of a circular head provided with a shank to make power connection, a series of laterally-spreadable segments pivotally supported on the under side of said head, and a support centrally beneath said head overlapping the inner bearing ends of said segments and constructed with an annular shoulder engaging the portions of said segments at their inner ends to afford uniform support therefor.

4. The head having a shank on its top and a groove about its edge and bottom, in combination with a series of radially-disposed segments having rounded bearings resting in said groove, a confining-disk engaging said bearings beneath said spring-pressed mechanism bearing upon the top of said segments.

5. A device for securing covers on metallic vessels in which there is an expansible ring, the same comprising a suitable head and a series of segments radially and pivotally disposed about the same, stops to limit the movements of said segments on their pivots and the said segments constructed at their outer edges with grooves to engage said ring.

806,181. **HAY-LOADER.** GRANT PLUMMER, Salina, Kans. Filed Feb. 4, 1905. Serial No. 244,214.



Claim.—1. In a machine of the class described, the combination of a loader-frame, a vertically-movable fork-carrying frame, a tiltable fork mounted on the fork-carrying frame, and operating mechanism for positively tilting the fork in either direction and for also positively holding the same against movement on its pivot in either direction when not actuated by such operating mechanism, said operating mechanism embodying an adjusting device mounted on the loader-frame, and connecting means mounted on the fork-carrying frame and connected with the said adjusting device.

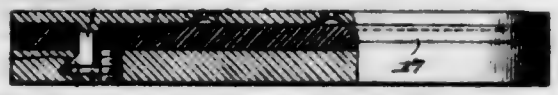
2. In a machine of the class described, the combination of a loader-frame, a vertically-swinging fork-frame, a tiltable fork mounted on the fork-frame, a lever fulcrumed on the fork-frame and connected with the tiltable fork, and an adjusting device mounted on the loader-frame and connected with the said lever.

3. In a machine of the class described, the combination of a loader-frame, a vertically-swinging fork-frame, a tiltable fork mounted on the fork-frame, a lever fulcrumed between its ends on the fork-frame, means for connecting one of the arms of the lever with the fork, and an adjusting device mounted on the loader-frame and connected with the other arm of the lever.

4. In a machine of the class described, the combination of a loader-frame, a vertically-swinging fork-frame, a tiltable fork mounted on the fork-frame, upright levers fulcrumed between their ends on the fork-frame at opposite sides thereof, bars connecting the upper arms of the levers with the tiltable fork, and a rock-shaft having arms connected with the lower arms of the levers.

5. In a machine of the class described, the combination of a loader-frame, a vertically-swinging fork-carrying frame, a tiltable fork mounted on the fork-carrying frame, a fork-elevating lever connected with the fork-carrying frame, a swinging fulcrum for the lever, and operating mechanism for positively tilting the fork in either direction and for also positively holding the same against movement on its pivot in either direction when not actuated by such operating mechanism, said operating mechanism comprising an adjusting device mounted on the loader-frame, and connecting means mounted on and movable with the fork-carrying frame and connecting the fork with the adjusting device.

806,182. **HORSESHOE.** MATILDA S. PORTER, Brigham, Utah, administratrix of Moses B. Porter, deceased. Filed Feb. 23, 1905. Serial No. 247,094.



Claim.—1. A horseshoe composed of an upper plate having means for attachment to the hoof and provided with spaced depending lugs with laterally-extending lips inclined on their upper faces, a lower plate having recesses for receiving said lugs and with inclined undercut cavities conforming to and adapted for receiving said inclined lips, a flexible pad member disposed between said plates, and means operating in said lower plate for holding said lugs within said recesses.

2. A horseshoe composed of an upper plate having means for attachment to the hoof and provided with spaced depending lugs with laterally-extending lips inclined on their upper faces, a lower plate having recesses for receiving said lugs and of greater length than the lugs and their lips and provided with undercut cavities conforming to and adapted for receiving said inclined lips, screw-plugs inserted through said lower plates and bearing against the rear sides of said studs after their insertion in the recesses in the lower plates, to lock them in position therein, and a flexible pad member between said plates.

3. A horseshoe composed of an upper plate having means for attachment to the hoof, a lower plate, and a flexible pad interposed between said plates, said upper plate provided with a plurality of depending studs having lateral lips inclined on their upper sides and said lower plate having recesses for receiving said stud and of greater depth than the projecting portions of the same and having inclined undercut cavities for receiving said inclined lips and means operating through said lower plate for holding said studs from lateral movement while leaving them free to move longitudinally in the surface depth of said recesses.

4. A horseshoe composed of an upper plate for attachment to the hoof and provided with spaced longitudinal depending ribs and with a plurality of spaced studs having laterally-extending lips inclined on the upper face, a lower plate provided with spaced longitudinal projecting ribs and having spaced recesses for receiving said lugs and with undercut inclined cavities for receiving said inclined lips, and a flexible pad member disposed between said plate and having channels for engaging said ribs and means operating in said lower plate for holding said studs within said recesses.

5. A horseshoe composed of an upper plate for attachment to the hoof and provided with spaced longitudinal depending ribs inclining outwardly with a plurality of spaced studs having laterally-extending lips inclined on the upper face, a lower plate provided with spaced longitudinal projecting ribs inclining inwardly and having spaced recesses for receiving said lugs and with undercut inclined cavities for receiving said inclined lips, and a flexible pad member disposed between said plates and having channels reversely inclined for engaging said ribs and means operating in said lower plate for holding said studs in said recesses.

806,183. **HAIR-DRYING DEVICE.** CHARLES B. POTTER, Chicago, Ill. Filed Feb. 23, 1905. Serial No. 246,553.

Claim.—1. A hair-drying device comprising two adjustably-expansible rings disposed one within the other, each ring having a locking means for retaining it in its adjusted position, and means for supporting the outer by the inner ring.



2. A hair-drying device comprising two adjustably-expansible rings disposed one within the other, each ring having means for locking it in its adjusted position, and one or more arms connecting said rings.

3. A hair-drying device comprising two adjustably-expansible rings disposed one within the other, each ring having means for locking it in its adjusted position, means for supporting the outer by the inner ring, and a flexible network connecting said rings.

4. A hair-drying device comprising two rings disposed one within in the other, each ring being transversely divided and having overlapping ends adjustable lengthwise upon each other and having locking means for securing together said ends, and means for supporting the outer by the inner ring.

5. A hair-drying device comprising an inner and an outer ring each having overlapping ends adjustable lengthwise upon each other and having locking means for securing together said ends, and one or more arms connecting said rings.

6. A hair-drying device comprising two transversely-divided rings disposed one within the other, each having overlapping ends adjustable lengthwise upon each other and having locking means for securing together said ends, means for supporting the inner by the outer ring, and a flexible network connecting said rings.

806,184. **FLY-ESCAPE FOR SCREENS.** JOHN L. POWERS, Peoria, Ill. Filed May 27, 1905. Serial No. 262,574.



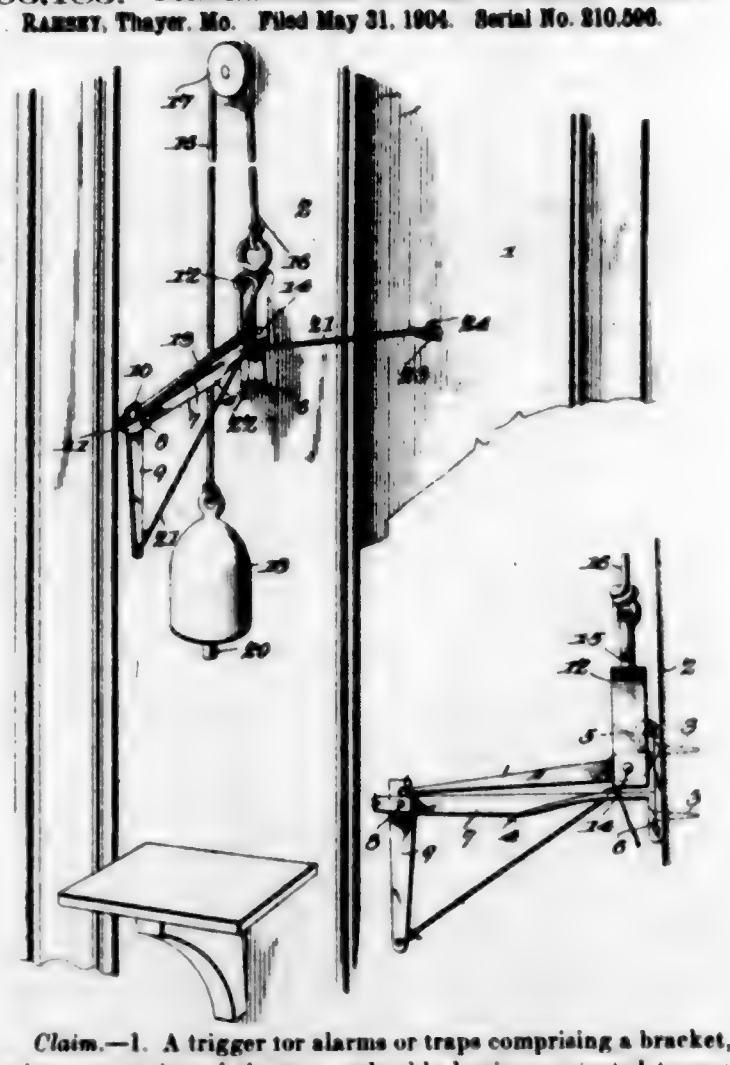
Claim.—1. In combination with a window-screen, a fly-escape device comprising a hood secured to the inside of the screen, there being a slit in the latter to create an outwardly and upwardly positioned opening for admitting the top edge of the hood said hood forming one side of the opening and the rough-cut edge of the screen forming the other side of the opening as and for the purposes set forth.

2. In combination with a window-screen, a fly-exit device comprising a hood secured to the inside of the same, there being a slit in the latter to create an outwardly and upwardly extending opening to admit the top edge of the hood, said hood forming one side of the opening and the rough-cut edge of the screen forming the other side of the opening, said hood having end extensions for holding it away from the screen at the bottom and also to close the space between the ends of the hood and the screen substantially as shown.

3. In combination with a window-screen, a hood having its upper edge inserted through the screen, there being a slit in the latter for the passage of said edge as shown, one of the rough-cut edges of the slit forming one side of the opening for exit of the flies, projections on the hood at the top for engaging the screen, and members at the bottom thereof for engaging the screen, the hood having end portions to close the spaces between the ends of the hood and the screen as shown and described.

4. In a fly-escape, the hood B having the ends D D at right angles thereto, the screen to which the hood is attached, there being a slit in said screen for receiving the top of the hood, end projections E E at the top of the hood for engaging the screen as described and shown, the ends D D serving to open the said slit in the screen to constitute an opening for the exit of insects, and the wires G for assisting in securing the hood in place.

808,185. **BURGLAR-ALARM OR TRAP TRIGGER.** JAMES H. RAMSEY, Thayer, Mo. Filed May 31, 1904. Serial No. 210,506.



Claim.—1. A trigger for alarms or traps comprising a bracket, a trigger-arm pivoted thereto, a shackle having a pivoted tongue adapted to engage the trigger-arm, and a safety-latch pivoted to said bracket for engagement with the free end of the pivoted tongue.

2. A trigger for alarms or traps comprising a bracket, a trigger-arm pivoted thereto, a weight-supporting member, a pivoted tongue carried by said member and adapted to engage the trigger-arm, and a safety-latch pivoted to the bracket for engagement with the free end of said pivoted tongue.

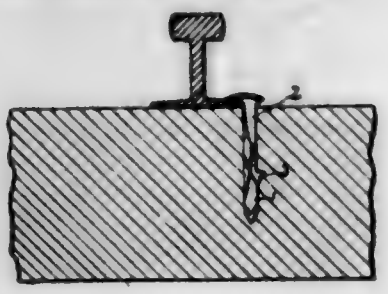
3. A trigger for alarms or traps comprising a bracket provided with a hook, a shackle having a pivoted tongue for engagement with said hook, and a trigger-arm pivoted to the bracket and adapted to engage the free end of the pivoted tongue.

4. A trigger for alarms or traps comprising a bracket having a hook and integral arms, a trigger-arm pivoted between the integral arms, a flexible element for operating the trigger-arm, a shackle having a pivoted tongue engaging the hook at one end and the trigger-arm at the other, a weight connected with the shackle and a safety-latch adapted to engage the free end of said pivoted tongue.

5. A trigger for alarms or traps, comprising a bracket having a hook at one end and a trigger pivoted at the other end thereof, and a shackle having a pivoted arm for engaging the trigger.

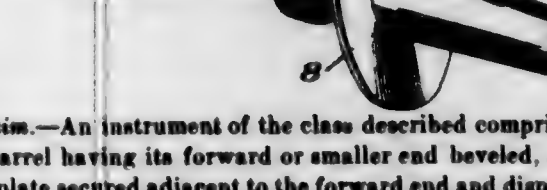
6. A trigger for alarms or traps, comprising a shackle having a pivoted tongue, a weight attached to said shackle, a bracket, a trigger on said bracket for engagement with the shackle-tongue, and a safety-latch adapted to engage the free end of the pivoted tongue.

808,186. **COMBINATION-SPIKE.** VALDEMAR RASMUSSEN, Omaha, Nebr. Filed Sept. 6, 1904. Serial No. 223,435.



Claim.—The combination with a main spike having at its lower end a lateral projection provided with a recess in its upper side and also having on the same side a cam projection between its ends, of a key having at its lower end a hook shaped to engage the recess of the main spike and having between its ends a recess adapted to be engaged by the cam projection of the main spike, substantially as described.

806,187. **RIM-SECTION FOR EXPANSIBLE PULLEYS.** CHARLES J. REED, Philadelphia, Pa. Filed Feb. 23, 1905. Serial No. 246,963.



Claim.—1. A rim-section for expansible pulleys, consisting of separate matched members, each member having a belt-receiving surface and toothed ends, as set forth.

2. A rim-section for expansible pulleys, comprising two separate matched members, each member having a flanged belt-receiving portion and toothed ends, as set forth.

3. A rim-section for expansible pulleys, consisting of separate outer members and an intermediate member or members, each member having toothed ends, and said outer members each having a flanged belt-receiving portion, as set forth.

4. A rim-section for expansible pulleys, comprising two separate matched members of resilient material, said members each having a belt-receiving surface and toothed ends and being slightly sprung apart at their ends, as set forth.

5. A rim-section for expansible pulleys, comprising two separate matched members of resilient material, said members each having a flanged belt-receiving portion and toothed ends, and being slightly sprung apart at their ends, as set forth.

6. A rim-section for expansible pulleys, consisting of separate outer members and an intermediate member or members, each member having toothed ends, and said outer members consisting of resilient material, each having a flanged belt-receiving portion, and being slightly sprung apart at their ends, as set forth.

806,188. **MEDICAL-POWDER APPLICATION.** DAVID W. REES, Needles, Cal. Filed Jan. 4, 1904. Serial No. 187,750.

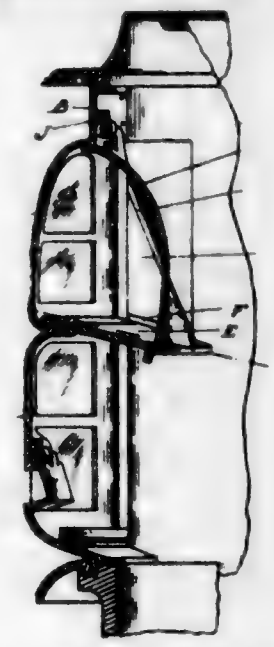
Claim.—An instrument of the class described comprising a tapered barrel having its forward or smaller end beveled, a concavo-convex plate secured adjacent to the forward end and disposed at an angle to the length of the barrel and provided with outward-discharging diverging openings, the barrel from its larger end to the plate forming an unobstructed passage, and means discharging in the direction of the length of the barrel for forcing the powdered material through the plate.

806,189. **STOVE.** WILLIAM V. ROBINSON, Detroit, Mich., assignor to Art Stove Company, Detroit, Mich., a Corporation of Michigan. Filed Dec. 12, 1904. Serial No. 236,533.

Claim.—1. In a stove, the combination with a casing, having a fuel-feed opening in the side wall thereof and a pair of outwardly-opening doors for closing the same, of a fuel-chute projecting inward from between said doors, and an inwardly-opening door seated against said fuel-chute and adapted to automatically open by the passage of fuel.

2. In a stove, the combination with a casing having a fuel-feed aperture in the side wall thereof and means for closing said aperture, of an inclined shelf adjacent to said aperture and projecting inward therefrom to form a fuel-chute, cheek-plates projecting inward from the sides of said aperture, and an inwardly-opening door hinged to the casing and extending between said cheek-plates and seated against said shelf.

3. In a stove, the combination with a casing, provided with a fuel-feed aperture in the side wall thereof, of cheek-plates projecting inward from the sides of said aperture, a removable fuel-feeding chute engaging inclined bearings in said cheek-plates and an inwardly-opening door hinged at its upper end to said casing and extending between said cheek-plates, the lower edge of said door being seated at the inner edge of said fuel-chute.



4. In a stove, the combination with a casing, provided with a fuel-feed aperture in the side wall thereof, of a pair of outwardly-opening doors for closing said aperture and seated one against the other, a fuel-feeding chute extending across said aperture and forming a seat for the upper edge of the lower door, said chute being removable, for the purpose described.

5. In a stove, the combination with a casing, provided with a fuel-feed opening in the side wall thereof, of a pair of outwardly-opening doors together closing said aperture, the upper door being seated upon the lower door, cheek-plates projecting inward from the side edges of said aperture, adjacent to the upper door, and a fuel-chute detachably engaging bearings in said cheek-plates and forming a seat for the upper edge of the lower door.

6. In a stove, the combination with a casing, provided with a fuel-opening in the side wall thereof, of a pair of doors for closing said opening, the upper door being seated upon the lower one, cheek-plates projecting inward from the side edges of said aperture adjacent to said upper door, a fuel-feeding chute detachably engaging inclined bearings in said cheek-plate and forming a seat for the upper edge of the lower door and an inwardly-opening door extending between said cheek-plates and hinged at its upper edge, its lower edge seating against said fuel-chute.

806,190. **VARIABLE-SPEED MECHANISM.** RICHARD E. ROSSWARNE, Covington, Ky. Filed Sept. 20, 1904. Serial No. 224,508.

Claim.—1. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an engaging portion of varying diameter and carried by one of said elements, and pinions for contact with the engaging portion movable along the periphery of said gear and connected with the other element.

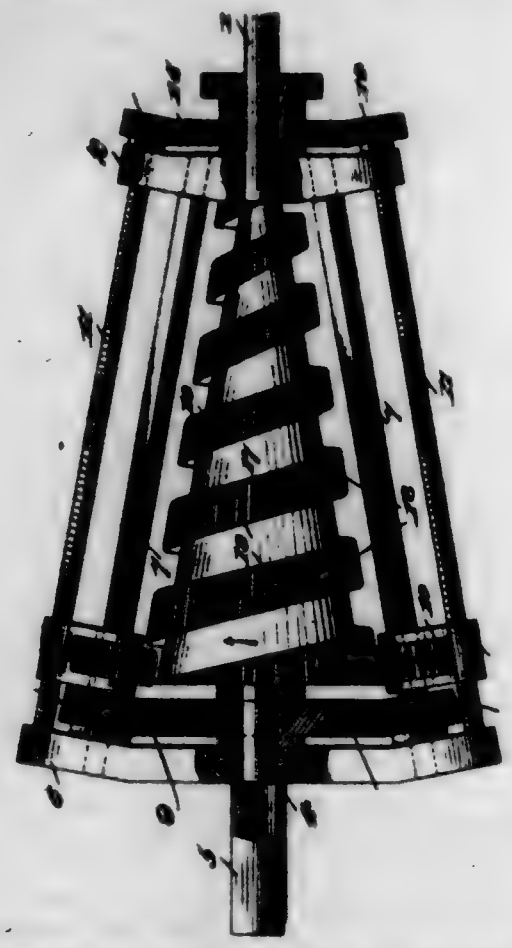
2. The combination with the driving element, and the driven element, of a conical circumferentially-interrupted gear carried by one of the elements, and a plurality of devices for contact with the engaging portion of the gear connected with the other element and movable along the periphery of the gear.

3. The combination with the driving element, and the driven element, of a conical spirally-wound gear having teeth varying in number around the circumference of the same at different points in its length connected with one of said elements, and a pair of pinions for engagement with the gear, connected with the other element and movable along the periphery of the gear.

4. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an engaging portion of varying diameter, and connected to one of said elements, pinions for contact with the engaging portion of said gear, connected with the other element, and means for moving all of the pinions in synchronism along the periphery of the gear.

5. The combination with the driving element, and the driven element, of a conical circumferentially-interrupted gear carried by one of the elements, pinions for contact with the gear, connected

with the other element, and means for moving the pinions along the periphery of the gear.



6. The combination with the driving element, and the driven element, of a conical circumferentially-interrupted gear carried by one of the elements, pinions for contact with the gear, connected with the other element, and means for moving all the pinions in synchronism along the periphery of the gear.

7. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an inclined engaging portion and carried by one of the elements, a plurality of pinions for contact with the engaging portion, a screw for each of said pinions, a pinion turning with each of the screws, and a gear-wheel common to all of the pinions on the screws.

8. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an engaging portion of varying diameter and carried by one of the elements, pinions for contact with the engaging portion, shafts on which the pinions are adapted to slide, and connections between the shafts and the other element.

9. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an engaging portion of varying diameter and carried by one of the elements, pinions for contact with the engaging portion, shafts on which the pinions are adapted to slide, and gearing connecting the shafts with the other element.

10. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an engaging portion of varying diameter and carried by one of the elements, pinions for contact with the engaging portion, shafts on which the pinions are adapted to slide, connections between the shaft and the other element, and means for moving all of the pinions on the shafts, in synchronism.

11. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an engaging portion of varying diameter and carried by one of the elements, pinions for contact with the engaging portion, shafts on which the pinions are adapted to slide, connections between the shaft and the other element, and a shifter to move each of the pinions along its shaft.

12. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an engaging portion of varying diameter and carried by one of the elements, pinions for contact with the engaging portion, shafts on which the pinions are adapted to slide, connections between the shaft and the other element, a shifter to each of the pinions, and means for operating all the shifters in synchronism.

13. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an inclined engaging portion and carried by one of the elements, a plurality of pinions for contact with the engaging portion, shafts on which the pinions are adapted to slide, connections between the shaft and the other element, a screw connected to each of the pinions, a pinion on each of the screws, and a single gear for moving all the pinions in synchronism.

14. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an engaging portion of varying diameter and carried by one of the elements, pinions for contact with the engaging portion, shafts on which the pinions are adapted to slide, a gear on the other element, a fixed pinion on each of the shafts meshing with the gear on the other element, a yoke for each of the sliding pinions, and a shifter for each of the yokes.

15. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an engaging portion of varying diameter and carried by one of the elements, pinions for contact with the engaging portion shafts on which the pinions are adapted to slide, a gear on the other element, a fixed pinion on each of the shafts meshing with the gear on the other element, a yoke for each of the sliding pinions, a shifter for each of the yokes, and means for operating all the shifters in synchronism.

16. The combination with the driving element and the driven element, of a circumferentially-interrupted gear having an inclined engaging portion and carried by one of the elements, a plurality of pinions for contact with the engaging portion, shafts on which the pinions are adapted to slide, a gear on the other element, a fixed pinion on each of the shafts meshing with the gear on the other element, a yoke for each of the sliding pinions, a screw for each of the yokes, a rigid pinion on each screw, and a gear with which all of the pinions on the screw mesh.

17. The combination with a toothed gear having a varying diameter, of toothed pinions shiftable along the periphery of the gear and adapted for engagement with the same and a driven member having connection with all of said pinions to be continuously driven thereby.

18. The combination with a circumferentially-interrupted conical gear, of a plurality of pinions adapted to travel on the conical gear in the same path and a driven member having connection with all of said pinions to be continuously driven thereby.

19. The combination with a circumferentially-interrupted conical gear, of a plurality of pinions adapted to travel on the conical gear in one circular path and a driven member having connection with all of said pinions to be continuously driven thereby.

20. The combination with a circumferentially-interrupted conical gear, of a plurality of pinions adapted to travel on the conical gear in one circular path, means for shifting the pinions to cause them to travel in other circular paths on the conical gear and a driven member having connection with all of said pinions to be continuously driven thereby.

806,191. SKIRT AND SHIRT-WAIST HOLDER. JOSEPH M. ROSSI, New York, N. Y. Filed Mar. 7, 1905. Serial No. 248,907.



Claim.—A skirt and shirt-waist holder comprising an elongated narrow frame having a central open portion, and two series of widely-separated elongated teeth adapted to engage a shirt-waist and skirt respectively, one series projecting inwardly from the top bar of the frame and the other series projecting inwardly from the bottom bar thereof, the teeth of one series being disposed in alternate arrangement with the teeth of the opposite series and also offset with respect thereto, whereby an enlarged space opposite the point of each tooth and also in rear thereof remains within the frame for the reception of the bulged portions of the garments when secured.

806,192. PIPE-HANGER. WILLIAM A. RUSSELL, New Brighton, N. Y., assignor to W. A. Russell & Co., Waterbury, Conn., a Corporation of New Jersey. Filed Dec. 15, 1897. Serial No. 661,973.

Claim.—1. A pipe-hanger having a shank portion formed of two overlapping bars 10, 11, one provided with a button and the other with a longitudinal series of openings each adapted to receive and interlock with the button, each of said openings being elongated longitudinally of the bar to permit of longitudinal play of one bar

relatively to the other when the button is interlocked with one of said openings, substantially as described.



2. A pipe-hanger having a shank portion formed of two overlapping bars, one provided with a button 15 and the other with a longitudinal series of openings 14 each adapted to receive and interlock with the button, each of said openings having an enlarged portion for the passage of the head of the button and with a narrow portion extending longitudinally of the bar in which the neck of the button is maintained by the weight of the pipe supported by the hanger, substantially as described.

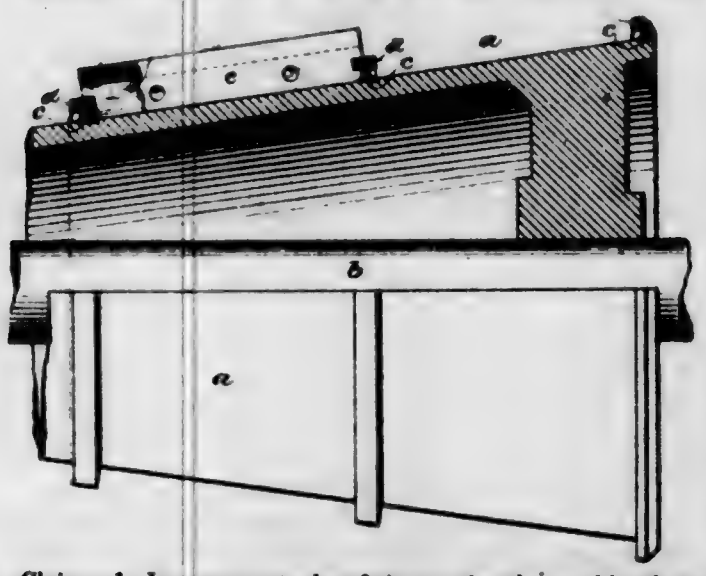
3. A pipe-hanger having a shank portion formed of two overlapping bars, one provided with a button 15 having a lateral projection 16, and the other with a longitudinal series of openings 14 each adapted to receive and interlock with the button, each of said openings having an enlarged portion for the passage of the head of the button and with a narrow portion extending longitudinally of the bar for the passage of the lateral projection 16 and in which the neck of the button is maintained by the weight of the pipe supported by the hanger, substantially as described.

4. A pipe-hanger having a shank portion formed of two overlapping bars 10, 11, one provided with one member of a locking device and the other with a longitudinal series of corresponding locking members each adapted to engage with the locking member on the first bar, the locking members of the two bars being so constructed and arranged as to permit when interlocked of longitudinal play of one bar relatively to the other, one of the said bars being provided with a longitudinal slot 12 and the other with a pin 13 permitting the longitudinal adjustment of one of said bars relatively to the other, substantially as described.

5. A pipe-hanger having a shank portion and a supporting-collar consisting of two oppositely-curved parts, as 20, 21, the lower ends whereof are bent inwardly and provided with notches 22 whereby said ends may be interlocked upon the inner surface of the collar, said collar being connected to said shank portion by a pin-and-slot connection permitting swinging movement of said collar and play thereof longitudinally of said shank portion, substantially as described.

6. A pipe-hanger having a shank portion, and a supporting-collar formed of two parts 20 and 21 having oppositely-curved portions with their ends formed with notches 22 to interlock beneath the pipe and having neck portions by which they are secured to the shank, the neck of one of said parts having a slot 23 and being secured to the shank by a pin passing through the slot 23, and the neck of the other of said parts having an opening 25 for receiving a button 26 on the shank, said opening having an upwardly-extending narrow portion for receiving the neck of the button, substantially as described.

806,193. PAPER-STOCK-REFINING ENGINE. HERMAN G. SARCKER, Appleton, Wis. Filed Aug. 14, 1905. Serial No. 274,089.



Claim.—1. In a paper-stock-refining engine the combination of a conical core formed circumferentially at intervals with cylindrical seats, and laterally-recessed knife-retaining rings having extended bases fitted and secured upon said seats, substantially as described.

2. In a paper-stock-refining engine the combination of a conical core formed circumferentially at intervals with cylindrical seats, laterally-recessed rings fitted and secured upon said seats, and knives having end notches engaging the overhanging rims of said rings, substantially as described.

3. In a paper-stock-refining engine the combination of a conical core formed circumferentially at intervals with cylindrical seats, laterally-recessed rings fitted and secured to said seats, longitudinal knives having end notches engaging the overhanging rims of said rings, and spacing-pieces interposed between said knives, substantially as described.

4. In a paper-stock-refining engine the combination of a conical core formed circumferentially at intervals with cylindrical seats parallel with its axis, rings fitted and secured to said seats and formed with lateral grooves the inner sides of which are curved or rounded and terminate at the conical face of the core, substantially as described.

806,194. FUEL. MENTHEIM SALOMON, Toledo, Ohio, assignor to Edward A. Dewey, Toledo, Ohio. Filed July 22, 1905. Serial No. 270,883.

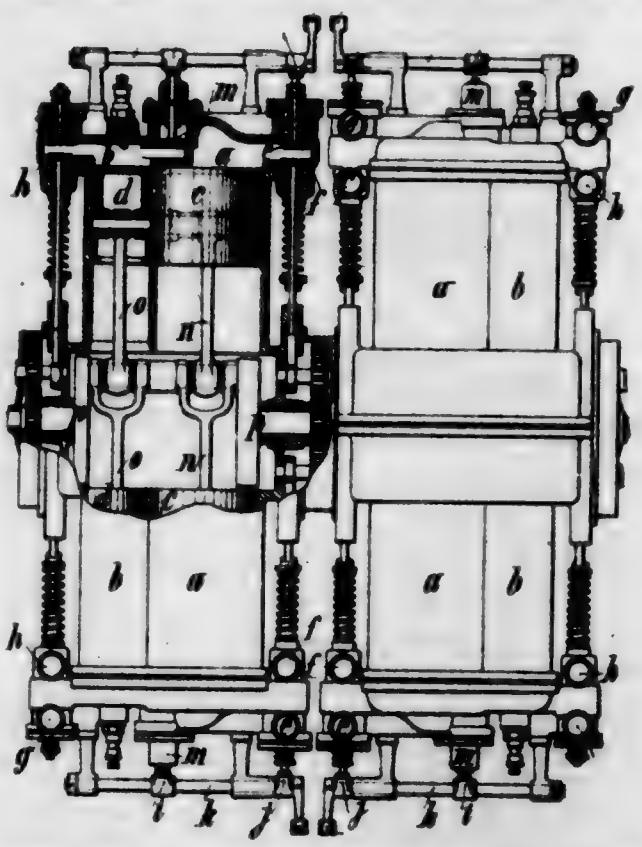
Claim.—1. The process of forming fuel-lumps which consists in dissolving glue in boiling water, adding boiling pitch, adding sugar and boiling the whole, intimately mixing the liquid so formed with comminuted coal, and subjecting the mass to high pressure.

2. Fuel-lumps consisting of comminuted coal, pine-pitch, glue, and sugar.

3. A fuel in which pine-pitch and glue are combined with sugar; whereby objectionable odor in burning is prevented.

4. Highly-compressed fuel-blocks consisting of comminuted coal, pine-pitch, glue, and common sugar, in substantially the proportions of: coal, two thousand pounds, pitch, thirty-five pounds, glue, five pounds, and sugar, two pounds.

806,195. MOTOR AND ENGINE. GEORGES O. DE SANDERVAL, Mont-Redon, France. Filed Oct. 15, 1903. Serial No. 177,183.



Claim.—1. A combined internal-combustion and hot-air engine comprising side-by-side gas and compressed-air cylinders, pistons reciprocable in said cylinders, a common crank-shaft, a valve intermediate the two cylinders adapted to open automatically under the effect of an explosion in the internal-combustion cylinder, exhaust-valves for said cylinders and an air-inlet valve for the hot-air cylinder, and positive means for cutting out the hot-air cylinder and allowing its piston to run free when the gas-cylinder is working substantially as set forth.

2. A combined internal-combustion and hot-air engine comprising side-by-side gas and compressed-air cylinders, pistons reciprocable in said cylinders, a common crank-shaft, a valve intermediate the two cylinders adapted to open automatically under the effect of an explosion in the internal-combustion cylinder, exhaust-valves for said cylinders and an air-inlet valve for the hot-air cylinder, and

positive means for simultaneously closing the intermediate valve and opening the air-inlet valve of the hot-air cylinder, substantially as set forth.

3. A combined internal-combustion engine and hot-air engine comprising side-by-side gas and compressed-air cylinders, pistons reciprocable in said cylinders, a common crank-shaft, a valve intermediate the two cylinders, exhaust-valves for said cylinders, an air-inlet valve for the hot-air cylinder, a shaft outside the cylinders, and cams thereon for simultaneously closing the intermediate valve and opening the air-inlet valve of the hot-air cylinder substantially as set forth.

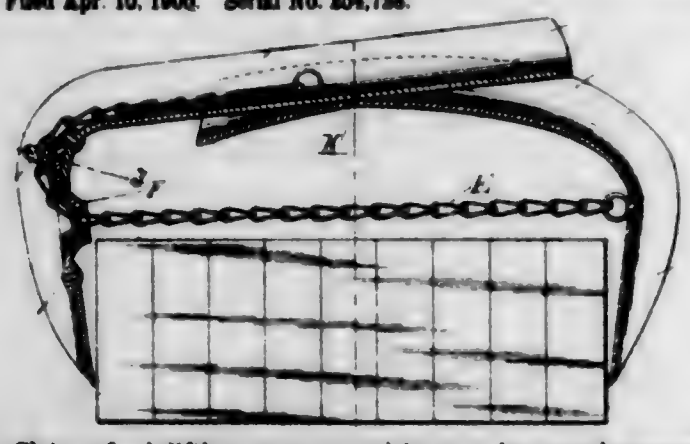
4. A compound balanced internal combined combustion engine and hot-air engine comprising a crank-shaft, a pair of oppositely-disposed internal-combustion engines, pistons therefor and piston-rods connected to the said crank-shaft, a valve intermediate each pair of side-by-side internal-combustion and hot-air cylinders, an air-inlet valve for each hot-air cylinder and positive means for simultaneously closing the intermediate valves and opening the air-inlet valves of the hot-air cylinders, substantially as set forth.

806,196. **BREECH FOR TOY CANNON.** ROY A. SCHEFFEL, Dayton, Ohio. Filed July 23, 1904. Serial No. 217,765.



Claim.—In a toy gun, the combination of a gun-barrel, of a breech consisting of two plates 12 and 12' which are hinged together, one of said plates having a screw-threaded attachment with the breech of the gun, said plates having a transverse recess which lies immediately across the rear terminal of the bore at the breech of the gun-barrel and in which the cracker is held in contact with the ball or charge, as herein shown and described.

806,197. **BRICK-TONGS.** FRITZ SCHULZ, Chicago, Ill., assignor to The Good Manufacturing Co., Chicago, Ill., a Corporation of Illinois. Filed Apr. 10, 1905. Serial No. 254,728.

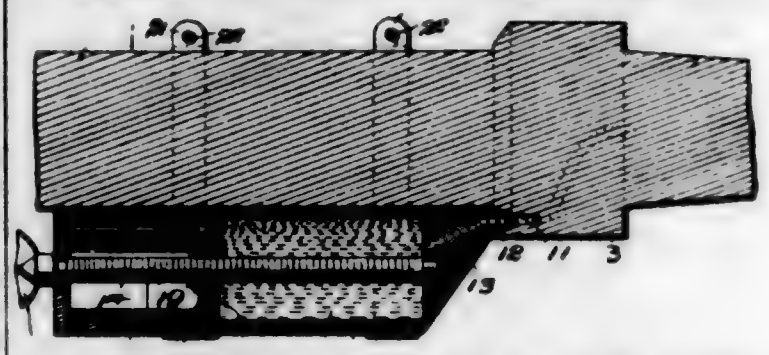


Claim.—1. A lifting-tongs comprising two jaw members movable telescopically relatively to each other, a chain or the like connecting said members and serving to limit their relative movement in one direction, and serving at its point of juncture with said jaw members as fulcrums upon which the latter turn.

2. A lifting-tongs comprising two L-shaped jaw members movable telescopically relatively to each other, a chain or the like secured to the jaw portion of one member and adapted to engage locking means on the other thereof to hold said members against relative movement in one direction and serve as fulcrums upon which said jaw portions turn.

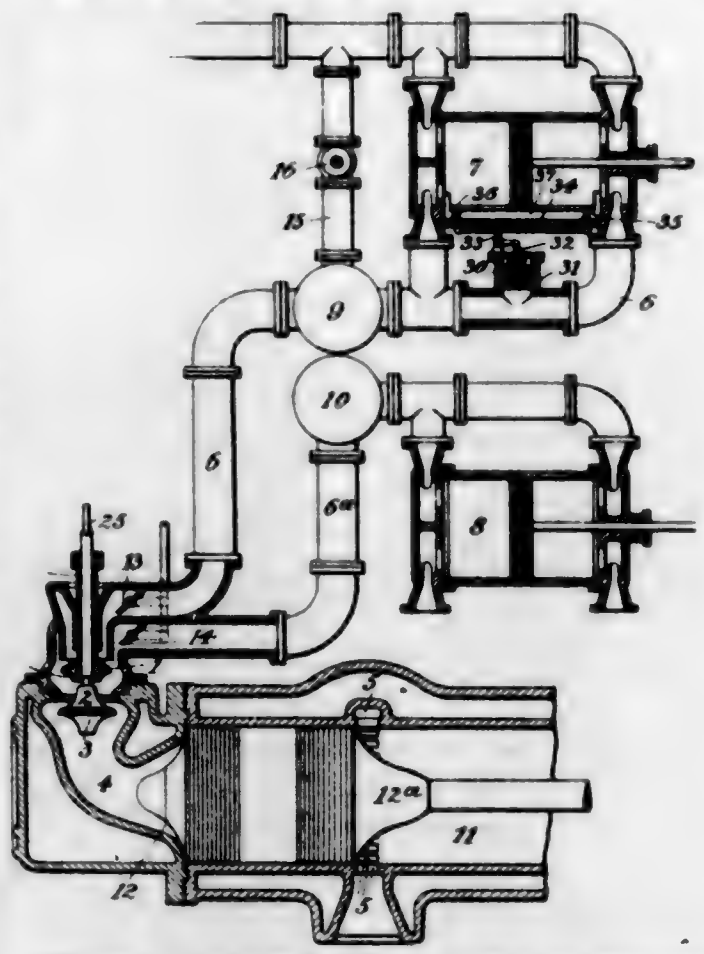
3. A lifting-tongs comprising two L-shaped jaw members movable telescopically relatively to each other, a chain or the like secured to the jaw portion of one member and adapted to engage locking means on the other thereof to hold said members against relative movement in one direction and serve as fulcrums upon which said jaw portions turn, the interfitting portions of said members forming stems for actuating said jaw portions to turn the same, and one of said stem portions being provided between its ends with a fulcrum upon which the other stem turns.

806,198. **LUBRICATOR ATTACHMENT.** WILHELM C. SCHULZ, Lidgerwood, N. D. Filed Feb. 3, 1905. Serial No. 244,021.



Claim.—A lubricating attachment for vehicle-axles consisting of a reservoir, one end of which is provided with a nozzle adapted to open into a duct within an axle, a closure hinged to one end of the reservoir and constituting a portion of one side thereof, means for locking the closure in closed position, clamping devices extending around the reservoir for securing it to an axle, and means for forcing lubricating material out of the reservoir and through the nozzle thereof.

806,199. **GAS-ENGINE.** PETER SCHWERM, Reisholz, Germany. Filed Dec. 31, 1903. Serial No. 137,373.



Claim.—1. In a gas-engine, the combination of a gas-pump and an air-pump with a gas-pipe and an air-pipe, a common mixing-chamber, a valve between the gas-pipe and mixing-chamber, a cylinder and piston, a valve between the mixing-chamber and cylinder, a regulator-spindle, means intermediate said spindle and the valves for operating the valves independently of each other, and means independent of the piston for operating the gas and air pumps, substantially as specified.

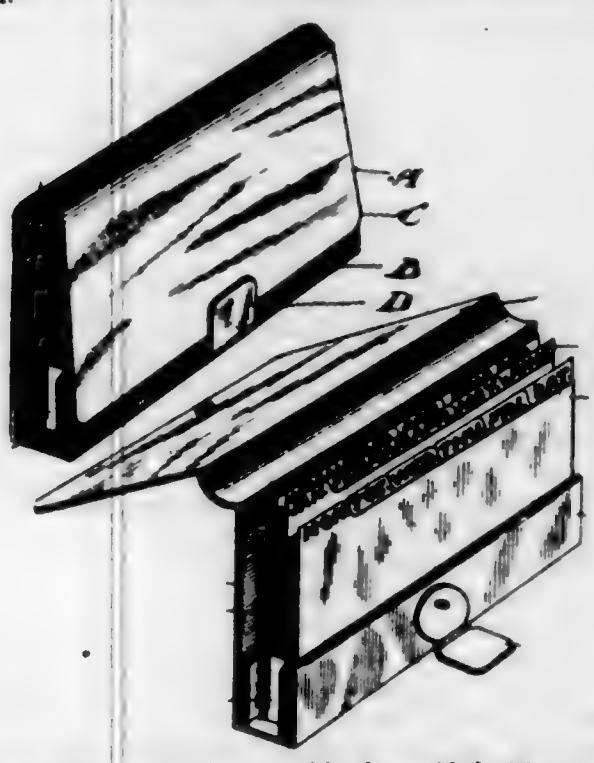
2. In a gas-engine, the combination of a gas-pipe and an air-pipe with a common mixing-chamber, a valve controlling the gas-pipe, a second valve controlling the mixing-chamber, a cylinder having an elbow-shaped and flaring end which constitutes a compression-chamber, and a piston having a coniform head adapted to be projected into said chamber, substantially as specified

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806,200. **RECORD-BOOK.** PETER H. SIMS, Toronto, Canada. Filed Jan. 30, 1905. Serial No. 243,354.

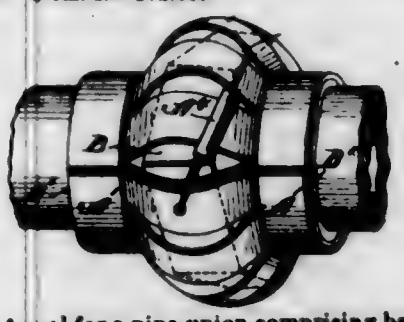
Claim.—1. A record-book comprising a case provided with a shallow receptacle having expanding sides squarely and firmly attached to the bottom and a folding cover in combination with a series of index-cards inserted in said receptacle, substantially as described.

2. A case for a card-index record-book provided with a shallow receptacle having expanding sides squarely and firmly attached to the bottom of the receptacle; and a folding cover, substantially as described.



3. A case for a card-index record-book provided with a receptacle having stiff ends squarely and firmly attached to the bottom and having expansible connections with the front and back walls, substantially as described.

806,201. SEAL FOR PIPE-UNIONS. HENRY C. SIMCO, Anderson, Ind., assignor of one-half to H. L. Millspaugh, Anderson, Ind. Filed July 31, 1905. Serial No. 272,059.



Claim.—1. A seal for a pipe-union comprising band portions at its opposite ends and an intermediate slitted portion expanded laterally of the body.

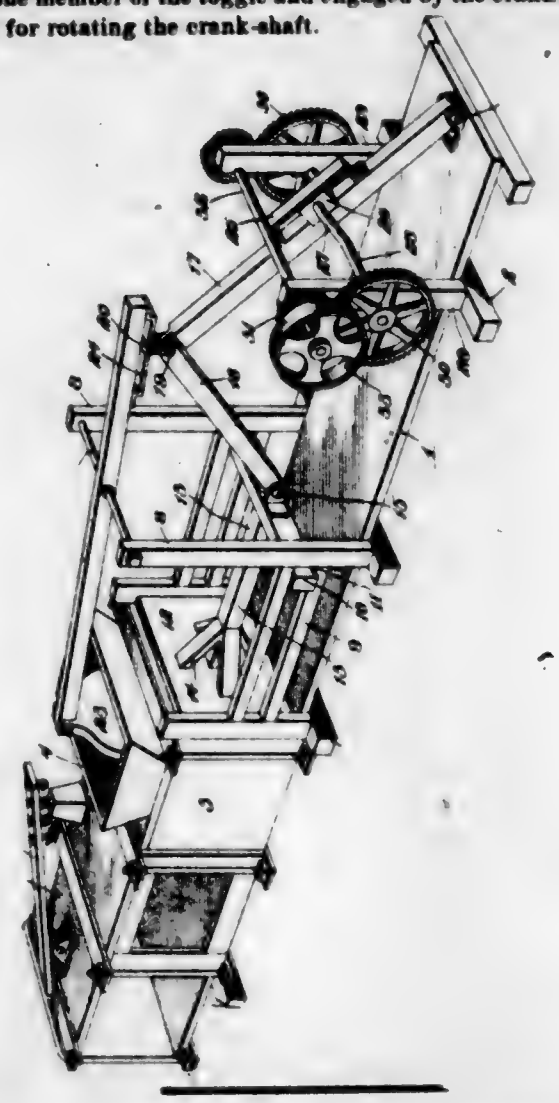
2. A seal for a pipe-union comprising a single piece of flexible material having its longitudinal edges bent upon themselves to form band portions and provided intermediate of said edges with a series of parallel transversely-extending slits adapted to be expanded laterally when the blank is bent into cylindrical form.

3. In a seal for a pipe-union, the combination with a union, of a seal formed of flexible material having at its opposite ends bent portions to closely encircle the ends of said union, and provided intermediate of its ends with a slitted portion laterally expanded to surround the nut of the union and receive an angle-face thereof within said slitted portion.

806,202. BALING-PRESS. THOMAS C. SMITH, Berkeley Springs, W. Va. Filed Aug. 16, 1905. Serial No. 274,440.

Claim.—1. In a baling-press the combination with a compression-chamber having an inlet; of a plunger, guides extending from the compression-chamber, a cross-head mounted upon the guides and connected to the plunger, a toggle pivoted at opposite ends to the cross-head and to a stationary portion of the press, a yoke extending from the intermediate pivot of the toggle, a pivoted beam mounted above the plunger, a feed-block at one end thereof, a strap at the other end engaging the yoke, a rotary shaft, and means operated by the shaft for alternately extending and retracting the toggle.

2. In a baling-press the combination with a compression-chamber having an inlet; of a plunger, guides extending from the compression-chamber, a cross-head mounted upon the guides and connected to the plunger, a toggle pivoted at opposite ends to the cross-head and to a stationary portion of the press, a yoke extending from the intermediate pivot of the toggle, a pivoted beam mounted above the plunger, a feed-block at one end thereof, a strap at the other end engaging the yoke, a rotary crank-shaft, a block slidably mounted upon one member of the toggle and engaged by the crank-shaft, and means for rotating the crank-shaft.



806,203. VEHICLE-WHEEL. THOMAS L. SOURS and HOMER F. FOX, Luray, Va. Filed Dec. 27, 1904. Serial No. 238,458.



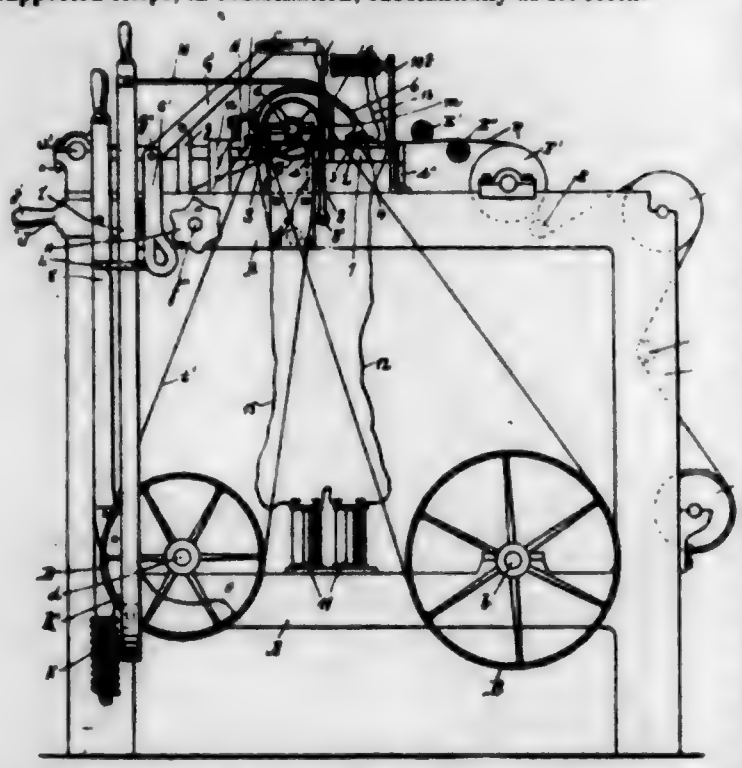
Claim.—In a vehicle-wheel a spoke provided with a spring interposed therein, a casing disposed about the said spring, said casing having a solid end provided with a plurality of openings therein, a follower disposed within the casing and provided with a plurality of openings, a staple slidably mounted within a pair of openings in the end of the casing and rigidly secured to the follower and a second staple, secured at an approximate right angle to the first-mentioned staple, slidably mounted within a pair of openings in the follower and rigidly secured to the end of the casing, said staples and spring constituting a portion of the said spoke.

806,204. PILE-FABRIC-CUTTING MACHINE. EDWARD STANSFIELD, New York Mills, N. Y., assignor to The New York Mills, New York Mills, N. Y. Filed June 18, 1902. Serial No. 112,162.

Claim.—1. In a machine of the character described, a base-plate, a top plate in electric contact therewith, the plates being adapted to permit the interpassage of the cloth to the knives, knives, a stop-finger support, an armature thereon, knife-guides and an electric circuit adapted to be completed on contact of a knife-guide with the base or the top plate, in combination, substantially as set forth.

2. In a machine of the character described, knife-guides, a guide-bar supporting the knife-guides, an electrically-conductive strip supported on the guide-bar and insulated therefrom, electrically-conductive plates connected to pass an electric current and adapted to permit interpassage of cloth to the knives, knives, an electric connection between the strip and the plates, an electromagnet, a stop-finger support oppositely disposed thereto and provided with an armature oppositely disposed to the electromagnet, and a battery with connections between it, the guide-bar and through the electromagnet to the base-plate whereby the circuit is completed on contact of a knife-guide with the electrically-conductive strip, in combination, substantially as set forth.

3. In a machine of the character described, an electrically-conductive base-plate, a bracket pivotally seated thereon terminating in arms, strips supported by the arms, the bracket, arms and strips being electrically conductive, a guide-bar supporting the knife-guides, knife-guides, an electromagnet, a stop-finger support provided with an armature oppositely disposed to the electromagnet, a battery, electrical connection between the battery, the electromagnet, the base-plate, the arms and the guide-bar whereby the electric circuit is completed on contact of a knife-guide with either of the bracket-supported strips, in combination, substantially as set forth.



4. In a machine for cutting the pile of a fabric, the combination of a shaft, a series of rotary cutting-knives mounted on said shaft, a series of knife-guides constructed with flexible ribs, one being on each side of each knife and united before and behind each knife, mechanism for moving the knife-guides forward in the pile of the fabric, a metal plate mounted to rest on the surface of the pile of the fabric and engage the knife-guides when the same pierce the pile of the fabric, an electric battery, an electromagnet electrically connected to the plate and to the battery whereby when one or more of the knife-guides project through the fabric into contact with the metal plate the circuit is established and the mechanism connected therewith for automatically arresting the movement of the fabric is put in operation, and mechanism adapted to stop the machine on completion of the circuit, substantially as set forth.

5. In a machine for cutting the pile of a fabric, the combination of a series of rotary cutting-knives, a series of metal knife-guides constructed to run in the pile of the fabric, and in which the knives rotate, a metal plate supported on the fabric, an open electric circuit, whereby when one or more of the knife-guides is brought in contact with the metal plate the electric circuit is established, a magnet, an armature connected with the stop-motion within the field of the magnet for automatically arresting the movement of the fabric when the electric connection is established and a stop-motion, substantially as set forth.

6. In a machine for cutting the pile of a fabric, the combination of a series of rotary cutting-knives, a series of metal knife-guides between which the knives rotate constructed to run in the pile of the fabric and in contact with the knives, an electrically-conductive knife-guide-supporting bar, an insulated electrically-conductive strip located slightly below the level of the knife-guides, an electromagnet electrically connected to the supporting-bar and to the said insulated strip, an armature connected to the stop mechanism on the machine and within the field of the electromagnet for arresting the movement of the fabric when the knife-guide comes in contact with the insulated strip and electric connection is established thereby, and stop mechanism, substantially as set forth.

7. In a machine for cutting the pile of a fabric, the combination of a series of rotary cutting-knives, a series of metal knife-guides between which the knives rotate constructed to run in the pile of the fabric and in contact with the knives, an adjustable insulated metal strip located slightly below the level of the knife-guides, an electromagnet electrically connected to the insulated metal strip and to an electric circuit, said electric circuit, an armature connected to the stop mechanism of the machine and within the field of the electromagnet for automatically arresting the movement of the fabric when a knife-guide comes in contact with the insulated metal strip and electric connection is established thereby, and stop mechanism, substantially as set forth.

8. In a machine for cutting the pile of a fabric, the combination of a series of rotary cutting-knives, a series of metal knife-guides between and in contact with which the knives rotate constructed to run in the pile of the fabric, a metal strip located above the knife-guides, an electromagnet electrically connected to the strip and an electric circuit, said electric circuit, an armature in the field of the magnet, which actuates the stop-motion for arresting the movement of the fabric when one or more of the knife-guides are brought in contact with the metal strip whereby the movement of the fabric is automatically arrested, and a stop-motion, substantially as set forth.

9. In a machine for cutting the pile of a fabric, the combination of a series of rotary cutting-knives, a series of metal knife-guides between and in contact with which the knives rotate constructed to run in the pile of the fabric, a metal strip located above the knife-guides, an electric circuit, an electromagnet electrically connected to the strip and in said electric circuit, connected to actuate the stop-motion and a stop-motion for arresting the movement of the fabric when one or more of the knife-guides are brought in contact with the metal strip whereby the movement of the fabric is automatically arrested, substantially as set forth.

10. In a machine for cutting the pile of a fabric, the combination of a series of rotary cutting-knives, a series of metal knife-guides between and in contact with which the knives rotate constructed to run in the pile of the fabric, a metal strip located above and to the rear of the knife-guides, an electromagnet electrically connected to the metal strip and to an open electric circuit whereby when the rear or heel portion of one or more of the metal knife-guides are brought in contact with the metal strip an electric circuit is established, a stop-motion, said electric circuit and an armature connected to the stop-motion and within the field of the electromagnet whereby the movement of the fabric is automatically arrested when the electric circuit is established, substantially as set forth.

11. In a machine for cutting the pile of a fabric, the combination of a series of rotary cutting-knives, a series of metal knife-guides between and in contact with which the knives rotate constructed to run in the pile of the fabric, an adjustable metal strip located above and to the rear of the knife-guides, an electromagnet electrically connected to the adjustable metal strip and to an open electric circuit whereby when the rear or heel portion of one or more of the metal knife-guides are brought in contact with the adjustable metal strip an electric circuit is established, said electric circuit, a stop-motion and an armature connected to the stop-motion and within the field of the magnet whereby the movement of the fabric is automatically arrested when the electric circuit is established, substantially as set forth.

12. In a machine for cutting the pile of a fabric, a series of cutting-knives, a series of guides adapted laterally to limit the cutting-knives and in contact therewith and constructed to advance with the operation of the machine in the pile of the fabric, electrically-conductive strips and plates mounted adjustably on electrically-conductive supports adjacent to the knife-guides in their operation, said supports, a stop-motion mechanism provided with an armature, an electromagnet disposed opposite to the stop-motion armature, an open electric circuit connecting the adjustable strips and plates whereby the electric circuit is established on contact of one or more of the knife-guides with one or more of the metallic strips or plates, and the operation of the machine is suspended, in combination, substantially as shown.

13. In a machine for cutting the pile of a fabric, a series of cutting-knives, a series of guides adapted laterally to limit and guide the cutting-knives and in contact therewith and constructed to advance with the operation of the machine in the pile of the fabric, metallic strips or plates located to engage with any knife-guide upon its displacement, a stop-motion provided with an armature, an electromagnet disposed opposite to the stop-motion armature, an open electric circuit connecting the strips or plates whereby the electric circuit is established on contact by one or more of the knife-guides with one or more of the metallic electrically-connected strips or plates, combined substantially as set forth.

14. In a machine of the character described provided with knives and knife-guides, electrically-conductive plates adjacent to the fabric and to the knife-guides, an electrically-operative stop mechanism, an electric circuit adapted on contact of a knife-guide with a plate to operate the stop mechanism, in combination, substantially as described.

15. In a machine of the character described provided with elec-

trically-conductive knives and knife-guides, an electrically-conductive guide-bar supporting the knife-guides, an open electric circuit connected thereto, electrically-conductive plates adjacent to the knife-guides and connected with the circuit, and a stop-motion adapted to stop the machine on contact between a knife-guide and a plate, in combination, substantially as described.

16. In a machine of the character described, knife-guides, a guide-bar supporting the knife-guides, an electrically-conductive strip supported on the guide-bar and insulated therefrom, knives, an electromagnet, a stop-finger support provided with an armature oppositely disposed to the electromagnet, and a battery with connections between it, the guide-bar and through the electromagnet to the strip whereby the circuit is completed on contact of a knife-guide with the electrically-conductive strip, in combination, substantially as set forth.

17. In a machine of the character described provided with electrically-conductive knives, knife-guides and a guide-supporting bar, an electrically-conductive insulated strip adjacent to the knife-guides, an electrically-operative stop mechanism, an open electric circuit embracing the guide-supporting bar and the insulated strip and electrically actuating the stop mechanism upon the completion of the electric circuit on contact of a knife-guide with the insulated strip, thus stopping the machine, in combination, substantially as described.

18. In a machine of the character described, knives, knife-guides, a guide-supporting bar, an insulated strip adjacent to the knife-guides, the said parts being electrically conductive, an electrically-operated stop mechanism and an open electric circuit embracing the said parts and completed on contact of a knife-guide with the insulated strip to operate the stop mechanism, in combination, substantially as shown.

19. In a machine of the character described provided with knives and knife-guides, bracket-supported strips adjacent to the knife-guides, brackets, the said parts being electrically conductive, an electrically-operative stop mechanism, electrical connections embracing the knife-guides and the strips whereby the stop mechanism is operated on contact of a knife-guide with either of the strips, in combination, substantially as described.

20. In a machine for cutting the pile of a fabric, the combination of a shaft, a series of rotary cutting-knives mounted on said shaft, a series of knife-guides constructed with a rib in contact with each face of its knife and united before and behind each knife, mechanism for moving the knife-guides forward in the pile of the fabric, a metal plate adjacent to the fabric and adapted to engage the knife-guides when the same pierce the pile of the fabric, an electric battery, an electromagnet electrically connected to the plate and to the battery whereby when one or more of the knife-guides project through the fabric into contact with the metal plate the circuit is established and the mechanism connected therewith for automatically arresting the movement of the fabric is put in operation, mechanism adapted to stop the machine on completion of the circuit, substantially as set forth.

21. In a machine for cutting the pile of a fabric, the combination of a series of rotary cutting-knives, a series of metal knife-guides constructed to run in the pile of the fabric and in which the knives rotate, a metal plate adjacent to the fabric, an electromagnet connected to the metal plate and adapted to receive an electric current whereby when one or more of the knife-guides is brought in contact with the metal plate the electric circuit is established, said electric circuit, an armature connected with the stop-motion for automatically arresting the movement of the fabric when the electric connection is established and a stop-motion, substantially as set forth.

22. In a machine of the character described provided with knives, knife-guides and knife-guide-supporting means, the said parts being electrically conductive, electrically-conductive strips or plates located to engage with any knife-guide upon its displacement, an electrically-operative stop mechanism, an open electric circuit embracing such parts adapted to be completed on contact of any knife-guide with any of said strips or plates to operate the stop mechanism, in combination, substantially as described.

23. In a machine of the character described, provided with electrically-conductive knives, knife-guides and knife-guide-supporting bar, an open electric circuit connected thereto, electrically-conductive strips supported adjacent to the knife-guides and a stop-motion whereby on contact of a knife-guide with a strip the circuit is completed and the stop-motion is operated, substantially as described.

24. In a machine of the character described comprising cutting members and electrically-conductive guiding means normally operative to feed material to the cutting members, an open electric circuit comprising a magnet, a stop mechanism comprising an armature mounted in the field of the magnet, electrically-conductive members disposed adjacent to said guiding means whereby on contact between the latter and the former the circuit is closed and the stop mechanism is operated, substantially as described.

25. In a machine of the character described provided with knives and knife-guides, electrically-conductive members adjacent to the knife-guides, an electrically-operative stop mechanism, an electric circuit adapted on contact of a knife-guide with any of said members to operate the stop mechanism, substantially as described.

26. In a pile-cutting machine, the combination of a guide which enters a race of the cloth, an electric circuit which includes said guide as an electrode and means actuated by the closing of said circuit for stopping the machine, substantially as described.

27. In a pile-cutting machine, the combination of a guide which enters a race of the cloth, an electric circuit which includes said guide as an electrode, a companion electrode with which said guide will contact to close the circuit when said guide is diverted from its normal position, and means actuated by the closing of said circuit for stopping the machine, substantially as described.

28. In a pile-cutting machine, the combination of a guide which enters a race of the cloth, an electric circuit which includes said guide as an electrode, a companion electrode with which said guide will contact to close the circuit when said guide is deverted from its normal position, and means actuated by the closing of said circuit for disconnecting the power which drives the machine and operating a brake mechanism, substantially as described.

29. In a pile-cutting machine, the combination of a guide which enters a race of the cloth, an electric circuit which includes said guide as an electrode, a companion electrode with which said guide will contact to close the circuit when said guide is diverted from its normal position, and means actuated by the closing of said circuit for simultaneously disconnecting the power which drives the machine and operating a brake mechanism, substantially as described.

30. In a pile-cutting machine, the combination of a guide which enters a race of the cloth, an electric circuit which includes said guide as an electrode, and a companion electrode arranged near the rear of said guide and in a position where the rear end of said guide, if diverted from its normal position, will contact therewith and close said circuit, substantially as described.

31. In a pile-cutting machine, the combination of a guide which enters a race of the cloth, an electric circuit which includes said guide as an electrode, and a companion electrode arranged near the rear end of the guide and in a position where the rear end of the guide, if bent or sprung downward, will contact therewith and close said circuit, substantially as described.

32. In a pile-cutting machine, the combination of a guide which enters a race of the cloth, an electric circuit which includes said guide as an electrode, a companion electrode with which said guide will contact to close said circuit when said guide is diverted from its normal position, tight and loose pulleys, a belt-shipper held under tension to hold the belt on the tight pulley, and means actuated by the closing of said electric circuit to release said belt-shipper and permit it to shift the belt on the loose pulley, substantially as described.

33. In a pile-cutting machine, the combination of a guide which enters a race of the cloth, an electric circuit which includes said guide as an electrode, a companion electrode with which said guide will contact to close the circuit when said guide is diverted from its normal position, a spring-actuated brake held out of action while the machine is in operation, and means actuated by the closing of said electric circuit for releasing said brake and permitting it to act, substantially as described.

34. In a pile-cutting machine, the combination of a guide which enters a race of the cloth, an electric circuit which includes said guide as an electrode, and a companion electrode arranged above the cloth and in position where the point of the guide, if projected through the face of the cloth, will contact therewith and close the circuit, said companion electrode being hinged so that it may be turned to facilitate the insertion of the cloth in the machine, substantially as described.

806,205. **INHALER.** WAYLAND D. STEARNS, Detroit, Mich., assignor to Frederick Stearns & Company, Detroit, Mich., a Corporation of Michigan. Filed Oct. 20, 1904. Serial No. 230,564.



Claim.—1. In an inhaler, the combination with an open-ended casing, of a closure for one end thereof comprising two apertured and relatively adjustable cap members, a closure for the opposite

end, and a connecting member joining the latter closure with the adjustable cap member.

2. In an inhaler, the combination, with an open-ended casing, of a sectional closure for one end thereof, both parts or members being apertured and one being mounted for rotary and longitudinal adjustment relative to the other, a closure for the opposite end, and a connection between the latter closure and said adjustable section.

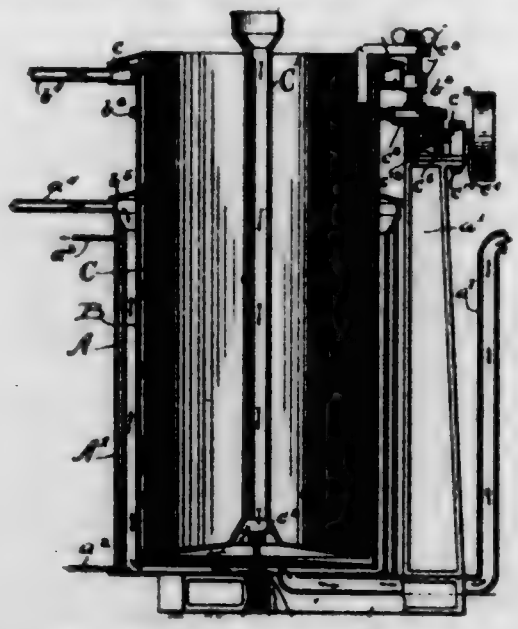
3. In an inhaler, the combination with an open-ended casing, of an inner apertured cap closing one of its ends, an outer apertured cap having a threaded engagement with the inner, a closure for the opposite end of said casing, and a spindle passing through the inner cap and connecting the outer cap with the closure,

4. In an inhaler, the combination, with a casing tapered at one end and open at both, of a closure for and arranged within the tapered end, a sectional closure for the opposite end, the sections being each apertured and relatively adjustable longitudinally, and a connection between the closures compelling upon the adjustment of one a corresponding movement of the other.

5. In an inhaler, the combination with an open-ended casing, of a closure for one end thereof, a two-part closure for the opposite end, both of said parts being apertured and one being adjustable, and a connection between the closures compelling upon the adjustment of one, a corresponding movement of the other.

6. In an inhaler, the combination with an open-ended casing, of a closure for one end thereof, a two-part closure for the opposite end comprising an apertured inner part inclosed by an apertured outer part, and a connection between the closures compelling simultaneous adjustment.

808,208. TEMPERING-MACHINE FOR PASTEURIZING. LEE STURGES, Elmhurst, Ill. Filed June 24, 1904. Serial No. 213,919.



Claim.—1. A tempering-machine for pasteurizing comprising a stationary, jacketed cylinder having a gutter at the top thereof of a revoluble cylinder therein and extending above the same, an inner stationary cylinder and a flange rigidly engaged on the revolving cylinder adapted to close said gutter.

2. A tempering-machine for pasteurizing, comprising a jacketed cylinder having a gutter at the upper end thereof, a rotative cylinder therein, extending above the jacketed cylinder, a peripheral flange thereon, adapted to close said gutter, an inner cylinder, a supply-pipe at the axis thereof, means adapted to hold the inner cylinder stationary and means for rotating the rotative cylinder.

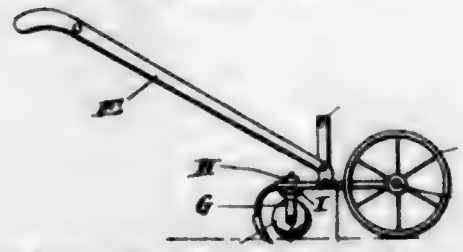
3. A tempering-machine adapted to be connected between a heater and a cooler in pasteurizing comprising a jacketed cylinder having an inlet and outlet pipe opening into said jacket, a bearing at the bottom of said cylinder, a revolving cylinder in said jacketed cylinder, a pin in the bottom thereof adapted to seat in said bearing, an inner stationary cylinder seated on the upper end of said pin, a plurality of standards, an annular trough carried thereon above the jacketed cylinder, a flange on said revolving cylinder projecting into said trough, a flange on the stationary cylinder adapted to cover said trough and a peripheral flange on the side of the revolving cylinder adapted to extend over and cover the upper end of said jacketed cylinder.

4. In a machine of the class described the combination with an inner, an outer and a middle cylinder of heat-conducting material of means for revolving the middle cylinder, a receiving-gutter at the top of the inner cylinder, a delivery-trough at the top of the other cylinders, outwardly-directed flanges covering said gutter and trough and means for rotating the middle cylinders.

5. In a machine of the class described means for conducting two oppositely-flowing thin sheets of milk of different temperatures therethrough comprising, a revoluble cylinder between said sheets, a water-jacket adjacent the outer sheet and a stationary cylinder adjacent the inner sheet, said revoluble and stationary cylinders being extended above the water-jacket.

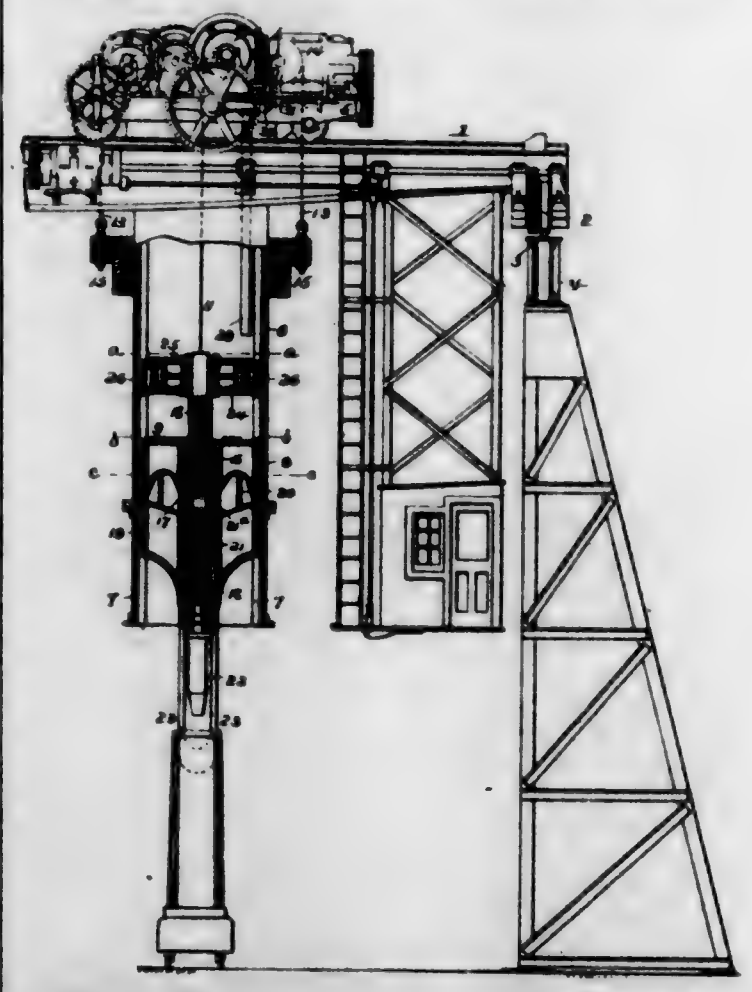
6. In a device of the class described the combination with a jacketed cylinder of a gutter at the top thereof, a frame adapted to support said cylinder, upwardly-directed standards thereon extending above said cylinder, a rotary cylinder in said jacketed cylinder affording therewith an annular chamber for the reception of heated milk, a stationary cylinder in said rotative cylinder affording therewith an annular chamber, for the reception of cold milk flowing oppositely from the heated milk, an axial feed-pipe therein, rollers carried on said standards adapted to rotate the rotary cylinder and brackets carried on said standards adapted to engage in the stationary cylinder and hold it from movement.

808,207. PLOW ATTACHMENT. WILLIAM H. SUFFIELD, Pekin, Ill. Filed May 6, 1905. Serial No. 259,161.



Claim.—A device of the character described, consisting of two parallel beams, a lateral-extending axle on each beam, traction-wheels journaled on said axles, an arch secured to said beams, a forked upright secured to each beam, a concavo-convex disk revolubly mounted in each upright, an annular serrated shoulder on each upright, and serrations on the under side of the beams to engage the serrations on said shoulder, substantially as shown and described.

808,208. APPARATUS FOR STRIPPING MOLDS FROM INGOTS. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed Jan. 19, 1904. Serial No. 189,711.



Claim.—1. The combination with a trolley, an inclosing frame depending therefrom and a hoist-drum on said trolley, of devices located partly within the inclosing frame for stripping the mold from

the ingot, guides secured to said inclosing frame for guiding said stripping devices and a counterweight embracing said inclosing frame, the said stripping devices and counterweight being connected to the hoist-drum by cables or chains.

2. The combination with a trolley, a hoist-drum thereon and a frame depending therefrom, of two cross-heads located within said frame one carrying a plunger and the other mold-stripping arms, means for imparting pressure in opposite directions to said cross-heads, and a flexible device suspending the cross-heads from the drum.

3. The combination with a trolley carrying a drum, and a frame open at its lower end and depending from said trolley, of two cross-heads located within and guided by said frame, mold-stripping devices carried by said cross-heads and a flexible suspending device carried by the drum and connected to one of said cross-heads.

4. The combination with a trolley, a frame depending therefrom and a hoist-drum on the trolley, of a chain or cable carried by said drum, two cross-heads located within and guided by said depending frame, one of said cross-heads being connected to the hoist-cable, mold-grasping arms carried by the upper cross-head, a plunger connected to the lower cross-head and means for moving said cross-heads in opposite directions.

5. The combination with a trolley, a frame depending therefrom and a hoist-drum on the trolley, of a chain or cable carried by said drum, two cross-heads located in and guided by said depending frame, one of said cross-heads being connected to the hoist-cable, mold-grasping arms carried by the upper cross-head, a plunger connected to the lower cross-head, a double screw and nuts for moving the cross-heads toward and away from each other and means for rotating the screw.

6. The combination with a trolley, a frame depending therefrom and a hoist-drum carried thereby, of a stripping apparatus located within said frame, and comprising two cross-heads and a connecting right and left hand screw, one cross-head carrying a plunger and the other mold-grasping arms, a cable or chain connecting said stripping device with the hoist-drum and means for rotating the screw.

7. The combination with a trolley, a frame depending therefrom, and a hoist-drum carried thereby, of a stripping apparatus located within said frame and comprising two cross-heads and a connecting right and left hand screw, one cross-head carrying a plunger and the other, mold-grasping arms, a cable or chain connecting said stripping devices with the hoist-drum, a counterweight also connected to the hoist-drum, and means for rotating the screw.

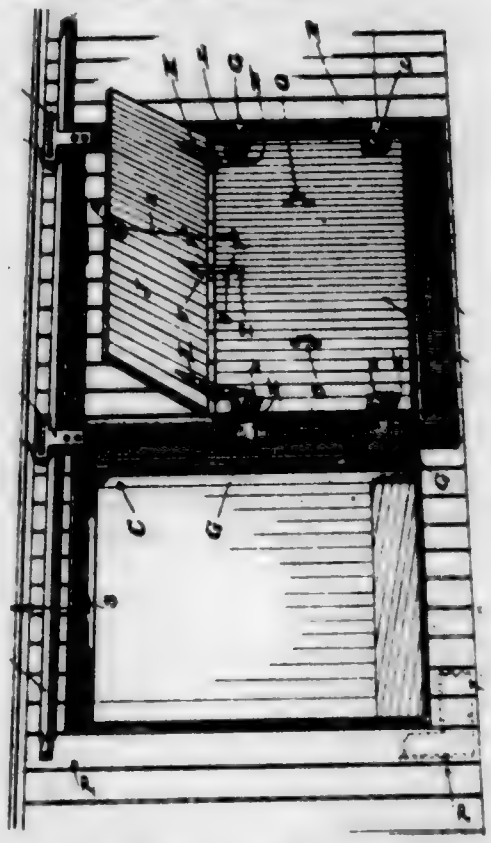
8. The combination with a trolley and a depending frame, of a stripping device comprising two cross-heads, and a right and left hand screw connecting said cross-heads, a plunger carried by one cross-head, mold-grasping arms carried by the other cross-head, means for suspending said stripping device from the trolley and means for rotating the screw.

9. The combination with a trolley, and an inclosing frame depending therefrom, of stripping devices comprising two cross-heads located within and guided by said depending frame, and a right and left hand screw connecting said cross-head, a plunger carried by one cross-head and mold-grasping arms by the other, a pinion on the upper end of the screw, a casing inclosing said pinion, means for suspending said stripping devices from the trolley and means for rotating the pinion carried by the screw.

806,209. **GRAIN-DOOR.** THOMAS C. THOMAS, Peoria, Ill., assignor of one-half to Daniel R. Sheen, Peoria, Ill. Filed Aug. 27, 1904. Serial No. 222,534.

Claim.—1. In a grain-door the combination of a frame larger than the doorway of the car, a track secured at the side of the car above the doorway, the said frame slidably hung therefrom, a lower door-section on the frame, a series of cranked members each having a horizontal bearing at one end on the said door-section, the opposite extremities of the cranks also having a horizontal bearing on the suspended frame for carrying the door through said frame in the manner described, the bottom edge of the section being beveled as shown, there being a socket in the car-floor for receiving the said door, the latter seating and closing by its own weight after being carried through the frame, an upper door-section, hinges for connecting said upper and lower section, one of the portions of each hinge being slotted to permit movement of the upper section on the lower in a vertical direction at the time and for the purpose described, and means for locking both sections together and preventing movement of the door from the doorway while thus locked.

2. In a grain-door, a track above the doorway, an open frame hung therefrom and slidable thereupon for the purposes set forth, a lower section, cranked members horizontally journaled on the door-section and on the frame for carrying said section when swung inward through the frame to its limit of movement to rest in the doorway, there being a socket in the floor for receiving the section, a stop on the outside of the frame for receiving the lower edge of the section when swung outward, an upper section hinged to the lower and adapted to have vertical movement therein as set forth, and locking means between the two sections for locking them together in one plane within the doorway as set forth.



3. In a grain-door, a track above the doorway, a frame suspended therefrom and slidable thereon, a lower half-door section, horizontal cranked members for permitting the said sections to swing in a vertical arc through the frame, an upper half-door section hinged to the lower one and adapted to hang therefrom, said lower section adapted to seat in the doorway, there being a socket for receiving it, the socket and the cranked members locking the section in place as described.

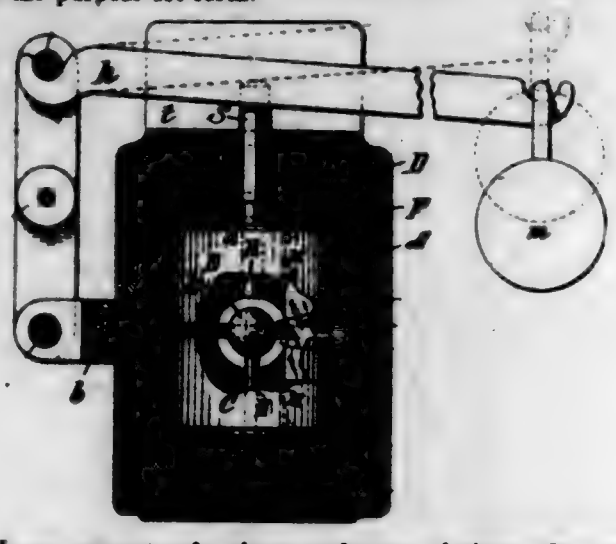
4. In a grain-door, a track above the doorway of the car, a frame hung therefrom and slidable thereon, a lower door-section, cranks for supporting the door-section on said frame and for carrying the said sections in a vertical arc, when moved through the frame, there being a socket in the floor of the car at the doorway, the lower edge of the section resting in said socket when closed and forming thereby a lock as described the cranks also holding the frame from movement for the purposes set forth.

5. In a grain-door, a track above the doorway of the car, a frame suspended therefrom and adapted to travel along the same, a lower door-section, crank members having horizontal bearings on the door-section and the frame as set forth for permitting movement of the section in the manner described, an upper door-section, slotted hinges connecting the two sections, said hinges permitting the upper section to hang down against the lower one, and also permitting separation of the sections when lying in one plane for the purposes set forth, means for locking the sections together at the juncture of the two after the lower section has been placed within the doorway there being a socket in the floor of the car for receiving the said lower section.

806,210. **APPARATUS FOR THE MANUFACTURE OF HARD-RUBBER DISKS AND BALLS FOR DISK WATER-METERS.** JOHN THOMSON, New York, N. Y., assignor to Neptune Meter Company, Long Island City, N. Y., a Corporation of New Jersey. Filed June 3, 1904. Serial No. 211,605.

Claim.—1. In an apparatus for the manufacture of pistons for water-meters, a pair of coöperating dies each provided with a socket of less than a true hemisphere, a holder for said dies provided with stops to limit the movement of the dies toward each other and an orifice in one of said dies to receive the spindle of the ball of the piston, the space between said dies around the sockets therein when the dies are engaged by their stops being equal to the thickness of the

disk which is desired to be produced between them and the diameter of the cavity formed by the sockets being equal to the diameter of the ball which is desired to be produced therein, substantially as and for the purpose set forth.



2. In an apparatus for the manufacture of pistons for water-meters, a pair of coöperating dies each provided with a socket of less than a true hemisphere, a holder for said dies provided with stops to limit the movement of the dies toward each other, an orifice in one of said dies to receive the spindle of the ball of the piston, the space between said dies around the sockets therein when the dies are engaged by their stops being equal to the thickness of the disk which is desired to be produced between them and the diameter of the cavity formed by the sockets being equal to the diameter of the ball which is desired to be produced therein, an orifice in the other of said dies and a plunger adapted to move therein and engage the material between the dies, substantially as and for the purpose set forth.

3. In an apparatus for the manufacture of pistons for water-meters, a pair of coöperating dies each provided with a socket of less than a true hemisphere, a holder for said dies provided with stops to limit the movement of said dies toward each other; an orifice in one of said dies to receive the spindle of the ball of the disk and a core carried by said spindle and disposed centrally within the cavity formed by the sockets in the dies when the dies are brought together to their stops, substantially as set forth.

4. In an apparatus for the manufacture of pistons for water-meters, a pair of coöperating dies each provided with a socket of less than a true hemisphere, a holder for said dies provided with stops to limit the movement of said dies toward each other, an orifice in one of said dies to receive the spindle of the ball of the disk and a core carried by said spindle and disposed centrally within the cavity formed by the sockets in the dies, the depth of the space between said dies around said cavity when the dies are engaged by their stops being equal to the thickness of the disk desired to be produced between them and the depth of the space around said core being also equal to the thickness of the disk desired to be produced between said dies, substantially as and for the purpose set forth.

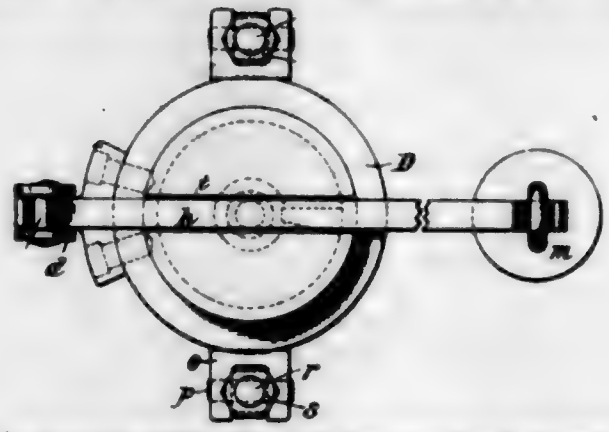
5. In an apparatus for the manufacture of pistons for water-meters, a pair of coöperating dies each provided with a socket of less than a true hemisphere, a holder for said dies provided with stops to limit the movement of said dies toward each other, a core for the ball of the piston and means to sustain said core centrally within the cavity formed by the sockets in the dies, substantially as set forth.

6. In an apparatus for the manufacture of pistons for water-meters, a pair of coöperating dies each provided with a socket less than a true hemisphere, a holder for said dies provided with stops to limit the movement of said dies toward each other and a wedge adapted to be inserted in a wedge-shaped recess formed in the exterior surface of said dies, substantially as and for the purpose set forth.

806,211. HARD-RUBBER DISK AND BALL FOR DISK WATER-METERS. JOHN THOMSON, New York, N. Y., assignor to Neptune Meter Company, Long Island City, N. Y., a Corporation of New Jersey. Filed June 8, 1904. Serial No. 211,656.

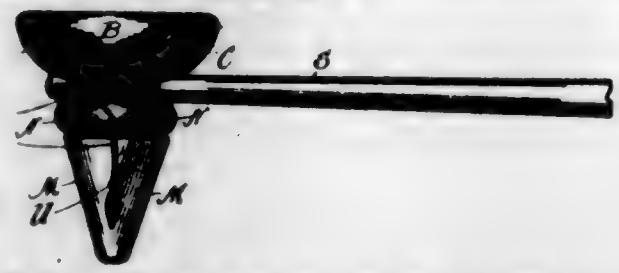
Claim.—1. As a new article of manufacture a piston for a water-meter having a disk composed solely of vulcanized material and a ball composed of a solid core having the same coefficient of contraction and expansion as the material of which the disk is composed, and an envelop for the core composed of the same vulcanized material as the disk, substantially as set forth.

2. As a new article of manufacture a piston for a water-meter having a disk composed solely of vulcanized material and a ball having a solid core and an envelop for the core composed of the same vulcanized material as the disk, said envelop being of the same thickness as the thickness of the disk, substantially as set forth.



3. As a new article of manufacture a piston for a water-meter having a disk composed solely of solid vulcanized material, a ball composed of a solid core, an envelop for the core composed of the same vulcanized material as the disk and a spindle for the ball secured to the solid core, substantially as set forth.

806,212. WHIPPING-TOP. EMIL TIMMERHOLM, Chicago, Ill. Filed Feb. 25, 1905. Serial No. 247,289.



Claim.—1. In a whipping-top of the kind described the combination of a head, B, having a central hole, F, and a depression, G, on the top, and a rim, D′, and a curve, C; with a body part, I, having a head-pin, Q, adapted to fit and to be held in the hole, F, in the head, B, said part, I, having a point, J, and a cap, K, said cap being secured by a shank, L, said body part being of a conical form and having a bead, N, and a neck, O, and a collar, O′, secured on said neck; said parts, B and I, being permanently joined together substantially as described and for the purposes specified.

2. In a whipping-top of the kind described the combination of a body part, I, conical in form and having a metallic cap, K, a neck, O, and a head-pin, Q, with a head, B, having a curved part, C, and a hole, F, adapted to receive the head-pin, Q, of the body part, I, and a collar, O′, secured on said neck, said head, B, and body part, I, being permanently joined together substantially as described and for the purposes specified.

3. A top of the kind described having a head B with flap depression G therein, a rim D′, curve part C, neck O, bead N, and conical part M, substantially as described and for the purposes specified.

806,213. CENTRIFUGAL FILTER. LAMARTINE C. TRENT, Vantrent, Cal. Filed Apr. 17, 1905. Serial No. 255,930.

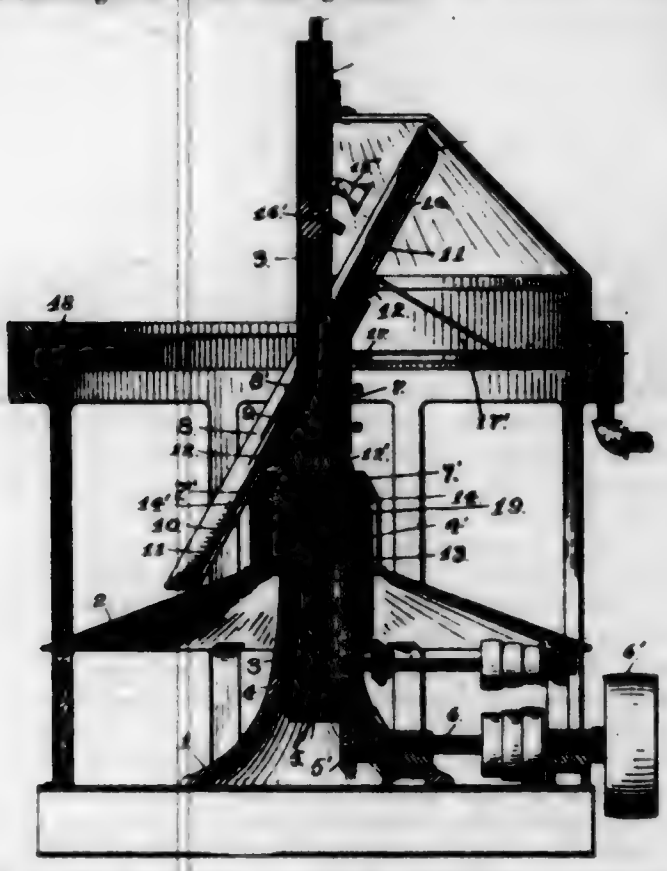
Claim.—1. A filter for removing or separating the liquid from material to be treated, the same consisting of a screen arranged at an incline to the horizontal, of means for revolving the same in a horizontal plane at a high speed, of mechanism for simultaneously rotating the same in a plane at right angles to its own axis, and means for feeding the material to be treated onto the upper portion of the screen's surface during its rotary movement.

2. A filter for removing or separating the liquid from material to be treated, the same comprising a vertical shaft, of means for rotating the same about a vertical axis at a high speed, a screen fitted on said shaft at an angle to the horizontal, connection for moving said screen with the horizontal rotation of the vertical shaft, and means for independently rotating the screen in a plane at right angles to its own axis during the horizontal rotation of the vertical shaft.

3. A filter for the removing or separating of liquid from material to be treated, the same comprising a screen arranged at an angle to the horizontal, of means for revolving the same in a horizontal plane and simultaneously rotating the same in a plane at right angles to its own axis.

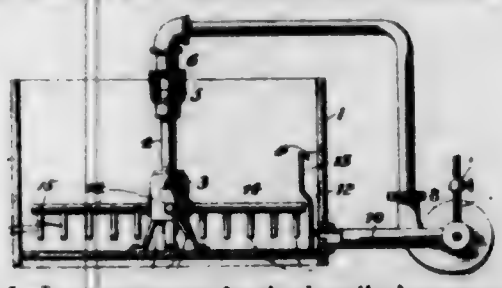
4. A filter for the removing or separating of liquid from material to be treated, the same comprising a screen set at an angle to the

horizontal, of means for rotating the screen about a vertical axis, of independent means for simultaneously rotating the screen in a plane at right angles to its own axis, and a platform for receiving the material discharged from the rotating screen.



5. A filter for removing or separating liquid from material to be treated, the same comprising a screen arranged at an angle to the horizontal, of means for rotating the same in a horizontal plane and simultaneously imparting thereto rotation in a plane at right angles to its own axis, means for delivering the material to be treated to the upper surface of the screen during its rotation, a device arranged at the back of the screen to receive the separated liquid, and a receiving-table below the screen onto which the material discharged therefrom is delivered.

806,214. AGITATING AND MIXING APPARATUS. LAMARTINE C. TRENT, Vantrent, Cal. Filed June 27, 1905. Serial No. 267,236.



Claim.—1. In an apparatus for the described purpose, the combination with a holding-receptacle for the material to be treated, of a reservoir rotatably held therein, a series of tubular arms radially extending therefrom, a series of tubular stirrers depending from the said arms, said stirrers being arranged at an incline to the horizontal axis of the arms, of a circulating-pump for the liquid material, of connection between the pump and the tank for the withdrawal of the material and connection between the pump and the rotatable reservoir, through which the material entering the pump is forced into the reservoir under pressure.

2. In an apparatus for the described purpose, the combination with a holding-receptacle for the material to be worked, of a reservoir rotatably held therein, of a series of hollow arms radially extending therefrom, a series of outlet-openings in each arm, of a circulating-pump located outside of the holding-receptacle, connection between said receptacle and the pump for the withdrawal of the material being treated, and connection between the said pump and the rotatable reservoir, through which the material entering the pump is forced under pressure into the said rotatable reservoir.

3. In an apparatus for the described purpose, the combination with a holding-receptacle for the material to be worked, of a reservoir rotatably held therein, of a series of hollow distributing-arms radially extending from the reservoir, of a circulating-pump located outside of the holding-receptacle, of connection between the pump and the holding-receptacle for the withdrawal of material, and of connection between the said pump and the rotatable reservoir, through which connection the material entering the pump is forced under pressure into the said reservoir.

4. In an apparatus for the described purpose, the combination with a holding-receptacle for the material to be treated, of a reservoir rotatably held therein, of tubular distributing-arms radially projecting therefrom, an overflow-chamber formed in the holding-receptacle, of a circulating-pump located outside of the receptacle, of pipe connections between the overflow-chamber and the pump, and pipe connection between the rotatable reservoir and the pump, through which connection the material entering the pump is forced under pressure into the said reservoir.

5. In an apparatus for the described purpose, the combination with a holding-receptacle for the material to be treated, of a reservoir rotatably held therein, of tubular distributing-arms radially projecting therefrom, of a circulating-pump for the material being treated, of connection between the holding-receptacle and the pump for the withdrawal of material, of connection between the pump and the rotatable reservoir through which the material entering the pump is forced under pressure into the said reservoir, and of means for admitting air to the pump for the aerating of the material passing therethrough.

806,215. RAILWAY-COUPLING. WILLIAM T. VAN DORN, Chicago, Ill. Filed Apr. 24, 1905. Serial No. 257,293.



Claim.—1. A draw-head of the class described having cylindric apertures extending therethrough near the outer end, one being positioned adjacent a side wall, the other closely adjacent thereto and obliquely in advance thereof, an inwardly-acting leaf-spring on the opposite side of said draw-head and a rotatable pin in one of said apertures adapted to adjust itself to wear.

2. The combination with a draw-head provided with a cylindric aperture closely adjacent to one side thereof of a pin rotatively engaged in said aperture, a cylindric aperture forwardly and laterally of said pin, a draw-bar pivoted axially in the forward aperture of the complemental draw-head, a rounded face on the side of said bar adjacent said pin adapted to engage the side of the head and deflect the bar against the pin in coupling, a shoulder on said bar, a spring on the head adapted to force said rounded face into position to rotate the pin in coupling and to force said shoulder behind the pin to coupled position.

3. In a draw-head of the class described having a central cylindric aperture near its outer end and a like aperture closely adjacent thereto, rearwardly and laterally thereof, a flanged cylindric rotatable abutment-pin and a low eye at the outer end of the pin and a chain engaged to the draw-head and swiveled in said eye.

4. The combination with a draw-head of a pin journaled closely adjacent to one side thereof, a leaf-spring rigidly engaged in the opposite side of said head and fulcrumed near its center to bend outwardly, a cylindric aperture through the head forwardly and laterally of said pin, a draw-bar pivoted in the forward aperture of a complemental draw-head, a rounded face thereon, on which said pin rolls in coupling, said face acting to deflect the bar laterally against the spring and force the spring outwardly and a shoulder on said bar acting when the bar has reached its inner limit to engage behind said pin.

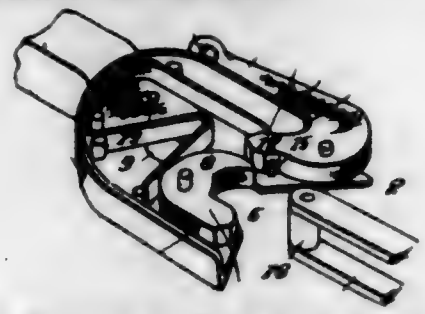
5. In a device of the class described, a coupling-bar having a cylindric central aperture therein affording a self-adjusting bearing, centrally-directed shoulders between the middle and each end of the bar, the end of said bar beyond the shoulders curving and tapering from the shoulder obliquely to a blunt, rounded, elongated extremity.

6. The combination with a draw-head provided with a centrally-disposed cylindric aperture near its outer end and a cylindric aperture slightly to the rear thereof and adjacent the side wall, of a rotative pin in the last-named aperture, a draw-bar having a shoulder thereon, and a rounded end adapted to engage against the side wall and deflect the bar past said pin and a leaf-spring fulcrumed on the wall of the draw-head, opposite said pin, adapted to force the bar against the pin.

7. The combination with a draw-head provided at the outer end thereof with two cylindric apertures, one positioned centrally of the draw-head and the other rearwardly thereof and adjacent the side wall a rotative pin adapted to engage in said rear aperture, a draw-bar having oppositely-directed rounded hooked ends thereon and

provided with a central cylindric aperture, a coupling-pin adapted to rotatively engage therein and in the forward aperture of a complemental draw-head and a spring in said draw-head adapted to engage the end of the draw-bar and force it against said pin in coupling.

806,216. AUTOMATIC DRAFT-COUPLING FOR AGRICULTURAL MACHINERY. CHARLES W. VAN WYE, Freeport, Kans. Filed May 5, 1905. Serial No. 259,690.

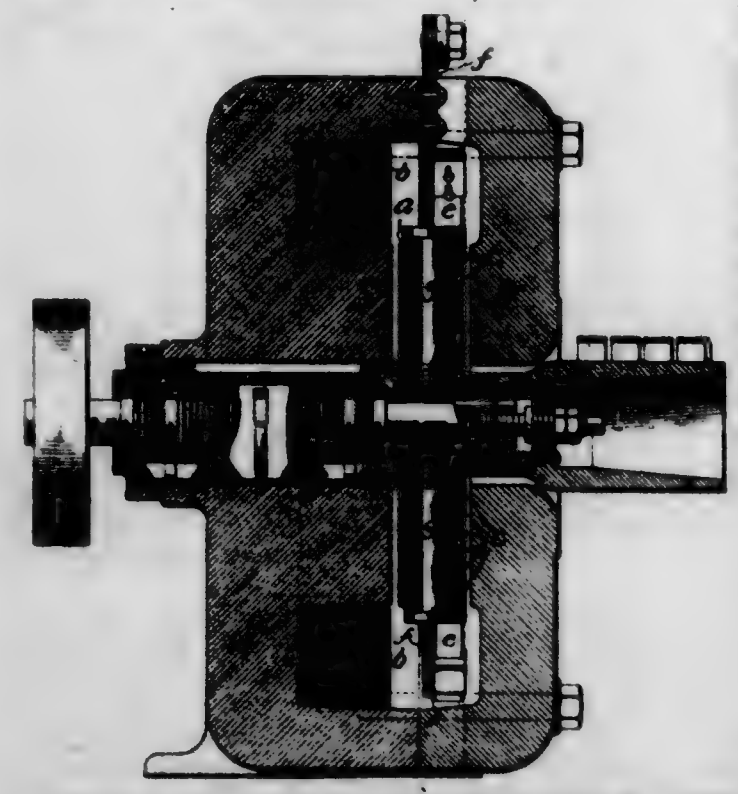


Claim.—1. In a draft-coupler for agricultural machinery, the combination of a draw-head having a mouth and throat therein, a knuckle, one arm of which normally projects across the throat and the other arm of which is engaged by a spring, and a spring-actuated tripping-lever, one arm of which passes out and lies normally against the outside of the draw-head.

2. In a draft-coupler for agricultural machinery, the combination of a draw-head having a mouth and throat therein, a knuckle pivoted upon one side of the throat, one arm of which normally projects across the throat and the other arm of which is engaged by a spring, a spring-actuated tripping-lever pivoted upon the other side of the throat, and a spring fastened in the rear of the draw-head, the respective ends of which are bent to engage with the knuckle and tripping-lever.

3. In a draft-coupler for agricultural machinery, the combination of a draw-head having a mouth and throat therein, a knuckle pivoted upon one side of the throat, one arm of which normally projects across the throat and the other arm of which is engaged by a spring, a spring-actuated tripping-lever pivoted upon the other side of the throat, one arm of which passes out and lies normally against the outside of the draw-head, and a spring fastened in the rear of the draw-head, the respective ends of which are bent to engage with the knuckle and tripping-lever.

806,217. DYNAMO-ELECTRIC MACHINE. HENRY H. WATT, Chicago, Ill. Filed Apr. 24, 1905. Serial No. 257,107.



Claim.—1. In a unipolar dynamo-electric machine, the combination with a field-magnet establishing a substantially uniform field, of an armature arranged to move in said field, and inductors carried by said armature inclined to the direction of their motion through the field, substantially as and for the purpose set forth.

2. In a unipolar dynamo-electric machine, the combination with a magnet having pole-pieces arranged to establish a unidirectional field of force, of an armature arranged to move within said field, a magnetizing-winding for said field, conductors carried by said armature adapted to have currents induced therein by the passage through said field, said conductors being inclined to the direction of their motion through the field, whereby the currents through said conductors establish a magnetic flux coacting with the field-flux, and means for collecting the current and externally completing the circuit between the terminals of said moving conductors.

3. In a unipolar dynamo-electric machine, the combination with a magnet-pole arranged to establish a unidirectional field of force, of a rotor arranged to move within said field of force, said rotor-carrying inductors extending spirally through the field, the inclination of each spiral being such that any conductor lies in substantially all the radial elements of the field.

4. In a unipolar dynamo-electric machine, the combination with annular magnet pole-pieces of opposite polarity facing each other, of a laminated disk armature built up of a spirally-wound, magnetizable steel band, said armature having spiral channels in its face and copper inductor-bars embedded in said channels, and means for collecting the currents induced ins aid bars at the central portion and at the periphery of said disk, substantially as set forth.

5. In a unipolar dynamo-electric machine, the combination with magnet pole-pieces of opposite polarity establishing a substantially uniform field of force, of an armature mounted to rotate within said field, said armature being laminated in the direction of the magnet-flux and having spiral channels or grooves in its surface with copper conductors embedded in said channels, the curve of each spiral making substantially a complete turn, and means for collecting the currents at the inner and outer terminals of said conductors.

6. In a unipolar dynamo-electric machine, the combination with a magnet arranged to establish a unidirectional field of force, of an armature arranged to rotate within said field, and conductors carried by said armature, said conductors extending spirally around the armature, substantially as and for the purpose set forth.

7. In a unipolar dynamo-electric machine, the combination with a magnet arranged to establish a unidirectional field of force, of an armature arranged to rotate within said field, said armature being laminated in the direction of the magnetic flux through the same, spiral channels in the face of said armature within the field of force, conductors embedded in said channels, and means for collecting the currents induced in said conductors at the terminals thereof, each spiral lying in substantially all the radial elements of the armature within said field of force.

8. In a unipolar dynamo-electric machine, the combination with a magnet arranged to establish a unidirectional field of force, of an armature arranged to rotate within said field, conductors carried by said armature, and means for collecting the currents induced in said conductors, said conductors being spirally arranged with reference to the field of force, whereby variations in the strength of the field at different parts thereof are compensated for.

9. In a unipolar dynamo-electric machine, the combination with a magnet arranged to establish a unidirectional field of force, of an armature arranged to rotate within said field, spiral conductors carried by said armature, and means for collecting the currents induced in said conductors, said conductors being so disposed with relation to said armature that the induced currents flowing therein establish a magnetomotive force coacting with the magnetomotive force of the field, whereby the advantages of compound winding are secured.

806,218. TABLE-MAT. HARRY B. WALKER, Chicago, Ill. Filed July 15, 1905. Serial No. 269,783.

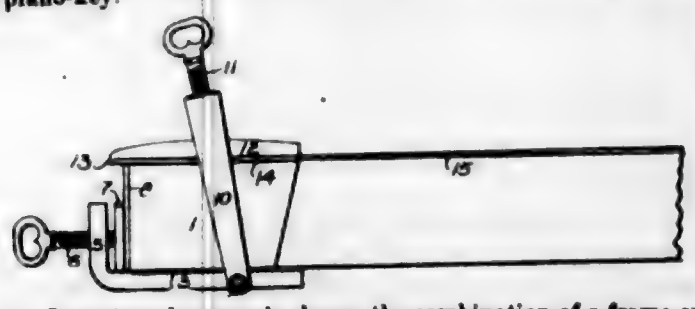


Claim.—A mat consisting of two outer sheets, and spaced strips which cross each other and form air-spaces, and are held between said sheets.

806,219. PIANO-KEY-REPAIR CLAMP. ROBERT H. WALKER, Tacoma, Wash. Filed Nov. 11, 1904. Serial No. 232,360.

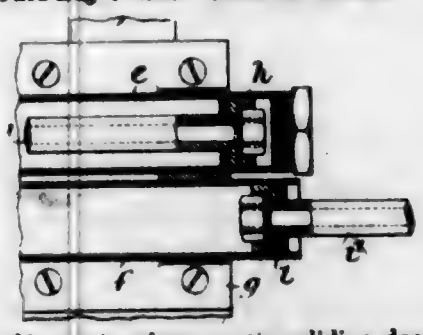
Claim.—1. In a piano-key-repair clamp, the combination of a frame engaging the lower surface of the piano-key and being bent upward at its end to receive the front pressure-screw, an inclined

clamping yoke and screw extending over the piano-key and pivoted to said frame and bearing on the head ivory to force it forward and downward and clamping the frame to the piano-key, and a front horizontal pressure-screw passing through the upward extension of said frame and adapted to engage and press the front ivory against the piano-key.



2. In a piano-key-repair clamp, the combination of a frame engaging the lower surface of the piano-key and being bent upward at its end to receive the front pressure-screw, an inclined clamping-yoke extending over the piano-key and pivoted to said frame, a pressure-plate resting on the head ivory below the yoke and having a downward projection adapted to engage the front edge of the head ivory, a pressure-screw passing through said yoke and engaging said pressure-plate to force it and the head ivory forward and downward and clamping said frame to the piano-key, and a front horizontal pressure-screw passing through the upward extension of said frame and adapted to engage and press the front ivory against the piano-key.

806,220. OPERATING SLIDING DOORS. FRANK D. WARD, Hanwell, England, assignor of one-half to Henry Percy Bradford, London, England. Filed Aug. 6, 1904. Serial No. 219,756.

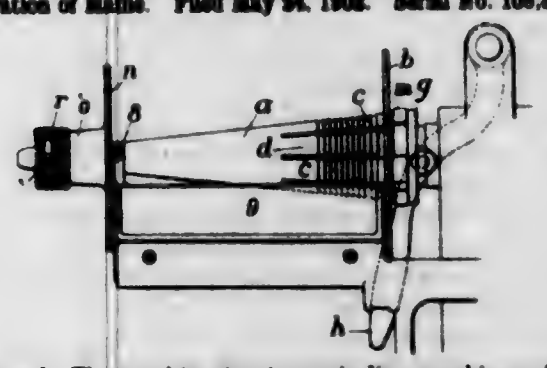


Claim.—1. Mechanism for operating sliding doors, comprising among its members, two separate reversely-disposed cylinders, each provided with a piston and means for admitting a motive fluid in rear thereof, said pistons and cylinders being connected the one to a movable door and the other to a stationary part whereby the use of stuffing-boxes for the piston-rods may be obviated, substantially as described.

2. The combination with a sliding door, of a pair of separate reversely-disposed cylinders secured thereto, pistons in said cylinders, connections from said pistons extending in opposite directions and connected to stationary parts, and means for supplying motor fluid to said cylinders separately, substantially as described.

3. The combination with a sliding door, of a pair of separate reversely-disposed cylinders secured thereto, pistons in said cylinders, hollow piston-rods extending through said pistons, extending in opposite directions and secured to stationary parts, and means for separately admitting motor fluid to said cylinders through said hollow piston-rods, whereby the use of stuffing-boxes for said piston-rods is obviated, substantially as described.

806,221. WINDING-MACHINE. SIMON W. WARDWELL, Providence, R. I., assignor to Universal Winding Company, Portland, Me., a Corporation of Maine. Filed May 24, 1902. Serial No. 108,826.



Claim.—1. The combination in a winding-machine, of a tube-carrier, retaining-heads on the tube-carrier, a thread-guide adapted to reciprocate between the said heads, and a movable support on which the guide reciprocates adapted to swing between the said retaining-heads to and from the carrier.

2. The combination with a winding-spindle, of retaining-heads mounted on the spindle, thread-guide, a frame and support thereon on which the said guide is reciprocated, said support adapted to swing to and from the spindle between the heads to permit the guide to bear on the surface of the package for the length of the latter at all times during the winding.

3. The combination with a winding-spindle, of fixed and removable heads on the spindle, a frame, a guide-support carried thereby enterable between the heads, and a guide adapted to reciprocate between the heads on said support.

4. The combination with a rotatable spindle, of a bearing therefor at one end, a head or disk near said end only, means for securing it to turn with th spindle, means for retaining a removable cop-tube on said spindle, a second head or disk, and means for connecting it detachably to the outer free end of the spindle

5. The combination with a rotatable spindle, of a bearing therefor at one end, a head or disk near said end, means for securing it to turn with the spindle, means for retaining a removable cop-tube on said spindle, a second head or disk, means for connecting it detachably to the outer end of the spindle, a swinging frame arranged to swing between said disks, a guide-support on the frame, and a guide carried by said support.

6. The combination in a winding-machine of a tube-carrier, formed with a recess at one end and with expansible segments surrounding the recess, a disk fixedly secured to certain of the segments and with the remaining segments left free to be expanded, internal projections on the free segments, a sleeve with a projecting ring to engage the said projections and a lever whereby the sleeve is shifted to expand the segments or permit them to contract.

7. The combination in a winding-machine of a tube-carrier formed with a recess at one end and with expansible segments surrounding said recess, a disk fixedly secured to a portion of the segments and having radial recesses between the supporting-segments, internal projections on the free segments whereby they may be expanded, a sleeve movable longitudinally to engage said projections to expand the free segments, and having radial projections adapted to pass through the radial recesses in the disk aforesaid, and a lever engaging said sleeve whereby it may be shifted in the manner and for the purpose substantially as described.

8. The combination in a winding-machine of a tube-carrier having expansible segments, a disk mounted on the carrier and a sleeve movable longitudinally within the carrier to expand the segments and having portions adapted to pass through the disk for the purpose and in the manner substantially as described.

9. The combination with a tube-carrier, of a head removably mounted on the tube-carrier, and a spring-catch mounted on said head to engage the tube-carrier and locate the head longitudinally thereon, substantially as described.

10. A cop-holder for a winding-machine comprising a tube-carrier *a*, a disk *b* mounted on the tube-carrier, expansible segments *d* of the tube-carrier, a sleeve *g* longitudinally movable within the tube-carrier to expand the said segments, and having a ring *m* adapted to be passed through the disk *b*, and a handle *h* to shift the sleeve *g* and its ring *m*, a head *n* mounted on the outer end of the tube-carrier and removable therefrom, and a spring-catch to secure the removable head *n* on the tube-carrier, substantially as described.

11. The combination with the tube-carrier of a winding-machine, of a removable head therefor having a hub and a rotative spring-operated catch mounted on said hub, for securing said head to or releasing it from the tube-carrier.

12. A device for securing a removable head to the tube-carrier of a winding-machine consisting of a projection of the tube-carrier on which the head is mounted, a cap secured to the head and rotatively mounted eccentric with the axis of the head, an opening in the end of the cap to receive the said projection, eccentric with the cap and normally eccentric with the axis of the head to engage the cap with the projection.

13. The combination with the removable head of a tube-carrier, of a retaining-cap having a bearing thereon eccentric with the axis of the head, means for retaining the cap on its bearing, an opening in the end of the cap eccentric with the axis of its bearing, and a spring for maintaining the opening normally eccentric with the axis of the head.

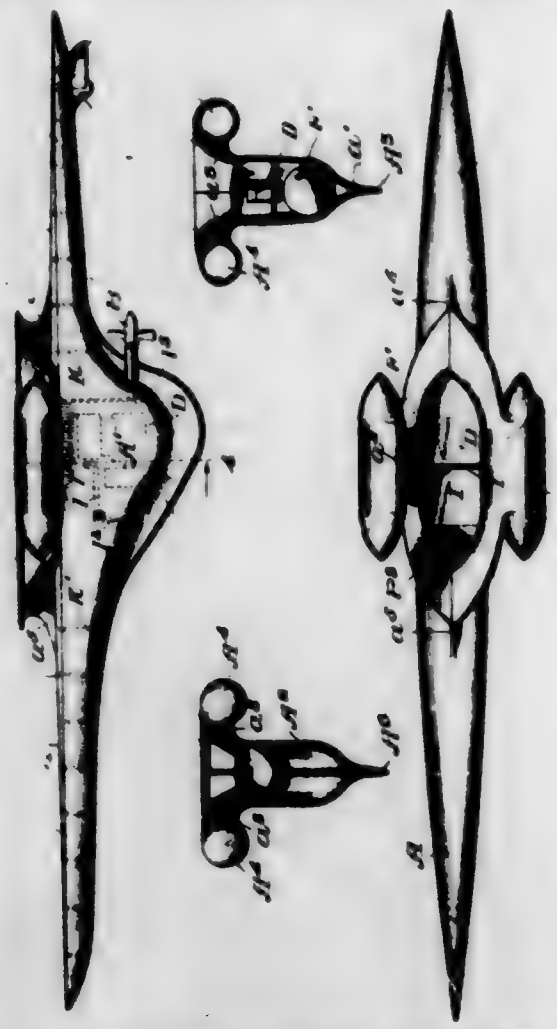
14. A device for securing a removable head on a tube-carrier, comprising a hub on said head, a circular portion of the hub eccentric with the axis of the head, a cap mounted to turn on said eccentric portion, means for retaining the cap longitudinally on the head,

an opening in the end of the cap eccentric with the bearing of said cap and adapted to receive the end of a stud, a circular groove in the stud adapted to be engaged by the end of the cap, and means for normally maintaining the cap with its opening eccentric with the axis of the head and in engagement with the said stud.

15. The combination with a removable head for a cop-tube carrier, of a projection of said carrier serving as a bearing for the head, a tip on said projection of less diameter than the bearing portion, a peripheral groove in the projection between the bearing portion and the tip, a cap, a bearing on the head for the cap, eccentric with the axis of the head, means for retaining the cap on its bearings, and for limiting its movement, an opening in the end of the cap, adapted to pass over the tip but engaging the end of the bearing portion of the projection, and a spring for maintaining said opening eccentric with the axis of the head to engage the end of the cap with the groove.

16. The combination in a cop-retaining head for a winding-machine, with a hub on said head, of a cap rotatively mounted on the hub eccentric with its axis, having a peripheral slot and a hole eccentrically located in the end of the cap, adapted to be shifted into line with the axis of said hub by rotating the cap, a pin mounted in the hub aforesaid engaging the peripheral slot of the cap to retain it longitudinally in position and limit its rotative movement, a projection serving to support the said head, a tip to said projection adapted to enter the opening in the cap and a coiled spring engaging the hub and cap to normally maintain the cap in engagement with said tip.

806,222. CONSTRUCTION OF VESSELS. THOMAS H. WHELESS, New York, N. Y. Filed Oct. 14, 1903. Serial No. 177,031.



Claim.—1. A marine vessel comprising long shallow bow and stern portions, and a deep and narrow waist portion, provided with a hatch, a deep fin-keel projecting from said waist, and a hatch-coaming mounted above said waist portion, substantially as described.

2. A marine vessel comprising long shallow bow and stern portions, and a deep and narrow waist portion, provided with a hatch, a deep fin-keel projecting from said waist, a hatch-coaming mounted above said waist portion, and mechanism for propelling the boat mounted in said waist portion, substantially as described.

3. A marine vessel comprising long shallow bow and stern portions, and a deep and narrow waist portion, provided with a hatch, a deep fin-keel projecting from said waist portion, a hatch-coaming mounted above said waist, with a propeller mounted in rear of said waist, and a driving-engine mounted in said waist, substantially as described.

4. A marine vessel comprising long shallow bow and stern portions, and a deep and narrow waist portion, with a deep fin-keel projecting from said waist, a hatch in the deck above said waist, a hatch coaming surrounding said hatch, a propeller mounted in rear of said waist, and a hydrocarbon-engine mounted in the lower part of said waist for driving said propeller, substantially as described.

5. A marine vessel comprising long shallow bow and stern portions, and a deep and narrow waist portion, provided with a hatch, a deep fin-keel projecting from said waist, a hatch-coaming mounted above said waist, an adjustable hood mounted over said hatch, a seat mounted below said hatch provided with a water-tight back, the said seat and back forming parts of a water-tight bulkhead and an engine-room in rear of said bulkhead, and mechanism for propelling the boat mounted in said engine-room, substantially as described.

6. A marine vessel comprising long shallow bow and stern portions, and a deep and narrow waist portion, provided with a hatch, a deep fin-keel projecting from said waist portion, a hatch-coaming mounted above said waist, a seat mounted below said hatch provided with a water-tight back, the said seat and back forming parts of a water-tight bulkhead, and an engine-room in rear of said bulkhead, a propeller mounted in rear of said waist, and a driving-engine mounted in said engine-room, substantially as described.

7. A marine vessel comprising a long shallow bow portion and a long shallow stern portion with deep and narrow waist, the bottom lines connecting said waist and said bow and stern portions being curved forward and aft respectively, with buoyancy-chambers at each side of said waist, and a keel projecting downward from said waist, substantially as described.

8. A marine vessel comprising a long shallow bow portion converging downwardly in its vertical transverse contour-lines, and a long shallow stern portion, with a deep and narrow waist, and a keel beneath said waist, the transverse contour-lines of the waist converging to the keel, and the keel extending upward, forward and aft respectively, and merging into the bow and stern portions, substantially as described.

9. A marine vessel comprising a long shallow bow portion converging downwardly in its vertical transverse contour-lines, and a long shallow stern portion, with a deep and narrow waist, and a keel beneath said waist, the transverse contour-lines of the waist converging to the keel, and the keel extending upward, forward and aft respectively, and merging into the bow and stern portions, and the lower portion of said waist being weighted, substantially as described.

10. A marine vessel comprising a long shallow bow portion converging downwardly in its vertical transverse contour-lines, and a long shallow stern portion, with a deep and narrow waist, and a keel beneath said waist, the transverse contour-lines of the waist converging to the keel, and the keel extending upward, forward and aft respectively, and merging into the bow and stern portions, and the lower portion of said waist being weighted, with buoyancy-chambers at each side of said waist, substantially as described.

11. A marine vessel comprising a long narrow bow portion, and a long shallow stern portion, with a deep and narrow waist, the draft of which to the bottom of the hull proper exceeds the maximum beam of said waist at the water-line, substantially as described.

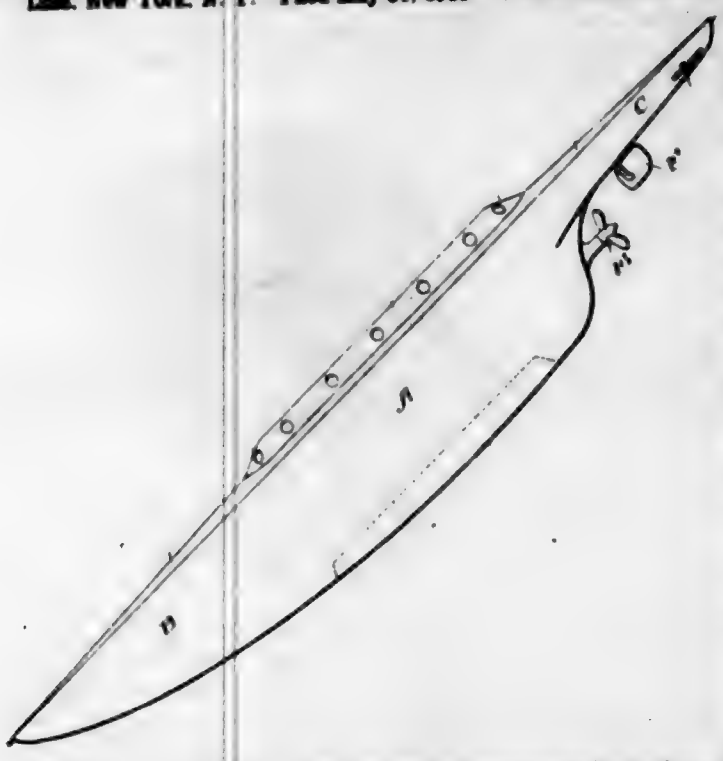
12. A marine vessel, comprising a long narrow bow portion, and a long shallow stern portion, with a deep and narrow waist, the draft of which to the bottom of the hull proper exceeds the maximum beam of said waist at the water-line, the bottom line of which vessel extends obliquely upward fore and aft into the said bow and stern portions, and the lower portion of said waist being weighted, substantially as described.

13. A marine vessel comprising a long narrow bow portion and a long shallow stern portion with a deep and narrow waist, the draft of which to the bottom of the hull proper exceeds the maximum beam of said waist at the water-line, and mechanism for propelling the boat mounted low down in said waist, substantially as described.

14. A marine vessel comprising a long narrow bow portion and a long shallow stern portion with a deep and narrow waist, the draft of which to the bottom of the hull proper exceeds the maximum beam of said waist at the water-line, the bottom lines connecting said waist, and said bow and stern portions being curved forward and aft respectively, and a weighted keel projecting downward from said waist, substantially as described.

15. A marine vessel comprising a long narrow bow portion and a long shallow stern portion with a deep and narrow waist, the draft of which to the bottom of the hull proper exceeds the maximum beam of said waist at the water-line, the bottom lines connecting said waist, and said bow and stern portions being curved forward and aft respectively, with buoyancy-chambers at each side of said waist, substantially as described.

806,223. SUBMERGIBLE SURFACE BOAT. THOMAS H. WHELAN, New York, N. Y. Filed May 31, 1905. Serial No. 263,079.



Claim.—1. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a sharp and narrow fore body, a narrow waist deeper than the beam, and a shallow overhanging stern portion, all the contours of the hull of the boat being continuous curves, and the maximum width of each cross-section being at the top of the sides, substantially as described.

2. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a sharp and narrow fore body, a narrow waist deeper than the beam, and a shallow overhanging stern portion, all the contours of the hull of the boat being continuous curves, and the maximum width of each cross-section being at the top of the sides, and the lower portion of the waist being weighted, substantially as described

3. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a sharp and narrow fore body, a narrow waist deeper than the beam, and a shallow-overhanging stern portion, all the contours of the hull of the boat being continuous, and the maximum width of each cross-section being at the deck-line, with a deck tapering slightly downward toward the bow and stern, substantially as described.

4. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a sharp and narrow fore body, a narrow waist deeper than the beam, and a shallow overhanging stern portion, all the contours of the hull of the boat being continuous curves, the lower portion of said waist being weighted, and the maximum width of each cross-section being at the deck-line, with a deck tapering slightly downward toward the bow and stern, and an elongated conning-tower mounted in the deck above the waist portion, substantially as described.

5. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a sharp and narrow fore body merging into a narrow waist deeper than the beam, the latter curving up rapidly into a shallow overhanging stern portion, all the contours of the hull of the boat being continuous curves, and the lower portion of said waist being weighted, substantially as described.

6. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a sharp and narrow fore body merging into a narrow waist deeper than the beam, the latter curving rapidly into a shallow overhanging stern portion, all the contours of the hull of the boat being continuous curves, and the lower portion of said waist being weighted, with a deck tapering slightly downward toward the bow and stern, substantially as described.

7. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a sharp and narrow fore body merging into a narrow waist deeper than the beam, the latter curving rapidly into a shallow overhanging stern portion, all the contours of the hull of the boat being continuous curves, and the lower portion of said waist being weighted, and each cross-section of the hull having its greatest width at the top of the sides, substantially as described

8. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a sharp and narrow fore body deeper than the beam and wedge-shaped in vertical cross-section, the said fore body merging obliquely downward into a deep and narrow waist also wedge-shaped in vertical cross-section and deeper than the beam, and a shallow overhanging stern portion, all the contour-lines of the hull of the boat being continuous curves, substantially as described.

9. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a sharp and narrow fore body deeper than the beam and wedge-shaped in vertical cross-section, the said fore body merging obliquely downward into a deep and narrow waist also wedge-shaped in vertical cross-section and deeper than the beam, and a shallow overhanging stern portion, all the contour-lines of the hull of the boat being continuous curves, and the lower portion of said waist being weighted, substantially as described.

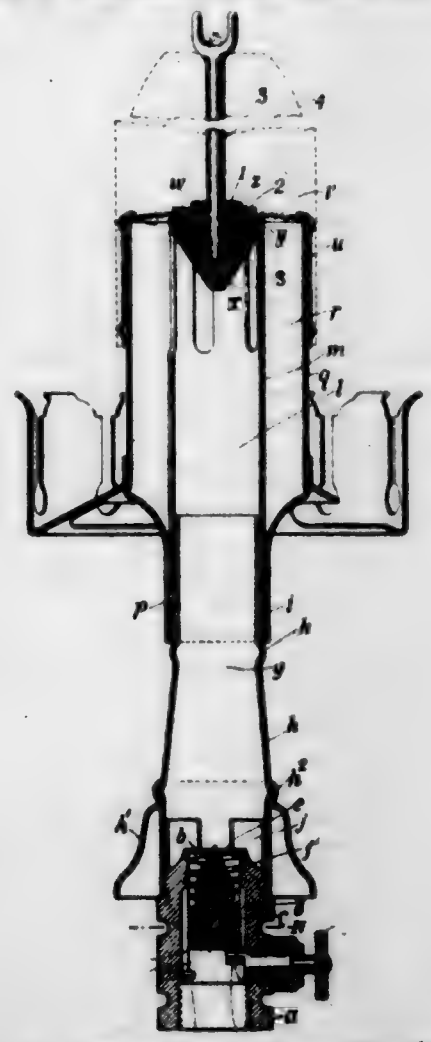
10. A marine vessel comprising a wedge-shaped sharp and narrow fore body, a deep and narrow waist, the draft of which to the bottom of the hull proper is greater than the maximum breadth of beam of said waist, and a shallow overhanging stern portion, substantially as described.

11. A marine vessel comprising a wedge-shaped sharp and narrow fore body, a deep and narrow waist, the draft of which to the bottom of the hull proper is greater than the maximum breadth of beam of said waist, and a shallow overhanging stern portion, all the contours of the hull of the boat being continuous curves, and the lower portion of said waist being weighted, substantially as described.

12. A marine vessel comprising a wedge-shaped sharp and narrow fore body, a deep and narrow waist, the draft of which to the bottom of the hull proper is greater than the maximum breadth of beam of said waist, and a shallow overhanging stern portion, all the contours of the hull of the boat being continuous curves, and the lower portion of said waist being weighted, with an arched deck, substantially as described.

13. A marine vessel adapted to run along the surface of the water or to be submerged when desired, comprising a wedge-shaped sharp and narrow fore body, a deep and narrow waist, the draft of which to the bottom of the hull proper is greater than the maximum breadth of beam of said waist, and a shallow overhanging stern portion, the lower portion of said waist being weighted, with a deck tapering slightly downward toward the bow and stern, substantially as described.

806,224. INCANDESCENT GAS-BURNER. OSCAR WIEDENHOLD, Jersey City, N. J. Filed June 27, 1904. Serial No. 214,249.

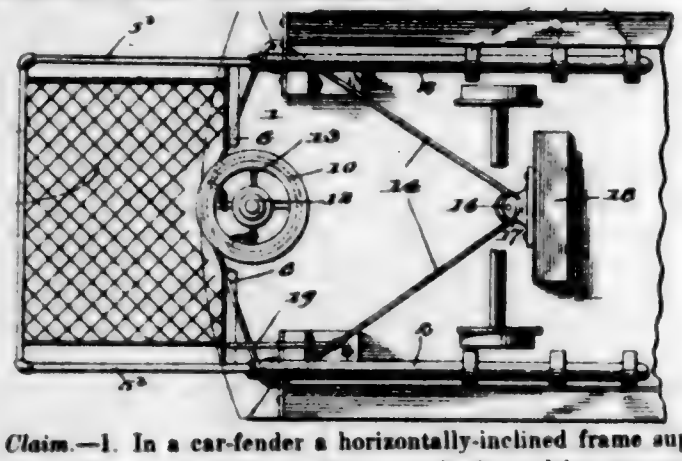


Claim.—1. In a Bunsen burner, the combination of an outer casing and an inner tube or mixing-chamber, a removable sieve and

a socketed plug carried by the sieve and entering and fitting into the mixing-chamber and thereby obviating objectionable warping or moving of the seive so that a mantle may be supported from the center of the sieve in a substantially unvarying position.

2. In a Bunsen burner, the combination of an outer casing and an inner tube or mixing-chamber, a removable sieve fitting to the said outer casing, a socketed plug carried by the sieve, the said plug having a straight portion *y* adapted to enter and fit into the mixing-chamber so as to obviate objectionable warping or moving of the sieve so that a mantle may be supported from the center of the sieve in a substantially unvarying position.

806,225. CAR-FENDER. WESLEY G. WINANS, Spokane, Wash. Filed Apr. 5, 1905. Serial No. 254,019.



Claim.—1. In a car-fender a horizontally-inclined frame supported in guideways from the car-platform, a horizontal drum mounted on the under side of the platform, a cable or chain secured at its ends to the periphery of said drum and wound thereon in opposite directions, horizontally-mounted guide-pulleys secured to the car-platform, a link connecting the frame at one side with one of the side runs of the cable or chain, and means for rotating said drum.

2. In a car-fender, a horizontally-inclined frame slidably supported in guideways, beneath the car, a horizontal drum mounted beneath the car, a cable or chain secured at each end to the periphery of said drum and wound thereon in opposite directions, horizontal pulleys mounted beneath the car at each side of the horizontal drum and around which the side runs of the cable or chain pass, a horizontal pulley mounted beneath the car directly in the rear of the drum and around which the cable or chain passes, a link pivotally connected at one end to one side of the fender-frame and at the other end to one side run of the cable or chain, and means for rotating the drum, to cause a forward or rearward sliding movement of the fender-frame in its guideways.

3. In a car-fender a horizontal frame slidably supported in guideways beneath the car, a horizontal drum mounted beneath the car-platform, a belt secured at each end to the periphery of said drum and wound thereon in opposite directions, guide-pulleys mounted beneath the car-platform at each side of the drum and around which the side runs of the belt pass, a guide-pulley mounted beneath the car directly in the rear of the drum, a link pivotally connected at its front end to the fender-frame and at its rear end to one of the side runs of the belt, and means for rotating the drum and locking the fender at any point in its forward or backward travel.

806,226. SWEEPER. RICHARD WYLIE, Napa, Cal. Filed Jan. 25, 1905. Serial No. 242,631.

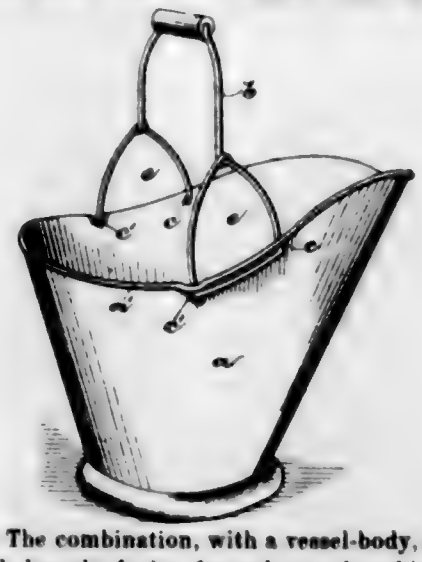
Claim.—1. A sweeping-machine comprising a handle-bar, a sleeve on said bar, an angled axle secured to said sleeve, a driving-wheel journaled upon said axle, a rotary brush swiveled to said bar, a friction-wheel adapted to contact with said driving-wheel for rotating the brush, and means carried by said axle and coöperating with said sleeve for regulating the frictional contact between the wheels, as set forth.

2. A sweeping apparatus comprising a handle-bar, a sleeve on said bar, an angled axle secured to said sleeve, a driving-wheel journaled upon said axle, a swiveled shaft carried by said handle-bar, a brush fixed to said swiveled shaft, a friction-wheel also fixed upon said swiveled shaft and adapted to contact with said driving-wheel, and means carried by said axle and coöperating with said sleeve for regulating the frictional contact between said wheels, as set forth.

3. A sweeping apparatus comprising a handle-bar, a sleeve mounted upon said bar, a rotary sweeper and shaft to which said sweeper is secured, said sweeper-carrying shaft having a head which is swiveled in said sleeve, a friction-wheel mounted upon the sweeper-carrying shaft, an angled axle mounted upon said sleeve, a driving-wheel journaled upon said axle and adapted to contact with said friction-wheel, a thumb-screw passing through the angled end of said axle and adapted to bear against said sleeve, whereby the frictional contact between the wheels may be regulated, as set forth.



806,227. BAIL FOR BUCKETS. CHARLES A. YOUNG and SILAS H. BARTON, Enon, Ohio. Filed Nov. 18, 1904. Serial No. 233,267.



Claim.—1. The combination, with a vessel-body, of a bail consisting of a single length of wire, formed at each end into triangular loops, the base portion of said triangular loops being offset to form pivotal engagement with said body, substantially as specified.

2. The combination, with a bucket or vessel body, of a bail, having triangular loops in the opposite ends thereof, said loops being offset at the bottom to form, at one side, a pivot or trunnion about which said bail is adapted to turn, and on the opposite side of said loop a projection adapted to be moved upon the flexing of said bail, substantially as specified.

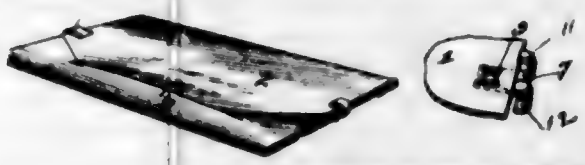
3. The combination, with a bucket or vessel body having two perforations in each side thereof, of a bail having at each end triangular loops with offset bottom portions adapted to pass through said openings, a projecting flange on said vessel-body adapted to be engaged by the offset base portion of said triangular loops, substantially as specified.

4. The combination, with a bucket or vessel body, having a beaded edge or flange, of a bail having triangular loops in the end thereof, the bottom portion of said loops being offset to form lateral projections connected by a longitudinal base portion, said lateral projections forming, respectively, pivotal and locking projections, and said base portion forming an abutment, substantially as specified.

5. The combination, with a bucket or vessel body, with a projecting edge or flange, of a bail having triangular loops in each end thereof, said triangular loops being offset at the bottom to form an abutment to engage the projecting edge or flange, substantially as specified.

6. The combination, with a bucket or vessel body having two perforations on opposite sides thereof, said vessel-body being offset or dished about one of said openings, of a bail formed of a single piece with triangular loops at each end thereof with the base portions offset to form at one side a pivotal connection, and at the other a locking abutment, substantially as and for the purpose specified.

806,228. POSTAL FOLDER, &c. WILLIS G. YOUNG, Dayton, Ohio, assignor of one-half to Louis C. Walker, Dayton, Ohio. Filed June 24, 1903. Renewed Sept. 27, 1905. Serial No. 280,363.



Claim.—1. As a new article of manufacture, a mailing-folder having a body portion 1 provided upon one side with a securing flap or tongue and upon the other side an anchoring-section having a slit 6 to receive the free end of said tongue in combination with securing devices carried by each end of the body portions and adapted to fit over and engage the contiguous edges of the approximated folded parts, the free ends thereof taking into suitable slits 10, adapted to coöperate with said securing devices formed in the edge of one of the folds whereby the parts thus engaged will be held from buckling, as set forth.

2. In a folder of the character specified a body portion 1, having upon one edge a flap 2 provided with a slit 10 at each end, said body having upon the other edge a continuous extension adapted to be folded into one or more folds corresponding to and disposed upon one or both sides of said body; and a clasp carried by each edge of said body, the ends of each clasp being split whereby one portion may be bent to enter the slit 10 in the contiguous end of the flap 2, while the other part is bent in an opposite direction to engage the fold or folds disposed upon the outer side of said body substantially as set forth.

806,229. SECURING DEVICE FOR TAGS. WILLIS G. YOUNG, Dayton, Ohio, assignor of one-half to Louis C. Walker, Dayton, Ohio. Filed Oct. 8, 1903. Renewed Sept. 27, 1905. Serial No. 280,364.



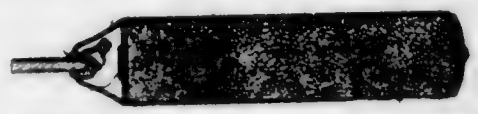
Claim.—1. The herein-described anchoring device for shipping-tags comprising a body portion 2 having the arrow-shaped anchoring-head proper 3 provided with a tongue 5 struck up therefrom, and a reinforcing-rib 4 formed in the neck thereof to give the desired rigidity, and extensions on the opposite end of the body portion adapted to be bent into engagement with a shipping-tag or other data-carrying device, all substantially as specified and for the purpose set forth.

2. An anchoring device for shipping-tags or the like comprising the body portion 2 terminating at one end in an arrow-shaped head provided at its weakest point with a longitudinally-disposed reinforcing-rib, said arrow-head having an extra tooth 5, the opposite end of the body being bifurcated, each branch being adapted to be bent into engagement with a data-bearing card, as set forth.

3. The herein-described device for connecting a tag to an object, consisting of the body portion 2 having means at one end to secure it to the object, and at the other end, suitable anchoring-points formed integral therewith and adapted to secure said body portion to the tag and a lip 9 struck from said body portion and bent at right angles thereto to form a handle whereby force may be applied to more readily force said securing means into the object, substantially as and for the purpose set forth.

806,230. WINDOW-SASH WEIGHT. OSWALD F. ZAHN, Los Angeles, Cal. Filed Dec. 7, 1904. Serial No. 236,785.

Claim.—1. A sash-weight comprising a sheet of metal bent to form a tubular shell and with its ends inbent to form closures for the ends of the shell, the inbent upper ends of the shell also forming rope-attaching means, and filling of fragmentary material in said shell.



2. A sash-weight comprising a shell formed of a sheet of metal bent in tubular shape with ears at its lower end bent over one another and then secured together to form the bottom of the shell, and filling in said shell.

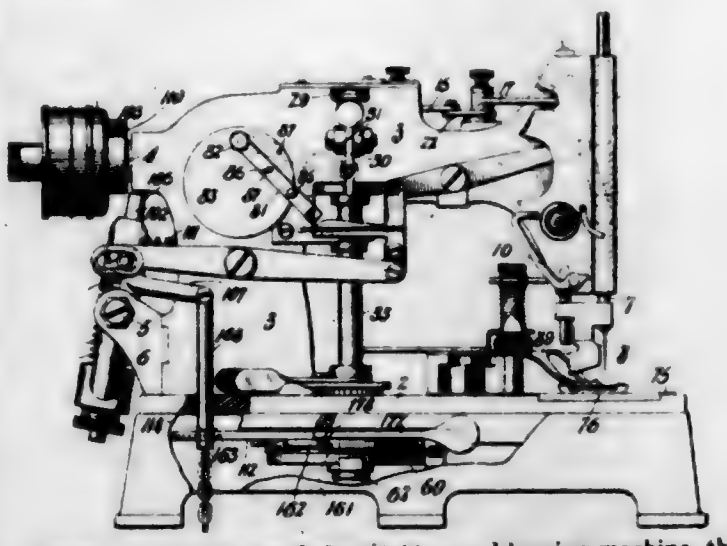
3. A sash-weight comprising a tubular shell formed of a metal sheet, having its edges secured together by a longitudinal joint and having ears at the lower end turned in to close said end, a packing-plate on the inside of said lower end, and filling in the shell above the packing-plate.

4. A sash-weight comprising a tubular metal shell closed at the bottom, said shell having parts at the top bent to extend in proximity to one another and formed with perforations to receive and support the cord.

5. A sash-weight comprising a tubular metal shell closed at the bottom, said shell having ears at the top bent over and overlapping one another and formed with perforations to receive the supporting-cord, and eyelet means at said perforations securing the ears together.

6. A sash-weight comprising a tubular metal shell closed at the bottom and having an opening in its top, a movable closure pivoted to the top for closing said opening, and filling in said shell.

806,231. BUTTONHOLE-SEWING MACHINE. EDWARD B. ALLEN, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed May 17, 1904. Serial No. 208,366.



Claim.—1. In a buttonhole stitching and barring machine, the combination with mechanism comprising stitch-forming and cycle-feeding devices operating normally to produce a buttonhole stitched along both sides and across the ends, of a barring device adapted to cause the said mechanism to produce additional staying-stitches across the ends of the buttonhole, controlling means adapted to be set at will to permit or prevent the effective action of said barring device, and a stop-motion device acting independently of said controlling means for effecting the starting and automatic stopping of the machine.

2. In a buttonhole stitching and barring machine, the combination with mechanism comprising stitch-forming and cycle-feeding devices operating normally to produce a buttonhole stitched along both sides and across the ends, of a barring device adapted to cause the said mechanism to produce additional staying-stitches across the ends of the buttonhole, controlling means adapted to be set at will to permit or prevent the effective action of said barring device, and a stop-motion device tripped into action by means of a direct connection with a member of the feeding device.

3. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism including a vertically-reciprocating and laterally-moving needle, and a continuously-vibrating member from which the lateral movements of said needle are derived through a suitable connection, of a shifting device for automatically changing the point of attachment of the needle connection with said vibrating member to vary the amplitude of the needle

movements, controlling means adapted to be set to prevent the action of said shifting device, and a stop-motion device controlled independently of the shifting device.

4. In a buttonhole-sewing machine, the combination with stitch forming and feeding mechanisms, of a feed-interrupting device normally actuated automatically to periodically arrest the normal operation of the feeding mechanism for a series of consecutive stitches, a device constructed and arranged to be set for rendering said feed-interrupting device either operative or inoperative, and a stop-motion device controlled independently of the said feed-interrupting device.

5. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism and barring mechanism comprising a plurality of connected members including a spring-actuated member, all in normal operative relation, of a stop adapted to be set into and out of the path of movement of said spring-actuated member of the barring mechanism to prevent the effective operation of the same.

6. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism including a reciprocating needle-bar mounted in a swinging frame deriving its lateral movements from a link connection with a continuously-vibrating lever or rocker, of barring mechanism comprising a spring-actuated member for shifting said link connection of the needle-bar frame with said vibrating lever or rocker to vary the amplitude of the lateral movements of the needle-bar for the side and bar stitches, and a stop device adapted to be set in or out of the path of movement of said spring-actuated member of the barring mechanism to control the action or inaction of said barring mechanism upon said needle-bar frame.

7. In a buttonhole stitching and barring machine, the combination with stitching and feeding mechanisms, of a device including a spring-actuated member for periodically interrupting the action of the feeding mechanism, and a stop device adapted to be set in and out of the path of movement of said spring-actuated member of the feed-interrupting device to control its action or inaction.

8. In a buttonhole stitching and barring machine, the combination with stitch-forming, feeding and barring mechanisms, of means for causing alternate action and inaction of the feeding and barring mechanisms, the one being at rest while the other is in action, a stop-motion device, and means acting when the feeding mechanism is in operation for tripping the stop-motion device to stop the machine.

9. In a buttonhole stitching and barring machine, the combination with stitch-forming, feeding and barring mechanisms, of means for causing the alternate action and inaction of the feeding and barring mechanisms, the one being at rest while the other is in action, a device for maintaining said means inoperative throughout the cycle of the machine, a stop-motion device, and means controlled from the feeding mechanism for tripping the stop-motion device to stop the machine.

10. In a buttonhole stitching and barring machine, the combination with the main shaft, stitch-forming mechanism actuated thereby, feeding mechanism comprising a cam deriving step-by-step movements from a connection with the main shaft, barring mechanism, means for controlling the initial actuation of said barring mechanism, including a connection with said cam, and means with which said barring mechanism is provided whereby the operative connection of the feed-cam with the main shaft is alternately interrupted and reëstablished, of a stop-motion device, and means carried by the feed-cam for tripping the same.

11. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism, of barring mechanism comprising an actuating member, a train of mechanism normally actuated thereby in the production of barring-stitches, and means acting in conjunction with a member of said train of mechanism to prevent the effective action of said barring mechanism, and a stop-motion device controlled independently of the barring mechanism.

12. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism, of barring mechanism comprising means adapted to be set to produce groups of bar-stitches varying in number within predetermined limits, and means auxiliary thereto for entirely interrupting the action of said barring mechanism, and a stop-motion device controlled independently of said barring mechanism.

13. In a buttonhole-stitching machine, the combination with overseaming stitch-forming mechanism and mechanism acting normally to produce for each stitch a relative movement between the stitch-forming mechanism and the work, said movements being longitudinal for spacing the side stitches and lateral for spacing the cross-stitches at an end of the buttonhole, of mechanism whereby the relative lateral movements of the stitch-forming mechanism and the work may be interrupted intermediate the lines of side stitches, and means whereby the interrupting mechanism may be rendered inoperative.

14. In a buttonhole-stitching machine, in combination with stitch-forming and jog-producing mechanisms and cycle-feeding mechanism normally operative throughout the entire cycle of operation of the machine, controlling mechanism whereby said cycle-feeding mechanism may be arrested at an end of the buttonhole, and means whereby the controlling mechanism may be rendered inoperative.

15. In a buttonhole-stitching machine, in combination with stitch-forming, jog-producing and cycle-feeding mechanisms whereby a buttonhole having stitches of uniform length may be stitched, means whereby the length of jog may be increased, means whereby the feeding mechanism may be arrested, and means whereby both the jog-lengthening and feed-arresting means may be rendered inoperative.

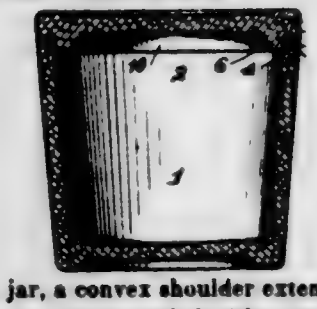
16. In a buttonhole-stitching machine, in combination with stitch-forming and jog-producing mechanisms and cycle-feeding mechanism normally operative throughout the cycle of operation of the machine, and stop-motion mechanism, whereby the stitching of a buttonhole may be produced and stopped, means whereby said cycle-feeding mechanism may be arrested, and means whereby the feed-arresting means may be rendered inoperative or may be permitted to operate.

17. In a buttonhole-stitching machine, the combination with overseaming stitch-forming mechanism, mechanism acting normally to produce for each stitch a relative movement between the stitch-forming mechanism and the work, said movements being longitudinal for spacing the side stitches and lateral for spacing the cross-stitches at an end of the buttonhole, and a stop-motion device for stopping the machine at the completion of a buttonhole, of mechanism whereby the relative lateral movements of the stitch-forming mechanism and the work may be interrupted intermediate the lines of side stitches, and means whereby the interrupting mechanism may be rendered inoperative.

18. In a buttonhole-stitching machine, the combination with overseaming stitch-forming mechanism, mechanism acting normally to produce for each stitch a relative movement between the stitch-forming mechanism and the work, said movements being longitudinal for spacing the side stitches and lateral for spacing the cross-stitches at an end of the buttonhole, and a stop-motion device for stopping the machine at the completion of a buttonhole, of mechanism whereby the relative lateral movements of the stitch-forming mechanism and the work may be interrupted intermediate the lines of side stitches, and means whereby the interrupting mechanism may be rendered inoperative without affecting the operation of said stop-motion mechanism.

19. In a buttonhole-stitching machine, in combination with stitch-forming and jog-producing mechanisms, cycle-feeding mechanism normally operative throughout the cycle of operation of the machine, and stop-motion mechanism, whereby the stitching of a buttonhole may be produced and stopped, means whereby said cycle-feeding mechanism may be arrested, and means whereby the feed-arresting means may be rendered inoperative without affecting the operation of said stop-motion mechanism.

806,232. JAR AND COVER. JOHN W. ALLEN, Kansas City, Mo. Filed Apr. 10, 1905. Serial No. 254,671.



Claim.—1. A jar, a convex shoulder extending around the upper edge of said jar, a cover provided with a concave groove adapted to register with said shoulder and angular seats on both the jar and the cover at both sides of the shoulder and groove respectively.

2. A jar, a triple seat extending around the upper edge of said jar, a cover, and a triple seat on said cover adapted to register with the seat on the jar, the central member of each triple seat being of different shape from its inner and outer members.

3. The combination of a jar, a triple seat extending around the upper edge of said jar, and having its central member curved and its side members angular, a cover, a triple seat on said cover adapted to register with the seat on the jar, and a resilient gasket adapted to be interposed between the seats of the jar and the cover.

4. The combination of a jar, flaring toward its open end, a triple seat extending around the upper edge of said jar, a cover, a triple seat on said cover adapted to register with the seat on the jar, the central member of each triple seat being of different shape from its inner and outer members and a resilient gasket adapted to be interposed between the seats of the jar and the cover.

5. A jar having two V-shaped grooves in its upper end, a convex shoulder communicating with said grooves, and a cover adapted to close the open end of said jar.

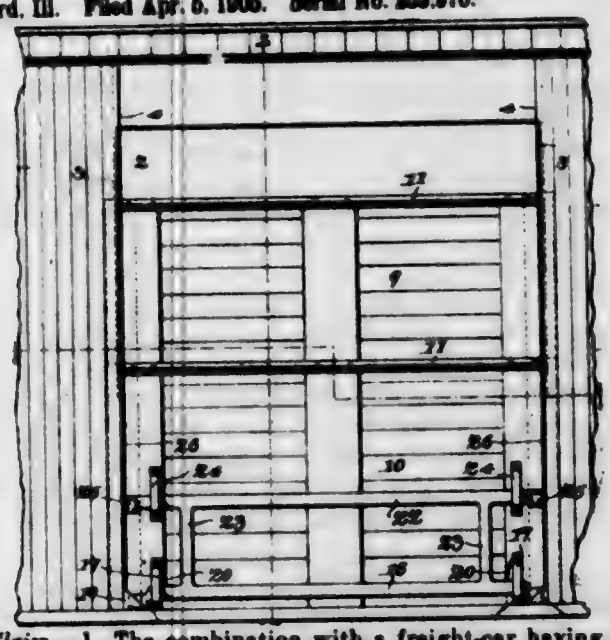
6. The combination with a jar, of a cover adapted to close the open end of said jar provided with a concave groove, and V-shaped shoulders arranged at opposite sides of said grooves.

7. The combination with a jar, of a cover adapted to close the open end of said jar, and having a concave under side for the purpose set forth, a marginal flange formed integral with said cover and provided at its under surface with seats, a flange depending from said cover adapted to fit snugly within the jar, and a resilient gasket interposed between the upper edge of the jar and the seats of the cover.

8. The combination with a jar, triple seats on the upper edge of said jar, a cover, triple seats on said cover adapted to register with those on the jar, the central member of each triple seat being of different shape from its inner and outer members and a resilient gasket interposed between said seats, substantially as described.

9. The combination of a jar, triple seats at the upper edge of said jar comprising a central convex shoulder and V-shaped grooves at opposite sides thereof, a cover, triple seats on said cover adapted to register with those on the jar and comprising a central concave groove and V-shaped shoulders at opposite sides thereof, and a resilient gasket interposed between said seats, substantially as described.

806,233. GRAIN-DOOR FOR CARS. WILLIAM L. AUBAND, Milford, Ill. Filed Apr. 5, 1905. Serial No. 253,970.



Claim.—1. The combination with a freight-car having a side doorway, of a grain-door mounted to swing in and out upon a horizontal axis, keepers provided upon the car in front of the door, and a horizontally-disposed locking-bar mounted upon the door for vertical movement with its ends formed for engagement with the keepers to lock the door, the edge of the door being cut away in alinement with the keepers to swing forwardly past the same when the locking-bar is disengaged from the keepers, the locking-bar being spaced above and lying adjacent the floor of the car to receive a pry-bar beneath the locking-bar and against the floor of the car as a fulcrum-support.

2. The combination with a freight-car having a side doorway, of a door mounted to swing upon a horizontal axis, keepers secured in the lower corners of the doorway in front of the door, and a vertically-movable horizontally-disposed locking-bar carried by the front of the door with its ends formed for engagement with the keepers, the lower corners of the door being cut away to swing forwardly across the tops of the keepers when the locking-bar has been elevated out of engagement with said keepers, the locking-bar being spaced above and located adjacent the floor of the car to receive a pry-bar beneath the locking-bar and against the floor as a fulcrum-support.

3. The combination with a freight-car having a side doorway, of a door mounted to swing upon a horizontal axis, keepers located in the lower corners of the doorway, the lower corners of the door being cut away to swing across the tops of the keepers, opposite brackets carried by the front of the door, and a substantially horizontal locking-bar engaging said brackets and movable vertically thereon, the ends of the locking-bar being downwardly offset for engagement with the respective keepers and closing the joints between the tops of the keepers and the cut-away corners of the door, the locking-bar being spaced above and adjacent the floor to receive a pry-bar beneath the locking-bar and against the floor as a fulcrum-support.

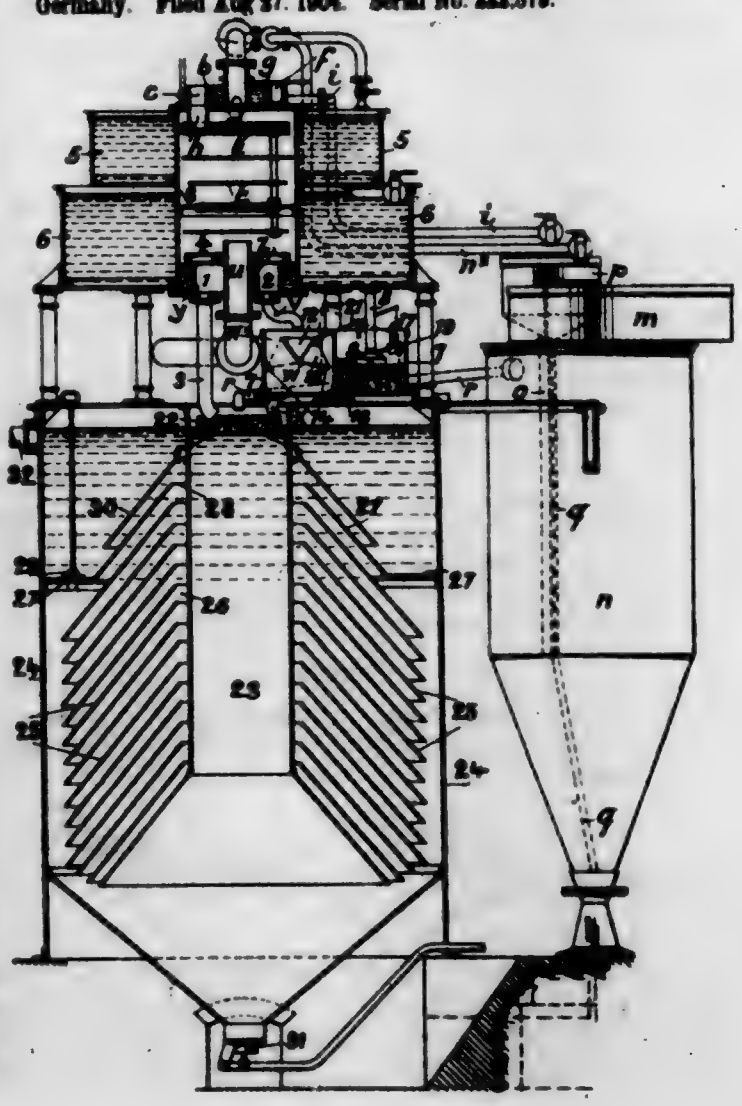
4. The combination with a freight-car having a side doorway, of upright guideways upon the door-posts and provided with corresponding upper and lower laterally-extended seats, and upper and lower door-sections having guide projections working in the guideways and normally received within the corresponding seats from which the door-sections hang when the door is closed.

5. The combination with a freight-car having a side doorway, of upright guideways upon the door-posts and provided with corresponding upper and lower laterally-extended seats, and upper and lower door-sections having guide projections working in the guideways and normally received within the corresponding seats from which the door-sections hang when the door is closed, the lower section being independent of the upper section and capable of having its lower end swung outwardly upon its guide projections as supports.

6. The combination with a freight-car having a side doorway, of upright guideways carried by the guide-posts and provided at their upper ends with laterally-enlarged pockets, said guideways being provided with corresponding upper and lower seats projected at one side thereof, independent upper and lower door-sections having guide projections working in the guideway and received within the corresponding seats from which the door-sections hang when closed, each section capable of being slid upwardly in the guideway to bring its projections into the pockets and then swung upwardly against the top of the car, and means carried by the top of the car for detachably supporting the door-sections when elevated.

7. The combination with a freight-car having a side doorway, of a grain-door mounted to swing in and out upon a horizontal axis, plates secured to the door-posts and carrying the upper and lower keepers projected across the front of the door, upper and lower connected substantially horizontal locking-bars mounted upon the door for vertical movement with their ends formed for engagement with the keepers to lock the door, the upright edges of the door being cut away in alinement with the keepers to swing forwardly past the same when the locking-bars are disengaged from the keepers.

806,234. WATER-PURIFIER. PETER BASTIAN, Grevenbroich, Germany, assignor to Maschinenfabrik Grevenbroich, Grevenbroich, Germany. Filed Aug. 27, 1904. Serial No. 223,379.



Claim.—1. The combination with a steam-boiler, of a water-purifier comprising a vessel having a chamber for the reception of the water to be purified, a chamber for the reception of the purified water, a chamber for the reception of the sediment, a steam-pipe leading from the steam-boiler to the water-chamber, a pipe leading from the water-chamber to the steam-boiler, a pipe leading from the steam-boiler to the sediment-chamber, a pipe leading from the sediment-chamber to the water-chamber, a pipe leading from the water-chamber to the purified-water chamber, and a pipe leading from the purified-water chamber to the steam-boiler.

2. The combination with a steam-boiler, of a water-purifier comprising a vessel having a chamber for the reception of the water to be purified, a chamber for the reception of the purified water, a chamber for the reception of the sediment, a steam-pipe leading from the steam-boiler to the water-chamber, a pipe leading from the water-chamber to the steam-boiler, a pipe leading from the steam-boiler to the sediment-chamber, a pipe leading from the sediment-chamber to the water-chamber, a pipe leading from the water-chamber to the purified-water chamber, a pipe leading from the purified-water chamber to the steam-boiler, and a valve in the pipe leading from the water-chamber to the purified-water chamber.

3. The combination with a steam-boiler, of a water-purifier comprising a vessel having a chamber for the reception of the water to be purified, a chamber for the reception of the purified water, a chamber for the reception of the sediment, a steam-pipe leading from the steam-boiler to the water-chamber, a pipe leading from the water-chamber to the steam-boiler, a pipe leading from the steam-boiler to the sediment-chamber, a pipe leading from the sediment-chamber to the water-chamber, a pipe leading from the water-chamber to the purified-water chamber, a pipe leading from the purified-water chamber to the steam-boiler, and a valve in the pipe leading from the purified-water chamber to the steam-boiler.

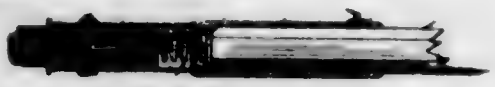
4. The combination with a steam-boiler, of a water-purifier comprising a vessel having a chamber for the reception of the water to be purified, a chamber for the reception of the purified water, a chamber for the reception of the sediment, a steam-pipe leading from the steam-boiler to the water-chamber, a pipe leading from the water-chamber to the steam-boiler, a pipe leading from the steam-boiler to the sediment-chamber, a pipe leading from the sediment-chamber to the water-chamber, a pipe leading from the water-chamber to the purified-water chamber, a pipe leading from the purified-water chamber to the steam-boiler, and a valve in the pipe leading from the sediment-chamber to the water-chamber.

5. The combination with a steam-boiler, of a water-purifier comprising a vessel having a chamber for the reception of the water to be purified, a chamber for the reception of the purified water, a chamber for the reception of the sediment, a steam-pipe leading from the steam-boiler to the water-chamber, a pipe leading from the water-chamber to the steam-boiler, a pipe leading from the steam-boiler to the sediment-chamber, a pipe leading from the sediment-chamber to the water-chamber, a pipe leading from the water-chamber to the purified-water chamber, a pipe leading from the purified-water chamber to the steam-boiler, and a valve in the pipe leading from the steam-boiler to the sediment-chamber.

Claim.—1. In apparatus for purifying water, the combination with a circular vessel *d* adapted to receive the raw water, of another vessel *c* surrounding the said first vessel, the upper edge of the wall *b* separating both vessels being horizontal, partitions *e f* dividing the vessel *c* into chambers, means for varying the relative distance of the partitions *e f*, separate discharge-orifices for each chamber, means for charging the portions of raw water issuing from said orifices with precipitating agents and means for reuniting the solutions thus obtained with the main bulk of raw water.

2. In apparatus for purifying water the combination with a circular vessel adapted to receive the raw water of a second vessel surrounding the aforesaid vessel, the upper edge of the circular partition common to both vessels being horizontal, of a fixed and a movable radial partition dividing the said second vessel into two separate chambers an index connected to the movable partition and a scale indicating the ratio of the lengths of the said horizontal edges leading from the first vessel to the said chambers, separate orifices for each chamber, one of said orifices discharging into a tank containing a supply of precipitant and the other discharging into a heater, means for separating a constant percentage of the water issuing from the heater, a vessel composed of two buckets and adapted to be rocked by the weight of said separated percentage of the water discharged into either of the said buckets, a vessel of adjustable volume adapted to be immersed in a lye-tank every time the said buckets are rocked, means for maintaining the level in said lye-tank constant, means for adding the lye contained in the adjustable vessel to the raw water, means for reuniting all the separate portions of water and of a precipitator consisting of a vertical cylinder and a series of conical guide-plates surrounding the same and forming ring-shaped openings of diameters increasing in the direction of the flow, the lowest and uppermost of said conical plates being fitted closely to said cylinder and of means for discharging the solids deposited at the bottom of said precipitator.

806,235. **RUBBER-HOLDING ATTACHMENT FOR PENCILS.** ANNIE F. W. BOWEN, San Francisco, Cal. Filed Dec. 2, 1904. Serial No. 235,265.



Claim.—1. A device of the character described, comprising a holder having a threaded portion adapted to receive the rubber and having a plurality of slits extending inwardly from the rubber-holding end of the holder to a point near the opposite end of the threaded portion, and having a groove at the rubber-holding end forming an inwardly-extending shoulder adapted to firmly grasp the rubber without cutting, a nut screwed on said threaded portion, and means for securing the holder to the end of a pencil, substantially as described.

2. A device of the character described, comprising a holder having a threaded portion adapted to receive the rubber and having a plurality of slits extending inwardly from the rubber-holding end of the holder to a point near the opposite end of the threaded portion, and having a groove at the rubber-holding end forming an inwardly-extending shoulder adapted to firmly grasp the rubber without cutting, a nut screwed on said threaded portion, and means for detachably securing the holder to the end of a pencil, substantially as described.

3. A device of the character described, comprising a holder adapted to be placed upon the end of a pencil provided with means for clamping a piece of rubber and having a shoulder, a plate retained within the holder between the shoulder and the end of the pencil and a spring secured at one end to said plate and at the other end to said rubber, substantially as described.

806,236. **SPRING.** JAMES H. BROWN, St. Charles, Ill., assignor of one-half to Fred B. Glenn, St. Charles, Ill. Filed Dec. 19, 1904. Serial No. 237,052.



Claim.—1. A spring device for transmitting power from one reciprocating element to another, said spring device consisting of two resilient lateral-members connected together at their ends and extending in the general direction of the direction of reciprocation; and a strut cross-spring acting upon said lateral members between their extremities for yieldingly tending to force the same apart.

2. A spring device for transmitting motion from one machine element to another, said device consisting of two lateral members adapted to be attached to and connected by the two elements to be connected; in combination with a cross-spring extending from one of said lateral members to the other.

3. A power-transmitting spring device consisting of a spring extending transverse to the median line of elasticity of the device; a driving and a driven element adapted to move in the direction of the median line of elasticity of the device; and lateral members attached to said driving and driven elements and to said transverse spring.

4. In a spring device for transmitting motion from one member to another, the combination, with two reciprocating members, of two lateral spring members attached to said reciprocating members for transmitting motion from one to the other thereof; and a spring transverse to the direction of motion of the device, and connecting said lateral spring members at a point between their ends.

5. In combination, a driving and a driven element adapted to reciprocate in a straight line, oppositely-bowed resilient members connecting them, and a transverse spring attached to and connecting said resilient members at the bows therein.

6. A spring device consisting of two resilient lateral members and a strut cross-spring connecting them; in combination with means for detachably attaching said lateral members to an exterior mechanical element.

7. A spring device consisting of two lateral members and a cross-spring connecting them; in combination with a pin rigidly attached to one of the lateral members and extending toward the other of said lateral members, and a keeper upon the other of said lateral members for engaging said pin for the purpose described.

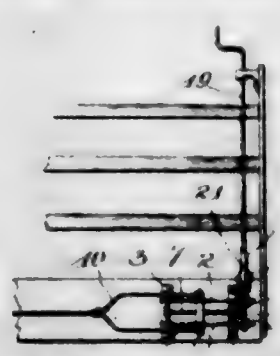
8. A spring device consisting of two flexible lateral members and a strut cross-spring connecting them; in combination with reinforcing-blocks at one extremity of said lateral members, said lateral members and the blocks thereon being apertured to receive an attaching-pin or similar object for attaching the spring device to an exterior mechanical element.

9. In combination, two mechanical elements designed to be elastically connected together; two metallic strips attached at opposite ends to said elements, said strips being bowed in opposite directions; and a cross-spring attached to said metallic strips at the bowed portion thereof.

10. In combination, a reciprocating driving and a reciprocating driven element and a spring device connecting them for transmitting motion from one to the other, said spring device consisting of two metal strips bowed between their ends and attached near their ends to said driving and driven elements; and a flat arched spring riveted at its ends to the bowed portion of said metal strips; and washers bent over the edges of the metal strips and cross-spring for holding the latter in erect position substantially as described

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806,237. **BRAKE APPLIANCE.** WILLIAM B. BROWN, Labaddie, Mo. Filed June 8, 1905. Serial No. 264,328.

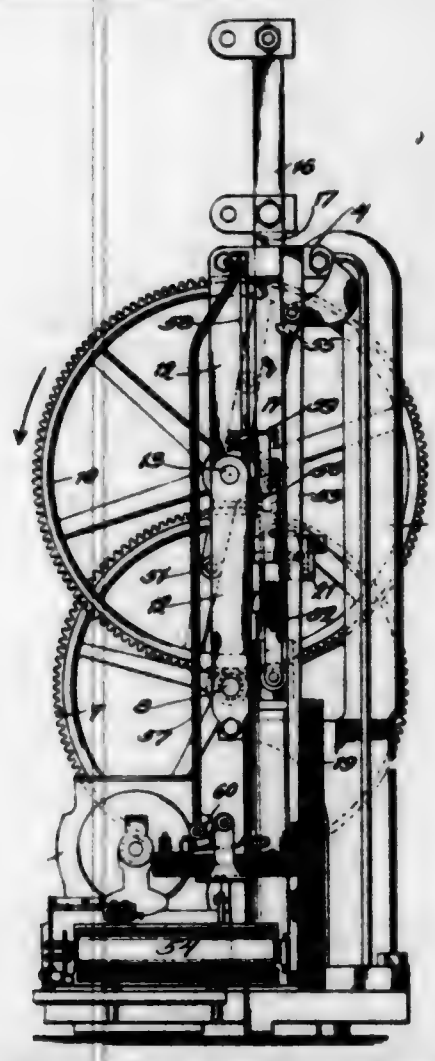


Claim.—A brake-operating appliance of the class described comprising a frame for attachment to the body of a vehicle, and provided with guides, a follower to operate in said guides and having means whereby it may be connected to a brake, a screw-shaft journaled in said frame and engaging and operating said follower, a power-shaft also journaled in said frame and having a yoke-head, miter-gears connecting said power-shaft and screw-shaft, an arm pivotally connected to the yoke-head, and a crank pivotally connected to said arm.

806,238. **SIGNAL APPARATUS.** CLARENCE W. COLEMAN, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed July 1, 1905. Serial No. 267,876.

Claim.—1. The combination of a thrust-rod; a cam-piece adapt-

ed to engage with the thrust-rod; and a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece.



2. The combination of a thrust-rod; a cam-piece adapted to engage with the thrust-rod; and a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece; and means to control the engagement of the cam-piece and thrust-rod.

3. The combination of a thrust-rod; a cam-piece adapted to engage with the thrust-rod; and a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece; and train-operated electric means to control the engagement of the cam-piece and thrust-rod.

4. The combination of a thrust-rod; a cam-piece adapted to engage with the thrust-rod; and a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece; and locking means to hold the thrust-rod in the position to which it has been moved.

5. The combination of a thrust-rod; a cam-piece adapted to engage with the thrust-rod; and a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece; means to control the engagement of the cam-piece and thrust-rod; and locking means to hold the thrust-rod in the position to which it has been moved.

6. The combination of a thrust-rod; a cam-piece adapted to engage with the thrust-rod; and a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece; train-operated electric means to control the engagement of the cam-piece and thrust-rod; and locking means to hold the thrust-rod in the position to which it has been moved.

7. The combination of a thrust-rod; a cam-piece adapted to engage with the thrust-rod; and a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece; and a stationary magnet to control the engagement of the cam-piece and thrust-rod.

8. The combination of a thrust-rod; a cam-piece adapted to engage with the thrust-rod; and a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece; and a stationary magnet to control said locking means and the engagement of the cam-piece and thrust-rod.

9. The combination of a thrust-rod; a cam-piece adapted to engage with the thrust-rod; and a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece; and a magnet to control said locking means and the engagement of the cam-piece and thrust-rod.

10. The combination of a thrust-rod; a cam-piece adapted to engage with the thrust-rod; and a gear-wheel having thereon a cam arranged to engage the cam-piece to move the thrust-rod, the thrust-rod having a return movement independent of the cam-piece.

11. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; and a motor for moving said reciprocating piece and thrust-rod.

12. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; a motor for moving said reciprocating piece and thrust-rod; and means for holding the thrust-rod in the position to which it has been moved.

13. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; a motor for moving said reciprocating piece and thrust-rod; and means for holding the thrust-rod in the position to which it has been moved controlled by said magnet.

14. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; a motor for moving said reciprocating piece and thrust-rod; and a locking device for holding the thrust-rod in the position to which it has been moved.

15. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; a motor for moving said reciprocating piece and thrust-rod; and a locking device for holding said thrust-rod in the position to which it has been moved, said locking device having an operating-lever controlled by said magnet.

16. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a stationary magnet controlling said means; and a motor for moving said reciprocating piece and thrust-rod.

17. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a stationary magnet controlling said means; a motor for moving said reciprocating piece and thrust-rod; and means for holding the thrust-rod in the position to which it has been moved controlled by said magnet.

18. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a stationary magnet controlling said means; a motor for moving said reciprocating piece and thrust-rod; and a locking device operated by said lever for holding the thrust-rod in the position to which it has been moved, the lever being controlled by said magnet.

19. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; and a cam for moving said reciprocating piece and thrust-rod.

20. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; a cam for moving said reciprocating piece and thrust-rod; and means for holding the thrust-rod in the position to which it has been moved.

21. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; a cam for moving said reciprocating piece and thrust-rod; and means for holding the thrust-rod in the position to which it has been moved controlled by said magnet.

22. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; a cam for moving said reciprocating piece and thrust-rod; and a locking device for holding the thrust-rod in the position to which it has been moved.

23. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod; a stationary magnet controlling said means; a cam for moving said reciprocating piece and thrust-rod; and a locking device for

holding said thrust-rod in the position to which it has been moved, said locking device having an operating-lever controlled by said magnet.

24. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a stationary magnet controlling said means; and a cam for moving said reciprocating piece and thrust-rod.

25. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a stationary magnet controlling said means; a cam for moving said reciprocating piece and thrust-rod; and means for holding the thrust-rod in the position to which it has been moved controlled by said magnet.

26. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a stationary magnet controlling said means; a cam for moving said reciprocating piece and thrust-rod; and a locking device operated by said lever for holding the thrust-rod in the position to which it has been moved, the lever being controlled by said magnet.

27. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a magnet controlling said means; and a motor for moving said reciprocating piece and thrust-rod.

28. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a magnet controlling said means; a motor for moving said reciprocating piece and thrust-rod; and means for holding the thrust-rod in the position to which it has been moved controlled by said magnet.

29. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a magnet controlling said means; a motor for moving said reciprocating piece and thrust-rod; and a locking device operated by said lever for holding the thrust-rod in the position to which it has been moved, the lever being controlled by said magnet.

30. The combination of a thrust-rod; a reciprocating piece; means for engaging together said reciprocating piece and thrust-rod, said means including a moving latch and a stationary lever to hold the latch in engaging position during the movement of the thrust-rod; a magnet controlling said means; a cam for moving said reciprocating piece and thrust-rod; and a locking device operated by said lever for holding the thrust-rod in the position to which it has been moved, the lever being controlled by said magnet.

31. In a signal apparatus, the combination of a plurality of signals; a thrust-rod for each signal; a reciprocating piece for each thrust-rod adapted to engage with and move the same, each thrust-rod having a return movement independent of its reciprocating piece; and a single motor adapted to move each reciprocating piece and thrust-rod independently.

32. In a signal apparatus, the combination of a plurality of signals; a thrust-rod for each signal; a reciprocating piece for each thrust-rod adapted to engage with and move the same, each thrust-rod having a return movement independent of its reciprocating piece; a single motor adapted to move each reciprocating piece and thrust-rod independently; and a stationary magnet for each signal to control the engagement of its reciprocating piece and thrust-rod.

33. In a signal apparatus the combination of a plurality of signals; a thrust-rod for each signal; a cam-piece for each thrust-rod adapted to engage with and move the same, each thrust-rod having a return movement independent of its cam-piece; a cam for each cam-piece; and a single motor for driving said cams.

34. In a signal apparatus the combination of a plurality of signals; a thrust-rod for each signal; a cam-piece for each thrust-rod adapted to engage with and move the same, each thrust-rod having a return movement independent of its cam-piece; and a wheel having cams on opposite sides for moving said cam-piece and thrust-rods.

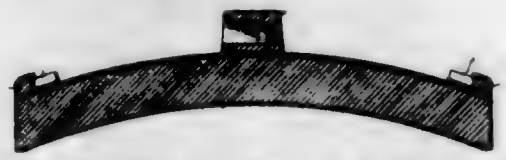
35. In a signal apparatus the combination of a plurality of signals; a thrust-rod for each signal; a cam-piece for each thrust-rod adapted to engage with and move the same, each thrust-rod having a return movement independent of its cam-piece; and a gear-wheel having cams on opposite sides for moving said cam-piece and thrust-rods.

36. In a signal apparatus the combination of a plurality of signals; a thrust-rod for each signal; a reciprocating piece for each thrust-rod adapted to engage with and move the same, each thrust-rod having a return movement, independent of its reciprocating piece; a single motor adapted to move each reciprocating piece and thrust-rod independently; a locking device to hold each signal in the position to which it has been moved; and a stationary magnet controlling each locking device and also the engagement of the associated reciprocating piece with its thrust-rod.

37. In a signal apparatus the combination of a plurality of signals; a thrust-rod for each signal; a cam-piece for each thrust-rod adapted to engage with and move the same, each thrust-rod having a return movement independent of its cam-piece; a cam for each cam-piece; a single motor for driving said cams; a locking device to hold each signal in the position to which it has been moved; and a stationary magnet controlling each locking device and also the engagement of the associated cam-piece with its thrust-rod.

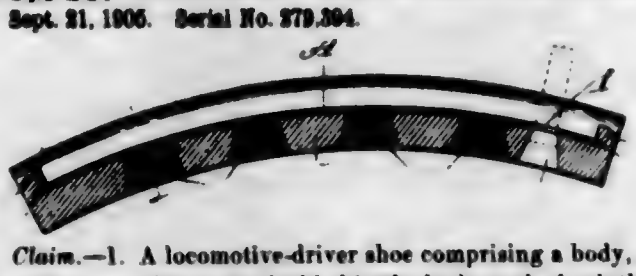
38. In a signal apparatus the combination of a plurality of signals; a thrust-rod for each signal; a cam-piece for each thrust-rod adapted to engage with and move the same, each thrust-rod having a return movement independent of its cam-piece; a wheel having cams on opposite sides for moving said cam-piece and thrust-rods; a locking device to hold each signal in the position to which it has been moved; and a stationary magnet controlling each locking device and also the engagement of the associated cam-piece with its thrust-rod.

806,239. **BRAKE-SHOE.** FRANK P. COLLIER, Wilmette, Ill. Filed Mar. 13, 1905. Serial No. 249,783.



Claim.—A brake-shoe comprising an imperforate back plate bent to conform to the curvature of the shoe and having uniform curvilinear surfaces, and a body cast on said plate and having at each end integral end and guide lugs, said plate being of less length and width than the body and located beneath said lugs and exposed therebetween and having its edges beveled to make locking engagement with the body.

806,240. **BRAKE-SHOE.** FRANK P. COLLIER, Wilmette, Ill. Filed Sept. 21, 1905. Serial No. 279,394.



Claim.—1. A locomotive-driver shoe comprising a body, a plurality of separated strips embedded in the body at the back thereof, one of said strips having its end bent up to form an attaching-hook.

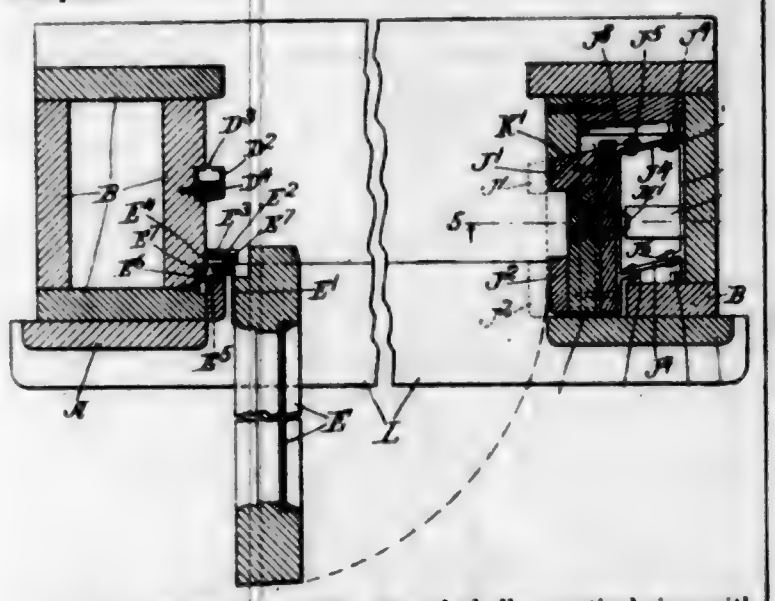
2. A locomotive-driver shoe comprising a body, a plurality of separated strips embedded in the body at the back thereof, said body having an opening therein shaped to receive the head of the locking-bolt, and one of said strips having an opening to aline with said opening in the body and corresponding in diameter to the smallest diameter of said opening in the body.

3. A locomotive-driver shoe comprising a body, a plurality of separated strips embedded in the body at the back thereof, said body having an opening therein shaped to receive the head of the locking-bolt, and one of said strips having one end bent to form the attaching-hook and provided at its other end with an opening alining with the opening in the body and corresponding in diameter to the smallest diameter of said opening in the body.

806,241. **WINDOW-SASH.** MICHAEL J. DALY and THOMAS S. LEAKE, Chicago, Ill. Filed Sept. 6, 1904. Renewed Oct. 30, 1905. Serial No. 285,088.

Claim.—1. In a window, the combination of a window-sash

with a vertically-movable piece on which it is hinged and antifriction-balls between the vertically-movable part and the piece in which it moves such sash grooved so as to inclose the vertical movable piece.



2. In a window, the combination of a hollow vertical piece with a vertically-movable part, and a window-sash hinged to said vertically-movable part, and antifriction-balls in the hollow part such sash grooved so as to inclose the vertical movable piece.

3. In a window, the combination of a hollow vertical piece with a slot in one side, a vertically-movable portion having a narrow neck to pass through the slot, and a larger portion to lie in the hollow, and a window hinged to the vertically-movable portion, and antifrictional balls in the hollow of the vertical part such sash grooved so as to inclose the vertical movable piece.

4. In a window, the combination of a window-frame with an inwardly-moving side section which permits the window-sash to swing inwardly at such side, said inwardly-moving portion supported on pivoted links secured to a stationary part of the window-frame and a latch device to hold the side section to the window-frame.

5. In a window, the combination of a window-frame with an inwardly-moving side section which permits the window-sash to swing inwardly at such side, said inwardly-moving portion supported on angularly-placed pivoted links secured to a stationary part of the window-frame and a latch device to hold the side section to the window-frame.

6. In a window, the combination of a window-frame with an inwardly-moving side section which permits the window-sash to swing inwardly at such side, said inwardly-moving portion supported on pivoted links, and a latch engaging with the stationary part of the window-frame adapted to hold the parts in their inner position.

7. In a window, the combination of a window-frame with an inwardly-moving side section which permits the window-sash to swing inwardly at such side, said inwardly-moving portion supported on angularly-placed pivoted links, and a latch engaging with the stationary part of the window-frame adapted to hold the parts in their inner position.

8. In a window, the combination of a window-frame with an inwardly-moving side section which permits the window-sash to swing inwardly at such side, such inwardly-moving portion supported on pivoted links removably secured to a stationary part of the window-frame.

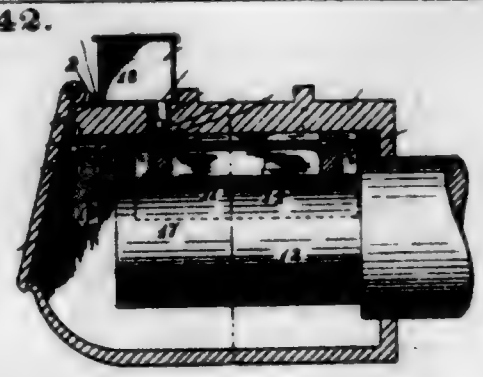
9. In a window, the combination of a window-frame with an inwardly-moving side section which permits the window-sash to swing inwardly at such side, such inwardly-moving portion supported on pivoted links, and holding-pieces on a stationary part of the window-frame for removably supporting the links, said holding-pieces provided with curved guiding portions.

806,242. JOURNAL-LUBRICATOR. WILLIAM H. DANIELS, Springfield, Ill. Filed Apr. 13, 1905. Serial No. 255,267.

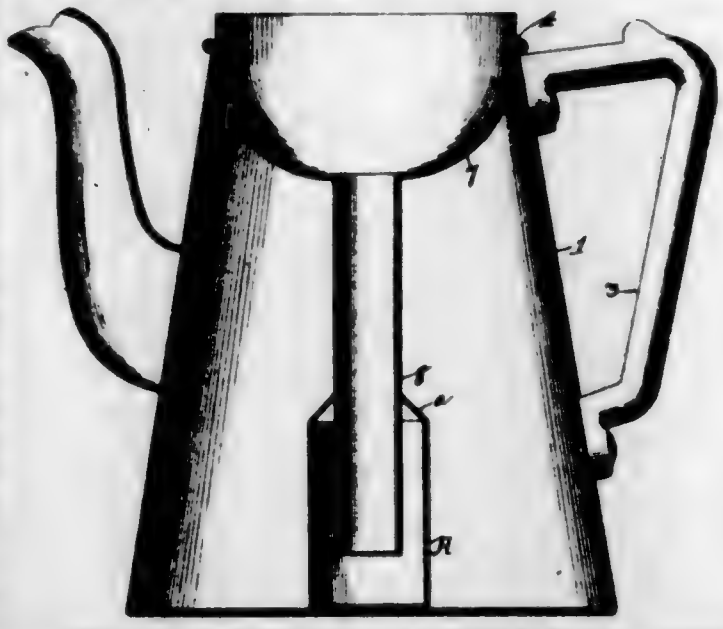
Claim.—1. The combination of a box, a journal within said box, blocks slidable on said journal, a bar connecting said blocks and having a longitudinal oil-channel, and means for supplying oil to the channel of said bar.

2. The combination of a box, a vibratory oil-cup mounted on said box, a journal within said box, blocks mounted on said journal, a bar connecting said blocks and having a longitudinal channel, and a valve operated by the vibration of the oil-cup and controlling the supply of oil to the channel in the bar connecting said blocks.

806,242.

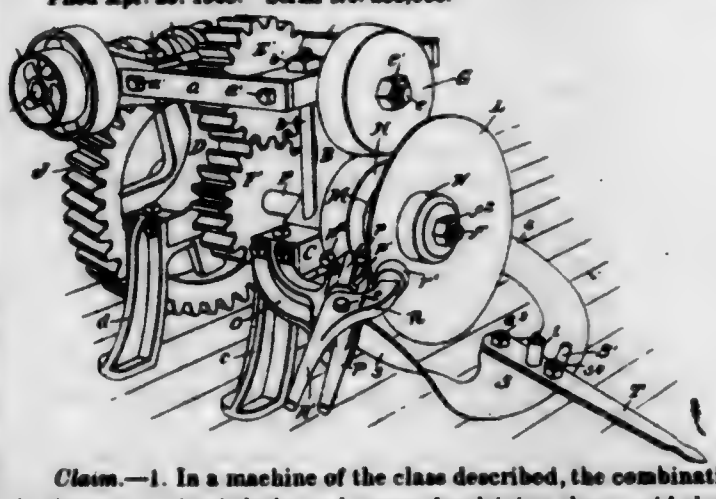


806,243. TEA-KETTLE. WILBUR S. DAY, Warren, Minn. Filed May 2, 1904. Serial No. 206,017.



Claim.—A receptacle having an opening in its top, a cover for the opening comprising a body portion tightly fitting in the opening and having a depending tube-like portion, a trap resting on the bottom of the receptacle, the tube of the cover depending partly therein centrally thereof, and arms formed on the upper edge of the trap having their free ends binding against the tube, whereby the said trap is held at all times in its relation to the tube.

806,244. DISK-SHARPENER. JAMES I. DEPEW, Loup City, Nebr. Filed Apr. 29, 1905. Serial No. 258,065.

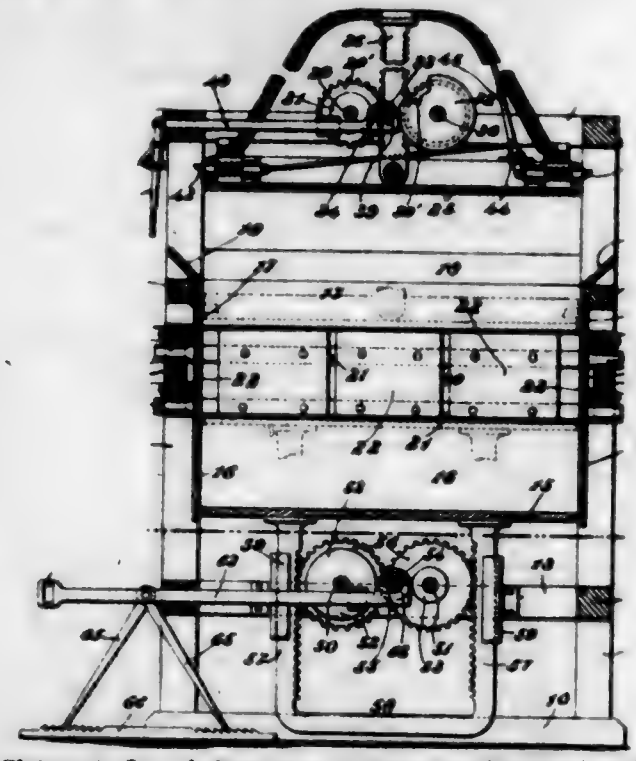


Claim.—1. In a machine of the class described, the combination of a frame, a pair of shafts and means for driving them, said shafts carrying a pair of beveled rolls, a plate 8 provided with a pair of arms *s* which extend inward under the rolls and are provided with slots, bolts slidingly and pivotally connecting these arms to adjacent parts of the frame, a lever pivoted at its inner end to said plate and carrying a socket, a clamp-bolt carried by the lever and working through an arcuate slot in said plate, and a journal-pin working in said socket and adapted to carry the disk to be sharpened, substantially as set forth.

2. In a machine of the class set forth, the combination of a frame, embracing an upper cross-beam, a lower cross-beam, a distance-piece or pedestal mounted between the same, long bolts clamping the upper cross-beam and the lower cross-beam and the intermediate distance-piece together, a pair of shafts and means for rotating them, said shafts having their front ends journaled between the respective upper and lower ends of the distance-piece and the adjacent

cross-beams, these shafts serving to separate the ends of the distance-piece from the respective cross-beams, and a pair of beveled rolls carried by the shafts, for the purpose set forth.

808,245. COTTON-PRESS. PETER DUNPHEE, Savannah, Ga. Filed May 22, 1905. Serial No. 261,045.



Claim.—1. In a baling-press, a press-box having detachable side walls each formed of a plurality of spaced bars, and spaced plates extending across and securing the bars together, the bars being removably held in place by the frame of the press.

2. In a baling-press, the combination with a plunger, of a double rack connected thereto, a pair of gears intermeshing with the rack, shafts carrying the gears, friction-disks of different diameter, respectively, arranged on the shafts, a driving friction-wheel movable into engagement with either of the shaft-carried wheels, and means for adjusting the position of the driving-wheel.

3. The combination with a plunger, of a double rack connected thereto, a pair of gears intermeshing with the racks, shafts carrying the gears, friction-wheels mounted on the shafts, and of different diameters, respectively, a driving-shaft mounted in pivoted bearings, a friction driving-gear mounted on the shaft, and means for adjusting said shaft to place the driving-wheel in engagement with either of the first friction-wheels.

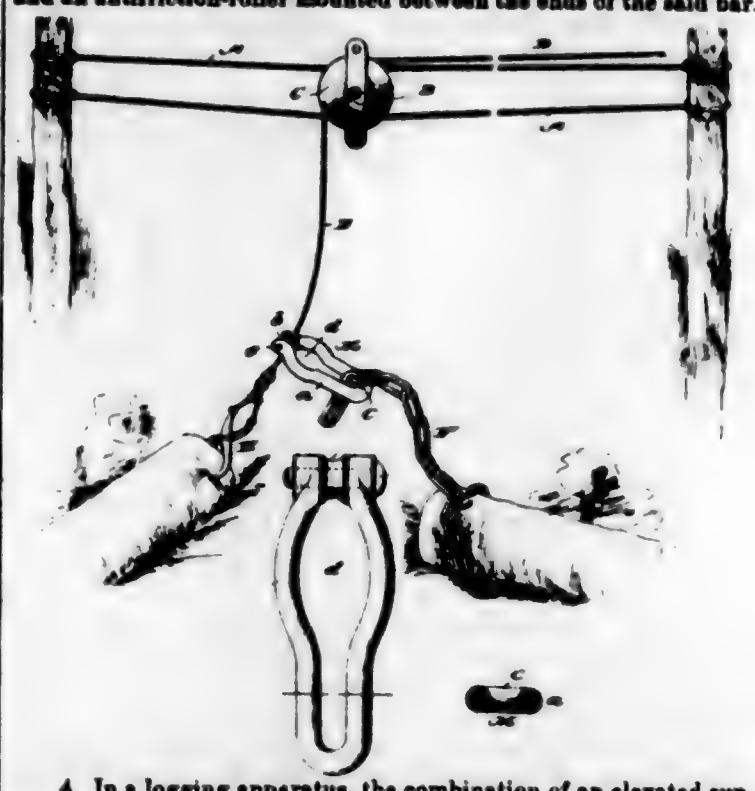
4. The combination in a baling-press, of a plunger, a double rack-bar connected thereto, a pair of gears intermeshing with the rack-bar and with each other, shafts carrying said gears, friction-wheels mounted on the shafts and of different diameter, respectively, adjustable journal-boxes, a shaft carried thereby, a friction-wheel mounted on the shaft and arranged between the first friction-wheels, a slide-bar connected to one of the journal-boxes, pawls carried by the slide-bar, and racks for engaging said pawls and locking the same from movement.

808,246. LOGGING APPARATUS. WILLIAM BARNETT, Garyville, La. Filed Sept. 7, 1905. Serial No. 277,436.

Claim.—1. In a logging apparatus, the combination of an elevated support, a block movable on said support and carrying a sheave, a cable passed over the said sheave and provided at one end with means for fastening it to a log and adapted to be connected to suitable log-hauling means, and a chain-holder or connecting device comprising a loop-shaped body having a lower contracted bight portion and an upper comparatively wide or open portion; receiving the before-mentioned cable, and an antifriction-roller mounted in the body at the upper end of the comparatively wide or open portion thereof and arranged to bear on the said cable.

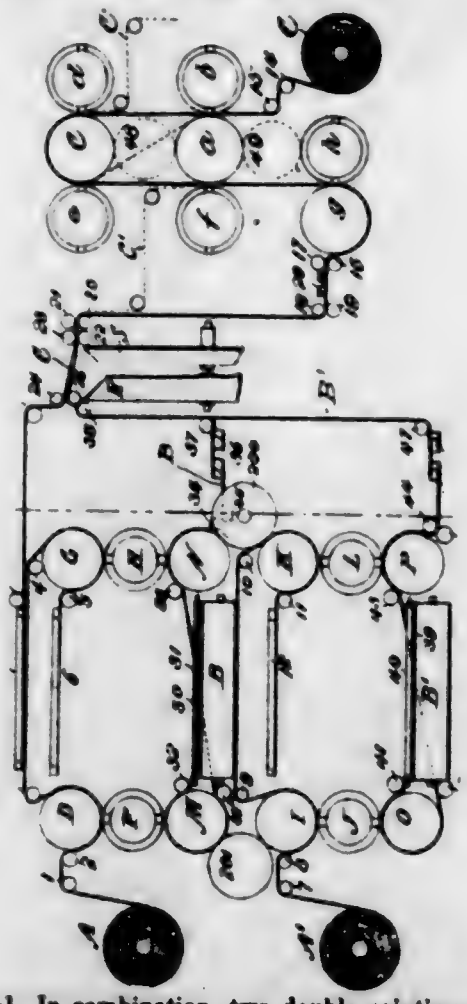
2. As an article of manufacture, a chain-holder or connecting device for use in logging apparatus; the same comprising a loop-shaped body having a lower contracted bight portion and an upper comparatively wide or open portion, and an antifriction-roller mounted in the body at the upper end of the comparatively wide or open portion thereof and arranged to bear on a cable extending through the said portion.

3. As an article of manufacture, a chain-holder or connecting device for use in logging apparatus; the same comprising a body formed of a metallic bar bent into loop form, and having a lower contracted bight portion and a comparatively wide or open portion, and an antifriction-roller mounted between the ends of the said bar.



4. In a logging apparatus, the combination of an elevated support, a block movable on said support and carrying a sheave, a cable passed over the said sheave, and a chain-holder or connecting device loosely receiving the said cable.

808,247. COMPOUND PRINTING-MACHINE. JOSEPH L. FIRM, Chicago, Ill., assignor to The Goss Printing Press Company, Chicago, Ill. Filed Mar. 13, 1905. Serial No. 249,793.



Claim.—1. In combination, two double printing mechanisms each consisting of two form and four impression cylinders, arranged one above the other, each mechanism to print upon a plurality of webs in one color, making a total capacity of four webs for the two mechanisms, an auxiliary printing mechanism consisting of a plurality of impression and form cylinders to print a plurality of colors on a single web, and means for guiding the webs from one set of cylinders to another.

2. In combination, two double printing mechanisms each con-

sisting of two form and four impression cylinders, arranged to print upon four webs, an auxiliary multicolor printing mechanism set at at the end in alinement with the other mechanisms, all cylinders being parallel and in horizontal rows to print a plurality of webs in one color and a single web in colors, and means for guiding the webs from one set of cylinders to another.

3. In combination, two double printing mechanisms each consisting of two form and four impression cylinders, each mechanism being arranged to print and perfect a plurality of webs, an auxiliary printing mechanism to print a plurality of colors on a single web, means for guiding the webs from one set of cylinders to another, and means to associate and fold the webs.

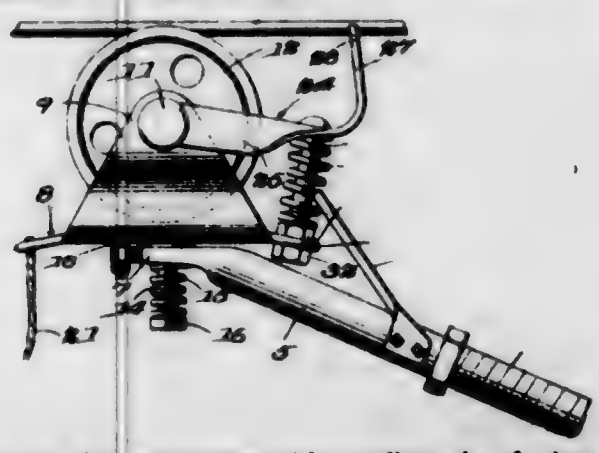
4. In a printing-machine, the combination with a set of double printing mechanisms consisting of four form and eight impression cylinders, arranged one above the other and to perfect as many as four webs, a second set of rotary printing mechanisms consisting of a plurality of impression and form cylinders, whereby said mechanisms may be caused to perfect two or more webs, and perfect a single web in colors, means for guiding the webs from one set of cylinders to another, and means to associate the webs substantially as described.

5. In a printing-machine, a perfecting printing mechanism constructed to print and perfect two webs, comprising two spaced sets standing side by side, each having one form and two impression cylinders, means for guiding webs from one set to the other, and means to deliver one web from between the sets and at the side of the machine, and to deliver the other at the end of the machine.

6. In a printing-machine, the combination with double perfecting printing mechanisms comprising two spaced sets standing side by side and constructed to print four webs and to associate and deliver two thereof from the end and two from the side of the machine between the sets, and means for guiding webs from one set to another, of an auxiliary web-perfecting mechanism, and means to slit and associate the web from the latter mechanism with the side and end deliveries respectively from the other mechanisms.

7. In a printing mechanism, in combination, a plurality of web-perfecting printing-couples in the same frame, means to guide webs from one couple to another, folding and cutting mechanisms at the end and side of said frame, means to deliver part of said webs to each of said mechanisms, auxiliary web-perfecting printing-couples, and means to deliver part of the latter web to said cutting and folding mechanisms respectively.

808,248. **TROLLEY.** GEORGE R. FLETCHER, Cambridge, Ohio. Filed May 31, 1905. Serial No. 263,088.



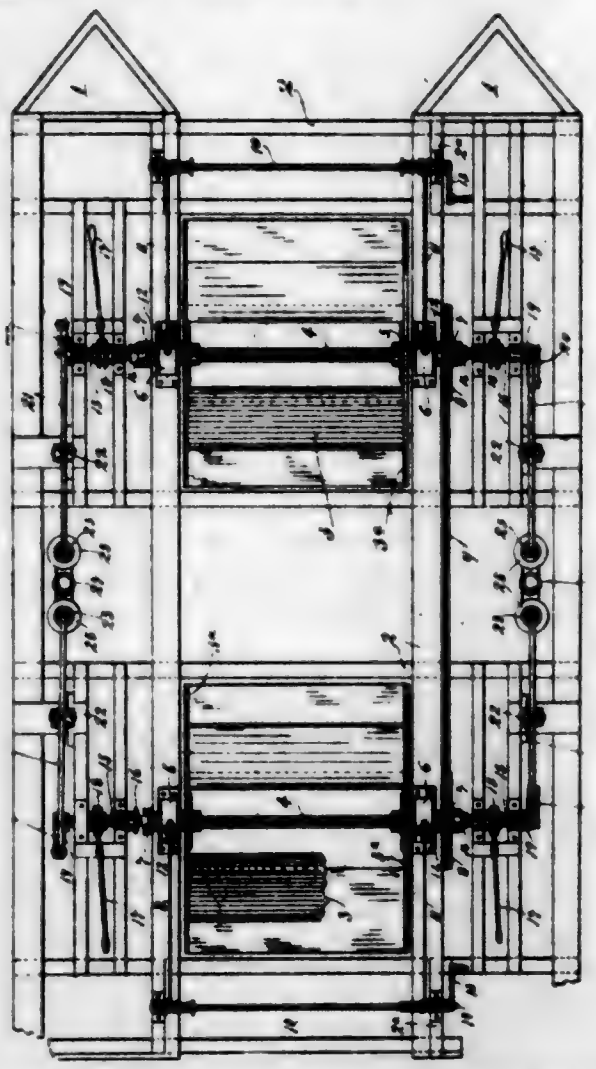
Claim.—1. The combination with a trolley-pole, of a harp secured to the pole and provided with a longitudinally-disposed ear, a trolley-wheel journaled in said harp, a scraper pivotally supported on the journal of the trolley-wheel, and a spring interposed between the scraper and ear for yieldably supporting the former in contact with the conductor.

2. The combination with a trolley-pole, of a harp swiveled on the pole and having a trolley-wheel journaled therein, a scraper pivotally mounted on the journal of said wheel and yieldably supported in contact with the overhead conductor, and a guard or shield secured to the trolley-pole and having its free end disposed between the harp and scraper.

3. The combination with a trolley-pole, of a harp swiveled on the pole and provided with a longitudinal ear, a trolley-wheel journaled in said harp, a scraper pivotally supported on the journal of said wheel, a bolt connecting said ear and scraper, and a spring carried by the bolt for yieldably supporting the scraper in contact with the overhead conductor.

4. The combination with a trolley-pole provided with an angular extension, of a harp swiveled on the pole and provided with oppositely-disposed perforated ears, a trolley-wheel journaled in said harp, a scraper pivotally supported on the journal of the trolley-wheel, a threaded bolt secured to the scraper and engaging the perforation on the adjacent ear of the harp, a spring carried by the bolt for yieldably supporting the scraper in contact with the overhead conductor, and a nut engaging the threads on the bolt for adjusting the tension of said spring.

808,249. **CURRENT-MOTOR.** PETER H. POT, Minneapolis, Minn. Filed Mar. 6, 1905. Serial No. 248,504.



Claim.—1. In a device of the character described the combination with a support, of a crank-shaft mounted on said support, a pump mounted on said support and driven from said crank-shaft, a vertically-adjustable water-wheel mounted on said support, means for adjusting said wheel vertically, and means for connecting and disconnecting the shaft of said wheel to said crank-shaft when said wheel is lowered into an operative position, substantially as described.

2. A combination with a floating support of a counter-shaft mounted thereon, connections for transmitting power from said shaft to a part to be driven, a water-wheel mounted on said support with freedom for vertical movement from an operative into an inoperative position, means for adjusting said wheel vertically, and means for coupling said counter-shaft to the shaft of said water-wheel when the latter is lowered into an operative position, substantially as described.

3. The combination with a floating support, of a water-wheel mounted on said support, with freedom for vertical movements to and from an operative position, counter-shafts alined with the shaft of said water-wheel when the latter is lowered into an operative position, clutch devices for coupling the said shafts, of pumps driven from said counter-shafts, and means for raising and lowering said water-wheel, substantially as described.

4. The combination with a floating support, made up of a pair of boats spaced apart to form a channel, said boats having vertical inner walls, of a pair of water-wheels mounted on said support and working one ahead of the other in the channel between said boats, a driving connection causing said two wheels to rotate together, means for independently raising and lowering said two wheels, a plurality of crank-shafts mounted upon said support, means for coupling said crank-shafts to the shafts of said wheels when the latter are lowered into operative position, and pumps driven from said crank-shafts, substantially as described.

806,250. LIFE-PRESERVER. JOSEPH E. GAGNÉ, Abamdale, Canada. Filed Sept. 15, 1904. Serial No. 224,650.



Claim.—1. A life-preserver comprising the combination of a pair of floats, each comprising a pair of chambers, each chamber being formed with a central tapered sleeve, a cross-bar having tapered ends inserted in said sleeves and adapted to connect said chambers in pairs, a strap disposed on each cross-bar and having its ends secured at a central point thereon, movable collars disposed around said straps and cross-bar, whereby the straps may be adjusted, and members connecting said floats.

2. A life-preserver comprising the combination of a pair of floats, each comprising a pair of chambers, each chamber being formed with a central tapered sleeve terminating in the collar, a cross-bar having tapered ends inserted in said sleeves and adapted to connect said chambers in pairs, fastening means projecting from the collar on said sleeve and into the cross-bar, a strap disposed on each cross-bar, means for adjusting said strap, and members adjustably connecting said floats.

806,251. BRAKE-SHOE. HENRY K. GILBERT, Chicago, Ill. Filed Jan. 14, 1905. Serial No. 241,062.



Claim.—1. A brake-shoe provided with a skeleton comprising a web portion, said web portion having transverse ribs formed thereon, and said web portion and ribs being provided with openings for receiving the metal of the body portion when said metal is in a molten condition.

2. A brake-shoe provided with an integral skeleton comprising a curved web portion extending longitudinally of the shoe, the sides of said web portion extending substantially parallel with the face of the shoe, said web portion having transverse ribs extending to the face of the shoe.

3. A brake-shoe having embedded in it an integral skeleton formed from a comparatively soft metal and comprising a web portion provided with ribs, said web portion extending longitudinally of the shoe, and the sides of said web portion extending substantially parallel with the face of the shoe.

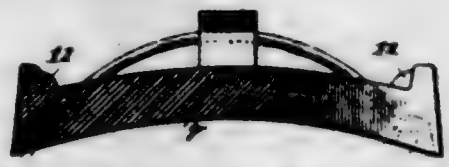
4. A brake-shoe having embedded in it an integral skeleton comprising a web portion and transverse ribs, said web portion lying wholly within the shoe-body, and its sides extending substantially parallel with the face of the shoe, said ribs extending to the face of the shoe.

5. A brake-shoe having embedded in it an integral skeleton formed from a comparatively soft metal and comprising a web portion extending longitudinally of the shoe, the sides of said web portion extending substantially parallel with the face of the shoe, said web portion having transverse ribs extending to the face of the shoe.

6. A brake-shoe having a body portion formed of a comparatively hard metal, with an integral skeleton comprising a web portion and ribs on said web portion, said skeleton being formed of a comparatively soft and ductile metal embedded in said body portion, said skeleton being longitudinally curved to conform to the contour of the shoe-body, the sides of said web portion extending substantially parallel with the face of the shoe, said ribs extending to the wearing-face of the shoe.

7. A brake-shoe having a body portion formed of a comparatively hard metal with a skeleton comprising a web portion and ribs on said web portion, said skeleton being formed of a comparatively soft and ductile metal embedded in said body portion, said web portion and ribs being provided with openings to receive the molten metal of which the body portion is formed, said ribs extending to the wearing-face of the shoe.

806,252. BRAKE-SHOE. HENRY K. GILBERT, Chicago, Ill. Filed Jan. 16, 1905. Serial No. 241,203.



Claim.—1. A brake-shoe having an integral truss formed of a malleable-metal rod bent to form said truss the end portions only of said truss being embedded in said shoe.

2. A brake-shoe having secured thereto a truss comprising two truss-bars, the end portions only of said bars being embedded in said shoe.

3. A brake-shoe having an integral truss made of a rod bent to form two truss-bars.

4. A brake-shoe provided with a securing-loop and an integral truss of malleable metal, the middle portions of said truss being embedded within said securing-loop, and the end portions only of said truss being embedded in the brake-shoe.

5. A brake-shoe provided with a securing-loop, also having secured thereto a truss comprising two truss-bars, the middle portions of said truss-bars being embedded in said securing-loop, and the end portions only of said bars being embedded in the shoe-body.

6. A brake-shoe having a securing-loop integral with said shoe and an integral truss comprising two truss-bars, which truss-bars extend through the sides of said loop, the end portions only of said bars being embedded in the shoe-body.

7. A brake-shoe having an integral truss formed of a malleable-metal rod bent to form said truss, said shoe having anchor-blocks embedded in it for said truss.

8. A brake-shoe having a truss formed of two curved truss-bars, the ends of said truss-bars being bent to form feet portions, which feet portions are secured to anchor-blocks embedded in the body of the shoe.

9. A brake-shoe having an integral truss made of a rod bent to form two truss-bars, the ends of said truss-bars being embedded in anchor-blocks, which anchor-blocks are embedded in the body of the shoe.

10. A brake-shoe having an integral truss formed of malleable metal, said shoe having anchor-blocks embedded in it for said truss, one side of each of said blocks being flush with the face of the shoe.

11. A brake-shoe having an integral truss made of a rod bent to form two truss-bars, said shoe having an integral securing-loop through the sides of which loop the truss-bars of said truss extend, said shoe having embedded in its face two anchor-blocks in which the ends of said bars are embedded.

12. A brake-shoe having a truss secured to the body of the shoe, said shoe having a securing-loop through which the middle portion of said truss extends, said truss having a projection thereon lying within said loop.

13. A brake-shoe having secured thereto a truss comprising two truss-bars, said shoe having a securing-loop through which said truss-bars extend, said truss-bars being bent within said loop to provide strengthening projections.

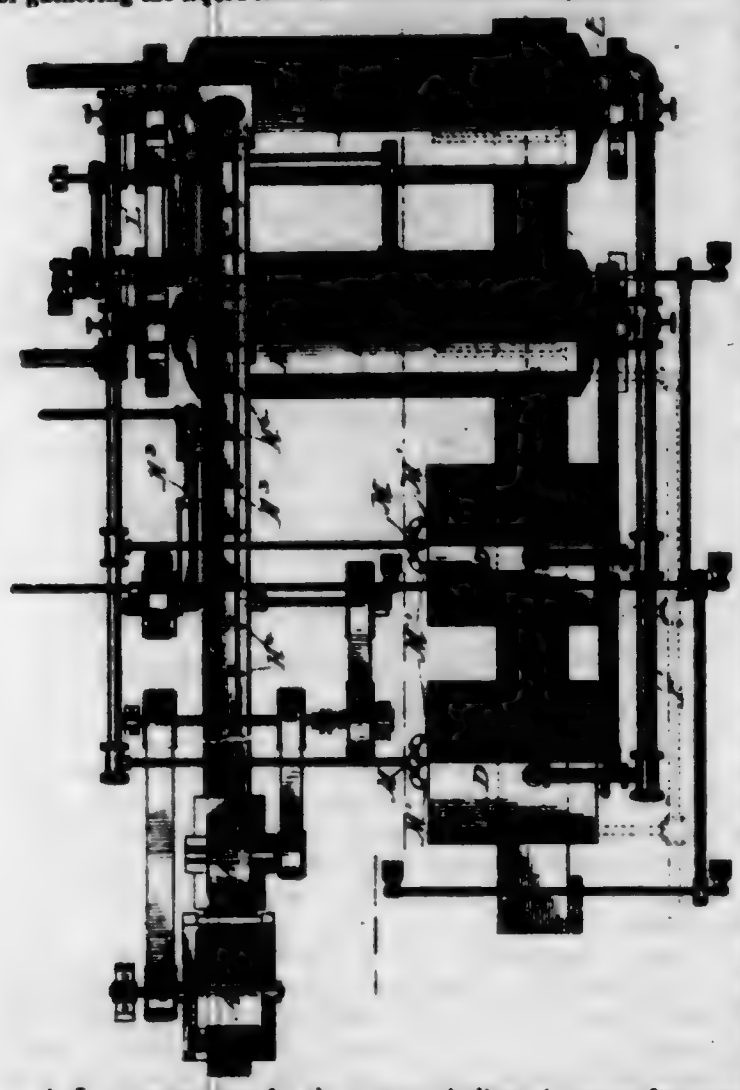
806,253. APPARATUS FOR FIBERIZING AND DERIVING OTHER PRODUCTS FROM WOOD. ARTHUR W. HANDFORD, Evanston, Ill., assignor to Wood Distillates and Fibre Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 27, 1904. Serial No. 238,208.

Claim.—1. In an apparatus for the purpose indicated, means for comminuting the wood; a digester for steaming the resultant mass; a system of rolls for expressing the liquids from the mass and fiberizing the remainder, in combination with conveyers leading respectively from the comminuting means to the digester and from the digester to the fiberizing-rolls and from the rolls for final discharge of the fiber.

2. In an apparatus for the purpose indicated, means for comminuting the wood; a digester for steaming the comminuted product; rolls for expressing the fluids from the product of the digester and a housing inclosing such rolls; conveyers leading respectively from the comminuting means to the digester and from the digester to the rolls and from the rolls for final discharge of the fiber; an exhauster and conduits thereto leading from the digester and from the roll-housing for gathering the vapors from both.

3. In an apparatus for the purpose indicated, means for comminuting the wood; a digester for steaming the comminuted product; rolls for expressing the fluids from the product of the digester and a housing inclosing such rolls; conveyers leading respectively

from the comminuting means to the digester and from the digester to the rolls and from the rolls for final discharge of the fiber; a pump and conduits thereto from the digester and roll-housing respectively for gathering the liquid from both to a common receptacle.



4. In an apparatus for the purpose indicated, means for comminuting the wood; a digester for steaming the comminuted product; rolls for expressing the fluids from the product of the digester and a housing inclosing such rolls; conveyers leading respectively from the comminuting means to the digester and from the digester to the rolls and from the rolls for final discharge of the fiber; an exhauster and conduits thereto leading from the digester and from the roll-housing for gathering the vapors from both, and a pump and conduits thereto from the digester and roll-housing respectively for gathering the liquids from both to a common receptacle.

5. An apparatus for the purpose indicated comprising, in combination with the digester, means for delivering thereto a fibrous mass to be treated therein; a system of pressing-rolls and means for delivering thereto from the digester the fibrous product of the latter; a housing in which said rolls are contained; means for supplying steam to the digester and to the roll-housing; a conveyer for taking the product of the digester to the rolls and housing for such conveyer continuous with the roll-housing whereby the fiber mass is kept inclosed from its first exposure to the steam until its final delivery.

6. An apparatus for the purpose indicated comprising, in combination with the digester, means for delivering thereto a fibrous mass to be treated therein; a system of pressing-rolls and means for delivering thereto from the digester the fibrous product of the latter; a housing in which said rolls are contained; means for supplying steam to the digester and to the roll-housing; a conveyer for taking the product of the digester to the rolls, and housing for such conveyer continuous with the roll-housing; an exhauster and connections thereto from the roll-housing, for maintaining inflow of gases and preventing their escape through all the apertures, inlets or crevices of said housing and the connected cavity of the conveyer-housing.

7. An apparatus for the purpose indicated comprising a device for mechanically reducing the wood; an endless elevating-conveyer leading from the device for carrying away and simultaneously elevating the product from the latter; an elevated hopper into which the elevating-conveyer discharges; a digester into which the hopper loads; an elevating-conveyer to which the digester delivers its fiber product for conducting said product away from the digester and simultaneously elevating it, and a series of wringing-rolls located one above another, the last-mentioned elevator being adapted to deliver to the upper of said rolls, and said rolls being adapted to deliver successively from a pair above to a pair below, and a conveyer to which the lowest pair of rolls of the series delivers the fiber product.

8. In an apparatus for the purpose indicated, a continuously-inclosed path for the wood-fiber product during treatment and means in such path for treating it comprising a digester and means for supplying it with steam for steaming the mass; a series of rolls for wringing the product of the digester and fiberizing it, and a housing for such rolls; a conveyer for taking the product of the digester to the rolls and a housing for such conveyer, the last-mentioned housing being continuous with the housing of the rolls, and at its receiving end making junction with the discharge-aperture of the digester.

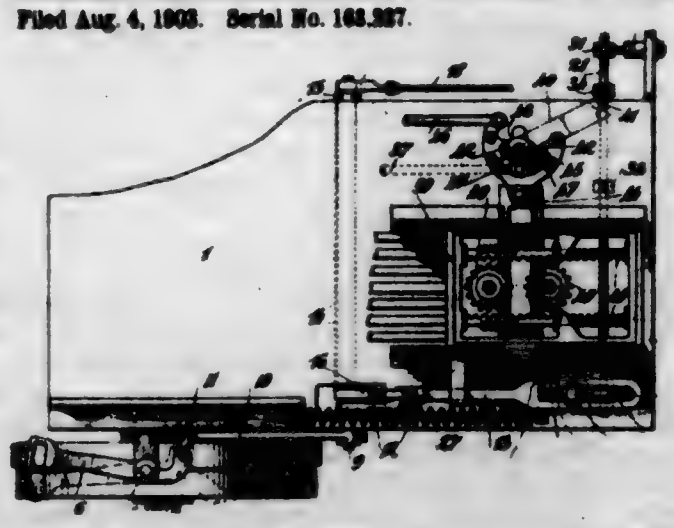
9. In an apparatus for the purpose indicated, the combination of a rotatable digester and a conduit into which it discharges, the digester having a discharge-manhole provided with a sliding cover and the conduit having an adjustable mouthpiece adapted to be thrust radially with respect to the digester for registration with the discharge-manhole.

10. In an apparatus for the purpose indicated, the combination of a digester rotatable about a horizontal axis and a conduit below the same into which it discharges, the digester having its discharge-manhole provided with a fitting having longitudinal slideways and a flat manhole-cover operating in said slideways, the conduit having a mouthpiece movable radially with respect to the digester and adapted to register under the digester discharge-manhole and to seat upon the manhole-fitting outside the manhole-cover slideways of the latter.

11. In an apparatus for the purpose indicated, the combination of a rotatable digester and a conduit into which it discharges, the digester having a discharge-manhole provided with a manhole-fitting having a flange encompassing the manhole-opening projecting off from the body of the digester and the conduit having a mouthpiece movable radially with respect to the digester adapted to telescope with said manhole-encompassing flange, and a valve in said mouthpiece.

12. In an apparatus for the purpose indicated, the combination of a rotatable digester and a conduit into which it discharges, the digester having a discharge-manhole and a manhole-fitting about the same, the conduit having a mouthpiece adapted to be thrust radially toward the digester and to register with the manhole-fitting; means for operating such movable mouthpiece consisting of similar pairs of links at two opposite sides, one link of each pair being pivoted to the mouthpiece and the other to the conduit and adapted when in line to hold the mouthpiece projected; operating-links connected to the pivots of said pairs of links respectively, said operating-links being connected at their ends remote from said pivots, and a bell-crank lever fulcrumed on the conduit and connections therefrom for actuating the operating-links to fold and straighten the pairs of links.

808,254. JACQUARD EMBROIDERING-MACHINE. LOUIS HUANCE, Rorschach, Switzerland, assignor to The Firm of Stickerei Feldmühle, vormals Loeb, Schoenfeld & Co., Rorschach, Switzerland. Filed Aug. 4, 1903. Serial No. 168,227.



Claim.—1. In an embroidering-machine, a jacquard mechanism comprising a directing-shaft, means to oscillate the same comprising a cam-shaft and connections, said cam-shaft carrying a fast and a loose belt-pulley; in combination with a belt-shifter and mechanism to operate the same to shift the belt from the fast onto the loose pulley, said mechanism set in operation by abnormal movement of the directing-shaft.

2. In an embroidering-machine, a jacquard mechanism comprising a directing-shaft, means to oscillate the same comprising a cam-shaft and connections, said cam-shaft carrying a fast and a loose

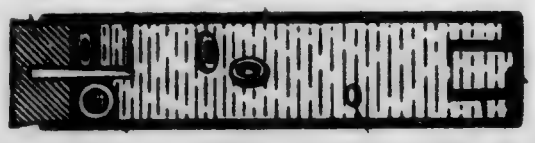
belt: in combination with a belt-shifter and mechanism to operate the same to shift the belt from the fast onto the loose pulley, said mechanism set in operation by abnormal movement of the directing-shaft, and hand-operated means for operating the belt-shifter to shift the belt from said loose pulley back onto said fast pulley.

3. The combination with the driving-shaft of a jacquard embroidering-machine, the fast and loose belt-pulleys on said shaft, the directing-shaft of the jacquard mechanism and connections between the two shafts to oscillate said directing-shaft, and a belt-shifting lever; of a spring-actuated lever for operating the belt-shifting lever, means to lock the former lever against the stress of its actuating-spring, and mechanism for releasing the actuating-lever operated by the directing-shaft whenever rotated beyond its normal extent.

4. In an embroidering-machine, the combination with the directing-shaft 35 of the jacquard mechanism, the radial arm 40 thereon having lugs 41, the belt-shifting lever, its actuating-lever, a radial arm on the fulcrum-pin of the last-named lever, a spring-actuated slide abutting against said radial arm and a locking device to lock the slide against movement under the stress of its spring; of mechanism operated by the lugs 41 on the arm 40 of the directing-shaft to release the slide whenever the latter shaft is rotated beyond its normal extent.

5. In a jacquard embroidering-machine, the combination with the directing-shaft 35 of the jacquard mechanism, the radial arm 40 thereon having lugs 41, the belt-shifting lever, its actuating-lever, a radial arm on the fulcrum-pin of the last-named lever, a spring-actuated slide abutting against said radial arm, a two-armed rock-lever carrying a lug on one of its arms adapted to engage a notch in the slide and lock the same against motion under the stress of its spring, two rods, 28, 29, having one end secured to the other arm of said rock-lever, a forked oscillating lever 52, to the legs of which the opposite ends of said rods are secured, abutments 33, 34, on the rods 28, 29, the directing-shaft 35, means to oscillate the same, and the radial arm 40 thereon having lugs 41 adapted to impinge upon one or the other of the aforesaid abutments 33, 34, when said shaft is oscillated in one or the other direction beyond its normal extent, substantially as and for the purposes set forth.

806,255. TOY. JOHN W. HUENEME, San Francisco, Cal. Filed Mar. 8, 1905. Serial No. 249,135.



Claim.—1. A toy comprising a vessel containing liquid, a stationary device at each end of the vessel, and two groups of objects therein, those of one group being adapted to be retained by the stationary object at one end of the bottle and those of the other group by that at the other end, and the objects of one group being slightly heavier and of the other slightly lighter than the liquid, substantially as described.

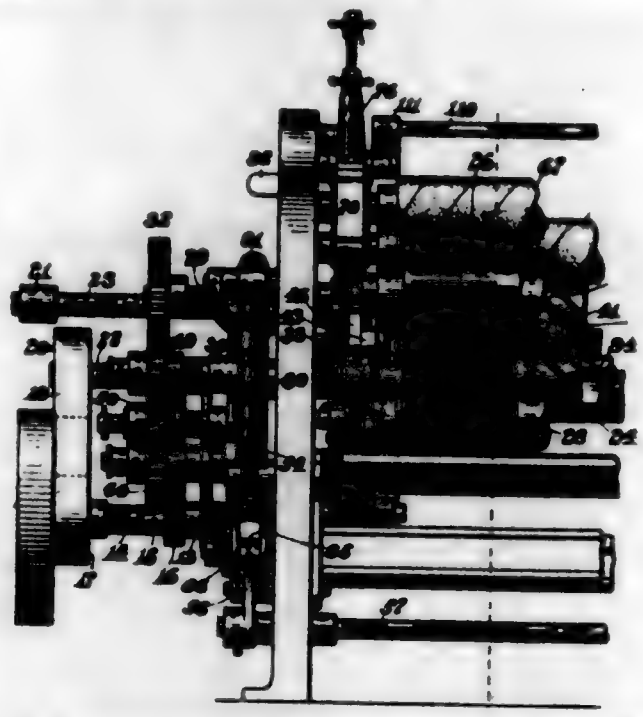
2. A toy comprising a bottle, a stopper therefor, two devices therein, one secured to the bottom of the bottle and the other to the stopper, and two groups of objects in the bottle, the objects of one group being adapted to be retained by the device at the bottom of the bottle and those of the other group by that on the stopper, said objects of one group being heavier and of the other group lighter than the liquid, substantially as described.

806,256. HIDE-WORKING MACHINE. ALBERT A. HUTCHINSON, Winchester, Mass. Filed Jan. 17, 1905. Serial No. 241,477.

Claim.—1. The combination with a pair of separated rolls, of an apron mounted upon said rolls, a pivoted frame, a pair of independently-driven knife-cylinders mounted in said frame at different distances from said pivot, and means whereby said frame may be moved about its pivot to bring either of said knife-cylinders into position to coöperate with said apron at different points thereon intermediate said rolls.

2. The combination with a pair of separated rolls, of an apron mounted upon said rolls, a bed-roll located between said rolls beneath said apron, a pivoted frame, a pair of independently-driven knife-cylinders at different distances from the pivot of said frame, and means whereby one of said cylinders may be moved into position to coöperate with said bed-roll or the other may be moved into position to coöperate with said apron at a point intermediate said bed-roll and an apron-roll.

3. The combination with a knife-cylinder, of a pivoted frame, a pair of apron-rolls both having bearings in said frame at some distance from the pivot thereof, an apron mounted on said rolls, a bed-roll also carried by said frame, and means for moving said frame to cause said apron to coöperate with said knife-cylinder at a point intermediate the bed-roll and an apron-roll.



4. The combination with a knife-cylinder, of a frame pivoted to the framework of the machine, a hide-support pivoted to the free end of said pivoted frame, means for moving said pivoted frame into position for the hide-support to coöperate with said knife-cylinder, a weighted lever, and a link interposed between said lever and said hide-support.

5. The combination with a knife-cylinder, of a frame pivoted to the framework of the machine, a hide-support pivoted to the free end of said pivoted frame, means for moving said pivoted frame into position for the hide-support to coöperate with said knife-cylinder, a weighted lever, a link interposed between said lever and said hide-support, and means for adjusting said link.

6. The combination with a knife-cylinder, of a pivoted rocker-frame, arms pivoted to said rocker-frame, a hide-support mounted on said arms, means for moving said frames about their pivots to cause said hide-support to coöperate with said knife-cylinder, and means including a weighted lever for limiting the movement of said arms about its pivot.

7. The combination with a knife-cylinder, of a pivoted rocker-frame, a hide-support pivoted to said rocker-frame, means for moving said rocker-frame about its pivot, a weighted lever, and a link connecting said lever and hide-support.

8. The combination with a knife-cylinder, of a hide-supporting apron, and means for moving said apron into an inclined position engaging said knife-cylinder with the upper portion of said hide-support farthest to the rear and higher than said knife-cylinder while the lower portion is lower than said cylinder and nearer the front of the machine.

9. The combination of two side plates, two knife-cylinders mounted in said plates, a lug on each side plate, and a guide-bar adapted to be secured to either side of said lugs to support a grinder in position to coöperate with either cylinder.

10. The combination of two side plates, two knife-cylinders mounted in said plates, a barrier connecting said plates in the rear of one of said cylinders, and a hood secured thereto for the other cylinder.

11. The combination of two side plates, two knife-cylinders mounted in said plates, a barrier connecting said plates in the rear of one of said cylinders, and a detachable hood secured thereto for the other cylinder.

12. The combination of two side plates, two knife-cylinders mounted in said plates, a barrier connecting said plates in the rear of one of said cylinders, hooks on said barrier, and a hood for the other cylinder secured thereto.

13. The combination of a knife-cylinder, a revoluble hide-support, a driving-gear therefor, gearing meshing therewith when said hide-support is removed from said cylinder to drive said support in one direction, and gearing meshing with said driving-gear to move the hide-support in the opposite direction when said support is coöperating with said knife-cylinder.

14. The combination of a knife-cylinder, a revoluble hide-sup-

port, a pivoted supporting-frame therefor, a driving-gear for said hide-support, two pinions on said frame for driving said gear, two driving-gears moving in the same direction mounted on a bracket, and means for moving said frame about its pivot to cause one of said frame-pinions to be moved out of mesh with one of said bracket-gears and into engagement with the other.

15. The combination of a knife-cylinder, a hide-supporting apron, means for moving said apron toward the front of the machine when the hide is being operated upon, and a shelf between the front of the machine and said apron adapted to receive and hold the hides after being operated upon.

16. The combination of a knife-cylinder, a hide-supporting apron, means for moving said apron toward the front of the machine when the hide is being operated upon, a shelf in front of said apron adapted to receive the hides after being operated upon, and means for draining said shelf.

17. The combination of a knife-cylinder, a hide-supporting apron, means for moving said apron toward the front of the machine when the hide is being operated upon, a shelf in front of said apron adapted to receive the hides after being oprated upon, means for draining said shelf, a weighted lever, a nut pivoted to the free end thereof, a hide-support, and a threaded shank coöperating with said nut and pivoted to said hide-support.

18. The combination with a knife-cylinder, of a feed-roll above said cylinder, an apron downwardly and backwardly inclined toward said knife-cylinder, and means whereby said apron may be brought into position to coöperate with said knife-cylinder and feed-roll with said apron downwardly and forwardly inclined from said knife-cylinder.

19. The combination with a knife-cylinder, of a pair of levers, pivots therefor, a hide-support pivoted to the free ends of said levers, a bed-roll, and supports for said bed-roll hung on said pivots.

20. The combination with a knife-cylinder, of a pair of levers, pivots therefor, a hide-support pivoted to the free ends of said levers, a bed-roll, supports for said bed-roll hung on said pivots, and means for adjusting the position of said supports about said pivots.

21. The combination with a knife-cylinder, of a pair of levers, pivots therefor, an apron-roll pivoted to the free end thereof, arms hung on said pivots, an apron-roll in bearings in the free end of said arms, and an apron on said rolls.

22. The combination with a knife-cylinder, of a pair of levers, pivots therefor, an apron-roll pivoted to the free end thereof, arms hung on said pivots, an apron-roll in bearings in the free end of said arms, an apron on said rolls, and means for regulating the movement of said arms about said pivots.

23. The combination with a knife-cylinder, of a pair of levers, pivots therefor, an apron-roll pivoted to the free end thereof, arms hung on said pivots, a second apron-roll supported thereby, an apron on said rolls, a bed-roll beneath said apron, and supports therefor hung on said pivots.

24. The combination with a knife-cylinder, of a pair of levers, pivots therefor, an apron-roll pivoted to the free end thereof, arms hung on said pivots, a second apron-roll supported thereby, an apron on said rolls, a bed-roll beneath said apron, supports therefor hung on said pivots, and means for adjusting said supports relative to said arms.

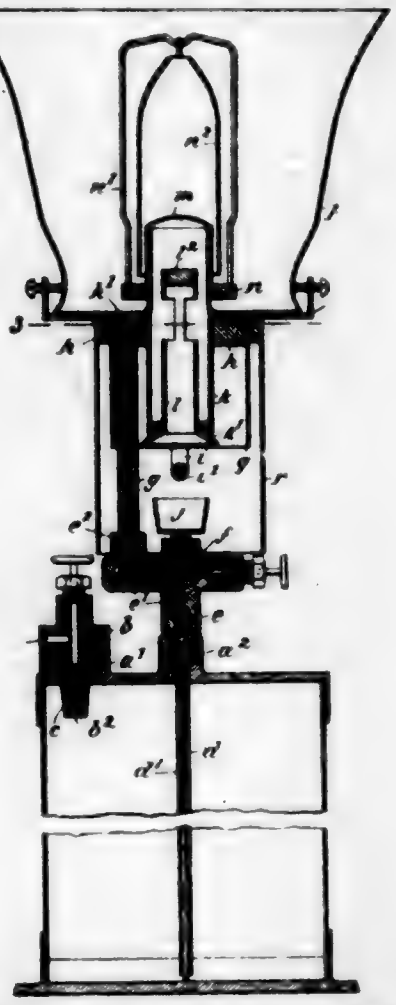
25. The combination with a knife-cylinder, of a pivoted frame, a hide-support pivoted to the free end thereof, means for moving said frame to cause said support to coöperate with said cylinder, and means for reversing the inclination of said support during said movement.

26. The combination with a knife-cylinder, of a pivoted frame, a hide-support pivoted to the free end thereof, means for moving said frame to cause said support to coöperate with said cylinder, means for reversing the inclination of said support during said movement, and means secured to said hide-support providing for a yielding movement about its pivots under abnormal strain.

27. The combination with a knife-cylinder, of a pivoted frame, a hide-support pivoted to the free end thereof, means for moving said frame to cause said support to coöperate with said cylinder, means for reversing the inclination of said support during said movement, and means including a weight secured to said hide-support providing for a yielding movement about its pivots under abnormal strain.

28. The combination with a knife-cylinder, of a feed-roll located above said cylinder, a pair of apron-rolls, a hide-supporting apron upon said rolls, and means for moving said apron into engagement with said cylinder and feed-roll with that portion of the apron extending from the cylinder to the lower apron-roll inclined therefrom.

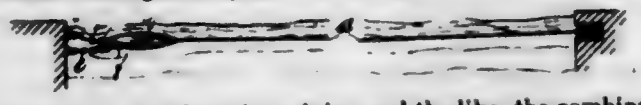
806,257. INCANDESCENT OIL-LAMP. HILARY JACOBS, New York, N. Y. Filed July 11, 1905. Serial No. 269,190.



Claim.—1. An incandescent oil-lamp provided with a reservoir, a valve-controlled feed-tube communicating therewith, an annular disk supported by the feed-tube, a vaporizer depending from the disk and communicating with the feed-tube, an outer tube projecting above and below the disk and perforated opposite the vaporizer, a ring on the lower end of the outer tube, and an inner mixing-tube supported by said ring and having upper discharge-orifices which open into the outer tube, substantially as specified.

2. An incandescent oil-lamp provided with a vaporizing-tube having a reduced threaded perforated end, a cap-nut engaging the same, and a notched tubular sleeve embracing the threaded end and engaged by the nut, substantially as specified.

806,258. SUBMARINE MINE AND THE LIKE. EDWARD A. JEFFREYS, Leamington, England. Filed May 23, 1905. Serial No. 261,891.



Claim.—1. In submarine mining and the like, the combination with the mine or explosive weapon of a rope or line and means causing the said mine or explosive weapon to move along the said rope or line when tension is imposed on the latter.

2. In submarine mining and the like, the combination with the mine or explosive weapon of a rope or line and means consisting in part of differential rope winding and unwinding devices whereby the said mine or explosive weapon is caused to move along the said rope or line when a tension is imposed on the latter.

3. In submarine mining and the like, the combination with a float of wheels of different diameters rotatably mounted on the said float, and ropes or lines which simultaneously wind upon and unwind from the respective wheels when the latter rotate together under the influence of a tension on the ropes.

4. In submarine mining and the like, the combination with the mine or explosive weapon of wheels of differential diameters carried on the said mine, a rope or line passing round the smaller wheel and having one end anchored or held at a distance from such wheel, and a rope passing round the larger wheel and having one end anchored or held in a direction opposite to that of the anchorage of the first-named rope.

5. In submarine mining and the like, the combination with the mine or explosive weapon of wheels of differential diameters carried on the said mine, a rope or line passing round the smaller wheel and having one end anchored or held at a distance from such wheel, a rope

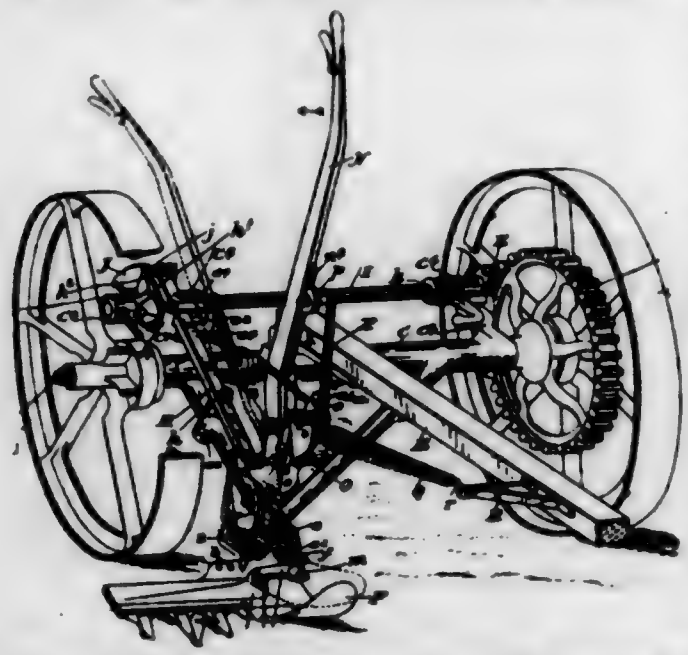
passing round the larger wheel and having one end anchored or held in a direction opposite to that of the anchorage of the first-named rope, and a detachable mooring device adjacent the anchorage of the last-named rope.

6. In submarine mining and the like, the combination with the mine or explosive weapon of wheels of differential diameters carried on the said mine, a rope or line passing round the smaller wheel and having one end anchored or held at a distance from such wheel, a rope passing round the larger wheel and having one end anchored or held in a direction opposite to that of the anchorage of the first-named rope, a mooring-chain adjacent the anchorage of the last-named rope, and a lever-coupling piece mounted on the mine and detachably engaging the said mooring-chain.

7. In submarine mining and the like, the combination with the mine or explosive weapon of wheels of differential diameters carried on the said mine, ropes or lines respectively passing round the said wheels, a fixed anchorage for one end of the rope passing round the larger wheel and a yielding anchorage for one end of the rope passing round the smaller wheel.

8. In submarine mining and the like, the combination with the mine or explosive weapon of wheels of differential diameters carried on the said mine, ropes or lines respectively passing round the said wheels, and a tension device substantially as described for the rope or line passing round the smaller wheel.

806,259. **MOWER.** GEORGE D. JOHNSON and JACOB H. JOHNSON, Huntsville, Canada. Filed Nov. 25, 1903. Serial No. 183,657.



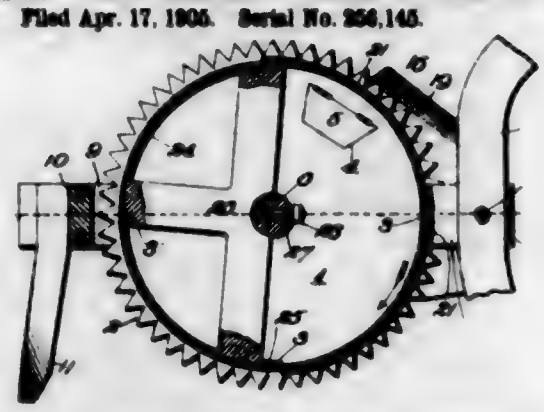
Claim.—1. In a mower, the combination of the finger-bar, the knife-bar arranged to reciprocate on the finger-bar, a frame on which the finger-bar is pivoted, a lever pivoted intermediate its ends to the frame at right angles to the knife-bar, means at one end of said lever for oscillating the same horizontally, a link M having a ball-and-socket connection with the lower end of said lever, said link M having a bent end which is connected with the knife-bar near the axis of the pivot of the finger-bar so as to give the knife-bar reciprocating movement when the lever is reciprocated and means for raising the finger-bar with the knife-bar into vertical position whereby the point of connection of the link M with the knife-bar will be carried above the plane of movement of the lever so that the lower end of the link M will oscillate while the upper end is substantially stationary, substantially as described.

2. In a mower, the combination with the wheels, swinging frame and finger-bar pivotally connected to the same, and a lifting-lever pivoted on the swinging frame, and the link connecting the bottom end of the lever to the finger-bar, of means coacting with the lever for reducing the weight of the finger-bar as it is being raised as and for the purpose specified.

3. In a mower, the combination with the wheels, swinging frame and finger-bar pivotally connected to the same, and a lifting-lever pivoted on the swinging frame, and the link connecting the bottom end of the lever to the finger-bar, of a supplemental lever pivoted on the swinging frame and having one end designed to come in contact with the lever, and a spiral spring connecting the opposite end of the lever to the pole or tongue as and for the purpose specified.

4. In a mower, the combination with the wheels, swinging frame and finger-bar pivotally connected to the same, and a lifting-lever pivoted on the swinging frame, and the link connecting the bottom end of the lever to the finger-bar, a guide on said lever of a supplemental lever pivoted on the swinging frame a roller at one end thereof designed to come in contact with said guide on the first-mentioned lever, and a spiral spring connecting the opposite end of the supplemental lever to the pole or tongue as and for the purpose specified.

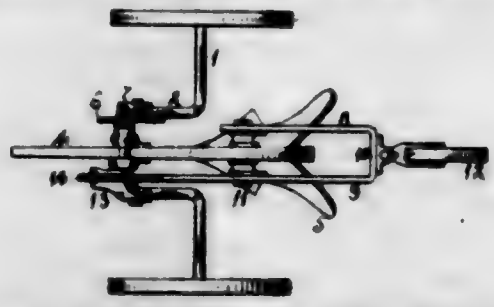
806,260. **SEED-PLANTER.** SAMUEL D. JOHNSTON, Wellborn, Okla. Filed Apr. 17, 1905. Serial No. 256,145.



Claim.—1. A seed-planter, comprising a support, a frame carried thereby, a shaft carried by said frame and fixed with relation thereto, a wheel-hopper journaled on the shaft within said frame, and provided with toothed enlargements or flanges to engage the ground, and also with perforations in its rim between said flanges, a frame secured to the support and disposed at the outer sides of said first-named frame and engaging and having a fixed relation to said shaft and having its lower edges terminating some distance above the lower edge of the wheel-hopper, and adapted to protect the latter against the accumulation against its sides of an undue quantity of soil, a lister-plow carried by said support forward of the wheel-hopper, coverers depending from the rear end of the first-named frame and in line with the plow and wheel-hopper, an external shield or guard carried by said support and snugly embracing the forward half of the rim of the wheel-hopper, and an internal shield or guard fitting snugly against the rear half of the inner side of the rim and rigidly secured to said shaft and terminating at its lower end in a notch which registers with said peripheral opening of said wheel-hopper when the latter is about vertically below the shaft and rearward of the lower end of the external shield or guard.

2. A seed-planter, comprising a wheel-hopper having its rim provided with holes at equidistant points, and having toothed enlargements or flanges to engage the ground, a stationary shaft forming a journal for said wheel-hopper, an internal shield or guard fitting snugly against the rear half of the inner side of the rim and rigidly secured to said shaft, a frame or support holding the shaft non-rotatably and provided with coverers at its rear end, a beam forward of the wheel-hopper, means securing said frame or support to the beam, an external shield or guard supported from said beam and snugly embracing the forward half of the rim of the wheel-hopper, and a guard secured to the beam and to the stationary shaft and disposed at opposite sides of the wheel-hopper to prevent the accumulation of an undue quantity of soil thereagainst.

806,261. **WHEELED PLOW.** JUDSON R. JONES, Rockton, Ill., assignor to J. Thompson & Sons Manufacturing Company, Beloit, Wis., a Corporation of Wisconsin. Filed Mar. 20, 1905. Serial No. 251,156.



Claim.—1. In a wheeled plow, the combination of a plow-beam, a main frame composed of two side bars, a caster-wheel supported by the rear end of the main frame, the plow-beam located between the side bars of the main frame and pivotally connected therewith, an axle supported by carrying-wheels and having a section in bail form, a pivotal connection between the bail portion of the axle and the plow-beam, and an engagement between the main frame and the bail-section of the axle.

2. In a wheeled plow, the combination of a main frame, a plow-

beam having a pivotal connection with the main frame, an axle supported by carrying-wheels and having a section in bail form, a pivotal connection between the bail-section of the axle and the plow-beam, a rear wheel supported by the main frame, the main frame extending forward of its pivotal connection with the plow-beam and raised and lowered by the rocking movement of the axle.

3. In a wheeled plow, the combination of a main frame, a plow-beam having a pivotal connection with the main frame, an axle supported by carrying-wheels and having a section in bail form, a pivotal connection between the bail-section of the axle and the plow-beam, the main frame extending forward of its pivotal connection with the plow-beam, a projection extending from the bail-section and adapted to engage the forwardly-extending portion of the main frame.

4. In a wheeled plow, the combination of a main frame, a plow-beam having a pivotal connection with the main frame, an axle supported by carrying-wheels and having a section in bail form, an arm extending from the bail portion, the bail portion having a pivotal connection with the plow-beam, and an extension of the main frame overlying the arm.

5. In a wheeled plow, the combination of a main frame, a plow-beam having a pivotal connection with the main frame, an axle supported by carrying-wheels and having a section in bail form, an arm extending from the bail-section, the bail-section having a pivotal connection with the blow-beam, an extension of the main frame overlying the arm, a toothed segment permanently attached to the plow-beam, and a hand-lever permanently connected to the bail-section and provided with a dog engagement with the toothed segment.

806,262. **AGENT'S TICKET-PUNCHING MACHINE.** ALEXANDER D. JOSLIN, Chicago, Ill. Filed Jan. 21, 1905. Serial No. 242,079.



Claim.—1. The machine for punching railroad-tickets, having an opening in which the ticket may be inserted bodily, adjustable punches arranged to operate on opposite margins of the ticket, and a lever whereby all the punches may be operated at the same stroke.

2. The machine for punching railroad-tickets, having an opening in which the ticket may be inserted bodily, punches arranged to operate on opposite margins of the ticket and adjustable lengthwise of the same, and a lever whereby all the punches may be operated at the same stroke.

3. The machine for punching railroad-tickets, having an opening in which the ticket may be inserted bodily, two series of punches, each of said series being adapted to operate on one of the margins of the ticket and each individual punch being independently adjustable lengthwise of the same, a vertically-movable plate supporting the punches, and a lever operating the plate.

4. A machine for punching railroad-tickets, having an opening in which the ticket may be inserted bodily, punches arranged to operate on the margins of the ticket and adjustable lengthwise of the same both individually and independently, a vertically-movable plate supporting the punches and a cam-lever and toggles for operating said plate.

5. In a machine for punching railroad-tickets, having an opening in which the ticket may be inserted bodily, punches arranged to operate on the margins of the ticket and adjustable lengthwise of the same, a vertically-movable plate supporting the male dies of the punches, a cam-lever and toggles for operating the plate and a spring-pressed plate for compressing the ticket.

6. The machine for punching railroad-tickets, having an opening in which the ticket may be inserted bodily, punches arranged to operate on the margins of the ticket and adjustable lengthwise of the same, a vertically-movable plate supporting the male dies of the punches, a cam-lever and toggles for operating the plate, and a spring for returning the lever and lifting the supporting-plate.

7. The machine for punching railroad-tickets, having a recess or opening in which the ticket may be inserted bodily, a series of punches for punching the date or other data in the ticket, a vertically-movable support in which the punches are adjustably held, and can be adjusted between successive operations, a surrounding casing, the punches being adjustable from the outside of the casing, devices for stopping the punches in their adjusted positions, and a lever for operating the punch-support.

8. The combination with a surrounding casing, the vertically-movable slotted plate and its actuating means, of the male dies slidably supported in the plate, and slidable countering-dies extending to the outside of the machine, and having openings at their inner ends to receive the male dies.

9. The combination with a surrounding casing the vertically-movable slotted plate and its actuating means, of the male dies slidably supported in the plate, and slidable counting-dies extending to the outside of the machine and having openings at their inner ends to receive the male dies and also having horizontal slots admitting the tickets below the mail dies.

10. The ticket-punching machine having a surrounding casing provided with an opening in which the ticket may be inserted bodily, and punching mechanism located within the casing and embracing dies with horizontal slots for admitting the tickets, the entrances to said slots being beveled to insure the entrance of the tickets.

11. A machine for punching tickets having a casing, provided with an opening to admit the body of the ticket, punching devices for punching the edge of the ticket and adjustable along such edge, said devices consisting of a main punch, a safety-punch in proximity thereto, and countering-dies.

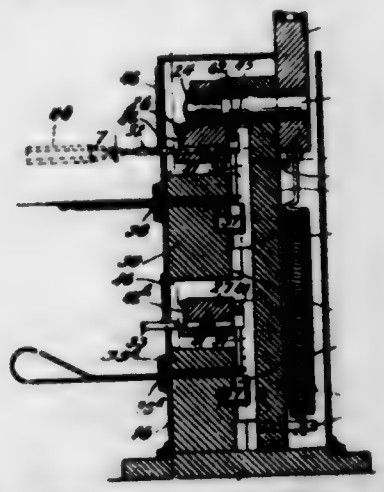
12. The railroad-ticket-punching machine wherein are combined a surrounding casing and a series of punching devices located within the casing and adjustable from the outside thereof, the casing having an opening adapted to admit the ticket and the punching devices being arranged to operate upon the edge of the ticket.

13. The railroad-ticket-punching machine wherein are combined a surrounding casing and a series of punching devices located within the casing and independently adjustable from the outside thereof, the casing having an opening admitting the ticket, and the punching device being arranged to operate on the edge of the ticket.

14. The railroad-ticket-punching machine wherein are combined a surrounding casing and a series of punching devices located within the casing and independently adjustable from the outside thereof, the machine having an opening admitting the ticket and in which it is closely confined, and the punching devices being arranged to operate on the edge of the ticket.

15. The railroad-ticket-punching machine having a series of main or large punches for punching the date or other data desired, each of said punches being accompanied by a small punch adapted to form a safety-opening near the punching made by the large punch.

806,263. **MACHINE FOR PUNCHING RAILROAD-TICKETS.** ALEXANDER D. JOSLIN, Chicago, Ill. Filed Feb. 3, 1905. Serial No. 243,945.



Claim.—1. The combination in a ticket-punching machine, of two series of male punches, a support for the ticket with each series of punches, such support provided with dies countering the punches, means with each series of punches for selecting the ones to be operated, and a single lever actuating both series of punches.

2. The combination in a ticket-punching machine, of two series of male punches, a support for the ticket with each series of punches, each support provided with dies countering the punches, means with each series of punches for selecting the ones to be operated, a device for actuating the selected punches common to both series thereof, and means for actuating said device.

3. The combination in a ticket-punching machine, of two independent series of male punches, a support for the ticket with each series of punches provided with dies countering the punches, a depressible frame for actuating the punches of both series, means with each series for selecting the punches to be operated, and means for depressing said frame.

4. The combination in a ticket-punching machine of two independent series of male punches, a support for the ticket with each series of punches provided with dies countering the punches, means with each series for selecting the punches to be operated, and means for actuating the selected punches.

5. The combination in a ticket-punching machine, of two separate series of male punches, a separate support for the ticket under each series, countering-dies on such supports, means with each series for selecting the punches to be operated, and means common to both series for actuating the selected punches.

6. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, two separate series of punching devices, one at each opening, and a single lever for actuating said punches.

7. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, and provided with supports for the ticket extending inward to the outer line of the punches, countering-dies on such supports, two series of punches one above each opening, and means for actuating the punches.

8. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, two series of punches one at each opening and adapted to act on said folded edge of the ticket, a support for the ticket at each opening provided with countering-dies and means for actuating the punches.

9. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, two separate series of punches, one at each opening, means for selecting the punches to be operated, and means for actuating the punches.

10. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, two separate series of punches one at each opening, means with each series of punches for selecting the ones to be operated, and means for actuating the punches.

11. The ticket-punching machine having two apertures each adapted to admit the folded edge of the ticket, a separate series of punches for each aperture, means with each series for selecting the punches to be operated, and means for operating the punches.

12. The ticket-punching machine having two apertures each adapted to admit the folded edge of the ticket, and located one above the other, a separate series of punches for each aperture, means with each series for selecting the punches to be operated, and means for operating the punches.

13. The combination in a ticket-punching machine of two series of vertically-movable punches, each punch having a shoulder whereby it may be engaged, two series of selecting-pins each pin whereof corresponds to and is adapted to engage one of the punches, and an actuating device carrying all of said pins.

14. The combination in a ticket-punching machine, of two series of vertically-movable punches, one above the other, each punch having a shoulder whereby it may be engaged, two series of selecting-pins each of which corresponds to and engages one of the punches, a vertically-movable frame carrying all the pins, and means for actuating the frame.

15. The combination in a ticket-punching machine of two series of vertically-movable punches, each punch having a shoulder whereby it may be engaged, two series of selecting-pins, each pin whereof corresponds to and is adapted to engage one of the punches, means for returning the pins of both series to normal position, and an actuating device carrying the pins.

16. In a ticket-punching machine, a series of punches arranged in a row opposite the opening at which the ticket is inserted, the punches having extensions forming a back to said opening and serving to limit the entrance of the ticket within the opening.

17. In a ticket-punching machine, a series of punches arranged in a row opposite the opening at which the ticket is inserted, the punches having cutting portions and also having other portions adapted to limit the entrance of the ticket within the opening.

18. In a ticket-punching machine, a series of independent punches arranged side by side in a row and in contact with each other, whereby economy of room is obtained and each punch is guided at the side by its neighbors.

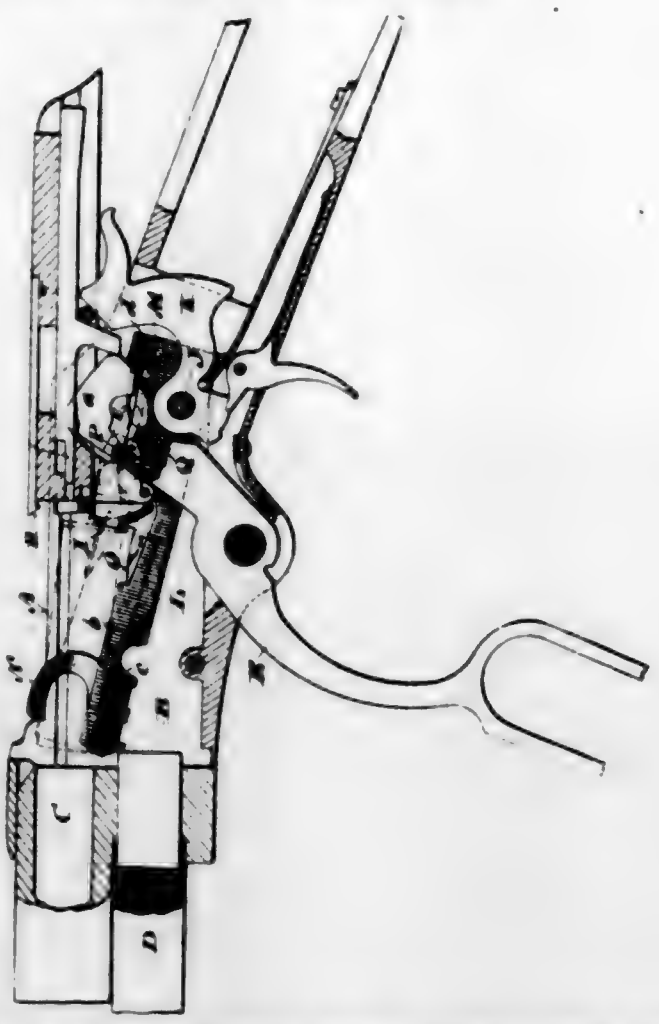
19. In a ticket-punching machine, a series of independent punches arranged side by side in a row and without separating devices between them, whereby economy of room is obtained and each punch is guided at the side by its neighbors.

20. In a ticket-punching machine, the series of independent punches arranged side by side in sliding contact each with its neighbors, in combination with means for actuating the punches, and means for guiding the punches in front and rear.

21. In a ticket-punching machine, the combination of a support for the ticket, countering-dies on such support, means for positioning the ticket, and movable punches located with their cutting portions in coacting relation to the countering-dies, whereby the punches are enabled to cut notches in the projecting edge of the ticket at the desired points.

22. The ticket-punching machine having a series of punches each provided with a cutting portion 34 and with a guiding portion 61 at the lower end, in combination with countering-dies and the plate 17.

806,264. **REPEATING FIREARM.** GUSTAV KERNIN, Crandon, Wis. Filed July 20, 1905. Serial No. 270,483.



Claim.—1. In a repeating firearm, a chamber, a carrier pivoted therein, a yoke pivoted to the carrier, a finger-lever arranged to elevate said carrier when actuated in one direction, and means in connection with the finger-lever and yoke by which the latter is raised when said finger-lever is actuated in a direction reverse to that aforesaid.

2. In a repeating firearm, a chamber, a carrier pivoted therein, spring-fingers secured to the mouth of the carrier, a yoke pivoted to the rear of the carrier, a finger-lever arranged to elevate said carrier when actuated in one direction, and means in connection with the finger-lever and yoke by which the latter is raised when said finger-lever is actuated in a direction reverse to that aforesaid.

806,265. **AWNING-FIXTURE.** CLAUDE D. KESLER and WILLIAM T. KESLER, Washington, D. C. Filed Feb. 17, 1905. Serial No. 246,058.

Claim.—1. In a device of the class described, a shank consisting of two detachably-hinged sections each provided with a substantially semicircular jaw adapted when closed to embrace an object, the free portions of the jaws being separated and outwardly flared, one section of the shank having a rigid attaching member, and a ring movable on the shank to opposite sides of the hinge and serving to prevent lateral motion of the shank-sections and to lock the jaws closed when in its forward position.

2. In a device of the class described, a shank consisting of two detachably-hinged sections each provided at its forward end with a substantially semicircular jaw, one of which has a hook, and one section of the shank having at its rear end a rearwardly-extending, externally-threaded attaching member rigid therewith, and a ring movable on the shank to opposite sides of the hinge and serving to prevent lateral separation of the shank-sections and when in its forward position to lock the jaws closed.



806,266. MACHINE FOR PASTEURIZING BEER. CHARLES A. KING, Mattapoisett, Mass. Filed July 20, 1899. Serial No. 724,516.



Claim.—1. In an apparatus of the kind described, the combination of three tanks located in line, the tank at one end to contain an attemperating-bath, the tank at the other end to contain a cooling-bath, and the intermediate tank to contain a hot bath, said intermediate bath being in communication with the attemperating-bath, means for heating said intermediate bath, and a conveyer suitably mounted to travel through said tanks consecutively, and means for connecting the first and last tanks in series, whereby the temperatures and level of the baths in said tanks will be equalized.

2. In an apparatus of the kind described, the combination of three tanks located in line, the intermediate of said three tanks connecting with the first of said other tanks, a conveyer suitably mounted to travel through said tanks consecutively, and a pipe connecting the end tanks, said tank connections permitting of a flow for maintaining constant temperature and bath-level in said tanks, as and for the purposes set forth.

3. In an apparatus of the kind described, three or more tanks located in line, means whereby they may be filled with water and means whereby said water may be heated, and a conveyer suitably mounted to travel through each of said tanks in turn, and means whereby said conveyer is moved, in combination with a pipe connecting the end tanks and provision for an overflow from the pasteurizing-tank to the first tank, as set forth.

4. In an apparatus of the kind described, a series of tanks located in line, a conveyer passing through each of said tanks in turn, a pipe connecting the end tanks, an overflow connecting the pasteurizing-tank with the first of said tanks, and a drip connecting the last of said tanks with a suitable waste, and means whereby said tanks are filled with water, and the temperature of the water therein regulated, as and for the purpose set forth.

5. In an apparatus of the kind described, three tanks located in line, in combination with means for heating the intermediate water-tank to have a higher degree of temperature than the end water-tanks, means for connecting the first and last tanks in series, said intermediate tank being connected with the first of said other tanks, and a conveyer adapted to travel through said tanks consecutively, the said conveyer consisting of two endless chains to form a substantially continuous flexible floor, a series of friction-rolls located to support said endless floor, certain of the slats forming said floor being provided with cleats adapted to hold the case from sliding thereon while going up and down grade whereby a case of any dimensions less than the width of said conveyer and the distance of its cleats may be supported upon said floor and carried through said tanks, and the contents of cases may be subjected to a substantially equal temperature in said end tanks and a higher degree of temperature in said intermediate tank, as described.

6. In an apparatus of the kind described, the combination of a series of water-tanks located in line, means for controlling the temperature of each tank whereby the temperature of the intermediate tank will be higher than the temperature of the two end tanks, communicating means for the water between the two end tanks, said intermediate tank being connected with the first of said end tanks, a conveyer adapted to travel through said tanks consecutively and a support located at the receiving end of said conveyer and provided with a roll in close proximity to said conveyer whereby a case resting on said support and said conveyer will be drawn off from said support and carried through said tank by frictional contact of the entire bottom of said case with said floor, as and for the purposes described.

7. In a pasteurizer, the combination of an attemperating-tank, a cooling-tank, a sterilizing-tank in communication with the attemperating-tank, means for moving the substance to be sterilized from one tank to another, communicating means for the water between the attemperating-tank and the cooling-tank, and means for maintaining the bath in the sterilizing-tank at a higher temperature than the baths in the other tanks.

8. In a pasteurizer, the combination of an attemperating-tank, a cooling-tank, a sterilizing-tank in communication with the attemperating-tank, means for moving the substance to be sterilized from one tank to another, means for heating the bath in the attemperating and cooling tanks, communicating means for the water between the two last-mentioned tanks, means for maintaining the bath in the sterilizing-tank at a higher temperature than the baths in the other tanks.

9. In a pasteurizer, the combination of an attemperating-compartment, a sterilizing-compartment, a cooling-compartment, communicating means for the water exterior of said compartments between the attemperating-compartment and cooling-compartment, said means being without communication with the sterilizing-compartment, and means carrying the substance to be sterilized through said compartments.

10. In an apparatus of the kind described, a pasteurizing-bath, an attemperating-bath at one side thereof, a cooling-bath at the other side thereof, said attemperating and cooling baths being in direct communication with each other, and said attemperating-bath being in communication with the pasteurizing-bath, substantially as described.

11. In an apparatus of the kind described, a pasteurizing-bath, an attemperating-bath at one side thereof, a cooling-bath at the other side thereof, said attemperating and cooling baths being in direct communication with each other, and said attemperating-bath being in communication with the pasteurizing-bath, a fluid-waste drip for said cooling-bath and a fluid-inlet for the pasteurizing-bath, substantially as described.

12. In an apparatus of the kind described, a pasteurizing-bath, an attemperating-bath at one side thereof, a cooling-bath at the other, communicating means for the liquid between said attemperating and cooling baths, and between said attemperating-bath and the pasteurizing-bath substantially as described.

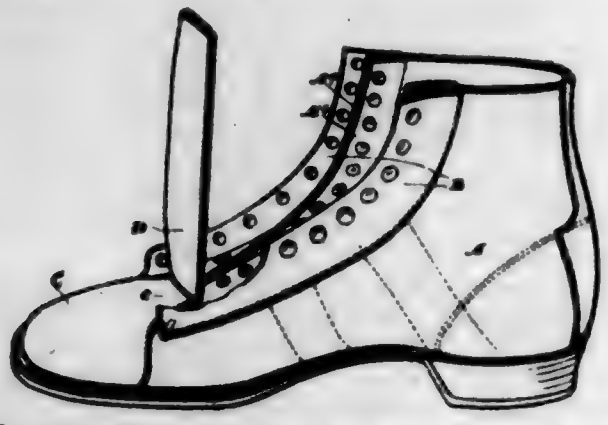
806,267. HOCKEY-BOOT. JOHN S. KING, Toronto, Canada. Filed Feb. 13, 1905. Serial No. 245,320.

Claim.—1. In a hockey-boot, the combination with the upper provided with the ordinary facings, of a toe-cap and protecting strip or tongue attached to the rear of the toe-cap and extending in front of the ordinary lace-facings as and for the purpose specified.

2. In a hockey-boot, the combination with the upper provided with the ordinary lace-facings, of a toe-cap provided with a rearwardly-extending portion and a protecting strip or tongue attached to the rear of such portion and extending in front of the ordinary lace-facings as and for the purpose specified.

3. In a hockey-boot, the combination with the upper provided

with the ordinary lace-facings, of supplemental lace-facings secured at the outside of the lace-facings and a protecting strip or tongue secured to the front of the boot and extending between the supplemental lace-facings and held therebetween by the laces as and for the purpose specified.



4. In a boot, the combination with the upper provided with the ordinary lace-facing, a toe-cap having a projecting rear portion, a protecting pad or tongue secured to said portion and the supplemental lace-facings between which and the ordinary lace-facings the said pad or tongue fits.

806,268. **FIRE-DEPARTMENT COUPLING.** W. P. KOONTZ, Springfield, Ohio. Filed Mar. 20, 1905. Serial No. 251,642.



Claim.—1. A coupling of the character described, comprising a hollow body composed of one or more sections and adapted for connection with a water-supply and a line of hose, and having branches adapted for connection with an engine suction-pipe and a discharge-hose, and suitable cut-off devices to divert the water from the main body to one of the branches and back from said branch to said body again, so that the body will be closed when the branch is open, and the branch will be closed when the body is open.

2. A coupling of the character described comprising a hollow body composed of one or more sections and adapted for connection with a water-supply, and a line of hose, and having branches for connection wth the engine suction-pipe and discharge-hose, and having a cut-off to divert the water from the main body to one of the branches, and a valve to guide the water through the coupling past the other branch and to permit the water to enter the coupling through said branch.

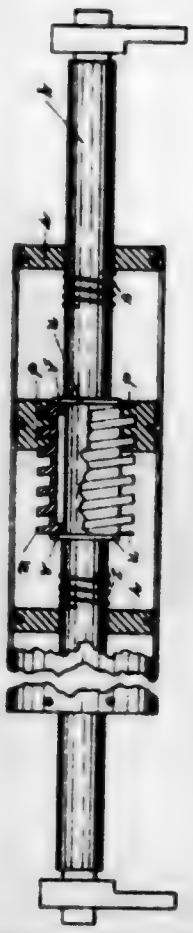
3. A coupling of the character described comprising a hollow body composed of one or more sections, one end of the body being adapted for connection with a water-supply and the other end with a line of hose, a discharge-branch near the first-named end for connection with an engine suction-pipe, and an inlet-branch near the other end for connection with an engine discharge-hose, a cut-off near the first branch and an inwardly-opening valve near the second branch.

4. A coupling of the character described comprising a hollow body composed of one or more sections and adapted at one end for connection with a water-supply and at the other end for connection with a line of hose, and having a discharge-branch near one end and an inlet-branch near the other, a hand-operated cut-off near the first branch and an inwardly-opening pivoted valve near the second branch, stop devices to limit the movement of the cut-off in one position or the other and a stop device for the valve.

5. A coupling of the character described comprising a hollow body composed of a plurality of interconnected sections, one section adapted for connection with a water-supply and the engine suction-pipe, and having a cut-off, and the other section adapted for connection with a line of hose and an engine discharge-pipe and having a valve.

6. A coupling of the character described comprising a hollow body composed of two sections adapted for interconnection, one section also adapted for connection with a water-supply and having a branch for connection with an engine suction-pipe, and a cut-off in said section, and the other section adapted for connection with a line of hose and having a branch for connection with an engine discharge-pipe, and a valve between said branch and its section.

806,269. **VIBRATORY DISTRIBUTER FOR PRINTING-PRESSES.** HENRY J. LEDERER, Omaha, Nebr. Filed Mar. 6, 1905. Serial No. 248,734.



Claim.—1. In a vibratory distributer for a printing-press, a horizontal shaft, a cylinder free to roll thereon, a receiving-chamber within said chamber, and, suitably disposed therein a section of said horizontal shaft, a worm mounted upon the shaft adapted to have a slidable but non-revoluble movement thereon, a grooved cylinder-section integral with the cylinder to engage the threads of the worm, means for causing and continuing the close contact of the threads of the worm with the grooves of the cylinder-section at the time of and after the cylinder-section has passed beyond their plane of engagement; said slidable movement of said worm upon the shaft being for the purpose of causing said means to be operative in continuing said close contact of the threads of the worm with the grooves of the cylinder-section at said time of and after said cylinder-section has passed beyond their said plane of lateral engagement; in combination with a companion ink-roller, a roller-saddle of a printing-press, and suitable means for mounting said shaft thereon.

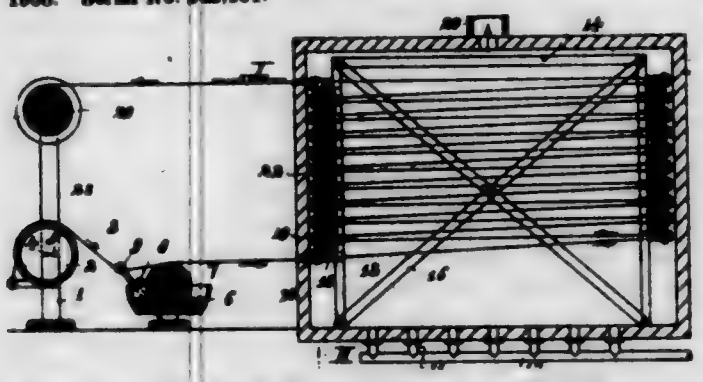
2. The within-described vibratory distributer, consisting of a horizontal shaft mounted upon a roller-saddle, a cylinder, a receiver space or chamber within the cylinder, a worm and grooved cylinder-section within the receiving-space, said worm being mounted upon the shaft and having a lengthwise but non-revoluble movement thereon, said worm and cylinder-section to be operated by the rolling movement of the cylinder upon the shaft, and the suitably-disposed means within the receiving-chamber for causing a continued contact of the worm-threads with the grooves of the cylinder-section after they have passed out of their plane of lateral engagement; said lengthwise movement of said worm upon said shaft being for the purpose of causing said means to be operative in continuing said contact of the worm-threads with the grooves of the cylinder-section after they

have passed out of their plane of lateral engagement; said vibratory distributer to contact with its companion roller when mounted upon a roller-saddle of a printing-press.

3. In a new article of manufacture, a vibratory distributer for a printing-press, consisting of a horizontal shaft, a worm and cylinder mounted upon said shaft, said cylinder being free to roll thereon, and suitably disposed therein a grooved cylinder-section integral with the cylinder and adapted to overlap the threads of the worm, said worm locked upon the shaft but having a slight lateral motion thereon and so disposed that its threads engage the revolving and corresponding grooves of the cylinder-section, means for causing the close and continued contact of the threads of the worm with the grooves of the cylinder-section at the time of and after the cylinder-section has passed beyond its plane of lateral engagement with the worm-threads; said lateral motion of said worm upon said shaft being for the purpose of causing said means to be operative in continuing said close contact of the threads of the worm with the grooves of the cylinder-section at the time of and after the cylinder-section has passed beyond its plane of lateral engagement with the worm-threads; the cylinder to have surface contact with a companion ink-roller, and the shaft carrying the cylinder to be suitably mounted with its companion roller upon a roller-saddle of a printing-press.

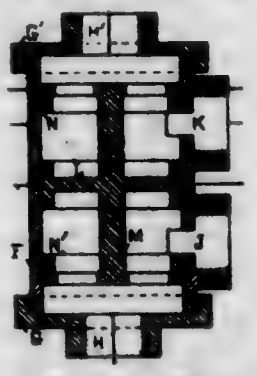
4. In a vibratory distributer for a printing-press, the combination of the shaft *b* mounted upon the roller-saddle *f* by means of the standards *c*, the cylinder *a* mounted upon said shaft and free to roll thereon, the companion rollers *d* being in frictional contact with said cylinder, the receiving-chamber within the cylinder and the therein-disposed grooved cylinder-section *p*, the shaft within said receiving-chamber, the threaded worm *m* non-revolubly locked thereon, the lug *n* with lug-chambers *x*, and spaces *v* and *v'* therein, the vertical walls *r* and *s*, the supporting-rings *u*, and springs *t* upon the shaft, substantially as shown and described.

806,270. APPARATUS FOR VARNISHING SHEET-METAL BANDS. ADOLF LÜBBERTSMEIER, Barmen, Germany. Filed Jan. 21, 1905. Serial No. 242,181.



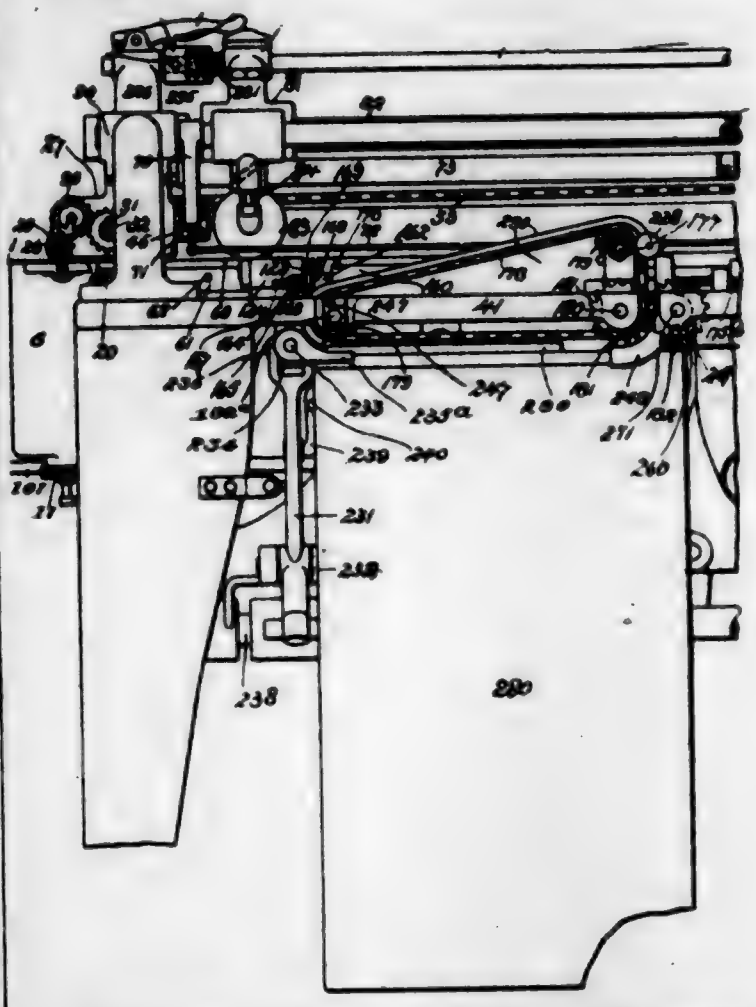
Claim.—An apparatus for varnishing and drying sheet-metal bands comprising a standard with band-drums, a varnish-bath over which the bands are carried, an oven or stove containing a frame, said frame having revolving spindles and guide-forks adapted to separate the reversed bands and band-receiving drums outside the oven, as described and for the purpose set forth.

806,271. DEVICE FOR EQUALIZING THE PRESSURE OF FLUIDS. SAMUEL MANNING and WILLIAM B. ARMSTRONG, Albany, N. Y. Filed Feb. 28, 1904. Serial No. 195,501.



Claim.—In a device for equalizing the pressure of fluids; a casting provided with two inlet-ports and two outlet-ports; caps adapted to be secured at the ends of said casting, respectively; a piston-rod in said casting; an imperforate disk secured to said piston-rod, about midway between its ends; perforated disks secured to said piston-rod at each end thereof, respectively; said perforated disks being of sufficient width along the edge to close the inlet-ports, respectively.

806,272. TOBACCO-LEAF STRIPPING AND BOOKING MACHINE. GUSTAVE A. MARIER, Montreal, Canada, assignor to S. Davis & Sons, Montreal, Canada, a Firm. Filed Dec. 30, 1904. Serial No. 239,062.



Claim.—1. The combination with a cutting device, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feeding mechanism consisting of a pair of feed-rollers and yielding means retaining such rollers against displacement away from one another and a roller retaining the article against displacement from the path in which it is caused to travel by the said rollers.

2. The combination with a cutting device, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feed mechanism consisting of a pair of feed-rollers with their axes parallel to one another and means located above the rollers and affording a bearing in a line parallel to the axial plane of the pair of feed-rollers, for retaining the article against displacement from the said rollers in such line parallel to the said axial plane.

3. The combination with a cutting device, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feed mechanism consisting of a pair of vertically-arranged feed-rollers and means in vertical line with the point at which such rollers bear upon one another for retaining the article against upward displacement from the said rollers.

4. The combination with a cutting device, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feed mechanism consisting of a pair of feed-rollers, constructed of rigid material, means yieldingly retaining such rollers against displacement away from one another, and a roller retaining the article against upward displacement from the said rollers.

5. The combination with tobacco-leaf-stripping mechanism comprising a cutting device, and means for placing a tobacco-leaf in position to be cut, of feed mechanism for feeding the leaf to the means for placing the same, such feed mechanism consisting of a pair of feed-rollers with their axes parallel to one another and means yieldingly retaining such rollers against displacement away from one another.

6. The combination with a cutting device, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feed mechanism consisting of a pair of axially-yielding feed-rollers with their axes parallel to one another, and means retaining the article against upward displacement from said rollers.

7. The combination with a cutting device, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feed mechanism consisting of a pair of axially-yielding feed-rollers with their axes parallel to one another, means yieldingly retaining such rollers against displacement away from one another and means retaining the article against upward displacement from the said rollers.

8. The combination with a cutting device, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feed mechanism consisting of a pair of feed-rollers and a roller retaining the article against upward displacement from the said rollers.

9. The combination with a cutting device, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feed mechanism consisting of a pair of feed-rollers with their axes parallel to one another and a roller retaining the article against upward displacement from the said rollers.

10. The combination with a cutting device, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feed mechanism consisting of a pair of feed-rollers with their axes parallel to one another, means yieldingly retaining such rollers against displacement away from one another and a roller retaining the article against upward displacement from the said rollers.

11. The combination with a cutting device presenting an elongated cutting edge, and means for placing the article to be cut in position to be acted upon, of feed mechanism for feeding the article to the means for placing the same, such feed mechanism consisting of a pair of axially-yielding feed-rollers with their axes parallel to one another, means yieldingly retaining such rollers against displacement away from one another and a roller retaining the article against upward displacement from the said rollers.

12. In a tobacco-leaf-stripping machine the combination with a cutting device and a presser device adapted to bear intermittently upon such cutting device, stretching members, and means whereby the said members are caused to bear upon the leaf and stretch the same over the cutting device before the cutting operation and remain stationary stretching the leaf during the cutting operation, substantially as described.

13. In a tobacco-leaf-stripping machine the combination with a cutting device and a presser device adapted to bear intermittently upon such cutting device, of means for stretching the leaf over the said cutting device consisting of a pair of members extending parallel to the cutting device one at each side thereof and means whereby such members are reciprocated to and from the said position.

14. In a tobacco-leaf-stripping machine the combination with a cutting device and a presser device adapted to bear intermittently upon such cutting device, of means for stretching the leaf over the said cutting device consisting of a pair of members extending parallel to the cutting device one at each side thereof and means whereby such members are reciprocated to and from the said position.

15. In a tobacco-leaf-stripping machine the combination with a cutting device and a presser device adapted to bear intermittently upon such cutting device, of means for stretching the leaf over the said cutting device consisting of a pair of members extending parallel to the cutting device one at each side thereof and means acting simultaneously with the presser device whereby such members are reciprocated to and from the said position.

16. In a tobacco-leaf-stripping machine the combination with a cutting device and a presser device adapted to bear intermittently upon such cutting device, of means for stretching the leaf over the said cutting device consisting of a pair of round bars extending parallel to the cutting device one at each side thereof and means whereby such round bars are reciprocated to and from the said position.

17. In a tobacco-leaf-stripping machine the combination with a cutting device and a presser device adapted to bear intermittently upon such cutting device, of means for stretching the leaf over the said cutting device consisting of a pair of round bars extending parallel to the cutting device one at each side thereof and means acting simultaneously with the presser device whereby such round bars are reciprocated to and from the said position.

18. In a tobacco-leaf-stripping machine the combination with a cutting device and a presser device adapted to bear intermittently upon such cutting device, of means for stretching the leaf over the said cutting device consisting of a pair of round bars having a cam mounted thereon extending parallel to the cutting device one at each side thereof and operatively connecting the presser device to such cam whereby such round bars are reciprocated to and from the said position.

19. In a tobacco-leaf-stripping machine, the combination with a stemming device, of a pair of hollow suction members located one at each side of the stemming device and adapted to receive the stemmed leaf from the stemming device, means for moving such suction members to different positions relatively to the stemming device, and means for exerting a suction upon the interior of such members.

20. In a tobacco-leaf-stripping machine, the combination with a stemming device, of a pair of perforated boxes located one at each side of the stemming device and adapted to receive the stemmed leaf from the stemming device, means for moving such boxes to different positions relatively to the stemming device, and means for exerting a suction upon the interior of such boxes.

21. In a tobacco-leaf-stripping machine, the combination with a stemming device of a pair of hollow oscillatory flies having one side perforated, one of such flies being located at each side of the stemming device and such flies being adapted to receive the stemmed leaf from the stemming device, means for oscillating such flies and causing the same to deliver the stemmed leaf away from the stemming device, and means for exerting a suction upon the interior of the flies during the oscillatory movement thereof in one direction only.

22. Tobacco-leaf-booking mechanism comprising a support for the leaves to be booked, means for folding such leaves upon themselves and means for conveying the folded leaves from the folding means to a delivery-point.

23. Tobacco-leaf-booking mechanism comprising a support for the leaves to be booked, means for placing leaves upon such support, means for folding such leaves upon themselves and means for conveying the folded leaves from the folding means to a delivery-point.

24. Tobacco-leaf-booking mechanism comprising a support for the leaves to be booked, means for placing leaves upon such support, means for folding predetermined quantities of such leaves upon themselves and means for conveying the folded leaves from the folding means to a delivery-point.

25. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked, and a receptacle for the booked leaves such receptacle being located a distance from the support, of means for folding such leaves upon themselves and means for conveying such folded leaves from the support to the receptacle.

26. In tobacco-leaf-booking mechanism the combination with a slotted table for supporting the leaves to be booked and a receptacle for the booked leaves such receptacle being located a distance from the slotted table, of a conveying device, means for causing the same to pass laterally through the slot to the receptacle and convey the leaves therewith, and means for disengaging such conveying device from the leaves after the said leaves have reached the receptacle.

27. In tobacco-leaf-booking mechanism the combination with a slotted table for supporting the leaves to be booked and a receptacle for the booked leaves such receptacle being located a distance from the slotted table, of a conveying-spindle, means for causing the same to pass laterally through the slot to the receptacle and convey the leaves therewith, and means for disengaging such conveying-spindle from the leaves after the said leaves have reached the receptacle.

28. In tobacco-leaf-booking mechanism the combination with a slotted table means for placing leaves thereon over the slot and a receptacle such receptacle being located a distance from the slotted table, of a conveying-spindle, means whereby such spindle is caused to assume a position extending over the leaves upon the table when a predetermined number have been placed, means whereby the spindle is caused to pass laterally through the slot to the receptacle, and means for withdrawing the spindle from the leaves when they reach the receptacle and means for packing such leaves into the receptacle.

29. In tobacco-leaf-booking mechanism the combination with a slotted table, means for placing leaves thereon over the slot, and a receptacle such receptacle being located a distance from the slotted table, of a conveying-spindle, means whereby such spindle is caused to assume a position extending over the leaves upon the table when a predetermined number have been placed, means whereby the spindle is caused to pass laterally through the slot to the receptacle, means for withdrawing the spindle from the leaves when they reach the receptacle and means for packing such leaves into the receptacle.

30. In tobacco-leaf-booking mechanism the combination with a slotted table, and means for placing leaves thereon over the slot, of a carrier adapted to travel in a path extending downwardly through the slot to the side of the receptacle opposite to the said slot, means whereby the carrier is caused to intermittently traverse such path, a spindle carried by the carrier and retained yieldingly in position transversely to the table, means whereby the spindle is withdrawn from such position when it has passed across the receptacle, and

means whereby the said spindle is allowed to again assume the said position after it has arrived at a point above the table.

31. In tobacco-leaf-booking mechanism the combination with a slotted table, and means for placing leaves thereon over the slot, of a chain adapted to travel in a path extending downwardly through the slot and to the side of the receptacle opposite to the said slot, means whereby the chain is caused to intermittently traverse such path, a spindle carried by the carrier and retained yieldingly in position transversely to the table, means whereby the spindle is withdrawn from such position when it has passed across the receptacle, and means whereby the said spindle is allowed to again assume the said position after it has arrived at a point above the table.

32. In tobacco-leaf-booking mechanism the combination with a slotted table, and means for placing leaves thereon over the slot, of a carrier adapted to travel in a path extending downwardly through the slot and to the side of the receptacle opposite to the said slot, means whereby the carrier is caused to intermittently traverse such path, a spindle carried by the carrier and retained yieldingly in position transversely to the table, means whereby the spindle is withdrawn from such position when it has passed across the receptacle, and means whereby the said spindle is allowed to again assume the said position after it has arrived at a point above the table, a traveler-support for the leaves and means for causing such traveling support to move the spindle.

33. In tobacco-leaf-booking mechanism the combination with a slotted table, and means for placing leaves thereon over the slot, of a chain adapted to travel in a path extending downwardly through the slot and to the side of the receptacle opposite to the said slot, means whereby the chain is caused to intermittently traverse such path, a spindle carried by the carrier and retained yieldingly in position transversely to the table, means whereby the spindle is withdrawn from such position when it has passed across the receptacle, and means whereby the said spindle is allowed to again assume the said position after it has arrived at a point above the table, a traveling support for the leaves and means for causing such traveling support to move with the spindle.

34. In tobacco-leaf-booking mechanism the combination with a slotted table, and means for placing leaves thereon over the slot, of a chain adapted to travel in a path extending downwardly through the slot and to the side of the receptacle opposite to the said slot, means whereby the chain is caused to intermittently traverse such path, a spindle carried by the carrier and retained yieldingly in position transversely to the table, means whereby the spindle is withdrawn from such position when it has passed across the receptacle, and means whereby the said spindle is allowed to again assume the said position after it has arrived at a point above the table, a traveling plate for supporting the leaves and means for causing such plate to move with the spindle.

35. In tobacco-leaf-booking mechanism the combination with a receptacle, and a support for the leaves to be booked, such support having an opening therein, of means for placing tobacco-leaves upon the support over the opening therein; a carrier adapted to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point, a spindle carried by the carrier and adapted to be moved to and from a position projecting across the support, means yieldingly retaining the spindle in such projected position; means moving the spindle from such position after it has passed the mouth of the receptacle, means retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently moving the carrier around its path.

36. In tobacco-leaf-booking mechanism the combination with a receptacle, and a support for the leaves to be booked, such support having an elongated opening therein, of means for placing tobacco-leaves upon the support over the opening therein; a carrier adapted to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point; a spindle carried by the carrier and adapted to be moved to and from a position projecting across the support in line with the opening therein, means yieldingly retaining the spindle in such projected position; means moving the spindle from such position after it has passed the mouth of the receptacle, such means consisting of a lever located adjacent to the mouth of the receptacle, such lever being adapted to oscillate at right angles to the path of the carrier and engage and move the spindle for the purpose of disengaging the latter from the leaves, means temporarily retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently moving the carrier around its path.

37. In tobacco-leaf-booking mechanism the combination with a receptacle, and a support for the leaves to be booked, such support having an opening therein, of means for placing tobacco-leaves upon the support over the opening therein; a series of rollers; an endless flexible length looped around and in rotative connection with the rollers such rollers being disposed to cause the flexible length to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point, a spindle carried by the flexible length and adapted to be moved to and from a position projecting across the support; means yieldingly retaining the spindle in such projected position; means moving the spindle from such position after it has passed the mouth of the receptacle; means retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently moving the flexible length around its path.

38. In tobacco-leaf-booking mechanism the combination with a receptacle, and a support for the leaves to be booked, such support having an opening therein, of means for placing tobacco-leaves upon the support over the opening therein; a series of sprocket-wheels, an endless chain looped around and in rotative connection with the sprocket-wheels such sprocket-wheels being disposed to cause the chain to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point; a spindle carried by the chain and adapted to be moved to and from a position projecting across the support; means yieldingly retaining the spindle in such projected position; means moving the spindle from such position after it has passed the mouth of the receptacle; means retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently rotating such sprocket-wheels.

39. In tobacco-leaf-booking mechanism the combination with a receptacle, and a support for the leaves to be booked, such support having an elongated opening therein, of means for placing tobacco-leaves upon the support over the opening therein; a series of sprocket-wheels, an endless chain looped around and in rotative connection with the sprocket-wheels such sprocket-wheels being so disposed as to cause the chain to be located adjacent to one side of the support and at right angles to the opening therein and to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point; a spindle carried by the chain and adapted to be moved to and from a position projecting across the support in line with the opening therein; means yieldingly retaining the spindle in such projected position; a lever located adjacent to the mouth of the receptacle, such lever being adapted to oscillate at right angles to the path of the carrier and engage and move the spindle for the purpose of disengaging the latter from the leaves, means retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently rotating such sprocket-wheels.

40. In a machine for the treatment of tobacco-leaves the combination with a tobacco-leaf-stemming device, a receptacle, and a support for the stemmed leaves, such support having an opening therein, of means for conveying the leaves from the stemming devices to the support, a series of rollers, an endless flexible length looped around and in rotative connection with the rollers such rollers being disposed to cause the flexible length to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point; a spindle carried by the flexible length and adapted to be moved to and from a position projecting across the support; means yieldingly retaining the spindle in such projected position; means moving the spindle from such position after it has passed the mouth of the receptacle; means retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently moving the flexible length around its path.

41. In a machine for the treatment of tobacco-leaves the combination with a tobacco-leaf-stemming device, a receptacle, and a support for the stemmed leaves, such support having an opening therein, of means for conveying the leaves from the stemming device to the support, a carrier adapted to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point; a spindle carried by the carrier and adapted to be moved to and from a position projecting across the support; means yieldingly retaining the spindle in such projected position; means moving the spindle from such position after it has passed the mouth of the receptacle; means retaining the spindle against movement to

its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently moving the carrier around its path.

42. In a machine for the treatment of tobacco-leaves the combination with a tobacco-leaf-stemming device, a receptacle, and a support for the stemmed leaves, such support having an elongated opening therein, of means for conveying the leaves from the stemming device to the support, a carrier adapted to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point; a spindle carried by the carrier and adapted to be moved to and from a position projecting across the support in line with the opening therein; means yieldingly retaining the spindle in such projected position; a lever located adjacent to the mouth of the receptacle such lever being adapted to oscillate at right angles to the path of the flexible length; means retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently moving the carrier around its path.

43. In a machine for the treatment of tobacco-leaves the combination with a tobacco-leaf-stemming device, a receptacle, and a support for the stemmed leaves, such support having an elongated opening therein, of means for conveying the leaves from the stemming device to the support, a series of sprocket-wheels; an endless chain looped around and in rotative connection with the sprocket-wheels, such sprocket-wheels being disposed to cause the chain to be located adjacent to one side of the support and at right angles to the opening therein and to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point; a spindle carried by the chain and adapted to be moved to and from a position projecting across the support in line with the opening therein; means yieldingly retaining the spindle in such projected position; a lever located adjacent to the mouth of the receptacle such lever being adapted to oscillate at right angles to the path of the chain; means retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently rotating such sprocket-wheels.

44. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked and a receptacle adapted to receive the booked leaves, of a device adapted to remove the leaves from the support and convey them to the receptacle, means operating such devices, means whereby the device is caused to engage the leaves before removing them from the support and means whereby the device is disengaged from the leaves after having conveyed them to the receptacle.

45. In a machine for stripping and booking tobacco-leaves the combination with a stemming device, a support for the leaves to be booked, means for removing the stemmed leaves from the stemming device to the support, and a receptacle adapted to receive the booked leaves, of a device adapted to remove the leaves from the support and convey them to the receptacle, means operating such device, means whereby the device is caused to engage the leaves before removing them from the support, and means whereby the device is disengaged from the leaves after having conveyed them to the receptacle.

46. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked, means placing leaves upon the support, and a receptacle adapted to receive the booked leaves, of a device adapted to remove the leaves from the support and convey them to the receptacle, means intermittently operating such device when a predetermined quantity of leaves have been placed upon the support, means whereby the device is caused to engage the leaves before removing them from the support, and means whereby the device is disengaged from the leaves after having conveyed them to the receptacle.

47. In a machine for stripping and booking tobacco-leaves the combination with a support for the leaves to be booked, means for removing the stemmed leaves from the stemming devices to the support, and a receptacle adapted to receive the booked leaves, of a device adapted to remove the leaves from the support and convey them to the receptacle, means intermittently operating such device when a predetermined quantity of leaves have been placed upon the support, means whereby the device is caused to engage the leaves before removing them from the support, and means whereby the device is disengaged from the leaves after having conveyed them to the receptacle.

48. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked and a receptacle for the booked leaves, of a spindle adapted to remove the leaves from the support and convey them to the receptacle, means operating such spindle, means whereby the spindle is caused to engage the leaves before removing them from the support such means consisting of a spring in bearing relation with the spindle and adapted to retain the same yieldingly in position to engage the leaves upon the support and a guiding device extending from the receptacle to the support, and means whereby the spindle is disengaged from the leaves after having conveyed them to the receptacle, such last-mentioned means consisting of a slidable member adapted to be engaged by the spindle, and means for moving such member when engaged by the spindle, to a position adjacent to the guiding device.

49. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked and a receptacle for the booked leaves, of a spindle adapted to remove the leaves from the support and convey them to the receptacle, means operating such spindle, means whereby the spindle is caused to engage the leaves before removing them from the support such means consisting of a spring in bearing relation with the spindle and adapted to retain the same yieldingly in position to engage the leaves upon the support and a guiding-plate extending parallel to the path of the spindle in its return from the receptacle to its position over the support, and means whereby the spindle is disengaged from the leaves after having conveyed them to the receptacle, such last-mentioned means consisting of a slidable member adapted to have the spindle ride thereon, and means for moving such member when the spindle rides thereon to a position to and in line with the guiding device.

50. In a machine for stripping and booking tobacco-leaves the combination with a stemming device, a support for the leaves, means for removing the stemmed leaves from the stemming device to the support and a receptacle for the booked leaves, of a spindle adapted to remove the leaves from the support and convey them to the receptacle, means operating such spindle, means whereby the spindle is caused to engage the leaves before removing them from the support, such means consisting of a spring in bearing relation with the spindle and adapted to retain the same yieldingly in position to engage the leaves upon the support and a guiding device extending from the receptacle to the support, and means whereby the spindle is disengaged from the leaves after having conveyed them to the receptacle, such last-mentioned means consisting of a slidable member adapted to be engaged by the spindle, and means for moving such member when engaged by the spindle, to a position adjacent to the guiding device.

51. In a machine for stripping and booking tobacco-leaves the combination with a stemming device, a support for the leaves, means for removing the stemmed leaves from the stemming device to the support and a receptacle for the booked leaves, of a spindle adapted to remove the leaves from the support and convey them to the receptacle, means intermittently operating such spindle when a predetermined quantity of leaves have been placed upon the support, means whereby the spindle is caused to engage the leaves before removing them from the support, such means consisting of a spring in bearing relation with the spindle and adapted to retain the same yieldingly in position to engage the leaves upon the support and a guiding-plate extending parallel to the path of the spindle in its return from the receptacle to its position over the support, and means whereby the spindle is disengaged from the leaves after having conveyed them to the receptacle, such last-mentioned means consisting of a slidable member adapted to have the spindle ride thereon, and means for moving such member when the spindle rides thereon, to a position adjacent to and in line with the guiding device.

52. In a tobacco-stripping machine the combination with a pair of straight blades arranged adjacent to one another, of a screw rotatably supported above and parallel to the blades, means for rotating the screw alternately in opposite directions, a movable block in operative connection with the screw and adapted to have movement longitudinally of the screw imparted thereto upon the rotation of the latter, and a presser-roller carried by the block and bearing upon the blades.

53. In a tobacco-stripping machine, the combination with a pair of straight blades arranged adjacent to one another, of a screw rotatably supported above and parallel to the blades, means for rotating the screw alternately in opposite directions, a movable block in operative connection with the screw and adapted to have movement longitudinally of the screw imparted thereto upon the rotation of the latter, and a yielding roller carried by the block and bearing upon the blades.

54. In a tobacco-stripping machine, the combination with a pair of straight blades arranged adjacent to one another and means whereby leaves to be stripped are placed upon such blades, of a screw rotatably supported above and parallel to the blades, means for rotating the screw alternately in opposite directions, a movable block in

operative connection with the screw and adapted to have movement longitudinally of the screw imparted thereto upon the rotation of the latter, and a yielding presser-roller carried by the block and bearing upon the blades.

55. In a tobacco-leaf-stripping machine, the combination with a stemming device, and a pair of flies adapted to receive the leaf-halves from the stemming device and place them away from the latter, of means for preventing the return of the placed leaves with the flies.

56. In a tobacco-leaf-stripping machine, the combination with a stemming device, and a pair of flies adapted to receive the leaf-halves from the stemming device and place them away from the latter, of means adapted to bear upon the placed leaves for preventing the return thereof with the flies.

57. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked, and a receptacle for the booked leaves, of means whereby the leaves are folded and dragged from the support to the receptacle; auxiliary means, coacting with the last-mentioned means for carrying the leaves as they are dragged; means for actuating the dragging and folding means and means for actuating the auxiliary means.

58. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked, and a receptacle for the booked leaves, of means whereby the leaves are folded and dragged from the support to the receptacle; a supporting-plate for carrying the leaves as they are dragged; means for actuating the dragging and folding means and means for causing the supporting-plate to travel with the dragging means

59. Leaf booking and packing mechanism consisting of a support for the leaves to be booked, a receptacle adapted to receive the booked leaves, a device adapted to remove the leaves from the support and convey them to the receptacle, and means for packing the leaves into the receptacle.

60. Leaf booking and packing mechanism consisting of a support for the leaves to be booked, a receptacle adapted to receive the booked leaves, a device adapted to remove the leaves from the support and convey them to the receptacle, a packing-plate, and means for causing such plate to press the leaves into the receptacle.

61. Leaf booking and packing mechanism consisting of a support for the leaves to be booked, a receptacle adapted to receive the booked leaves, a device adapted to remove predetermined quantities of the leaves from the support and convey them to the receptacle, and means for packing the leaves into the receptacle.

62. Leaf booking and packing mechanism consisting of a support for the leaves to be booked, a receptacle adapted to receive the booked leaves, a device adapted to remove predetermined quantities of the leaves from the support and convey them to the receptacle, a packing-plate, and means for causing such plate to press the leaves into the receptacle.

63. In a tobacco-leaf-stripping machine, a cutting device adapted to separate the leaf-halves from the stem; a pair of leaf-supports located one at each side of the cutting device; a pair of receptacles located one at each side of the cutting device from the folding means; means conveying the separated leaf-halves from the cutting device to the supports; a pair of devices adapted to remove the leaf-halves from the supports and convey them to the receptacles; and means for packing the leaf-halves into the receptacles.

64. In a tobacco-leaf-stripping machine, a cutting device adapted to separate the leaf-halves from the stem; a pair of leaf-supports located one at each side of the cutting device; a pair of receptacles located one at each side of the cutting device from the folding means; means conveying the separated leaf-halves from the cutting device to the supports; a pair of devices adapted to remove the leaf-halves from the supports and convey them to the receptacles; and a pair of packing-plates and means for causing such plates to press the leaf-halves into the receptacles.

65. In a tobacco-leaf-stripping machine, a cutting device adapted to separate the leaf-halves from the stem; a pair of leaf-supports located one at each side of the cutting device; a pair of receptacles located one at each side of the cutting device from the folding means; means conveying the separated leaf-halves from the cutting device to the supports; a pair of devices adapted to remove predetermined quantities of the leaf-halves from the supports and convey them to the receptacles; and means for packing the leaf-halves into the receptacles.

66. In a tobacco-leaf-stripping machine, a cutting device adapted to separate the leaf-halves from the stem; a pair of leaf-supports located one at each side of the cutting device; a pair of receptacles located one at each side of the cutting device from the folding means; means conveying the separated leaf-halves from the cutting device to the support; a pair of devices adapted to remove predetermined quantities of the leaf-halves from the supports and convey them to the receptacles; and a pair of packing-plates and means for causing such plates to press the leaf-halves into the receptacles.

67. In a tobacco-leaf-stripping machine the combination with a stemming device, and a pair of flies adapted to receive the leaf-halves from the stemming device and place them away from the latter, of members for preventing the return of the placed leaves with the flies and means for actuating such members alternately with the flies.

68. In a tobacco-leaf-stripping machine the combination with a stemming device, and a fly adapted to receive a leaf-half from the stemming device and place it away from the latter, of members for preventing the return of the placed leaf-half with the fly, and means operatively connecting the fly to the said means for preventing the return of the placed leaf-half, for the purpose set forth.

69. In a tobacco-leaf-stripping machine the combination with a stemming device, and a fly adapted to receive a leaf-half from the stemming device and place it away from the same, of a member under the control of the fly for bearing upon the edge of the placed leaf-half and retaining the same against movement with the fly as the latter returns to the stemming device, and means under the control of the fly for temporarily holding the retaining member against movement, for the purpose set forth.

70. In a tobacco-leaf-stripping machine the combination with a stemming device, and a fly adapted to receive a leaf-half from the stemming device and place it away from the same, of a leaf-retaining strip having a trunnion and extending parallel to the outer edge of the fly and adjacent to latter when in its position away from the stemming device, such trunnion having a pulley mounted loosely thereon, and a disk mounted tightly thereon adjacent to and coaxially with the pulley, a pair of pins projecting respectively in the same circumferential line from contiguous sides of the pulley and disk, a coiled spring connected at one end to the pulley and at its opposite end to the trunnion, a pulley mounted rigidly upon the fly concentrically to the axis thereof, a belt looped around the two pulleys, and means under the control of the fly for temporarily holding the strip against movement by the spring, for the purpose set forth.

71. In a tobacco-leaf-stripping machine the combination with a stemming device, and a fly adapted to receive a leaf-half from the stemming device and place it away from the same, of a leaf-retaining strip having a trunnion and extending parallel to the outer edge of the fly and adjacent to latter when in its position away from the stemming device, such trunnion having a pulley mounted loosely thereon, and a disk mounted tightly thereon adjacent to and coaxially with the pulley, a pair of pins projecting respectively in the same circumferential line from contiguous sides of the pulley and disk, a coiled spring connected at one end to the pulley and at its opposite end to the trunnion, a pulley mounted rigidly upon the fly concentrically to the axis thereof, a belt looped around the two pulleys, a weighted latch adapted to engage and hold the strip when in its position away from the leaf and having a portion intersecting the path of the fly and upon the movement whereof by the fly the strip is released, for the purpose set forth.

806,273. **RAIL-JOINT** FRANZ HELLATH, Charlottenburg, Germany. Filed Mar. 22, 1901. Serial No. 52,264.



Claim.—In a rail-joint, the combination of the rail ends, the heads of which are cut away for a certain length in their entire breadth, with an ordinary known fish-plate, and with a head fish-plate bearing completely the wheels and forming thus an intermediate rail, which with its lateral extending head fills the gap formed in the tread and is supported at no place with the lateral extension of its head by the rail, but only rests on the upper foot-surface of the rail, and for the remaining parts is kept in its position only by vertical supporting-surfaces.

806,274. **TYPE-WRITING MACHINE.** HENRY W. MENARTY, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Mar. 11, 1904. Serial No. 197,993.

Claim.—1. In a type-writing machine, the combination of a pivoted type-bar, a spring that covers the pivotal joint of the type-

its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently moving the carrier around its path.

42. In a machine for the treatment of tobacco-leaves the combination with a tobacco-leaf-stemming device, a receptacle, and a support for the stemmed leaves, such support having an elongated opening therein, of means for conveying the leaves from the stemming device to the support, a carrier adapted to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point; a spindle carried by the carrier and adapted to be moved to and from a position projecting across the support in line with the opening therein; means yieldingly retaining the spindle in such projected position; a lever located adjacent to the mouth of the receptacle such lever being adapted to oscillate at right angles to the path of the flexible length; means retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently moving the carrier around its path.

43. In a machine for the treatment of tobacco-leaves the combination with a tobacco-leaf-stemming device, a receptacle, and a support for the stemmed leaves, such support having an elongated opening therein, of means for conveying the leaves from the stemming device to the support, a series of sprocket-wheels; an endless chain looped around and in rotative connection with the sprocket-wheels, such sprocket-wheels being disposed to cause the chain to be located adjacent to one side of the support and at right angles to the opening therein and to travel across the plane of such support, then across the mouth of the receptacle, and finally back to its starting-point; a spindle carried by the chain and adapted to be moved to and from a position projecting across the support in line with the opening therein; means yieldingly retaining the spindle in such projected position; a lever located adjacent to the mouth of the receptacle such lever being adapted to oscillate at right angles to the path of the chain; means retaining the spindle against movement to its position across the support and for releasing the same when a predetermined number of leaves have been placed upon the support; and means for intermittently rotating such sprocket-wheels.

44. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked and a receptacle adapted to receive the booked leaves, of a device adapted to remove the leaves from the support and convey them to the receptacle, means operating such devices, means whereby the device is caused to engage the leaves before removing them from the support and means whereby the device is disengaged from the leaves after having conveyed them to the receptacle.

45. In a machine for stripping and booking tobacco-leaves the combination with a stemming device, a support for the leaves to be booked, means for removing the stemmed leaves from the stemming device to the support, and a receptacle adapted to receive the booked leaves, of a device adapted to remove the leaves from the support and convey them to the receptacle, means operating such device, means whereby the device is caused to engage the leaves before removing them from the support, and means whereby the device is disengaged from the leaves after having conveyed them to the receptacle.

46. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked, means placing leaves upon the support, and a receptacle adapted to receive the booked leaves, of a device adapted to remove the leaves from the support and convey them to the receptacle, means intermittently operating such device when a predetermined quantity of leaves have been placed upon the support, means whereby the device is caused to engage the leaves before removing them from the support, and means whereby the device is disengaged from the leaves after having conveyed them to the receptacle.

47. In a machine for stripping and booking tobacco-leaves the combination with a support for the leaves to be booked, means for removing the stemmed leaves from the stemming devices to the support, and a receptacle adapted to receive the booked leaves, of a device adapted to remove the leaves from the support and convey them to the receptacle, means intermittently operating such device when a predetermined quantity of leaves have been placed upon the support, means whereby the device is caused to engage the leaves before removing them from the support, and means whereby the device is disengaged from the leaves after having conveyed them to the receptacle.

48. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked and a receptacle for the booked leaves, of a spindle adapted to remove the leaves from the support and convey them to the receptacle, means operating such spindle, means whereby the spindle is caused to engage the leaves before removing them from the support such means consisting of a spring in bearing relation with the spindle and adapted to retain the same yieldingly in position to engage the leaves upon the support and a guiding device extending from the receptacle to the support, and means whereby the spindle is disengaged from the leaves after having conveyed them to the receptacle, such last-mentioned means consisting of a slidable member adapted to be engaged by the spindle, and means for moving such member when engaged by the spindle, to a position adjacent to the guiding device.

49. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked and a receptacle for the booked leaves, of a spindle adapted to remove the leaves from the support and convey them to the receptacle, means operating such spindle, means whereby the spindle is caused to engage the leaves before removing them from the support such means consisting of a spring in bearing relation with the spindle and adapted to retain the same yieldingly in position to engage the leaves upon the support and a guiding-plate extending parallel to the path of the spindle in its return from the receptacle to its position over the support, and means whereby the spindle is disengaged from the leaves after having conveyed them to the receptacle, such last-mentioned means consisting of a slidable member adapted to have the spindle ride thereon, and means for moving such member when the spindle rides thereon to a position to and in line with the guiding device.

50. In a machine for stripping and booking tobacco-leaves the combination with a stemming device, a support for the leaves, means for removing the stemmed leaves from the stemming device to the support and a receptacle for the booked leaves, of a spindle adapted to remove the leaves from the support and convey them to the receptacle, means operating such spindle, means whereby the spindle is caused to engage the leaves before removing them from the support, such means consisting of a spring in bearing relation with the spindle and adapted to retain the same yieldingly in position to engage the leaves upon the support and a guiding device extending from the receptacle to the support, and means whereby the spindle is disengaged from the leaves after having conveyed them to the receptacle, such last-mentioned means consisting of a slidable member adapted to be engaged by the spindle, and means for moving such member when engaged by the spindle, to a position adjacent to the guiding device.

51. In a machine for stripping and booking tobacco-leaves the combination with a stemming device, a support for the leaves, means for removing the stemmed leaves from the stemming device to the support and a receptacle for the booked leaves, of a spindle adapted to remove the leaves from the support and convey them to the receptacle, means intermittently operating such spindle when a predetermined quantity of leaves have been placed upon the support, means whereby the spindle is caused to engage the leaves before removing them from the support, such means consisting of a spring in bearing relation with the spindle and adapted to retain the same yieldingly in position to engage the leaves upon the support and a guiding-plate extending parallel to the path of the spindle in its return from the receptacle to its position over the support, and means whereby the spindle is disengaged from the leaves after having conveyed them to the receptacle, such last-mentioned means consisting of a slidable member adapted to have the spindle ride thereon, and means for moving such member when the spindle rides thereon, to a position adjacent to and in line with the guiding device.

52. In a tobacco-stripping machine the combination with a pair of straight blades arranged adjacent to one another, of a screw rotatably supported above and parallel to the blades, means for rotating the screw alternately in opposite directions, a movable block in operative connection with the screw and adapted to have movement longitudinally of the screw imparted thereto upon the rotation of the latter, and a presser-roller carried by the block and bearing upon the blades.

53. In a tobacco-stripping machine, the combination with a pair of straight blades arranged adjacent to one another, of a screw rotatably supported above and parallel to the blades, means for rotating the screw alternately in opposite directions, a movable block in operative connection with the screw and adapted to have movement longitudinally of the screw imparted thereto upon the rotation of the latter, and a yielding roller carried by the block and bearing upon the blades.

54. In a tobacco-stripping machine, the combination with a pair of straight blades arranged adjacent to one another and means whereby leaves to be stripped are placed upon such blades, of a screw rotatably supported above and parallel to the blades, means for rotating the screw alternately in opposite directions, a movable block in

operative connection with the screw and adapted to have movement longitudinally of the screw imparted thereto upon the rotation of the latter, and a yielding presser-roller carried by the block and bearing upon the blades.

55. In a tobacco-leaf-stripping machine, the combination with a stemming device, and a pair of flies adapted to receive the leaf-halves from the stemming device and place them away from the latter, of means for preventing the return of the placed leaves with the flies.

56. In a tobacco-leaf-stripping machine, the combination with a stemming device, and a pair of flies adapted to receive the leaf-halves from the stemming device and place them away from the latter, of means adapted to bear upon the placed leaves for preventing the return thereof with the flies.

57. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked, and a receptacle for the booked leaves, of means whereby the leaves are folded and dragged from the support to the receptacle; auxiliary means, coacting with the last-mentioned means for carrying the leaves as they are dragged; means for actuating the dragging and folding means and means for actuating the auxiliary means.

58. In tobacco-leaf-booking mechanism the combination with a support for the leaves to be booked, and a receptacle for the booked leaves, of means whereby the leaves are folded and dragged from the support to the receptacle; a supporting-plate for carrying the leaves as they are dragged; means for actuating the dragging and folding means and means for causing the supporting-plate to travel with the dragging means

59. Leaf booking and packing mechanism consisting of a support for the leaves to be booked, a receptacle adapted to receive the booked leaves, a device adapted to remove the leaves from the support and convey them to the receptacle, and means for packing the leaves into the receptacle.

60. Leaf booking and packing mechanism consisting of a support for the leaves to be booked, a receptacle adapted to receive the booked leaves, a device adapted to remove the leaves from the support and convey them to the receptacle, a packing-plate, and means for causing such plate to press the leaves into the receptacle.

61. Leaf booking and packing mechanism consisting of a support for the leaves to be booked, a receptacle adapted to receive the booked leaves, a device adapted to remove predetermined quantities of the leaves from the support and convey them to the receptacle, and means for packing the leaves into the receptacle.

62. Leaf booking and packing mechanism consisting of a support for the leaves to be booked, a receptacle adapted to receive the booked leaves, a device adapted to remove predetermined quantities of the leaves from the support and convey them to the receptacle, a packing-plate, and means for causing such plate to press the leaves into the receptacle.

63. In a tobacco-leaf-stripping machine, a cutting device adapted to separate the leaf-halves from the stem; a pair of leaf-supports located one at each side of the cutting device; a pair of receptacles located one at each side of the cutting device from the folding means; means conveying the separated leaf-halves from the cutting device to the supports; a pair of devices adapted to remove the leaf-halves from the supports and convey them to the receptacles; and means for packing the leaf-halves into the receptacles.

64. In a tobacco-leaf-stripping machine, a cutting device adapted to separate the leaf-halves from the stem; a pair of leaf-supports located one at each side of the cutting device; a pair of receptacles located one at each side of the cutting device from the folding means; means conveying the separated leaf-halves from the cutting device to the supports; a pair of devices adapted to remove the leaf-halves from the supports and convey them to the receptacles; and a pair of packing-plates and means for causing such plates to press the leaf-halves into the receptacles.

65. In a tobacco-leaf-stripping machine, a cutting device adapted to separate the leaf-halves from the stem; a pair of leaf-supports located one at each side of the cutting device; a pair of receptacles located one at each side of the cutting device from the folding means; means conveying the separated leaf-halves from the cutting device to the supports; a pair of devices adapted to remove predetermined quantities of the leaf-halves from the supports and convey them to the receptacles; and means for packing the leaf-halves into the receptacles.

66. In a tobacco-leaf-stripping machine, a cutting device adapted to separate the leaf-halves from the stem; a pair of leaf-supports located one at each side of the cutting device; a pair of receptacles located one at each side of the cutting device from the folding means; means conveying the separated leaf-halves from the cutting device to the support; a pair of devices adapted to remove predetermined quantities of the leaf-halves from the supports and convey them to the receptacles; and a pair of packing-plates and means for causing such plates to press the leaf-halves into the receptacles.

67. In a tobacco-leaf-stripping machine the combination with a stemming device, and a pair of flies adapted to receive the leaf-halves from the stemming device and place them away from the latter, of members for preventing the return of the placed leaves with the flies and means for actuating such members alternately with the flies.

68. In a tobacco-leaf-stripping machine the combination with a stemming device, and a fly adapted to receive a leaf-half from the stemming device and place it away from the latter, of members for preventing the return of the placed leaf-half with the fly, and means operatively connecting the fly to the said means for preventing the return of the placed leaf-half, for the purpose set forth.

69. In a tobacco-leaf-stripping machine the combination with a stemming device, and a fly adapted to receive a leaf-half from the stemming device and place it away from the same, of a member under the control of the fly for bearing upon the edge of the placed leaf-half and retaining the same against movement with the fly as the latter returns to the stemming device, and means under the control of the fly for temporarily holding the retaining member against movement, for the purpose set forth.

70. In a tobacco-leaf-stripping machine the combination with a stemming device, and a fly adapted to receive a leaf-half from the stemming device and place it away from the same, of a leaf-retaining strip having a trunnion and extending parallel to the outer edge of the fly and adjacent to latter when in its position away from the stemming device, such trunnion having a pulley mounted loosely thereon, and a disk mounted tightly thereon adjacent to and coaxially with the pulley, a pair of pins projecting respectively in the same circumferential line from contiguous sides of the pulley and disk, a coiled spring connected at one end to the pulley and at its opposite end to the trunnion, a pulley mounted rigidly upon the fly concentrically to the axis thereof, a belt looped around the two pulleys, and means under the control of the fly for temporarily holding the strip against movement by the spring, for the purpose set forth.

71. In a tobacco-leaf-stripping machine the combination with a stemming device, and a fly adapted to receive a leaf-half from the stemming device and place it away from the same, of a leaf-retaining strip having a trunnion and extending parallel to the outer edge of the fly and adjacent to latter when in its position away from the stemming device, such trunnion having a pulley mounted loosely thereon, and a disk mounted tightly thereon adjacent to and coaxially with the pulley, a pair of pins projecting respectively in the same circumferential line from contiguous sides of the pulley and disk, a coiled spring connected at one end to the pulley and at its opposite end to the trunnion, a pulley mounted rigidly upon the fly concentrically to the axis thereof, a belt looped around the two pulleys, a weighted latch adapted to engage and hold the strip when in its position away from the leaf and having a portion intersecting the path of the fly and upon the movement whereof by the fly the strip is released, for the purpose set forth.

806,273. RAIL-JOINT FRANZ MEILAUS, Charlottenburg, Germany. Filed Mar. 22, 1901. Serial No. 52,391.

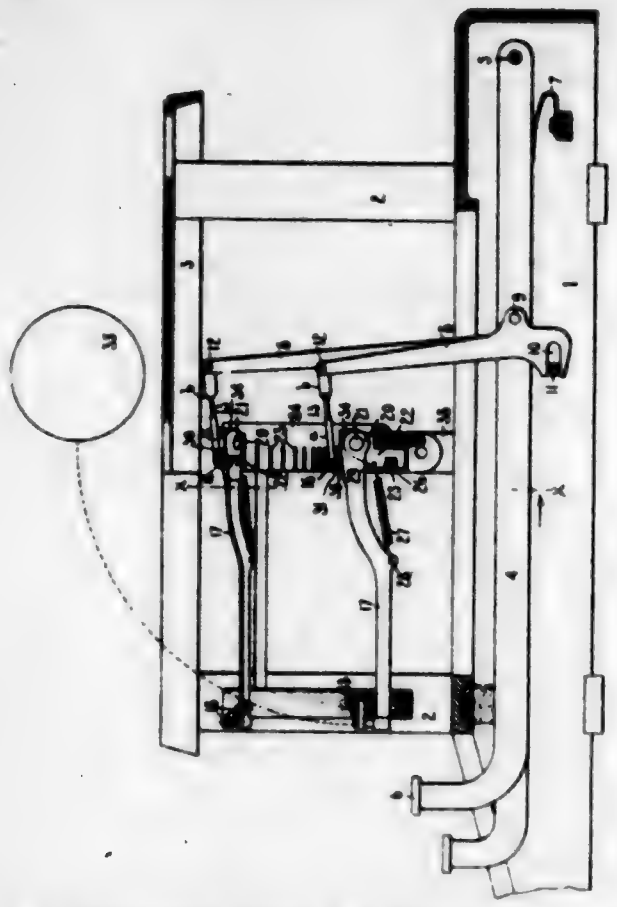


Claim.—In a rail-joint, the combination of the rail ends, the heads of which are cut away for a certain length in their entire breadth, with an ordinary known fish-plate, and with a head fish-plate bearing completely the wheels and forming thus an intermediate rail, which with its lateral extending head fills the gap formed in the tread and is supported at no place with the lateral extension of its head by the rail, but only rests on the upper foot-surface of the rail, and for the remaining parts is kept in its position only by vertical supporting-surfaces.

806,274. TYPE-WRITING MACHINE. HENRY W. MENNITT, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Mar. 11, 1904. Serial No. 197,633.

Claim.—1. In a type-writing machine, the combination of a pivoted type-bar, a spring that covers the pivotal joint of the type-

bar, and means connected to the type-bar for actuating it and which are prevented from accidental disengagement with said type-bar by said spring.



2. In a type-writing machine, the combination of a pivoted type-bar, a spring that is independent of but is connected to and moves with the type-bar and covers the pivot-joint of the type-bar, and means connected to the type-bar for actuating it and which are prevented from accidental disengagement with said type-bar by said spring.

3. In a type-writing machine, the combination of a hanger, a type-bar pivoted to said hanger; a spring that covers the joint between the type-bar and hanger, and means connected to the type-bar for actuating it and which are prevented from accidental disengagement with said type-bar by said spring.

4. In a type-writing machine, the combination of a type-bar that is bifurcated at one end, a hanger that is received within the bifurcated portion, a pivot that unites the type-bar and hanger, a leaf-spring connected to the type-bar and covering the bifurcated portion of the bar and the joint between the type-bar and hanger, and means connected to the type-bar for actuating it and which are prevented from accidental disengagement with said type-bar by said spring.

5. In a type-writing machine, the combination of a platen, an upwardly and rearwardly swinging type-bar pivoted at one end in a vertical plane substantially coincident with the front face of the platen, a spring that covers the pivotal joint of the type-bar and excludes dust or rubbings therefrom, and means connected to the type-bar for actuating it and which are prevented from accidental disengagement with said type-bar by said spring.

6. In a type-writing machine, the combination of a platen, an upwardly and rearwardly swinging type-bar bifurcated at one end and arranged at its bifurcated end below the platen and in a plane substantially coincident with the front face of the platen, a type-bar hanger received within the bifurcated portion of the type-bar and pivotally connected thereto, a spring that covers the pivot-joint between the type-bar and hanger, and means connected to the type-bar for actuating it and which are prevented from accidental disengagement with said type-bar by said spring.

7. In a type-writing machine, the combination of a type-bar, engaging means carried by said type-bar, type-bar-actuating means disengageably connected to said engaging means, a spring for preventing an accidental disengagement between the actuating means and the engaging means on the type-bar, and means formed integral with the type-bar for connecting the said spring thereto.

8. In a type-writing machine, the combination of a type-bar having a hook with a bill that extends toward the free end of the type-bar, a spring connected to the type-bar by integral projections on said type-bar and adapted to prevent the accidental disengagement between the type-bar and its actuating means, and an actuating device adapted to engage said hook.

9. In a type-writing machine, the combination of an upwardly and rearwardly swinging type-bar having a hook that opens forwardly or toward the free end of the type-bar, a spring connected at one end to the type-bar by integral projections on said type-bar and adapted to prevent the accidental disengagement between the type-bar and its actuating-link, and an actuating-link adapted to engage said hook and to connect the type-bar to its actuating means.

10. In a type-writing machine, the combination of a type-bar having a hook, a spring connected to the type-bar by integral projections on said type-bar and slotted to straddle the hook and designed to prevent an accidental disengagement between the type-bar and its actuating means, and an actuating device detachably connected to said hook.

11. In a type-writing machine, the combination of a type-bar having an engaging member and studs, a spring that is apertured to receive said studs and by means of which the spring is connected to the type-bar, and an actuating device that coöperates with the engaging member on the type-bar and which is disengageable therefrom and is prevented from accidental disengagement by said spring.

12. In a type-writing machine, the combination of a type-bar having an engaging hook and studs, a spring that is apertured to receive said studs and straddle said hook and by means of which studs the spring is connected to the type-bar, and an actuating-link that coöperates with the engaging hook on the type-bar and which is disengageable therefrom and is prevented from accidental disengagement by said spring.

13. In a front-strike type-writing machine, the combination of a series of substantially horizontally disposed type-bars that swing upwardly and rearwardly to print, an engaging member on each of said type-bars, a spring secured to each type-bar back of the engaging member, and rearwardly-extending actuating-links disengageably connected to said engaging members and prevented from accidentally disengaging therefrom by said spring.

14. In a front-strike type-writing machine, the combination of a type-bar that swings upwardly and rearwardly to print, an engaging hook on said type-bar, said hook opening forwardly or toward the free end of the type-bar, a leaf-spring secured at one end to the type-bar back of the hook, and an actuating-link disengageably connected to said hook and prevented from accidentally disengaging the same by said spring.

15. In a type-writing machine, the combination of a type-bar that is pivoted to swing upwardly and rearwardly to print, an engaging member on said type-bar, an actuating device disengageably connected to said engaging member, and a spring connected to the type-bar which covers the pivotal joint of the type-bar and prevents an accidental disengagement between the said actuating device and engaging member.

16. In a type-writing machine, the combination of a platen, an upwardly and rearwardly swinging type-bar located below said platen, a hanger to which the type-bar is pivoted, an engaging member on the type-bar, an actuating device disengageably connected to said engaging member, and a spring secured to the type-bar and preventing the accidental disengagement between the said engaging member and actuating device and covering the pivotal joint between the type-bar and hanger.

17. In a type-writing machine, the combination of a series of segmentally-arranged type-bars, a series of sublevers, a series of key-levers for actuating said sublevers, and a series of links between said sublevers and type-bars, each of said links being made of a plurality of parts that are adapted to turn axially one relatively to another, so that one end of the link may be connected to a sublever in one plane and the other end of the link may be connected to the associated type-bar in a plane at an angle to the sublever at its point of connection with the other end of the link.

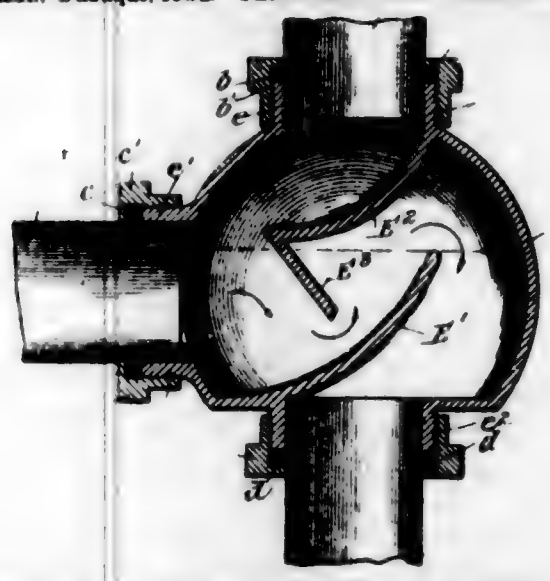
18. In a type-writing machine, the combination of a series of segmentally-arranged type-bars, a series of upright parallel sublevers, that vibrate fore and aft of the machine, a series of key-levers for actuating said sublevers, and a series of links between said sublevers and type-bars, each of said links being made of a plurality of parts that are adapted to turn axially one relatively to another, so that one end of the link may be connected to a sublever in one plane and the other end of the link may be connected to the associated type-bar in a plane at an angle to the plane in which the associated sublever is situated.

19. In a type-writing machine, the combination of a series of segmentally-arranged type-bars that are adapted to be shifted for upper and lower case writing, a series of sublevers, keys for actuating said sublevers, and a series of substantially horizontally disposed links between said sublevers and type-bars, each of said links being made of a plurality of parts that are adapted to turn axially

one relatively to another, so that one end of the link may be connected to a sublever in one plane and the other end of the link may be connected to the associated type-bar in a plane at an angle to the sublever at its point of connection with the other end of the link.

20. In a type-writing machine, the combination of a series of segmentally-arranged type-bars, actuating devices therefor, a series of substantially horizontally disposed links, each pivoted at one end to an actuating device and at the other end to a type-bar, each of said links being made of a plurality of parts that are adapted to turn axially one relatively to another so that the axes of the pivots at the ends of each link may extend at angles to each other.

806,275. TRAP FOR BATH-TUBS OR THE LIKE. ANDREW M. MORRISON, Dubuque, Iowa. Filed June 9, 1905. Serial No. 264,405.



Claim.—1. A trap of the class described comprising a casing, an inlet-pipe opening therein, an outlet-pipe opening therefrom and an overflow-pipe connected in said trap, upwardly and rearwardly and downwardly and forwardly directed curved partitions in the trap separating the inlet and the overflow pipe and a deflector on the lower edge of the downwardly-directed partition acting to direct the inflowing water toward the outlet.

2. A trap comprising a casing having an outlet-opening and two inlet-openings, two curved partitions in the casing, one integral with the top and sides, the other integral with the bottom and sides of the casing and separating the inlet-openings from the outlet, one of said inlet-openings being arranged directly opposite the opening between the two partitions, and a deflector acting to direct the flow therebetween.

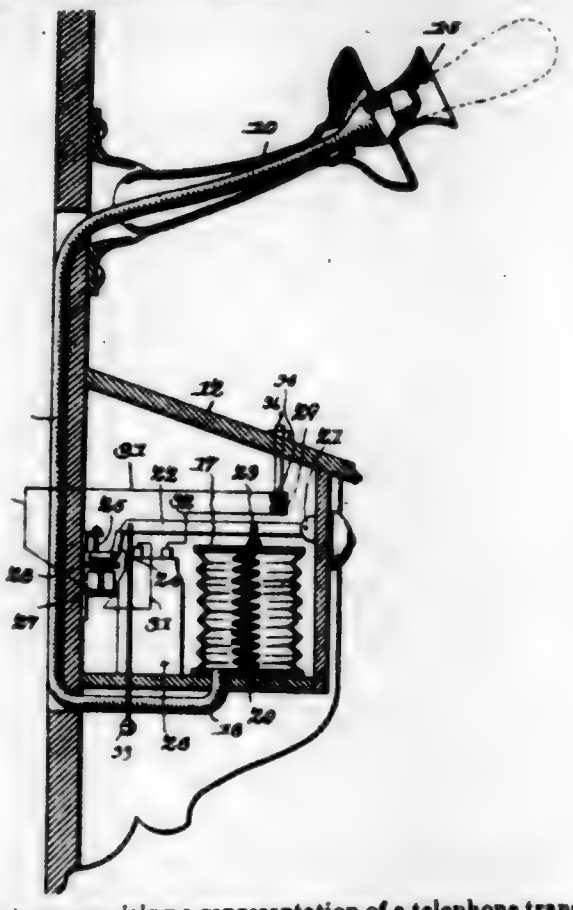
3. A bath-tub trap comprising a casing having an inlet-opening for the tub-waste overflow, and inlet for the tub at an angle therewith, an outlet to the waste-pipe, a curved partition extending obliquely upwardly and rearwardly from between the tub-waste and the trap-outlet to near the top of the tub-waste pipe, a corresponding curved partition extending from the opposite side of the tub-overflow pipe downwardly and forwardly to near the top of the tub-waste pipe, a deflector on the inner lower edge to the same directed rearwardly and downwardly toward the first-named partition and acting to converge the flow from the tub directly between said partitions.

4. A trap comprising a rounded casing containing curved partitions extending obliquely and approximately parallel with each other from opposite sides and the top and bottom of the casing, a deflector on one of the partitions directed obliquely toward the other, one of the inlet-pipe openings in said trap being arranged to discharge directly into the opening between said deflector and said partition.

5. A trap having approximately parallel partitions one extending from the bottom obliquely rearwardly and upwardly to near the top of the inlet waste-pipe, the other extending from the top obliquely forwardly and downwardly to a point approximately on a level with the top of the upwardly-directed partition, a deflector on the inner edge of said forwardly-directed partition directed downwardly and obliquely rearwardly toward the first-named partition, the inlet waste-pipe opening directly toward the opening between the partitions and a discharge-pipe behind the first partition, all of said pipes being connected in said trap by means affording slip-joints.

806,276. TRICK TELEPHONE TOY. EDWARD G. MYERS, Lincoln, Ill. Filed Jan. 31, 1905. Serial No. 243,451.

Claim.—1. A toy comprising a representation of a telephone transmitter and receiver, an expansible member located within the receiver, yielding blast-producing means for causing the sudden expansion and protrusion of said expansible member, and a trip for controlling the blast-producing means.



2. A toy comprising a representation of a telephone transmitter and receiver, an expansible member located within the receiver, yielding spring-actuated means for causing a current of compressed air to be introduced into said expansible member to protrude the same, a catch for holding said means in opposition to the stress of its actuating-spring, and a trip for disengaging the catch.

3. In a toy, the representation of a telephone transmitter and receiver, a member adapted for projection from said transmitter, a bellows associated with said projective member, and means for causing the action of the bellows and the operation of said projective member.

4. In a toy, the representation of a telephone transmitter and receiver, a member adapted for projection from said transmitter, a bellows associated with said projective member, means for maintaining said bellows in expanded position, an electromagnet associated with said bellows, a trip means connected for supporting said bellows-maintaining means, and means for energizing said electromagnet to cause the release of said trip mechanism and bellows-maintaining means.

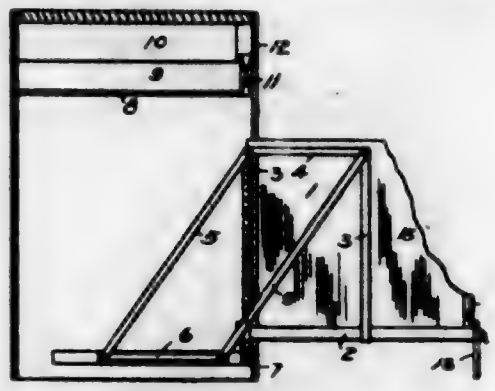
5. In a toy, the representation of a telephone transmitter and receiver, a member adapted for projection from said transmitter, a bellows associated with said projective member, a lever connected to support said bellows in expanded position, a trip-catch for supporting said lever, and means for causing the release of said trip-catch to permit the action of said bellows upon the projective member.

6. In a toy, the representation of a telephone transmitter and receiver, a member adapted for projection from said transmitter, a bellows associated with said projective member, a lever connected to support said bellows in expanded position, a trip-catch for supporting said lever, an electromagnet associated with said trip-catch, and means for causing said electromagnet to be energized and effect the release of said trip-catch and the action of said bellows and projective member.

7. In a toy, the representation of a telephone transmitter and receiver, a member adapted for projection from said transmitter, a bellows having a tubular member connecting the same with said projective member, a lever supporting said bellows in expanded position, a trip-catch supporting said bellows-lever in elevated position, an electromagnet associated with said trip-catch, and means for causing the energizing of said electromagnet and the release of said trip-catch and the action of said bellows and projective member.

806,277. STORE-CABINET. WATSON W. MCKEE, Tacoma, Wash. Filed May 29, 1905. Serial No. 262,813.

Claim.—In a store-cabinet, the combination with a frame, having closed sides and an opening in the front, of a shelf swingingly supported from said frame and supporting a box and having an apron secured to the lower end thereof, a cover for said box loosely held by said frame and having a front cross-piece secured thereto, said apron of said shelf and the front of said box and the front cross-piece of said cover being adapted to close said opening in the front of said cabinet.



806,278. WATER-TOWER FIRE-TRUCK SAFETY APPLIANCE. JOSEPH W. REYBURN, Indianapolis, Ind. Filed Jan. 3, 1905. Serial No. 239,473.



Claim.—1. The combination, with a water-tower fire apparatus, of means arranged in the supply-pipe to control the flow of water therethrough, and means dependent upon a change of relation of the main frame to the ground for changing the position of said controlling means.

2. In a water-tower fire apparatus, the combination, with the main frame and supply-pipe thereof, of a valve arranged in the supply-pipe, and means dependent upon a variation of transverse angular relation between the main frame and ground for operating said valve toward a closed position when the main frame is tipped sidewise.

3. In a water-tower fire apparatus, the combination, with the main frame and the supply-pipe, of a valve arranged in said supply-pipe, a weight adapted to rest on the ground, and intermediate connections between the said weight and valve whereby, when the main frame is tipped, the weight will serve to move the valve toward closed position.

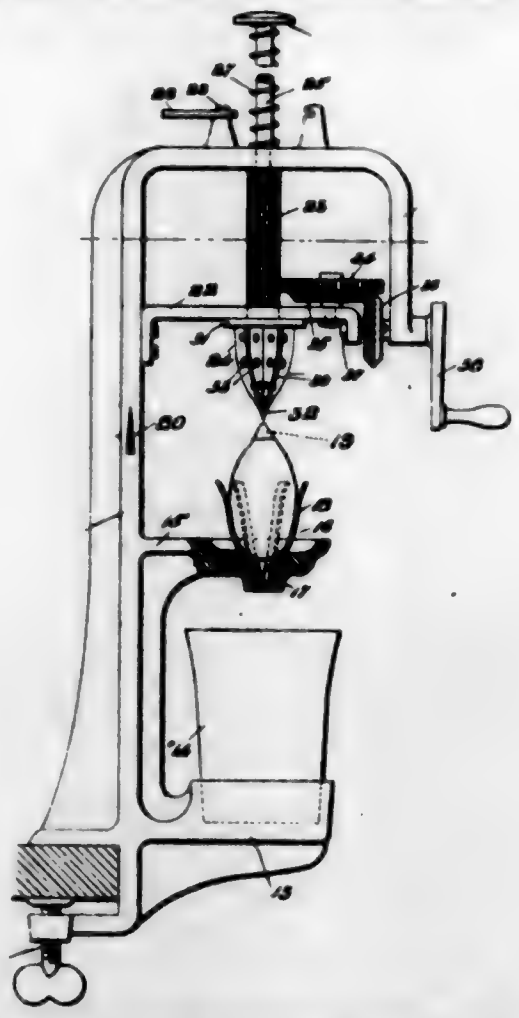
4. In a water-tower fire apparatus, the combination with the main frame and supply-pipe, of a valve arranged in said supply-pipe, and means dependent upon a variation of transverse angular relation between the main frame and ground for gradually closing the valve by a tipping of the main frame.

5. In a water-tower fire apparatus, the combination, with the discharge-nozzle and means for holding the same in an elevated position, of a supply-pipe for said nozzle, means for controlling the flow of water therethrough, and means for operating said controlling means, said means being dependent for its action upon a retractive movement of the nozzle from operating position.

6. In a water-tower fire apparatus, the combination, with the discharge-nozzle and means for supporting the same in an elevated position inclined from the vertical, of a supply-pipe therefor, means for controlling the flow of water therethrough, and means dependent upon a movement of the nozzle-support from operating position toward the vertical for operating said controlling means to decrease the flow of water through the apparatus.

7. In a fire apparatus, the combination, with a suitable nozzle support adapted to be arranged in an upwardly-inclined position, of a discharge-nozzle carried by the upper end of said support, a supply-pipe therefor, and means dependent upon the flow of the stream for automatically reducing the effective back pressure of the stream upon the upper end of the nozzle-supporting guide.

806,279. LEMON-JUICE EXTRACTOR. EVA L. NICKELL, Waukomis, Okla. Filed Nov. 3, 1904. Serial No. 231,211.



Claim.—1. A lemon-juice extractor comprising a support for the lemon, an extractor member mounted for movement toward and away from said lemon-support, a spring operating to maintain said extractor member in withdrawn position, means for locking said extractor member in position adjacent to said lemon-support, and means for rotating said extractor member.

2. A lemon-juice extractor comprising a bracket or frame having a support for the juice-receiver and a support for the lemon disposed above said receiver-support, an extractor member movably disposed upon said frame above said lemon-support, means for moving said extractor member toward and away from said lemon-support, means for locking said extractor member in position adjacent to said lemon-support, and means for rotating said extractor member.

3. A lemon-juice extractor comprising a support for the lemon, an extractor member having an elongated gear-pinion and surmounted by a guide-rod and mounted for movement in alinement with said lemon-support, a gear-wheel mounted for rotation and in constant engagement with said pinion, means for moving said extractor and pinion toward said lemon-supporter, and means for rotating said gear-wheel for imparting motion to said pinion or extractor.

4. A lemon-juice extractor having a lemon holder or seat, a head for movement toward and from the holder or seat and provided with radial parallel-faced knives for cutting the lemon-pulp on radial lines, and means for rotating the head.

5. A lemon-juice extractor having a laterally-extensible lemon holder or seat, a head movable toward and from the seat and provided with radial pulp-cutting knives, and means for rotating the head.

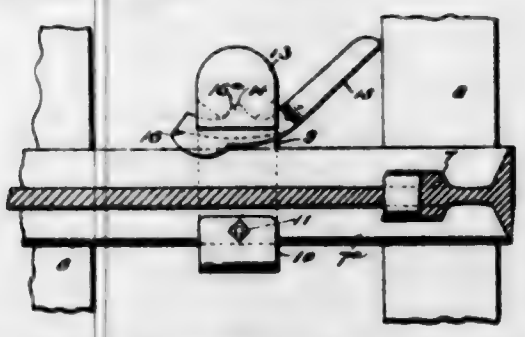
6. In a lemon-juice extractor, a support for the lemon in combination with an extractor member formed of radiating wings extend-

ing from a head-plate and inclined inwardly and merging into a point and provided with spaced transverse apertures.

7. In a lemon-juice extractor, a support for the lemon comprising a shallow disk-like member having a central aperture and with spaced resilient arms extending above said aperture for receiving the lemon, in combination with an extractor member mounted for movement toward and away from said support, and means for rotating said extractor member.

8. In a lemon-juice extractor, a support for the lemon comprising a shallow disk-like member having a central aperture and with spaced resilient arms extending above said aperture for receiving the lemon, in combination with an extractor member formed of radiating wings extending from a head-plate and inclined inwardly and merging into a point and provided with spaced transverse apertures, said extractor member mounted for movement toward and away from said lemon-holding member whereby said extractor member will be caused to pass into and through the lemon and puncture its lower end to provide an escape for the juices through said holding member, and means for rotating said extractor.

806,280. RAIL-STAY. JULIUS OLSON, Chicago, Ill. Filed Apr. 15, 1905. Serial No. 255,727.

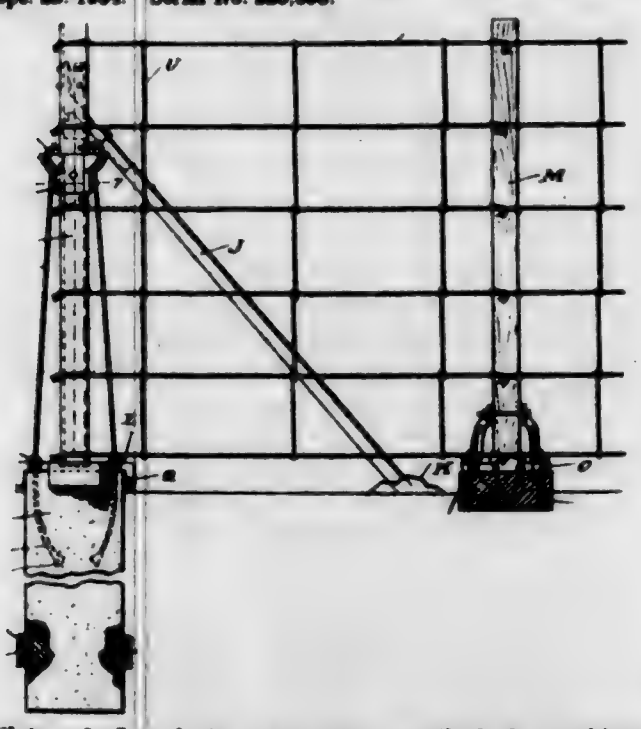


Claim.—1. A rail-stay comprising a piece fixed to the base of the rail, and a clamping-lever fulcrumed upon said piece and binding at one end against the rail and adapted to abut at the other end against the railway-tie.

2. A rail-stay comprising a piece extending under the base of the rail and curved at its ends up beside the same, and a bent lever fulcrumed within one of said ends and bearing against the edge of the rail-base at one end and against the railway-tie at the other end.

3. A rail-stay comprising a piece extending across under the base of the rail and having hooked ends one of which engages one side of the rail-base, and the other of which has a notch in the inner side thereof, and a bent lever having a fulcrum projection fitting in said notch, one end of the lever bearing against the side of the rail-base and the other end against the rail-tie.

806,281. FENCE-POST. JOSEPH D. PALDI, Yale, Mich. Filed Sept. 23, 1904. Serial No. 225,895.



Claim.—1. In a device of the class described, the combination of a base of cementitious material having anchors embedded therein, a cap embracing the upper end of said base, being cut away to avoid said anchors and having downwardly-extending lips for engaging the sides of the base, a post seated at its lower end in a recess in said cap, a head clamped upon said post intermediate its ends and guys extending from said anchors to said head and adjustably clamped to the latter.

2. In a fence, a post-base formed of a rectangular block of artificial stone having a transverse groove formed therein and a cross-bar engaging said groove and embedded with said base.

3. In a device of the class described, the combination of a base formed of artificial stone and having anchors embedded therein projecting upward at the corners of the base, a cross-shaped cap at the upper end of said base having downturned lips embracing the sides thereof, a post seated in a recess in said cap, a head clamped upon said post and guys extending from said head to said anchors.

4. In a fence, a post formed of angle-bar and a complementary angle-bar section secured to said post for a portion of its length, a rectangular head sleeved upon said post, and complementary angle-bar section, a clamping-screw for securing it thereon a base on which said post is mounted, anchors therein and guys extending from said head to said anchors.

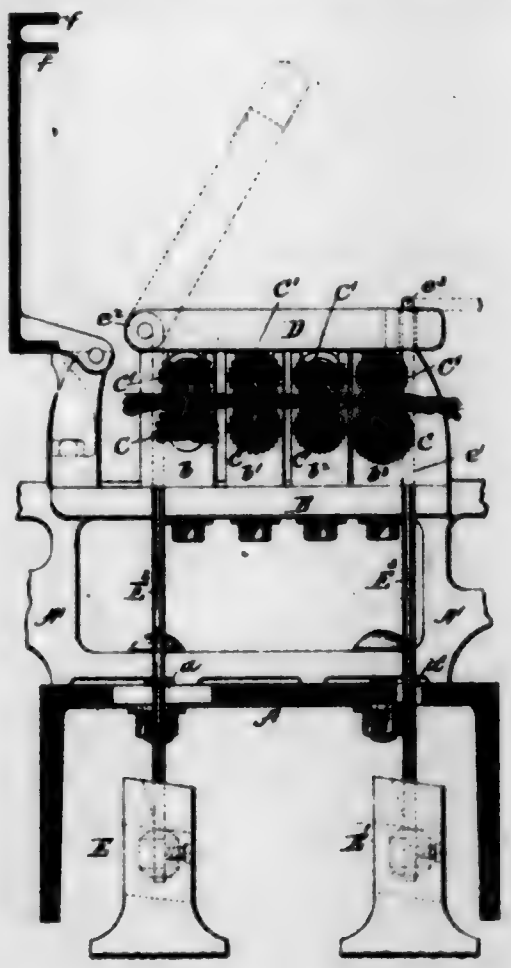
5. In a device of the class described, the combination of a rectangular base of artificial stone embedded in the earth, anchors embedded in said base and projecting upward from the corners thereof, a post mounted on said base, a head clamped upon said post and having projecting lugs at the corners thereof and guys extending from said anchors to said lugs and adjustably secured to the latter.

6. In a fence, the combination with an end post, of a brace therefor comprising a tubular rod, a shank secured to said post and telescopically engaging said rod, said shank having a series of apertures extending therethrough for receiving a pin and said pin constituting an adjustable stop for the upper end of said tubular rod.

7. In a fence, an intermediate member comprising a base of artificial stone adapted to rest upon the ground; a metallic socket seated upon said base, studs embedded in said base and forming securing means for said socket member, a post engaging said socket and brackets also secured to said studs and embracing said post to stay the same.

8. In a fence, an intermediate member comprising a base, adapted to rest upon the ground, a socket member Q seated thereon and having securing-arms extending obliquely from its corners, studs embedded in said base engaging with apertures in said securing-arms, a post seated in said socket and the brackets R secured to said studs and clamped upon the opposite sides of said post.

806,282. DRAWING-FRAME. LOREN W. PENNEY, Newton, Mass., assignor to Saco & Pettee Machine Shops, Newton, Mass., a Corporation of Massachusetts. Filed Oct. 8, 1904. Serial No. 227,630.



Claim.—1. In a drawing-frame or similar machine, a series of rolls, bearings therefor, a yielding cross-bar for holding said rolls in their bearings, and means for yieldingly weighting said cross-bar at both ends thereof.

2. In a drawing-frame or similar machine, a plurality of pairs of rolls, bearings therefor, a yielding cross-bar for holding said rolls in their bearings, and weighted couplings making yielding connection with said cross-bar at both ends thereof.

3. In a drawing-frame or similar machine, a series of rolls, bearings therefor, a yielding cross-bar for holding said rolls in their bearings, and weight-carrying means connected with the respective ends of said cross-bar and adapted to hold the same against else than yielding, vertical movement.

4. In a drawing-frame or similar machine, a series of rolls, bearings therefor, a yielding cross-bar for holding said rolls in their bearings, weight-carrying means for making a yielding hinge connection with one end of said cross-bar, and a yielding lock connection with the other end thereof, whereby said cross-bar may be released and the rolls taken out.

5. In a drawing-frame or similar machine, a plurality of pairs of rolls, a bearing for each end of each pair of rolls, said bearings being arranged in blocks, a cross-bar adapted to rest on said blocks, and weighted couplings extending through said blocks, one to make a yielding hinge connection with one end of the cross-bar and means for yieldingly locking the other of said couplings to the other end of the cross-bar.

6. In a drawing-frame or similar machine, a plurality of pairs of rolls, a bearing for each end of each pair of rolls, said bearings being arranged in blocks, a cross-bar adapted to rest on said blocks, and weighted couplings extending through said blocks and adapted at their upper ends to engage said cross-bar, as and for the purposes set forth.

7. In a drawing-frame or similar machine, a plurality of pairs of rolls, a bearing for each end of each pair of rolls, a roll-retaining cross-bar adapted to rest on said bearings, weighted couplings, one adapted to engage each end of said cross-bar, one of said couplings forming a hinged connection therewith, and the other a lock connection therewith, as described.

8. In a drawing-frame or similar machine having one or more pairs of rolls, blocks forming bearings or supports for the ends of each pair of rolls, a pair of cross-bars, each adapted to rest upon one or more of said blocks and yieldingly retain said rolls, a yielding hinge for one end of each of said cross-bars, and a yielding lock for the other end thereof, whereby either one or both ends of said cross-bar may be lifted by the lifting of the ends of said rolls, and said cross-bars may be unlocked and swung to release said rolls, as and for the purposes set forth.

9. In a drawing-frame or similar machine, a series of pairs of rolls, bearings or supports therefor, a cross-bar adapted to yieldingly retain the upper of said series of rolls in their proper bearing, and means for locking the free end of said cross-bar in place, comprising a weighted coupling having a bent arm at its upper end adapted to engage the upper surface of said cross-bar, and a cover hinged to said drawing-frame and provided with ribs adapted to engage the bent arm of said weighted coupling, as and for the purposes described.

10. In a drawing-frame or similar machine, a series of rolls, bearings therefor, a cross-bar for retaining said rolls in their bearings, a weight-bearing coupling adapted to connect with the end of said cross-bar, and means for supporting said coupling, whereby it may make connection with the end of said cross-bar without lifting its weight.

11. In a drawing-frame or similar machine, a series of rolls, bearings therefor, a cross-bar for retaining said rolls in their bearings, the free end of which cross-bar is made forked and means for locking the free end of said cross-bar in place with a yielding jointure comprising a weighted coupling having a bent arm adapted to engage the upper surface of said bar by a portion of said coupling passing through the forked end of the same.

12. In a drawing-frame or similar machine, the lower and upper rolls, supports or bearings for said rolls, a cross-bar for yieldingly retaining said rolls, a weight-bearing coupling, a portion of which when turned in one direction is adapted to engage with said cross-bar and when turned in another direction into disengagement therefrom, and means for supporting said weighted coupling whereby the engagement with, or release of said portion thereof from the cross-bar is effected without lifting the weighted coupling.

13. In a drawing-frame or similar machine, the lower and upper rolls, supports or bearings for said rolls, a cross-bar for their yielding retention, said cross-bar having a cleft or forked end, a weight-bearing coupling-rod adapted to pass through said cleft end of the cross-bar, a locking-arm upon the upper end of said rod adapted when the rod is turned to engage with one or the other of the prongs forming the forked end of the cross-bar, and a shoulder, forming means on said weight-bearing coupling-rod for supporting the same, whereby the engagement of said locking-arm with the end of the cross-bar, or its disengagement therefrom, may be accomplished without lifting said coupling-rod and weight.

14. In a drawing-frame or similar machine, the combination of a support, a number of roll-bearing blocks mounted upon said support to be horizontally adjustable thereon, the rolls carried by said blocks, a yielding cross-bar for retaining said rolls in their proper place and plane, weighted couplings adapted to pass through said blocks and engage with the ends of said cross-bar resting upon the same, means for forming the engagement of said couplings at one end of said cross-bar to form a yielding hinge, and at the other end of said cross-bar a yielding lock, permitting of the release of said cross-bar and the adjustment of said blocks and rolls.

15. In a drawing-frame or similar machine, the lower and upper rolls, blocks affording bearings or supports for said rolls, a cross-bar for yieldingly retaining the upper of said rolls, the ends of which bar are supported to rest upon said blocks, a yielding hinge for retaining one end of said bar, a yielding lock for retaining the other end thereof, the same comprising a weight-bearing coupling-rod passing through said block, on the end of which the cross-bar is resting, a locking-arm formed on the end of said coupling-rod above said block and adapted to be turned into locking engagement with, or into disengagement from said cross-bar, a shoulder on said coupling-rod in normal engagement with said block for supporting the same, whereby said locking-arm may be turned into engagement with, or into disengagement from the end of said cross-bar without lifting the coupling-rod and weight.

16. In a drawing-frame or similar machine, a plurality of sets of opposed rolls, a single means adapted to be engaged by one roll of each of said sets upon displacement of such roll, a weight arranged to be applied to said roll-engaging means upon displacement of a roll, and means normally relieving said roll-engaging means of the weight.

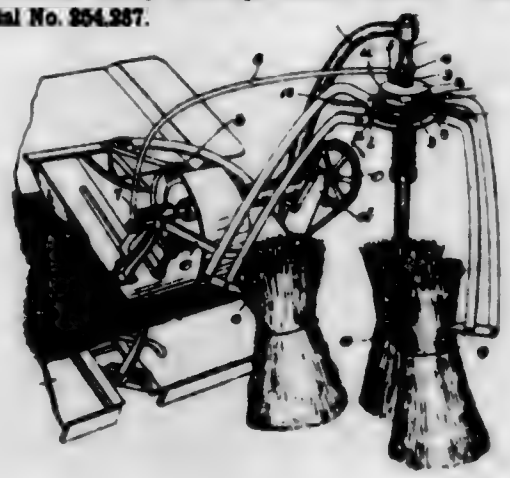
17. In a drawing-frame or similar machine, a plurality of sets of opposed rolls, a single means arranged to be engaged by one roll of each of said sets upon displacement of such roll, means for applying pressure to said roll-engaging means upon displacement of a roll, and means whereby said roll-engaging means is normally relieved from such pressure.

18. In a drawing-frame or similar machine, a plurality of sets of opposed rolls, a single means adapted to be engaged by one roll of each of said sets upon displacement of such roll, a weight arranged to be applied to said roll-engaging means upon displacement of a roll, and means normally relieving said roll-engaging means of the weight, said roll-engaging means adapted to be placed and removed without moving the weight.

19. In a drawing-frame or similar machine, a plurality of sets of opposed rolls, a bar adapted to be engaged by one roll of each of said sets upon displacement of such roll, a weight arranged to be applied to said bar upon displacement of a roll, and means normally relieving said bar of said weight, said bar being adapted to be placed in operative position and removed without moving the weight.

20. In a drawing-frame or similar machine, a plurality of sets of opposed rolls, a plurality of variously-disposed weights, and means whereby all of said weights are adapted to be applied to any of the aforesaid rolls.

806,283. **SHOCKING ATTACHMENT FOR BINDERS.** WILLIAM H. PERRIN, Harley township, Ontario, Canada. Filed Apr. 7, 1905. Serial No. 254,287.



Claim.—1. In a shocking attachment for binders the combination with a plurality of forks, of means whereby each of said forks, is caused to catch a sheaf as it is thrown from the binder and means whereby the said forks will be caused to drop their sheaves together in shocks or stooks as and for the purpose specified.

2. In a shocking attachment for binders the combination with a plurality of forks, of means for suspending the same in proximity to the discharge-table of the binder, means for intermittently rotating said forks, means for causing each fork to catch and hold a sheaf as it comes into a predetermined position, and means for automatically causing all the forks to drop their sheaves at the same time in such a manner as to form a stook or shock as and for the purpose specified.

3. In a shocking attachment for binders the combination with a plurality of forks, of means for suspending the same normally in an upwardly-slanting position in proximity to the discharge-table of the binder, means for intermittently rotating the forks, means for causing each fork to engage and suspend a sheaf as it passes the discharge-table and means for releasing the device for holding the forks in the upwardly-slanting position when all the forks are loaded whereby the sheaves will be dropped from all the forks together and will form a shock or stook as and for the purpose specified.

4. In a shocking attachment for binders the combination with a plurality of forks of a substantially vertical shaft, means for supporting said shaft from the frame of the binder, collars rotatably mounted on the shaft, arms suspending the forks from said rotatable collars, ratchet-teeth formed on one of the collars, a ratchet adapted to engage said ratchet-teeth, a connection extending between said ratchet and a suitable driving portion of the binding mechanism, whereby the forks are intermittently rotated, means for causing each fork as it comes into a predetermined position to catch a sheaf, and automatic means whereby the sheaves will all be dropped from the forks together in an upright position whereby a shock or stook is formed as and for the purpose specified.

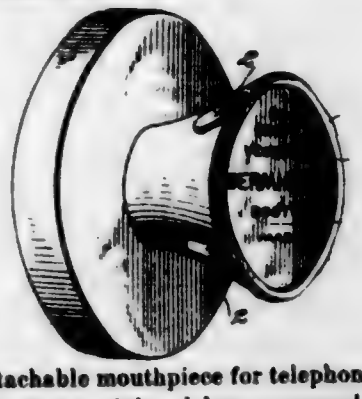
5. In combination a plurality of forks, pairs of arms supporting said forks normally in an upwardly-slanting position, a substantially vertical shaft, upper and lower rotatable collars carried by the shaft to which said arms are pivotally secured, a roller on the upper end of the outer arm of each pair, a stationary cam secured to the shaft and adapted to be engaged by said rollers, means for rotating said arms and parts secured thereto intermittently through determined distances, whereby said cam will cause each pair of arms to swing outwardly as it comes in proximity to the binder and whereby said arm at the moment when a sheaf is being discharegd will swing inwardly whereby the fork will engage the sheaf, and means whereby the sheaves carried by all the forks will be simultaneously discharged as and for the purpose specified.

6. In combination a plurality of forks, pairs of arms carrying said forks normally in an upwardly-slanting position, a substantially vertical shaft, upper and lower rotatable collars, carried by said shaft to which said arms are pivotally secured, means for rotating said collars and the parts secured thereto intermittently whereby the forks are brought successively into the position to catch a sheaf as it is discharged from the binder, a downwardly-extending semicylindrical portion formed on the lower rotatable collar, an upwardly-extending semicylindrical stationary portion formed on, or secured rigidly to, the shaft below the lower rotatable collar, a compression-spring extending between said lower rotatable collar and the stationary part secured to or formed on the shaft, as and for the purpose specified.

7. In a device of the class described the combination with the forks rotatably suspended and the means for causing the same to engage and discharge the sheaves as they are thrown from the binder, of the binder-knotter mechanism including a rotatable shaft, an arm secured at or near the end of said shaft and provided with a slightly-hooked or upwardly-curved end, a second arm secured intermediate of the ends of said shaft, an extension pivotally secured to said second arm, a projecting portion on said extension, a roller on said projecting portion, a cam secured to a suitable portion of the frame of the binder and adapted to engage said roller and to cause the extension of the arm in rotating to force the lower portion or stalk end of the sheaves down the discharge-table at the same time as the other arm forces the head ends down the discharge-table, said extension being further adapted to release its pressure on the sheaf before the same is discharged whereby the sheaf will be tilted up into a substantially vertical position by the action of the arm with the lower hooked or curved end at the moment when it is being discharged from the binder as and for the purpose specified.

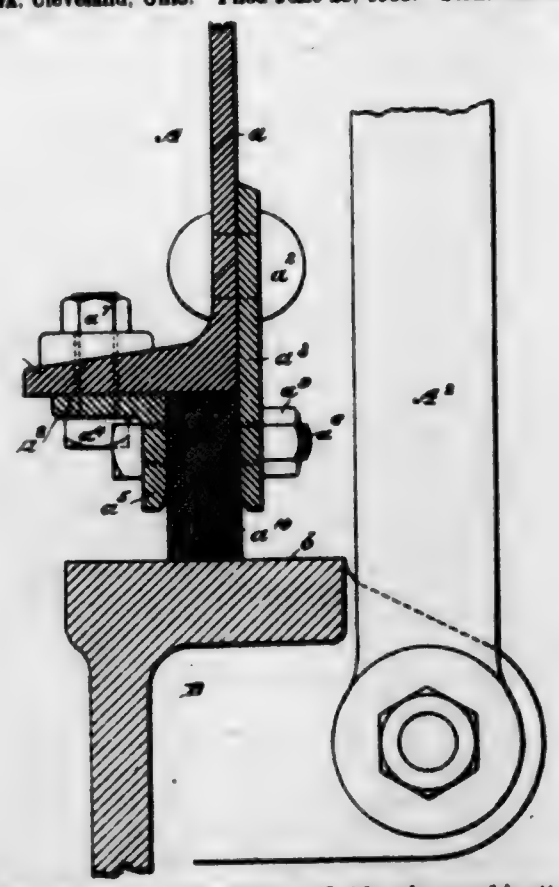
8. In combination a plurality of forks, pairs of arms supporting said forks normally in an upwardly-slanting position, a substantially vertical shaft, upper and lower rotatable collars on said shaft to which said arms are pivotally secured, a roller on the upper end of the outer arm of each pair, a cam secured to the shaft and adapted to be engaged by said rollers, a semicylindrical portion extending downwardly from the lower rotatable collar, a fixed collar secured to the shaft and having an upwardly-extending semicylindrical portion thereon, ratchet-teeth formed on the upper surface of the upper rotatable collar, a ratchet-disk rotatably mounted on the shaft, spring means for holding said ratchet-disk in operative engagement with the ratchet on the other rotatable collar, means for intermittently rotating said upper ratchet-disk a determined amount each time a sheaf is thrown out from the binder, and rotatable arms on the binder knotter-shaft whereby the sheaves are thrown from the binder in a substantially vertical position as and for the purpose specified.

806,284. **MOUTHPIECE ATTACHMENT FOR TELEPHONES.** METTA F. H. PHILLIPS and WILLIAM B. HUBBARD, Boston, Mass. Filed Mar. 6, 1905. Serial No. 248,618.



Claim.—A detachable mouthpiece for telephones, comprising a sheet-metal ring having peripheral lugs arranged at suitable distances apart thereon, said ring being also provided with a series of inwardly-curved peripheral edge flanges, interposed between the lugs and having opposite curved ends to permit of said lugs having movement between said curved ends, and a paper disk serving to contact with and held to said ring by having the flanges curved around it, substantially as specified.

806,285. **CLOSURE FOR FLUID-RECEPTACLES.** PIERRE PLANTINGA, Cleveland, Ohio. Filed June 28, 1905. Serial No. 267,348.



Claim.—1. In a receptacle for fluids, the combination with a main or body portion provided with a contact-surface; of a cover including channel-bars forming its sides and having its flanges parallel with said contact-surface, strips secured to the outside of said bars and projecting below said bars, angle-bars secured to the bottom of said bars, and a contact member or dry lute secured between said angle-bars and strips.

2. In a receptacle for fluids, the combination with a main or

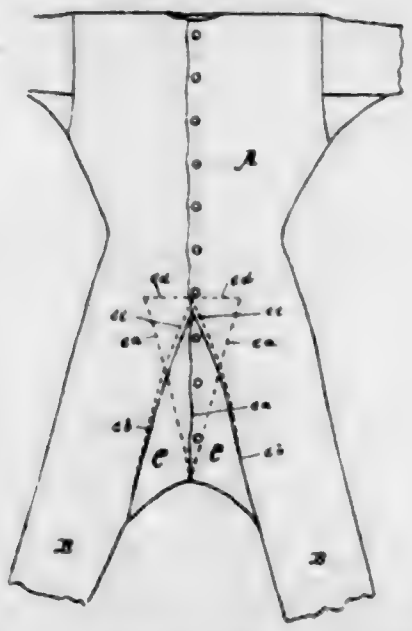
body portion provided with a contact-surface; of a cover including a lateral member having a flat surface parallel with said contact-surface, a fixed wall located transversely relatively thereto, a second wall secured to said flat surface and adjustable relatively to said fixed wall, and a contact member or dry lute secured between said fixed and adjustable walls.

3. In a receptacle-cover, the combination of a lateral supporting member provided with a flat surface and a wall having a face located transversely relatively to said surface; a second wall secured to said supporting member and seated upon said surface, said second wall being adjustable in a direction parallel with the latter; means for securing said second wall to said surface; a contact member located between said two walls; and means independent of said fixing means for clamping said walls and contact member together.

4. In a receptacle-cover, the combination of a main cover structure, having a bottom flat surface and provided with a projecting strip adjacent to said surface and perpendicular thereto; an angle-bar bolted to said surface and provided with elongated bolt-holes; a contact member intermediate of said strip and said angle-bar; and bolts passing through said strip member and bar, whereby the latter may be drawn toward said strip to clamp said contact member.

5. In a receptacle-cover, the combination of lateral channel-bars having their lower flanges parallel with the contact-surface of the main body of the receptacle; strips fixed to the side of said channel-bars and projecting beyond said flanges; angle-bars seated upon the outer surfaces of the latter and provided with elongated bolt-holes; bolts passing through said holes and angle-bars; contact members seated between said strips and angle-bars; and bolts passing through said strips, contact members and angle-bars.

806,286. **UNDERWEAR.** CHARLES A. POWELL, Whitesboro, N. Y. Filed Jan. 20, 1905. Serial No. 241,917.

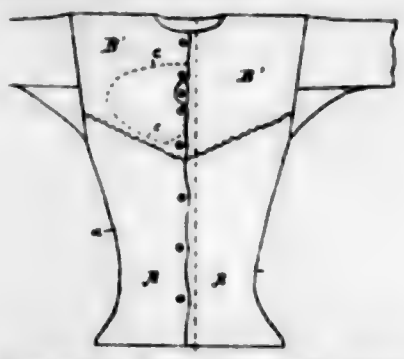


Claim.—1. An undergarment having leg portions, and two flaps inserted and secured in said leg portions, respectively, and providing the fullness in the thigh portions thereof, each flap being secured throughout one longitudinal edge to its respective leg portion, and extending from about the waist-line at the rear downwardly and then up at the front about to the waist-line at the front, said longitudinal edge tapering from the ends toward the center to form a projection extending downwardly in the leg portion, substantially as described and shown.

2. An undergarment having leg portions, and two flaps inserted and secured in said leg portions, respectively, and providing fullness in the thigh portions thereof, each flap being secured throughout one longitudinal edge to its respective leg portion and extending from about the waist-line at the rear downwardly and then up at the front about to the waist-line at the front, said longitudinal edge being inclined forming an intermediate projection extending downwardly in the leg portion, the portions of said flaps at the front meeting about along the vertical crotch-line without substantial overlap, said vertical meeting edges provided with means for detachably uniting the same, substantially as described.

3. An undergarment having leg portions, and two flaps inserted and secured in said leg portions, the front ends of said flaps being secured to the front part of the garment about at the waist-line and extending downwardly therefrom at the front of the garment with varying lateral expanse and then upwardly at the rear and about to the waist-line at the rear, the rear portions of said flaps crossing to form a rear closure, the front vertical portions of said flaps meeting about along the vertical crotch-line without substantial overlap, and provided with a vertical series of securing-buttons and buttonholes, substantially as described.

806,287. **GARMENT.** CHARLES A. POWELL, Whitesboro, N. Y. Filed Jan. 27, 1905. Serial No. 243,551.



Claim.—1. A garment of the character substantially as described, having vertical front meeting edges, said garment comprising two plies at the breast portion, said plies being partially disconnected along said edges to form a pocket-opening, stitching uniting the breast portions of said plies to form a pocket for said opening, the outer ply being indented at said opening, and fastening means to join said front meeting edges and to fasten the under ply opposite said indent, substantially as described.

2. A corset-cover or the like, comprising front and back plies A, B, having flaps A′, B′, respectively, integral therewith and extending over the shoulder portions and down at the front and back, respectively, and overlying the said plies and stitched thereto, substantially in the manner and for the purpose substantially as described.

3. A corset-cover or the like, comprising the front and back plies united at their vertical meeting edges at the sides of the garment, the rear ply having flaps extending over the shoulder portions of the garment and overlying the front ply and extending downwardly thereon and united thereto, the front ply and said flap having the vertical meeting edges and means for detachably uniting the same, and stitching forming a pocket between said front ply and said flap with a vertical opening adjacent said vertical meeting edges, substantially as described.

4. A corset-cover, or the like, comprising the front and back plies united at their vertical meeting edges at the sides of the garment, the rear ply having flaps extending over the shoulder portions of the garment and overlying the front ply and extending downwardly thereon and united thereto, the front ply and said flaps having the vertical meeting edges and means for detachably uniting the same, substantially as described.

806,288. **EXCAVATOR.** MORTON B. PUGH, Chicago, Ill. Filed Apr. 11, 1904. Serial No. 202,492.

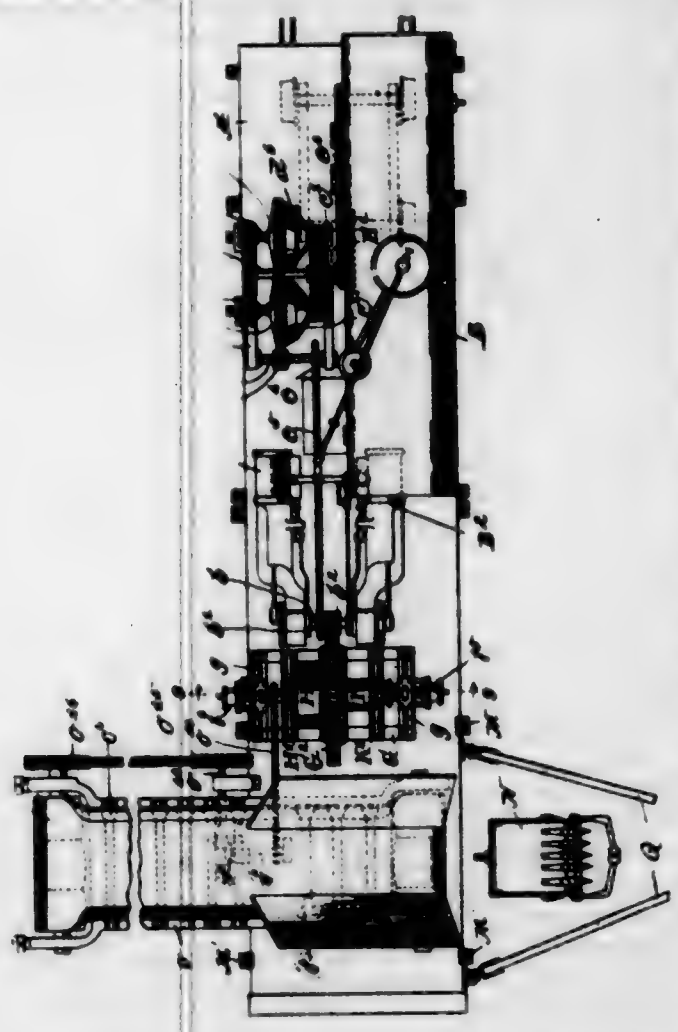
Claim.—1. In a machine of the class described, a bucket comprising a body open at the front end, a bottom hinged at the front end thereof, forwardly-projecting teeth on the front end of said bottom, hoisting means at the top of the bucket, a detent operatively connected therewith and adapted to hold the bottom in closed position when filled, and means acting automatically to release said bottom when in dumping position.

2. In a device of the class described, a horizontally-operating bucket open at the front, a bottom hinged at said front end, a detent acting normally to hold the bottom closed, means operated by the movement of the bucket to its dumping position acting to release the detent and means carried on the bucket adapted to apply pressure thereon when filling.

3. In a machine of the class described, a horizontally-operating scoop or bucket, a bottom hinged at the front end of the bucket, teeth thereon projecting beyond the hinge and adapted to automatically close the bucket by engagement in the material to be excavated, a hoisting-bail on which said bucket is supported in advance of the center, an outhaul-bail carried on the nose of the bucket, a detent or latch acting to hold the bottom closed and means actuated by the movement of one of said bails with respect to said bucket adapted to release said detent.

4. In a machine of the class described, a scoop or bucket, a bottom hinged at the front end thereof and projecting in advance of the

hinge and acting to close the bottom when in operation, a detent acting to hold the bottom closed, a hoisting-bail hinged in advance of the bucket's center, an outhaul-bail hinged on the nose of the bucket and means operated from the hoisting-bail acting to release said detent when at dumping position.



5. A bucket of the class described, comprising continuous sides and a connecting rear end wall, a bottom hinged at the mouth of bucket, projecting teeth on said bottom acting to close the bottom while filling, a hoisting-bail pivoted to the side walls in advance to the center, a detent operatively connected therewith and acting to engage and hold said bottom closed, means applying downward pressure at the front end of the bucket in filling and operative connections between the hoisting-bail and said detent acting to release the detent when the bucket is swung inwardly upon said hoisting-bail.

6. In an excavator, a bucket having a bottom hinged near its front end, downwardly-curved teeth thereon projecting beyond the mouth of the bucket, a hoisting-bail pivotally connected with the bucket in advance of the center, a detent pivoted upon the rear ends of the bucket and adapted to engage the bottom when closed and a flexible connection between the said detent and hoisting-bail acting to release the former by movement of the latter with respect to the bucket.

7. In a machine of the class described, a horizontally-operating bucket or scoop comprising parallel side walls and a connecting rear wall, a bottom hinged at the front ends of the bucket, a projecting downwardly-inclined lip thereon acting to close the bottom by the pressure of the material excavated, a detent carried on the bucket and adapted to hold the bottom closed, a hoisting-bail pivotally engaged to the walls and operatively connected with said detent and adapted to release the same from the bottom when the bucket swings rearwardly thereon, means for drawing the bucket into the material to be excavated and power-operated means acting to hold the front end of the bucket down during filling

8. In a machine of the class described, the combination with hoisting mechanism of a bucket supported therefrom comprising a scoop open at the top and front end, a rearwardly and downwardly opening bottom thereon, a levered detent acting to hold the bottom of the bucket closed, a hoisting-bail pivoted intermediate the ends of the bucket, a flexible connection between said bail and said detent and of a length to release the detent only when the bucket swings rearwardly upon said bail, power-operated means acting to force the nose of the bucket into the cut, said hoisting means acting to raise and carry said bucket to the dump in a horizontal position and to release said detent by the relative movement of the hoisting-bail and the bucket.

9. In a machine of the class described, the combination with the hoisting mechanism of a vertically-movable handle, a motor acting to force said handle downwardly, a bucket having a hinged rearwardly-opening bottom and pivotally engaged at its mouth with said handle, means acting to hold said bottom closed during operation and means operated by the hoisting mechanism acting to release the bottom when in dumping position.

10. In a machine of the class described, the combination with hoisting mechanism of a pivotally-supported bucket, a rearwardly-opening bottom hinged at the mouth thereof, a forwardly-projecting lip on said bottom adapted to engage in the material to be excavated, power-operating means acting to draw the bucket into the cut and to partly support the same when moving to dumping position and means operating by the hoisting mechanism acting to release the bottom at dumping position.

11. A bucket of the class described having an open mouth and top, continuous side walls and a rear end thereon, a bottom hinged at the mouth of the bucket, a projecting downwardly-inclined cutting-lip thereon, longitudinal bars rigidly secured to and connecting the cutting-lip and bottom, downwardly and forwardly inclined points thereon projecting beyond the lip and an outhaul-bail pivotally engaged at said lip and means attached thereto acting to draw the bucket into the cut.

12. In a machine of the class described, a bucket, a hoisting-bail secured thereon in advance of the center, a bottom hinged at the front end of the bucket and comprising a relatively broad bar upturned at its ends to afford attaching-ears, downwardly-inclined teeth secured on and projecting beyond the lip each continuous with a rearwardly-directed bar, a sheet-metal bottom riveted to said bars, stiffening-bars beneath the same, a detent at the rear end of the bottom adapted to engage the same in closed position, a forwardly-directed outhaul-bail and a handle secured to the bucket on the pivot for the bottom and means for releasing the bottom detent operated by the inward swing of the bucket when loaded.

13. An excavator-bucket comprising continuous side and rear walls, a bottom hinged at the front end thereon between the side walls and comprising a bar of metal, beveled downwardly on its front edge to afford a cutting-lip, upturned ends on said bar affording ears for pivotal attachment with the side of the bucket, a metallic plate connected with said bar at its rear side affording the remainder of the bottom, downwardly-turned projecting teeth riveted to said transverse bar and bottom, a hoisting-bail and a downwardly-acting thrust bar or handle pivotally secured on the same pivot with the bottom.

14. The combination with a supporting-frame of a laterally-directed support thereon, a hoisting-sheave within the frame, an outhaul-sheave at the end of said support, an excavating-bucket having an open end and top, a hinged rearwardly-opening bottom therein, a hoisting-bail secured on the bucket in advance of the center, a sheave therein, an outhaul-bail on the nose of the bucket, lines connecting said hoisting-sheave with the hoisting-bail and the outhaul-sheave with the outhaul-bail and simultaneously and independently operated, hoisting means to which said lines are engaged acting to fill the bucket, to elevate and to move the same in a horizontal position to the dump and automatically-operated means for releasing the bottom.

15. The combination with an excavator bucket or scoop having an open end and top of a bottom hinged at the open end or mouth and opening rearwardly, a hoisting-bail centrally secured on said bucket, an outhaul-bail secured at the mouth of the bucket, means acting normally to hold said bottom in closed position while excavating and hoisting independently and simultaneously operating hoisting mechanisms, one engaged to the outhaul-bails acting to draw the bucket into the cut, the other to the hoisting-bail, both of said hoisting mechanisms acting conjointly to elevate and swing the bucket to dump in approximately a horizontal position and means operated by the movement of the bucket to dumping position, acting to release the bottom.

16. The combination with a supporting-frame of a projecting support thereon, hoisting-sheaves within the frame, an outhaul-sheave on said support, an excavating-bucket having an open end and top, a hinged rearwardly, opening bottom therein, a hoisting-bail secured on the side walls thereof in advance of the center, a sheave, an outhaul-bail on the nose of the bucket, lines connecting said hoisting-sheaves with the hoisting-bail and the outhaul-sheave with the outhaul-bail simultaneously and independently operated, hoisting means to which said lines are respectively engaged acting to fill said bucket and elevate the same in a horizontal position and to carry the same to dumping position, a hopper adapted to receive

the contents of the bucket and a conveyer affording a part of the hopper.

17. The combination with an excavator-bucket having an open end and top of a bottom hinged at the mouth of the bucket and opening rearwardly, a centrally-secured hoisting-bail, an outhaul-bail on the nose of the bucket, means acting to hold said bottom in closed position while excavating, hoisting mechanisms, one connected with the outhaul acting to draw the bucket into the cut, the other of said hoisting mechanisms connected with the hoisting-bail and acting to elevate the bucket and swing the same to dumping position, both hoisting mechanisms acting conjointly to carry the bucket horizontally to the dump, means operated by the movement of the bucket acting to release the bottom and a conveyer adapted to receive the contents of the bucket.

18. A combination with a supporting-frame of an A-frame hinged thereon, a rigid beam projecting over the A-frame, a winch acting to vary the elevation of the end of the A-frame, a thrust-bar engaged on the A-frame and projecting upwardly and means acting to secure said thrust-bar in adjusted position thereby rigidly securing the A-frame from lifting.

19. The combination with a support of an A-frame pivoted thereon, a thrust-bar secured on the A-frame and extending upwardly, means for rigidly securing the thrust-bar to the support thereby holding the A-frame from lifting, an outhaul operated from the end of the A-frame and a bucket adapted to be filled thereby.

20. In an excavator, the combination with a supporting-frame of an A-frame hinged thereto and adjustably connected with the support at its top beam, rigid adjustable means acting to hold said A-frame from lifting, a bucket operated in part from said A-frame, hoisting means engaged on said bucket and acting with said A-frame to elevate the same in horizontal position and a conveyer adapted to receive the contents of the bucket.

21. In a machine of the class described, the combination with a self-propelled supporting-frame, of a hopper thereon, a conveyer leading therefrom to a point of delivery, an A-frame hinged to the supporting-frame, means adjustably connecting the end thereof with the frame, a bar engaging the A-frame near its outer end and acting to hold the same from lifting, a bucket-hoisting means engaged centrally thereon and adapted to lift the same in horizontal position and to swing the same to the frame, an outhaul-bail on the bucket operated from the extremity of the A-frame whereby the bucket is drawn into the cut, a power-operated handle pivoted on the nose of the bucket and pivotally and slidably engaged in said frame and acting to hold the nose of the bucket down while filling and automatic means operated by the inward swing of the dipper acting to release the contents at a predetermined point.

22. The combination with self-propelled support of an A-frame pivotally engaged thereon and adjustably engaged with the top of the support, a thrust-bar connected with the A-frame and slidably engaged on the support and acting to hold the A-frame from lifting and a bucket operated in part from the end of the A-frame.

23. The combination with a supporting truck or car of an upright frame supported thereon laterally-projecting beams on said frame, a conveyer extending on one side of the frame, an A-frame hinged at the other, means adjusting the extremity of the A-frame as to height, a dipper pivoted to swing beneath the A-frame, a rearwardly-opening bottom hinged at the front end of the dipper, a handle connected with the nose of the dipper and pivotally engaged on the beam above the A-frame and acting to press the dipper down into the cut, one or more power-winches carried upon the car and acting to draw the dipper into the cut and to elevate the same in horizontal position and swing the same inwardly to dump into the conveyer, and means operated by the hoisting means acting to dump the contents of the dipper.

24. The combination with a supporting-frame of an A-frame hinged thereto, a projecting beam above the A-frame, block and tackle connecting the A-frame therewith, a winch for operating said tackle, a rigid bar hinged on each of the A-frame members and projecting upwardly at an angle therewith, a roller over which said bars extend, a line fastened to the upper end of each bar and also carried over said roller and a winch with which said line is connected whereby downward pressure may be applied upon the A-frame.

25. A combination with a supporting truck or car of driving mechanism therefor, a frame supported on said truck and extending upwardly and laterally, a motor at the top of the frame, a pinion driven thereby, a rack-bar in engagement with said pinion and actuated thereby, a friction-clutch adapted to drive said pinion, a dipper pivoted at the lower end of said rack-bar and adapted to be forced downwardly thereby, operative mechanism adapted to draw the dipper outwardly from the car in filling the dipper and hoisting mechanism adapted to elevate the same, both said mechanisms acting jointly to carry the dipper inwardly in a horizontal position and automatic means for dumping the dipper.

26. A railway-excavator comprising a car or the like, mechanism supported thereon for driving the car in either direction, a bucket operated from the car and adapted to work in a horizontal position, an adjustable outhaul A-frame for the bucket-sheaves thereon, a line rove through the sheaves and connecting the bucket with said winch whereby the bucket is drawn outwardly in filling, means adapted to hold said A-frame from lifting during the filling operation, hoisting-sheaves whereby the bucket is lifted and in a horizontal position and is carried inwardly in dumping, a detent acting to hold the bucket closed and means operated at the limit of the inward movement to dump the bucket.

27. A railway-excavator comprising a hopper, a conveyer fed therefrom, a horizontally-operating bucket, a dumping-bottom therein, hoisting means adapted to elevate the bucket when full and carry the same to dumping position, means connected with the hoisting mechanism acting to dump the contents of the bucket and operative connection between the conveyer and the shaft of the hoisting mechanism acting to drive the same continuously.

28. In a machine of the class described the combination with a car of means for driving the same forwardly or backwardly, an upright frame supported on said car comprising posts rigidly braced one with respect to the other, one or more transverse beams rigidly secured approximately at the top of the frame and extending laterally beyond the same and at the ends rigidly braced thereto, an A-frame supported beneath the extremity of one of said beams, means engaged on said beam acting to hold said A-frame from lifting and vibration and a conveyer supported at its receiving end upon the car and extending oppositely from the A-frame and adjustably supported from the other extremity of said transverse beam or beams.

29. In an excavator a pivoted A-frame, a horizontally-operating bucket, a hinged bottom therein, outhaul mechanism acting to draw the bucket outwardly in filling, hoisting means acting to elevate the bucket horizontally when full and carry the same to dumping position, means connected with the hoisting mechanism, acting to dump the contents of the bucket, a conveyer adapted to receive the dump and operative connection between the conveyer and the hoisting mechanism acting to drive the same continuously.

30. In a machine of the class described the combination with a car of means for driving the same forwardly or backwardly, an upright frame supported on said car, comprising one or more transverse beams at the top of the frame and extending laterally beyond the same and rigidly braced thereto, an A-frame supported on the car beneath one of said beams and adjustably connected near its extremity with one of said beams and thrust-bars slidably engaged on said beam and connected with and acting to hold said A-frame from lifting and vibration.

31. In a machine of the class described the combination with a supporting-frame of hoisting and outhaul mechanisms carried thereon, a bucket, a dumping-bottom hinged at the mouth thereof, a projecting lip on said bottom adapted to close the bottom automatically when filling, a sheave secured at a distance from the outhaul mechanism, a line rove therethrough and secured at the mouth of the bucket and on the outhaul mechanism, a hoisting-sheave secured on the bucket near the center thereof, lines connecting the same with the hoisting mechanism whereby said bucket is adapted to be drawn outwardly by the outhaul mechanism in filling and when filled to be elevated and supported from its middle and front end on both of said mechanisms approximately horizontally and moved to its dumping position, means operated by the movement of the bucket acting to dump the contents, said hoisting mechanism and outhaul mechanism adapted to act either simultaneously or independently.

32. In a machine of the class described the combination with outhaul mechanism and hoisting mechanism of a supporting-frame, hoisting-sheaves located in said frame, outhaul-sheaves secured at a distance therefrom, a bucket having a dumping-bottom, a line secured at the mouth of the bucket and rove through said outhaul-sheave and attached to the outhaul mechanism, a line attached near the middle of the bucket and rove through the hoisting-sheaves and connected with the hoisting mechanism, means for operating said hoisting mechanism and outhaul mechanism independently and also simultaneously whereby the bucket or scoop is drawn into the cut toward the outhaul-sheave in filling and is supported on both the hoisting mechanism and outhaul mechanism approximately horizontally to the dump and means acting to release the bottom to drop the contents of the bucket at a predetermined point.

33. The combination with a car, a motor and mechanism adapted to drive the car in either direction of hoisting mechanism and out-

haul mechanism driven by the motor, a substantially horizontally operating bucket connected with said mechanisms, a dumping-bottom therein adapted to close in filling, a detent holding the same closed, means carried on the nose of the bucket acting to hold the same down in filling, the outhaul mechanism acting to fill the bucket and both the mechanisms acting to elevate and carry the bucket to the dump and means for releasing said detent.

34. In a machine of the class described the combination with hoisting mechanism and outhaul mechanism of a bucket actuated by the outhaul in filling and means under the control of the operator acting to support the bucket in approximately horizontal position, both on the hoist and the outhaul mechanisms when moving to dumping position and means operatively connected with the hoist adapted to dump the contents of the bucket.

35. A combination with power-winches adapted to be operated independently and also simultaneously of a motor driving the same, an outhaul operated by one of the winches, a hoist operated by the other, a bottom-dumping bucket to the mouth of which the outhaul is engaged and to approximately the middle of which the hoist is engaged, means conjointly with the outhaul, acting to fill the bucket, said outhaul and hoist acting simultaneously to elevate and support the bucket horizontally and carry the same to dumping position and automatically-operating means acting to release the bottom when dumping the contents.

36. A combination with a car of hoisting and outhaul mechanisms thereon, a bucket connected with both mechanisms, a hinged bottom therein, the outhaul acting to draw the bucket into the cut in filling and both mechanisms supporting the bucket in moving to the dump.

37. A combination with a car of hoisting and outhaul mechanisms thereon, a bucket, a hinged bottom therein, the outhaul mechanism acting to draw the bucket into the cut and power-operated means acting therewith to hold the nose of the bucket down while filling, both mechanisms supporting the bucket horizontally to the dump.

38. In a machine of the class described, the combination with a supporting-frame and a hopper of a conveyer affording a part of the hopper and comprising a continuously-driven belt or apron, concave rollers beneath and supporting the apron and adjusting-rods rigidly secured at the head of the frame and adapted to support and hold the conveyer in alinement and means adapted to deliver the material to be conveyed into the hopper.

39. A combination with a car of an upright frame thereon, a projecting beam at the top of the frame and rigidly braced thereon, a hopper, a belt conveyer extending from and forming a part of the hopper and embracing a plurality of concave rollers, over which the belt passes and adjusting-rods connected with said conveyer and in said beam respectively and acting to support the same in alinement and at a desired angle of inclination and a horizontally-operating bucket operated from the car and acting to deliver material to the hopper.

40. The combination with a car of means acting to propel the same in either direction, a power-winch thereon, a supporting-frame, a projecting beam rigidly secured at the top thereof, a conveyer extending beneath the beam and comprising a frame an operating-drum at each end thereof, a continuous belt trained about said drums, transverse concave rollers on said frame acting to support the upper lap of the belt, stay-rods connecting the conveyer-frame with the said beams, a hopper supported upon the car above the conveyer and a horizontally-operated and dumping-bucket actuated from the winch and adapted to fill the hopper.

41. In a machine of the class described the combination with a continuously-driven conveyer of a dipper excavator adapted to operate in conjunction therewith, means adapted to operate the dipper and deliver the contents to the conveyer, a clutch mechanism connected therewith and means controlling said clutch mechanism.

42. In a machine of the class described the combination with a continuously-driven conveyer and means for driving the same, of a bucket, a hoist and an outhaul-winch for operating the same, pneumatically-operative means acting to control said winches whereby that for the outhaul operates in filling the bucket and that for the hoist and the outhaul operates conjointly in elevating the same and carrying the same inwardly in position to dump upon the conveyer and means operated by the inward movement of the bucket acting to drop its contents.

43. In a machine of the class described, a conveyer and a bucket adapted to deliver its contents thereto, power-operated winches operating said bucket, one actuating the outhaul therefor and both winches actuating the hoist and dump, and pneumatically-operated means for controlling the action of said winches and adapting the same for conjoint and also independent operation.

44. In a machine of the class described, a conveyer and a bucket adapted to deliver its contents thereto, power-operated winches operating said bucket one actuating the outhaul therefor and the other conjointly therewith actuating the hoist and dump, pneumatically-operated means controlling the action of said winches and adapting the same for conjoint and also independent operation, and brake mechanism adapted to hold one of said winches while the other is in operation.

45. The combination with a car and its truck of a motor supported on the car, a winch driven thereby comprising a central gear, a friction-clutch on each side thereof, each comprising a part of the gear and a drum provided with a friction-face adapted for engagement therewith, pneumatically-operated means adapted to move one or both of said drums longitudinally with the shaft into engagement with the friction on the gear, a brake for each drum adapted for simultaneous and also independent operation, an excavator-bucket and tackle connecting said drums with said bucket, one adapted to actuate the outhaul of the bucket in filling, the other acting conjointly with the outhaul mechanism to elevate and move the bucket to dumping position and a conveyer adapted to receive the material from the bucket.

46. In a machine of the class described, the combination with a car of a motor thereon, a pinion driven thereby, a winch comprising a shaft, a gear rigidly secured thereon, a rotatable drum on each side of the gear, a friction-clutch afforded by a part on each drum and a part on the gear, adapted for mutual engagement, pneumatically-operated means adapted to move either or both of said drums into driving relation with said gear, a friction-brake for each drum, an excavator-bucket, outhaul and hoisting means operated from the respective drums one acting to fill the bucket, the other acting conjointly therewith to elevate and move the bucket horizontally to dumping position, automatic means for dumping the bucket and an operating-platform at which point the means for operating and controlling the drums and the bucket and the motor and the movement of the car are adapted to be controlled by a single operator.

47. In a machine of the class described, a winch comprising a continuously-driven shaft, a driving-wheel rigidly secured thereon, a rotatable drum on each side of said driving-wheel and movable longitudinally on the shaft, a friction-clutch afforded in part by said wheel and by a part on each drum, whereby either or both of said drums may be operated simultaneously, pneumatic means operating at the end of the shaft to move said drums on their shaft into engagement with the driving-wheel and one or more wheels on said shaft.

48. In a machine of the class described, the combination with a car of a motor thereon means connected therewith adapted to propel the car, a double winch operated from the motor, pneumatically-controlled clutches adapted to control the operation of the winches, an excavator-bucket and means operated by the winches to fill and dump the same and continuously-operating conveying mechanism driven from the winch-shaft and adapted to convey the excavated material from the dump.

49. In a machine of the class described, the combination with a car and its truck of continuously-operating motor thereon, driving and reversing mechanism supported on the car and operatively connected with the axles of one of the trucks and comprising two continuously-driven intermeshing gears operatively connected with the motor, a friction-clutch on each gear, a rotative shaft and means adapted to be driven from either gear and sprocket-wheels on said shaft connected by chains with sprocket-wheels on the axles, and means actuating said clutches one to propel the car, the other to reverse the same.

50. In an excavating-machine of the class described the combination with the motor, the operating-winches and the brakes therefor, of means for propelling the car in either direction, controlling mechanism therefor, a brake for the car, an excavator-bucket actuated from the winches, a motor and means operated thereby to apply pressure on the bucket when filling and means for controlling said motor and an elevated platform positioned to admit of unobstructed view of the work and upon which accessible to a single operator all the operating and controlling means are carried.

51. In a machine of the class described, an operating-platform positioned above the operating mechanism and operating levers and valves arranged thereon and connected with the mechanism to be controlled and positioned to be under the control of a single operator.

52. In a machine of the class described comprising a car, a steam engine and boiler thereon, a driving and reverse mechanism for the car comprising non-rotative shafts intermeshing and continuously-revolving gears thereon, a friction-clutch for each gear, a pinion on

each, a rotative shaft for driving said gears, a rotative shaft between the gears, a gear thereon meshing with the pinions for the clutches, sprocket-wheels on said shaft operatively connected with sprocket-wheels on the car-axles.

53. In a machine of the class described a car, an engine and boiler thereon, a propelling mechanism driven thereby comprising a driving-shaft having a pinion thereon driven by the engine, intermeshing continuously-rotative gears, one of which intermeshes with the pinion and carried on non-rotative shafts, a slidable friction clutch and pinion on each shaft, a driven shaft, a gear thereon meshing with the clutch-pinions, sprocket-wheels on the driven shaft and on the truck-axles and driving-chains connecting the same whereby the car may be driven either forwardly or rearwardly without reversal of the engine and operative means adapted to throw either clutch in action.

54. A device of the class described comprising a frame, a driving-shaft journaled therein, means for operating said shaft, an excavator carried on said frame, independently-operated winches driven by said shaft adapted to fill the excavator and carry it to and from dumping position, a reversible-speed mechanism, means connecting the same with the car-axle and means for driving said speed mechanism and shifting the car while the excavator is in operation.

55. In an excavator of the class described, the combination with a frame of a rotative shaft therein, means for rotating the same, operating mechanism slidably secured on the shaft, a part thereof affording a clutch adapted for engagement with the driving means, pneumatically-operating mechanisms acting to force the same longitudinally of the shaft and into engagement with the driving mechanism, an excavator-bucket and cables operatively connecting said bucket with said clutch.

56. In an excavator, a supporting-frame, a dipper carried thereon, a continuously-rotative shaft journaled in said frame, a driving-wheel rigidly secured thereon, a drum rotatively engaged on the shaft and slidable longitudinally thereof, means operatively connecting said drum with said dipper, parts on said driving-wheel and drum affording a friction-clutch when engaged and pneumatically-operated means acting longitudinally of the shaft to actuate the friction-clutch.

57. In an excavator, a supporting-frame, a rotative shaft journaled therein, a driving-wheel rigidly secured thereon, a drum rotatively engaged on the shaft and slidable longitudinally thereof, parts on said driving-wheel and drum affording a friction-clutch when engaged, pneumatically-operated means acting longitudinally of the shaft to engage the friction-clutch, a lever-controlled brake acting to engage said drum, an excavator-bucket carried on said frame and means operatively connecting said drum with said bucket.

58. In an excavator, a frame, a bucket thereon, a motor carried on said frame, a rotatable shaft journaled on the frame, a driving-wheel thereon operated by the motor, laterally-disposed friction-surfaces on each side of the wheel, a drum on each side thereof rotatable on the shaft and movable longitudinally thereof, a friction-surface on each drum adjacent said driving-wheel and complemental with the friction-face thereon, a band-brake for each drum, pneumatically-operative means acting longitudinally of the shaft to force either or both of said drums into operative relation with the driving-wheel, a spring engaged on each side of said driving-wheel and bearing against the respective drums acting normally to hold the same out of engagement with the driving-wheel a thrust-beam on said bucket and cables on said drums and connected with said thrust-beam and said bucket.

59. In an excavator, a frame, a bucket thereon, carrying means for said bucket adapted to force it into the cut and carry it to and from dumping position, a hollow shaft journaled in said frame, a driving-wheel rigidly secured on said shaft, laterally-disposed means on each side thereof affording a part of a friction-clutch, a drum on each side of said wheel affording the other members of said clutches and engaged to said carrying means and pneumatically-operated means adapted to operate said clutches and control the movement of the bucket.

60. In an excavator the combination with excavating means of a winch comprising a rotative shaft, a rigidly-secured driving means thereon, a friction-surface on each side of the driving-wheel, a drum on each side of the driving means and rotatably secured upon the shaft and movable longitudinally thereof, a spring acting to hold the same normally at its outer limit of its movement, a friction-surface on each drum adapted to engage that on the driving means, a cylinder in axial alinement with shaft, a piston-head therein, a piston-rod connected therewith and extending axially into the shaft through an end bore in the shaft and means engaged thereby acting to force the drum into engagement with the driving means, said piston and piston-rods being adapted to rotate with the shaft.

61. In a machine of the class described, the combination with a rotative shaft of driving means thereon, a drum rotatably and slidably secured on the shaft, a clutch formed by a part of the drum and part of the driving means, a cylinder in axial alinement with the shaft, a piston movable therein and comprising a rotative movable head and a non-rotative follower, an antifriction-bearing between the piston-head and follower, a piston-rod engaged to the piston-head and extending in an axial bore with the shaft, a transverse key at the end of said bore the ends of which bear against the hub of the drum and pipe connection with the outer end of the cylinder whereby fluid-pressure is admitted to force the piston and the drum inwardly into engagement with the driving-wheel and a spring interposed between the driving means and the drum acting to hold said parts normally out of engagement.

62. In a machine of the class described, a winch comprising a rotative shaft, a geared driving-wheel rigidly secured thereon, a drum rotatively secured on the shaft on each side of the geared driving-wheel, a friction-clutch afforded by parts on said driving-wheel and said drum springs acting to hold said drums normally out of engagement with the driving-wheel, pneumatically-operated means adapted to force the drum independently and also simultaneously into engagement with the driving-wheel, a band-brake for each drum, a shaft journaled in the winch-frame, a crank-arm thereon adapted to actuate a brake for one of the drums, a sleeve secured on said shaft and operatively engaged to actuate the other of said brakes.

63. In a machine of the class described, the combination with a rotative shaft of driving means thereon, the drum rotatably and slidably secured on the shaft, a clutch formed by a part of the drum and part of the driving means, a cylinder in axial alinement with the shaft, a piston movable therein and comprising a rotative piston-head and a non-rotative follower, an antifriction-bearing between the piston-head and follower, a piston-rod engaged to the piston-head and extending in an axial bore with the shaft, a transverse key at the end of said bore, the ends of which bear against the hub of the drum, pipe connection with the outer end of the cylinder whereby fluid-pressure may be admitted to force the drum inwardly into engagement with the driving means and a spring interposed between the driving means and the drum acting to hold said parts normally out of engagement, said pipes leading from said cylinders to an operator's platform and valves therein admitting the fluid-pressure to either of said cylinders at the will of the operator.

64. A self-propelled excavator of the class described, a conveyer thereon and means adapted to move the excavator along the dump under its own power while the shovel is traveling to and from the conveyer.

65. A railway-excavator comprising a self-propelling car, a power-operated shovel or bucket thereon and operating mechanism adapting the car to be propelled to dumping position simultaneously with and independently of the movements of the bucket or shovel

66. In an excavating-machine, a car, propelling means on said car, a power-operated shovel on said car, mechanism adapted to operate said shovel in filling and in delivering its load, an operating-station on said car and mechanism thereon adapted to permit an operator propelling the car along the dump while the shovel is in motion.

67. In a railway-excavator, a car-propelling mechanism thereon, side-operating excavating mechanism adapted to deliver the material excavated across the track of the car when the car is in motion and at rest.

808,289. TALKING-MACHINE. VICTOR H. RAPEE, New York, N. Y. Filed Feb. 18, 1905. Serial No. 246,289.

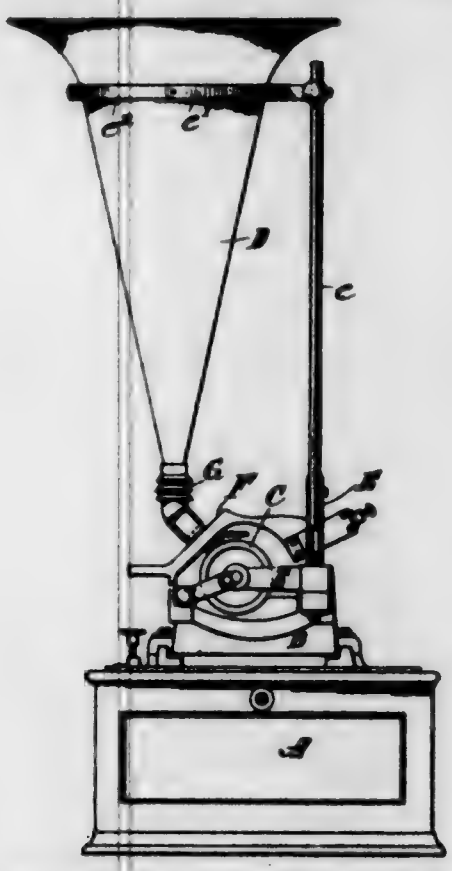
Claim.—1. In a phonograph or talking-machine, a frame therefor, a standard extending upwardly therefrom, a universal support extending horizontally from said standard, and a horn sustained in an upright position from said support.

2. In a phonograph or talking-machine, a frame therefor, a standard extending upwardly therefrom, a universal support extending horizontally from said standard, a tensional device between said standard and support, and a horn sustained in an upright position from said support.

3. In a phonograph or talking-machine, means sustaining the horn thereof in an upright position, said means comprising a number of concentric members, separately pivoted in manner to allow the universal movement of the horn horizontally.

4. In a phonograph or talking-machine, means pivotally supporting the horn thereof near its outer end, and a hollow connection between the contracted end of said horn and the sound-box, char-

acterized by the ability to yield with the movement of the sound-box without exercising tension between the united members.



5. In a phonograph or talking-machine, means pivotally supporting the horn thereof near its outer end and a hollow, flexible, bellows-like connection between the horn and sound-box.

6. In a phonograph or talking-machine, means pivotally supporting the horn thereof near its outer end, a hollow, flexible, bellows-like connection between the horn and sound-box, and a straight flexible tube slidably fitted within said connection.

7. In a talking-machine, a vertically-disposed horn therefor having a sound-box at its contracted end, and tensionally-held means to guide said sound-box over the record.

8. In a talking-machine, a vertically-disposed horn therefor having a sound-box at its contracted end, tensionally-held means to guide said sound-box over the record, and tensional means to retract said sound-box when it has completed its traverse over the record.

9. In a talking-machine, a vertically-disposed horn therefor having its lower end curved laterally, and a sound-box attached thereto, together with a guide-arm, pivoted to swing horizontally, and bearing tensionally against the under surface of said lower end of the horn, to guide the sound-box over the record.

806,290. WHIP-ACTUATING DEVICE. WILLIAM L. RAWLS, Bells, Tenn. Filed Mar. 23, 1905. Serial No. 251,685.



Claim.—1. A whip-actuating device comprising a standard provided at its lower end with an attaching-foot and at its upper end with a laterally-directed arm, a rotatable shaft piercing the standard, a helical spring embracing the shaft at one side of the standard with one end connected to the latter and the other end connected to the shaft, a radial arm carried by the other end portion of the shaft and working over the guide-arm, a whip-socket carried by the outer end of the radial arm, and controlling means for rotating the shaft against the tension of the spring.

2. In a whip-actuating device, the combination with a support having a guide-arm, of a swinging spring-pressed whip-socket traveling over the guide-arm, and a controlling device having a member slidable upon the arm and in cooperative relation with the whip-socket to swing the latter against the pressure of the spring.

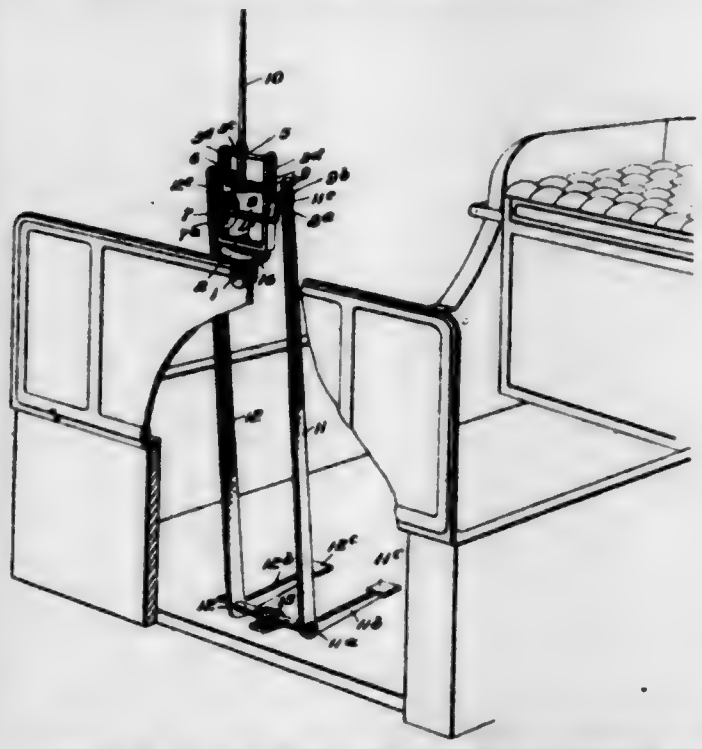
3. In a whip-actuating device, the combination with a support having a guide-arm, of a swinging spring-pressed whip-socket traveling over the guide-arm, and controlling means including a slide working upon the arm in coöperative relation with the whip-socket and a trip carried by the arm for disengaging the slidable member and the whip-socket.

4. In a whip-actuating device, the combination with a support having a guide-arm, of a swinging spring-pressed whip-socket traveling over the arm, and controlling means including a slide mounted upon the arm in coöperative relation with the whip-socket, and a trip carried by the arm and located in the path of the whip-socket to force the latter out of engagement with the slide.

5. In a whip-actuating device, the combination with a support having a guide-arm, of a spring-pressed whip-socket pivotally mounted upon the support and traveling over the arm, a slide working upon the arm in coöperative relation with the socket, a spring to yieldably maintain the slide at one limit of its movement, a guide upon the standard, an operating-cord connected to the slide and working through the guide, and a trip carried by the guide-arm to disengage the whip-socket and the slide.

6. In a whip-actuating device, the combination with a support having a guide-arm, of a swinging spring-pressed whip-socket mounted upon the standard and working over the guide-arm, a slide working upon the arm in engagement with the under side of the whip-socket, a spring connected to the slide and the lower portion of the guide-arm, a guide upon the upper end of the standard, an operating-cord connected to the slide and working through the guide, and a trip carried by the arm and located in the rearward path of the whip-socket to force the latter out of engagement with the slide.

806,291. WHIP-ACTUATING DEVICE. WILLIAM L. RAWLS, Bells, Tenn. Filed Apr. 26, 1905. Serial No. 257,561.



Claim.—1. A device of the class described comprising an attaching-bracket, an upstanding U-shaped frame carried by the bracket, a rock-shaft mounted within the frame, a spring to yieldingly maintain the shaft in its normal position, said spring having a whip-clamping portion for engaging the whip for holding it in its socket a whip-socket carried by the shaft, a stationary cross-bar carried by the frame above the rock-shaft and against which the whip-socket normally engages, and controlling means connected to the shaft to initially shift the frame upon its axis and swing the whip-socket downwardly and forwardly substantially as shown and described.

2. A device of the class described, comprising an attaching-bracket, an upstanding U-shaped frame carried by the bracket, a rock-shaft mounted within the frame, a spring to yieldingly maintain the shaft in its normal position, said spring having a whip-clamping portion for engaging the whip for holding it in its socket a whip-socket carried by said shaft, a stationary cross-bar carried by the frame above the rock-shaft and against which the whip-socket normally engages, and controlling means connected to the shaft to initially shift the frame upon its axis and then to rotate the shaft and swing the whip-socket downwardly and forwardly, said controlling means comprising an L-shaped lever and connections between said L-shaped lever and said shaft substantially as shown and described.

3. A device of the class described, comprising a frame, a swinging whip-socket carried within the frame, a spring to yieldingly maintain the whip-socket in its normal position, a cross-bar carried by the frame in the path of the backward movement of the whip-socket to form a stop therefor, a shaft mounted in said frame and coöperatively connected with said whip-socket, cranks at each end of said shaft, said frame being mounted to turn on a vertical axis, L-shaped levers having a long and short arm, said L-shaped levers being fulcrumed below said frame and having their long arms slotted to receive the crank ends, a balance-spring for maintaining the frame in its normal position, said levers and said frame being arranged so that when one of said levers is depressed the frame will be turned on its vertical axis and the whip-socket swung downwardly and forwardly substantially as shown and described.

4. In a device of the character stated, a bracket securable to the vehicle, a base-plate immovably secured to said bracket, said bracket having a stem projecting through said base-plate, a frame pivotally mounted on said stem for movement on a vertical axis, a shaft rotatably mounted in said frame, cranks secured to the ends of said shaft, L-shaped levers each consisting of a long and a short arm, said levers being fulcrumed at a point below said bracket, said levers each having its long arm slotted to receive the crank ends, said levers each having a treadle or foot portion by means of which said levers are moved, a whip-socket pivotally mounted in said frame and coöperatively connected with said shaft, said frame, said shaft and said levers being arranged so that when the levers are operated they initially turn said frame on its axis and on further movement of said levers, the whip-socket will be turned on its axis, and means for returning the parts to their normal position when the levers are released substantially as shown and described.

5. A device of the class described, comprising an attaching-bracket, a base-plate secured thereto, a U-shaped upstanding frame carried by the bracket above the base-plate, adjustable stops secured to the base-plate for coöperating with said upstanding frame, a balance-spring connected with said upstanding frame and said base-plate to hold the frame in its normal position, a rock-shaft mounted within the frame, an upstanding whip-socket carried by the rock-shaft intermediate of its ends, a stationary cross-bar carried by the arm above the shaft and against which the whip-socket normally engages, a spring coiled about one end portion of the shaft and connected at the opposite ends to the shaft and to the arm to yieldingly maintain the whip-socket against the cross-bar, a supplemental rock-shaft mounted in said frame below said first-mentioned shaft, gear connections between both of said shafts, means for limiting the turning movement of said second shaft, means connected with said second shaft to initially shift the upstanding frame upon its axis and for rotating the second shaft to rotate the first shaft and swing the whip-socket downwardly and forwardly, substantially as shown and described.

6. A device of the class described, comprising an attaching-bracket, a base-plate secured thereto, a U-shaped upstanding frame carried by the bracket above the base-plate, adjustable stops secured to the base-plate for coöperating with said upstanding frame, a balance-spring connected with said upstanding frame and said base-plate to hold the frame in its normal position, a rock-shaft mounted within the frame, an upstanding whip-socket carried by the rock-shaft intermediate of its ends, a stationary cross-bar carried by the frame above the shaft and against which the whip-socket normally engages, a spring coiled about one end portion of the shaft and connected at the opposite ends to the shaft and to the frame to yieldingly maintain the whip-socket against the cross-bar, a supplemental rock-shaft mounted in said frame below said first-mentioned shaft, gear connections between both of said shafts, means for limiting the turning movement of said second shaft, cranks connected to the ends of said second shaft, a pair of vertical L-shaped levers connected one to each crank, a bracket on which said L-shaped levers are fulcrumed, said L-shaped levers being arranged to initially shift the upstanding frame upon its axis and then rotate said second shaft to swing the whip-socket downwardly and forwardly substantially as shown and described.

7. A device of the class described comprising an attaching-bracket, adapted to be secured to a vehicle, set-screws for securing said bracket to said vehicle, said attaching-bracket having a squared collar portion, a base-plate having a squared aperture to receive said squared collar portion of the bracket, said bracket having a threaded projecting stem, a washer-nut adapted to screw on said threaded stem to secure the base-plate to the bracket, an upstanding U-shaped frame pivotally secured to said projecting stem of the bracket, adjustable stops carried by the base-plate for coöperating with the said upstanding frame, a shaft rockably mounted in said upstanding frame, a coil-spring carried by said shaft for holding the same in its normal position, a whip-socket secured to said shaft, a pinion secured to said shaft, a second rock-shaft mounted in said upstanding frame below said first-mentioned shaft, a gear or pinion on said second shaft meshing with the pinion on the first shaft, adjustable stops carried by said last-named gear or pinion for limiting the rotary movement of said second shaft, cranks secured to the ends of said second shaft, L-shaped levers, means for connecting said L-shaped levers to said cranks, and brackets to which said L-shaped levers are fulcrumed, said L-shaped levers having treadle portions, said levers being arranged to initially shift the upstanding frame upon its axis and then to rotate the second shaft to swing the whip-sockets downwardly and forwardly, substantially as shown and described.

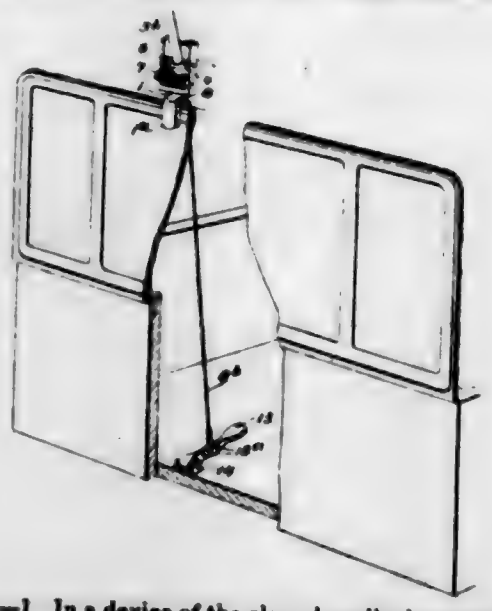
8. A device of the class described comprising an attaching-bracket, an upstanding U-shaped frame carried by the bracket, a shaft mounted within the frame, a spring to yieldingly maintain the shaft in its normal position and bent to form a whip-clamping portion, a whip-socket carried by the shaft, controlling means connected to the shaft to initially shift the frame upon its axis and then swing the whip-socket downwardly and forwardly, said controlling means including vertical L-shaped levers connected with said shaft, substantially as shown and described.

9. A device of the class described, comprising an attaching-bracket, an upstanding U-shaped frame carried by the bracket, a shaft mounted within the frame, means for yieldingly maintaining the shaft in its normal position, a whip-socket carried by the shaft, bevel-pinions near each end of said shaft, a supplemental bracket having rack portions for coöperating with said pinions, pivotally-mounted L-shaped levers each having an elongated aperture near one end to receive the ends of said shaft, said levers being arranged when operated to initially shift the frame upon its axis and then bring one of said pinions in engagement with its respective rack portion to turn the shaft and swing the whip-socket downwardly and forwardly, substantially as shown and described.

10. In a whip-actuating device, a rotatable frame, a power-shaft and a whip-actuating shaft supported therein, a whip-socket secured to said whip-actuating shaft, L-shaped levers having a vertical and a horizontal portion, said L-shaped levers having foot-pieces or treadles formed on the horizontal portion thereof, said L-shaped levers being connected to said power-shaft to initially turn the rotatable frame on its axis and upon further movement to turn the power-shaft, means operatively connecting said power-shaft to said whip-actuating shaft, and a coil-spring on said whip-actuating shaft for returning the parts to their normal position, said coil-spring having a portion forming a clamp for engaging the whip to hold the same in its socket, substantially as shown and described.

11. In a whip-actuating device, the combination with a rotatable shaft, a whip-socket thereon, and means for rotating said shaft, of a coil-spring on said shaft for returning the shaft to its normal position, said coil-spring having a clamping portion for engaging the whip to hold it in its socket, substantially as shown and described.

808,292. WHIP-ACTUATING DEVICE. WILLIAM L. RAWLS, Cincinnati, Ohio. Filed June 26, 1905. Serial No. 267,046.



Claim.—1. In a device of the class described, comprising a supporting-bracket, a U-shaped frame secured thereto, a drive-shaft mounted in said U-shaped frame, a segmental gear mounted on said drive-shaft and having an integrally-formed lever, a coil-spring secured to said segmental gear and said U-shaped frame for holding

said segmental gear in its normal position, a whip-holding shaft mounted in said U-shaped frame above said drive-shaft, a gear-wheel on said whip-holding shaft meshing with said segmental gear, a whip directly connected to said whip-holding shaft and a cross-bar secured between the upper ends of said U-shaped frame, and means connected with said lever for imparting motion to said drive-shaft, substantially as shown and described.

2. In a device of the class described, comprising a supporting-bracket, a U-shaped frame secured thereto, a drive-shaft mounted in said U-shaped frame, a segmental gear mounted on said drive-shaft and having an integrally-formed lever, a coil-spring secured to said segmental gear and said U-shaped frame for holding said segmental gear in its normal position, a whip-holding shaft mounted in said U-shaped frame above said drive-shaft, a gear-wheel on said whip-holding shaft meshing with said segmental gear, a whip directly connected to said whip-holding shaft and a cross-bar secured between the upper ends of said U-shaped frame, and means connected with said lever for imparting motion to said drive-shaft, said means comprising a foot-lever mounted below said U-shaped frame and connections between said foot-lever and said first-mentioned lever substantially as shown and described.

3. A device of the class described, comprising a U-shaped frame and supporting-bracket to which it is secured, said U-shaped frame having slots terminating in bearings, a drive-shaft mounted in said bearings of the U-shaped frame, a semicircular segmental gear secured to said drive-shaft, a coil-spring having one end attached to said segmental gear and the other end attached to the U-shaped frame, said segmental gear having an integrally-formed operating-lever, a whip-holding shaft mounted in bearings in said U-shaped frame, a gear-wheel on said whip-holding shaft for meshing with said first-mentioned gear, said whip-holding shaft having an aperture and a groove, a screw passing through said aperture, a whip secured to said whip-holding shaft by said screw and having a pin for entering the groove of the shaft, and a stop-rod mounted above said whip-holding shaft on said U-shaped frame against which the whip is adapted to rest when the parts are in their normal position, substantially as shown and described.

4. A device of the class described, comprising a U-shaped frame and supporting-bracket to which it is secured, said U-shaped frame having slots terminating in bearings, a drive-shaft mounted in said bearings of the U-shaped frame, a semicircular segmental gear secured to said drive-shaft, a coil-spring having one end attached to said segmental gear and the other end attached to the U-shaped frame, said segmental gear having an integrally-formed operating-lever, a whip-holding shaft mounted in bearings in the U-shaped frame, a gear-wheel on said whip-holding shaft for meshing with said first-mentioned gear, said whip-holding shaft having an aperture and a groove, a screw passing through said aperture, a whip secured to said whip-holding shaft by said screw and having a pin for entering the groove of the shaft and a stop-rod mounted above said whip-holding shaft on said U-shaped frame against which the whip is adapted to rest when the parts are in their normal position, said U-shaped shaft-frame having apertures, and a stop-pin held in one of said apertures to limit the movement of said segmental gear, substantially as shown and described.

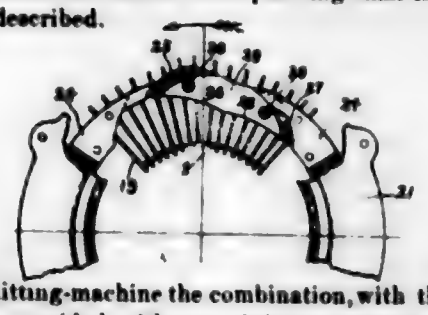
5. A device of the class described, comprising a U-shaped frame, a shaft mounted therein, a drum mounted on said shaft, a rod mounted across said U-shaped frame at its upper end, a coil-spring having one end secured to said rod and its other end connected to said drum, an operating-cord connected to said drum, said drum having a plurality of whip-receiving apertures, all being arranged substantially as shown and described.

6. A device of the class described, comprising a U-shaped frame, a shaft mounted therein, a drum mounted on said shaft, a rod mounted across said U-shaped frame at its upper end, a coil-spring having one end secured to said rod and its other end connected to said drum, an operating-cord connected to said drum, said drum having a plurality of peripherally-arranged whip-receiving apertures of different sizes, all being arranged substantially as shown and described.

806,293. KNITTING-MACHINE. JAMES B. ROWE, Pawtucket, R. I., assignor to E. Jonckes Manufacturing Company, Pawtucket, R. I., a Corporation of Rhode Island. Filed Jan. 6, 1902. Serial No. 88,508.

Claim.—1. In a knitting-machine the combination, with the sinkers, of sinker retracting and advancing cams shifted through the action of the sinkers to vary the points at which the sinkers are operated, substantially as described.

2. In a knitting-machine the combination, with the sinkers, of shifting sinker-operating cams for retracting and advancing the sinkers shifted by their engagement with the sinkers as the relative movement between the sinkers and operating-cams is reversed, substantially as described.



3. In a knitting-machine the combination, with the sinkers, of a shifting plate provided with two sinker-retracting cams and two sinker-advancing cams, and means for so guiding the plate that it is shifted by its engagement with the sinkers during reciprocating knitting to bring first one set of cams and then the other set into operation, substantially as described.

4. In a knitting-machine the combination, with the sinkers, of a sinker cam-ring, sinker retracting and advancing cams mounted thereon and shifted circumferentially as the relative movement between the sinkers and cam-ring is reversed, and slots for determining the positions of the sinker-cams, substantially as described.

5. In a knitting-machine the combination, with the sinkers, of a sinker cam-ring, sinker-operating cams mounted thereon and shifted circumferentially as the relative movement between the sinkers and cam-ring is reversed, slots for determining the positions of the sinker-cams, and means for varying the shape of the slots, substantially as described.

6. In a knitting-machine the combination, with a sinker cam-ring, of a shifting plate 29 mounted thereon and provided with cam-surfaces 25, 26, 27 and 28, substantially as described.

7. In a knitting-machine the combination, with a sinker cam-ring, of a shifting plate 29 mounted thereon and provided with cam-surfaces 25, 26, 27 and 28, slots in the ring for guiding the plate, and means for varying the shape of the slots, substantially as described.

8. In a knitting-machine the combination of a series of needles, means for causing a knitting-wave to travel back and forth along the series of needles, means for leading the thread to the needles in advance of the knitting-point as the knitting-wave travels, sinkers for holding the fabric as the needles rise, and means operated by the sinkers for shifting the points at which the sinkers are advanced and withdrawn from side to side of the knitting-wave, substantially as described.

9. In a knitting-machine the combination of a needle-cylinder, needles guided therein, a cam-cylinder provided with means for forming a knitting-wave in the needles in fixed relation to the cam-cylinder during reciprocating knitting, sinkers for holding the fabric as the needles rise, and sinker-operating cams moved circumferentially and radially to shift the points at which the sinkers are withdrawn and advanced from side to side of the knitting-point during reciprocating knitting, substantially as described.

10. In a knitting-machine the combination, with a needle-cylinder and needles, of a cam-cylinder provided with a single knitting-cam for drawing down the needles during reciprocating knitting, sinkers for holding the fabric, and a sinker cam-ring provided with sinker-operating cams shifted circumferentially and radially during reciprocating knitting, substantially as described.

11. In a knitting-machine, the combination with the sinkers and sinker cam-ring, of a plate shifted by relative movement between the sinker cam-ring and a part with which the plate is frictionally connected, and cams for advancing the sinkers moved into and out of action by the shifting of said plate, substantially as described.

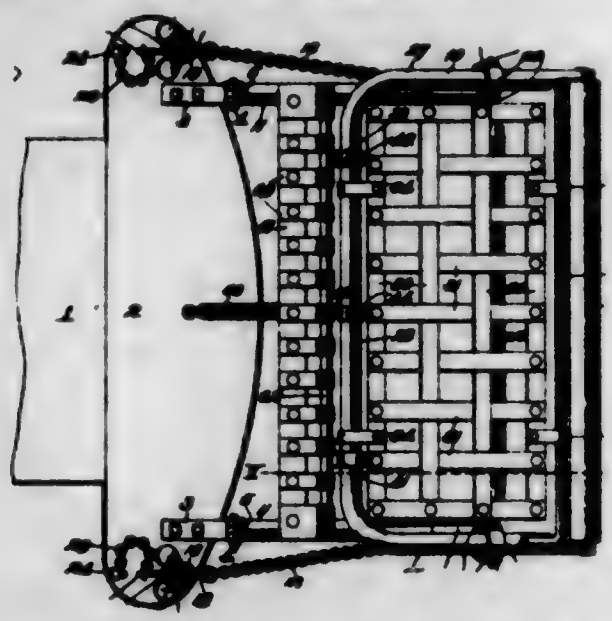
12. In a knitting-machine, the combination, with the sinkers, cams for retracting and advancing the sinkers, means for shifting said cams circumferentially as the relative movement between the sinkers and operating-cams is reversed, and means for moving said cams into and out of active position as they are shifted, substantially as described.

13. In a knitting-machine, the combination, with the sinkers, of a shifting plate, two sets of sinker-operating cams carried thereby, and means for bringing first one set of cams and then the other set into operation by the shifting of said plate, substantially as described.

14. In a knitting-machine, the combination, with the sinkers and sinker cam-ring, of sinker-operating cams, movably mounted in the cam-ring, means for shifting the cams rearward of the cam-ring as its motion is reversed and varying the positions of the cams to shift forward the point at which the sinkers are advanced, substantially as described.

15. In a knitting-machine, the combination, with the sinkers, of sinker-operating cams shifted circumferentially and radially as the relative movement between the cams and sinkers is reversed, substantially as described.

806,284. STREET-CAR FENDER. BENNET H. SCHULER, Kansas City, Mo. Filed May 17, 1905. Serial No. 260,881.



Claim.—1. A street-car fender comprising a supporting-frame, a pick-up frame pivotally mounted on the supporting-frame and having a bed to receive and carry a person, and a yielding connection between the pick-up frame and the supporting-frame to prevent the front end of the pick-up frame dropping below a predetermined plane.

2. A street-car fender, comprising a pivoted frame a tilting or pick-up frame carried by the pivoted frame and provided with a bed, yielding means for preventing the front end of the tilting or pick-up frame from swinging below a predetermined plane, and means for positively limiting the downward movement of the front end of the tilting or pick-up frame.

3. A street-car fender, comprising a pivoted frame, a tilting or pick-up frame carried by the pivoted frame and provided with a bed, yielding means for preventing the front end of the tilting or pick-up frame from swinging below a predetermined plane, a resilient hook secured to the rear end of the tilting or pick-up frame, and a rod carried by the pivoted frame for engagement by said hook at times.

4. A street-car fender, comprising a supporting-frame, a tilting or pick-up frame pivotally mounted on the supporting-frame and provided with a bed, yielding means for preventing the front end of the tilting or pick-up frame from swinging below a predetermined plane, and a guard carried by the supporting-frame in rear of the tilting or pick-up frame.

5. A street-car fender comprising a supporting-frame, a pick-up frame pivotally mounted on the supporting-frame and having a bed, means for preventing the front end of the pick-up frame dropping below a predetermined plane, and a yieldable guard independently carried by the supporting-frame in rear of the pick-up frame.

6. A street-car fender, comprising a pivoted frame, a tilting or pick-up frame carried by the pivoted frame and provided with a bed, yielding means for preventing the front end of the tilting or pick-up frame from swinging below a predetermined plane, a guard carried by the pivoted frame between the bumper of the car and the tilting or pick-up frame, and a flexible spring secured to the car and to said guard.

7. A street-car fender comprising a supporting-frame pivotally hung on the car, a pick-up frame pivotally mounted on the front end of the supporting-frame and provided with a bed, a yielding connection between said frames to prevent the front end of the pick-up frame dropping below a predetermined plane, and a flexible connection between the supporting-frame and the car.

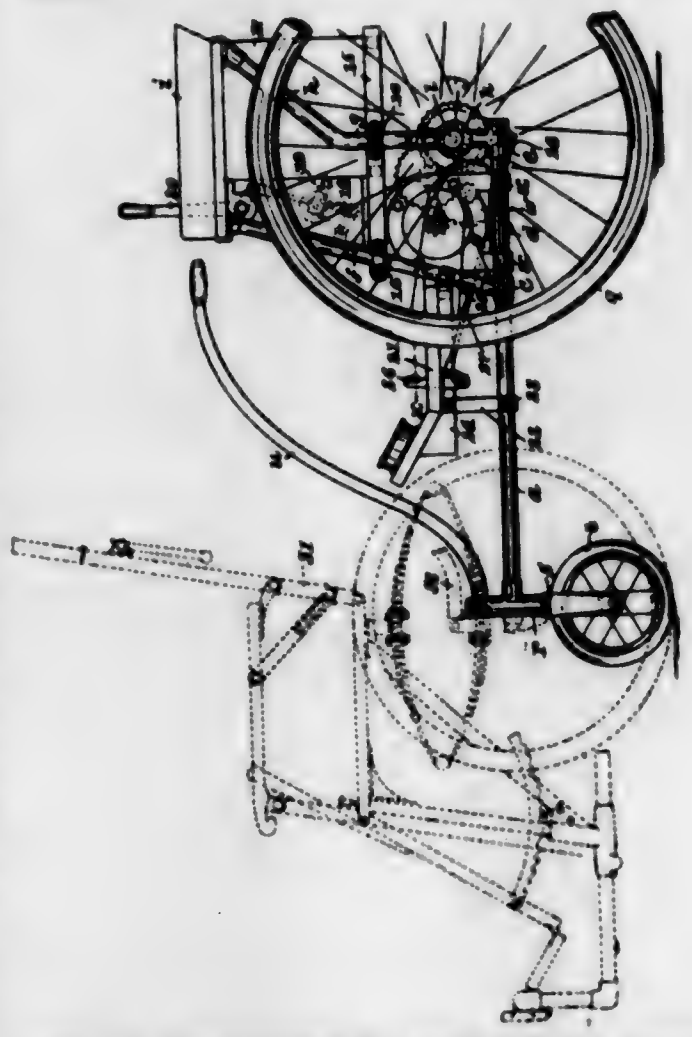
8. A street-car fender comprising a supporting-frame pivotally hung on the car, a pick-up frame pivotally mounted on the front end of the supporting-frame and having a bed, a yielding connection between said frames to prevent the front end of the pick-up frame from dropping below a predetermined plane, and an extensible flexible connection between the supporting-frame and the car.

9. A street-car fender, comprising a pivoted frame, a tilting or pick-up frame carried by the pivoted frame and provided with a bed, yielding means for preventing the front end of the tilting frame from swinging below a predetermined plane, and a flexible connection between a point fixed with relation to the car, and the pivoted frame to secure the latter in its upright or inoperative position.

10. A street-car fender, comprising a pivoted frame, a tilting or pick-up frame carried by the pivoted frame and provided with a bed, yielding means for preventing the front end of the tilting or pick-up frame from swinging below a predetermined plane, means for securing the pivoted frame in its upright or inoperative position, a guard between the car and tilting or pick-up frame and supported from and having pivotal relation with the pick-up frame, and means for holding said guard pressed yieldingly forward when the pick-up frame occupies its upright or inoperative position.

11. A street-car fender, comprising a pivoted frame, a tilting or pick-up frame carried by the pivoted frame and provided with a bed, yielding means for preventing the front end of the tilting or pick-up frame from swinging below a predetermined plane, means for securing the pivoted frame in its upright or inoperative position, a guard between the car and tilting or pick-up frame and supported from and having pivotal relation with the pick-up frame, and a spring connected at one end to the guard and having a fixed relation at its other end with the car.

806,295. WHEEL-CHAIR TRACTOR. IDA W. SCHMIDT, New York, N. Y. Filed Dec. 7, 1903. Renewed Oct. 26, 1905. Serial No. 284,486.



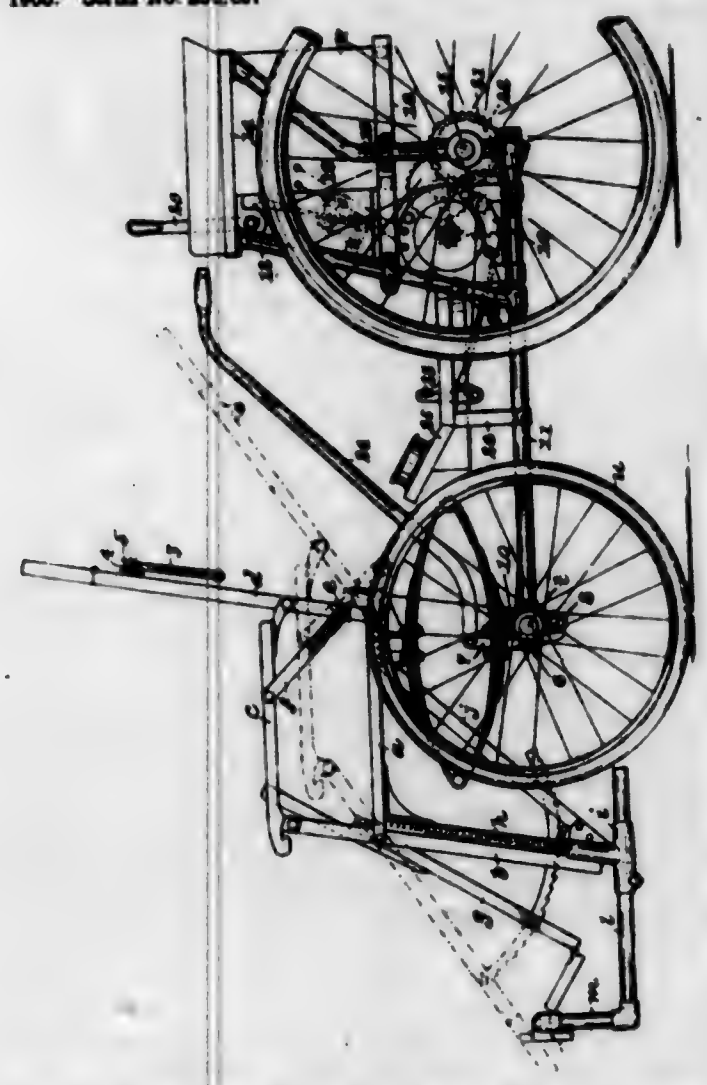
Claim.—1. The combination of a frame comprising horizontal side members, front and rear uprights carried by said side members, said rear uprights being extended first vertically and then bent rearwardly at an incline, a steering-wheel carrying supporting means for the front portion of said frame, an axle journaled in said rear uprights in their vertical portions, the rear wheels on said axle, driving means operatively connected with the axle and carried by said frame, and a seat sustained at the upper ends of said uprights, substantially as described.

2. The combination of a frame comprising horizontal side members, forward and rear uprights carried by said side members, horizontal brackets projecting forwardly from the front uprights and vertical brackets projecting upwardly from said side members, said horizontal and vertical brackets being bolted together, a foot-rest carried by said brackets, a seat carried by said uprights, a steering-wheel carrying supporting means for the front portion of the frame, an axle journaled in the rear portion of the frame, the rear wheels on said axle, and driving means operatively connected to said axle, substantially as described.

3. The combination of a frame comprising horizontal side mem-

bers and transverse braces connecting said side members, a bridge-piece connecting said braces, a motor sustained on one of said side members and the bridge-piece, an axle journaled in said frame, the rear wheels on said axle, power-transmitting mechanism between the motor and the axle, and a steering-wheel-carrying means journaled in said frame, substantially as described.

806,296. **INVALID-CHAIR AND TRACTOR THEREFOR.** IDA W. SCHMIDT, New York, N. Y. Filed Dec. 7, 1903. Renewed Oct. 28, 1905. Serial No. 284,467.



Claim.—1. In a vehicle, the combination of a wheel-chair, a motor or tractor having a pivotal connection therewith and arranged back of the same, and a means projecting from the chair toward the tractor and fixed to the chair against movement therein laterally thereof, for turning the chair relatively to the tractor whereby to steer the vehicle substantially as described.

2. The combination, in a wheel-chair, of the axle and wheels, the chair proper, and means for supporting the chair on the axle, said means being adapted to permit of a forward and back adjustment of the chair proper thereon, substantially as described.

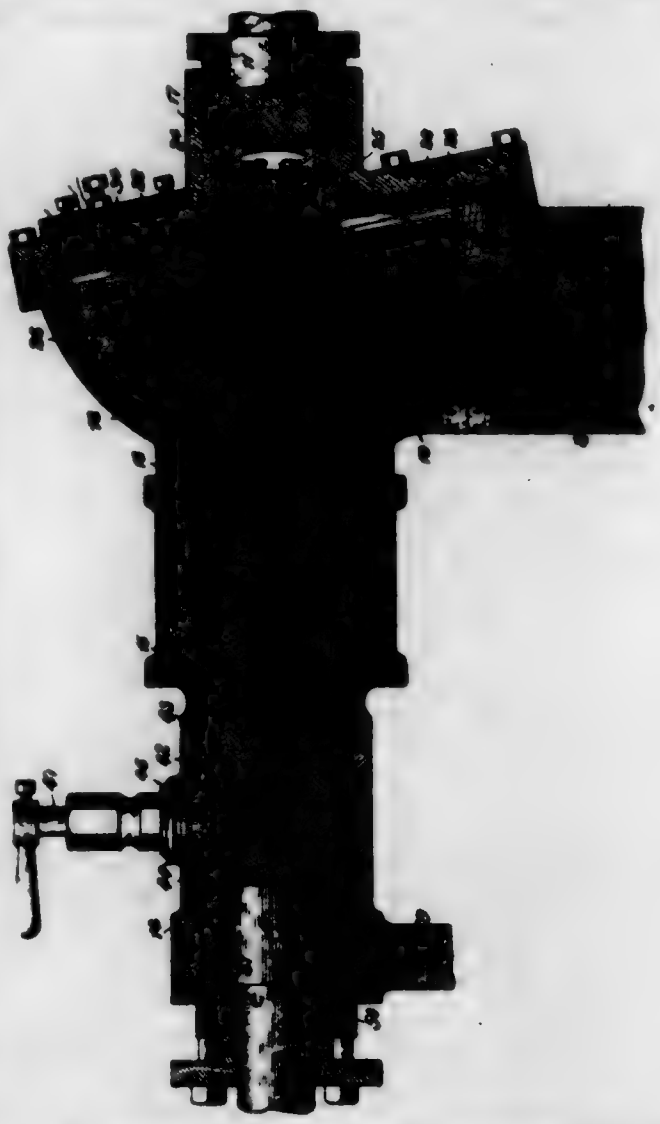
3. In a wheel-chair, the combination of the chair proper, the axle and wheels, means for supporting the chair on the axle, and a tubular structure arranged in the front lower portion of the chair and adapted to carry a steering-wheel, said structure being adjustable forward and back in the chair, substantially as described.

806,297. **ROTARY ENGINE.** WILLIAM A. SHEAHAN, Freeport, Ill., assignor to Sheahan Rotary Engine Company, Chicago, Ill., a Corporation of New Jersey. Filed May 13, 1903. Serial No. 107,111.

Claim.—1. An engine comprising a rotary slotted piston, an oscillating piston blade operating in said slot in the piston, a cylinder having an inclined head in contact with one radial line of said piston and with the edge of the piston blade, and means for introducing the pressure fluid through a traveling port in the piston behind said blade, substantially as described.

2. In a rotary engine a piston provided with a rotating retractile blade, a cylinder with an inclined head to coöperate with said blade, and a movable port for introduction of the actuating fluid, substantially as described.

3. A rotary engine comprising the combination with a partispherical cylinder, of a shaft carrying a spherical sector piston, the radial axis of the spherical sector being common with the axis of the shaft of the engine, the steam inlet being through the shaft and spherical sector, substantially as described.



4. A rotary engine comprising the combination with a partispherical cylinder, of a spherical sector piston, the radial axis of the spherical sector being common with the axis of the shaft of the engine, and a steam inlet port in the piston traveling around with the piston, substantially as described.

5. A rotary engine comprising the combination of a partispherical cylinder, a shaft, a spherical sector piston, an oscillating blade, said piston and blade having a common center of motion, and an inlet port carried by said piston in the rear of said blade, substantially as described.

6. An engine comprising a partispherical cylinder having an inclined head, a rotating piston in said cylinder cone-shaped to make tangential contact with the head of the cylinder on one line, a retractile blade slotted in the piston, and a movable port for introducing the actuating fluid behind the blade.

7. A rotary engine having a rotary piston, a partispherical cylinder with an inclined head, and provision for introducing the motive fluid through the axis of the revolving piston, the outlet of the said port being movable with respect to the contact point between the cylinder head and the piston.

8. A rotary engine comprising a partispherical cylinder, a cone-shaped revolving piston, an inclined head to the cylinder in contact with said conical piston on one line, a retractile piston blade slotted in the piston, said piston having an inlet port for the motive fluid movable with respect to the contact line between the cylinder head and the revolving piston.

9. In a rotary engine the combination with a partispherical cylinder, a rotary shaft and piston, and inclined head to the cylinder having an exhaust port, a conical face to the piston in contact on one line with the cylinder head, and a traveling port for the entrance of the motive fluid provided in the face of said piston.

10. In a rotary engine a partispherical cylinder having a plane head provided with an exhaust port, a rotating cylinder and shaft with axis at an angle to the cylinder head, said piston having conical face in contact with the cylinder head and being provided with an oscillating blade slotted in the piston, and means for introducing motive fluid periodically between the blade and the tangential contact line between the cylinder head and the piston.

11. In a rotary engine the combination of a casing having a flat face, a conical rotary piston with the cone in contact with said face, a

pivoted and rotating retractile blade in said piston, a passage in the shaft of the piston and an inlet port for the motive fluid communicating periodically with the passage in the piston and escaping behind said blade, substantially as described.

12. In a rotary engine the combination with a partispherical cylinder having a plane head, of a rotary conical piston in said cylinder having its axis at an angle to the cylinder head, an oscillating piston blade slotted in the piston to coöperate with the cylinder head and an exhaust port in the cylinder head, and a traveling inlet port for the motive fluid through the face of the rotating piston, substantially as described.

13. In a rotary engine the combination with a partispherical cylinder having a plane head, of a blade in said cylinder pivotally mounted upon an axis rotating in a plane at an acute angle to the cylinder head.

14. In a rotary engine the combination of a cylinder, a driving shaft, a cylinder head set at an angle to the axis of the shaft, a rotating piston on said shaft having a retractile blade pivotally mounted in a slot in the piston and rotating in a plane at an angle to the axis of rotation of the driving shaft.

15. The combination of a substantially hemispherical shaped cylinder, a driving shaft, a piston on the shaft of substantially the same contour as the cylinder and provided with a substantially cone-shaped face of an obtuse angle, a transverse slot therein, a head secured to the cylinder at an angle to the axis of the shaft and in contact with an element of the conical piston and a blade mounted in the slot of the piston and in contact with the inner face of the cylinder head adapted to rotate parallel to the face of such cylinder head and an inlet port through said piston behind the said blade, substantially as described.

16. In a rotary engine the combination of a cylinder having a plane head at an angle to the axis of rotation of the piston, a slotted piston and a piston blade mounted upon a pivot and supported on said piston by means of a pin and rotating against the cylinder head and oscillating with respect to the axis of the cylinder and shaft, substantially as described.

17. In a rotary engine the combination with a partispherical cylinder having a plane head set at an angle to the axis of the piston, a piston in said cylinder rotating about a line at an angle to the cylinder head and having a retractile blade therein to coöperate with the cylinder head, an inlet port, an outlet port in the cylinder head, and means for intermittently admitting the motive fluid, substantially as described.

18. In a rotary engine having a partispherical cylinder and a plane head and a rotating piston provided with an oscillating retractile piston blade, an adjustable bearing plate set in the cylinder head for coöperation with the contacting element of the conical piston, substantially as described.

19. In a rotary engine provided with a partispherical cylinder and a rotating and oscillating piston blade therein, a bearing plate for said piston blade slotted into the edge of the blade and having adjustable bearing edge for contact with the walls of the cylinder.

20. In a rotary engine having a rotary piston in a partispherical cylinder, a plane head for said cylinder and a pivot for suspending the piston blade upon the end of the piston, substantially as described.

21. In a rotary engine the combination with a flat faced casing and a rotating conical piston pivoted therein, of a pivoted rotating and oscillating piston blade mounted in the piston, a movable inlet port for the actuating fluid, and a self-operating valve formed by a slot and passage in the shaft of the piston coöperating with a slot in the sleeve of the piston shaft, substantially as described.

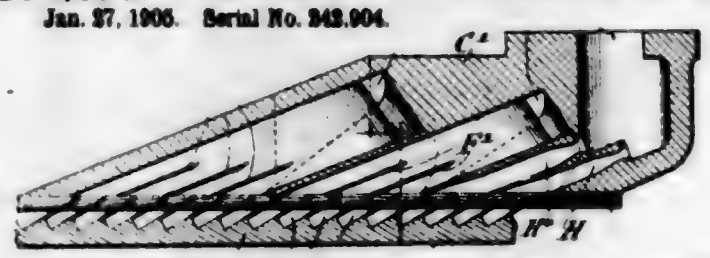
22. In a rotary engine the combination with a rotating piston having a rotating and oscillating piston blade and a port in the piston for introducing motive fluid behind said blade, of an inlet valve comprising two triangular ports one in the rotating shaft of the piston and the other in a sleeve surrounding said shaft with means for adjusting the intake of the same, substantially as described.

23. In a rotary engine the combination with a partispherical cylinder having a plane head set at an angle with the vertical, of a rotating piston provided with a retractile blade in contact with said piston head and coöperating therewith on one side of the center of the piston to form an inclosed space for the expansion of steam and means to admit steam and cut off before the exhaust opens, substantially as described.

24. In a rotary engine in combination with a partispherical cylinder having an inclined head and a rotating piston with a conical face in contact on one element with said head, and an exhaust port in the cylinder head near the said point of contact and an inlet port arranged to cut off so that the steam works expansively.

25. In a rotary engine the combination with a partispherical cylinder having a plane head inclined at an angle to the vertical, of a rotating piston and shaft said piston being slotted and provided with a retractile blade whose front edge coöperates with the inclined head of the cylinder to give the said blade an oscillating motion through the said slot, while the rotary motion of the piston blade is imparted by the rotation of the shaft and proper inlet and outlet ports adapted to work the steam expansively in the cylinder, substantially as described.

806,298. STEAM-TURBINE. JOHN W. SMITH, Erie, Pa. Filed Jan. 27, 1905. Serial No. 242,904.



Claim.—1. A steam-turbine, comprising a casing, a turbine-wheel having a series of buckets with inlet and outlet ends, and means of substantially the same cross-sectional area throughout, adapted to guide the steam from the outlet ends of a number of buckets to the inlet ends of buckets in proximity thereto and of the same series.

2. A steam-turbine, comprising a casing, a turbine-wheel having a series of buckets, and means of the same cross-sectional area throughout, adapted to guide the steam from the outlet ends of a number of buckets to the inlet ends of buckets in proximity thereto and of the same series, the means connecting each successive number of outlet and inlet ends being of larger size than the preceding means.

3. A steam-turbine, comprising a casing, having a series of channels each of the same cross-sectional area throughout its length, and a turbine-wheel having a series of buckets, with their ends in communication with the ends of the channels.

4. A steam-turbine, comprising a casing, having a series of channels of rectangular cross-section, each of the same cross-sectional area throughout its length, and a turbine-wheel having a series of buckets, with their ends in communication with the ends of the channels.

5. A steam-turbine, comprising a casing, having a series of channels each of different size, and each of the same cross-sectional area throughout its length, and a turbine-wheel having a series of buckets in communication with the ends of the channels.

6. A steam-turbine, comprising a casing, having a series of channels of rectangular cross-section, each of different size and each of the same cross-sectional area throughout its length, and a turbine-wheel having a series of buckets with their ends in communication with the ends of the channels.

7. A steam-turbine, comprising a casing, having a steam-inlet and a series of channels, each of the same cross-sectional area throughout its length, a nozzle in said casing in communication with the steam-inlet, parallel with said channels, and a turbine-wheel having a series of buckets with their ends in communication with the ends of the channels.

8. A steam-turbine, comprising a casing, having a steam-inlet and a series of channels, each of the same cross-sectional area throughout its length, a nozzle having divergent walls in said casing, in communication with the steam-inlet and parallel with said channels, and a turbine-wheel having a series of buckets with ends in communication with the ends of the channels.

9. A steam-turbine, comprising a casing, having a steam-inlet and a series of channels, each of the same cross-sectional area throughout its length, a plurality of nozzles in said casing in communication with said steam-inlet, and a turbine-wheel having a series of buckets with ends in communication with the ends of the channels.

10. A steam-turbine, comprising a casing, having a plurality of channels each of different size, and each of the same cross-sectional area throughout its length, a plurality of admission-blades in said channels, and a turbine-wheel having buckets.

11. A steam-turbine, comprising a casing having a plurality of channels each of different size, and each of the same cross-sectional area throughout its length, a plurality of admission-blades, a plurality of curved release-blades, and a turbine-wheel having buckets.

12. A steam-turbine, comprising a casing having a plurality of channels each of the same cross-sectional area throughout its length, a turbine-wheel provided with curved channels, and a division-wall forming buckets with the channels of the turbine-wheel.

13. A steam-turbine, comprising a casing having a plurality of channels, each of the same cross-sectional area throughout its length, a turbine-wheel provided with curved channels, and a beveled division-wall forming buckets with the channels of the turbine-wheel

14. A steam-turbine, comprising a casing having a plurality of channels, each of the same cross-sectional area throughout its length, a turbine-wheel provided with curved channels, and a stationary division-wall forming buckets with the channels of the turbine-wheel.

15. A steam-turbine, comprising a casing having a plurality of rectangular channels, each of different size and each of the same cross-sectional area throughout its length, a turbine-wheel having curved channels, and a division-wall forming buckets with the channels of the turbine-wheel.

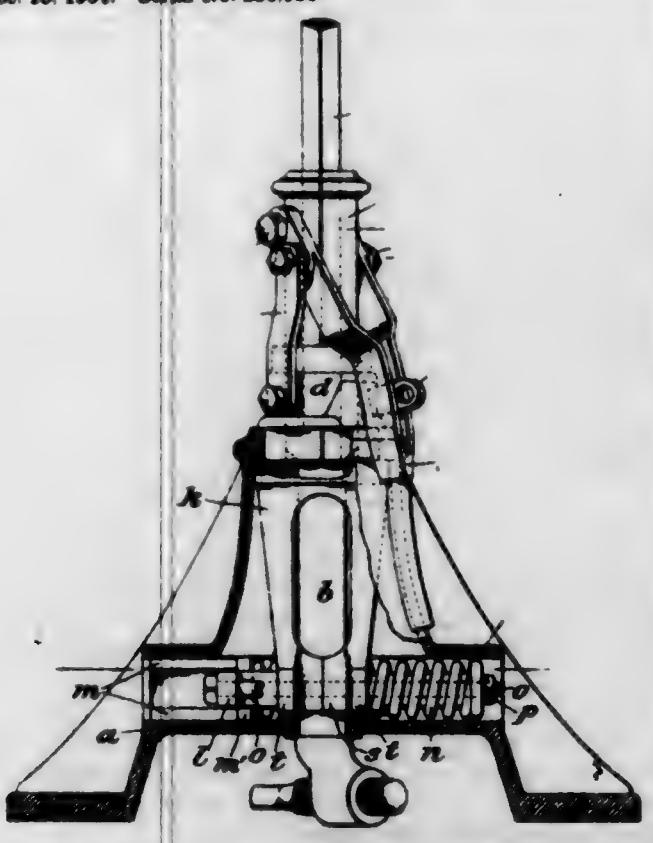
16. A steam-turbine, comprising a casing having a steam-inlet and an exhaust, a plurality of channels each of different size and each of the same cross-sectional area throughout its length, and a turbine-wheel having buckets, said channels being adapted to guide the steam emanating from the outlet ends of one series of buckets, to the inlet ends of the next series, so as to cause the steam, passing successively through the channels and buckets to partake of a spiral path from the steam-inlet to the exhaust.

17. A steam-turbine, comprising a casing, having a steam-inlet and a series of channels, each of the same cross-sectional area throughout its length, a nozzle of cross-sectional shape similar to that of the channels in said casing, in communication with the steam-inlet, and a turbine-wheel having a series of buckets with their ends in communication with the ends of the channels.

18. A steam-turbine, comprising a casing, having a steam-inlet and a series of channels of rectangular cross-section, each of the same cross-sectional area throughout its length, a nozzle rectangular in cross-section in said casing in communication with the steam-inlet, and a turbine-wheel having a series of buckets with their ends in communication with the ends of the channels.

19. A steam-turbine, comprising a plurality of units, one adjacent the other, each consisting of a casing having a steam-inlet and a series of channels, each of the same cross-sectional area throughout, and a turbine-wheel with a series of buckets having their ends in communication with the ends of the channels.

808,299. SWITCH-STAND. FRED W. SNOW, Hillburn, N. Y. Filed Dec. 15, 1904. Serial No. 236,836.



Claim.—1. In a switch-stand, the combination of a rotatable shaft and means acting substantially uniformly as the shaft rotates to affect its rotation.

2. In a switch-stand, the combination of a rotatable shaft and adjustable pressure-applying means acting substantially uniformly as the shaft rotates to affect its rotation.

3. In a switch-stand, the combination of a shaft, means acting substantially uniformly as the shaft rotates to affect its rotation, and a hand-lever to turn the shaft and adapted to disengage it from said means.

4. In a switch-stand, the combination of a shaft, means acting substantially uniformly as the shaft rotates to affect its rotation, a hand-lever pivoted to the shaft, and a clutch member upon the lever adapted to engage and disengage a corresponding clutch member on said means.

5. In a switch-stand, the combination of a shaft, means acting substantially uniformly as the shaft rotates to affect its rotation, a hand-lever pivoted to the shaft, a clutch member upon the lever adapted to engage and disengage a corresponding clutch member on said means, and means connecting said lever and first-named means whereby the engagement and disengagement of the two clutch members may be effected by the movement of the lever.

6. In a switch-stand, the combination of a shaft, and a spring acting substantially uniformly as the shaft rotates to affect its rotation.

7. In a switch-stand, the combination of a shaft, a spring on each side thereof, a bar, the ends of which are actuated by the springs to cause it to affect uniformly the rotation of the shaft.

8. In a switch-stand, the combination of a shaft, a block thereon, a bar against the block, and a spring at each end of the bar to cause the bar to affect the rotation of the block, the block or bar being formed so that the effect upon the rotation of the block is substantially uniform.

9. In a switch-stand, the combination of a shaft, a block thereon, a bar against the block, and a spring at each end of the bar to cause the bar to affect the rotation of the block, said bar being formed so that the effect upon the rotation of the block is substantially uniform.

10. In a switch-stand, the combination of a shaft, a block thereon, a bar against the block, and a spring at each end of the bar to cause the bar to affect the rotation of the block, said bar being formed with a curve against which the block moves so that the effect upon the rotation of the block is substantially uniform.

11. In a switch-stand, the combination of a shaft, a block thereon, a bar against the block, and a spring at each end of the bar to cause the bar to affect the rotation of the block, said bar having in its surface a substantially ogee curve against which portion of the surface of the bar the block moves in its rotation.

12. In a switch-stand, the combination of a shaft, a block thereon, a bar against the block, and a spring at each end of the bar to cause the bar to affect the rotation of the block, said bar having in its surface a substantially double-ogee curve against which portion of the surface of the bar the block moves in its rotation.

13. In a switch-stand, the combination of a shaft, a block thereon, a bar against the block, a spring at each end of the bar to cause the bar to affect the rotation of the block, said bar having in its surface a symmetrical curve with a pointed center and said block having a pointed portion which, during the rotation of the block, moves across the symmetrically-curved surface of the bar.

14. In a switch-stand, the combination of a shaft, a block thereon, a bar against the block, and a spring at each end of the bar to cause it to affect the rotation of the block, said bar having in its surface a substantially double-ogee curve with a pointed center and said block having a pointed portion which during the rotation of the block moves across the double-ogee-curved surface of the bar.

15. In a switch-stand, the combination of a shaft, a block thereon having recesses formed therein, a bar acting substantially uniformly against the block to affect its rotation, said bar having a projection which is adapted to fit the recesses in the block to determine the limiting positions of the block.

16. In a switch-stand, the combination of a shaft, a block thereon having recesses therein at regular intervals, a bar acting substantially uniformly against the block to affect its rotation, said bar having a projection with a double-ogee surface against which the block moves as it rotates, said projection being adapted to fit the recesses to determine the limiting positions of the block.

17. In a switch-stand, the combination of a shaft and a spring-actuated engaging device acting substantially uniformly and adapted to lock the shaft in either of its limiting positions.

18. In a switch-stand, the combination of a shaft, a block thereon, a bar formed with a curved surface against which the block engages and on which the block is adapted to move as the shaft rotates and means for maintaining the bar against the block under substantially uniform pressure.

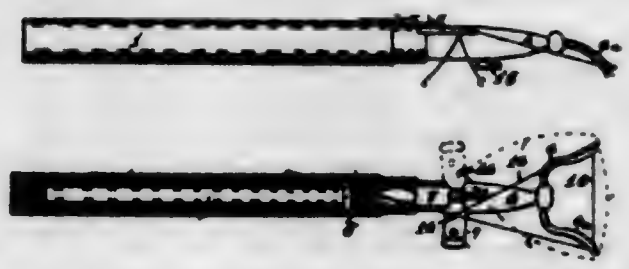
19. In a switch-stand, the combination of a rotatable shaft and means acting substantially uniformly as the shaft rotates to resist the shaft during the first half of its rotation and to assist the shaft during the last half of its rotation.

20. In a switch-stand, the combination of a rotatable shaft, and

a spring acting substantially uniformly as the shaft rotates to retard the shaft during the first half of its rotation and to accelerate the shaft during the last half of its rotation.

21. In a switch-stand, the combination of a rotatable shaft operatively connected with a switch and means acting substantially uniformly to resist the rotation of the shaft during substantially the first half of said rotation and to assist the rotation of said shaft during substantially the last half of said rotation in order to complete the throw of the switch and to keep the switch in its thrown position.

806,300. **DENTAL-LIGATURE APPLIER.** JAMES SORENSON, Neenah, Wis. Filed Mar. 27, 1905. Serial No. 252,404.



Claim.—1. In a dental-ligature applier, the combination of a tubular handle, a coil of thread therein, an aperture for the passage of a thread of said coil through said handle, a stem detachable from said handle and having two fingers, spaced apart, extending from one end of said stem, and a button arranged upon said stem for tightening the thread between said fingers by the turning of said button, substantially as described.

2. In a dental-ligature applier, the combination of a tubular handle, a coil of thread therein, an aperture for the passage of a thread of said coil through said handle, a stem detachable from said handle having two fingers, spaced apart, extending from one end of said stem, a button arranged upon said stem for tightening the thread between said fingers by the turning thereof, and a knife for cutting said thread as said button is turned, substantially as set forth.

3. In a dental-ligature applier, the combination of a tubular handle, a coil of thread therein, an aperture for the passage of a thread of said coil through said handle, a stem detachable from said handle having two fingers, spaced apart, extending from one end of said stem, a button pivoted upon said stem, a slot in one edge of said button intermediate its pivot and end nearest the handle adapted for receiving a thread of said coil and having it wound around said button, the button being arranged for tightening the thread between said fingers by the turning thereof from a transverse to a parallel position with said stem, substantially as described.

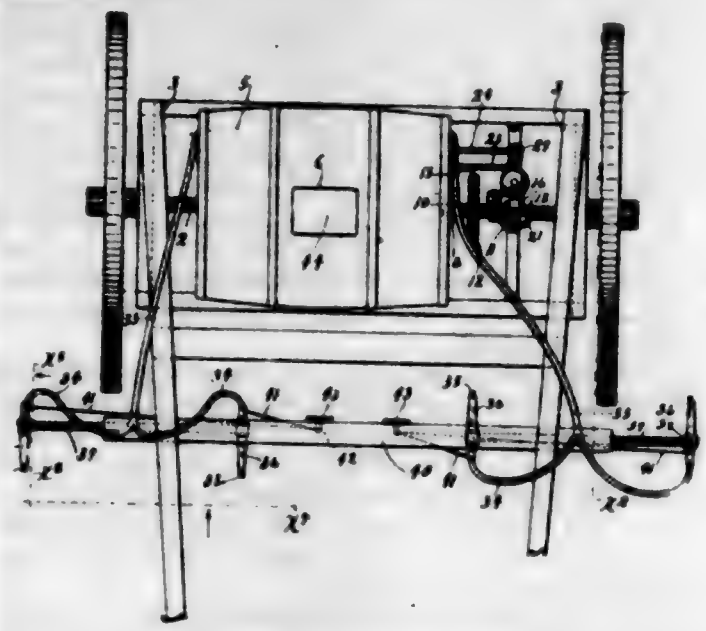
4. In a dental-ligature applier, the combination of a tubular handle, a coil of thread therein, a perforation in said handle for the passage of a thread of said coil, a stem detachable from said handle having two fingers, spaced apart, and extending from the outer end of said stem, a flattened surface intermediate the ends of said stem, a groove at one end of said flattened surface having a convex inner surface upon the outer side of said groove, a button pivotally secured upon said flattened surface having one end arranged for passing through said groove as the button is turned from a transverse position upon one side of the stem to a like position upon its other side, a slot in one edge of said button intermediate the end passing through said groove and its pivot adapted to receive a thread of said coil and have the same wound around said button when in a transverse position with said stem, and thereby to tighten the thread between said fingers as the button is turned into a position parallel with said stem, substantially as described.

806,301. **POISON-DISTRIBUTER.** FERDINAND SPLITTSTOESSER, Northbranch, Minn. Filed Mar. 21, 1904. Serial No. 199,222.

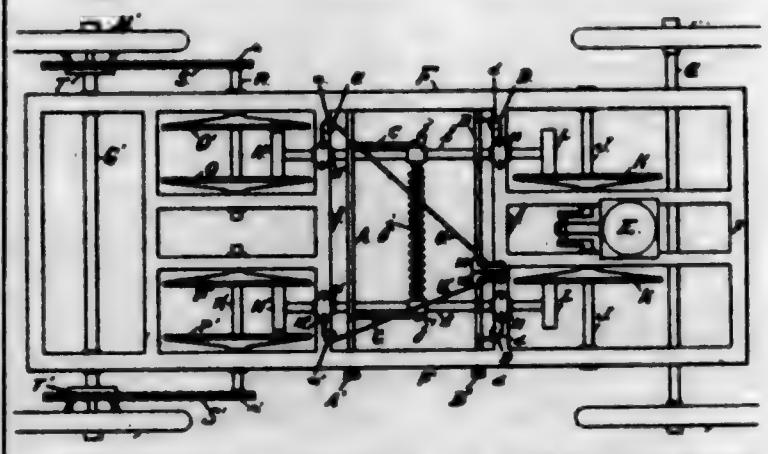
Claim.—1. In combination with a truck, and a tank carried thereby, of a reversible nozzle-supporting lever mounted for vertical, pivotal adjustments, and mounted for complete rotary movements in a horizontal plane, when disconnected from its operative mechanism, a nozzle carried by said lever, and a flexible tube connecting said tank with said nozzle, substantially as described.

2. In combination with a truck, and a tank carried thereby, of a plurality of reversible nozzle-supporting levers mounted for vertical, pivotal adjustments, and mounted for complete rotary movements in a horizontal plane when disconnected from its operative mechanism, nozzles carried by said levers, and flexible tubes connecting said tank with said nozzles, substantially as described.

806,301.



806,302. **TRANSMISSION MECHANISM FOR AUTOMOBILES.** ZADOCK B. STARR, Gloversville, N. Y. Filed Aug. 13, 1904. Serial No. 220,554.



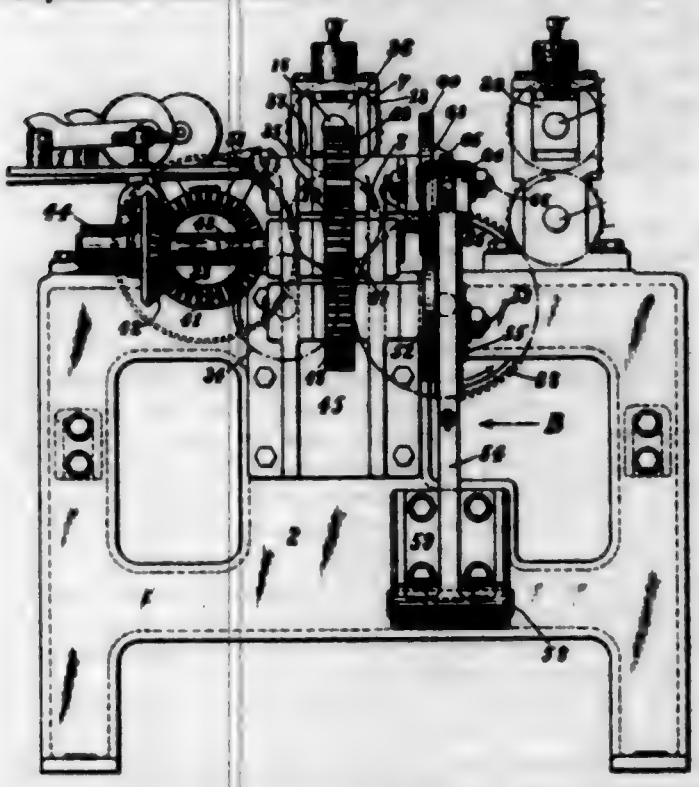
Claim.—1. In an automobile; a pair of disks; a crank-shaft upon which said disks are mounted; two shafts; a friction-roller at each end thereof; two pairs of disks; connections between each shaft carrying said pairs of disks with the rear wheel of the automobile; said friction-rollers mounted in such a manner that one roller on each shaft shall engage the disks mounted on the crank-shaft on opposite sides thereof; the other friction-roller on each shaft engaging one of the pairs of disks, respectively, substantially as described.

2. In an automobile; a pair of disks; a crank-shaft upon which said disks are mounted; a pair of friction-rollers adapted to engage the opposite sides of said disks; shafts on which said friction-rollers are mounted; straps engaging collars on said shafts; sheaves over which said straps pass; a rod to which said straps are secured; a handle-bar connected with said rod, by the operation of which said friction-rollers may be disengaged from said disks; substantially as described.

3. In an automobile; a pair of disks; a crank-shaft upon which said disks are mounted; a pair of friction-rollers adapted to engage the opposite sides of said disks; shafts upon which said friction-rollers are mounted; a second friction-roller carried by each of said shafts; a pair of disks, between which each of said second friction-rollers revolves; bearings in which the shafts carrying said friction-rollers are mounted; a strap; a sheave over which said strap passes; a bell-crank lever, one arm of which said strap engages, all so arranged and connected up that by the operation of said bell-crank lever said second-mentioned friction-rollers may be caused to be separated from one of said disks, and become engaged with the other, substantially as described.

4. In a motor; a pair of disks; a crank-shaft upon which said disks are mounted; a pair of friction-rollers adapted to engage with the opposite sides of said disks; shafts upon which said friction-rollers are mounted; a spring placed between and connected with the shafts upon which said friction-rollers are mounted; a rod placed transversely of said machine; bars connecting said rod with said shafts, respectively; a handle-bar connected with said rod, so arranged that by the movement of said handle-bar said friction-rollers may be moved to and from the circumference of said disks, substantially as described.

808,303. CUTTING MECHANISM. FREDERICK B. STRAMBURG, Rumford Falls, Me., assignor to Continental Paper Bag Company, a Corporation of Maine. Filed Jan. 10, 1905. Serial No. 240,401.



Claim.—1. The combination of a knife, a striker slidably mounted in a bearing, said bearing pivotally mounted for movement in a circular path, an oscillatable arm, the rear end of said striker pivoted to the free end of said arm, means to cause the bearing to travel in a circular path and means to oscillate the arm, all combined and operating together substantially as described.

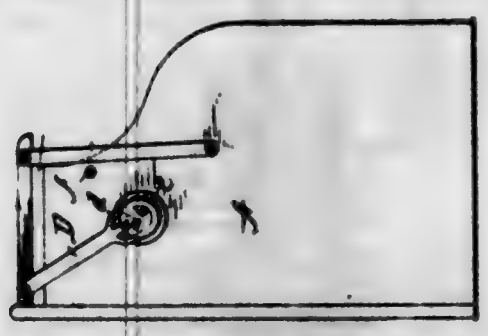
2. The combination of a knife, a striker slidably mounted on a crank, an oscillatable arm, one end of the striker being pivoted to the free end of the arm, and a second crank to oscillate the arm, all combined and operating together substantially as described.

3. The combination of a knife, a striker mounted for universal plane movement in the plane of its length, an oscillatable arm, the rear end of the striker being pivoted to the free end of said arm, means to oscillate the arm and means to oscillate the striker substantially normal thereto, all combined and operating together substantially as described.

4. The combination of a knife, a striker 46 mounted for universal plane movement in the plane of its length, a crank to oscillate the striker, an arm 54 having one end pivoted at 58 and the other end pivoted to the striker, and a second crank to oscillate the arm, all combined and operating together substantially as described.

5. The combination of a knife, two cranks, a striker slidably mounted on one of the cranks, an oscillatable arm actuated by the other crank and means to slide the striker from the oscillatable arm, all combined and operating together substantially as described.

808,304. DESK. GEORGE G. STREET, Buffalo, N. Y. Filed Aug. 31, 1904. Serial No. 223,788.



Claim.—1. In combination with a roll-top desk, a supplemental top, a pair of swinging links connecting each end of the supplemental top with the ends of the desk, and means interposed between one link of each pair and the desk whereby it is permitted to have longitudinal sliding movement when the rear end of the supplemental top is in line with the front edge of the main top of the desk, substantially as described.

2. In combination, with a roll-top desk, a supplemental top, links connecting the front portion of said top with the ends of the desk, and rear links connecting the rear part of the top with the ends of the desk, and locking means for said links, substantially as described.

3. In combination, with a roll-top desk, a supplemental top, links connecting the front portion of said top with the ends of the desk, and rear links connecting the rear part of the top with the ends of the desk, recessed bosses on the ends of the desk, said rear links having elongated loops encircling the bosses and projections for engaging the recesses when the links are in a predetermined position, substantially as described.

808,305. ATTACHMENT FOR GAS-FIXTURES. GEORGE P. SWIFT, Chicago, Ill. Filed Nov. 28, 1904. Serial No. 234,493.



Claim.—1. An attachment for gas-fixtures comprising a clamp, a link pivotally connected to said clamp and a lock-plate adapted to bear at one side only against the turn-cock with which it may be associated carried by said adjustable link, and yielding means for normally maintaining its said lock-plate in a definite position relative to said link and adapted to permit the upward movement of the free end of said plate relative to the link.

2. An attachment for gas-fixtures comprising a clamp, consisting of a metal strip, bent to provide a pipe-encircling portion and two extended ends, means associated with said ends for varying the opening of the pipe-encircling portion, a link pivoted between said arms, and a lock-plate carried by said link.

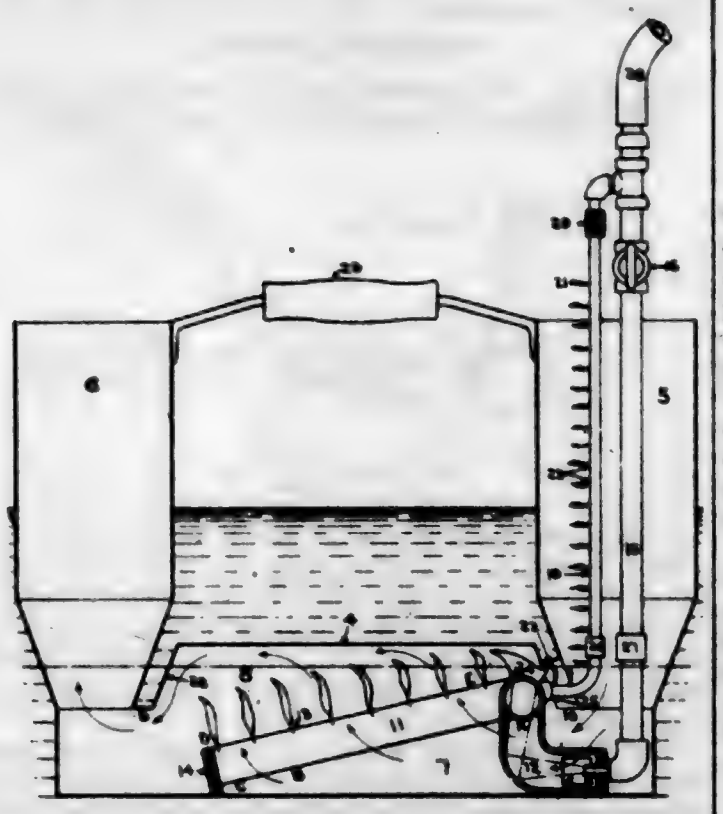
3. In a device of the character described, a clamp, a link having a slot-and-pin connection with said clamp, means for definitely positioning said link relative to said clamp, and a spring-actuated locking device carried by the link, and arranged to bear against one side only of the turn-cock handle.

808,306. FOUNTAIN-SYRINGE. CHARLES A. TATUM, New York, N. Y. Filed Aug. 23, 1905. Serial No. 275,347.

Claim.—1. In a fountain-syringe, a reservoir provided with a nipple at one end, and with hinged U-frames at the opposite end, and means for retaining the latter in a closed position.

2. In a fountain-syringe, a reservoir provided with a nipple at one end, and with two locking-frames hinged together, at the opposite end, and means for retaining said frames in a closed position.

806,307. **WATER-HEATER.** HARRY B. TOWNSEND, New York, N. Y. Filed Nov. 2, 1904. Serial No. 231,080.



Claim.—1. In a water-heater, the combination of a casing, a burner within the casing, a feed-pipe for the burner, an escape-flue, an air-inlet flue discharging under the burner, the space between the side of the burner nearest the escape-flue and the bottom of the casing being closed to prevent the air from the inlet-flue from reaching the escape-flue without first passing through the combustion-chamber, all substantially as set forth.

2. In a water-heater, the combination of a casing having an air-inlet flue and an escape-flue, a burner within the casing, a feed-pipe for the burner, said burner being so arranged with reference to the casing that the air entering the heater must first pass under the burner and thence upward through open spaces between the several parts of the burner or between the burner and the walls of the casing to the combustion-chamber, and thence to the escape-flue, said open spaces being only large enough to admit of the passage through them of sufficient air for the purpose of combustion at that part of the burner served by each open space respectively, substantially as set forth.

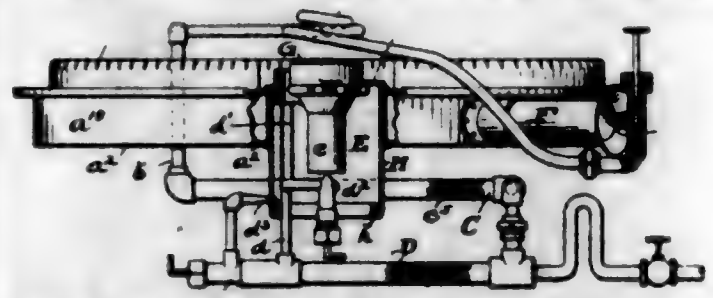
3. In a water-heater, the combination of a casing having an air-inlet flue at one end, and an escape-flue at the opposite end, a burner within the casing, a feed-pipe for the burner, said burner being arranged with the end nearest the escape-flue on or near the bottom of the casing, and the opposite end raised high enough above the bottom of the casing to admit of the air-inlet flue discharging under it, substantially as shown, for the purpose specified.

4. In a water-heater, the combination of a casing, a burner within the casing, a feed-pipe for the burner, an escape-flue, an air-inlet flue discharging under the burner, the space between the side of the burner nearest the escape-flue and the bottom of the casing being closed to prevent the air from the inlet-flue from reaching the escape-flue without first passing through the combustion-chamber, a lighting attachment consisting of a conducting-tube connected to the feed-pipe and having a cock to control the admission of gas to the same, all substantially as shown and described.

5. The combination in a water-heater of a casing having an air-inlet flue and an escape-flue, a burner within the casing, a feed-pipe for the burner, the roof or cover of said casing being carried downward at a point between the burner and the escape-flue, substantially as shown, for the purpose specified.

6. The combination in a water-heater of a casing having an air-inlet flue and an escape-flue, a burner within the casing, a feed-pipe for the burner, the roof or cover of said casing being carried downward at a point between the burner and the air-inlet flue, substantially as shown, for the purpose specified.

806,308. **GASOLENE-BURNER.** ROLLIN H. WHITE, Cleveland, Ohio, assignor to The White Sewing Machine Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 3, 1900. Serial No. 38,406.

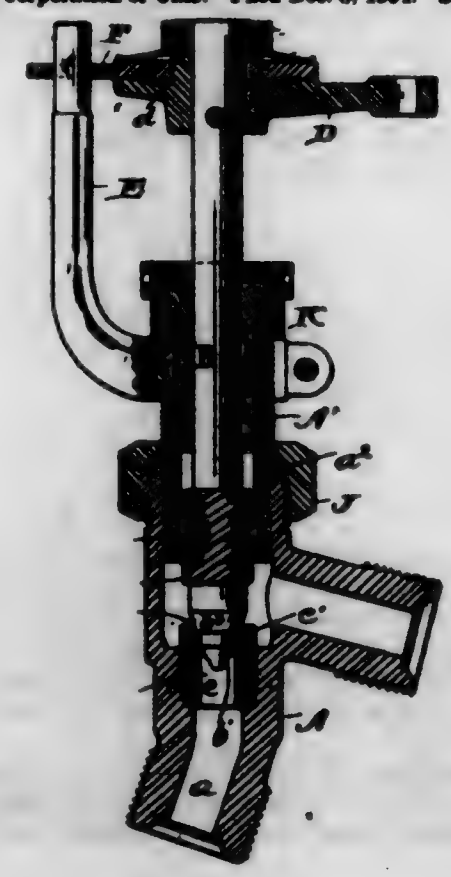


Claim.—1. The combination of a main burner, a pilot-burner tube which passes vertically through the same and is open at both ends and has on its lower end an internal drip-cup, a pilot-burner in said tube, which burner contains near its upper end a port which partly surrounds the burner, a discharge-pipe connected with one end of said port and which discharges into the inlet of the pilot-burner, and a supply-pipe having one branch which is connected with said port, a second branch adapted to discharge into said drip-cup, and a third branch which is coiled over the pilot-burner and discharges into the inlet of the main burner, and three valves for severally controlling the flow of the fuel through the said three branches substantially as and for the purpose specified.

2. The combination of a main burner, a pilot-burner tube, which passes through the same and is open at both ends, an annular drip-cup within said tube, a pilot-burner within said tube, having an inclosed port, near its upper end and partially encircling the same, a supply-tube leading to said port, a discharge-pipe leading therefrom to the lower end of said pilot-burner, and means for controlling the discharge through said last-mentioned pipe, substantially as described.

3. In an apparatus for burning hydrocarbon, the combination of a primary burner and secondary burner provided with separate mixing-chambers and having a common combustion-chamber, a secondary-burner fuel-supply system comprising a vaporizing-coil and a superheating-coil formed as a continuous pipe and subjected respectively to the flame of said secondary and said primary burner, connections providing communication between said vaporizing-coil and a source of oil-supply and between said superheating-coil and the mixing-chamber of said secondary burner, a primary-burner fuel-supply system comprising an individual vaporizer, means for feeding oil thereto, means whereby vapor therefrom is given an admixture of air and discharged into the mixing-chamber of said primary burner, and a fire-pan arranged to produce an initial supply of vapor to said primary burner.

806,309. **THROTTLE-VALVE.** ROLLIN H. WHITE, Cleveland, Ohio, assignor to The White Sewing Machine Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 5, 1904. Serial No. 235,517.



Claim.—1. The combination of a valve-casing having a cylindrical steam passage-way whose inner end is countersunk and has on the inner edge of said countersunk portion a valve-seat, with an endwise-movable valve-rod alined with said passage-way, and having, first, a conical end, second, a larger conical surface for engaging said valve-seat, and, third, a cylindrical portion which lies between said conical portions and is fitted to the cylindrical steam passage-way and is long enough to adapt it to enter said passage-way an appreciable distance before the larger conical surface engages with said valve-seat.

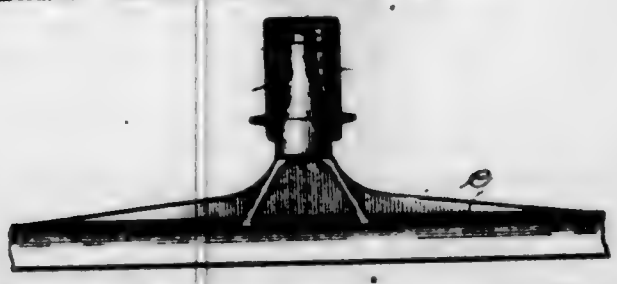
2. The combination of a valve-casing having a cylindrical steam passage-way whose inner end is countersunk and has on the inner edge of said countersunk portion a valve-seat, with an endwise-movable valve-rod alined with said passage-way, and having, first, a conical end, second, a larger conical surface for engaging said valve-seat, third, a cylindrical portion which lies between said conical portions and is fitted to the cylindrical steam passage-way and is long enough to adapt it to enter said passage-way an appreciable distance before the larger conical surface engages with said valve-seat, and, fourth, a screw-threaded portion which engages with a correspondingly-threaded part of the casing.

3. In a throttle-valve the combination of a valve-casing having an internally-threaded portion, a valve-rod having a threaded portion which engages with the said threaded part of the casing and having a stem which projects out of the casing, an operating-handle secured to the said stem, a non-rotatable plate resting upon the hub of said handle, a spring-washer bearing upon said plate, and means for regulating the tension of the washer.

4. In a throttle-valve the combination of a valve-casing having an internally-threaded portion, a valve-rod having a threaded portion which engages with the threaded portion of the casing and having a stem which projects out of the casing, an operating-handle secured to said stem, an arm E fixed to the casing and having its outer end lying parallel with the valve-rod, a plate loosely embracing the valve-rod and having a hole which also loosely embraces the end of said rod E, which plate bears upon the hub of said operating-handle, a spring-washer bearing upon said plate, and a nut which screws onto the hub of the operating-handle and bears against said spring-washer to regulate its tension.

5. The combination of a valve-casing composed of the part A containing a steam-passage and a telescoping part A′ having an outwardly-extended flange which bears against the end of the part A, and having also an internally-threaded portion *a′*, a coupling-nut J engaging with said flange and screwing onto the casing part A, and a valve-rod B entering the casing and having a threaded portion *b* which engages with the internally-threaded part of the casing member A′.

806,310. TROLLEY-WIRE HOLDER. FRANK M. ZIMMERMAN, Aurora, Ill. Filed Mar. 21, 1905. Serial No. 251,918.

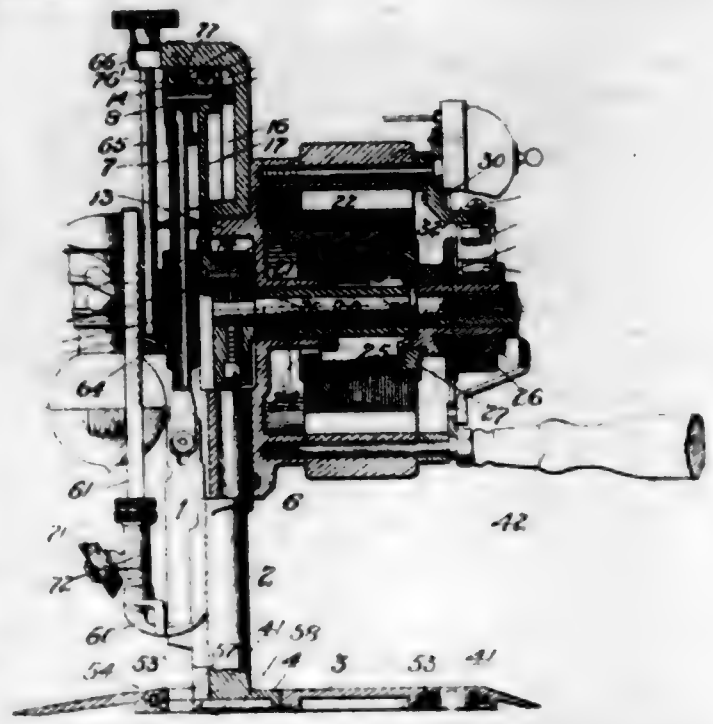


Claim.—In a trolley-wire holder, the combination with a socket whereof the bore is cylindrical and contracted at its mouth and provided with ledges in its enlarged chamber, of a wire-holder stem having an enlarged lower part fitted to said mouth and an upper and flanged portion connected to said ledges.

806,311. CLOTH-CUTTING MACHINE. GEORGE L. BALLARD, Rochester, N. Y., assignor to Ballard Brothers, Rochester, N. Y., a Firm. Filed Dec. 8, 1904. Serial No. 236,062.

Claim.—1. In combination in a cloth-cutting machine, a base-plate, a standard, a vertically-reciprocating knife, a drive-rod connected with the knife, a motor-shaft, a crank thereon, a pitman having a pin entering a socket in the crank, means for holding the said pin therein with the pitman and drive-rod close to the face of the crank and a wrist-pin connection between the pitman and the knife-rod, substantially as described.

2. In combination in a cloth-cutting machine, the knife, the drive-rod for the knife the motor-shaft, the crank on the motor-shaft, the pitman having a crank-pin within a socket in the crank, a countersunk screw passing through the pin and a nut for holding the pin whereby the pitman and drive-rod may work close to the face of the crank, substantially as described.



3. In combination in a cloth-cutting machine, a base-plate, a standard, a vertically-reciprocating knife, a vertically-reciprocating drive-rod, a casing or frame on the standard, a motor carried in the frame and having a shaft, a crank on the shaft, a pitman connected with the crank and extending upwardly therefrom, a cross-head or slide-block connected with the upper end of the drive-rod of the knife, slideways in which the said block moves, a wrist-pin connecting the pitman and the cross-head or slide-block at the upper end of the pitman, a guideway in rear of the pitman and a block on the wrist-pin moving in the said guideway to control the upper ends of the drive-rod and pitman, substantially as described.

4. In combination in a cloth-cutting machine, a base-plate, a standard, a knife, means for driving the knife, a presser-foot, a toothed presser-bar extending vertically and guided through a portion of the frame, a worm engaging the toothed bar and a shaft extending vertically from the said worm and having means at its upper end for operating the shaft, substantially as described.

5. In combination, in a cloth-cutting machine, a base-plate, a standard, a cutting-knife, means for operating the presser-bar, a guideway for the presser-bar, a plate extending across said guideway and adapted to spring slightly away from the presser-bar to release the same, and means for forcing and holding the plate so as to pinch the presser-bar, substantially as described.

6. In combination, in a cloth-cutting machine, a cutting-knife, means for operating the same, a presser-foot, and means associated with the said presser-foot for sharpening the knife, substantially as described.

7. In combination in a cloth-cutting machine, a base-plate, a standard, a cutting-knife, means for operating the same, a presser-foot, a presser-bar and a knife-sharpening device swiveled on the presser-bar, substantially as described,

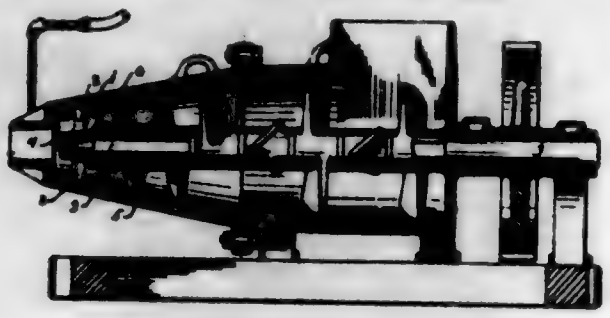
8. In combination in a cloth-cutting machine, a reciprocating cutting-knife, a presser-foot, a presser-bar, a bracket swiveled on the presser-bar and a sharpening-wheel set at an inclination of the bracket to have a diagonal action on the knife as the same reciprocates vertically, substantially as described.

9. In combination in a cloth-cutting machine, a frame, a knife, a shaft bearing in the frame, a crank-arm on the shaft, connections between the same and the knife, means for driving the shaft, and a duct leading longitudinally through the shaft, a duct extending at right angles at its forward end through part of the shaft and the crank and to the crank-pin whereby the centrifugal force will feed the lubricant to the crank-pin, substantially as described.

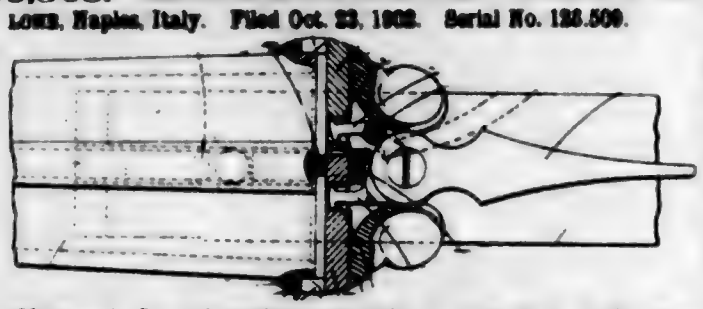
806,312. BRICK-MACHINE ATTACHMENT. JAMES O. BARBOUR, Canton, Ohio, assignor to The Metropolitan Brick Company, Canton, Ohio, a Corporation. Filed Mar. 6, 1905. Serial No. 248,454.

Claim.—In a brick-machine attachment for the purpose described, the combination of a casing and die, a shaft rotatable within the casing, and an auger mounted upon said shaft, a hub provided with radial bars, said hub loosely mounted upon the auger-shaft and

located intermediate the forward end of the auger and at the rear of the die, substantially as and for the purpose specified.



806,313. BREECH-LOADING SMALL-ARM. RAFFAELE M. BASILONE, Naples, Italy. Filed Oct. 23, 1902. Serial No. 128,509.



Claim.—1. In a drop-down gun the combination of the gun-stock, bolts laterally movable on the stock, means for moving the bolts, jaws on the outer ends of the bolts, a barrel portion pivoted to the stock and lateral recesses in the barrel portion adapted to be engaged by the jaws.

2. In a drop-down gun the combination of the gun-stock, bolts laterally movable on the stock, means for moving the bolts, jaws on the outer ends of the bolts, a barrel portion pivoted to the stock, lateral recesses in the barrel portion adapted to be engaged by the jaws, a lug on the barrel portion, and a perforation in said lug adapted to receive the inner end of one of the laterally-moving bolts simultaneously with the engagement of the jaws thereof with the lateral recesses of the barrel portion.

3. In a drop-down gun the combination of the gun-stock, lateral projections fixed thereon, jaws on the projections, bolts on the stock mounted so as to be laterally movable, openings in the projections to permit the jaws to pass laterally through them, means for actuating the bolts, jaws on the outer ends of the bolts, a barrel portion pivoted to the stock, lateral projections on the barrel portion, recesses in the projections adapted to be engaged by the jaws of the bolts on the stock, and fixed lateral jaws on the said projections engaging the fixed jaws of the stock when the breech is closed.

4. In a drop-down gun the combination of the gun-stock, bolts laterally movable on the stock, means for moving the bolts, jaws on the outer ends of the bolts, a barrel portion pivoted to the stock, lateral recesses therein adapted to be engaged by the jaws, a lug on the barrel portion, and a perforation in said lug adapted to receive the inner end of one of the laterally-moving bolts simultaneously with the engagement of the jaws thereof with the lateral recesses of the barrel portion.

5. In a drop-down gun the combination of the gun-stock, bolts laterally movable thereon, jaws on the outer ends of the bolts, a lever for moving the bolts, a catch on said lever, a barrel portion pivoted to the stock, lateral recesses therein adapted to be engaged by the jaws, a lug on the barrel portion, and a notch in the lug adapted to be engaged by the catch simultaneously with the engagement of the jaws with the lateral recesses in the barrel portion.

6. In a drop-down gun the combination of the gun-stock, bolts laterally movably thereon, jaws on the outer ends of the bolts, a rotatable catch on the stock, gearing for rotating the catch, a lever on the stock for simultaneously operating the catch-gearing and the laterally-movable bolts, a barrel portion pivoted to the stock, lateral recesses therein adapted to be engaged by the jaws of the bolts, a lug on the barrel portion, and catches on said lug adatped to be engaged by the rotating catch simultaneously with the engagement of the lateral recesses by the jaws of the bolts.

7. In a drop-down gun the combination of the gun-stock, a bell-crank lever pivoted thereon, a locking-lever, a boss on said locking-lever, a spindle fixed concentrically to the boss and forming a pivot for the locking-lever, a recess in the boss adapted to engage the rear arm of the bell-crank lever, an extension-arm on the locking-lever, two bolts laterally movable (toward and away from each other) on the stock, a recess in each bolt one to receive the front arm of the bell-crank lever and the other to engage the extension-arm of the locking-lever, jaws on the outer ends of and projecting forward at right angles to the bolts, a barrel portion pivoted to the stock, and lateral recesses in the barrel portion situated adjacent to the breech end and adapted to be engaged by the jaws of the laterally-moving bolts.

8. In a drop-down gun the combination of the gun-stock, a bell-crank lever pivoted thereon, a locking-lever, a boss on said locking-lever, a spindle fixed concentrically to the boss and forming a pivot for the locking-lever, a recess in the boss adapted to engage the rear arm of the bell-crank lever, an extension-arm on the locking-lever, two bolts laterally movable (toward and away from each other) on the stock, a recess in each bolt one to receive the front arm of the bell-crank lever and the other to engage the extension-arm of the locking-lever, jaws on the outer ends of and projecting forward at right angles to the bolts, fixed lateral forwardly-extending projections on the stock, openings in said projections to permit the jaws on the laterally-moving bolts to pass through the said projections, jaws fixed to the forward end of the inner faces of the projections, a barrel portion pivoted to the stock, fixed lateral projections on the barrel portion, adjacent to the breech end thereof, recesses in the said lateral projections adapted to be engaged by the laterally-moving bolts, and jaws extending laterally from the said projections and adapted to engage the jaws on the fixed forwardly-extending projections on the stock when the breech is closed.

806,314. CANDLE-HOLDER. FRANCIS BAUMER, New York, N. Y. Filed June 15, 1905. Serial No. 265,318.



Claim.—1. A candle-holder comprising an outer tube, an inner tube provided with an open side for the reception of a candle, said inner tube being adapted to be slid longitudinally into said outer tube and having a spring and provided with means for preventing the ejection of said candle from said inner tube by said spring while said parts are being assembled, and a base attached to one of said tubes and adapted to be inserted into the well of a candlestick.

2. A candle-holder comprising an outer tube, an inner tube provided with an open side for the reception of a candle, said inner tube being provided with a spring and having a reduced portion at its upper end against which the candle rests and by which it is prevented from ejection, the whole being adapted to be slid into the lower end of said outer tube.

3. A candle-holder comprising an outer tube, an inner tube provided with an open side for the reception of a candle, said inner tube being adapted to be slid longitudinally into said outer tube and having a spring and provided with means for preventing the ejection of said candle from said inner tube by said spring while said parts are being assembled, and a base attached to the inner one of said tubes and adapted to be inserted into the well of a candlestick.

4. A candle-holder comprising an outer tube, an inner tube provided with an open side for the reception of a candle, said inner tube being provided with a spring and having a reduced portion at its upper end against which the candle rests and by which it is prevented

from ejection, the whole being adapted to be slid into the lower end of said outer tube, and a base adapted to fit the well of a candlestick attached to the inner tube.

5. A candle-holder comprising an outer tube, an inner tube provided with an open side for the reception of a candle, said inner tube being adapted to be slid longitudinally into said outer tube and having a spring and provided with means for preventing the ejection of said candle from said inner tube by said spring while said parts are being assembled, said tube and candle being adapted to be inserted into the outer tube from the lower end thereof.

6. A candle-holder comprising an outer tube, an inner tube provided with an open side for the reception of a candle, said inner tube being adapted to be slid longitudinally into said outer tube and having a spring and provided with means for preventing the ejection of said candle from said inner tube by said spring while said parts are being assembled, said tube and candle being adapted to be inserted into the outer tube from the lower end thereof, and a base adapted to fit into the well of a candlestick carried by said inner tube.

7. A tube of a candle-holder comprising an ornamental collar fast thereon and having a downwardly and outwardly projecting flange, an ornamental shell fitting over said tube one end projecting up under said flange and a resilient detaining-foot formed out of the metal of the tube over which the shell may be slipped into position, and adapted to spring outwardly beneath the lower end of the shell to hold it in position.

8. A tube of a candle-holder comprising an ornamental collar fast thereon and having a downwardly and outwardly projecting flange, an ornamental shell fitting over said tube one end projecting up under said flange and a resilient detaining-foot formed out of the metal of the tube over which the shell may be slipped into position, and adapted to spring outwardly beneath the lower end of the shell to hold it in position, said tube being open at its lower end, in combination with a second candle-holding tube adapted to be inserted into said open end.

9. In combination with an outer tube open at its lower end, of a candlestick, an inner tube having a spring-pressed plunger for the candle having a cupped upper surface said inner tube carrying a base at one end and a diminished opening at the other end, and provided with an open side for the sidewise reception of a candle.

10. A candle-carrying tube for candlesticks having a diminished end, a semicylindrical body part having turned-over edges, a spring-pressed plunger having a cylindrical portion adapted to slide in said body part and slitted to engage the turned-over edges.

11. A candle-carrying tube for candlesticks having a diminished end, a semicylindrical body part having turned-over edges, a spring-pressed plunger having a cylindrical portion adapted to slide in said body part and slitted to engage the turned-over edges, in combination with an outer tube open at its lower end, and a base at the lower end of the inner tube.

12. A candle-carrying tube comprising a cylindrical part, ears therefor, a resilient base having a flared-out upper rim, holes in the angle of the flared-out part for the reception of said ears to permit them to be upset to secure the base to the tube a spring for the plunger resting upon the closed bottom part of the cylindrical base.

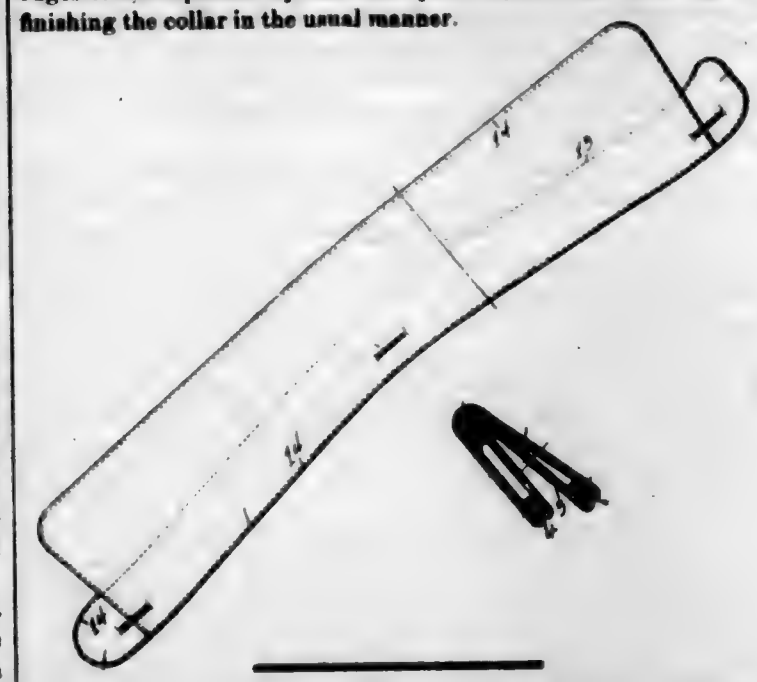
13. A candle-carrying tube comprising a cylindrical part, ears therefor, a resilient base having a flared-out upper rim, holes in the angle of the flared-out part for the reception of said ears to permit them to be upset to secure the base to the tube, in combination with an outer tube open at the bottom, its lower edge adapted to fit within the flared-out part of the base, and an ornamental shell fitting into the flared-out part of the base.

14. A candle-carrying tube comprising a cylindrical part, ears therefor, a resilient base having a flared-out upper rim and a closed bottom, holes in the angle of the flared-out part for the reception of said ears to permit them to be upset to secure the base to the tube, a spring-pressed plunger carried by said cylindrical part, an ornamental shell fitting into the flared-out part of the base, and a spring for the plunger resting upon the closed bottom.

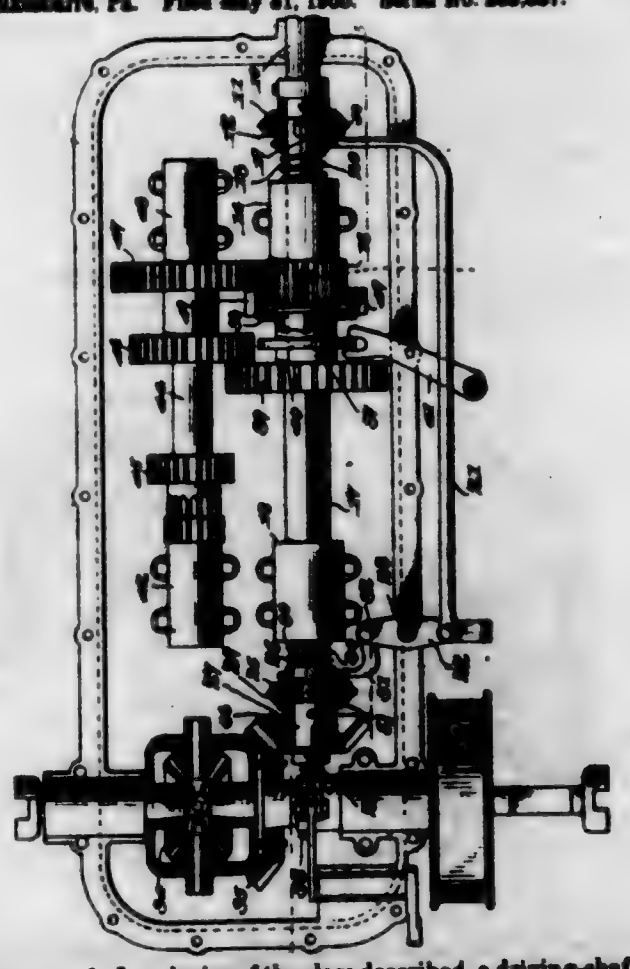
15. A candle-holder having a tube open on its side, a spring-pressed two-part plunger permanently located therein and a stem connecting the parts, the upper part adapted to press upon the end of a candle and the lower part presenting a portion for engagement by the fingers, all substantially within the diameter of the tube.

806,315. METHOD OF MAKING FOLD-COLLARS. JOHN M. BEHRENSMEYER, Troy, N. Y., assignor, by mesne assignments, to Beermeister Bros. Company, New York, N. Y., a Corporation of New York. Filed Feb. 5, 1904. Serial No. 192,126.

Claim.—The herein-described method of making fold-collars which consists in forming a continuous top and band ply equal to the combined widths of the usual separate top and band plies of a fold-collar, securing along three sides thereof a separate top ply with the connected edges inturned and concealed between said plies, securing along the fourth side of said continuous top and band ply in inverted position by a run-seam a separate band ply, inturning the ends of the band portion of the continuous top and band ply to form a folded edge thereon when finished, securing to the projecting ends of the separate band ply a facing ply with their connected edges inturned and concealed, inverting the free edge of the separate band ply, folding over the separate band ply upon the reverse side of the band portion of the continuous top and band ply with its folded edge lapping the unfinished edge of the separate top ply, securing the lapping edges of the separate top and band plies together by stitching, and finishing the collar in the usual manner.



806,316. TRANSMISSION MECHANISM. CHARLES E. BENTLEY, Wilkesbarre, Pa. Filed May 31, 1905. Serial No. 263,037.



Claim.—1. In a device of the class described, a driving-shaft and a driven shaft spaced apart and arranged in longitudinal alinement an intermediate mechanism including two shafts mounted for independent rotation and disposed in longitudinal alinement with said driving-shaft and driven shaft, means for connecting and disconnecting said intermediate shafts, a clutch element between said driving-shaft and one of said intermediate shafts, a clutch element between said driven shaft and the other of said intermediate shafts, and speed-changing mechanism associated with said intermediate shafts.

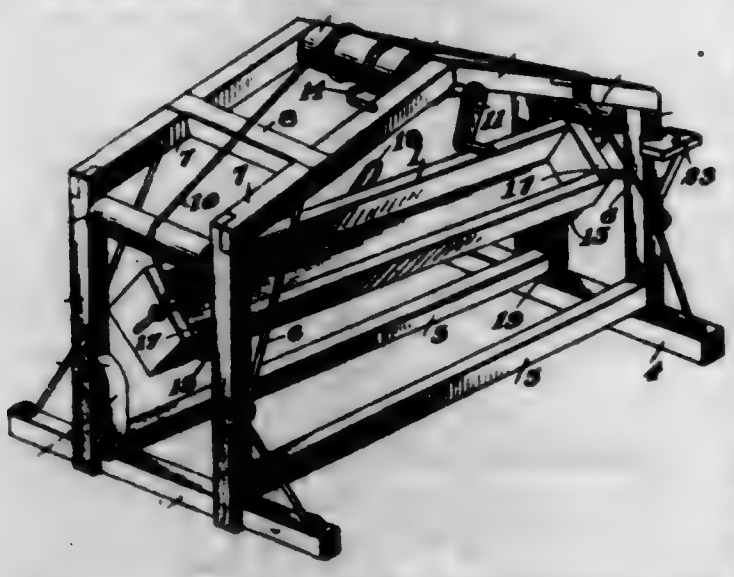
2. In a device of the class described, a driving-shaft, a driven shaft, an intermediate mechanism including two shafts mounted for independent rotation, a gear upon one of said intermediate shafts, a sleeve slidable upon the other of said intermediate shafts and provided with an internal gear for engagement with and disengagement from said shaft-gear, a clutch element between said driving-shaft and one of said intermediate shafts, a clutch element between said driven shaft and the other of said intermediate shafts, and speed-changing mechanism associated with the gearing upon said intermediate shafts.

3. In a device of the class described, a driving-shaft, a driven shaft, an intermediate mechanism including two shafts mounted for independent rotation, a gear upon one of said intermediate shafts, a sleeve slidable upon the other of said intermediate shafts and having spaced external gears and with an internal gear for engagement with and disengagement from said shaft-gear, a clutch element between said driving-shaft and one of said intermediate shafts, a clutch element between said driven shaft and the other of said intermediate shafts, and speed-changing mechanism associated with the external gears of said sleeve.

4. In a device of the class described, a driving-shaft, a driven shaft, an intermediate mechanism including two shafts mounted for independent rotation, a clutch element between said driving-shaft and one of said intermediate shafts, a clutch element between said driven shaft and the other of said intermediate shafts, a gear upon one of said intermediate shafts, a sleeve slidable upon the other of said intermediate shafts and having spaced external gears and with an internal gear for engagement with and disengagement from said shaft-gear, a counter-shaft, a gear carried by said counter-shaft and in constant engagement with the shaft-gear, and spaced gears upon said counter-shaft for engagement with and disengagement from the external gears of said sleeve.

5. In a device of the class described, a driving-shaft, a driven shaft, two intermediate shafts arranged end to end between said driving-shaft and driven shaft, spaced bearings respectively supporting said intermediate shafts, a clutch member carried by said driving-shaft, an opposing clutch member slidable upon one of said intermediate shafts for engagement with the clutch member of said driving-shaft, a spring-bearing between said slidable clutch member and the adjacent shaft-bearing, a clutch member carried by said driven shaft, an opposing clutch member slidable upon the other of said intermediate shafts for engagement with the clutch member of said driven shaft, a spring-bearing between said last-mentioned slidable clutch member and the adjacent shaft-bearing, means for simultaneously operating said slidable clutch members, and speed-changing mechanism associated with said intermediate shafts.

806,317. HOG-TROUGH. HUGH B. BOOKOUT, Sherman, Tex. Filed July 15, 1905. Serial No. 269,931.



Claim.—1. In combination, a framework, a trough mounted therein, a windlass mounted in the framework and connected with the trough for raising and lowering the same, and members projected from the framework and adapted to engage a side of the trough to tilt the same at a predetermined point in its upward movement.

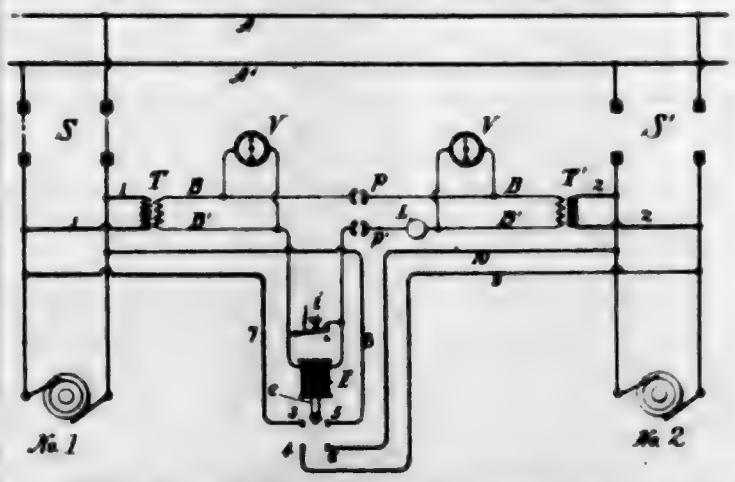
2. In combination, a framework, a trough mounted therein, a windlass carried by the framework and connected with opposite ends of the trough to raise and lower the same, pins projected from the framework and engaging a side of the trough to tilt the same at a predetermined point in its upward movement, and a handle carried by the trough at the side opposite that adapted to engage with the pins aforesaid.

3. In combination, a framework embodying spaced pairs of uprights, transverse beams adjacent said pairs of uprights, longitudinal sills connecting said beams, a trough adapted to rest upon the beams and between the longitudinal sills, means for raising and lowering the trough, and means upon the under side of the trough for preventing longitudinal displacement thereof.

4. In combination, a framework embodying spaced pairs of uprights, transverse beams adjacent said pairs of uprights, longitudinal sills connecting said beams, a trough adapted to rest upon the beams and between the longitudinal sills, means for raising and lowering the trough, and transverse cleats upon the under side of the trough and adapted to engage the transverse beams to prevent longitudinal movement of the trough when resting thereon, said transverse cleats having the ends thereof beveled outwardly and upwardly to coöperate with the longitudinal sills to centralize the trough between the uprights.

5. In combination, a framework embodying spaced pairs of uprights, transverse beams adjacent said pairs of uprights, longitudinal sills connecting said beams, a trough adapted to rest upon the beams and between the longitudinal sills, means for raising and lowering the trough, transverse cleats upon the under side of the trough and adapted to engage the transverse beams to prevent longitudinal movement of the trough when resting thereon, said transverse cleats having the ends thereof beveled outwardly and upwardly to coöperate with the longitudinal sills to centralize the trough between the uprights, and guide members attached to one of each pair of uprights to engage the trough in its downward movement, for the purpose specified.

806,318. AUTOMATIC PARALLELING DEVICE FOR ALTERNATING-CURRENT GENERATORS. GEORGE A. BURNHAM, Willimantic, Conn. Filed Jan. 14, 1904. Serial No. 188,987.



Claim.—A means for paralleling alternating-current generators, comprising transformers supplied by the generators to be connected, a circuit including the secondary winding of said transformers and an electromagnetic switch, a normally closed shunt around said electromagnetic switch and paralleling circuits controlled by said switch.

806,319. AUTOMATIC SIGNAL. ANDREW B. BURT and FRANK T. VANATTA, San Francisco, Cal. Filed June 5, 1905. Serial No. 263,783.

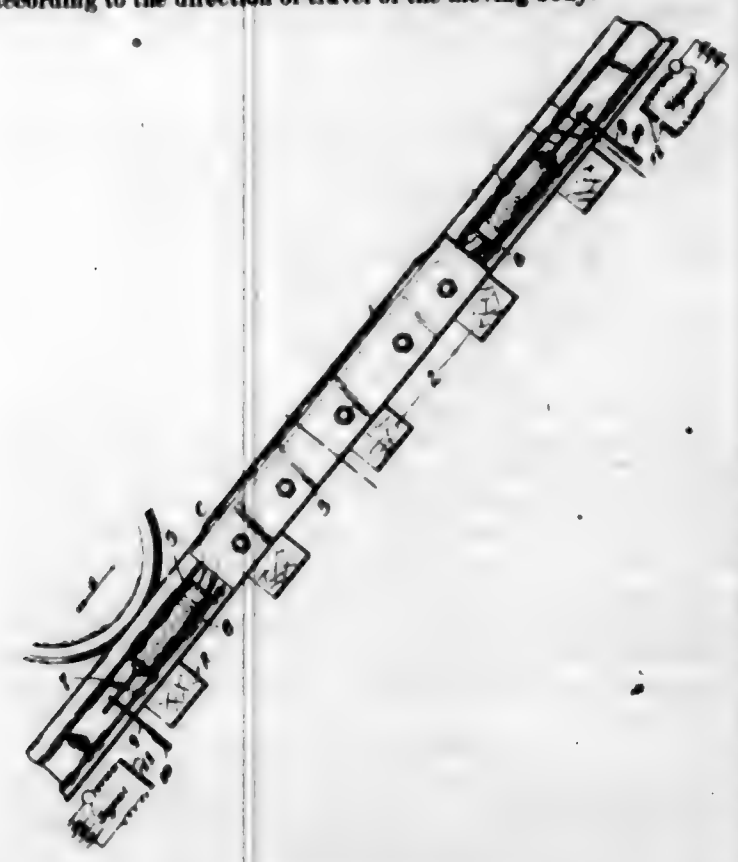
Claim.—1. A signaling device, comprising pneumatic means engageable directly by a moving body to operate independent signals to indicate the direction of travel of said body, and means for supporting said pneumatic means in engageable position.

2. In combination with a roadway, a tube held in juxtaposition thereto and engageable by a moving body approaching from either direction, independent pressure-operable devices connected to the respective ends of said tube, and independent signaling devices operable by the respective pressure devices aforesaid.

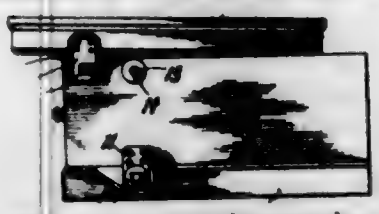
3. In a device of the class described, the combination with a rail, of a chair adjacent thereto, a pneumatic tube held on said chair adjacent the rail and adapted to be engaged by a moving body from either direction, and circuit-closing devices operated when the air is compressed in said tube by said moving body.

4. In a device of the class described, the combination with a rail, of a chair adjacent thereto, a pneumatic tube held on said chair adjacent the rail, and adapted to be engaged by a moving body from either direction, cylinders connected to said tube, pistons in said cylinders, and circuit-closing devices operated by said pistons when the air from said tube operates said pistons.

5. In a device of the class described, the combination with a rail, of a chair adjacent thereto, a pneumatic tube seated on the chair and projecting above the tread of the rail, said tube adapted to be compressed from either direction by a moving body, cylinders connected to the respective ends of the tube, pistons in said cylinders adapted to be operated when the air is compressed in said tube by engagement with the moving body, a plurality of electrical-circuit contacts, and a contact member carried by each of said pistons adapted to close one of the circuits when the pistons are operated according to the direction of travel of the moving body.



806,320. CASE FOR PHONOGRAPH-RECORDS. JAMES W. CAMPBELL, Germantown, N. Y. Filed June 8, 1905. Serial No. 264,236.



Claim.—1. A cabinet or case for phonograph-records comprising a drawer-section having at the upper portion of its back sockets and at the lower portion of its back lips, said section being further provided with a hook at its side near the front bottom portion thereof and with a laterally-extending stud at the upper portion of its side and a section below and a second section above said drawer-section arranged to interlock with said section.

2. A case or cabinet for phonograph-records comprising a drawer-section, a section below the drawer-section and a section above the drawer-section, the said drawer-section being provided with depending guides at its side arranged to drop vertically into adjustment with relation to the lower section and with a hook and a stud at the side for locking and releasing the sections.

3. A case or cabinet for phonograph-records comprising a lower section, sockets at its back and a stud projecting from its side near the front and an upper section provided with backwardly-turned lips at its back for engaging the sockets at the back of the lower section and with a depending hook at its side near the front for engaging the stud, and a nut on the stud for locking the hook thereto, said superposed section being provided with depending guides arranged to drop into position between the front and the back of the case and between the opposite sides of the case, whereby the parts may be released only by first lifting the upper section and then drawing it horizontally.

4. The combination with a case or cabinet for phonograph-records provided with a drawer-section and a section on which the drawer is supported, of a drawer housed in the section, the said drawer having a sliding engagement with the opposite sides of the section, said sliding connection comprising a slide with which the drawer is connected and upper and lower ways for holding the slide in position, the lower way of said slide forming, at the same time, a guide for holding the drawer-section in position with respect to the section on which it is supported.

806,321. PLAQUE-HOLDER. JOHN L. CLARK, Bangor, Me. Filed Jan. 10, 1905. Serial No. 240,454.



Claim.—1. In a holder of the character described, the combination with a body element having a plurality of angularly-disposed sets of keepers, each set comprising a plurality of alined keepers that are spaced apart and located on opposite margins of the body, of a plurality of angularly-disposed plaque-engaging devices, each of which comprises a shank extending across the body and slidable in all of the alined keepers of one of the sets, said shank having a plaque-engaging hook at one end and having its other end bendable about the keeper farthest from the hook.

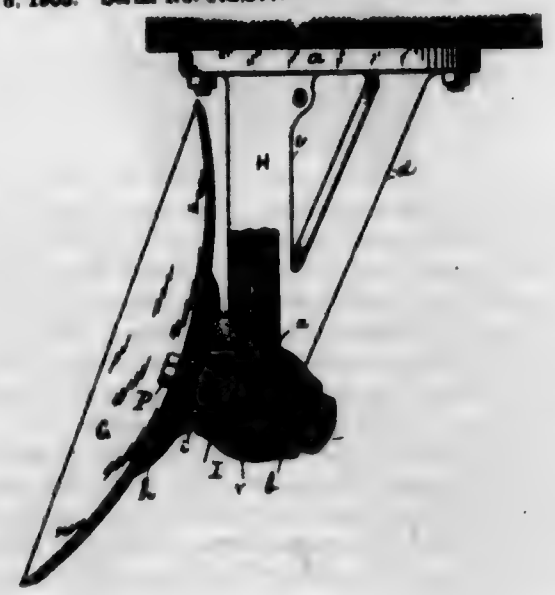
2. In a holder of the character described, the combination with a dished body element having a peripheral flange projecting from one side and a plurality of angularly-disposed sets of keepers outstanding from the other side, each set comprising a plurality of spaced keepers located at diametrically opposite portions of the body element, of a shank slidably passing through each set, one end of each shank having a plaque-engaging hook, the other end being bendable about the adjacent keeper.

3. In a holder of the character described, plaque-engaging means including a shank having a plaque-engaging hook, the entire width of an intermediate portion of said shank, being looped into an eye to provide means for hanging said engaging means and the plaque carried thereby.

4. In a holder of the character described, the combination with a body, of plaque-engaging means carried by the body, said means including a metal shank having a plaque-engaging hook at one end and a longitudinally-slidable connection at its other end with the body, the entire width of an intermediate portion of said shank being looped to form an eye.

5. In a holder of the character described, the combination with a body having sets of spaced keeper loops or guides struck therefrom, of a plurality of shanks longitudinally slidable through the loops and having outer terminal hooks, one of said shanks being doubled longitudinally upon itself to form an eye.

806,322. DISK PLOW. WILLIAM S. COOK, Santa Maria, Cal. Filed Sept. 8, 1903. Serial No. 172,377.



Claim.—1. The combination with a supporting-standard provided with a journal-box, of means for closing one end of said box, and a plow-disk having an axle mounted to rotate in said closing means and provided with a convex rearward extremity seated against said closing means and engaged throughout a portion only of said extremity by said closing means, substantially as described and for the purposes specified.

2. The combination with the beam of a plow-frame, and a standard supported thereby and provided with a journal-box, of means for making said box dustproof, comprising a shell arranged in said box and having a closed rear end, and a disk having an axle extending into said shell, said axle provided with a convex rear extremity seated against the closed end of said shell and engaged throughout a portion only of said extremity by said closed end, substantially as described and for the purposes specified.

3. A disk plow, comprising a journal-box, a shell mounted in said box and provided with a closed rear end, a plow-disk provided with an axle mounted to rotate in said shell and having a convex rearward extremity seated against the closed end of said shell and engaged throughout a portion only of said extremity by said closed end, and means for holding the axle in said shell comprising an annular recess in the one part and a projection from the other part extending into said recess.

4. A disk plow, comprising a journal-box, a shell mounted in said box and provided with a closed rear end, means for fixing said shell removably in said box comprising an angular opening in the one part and a pin extending from the other part into said opening, a plow-disk provided with an axle mounted to rotate in said shell and having its rear end seated against the closed end of the same, and means for holding said axle in said shell comprising an annular recess in the one part and a projection from the other part extending into said recess.

5. A disk plow, comprising a standard provided with a journal-box having an angular opening at one end, a shell mounted in said box and provided with a pin received by said opening, a disk having an axle rotatably mounted in said shell and provided with a circumferential groove, and a projection from said shell engaging said groove, substantially as described and for the purposes specified.

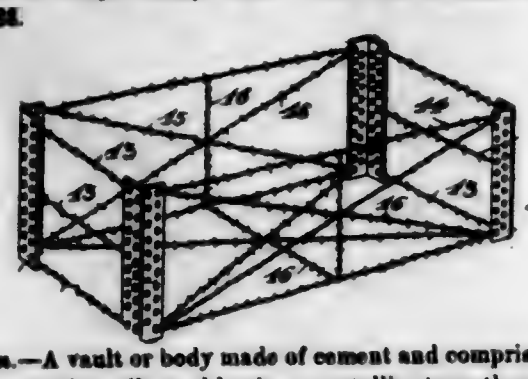
806,323. **SOFT-COAL HEATING-STOVE.** HARRY R. COWLES, Peoria, Ill., assignor to Cutler & Procter Stove Company, Peoria, Ill., a Corporation of Illinois. Filed Apr. 22, 1905. Serial No. 256,870.



Claim.—1. In a heating-stove, the drum or casing, a cover-plate therefor having a circular central opening its edge terminating in a sunken rim or ledge, a cylinder seated upon and depending from said sunken ledge, a ring seated upon the suspending edge of said cylinder and having a depending collar, a magazine having a smooth inner wall, secured to and suspended from said ring-collar within said cylinder and flaring from its feed to its discharging end, and a feed-cover adapted to form an air-tight joint with said ring.

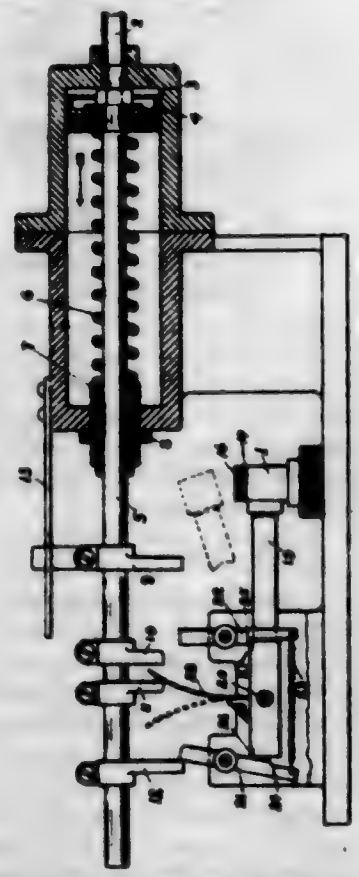
2. In a heating-stove, the drum or casing, a cover-plate therefor having a circular central opening, its edge terminating in a sunken rim or ledge, a cylinder seated upon and depending from said sunken ledge, a ring seated upon the suspending edge of said cylinder and having a depending collar, a magazine having a smooth inner wall, secured to and suspended from said ring-collar within said cylinder, forming with it an annular downdraft-space, and flaring from its feed to its discharge end, a feed-cover adapted to form an air-tight joint with said ring, a ring-register plate in a sunken seat in said magazine-suspending ring and controlling draft-openings in said ring, the magazine-inclosing cylinder terminating above the discharging end of the magazine in a flaring opening.

806,324. **BURIAL-VAULT.** SAMUEL J. COWLES and JOHN B. MURRAY, Findlay, Ohio; said Murray assignor to Albert W. Marshall and David B. Cratty, Findlay, Ohio. Filed Jan. 26, 1905. Serial No. 243,724.



Claim.—A vault or body made of cement and comprising a bottom, end and side walls, and having a metallic strengthening-frame embedded in the bottom, end and side walls, said frame consisting of upright corner-pieces of perforated angle metal, wires connecting said corner-pieces, diagonally-disposed crossed wires connecting the corner-pieces and forming parts of the side walls of the frame, diagonally-disposed crossed wires connecting the lower ends of the corner-pieces and forming the bottom of the frame, and intermediate transverse wires connecting the diagonally-disposed crossed wires to the sides and bottom of the frame and the longitudinal wires to the sides of the frame.

806,325. **AUTOMATIC PRESSURE CONTROL.** JOHN H. CRAWFORD, Camden, N. J., and CHARLES F. SCHAEFFER, Philadelphia, Pa. Filed Dec. 8, 1904. Serial No. 235,951.



Claim.—1. In combination with a compressor, an electric motor, an electric switch for controlling the motor, a pivoted switch member, latches acting directly upon the switch member, to look the switch in the open or closed position, a spring connected directly with the switch member, a reciprocating member actuated in one direction by the fluid-pressure and spring-actuated in the other direction, provided with a plurality of lugs for operating the switch, spring and latches.

2. In combination with a compressor, an electric motor, an electric switch for controlling the motor, a pivoted switch member, latches acting directly upon the switch member, to look the switch in the open or closed position, a spring connected directly with the

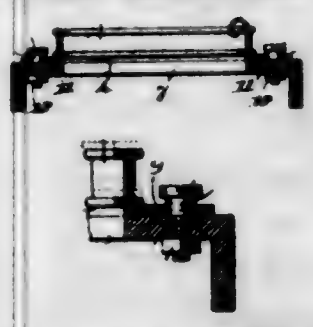
switch member, a reciprocating member actuated in one direction by the fluid-pressure and spring-actuated in the other direction, provided with a plurality of adjustable lugs for operating the switch, spring and latches.

3. In combination with a compressor, an electric motor, an electric switch for controlling the motor, a pivoted switch member, latches acting directly upon the switch member, to lock the switch in the open or closed position, a blade-spring connected directly with the switch member, a reciprocating member actuated in one direction by the fluid-pressure and spring-actuated in the other direction, provided with a plurality of lugs for operating the switch, spring and latches.

4. In combination with a compressor, an electric motor, an electric switch for controlling the motor, a pivoted switch member, spring-controlled latches acting directly upon the switch member, to lock the switch in the open or closed position, a spring connected directly with the switch member, a reciprocating member actuated in one direction by the fluid-pressure and spring-actuated in the other direction, provided with a plurality of lugs for operating the switch, spring and latches.

5. In combination with a compressor, an electric motor, a pivotally-supported electric switch for controlling the motor, latches, one on either side of the pivot-support of the switch, acting directly upon the switch member, to lock the switch in the open or closed position, a spring connected directly with the switch member, a reciprocating member actuated in one direction by the fluid-pressure and spring-actuated in the other direction, provided with a plurality of lugs for operating the switch, spring and latches.

806,326. **RING-SPINNING APPARATUS.** JOHN J. CRONIN, Manchester, N. H., assignor of one-half to Harry B. Parker, Manchester, N. H. Filed Dec. 16, 1904. Serial No. 237,094.



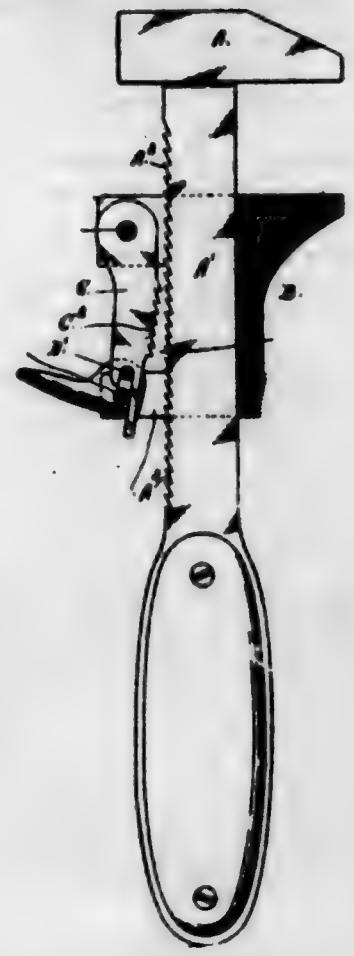
Claim.—1. A spinning-ring, a sheet-metal holder with which it is rigidly connected and adapted to be attached to a ring-rail, a traveler-clearer on the holder, and headed attaching members fixedly mounted in the ring-rail and passing loosely through the holder, to permit limited axial movement of the ring and holder in unison relatively to the ring-rail while preventing lateral and rotative movement.

2. In spinning apparatus, a ring-rail, a spinning-ring, a sheet-metal ring-holder having a traveler-clearer and provided with means to engage and rigidly hold the ring, said holder having a plurality of openings in its base, and headed attaching members fixedly mounted in the ring-rail and having their shank portions below the heads extended freely through the openings in the holder, to permit limited vertical or lifting movement thereof in unison with the ring while preventing lateral and rotative movement.

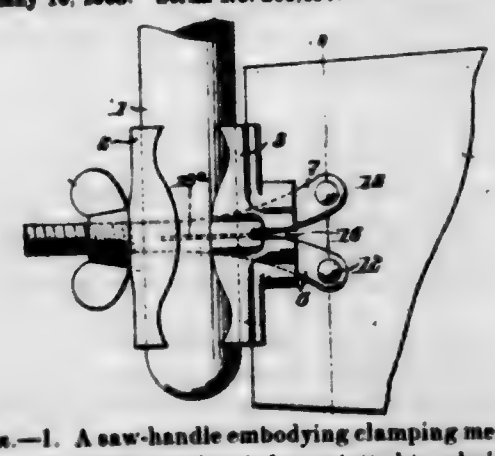
806,327. **WRENCH.** HENRY F. DICKINSON, Lafayette, Colo. Filed July 22, 1904. Serial No. 217,640.

Claim.—1. In a wrench, the combination of a toothed or notched shank, a jaw slidable thereon, a locking device mounted on the movable jaw and toothed or notched to interlock therewith, a lever fulcrumed on the movable jaw and having an actuating-pin located beyond its fulcrum, and occupying a position parallel with the axis of the latter, the portion of the lever carrying the pin, being bifurcated to straddle the rear extremity of the locking device, the latter being provided with a slot open in the rear which slot the actuating-pin engages to lift the dog from engagement with the bar, said locking device having a rearward projection located between the lever-fulcrum and the wrench-bar, the said projection extending in the rear of the slot and forming a bearing for the actuating-pin when the locking device is in the locked position.

2. The combination of a wrench-bar, a jaw slidably mounted thereon and coöperating with the stationary jaw with which the said bar is provided, the movable jaw being provided with two bifurcated parts located on opposite sides of an opening, a locking device connected with one of the bifurcated parts and passing through the opening in the other bifurcated part, a lever fulcrumed on the last-named bifurcated part and provided with an actuating-pin occupying a position parallel with the axis of its fulcrum, the said pin being adapted to engage the locking device, the latter having a slot open in the rear to receive the actuating-pin of the lever whereby the locking device may be lifted out of engagement with the wrench-bar, the locking device having a rearward projection extending between the lever and the wrench-bar and in the rear of the slot in the locking device, the actuating-pin engaging the said rearwardly-extending part when the lever and locking device are in the locked position, the lever being bifurcated to straddle the rear extremity of the locking device.



806,328. **SAW-HANDLE.** WALTER E. DILLARD, Petersburg, Va. Filed May 16, 1905. Serial No. 260,687.



Claim.—1. A saw-handle embodying clamping members, one of which is provided with a bolt-reinforce slotted to admit the saw and permit the reinforce to engage and sustain the bolt beyond the end of the saw.

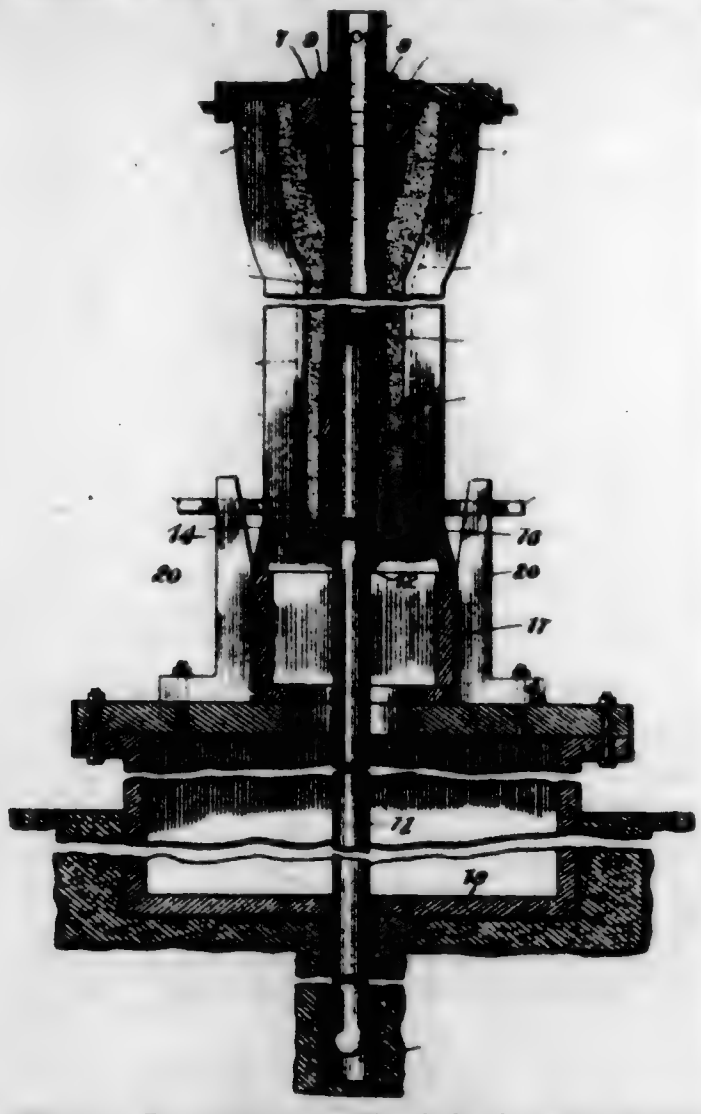
2. A saw embodying clamping members one of which is provided with an outstanding quatrefoil-shaped bolt-reinforce slotted to admit the saw and permit the reinforce to engage and sustain the bolt beyond the end of the saw.

3. A saw-handle embodying clamping members, one of which is provided with an outstanding quatrefoil-shaped bolt-reinforce slotted to admit the saw and permit the reinforce to engage and sustain the bolt beyond the end of the saw, the said member having saw-seats into which the slots merge.

4. A saw-handle embodying clamping members one of which is provided with a quatrefoil-shaped bolt-reinforce, and means for assembling the bolt with the handhold, the reinforce being slotted to admit the saw and permit the reinforce to engage and sustain the bolt beyond the end of the saw.

5. As a new article of manufacture, a bolt for saw-handles comprising a shank and a pair of outward-diverging arms each bifurcated to straddle the saw, the dividing of the arms being continued into the body of the bolt beyond the crotch, thereby to permit different degrees of spreading by flexing the arms.

806,329. APPARATUS FOR FORMING PIPE-MOLDS. JACOB K. DIEDRICK, Philadelphia, Pa. Filed May 10, 1904. Serial No. 207,199.



Claim.—1. The combination with a flask, of a former therefor, comprising a tapering portion, guides extending from said tapering portion, said guides being of smaller diameter than said tapering portion, the lower guide being adapted to pass through an opening in the chill-plate, and being of a length substantially equal to that of the flask.

2. The combination with a flask, of a former therefor, comprising a tapering portion, guides extending from said tapering portion, the lower of said guides being of smaller diameter than said tapering portion, and adapted to pass through an opening in the chill-plate, said opening being of a size smaller than the pipe-core, whereby the same chill-plate may be used in connection with the guide and with the core.

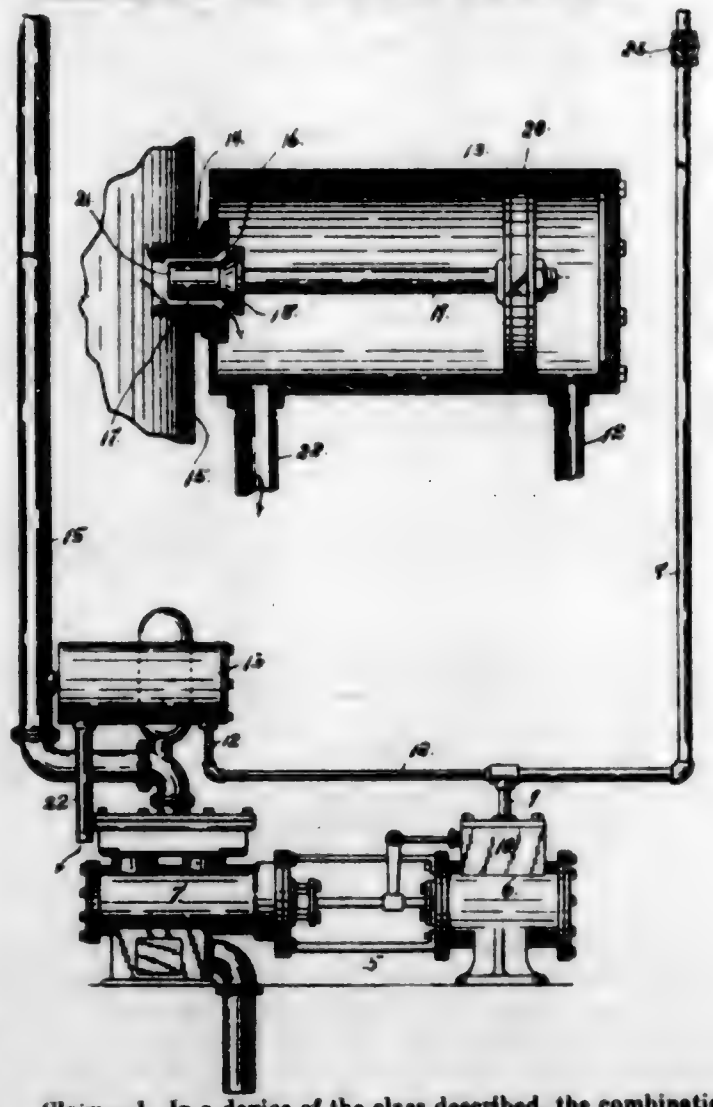
3. The combination with a flask, of a former therefor, comprising a tapering portion, guides extending from said tapering portion, the lower guide being of a diameter smaller than the diameter of the pipe-core, and terminating adjacent the tapering portion in a conical projection, which is substantially the shape of the lower end of the pipe-core, said lower guide being adapted to pass through an opening in the chill-plate whereby the same chill-plate may be used in forming the mold and when the core is in position.

4. The combination with a flask, of a former therefor, comprising two cylindrical guides having an enlarged central portion which is tapering, the lower guide being adapted to pass through an opening in the chill-plate, and the upper guide being adapted to pass through the bell pattern, and means for centering said guide in the bell pattern and for allowing the enlarged portion to pass therethrough.

5. The combination with a flask, of a former therefor, comprising a central tapering portion, a tubular guide extending from the upper end of said tapering portion, a cylindrical guide extending from the lower end of said tapering portion, a permanent chill-plate having an opening for centering said cylindrical guide and removable means for centering said tubular guide.

6. The combination with a flask, of a former therefor, comprising a rod having screw-threaded portions adjacent its upper end, a tube connected with said rod by one of said screw-threaded portions, a tapering sleeve carried by said rod, and a tapering nut engaging with the other of said screw-threaded portions to hold said sleeve in position, said rod being adapted to pass through an opening in the chill-plate of the flask, and said nut being adapted to be seated in a tapering portion of said opening, said chill-plate being adapted to guide the rod of the former or rammer, and also to serve as a seat for the pipe-core.

806,330. PUMP-DRAIN. ERNEST E. ERVIN and ANTON J. KONANTZ, Erie, Colo. Filed Mar. 24, 1905. Serial No. 251,898.



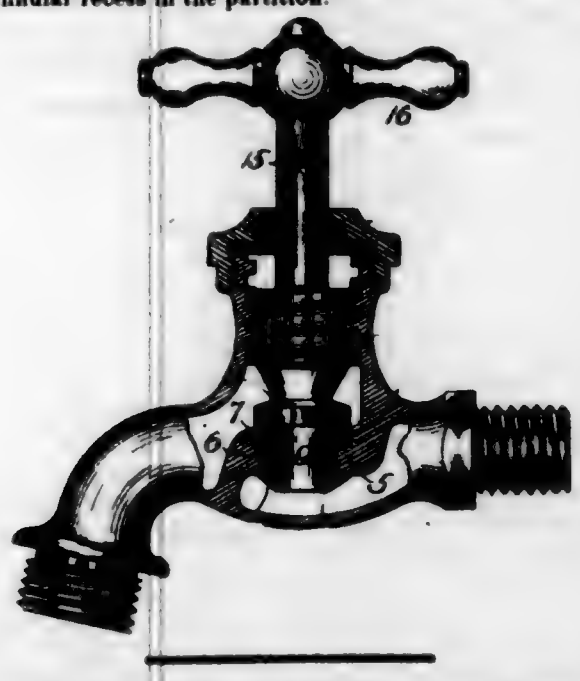
Claim.—1. In a device of the class described, the combination with a pump and its stand-pipe, of a receptacle communicating with the stand-pipe by means of a suitable opening, a valve for controlling said opening, a piston located within the receptacle and connected with the valve, and means for simultaneously delivering operating fluid to the pump mechanism and to the receptacle in the rear of the piston whereby the latter is actuated to close the valve, substantially as described.

2. The combination with a pump and the stand-pipe connected therewith, of a cylinder communicating with the lower portion of the stand-pipe by a suitable opening, a piston located in the cylinder, a valve connected with the piston, and adapted to close the opening between the stand-pipe and cylinder, and means for delivering operating fluid simultaneously to the cylinder and pump mechanism, the said fluid entering the cylinder in the rear of the piston and acting on the latter to close the valve, the valve extremity of the cylinder being provided with an outlet for the escape of the water from the stand-pipe when the cylinder-valve is open.

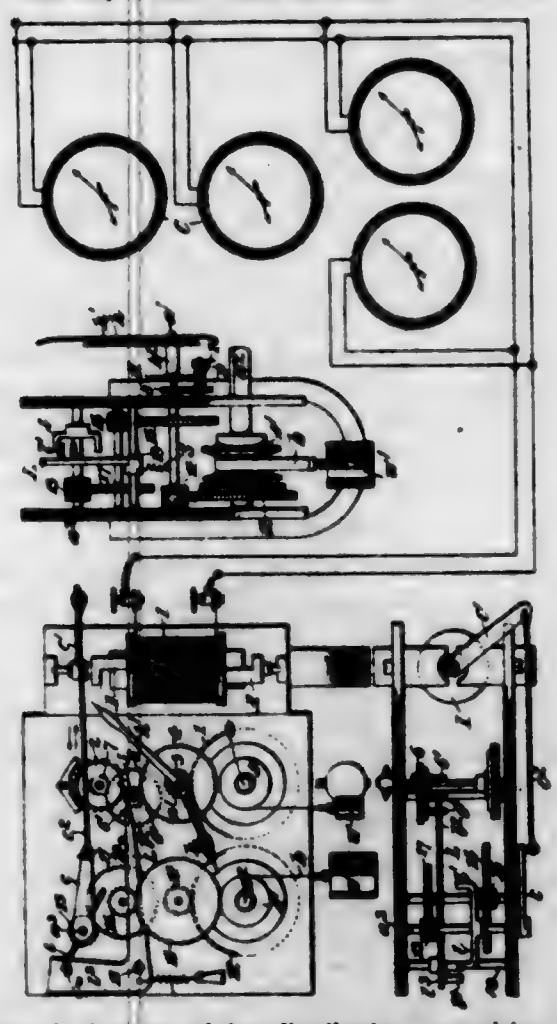
3. In mechanism of the class described, the combination with a pump and the pipe to be drained, of a cylinder connected with the pipe at a suitable point and communicating therewith by a suitable opening, a valve located in the cylinder for controlling said opening, a piston also located in the receptacle and connected with the valve, and means for introducing operating fluid to the pump and the cylinder in the rear of the piston whereby the latter is actuated to close the valve.

806,331. FAUCET. JAMES F. FERAY, Leadville, Colo., assignor of one-half to Edwin D. McArthur, Leadville, Colo. Filed Jan. 21, 1905. Serial No. 242,130.

Claim.—A cock or faucet comprising a casing having a partition separating the inlet and outlet spout, said partition having an opening and an annular recess surrounding said opening, a cylindrical extension on said casing, a valve-stem adjustable in said extension, a flexible valve-seat passing through the opening in the partition, said seat having a flange at its lower end to bear against the under face of the partition and a flange at its upper end seated in the annular recess in the partition, and a valve at the end of the valve-stem, said valve having a diameter approximating that of the flanged upper end of the flexible valve-seat, whereby pressure exerted by said valve on the flexible seat will be received by the shoulder formed by the annular recess in the partition.



806,332. **ELECTRIC CLOCK SYSTEM.** MARTIN FISCHER, Zurich, Switzerland, assignor to Actiengesellschaft "Magnet," Zurich, Switzerland. Filed July 5, 1900. Serial No. 22,562.



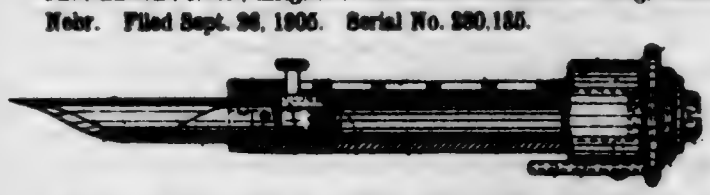
Claim.—1. A system of time-distribution, comprising a permanent magnet arranged to form an open magnetic circuit, a stationary induction-coil in the field of said magnet, a soft-iron bar movable relatively to the magnetic poles and coil to close said circuit through the coil, and a permanently-closed metallic electric circuit free from moving elements and including the coil and translating devices for and adapted to operate secondary clocks; in combination with a master-clock and means controlled thereby to periodically impart proper movements to the aforesaid bar, for the purposes set forth.

2. A system of time-distribution, comprising a permanent magnet arranged to form an open magnetic circuit, a stationary induction-coil in the field of said magnet, a soft-iron core movable in said coil relatively to the magnetic poles to close the magnetic circuit through the core, and a permanently-closed metallic electric circuit free from moving elements including the coil and translating devices for and adapted to operate secondary clocks; in combination with a master-clock, a normally inoperative motor connected to the soft-iron bar to impart proper movements thereto, and means controlled by the master-clock to periodically cause said motor to become momentarily operative, for the purposes set forth.

3. A system of time-distribution, comprising a permanent magnet arranged to form an open magnetic circuit, a stationary induction-coil in the field of said magnet, a soft-iron bar, having motion relatively to the coil and magnetic poles, to close the magnetic circuit through the coil in opposite directions alternately to generate electric currents of opposite directions in the coil, and a permanently-closed metallic electric circuit free from moving elements including said coil and translating devices adapted to be operated by said currents and adapted to operate secondary clocks, for the purpose set forth.

4. In a system of time-distribution, a permanent magnet, an induction-coil between two pairs of unlike poles of said magnet, a soft-iron bar extending through the coil and movable between said pairs of poles and so shaped as to reverse the direction of flow of the magnetic flux through the bar at each successive movement thereof; a permanently-closed metallic electric circuit free from moving parts and of which the induction-coil forms a part, and electromagnets for operating secondary clocks, the induction-coils of which likewise form part of said electric circuit; in combination with a normally inoperative train of gearing connected to the aforesaid soft-iron bar to impart proper movement thereto, a master time train of gearing, and means controlled thereby to periodically cause the motor-train to become momentarily operative, for the purpose set forth.

806,333. **BELT-PUNCH AND LACE-CUTTER.** WARNER L. FOLDEN, Lincoln, Nebr., assignor of one-half to William M. King, Lincoln, Nebr. Filed Sept. 26, 1905. Serial No. 280,185.



Claim.—1. A belt-punch comprising a handle, a transversely-curved blade adjustably connected therewith, there being on the blade a straight back and a helical cutting edge, and a stop-pin on the handle engaging the back of the blade for the purpose set forth.

2. In a tool of the class described, a handle, a transversely-curved cutting-blade adjustably held therein, there being on the blade a straight back and a helical cutting edge, and a fixed pin carried by the handle and engaging the back of the cutting-blade when the same is in any position to which it may be adjusted with relation to the handle.

3. In a tool of the class described, a tubular handle, a transversely-curved cutting-blade having a straight back and a helical cutting edge thereon, said blade fitting into the handle and being longitudinally slidable therein, and means for retaining the blade at adjusted positions with relation to the handle.

4. In a tool of the class described, a tubular handle, a cutting-blade fitting into said handle and being longitudinally slidable therein, a spring-actuated latch-lever connected with the blade, there being in the handle a longitudinal slot having notches in the side thereof adapted to be engaged by means carried by the latch-lever, and releasing means carried by the said lever and extending through the longitudinal slot in the handle.

5. In a tool of the class described, the combination with a tubular handle having a head thereon and a lace-cutting blade and adjustable gage-plate carried on said head, of a transversely-curved blade fitting into said handle and being longitudinally slidable therein, there being on said blade a helical cutting edge, and means for securing said blade in various adjusted positions with relation to the handle.

806,334. **STAY FOR PRESS-MATS.** ALFRED W. FRENCH, Piqua, Ohio, and JOHN HAUSENSTEIN, Buffalo, N. Y., assignors to The French Oil Mill Machinery Company, Piqua, Ohio. Filed Sept. 8, 1904. Serial No. 223,770.

Claim.—1. A stay for press-mats, comprising a plate or body

which is separate from and adapted to be placed between the press-plate and the press-mat, and has slender projections which penetrate the press-mat between the strands thereof, substantially as set forth.

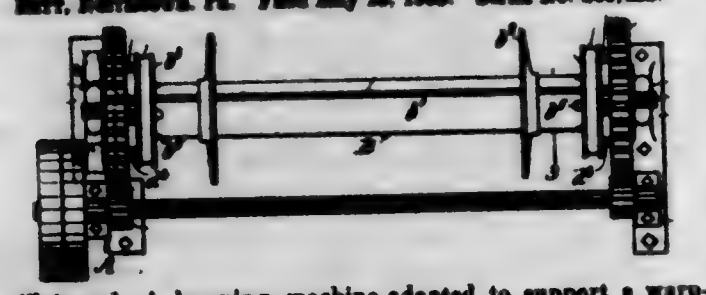


2. A stay for press-mats, comprising a plate or body which is separate from and adapted to be placed between the press-plate and the press-mat, and has projections which penetrate the press-mat between the strands thereof and have upright sides to engage and hold the strands of the mat from spreading, substantially as set forth.

3. A stay for press-mats, comprising a plate or body which is separate from the press-plate and against which the press-mat is placed, and which has projections which penetrate the mat between the surface strands thereof and are slender in a direction transversely of such surface strands whereby the latter are not spread or broken by said projections, substantially as set forth.

4. A stay for press-mats, comprising a plate or body which is separate from and is placed between the press-plate and the press-mat, and has slender projections which extend perpendicularly from the face thereof and engage the press-mat to prevent the spreading thereof, substantially as set forth.

806,885. BEAMING-MACHINE FOR LOOMS. HARRISON GARNETT, Norristown, Pa. Filed May 18, 1905. Serial No. 260,422.

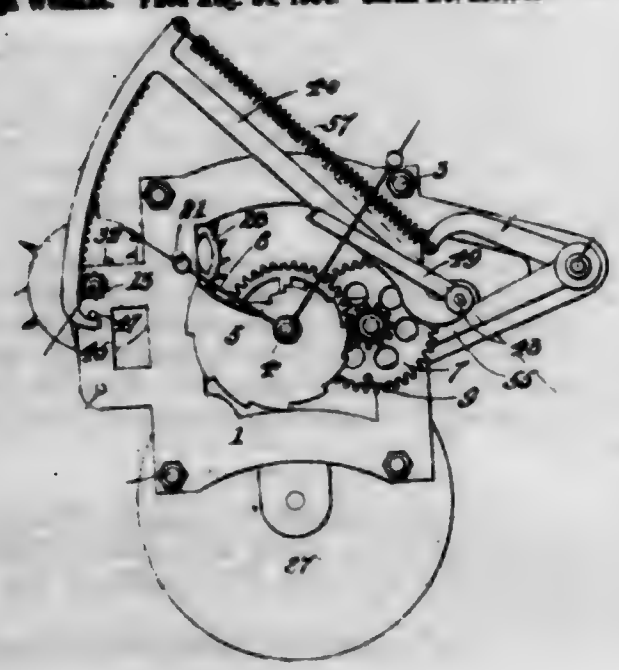


Claim.—1. A beaming-machine adapted to support a warp-beam, a removable gear at each end of said beam, means for coupling said gears to said beam, and means for driving said gears, substantially as and for the purposes set forth.

2. A beaming-machine adapted to support a rotating warp-beam, a removable gear at each end of said beam, means for coupling said beam to said gears, a shaft, two pinions on said shaft to mesh with the removable gears of the beam, and means for driving the said shaft, substantially as and for the purposes set forth.

3. A beaming-machine adapted to support a rotating warp-beam, a removable gear at each end of said beam, a ratchet at each end of the said beam, a friction-pulley with pawl engaging said ratchet, means for coupling said gears with the friction-pulleys, a shaft, two pinions on said shaft to mesh with the removable gears of the beam, and means for driving the said shaft, substantially as and for the purposes set forth.

806,886. CLOCK STRIKING MECHANISM. HERMAN T. GAY, Baltimore, Md., assignor, by mesne assignments, of one-fourth to Jadwiga Weimant. Filed Aug. 24, 1904. Serial No. 221,940.



Claim.—1. In a striking mechanism for a clock, a snail having rotation in common with the hour-hand of the clock-movement, a wheel carrying a lifting-pin forming a part of the clock-movement, and an intermittingly-rotating shaft also forming a part of the clock-movement, the said shaft having diametrical depressions therein, combined with an arm having an attachment which is adapted to bear with a yielding pressure on the said snail, and which, in the rotation of the said wheel is lifted by its pin, a toothed segment forming a part of the said arm, a shaft provided with a pinion in mesh with the toothed segment carrying a loose disk with ratchet mechanism which admits of the rotation of the said disk in one direction only, the said disk having teeth which engage with the shaft having diametrical depressions, and means actuated primarily from the said toothed disk to effect the striking of a gong, substantially as specified.

2. In a striking mechanism for clocks, a snail having a rotary motion in common with the hour-hand, a shaft carrying a pinion which, when in rotation, effects the sounding of the gong or bell, combined with a pivoted arm having a toothed segment at its end, the teeth of which segment are in mesh with those of the said pinion, a finger having a motion in common with the said arm adapted to rest on the edge of the snail, a second pivoted arm, a spring to connect the end of the second arm with the upper end of the toothed segment, and mechanism actuated by the time-movement to carry the end of the second arm to a position alternately above and below a line extending from the pivotal point of first arm to the point of connection of the said spring with the end of the toothed segment, and so cause the finger to rise from, or bear upon the said snail, and in the former motion to actuate the said pinion through the medium of the toothed segment and effect the sounding of the gong or bell, substantially as, and for the purpose specified.

3. In a striking mechanism for clocks, a snail having a rotary motion in common with the hour-hand, a shaft carrying a tight pinion and a loose tooth-disk and a ratchet mechanism whereby the tooth-disk moves in one direction only, pins projecting from the said disk, a gong-sounding appliance which is set in motion by the said pins in the rotation of the tooth-disk, a shaft constituting an element of the clock-movement having depressions therein into which the teeth of the disk enter and effect intermittent partial rotations of the said disk, combined with a pivoted arm having a toothed segment at its end, the teeth of which segment are in mesh with those of the said pinion, a finger having a motion in common with the said arm adapted to rest on the edge of the snail, a second pivoted arm, a spring to connect the end of the second arm with the upper end of the toothed segment, a rotary wheel carrying projecting pins forming a part of the time-movement adapted to bring the said pins successively to a certain position at stated times, a third arm having a motion in common with the second arm, the end of which is in the path of the pins in the said rotary wheel and in the vibratory movement of the third arm, to alternately carry the end of the second arm to a position above and below a line extending from the pivoted center of the first arm to the upper end of the segment, and a spring to connect the upper end of the said toothed segment with the end of the second arm, substantially as, and for the purpose specified.

806,887. STRIKING MECHANISM FOR CLOCKS. HERMAN T. GAY, Baltimore, Md., assignor of one-half to Jadwiga Weimant, Baltimore, Md. Filed June 1, 1905. Serial No. 263,201.

Claim.—1. In a clock-movement, the combination with the mainspring thereof, of a striking mechanism comprising a snail having rotation in common with the hour-hand, a spring-held pivoted toothed segment carrying a stop-arm adapted to rest on the snail and thereby limit the vibration of the said segment in one direction, movement-transmitting devices whereby the said toothed segment is hourly thrown over and the stop-arm lifted from the snail, a pinion in mesh with the toothed segment, a wheel provided with pins which is driven by the said pinion in one direction only, and striking appliances which are actuated by the said pins in the return of the segment toward its original position, substantially as specified.

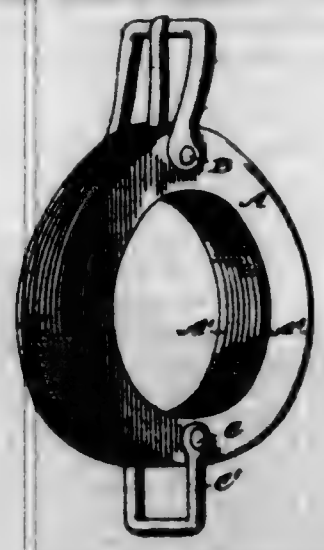
2. In a clock-movement, the combination with the mainspring thereof, of a striking mechanism comprising a snail having rotation in common with the hour-hand, a spring-held pivoted toothed segment carrying a stop-arm adapted to rest on the said snail and thereby limit the vibration of the said segment in one direction, movement-transmitting devices whereby the said toothed segment is hourly thrown over and the stop-arm lifted from contact with the snail, a pinion in mesh with the said toothed segment, a star-wheel provided with pins which is driven by the said pinion in one direction only, striking appliances which are actuated by the said pins in

the return of the toothed segment to its original position, and a star-pinion in constant rotation adapted to mesh with the star-wheel and thereby produce in the same an intermittent rotation, substantially as specified.



3. In a clock-movement, the combination with the mainspring thereof, of a striking mechanism embodying a snail having a rotation in common with the hour-hand, a vibratory toothed segment having a stop-arm adapted to seat on the snail, movement-transmitting devices whereby the said toothed segment is hourly moved over and the stop-arm lifted from the snail, a pinion in mesh with the said toothed segment, a star-wheel carrying pins, pawl-and-ratchet mechanism to communicate the rotation of the pinion to the said star-wheel in one direction only, gong-striking devices actuated by the pins on the star-wheel, and a star-pinion in constant rotation, arranged to mesh with the star-wheel and thereby effect an intermittent rotation of the same and produce a pause between the strokes of the gong, substantially as specified.

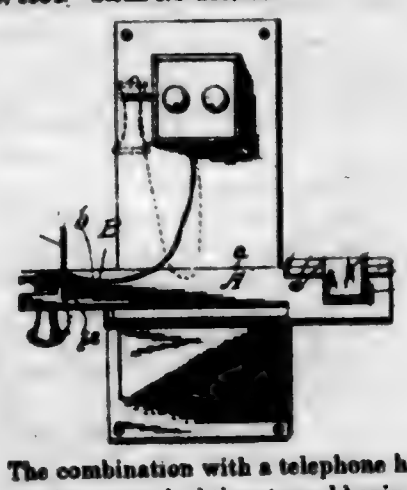
806,338. SHAFT-TUG. ADAM D. GOETZ, Charlestown, W. Va. Filed Feb. 14, 1905. Serial No. 245,623.



Claim.—1. In a shaft-tug, a plurality of sections each separately formed of layers of material secured together with continuous contacting faces, and a buckle-tongue disposed between the continuous contacting faces of said sections.

2. A shaft-tug composed of a plurality of superposed annular layers, and a buckle having its tongue pivotally mounted upon a bolt extending laterally through said layers, said tongue being centrally disposed between the adjacent faces of continuous contacting layers thereof.

806,339. TELEPHONE-SHELF. JOSEPH S. GOLD, Jackson, Ohio. Filed May 20, 1904. Serial No. 208,891.



Claim.—1. The combination with a telephone having a cut-out receiver-holder, of a base attached thereto and having a slot therein, and means for normally closing said slot to prevent the accidental placing of the receiver therein.

2. The combination with a telephone having a cut-out receiver-holder, of a base attached thereto and having a slot therein, and a plate normally closing said slot to prevent the accidental placing of the receiver therein.

3. The combination with a telephone having a cut-out receiver-holder, of an attachment adapted to support the receiver independent of the cut-out holder, and means for preventing the accidental placing of the receiver in the support.

4. The combination with a telephone having a cut-out receiver-holder, of a base attached thereto and having a slot therein, and a swinging plate normally closing said slot to prevent the accidental placing of the receiver in said slot.

5. An attachment for telephones, comprising a base having a slot on one end for holding the receiver, and a hinged plate normally held over said slot, and means for preventing said plate from being swung backward over the base.

6. The combination with a telephone having a cut-out receiver-holder, of a base detachably secured thereto and having a slot therein, and a swinging plate normally closing said slot to prevent the accidental placing of the receiver in said slot.

7. An attachment for telephones, comprising a board having a slot in one end, a plate normally closing said slot, and staples passing through said plate and secured to said board and so positioned that the plate cannot be raised to a vertical position whereby the force of gravity normally holds the same over said slot.

8. The combination with a telephone having a cut-out receiver-holder, of an attachment having a slot therein for supporting the receiver independent of the cut-out holder, and a plate normally closing said slot and adapted to prevent the accidental placing of the receiver in said slot.

9. The combination with a telephone having a cut-out receiver-holder, of a base attached thereto and having a slot for receiving the receiver, a hinged plate normally held over said slot and means for preventing said plate from being swung backward over the base, whereby the accidental placing of the receiver in the slot is prevented.

10. An attachment for telephones, comprising a base having a slot therein for holding the receiver, a plate hinged to said base adjacent the slot, and means for preventing the said hinged plate from being raised to a vertical position whereby the same is normally held in a horizontal position covering said slot.

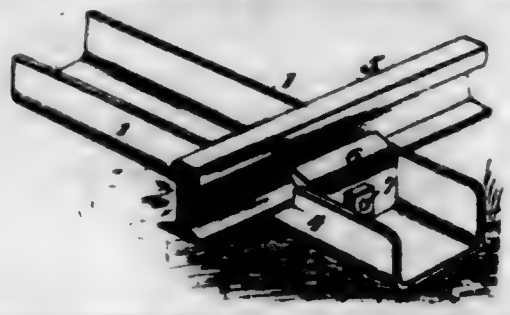
11. An attachment for telephones, comprising a base, means carried by the under side thereof for clamping the same to the telephone-box, one end of said base having a slot for holding the receiver, a plate hinged to said base adjacent the slot and normally closing the same, and means for preventing the said hinged plate from being raised to a vertical position whereby the same is normally held in a horizontal position covering said slot.

12. An attachment for telephones, comprising a base, means carried by the under side thereof for clamping the same to the telephone-box, one end of the said base having a slot extending from the edge inwardly and adapted to receive the receiver, a plate normally held in a horizontal position covering said slot, and the outer edge being flush with the edge of the base, and means for preventing the said hinged plate from being raised to a vertical position, whereby the same is normally held in a horizontal position covering said slot.

13. The combination with a telephone having a cut-out receiver-holder, of an attachment comprising a board and adapted to be clamped to the telephone-box, said board having a slot for holding

the receiver, and a plate for normally closing said slot, whereby the accidental placing of the receiver in the slot is prevented.

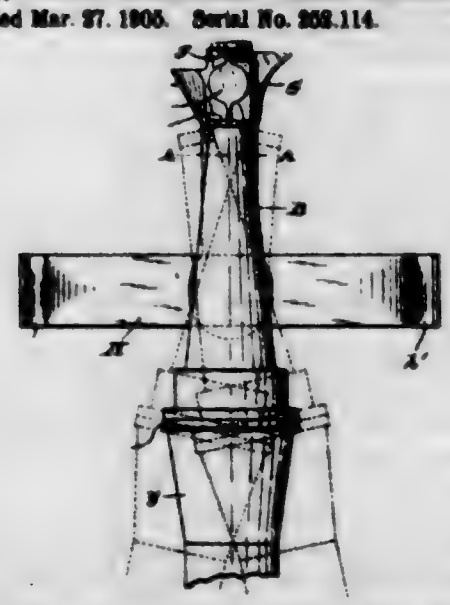
806,340. METALLIC RAILWAY-TIE. JUD S. GRISWOLD, Mannington, W. Va. Filed July 20, 1905. Serial No. 271,845.



Claim.—1. A metal railway-tie having upwardly-extended longitudinal flanges provided at corresponding points near each end with slits and having the portions between said slits inwardly bent to provide depressions and retaining-lips, a block fitted within the tie and confined by said retaining-lips, clips embracing opposite sides of said block and having their upper ends engaging the foot of the rail when in position upon the tie, and means for securing said clips to the block and clamping them upon the rail and block, substantially as set forth.

2. A metallic railway-tie having longitudinal flanges provided at corresponding points with slits and having the portions between said slits inwardly bent to form retaining-lips and depressions or seats, a block fitted into the tie beneath the retaining-lips and having opposite sides about flush with the ends of said retaining-lips, clips embracing opposite sides of the blocks and opposite ends of said retaining-lips and having their upper portions adapted to engage over the opposite sides of the foot of the rail when placed in proper position upon the tie, and a fastener passing through corresponding openings in the clips and block for clamping the elements, substantially as specified.

806,341. LAWN-SPRINKLER. HENRY HAMILTON, Indianapolis, Ind. Filed Mar. 27, 1905. Serial No. 252,114.



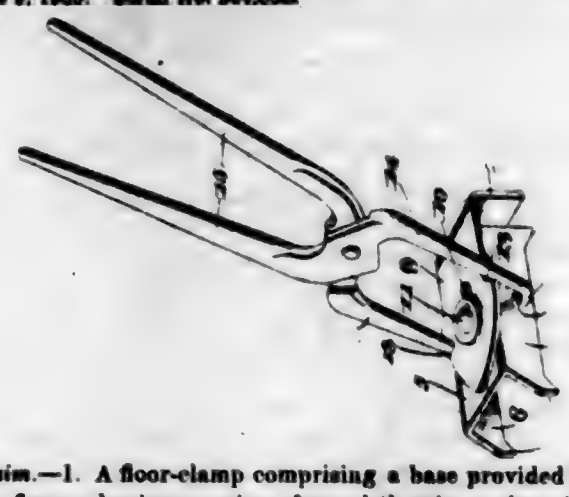
Claim.—1. A lawn-sprinkler including a nozzle provided with a pivot at a side thereof, a supporting-arm mounted on the pivot, a supporting-base attached to the nozzle by means of the pivot, and a sprinkler-head attached to the supporting-arm and having a curved channel therein and a plurality of different forms of deflectors at either side of the channel independently thereof, and a deflector at an end of the channel of the head.

2. A lawn-sprinkler including a sprinkling-head having a curved channel therein, a concave deflector at one side of the head, a convex deflector at the opposite side of the head, a conical deflector at an end of the channel, an arm attached to the sprinkler-head, and a nozzle pivoted at a side thereof to the arm and having its outlet end movable to either the channel or the concave or convex deflectors.

3. In a lawn-sprinkler, the combination with a nozzle, of a sprinkler-head having a channel therein, pillars attached to the head, a bridge attached to the pillars, a cone attached to the pillars opposite the outlet-orifice of the channel, unlike deflectors at opposite sides of the head, and a supporting-arm attached to the head and connected movably and detachably to the nozzle.

4. In a lawn-sprinkler, the combination with a nozzle, of a pivotal stud attached thereto, a supporting-arm and also a supporting-base mounted on the stud, a binding-nut on the stud, a sprinkler-head attached to the supporting-arm and thereby supported movably adjacent to the outlet-orifice of the nozzle and provided with a convex deflector and a concave deflector and also a channel between the deflectors, and a deflector supported at the outlet-orifice of the channel.

806,342. FLOOR-CLAMP. RUDOLPH B. HATCH, Agnes, Neb. Filed June 9, 1905. Serial No. 264,608.



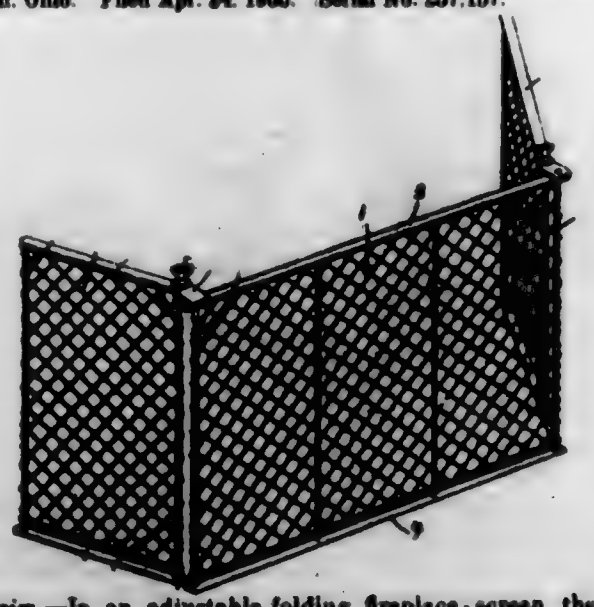
Claim.—1. A floor-clamp comprising a base provided with depending flanges having openings formed therein, a clamping-plate slidably mounted on the base, and means engaging the openings in the flanges for forcing said plate into engagement with the board to be clamped.

2. A floor-clamp comprising a base provided with oppositely-disposed depending flanges having teeth or spurs formed thereon, a plate slidably mounted on the base and provided with a terminal depending clamping-lip, and means engaging said flanges and sliding plate for forcing the terminal lip into engagement with the board to be clamped.

3. A floor-clamp comprising a base provided with oppositely-disposed depending flanges having alined openings formed therein, a clamping-plate slidably mounted on the base and having its opposite side edges provided with notches or recesses, and a pair of tongs the pivoted arms of which engage the openings in the flanges and the recesses in the clamping-plate for forcing the latter into engagement with the board to be clamped.

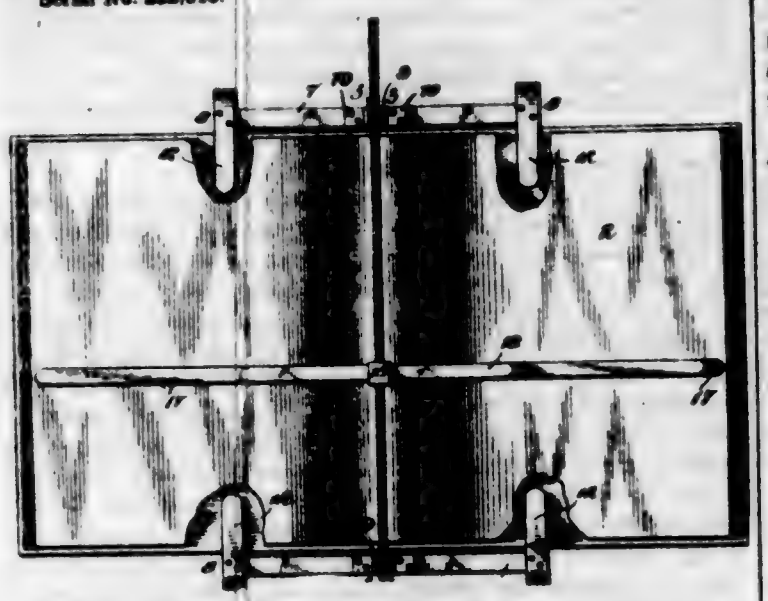
4. A floor-clamp comprising a base formed of a single piece of metal the opposite edges of which are bent to form depending flanges provided with terminal teeth or spurs, a plate provided with an elongated slot slidably mounted on the base and having one end thereof bent downwardly to form a clamping-lip, a fastening means secured to the base and passing through the slot in the sliding plate, and means for reciprocating said plate to thereby force the terminal lip into engagement with the board to be clamped.

806,343. FIREPLACE-FENDER. HENRY G. HAVER, Hamilton, Ohio, assignor to the Fred J. Meyers Manufacturing Company, Hamilton, Ohio. Filed Apr. 24, 1905. Serial No. 257,157.



Claim.—In an adjustable folding fireplace-screen, the combination, substantially as set forth, of a front screen member, wing screen members, pivotal connections between the front edges of the wing members and the ends of the front member, and a clamp and thumb-screw locking device for securing the wing members in any adjusted angular relationship to the front member.

806,344. COPY-HOLDER. BRADBURY HILL, THOMAS N. SHAMBAUGH, and LAURITS A. LARSON, Osage, Iowa. Filed Nov. 9, 1904. Serial No. 232,018.



Claim.—1. A device of the class described provided with an indicator having a thin indicating-strip or marker constructed of resilient material and adapted to be flexed to conform to the configuration of a book when the same bulges at the center, and a spring engaging the indicating-strip or marker for holding the same against a book, said indicating-strip or marker being adjustable independently of the spring for varying its length and being retained in its adjustment by the said spring.

2. A device of the class described, comprising a guide arranged to lie along the center of a book, and indicating means provided with a thin indicating member or marker constructed of resilient material and slidably connected at an intermediate point with and movable across the said guide and extending from opposite sides of the same for engaging both of the leaves of a book.

3. A device of the class described, comprising a guide, indicating means slidable on the guide and embodying an indicating-strip or marker, and a spring engaging the rod and the said indicating-strip or marker for holding the latter against a book and for retaining the indicating means in its adjustment on the guide.

4. A device of the class described, comprising a guide, and indicating means embodying indicating members or markers arranged to be moved inward and outward to vary the length of the indicating means for adjusting the same to suit the size of a book, and a spring engaging the guide for holding the indicating means in its adjustment and also engaging the indicating members or markers for retaining them in their adjustment and for holding the same against a book.

5. A device of the class described, comprising a guide, a slide movable on the guide, an indicating member or marker extending through the slide, and a spring also arranged within the slide and provided with an intermediate seat to receive the guide and engaging the indicating member or marker at opposite sides of the said guide.

6. A device of the class described, comprising a guide, a slide consisting of a loop or casing open at opposite sides and provided with apertures to receive the guide, indicating members or markers arranged within the slide, and a spring also arranged within the slide and having angularly-disposed portions engaging the indicating members or markers, said spring being provided with a central bend forming a seat to receive the guide.

7. A device of the class described, comprising a guide, indicating means adjustable on the guide, and book-engaging means having a clamp provided with jaws receiving the guide.

8. A device of the class described, comprising a guide, indicating means adjustable on the guide, and book-engaging means provided with a clamp having jaws for engaging the guide, said jaws being provided with a plurality of seats for the said guide, whereby the same is adjusted to suit the thickness of a book.

9. A device of the class described, comprising a guide, indicating means movable on the guide, book-engaging means, and a clamp carried by the book-engaging means and provided with crimped or corrugated jaws forming seats to receive the guide.

10. A device of the class described, comprising a guide, indicating means movable thereon, book-engaging means, a clamp carried by the book-engaging means and having jaws receiving the guide, and springs engaging the jaws.

11. A device of the class described, comprising a guide, indicating means movable thereon, book-engaging means, a clamp mounted on said book-indicating means and provided with a pair of jaws having seats to receive the guide, and springs extending along the jaws and engaging the same.

12. A device of the class described, comprising a guide, indicating means movable thereon, clips for engaging the covers of a book, a clamp provided with jaws receiving the guide, and means for connecting the clamp with the clips.

13. A device of the class described, comprising a guide, cover-engaging clips, a bar connecting the clips, and a clamp extending from the bar and provided with jaws adjustably receiving the guide.

14. A device of the class described, comprising a guide, indicating means movable on the guide, clips, each having a straight upper jaw for engaging the inner face of a cover, and a lower jaw arranged at an angle to the upper jaw and terminating short of the ends thereof, and a clamp connected with the clips and provided with jaws adjustably receiving the guide.

15. A device of the class described, comprising book-engaging means having projecting clamps, a guide-rod arranged on the clamps and provided with shoulders for engaging one of the same, and indicating means movable on the guide-rod.

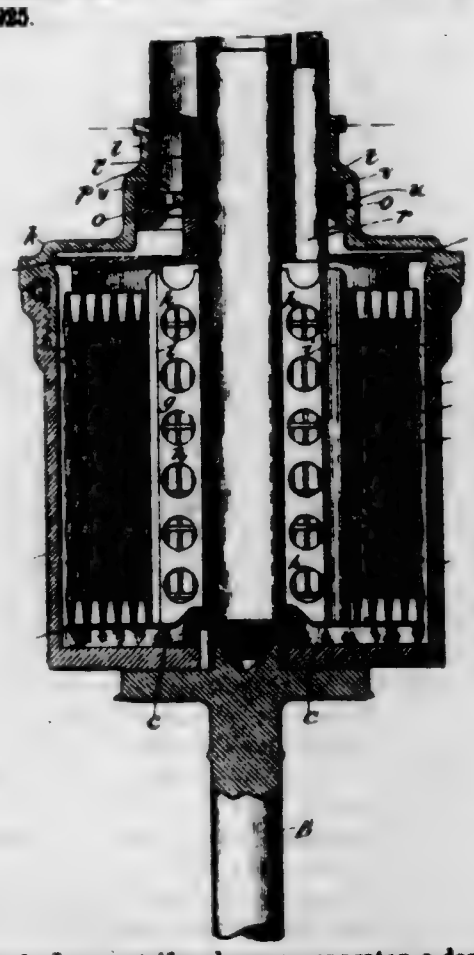
806,345. SUCTION ATTACHMENT FOR DENTAL PLATES. JOHN A. JOHNSON, Middletown, Del. Filed Sept. 16, 1905. Serial No. 278,772.



Claim.—1. A suction appliance for dental vulcanite plates comprising, in combination with an imperforate plate having a recess in the surface thereof, a metallic form with an opening therein seated in said recess, a flexible disk having a shank portion which fills the opening in said plate and held to the latter, the marginal edges of the disk being free and serving as a valve or lip adapted to seat against said plate, as set forth.

2. A suction appliance for dental vulcanite plates, comprising, in combination with a plate having a recess upon the surface thereof, a metallic form seated in said recess, a flexible disk held to said form by a portion thereof engaging the under surface of the form about the central marginal aperture therein, the outer portion of said disk forming a lip or valve, as set forth.

806,346. CENTRIFUGAL CREAM-SEPARATOR. PERLEY L. KIMBALL, Bellows Falls, Vt., assignor to Vermont Farm Machine Company, Bellows Falls, Vt., a Corporation. Filed Mar. 25, 1905. Serial No. 251,925.



Claim.—1. In a centrifugal cream-separator, a device for facilitating the separation of the cream from the blue milk, which consists

of a series of superposed and interlocking subdividers, each made of a flat annular plate having affixed to both opposite sides and projecting at right angles therefrom, a cyclic series of parallel blades arranged in involute curves, and which when its parts are in normal, operative position is located within the annular space between the internal periphery of the centrifugal bowl and an axially-concentric central cavity therein, and forms an assemblage of closely-adjacent, relatively small, tubular, spiral ducts, open at their ends and extending through such annular space obliquely across planes radial to the axis of the bowl.

2. In a centrifugal cream-separator a series of superposed and interlocking subdividers, each consisting of a flat annular plate which has affixed to both of its opposite sides and projecting at right angles therefrom, a cyclic series of parallel blades forming involute curves; and an annular flange which projects downward from the under side of the cover, to bear upon the top of the series of such subdividers when thus assembled within the centrifugal bowl, for steadying the same in place, and for securing above them an otherwise unobstructed space, and which is perforated at intervals to allow the flow of liquid through it laterally.

3. In a centrifugal cream-separator a series of superposed and interlocking subdividers, each consisting of a flat annular plate which has affixed to both of its opposite sides and projecting at right angles therefrom, a cyclic series of parallel blades forming involute curves, and which has perforations through it between such blades; the whole being so assembled and arranged as to occupy an annular space between the internal periphery of the bowl and an axially-concentric central cavity therein, and to have the outer ends of the involute blades pointing toward the direction of revolution intended to be given to the centrifugal bowl.

4. A subdivider for use in a centrifugal cream-separator, consisting of a flat annular plate which has affixed to both of its opposite sides and projecting at right angles therefrom a cyclic series of parallel blades forming involute curves.

5. A subdivider for use in a centrifugal cream-separator, having in outline an annular shape and consisting of two series of parallel blades forming involute curves and arranged in coincident pairs on opposite sides of a rigid support therefor, with intermediate passages adapted to permit the flow of liquid transversely across the structure from one side to the other between consecutive blades.

6. In a centrifugal cream-separator, a series of superposed and interlocking subdividers, all of similar annular outline, and each consisting of two cyclic series of parallel blades forming involute curves and arranged in coincident pairs on opposite sides of a rigid support therefor, which is provided with intermediate passages adapted to permit the flow of liquid transversely across the coincident pairs of blades, and against which, as an abutment, the free lateral edges of the blades of the next adjacent member or members of the series of interlocked subdividers bear.

7. In a centrifugal cream-separator which is provided with a duplex cover, consisting of separable inner and outer divisions, each comprising an annular base and a tubular neck, and the two divisions containing between them the entire passages for the delivery of the skim-milk from the centrifugal bowl; exits which lead directly from those passages outside of the walls of the neck of the inner division of such cover, and which are so located that their extreme outer edges are at substantially the same radial distance from the axis of rotation as is the outer edge of the aperture for the final discharge of the cream when adjusted to its outermost position; and means for tightly closing the space between such exits and the outer division of the said cover.

8. In a centrifugal cream-separator which is provided with a duplex cover, consisting of separable inner and outer divisions, each comprising an annular base and a tubular neck, and the two divisions containing between them the entire passages for the delivery of the skim-milk from the centrifugal bowl; an inner division of such cover having an annular base which is substantially equal in diameter to the cylindrical cavity of the centrifugal bowl, and an annular groove which when the parts are all in normal, operative position, is located in the wall immediately surrounding the circumferential periphery of such annular base of the inner division of the cover, and which affords space for the escape of the skim-milk at the extreme outermost portions of its mass into the discharge-passages between the two divisions of the cover.

9. In a centrifugal cream-separator which is provided with a duplex cover, consisting of separable inner and outer divisions, each comprising an annular base and a tubular neck, and the two divisions containing between them the entire passages for the delivery of the skim-milk from the centrifugal bowl; an inner division of such cover which has its tubular neck contracted sufficiently to permit a considerable portion of the walls inclosing the cream-discharge passage to project laterally beyond the outer surface of the walls of such contracted neck; and an annular diaphragm which bridges the space between such contracted neck and the surrounding neck of the outer division of the cover, and which contains apertures for the exit of the skim-milk, so located that their extreme outer edges are at substantially the same radial distance from the axis of rotation as is the outer edge of the aperture for the final discharge of the cream when adjusted to its outermost position.

10. In a centrifugal cream-separator which is provided with a duplex cover, consisting of separable inner and outer divisions, each comprising an annular base and a tubular neck, and the two divisions containing between them the entire passages for the delivery of the skim-milk from the centrifugal bowl; an outer division of such cover which has a flange depending from the outer margin of its annular base to make screw connection with the upper edge of the centrifugal bowl; an inner division of such cover which has its annular base of substantially equal diameter to that of the internal periphery of the flange aforesaid upon the outer division of the cover; and an annular groove formed in the inner wall of that flange, which, when the outer division of the cover is screwed down upon the centrifugal bowl so as to bring all parts of the apparatus into normal, operative position, immediately surrounds the circumferential periphery of the annular base of the inner division of the cover, and affords space for the escape of the skim-milk at the extreme outermost portions of its mass into the discharge-passages between the two divisions of the cover.

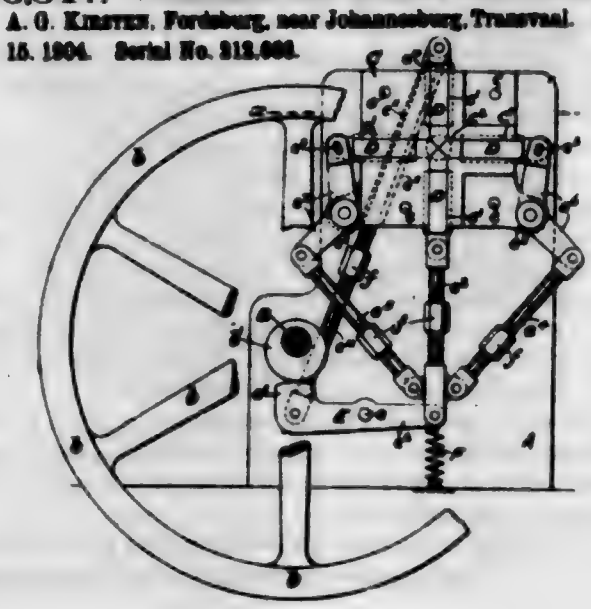
11. In a centrifugal cream-separator which is provided with a duplex cover, consisting of separable inner and outer divisions, each comprising an annular base and a tubular neck, and the two divisions containing between them the entire passages for the delivery of the skim-milk from the centrifugal bowl, an annular diaphragm which projects outwardly from the neck of the inner division, which bridges the space between this neck and the inner surface of the neck of the outer division, and which contains apertures for the exit of the skim-milk into the final discharge-cavity therefor; an inwardly-projecting annular offset upon the outer neck above the said diaphragm; and means for forming a tight joint between such offset and diaphragm when the parts of the apparatus are in normal, operative position.

12. In a centrifugal cream-separator which is provided with a duplex cover consisting of separable inner and outer divisions, each comprising an annular base and a tubular neck, and containing between them the passages for the delivery of the skim-milk from the centrifugal bowl; a laterally-perforated annular flange projecting downward from the base of the inner division of the cover and adapted to bear upon the top of the series of subdividers assembled within the centrifugal bowl.

13. In a centrifugal cream-separator which is provided with a duplex cover consisting of separable inner and outer divisions, each comprising an annular base and a tubular neck, and containing between them the passages for the delivery of the skim-milk from the centrifugal bowl; a laterally-perforated annular flange projecting downward from the base of the inner division of the cover and adapted to bear upon the top of the series of subdividers assembled within the centrifugal bowl; and means for keeping such inner division of the cover with its said flange from axial turning when the outer division of the cover is being screwed to its seat

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806,347. APPARATUS FOR CUTTING DRILL-BITS. JOSEPH A. G. KIRSTEN, Fordsburg, near Johannesburg, Transvaal. Filed June 15, 1904. Serial No. 212,668.



Claim.—1. In apparatus for cutting drill-bits, a plate having radial guideways and a central aperture, cutters in said guideways adapted to move toward and away from the center of said aperture, means for reciprocating the cutters in their guideways, a driving-shaft, and means mounted on said shaft adapted to pass at intervals across the central aperture to remove the partially-severed portion of the drill held between the cutters.

2. In apparatus for cutting drill-bits, a plate having radial guideways and a central aperture, cutters in said guideways adapted to move toward and away from the center of said aperture, means for reciprocating the cutters in their guideways, a rotating member, and a device carried by said member for removing the partially-severed portion of the drill projecting beyond the cutters.

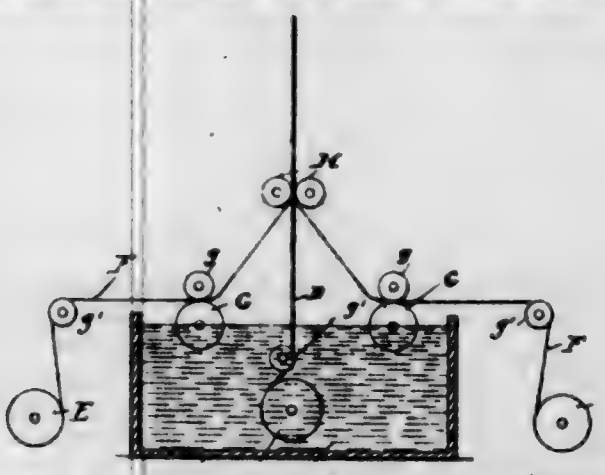
3. In apparatus for cutting drill-bits, a plate having radial guideways and a central aperture, cutters in said guideways adapted to move toward and away from the center of said aperture, means for reciprocating the cutters in their guideways, a shaft, a fly-wheel mounted on said shaft, and a wiper fixed to said fly-wheel and adapted to pass across the central aperture of the plate.

4. In apparatus for cutting drill-bits, a plate having radial guideways and a central aperture, cutters in said guideways adapted to move toward and away from the center of said aperture, means for reciprocating the cutters in their guideways, a shaft, a lever mounted independently of said shaft, means for connecting said lever with the several cutters, and means for actuating said lever to reciprocate the cutters.

5. In apparatus for cutting drill-bits, a plate having radial guideways and a central aperture, cutters in said guideways adapted to move toward and away from the center of said aperture, means for reciprocating the cutters in their guideways, a driving-shaft, a main lever mounted independently of said shaft, adjustable connecting means between said lever and the several cutters, means mounted on the driving-shaft for actuating the main lever, and means for returning the main lever to withdraw the cutters.

6. In apparatus for cutting drill-bits, in combination, a main plate, a second plate fixed thereto constructed with a central aperture and four guideways, cutters in said guideways, a main lever pivoted to the main plate, a connecting-rod between said lever and the lower vertical cutter, levers pivoted to the second plate and connected to the two horizontal cutters, connecting-rods between said levers and the rod reciprocating the lower vertical cutters, a connecting-rod pivotally attached to the main lever and attached at its other end to the top vertical cutter, a driving-shaft, an eccentric on the driving-shaft engaging the main lever, a spring acting on said lever, a fly-wheel on the driving-shaft, and a wiper fixed on said fly-wheel and adapted to pass across the central aperture to remove the partially-severed portion of the drill.

806,348. INSULATING ELECTRIC CONDUCTOR. Isidor Kitsee, Philadelphia, Pa. Filed Apr. 17, 1902. Serial No. 103,428.

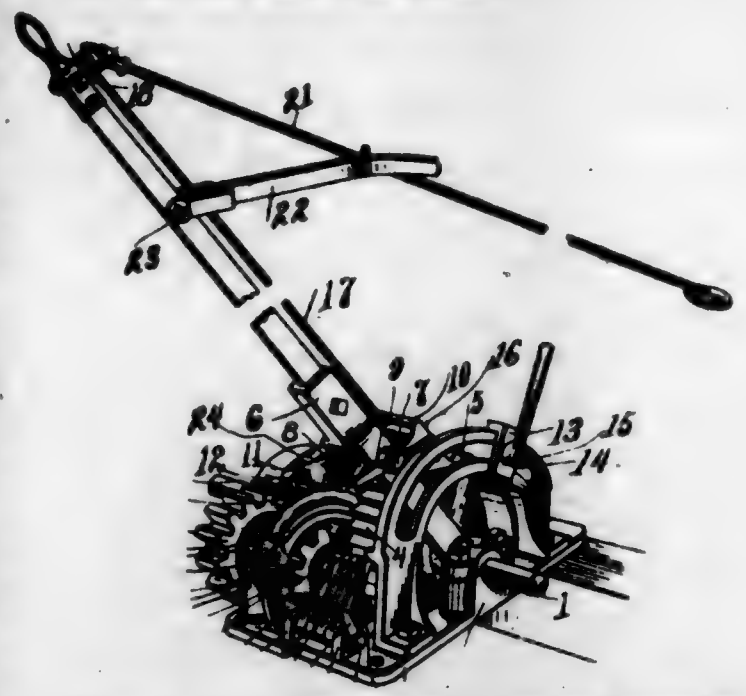


Claim.—1. The process of producing insulated wires which consists in first carrying the wire to be insulated and a strip or strips of amorphous cellulose through a bath adapted to moisten said wire and said strips with a solvent for said cellulose, and then carrying said wire and said strip or strips through compressing-rollers, thereby inclosing said wire in said strip or strips.

2. The process of insulating electric wires with an amorphous-cellulose compound which consists in producing said compound in strips or tapes of the required dimensions, remoistening one surface of each of said strips, causing the wire to be inclosed between said strips, and uniting the same into one mechanical unit.

3. The process of insulating electric conductors with an amorphous-cellulose compound which consists in first carrying the wire to be insulated through means adapted to moisten said wire with a solvent of said amorphous cellulose, and then carrying said wire and a strip or strips of said cellulose through compressing means, thereby inclosing said wire in said strip or strips and making the same adherent to said strips.

806,349. SAWMILL SET-WORKS. Charles H. Knight, Canton, Ohio. Filed Feb. 1, 1901. Serial No. 45,561.



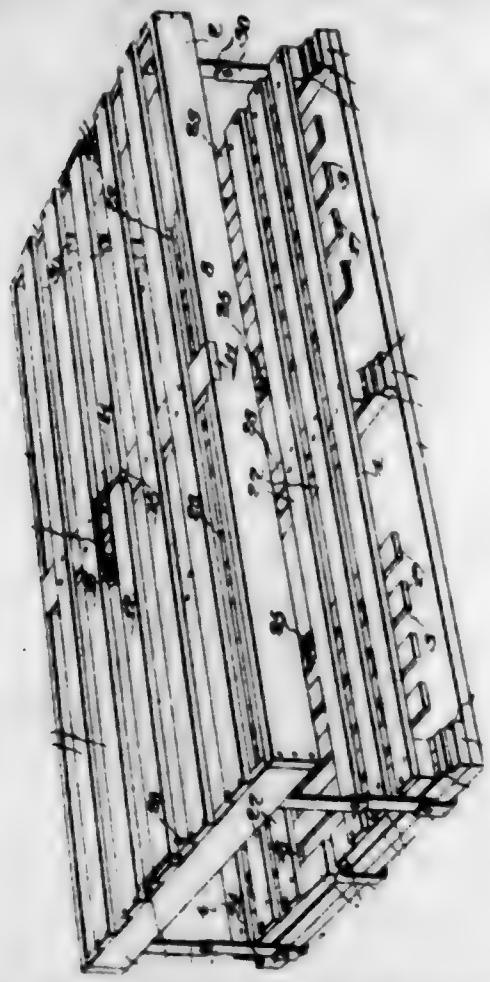
Claim.—1. In a sawmill set-works, a main shaft having fixed thereto a ratchet-wheel, an operating-lever located upon the main shaft, dogs carried by said operating-lever, a rocking yoke provided with a hooked arm, a toothed segment loosely mounted upon the main shaft, and provided with a shoulder adapted for engagement with a hooked arm, a pinion meshing with the toothed segment, and said pinion meshing with a pinion located upon the main shaft and adapted to rotate said pinion, substantially as and for the purpose specified.

2. In a sawmill set-works, a main or operating shaft provided with a fixed toothed wheel, an operating-lever loosely mounted upon the main shaft, a cross-bolt connected to the bifurcated end of the operating-lever, dogs located upon the cross-bolt and adapted to engage the toothed wheel, a rocking yoke carried by the operating-lever and connected to the cross-bolt, a toothed segment loosely mounted upon the main shaft, means for operatively connecting the toothed segment with the forward movement of the operating-lever, and means for lifting the dogs carried by the operating-lever out of engagement with the toothed wheel and intergearing pinions, one engaging the segment and the other driving the set-shaft to rotate the power-shaft and tooth-wheel in a reverse direction from the direction rotated by the dogs carried by the operating-lever, substantially as and for the purpose specified.

3. In a sawmill set-works the combination of a main shaft having fixed thereto a toothed wheel, an operating-lever loosely mounted upon the main shaft, dogs carried by the operating-lever and adapted to engage the toothed wheel, a toothed segment or curved arm loosely mounted upon the main shaft, a pinion to engage the teeth of the segment, a pinion loosely mounted upon the main shaft and provided with a pawl, said pawl provided with an integral arm, a stop-pin adapted to actuate the pawl, locking-dogs loosely mounted upon a bar held in fixed position, and means for lifting the dogs out of engagement with the toothed wheel, substantially as and for the purpose specified.

4. In a sawmill set-works, a main shaft provided with a ratchet-wheel, an operating-lever loosely mounted upon the main shaft, a rocking yoke carried by the operating-lever, dogs actuated by the rocking yoke, a bar provided with dogs, said dogs adapted to lock the ratchet-wheel and main shaft against movement in one direction, a toothed segment mounted upon the main shaft and provided with a shoulder and a pinion engaged with the teeth of the segment and geared to the main shaft, a hooked arm carried by the lever and adapted to engage the shoulder of the segment, a cam located upon the toothed segment, and a pin adapted for engagement with the cam upon the toothed segment, said pin secured to an arm and the arm fixed to the bar having the dogs adapted to lock the ratchet-wheel against rotation, substantially as and for the purpose set forth.

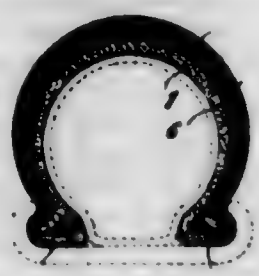
806,350. FOLDING CRATE. ERNST KREUTZBERG, AUGUST BROCKSCHMIDT, and PATRICK RYAN, Pierce City, Mo. Filed Mar. 28, 1905. Serial No. 251,092.



Claim.—1. In a folding crate, a bottom member having transverse cleats provided with recesses at the ends thereof, end and side members foldably connected with said cleats, a top member including a frame having side members adapted to be seated in the recesses at the ends of the transverse cleats of the bottom member, and toggles connecting the bottom and top members.

2. In a folding crate, a bottom member, end and side members foldably connected therewith, a top member including a rectangular frame, a spring-actuated slat, and locking-levers fulcrumed upon the inner sides of the end members of the frame and having arms extended in the path of the spring-actuated slat; toggles connecting the bottom and top members; and locking-hooks at the ends of the bottom member and at the upper edges of the end members adapted for engagement with the locking-levers.

806,351. VEHICLE-TIRE. ALBERT DE LASKI, Trenton, N. J., assignor to The de Laski and Thropp Circular Woven Tire Company, Trenton, N. J., a Corporation of New Jersey. Filed Aug. 11, 1904. Serial No. 220,256.



Claim.—1. A clincher-tire comprising a body composed of a heavy circular-woven fabric, a restraining-jacket applied thereon consisting of courses of threads extending obliquely to the longitudinal axis of the tire and a tread applied on the restraining-jacket, the whole being bound together in a coherent mass.

2. A clincher-tire comprising a body composed of a heavy circular-woven fabric, a restraining-jacket applied thereon consisting of braided threads, a layer of soft rubber interposed between the said braided threads and circular-woven fabric and a rubber tread applied on the braided threads, the whole being vulcanized into a coherent mass.

806,352. PNEUMATIC TIRE. JEAN P. LE GRAND, Levallois-Perret, France. Filed July 2, 1904. Serial No. 215,199.

Claim.—1. In combination with a pneumatic tire, an exterior flexible protective strip, pins traversing the same at intervals, and a strap lying along the inside of the tire-wall and carried through said wall and around said pins, substantially as described.

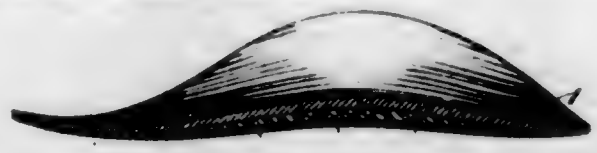


2. In combination with a pneumatic tire, an exterior flexible protective strip composed of two rolls of canvas united by rubber and having transverse pins embedded therein at intervals, and a fastening-strip lying along the inner wall of the tire and carried out through said wall to surround said pins, substantially as described.

3. In combination with a pneumatic tire, an exterior flexible protective strip, pins traversing the same at intervals, a strap lying along the inner wall of said tire and carried out through said wall to embrace said pins, and separate armor-plates applied to said protective strip at intervals opposite said pins, said armor-plates having their ends bent flat to embrace the ends of said pins, substantially as described.

4. In combination with a pneumatic tire, an exterior flexible protective strip, pins traversing the same at intervals, a securing-strap lying along the inner wall of said tire and looped out through said wall to embrace said pins and flat metal sleeves passing through said wall and surrounding said looped portions of the securing-strap, substantially as described.

806,353. ARCH-SUPPORTER. CHARLES LIPP, New York, N. Y. Filed Mar. 16, 1905. Serial No. 250,436.



Claim.—1. As an article of manufacture, an arch-supporter comprising an upper member of stiff leather, permanently longitudinally and transversely arched, a cork reinforce, similarly arched and secured beneath the shank of said upper member, means for holding said cork permanently in shape, a canvas binding for said leather and cork members, and a soft leather bottom, all permanently secured together.

2. As an article of manufacture, an arch-supporter comprising an upper member of stiff leather permanently longitudinally and transversely arched at the shank portion, a cork reinforce of smaller size, similarly and permanently arched and pemanently secured beneath the shank portion of said upper member, and a leather bottom member substantially the size of said upper member, and permanently secured beneath the same, covering said cork member.

3. As an article of manufacture, an arch-supporter comprising an upper member of stiff leather permanently arched longitudinally and transversely at the shank portion and a cork reinforce permanently arched and secured to the under side of the shank portion, and having its pores filled with a reinforcing stiffening and binding substance for the purpose described.

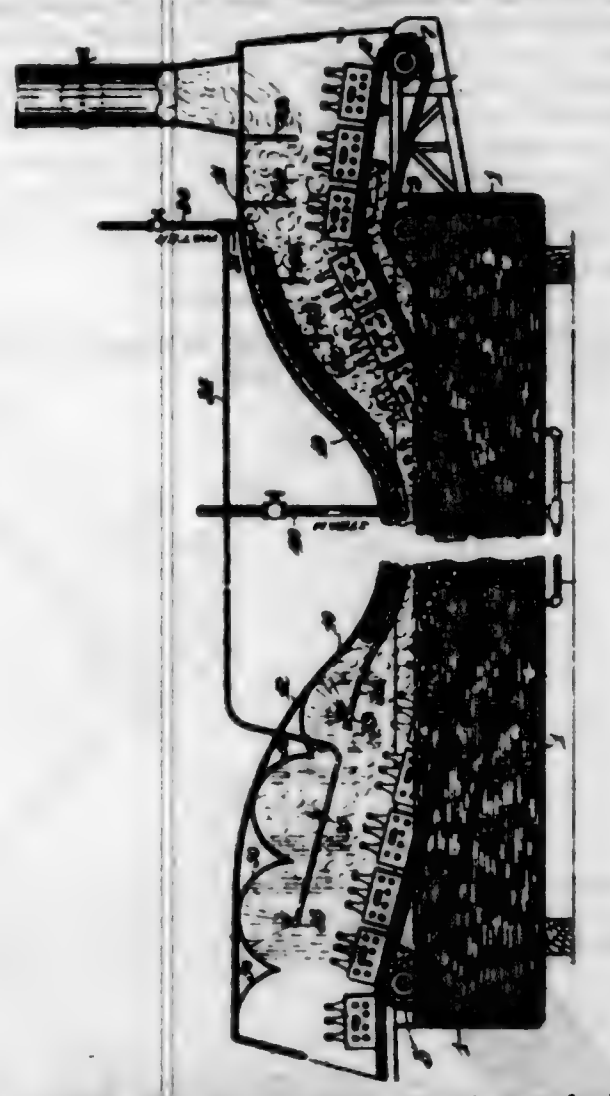
4. As an article of manufacture, an arch-supporter comprising a main member of stiff leather permanently arched longitudinally and transversely at the shank portion, a cork reinforce permanently arched and secured to the shank portion of said main member and having its pores filled with a reinforcing stiffening and binding substance such as glue, and a binding member larger than the cork member and attached to it and to said main member.

806,354. PASTEURIZER. CHARLES H. LOEW, Lakewood, Ohio. Filed Nov. 30, 1903. Serial No. 183,108.

Claim.—1. A machine of the class described, comprising a tank adapted to contain a heated liquid and also to contain the packages being treated, and means for supplying the tank above said heated liquid with jets of water which are wholly discharged toward the wall of the tank and in a direction away from said packages, substantially as described and for the purposes specified

2. A machine of the class described, comprising a tank wherein the packages are subjected to a bath of heated liquid, and means for enveloping said packages in a mist of cooling vapor as they emerge

from said bath, said cooling means comprising a stationary spray-pipe having its discharge-apertures directed away from said packages.



3. A machine of the class described, comprising a tank wherein the packages are subjected to a bath of heated liquid and means for enveloping said packages in a mist of cooling vapor as they emerge from said bath, said cooling means comprising deflecting-plates depending from the top wall of the tank into the cooling-space thereof, and a stationary spray-pipe having discharge-apertures directed toward said baffle-plates and away from said packages.

4. A machine of the class described, comprising a heated liquid, means for conveying the bottles through said liquid, and means for cooling the bottles as they emerge from said liquid, comprising a baffle-plate and a fluid-discharge pipe having its discharge-apertures directed toward said plate whereby said fluid is converted into a mist of vapor cooler than said heated liquid.

5. A tank adapted to contain heated liquid, a hood above the outlet end thereof and a spraying mechanism above said heated liquid and below the hood whereby the jets of water therefrom are directed away from the heated liquid and toward the hood.

6. A tank adapted to contain heated liquid, a hood above the outlet end thereof, a spraying mechanism intermediate the liquid-level and the hood, and having discharge-apertures directed toward the hood, and a deflecting-plate against which the jets from the spraying mechanism are adapted to impinge.

7. A tank adapted to contain heated liquid, a hood above the outlet end thereof, a plurality of spraying mechanisms each discharging its jets upward toward the hood and means for varying the temperature of the liquid of the different spraying mechanisms.

8. A tank adapted to contain heated liquid, a hood above the outlet end thereof, a plurality of spraying mechanisms, each discharging its jets upward toward the hood and means for supplying the different mechanisms with water of different temperatures.

9. A tank adapted to contain heated liquid, a hood above the outlet end thereof, a plurality of spraying mechanisms, each discharging its jets upward toward the hood, and means for supplying water of a higher temperature to the spraying mechanism farthest from the outlet end of the apparatus.

10. A tank adapted to contain heated liquid, a hood above the outlet end thereof, a spraying mechanism discharging its jet upward toward the hood and away from the heated liquid, and means for heating the water supplied to such spraying mechanism, comprising a pipe leading from the source of water-supply through the space above the heated liquid to the spraying mechanism.

11. A tank adapted to contain heated liquid, a hood above the outlet end thereof, a spraying mechanism discharging its jet upward toward the hood and away from the heated liquid, and means for heating the water supplied to such spraying mechanism, comprising a pipe leading from the source of water-supply through the heated portion of the apparatus.

12. A tank adapted to contain heated liquid, a hood above the outlet end thereof, a plurality of spraying mechanisms each discharging its jets upward toward the hood the spraying mechanism nearest the outlet end being supplied with water directly from a source of water-supply and the spraying mechanism farthest from the hood being supplied with water through a pipe passing through the hot portions of the apparatus to increase the temperature of the water in said pipe.

13. In an apparatus of the class described, a tank adapted to contain heated liquid, a hood above the outlet end thereof and means for condensing the vapors intermediate the liquid and the hood, comprising a spraying mechanism, the jets of which are adapted to project upward.

14. In an apparatus of the class described, a tank adapted to contain heated liquid, a hood above the outlet end thereof, and means for condensing the vapors intermediate the liquid and the hood, comprising spaced deflecting-plates attached to and projecting downwardly from the inner surface of the hood.

15. In an apparatus of the class described, a tank adapted to contain heated liquid, a hood above the inlet end thereof and means for condensing the vapors arising from said liquid and projecting them so condensed downward, comprising baffle-plates secured to and depending from the inner surface of the hood.

16. In an apparatus of the class described, a tank adapted to contain heated liquid, a hood inclosing the inlet end of the tank and adjustable steam and vapor condensing baffle-plates arranged between the liquid-level and said hood, substantially as described and for the purposes specified.

17. In an apparatus of the class described, a tank adapted to contain heated liquid, hoods inclosing the same at each end thereof, and means for condensing the steam or heated vapors near the ends of said hoods, comprising baffle-plates at one end of the apparatus and a spraying mechanism at the other.

18. In an apparatus of the class described, a tank adapted to contain heated liquid, hoods inclosing the same at each end thereof and means for condensing the steam or heated vapors near the ends of said hoods, comprising baffle-plates at one end of the apparatus and spraying mechanisms at the other, and means for supplying water of different temperatures to the different spraying mechanisms.

19. In an apparatus of the class described, a tank adapted to contain heated liquid, hoods inclosing the same at each end thereof, and means for condensing the steam or heated vapors near the ends of said hoods, comprising baffle-plates at one end of the apparatus and spraying mechanisms at the other, the water supplied to one of said mechanisms being heated by passing the supply-pipe thereto through heated parts of the apparatus.

20. A pasteurizing apparatus comprising a covered tank having a space for a heated liquid and a space above the same for steam or heated vapors, and means for injecting fluids of different temperatures at different places into the last-mentioned space to mingle with the steam or vapors therein, substantially as described and for the purpose specified.

21. A pasteurizing apparatus comprising a covered tank having a space for a heated liquid and a space above the same for steam or heated vapors, means for injecting water into one portion of the last-mentioned space to mingle with the steam or vapor therein, and a second means for injecting water into said steam or vapor space comprising a coiled pipe arranged in said space and heated by the steam or vapor therein to a higher temperature than the first-mentioned water-injecting means, substantially as described and for the purposes specified.

22. A pasteurizing apparatus comprising a tank having a pasteurizing portion between its ends and provided at one end with a preliminary-heating chamber leading to said pasteurizing portion and its other end with a cooling-chamber leading from said pasteurizing portion, said chambers having steam or vapor containing portions through which are carried the articles being pasteurized, means in said preliminary-heating chamber acting in conjunction with the steam or vapor to produce a gradual increase in the heat applied in said chamber from its inlet to its outlet, and means in the cooling-chamber operating to produce an increasing cooling effect from the inlet to the outlet of said chamber.

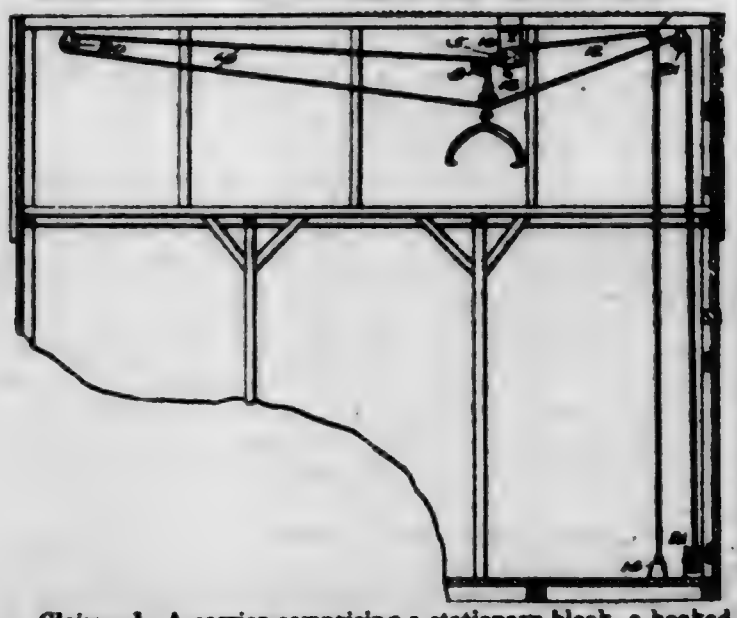
23. A pasteurizing apparatus comprising a tank adapted to contain a heated liquid and provided at one end with a hood for steam or vapors, said hood having a part arranged beyond the end of said tank and provided with a plurality of devices for condensing the steam, a portion of said devices being arranged over the liquid in said tank and a portion thereof being arranged in the part of the hood which is beyond the end of said tank.

806,355. **CONDIMENT-HOLDER.** CHARLES F. MONROE, Meriden, Conn. Filed June 23, 1905. Serial No. 266,461.



Claim.—The herein-described condiment-holder, consisting of a salt-holder in the form of an annular receptacle with its bottom wall forming the feet of the article, and its inner wall extended upwardly above the edge 5 of its outer wall, to form a bottomless elevated socket for the reception of a pepper-holder, substantially as described.

806,356. **CARRIER.** CHARLES R. MCDERMOTT and DARWIN MCDERMOTT, Seville, Ohio. Filed Apr. 3, 1905. Serial No. 253,502.



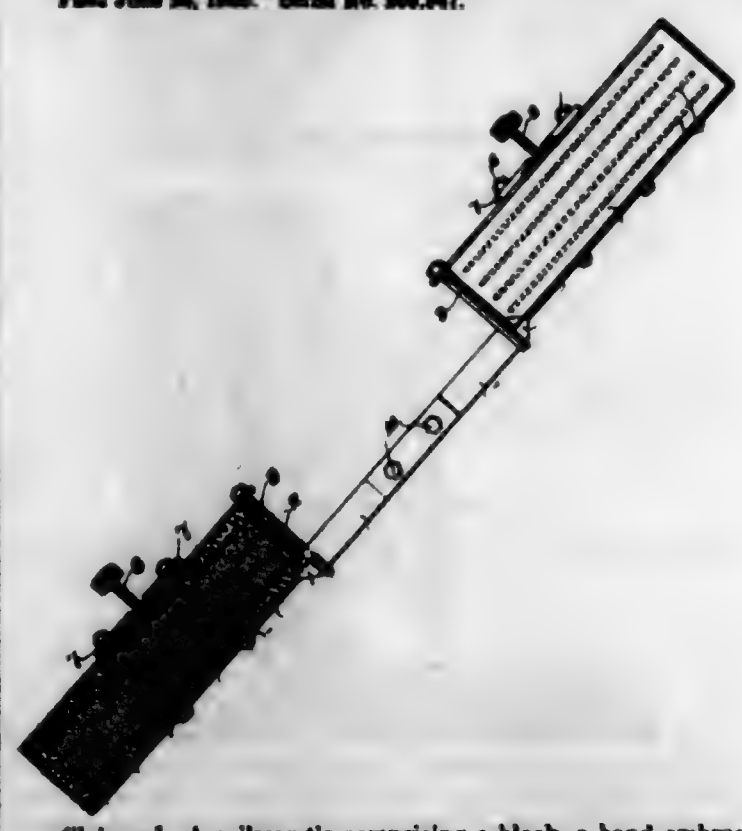
Claim.—1. A carrier comprising a stationary block, a hooked member carried by said block, a pulley provided with a stationary eye adapted to take over said hooked member, a cord fastened to said pulley and provided with a weight adapted to normally retain said pulley upon said hooked member, a second pulley suspended from a rope passing over said first-mentioned pulley and adapted to engage the same when elevated, and a rope fastened to said second pulley and passing over said first pulley, thence over a third pulley, thence back and beneath said second pulley and over a fourth pulley substantially as described.

2. In a carrier, the combination with a stationary block and a hooked member secured thereto and a pulley mounted within said block; of a pulley provided with an eye adapted to take over said hooked member, a cord fastened to said eye and adapted to normally retain the same upon said hooked member, a second pulley mounted immediately beneath said first-mentioned pulley and adapted to engage said pulley and lift same off said hooked member when a load is elevated, and a main rope secured to said second pulley and passing over said first-mentioned pulley.

3. A carrier, comprising a stationary block, a pulley mounted therein, a hooked member secured to said block, a pulley provided with an eye adapted to take over said hooked member, an auxiliary eye secured to said pulley near said first-mentioned eye, a cord fastened to said auxiliary eye and passing over the pulley mounted with said stationary block, a second pulley mounted beneath said pulley provided with an eye and adapted to engage said pulley and lift same off said hooked member when a load is elevated, and a main rope fastened to said second pulley and passing over said pulley provided with an eye, thence over a third pulley, thence back and beneath said second pulley and over a fourth pulley substantially as described.

4. A carrier comprising a stationary block, a hooked member secured to said block, a pulley mounted within said block, a pulley provided with an eye adapted to take over said hooked member, a second or auxiliary eye formed at the rear of said eye of said pulley, a cord secured to said auxiliary eye and provided with a weight adapted to normally return and retain said eye of said pulley upon said hooked member, a second pulley suspended beneath said pulley provided with an eye and adapted to engage the same when elevated, and a rope fastened to said second pulley and passing over said pulley provided with an eye, thence over a third pulley, thence back and beneath said second pulley and over a fourth pulley substantially as described.

806,357. **RAILWAY-TIE.** JOHN MCGRANIGHAN, Roxboro, Pa. Filed June 16, 1905. Serial No. 265,947.



Claim.—1. A railway-tie comprising a block, a band embracing said block exterior thereto, a bolt passing through said block and band, in combination with a rail and a clamp engaged by said bolt to said rail.

2. A railway-tie comprising a block, a band embracing said block exterior thereto, tubes disposed in said block between members of said band, bolts passing through said tubes and band members, and rail-clamps engaged by said bolts.

3. A railway-tie comprising a pair of blocks, and an exterior band embracing the top, bottom and outer end of each of said blocks, said bands having extensions that are secured together.

4. A railway-tie comprising a pair of blocks and a band clamped to the exterior of each block, said bands having respectively twists therein disposed so as to make contact with said blocks and connected extensions having their breadths disposed vertically.

5. A railway-tie comprising a block having a rectangular vertical longitudinal section, and buttered sides, in combination with a band disposed longitudinally on the exterior of said block, said band having a twist therein adjacent to the edge of said block, and a hook-bolt engaging members of said band together.

806,358. **RAILWAY-TIE.** JOHN MCGRANIGHAN, Roxboro, Philadelphia, Pa. Filed July 20, 1905. Serial No. 271,737.

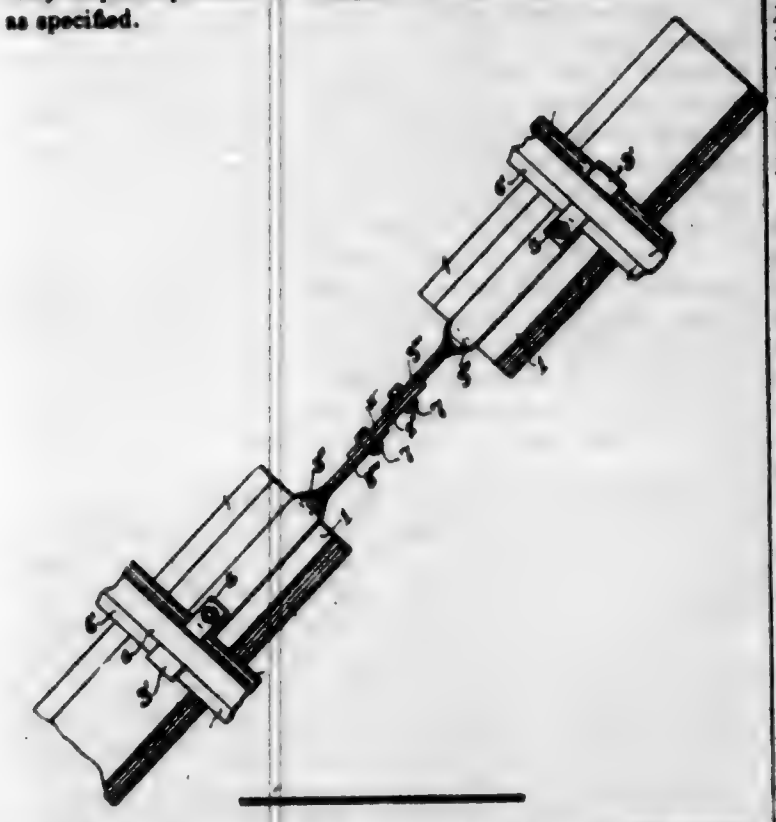
Claim.—1. In a railway-tie, in combination with rails, blocks for supporting said rails, a bottom strap secured to each block for connecting them together, and a top strap secured to each block and having means for engaging and holding said rail, substantially as specified.

2. In a railway-tie, in combination with rails, blocks for supporting said rails, top and bottom straps secured to said blocks and connected together, and means whereby said top straps engage and hold said rails, substantially as specified.

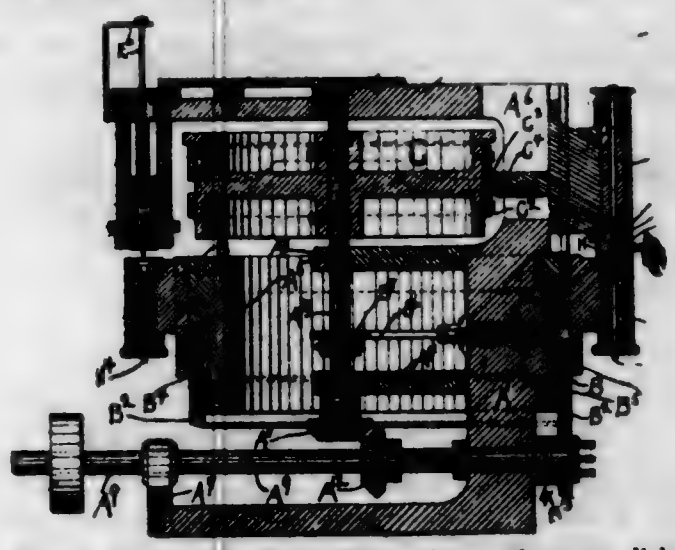
3. In a railway-tie, in combination with rails, blocks for supporting said rails, and top and bottom straps attached thereto and connected together, said top straps having hooks thereon for engaging said rails, substantially as specified.

4. In a railway-tie, in combination with rails, blocks for sup-

porting said rails, and straps secured together and to the tops and bottoms of said blocks, said straps having twists therein providing for horizontally-disposed portions to engage said blocks and vertically-disposed portions to engage said straps together, substantially as specified.

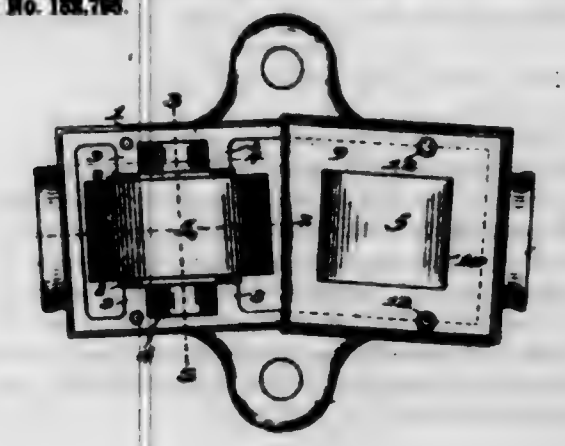


806,359. MACHINE FOR FEEDING AND OPERATING DISKS. ANDREW H. NEURNBERGER, Peru, Ill., assignor to The Western Clock Manufacturing Company, Lasalle, Ill., a Corporation of Illinois. Filed Nov. 9, 1904. Serial No. 232,080.



Claim.—In a machine for feeding and operating upon disks, a device for separating, advancing, releasing and dropping a disk, consisting of an upper and lower support, each having a central aperture surrounded by four concentrically-arranged apertures four vertical shouldered cylinders supported in said apertures, each of which has a screw-thread formed at its lower extremity, which cylinders form a receptacle to receive a stack of superposed disks, and means for rotating said cylinders.

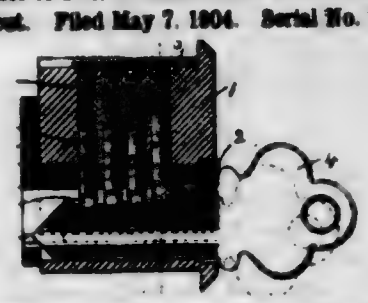
806,360. SIDE BEARING FOR CARS. HUBERT M. PERRY, Joliet, Ill., assignor to Henry D. Laughlin, Chicago, Ill. Filed Nov. 27, 1903. Serial No. 183,766.



Claim.—1. A side bearing for cars comprising a box-like base member, a journal mounted therein, an integral open-ended cylinder mounted upon said journal, a series of rollers mounted within said cylinder around said journal, a pair of washers mounted upon said journal at the ends of said rollers and constituting smooth confining bearings therefor, and a top plate provided with apertures through which said cylinders revolubly protrude, said top plate overlying the upper edges of said washers and provided with integrally-formed lugs having curved bearing-surfaces overlying and confining said journal, substantially as described.

2. A side bearing for cars, comprising in combination, a box-like base member provided with air-passages therethrough, bearing-supports upon the inner walls of said base member, a journal mounted within said bearing-supports, an open-ended cylinder mounted upon said journal between said bearing-supports, a series of rollers mounted within said cylinder around said journal and moving thereupon, a pair of washers mounted upon said journal and confining said rollers within said cylinder and also forming smooth bearings for the ends of said rollers, a top plate secured to said base member and overlying the upper edges of said washers and provided with an aperture through which said cylinder revolubly protrudes, and lug members upon the under side of said top plate fitting between said washers and the wall of said box-like base over said journal and confining same in its bearings, substantially as described.

806,361. PIN-TUMBLER LOCK. GEORGE B. PICKOP, New Britain, Conn., assignor to P. & F. Corbin, New Britain, Conn., a Corporation of Connecticut. Filed May 7, 1904. Serial No. 206,792.



Claim.—1. In a master-key pin-tumbler lock, a body portion, a plug rotatably mounted directly therein and having a longitudinal key-slot, said body and plug having a series of chambers all arranged in a single plane substantially coincident with the axis of the plug, pin-tumblers in said chambers, two or more of said tumblers being divided transversely into three parts, a lower operating part, an upper locking part, and an intermediate part providing a breaking-line at each end so that said plug may be rotated by either one of two keys of different over-all heights by arranging all of said tumblers in different ways, the tumblers in all of said chambers being independent of one another.

2. The combination of a lock having a body portion, a plug rotatably mounted directly therein and having a longitudinal key-slot, said body and plug having a series of chambers all substantially parallel to each other and at right angles to the axis of the plug, pin-tumblers in said chambers divided transversely into three parts, the tumblers in each chamber being independent of all the other tumblers, together with two keys with different bittings, each bitting of one key being lower than the corresponding bitting of the other key, the difference in height of said bittings being equal to the length of the intermediate parts of said tumblers.

806,362. PUNCHING-MACHINE. EDWIN H. PORTER and BURLEIGH CURTISS, Philadelphia, Pa. Filed Mar. 20, 1905. Serial No. 251,614.

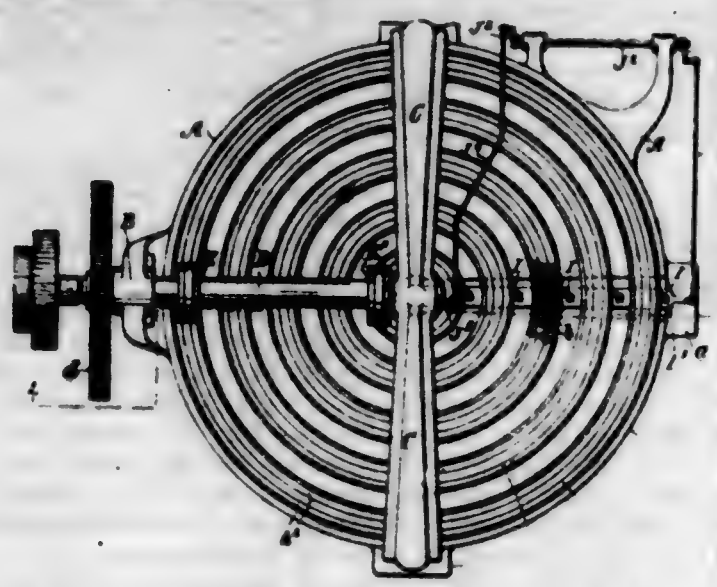
Claim.—1. The combination in a punching-machine of a circular work-table, means for rotating said work-table, a punch and die located on each side of said work-table and means for operating the same, substantially as described.

2. The combination in a punching-machine, of a work-table formed of a plurality of circular sections, means of rotating said sections, a punch and die located between said sections and means for operating the same, substantially as described.

3. The combination in a punching-machine, of a work-table formed of a plurality of independent circular sections, a pair of dies and punches located one at either side of each of said circular sections, means for operating said dies and punches and of advancing said circular sections at every operation of said dies and punches, substantially as described.

4. The combination in a punching-machine, for the manufacture of circular sheet-iron laminations for electrical machinery of a

circular work-table arranged to revolve between a pair of dies, a pair of punches arranged to coöperate with said dies, the whole arranged and operated to successively punch out small segments of circles of different radii of a sheet of metal carried by said work-table, substantially as described.



5. The combination in a punching-machine for electric machine laminations, of a work-table composed of a plurality of concentric revolving sections, a plurality of dies and punches operating between said sections, and means for holding a sheet of metal on said table, substantially as described.

6. The combination in a punching-machine for electrical machine laminations, of a work-table composed of a plurality of concentric revolving sections, a plurality of dies and punches operating between said sections and magnetic means for holding a sheet of iron on said work-table, substantially as described.

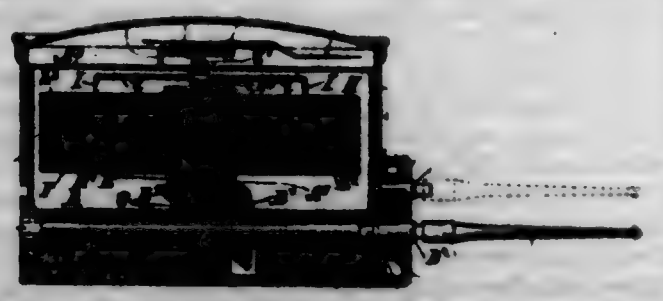
7. The combination in a punching-machine for electrical machine laminations, of a plurality of dies and punches operatively connected, circular concentric work-table sections arranged between each pair of dies, magnetizing-coils embedded in said tables, and means for operating said work-table sections in conjunction with said punches and dies, substantially as described.

8. The combination in a punching-machine, of a bed-plate, annular grooves formed in the upper surface of said bed-plate, a work-table consisting of a plurality of independent circular sections having projections adapted to fit into the said grooves formed in the said bed-plate, fixed dies located in said bed-plate, punches to coöperate with said dies and means for operating said punches and said work-table sections in conjunction with each other, substantially as described.

9. The combination in a punching-machine, of a bed-plate, a work-table composed of sections adapted to revolve upon said bed-plate, dies and their corresponding punches operating between said sections, a shaft and cams for operating the said punches, an arm pivotally connected to said bed-plate and operated by said shaft, pawls on said arm, and teeth formed on said sections adapted to be engaged by said pawls, substantially as described.

10. The combination in a punching-machine of a plurality of dies and punches, a work-table consisting of independent circular sections, a bed-plate supporting said sections, grooves formed in said sections and wires coiled in the grooves in the said sections by which said sections may be magnetized, substantially as described.

806,363. MAGNETIC TACHOMETER. EDWIN H. FOSTER and BURLEIGH CURRIER, Philadelphia, Pa. Filed June 17, 1905. Serial No. 265,697.



Claim.—1. In a magnetic tachometer, the combination of a permanent magnetic structure consisting of two concentric coaxial members embracing a plurality of permanent magnetic poles, the same connected together and revolubly mounted, a cylindrical metallic conducting-armature movably mounted between the poles of said magnetic structure, an indicating-pointer and a resisting spring for said armature, a calibrated scale and means for rotating said magnetic structure, substantially as described.

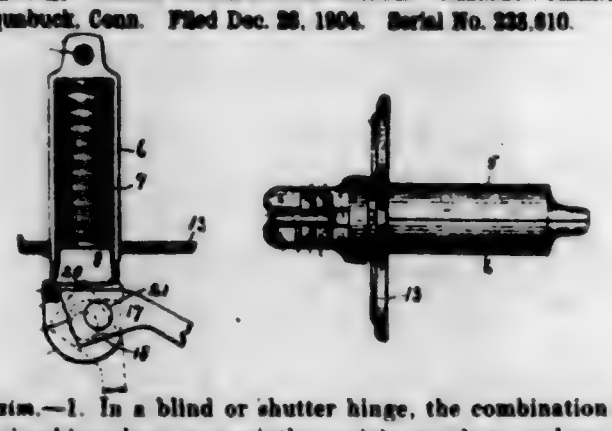
2. In a magnetic tachometer, the combination of a permanent magnetic structure consisting of two concentric, coaxial, circular laminated field members of a multipolar type, poles of opposite polarity of each field member facing each other, the whole revolubly mounted and embracing between opposite poles a cylindrical, metallic, conducting-armature, a resisting-spring for said armature, an indicating-pointer on said armature, a calibrated scale and means for rotating said magnetic structure, substantially as described.

3. In a magnetic tachometer, the combination of two coaxial, concentric laminated, multipolar, permanent magnets, rotatably mounted together on a bearing, said magnets having poles of opposite polarity adjacent each other, a conducting cylindrical armature embraced by said magnets, a suitable pivotal shaft carrying said armature, an indicating-pointer a resisting-spring and a calibrated scale, the whole operatively connected together, substantially as described.

4. In a magnetic tachometer, the combination of two permanent magnets of a circular multipolar type, one having outwardly-projecting poles, the other inwardly-projecting poles, the two magnets concentrically mounted together with opposite poles adjacent, the same arranged to revolve coaxially, a driving-shaft and a detachable gear mechanism for driving said magnets, a conducting cylindrical armature mounted between the poles of said magnets on pivots to allow of oscillation, a resisting-spring connected to said armature, an indicating-pointer carried by said armature, and a calibrated scale, substantially as described.

5. In a magnetic tachometer, the combination of a casing, a bearing having a driving-shaft mounted therein, a hollow vertical shaft, a magnetic structure mounted upon the same, a bevel gear-wheel on said driving-shaft and on said magnetic structure meshing together, a pivotal shaft mounted within said hollow shaft, an armature carried by said pivotal shaft and embraced by said magnetic structure, a resisting-spring and an indicating-pointer on said pivotal shaft, a calibrated scale and means for connecting said driving-shaft with a revolving shaft, substantially as described.

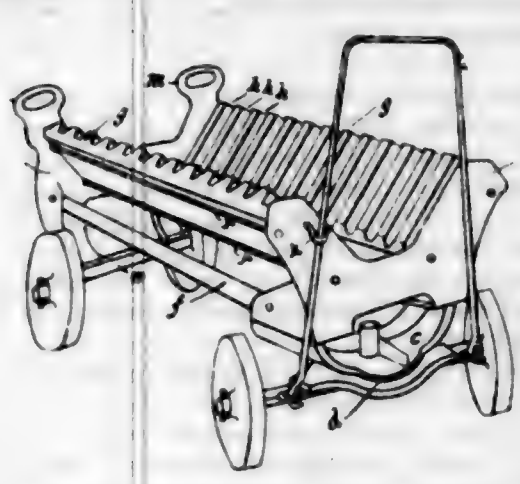
806,364. BLIND OR SHUTTER HINGE. CHARLES PURRINGTON Pequabuck, Conn. Filed Dec. 28, 1904. Serial No. 238,610.



Claim.—1. In a blind or shutter hinge, the combination of a case having hinge-lugs, open pintle-receiving pockets, and two key-seat shoulders formed by open recesses in the side edges of the said lugs and located to one side of a plane extending vertically along the axis of the hinge and horizontally along the length of the case, with a spring-pressed plunger having a flattened head provided with a laterally-projecting corner facing the space between the said key-seat shoulders and correspondingly located with reference to the said case and axis of the hinge, and a companion hinge-lug pivoted in the said lugs of the said case, for being engaged by the said plunger, the whole being combined and arranged for inserting a single key in the space between the said two shoulders and projecting corner, with the said key spanning the space between the said shoulders when the said plunger and the said companion hinge-lug are in engagement with each other.

2. In a blind or shutter hinge, the combination of the case having a pair of hinge-lugs and open pintle-receiving pockets in the confronting faces of the said lugs with a spring-pressed plunger mounted to slide within the said case and present its end face to the space between the said lugs, the said end face being rounded transversely to its broad sides, and a companion hinge-lug having trunnions for being received in the said pockets and holding-faces with grooves that are fitted to the said rounded end face of the said plunger and extend along the edges of the said holding-faces transversely to the axis of the trunnions.

806,365. **TRUCK FOR TRANSPORTING PRINTERS' FORMS.** THOMAS A. RAMBECK, Bloomfield, N. J. Filed Apr. 13, 1905. Serial No. 255,185.

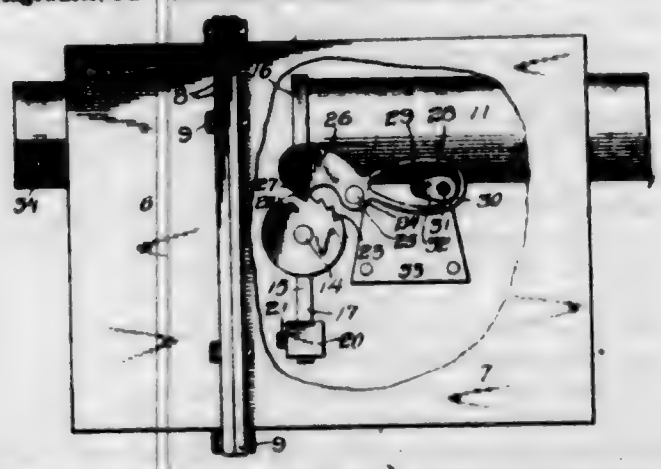


Claim.—1. A form-truck comprising a frame and a pair of racks thereon, said racks each being provided with parallel grooves having inclined sides.

2. A form-truck comprising a frame and a pair of oppositely-inclined racks mounted thereon and spaced apart, said racks being provided with grooves having slanting walls.

3. In a form-truck the combination of a frame comprising two uprights, each having two oppositely-slanting projections, a pair of slanting racks secured between said projections, said racks converging downward, spaced apart and having grooves, a pair of stationary handles on the rear of said uprights and a movable handle connected with the front upright.

806,366. **AUTOMATIC GAS CUT-OFF.** RALPH H. REITER, West Bridgewater, Pa. Filed Jan. 4, 1905. Serial No. 239,610.



Claim.—1. A mechanism of the class described comprising a casing having an inlet-port, a pivotally-mounted closure for the inlet-port, a weight adjustably connected with the closure and arranged to hold it normally in closed position, said closure being adapted to be held in inoperative position by pressure in the inlet-port, a ratchet-disk carried by the closure, and a retainer movable into and out of engagement with the ratchet-disk, said retainer being arranged to hold the closure at times positively in operative position, and means extending outwardly of the casing for moving the retainer into and out of operative position.

2. A mechanism of the class described comprising a casing having an inlet-port, a transverse shaft in the casing, a valve member pivotally mounted upon the shaft, a valve carried by the valve member and lying normally in position to close the inlet-port, adjustable means for holding the valve member yieldably with the valve in operative position, and means for holding the valve member at times positively with the valve in operative position.

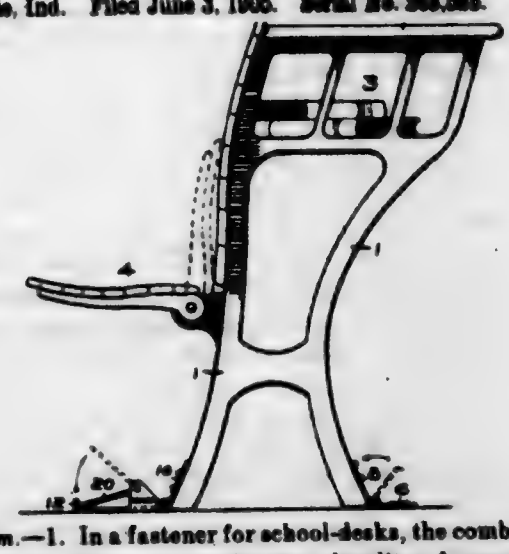
3. A mechanism of the class described comprising a casing having an opening therein, a closure for the opening, movable into and out of operative position, means for holding the closure yieldably in operative position, a ratchet-disk, said ratchet-disk being connected with the closure for rotation when the closure is moved, and a retainer disposed for engagement with the ratchet-disk to hold the latter against rotation, said retainer lying normally in engagement with the ratchet-disk and being movable out of its operative position.

4. A mechanism of the class described, comprising a casing including two detachably-connected sections, one of said sections having an inlet-port, and the other section having an outlet-port, a shaft journaled in the first-named section, a valve member secured to the shaft, a valve carried by the valve member and movable into and out of position to close the inlet-port when the shaft is moved, a stem carried by the valve member, a weight adjustably engaged with the stem, said weight being disposed to hold the shaft with the valve in operative position, a ratchet-disk carried by the shaft, a retainer pivoted in said first-named section of the casing, and lying yieldably in engagement with the disk, said retainer being disposed to hold the disk with the valve against movement out of its operative position, and means for moving the retainer out of operative position.

5. An apparatus of the class described comprising a casing having an opening therein, a closure for the opening, said closure being movable into and out of operative position, a ratchet-disk connected with the closure for rotation when the closure is moved, and means coöperating with the ratchet-disk for holding the closure at times against movement.

6. In an apparatus of the class described, the combination with a pipe, of a pivotally-mounted valve member, a valve carried by the member and movable therein into and out of position to close the pipe, a stem carried by the member, a weight adjustably mounted upon the stem and arranged to hold the member yieldably with the valve in operative position, and means movable into and out of operative position for holding the valve member at times against movement.

806,367. **FLOOR-FASTENING FOR FURNITURE.** JACOB D. SCHAEFFER, Muncie, Ind., assignor of one-half to William J. Killian, Muncie, Ind. Filed June 3, 1905. Serial No. 263,585.



Claim.—1. In a fastener for school-desks, the combination with the desk-frame, hinges comprising a plurality of members pivoted together, part of said members secured to the desk-legs and the free members contacting the floor, a shoulder formed on the ends of the free members, a notched strap for engaging the free ends of the hinges, and a retaining-plate pivotally mounted in the notched strap that engages the shoulder on the free members of the hinges and operating to prevent the accidental separation of the parts.

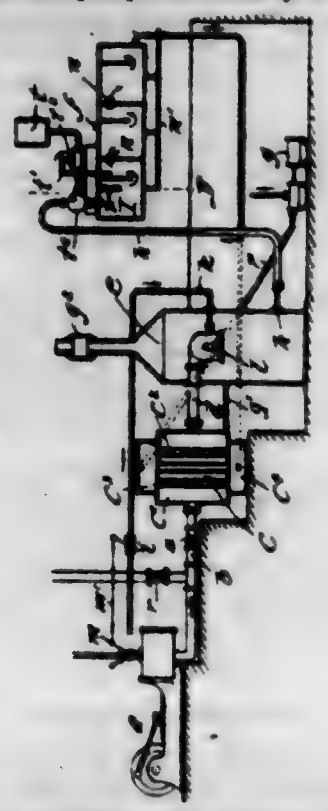
2. In a fastener for school-desks, the combination with the desk-frame, hinges composed of a plurality of members pivotally connected together secured at one end to the desk-legs, a shoulder formed on the forward end of the free members of the hinges, stationary means on the floor for engaging the free ends of the hinges, and retaining means pivotally mounted in the stationary means to engage the shoulders on the free ends of the hinges and operating to prevent the accidental separation of the parts.

806,368. **CONDENSING PLANT.** REINHOLD SCHNEIDER, Sharon, Pa. Filed Dec. 1, 1904. Serial No. 235,096.

Claim.—1. In a steam-condensing and feed-water-heating system, the combination with the engine, of a condenser connected to receive the exhaust-steam therefrom, a water-supply to said condenser, a valve controlling said water-supply, and automatically-operating connections from said valve to the throttle-valve of the engine whereby the former valve is moved in unison with the latter, substantially as described.

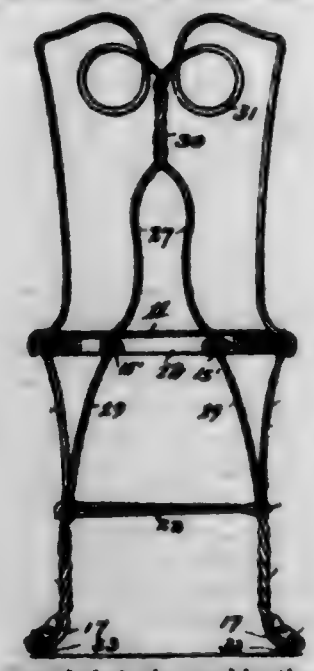
2. In combination, a steam-engine, a surface condenser connected thereto, a second or steam-injected condenser receiving exhaust-steam from said surface condenser, a storage-tank located at a higher elevation than the surface condenser and receiving the feed-water from the lower part of the said second condenser, a pipe connection from the storage-tank to the surface condenser, and a boiler feed-pump connected to the surface condenser, said surface con-

denser being located at an elevation intermediate of that of the storage tank and of the feed-pump, substantially as described.



3. In a steam-condensing and feed-water-heating plant, the combination with the engine of a steam-injected condenser or heater receiving exhaust-steam therefrom, means for spraying water into the condenser in quantities corresponding to the steam coming from the engine, a storage-tank connected with the condenser, and means for feeding water-purifying material into said storage-tank in quantities varying according to the flow of water into the same, substantially as described.

806,369. COLLAPSIBLE CHAIR. DANIEL SCHUSTER and HERBERT L. ANDREWS, Chicago, Ill.; said Schuster assignor to said Andrews. Filed May 17, 1902. Serial No. 107,744.



Claim.—1. In a metal chair the combination of a seat-body provided with a peripheral flange member, a plurality of attaching-clips mounted upon said flange member, a plurality of leg members pivotally attached to said clips and adapted to fold flatly across each other on the under side of said seat-body, and a detachable brace-frame for holding said leg members in operative position.

2. In a chair, the combination of a seat-body, a plurality of leg members formed of twisted wire and each provided with two pivot members or arms arranged to stand at a distance apart, means pivotally connecting said legs with the seat member and constructed to permit the legs to fold across the seat, a detachable brace-frame constructed to hold said legs in rigid relation to the seat and a detachable skeleton back, substantially as described.

3. In a chair, the combination of a circular seat-body, provided with a peripheral depending flange and a series of pairs of clips mounted upon said flange at intervals apart, each clip being provided with a pivot-aperture, a plurality of leg members, each bifurcated at its upper end and pivotally engaged with a pair of said clips, a horizontally-extending uninterrupted brace-frame, provided with angular portions which are severally engaged with the respective legs at points intermediate with the length of the latter and a skeleton back detachably connected with the seat-body, substantially as described.

4. In an article of furniture, the combination of a seat-body, pairs of leg-supporting clips secured to the margin thereof, each provided with a transverse pivot-aperture, some of which pivot-apertures are located lower or more remote from the lower surface of the seat-body than the others, and leg members provided with pivot-arms at their upper ends, engaged with said clips, whereby said legs are capable of folding across the seat-body and oscillating about an axis inclined to a plane parallel to the plane of the seat-body, for the purpose set forth.

5. In a chair, the combination of a circular seat-body, provided with a peripheral depending flange and a plurality of pairs of leg-supporting clips secured to said flange at intervals apart, each of said clips provided with a transverse pivot-aperture extending tangentially to the periphery of the seat-body, the aperture of one clip being located above or nearer the plane of the seat than that of its fellow clip of the pair, a series of legs engaged with the respective pairs of clips, each leg consisting of a length of wire twisted closely together to form the lower portion of the leg, having its upper end portions extending divergently and terminating in oppositely-extending pivot portions which are engaged in said clips and means for securing said legs in perpendicular relation to the seat-body, substantially as described.

6. In an article of furniture, the combination of a body and a leg mechanism for supporting said body comprising a plurality of pairs of oppositely-disposed clips secured to said body, each provided with a transverse pivot-aperture, the pivot-aperture of one clip of each pair being located lower or more remote from the plane of the body than the other and the clips of each pair being spaced apart, and leg members each provided with a pair of pivot-arms engaged with said clips, whereby said legs are pivotally connected with the body to oscillate upon axes inclined to the plane of the body, and are adapted to fold past each other, for the purpose set forth.

7. In an article of furniture, the combination with the body, of a plurality of legs pivotally connected with said body, each formed of rod metal twisted together throughout a part of the length of the leg and provided with a slot-like opening formed intermediate the length of the leg, and a brace-frame consisting of a single length of rod metal formed into a continuous ring and having a series of lug-like angles interengaged with the slot-like openings of the several legs, said angles being formed by bending the rod metal abruptly back upon itself and one portion superposed vertically upon the other as and for the purpose set forth.

8. In a chair, the combination with the seat thereof provided with a flange, of means for detachably connecting a rod-like member therewith, comprising a bolt, the head of which is extended at one side and provided therein with a transversely-extending groove, a lug-like projection within said groove and extending transversely thereof, a rod-like member provided with a transversely-extending groove adapted to fit the groove within said head, with the groove in said rod fitting over the lug-like projection, whereby said rod-like member is held rigidly against lateral and rotary movement, and a clamp-nut for said bolt, substantially as and for the purpose described.

9. In an article of furniture having leg members provided with yieldable brace-receiving sockets, a brace member provided at each of its leg-engaging portions with a reduced neck-like part with shoulders at each end thereof, said parts adapted to be sprung into said sockets, whereby said legs are held in operative position.

806,370. AUTOMATIC PRESS. HENRY P. SHAW, Boston, Mass., assignor to Franklin T. Prince, Dorchester, Mass. Filed Mar. 9, 1905. Serial No. 249,519.



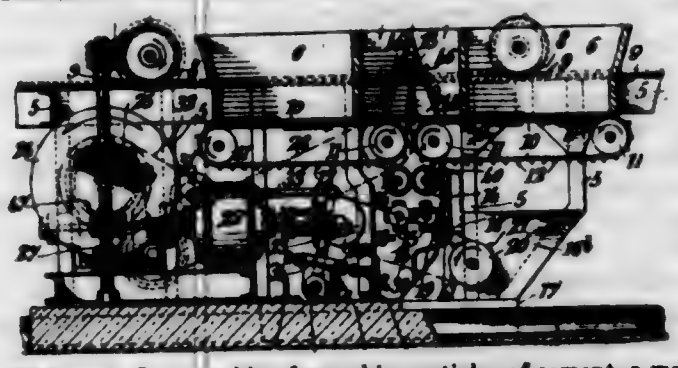
Claim.—1. A pressing apparatus comprising a body or base to receive the material to be treated and a relatively movable cover for such material, in combination with actuating-levers pivotally connected to the base, their long arms extending obliquely downward

and outward, forming supports, and their short arms bearing terminally on said cover, for the purpose set forth.

2. The described automatic press comprising a horizontal base or body with terminal fulcrums, a mold or pan to receive the material and a loose-fitting cover therefor, in combination with actuating-levers, pivoted on said fulcrums, their long arms forming supporting-legs which extend downwardly and obliquely outward and are provided with transverse rollers, while their short arms project inwardly and bear downwardly on the cover, for the purpose set forth.

3. The improved household-press, comprising a horizontal base or body with terminal fulcrum-posts, a removable mold or pan to receive the material and adapted to rest on said base, and a loose-fitting follower-plate in said pan, in combination with actuating-levers of skeleton form pivoted on said posts by suitable fulcrum-plates, the long arms of said levers extending downwardly and obliquely outward and broadened terminally to form transverse supporting-feet, and the short arms arranged to press with increasing force on the follower-plate as said feet recede from each other and the base and pan descend somewhat, as set forth.

806,371. **MACHINE FOR MANUFACTURING HOLLOW ARTIFICIAL-STONE BEAMS OR GIRDERS.** HANS SIEGWART, Lucerne, Switzerland. Filed May 20, 1905. Serial No. 261,467.



Claim.—1. In a machine for making articles of cement, a movable carrier provided with means for depositing a plastic cement, and with means to cut the deposit into separate sections as the carrier is moving along.

2. In a machine for making articles of cement, a movable carrier provided with means for depositing a plastic cement, with means for leveling the deposited cement, with means for compacting the same, with means for smoothing the leveled and compacted deposit and with means for sectioning the same as the carrier is moving along.

3. In a machine for making articles of cement, a movable carrier provided with means for depositing a plastic cement, with means for leveling the deposited cement, with means for compacting the same, with means for smoothing the leveled and compacted deposit and with means for sectioning the same as the carrier is moving along; in combination with means for adjusting the carrier relatively to the surface on which the deposit is made whereby superposed deposits can be formed, leveled, compacted, smoothed and sectioned by interposing sand or the like between each two deposits.

4. A machine for making articles of cement comprising a movable carrier provided with means for depositing a plastic cement on a suitable support and with a rocking rammer for compacting the deposited cement as the carrier is moving along.

5. A machine for making articles of cement, comprising a movable carrier provided with means for depositing a plastic cement on a suitable support and with a rocking rammer of substantially segmental form in cross-section, for compacting the deposited cement as the carrier is moving along.

6. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with means for depositing a plastic cement upon a suitable support, with means for leveling the cement so deposited, with means for compacting the leveled deposit of cement with means for smoothing the leveled and compacted deposit, and with means for sectioning the same as the carriage moves along its track.

7. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with means for depositing a plastic cement upon a suitable support as said carriage travels along its track; in combination with means for adjusting the carriage vertically relatively to the support on which the cement is deposited.

8. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with means for compounding a plastic cement as it travels along its track, comprising sand and cement receptacles open at bottom, mixing-rolls, and a carrier movable under said receptacles and feeding the sand and cement to said mixing-rolls, means to supply water to the sand and cement, and means to deposit the cement on a suitable support.

9. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with means for depositing a plastic cement on a suitable support, with means for leveling the deposit of cement, with means for compacting the leveled deposit and with means for smoothing the leveled and compacted deposit; in combination with means for adjusting the carriage vertically relatively to the support on which the cement is deposited.

10. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with means for depositing a plastic cement on a suitable support, with means for leveling the deposit of cement, with means for compacting the leveled deposit, with means for smoothing the same and with means for sectioning the leveled compacted and smoothed deposit as the carriage travels along its track; in combination with means for adjusting the carriage vertically relatively to the support on which the cement is deposited.

11. Machine for making articles of cement, comprising a wheeled truck provided with a track parallel to the axles of its wheels, a carriage adapted to travel along said track, said carriage provided with means for depositing a plastic cement on a suitable support as it travels along its track, and means for adjusting the carriage vertically relatively to said support.

12. Machine for making articles of cement, comprising a wheeled truck provided with a track, a carriage adapted to travel along said track, said carriage provided with means for depositing a plastic cement on a suitable support as it travels along said track and means for adjusting the carriage vertically relatively to the support on which the cement is deposited.

13. Machine for making articles of cement, comprising a wheeled truck provided with a track parallel to the axis of its wheels, a carriage adapted to travel along said track, said carriage provided with means for forming a plastic cement and depositing the same on a suitable support as the carriage travels along its track; in combination with means for adjusting the carriage vertically relatively to the support on which the cement is deposited.

14. Machine for making articles of cement, comprising a wheeled truck provided with a track parallel to the axis of its wheels, a carriage adapted to travel along said track, said carriage provided with means for forming a plastic cement and depositing the same on a suitable support as the carriage travels along its track, and with means operating successively to level and compact the deposit and then smooth the surface thereof; in combination with means for adjusting the carriage vertically relatively to the support on which the cement is deposited.

15. Machine for making articles of cement, comprising a wheeled truck provided with a track parallel to the axis of its wheels, a carriage adapted to travel along said track, said carriage provided with means for forming a plastic cement and depositing the same on a suitable support as the carriage travels along its track, and with means operating successively to level and compact the deposit and smooth the surface thereof and then section the deposit; in combination with means for adjusting the carriage vertically relatively to the support on which the cement is deposited.

16. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with two sand-receptacles and two cement-receptacles between said sand-receptacles, all the receptacles open at bottom; in combination with two endless carriers adapted to travel toward each other below the sand and cement receptacles and discharge the sand and cement deposited thereon at a point intermediate the cement-receptacles, means to supply water to the layers of sand and cement as they leave the carriers, mixing devices below said point of discharge, a discharge-chute below the mixing devices, mechanism to move the carriage to and fro along its track and mechanism to operate the endless carrier sand mixing devices.

17. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with two sand-receptacles and two cement-receptacles open at bottom; in combination with two endless carriers adapted to travel toward each other below the sand and cement receptacles, and discharge the sand and cement deposited thereon at a point intermediate the cement-receptacles, means for determining the amount of sand and cement deposited on the carriers, means to supply water to the lay-

ers of sand and cement as they leave the carriers, mixing devices below the point of discharge of the sand and cement, a discharge-chute below said mixing devices, mechanism to move the carriage to and fro along its track and mechanism to operate the endless carriers and mixing devices.

18. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with two sand-receptacles and two cement-receptacles open at bottom; in combination with two endless carriers adapted to travel toward each other below the sand and cement receptacles, and discharge the sand and cement deposited thereon at a point intermediate the cement-receptacles, means for determining the amount of sand and cement deposited on the carriers, means to supply water to the layers of sand and cement as they leave the carriers, mixing devices below the point of discharge of the sand and cement, a discharge-chute below the mixing devices, mechanism on the carriage to move the same to and fro on its track and to operate the endless carriers and mixing devices, comprising a motor and suitable power-transmitting devices.

19. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with two sand-receptacles and two cement-receptacles open at bottom; in combination with two endless carriers adapted to tavel toward each other below the sand and cement receptacles, and discharge the sand and cement deposited thereon at a point intermediate the cement-receptacles, means for determining the amount of sand and cement deposited on the carriers, means to supply water to the layers of sand and cement as they leave the carriers, mixing devices below the point of discharge of the sand and cement, a discharge-chute below said mixing devices, means for adjusting the carriage vertically relatively to the surface on which the cement is deposited, mechanism to move the carriage to and fro along its track and mechanism to operate the endless carriers and mixing devices.

20. Machine for making articles of cement, comprising a track, a suitable support therefor, a carriage adapted to travel along said track, said carriage provided with means for depositing a plastic cement on a suitable support as it travels along its track; in combination with means for raising and lowering said track.

21. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with mixing devices, and with means for feeding materials for forming a plastic cement to said mixing devices, and a discharge-chute below the mixing devices, said chute having openings in its front wall below the mixing devices, and a deflecting device to deflect cement coming from the mixing device into and through said openings; in combination with a second discharge-chute in front of the first-named chute and means in said second discharge-chute to take up the cement coming through the aforesaid openings and discharge the same in advance of the cement discharged from the first-named chute.

22. Machine for making articles of cement, comprising a track, means for raising and lowering the track, a carriage adapted to travel along said track, said carriage provided with mixing devices and with means for feeding materials for forming a plastic cement to said mixing devices, and a discharge-chute below the mixing devices, said chute having openings in its front wall below the mixing devices, and a deflecting device to deflect cement coming from the mixing device into and through said openings; in combination with a second discharge-chute in front of the first-named chute and means in said second discharge-chute to take up the cement coming through the aforesaid openings and discharge the same in advance of the cement discharged from the first-named chute.

23. Machine for making articles of cement comprising a track, a carriage adapted to travel along said track, said carriage provided with mixing devices, with means for feeding materials for forming a plastic cement to said mixing devices and a discharge-chute below the mixing devices, said chute having closable openings in its front wall below the mixing devices, a deflecting device for deflecting cement coming from the mixing devices into and through said openings; in combination with a second discharge-chute in front of the first-named chute and means in said second chute to take up the cement coming through the aforesaid openings and discharge the same in advance of the cement discharged from the first-named chute.

24. Machine for making articles of cement, comprising a track, a carriage adapted to travel along said track, said carriage provided with a discharge-chute extending substantially from one side to the other of the carriage, with means for feeding a plastic cement to said chute, with means operating successively for leveling, compacting and smoothing the layer or bed of cement formed as the carriage travels along its track; in combination with parallel cutter-bars extending substantially from end to end of and detachably secured to the carriage at various points for sectioning said bed of cement.

25. Machine for making articles of cement, comprising a track, means for raising and lowering the same, a carriage adapted to travel along said track, said carriage provided with means for compounding a plastic cement, with a discharge-chute extending substantially from side to side of the carriage to form a bed of cement as said carriage travels along its track; in combination with a leveling-bar secured to the carriage in rear of said chute, a rocking rammer in rear of the leveling-bar, a smoothing-bar in rear of the rammer, said leveling-bar, rammer and smoothing-bar extending likewise from one side of the carriage to the other, and parallel cutter-bars detachably secured to the carriage at points equidistant from one another and extending substantially from end to end of the carriage, for the purposes set forth.

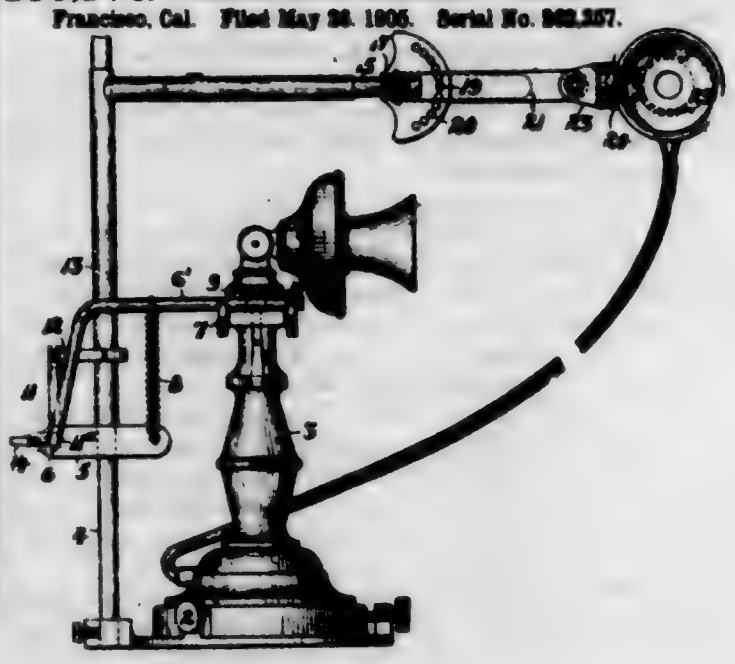
26. Machine for making articles of cement, comprising a wheeled truck provided with a track parallel to the wheel-axles of said truck, means for raising and lowering the track, a carriage adapted to travel along said track, said carriage provided with means for compounding a plastic cement, and with a discharge-chute extending substantially from side to side of the carriage to form a bed of cement as said carriage travels along its track; in combination with a leveling-bar secured to the carriage in rear of said chute, a rocking rammer in rear of the leveling-bar, a smoothing-bar in rear of the rammer, said leveling-bar, rammer and smoothing-bar extending likewise from one side of the carriage to the other, and parallel cutter-bars detachably secured to the carriage at points equidistant from one another and extending substantially from end to end of the carriage, for the purposes set forth.

27. Machine for forming hollow cement girders or beams, comprising a track, means for raising and lowering the same, a carriage adapted to travel along said track, said carriage provided with means for forming a plastic cement and depositing the same in the form of a flat bed or sheet on a suitable support, with means for depositing cement between suitable parallel molds placed on said bed or sheet to form dividing-walls, and to simultaneously form by the first-named means a top sheet or bed of cement to cover the molds and unite the dividing-walls.

28. Machine for forming hollow cement girders or beams, comprising a track, means for raising and lowering the same, a carriage adapted to travel along said track, said carriage provided with means for forming a plastic cement and depositing the same in the form of a flat bed or sheet on a suitable support, with means for depositing cement between suitable parallel molds placed on said bed or sheet to form dividing-walls, and to simultaneously form by the first-named means a top sheet or bed of cement to cover the molds and unite the dividing-walls; in combination with means for leveling, compacting and smoothing the layers of cement deposited and with means for sectioning the finished bed on lines equidistant from the sides of adjacent molds.

29. A machine for making articles of cement, comprising a movable carrier, sand and cement receptacles open at bottom, mixing mechanism, feeding devices adapted to first receive sand and then cement in superposed layers and discharge the same at a point above the mixing mechanism, and means to supply water to the sand and cement at the point of discharge.

806,372. TELEPHONE ATTACHMENT. JOSEPH SILVERMAN, San Francisco, Cal. Filed May 26, 1905. Serial No. 262,357.



Claim.—1. The combination with a telephone hook and mouthpiece, of a suitably-supported depressor for the hook, a receiver-holder having a movement laterally of the mouthpiece, and means including a member operated by the receiver-holder and having a crotch with symmetrical cam portions at each side thereof said depressor having a member normally engaging the crotch of said member and actuated by the cam portions thereof whichever way the receiver-holder is oscillated.

2. The combination with a hook and mouthpiece of a telephone, of a suitably-supported receiver-holder having a movement laterally of the mouthpiece, a hook-depressor and means actuated coördinately with the receiver-holder to operate the depressor said means including a member having a crotch engaged by the hook-depressor and having, also, cam portions at each side of the crotch whereby the depressor is actuated whichever way the receiver-holder is oscillated.

3. The combination with a telephone having a mouthpiece and a hook, of a hook-depressor, an adjustable, extendible swinging receiver-holder, and a member movable with the holder and having a central crotch in which the depressor normally engages, said member having cam portions at each side of the crotch whereby the depressor is actuated whichever way the receiver-holder is oscillated.

4. The combination with the hook and mouthpiece of a telephone, of a hinged depressor, a hinged receiver-holder, a forked cam operated by the receiver-holder, and means carried by the depressor engageable with said cam, whereby the depressor is actuated whichever way the receiver-holder is oscillated.

5. The combination with the hook and mouthpiece of a telephone, of an oscillating depressor for the hook, a receiver-holder mounted to swing from side to side of the mouthpiece, a forked cam operable by the receiver-holder engaging a part on the depressor, and means for maintaining said part normally in the crotch of said cam.

6. The combination with the mouthpiece and hook of a telephone, of a receiver-holder having a movement laterally of the mouthpiece, means for actuating the hook and means including a cam having a flattened seat for the hook-actuating means said cam tending to maintain the receiver-holder in a fixed normal position with the hook depressed.

7. The combination with the mouthpiece and hook of a telephone, of a vertical post, a bracket carried by said post, a depressor for the hook pivoted on said bracket, a sleeve member turnable on said post, a cam carried by said sleeve member and engaging a part on the depressor to actuate the latter, and a receiver-holder carried by said sleeve.

8. In a telephone attachment, an extendible arm formed of telescopic sections said arm mounted to swing from side to side of the mouthpiece, one of said sections having a perforated plate at its outer end, a spring-pressed member pivoted on said plate and adapted to be moved in a vertical plane, and having a projection engageable with said perforations to hold said member at different inclinations relative to said arm, and means carried by said member for holding a receiver.

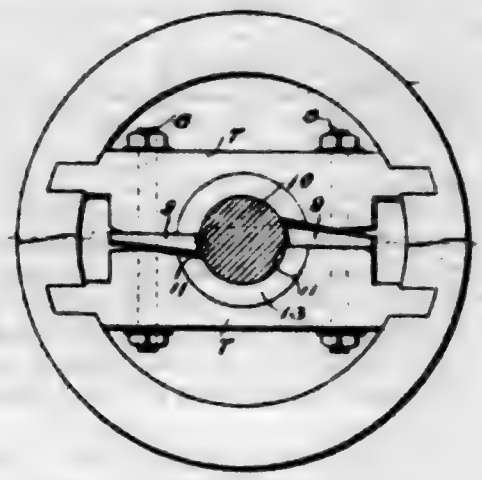
9. In a telephone attachment, an arm mounted to swing from side to side, said arm comprising sections capable of sliding one relative to the other, a plate carried by one of said sections and arranged in a vertical plane, a second arm pivoted on said plate and adapted to form an extension of the arm and having a projection engageable with perforations in said plate, whereby said second arm may be held by different inclinations relative to the first, and means on second arm for holding a receiver.

10. In a telephone attachment, the combination with a hinged arm, of means carried by said arm for supporting a receiver, said means including a part connected with the arm having a radially-corrugated end, a plate swiveled coaxially with relation to said radial corrugations, a projection carried by the said plate engageable with the corrugations, and means including a screw passing through one of said plates and threaded into the other plate, and a spring engaged by the screw for constantly pressing said plate against said corrugated surface to hold the plate in position.

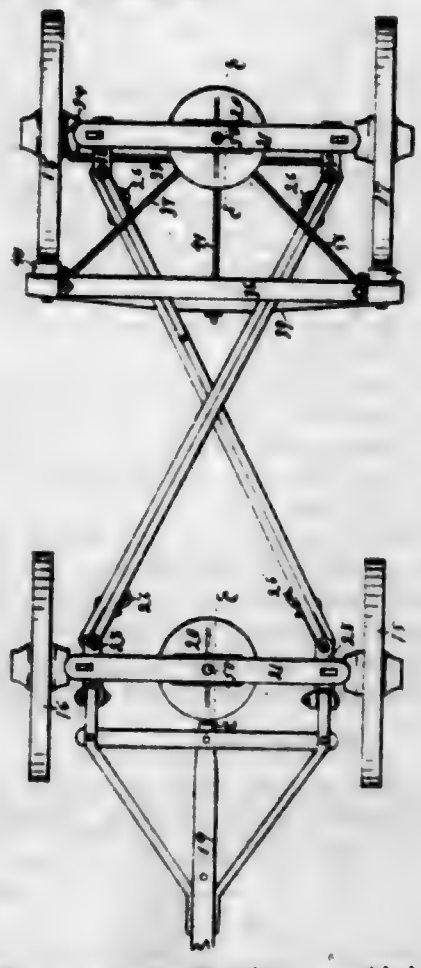
806,373. **PULLEY-CLUTCH.** JOHN C. SOJKA, Cleveland, Ohio. Filed May 3, 1905. Serial No. 258,616.

Claim.—1. The combination with a split wheel each section of which has a cross-bar extending between its ends, and bolts connecting the cross-bars, of dogs supported on said bolts, between the bars, and arranged to clutch the shaft.

2. The combination with a wheel having recesses extending across its hub and along the eye thereof, of dogs comprising relatively wide plates loosely held in said recesses with their longer edges extending parallel to the shaft and projecting at one edge into the eye and adapted to clutch the shaft.



806,374. **WAGON.** GEORGE H. SPENCER, Hillsboro, Oreg. Filed May 3, 1905. Serial No. 258,657.



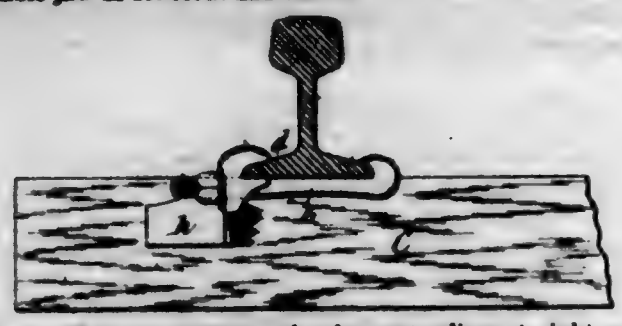
Claim.—The crossed coupling-bars provided with widened pivot-straps at the ends, and front and rear wheeled axles provided with the eared clips to which the pivot-straps are pivoted, combined with the brake-bar above said coupling-bar and rigidly attached to the rear axle, the brake-beam below the coupling-bars, links attached to the ends of the brake-beam and pivotally attached to the ends of the brake-bar, the handled lever rotatable on the ears of the rear axle-clips, and a rod connecting the brake-beam and brake-lever, one end of said rod being forked and pivotedly attached to a downward projection of the brake-lever, substantially as set forth.

806,375. **RAILWAY-RAIL STAY.** HIRAM H. SPONSELLER, Wadsworth, Ill., assignor of one-half to Edward Lass, Ottumwa, Iowa. Filed Apr. 13, 1905. Serial No. 255,272.

Claim.—1. A rail-stay consisting of a bar extending at right angles across the bottom of the rail and provided on one end with a fixed rail-gripping jaw, a jaw adjustably connected to the opposite end of said bar, and a tie-abutment formed on the adjustable jaw.

2. A rail-stay consisting of a bar extending at right angles across the bottom of the rail and formed with a rail-gripping jaw on one end and with a shank on the opposite end, a rail-gripping jaw mounted adjustably on said shank, means applied to the shank for

forcing the jaws to the rail, and a tie-abutting flange formed on the adjustable jaw as set forth and shown.



3. A rail-stay consisting of a bar extending at right angles across the bottom of the rail and terminated at one end in a hook-shaped jaw, and at the opposite end in a screw-threaded shank disposed in line with the bar, a hook-shaped jaw mounted on said shank, a nut on the shank forcing the two jaws into gripping position on the rail, and a tie-abutting flange depending from said adjustable jaw as set forth.

4. A rail-stay consisting of a bar extending at right angles across the bottom of the rail and terminated at one end in a hook-shaped jaw formed with a tooth projecting from the interior of the hook toward the rail, the opposite end of said bar formed with a screw-threaded shank disposed in line with the bar, a hook-shaped jaw mounted on said shank and formed with a depending abutment engaging the side of the cross-tie, and a nut on the shank forcing the two jaws into gripping position on the rail as set forth.

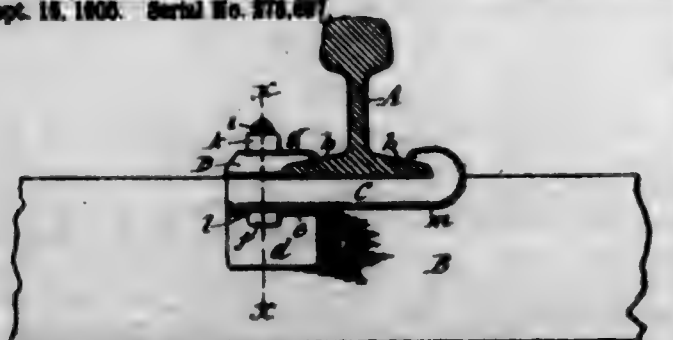
5. A rail-stay consisting of a rod having one end bent hook-shaped over the rod and the opposite end of said rod maintained in line with the main portion of the rod and screw-threaded, a jaw mounted on the screw-threaded end of the rod and formed with a depending flange, and a nut on said end of the rod forcing the aforesaid hook and jaw into gripping position on the rail.

6. A rail-stay comprising a bar extending across the bottom of the rail and formed on one end with a plurality of rail-gripping jaws, a jaw mounted adjustably on the opposite end of said bar, and means forcing said jaws to the rail.

7. A rail-stay consisting of a bar extending across the bottom of the rail and formed on one end with a plurality of jaws and on the opposite end with a screw-threaded shank, a jaw mounted on said shank, and a nut on the shank forcing said jaws into gripping position on the rail as set forth.

8. A rail-stay consisting of a bar extending at right angles across the bottom of the rail and formed on one end with two hook-shaped jaws and with a tooth between said jaws, the opposite end of said bar formed with a screw-threaded shank in line with the bar, a jaw mounted on said shank and formed with a depending flange, and a nut on the shank forcing the jaws into gripping position as set forth and shown.

806,376. RAILWAY-RAIL STAY. HIRAM H. STONEBURG, Wadsworth, Ill., assignor of one-half to Edward Laas, Ottumwa, Iowa. Filed Sept. 15, 1905. Serial No. 278,697.



Claim.—1. A railway-rail stay comprising a bar extending across the bottom of the rail and abutting against the cross-tie and provided at one end with means gripping one of the rail-flanges, a jaw mounted transversely adjustable on the opposite end of the bar and gripping the other rail-flange, and means for clamping the jaw in its adjusted position as set forth.

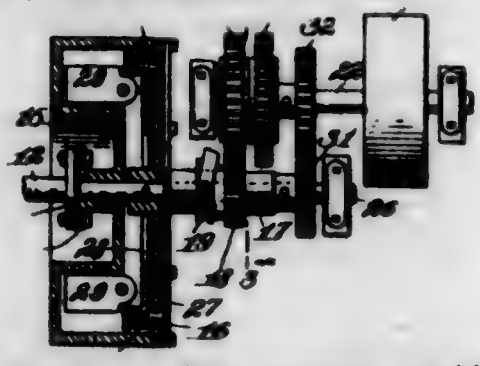
2. A railway-rail stay comprising a bar extending across the bottom of the rail and abutting against the side of the cross-tie and provided at one end with means gripping one of the rail-flanges, a jaw clamped transversely adjustable on the opposite end of the bar and gripping the other rail-flange, and wedging means engaged by the jaw-clamp as and for the purpose set forth.

3. A railway-rail stay comprising a bar extending across the bottom of the rail and abutting against the cross-tie and provided at one end with means gripping one of the rail-flanges, a jaw mounted transversely adjustable on the opposite end of the bar and gripping the other rail-flange, and a bolt passing through the bar and engaging the said jaw for clamping the latter in its adjusted position as set forth.

4. A railway-rail stay comprising a bar extending across the bottom of the rail and abutting against the side of the cross-tie and provided at one end with a fixed jaw gripping one of the rail-flanges, and provided at its opposite end with a transverse slot, a jaw mounted on the latter end of the bar and gripping the other rail-flange and provided with a vertical aperture coinciding with the aforesaid slot, and a bolt passing through said slot and aperture and clamping the jaw transversely adjustable to the bar as set forth.

5. A railway-rail stay comprising a bar extending across the bottom of the rail and formed at one end with a hook-shaped jaw gripping one of the rail-flanges and formed on the inner edge at its opposite end with a lateral offset terminating with a depending flange abutting against the side of the cross-tie, the latter end of said bar being provided with a wedging surface on its bottom inclined toward the abutting flange and provided with a transverse slot at said wedging surface, a jaw mounted transversely adjustable on the slotted end of the bar and provided with a vertical aperture coinciding with said slot, and a clamping-bolt passing upwardly through said slot and aperture and having its head provided with a beveled bearing engaging the aforesaid wedging surface, and a nut applied to the bolt and engaging said jaw as set forth. and shown.

806,377. CLUTCH DEVICE. THOMAS L. STURTEVANT, Quincy, and THOMAS J. STURTEVANT, Wellesley, Mass., assignors to Sturtevant Mill Company, Portland, Me., a Corporation of Maine. Original application filed Dec. 10, 1904, Serial No. 236,360. Divided and this application filed Jan. 25, 1905. Serial No. 243,702.



Claim.—A power-transmitting mechanism, comprising the combination with a driving shaft or part 12, and a shaft or part 26 to be driven, of a centrifugal clutch device comprising a hollow fly-wheel, a clutch-disk connected with said shaft 26, a second clutch-disk rotating with said fly-wheel, centrifugal weights within said fly-wheel and pivoted within the peripheries of said disks and engaging said second clutch-disk, and springs, acting in opposition to said weights, also inclosed within said fly-wheel and located adjacent to the inner wall of the periphery of said fly-wheel.

806,378. AUTOMOBILE STREET SPRINKLER. JOHN J. SULLIVAN, Chicago, Ill. Filed Apr. 27, 1905. Serial No. 257,718.



Claim.—1. In a street-sprinkler, the combination with a horizontally-disposed cylindrical tank, a body-frame consisting of side sills and end sills formed of I-beams and bolsters mediate said end sills formed of drop-frame truss-shape construction, and endless bands surrounding said tank and having offsets that rest upon said side sills, of power-generating apparatus and transmission-gear actuated thereby both of which are supported by said bolsters, a drive-axle driven by said gear, sprinkling devices connected with said tank, and means which while said sprinkler is in motion force the water out of said sprinkler under pressure.

2. In a street-sprinkler, the combination with a horizontally-

disposed cylindrical tank, a body-frame consisting of side sills and end sills formed of I-beams and bolsters mediate said end sills formed of drop-frame truss-shape construction, and endless bands surrounding said tank and having offsets that rest upon said side sills, of power-generating apparatus and transmission-gear actuated thereby both of which are supported by said bolsters, a drive-axle driven by said gear, sprinkling devices having valve-controlled connection with said tank, and means which while said sprinkler is in motion force the water out of said sprinkler under pressure.

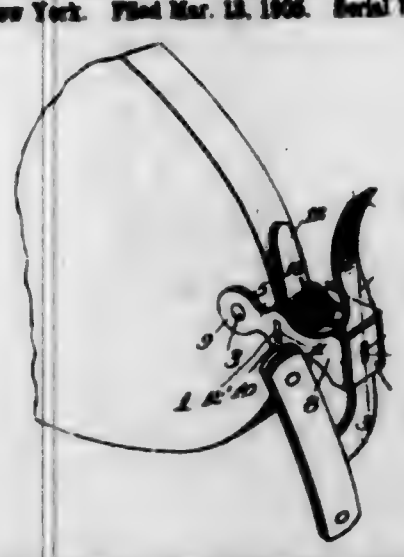
3. In a street-sprinkler, the combination with a horizontally-disposed cylindrical tank having a seat made within the circumference thereof at one end, and a rectangular body-frame having end sills and side sills formed of I-beams and bolsters mediate said end sills formed of drop-frame truss-shape construction within which said tank is seated and bands encircling said tank provided with offsets that rest upon the side of said body-frame, of suitable running-gear attached to said body-frame, and valve-controlled sprinkling devices directly operated by said running-gear connected and communicating with said tank.

4. In a street-sprinkler, the combination with a horizontally-disposed cylindrical water-tank having a portion thereof partitioned off for gasolene-storage chamber, and a rectangular body-frame having end sills and side sills formed of I-beams and bolsters mediate said end sills formed of drop-frame truss-shape construction within which said tank is seated and bands encircling said tank provided with offsets that rest upon the side of said body-frame, of suitable power-generating apparatus having suitable connection with said gasolene-chamber, running-gear attached to said body-frame and driven by said power-generating apparatus, and a pump connected with said tank and directly operated by said running-gear.

5. In a street-sprinkler, the combination with a horizontally-disposed cylindrical water-tank having a portion thereof partitioned off for a gasolene-storage chamber, and having a seat made within the circumference of said tank above said chamber, and a rectangular body-frame having end sills and side sills formed of I-beams and bolsters mediate said end sills formed of drop-frame truss-shape construction within which said tank is seated, of suitable power-generating apparatus having suitable connection with said gasolene-chamber, running-gear attached to said body-frame and driven by said power-generating apparatus, and a pump connected with said tank and directly operated by said running-gear.

6. In a street-sprinkler, the combination with a horizontally disposed cylindrical water-tank, a rectangular body-frame having end sills and side sills formed of I-beams and bolsters mediate said end sills formed of drop-frame truss-shape construction, power-generating apparatus, running-gear driven thereby, valve-controlled sprinkling devices connected to and communicating with said tank, and a pump directly actuated by said running-gear and connected with said sprinkling devices from which they forcibly expel the water.

806,379. **EYEGLASS-MOUNTING.** JOHN R. VAN TASSEL, Geneva, N. Y., assignor to E. Kirstein Sons Company, Rochester, N. Y., a Corporation of New York. Filed Mar. 13, 1905. Serial No. 249,794.



Claim.—1. In eyeglasses, the combination with the lenses, and the bridge and guards, of a clip adapted to be attached to the lenses, and a removable member inserted between the edge of the lens and the clip for securing the attaching portions of the bridge and guards in the clip.

2. In eyeglasses, the combination with the lenses, and the bridge and guards having apertured attaching portions thereon, of a clip formed for attachment to the lenses, and a locking member having an extension to coöperate with the apertured attaching portions of the bridge and guards, and having a portion bearing against the edge of the lens to lock the attaching portions of the springs and guards.

3. In eyeglasses, the combination with the lenses, and bridge and guards, of a clip having arms arranged to engage upon opposite faces of the lens, and a locking member held between the arms of the clip when they are in engagement with the lens, and having a portion adapted to coöperate with the attaching portions of the bridge and guards.

4. In eyeglasses, the combination with the lenses, and bridge and guards having apertured attaching portions, of a clip embodying a central portion having an aperture therein, and arms adapted for engagement upon the opposite faces of the lens, and a locking member held in position between the arms of the clip and having an extension thereon arranged to extend through the aperture of the bridge, guards and clip for locking the spring and guard in position.

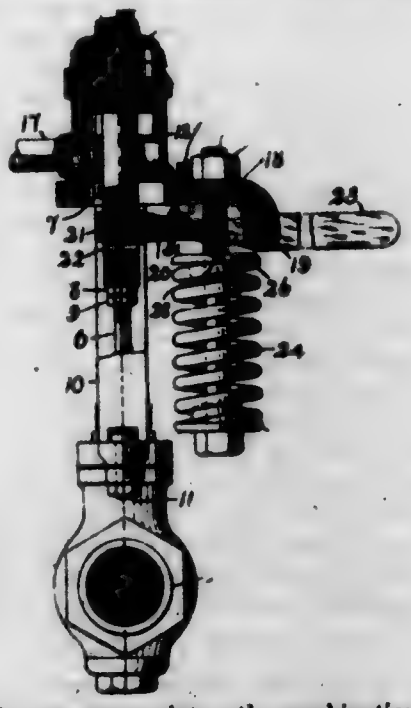
5. In eyeglasses, the combination with the lenses, and bridge and guards having apertured attaching portions, of a clip having arms to engage the faces of the lens, forming a vertically-extending seat for the reception of the attaching portion of the bridge or guards, and apertures formed in alinement in the sides of the clip to receive the attaching portion of the bridge or guard in angular relation to the vertical seat, and a locking member inserted between the adjacent edge of the lens and coöperating with the attaching portions of the bridge and guards to lock the latter in position.

6. In eyeglasses, the combination with the lenses, and bridge and guards, of a clip embodying an apertured central portion and apertured side arms adapted for engagement upon opposite faces of the lens, and a locking member having projections arranged to enter the apertures of the side arms when the latter are in engagement with the lenses, and having a pin or projection coöperating with the bridge and guards for locking them in position.

7. In eyeglasses, the combination with the lenses, and the spring and guards, of a clip embodying a strap composed of a blank of sheet material having its ends bent at right angles to its central portion to form attaching-arms for engagement with the faces of the lens ears for engaging the edge of the lens secured between the arms of the clip, and a locking member attached to the ears having a pin or extension arranged to coöperate with the attaching portion of the bridge and guards to secure them within the clip.

8. In eyeglasses, the combination with the lenses, and the mounting adapted to be secured thereto, of a clip for each lens having an attaching-arm overlapping the lens, and a portion to coöperate with the mounting, a member arranged to coöperate with the clip to secure the mounting, and a securing device passing through the lens and serving to lock the said clip and member together to secure the mounting, and also to secure the clip and member to the lens.

806,380. **PUMP-REGULATOR.** JAMES P. WATSON and FREDERICK L. JAHN, Philadelphia, Pa., assignors to The Watson and McDaniel Company, a Corporation of Pennsylvania. Filed Mar. 24, 1905. Serial No. 251,784.



Claim.—1. In a pump-regulator, the combination of balanced steam-valves and a stem therefor, a hydraulic piston and a rod therefor, the rod and stem being in alinement and adjustably connected;

with a spring adjustably supported out of alinement with the valves, the piston and their connections, and a lever pivotally supported at one end, engaging the connection between the valves and piston at its opposite end having an extension forming a testing-handle and fashioned to engage the spring at a point between its pivotal support and its engagement with the valve and piston connection, and whereby the movement of the spring is less than the movement of the valves and piston and their connecting mechanism.

2. In a pump-regulator, a case, a steam-inlet and an outlet therefor, balanced steam-valves within the case and a stem for the valves; a framework from the case, a hydraulic cylinder supported on the framework, in alinement with the case, a piston in the cylinder, a rod for the piston, and means to adjustably connect the piston-rod and valve-stem; a passage from the pump to the hydraulic cylinder; a spring supported upon the framework out of alinement with the valves and piston, with means to adjust its tension, and a lever pivotally supported at one end, engaging the valve and piston connection for vertical movement therewith having an extension for hand-testing, and bearing upon the spring in manner for its less movement than that of the valves and piston.

3. In a pump-regulator, a case, a steam-inlet and an outlet therefor, balanced steam-valves within the case and a stem for the valves; a framework secured to the case, a hydraulic cylinder thereon and in alinement with the case, a piston in the cylinder, a rod for the piston and means to adjustably secure it to the valve-stem; a passage from the pump to the hydraulic cylinder; a spring supported upon the framework out of alinement with the valves and piston, with means to adjust its tension, and a lever pivotally supported, oppositely thereto engaging the valve and piston connection, bearing upon the spring at a point whereby its movement will be less than that of the valves and piston, and a continuation of the lever beyond its pivotal support as a means to rest the valves, the piston and the spring.

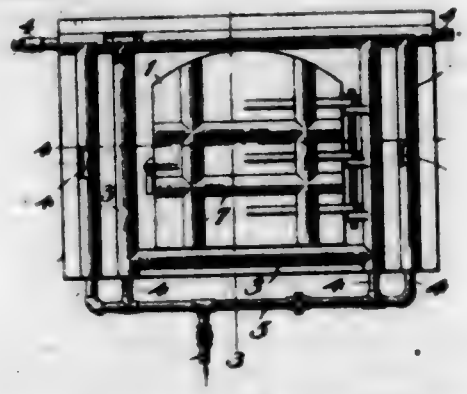
4. In a pump-regulator, a case, a steam-inlet and an outlet therefor, balanced steam-valves within the case and a stem for the valves; a framework secured to the case, a hydraulic cylinder thereon and in alinement with the case, a piston in the cylinder, a rod for the piston and means to adjustably secure it to the valve-stem; a passage from the pump to the hydraulic cylinder; a spring supported upon the framework out of alinement with the valves and piston, with means to adjust its tension, a lever pivotally supported and oppositely thereto engaging the valve and piston connection, bearing upon the spring at a point whereby its movement will be less than that of the valves and piston, and a speed-limit means adapted to control the maximum opening of the steam-valves by limiting the movement of the spring and its lever.

5. In a pump-regulator, a case, a steam-inlet and an outlet therefor, balanced steam-valves within the case and a stem for the valves; a framework secured to the case, a hydraulic cylinder thereon and in alinement with the case, a piston within the cylinder, a rod for the piston and means to adjustably secure it to the valve-stem; a passage from the pump to the hydraulic cylinder; a spring supported upon the framework out of alinement with the valves and piston, with means to adjust its tension, a lever pivotally supported and oppositely thereto engaging the valve and piston connection, bearing upon the spring at a point where its movement will be less than the movement of the valves and piston, with a continuation of the lever beyond its pivotal support as a means to test the valves, the piston and the spring, and a speed-limit means adapted to control the maximum opening of the steam-valves by limiting the movement of the spring and its lever.

6. In a pump-regulator, a case, a steam-inlet and an outlet therefor, balanced steam-valves within the case and a stem for the valves; a framework secured to the case, a diaphragm-case thereon and in alinement with the steam-valve case, a diaphragm within the case, a rod for the diaphragm and means to adjustably secure it to the valve-stem; a passage from the pump to the diaphragm-case; a spring supported upon the framework out of alinement with the valves and diaphragm, with means to adjust its tension, a lever pivotally supported and oppositely thereto engaging the valve and diaphragm connection, bearing upon the spring at a point where its movement will be less than the movement of the valves and diaphragm, with a continuation of the lever beyond its pivotal support as a means to test the valves, the diaphragm and the spring, and a speed-limit means adapted to control the maximum opening of the steam-valves by limiting the movement of the spring and its lever.

806,381. **FURNACE-DOOR FRAME AND MEANS OF COOLING.** JOHN F. WELLS, Charlestown, W. Va. Filed Aug. 15, 1905. Serial No. 274,289.

Claim.—1. In a furnace, the frame of the charging-door cast with reinforcing-tubes projecting from its outer wall around the charging-opening.



2. In a furnace, the frame of the charging-door cast with reinforcing-tubes projecting from its outer wall each tube inclosing a conducting-pipe for a cooling medium.

3. In a furnace, the frame of the charging-door cast with reinforcing-tubes projecting from its outer wall each tube cast with and inclosing a conducting-pipe for a cooling medium, the frame, its wall-tubes and air-pipes constituting a unitary.

4. In a furnace, the door cast with reinforcing-tubes projecting from its outer wall and open at their ends.

5. In a furnace, the combination with a door-frame cast with reinforcing-tubes projecting from its outer wall around the charging-opening, with the door cast with reinforcing-tubes projecting from its outer wall and open at their ends.

806,382. **DRAG-SAW.** HENRY WEITH, Marion, Ohio. Original application filed May 13, 1903. Serial No. 157,004. Divided and this application filed May 12, 1904. Serial No. 207,930.



Claim.—1. A drag-saw comprising a frame, a cross-head movably mounted thereon, a cutting member secured to the cross-head, trunnions mounted on the frame, an apertured spring-fork received on the trunnions, a dog-bar connected to the fork and a slotted dog carried by the bar, the cutting member reciprocating in the slot in the dog.

2. The combination with a frame and a cutter mounted to reciprocate therein, of a dog-bar pivotally secured to the frame, a dog carried by the bar and engaging the work and adapted to maintain the dog-bar rigid with the work, a lever pivotally secured at a point between its ends, to the dog-bar at a point intermediate the ends of the latter, and a link connecting one end of the lever to the frame at a point intermediate the ends of said frame for the purpose of raising and lowering the frame and cutter in the arc of a circle on the rear end of the frame as a center to regulate the feed of the cutter, the dog-

bar serving as a stationary support for the frame and cutter during such adjustment.

3. The combination with a frame, of a cutter maintained in constant parallelism therewith, a dog-bar pivotally secured to one end of the frame, a dog carried by the dog-bar and engaging the work and adapted to maintain the dog-bar rigid with the work, and a lever-and-link mechanism connecting the dog-bar and frame for raising or lowering the frame and saw in the arc of a circle to regulate the feed of the cutter to the work, the dog-bar serving as a stationary support during such adjustment.

4. The combination with a frame, of a cutter maintained in constant parallelism therewith, a dog-bar pivotally secured to the frame, means for rigidly securing the forward end of the dog-bar to the work, a lever pivotally connected to the dog-bar and means connecting the lever and frame to permit the latter to be bodily raised and lowered in the arc of a circle on one end as a center to adjust the feed of the cutter relative to the work, the dog-bar remaining stationary and serving to support the frame and cutter during such adjustment.

5. The combination with a frame, of a cutter carried thereby and maintained in constant parallelism therewith, a dog-bar pivotally secured to the frame, means for rigidly securing the free end of the dog-bar to the work, and means connecting the dog-bar and frame for bodily raising or lowering the frame and cutter for regulating the feed of the latter, the dog-bar remaining stationary and supporting the frame and cutter during such adjustment.

6. The combination with a frame, of a cutter carried thereby and maintained in constant parallelism therewith, trunnions mounted at one end of the frame, a dog-bar embracing the frame and journaled on the trunnions, means for securing the dog-bar to the work against movement, and link-and-lever mechanism connecting the frame and dog-bar for bodily raising and lowering the frame, and cutter for adjusting the feed of the latter, the weight of the frame supported by the dog-bar during such adjustment.

7. The combination with a frame, of a cutter carried thereby and maintained in constant parallelism therewith, a dog-bar, a fork located at one end of the bar, the free ends of the fork pivotally secured to the frame, a forked lever pivotally secured to the dog-bar and links connecting the forked ends of the lever to the frame.

8. The combination with a frame, of a cutter maintained in constant parallelism therewith, a dog-bar pivotally secured to the frame at one end, a forked dog carried by the dog-bar, the cutter passing between the legs of the dog and means connecting the dog-bar and frame for simultaneously raising or lowering the latter together with the cutter.

9. The combination with a frame, of a cutter carried thereby, a dog-bar pivotally secured to the frame, means for retaining the dog-bar immovably in engagement with the work, and means connecting the dog-bar and frame for bodily raising and lowering the latter to regulate the feed of the cutter relative to the work, the cutter moving in the arc of a circle, the weight of the frame supported on the dog-bar.

10. The combination with a guide-frame, and a cross-head the cross-head provided with sleeves engaging the guide-frame and reciprocating thereon, of a tool secured to the cross-head and normally tending to tilt the cross-head with relation to its guide-frame and cause it to bind, and means formed independently of and connected with the cross-head and with the frame at a point distant from the sleeve for maintaining the cross-head in proper position with relation to the frame at all times and preventing such tilting movement.

11. The combination with a guide-frame, a cross-head, and sleeves carried by the cross-head for engaging the guide-frame and reciprocating thereon, of a tool secured to the cross-head, the tool subject to strain which normally tends to tilt the cross-head with relation to the guide-frame and cause the cross-head to bind on the frame, a guide member slidingly mounted on the guide-frame at a point some distance from the sleeves and formed independently thereof, and rigid means connecting the cross-head and guide member to prevent the tilting of the cross-head and counteract the strain imposed thereon by the tool.

12. The combination with a guide-frame, a cross-head, sleeves secured to the cross-head and slidingly received on the guide-frame, and a tool secured at one end to the cross-head and projecting some distance therefrom in one direction, of means formed independently of the sleeve and slidingly engaging the guide-frame, the means located some distance away from the sleeve in a direction opposite to that in which the tool extends and rigidly connected to the cross-head to assist the cross-head in sustaining the tool.

13. The combination with a guide-frame, a cross-head, sleeves connected to the cross-head and slidingly engaging the guide-frame, and a tool secured to the cross-head and normally tending to tilt the cross-head with relation to its guide-frame and cause it to bind, of a sliding member formed independently of the sleeve and loosely mounted on the frame, and a connecting-rod secured at its opposite ends to the cross-head and to the sliding member respectively, the connecting-rod extending in a direction parallel to the guide-frame.

14. The combination with a guide-frame, a cross-head, sleeves connected to the cross-head and extending in opposite directions therefrom and slidingly received on the frame, and a tool secured to the cross-head and normally tending to tilt the cross-head with relation to its guide-frame and cause it to bind, of a sliding member formed independently of the sleeve and loosely mounted on the frame at a point distant from the sleeves, the sliding member provided with a socket, the cross-head likewise provided with a socket, and a connecting-rod extending parallel with the guide-frame, the opposite ends of the connecting-rod received in the respective sockets.

15. The combination with a guide-frame, a cross-head, extending across the guide-frame, sleeves at the opposite ends of the cross-head, the sleeves sliding on the frame, and a tool secured to the cross-head, of a member slidingly received on the guide-frame at a point in rear of and some distance away from the cross-head sleeves and rigid means extending parallel with the guide-frame and connecting the cross-head and member to resist a tilting of the cross-head.

806,383. **CAGE FOR CRUSHERS AND PULVERIZERS.** MILTON F. WILLIAMS, St. Louis, Mo., assignor to Williams Patent Crusher & Pulverizer Company, St. Louis, Mo., a Corporation of Missouri. Filed Apr. 29, 1905. Serial No. 258,087.

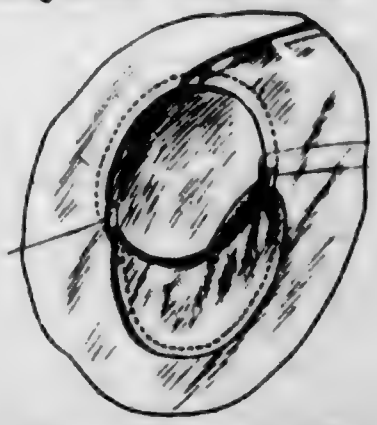


Claim.—1. The combination with a support having curved grooves, curved grooved ring-mounts mounted in the grooves of said support, and cage-bars having integral heads projecting into the grooves of the ring-mounts, said bars having parallel sides and being of uniform dimensions throughout their body portions; substantially as described.

2. The combination with a support having a curved groove, of interchangeable ring-mounts for engagement in said groove, said ring-mounts being provided respectively with grooves struck from different centers, and cage-bars for engagement with any of the grooves in the respective ring-mounts; substantially as described.

3. The combination with a support having a curved groove provided with projecting lugs, of a ring-mount arranged in said curved groove and resting upon said lugs, said ring-mount being provided with a curved groove, cage-bars which project into said curved groove in the ring-mount, and means for securing a plurality of said cage-bars together, whereby they constitute groups forming component parts or sections of the entire cage; substantially as described.

806,384. **DRESS-SHIELD CLAMP.** CLAY WILSON, New York, N. Y. Filed Aug. 10, 1905. Serial No. 273,880.



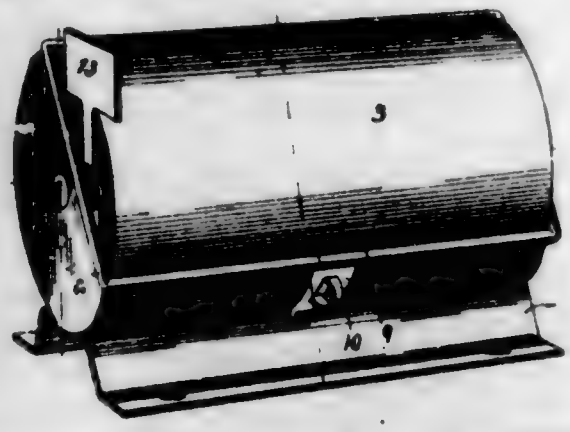
Claim.—1. A dress-shield clamp comprising a pair of jaws, one of said jaws being provided with an integral pivot-rod and a pair of

openings, said openings being adapted to receive a pair of lugs from the opposite jaw, said lugs being provided with cylindrical depressions, a spring mounted in a pair of guideways, and engaging a lug formed integral with said pivot-rod, substantially as and for the purpose described.

2. A dress-shield clamp comprising a pair of jaws having pointed lugs, a pivot-rod formed integral with one of said jaws, transverse guideways, formed integral with the opposite jaw, a spring removably mounted in said guideways, a lug, formed integral with said pivot-rod and engaging said spring, substantially as described.

3. A dress-shield clamp, comprising a pair of pivotally-mounted jaws, one of said jaws being provided with a pair of oppositely-disposed transverse guideways, a spring removably fitting into said guideways, and adapted to lock said jaws in engagement, and clamp them together.

806,385. MAIL-BOX. HYRAM H. WILTFONG, Sibley, Kans. Filed Mar. 21, 1905. Serial No. 251,242.



Claim.—1. A mail-box comprising an outer housing having an opening therein, a cover pivotally mounted thereon, a mail-holding receptacle rotatably mounted in the housing and having an opening therein, and a pivotal connection between the cover and the receptacle whereby, when the cover is raised, said receptacle is rotated to present its opening to the opening in the housing whereupon mail may be placed in, or removed from, the receptacle, and whereby, when the cover is lowered, the receptacle is rotated to remove its opening from the opening in the housing, substantially as described.

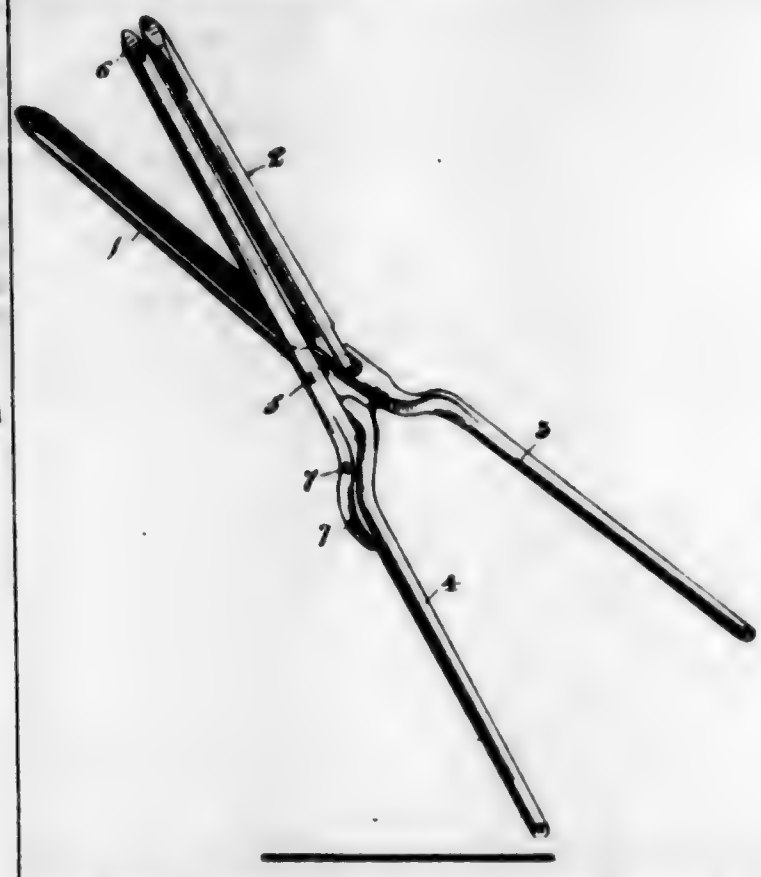
2. In a mail-box, the combination, with an outer cylindrical housing having an opening therein, of a cover pivotally mounted thereon, an inner cylindrical mail-retaining receptacle rotatably mounted in the housing and having an opening therein, and a link connection between the cover and the mail-retaining receptacle whereby said casing is rotated to bring the opening therein into and out of a position opposite the opening in the housing and confining said opening to the upper half or arc of the circle described by the mail-retaining receptacle, substantially as described.

3. In a mail-box, the combination with an outer cylindrical housing having an oblong peripheral aperture, of a semicircular cover pivotally mounted thereon, an inner cylindrical casing rotatably mounted in the outer cylindrical housing and having an oblong peripheral opening corresponding in size and shape to the opening in the outer housing, and a link pivotally connected at one end with the cover and having the other end pivotally mounted on the inner cylindrical casing concentric of its axis and adapted to rotate the same when the cover is raised so as to bring the openings opposite each other, and when the cover is lowered to bring the opening in the inner cylindrical casing to a position in the rear of said outer cylindrical housing, substantially as described.

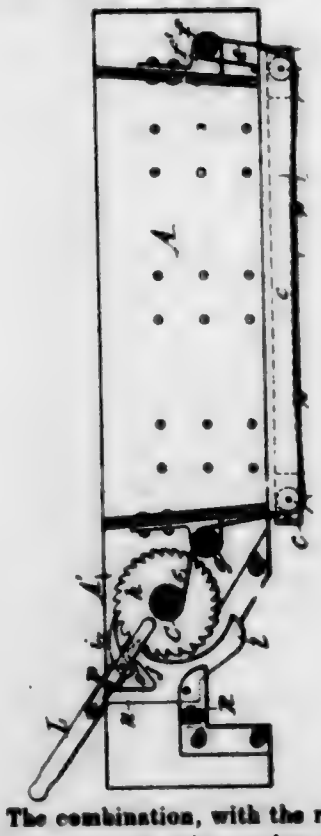
806,386. CURLING-IRON. FRANÇOIS M. WOOLFOLK, New York, N. Y. Filed Mar. 2, 1905. Serial No. 248,055.

Claim.—1. A curling-iron comprising a heating member which is circular in cross-section, and a second heating member which is concavo-convex in cross-section, to receive the first member, the said members coöperating to form a clamp for the hair, operating-handles for the said members, and a third heating member operated by one of the said handles and being parallel with the other heating members when the iron is closed, the edge of said concavo-convex member being adapted to enter between the other two heating members, when the iron is closed, whereby the hair is curved between the concavo-convex member and one of the round members, and is then reversely curved on the edge of the concavo-convex member.

2. A curling-iron comprising an annularly-curved heating member provided with a handle, and having an aperture therein, a bifurcated second heating member provided with a handle, one of said bifurcated ends passing through the opening in the first heating member and pivoted therein.



806,387. DUMPING-WAGON. JOHN YOUNG, Syracuse, N. Y. Filed Jan. 3, 1905. Serial No. 239,314.



Claim.—1. The combination, with the ratchet, lever and pawl pivoted to said lever, of a dog disposed to become interposed between the pawl and ratchet by the movement of the lever and actuated by said lever to throw dog from the ratchet and simultaneously cause the dog to pry the pawl out of engagement as set forth.

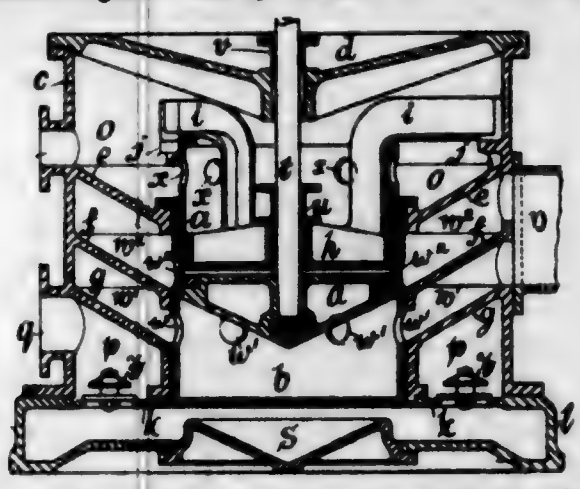
2. The combination with the ratchet, lever and pawl pivoted to said lever, of a pivoted dog disposed to become interposed between the pawl and ratchet and formed with a depending weight forcing the dog into engagement, and means applied to the lever to throw the dog out of engagement and cause the dog to pry the pawl from the ratchet as set forth.

3. The combination, with the wagon-body having drop-floor sections hinged to said body, a floor-lifting winch, a ratchet attached to said winch, and a lever provided with a pawl for engaging the ratchet, of a dog normally engaging the ratchet, an arm and a head fixed to said dog and disposed to engage respectively the lever and the pawl and thereby throw the dog and pawl both out of engagement by the movement of the lever in one direction.

4. The combination, with the wagon-body having drop-floor

sections hinged to said body, a floor-lifting winch, a ratchet attached to said winch, and a lever provided with a pawl for engaging the ratchet, of a dog formed with a depending weight to hold the dog normally in engagement with the ratchet, a forwardly-projecting head on the dog and an upwardly-extending arm fixed to the dog and disposed in front thereof, and a roller pivoted to the handle and in position to press the aforesaid arm forward and thereby throw the dog out of engagement and cause the head thereof to hold the pawl from engagement as set forth.

806,388. DOUBLE-ACTING PUMP. STANISLAS EYLESBLAST, Manchester, England. Filed Apr. 28, 1905. Serial No. 256,973.



Claim.—1. In a double-acting pump, the combination of an internal working surface upon a fixed part adapted to permit passage of fluid to be pumped, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and adapted to allow fluid to enter it and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

2. In a double-acting pump, the combination of an internal working surface upon a fixed part with openings to permit passage of fluid to be pumped, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and with openings to allow fluid to enter it and means to allow fluid pumped to issue from the interior of such cylinder, substantially as hereinbefore described.

3. In a double-acting pump, the combination of an internal working surface upon a fixed part with openings to permit passage of fluid to be pumped, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and with openings to come opposite those of the internal working surface to allow fluid to enter it and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

4. In a double-acting pump, the combination of an internal working surface upon a fixed part adapted to permit passage of fluid to be pumped at more than one part of its internal surface, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

5. In a double-acting pump, the combination of an internal working surface upon a fixed part adapted to permit passage of fluid to be pumped at two distinct parts of its internal surface, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such working surfaces respectively and adapted to allow at one part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

6. In a double-acting pump, the combination of an internal working surface upon a fixed part with openings to permit passage of fluid to be pumped at more than one part of its internal surface, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and with openings adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

7. In a double-acting pump, the combination of an internal working surface upon a fixed part with openings to permit passage of fluid to be pumped at two distinct parts of its internal surface, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and with openings adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

8. In a double-acting pump, the combination of an internal working surface upon a fixed part adapted to permit passage of fluid to be pumped at more than one part of its internal surface means to separate into distinct currents the fluid to be pumped on its way to the places of passage through the said internal working surface, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

9. In a double-acting pump, the combination of an internal working surface upon a fixed part adapted to permit passage of fluid to be pumped at two distinct parts of its internal surface, a partition to separate into distinct currents the fluid to be pumped on its way to the places of passage through the said internal working surface, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

10. In a double-acting pump the combination of an internal working surface upon a fixed part with openings to permit passage of fluid to be pumped at more than one part of its internal surface, means to separate into distinct currents the fluid to be pumped on the way to the said openings, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and with openings adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

11. In a double-acting pump, the combination of an internal working surface upon a fixed part with openings to permit passage of fluid to be pumped at two distinct parts of its internal surface, a partition to separate into distinct currents the fluid to be pumped on the way to the said openings, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and with openings adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

12. In a double-acting pump, the combination of an internal working surface upon a fixed part adapted to permit passage of fluid to be pumped at more than one part of its internal surface, means to separate into distinct currents substantially of gas or liquid the fluid to be pumped on its way to the places of passage through the said internal working surface, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

13. In a double-acting pump, the combination of an internal working surface upon a fixed part adapted to permit passage of fluid to be pumped at two distinct parts of its internal surface, a partition to separate into distinct currents substantially of gas and liquid the fluid to be pumped on its way to the places of passage through the

said internal working surface, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

14. In a double-acting pump, the combination of an internal working surface upon a fixed part with openings to permit passage of fluid to be pumped at more than one part of its internal surface, means to separate into distinct currents of gas and liquid the fluid to be pumped on the way to the said openings, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and with openings adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket, substantially as hereinbefore described.

15. In a double-acting pump, the combination of an internal working surface upon a fixed part with openings to permit passage of fluid to be pumped at two distinct parts of its internal surface, a partition to separate into distinct currents of gas and liquid the fluid to be pumped on the way to the said openings, an external working surface upon another fixed part, a hollow cylinder or bucket fitted upon the said external working surface and in the said internal working surface to work on and in such surfaces respectively and with openings adapted to allow at part of its movement the entrance of fluid from one part of the said internal working surface and means to allow fluid pumped to issue from the interior of such cylinder or bucket substantially as hereinbefore described.

16. In a double-acting pump, the combination with a pump-casing furnished within with an internal working surface adapted to permit passage of fluid to be pumped, a fixed cylinder within the said pump-casing and furnished with an external working surface, a hollow cylinder or bucket adapted to allow fluid being pumped to enter it, fitted and made to work externally against the internal working surface within the pump-casing and internally against the external working surface of the said fixed cylinder, substantially as hereinbefore described.

17. In a double-acting pump, the combination of a pump-casing furnished within with an internal working surface with openings to permit passage of fluid to be pumped, a fixed cylinder within the said pump-casing and furnished with an external working surface and a hollow cylinder adapted to allow fluid being pumped to enter it and a hollow cylinder or bucket fitted and made to work externally against the internal working surface within the pump-casing and internally against the external working surface of the said fixed cylinder, substantially as hereinbefore described.

18. In a double-acting pump, the combination of a pump-casing furnished within with an internal working surface adapted to permit passage of fluid to be pumped, a fixed cylinder within the said pump-casing and furnished with an external working surface and a hollow cylinder or bucket with openings to allow the fluid being pumped to enter it, fitted and made to work externally against the internal working surface within the pump-casing and internally against the external surface of the said fixed cylinder, substantially as hereinbefore described.

19. In a double-acting pump, the combination of a pump-casing furnished within with an internal working surface adapted to permit passage of fluid to be pumped, a fixed cylinder within the said pump-casing and furnished with an external working surface and a hollow cylinder or bucket with an inlet to allow fluid to enter it fitted and made to work externally against the internal working surface within the pump-casing and internally against the external surface of the said fixed cylinder, substantially as hereinbefore described.

20. In a double-acting pump, the combination of a pump-casing adapted to admit the fluid to be pumped, means to divide into distinct currents, substantially gaseous and liquid respectively, the fluid to be pumped as it enters the said casing an internal working surface within the said casing adapted to permit the passage of fluid to be pumped at distinct parts, a fixed cylinder within the said pump-casing and furnished with an external working surface and a hollow cylinder or bucket adapted to allow the fluid being pumped to enter it and fitted and made to work externally against the internal working surface within the pump-casing and internally against the external working surface of the said fixed cylinder, substantially as hereinbefore described.

21. In a double-acting pump, the combination of a pump-casing adapted to admit the fluid to be pumped, a partition to divide into distinct currents, substantially gaseous and liquid respectively, the fluid to be pumped as it enters the said casing, an internal working surface within the said casing adapted to permit the passage of fluid to be pumped at distinct parts, a fixed cylinder within the said pump-casing and furnished with an external working surface and hollow cylinder or bucket adapted to allow the fluid being pumped to enter it at part of its movement from one part of the said internal working surface and fitted and made to work externally against the internal working surface within the pump-casing and internally against the external working surface of the said fixed cylinder substantially as hereinbefore described.

22. In a double-acting pump the combination of a pump-casing adapted to admit the fluid to be pumped means to divide into distinct currents, substantially gaseous and liquid respectively, the fluid to be pumped as it enters the said casing, an internal working surface within the said casing adapted to permit the passage of fluid to be pumped at distinct parts, a fixed cylinder within the said pump-casing and furnished with an external working surface and a hollow cylinder or bucket with openings to allow the fluid being pumped to enter it at part of its movement from one part of the said internal working surface and fitted and made to work externally against the internal working surface within the pump-casing and internally against the external surface of the said fixed cylinder, substantially as hereinbefore described.

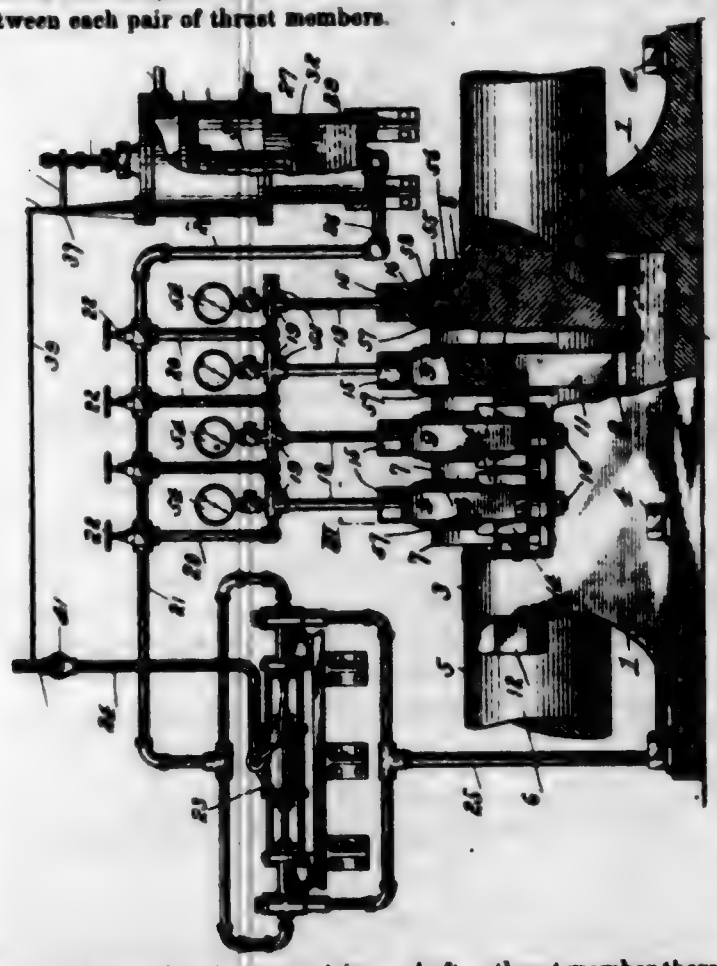
23. In a double-acting pump, the combination of a pump-casing adapted to admit the fluid to be pumped a partition to divide into distinct currents, the substantially gaseous and liquid respectively, the fluid to be pumped as it enters the said casing, an internal working surface within the said casing adapted to permit the passage of fluid to be pumped at distinct parts, a fixed cylinder within the said pump-casing and furnished with an external working surface and a hollow cylinder or bucket with openings to allow the fluid being pumped to enter it at part of its movement, from one part of the said internal working surface and fitted and made to work externally against the internal working surface within the pump-casing and internally against the external surface of the said fixed cylinder, substantially as hereinbefore described.

24. In a double-acting pump, the combination of a pump-casing divided by a perforated partition into chambers, one serving as a supply-channel for condensing liquid and the other as a condensing-chamber, and with a channel for the gaseous fluid in communication with such condensing-chamber, an internal working surface within the said casing adapted to permit the fluid to be pumped in distinct currents, substantially gaseous liquid respectively, at different parts, one in communication with the said channel for gaseous fluid and the other in communication with the condensing-chamber aforesaid, a fixed cylinder within the said pump-casing adapted to permit the passage of substantially gaseous fluid and liquid at distinct parts, a fixed cylinder within the said pump-casing and furnished with an external working surface and a hollow cylinder or bucket adapted to allow the substantially gaseous fluid to be pumped to enter it at part of its movement, from one part of the said internal working surface and fitted and made to work externally against the internal working surface within the pump-casing and internally against the external working surface of the said fixed cylinder, substantially as hereinbefore described.

25. In a double-acting pump, the combination of a pump-casing divided by a perforated partition into chambers one serving as a supply-channel for the condensing liquid and the other as a condensing-chamber and with a channel for gaseous fluid in communication with such condensing-chamber, an internal working surface within the said casing adapted to permit the fluid to be pumped in distinct currents, substantially gaseous and liquid respectively, at different parts, one in communication with the said channel for gaseous fluid and the other in communication with the condensing-chamber aforesaid, a fixed cylinder within the said pump-casing with openings to permit the passage of substantially gaseous fluid and liquid at distinct parts, and a fixed cylinder within the said pump-casing and furnished with an external working surface, and a hollow cylinder or bucket with openings to allow the substantially gaseous fluid to be pumped to enter it at part of its movement from one part of the said internal working surface and fitted and made to work externally against the internal working surface within the pump-casing and internally against the external working surface of the said fixed cylinder, substantially as hereinbefore described.

806,389. THRUST-BEARING. JAMES A. ANDERSON, New York, N. Y., assignor, by direct and mesne assignments, to Montauk Engineering Company, New York, N. Y., a Corporation of New York. Filed Mar. 7, 1905. Serial No. 248,535.

Claim.—1. A thrust-bearing comprising a shaft, a series of thrust rings or members thereon, a series of stationary rigid thrust-yokes adapted to take the thrust of the shaft, and means for maintaining oil under pressure between said yokes and the thrust members on the shaft, and means for indicating the pressure of said oil between each pair of thrust members.



2. A thrust-bearing comprising a shaft, a thrust member thereon, a stationary rigid thrust member to take the thrust of the shaft, means for maintaining oil under pressure between said thrust members, means for indicating the pressure on said oil, and steam-controlled means for governing the pressure on said oil.

3. A thrust-bearing comprising a bearing-casing formed with a lower oil-compartment, a shaft, a thrust-ring formed thereon and adapted to enter said oil-compartment, a stationary rigid thrust-yoke against which the thrust-ring is adapted to bear, oil-supply ports formed in said yoke and adapted to deliver oil between said yoke and the thrust-ring, means to direct the oil to the oil-compartment in the bearing, an oil-pump connected to said oil-compartment, means to deliver the oil from the pump to the ports in the yoke, and an automatic pressure-regulating valve interposed between the pump and the ports in the yoke.

4. A thrust-bearing comprising a bearing-casing formed with a lower oil-compartment, a shaft, a thrust-ring formed thereon and adapted to enter said oil-compartment, a stationary rigid thrust-yoke against which the thrust-ring is adapted to bear, oil-supply ports formed in said yoke and adapted to deliver oil between said yoke and the thrust-ring, means to direct the oil to the oil-compartment in the bearing, an oil-pump connected to said oil-compartment, means to deliver the oil from the pump to the ports in the yoke, an automatic pressure-regulating valve interposed between the pump and the ports in the yoke, and a pressure-gage between said pressure-regulating valve and the ports in the yoke to indicate the oil-pressure in the ports.

5. A thrust-bearing comprising a bearing-casing formed with a lower oil-compartment, a shaft, a thrust-ring formed thereon a stationary rigid thrust-yoke against which the thrust-ring is adapted to bear, oil-supply ports formed in said yoke and adapted to deliver oil between said yoke and the thrust-ring, means to direct the oil to the oil-compartment in the bearing, an oil-pump connected to said oil-compartment, means to deliver the oil from the pump to the ports on the yoke, an automatic pressure-controlling valve between the pump and said ports, and oil-guards to catch the outward-flowing oil and direct it into the oil-compartment in the bearing-casing.

6. A thrust-bearing comprising a bearing-casing formed with a lower oil-compartment, a shaft, a thrust-ring formed thereon, a stationary rigid thrust-yoke against which the thrust-ring is adapted to bear, oil-supply ports formed in said yoke and adapted to deliver oil between said yoke and the thrust-ring, means to direct the oil to the oil-compartment in the bearing, an oil-pump connected to said oil-compartment, means to deliver the oil from the pump to the ports in the yoke, a steam-actuated pressure-controller connected to the oil-supply pipe, and means actuated by said pressure-controller to govern the pump.

7. A thrust-bearing comprising a bearing-casing, a shaft, a thrust-ring formed thereon, a stationary rigid thrust-yoke against which the thrust-ring is adapted to bear, oil-supply ports formed in said yoke and adapted to deliver oil between said yoke and the thrust-ring, an oil-pump connected to the ports in the yoke, a steam-actuated pressure-controller connected to the oil-supply pipe leading from the pump and consisting of an oil-compartment in communication with said supply-pipe, a steam-cylinder larger in diameter than the oil-compartment, a piston in the steam-cylinder, a piston in the oil-compartment, means connecting said pistons together, means to maintain a steam-supply above the piston in the steam-cylinder, and means connected to the piston in the steam-cylinder to control the pump.

8. A thrust-bearing comprising means to maintain oil under pressure in the bearing, and a pressure-controller consisting of an oil-compartment and a steam-compartment larger in diameter than the oil-compartment, a piston in each of said compartments, means for maintaining a steam-supply above the piston in the steam-compartment, and means for delivering oil from the oil-compartment to the bearing, whereby the oil will be maintained under a pressure greater than the steam-pressure in the steam-cylinder.

9. A thrust-bearing comprising a suitable support, a shaft mounted therein, a series of thrust-rings on said shaft, a stationary rigid thrust-yoke for each of said thrust-rings and against which the thrust-rings are adapted to bear, oil-supply ports being formed in said yokes and adapted to deliver oil between the yokes and the thrust-rings, an oil-pump to deliver oil under pressure to the ports in the yoke, an automatic pressure-controlling valve for each thrust-yoke, said valve being interposed between the pump and the ports in the yoke, whereby an equal amount of oil will be delivered to the ports in each thrust-yoke.

10. A thrust-bearing comprising a support, a shaft, a thrust member formed thereon, a stationary rigid thrust member, oil-supply ports formed in said stationary thrust member and adapted to deliver oil between said member and the thrust member on the shaft, an oil-pump adapted to deliver oil under pressure to the port in the stationary thrust member, and an automatic pressure-regulating valve interposed between the pump and the ports in the stationary thrust member, whereby the supply of oil to the thrust members will be stopped when the pressure is reduced below a predetermined point.

11. A thrust-bearing comprising a support, a shaft, a thrust member formed thereon, a stationary rigid thrust member, oil-supply ports formed in said stationary thrust member and adapted to deliver oil between said member and the thrust member on the shaft, an oil-pump adapted to deliver oil under pressure to the port in the stationary thrust member, and an automatic pressure-regulating valve interposed between the pump and the ports in the stationary thrust member, whereby the supply of oil to the thrust members will be stopped when the pressure is reduced below a predetermined point, a pressure-gage located between the pressure-regulating valve and the thrust members to indicate the pressure of oil in the ports of the stationary thrust member.

12. A thrust-bearing comprising a suitable support, a shaft mounted therein, a series of thrust-rings on said shaft, a stationary rigid thrust-yoke for each of said thrust-rings and against which the thrust-rings are adapted to bear, oil-supply ports being formed in said yokes and adapted to deliver oil between the yokes and the thrust-rings, an oil-pump to deliver oil under pressure to the ports in the yoke, an automatic pressure-controlling valve for each thrust-yoke, said valve being interposed between the pump and the ports in the yoke, whereby an equal amount of oil will be delivered to the ports in each thrust-yoke, and a pressure-gage located between each pressure-controlling valve and the ports in the thrust members to indicate the pressure of oil in said ports whereby the supply of oil to each pair of thrust members may be individually controlled and the pressure thereon noted.

13. A thrust-bearing comprising a shaft, a thrust member thereon, a stationary rigid thrust member to take the thrust of the shaft, means for maintaining oil under pressure between said thrust members, and steam-controlled means for governing the pressure on said oil.

14. A thrust-bearing comprising a shaft, a thrust member thereon, a stationary rigid thrust member to take the thrust of the shaft, means for maintaining oil under pressure between said thrust mem-

bers, and steam-controlled means for governing the pressure on said oil, and means actuated by said pressure-controller to govern the means for maintaining oil under pressure between the thrust members.

15. A thrust-bearing comprising a shaft, a thrust member thereon, a stationary thrust member to take the thrust of the shaft, means for maintaining oil under pressure between said thrust members, steam-controlled means for governing the pressure on said oil, and an automatic pressure-controlling valve to regulate the supply of oil to the thrust members.

16. A thrust-bearing comprising a bearing-casing formed with a lower oil-compartment, a shaft extending through said casing, a plurality of thrust-rings formed on said shaft, a plurality of thrust-yokes fitting the spaces between said thrust-rings and adapted to be rigidly secured at their ends to the bearing-casing, said yokes being provided with oil-supply ports adapted to deliver oil between the yokes and the thrust-rings, oil-guards connected to said yokes and bridging the joints between the yokes and the thrust-rings, said guards being adapted to direct oil to the oil-compartment, an oil-pump, means to deliver oil from said pump to the ports in the yokes, an automatically-operating pressure-controlling valve for each thrust-yoke, and adapted to regulate the supply of oil to the ports in said yoke, and an independent pressure-gage for each thrust-yoke and located between said thrust-yoke and the pressure-controlling valve to indicate the pressure of oil in said ports.

17. A thrust-bearing comprising a bearing-casing formed with a lower oil-compartment, a shaft extending through said casing, a plurality of thrust-rings formed on said shaft, a plurality of thrust-yokes fitting the spaces between said thrust-rings and adapted to be rigidly secured at their ends to the bearing-casing, said yokes being provided with oil-supply ports adapted to deliver oil between the yokes and the thrust-rings, oil-guards connected to said yokes and bridging the joints between the yokes and the thrust-rings, said guards being adapted to direct the oil to the oil-compartment, an oil-pump, means to deliver oil from said pump to the ports in the yokes, an automatically-operating pressure-controlling valve for each thrust-yoke and adapted to regulate the supply of oil to the ports of said yoke, and an independent pressure-gage for each thrust-yoke and located between said thrust-yoke and the pressure-controlling valve to indicate the pressure of oil in said ports, a steam-actuated pressure-controller connected to the oil-supply, and means actuated by said controller to govern the pump.

806,390. BLACKING-BRUSH DAUBER. BONIFACIO BARBOLLA, San Francisco, Cal. Filed May 11, 1905. Serial No. 259,886.



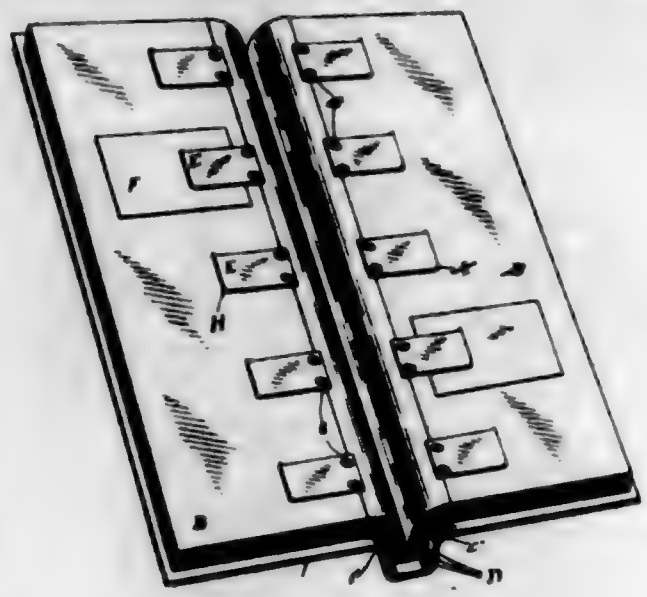
Claim.—1. A device of the character described, said device comprising a containing-head having a closed end and projecting flanges, a filling of soft material, a fibrous covering extending over the open end, a compressible ring inclosing the container and the edges of the covering between the flanges, and means for compressing the ring to grip the covering material.

2. A device of the character described, said device including a hollow head closed at one end and having annular projecting flanges, a filling of soft material within the head, a felt cover for the open end of said head adapted to extend down the sides, a compressible ring inclosing the edges of the covering between the flanges, sockets fixed to the ring and a staple fitting said sockets and retaining the ring in its compressed condition.

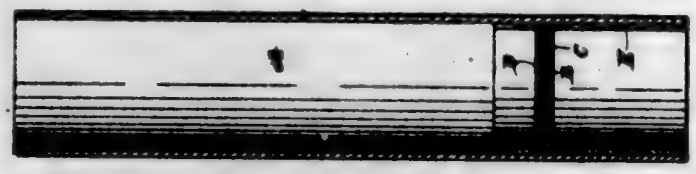
3. A device of the character described, said device including a hollow cylindrical head closed at one end and having annular flanges, a filling of soft material, a fibrous covering extending over the open end and overlapping the sides of the container, a compressible ring adapted to inclose the edges of the fibrous covering between the flanges, sockets carried by the ring, a staple fitting said sockets when the ring has been compressed, and a handle extending outwardly from the closed end of the retainer and between the legs of the staple.

806,391. BOOK FOR FILING PAPERS, &c. WILLIAM F. BECKMANN, Dayton, Ohio, assignor to National Cash Register Company, Jersey City, N. J., a Corporation of New Jersey. Filed May 7, 1904. Serial No. 207,917.

Claim.—In an article of the character described, the combination with a leaf, of flat spring-metal clips in corresponding positions on opposite sides of the leaf, and a fastening extending through both clips and through the material of the leaf.



806,392. PHOTOMETER. ERASMUS B. BOLTON, Wilmington, Cal., assignor to Henry T. Hazard and George B. Harpham, Los Angeles, Cal. Filed Mar. 10, 1902. Renewed Oct. 19, 1904. Serial No. 229,159.



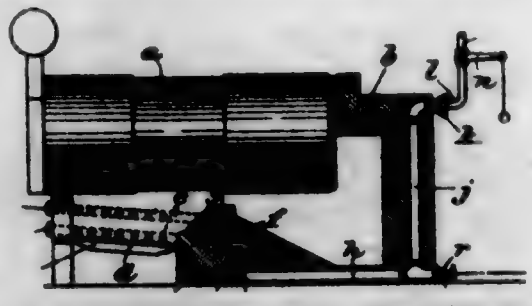
Claim.—1. A photometer comprising an opaque tube, a semi-transparent test-scale having printed characters thereon of different degrees of density; and a ray-filter composed of green glass mounted in said tube near one end thereof.

2. A photometer comprising an opaque tube; a semitransparent test-scale having characters thereon of different degrees of density; and a filter, said scale and filter being mounted in said tube near one end thereof; said filter being adapted to intercept such rays of light as do not affect the sensitized plate of a camera.

3. A photometer composed of an opaque tube having therein a test-scale of semitransparent material with characters of different degrees of density thereon, said scale being arranged in said tube transversely at a distance from the ends thereof.

4. A photometer composed of an opaque tube having therein between the ends thereof and transversely thereto a test-scale of semitransparent material with characters thereon which are graduated to be gradually discernible as the intensity of the light increases.

806,393. FUEL-BURNING APPARATUS. WILLIAM J. CARLIN, Boston, Mass. Filed July 31, 1905. Serial No. 271,916.



Claim.—1. In a fuel-burning device, the combination with a boiler having a combustion-chamber and a bridge-wall at the rear thereof, of a boiler-setting and means for taking air at the rear of said setting and conducting it through the walls of the same to the side of the combustion-chamber, an air-feeding conduit arranged at each side of the combustion-chamber, and a plurality of air-discharge conduits entering said chamber from the lateral supply-conduits, said discharge-conduits being inclined forwardly toward the front of said chamber and away from said bridge-wall in a direction opposed to the natural draft of the chamber.

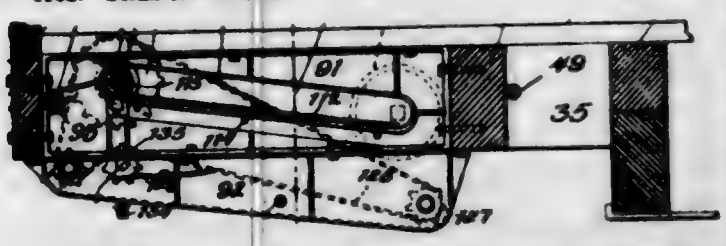
2. In a fuel-burning device, the combination with a boiler, a boiler-setting therefor, an air-supply conduit having an inlet-opening into the upper part of the setting and at the rear thereof, a steam-injection nozzle operatively located in said opening for the discharge of steam therein, thereby to force air into said conduit and to carry

the intermingled steam and air through the conduit, the latter passing downwardly and beneath the setting and out of direct contact with the products of combustion from the chamber, and then upward through the bridge-wall and along the side of the combustion-chamber, and a plurality of feeding-conduits for taking the intermingled air and steam from said supply-conduct to the interior of said combustion-chamber, both at the sides thereof and through the bridge-wall.

3. In a fuel-burning device, the combination with a boiler having a combustion-chamber, of a boiler-setting, an air-feed conduit extending lengthwise the combustion-chamber and at each side thereof, discharge-conduits entering said chamber from said lateral feeding-conduits, a removable closure for the front of each of said conduits to permit the cleaning thereof, a longitudinally-arranged conduit back of said combustion-chamber and beneath the boiler-setting, and connecting with one of said lateral conduits, a downwardly-leading conduit at the back of the boiler-setting to conduct air from above down to said longitudinal conduit, and a removable closure for the latter at the rear of the boiler-setting.

4. In a fuel-burning device, the combination with a boiler, of a combustion-chamber therefor, a boiler-setting, a bridge-wall at the rear of the combustion-chamber, means for taking air at the rear of the boiler-setting and conducting it through the walls of the same to the side of the combustion-chamber, an air-feed conduit arranged at each side of the combustion-chamber, and a plurality of air-discharge conduits entering said combustion-chamber from said lateral supply-conduits, said discharge-conduits being of graduated size.

806,394. CAR. WILLIAM A. CASWELL, Chicago, Ill. Filed Dec. 20, 1902. Serial No. 135,249.



Claim.—1. The car having all its longitudinal sills located centrally and having a level and unobstructed floor above the plane of the sills, extending from end to end and from side to side of the car, said floor embodying two series of outwardly-opening doors hinged to the outside of the sills.

2. The car all whose longitudinal sills are located centrally, and provided with a level unobstructed floor above the sills, extending from end to end, and side to side of the car, such floor embodying outwardly-opening doors hinged outside the line of the sills.

3. The car having all its longitudinal sills located centrally, and having a series of dump-doors in its floor extending from end to end of the car and hinged to the outside of the sills.

4. The car having all its longitudinal sills located centrally, and also having a level floor from end to end, the side portions of said floor being formed by doors hinged to the outside of the sills and opening at their outer edges.

5. The car having all its longitudinal sills located centrally and also having a level floor from end to end, the side portions of said floor embodying doors hinged to the sills and opening at their outer edges and located over the trucks.

6. The car having its longitudinal sills located centrally and also having a level floor extending from end to end of the car and outwardly-opening dump-doors in said floor, said doors being provided with supports adapted to control the extent of their opening, and to permit only a partial opening when that is desired

7. The car whose longitudinal underframing consists of center and intermediate sills, and whose side walls are braced by heavy diagonal braces extending from stake to stake, and entered at their upper ends under bent-over portions of the stakes, substantially as specified.

8. The car having stakes 46 with bent-over portions 45, and diagonal braces entered under said bent-over portions, substantially as specified.

9. The car having only centrally-located sills, a level and unobstructed floor throughout, and a superstructure provided with a base-strip, said floor embodying a series of outwardly-opening doors located outside the sills and extending under said base-strip.

10. The combination with the center and intermediate sills, of a bolster consisting of a top bar with its ends bent down, a bottom bar, outside casting 58, the webbed casting 66, and the casting 68, substantially as specified.

11. The combination with the center and intermediate sills, of a bolster-bar, outside casting 58, webbed casting 66, and the stakes passing down through the forked ends of the top bar and the webbed casting, substantially as specified.

12. The car having its headers or cross-frame members provided with webbed castings which extend from the intermediate sills outward to the stakes and support the latter, substantially as specified.

13. The car having headers embodying webbed castings extending outward from the intermediate sills and beams below said castings extending outward from the center sills, substantially as specified.

14. The header consisting of the webbed casting 77, the beam 75 and the outside end casting, substantially as specified.

15. The header consisting of the webbed casting 77, the beam 75, the outside end casting, and the shell casting 83, substantially as specified.

16. The car whose longitudinal load-supporting members consist solely of the center sills, the intermediate sills and the braced side walls of the box, and provided with dump-doors in its floor along its side walls opening toward the outside of the track, substantially as specified.

17. The combination with the dump-door of a car, of means for supporting the swinging edge of the door when closed, consisting of rollers movable downward back from said edge, substantially as specified.

18. The combination with the dump-door of a car, of means for supporting the swinging edge of the door when closed, consisting of rollers movable downward back from said edge, and a shaft supporting said rollers, substantially as specified.

19. The combination with the dump-door of a car, of a shaft and rollers thereon for supporting the swinging edge of the door, said shaft being movable bodily downward and back from said edge, substantially as specified.

20. The combination with the dump-door of a car, of a shaft and rollers thereon for supporting the swinging edge of the door, said shaft being movable bodily downward and back from said edge, and means for so moving said rollers, substantially as specified.

21. The combination with the dump-door of a car, of a shaft and rollers thereon for supporting the swinging edge of the door, said shaft being movable bodily downward and back from said edge, and means for moving said shaft, substantially as specified.

22. The combination with the dump-door of a car, consisting of rollers located below the door and movable from their normal positions in which they hold the door closed, and acting to support the door in all of its positions, substantially as specified.

23. The combination with the dump-door of a car, of a shaft and rollers thereon for supporting the swinging edge of the door, said shaft being movable bodily downward and backward and being also rotatable, substantially as specified.

24. The combination with the dump-door of a car, of a shaft and rollers thereon for supporting the swinging edge of the door, said shaft being movable bodily downward and backward and being also rotatable, and means for rotating the shaft, substantially as specified.

25. The combination with the dump-door of a car, of a shaft and rollers thereon for supporting the swinging edge of the door, said shaft being movable bodily downward and backward and being also rotatable, means for rotating the shaft, and racks and pinions for moving the shaft bodily, substantially as specified

26. The combination with the dump-door of a car, of a shaft and rollers thereon for supporting the swinging edge of the door, said shaft being movable bodily downward and backward and being also rotatable, and the rollers being loosely mounted on the shaft, substantially as specified.

27. The combination with the dump-door of a car, of a shaft and rollers thereon for supporting the swinging edge of the door, said shaft being movable bodily downward and backward and being also rotatable, means for rotating the shaft, stationary racks supported in the cross-framing, and pinions on the shaft, whereby the rotation of the shaft causes its bodily movement, substantially as specified.

28. The combination with the cross-frame members of the car and a longitudinal series of dump-doors, of a shaft passing through said members, and carrying loose rollers for supporting the doors, inclined racks in said members meshing with pinions on the shaft, and means for rotating the shaft and giving it a bodily movement to open the doors, substantially as specified.

29. The car, the underframing whereof consists of center and intermediate sills, end sills, bolsters, needle-beams and headers, the

latter located between the bolsters and needle-beams, substantially as specified.

30. The car having a longitudinal series of dump-doors along each of its sides, and headers or cross-frames extending between the doors of each series and affording them lateral support.

31. The car having a longitudinal series of dump-doors along its sides, headers or cross-frame members between adjacent doors, and a shaft extending through and sustained by said headers and supporting the doors, substantially as specified.

32. The car having a longitudinal series of dump-doors along its sides, headers or cross-frame members between adjacent doors, and a shaft extending through and sustained by said headers and supporting the doors, said shaft being also supported at its outer end from the end sill, substantially as specified.

33. The car having its bolsters and headers all provided with cast-metal ends having formed in them inclined ways for the door-supporting shafts, substantially as specified.

34. The car having its bolsters and headers all provided with cast-metal ends having inclined openings and racks for the door-supporting shafts and their operating-pinions, substantially as specified.

35. The car wherein are combined the dump-doors, the cross members between the doors having cast-metal ends with inclined openings and racks, and the door-supporting shafts moving through said openings and having pinions meshing with the racks, substantially as specified.

36. The car wherein are combined the dump-doors, the cross members between the doors having cast-metal ends with inclined openings and racks, the end sill having a casting also provided with an inclined opening and rack, and the door-supporting shaft moving through said openings and having pinions meshing with the racks, substantially as specified.

37. The combination with the end sill and bodily-movable door-supporting shaft, of the casting 91 applied to said sill and provided with an opening in which the end of the shaft may be supported and be moved, substantially as specified.

38. The car having an endwise-removable door-supporting shaft located wholly inside the end sill, in combination with such end sill having an opening therethrough permitting the removal of the shaft when in one of its positions, substantially as specified.

39. The door-supporting shaft having the rollers and pinions carried by it readily releasable so they may be slipped off, and itself removable endwise from the car, in combination with the frame members through which the shaft passes, substantially as specified.

40. The combination with the doors and the cross-frame members having inclined openings therethrough, of a bodily-movable and rotating door-supporting shaft sustained in said openings and removable endwise therefrom, substantially as specified.

41. The car having its side walls braced by braces 42 whose lower ends are supported upon the bolsters and needle-beams, substantially as specified.

42. The car having its side walls braced by braces 42 supported at their lower ends upon bolsters and needle-beams, and themselves supporting the stakes of the intermediate headers, substantially as specified.

43. In a car of the class described, the combination of a supporting-frame, a drop-bottom formed of a plurality of swinging doors secured to the supporting-frame, and rolling mechanism adapted to contact such doors to close and hold the same in closed position, substantially as described.

44. In a car of the class described, the combination of a supporting-frame portion, a drop-bottom portion therefor formed of a plurality of swinging sections pivotally secured together at each side of the longitudinal center of the car, a reciprocating bar extending longitudinally of the car, and movable transversely thereof in engagement with each swinging section, and means for reciprocating said bar to open and close the swinging sections, substantially as described.

45. In a car of the class described, the combination of a supporting-framework provided with a drop-bottom formed of a plurality of swinging sections pivotally secured thereto, a reciprocating bar having a bearing portion in the supporting-framework of the car and contacting the under side of each swinging section, and means for reciprocating said bar to open and close the swinging sections, substantially as described.

46. In a car of the class described, the combination of a supporting bottom frame, a drop-floor section hinged in said frame, means supporting said section and contacting with its under surface and movable back and forth between its hinged edge and its swinging edge, and regulating the opening by the extent of its movement, means for operating said supporting means and means for arresting said operating means at an intermediate position.

47. In a car of the class described, the combination of a supporting bottom frame, a drop-floor section hinged in said frame, means supporting the swinging side of the section and contacting with its under surface and movable from the hinged side toward the swinging side to close the section and regulating the door by the position to which the supporting means are moved and means for operating said supporting means.

48. In a car of the class described, the combination of a supporting bottom frame, a drop-floor section hinged to a longitudinal member of the frame, means supporting said section and contacting with its under surface and movable toward and from said longitudinal frame member in opening and closing said section, said means being sustained in the cross-framing of the bottom, and means for operating said supporting means.

49. In a car of the class described, the combination of a supporting bottom frame, a drop-floor section hinged to a central longitudinal member of the frame and opening at its outer edge, means supporting said section and contacting with its under surface and movable outward from said frame member in closing the section, said means being sustained in the cross-framing of the bottom, and means for operating said supporting means.

50. The combination with the hinged dumping-door of a flat-bottom car, of means for supporting the door in its closed and open positions, such means consisting of a rigid bar located under and extending lengthwise across the door and movable toward the opening side of the door to close the same and toward the hinged side to open it, supports for said bar at each end of the door, and means for controlling said bar.

51. The combination with the hinged dumping-door of a flat-bottom car, of means for supporting the door in its closed and open positions, such means consisting of a rigid bar located under and extending lengthwise across the door and movable toward the opening side of the door to close the same and toward the hinged side to open it, supports for said bar at each end of the door, and means for controlling said bar, adapted to hold it rigidly in an intermediate position.

52. The combination with the hinged dumping-door of a flat-bottom car, of means for supporting the door in its closed and open positions, such means consisting of a rigid bar having a bearing contact with the under side of the door and extending lengthwise across it, and movable toward the hinged side of the door to open it, and toward the opening side to close it, supports for said bar at each end of the door, and means for controlling the bar.

53. The combination with the hinged dumping-door of a flat-bottom car, of means for supporting the door in its closed and open positions, such means consisting of a rigid bar extending lengthwise across the door and having a bearing contact with it at each end, said bar being movable toward the opening side of the door to close it and toward the hinged side to open it, supports for said bar at each end of the door, and means for controlling the bar.

54. The combination with a hinged dumping-floor section, of a rigid bar extending across the section and movable transversely of the section and always in bearing contact therewith, means for controlling said bar in its different positions, and supports for the bar located outside the section.

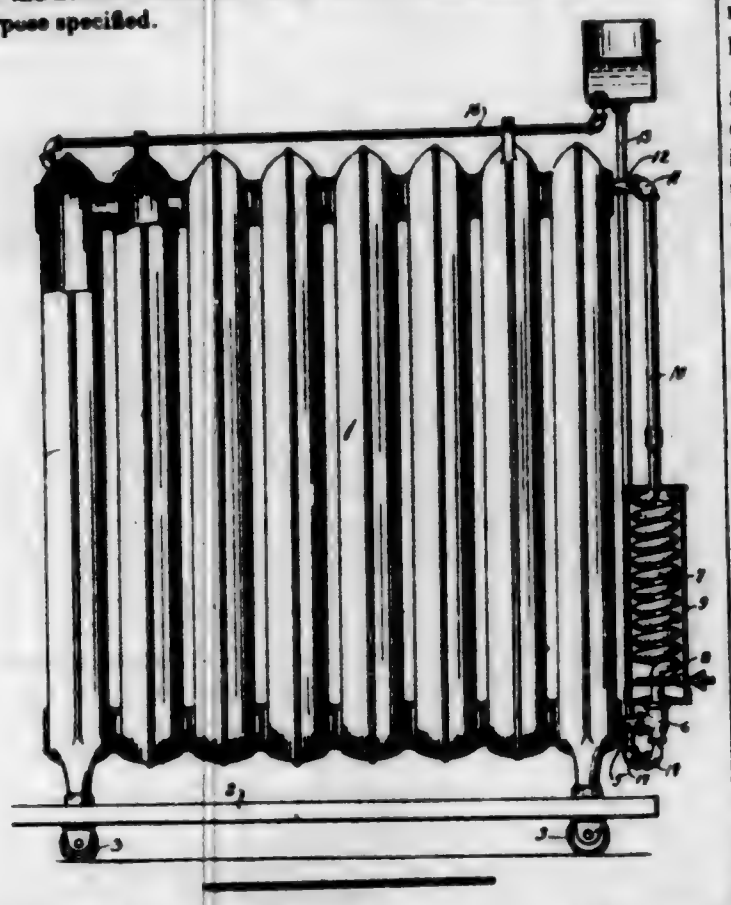
55. The combination with a hinged dumping-floor section, of a rigid bar extending across the section and movable transversely of the section and always in bearing contact therewith, means for controlling said bar in its different positions, and ways outside the section on which said bar rests and travels.

56. In a dump-car, the combination of a car-frame, a dumping-door pivotally mounted in such car-frame movable to open and closed position, a shaft reciprocatingly mounted beneath and supporting such door in both open and closed positions, and means for supporting the shaft and thereby the dumping-door in both open and closed positions.

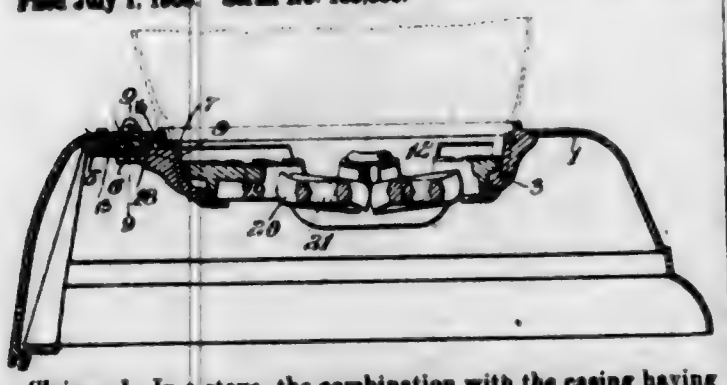
57. In a dump-car, the combination of a car-frame, dumping-doors pivotally mounted in such car-frame movable to open and closed positions, a shaft reciprocatingly mounted beneath and supporting such doors, and supporting mechanism having upwardly and outwardly inclined supporting surface portions upon which such shaft is mounted and provided with loop portions at the lower end of such inclined portions for limiting the movement of the shaft and thereby the dumping-doors.

806,395. **PORTABLE HEATER.** CHARLES T. CLARK, Cleveland, Ohio, assignor of one-third to Gustavus A. Karper, Canton, Ohio, and one-third to Robert Farren, Cleveland, Ohio. Filed Apr. 27, 1905. Serial No. 257,622.

Claim.—In a heater of the class described, a radiator, inlet and outlet water-pipes connected thereto, a heating-pipe located intermediate the inlet and outlet pipes, and a burner adapted to heat the heating-pipe, a tank located above the burner and a feed-pipe for said tank extended below the burner and communicating with the lower portion of the radiator, and a vent-pipe leading from the upper portion of the radiator and communicating with the tank at a point below the normal water-line of the tank, substantially as and for the purpose specified.



806,396. GRATE. ARTHUR B. CLINTON, Rochester, N. Y., assignor to Sill Stove Works, Rochester, N. Y., a Corporation of New York. Filed July 1, 1903. Serial No. 163,890.



Claim.—1. In a stove, the combination with the casing having supporting devices for supporting the grate at one side, and a grate adapted to rest thereon, of a relatively movable support mounted in ways on the casing opposite said supporting devices and arranged to engage the grate to support it, and a locking device movable transversely of the ways for retaining the movable support in engagement with the grate.

2. The combination with a stove having fixed supports thereon, and an additional support movable in relation to the said fixed supports, and a relatively fixed retaining-abutment located intermediately of the fixed and movable supports, of a grate embodying a frame adapted to rest upon said supports and arranged to be locked in position by the movable support, and having movable grate members thereon having portions adapted to engage said abutment when the grate is swung about the fixed supports to prevent the displacement of said movable grate members.

3. In a stove, the combination with the casing provided with a circular grate-aperture, a fixed support arranged at one side of the aperture, a movable support arranged opposite to the fixed support, and a curved retaining-abutment arranged at the edge of the aperture intermediately of the fixed and movable supports, of a grate embodying a frame rotatable horizontally on the fixed and movable supports, and having grate members loosely mounted thereon and coöperating with said abutment to prevent their displacement.

4. In a stove, the combination with the casing provided with a fixed support, and a grate adapted to rest thereon, of a movable support mounted to coöperate with the grate to support it in position, and a locking device movable in a direction transversely of the direction of motion of the movable support for retaining the latter in coöperative relation with the grate.

5. In a stove, the combination with the casing having a support formed thereon, and a grate adapted to fit within the casing and arranged to rest at one side upon said support, of a support capable of being moved into and out of coöperative relation with the grate to support the latter in position, and a locking device movable in a direction transversely of the direction of motion of the movable support for locking the latter in coöperative relation with the grate.

6. In a stove, the combination with the casing provided with a fixed support and an aperture, and a grate adapted to fit within the casing and arranged to rest at one side upon said support, of a locking-support capable of being moved into and out of coöperative relation with the grate for supporting the latter in operative position, and a removable locking device resting in said aperture in the casing and coöperating with the locking-support for retaining the latter in coöperative relation with the grate.

7. The combination with a stove having fixed supporting members adapted to engage a portion of a grate and provided with a recess, of a movable member slidingly mounted in relation to the fixed members and carrying a laterally-disposed projection thereon, and a locking device for said member adapted to be inserted in said recess in the stove and coöperate with the projection upon said movable member for retaining said movable member in locked position.

8. In a stove, the combination with a grate and a casing therefor having an aperture, of a relatively fixed support carried by the stove upon which a portion of the grate is adapted to rest and a relatively movable support having a projection upon which a portion of the grate rests and arranged to be withdrawn laterally from the grate, and a locking device confined within said aperture in the stove for retaining the movable support in its locked position.

9. In a stove, the combination with the casing having a grate-aperture formed therein and a recess arranged adjacent to said aperture, of fixed supports arranged on the casing at one side of the grate-aperture, a slidable support operating past the recess in the casing and having a projection thereon, a movable locking device resting in said recess and coöperating with the projection on the slidable support to lock the latter in operative position, and a grate mounted on said supports.

10. In a stove, the combination with a grate, of means for supporting the grate at one side, a slidable support mounted in ways in the stove-casing and arranged to engage the grate to support it at its opposite side, a projection being provided on said support, and a locking device movable transversely of the ways and adapted to engage said projection to retain said movable support in its locked position.

11. In a stove, the combination with a grate the casing inclosing it and having a recess, and means for supporting one side of the grate, of a movable support slidingly mounted in ways on the casing and adapted to project beneath the grate for supporting the opposite side thereof, a projection being provided on the movable support, and a locking device adapted to enter said recess in the stove-casing and rest against said projection to retain the movable support in engagement with the grate, and retaining devices for preventing the displacement of the locking device.

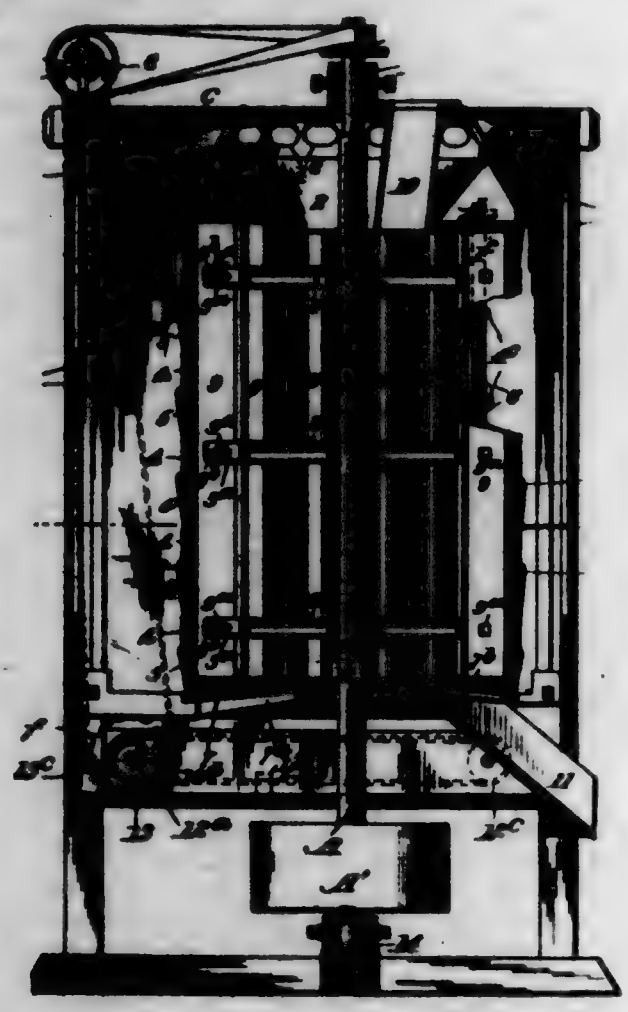
12. In a stove, the combination with a grate, the casing having an opening beneath which the grate rests and relatively fixed supports carried by the casing for supporting the grate at one side, of a relatively movable support mounted in ways in the casing and having a portion arranged to engage the grate to support it when in position, an abutment for limiting the motion of said movable support toward the grate, and a locking device movable transversely of the ways for retaining said support in engagement with the grate.

806,397. GRAIN-SCOURER. JOHN B. CORNWALL, Moline, Ill., assignor to Barnard and Leas Manufacturing Company, Moline, Ill. Filed Feb. 21, 1905. Serial No. 246,744.

Claim.—1. In combination, a rotary beater; with a scouring-case surrounding the beater and composed of a plurality of conical screen-sections, and a plurality of cylindrical scouring-sections alternating with the screen-sections, the scouring-sections having their inner surfaces ribbed or corrugated and having outwardly-flaring flanges at bottom to engage the tops of subjacent screen-sections, and the screen-sections being of larger diameter at top than at bottom and having their lower ends supported on the subjacent scouring-sections, and means for holding all said sections in place.

2. The combination in a grain-scourer of a rotary beater, a scouring-case inclosing the beater, composed of a plurality of conical

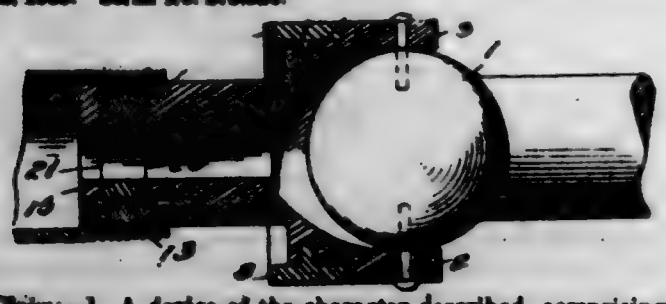
screen-sections larger at top than at bottom and a plurality of imperforate cylindrical scouring-sections corrugated on their inner peripheries, the screening-sections being of larger diameter than the scouring-sections and alternating therewith and supported thereby, and a hood fitted to the top of the upper screen-section and closing the upper end of the case.



3. In a grain-scourer, the combination of the beater; a scouring-case inclosing the beater, composed of a plurality of annular screen-sections and a plurality of annular imperforate scouring-sections alternating with the screen-sections and supporting the latter; a conical hood supported on the upper screen-section and closing the upper end of the case, a bottom closing the lower end of the lower screen-section, and means for supporting the several scouring-sections; with a casing inclosing the scouring-case, means for conducting off the grain from the bottom of the scouring-case, and means for removing the dirt and screenings deposited in the casing exterior to the scouring-case.

4. In a grain-scourer, the combination of the casing, a scouring-case therein composed of alternate perforated or screen sections, and imperforate or scouring sections, a conical hood closing the upper end of the case, and provided with air-inlet apertures, and an inverted cone attached to and within the hood above the beater and below the apertures; with a beater in said case; means for conducting off the grain from the bottom of the case, and means for removing the dirt and screenings deposited in the casing exterior to the case, substantially as described.

806,398. CHUCK. THOMAS H. CRAWFORD, Eaton, Ind. Filed Aug. 22, 1903. Serial No. 170,326.



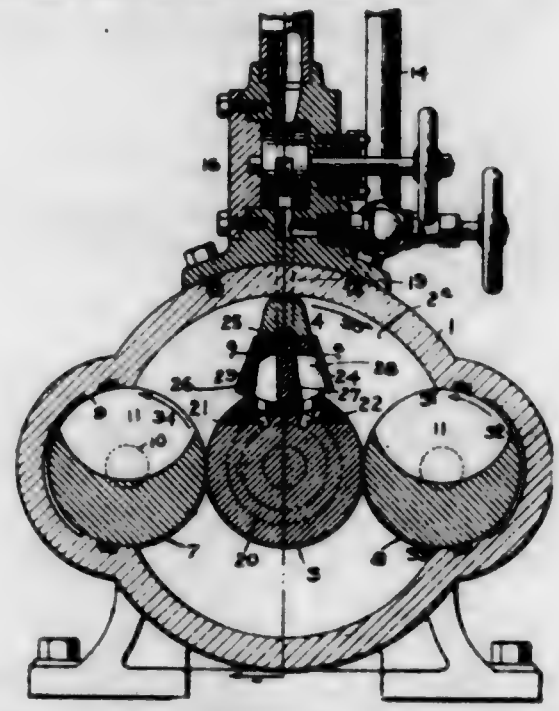
Claim.—1. A device of the character described, comprising a cylindrical shell, a swiveled collar mounted thereon, having suitable handles, a cylindrical portion projecting from one side of said shell, the face of which has recesses, a clamping-head, a disk adapted to be clamped between the face of said cylindrical portion and said clamping-head, recesses provided in the cylindrical portion of said disk, and means mounted in said recesses so as to expand, substantially as described.

2. A device of the character described, comprising a cylindrical shell, a swiveled collar mounted thereon, having suitable handles, a cylindrical portion projecting from one side of said shell, the face of which has recesses, a clamping-head, a disk adapted to be clamped between the face of said cylindrical portion and said clamping-head, and said disk having means to engage the inner circumference of the gas-main for unscrewing or screwing the same, substantially as described.

3. A chuck for unscrewing and screwing gas-mains, having a cylindrical portion, the face of which is provided with recesses, a clamping-head having corresponding recesses, a disk adapted to be clamped between said head and the face of said cylindrical portion, recesses in the cylindrical portion of said disk, the faces of which being adapted to register with the recesses in the face of the cylindrical portion and recesses in the clamping-head, toothed sliding blocks mounted in the recesses of said disk, the ribs of which are adapted to engage the recesses of the face of the cylindrical portion and the face of the clamping-head, substantially as specified.

4. In a device of the character described, the same comprising, in combination with a common knuckle, a swinging shaft, and a chuck, comprising a swiveled collar, having suitable handles, a cylindrical portion projecting from one side of said chuck, having a face thereon, a clamping-head, a disk adapted to be clamped between the face of said cylindrical portion and said clamping-head, means carried by said disk to engage the inner circumference of a gas-main, and means carried by the clamping-head and the face of the cylindrical portion to coöperate with said first-named means, substantially as specified.

806,399. ROTARY ENGINE. JOHN T. CUNNINGHAM, Allegheny, Pa. Filed Sept. 19, 1905. Serial No. 279,129.



Claim.—1. In a rotary engine, the combination of a chamber or casing, a rotating shaft or hub therein, a vane on said shaft, a rotating abutment having contact with the shaft and cut away to permit the vane to pass the same, an inlet through one head of the chamber, an outlet through the opposite head of the chamber, said inlet and outlet terminating in annular grooves on the inner faces of said head, and ports opening at the ends of the shaft and registering with said annular grooves, one of said ports opening on one side of the vane and the other opening on the opposite side of the vane.

2. In a rotary engine, the combination of a chamber or cylinder, a rotating shaft or hub therein, a vane on said shaft or hub, a rotating abutment having contact with the shaft and being cut away to permit the vane to pass the same, a constantly-open exhaust-port communicating with one side of the vane, a supply-port communicating with the opposite side of the vane, and a valve controlling the inlet, said valve being controlled automatically by the pressure in the cylinder and arranged to maintain such pressure substantially constant.

3. In a rotary engine, the combination of a chamber, a rotating shaft or hub therein, a vane on said shaft, a rotating abutment having contact with said shaft and cut away to permit the vane to pass the same, an inlet to one side of said vane, an exhaust from the opposite side of the vane, and a differential valve controlling the inlet-port.

4. In a rotary engine, the combination of a chamber or cylinder,

a rotating shaft or hub therein, a vane on said shaft, a rotating abutment having contact with said shaft and cut away to permit the vane to pass the same, said shaft having ports opening on opposite sides of the vane and leading out through the ends of the shaft to fluid supply and exhaust connections, and differential valves controlling the openings on both sides of the vane and arranged to open outwardly.

5. In a rotary engine, the combination of a chamber, or casing, a rotating shaft or hub therein, a vane on said shaft, a rotating abutment having contact with the shaft and cut away to permit the vane to pass the same, said shaft having passages therethrough opening on opposite sides of the vane and having communication with fluid supply and exhaust connections, and differential valves controlling said openings on both sides of the vane and each comprising a valve opening outwardly and having a greater area exposed to the cylinder-pressure than to the inlet-pressure.

6. In a rotary engine, the combination of a chamber or casing, a rotating shaft or hub therein, a vane on said shaft, a rotating abutment having contact with the shaft and cut away to permit the vane to pass the same, said shaft having passages therethrough opening on opposite sides of the vane and having communication with fluid supply and exhaust connections, differential valves controlling said openings on both sides of the vane and each comprising a valve opening outwardly and having a greater area exposed to the cylinder-pressure than to the inlet-pressure, and a movable partition or diaphragm between said valves and having projections arranged to contact therewith.

7. In a rotary engine, the combination of a chamber or cylinder, a rotating shaft or hub therein, a vane on said shaft, a plurality of rotating abutments each having contact with the shaft and being cut away to permit the vane to pass the same, supply and exhaust ports communicating with annular grooves in the inner faces of the cylinder-heads, and ports in the main shaft opening at the ends thereof and communicating with said annular grooves and opening respectively on opposite sides of the vane.

806,400. **KNIFE.** JAMES E. W. CURRIE, Ottawa, Canada. Filed Dec. 27, 1904. Serial No. 238,083.



Claim.—1. A knife provided with a thick, wedge-shaped portion having a sharp edge and a relatively wide, flat back free to be struck a blow; and a thin portion extending from the thick portion, said thin portion likewise having a cutting edge formed as a continuation of the cutting edge of the wedge-shaped portion.

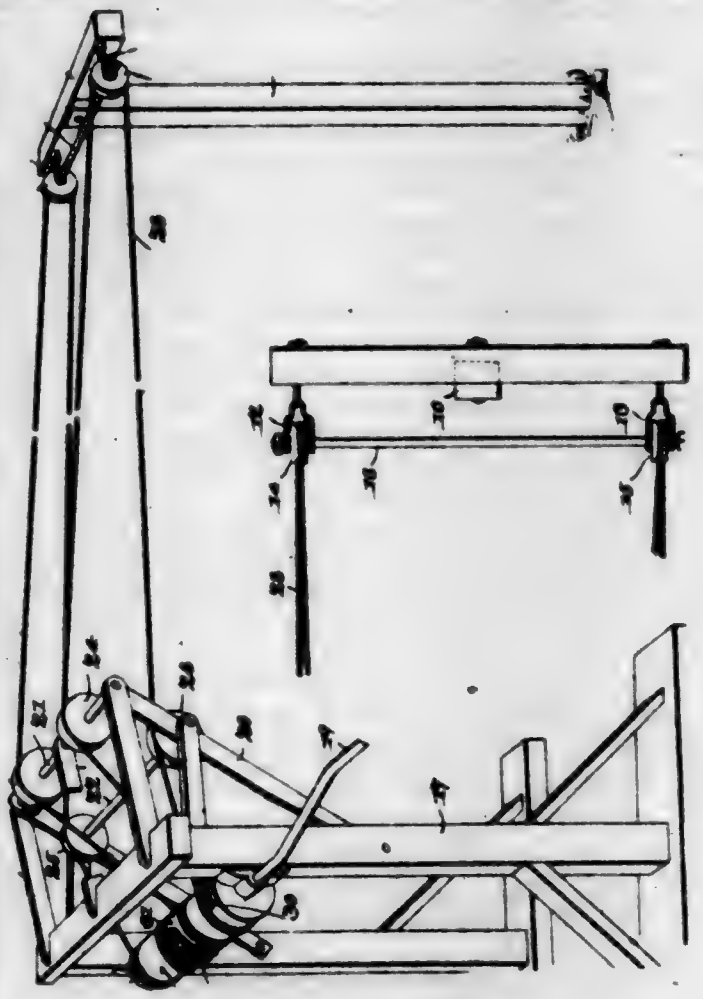
2. A knife provided with a thick wedge-shaped portion with a thin portion extending therefrom, the cutting edges of the two sections being continuous.

3. A knife comprising a handle and a blade, the blade having a thick wedge-shaped portion adjacent to the handle and presenting a broad back, and a relatively thin portion extending therefrom, the cutting edge of the blade being continuous.

806,401. **CLOTHES-LINE APPARATUS.** CRAFT DAWSON, Street, Md. Filed Mar. 25, 1905. Serial No. 251,013.

Claim.—1. A device of the class described, comprising spaced guide-pulleys disposed at one end and a drum mounted for rotation at the other end of the field of operations of the device, said drum having spaced pins extending radially therefrom, and a cable connected by the ends to said drum and leading from one end of the same around said guide-pulleys and back to said drum and connected to the opposite side of the same by engaging the bight of the cable with one of said radial pins.

2. In a device of the class described, spaced supports disposed at the ends of the field of operations of said device, spaced guide-pulleys connected to one of said supports, a drum mounted for rotation upon the other of said supports, supporting-brackets connected to the support carrying said drum, a plurality of spaced guide-pulleys carried by said brackets, a cable connected by the ends to said drum and leading from one side of the same and over two of the pulleys upon said brackets and around the pulleys on one of said spaced supports and back over the other two of the pulleys carried by said brackets and connected to the opposite side of the drum by the bight of the cable.



806,402. **SUPPORT FOR TREES.** JOHN DONNELLY, Branford, Conn. Filed July 31, 1905. Serial No. 271,899.



Claim.—1. A tree-support comprising a body and outwardly-extending integral tubular sockets, legs adapted to be entered into said sockets, said body having a centrally-arranged vertical passage, a spike adapted to extend through said passage, said spike formed at its upper end with a tapered point, substantially as described.

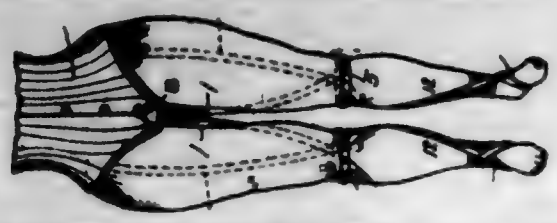
2. A tree-support comprising a body and outwardly-extending integral tubular sockets, legs adapted to be entered into said sockets, said body having a centrally-arranged vertical passage, a spike adapted to extend through said passage, said spike formed with a tapered sharp point at one end and a slightly-tapered blunt point at its opposite end, substantially as described.

806,403. **ABDOMEN-DEPRESSING MEANS.** ADAM O. DU PUIL, Allegheny, Pa. Filed Feb. 9, 1905. Serial No. 244,916.

Claim.—1. An abdomen-depressing device having a strap connected to the front bottom portion thereof and extending downwardly and having a loop adapted to pass around the foot.

2. An abdomen-depressing means having a strap connected to

the front bottom portion thereof and adapted to extend back of the limb, and having a loop adapted to pass around the foot.



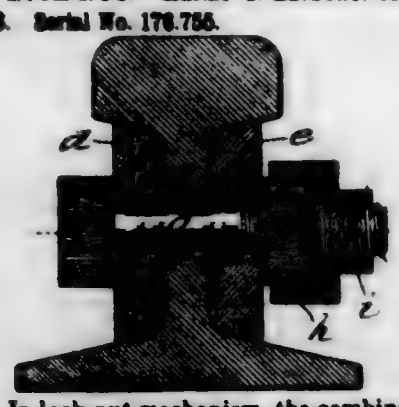
3. An abdomen-depressing device having a strap connected to the front bottom portion thereof and extending downwardly and having a loop adapted to pass around the foot, and a garter adapted fit around the limb and hold the strap in place.

4. An abdomen-depressing device having a strap connected to the front bottom portion thereof and extending downwardly and having a loop adapted to pass around the foot, and a back strap connected to the rear bottom portion of the abdomen-depressing device and extending downwardly to and connected to the main strap.

5. An abdomen-depressing device having a strap connected to the front bottom portion thereof and extending downwardly and having a loop adapted to pass around the foot, a back strap connected to the rear bottom edge of the abdomen-depressing device and extending downwardly to and connected to the main strap, and a garter adapted to pass around the limb.

6. An abdomen-depressing device having a strap connected to the front bottom portion thereof and extending downwardly and having a loop adapted to pass around the foot, and a stocking-supporter connected to the main strap and adapted to engage the stocking.

806,404. LOCK-NUT. HENRY G. ELFBORG, Chicago, Ill. Filed Oct. 12, 1903. Serial No. 176,755.



Claim.—1. In lock-nut mechanism, the combination of a perforated threaded bolt, a threaded polygonal nut mounted in threaded engagement therewith, a retainer in non-rotatable engagement with the nut and formed of a single piece of metal having a web portion perforated to receive the bolt and integral bent flanges extending at an angle to such perforated web portion from its outer edges provided with perforations therethrough for receiving the locking-pin, and a locking-pin passed through such perforations in the retainer-flanges and bolt, substantially as described.

2. In lock-nut mechanism, the combination of a perforated threaded bolt, a threaded polygonal nut in engagement therewith, a retainer having a central web portion perforated to receive the bolt, integral flanges extending forwardly from such web portion in engagement with the nut and integral perforated flanges struck up from the central web portion extending rearwardly therefrom all formed of one piece of sheet metal bent to form such flanges, and pin mechanism passed through the perforated flanges of the retainer and through the perforation in the threaded bolt to prevent independent rotation of the parts, substantially as described.

3. In lock-nut mechanism, the combination of a perforated threaded bolt, a threaded polygonal nut in engagement therewith, a retainer having a centrally-perforated web portion and integral perforated rear lugs struck up from the central web portion and extending at an angle thereto and forward lugs engaging the polygonal nut, and a locking-pin passed through the perforations in the retainer and bolt, substantially as described.

4. In a lock-nut mechanism, a retainer formed of a single piece of metal having a web portion perforated to receive a bolt, integral bent flanges extending at an angle to such perforated web portion from opposite outer edges thereof provided with perforations for receiving a locking-pin, integral flanges extending from opposite edges of the perforated central web portion in the opposite direction from the perforated flanges and at an angle to such central web portion, for engaging the nut to be secured thereby, substantially as described.

5. In a lock-nut mechanism, a retainer formed of a single piece of metal having a web portion perforated to receive a bolt, integral bent flanges extending at an angle to such perforated web portion from opposite outer edges thereof provided with perforations for receiving a locking-pin, integral flanges extending from opposite edges of the perforated central web portion in the opposite direction from the perforated flanges and at an angle to such central web portion, for engaging the nut to be secured thereby, and a locking-pin extending through such perforated flanges adapted to engage the bolt, substantially as described.

6. In a lock-nut mechanism, the combination of a perforated threaded bolt, a nut mounted in threaded engagement therewith, a retainer mounted in non-rotatable engagement with the nut and formed of a single piece of metal having a web portion perforated to receive the bolt, integral flanges extending at an angle to such perforated web portion from opposite outer edges thereof in one direction, integral flanges extending from the perforated central web portion in an opposite direction and in engagement with the nut, and a locking-pin extending through the perforated flanges and in engagement with the perforated bolt, substantially as described.

7. In a lock-nut mechanism, a retainer formed of a single piece of sheet metal having a perforated web portion, integral lugs struck up from such web portion extending at an angle thereto and provided with perforations for receiving a securing-pin, and flanges extending from opposite edges of such web portion adapted to engage the nut to be secured thereby, substantially as described.

806,405. VEHICLE-WHEEL. ELMER F. EVANS, Homerville, Ga. Filed May 23, 1905. Serial No. 261,554.



Claim.—1. In a wheel, a sleeve having an internal screw-thread and with a clip at one end for bearing against the wheel-felly and a longitudinal socket at the other end for movably receiving the free end of a spoke, a plug slidable in the socket portion of the sleeve and bearing upon the spoke therein and with a threaded stud engaging the threaded portion of said sleeve, and means for rotating said plug within the sleeve to produce a strain longitudinally upon the spoke.

2. In a wheel, a sleeve having an internal screw-thread at one end and a longitudinal socket at the other end for movably receiving the free end of a spoke, a clip for bearing against the wheel-felly and provided with a threaded plug for engaging the threaded end of the sleeve, a plug slidable in the socket portion of the sleeve for bearing upon the end of the spoke therein and provided with a threaded stud for engaging the threaded portion of the sleeve, and means for rotating said plug and its threaded stud.

3. In a wheel, a sleeve having an internal screw-thread and with a clip at one end for bearing against the wheel-felly and a longitudinal socket at the other end for movably receiving the free end of a spoke, and with an aperture in one side communicating with the socket portion, a plug slidable in the socket portion of the sleeve and bearing upon the spoke therein and with a threaded stud engaging the threaded portion of the sleeve and with transverse intermediate apertures for receiving a rotating implement inserted through said sleeve-apertures.

4. In a wheel, a sleeve having an internal screw-thread and with a clip at one end for bearing against the wheel-felly and a longitudinal socket at the other end for movably receiving the free end of a spoke, and with an aperture in one side communicating with the socket portion, a plug slidable in the socket portion of the sleeve and bearing upon the spoke therein and with a threaded stud engaging the threaded portion of the sleeve and with transverse intermediate apertures for receiving a rotating implement inserted through said sleeve-aperture, a closure for said sleeve-aperture, a clamp-screw extending through said closure and the apertures in said plug and engaging the sleeve opposite the aperture in the same.

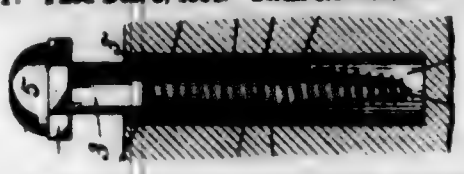
5. In a wheel, the combination with a rim and a spoke, of a sleeve slidably embracing the spoke and bearing against the rim, the outer end of the sleeve being internally threaded, and a slidable plug contained within the sleeve with one end bearing against the spoke and its other end threaded and engaging the threads of the sleeve, the plug being rotatable to place a pressure longitudinally upon the spoke.

6. A spoke-tightener comprising a sleeve which is internally smooth at one end and also provided with an internally-threaded portion, and a rotatable and endwise-movable plug contained wholly within the sleeve and working in the smooth portion thereof

and provided with a threaded part adjustably engaging the threads of the sleeve, the sleeve being provided with an opening to expose the plug for access to rotate the same.

7. A spoke-tightener comprising a sleeve which is internally smooth at one end and also provided with an internally-threaded portion, the smooth portion of the sleeve being provided with diametrically opposite openings, a rotatable and endwise-movable plug working in the smooth portion of the sleeve and having a threaded part adjustably engaging the threads of the sleeve, the plug being pierced by one or more openings for alinement with the openings of the sleeve, closures for the openings of the sleeves, and a removable fastening piercing the closures and passing through one of the openings of the plug whereby the latter is held against accidental rotation.

806,406. **EXPANSIBLE WEDGE.** HARVEY FARRINGTON, Yonkers, N. Y. Filed Dec. 3, 1904. Serial No. 235,212.

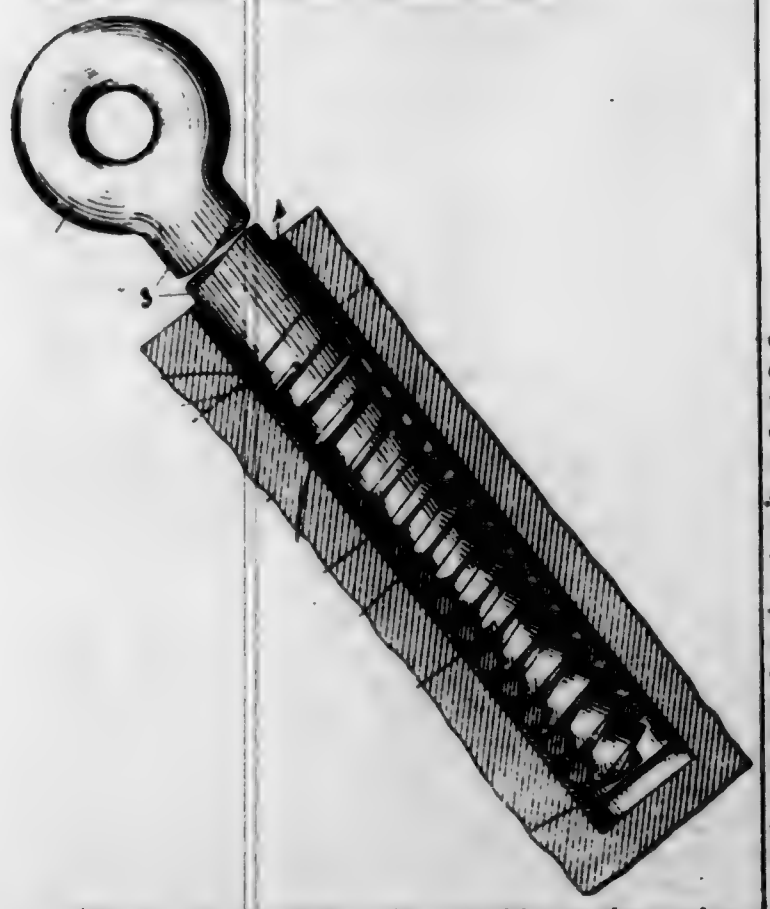


Claim.—1. In a device of the class herein described, the combination with an elongated, tapering, screw-threaded expander, and a spiral keeper surrounding the same and engaging with the screw-threads thereof, of a circumferentially-expansible socket, surrounding said keeper and adapted to be acted upon and circumferentially expanded, upon the insertion and rotation of said expander in said keeper, substantially as herein specified.

2. In a device of the class herein described, the combination with a tapering, elongated, screw-threaded expander, and a spiral keeper surrounding the same and engaging with the screw-threads thereof, of a circumferentially-expansible socket surrounding said keeper and inclosing the same, said socket having inturned lips at its respective ends, whereby said keeper is retained in position within said socket, substantially as herein specified.

3. An expansible bolt comprising a screw-threaded expander and a spiral expansible keeper surrounding the same and engaging with the screw-threads thereof, of a circumferentially-expansible socket surrounding said keeper and adapted to be acted upon and expanded upon the insertion and rotation of said expander in said keeper.

806,407. **EXPANSIBLE WEDGE.** HARVEY FARRINGTON, Yonkers, N. Y. Filed Dec. 9, 1904. Serial No. 236,161.



Claim.—1. An expansible wedge comprising an elongated, rotatable, tapered expander, traversed by a spiral wedge-face, and a spiral keeper whose end segments vary from a maximum diameter to a minimum diameter, respectively, said keeper being adjusted along said expander inversely to the taper thereof, and relatively to the greater diameter of the tapered portion of said expander and the greater end segment diameter of said keeper, and engaging said wedge-face to receive from the latter an expanding force, upon said expander being duly rotated, substantially as herein specified.

2. An expansible wedge comprising an elongated, rotatable, tapered expander, traversed by a spiral raised member varying in height from end to end and forming a spiral wedge-face, and a spiral keeper, said keeper being formed from a piece of stock or wire continuously tapered from one end to the other thereof, and engaging said wedge-face to receive therefrom an expanding force, upon said expander being duly rotated, substantially as herein specified, the keeper being tapered inversely to the taper of the expander.

3. An expansible wedge comprising an elongated rotatable expander traversed by a spiral wedge-face or thread having one face inclined away from the longitudinal axis and in the direction of the tip of the expander, its other face being perpendicular to the longitudinal line of the expander, and a spiral keeper engaging said wedge-face and adapted to be expanded in all directions upon the rotation of the expander.

4. An expansible wedge comprising a rotatable expander formed with a spiral wedge-face or thread and a spiral keeper formed of wire or stock tapered from end to end and formed into a spiral whose internal diameter decreases toward one end and whose external diameter is substantially uniform from end to end.

5. An expansible wedge comprising a rotatable tapered expander, said expander tapering toward its entering end and formed with a spiral thread or wedge-face, and a continuous spirally-wound expansible keeper tapered internal to correspond to the taper of the expander and adapted to engage the spiral thread of the expander and to be expanded on the rotation of the expander in the proper direction.

806,408. **GRAPPLE.** HARVEY FARRINGTON, Yonkers, N. Y. Filed May 27, 1905. Serial No. 262,696.



Claim.—1. A grapple comprising an expander tapered toward one end and formed at said tapered portion with a spiral thread or expander-cam having a face whose angle varies from end to end, whereby a spiral shoulder is formed varying in height from end to end, and a coiled keeper or gripping device adapted to be engaged by said spiral expander-cam, said keeper varying in internal diameter to correspond substantially with the tapered part of the expander, the exterior diameter of said keeper being uniform throughout.

2. A grapple comprising an expander tapered at one end and formed at said tapered part with a single broad-faced spiral thread or expander-cam whose angle varies from end to end, the face of said cam at the end of the expander being at an acute angle with respect to the longitudinal center line of the expander, its opposite end merging into the side of the expander at the end of the tapered part thereof, and a coiled keeper or gripping device varying in internal diameter to correspond to the taper of the expander, the external diameter of said gripping device being uniform throughout its length, whereby the said keeper may be inserted in an aperture having parallel walls.

3. A grapple comprising an expander formed at one end with a broad-faced spiral thread or expander-cam, the face of said cam at the entering end of the expander being at an acute angle with respect to the longitudinal line of the expander and gradually lessen-

ing its angle to its other end, and an internally-tapered expansible gripping device adapted to be engaged by the expander-cam, the external diameter of said gripping device being uniform throughout its length.

4. A grapple comprising an expander formed at one end with a single broad-faced spiral thread or expander-cam of uniform pitch from end to end, the face of said cam at the end of the expander being at an acute angle with respect to the longitudinal line of the expander and gradually lessening its angle to the opposite end of said cam, and a coiled gripping device varying in internal diameter and adapted to be engaged by the spiral expander-cam, the external diameter of said gripping device being uniform throughout its length.

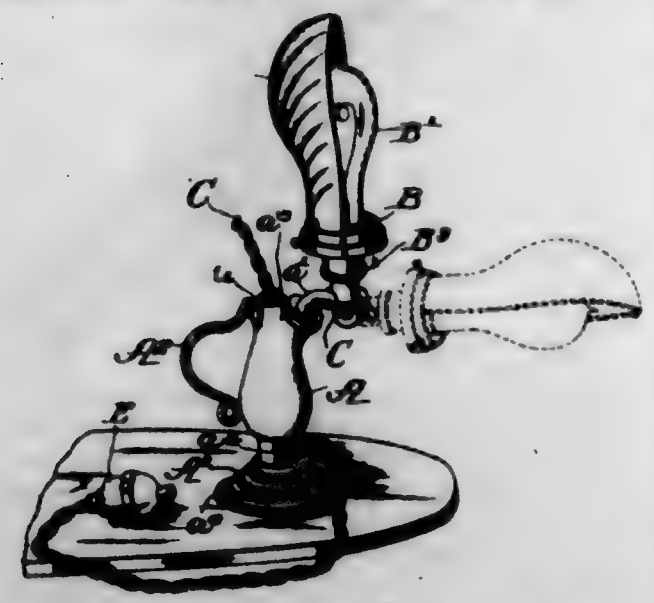
5. A gripping device for a grapple consisting of a coiled strip of suitable material whose internal diameter varies from end to end and whose external diameter is uniform throughout, in combination with an expander formed with a single-faced spiral expander-cam or thread adapted to engage said coil throughout its length.

6. A keeper or gripping device for a grapple and similar devices formed of a coil of suitable material circular in cross-section at one of its ends, and gradually flattened toward its other end, said other end of said material being segmental in cross-section, said material being so coiled that the flattened portion thereof will form a portion of the exterior of said coil, the internal diameter of said coil varying from end to end and the external diameter thereof being uniform throughout its length.

7. A grapple comprising an expander tapered at one end and formed at said tapered part with a one-faced broad spiral thread or expander-cam, a shoulder being formed by said thread perpendicular to the axis of the expander, and a coiled keeper varying in internal diameter to correspond to the taper of the expander and adapted to be engaged throughout its length by the expander-cam and to normally lie against the said shoulder.

8. A grapple comprising a coiled expansible keeper and a tapered expander formed with an expander-cam adapted to engage said coil-keeper, the angularity of said cam varying from end to end thereof, whereby a strain tending to draw the expander from the keeper will gradually and progressively expand the coils of the keeper from end to end.

806,409. **PORTABLE ELECTRIC LAMP.** JOHN H. GORNEY, Chicago, Ill., assignor to Federal Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 18, 1905. Serial No. 245,919.

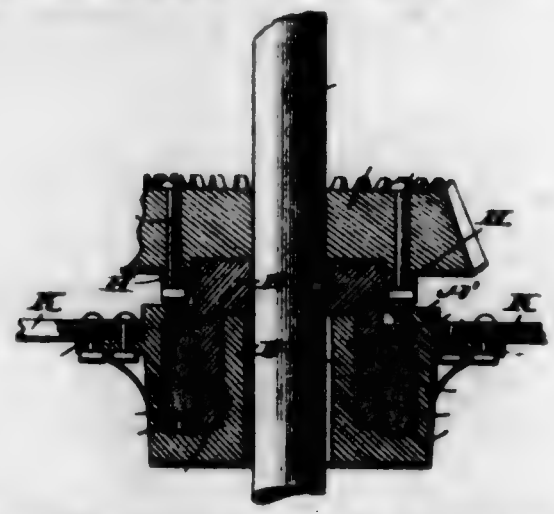


Claim.—1. A portable electric lamp comprising a lamp-body provided with a supporting-base, a lamp-socket, a hinged connection between said socket and the upper part of the lamp-body, and a hooked-shape handle attached at one end to the upper end of said lamp-body and constructed to constitute means by which the lamp may be suspended.

2. A portable electric lamp comprising a lamp-body, a lamp-socket, a hinged connection between said socket and the upper part of the lamp-body, and a handle for said body pivoted at one end to the upper end of said lamp-body and free from said body at its other end.

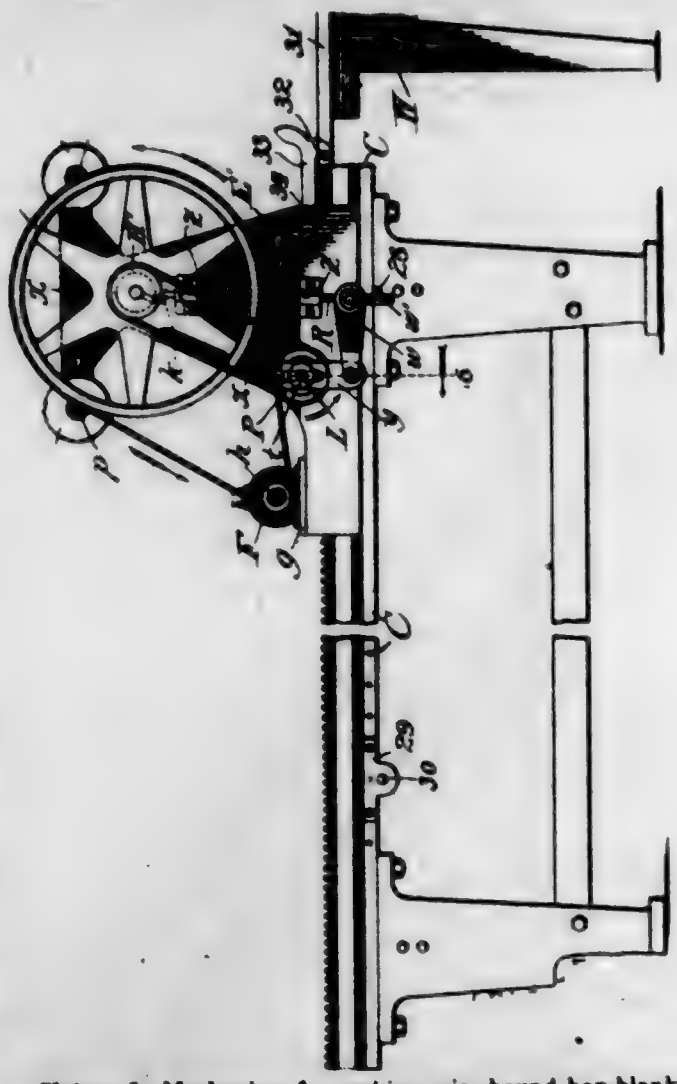
3. A portable electric lamp comprising a lamp-body provided with a base having therein an opening adapted to receive a suspending-pin, a lamp-socket, a hinged connection between the upper part of the lamp-body and socket constructed to lock the socket in different angular positions relatively to the body, and a handle for said body attached at one end to the upper end of the lamp-body, and free from said body at its other end.

806,410. **OIL-CUP AND BEARING.** CHARLES H. HARTE, Durant, Iowa. Filed May 13, 1904. Serial No. 207,621.



Claim.—The combination with an oil-cup having laterally-projecting ears and the inwardly-projecting flange, of a centrally-arranged upwardly-projecting cylindrical bearing having an annular step at its lower end, a cylindrical journal closed at its upper end and provided with laterally-projecting ears and having parallel oil-passages, a shaft passing through the bearing and journal, and a power-transmitting disk rigidly connected to the journal, said disk, journal and shaft being adapted to turn together, as set forth.

806,411. **MACHINE FOR MAKING BOX-BLANKS.** RICHARD G. INWOOD and PERRY C. LAVERRANS, South Bend, Ind., assignors to The National Wire Bound Box Company, South Bend, Ind., a Corporation of Indiana. Filed Jan. 3, 1905. Serial No. 239,415.



Claim.—1. Mechanism for making wire-bound box-blanks by stitching together the parts of the blank material, comprising, in combination, a stationary frame, a traveling carrier with means for moving it longitudinally of the frame, a plurality of stapling devices with operating means therefor on the carrier, cleat and sheet assembling mechanism movable longitudinally into and out of a position on the frame wherein the material will be traversed by the carrier,

and means operating in the travel of the carrier to position binding-wires beneath the stapling devices along the sheets.

2. Mechanism for making wire-bound box-blanks by stitching together the parts of the blank material, comprising, in combination, a stationary frame, a traveling carrier with means for moving it longitudinally of the frame, a plurality of stapling devices with operating means therefor on the carrier, sheet and sheet assembling mechanism movable longitudinally into and out of a position on the frame wherein the material will be traversed by the carrier, the parts being constructed and arranged whereby the material and staple-drivers remain in fixed relation to each other while staples are being driven, and means operating in the travel of the stapling devices to feed binding-wires between them to the said material.

3. In a machine for making blanks of the character set forth, the combination with a bed on which the assembled blank material is positioned, of a traveling-carrier frame, means for moving the frame intermittently to cross the positioned blank material, intermittently-operating staple-drivers on the carrier-frame alternating in their staple-driving operations with the movements of the carrier-frame and operating means for the staple-drivers.

4. In a machine for making blanks of the character set forth, the combination with a bed on which the assembled blank material is positioned, of a traveling carrier, intermittently-operating staple-drivers on the carrier, means for moving the carrier intermittently in one direction, its movements alternating with the staple-driving operations of the staple-drivers, means for arresting the operations of the staple-drivers means for moving the carrier-frame continuously in the opposite direction and operating means for the staple-drivers.

5. In a machine for making blanks of the character set forth, the combination with a bed on which the assembled blank material is positioned, of a carrier-frame on the bed, intermittently-operating tacking devices on the carrier, means for moving the carrier in one direction to cross the positioned blank material while the tacking devices are in operation, means for stopping the operations of the tacking devices, means for reversing the movement of the carrier, on completion of a blank, to discharge the blank and operating means for the tacking devices.

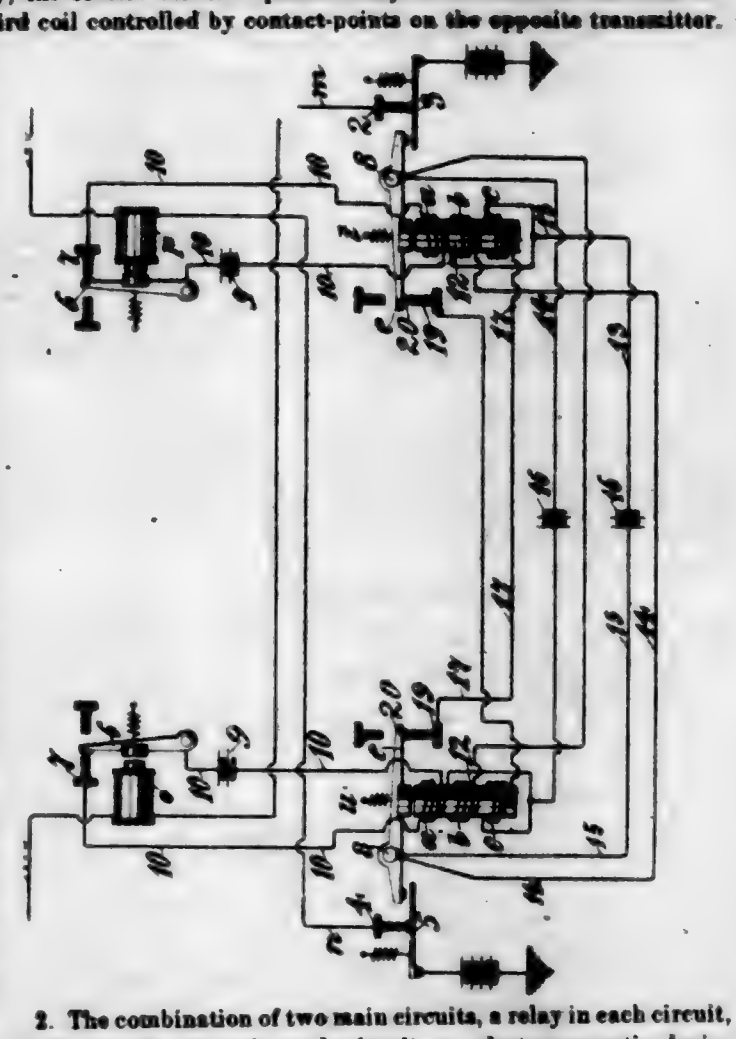
6. In a machine for making blanks of the character set forth, the combination with a bed on which the assembled blank material is positioned, of a carrier-frame on the bed, intermittently-operating stapling devices on the carrier, means for moving the carrier in one direction to cross the positioned blank material while the stapling devices are in operation, means for stopping the operations of the stapling devices means for reversing the movement of the carrier on completion of a blank to discharge the blank, means upon the carrier operating in the final movement thereof during the stapling operations to engage assembled material for another blank to draw the same into the machine while discharging the finished blank and operating means for the staple-drivers.

7. In a machine for making blanks of the character set forth, the combination with a bed on which the assembled blank material is positioned, of a traveling-carrier frame movable along the bed to cross the positioned blank material, a motor, a drive-wheel on the carrier-frame driven by the motor, tacking devices on the carrier-frame, intermittent operating mechanism for the tacking devices and intermittent operating mechanism for moving the carrier in one direction, means for throwing said intermittent mechanisms simultaneously into and out of operative engagement with said drive-wheel, mechanism for reversing the movement of the carrier and means for automatically throwing said reversing mechanism into operative engagement with said drive-wheel as the said intermittent mechanisms are disengaged therefrom, substantially as described.

8. In a machine for making box-blanks, the combination with the bed-frame of the machine adapted to hold the material for one blank, of a traveling carrier on the frame, mechanism for moving the carrier at one speed intermittently across the blank material toward the receiving end of the machine, intermittently-actuated staple-drivers on the carrier alternating in their staple-driving operations with the intermittently-operating carrier-moving mechanism, means for reversing the movement of the carrier and causing it to travel at increased speed toward the discharge end of the bed-frame, and blank-material-engaging means on the carrier operating to engage the material for a new blank and draw it into the machine while discharging a finished blank.

806,412. **TELEGRAPH-REPEATER.** FRANCIS W. JONES, New York, N. Y. Filed Sept. 21, 1905. Serial No. 279,295.

Claim.—1. The combination of two main circuits, a relay in each circuit, main-line break-points in each circuit, an electromagnetic transmitter for each break-point, and three coils on each transmitter-magnet, the first coil controlled by the break-points of the relay, the second coil in a permanently-closed local circuit and the third coil controlled by contact-points on the opposite transmitter.



2. The combination of two main circuits, a relay in each circuit, main-line break-points in each circuit, an electromagnetic device controlling each break-point and three coils on each of said magnets, a local circuit containing the first coil and the break-points of its relay, a closed local circuit containing the second coil and a local circuit containing the third coil and break-points operated by the other transmitter.

3. In a repeater the combination with one circuit of a main-line relay and an electromagnetic transmitter, main-line break-points operated by said transmitter, three controlling-coils for said transmitter, one of which is in a local circuit with the break-points of the relay, the second of which is differential and in a permanently-closed circuit, the third of which is in a local circuit with break-points controlled by the other main circuit.

4. The combination with an automatic repeater of means in one line for breaking the circuit of the other line, said means including a relay in the receiving-circuit, an electromagnetic transmitter operated by said relay, said transmitter having three controlling-coils, a local circuit including the first coil and the relay break-points; a permanently-closed local circuit containing the second coil and a local circuit containing the third coil and contact-points controlled by the transmitting-circuit.

5. In a telegraphic repeater the combination with break-points of an electromagnetic transmitter having two operating-coils and a differential coil on its magnet and a circuit-controller in the circuit of each operating-coil controlled by the two main circuits, respectively.

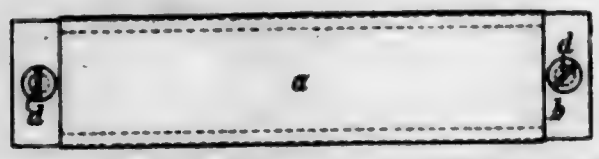
6. In a telegraphic transmitter the combination with main-line break-points of an operating-lever and an electromagnet controlling said lever, said magnet having two coöperating coils and a differential coil.

7. In a telegraphic repeater the combination with break-points of an electromagnetic transmitter having two operating-coils and a differential coil for controlling the operation of the transmitter-lever.

8. In a telegraphic repeater an electromagnetic transmitter having three coils on its magnet, one of which is differential with respect to the others; and means for opening the circuit of one after the other of the two last-named coils.

9. In a telegraphic repeater an electromagnetic transmitter having three coils, a local circuit for each coil, one of which is permanently closed in combination with means for opening one circuit after the other of the two remaining.

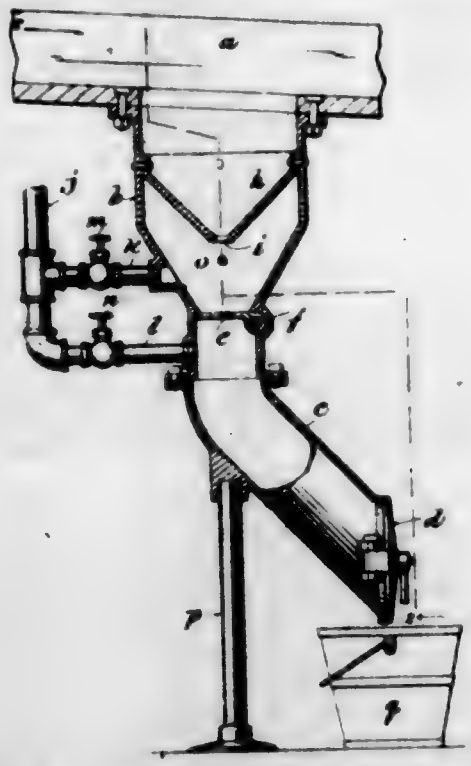
808,413. ELECTRODE FOR ELECTROLYZERS USED IN THE MANUFACTURE OF BLEACHING LIQUORS. RICHARD KOTHNY, Cannstatt, Germany, assignor of one-half to Charles Edward Walkman Caddum, Mountford, county of Chester, England. Filed Sept. 7, 1905. Serial No. 277,422.



Claim.—1. In an electrode for use in electrolyzers for producing bleaching liquids, a plate of suitable non-conducting material, a very thin anode element laid on the face of and over edges of the insulating-plate, an element acting as cathode, and means for holding the cathode element in close contact with the turned edges of the anode element.

2. In an electrode for use in electrolyzers for producing bleaching liquids, a plate of suitable non-conducting material, a very thin sheet of platinum laid on the face and over edges of the insulating-plate, an element acting as cathode, and means for pressing the cathode element against the turned edges of the anode at the back of the insulating-plate.

808,414. METAL-SEPARATOR FOR ORE-CONCENTRATING PLANTS. HENRY C. KRAUSS, Point Mills, Mich. Filed Dec. 13, 1902. Serial No. 135,063.



Claim.—1. In a metal-separator for ore-concentrating plants the combination of a hopper having a funnel-shaped partition which terminates at the bottom in a contracted discharge-opening between the top and bottom of the hopper and forms with the lower part of the hopper a receptacle for metal and heavy concentrates passing through said discharge-opening when the opening at the lower end of the hopper is closed, and a trap connected with the lower part of said hopper and provided at its upper and lower ends with valves, and a water-supply connection leading into said hopper between said partition and the upper valve, substantially as described.

2. In a metal-separator for ore-concentrating plants the combination of a hopper having a funnel-shaped partition which terminates in a contracted discharge-opening between the top and bottom of the hopper and forms with the lower part of the hopper a receptacle for metal and heavy concentrates passing through said discharge-opening when the opening at the lower end of the hopper is closed, a trap connected with the lower part of said hopper and provided at its upper and lower ends with valves, a water-supply connection leading into said hopper between said partition and the upper valve, and a water-supply connection leading into said trap and provided with a valve, substantially as described.

3. In a metal-separator for ore-concentrating plants the combination of a receiving-basin having an orifice through its bottom, a launder or ore-conduit passing across and opening at the bottom into the upper part of said basin, a hollow leg connected with the lower part of said basin, means for closing said leg, a valve for closing communication between said leg and basin, and a water-supply pipe leading into the separator between said basin and said valve, substantially as described.

4. In a metal-separator for ore-concentrating plants the combination of a receiving-basin having an orifice through its bottom, a launder or ore-conduit passing across and opening into the upper part of said basin, a hollow leg connected with the lower part of said basin, means for closing said leg, a valve for closing communication between said leg and basin, and a water-supply connection leading into the separator below said basin, substantially as described.

5. In a metal-separator for ore-concentrating plants, the combination of a hopper having a partition with a contracted discharge-opening between the top and bottom of the hopper, a launder or ore-conduit passing across and opening at the bottom into the upper part of said hopper, a water-supply connection leading into the hopper below said partition, means for regulating the supply of water through said connection, a discharge-conduit connected with the lower part of said hopper and provided with a valve, and a sounding-tube projecting into said hopper below said discharge-opening, substantially as described.

6. In a metal-separator for ore-concentrating plants, the combination of a hopper having a partition with a contracted discharge-opening between the top and bottom of the hopper, a launder or ore-conduit passing across and opening at the bottom into the upper part of said hopper, a water-supply connection communicating with said hopper below said partition, means for regulating the flow of water through said connection, a discharge-conduit connected with the lower part of said hopper and provided with a valve, and a sounding-tube passing through the wall of said hopper below said discharge-opening and having an open flaring outer end and a closed inner end, substantially as described.

7. In a separator of the class described, a receiving-basin having an orifice through its bottom, a hollow leg mounted beneath said basin, means for closing said leg, a valve for closing communication between said leg and basin, and a water-supply pipe between said basin and said valve, for the purpose set forth.

8. In a separator of the class described, the combination with a hollow body, of a perforated partition in the upper end thereof, forming a separating-basin, a hollow leg communicating with the lower end of said hollow body, means for opening and closing said hollow leg, a valve arranged between the hollow leg and the hollow body, a water-supply pipe leading into said hollow body between the valve and the separating-basin, and a water-supply pipe leading into the hollow leg beneath said valve.

808,415. BLUE AZO DYE AND PROCESS OF MAKING SAME. THILO KROMMER, Basel, Switzerland, assignor to The Firm of Society of Chemical Industry in Basle, Basel, Switzerland. Filed May 23, 1905. Serial No. 261,563. (Specimens.)

Claim.—1. The process for the manufacture of monoazo dyestuffs by acidylizing sulfonic acids of 1-2-amidonaphthol in the hydroxyl group, then diazotizing the so-obtained amido-2-acidyloxynaphthalenesulfonic acid and combining the resulting diazo compound with naphtholsulfonic acids.

2. The process for the manufacture of monoazo dyestuffs, which process consists in acetylizing sulfonic acids of 1-2-amidonaphthol in the hydroxyl group, then diazotizing the so-obtained 1-amido-2-acetoxynaphthalenesulfonic acids and combining the resulting diazo compounds with naphtholsulfonic acids.

3. The process for the manufacture of a monoazo dyestuff, which process consists in acetylizing 1-2-amidonaphthol-4-sulfonic acid in the hydroxyl group, then diazotizing the so-obtained 1-amido-2-acetoxynaphthalene-4-sulfonic acid and combining the resulting diazo compound with 1-5-naphtholsulfonic acid.

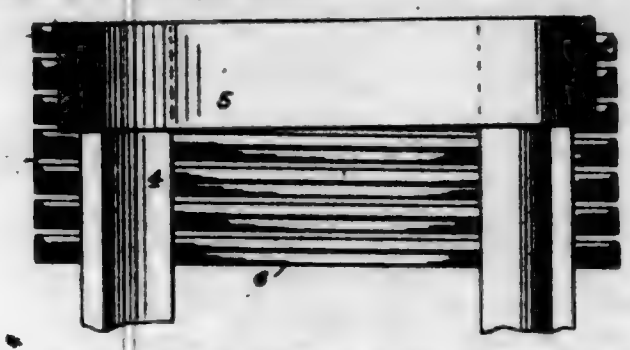
4. As new products the monoazo dyestuffs, derived from sulfonic acid of 1-2-amidonaphthol and naphtholsulfonic acids, which dyestuffs yield blue solutions in water, and in concentrated sulfuric acid and dye unmordanted wool in Bordeaux shades, becoming blue on treatment with chromium compounds.

5. As a new product the monoazo dyestuff, derived from 1-2-amidonaphthol-4-sulfonic acid and 1-5-naphtholsulfonic acid, which dyestuff yields blue solutions in water and in concentrated sulfuric acid and dyes unmordanted wool in Bordeaux shades becoming blue on treatment with chromium compounds.

808,416. SCREEN DEVICE. MARLON R. LAYNE, Rock Rapids, Iowa. Filed Jan. 3, 1905. Serial No. 239,317.

Claim.—1. In a well screen the combination of an open frame formed of rings and longitudinal bars and having flat external sur-

faces, a helical wire wound thereon resting upon said surfaces and having the turns spaced apart, said wire being in cross section of the form of a truncated pyramid, whereby the narrow flat surface rests upon said frame and the wide surface of the wire is extended outward so that the openings between the wires are continuous and are of decreasing width toward the outside.

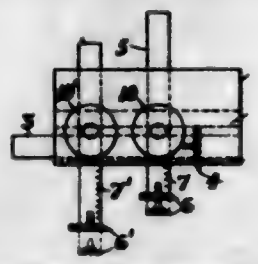


2. In a well screen the combination with a supporting frame, of a screen wire wound thereon and having the turns spaced apart, said wire being in uniform section of a general quadrilateral form having a flat surface to rest upon said frame and the outer side of the wire as wound being wider than the inner side, substantially as described.

3. The combination with an open supporting frame having a series of longitudinal flat faced bars, of a screen wound thereon composed of a wire having continuously a cross section of the form of a truncated pyramid and having the turns spaced apart, said wire resting on its narrow face on the frame and having the wide face outward and the slit between successive layers of wire being continuous and unobstructed, substantially as described.

4. A well screen comprising a supporting frame having a plain surface and a wire wrapped thereon with openings between the turns of wire, said wire being of greater width on the outer side than on the inner side.

806,417. COMBINATION CHAMFER AND BUTT GAGE. FREDERICK H. LOCKWOOD, Alameda, Cal. Filed Aug. 31, 1905. Serial No. 275,037.



Claim.—1. A combination chamfer and butt gage comprising a body portion having two gage-beams arranged at right angles to each other and slidably mounted in the body, said gage-beams having adjustable removable markers at their extremities, one of said beams having a recessed end and one of said markers being seated in the recess of said beam, and means securing said marker in its recessed seat.

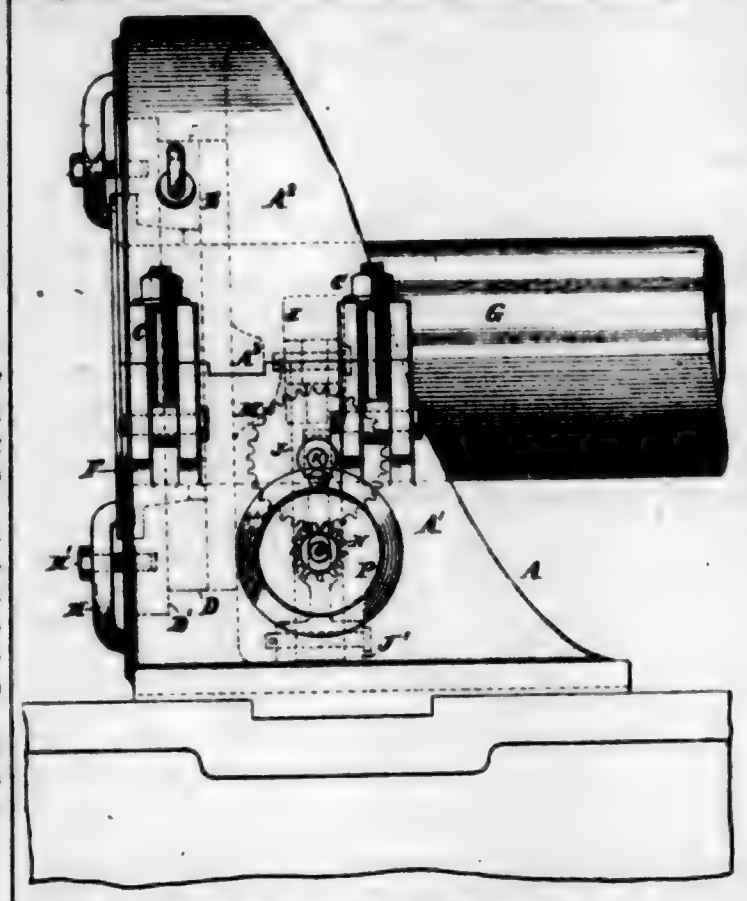
2. A gage comprising a block having a longitudinal channel along one side, a sliding piece housed in said channel the end of said piece being concaved in the plane of the channel, and a longitudinally-slotted marker having a convexity fitting the concavity in the end of the sliding piece, and a screw fitting the slot in said marker and perforation in the end of the sliding piece.

3. A gage comprising a body portion and an adjustable sliding piece carried thereby, said sliding piece having its end transversely concaved, and a slotted marker provided with a corresponding convexity to fit said concavity and lock the screw to hold the marker to the sliding piece.

4. A gage comprising a body, two sliding pieces carried thereby and adjustable and turnable therein and parallel with each other, and a third marking-piece carried by the body and arranged at right angles to the first-named sliding piece, and markers carried by said sliding pieces, said third marking-piece having a recessed seat in its end and one of said markers being slidably and non-turnably seated thereon, and means securing the last-named marker in position.

806,418. CLAMPING MECHANISM FOR PIPE-FLANGING MACHINES. LEVERE D. LOVEKIN, Philadelphia, Pa. Filed Sept. 2, 1904. Serial No. 223,080.

Claim.—1. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having a flanged opening, combined with a removable bushing flanged both on its outer and inner edges the outer flanged edge closely fitting the interior surface of the flanged opening of the housing and the inner flanged edge closely fitting the pipe-flange, whereby the outward expansion on the pipe-flange is resisted by the housing wholly through the periphery of the bushing and the end thrust on the pipe-flange is resisted by the flanges of the bushing and housing.



2. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having a flanged opening, combined with a removable bushing made in sections so as to be removable from the pipe and flange when removed from the housing and flanged both on its outer and inner edges the outer flanged edge closely fitting the interior surface of the flanged opening of the housing and the inner flanged edge closely fitting the pipe-flange, whereby the outward expansion on the pipe-flange is resisted by the housing wholly through the periphery of the bushing and the end thrust on the pipe-flange is resisted by the flanges of the bushing and housing.

3. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having a flanged opening and made in divided form so as to facilitate the removal of the pipe when operation is completed, clamping means for clamping the two parts of the housing together, combined with a removable bushing flanged both on its outer and inner edges the outer flanged edge closely fitting the interior surface of the flanged opening of the housing and the inner flanged edge closely fitting the pipe-flange and adapted to be clamped in the housing, whereby the outward expansion on the pipe and flange is resisted by the housing wholly through the periphery of the bushing and the end thrust on the pipe-flange is resisted by the flanges of the bushing and housing.

4. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having a flanged opening and made in divided form so as to facilitate the removal of the pipe when the operation is completed, clamping means for clamping the two parts of the housing together, combined with a removable bushing made in sections so as to be removable from the pipe and flange when removed from the housing and flanged both on its outer and inner edges the outer flanged edge closely fitting the inner surface of the flanged opening of the housing and the inner flanged edge closely fitting the pipe-flange and adapted to be clamped in the housing, whereby the outward expansion on the pipe-flange is resisted by the housing wholly through the periphery of the bushing and the end thrust on the pipe-flange is resisted by the flanges of the bushing and housing.

5. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having a large opening greatly exceeding the diameter of the pipe to be expanded, combined with a removable bushing located wholly within the opening in the housing and flanged both on its entire outer and inner edges the outer peripheral edge being adapted to fit the opening in the housing and the inner edge being adapted to fit the pipe-flange and

the strength of said bushing and housing being greatly in excess of the expansion or bursting resistance of the pipe and flange.

6. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having a large opening greatly exceeding the diameter of the pipe to be expanded, combined with a removable bushing flanged both on its outer and inner edges the outer edge being adapted to fit the opening in the housing and the inner edge being adapted to fit the pipe-flange and the strength of said bushing and housing being greatly in excess of the expansion or bursting resistance of the pipe and flange, and clamps extending from the housing inward to press upon the pipe-flange to hold it in position within the bushing.

7. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having a large opening greatly exceeding the diameter of the pipe to be expanded, combined with a removable bushing flanged both on its outer and inner edges the outer edge being adapted to fit the opening in the housing and the inner edge being adapted to fit the pipe-flange and the strength of said bushing and housing being greatly in excess of the expansion or bursting resistance of the pipe and flange, and clamps extending from the housing inward to press upon the pipe-flange to hold it in position within the bushing and having clamping-screws extending through the clamps and into the bushing.

8. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having an opening and divided so as to facilitate the removal of pipe after being expanded, means for clamping the divided portions of the housing together, and a removable bushing fitting within the housing and directly held by it against outward thrust and having its inner edge flanged to closely fit the pipe-flange.

9. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having an opening and divided so as to facilitate the removal of the pipe after being expanded into the flange, means for clamping the divided portions of the housing together, a bushing fitting within the housing and held by it and having its inner edge flanged to closely fit the pipe-flange, and means to clamp the pipe-flange within the bushing.

10. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having an opening and divided so as to facilitate the removal of the pipe after being expanded into the flange, means for clamping the divided portions of the housing together, a bushing fitting within the housing and held by it and having its inner edge flanged to closely fit the pipe-flange, and gripping devices for gripping the pipe and holding it against rotation.

11. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having an opening and divided so as to facilitate the removal of the pipe after being expanded into the flange, means for clamping the divided portions of the housing together, a bushing fitting within the housing and held by it and having its inner edge flanged to closely fit the pipe-flange, gripping devices for gripping the pipe and holding it against rotation, and means carried by the housing for adjusting the gripping devices nearer together to grip the pipe.

12. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having a large opening greatly exceeding the diameter of the pipe to be expanded, combined with a removable bushing flanged both on its outer and inner edges the outer edge being adapted to fit the opening in the housing and the inner edge being adapted to fit the pipe-flange and the strength of said bushing and housing being greatly in excess of the expansion or bursting resistance of the pipe and flange, and gipping devices for holding the pipe against rotation consisting of two oppositely-directed toothed jaws, screws for moving said jaws to or from each other, and hand-operated means for simultaneously operating said screws.

13. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing having a large opening greatly exceeding the diameter of the pipe to be expanded, combined with a removable bushing flanged both on its outer and inner edges the outer edge being adapted to fit the opening in the housing and the inner edge being adapted to fit the pipe-flange and the strength of said bushing and housing being greatly in excess of the expansion or bursting resistance of the pipe and flange, and gripping devices for holding the pipe against rotation consisting of two oppositely-directed toothed jaws, pivoted arms each hinged at one end to the housing and at the other end to one of the jaws, screws operating upon the pivoted arms for moving said jaws to or from each other, and hand-operated means carried by the housing for simultaneously operating said screws.

14. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing provided with an opening, combined with a removable bushing located within the housing and closely fitting the opening in the said housing so as to transmit all outward strain directly to the interior wall of the opening in the housing and having its inner edge flanged to closely fit the pipe-flange and directly receive the expansive strain put upon the pipe and flange the strength of the bushing and housing being greatly in excess of expansive thrust put upon the pipe and flange in the act of expanding and flanging the pipe therein.

15. In a machine for expanding and flanging pipe, a clamp for the pipe-flange consisting of a housing provided with an opening having an inwardly-directed flange and made in two parts so as to be capable of being separated for removal of the pipe, in combination with a bushing flanged upon its outer surface to fit the interior of the opening of the housing and having its external diameter an exact counterpart of the internal opening in the housing whereby the two parts fit accurately in contact throughout the circumference of the bushing and in which the bushing is provided with a central aperture flanged to accurately fit a pipe-flange whereby the latter may be located within the housing and the outward strains be positively transmitted through the bushing and directly to the interior surface of the aperture of the housing.

806,419. **FLEXIBLE RAZOR-STROP.** WILLIAM T. MANN, Cleveland, Ohio. Filed Mar. 26, 1904. Serial No. 200,201.



Claim.—A razor-strop comprising a single strap of flexible material provided with a series of rows of unobstructed perforations; the perforations in one row being staggered with relation to the perforations of the adjoining rows, a hand-grip on one end of the flexible strap and a plate carried by the other end of the strap and provided with eyelets located approximately in line with the outer edges of the strap.

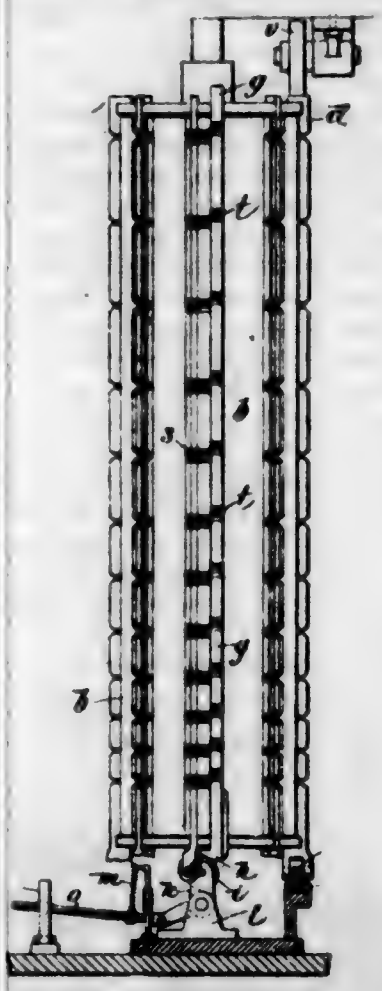
806,420. **CUTTING MECHANISM FOR WIRE-FABRIC MACHINES.** CLINTON S. MARSHALL, Worcester, Mass., assignor to American Steel & Wire Company of New Jersey, Worcester, Mass., a Corporation of New Jersey. Filed Mar. 17, 1905. Serial No. 250,603.

Claim.—1. In a machine for making wire fencing having a plurality of strand-wires, the combination of a rotary drum, a knife-bar carried thereby for severing all the wires simultaneously, and means independent of the drum for operating the knife-bar, said means being normally out of action but adapted to be thrown into operative position by the operator whenever desired.

2. In a machine for making wire fencing having a plurality of strand-wires, the combination of a drum having means for gripping the wires and pulling the fencing through the machine, a knife-bar carried by the drum for severing all the wires simultaneously, and a cam-roller independent of the drum for operating the knife-bar, said roller being normally inoperative but adapted to be thrown into operative position by the operator.

3. In a machine for making wire fencing having a plurality of strand-wires, the combination of a drum having means for crimping

the wires and pulling the fencing through the machine, a knife-bar carried by the drum for severing all the wires simultaneously, a shoe or projection on one end of the bar, a bell-crank lever pivoted independently of the drum, a cam-roller carried by one arm of the lever in position to be engaged by the shoe of the knife-bar as the drum rotates, means connected to the other arm of the lever for holding the cam-roller normally out of operative position, and means under control of the operator to throw the roller into the path of the knife-bar shoe when it is desired to cut the fencing.



4. In a machine for making wire fencing having a plurality of strand-wires, the combination of a drum having means for gripping and pulling the fencing through the machine, a knife-bar carried by the drum for severing all the wires simultaneously, a shoe or projection on the end of the knife-bar extending below the drumhead, a bell-crank lever pivoted under the drumhead and carrying a cam-roller on one arm, a spring connected to the other arm of the lever for holding the cam-roller in a normally depressed position, and a foot-piece connected to th lever by means of which the operator may rock the lever against the spring and lift the cam-roller into position to be struck by the knife-bar shoe to operate the knife as the drum revolves.

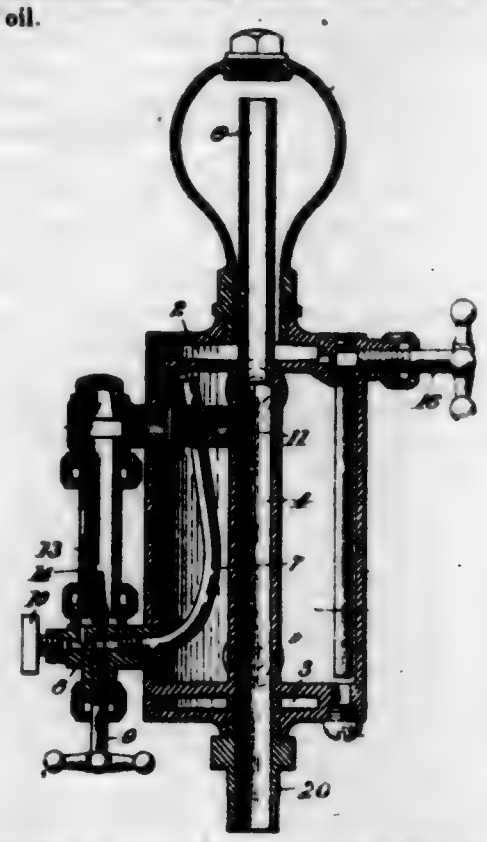
806,421. LUBRICATOR. ALBERT L. MATTESON, Battlecreek, Mich. Filed July 29, 1905. Serial No. 271,749.

Claim.—1. A lubricator comprising an oil-reservoir; a steam-heating chamber located in the bottom thereof; a condensation and oil-discharge pipe extending through the reservoir and steam-heating chamber, and means for controlling communication between the said pipe and steam-heating chamber.

2. A lubricator comprising an oil-reservoir having a steam-heating chamber located in the bottom thereof above the steam-supply pipe; a condensation and oil-discharge pipe leading through the steam-heating chamber, and means for controlling the supply of steam from said condensation and oil-discharge pipe to said steam-heating chamber.

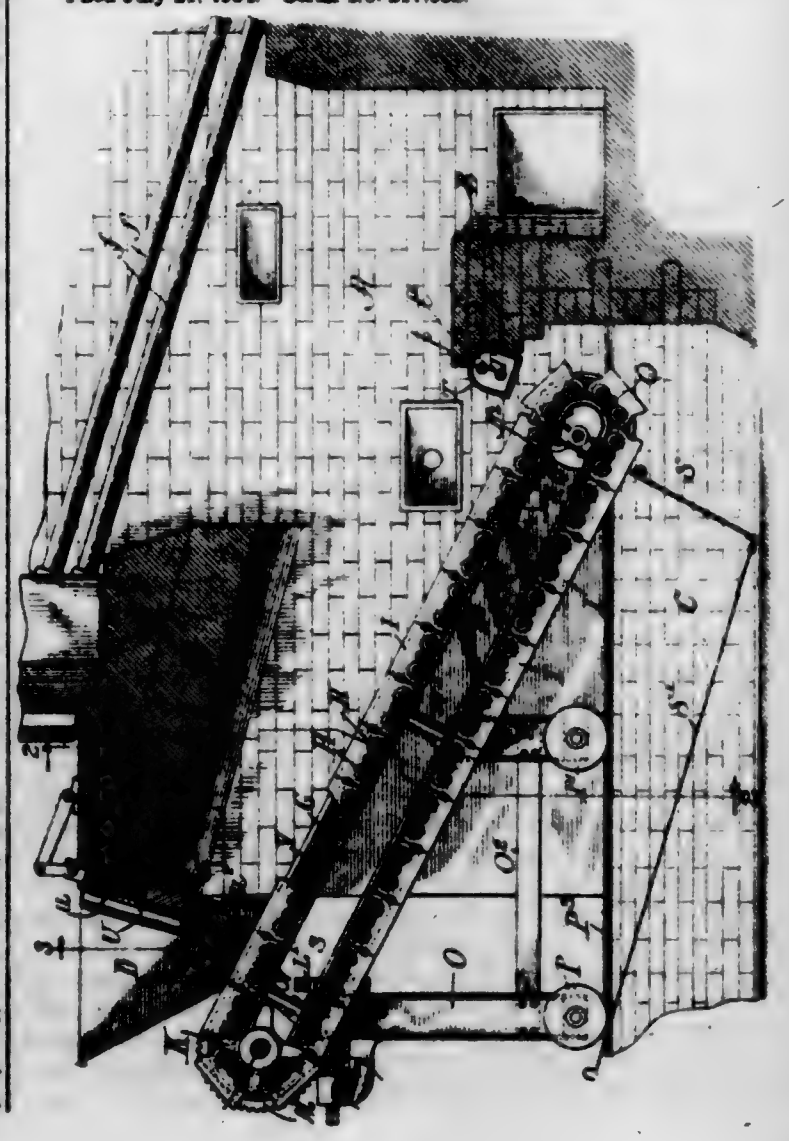
3. A lubricator comprising an oil-reservoir; a steam-heating chamber in the bottom thereof; a condensation and oil-discharge pipe formed integrally with the walls of the steam-heating chamber and reservoir and leading through the steam-heating chamber with which it communicates, whereby the oil is heated at the point of outflow, and means for cutting off communication between the condensation and oil-discharge pipe and said steam-heating chamber.

4. A lubricator comprising an oil-reservoir; a sight-feed glass; a steam-heating chamber located in the bottom of the reservoir; a condensation and oil-discharge pipe extending through the reservoir and steam-heating chamber and arranged to supply the steam-heating chamber and to furnish condensation to both the oil-reservoir and the sight-feed glass, said pipe and the walls of the steam-heating chamber, and also the walls of the reservoir being integrally formed, and means for cutting off and regulating the supply of steam from said pipe to the steam-heating chamber without cutting off the discharge of oil.



5. A lubricator comprising an oil-reservoir; a condensation-chamber in the upper part of the lubricator; a steam-heating chamber in the lower part of the lubricator; a condensation and oil-discharge pipe passing from the said condensation-chamber to the steam-heating chamber and communicating with both of said chambers and the oil-supply, and means for regulating and cutting off the supply of steam from said pipe to the steam-heating chamber.

806,422. FURNACE-GRATE. JOSEPH J. MERRILL, Chicago, Ill. Filed July 21, 1904. Serial No. 217,532.



Claim.—1. An endless traveling grate comprising transversely-arranged grate-bar sections which are disconnected or separate from each other, each grate-bar section consisting of two parallel supporting-rods and grate-bars which extend between and are attached to said rods, and guide-bars for the said sections provided with guide-grooves with which the ends of said rods are engaged.

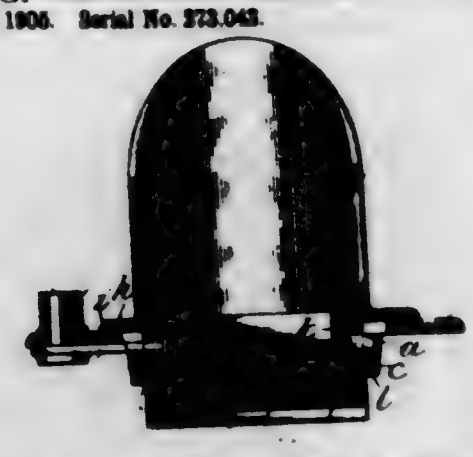
2. An endless traveling grate comprising a plurality of transversely-arranged grate-bar sections each consisting of two parallel supporting-rods and a plurality of grate-bars which extend between and are attached to the said rods, guide-bars of loop form for the said sections provided with lateral guide-grooves, and rollers mounted on the ends of said rods and engaging the said guide-grooves.

3. An endless traveling grate comprising a plurality of transversely-arranged grate-bar sections which are disconnected or separate from each other, a plurality of guide-bars with which the ends of said sections are engaged, said bars each consisting of straight parallel upper and lower parts joined at their ends by curved portions and transverse girders extending between the upper and lower parallel parts of said bars and attached at their upper and lower margins to the same, said guide-bars and girders constituting a rigid supporting-frame for the grate.

4. An endless traveling grate comprising a plurality of transversely-arranged grate-sections which are disconnected or separate from each other, guide-bars provided with grooves for engagement with projections on the ends of the sections, said guide-bars each consisting of straight parallel upper and lower parts connected at their ends by curved portions, transverse girders extending between the upper and lower parallel parts of said bars and attached at their upper and lower margins to the same, and curved plates extending transversely and attached to the inner surfaces of the curved parts of the guide-bars at the rear end of the grate.

5. An endless traveling grate comprising a plurality of grate-bar sections which are disconnected or separate from each other, each section embracing two supporting-rods and a plurality of longitudinally-arranged grate-bars mounted side by side on said rods, the grate-bars of each of the sections being adapted for endwise contact with corresponding grate-bars of other sections.

806,423. LENS-HOLDER. HERBERT S. MILLS, Chicago, Ill. Filed Aug. 7, 1905. Serial No. 273,043.



Claim.—1. In combination, a lens-holder for a picture-exhibiting machine of the character described, comprising a bed-plate adapted to be fastened on the machine-case and provided with an opening, a shield upon the bed-plate, and a frame carrying lenses seated on the bed-plate over said opening and movable into and out of operative position, and a lock on said holder for securing the lenses against unauthorized removal, for the purpose set forth.

2. In combination, a lens-holder for a picture-exhibiting machine of the character described, comprising a bed-plate adapted to be fastened on the machine-case and provided with an opening, a shield releasably connected with the bed-plate, and a frame carrying lenses seated on the bed-plate over said opening and movable into and out of operative position, and a lock on said holder for securing the lenses against unauthorized removal, for the purpose set forth.

3. In combination, a lens-holder for a picture-exhibiting machine of the character described, comprising a bed-plate adapted to be fastened on the machine-case and provided with an opening, and a shield releasably connected with the bed-plate, a frame carrying lenses seated on the bed-plate over said opening and confined on its seat by the shield, and means for locking the shield on the bed-plate.

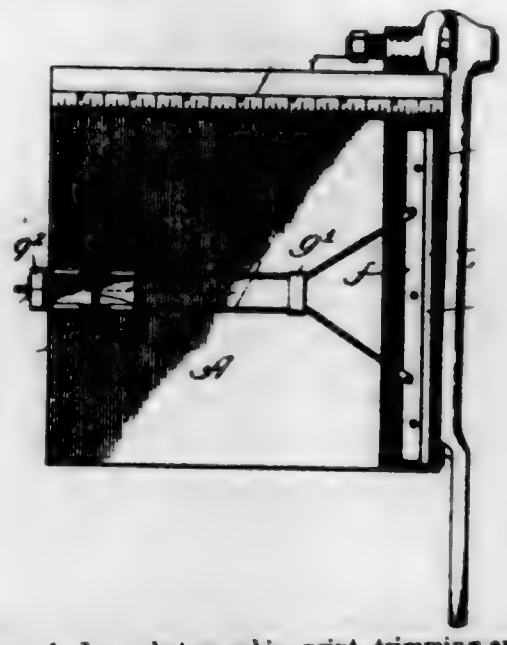
4. In combination, a lens-holder for a picture-exhibiting machine of the character described, comprising a bed-plate adapted to be fastened on the machine-case and provided with an opening and with seating-brackets and stop-lugs extending from its inner face, and a shield releasably connected with the bed-plate, a frame carrying lenses, seated on said brackets and confined in place by the shield, and means for locking the shield on the bed-plate.

5. In combination, a lens-holder for a picture-exhibiting machine of the character described, comprising a bed-plate adapted to be fastened on the machine-case and provided with an opening forming recesses at opposite sides, seating-brackets and stop-lugs extending from the inner face of the bed-plate, and a shield provided with a base-flange at which it rests on the bed-plate and having projections for covering said recesses, a frame carrying lenses seated on said brackets and confined in place by the shield and means for locking the shield on the bed-plate.

6. In combination a lens-holder for a picture-exhibiting machine of the character described, comprising a bed-plate adapted to be fastened on the machine-case and provided with an opening forming recesses at opposite sides, seating-brackets and stop-lugs extending from the inner face of the bed-plate and a key-arbor carrying a tongue, and a shield having a marginal flange about its opening provided with a recess to receive said tongue, and a frame carrying lenses, seated on said brackets and confined thereon by the shield.

7. In combination, a lens-holder for a picture-exhibiting machine of the character described, comprising a bed-plate adapted to be fastened on the machine-case and provided with an opening forming recesses at opposite sides, seating-brackets and stop-lugs extending from the inner face of the bed-plate and a key-arbor carrying a tongue, and a shield provided with a base-flange at which it rests on the bed-plate and having projections for covering said recesses, and with a marginal flange about the opening in the shield-base provided on one side with a recess to receive said tongue and on its opposite side with lugs to engage the adjacent edge of the bed-plate opening, and a frame carrying lenses, seated on said brackets and confined therein by the shield.

806,424. APPARATUS FOR TRIMMING PHOTOGRAPHIC PRINTS. ALBERT G. MCGREGOR, Chicago, Ill. Filed July 31, 1905. Serial No. 273,129.



Claim.—1. In a photographic-print-trimming apparatus, the combination with the base, having a cutting edge, and shearing-knife on the base, of an adjustable normally raised and depressible spring clamping-frame for the print having an edge, parallel with the said cutting edge, forming a positioning-guide for the print.

2. In a photographic-print-trimming apparatus, the combination with the base, having a cutting edge, and shearing-knife on the base, of an adjustable normally raised and depressible spring clamping-frame for the print carrying a transparent end strip having an edge, parallel with the said cutting edge, and forming a positioning-guide for the print.

3. In a photographic-print-trimming apparatus, the combination with the base, having a cutting edge, and shearing-knife on the base, of a support removably fastened to the base, and a normally raised and depressible spring clamping-frame for the print slidably mounted on the support and having an edge, parallel with the said cutting edge, forming a positioning-guide for the print.

4. In a photographic-print-trimming apparatus, the combination with the base, having a cutting edge, and a shearing-knife on the base, of a slidably-adjustable normally raised and depressible spring clamping-frame for the print having an edge, parallel with the said cutting edge, forming a positioning-guide for the print, and means for clamping the said frame in adjusted position.

5. In a photographic-print-trimming apparatus, the combination with the base, having a cutting edge, and a shearing-knife on the base, of a slidably-adjustable normally raised and depressible spring clamping-frame for the print having an edge, parallel with the said cutting edge, forming a positioning-guide for the print, and a scale on the base extending at a right angle to the said cutting edge with reference to which the same is adjusted.

806,425. WRENCH. ROBERT MCMILLEN, Pittsburg, Pa., assignor of one-fourth to Frank I. Clemens, Pittsburg, Pa. Filed June 28, 1905. Serial No. 267,585.



Claim.—1. A wrench comprising a pole, a jaw fixed thereto, a jaw movable on the pole, lever 6 formed with the integral lateral extensions 6′ having a pole-passage, a connection between the lever and movable jaw, and a detachable-pivotal connection between the lever and the pole.

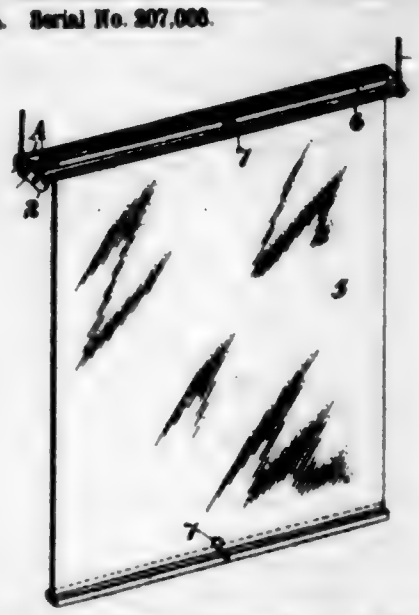
2. A wrench comprising a pole, a jaw fixed thereto, a jaw movable on the pole, lever 6 formed with the integral lateral extension 6′ having a pole-passage, said passage being of such form as to afford the lever slight oscillation, the extremity of extension 6′ being recessed, bar 5 at one end fitting said recess and at its opposite end secured to the movable jaw, and a dog pivoted to the lever for detachably engaging the pole.

3. A wrench comprising a pole, a jaw fixed thereto, a jaw movable on the pole, a lever having a pole-passage, a connection between the lever and the movable jaw, the lever being formed with a rounded depression, a dog having a rounded extremity pivoted in said depression, and a spring for holding the free portion of the dog normally in engagement with the pole.

4. A wrench comprising a pole, a jaw fixed thereto, a jaw movable on the pole, a lever having a lateral extension formed with a pole-passage, a connection between the lever extension and the movable jaw, the inner face of the lever on the side of the pole opposite said connection being formed with a rounded depression, a dog having a rounded extremity pivoted in said depression, the dog extending toward the outer end of the pole, coöperating teeth formed on the dog and the pole, and a spring carried by the lever for holding the dog normally in engagement with the pole.

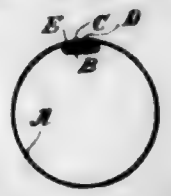
5. A wrench comprising a pole having teeth formed on its rear edge, a jaw fixed to the pole, a jaw slidable on the pole, the sliding jaw being recessed, a bar secured in said recess and extending outwardly along the front edge of the pole, a lever having a lateral offset formed with a pole-passage, the extremity of the lever-offset being recessed to receive the outer end of said bar, a pivot for securing said bar end in said lever-recess, the inner face of the lever at the opposite edge of the pole being recessed and formed with a rounded depression, a dog having a rounded extremity pivoted in said depression, the dog extending toward the outer end of the pole and formed with teeth for coöperating with the pole-teeth, and a spring carried by the lever for holding the dog normally in engagement with the pole.

806,426. MAP-HANGER. JOHN J. O'LEARY, Simon, Cal. Filed May 9, 1904. Serial No. 207,008.



Claim.—An improved map-hanger having in combination two parallel spaced rods or rollers, transversely-extending end pieces in which the rods or rollers are journaled, said end pieces having sockets intermediate of their ends, flexible suspending devices and rods connected thereto and having their lower ends provided with journal-pins adapted to engage the sockets of the end pieces whereby said end pieces and the rollers are substantially balanced, a map or other descriptive sheet having bars at opposite ends and having a limited reciprocating movement between said rods or rollers, and adapted to carry graphic representations on its obverse and reverse sides, the representation on one side being upside down in relation to that on the other side.

806,427. CURTAIN-ROLLER. GEORGE J. RECORD, Conneaut, Ohio. Filed Mar. 25, 1905. Serial No. 251,007.



Claim.—1. A hollow roller, having a longitudinal dovetailed groove, in combination with a concentric inner reinforcing-piece, which braces all points of the circumference of the said roller, the said reinforcing-piece being longitudinally slotted and provided with parts which fit into the spaces on each side of the neck of said groove, the said parts being located on opposite sides of the said slot and gripping both sides of the neck of the said groove with opposed resilient pressure substantially as set forth.

2. A hollow roller having a longitudinal dovetailed groove G, in combination with a concentric inner reinforcing-piece which braces all points of the circumference of the said roller, the said reinforcing-piece being longitudinally slotted and depressed to form a groove I′ receiving the wall of said groove G, the parts of the reinforcing-piece which form groove I′ fitting the sides of said wall of groove G and gripping said wall from both sides with opposed resilient pressure substantially as set forth.

3. A hollow roller having a longitudinal dovetailed groove, in combination with a concentric inner reinforcing-piece which braces all points of the circumference of the said roller, the said reinforcing-piece being longitudinally slotted and provided on each side of its slot with depressed parts forming a groove I′ to receive and fit the wall of groove G, the said parts of said reinforcing-piece gripping the said wall of groove G between them by opposed resilient pressure, the said reinforcing-piece being also telescopically extensible for extending the roll and the groove I′ in this position an extension of the groove G substantially as set forth.

4. A hollow roller provided with a longitudinal dovetailed groove and seam, which are formed by folded interlocking depressed parts of said roller, in combination with a concentric longitudinally-slotted reinforcing-piece which grips the sides of the walls of the neck of said groove and thereby strengthens said groove and seam, beside bracing said roller internally substantially as set forth.

5. A hollow roller provided with a longitudinal groove and

seam, which are formed by interlocking depressed folded parts of said roller, in combination with an internal device which grips the sides of the wall of said groove and thereby strengthens it and the seam substantially as set forth.

6. A hollow roller provided with a longitudinal groove, which is formed by folded interlocking parts of the said roller, in combination with a resilient, longitudinally-slotted internal reinforcing-piece which grips the sides of said groove with the edges of its slot substantially as set forth.

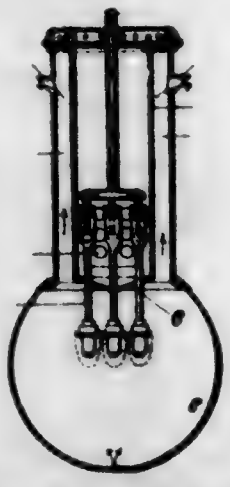
7. A hollow sheet-metal roller provided with a longitudinal open dovetailed groove and a seam, said groove being formed by the parts which make the said seam, the said parts being folded on each other and interlocked in order to dispense with soldering or other means of attachment, said groove being adapted to be used in holding the edge of a curtain substantially as set forth.

8. A hollow sheet-metal roller provided with a longitudinal open continuous dovetailed groove the bottom of which consists of four folds of material interlocked and depressed, making a secure seam substantially as set forth.

9. A hollow sheet-metal roller, having a longitudinal continuous open dovetailed groove formed by parts integral with said roller, which are folded on each other, depressed and interlocked substantially as set forth.

10. A hollow sheet-metal roller having a longitudinal seam and continuous open dovetailed groove, the bottom of which is formed by the folded, depressed and interlocking parts B, C, D, the edge of each part B or C being between two thicknesses of the said metal and the bottom of the groove constituting a double seam substantially as set forth.

806,428. **INVERTED LAMP.** CARL REISS, Berlin, Germany. Filed Feb. 3, 1900. Serial No. 2,855.



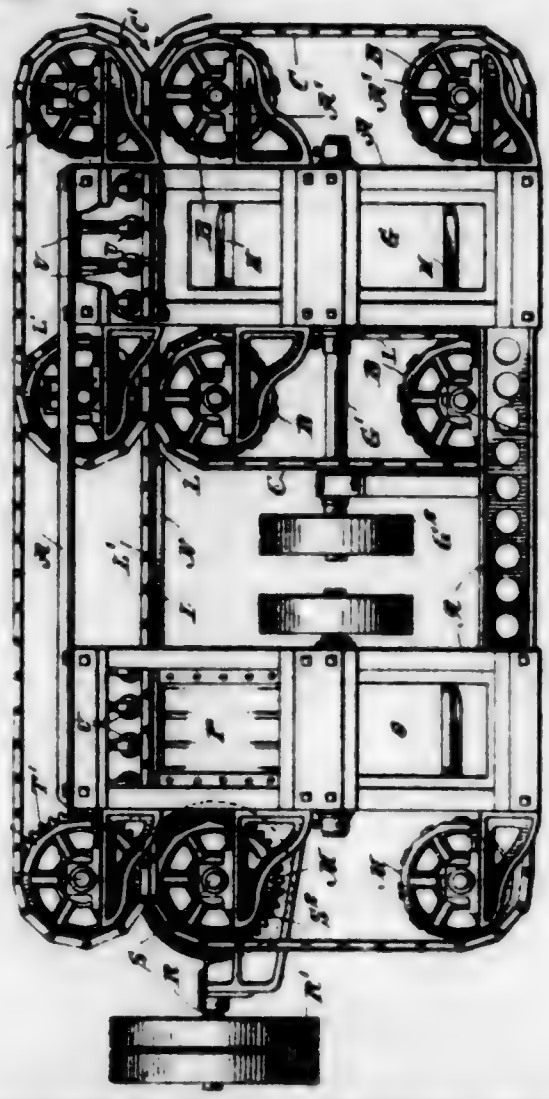
Claim.—1. In a lamp, an inverted gas-burner, a gas and air mixing device, a receptacle protecting the said mixing device against the combustion-gases having openings near its lower end and openings at its upper end serving as air inlet and outlet for producing an upward air circulation through the heating of the receptacle by hot combustion-gas, and channels adjacent to the receptacle for leading away the combustion-gas substantially as described.

2. In a lamp, an inverted gas-burner, a gas and air mixing device, a receptacle protecting the said mixing device against the combustion-gases having openings near its lower end and openings at its upper end serving as air inlet and outlet for producing an upward air circulation through the heating of the receptacle by hot combustion-gas, channels adjacent to the receptacle for leading away the combustion-gas, and air-tubes connecting the lower openings of the receptacle through the said channels outward of the extent of the hot combustion-gas with the atmosphere, substantially as described.

3. In a lamp, an inverted gas-burner, a gas and air mixing device, a receptacle protecting the said mixing device against the combustion-gases having openings near its lower end and openings at its upper end serving as air inlet and outlet for producing an upward air circulation through the heating of the receptacle by hot combustion-gas, a bottom plate at that receptacle with openings between said receptacle and the globe of the lamp for leading away the hot combustion-gas, and deflecting-cape protecting the lower opening of the receptacle against the arising combustion-gas, substantially as described.

806,429. **MACHINE FOR DECORTICATING PLANTS.** GUSTAVO G. REMMERS, Merida, Mexico. Filed Aug. 17, 1903. Serial No. 169,703.

Claim.—1. The combination with two sets of conveyers arranged to successively carry the material, of crushing-wheels arranged in operative relation to the respective sets of conveyers and projecting between the runs of one of said conveyers, the said runs being straight and arranged on opposite sides of the crushing-wheel's axis.



2. The combination of superposed intermeshing chains adapted to seize and carry the material, the links of the lower chain being provided with lateral projections, a stationary guide arranged to engage the said projections at the upper run of the lower chain, means for pressing against the lower run of the upper chain toward said stationary guide and a crushing-wheel adjacent to said chains.

3. The combination with two sets of superposed conveyers arranged to successively carry the material, of crushing-wheels arranged in operative relation to the respective sets of conveyers and each projecting between the runs of the lower conveyer of the respective set, the said runs being straight and arranged on opposite sides of the crushing-wheel's axis.

4. The combination of intermeshing chains adapted to seize and carry the material, the links of one of said chains having projections, a stationary guide adapted to engage said projections at that run of said chain which is adjacent to the other chain, and a crushing-wheel adjacent to the engaging runs of the chains.

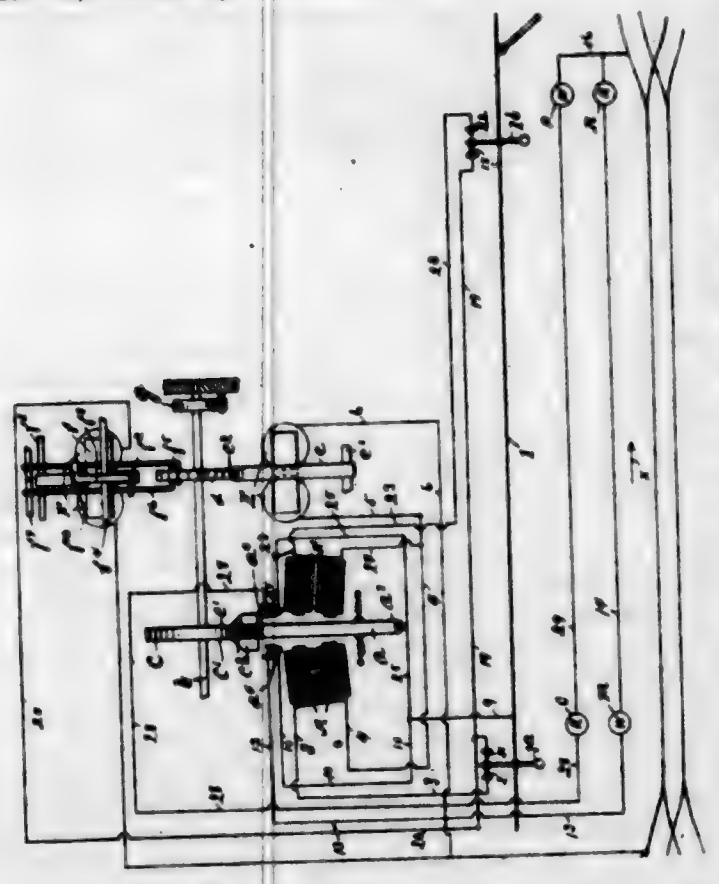
806,430. **TROLLEY-SIGNAL.** BENJAMIN H. ROBERTS, Haverhill, Mass. Filed Oct. 5, 1905. Serial No. 281,294.

Claim.—1. In a trolley-signal, a signal-setting magnet, its armature, a step-by-step locking device for said armature, an actuating-magnet and a releasing-magnet for said step-by-step device, a circuit for said signal-setting and said actuating magnet, a circuit for said releasing-magnet, and a trolley-operated switch at each end of the block and for one of said circuits, substantially as described.

2. In a trolley-signal, a pair of signal-setting magnets, an armature therefor, movable thereby to different positions to set opposite signals, a step-by-step locking device for said armature, an actuating-magnet and a releasing-magnet for said step-by-step device, a circuit for each signal-setting magnet, and a circuit for said actuating-magnet in series with each of said circuits, a circuit for said releasing-magnet, and a trolley-operated switch at each end of the block for closing one of said signal-setting-magnet circuits and said actuating-magnet circuit, and for closing said releasing-magnet circuit, substantially as described.

3. In a trolley-signal, a pair of signal-setting magnets, an armature therefor, movable thereby to different positions to set opposite signals, a step-by-step locking device for said armature, an actuat-

ing-magnet and a releasing-magnet for said step-by-step device, a circuit for each signal-setting magnet, and a circuit for said actuating-magnet in series with each of said circuits, a circuit for said releasing-magnet, a pair of contacts at each end of the block, one contact of each pair being in one of the signal-setting circuits, and the other contacts being in said releasing-magnet circuits, and a double-acting trolley-operated switch for connecting each contact with the trolley-wire to close one of said signal-setting circuits, and said actuating-magnet circuit when a car enters the block at either end and to close said releasing-magnet circuit when a car leaves the block at either end, substantially as described.



4. In a trolley-signal, a pair of oppositely-disposed signal-setting magnets, an armature therefor movable to opposite positions therebetween to set opposite signals, a step-by-step locking device movable to lock the armature in either of said positions, an actuating-magnet and a releasing-magnet for said step-by-step device, a circuit for each signal-setting magnet and a circuit for said actuating-magnet in series with each of said circuits, a circuit for said releasing-magnet, and a trolley-operated switch at each end of the block for closing one of said signal-setting-magnet circuits and said actuating-magnet circuit, and for closing said releasing-magnet circuit, substantially as described.

5. In a trolley-signal, a pair of oppositely-disposed signal-setting magnets, an armature therefor movable to opposite positions therebetween to set opposite signals, a wheel rotatably mounted in the plane of the middle position of the armature and at right angles to the path of movement thereof, said wheel having a notched periphery in which a portion of the armature is located when the latter is in its normal position, an actuating-magnet and a releasing-magnet for said wheel, circuits for all of said magnets, and trolley-operated switches at each end of the block for closing said circuits, substantially as described.

6. In a trolley-signal, a pair of oppositely-disposed signal-setting magnets, an armature therefor movable to opposite positions therebetween to set opposite signals, a wheel rotatably mounted in the plane of the middle position of the armature and at right angles to the path of movement thereof, said wheel having a notched periphery in which a portion of the armature is located when the latter is in its normal position, means for rotating said wheel step by step in opposite directions comprising an actuating-magnet and a releasing-magnet, circuits for all of said magnets and trolley-operated switches at each end of the block for closing said circuits, substantially as described.

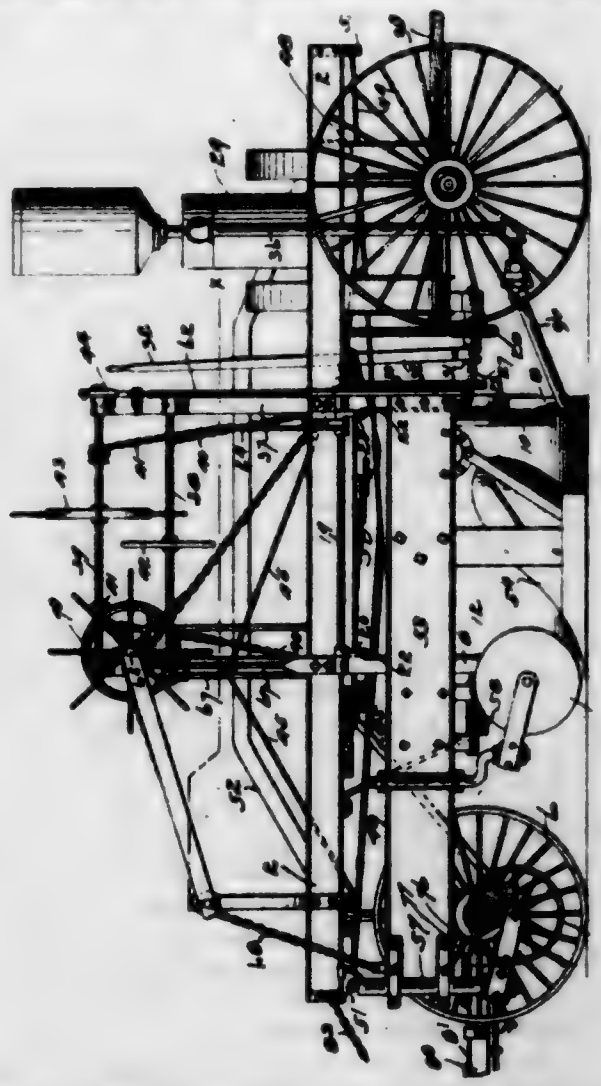
7. In a trolley-signal, a pair of signal-setting magnets, an armature therefor movable to opposite positions therebetween to set opposite signals, a locking device movable into the middle position of the armature to lock the latter in either of its extreme positions, and an actuating-magnet therefor, means for operating either one of said signal-setting magnets and said actuating-magnet simultaneously, and means whereby movement of said locking device will be delayed until the armature has been moved from its middle position, substantially as described.

8. In a trolley-signal, a pair of signal-setting magnets, an armature therefor movable to opposite positions, therebetween to set opposite signals, a locking device movable transversely of the path of movement of the armature into the middle position thereof to lock it in either of its extreme positions, an actuating-magnet for said locking device, said locking device and said armature each having oppositely-disposed, tapering projections adapted to engage on their inclined surfaces, and means for energizing either one of said signal-setting magnets and said actuating-magnets simultaneously, substantially as described.

9. In a trolley-signal, a signal-setting magnet, its armature, a step-by-step locking device for said armature, a pair of independently and electromagnetically operated actuating devices for moving said locking device in opposite directions, circuits for said magnet and said actuating devices, and a trolley-operated switch at each end of the block, one for the circuit of said signal-setting magnet and one for said actuating devices and the other for the circuit of the other actuating device, substantially as described.

10. In a trolley-signal, a signal-setting magnet, its armature, a rotatably-mounted step-by-step locking device for said armature, comprising a ratchet-wheel, an actuating-pawl, and a magnet for operating said pawl, a spring for turning said wheel in opposition to the action of said pawl, an escapement for said ratchet-wheel and a magnet for operating said escapement, a circuit for said signal-setting magnet and said pawl-actuating magnet, a circuit for said escapement-operating magnet, and a trolley-operated switch at each end of the block for one of said circuits, substantially as described.

806,431. **GRADING AND DITCHING MACHINE.** RICHARD RUSSELL, Stephen, Minn. Filed July 25, 1904. Serial No. 217,915.



Claim.—1. The combination, with a wheeled frame, of a side-delivery carrier supported beneath the same, a plow arranged near the receiving end of said carrier, a gas-engine operatively connected with said carrier, and a pipe leading from the exhaust of said engine and terminating between the upper and lower sections of said carrier near its receiving end, for the purpose specified.

2. The combination, with a wheeled frame, of a side-delivery carrier arranged beneath the same, a plow, a gas-engine supported above the rear axle, and a truss-rod extending diagonally from the forward end of said frame to the rear end of the same near said en-

gine and being arched over the middle portion of said frame, for the purpose specified.

3. The combination, with a wheeled frame, of a side-delivery carrier, a plow near the receiving side of said carrier, an arched truss-rod extending diagonally of said frame above the same, truss-rods connecting the diagonally opposite corners of said frame on the under side thereof, and a bearing interposed between said under truss-rods near their point of intersection and said frame.

4. In a machine of the class described, the combination, with a channel-bar frame having suitable axles and supporting-wheels, of truss-rods extending diagonally of said frame beneath the same, and castings engaging the flanges of said channel-bars at the corners of the frame and to which castings the ends of said truss-rods are secured, substantially as described.

5. The combination, with a frame having forward and rear axles and wheels therefor, of a side-delivery carrier operating beneath said frame, a plow, a platform resting upon the rear axle below said frame, hangers whereon said platform is suspended, and a gas-engine resting upon said platform and having operative connections with said carrier.

6. The combination, with a wheeled frame and the hangers depending therefrom, of a carrier-frame composed of two sections the outer being hinged on said hangers and the inner section having a sliding support thereon, a belt operating over said sections, a rock-shaft having arms, rods connecting said arms with said inner section, and an operating-lever for said shaft.

7. The combination, of a wheeled frame and a side-delivery carrier composed of an inner and an outer section, hangers depending from said frame, a shaft mounted in said hangers and whereon the outer carrier-section is hinged, straps secured to said inner section and having slots to receive said shaft and slide thereon, a carrier-belt operating over said sections, and mechanism for moving said inner section lengthwise to loosen or tighten the belt.

8. The combination, with a wheeled frame, of a side-delivery carrier, a hanger depending from said frame, a plow having a suitable beam, bars pivotally connecting said plow-beam and said hanger, and an operating-lever mounted on said bars and having a pivotal connection with said beam, for the purpose specified.

9. The combination, with a wheeled frame, of a side-delivery carrier, bars 58 and 59 pivotally connecting the plow-beam with said frame, a lever 62 pivoted on said bar 59, a strap 60 extending from the under side of said beam to a point above the same, and a link connecting said strap with said lever.

10. In a grading-machine, the combination, with a suitable frame, of a carrier, a gas-engine mounted on said frame, and a pipe leading from the exhaust of said engine and terminating between the upper and lower sections of said carrier, for the purpose specified.

11. The combination, with a frame, of a side-delivery carrier arranged to extend laterally beyond the frame on one side, means for weighting down one end of said frame to counterbalance the weight of the outer end of the carrier, and means for distributing throughout said frame the strain arising from the weight of the outer end of the carrier, substantially as described.

12. The combination, with a wheeled frame, of a side-delivery carrier arranged to extend laterally beyond said frame on one side, an engine supported on the rear of said frame and connected with said carrier, and a truss-rod connecting the forward corner of said frame contiguous to said carrier with the rear corner on the opposite side of the machine, substantially as described.

13. The combination, with a frame having suitable wheels, of a side-delivery carrier arranged to extend laterally beyond said frame on one side, and a truss-rod arranged to distribute over said frame the strain arising from the weight of the outer end of the carrier.

14. The combination, with a frame, of a side-delivery carrier, a truss-rod connecting the diagonally opposite corners of said frame on the upper side, and truss-rods connecting the diagonally opposite corners of said frame on the under side, substantially as described.

15. The combination, with a frame, of a side-delivery carrier, castings mounted on said frame at the corners thereof and truss-rods provided on the under side of said frame and having their ends attached to said castings and crossing one another at a point near the middle of said frame, substantially as described.

16. The combination, with a frame, of a side-delivery carrier, a plow, a platform supported above the rear axle, and a gas-engine resting upon said platform and operatively connected with said carrier, substantially as described.

17. The combination, with a frame, of a side-delivery carrier composed of two sections with a sliding connection between them, a rock-shaft mounted in said frame, means connecting said rock-shaft with said inner sliding section, an operating-lever for said shaft, and a plow arranged near the receiving side of said carrier.

18. The combination, with a wheeled frame, of a side-delivery carrier, a plow and beam at one end of said carrier, hangers depending from said frame on the opposite side thereof from said plow, bars pivotally connected at one end to said hangers and at the other end to said beam, and means for tilting said beam and plow.

19. The combination, with a wheeled frame, of a side-delivery carrier provided beneath the same, a plow near the receiving end of said carrier, bars pivotally connecting said plow with said frame, chains connected with said plow and one of said bars, and means for winding up said chains to raise or lower said bars and vary the adjustment of said plow.

20. In a grading-machine, the combination, with a frame, of a side-delivery carrier and plow, brackets 37 mounted on said frame, an arched bar 52 extending lengthwise of said frame and connecting said brackets, shafts 38 and 39 mounted in bearings on said brackets, and chains connecting said shafts and the receiving and discharge ends respectively of said carrier.

21. The combination, with a wheeled frame, of a side-delivery carrier suspended beneath the same, a plow-beam and a plow, a bar having a pivotal connection with said frame and with said beam, standards mounted on said frame, a shaft carried thereby, chains connecting said shaft with bar and with the forward end of said plow-beam, and means for winding up or unwinding said chains independently of one another.

22. The combination, with a wheeled frame, of a side-delivery carrier composed of pivotally-connected sections, triangular brackets mounted on said frame transversely thereof, a brace-bar extending lengthwise of said frame and connecting said brackets, shafts supported in bearings on said brackets one above the level of the other and extending lengthwise of said frame, and flexible connections between said shafts and the hinged sections respectively of said carrier, substantially as described.

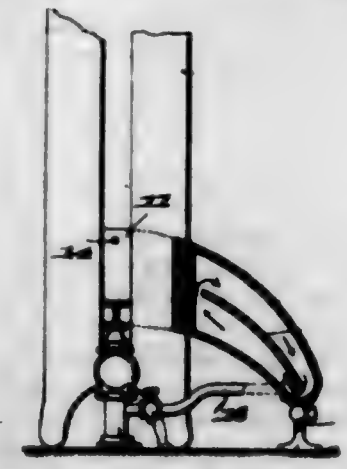
23. The combination, with an axle, of a clevis connection therewith and provided with an antifriction-wheel, a draft-pole, a sliding bar thereon having a draft connection for attachment with the rear team, a draft-rod on the opposite side of the pole from said sliding bar for attachment to the leaders, and a flexible connection passing around said wheel and attached to said bar and said rod, substantially as described.

24. The combination, with a frame, of a channel cross-bar secured thereon, a forward axle and wheels, a standard resting at its lower end upon said axle and bolted at its upper end to said frame between the flanges of said channel-bar, and brace-rods connecting the lower end of said standard with said frame, substantially as described.

25. The combination, with a wheeled frame provided with a suitable platform, of a side-delivery carrier supported beneath said platform, a plow, mechanism mounted on said platform for raising or lowering said carrier and said plow, and a motor operatively connected with said carrier and supported below the level of said platform, for the purpose specified.

26. The combination, with a frame, of a side-delivery carrier, a plow, a platform supported below the level of said frame, and a motor mounted on said platform and operatively connected with said carrier.

806,432. FOOT-WARMER FOR ATTACHMENT TO RADIATORS. WILLIAM S. SAWYER, Spotswood, N. J. Filed Feb. 24, 1905. Serial No. 247,163.



Claim.—1. A heating-drum formed with upper and lower walls inclined upwardly and diverging toward the upper end, a baffle-plate within said drum and extending from side to side thereof and spaced

from the ends of the same, and means for supplying the heating medium to said drum at the lower end.

2. A heating-drum formed with upper and lower walls inclined upwardly and diverging toward the upper end, a baffle-plate within said drum and extending from side to side thereof and spaced from the ends of the same, said drum having spaced wings at the ends for bearing upon the sides of radiator members, tie-rods connecting said rings, and means for supplying the heating medium to said drum at the lower end.

806,433. CARRIAGE-WHEEL-JOINT SUPPORT. JOHN SCARNELL, Helena, Mont. Filed May 8, 1905. Serial No. 259,402.



Claim.—1. A felly-plate for vehicle-wheels and a perforated transverse web integral therewith, said web being dovetailed at its juncture between the sides of the plate and web, substantially as and for the purpose set forth.

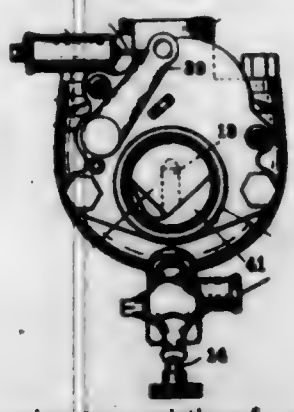
2. A felly-plate and a transverse perforated web integral therewith, a spring-plate and means for fastening the felly-plate and spring-plate to the rim of the vehicle-wheel, substantially as and for the purpose described.

3. In a vehicle-wheel, a felly-plate and transverse perforated web integral therewith, a spring-plate disposed between the rim and tire of the wheel, a bolt extending through the spring-plate and the perforation of the web, and a nut engaging the bolt to draw the felly-plate against the rim of the wheel and against the spring-plate, substantially as and for the purpose specified.

4. A felly-plate and perforated transverse web integral therewith, said web being dovetailed at its juncture between the sides of the plate and web and the sides of the plate extending on a plane above the plane of the web, substantially as and for the purpose set forth.

5. In a vehicle-wheel, a felly-plate having a transverse perforated web integral therewith and formed dovetailed at its juncture between the sides of the plate and web, the sides of the plate extending on a plane above the plane of the web, and a spring-plate interposed between the rim and tire of the wheel, and means for securing the felly-plate to said rim, substantially as and for the purpose specified.

806,484. CARBURETER FOR HYDROCARBON-MOTORS. GEORGE M. SCHEBLER, Indianapolis, Ind. Filed Oct. 30, 1903. Serial No. 179,161.



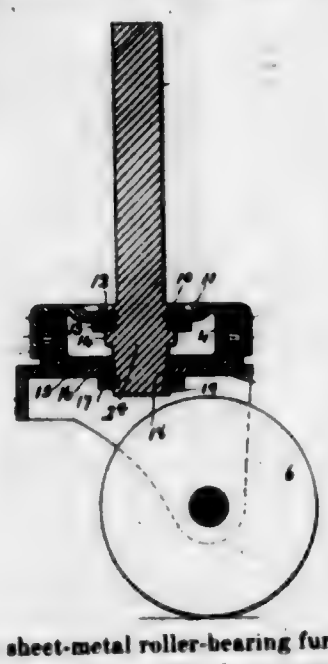
Claim.—1. A carbureter consisting of, a main casing having an air-passage therethrough with an induction-opening and an eduction-opening, an air-inlet structure, a throttle-valve structure, and means for securing either of said structures to either the induction or eduction openings.

2. A carbureter consisting of, a main casing having an air-passage therethrough with an induction-opening and an eduction-opening, and an air-inlet structure provided with a yielding check-plate normally obstructing the passage therethrough.

3. A carbureter consisting of, a main casing having an air-passage therethrough with an induction-opening and an eduction-opening, an air-inlet structure provided with a yielding check-plate normally obstructing the passage therethrough, a throttle-valve structure, and means for securing the inlet structure and the throttle-valve structure to either the induction or eduction openings.

4. The combination, with a carbureter, of a throttle-valve structure consisting of an eduction-passage having a V-shaped diaphragm therein, and a swinging valve-plate arranged adjacent said diaphragm, substantially as set forth.

806,485. SHEET-METAL ROLLER-BEARING FURNITURE-CASTER. MARTIN B. SCHENCK, Meriden, Conn. Filed Mar. 14, 1905. Serial No. 250,012.



Claim.—1. In a sheet-metal roller-bearing furniture-caster, the combination with an inverted cup, of an inner runway-piece enough smaller than the said cup to form a runway, a wheel-frame, rollers located in the said runway and bearing in the said cup and upon the said wheel-frame, and a long pintle having an annular flange for engagement with the upper face of the cup, and also formed at its lower end with a stud which latter is "backset" to form an annular flange which coacts with the other flange in binding the pintle and cup together, and the said stud being also "backset" to form a shoulder; and a retaining-washer seated against the said shoulder and engaging with the wheel-frame which it holds upon the said stud.

2. In a sheet-metal roller-bearing furniture-caster, the combination with an inverted cup, of an inner runway-piece enough smaller than the said cup to form a runway, a wheel-frame, rollers located in the said runway and bearing in the said cup and upon the said wheel-frame, a reinforcing-washer placed upon the bottom of the cup, and a pintle having an annular flange for engagement with the upper face of the cup and also having at its lower end a stud which latter is "backset" against the said washer to form an annular flange whereby the cup is rigidly secured to the pintle, and the said stud being also passed through the said wheel-frame which is swiveled upon it.

3. In a sheet-metal roller-bearing furniture-caster, the combination with an inverted outer cup, of an inner cup enough smaller than the same to form a runway, a wheel-frame, rollers located in the said runway and bearing in the said outer cup and upon the said wheel-frame, and a long pintle having an annular flange for engagement with the upper face of the outer cup and also formed at its lower end with a stud which latter is "backset" to form an annular flange which coacts with the other flange in binding the pintle and outer cup together, and the said stud being also "backset" to form a shoulder; and a retaining-washer seated against the said shoulder and engaging with the wheel-frame which it holds upon the said stud.

806,436. TENDER FOR LOCOMOTIVES. WILLIAM P. SCHERER, Buffalo, N. Y., assignor of one-fourth to Edward John Kelley and one-fourth to James Bernard Kelley, Buffalo, N. Y. Filed June 8, 1905. Serial No. 264,353.

Claim.—1. A tender having means which is slidable throughout for shifting the coal forward as it is used.

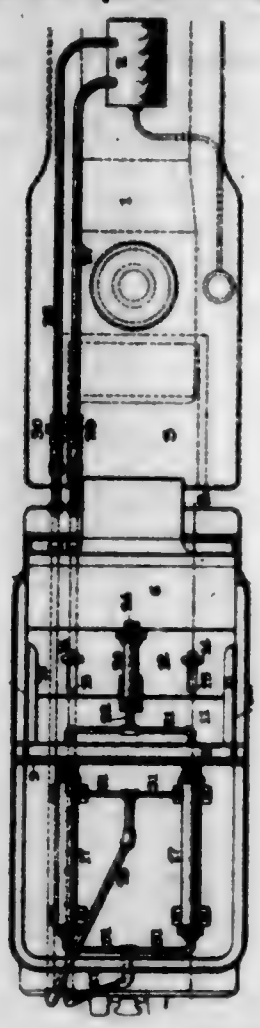
2. A tender having a coal-space and means slidable bodily throughout in a horizontal direction for shifting the coal forward in said space.

3. A tender having a coal-space and power means for shifting the coal forward in said space including a wall which is slidable throughout in a horizontal direction.

4. A tender having a coal-space and fluid-pressure power means for shifting the coal forward in said space including a wall which is slidable throughout in a horizontal direction and fluid-pressure mechanism operatively connected to said wall.

5. A tender having a coal-space and means for shifting the coal

forward in said space including a wall which is slidable throughout in a horizontal direction and adjustable in length.



6. A tender having a coal-space and means for shifting the coal forward in said space including a horizontally-slidable rear wall.

7. A tender having a coal-space and a horizontally-slidable coal-shifting wall in said space.

8. A tender having a coal-space and a multipart horizontally-slidable coal-shifting wall in said space.

9. A tender having a coal-space and a horizontally-slidable and longitudinally-adjustable coal-shifting rear wall in said space.

10. A tender having a coal-space and a horizontally-slidable coal-shifting wall composed of a plurality of members.

11. A tender having a coal-space and a slidable coal-shifting wall composed of a plurality of members some of which lap upon and are in approximate longitudinal alinement with each other.

12. A tender having a coal-space and a movable coal-shifting wall composed of a plurality of members some of which extend approximately longitudinally which lap upon and are adjustably connected to each other.

13. A tender having a coal-space and manually-controlled power means for shifting coal forward in said space as it is used including a wall which is bodily slidable in a horizontal direction.

14. A tender having a coal-space and manually-controlled power means for shifting coal forward in said space as it is used, including a bodily-slidable wall in the coal-space and fluid-pressure mechanism for sliding said wall horizontally.

15. A tender having a coal-space and manually-controlled power means for shifting coal forward in said space as it is used, including a slidable wall in the coal-space fluid-pressure mechanism for bodily sliding said wall horizontally and valves controlling said fluid-pressure mechanism.

16. A tender having a coal-space and manually-controlled power means for shifting coal forward in said space as it is used, including a slidable wall in the coal-space, fluid-pressure mechanism for sliding said wall bodily in a horizontal direction and valves controlling said fluid-pressure mechanism located within convenient proximity of the occupants of the locomotive-cab.

17. A tender having a coal-space, a coal-shifting wall slidably supported in said coal-space and composed of a plurality of plates some of which are hinged together, and means for bodily sliding said wall in a horizontal direction.

18. A tender having a coal-space, a coal-shifting wall slidably supported in said coal-space and composed of a plurality of plates some of which are hinged together and others of which lap upon each other, and means for bodily sliding said wall in a horizontal direction.

19. In combination, a locomotive, a main air-reservoir on said locomotive, a tender having a coal-space, a movable wall in said coal-space, at least one air-cylinder on the tender having a piston connected to the movable wall and pipes connecting the air-cylinder to the movable wall.

20. A tender having a coal-space and a slidable coal-shifting wall in said space composed of a plurality of adjustable parts.

21. A tender having a coal-space and a coal-shifting wall in said space composed of a plurality of adjustable parts whereby the wall may be widened or narrowed and means for moving at least one of said parts.

22. A tender having a coal-space and a coal-shifting wall in said space composed of a plurality of adjustable parts whereby the wall may be widened or narrowed and power means for moving at least one of said parts.

23. A tender having a coal-space and a coal-shifting wall in said space composed of a plurality of adjustable parts whereby the wall may be widened or narrowed and fluid-pressure means for moving one of said parts.

24. A tender having a coal-space and a coal-shifting wall in said space composed of a plurality of adjustable parts whereby the wall may be widened or narrowed and fluid-pressure means for shifting the wall and also moving at least one of the wall parts to widen the wall.

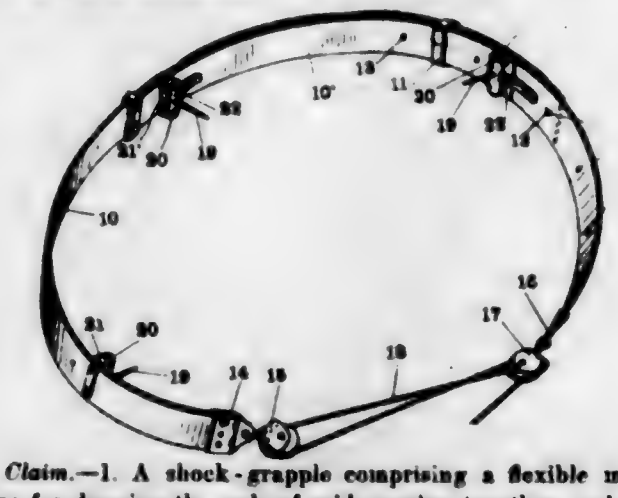
25. A tender having a coal-space and a coal-shifting wall in said space composed of a plurality of adjustable parts whereby the wall may be widened or narrowed, an air-cylinder attached to one of said parts and fluid-pressure mechanism adapted to move another of said parts.

26. A tender having a coal-space provided with side walls and a rear wall and ledges on the inner surface of the side walls and a movable coal-shifting wall slidably supported from the ledges.

27. A tender having a coal-space, a movable coal-shifting wall slidably supported in the coal-space and double-acting fluid-pressure mechanism for moving said wall either forward or back.

28. A tender having a coal-space, a movable coal-shifting wall slidably supported in the coal-space, and an air-cylinder mounted horizontally on the tender in the rear of the coal-space and having its piston operatively connected to the said wall.

806,437. SHOCK-GRAPPLE. James B. Schuman, Indianapolis, Ind., assignor to himself and Joseph K. Sharpe, Jr., Indianapolis, Ind., and Theophilus King, Quincy, Mass., a Copartnership. Filed Apr. 20, 1905. Serial No. 256,643.



Claim.—1. A shock-grapple comprising a flexible member, means for drawing the ends of said member together, and prongs mounted upon said member to project from one face thereof.

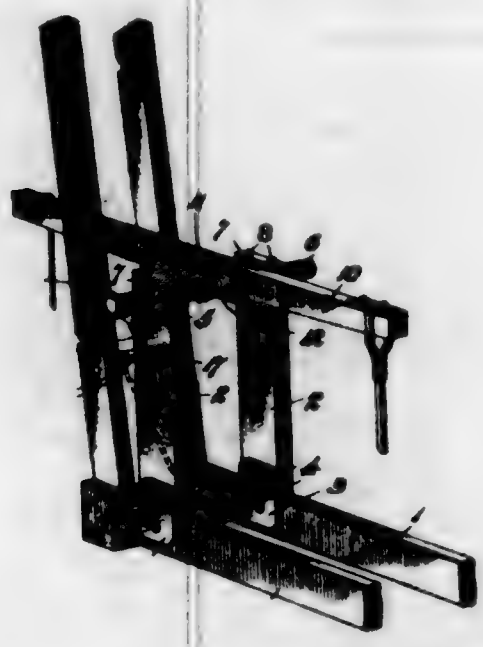
2. A shock-grapple comprising a flexible member, means for drawing the ends of said member together, and prongs yieldably mounted upon said member to normally project from one face thereof.

3. A shock-grapple consisting of a flexible member, and prongs mounted upon the inner face thereof, each of said prongs being pivotally supported upon an axis substantially parallel with the face of the flexible member.

4. A shock-grapple consisting of a flexible member, and prongs mounted upon the inner face thereof, each of said prongs being pivotally supported upon an axis substantially parallel with the face of the flexible member, and a spring for normally holding said prongs in a projected position.

806,438. WALKING-BEAM. James R. Semple, Sugarcreek, Pa., assignor of one-half to Linden W. Wolfe, Oil City, Pa. Filed Nov. 4, 1904. Serial No. 231,372.

Claim.—1. The combination with a walking-beam and a support upon which the walking-beam is adjustable or shiftable laterally, of a shifting-lever connected with the beam for shifting the same.



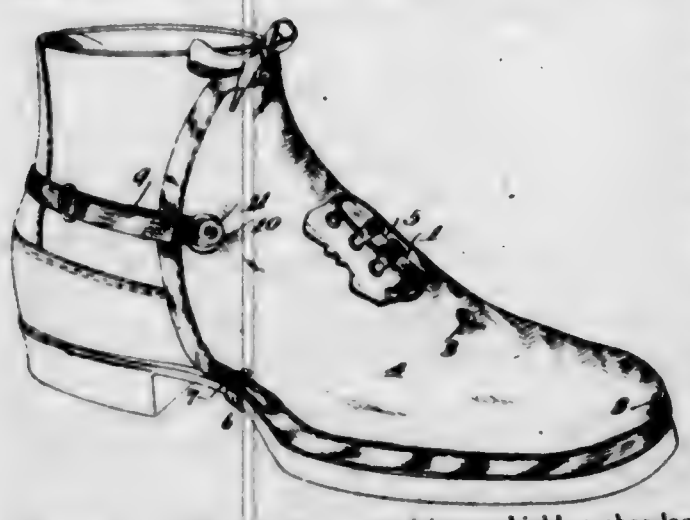
2. In an oil-well-drilling machine, the combination with the frame thereof, and posts secured thereto, of a walking-beam adjustably mounted on said posts and a shifting-lever connected with said beam.

3. In an oil-well-drilling machine, the combination with the frame thereof, and samson-posts mounted thereon, of a walking-beam adjustably mounted on said posts, a shifting-lever connected with said beam, and an arm provided with studs acting as a fulcrum for the lever.

4. The combination with a support, of a rod shiftable on the support, a walking-beam secured to the rod and moving therewith, and a shifting-lever connected with the rod.

5. In an oil-well-drilling machine, the combination with the sills thereon and samson-posts detachably secured thereto, of a rod adjustably mounted on said posts and provided with a bearing, a shifting-lever secured to one end of said rod, a bracket carrying studs acting as a fulcrum for the lever and a walking-beam secured to said rod in its bearing.

806,439. SHOE-PROTECTOR. GEORGE H. SMYTH, Colorado Springs, Colo. Filed May 31, 1904. Serial No. 210,569.

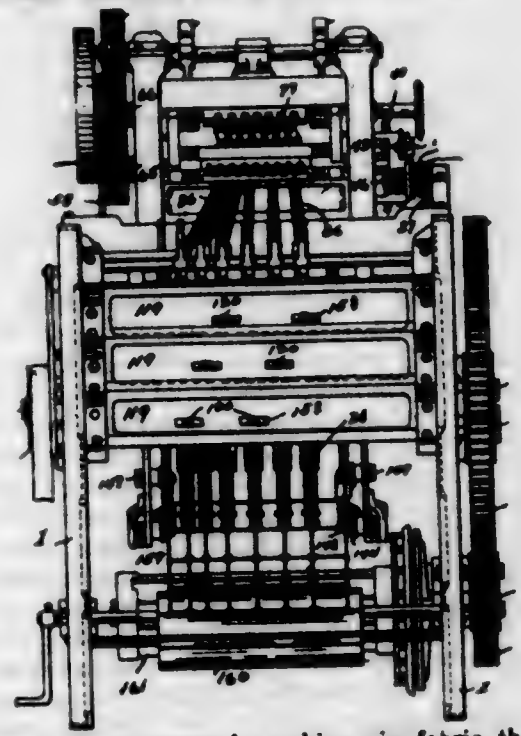


Claim.—1. A shoe-protector comprising a shield, a shoe-lace-engaging tongue arranged longitudinally thereof and secured thereto at one terminal and intermediate of its ends, a toe-clip secured at its terminals to the shield, and means for securing the protector upon a shoe.

2. A shoe-protector comprising a shield provided on each side with a ring and on one side with a button, a shoe-lace-engaging tongue arranged longitudinally of the shield and secured thereto at one terminal and intermediate of its ends, a toe-clip secured at its terminals to the shield, and an attaching-strap having one end secured to the shield and its other end provided with an eye to engage the button, the intermediate portion of the strap being passed through the rings.

3. A shoe-protector comprising a resilient frame having a tongue on its upper end to engage a shoe-lace, a cover riveted to the frame below the tongue, a ring on each side of the cover, a button on one side thereof, a tape attached to the cover and passing through both rings, and a ring on the tape adapted to engage the button.

808,440. STAPLE-FENCE MACHINE. JAMES W. SHERMAN, Adrian, Mich. Filed May 9, 1904. Serial No. 207,950.



Claim.—1. In a machine for making wire fabric, the combination with the means for feeding the longitudinal wires into the machine, of the rotary members over which said wires pass, means for introducing the transverse wires across said rotary members below the longitudinal wires, means for introducing tying-staples astride of the longitudinal wires and adjacent the cross-wires, means carried by said rotary members for engaging the legs of said staples and forming them around the transverse wires to unite said wires at their points of crossing, and the anvils against which the loops of the staples are held while their legs are being formed around the stay-wires.

2. In a machine for making wire fabric, the combination with the means for carrying the longitudinal wires through the machine, of the grooved disks over which said wires pass, means for introducing the transverse wires to said disks during their rotary movement, means for presenting the staples astride of the longitudinal wires on said disks and adjacent the cross-wires while said disks are turning, and means for forming the legs of the staples around said transverse wires during the rotation of said disks.

3. In a machine for making wire fabric, the combination with the means for carrying the longitudinal wires through the machine, of the means for introducing the transverse wires across said longitudinal wires, means for applying staples to the longitudinal wires adjacent the transverse wires, means for forming the legs of the staples around the transverse wires, and the movable anvils adapted to engage the loop of the staples and move with the fabric during the operation of attaching the legs of the staples to the transverse wires.

4. In a machine for making wire fabric, the combination with the means for carrying the longitudinal wires into the machine, of the means for introducing the transverse wires across said longitudinal wires, means for presenting staples to the longitudinal wires adjacent the transverse wires, movable jaw members adapted to engage the legs of the staples and form them upon the transverse wires, means for actuating said jaw members, and the movable anvils adapted to engage the loop of the staples and travel with the fabric as the staples are being tied.

5. In a machine for making wire fabric, the combination with the means for moving the longitudinal wires through the machine, of the disks over which said wires pass, means for introducing the transverse wires to said disks across said transverse wires, movable jaw members mounted in said disks for engaging the legs of the staples and forming them around the transverse wires, means for actuating said jaw members, movable anvils adapted to engage the staples and move with the fabric while the legs of the staples are being tied, and means carried by the disks for engagement with said anvils to render their movement concurrent therewith.

6. In a machine for making wire fabric, the combination with the means for carrying the longitudinal and transverse wires through the machine, means for introducing staples to the fabric at the junction of said wires, and means for forming said staples around said

wires to unite them, of the anvils adapted to engage and hold said staples while being tied, and to move with the fabric during the tying operation, said anvils being positioned to correspond with the position of the tying mechanism of the respective longitudinal wires.

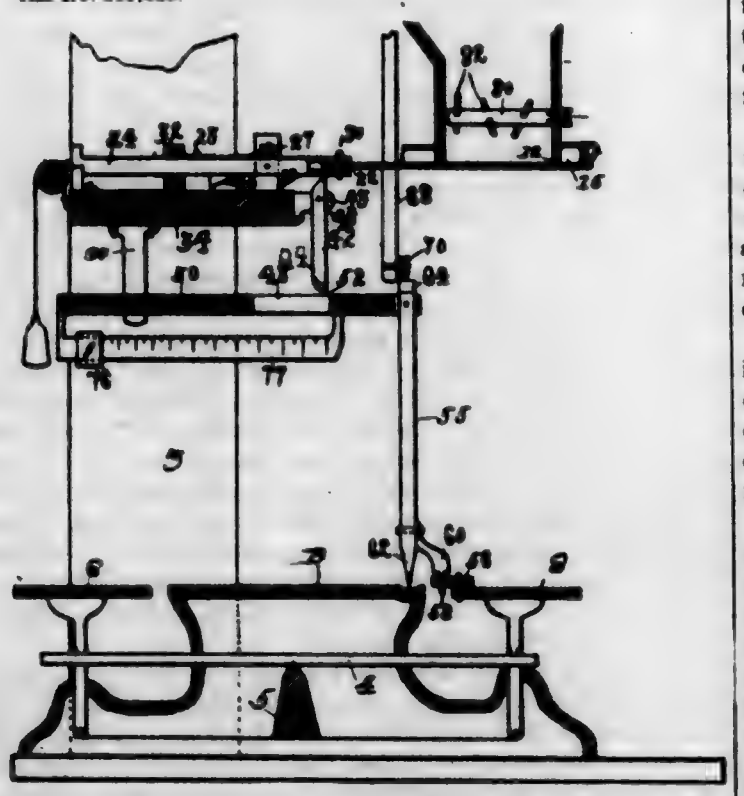
7. In a machine for making wire fabric, the combination with the means for carrying the longitudinal wires through the machine, of the means for introducing the transverse wires, the rotary disks over which the longitudinal wires pass, and in the peripheries of which the transverse wires lie, means for introducing staples to said wires at their points of crossing, tying means carried by said disks variously disposed thereon for tying the legs of the staples, movable anvils adjacent the peripheries of said disks, means carried by said disks for engaging said anvils to cause them to travel therewith, said anvils being positioned to correspond with the tying mechanism of said disks, whereby all of the staples upon a single transverse wire are not tied during the same period of the machine's operation.

8. In a machine for making wire fabric, the combination with the means for carrying the warp-wires continuously into the machine, of means for introducing the woof-wires successively and severing said woof-wires from the continuous strand, means for directing the several woof-wires into the machine below the warp-wires so as to cause the warp-wires to lie thereon as they pass into the machine, and means for tying said wires together at their points of crossing.

9. In a machine for making wire fabric, the combination with the means for carrying the warp-wires into the machine, of a rotary barrel having longitudinal channels therein, means for feeding the woof-wires into the channels of said barrel successively and severing said woof-wires from the continuous strand, and means for rotating said barrel intermittently to discharge the woof-wires from the channels thereof below the warp-wires in position to cause the warp-wires to cross the woof-wires as they pass into the machine.

10. In a machine for making wire fabric, the combination of the rotary disks having channels in their peripheries adapted to receive the warp-wires and having transverse notches crossing said peripheries, means for introducing the woof-wires and severing them from the continuous strand, and means for depositing said woof-wires in the transverse notches of said disks during their rotary movement so as to cause the warp-wires to lie across the woof-wires as they wind onto said disks, and means for joining said wires at their points of crossing.

806,441. WEIGHING-MACHINE. EMIL STARELI, Dubuque, Iowa, assignor to Isaac J. Cushing, Dubuque, Iowa. Filed Aug. 8, 1904. Serial No. 219,335.



Claim.—1. In a device of the character described, a weighing mechanism, a reservoir, a single cut-off, a stop for holding the cut-off open, and a compensating weight adapted to coact with the partially-filled package to disengage the stop and permit the closing of the cut-off and compensate for the drip after the cut-off is entirely closed.

2. In a device of the character described, in combination with a weighing mechanism, a reservoir, a single cut-off, means for holding the cut-off both in its open and partially-closed positions, and two weights coacting with the partly-filled package for releasing the cut-off to decrease the flow of material when the package is partly filled and one of the weights to operate the mechanism to entirely cut off the flow when the package is completely filled and compensate for the drip after the final cut-off has been made.

3. In a device of the character described, in combination with a weighing mechanism, a reservoir, a cut-off beneath the reservoir, means for controlling the movement of the cut-off to decrease the flow of material into the package on the scale-pan, means for partially lowering the scale-pan before the package is filled and preventing the said pan with package thereon from rising thereafter consisting of an adjustable weight set to coact with the partially-filled package to exert a downward pressure upon the scale-pan, and a second weight to compensate for the drip after the cut-off has been finally closed.

4. In a device of the character described, a weighing mechanism, a cut-off, a single bar attached to the cut-off, means for operating the bar to first decrease the flow of material from the reservoir and then to complete the cut-off, stops on the bar for controlling the movements of the bar, and weights for releasing the bar from its engagement with the stops to operate the cut-off.

5. In a device of the character described, a weighing mechanism, a reservoir, a cut-off, a single bar attached to the cut-off, means for actuating the bar, two stops on the bar to limit its movements, a compensating weight adapted to coact with the partially-filled package to release the bar from one of the stops and operate the cut-off to decrease the flow of material into the package, and means for releasing the bar from the other stop to entirely close the cut-off.

6. In a device of the character described, a weighing mechanism, a filling mechanism consisting of a single slide cut-off, and two weights adapted by their connection with the filling mechanism to control the filling mechanism and decrease the flow of material into the partially-filled package and one of the weights to compensate for the drip after the entire closing of the cut-off.

7. In a device of the character described, a weighing mechanism, a filling mechanism, and two weights for controlling the filling mechanism and adapted to both exert a pressure upon the scale-pan while the package is being partly filled then releasing the pressure of one of the weights, continuing the pressure of the other weight upon the scale-pan until the required amount has been filled into the package and then releasing the pressure of the second weight upon the scale-pan.

8. In a device of the character described, a weighing mechanism, a filling mechanism, and two weights adapted to coact with the filling package for controlling the filling mechanism, to first partly fill the package by a large flow of material from the reservoir into the package and then complete the filling with a less flow and one of the weights to compensate for the drip after the cut-off has been finally closed.

9. In a device of the character described, a weighing mechanism, a filling mechanism, and two compensating weights having connections with the filling and weighing mechanism and adapted to compensate for all of the flow and drip of material into the package after the first cut-off has been made to reduce the flow of material into the package and the second weight to compensate for the drip after the final cut-off.

10. In a device of the character described, a weighing mechanism, a filling mechanism consisting of a reservoir and a single slide cut-off, two weights adapted to control the filling mechanism, and connection between the weights and the weighing mechanism adapted to coact with the partially-filled package to operate the filling mechanism.

11. In a device of the character described, a weighing mechanism, a reservoir, a cut-off, a single slide-bar attached to the cut-off, means for operating said bar to first partially reduce the flow of material from the reservoir into the package and then to wholly cut off the flow, and two compensating weights adapted to control the movements of said slide-bar and to compensate for all the flow and drip of material into the package after the partial cut-off has been made.

12. In a device of the character described, a weighing mechanism, a filling mechanism adapted to partly fill the packages placed on the weighing mechanism rapidly then to decrease the flow of the material into the package upon the weighing mechanism then to wholly cut it off, and two weights connected with the filling and weighing mechanism for controlling the filling mechanism to decrease the flow of material and one of said weights for controlling the filling mechanism to wholly cut off the flow of material.

13. In a device of the character described, a weighing mechanism, a filling mechanism, consisting of a single slide cut-off, provided with means for holding the cut-off to partly fill the package rapidly

then to decrease the flow of material into the package and then to wholly cut off the flow, and two weights connected with the filling and weighing mechanism for controlling the filling mechanism to decrease the flow of material from the reservoir and one of said weights for controlling the filling mechanism to wholly cut off the flow of material and compensate for the drip of the reservoir after the final cut-off.

14. In a device of the character described, a weighing mechanism, a reservoir, a cut-off, a bar attached to the cut-off, means for actuating the bar to operate the cut-off, two weights adapted to exert a pressure on the weighing mechanism, and connections between the weights and bar for controlling the cut-off.

15. In a device of the character described, a weighing mechanism, a single slide cut-off provided with stops thereon, catches adapted to engage the stops on the cut-off, and two weights adapted to exert a pressure on the scale-pan with the partly-filled package to disengage the catches from the stops on the cut-off and compensate for the drip after the cut-off is complete.

16. In a device of the character described, in combination with a weighing mechanism, a reservoir, a cut-off beneath the reservoir, means attached to the cut-off for first decreasing the flow of material from the reservoir into the package and then to entirely cut off the flow, and two compensating weights for partially lowering the package when it is partly filled and holding the package in its lowered condition till the filling is complete and one of the weights to compensate for the drip of the material into the package after the final cut-off.

17. In a device of the character described, a weighing mechanism, a reservoir, a cut-off, a single slide-bar attached to the cut-off, means connected with the slide-bar for operating the cut-off to first diminish the flow of material from the hopper into the package and then to wholly cut off the flow, and two weights for partly lowering the filling-package and holding it in its partially-lowered position until the final cut-off has been made when the action of one of the weights ceases and the other weight compensates for the drip after the final cut-off.

18. In a device of the character described, a weighing mechanism, a reservoir, a cut-off, a single bar attached to the cut-off, means connected with said bar for operating the cut-off to first decrease the flow of material from the reservoir and then cut it off altogether, means for controlling the movements of said cut-off, and two weights both adapted to coact with the partly-filled package to lower the package on the scale-pan and then the action of one of the weights to be withdrawn and the other weight continues its action to compensate for the drip of the cut-off into the package after the final cut-off has been made.

19. In a device of the character described, a weighing mechanism, a reservoir, a single cut-off, a slide-bar attached to the cut-off, means for actuating the cut-off to first decrease the flow of material from the reservoir and then to cut it off wholly, means for controlling the movement of the cut-off consisting of stops on the cut-off two catches of unequal lengths adapted to engage the stops on the cut-off and two weights adapted to exert a pressure on the scale-pan on which the package rests and disengage the catches from the stops on the cut-off to control the movements of the cut-off.

20. In a device of the character described, a weighing mechanism, a reservoir, a cut-off, a single bar attached to the cut-off, stops on said bar for holding the cut-off open and partly closed, two compensating weights adapted to coact with the weight of the partially-filled package to release the bar, and means connected with the bar to first decrease the flow of the material from the reservoir and then to wholly cut off the same and compensate for the drip from the cut-off after the cut-off is entirely closed.

21. In a device of the character described, a weighing mechanism, a reservoir, a cut-off, a slide-bar attached to the cut-off, a weight for actuating the cut-off, and means for controlling the movements of the cut-off consisting of stops on the slide-bar, catches engaging the stops and two weights adapted to release the catches from the stops sequentially.

22. In a device of the character described, a weighing mechanism, a cut-off, a slide-bar attached to the cut-off, a weight attached to the slide-bar for actuating the cut-off, two weights adapted to exert a pressure upon the scale-pan on which the package to be filled rests, and connections between said weights and the slide-bar for controlling the movements of the cut-off.

23. In a device of the character described, a weighing mechanism, a filling mechanism, the cut-off means for actuating the cut-off, a beam 50, connections between the beam and the scale-pan, connections between the beam and the means for actuating the cut-off, and a weight attached to said beam to compensate for the drip of the filling device after the cut-off has been entirely closed.

24. In a device of the character described, a weighing mechanism, a reservoir, provided with ledges thereon, a cut-off consisting of a slide-box adapted to engage the ledges on the reservoir and slide thereon, a bar attached to the slide-box, a weight attached to the bar for actuating the bar, and means connected with said bar for controlling the movements of the bar to operate the cut-off.

25. In a device of the character described, a weighing mechanism, a reservoir, a cut-off consisting of a slide-box provided with an opening in the base of the box and adapted to slide beneath the base of the reservoir and in contact therewith, a single slide-bar attached to the cut-off, a weight attached to said bar for actuating the cut-off, stops on said bar for controlling the movements of the slide-bar, catches adapted to engage said stops, and two weights coacting with the partly-filled package to disengage the catches from the stops on the slide-bar and permit the weight attached to the slide-bar to cut off the flow of material from the reservoir.

26. In a device of the character described, a weighing mechanism, a filling mechanism consisting of a single slide-box, a bar adjustably attached to the slide-box, means for actuating the bar, stops on said bar, catches set to engage said stops sequentially, and two weights coacting with the partly-filled package for releasing the catches from engagement with the stops, and permitting said bar to impart to the cut-off an intermittent movement.

27. In a device of the character described, a weighing mechanism, a cut-off, a slide-bar attached to the cut-off, means for actuating the slide-bar, and two adjustable weights adapted to both exert a pressure on the weighing mechanism till the package is partly filled and then one of the weights to continue the pressure on the weighing mechanism until the package is filled.

28. In a device of the character described, a weighing mechanism, a cut-off, a slide-bar attached to the cut-off, stops on the slide-bar, catches set to engage the stops of the slide-bar and limit its movements, two weights both adapted to coact with the partly-filled package to release one of the catches from one of the stops when one of the weights is withdrawn and the other weight continues to coact with the partly-filled package to subsequently release the other catch from the other stop, and to adapt the filling mechanism to fill packages of different heights and capacities.

29. In a device of the character described, a weighing mechanism, a cut-off, a bar attached to the cut-off, means attached to the bar for actuating the cut-off, two weights adapted to exert a pressure on the weighing mechanism, connections between the weights and the bar for controlling the movements of the cut-off, and a supplemental platform placed upon one of the platforms of the weighing mechanism to raise the package to be filled nearer to the filling mechanism.

30. In a device of the character described, a weighing mechanism, a filling mechanism, a pivoted bar 70 provided with a weight adjustably attached thereto, means for limiting the movement of said bar, a beam 50 having an adjustable weight connected therewith, connections between said beam and the filling mechanism, and connections between the bar 70, the beam 50, and the weighing mechanism.

31. In a device of the character described, a weighing mechanism, a filling mechanism consisting of a reservoir, a single slide cut-off attached to a single slide-bar, stops on the bar, catches engaging the stops, means for releasing the slide-bar to operate the cut-off, two compensating weights having connections with the weighing mechanism and the cut-off for compensating for the drip after the cut-off has been closed and a supplemental platform connected with the weighing mechanism for varying the relations of the package to the filling mechanism.

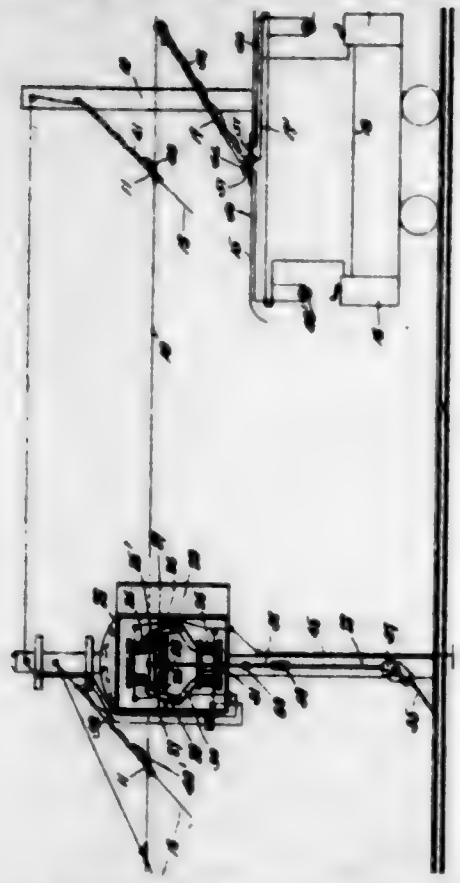
32. In a device of the character described, a weighing mechanism, a cut-off a slide-bar attached to the cut-off, means for actuating said cut-off, and means attached to said slide-bar for controlling its speed.

33. In a device of the character described, a weighing mechanism, a reservoir, a cut-off, a single slide-bar attached to the cut-off, a gear upon the slide-bar, a fan adapted to be operated by said gear and control the speed of the slide-bar, and means for actuating the slide-bar to operate the cut-off.

34. In a device of the character described, a weighing mechanism, a reservoir, a cut-off, a single slide-bar attached to the cut-off, a gear upon the slide-bar, a fan adapted to be operated by said gear and control the speed of the slide-bar, and means for actuating the slide-bar to operate the cut-off.

35. In a device of the character described, a weighing mechanism, a cut-off, a single slide-bar attached to the cut-off, means engaging the slide-bar to control its speed, means for actuating the slide-bar, and two weights connected with the slide-bar and weighing mechanism to operate the cut-off intermittently.

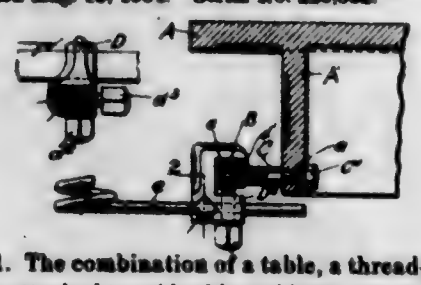
808,442. ELECTRIC SWITCH-OPERATING DEVICE. IRA J. STOUFFER, Altoona, Pa. Filed July 10, 1905. Serial No. 269,024.



Claim.—1. In apparatus of the class described, the combination with an electromagnet having an armature, the opposite ends of which are recessed, means for connecting said armature to the switch-point, a pair of pivotally-mounted locking-arms arranged to enter said recesses after the armature has been moved, and thus lock the switch-tongue in position, a second electromagnet, an armature therefor, and links connecting said armature to the pivoted locking-arms.

2. In apparatus of the class described, the combination with a switch-operating electromagnet, of a trolley-wire, a contact arranged adjacent to the trolley-wire, an electrically-propelled car, a trolley-arm carried thereby, a bracket member extending forward of the trolley-wheel, a pair of contact-arms pivoted to the bracket and projecting beyond the sides of the trolley-wheel, a guide bolt or bar extending through the contacts, and a spring encircling said bar and tending to separate said contacts.

808,443. THREAD-GUIDE HOLDER. ERNEST TOMPKINS, Troy, N. Y. Filed Aug. 15, 1904. Serial No. 220,632.

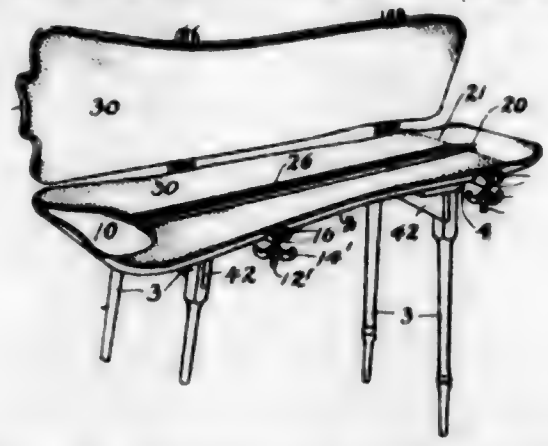


Claim.—1. The combination of a table, a thread-guide-supporting bar fixedly attached to said table and having its ends bent around the ends thereof, a series of independently-adjustable brackets attached to said bar, and thread-guides having stems passed through apertures or openings in the brackets below the plane of the supporting-bar, whereby the guide-eyes are adjustable toward or from the bar, and means for locking said guides when adjusted.

2. The combination with a knitting-machine table, of thread-guide-supporting bars fixedly attached to the sides of said table and having their ends bent around its ends, a series of independently-adjustable brackets, each independently attachable to and detachable from said bars, bolts for locking said brackets when adjusted, adjustable thread-guides having stems passed through openings in the brackets at right angles to the bars, and means for locking said guides when adjusted.

3. The combination with a knitting-machine table, of a thread-guide-supporting bar attached to the side thereof and having its ends bent around the ends of the table, the adjustable brackets detachably attached to said support and thread-guides adjustably attached to said brackets in a plane below the supporting-bar.

808,444. TROUSERS PRESS AND STRETCHER. HENRY H. WELCH, Los Angeles, Cal. Filed May 31, 1904. Serial No. 210,568.



Claim.—1. A stretcher and press for trousers comprising a lower section and an upper section, the said lower section having recesses upon the inner side thereof near the ends thereof, a longitudinal recess extending between the said two end recesses and means for clamping the two sections together.

2. A stretcher and press for trousers comprising a lower and an upper section hinged together, the said lower section having end recesses upon the inner side thereof, a central longitudinal recess extending between and communicating with the said two end recesses and means for clamping the two sections together.

3. A stretcher and press for trousers comprising a lower section having a transverse recess in one end and a curved recess in the opposite end upon the inner side thereof, a central longitudinal recess extending between and connecting said transverse and curved recesses, the said sections hinged together by means of adjustable hinges.

4. A stretcher and press for trousers comprising an upper and a lower section adjustably hinged together upon the longitudinal lateral edges thereof, said lower section provided with a transverse recess upon the inner side thereof near the narrower end, a curved recess in the opposite end of said lower section, a longitudinal recess connecting the said two end recesses and means for clamping the said two sections together in substantially parallel planes.

5. A stretcher and press for trousers comprising upper and lower sections, said sections adjustably hinged together upon the longitudinal lateral edges thereof, the lower section having end recesses upon the inner side thereof, a central recess connecting the said two end recesses, adjustable clamping devices adapted to clamp a garment between said two sections.

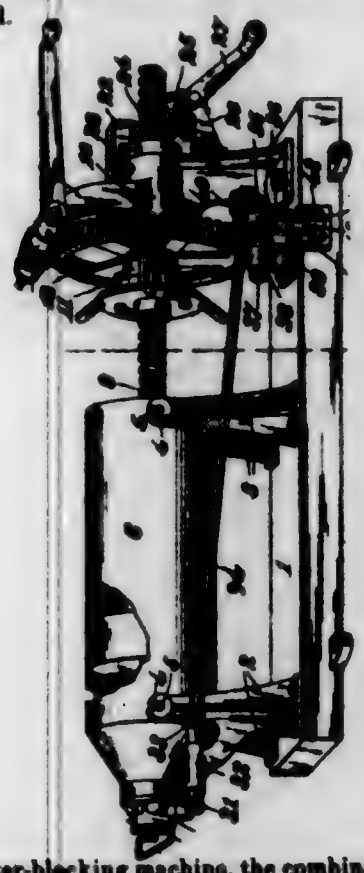
6. A stretcher and press for trousers comprising an upper and lower section adjustably hinged together upon the edges thereof, said lower section provided with end recesses, a central longitudinal recess communicating with said end recesses, the said upper section having in one end thereof a centrally-curved knee-seat and means for clamping the said two sections in parallel planes.

808,445. BUTTER-BLOCKING MACHINE. CARLOS G. WILSON, Atlanta, Ga. Filed Apr. 20, 1905. Serial No. 256,547.

Claim.—1. In combination with a butter-blocking machine in which the butter is expressed from the barrel, a cutter having a cutting stroke past the discharge end of the barrel, a cutter-shaft mounted substantially parallel to the axis of the barrel, a transmitting-shaft connected to the cutter-shaft by a flexible joint and a reduction-gear connected with the rear end of the transmitting-shaft; said rear end of the transmitting-shaft having a vertically-adjustable support whereby the shaft may swing on its flexibly-jointed end, transversely to its axis, and one of the elements of the reduction-gear being interchangeable to determine the speed of rotation transmitted through said shaft.

2. In combination with a butter-blocking machine having a plunger for expressing butter therefrom, a cutter having a cutting stroke past the end of the discharge end of the machine, a driving mechanism for the plunger, means for operating the cutter from said driving mechanism, consisting of the reduction-gear receiving motion from said driving mechanism, a transmitting-shaft carrying one element of said reduction-gear and having a flexible connection with the cutter whereby it may swing laterally to permit the use of different-sized gears in the reduction-gear, and a support for said transmitting-shaft comprising a sleeve in which the shaft rotates, a bifurcated post in which said sleeve is trunnioned and a socket in which said post is fitted and in which it is adjustable in a direction to swing the transmitting-shaft on its flexible joint.

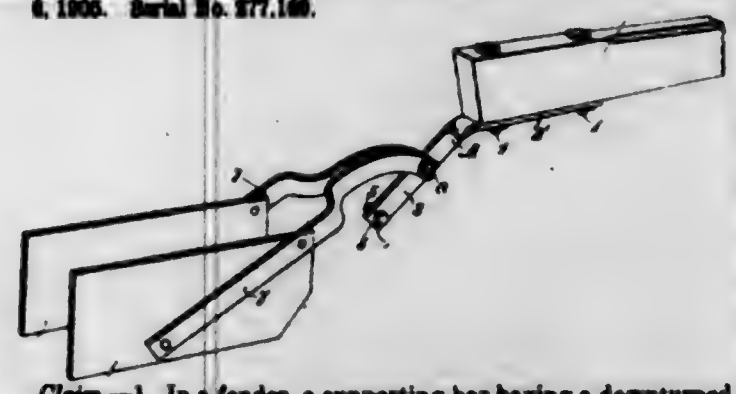
3. In a butter-blocking machine, the combination of the barrel, the plunger, the feed-screw, a standard in which the feed-screw has a non-rotating but sliding bearing, a nut surrounding and meshing with the feed-screw, a worm-wheel rotatable upon the screw, abutting the standard, and connected to the nut by means which prevents relative rotation between said nut and wheel, and a worm driving said worm-wheel.



4. In a butter-blocking machine, the combination of the barrel, the plunger for expressing butter therefrom, the feed-screw for said plunger, the split nut for projecting the screw, having means for clamping and releasing it, the gear driving said nut, the standard which sustains the thrust of the nut, and in which the screw has non-rotating but longitudinally-sliding bearing, and the pinion meshing with the thread of the screw, and having means for driving it to impart axial movement to the screw at will.

5. In a butter-blocking machine, the combination of the barrel, the plunger, the screw, the nut for advancing the screw, the gear for rotating the nut, the cutter moving past the discharge end of the barrel, the cutter-shaft, the transmitting-shaft for rotating the cutter-shaft, connected therewith through a universal joint, the multiplying-gear through which the transmitting-shaft is driven interchangeable to regulate the speed of the cutter, and means through which said multiplying-gear is driven from the gear which rotates the nut.

806,446. FENDER. ROBERT L. YOUNG, Moreland, Ga. Filed Sept. 6, 1905. Serial No. 277,160.



Claim.—1. In a fender, a supporting-bar having a downturned portion, upwardly-extending hooks near the free end of the latter, fender-blades, and straps connected exteriorly with said blades and having converging portions pivotally connected with the supporting-bar and adapted to engage the hooks near the free end of the bar.

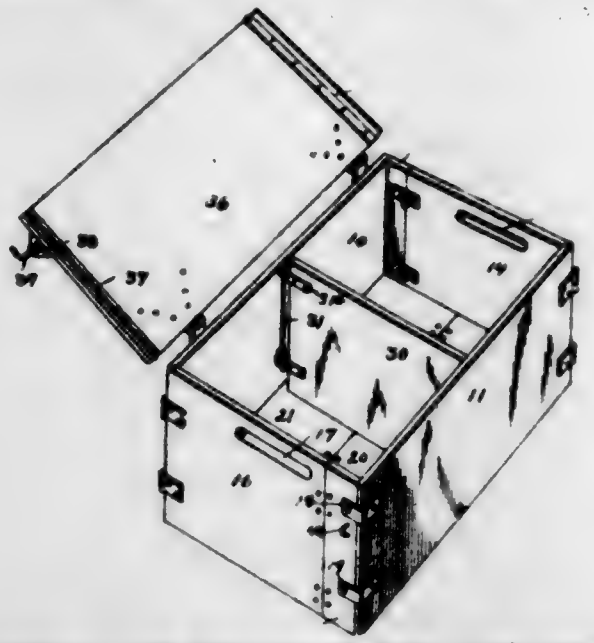
2. A tiltable cultivator-beam, a quarter-twisted bar connected with the beam and having a downturned portion provided with supporting-hooks, and fender-blades pivotally connected with the downturned supporting member by means of straps or bars secured exteriorly upon said fender-blades.

806,447. INTRA-URETHRAL APPLICATOR. BENJAMIN C. ABERNETHY, Orlando, Fla. Filed July 29, 1904. Serial No. 218,744.

Claim.—In an intra-urethral applicator, a stem, and an imperforate, easily-ruptured and flexible capsule permanently secured to one end of the stem and containing a medicinal solution.

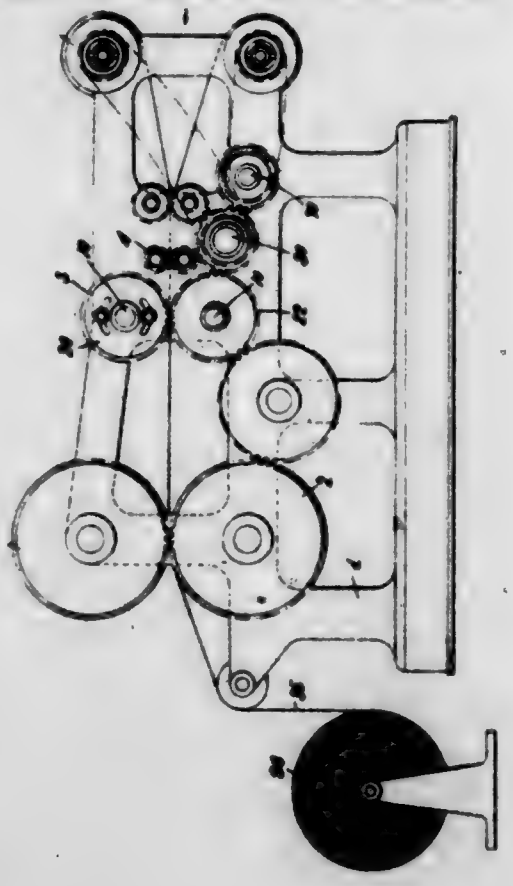


806,448. COLLAPSIBLE EGG-CRATE. ORIE W. ALLISON, Algona, Iowa. Filed Jan. 7, 1905. Serial No. 240,037.



Claim.—A collapsible crate comprising a back portion having an angular strip at on end, a front portion having an angular strip at its end remote from the strip-bearing end of the back portion, an end portion hinged to the angular strip of the back portion and the adjacent end of the front portion, an end portion hinged to the angular strip of the front portion and the adjacent end of the back portion; all of the said hinges being so disposed as to enable the front portion and the end portions to swing in a common direction, a horizontally-swinging partition interposed between the back portion and the front portion and hinged to one of the same, a vertically-swinging bottom interposed between the back portion and the front portion and hinged to one of the same; said bottom being made up of two sections connected in a hinged manner, and means at the lower edges of the said portions for supporting the bottom when the latter is in use.

806,449. ROTARY PUNCHING DEVICE. WILLIAM T. BAILEY, Elmira, N. Y. Filed Dec. 23, 1903. Serial No. 186,269.



Claim.—1. In a machine of the character set forth, the combination of a rotary punching device, having a plurality of punches and dies adapted to punch holes in a web of paper at intervals corresponding to certain subdivisions of the web, means for adjusting the punches and dies circumferentially to regulate the distance between successive holes punched in the sheet, and means for adjusting the said rotary punching device to obtain proper register of the holes with relation to the subdivisions of the web of paper.

2. In a machine of the character set forth, the combination of a rotary punching device, having a plurality of punches and dies adapted to punch holes in a web of paper at intervals corresponding to certain subdivisions of the web, means for adjusting the punches and dies circumferentially to regulate the distance between successive holes punched in the sheet, and means for adjusting the said rotary punching device to obtain proper register of the holes with relation to the subdivisions of the web of paper, and means for rewinding the web after it has been acted upon by the elements described.

3. In a machine of the character set forth, the combination of a rotary punching device, having a plurality of punches and dies adapted to punch holes in a web of paper at intervals corresponding to certain subdivisions of the web, means for adjusting the punches and dies circumferentially to regulate the distance between successive holes punched in the web, and means for adjusting the said rotary punching device to obtain proper register of the holes with relation to the subdivisions of the web of paper.

4. In a machine of the character set forth, the combination of a rotary punching device, having a plurality of punches and dies adapted to punch holes in a web of paper at intervals corresponding to certain subdivisions of the web, means for adjusting the punches and dies circumferentially to regulate the distance between successive holes punched in the web, and means for adjusting the said rotary punching device to obtain proper register of the holes in relation to the subdivisions of the web of paper, and means for rewinding the web after it has been acted upon by the elements described.

5. In a machine of the character set forth, the combination of a rotary punching device, having a plurality of punches and dies adapted to punch holes in a web of paper at intervals corresponding to certain subdivisions of the web, and a slitter for slitting the paper into sections, means for adjusting the punches and dies circumferentially to regulate the distance between successive holes punched in the web, and means for adjusting the said rotary punching device to obtain proper register of the holes with relation to the subdivisions of the web of paper, and means for rewinding the web after it has been acted upon by the elements described.

6. The combination with two opposed rotary supporting members, of a plurality of dies mounted on one of said members, individually adjustable in a longitudinal direction, and a plurality of punches mounted on the other of said supporting members, also individually adjustable in a longitudinal direction, adapted to coöperate to punch holes in a flowing web.

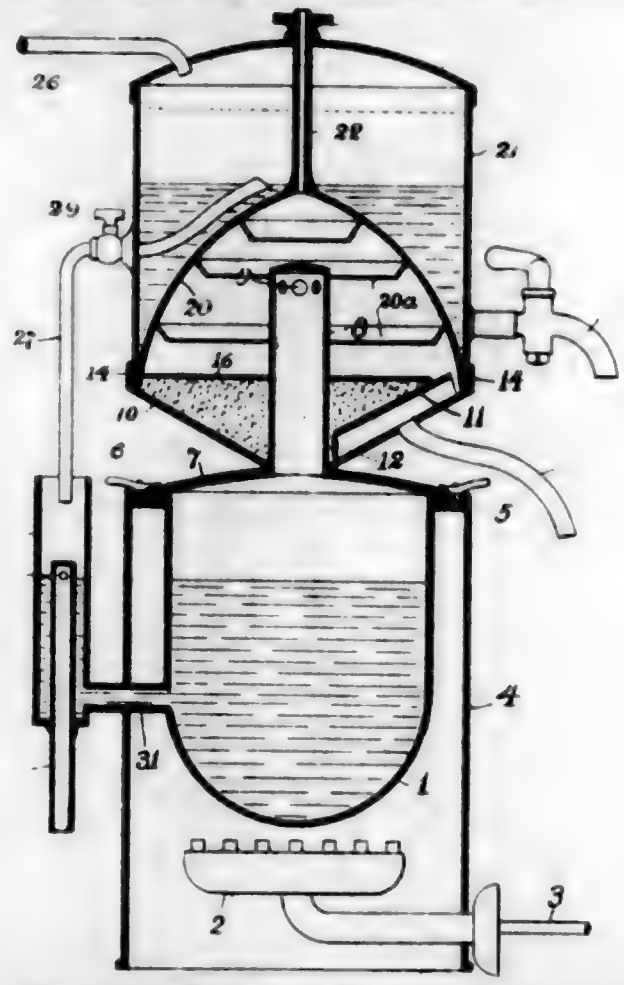
7. The combination with two opposed rotary supporting members, of a plurality of dies mounted on one of said members, individually adjustable in a longitudinal direction, and adjustable in groups circumferentially, and a plurality of punches mounted on the other of said supporting members, also individually adjustable in a longitudinal direction, and adjustable in groups circumferentially, adapted to coöperate to punch holes in a flowing web.

806,450. DOMESTIC WATER-STILL. ROBERT P. BARNSTEAD, Boston, Mass. Filed Feb. 17, 1905. Serial No. 245,983.

Claim.—1. The combination with a boiler having a removable cover, of a centrally-depressed receptacle located upon and fixed to said cover, a steam-channel through said cover to the upper part of said receptacle, means for surrounding said receptacle with water and converting it into a condenser, an outlet from said receptacle, and a water-treating substance located in the lower part of said receptacle.

2. The combination with a boiler and its cover, of a centrally-depressed receptacle located upon and fixed to said cover, a steam-channel through said cover to the upper part of said receptacle, means for surrounding said receptacle with water and converting it into a condenser, an outlet from said receptacle issuing from a substantial distance above the lowest point of the latter, a hood over said outlet extending above and below it and open at each end, and a water-treating substance filling said receptacle to a height less than the upper end of said hood.

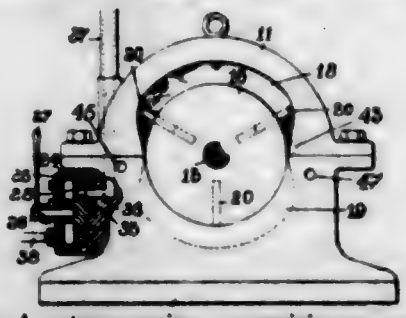
3. The combination with a boiler and its cover, of an inverted cone fixed at its vertex to said cover, a tubular channel rising through said cover and apex, a hood disposed from the apex to the periphery of said cone and open at each end, a screen covering the lower end of said hood, an outlet from said cone from a point midway within said hood, and a water-treating substance filling said cone.



4. The combination with a boiler, a cover therefor and locking devices for the same, an inverted cone fixed at its vertex to said cover and having an upwardly-rising flange at its periphery, a steam-channel through said cover and apex, a cylinder fitting at its lower edge within said flange, a dome-shaped shell forming the bottom of said cylinder, a tube rising rigidly from the apex of said bottom and threaded at its upper end, a cover fitted to the top of said cylinder and constructed to be penetrated by said tube, a nut turning on said threaded end and clamping the last-named cover in place, means for supplying water through this cover, an overflow-tube through said cylinder, means for conveying more or less of such overflow to said boiler, and an outlet for said cone.

5. In a still, the combination with an evaporator, of a condensing-chamber having a dome-shaped ceiling provided with one or more diverting-rings fixed thereto, a water-treating substance at the bottom of said condenser, and an outlet through said bottom; said rings being disposed to cause the moisture condensing upon the said ceiling to drip upon said substance.

806,451. ROTARY ENGINE. FRANCIS C. BARR and GODFREY VON BERGEN, Oakdale, Pa. Filed Apr. 24, 1905. Serial No. 257,229.



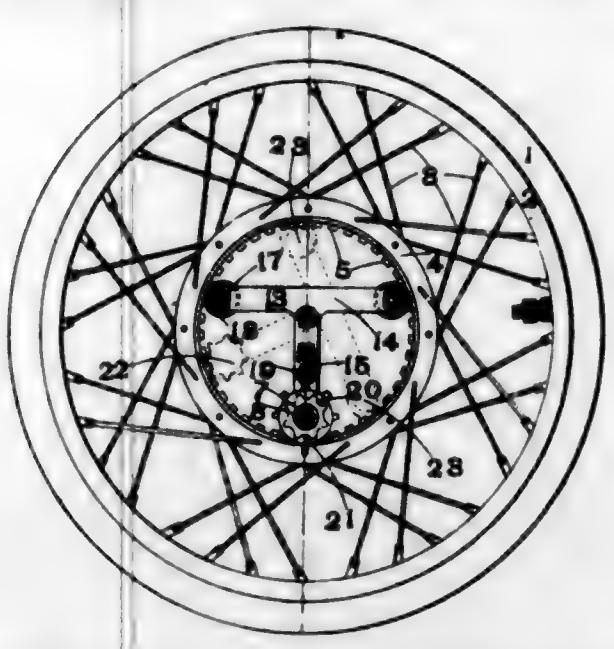
Claim.—1. A rotary engine, comprising a casing, a cylinder adapted to rotate in the casing, chambers in the casing on opposite sides of the casing and arranged diametrically opposite, end plates on the casing to embrace the ends of the piston, a steam-inlet at one end of the casing, steam-ducts in the casing connecting the steam-chamber with opposed ends of each of the chambers, ducts in the end plates connecting the opposed ends of opposite chambers, and a throttle arranged to admit live steam alternately to one or the other of the sets of steam-ports.

2. A rotary engine, comprising a casing, a piston arranged to rotate in said casing, chambers arranged on opposite sides of the casing and diametrically opposite, radial gates sliding in the piston, end

plates on the casing arranged to embrace the ends of the piston, a steam-chamber arranged on one end of the casing, ducts connecting opposed ends of opposite chambers to opposite sides of the casing, ducts in the end plates to connect the ducts leading from the opposed end of the chambers, and a throttle in the steam-chamber arranged to alternately throw one or the other of the sets of steam-ports in communication with the steam-chamber.

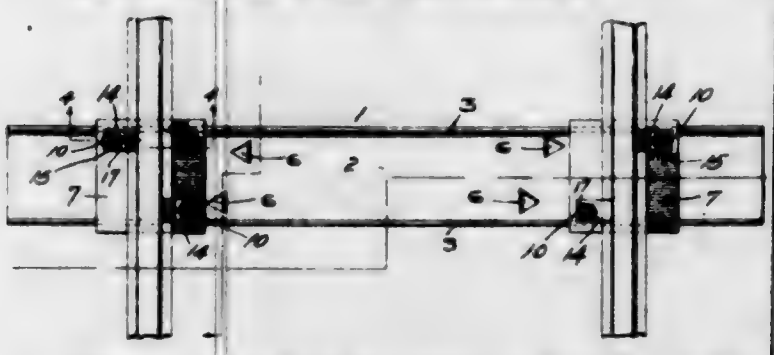
3. A rotary engine, comprising a casing having diametrically-opposed chambers, one on each side, a piston arranged to rotate in the casing, gates radially arranged to slide in the piston, a steam-chamber on one end of the casing, a pair of ducts connecting opposed ends of opposite chambers, a rotatable disk arranged in the steam-chamber, means for operating the disk, ports in the disk adapted to be thrown in register with one of the steam-ports of the casing, and a port in the disk arranged to connect the other set of ports with the exhaust of the engine.

808,452. DRIVING-WHEEL FOR MOTOR-VEHICLES. CHARLES S. BAULD, Latrobe, Tasmania, Australia, assignor of one-half to Alfred Christian Dehle, Hobart, Tasmania, Australia. Filed May 3, 1905. Serial No. 258,597.



Claim.—The combination with a driving-wheel of a self-propelled vehicle, of a hollow hub 4 fitted with cogs 5 on its inner surface, said cogs having smooth surfaces 6, 6, on either side thereof, a T-shaped frame, rollers 18 at the ends of the horizontal arm of the T, a spindle 7 carried at the end of the other arm, a pinion 8 loosely mounted on said spindle, said pinion engaging with the cogs 5 and having smooth enlarged portions at each end engaging with the surfaces 6, 6, and toothed wheels 20 mounted on the extended ends of pinion 8 carried on the spindle.

808,453. METALLIC RAILWAY-TIE. BUDD G. BEALOR, Aspinwall, Pa. Filed Feb. 16, 1905. Serial No. 245,888.



Claim.—1. A railway-track structure comprising a trough-shaped metallic cross-tie, a rail supported thereon with its lower face in proximity to the upper face of the cross-tie, a pair of clamps arranged to engage the rail-base on opposite sides thereof, and a pair of adjustable securing members attached to the sides of the trough-shaped cross-tie near its bottom and projecting diagonally upwardly and in opposite directions and each being connected to a clamp.

2. A railway-track structure comprising a metallic cross-tie, a rail supported thereon with its lower face in proximity to the upper face of the cross-tie, a pair of clamps arranged to engage the rail-base on opposite sides thereof, and a pair of bolts provided at one end with hooks for engaging the cross-tie near its bottom and projecting diagonally upwardly and in opposite directions and at their outer ends connected to said clamps.

3. A railway-track structure comprising a cross-tie provided with vertical portions having openings therein, a pair of clamps arranged to engage the rail-base on opposite sides thereof, and a pair of bolts provided at one end with hooks for engaging the openings in the tie and projecting diagonally upwardly and in opposite directions and through openings in said clamps, and nuts on the outer ends of said bolts engaging said clamps.

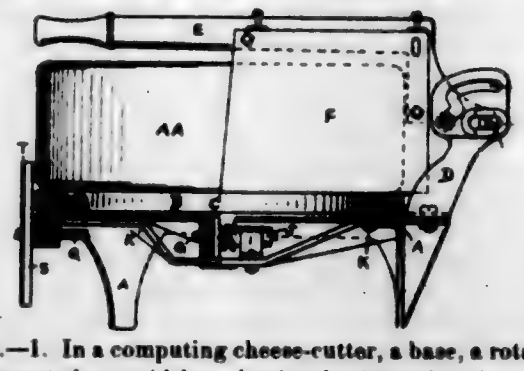
4. A railway-track structure comprising a metallic trough-shaped cross-tie, a rail-base plate adapted to support the rail, said plate resting on the top of said tie and provided with slots whose axes are substantially parallel with the axis of the tie, a pair of clamps arranged to engage the rail-base on opposite sides thereof, and a pair of holding-rods connected at one end to said tie and projecting diagonally upwardly and in opposite directions and through the slots in the rail-base plate and being adjustably connected to said clamps.

5. A railway-track structure comprising a metallic cross-tie provided with vertical portions having holes therein, a rail-base plate resting upon said tie and provided with slots, a pair of clamps arranged to engage the rail-base on opposite sides thereof, and a pair of bolts provided at one end with hooks for engaging the openings in the tie, said bolts projecting diagonally upwardly and in opposite direction and through the slots in the rail-base plates, and each being connected to a clamp.

6. A railway-track structure comprising a metallic trough-shaped cross-tie adapted to be placed with its sides projecting upwardly and provided with openings in its sides, rail-base plates resting on the upper edges of said trough-shaped member and provided with slots, a pair of clamps arranged to engage the rail-base on opposite sides thereof, and a pair of bolts connected to said tie and projecting diagonally upwardly and in opposite directions and through the slots in the rail-base plate and through openings in the clamps, and nuts on the outer ends of said bolts and engaging said clamps.

7. A railway cross-tie comprising a trough-shaped metallic member adapted to be placed with its sides projecting upwardly and having triangular portions of its bottom between the rail-seats punched out and bent downwardly to form holding means and drain-openings.

808,454. COMPUTING CHEESE-CUTTER. JOHN BUNO, Anderson, Ind. Filed July 26, 1904. Serial No. 218,233.



Claim.—1. In a computing cheese-cutter, a base, a rotary table, brackets mounted on said base having horizontal and cam-shaped slots, a knife having pins entering said slots, a worm-gear secured to said table, a worm-wheel engaging said gear, means for rotating the worw-wheel, and means for measuring and controlling the movement of said wheel, comprising a graduated disk, an index-hand, and a gage-bar to gage the movement of the index-hand.

2. In a computing cheese-cutter, a base, a pair of brackets supported by said base having horizontal and cam-shaped slots, a knife having pins moving in said slots, a rotary table mounted on said base, ball-bearings between the base and table, a worm-gear of less diameter than the table, secured to the table, a worm-wheel engaging said gear, a shaft on which the worm-wheel is mounted, means for rotating the worm-wheel shaft, and means for measuring and controlling the movement of said wheel, comprising a graduated disk, an index-hand, and a gage-bar to gage the movement of the index-hand.

3. In a computing cheese-cutter, a base, a rotary table mounted on said base; a bracket secured to said base having horizontal and cam-shaped slots, a knife-handle pivotally secured to said bracket by pins entering said slots, and a knife attached to said handle.

4. In a computing cheese-cutter, a base, a rotary table mounted on said base upon which the cheese is placed, a pair of brackets secured to said base each having opposite horizontal slots and adjacent cam-shaped slots, a handle having a pin for each set of slots said pins loosely entering said slots, and a knife attached to said handle.

5. In a computing cheese-cutter, a rotary table on which the cheese is placed, a lever or handle having oscillatory movement

above the table in a plane through the axis of rotation of the latter, a knife secured to said handle and having like oscillatory movement through the whole cutting stroke, and means for moving the knife longitudinally to cause its lower corner to move constantly in a straight line along the axis of the rotary table.

6. In a computing cheese-cutter, a rotatable table, brackets having cam-slots, and a knife having pins moving in said slots thereby imparting to the knife a constant compound oscillatory and longitudinal movement radially of the table in a vertical plane whereby one corner of the knife will follow the axis of the table through the thickness of the cheese.

7. In a computing cheese-cutter, a rotatable table, brackets having cam-slots, and a knife having pins moving in said slots thereby imparting to the knife a constant compound oscillatory and longitudinal movement in a plane through the axis of the table.

8. In a computing cheese-cutter, a base, a rotatable table, a support outside of the table having a horizontal slot and a cam-slot adjacent to the latter, a handle having pins entering both of said slots, and a knife fastened to the handle radially of the table and having a lower corner moving at all positions of its cutting travel in the axis of the table.

9. In a computing cheese-cutter, a rotatable table, a pair of brackets supported independently of the table, each having horizontal slots and adjacent cam-slots which pass upwardly and outwardly then upwardly and inwardly and then in curves outwardly or rearwardly over the horizontal grooves, a handle having bifurcated rear ends making a close fit between the pair of brackets, a pair of pins passing through the bifurcated ends of the handle and having ends terminating in said grooves of the brackets, the pin for the cam-grooves having friction-rollers and a knife attached to said handle.

10. In a computing cheese-cutter, a rotatable table, a worm-gear secured to the under side thereof, a worm-wheel engaging the worm-gear, a shaft on which the worm-wheel is mounted, a circular graduated plate at the edge of the table through which said shaft passes, a crank on the end of the shaft, a bushing mounted loosely on the shaft between the plate and crank, a gage-bar on the bushing reaching diametrically of the graduated plate and having a friction-block at one end to engage the rim of the plate and an adjustable index-hand also mounted on the bushing.

12. In a computing cheese-cutter, a rotatable table, a worm-gear secured to the under side of the table, a shaft, a worm-wheel mounted on the shaft and engaging the worm-gear, a graduated circular plate fixed at the edge of the table through which the shaft passes, a crank on the end of the shaft, a gage-bar and an index-hand between the crank and the graduated plate adjustable in angular relation with each other but ordinarily moving together, and means for holding a given position of each.

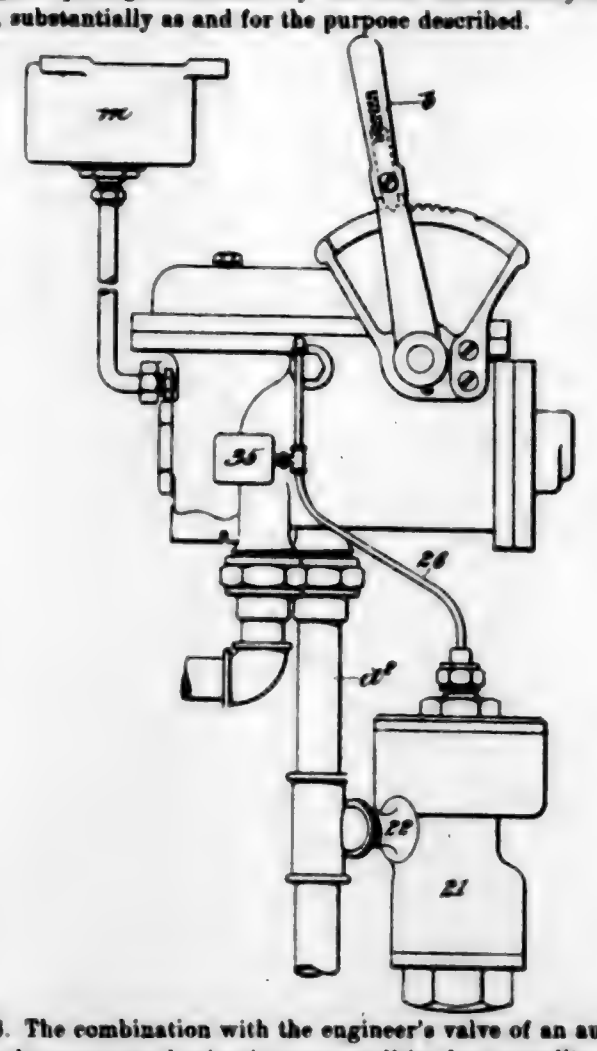
12. In a computing cheese-cutter, a rotatable table, a worm-gear secured to the under side of the table, a shaft, a worm-wheel mounted on the shaft and engaging the worm-gear, a circular wooden disk fastened near the edge of the table, a graduated plate outside of said disk, said shaft passing through the plate and disk, a crank on the outer end of the shaft, a threaded bushing loosely mounted on the shaft between the crank and graduated plate, a gage-bar and an index-hand mounted on the bushing, a nut screwing on the bushing to frictionally join the said bar and hand, said bar having an end spring and a friction-block secured to the spring and pressed by it against the disk, said crank having an inside lug and said bar and hand having edge notches to receive the lug.

13. In a computing cheese-cutter, a rotatable table, a pair of brackets supported independently of the table, each having horizontal slots and adjacent cam-slots which pass upwardly and outwardly then upwardly and inwardly and then in curves outwardly or rearwardly over the horizontal grooves, a handle having parts making close fit between the pair of brackets, pins from said handle moving in said grooves of the brackets and a knife fixed to the handle.

806,455. ENGINEER'S BRAKE-VALVE. HENRY F. BICKEL, Plainfield, N. J., assignor to New York Air Brake Company, a Corporation of New Jersey. Filed Apr. 10, 1905. Serial No. 254,787.

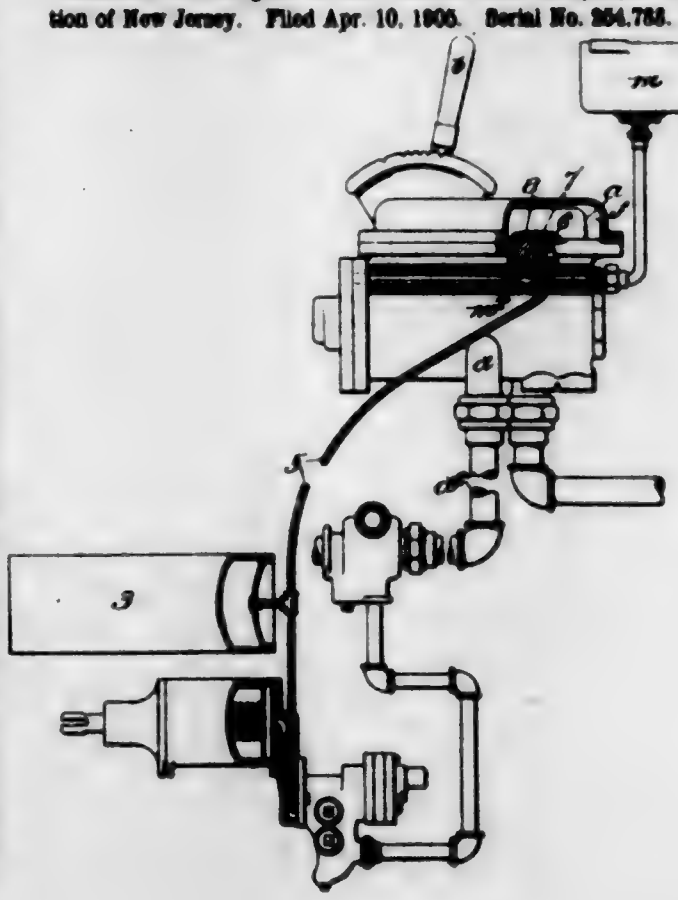
Claim.—1. The combination with an engineer's valve of an air-brake apparatus having instrumentalities for controlling the escape of air from the train-pipe; of an accelerating-valve controlling an additional escape-passage from the train-pipe; and means for actuating said accelerating-valve by pressure responsive to the appliances for controlling the escape of air through the engineer's valve, substantially as described.

2. The combination with an engineer's valve of an automatic air-brake system having instrumentalities for controlling the escape of air from the train-pipe, and an automatically-operating valve to close the train-pipe-air-escape passage; of an accelerating-valve controlling an additional escape-passage from the train-pipe; and an actuating-piston therefor subjected to pressure from the main pipe through a passage controlled by the said automatically-operated valve, substantially as and for the purpose described.



3. The combination with the engineer's valve of an automatic air-brake apparatus having instrumentalities for controlling the escape of air from the train-pipe, of an accelerating-valve controlling an additional escape-passage from the train-pipe; an actuating-piston for said accelerating-valve working in a chamber open to the atmosphere at one side of said piston, and communicating at the other side with the train-pipe while air is being discharged from the train-pipe at the engineer's valve; and a relatively small passage for communication from one to the other side of said piston, substantially as and for the purpose described.

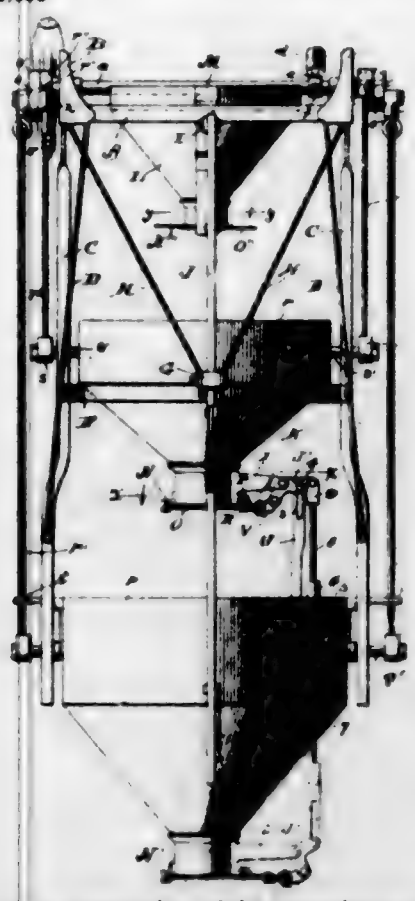
806,456. ENGINEER'S BRAKE-VALVE. HENRY F. BICKEL, Plainfield, N. J., assignor to New York Air Brake Company, a Corporation of New Jersey. Filed Apr. 10, 1905. Serial No. 254,788.



Claim—1. The combination with an engineer's valve of an automatic air-brake system having a cut-off valve for stopping escape of air from the train-pipe operated by a body of air confined in a small chamber, of means for establishing communication between said small chamber and an auxiliary reservoir of the system when the brakes are released, and for cutting off said communication between the small chamber and auxiliary reservoir when an application of the brakes is being made, substantially as and for the purpose described.

2. The combination with an engineer's valve of an automatic air-brake system having a main hand-operated valve and a cut-off valve for stopping the escape of air from the train-pipe operated by a body of air confined in a small chamber, of ports in the seat of the main hand-operated valve communicating respectively with said small chamber and with an auxiliary reservoir of the system, said ports being controlled by the main hand-operated valve, substantially as and for the purpose described.

806,457. **AUTOMATIC WEIGHING-MACHINE.** HENRY C. BOWLUS, Springfield, Ohio, assignor to The Bowlus Automatic Scale Company, Springfield, Ohio, a Corporation of Ohio. Filed May 28, 1904. Serial No. 210,160.



Claim.—1. In an automatic weighing-machine, the combination, with a receiving and a weighing hopper, a cut-off for each of said hoppers composed of pivoted plates adapted to stand across the discharge-opening of the hopper and to swing away from the opening, and devices to actuate said plates to close and open them, a rock-shaft, crank-arms carried thereby, means connecting one set of crank-arms with one of the hoppers and the other set of crank-arms with the hopper, the cranks and connections being such that when the shaft rocks, said hoppers approach or recede from each other, while the devices which actuate the plates so act when the hoppers approach and recede.

2. In an automatic weighing-machine, the combination, with a receiving-hopper and a weighing-hopper, a cut-off for each hopper composed of pivoted plates standing crosswise the openings of the hoppers, the plates being adapted to swing horizontally on their pivots so as to open and close the openings, actuating devices for the receiving-hopper plates connected to the weighing-hopper, and actuating devices for the weighing-hopper plates connected to the receiving-hopper, so that when said hoppers approach and recede from each other the plates are operated as desired, and means by which the hoppers are mounted to permit of their approaching and receding to and from each other.

3. In an automatic weighing-machine, the combination, with a receiving and a weighing hopper, each having a discharge-opening, of a bracket carried by each hopper, overlapping cut-off plates pivoted to each bracket and adapted to swing in a horizontal plane, a bell-crank connected to each bracket and respectively to the respective cut-off plates, a slotted rod secured to the weighing-hopper and engaging with the bell-crank of the receiving-hopper, and another slotted rod secured to the receiving-hopper and engaging with the bell-crank of the weighing-hopper.

4. In an automatic weighing-machine, the combination, with a hopper having an opening, and a pair of horizontal plates adapted to overlap each other, the upper plate being fitted to the hopper and the under plate being fitted to the upper plate, so that in one position the plates open the hopper and in the other positively close it against the leakage of grain, there being a common vertical pivot for the plates, of toggle-links connected to the plates, and means to operate the toggle-links.

5. In an automatic weighing-machine, the combination with a general frame, of pairs of bars or tracks secured thereto and depending therefrom, and receiving and weighing hoppers located between said respective pairs of bars or tracks, and having stud-shafts which project between the individual bars or tracks of each pair and are guided thereby.

6. In an automatic weighing-machine, the combination, with a weighing-hopper pivotally mounted and suspended by supporting-rods, and having projecting fingers which engage with said rods to one side of the pivotal support, to prevent the hopper from tipping on said pivotal supports as their centers.

7. In an automatic weighing-machine, a bumper composed of a sleeve, a bolt mounted therein, a cap on the bolt near one end, a retaining-nut near the other, a cushion and a spiral spring encircling the bolt and mounted within the sleeve, and a movable poise arranged to strike said bumper which acts to arrest the poise and take up its shock.

8. In an automatic weighing-machine, the combination, with a receiving-hopper and a weighing-hopper, and a hollow column secured thereto and extending therethrough, of a rod extending through said column and another rod secured to said column, said rods constituting actuating devices and cut-offs for the hoppers connected to said actuating devices.

9. In an automatic weighing-machine, the combination, with a receiving-hopper and a weighing-hopper, and means by which they are mounted so as to automatically approach and recede from each other, horizontal cut-off plates pivoted to the respective hoppers, bell-cranks carried by the respective hoppers to operate the respective sets of plates, a hollow column attached to and extending through the weighing-hopper, a slotted rod secured to the column and acting to operate the bell-crank of the receiving-hopper, and another slotted rod extending through the column and adapted to operate the bell-crank of the weighing-hopper and attached to the receiving-hopper, the slots of the respective rods extending beyond the pins or points of connection in the bell-cranks when the hoppers are in the relative position which takes place when the weighing is effected, whereby there is no positive connection between the hopper cut-offs when the weighing takes place.

10. In an automatic weighing-machine, the combination, of a feeding-hopper having a cut-off for its discharge end, a receiving-hopper, and a weighing-hopper, each having cut-offs for their discharge-openings, devices for opening the cut-off of the feeding-hopper and closing the cut-off of the weighing-hopper and vice versa when said hoppers approach toward and recede from each other, respectively, and a rock-shaft having cranks with arms of different lengths, and devices for connecting the receiving-hopper with one set of said cranks and the weighing-hopper with the other set, and a suitable poise or weight and a counterpoise both mounted on the rock-shaft and adapted to swing to each side of the vertical.

808,458. **FOLDABLE METALLIC CASE.** JOHN P. BRADY, Baltimore, Md. Filed Aug. 18, 1905. Serial No. 274,674.

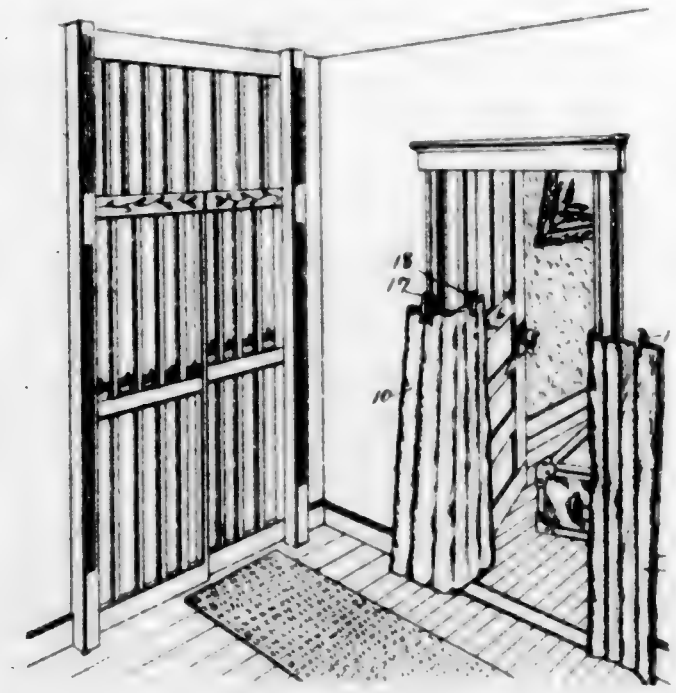


Claim.—1. In a foldable metallic case the combination with the bottom having upwardly-projecting side and end walls of different heights, and movable walls pivotally connected to the stationary walls of the bottom whereby the movable walls may be folded one upon the other over the bottom, and a cover.

2. In a foldable metallic case the combination with the bottom having stationary side walls provided with a curled upper edge and end walls also having curled upper edges which are in a plane below the curled edges of the side walls, and movable walls whose lower edges are also curled and engaged with the coils on the stationary side and end walls whereby the movable walls may be folded down over the bottom.

3. In a foldable metallic case the combination with the bottom whose walls are provided with curls along its edges, of movable walls also having curls along their lower edges which engage the curls on the walls of the bottom and said movable walls also having guide-plates extending in a direction at right angles to the curled edges.

806,459. **PROTECTOR FOR DOOR-CASINGS.** MARION A. BROWN, Des Moines, Iowa. Filed Mar. 30, 1905. Serial No. 252,981.



Claim.—1. In a protector for door-casings, an outer portion, an inner portion secured thereto, and stays in the protector for supporting it in position relative to a door-casing.

2. In a protector for door-casings, an outer portion and an inner portion, and stays for supporting the protector in position relative to a door-casing.

3. In a protector for door-casings, an outer portion and an inner portion, stays for supporting the protector in position relative to a door-casing, and handles secured to the protector.

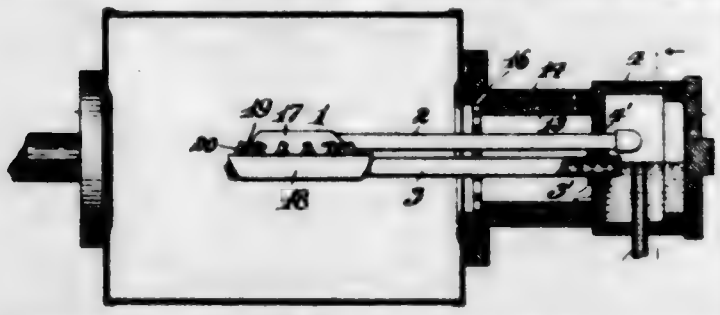
4. A padded protector for door-casings, comprising a front portion, a rear portion, and stays secured to the front portion for supporting the protector in position relative to a door-casing.

5. A flexible padded protector for door-casings, comprising a front portion, a rear portion, and stays secured to the front portion for supporting the protector in position relative to a door-casing.

6. A flexible padded protector for door-casings, comprising a front portion, a rear portion stays secured to the front portion for supporting the protector in position relative to a door-casing, and handles secured to the protector.

7. A protector for door-casings, a flexible front portion, a flexible rear portion secured thereto, stays secured to the front portion, and a padding between the front and rear portions.

806,460. **SPRAYING DEVICE.** WILLIAM S. BUCKLIN, Phalanx, N. J., assignor to The National Canning & Manufacturing Company, a Corporation of New Jersey. Filed Sept. 19, 1904. Serial No. 224,935.



Claim.—1. A spray-head comprising a chamber for compressed air, having a curved front, a plurality of divergent air-blast orifices in said front, in combination with a liquid-chamber adjacent said chamber for compressed air having also a curved front and a plurality of communicating liquid-nozzles in atomizing relation to said orifices.

2. A spray-head comprising adjacent air and liquid chambers, forming between them an angle or corner, a plurality of liquid-nozzles communicating with said liquid-chamber and disposed within the protection afforded by said angle, and air-blast orifices in said air-chamber in atomizing relation to said nozzles.

3. A spray-head comprising liquid and air chambers with liquid-nozzles and air-blast orifices provided respectively therein in mutual atomizing relation, said orifices and nozzles being disposed to spray throughout a total angle of substantially one hundred and eighty degrees, liquid and air supply conduits respectively for said chambers and a jog or bend in said conduits bringing the general axis of the same into substantial alinement with the general axis of said liquid and air chambers.

4. In a receptacle spraying device, a liquid-reservoir and a spray-head supplied with liquid therefrom, in combination with a rotary receptacle-abutment journaled on said reservoir.

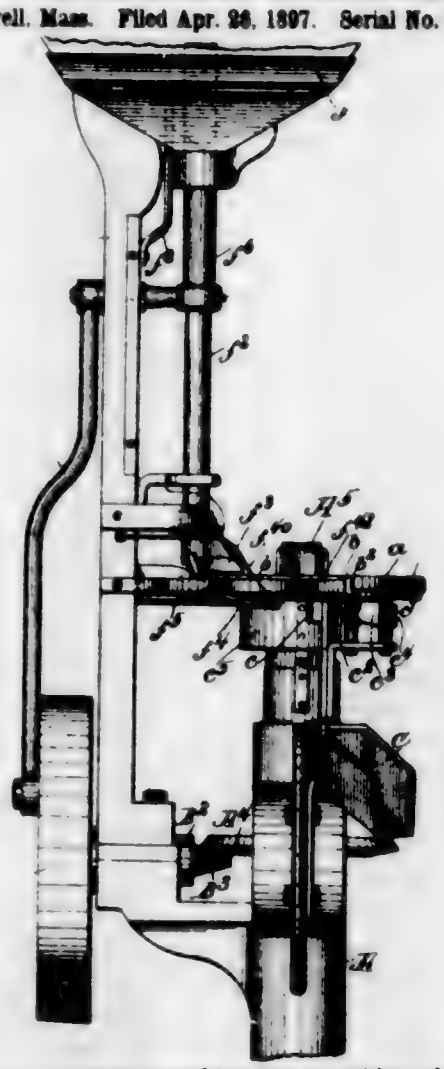
5. In a receptacle spraying device, a liquid-reservoir and a spray-head supplied thereby with liquid, in combination with an annular boss on said reservoir and a rotary collar journaled thereon acting as an abutment for the head of the receptacle.

6. In a receptacletspraying device, a liquid-reservoir and a spray-head supported thereby, an abutment for the head of the receptacle on said reservoir surrounding the support for said spray-head and an aperture in said abutment acting as a vent for the spray displacement.

7. In a receptacle spraying device, a liquid-reservoir and a spray-head connected therewith, an overflow-conduit in said reservoir, a tank at a higher level than the level of said reservoir in combination with a pump forcing said overflow into the tank, and a valve-controlled feed-pipe from said tank to the reservoir.

8. In a receptacle spraying device, a liquid-reservoir, a spray-head, a liquid-pipe rigidly secured to said reservoir, an air-pipe adjacent said liquid-pipe and parallel thereto, both of said pipes supplying said spray-head, in combination with an annular boss surrounding said pipes and a rotary abutment for the head of the receptacle journaled on said boss.

806,461. **CARTRIDGE-SHELL-GAGING MACHINE.** PAUL BUTLER, Lowell, Mass. Filed Apr. 26, 1897. Serial No. 633,901.



Claim.—1. A gaging-machine for cartridge-shells or analogous articles, consisting of a traveling gage-carrier adapted to receive said articles, and provided with gage-passages the distance between the gaging-surfaces of which is not uniform throughout; and a yielding presser adapted to press said articles in a direction to enter said passages and thereby contribute in the engaging operation, substantially as described.

2. A gaging-machine for cartridge-shells or analogous articles, consisting of a traveling gage-carrier adapted to receive said arti-

cles, and provided with gage-passages the distance between the gaging-surfaces of which is not uniform throughout, combined with a yielding presser adapted to press said articles toward said passages and thereby contribute in the gaging operation, and a clearer adapted to engage and eject shells remaining in said passages during the onward movement of said gage-carrier, substantially as described.

3. A gaging-machine for cartridge-shells or analogous articles, consisting of a traveling gage-carrier adapted to receive said articles, and provided with gage-passages the distance between the gaging-surfaces of which is not uniform throughout, combined with a yielding presser adapted to press said articles in a direction to enter said passages and thereby contribute in the gaging operation, and means for automatically feeding said articles to said carrier, substantially as described.

4. A gaging-machine for cartridge-shells or analogous articles, consisting of a traveling gage-carrier adapted to receive said articles, and provided with gage-passages the distance between the gaging-surfaces of which is not uniform throughout, combined with a yielding presser adapted to press said articles in a direction to enter said passages, and a guide for the side of said article opposite said presser, substantially as described.

5. A gaging-machine for cartridge-shells or analogous articles, consisting of a traveling gage-carrier adapted to receive said articles, and a number of passages thereon the distance between the gaging-surfaces of said passages being non-uniform throughout, combined with a yielding presser consisting of a series of springs adapted to be successively engaged by the articles in the carrier during the movement thereof, substantially as and for the purpose described.

6. In a gaging-machine for cartridge-shells, the combination with a traveling gage-carrier provided with gage-passages the distance between the gaging-surfaces of which is not uniform throughout, and a support for the shell at the mouth of each passage, of a feed-chute adjacent to said supports and adapted to deliver shells thereto, and a yielding presser in the path of said shells adapted to engage the same during the onward movement of the carrier and contribute in the gaging operation, substantially as described.

7. In a gaging-machine, the combination with a gage-carrier, of gage-passages carried thereby, each having a portion in which the distance between the gaging-surfaces is substantially equal to the standard thickness of the article to be gaged, and a portion in which said distance is less than said thickness, a yielding presser adapted to press the article to be gaged toward said passages, and clearing devices which eject such of said articles as are not pressed through the gage-passages, substantially as described.

8. The combination with the rotating gage-carrier, provided with gage-passages each having a portion adapted to receive a shell with a flange of standard thickness but to exclude a shell with a flange greater than standard thickness, and a more contracted portion at the rear end of each passage to prevent further movement of such standard shell when it has reached a predetermined position, a yielding presser adapted to press shells toward said passage, a clearer comprising a cam extending from a point in front of said predetermined position of the shells in the gage-passage to eject the non-standard shells which are excluded from said portion of the gage-passages, and a second clearer comprising a similar cam extending from a point at the rear of a shell in said predetermined position to eject standard shells, substantially as described.

9. In a machine for operating upon cartridge-shells, the combination with a traveling carrier provided with recesses along the edge thereof, said recesses being open laterally; of shoulders at opposite sides of said recesses, the distance between said shoulders being greater than the diameter of the cartridge-shell body and less than the diameter of the cartridge-shell flange; a feed-chute located above said carrier and adapted to deliver shells endwise into said recesses; and a tripping-cam located above the carrier and adapted to engage the inner side of a shell standing flange end down and projecting above the carrier, whereby the said shell is tipped over and inverted, the body passing through the laterally-open mouth of the recess, while the flange remains supported upon the said shoulders, as set forth.

10. In a gaging-machine for cartridge-shells, the combination with a gage-carrier consisting of a rotating disk, of a number of pairs of gage-passages extending inward from the periphery thereof, an opening in said carrier adjacent to each pair of passages, supporting-tracks below the said opening for the flanges of the shells, a feed-chute for the shells extending to the said carrier and terminating over the path of said openings in the rotation of the carrier, and a yielding presser adapted to engage the body of a shell during the forward rotation of the carrier, substantially as described.

11. In a gaging-machine for cartridge-shells, the combination with a gage-carrier consisting of a rotating disk, of a number of pairs of gage-passages extending inward from the periphery thereof, an opening in said carrier adjacent to each pair of passages, supporting-tracks below the said openings for the flanges of the shells, a feed-chute for the shells extending to the said carrier and terminating over the path of said openings in the rotation of the carrier, a yielding presser adapted to engage the body of the shell during the forward rotation of the carrier, and a guiding-spring for the side of the body opposite the said presser, substantially as described.

12. In a gaging-machine for cartridge-shells, the combination with a traveling gage-carrier having gage-passages on the under side thereof, of an inlet-track for each gage-passage, a feed-chute extending to the said carrier and terminating in line with the said inlet-tracks, said feed-chute being adapted to carry a column of shells endwise, a tipping-cam at one side of the plane of said carrier adapted to engage the body of the shell during the movement of the carrier, and tip the same from its vertical position, and a yielding presser on the opposite side of the plane of said carrier adapted to engage the body of the shell to press the same toward the said gage-passage, substantially as described.

13. In a machine for operating on cartridge-shells, the combination with a traveling carrier provided with openings along the periphery thereof, and also provided with supports for the flanges of the shells below said openings, of a feed-chute adapted to carry a column of shells endwise and extending to and terminating over said openings, and a tipping-cam above the carrier to act on those of the shells which are standing on their flange ends and project above said carrier, as they are moved past said cam by the carrier, substantially as described.

14. In a machine for operating on cartridge-shells, the combination with a traveling carrier provided with openings along the periphery thereof, and supports for the flanges of the shells below said openings, of a feed-chute adapted to carry a column of shells endwise and extending to and terminating over said openings, a tipping-cam adapted to engage one side of the body of the shell, and a guide-support for the opposite side thereof, substantially as described.

15. In a machine for operating on cartridge-shells, the combination with a traveling carrier provided with openings along the periphery thereof and supports for the flanges of the shells below the said openings; of the feed-chute f^3 terminating over the said carrier in line with the path of travel of said openings, the tipping-cam f^3; the guide-support f^4; and the supplemental guide-support f^{10}, substantially as and for the purpose described.

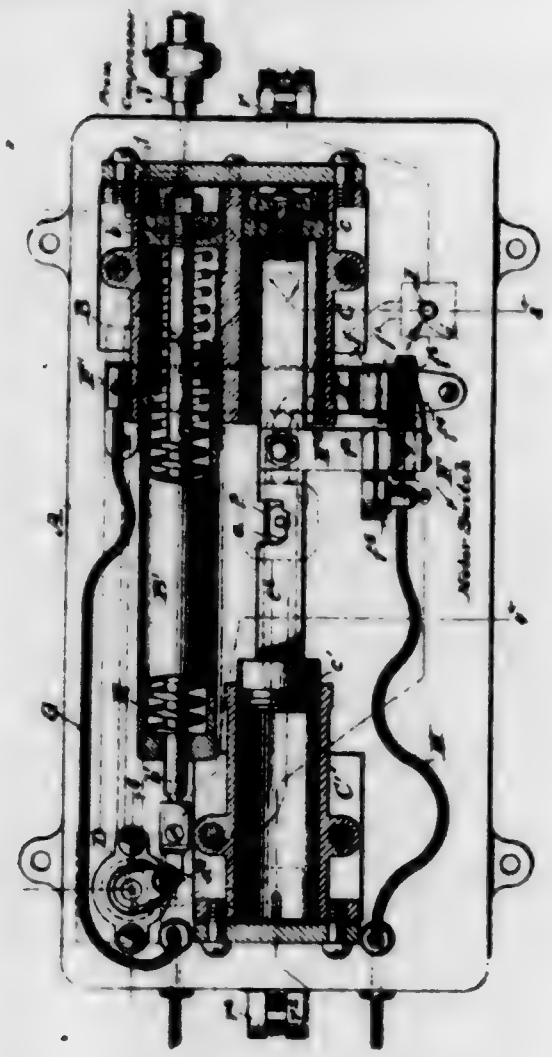
16. In a machine for operating on cartridge-shells, the combination with a traveling carrier provided with openings along the periphery thereof and supports for the flanges of the shells below the said openings; of the feed-chute f^3 terminating over the said carrier in line with the path of travel of the said openings, the tipping-cam f^3, means for guiding the shells thus tipped, and the guard f^{12}, substantially as and for the purpose described.

806,462. AUTOMATIC CONTROLLER FOR ELECTRICALLY-ACTUATED COMPRESSORS. NIELS A. CHRISTENSEN, Milwaukee, Wis. Filed May 13, 1896. Serial No. 680,536.

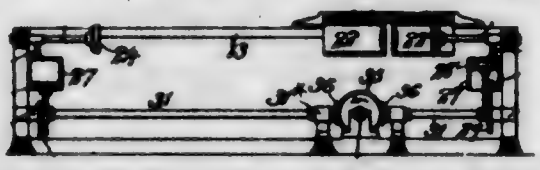
Claim.—1. In a controller for electrically-actuated compressors, the combination of a switch to be located in the circuit of the electric motor, a fluid-motor for operating said switch, a valve for controlling the admission and release of the actuating fluid to and from said fluid-motor, comprising a valve-seat which has a central supply port or passage, two service-ports and two exhaust-ports, and a valve-disk which has an axial supply-passage in full and constant communication with the supply-passage in said seat, two through-ports arranged to register alternately with the service-ports in said seat, and two cavities arranged to connect the associated service and exhaust ports in said seat alternately, and a fluid-motor for operating said valve having a fluid-supply connection for the compressor, substantially as and for the purposes set forth.

2. In a controller for electrically-actuated compressors, the combination of a switch to be located in the electric-motor circuit, a fluid-motor for operating said switch, consisting of two cylinders closed at their outer ends and open at their inner ends which are presented toward each other, and of two pistons fitted to work in the respective cylinders and connected by a rod upon which the movable part of the switch is mounted, a rotary valve controlling the admission and release of the actuating fluid to and from the outer ends of said cylinders, a fluid-motor for operating said valve, a blast-passage having a discharge-orifice directed toward the contacts of the switch, a valve normally closing said passage, and adapted to be momenta-

rily opened by the switch-operating motor whenever the contacts of the switch are separated in opening the switch, and a constantly-open fluid-supply connection to lead from the compressor to said valve-operating motor and to the valve controlling the blast-passage, substantially as and for the purposes set forth.



806,463. PRESSURE-CONTROLLING DEVICE FOR THE AIR-SPRINGS OF PRINTING-PRESSES. CHARLES P. COTTRELL, Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 3, 1905. Serial No. 248,274.



Claim.—1. In a reciprocating-bed printing-press, the combination with the bed and the air-spring cylinder and piston, of an expansion-chamber of varying capacity which is brought into and out of communication with said cylinder by the movement of the bed.

2. In a reciprocating-bed printing-press, the combination with the air-spring cylinder and piston, of an expansion-chamber, and means actuated by the movement of the press for automatically varying the capacity of said chamber during the advance of the air-spring cylinder and piston the one relatively to the other.

3. In a reciprocating-bed printing-press, the combination with the air-spring cylinder and piston, of a second cylinder for communication with the air-spring cylinder, and a cam-controlled piston in said second cylinder.

4. In a reciprocating-bed printing-press, the combination with the air-spring cylinder and piston, of a second cylinder for communication with the air-spring cylinder, a piston in said second cylinder actuated in one direction by the pressure of air from the air-spring cylinder, and mechanism timed to the movement of the bed for actuating said piston in the opposite direction.

5. In a reciprocating-bed printing-press, the combination with the air-spring cylinder and piston, of a second cylinder and piston, the said cylinders having communication with each other provided by a passage through the air-spring piston.

6. In a reciprocating-bed printing-press, the combination with the air-spring cylinder and the piston therein having a hollow rod, of a second cylinder and piston, and a communication between said second cylinder and the air-spring cylinder through said hollow rod.

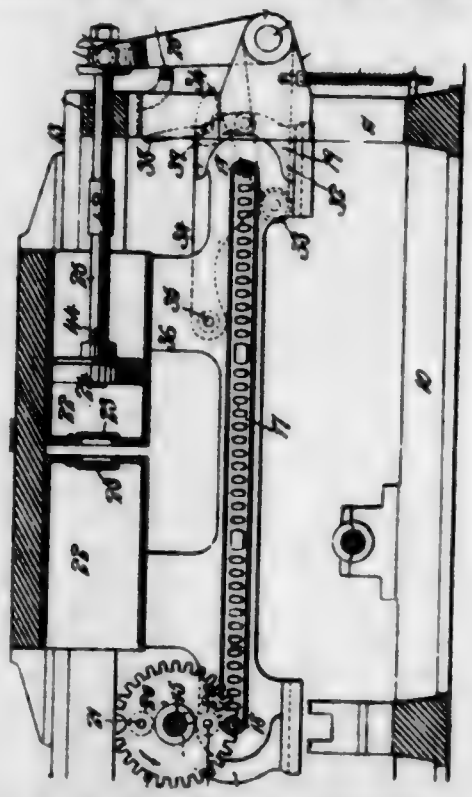
7. In a reciprocating-bed printing-press, the combination of an air-spring cylinder attached to the bed, a stationary piston fitted to said cylinder, a second cylinder and piston and an air-passage through the first-mentioned piston to said second cylinder.

8. In a reciprocating-bed printing-press, the combination of an air-spring cylinder attached to the bed, a stationary piston fitted to said cylinder, a second cylinder for communication with the air-spring cylinder through its piston, and a cam-controlled piston in said second cylinder.

9. The combination with a printing-press bed and mechanism for giving said bed a reciprocating movement retarded at a certain stage of its progress, of an air-spring cylinder and piston, an expansion-chamber for communication with said cylinder, and mechanism timed to the movement of the bed for controlling the capacity of said chamber during the retarded portion of said movement.

10. The combination with a printing-press bed and mechanism for giving said bed a reciprocating movement retarded at a certain stage of its progress, of an air-spring cylinder and piston, a second cylinder for communication with the air-spring cylinder, a piston in said second cylinder and a cam timed to the movement of the bed for controlling the action of the latter piston during the retarded portion of said movement.

806,464. PRESSURE-CONTROLLING DEVICE FOR THE AIR-SPRINGS OF PRINTING-PRESSES. CHARLES P. COTTRELL, Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 3, 1905. Serial No. 248,275.



Claim.—1. In a reciprocating-bed printing-press, the combination with the air-spring cylinder and piston, of mechanism deriving motion from the press for moving said cylinder and piston in opposite directions at the same time while the piston is in the cylinder.

2. In a reciprocating-bed printing-press, the combination with the air-spring cylinder carried by the bed, and the air-spring piston having a stationary support, of mechanism deriving motion from the press for moving said piston within the cylinder lengthwise thereof during the movement of the latter.

3. In a reciprocating-bed printing-press, the combination with the bed and an air-spring cylinder thereto attached, of a movable air-spring piston and mechanism deriving motion from the press for moving said piston within the cylinder independently of the movement of the bed and cylinder.

4. In a reciprocating-bed printing-press, the combination with the bed and an air-spring cylinder thereto attached, of an air-spring piston, and mechanism deriving motion from the press for effecting the movement of the piston within the cylinder in the opposite direction to the movement of the bed.

5. In a reciprocating-bed printing-press, the combination with the bed and an air-spring cylinder thereto attached, of an air-spring piston, and mechanism deriving motion from the press for effecting the movement of the piston within the cylinder in the same direction as the movement of the bed.

6. In a reciprocating-bed printing-press, the combination with the bed and an air-spring cylinder thereto attached, of an air-spring

piston movable independently of the cylinder and mechanism deriving motion from the press for giving the said piston a movement in the cylinder in opposite directions during the movement of the cylinder in one direction.

7. In a reciprocating-bed printing-press, the combination with the bed and an air-spring cylinder thereto attached, of an air-spring piston, and mechanism deriving motion from the press for first producing the movement of the piston in the opposite direction to the cylinder and afterward permitting and controlling the movement of the piston in the same direction as the cylinder.

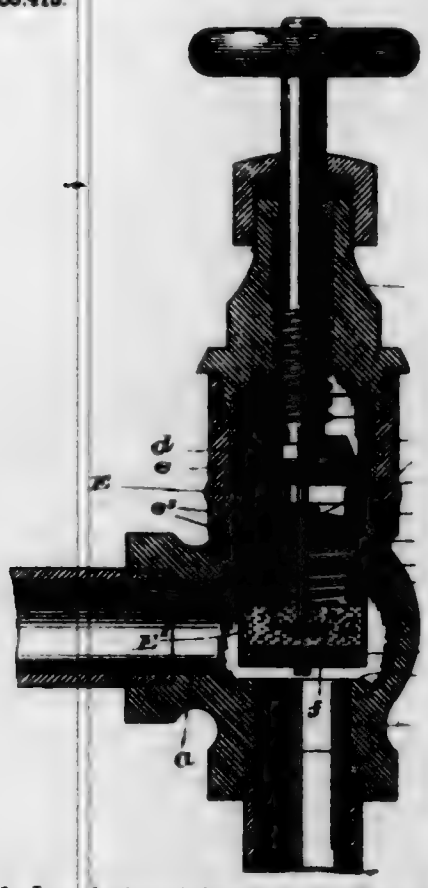
8. In a reciprocating-bed printing-press, the combination with the bed and an air-spring cylinder thereto attached, of an air-spring piston movable independently of the cylinder, a stationary support and guide for said piston, a stop to limit the movement of said piston in the same direction with the bed and means for moving said piston in the opposite direction to that of the bed.

9. The combination with a printing-press bed and mechanism for giving said bed a reciprocating movement retarded at a certain stage of its progress, of an air-spring cylinder carried by said bed, an air-spring piston movable within the cylinder independently of the movement of the cylinder itself, means for producing the movement of the piston within the cylinder in the opposite direction to the movement of the cylinder itself and means timed to the movement of the bed for producing and controlling the movement of the piston in the same direction with the bed from about the point at which the retardation of the movement of the bed commences.

10 In a reciprocating-bed printing-press, the combination with the bed and an air-spring cylinder thereto attached, of mechanism actuated by the bed itself for first producing the movement of the piston within the cylinder in the opposite direction to the movement of the bed and afterward permitting, producing and controlling the movement of the piston within the cylinder in the same direction as that of the bed.

11. The combination with a reciprocating printing-press bed, an air-spring cylinder carried by said bed and an air-spring piston movable within said cylinder independently of the movement of the cylinder itself, a fixed stop for arresting the movement of said piston away from the cylinder, a cam-lever pivoted to the bed, a rock-shaft having stationary bearings and having one arm in engagement with said piston and another for engagement with said cam-lever for producing and controlling the movement of the piston, a locking device for locking said lever in its operative position and a fixed stop for disengaging said locking device and liberating said lever to its inoperative position.

806,465. **THERMOSTATIC VALVE.** JOHN I. CRANMER, Chicago, Ill., assignor of one-half to William L. Miller. Filed May 1, 1905. Serial No. 258,413.



Claim.—1. In a device of the class described, the combination with a casing having a passage therethrough, of a screw-threaded valve-stem and a disk supported on the end of the valve-stem and movable therewith, said disk being adapted to expand automatically when heated and seat itself.

2. In a device of the class described, the combination with a valve-body having a seat and a screw-threaded valve-stem, of an expanding hollow body secured to said valve-stem and movable therewith and arranged to engage with said seat, said body containing a quantity of fluid which vaporizes at a temperature less than that of steam.

3. In a device of the class described, the combination with a valve-body having a seat, of an automatic disk within the same and having one end adapted to engage with said seat to close the valve, said automatic disk being composed of two communicating portions, the adjacent heads of which are made in the form of flexible diaphragms.

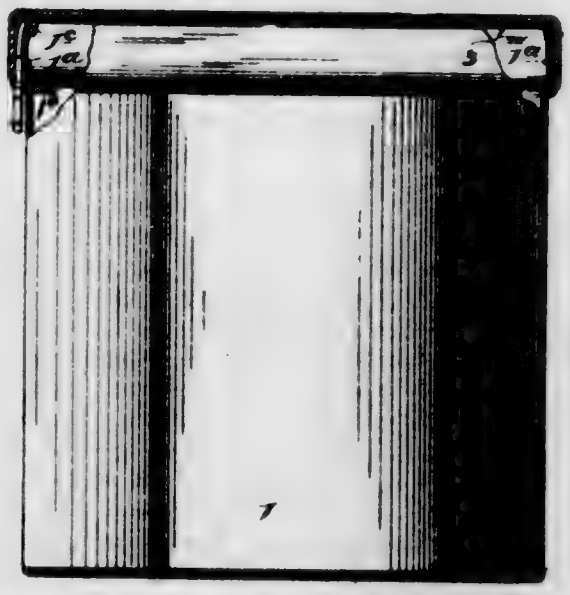
4. In a device of the class described, the combination with a valve body and seat, of an upper disk portion having a lower flexible diaphragm, a lower disk portion having an upper flexible diaphragm, a hollow coupling connecting said flexible diaphragm, the lower end of said lower disk portion being arranged to engage said seat, and a body of fluid within said disk portions adapted to vaporize at a lower temperature than that of steam.

5. In a device of the class described, the combination with a valve body and seat, of an upper disk portion having a lower flexible diaphragm, a lower disk portion having an upper flexible diaphragm, a hollow coupling connecting said flexible diaphragm, the lower end of said lower disk portion being arranged to engage said seat, a body of fluid within said disk portions adapted to vaporize at a lower temperature than that of steam, a rod secured to the top of said upper disk portion and extending through said coupling and a spring supported by the lower end of said rod and bearing on the top of said lower disk portion.

6. In a device of the class described, the combination with a valve-body having inlet and outlet openings, of a valve-seat adjacent to the outlet-opening, an expansible body supported between the inlet and outlet opening and arranged to seat itself upon said valve-seat to close the outlet-opening when heated.

7. The combination with a valve-body having a passage and a valve-seat, of a screw-threaded valve-stem and a thermostatic valve carried by and movable with said valve-stem and arranged to seat itself when heated upon said valve-seat.

806,466. **CAN.** ISAAC W. ENGLAND, Passaic, N. J. Filed Apr. 14, 1905. Serial No. 255,504.

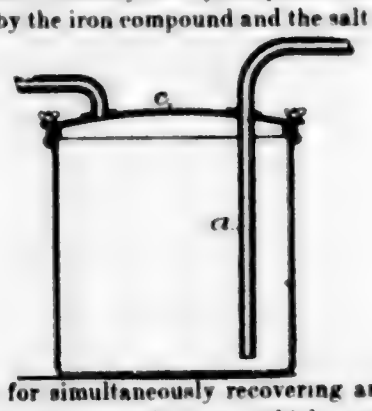


Claim.—1. A receptacle provided with a cover having a flange depending along the receptacle, said receptacle having a notch at the edge of its open end, and a lever having a bent portion located in said notch and depending between the receptacle and the flange of the cover, substantially as described.

2. A receptacle provided with a cover having a flange depending along the receptacle, said receptacle having a notch at the edge of its open end, a lever having a bent portion located in said notch and depending between the receptacle and the flange of the cover, and packing within the cover bearing upon the edge of the can and lying over said bent portion of the lever, substantially as described.

806,467. **PROCESS OF RECOVERING AMMONIA AND HYDROCYANIC ACID.** WALTHER FELD, Hönningen-on-the-Rhine, Germany. Filed Jan. 30, 1904. Serial No. 191,373.

Claim.—1. A process for simultaneously recovering ammonia and cyanogen from gases containing the same, which consists in treating said gases with a liquid containing an iron compound and a salt in the proportions substantially as specified, said iron compound being of a character to react with the cyanogen present in the gas and form therewith an iron-cyanogen compound, and said salt being of a non-basic character and having the property of reacting with ammonia in the presence of hydrocyanic acid to form therewith a neutral ammonia compound, whereby the hydrocyanic acid and the ammonia are absorbed by the iron compound and the salt respectively.



2. A process for simultaneously recovering ammonia and cyanogen from gases containing the same, which consists in treating said gases with a liquid containing a non-acid iron compound and a salt in the proportions substantially as specified, said non-acid iron compound being of a character to react with the cyanogen present in the gas and form therewith an iron-cyanogen compound, and said salt being of a non-basic character and having the property of reacting with ammonia in the presence of hydrocyanic acid to form therewith a neutral ammonia compound, whereby the hydrocyanic acid and the ammonia are absorbed by the iron compound and the salt respectively.

3. A process for simultaneously recovering ammonia and cyanogen from gases containing the same, which consists in treating said gases with a liquid containing a non-acid ferrous compound and a salt in the proportions substantially as specified, said iron compound being of a character to react with the cyanogen present in the gas and form therewith an iron-cyanogen compound, and said salt being of a non-basic character and having the property of reacting with ammonia in the presence of hydrocyanic acid to form therewith a neutral ammonia compound, whereby the hydrocyanic acid and the ammonia are absorbed by the iron compound and the salt respectively.

4. A process for simultaneously recovering ammonia and cyanogen from gases containing the same, which consists in treating said gases with a liquid containing an iron compound and a salt in the proportions substantially as specified, and at a temperature above 30° centigrade or thereabout, said iron compound being of a character to react with the hydrocyanic acid present in the gas and form therewith an iron-cyanogen compound, and said salt being of a non-basic character and having the property of reacting with ammonia in the presence of hydrocyanic acid to form therewith a neutral ammonia compound, whereby the hydrocyanic acid and the ammonia are absorbed by the iron compound and the salt respectively.

5. A process for simultaneously recovering ammonia and cyanogen from gases containing the same, which consists in treating said gases with a liquid containing an iron compound and a salt in the proportions substantially as specified, said iron compound being of a character to react with the hydrocyanic acid present in the gas and form therewith an iron-cyanogen compound, and said salt of a non-basic character which is capable of reaction with basic ammonia compounds and forming therewith a neutral ammonia compound in the presence of cyanogen, whereby the whole of the cyanogen present in the case is absorbed by the iron compound and the whole of the ammonia is absorbed by the said salt.

6. A process for simultaneously recovering ammonia and cyanogen from gases containing the same, which consists in treating said gases with a liquid containing a ferrous compound and a salt in the proportions substantially as specified, said iron compound being of a character to react with the cyanogen present in the gas and form therewith an iron-cyanogen compound, and said salt of a non-basic character and having the property of reacting with the ammonia in the presence of cyanogen and forming with the ammonia a neutral ammonia compound, treating the sludge to distil off and recover the ammonia, then treating the residue thus freed from ammonia with a precipitant to precipitate the iron-cyanogen compound formed.

806,468. CAR CONSTRUCTION. GEORGE GIBBS, New York, N. Y. Filed May 3, 1905. Serial No. 258,611.

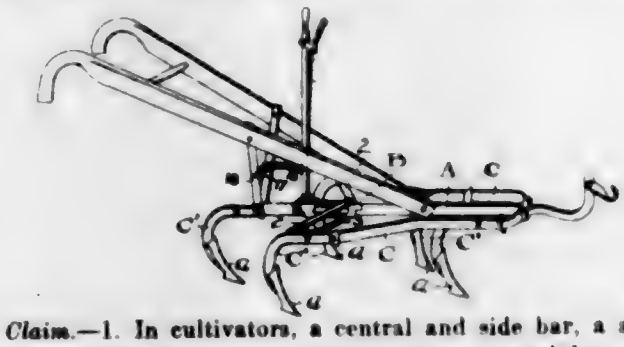
Claim.—1. The combination with the sides of the car, of a roof supported above the upper edges thereof, a molding-strip having a portion extending outwardly from said sides, and a portion interposed between the roof and the upper edges of said sides, facia-plates carried by the upper portions of said sides and against which the outwardly-projecting portion of the molding rests, a flasher-strip carried by the roof-covering and overlapping the molding, and a covering carried by the roof-covering and overlapping the flasher-strip; substantially as described.



2. In a railway passenger-car, the combination with metallic sides having inwardly-disposed horizontal flanges, molding-strips carried by said flanges and having outwardly and downwardly deflected portions, a roof-covering supported above the sides of the car, a flasher-strip carried by said roof-covering and overlapping the molding, and a covering carried by said roof-covering and overlapping the flasher-strip; substantially as described.

3. The combination with the sides of a car, of a roof supported above the upper edges thereof, a molding-strip having a portion extending outwardly from said sides, facia-plates carried by the upper portions of said sides, and a flasher-strip carried by the roof-covering overlapping the molding, and a covering carried by the roof-covering and overlapping the flasher-strip; substantially as described.

806,469. CULTIVATOR. ELIAS HAIMAN, Cleveland, Ohio, assignor to The Empire Plow Co., Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 16, 1905. Serial No. 241,201.



Claim.—1. In cultivators, a central and side bar, a slidable member on the central bar and a locking device pivoted thereon, said central bar provided with a projection at its side to engage said locking device therewith, a controlling-lever for said slidable member and means thereon operatively connected with said locking device to release the same from locking engagement.

2. In cultivators, a central bar having a fixed lateral projection at its side, side bars and meaans to fix the working position of the side bars in respect to the central bar comprising a device slidable on the central bar, links connecting said device with the said side bars and a lock for said device pivoted thereon and constructed to engage adjustably with the said lateral projection on the central bar.

3. In cultivators, central and side bars and means to adjustably fix the relations of the side bars comprising a box slidable on the central bar and links connecting said box with the side bars, said central bar having a lateral projection at its side, and a lock for said box provided with a series of openings adapted to engage with said projection.

4. A cultivator having central and side bars, means for controlling the position of side bars consisting of a box on the central beam having an open side lengthwise, a locking device for said box in said

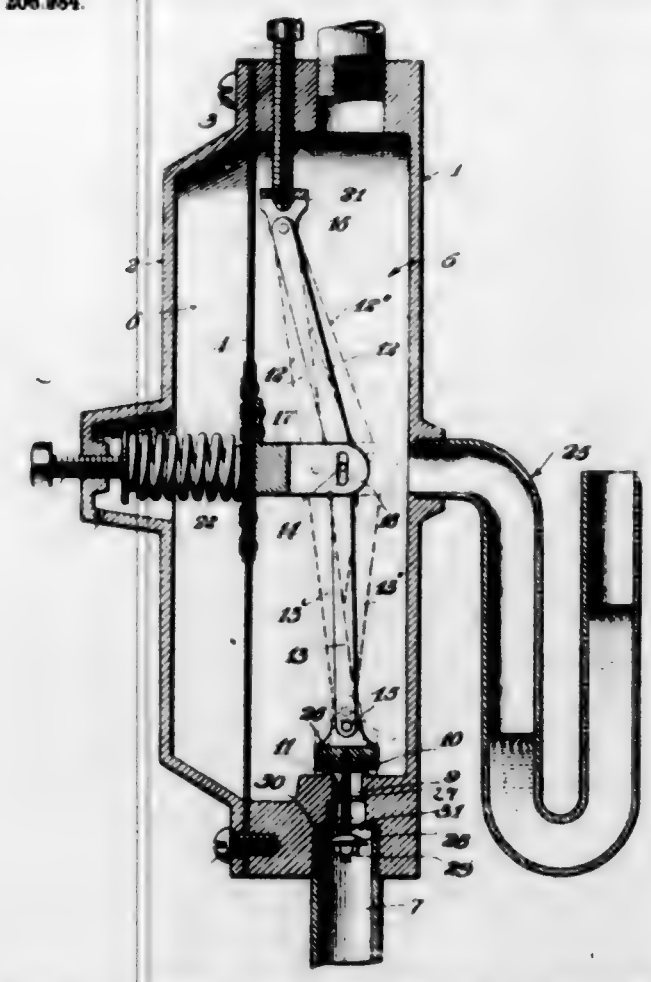
open side and the said central bar constructed at its side to engage said locking device.

5. A cultivator having tooth-bars laterally movable in respect to each other, and means to control the position of the outer bars comprising a box slidable on one of said bars, a locking device for said box mounted thereon, said box and device respectively having lateral projections at the side of said box and spring-mounted between said projections, whereby said locking device is held in locking position.

6. The tooth-bars of the cultivator, the box on the central bar having sul stantially right-angled portions along its edges and bearings in its top open from beneath, in combination with a locking device hinged in said bearings and constructed to rest in locking position at the side of the central bar.

7. The cultivator tooth-bars, in combination with the adjusting mechanism for the side bars comprising a box on the central bar, links connecting the side bars with said box, a lever to control the position of said box, a locking device mounted on said box and constructed to engage at the side of said central bar and means mounted on said lever to disengage said locking device.

806,470. **FLUID-PRESSURE REGULATOR.** ARTHUR J. HODGE and NATHANIEL HODGE, Pasadena, Cal. Filed May 9, 1904. Serial No. 206,984.



Claim.—1. A pressure-regulator comprising a chamber provided with gas inlet and outlet means, a diaphragm exposed to the pressure in said chamber, means for adjusting the pressure on said diaphragm, a valve controlling the gas-inlet means, an operating connection between the diaphragm and the valve, and adjusting means connected to the operating connection to adjust the valve toward and from its seat.

2. A pressure-regulator comprising a chamber provided with gas inlet and outlet means, a diaphragm exposed to the pressure in said chamber, means for adjusting the pressure on said diaphragm, a valve controlling the gas-inlet means, a support adjustable toward and from said valve, and a connecting means connected to said support, to the diaphragm and to the valve to operate the valve from the diaphragm and to adjust the valve from the movable support.

3. A pressure-regulator comprising a chamber provided with gas inlet and outlet means, a diaphragm exposed to the pressure in said chamber, means for adjusting the pressure on said diaphragm, a valve controlling the gas-inlet means, a screw working in the wall of said chamber, and connecting means operatively connected to said screw and to the valve to adjust the valve by adjusting the said screw, and a connection between said operating connecting means and the diaphragm to operate the valve from the diaphragm, said connection comprising relatively sliding parts permitting adjustment of the valve by the screw while maintaining the operative connection from the diaphragm.

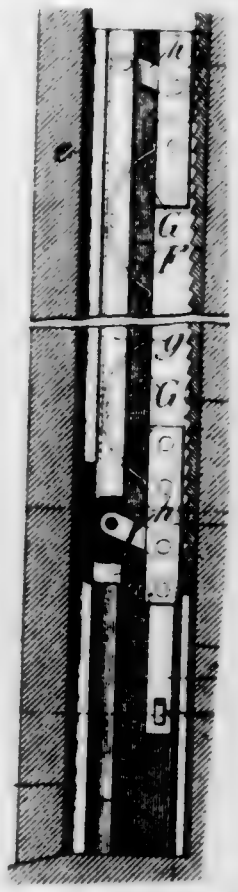
4. A pressure-regulator comprising a chamber provided with gas inlet and outlet means, a diaphragm exposed to the pressure in said chamber, means for adjusting the pressure on said diaphragm, a valve controlling the gas-inlet means, an adjustable support and a toggle connected at its ends to the valve and to the adjustable support and connected at its joint to the diaphragm.

5. A pressure-regulator comprising two chambers, and an intervening diaphragm, one of said chambers being provided with gas inlet and outlet means, means for adjusting the pressure on said diaphragm, a valve controlling the gas-inlet means, toggle-links pivotally connected to said diaphragm, one end of one toggle-link being connected to said valve, and an adjustable support connected to the other toggle-link.

6. A pressure-regulator comprising two chambers, and an intervening diaphragm, one of said chambers being provided with gas inlet and outlet means, means for adjusting the pressure on said diaphragm, a valve controlling the gas-inlet means, toggle-links pivotally connected to said diaphragm, one end of one toggle-link being connected to said valve, and an adjustable support connected to the other toggle-link, said adjustable support comprising a screw having a swivel connection with the toggle-links.

7. A pressure-regulator comprising two chambers, and an intervening diaphragm, one of said chambers having an inlet and an outlet for the fluid, means for adjusting the pressure on said diaphragm, a regulating-valve controlling said inlet, toggle-links pivotally connected to said diaphragm, one end of one toggle-link being connected to said valve, an adjustable support connected to the other toggle-link, and an emergency-valve also controlling said inlet and connected to the regulating-valve to be drawn against its seat by the movement of the toggle-links in opening the regulating-valve to a considerable degree.

806,471. **CAR-WINDOW.** ARTHUR E. HULL, Chicago, Ill., assignor to Benjamin S. McClellan, Chicago, Ill. Filed Mar. 31, 1905. Serial No. 253,143.



Claim.—1. In a car or other window, the combination of a raising and lowering sash provided on its opposite edges with longitudinally-extending metal shoes, longitudinally-extending metal jamb-strips against which the said shoes fit and slide, sash-locking gripping means between companion shoe and jamb-strips, and operating mechanism for said gripping means.

2. In a car or other window, the combination of a raising and lowering sash provided on its opposite vertical edges with longitudinally-extending metal shoes, longitudinally-extending metal jamb-strips against which the said shoes fit and slide, sash-locking gripping means, and weather-stripping between companion shoe and jamb-strips, and operating mechanism for said gripping means.

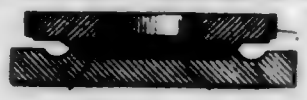
3. In a car or other window, the combination of a raising and

lowering sash provided on its opposite vertical edges with longitudinally-extending metal shoes, longitudinally-extending metal jamb-strips against which the said shoes fit and slide, spring-pressed sash-locking gripping means between companion shoe and jamb-strips, and an operating-lever for said gripping means on the sash.

4. In a car or other window, the combination of a raising and lowering sash provided on its opposite vertical edges with longitudinally-extending metal shoes, longitudinally-extending metal jamb-strips against which the said shoes fit and slide, companion shoe and jamb-strips being provided with sash-locking gripping means comprising a stationary rack on one and a movable spring-pressed rack on the other, and operating mechanism for said gripping means.

5. In a car or other window, the combination of a raising and lowering sash provided on its opposite vertical edges with longitudinally-extending metal shoes, longitudinally-extending metal jamb-strips against which the said shoes fit and slide, companion shoe and jamb-strips being provided with sash-locking gripping means comprising a stationary rack on the jamb-strip and a movable spring-pressed rack-bar on the sash, and an operating-lever for said rack-bar on the sash.

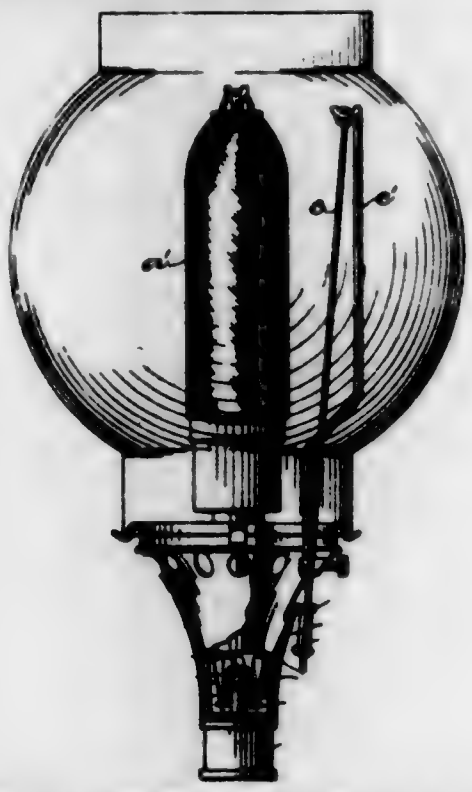
806,472. MEANS FOR MAKING ARTICLES OF PLASTIC MATERIAL. ALBERT D. JEFFREY, New York, N. Y., assignor to William L. Ettinger, New York, N. Y. Filed Apr. 12, 1904. Serial No. 202,817.



Claim.—1. In means for positioning inlay-sections in the manufacture of plastic articles, a gage containing a vertical opening corresponding in outline and plan dimensions with the inlay-section, and a heat-insulating guard carried by said gage.

2. In means for positioning inlay-sections in the manufacture of plastic articles, a gage containing a vertical opening corresponding in outline and plan dimensions with the inlay-section and having an under engaging rib, and a heat-insulating guard carried by said gage.

806,473. AUTOMATIC GAS-REGULATOR. DON H. KENT, Urbana, Ohio, assignor, by direct and mesne assignments, to The American Automatic Light Company, Urbana, Ohio, a Corporation of Ohio. Filed June 20, 1905. Serial No. 267,503.



Claim.—1. The combination with a gas-burner of a supply-conduit, a spring-actuated valve in said conduit, a thermostatic rod in proximity to said burner normally holding the valve open, and adapted to control the movement of said valve whereby the gas-opening of said valve will be increased upon the contraction of said rod, and decreased upon the expansion of said rod, substantially as specified.

2. The combination with a gas-burner of a supply-conduit leading thereto, a valve in said conduit, a spring normally closing said valve, a thermostatic rod supported adjacent to said burner and holding said valve open against the tension of said spring, and an adjustable connection between said rod and valve, substantially as specified.

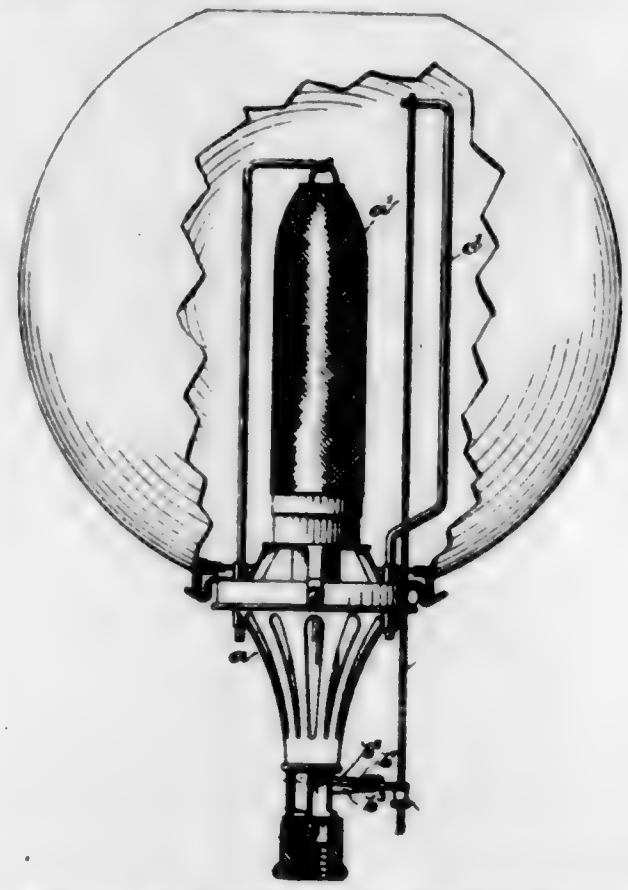
3. The combination of a gas-burner, of a supply-conduit leading thereto, a nozzle terminating said conduit and having gas-exits therein, a sleeve slidingly mounted on said nozzle and regulating by its position on said nozzle the amount of gas discharged from said conduit, a thermostatic rod connected to said sleeve, by which the sliding movement of said sleeve upon said nozzle is regulated, substantially as specified.

4. The combination of a gas-burner, a supply-conduit therefor, a valve in said conduit, a thermostatic rod obliquely arranged adjacent to said burner with its top portion farther removed from said burner than its lower portion, and a connection between said rod and said valve, substantially as specified.

5. The combination with a gas-burner of a supply-conduit leading thereto, a sliding valve regulating by its position the amount of gas discharged from said conduit, a thermostatic rod arranged in proximity to said burner and stationarily supported at one end, and attached at the other end to said valve, said rod being adapted by its expansion and contraction to control the position of said sliding valve, and thereby the flow of gas to said burner, substantially as specified.

6. The combination of a gas-burner, of a supply-conduit leading thereto, a pointed nozzle terminating said supply-conduit, gas-exits in said nozzle, a valve member slidingly mounted on said nozzle, an opening in said valve member adapted to be obstructed to a greater or less degree according to the position of said valve member upon the nozzle, a spring to move said valve member in one direction and a thermostatic rod arranged adjacent to said burner and adapted to move said valve member in the opposite direction against the tension of said spring, substantially as specified.

806,474. AUTOMATIC GAS-REGULATOR. DON H. KENT, Urbana, Ohio, assignor, by direct and mesne assignments, to The American Automatic Light Company, Urbana, Ohio, a Corporation of Ohio. Filed Apr. 3, 1905. Serial No. 253,607.



Claim.—1. The combination with a gas-burner, an incandescent mantle surrounding said burner, a conduit leading to said burner, a valve for said conduit, a thermostatic rod arranged in proximity to said mantle and supported stationarily at one end, and at the other end attached to said valve, said rod being adapted by its elongation and contraction to control the position of said valve and the flow of gas to said burner, substantially as and for the purpose specified.

2. The combination with a burner and its mantle, a conduit leading to said burner, a valve in said conduit, a pivoted lever connected to said valve, a thermostatic rod supported adjacent to said mantle and connected to said lever, a spring attached to said lever adapted to close said valve, and an adjustable connection between said rod and lever, substantially as and for the purpose specified.

3. The combination, with a burner, of a conduit leading thereto, a valve in said conduit, a lever connected to said valve at one end, a thermostatic rod connected to said lever at the other end by an adjust-

able connection, and an offset-support for said rod, substantially as specified.

4. The combination with a burner, a conduit leading thereto, a valve in said conduit, a mantle surrounding said burner, a thermostatic rod arranged adjacent to said burner and connected to said valve, and a support for said rod, said support being farther removed from the influence of the heat of said burner than said thermostatic rod, substantially as specified.

806,475. GRILL. WILLIAM A. KÖNEMAN, Chicago, Ill. Filed Nov. 30, 1904. Serial No. 234,834.



Claim.—1. In a grill, the combination with a frame, of a perforated lower heat-distributing diaphragm, a perforated upper diaphragm, and means for commingling steam with the hot products of combustion from the cooking-fire in their course through said lower diaphragm to the food imposed upon said upper diaphragm to be cooked, substantially as and for the purpose set forth.

2. In a grill, the combination with a frame, of a perforated lower heat-distributing diaphragm, a perforated upper diaphragm, and a water-receptacle supported on said frame to be heated in the cooking operation for vaporizing the water in said receptacle and supplying steam to the hot products of combustion from the cooking-fire in their course through said lower diaphragm to the food imposed upon said upper diaphragm to be cooked, substantially as and for the purpose set forth.

3. In a grill, the combination with a frame, of a perforated heat-distributing lower diaphragm, a corrugated diaphragm above said lower diaphragm provided with apertures and forming channels, and an upper diaphragm provided with drip-apertures opening to said channels.

4. In a grill, the combination with a frame, of a perforated heat-distributing lower diaphragm, a corrugated diaphragm above said lower diaphragm, forming channels and provided with apertures above the base portions of the channels, and an upper corrugated diaphragm provided with drip-apertures out of registration with the apertures in the lower corrugated diaphragm.

5. In a grill, the combination with a frame, of a perforated heat-distributing lower diaphragm, a corrugated diaphragm above said lower diaphragm, forming channels and provided with apertures in the upper ridges between channels, and an upper corrugated diaphragm provided with drip-apertures in the base portions of its depressions registering with the imperforate base portions of the channels in one corrugated diaphragm below it.

6. In a grill, the combination with a frame, of a perforated heat-distributing lower diaphragm, a corrugated diaphragm above said lower diaphragm provided with apertures and forming channels, an upper diaphragm provided with drip-apertures opening to said channels, and a water-vaporizing receptacle supported on said frame, substantially as and for the purpose set forth.

7. In a grill, the combination with a frame, of a perforated heat-distributing lower diaphragm, a corrugated diaphragm above said lower diaphragm, forming channels and provided with apertures in the upper ridges between channels, an upper corrugated diaphragm provided with drip-apertures in the base portions of its depressions registering with the base portions of the channels in the corrugated diaphragm below it, and a water-vaporizing receptacle supported in said frame, substantially as and for the purpose set forth.

8. In a grill, the combination with a frame, of a perforated heat-distributing lower diaphragm, a corrugated diaphragm above said lower diaphragm, forming channels and provided with apertures above the base portions of the channels, a receptacle on the frame at the discharge end of said corrugated diaphragm, and an upper corrugated diaphragm provided with drip-apertures out of registration with the apertures in the lower corrugated diaphragm.

9. In a grill, the combination with a frame, of a perforated heat-distributing lower diaphragm, a corrugated diaphragm forming channels and hinged at one end to extend over said lower diaphragm and provided with apertures above the base portions of the channels, and an upper corrugated diaphragm hinged at one end to extend over said first-named corrugated diaphragm and provided with drip-apertures out of registration with the apertures in the lower corrugated diaphragm.

10. In a grill, the combination with a frame, of a perforated heat-distributing lower diaphragm, a corrugated diaphragm, forming channels and hinged at one end to extend over said lower diaphragm and provided with apertures in the upper ridges between channels, a water-holding receptacle on the frame at the discharge end of said corrugated diaphragm, and an upper corrugated diaphragm hinged at one end to extend over said first-named corrugated diaphragm and provided with drip-apertures registering with the base portions of the channels in the corrugated diaphragm below it.

806,476. ATTACHABLE RECEPTACLE FOR VEHICLE-BODIES. SCHIMON LEIBENGLICK, New York, N. Y. Filed Feb. 1, 1905. Serial No. 243,665.



Claim.—In combination, a vehicle-body, supporting devices each comprising a U-shaped yoke provided with a screw rigidly secured thereto and extending through the body-wall of the vehicle and having a nut on its end, a substantially U-shaped spring within said yoke, one leg secured thereto and the other leg provided with an inwardly-projecting portion adapted by the spring action of the leg to be normally held in contact with the other leg, of a receptacle having rings adapted to be engaged with and disengaged from the supporting devices, substantially as described.

806,477. WIRE-CONNECTOR. NATHANIEL W. LILLIE, Somerville, and ANTON FREIER, Boston, Mass., assignors to Holtzer Cabot Electric Company, Brookline, Mass., a Corporation of Massachusetts. Filed Feb. 20, 1905. Serial No. 246,426.

Claim.—1. A wire-joint consisting of a metallic strip, the edges of which are bent over toward each other, and toward the body of the strip, one of the said edges being close to the body of the strip,

and the other edge being separated from the body of the strip by a space sufficient to admit a wire laterally, the said latter edge being also bent at an angle, substantially as described.



2. A wire-connector comprising a strip of metal shaped to form adjacent recesses to receive the wires, the said metal being softer and more pliable in the middle than at the ends.

806,478. CONDENSER-VALVE FOR REFRIGERATING APPARATUS. ALBERT T. MARSHALL, Brockton, Mass., assignor, by mesne assignments, to Automatic Refrigerating Company, a Corporation of New Jersey. Filed June 12, 1903. Renewed Mar. 13, 1905. Serial No. 249,820.

Claim.—1. The combination of the condenser of a refrigerating apparatus, a valve connected to supply a cooling medium thereto, and a diaphragm arranged to be acted upon on one side by the pressure of the refrigerating medium, and on the opposite side by a thermostatic pressure, said diaphragm being connected to operate the valve.

2. The combination of the condenser of a refrigerating apparatus, a valve connected to supply a cooling medium to said condenser, a diaphragm connected to operate the valve, and arranged to be acted upon on one side by the pressure of the refrigerating medium, and on the opposite side by a thermostatic pressure, and a spring for normally holding the valve closed.

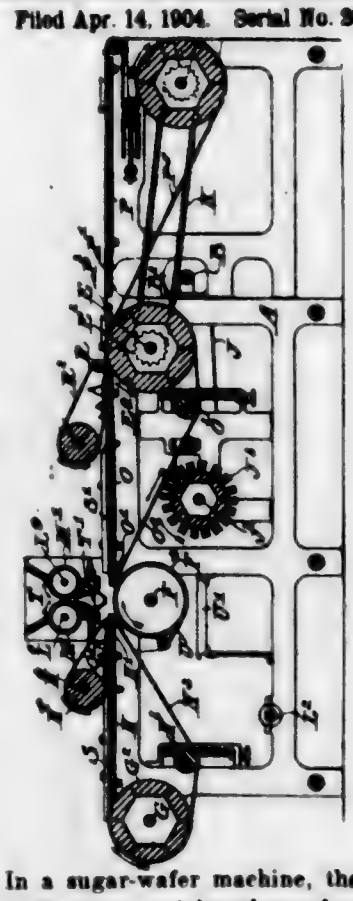
3. The combination of the condenser of a refrigerating apparatus, a valve connected to supply a cooling medium to said condenser, a diaphragm connected to operate the valve, and arranged to be acted upon on one side by the pressure of the refrigerating medium, and on the opposite side by a thermostatic pressure, a spring for normally holding the valve closed, and connections for adjusting the spring so that the valve will open at any desired difference in pressure between the thermostatic pressure and the pressure of the refrigerating medium.

4. The combination of the condenser of a refrigerating apparatus, a valve for admitting a cooling medium thereto, a diaphragm, a closed chamber in the upper part of the diaphragm-casing, and containing an expansible medium for exerting a thermostatic pressure on the upper side of the diaphragm, a pipe connected to the under side of the diaphragm-chamber for admitting the pressure of the refrigerating medium to act on the under side of the diaphragm, a spring mounted in the diaphragm-chamber, and a spindle extending to the outside of the diaphragm-chamber for adjusting the pressure of said spring.

5. The combination of the condenser of a refrigerating apparatus, a pump, a valve connected to supply a cooling medium to the condenser, a diaphragm connected to operate the valve, and arranged to be acted upon on one side by the pressure of the refrigerating medium and on the opposite side by a thermostatic pressure, a spring for normally holding the valve closed, connections for adjusting the spring so that the valve will open at any desired difference in pressure between the thermostatic pressure and the pressure of the refrigerating medium, an electric motor for driving the pump, a cut-out for the motor-circuit, an electric magnet for releasing the cut-out, said magnet being located in a shunt-circuit taken from the motor-circuit, and connections for completing the shunt-circuit when the pressure generated by the pump becomes excessive.

6. The combination of the condenser of a refrigerating apparatus, a pump, an electric motor driving the pump, a valve connected to supply a cooling medium to the condenser, a diaphragm connected to operate the valve, and arranged to be operated upon on one side by the pressure of the refrigerating medium, and on the opposite side by a thermostatic pressure, a spring normally holding the valve closed, and a finger adjustably mounted on the stem or rod operated by the diaphragm for bringing electric terminals into contact to close a shunt-circuit taken from the motor-circuit, and including a magnet for operating a cut-out.

806,479. SUGAR-WAFER MACHINE. JAMES H. MITCHELL, Philadelphia, Pa. Filed Apr. 14, 1904. Serial No. 203,081.



Claim.—1. In a sugar-wafer machine, the combination with means for feeding plastic material to the surface of the wafers, of a continuously-moving carrier for transporting the wafers beneath said feeding device, a second continuously-moving carrier having greater speed than the first arranged to receive the spread biscuits and carry them away from the feeding device spaced farther apart than they are on the first carrier, and means acting in conjunction with the second carrier for pressing down a second wafer on top of the spread wafers.

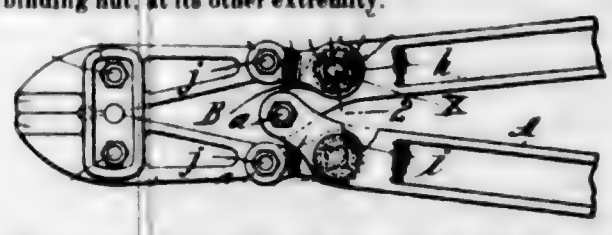
2. In a sugar-wafer machine, the combination with means for feeding plastic material to the surface of a wafer, of carriers for transporting the wafers to and from said feeding device, neither carrier extending beneath the same, a drum rotating directly beneath the feeding device and a scraper to remove any plastic material which may fall upon said drum.

3. In a sugar-wafer machine, the combination with means for feeding plastic material to a wafer, of carrier-belts for transporting the wafers to and from said feeding device, and hinged guides 8, resting by gravity on the upper edges of the belts moving up and down therewith and serving to guide the wafers during transportation.

4. In a sugar-wafer machine, the combination with means for feeding plastic material to a wafer, of carrier-belts for transporting the wafers to and from said feeding device, a belt R^3 supported on rollers so placed that a plane tangential to their lower faces will lie at an angle to the plane of travel of the second carrier-belt, said belt R^3 moving at the speed of the second carrier and immediately above the same and a weighted plate R^5, resting on the lower side of said belt near the rear supporting-roller and holding the portion of the belt R^3, near said rear roller against the transporting-belt.

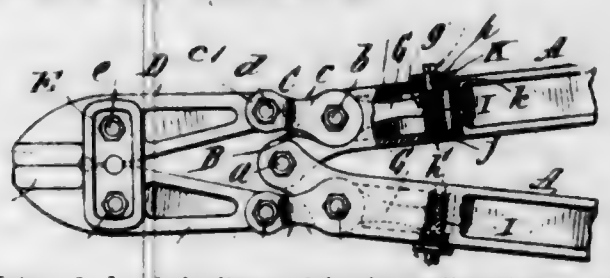
806,480. BOLT-CLIPPER. ARTHUR L. MOORE, Springfield, Mass. Filed Apr. 24, 1905. Serial No. 257,233.

Claim.—1. In a bolt-clipper, the combination with the handle-levers, pivotally connected at their forward extremities and provided adjacent the pivotal connections with sidewise-open recesses having circular serrated bases and partially-circular edge walls, and having perforations transversely and concentrically therethrough, of the cutter-provided levers, and the adjusting-levers, jointed thereto, and having partially-circular extremities and serrated faces, fitted in the said recesses and engaging with the serrated inner walls thereof, and a bolt transversely extending through the handle-levers and said adjacent levers, headed at one end, and threaded, and provided with a binding nut, at its other extremity.



2. In a bolt-clipper, the handle-levers, pivotally connected at their forward extremities and provided adjacent to and rearwardly of the pivotal connection with sidewise-open recesses having circular serrated bases and partially-circular edge walls, and having the round perforations *c* transversely and concentrically therethrough, the cutter-provided levers, and adjusting-levers jointed thereto and having partially-circular extremities and serrated faces, fitted in the recesses and engaging with the serrated inner walls thereof, and also having the squared hole *d* therethrough, and the bolt transversely extending through the handle-levers and said adjacent levers, constructed with the end head, the cylindrical portion *c'*, the squared portion *d'*, the cylindrical portion *f*, of reduced diameter, and constructed for engagement by a rotating implement, and the nut, all arranged and interengaged substantially as described and for the purposes set forth.

806,481. **BOLT-CLIPPER.** ARTHUR L. MOORE, Springfield, Mass. Filed Apr. 24, 1905. Serial No. 257,234.

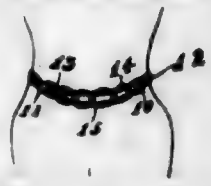


Claim.—1. In a bolt-clipper of the class indicated, the combination with the handle-levers pivotally jointed at their forward extremities, the cutter-levers and adjusting-levers jointed to the cutter-levers and intermediately pivotally jointed to the handle-levers adjacent the handle-lever hinge-joint, and having their rearwardly-extended arms formed with worm-segments at their ends, and worms supported for rotary movement on, and arranged transversely of the handle-levers, in engagement with the worm-segments, and having provisions for imparting their rotational movements to the adjusting-levers.

2. In a bolt-clipper of the character described, the combination with the handle-levers pivotally jointed at their forward extremities, and having a sidewise-opening recess B with partially-circular edge walls and said handles having longitudinally-extending cavities H, H, opening to said recesses, of the cutter-levers D D and the adjusting-levers C C having the thickened and rounded intermediate portions fitted in said recesses B, and pivotally connected thereat with the handle-levers, and having their arms G rearwardly extending into said handle-cavities and provided at their ends with the worm-segments *g*, and the worms I I journaled within the walls of the handle-levers, traversing the cavities therein, and in engagement with the worm-segments of the adjusting-levers.

3. In a bolt-clipper of the character described, the combination with the handle-levers pivotally jointed at their forward extremities, and having sidewise-opening recesses B with partially-circular edge walls and said handles having longitudinally-extending cavities H, H, opening to said recesses, and constructed with the journal-hole *j* at one edge wall, and with the comparatively large threaded hole *k* through its opposite edge wall, of the cutter-levers D D and the adjusting-levers C C having the thickened and rounded intermediate portions fitted in said recesses *b*, and pivotally connected thereat with the handle-levers, and having their arms G rearwardly extending into said handle-cavities and provided at their ends with the worm-segments *g*, and the worms I I, having the inner end journals *h'* fitted in said holes *j* positioned transversely of the handle-lever and with their threaded portions within the cavities thereof and in engagement with the adjusting-lever worm-segments, having the outer and round journal portions *h*, and the squared extremities *i*, and the nuts K, screw-engaged in said holes *k* and having axial journal-holes for the said journal portions *h* of the worms, substantially as shown.

806,482. **OBESITY-BELT.** SILAS H. MOORE, New York, N. Y. Filed Sept. 13, 1904. Serial No. 224,248.



Claim.—1. A belt of the kind described constructed to fasten on the body and provided with a series of loosely-mounted tapering corrugated rollers thereon, one series of rollers being arranged to turn with their axes transversely of the belt and the second series of rollers being arranged to turn with their axes longitudinally of the belt.

2. A belt of the kind described having flexible supports thereon, the said supports being longitudinally and transversely arranged, and rollers having surface corrugations, the said rollers being mounted on both the vertical and lateral supports so as to turn at angles to each other.

806,483. **SHOE-FORM.** WALTER L. C. NILES, Lynn, Mass. Filed Mar. 3, 1902. Serial No. 96,285.

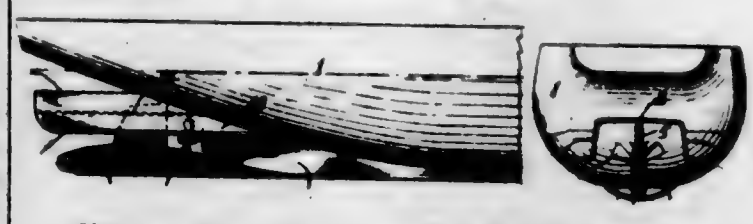


Claim.—1. A shoe-form, comprising a hollow fore part, a standard secured to and uniting the meeting edges of said fore part, and a brace pivotally connected to said standard, substantially as described.

2. A shoe-form, comprising a fore part, a wire brace pivotally connected to said fore part, a loop or eye at the rear end of the brace and a stop extending downward from said brace in front of said loop or eye, substantially as described.

3. A shoe-form, comprising a fore part, a wire brace pivotally connected to said fore part, a loop or eye at the rear end of the brace, a stop extending downward from said brace in front of said loop or eye and an integrally-formed arched portion intermediate the ends of said brace, substantially as described.

806,484. **HULL OF VESSELS.** ISAAC E. PALMER, Middletown, Conn. Filed Oct. 14, 1904. Serial No. 228,392.



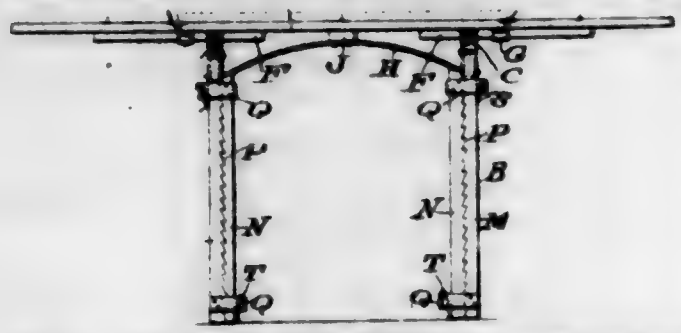
Claim.—1. The combination with the hull of a vessel provided with a propelling-wheel, of a hood-like extension consisting of a top plate and downwardly-turned sides extending rearwardly from the stern of the vessel near the water-line and above the propelling-wheel, the said hood-like extension being provided with laterally-projecting fins.

2. The combination with the hull of a vessel, of a hood-like extension consisting of a top plate and downwardly-turned side plates extending from the stern portion thereof, the said hood-like extension thereof being provided with laterally-extending fins.

3. The combination with the hull of a vessel provided with a power-wheel, of a rearwardly-projecting plate fixed to the stern portion thereof and extending rearwardly above the wheel and laterally-projecting wings on the keel below the said wheel arranged to coact with the plate above the wheel to hold the water to the wheel.

4. The combination with the hull of a vessel, of a hood-like extension fixed to and projecting rearwardly from the stern of the vessel above the rudder of the vessel and wings fixed to and projecting laterally from the keel of the vessel and spaced from the hood-like extension at their outer edges.

808,485. FOLDING AND ADJUSTABLE TABLE. CLARA E. PARKER, Philadelphia, Pa. Filed July 13, 1905. Serial No. 269,494.

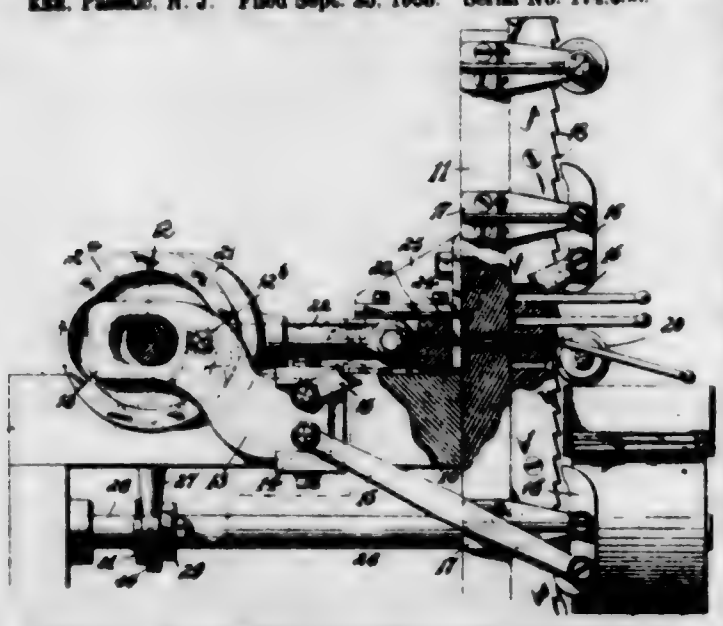


Claim.—1. In a table, a leg formed of separate sections having contiguous serrated faces, a yoke connected with one section and freely embracing the other section, a swinging plate mounted to bear against one of said sections, and a coöperaing lever mounted on said yoke to press said plate against said section to hold said sections in locking engagement.

2. In a table, a leg formed of separate sections having contiguous serrated faces, a yoke connected with one section and freely embracing the other section, and a primary pressure device interposed between the end of said yoke and the adjacent section of the leg, a swinging plate and a pivoted lever mounted to act thereon near its free end, said plate and lever being mounted on a yoke embracing the other ends of said sections.

3. In a table, a leg formed of separate sections having contiguous serrated faces, yokes each connected respectively with one section and freely embracing the other section, a primary pressure device interposed between the end of one yoke and the adjacent section of the leg, and a pivoted swinging plate and a positively-operating lever mounted on the other yoke and adapted to be pressed against said plate and the latter tightened against the adjacent section of the leg.

806,486. MACHINE FOR BOXING MATCHES. WILLIAM H. PARKER, Passaic, N. J. Filed Sept. 25, 1903. Serial No. 174,685.



Claim.—1. In a machine for boxing matches, a suitable frame, a match-holder adapted to gravitate within the frame, racks attached to the match-holder, escapement-dogs connected to the frame and adapted to act in conjunction with the racks of the match-holder to permit intermittent movement of the said match-holder, means for moving the escapement-dogs, suitable ejector-plungers for removing the matches from the match-holder, a suitable conveyer adapted to carry trays for receiving the matches from the match-holder, and a power-shaft by which the ejector, escapement-dogs and conveyer mechanism are operated.

2. In a machine of the character described, a suitable frame, a match-holder adapted to gravitate with relation to the frame, escapement-dogs connected to the frame, racks carried by the match-holder, adapted to be engaged by the dogs to permit intermittent movement of the said match-holder, a suitable match-ejector, a conveyer adapted to carry trays in certain relation to the match-holder, a power-shaft, means operated by the power-shaft for actuating the ejector, escapement-dogs and conveyer mechanism, substantially as described.

3. In a machine of the character described, a suitable frame, a match-holder acting in conjunction with the frame and adapted to move by gravity, dogs for supporting the frame and permitting intermittent movement thereof, a power-shaft, slotted arms fitted on the power-shaft, and taking movement therefrom, suitable connections from the slotted arms to the escapement-dogs, a match-ejector acting in conjunction with the match-holder, means on the said shaft for operating the ejector, a suitable conveyer, and means on the shaft for operating the conveyer mechanism.

4. In a machine of the character described, a suitable frame, a match-holder acting in conjunction with the frame and adapted to move by gravity, dogs for supporting the frame and permitting intermittent movement thereof, a power-shaft, slotted arms fitted on the power-shaft, and taking movement therefrom, guides carried by the frame in which the slotted arms reciprocate, suitable connections from the slotted arms to the escapement-dogs, a match-ejector acting in conjunction with the match-holder, means on the said shaft for operating the ejector, a suitable conveyer, and means on the shaft for operating the conveyer mechanism.

5. In a device of the character described, a suitable frame, a match-holder vertically slidable and adapted to move by gravity therein, escapement-dogs, means carried by the match-holder, engaged by the escapement-dogs, whereby the match-holder is supported and is permitted to intermittently move with relation to the frame, a power-shaft, slotted arms mounted on the power-shaft, guides in v hich the slotted arms reciprocate, means carried by the power-shaft for reciprocafing the arms, suitable connections from the arms to the escapement-dogs, a match-ejector, and means carried by the shaft for reciprocating the ejector.

6. In a machine for boxing matches, a suitable frame, an upright thereon, a match-frame held against the upright and adapted to move by gravity, racks carried by the match-frame, slotted bars, the slots of said bars engaging the power-shaft, pawls attached to the upright and adapted to engage the racks of the match-frame, links connecting the slotted bars and pawls, and means operated by the power-shaft to give a reciprocating movement to the bar.

7. In a machine for boxing matches, a suitable frame, an upright thereon, a match-frame held against the upright and adapted to move by gravity, racks carried by the match-frame, a power-shaft mounted on the frame, grooved cams on the power-shaft, bars having slots in one end engaging the shaft, rollers on the bars riding in the grooves of the cams, pawls on the upright adapted to limit the movement of the match-frame, links connecting the free ends of the bars and the pawls and a guide carried by the frame for the bars

8. In a machine for boxing matches, a suitable frame, a match-holder, racks attached to the match-holder, escapement-dogs for engaging the racks, a power-shaft for operating the escapement-dogs, match-ejectors, means operated by the power-shaft for actuating the ejectors, an eccentric on the power-shaft, a depending arm thereon, a lever adjustably secured to the free end of the arm, a tray-conveyer, suitable shafts for the conveyer, a ratchet on one of the shafts, and a pawl carried by the lever engaging the ratchet, the free end of the lever being loose on the shaft of the ratchet.

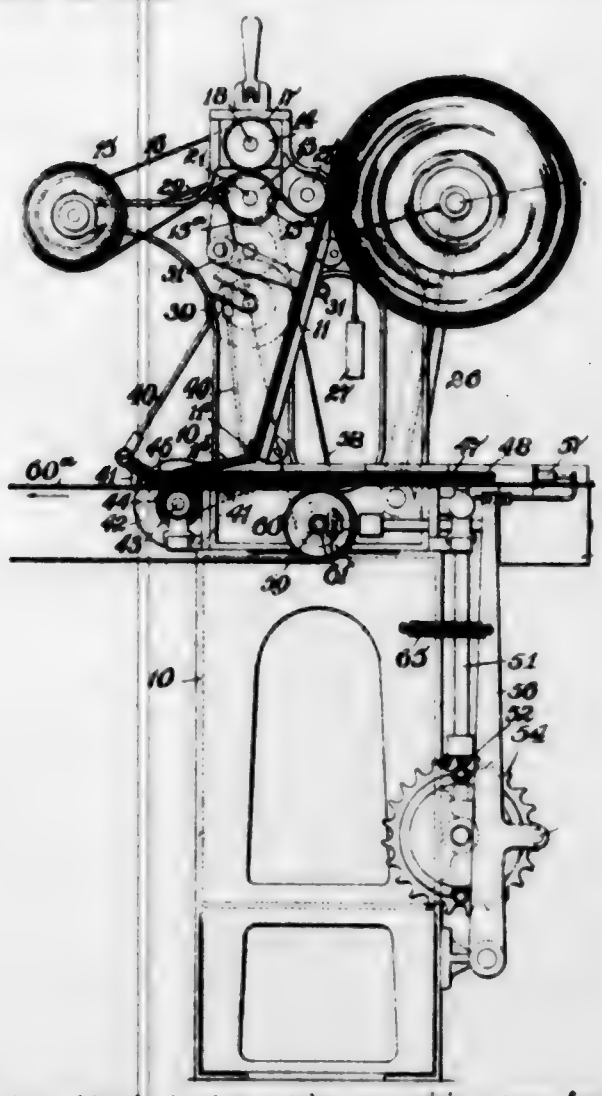
9. In a machine for boxing matches, a suitable frame, a match-holder, racks attached to the match-holder, escapement-dogs for engaging the racks, a power-shaft for operating the escapement-dogs, match-ejectors, means operated by the power-shaft for actuating the ejectors, an eccentric on the power-shaft, a depending arm thereon, a lever adjustably secured to the free end of the arm, a tray-conveyer, suitable shafts for the conveyer, a ratchet on one of the shafts, and a longitudinally-adjustable pawl carried by the lever engaging the ratchet, the free end of the lever being loose on the shaft of the ratchet.

10. In a device of the character described, a suitable frame, a match-holder vertically slidable and adapted to move by gravity therein, escapement-dogs, means carried by the match-holder, engaged by the escapement-dogs, whereby the match-holder is supported and is permitted to intermittently move with relation to the frame, a power-shaft, slotted arms mounted on the power-shaft, guides in which the slotted arms reciprocate, means carried by the power-shaft for reciprocating the arms, suitable connections from the arms to the escapement-dogs, a match-ejector, and means carried by the shaft for reciprocating the ejector, a conveyer adapted to carry trays and means connected with the power-shaft for operating the conveyer mechanism.

808,487. MACHINE FOR BOXING MATCHES. WILLIAM H. PARKER, Passaic, N. J., assignor to Warren B. Hutchinson, trustee, New York, N. Y. Filed Dec. 3, 1904. Serial No. 235,310.

Claim.—1. A machine for boxing matches, comprising means for unwinding a coil of matches, a chute open at the sides arranged to receive the matches from the coil, and arms arranged to swing on

opposite sides of the chute to engage the matches and move them edgewise in the chute.



2. A machine for boxing matches, comprising means for intermittently unwinding a coil of matches, a chute open at the sides to receive the matches, and arms arranged to swing on the sides of the chute to engage the matches and move them lengthwise on one another in the chute while the matches are at rest.

3. A machine for boxing matches, comprising a means for intermittently unwinding a coil of matches, an open-sided match-chute arranged to receive the matches, means on the sides of the chute to engage the matches while the coil-feeding mechanism is at rest to move the matches lengthwise of one another to reduce the width of the column of matches, and means for conveying boxes beneath the chute.

4. A machine for boxing matches, comprising means for intermittently unwinding a coil of matches, an open-sided match-chute, means for engaging the edges of the matches while the coil-operating means is at rest, means for conveying boxes beneath the chute, and means for feeding boxes to the box-conveying mechanism.

5. A machine of the kind described, comprising a box-chute having a stationary bottom, sprocket-chains forming the sides of the box-chute and adapted to engage the sides of the boxes, a plunger operating to force the boxes between the chains at predetermined intervals, and a guide-chute arranged to feed the matches to the boxes.

6. A machine of the kind described, comprising a chute adapted to receive and convey matches to its lower end, a pair of sprocket-chains arranged to form the sides of the box-chute and convey the boxes beneath the match-chute, a transverse belt on the receiving end of the box-chute and a plunger arranged to force a box from the transverse belt to the box-chute at predetermined intervals.

7. In a machine of the kind described, the combination with the match-discharging chute, and means for carrying boxes beneath the chute, of traveling guides moving at the same rate of speed as the boxes and along opposite sides thereof.

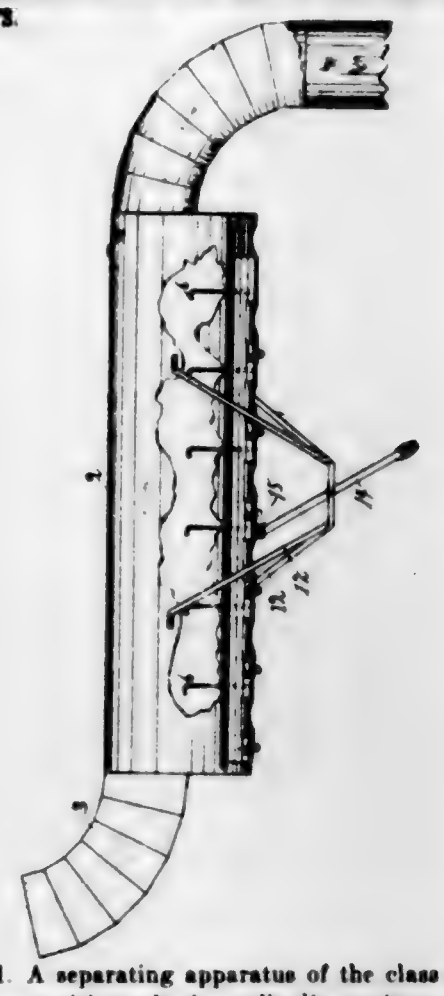
8. In a machine of the kind described, the combination with the match-discharging chute, of parallel traveling guides moving beneath the chute and constructed to guide and carry forward a series of match-boxes.

9. In a machine of the kind described, the combination with a box-carrying belt, of traveling guides arranged above and near opposite sides of the said belt, the said guides running at less speed than the belt and constructed to carry match-boxes between them, and means for discharging matches into the boxes.

10. The combination with box-carrying means, of a hinged guide-chute adapted to lie loosely in the box, and means for feeding matches into and through the chute.

11. In a machine of the kind described, the combination with box-carrying means, of an open-sided guide-chute arranged above the box-carrying means, and an extension-chute hinged to the first chute and constructed to have its free end enter the boxes as they pass beneath it.

806,488. **SEPARATING APPARATUS FOR ALFALFA-GRINDERS.** GEORGE H. PAYNE, Omaha, Nebr. Filed Apr. 15, 1905. Serial No. 255,773.

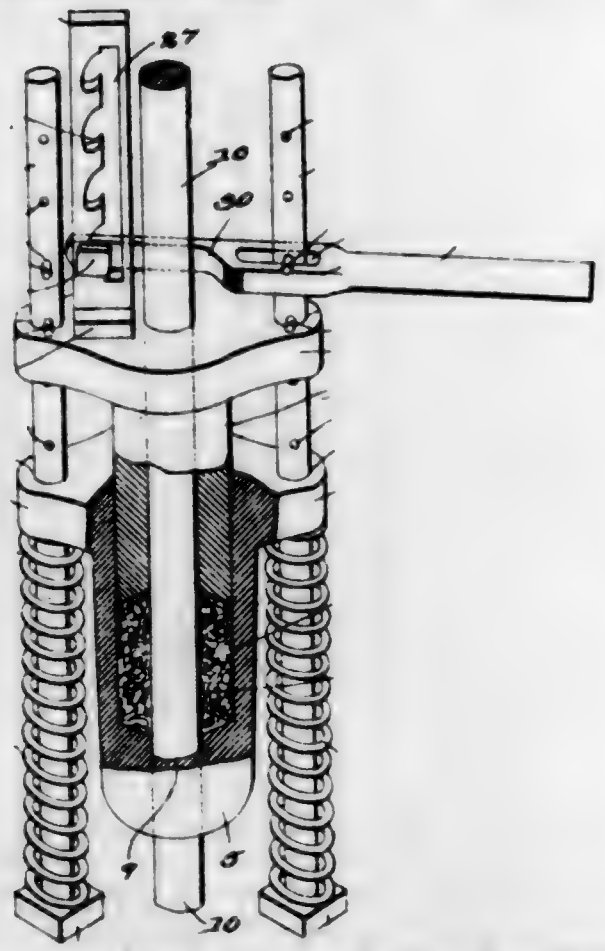


Claim.—1. A separating apparatus of the class described, in combination, comprising a horizontally-disposed receptacle having a longitudinally-extending containing-wall with parallel upper and lower surface portions; a series of apertures formed within said lower surface portion of said containing-wall of said receptacle; an incoming and an outgoing pipe connected with said receptacle; a member having a wall extending adjacent to, parallel with and upon the outer part of said lower surface portion of said containing-wall of said receptacle; said wall of said member having a series of apertures formed therein; said wall of said member adapted to have a sliding movement, longitudinally, upon said lower surface portion of said receptacle; a series of vertically-disposed struts integrally mounted upon said member and passing within said receptacle; a series of leaves mounted vertically and integrally upon said struts and disposed transversely thereon with reference to said longitudinally-extending wall of said receptacle; said apertures of said containing-wall of said receptacle being in longitudinal alinement with the apertures of said wall of said member; and means to cause an opening and closure of said apertures.

2. In a separating apparatus, the combination of a horizontally-disposed receptacle having a longitudinally-extending containing-wall with parallel upper and lower surface portions; a series of apertures formed within said lower surface portion of said containing-wall of said receptacle; an entrance-pipe and an exit-pipe connected with said receptacle; a member having a wall extending adjacent to, parallel with and upon the outer part of said lower surface portion of said containing-wall of said receptacle; said wall of said member adapted to have a sliding movement, longitudinally, upon said lower surface portion of said receptacle; a series of vertically-disposed struts integrally mounted upon said member and passing within said receptacle; a series of leaves mounted integrally upon said struts; said series of leaves having body portions and inclinedly-formed free ends; the body portions of said leaves being vertically disposed, and mounted in a manner transversely with reference to said longitudinally-extending wall of said receptacle; said apertures of said containing-wall of said receptacle being in longitudinal alinement with the apertures of said wall of said member; and means to cause an opening and closure of said apertures.

3. A separating apparatus, comprising a pipe having a section thereof enlarged in diameter to form a lengthwise-extending, horizontally-disposed, circular, chamber; a slidable member mounted upon the lower surface of said chamber and adapted to have a lengthwise movement thereon within the guide 5; the apertures 4 and 4' formed in the body of said chamber; the apertures 8 formed in said slidable member; the struts 7 integrally mounted on said slidable member; the series of leaves 6 mounted upon said struts; the slides 10 and guides 11; and means to cause a simultaneous opening and closure of said apertures 4 and 4', substantially as shown and described.

806,489. **STUFFING-BOX.** JOHN M. PECK, Warren, Ind. Filed June 6, 1905. Serial No. 264,008.



Claim.—1. In a device of the class described, the combination with a stuffing-box, of a gland longitudinally adjustable, rods connecting the stuffing-box and gland, means for yieldably supporting the gland within said box, means for adjusting the rods to vary the pressure exerted by the supporting means, and means for locking said rods in adjusted position.

2. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the stuffing-box and gland and provided with adjusting-pins, means carried by the rods for yieldably supporting the gland within the box, and means carried by the gland and adapted to engage said pins for varying the pressure exerted by the supporting means.

3. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the stuffing-box and gland and provided with a plurality of laterally-extending adjusting-pins, springs carried by the rods for yieldably supporting the gland within the box, and means carried by the gland for adjusting the tension of said springs.

4. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and stuffing-box, springs carried by the rods for yieldably supporting the gland within the box, and an operating-lever adapted to engage the rods for adjusting the tension of said springs.

5. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box, springs carried by the rods for yieldably supporting said gland within the box, and a reversible operating-lever carried by the gland and adapted to engage the rods for adjusting the tension of the springs.

6. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box and provided with a plurality of transverse openings, springs carried by the rods for yieldably supporting the gland within the box, an operating-lever adapted to engage the rods for adjusting the tension of the springs, and pins seated in the openings in the rod for locking the springs in adjusted position.

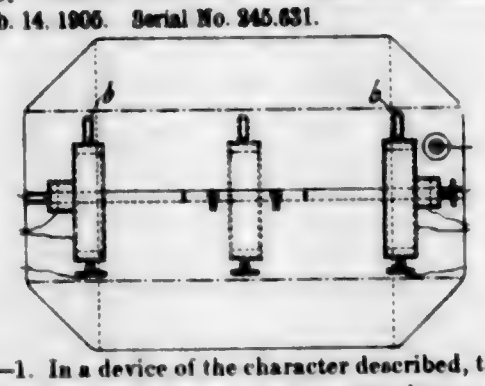
7. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box and provided with a plurality of laterally-extending pins, springs carried by the rods for yieldably supporting the gland within the box, and a vertically-adjustable lever carried by the gland and adapted to engage the pins on the rods for adjusting the tension of the springs.

8. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box and provided with a plurality of transverse openings, springs carried by the rods for yieldably supporting the gland within the box, a plurality of spaced pins detachably engaging the openings in said rods, and a reversible operating-lever adapted to engage one of the pins on said rods for adjusting the tension of the springs.

9. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box and provided with a plurality of spaced laterally-extending pins, springs carried by the rods for yieldably supporting the gland within the box, a rack engaging the gland, and a lever pivotally mounted on the rack and adapted to engage the pins on the rods for adjusting the tension of the springs.

10. In a device of the class described, the combination with a stuffing-box, of a gland slidably mounted therein, rods connecting the gland and box, springs carried by the rods for yieldably supporting the gland within said box, a rack engaging the gland, and an operating-lever pivotally mounted on the rack and provided with a longitudinal slot adapted to receive the connecting-rods, said lever being adapted to engage the pins on the rods for adjusting the tension of the springs.

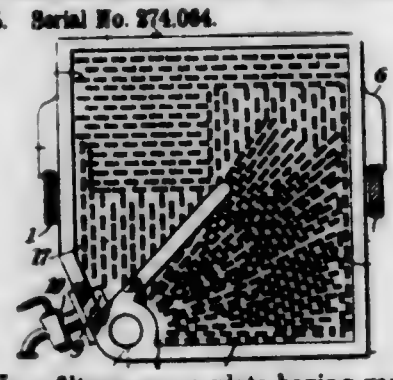
806,490. **FLOAT.** ALEXIS I. POLIANSKY, St. Petersburg, Russia. Filed Feb. 14, 1905. Serial No. 245,631.



Claim.—1. In a device of the character described, the combination, with two inflatable balloons, of coöperating loops and turn-buttons fastened along the upper and lower longitudinal and transverse edges of the same, substantially as and for the purpose herein set forth.

2. In a device of the character described, the combination with two balloons, of loops *b* and turn-buttons *c* attached to said balloons in such positions as to coöperate with each other, and bands for securing said loops and buttons in place.

806,491. **FILTER-PRESS.** RICHARD PICK, Buffalo, N. Y. Filed Aug. 14, 1905. Serial No. 274,084.



Claim.—1. In a filter-press, a plate having variously-disposed lugs or projections on its sides giving the largest possible filtering area to the filter-cloth, and arms extended at an upward angle from the lower front corners of the plates.

2. In a filter-press, a plate having on its sides horizontally-arranged projections, vertically-arranged projections, and angularly-arranged projections, and arms extended at an upward angle from the lower front corners of the plates.

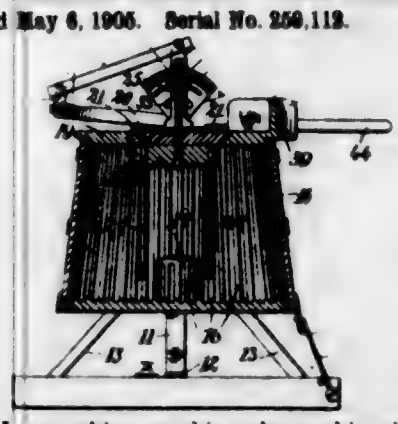
3. In a filter-press, a series of plates having projections on the sides and outlet-openings, spacing-frames having inlet-openings and

alternating with the plates, arms extended upward at an angle from the lower front corner of the frames and plates, and filter-cloths clamped between the said frames and plates.

4. In a filter-press, a series of plates having projections on their opposite sides, the said plates being provided at the lower front corners with openings for the passage of liquid and also adjacent thereto having discharge-openings, frames in which the plates are arranged, spacing-frames alternating with the frames of the plates, arms extended upward at an acute angle from the lower front corners of the spacing-frames and plates, and filter-cloths clamped between the plate-frames and the spacing-frames.

5. In a filter-press, a supporting-frame, plates mounted on the frame and having variously-disposed projections on opposite sides, spacing-frames alternating with the plates and mounted on said supporting-frame, arms extended upward at an acute angle from the lower front corners of the spacing-frame and plates, filtering-cloths arranged between the plates and frames, and means for clamping the parts together.

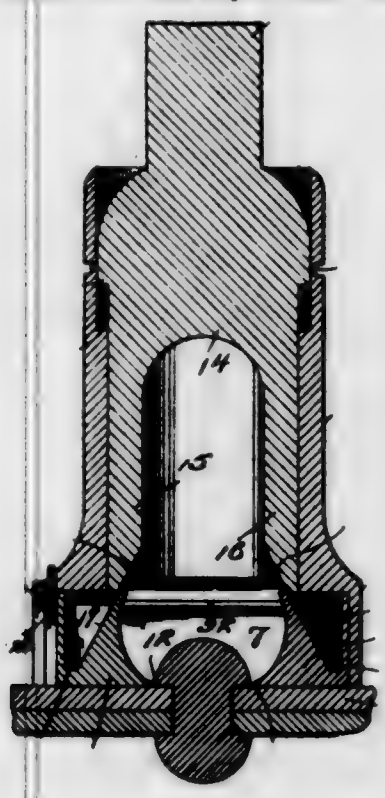
806,492. **WASHING-MACHINE.** HENRY PLAGMANN, Davenport, Iowa. Filed May 6, 1905. Serial No. 259,112.



Claim.—1. In a washing-machine, the combination with a frame comprising opposite standards, of a tub mounted to rock upon the standards, a cover for the tub, a shaft journaled upon the cover and having agitators extending into the tub, a pinion fixed to the shaft, a segmental gear mounted to oscillate upon the cover and meshing with the pinion, a bail-shaped member extending between the standards and pivoted thereto, links connecting said member with the frame at opposite sides, and a link joining the member and gear.

2. In a washing-machine, the combination with a frame, of a tub mounted to rock thereon, a cover for the tub, a bracket rising from the tub, a shaft journaled in the bracket and cover and having agitators extending into the tub, a pinion fixed to the shaft, a segmental gear having a slot being mounted to oscillate upon the bracket, a projection extending from said bracket into the slot, a bail-shaped member pivoted to the standards, and means connecting said member with the frame and the segmental gear.

806,493. **RIVET-CUTTING TOOL FOR AIR-GUNS.** HARRY F. PLUMMER, Altoona, Pa. Filed May 31, 1905. Serial No. 263,073.



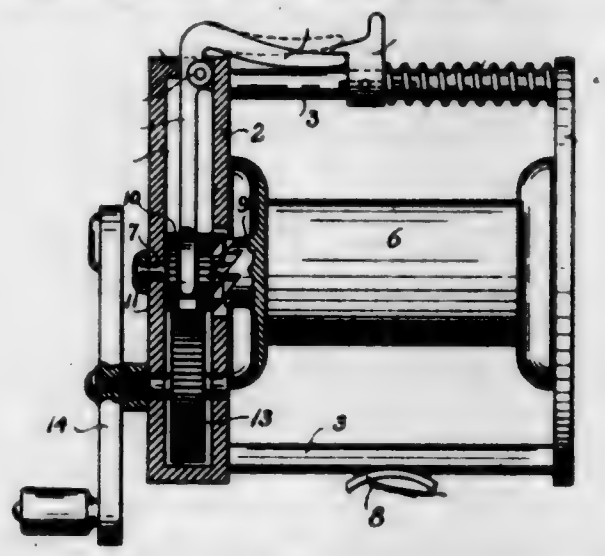
Claim.—1. A rivet-cutting tool comprising cutting members slidably mounted for movement toward and away from each other and a plunger constructed and arranged to urge the cutting members toward each other.

2. A rivet-cutting tool comprising a casing having an open bottom, cutting members slidably mounted in the casing and having beveled portions and a plunger in the casing having beveled portions movable over the beveled portions of the cutting members, and under the influence of which the cutting members are movable toward each other.

3. A rivet-cutting tool comprising a casing having an open bottom and inwardly-directed flanges, cutting members slidably mounted upon the flanges and having cutting edges directed toward each other, said cutting members having recesses in their upper faces having beveled portions, and a plunger slidably mounted in the casing and comprising spaced fingers having beveled portions disposed to engage and move over the beveled portions of said recesses and under the influence of which the cutting members are movable toward each other.

4. A rivet-cutting tool comprising a casing having a transverse passage in its lower portion communicating with the upper portion of the casing, cutting-blocks slidably mounted in the transverse passage and having cutting edges directed toward each other, removable means for preventing movement of the cutting-blocks from the passage, said blocks having beveled portions, and a plunger mounted in the upper portion of the casing and having beveled portions arranged to engage the corresponding portions of the blocks and under the influence of which the blocks are movable toward each other.

806,494. **REEL FOR FISHING-RODS.** JAMES M. PYOTT, Jr., Chicago, Ill. Filed Aug. 7, 1905. Serial No. 273,095.



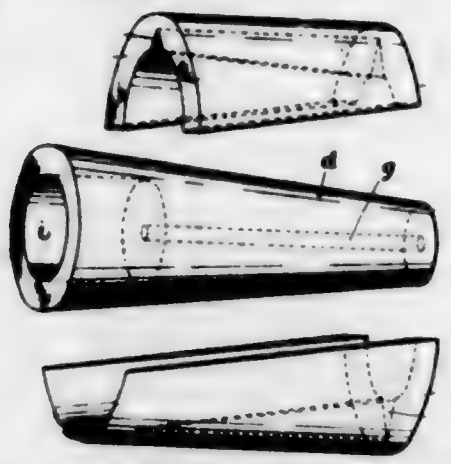
Claim.—1. In a reel for fishing-rods, the combination of a frame comprising a pair of end plates spaced apart and rigidly connected by a plurality of braces, a drum loosely journaled between said end plates and having at one end a clutch member, a pinion loosely journaled in axial alinement with said drum and having a clutch-face, said pinion being slidable into and out of engagement with said clutch member, mechanism for rotating said pinion, a lever pivotally mounted on one of said end plates and being connected with said pinion for shifting the same, said lever having an arm disposed longitudinally of the drum and extending along one side of said drum toward its middle part, and a spring-detent adapted to secure said lever in either of the positions for holding said pinion into or out of engagement with said clutch member.

2. In a reel for fishing-rods, the combination of a frame comprising a pair of end plates spaced apart and rigidly connected by a plurality of braces, a drum loosely journaled between said end plates and having at one end a clutch member, a pinion loosely journaled in axial alinement with said arm and having a clutch-face, said pinion being slidable into and out of engagement with said clutch member, mechanism for rotating said pinion, a lever pivotally mounted on one of said end plates and connected with said pinion for shifting the same, said lever having an arm disposed longitudinally of the drum and extending along one side of said drum toward its middle part, a detent slidably mounted on one of said braces and adapted to secure said lever against shifting when in either of the positions for holding said pinion into or out of engagement with said clutch member, and a coiled spring surrounding said brace and normally urging said detent into engagement with said lever.

3. In a reel for fishing-rods, the combination of a frame, a drum

journaled in said frame, fastening means at one side of the drum for securing said frame to a rod, a system of gearing for rotating said drum, a clutch controlling the connection between said gearing and drum, a lever having a limited pivotal movement on said frame and adapted to operate said clutch, said lever having an arm disposed longitudinally of the drum on the side opposite said fastening means, and a spring-detent for securing said lever in each of its limiting positions.

806,495. **MEANS FOR PLUGGING SHOT-HOLES.** OSCAR RASMUSSEN, Johannesburg, Transvaal. Filed Aug. 10, 1905. Serial No. 273,630.



Claim.—1. A plug for shot-holes, comprising an outer casing adapted to be partly expanded by the pressure from the explosion of the shot, and a wedge or cone adapted to be driven into and to further expand said casing by such pressure, substantially as described.

2. The plug for shot-holes, substantially as described with reference to the accompanying drawings; comprising the outer casing made in two sections *a* and *b* grooved upon their inner surfaces and having inclined contacting surfaces, the face *e* of the former being greater in area than the face *f* of the latter; the cone *d* adapted to slide into and expand said casing and having a hole *g* for the passage of the fuse, and a recess *i* for the insertion of a primer.

3. A plug for shot-holes comprising an outer casing composed of two sections one of which presents a greater area than the other to the explosive gases, and a wedge or the like adapted to be driven into said casing, substantially as described.

4. A plug for shot-holes comprising an outer casing composed of two sections having their plane of contact inclined with respect to their axis, and a wedge or the like adapted to be driven into said casing, substantially as described.

5. A plug for shot-holes comprising an outer casing composed of two sections whose plane of contact is inclined with respect to their axis and one of which sections presents to the explosive gases a greater area than the other, and a wedge or the like adapted to be driven into said casing, substantially as described.

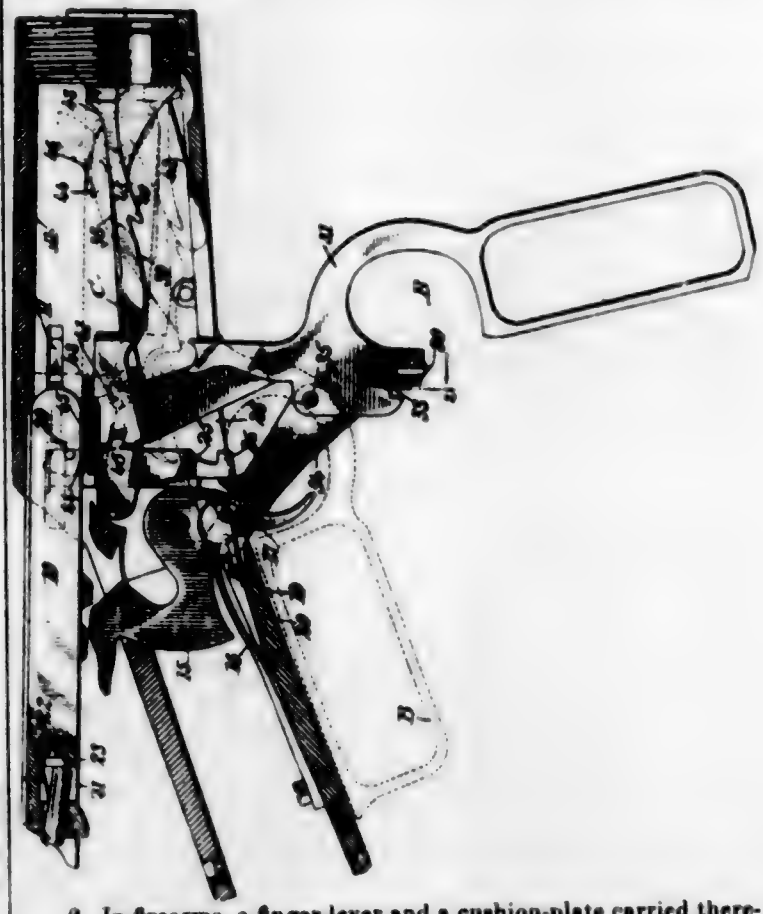
6. A plug for shot-holes comprising an outer casing composed of two sections provided with grooves on their inner faces, and a wedge or the like adapted to be driven into said casing, substantially as described.

7. A plug for shot-holes comprising an outer casing composed of two sections having their plane of contact inclined with respect to their axis and provided with grooves on their inner faces, and a wedge or the like adapted to be driven into said casing, substantially as described.

8. A plug for shot-holes comprising an outer casing composed of two sections one of which presents a greater area to the explosive charge than the other and provided with grooves on their inner faces, and a wedge or the like adapted to be driven into said casing, substantially as described.

806,496. **FIREARM.** EDWARD B. REDFIELD, Glendale, Oreg. Filed Apr. 26, 1905. Serial No. 257,446.

Claim.—1. In firearms, a frame, a breech-bolt operating in the frame, a finger-lever pivoted to the breech-bolt, a locking device for the said finger-lever, carried thereby, parallel link-supports for the finger-lever, independent of the trigger, which supports are pivoted to the lever and to the frame at a point above and to the rear of the pivot-point for the trigger, whereby the breech-bolt is given a maximum throw in a short frame and the position of the trigger is not disturbed, and a spring-controlled cushion-plate pivoted to the finger-lever where it connects with the breech-bolt, said cushion-plate extending downwardly forward of the front end of the breech-bolt for action on the innermost cartridge in the magazine when the breech-bolt is closed.



2. In firearms, a finger-lever and a cushion-plate carried thereby, which plate when the lever is closed is positioned at the delivery end of the magazine of the arm, receiving the base of the innermost cartridge, for the purpose specified.

3. In firearms, a frame, a breech-bolt operating within the frame, a finger-lever for the breech-bolt, a cartridge-receiving face-plate located in front of the inner end of the finger-lever, a shank extending from the said face-plate, being pivoted to the said lever, and a spring attached to the upper edge of the shank and having bearing against the breech-bolt, whereby when the finger-lever is closed the face-plate constitutes a cushion for the innermost cartridge in the magazine.

4. In a magazine-rifle, the combination with the frame, the breech-bolt and a cartridge-carrier pivoted at its rear end within the frame and provided in one side face with a diagonal channel near its pivotal end and a second diagonal channel near its free end, the two channels inclining downwardly in direction of each other, a shield extending up from the reverse side of the carrier adjacent to the channel at its pivoted end, a pivoted spring-controlled guide-plate extending across the latter-named channel, having a slot therein registering with said channel and having an inclined edge at its free end which rests against the shield, and a finger extending down from the outer wall of the channel near the free end of the carrier, of a finger-lever pivotally connected with the frame and the breech-bolt, and a pin carried by the inner end of the said finger-lever, which pin at the closing movement of the lever passes down the channel at the pivoted end of the carrier, travels along its under edge to support the carrier, engages with the said finger to throw the carrier downward, and passes out through the channel at the free end of the carrier to release the same.

806,497. **WRENCH.** JOHN W. REHLING, Allegheny, Pa. Filed Mar. 21, 1906. Serial No. 251,339.



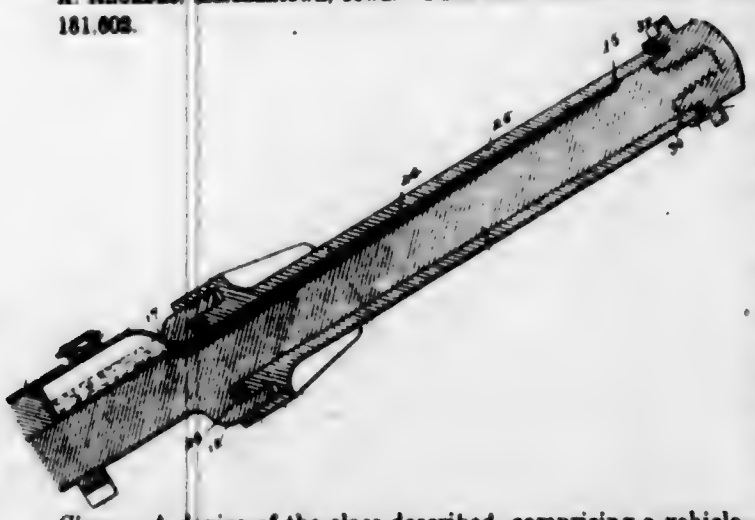
Claim.—1. The herein-described monkey-wrench, comprising the bar 3 having a fixed head 1, a moving jaw 2, said bar being formed with threads 4 on two of its sides, a rotatable handle 5, having inner sectional threads 6, and an external eccentric groove 7, said handle being adjustably connected with the sliding head 2 by an integral lug 8 extending into said groove, as and for the purpose described.

2. The herein-described wrench, comprising the bar 3, the fixed

head 1 and movable jaw 2, said bar being formed with threads 4 on two of its sides, a rotatable handle attached to said sliding head by means of a lug 8 operating in an eccentric groove 7 formed in the forward end of said handle, and a sliding locking device to hold the handle and prevent turning, substantially as and for the purpose described.

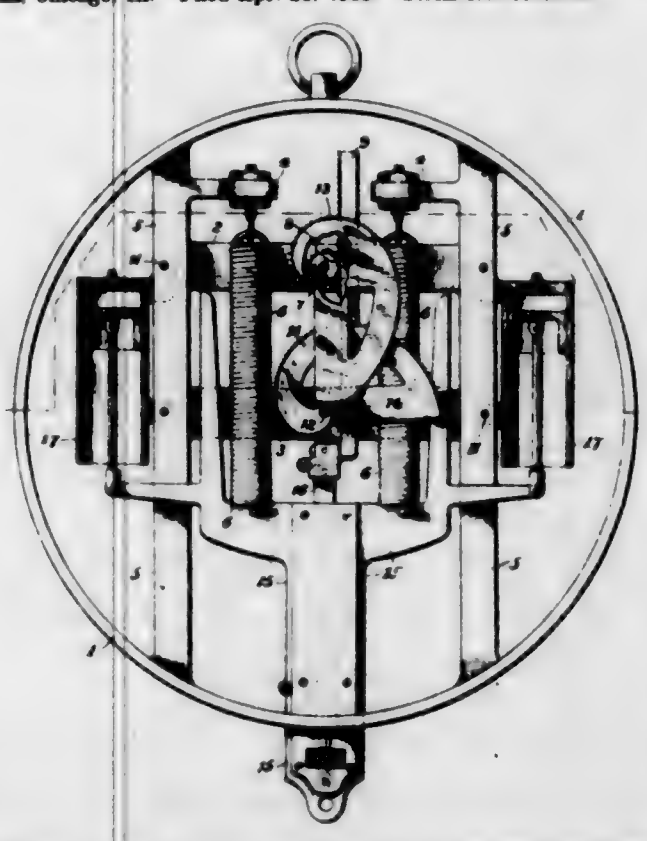
3. The herein-described wrench, comprising the bar 3, the fixed head 1, and movable jaw 2, said bar being formed with threads 4 on two of its sides, a rotatable handle adjustably attached to said sliding head by means of a lug carried by the head and operating in an eccentric groove formed in the handle, said handle being formed with peripheral serrations near its upper end, and said sliding head carrying a movable locking member adapted to engage said serrations.

806,498. **DEVICE FOR OILING VEHICLE-AXLES.** BENJAMIN A. RHOADES, Marshalltown, Iowa. Filed Nov. 18, 1903. Serial No. 181,602.



Claim.—A device of the class described, comprising a vehicle-axle having a longitudinal groove in its spindle, an oil-reservoir mounted on and forming a portion of the axle and designed to engage the inner portion of the axle, a clamp for maintaining the oil-reservoir in position relative to the axle and for holding the wooden portion of the axle to the iron portion thereof, a sand-guard having a hollow interior and a groove encircling it, designed to maintain in position the outer end of the oil-reservoir, a wick leading through the sand-guard into the reservoir, the flange which forms the sides of the opening on the interior of the sand-guard designed to enter a groove in the boxing of the wheel to be placed on the axle, and a nut having a groove encircling its inner portion designed to receive the outer end of the boxing in the wheel placed upon the axle.

806,499. **COMPUTING WEIGHING-MACHINE.** GILBERT P. RITTER, Chicago, Ill. Filed Apr. 26, 1905. Serial No. 257,496.



Claim.—1. In a weighing-machine, the combination with weighing mechanism, of a movable member having circularly-arranged indicia thereon, a fixed member having circularly-arranged indicia thereon, and means operative by the counterbalancing operation for moving said members relatively, whereby the indicia on one member are caused to simultaneously register with separate indicia upon the other member.

2. In a weighing-machine, the combination with weighing mechanism, of a member having circularly-arranged value-indicia, a member having circularly-arranged price-indicia, and means operative by the counterbalancing operation for moving said members relatively, whereby the indicia on one member are caused to simultaneously register with separate indicia upon the other member.

3. In a weighing-machine, the combination with weighing mechanism, of a member having value-indicia arranged in concentric circular arcs, a member having price-indicia arranged in concentric circular arcs, and means operative by the counterbalancing operation for moving said members relatively, whereby the indicia on one member are caused to simultaneously register with separate indicia upon the other member.

4. In a weighing-machine, the combination with weighing mechanism, of a dial having thereon value-indicia constituting a series in which the units are spaced at variable distances apart, a member having thereon price-indicia constituting a series in which the units are spaced at variable distances apart, and means operative by the counterbalancing operation for moving said members relatively.

5. In a weighing-machine, the combination with weighing mechanism, of a member having thereon value-indicia constituting a series in which the units are spaced at variable distances apart, a member having thereon price-indicia constituting a series in which the units are spaced at variable distances apart, and means operative by the counterbalancing operation for moving said members relatively.

6. In a weighing-machine, the combination with weighing mechanism, of a member having thereon value-indicia constituting a series in which the units are spaced at variable distances apart, a member having price-indicia thereon, and means operative by the counterbalancing operation for moving said members relatively.

7. In a weighing-machine, the combination with weighing mechanism, of a member having thereon value-indicia, a member having thereon price-indicia constituting a series in which the units are spaced at variable distances apart, and means operative by the counterbalancing operation for moving said members relatively.

8. In a weighing-machine, the combination with weighing mechanism, of a member having value-indicia thereon arranged in a series, a member having price-indicia thereon arranged in a parallel series, and means operative by the counterbalancing operation for moving said members relatively, whereby the indicia on one member are caused to simultaneously register with separate indicia upon the other member.

9. In a weighing-machine, the combination with weighing mechanism, of a member having value-indicia forming a curve, a member having price-indicia forming a parallel curve, and means operative by the counterbalancing operation for moving said members relatively, whereby the indicia on one member are caused to simultaneously register with separate indicia upon the other member.

10. In a weighing-machine, the combination with weighing mechanism, of a member having value-indicia forming a curve, a member having price-indicia forming a curve, and means operative by the counterbalancing operation for moving said members relatively, whereby the indicia on one member are caused to simultaneously register with separate indicia upon the other member.

11. In a weighing-machine, the combination with weighing mechanism, of a member having value-indicia forming a curve in which the units are spaced at variable distances apart, a member having price-indicia thereon, and means operative by the counterbalancing operation for moving said members relatively.

12. In a weighing-machine, the combination with weighing mechanism, of a member having price-indicia forming a curve in which the units are spaced at variable distances apart, a member having value-indicia thereon, and means operative by the counterbalancing operation for moving said members relatively.

13. In a weighing-machine, the combination with weighing mechanism, of a member having value-indicia, a member having price-indicia, and means operative by the counterbalancing operation for moving said members relatively whereby an identical part of the value-indicia is caused to register with distinct price-indicia.

14. In a weighing-machine, the combination with weighing mechanism, of a member having value-indicia arranged in a plurality of series, a member having price-indicia, and means operative by the counterbalancing operation for moving said members rela-

tively whereby an identical part of the price-indicia may be caused to register with distinct value-indicia of different series.

15. In a weighing-machine, the combination with weighing mechanism, of suitable price-indicating means, suitable value-indicating means, and means operative by the counterbalancing operation for relatively moving said price-indicating means and said value-indicating means through unequal distances corresponding to equal increments of weight.

16. In a weighing-machine, the combination with weighing mechanism, of suitable logarithmic indicating means, actuating devices operative by the counterbalancing operation comprising means movable with a displacement directly proportional to the weight, and means movable with a displacement which varies with the weight but is not directly proportional thereto

17. In a weighing-machine, the combination with weighing mechanism, of suitable price-indicating means, suitable value-indicating means, and means operative by the counterbalancing operation for relatively moving said price-indicating means and said value-indicating means logarithmically.

18. In a weighing-machine, the combination with weighing mechanism, of suitable indicating means, and actuating devices operative by the counterbalancing operation comprising a plurality of movable members one of which is movable with a displacement proportional to the logarithm of the displacement of the other.

19. In a weighing-machine, the combination with weighing mechanism, of suitable indicating means, and actuating devices operative by the counterbalancing operation comprising a plurality of shafts one of which is movable with a displacement equal to the logarithm of the displacement of the other.

20. In a weighing-machine, the combination with weighing mechanism, of a member bearing price-indicia thereon constituting a series in which the units are spaced at variable distances apart, a member bearing value-indicia thereon constituting a series in which the units are spaced at variable distances apart, and means operative by the counterbalancing operation for relatively moving said members to cause the price-indicia to register with value-indicia corresponding to the value of the quantity weighed.

21. In a weighing-machine, the combination with weighing mechanism, of a member bearing price-indicia thereon relatively positioned to form a logarithmic series, a member having value-indicia thereon relatively positioned to form a logarithmic series, and means operative by the counterbalancing operation for relatively moving said members to cause the price-indicia to register with value-indicia corresponding to the value of the quantity weighed.

22. In a weighing-machine, the combination with weighing mechanism, of a member bearing logarithmically-arranged price-indicia thereon, a member bearing logarithmically-arranged value-indicia thereon, and means operative by the counterbalancing operation for relatively moving said members so that the price-indicia shall register with value-indicia corresponding to the sum of the logarithm of the price and the logarithm of the quantity weighed.

23. In a weighing-machine, the combination with weighing mechanism, of a plurality of relatively movable members, one of said members having value-indicia thereon and one of said members having price-indicia arranged in a circular arc bordering an arc-shaped aperture, and means operative by the counterbalancing operation for moving said members relatively.

24. In a weighing-machine, the combination with weighing mechanism, of a plurality of relatively movable members, one of said members having value-indicia thereon and one of said members having price-indicia arranged thereon in a plurality of circular arcs, and means operative by the counterbalancing operation for moving said members relatively.

25. In a weighing-machine, the combination with weighing mechanism, of a plurality of relatively movable members, one of said members having value-indicia thereon and one of said members having price-indicia arranged thereon in a plurality of circular arcs bordering a plurality of corresponding apertures, and means operative by the counterbalancing operation for moving said members relatively.

26. In a weighing-machine, the combination with weighing mechanism, of a plurality of relatively movable dials one of which has price-indicia thereon relatively positioned to form a logarithmic series and one of which has value-indicia thereon relatively positioned to form a logarithmic series, and means operative by the counterbalancing operation for moving said dials relatively with a displacement which varies as the logarithm of the quantity weighed.

27. In a weighing-machine, the combination with weighing mechanism, of a plurality of members having logarithmically-arranged indicia thereon, and means operative by the counterbalancing operation for causing the indicia upon one member to register with indicia upon the other member corresponding respectively to the sum of the logarithm of each of the adjacent indicia upon the first-named member and the logarithm of the quantity weighed.

28. In a weighing-machine, the combination with weighing mechanism, of a plurality of relatively movable gears the pitch-lines of which are of variable curvature, and means operative by the counterbalancing operation for actuating said gears so that the displacement of one is proportional to the logarithm of the displacement of the other.

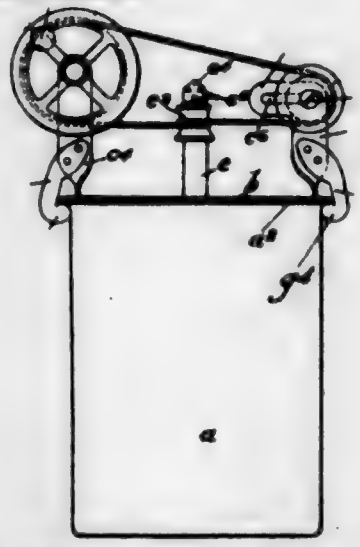
29. In a weighing-machine, the combination with weighing mechanism, of a plurality of relatively movable overlapping gears the pitch-lines of which are of variable curvature, and means operative by the counterbalancing operation for actuating said gears so that the displacement of one is proportional to the logarithm of the displacement of the other.

30. In a weighing-machine, the combination with suitable weighing mechanism, of a driving and a driven gear the sum of the radiants of which at mating points of their respective pitch-lines is constant and in which the radiant at any point on the pitch-line of one of the gears is equal to the distance between centers of the gears divided by one plus the product of a constant and the angle included between an initial radiant and the radiant to any point of the pitch-line, and means operative by the counterbalancing operation for actuating said driving-gear.

31. In a weighing-machine, the combination with suitable weighing mechanism, of a driving and a driven gear the pitch-lines of which are of variable curvature, said gears overlapping each other and one of said gears being movable with a displacement corresponding to the logarithm of the quantity weighed, and means operative by the counterbalancing operation for actuating said driving-gear.

32. In a weighing-machine, the combination with weighing mechanism, of a member having logarithmically-arranged indicia thereon, a member having a variably-curved perimeter, and means operative by the counterbalancing operation for actuating said first-named member through said variably-curved member.

806,500. CHURN. CHARLES G. ROMAN, Newark, N. J. Filed Jan. 31, 1905. Serial No. 243,550.



Claim.—1. A churn, comprising a casing provided with a removable cover, said cover being provided with a centrally and vertically arranged tube which passes therethrough, a shaft mounted in said tube and provided at its upper end with a pulley and at its lower end with a dasher, said cover being also provided on the opposite sides of said tube with uprights, belt-wheels mounted in said uprights, and a belt mounted on said wheels and passed around the said pulley, substantially as shown and described.

2. In a device of the class described, a receptacle provided with a removable cover, a vertically-arranged shaft passing centrally through said cover and provided at its lower end with a dasher and at its upper end with a pulley, standards connected with said cover at the opposite sides of said shaft, belt-wheels mounted in said standard and a belt mounted on said wheels and passed around the said pulley, substantially as shown and described.

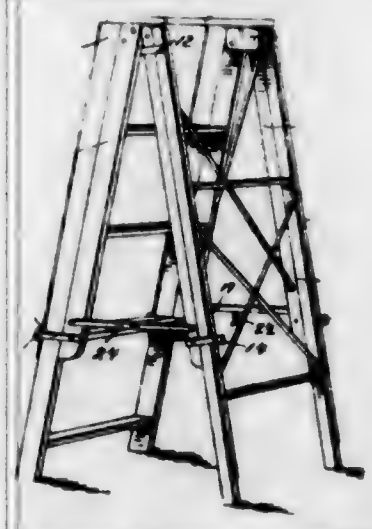
3. In a device of the class described, a receptacle, the top of which is open and provided with an outwardly-directed rim having recesses in the opposite sides thereof, a cover for said receptacle which is also provided with a rim adapted to rest on the rim of the receptacle, upright standards connected with the opposite sides of the cover, stationary dogs connected with said standards and provided with noses adapted to pass through said recesses, belt-wheels mount-

ed in said standard, a shaft passing vertically through the cover and provided at its lower end with a dasher and at its upper end with a pulley and a belt mounted on said wheels and passed around the said pulley, substantially as shown and described.

4. A device of the class described, comprising a receptacle open at the top and provided with a removable cover, means for locking said cover on said receptacle, a vertically-arranged shaft passing through the cover and provided at its upper end with a pulley and at its lower end with a dasher and devices connected with the cover for turning said shaft, substantially as shown and described.

5. A device of the class described, comprising a receptacle open at the top and provided with a removable cover, a tubular shaft passing vertically through said cover and provided at its lower end with a dasher and at its upper end with a pulley, the upper end of said shaft being also closed by a perforated cap, and devices connected with the cover for turning said shaft, substantially as shown and described.

806,501. PROPPED LADDER. MANNING M. ROUSE, Corry, Pa. Filed Apr. 27, 1905. Serial No. 257,568.



Claim.—1. A propped ladder-brace comprising arms pivotally mounted on the ladder and also pivotally connected with each other, one of said arms carrying a lateral projection at its outer end, and a link pivoted on said arm and having a lateral projection adapted to engage with notches or kerfs in the other arm whereby the two arms are held in braced position, substantially as described.

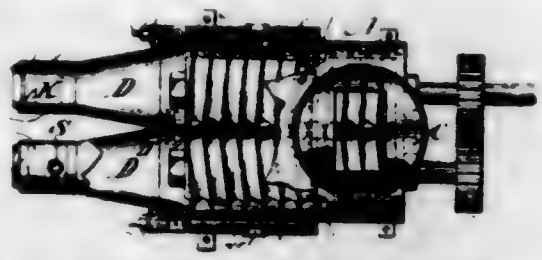
2. In a stepped and propped ladder, the combination, with slidably-mounted sections, of a tongue-and-groove connection between said sections, longitudinal plates carried by one section, a plurality of clamps and set-screws carried by the other section, the set-screws being arranged to engage with the plates whereby the extension-section is held in adjusted and operative position, arms pivotally mounted on the sections and also pivotally connected with each other, one of said arms carrying a lateral projection at its outer end, and a link pivoted on said arm and carrying a lateral projection adapted to engage with notches or kerfs in the other arm, whereby the two arms are held in braced position, substantially as described.

3. In a stepped and propped ladder, the combination, with slidably and adjustably mounted inner and outer sections, of tongue-and-groove connections between said sections, longitudinal plates mounted on each outer section, set-screws rigidly mounted on the inner section and adapted to engage with the plates on the outer section to hold said sections in adjusted position, clamps rigidly mounted on the inner section and carrying the set-screws, clamps rigidly mounted on one of the outer sections to aid in connecting the two sections together, and braces connecting said sections, one of said braces being comprised of pivotally-mounted arms, one of which is provided with a pivoted lateral projection adapted to engage in a kerf in the opposite arm, substantially as described.

806,502. MACHINE FOR PLOTTING SOAP, &c. OSCAR F. RUTSCHMAN, Philadelphia, Pa. Filed Nov. 19, 1904. Serial No. 233,206.

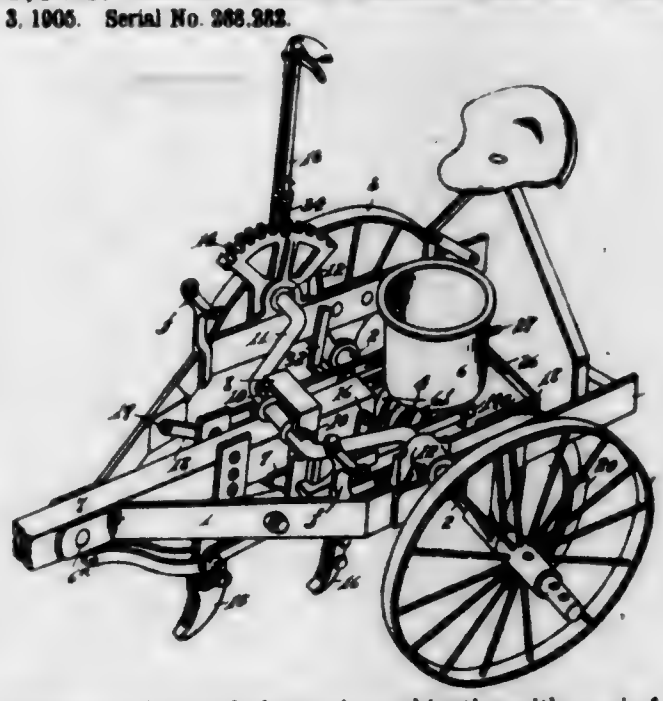
Claim.—1. In a plotting-machine of the character stated, a casing, a plurality of parallel communicating chambers therein, a spiral conveyer in each of the chambers with the spirals reversely arranged a deflector extending within the casing opposite the space between the said spirals, a feeding-hopper, a plate at the discharge end of said casing, a plurality of discharge-nozzles on said plate in communication with said chambers, and a detachable connection between said nozzles and casing.

2. In a plotting-machine of the character stated, a casing, a plurality of parallel communicating chambers therein, a spiral conveyer in each of said chambers with their spirals reversely arranged, a feeding-hopper, a plate at the discharge end of said casing, a plurality of discharge-nozzles on said plate in communication with said chambers, a hinge connected with said nozzles and casing and means for securing said plate to said casing in the operative position of said nozzles.



3. In a plotting-machine of the character stated, a casing having a plurality of chambers, a cylinder in each chamber with spirally-grooved peripheries reversely arranged, said cylinders having their shafts geared to rotate in reverse direction, nozzles removably mounted on said casing at the discharge end thereof, dies carried by said nozzles and a tapered divider mounted on said casing and extending therewithin with its apex opposite the space between said cylinders.

806,503. SEEDER. JAMES D. SCHOFIELD, Dallas, Tex. Filed July 3, 1905. Serial No. 268,282.



Claim.—1. In a seed-planter, in combination with a main frame mounted on an axle, a tongue pivotally connected thereto and provided behind the pivot with pilot-shovel and covering-shovel, a secondary frame pivotally connected to the first, a third frame having a seed-hopper secured thereto, connected by pivots to the second frame, and by a sliding connection to the rear end of the tongue, substantially as described.

2. In a seed-planter, in combination with a main frame and a tongue pivoted thereto at a point intermediate its inner and outer ends, a scondary frame and a third frame each pivotally connected to the main frame, a seed-hopper supported by said third frame, a casting through which the inner end of the tongue engages and with one face of which it is pivotally connected, a crank-piece engaging through said casting and journaled at its ends in the main frame whereby said casting and the inner end of the tongue may be raised or lowered with respect to the main frame, means for locking the same in position, and an actuating connection between the casting and the hopper, substantially as described.

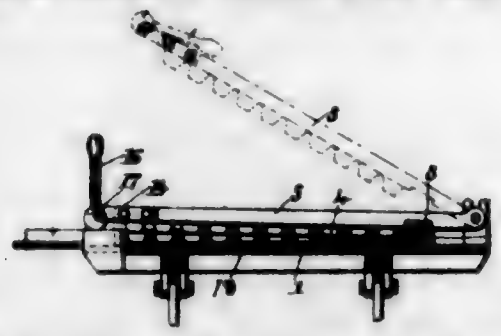
3. In a seed-planter, in combination with a main frame mounted on wheels, a tongue pivotally connected thereto, means for oscillating the tongue with respect to the main frame, a seed-hopper, and means whereby the same rests on the axle, a sliding connection between said hopper and tongue, and a sliding and pivotal connection between said hopper and main frame, substantially as described.

4. In a seed-planter, in combination with a main frame mounted on wheels, a tongue pivotally connected thereto, means for oscillating the tongue with respect to the main frame, a seed-hopper, adjustable hooked saddles upon said seed-hopper adapted to lock the same to the axle with the gears in mesh, a sliding connection between the hopper and tongue, and a sliding and pivotal connections between the hopper and the main frame, substantially as described.

5. In a seed-planter, in combination with a main frame mounted on an axle, a tongue pivotally connected therewith, a pilot-shovel and a covering-shovel carried thereby, a plurality of subsidiary frames pivotally connected therewith and with each other, and a seed-hopper carried by one of said subsidiary frames, said hopper being slidingly connected with the rear end of the tongue, substantially as described.

6. In a seed-planter, in combination with a main frame and a plurality of auxiliary frames pivotally connected therewith, a tongue pivotally connected to said main frame, with one portion extending therewithin, a casting through which said tongue loosely engages, a pivotal connection between one face of the tongue and said casting, a crank engaging through a part of said casting remote from said pivoted connection, means whereby said crank may be raised or lowered, means for locking it in position, a hopper supported by one of said auxiliary frames, and a connection between said hopper and the adjacent end of the tongue, substantially as described.

806,504. **CASTING-BOX FOR STEREOTYPES.** FRIEDRICH SCHREINER, Plainfield, N. J. Filed June 29, 1905. Serial No. 267,539.



Claim.—1. A casting-box for stereotype-plates, comprising a bottom plate, a side gage, an intermediate section-gage adapted to regulate the width of plates cast, a cover adapted to overlie said bottom plate, and an eccentric lifting-bar carried by said cover and resting on said gages.

2. A casting-box for stereotype-plates, comprising a bottom plate, a cover coöperating therewith, side gages, an intermediate section-gage disposed therebetween and adapted to regulate the width of plates cast, and an eccentric lifting-bar mounted in said cover resting upon the said side gages and said section-gage.

3. A casting-box for stereotype-plates, comprising a bottom plate, a cover coöperating therewith, side gages, a section-gage disposed between said side gages and constituting a dam to limit the side flow of the molten metal, said section-gage having an irregularity adapted to interlock the cast plate therewith, and a transverse lifting-bar resting upon said section-gage.

806,505. **MAIL-BOX-DELIVERY DEVICE.** WILLIAM M. SHELTON, CHARLES B. MANNING, and ENOS R. CHENEY, Gypsum, Kans. Filed Aug. 24, 1905. Serial No. 275,610.

Claim.—1. A mail-delivery device, consisting of a trolley-wire, a support for the same, an endless cable, means for moving the said cable, a carrier traveling on the trolley-wire and connected with the cable, and means whereby the carrier may be clamped upon a box.

2. In a device for delivering mail, a trolley-wire, supports for the ends of the trolley-wire, pulleys mounted to turn in the said supports, an endless cable passed over the said pulleys, intermediate standards located between the end supports for the cable, brackets extending from the said intermediate supports, sundry of the brackets being adapted to support the trolley-wire, other of the brackets having friction-rollers engaging with the said endless cable, a carrier mounted to travel on the trolley-wire, which carrier is secured to the upper stretch of the said cable, and a box located within the carrier.

3. In a device for delivering mail and like matter, a trolley-wire, supports for the ends of the trolley-wire, standards intermediate of the said supports, the said standards being provided with upper horizontal brackets having sustaining members for the trolley-wire, lower horizontal bracket-arms extending from said intermediate standards, having pockets formed at their outer ends, the upper pockets being open, guide-pulleys located in the said pockets, wheels mounted to revolve in the end supports, an endless cable passed over said wheels and into engagement with the said friction-pulleys, and a carrier mounted to travel on the trolley-wire, said carrier being adapted to the upper stretch of said cable, elevating said cable at its point of connection therewith, said carrier being adapted to receive and hold a letter-box, as described.

806,505.



806,506. **TICKET-CASE.** WINFIELD T. SHERWOOD, Sidney, N. Y. Filed Apr. 18, 1905. Serial No. 256,197.



Claim.—1. A ticket-case having a retaining-piece for tickets, over which the tickets may be drawn out of the case, and resilient means for supporting the retaining-piece and normally forcing it longitudinally toward the center of the case.

2. A ticket-case having a cover provided with an opening, a bar across the opening, and resilient means for supporting the bar and normally moving it substantially parallel with the cover toward the center of the case.

3. A ticket-case having an opening, a bar across the opening, and resilient means for supporting the bar; said resilient means comprising a spring connected with the bar and with the case and adapted to move the bar horizontally toward the central part of the case.

4. A ticket-case having an opening, a bar across the opening, and resilient means for supporting the bar; said resilient means comprising a spring connected with the bar and with the case, and said spring being provided with an inwardly-extending offset portion.

5. A ticket-case having a bar, and a spring connected with the bar and with the case, said spring being provided with an inwardly-extending offset portion.

6. In a ticket-case, the combination of a bar, a pair of rods extending rearwardly from said bar and having inwardly-extending offsets adjacent to the bar, and resilient portions having fixed ends.

7. In a ticket-case, the combination of a retaining-bar, a pair of rods extending rearwardly from said bar and having inwardly-projecting offsets adjacent to the bar, and resilient portions extending therefrom to the opposite sides of the case, their ends being fixed in said opposite sides of the case.

8. In a ticket-case having an opening at one end thereof, the combination of a bar located immediately below said opening, a pair of rods extending rearwardly from said bar and having inwardly-extending offsets adjacent to the bar and projecting resilient portions extending therefrom to the opposite sides of the case in which their ends are fixed, and a cover hinged to the casing and provided with means for retaining it in closed position.

806,507. **SEEDER AND FERTILIZER-DISTRIBUTER.** GEORGE SCHAM, Leechburg, Pa. Filed Oct. 10, 1905. Serial No. 282,194.

Claim.—1. In an implement, the combination with a rectangular frame having rollers journaled therein, of a receptacle carried by

the end of said frame and having a plurality of openings formed in its bottom, a slide mounted in said receptacle and having openings formed therein adapted to register at predetermined times with the first-named openings, an agitator revolubly mounted in said receptacle, means actuated by the movement of said implement to rotate said agitator, means for applying traction alternatively to the opposite ends of the frame and means to reciprocate said slide, substantially as described.



2. In an implement, the combination with a frame, of rollers journaled in said frame, a receptacle carried by one end of said frame and having openings formed in its bottom, a slide mounted in said receptacle and adapted to control the openings of said receptacle, means to reciprocate said slide, means actuated by the movement of said implement to agitate the contents of said receptacle and means for applying traction devices alternatively to opposite ends of the frame, substantially as described.

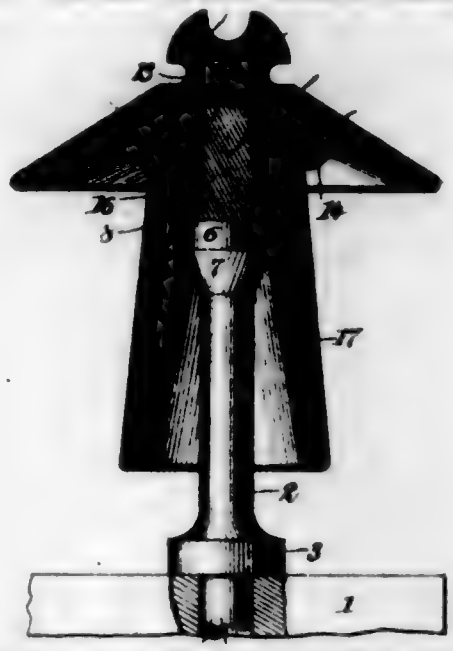
3. An implement of the type described embodying a frame having rollers journaled therein, a receptacle carried at one end of said frame and having openings formed in its bottom, means to open and close said openings, means actuated by the movement of said implement to agitate the contents of said receptacle, a removable tongue, and means carried by the frame whereby said tongue may be alternatively attached to either end thereof, substantially as described.

806,508. **DEVICE FOR ADJUSTING SIEVES IN THRESHING-MACHINES.** JOHN A. STEELSMITH, Wichita Falls, Tex. Filed Mar. 3, 1904. Serial No. 196,269.



Claim.—In devices for adjusting the sieves in threshing-machines, the combination with a shoe provided with opposing slots in its sides at its end portions, adjusting-plates secured to the outer faces of the slotted portions of the shoe, which plates are provided with slots corresponding to those in the shoe, being also provided with corrugations upon their outer faces, a longitudinal rack extending from one side edge of each adjusting-plate, a depression being reduced at the opposing side edge of each adjusting-plate, and scales upon said depressed surfaces, locking-plates in engagement with the adjusting-plates, being movable thereon and provided with a series of vertically-alining apertures and corrugations upon their inner faces, together with guide-lugs which enter the slots in the adjusting-plates, extending over the said scale-surfaces, of rods passed through certain of the openings in the locking-plate, a sieve pivotally connected with one rod and provided with an open bracket upon its under face receiving the other rod, pinions secured to the rods engaging the said racks, and hand-wheels secured to sundry of the pinions, as described.

806,509. **COMPOSITE INSULATOR.** LOUIS STEINBERGER, New York, N. Y. Filed Nov. 26, 1904. Serial No. 234,386.



Claim.—1. A composite insulator, comprising a hood provided with a portion threaded externally, and also provided with a ring spaced apart from said portion so as to leave a slot therebetween, and a hood threaded internally so as to engage said portion and provided with an annular portion for entering said slot.

2. A composite insulator, comprising a hood provided with a depending portion and with a ring disposed adjacent to said depending portion and encircling the same, another hood provided with a portion extending intermediate of said depending portion and said ring, and a member disposed intermediate of said depending portion and said ring and engaging said last-mentioned hood.

3. In a device of the character described, the combination of a hood of insulating material provided with a portion integral therewith, said portion being threaded externally, another hood threaded internally and mounted upon said portion, said last-mentioned hood being open at both ends except for its engagement with said portion, and depending as a skirt from said portion.

4. In a device of the character described, the combination of a hood of insulating material provided with a portion integral therewith, said portion being threaded internally for engaging the threaded stem and also threaded externally, a hood open at both ends and threaded internally so as to encircle said portion and to depend as a skirt therefrom, and an insulator-pin provided with a stem extending into said portion and provided with a shoulder engaging said portion.

5. A composite insulator, comprising a plurality of hoods, one of said hoods being provided with threads and with an annular groove, compressible material within said groove, and another hood provided with threads, and also provided with a portion extending within said groove and engaging said compressible material.

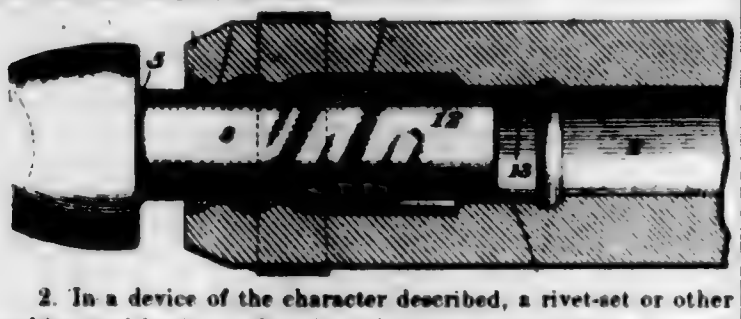
6. A composite insulator, comprising a hood provided with a cylindrical portion and with a thread, an insulator-pin provided with a portion having a thread for engaging said thread of said cylindrical portion, said insulator-pin being further provided with a shoulder for engaging said cylindrical portion, and a hood open at both ends and provided with a portion fitting upon said cylindrical portion of said first-mentioned hood and supported thereby.

7. A composite insulator, comprising a hood provided with a portion having a thread, and also provided with a ring spaced apart from said portion so as to leave a slot therebetween, and another hood provided with a thread engaging said thread of said first-mentioned hood, and further provided with an annular portion for entering said slot.

8. In a device of the character described, the combination of a hood of insulating material provided with a threaded portion integral therewith, and another hood provided with a threaded portion for engaging said threaded portion of said first-mentioned hood and being open at both ends except for its engagement with said threaded portion.

806,510. **RIVET-SET-RETAINING DEVICE.** WILLIAM J. TUBBITT, Philadelphia, Pa. Filed Feb. 7, 1905. Serial No. 244,538.

Claim.—1. As a new article of manufacture, a working tool, a shank therefor and one or more threads on said shank adapted to retain the latter in operative position with respect to the coacting cylinder, said threads being located substantially midway between the ends of said shank and the extremities of said shank at each side of said threads being a plain cylindrical surface.



2. In a device of the character described, a rivet-set or other working tool having a thread on the shank intermediate the ends thereof, a casing provided with means at its outer end for engaging said thread, and a chamber within said casing for permitting the reciprocation of said working tool.

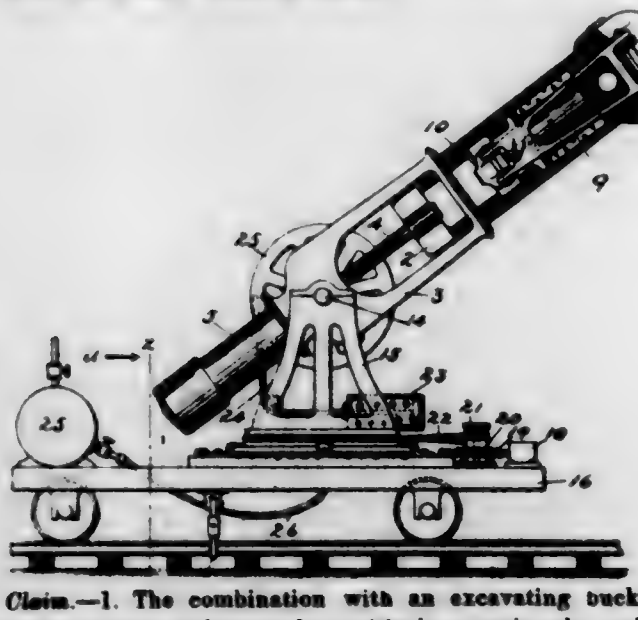
3. In a device of the character described, a casing having an internal thread at the outer end thereof, a chamber contiguous to said thread and a rivet-set having a thread thereon intermediate its ends adapted to engage with the cylinder-thread.

4. In a device of the character described, a cylinder having a thread in the outer end thereof, a chamber adjoining said thread, a rivet-set having a shank therefor, and means on the shank between its ends adapted to engage the cylinder-thread whereby said set may be inserted in said cylinder and retained therein during the riveting operation.

5. In a device of the character described, a cylinder provided with an internal thread at the outer end thereof, and a chamber contiguous to said internal thread, a rivet-set provided with a thread on the shank thereof intermediate its ends, the diameter of said chamber being greater than a cross-section of said rivet-set taken through said rivet-set thread, and a bearing beyond said chamber in which the shank of said rivet-set fits.

6. The combination of a cylinder having its forward end internally threaded at its outer portion 10 and the chamber 12 at the rear of said threads, said chamber terminating in the bore 13 of reduced diameter, with a working tool, having a shank, said shank having a thread thereon intermediate its ends.

806,511. **EXCAVATOR.** WILLIAM H. ARNOLD, Brooklyn, N. Y. Filed Mar. 9, 1904. Serial No. 197,341.



Claim.—1. The combination with an excavating bucket or scoop, of an anchor and means for positively actuating the anchor to force it into the material.

2. The combination with an excavating bucket or scoop, of an anchor and fluid-pressure mechanism for forcing the anchor into the material.

3. The combination with an excavating bucket or scoop, of a frame supporting the same, an anchor carried by the frame and means for forcing the anchor and scoop toward the material.

4. The combination with an excavating bucket or scoop, of a frame supporting the same, an anchor carried by the frame and fluid-pressure mechanism for forcing the anchor and scoop toward the material.

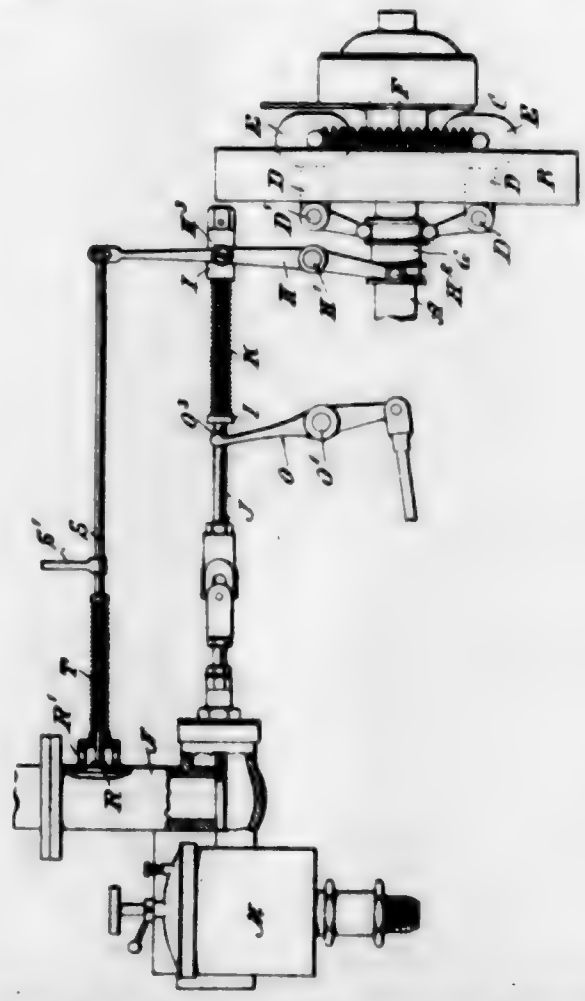
5. The combination of a pedestal, a frame pivoted thereon and adapted to swing in a vertical plane, a slide guided on said frame, pivoted excavator-buckets carried by said slide and means for operating said slide by fluid-pressure acting on the slide in line with the pivot of the framework.

6. The combination in a dredging apparatus of a frame pivoted on a horizontal axis, a pedestal supporting the same and capable of being turned on a vertical axis, a movable carriage or platform supporting said pedestal, a slide guided in the pivoted frame, dredging-buckets and fluid-pressure devices for actuating the same mounted on the slide, and fluid-pressure devices also mounted on the frame and directly connected with said slide as and for the purpose described.

7. In a dredging apparatus the combination of a framework provided with suitable trunnions, a slide or carrier working in said framework in line with the trunnions, buckets mounted on said slide and fluid-pressure mechanism mounted also on the slide as and for the purpose described.

8. In a dredging apparatus the combination with a framework or support, of a slide guided thereon, dredger-buckets mounted on said slide, a cylinder and piston mounted on said slide for actuating said buckets and a second cylinder and piston mounted on the frame and connected directly with the slide as and for the purpose described.

806,512. **CARBURETER FOR HYDROCARBON-ENGINES.** LAWRENCE ABRAHAM, New York, N. Y. Filed Apr. 1, 1904. Serial No. 201,085.



Claim.—1. The combination of a carbureter, a connection for conducting the explosive mixture, including air, from such carbureter to the engine, a throttle-valve in said connection, and a separate valved inlet for the admission of air only in said connection, between said throttle-valve and the engine and means for automatically moving said air-inlet valve as described.

2. The combination of a carbureter, a connection for conducting the explosive mixture from said carbureter to the engine, a throttle-valve in said connection, a separate air-inlet valve located in said connection between the throttle-valve and the engine, a governor operated by the engine and an operative connection from said governor to the separate inlet-valve, to allow air to join the explosive mixture after it has passed the throttle-valve in case of higher speed.

3. The combination of a carbureter, a connection for conducting the explosive mixture from said carbureter to the engine, a throttle-valve, a governor for closing said valve as the speed increases, means under the control of the operator for holding the throttle-valve open notwithstanding the action of the governor, an air-inlet valve in said connection, and means operated by the governor for opening said

air-inlet valve when the speed increases and the throttle-valve is held open.

4. The combination of a carbureter, a connection for conducting the explosive mixture from said carbureter to the engine, an air-inlet in said connection, a valve controlling said inlet, a throttle-valve, a governor controlled by the engine and operative connections from the governor to the throttle-valve and to said air-inlet valve to cause the throttle-valve to close and the said air-inlet to open when the speed of the engine increases.

806,513. CURTAIN-POLE. JOSEPH ARENDT, Blairsville, Pa. Filed Oct. 11, 1904. Serial No. 227,969.



Claim.—1. A curtain-pole having a groove formed therein, a rod adapted to fit within said groove, plates carried by said rod and extending at right angles to the rod and over the ends of the pole, and means for securing said rod within said groove, substantially as described.

2. The combination with a curtain, of a pole, said pole having a groove formed longitudinally therein, a rod adapted to fit within said groove to retain said curtain therein, plates carried by said rod, and ornamentations carrying screws, said screws passing through said plates and into the pole for securing said plates to the ends of said pole.

3. A curtain-pole comprising a body portion having a groove formed longitudinally therein, the ends of said pole having openings formed therein, a rod, integral plates carried by said rod, said plates extending over the ends of the pole and having openings formed therein, and screws passing through said plates for securing said rod and said plates to said curtain-pole.

806,514. ATTACHMENT FOR LUBRICATORS. FRED ANDERSON, Warren, Pa. Filed Aug. 26, 1905. Serial No. 275,947.

Claim.—1. An attachment for lubricators adapted for connection to the lubricator and to the part to be lubricated, and having an oil-passage therethrough, and a cup at the bottom of said passage and loosely connected to said attachment.

2. An attachment for lubricators adapted for connection to the lubricator and to the part to be lubricated, and having an oil-passage therethrough, there being a shoulder extending from the lower end of said attachment, a cup surrounding said shoulder, and a rod connected to said cup and extending into said passage.

3. An attachment for lubricators adapted for connection to the lubricator and to the part to be lubricated, and having an oil-passage therethrough there being a shoulder extending from the lower end of said attachment, a cup surrounding said shoulder, and a rod connected to said cup and extending through said passage and having a hook at its upper end by which the rod is suspended in said passage.

4. In combination, a lubricator having a screw-threaded lower end, a coupling having its upper end internally screw-threaded for attachment to said screw-threaded lower end of the lubricator and having also an internally-screw-threaded lower end, a sleeve with its upper end screwing into said coupling and its lower end screw-threaded for attachment to a cylinder, said sleeve having a shoulder extending from the lower end thereof, a cup surrounding said shoulder, and a rod connected to said cup and extending through an oil-passage in said sleeve and having a hook at its upper end by which the rod is loosely suspended in said passage.

806,515. SAW. JOSEPH BAUMGARTNER, Silverton, Oreg. Filed May 13, 1905. Serial No. 260,290.



Claim.—1. The combination substantially as herein described, of the head having an eye and provided with an opening formed through the head and with a slot leading from the inner end of said opening, the securing device having a split shank held in the opening in the head and an arm movable into and out of the slot at the inner end of said opening, said arm being provided with a lateral stud to secure one end of the saw-blade, the handle provided in its rear side with a longitudinal groove extending from a point within the eye of the head to the butt-end of the handle and widened or recessed for a distance from such butt-end and having in said end a transverse groove extending from front to rear for the swinging carrier, the casing-plates fitting in the widened portion or recess of the handle-groove and having a block forming a stop for the swinging carrier, the swinging carrier pivoted at one end between said casing-plates and bifurcated from its opposite or swinging ends forming the side plates and having said side plates provided with longitudinal slots and with notches in the walls of such slots near the swinging ends of the carrier, and the saw-blade provided at one end with an opening fitted to receive the lateral stud on the arm of the securing device and having its opposite end fitting between the opposite plates of the swinging carrier and provided with lateral studs entering the slots of the side plates of said carrier and adapted to engage in the notches in the walls of said slots, all substantially as described whereby the saw-blade and the swinging carrier may be adjusted to position for use and the blade be connected with the securing device carried by the head, or said carrier and blade may be inclosed in the handle with

one end of the blade projecting into the eye of the head, substantially as and for the purposes set forth.

2. The combination of the handle, the head thereon, the swinging carrier pivoted at one end to the butt-end of the handle, the blade pivotally and slidably connected at one end with the swinging carrier, and means for detachably securing the other end of the blade to the head when the parts are adjusted for use as a saw substantially as set forth.

3. The combination of the head, the handle grooved longitudinally, the swinging carrier pivoted at one end to the handle, mounted to be turned down into the handle-groove or to project at a right angle to the handle and from the side thereof opposite its grooved side, the saw-blade connected at one end with the swinging carrier, and means for detachably securing the other end of the saw-blade in connection with the head, substantially as set forth.

4. The combination with the handle, the head thereon, the handle being grooved longitudinally to a point within its head, the saw-blade capable of being moved into and out of said groove, and projecting, when in said groove, at one end into the eye in the head, whereby said head is retained without separate fastenings, means in connection with the handle for securing one end of said blade when adjusted for use as a saw and means in connection with the head for detachably securing the other end of the blade when so adjusted, substantially as set forth.

5. The combination with the handle grooved longitudinally and the head on the handle, of a swinging carrier pivoted at one end to the handle, the saw-blade pivotally and slidably connected with the swinging carrier and capable of being moved with the saw to one side of the handle for incasement within the groove and to the other side of the handle in adjusting the blade into position for use as a saw and means on the head for securing the saw-blade when so adjusted substantially as set forth.

6. The combination of the handle, the saw-blade, the head having a transverse opening and a slot leading from the inner end of said opening, the securing device having a shank turning and movable longitudinally in the opening in the head and an arm adapted to engage in the slot and protrude beyond the head when adjusted to position to support the saw, means for securing said arm in detachable connection with one end of the saw-blade, and means connected with the handle for securing the other end of the saw-blade, substantially as set forth.

806,516. ELECTRIC-LIGHT HANGER. HUGH R. BERRY, Greenville, Miss. Filed July 20, 1905. Serial No. 270,575.



Claim.—1. An electric-light hanger consisting of an upper tube, having a securing-cap at one end and a tubular section arranged on its other end, a socket in the tubular section, a tube having one end made spherical adapted to seat in said socket, a tube telescoping in the latter tube, a spring holding said spherical tube end yieldingly seated in its socket, an electric-light-globe socket at the outer end of the telescoping tube, a tubular weight in the upper tube, a pulley on the weight, a similar pulley at the securing end of the upper tube, circuit-wires extending from a fixed connection down through the tubular weight and all said tubes, to the globe-socket, the circuit-wires being arranged around the pulleys, substantially as described.

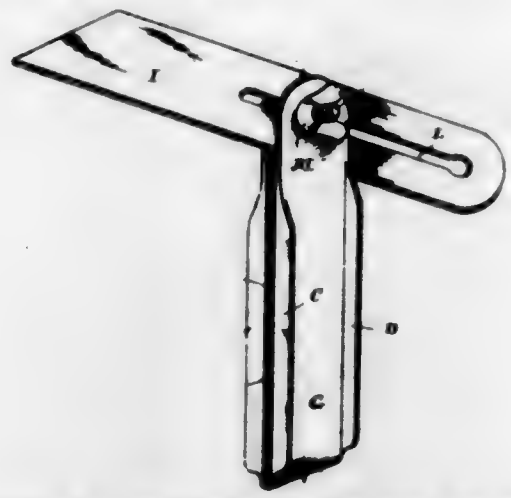
2. The combination in a light-hanger, of an upper tube having a spherical socket at its lower end, a tube having a spherical end adapted to seat in the socket, a tube telescoping into the latter tube, a weight arranged in the upper tube, having free movement therein, and means connecting the weight and lowermost tube, substantially as described.

806,517. GARMENT-FASTENING. JOSEPH BISCHOF, Boston, Mass. Filed May 23, 1905. Serial No. 261,797.



Claim.—A fastening for garments comprising an eye formed of a single piece of metal bent centrally and having the members thereof brought together in curved portions to form the eye proper, thence bent outwardly and beneath and beyond the eye proper to form loops, and parallel portions in contact with each other, and finally returned upon themselves parallelly to form other loops, the free portions being in contact with the first-mentioned parallel portions.

806,518. SQUARE. FREDERICK G. BREUL, Bridgeport, Conn. Filed Dec. 13, 1904. Serial No. 236,676.



Claim.—1. In a square of the class described, the combination with a back formed of a single piece of sheet metal, bent transversely of its length forming two sides with a closed outer end and an open inner end and having one or both of its adjacent pairs of parallel edges turned and deflected outward to form a broadened engaging surface, and a blade adjustably pivoted intermediate of the free ends of the back.

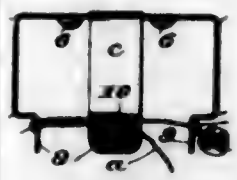
2. In a square of the class described, the combination of a back formed of a single piece of sheet metal bent transversely of its length to form two side portions disposed parallel with each other, outwardly-disposed straight and parallel flanges on both of the longitudinal edges of each of said side portions, and a blade attached to the free ends of such side portions.

3. In a square of the class described, the combination of a back formed of a single piece of sheet metal, bent transversely of its length forming two sides with a closed outer end and an open inner end and having its parallel edges turned at a right angle to broaden the engaging surfaces, and a blade adjustably pivoted intermediate of the free ends of the back member.

806,519. BOTTLE-SEAL. EDWARD J. BROOKS, East Orange, N. J. Filed Aug. 30, 1905. Serial No. 276,381.

Claim.—1. A bottle-seal having, in combination with a flexible neck-embracing shackle, and a seal part for inseparably uniting the ends of said shackle, a pair of cap-forming strips crossed at mid-length and each provided with deep indentations on both sides of their intersection forming projections to contact with a disk within

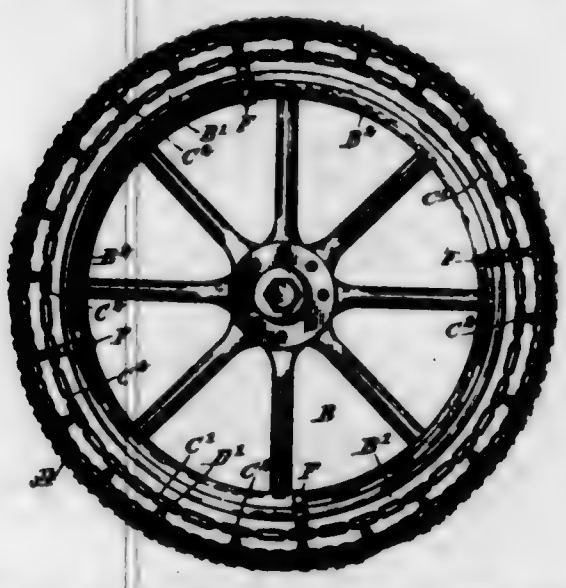
the mouth of the bottle and permanent bends adapting them to interlock with a shoulder at the lower extremity of the head of the bottle, and further provided at their lower ends with means whereby they are interlocked with said shackle.



2. A bottle-seal having, in combination with a flexible neck-embracing shackle, and a seal part for inseparably uniting the ends of said shackle, a pair of cap-forming strips crossed and united with each other at mid-length and each provided with deep indentations on both sides of their intersection forming projections to contact with a disk within the mouth of the bottle and permanent bends adapting them to interlock with a shoulder at the lower extremity of the head of the bottle, and further provided at their lower ends with means whereby they are interlocked with said shackle.

3. A bottle-seal having, in combination with a flexible neck-embracing shackle, and a seal part for inseparably uniting the ends of said shackle, a pair of cap-forming strips crossed and fixedly united with each other at mid-length and each provided with deep indentations on both sides of their intersection forming projections to contact with a disk within the mouth of the bottle and permanent bends adapting them to interlock with a shoulder at the lower extremity of the head of the bottle, and further provided at their lower ends with outwardly-projecting staples integral with the strips through which said shackle extends around the neck of the bottle below said shoulder, substantially as hereinbefore specified.

806,520. METALLIC OVERSHOE FOR VEHICLE-WHEELS. HENRY L. CANNE, Dingman township, Pike county, Pa. Filed Feb. 21, 1905. Serial No. 246,724.

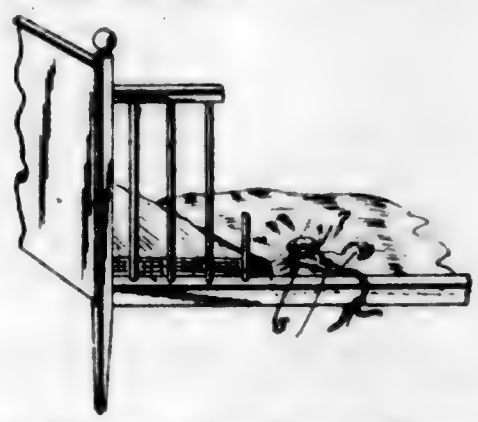


Claim.—1. In a metallic overshoe for vehicle-wheels, comprising an endless metallic belt formed of links interlocked transversely and longitudinally, an endless chain on one side of the belt, a sectional chain on the other side of the belt, oppositely-disposed links connecting the side chains with the belt at intervals, hooks for connecting the sections of the side chain, and transverse straps for engaging the rim of the wheel and connecting the side chains with each other.

2. A metallic overshoe for vehicle-wheels, comprising an endless metallic belt, formed of oblong links of relatively small openings, interlocked transversely and longitudinally, an endless chain on one side of the belt, a sectional chain on the other side of the belt, oppositely-disposed links connecting the side chains with the belt at intervals, hooks for connecting the sections of the side chains and transverse straps for engaging the rim of the wheel and connecting the side chains with each other.

3. A metallic overshoe for vehicle-wheels, comprising an endless metallic belt, formed from substantially diamond-shaped links of relatively small openings interlocked transversely and longitudinally, an endless chain on one side of the belt, a sectional chain on the other side of the belt, oppositely-disposed links connecting the side chain with the belt at intervals, hooks for connecting the sections of the side chains and transverse straps for engaging the rim of the wheel and connecting the side chains with each other.

806,521. CLOTHES-FASTENER. JESSE CHILDS, Hites, Pa. Filed Dec. 24, 1904. Serial No. 238,344.



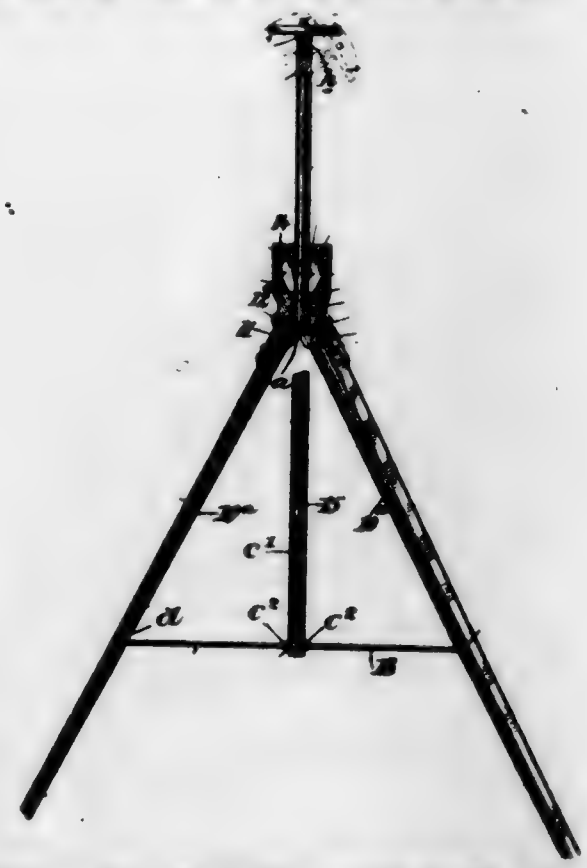
Claim.—1. In a device of the character described, a member having a head, a cord attached to said member, a spirally-coiled wire loop, an elastic member having its ends attached to the ends of the wire loop, said elastic member connected intermediate its ends to said cord, and means attached to said cord and elastic member for securing the device to a bed.

2. A device for securing clothes to a bed comprising a member 1 having a head on one end, a resilient wire loop adapted to wrap around the member and hold the clothes over the head of said member, an elastic member connecting the ends of said loop, a flexible connection between the member 1 and the elastic member, and a flexible member connected to the elastic member for securing the device to a bed, substantially as described.

3. In a device of the character described, the combination of a member having a head, a cord attached to said member, a spirally-coiled wire loop, and an elastic cord having its ends attached to the ends of said wire loop, said elastic cord being connected at its center to said first-named cord, and a third cord connected to the said elastic cord and adapted to secure the device to a bed

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806,522. COMBINED CANE AND TRIPOD. WALTER F. CLARK, St. Louis, Mo. Filed Feb. 10, 1905. Serial No. 245,089.

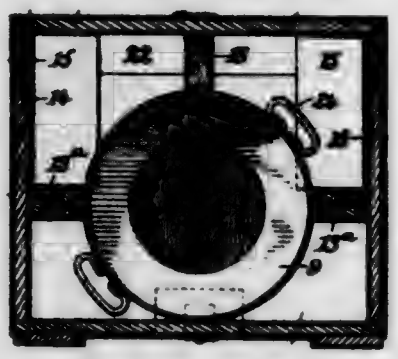


Claim.—1. In a tripod of the character described, the combination with three plate-metal tapered legs, and a coupling-head hinged upon blocks on the upper ends of the legs, of a cylindrical standard slidable through the coupling-head, a short arm carrying a bracket-plate on one end, and having a joint therein, and a joint connecting said arm with the upper end of the standard, a pair of clutch-blocks loosely held in a chamber within the coupling-head, a cap-nut on the coupling-head adapted to press upon the clutch-blocks and clamp them upon the standard, a runner-band loosely mounted upon the lower portion of the standard, three stretcher-rods pivoted by an end of each upon the runner-band and at opposite ends upon the respective legs, abutment-pins projected from the standard for contacting

alternately with the runner-ring, and inclinable means carried upon the upper end of the standard for supporting an object.

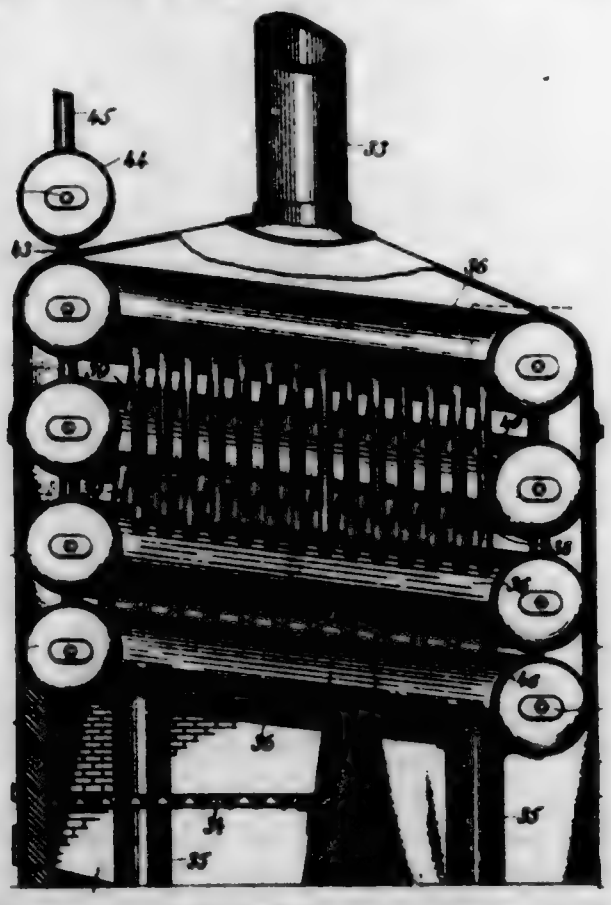
2. In a triped of the character described, the combination with the legs, a coupling-head whereon the legs are hinged, a standard slidable in the coupling-head, and means for clamping the standard upon said coupling-head, of a short arm held to rock upon the upper end of the standard, a bracket-plate secured upon said arm, a threaded bolt vertically adjustable in the bracket-plate and in the standard, means for holding the bolt projected from the bracket-plate, and a bracket-plate securable upon an object and adapted to clasp the bracket-plate which is secured upon the arm of the standard.

806,523. PACKING-CASE. THOMAS E. CLEMENT, Jr., Port Lavaca, Tex. Filed Dec. 22, 1904. Serial No. 237,944.



Claim.—A packing-case consisting of an outer body having substantially the form of a box, and an inner vessel of substantially cylindrical form resting upon the bottom of said body, said body having a longitudinally-disposed bar attached to the upper wall thereof and projecting down to a point near the periphery of said inner vessel, and other bars disposed longitudinally and projecting inwardly from the side walls of said body, and lying adjacent to the sides of said inner vessel, said bars affording means for dividing said body into separate compartments above and below said inner vessel and adapted to receive ice.

806,524. BOILER. JAMES M. COLMAN, Everett, Wash. Filed June 3, 1905. Serial No. 263,586.



Claim.—1. A water-tube boiler comprising two series of headers, two series of side pipes located at opposite sides of the boiler and connected with said headers near the ends of the latter, and a central pipe located between said series of side pipes and at a point between the planes in which the latter are located.

2. A water-tube boiler, comprising two series of headers at opposite ends of the boiler, two series of inclined side pipes of substantially the same size as the headers and communicating with said headers, and a central pipe located in an inclined plane between the planes of certain of said side pipes and communicating with two headers.

3. A water-tube boiler, comprising six inclined side pipes in two series, there being a space between the upper two of each series, and a central pipe in said space.

4. A water-tube boiler comprising a series of inclined side pipes upon each side of the boiler, an additional side pipe spaced from each of said series and located above them, and a central inclined pipe located between said two series of side pipes and at a point between the spaces in said series.

5. A water-tube boiler comprising a series of tubes, and means for connecting said tubes together, said means comprising a tube passing from one of the first-mentioned tubes to another, and a clamping means upon the inside of the second tube.

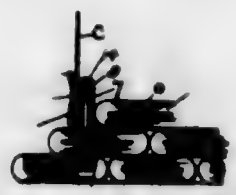
6. A water-tube boiler comprising a series of tubes located adjacent to each other, and means for connecting said tubes together, said means comprising a tube passing from one of the first-mentioned tubes to another, a ferrule on the outside of said second tube, and a clamping means upon the inside thereof.

7. A water-tube boiler, comprising a series of tubes one above the other, means for connecting said tubes together, said means comprising a short tube passing from one of the first-mentioned tubes to another, a ferrule on the outside of said short tube, and a clamping means upon the inside thereof.

8. A water-tube boiler, comprising a series of tubes one above the other, means for connecting said tubes together, said means comprising a short tube passing from one of the first-mentioned tubes to another, a ferrule on the outside of said short tube, and a clamping means upon the inside thereof; said clamping means comprising a bolt passing through the short tube, and a spider upon each end of the bolt bearing upon the surfaces of the tubes connected by the short tube.

9. A water-tube boiler comprising a series of tubes located adjacent to each other, means for connecting said tubes together, said means comprising a tube passing from one of the first-mentioned tubes to another, a ferrule on the outside of said second tube, a clamping means upon the inside thereof, said clamping means comprising a bolt passing through the second tube, and a spider upon each end of the bolt bearing upon the surfaces of the first-mentioned tubes.

806,525. CARD-HOLDER. STEDMAN P. CROUSE, Boston, Mass. Filed June 20, 1905. Serial No. 266,181.



Claim.—1. A card-holder formed of a wire bent to form two U-shaped loops on each side of its central portion, each outer loop being inverted and the outer ends of the wire flattened and extending horisontally rearward at right angles to the outer upright portions.

2. A card-holder formed of a wire having a central horizontal portion, two upright U-shaped loops on each side, each loop being bent to hold a card, and the ends of the wire flattened and extending at right angles diagonally rearward.

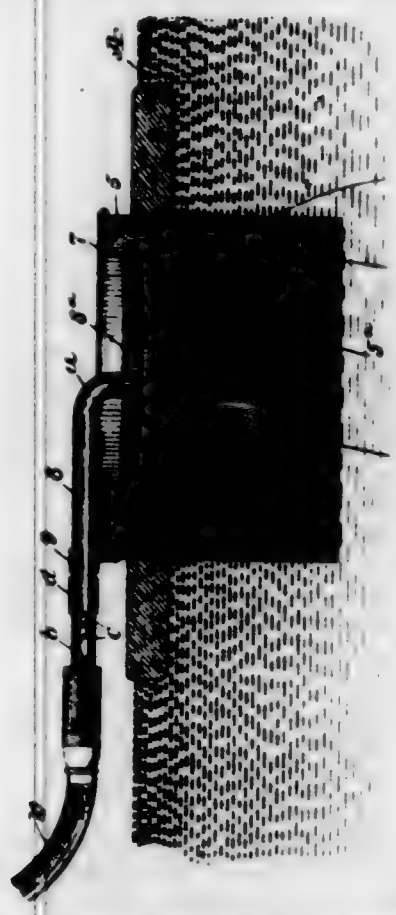
3. A card-holder formed of a wire bent to form U-shaped loops on each side of its central portion, each outer loop being inverted and having its outer side formed into a double concentric coil, and each free end of the wire extending horizontally rearward at right angles to the coil and flattened nearly its entire length, substantially as shown and described.

806,526. WATER-HEATER. CHARLES M. DALY, New York, N. Y. Filed Apr. 26, 1905. Serial No. 257,448.

Claim.—1. A heater for liquids, comprising a shell of thin metal having a closed bottom, and adapted to be partially immersed in the liquid, a gas-burner mounted on the shell and extending thereinto, a plurality of ring-shaped coils of wire arranged in the space between the side and bottom walls of the shell and the burner, and means for maintaining the shell at a predetermined level in the liquid.

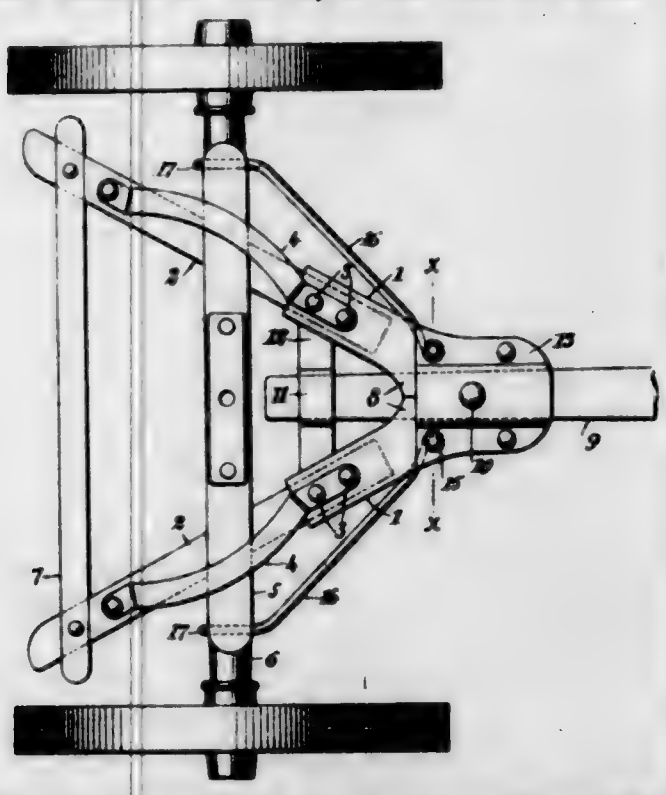
2. A heater for liquids, comprising a shell of thin metal having a closed bottom and an open top and adapted to be partially immersed in the liquid, a gas-burner mounted on the shell and extending thereinto, and a plurality of ring-shaped coils of wire arranged

in the space between the side and bottom walls of the shell and the burner.



3. A heater for liquids, comprising a shell of thin metal having a closed bottom and adapted to be partially immersed in the liquid, a gas-burner comprising a tube having a horizontal portion connected to the edge of the shell, and an angular portion extending to a point near the bottom thereof, and a plurality of ring-shaped coils of wire arranged in the space between the side and bottom walls of the shell and the burner.

806,527. **WAGON-HOUND.** JOHN R. DAVIDSON and BURTON C. KELLY, Monticello, Ga. Filed May 24, 1905. Serial No. 261,994.



Claim.—1. A wagon-hound comprising rearwardly-extending divergent socket members in separate pieces, upper and lower flanges extended forward from said socket members, a plate on the upper side of said forward extension, straps in the lower side thereof, and fastening-bolts and wood extensions secured in the socket members.

2. A wagon-hound comprising rearwardly-extended socket members, the said socket members being divergent and in separate pieces, upper and lower flanges extended forward from said socket members and forming the upper and lower walls of a socket member for receiving a tongue, a plate on the upper sides of said forward extensions, straps on the lower side thereof, bolts passing through the plate, forward extensions and straps, and wood extensions secured in the divergent socket members.

806,528. **DRINKING-STRAW.** WILLIAM H. DREWENDEL, New York, N. Y. Filed Aug. 18, 1905. Serial No. 274,710.

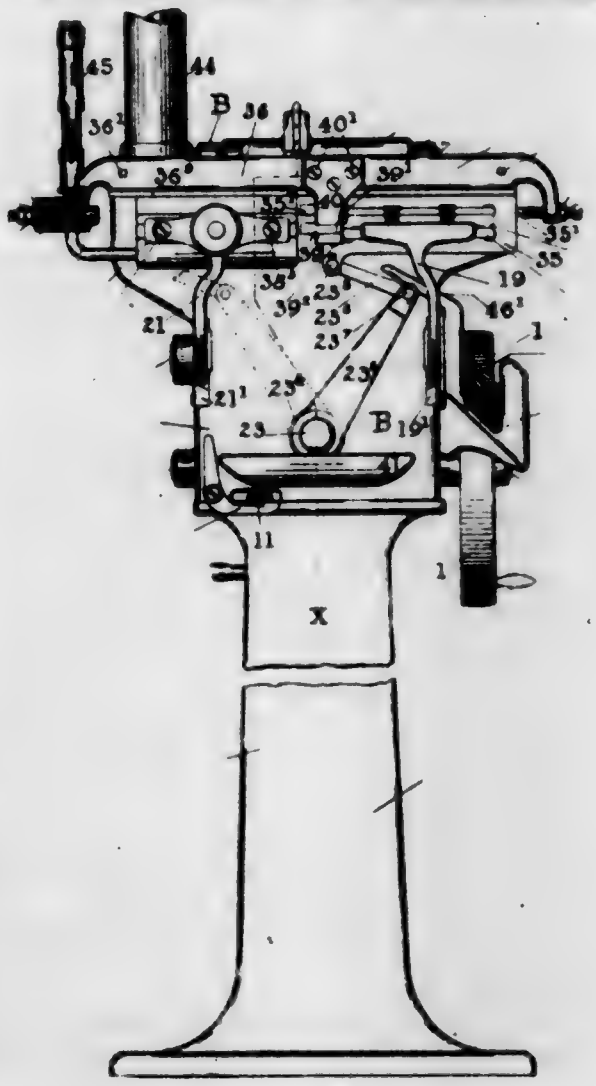


Claim.—1. A drinking-straw and a bottle-mouth closure thereon.

2. A drinking-straw and a bottle-mouth closure adjustable lengthwise thereof.

3. A drink-straw having its lower end beveled to form a lateral opening, and a closure-disk slidable on the straw.

806,529. **SLUG-CASTING MACHINE.** PHILIP T. DODGE, Brooklyn, N. Y., assignor to The Mergenthaler Linotype Company, a Corporation of New York. Filed Mar. 3, 1904. Serial No. 196,258.



Claim.—1. In a machine for casting slugs, a fixed melting-pot and means for delivering molten metal therefrom, in combination with a coöperating mold, means for reciprocating the mold laterally, and means for closing the face of the mold and forcing the same against the pot when in operative relation thereto.

2. In a slug-casting machine, the combination of a fixed pot provided with means for delivering molten metal therefrom, a fixed transverse slide, a mold connected with said slide to move longitudinally and also to move to and from the pot, means for reciprocating the mold laterally, means for closing the face of the mold, and means for forcing the mold against the pot when in operative position.

3. In a slug-casting machine, a fixed pot and means for delivering molten metal therefrom, in combination with a slotted mold mounted to reciprocate laterally from the casting to the ejecting position and also to move toward and from the face of the pot, a pressure device acting to force the mold against the pot when in the casting position and also to close its open side, and an ejector to deliver the slug from the mold.

4. In a slug-casting machine, a fixed pot and means for delivering molten metal therefrom, a pressure mechanism opposing the pot, a slotted mold mounted to reciprocate from a position between the pot and the pressure device to an ejecting position and also to move facewise to and from the pot, an ejector to expel the slug from the receiving side of the mold, and mechanism for imparting to said parts the movement stated.

5. In a slug-casting machine, a fixed pot with means for delivering molten metal therefrom, a slotted mold mounted to reciprocate across the mouth of the pot, a pressure device acting to carry the mold against the pot and to effect the closing of the mold, an ejector to expel the slug, a shaft mounted in the rear of the pot, cams carried by said shaft, and connections thence to the mold, the pressure device and the ejector respectively.

6. In a slug-casting machine, the pot with means for delivering metal therefrom, in combination with the slotted mold mounted to slide horizontally across the face of the pot and also to move to and from the pot, a pressure device adapted to close the mold, a horizontal slide carrying the pressure device, and a cam mechanism in rear of the pot to operate the slide.

7. In a slug-casting machine, a melting-pot provided with means for delivering metal therefrom, in combination with the reciprocating guided mold, the pressure device and its actuating-slide, the ejector and its actuating-slide, and the shaft provided with cams and connections for operating the mold, the pressure device and the ejector, respectively.

8. In a slug-casting machine and in combination with the mold, a pressure mechanism comprising a slide 19, and means for positively operating the same, a spring-supported bolt 38′ carried by the slide, and an anvil 38, carried by the bolt.

9. In a slug-casting machine, the combination of the pot, the fixed horizontal guide 36, a slide or traveler mounted therein, means for reciprocating the traveler in the guide, a mold loosely mounted in the traveler to move to and from the pot, and means for forcing the mold toward the pot while in operative relation thereto.

10. In a slug-casting machine, the combination with the fixed pot and an opposing pressure device, of an intermediate reciprocating mold, an actuating-cam, 22, and an intermediate rock-shaft having two arms, one connected with the cam and the other with the mold.

11. In combination, a pot, a slotted mold open at both front and rear, means for presenting the rear side of the mold to the pot to receive metal therefrom and thereafter removing the mold with the contained slug, and an ejector located and arranged to enter the mold from the front, after the mold has been moved from the pot.

12. In a slug-casting machine, in combination with a fixed pot and an opposing pressure device, an ejector, a mold, and means for moving the mold to and fro from a position between the pot and pressure device, to a position in rear of the ejector.

13. In a slug-casting machine, the reciprocating mold-frame, the mold members therein, the longitudinal wedge to confine said members, and means for automatically moving the wedge to and fro whereby the mold members may be confined and released without changing their relations edgewise.

14. The mold-frame movable to and from the casting position, in combination with mold members therein, the confining wedge, and adjustable means for automatically moving the wedge.

15. In a slug-casting machine, a separable traveling mold, means for rigidly confining the mold members, and a yielding device to actuate the confining means.

16. In a slug-casting machine, the reciprocating mold-frame with the mold members and the mold-confining wedge therein, in combination with fixed devices located in the path of the mold to move the wedge to and fro.

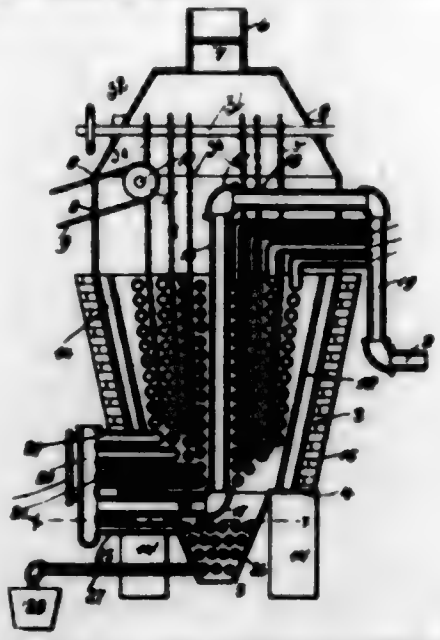
17. In a slug-casting machine, a slotted mold open on both sides, in combination with two opposing trimming-knives arranged to act on opposite sides of the mold, whereby the two edges of the contained slug are trimmed and the slug reduced to a uniform height.

18. In a slug-casting machine, the combination of the ejector-blade, slotted and perforated, the carrying-arm having the shoulder and stud, and a spring-pressure device to hold the blade in place.

19. In a slug-casting machine, the combination of a fixed pot, a longitudinally-reciprocating mold movable to and from the face of the pot, a movable mold-clamp, a pump, an ejector, driving devices therefor, and automatic stop devices to arrest the parts when the cycle of action is completed.

20. The pot, the longitudinally-reciprocating mold, the pressure device acting to urge the mold against the pot, the ejector and the pump-plunger, in combination with the cams having a common axis and connections from the cams to the mold, the pressure device, the ejector, and the plunger, respectively.

806,530. SAND-DRIER. CLARK J. DUNCAN, Windber, Pa. Filed Sept. 6, 1905. Serial No. 277,900.



Claim.—1. In an oven of the character described, the combination with a suitable conveyer, of a casing, said casing having a bottom of substantially frustrated conical shape and top, infusible material surrounding the bottom of said casing, an inner shell mounted in the bottom of said casing, coils of tubing supported within said inner shell, said coils having common stand-pipes, one of said stand-pipes communicating with a suitable supply of steam, a tapering spout carried by the bottom of said casing, tubing supported within said spout, a water-trap, and pipes establishing communication between one of said stand-pipes, said tubing and said water-trap, substantially as described.

2. In an oven of the character described, the combination with a suitable conveyer, of a casing adapted to receive sand from said conveyer, a flue carried by said casing, an inner shell arranged within said casing, infusible material surrounding a portion of said casing, coils of tubing arranged within said inner shell, said coils having common stand-pipes, one of said stand-pipes adapted to be connected to a suitable supply of steam, a tapering spout carried by said casing, tubing arranged in said spout, a water-trap, a pipe establishing communication between one of said stand-pipes, said tubing and said water-trap, substantially as described.

3. An oven of the character described consisting of a casing, a plurality of concentric coils of tubing arranged within said casing, said coils having common stand-pipes, one of said stand-pipes being connected to a suitable supply of steam, a water-trap, tubes establishing communication between the other of said stand-pipes and said water-trap, substantially as described.

4. An oven of the character described consisting of a casing covered with infusible material, said casing having a suitable inlet, a spout carried by said casing, tubing arranged within said casing, and connected with a suitable supply of steam, a water-trap, and condensing-pipes connecting said tubing and said water-trap extending across the exit-passage of the casing, substantially as described.

5. An oven of the character described consisting of a casing, an inner shell mounted within said casing, coils of tubing arranged

within said inner shell and connected with a suitable supply of steam, a water-trap, and means to convey condensed steam from said coils of tubing across the exit-passage of the casing to said water-trap.

6. An oven of the character described consisting of a casing having an outlet, said casing having an inlet, a plurality of concentric coils of tubing arranged within said casing and connected with a suitable supply of steam, means to remove the condensed steam from said coils of tubing, substantially as described.

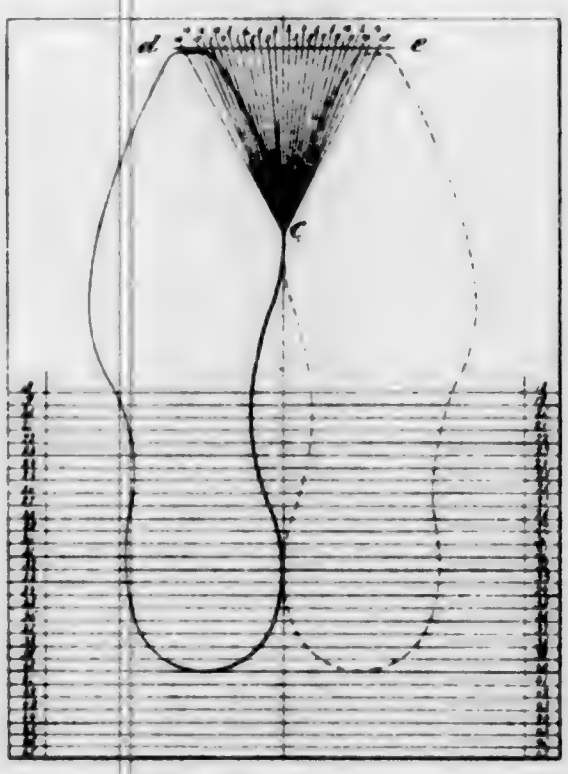
7. A sand-drier consisting of a casing having an inlet and an outlet, a plurality of concentric coils of tubing arranged within said casing and connected with a suitable supply of steam, and means to remove the condensed steam from said coils of tubing.

8. A heater consisting of a casing, an inner shell mounted within said casing, infusible material surrounding said casing, coils of tubing arranged within said inner shell and connected with a suitable supply of steam, and means to remove the condensed steam from said coils of tubing.

9. An oven of the character described consisting of a casing covered with infusible material, said casing having a suitable inlet, a spout carried by said casing, tubing arranged within said casing, and connected with a suitable supply of steam, a water-trap, and means to convey steam from said casing to said water-trap, means to agitate material passing through said oven.

10. A heater for sand consisting of a casing, an inner shell mounted within said casing, coils of tubing arranged in said inner shell, and connected with a suitable supply of steam, means to agitate the sand entering said heater, substantially as and for the purpose set forth.

806,531. **MEASURING DEVICE FOR SHOE-LASTS AND FOOT-COVERINGS.** GEORG ENGELHARDT, Cassel, and CARL F. FÖLSCH, Wernigerode-on-the-Harz, Germany. Filed Feb. 18, 1905. Serial No. 246,259.



Claim.—1. A measuring device comprising a base provided with a graduation, a guide on the said base and at right angles to the said graduation, an arm swinging from the side face of the said guide, for determining the angular position of the big toe of the foot relative to the main portion and a heel-rest adjustable in the direction of the length of the said guide.

2. A measuring device comprising a base provided with a graduation, a raised guide on the said base and at right angles to the said graduation, an arm swinging from the side face of the said guide above the graduation of the base for determining the angular position of the big toe of the foot relative to the main portion, and a heel-rest adjustable in the direction of the length of the said guide and in a direction transverse to the said guide.

3. A measuring device comprising a base provided with a graduation, a raised guide on the said base and at right angles to the said graduation, the face of the said guide having graduations, an arm swinging from the side face of the said guide above the graduation of the base, for determining the angular position of the big toe of the foot relative to the main portion, and a heel-rest adjustable in the direction of the length of the said guide and in a direction transverse to the said guide.

4. A measuring device comprising a base provided with a graduation, a measuring-guide on the said base and at right angles to the graduation, determining means intersecting the said graduation for determining the angular position of the big toe of the foot relative to the main portion, a heel-rest comprising a slide movable along the measuring-guide, and slides having curved edges and mounted to move laterally on the first-mentioned slide.

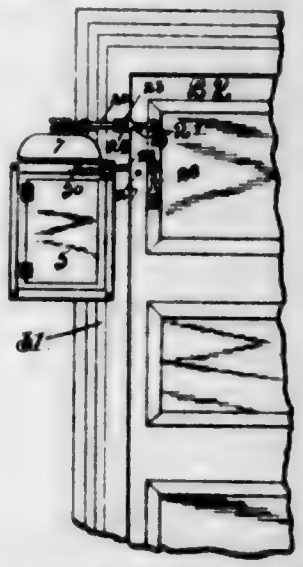
5. A measuring device comprising a base provided with a graduation, a measuring-guide on the said base, and at right angles to the graduation, determining means intersecting the said graduation for determining the angular position of the big toe of the foot relative to the main portion, a heel-rest comprising a slide movable along the measuring-guide and having lateral arms, means for fastening the slide in position, and slides having curved edges and adjustable on the said lateral arms toward and from the said measuring-guide.

6. A measuring device, comprising a base, provided with a graduation, a raised guide on the said base and at right angles to the said graduation, the face of the said guide being provided with graduations, an arm fulcrumed on each side of said guide and indicating on the graduation of the base, and a heel-rest comprising a slide mounted on the guide and adjustable in the direction of the length of the guide, the said slide being provided with side arms, and members adjustable on the side arms.

7. In a foot-measuring device, the combination with a base, of a straight graduated measuring-guide on the base for the inner side of the foot, the base being provided with a straight graduated line at right angles to the measuring-guide and extending on both sides thereof, the base being further provided with radial lines at each side of the measuring-guide, the said lines extending from a point on the said measuring-guide and intersecting the said straight graduated line.

8. In a foot-measuring device, a base provided with a guide for the inner side of the foot, and with a graduated line at right angles to the guide, the base being further provided with radial lines extending from a point on the guide and intersecting the said graduated line.

806,532. **BURGLAR-ALARM.** HENRY FREI, Allegheny, Pa. Filed May 11, 1905. Serial No. 259,974.



Claim.—1. In an alarm of the type described, the combination with a suitable spring-motor mechanism and a door, of a bell carried by said mechanism and adapted to be sounded by a clapper, a pin journaled in said bell, a revoluble disk mounted in said bell, a toothed sector carried by said pin and adapted to actuate said disk, clappers slidably mounted upon said disk and adapted to strike said bell, an outwardly-extending arm carried by the upper end of said pin, levers pivotally connected to said door, one of said levers being adapted to engage said arm to sound said bell, a bar carried by said mechanism and adapted to engage the clapper of said mechanism, the other of said pivotally-mounted levers being adapted to engage said bar, substantially as described.

2. In an alarm, the combination with a suitable spring-motor mechanism, a bell, a clapper actuated by said mechanism and a door, of revoluble clappers mounted within said bell, levers pivotally connected to said door, means actuated by one of said levers to revolve said clappers and sound said bell, and means actuated by the other of said levers to release the first-named clapper to sound said bell, substantially as described.

806,533. PROCESS FOR THE MANUFACTURE OF THREADS OR FILMS OF CELLULOSE. MAX FREMERY, Oberbruck, and EMILE BRONNERT, Mülhausen-Niedermorschweiler, Germany, and JOHANN URBAN, St. Polten, Austria-Hungary. Filed May 8, 1905. Serial No. 259,479.

Claim.—1. A process for the manufacture of threads or films of cellulose consisting in injecting into an acid a cupriferous ammoniacal solution of cellulose and then treating the cellulose form thus produced with a strong solution of caustic alkali.

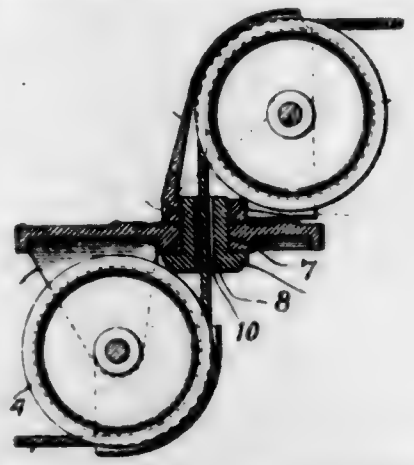
2. A process for the manufacture of threads or films of cellulose consisting in injecting into an acid a cupriferous ammoniacal solution of cellulose and then treating the cellulose form thus produced with a strong solution of caustic alkali and finally washing the form with water and a dilute acid and drying it under tension.

3. A process for the manufacture of threads or films of cellulose consisting in injecting into an acid a cupriferous ammoniacal solution of cellulose and winding up the cellulose form thus produced on a cylinder whereon it is afterward treated with a solution of caustic alkali.

4. A process for the manufacture of threads or films of cellulose consisting in injecting into sulfuric acid a cupriferous ammoniacal solution of cellulose, winding up the cellulose form thus produced on a cylinder which rotates in a strong solution of caustic alkali, then washing the form with water and a dilute acid, and drying it under tension.

5. Threads or films of cellulose prepared by injecting into an acid a cupriferous ammoniacal solution of cellulose and treating the cellulose form thus produced with a strong solution of caustic soda.

806,534. RADIAL CAR-PULLER SHEAVE. FREDERICK I. FRIEDLINE, Little Rock, Ark. Filed Jan. 12, 1905. Serial No. 240,696.



Claim.—1. The combination, with a base-plate, of a housing rigidly secured to the under side thereof, a sheave mounted therein, a second housing pivotally supported on the upper side of said base, a sheave carried by said second housing, and a cable for said sheaves.

2. The combination, with a base-plate, of a housing having a suitable sheave secured to one side thereof, a second housing, a hollow stud pivoted in said base-plate and wherein said second housing is secured on the side of said plate opposite from said first-named housing, a sheave for said second housing, and a cable for said sheaves.

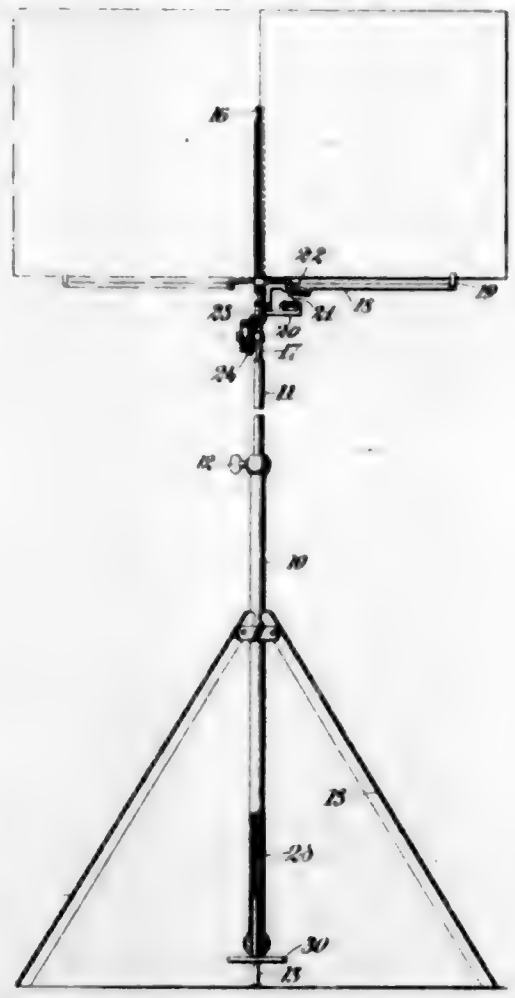
3. A radial car-puller comprising a plate, a housing rigidly secured to one side thereof and having a suitable sheave, a hollow stud having a flanged lower end loosely fitting within a hole in said plate, a second housing adjustably secured to said stud on the side of said plate opposite from said first-named housing said second housing being free to revolve with said stud and having a suitable sheave, and a cable extending from a suitable source of power and passing under said first-named sheave and through said hollow stud and up over said second sheave to the load, substantially as described.

4. The combination, with a base-plate, of sheaves mounted on the upper and under sides thereof, and one of said sheaves being swiveled, substantially as described.

806,535. MUSIC-LEAF TURNER. RAPHAEL C. GALLINANT, Ridgefield Park, N. J., and JOSEPH DUKAREVICH, New York, N. Y. Filed Mar. 29, 1905. Serial No. 252,653.

Claim.—1. A music-leaf turner comprising an arm mounted to swing, a flange on said arm, the said flange being downwardly and outwardly inclined a gear-actuated swinging member, and a spring-pressed member on said member for engaging with said flange.

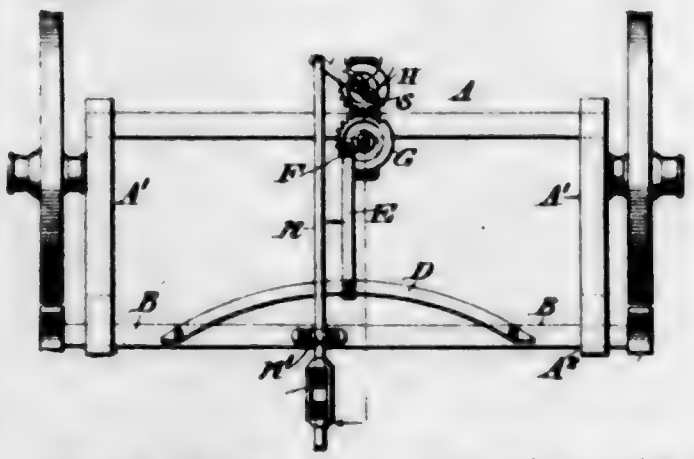
2. A music-leaf turner comprising a standard, an arm mounted to swing on said standard, an inclined flange on said arm, a gear-actuated swinging member on the standard, and a spring-pressed member on said member for engaging with said flange.



3. A music-leaf turner comprising a tubular standard a plurality of arms having swinging connection with the standard-flanges on said arms, the said flanges being inclined downward and outward a spring-pressed finger on said member for engaging with the flanges of said arms, a pinion on said member, a gear-wheel mounted on the standard and meshing with said pinion on the standard, a foot-actuated mechanism for moving said gear-wheel in one direction, and comprising a chain passing through the tubular standard, and a spring for moving the gear-wheel in the opposite direction.

4. A music-leaf turner comprising a standard, arms extended upward from said standard, spring-clips arranged in said arms, the upper ends of said arms being curved inward sheet-engaging arms having rotary connection with the standard, and means for causing the rotary movements.

806,536. BRAKE FOR WAGONS AND OTHER VEHICLES. WILLIAM GIBSON, Philadelphia, Pa. Filed July 7, 1905. Serial No. 268,706.



Claim.—1. In a brake, a brake-beam, wheels adapted to gear with each other, a slidable draft-bar, means for connecting said bar with one of said wheels for operating the same, and a slidable link which is eccentrically mounted on the other wheel and connected with said beam.

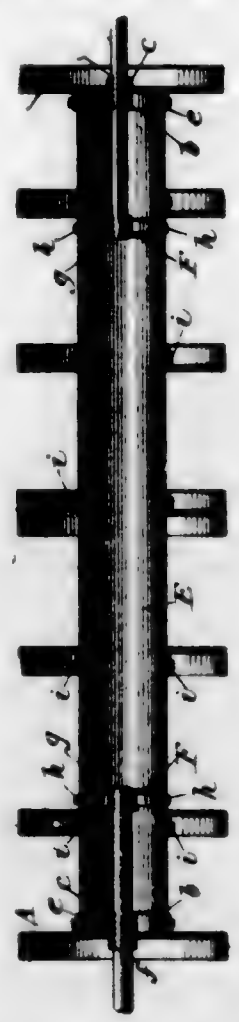
2. In a brake, a brake-beam, a draft-bar, wheels gearing with each other, an arm on one of said wheels and a rod eccentrically connected with the other wheel, said draft-bar being pivotally attached to said arm, and said brake-beam being pivotally attached to said rod.

3. In a brake, a brake-beam, a draft-bar, wheels gearing with each other, a radial arm on one of said wheels the same being connected with said draft-bar, a link eccentrically connected with the other wheel and a connection for said link and brake-beam.

4. In a brake, a brake-beam, a draft-bar, wheels gearing with each other, an arm on one of said wheels, a link eccentrically connected with the other wheel, a connection for said link and brake-beam and means on said brake-beam for guiding said draft-bar.

5. In a brake, a brake-beam, a draft-bar, a gear-wheel, an arm extending radially from the latter and connected with said draft-bar, another gear-wheel meshing with the first named, a link extending eccentrically from the second-named gear-wheel and connected with said brake-beam and an auxiliary bolt for securing said arm, which latter is mounted on the axial bolt of the first-named gear-wheel and said bolt passing through said wheel between the center and periphery.

806,537. **CYLINDER FOR THRESHING-MACHINES.** ALBERT L. GILL, Trenton, N. J. Filed Dec. 3, 1904. Serial No. 235,373.

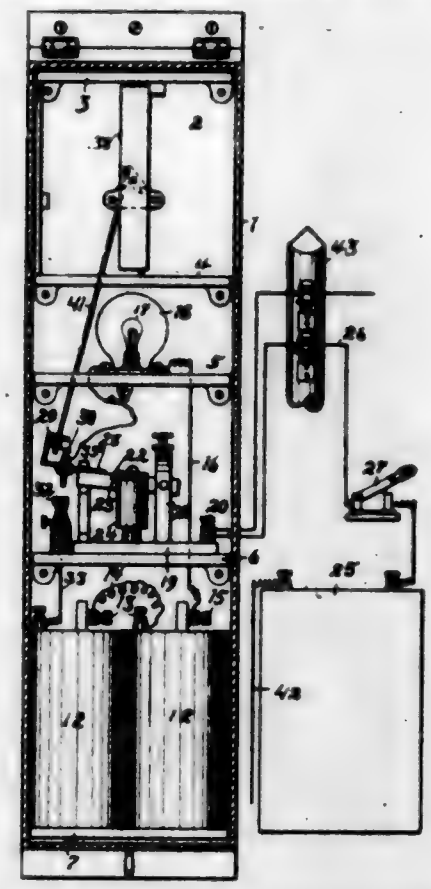


Claim.—A threshing-machine cylinder, comprising gudgeons, heads secured thereon, said heads having inwardly-projecting flanges, a tube secured to said flanges, annular supports interposed between the interior of said tube and said gudgeons, annular supports secured to the exterior of said tube and longitudinal strips secured to the last-mentioned annular supports.

806,538. **ELECTRIC SIGNAL FOR RAILWAYS.** JOHN B. GORRELL and HIRAM V. GORRELL, Laotto, Ind. Filed June 21, 1905. Serial No. 266,201.

Claim.—1. In an electric signal for railways a line-battery; a signal box or casing; an electrically-operated switch arranged in the said casing and under the control of the station operator; a normally open line-circuit connecting the said switch with the said battery; means for closing the said circuit at pleasure by the station operator; a normally open lamp-circuit in said casing independent of the said line-circuit and adapted to be closed by the said electric switch; a lamp in the said circuit; means in the said box for energizing the said lamp-circuit; and a semaphore-arm pivotally connected to the said electrically-operated switch and adapted to be actuated thereby.

2. An electric signal for railways consisting of a containing-casing; an electrically-operated switch mounted in said casing under the control of the station operator and energized by means of a normally open line-circuit; a semaphore pivotally connected with the said switch, and adapted to be actuated thereby; a normally open lamp-circuit in said casing having an independent source of energy to be closed by the said switch: and a lamp in the said lamp-circuit.



3. The combination in an electric signal for railways of a containing-casing; an electrically-operated switch arranged in the said casing; a normally open line-circuit adapted to energize the said switch; an independent normally open lamp-circuit in the said casing connected to the said switch and adapted to be closed thereby; an incandescent lamp in the said lamp-circuit; a semaphore in said casing pivotally connected with the said switch and adapted to be actuated thereby; and means for returning the said semaphore to its normal position.

806,539. **SPRING SNAP-HOOK.** JONAS GREENWALD, New York, N. Y. Filed June 23, 1905. Serial No. 266,566.



Claim.—1. A spring snap-hook made of a single piece of resilient material doubled up, one member of the doubled-up portion terminating in a hook and the other member terminating in a tongue acting in conjunction with the free end of the hook to normally close the same, the doubled-up portion having an opening for passing the textile material between the doubled-up portion, the latter also having integral fastening means for securing the doubled-up portion to the textile support.

2. A spring snap-hook made of a single piece of resilient material having a body portion doubled up and formed with an aperture for the passage of the textile support, the bottom edges of the aperture having inwardly-extending teeth for engaging the support, one of the members of the body portion terminating in a hook and the other member terminating in a spring-tongue acting in conjunction with the free end of the hook to normally close the same.

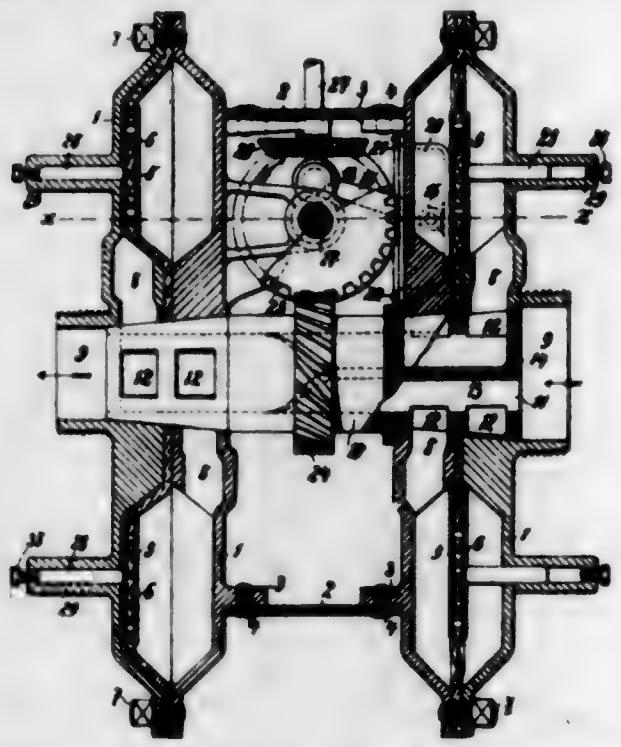
806,540. **PRESERVING COMPOUND AND PROCESS OF MAKING THE SAME.** ALONZO C. HAGER, Missoula, Mont. Filed May 16, 1905. Serial No. 260,722.

Claim.—1. A preservative compound containing the following ingredients in substantially the proportions stated, to wit: water, twenty gallons, powdered quicklime, six pounds, common salt, three pounds, cream of tartar, four ounces, nitrate of potash, four ounces, English soda, four ounces, borax, four ounces, and alum, four ounces.

2. The process herein described of preparing a preservative, which consists in taking twenty gallons of water, adding thereto six pounds of powdered quicklime and three pounds of salt, stirring the same thoroughly, allowing the admixture to stand twenty-four hours, then admixing four ounces of cream of tartar, four ounces of nitrate of potash, four ounces of English soda, four ounces of borax and four ounces of alum, dissolving said last-mentioned ingredients

in hot water, allowing the solution to stand until cooled, then adding said solution to said first-mentioned admixture, and stirring thoroughly.

808,541. **LIQUID-METER.** WILHELM HAGSPIEL, Ludwigsburg, Germany. Filed May 25, 1905. Serial No. 262,259.

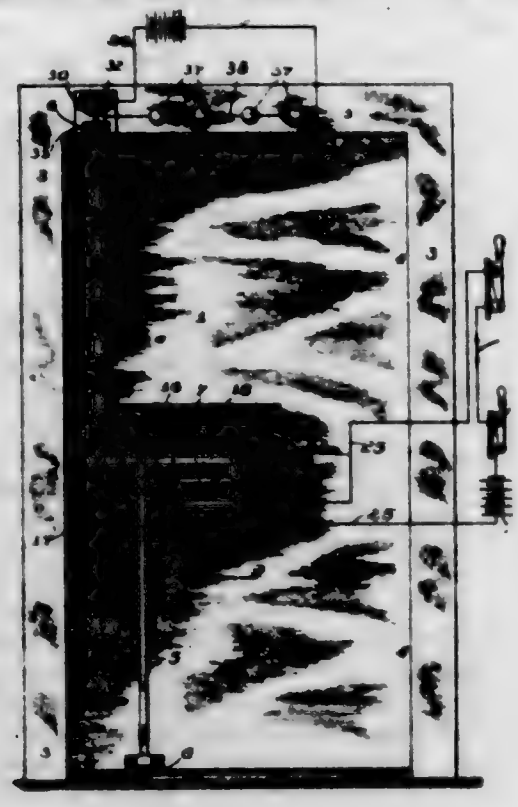


Claim.—1. In a liquid-meter, annular casings and pistons consisting of annular diaphragms disposed in the interior of the casings and attached to the latter.

2. In an apparatus of the class set forth, the combination of a liquid-meter consisting of a plurality of piston-diaphragms for measuring the volume of liquids, and distributing mechanism provided with axially-arranged inlets and outlets, the measuring operation of the meter being effected in the space around the pistons.

3. A distributing mechanism comprising a liquid-meter having piston-diaphragms for measuring volumes of liquid, a tubular rotary valve with axially-arranged inlets and outlets for the liquid to be measured, and a partition dividing the tubular rotary valve into two halves and covering simultaneously one-half of each end of the tubular valve, said partition being twisted through a right angle so that the inlets and outlets for the liquid of one half of the distributing mechanism in relation to the other half and the two ends of the partition in relation to each other are displaced ninety degrees.

808,542. **LOCKING OR BOLTING DOORS AND THE LIKE.** CLAUDE B. HENSLEY, Hreno, Okla., assignor of one-third to John S. Thompson, Chicago, Ill. Filed May 13, 1904. Serial No. 207,808.



Claim.—1. A device of the kind described, comprising the combination of a door, one or more bolts upon said door adapted to engage with means to hold said door closed, a lever attached to said bolts to operate the same, means constantly tending to disengage said bolt and release said door, a movable catch adapted to engage said lever to prevent the disengagement of said bolts and means for moving said catch to release said door.

2. A device of the kind described, comprising the combination of a door, one or more bolts upon said door adapted to engage with means to hold said door closed, a lever attached to said bolts to control the movements thereof, means constantly tending to disengage said bolts and release said door, a movable catch adapted to engage said lever to prevent the disengagement of said bolts, and means at the door, and independent means adapted to be operated at a point or points distant from said door for moving said catch to release said lever.

3. A device of the kind described, comprising the combination of a door, one or more bolts upon said door adapted to engage with means to hold said door closed, a lever directly attached to said bolts to operate the same, means constantly tending to disengage said bolts and release said door, a movable catch adapted to engage said lever to prevent the disengagement of said bolts, means at the door for moving said catch to release said door.

4. A device of the kind described, comprising the combination of a door, one or more bolts upon said door adapted to engage with means to hold said door closed, a lever attached to said bolts to operate the same, means constantly tending to disengage said bolts and release said door, a movable catch adapted to engage said lever and prevent the disengagement of said bolts, an electromagnet and opposing means adapted respectively to move said catch in opposite directions, one or more switches arranged to open or close the electric circuit to said magnet at will to move said catch and release said door.

5. A device of the kind described, comprising the combination of a door, one or more bolts upon said door adapted to engage with means to hold said door closed, a lever attached to said bolts to operate the same, means constantly tending to disengage said bolt and release said door, a movable catch adapted to engage said lever to prevent the disengagement of said bolts, said catch being normally held out of engagement with said lever, an electromagnet arranged to hold said catch in position to engage said lever when said magnet is energized, and one or more switches arranged in the circuit to said magnet, whereby shid circuit may be broken to release said door.

6. A device of the kind described, comprising the combination of a door, one or more bolts upon said door adapted to engage with means to hold said door closed, a lever attached to said bolts to operate the same, means constantly tending to disengage said bolts and release said door, a catch arranged to engage said lever to prevent the disengagement of said bolts, said catch being normally held out of disengagement with said lever, an electromagnet arranged to hold said catch in position to engage said lever when said magnet is energized, and a portion of the conductor in the electric circuit to said magnet adapted to be fused or broken to automatically open said circuit and release said door.

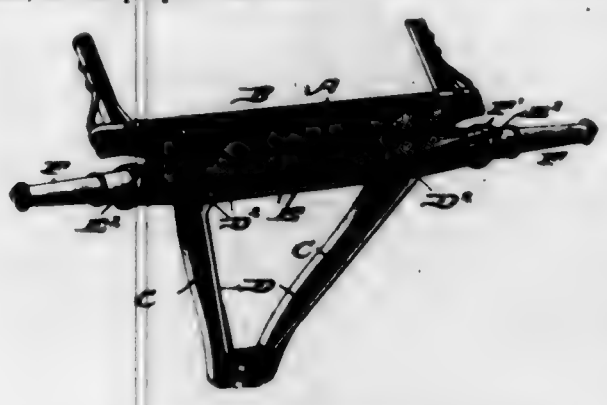
7. A device of the kind described, comprising the combination of a door, one or more bolts upon said door adapted to engage with means to hold said door closed a plurality of connected levers, one of which is directly attached to said bolts, controlling the movements thereof, means constantly tending to disengage said bolts and release said door, a movable catch adapted to engage one of said levers to prevent the disengagement of said bolts, an electromagnet and opposing means adapted respectively to move said catch in opposite directions, one or more switches arranged to control said electromagnet at will to move said catch to release said door.

8. A device of the kind described, comprising the combination of a door, one or more bolts upon said door adapted to engage with means to hold said door closed, a lever attached to said bolts to operate the same, means constantly tending to disengage said bolt and release said door, a movable catch adapted to engage said lever to prevent the disengagement of said bolts, said catch being normally held out of its engaging position, an electromagnet arranged when energized to hold said catch in position to engage said lever, and one or more switches adapted to break the circuit to said magnet, and a portion of the conductor in the said circuit arranged to be fused or broken to automatically open said circuit and release said door.

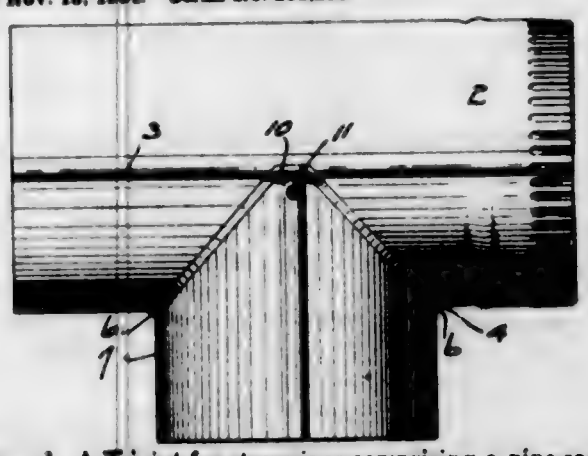
808,543. **AXLE-SUPPORT.** GEORGE KNEELAND, Hillsdale, Mich. Filed Mar. 22, 1904. Serial No. 199,306.

Claim.—A device of the kind described, comprising braces with

openings formed in the front end portion, said portion being connected to a hound, the rear end portions of said braces having openings and grooves formed therein, said ends being connected to the under face of the axle, parallel truss-rods arranged longitudinally on the under face of the axle, fitting in the grooves of the braces, and held apart, for the purpose described.



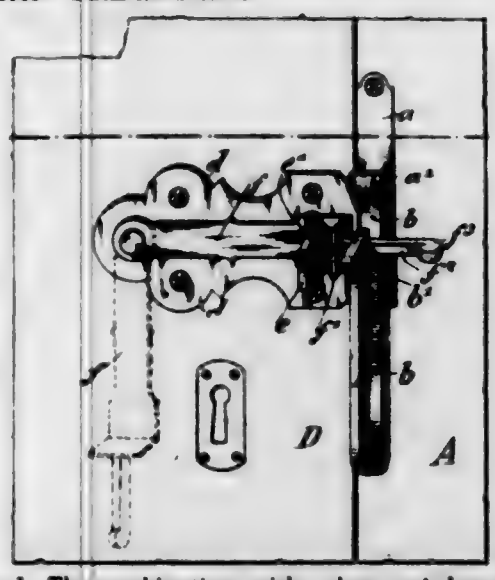
806,544. STOVEPIPE. ALFRED A. KIHNE, Minneapolis, Minn. Filed Nov. 18, 1904. Serial No. 233,235.



Claim.—1. A T-joint for stovepipes comprising a pipe-section having folded longitudinal edges adapted to interlock to form a seam, said section having a side hole or opening, a second pipe-section having one end fitting the curved surface of said first-named section and covering said side hole, and said end lapping over said seam and having a shoulder to engage the same and prevent the accidental separation of said folded edges, and bolts securing said sections together.

2. A sheet-metal T-joint comprising a pipe-section having a side hole or opening and folded longitudinal edges adapted to interlock and form a seam, said edges being separable one from the other to permit nesting of a series of sections, a second pipe-section having one end fitting the curved surface of said first-named section and covering said hole, and said second section having interlocking longitudinal edges that are separable one from the other to allow nesting of a series of said second sections, and means for securing the end of said second section to the curved surface of said first-named section, substantially as described.

806,545. DOOR-CHECK. ADOLF KRUSE, Hoboken, N. J. Filed July 21, 1905. Serial No. 270,726.



Claim.—1. The combination, with a door and door-jamb, of a check member suspended from the latter, and a lifting-latch on the door movable into and out of said member.

2. The combination, with a door and door-jamb, of a check member suspended from the latter, and a member on the door movable into and out of coöperative relation with said check member only when the latter is in pendent position.

3. In a check device for doors, a vertically-swinging hook-shaped member attached to the door-jamb, and a device on the door movable into and out of said member only when the latter is disposed vertically.

4. The combination with the door and door-jamb, of a check member pivoted to the latter, and a lifting-latch on the door movable into and out of coöperative relation with said check member only when the latter is in pendent position.

5. In combination, a latch pivoted to the door, and a hook-shaped member on the door-jamb into and out of which said latch is movable, said latch being automatically returned into said member, after release therefrom, upon the closing of the door.

6. The combination, with a door and door-jamb, of a hook-shaped check member suspended from the latter and provided with an inclined head, and a latch pivoted to the door and designed to ride over said head and take into said check member, being slidable therein.

7. In a check device for doors, in combination, a hook-shaped member pivoted to the door-jamb to swing vertically, and a member on the door movable into and out of said first-named member, said door member automatically taking into said hook-shaped member when the door is closed.

8. In a check device for doors, the combination, with the door and door-jamb, of a check member suspended from the latter, and a device on the door movable into coöperative relation with said member only when the latter is in pendent position, and automatically returnable into such relation, after release therefrom, when the door is closed.

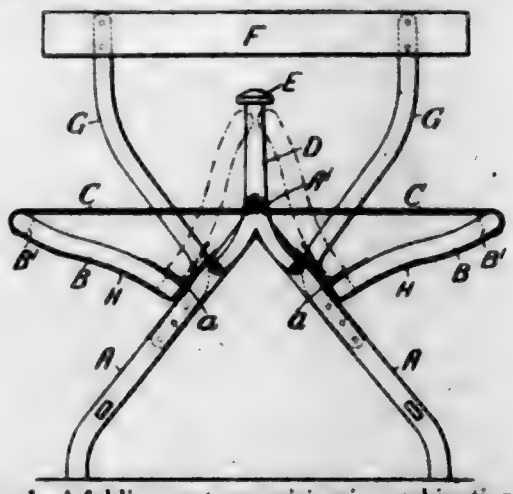
9. The combination, with a hook-shaped member pivoted to the door-jamb and provided at the upper end of its outer leg with an inclined head, of a latch pivoted to the door and provided with an extension-arm normally in horizontal alinement with said head.

806,546. FLEXIBLE RULER. PHILIP C. LAWLESS, Hampstead Heath, London, England. Filed Sept. 30, 1904. Serial No. 226,713.



Claim.—In a flexible ruler, the combination of a flexible strip of resilient sheet material having perforations distributed along its length, and cord threaded alternately in opposite directions through the perforations.

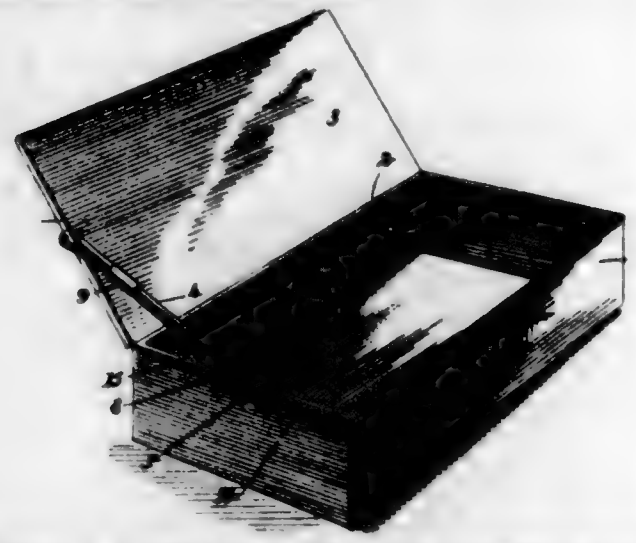
806,547. CAMP-STOOL AND LIKE SEAT. THOMAS LEES, Girvan, Scotland. Filed Jan. 11, 1905. Serial No. 240,545.



Claim.—1. A folding seat comprising in combination a framing A having hinged at each side, brackets B braced by a connecting-bar B', and having a length of flexible material attached to said bars and stretched across the brackets to form a soft seat on each side of the frame as described.

2. A folding seat comprising in combination a triangular framing having uprights carrying a divisional rail, brackets braced by connecting-bars and hinged to each side of the frame, a length of flexible material attached to said bars and stretched across the brackets to form a folding seat on each side of the frame as described.

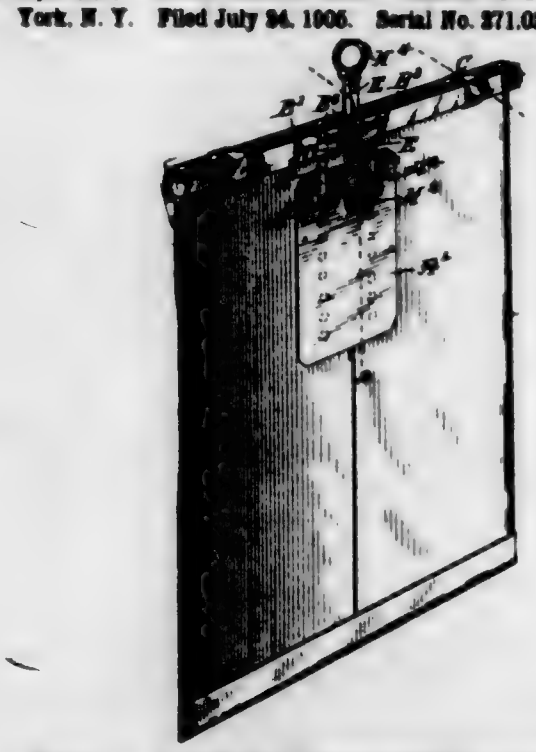
806,548. **BOX-LID HOLDER.** GEORGE LOCK, Grafton, N. D. Filed May 18, 1905. Serial No. 260,974.



Claim.—1. A holder for the lid of a box comprising an elongated member having a laterally-disposed extension adapted to rest against the rear face of the open lid, said member comprising a pair of adjacent bars diverging at the extremities thereof remote from said extension, said extremities presenting a space therebetween adapted to receive the edge of the box end, and a sliding ring mounted on said bars.

2. A holder for a box-lid comprising a main bar having a laterally-disposed extension at one extremity thereof constituting a foot adapted to be applied to the rear face of an open box-lid, a second bar rigidly attached to said first bar and having a butt projecting to a point near said extension, the extremities of said bars remote from said extension diverging to receive the edge of the box end therebetween and presenting nibs adapted to engage the box end, and a sliding ring on said bars controlling the extremities thereof.

806,549. **MOTH-PROOF BAG.** GEORGE M. D. MANAHAN, New York, N. Y. Filed July 24, 1905. Serial No. 271,026.



Claim.—1. A moth-proof bag comprising a bag-body, a clamping device for closing the mouth of the bag-body, and a garment-support within the said body and extending through the side of the bag to the outside thereof to engage the said clamping device to relieve the bag-body of undue strain.

2. A moth-proof bag comprising a bag-body, a pair of clamping-bars yieldingly connected with each other and adapted to engage and close the mouth of the said bag-body, one of the bars being wrapped up in the said mouth of the bag-body and a part of the bag-body extending between the clamping-bars, and a flexible garment-support extending through one side of the bag-body to the inside thereof, the outer portion of the said flexible garment-support being connected with the outer clamping-bar.

3. A moth-proof bag comprising a bag-body having a portion of one of its sides reinforced, the reinforced portion being apertured, and a garment-support comprising an apertured back plate within the bag-body and a flexible support extending through the apertures of the said reinforced portion and the said back plate, the outer ends of the flexible support forming suspension means for the moth-proof bag.

4. A moth-proof bag comprising a bag-body having a portion of one of its sides reinforced, the reinforced portion being apertured, a garment-support comprising an apertured back plate within the bag-body and a flexible support extending through the apertures of the said reinforced portion and the said back plate, and a closing device for closing the mouth of the said bag-body and engaged by the outer ends of the said flexible support.

5. A moth-proof bag comprising a bag-body having a portion of one of its sides reinforced, the reinforced portion being apertured, a garment-support comprising an apertured back plate within the bag-body and a flexible support extending through the apertures of the said reinforced portion and the said back plate, a closing device for closing the mouth of the said bag-body and engaged by the outer ends of the said flexible support, and a hanger connected with the said outer ends of the flexible support for suspending the moth-proof bag from a suitable support.

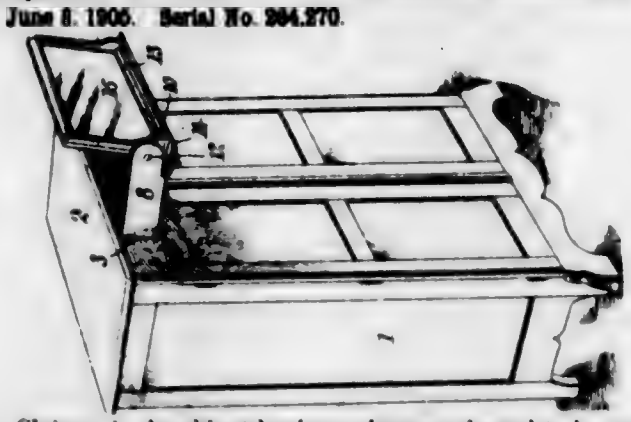
6. A moth-proof bag comprising a bag-body having a portion of one of its sides reinforced, the reinforced portion being apertured, a garment-support comprising an apertured back plate within the bag-body and a flexible support extending through the apertures of the said reinforced portion and the said back plate, and a pair of clamping-bars connected with each other at their outer ends by springs, the bars having transverse apertures adapted to be engaged by the outer ends of the said flexible support.

7. A moth-proof bag comprising a bag-body having a portion of one of its sides reinforced, the reinforced portion being apertured, a garment-support comprising an apertured back plate within the bag-body and a flexible support extending through the apertures of the said reinforced portion and the said back plate, and apertured washers interposed between the plate and the reinforced portion of the bag-body and through which extends the said flexible support.

8. A moth-proof bag comprising a bag-body, a pair of clamping-bars engaging the mouth of the bag-body for closing the same, a garment-support within the said bag-body and extending through one side thereof to engage one of the said clamping-bars, and supplementary closing devices engaging the clamping-bars and the mouth of the bag-body.

9. A moth-proof bag comprising a bag-body, a pair of clamping-bars engaging the mouth of the bag-body for closing the same, a garment-support within the said bag-body and extending through one side thereof to engage one of the said clamping-bars, and supplementary closing devices engaging the clamping-bars and the mouth of the bag-body, each supplementary closing device consisting of an elastic band and stiff end pieces.

806,550. **CABINET.** HERMANN MARSTALL, Henderson, Ky. Filed June 8, 1905. Serial No. 264,270.



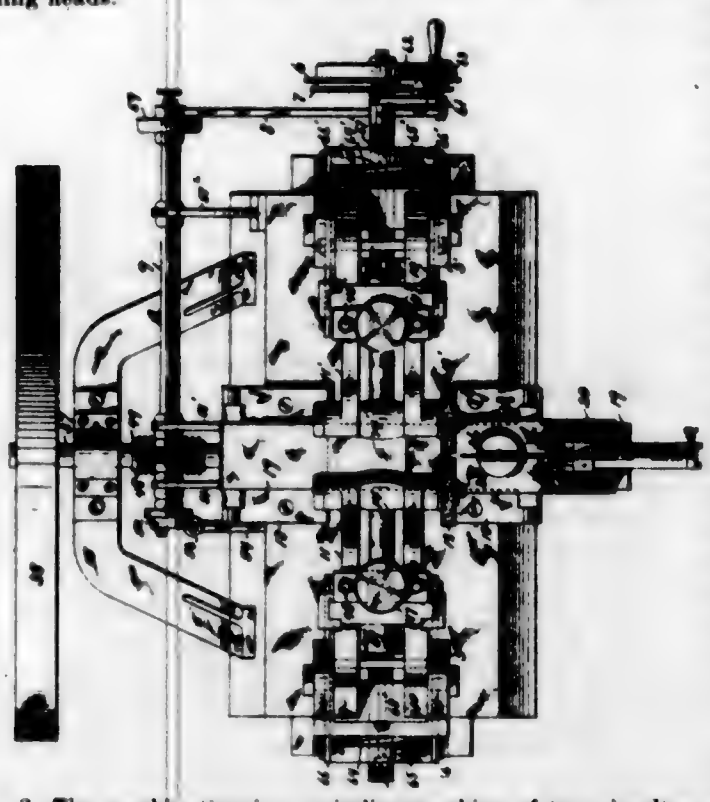
Claim.—1. A cabinet having a drawer adapted to be extended out therefrom, and a mirror pivoted to the forward portion of said drawer and adapted to rotate to an upright position when said drawer is extended, said drawer presenting a shoulder constituting a stop for maintaining said mirror in an upright position.

2. A cabinet having a drawer adapted to be extended therefrom, said drawer having side pieces cut away on their lower edges and forming shoulders, and a mirror-frame having a joint connection with said side pieces and abutting the same when swung on said joint connection.

806,551. **MACHINE FOR CONCAVING RAZORS.** RUDOLPH MARTIN, Newark, N. J., assignor to James B. Fuller, Newark, N. J. Filed Dec. 10, 1904. Serial No. 236,290.

Claim.—1. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding

heads, and means for simultaneously operating the said vertical sliding heads.



2. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding heads, designed to automatically advance toward and recede from each other, and a main feed-screw for simultaneously operating the said vertical sliding heads.

3. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding heads, designed to automatically advance toward and recede from each other, gibs secured to the bed, horizontal sliding heads moving in said gibs, having the vertical sliding heads secured to them and a main feed-screw for simultaneously operating the said horizontal sliding heads.

4. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding heads, designed to automatically advance toward and recede from each other, gibs secured to the bed, horizontal sliding heads moving in said gibs, standards attached to said horizontal sliding heads, supporting vertical sliding heads, means for reciprocating said vertical sliding heads, and a main feed-screw for simultaneously operating the said horizontal sliding heads.

5. The combination in a grinding-machine of two movable and automatically-operated vertical sliding heads, gibs secured to the bed, horizontal sliding heads moving in said gibs, standards attached to the said horizontal sliding heads supporting vertical sliding heads, a main feed-screw supporting adjustable nuts and springs, rockers connecting the adjustable nuts with the vertical sliding heads and operating the said horizontal sliding heads, substantially as described.

6. The combination in a grinding-machine of two movable and automatically-operated vertical sliding heads, horizontal sliding heads, standards attached to same and supporting vertical sliding heads, a main feed-screw supporting adjustable nuts and springs, rockers connecting the nuts with the vertical sliding heads, removable templets affixed to the roll-gear rockers, and screws affixed to the horizontal heads in order to cause the templet and screw to cooperate, substantially as described.

7. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding heads, designed to automatically advance toward and recede from each other, a connecting-rod attached to each vertical sliding head, a connecting-rod shaft, and main driving-shaft operating said connecting-rod shaft, and means attached to said connecting-rod shaft, operating the vertical sliding heads.

8. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding heads, designed to automatically advance toward and recede from each other, an eccentric-rod attached to each vertical sliding head, an eccentric-shaft mounted in bearings on the machine, eccentrics on the eccentric-shaft and connected to the eccentric-rods, and a pair of miter-gears connecting the main driving-shaft with the eccentric-shaft, operating the vertical sliding heads.

9. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding heads, designed to automatically advance toward and recede from each other, means for simultaneously operating the said heads and an adjustable razor-chuck having an arc-shaped peripheral movement cooperating with the said vertical sliding head.

10. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding heads, designed to automatically advance toward and recede from each other, means for simultaneously operating the said heads a main shaft supporting a worm in engagement with a worm-shaft supporting a worm-gear, a worm-shaft mounted in bearings affixed to the machine, a crank secured to the worm-shaft, a crank-rod connecting the crank with the rocker-carrying cross-feed rod, a link connecting a stud on the adjustable razor-chuck and an adjustable razor-chuck mounted on a cross-feed slide, all coöperating with the said vertical sliding head.

11. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding heads, designed to automatically advance toward and recede from each other, means for simultaneously operating the said heads a cross-feed slide mounted on guide-plates of the machine, an adjustable razor-chuck having an arc-shaped peripheral movement, a tool-stock mounted in said chuck, a reciprocating link mounted and pivoting in a bracket attached to bed of machine, and a crank and crank-rod connected to worm-gear shaft operating said adjustable chuck.

12. The combination in a grinding-machine of two simultaneously-movable and automatically-operated vertical sliding heads, designed to automatically advance toward and recede from each other, a main feed-screw operating vertical sliding heads and reciprocating feeding means attached to said main feed-screw and operated from the main driving-shaft.

13. In a machine for grinding razors, a tool-stock comprising a shaft, a transverse guide-pin at one end, two parallel plates, adapted to slide upon said pin, a clamping-screw which controls said plates, two intermediate guide-plates and a pin for guiding said plates, small guide-plates in parallel plates for the reception of the razor-pin, a collar on the end of the shaft and a bracket containing an adjusting-screw, all operating substantially as described.

14. The combination in a grinding-machine of two movable and automatically-operated vertical sliding heads, a main feed-screw operating vertical sliding heads, a feed-ratchet and a return-ratchet, a double pawl mounted on a lever and in engagement with said ratchets, a worm-gear shaft supporting a crank, a crank-rod connecting the lever carrying the pawl with the crank on the worm-gear shaft, as and for the purposes set forth.

15. The combination in a grinding-machine of two movable and automatically-operated vertical sliding heads a main feed-screw operating vertical sliding heads and carrying a feed-ratchet and a return-ratchet, a lever carrying a double pawl and means for actuating same in engagement with said ratchets, a disk to which are secured the feed and return ratchets and which is provided with a grooves and adjustable block, a worm-gear shaft supporting a crank, a crank-rod connecting the lever carrying the pawl with the crank on the worm-gear shaft, as and for the purposes set forth.

806,552. POCKET COMBINATION-CASE. WILLIAM MERSBACH, Chicago, Ill. Filed May 24, 1905. Serial No. 261,947.



Claim.—1. A device of the type set forth, comprising a stiff backing having pockets on its front and rear faces, the pockets on both faces being formed of an integral piece of material.

2. A device of the type set forth comprising a stiff backing having a single pocket on one side and a plurality of pockets on the other side, said single pocket and said plurality of pockets being formed of a single piece of material secured to the backing.

3. A device of the type set forth comprising a stiff backing having on one side a plurality of long pockets approximately the full

length of the backing, and a superposed shorter pocket and having on the opposite side a single pocket of less length than said long pockets.

806,553. KETTLE. WEBSTER S. MICHAEL and ANDREW R. ANDERSON, Brooklyn, N. Y. Filed Jan. 13, 1905. Serial No. 240,955.



Claim.—A kettle consisting of a closed receptacle, a spout communicating with the receptacle and leading therefrom at a side thereof, said spout being provided with a funnel-shaped extension at its upper end, tubes connecting the funnel-shaped extension with the upper portion of the body of the receptacle, and a handle at the top of the receptacle.

806,554. ADJUSTABLE SADDLE FOR HARNESS. PICKENS Y. MILLER, Hermanville, Miss. Filed Mar. 2, 1905. Serial No. 248,041.



Claim.—1. In a harness-saddle, the combination with two similar pads having convexed corresponding sides, and a hinge secured by its leaves on the pads near one end thereof, of a hinge-bar on one of said pads near its other end, said bar extending a distance above said pad, a hinge-leaf secured opposite the hinge-bar on the other pad and pivoted on the hinge-bar between its end and the edge of the pad said bar is secured upon, a plurality of projections on this hinge-leaf, and an arm pivoted on the extended end of the hinge-bar, the free end of said arm engaging an appropriate projection on the hinge-leaf for holding the pads from improper divergence.

2. In a harness-saddle, the combination with two similar pads, flat outside and convexed on their inner sides, and a strap-hinge secured by its leaves on the exteriors of the pads near corresponding ends thereof, of a hinge-leaf secured on the exterior of one pad near its opposite end, a hinge-bar on the other pad opposite said hinge-leaf and whereon said leaf is lapped at its free end and pivoted thereto, and a bent arm pivoted upon an extended end of the hinge-bar above the hinge-leaf, said leaf having projections either of which may be engaged by the lower end of the arm for holding the pads from spreading.

3. In a harness-saddle, the combination with two similar pads having flat outer sides and convexed adjacent sides, a strap-hinge having its leaves secured upon the flat sides of the pads near corresponding ends thereof, a hinge-bar secured on one of said pads parallel with the opposed leaf of the other hinge, and a hinge-leaf fixed upon the outer side of the other pad and pivoted on the hinge-bar in alinement with the pivot of the other hinge, of a series of teeth on said pivoted hinge-leaf, and a bent arm pivoted upon the hinge-bar above the hinge-joint thereon, said bar having a toe on its free end that may engage any one of the series of teeth for holding the pads from further divergence.

806,555. TENSION DEVICE FOR TEXTILE MACHINERY. JOHN R. MITCHELL, Montclair, N. J. Filed Mar. 18, 1905. Serial No. 250,818.

Claim.—1. A pivoted tension device having two arms, one with its axis in line with that of the pivot and arranged to receive the yarn directly from the package, and the other arm at a distance from the first, substantially as set forth.



2. The combination with a winding-machine and package-support, of a pivoted tension device having an arm in line with the pivot arranged to receive the thread above the center of the package-support, and a second arm adjustable around the axis of the first, substantially as set forth.

806,556. TOOL OR APPLIANCE FOR USE IN ENABLING THE JOINTS OF LEATHER, CANVAS, AND SIMILAR BELTING TO BE JOINED TOGETHER. FREDERICK MITCHELL, Sale, and FRANCIS GUEST, Gorton, near Manchester, England. Filed Oct. 15, 1903. Serial No. 177,219.



Claim.—1. A tool or appliance for the purposes referred to comprising a bracket formed with a stepped portion integral with the bracket and having a series of slits formed in it adapted to receive jointing-staples and also having a hole formed transversely through the intermediate portions of the bracket between the slits and a pin adapted to be passed through said hole substantially as and for the purposes described.

2. A tool or appliance for the purposes referred to comprising a bracket formed with a stepped portion integral with the bracket having a series of slits formed in it adapted to receive jointing-staples also having a hole formed transversely through the intermediate portions of the bracket between the slits, a pin adapted to be passed through said holes, a second hole formed transversely through the intermediate portions referred to and located rearwardly of the first hole and a pin adapted to be passed through said hole substantially as and for the purposes described.

806,557. LIFTING APPARATUS FOR DEEP WELLS. FRED J. MOSER, Kane, Pa. Filed Nov. 7, 1904. Serial No. 231,689.



Claim.—1. In an apparatus of the character described, the combination of means controllable by air-pressure for intermittently forming the liquid within the well into successive columns of great height, valve mechanism controllable automatically by fluid-pressure for successively forcing charges of air into said successive columns of said liquid, and vent mechanism to prevent said valve mechanism from fouling.

2. In an apparatus of the character described, the combination of a liquid-controlled valve, a vent-pipe for storing liquid leaking past said valve, and mechanism for automatically discharging liquid accumulated within said vent-pipe.

3. In an apparatus of the character described, the combination of a valve controllable automatically by pressure of a liquid, a vent-pipe for storing small quantities of liquid leaking past said valve, and another valve controllable automatically by the weight of said liquid thus stored for discharging the same.

4. In an apparatus of the character described, the combination of a barrel, tubing connected therewith and extending upwardly therefrom for conveying liquid therefrom, an air-pipe disposed within said tubing, connections for supplying air-pressure from said air-pipe to the liquid in the well for the purpose of raising the level thereof within said barrel and said tubing, valve mechanism mounted within said barrel and connected with said air-pipe for suddenly releasing a volume of an aeriform body into the liquid within said barrel, and means for preventing back pressure due to leakage of said valve mechanism.

5. In an apparatus of the character described, the combination of tubing, a packer connected therewith, mechanism disposed below said packer and provided with a vent for fluids, and a vent-pipe connected with said mechanism and extending upwardly through said packer for discharging fluids above the same.

6. In an apparatus of the character described, the combination of a packer, a slip-joint extending therethrough, tubing connected with said slip-joint so as to form a gas-tight connection with said packer, mechanism disposed below said packer and provided with a vent for the escape of fluids, and a vent-pipe connected with said mechanism and extending upwardly through said packer so as to discharge said fluids at a point above said packer.

7. In an apparatus of the character described, the combination of an anchor-pipe provided at its lower end with perforations, and also provided with an inlet located at a considerable distance above said perforations, said inlet marking the lowest level of the liquid within the well, and means for applying an air-pressure to the level of the liquid within the well so as to force the same through said perforations until said liquid reaches a point commensurate with the height of said inlet.

8. In an apparatus of the character described, the combination of mechanism for accommodating a volume of liquid of a considerable height, means for forcing a volume of air below the surface of said liquid thus formed into a column, valve mechanism controllable automatically by pressure of the liquid for releasing said air-pressure at a point below the upper level of said column of liquid for the purpose of breaking said column in two and thereby lifting the upper portion thereof to the surface of the earth, and means for temporarily storing any liquid which may leak through said valve mechanism.

9. In an apparatus of the character described, the combination of means for forming the liquid of the well into a column of great height, valve mechanism for forcing a charge of an aeriform body into said column, and a member controllable automatically by the pressure of the liquid to be raised for venting said valve mechanism so as to prevent the same from fouling.

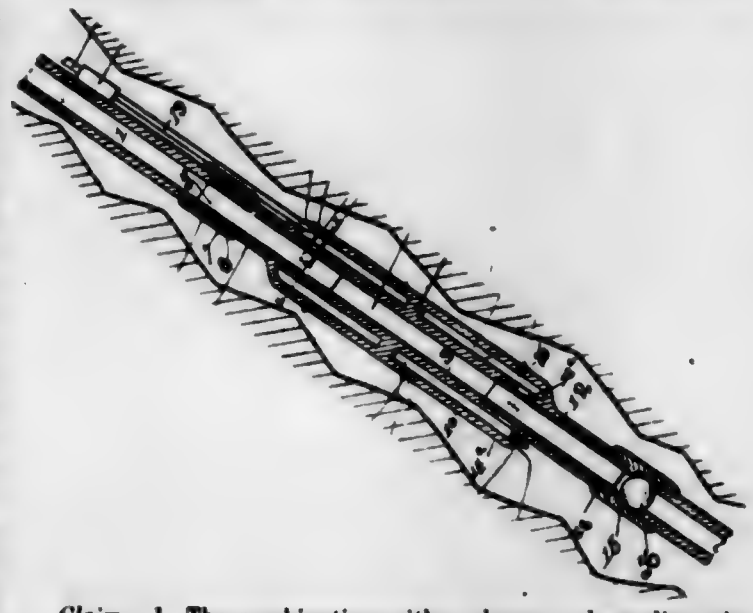
10. In an apparatus of the character described, the combination of a barrel, tubing connected therewith and extending upwardly therefrom for conveying liquid, an air-pipe disposed within said tubing, connections for supplying air from said air-pipe to the liquid in the well for the purpose of raising the level thereof within said barrel and said tubing, and valve mechanism connected with said air-pipe and controllable automatically by pressure of liquid within said barrel and said tubing for suddenly releasing the volume of an aeriform body into the liquid within said barrel.

806,558. CLOTHES-LINE HOLDER. WILLIAM MCCLAY, Pittsburg, Pa. Filed June 22, 1905. Serial No. 266,578.

Claim.—A clothes-line holder, comprising a base-plate provided on its front face at the lower end thereof with a projection, a notched lug rising from said projection and spaced away from the base-plate, the upper face of said projection being serrated, upwardly-inclined pins carried on the outer face of said base-plate, said base-plate having a groove in its outer face communicating with an opening which extends through the projection, and a housing hung on the pins carried by said base-plate and having a slot and a recess communicating with said slot, a gripping-plunger having a shank extending into the slot of said housing and having an angular extension near its upper end extending into the recess in said housing, a spring arranged between said extension and the base of the recess, and a rod arranged in the groove in said base-plate with its upper end engaged with the shank of the plunger, said rod projecting through the opening at the lower end of the base-plate, and provided intermediate its ends with teeth adapted to engage with the wall of said opening, substantially as described.



806,559. OIL-WELL DEVICE. FREDERICK H. MCCOLLOUGH, Fairview township, Butler county, Pa., assignor of one-third to Warren W. Bower and one-sixth to Oscar Callihan, Chicora, Pa. Filed July 3, 1905. Serial No. 268,220.



Claim.—1. The combination with a sleeve, a depending pipe carried by said sleeve, the lower end of said pipe having openings formed therein, of a working barrel adapted to surround said pipe, said barrel consisting of an inner and outer shell, said inner shell having openings formed therein adapted to aline with the openings of said pipe, a plurality of plugs staggeredly arranged in said outer shell, said plugs having openings formed therein, a check-valve carried by the lower end of said working barrel, substantially as described.

2. The combination with a sleeve, a depending-pipe carried by said sleeve, the lower end of said pipe having openings formed therein, of a working barrel, said barrel consisting of an inner and outer shell forming an annular compartment, an upwardly-extending tube carried by said barrel, a sleeve carried by said tube, said sleeve having an opening formed therein, a perforated washer mounted in said sleeve, said inner shell having openings formed therein, a plurality of plugs mounted in said outer shell, substantially as described.

3. The combination with a pipe having openings formed therein, of a working barrel adapted to surround said pipe, said barrel consisting of an inner and outer shell forming an annular compartment, an upwardly-extending tube carried by said barrel and communicating with said compartment, said inner shell having openings formed therein adapted to aline with the openings of said pipe, a plurality of plugs mounted in said outer shell, said plugs having openings formed therein, substantially as described.

4. The combination with a pipe having openings formed therein, of a working barrel adapted to surround said pipe, said barrel consisting of an inner and outer shell and a central horizontal partition, said inner shell having openings formed therein, a plurality of plugs mounted in said outer shell on both sides of the central partition, substantially as and for the purpose described.

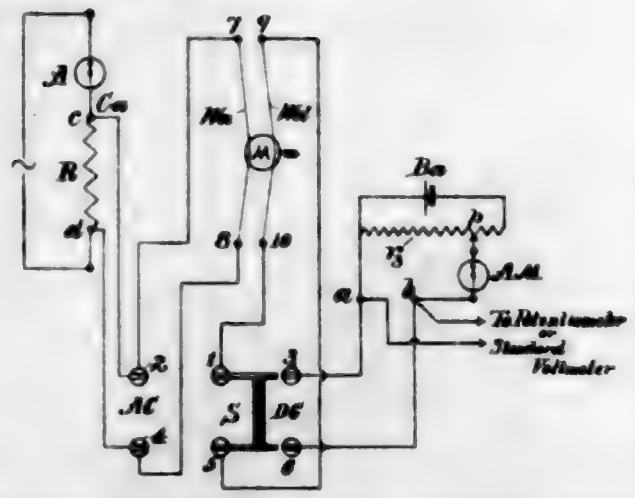
5. A working barrel of the character described consisting of an inner and outer shell forming an annular compartment, vertically-disposed ribs interposed between said shells, said inner shell having

openings formed therein, a plurality of plugs mounted in said outer shell, said plugs having openings formed therein, substantially as described.

6. A working barrel of the character described, consisting of an inner and outer shell and a horizontal partition, said inner shell having openings formed therein, and a plurality of plugs mounted in said outer shell above and below said partition, substantially as and for the purpose described.

7. A working barrel of the character described consisting of an inner and outer shell forming an annular compartment, a partition mounted centrally of said compartment, vertically-disposed ribs interposed between said shells, said inner shell having openings formed therein, a depending perforated pipe mounted within said inner shell, a detachable perforated pipe mounted within said shell, the perforations of said pipe and said sleeve alining with the openings of said inner shell, said outer shell having openings formed therein, substantially as described.

808,560. **ELECTRICAL MEASURING INSTRUMENT.** EDWIN F. NORTHRUP, Philadelphia, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 12, 1905. Serial No. 260,075.



Claim.—1. The method of measuring an alternating current, which consists in passing current from the alternating current to be measured through one conductor and a direct current of comparison through another conductor, and adjusting the current through one of said conductors until the relative expansion of both conductors shows that the current value of the alternating current bears a known relation to that of the direct current of comparison.

2. The method of measuring an alternating current, which consists in passing current from the alternating current to be measured through one conductor and a direct current of comparison through another conductor, and adjusting the current through one of said conductors until the relative expansion of said conductors due to the heating effect of said currents shows that equal currents are passing through both.

3. The method of measuring an alternating current, which consists in passing current from the current to be measured through two conductors and establishing by the relative expansion of said conductors due to the current through them, a zero position of indication, passing current from the alternating current to be measured through one of said conductors only and a direct current of comparison through the other of said conductors, and adjusting the current through one of said conductors until the relative expansion of said conductors due to the current therethrough shows that equal currents are passing through both.

4. The method of measuring an alternating current, which consists in passing current through two conductors and establishing by the relative expansion of said conductors due to current therethrough, a zero position of indication, passing current from the alternating current to be measured through one of said conductors, and a direct current of comparison through the other of said conductors, and adjusting the current through one of said conductors until both expand equally.

5. The method of measuring an alternating current, which consists in passing current through two conductors and establishing by the relative expansion of said conductors due to current therethrough, a zero position of indication, passing current shunted from the alternating current to be measured through one of said conductors, and a direct current of comparison through the other of said conductors, and adjusting the current through one of said conductors until both expand equally.

6. The method of measuring an alternating current, which consists in passing current equal in amount through two conductors and establishing by the equal expansion of said conductors due to said current, a zero position of indication, passing the alternating current to be measured through one of said conductors and a direct current of comparison through the other of said conductors, and adjusting the current of comparison until the said conductors show that equal currents are passing through both.

7. The method of measuring an alternating current, which consists in passing current equal in amount through two conductors and establishing by the equal expansion of said conductors due to said current, a zero position of indication, passing current shunted from the alternating current to be measured through one of said conductors and a direct current of comparison through the other of said conductors, and adjusting the current of comparison until the said conductors show that equal currents are passing through both.

8. In an electrical measuring instrument, two conductors mounted for movement due to the heating effect of electric currents, and indicating means operatively connected to both conductors to show the relative heating effects of currents therein.

9. In an electrical measuring instrument, two conductors mounted for movement due to the heating effect of electric currents, a shunt traversed by the current being measured connected to one of said conductors, and indicating means operatively connected to both of said conductors.

10. In an electrical measuring instrument, supports having therebetween a space, two conductors insulated one from the other, adapted to form parts of independent circuits and spanning the space between said supports, and indicating means operatively connected to both conductors between said supports to show the relative heating effects of simultaneous currents in said conductors.

11. In an electrical measuring instrument, a supporting-frame, two conductors both adapted to carry electric currents, extending longitudinally of said frame and insulated one from the other, clamping means holding the ends of said conductors rigidly near the ends of said frame, and indicating means operatively connected to both conductors to show the relative heating effects of said currents on said conductors.

12. In an electrical measuring instrument, a supporting-frame, two conductors extending longitudinally of said frame and insulated one from the other, clamping means holding the ends of said conductors rigidly near the ends of said frame, and a mirror operatively connected to both conductors to be moved angularly by the unequal expansion of said conductors to indicate unequal heating effects therein.

13. In an electrical measuring instrument, supports having therebetween a space, two conductors insulated one from the other and spanning the space between said supports, means connected to said conductors at a point between said supports and acting to keep said conductors taut, and indicating means operatively connected to both conductors between said supports.

14. In an electrical measuring instrument, a supporting-frame, two conductors extending longitudinally of said frame and insulated one from the other, clamping means holding the ends of said conductors rigidly near the ends of said frame, a containing-case, and means to support said frame in said case, and indicating means operatively connected to both conductors to show the relative heating effects of simultaneous currents upon said conductors.

15. In an electrical measuring instrument, two insulated conductors, supports to which the ends of said conductors are made fast, said supports having a space between them spanned by said conductors, means to adjust the relative positions of said supports to vary the distance between them lengthwise of said conductors, a spring arranged to keep said conductors taut, and an indicating device operatively connected to both of said conductors to show the relative heating effects of currents on said conductors.

16. In an electrical measuring instrument, a frame having a fixed and an adjustable support with a space therebetween, two wires made fast at their ends to said supports and spanning the said space, a spring operatively connected to said wires and to said frame to hold said wires taut, and an indicating device operatively connected to both of said wires to show the relative heating effects of currents on said wires.

17. In an electrical measuring instrument, an elongated frame having at one end a fixed support projecting therefrom, adjusting-screws carried at the other end of said frame, supports mounted on said adjusting-screws, two insulated wires made fast at their ends to said fixed and adjustable supports and spanning the space therebetween, a spring operatively connected to said wires and to said frame to hold said wires taut, a mirror operatively connected to both of said

wires, a containing-case for said frame and its connected parts having an opening arranged to register with said mirror, a cover for said case to which said frame is secured, and connecting-terminals.

18. In a hot-wire electrical measuring instrument, two current-carrying electrical conductors, abutments between which said conductors extend for support, and means connected to said conductors and operative thereby to indicate the comparative heating effects of currents passing simultaneously through said conductors.

19. In a hot-wire electrical measuring instrument, a plurality of electrical conductors mounted for movement due to the heating effect of electrical currents, and indicating means operatively connected to said conductors for movement due to the difference in expansion of said conductors to indicate unequal heating effects of currents therein.

20. In a hot-wire electrical measuring instrument, two current-carrying conductors, abutments between which said conductors extend for support, and indicating means connected to both of said conductors to move angularly when the heating effects of the currents in both conductors are unequal, and to maintain a position of zero angular deflection when the heating effects of said currents are equal.

21. In a hot-wire instrument for the comparative measurement of electric currents, two conductors, one to carry current from the current to be measured and the other to carry a current of comparison, abutments between which said conductors extend for support, and means connected to said conductors to indicate by its angular position the comparative heating effects of the currents in the respective conductors.

22. In a hot-wire instrument for the comparative measurement of electric currents, two conductors, one to carry current from the current to be measured and the other to carry a current of comparison, abutments between which said currents extend for support, a shunt adapted to be connected in circuit with the conductor carrying the current to be measured and means connected to said conductors for movement by the unequal expansion thereof to indicate unequal heating effects of currents therein, and for movement by the equal expansion of said conductors to indicate the equality of the heating effects of currents therein.

23. In a hot-wire instrument for the comparative measurement of electric currents, two conductors, one to carry current from the current to be measured and the other to carry a current of comparison, abutments between which said conductors extend for support, a shunt adapted to be connected in circuit with the conductor carrying the current from that which is to be measured, means connected to said conductors to indicate by its angular position the comparative heating effects of the currents in the respective conductors, and a switch and connections for passing current from the same source through both conductors to establish a zero position of deflection and for passing the respective currents through the said conductors for comparison.

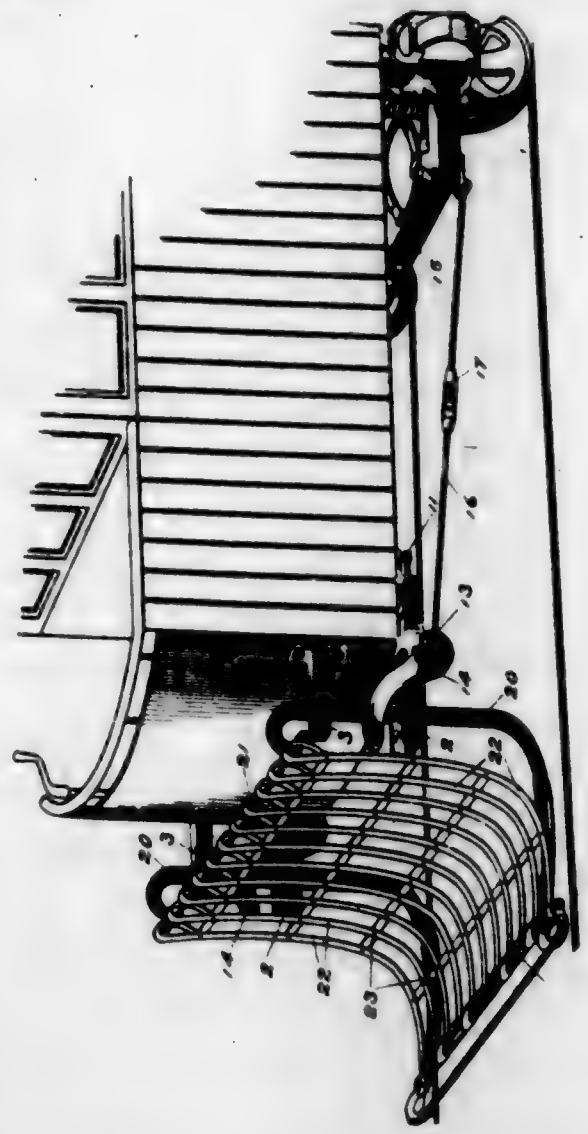
24. In a hot-wire electrical measuring instrument, two electrically-disconnected hot-wires, abutments between which said wires extend for support alongside each other, means to keep said wires taut, and a rigid indicating body attached to both of said wires to have an angular deflection due to the difference in expansion of said wires and to have a zero angular deflection when said wires expand equally.

808,561. CAR-FENDER. FREDRICK W. O'CONNOR, Toronto, Canada. Filed June 27, 1904. Serial No. 214,283.

Claim.—1. In a car-fender, the combination with a vertically-adjustable frame supporting a flexible screen, of supporting-arms for carrying said frame, and a cam operating through the medium of a connecting-rod from the car-truck, whereby the fender is maintained at a uniform height above the roadway, for the purpose hereinbefore set forth.

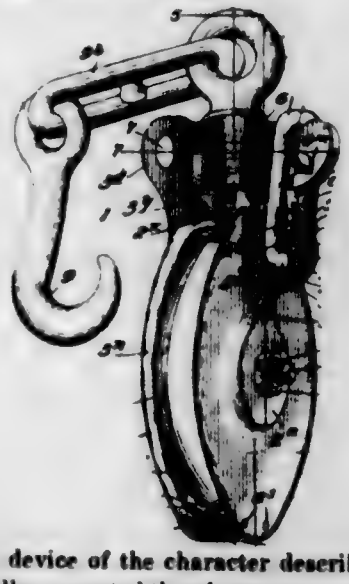
2. In a car-fender, the combination with a vertically-adjustable frame supporting a flexible screen and susceptible of swinging longitudinally, of upper and lower supporting-arms, said lower arms provided with cushioning-springs, and a cam operating through the medium of a connecting-rod from the car-truck, whereby the fender is maintained at a uniform height above the roadway, for the purpose hereinbefore set forth.

3. In a car-fender, the combination with a vertically-adjustable frame supporting a flexible screen and susceptible of swinging longitudinally, of upper and lower supporting-arms adapted to receive the frame in elongated slots therein, and provided with rolls, said lower supports provided with cushioning-springs, and a cam pivoted on said lower supports and adapted to operate by means of a connecting-rod from the car-truck, whereby the fender is maintained at a uniform height above the roadway, for the purpose hereinbefore set forth.



4. In a car-fender, the combination with a vertically-adjustable fender-frame supporting a flexible screen, of independently-actuated cams, pivoted connecting-rods between the said cams and the car-truck, and supporting-arms adapted to retain said fender-frame, for the purpose hereinbefore set forth.

808,562. SNATCH-BLOCK. ANDREW OPSAL, Kelso, Wash., assignor to Columbia Engineering Works, Portland, Oreg., a Corporation. Filed Jan. 9, 1905. Serial No. 240,380.



Claim.—1. A device of the character described, comprising a pair of plates, a pulley mounted therebetween, a cross-head hingedly secured to one of said plates, said cross-head having a finger, a link carried by said second plate to engage said cross-head finger, and means carried by said second plate for locking said link in position with respect to said finger.

2. A device of the character described, comprising a pair of plates, a pulley mounted therebetween, a cross-head hingedly secured to one of said plates, said cross-head having a finger, a link carried by said second plate to engage said cross-head finger, means

carried by said second plate for locking said link in position with respect to said finger, said means comprising a spring member carried by said second plate.

3. A device of the character described, comprising a pair of plates, a pulley mounted therebetween, one of said plates having projecting lugs, a cross-head hingedly secured to said plate between said lugs, said cross-head having a finger, a link carried by said second plate to engage said cross-head finger, means carried by said second plate for locking said link in position with respect to said finger, said means including a spring member carried by said second plate, as set forth.

4. A device of the character described, comprising a pair of plates, a pulley mounted therebetween, a cross-head hingedly secured to one of said plates, said cross-head having a finger, a link carried by said second plate to engage said cross-head finger, means carried by said cross-head to lock said link in position with respect to said finger, means for holding said finger against said link when the link is in its locked position.

5. A device of the character described, comprising a pair of plates, a pulley mounted therebetween, a cross-head hingedly secured to one of said plates, said cross-head having a finger, a link carried by said second plate to engage said cross-head finger, means carried by said cross-head to lock said link in position with respect to said finger, means for holding said finger against said link when the link is in its locked position, said last-named means including a spring member secured to the second plate and engaging said cross-head.

6. In a device of the character stated, a pair of plates having oval countersunk chamber portions facing each other, a pulley having rims held between said plate with its rims in said countersunk portion, said plates having spacing-lugs at the bottom, a spindle passing through the plate and the pulley, all being arranged substantially as shown.

7. In a device of the character described, a pair of plates, a pulley-wheel rotatably mounted therebetween, one of said plates having upwardly-projecting ears, a cross-head fulcrumed between said ears, said cross-head including a body portion and a finger, said finger having a transverse groove in its upper edge, a swivel-pin passing through said cross-head body portion and terminating in a swivel-head, said swivel-head being held between said plates, said plates each having grooved portions to receive said swivel-head, substantially as shown.

8. In a device of the character described, a pair of plates, a pulley-wheel rotatably mounted therebetween, one of said plates having upwardly-projecting ears, a cross-head fulcrumed between said ears, said cross-head including a body portion and a finger, said finger having a transverse groove in its upper edge, a swivel-pin passing through said cross-head body portion and terminating in a swivel-head, said swivel-head being held between said plates, said plates each having grooved portions to receive said swivel-head, a link carried by said second plate for engaging and resting in said cross-head finger-groove, substantially as shown.

9. In a device of the character described, a pair of plates, a pulley-wheel rotatably mounted therebetween, one of said plates having upwardly-projecting ears, a cross-head fulcrumed between said ears, said cross-head including a body portion and a finger, said finger having a transverse groove in its upper edge, a swivel-pin passing through said cross-head body portion and terminating in a swivel-head, said swivel-head being held between said plates, said plates each having grooved portions to receive said swivel-head, a link carried by said second plate for engaging and resting in said cross-head finger-groove, and means for holding said link locked in position with respect to said finger.

10. In a device of the character described, a pair of plates, a pulley-wheel rotatably mounted therebetween, one of said plates having upwardly-projecting ears, a cross-head fulcrumed between said ears, said cross-head including a body portion and a finger, said finger having a transverse groove in its upper edge, a swivel-pin passing through said cross-head body portion and terminating in a swivel-head, said swivel-head being held between said plates, said plates having grooved portions to receive said swivel-head, said second plate having a lug extending at right angles thereto, a link pivotally connected to said lug, said link adapted to engage and lock with said finger, substantially as shown.

11. In a device of the character described, a pair of plates, a pulley-wheel rotatably mounted therebetween, one of said plates having upwardly-projecting ears, a cross-head fulcrumed between said ears, said cross-head including a body portion and a finger, said finger having a transverse groove in its upper edge, a swivel-pin passing through said cross-head body portion and terminating in a swivel-head, said swivel-head being held between said plates, said plates having grooved portions to receive said swivel-head, said second plate having a lug extending at right angles thereto, a link pivotally connected to said lug, said link adapted to engage and lock with said finger, and means for locking said link in engagement with said finger.

12. In a device of the character described, a pair of plates, a pulley-wheel rotatably mounted therebetween, one of said plates having upwardly-projecting ears, a cross-head fulcrumed between said ears, said cross-head including a body portion and a finger, said finger having a transverse groove in its upper edge, a swivel-pin passing through said cross-head body portion and terminating in a swivel-head, said swivel-head being held between said plates, said plates having grooved portions to receive said swivel-head, said second plate having a lug extending at right angles thereto, a link pivotally connected to said lug, said link adapted to engage and lock with said finger, and means for locking said link in engagement with said finger, said means including a spring member secured to said lug and engaging said link.

13. In a device of the character described, a pair of plates, a pulley-wheel rotatably mounted therebetween, one of said plates having upwardly-projecting ears, a cross-head fulcrumed between said ears, said cross-head including a body portion and terminating in a swivel-head, said swivel-head being held between said plates, said plates having grooved portions to receive said swivel-head, said second plate having a lug extending at right angles thereto, a link pivotally connected to said lug, said link adapted to engage and lock with said finger, and means for locking said link in engagement with said finger, said means including a spring member secured to said cross-head and engaging said link, and a separate means for holding said finger in engagement with said link.

14. In a device of the character described, a pair of plates, a pulley-wheel rotatably mounted therebetween, one of said plates having upwardly-projecting ears, a cross-head fulcrumed between said ears, said cross-head including a body portion and a finger, said finger having a transverse groove in its upper edge, a swivel-pin passing through said cross-head body portion and terminating in a swivel-head, said swivel-head being held between said plates, said plates having grooved portions to receive said swivel-head, said second plate having a lug extending at right angles thereto, a link pivotally connected to said lug, said link adapted to engage and lock with said finger, and means for locking said link in engagement with said finger, said means including spring members secured to said cross-head and engaging said link, and a supplemental spring secured to the second plate-lug and engaging said finger to press it upwardly, substantially as shown and described.

15. A device of the character stated, comprising a pair of plates, a pulley mounted therebetween, a cross-head hingedly secured to one of said plates, said cross-head having a finger, said second plate having a lug, a link carried by said second plate-lug to engage said cross-head finger, means carried by the second plate-lug for locking said link in position with respect to said finger, and means carried by the second plate-lug for forcing the cross-head upwardly substantially as shown and described.

806,563. COMBINED CURB, GUTTER, AND VEHICLE-TRACK FOR HIGHWAYS. JOHN OWEN, Pittsburg, Pa. Filed Feb. 27, 1905. Serial No. 247,532.

Claim.—1. In a highway, a gutter located at the side thereof contiguous to the sidewalk and a wheel-plate the two spaced apart a distance corresponding to the normal gage of wagons or similar vehicles and constituting a track for the same.

2. In a highway, a metallic gutter embedded at the side thereof contiguous to the sidewalk and a metallic wheel-plate also embedded therein the two substantially flush with the surface of the highway and spaced apart a distance corresponding to the normal gage of wagons or similar vehicles and constituting a track for the same.

3. A wheel-plate for a vehicle-track for highways, of substantially inverted-trough shape and provided with fluted sides, for the purpose set forth.

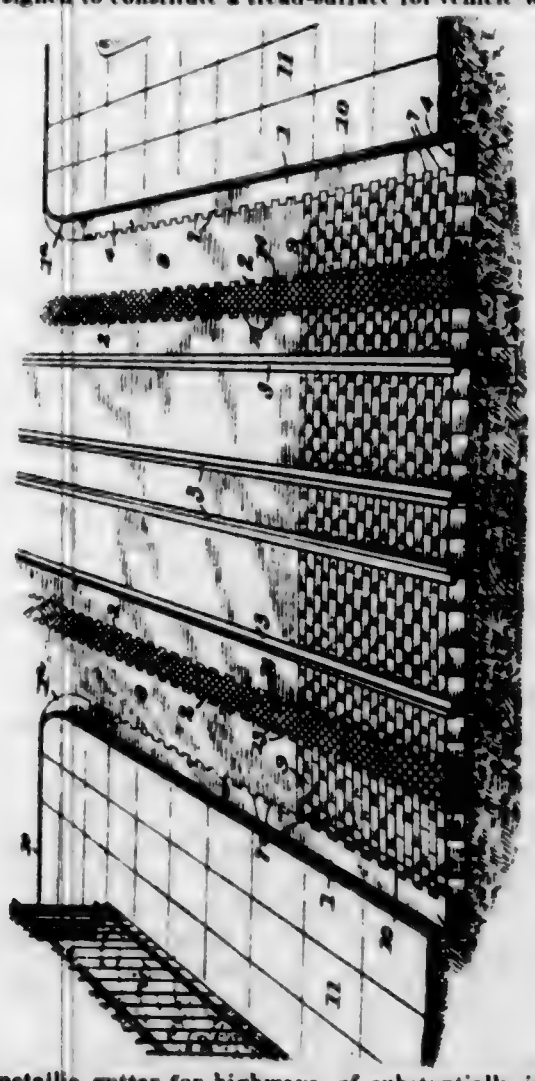
4. A wheel-plate for a vehicle-track for highways, of substantially inverted-trough shape and having fluted sides providing rectangular recesses, for the purpose set forth.

5. A metallic gutter for highways, provided with a flange constituting a metallic curb.

6. A metallic gutter for highways, of substantially inverted-trough shape and provided with a fluted side, for the purpose set forth.

7. In a highway, a metallic gutter at the side thereof contiguous

to the sidewalk, of substantially inverted-trough shape with a flat upper face designed to constitute a tread-surface for vehicle-wheels.



8. A metallic gutter for highways, of substantially inverted-trough shape, one of its sides being fluted, for the purpose set forth.

9. A combined metallic gutter and curb for highways, consisting of an inverted-trough-shape body one side of which is fluted and at the other side of which is an upwardly-extending flange constituting the curb.

10. In a highway, a metallic gutter of substantially inverted-trough shape with a smooth flat upper surface designed to constitute one member of a vehicle-track, and a wheel-plate also of inverted-trough shape spaced from said gutter a distance corresponding to the normal gage of wagons or similar vehicles and provided with a grooved upper surface constituting the other member of said track.

806,564. **SMOKELESS POWDER.** RALPH D. PECK, Danville, Wis. Filed Sept. 8, 1905. Serial No. 277,567.

Claim.—1. The herein-described composition of matter consisting of granulated sugar, potassium nitrate, potassium chlorate, magnesium oxid and water.

2. The herein-described composition of matter formed of the following ingredients in the proportions stated: granulated sugar, fourteen ounces; potassium nitrate, four ounces; powdered potassium chlorate, four ounces; magnesium oxid, one ounce; and water, six ounces.

806,565. **EXERCISING APPARATUS.** CHARLES C. PERCY, Rochester, N. Y. Filed Nov. 4, 1904. Serial No. 231,415.



Claim.—1. An exercising apparatus embodying two spaced suspended single-sheave blocks, a double-sheave block hung between the single blocks, two ropes each roven through one single-sheave block and passing through the double-sheaved block in opposite directions, leaving end portions of the ropes hang from all the blocks, and means for connecting a human body with the pendent ropes adapted for putting draft strain thereon.

2. An exercising apparatus embodying two spaced suspended single-sheave blocks, a double-sheave block hung between the single blocks, two ropes each roven through one single-sheave block and passing through the double-sheave block in opposite directions, leaving end portions of the ropes hang from all the blocks, means detachably connected with the ropes pendent from the single-sheave blocks and adapted for engagement with the chin and shoulders of a person, the remaining rope ends being pulled upon for causing draft strain on the chin and shoulders of said person.

3. In an apparatus of the character described, the suspending-tackle, comprising two spaced and suspended single-sheave pulley-blocks, a double-sheaved pulley-block hung between the other two blocks, two ropes each roven through a respective single-sheave block and passing through the double-sheave block in opposite directions engaging respective sheaves therein, end portions of the ropes hanging from each sheave, a hanger-ring pendent from the end of each rope hanging from a single-sheave block, each ring having an upturned hook thereon, a chin-engaging harness having straps engaged with members of the hanger-rings, and also having other straps that engage with the hooks on the rings.

4. In an apparatus of the character described, the suspending-tackle comprising two spaced and suspended single-sheave blocks, a double-sheaved block hung between the other blocks, two ropes each roven through a single-sheave block and passing through the double-sheaved block in opposite directions, end portions of said ropes depending from all the blocks, hanger-rings on ends of the ropes that depend from the single-sheave blocks, and a suspending-harness comprising a chin-band engaged with hooks on the hanger-rings, the remaining ends of the ropes that hang from the double-sheaved pulley when drawn down putting draft strain on the chin-band.

5. In an apparatus of the character described, the suspending-tackle comprising two spaced and suspended single-sheave blocks, a double-sheaved block hung between the other blocks, two ropes each roven through a single-sheave block and passing through the double-sheaved block in opposite directions, end portions of said ropes depending from all the blocks, a hanger-ring on the end of each rope that hangs from a single-sheave block, said rings having upturned hooks thereon, and a suspending-harness coacting with the suspending-tackle, comprising a chin-band, a strap engaging at its ends with a hook on each end of the chin-band, a pair of brace-bands converged at their lower ends, a head-supporting band secured transversely on the brace-bands, a shoulder-band secured at its center on the converged ends of the brace-bands, all of said bands hanging from other hooks on the hanger-rings and coacting for putting draft strain on the engaged portions of a person when the depending ropes on the double-sheaved pulley are pulled upon.

6. In an exercising apparatus of the character described, the suspending-harness comprising a chin-band having adjusting-straps on its ends adapted for connection with the pendent ropes of a supporting-tackle, divergent brace-bands, adjusting-straps extended from the brace-bands to the chin-band, a head-band extended transversely between the brace-bands rearward of the chin-band, a shoulder-band connected near its center with the lower ends of the brace-bands, and rings at intervals changeably secured on the end portions of the shoulder-band for engagement with rings on a supporting-rope tackle.

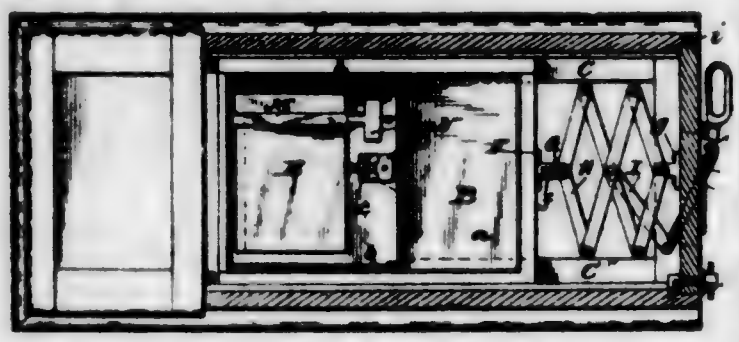
806,566. **SHOW-CASE.** EMIL R. PETERS and JOSEPH H. SAXMAN, Salt Lake City, Utah. Filed Apr. 18, 1904. Serial No. 203,647.

Claim.—1. In an apparatus of the class described, a casing having a front opening, guides in said casing, a receptacle mounted on the guides, and a manually-operable means extending between the rear of the receptacle and the rear of the casing for slidably projecting and withdrawing the receptacle.

2. In an apparatus of the class described, a casing having a front opening, a movable support, a receptacle mounted thereon and having a counterweighted lid tending constantly to move to open position, means for preventing such opening movement while the support and box are within the casing, and means for projecting and withdrawing said support and box.

3. In an apparatus of the character described, the combination

of a support, and means for moving the same into and out of reach of the prospective purchaser, a box or receptacle containing the articles to be sold on said support, and means for automatically opening or closing the lid thereof as the support is moved out or in, said means for moving the support comprising a series of expanding and contracting levers, and means for manipulating them including a handle pivoted on the rear of the apparatus, and having connection through the rear thereof with said expanding and contracting levers; substantially as described.

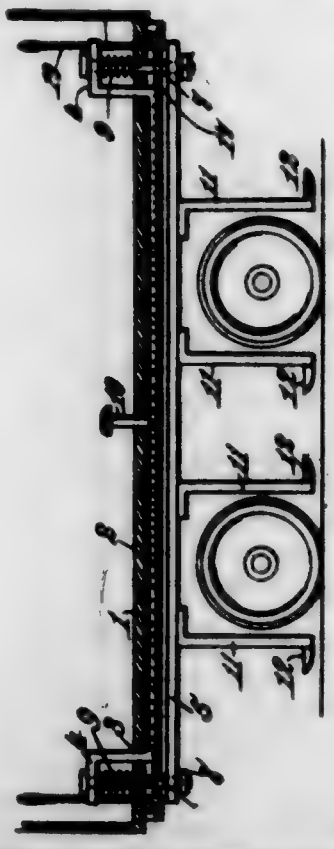


4. In an apparatus of the character described, the combination with a movable drawer or receptacle, adapted to hold a box of cigars or other articles to be sold, a strap embracing at one end the front edge of the lid, and connected to a weight at its rear end; substantially as described.

5. In an apparatus of the character described, the combination with a movable drawer or receptacle, adapted to hold a box of cigars or other articles to be sold, a strap embracing at one end the front edge of the lid, and connected to a weight at its rear end, and a screw bearing upon a sliding member which carries a pin adapted to engage the rear edge of the box-lid; substantially as described.

6. In an apparatus of the character described, the sliding support for the articles to be sold, and means for reciprocating it, comprising a series of expanding and contracting levers pivotally attached at one end to the receptacle, and at the other end to a door, a link and hand-lever, for operating the same, the hand-lever being pivoted to the door, said door having a slot through which the hand-lever passes; substantially as described.

806,567. SWITCH-OPERATING APPARATUS. JAMES I. PITTMAN and ELIZABETH HARRISON, Valdosta, Ga. Filed May 6, 1905. Serial No. 259,203.



Claim.—1. Switch-operating apparatus comprising, in combination with a car, a depressible frame located beneath the car and extending substantially from end to end and side to side thereof, legs depending from each side of said frame, said legs being, respectively, disposed in front of and behind each wheel, and foot-pieces mounted on the lower end of each of said legs for actuating a switch-point.

2. Switch-operating apparatus comprising, in combination with a car, a depressible frame located beneath the car and extending substantially from end to end thereof, springs located at each end of the car and tending normally to hold the frame in an elevated position, means for locking said frame in its elevated position, and means carried by the frame for operating a switch.

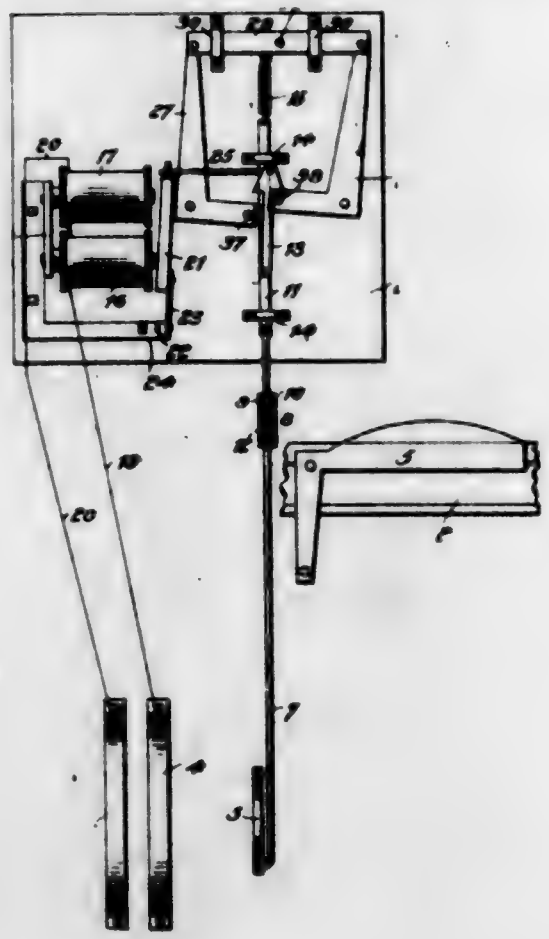
3. Switch-operating apparatus comprising, in combination with a car, a depressible frame located beneath the car and extending substantially from end to end thereof, an actuating-bar extending beneath the car and having end portions projecting upward through and above the car-floor, springs interposed between said projecting end portions and the floor of the car, push-pins passing through said projecting end portions and the floor of the car and supporting said frame, and means carried by the frame for actuating a switch.

4. Switch-operating apparatus comprising, in combination with a car, a frame located beneath the same and extending substantially from end to end thereof, an operating-bar located beneath the car and projecting through and above the car-floor at each end of the car, springs interposed between said projecting end portions and the floor of the car, push-pins passing through said projecting portions and the floor of the car and supporting said frame, a central push-pin secured to said operating-bar and projecting upward through the floor of the car, and means carried by the frame for operating a switch.

5. Switch-operating apparatus comprising, in combination with a car, a frame located beneath the same and extending substantially from end to end thereof, an operating-bar located beneath the car and projecting through and above the floor of the car at each end of the car, springs interposed between said projecting end portions and the floor of the car, push-pins passing through said projecting end portions and the floor of the car and supporting said frame, a rock-shaft extending substantially from end to end of the car and mounted at its opposite ends in bearings, levers secured to said rock-shaft and provided with lugs normally engaging under said projecting end portions to lock the operating-bar against depression, and means carried by the frame for operating the switch.

6. Switch-operating apparatus comprising, in combination with a pivotally-mounted switch-point normally held from the main track by means of a spring, a car, a depressible frame carried by said car, and switch-point-engaging members carried by said frame and located, respectively, in front of and behind each of the wheels of the car, substantially as described.

806,568. ELECTRIC SWITCH FOR STREET-RAILWAYS. JAMES A. POSEY, Midlothian, Tex., assignor, by mesne assignments, to Posey Automatic Switching Company, a Corporation of Delaware. Filed Jan. 21, 1905. Serial No. 242,132.



Claim.—1. An electric switch for railways comprising a hook pivoted and having a vibratory and a longitudinal movement, a depressible lever operable by the wheels of a passing car, a switch-bar having a pivotal connection with the switch-tongue of the railway-track, and bell-crank levers provided with suitable fulcrums and pivotally connected to the ends of said switch-bar and carrying pins in the short arms thereof capable of being engaged by said hook.

2. An electric switch for railways comprising a pivoted hook having vibratory and longitudinal movement, a depressible lever operable by the wheels of a passing car, a switch-bar having pivotal connection with the switch-tongue of the railway-track, bell-crank levers provided with suitable fulcrums and pivotally connected to said switch-bar and carrying pins capable of being engaged by said hook, and electrical devices whereby a motorman on a passing car may control the movement of said hook.

3. A electric switch for railways comprising an actuating-bar parallel with the railway-tracks, mechanical means for effecting longitudinal motion of said bar, a vibratory hook carried by said bar, a lever for placing the switch-tongue for the main line, a lever for placing the switch-tongue for a branch line, and electric controlling means to cause said hook to engage either one of said levers.

4. An electric switch for street-railways comprising a depressible lever, a hook capable of vibratory and longitudinal movement connected to said lever, levers operatively connected to the switch-tongue of the railway-track, electrical devices connected to said hook and provided with contacts adjacent to the railway-tracks, and contact-making devices carried by the car, said hook being adapted to engage either one of said levers.

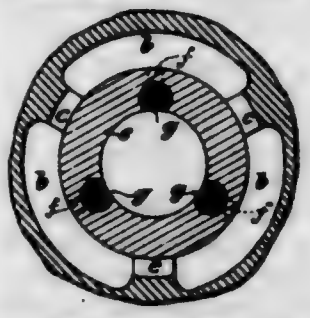
5. An electric switch for railways comprising a depressible lever, a hook capable of vibratory and longitudinal movement connected to said lever, bell-crank levers capable of independent operation pivotally connected to the switch-tongue of the railway and carrying pins adapted to be engaged by said hook, electrical devices connected to said hook and provided with contacts adjacent to the railway-tracks, and means for electrifying said contacts and electrical devices.

6. An electric switch for railways comprising a lever for setting the railway-switch tongue for a branch line, a lever for setting said tongue for the main line, a hook capable of longitudinal movement and vibratory movement adapted to engage either one of said levers, electric controlling means for setting said hook to engage either one of said levers, a bar carrying said hook and capable of longitudinal motion, and a depressible lever operatively and yieldingly connected with said bar.

7. An electric switch for railways comprising levers operatively connected to the switch-tongue, a switch-tongue-operating hook adapted to engage either one of said levers, a movable armature connected to said hook, a magnet for operating said armature, contacts electrically connected to said magnet, and means carried by a car for supplying electricity to said contacts.

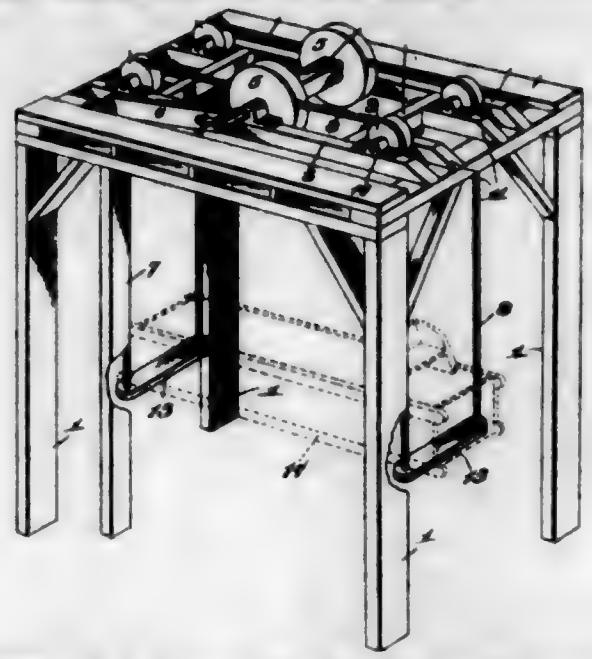
8. An electric switch for railways comprising switch-tongue-operating devices, electrical devices operatively connected to said switch-tongue-operating devices, contacts adjacent to the railway-tracks and connected to said electrical devices, rods mounted on the car and capable of longitudinal motion, levers for operating said rods, springs pivotally connected to said rods and adapted to engage said contacts, and means for supplying electricity to said springs.

806,569. **METHOD OF MANUFACTURING LUBRICANT-RECEIVING DEVICES FOR DRIVEN PARTS.** WILLIAM J. REID, Woodside Park, England. Filed Mar. 7, 1905. Serial No. 248,804.



Claim.—A method of manufacturing a lubricant-receiving device consisting in providing a hollow rotating member with cylindrical openings parallel with the axis thereof, inserting thongs of leather in the said openings so as to completely fill the same, and then boring away the inner face of said member throughout so as to expose the said leather and thereby form the member with a composite inner face.

806,570. **WAGON-BODY LIFTER.** CHARLEY W. RENFRAU, Gilmer, Tex. Filed Mar. 21, 1905. Serial No. 251,318.



Claim.—1. A device of the character described comprising a suitably-supported frame, a rotatable device upon the frame, an arm extending therefrom, a prop pivoted to the arm and adapted to normally hold the same against downward movement, and flexible swing-like portions extending in opposite directions from the rotatable device and adapted to be partly wound thereon.

2. A device of the character described comprising a suitably-supported frame, a rotatable device thereon having annular grooves, supporting-pulleys in alinement with the grooves and upon the frame, an arm extending from the rotatable device, a prop pivoted thereto and adapted to normally hold the arm against downward movement, and oppositely-extending swing-like portions secured to the rotatable device and supported by the pulleys, said swing-like portions being adapted to be partly wound on the rotatable device.

3. In a device of the character described the combination with a suitably-supported frame having brackets depending therefrom; of a rotatable shaft on the frame, grooved wheels secured thereto, pulleys upon the frame and alining with the wheels, flexible devices extending in opposite directions from the wheels and supported by the pulleys, and supporting-strips connecting the flexible devices to form swing-like structures adapted to engage and be supported in raised position by the brackets.

806,571. **AIR-CUSHION FOR AUTOMATIC BUCKET-LOADERS.** BYRON C. RIBLET, Spokane, Wash. Filed Aug. 2, 1904. Serial No. 218,237.

Claim.—1. An air-cushioning device for automatic bucket-loading for aerial wire-rope tramways comprising a reciprocally-moving hopper adapted to be moved in one direction of its movement by a moving bucket, a piston secured to said hopper and a fixed air-cushioning cylinder arranged to receive said piston on the return stroke of said hopper's reciprocal movement, substantially as described.

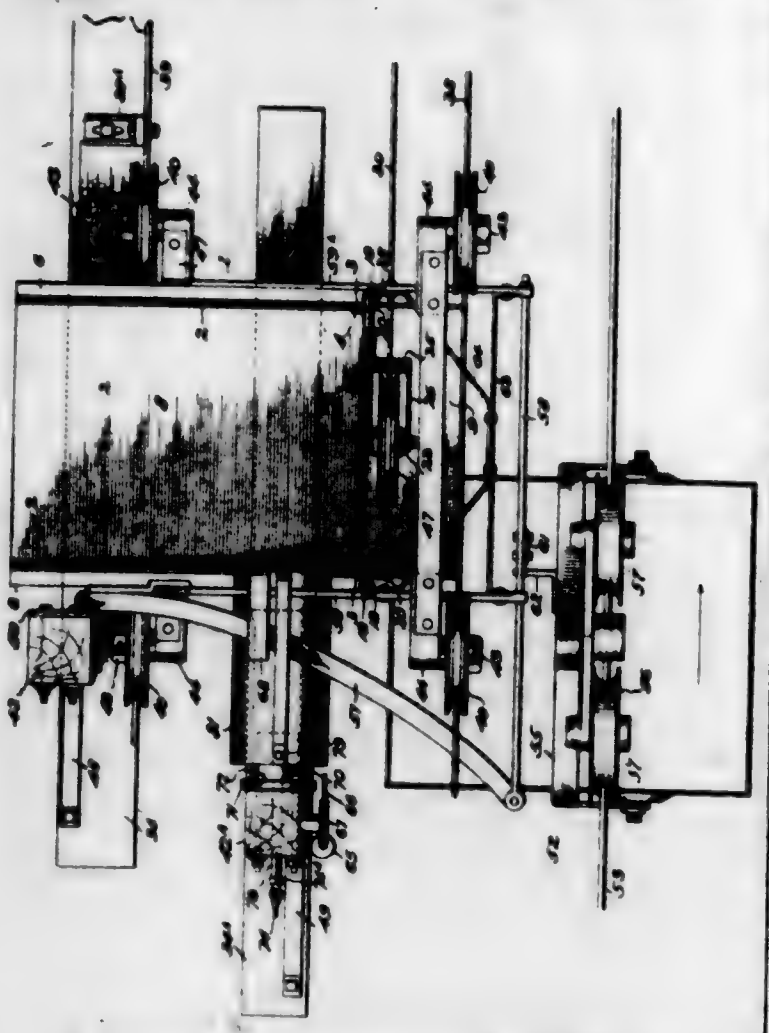
2. An air-cushioning device for automatic bucket-loading, the combination with the bucket and reciprocating hopper, of a piston secured to said hopper and a fixed air-cushioning cylinder arranged in the path of said piston and adapted to receive said piston on the return stroke of said hopper's reciprocal movement, substantially as described.

3. In an air-cushioning device for automatic bucket-loaders, the combination of the tracks, the abutments, the hopper mounted on said tracks, the piston secured to said hopper and the cylinder fixed to said abutments, and arranged to receive said piston, substantially as described.

4. The combination in an automatic bucket-loader, of the tracks, the frame and sheaves mounted on said tracks, the hopper mounted on said frame, the abutment, the bucket and the accelerating mechanism with the piston secured to said hopper and a fixed cylinder arranged to receive said piston, substantially as described.

5. The combination with the foundation-timbers, and the tracks of the sheave-supported frame mounted on said tracks, the hopper mounted on said frame, bucket-actuated means for moving the hopper while loading, means for returning the hopper to its normal position, and an air-buffer for retarding the hopper on its return, substantially as described.

6. The combination with the foundation-timbers, the tracks, the sheaves mounted on said tracks, the frame supporting said sheaves and the hopper supported by said frame with an abutment secured to said foundation-timbers, a cylinder secured to said abutment having an open end and a piston secured to said hopper arranged to enter and compress air in said cylinder during the reciprocal movement of said hopper on said tracks, substantially as described.



7. The combination of an automatic bucket-loading hopper operatively supported to reciprocate a predetermined distance, a fixed air-cushioning cylinder at the end of said hopper's reciprocal stroke and a piston reciprocating with said hopper and adapted to enter said cylinder and cushion the reciprocal movement of said hopper, substantially as described.

8. The combination in an automatic bucket-loader of the tracks, the wheeled hopper reciprocally mounted on said tracks, an air receiving and cushioning cylinder fixed at the end of the reciprocal movement of said hopper, means connected with said cylinder for regulating the air-pressure within said cylinder and a piston reciprocable with said hopper and adapted to enter said cylinder at the end of said hopper's reciprocal stroke, substantially as described.

9. The combination of the bucket and the wheeled hopper having a discharge-aperture and reciprocally mounted, an upwardly-inclined track, a sheave mounted on said track, a door connected to said sheave and arranged to control said discharge-aperture, means connected with said bucket and said hopper for connecting said hopper and bucket together and for moving said hopper to cause said sheave and inclined track to open said door, with a piston reciprocating with said hopper and a fixed air-cushioning cylinder arranged to receive said piston at the end of said hopper's reciprocating movement, substantially as described.

10. In an automatic bucket-loader, the combination with the bucket and the reciprocally-mounted hopper, provided with a discharge-gate, bars projecting from said hopper, a bar slidingly mounted in said bars, a projection on said sliding bar, an abutment at the side of said hopper, a curved lever pivoted at one end to said sliding bar, having its opposite end resting normally between said hopper and said abutment, an arm on said bucket adapted to engage the arm on said sliding bar, and an air-buffer for retarding the hopper on its return, substantially as described.

11. In an air-cushion for an automatic bucket-loader, the combination with the movable bucket and the reciprocating hopper, of the sliding bar provided with a projecting arm adapted to be engaged and disengaged by the bucket, the accelerating-lever, the abutments and the air-cushioning cylinder and piston arranged to cushion the reciprocal movement of said hopper, substantially as described.

12. In an air-cushion for automatic bucket-loaders, the combination of the foundation-timbers, the reciprocal hopper and the abutments, of an air-cushioning cylinder secured to one of said abutments and having its rear end closed, and its front end open and outwardly flaring, suitable valve-controlled outlets in said cylinder, and a piston carried by said hopper arranged and adapted to enter said cylinder and to compress air therein, at the end of said hopper's reciprocal stroke and a hood projecting from said hopper over said piston, substantially as described.

13. In an air-cushioning device for automatic bucket-loaders, the combination of the reciprocating hopper, the hopper starting and accelerating device, the bucket and the vertically-sliding and outwardly-swinging door operatively arranged, means for engaging said bucket with said hopper and to gradually start and accelerate said hopper and convey it a predetermined distance with said bucket, with a piston carried by said hopper, a fixed air-cushioning cylinder secured at the end of said hopper's reciprocal movement and arranged to receive said piston, and a protecting-hood extending from said hopper over said piston, substantially as described.

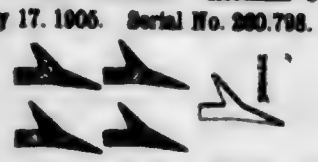
14. In an air-cushioning device for automatic bucket-loaders, the combination with the hopper, of the abutments, the cylinder provided with the flanged end arranged to be bolted to said abutment, the curved, open opposite end, the petcocks in the bottom and rear ends of said cylinder, with a piston carried by said hopper and arranged to reciprocate in said cylinder, and having its outer end rounded, substantially as described.

15. In an air-cushioning device for automatic bucket-loaders, the combination of the foundation-timbers, the clips secured to said timbers, the tracks secured to said clips, the wheeled frame mounted on said tracks, the hopper supported by said wheeled frame, the door-controlled discharge-chute in said hopper, means including an inclined track for raising said door, the bucket, the accelerating-lever, the abutment, the cushioning-cylinder secured to said abutment, the piston carried by said hopper, and the hood, substantially as described.

16. In an air-cushioning device for automatic bucket-loaders, a reciprocating hopper, a moving bucket adapted to operate said hopper in one direction of its movement, a weight for operating said hopper in the opposite direction of its movement, a piston carried by said hopper, and a fixed air-cushioning cylinder arranged and adapted to receive said piston and cushion said hopper at the end of its reciprocal bucket-loading movement, substantially as described

17. In an air-cushioning device for automatic bucket-loaders, the combination with the bucket and a reciprocally-mounted hopper arranged to be operated by said bucket to load the same, of a piston carried by said hopper and a fixed air-cushioning cylinder arranged to receive said piston and cushion the reciprocal stroke of said hopper, substantially as described.

806,572. **VENDING DEVICE.** RICHARD O. ROBLIN, Rochester, N. Y. Filed May 17, 1905. Serial No. 260,798.



Claim.—1. The combination of a box made of easily-perforated material and pointed staples having different-colored ends adapted to be inserted in the top of said box, substantially as described.

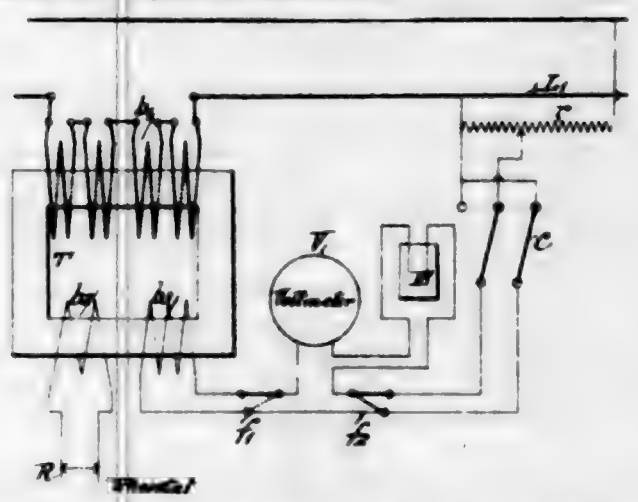
2. A vending device made in the form of a hollow pasteboard box with stiffening material in its interior and removable staples adapted to be inserted in the top of said box, which staples have pointed, barbed ends of different colors, substantially as described.

3. A vending device made in the form of a hollow box provided with stiffening material inside and with a series of short lines on its top and removable metal staples of substantially the same width as the length of said lines and adapted to be inserted through the top of said box, said staples having pointed and barbed ends of different colors, substantially as described.

4. A vending device made in the form of a hollow box provided with a corrugated paper lining and removable staples adapted to be inserted into the top of said box and lining, said staples having pointed, barbed ends of different colors, and of a sufficient length so that they will project above the top of the box to serve as handles, substantially as described.

806,573. **MEANS FOR ASCERTAINING THE POWER FACTOR IN ALTERNATING-CURRENT SYSTEMS.** JOSEPH L. ROUTIN, Lyon, France. Filed Nov. 21, 1904. Serial No. 233,682.

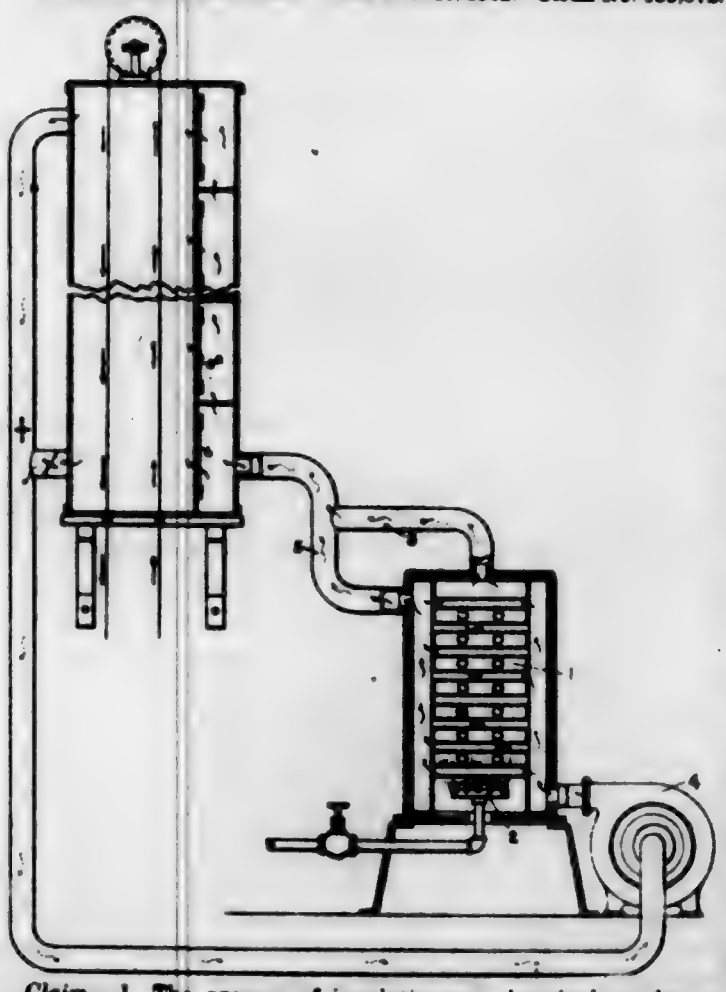
Claim.—1. In alternating-current systems, means for ascertaining the voltage factor of power, comprising in combination with two mains a transformer excited by said mains, means for controlling the potential on the terminals of the secondary transformer-coil independently from the mains, means for measuring said potential, means for measuring the potential on said mains, and for measuring the resultant of said potential differences.



2. In alternating-current systems means for ascertaining the voltage factor of power, comprising in combination with two mains a transformer excited by said mains, means for controlling the potential on the terminals of the secondary transformer-coil independently from the mains, means for measuring said potential, for measuring the potential on said mains and for measuring the resultant of said potential differences in parallel and in series.

3. In alternating-current systems, means for ascertaining the voltage factor of power, comprising in combination with two mains a transformer excited by said mains, means for reducing the amperage in the primary coil of said transformer, means for controlling the potential on the terminals of the secondary transformer-coil independently from the mains, means for measuring said potential, for measuring the potential on said mains and for measuring the resultant of said potential differences.

806,574. PROCESS OF MAKING INSULATED WIRES. GEORGE H. RUPLEY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 16, 1903. Serial No. 135,372.



Claim.—1. The process of insulating an electrical conductor consisting in coating it with a film of oil which has been substantially freed from the glycerin of combination, and then hardening the coating.

2. The process of insulating an electrical conductor consisting in coating it with a compound of saponified oil substantially freed from glycerin and then hardening the coating by heat.

3. The process of insulating an electrical conductor consisting in coating it with a compound of saponified linseed-oil substantially freed from glycerin and then hardening the coating by heat.

4. The process of insulating an electrical conductor consisting in coating it with a film of saponified oil substantially freed from glycerin and then hardening the coating by driving off the lighter compounds from the oil.

5. The process of insulating an electrical conductor consisting in coating it with a film of previously-thickened vegetable oil and then hardening by further driving off the remaining lighter carbohydrates from the oil.

6. The process of insulating an electrical conductor consisting in substantially freeing a quantity of vegetable oil from glycerin, coating the conductor with a film of the resulting product, and then hardening the coating by heat.

7. The process of insulating an electrical conductor which consists in setting free the glycerin and fatty acids in a quantity of linseed-oil, driving off the glycerin, applying a film of the fatty acids to the conductor, and then hardening the film by heat.

8. The process of insulating an electrical conductor, consisting in dissolving an oil previously thickened by driving off glycerin in a suitable solvent, applying a film of the solution to the conductor, and hardening the coating by heat.

9. The process of insulating an electrical conductor consisting in dissolving a vegetable oil previously thickened by heat in a refractory solvent applying a film of the solution to the conductor and hardening the coating by raising to a temperature to effect distillation.

10. The process of insulating an electrical conductor consisting in coating it with a solution of a previously-thickened and partially-decomposed vegetable oil in a suitable solvent, and then hardening the coating by volatilizing the solvent and driving off the lighter compounds from the oil.

11. The process of insulating an electrical conductor consisting in partially decomposing an oil by heating at a high temperature to produce an elastic residuum, dissolving said residuum in a suitable solvent, applying the solution to the conductor, and hardening the coating by raising to a temperature approaching destructive distillation.

12. The process of insulating an electrical conductor consisting in mixing with an oil one or more oxygen-carrying oxids, partially decomposing the oil by heating at a high temperature to drive off glycerin, dissolving the residuum in a suitable solvent, applying the solution to the conductor and hardening the coating by heat.

13. The process of insulating an electric conductor consisting in mixing one or more metallic oxids with a vegetable oil, boiling the mixture to break up the glycerids and free and drive off the glycerin, dissolving the residuum in a suitable solvent, applying the solution to the conductor and hardening the coating by raising to a temperature approaching destructive distillation.

14. The process of insulating an electric conductor consisting in mixing one or more metallic oxids with linseed-oil, maintaining the mixture at a temperature above 500° Fahrenheit until it becomes stiff and elastic at ordinary temperatures, dissolving the stiffened mass in a refractory solvent, coating the conductor with the solution and hardening the coating by heating it above 425° Fahrenheit.

806,575. INSULATED WIRE. GEORGE H. RUPLEY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Original application filed Dec. 16, 1903. Serial No. 135,372. Divided and this application filed Jan. 15, 1904. Serial No. 189,144.

Claim.—1. An electrical conductor provided with an insulating-coating of infusible residuum of destructively-distilled oil.

2. An electrical conductor provided with an insulating-coating of infusible residuum of destructively-distilled vegetable oil.

3. An electrical conductor provided with an insulating-coating consisting of multiple films of destructively-distilled residuum of vegetable oil.

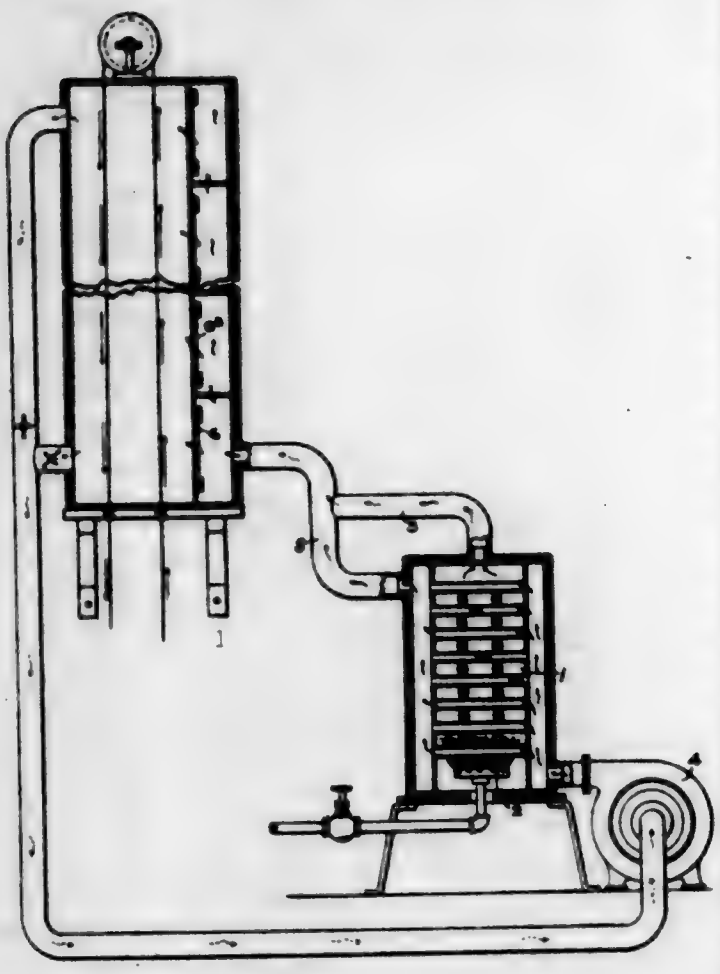
4. An electrical conductor having an insulating-coating consisting of a baked solution of the residuum of distilled vegetable oil.

5. An insulated electrical conductor coated with a residuum of vegetable oil which has been freed from glycerin.

6. An insulated electric conductor having a hardened coating of residues of fatty acids.

7. An insulated electric conductor having a hard, thin, elastic skin composed of a distillate residuum of a thickened vegetable oil.

8. An insulated electric conductor having a hard, thin, elastic skin composed of a baked residuum of a thick distilled oil.



9. An insulated electric conductor having a hard, thin, elastic skin composed of a residuum of a baked oil distillate.

10. An insulated electric conductor having a hard, thin, elastic skin composed of a baked film of destructively-distilled oil.

806,576. PROCESS OF INSULATING ELECTRIC CONDUCTORS. GEORGE H. RUPLEY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 1, 1905. Serial No. 247,599.

Claim.—1. The process of insulating an electric conductor which consists in applying thereto successive layers of enamel having different rates of hardening to produce a homogeneous insulation.

2. The process of insulating an electric conductor which consists in alternately coating the same with flexible enamel and hardening the coating, said coatings having different rates of hardening whereby a homogeneous insulation is produced.

3. The process of insulating an electric conductor which consists in coating it with a flexible enamel, baking said coating, applying an outer layer of enamel having a more rapid rate of hardening, and subjecting the coating to another baking.

4. The process of insulating an electric conductor which consists in mixing a liquid enamel with a fixed oil to retard its rate of hardening, applying a layer of the mixture to the conductor, baking said layer, applying a layer of unmixed enamel, and again baking.

5. The process of insulating an electric conductor which consists in providing a liquid enamel having a given rate of hardening under heat, mixing with said enamel a liquid having a lower rate of hardening, applying a film of the mixture to the conductor, baking said film, applying a film of unmixed enamel, and again baking.

6. The process of insulating an electric conductor which consists in providing a liquid enamel composed of a solution of a distillate residuum of a vegetable oil in a suitable solvent, mixing therewith a percentage of fixed oil, coating a conductor with the mixture, hardening said coating, applying a coating of unmixed enamel, and again hardening.

7. The process of insulating an electric conductor which consists in providing a liquid enamel composed of a solution of a distillate residuum of linseed-oil in a refractory solvent, mixing therewith a percentage of fixed oil, coating a conductor with the mixture, hardening said coating, applying a coating of unmixed enamel, and again hardening.

806,577. PROCESS OF INSULATING ELECTRICAL CONDUCTORS. GEORGE H. RUPLEY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 1, 1905. Serial No. 247,598.

Claim.—1. The process of insulating an electrical conductor which consists in subjecting an oil to alternate thickenings and fluxings, applying a film of the final solution to the conductor, and hardening the film.

2. The process of insulating an electrical conductor which consists in subjecting a vegetable oil to alternate thickenings by heat and fluxing with a suitable solvent, applying a film of the final solution to the conductor, and hardening the film.

3. The process of insulating an electrical conductor which consists in alternately thickening linseed-oil by heat and dissolving in an oily flux, applying a film of the final solution to a conductor, and hardening the film by heat.

4. The process of insulating an electrical conductor which consists in producing an elastic residuum by subjecting a quantity of vegetable oil to alternate thickenings by heat and thinnings with an oil flux, dissolving said residuum in a volatile solvent, applying a film of said solution to said conductor, and hardening said film by heat.

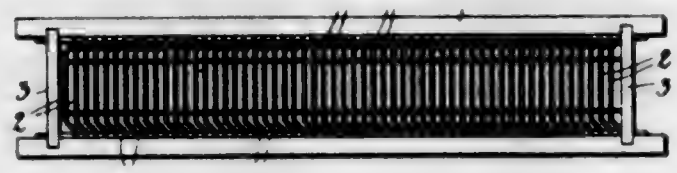
5. The process of insulating an electrical conductor which consists in boiling a quantity of vegetable oil to an elastic residuum and adding a refractory solvent, reboiling and adding a smaller quantity of the solvent, again boiling and dissolving the residuum thus formed in a more volatile solvent, applying a film of the solution to the conductor, and hardening said film by heat.

6. The process of insulating an electrical conductor which consists in mixing an oxid with a vegetable oil, producing an elastic residuum from the mixture by alternate thickenings and fluxings, dissolving said residuum in a suitable solvent, applying a coating of said solution to the conductor, and hardening the coating by heat.

7. The process of insulating an electrical conductor which consists in mixing an oxid with a vegetable oil, boiling the mixture to a thick residuum and adding a refractory solvent, reboiling and adding a less quantity of the solvent, again boiling and dissolving the residuum thus formed in a more volatile solvent, applying a film of the solution to the conductor, and hardening said film by heat.

8. The process of insulating an electrical conductor which consists in mixing linseed-oil with metallic oxids, boiling the mixture to a thick, elastic, residuum and adding a quantity of rosin-oil, reboiling and adding a less quantity of said oil, again boiling and dissolving the residuum thus formed in a volatile solvent, applying a film of the solution to the conductor, and hardening said film by heat.

806,578. MOLD. FRANK M. SAWYER, Charlotte, N. C. Filed Apr. 3, 1905. Serial No. 253,658.



Claim.—The herein-described mold comprising the side pieces, the transverse pieces between the side pieces and having their sides bent to form angular offsets at their edges, and the detachable strips on the inner sides of the side pieces, lying between and spacing the transverse pieces and bearing against the angular offset portions of said transverse pieces and held in place thereby.

806,579. TROUSERS-PROTECTOR. JACOB D. SCHAKEL, Yonkers, N. Y. Filed Apr. 23, 1904. Serial No. 204,575.



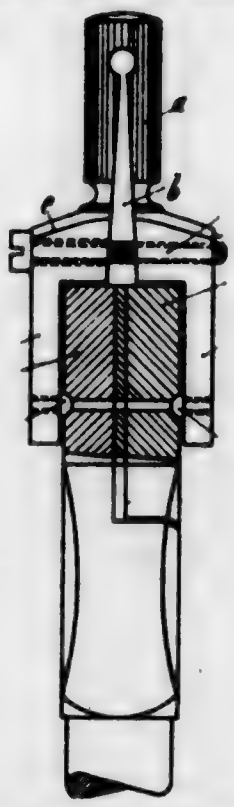
Claim.—A trousers-protector formed of a single wire in the form of a closed loop having a flat portion with projecting ends, said loop being arranged to be opened by pressure upon the projecting ends and being adapted to be attached to the strap of a shoe, and a hook adapted to receive and support the end of a trousers-leg, said hook being provided with an inwardly-projecting portion which is adapted to clamp and to hold said trousers-leg.

806,580. ART OF MANUFACTURING FORGED CAR-WHEELS. CHARLES T. SCHORN, Philadelphia, Pa. Filed Feb. 21, 1905. Serial No. 246,739.



Claim.—The art of manufacturing forged car-wheels consisting in producing a slab of wrought metal practically free of pipings and other structural defects, heating it, die-forming thereon a rudimentary hub, web and thread, shearing the rim, next finishing the hub and the adjacent web and shaping the rim in dies, and then reducing the web and extending it radially to the proper diameter and finishing the tread and flange by rolling.

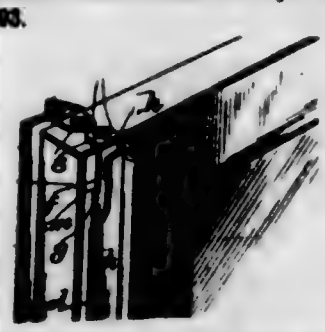
806,581. HEAD FOR COMPASSES. GEORG SCHONNER, Nuremberg, Germany. Filed Feb. 15, 1905. Serial No. 245,747.



Claim.—1. A compass having a head having a longitudinal slot therein, bow-arms *c*, *d*, connected to said head on opposite sides of the slot, fixed studs carried by the arms *c*, *d*, compass-head jaws pivotally held between said arms by the studs and a set-screw *f* located above the jaws and controlling the relative position of the arms *c*, *d*, substantially as described.

2. A compass having a head, a bar *e* connected thereto, said head and bar having slots therein, the slots in the head forming a continuation of the slot in the bar, arms *c*, *d*, attached to the bar *e* on opposite sides of the slot therein, compass-head jaws pivotally held between the arms and a screw *f* for controlling the relative position of the arms.

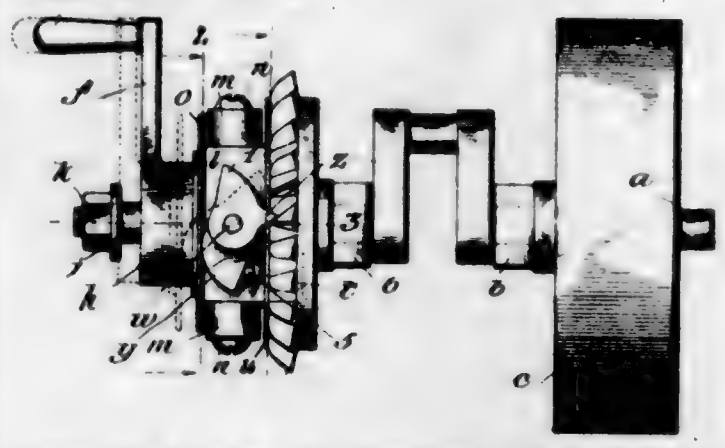
806,582. DUST-EXCLUDING DEVICE FOR WINDOW-SASHES. JAMES E. SCOTT, Louisville, Ky. Filed June 20, 1905. Serial No. 266,193.



Claim.—1. In a dust-excluding device for window-sashes, the combination with a sash having a slot provided with end abutment-walls, of a sheet-metal strip having a longitudinal bead provided with a bearing-shoulder, an outer bearing-wing, and an inner plate having a terminal flange of less length than said inner plate, parallel to said bearing-shoulder, and having end stop-walls, said terminal flange engaging the slot of the sash, substantially as specified.

2. In a dust-excluding device for window-sashes, the combination with a sash having a slot provided with end abutment-walls, of a sheet-metal strip having a longitudinal bead provided with a bearing-shoulder, an outer bearing-wing, and an inner plate having a terminal flange of less length than said inner plate, parallel to said bearing-shoulder, and having end stop-walls, said terminal flange engaging the slot of the sash, and said inner plate having perforated right-angle end lugs for engagement with the ends of the sash-frame, substantially as specified.

806,583. STARTING MECHANISM FOR EXPLOSIVE-ENGINES. GEORGE B. SELDEN, Jr., Rochester, N. Y. Filed Nov. 18, 1904. Serial No. 233,334.



Claim.—1. In starting mechanism for explosive-engines, the combination of a driving-shaft, a starting-crank loosely mounted thereon, a member movable relative to said shaft and adapted to remain stationary when the engine is running forward and to be driven when the engine is running backward, and a cam operable by said member for disengaging the starting-crank from the driving-shaft, substantially as described.

2. In starting mechanism for explosive-engines, the combination of a driving-shaft provided with a ratchet-face, a starting-crank also provided with a ratchet-face, a member movable relative to and supported by said shaft and adapted to remain stationary while the engine is running forward, but to be driven when the engine is running backward, and a toothed cam adapted to be driven by said member and when so driven to disengage said ratchet-faces from each other, substantially as described.

3. In starting mechanism for explosive-engines, the combination with a driving-shaft provided with a ratchet mounted thereon, a starting-crank also provided with a ratchet, a member movable relative to and supported by said shaft and adapted to remain stationary while the engine is running forward and to be driven when the engine is running backward, a pivoted cam adapted to be driven by said member and when so driven to disengage said ratchets, and means for limiting the movement of said cam, substantially as described.

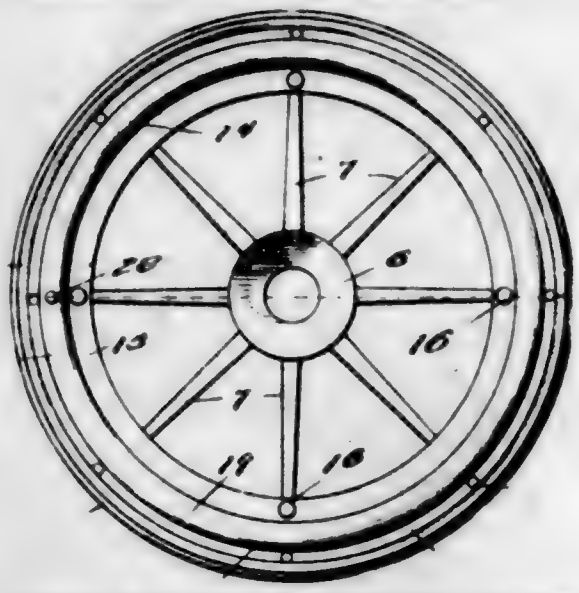
4. In starting mechanism for explosive-engines, the combination of a driving-shaft, a ratchet thereon, a ratchet-faced starting-crank adapted to be loosely carried by said shaft, clutch mechanism on said shaft comprising one member fixed thereto and another member loosely mounted on said first-named member, whereby said second member is left stationary when the engine is running forward but is moved when the engine is running backward, and a pivoted cam with which said second member is adapted to engage and when so engaged to throw said ratchets out of engagement with each other, substantially as described.

5. In starting mechanism for explosive-engines, the combination of a driving-shaft, provided with a ratchet, a starting-crank having a ratchet-face and adapted to be loosely carried by said shaft, a clutch mounted on said shaft consisting of an inner member secured thereto and provided with inclined recesses, a second member provided with projections on its outside encircling said first-named member, movable engaging means between said members, and a pivoted cam provided with projections adapted to engage the projections on said second-named member and when so engaged to disengage said ratchets, and means for limiting the movement of said cam, substantially as described.

806,584. WHEEL. GEORGE N. SHEPPARD, Fillmore, Minn. Filed July 18, 1905. Serial No. 270,277.

Claim.—1. The combination with a wheel including a felly having circumferentially-extending openings therein, of a casing including two sections disposed at opposite sides of the felly and ex-

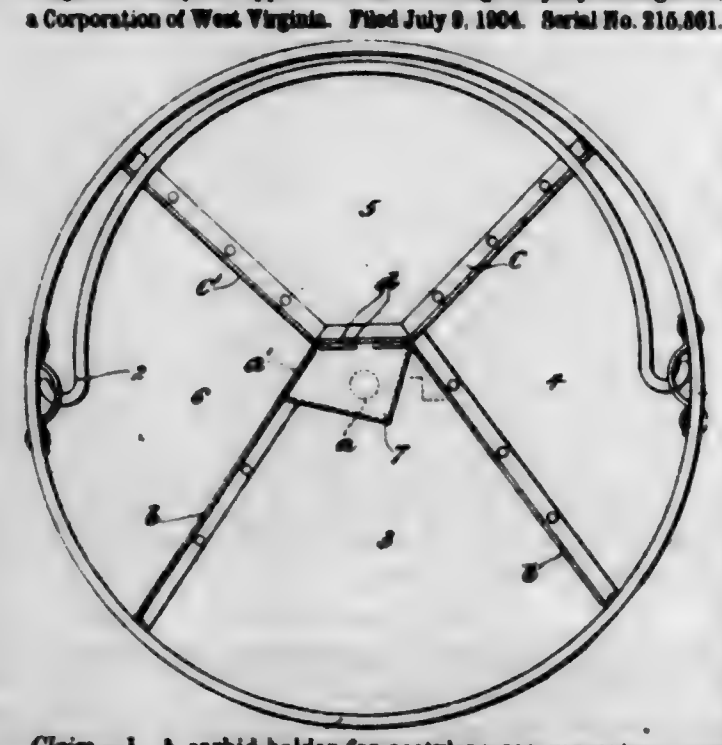
tending oppositely therebeyond, attaching devices engaged in the sections and lying within the openings, said devices being arranged to permit of movement of the casing radially with respect to the wheel and circumferentially thereupon, means for holding the casing yieldably against circumferential movement in one direction, a cushion disposed between the sections outwardly of the wheel, jaws engaged between the sections upwardly of the cushion and extending therebeyond, a resilient tire engaged between the jaws, and fastening devices engaged in the sections and in the jaws.



2. A wheel of the class described comprising a wheel proper including a felly having circumferentially-extending openings therein, an outer casing having a chamber therein and an inwardly-opening passage communicating with the chamber, said felly being movably disposed in the passage, devices engaged in the casing and lying within the openings of the felly for movement therewithin to permit of movement of different portions of the felly into and out of the chamber, and to permit of movement of the casing circumferentially of the wheel, springs engaged between the devices and one end of the openings to hold the devices yieldably at the other ends of the openings and a cushion located within the chamber of the casing to hold the felly yieldably against movement into the chamber.

3. A wheel of the class described comprising a wheel proper including a felly, an outer casing including two sections disposed against the sides of the felly and extending outwardly therebeyond, attaching devices engaged in the sections and in the felly and arranged to permit of movement of said portions with respect to each other, a cushion located between the sections outwardly of the felly and arranged to receive the latter thereagainst, jaws engaged between the sections outwardly of the cushion, fastening devices engaged in the sections and in the jaws, and a resilient tire engaged in the jaws.

806,585. CARBID-HOLDER. EDWIN M. SHERMAN, Chicago, Ill., assignor to Acetylene Apparatus Manufacturing Company, Chicago, Ill., a Corporation of West Virginia. Filed July 9, 1904. Serial No. 215,861.



Claim.—1. A carbid-holder for acetylene-gas generators comprising a receptacle having compartments of which one extends from its rim and includes the center of the base of the receptacle and a closed duct arranged in the last-mentioned compartment and adapted to externally shed fluid to said compartment and to internally convey fluid from an adjacent compartment and discharge it centrally of the base, substantially as described.

2. A carbid-holder for acetylene-generators comprising a receptacle having a centrally-disposed opening in its base and having partitions extending from its rim dividing it into compartments of which one includes said opening, and a closed duct arranged in the last-mentioned compartments and having communication with said opening and by way of a port in one of said partitions with an adjacent compartment, substantially as described.

3. A carbid-holder for acetylene-generators comprising a receptacle having a centrally-perforated base and having a closed housing over said perforation and having unsymmetrically or eccentrically arranged compartments of which one contains said housing, substantially as described

4. A carbid-holder for acetylene-generators comprising a receptacle having compartments of which one extends from its rim and is open at its top and closed at its bottom over the center of the base and of the receptacle, and a duct leading from an adjacent compartment and discharging at the center of the base of the receptacle, substantially as described.

5. A carbid-holder for acetylene-generators comprising a receptacle having a centrally-disposed opening in its base and having unsymmetrically or eccentrically arranged partitions, and a closed duct communicating with said opening and merging into and communicating through one of the partitions, substantially as described.

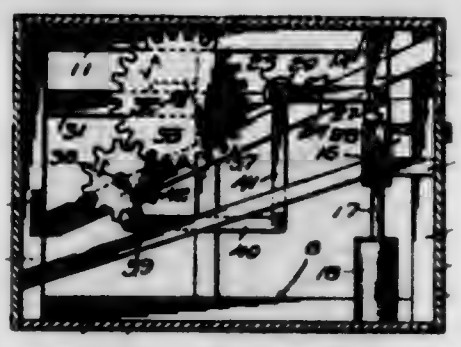
6. A carbid-holder for acetylene-generators comprising a receptacle having an opening at the center of its base, perforated partitions subdividing the receptacle into compartments of which one extends from the rim and includes said opening, and a housing arranged over said opening and having communication through one of said partitions, substantially as described.

7. A carbid-holder for acetylene-generators comprising an open-top receptacle having an opening centrally disposed in its base, partitions consisting of bent strips each having abutting walls which are connected together, said partitions constituting compartments of which one includes the opening and extends to the rim, and a housing communicating with said central opening and by way of a port through one of said partitions, substantially as described.

8. In an acetylene-generator, a generating-chamber provided at its top with a centrally-arranged water-discharge pipe, and a series of carbid-holders arranged one above the other in said chamber and each provided at its base with a central perforation and each subdivided into compartments of which one extends from the rim and includes said opening and each provided with a housing communicating with said opening and with an adjacent compartment, each compartment that contains the housing receiving water from above, substantially as described.

9. A carbid-holder comprising a receptacle having a central opening in its base and having compartments extending to its rim and of which one includes said opening and of which the others are wider than the first-mentioned compartment to make their contents substantially equal, and a closed housing communicating with said opening and through the partition-wall of one of said compartments, substantially as described.

806,586. CHURN. JONAS H. SHROM, Monterey, Mo. Filed June 10, 1905. Serial No. 264,642.



Claim.—1. A mechanism of the class described comprising side portions each including front and rear uprights and connecting top and bottom members, rearwardly and downwardly inclined brace members secured to the uprights, a cross-bar secured to the top members adjacent to their forward ends, spaced depending guides carried by the cross-bar, a cross-head slidably mounted in the guides for vertical movement, an operative mechanism connected with the

cross-head for operation thereby, pillow-blocks mounted upon the brace members, a rock-shaft journaled in the pillow-blocks, an arm carried by the rock-shaft and extending between the guides, connections between the arm and the cross-head for movement of the latter when the shaft is rocked, horizontal members secured at their forward ends to the pillow-blocks and at their rearward ends to the rearward uprights, a shaft journaled in said members, said shaft being arranged for rotation by exterior means, a diagonal member secured at its forward end to one of the forward uprights and connected at its rearward end with the rearward uprights, said member being slanted downwardly and inwardly of the frame, a shaft journaled in said member and in one of the diagonal brace members, multiplying gear connections between the second and third named shafts, a crank carried by the third shaft, a depending arm carried by the rock-shaft, a link connected with the depending arm and with the crank to rock the rock-shaft when the third shaft is revolved and braces for the guides.

2. A mechanism of the class described comprising a casing, a frame within the casing, a transverse bar mounted in the frame, depending guides carried by the bar, a cross-head slidably mounted in the guides, braces for the guides, a transverse rock-shaft journaled in the frame, an arm carried by the rock-shaft and projecting between the guides, said arm having a longitudinal slot therein, a link having a reduced end engaged in the slot and projecting above the arm, a cross-pin engaged in the link above the arm, said link being pivoted at its lower end to the cross-head, a revoluble shaft, means for revolving the shaft and operative connections between the revoluble shaft and the rock-shaft, said cross-head being adapted for connection with an operative mechanism.

806,587. **PIER AND PIER-CASING.** FRANK SHUMAN, Philadelphia, Pa. Original application filed Apr. 21, 1904, Serial No. 204,238. Divided and this application filed Aug. 20, 1904. Serial No. 221,548.



Claim.—1. A pier-casing consisting of a series of tubes or piles disposed closely side by side, and having on their inner sides longitudinal guides for the heads of tie or brace rods.

2. A pier-casing consisting of a series of tubes or piles disposed closely side by side and interlocked with each other, and having on their inner sides longitudinal guides for the enlarged heads of tie or brace rods.

3. A pier-casing consisting of a series of tubes or piles disposed side by side with spaces between them, flanges on the piles closing these spaces at the sides and bottom, substantially as specified.

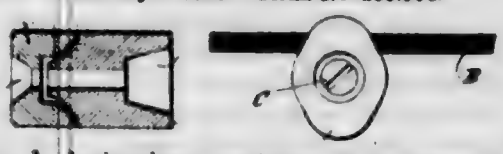
4. A pier-casing consisting of a series of tubes or piles side by side with spaces between them, beveled flanges on the piles closing said spaces at the bottom.

5. A pier-casing consisting of a series of tubes or piles disposed side by side with spaces between them, which spaces are free from the soil into which the pile is introduced and are closed at the sides and bottom by flanges on the piles, substantially as specified.

6. A pier-casing consisting of a series of tubes or piles disposed side by side with spaces between them which are filled with concrete or other packing material, said spaces being closed at the sides and bottom by means of flanges on the piles, substantially as specified.

7. A pier-casing consisting of a series of tubes or piles disposed side by side with spaces between them, which spaces are filled with concrete or other packing material and are closed at the bottom by means of beveled flanges on the piles, substantially as specified.

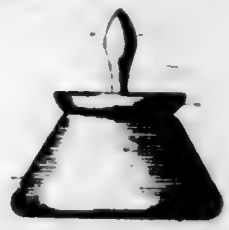
806,588. **ELECTRICAL INSULATOR.** HERBERT SINCLAIR, Trenton, N. J. Filed May 5, 1905. Serial No. 259,964.



Claim.—1. An insulator consisting of a body part and cap with a central opening through them for the passage of the securing-screw and corresponding notches in the adjacent faces of body and cap to form a cross-groove for the wire, the body of the insulator being of oval cross-section, with the long axis of the oval in a plane perpendicular to the length of the wire-groove, for the purpose set forth.

2. An insulator consisting of a body part and cap with a central opening through them for the passage of the securing-screw and corresponding notches in the adjacent faces of body and cap to form a groove for the wire, said adjacent faces being correspondingly concave and convex with ledges *b' a'* at the edges, for the purpose described.

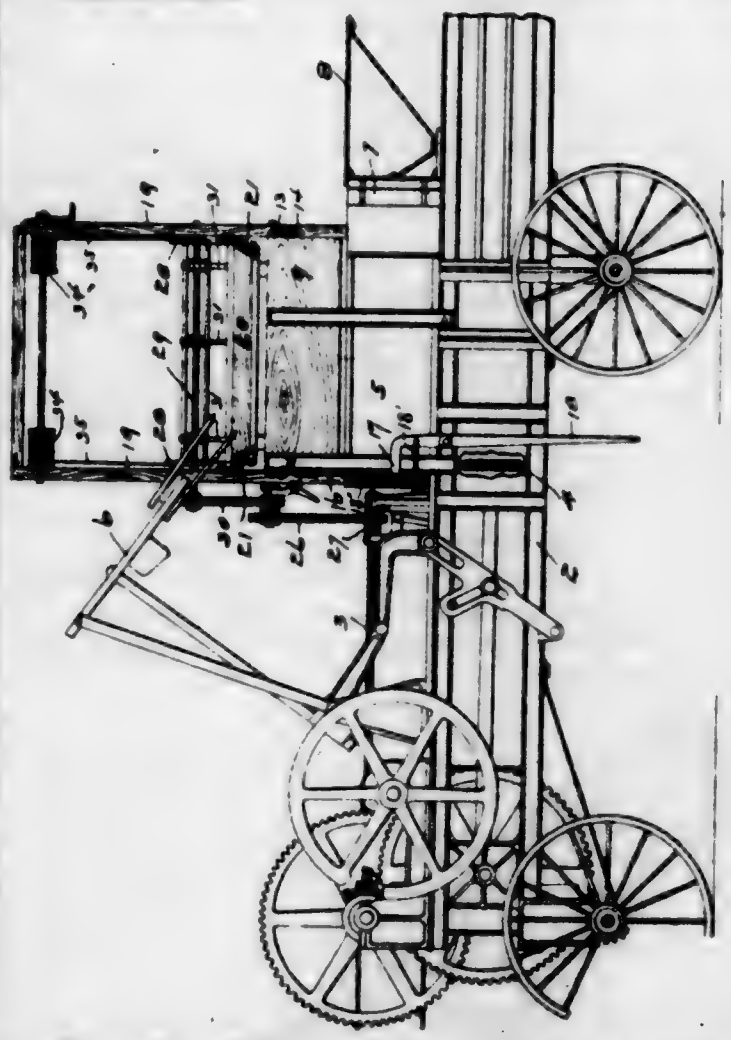
806,589. **PESSARY.** WARREN C. SHART, Kemp, Ind. Ter., assignor of one-half to William H. Lawrence, Sterrett, Ind. Ter. Filed July 29, 1905. Serial No. 271,803.



Claim.—1. An instrument of the character set forth comprising a stem, a base from which the stem rises, said base having a concave upper side, and a flexible flange extending from the edge of the base and arranged to depend therefrom to form a supporting-wall or be reversed to extend above the base and form a cup.

2. An instrument of the character set forth comprising a base having a concave upper side, a flexible flange extending from the edge of the base and arranged to depend therefrom or be reversed to extend above the base and form a surrounding cup, and a reinforcing-rim at the annular extremity of the said flange.

806,590. **AUTOMATIC FEEDING DEVICE FOR BALING-PRESSES.** JOHN T. SMITH, Heron Lake, Minn. Filed Apr. 18, 1904. Serial No. 203,562.



Claim.—1. In a baling-press, the combination, with a compression-chamber, of an automatic feed device therefor, and mechanism for dropping the follower-board into said chamber and arresting the delivery of material thereto without stopping said feed device.

2. In a baling-press, the combination, with a compression-chamber, of a feed device, and mechanism for dropping the follower-board into said chamber and checking the feed of material to said chamber.

3. In a baling-press, the combination, with a compression-chamber, of a feed device, and mechanism for simultaneously dropping the follower-board into said chamber and arresting the delivery of material to said chamber.

4. In a baling-press, the combination, with a compression-chamber, of a hopper, a feed mechanism therefor, and mechanism

for delivering a follower-board to said chamber and arresting the passage of material from said hopper to said chamber.

5. In a baling-press, the combination, with a compression-chamber, of a condenser, mechanism for delivering the material to be compressed to said condenser, and mechanism for delivering a follower-board to said chamber and arresting the delivery of material to said condenser.

6. In a baling-press, the combination, with a compression-chamber, of a feed device arranged to deliver material to said chamber, and mechanism for temporarily arresting the passage of the material into said chamber while the follower-board is being placed therein, substantially as described.

7. In a baling-press, the combination, with a compression-chamber provided with a suitable hopper, of a feed device arranged to deliver material in a continuous stream to said hopper, and means arranged to be moved across said hopper to partially close the opening therethrough and temporarily arrest the passage of the material to said compression-chamber, substantially as described.

8. In a baling-press, the combination, with a compression-chamber provided with a suitable hopper, of a feed device and gates mounted in said hopper and arranged to arrest the delivery of material from said feed device to said chamber.

9. In a baling-press, the combination, with a compression-chamber provided with a suitable hopper, of shafts mounted in said hopper, gates carried by said shafts and arranged to swing across said hopper and partially close the passage therethrough, and a lever mechanism arranged to operate said shafts and open and close said gates.

10. In a baling-press, the combination, with a compression-chamber provided with a suitable hopper, of gates pivotally supported in said hopper and arranged to swing across and partially close the passage therethrough, a lever mechanism for operating said gates, and an automatic feed device arranged to deliver material to said hopper.

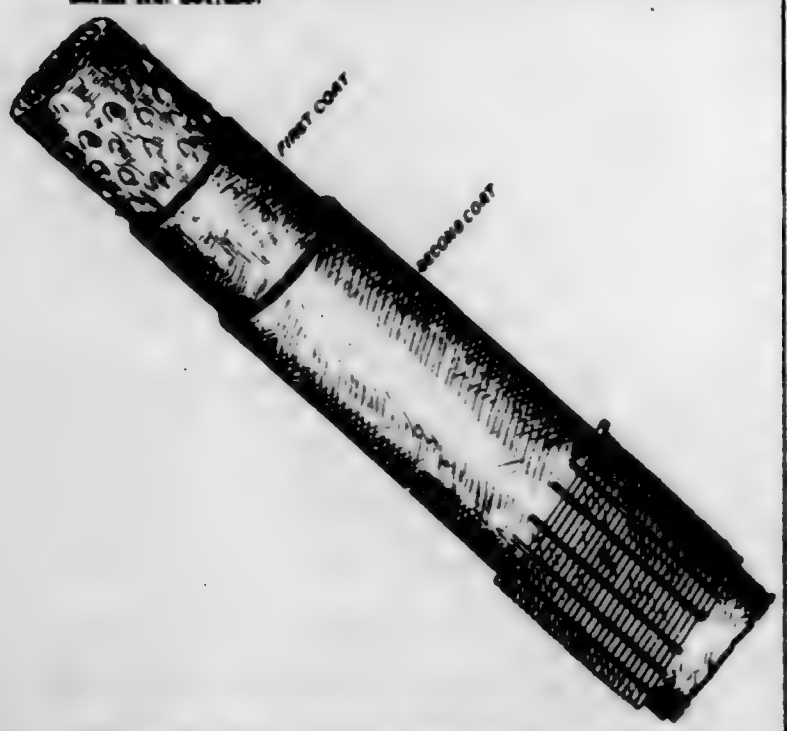
11. In a baling-press, the combination, with a compression-chamber, of a shaker arranged to deliver material in a continuous uniform stream to said chamber, substantially as described.

12. In a baling-press, the combination, with a compression-chamber, of a shaker arranged to deliver material in a continuous stream to said chamber, and a feed device provided in connection with said shaker.

13. In a baling-press, the combination, with a compression-chamber, of a shaker arranged to deliver material thereto, and a tilting feed device provided in connection with said shaker.

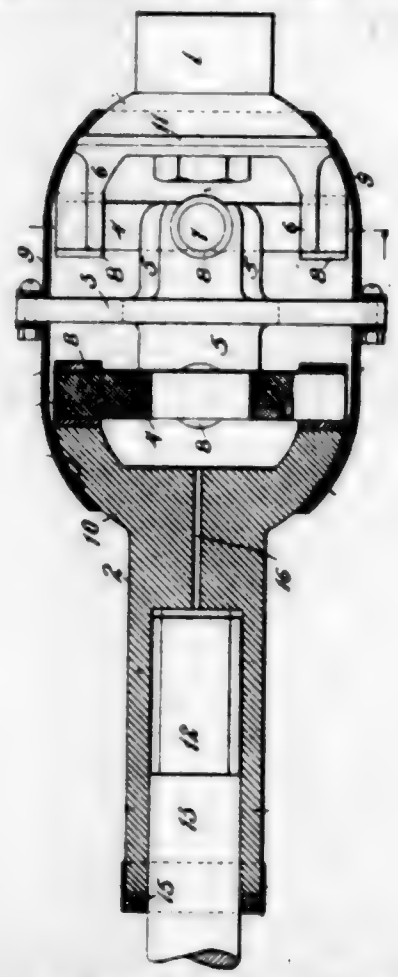
14. In a baling-press, the combination, with a compression-chamber, of mechanism arranged to partially close the passage to said chamber and temporarily arrest the delivery of material thereto while the follower-board is being placed in position, substantially as described.

808,591. COMPOSITION FOR PRESERVING PILES AND TIMBER. PETER S. SHOUT, Everett, Wash., assignor of one-half to John A. McGhie and Norval McGhie, Everett, Wash. Filed Mar. 22, 1905. Serial No. 251,435.



Claim.—A pile-protecting composition consisting of tallow, rosin, brimstone, hair, and sand, as specified.

806,592. POWER-TRANSMITTING DEVICE. CLARENCE W. SPICER, Plainfield, N. J. Filed Nov. 5, 1904. Serial No. 231,502.



Claim.—1. In an incased universal-joint power-transmitting device, the combination with two universal joints connected to transmit power from one to the other, of a single casing inclosing both said joints and arranged to permit angular movement, with respect to each other, of the driving and driven members of the device, said driving and driven members provided with means substantially closing the ends of the casing.

2. In an incased universal-joint power-transmitting device, the combination with two universal joints connected to transmit power from one to the other, and one provided with a driving member and the other with a driven member, of a single casing inclosing both said joints and provided with openings through which said driving and driven members project, and with spherically-curved surfaces in the vicinity of such openings, said driving and driven members having corresponding spherically-curved portions closing the said openings in the casing.

3. In an incased universal-joint power-transmitting device, the combination of a disk, driving and driven members, and two trunnion-blocks, located substantially as described, on opposite sides of said disk and pivotally connected thereto, one trunnion-block also pivotally connected to the driving member about an axis at right angles to the axis of its pivotal connection to the disk, the other trunnion-block similarly pivotally connected to the driven member.

4. In an incased universal-joint power-transmitting device, the combination of a disk, driving and driven members, two trunnion-blocks, located substantially as described, on opposite sides of said disk and pivotally connected thereto, one trunnion-block also pivotally connected to the driving member about an axis at right angles to the axis of its pivotal connection to the disk, the other trunnion-block similarly pivotally connected to the driven member, and a single casing inclosing both universal joints thereby formed.

5. In an incased universal-joint power-transmitting device, the combination of a disk, driving and driven members, two trunnion-blocks, located on opposite sides of said disk and pivotally connected thereto, one trunnion-block also pivotally connected to the driving member about an axis at right angles to the axis of its pivotal connection to the disk, the other trunnion-block similarly pivotally connected to the driven member, and a single casing secured to the disk and inclosing both universal joints formed by the disk, trunnion-blocks, and driving and driven members, said casing having openings through which said driving and driven members project and spherically-curved surfaces in the vicinity of such openings, said driving and driven members having corresponding spherically-curved portions closing said openings in the casing.

6. In a universal joint, the combination of an intermediate or trunnion member and two end or driving and driven members, said

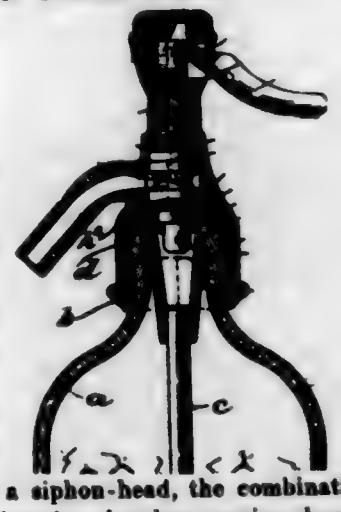
members comprising journals and bearing-sockets open at the side to permit the lateral passage of said journals, and bearing-bushings fitting over and surrounding said journals and fitting into said sockets, said bushings of greater diameter than the openings in the sides of said sockets, but adapted to be introduced axially into said sockets and over said journals.

7. In a universal joint, the combination of an intermediate or trunnion member and two end or driving and driven members, said trunnion member comprising journals and said driving and driven members having projecting horns containing bearing-sockets, said sockets open at the sides to permit the introduction of said journals laterally, and bearing-bushings fitting over and surrounding said journals and fitting into said sockets, said bushings of greater diameter than the openings in the sides of said sockets, but adapted to be introduced axially into said sockets and over said journals.

8. In a universal joint, the combination with an intermediate or trunnion member and two end or driving and driven members, said members comprising journals and bearing-sockets open at the side to permit the lateral passage of said journals, and bearing-bushings fitting over and surrounding said journals and fitting into said sockets, said bushings of greater diameter than the openings in the sides of said sockets, but adapted to be introduced axially into said sockets and over said journals, of a casing inclosing said members.

9. The combination, with an incased universal joint, comprising a casing forming a reservoir for lubricant and driving and driven members, one of said members having a socket, of a shaft fitting within said socket and free to move axially within the same but having a driving connection therewith, said socketed member having an oil-duct connecting the interior of the socket with the interior of said casing.

806,593. SIPHON-HEAD. PHILIP SPITZNAGEL, New York, N. Y. Filed Mar. 6, 1905. Serial No. 248,534.



Claim.—1. In a siphon-head, the combination with a head-casting having an interior chamber opening downwardly, a spout communicating therewith, and means whereby said head may be attached to a bottle and placed in communication therewith through the siphon-tube, of a valve-seat block arranged in said chamber and separable from said head-casting, said block presenting downwardly a face whereby it is held in place through said means and having a way therein whereby communication is established between said tube and said spout, a valve-stem, a normally closed valve controlled thereby, means whereby said valve-stem may be actuated and means packing said block.

2. In a siphon-head, the combination with a head-casting having an interior chamber opening downwardly, a spout communicating therewith, and means whereby said head may be attached to a bottle and placed in communication therewith through the siphon-tube, of a valve-seat block comprising a base having a channel in the under face thereof forming a valve-seat, and a downwardly-presented rim whereby said block is held in place through said means, and a body portion, arranged in said chamber and separable from the head-casting, said block having a way therein whereby communication is established between said tube and said spout, a valve-stem, a normally closed valve for said seat, controlled by said stem, means whereby said valve-stem may be actuated, and a packing above said body.

3. In a siphon-head, the combination with a head-casting having an interior chamber, a spout communicating therewith, and means whereby said head may be attached to a bottle and placed in communication therewith through the siphon-tube, of a valve-seat block comprising a base having a channel in the under face thereof forming a valve-seat and a rim, and a body portion, arranged in said chamber and separable from the head-casting, said block having a way therein whereby communication is established between said tube and said spout, a valve-stem having an enlarged head, a valve for said seat controlled by said stem, a spring disposed between said body and said enlarged head whereby said valve is normally closed, means whereby said valve-stem may be actuated, and a packing above said body.

4. In a siphon-head, the combination with a head-casting having an interior chamber, a spout communicating therewith, and means whereby said head may be attached to a bottle and placed in communication therewith through the siphon-tube, of a valve-seat block comprising a base having a channel in the under face thereof forming a valve-seat and a rim, and a body portion, arranged in said chamber and separable from the head-casting, said block having a way therein whereby communication is established between said tube and said spout, a valve-stem, having an enlarged head, a valve for said seat controlled by said stem, a gasket or packing-ring seated on the top of said body, a spring disposed between said gasket or ring and said enlarged head whereby said valve is normally closed and means whereby said valve-stem may be actuated.

5. In a siphon-head, the combination with a head-casting having an interior chamber, a spout communicating therewith, and means whereby said head may be attached to a bottle and placed in communication therewith through the siphon-tube, of a valve-seat block comprising a base having a channel in the under face thereof forming a valve-seat and a rim, and a body portion, arranged in said chamber and separable from the head-casting, said block having a way therein whereby communication is established between said tube and said spout, a valve-stem, a normally closed valve for said seat removably attached to said stem and controlled thereby, means whereby said valve-stem may be actuated, and a packing above said body.

6. In a siphon-head, the combination with a head-casting having an interior chamber, a shoulder therein, a spout communicating with said chamber below said shoulder, and means whereby said head may be attached to a bottle and placed in communication therewith through the siphon-tube, of a valve-seat block seated in said chamber below said shoulder and separable from said head-casting, said block having a way therein whereby communication is established between said tube and said spout, a valve-stem, a normally closed valve controlled thereby, means whereby said stem may be actuated, and a gasket between said block and said shoulder.

7. In a siphon-head, the combination with a head-casting having an interior chamber, a shoulder therein, a spout communicating with said chamber below said shoulder, and means whereby said head may be attached to a bottle and placed in communication therewith through the siphon-tube, of a valve-seat block comprising a base having a channel on the under side thereof forming a valve-seat and a rim, and a body, said block having a way therein whereby communication is established between said tube and said spout, a valve-stem, a normally closed valve for said seat controlled by said stem, means whereby said valve-stem may be actuated, and a gasket between said body and said shoulder and about said stem.

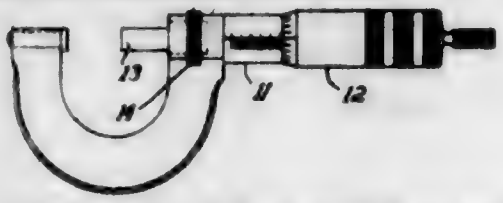
8. In a siphon-head, a valve mechanism comprising a valve-seat block having a way therein and presenting downwardly a rim whereby said block is held in place through the means attaching the head to the bottle, a valve-stem carried thereby, a valve on said stem, means whereby said valve is normally held closed, and a packing-ring mounted on said block and about said stem.

9. In a siphon-head, a valve mechanism comprising a valve-seat block having a way therein and presenting downwardly a rim whereby said block is held in place through the means attaching the head to the bottle, a valve-stem carried thereby, a valve removably attached to said stem, means whereby said valve is normally held closed and a packing-ring mounted on said block and about said stem.

10. In a siphon-head, a valve mechanism comprising a valve-seat block consisting of a base having a channel on the under side thereof forming a valve-seat and a rim, said block having a way therein opening through said valve-seat, and a body, a valve-stem carried in said block and passing through said way, an enlarged head on said stem, means thereon whereby said stem may be actuated, a valve for said seat removably attached to said stem, a packing-ring mounted on said body and about said stem, and a spring mounted between said packing and said enlarged head whereby said valve is normally closed.

806,594. SPINDLE-LOCK FOR MICROMETER-GAGES, &c. LEROY S. STARRETT, Athol, Mass., assignor to L. S. Starrett Company, Athol, Mass., a Corporation of Massachusetts. Filed Mar. 22, 1905. Serial No. 251,591.

Claim.—1. The described locking device for a rotatable shaft or spindle, comprising a bearing or tool-head formed with a deep transverse slot, a cylindrical bushing inserted axially and fixed in position in such bearing or head, bored to fit the inclosed shaft or spindle, and having between its rigid end portions and in the plane of said slot an annular spring-tongue integral with but nearly severed from such end portions and formed with a peripheral recess deepest at its abrupt inner end, decreasing in depth outwardly therefrom in a plane flat bottom, in combination with a movable clamping-piece located longitudinally in said recess, its diameter being equal to the greatest depth thereof, and with an actuating-ring fitting rotatably in the tool-head slot and around the recessed tongue and inclosed piece substantially as set forth.



2. In a micrometer-gage the tool frame or head, the rotatable spindle and micrometer mechanism, a deep transverse slot in the tool-head and an actuating-ring located in such slot and concentric with the spindle, in combination with a hollow cylindrical bushing passing longitudinally through the annular space between the spindle and said ring and secured peripherally in the tool-head, such bushing having, integral with and intermediate between its end portions, an annular tongue nearly severed from said portions, laterally, in parallel planes and transversely weakened, such tongue having a shallow peripheral recess, deepest at its radial inner end and decreasing thence outwardly, its flat bottom forming the half-chord of a short arc, and a roller of a diameter equal only to the greatest depth of such recess held movably therein and operated by said actuating-ring, for the purpose set forth.

808,395. CONTAINING DEVICE. GEORGE STECK, Waupun, Wis. Filed Jan. 16, 1905. Serial No. 241,314.



Claim.—1. A containing device comprising a perforate body, a band surrounding said body about midway the ends thereof, and a plurality of angular arms formed intermediate their ends with coils surrounding said band.

2. A containing device comprising a perforate body, a cap therefor, a retaining-band surrounding said body about midway the ends thereof, a link connecting the ends of said retaining-band, and a plurality of angular arms having coils formed at the point of their angles surrounding said retaining-band, the ends of said arms being bent.

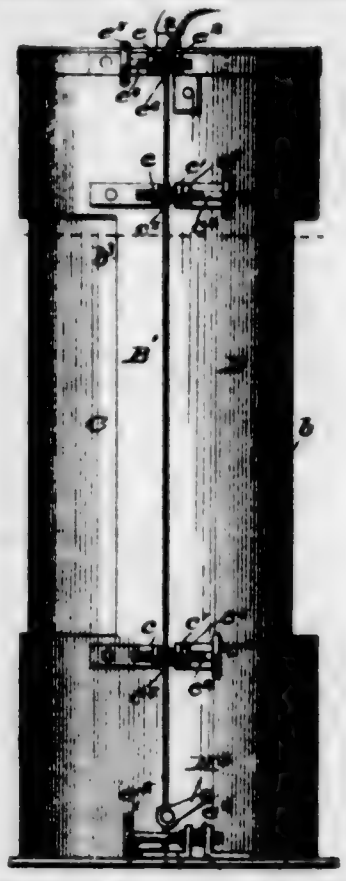
806,596. BULKHEAD-DOOR. DAVID W. STIBBS, Puerto Cortes, Honduras, assignor of one-half to James W. Grace, Puerto Cortes, Honduras. Filed Sept. 23, 1904. Serial No. 225,021.

Claim.—1. A rotary cell-shaped door having an opening in its side, combined with an inclosing case made in two hinged sections said sections each having an opening arranged opposite each other and means for tightening and holding the hinged sections upon the cell-door substantially as described.

2. A rotary cell-shaped door having an opening in its side, combined with an inclosing case made in two hinged sections, said sections each having an opening arranged opposite each other, means for tightening and holding the hinged sections upon the cell-door and means for adjusting the axial bearings of the cell outwardly substantially as described.

3. A rotary cell-shaped door having axial bearings and an opening in its side, combined with an inclosing case having opposite openings and means for adjusting the cell laterally to its axis to a tight fit with the opening in the case as described.

4. A rotary cell-shaped door for a boat having an opening in its side, combined with an inclosing case having opposite openings, bearings for the axis of the cell and means for adjusting both bearings outwardly in relation to the boat substantially as described.



5. A rotary cell-shaped door for a boat having an opening in its side, combined with an inclosing case having opposite openings, means for turning the cell within the case and a central air-supplying pipe entering the cell concentrically with its axis substantially as described.

6. A rotary cell-shaped door of cylindrical form having an opening in its side, an inclosing cylindrical case with opposite openings, a loose central shaft having a gear-wheel on its upper end outside the cell, an intermediate gear meshing therewith and mounted exteriorly on the top of the cell, a stationary annular gear with inwardly-projecting teeth meshing with the said intermediate gear and means for rotating the shaft from both the interior and exterior of the cell as described.

7. A rotary cell-shaped door of cylindrical form having an opening in its side, an inclosing cylindrical case having opposite openings, a loose central shaft having one rigid gear-wheel on its upper end outside the cell and another rigid gear-wheel on the lower end below and outside the cell, a turning shaft arranged below the cell and extending through the side of the case and bearing on its inner end a gear meshing with the gear on the lower end of the shaft, a second turning shaft arranged within the cell, and gears connecting the same with the central shaft within the cell substantially as described.

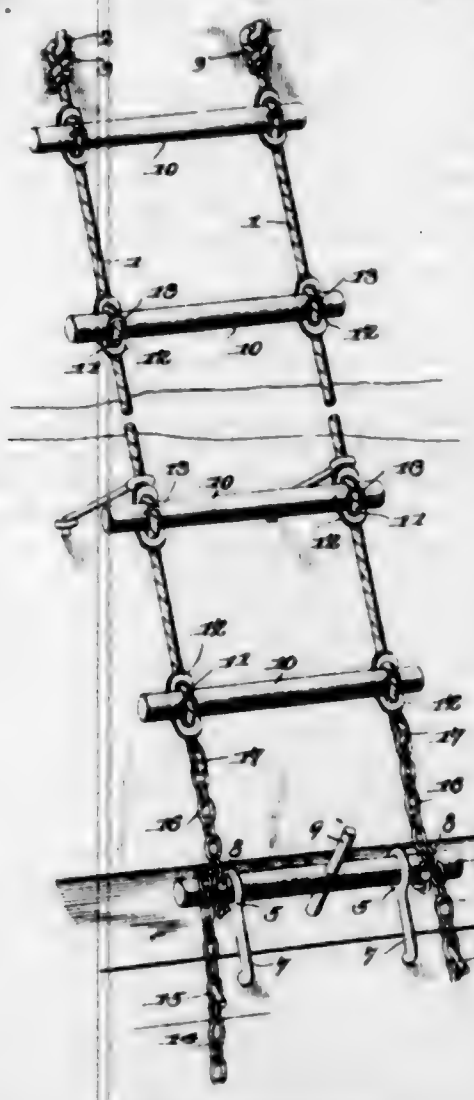
8. A rotary cell-shaped door having an opening in its side, an inclosing case with opposite openings, a hollow central operating-shaft extending through the end of the cell for connection with an air-supply and a mouthpiece with air-pipe within the cell having a swiveled connection and open communication with the interior of the hollow shaft substantially as shown and described.

806,597. LADDER OR PERCH. ROBERT J. STOKER, York, and SENECA HUBBELL, Bradshaw, Nebr. Filed June 28, 1905. Serial No. 267,435.

Claim.—1. A device of the class described comprising a rung, a cable secured to the rung and provided at one end with means for permanent attachment, arms provided at one end with means for permanent attachment and with rings at the opposite ends, a roller rotatably mounted in the rings and with the free end of the cable wound about and secured thereto, means to rotate the roller and means to prevent a backward movement of the roller.

2. A device of the class described comprising a rung, a cable provided at one end with means for permanent attachment and having an offset embracing the rung, a link disposed opposite to and engaging the cable upon each side of the offset, arms provided at one end with means for permanent attachment and with rings at the opposite ends, a roller rotatably mounted in the rings and with the free end of the cable wound about and secure thereto, means to rotate the roller and means carried by the cable to prevent a backward rotation of the roller.

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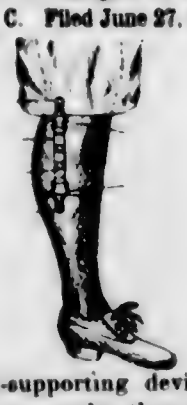
to the supporting-surface toward the recess, and supporting-rolls journaled beneath the platform and rotatable in planes extending transversely of said platform.

3. A truck comprising a platform, cross-bars depending therefrom, ribs connecting the cross-bars, shafts mounted upon the cross-bars, and rolls rotatable about the shafts.

4. A truck comprising a platform having a recess, cross-bars depending from the platform, ribs connecting the cross-bars and extending beneath the recess, shafts mounted upon the cross-bars, and rolls rotatable about the shafts.

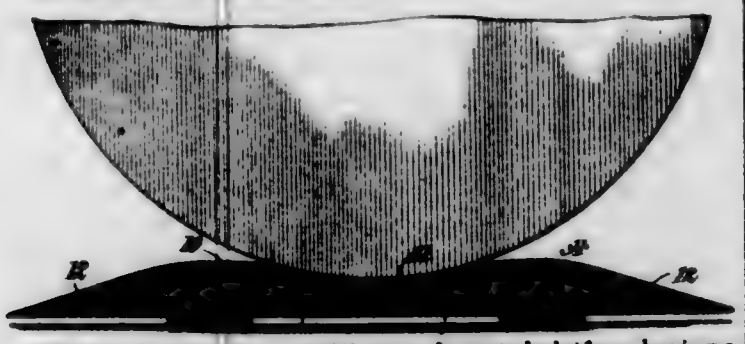
5. A truck comprising a platform having downwardly-inclined end portions, a depending flange formed integrally with the platform and its end portions, and supporting-rolls journaled beneath the platform between the flanges.

806,598. GARMENT-SUPPORTING DEVICE. CHARLES F. STOKES, Washington, D. C., assignor of one-half to William B. Matthews, Washington, D. C. Filed June 27, 1905. Serial No. 267,276.



Claim.—A garment-supporting device, comprising a single piece of webbing, buttons secured to the ends thereof, a second piece of webbing which is folded upon itself in opposite directions, and having its folds and inturned ends stitched to the button-carrying webbing, and loops connected to said folded webbing and designed to coöperate with said buttons to engage and hold an article to be supported, as set forth.

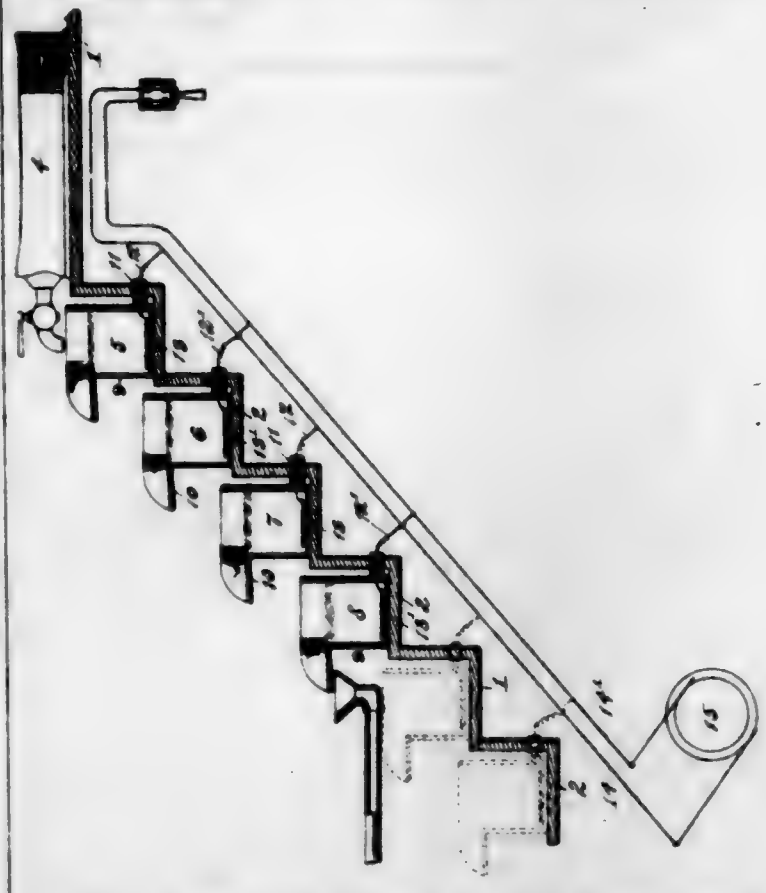
806,599. TRUCK. ONÉSIME THIBAULT, Fall River, Mass. Filed Jan. 19, 1905. Serial No. 241,775.



Claim.—1. A truck comprising an elongated platform having a transverse recess, inclined end portions leading from points in proximity to the supporting-surface to points above the recess, and supporting-rolls journaled beneath the platform.

2. A truck comprising an elongated platform having a transverse recess, inclined end portions leading from points in proximity

806,600. PROCESS OF STERILIZING MILK AND OTHER LIQUIDS. ROBERT C. TURNER, Columbus, Ohio. Filed Jan. 25, 1904. Serial No. 190,538.



Claim.—1. The herein-described method of treating milk or other liquids, it consisting in causing the milk to pass through each vessel in a series of vessels and to flow in a stream from one vessel to the next, and simultaneously causing an electric current to pass from the bottom of one vessel upward through the body of milk therein, then downward through the stream falling from said vessel to the next, then downward through the body of milk in said next vessel and thence out, substantially as set forth.

2. The herein-described process for treating milk and other liquids, it consisting in causing the milk or liquid to flow continuously through each vessel of a series of vessels and flow in a stream from each vessel to the next, supplying several branch currents of electricity in multiple from a common source to several sets of the said vessels respectively, the vessels of each set being arranged electrically in series and causing electricity to pass from the bottom of one of said vessels through the milk therein to the top and along the stream passing from said vessel to the next and finally out at the bottom of the last vessel in said set, substantially as set forth.

3. The herein-described method of treating milk, it consisting in causing the milk to flow from one vessel to another arranged electrically in series with the first, and simultaneously causing a current of electricity to pass through the milk in both vessels upwardly through one and downwardly through the other, the stream of milk flowing from one to the other completing the electrical circuit between the vessels, substantially as set forth.

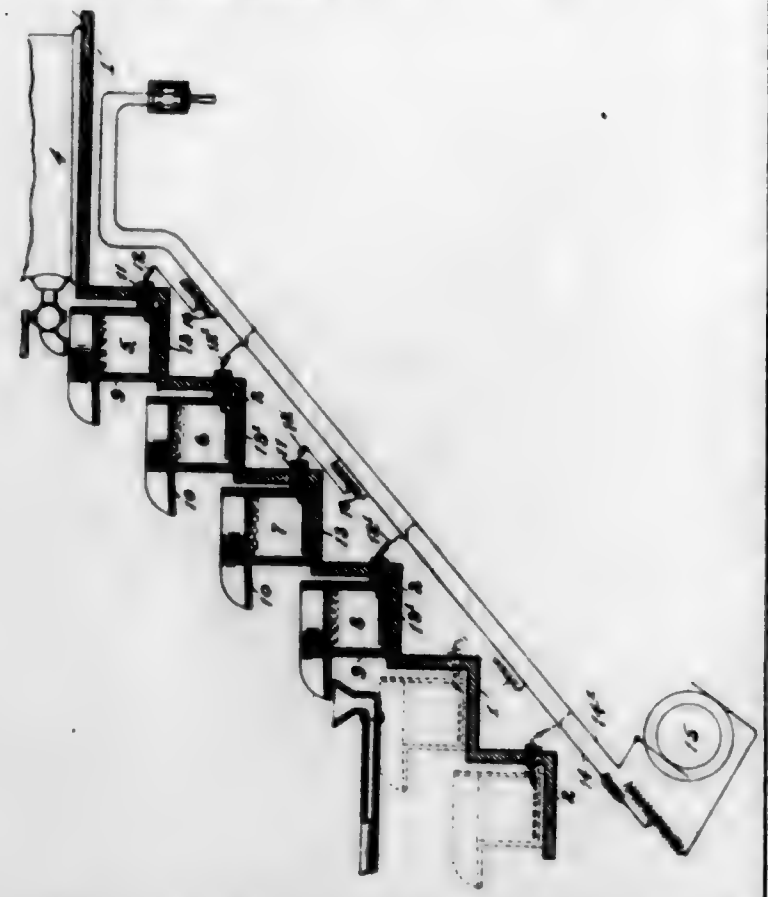
4. The herein-described process of treating milk and other liquids, it consisting in causing the milk or other liquid to flow continuously through each vessel of a series of vessels and to flow in a stream from the top of each vessel to the next, and causing several branch currents of electricity in multiple from a common source to pass through the liquid in sets of the said vessels respectively, the vessels

of each set being arranged electrically in series, and the stream of milk from each vessel to the next completing the electrical circuit between the said vessels, substantially as set forth.

5. The herein-described process for treating milk and other liquids, it consisting in causing the milk or other liquid to overflow continuously from each vessel of a series of vessels and to flow in a stream from each vessel to the next, causing several branch currents of electricity in multiple from a common source to pass through the liquid in sets of the said vessels respectively, and regulating the electrical resistance in each of the said sets of vessels, the vessels of each set being arranged electrically in series and the stream of liquid from each vessel to the next completing the electrical circuit between said vessels, substantially as set forth.

6. The herein-described method of treating milk and other liquids, consisting in causing the milk to flow from a relatively large body in one non-conducting vessel to a relatively large body in a second non-conducting vessel in a reduced attenuated stream, and simultaneously causing an electric current to flow from an electrode immersed in the liquid in one of said vessels, through said liquid and longitudinally along said stream to an immersed electrode in the other of said vessels.

808,601. APPARATUS FOR STERILIZING MILK AND OTHER LIQUIDS. ROBERT C. TURNER, Columbus, Ohio. Filed Mar. 16, 1904. Serial No. 198,504.



Claim.—1. In an apparatus for treating milk and other liquids, the combination of a plurality of liquid receiving and delivering vessels arranged one above the other in series and each having an imperforate bottom wall and a directing-spout adapted to direct liquid overflowing through it in a reduced stream to the next vessel in the series, the said vessels being arranged electrically in pairs, a source of electric power, and means connecting each of said pairs of vessels in multiple arc with said source of power.

2. In an apparatus for treating milk and other liquids, the combination of a plurality of liquid receiving and delivering vessels arranged one above the other in series, each vessel having an imperforate bottom and an overflow-spout arranged to direct the liquid flowing from it to the next vessel in the series, the plurality of electrodes, each arranged in one of said vessels in a horizontal plane beneath said overflow-spout, an electric circuit, and means connecting pairs of electrodes in adjacent vessels in multiple arc in said circuit, the vessels containing said pairs of electrodes each being electrically in series with each other.

3. In an apparatus for treating milk and other liquids, the combination of a series of liquid receiving and delivering vessels arranged one above the other, each provided with a spout adapted to direct liquid to a vessel below it and with an electrode arranged in horizontal planes beneath said spout, an electric circuit, connections between the electrodes in the said vessels and the said circuit adapted to connect sets of the vessels in multiple, the vessels of said sets being electrically in series with each other, and the variable resistance arranged in the circuits of each of said sets.

4. In an apparatus for treating milk and other liquids, the non-conducting and electrically-insulated vessels having imperforate bottoms and arranged to have liquid overflow in a reduced stream falling through the open air from one to the other, an electrode submerged in the liquid body of each vessel and adapted to have an electric current flow from one to the other along the said reduced stream, substantially as set forth.

5. In an apparatus for treating milk and other liquids, a vessel having an imperforate wall and having at a relatively high level means for forming a reduced stream of the overflow liquid, an electrode situated substantially as set forth, whereby it is submerged in the liquid in the vessel and adapted to deliver an electric current to the initial end of said stream in combination with a second electrode arranged to receive the electric current from the opposite end of said stream and conductors for taking current to and from said electrodes respectively, substantially as set forth.

6. In an apparatus of the class described, the combination of the liquid-holding vessel having the body 9, the stream-forming spout 10 with walls extending upward at the sides thereof, the electrode in the lower part of the body 9, the conductor supported on the wall of the vessel and connected to the electrode, substantially as set forth.

7. In an apparatus of the class described, the combination of the upper non-conducting vessel 5, the lower non-conducting vessel 6, each of said vessels having imperforate bottom walls means for delivering liquid from the upper vessel to the lower one in a reduced stream, the electrode in the lower part of the upper vessel, the electrode in the lower part of the lower vessel, the conductors connecting said electrodes to opposite sides of an electric circuit, and means for controlling the quantity of liquid flowing in the said stream, substantially as set forth.

8. In an apparatus of the class described, the combination of the upper non-conducting vessel, the lower non-conducting vessel, means for delivering liquid from the upper to the lower vessel in a reduced stream, an electrode in the lower part of the upper vessel, an electrode in the lower part of the lower vessel, conductors respectively connecting the said electrodes with opposite sides of the electric circuit, and means for varying the electric current passing over the said conductors to the said electrodes, substantially as set forth.

9. In an apparatus of the class described, a non-conducting earthenware vessel having a relatively shallow liquid-holding body part, an elongated horizontally-arranged spout 10, wide deflecting-walls 19, an electrode in the shallow body part, and a conductor extending to points outside of the vessel and permanently attached to and supported by the wall, substantially as set forth.

10. In an apparatus for treating milk and other liquids with electricity, the combination of a plurality of liquid-receiving and delivering vessels arranged one above another in series and each provided with a spout adapted to direct the liquid overflowing from it to the next vessel in the series, a plurality of removable electrodes each arranged in one of said vessels, a source of electric supply, conductors connecting pairs of said electrodes in multiple arc with said source of current-supply, the vessels containing electrodes of each of said pairs being electrically in series with each other, and the variable resistances for varying the electric current passing between the electrodes of each pair.

11. In an apparatus for treating milk and other liquids with electricity, the combination of a plurality of liquid-receiving and delivering vessels arranged one above the other in series and each provided with an approximately horizontal spout adapted to direct the liquid overflowing from it to the next vessel in the series, a plurality of removable electrodes, each arranged in one of said vessels near the bottom thereof, a current-supply circuit, and means connecting the electrodes in adjacent vessels in said series to the opposite sides of said current-supply circuit.

12. In an apparatus for treating milk and other liquids, the combination of a plurality of liquid receiving and delivering vessels arranged one above the other in series, and each provided near its top with an approximately horizontal spout adapted to direct the liquid overflowing from it to the vessel next below it in the series, and a laterally-projecting tube near the bottom of the vessel, the plurality of removable electrodes, each arranged in one of said vessels near the bottom thereof, a current-supply circuit, and the plurality of electrical conductors, each electrically connected at one end to one of said electrodes and extending through the tube carried by the vessel in which said electrode is placed and having its other end connected to one side of said electric circuit, the conductors leading from the

electrodes in adjacent vessels in said series being connected to opposite sides of the said current-supply circuit.

13. In an apparatus for treating milk, the combination of two electrically-insulated vessels arranged one above the other, the upper of said vessels having an imperforate bottom wall and an overflow-spout arranged to direct the milk to the lower of said vessels in a reduced stream exposed to the air and an electric conductor for each vessel electrically connected with the liquid therein, said conductor being arranged substantially as set forth to have an electric current flow from one vessel to the other along the said exposed reduced stream.

14. In an apparatus for electrically treating milk, a series of pairs of milk receiving and delivering vessels, one vessel of each pair being adapted to deliver milk to the other one and the latter vessel being adapted to deliver it to one of the vessels of another of said pairs, means for causing the milk to pass in a reduced stream exposed to the atmosphere from each vessel to the next, the plurality of electrodes each arranged in one of said vessels, a source of current-supply, the conductors connecting the electrodes in each of said pairs to the said source of supply substantially as set forth whereby a current of electricity can be caused to pass from one vessel of each pair to the other through the said reduced stream flowing between the said vessels, and the variable resistances arranged in the branch circuits for each of said pairs of vessels.

15. In an apparatus for electrically treating milk, the combination of the series of pairs of milk receiving and delivering vessels, the said vessels being adapted to have a continuous stream of milk pass through them in series, a source of current-supply, the conductors respectively interposed between the said source of current-supply and the liquid in said vessels and adapted to pass an electric current through the liquid in each pair of vessels and along the line of said stream between the vessels of each pair, and the variable resistances in the branch circuits for each pair of vessels.

16. In an apparatus for electrically treating milk or other liquids, the combination of the vertically-stepped frame or support, the series of similar non-conducting vessels each supported by said frame or support at a different level and each adapted to deliver liquid overflowing from it to the next vessel below it, a source of current-supply, the series of electrodes each arranged in one of said vessels, and the conductors connecting each of said electrodes to one side of said current-supply circuit, substantially as set forth whereby the vessels are electrically connected in pairs, the stream of liquid between the vessel of each pair being adapted to complete the electric circuit for said pair of vessels.

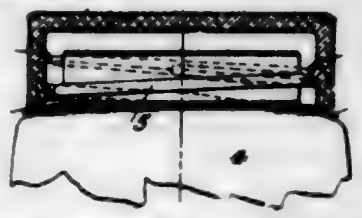
17. In an apparatus for electrically treating milk or other liquids, the combination of a plurality of similar non-conducting vessels arranged in series on differing levels and adapted to have the liquid flow from one to the other in a continuous stream, a source of current-supply, conductors extending from the said source of supply to the said vessels and adapted to form with the stream of liquid passing through the vessels a series of electric circuits, and means for providing a uniformity of resistance in the different electric circuits completed by said stream.

18. In an apparatus of the class described, the combination of a series of vessels each one similar to the others, arranged in pairs and adapted to have the milk flow in a continuous stream from one to the next, a source of current-supply, and the electric conductors leading from said source of current-supply each to the interior of one of said cells, and adapted to permit a current to pass through the bodies of liquid in the vessels of each pair independently of the other pairs, the stream of milk flowing from one vessel of each pair to the next being adapted to complete the electric circuit between the cells.

19. In an apparatus for treating milk or other liquids, a plurality of liquid receiving and delivering vessels each similar to the others and arranged in series to have the milk flow in a continuous stream from one to the next, a source of electric-current supply, the plurality of electrodes each arranged within one of said vessels, and the conductors electrically connecting the series of electrodes with source of supply substantially as set forth, whereby sets of the said vessels are connected electrically in series, the streams of liquid flowing from one to the other vessel of each set being adapted to complete the circuit for said set, and the sets being connected in the circuit in multiple arc.

806,602. JAR-CLOSURE. RUSSELL UHL, Wilkesbarre, Pa., assignor to Perfection Glass Company, Washington, Pa., a Corporation of Pennsylvania. Filed May 20, 1905. Serial No. 261,319.

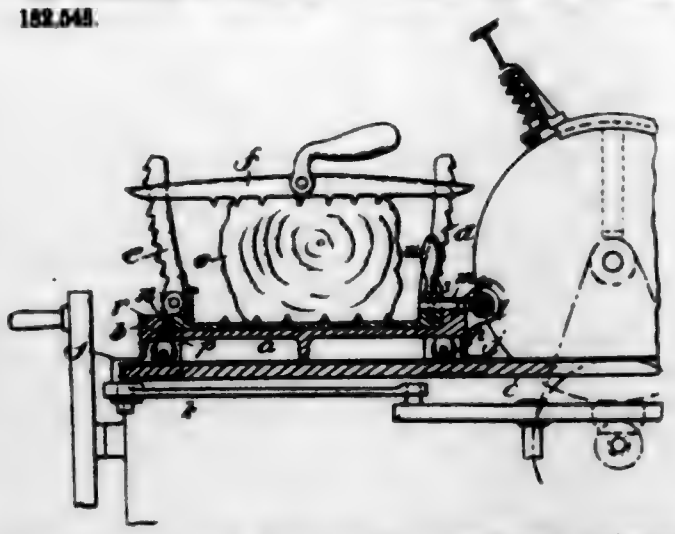
Claim.—1. The combination with a glass jar having a thread thereon, of a glass cap provided with a sloping circumferential ledge inside having a diameter intermediate between the extreme diameter of the thread on the jar and the neck of the jar itself, substantially as and for the purpose described.



2. The combination with a standard Mason jar having the thread 5 thereon, of a glass cap having a ledge 9 extending a little more than one circumference and large enough to slide over the thread when in one position and to lock with the thread on the jar when in another position, substantially as described.

3. The combination with a jar neck having a spiral glass thread, of a glass cap having a spiral glass ledge thereon of a slightly less diameter than the thread on the neck and arranged substantially as shown whereby the cap may be seated upon the jar without engaging the thread and then by a turn of the cap the said ledge will engage the thread about half a turn, substantially as described.

806,603. MEAT-SLICING MACHINE. WILHELMUS A. VAN BERKEL, Rotterdam, Netherlands. Filed Nov. 24, 1903. Serial No. 182,548.



Claim.—1. A meat-slicing machine embodying a reciprocatory table provided with vertical guide-bars extending in the direction of the length of the table, each of said bars having its inner face extending in a verfical plane, a removable meat-plate mounted upon said table between said bars and having the side edges thereof corresponding in contour to the inner faces of said bars, said plate reciprocating with said table and capable of being shifted on the table in the direction of the length thereof, a swinging member carried by said plate, and rotatable means carried by the table and engaging with said member and adapted when in engagement with said member and operated to cause the adjustment of said plate in a direction opposite to the travel of the table.

2. A meat-slicing machine embodying a reciprocatory table provided with vertical guide-bars extending in the direction of the length of the table, each of said bars having its inner face extending in a vertical plane, a removable meat-plate mounted upon said table between said bars and having the side edges thereof corresponding in contour to the inner faces of said bars, said plate reciprocating with said table and capable of being shifted on the table in the direction of the length thereof, means engaging with the plate for shifting it, and means for disconnecting said shifting means from the plate to permit of the lifting of the plate directly off the table when occasion requires.

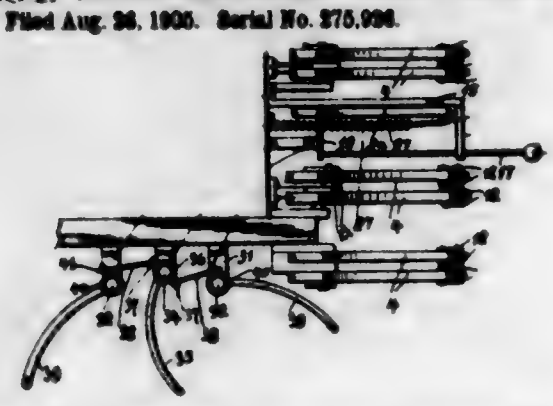
3. A meat-slicing machine embodying a reciprocatory table, a removable meat-plate mounted upon the table and reciprocating therewith, means for shifting the plate upon the table in the direction of the length thereof, a supporting-frame provided with runways, a packing secured in said runways for forming a silencing means, wheels carried by the table and traveling upon said packing, and means for reciprocating said table upon said frame.

4. A meat-slicing machine embodying a reciprocatory table, a removable meat-plate mounted upon the table and reciprocating therewith, means for shifting the plate upon the table in the direction of the length thereof, a supporting-frame provided with runways, a packing secured in said runways for forming a silencing means, wheels carried by the table and traveling over said packing, said frame provided with an elongated slot, a depending member

carried by the table and extending down through said slot for guiding the table when it is reciprocated, and means connected with said depending member for reciprocating the table upon the frame.

5. A meat-slicing machine embodying a reciprocatory table, a supporting-frame provided with runways, a packing secured in said runways for forming a silencing means, wheels carried by the table and travelling over said packing, said frame provided with an elongated slot, a depending member carried by the table and extending down through said slot for guiding the table when it is reciprocated, and means connected with said depending member for reciprocating the table upon the frame.

806,604. **STREET-CAR FENDER.** VASILIE VLADUTE, Homestead, Pa. Filed Aug. 26, 1905. Serial No. 275,996.



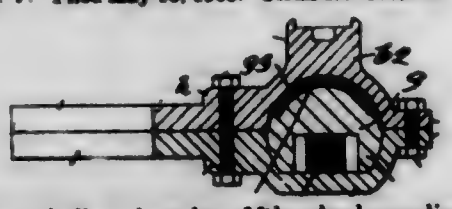
Claim.—1. A car-fender embodying a plurality of arc-shaped arms, said arms being pivotally mounted in adjacent pairs, bearings for the several adjacent pairs secured to the body of the car, means for retaining said arms against movement and adapted to be engaged by an obstacle in the progress of the car to release said arms, rearward extensions carried upon the ends of said arms, and means adapted to engage said extensions to force said arms to swing inwardly upon their pivot when released.

2. A car-fender embodying a plurality of arms disposed in horizontal tiers and pivotally mounted, bearings in which said arms are pivotal secured to the body of the car, rearward extensions carried by said arm, means for engaging said extensions and causing said arms to swing inwardly upon their pivots, and means adapted to be engaged by an obstacle for holding said arms against inward movement.

3. A car-fender embodying horizontally-disposed tiers of gripping-arms pivotally mounted in pairs bearings for said arms secured to the body of the car, a second series of arms pivotally mounted at a point between the vertically-alined adjacent ends of said first-named arms, brackets in which said second-named series are mounted, rearward extensions carried by said first-named series, an expansive spiral spring interposed between said extensions and adapted to force said arms together, means for retaining first-named series of arms from movement under the influence of said spring, said retaining means being released from engagement with said arms by contact with an obstacle, means for forcing said last-named series of arms to swing together upon their pivots, and means for holding said last-named arms from movement, said holding means being adapted to be released from locking engagement therewith by contact with an obstacle.

4. A car-fender embodying in combination with a series of pivotally-mounted spring-controlled arms located upon the front of the car and means for normally maintaining the same against movement, a second series of arms depending from the floor of the car, and pivotally mounted in bearings provided therefor, means for causing the arms of said second series to swing together upon their pivots, and means for locking said arms against inward movement, said locking means being obstacle-operated and embodying a pivotally-mounted depending arm having connection at its pivotal end with sliding bolts adapted to normally enter into locking engagement with said first-named arms.

806,605. **FIFTH-WHEEL COUPLING.** JOSEPH C. WATSON, New York, N. Y. Filed May 18, 1905. Serial No. 260,894.



Claim.—A ball-and-socket fifth-wheel coupling for vehicles, comprising a socket member composed of top and bottom parts having backwardly-directed members with which the reaches are connected, said socket member being provided with side openings through which the front axle is passed, and said front axle being provided with a solid ball member which fits in and is free to turn with the axle in said socket member and in a horizontal plane, and ball-bearings placed between the ball member and the top portion of the socket member, substantially as shown and described.

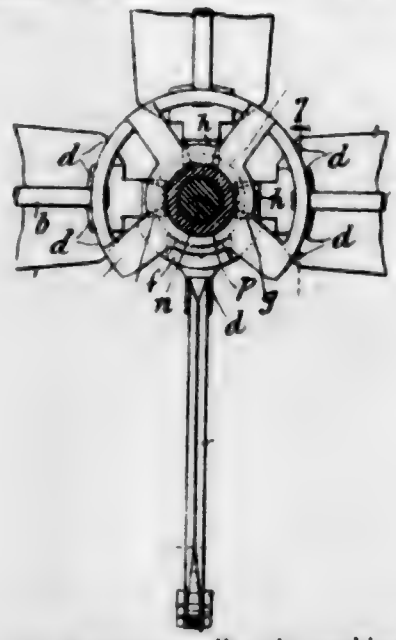
806,606. **DISTILLATION OF WOOD.** EDWARD B. WEED, Cleveland, Ohio, assignor to Weed Distilling and Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Feb. 15, 1901. Renewed Apr. 10, 1905. Serial No. 254,731.



Claim.—1. The improvement in the distillation of wood which consists in slotting blocks of wood crosswise of the grain, immersing the slotted blocks in a bath the boiling-point of which is higher than the product to be obtained, and distilling the same.

2. The improvement in the distillation of wood which consists in slotting blocks of wood crosswise of the grain, immersing the slotted blocks in a bath of rosin, and distilling the same.

806,607. **STEERING-PROPELLER.** GEORGE WESTLE, Bendigo, Victoria, Australia. Filed Dec. 19, 1904. Serial No. 237,516.



Claim.—1. In a steering-propeller, the combination with a propeller-shaft, a hub rigidly mounted thereon, radial spokes secured to said hub and extending substantially the length of the propeller-blade, blades longitudinally slotted to receive said spokes and provided with a web serving as a journal-bearing for said spokes, with lock-nuts mounted in said spokes exterior to said web, said blades being provided with cam facets or lugs, and a double cam-sector mounted concentric with the propeller-shaft and engaging said cam facets or lugs for turning said blades about said spokes as an axis while said hub rotates in either direction, substantially as described.

2. In a steering-propeller, the combination with a propeller-shaft, a hub rigidly mounted thereon, radial spokes secured to said hub and extending substantially the length of the propeller-blade, blades longitudinally slotted to receive said spokes, and provided with a web serving as a journal-bearing for said spokes, with lock-nuts mounted in said spokes exterior to said web, said blades being provided with cam facets or lugs, and a double cam-sector mounted concentric with the propeller-shaft and engaging said cam facets or lugs for turning said blades about said spokes as an axis while said hub rotates in either direction, a sleeve secured to said sector and projecting inboard, and means for rotating said sleeve through the desired angle for adjusting said sector, substantially as described.

806,608. **MANUFACTURE OF MATERIALS SUITABLE FOR INSULATING AND OTHER PURPOSES.** WILLIS R. WHITNEY, Boston, Mass., and RALPH C. ROBINSON, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed Apr. 13, 1903. Serial No. 152,334.

Claim.—1. The method of making insulating material which consists in taking approximately equal parts of a fibrous binding material and powdered calcium hydrate, mixing them together dry,

moistening, pressing the material into any desired form, soaking in a solution of soluble carbonate through which carbon dioxid is passed, soaking in water to remove the carbonate solution, and then heating to drive off the moisture.

2. The method which consists in mixing together calcium hydrate and a fibrous binding material, and then treating said mixture at ordinary atmospheric temperatures with a soluble carbonate to convert the calcium hydrate into calcium carbonate.

3. The method which consists in mixing together calcium hydrate and a fibrous binding material, and then treating the mixture with a solution of a soluble carbonate through which carbon dioxid is passed.

4. The process which consists in mixing together calcium hydrate and a fibrous binder, pressing the mixture into the form of articles of the desired shape, and then treating said articles at ordinary atmospheric temperatures with a solution of a soluble carbonate to convert the calcium hydrate into calcium carbonate.

5. The method of producing sheets of material which consists in forming an intimate mixture forty-five per cent. of calcium carbonate, forty-five per cent. of asbestos fiber and ten per cent. of borax-glass, shaping into sheets under pressure, and treating the sheets with a solution of a soluble carbonate to convert the calcium hydrate and the borax-glass into an insoluble compound.

6. The method which consists in forming a mixture containing a comparatively soluble salt of an alkaline earth and a fibrous binding material, molding articles therefrom and then soaking the articles in a solution of a second salt maintained at ordinary atmospheric temperatures to convert said soluble salt into an insoluble salt, said soluble salt and said second salt being so chosen that the acid component of said second salt unites with the alkaline earth component of said soluble salt to form said insoluble salt.

7. The method of forming articles of insulating material which consists in molding the articles out of a mixture containing a comparatively soluble salt of an alkaline earth and a fibrous binding material, and then immersing the articles in a solution of a soluble carbonate maintained at ordinary atmospheric temperatures to convert the soluble salt of the alkaline earth into the insoluble carbonate of said earth.

8. The method which consists in forming a mixture of calcium hydrate and a fibrous binding material, compressing the same, and soaking it for a considerable length of time in a solution of a soluble carbonate through which carbon dioxid is passed to convert the calcium hydrate into calcium carbonate, then soaking the pressed material in water to remove all soluble material from the mixture, and then baking the mixture at a temperature which is high but not sufficiently high to cause deterioration of the material.

9. The method which consists in molding articles out of a plastic mixture containing calcium hydrate and a suitable binding material such as asbestos or mineral wool, soaking the articles thus formed for a considerable period of time in a solution of soluble carbonate through which carbon dioxid is passed, whereby the calcium hydrate is converted into calcium carbonate, then treating the articles to remove the soluble carbonates, hydrates or the like which may be contained therein, and then baking them at a temperature insufficient to cause a deterioration of the carbonate and binding material.

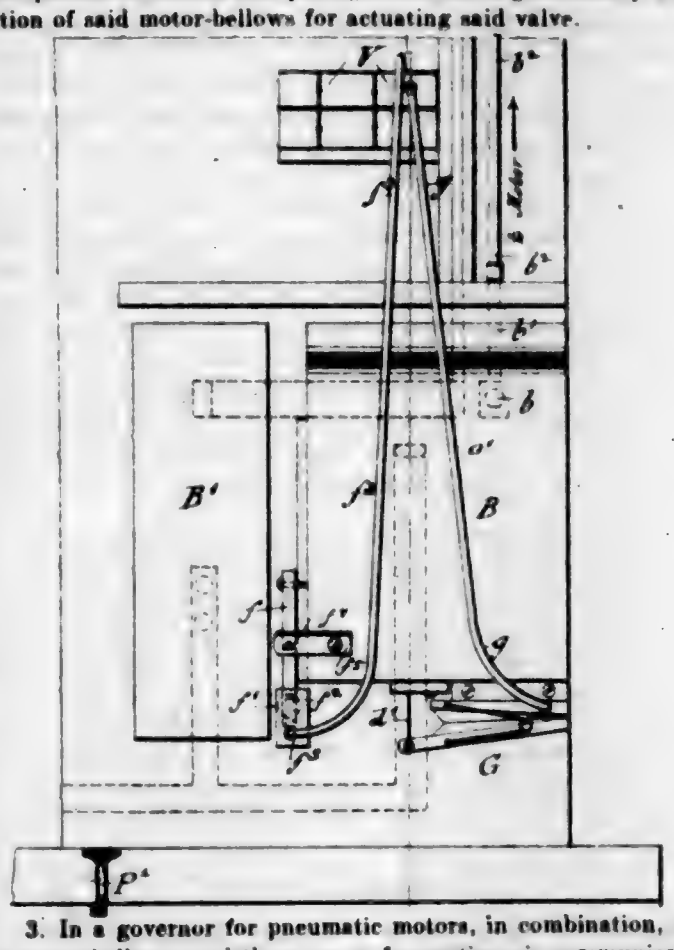
10. The method which consists in forming a mixture of calcium hydrate and asbestos, moistening the mixture to render it plastic, molding articles from said plastic mixture, soaking the articles in a solution of ammonium carbonate for several days, passing carbon dioxid through said solution, then washing the articles in water for a considerable length of time, and then heating them to a temperature insufficient to cause a deterioration of the articles.

11. The method which consists in forming articles out of a mixture of fibrous binding material and calcium hydrate and then converting the calcium hydrate into calcium carbonate *in situ* and at ordinary atmospheric temperatures.

806,609. AUTOMATIC GOVERNOR FOR PNEUMATIC MOTORS. JOSEPH WIMAN, New York, N. Y. Filed Mar. 2, 1905. Serial No. 248,123.

Claim.—1. In a governor for pneumatic motors, the combination, with the motor-bellows, of a valve for regulating the suction exerted on the same, a pneumatic for operating said valve, and means governed by the amount of inflation of said motor-bellows for collapsing and expanding said pneumatic.

2. In a governor for pneumatic motors, the combination, with the motor-bellows, the pump-bellows, and the passage connecting the same, of a valve slidable on the fixed part of said motor-bellows and operable to control said passage, and means governed by the inflation of said motor-bellows for actuating said valve.



3. In a governor for pneumatic motors, in combination, with the motor-bellows, and the passage for suction air communicating with the fixed part of the same, an interior valve in said motor-bellows slidable upon the fixed part of the same and provided with an opening adapted to be shifted into or out of register with said passage, and means for actuating said valve.

4. In a governor for pneumatic motors, a motor-bellows, a suction air-passage leading thereto, a valve in said motor-bellows for controlling said passage, a pneumatic, and an operative connection between said pneumatic and said valve.

5. A governor such as described, including a motor-bellows, a suction air-passage leading to the fixed wall of the same, an interior valve slidable on the rear wall or fixed part of said motor-bellows and operable to control said passage, a pneumatic governed by the inflation of said motor-bellows, and a rod connecting the movable part of said pneumatic with said interior valve.

6. In a governor such as described, the combination with the motor-bellows, and the pneumatic for controlling the suction in the same, of a valve-action in communication with said pneumatic, and means governed by the inflation of said motor-bellows for controlling such communication.

7. In a governor for pneumatic motors, a motor-bellows, a suction air-passage leading thereto, a valve for controlling said passage, a pneumatic for actuating said valve, a valve-action in communication with said pneumatic, and a valve carried by the movable member of said motor-bellows for controlling such communication.

8. In a governor for pneumatic motors, the combination, with the motor-bellows, and the pneumatic for controlling the suction therein, of a valve-action, a passage leading from the valve-chamber of said valve-action to said pneumatic, and means controlled by the inflation of said motor-bellows for actuating the valve of said valve-action and thus producing a suction in said passage.

9. In a governor for pneumatic motors, a motor-bellows, a pneumatic for controlling the suction therein, a valve-action, a passage leading from the valve-chamber of the latter to said pneumatic, a passage leading to the diaphragm-chamber of said valve-action, and a valve carried by the movable member of said motor-bellows for controlling said last-named passage.

10. The combination, with a spring-expanded motor-bellows, of a governor-pneumatic, a sliding cut-off valve located in the wind-channel between said motor-bellows and the pump-bellows, a pneumatic valve-action, a stationary duct, connecting-ducts between the valve-action and the governor-pneumatic and the stationary duct, and a regulable valve on the movable member of the motor-bellows arranged to open or close said stationary duct for regulating the internal pressure of the motor-bellows.

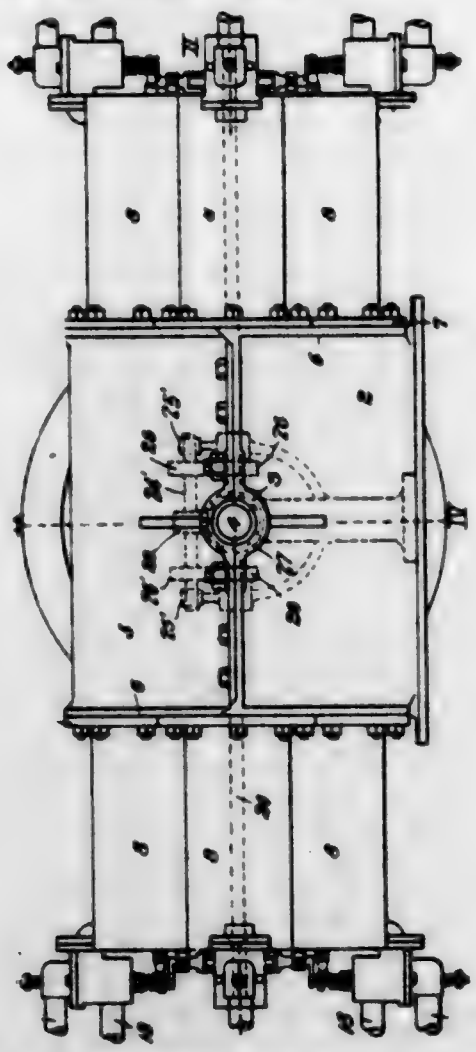
11. The combination, with a spring-expanded motor-bellows and its connection with the motor-engine, of a motor-regulator, consisting of a cut-off valve located in the channel leading to the pump-

bellows from said motor-bellows, a governor-pneumatic connected with said cut-off valve, a pneumatic valve-action connected with said governor-pneumatic, a stationary duct also connected with said valve-action, and a valve supported on the movable part of the motor-bellows and adapted to open or close said duct so as to actuate the governor-pneumatic and produce the collapse or inflation of said motor-bellows.

12. The combination, with a spring-expanded motor-bellows and pump-bellows, of a duct leading from the motor-bellows to the pneumatic motor, a governor-pneumatic, a cut-off valve actuated by said pneumatic and located in the wind-channel between the motor-bellows and pump-bellows, a pneumatic valve-action connected with the governor-pneumatic for actuating the same, a stationary duct connected with the diaphragm-chamber of the valve-action, a valve on the movable member of the motor-bellows adapted to open or close said duct by the vibrations of said member, so as to actuate the governor-pneumatic and regulate the suction action of the motor-bellows.

13. The combination, with a spring-expanded motor-bellows and its connection with the pneumatic motor for the music-sheet, of a sliding cut-off valve controlling the wind-channel between the motor-bellows and pump-bellows, a governor-pneumatic connected with said cut-off valve, a pneumatic valve-action, a flexible tube connecting the valve-chamber of said valve-action with said governor-pneumatic, a stationary duct, a pipe connection between said duct and the diaphragm-chamber of the valve-action, a valve on the movable member of the motor-bellows adapted to open or close the stationary duct by the vibrations of said movable member, and means for adjusting said valve relatively to said duct.

806,610. GAS-ENGINE. JOSEPH WILLIAMS, Jr., Pittsburg, Pa. Filed Apr. 23, 1904. Serial No. 204,559.



Claim.—1. In a gas-engine, the combination with a crank-shaft, of oppositely-disposed series of cylinders, communicating mixture-ports connecting the opposite cylinders, pistons therein connected by an intervening framework, and a pitman provided with a crank-bearing and pivotally connected with the moving piston structure, substantially as set forth.

2. In a gas-engine, the combination with a crank-shaft, of oppositely-disposed series of cylinders, communicating mixture-ports connecting the opposite cylinders, pistons therein connected by an intervening framework, and a pitman provided with a crank-bearing and pivotally connected with one of the pistons, substantially as set forth.

3. In a gas-engine, the combination with a crank-shaft, of oppositely-disposed series of cylinders, communicating mixture-ports connecting the opposite cylinders, pistons mounted therein, a frame rigidly connecting all of the pistons, and a pitman provided with a crank-bearing and pivotally connected with a piston at one side, substantially as set forth.

4. In a gas-engine, the combination with a crank-shaft of oppositely-disposed series of pairs of cylinders, communicating mixture-ports connecting the opposite cylinders, pistons mounted therein, a framework connecting all of the pistons, and pitmen connected with the crank-shaft and with one of said pairs of pistons, substantially as set forth.

5. In a gas-engine, the combination with a central crank-shaft, of oppositely-disposed series of pairs of cylinders, communicating mixture-ports connecting the opposite cylinders, pistons therefor, a framework rigidly connecting all of the pistons, and pitmen connected with the cranks of the shaft and with one of the pairs of pistons, substantially as set forth.

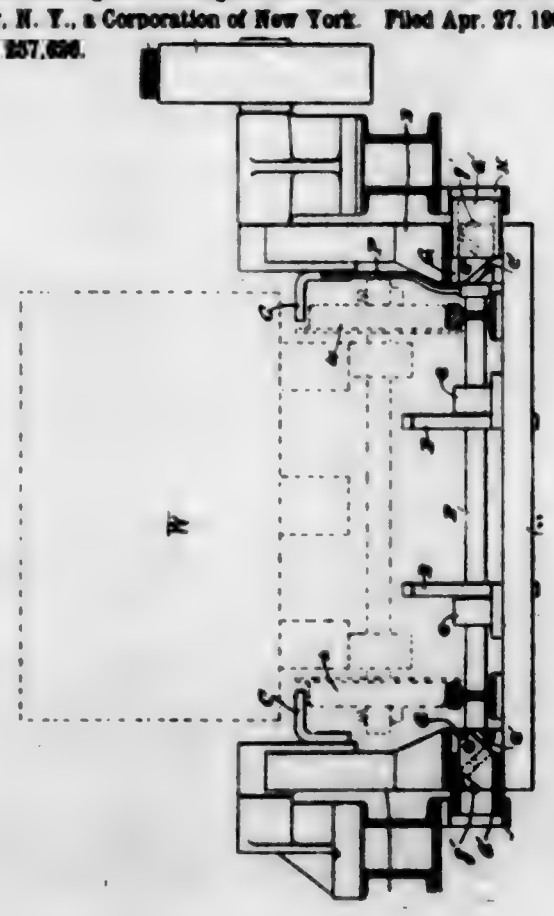
6. In a gas-engine, the combination with a central crank-shaft, of oppositely-disposed series of pairs of cylinders, communicating ports connecting said pairs of cylinders with each other, pistons mounted in said cylinders, a framework rigidly connecting all of the pistons, and pitmen connected with the cranks of the shaft and with one of the pairs of pistons, substantially as set forth.

7. In a gas-engine, the combination of a main framework constituting an inclosing case, a main shaft mounted in bearings therein and provided with cranks, oppositely-disposed pairs of cylinders extending outwardly from each end of said framework, corresponding pistons mounted therein, and pitmen connecting the pistons of one pair with the cranks, substantially as set forth.

8. In a gas-engine, the combination of a main framework constituting an inclosing case, a main shaft mounted in bearings therein and provided with cranks, oppositely-disposed pairs of cylinders extending outwardly from each end of said framework, corresponding pistons mounted therein, and pitmen connecting the pistons of one pair of cylinders with the cranks, with means for controlling the admission and exhaust to and from each of said cylinders, substantially as set forth.

9. In a gas-engine, the combination of a main framework constituting an inclosing case, a main shaft mounted in bearings therein and provided with cranks, oppositely-disposed pairs of cylinders extending outwardly from each end of said framework, corresponding pistons mounted therein, and pitmen connecting the pistons of one pair of cylinders with the cranks, means for controlling the admission and exhaust to and from each of said cylinders, and communicating ports between said oppositely-disposed cylinders constituting each pair, substantially as set forth.

806,611. WAGON-DUMPING MECHANISM. BENJAMIN R. ADKINS, Flushing, N. Y., assignor to S. Pearson and Son, Inc., Long Island City, N. Y., a Corporation of New York. Filed Apr. 27, 1905. Serial No. 257,626.

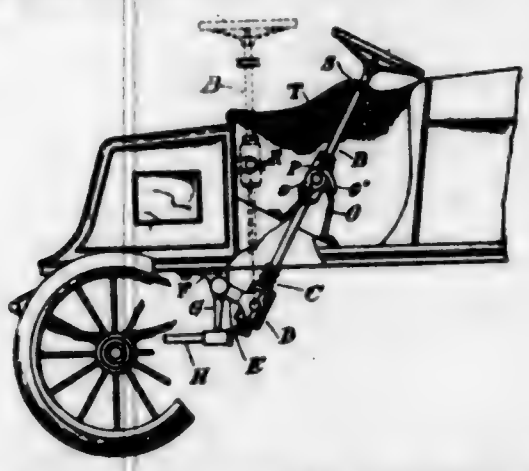


Claim.—1. The herein-described mechanism for dumping wagons, comprising a frame, a tilting platform pivoted to the frame and having rails with movable stops, a locking mechanism for the tilting frame, and lever means to operate the stops and at the same time positively throw the locking-bolts to lock the frame when the stops are moved out of the way, and vice versa.

2. The combination of a frame, a tilting platform pivoted thereto, stop-levers for the wagon, a cross-shaft carrying the levers, bolts on the wagon and keepers on the frame, and cam means to throw the bolts in or out on the turning of the shaft.

3. The combination of a frame and a tilting platform, having rails to receive a wagon with L-shaped stop-levers pivoted to rest on a cross-beam of the platform, and when in position to stop the wagon-axle.

806,612. STEERING MECHANISM FOR MOTOR-VEHICLES. HERBERT W. ALDEN, Hartford, Conn., assignor to Electric Vehicle Company, Jersey City, N. J., a Corporation of New Jersey. Filed June 18, 1902. Serial No. 111,816.



Claim.—1. A steering mechanism for automobiles comprising a rotating shaft, a bearing for said shaft supporting it solely against axially longitudinal movement, a threaded or gear portion on said shaft, engaging threaded or gear portion coöperating therewith, the latter mounted in a two-armed lever, connections from said lever to the steering-wheels whereby rotation of the shaft causes a deflection of the road-wheels to steer the vehicle.

2. In a steering-gear for automobiles, a rotating steering-shaft, a threaded portion thereon, an engaging threaded portion supported to oscillate on the body or framework of the vehicle, a thrust-resisting universal bearing, an oscillating member depending below the body or frame of the vehicle and connections to steering-wheels relatively movable with respect to the body.

3. In an automobile, controlling connections including a rotating shaft, an oscillated member connected therewith, a jointed thrust-bearing for said shaft and jointed connection with said oscillating member whereby operation between the two will be effective by the rotation of the steering-shaft irrespecive of their relative displacement out of a common plane, as and for the purpose described.

4. In an automobile, controlling connections including a rotating shaft, a back-lock transmission mechanism, a flexible thrust-bearing and means for displacing the same on the floor or frame of the vehicle, substantially as and for the purpose described.

5. In an automobile, a pillar or shaft for controlling mechanism, means for supporting the same for to-and-fro movement, a latch for locking the same in a predetermined position and a foot-press for engaging the pillar or shaft to press the same out of normal position, and connections whereby the unlocking of the pillar precedes the forward movement of the pillar.

6. In a steering mechanism for motor-vehicles, a floor or frame plate, two bearings on said plate, a lever supported between said bearings, a shaft projecting beyond one of said bearings and a depending arm supported thereby to oscillate a member of the steering connections, the unsupported end of said lever being two-armed and coacting with a traverse member, means for holding said traverse member, means for actuating said traverse member, substantially as shown and described.

7. In a steering mechanism for vehicles, a rotating steering-shaft, a grooved collar on said shaft in proximity to its upper end, an operating hand-wheel at said upper end, operating connections at the lower end of said shaft whereby a rotation of the shaft effects a movement of connections to the steering-wheels.

8. In a steering mechanism for vehicles, a steering-pillar, an operating hand-wheel at the upper end thereof, a grooved collar supported on the pillar in proximity to the upper end, operating connections at the lower end of the pillar whereby rotation of a member of the pillar effects a movement of the connections to the steering-wheels.

9. In a steering mechanism for vehicles, a rotating shaft, an operating hand wheel or lever at the upper end thereof, a grooved collar supported below the hand-wheel, a hinged support whereby said steering-shaft and collar are moved to and fro.

10. In combination in a hinged steering-pillar for vehicles, an operating hand wheel or lever and means adapted for the attachment of an encircling boot or weather-apron.

11. In an automobile steering equipment, rotating steering-shaft, mechanism at the lower end of said shaft coöperating to oscillate a pivoted member, and connections to the steering-wheel, an operating hand wheel or lever at the upper end of said shaft, normally in proximity to the driver's seat, a support on the vehicle-body for a readily-detachable thrust-bearing on said shaft.

806,613. FOLDING EMBALMING-TABLE. COURTNEY C. ALDRICH, Webster Groves, Mo., assignor of one-half to William J. Parker, Webster Groves, Mo. Filed Apr. 3, 1905. Serial No. 253,686.



Claim.—1. In a folding embalming-table, the combination of a central section, an end section hinged to said central section, a second end section free of direct connection to said central section, and throw-rods connecting said end sections and arranged to shift said second end section toward and away from said central section when said first-named end section is unfolded and folded, substantially as set forth.

2. In a folding embalming-table, the combination of a central section, an end section hinged to said central section, a second end section free of direct connection to said central section, throw-rods having leverage connection with said first-named end section, and means connecting said throw-rods and said second end section whereby said second end section is shifted toward and away from said central section and permitted to partake of swinging movement with respect to said central section when said first-named end section is swung with respect to said central section, substantially as set forth.

3. In a folding embalming-table, the combination of a central section, an end section hinged to said central section, levers carried by said end section, throw-rods pivoted to said levers, a second end section free of direct connection with said central section, and means whereby said second end section is swingingly connected to said throw-rods, substantially as set forth.

4. In a folding embalming-table, the combination of a central section, an end section hinged to said central section, levers carried by said end section, throw-rods pivoted to said levers, a second end section free of direct connection with said central section, means whereby said second end section is swingingly connected to said throw-rods, and means for directing the movement of said throw-rods, substantially as set forth.

5. In a folding embalming-table, the combination of a central section, an end section hinged to said central section, levers carried by said end section, throw-rods pivoted to said levers, a second end section free of direct connection with said central section, means whereby said second end section is swingingly connected to said throw-rods, and guide-plates secured to said central section and serving to direct the movement of said throw-rods, substantially as set forth.

6. In a folding embalming-table, the combination of a central section, an end section hinged to said central section, levers secured to said end section, throw-rods pivoted to said levers, a second end section free of direct connection to said central section, shift-bars uniting said throw-rods and said second end section, and means for directing the movement of said throw-rods, substantially as set forth.

7. In a folding embalming-table, the combination of a central section, an end section hinged to said central section, levers secured to said end section, throw-rods pivoted to said levers, guide-plates secured to said central section, slide-links pivoted to said throw-rods and arranged to operate in said guide-plates, a second end section free of direct connection to said central section, and shift-bars pivoted to said slide-links and to said second end section, substantially as set forth.

8. In a folding embalming-table, the combination of a central section, an end section hinged to said central section, levers secured to said end section, throw-rods pivoted to said levers, guide-plates secured to said central section, slide-links pivoted to said throw-rods and arranged to operate in said guide-plates, a second end section free of direct connection to said central section, shift-bars pivoted to said slide-links and to said second end section, and guard-plates secured to said central section and arranged to overlap said throw-rods adjacent to said first-named end section when said sections are in alinement with each other, substantially as set forth.

9. In a folding embalming-table, the combination with the table-sections, of supporting-legs, links swingingly connecting said legs to the sides of said sections, and braces having hinged connection with said legs and with the ends of said sections, substantially as set forth.

10. In a folding embalming-table, the combination with the table-sections, of supporting-legs, links swingingly connecting said legs to the sides of said sections, braces having hinged connection with said legs and with the ends of said sections, and catch-rods carried by said legs and arranged for engagement with said sections to hold the legs in unfolded positions, substantially as set forth.

11. In a folding embalming-table, the combination of table-sections, pairs of legs for supporting said sections, cross-bars uniting each pair of legs, links pivoted to the upper ends of said legs and to the sides of said sections, and braces hinged to the ends of said sections and to the cross-bars connecting the pairs of legs, substantially as set forth.

806,614. STOVE ATTACHMENT. FRANK O. ALIN, Fullerton, N. D. Filed Apr. 8, 1905. Serial No. 254,516.



Claim.—1. A device of the class described comprising a plurality of funnel-shaped heat-deflecting members disposed one above the other, the minor ends of each of said members being disposed within the inclosure of the member next below, said members having alining central openings, an air-tube engaged in the openings, and spring-clips carried by the uppermost members and engaged with the remaining members to hold the several members against separation.

2. A device of the class described comprising a plurality of spaced heat-deflecting members disposed one above the other, the uppermost member being expansible for engagement of its edges with the inner surface of the wall of a stove, means for expanding the member, and spring-clips carried by said member and engaged with the remaining members, said members having openings therethrough for the passage of heat.

3. A device of the class described comprising a plurality of spaced members disposed one above another, said members having openings therethrough in their side portions, the openings of the alternate members lying at opposite sides of the device, and spring-clips carried by the uppermost member, and removably engaged with the remaining members, the several members being adapted for disposal within a stove with their edges in engagement with the walls thereof.

4. The combination with a stove having a continuous groove in the inner surface of its walls, of an expansible heat-deflecting member disposed with its edge portions in the groove, and means for holding the member expanded and against disengagement from the groove.

5. A heat-deflecting member for stoves comprising a circular plate having an opening through its center and having a segmental cut-away portion communicating with its periphery, and with its central opening, said plate being bent to bring the portions at the sides of its cut-away portion into overlapping relation, and means for moving the overlapping portions with respect to each other to increase the circumference of the member.

6. A heat-deflecting member for stoves comprising a circular plate having a central opening and having a segmental cut-away portion therein communicating at its minor end with the circular opening, and at its major end with the periphery of the plate, said plate being bent to bring its end portions at the sides of the cut-away portion into overlapping relation, fingers carried by one end of the plate and extending over the other end, and a cam-disk carried by the plate adjacent to one of its ends and movable to bring its cam-surface into and out of engagement with the other end of the plate to move the overlapping portions with respect to each other.

806,615. PEPSIN PREPARATION. JULIUS ALTSCHUL, Berlin, Germany, assignor to Actien-Gesellschaft für Anilin Fabrikation, Berlin, Germany. Filed July 8, 1905. Serial No. 268,870.

Claim.—1. As a new article of manufacture a preparation consisting of a mixture of pepsin and the hydrochlorid of an aliphatic amido derivative which has no ill effect upon the animal organism, which preparation is stable when preserved and is capable of digesting proteids in the presence of water.

2. As a new article of manufacture a preparation consisting of a mixture of betain hydrochlorid and pepsin, which preparation is stable when preserved and is capable of digesting proteids in the presence of water.

806,616. CHURN. ALFRED J. ANDERSON, Wylie, Minn., assignor of one-half to P. J. Ekstrom, Wylie, Minn. Filed June 1, 1905. Serial No. 263,278.



Claim.—In a churn, a body, a dasher-shaft journaled in said body, the shaft having a series of enlargements to form shoulders arranged one above the other, dashers arranged upon the shaft and supported by the said shoulders, means for operating the shaft and its dashers, and an outlet at the bottom.

806,617. STENCIL-HOLDER. ALWIN R. ANDERS, Lake Linden, Mich. Filed July 22, 1905. Serial No. 270,221.

Claim.—1. A fastening for stencils comprising a strip of sheet metal bent to form a body portion having a holding-arm formed with an opening, a fastening inserted in said opening, and a spring-tongue upon the arm to hold the fastening.



2. A fastening for stencils comprising a spring-clasp having an opening to receive a fastening member and a spring-tongue to hold said member in applied position.

3. A stencil-holder comprising a resilient strip of metal bent to form a clasp to engage the edge of the stencil, and a holding-arm projecting beyond the clasp, said holding-arm being provided with means for retaining a tack or similar fastening.

4. A stencil-holder comprising a resilient metallic strip folded at one end upon itself to form a spring-clasp to engage the edge of the stencil and having its opposite end extended to form an arm, said arm being provided with means for attaching a fastening element thereto.

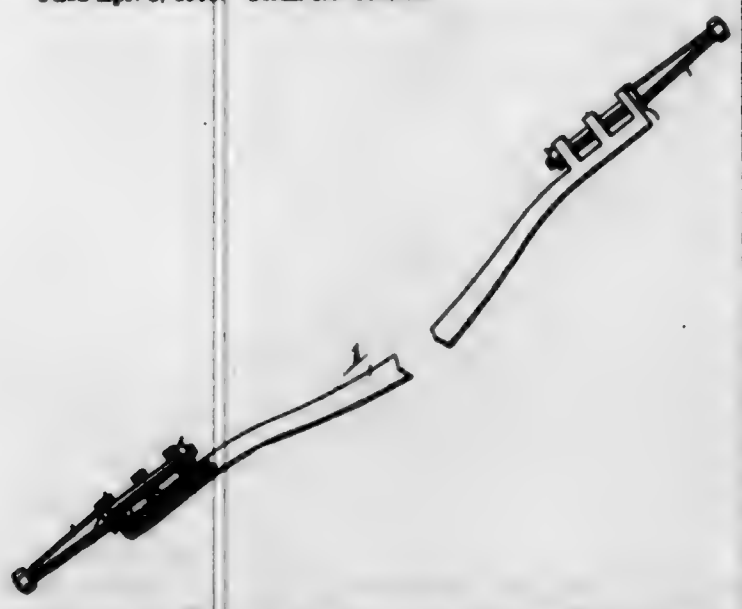
5. A stencil-holder comprising a strip of spring metal bent to fold at one end upon itself to form a spring-clasp to engage the edge of a stencil and having its opposite end extended and offset to form an arm provided with means for detachably connecting a tack or similar fastening thereto.

6. A stencil-holder comprising a resilient metallic strip folded at one end to form a clasp and having its opposite end extended to form an arm, said arm being provided with a spring member to retain a tack or similar fastening in engagement therewith.

7. A stencil-holder comprising a resilient strip of metal bent at one end to form a clasp to engage the edge of a stencil and having its opposite end projecting beyond the clasp to form an arm offset from the plane of the clasp, said arm having a portion bent to form a tack-retaining tongue.

8. A stencil-holder comprising a resilient strip of metal bent at one end to form a clasp and having its opposite end extended in an offset to form an arm, said arm having a tack-receiving opening therein, and a spring-clasp to retain the tack therein.

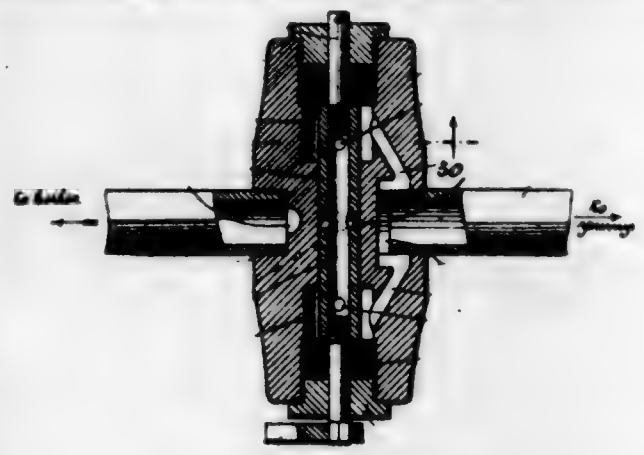
806,618. **VEHICLE-AXLE.** ERNEST T. ATWELL, Waukomis, Okla. Filed Apr. 5, 1905. Serial No. 253,926.



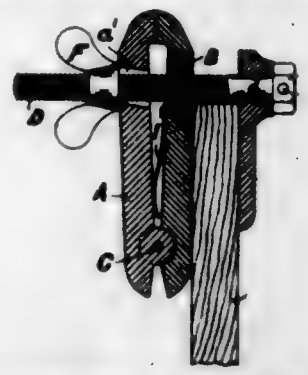
Claim.—The structure herein described comprising a bent axle provided with straight horizontal opposite ends, each having on its upper surface a plurality of vertical upwardly-extending projections arranged one after the other at suitable distances apart thereon, and each of the projections being provided with a decreasing tapered aperture or opening therein, a spindle having a decreasing tapered extension mounted in the tapered openings of the projections, a collar arranged centrally between the spindle and extension, and a nut on the inner end of the extension serving to contact with the outer wall of the inner projection to permit the collar to contact with the outer face of the outer projection, each of the horizontal portions of the axle having a projection arranged centrally between the other or opposite projections which serves to reinforce the central portions of said extensions, substantially as specified.

806,619. **FEED-WATER REGULATOR FOR BOILERS.** JESSE T. AVARY and EDGAR L. THOMAS, Ada, Ind. Ter. Filed Nov. 25, 1904. Serial No. 234,280.

Claim.—A valve for operation in a steam-pipe leading from a boiler to a pump and comprising a casing having chambers near its ends, passages leading to said chambers from the pump side of the steam-pipe, a bore connecting said chambers, a channel to connect the pump side of the steam-pipe with the bore, and a hollow turning plug for operation by a float, said plug having openings to communicate with the channel and being provided near its ends with openings communicating with the chambers in the casing.



806,620. **VISE.** PERCY N. AVERY, Grappenhall, near Warrington, England. Filed Mar. 21, 1905. Serial No. 251,274.



Claim.—1. A vise comprising two jaws (with gripping edges) hinged together at one end, a threaded pin screwed through a threaded hole in one jaw and passing freely through a plain hole in the other, a clamping member mounted at one end of this pin and disposed in a plane parallel to one jaw in such a manner, that by screwing up the pin the said member and jaw can be made to hold tightly on some fixed object, and a nut at the other end of the pin for closing up the other jaw to hold an article between the gripping edges.

2. A vise comprising two jaws or members A B with gripping edges, a pin threaded for its entire length (except at a part close to the head) screwed through a threaded hole in one jaw A below the gripping edges and passing through a plain hole in the other B, a clamping-plate mounted at one end of the pin next the head on the unthreaded part so as to lie parallel to its adjacent jaw B, and the opposing faces toothed or serrated, and a nut at the other end of the pin, whereby by screwing up the pin by its head, the vise can be clamped to some fixed object with the clamp at one side and the jaw B at the other, or by screwing up the nut at the other end of that pin, the other jaw A is—without unclamping the device—closed up to hold an article between its gripping edges.

3. In a device of the character described, the combination of a threaded member, a primary jaw threaded upon said member, a laterally-adjustable, auxiliary jaw positioned upon said member and movably connected to said primary jaw, means for securing said auxiliary jaw in an adjusted position, and a clamp member carried by said threaded member.

4. In a mechanism of the class described, the combination of a primary jaw, a member threaded into said jaw, a clamp member carried by said threaded member, a freely-movable, auxiliary jaw carried by said primary jaw and positioned upon said threaded member, and means for independently adjusting said clamp member and said freely-movable, auxiliary jaw.

5. In a device of the character described, the combination of a revoluble member, primary and auxiliary pivotally-mounted jaws carried by said revoluble member, a clamp member carried by said revoluble member, said clamp member adapted to be adjusted relative to said primary jaw by imparting movement to said revoluble member, and longitudinally-movable means carried by said revoluble member and adapted to adjust said auxiliary jaw relative to said primary jaw.

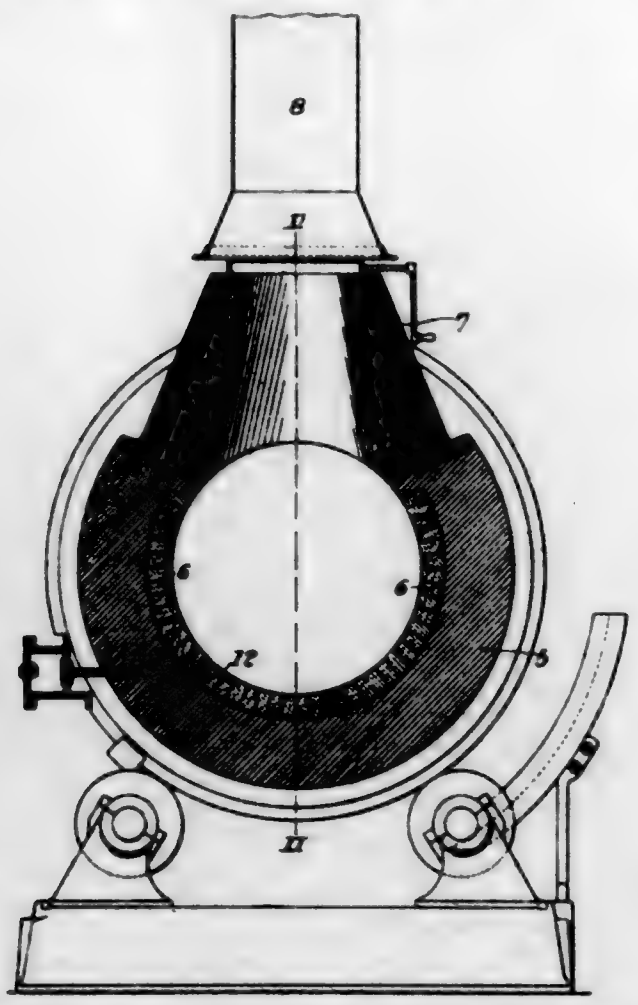
6. In a device of the character described, the combination with a revoluble member, of a pair of jaws mounted upon said revoluble member, revoluble means carried by said revoluble member and adapted to adjust one of said jaws relative to the other jaw, and a clamp member carried by said revoluble member, said clamp member adapted to be adjusted relative to said jaws by means of rotating said revoluble member.

7. In a device of the character described, the combination with a pair of pivotally-connected jaws, a clamp member, a revoluble member extending through said clamp member and said jaws and connecting the same, and independent means for adjusting said jaws and clamp member.

8. In a device of the character described, the combination of a pair of pivotally-connected jaws and a clamp member, a spring interposed between said jaws, revoluble means extending through said clamp member and said jaws, said revoluble means adapted to adjust said clamp member relative to said jaws, and longitudinally-adjustable means carried by said revoluble means and capable of adjusting one of said jaws relative to the other jaw.

9. In a device of the character described, the combination of a clamp member, a pair of jaws, rotary means supporting said clamp member and connecting said jaws, said rotary means adapted to adjust said clamp member, and an independent rotatable member coacting with said rotary means for adjusting one of said jaws.

806,621. **COPPER-REFINING FURNACE.** RALPH BAGGALEY, Pittsburg, Pa. Filed May 1, 1905. Serial No. 258,152.



Claim.—1. A refining-furnace whose walls are composed of metal and a refractory material, the latter being relatively less in thickness than the metal, said furnace having means for supplying heat above the furnace-hearth; substantially as described.

2. A refining-furnace whose walls are composed of a thin acid interior lining and a thick metal wall outside of the lining; substantially as described.

3. In a copper-refining furnace, the combination of a thick metal wall, a relatively thin refractory lining and means for supplying auxiliary heat above the level of the bath; substantially as described.

4. In a copper-refining furnace, the combination of a thick metal wall, a relatively tin refractory lining, means for supplying auxiliary heat above the level of the bath and means for introducing precreated hydrocarbon gas below the level of the bath; substantially as described.

5. In a copper-refining furnace, the combination of thick metal walls built up of comparatively narrow segments, a relatively thin refractory lining, means for supplying auxiliary heat above the level of the bath, and means for introducing precreated hydrocarbon gas below the level of the bath; substantially as described.

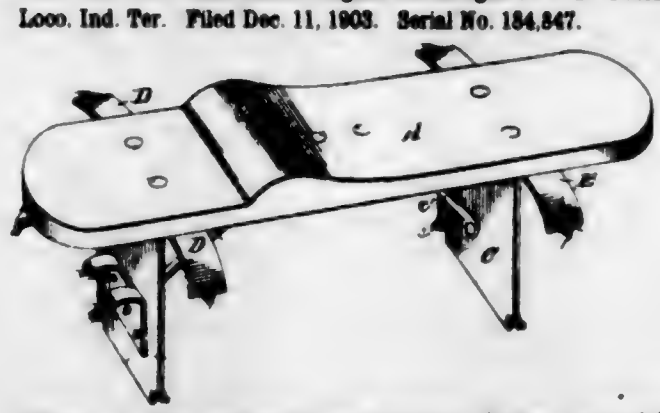
6. In a copper-refining furnace, the combination of thick metal walls built up of comparatively narrow segments, a relatively thin refractory lining, a solid removable metal top of sufficient thickness to withstand and to conserve the internal heat, means for supplying auxiliary heat above the level of the bath, and means for introducing precreated hydrocarbon gas below the level of the bath; substantially as described.

7. In a copper-refining furnace, the combination of thick metal walls built up of comparatively narrow segments, a relatively thin refractory lining, a solid removable metal top of sufficient thickness to withstand and to conserve the internal heat, means for supplying auxiliary heat above the level of the bath, means for introducing precreated hydrocarbon gas below the level of the bath, and means for regulating the escape of hot gases; substantially as described.

8. In a copper-refining furnace, the combination of thick metal walls built up of comparatively narrow segments, a relatively thin refractory lining, a solid removable metal top of sufficient thickness to withstand and to conserve the internal heat, means in one axis of the vessel for supplying auxiliary heat above the level of the bath, means for introducing precreated hydrocarbon gas below the level of the bath, and means for regulating the escape of hot gases; substantially as described.

9. In a copper-refining furnace, the combination of thick metal walls built up of comparatively narrow segments, a relatively thin refractory lining, a solid removable metal top of sufficient thickness to withstand and to conserve the internal heat, means for supplying auxiliary heat above the level of the bath, means for introducing precreated hydrocarbon gas below the level of the bath, means for regulating the escape of hot gases, and means for tipping the vessel either to receive or to pour the charge; substantially as described.

806,622. **ROOF-CLIMBER.** JAMES S. BAKER and CHARLES F. KETCHEM, Cornish, Ind. Ter., assignors of one-third to A. S. Hathaway, Looo, Ind. Ter.; said Baker assignor of his right to J. B. Overstreet, Looo, Ind. Ter. Filed Dec. 11, 1903. Serial No. 184,847.



Claim.—1. The improved roof-climbing device, comprising a foot-piece provided with devices for attachment to the foot of the wearer and having transverse supports provided with claws at their lower corners, the portion intervening said claws being straight to form a tread-surface, and the claws being retracted so that they do not project below the plane of the portion intervening them, substantially as described.

2. The improved roof-climbing device, comprising a foot-piece having foot attachments, vertical supports constructed of plate metal and having their lower corners provided with claws, and laterally-projecting prongs attached to the foot-piece and provided at their ends with claws and lateral shoulders, substantially as described.

3. The improved roof-climbing device, comprising a foot-piece with foot attachments and having vertical supports provided with claws, and heel-claws attached to said foot-piece and the rear support and projecting rearward, substantially as set forth.

806,623. **RESILIENT TIRE.** WILLIAM F. BRADLEY, Plymouth N. C. Filed Feb. 20, 1903. Renewed May 11, 1905. Serial No. 259,987



Claim.—1. A resilient core for a tire consisting of a plurality of sinuous bands of rubber, the apices of the several bands being staggered in respect to each other, substantially as described.

2. A tire consisting of a resilient core formed by a plurality of sinuous bands of rubber, the apices of each band being staggered in respect to each other, and a wearing-section inclosing the resilient core, substantially as described.

3. A resilient core for a tire consisting of a plurality of sinuous bands united together side by side, and so arranged that the apices of the several bands are staggered in respect to each other substantially as described.

4. A resilient section for a tire consisting of a band of rubber, having on its opposite faces a plurality of circumferential series of depressions, the depressions of one series being staggered with respect to the depressions of the adjacent series on the same face of the tire, and being also staggered in respect to the depressions of the corresponding circumferential series on the other face of the tire, substantially as described.

5. A resilient tire-section formed by a band of rubber having in each of its opposite faces a plurality of circumferential series of notches, substantially as described

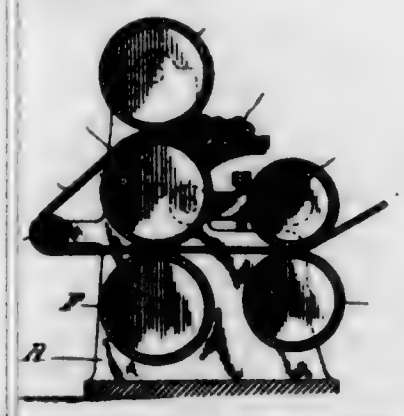
6. A tire consisting of a resilient section formed by a band of rubber having in each of its opposite faces a plurality of circumferential series of notches, and a wearing-section inclosing the resilient section, substantially as described.

806,624. GAME APPARATUS. JOSEPHINE BECKER, Brooklyn, N. Y. Filed Aug. 8, 1905. Serial No. 273,264.



Claim.—A game apparatus comprising a tray divided into a series of compartments of different colors, a series of six dice, each die being six-sided with the sides thereof colored according to the colors of the compartments, and a number of chips of different colors corresponding to the colors of the dice and compartments for disposition within the compartments of like color.

806,625. PROCESS OF MANUFACTURING RUBBER-SHOE UPPERS. EUGENE BECKER, Montreal, Canada. Filed Sept. 19, 1904. Serial No. 225,006.
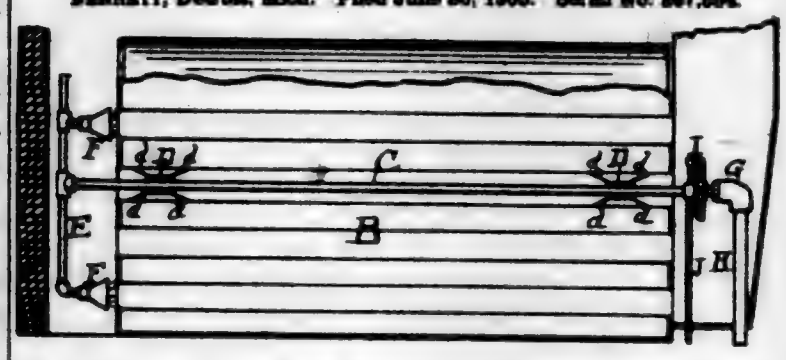


Claim.—1. The herein-described process which consists in reducing rubber stock to a plastic state, forming a sheet of rubber therefrom, forming openings in said sheet, and feeding back to the said sheet the material which is removed therefrom in forming said openings.

2. The herein-described process which consists in reducing rubber stock to a plastic state by the application of heat and pressure, forming a sheet of rubber therefrom, maintaining said sheet in a heated state, forming openings in said sheet, and feeding back to the said sheet the material which is removed therefrom in forming said openings.

3. The herein-described process which consists in reducing rubber stock to a plastic state, forming a sheet of rubber therefrom, forming openings in and embossing lines on said sheet, and feeding back to the said sheet the material which is removed therefrom in forming said openings.

4. The step in the process of forming uppers for rubber shoes comprising passing a sheet of rubber while in a semiplastic and heated condition between rollers which emboss lines thereupon and eliminating part of the said sheet and returning the portion thus eliminated to said sheet while still in a heated condition as it is fed to the rollers whereby the eliminated portion of the sheet is again fed to said embossing-rollers and the sheet of rubber is fed from said rollers with embossed lines thereupon and with portions of said sheet eliminated therefrom.

806,626. REVOLVING BOILER-TUBE BLOWER. JAMES C. BENNETT, Detroit, Mich. Filed June 30, 1905. Serial No. 267,554.



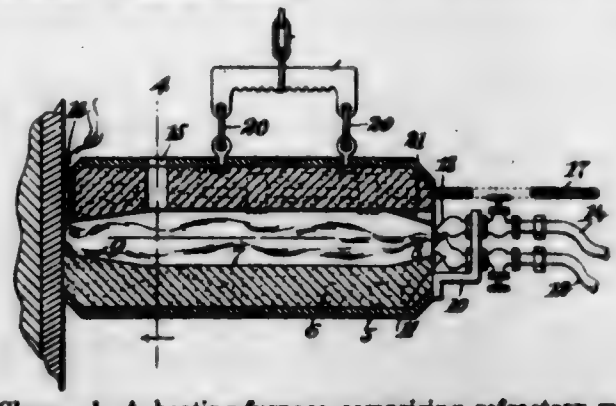
Claim.—In a boiler-tube blower a pipe rotatably supported in a boiler-tube, a cross-arm on the rear end of said pipe, blower-heads mounted on said arm, and a packed elbow on the forward end of said pipe C, and a ratchet and pawl also mounted on said pipe, in combination for operation substantially as and for the purpose set forth.

806,627. DIVIDERS. WILLIAM A. BERNARD, New Haven, Conn., assignor to The William Schollhorn Company, New Haven, Conn. a Corporation of Connecticut. Filed Sept. 25, 1905. Serial No. 280,008.



Claim.—In dividers, or similar articles, the combination with a leg formed with a hollow interior narrowing toward the point of the leg; of a wing; a spring having one end projecting toward and tightly held within the hollow interior near the point of the leg, and the other end bearing against the wing, substantially as described.

806,628. HEATING-FURNACE. WILLIAM H. BEST, Los Angeles, Cal., assignor to John H. Best and Ezra Best, Quincy, Ill. Filed May 30, 1905. Serial No. 262,885.



Claim.—1. A heating-furnace comprising refractory material having a longitudinal opening, the ends of the opening being contracted, the said furnace having a vent near the outlet end and also a vent at the extreme end, and means for introducing a heat-producing agent at the inlet end.

2. A heating-furnace comprising a refractory material having a longitudinal opening, the ends of the opening being contracted, the

said furnace having a vent near the outlet end and also a vent at the extreme end, and a hydrocarbon-burner supported at the inlet end of the furnace.

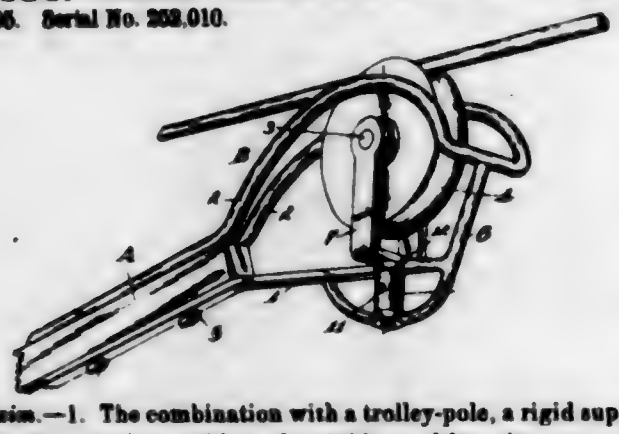
3. A heating-furnace comprising a metal casing, a lining of refractory material therein and having a longitudinal opening the ends of which are contracted or tapered, a vent inward of the outlet end, a vent formed at the end of the outlet portion, a hydrocarbon-burner at the inlet end, and an adjustable suspending device for the furnace.

806,629. **BIT FOR ANIMALS.** PAUL M. BOEHME, New York, N. Y. Filed Mar. 15, 1905. Serial No. 250,174.



Claim.—A bit comprising a supporting-strap having rings, two bars each having an inner member and an outer locking member hinged together, the inner member of each loosely connected to one of the rings of the supporting-strap and the outer locking members passing through said rings and designed to be turned rearwardly to lock the inner members and said rings on the strap in their inner positions, substantially as described.

806,630. **TROLLEY.** AMOS BOFF, Baltimore, Md. Filed Mar. 25, 1905. Serial No. 252,010.



Claim.—1. The combination with a trolley-pole, a rigid support extending from its lower side and a rigid guard from its upper side, of a fork journaled in the support, a trolley-wheel journaled in the fork, the guard arching on each side of the wheel above its center.

2. The combination with a trolley-pole, a rigid support extending from its lower side and a rigid guard from its upper side, of a fork journaled in the support, a trolley-wheel journaled in the fork, the guard arching on each side of the wheel above its center, and means connecting the outer ends of the guard and support.

3. The combination with a frame comprising a support and guard integral with each other, of a fork journaled in the support and carrying a trolley-wheel at a point between the members of the guard, and a centrally-located stop in position to be engaged by the fork to limit its pivotal movement in each direction.

4. The combination with a support, and guard, of a fork journaled in the support, a trolley-wheel journaled upon an axle carried in the fork, and a V-shape stop adjacent to the fork in position to be engaged, by the latter to limit the lateral or pivotal movements of the fork.

5. The combination with a support having a stop thereon, a guard comprising two members bowed laterally and arched upwardly, and a leg extending from the support and sustaining the outer end of the guard, of a fork journaled in the support, an axle carried by the fork and a trolley-wheel mounted on the axle.

6. The combination with a frame comprising a support, a guard, and a leg connecting the support and guard at the rear end, of a trolley-wheel pivotally and revolubly mounted in the support.

806,631. **SOUVENIR MAILING-CARD.** LEO BRAUN, Munich, Germany, assignor to Patent Mailing Souvenir Company, a Corporation of New York. Filed May 20, 1903. Serial No. 159,317.

Claim.—1. A card provided with a recess, and a foldable device containing illustrations or the like, fitted in said recess and a movable cover for closing and opening the recess.

2. A souvenir mailing-card having on one side a place for an address, constructed with a recess and having combined with it, in said recess, an album of views.

3. A souvenir mailing-card having on one side a place for an address, constructed with a depression and having combined with it an album of views contained within the depression, and a movable cover to close the album within the mailing-card.



4. A souvenir mailing-card having on one side a place for an address, constructed with a depression and having combined with it an album of views contained within said depression and with a movable cover countersunk in said depression to close the album within the mailing-card.

5. A souvenir mailing-card having a side upon which to place an address, a flap or cover of less dimension than the card on the side opposite the address side, and a series of pictures beneath the flap or cover and inlaid in the card.

6. A souvenir mailing-card having a side upon which to place an address, a flap or cover of less dimension than the card, countersunk on and flush with the side opposite the address side, and a series of pictures beneath the flap or cover and inlaid in the card.

7. A souvenir mailing-card having a side upon which to place an address, a flap or cover of less dimension than the card, countersunk on and flush with the side opposite the address side, and a series of pictures beneath the flap or cover inlaid in the card, and releasable means for retaining the cover in closed position.

8. A souvenir mailing-card having a side upon which to place an address, a flap or cover of less dimension than the card, countersunk on and flush with a side opposite the address side, and a series of pictures beneath the flap or cover and inlaid in the card; said cover being hinged at one edge to the card and having a releasable catch engaging its other edge for holding the cover closed.

9. A mailing-card provided with a recess, and a foldable device containing illustrations or the like, fitted in said recess and a movable cover for closing and opening the recess.

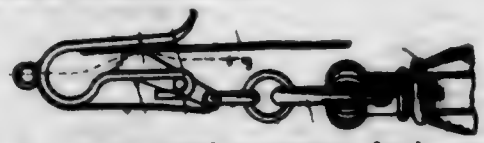
10. A mailing-card closed on one side and provided on its other side with a recess or depression, a movable closure for said recess or depression, and a foldable device adapted to contain illustrations or the like, contained in said recess or depression.

11. A mailing-card closed on one side to provide a place for an address, and provided on its other side with a recess having immovable or rigid walls, and a closure for the recess coextensive with the same and in its closed position flush with the recessed side of the card.

12. A mailing-card closed on one side to provide a place for an address, and provided on its other side with a recess having immovable or rigid walls, and a closure for the recess coextensive with the same and in its closed position flush with the recessed side of the card and means for holding said cover in a locked position and permitting the same to be opened and locked again.

13. A mailing-card closed on one side to provide a place for an address, and provided on its other side with a recess having immovable or rigid walls, and a closure for the recess coextensive with the same and in its closed position flush with the recessed side of the card, and an album of views positioned within said recess.

806,632. **WATCH-GUARD.** CARL BREER, Los Angeles, Cal. Filed Jan. 30, 1905. Serial No. 243,422.



Claim.—1. A watch-guard comprising a hook, a pawl pivotally connected to the hook, a spring attached to the upper bend of the hook and projecting downwardly parallel with the hook and its free end pivoted to the pawl at a point outside of the hook.

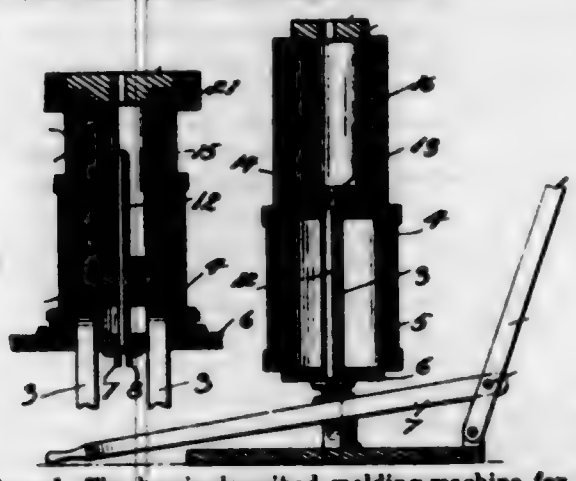
2. A watch-guard, comprising a hook having means for attachment thereto of a watch chain or fob, a pawl pivoted to the hook, a spring attached to the upper bend of the hook and projecting downwardly parallel with the hook and its free end pivoted to the pawl the pawl having lugs by which it is pivoted to the hook

3. A watch-guard, comprising a hook having means for attachment thereto of a watch chain or fob, a pawl pivoted to the hook, a spring attached to the upper bend of the hook and projecting down-

wardly parallel with the hook and its free end pivoted to the pawl, the pawl having lugs by which is is pivoted to the hook, and means pivoted to an end of the pawl for attachment to the ring of a watch.

4. The herein-described watch-guard comprising a hook 4, a spring 6 secured to the hook at one end and provided with a bifurcated shank, a pawl pivotally connected with the hook, and bifurcated shank, said pawl having projecting lugs by which it is pivoted to the hook and a pin connected to an end of the pawl and shank, and means connected with the pin for attaching the guard to the ring of a watch.

806,633. TILE-MAKING MACHINE. LOREN O. BURNHAM, Clare, Mich. Filed Mar. 11, 1905. Serial No. 249,616.



Claim.—1. The herein-described molding-machine for plastic material whereby the same may be held temporarily until set or partially dry, comprising a suitable supporting-base; standards carried by said base; an exterior housing or casing 5; a controlling-lever operatively connected to said housing; a table mounted on said standards; a centering device 12 carried by the bottom of said housing; an auxiliary lever 10 cooperating with the controlling-lever and suitable collapsible molds adapted to rest upon said table and receive said centering device whereby when the controlling-lever is elevated the housing will be brought to surround said molding appliances and secure them in their operative position, all combined substantially as specified and for the purpose set forth.

2. In a molding-machine the combination with a casing; of a table, collapsible molds adapted to be supported by the table, means for moving the casing into position around the molds and a centering device movable with the casing.

3. In a molding-machine the combination with a stationary table and a collapsible mold supported thereby and having apertures in the ends thereof; of a movable casing adapted to surround the molds and a centering device movable with the casing for entering the apertures in the molds.

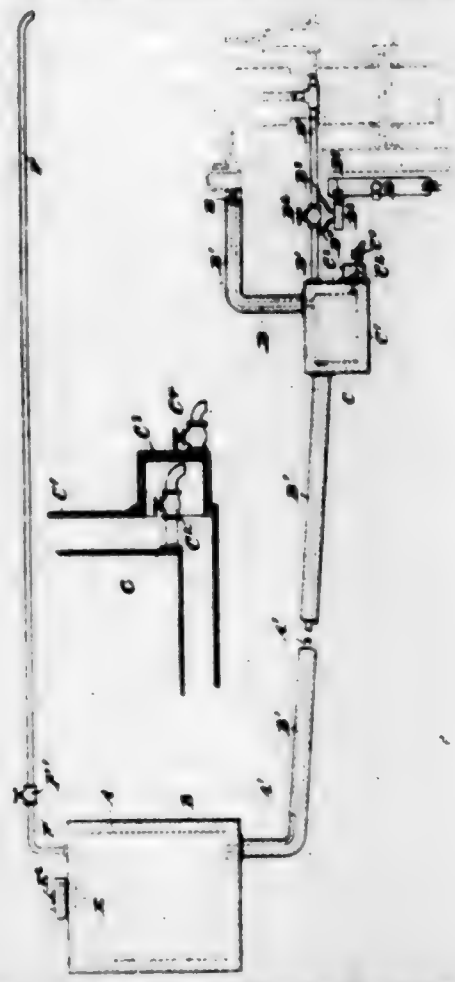
4. In a molding-machine the combination with a table; of an inner mold-casing supported upon the table and having an apertured bottom portion, a jacket surrounding the inner mold-casing, means for securing the jacket around the inner casing, a movable casing for surrounding the mold-jacket, a centering device movable with said casing and adapted to extend through the bottom of the mold and means for operating the movable casing.

806,684. SYSTEM OF STORING AND DELIVERING LIQUID FUEL. CLIFFORD J. CAMPBELL and THOMAS F. HALL, New York, N. Y. Filed Apr. 29, 1905. Serial No. 258,006.

Claim.—1. In an apparatus of the character described, a tank, a casing inclosing said tank, with a space between them, a delivery-pipe from said tank, a pipe inclosing said delivery-pipe and connected to said casing, and means for supplying to such space and inclosing pipe liquid under pressure in excess of the pressure in said tank and delivery-pipe.

2. The system of storing and delivering liquid fuel described, the same consisting of a tank adapted to contain such fuel, a delivery-pipe therefrom, a trap in said pipe, a casing inclosing said tank and pipe and trap with a space between them, and means for supplying a liquid of greater specific gravity than such fuel to said space at a pressure greater than that in said tank, pipe and trap, whereby such heavier liquid admitted by leaks to said tank, pipe or trap will accumulate in the latter below the liquid fuel therein.

3. The system of storing and delivering liquid fuel described, the same consisting of a tank adapted to contain such fuel, a delivery-pipe therefrom, a trap in said pipe, a casing inclosing said tank, pipe, and trap with a space between them, and means for supplying a liquid of greater specific gravity than such fuel to said space at a pressure greater than that in said tank, pipe, and trap, whereby such heavier liquid admitted by leaks to said tank, pipe or trap will accumulate in the latter below the liquid fuel therein, and an alarm actuated by the lowering of the pressure in such space due to such leaks.



4. The system of storing and delivering liquid fuel described, the same consisting of a tank adapted to contain gasolene or analogous liquid fuel, a delivery-pipe therefrom, a casing inclosing said tank and pipe with a space between them, a pipe adapted to supply water under pressure to such space, a valve in said water-pipe, a cylinder, a piston therein, a branch from said water-pipe on each side of said valve and entering said cylinder on opposite faces of said piston, and an alarm actuated by the movement of said piston, whereby a change in pressure in said water-pipe on opposite sides of said valve when the latter is closed, will move said piston and indicate such change.

5. The system of storing and delivering liquid fuel described, the same consisting of a tank adapted to contain gasolene or analogous liquid fuel, a delivery-pipe therefrom, a trap at a low point in said pipe, a casing inclosing said tank, pipe, and trap with a space between them, means for supplying water or other liquid of greater specific gravity than said fuel to said space at a pressure greater than that in said tank, pipe, and trap, a draw-off tap for said trap, and a drain-cock for said casing.

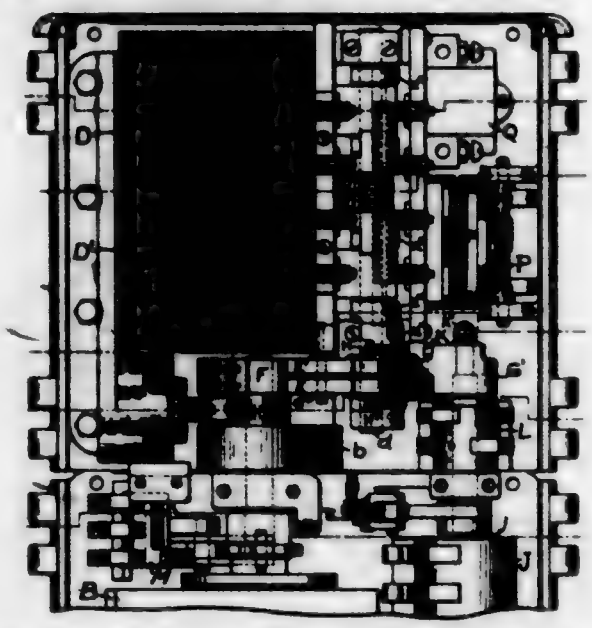
6. The system of storing and delivering liquid fuel described, the same consisting of a tank adapted to contain gasolene or analogous liquid fuel, a delivery-pipe therefrom, a trap at a low point in said pipe, a casing inclosing said tank, pipe, and trap with a space between them, means for supplying water or other liquid of greater specific gravity than said fuel to said space at a pressure greater than that in said tank, pipe, and trap, a draw-off tap in said trap and within said casing, and a removable bonnet on the latter for permitting access to said tap.

7. The system of storing and delivering liquid fuel described, the same consisting of a tank adapted to contain gasolene or analogous liquid fuel, a delivery-pipe therefrom, a trap at a low point in said pipe, a casing inclosing said tank, pipe, and trap with a space between them, means for supplying water or other liquid of geater specific gravity than said fuel to said space at a pressure greater than that in said tank, pipe, and trap, a draw-off tap in said trap and within said casing, a removable bonnet on the latter for permitting access to said tap, and a drain-cock for said space.

8. The system of storing and delivering liquid fuel described, comprising a tank adapted to contain gasolene or analogous liquid fuel, a delivery-pipe therefrom, a casing inclosing said tank and pipe with a space between them, means for supplying water or other liquid of greater specific gravity than said fuel to said space at a pres-

sure in excess of that in said tank and pipe, whereby leaks in said tank and pipe will admit such water thereto, an air-vent in the top of said tank, and a float-valve controlling said vent and arranged to permit air to flow freely therethrough to and from said tank and to prevent the escape of liquid fuel through said vent.

806,835. MOTOR-CONTROL SYSTEM. EUGENE R. CARICHOFF, East Orange, N. J., assignor to General Electric Company, a Corporation of New York. Filed Aug. 4, 1904. Serial No. 219,560.



Claim.—1. In combination, a reversing-switch, two devices controllable from a distance, operative connections between said devices and said switch whereby said switch may be moved to its two operative positions by said devices respectively, and means for breaking the operative connections between one of said devices and said switch when the other of said devices is energized.

2. In a motor-control system, a reversing-switch, a controlling-switch, two devices controllable from a distance and arranged when energized respectively to move said reversing-switch to its two operative positions, means for rendering one of said devices inoperative with respect to said reversing-switch when the other device is energized, and operative connections between both devices and said controlling-switch, whereby said controlling-switch is moved through its operative positions by the repeated energizing and deënergizing of either device.

3. In a motor-control system, a reversing-switch, a controlling-switch, two devices controllable from a distance and arranged when energized respectively to move said reversing-switch to its two operative positions, means for rendering one of said devices inoperative with respect to said reversing-switch when the other device is energized, operative connections between both devices and said controlling-switch whereby said controlling-switch is moved through its operative positions by the repeated energizing and deënergizing of either device, and means at a distant point for energizing either of said devices and maintaining it energized and for repeatedly energizing and deënergizing the other device.

4. In a motor-control system, a reversing-switch, a controlling-switch, two devices controllable from a distance and operatively connected to both switches, and means for rendering one of said devices inoperative with respect to said reversing-switch when the other device is energized.

5. In a motor-control system, a reversing-switch, a controlling-switch, two devices controllable from a distance and operatively connected to both switches, means for rendering one of said devices inoperative with respect to said reversing-switch when the other device is energized, and means at a distant point for energizing either of said devices and maintaining it energized and for repeatedly energizing and deënergizing the other device, the connections between said devices and said controlling-switch being adapted and arranged to produce a step-by-step movement of said switch through its several positions upon the repeated energizing and deënergizing of either of said devices.

6. In a motor-control system, a reversing-switch, a controlling-switch, two electromagnets operatively connected to both switches, means for breaking the operative connection between one of said magnets and the reversing-switch when the other magnet is energized, and a switch at a distant point arranged to close selectively the circuit of either magnet and then to close the circuit of the other.

7. In a motor-control system, a reversing-switch, a controlling-switch, two electromagnets operatively connected to both switches, means for breaking the operative connection between one of said magnets and the reversing-switch when the other magnet is energized, and means for closing the circuit of either magnet and maintaining it closed and for repeatedly making and breaking the circuit of the other magnet, the connections between said magnets and said controlling-switch being arranged to produce a step-by-step movement of said reversing-switch through its several operative positions upon the repeated energizing and deënergizing of either of said magnets.

8. In a motor-control system, two electromagnets, a controlling-switch, operative connections between said magnets and said switch whereby said switch is moved through its operative positions upon the repeated energizing and deënergizing of either of said magnets, a reversing-switch, operative connections between said magnets and said reversing-switch whereby said switch is moved to either of its operative positions upon the selective energizing of said magnets, means for rendering the other magnet inoperative with respect to said reversing-switch when one magnet is energized, witch-contacts controlled by said magnets and arranged to open when said magnets are energized, and a switch at a distant point arranged to close selectively the circuit of either magnet independently of said switch-contacts and then to close the circuit of the other magnet with said contacts in series therewith.

9. In a motor-control system, a reversing-switch, a controlling-switch, two electromagnets operatively connected to both switches, means for breaking the operative connection between one magnet and said reversing-switch when the other magnet is energized, switch-contacts controlled by said magnets and arranged to open when said magnets are energized, and a switch at a distant point arranged to close the circuit of one magnet independently of said switch-contacts and then to close the circuit of the other magnet with said contacts in series therewith.

10. In a motor-control system, a controlling-switch, a spring adapted to hold said switch normally in off position, a ratchet-wheel carried by said controller, two electromagnets, two pawls operatively connected to said two magnets respectively and adapted to engage said ratchet-wheel when said magnets are energized, switch-contacts operatively connected to said magnets and arranged to open when said magnets are energized, and a switch at a distant point arranged to close the circuit of one magnet independently of said contacts and then to close the circuit of the other magnet with said contacts in series therewith.

11. In a motor-control system, a controlling-switch, a spring adapted to hold said switch normally in off position, a ratchet-wheel carried by said controller, two electromagnets, two pawls operatively connected to said two magnets respectively and adapted to engage said ratchet-wheel when said magnets are energized, a reversing-switch, operative connections between both magnets and said reversing-switch, means for breaking the operative connections between one of said magnets and said reversing-switch when the other magnet is energized, and means for selectively energizing either of said magnets and maintaining it energized and for repeatedly energizing and deënergizing the other magnet.

12. In a motor-control system, a controlling-switch, a spring adapted to hold said switch normally in off position, a ratchet-wheel carried by said controller, two electromagnets, two pawls operatively connected to said two magnets respectively and adapted to engage said ratchet-wheel when said magnets are energized, a reversing-switch, operative connections between both magnets and said reversing-switch, means for breaking the operative connections between one of said magnets and said reversing-switch when the other magnet is energized, switch-contacts operatively connected to said magnets and arranged to open when said magnets are energized, and a switch at a distant point arranged to close the circuit of one magnet independently of said contacts and then to close the circuit of the other magnet with said contacts in series therewith.

13. In combination with a motor-controller having a plurality of operative positions, an actuating-electromagnet therefor, connections between said magnet and said controller adapted to produce a step-by-step movement of said controller upon the repeated energizing and deënergizing of said magnet, switch-contacts controlled by said magnet and in circuit therewith and arranged to open when said magnet is energized, switch-contacts controlled by said controller and arranged to open the circuit of the actuating-magnet at predetermined positions of the controller, an electromagnetic device for reëstablishing said circuit, and a switch at a distant point controlling the circuits of said actuating-magnet and said device.

14. In combination with a motor-controller having a plurality of operative positions, means controllable from a distance for moving said controller step by step through said positions, means controlled by the controller for stopping the operation of said moving means at predetermined positions of said controller, a device for setting said moving means again in operation, and means at a distant point for controlling said moving means and said device.

15. In combination with a motor-controller having a plurality of operative positions, an electromagnet operatively connected thereto and adapted when energized to move said controller step by step through said positions, a movable switch member in circuit with said electromagnet, and a cam carried by said controller and controlling the position of said switch member.

16. In combination with a motor-controller having a plurality of operative positions, an electromagnet operatively connected thereto and adapted when energized to move said controller step by step through said positions, a cam carried by said controller, a pivoted switch member in circuit with said electromagnet, and means for holding said member in engagement with said cam.

17. In combination, a casing, a controlling-switch and a reversing-switch journaled therein, two electromagnets mounted on an extension of said casing, and operative connections between both magnets and both switches.

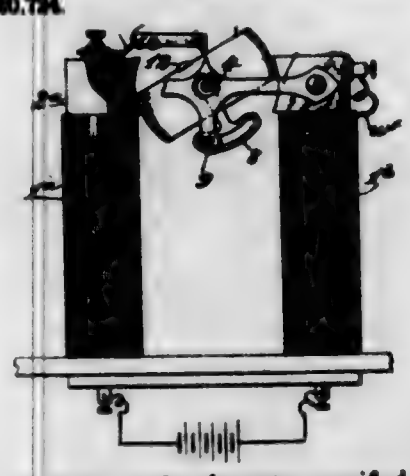
18. In combination, a casing, a controlling-switch and a reversing-switch journaled therein, a ratchet-wheel secured to the shaft of said controller, a member secured to said reversing-switch, two electromagnets mounted on an extension of said casing, two pawls actuated by said magnets respectively and adapted to engage said ratchet, and two members actuated by said magnets respectively and adapted to engage the member secured to the reversing-switch.

19. In combination, a casing, a controlling-switch and a reversing-switch journaled therein, a ratchet-wheel secured to the shaft of said controller, two members on the shaft of said reversing-switch, one secured thereto and the other loose thereon, two electromagnets mounted on an extension of said casing, two pawls actuated by said magnets respectively and adapted to engage said ratchet, and two levers actuated by said two magnets respectively and each adapted to engage both members on the shaft of the reversing-switch, the loose member being adapted when engaged by one lever to prevent the engagement of the other member by the other lever.

20. In combination, a reversing-switch, two members on the shaft thereof, one fast and one loose thereon, and two separately-actuated devices each adapted to engage both said members, the loose member being adapted when engaged by one device to prevent the engagement of the other member by the other device.

21. In a system of motor control, a reversing-switch, two members on the shaft thereof, one fast and one loose thereon, two electromagnets, and two devices operatively connected to said two magnets respectively and each adapted to engage both of said members, the loose member being adapted when engaged by one device to obstruct the engagement of the other member by the other device.

806,636. **ELECTROMAGNETIC VIBRATOR.** RAGNAR CARLSTEDT, Jersey City, N. J. Filed Aug. 22, 1904. Renewed May 16, 1905. Serial No. 260,724.



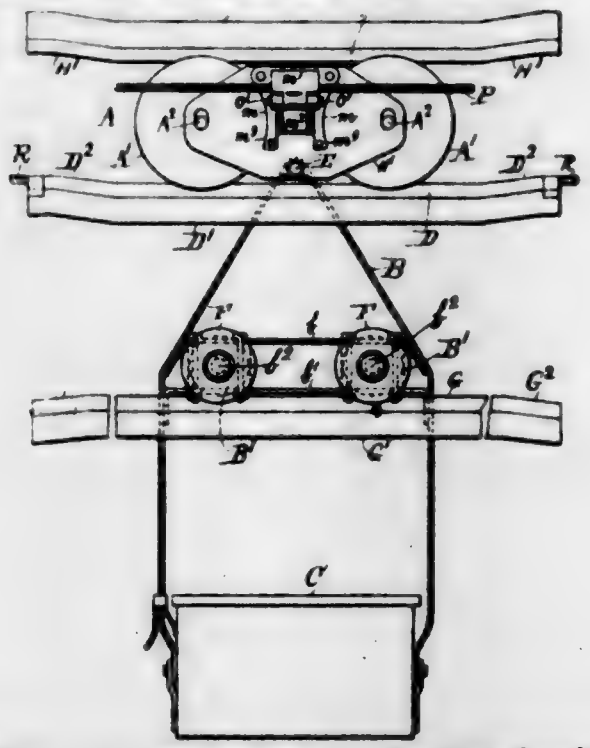
Claim.—1. A device of the character specified, comprising an electromagnet, having a terminal which contains iron and which is movable in one direction when the magnet is excited, antagonistic means for moving said terminal in the other direction when the excitation ceases, another terminal which contains iron and is within the field of force, one of said terminals being in the path of the other and their contact effected by the said antagonistic means, means antagonistic to the magnetic attraction operating on one of said terminals, and means for breaking the magnet-circuit, one of said terminals being held in rubbing contact with the other by magnetic attraction during the entire period of excitation.

2. A device of the character specified, having an electromagnet with iron terminals in its circuit, which are put in contact by the movement of the armature and held in rubbing contact during the movement of the armature under the influence of magnetic attraction, a spring which antagonizes the attraction of one terminal to the other, and means, controlled by the armature for breaking the magnet-circuit.

3. An electromagnetic vibrator, having a horseshoe-magnet with pole-pieces, a rocking armature between said pole-pieces, an armature-spring antagonizing the attraction of the pole-pieces, a contact-piece forming one of the terminals of the magnet-circuit and having iron within the field of force of the magnet, said contact-piece being provided with a spring, which antagonizes the magnetic attraction, and being held in contact with the other iron terminal of the magnet-circuit when the armature is moving under the influence of the pole-pieces, and means controlled by the movements of the armature for making and breaking the circuit.

4. An electromagnetic vibrator, having a horseshoe-magnet with pole-pieces, a rocking armature between said pole-pieces, a contact-piece, of iron, forming one of the terminals of the magnet-circuit, said contact-piece being adapted to close the circuit by contact with the armature, which forms the other terminal of the circuit, when the armature is rocked by its spring, a spring which antagonizes the effect of magnetic attraction on the contact-piece, and a piece of insulating material in the armature in the path of the contact-piece, for breaking the circuit.

806,637. **CARRIAGE FOR TRACK-CABLES.** CHARLES A. CASE, Trenton, N. J. Filed Apr. 16, 1904. Serial No. 203,393.



Claim.—1. In a carriage the combination of wheels and sides, a gripping device connected up with the carriage, means to operate the said device, the said means actuated by moving the wheels of the carriage, in lines at right angles to a plane passing through the axial lines of their axles.

2. In a carriage the combination of a gripping device, side plates having slots, inner plates adjacent to the side plates, axles connected with the inner plates and capable of moving in the slots in the side plates, in directions perpendicular to a plane passing through the axial lines of the axles, and wheels on the axle.

3. In a carriage the combination of wheels and sides therefor, a guide-block connected up with the carriage, a gripping device for a traction-rope connected to the carriage, a pin guided by the guide-block, means to locate the pin in different positions in the guide-block to lock and unlock the gripping device with its traction-rope, connections between the pin and the said gripping device.

4. In a carriage the combination of a gripping device for a traction-rope, a guide-block connected up with the carriage, a pin arranged to move in a guide in the guide-block, parallel vertical walls in the guide-block for the pin, connections between the pin and the gripping device.

5. In a carriage the combination of a gripping device for a traction-rope, a movable jaw in the said gripping device, a guide-

block connected up with the carriage, a pin arranged to move in a guide in the guide-block, connections between the said pin and the movable jaw, means to move the pin to different positions in the guide of the guide-block.

6. In a carriage the combination of sides, a gripping device for a traction-rope on the carriage, a movable jaw in the said gripping device, a cover-plate connecting the said sides, links swinging from the cover-plate, a guide-block having a guide-opening connected up with the carriage, a pin capable of moving in the said guide-opening, and the pin connected with the said links, other links connecting the pin with the movable jaw, means to move the pin in the guide-opening to different positions therein, and actuate the movable jaw of the gripping device.

7. In a carriage the combination of sides, and wheels movable relatively to said sides, a movable jaw of a gripping device pivoted to the carriage, a pin supported in a bearing rigidly connected to the said sides, linked connections between the movable jaw and the said pin, means to move the said linked connections and thereby the movable jaw, by the said movement of the wheels relatively to the sides of the carriage.

8. In a carriage the combination of wheels and sides therefor; a movable jaw of a gripping device pivoted to the carriage; a pin supported in a bearing rigidly connected to the said sides; links between one end of the movable jaw and the said pin; a second pin connecting the links; a guide-block arranged to move with the wheels, and having a guide-opening for the said second pin, to guide the latter when the wheels are moving relatively to the sides.

9. In a carriage the combination of sides having slots, inner plates for the carriage adjacent to the sides, a guide-block supported by the inner plates, a stationary jaw of a gripping device fastened to the sides, a movable jaw pivoted to the said stationary jaw, a guide-block having a guide-opening fastened to the inner plates, a pin passing through the said opening, a bearing connected to the sides of the carriage, a pin supported in said bearing, linked connections between the two said pins, and linked connections between the pin in the guide-opening and the movable jaw, wheels for the carriage, axles for the wheels moving with inner plates and in the slots of the sides.

10. In a carriage the combination of wheels and sides therefor, a stationary jaw of a gripping device connected to one of the said sides, movable plugs connected up with the said stationary jaw, a pivot eccentrically supported in the plugs, a movable jaw of the gripping device supported on the said pivot.

11. In a carriage the combination of sides, inner plates adjacent to the sides, the plates and sides arranged to move relatively to each other, wheels for the carriage connected up to move with the inner plates, a guide-block connected to the inner plates and having a guide-opening, a gripping device with a movable jaw connected to the carriage, a pin in the said guide-opening, linked connections between the pin and the end of the movable jaw, a second pin supported in a bearing connected with the sides of the carriage, linked connections between the two pins, a seat formed in the guide-opening for the pin passing therethrough when the jaws are closed, and sides of the opening extending above said seat to prevent lateral movement of the pin when in its seat, the continuation of said sides in the opening formed, to allow a vertical and lateral movement of the pin in the said guide-opening, and thereby open the jaws.

12. In a carriage the combination of side plates having slots, and inner plates adjacent to the side plates, supports held in the inner plates and capable of moving in the slots in the side plates, an axle carried in a pair of the supports, a bushing on the axle, means to clamp the pair of supports and said bushing together, a wheel turning on the bushing.

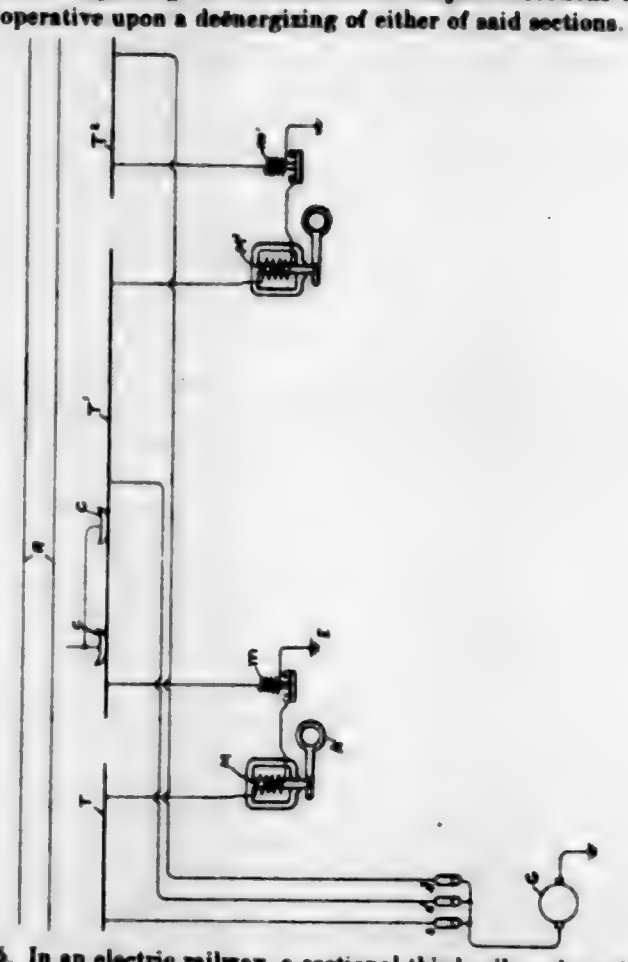
806,838. SIGNAL FOR SECTIONAL CONDUCTORS. FRANK E. CASE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 21, 1904. Serial No. 209,108.

Claim.—1. In combination with a sectional conductor, magnet-windings connected to adjacent sections of said conductor, and a signal controlled by said windings and operative upon a deenergizing of either winding.

2. In combination with a sectional conductor, an electroresponsive signaling device having windings connected to adjacent sections of said conductor and operative upon a deenergizing of either of said windings.

3. In an electric railway, a sectional third rail, and an electroresponsive signaling device having windings connected to adjacent sections of said third rail and operative upon a deenergizing of either or both of said windings.

4. In an electric railway, a sectional third rail, and an electroresponsive signaling device connected to adjacent sections thereof and operative upon a deenergizing of either of said sections.



5. In an electric railway, a sectional third rail, and an electroresponsive signaling device having two windings connected respectively between adjacent sections of said third rail and the opposite polarity of the system and operative upon a deenergizing of either or both windings.

6. In combination with a sectional conductor, a source of current-supply, means for connecting the sections of said conductor to one terminal of said source of supply, an electrical connection between each of a plurality of sections and the other terminal of said source of supply, a signal, and an electromagnetic controlling apparatus for said signal having a winding in each of said latter connections.

7. In an electric railway, a sectional third rail, a source of current-supply, means for connecting the sections of said third rail to one terminal of said source of supply, electrical connections between each of two adjacent sections and the other terminal of said source of supply, a signal, and an electromagnetic controlling apparatus for said signal having a winding in each of said latter connections.

806,639. ADJUSTABLE CONTROLLER-FINGER. FRANK E. CASE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 19, 1904. Serial No. 217,264.



Claim.—1. A contact-finger embodying a resilient contact member, a support, and means for changing the inclination of the resilient member with respect to its support without altering the effective tension of the resilent member.

2. A contact-finger embodying a resilient member fixed at one end to a support, and means for changing the inclination of the resilient member with respect to its support without altering the effective tension of the resilient member.

3. A contact-finger embodying a resilient member and its support, a rigid member, and adjusting means between the rigid member and the support, said rigid and resilient members being secured together at a point intermediate the support and the adjusting means.

4. A contact-finger embodying a resilient member, a rigid member mounted thereon, a support for the resilient member, and adjusting means between said support and the rigid member,

5. A contact-finger embodying a resilient member, a rigid member secured to the resilient member at one point and normally out of engagement therewith throughout the remainder of its length, a support, and adjusting means between the support and said rigid member.

6. A contact-finger embodying a resilient member, a rigid member secured at one end to the resilient member and normally out of contact therewith throughout the remainder of its length, means for adjustably fixing the rigid member, and a stop on one of said members for limiting the relative movements thereof.

7. A contact-finger embodying a resilient member and its support, a rigid member mounted upon the back of the resilient member and adjustably connected with said support, and a stop on one of said members for limiting the forward movement of the resilient member with respect to the rigid member.

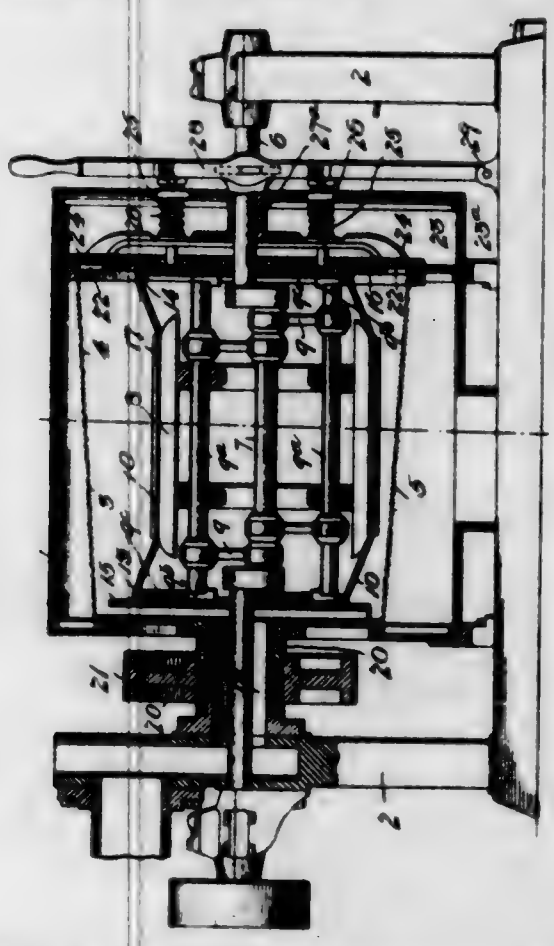
8. A contact-finger embodying a resilient member and its support, a rigid member secured to said resilient member near its fixed end and extending toward the free end of the resilient member but out of contact therewith, a lug upon the resilient member for engaging the rigid member to limit the relative movements of the two members, and an adjustable connection between the rigid member and the support.

9. A contact-finger embodying a resilient member and its support, means for placing said member under an initial tension, and means for changing the inclination of the resilient member with respect to its support without altering the initial tension of the resilient member.

10. A contact-finger embodying the contact member and its support, an adjusting member and its support, an adjusting-screw between said member and the support, and a spring-catch for locking the adjusting-screw in position.

11. A contact-finger embodying the contact member and its support, an adjusting member and its support, an adjusting-screw between said contact member and the support, fixed collars for preventing axial movement of the screw, and a catch for normally preventing rotary movement thereof.

806,640. **PULP-SCREEN.** FRANK M. CHAPMAN, Fort Edward, N. Y., assignor of one-third to William J. Gallagher, Sandyhill, N. Y. Filed Dec. 31, 1904. Serial No. 239,194.



Claim.—1. In a machine of the character described, the combination with a cylindric screen, of a flexible diaphragm arranged within said screen longitudinally thereof, and a rotary shaft in said screen having means to cause said diaphragm to vibrate.

2. In a machine of the character described, the combination with a screen, of a double flexible diaphragm and a rotary shaft arranged between the folds of said diaphragm and having means to cause said diaphragm to vibrate.

3. In a machine of the character described, the combination with a cylindric screen, of a double flexible diaphragm and a rotary shaft arranged between the folds of said diaphragm and having means to cause said diaphragm to vibrate.

4. In a machine of the character described, the combination with a cylindric screen, of a double flexible diaphragm arranged therein, and a rotary shaft having an offset arranged between the folds of said diaphragm.

5. In a machine of the character described, the combination with a revoluble cylindric screen, of a double flexible diaphragm arranged therein and a rotary shaft having an offset arranged between the folds of said diaphragm.

6. In a machine of the character described, a cylindric screen in two sections and a flexible diaphragm having its edges fastened between the edges of said sections of the screen and extending across within said screen.

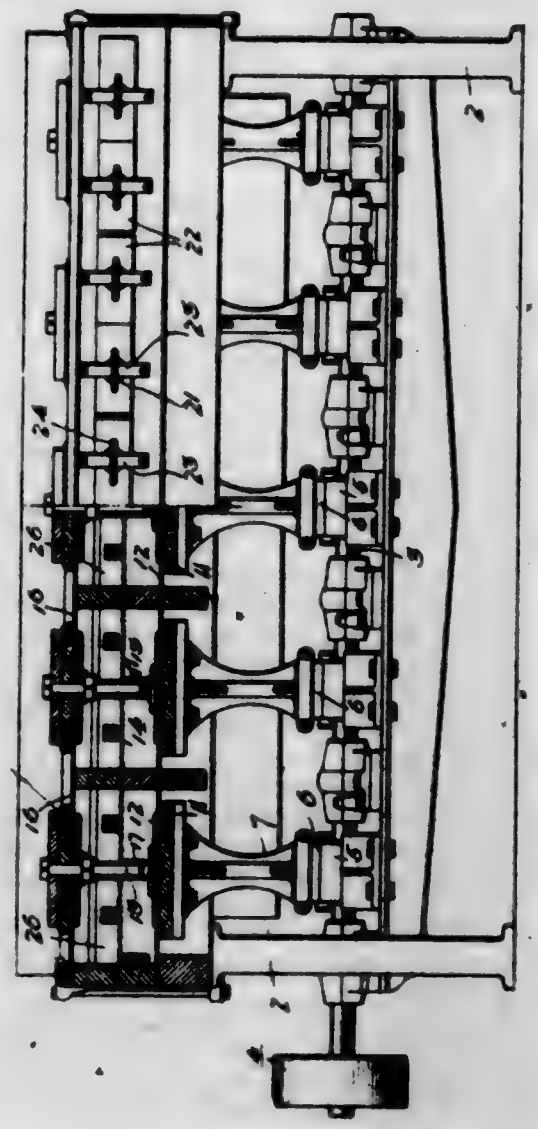
7. In a machine of the character described, a cylindric screen in two sections and a flexible diaphragm having its edges fastened between the edges of said sections of the screen and extending across within said screen, and means to cause said diaphragm to vibrate.

8. In a machine of the character described, the combination with a cylindric screen, of a double flexible diaphragm arranged therein and a rotary shaft having an offset carrying a wheel frame or bearing, said shaft arranged between the folds of said diaphragm.

9. In a machine of the character described, the combination with a screen having a flexible diaphragm arranged therein and means to vibrate said diaphragm, said screen having a series of apertures around the edge of one end plate thereof for the escape of the sliver, of means to normally close said apertures and means to simultaneously remove said closure from all of said apertures to clean out said screen.

10. In a machine of the character described, the combination with a screen having a flexible diaphragm arranged therein and a longitudinally-arranged shaft therein carrying means to vibrate said diaphragm, said screen having a series of apertures around the edge of one end plate thereof for the escape of the sliver, of a plate adapted to cover all of said apertures and having a central sleeve fitting around said shaft, said plate adapted to move on pins passing therethrough against coiled springs arranged around said pins, and a lever pivoted to a fixture and connecting with the sleeve on said plate whereby the latter may be withdrawn to uncover said apertures.

806,641. **PULP-SCREEN.** FRANK M. CHAPMAN, Fort Edward, N. Y., assignor of three-fourths to William J. Gallagher, Sandyhill, N. Y. Filed Apr. 3, 1905. Serial No. 253,519.



Claim.—1. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged above said plate, and means to reciprocate said diaphragm.

2. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged above and parallel to said screen-plate, and means to reciprocate said diaphragm.

3. In a machine of the character described, the combination with a screen-plate, of a series of diaphragms arranged above said plate, and means to reciprocate said diaphragm.

4. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged below said plate, a second diaphragm arranged above said plate, and means to reciprocate said diaphragms.

5. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged below said plate, a second diaphragm arranged above said plate, and means to reciprocate said diaphragms together.

6. In a machine of the character described, the combination with a screen-plate, of a series of diaphragms arranged below said plate, a second series of diaphragms arranged above said plate, means to reciprocate said diaphragms.

7. In a machine of the character described, the combination with a screen-plate, of a series of diaphragms arranged below said plate, a second series of diaphragms arranged above said plate, and means to reciprocate said diaphragms together in pairs.

8. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged below and parallel to said plate, a second diaphragm arranged above and also parallel with said plate, and means to reciprocate said diaphragms.

9. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged below and parallel to said plate, a second diaphragm arranged above and also parallel to said plate, and means to reciprocate said diaphragms simultaneously.

10. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged above said plate, a pitman adapted to reciprocate said diaphragm and extending through said plate, and means to reciprocate said pitman.

11. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged above said plate, a pitman adapted to reciprocate said diaphragm, extending through said plate, a sleeve on said plate, fitting around said pitman and adapted to guide the same, and means to reciprocate said pitman.

12. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged above said plate, a pitman adapted to reciprocate said diaphragm and extending through said plate, a laterally-extending guard, on said pitman, mounted around a pin secured to a fixture, a coiled spring on said pin adapted to press down on said guard, and cam mechanism to reciprocate said pitman.

13. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged below said plate, a pitman adapted to reciprocate said diaphragm, a laterally-extending guard, arranged on said pitman, mounted around a pin secured to a fixture, a coiled spring on said pin, adapted to press down on said guard, and cam mechanism to reciprocate said pitman.

14. In a machine of the character described, the combination with a screen-plate, of a diaphragm arranged below said plate, a second diaphragm arranged above said plate, a pitman secured to one of said diaphragms and having an arm extending through said screen-plate and connecting said diaphragm, and means to reciprocate said pitman.

15. In a machine of the character described, the combination with a diaphragm arranged below said plate, a second diaphragm arranged above said plate, a pitman secured to one of said diaphragms and having an arm extending through said plate and connecting said diaphragms together, a sleeve on said screen-plate fitting around said arm and acting as a guide for the same, and means to reciprocate said pitman.

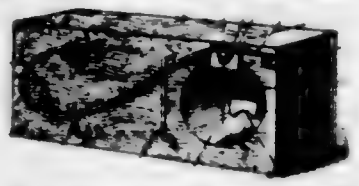
16. In a machine of the character described, the combination with a casing having an opening on its side, of a screen-plate arranged in said casing on a level with said opening, a spring-pressed closure for said opening, a scraper, and a rod, for operating said scraper, extending through said closure and having a lug or projection, arranged near the scraper, adapted to engage with said closure to remove the same from the opening to permit of the removal of the refuse from the screen.

17. In a machine of the character described, the combination with a casing having an opening in its side, of a screen-plate arranged in said casing on a level with said opening, a bracket secured to said casing, a spring arranged between said bracket and said closure whereby the latter is pressed over said opening, a scraper, and a rod, for operating said scraper, extending through said closure and having a lug or projection, arranged near the scraper, adapted to engage said closure to remove the same from the opening to permit of the removal of the refuse from the screen.

18. In a machine of the character described, the combination with a casing having an opening in its side, of a screen-plate arranged in said casing on a level with said opening, a bracket on said casing, a closure for said opening, a scraper, a rod, for operating said scraper, extending through said closure and bracket, a coiled spring arranged around said rod between said bracket and closure, whereby the latter is pressed over said opening, said rod having a lug or projection, arranged near the scraper, adapted to engage said closure to remove the same from the opening to permit of the removal of the refuse from the screen.

19. In a machine of the character described, the combination with a casing having an inlet-opening, a screen-plate arranged in said casing, and a strip arranged within the casing near the inlet-opening and extending above said opening, for the purpose specified.

806,642. **ANIMAL-TRAP.** RAPHAEL CHASSE, Middletown, N. Y., assignor to Chasse Manufacturing Company, Middletown, N. Y., a Corporation of New York. Filed Mar. 27, 1905. Serial No. 252,144.



Claim.—1. In an animal-trap, the combination with a body formed with a bait-receptacle, of a spring secured at one end to said body and a tripping-arm pivoted to said body and extending inwardly into said receptacle, and with which tripping-arm engages the free end of said spring, the metal of the pivoted end of said tripping-arm being struck inwardly to form a bearing-point, substantially as described.

2. An animal-trap, comprising a body formed with a bait-receptacle, a tripping-arm and spring engaging therewith, said tripping-arm being formed with two openings therein for the passage of a retaining-staple, the metal between and below said openings being struck inwardly to form a bearing-point for said tripping-arm, substantially as described.

3. An animal-trap comprising a body formed with a bait-receptacle, a spring secured thereto and a tripping-arm, one end of said tripping-arm being formed with two circular openings for the passage of a retaining-staple, the metal between and below said openings being struck inwardly to form a bearing, the metal of the bearing gradually increasing in height to the highest point and then sharply bent to merge into the arm, substantially as described.

806,643. **SCREW CONVEYER.** ORONAN L. CHATFIELD, Indianapolis, Ind. Filed Sept. 11, 1905. Serial No. 277,960.



Claim.—1. The combination, in a screw conveyer, of the screw, its shaft, a casing therefor having a discharging-mouth at each end, a train of reversing-gears carried by the casing and adapted to be shifted by a longitudinal movement of the shaft, and clutching devices adapted to be thrown into and out of engagement by the longitudinal movement of the shaft.

2. The combination, in a screw conveyer, of the screw, its shaft, a casing therefor having a discharging-mouth at each end, a train of reversing-gears adapted to be shifted by a longitudinal movement of the shaft, a valve adapted to close one of said mouths, a connection between said valve and said shaft, and clutching devices adapted to be thrown into and out of engagement by the longitudinal movement of the shaft.

3. The combination, in a screw conveyer, of the casing having a discharging-mouth at each end, a shaft adapted to be moved longitudinally in its bearings, a screw mounted on said shaft in such relation to one of said mouths that it will extend across said mouth when the shaft is moved to one position and leave said mouth open when the shaft is moved to the other position, and suitable reversing-gears adapted to be actuated by the longitudinal movement of the shaft,

whereby the screw is rotated in one direction when in one position and in the other direction when in the other position.

4. The combination, in a screw conveyer, of the casing having a discharging-mouth at each end, a shaft adapted to be moved longitudinally in its bearings, a screw mounted on said shaft in such relation to one of said mouths that it will extend across said mouth when the shaft is moved to one position and leave said mouth open when the shaft is moved to the other position, suitable reversing-gears adapted to be actuated by the longitudinal movement of the shaft whereby the screw is rotated in one direction when in one position and in the other direction when in the other position, and a detent for holding the shaft to position when shifted.

5. The combination, in a screw conveyer, of the casing having a discharging-mouth at each end, a shaft adapted to be moved longitudinally in its bearings, a screw mounted on said shaft in such relation to one of said mouths that it will extend across said mouth when the shaft is moved to one position and leave said mouth open when the shaft is moved to the other position, suitable reversing-gears adapted to be actuated by the longitudinal movement of the shaft whereby the screw is rotated in one direction when in one position and in the other direction when in the other position, and a handle for shifting said shaft from one position to the other.

6. The combination, in a screw conveyer, of the casing having a discharging-mouth at each end, a shaft adapted to be moved longitudinally in its bearings, a screw mounted on said shaft in such relation to one of said mouths that it will extend across said mouth when the shaft is moved to one position and leave said mouth open when the shaft is moved to the other position, suitable reversing-gears adapted to be actuated by the longitudinal movement of the shaft whereby the screw is rotated in one direction when in one position and in the other direction when in the other position, and a valve operated by said shaft for closing and opening said mouth.

7. The combination, in a screw conveyer, of the casing having a discharging-mouth at each end, a shaft adapted to be moved longitudinally in its bearings, a screw mounted on said shaft in such relation to one of said mouths that it will extend across said mouth when the shaft is moved to one position and leave said mouth open when the shaft is moved to the other position, suitable reversing-gears adapted to be actuated by the longitudinal movement of the shaft whereby the screw is rotated in one direction when in one position and in the other direction when in the other position, and a valve operated by said shaft for closing and opening said mouth, the engagement between said valve and said shaft being by means of an annular groove or collar on the shaft and a bar secured to said valve and entering said groove.

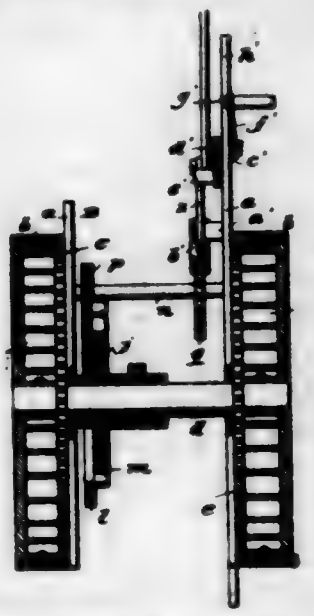
8. The combination of a casing or framework, a train of gears mounted loosely in bearings carried thereby, a shaft running loosely in bearings formed in the hubs of the two gears which are in line, and clutch members rigidly secured to the shaft outside the gears and adapted to engage with the adjacent ends of the gear-wheel hubs, which form the other clutch members, the engagement and disengagement being effected by longitudinal movement of the shaft itself.

9. The combination of a casing or framework, a train of gears mounted loosely in bearings carried thereby, the hubs of two oppositely-disposed gears forming also clutch members, a shaft running loosely in bearings formed in said hubs, clutch members rigidly secured to the shaft and adapted to engage with said clutch members on said hubs, and means for moving said shaft longitudinally in its bearings, thus engaging one set of clutches when moved in one direction and engaging the other set of said clutches when moved in the other direction, whereby the direction of rotation of the shaft is reversed by a longitudinal movement of the shaft itself.

10. The combination of a casing or framework, a train of gears loosely mounted in bearings carried thereby, a shaft running loosely in bearings formed in the hubs of two of said gears, clutching devices operated to engage said shaft and one or the other of said gears by a longitudinal movement of said shaft, and a bearing in said casing or framework distant from said gears in which the free end of said shaft runs, said bearing being sleeve-like in form and projecting inwardly toward said gears, whereby said shaft when moved toward said distant bearing is kept from projecting objectionably beyond said bearing.

11. The combination of a casing or framework having a discharging-mouth at each end and a receiving mouth or hopper at one end, a screw conveyer in said casing extending between said discharging-mouths, a shaft to said screw conveyer, a train of gears for operating and reversing said shaft, means for shifting the reversing mechanism operated by longitudinal movement of the shaft itself, a valve to the discharging-mouth which is opposite the receiving-mouth, and connections between said valve and said shaft.

806,644. SPRING-MOTOR. JAMES T. COXEN, Sidebura, Va. Filed Nov. 3, 1904. Serial No. 231,294.



Claim.—1. In a spring-motor the combination of a suitable frame, a shaft journaled therein, one or more springs for rotating said shaft, an escapement comprising a toothed wheel mounted in the frame, a lever also mounted in the frame, and a pallet carried by the lever and having ends arranged to alternately engage a tooth of the wheel, a driving connection intermediate the spring-actuated shaft and the toothed wheel of the escapement, a bar fixed with respect to the frame, a shaft journaled in the said bar, an arm carried by said shaft and arranged to be moved into and out of engagement with the lever of the escapement, and an arm carried by the shaft and having a projection adapted to be sprung into and out of engagement with the opposite edges of the bar.

2. In a motor, the combination with an escapement comprising a toothed wheel, a lever, and a pallet carried by said lever and having ends adapted to alternately engage a tooth of the wheel; of means connected with and adapted to rotate the said toothed wheel, a fixed bar, and a shaft mounted in the bar and having an arm arranged to be sprung into and out of engagement with opposite edges of the bar, and also having an arm for locking the pallet-lever of the escapement against movement when desired.

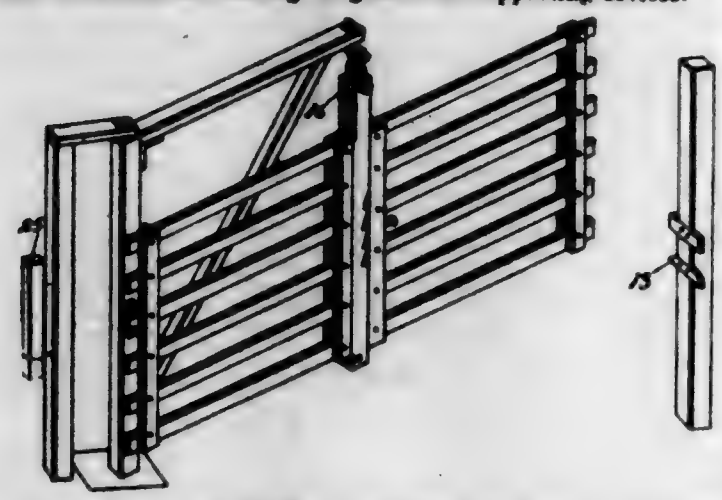
3. In a spring-motor, the combination of a main frame, housings fixed to the frame at opposite sides of the same and arranged so as to afford spaces between their inner edges and the frame sides, a shaft journaled in the frame, springs disposed in the housings and connected at one end thereto and at their opposite ends to the shaft, spur-gears fixed on the shaft and interposed between the inner edges of the housings and the frame sides, a shaft journaled in the frame and having pinions intermeshed with the spur-gears, a ratchet-wheel fixed on the shaft connected to the springs, a wheel loosely mounted on said shaft and having one or more pawls arranged to be engaged by the teeth of the ratchet-wheel, an escapement comprising a toothed wheel, a lever, a pallet carried by said lever and having ends arranged to alternately engage a tooth of the wheel, a driving connection intermediate the wheel on the spring-actuated shaft and the toothed wheel, a fixed bar, and a shaft mounted in the bar having an arm arranged to be sprung into and out of engagement with opposite edges of the bar and also having an arm for locking the pallet-lever of the escapement against movement when desired.

4. The combination in a spring-motor, of a main frame, housings fixed to the frame at opposite sides of the same and arranged so as to afford spaces between their inner edges and the frame sides, a shaft journaled in the frame, springs disposed in the housings and connected at one end thereto and at their opposite ends to the shaft, spur-gears fixed on the shaft and interposed between the inner edges of the housings and the frame sides, a shaft journaled in the frame and having pinions intermeshed with the spur-gears, a ratchet-wheel fixed on the shaft connected to the springs, and a wheel loosely mounted on said shaft and having one or more pawls arranged to be engaged by the teeth of the ratchet-wheel; the said loose wheel being adapted to be connected with a device to be actuated.

806,645. GATE CONSTRUCTION. GEORGE B. CRAWLEY and HENRY J. RABB, Clinton, Ind. Filed Mar. 9, 1905. Serial No. 249,294.

Claim.—1. The combination with a rotatable post having an arm extending therefrom and rigidly connected thereto; of an angular member secured to and depending from the arm, a clevis pivoted

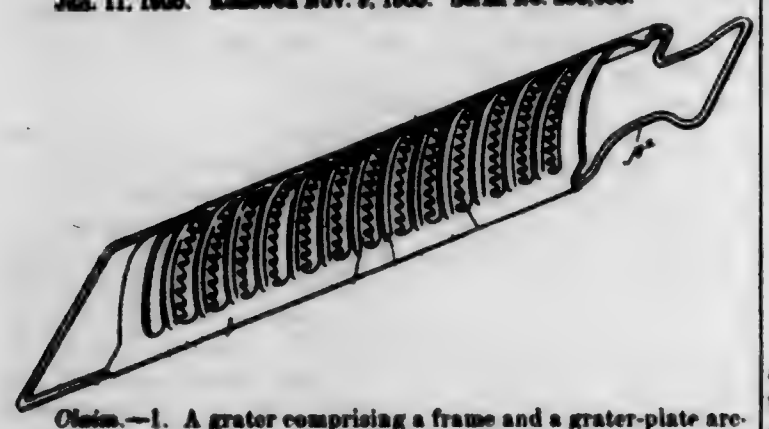
upon said member, parallel toothed supporting devices pivoted to the clevis and adapted to swing therein and rotate with the clevis, a gate adjustably mounted at its center between the toothed supporting devices, and means for locking the gate to the supporting devices.



2. The combination with a rotatable post having an arm rigidly connected thereto, of parallel supporting devices suspended from the arm and rotatably connected to it, a gate adjustably mounted at its center between the supporting devices, means for preventing longitudinal movement of the gate between the supporting devices, and a lock for securing the gate in adjusted position between its supporting devices.

3. The combination with a rotatable post having an arm rigidly connected thereto, brackets upon the post, a fixed post having a gate-supporting means thereon; of supporting devices suspended from and movably connected to the arm, a gate adjustably mounted at its center between the supporting devices and adapted to engage the brackets and supporting means upon the posts, means for preventing longitudinal movement of the gate between its central supporting devices, and a lock for holding the gate in adjusted position.

806,646. GRATER. WILLIAM J. CURRY, Toronto, Canada. Filed Jan. 11, 1905. Renewed Nov. 9, 1905. Serial No. 286,800.



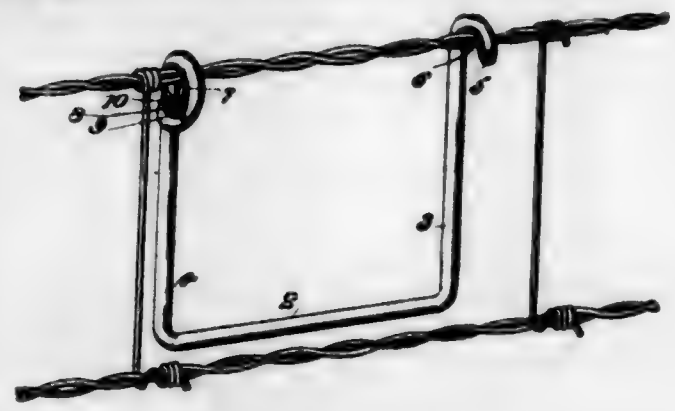
Claim.—1. A grater comprising a frame and a grater-plate arc-shaped in cross-section for the major portion of its width and having flat sides terminating in portions curling around the sides of the frame and provided with a series of bars and contiguous openings from end to end, the cutting edge of the bar having teeth formed up in the same turned inwardly to the concaved side and rounded at the crown as and for the purpose specified.

2. A grater comprising a frame and a grater-plate arc-shaped in cross-section for the major portion of its width and having flat sides terminating in portions curling around the sides of the frame and provided with a series of bars and contiguous openings from end to end, the cutting edge of the bar having teeth formed up in the same turned inwardly to the concaved side and rounded at the crown, and each bar having a reinforcing-rib formed or struck up in same and extending from one flat side to the other as and for the purpose specified.

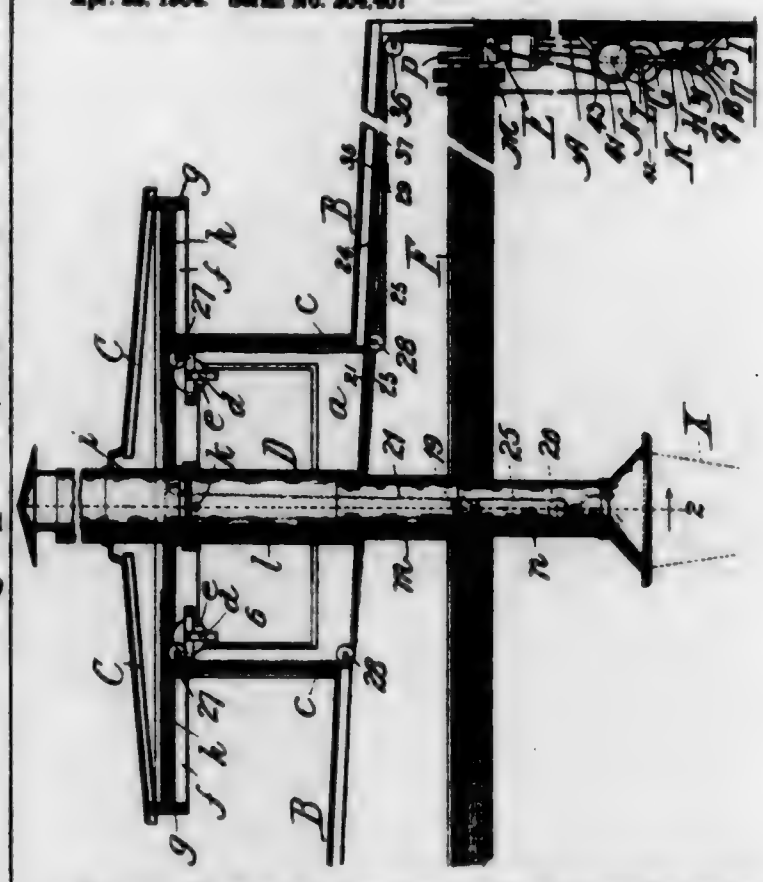
806,647. TOOL FOR APPLYING WIRE-FENCE STAYS. JOHN DEAN, Racine, Wis. Filed Dec. 26, 1904. Serial No. 238,349.

Claim.—1. A tool for the purpose described, comprising a U-shaped rod at one end provided with a line-wire-receiving open coil, and at the other end provided with a line-wire-receiving hook having its free end bent laterally and forming a wire engaging and coiling projection.

2. As an article of manufacture, a wire-coiling tool comprising two spaced connected arms, one arm at its extremity having an encircling guide and line-wire-receiving coil formed by an open spiral having a side opening, the extremity of the other arm formed with a line-wire-receiving socket in alinement with said coil and having the lateral wire engaging and coiling projection, substantially as described.



806,648. SMOKE-STACK. PAUL DICKINSON, Chicago, Ill. Filed Apr. 22, 1904. Serial No. 204,407.



Claim.—1. In an engine-house provided with a traveling crane, a vertically-adjustable smoke-stack adapted to be extended across the path of the crane, a stop for said crane, and means for moving said stop into its operative position when the smoke-stack is extended across the path of the crane and for removing the stop from said position when the smoke-stack is raised out of said path.

2. In an engine-house provided with a traveling crane, a vertically-adjustable smoke-stack adapted to be extended across the path of the crane, a stop for said crane, and means operatively connected with said smoke-stack and stop, said means being adapted to move the stop into its operative position when the smoke-stack is extended across the path of the crane and to remove the stop from said position when the smoke-stack is raised out of said path.

3. The combination of an engine-house provided with tracks adapted to support a traveling crane, a vertically-adjustable smoke-stack adapted to be extended across the path of the crane, a guard-block, and means, operatively connected with said smoke-stack and guard-block, adapted to move the guard-block onto the track-rail when the smoke-stack is extended across the path of the crane and to move said guard-block therefrom when the smoke-stack is raised out of said path.

4. The combination with the roof structure of an engine-house having an opening through it, of guide-wheels journaled in said structure toward opposite sides of said opening, a cover for said opening movable back and forth upon said guide-wheels, and a smoke-stack extending through and supported by said cover, and adapted to be brought into operative relation with the stack of a locomotive.

5. The combination with the roof of an engine-house having an opening through it, of a monitor on said roof having stationary sides around said opening, a longitudinally-sliding roof on the monitor

and a smoke-stack extending through and supported by said roof, and adapted to be brought into operative relation with the stack of a locomotive.

806,649. CONFECTIONERY-MACHINE. WILLIAM S. DILLON, Racine, Wis., assignor to Racine Machinery Manufacturing Company, Racine, Wis., a Corporation of Wisconsin. Filed July 24, 1903. Serial No. 166,799.



Claim.—1. In a device of the class described, the combination with a tubular casing provided with longitudinal grooves, a ladder comprising side rails and stationary beater-blades adapted to engage said grooves when placed in position within said tubular casing, a shaft rotatably mounted in hub portions of said stationary beater-blades, revolving beater-blades mounted on said shaft between adjacent stationary beater-blades, a counter-shaft, and means for detachably connecting said first shaft and said counter-shaft.

2. In a device of the class described, the combination with a tubular casing of oblong cross-section, the horizontal diameter being longer than the vertical diameter, of longitudinal grooves at the top and bottom of said casing and placed to one side of the vertical diameter, a ladder comprising side rails connected by stationary beater-blades, said side rails being adapted to slide in said grooves, hub portions on said stationary beater-blades disposed below the horizontal diametrical plane of the casing, a shaft rotatably mounted in said hub portions, and revolving beater-blades mounted on said shaft between adjacent stationary beater-blades.

3. In a device of the class described, the combination with a tubular casing having a body portion of greater horizontal diameter than vertical diameter, of stationary beater-blades in said body portion, a shaft carrying revolving beater-blades interposed between said stationary beater-blades, and a screen inclosing an opening along one side of the tubular casing, said shaft and blades being disposed at the other side of the casing away from said screen.

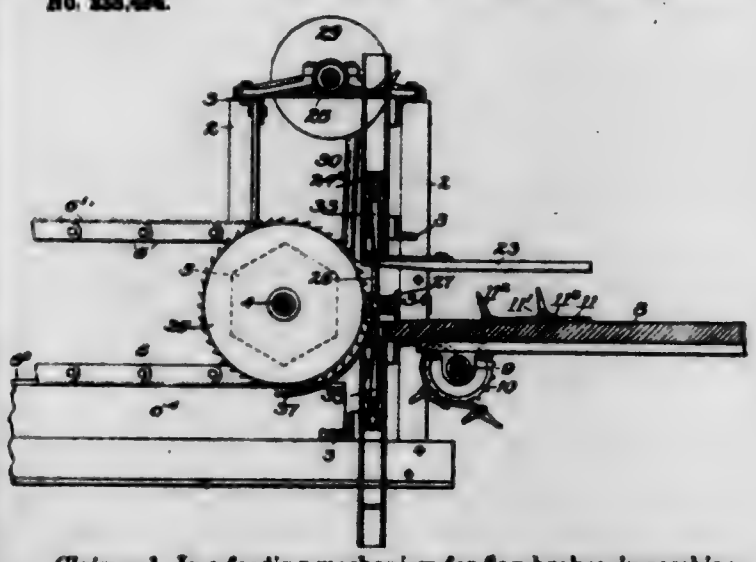
4. In a device of the class described, the combination with a tubular casing having a body portion of greater horizontal diameter than vertical diameter, of stationary vertical beater-blades in said body portion, a shaft carrying revolving beater-blades interposed between said stationary blades, and a screen covering an opening along one side of said tubular casing, said shaft and blades thereon being disposed near the other side away from the screen and below the horizontal diameter of the casing.

5. In a device of the class described, the combination with a tubular casing having a body portion of greater horizontal diameter than vertical, of stationary beater-blades in said body portion, a shaft passing through said tubular casing, beater-blades arranged spirally on said shaft and interposed between the stationary blades, and a screen covering an opening along one side of the casing, said shaft and beater-blades being close to the other side of the casing away from said screen to leave an air-space near the screen.

6. In a device of the class described, the combination with a tubular casing having a body portion of greater horizontal diameter than vertical diameter, of a vertical frame adapted for insertion within said casing, stationary beater-blades on said frame, a shaft supported on said frame, upper blades arranged spirally on said shaft and interposed between the stationary blades, and a screen covering an opening along one side of said casing, said frame being disposed within said casing so that the shaft and beater-blades are close to the other side of the casing away from the screen to leave an air-space near the screen.

7. In a device of the class described, the combination with a tubular casing having a body portion of greater horizontal diameter than vertical diameter, of stationary beater-blades in said body portion, an end portion of said casing being substantially cylindrical, a shaft extending through said body portion and end portion, beater-blades arranged spirally on said shaft and interposed between the stationary beater-blades, a screen covering an opening along one side of said body portion, said shaft extending concentrically through the cylindrical end and eccentrically through the body portion near the other side thereof away from said screen whereby the beater-blades thereon engage close to the other side to leave an air-space near the screen.

806,650. FEEDING MECHANISM FOR FLAX-BRAKES. GEORGE H. ELLIS, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Oct. 15, 1904. Serial No. 228,494.



Claim.—1. In a feeding mechanism for flax-brakes, in combination, guiding means for the straw, said guiding means forming a straw passage-way, a device provided with opposing points having a gap therebetween, said points being arranged to traverse said straw passage-way, actuating means for said device, and means for pressing the material into said passage-way and against said points, substantially as set forth.

2. In a feeding mechanism for flax-brakes, in combination, guiding means for the straw, said guiding means forming a straw passage-way, a device provided with opposing points having a gap therebetween, the said points being arranged to traverse said straw passage-way, actuating means for said device, and yieldingly-driven means for pressing the material into said passage-way and against said points, substantially as set forth.

3. In a feeding mechanism for flax-brakes, in combination, guiding means for the straw, said guiding means forming a straw passage-way, a vibrating needle-frame provided with opposing points having a gap therebetween, the said points being arranged to traverse said straw passage-way, means for vibrating said needle-frame, and means for pressing the material into said passage-way and against said needle-points, substantially as set forth.

4. In a feeding mechanism for flax-brakes, in combination, guiding means for the straw, said guiding means forming a straw passage-way, a yieldingly-driven feeding-chain operating in said passage-way, a vibrating needle-frame provided with opposing points having a gap therebetween, said points being arranged to traverse said straw passage-way near the delivery end thereof, and means for actuating the said needle-frame, substantially as set forth

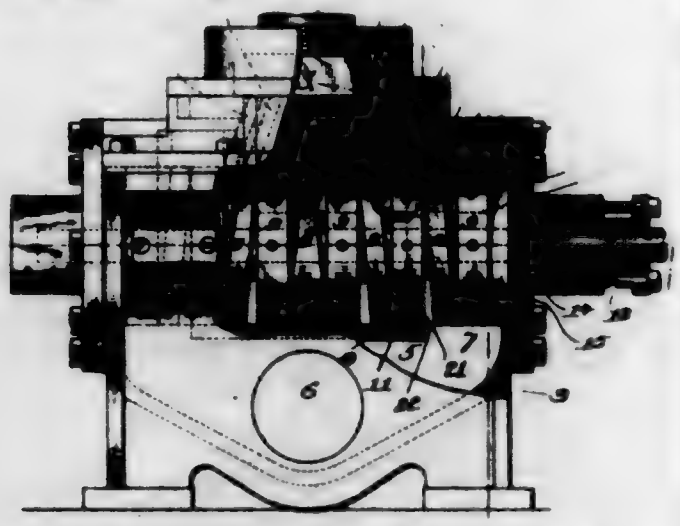
5. In a feeding mechanism for flax-brakes, in combination, guiding means for the straw, said guiding means forming a straw passage-way, a vibrating needle-frame provided with opposing points having a gap therebetween, said points being arranged to traverse said straw passage-way near the delivery end thereof, means

for actuating the needle-frame, yieldingly-driven means for pressing the material into the straw passage-way and against the points of said needle-frame, and a toothed feeding-wheel located at the delivery side of said needle-points for receiving the material therefrom and passing it forward to the machine, substantially as set forth.

6. In a flax-brake, in combination, a feed-table, an upper guide and a butt-board which together form a straw passage-way, a yieldingly-driven feed-chain in said passage-way, a vibrating needle-frame arranged to traverse said passage-way near the delivery end thereof, a grasping and conveying chain, and a toothed feeding-wheel arranged to deliver the material from the said needle-frame to the said grasping and conveying chain, substantially as set forth.

7. In a feeding mechanism for flax-brakes, in combination, guiding means for straw, said guiding means forming a straw passage-way, a yieldingly-driven feed-chain in said passage-way, a vibrating needle-frame arranged to traverse said passage-way near the delivery end thereof, the said needle comprising two arms rigidly secured together at their outer ends and pivotally mounted on the frame of the machine, needle-points placed in opposition to each other at the free ends of said arms and with a slight gap therebetween, the said gap arranged to come within said passage-way, means for vibrating said needle-frame, and a toothed feeding-wheel for receiving the material from said needle-points and conveying it therefrom, substantially as set forth.

806,651. **ROTARY PUMP.** CHARLES O. FARRAR, Somerville, Mass., assignor of one-half to Thomas M. Belknap, New York, N. Y. Filed May 8, 1906. Serial No. 316,183.



Claim.—1. In a rotary pump, a single shaft having thereon a plurality of pumping elements forming between them successively-arranged compartments which are connected by ports, and means to rotate said shaft whereby the material in the first compartment is positively forced into the next succeeding compartment and locked therein, and then subsequently forced positively from said second compartment into the next succeeding compartment and locked therein.

2. In a rotary pump, a plurality of pumping elements forming between them successively-arranged compartments which are connected by ports, a portion of said elements being constructed to rotate, means to rotate all the rotary elements about a common axis, such rotation decreasing the size of any one compartment and simultaneously increasing the size of the next succeeding compartment, whereby the material in any compartment is positively forced forward into the next compartment, and means for positively locking the material in any compartment after it has been forced thereinto.

3. In a rotary pump, a casing having a cylindrical bore, a plurality of inclined disks in said bore, transverse and longitudinal partitions separating said disks, said partitions dividing the spaces between the disks into compartments which are connected by ports, and means to rotate the disks relative to the partitions, whereby the size of the compartments is constantly changing and material is positively forced from one compartment to the next succeeding, the arrangement of ports and disks being such that the material which is forced into any compartment is locked therein, and subsequently positively forced from said compartment into the next forward compartment.

4. In a rotary pump, a casing having a cylindrical bore, a plurality of alternately-arranged straight and inclined disks operating in said bore, each inclined disk contacting with each of the adjacent straight disks in a line of contact, whereby compartments are formed between the disks, ports connecting said compartments, and means to give a relative rotary movement between the straight and inclined disks.

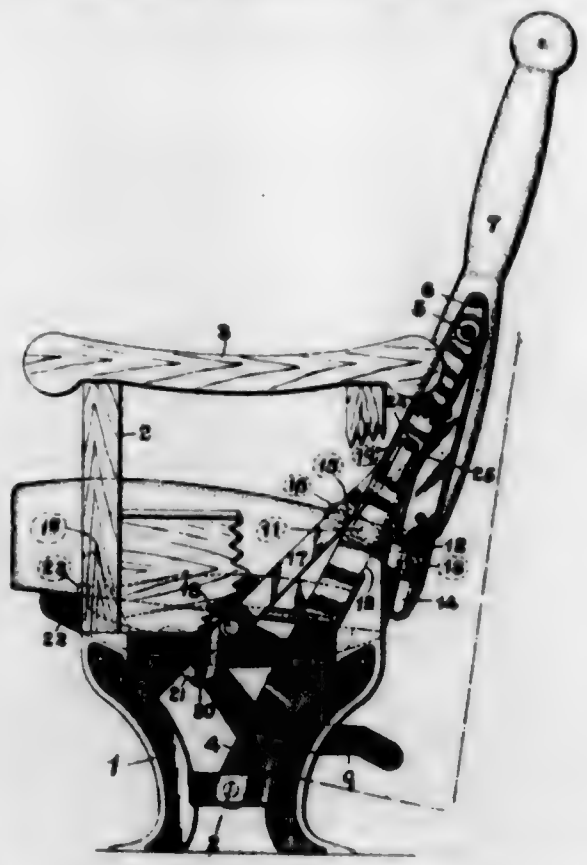
5. In a rotary pump, a casing having a cylindrical bore, a set of inclined disks in said bore, a corresponding set of straight disks in said bore, the straight disks alternating with the inclined ones, whereby a compartment exists between each two adjacent disks, means to rotate the disks of one set relative to those of the other, and ports connecting the compartments.

6. In a rotary pump, a casing having a cylindrical bore, a plurality of disks in said bore, each being inclined to the axis of said bore, a longitudinal and a transverse partition between each two adjacent disks, said partitions contacting with the disks and dividing the space between each two disks into compartments which are connected by ports, and means to rotate the disks relative to the partitions, whereby the size of the compartments is constantly changing and material is positively forced from one compartment to another.

7. In a rotary pump, a casing having a cylindrical bore, a plurality of inclined disks in said bore, a longitudinal and transverse partition between each two adjacent disks and dividing the space between said disks into compartments, and means to give the disks a rotary movement relative to the partitions, each compartment on one side of the longitudinal partition being connected to a compartment on the other side of the partition.

8. In a rotary pump, a casing having a cylindrical bore, a series of inclined disks operating in said bore, each of said disks being so constructed that every radial line on the face thereof stands at right angles to the axis of the bore, straight-faced disks alternating with the inclined disks, and a block mounted in each straight-faced disk for movement parallel to the axis, each block contacting at its ends with the adjacent inclined disks, the compartments between said disks on one side of the longitudinal blocks being connected to compartments on the other side of said blocks, and means to give a relative rotary movement between the inclined and straight disks.

806,652. **REVERSIBLE CAR-SEAT.** FRANCIS K. FASSETT, St. Louis, Mo. Filed Nov. 5, 1904. Serial No. 231,586.



Claim.—1. In a car-seat, the combination with an end supporting-frame, of a main lever pivotally mounted in said frame, footrests carried by said main lever, and a lever 17 pivotally mounted on the end frame, said lever being pivotally connected to the upper end of said main lever and to the seat-bottom for reversing the inclination of the seat-bottom when the seat-back is reversed, said end frame being provided with curved ways to support the seat-bottom and accommodate its movement; substantially as described.

2. In a car-seat, the combination with a seat-back, of a main lever pivotally connected thereto, a rock-arm having a pivotal axis different from that of the main lever, said rock-arm at its upper end having a sliding engagement with the main lever, and a lever 12 pivotally connected to the main lever and to said rock-arm, said lever 12

having a slot-and-pin connection with the seat-back; substantially as described.

3. In a car-seat, the combination with end castings, of main levers 4 pivotally mounted in said castings, a rock-shaft 18 mounted in said castings, rock-arms 17 and 20 fixed to said rock-shaft, seat-supporting frames which are engaged by the rock-arms 20, a seat-back pivotally connected to the upper ends of the main levers 4, and levers 12 pivotally mounted on the levers 4 and having slot-and-pin connection with the upper ends of the rock-arms 17 and the lower end of the seat-back; substantially as described.

4. In a car-seat, the combination with an end casting, of a lever pivotally mounted thereon and pivotally supporting the seat-back at its upper end, an arm 17 moving about an axis different from that of said lever, the upper end of said arm 17 slidingly engaging said lever, a slotted plate mounted on the seat-back, and a lever 12 pivoted on the first-mentioned lever, said lever 12 having a pivotal connection with the arm 17 and a sliding connection with said sliding plate; substantially as described.

5. In a car-seat, the combination with an end casting having abutments 1*, a main lever 4 pivotally supporting the seat-back at its upper end, said lever 4 being provided with a housing, an arm 17 whose upper end fits in said housing, and a lever 12 pivotally connected to the main lever and said arm 17, said lever 12 having a slot-and-pin connection with the seat-back; substantially as described.

6. In a car-seat, the combination with two levers having axes of movement about different centers, the free ends of said levers being in sliding engagement with each other, and a locking device carried by one of said levers for preventing a sliding movement between said levers; substantially as described.

7. In a car-seat, the combination with a lever for pivotally supporting the seat-back, of a rock-arm having an axis of movement about a center different from that of said supporting-lever, the upper ends of said rock-arm and said lever slidingly engaging each other, and a locking device carried by one of said sliding members for preventing sliding movement of the other member with respect thereto; substantially as described.

8. In a car-seat, the combination with a main lever for supporting the seat-back, of a rock-arm 17 having sliding engagement with said main lever, and a locking device carried by the main lever and adapted to engage the rock-arm to prevent movement of said rock-arm with respect to said main lever; substantially as described.

9. In a car-seat, the combination with a main lever having a housing at its upper end, a rock-arm whose upper end fits in said housing and is adapted to telescope therein, and a locking-bolt carried by said main lever and having a projection designed to extend into the housing in the path of said rock-arm; substantially as described.

10. In a car-seat, the combination with a lever for supporting the seat-back, a rock-arm having a sliding engagement with said lever, and a locking-bolt mounted in said main lever and having a projection capable of being placed in the path of said rock-arm, a spring bearing upon said locking-bolt, and a cross-pin passing through the main lever for holding the locking-bolt in its adjusted positions; substantially as described.

11. In a car-seat, the combination with a seat-back, of a main lever pivotally connected thereto, a rock-arm having a pivotal axis different from that of the main lever, said rock-arm at its upper end having a sliding engagement with the main lever, and means for utilizing the difference in the arcs of movement of the rock-arm and said main lever for controlling the movement of the seat-back; substantially as described.

12. In a car-seat, the combination of a main lever, a seat-back carried thereby, a rock-arm having a stationary pivotal axis different from that of the main lever, and a lever uniting the main lever, the seat-back and the said rock-arm, said lever controlling the tilting movements of the seat-back; substantially as described.

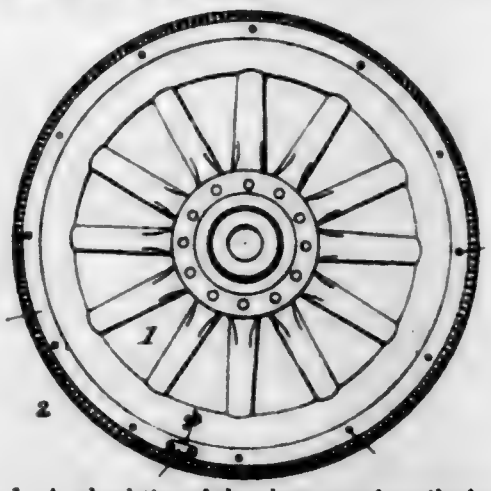
13. In a car-seat, the combination with an end frame, of a lever pivotally mounted thereon, a seat-back pivotally connected to the upper end of said lever, a rock-arm having sliding engagement at its upper end with the upper end of said lever, said rock-arm being mounted on said end frame and having a pivotal axis different from that of the main lever whereby the difference in the arcs of movement of said main lever and the rock-arm controls the position of the seat-back, and a foot-rest carried by the main lever; substantially as described.

806,653. AUTOMATIC DRAFT-REGULATING HEATING SYSTEM. CASPER FAUST, Oshkosh, Wis. Filed May 9, 1905. Serial No. 259,526.

Claim.—The herein-described automatic draft-regulator comprising a drum, a supporting-base therefor forming an air-intake discharging into the lower side of the drum and having an inclined upper side, said drum having a connection for the attachment of a pipe leading from the stove or heater, and an attachment for the connection of a pipe leading to a flue, a damper to lie on the upper end of the air-intake, a pivoted vane in the drum between the attachments and connected to the damper, and a counterbalancing-weight for said vane and damper.



806,654. WHEEL-TIRE. LOUIS S. FLATAU, St. Louis, Mo. Filed Mar. 11, 1905. Serial No. 249,542.



Claim.—1. A wheel-tire of the character described, comprising a tire member, and alternating metal and elastic segments or sections forming the tread, the elastic segments normally projecting beyond said metal segments.

2. A wheel-tire of the character described, comprising a tire member having an annular dovetailed seat, alternating metal and elastic segments conformed at their base portions to said seat and forming the tread, the elastic segments normally projecting beyond said metal segments.

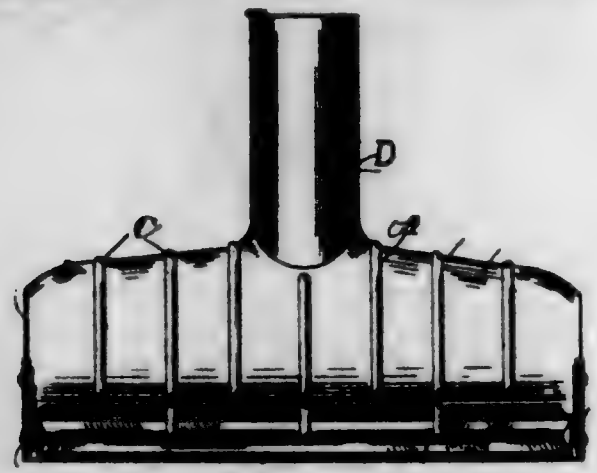
3. A wheel-tire of the character described, comprising a tire member having an annular seat and alternating metal and elastic segments arranged in said seat and forming the tread, the elastic segments normally projecting beyond said metal segments, said tire member having its outer free edges "clenched" inward, and said metal and elastic segments having their base portions extending in under said "clenched" edge portions.

806,655. BINDER FOR BROOMS, WHISKS, &c. RICHARD D. GALLAGHER, Sr., Omaha, Nebr., assignor of three-fourths to W. H. Harrison, H. N. Jewett, and Ella T. Shaw, Omaha, Nebr. Filed Mar. 4, 1905. Serial No. 248,235.

Claim.—1. In a binder for the fibers of brooms, a fiber-container adapted to receive the head of a broom, comprising a covered top, open-bottom casing of elongated horizontal section having substantially parallel long side walls and short end walls, each side wall being provided with a plurality of upright corrugations and a horizontal inwardly-projecting ridge below the corrugations and extending for substantially the length of said wall, and an end wall having an opening above said ridges.

2. In a binder for the fibers of brooms, the combination with an

open-bottom fiber-container of elongated horizontal section having substantially parallel upright side walls, each of such walls being provided with an inwardly-projecting horizontal corrugation; of a series of fasteners passing through and connecting such walls and having bent end portions outside the walls with their ends standing in the depressed outer sides of the corrugations within the outer planes of the walls.



806,656. HARROW. GEORGE W. GOSS and CHARLES B. GOSS, Baltimore, Ohio. Filed Feb. 4, 1905. Serial No. 244,206.



Claim.—1. A frame including a front bar having slots, earth-engaging means supporting the rear portion of the frame, blade-carrying gangs having uprights extending through the slots in the front bar of the frame and provided with spacing-sleeves, and links or straps connected with the gangs and engaging the uprights respectively above and below the frame-bar.

2. In a device of the class described, a frame including a front bar having slots formed therein, blade-carrying gangs including bars having rearward-extending members provided with uprights extending through the slots in the frame-bar, links or straps connected with the bars of the gangs and engaging the uprights below and above the frame-bar, and a fastening member such as a cotter-pin extending through said uprights.

3. A frame-bar having slots, blade-carrying gangs having uprights extending through said slots and provided with spacing-sleeves, and links or straps connected with the gangs and engaging the uprights respectively above and below the frame-bar.

4. A frame having a front bar provided with slots, blade-carrying gangs having uprights extending through said slots and movable therein, links or straps connected with the gangs and engaging the uprights respectively above and below the slotted frame-bar, means flexibly connecting the inner ends of the frame-bars of the gangs, draft means connected with said gangs and converging forwardly, and flexible draft means connecting the converging draft means adjustably with the flexibly-connected inner ends of the gangs.

5. In a device of the class described, a frame, flexibly-connected gangs connected slidably with said frame, forwardly-converging draft means connected with said gangs near their outer ends, and adjustable draft means connecting said converging draft means with the flexibly-connected ends of the gangs.

6. In a device of the class described, a frame, flexibly-connected gangs connected slidably with said frame, draft-rods connected with said gangs, a link connecting the front ends of said draft-rods, and a chain connecting said link adjustably with the flexibly-connected ends of the gangs.

806,657. RESILIENT WHEEL. IRMA GUIOT, Puyricard, France. Filed Apr. 19, 1904. Serial No. 203,907.



Claim.—1. In combination in a wheel having a rim, a second rim of larger diameter than the first and surrounding the same and a number of india-rubber blocks placed between said rims so as to form springs, said blocks having parts of vulcanized india-rubber or ebonite adapted to receive the rivets for securing the blocks to the rim, substantially as described.

2. In combination with a wheel having rings connected thereto, solid india-rubber blocks in the form of an arc of a circle forming springs and having parts of vulcanized india-rubber or ebonite adapted to receive the rivets for fixing them to the rings.

806,658. SIGHT FOR FIREARMS. HERMAN GUNN, Avonmore, Canada, assignor to The Lyman Gun Sight Corporation, Middlefield, Conn., a Corporation of Connecticut. Filed Apr. 6, 1905. Serial No. 254,124.



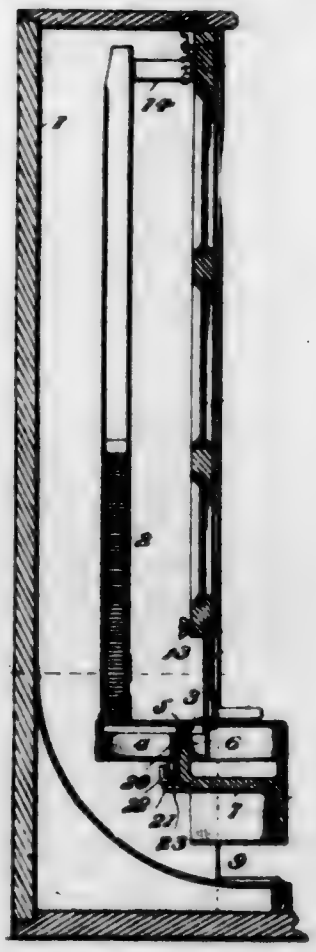
Claim.—1. A front sight for firearms, comprising in combination the base, A, provided with the spring-receiving recess, *g*, on its lower side and the lengthwise and transverse grooves or seats, *d* and *e*, on its upper side at right angles to each other, and having the central pivotal bearing, *f*, at the intersection of the grooves, the sight part, B, adapted to engage the grooves or seats of the base and provided with the central pivot-stud, *h*, received bodily through the pivotal bearing of the base and having a reduced portion or neck below the bearing, and the slotted spring-plate *k* received in the recess of the base and engaging the neck of the pivot to lock the parts in place and yieldingly hold the sight part upon the base, substantially as and for the purpose specified.

2. A front sight for firearms, comprising in combination the base having the lengthwise and transverse grooves or seats and a pivotal bearing at the intersection of the grooves, a sight part journaled in said pivotal bearing adapted for engagement with the grooves of the base and provided with a vertical web surmounted by a lengthwise sight-barrel and perforated beneath the barrel to provide a sight-aperture at a right angle therewith, and a retaining-spring engaging the pivotal part of the sight to yieldingly hold the sight upon the base, substantially in the manner and for the purpose specified.

3. A front sight for firearms, comprising in combination the

base, A, provided with the spring-receiving recess, *g*, on its lower side and the lengthwise and transverse grooves or seats, *d* and *e*, on its upper side at right angles to each other, and having the central pivotal bearing, *f*, at the intersection of the grooves, the sight part, B, adapted to engage the grooves or seats of the base and provided with the central pivot-stud, *h*, journaled in the bearing and having the neck, *i*, and head or shoulder, *j*, below the journal, and the spring-plate, *k*, having the slot, *l*, and received in the recess of the base in yielding engagement with the neck and shoulder of the pivot-stud, said sight part being provided with a double system of bead-sights, *r*, and alternative system of aperture-sights or central horizontal perforation, *t*, at right angles to the line of the bead-sights, substantially in the manner and for the purpose specified.

806,659. VENDING-MACHINE. FRED E. HALL, Brookline, and ALEXANDER MACLEOD, Brighton, Mass., assignors to United States Vending Corporation, Boston, Mass., a Corporation of Maine. Filed Oct. 5, 1904. Serial No. 227,259.



Claim.—1. A vending-machine having an inclosing casing, an axially-mounted support within the casing, and merchandise-holding tubes carried by said support and normally located within the casing, but capable of being swung to the front and forward thereof by the turning of the support.

2. A vending-machine having an axially-mounted support, merchandise-holding tubes carried by said support and normally inclosed within the machine, and a cash-drawer also carried by the latter, said tubes and drawer being designed to revolve with the support, whereby the tubes may be swung forward of the machine and access may then be had to the cash-drawer.

3. A vending-machine comprising a casing, a front cover therefor, merchandise-holding tubes normally inclosed within the casing in rear of said cover, and means revoluble between the sides of the casing for positioning said tubes outwardly in front of such cover forward of the machine.

4. A vending-machine having a revoluble support and a front cover mounted thereon, merchandise-holding tubes mounted on said support, a cash-drawer also carried by the support, and means for preventing the opening of such drawer when in its normal position, said tubes and drawer being designed to be positioned in front and forward of the cover when the support is turned on its axis.

5. The combination with the casing, of the revoluble support, the front cover secured thereto, axial bearings for said support and cover, merchandise-holding tubes mounted on said support in rear of the cover, and a cash-drawer mounted on the under side of the support and capable of being opened only when the support and cover are turned on their axes.

6. The combination with the casing having an upright post, of the supporting-plate having a depending pin fitting in a socket in said post, the cover having a pin in axial line with the former pin and supported at the top of the casing, merchandise-holding tubes mounted on said support and connected to said cover, said tubes being positioned in front of the latter when it and the support are turned on their axes.

7. The combination with the casing and the curved plate having an upwardly-extended post, of a support having a depending pin fitting in a socket in said post, the cover secured to said support having a pin at its upper end fitted in a socket in the top of the casing, the merchandise-holding tubes mounted on said support and connected to said cover, and the cash-drawer carried by said support, said drawer and tubes being designed to be positioned in front of the cover when the latter and the support are turned on their axes.

8. The combination with the casing, of the revoluble support, a stop for limiting the movement thereof, the merchandise-holding tubes mounted on said support, the cash-drawer carried thereby, and the lock for fastening said support to the casing.

806,660. PROCESS OF MAKING CONCENTRATED FORMIC ACID. MAX HANEL, Grünau, near Berlin, Germany. Filed Feb. 27, 1904. Serial No. 195,626.

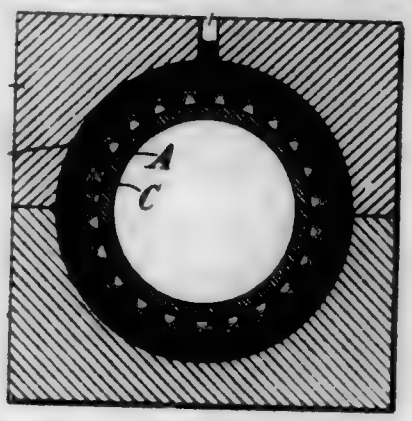
Claim.—1. The herein-described process for making directly-concentrated formic acid, which consists in dissolving the formiate in a solvent suitably free from water and then adding concentrated sulfuric acid to this solution whereby liberation of the formic acid results.

2. The herein-described process for making directly-concentrated formic acid, which consists in dissolving the formiate in a solvent, suitably free from water, then adding concentrated sulfuric acid to this solution whereby liberation of the formic acid results, and then subjecting the mass to distillation and condensing the distilled vapors.

3. The herein-described process for making directly-concentrated formic acid, which consists in dissolving the formiate in concentrated formic acid, then adding concentrated sulfuric acid to this solution and then separating the formed sulfate.

4. The herein-described process for making directly-concentrated formic acid, which consists in dissolving the formiate in formic acid then adding concentrated sulfuric acid to this solution, then subjecting the mass to distillation and condensing the distilled vapors.

806,661. COATING REFRIGERATING-PIPES. WILLIAM J. HAMILTON, Franklin, Pa. Filed Apr. 30, 1904. Serial No. 205,633.



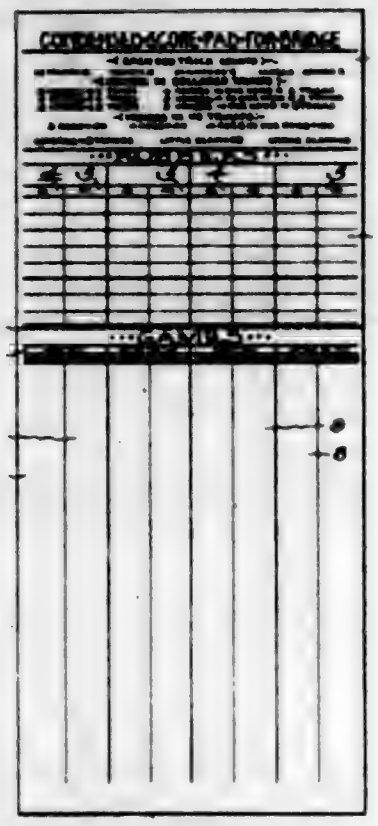
Claim.—A metal pipe A for refrigerating or other machines having a surrounding insulating layer C of corrugated fibrous material and an outer coating B of paraffin.

806,662. SCORE-CARD HAROLD HAMMOND, Westpoint, N. Y., assignor to Brentano's, Inc., New York, N. Y., a Corporation of New York. Filed Apr. 17, 1905. Serial No. 256,000.

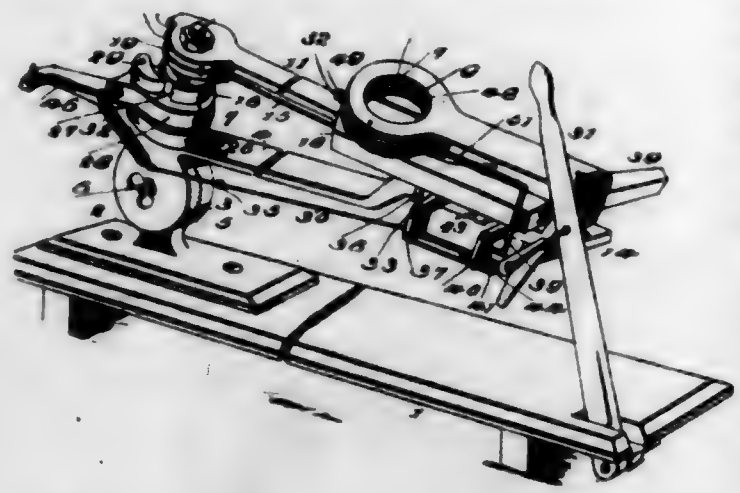
Claim.—1. A score-card divided into three fields, one of which bears printed matter indicative of the value of points and honors, the second field being divided into vertical columns headed respectively plus and minus, and the third field being divided into vertical columns, each two of which are headed respectively "We" and "They," and the individual columns being headed respectively "Points" and "Honors."

2. A score-card divided into three fields, one of which bears printed matter indicative of the value of points and honors, the second field being divided into vertical columns headed respectively plus and minus, and the third field being divided into vertical col-

umns, each two of which being headed respectively "We" and "They," and the individual columns being headed respectively "Points" and "Honors," the latter field being detachable from the second field.



806,663. TARGET-THROWING TRAP. FREDERICK HARDY, Mountpleasant, Tenn. Filed Dec. 4, 1903. Serial No. 183,778.



Claim.—1. In a target-throwing apparatus, the combination with a throwing-arm, a target-retaining frame disposed upon said arm and provided with upper and lower target-holders open at their outer ends, the upper target-holder being provided with an entrance-opening leading from the upper side of the frame, the lower target-holder being provided with an entrance leading from the rear end thereof.

2. In a target-throwing apparatus, the combination with a throwing-arm, a magazine, detent means carried by the magazine and engaging the uppermost targets therein, supporting members arranged upon the magazine to engage and deliver a target to the throwing-arm, means for operating the supporting members, and other means for operating the detent means independently of the supporting members.

3. In a target-throwing apparatus, the combination with a throwing-arm, detent means for holding the throwing-arm in a predetermined position, a magazine, delivery mechanism carried by the magazine, and means for simultaneous operation of the detent means and the delivery mechanism to release the throwing-arm and cause delivery movement of the targets in the magazine.

4. In a target-throwing apparatus, the combination with a pivoted throwing-arm, a holder carried by the said arm, an actuator for operating the throwing-arm to cause the discharge of a target, retainer means carried by the throwing-arm to hold the target within the holder, a magazine for supplying targets to the holder, supporting-dogs carried by the magazine to normally prevent feeding of the targets, means carried by the throwing-arm for actuation of the supporting-dogs of the magazine to effect a delivery of a target, and independently-operating detent means supporting the targets in the magazine during the delivery of a target to the holder upon the throwing-arm.

5. In a target-throwing apparatus, the combination with a pivoted throwing-arm, a target-holder provided thereon, means for actuating the throwing-arm, a magazine for supplying targets to the holder, supporting-dogs disposed upon the magazine operable by the throwing-arm to thereby effect the delivery of a target to the holder, and detent means for supporting the targets during the delivery of a target to the holder upon the throwing-arm, the said detent means being operable by the main actuating means of the apparatus to place a target upon the supporting-dogs preparatory to its delivery to the holder upon the throwing-arm.

6. In a target-throwing apparatus, the combination with a pivoted throwing-arm provided with a holder to receive a target, a magazine, means for feeding targets to the holder, spring means actuating the throwing-arm, means for normally holding the throwing-arm adjacent the magazine, an actuator coöperating with the spring means aforesaid to effect release of the throwing-arm, and target-delivery means simultaneously operable by the actuator in its discharge movement.

7. In a target-throwing apparatus, the combination with a pivoted throwing-arm provided with a target-holder, retainer means carried by the said arm for preventing discharge of the target until the throwing-arm reaches a predetermined point in its discharge movement, a magazine for supplying targets to the holder on the throwing-arm, supporting-dogs disposed upon the magazine for holding a target preparatory to its delivery to the holder on the throwing-arm, independent detent means carried by the magazine for supporting the targets during the delivery of a target from the supporting-dogs to the holder, means for normally holding the throwing-arm in a position adjacent the supplying-magazine, spring means for causing actuation of the throwing-arm to effect a discharge of a target and an actuator coöperating with the spring means aforesaid to increase the tension thereof preparatory to discharge of the target and coöperating with the means for holding the throwing-arm in its normal position to effect a disengagement of the latch from the throwing-arm to cause actuation of the throwing-arm in discharging the target, the final movement of the actuating-cord causing operation of the detent means upon the magazine and disposing a target upon the pivoted dogs of the magazine preparatory to delivery to the holder upon the throwing-arm.

8. In a target-throwing apparatus, the combination with a pivoted throwing-arm, target-holders carried by the said arm, engaging dogs of different sizes adjacent the respective holders for preventing discharge of the targets from the holder until the throwing-arm reaches a predetermined point in its movement, and means for actuating said engaging dogs.

9. In a target-throwing apparatus, the combination with a pivoted throwing-arm, means for actuating said arm, a buffer disposed adjacent the arm and normally out of the path of movement thereof, and means for throwing the buffer into the path of movement of the throwing-arm.

10. In a target-throwing apparatus, the combination with a pivoted throwing-arm, a buffer for limiting the movement of said arm, means for holding the said arm in its normal position, and connecting means between the buffer and the means holding the arm in its normal position to cause actuation of the said buffer.

11. In a target-throwing apparatus, the combination with a pivoted throwing-arm, means for actuating said arm, a buffer for limiting the movement of the throwing-arm, and means for throwing the buffer into and out of the path of movement of the throwing-arm.

12. In a target-throwing apparatus, the combination with a pivoted throwing-arm, latch means holding said arm in its normal position, a buffer, and means connecting the latch and the buffer to effect simultaneous operation thereof.

13. In a target-throwing apparatus, the combination with a pivoted throwing-arm, latch means holding said arm in its normal position, a spring-buffer, and a pin-and-slot connection between the latch and buffer whereby the buffer is actuated when the latch reaches a predetermined point in its movement.

14. In a target-throwing apparatus, the combination with a pivoted throwing-arm, latch means, a spring-buffer, a link connecting the latch and the spring-buffer, and a pin-and-slot connection between the link and the buffer whereby said buffer is actuated when the latch reaches an ascertained point in its movement.

15. In a target-throwing apparatus, the combination with a piv-

oted throwing-arm, a spring-buffer movable into and out of the path of the throwing-arm, and stop means preventing rebound of the arm from the buffer.

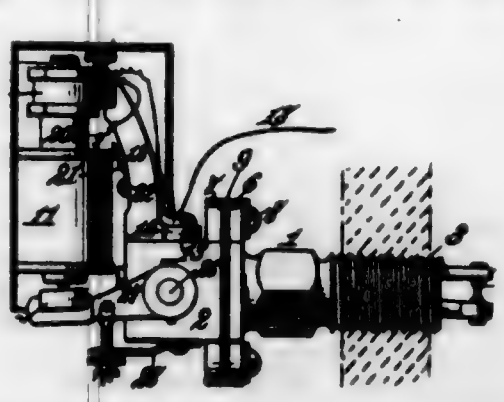
16. In a target-trap, the combination of a throw-arm support, a throw-arm rotatably mounted on said support, a pivot member by which said throw-arm is carried, means for holding said throw-arm in fixed position, a rotatable member for detachable engagement with said throw-arm pivot member, a power-spring connected to said rotatable member, means for putting said spring under tension, and means for releasing said throw-arm, substantially as set forth.

17. In a target-trap, the combination of a throw-arm support, a throw-arm rotatably mounted on said support, a pivot member by which said throw-arm is carried, means for holding said throw-arm in a fixed position, an actuating member having means for detachable engagement with said throw-arm pivot member, a power-spring having connection with said actuating member, means for putting said spring under tension, and means for releasing said throw-arm, substantially as set forth.

18. In a target-trap, the combination of a throw-arm support, a throw-arm rotatably mounted on said support, a pivot member by which said throw-arm is carried, an actuating member adjacent to said pivot member, a dog carried by said actuating member and arranged to engage said pivot member, a power-spring connected to said actuating member, means for putting said spring under tension, and means for releasing said throw-arm, substantially as set forth.

806,664. SPARKING DEVICE FOR EXPLOSIVE-ENGINES.

WILLIAM B. HAYDEN, New York, N. Y. Filed Jan. 9, 1905. Serial No. 240,263.



Claim.—1. An electrical sparking device for explosive-engines, consisting of a hollow plug provided with a fixed electrode, a rock-shaft extending laterally through said plug and projecting from one side thereof, a vibratory electrode fixed to said rock-shaft and cooperating with said fixed electrode, an armature fixed to said rock-shaft, a magnet coöperating with the armature, means carried by the plug and connected with the armature for retaining it normally away from the magnet and for normally retaining the two electrodes in contact, and circuit-forming means coöperating with the magnet and said fixed electrode.

2. An electrical sparking device for explosive-engines, consisting of a hollow plug provided with a fixed electrode, a rock-shaft extending laterally through said plug and projecting from one side thereof, a vibratory electrode fixed to said rock-shaft and coöperating with said fixed electrode, an armature fixed to said rock-shaft, a magnet coöperating with the armature, means carried by the plug and connected with the armature for retaining it normally away from the magnet and for normally retaining the two electrodes in contact, means carried by said plug for suspending the magnet, and circuit-forming means coöperating with the magnet and said fixed electrode.

3. An electrical sparking device for explosive-engines comprising a sectional hollow plug, one of said sections being open from end to end and provided with an electrode, the other of said sections being closed at its outer end, means interposed between the sections for insulating them from one another, means for connecting the sections together, a rock-shaft mounted in the closed section of said plug, a movable electrode carried by said rock-shaft, an armature carried by said shaft and arranged exteriorly of said closed section, a magnet arranged in close proximity to said closed section and cooperating with said armature, means carried by the closed section and connected with the armature for normally retaining it away from the core of the magnet, and circuit-forming means coöperating with said magnet and said fixed electrode.

4. An electrical sparking device for explosive-engines, comprising a hollow plug closed at its outer end, means for insulating one portion of said plug from another portion thereof, an electrode arranged in operative relation with respect to said plug, a rock-shaft fulcrumed within the plug and projecting from one side thereof, an electrode within the plug, fixed to said shaft and having its free end arranged in operative relation with respect to the first-mentioned electrode, an armature connected to the projecting end of said shaft, a magnet, means carried by the plug for normally retaining the armature free of the magnet, and circuit-forming means coöperating with the magnet and the first-mentioned electrode.

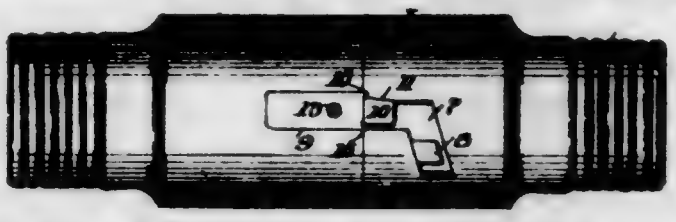
5. An electrical sparking device for explosive-engines, comprising a hollow plug provided with a fixed electrode, a rock-shaft extending laterally through said plug and projecting from one side thereof, a vibratory electrode fixed to said shaft and coöperating with said fixed electrode, an armature fixed to the rock-shaft, a magnet coöperating with the armature, and means carried by the plug and connected with the armature for retaining it normally away from the magnet for normally retaining the two electrodes in contact.

6. An electrical sparking device for explosive-engines, comprising a hollow plug closed at one end and having its other end adapted to open into the combustion-chamber of the engine, said plug provided with a fixed electrode, a rock-shaft extending laterally through said plug at a point removed from the heat of explosion and projecting from one side of the plug, a vibratory electrode fixed to said shaft and extending through the non-explosive gases in the plug and coöperating with said fixed electrode, an armature fixed to the rock-shaft, a magnet coöperating with the armature, means carried by the plug and connected with the armature for retaining it normally away from the magnet for normally retaining the two electrodes in contact, and circuit-forming means coöperating with the magnet and said electrodes.

7. An electrical sparking device for explosive-engines, comprising a hollow plug closed at its outer end having its other end opening into the combustion-chamber of the engine, said plug provided with a fixed electrode, a laterally-extending rock-shaft supported by said plug at a point in proximity to the closed end thereof, a vibratory electrode fixed at one end to said shaft and coöperating with said fixed electrode, a magnet, an armature carried by the rock-shaft and coöperating with the magnet, means carried by the plug and connected with the armature for normally retaining it away from the magnet, thereby normally keeping the two electrodes in contact, and circuit-forming means coöperating with the magnet and said electrodes.

806,665. HOSE-COUPLING.

JAMES H. HENDERSON and ALEXANDER SYKES, Houston, Pa. Filed Apr. 12, 1904. Serial No. 202,749.



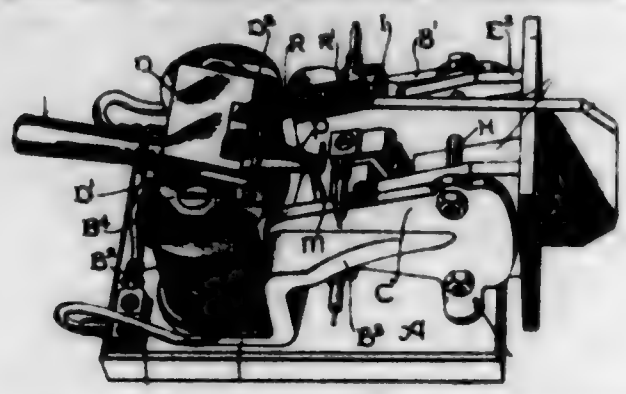
Claim.—1. In a hose-coupling, the combination of two cylindrical members of the same diameter, one member having bayonet-slots cut in its walls and having its central orifice enlarged, the other member having a diminished end fitting in the enlarged orifice of the first-named member and carrying lugs on said diminished end adapted to enter the said bayonet-slots, and a spring-pressed bolt carried by the member having the diminished end, said bolt being adapted to enter one of the bayonet-slots, said bayonet-slots being beveled on one side and said bolts being beveled on one side, substantially as described.

2. In a hose-coupling, the combination of two members, the end of one adapted to fit within the end of the other, the outer member having bayonet-slots extending through its walls, the inner member having lugs adapted to fit in said slots, and a shoulder against which the end of the outer member abuts when the members are coupled, and a spring-pressed bolt arranged in a slot in the inner member in the rear of the shoulder and adapted to be alined with one of the bayonet-slots when the end of the outer member abuts against the shoulder of the outer member.

3. In a hose-coupling the combination of two members one having a diminished end, the other an enlarged end adapted to receive said diminished end, and each such member being in a single piece, the enlarged end of one member having longitudinally-disposed slots with acutely-angled branches, the diminished end carrying lugs with sides angled to conform to the angle of the said branches of said slots, and a spring-pressed bolt located in a longitudinally-disposed slot in the diminished end and adapted to enter one of the longitudinal slots

after the lugs have entered the said branches of the longitudinal slots, the two members being of circular contour and the bolt lying wholly within the periphery of the member having the enlarged end.

808,666. AUTOMATIC CIRCUIT-BREAKER. EDWARD M. HEWLETT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 11, 1897. Serial No. 654,789.



Claim.—1. The combination with a plurality of circuit-mains, of a circuit-breaker comprising a plurality of coils connected severally in said mains, a tripping device controlled by any of said coils, a magnetic blow-out common to all the coils, independent break-points for each main, and separate blow-out chutes for the several break-points.

2. In a switch or circuit-breaker, a blow-out magnet comprising a plurality of magnetically-insulated pole-pieces, independent cores connected thereto, a separate magnet-coil for each of said cores, a plurality of break-points, and independent arc-chutes for the several break-points.

3. The combination with a plurality of circuit-mains, of a circuit-breaker arranged to make and break the circuit of more than one main, comprising fixed and moving contacts for each main, separate arc-restraining chutes for each set of contacts, a blow-out magnet energized by the current flowing in the different mains, and a common tripping device for the mains.

4. The combination with a plurality of circuit-mains, of a circuit-breaker comprising magnetically-insulated pole-pieces operating together to form a blow-out magnet, coils for the pole-pieces included in the different circuit-mains, brushes and contacts for making and breaking the circuit of each main, an insulating-chute for each set of brushes and contacts, an operating-handle, and a common tripping device controlled by the current flowing in the magnet-coils.

5. A circuit-breaker comprising two coils connected in different sides of a circuit, a pair of contacts for each coil and corresponding bridging contacts, and a magnetic field common to and inclosing said contacts.

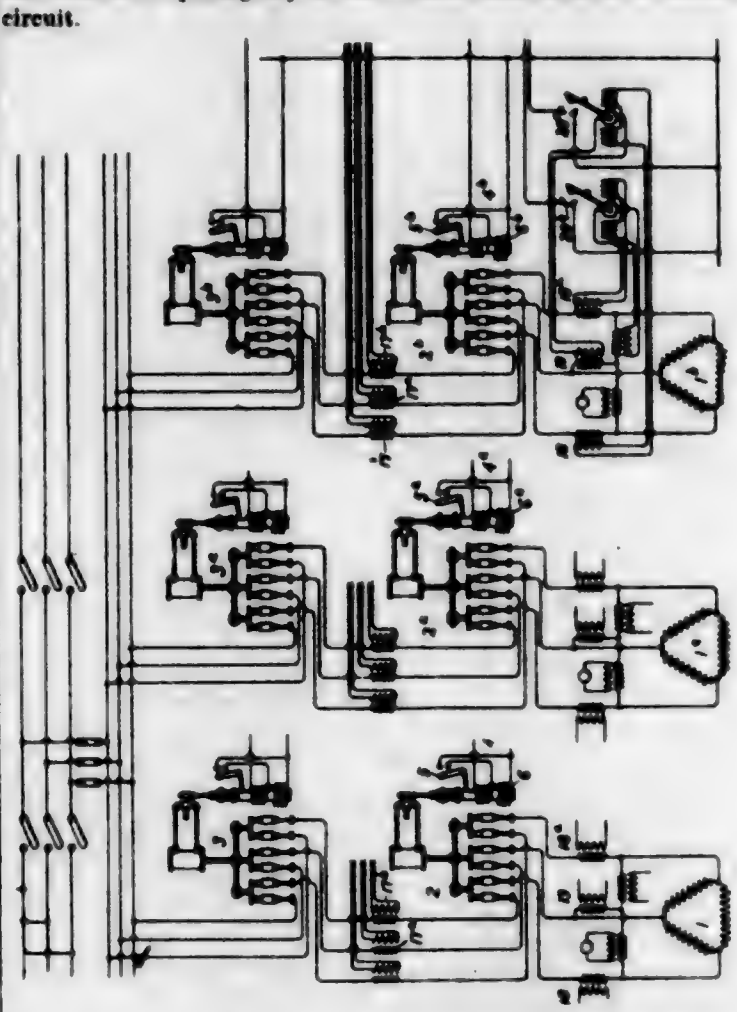
808,667. SYSTEM OF ELECTRIC GENERATION AND DISTRIBUTION. EDWARD M. HEWLETT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 5, 1901. Serial No. 77,654.

Claim.—1. An electric generating and distributing system comprising a plurality of generator units, power-operated switches between the same and the distributing bus-bars, each separately insulated, an operating-board containing operating devices, an instrument-board grouped at a common point distant from the switches, and means for controlling the power to operate the switches at said operating-board.

2. An electric generating and distributing system for high-potential currents, comprising a plurality of generator units, switches between the same and the distributing bus-bars, each separately insulated on an independent foundation, and control devices leading from the same to a common operating-point containing indicating and circuit-controlling devices.

3. An electric generating and distributing system for high-potential currents, comprising independent generator units, switches between the same and the distributing bus-bars, each switch having an independent foundation and having its circuit-breaking parts housed within fireproof walls, control devices for the several switches, an operating-board for all the switches, and indicating devices showing the condition of the several generating and distributing parts.

4. An electric generating and distributing system for high-potential currents, comprising independent generator units, switches between the same and the distributing bus-bars, a distant operating-board to control the several switches, a connecting control-circuit, and means for opening any switch when current fails in its control-circuit.



5. An electric generating and distributing system for high-potential currents, comprising a plurality of generator and feeder circuits, high-potential switches included therein, a bench-board, control-switches for operating the high-potential switches arranged on said bench-board in a definite order to indicate by their positions the relation of the several generator and feeder circuits, and low-potential-control circuits between said control and high-potential switches.

6. An electric generating and distributing system for high-potential currents, comprising a generator unit, distributing bus-bars, a plurality of switches in series between the generator and the bus-bars, and means for independently manipulating the switches from a distant point of control.

7. An electric generating and distributing system for polyphase currents, comprising a generator, a distributing-circuit, and a reverse-current indicator governed by a reversal of energy-flow, said indicator being governed by potential coils in symmetrical relation to all the phases, and series coils derived from the system.

8. An electric generating and distributing system, comprising a plurality of generator units, a plurality of feeders, sectional bus-bars, and switches for cutting out a desired section of the bus-bars and shifting the load upon the remaining section.

9. An electric generating and distributing system, comprising generators, switches between the same and the bus-bars, a plurality of feeders each having an independent switch, a group-switch controlling a plurality of feeders interposed between the bus-bars and the feeder-switches, and an operating-board for controlling the several switches.

10. An electric generating and distributing system comprising a plurality of generator units, switches between the same and distributing bus-bars, a plurality of independent feeder-switches, a group-switch between the bus-bars and a plurality of feeder-switches, overload devices for opening the feeder-switches, and hand-operated devices at a control-board distant from the switches for manipulating all of said switches.

11. An electric generating and distributing system comprising a generating outfit, a plurality of feeders and feeder-switches, overload devices for said switches, and hand-operated switches for operating the several switches individually, in groups or collectively.

12. An electric generating and distributing system comprising a generator, switch apparatus between the same and the distribution system, control apparatus therefor at a distant operating-board, and instruments adjacent to the control apparatus for indicating when the controlled apparatus has operated.

13. An electric generating and distributing system, comprising a generating outfit, a sectional bus-bar, and a plurality of feeders de-

rived from different sections of the bus-bars leading to a common distribution unit.

14. An electric generating and distributing system comprising a generating outfit, a sectional bus-bar, and a plurality of distribution units, each supplied by a plurality of feeders leading from different sections of the bus-bars.

15. An electric generating and distributing system, comprising a generating outfit, a switch connecting the same with a distribution-circuit, a source of excitation for the generator, and a circuit leading from said source governing the switch.

16. An electric generating and distributing system, comprising a plurality of generators, distributing bus-bars, switches between the generators and the bus-bars, an exciter for the generator-fields, and connections with the exciter-circuit for opening the switches when the exciting energy declines to a determinate point.

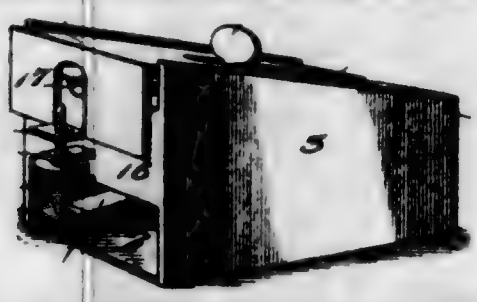
17. In an electric generating and distributing system, the combination of a plurality of controlled switches, a plurality of conductors adapted to be variously connected by said switches, an operating-board having thereon devices representing said switches and adapted to occupy different positions corresponding to positions of the switches, and controlling connections between said switches and devices whereby the throwing of the devices to their different operative positions will cause their respective switches to move to corresponding positions, said devices being arranged on said board so as to indicate by their positions the circuits through said conductors.

18. In an electric generating and distributing system, the combination of a system of conductors, a plurality of controlled switches located at convenient points and adapted to connect said conductors in various circuits, a plurality of control devices therefor adapted to occupy different positions corresponding to the positions of said switches, and an operating-board upon which said devices are mounted in definite lines whereby the condition of said switches and the circuits through said conductors may be readily determined by observing the relative positions of said devices.

19. In an electric generating and distributing system, the combination of a system of conductors, two sets of controlled switches located at convenient points, the switches for each set being similarly connected in the system of conductors, two sets of controlling devices therefor, each device being adapted to occupy a different position corresponding to the position of its switch, and an operating-board upon which said devices are mounted in definite lines whereby the condition of the switches of either set and the circuits through said conductors may be readily determined by observing the relative positions of said switches.

20. In an electric generating and distributing system, the combination with a plurality of generating sets each comprising a prime mover, a generator, and switches between the same and the distributing bus-bars, of an operating-board therefor comprising a plurality of devices for controlling the different elements of each generating set, said devices being arranged so that the devices corresponding to the like elements of the different generating sets lie in definite lines and the devices corresponding to the elements of each generating set lie in a line at an angle thereto.

806,668. **PENCIL-SHARPENER.** JAMES T. HIGGINS, New Brunswick, N. J., assignor of two-fifths to William H. Quackenbos, New Brunswick, N. J. Filed Nov. 21, 1904. Serial No. 233,718.



Claim.—1. In a pencil-sharpener, a swinging support for the end of the pencil to be sharpened, a swinging knife-carrier having a cutter movably mounted thereon, and means for simultaneously swinging both the support and the knife-carrier to move each toward and from the other.

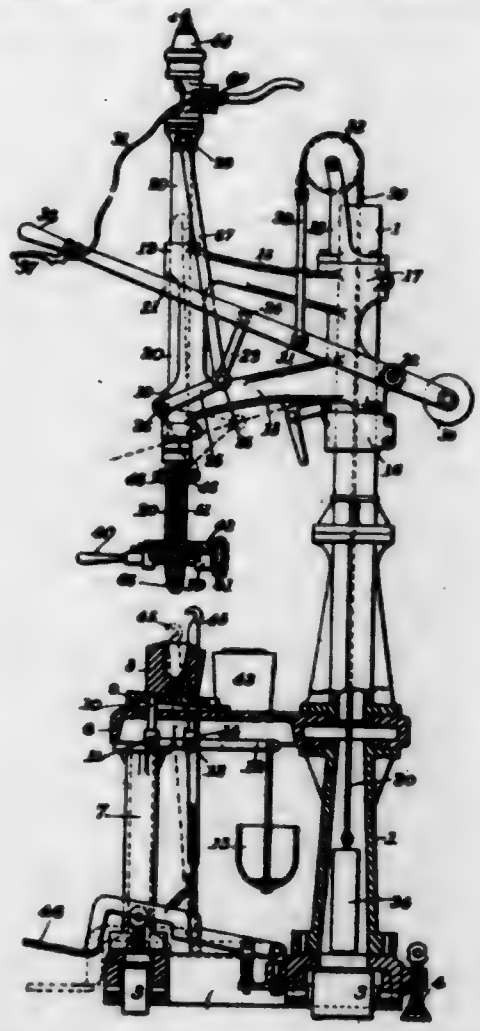
2. In a pencil-sharpener, a swinging support for the end of the pencil to be sharpened, a swinging knife-carrier, said support and carrier having a common pivotal connection, and means for swinging said support and carrier to simultaneously adjust the same toward and from each other.

3. In a pencil-sharpener, a casing, a block carried by said casing and provided with a groove, a bracket pivotally secured in said casing, a support carried by said bracket and provided with a groove, a pivoted knife-carrier, a knife movable thereon, and an adjusting-screw carried by said block and having connection with the knife-carrier and bracket, whereby the knife-carrier and support are adapted for simultaneous adjustment toward and away from each other.

4. In a pencil-sharpener, the combination of a casing or frame, a stationary rest-block thereby to support the body of a pencil, a pivoted support for the end of the pencil to be sharpened, a pivoted knife-carrier, and an adjusting device carried by said stationary rest-block and engaging the swinging support and carrier, whereby the same may be simultaneously adjusted toward and from each other.

5. In a pencil-sharpener, a casing, a block carried by said casing and provided with a groove, a T-shaped bracket provided with arms, a support carried by said bracket and provided with a groove, a knife-carrier provided with an opening having ways communicating therewith, a knife movable in said ways, said support and knife-carrier being provided with flanges, and an adjusting-screw carried by said block and having engagement with said flanges.

806,669. **GLASS-BLOWING MACHINE.** STAFFORD HILL, London, England. Filed July 10, 1901. Serial No. 67,741.



Claim.—1. In a machine for manufacturing glass bottles, a plunger, means for reciprocating said plunger, a rotatable neck-mold carried by said plunger, and blowing or finishing molds upon which said neck-mold is adapted to fit.

2. In a machine for molding glass bottles, a longitudinally-movable plunger, means for reciprocating said plunger, a rotatable neck-mold carried by said plunger through which the lower end of said plunger is slidingly movable, and molds upon which said neck-mold is adapted to interchangeably fit.

3. In a machine for manufacturing glass bottles, a hollow plunger, a plug closing the lower end of said plunger, a rod or stem within said plunger and connected to said plug, and fluid-pressure-controlled means for depressing said stem.

4. In a machine for manufacturing glass bottles, a hollow plunger, a plug closing the lower end of said plunger, a rod or stem within said plunger and connected to said plug, and fluid-pressure-operated means for simultaneously depressing said rod, or stem and admitting a supply of air to said plunger.

5. In a machine for manufacturing glass bottles, a hollow plunger, a plug adapted to close the lower end of said plunger, a rod or stem within said plunger and connected to said plug, a piston-head carried upon the upper end of said rod or stem, a cylinder carried

upon said plunger, within which said piston-head fits, and means for admitting pressure to said cylinder to operate said rod or stem.

6. In a machine for manufacturing glass bottles, a hollow plunger, a plug adapted to close the lower end of said plunger, a rod or stem within said plunger and connected to said plug, a piston-head carried upon the upper end of said rod or stem, a cylinder carried upon said plunger, within which said piston-head fits, and a valve carried by said plunger for controlling the supply of pressure to said cylinder and the interior of said plunger.

7. In a machine for manufacturing glass bottles, a vertically-disposed plunger, means for elevating and depressing said plunger, means for supplying air through the interior of said plunger, a neck-mold carried by said plunger, a plurality of molds upon which said neck-mold is adapted to fit, and means for locking said neck-mold in position upon said molds.

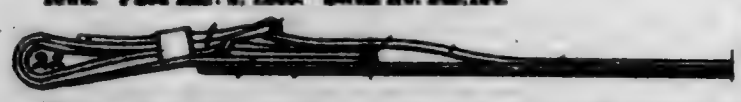
8. In a machine for manufacturing glass bottles, a vertically-disposed plunger, means for elevating and depressing said plunger, a plug closing the hollow bore of said plunger at its lower end, a cylinder carried upon the upper end of said plunger, a piston mounted therein, and connected to said plug, a valve carried by said plunger for admitting fluid-pressure to said cylinder, and to the hollow interior of said plunger, a neck-mold carried by said plunger and blowing or finishing molds upon which said neck-mold is adapted to interchangeably fit.

9. The combination in machinery for the manufacture of glass bottles or jars, of a tubular plunger vertically supported and adapted to be reciprocated in the direction of its length, a movable end or plug to open and close the lower end of said tubular plunger, means to operate said movable end or plug, a neck-mold carried on said plunger near the lower end thereof and supported thereon in such wise as to permit endwise movement of said plunger through said neck-mold, a parison-mold mounted beneath said plunger upon which said neck-mold is adapted to fit, and weighing mechanism connected to said parison-mold whereby a predetermined quantity of glass may be placed in said mold.

10. The combination in machinery for the manufacture of glass bottles or jars, of a tubular plunger vertically supported and adapted to be reciprocated in the direction of its length having a trumpet-mouthed or outwardly-tapering opening at the lower end thereof, a movable end or plug the upper part of which latter is adapted to fit in said enlarged opening in the lower end of said plunger said plug forming a rounded bottom end to said plunger with the side thereof flush with the side of said plunger and adapted when lowered to leave an annular space between the upper part of said plug and the said lower end of said plunger, and fluid-pressure-controlled means to raise and lower said movable end or plug, substantially as and for the purposes hereinbefore described.

11. The combination in machinery for the manufacture of glass bottles or jars, of a tubular plunger vertically supported and adapted to be reciprocated in the direction of its length and having a trumpet-mouthed or outwardly-tapering opening at the lower end thereof, a movable end or plug the upper part of which latter is adapted to fit in said enlarged opening in the lower end of said tubular plunger, a connecting-rod located and guided within said tubular plunger the lower end of which rod is attached to said movable end or plug and the upper end of said rod provided with a piston located in a cylinder and operated in an upward direction by air-pressure in said cylinder, means to admit air to the under side of said piston and simultaneously cut off the air-supply from passing down said tubular plunger to thereby draw up the plug in closed position against the lower end of the plunger, and also to admit the air-supply through the hollow plunger and simultaneously release the air-pressure under the piston and thereby release the plug and allow same to drop and thus permit the air-supply to flow through the tubular plunger and out of the lower end thereof to blow the bottle or jar substantially as and for the purposes hereinbefore described.

806,670. ADJUSTABLE PAD-SKIRT. SCOTT H. HULL, Oskaloosa, Iowa, assignor of one-half to William L. Kellerman, Oskaloosa, Iowa. Filed Mar. 8, 1905. Serial No. 248,134.



Claim.—1. In a harness having a back-band, an adjustable pad-skirt fixed to said back-band.

2. In a harness having a back-band, a pad-skirt fixed to said back-band, a skirt extension suspended from said pad-skirt, and pivotal and sliding connections between said skirt extension and pad-skirt.

3. In a harness, a pad-skirt, a skirt extension, and pivotal connections between said pad-skirt and skirt extension.

4. In a harness, a pad-skirt, a skirt extension, and sliding connections between said pad-skirt and skirt extension.

5. In a harness, a pad-skirt, a skirt extension, and pivotal and sliding connections between said pad-skirt and skirt extension.

6. In a harness, a pad-skirt formed with a slot, a skirt extension, and a hook on said skirt extension and slidingly and pivotally mounted in said slot.

7. In a harness, a pad-skirt, a skirt extension, pivotal and sliding connections between said pad-skirt and skirt extension, a buckle on said skirt extension, and a billet on said pad-skirt adapted to engage said buckle adjustably.

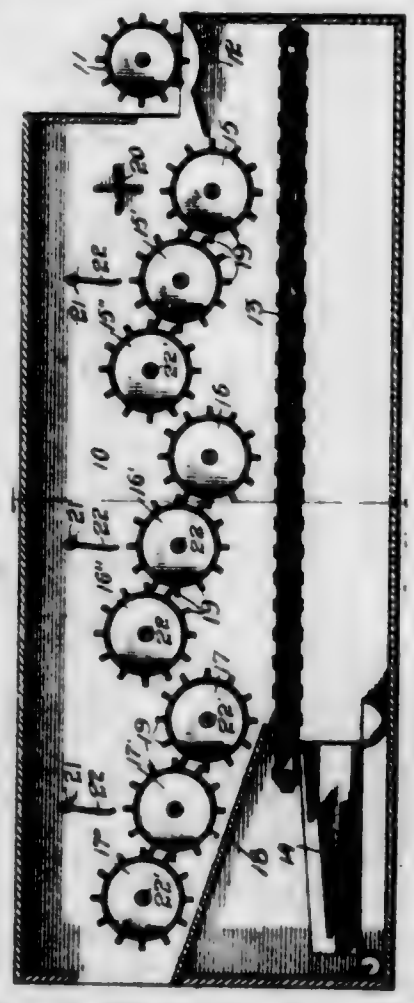
8. In a harness, a pad-skirt formed of two layers of leather arranged face to face and connected, one of said layers of leather formed with a slot, a skirt extension, an engaging device on said skirt extension and extending through said slot to and between said leathers, buckle and billet connections between said extension and pad-skirt and supporting devices carried by said extension.

9. In a harness, a pad-skirt formed with a slot and an interior slide-bearing, a skirt extension, a hook fixed to said skirt extension and a cross-head on said hook adapted for insertion through said slot into and for sliding engagement with said slide-bearing.

10. In a harness, a pad-skirt, a skirt extension and a connecting device composed of a stem fixed to said skirt extension, a gooseneck on said stem and a cross-head on said gooseneck adapted to engage said pad-skirt.

11. In a harness, the combination of an adjustable pad-skirt, comprising a plurality of members suitably connected, a billet on one member and a buckle on the other member of said adjustable pad-skirt, a supporting device for a trace, tug or shaft carried by one member of said adjustable pad-skirt, and a belly-band billet carried by the same member of the adjustable pad-skirt.

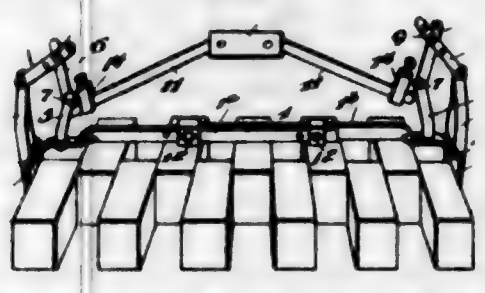
806,671. STRAW-CONVEYER FOR THRESHING-MACHINES. JOHN E. HUMPHREY, Giltner, Nebr. Filed Mar. 30, 1904. Serial No. 200,556.



Claim.—In a threshing-machine, the combination with the threshing-cylinder and its concave, of a straw-carrier comprising inclined series of drums provided each with a driving-pulley, idler-pulleys alternately with the drums of each series, the idler-pulleys between the end drums of each series being adjustable at right angles to their axes, a pair of pulleys arranged in alinement beneath the pulleys and idlers, the pair of pulleys being adjustable at right angles to their axes, a driving-belt engaged with the first-mentioned pulleys successively in zigzag relation thereto and passed around

the said pair of pulleys, pivoted straw-deflectors arranged in alinement and depending above certain of the drums with their lower ends in close proximity to the cutter and connections between a drum and the threshing-cylinder for rotating the drum.

806,672. BRICK-GRAPPLE. SAMUEL HUNEKER, Sutton, Nebr. Filed Mar. 24, 1905. Serial No. 251,844.



Claim.—1. In a grapple, the combination of a bar, jaws movably mounted upon said bar, means for adjusting the jaws toward and from each other, a handle, and levers connected with the handle and having adjustable connection with the jaws aforesaid.

2. In a brick-grapple, the combination of a bar, jaws movably mounted at the ends of the bar, a handle, and bell-crank levers operably connecting the handle with the jaws.

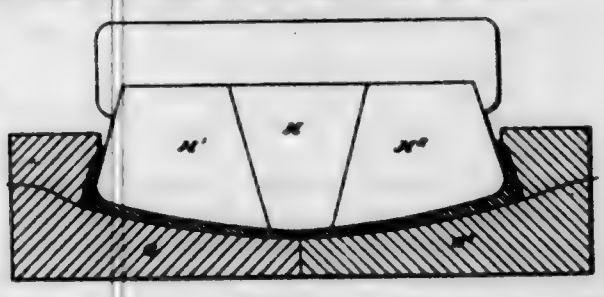
3. In a brick-grapple, the combination of a bar, jaws pivoted to the ends of the bar, a handle, levers carried by the bar and connected with the handle and links connecting the levers with the jaws.

4. In a brick-grapple, the combination of a bar, jaws pivoted to the ends of the bar, a handle, levers pivoted to the bar, links connecting the levers with the jaws, and link-bars connecting the handle with the levers.

5. In a brick-grapple, the combination of an expansible bar, jaws pivoted to the ends of the bar, a handle, and levers connected with the handle and having adjustable connection with the jaws.

6. In a brick-grapple, the combination of an expansible bar, jaws pivoted to the ends of the bars, arms projecting upwardly from the jaws, standards projecting upwardly from the bar near the end portions thereof, levers pivoted to the standards, links connecting the levers with the arms of the jaws, a handle, and link-bars adjustably connecting the levers with the handle.

806,673. SEGMENT FOR TUNNEL-LININGS. HENRY JAPP, New York, N. Y. Filed Aug. 2, 1905. Serial No. 272,360.



Claim.—1. As a new article of manufacture, a tunnel-lining segment of wrought steel or iron, with four flanged edges, the outer corners of the flanged ends being sharp, as and for the purpose described.

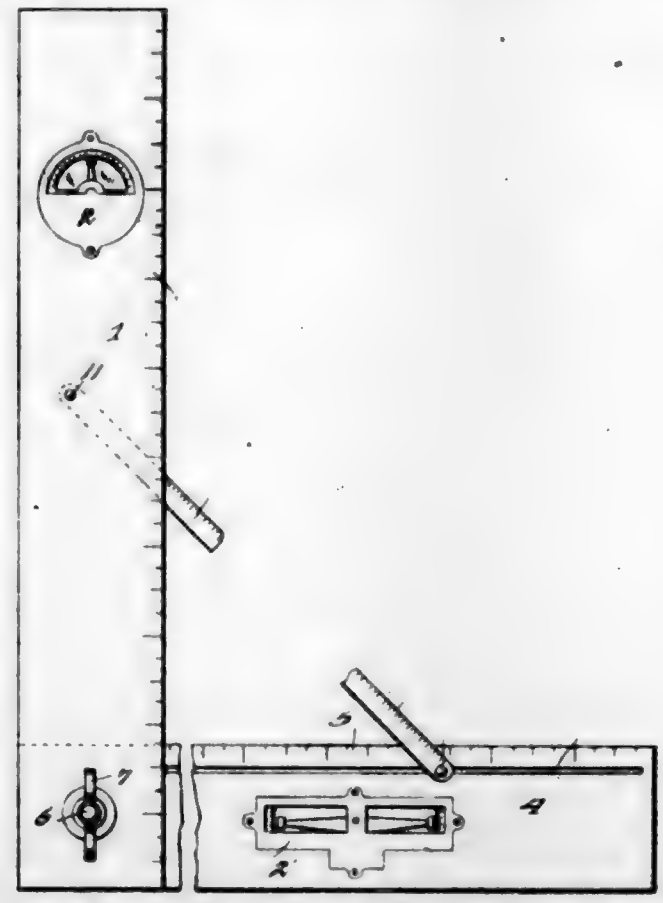
2. As a new article of manufacture, a tunnel-lining segment of wrought steel or iron, with four flanged edges, the outer corners of the flanged edges being sharp, as and for the purposes described.

3. As a new article of manufacture, a tunnel-lining segment of wrought-steel, with four flanged edges having calking-cheeks, the outer corners of the flanged edges being sharp, as and for the purposes described.

806,674. COMBINED PLUMB AND LEVEL. EDWARD F. JONES, Baton Rouge, La., assignor of one-half to John G. Wilson, Baton Rouge, La. Filed Aug. 5, 1905. Serial No. 272,867.

Claim.—1. In an instrument of the character described, an indicating device comprising a casing consisting of a body having a fixed side and a removable side, said sides being provided with observation-openings, glass panels closing said openings, stationary indicating members carried by the casing and retaining said panels in position, and a movable indicating member in the casing adapted to be viewed through said panels and coöperate with said stationary indicating members.

2. In an instrument of the character described, an indicator comprising a casing composed of a body or rim having a stationary side and a removable side, said sides being provided with bearing-bosses and retaining-flanges and having observation-openings formed therein, glass panels closing said observation-openings and resting against said retaining-flanges, stationary indicating members fixed to the body or rim and holding said panels in engagement with the retaining-flanges, a pivot member carried by the bearing-bosses, and a movable indicating member journaled on said pivot member.



3. In an instrument of the character described, a body or stock carrying a plumb comprising a casing having sides, said sides being apertured to form observation-openings and provided with supporting-bosses and retaining-flanges, glass panels closing said opening and resting on said bosses and against said flanges, stationary graduated indicators secured to the casing and holding said panels against the flanges, and a pendulum adapted to coöperate with said sationary indicators.

4. In an instrument of the character described, a body or stock provided with a plumb comprising a circular casing having sides, each side being provided in its upper half with an observation-opening bounded by a retaining-flange and having supporting lugs or projections below the base thereof, each side also having a central boss, transparent panels corresponding in form to the opening and supported by said lugs or projections and resting against said flanges, stationary indicating members provided with graduated arcs and secured in the casing and holding the panels against the flanges, a pivot-pin supported by the bosses, and a pendulum mounted upon the pivot-pin.

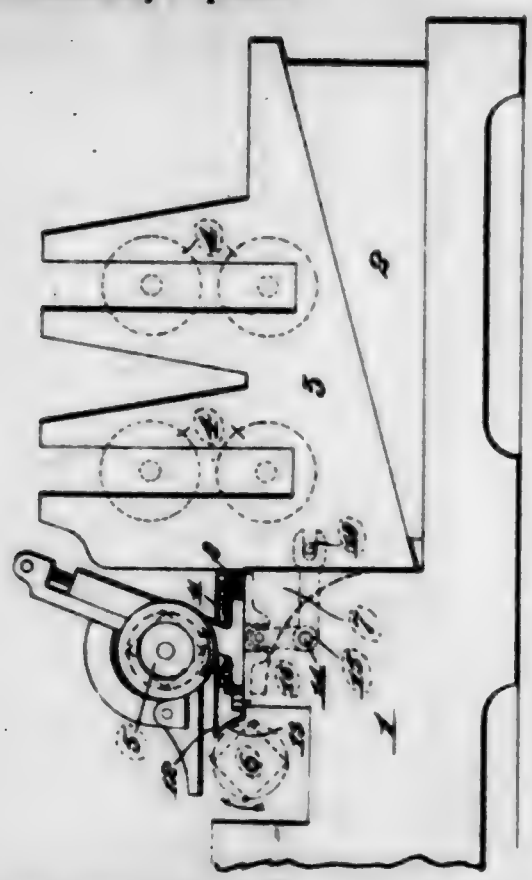
806,675. ADJUSTABLE BED-PLATE FOR WOOD-PLANERS. EDWIN JUDD, St. Louis, Mo. Filed July 11, 1905. Serial No. 269,254.

Claim.—1. The combination with a wood-planer and a movable frame carried thereby, of brackets formed integral with one end of the movable frame and extending toward the lower cutter-head, a bed-plate arranged to slide on the said brackets, and a bell-crank fulcrumed to the frame of the planer and having one end loosely connected to the bed-plate, and having its opposite end loosely connected to the movable frame; substantially as specified.

2. The combination with a wood-planer having a wedge-frame and a movable frame carried by said wedge-frame, of a pair of brackets formed integral with one end of the movable frame, and extending toward the lower cutter-head, a bed-plate arranged to slide upon the brackets, a shaft mounted in the frame of the planer below the brackets, a bell-crank mounted upon said shaft, and the upper end of the vertical arm of said bell-crank engaging the under side of the bed-plate, and the outer end of the horizontal arm of said bell-crank being loosely connected to the movable frame; substantially as specified.

3. The combination with a wood-planer having a wedge-frame and a movable frame carried thereby, of brackets carried by the

movable frame and extending toward the lower cutter-head, a bed-plate arranged to slide on said brackets, and a bell-crank so fulcrumed and connected to said bed-plate and movable frame as to move the bed-plate horizontally when the movable frame is moved vertically; substantially as specified.



4. The combination with a wood-planer having a wedge-frame and a movable frame carried thereby, of brackets fixed to the movable frame and extending toward the lower cutter-head, gibs mounted on top of said brackets, a plate having its ends arranged to slide beneath the gibs, a pair of lugs integral with the under side of said plate, a bed-plate mounted on top of said plate, a shaft transversely arranged in the frame of the planer, a bell-crank carried by said shaft, the upper end of the vertical arm of which bell-crank is arranged between the lugs of the plate, and the outer ends of the horizontal arm being bifurcated, and a rod carried by the movable frame and which passes through the bifurcated end of the bell-crank; substantially as specified.

806,676. MECHANICALLY-ACTUATED GOVERNING-VALVE FOR ELASTIC-FLUID TURBINES. OSCAR JUNGGREN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Aug. 14, 1902. Serial No. 119,465.

Claim.—1. In a turbine, the combination of a plurality of separately-actuated valves arranged in groups with a means common to the groups and acting upon the latter successively.

2. In a turbine, the combination of a plurality of separately-actuated valves arranged in groups, a device for operating the valves of each group successively, and a means common to the said devices for imparting sequential movements thereto.

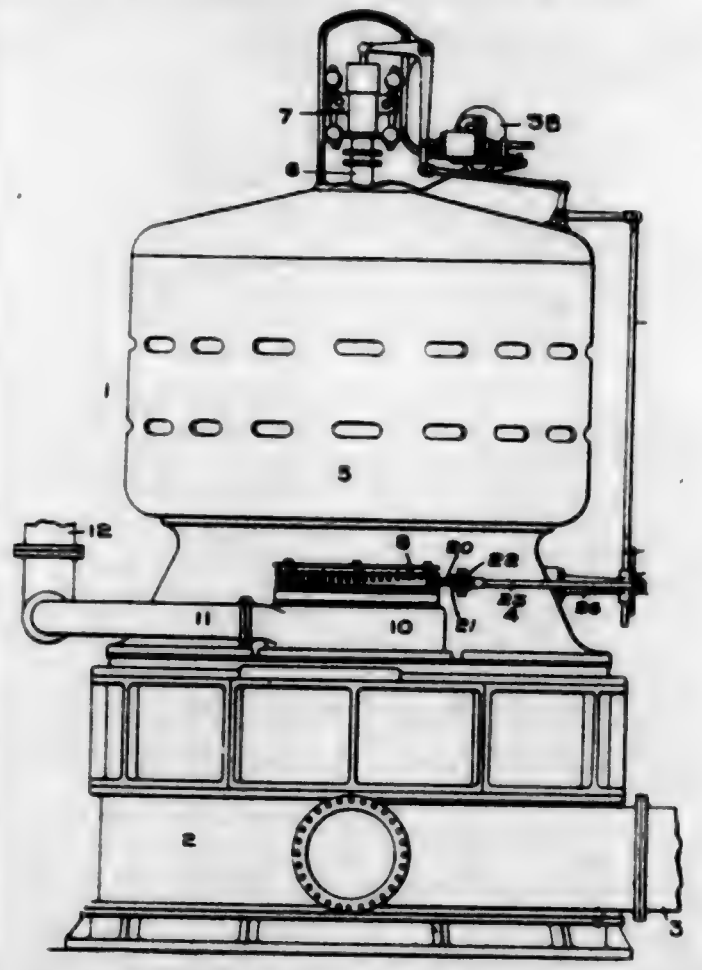
3. A turbine comprising a device responsive to load changes and a plurality of separately-actuated valves arranged in groups, in combination with a mechanical connection between the load-responsive device and the valves for successively and positively operating the valves in the different groups.

4. A turbine comprising a device responsive to load changes and a plurality of separately-actuated valves arranged in groups, in combination with an actuating means controlled by the load-responsive device for successively operating the valves of the different groups, and a lost-motion connection between the said device and each group of valves.

5. An elastic-fluid turbine comprising a device responsive to load changes and valves arranged in groups for regulating the admission of motive fluid to the wheel, in combination with an actuating means between each group of valves and the load-responsive device which includes a lost-motion device.

6. An elastic-fluid turbine comprising a device responsive to load changes and valves arranged in groups, in combination with a separate means for operating each group, and a lost-motion connection between each of the separate means and the speed-responsive device for actuating the valves in the different groups sequentially.

7. An elastic-fluid turbine comprising a device responsive to load changes and valves for regulating the admission of fluid, in combination with means for actuating one of the valves, a means for operating another valve, and a lock for holding one valve-actuating means in a given position while another is being moved.



8. An elastic-fluid turbine comprising a device responsive to load changes and admission-valves arranged in groups, in combination with a means for successively actuating the valves of the different groups, and a lock for holding the valves of one group fixed while the others are moving.

9. An elastic-fluid turbine, comprising a device responsive to load changes, admission-valves arranged in a group, auxiliary valves controlling the admission-valves, a cam acting on the auxiliary valves, and an operative connection including gearing between the load-responsive device and the cam.

10. A turbine comprising a device responsive to load changes, admission-valves arranged in groups for independent action, an actuating means which operates the valves sequentially, and a connection between the load-responsive device and the actuating means of each group for actuating them successively.

11. An elastic-fluid turbine comprising a device responsive to load changes, and admission-valves, in combination with a rack and mutilated gear for operating the valves.

12. An elastic-fluid turbine comprising a device responsive to load changes, admission-valves arranged in groups, a cam for actuating each group of valves, and a lost-motion connection between each cam and the load-responsive device.

13. An elastic-fluid turbine, comprising a device responsive to load changes, admission-valves arranged in groups, a means for successively actuating the valves of each group, and an actuator containing a lost-motion connection, and under the control of the load-responsive device, which acts first on one group of valves and then another.

14. An elastic-fluid turbine comprising a device responsive to load changes, admission-valves arranged in groups, a cam for actuating each group of valves, an actuator for successively moving the cams of the different groups, and a lock for holding one cam while another moves.

15. An elastic-fluid turbine comprising a device responsive to load changes, admission-valves arranged in groups, a means acting on the valves in each group to open and close them, gearing for actuating each of said means, and a rack which operates the gearing and is itself controlled by the load-responsive device.

16. A turbine including a speed-responsive device and admission-valves arranged in groups, in combination with a rack having as many sets of teeth as there are groups of valves, and gears meshing with the rack-teeth for opening and closing the valves.

17. A turbine including a speed-responsive device and admission-valves arranged in groups, in combination with a rack having sets of teeth, the teeth in one set being staggered with respect to those of another set, gears meshing with the sets of teeth, and means for locking one gear while the other is operating.

18. In an elastic-fluid turbine the combination of a casing, admission-valves carried thereby, a speed-responsive device mounted on the main shaft, a rack carried by the casing, a linkage between the said device and the rack, actuating means for opening and closing the valves, and gearing between the rack and said means.

19. A turbine comprising groups of admission-valves, each group including a number of valves, an actuator common to the valves of each group for positively actuating them, and a means responsive to load changes for imparting movement to all of the actuators.

20. A turbine comprising a positively-driven device responsive to load changes, an admission-valve, and an auxiliary or relay device controlling said valve, in combination with an actuator between the load-responsive device and the auxiliary valve for actuating it, and means for rendering said actuator inoperative without interfering with the continued action of the load-responsive device.

21. A turbine comprising a device responsive to load variations and a plurality of admission-valves arranged to control the admission of fluid to the turbine, in combination with a plurality of independently-movable actuators between the load-responsive device and the separate valves, and means for rendering an actuator inoperative under predetermined conditions of operation without affecting the other or others and the load-responsive device.

22. A turbine comprising a device sensitive to load changes and an admission-valve, in combination with a valve-actuator, a connector between the device sensitive to load changes and the valve-actuator, and a means for operatively connecting the valve-actuator and the connector when the said device assumes a predetermined position.

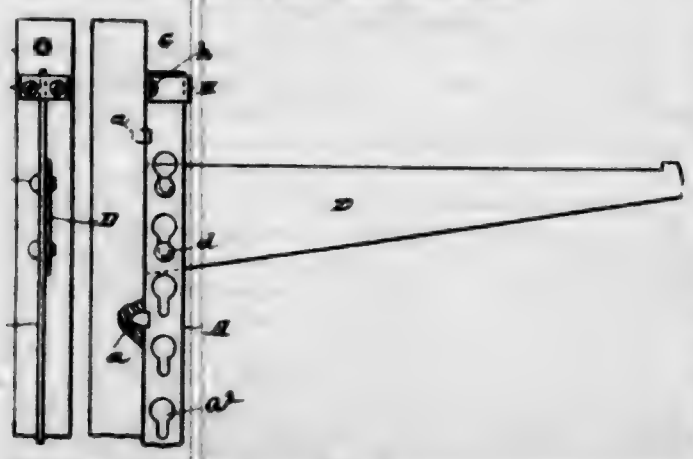
23. A turbine comprising a device sensitive to load changes and an admission-valve, in combination with a valve-actuator, a connector between the device sensitive to load changes and the valve-actuator, and a means fortperatively connecting the valve-actuator and the connector when the speed of the turbine reaches a predetermined point and for disconnecting them when the speed variation exceeds a predetermined point.

24. A turbine comprising a device responsive to speed variations and a plurality of admission-valves, in combination with an independently-movable actuator between each valve and the speed-responsive device, and means for rendering these actuators operative and inoperative as the conditions of operation vary.

25. In a governing mechanism for turbines, the combination of a valve which regulates the admission of motive fluid to the turbine, a cam for causing the valve to open or close in response to load changes, a mutilated gear and rack for actuating the cam, and a speed responsive device for regulating the action of the cam.

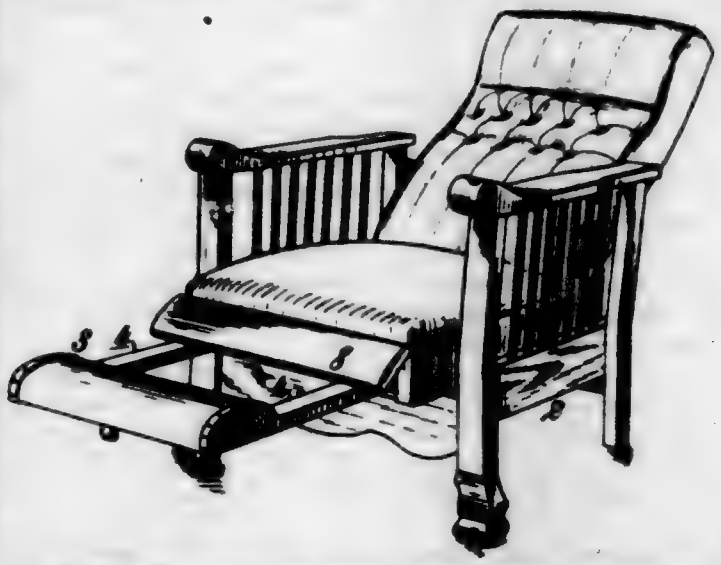
26. In a governing mechanism for turbines, the combination of a plurality of separately-actuated valves arranged in groups, a speed-responsive device, and mechanical means acting under the control of the speed-responsive device for opening and closing the valves in predetermined order.

806,677. **BRACKET AND SUPPORT.** HENRY F. KEIL, Bronxville, N. Y. Filed Feb. 18, 1904. Serial No. 194,230.



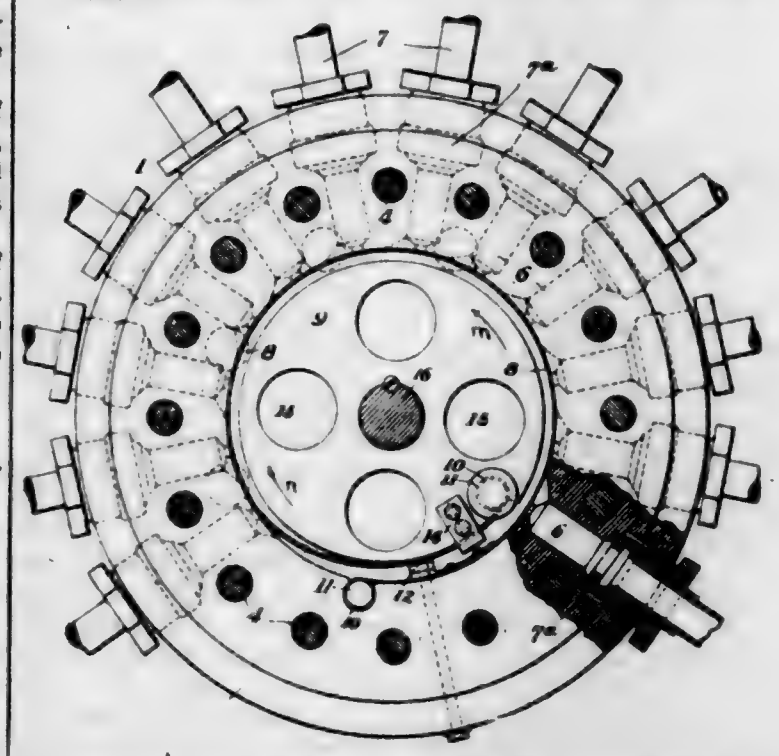
Claim.—The combination with a bracket-arm support made of sheet metal, provided on its rear edge with wall-entering means and having a vertical series of openings, of a bracket-arm adapted for engagement with the side of said support, and provided with means for engaging the said openings to secure the parts together, the rear end of the bracket-arm, when the parts are assembled, being flush with the rear edge of the bracket-arm support, straps embracing the support, and means for securing the straps to a wall or fixed upright.

806,678. **FOOT-REST FOR CHAIRS.** THOMAS F. KELLY, Clinton, Iowa, assignor to J. A. Kelly & Bros., Clinton, Iowa, a Corporation of Iowa. Filed Feb. 25, 1904. Serial No. 195,296.



Claim.—The combination of a box-like chair-frame having an opening in its front, a slide supported by the bottom of said frame and consisting of parallel side bars, a foot-rest connected to said side bars at their forward ends and movable back and forth through said opening and adapted, when in its extreme backward position, to be housed with said bars in said box-like frame, and a drop-down door hingedly carried by the front side of said frame above said bars and adapted to close said opening when the foot-rest and bars are housed in the frame and adapted to be upheld by the bars when the foot-rest is advanced to a point in front of the door.

806,679. **REGULATING DEVICE FOR STEAM-TURBINES.** WALTER KIESER, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed Mar. 17, 1904. Serial No. 198,657.



Claim.—1. In a governing mechanism, the combination of a valve-casing having a curved wall, conduits extending through the wall and terminating in ports, a resilient valve having the general contour of the wall, and means for flexing or bending the valve in a manner to open and close the ports.

2. In a governing mechanism for elastic-fluid turbines, the combination of a valve-casing having a circular wall, radial fluid-conveying conduits therein, a resilient member having the general contour of the wall, and means for flexing or bending the member to open or close the conduits successively.

3. In a governing mechanism, for elastic-fluid turbines, the combination of a valve-casing, a plurality of independent fluid-con-

veying conduits communicating with the casing and extending outwardly therefrom, and a single flexible band-shaped valve for opening and closing the conduits successively.

4. In a governing mechanism for elastic-fluid turbines, the combination of a valve-casing, a plurality of conduits arranged in the wall of the same, an elastic metallic band supported stationary at one end and disposed adjacent to the wall for controlling communication between the conduits and casing, and means attached to the other end of the band for imparting a winding or unwinding movement thereto.

5. In a governing mechanism for elastic-fluid turbines, the combination of a valve-casing having a cylindrical wall, conduits extending through the wall and communicating with the casing, a flexible member for controlling communication between the casing and the conduits, and means for winding or unwinding the member to cover or uncover the conduits.

6. In a governing mechanism, the combination of a valve-casing comprising a circular ring having passages therein, end plates or heads secured on opposite sides of the ring, and a flexible member for opening or closing said passages.

7. In a governing mechanism, the combination of a casing having a curved wall, a plurality of conduits in the wall, a circular disk-shaped carrier arranged concentric with the wall, a valve secured between the casing and carrier and disposed around the latter, and means for actuating the carrier to move the valve to uncover or cover the conduits.

8. In a valve mechanism, the combination of a casing having a curved wall, a plurality of conduits in the wall extending outwardly therefrom, a carrier in the casing, a valve extending along said curved wall and attached to the casing and carrier, a rock-shaft upon which the carrier is mounted, and means for actuating the shaft and carrier to cause the valve to cover or uncover the conduits successively.

9. In a valve mechanism, the combination of a casing, a plurality of conduits communicating therewith, an arm extending laterally from the casing, a shaft supported by the arm and casing, means for rocking the shaft, and a valve adapted to be expanded or contracted by movement of the shaft to cover or uncover the conduits.

10. In a valve mechanism, the combination of a casing comprising a ring provided with conduits, heads on opposite sides of the ring, bolts for securing the heads and ring together, a supply-circuit communicating with the casing, a circular band or valve adapted to open or close the conduits, a carrier for the valve, and a rock-shaft for actuating the carrier.

11. In a valve mechanism, the combination of a casing comprising a ring having radially-disposed conduits, heads on opposite sides of the ring, bolts for securing the parts together, a central rock-shaft, an arm formed on one of the heads for supporting the shaft, a packing around the shaft, a circular resilient band or valve for controlling the conduits, and a carrier for the valve which is mounted in the casing on the shaft.

12. In a governing mechanism for turbines, the combination of a stationary curved wall provided with independent apertures, a flexible valve adapted to cover and close said apertures, and means for bending said valve away from said wall to successively uncover the said apertures.

13. In a governing mechanism for elastic-fluid turbines, the combination of a plurality of fluid-conveying conduits whose corresponding ends form valve-ports, a flexible valve which is adapted to successively cover or uncover the ports, and means for flexing or bending the valve to control the ports.

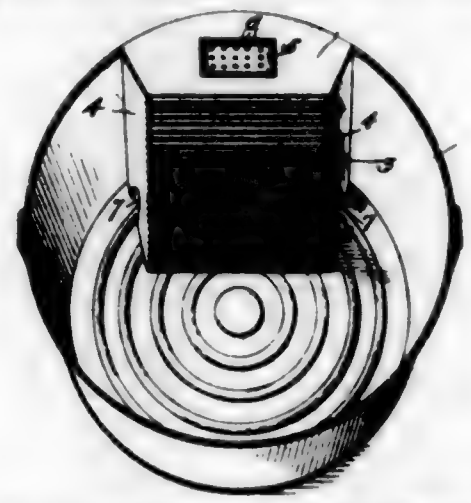
14. In a governing mechanism for elastic-fluid turbines, the combination of a plurality of fluid-conveying conduits whose corresponding ends form valve-ports, a valve which is adapted to successively cover or uncover the ports, and means for progressively flexing or bending the valve to control the ports.

15. In a governing mechanism for elastic-fluid turbines, the combination of a plurality of fluid-conveying conduits whose corresponding ends are arranged in the same surface and from valve-ports, and a flexible valve which is adapted to be flexed or bent toward or away from the ports to successively open or close the same.

16. In a governing mechanism for elastic-fluid turbines, the combination of a plurality of fluid-conveying conduits whose corresponding ends form valve-ports, a flexible valve anchored at one point, and means attached to the valve at another point for progressively flexing or bending the same to cover or uncover the ports successively.

17. In a governing mechanism for turbines, the combination of a wall provided with individual ports, separate conduits each connected to a port through which motive fluid passes to the turbine, a flexible valve adapted to cover and close said ports, and a means for bending the valve away from said wall to uncover the ports.

806,680. COMBINED WASHTUB AND WASHBOARD. FRANK X. KOTTMEYER, Louisville, Ky. Filed May 11, 1905. Serial No. 259,843.

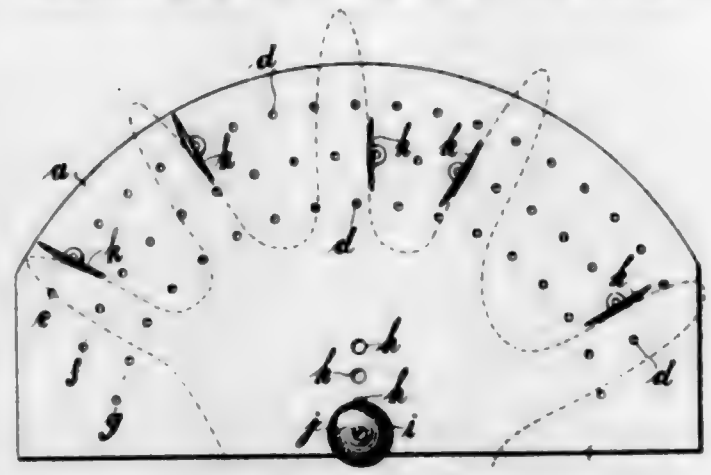


Claim.—1. A washtub having in one side thereof a hollow washboard having side walls to bear against one side of a tub, and an outwardly-extending top plate to also bear against the side of the tub, said top plate being provided with a soap-holder.

2. A washtub having in one side thereof a hollow washboard made of sheet metal and comprising a corrugated rubbing-wall, side walls extending outwardly therefrom to bear against the side of the tub, and an outwardly-extending top plate at the upper edge of the rubbing-board to also bear against the tub and extending between the said side walls, said top plate having a depressed portion forming a soap-holder.

3. A washtub having a corrugated bottom, and a hollow washboard at one side of and bearing against the tub and provided with a soap-holder having means whereby to drain into the space formed in the hollow washboard, said space in the hollow washboard communicating with the interior of the tub.

806,681. FINGER-EXERCISING DEVICE. EDMUND B. KURSHEEDT, East Orange, N. J. Filed Aug. 3, 1905. Serial No. 272,480.



Claim.—1. A finger-exercising device or hand-expander comprising a base-plate, a large number of openings therein arranged in a plurality of segmental and parallel series, and a number of independent finger plates or keys each adapted to be set in one of the openings in the base-plate.

2. A finger-exercising device or hand-expander comprising a base-plate, supports secured thereto having rubber buttons at the bottom, a large number of openings in the front portion of said base-plate arranged in a plurality of segmental and parallel series, and a number of independent finger plates or keys each adapted to be set in one of the openings in the base-plate.

3. A finger-exercising device or hand-expander comprising a base-plate, a large number of openings in its front portion arranged in a plurality of segmental and parallel series, a plurality of threaded openings in the rear center portion of the base-plate, an adjustable hand-support or knob with central screw adapted to be applied in each of the threaded openings, and a number of finger-plates each adapted to be set in one of the openings in the front portion of the base-plate.

4. A finger-exercising device comprising a base-plate, supports

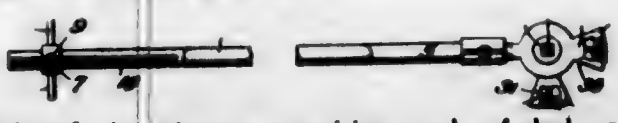
secured thereto having each a rubber button at the bottom, a large number of openings in the front portion of said base-plate arranged in a plurality of segmental and parallel series, and a number of threaded openings in the rear center portion of the base-plate, an adjustable hand-support or knob with central screw adapted to be secured in each of the threaded openings, and a number of finger-plates each adapted to be set in one of the openings in the front portion of the base-plate.

5. A finger-exercising device comprising a base-plate, having supports below, a large number of openings in the front portion, and a plurality of threaded openings in the rear center portion, an adjustable hand-support or knob with central screw adapted to be applied in each of the threaded openings, and a plurality of finger-plates each adapted to be set in one of the openings in the front portion of the base-plate.

6. A finger-exercising device comprising a base-plate with openings in the front portion, threaded openings in its rear center portion, an adjustable hand-support adapted to be applied in the threaded openings, and a number of finger-plates consisting each of the finger-plate proper having a slightly-curved front portion, an integral piece on its lower rear surface in the center, and a pin in said piece extending downwardly and adapted to be inserted in the front openings of the base-plate.

7. A finger-exercising device comprising a base-plate with supports below, openings in the front portion, threaded openings in its rear center portion, an adjustable hand-support adapted to be applied in the threaded openings and a number of finger-plates consisting each of the finger-plate proper having a slightly-curved front surface, an integral piece on its lower rear surface in the center, and a pin in said piece extending downwardly and adapted to be inserted in the front openings of the base-plate.

806,682. AXLE-GAGE. ALFRED KURT, St. George, Utah. Filed Aug. 3, 1905. Serial No. 272,567.



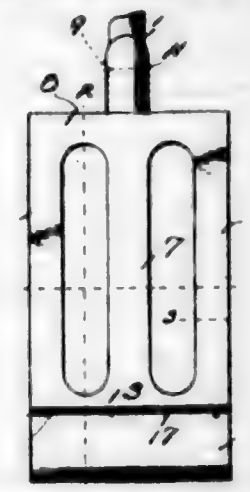
Claim.—1. An axle-gage comprising a rod, a forked arm adjustably mounted upon one of its ends, a bearing-plate adjustably mounted upon the other end of said rod, an arm composed of inner and outer pivotally-connected sections, said inner sections being pivotally connected to said bearing-plate, forked portions upon said outer section, dials upon said bearing-plate, and pointers carried by said arm-sections and coacting with said dials, substantially as described.

2. An axle-gage comprising a rod, an axle-engagnig arm upon one of its ends, a bearing-plate adjustably connected to the other end of said rod and formed with right-angularly-projecting dials having slotted portions and graduations adjacent to said slotted portions, an axle-engaging arm pivotally connected to said bearing-plate and consisting of two sections pivotally connected in a plane at right angles to the pivot of the last-mentioned arm, the outer section of the last-mentioned arm being provided with forked portions to engage an axle-spindle, and pointers carried by the sections of said arm and projecting through the slots in said dial, substantially as described.

3. An axle-gage comprising a rod offset intermediate its ends and having at one end longitudinally-extending grooves and at its opposite end an annular series of apertures, an arm slidably mounted upon the grooved end of said rod and formed with a forked outer end, a set-screw in said arm adapted to engage the grooves in said end of the rod, a sleeve upon the opposite end of said rod, a bearing-plate having a portion projecting into the apertured end of said rod, a set-screw in said sleeve for adjustably clamping said bearing-plate upon said rod, an arm pivotally connected to said bearing-plate and formed of inner and outer sections pivotally connected together, forked portions upon the end of the outer section of said arm, slotted dials upon said bearing-plate, and pointers projecting from the sections of said arm and through the slot in said dials, substantially as described.

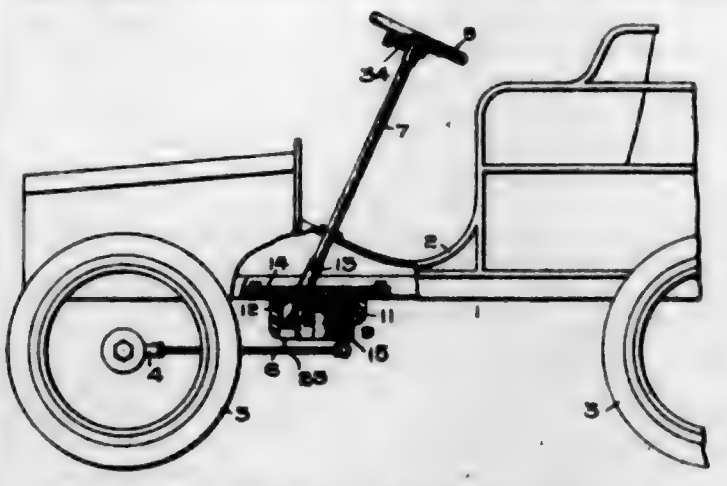
806,683. SPADE. NOAH D. LANGFORD, Luton, Iowa. Filed July 25, 1905. Serial No. 271,284.

Claim.—1. An implement of the class described comprising spaced vertical tines arranged in a horizontal arc, the outermost tines being transversely triangular and having their apices directed outwardly to present cutting edges, connecting-webs at the upper and lower ends of the tines, a socket carried by the upper web and having oppositely-disposed upwardly-extending wings formed thereupon, a handle engaged in the socket and lying between the wings, said wings being secured to the handle, said lower web being reduced laterally at its lower portion throughout its length to form a depending transversely-dovetail rib, the latter having its major portion directed downwardly, a bit having a sharpened lower edge, said bit having a dovetail groove in its upper face in which the rib is slidably engaged, and retaining devices removably engaged in the bit and in the rib.



2. A tiling-spade comprising spaced vertical tines arranged in a horizontal arc, the outermost tines having outwardly-directed cutting edges, connecting-webs at the ends of the tines, handle-attaching means carried by the upper web, a handle engaged with said means, the lower web being reduced laterally at its lower portion, a bit having portions resting against the reduced portion of the web, and retaining devices removably engaged in the bit and in the reduced portion of the web.

806,684. STEERING MECHANISM FOR SELF-PROPELLED VEHICLES. HERMANN LEMP, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Jan. 13, 1904. Serial No. 188,845.



Claim.—1. In combination, a driving and a driven member, a mechanical power-multiplying connection between the members, and a device independent of the connection for preventing the transmission of strains from the driven member to the driving member.

2. In combination, a driving and a driven member, a power-multiplying connection between the members, a device independent of the connection for preventing the transmission of strains from the driven to the driving member, and a means under the control of the driving member for controlling the action of the said device.

3. In combination, a driving and a driven member, gearing between the members so arranged that one member has a greater movement than the other, a locking device for preventing the transmission of strains from the driven to the driving member, and a means controlling the locking and unlocking of the said device which is itself controlled by the member having the greater movement.

4. In a steering mechanism, the combination of a driving and a driven member, a power-transmitting connection between them, and a motion-checking device separate from the connection and controlled by the driving member for preventing the transmission of strains from the driven to the driving member.

5. In a steering mechanism, the combination of a driving and a driven member, a power-transmitting connection between them, a road steering-wheel connected to the driven member, a motion-checking device attached to the driven member which prevents the transmission of strains from the wheel to the driving member, and a

controlling means for the checking device which is controlled by the driving member.

6. In a steering mechanism for vehicles, the combination of two movable elements, a driving connection between them which causes one element to move at a rate different from that of the other, and a device independent of the connection which permits only one element to drive the other.

7. In a steering mechanism for vehicles, the combination of a driving and driven element, a connection between them which causes relatively different rates of movement, and a motion-checking device independent of the connection which is locked when the driving element is at rest and is unlocked when said element is actuating the driven element.

8. In a steering mechanism for vehicles, the combination of two operatively-connected members movable on different axes, one being a power-imparting member and the other a power-receiving member having a tendency to reversibility, and a hydraulic motion-checking device which permits the power-imparting member to move the power-receiving member and prevents the latter member from moving the former.

9. In a steering mechanism for vehicles, the combination of two elements connected to have dissimilar movements, a hand wheel or lever on one of the elements, and a hydraulic motion-checking device on the other element which is capable of being operated by the wheel-carrying element and incapable of being operated by the other element.

10. In a steering mechanism for vehicles, the combination of two movable elements, a connection between the two whereby one is caused to have a greater movement than the other, a steering-grip on one of the elements which turns on the axis thereof, a motion-checking device on the other element, and means on the grip-carrying element for controlling the motion-checking device which is operated by the grip during the initial part of its movement.

11. In a steering mechanism for vehicles, the combination of two relatively movable elements, a steering-wheel on one of the elements which is adapted to turn on the axis thereof, a motion-checking device on the other element, and means on the first element which is actuated by the steering-wheel for controlling the motion-checking device.

12. In a steering mechanism for vehicles, the combination of a driving element, a driven element, a power-multiplying connection between them, and means on the driven element which is independent of said connection and is controlled by the driving element for rendering the elements relatively movable or immovable.

13. In a steering mechanism for vehicles, the combination of two elements, power-transmitting means whereby one element operates the other at a different speed, and a hydraulic motion-checking device for controlling the movement of the elements.

14. In a steering mechanism for vehicles, the combination of two elements, power-multiplying gearing operatively connecting the same, a hydraulic motion-checking device on the high-powered element, and a means on the lower-powered element actuated during a definite limited portion of the movement thereof for controlling the checking device irrespective of the relative positions of the elements.

15. In a steering mechanism for vehicles, the combination of two elements, power-multiplying gearing between the elements, a hydraulic motion-checking device on the high-powered element, and means on the lower-powered element for controlling the motion-checking device.

16. In a steering mechanism for vehicles, the combination of two elements, a power-multiplying gearing operatively connecting the same, a hydraulic motion-checking device on the high-powered element, and means for controlling the checking device irrespective of the relative position between the elements.

17. In a steering mechanism for vehicles, the combination of a steering-post, a movable element connected to the road steering-wheels, a gearing between the post and said element, and a hydraulic checking device which acts directly on the movable element for controlling the movement thereof.

18. In a steering mechanism for vehicles, the combination of two elements, one of the elements being a steering-post and the other a connection for the road steering-wheels, power-multiplying gearing operatively connecting the elements, a hydraulic checking device in said connection, and means on the steering-post for controlling the hydraulic checking device.

19. In a steering mechanism for vehicles, the combination of two elements capable of relative movement, power-transmitting means between the same, a hydraulic checking device on one of the elements, a valve mechanism controlling said checking device, and an actuating means for the valve mechanism on the other element and controlled thereby.

20. In a steering mechanism for vehicles, a combination with a steering-post and hand-wheel or lever of a gear carried by said post, a shaft, a gear thereon meshing with a gear on the steering-post, a hydraulic checking device controlling the shaft, a valve mechanism for the hydraulic checking device, an actuating-rod for the valve mechanism mounted on the steering-post, and means on the hand-wheel adapted to actuate said rod upon the initial movement of the hand-wheel or lever.

21. In a steering mechanism for vehicles, the combination of a hydraulic motion-checking device, a steering-shaft, a longitudinally-movable rod carried by the shaft, a hand-wheel or lever mounted on the shaft, and a means on the wheel or shaft for imparting movement to the rod for controlling the checking device.

22. In a steering mechanism for vehicles, the combination of a steering-post, a hand-wheel or lever mounted thereon and having a limited amount of lost motion with respect thereto, a rod carried by the shaft, a device for actuating the rod during the lost motion of the hand-wheel or lever, and a motion-checking device controlled by the rod.

23. In a steering mechanism for vehicles, the combination of a steering-post, a hand-wheel or lever mounted thereon and having a limited amount of lost motion with respect thereto, and actuating mechanism actuated during the period that the hand-wheel is taking up the lost motion, a shaft, power-multiplying gearing between the steering-post and shaft, and a motion-checking device connected to the shaft and controlled by the hand-wheel.

24. In combination, a steering-post, a hand-wheel mounted thereon, a hydraulic checking device, and a valve-actuating mechanism carried by the steering-post, comprising a longitudinally-movable rod mounted in the post, and means actuated by the hand-wheel for moving the rod in one direction.

25. In a steering mechanism, the combination of a steering-post, a hand-wheel, a lost-motion connection between the hand-wheel and steering-post, a hydraulic checking device, an actuator controlling said device, a means adapted to be actuated through the lost-motion connection for imparting motion to the actuator.

26. In a steering mechanism, the combination of a steering-post, a hand-wheel, a lost-motion connection between the hand-wheel and steering-post, means for rendering the lost-motion connection effective to the initial movement of the hand-wheel in both directions, a hydraulic checking device, an actuator controlling said device, a means adapted to be actuated through the lost-motion connection for imparting motion to the actuator.

27. In a steering mechanism, the combination of a steering-post, a steering-wheel, a means connecting the wheel and the post and permitting the tilting of the former, a lost-motion connection between the wheel and post, a hydraulic checking device, an actuator mounted in the post for controlling the checking device, and means for operating the actuator through the lost-motion connection upon initial movement of the wheel.

28. In a steering mechanism, the combination of a steering-post, a tilting hand-wheel mounted thereon, a lost-motion connection between the wheel and post, a spring-controlled actuator mounted in the post, a cam for moving said actuator through the lost-motion connection, and a hydraulic checking device controlled by the actuator.

29. In a steering mechanism, the combination of a steering-post, a hand-wheel or lever, a lost-motion device between the same, a pivotal connection between the hand-wheel or lever and lost-motion device, an actuator carried by the steering-post, and means intermediate the steering-post and hand-wheel for imparting motion to the actuator.

30. In a steering mechanism, the combination of a steering-post, a hand-wheel or lever, a lost-motion device between the hand-wheel and steering-post, means for arresting the lost-motion device arranged on the steering-post adjacent the hand-wheel, and an actuator carried by the steering-post operating through the lost-motion device.

31. In a steering mechanism, the combination of a steering-post, a hand-wheel or lever, a lost-motion device connecting the two, a radially-extending shaft mounted on the upper end of the steering-post, a pinion secured to the shaft, a cam also secured to the shaft, a rack carried by the hand-wheel or lever, means for arresting the movement of the pinion relatively to the rack, and an actuator carried by the steering-post and adapted to be operated by the cam.

32. In a steering mechanism, the combination of a steering-post, a hand-wheel or lever, a lost-motion device connecting the two,

a radially-extending arm rigidly carried by the steering-post at its upper end, a revolving shaft mounted therein, gearing between the shaft and hand-wheel, a spring stopping device at the outer end of the radially-extending arm adapted to arrest the lost-motion device, and means carried by the steering-post operated by the revolving shaft.

33. In a steering mechanism, the combination of a steering-post, a hand-wheel or lever mounted thereon, a lost-motion device connecting the two, an actuator on the steering-post, and means for imparting longitudinal movement to the actuator through a slight movement of the hand-wheel or lever.

34. In a steering mechanism, the combination of a steering-post, a hand-wheel or lever mounted thereon through a lost-motion connection, a radially-extending arm rigid with the steering-post at the upper end thereof, a revolving shaft mounted therein, a gearing between the shaft and hand-wheel, a lever, spring-abutments at the outer end of the radially-extending arm for limiting the amount of the lost motion, an actuator carried by the steering-post, means intermediate the revolving shaft and actuator for imparting longitudinal movement to the latter in one direction, and a spring for returning the actuator and coöperating with the spring-abutments for maintaining the lost-motion device in a position normal to its range of movement.

35. In a steering mechanism, the combination of a steering-post, a tilting hand-wheel mounted thereon and capable of a limited rotary lost motion at the beginning of rotation in either direction, an actuator mounted in the post, means coöperating with the actuator and movable with the post, and means on the hand-wheel for operating the first-mentioned means, and a motion-checking device controlled by the actuator.

36. In a steering mechanism, the combination of a steering-post, a hand-wheel or lever mounted thereon and rotatable therewith, a lost-motion connection between the hand-wheel and post, a longitudinally-movable rod in the post, guides for the same, a symmetrical cam for actuating the rod, a radially-extending shaft mounted on the post and movable through a pinion carried by the shaft, a rack on the hand-wheel meshing with the pinion, and a motion-checking device controlled by the rod.

37. In a steering mechanism, the combination of a steering-post mounted to move about its axis, a longitudinally-movable rod therein, a motion-checking means controlled by the rod, and means carried by the steering-post which, when turned in either direction, initially actuates the rod and finally rotates the steering-post

38. In a steering mechanism, the combination of a hydraulic checking device, a valve mechanism controlling the same, a shaft controlled by the checking device, a steering-post operatively connected to the shaft, and means carried by the steering-post which, when turned in either direction, initially operates the valve mechanism and finally rotates the steering-post.

39. In a steering mechanism for vehicles, the combination of a shaft and a hydraulic checking device controlling the same, the latter comprising a casing, a piston therein rigid on the shaft, a valve mechanism controlling the transfer of the liquid contained in the casing between opposite sides of the piston, a steering-post arranged out of alinement with the shaft, a hand-wheel or lever on the post, and a valve-actuating device operated by the hand-wheel or lever.

40. In a steering mechanism, the combination of a steering-post, a hand-wheel or lever for moving the post, steering road-wheels, a shaft to which they are connected, a power-transmitting connection between the post and the shaft, a motion-checking device separate from said connection which prevents the transmission of strains from the road-wheels and shaft to the hand-wheel or lever.

41. In a steering mechanism for self-propelled vehicles, the combination of a steering-post, an actuator therein, a shaft located out of alinement with the steering-post and actuated thereby, and a hydraulic checking device controlling said shaft, said device comprising a piston-chamber, a piston dividing the same into two compartments, a valve-chamber, separate passages between the valve-chamber and compartments of the piston-chamber, valves in said passages, and means operated by the actuator of the steering-post for opening the valves.

42. In a steering mechanism for self-propelled vehicles, the combination of a steering-post, an actuator therein, a shaft located out of alinement with the steering-post, means operatively connected with the shaft and steering-post, and a hydraulic checking device controlling said shaft, said device comprising a piston-chamber, a piston therein dividing the same into two compartments, a valve-chamber, passages connecting the valve-chamber with the compartments of the piston-chamber, valves controlling the passages, and a gravity-released lever for opening the valves, which is operated by the actuator in the steering-post.

43. In a steering mechanism for vehicles, the combination of a steering-post, an actuator therein, a shaft located out of alinement with the steering-post and actuated thereby, and a hydraulic checking device controlling said shaft, said device comprising a piston-chamber, a piston dividing the same into two compartments, a valve-chamber, passages connecting the valve-chamber with the compartments of the piston-chamber, valves controlling the passages, a gravity-released lever controlling the valve, and a loose abutting connection between the actuator and lever whereby each returns independently to its normal position.

44. In a steering mechanism for vehicles, the combination of a steering-post, a hand-wheel or lever mounted thereon, an actuator in the post, a shaft located out of alinement with the steering-post, gearing for imparting motion from the post to the shaft, and a hydraulic checking device controlling said shaft, said device comprising a piston-chamber, a piston dividing the chamber into two compartments, a valve-chamber, a passage between each compartment of the piston-chamber and the valve-chamber, gravity-actuated valves therein controlling the passages, an extension formed on the valve-chamber to aline with the steering-post, and a lever pivotally mounted therein to engage with the actuator in the steering-post for opening the valves simultaneously.

45. In a motion-checking device, the combination of a cylinder, a piston for dividing the cylinder-space into fluid-containing compartments, valves for controlling the passage of fluid from one compartment to another, and a means for raising the valves from their seats at the same time.

46. In a motion-checking device, the combination of a cylinder, a piston which divides the cylinder-space into fluid-containing compartments, self-closing valves for regulating the passage of fluid from one compartment to another, and a valve-actuating means which drops out of engagement with the valves.

47. In a steering-check, the combination with a movable piston, of two valves therein, and means for positively opening both valves simultaneously.

48. In a steering-check, the combination with a movable piston having a passage-way through it, of two ball-valves controlling the ends of said passage-way, and means for unseating both valves simultaneously.

49. In a steering-check, the combination with a movable piston having a passage-way, of two ball-valves controlling said passage-way, and a rocker having two fingers respectively engaging said valves.

806,685. GAFF-HOOK. EDWARD J. LOCKHART, Kalamazoo, Mich. Filed July 26, 1905. Serial No. 271,375.



Claim.—1. In a gaff-hook, the combination of the handle; a fixed jaw having a downwardly-curved shank; a movable jaw pivoted on said shank and adapted to coact with said fixed jaw in grasping an object, said movable jaw having a slot therein; a downwardly-projecting ear on said shank; and a lever pivoted on said ear arranged to be grasped by a hand grasping the handle, connected to said movable jaw by a pin arranged in said slot therein, said lever being arranged to serve as a counterbalance to open said movable jaw when released, for the purpose specified.

2. In a gaff-hook, the combination of the handle; a fixed jaw having a downwardly-curved shank; a movable jaw pivoted on said shank and adapted to coact with said fixed jaw in grasping an object; said movable jaw having a slot therein; a downwardly-projecting ear on said shank; and a lever pivoted on said ear arranged to be grasped by a hand grasping the handle, connected to said movable jaw by a pin arranged in said slot therein, for the purpose specified.

3. In a gaff-hook, the combination of the handle; a fixed jaw; a pivoted jaw adapted to coact with said fixed jaw in grasping an object, said pivoted jaw having a slot therein; and a pivoted lever arranged to be grasped by a hand grasping the handle, connected to said pivoted jaw by a pin arranged in said slot therein, said lever being arranged to serve as a counterbalance to open said pivoted jaw when released, for the purpose specified.

4. In a gaff-hook, the combination of the handle; a fixed jaw; a pivoted jaw adapted to coact with said fixed jaw in grasping an object; and a pivoted lever for closing said pivoted jaw, arranged to be grasped by a hand grasping the handle, said lever being arranged to serve as a counterbalance to open said pivoted jaw when released, for the purpose specified.

5. In a gaff-hook, the combination of the handle; a fixed jaw; a pivoted jaw adapted to coact with said fixed jaw in grasping an object; and a pivoted lever for closing said pivoted jaw, arranged to be grasped by a hand grasping the handle, said lever being arranged to serve as a counterbalance to open said pivoted jaw when released, for the purpose specified.

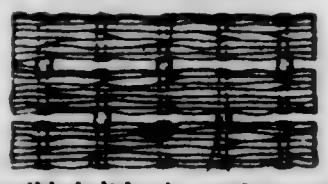
6. In a gaff-hook, the combination of the handle; a fixed jaw; a pivoted jaw adapted to coact with said fixed jaw in grasping an object; and a pivoted lever for closing said pivoted jaw, arranged to be grasped by a hand grasping the handle, for the purpose specified.

806,686. VAULT-MOLD. WILLIAM H. LUCAS, Newark, Ohio. Filed May 25, 1905. Serial No. 262,267.



Claim.—The herein-described mold comprising the plurality of sections each having one edge offset laterally to overlap the opposing edge of the next adjacent section, the battens disposed transversely on the inner sides of and secured to the several sections, and the hooks each pivoted on the inner side of a batten on one section, extending over the overlapped edges of said section and the next adjacent section and detachably secured to and bearing against the batten of said next adjacent section.

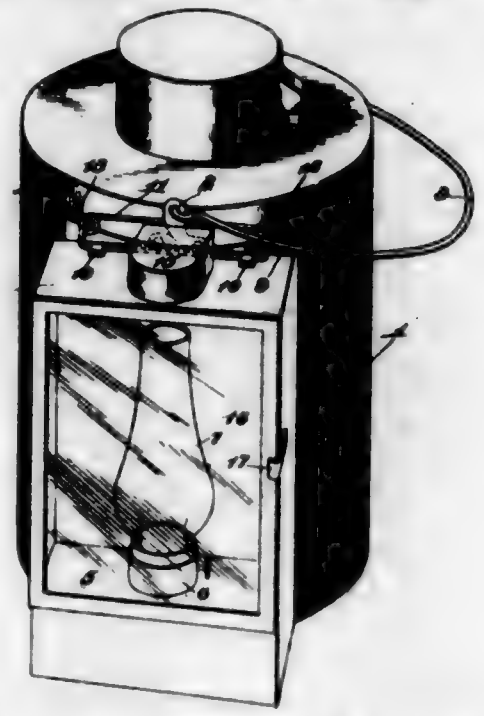
806,687. DRIVING-BELT. EMILIO MAGALDI, St. Denis, France. Filed Dec. 10, 1903. Serial No. 134,715.



Claim.—1. A flexible belt having a plane surface, composed of a number of leather strips securely bolted together so that in all positions the strips will be parallel, a bolt passing at right angles through a pair of said strips only, a parallel bolt closely adjacent thereto passing through only one of the aforesaid pair of strips, and, in addition through only one other of the adjacent strips and so on throughout the belt, and so firmly bolted that a pull on one strip of the belt will be distributed to all the others without materially displacing them, said belt being, as a whole, flexible and with imperceptible flexure at any one portion more than another.

2. A flexible belt, composed of a plurality of leather strips bolted together in pairs only by rows of bolts passing therethrough at right angles to the strips, the bolts of one row binding only the adjacent strips of the pairs bolted by the other row and said rows of bolts alternating throughout the belt.

806,688. LANTERN ATTACHMENT. CHRISTINA MALMO, Walhorville, Mont. Filed June 21, 1905. Serial No. 266,212.

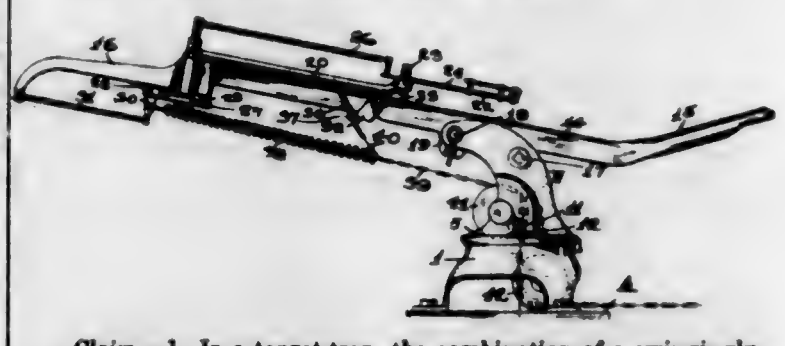


Claim.—1. A lantern attachment for pails comprising a casing provided with a partitioned lower portion forming a fuel-receptacle; and having a back and side walls, said side walls being backwardly extended, and a second back connecting said sides and shaped to conform to and bear upon the pail, for preventing the lamp from swinging.

2. A lantern attachment for pails comprising a casing having a back and side walls, said side walls being backwardly extended, and a second back connecting said sides and shaped to conform to the sides of the pail and serve as a means for conducting heat to the victuals within the pail.

3. The combination with a dinner-pail, of a lamp attachment comprising a casing having a back and side walls, said side walls being backwardly extended and a second back connecting said sides; flanges for securing the lower end of the casing to the pail, and a spring-latch for securing its upper end to said pail.

806,689. TARGET-TRAP. THEODORE MASEL, Alton, Ill., assignor to Hoyt Metal Company, St. Louis, Mo., a Corporation. Filed Oct. 8, 1904. Renewed Oct. 23, 1905. Serial No. 284,087.



Claim.—1. In a target-trap, the combination of a swingingly-mounted throw-arm, a support for said arm, a mainspring for imparting movement to said throw-arm, a latch with which said throw-arm engages, and a pull-chain having connection with said spring, said chain having a series of terminal links extending therefrom into direct connection with said latch, substantially as set forth.

2. In a target-trap, the combination of a swinging throw-arm, a support for said throw-arm, a shaft by which said throw-arm is carried, a toothed disk fixed to said shaft, a spring-bolt seated in said throw-arm support for engagement with said toothed disk, a mainspring connected to said toothed disk for imparting target-throwing movement thereto, and a second spring having connection with said disk for imparting continued movement to said throw-arm after said mainspring is relaxed, substantially as set forth.

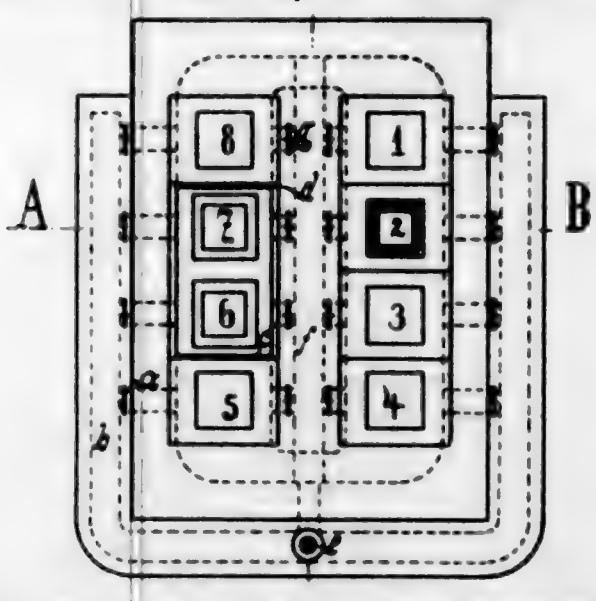
3. In a target-trap, the combination of a base, a turn-table surmounting said base, a friction-disk within said base beneath said turn-table adapted to bear against said base, and bolts connecting said turn-table and friction-disk, substantially as set forth.

4. In a target-trap, the combination of a base having a tapering seat interior thereof, a turn-table rotatably mounted on said base, a disk located within said base and having a tapering perimeter seat-

ing against said tapering seat, bolts passing vertically through said disk and turn-table and provided with nuts, and springs surrounding said bolts, substantially as set forth.

5. In a target-trap, the combination of a throw-arm support, a swingingly-mounted throw-arm journaled to said support, means for operating said throw-arm, a U-shaped latch straddling said throw-arm support to be engaged by said throw-arm, a pivot-bolt passing through the arms of said latch and said support, and a cushion-spring surrounding said pivot-bolt and positioned between one of the latch-arms and said support, substantially as set forth.

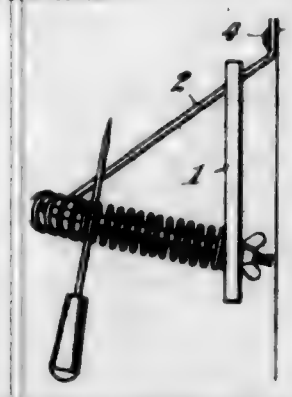
806,690. **ELECTRICAL RING-FURNACE.** KARL MEISER, Nuremberg, Germany. Filed Apr. 26, 1904. Serial No. 206,006.



Claim.—1. An electric ring-furnace comprising a ring-conduit, a series of chambers therein, means for electrically heating said chambers, a second conduit, connections between the ring-conduit and said second conduit, slides controlling said connections, a passage leading from the second conduit, connections from said passage to the chambers and slides controlling said connections substantially as described.

2. An electric furnace comprising a ring-conduit, a series of chambers therein, means for electrically heating said chambers, a second conduit, connections between the same and the ring-conduit, slides for controlling said connections, a passage leading from the second conduit, connections from said passage to the chambers and slides controlling said connections and a ventilator for producing a circulation of air and gas.

806,691. **TOOL-RACK.** FRANK MERTEN, Shattuc, Ill. Filed June 3, 1905. Serial No. 263,660.

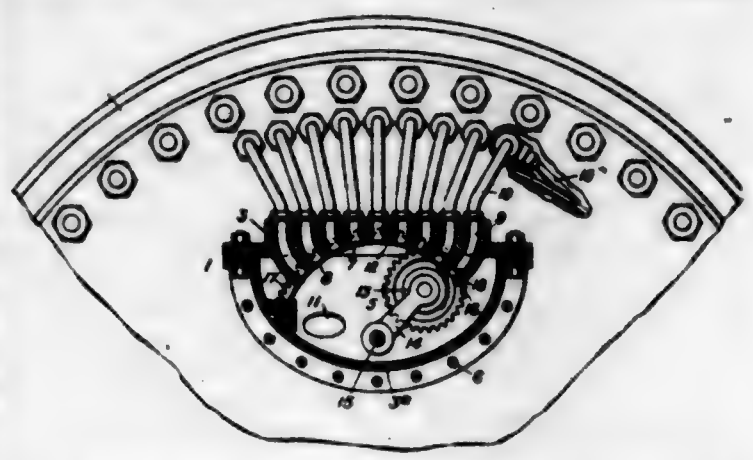


Claim.—1. A tool-rack comprising a base, a holding-rod terminally projected through the base and engaging thumb-nuts thereboyond, and a coil-spring encircling said rod forward of the base and being terminally secured to said base.

2. A tool-rack comprising a base, a holding-rod terminally adjustable in the base to increase or decrease its projection therebeyond, and a coil-spring encircling said rod forward of the base.

806,692. **GOVERNING MECHANISM FOR ELASTIC-FLUID TURBINES.** GUSTAV MEYENBERG, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed May 10, 1905. Serial No. 259,722.

Claim.—1. In a governing mechanism for turbines, the combination of a wall provided with a plurality of fluid-discharging ports, a rotatable carrier arranged to move along the wall, and a flexible band which is actuated by said carrier to cover or uncover the ports.



2. In a governing mechanism for turbines, the combination of a wall provided with one or more fluid-discharging openings or ports, a valve or flexible band arranged to cover or uncover the ports, a carrier on which the band is adapted to wind or unwind, and a means for moving the carrier over the wall and simultaneously winding or unwinding the valve to cause it to cover or uncover the ports.

3. In a governing mechanism for turbines, the combination of a wall provided with a plurality of independent fluid-discharging ports, a flexible valve arranged to cover or uncover the ports, a drum or carrier to which the valve is attached, and a means which simultaneously moves the drum about its axis and moves it bodily over the wall in a direction parallel thereto for progressively winding or unwinding the valve to cover or uncover the ports.

4. In a governing mechanism for turbines, the combination of a curved stationary wall provided with a plurality of independent fluid-discharging ports, a valve or flexible band arranged to cover or uncover the ports, a carrier for the valve which moves over the wall in a path concentric therewith, and a means for moving the drum about its axis simultaneously with its bodily movement over the wall for winding or unwinding the valve to successively open or close the ports.

5. In a governing mechanism for turbines, the combination of a curved wall provided with independent fluid-discharging ports, a valve or flexible band fixed at one end adjacent the wall, a carrier attached to the other end of the valve, and a common actuating means for simultaneously moving the carrier bodily and moving it about its axis for winding or unwinding the valve to successively open or close the ports.

6. In a governing mechanism for turbines, the combination of a wall provided with a plurality of independent fluid-discharging ports, a valve or flexible band for covering or uncovering the ports, a carrier for the valve, a support for the carrier, and a means on the support which imparts movement of the carrier about its axis during a to-and-fro movement of the support to permit the valve to cover or uncover the ports.

7. In a governing mechanism for turbines, the combination of a curved wall provided with a plurality of independent fluid-discharging openings, a valve or flexible band which is adapted to cover or uncover the openings, an oscillating member which carries the valve, and a means also carried by said member which winds or unwinds the valve simultaneously with the oscillation thereof for uncovering or covering the openings.

8. In a governing mechanism for turbines, the combination of a curved wall provided with a plurality of independent fluid-discharging openings, a valve or flexible band which is adapted to cover or uncover the openings, an oscillating member, and a means actuated by the member for moving the valve to successively cover or uncover the ports.

9. A governing mechanism for turbines comprising a curved wall provided with a plurality of independent openings which discharge motive fluid to the nozzles of the turbine, a flexible band or valve arranged to cover or uncover the said openings, in combination with a means for actuating the valve which comprises an oscillating and rotating member on which the valve winds or unwinds.

10. A governing mechanism for turbines comprising a curved wall provided with a plurality of independent openings which discharge motive fluid to the nozzles of the turbine, a flexible band or valve arranged to cover or uncover the said openings, in combination with a means for actuating the valve which comprises an oscillating drum to which the valve is attached, and a power-transmitting device which rotates the drum for actuating the valve to successively open or close the openings.

11. A governing mechanism for turbines comprising a curved wall provided with a plurality of independent openings which discharge motive fluid to the nozzles of the turbine, a flexible band or valve arranged to cover or uncover the said openings, in combination with a mechanism for actuating the valve comprising a carrier to which the valve is attached, means for moving the carrier parallel to the wall, and means for simultaneously rotating the carrier to cause the valve to wind or unwind for successively opening or closing the openings.

12. A governing mechanism for turbines comprising a curved wall provided with a plurality of independent openings which discharge motive fluid to the nozzles of the turbine, a flexible band or valve arranged to cover or uncover the said openings, in combination with a mechanism for actuating the valve comprising an oscillating arm, a drum mounted thereon to which the band is attached, and a gearing which rotates the drum during oscillation of the arm for winding or unwinding the valve to successively open or close the openings.

13. A governing mechanism for turbines comprising a curved wall provided with a plurality of independent openings which discharge motive fluid to the nozzles of the turbine, a flexible band or valve arranged to cover or uncover the said openings, in combination with a mechanism for actuating the valve comprising an oscillating arm, a drum mounted thereon to which the band is attached, a gear connected with the drum, and a rack arranged with respect to the gear to cause it to rotate the drum during oscillation of the arm for moving the valve to successively open or close the openings.

14. A governing mechanism for turbines comprising a curved wall provided with a plurality of independent openings which discharge motive fluid to the nozzles of the turbine, a flexible band or valve arranged to cover or uncover the said openings, in combination with a mechanism for actuating the valve comprising an oscillating arm, a drum mounted thereon to which the band is attached, a gear connected with the drum and carried by the arm, and a stationary rack arranged parallel to the path of movement of the arm and meshing with the gear for causing rotation of the drum during oscillation of the arm so as to move the valve for successively opening or closing the openings.

15. The combination of a plurality of fluid-discharging devices or nozzles, a curved wall arranged adjacent and concentric to the said devices which is provided with a plurality of independent fluid-discharging openings or ports, conduits between the ports and the devices, a valve or flexible band for controlling said ports, and a means for actuating the valve to successively cover or uncover the ports.

16. In a governing mechanism for elastic-fluid turbines, the combination of a casing having a curved ported wall, a flexible valve adapted to cover and uncover the ports as the demand for vapor energy changes, and a carrier for the valve, the diameter of which is less than the radius of curvature of the wall.

806,693. LADDER. EUGENE G. MITCHELL, Loango, Ala. Filed Nov. 28, 1903. Serial No. 183,048.



Claim.—1. A blank for a ladder, comprising a web having a plurality of H-shaped slits cut therein, whereby oppositely-disposed tongues are provided to fold on the intervening adjacent portions of the web between the slits to provide ladder-rounds

2. A web ladder having a longitudinal series of transverse openings defining opposite longitudinal sides and integral connecting-rounds, the sides being twisted to stiffen the same.

3. A web ladder having a longitudinal series of transverse openings defining longitudinal sides and integral connecting-rounds, the sides being folded and then twisted to stiffen the same.

4. A ladder having longitudinally-folded, twisted sides, connecting portions and oppositely-disposed flexible tongues bent upon the connecting portions to provide rounds.

5. A flexible ladder composed of a single piece of material and formed with twisted sides and transverse connecting-rounds.

6. A flexible ladder formed of a single piece of material having tongues cleft therefrom and folded to form integral rounds, the sides of the material being folded longitudinally and passed successively through the openings between the rounds to form twisted sides.

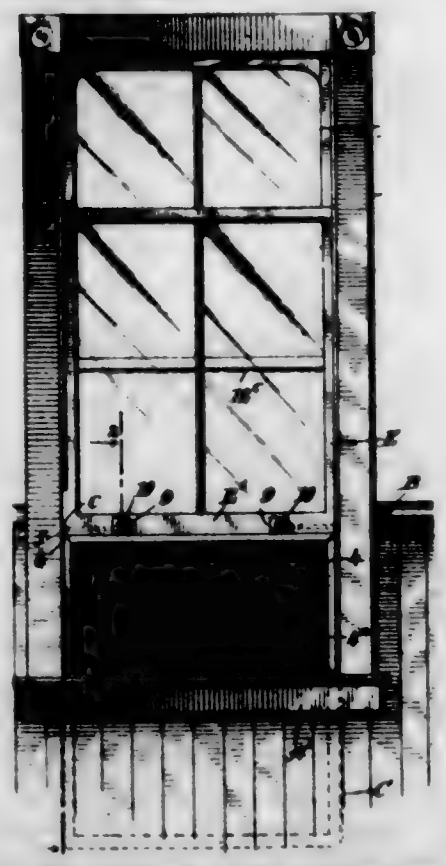
806,694. INSTRUMENT FOR SUPPLYING CONSTANT CURRENTS OF HOT AIR. VICTOR MONATH, Vienna, Austria-Hungary, assignor to Eduard Thomas, Vienna, Austria-Hungary. Filed May 26, 1905. Serial No. 262,288.



Claim.—1. Dental instrument for supplying a jet of heated gas, comprising a platina capsule adapted to be kept in incandescent state by a continuous current of a mixture of air and benzin, a nozzle-tube inclosing the platina capsule, and provided with means to allow more or less of the gas mixture to pass outside of the platina capsule without combustion, substantially as described.

2. In a dental instrument for supplying a jet of heated gas the combination with a platina capsule adapted to be kept in incandescent state by a continuous current of a mixture of air and benzin, of a nozzle surrounding said cap, having a limited rotation, of a chamber in shape of a segment formed on the tube carrying the capsule by flattening said tube between two offsets *p* and *q*, of a communicating channel *s* between said chamber and the inside of the tube, of a ring *t* secured to the nozzle and being cut open for a length about equal to the length of the segment, of a stop-pin *k* secured to the tube and of a notch *h* in the lower edge of the nozzle-tube to limit its revolution with ring *t*, substantially as described and for the purpose set forth.

806,695. WINDOW-SCREEN. GEORGE F. MONNIN and ANDREW J. C. MECCHI, San Francisco, Cal. Filed Sept. 20, 1904. Renewed Oct. 26, 1905. Serial No. 284,587.



Claim.—1. The combination with a window-casement having a slot in its sill, and a lower window-sash slidable in the casement, of a rectangularly-framed window-screen, slidable in the slot and in the

casement, two bracket-plates secured on the side edges of the screen-frame and projecting above said frame, the upper portions of said plates each having a perforation, latch-bolts held to slide in the lower sash-rail, and spring-pressed toward the bracket-plates to enter the holes therein when the sash is closed, and means for retracting the latch-bolts.

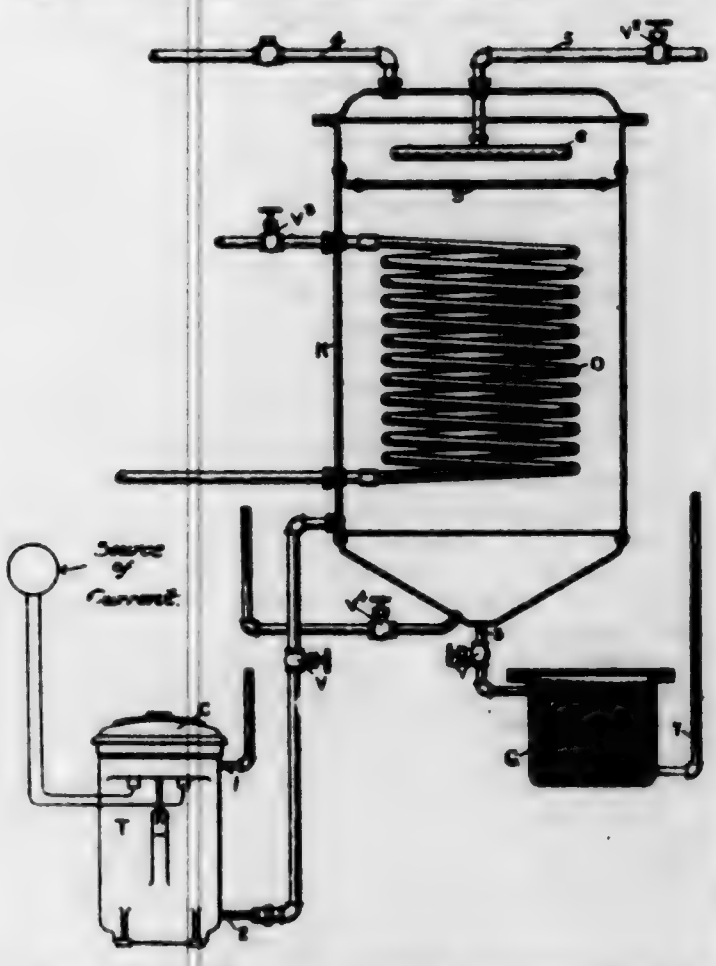
2. The combination with a window-casement having a slot in its sill, a lower sash slidable in the slot and in the casement and having a longitudinal perforation in its lower rail, and latch-bolts slidable in the perforation, of springs adapted to press the latch-bolts outward, and means for retracting said latch-bolts.

3. The combination with a window-casement having a slot in its sill, a lower sash slidable in the slot and in the casement and having a longitudinal perforation through the lower rail thereof, and a guide-tube fitted in the longitudinal perforation, of spring-pressed latch-bolts slidable in the guide-tube, arms on the latch-bolts, working in the slots in the guide-tube, and means engaging the arms and by manipulation adapted to retract the latch-bolts.

4. In a device of the character described, the bolt-retracting means, comprising a guide-tube held bedded in the lower sash-rail and having slots therein, bolts held to slide in the guide-tube, springs pressing the bolts outward, pusher-arms carried by the bolts and passing through the slots in the guide-tube, a face-plate secured on the lower sash-rail over a recess therein, a knob having a shank and held to rock in an opening in the face-plate, and a slotted yoke-plate carried by the knob-shank, said plate receiving the pusher-arms in its slot.

5. In combination with a screen, detachably connected with the lower edge of a lower window-sash, and working through a slot in the window-casement, the insect-excluder adapted to prevent insects from passing between two window-sashes, comprising a brush-head held to rock on the lower cross-rail of the upper window-sash, brush material carried by said head and normally contacting with the glazing of the lower sash, and a spring pressing upon the brush-head for its projection toward said glazing.

806,696. METHOD OF INSULATING. WALTER S. MOODY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 26, 1902. Serial No. 104,891.



Claim.—1. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in removing the air and moisture from the casing and introducing into the casing an insulating fluid also freed from air and moisture.

2. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in maintaining a vacuum in the casing and introducing therein a normally fluid insulating material.

3. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in maintaining a vacuum in the casing, and introducing therein oil freed from moisture and air.

4. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in heating the conductors by passing current through them, and introducing an insulating fluid into the casing while maintaining a vacuum therein.

5. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in freeing oil from air and moisture, and introducing the oil into the casing while maintaining a vacuum therein.

6. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in heating oil while passing air through it, and then introducing the oil into the casing while a vacuum is maintained therein.

7. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in heating oil while passing dry air through it, and then introducing the oil into the casing while maintaining a vacuum therein.

8. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in heating oil in a vacuum while passing air through it, and then introducing the oil into the casing while maintaining a vacuum in the latter.

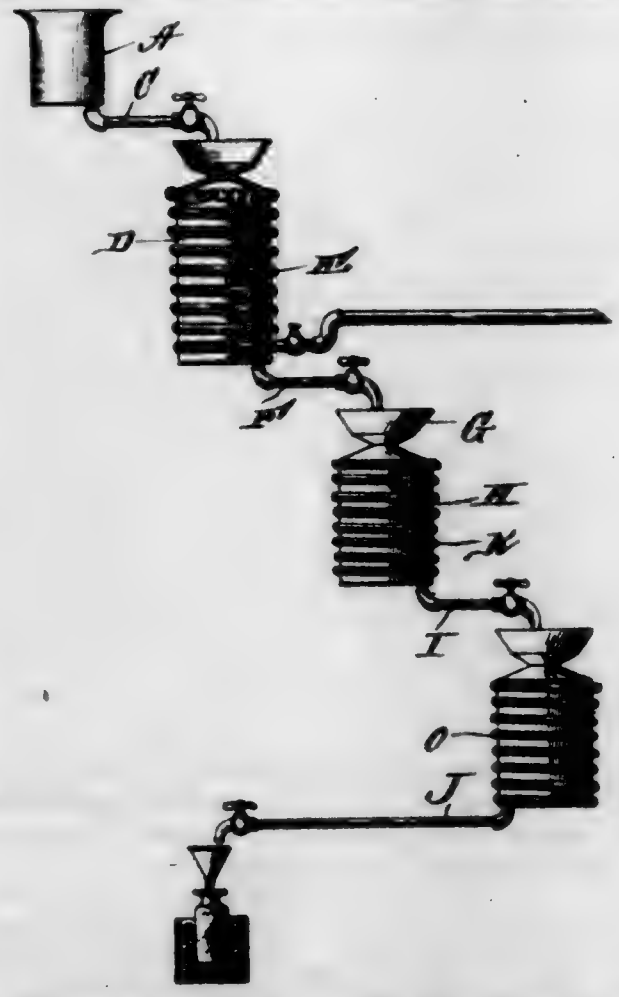
9. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in heating oil in a vacuum while passing dry air through it, and then introducing the oil into the casing while maintaining a vacuum therein.

10. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in spraying oil into a vacuum, heating the oil therein, and then introducing the oil into the casing while maintaining a vacuum therein.

11. The method of insulating the conductors of an electrical apparatus provided with an inclosing casing, which consists in spraying oil into a vacuum, heating the oil while passing air through it, and then introducing the oil into the casing while maintaining a vacuum therein.

12. The method of improving the insulating properties of an insulating fluid which consists in spraying the fluid into a vacuum and heating it in the vacuum while passing air through the fluid into the vacuum thereby removing air and moisture from the fluid.

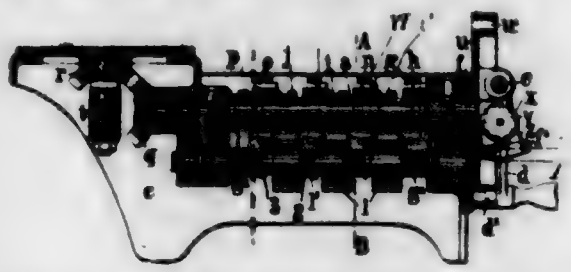
806,697. MILK STERILIZER OR PASTEURIZER. FRANK H. MORSE, Savannah, Ga. Filed June 24, 1905. Serial No. 266,782.



Claim.—A pasteurizing apparatus comprising a receptacle, gauze partitions within the same and a filtering medium of sand sup-

ported by said partitions, a tank communicating with said receptacle, a coil about the circumference of said tank through which hot water or steam is adapted to pass, a cooling-tank communicating with the tank about which hot water or steam circulates, a third tank adapted to receive the milk from the tank about which the cooling agent circulates, and refrigerating-coils about said third tank, as shown and described.

808,698. CALCULATING-MACHINE. FRANÇOIS MUGNIER, Paris, France. Filed May 27, 1904. Serial No. 210,095.



Claim.—1. A calculating-machine having an operating-shaft, number-wheels thereon, and interposed transfer-wheels, and hand-actuated means adapted to secure a number-wheel to the shaft and means operative at the same time to prevent the preceding number-wheel from rotating through the interposed transfer-wheel, and a guide-disk having ten figures marked thereon adapted to be moved through the same angle as the operating-shaft.

2. A calculating-machine, having an operating-shaft, a number of toothed number-wheels loosely mounted thereon, an extra-length tooth to each of said wheels, a second shaft parallel with the first shaft, a number of transfer-wheels thereon, a clutch moving rotarily with the operating-shaft but independently movable lengthwise of said shaft for each number-wheel and adapted to engage its adjacent number-wheel when moved, and a means for manually operating said clutch.

3. A calculating-machine, having an operating-shaft, a number of toothed wheels loosely mounted thereon, a set of numbers carried by each of said wheels, an extra-length tooth to each of said wheels, a clutch moving rotarily with the operating-shaft but independently movable lengthwise of said shaft and adapted to engage its adjacent number-wheel when moved, and a lever for said clutch, in combination with a shaft carrying transfer-wheels, connections between the aforesaid lever and the transfer-wheel operating on the next lower number-wheel, adapted to prevent said lower wheel from rotating on its shaft at the same time that the number-wheel directly controlled by the clutch is gripped thereby.

4. A calculating-machine, having an operating-shaft, number and transfer wheels therefor, and lever mechanism adapted to secure a number-wheel to the shaft and to prevent the preceding number-wheel from rotating with the shaft, in combination with a plate carried by said operating-shaft, a pivoted handle on said plate, a pawl and ratchet between the plate and handle, and a number-wheel operated thereby.

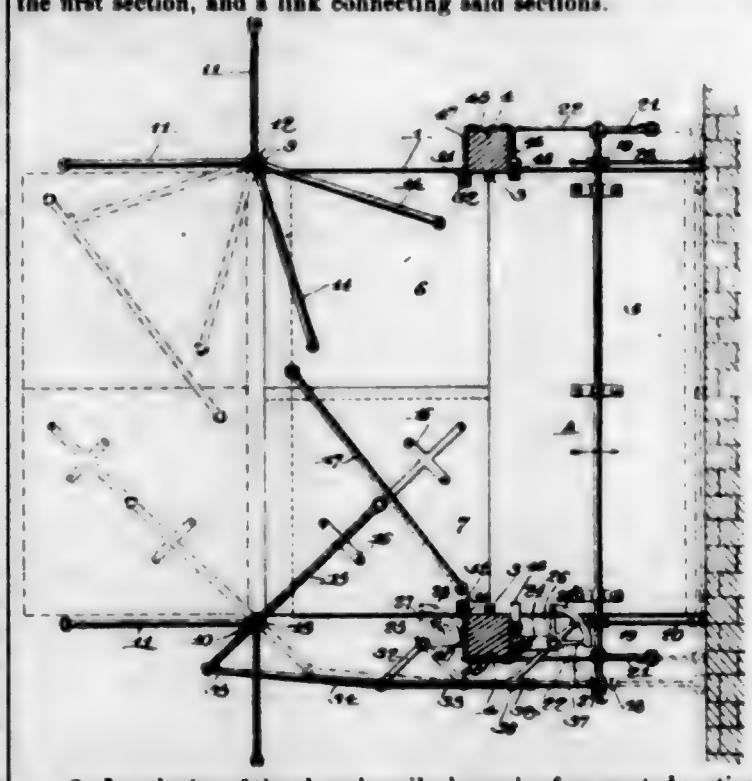
5. A calculating-machine, having an operating-shaft, number and transfer wheels therefor, and lever mechanism adapted to secure a number-wheel to the shaft and to prevent the preceding number-wheel from rotating with the shaft, in combination with a disk 8 operated by said operating-shaft, a set of numbers upon the disk, and a fixed ring surrounding said disk and marked with guide data.

6. A calculating-machine, having an operating-shaft, number and transfer wheels therefor and lever mechanism adapted to secure a number-wheel to the shaft and to prevent the preceding number-wheel from rotating with the shaft in combination with a disk 8 having two concentric rows of ten figures marked thereon in reverse, said disk adapted to be moved through the same angle as the operating-shaft and operated by said operating-shaft, and a fixed ring surrounding said disk and marked with guide data.

808,699. AUTOMATIC CLOSURE FOR ELEVATOR-HATCHWAYS. JOHN W. MCGEE, Arkansas City, Kans., assignor of one-fourth to John J. Bernard and one-fourth to Robert J. Hotaling, St. Louis, Mo. Filed June 1, 1905. Serial No. 263,347.

Claim.—1. In a device of the class described, a hatch including two quarter-sections supported for oscillation in a horizontal plane, means for directly actuating one of said sections, and a link connecting the two sections to cause them to be operated simultaneously.

2. In a device of the class described, a hatch including two quarter-sections supported for oscillation in a horizontal plane, diagonal bracing means for one of said sections, V-shaped bracing means for the other section to admit of the passage of the corner of the first section, and a link connecting said sections.



3. In a device of the class described, a pair of supported vertical shafts, sleeves upon said shafts, hatch members connected with said sleeves, braces extending from said hatch members to the supporting-shafts, a link member connecting the hatch members, and means for directly operating one of the hatch members.

4. In a device of the class described, a pair of supported vertical shafts, sleeves upon said shafts, hatch members connected with said sleeves, braces extending from said hatch members to the supporting-shafts, a link connecting the hatch members to transmit motion from one to the other of said members, an arm extending radially from one of the sleeves, a link connected with said arm, and means for operating said link.

5. In an elevator-hatchway, a pair of supported vertical shafts, sleeves upon said shafts, hatch members connected with said sleeves, a link connecting the hatch members, an arm extending radially from one of the sleeves, supported vertical rock-shafts, spiral guide means connected with said rock-shafts, an elevator-car, means connected with said car to engage the spiral guides upon the rock-shafts, arms extending from the latter, and connecting means between one of said arms and the arm extending from one of the hatch-section supporting-sleeves.

6. In a device of the class described, a hatch including two quarter-sections and a half-section simultaneously operable to clear the hatchway.

7. In a device of the class described, a hatch including two quarter-sections supported to swing in a horizontal plane and a half-section mounted upon a slidable rock-shaft, and means for imparting to the latter an oscillatory movement.

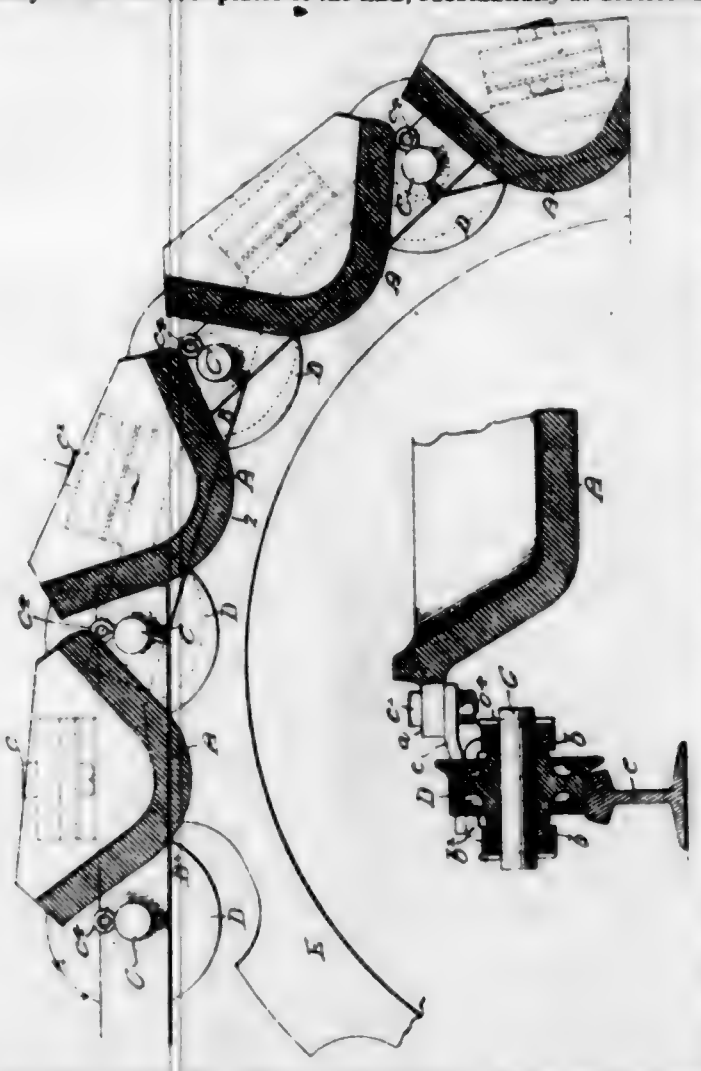
8. In a device of the class described, a hatch comprising two quarter-sections supported to swing in a horizontal plane and a half-section supported upon a rock-shaft which is tiltable and movable in a horizontal plane; pivoted latch means for supporting the inner corners of the half-section, and means for actuating said latch means by the impact of the horizontally-movable quarter-sections.

9. In a device of the class described, a hatch comprising two quarter-sections supported to swing in horizontal planes and a half-section supported upon a rock-shaft which is movable in a horizontal plane, latch-bars supported pivotally and adapted to engage the inner corners of the hatch-section, rock-shafts having arms slidably engaging said latch-bars, and auxiliary arms extending from said rock-shafts and having engaging means supported in the path of the quarter-sections of the hatch.

808,700. LINK FOR CONVEYERS. JACOB B. MCKENNAN and AXEL H. HELANDER, Pueblo, Colo. Filed Feb. 28, 1905. Serial No. 247,740.

Claim.—1. The combination of a series of links each consisting of two substantially parallel plates, a third plate extending between two longitudinal edges of said first plates, conveying structures centrally carried by the connecting-plates of the links, and means for connecting successive links, substantially as described.

2. A link including two side plates and a plate at right angles to and connecting said plates, in combination with a conveying structure fixed to said connecting-plate so as to distribute its weight equally to the two side plates of the link, substantially as described.



3. The combination with a chain including links each having two side members and a member connecting the same, of means for connecting successive links, and supporting devices for the links, said devices being constructed to receive substantially equal loads from both side members, substantially as described.

4. The combination with a chain including links each having two side members and a member connecting the same, of means for connecting successive links, and structures to be operated by the chain and attached to the connecting members of the links in such manner that the strain from said structures is equally distributed between the side members of each link, substantially as described.

5. The combination with a chain including links each having two side members and a member rigidly connecting the same, of pins connecting the links, and a wheel on each pin between the side members of successive links, substantially as described.

6. The combination of a series of links each including two side plates and a plate substantially at right angles to and connecting said side plates, a series of conveying structures fixed respectively to the connecting-plates of the links so as to distribute their weights equally to the two side plates of each link, pins connecting successive links, and wheels on the pins between the side members of said links, substantially as described.

7. The combination of a series of links having connecting-pins and each including two side plates and a plate connecting said side members, with structures carried by the links and applied to substantially the central portions of the connecting-plates, substantially as described.

8. In a pig-casting machine, the combination of a series of molds chains supporting said molds, each chain including a series of links having side members and a member rigidly connecting said side members, pins connecting successive links, and guide-wheels on said pins between the side members of said links, each of the molds having its ends supported by the connecting members of a pair of links, substantially as described.

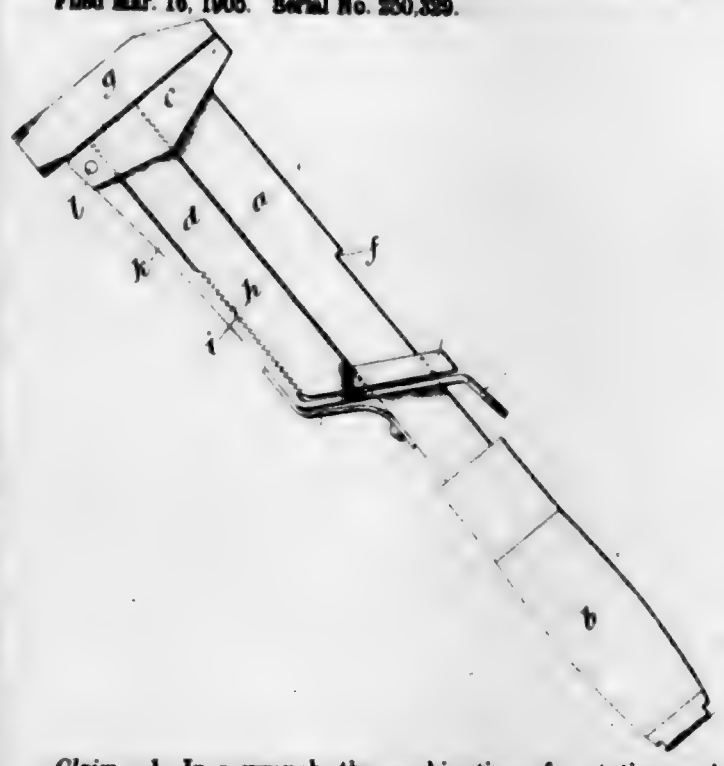
9. In a pig-casting machine, the combination of a series of molds, chains for supporting said molds, each chain including a series of links having side members and a member rigidly connecting said side members, pins connecting successive links, and guide-wheels on said pins between the side members of said links, each of the molds having its ends supported by the connecting members of a pair of links, the connection between each mold and the links being arranged so that the weight of said mold is distributed equally between the two side members of the link, substantially as described.

10. The combination in a pig-casting machine of a series of molds and chains for conveying the same, said chains including links each having two side members and a member rigidly connecting said side members, with a plate for each end of each mold, said plate being connected to the mold and to the connecting member of the link so that the weight of the mold is distributed equally between the side members of the link, substantially as described.

11. The combination in a pig-casting machine of chains each having a series of links, pins connecting the links, and a series of pig-molds having means for connecting them to the links so that their weight is distributed equally upon the two ends of each pin, substantially as described.

12. The combination in a pig-casting machine of a series of molds each having projecting lugs at its ends, chains for the molds each including a series of links having two side plates and a substantially horizontal plate connecting the same, a wheel between the side plates of the adjacent ends of successive links, and pins connecting successive links and extending through their respective wheels, with a connecting-piece fixed to the horizontal portion of each link and attached to the projecting lug at the end of the mold, substantially as described.

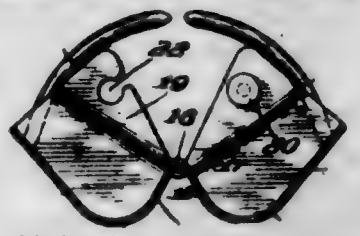
806,701. WRENCH. THEODORE MCMASTER, New York, N. Y. Filed Mar. 16, 1905. Serial No. 250,329.



Claim.—1. In a wrench, the combination of a stationary jaw having a head and a shank, a movable jaw extending through the head and embracing the shank of the stationary jaw, a ratchet on the movable jaw, and a lever secured to the stationary jaw and having a ratchet, said lever resting normally with the teeth of its ratchet engaging the teeth of the ratchet on the jaw.

2. In a wrench, the combination of a stationary jaw having a head and a shank, a movable jaw having a head and a shank, the shank of the movable jaw embracing the shank of the stationary jaw and extending through the head of the stationary jaw, and the head of the stationary jaw resting between its shank and the head of the movable jaw, a ratchet on the shank of the movable jaw, a lever pivoted to the head of the stationary jaw and having a ratchet, and a spring to hold the ratchet on the lever against the ratchet on the movable jaw.

806,702. LOOSE-LEAF BINDER. CHARLES R. NELSON, Chicago, Ill., and JAMES C. DAWSON, St. Louis county, and EMORY A. TRUSSELL, St. Louis, Mo., assignors to Sieber & Trussell Mfg. Co., a Corporation of Missouri. Filed May 4, 1905. Serial No. 258,914.



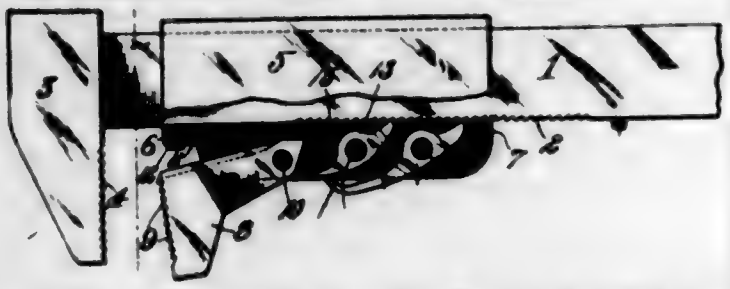
Claim.—1. In a binder, in combination, a pair of side plates having end flanges and being pivotally united; a spring-stud carried

by a flange of one of the plates and adapted to enter a T-slot in the adjacent flange of the other plate, such stud having its body enlarged at its base to a greater diameter than the throat of the slot.

2. In a binder, in combination, a pair of angle-plates hinged together and having end flanges of such width that they overlap when the binder is closed, one of such end flanges having a T-slot entering from its front end; and a spring-stud having its body enlarged at its base to a greater diameter than the throat of the slot, such enlargement being beveled.

3. In a binder, in combination, a pair of angle-plates hinged together, and having end flanges of sufficient width to overlap when the binder is closed; spring-catches for locking the flanges together at both ends of the binder; and a push-rod connecting the catches and projecting through one end flange.

808,703. **WRENCH.** ROBERT NOLEN and WILLIAM B. KNIGHT, St. Louis, Mo.; said Knight assignor of his right to Edward Butler, Jr., St. Louis, Mo. Filed June 26, 1905. Serial No. 267,000.



Claim.—1. In a wrench, the combination of a shank-body having a fixed head and provided with ratchet-teeth, a slide loosely mounted on said shank-body and projecting beyond the ratchet-face of the body, a jaw carried by said slide, a spring-controlled pawl pivotally mounted between the extensions of said slide sides, and having an arm engaging said ratchet-teeth, and a second spring-controlled pawl pivotally mounted between the extensions of said slide sides; said last-named pawl having an arm engaging said ratchet-teeth and another arm bearing against said first-named pawl; substantially as set forth.

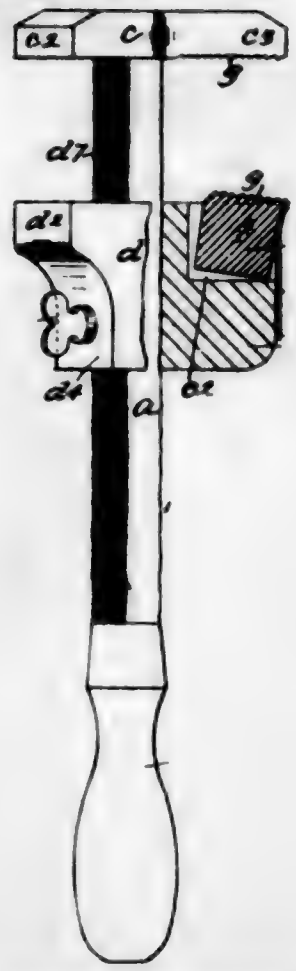
2. In a wrench, the combination of a shank-body provided with a jaw and having ratchet-teeth at one side thereof, a slide loosely fitted to said shank-body and having its sides extended beyond the ratchet-face of said shank-body, a jaw carried by said slide, a spring-controlled pawl pivotally mounted between said slide sides and having an arm engaging said ratchet-teeth and an outer arm; and a second spring-controlled pawl pivotally mounted between the sides of said slide and having an inner arm engaging said ratchet-teeth and an outer lever-arm bearing against the outer arm of said first-named pawl, substantially as set forth.

3. In a wrench, the combination of a shank-body provided with a jaw and having ratchet-teeth at one side thereof, a slide loosely fitted to said shank-body and having its sides extended beyond the ratchet-face of said shank-body, a jaw carried by said slide, a spring-controlled pawl pivotally mounted between said slide sides and having an inner arm engaging said ratchet-teeth and an outer arm; a second pawl pivotally mounted between said slide sides and having an inner arm engaging said ratchet-teeth and an outer lever-arm bearing against the outer arm of said first-named pawl, and a spring fixed to said second pawl and having its free end bearing against the outer arm of said first-named pawl, substantially as set forth

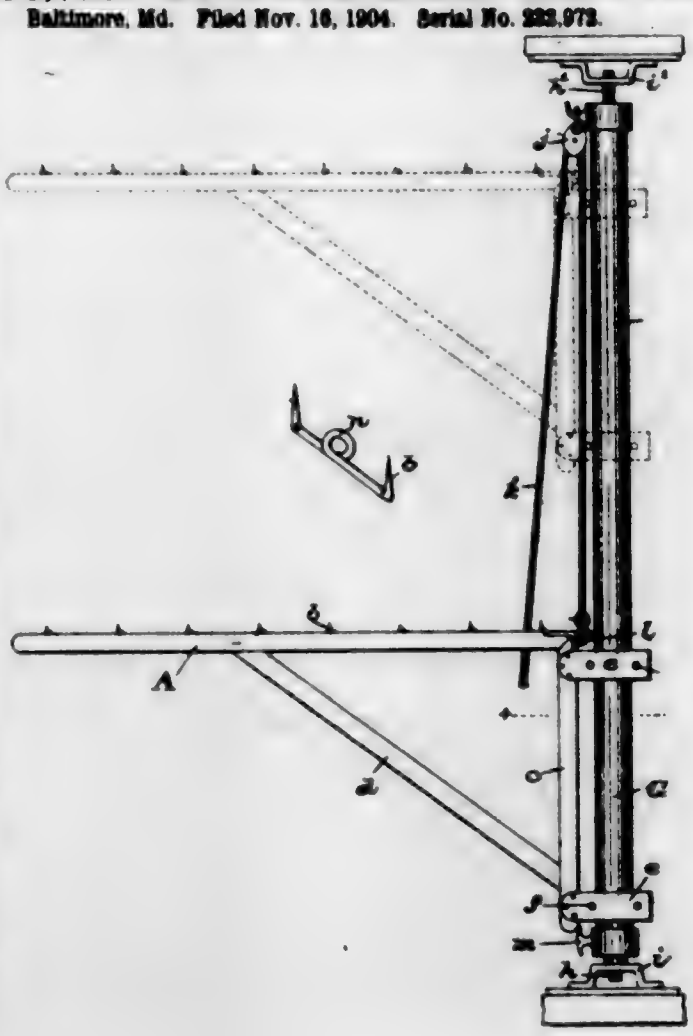
4. In a wrench, the combination of a shank-body provided with a jaw and having ratchet-teeth at one side thereof, a slide loosely fitted to said shank-body and having its sides extended beyond the ratchet-face of said shank-body, a jaw carried by said slide, a tie-piece connecting the sides of said slide, a pivot-pin mounted in the sides of said slide, a pawl loosely mounted on said pin and having an inner arm engaging said ratchet-teeth and an outer arm, a spring having one end fixed to the inner arm of said pawl and having a free end bearing against said tie-piece; a second pivot-pin mounted in the sides of said slide, a second pawl loosely mounted on said last-named pivot-pin and having an inner arm engaging said ratchet-teeth and an outer lever-arm bearing against the outer arm of said first-named pawl, and a spring having one end fixed to the lever-arm of said last-named pawl and having a free end bearing against the outer arm of said first-named pawl, substantially as set forth.

808,704. **WRENCH.** WILLIAM R. OELKERS, Bayonne, N. J. Filed May 24, 1905. Serial No. 262,100.

Claim.—A wrench of the class described, comprising a shank member provided at its end with two jaws which project in different directions and at an angle to each other, an adjustable jaw member mounted on said shank and provided with two jaws which correspond in position with the jaws on the shank member, one of the jaws of the adjustable jaw member being provided in its bearing-surface with a recess the side walls of which are provided with oblong apertures, a supplemental jaw-block mounted in said recess, a pin passing through said jaw-block and said apertures, a spring secured to the adjustable jaw member and to the jaw-block and adapted to hold the latter in a predetermined position, and means for adjusting the supplemental jaw member on the shank member, substantially as shown and described.



808,705. **RACK FOR DISPLAYING RUGS.** CHARLES H. O'NEAL, Baltimore, Md. Filed Nov. 16, 1904. Serial No. 233,073.

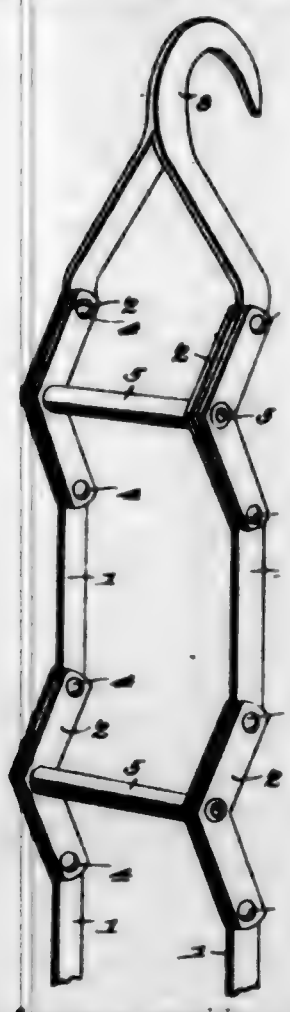


Claim.—1. A rack for displaying rugs comprising a horizontal bar having along its top edge straight upward-pointing pins which stand flush with the vertical side of said bar.

2. A rack for displaying rugs comprising a horizontal bar having along its top edge straight upward-projecting pins which stand flush with the vertical side of said bar and means for raising and lowering said bar.

3. A rack for displaying rugs comprising a horizontal bar having along its top two rows of pins each pointing vertically upward—the pins of one row standing flush with one vertical side of the bar and the pins of the other row flush with the opposite side of said bar, and means to swing the said bar from one end.

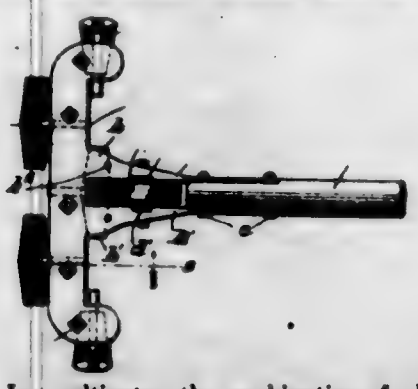
806,706. **PORTABLE FIRE-ESCAPE.** CHESTER S. PARKER and CHARLES B. BUSWELL, Barton, Vt. Filed Aug. 31, 1904. Serial No. 223,869.



Claim.—1. A fire-escape comprising a plurality of links, joints connecting the links, each joint comprising two approximately V-shaped members pivotally connected at their terminals to the links, and hollow rungs passed through the apices of the joints and having their outer ends upset or bushed.

2. A fire-escape comprising a supporting-hook, a plurality of links, joints connecting the links and the hook, each joint consisting of a pair of approximately V-shaped members pivotally connected at their terminals to the links, and two pairs of the joints being pivotally connected to the hook, and hollow rungs passed through the apices of the joints and having their outer ends upset or bushed.

806,707. **CULTIVATOR.** JOHN B. PELLERIN and LOUIS R. PELLERIN, Chauvin, La. Filed May 31, 1905. Serial No. 263,194.



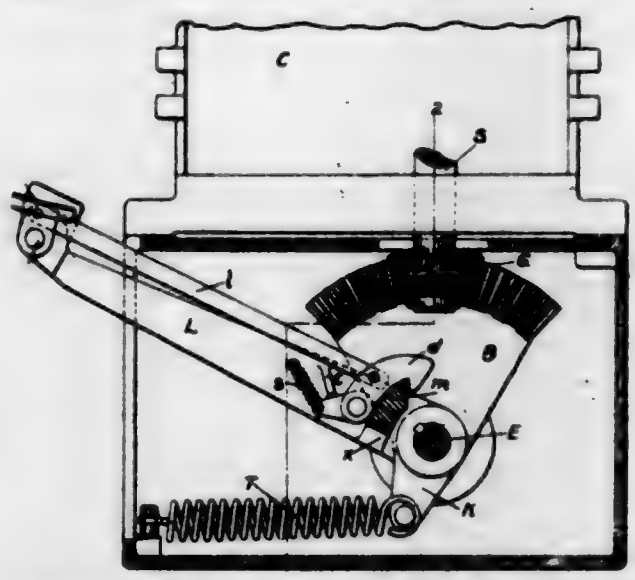
Claim.—1. In a cultivator, the combination of a head provided with transverse grooves in its lower face, arms spaced apart, projecting rearwardly from the head, and provided with transverse grooves in their lower faces, a handle secured between the free ends of the arms, slotted plates slidably mounted in grooves in the inner faces of the arms, bolts traversing the slots in the plates, and the arms, nuts engaging the bolts, a wheel journaled in the lower ends of the plates, a plurality of hoes mounted in the grooves in the head, and comprising each a cutting-blade, a bracket rigid with the blade and having an annular extension for engaging the grooves of the head, a plate on the head and engaging the angular extensions, bolts traversing the head and plate, and nuts engaging the bolts.

2. In a cultivator, the combination of a head provided with transverse grooves in its lower face, rearwardly-projecting arms rigid with the head and spaced apart, a handle secured between the free ends of the arms, plates slidably mounted in grooves in the inner faces of the arms, means whereby the plates may be adjusted with respect to the arms, a wheel journaled in the lower ends of the plates, a plurality of hoes mounted in the grooves in the head, and comprising each a cutting-blade, a bracket rigid with the blade and having an angular extension for engaging the grooves of the head, and means engaging the angular extensions for securing them to the head.

3. In a cultivator, the combination of a head provided with transverse grooves in its lower face, arms spaced apart projecting rearwardly from the head, a handle secured between the free ends of the arms, slotted plates slidably mounted in grooves in the inner faces of the arms, bolts traversing the slots in the plates and the arms, nuts engaging the bolts, a wheel journaled in the lower ends of the plates, and a plurality of hoes mounted in the grooves in the head.

4. In a cultivator, the combination of a head having transverse grooves in its lower face, a plurality of hoes mounted in the grooves in the head, a plate for engaging the hoes for holding them in the head, a wheel for supporting the head, and a handle projecting rearwardly therefrom.

806,708. **MEANS FOR ACTUATING SHAFTS.** CHARLES L. PERRY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 25, 1903. Serial No. 174,543.



Claim.—1. The combination of a shaft, devices connected to said shaft so as to produce movement thereof in either direction, a common operating means for said devices, and a selective means for securing the connection of the proper one of said devices to said operating means, said operating and selective means being so associated that both may be manipulated by the application of the operating power.

2. The combination of a shaft, devices connected to said shaft so as to produce movement thereof in either direction, a common operating means for said devices which is manipulated in the same direction for either direction of movement of said shaft, and a selective means for securing the connection of the proper one of said devices to said operating means, said operating and selective means being so associated that both may be manipulated by the application of the operating power.

3. The combination of a shaft, a gear fixed thereon, actuating-gears engaging with opposite sides of the aforesaid gear, a common means for operating either of said actuating-gears, and selective means for securing the connection of the proper one of said actuating-gears to said operating means.

4. The combination of a shaft, a gear fixed thereon, actuating-gears engaging with opposite sides of the aforesaid gear, a common means for operating either of said actuating-gears, and selective means for securing the connection of the proper one of said actuating-gears to said operating means, said operating and selective

means being so associated that both may be manipulated by the application of the operating power.

5. The combination of a shaft, a gear fixed thereon, actuating-gears engaging with opposite sides of the aforesaid gear, a common means for operating either of said actuating-gears by like manipulation of said means, and selective means for securing the connection of the proper one of said actuating-gears to said operating means, said operating and selective means being so associated that both may be manipulated by the application of the operating power.

6. The combination of a shaft, a gear fixed thereon, actuating-gears engaging with opposite sides of the aforesaid gear, an operating-lever, lugs upon said actuating-gears, dogs mounted upon said lever which are normally held in engagement with said lugs, and pedals also mounted upon said lever and operatively connected to said dogs whereby said dogs may be moved out of engagement with said lugs.

7. The combination of a shaft, devices connected to said shaft whereby movement of said shaft in either direction may be produced, a common operating means for said devices, and a selective means for securing the connection of the proper one of said devices to said operating means, the whole being so constructed and arranged that the shaft cannot be moved from its central position before the selective means has been operated.

8. The combination of a base, a shaft extending into said base, a gear mounted upon said shaft within said base, actuating-gears mounted within said base and engaging with opposite sides of the aforesaid gear, a common operating-lever for said actuating-gears, which lever extends to the outside of said base, means for connecting said lever to said actuating-gears, pedals mounted upon said lever outside of said gear-casing whereby the connection of said lever to the actuating-gears is controlled, and means for returning the various parts to their normal positions.

9. The combination of a base, a shaft extending into said base, a gear mounted upon said shaft within said base, actuating-gears mounted within said base and engaging with opposite sides of the aforesaid gear, a common operating-lever for said actuating-gears, which lever extends to the outside of said base, means for connecting said lever to said actuating-gears, and pedals mounted upon said lever outside of said gear-casing whereby the connection of said lever to the actuating-gears is controlled.

10. The combination of a shaft, actuating devices operatively connected to said shaft so as to produce rotation in either direction, a common operating-lever for said devices movable in a plane parallel to said shaft, means whereby the connection of said lever to either of said devices may be secured, and means for returning the various parts to their normal positions.

11. The combination of a shaft, a bevel-gear mounted thereon, actuating bevel-gears engaging with opposite sides of the aforesaid gear, a common operating-lever for said actuating-gears movable in a plane parallel to said shaft, means whereby the connection of said lever to either of the said actuating-gears may be secured, and means for returning the various parts to their normal positions.

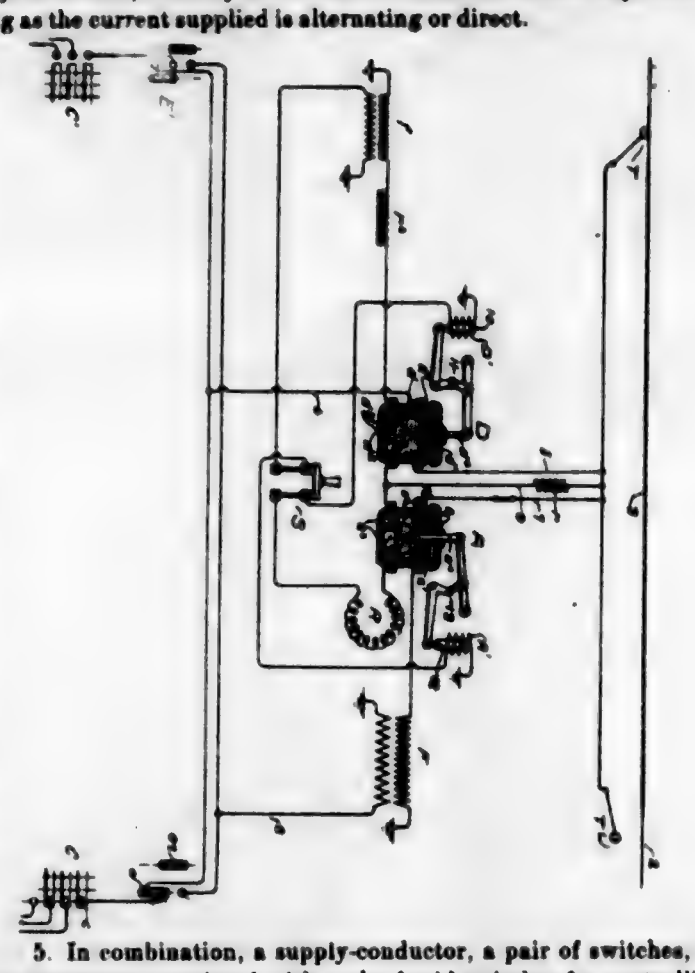
808,709. SWITCH-OPERATING MECHANISM. JESSE S. PRYBAR, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 27, 1905. Serial No. 247,440.

Claim.—1. In combination, a supply-conductor, a pair of normally open switches, electromagnetic actuating means for said switches normally connected to said supply-conductor and arranged to actuate said switches selectively according as the current supplied is alternating or direct, and means associated with one of said switches for controlling the other.

2. In combination, a supply-conductor, a pair of main switches, electromagnetic actuating means for said switches normaly connected to said supply-conductor and arranged to actuate said switches selectively according as the current supplied is alternating or direct, and an auxiliary switch associated with each of said main switches for controlling the actuating-circuit of the other main switch.

3. In combination, a supply-conductor, a pair of normally open switches, electromagnetic actuating means for said switches normally connected to said supply-conductor and arranged to actuate said switches selectively according as the current supplied is direct or alternating, and an interlock between the said switches for preventing the closing of one switch when the other is closed.

4. In combination, a supply-conductor, a pair of switches, an electromagnet associated with each of said switches for controlling its operation, a connection including a reactance between one of said electromagnets and said supply-conductor, and a connection including a transformer between the other of said switches and said supply-conductor, whereby the switches are actuated selectively according as the current supplied is alternating or direct.

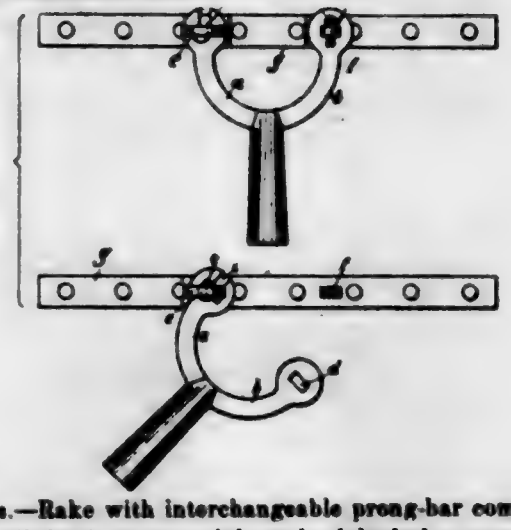


5. In combination, a supply-conductor, a pair of switches, an electromagnet associated with each of said switches for controlling its action, a connection including a reactance between one of said electromagnets and said supply-conductor, a connection including a transformer between the other of said electromagnets and said supply-conductor, and auxiliary contacts controlled by each switch and arranged in the connection of the controlling-magnet of the other switch.

6. In combination, a supply-conductor, electric apparatus adapted to be connected to said supply-conductor, a pair of switches for connecting said apparatus to said supply-conductor, means for selectively actuating said switches according as the current supplied is direct or alternating, and means associated with each switch for controlling the other switch.

7. In combination, a supply-conductor, electric apparatus, a pair of switches for connecting said apparatus to said supply-conductor, an electromagnet associated with each of said switches for controlling its operation, a connection including a reactance between one of said electromagnets and said supply-conductor, and a connection including a transformer between the other of said switches and supply-conductors whereby the switches are actuated selectively according as the current supplied is alternating or direct.

808,710. RAKE. CARL PFEIFFER, Jena, Germany. Filed Apr. 27, 1905. Serial No. 257,777.



Claim.—Rake with interchangeable prong-bar composed of a forked handle having at one of the ends of the fork a rectangular perforation *d*, and at the other hand an open slot *i* with a cross-cut and a rounded recess *x*, and of a prong-bar with a flat rectangular projec-

tion *f* having a cotter-pin hole near one end and with a T-shaped tenon near the other end, the first adapted to fit the rectangular perforation at one of the forked ends of the handle, the latter to fit the slot *i* with cross-cut, substantially as described and for the purpose set forth.

806,711. BRAKE. JOHN H. PIERCY, Baltimore, Md. Filed June 9, 1905. Serial No. 264,439.

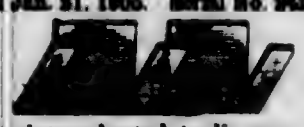


Claim.—1. In a brake mechanism for cars, a car-body, spring-projected shoes, an operating-shaft, a connection between said shaft and the brake-shoes, a casing arranged upon the under side of the car-body, a ratchet-wheel on the shaft inclosed within said casing, a pivoted spring-actuated pawl also arranged within said casing and adapted to engage the ratchet-wheel, and a foot-piece projecting upwardly through the car-platform and movable laterally therein to release said pawl.

2. In a brake mechanism for cars, a support carrying a bracket-plate, a brake-shoe, a spring having a central coil disposed between the bracket and brake-shoe, and clips for fastening the coil and extremities of the spring to the bracket-plate and brake-shoe.

3. In a brake mechanism for cars, the combination with a car-body, of trucks mounted thereon, cross-bars applied to said trucks, brake-beams carrying shoes to engage the car-wheels, springs carried by the cross-bars and connected with the brake-beams to normally throw the brake-shoes into engagement with the wheels, operating connections attached to the brake-beams, operating-shafts actuating said connections to move the brake-shoes out of engagement with the wheels, ratchet-wheels applied to said shafts, spring-actuated pawls to engage the ratchet-wheels, and foot-pieces for releasing the pawls from engagement with said wheels.

806,712. BUILDING CONSTRUCTION. ORLA C. PIXLEY, Chicago, Ill. Filed Jan. 31, 1905. Serial No. 243,169.



Claim.—1. A plate adapted to lie upon the end surface of a building-block and having an angular portion adapted to confine mortar in position close to one of the edges of such block.

2. A plate adapted to lie upon the end surface of a building-block, and having an integral wing adapted to lie within the interior of such block to confine mortar in position close to one of the edges of the block.

3. A device adapted to lie upon the end surface of a hollow building-block and comprising a wing extending at an angle with the body of said device, the outer end of which wing is adapted to lie adjacent to the inner wall of the block.

4. A flat plate adapted to lie upon the end surface of a hollow building-block, and having a wing punched therefrom, the outer end of which wing is adapted to lie adjacent to the inner wall of the block.

806,713. PHOTOGRAPHIC POSING-CHAIR. FREDERICK W. C. POHLE, Buffalo, N. Y., assignor of one-half to Mathias A. Strauss, Buffalo, N. Y. Filed Mar. 9, 1905. Serial No. 249,217.



Claim.—1. In a posing-chair, the combination of a seat having slots or openings, laterally-movable holding-arms extending through said slots and above the seat, and means for retaining said arms in position, substantially as set forth.

2. In a posing-chair, the combination of a seat having slots or openings, holding-arms extending through said slots and movable both laterally and vertically therein, means for holding said arms from vertical displacement, and means for retaining the arms in their closed position, substantially as set forth.

3. In a posing-chair, the combination of a seat having openings, a vertically-adjustable bracket supported below the seat, and holding-arms attached to said bracket and extending upwardly through said openings and above the seat, substantially as set forth.

4. In a posing-chair, the combination of a seat having transverse slots, a support arranged below the seat, laterally-swinging holding-arms pivoted to said support and extending upwardly through said slots, and means for retaining said arms in position, substantially as set forth.

5. In a posing-chair, the combination of a seat, a vertically-adjustable bracket supported below the seat, laterally-swinging arms pivoted to said bracket and extending upwardly above the seat, and means for retaining said arms in position, substantially as set forth.

6. In a posing-chair, the combination of a seat, a bracket supported below the same, laterally-swinging holding-arms pivoted to said bracket and extending above the seat, means for adjustably connecting said arms above their pivots, and opening-springs acting on said arms, substantially as set forth.

7. In a posing-chair, the combination of a seat, a bracket supported below the same, laterally-swinging holding-arms pivoted to said bracket and extending above the seat, and a toothed locking-bar attached to one of said arms and interlocking with the other arm, substantially as set forth.

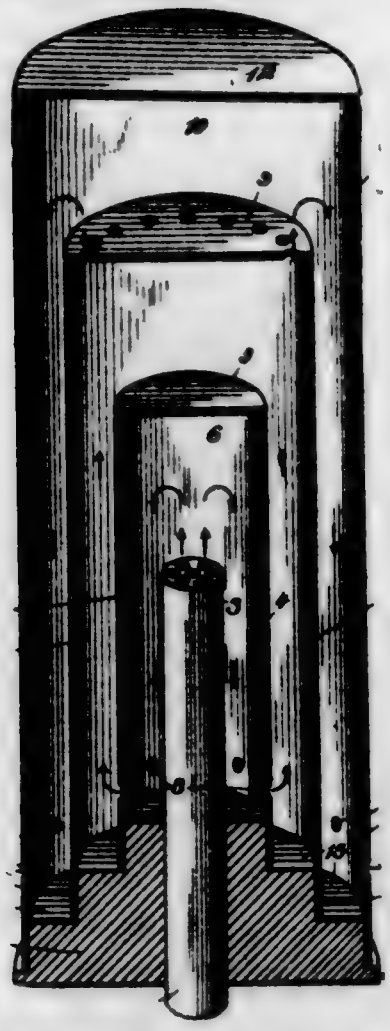
8. In a posing-chair, the combination of a seat, a vertical guide-rod arranged on the under side thereof, a bracket adjustably mounted on said rod, holding-arms pivoted to said bracket and extending above the seat, and means for holding said arms in their closed position, substantially as set forth.

9. In a posing-chair, the combination of a seat having transverse slots, a guide-rod depending from the under side thereof, a bracket adjustably mounted on said rod, laterally-swinging holding-arms pivoted to said bracket and passing upwardly through said slots, a locking-bar pivoted to one of said arms and interlocking with the other arm, and springs interposed between said arms and said guide-rod, substantially as set forth.

10. In a posing-chair, the combination of a seat having transverse slots, a guide-rod depending from the under side thereof, a

bracket adjustably mounted on said rod, laterally-swinging holding-arms pivoted to said bracket and passing upwardly through said slots, one of said arms having a loop, a toothed yielding locking-bar passing through the loop of the last-named arm and pivoted to the other arm, and springs secured to said arms below the locking-bar and bearing against opposite sides of said guide-rod, substantially as set forth.

806,714. EXHAUST-MUFFLER. JOHN M. PORTER, Parkersburg, W. Va., assignor of one-eighth to John F. Laird, Parkersburg, W. Va. Filed Mar. 30, 1905. Serial No. 253,243.



Claim.—1. A muffler comprising a series of cells or cylinders arranged one within the other, each inside cylinder being of a smaller diameter and of a shorter length, substantially as described.

2. A muffler comprising a series of cells or cylinders arranged one within the other, said cells or cylinders having a common base and independent tops or caps, substantially as described.

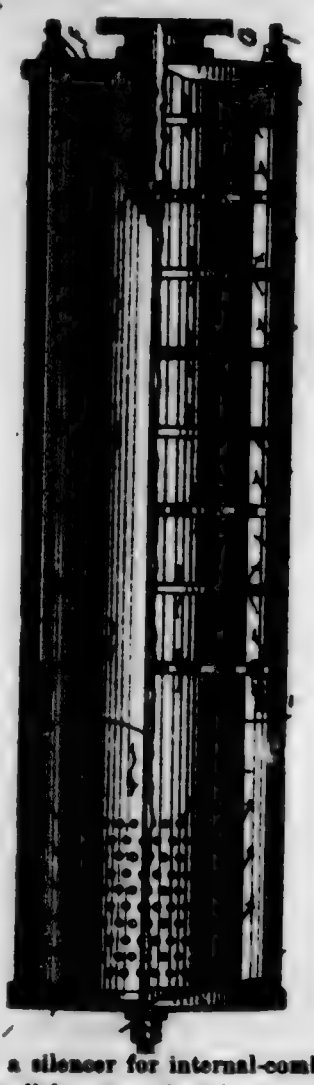
3. A muffler comprising a series of cells arranged one within the other, said cells or cylinders having independent tops or caps, substantially as described.

4. A muffler comprising an inner cell or cylinder into which the exhaust is led, said inner cell or cylinder having one end closed and provided with an opening near its other end, a cell or cylinder inclosing said inner cell or cylinder into which the exhaust passes from said inner cell or cylinder, said inclosing cell or cylinder being provided with an opening at one end, a second inclosing cell or cylinder into which the exhaust passes from said inclosing cell or cylinder, said second inclosing cell or cylinder having one end closed and provided with an opening to allow the exhaust to pass therefrom, said inclosing cell or cylinder being of a larger diameter and longer than said inner cell or cylinder, substantially as described.

5. A muffler comprising an inner cell or cylinder having a closed end against which the exhaust strikes, an inclosing cell or cylinder constructed to receive the exhaust from said inner cell or cylinder, one end of said inclosing cell being provided with an opening through which the exhaust passes, a second inclosing cell having a closed end against which the exhaust strikes passing from said inclosing cell, substantially as described.

6. A muffler comprising an inner cell having a closed end forming an air-cushion against which the exhaust strikes, an inclosing cell having one of its ends provided with an opening through which the exhaust passes, and a second inclosing cell having one of its ends closed and constructed to form therein an air-cushion beyond the end of said inclosing cell against which the exhaust strikes passing from said inclosing cell, substantially as described.

806,715. SILENCER FOR INTERNAL-EXPLOSION ENGINES. NATHAN W. H. SHARPE, London, England. Filed Mar. 29, 1905. Serial No. 253,777.

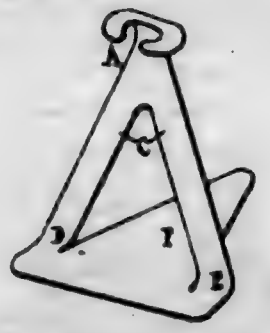


Claim.—1. In a silencer for internal-combustion engines, the combination of parallel concentric tubes provided with openings located near their opposite ends respectively, and an inlet-tube entering the inner tube substantially parallel therewith and provided with a number of openings, and means located between said first-named tubes for separating the discharge into small streams, substantially as described.

2. In a silencer for internal-combustion engines, the combination of two concentric tubes perforated near their opposite ends respectively, an inlet-tube entering the inner tube and provided with perforations and located substantially parallel to said inner tube, and a series of perforated diaphragms located between said first-named concentric tubes, substantially as described.

3. In a silencer for internal-combustion engines, the combination of two concentric tubes provided with perforations near their opposite ends respectively, an inlet-tube entering the inner tube and substantially parallel therewith, a series of perforated diaphragms located between said first-named tubes, and longitudinally-arranged rods and nuts for fastening the tubes and diaphragms together, substantially as described.

806,716. EASEL. HUGH S. STEVENSON, Philadelphia, Pa. Filed Apr. 12, 1905. Serial No. 255,261.

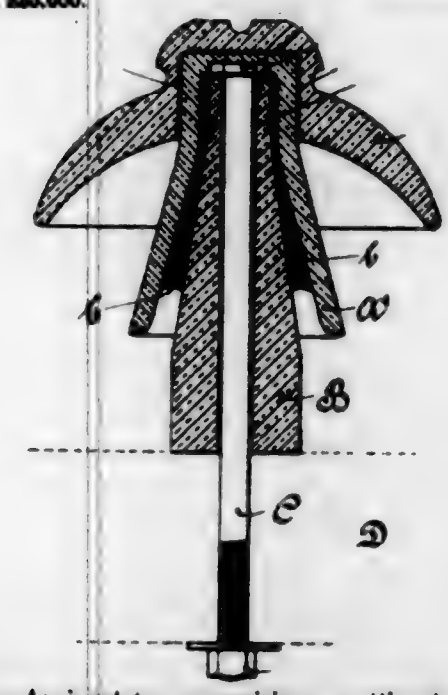


Claim.—1. A watch-supporting easel formed from a single sheet of pliable material and comprising a rearwardly-projecting base, an upwardly-projecting and rearwardly-inclined standard bent up from the front of the base, and a forked head projecting forwardly from the top of the standard.

2. A watch-supporting easel formed of a single piece of pliable sheet metal and comprising a broad flat base, a rearwardly-inclined support consisting of a bar of said sheet metal projecting upwardly

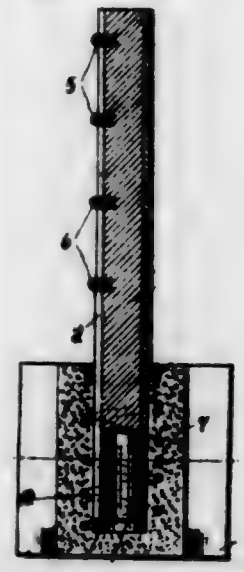
from the opposite front corners of said base, and converging to a medium width at the top forming a single neck, and a forked head projecting forwardly from said single neck.

808,717. HIGH-VOLTAGE INSULATOR. GEORGE W. THOMAS, East Liverpool, Ohio, assignor to The R. Thomas and Sons Company, East Liverpool, Ohio, a Corporation of Ohio. Filed Sept. 7, 1904. Serial No. 223,660.



Claim.—An insulator, comprising a petticoated body portion and a supporting-post, all of vitreous material, the supporting-post being cemented to the body portion and having its lower end a broad base adapted to rest on the cross-arm, a metallic bolt passing through the post, and having a shouldered head bearing on the upper end of the post.

808,718. FENCE-POST. WILLIAM B. WILSON, Graysville, Ohio. Filed Jan. 24, 1905. Serial No. 242,471.



Claim.—A fence-post comprising a concrete base having a central recess, a strengthening-wire embedded in the said base and coiled about the central recess, a slotted tube fitted in the recess, a wooden core within said tube of less length than the tube, and a securing-filling of Babbitt metal surrounding the tube within the upper end of the base.

808,719. GROCER'S BIN. RUDOLPH WINCHEL, Webb City, Mo. Filed Apr. 22, 1905. Serial No. 256,969.

Claim.—1. A contrivance of the character described, comprising a bin member or receptacle, having a front sample-compartment embracing a partition having lateral edge right-angled portions equipped with downward and rearward inclined arms having longitudinal slots provided with downward-facing entrance-openings, and set or holding screws working in said slots and the sides of said bin-member receptacle.

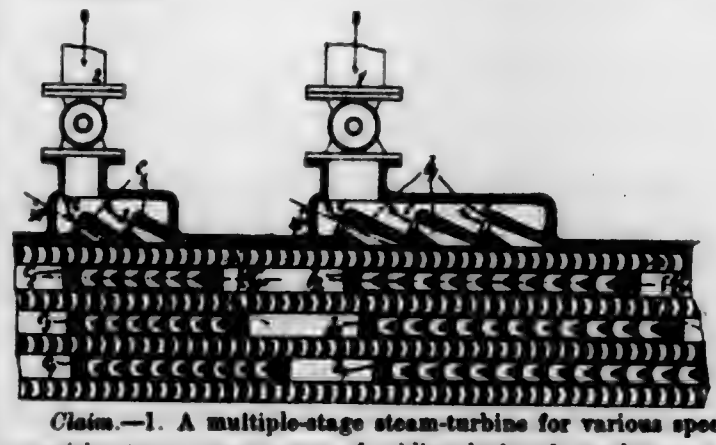
2. A contrivance of the character described, comprising a tilting receptacle provided with upper and lower compartments, the bottoms of the upper compartments having adjustable or movable sections to establish communication between the lower compartments and the upper compartments, said lower compartments having forward extensions provided with bottoms inclined outward and upward, and with a cover or lid effective to serve as a counter extension therefor.



3. A contrivance of the character described, comprising a compartment-receptacle provided with upper and lower compartments or bins, the upper compartments or bins having their bottoms provided with movable or sliding sections to establish communication between the upper and lower compartments or bins, the lower compartments having forward-extending portions, equipped with a cover or closure effective in its extended position for use as a temporary support or counter.

4. A contrivance of the character described, comprising a compartment-receptacle having its lower compartments or bins extended forward, and a cover or closure for the forward extension of said bins or compartments, said cover or closure being equipped with butt-hinges the inner leaves of which have fixed thereto plates pivoted to additional plates or members in turn pivoted to said receptacle.

808,720. VARIABLE-SPEED MULTIPLE-STAGE TURBINE. FRANZ WINDHAUSEN, Berlin, Germany. Filed Feb. 16, 1905. Serial No. 245,940.



Claim.—1. A multiple-stage steam-turbine for various speeds comprising two or more groups of guiding devices for each stage and to each set of which groups steam can be separately admitted, the discharge angle of the guiding devices of the first set being different from the corresponding angle of the guiding devices for the other set or sets.

2. A multiple-stage steam-turbine for various speeds comprising two or more groups of guiding devices for each stage and to each set of which groups steam can be separately admitted, the discharge angle of the guiding devices of the first set being different from the corresponding angle of the guiding devices for the other set or sets, and the admission angle of the intermediate guiding devices of one set being different from the corresponding angles of the guiding devices of the other set or sets.

3. A multiple-stage steam-turbine for various speeds comprising two or more groups of guiding devices for each stage and to each set of which groups steam can be separately admitted, the admission angle of the intermediate guiding devices of one set being different from the corresponding angles of the guiding devices of the other set or sets.

4. A multiple-stage steam-turbine for various speeds comprising a plurality of chambers, two or more groups of guiding devices ar-

ranged in each of said chambers and to each set of which group steam can be separately admitted, the discharge angle of the guiding devices of one set being different from the corresponding angles of the guiding devices of the other set or sets, and closing devices interposed between the guiding devices of one chamber and those of the next chamber, the closing devices of one set of guiding devices alternately operating with respect to the closing devices for the other set or sets of guiding devices.

5. A multiple-stage steam-turbine for various speeds comprising a plurality of chambers, two or more groups of guiding devices arranged in each of said chambers and to each set of which groups steam can be separately admitted, the admission angle and the discharge angle of the guiding devices of one of the sets being different from the corresponding angles of the other set or sets, and closing devices interposed between the guiding devices of one chamber and those of the adjacent chamber, the closing devices for the guiding devices of one of the sets alternately operating with respect to the closing devices of the other set or sets.

806,721. WIRE FENCE. BERT B. WOOD, Bozeman, Mont. Filed Mar. 27, 1905. Serial No. 252,186.



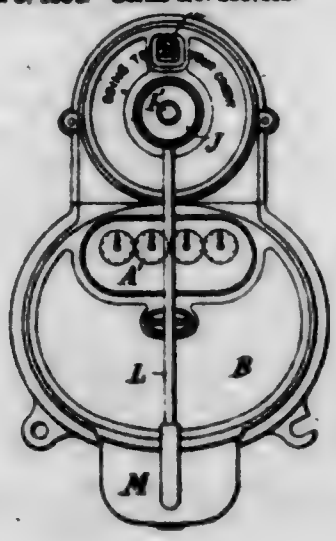
Claim.—1. The combination of the line-wire, the stay-wire crossing the line-wire and the tie-wire having a main loop formed with arms having a uniting bent at one end and provided at the other ends of said arms with returned arms, one of said returned arms being of a length less than that of the arms of the main loop and the other returned arm being of a length in excess of that of the main loop equal to the difference between the shorter returned arm and the main loop forming four similar loops fitting around the stay and line wires on opposite sides of the point of crossing both vertically and laterally and the ends of the line-wire being tapered or inclined to the axes of said ends whereby the tie-wire when clamped upon the crossed wires may be cinched or tightened by the adjustment of said inclined ends along each other, substantially as set forth.

2. A tie-wire for fences having a main loop and provided at the ends of the arms thereof opposite its connecting-bend, with returned arms combining to form a loop similar to the main loop, the ends of said arms being inclined or tapered to the axes thereof, substantially as and for the purposes set forth.

3. A tie-wire for fences having a main loop, returned arms at the ends of the arms of the main loop, said returned arms when combined being approximately equal to the length of the main loop and the returned arms combining to form a loop similar to the main loop, the ends of said arms being tapered or inclined to permit the adjustment of such ends along each other and one of the arms being deflected near its free end toward the other arm, substantially as set forth.

4. A tie-wire for fences having its free ends brought together and abutted and having such ends inclined or tapered with respect to the axes thereof whereby the ends may slide along each other to secure an adjustment by which to cinch or tighten the tie-wire when clamped upon crossed wires, substantially as set forth.

806,722. PREPAYMENT-METER. JAMES J. WOOD, Fort Wayne, Ind. Filed Dec. 3, 1904. Serial No. 235,412.



Claim.—1. The combination with a meter, of a credit-indicator movable forward or backward, the position of which corresponds to the unexpended credit of inserted coins, means tending to move it in a backward direction, a coin-actuated mechanism adapted for moving it forward by definite steps against the stress thereof to credit the coins inserted, and means controlled by the meter for releasing it and permitting it to move backward to debit the value of the commodity measured.

2. The combination with a meter of a rotary credit-indicator, means tending to move it in a backward direction, a coin-actuated counting-up device comprising a planet-gear, for moving it in a forward direction, to credit the coins inserted, and means controlled by the meter for releasing it and permitting it to move backward to debit the value of the commodity measured.

3. The combination with a meter of a credit-indicator, means tending to move it in a backward direction, a coin-actuated mechanism for moving it forward to credit the coins inserted, and an escapement controlled by the meter for releasing it at definite intervals and permitting it to move backward to debit the value of the commodity measured.

4. The combination with a meter of a rotary credit-indicator, means tending to move it in a backward direction, and a counting-up mechanism for advancing the indicator to credit an inserted coin, comprising a planet-wheel carried by said indicator, a normally stationary internal gear meshing with said wheel, a central pinion meshing with said wheel, and a coin-actuated device for turning said pinion.

5. The combination with a meter of a rotary credit-indicator, and a counting-up mechanism for advancing the indicator to credit an inserted coin, comprising a planet-wheel, a pinion meshing therewith, a coin-actuated device for turning the pinion forward, and means for preventing the backward turning of the pinion.

6. The combination with a meter of a rotary credit-indicator, means tending to move it backward and a counting-up mechanism for advancing the indicator against the stress of said means to credit an inserted coin, comprising a coin-driven rotary part, means for preventing its turning backward, a reciprocating coin-driving part having an operating-handle, and stops for limiting the movements thereof, said part adapted upon its forward movement when a coin is interposed, to turn said coin-driven part, and to move backward only when the coin is absent.

7. The combination of a casing having a coin-entering slot, a movable coin-driving part having an operating-handle and a slot which in one position registers with said coin-entering slot, a coin-driven part adapted to be locked to said driving part by an inserted coin, an indicator movable by said coin-driven part, and a movable stop displaced by said indicator in its final movement, and when displaced entering the path of said coin-driving part to prevent its movement to bring its slot into coincidence with the coin-entering slot.

8. The combination with a meter, of a credit-indicator, a coin-actuated mechanism for displacing it to credit the coins inserted, a casing having a coin-entering slot, a movable coin-receiving part having a slot which in one position registers with said coin-entering slot, and a movable stop displaced by said indicator in its final movement and adapted to prevent the movement of said coin-receiving part with its slot in coincidence with said coin-entering slot, whereby to prevent the insertion of another coin.

9. The combination of a casing having a coin-entering slot, a barrel having an operating-handle and a slot which in one position registers with said coin-entering slot, an indicator, means for displacing it by the action of an admitted coin, and a movable stop adapted to be displaced by said indicator in its final movement and when so displaced to engage a shoulder on said barrel and prevent the movement of the latter to bring its slot into coincidence with the coin-entering slot, whereby to prevent the insertion of another coin.

10. The combination with a meter of a credit-indicator means imparting to it a constant tendency to move in a backward direction, means adapted for displacing it in a forward direction, and means for controlling its movement in the backward direction comprising a gear connected to said indicator, an escape-wheel connected to said gear to be turned thereby, and an escapement-stop engaging said escape-wheel and connected to the totalizing mechanism of the meter to be vibrated thereby.

11. The combination with a meter of a rotary credit-indicator means imparting to it a constant tendency to move in one direction, a central pinion, a planet-wheel carried by said indicator meshing with said pinion, a normally stationary internal gear meshing with said planet-wheel, an escape-wheel geared to said internal gear, and

an escapement-stop engaging said escape-wheel and connected to the totalizing mechanism of the meter to be vibrated thereby.

12. The combination with a meter comprising a totalizing mechanism, of an indicator, a coin-actuated mechanism for advancing it, and an escapement for controlling its backward movement, comprising an escape-wheel and a stop-lever having two arms, one carrying a pallet for engagement with the escape-wheel and the other vibrated by the totalizing mechanism, and said arms united by a frictional engagement to facilitate adjustment.

13. The combination with a meter of a credit-indicator movable backward and forward within limits, a means tending to move it in a backward direction and exerting a substantially constant stress, a coin-actuated counting-up mechanism for moving the indicator forward against the stress of said means, and a counting-down mechanism controlled by the meter for releasing the indicator and permitting it to move backward under said stress, whereby said counting-down mechanism operates under a substantially uniform resistance.

14. The combination with a meter of a credit-indicator movable backward and forward within limits, a spring tending to move it in a backward direction and of a length sufficiently in excess of the flexure corresponding to the extreme movement of said indicator to exert a substantially constant stress at all positions thereof, a coin-actuated counting-up mechanism for moving the indicator forward against the stress of said spring, and a counting-down mechanism controlled by the meter for releasing the indicator and permitting it to move backward under said stress, whereby said counting-down mechanism operates under a substantially uniform resistance.

15. The combination with a meter of a rotary credit-indicator having a limited movement, an involute spring of many convolutions applied thereto, under an initial stress at the zero position of said indicator, and of such length as to exert a substantially constant stress during the entire range of movement thereof, a coin-actuated counting-up mechanism adapted to turn said indicator against the stress of said spring, and a counting-down mechanism operated by the meter for releasing said indicator and permitting it to turn backward under the stress of said spring, whereby the counting-down mechanism operates under a substantially uniform resistance.

16. The combination with a meter of an indicator tending to move in one direction, an escapement for controlling such movement, and means for operating the stop-arm of said escapement under control of the totalizing mechanism of the meter, comprising a traveler, operatively engaging said stop-arm, means operated by the totalizing mechanism for displacing said traveler at a rate proportional to the advance of the meter, and a releasing device adapted at the extreme displacement of said traveler to release it and permit it to return to its starting-point.

17. The combination with a meter of an indicator tending to move in one direction, an escapement for controlling such movement, and means for operating the stop-arm of said escapement under control of the totalizing mechanism of the meter, comprising a traveler, a means operated by the totalizing mechanism adapted to displace said traveler at a rate proportional to the advance of the meter, a releasing device adapted at the extreme displacement of said traveler to release it and permit it to return to its starting-point, and a connection between said traveler and stop-arm whereby the latter is given one complete vibration to each complete movement of the traveler, adjustable to vary the extent of such movement.

18. The combination with a meter of an indicator tending to move in one direction, an escapement for controlling such movement, and means for operating the stop-arm of said escapement under control of the totalizing mechanism of the meter, comprising a traveler, a means operated by the totalizing mechanism adapted to displace said traveler at a rate proportional to the advance of the meter, a releasing device adapted at the extreme displacement of said traveler to release it and permit it to return to its starting-point, and two tappets carried by said traveler adapted to operate the escapement stop-arm and said releasing mechanism, one of said tappets being adjustable to vary the movement of said traveler.

19. The combination with a meter of an indicator tending to move in one direction, an escapement for controlling such movement, and means for operating the stop-arm of said escapement under control of the totalizing mechanism of the meter, comprising a traveler, a means operated by the totalizing mechanism adapted to intermittently lift said traveler, a releasing device for permitting said traveler to fall, said traveler carrying tappets adapted to engage and operate said stop-arm and releasing device, and one of said tappets being adjustable toward or from the other to vary the extent of movement of the traveler.

20. The combination with a meter of an indicator tending to move in one direction, an escapement for controlling such movement, and means for operating the stop-arm of said escapement under control of the totalizing mechanism of the meter comprising a traveler having ratchet-teeth, means operated by the totalizing mechanism for intermittently engaging said teeth to displace the traveler, a retaining-pawl engaging said teeth for holding the traveler displaced, and means operative when the traveler has reached its extreme displacement for withdrawing said pawl to permit the traveler to return.

21. The combination with a meter of an indicator tending to move in one direction, an escapement for controlling such movement, and means for operating the stop-arm of said escapement under control of the totalizing mechanism of the meter comprising a traveler having ratchet-teeth, a rotary tappet on a spindle driven by the totalizing mechanism for successively engaging said teeth to intermittently displace the traveler, a retaining-pawl engaging said teeth for holding the traveler displaced, and means operative when the traveler has reached its extreme displacement for withdrawing said pawl to permit the traveler to return.

22. The combination with a meter of an indicator, a coin-actuated mechanism for advancing it in one direction, and means controlled by the meter for determining its movement in the contrary direction, said means comprising a movable part moved by the meter and adjustable to vary the rate of payment.

23. The combination with a meter of an indicator, a coin-actuated mechanism for advancing it in one direction to credit the coins inserted, and means for moving it in the contrary direction controlled by the meter, said means comprising an adjustable part adapted by its adjustment to vary the rate of payment.

24. The combination with a meter, of an indicator, a coin-actuated mechanism for advancing it in one direction, means controlled by the meter for determining its movement in the contrary direction, said means comprising a movable part moved by the meter and adjustable to vary the rate of payment, and a retarding device for regulating the movement of said movable part.

25. The combination with a meter of an indicator tending to move in one direction, an escapement for controlling such movement, and means for operating the stop-arm of said escapement under control of the totalizing mechanism of the meter, a means comprising a traveler formed as a toothed sector, driven by the totalizing mechanism for intermittently engaging its teeth to displace the sector, means engaging said teeth to hold the sector displaced, means for releasing it to permit it to return to its starting-point, and a retarding dash-pot for regulating its return movement.

26. The combination with a meter of an indicator tending to move in one direction, and an escapement for controlling such movement comprising a cam-wheel geared up from the indicator and an escape-wheel geared up from the cam-wheel, an escapement-arm having a releasing-pallet adapted to engage said escape-wheel and moved by the totalizing mechanism of the meter, and an escapement-arm having a stop-pallet displaced by said cam-wheel to stop the escape-wheel.

27. The combination with a meter of an indicator tending to move in one direction, and an escapement for controlling such movement comprising a cam-wheel geared up from the indicator, an escape-wheel geared up from the cam-wheel, and means under control of the totalizing mechanism of the meter adapted to release the escape-wheel and permit it to turn freely during a given movement of the cam-wheel, and thereupon under control of the latter to stop the escape-wheel.

28. The combination with a meter of an indicator, and a three-motion escapement for controlling its movement comprising a cam-wheel geared up from the indicator, an escape-wheel geared up from the cam-wheel, an escapement-arm moved by the totalizing mechanism to release the escape-wheel, a stop-arm moved by the cam-wheel to stop the escape-wheel, and means for restoring said escapement-arm and stop-arm to their original positions.

29. The combination with an electric meter of a rotary indicator having a cam-recess, a coin-actuated mechanism for advancing it from a zero position to credit the coins inserted, a counting-down mechanism controlled by the meter for moving it backward toward said position, a switch movable to close or break the circuit, and a lever-arm engaging said indicator entering its cam-recess in the zero position and connected to said switch to operate the same upon the return of the indicator to its zero position.

30. The combination with an electric meter, of a credit-indicator, a coin-actuated mechanism for advancing it from a zero position to credit the coins inserted, a counting-down mechanism controlled by the meter for moving it backward toward said position, said credit-indicator having a cam-surface, a switch movable to close or break the circuit, and a connection between said switch and cam-surface

adapted in the zero position to open the switch, and in other than the zero position to close the switch.

31. The combination with a meter of an indicator, means for imparting to it a constant tendency to move in a backward direction, a coin-actuated mechanism for advancing it in a forward direction against the stress of said means, and an escapement controlled by the meter for determining its movement in the backward direction, said escapement comprising an escape-tooth receiving the stress of said means, and a stop-arm operated by the totalizer of the meter and having a pallet, said pallet and tooth having working faces relatively inclined to facilitate the releasing movement.

32. The combination with a meter and its casing having totalizer-dials, of a coin-actuated mechanism, and a coin-discharge conduit for receiving the coin therefrom, extending outside the casing vertically across the totalizer-dials in a plane perpendicular thereto.

33. The combination with a meter, of a credit-indicator movable forward or backward, the position of which corresponds to the unexpended credit of inserted coins, means tending to move it in a backward direction, multiplying-gearing driven by it during its backward movement, a coin-actuated mechanism adapted for moving it forward by definite steps against the stress of said means to credit the coins inserted, and means controlled by the meter engaging said multiplying-gearing for releasing it and permitting the indicator to move backward to debit the value of the commodity measured.

34. The combination with a meter, of a credit-indicator, means tending to move it in a backward direction, multiplying-gearing driven by it during its backward movement, a coin-actuated mechanism for moving it forward to credit the coins inserted, and an escapement controlled by the meter engaging said multiplying-gearing for releasing it at definite intervals and permitting the indicator to move backward to debit the value of the commodity measured.

35. The combination with an electric meter, of a credit-indicator, a coin-actuated mechanism for advancing it from a zero position to credit the coins inserted, a counting-down mechanism controlled by the meter for moving it backward toward said position comprising multiplying-gearing driven by said indicator during its backward movement, said credit-indicator having a cam-surface, a switch movable to close or break the circuit, and a connection between said switch and cam-surface adapted in the zero position to open the switch, and in other than the zero position to close the switch and hold it closed.

806,723. INCANDESCENT ELECTRIC LAMP. JAMES C. WORMLEY, New York, N. Y. Filed Jan. 15, 1904. Serial No. 189,222.



Claim.—1. In an incandescent lamp, a filament having a series of convolutions consisting of substantially parallel bars connected by curves lying substantially in the plane of the straight bars, the ends of the filament converging and being connected to and integral with the convolutions.

2. In an incandescent lamp, metallic wires leading into the lamp, a filament having a series of convolutions consisting of substantially parallel bars connected by curves, the parallel bars lying in a surface of revolution whose curvature is substantially concentric with the curvature of the bulb, the ends of the filament being integral with the convolutions, and substantially normal to the surface in which said convolutions lie, the said ends converging and attached to the ends of the metallic wires.

3. In an incandescent lamp, metallic wires leading into the lamp, a filament having a series of convolutions consisting of substantially parallel bars connected by curves, the parallel bars lying substantially in a surface of revolution, the ends of the filament being integral with the convolutions and substantially normal to the surface in which said convolutions lie, the said ends converging and attached to the ends of the metallic wires.

4. In an incandescent lamp, an integral filament having connection to the light-wires, and having its body composed of substantially parallel bars connected by curved portions, the parallel bars lying in lines nearly transverse to the glass bulb, and about equally distant from the curved lower end of the bulb.

806,724. PULLING-MACHINE FOR OIL-WELLS. WILLIAM A. WORRELL and LESLIE FIKE, Vanburen, Ind. Filed Apr. 18, 1905. Serial No. 256,196.



Claim.—1. A pulling-machine for oil-wells, comprising a frame, an extension movably mounted thereon and having an eye, a flexible member connected with the eye, means for operating said flexible member, a pair of pulleys of different sizes mounted upon said extension, and a flexible member passing over one of said pulleys and adapted to be connected with said means for operating the other flexible member.

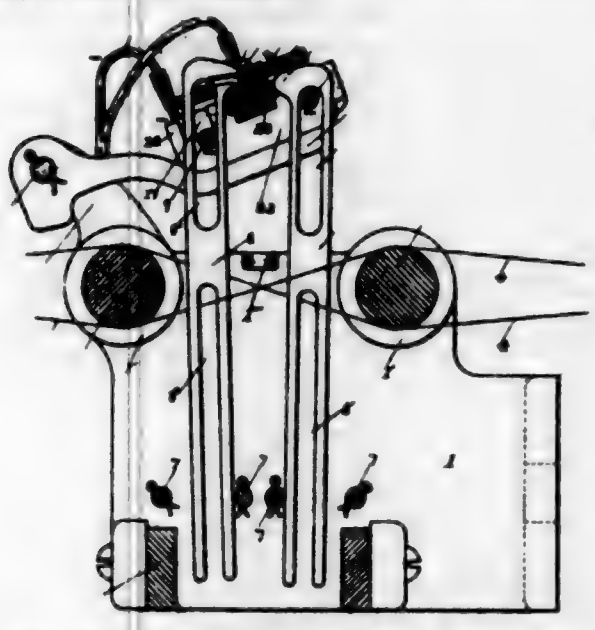
2. A pulling-machine for oil-wells, comprising a movably-mounted extension having an eye, a guide for said extension, a pulley mounted on the guide, a flexible member connected with the eye and passing over the pulley, means for drawing said flexible connection over the pulley, a pair of pulleys of different sizes mounted upon said extension, and a flexible member passing over one of said last-named pulleys and adapted to be connected with said means for drawing the other flexible member.

3. A pulling-machine for oil-wells, comprising a frame having wheels mounted upon one side thereof and a hook for draft purposes, a plurality of guys for securing the frame in inclined position, a shaft mounted on the frame, two drums of different diameters mounted on the shaft, a flexible member coiled upon each drum in opposite directions, a guide for the flexible member of one of the drums, a ratchet-wheel on the shaft, a pawl for engaging the ratchet-wheel, a brake connected with the shaft, an extension movably mounted upon the frame, said extension having an eye, said frame having a guide for the extension, a pulley mounted on said guide, a flexible member connected with said eye, passing over the pulley and adapted to be connected with said shaft, a frame on the extension, a pair of pulleys of different sizes upon the frame, and a flexible member passing over one of the pulleys and adapted to be connected with the shaft.

806,725. WARP STOP-MOTION FOR LOOMS. HORACE WYMAN, Worcester, Mass., assignor to Crompton & Knowles Loom Works, Worcester, Mass., a Corporation of Massachusetts. Filed Dec. 2, 1903. Serial No. 183,434.

Claim.—1. In a warp stop-motion, the combination with two warp-supporting rods, and two sets of drop-bars, each bar having a contacting projection on its upper end, and an opening in its upper part, of a pair of parallel terminals of one pole, extending above the warp-supporting rods, and through the openings in the drop-bars,

and a terminal of the opposite pole between the pair of terminals, and adapted to be engaged by the contacting projection on a drop-bar, on the dropping of said bar, to complete the electric circuit, substantially as shown and described.



2. In a warp stop-motion, the combination with two sets of drop-bars with a space between them, and provided with openings through their upper part, and a contacting projection thereon at their upper ends, of two parallel terminals of one pole, extending through the openings in said drop-bars, an intermediate terminal of the opposite pole between said pair of terminals, and a non-conducting surface below said intermediate terminal, and between said drop-bars, substantially as shown and described.

3. In a warp stop-motion, the combination with two sets of drop-bars each bar having a projection or extension thereon, and an opening in its upper part, and two parallel terminals of one pole extending through said openings, of a terminal of the opposite pole, intermediate said drop-bars, and a non-conducting surface below said intermediate terminal, to prevent the engaging of the edge of the drop-bars with said intermediate terminal, except with the projection on the drop-bars, substantially as shown and described.

4. In a warp stop-motion, the combination with two parallel terminals of one pole, having a space between them, of an intermediate terminal of another pole, and a non-conducting surface between the intermediate terminal, and the parallel terminals, substantially as shown and described.

5. In a warp stop-motion, the combination with two sets of drop-bars, each set contacting with a terminal of one pole, and also with a terminal of the opposite pole, intermediate the two sets of drop-bars, on the breaking of a warp-thread, of a pair of parallel terminals of one pole, and an intermediate terminal of the opposite pole, and a non-conducting surface between the parallel terminals and said intermediate terminal, substantially as shown and described.

6. In a warp stop-motion, the combination with two parallel terminals of one pole, having a space between them, and an intermediate terminal of another pole arranged in said space, of means for supporting said terminals, said means having a pivotal movement in a vertical plane, substantially as shown and described.

7. In a warp stop-motion, the combination with two parallel terminals, and an intermediate terminal, of a bridge or support for the two parallel terminals, secured to the intermediate-terminal support, substantially as shown and described.

8. In a warp stop-motion, the combination with the terminals carried on movable supports, of fixed electrical conductors in contact with said movable terminals, in their lowered position, to close the circuit, and out of contact in their raised position, to break the circuit, substantially as shown and described.

9. In a warp stop-motion, the combination with the terminals, and hinged or pivoted supports for said terminals, of a flexible or yielding connection to said movable terminals, to permit of said terminals being raised without disarranging the connections of the electric circuit, substantially as shown and described.

10. In a warp stop-motion, the combination with the terminals of an electric circuit placed above the warps, drop devices adapted to be supported on the warp-threads, and to contact with the two terminals of the circuit, when in a lowered position, by the breakage of a warp-thread, of movable supports for said terminals whereby said terminals, may be raised when a warp-thread is broken, to give access to said broken thread, substantially as shown and described.

11. In a warp stop-motion for looms provided with warp-supports, and having two series of drop devices supported on the lower planes of the warps, each drop device provided with the slotted opening above the warps, two terminals of an electric circuit passing through said slotted openings, a terminal of another pole intermediate said two terminals, an indicating projection on each drop device, above the intermediate terminal, to contact with said intermediate terminal, and establish an electric circuit when a drop falls, substantially as shown and described.

12. In a warp stop-motion for looms provided with warp-supporting rods, and having two series of drop devices supported on the lower planes of the warps, each drop device provided with a slotted opening above the warps, two terminals of an electric circuit passing through said slotted openings, a terminal of another pole intermediate said two terminals, said terminals movably supported above the warps, an indicating projection on each drop device, above the intermediate terminal, to contact with said intermediate terminal, and establish an electric circuit when a drop falls, substantially as shown and described.

13. In a warp stop-motion for a loom, the combination with two sets of drop-bars, each drop-bar having an opening in its upper part and a contacting projection at its upper end, and a terminal of an electric circuit of circular shape in cross-section, extending through the openings in each set of drop-bars, of a terminal of the opposite pole extending between the two sets of drop-bars at their upper ends, and adapted to be engaged by the contacting projection at the upper end of each drop-bar, substantially as shown and described.

14. In a warp stop-motion for looms, the combination with the terminals of two opposite poles of an open electric circuit, and drop-bars to close the circuit when any of said bars are in contact with both terminals, and two warp-supporting rods below said terminals, of a movable frame for supporting said terminals, which move with said frame, substantially as shown and described.

15. In a warp stop-motion for looms, the combination with warp-supporting rods adapted to divide the warps into two planes, and two series of drop-bars adapted to be supported on the lower planes of the warps, and provided with a slotted opening above the warps, of two terminals of an electric circuit passing through said openings, and a terminal of an opposite pole for each set of drop-bars outside thereof, and adapted to be engaged by said drop-bars, substantially as shown and described.

16. In a warp stop-motion for looms, two supporting lease-rods, adapted to divide the warps into upper and lower planes, drop-bars adapted to be supported on the lower planes of the warps, and having a contacting projection on their upper ends, and a slot in their upper parts, and circular terminals of an electric circuit extending through said slots, and terminals of the opposite poles above said lease-rods, to contact with the drop-bars, substantially as shown and described.

17. In a warp stop-motion for looms, the combination with two lease-rods, adapted to extend transversely through the warp-threads and to divide them into two planes, upper and lower, of terminals of an electric circuit extending above said lease-rods, and drop-bars having a contacting projection at their upper ends, and an opening in their upper part to receive the terminals of one pole, said drop-bars adapted to be supported on one of the planes of the warp, substantially as shown and described.

806,726. LOOM. HORACE WYMAN, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Dec. 5, 1904. Serial No. 235,474.

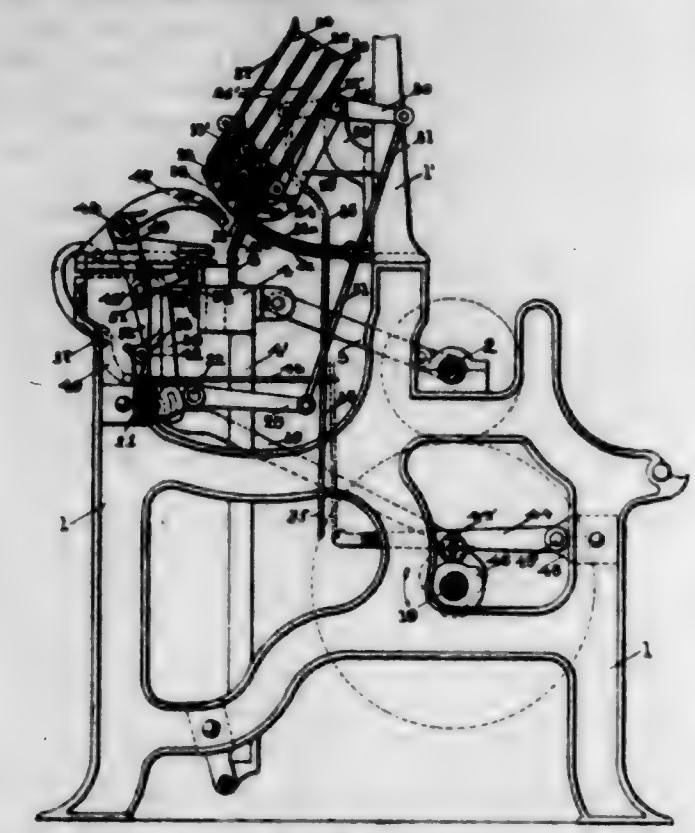
Claim.—1. In a loom of the class described, a transferrer, a pivotally-mounted magazine for filling-carriers, and means to convey a filling-carrier from said magazine to a position in the path of the movement of said transferrer.

2. In a loom of the class described, a pivotally-mounted magazine having compartments for filling-carriers, means to convey a filling-carrier from any one of said compartments into a position under the transferrer, and said transferrer.

3. In a loom of the class described, a transferrer, a magazine having compartments for filling-carriers, means to convey a filling-carrier from any one of said compartments to a position under the transferrer, a pattern mechanism to determine from which of said compartments to convey said filling-carriers.

4. In a loom of the class described, a transferrer, a magazine having compartments for filling-carriers, means to convey a filling-carrier from one of said compartments to a position under said transferrer, shifting shuttle-boxes having shuttles therein, and a pattern mechanism to determine which shuttle shall become operative, and

which compartment of said magazine shall be in position for the discharge of the filling-carrier therefrom.



5. In a loom of the class described, a magazine with two or more compartments for filling-carriers, and adapted to deliver a filling-carrier from the lower end of a compartment, a transferrer, and means to operate it, and means under the control of the pattern mechanism to regulate the position of the magazine, and bring into position a compartment having therein a filling-carrier of the desired color, for the discharge of said filling-carrier into the path of the transferrer.

6. In a loom of the class described, a pivotally-mounted magazine with one or more compartments for filling-carriers, and adapted to deliver a filling-carrier from the lower end of a compartment, a transferrer, and means to operate it, and intermediate means between said magazine and transferrer, to convey a filling-carrier directly from said magazine and place it in the path of the transferrer.

7. In a loom of the class described, a magazine having two or more compartments for filling-carriers, each compartment having filling-carriers of different colors or characters from those in the other compartments, and means to convey any one of said carriers from any one of said compartments, to a position above the shuttle on the lay, ready to be inserted into the shuttle.

8. In a loom of the class described, a magazine with two or more compartments for filling-carriers, each filling-carrier to be delivered from the lower end of its compartment, a transferrer, and means to move it, and means under the control of the pattern mechanism to move the magazine, and bring a compartment having a filling-carrier of the desired color, into a position for the filling-carrier to be discharged into the path of the transferrer.

9. In a loom of the class described, a pivotally-mounted magazine with one or more compartments provided with filling-carriers, a movable stop to hold the filling-carrier in its compartment, and to allow it to be delivered from its compartment, and directly conveyed into a position to be engaged by the transferrer.

10. In a loom of the class described, shifting shuttle-boxes carrying shuttles provided with fillings of different colors or characters, a magazine having compartments provided with filling-carriers of colors or characters corresponding to the filling-carriers in the shuttles, a pattern mechanism, and intermediate mechanism to operate the magazine, to bring a compartment, carrying the color or character of filling in the running shuttle, into position for the delivery of the filling-carrier therein into the running shuttle and a transferrer for transferring the filling-carrier into the running shuttle.

11. In a loom of the class described, a lay, a pivotally-mounted magazine with two or more compartments provided with filling-carriers, a movable shield or stop to release a filling-carrier from the lower end of a compartment, and means to guide the filling-carrier directly from said compartment into a position to be inserted into the running shuttle.

12. In a loom of the class described, shifting shuttle-boxes having shuttles provided with filling-carriers of different colors or characters, a magazine having compartments carrying a series of superposed filling-carriers corresponding in color or character to the color or character of the filling-carriers in the shuttles, and means to move the shuttle-boxes, and connections intermediate the shuttle-boxes and the magazine, whereby when the shuttle-boxes are moved to place any one of the shuttles in line with the race of the lay, the magazine will also be moved, to place another compartment thereof into position for the passage of a filling-carrier therefrom.

13. In a loom of the class described, a lay having movable shuttle-boxes at one end carrying shuttles with fillings of different colors or characters, and a rocking filling-carrier magazine at the other end of the lay having compartments for a series of superposed filling-carriers of colors or characters corresponding to the filling-carriers in the shuttles in the shuttle-boxes, and connections intermediate the shifting shuttle-boxes and the rocking filling-carrier magazine, for regulating the movement of said magazine according to the movement of the shuttle-boxes, said connections comprising a link connected to the shuttle-box lever, an arm on a rock-shaft, a second arm on said rock-shaft, and a link to an arm connected with the stand carrying the magazine, and said arm and stand.

14. In a loom of the class described, a magazine having a rocking motion and carrying filling-carriers, a conveyer to move a filling-carrier from the magazine to a position above the lay, when it is in its forward position, and hold the filling-carrier in a yielding position for the action of the transferrer and said transferrer, to transfer said filling-carrier into the running shuttle.

15. In a loom of the class described, a magazine having filling-carriers in different compartments, a conveyer adapted to select and take a filling-carrier from any one of said compartments, and means to move said conveyer to place the filling-carrier in a position under the transferrer and said transferrer, to transfer said filling-carrier into the running shuttle.

16. In a loom of the class described, a magazine having compartments for the filling-carriers, a conveyer for a filling-carrier, provided with yielding clamping means to convey a filling-carrier to a position under the transferrer, and to release it as the transferrer engages with the filling-carrier and said transferrer, to transfer said filling-carrier into the running shuttle.

17. In a loom of the class described, a rocking magazine having filling-carriers in different compartments, a conveyer to convey a filling-carrier from any compartment, and a transferrer to transfer the filling-carrier from the conveyer into the running shuttle.

18. In a loom of the class described, a lay having on one end movable shuttle-boxes, a rocking magazine at its other end, having compartments for filling-carriers, a filling-carrier conveyer, and a transferrer, and operative means to change the position of the magazine with the change of position of the shuttle-boxes, to insert a filling-carrier into the active shuttle.

19. In a loom of the class described, a lay, a shuttle-box on the end thereof, a rocking magazine having filling-carriers therein, a conveyer and a transferrer moving alternately to take a filling-carrier from the magazine, and place it in the shuttle on the lay.

20. In a loom of the class described, a lay, shifting shuttle-boxes carrying shuttles provided with fillings of different colors or characters at one end of the lay, a rocking magazine at the opposite end, having compartments, each provided with superposed filling-carriers having filling corresponding in color or character to the filling in the shuttles, and intermediate mechanisms between the shuttle-boxes and the magazine.

21. In a loom, a reciprocating rocking magazine having compartments for the bobbins, said bobbins moving in said compartments by gravity, and means in each compartment at its lower end to retain the bobbins.

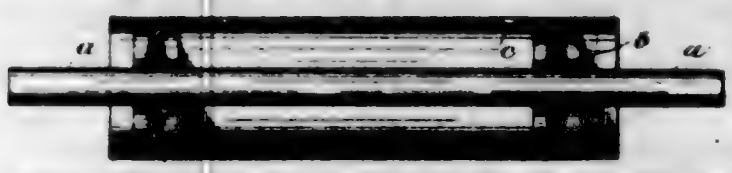
22. In an automatic weft-replenishing loom, a pivotally-mounted magazine provided with means for holding a plurality of stacks of weft-carriers, and means to move the position of the magazine from any one stack to any other stack, said means under the control of indicating mechanism.

808,727. ROLLER FOR GINNING, BURRING, AND LIKE FIBER-CLEANING MACHINES. WILLIAM YOULTEN, Westminster, England. Original application filed Aug. 17, 1903, Serial No. 169,836. Divided and this application filed Feb. 21, 1905. Serial No. 246,677.

Claim.—1. A roller for ginning, burring and like fiber-cleaning machines, provided with a surface of fine-gage-wire card embedded in a composition furnishing a hard matrix from which the points of such wires or bristles protrude sufficiently to seize and grip the fibers under treatment, said composition comprising a mixture of glue, whiting, and a thinning agent.

2. A roller for ginning, burring and like fiber-cleaning ma-

chines, provided with a surface of fine-gage-wire card embedded in a composition furnishing a hard matrix from which the points of such wires or bristles protrude sufficiently to seize and grip the fibers under treatment, said composition comprising a mixture of dissolved glue, whiting and saccharine matter.



3. A roller for ginning, burring and like fiber-cleaning machines, provided with a surface of fine-gage-wire card embedded in a composition furnishing a hard matrix from which the points of such wires or bristles protrude sufficiently to seize and grip the fibers under treatment, said composition comprising a mixture of dissolved glue, whiting and treacle.

806,728. **DEVICE FOR PREVENTING THE OVERCHARGING OF ELECTRIC CABLES.** GEORG KAPP, Cologne-Nippes, Germany. Filed Mar. 25, 1905. Serial No. 252,565.



Claim.—1. In a safety appliance for preventing the overcharging of electric cables, two electrodes disposed in intimate relation to form a spark-gap, a holding means for the electrodes having oil therein, and a layer of insulating material separating the electrodes and capable of being fused by heat and having a higher conductivity than the oil.

2. In a safety appliance for preventing the overcharging of electric cables, the combination of a holding means having oil therein, two electrodes disposed in the holding means in the oil, and insulating means interposed between the electrodes and having a higher conductivity than the oil.

3. In a safety appliance for preventing the overcharging of electric cables, a holding means having oil therein, two electrodes disposed in said holding means and oil, insulating means interposed between the electrodes and having a higher conductivity than the oil, and connections for the electrodes, one of the connections being to ground.

4. In a safety appliance for preventing the overcharging of electric cables, the combination of electrodes arranged to form a spark-gap between them, an insulating layer interposed between the electrodes, and an incombustible layer between the insulating layer and one of the electrodes.

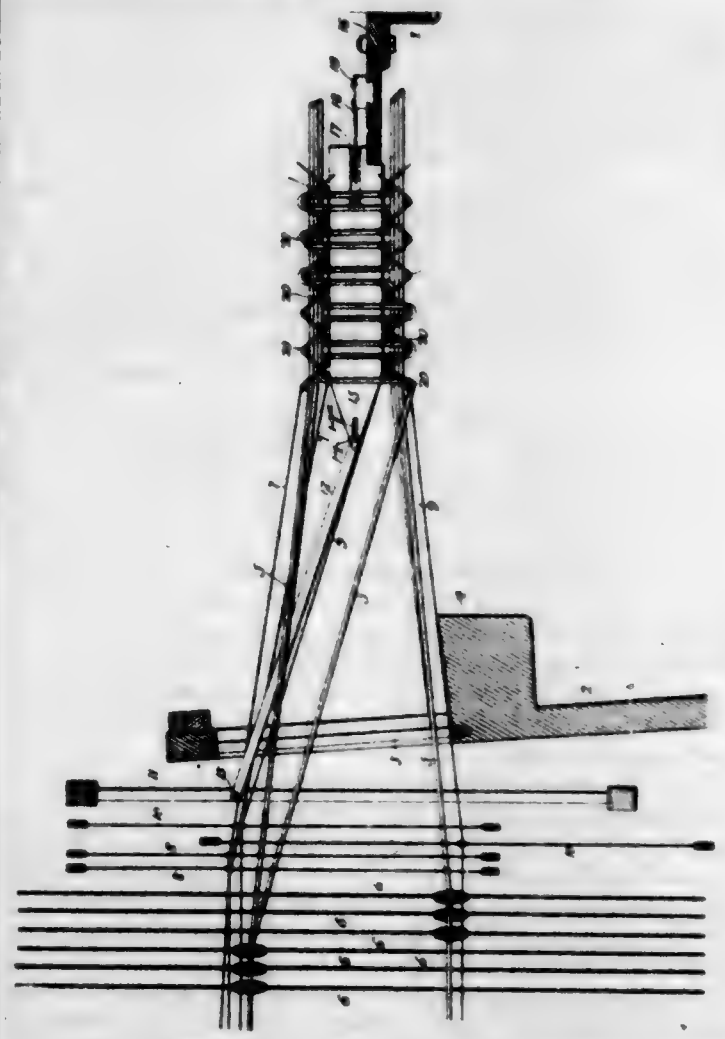
806,729. **LOOM FOR WEAVING DOUBLE-PILE FABRICS.** GEORGE ZIMMERMANN, Philadelphia, Pa. Filed Nov. 5, 1904. Serial No. 231,550.

Claim.—1. The combination, in a loom for weaving double-pile fabrics, of the weaving mechanism, separator-plates interposed between the upper and lower backing fabrics and having rigid connection with a rigid transverse bar of the loom, weft-thread-directing bars having pivotal connection with said separator-plates, and a controlling-heddle for said director-bars with which the latter also have pivotal connection, substantially as specified.

2. The combination, in a loom for weaving double-pile fabrics, of the weaving mechanism, separator-plates interposed between the upper and lower backing fabrics, weft-thread-directing bars having pivotal connection with said separator-plates, and a controlling-heddle for said director-bars and with which the latter also have pivotal connection, one of said pivotal connections being slotted, substantially as specified.

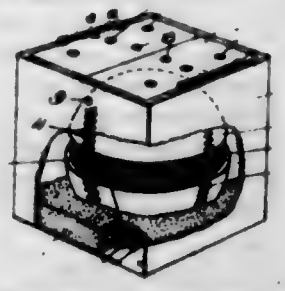
3. The combination, in a loom for weaving double-pile fabrics of weaving mechanism, separator-plates interposed between the upper and lower backing fabrics and having rigid connection with a rigid transverse bar of the loom and also slots open at the outer ends of the plates, and a transversely-moving knife whose cutting edge enters said slots, substantially as specified.

4. The combination in a loom for weaving double-pile fabrics, of weaving mechanism, separator-plates interposed between the upper and lower backing fabrics, said separator-plates having slots open at the outer ends, a bar upon which said separator-plates are mounted, and a transversely-movable cutting-knife also mounted on said bar and having a cutting edge which enters the slots in the separator-plates, substantially as specified.



5. The combination, in a loom for weaving double-pile fabrics, of weaving mechanism, separator-plates interposed between the upper and lower backing fabrics and having rigid connection with a rigid transverse bar of the loom, said plates also having open-ended slots at their front ends, a transversely-movable knife having a cutting edge entering said slots, director-bars having pivotal connection with the inner ends of the separator-plates, and a controlling-heddle for said bars also having pivotal connection therewith, substantially as specified.

806,730. **DEVICE FOR LOCATING AND RECOVERING SUNKEN ARTICLES.** FREDERICK D. ZOLL, Findlay, Ohio. Filed Jan. 6, 1905. Serial No. 239,953.



Claim.—1. In combination, a receptacle, a buoy or float therein, unitary means for normally retaining said float in said receptacle, means for ejecting said float, said ejecting means being permitted to operate by the direct action of water on said retaining means.

2. In combination, a receptacle, a float, rigid means in contact with said float, for normally retaining said float in said receptacle, flexible connecting means between said float and said receptacle, means for ejecting said float, said ejecting means being adapted to operate through the action of water on said retaining means.

3. In combination, a casing, a float therein, a cord connection between said float and said casing, means soluble in water for retaining said float in said casing, said float being adapted to be released from said casing, when the latter is sunk in water.

4. In combination, a casing, a float detachably held therein, a cord connection between said float and said casing, means for ejecting said float, said ejecting means being adapted to operate by the dissolving or softening action of water on said float-holding means.

5. An attachment for a gun, fish-rod or the like, comprising a receptacle or casing, a float normally retained therein by means solu-

ble in water, a cord of suitable length connected at one end to the casing, and at its other end to the float, means for ejecting said float when the casing is sunk in water.

6. In a device for locating and recovering sunken articles, a casing, a buoy or float therein, a cord wound on said float and attached at its inner end to the same and at its outer end to the said casing, unitary means for normally retaining said float in said casing, means for ejecting said float, said ejecting means being permitted to operate by the direct action of water on said retaining means.

7. In a device for locating and recovering sunken articles, a casing, a lid therefor, a buoy or float in said casing, a cord wound on said float and attached at one end to the same and at its other end anchored to the casing, unitary means in contact with said float, for normally retaining said float in said casing, means for opening said lid and releasing said float, said opening and releasing means being permitted to operate by the action of water on said retaining means.

8. In a device for locating and recovering sunken articles, a casing, a float therein, a cord wound on said float and connected at its inner end to the float and at its outer free end to the casing, means soluble in water for retaining said float in said casing, and means for ejecting said float from said casing when the latter is sunk in water.

9. In a device for locating and recovering sunken articles, a casing, said casing having a normally closed hinged lid, a float in said casing, a cord wound on said float and attached at its inner end to the same and at its outer free end to the casing, a soluble cement for retaining said float in said casing, means for opening said lid and ejecting said float when the casing has been sunk in water and the cement dissolved or softened.

10. In a device of the class described, a casing, said casing having a normally closed hinged lid, a float in said casing, a cord wound on said float and attached at one end to the same and at the other end to the casing, means comprising a soluble cement for retaining said float in said casing, means for opening said lid and ejecting said float when the device has been sunk in water and the cement dissolved or softened.

11. In a device for locating and recovering sunken articles, a casing, said casing having a normally closed hinged lid, a float in said casing, a cord wound on said float and attached at one end to the same and at its other end to the casing, means comprising a soluble cement for retaining said float in said casing, means in said casing for ejecting said float when the device has been sunk in water; means for attaching said device to the article to be recovered from the water.

12. In a device for locating and recovering sunken articles, a casing, said casing having a normally closed hinged lid, a float in said casing, a cord wound on said float and attached at one end to the same and at its other end to the casing, means comprising a soluble cement for retaining said float in said casing, elastic means normally under tension for opening said lid and ejecting said float when the device has been sunk in water and the cement dissolved or softened.

13. In a device for locating and recovering sunken articles, a casing, said casing having a normally closed lid, a float in said casing, a cord wound on said float and attached at one end to the same and at its other end to the casing, means comprising a soluble cement for retaining said float in said casing, a spring in said casing, normally under tension for opening said lid and ejecting said float when the device has been sunk in water and the cement dissolved or softened; means for attaching said device to the article to be recovered from the water.

14. In a device for locating and recovering sunken articles, a casing, a buoy or float in said casing, a cord wound on said float and attached at one end to the same and at its other end to the casing, said float being retained in said casing by a soluble cement located in the bottom thereof, a spring in said casing for releasing the float from the cement and ejecting the same from the casing when the cement has been softened or dissolved in water.

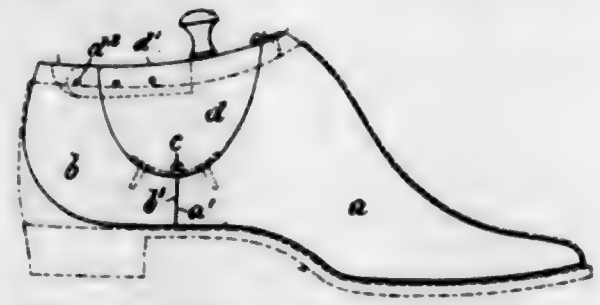
15. In a device for locating and recovering sunken articles, a casing, said casing having a normally closed cover or lid and having one or more perforations for the admission of water, a buoy or float in said casing, a cord wound on said float and attached at one end to the same and at the other end to the casing, said float being partially embedded in a soluble cement located at the bottom of the casing and thereby retained therein, a spring attached to the casing near the top thereof and normally under tension to eject the float when the casing has been sunk in water; means for attaching the casing to the article to be recovered from the water.

16. In a device for locating and recovering sunken articles, a casing, said casing having two perforated lids hinged thereto at opposite sides thereof, said lids being normally maintained closed, a buoy or float in said casing, a cord wound thereon and attached at one end to the float and at its other end to the casing, a soluble cement located in the bottom of the casing, said float being partially embedded in said cement, and thereby normally retained in said casing, a plurality of springs attached at their upper free ends to the casing and connected to the float in such a manner as to eject the same when the casing has been sunk and said cement softened or dissolved by water; means for securing said device to the article to be recovered from the water.

17. In a device for locating and recovering sunken articles, a casing, said casing having two perforated lids hinged thereto at opposite sides thereof, said lids being normally retained closed, a buoy or float in said casing, a cord wound thereon and attached at one end to the float and at its other end to the casing, a soluble cement located in the casing near the bottom thereof, said float being partially embedded in the cement and thereby normally retained in said casing, a buoy seat or ring of smaller diameter than said float and in which said float is seated, a plurality of springs normally under tension, attached at their upper ends at or near the top of the casing and at their lower ends to said buoy seat or ring and adapted to eject the float when the casing has been sunk and the said cement has been softened or dissolved by water; means attached to said casing for securing the same to the article to be recovered from the water.

18. In a device for locating and recovering sunken articles, a cylindrical casing comprising a body portion and two substantially semicircular spring-hinged lids, said casing having holes or perforations for the admission of water, a buoy seat or ring, a plurality of springs connected to the casing at or near the top thereof and at their other ends to the buoy seat or ring at spaced points, a circumferentially-grooved buoy or float, slightly larger in diameter than said buoy or ring, a cord wound in said groove and attached at one end to the float and anchored at its other end to the casing, a soluble cement in the bottom of the casing, said buoy or float being seated in said ring and partially embedded in said cement, said springs being normally under tension and adapted to eject the float when the device has been sunk in water; means for securing the device to any article to be recovered from the water.

806,731. FORM OR LAST. CHARLES A. BATCHELDER, Brockton, Mass., assignor to O. A. Miller Treeing Machine Company, Portland, Me., and Brockton, Mass., a Corporation of Maine. Filed May 15, 1903. Serial No. 157,512.



Claim.—1. In a form or last, the combination with a fore part and a heel part pivotally connected and formed with a recess between the upper portions of their adjacent faces, said recess having concave side walls and being open at the top, of a locking-block having curved side faces shaped to conform to said side walls, said block being adapted to fit into said recess and by its engagement with said concave side walls to lock the form or last against collapse.

2. In a form or last, the combination with a fore part and a heel part pivotally connected and formed with a recess between the upper portions of their adjacent faces, said recess having curved side and bottom walls and being open at the top, of a locking-block hinged to one of said parts and having curved side and bottom faces for holding the form or last against collapse, and a fastening device for retaining the locking-block in position.

3. In a form or last, a fore part and a heel part hinged together and formed with a recess between their adjacent faces, and a locking-block pivotally connected to the heel part and adapted to fill said recess and together with the fore part and heel part to form uninterrupted top and side faces of the form or last, said locking-block being removable from said recess to permit collapse of the form or tree and in its locking position being arranged to hold the fore part and heel part in extended position for the purpose set forth.

4. In a form or last, a fore part and a heel part hinged together and so shaped as to leave a recess having curved walls in the top of the form or tree between said parts when they are in extended position, and a locking-block hinged to one of said parts and fitting said

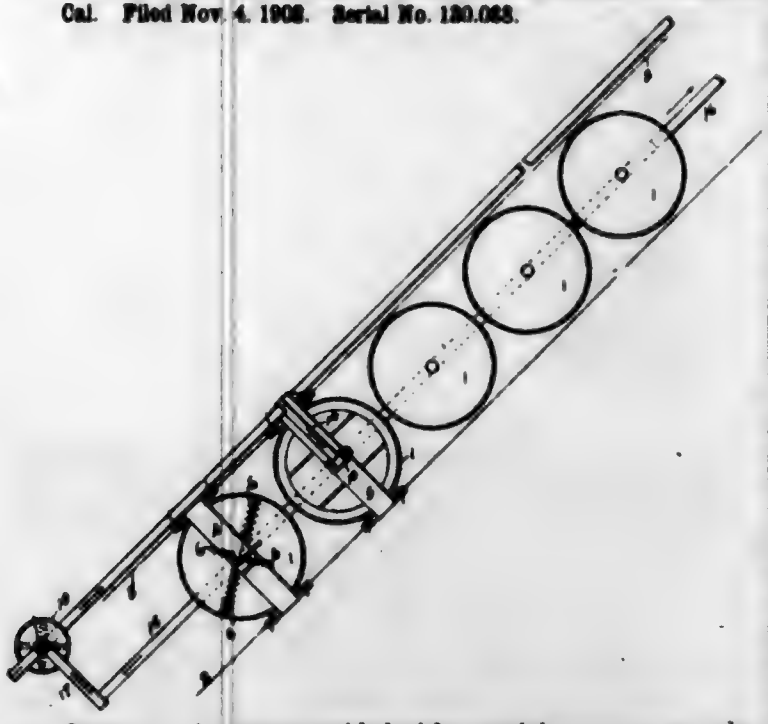
recess for locking the parts of the form or last firmly in their proper position to fill a boot or shoe, for the purpose set forth.

5. In a form or last, a fore part and a heel part hinged together and formed with a recess between their adjacent faces, and a locking-block shaped to fill said recess and together with the fore part and heel part to form uninterrupted top and side faces of the form or last, said locking-block having a hinged connection to said heel part, and said connection being constructed to hold the locking-block from lateral movement and guide said locking-block into locking position in said recess.

6. In a form or last, a fore part and a heel part hinged together and having diverging concave walls above the hinge and a wedge having convex sides shaped to engage the concave walls of the fore part and heel part.

7. In a form or last, a fore part and a heel part hinged together and having diverging concave walls above the hinge, a wedge having convex sides shaped to engage the concave walls of the fore part and heel part and a locking device for securing the wedge in position between the parts against unintentional removal.

806,732. **SYSTEM FOR CONVEYING, DISTRIBUTING, AND EXCAVATING MATERIAL.** HIRAM W. BLAISDELL, Los Angeles, Cal. Filed Nov. 4, 1903. Serial No. 180,068.



Claim.—1. A system provided with a receiving-conveyer, a plurality of vats, a main conveyer traveling adjacent thereto, a cross or auxiliary conveyer taking the material from said main conveyer and delivering it to a vat, a second cross-conveyer and a discharging-conveyer receiving the material from the vat and delivering it to said second cross-conveyer for retreatment.

2. A system provided with a receiving-conveyer, a plurality of vats, a main conveyer traveling adjacent thereto, a cross or auxiliary conveyer taking the material from said main conveyer and delivering it to a vat, a second cross-conveyer discharging upon said main conveyer and a discharging-conveyer constructed to travel in either direction so as to deliver the material at the place of deposit or return the same to said second cross-conveyer.

3. A system provided with a plurality of vats, a main conveyer traveling adjacent thereto, a cross auxiliary conveyer taking the material from said main conveyer and delivering the same to said vats, a second cross-conveyer discharging upon said main conveyer and a discharging-conveyer to return to said second cross-conveyer the material received from said vats.

4. A system provided with a row of vats, a main conveyer traveling parallel with an adjacent to the vats, a cross or auxiliary conveyer taking the material from the main conveyer and delivering the same to the vats, a second cross-conveyer to discharge upon said main conveyer and a discharging-conveyer constructed to discharge upon said second cross-conveyer or at the place of deposit the material received from said vats.

5. A system provided with a main conveyer, a plurality of vats, a mixing apparatus discharging the mixed material upon said main conveyer, an auxiliary conveyer discharging into said vats the material from said main conveyer, a cross-conveyer discharging into said apparatus and a discharging-conveyer constructed to deliver to said cross-conveyer the material received from said vats.

6. A system provided with a main conveyer, a plurality of vats, a traveling structure carrying an auxiliary conveyer receiving the material discharged by the passage over said structure of said main conveyer and delivering the same to said vats and a discharging-conveyer to transport the material from said vats.

7. A system provided with a plurality of vats a main conveyer, a traveling structure partly over the end of which said conveyer travels, an auxiliary conveyer on said structure receiving the material, from said main conveyer and discharging the same into one of said vats and a discharging-conveyer transporting the material received from said vats.

8. A system provided with a main conveyer, a traveling structure partly over the end of which said conveyer travels, an auxiliary conveyer on said structure receiving the material from said main conveyer and discharging the same into a plurality of vats and a discharging-conveyer constructed to transport the material from said vats to the place of deposit or to return the same to said main conveyer.

9. A system provided with a main conveyer, and a plurality of vats, a traveling structure partly over the end of which said main conveyer passes, an auxiliary conveyer on said structure transporting to said vats the material from said main conveyer, a cross-conveyer discharging upon said main conveyer and a discharging-conveyer to transport the material received from said vats to the place of deposit or return the same to said cross-conveyer.

10. A system provided with a plurality of vats, a traveling structure or bridge carrying a distributer, a main conveyer passing over and back under one end of said structure and an auxiliary conveyer upon said structure delivering for deposit the material received from said main conveyer.

11. A system provided with a plurality of vats, a traveling structure or bridge carrying a distributer, a main conveyer passing over one end of said structure and a discharging-conveyer to transport the material from said vats.

12. A system provided with a main conveyer, a plurality of vats, a traveling structure over one end whereof said main conveyer passes and carrying a distributer, an auxiliary conveyer on said structure delivering to said distributer the material received from said main conveyer, a traveling excavator to discharge the contents of the vats and a discharging-conveyer to transport said discharged material.

13. A system provided with a main conveyer, a plurality of parallel rows of vats, a traveling auxiliary conveyer to direct into vats the material received from said main conveyer, a discharging-conveyer taking the material from said vats and a transfer-table to transport said auxiliary conveyer to another row of vats.

14. A system provided with a row of vats, a plurality of main conveyers each having a traveling tripper, a traveling structure or bridge carrying an auxiliary conveyer receiving the material from said main conveyer and directing the same into a vat and a transfer-table to transport said structure to another row of vats.

15. A system provided with a plurality of main conveyers, a plurality of rows of vats, tracks or ways on each side of each row of vats, a traveling structure or bridge upon said tracks, means on said structure to deliver to the vats the material received from said main conveyer, cross-tracks and a conveyer platform or table thereon to receive said structure and transport the same to another set of tracks.

16. A system provided with an endless main conveyer, a plurality of vats, a centrifugal distributer discharging into the vats a traveling means for emptying the vats and means for discharging into the distributer the material received from the main conveyer.

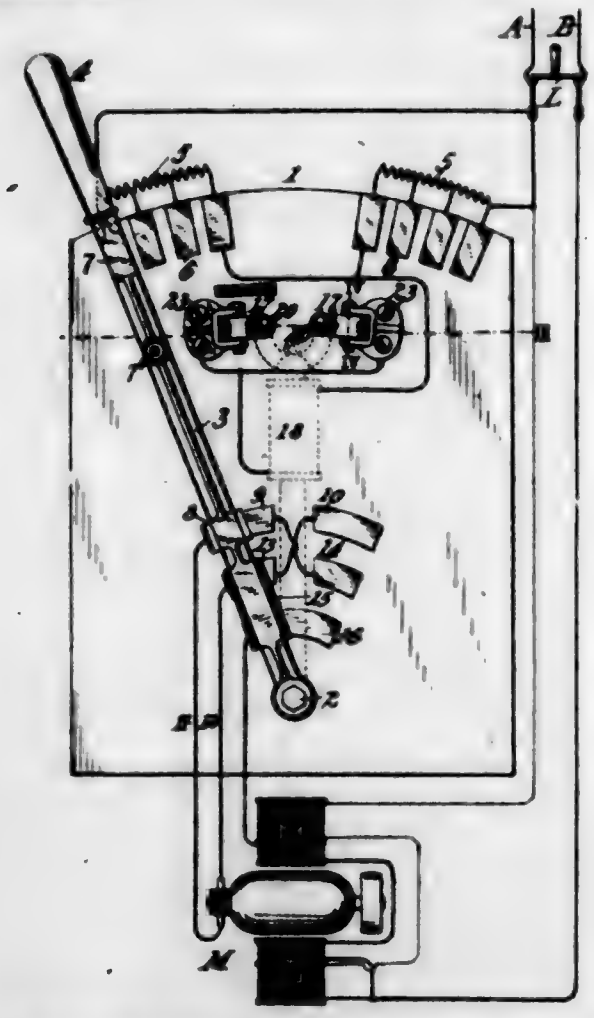
17. A system provided with an endless main conveyer, a plurality of vats, a centrifugal distributer discharging into the vats a traveling means for emptying the vats and an auxiliary conveyer discharging into said distributer the material received from said main conveyer.

18. A system provided with a main conveyer, a plurality of vats, a distributer discharging into the vats, an auxiliary conveyer for discharging into the distributer the material received from the main conveyer traveling means for emptying the vats and a discharging-conveyer receiving the material from the vats.

19. A system provided with a main conveyer, vats, a movable excavator, a movable distributer for filling the vats from said main conveyer, and a discharging-conveyer receiving the material from the vats.

806,733. **MAGNETIC BLOW-OUT SWITCH.** CHARLES E. CARPENTER, New York, N. Y., assignor to The Cutler-Hammer Mfg. Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed Jan. 9, 1904. Serial No. 188,856.

Claim.—1. In an electric switch, the combination with a source of current-supply of a pair of coöperating contacts, one of which is movable to and from the other contact under the control of the operator, and one which is a roller moved by the other contact, and a blow-out magnet energized from the source of current-supply, the poles of which are so placed as to produce lines of force which intercept the spark-gap formed by the separation of the contacts, substantially as described.



2. In an electric switch, the combination of a pair of coöperating contacts, one of which is movable to and from the other contact, and one of which is a roller, and a blow-out magnet, the poles of which are so placed as to produce lines of force which intercept the spark-gap formed by the separation of the contacts, one of the poles being electrically insulated from both contacts and the other magnetic pole, substantially as described.

3. In an electric switch, the combination of a hand-lever, a support therefor, a pair of coöperating contacts, one of which is movable to and from the other contact, and is carried by the lever, and a blow-out magnet with the axis of its coil parallel to the plane of movement of the lever, and one of its poles so placed as to produce lines of force intercepting the spark-gap formed by the separation of the contacts, substantially as described.

806,734. APPARATUS FOR STOPPING ELECTRIC MOTORS.

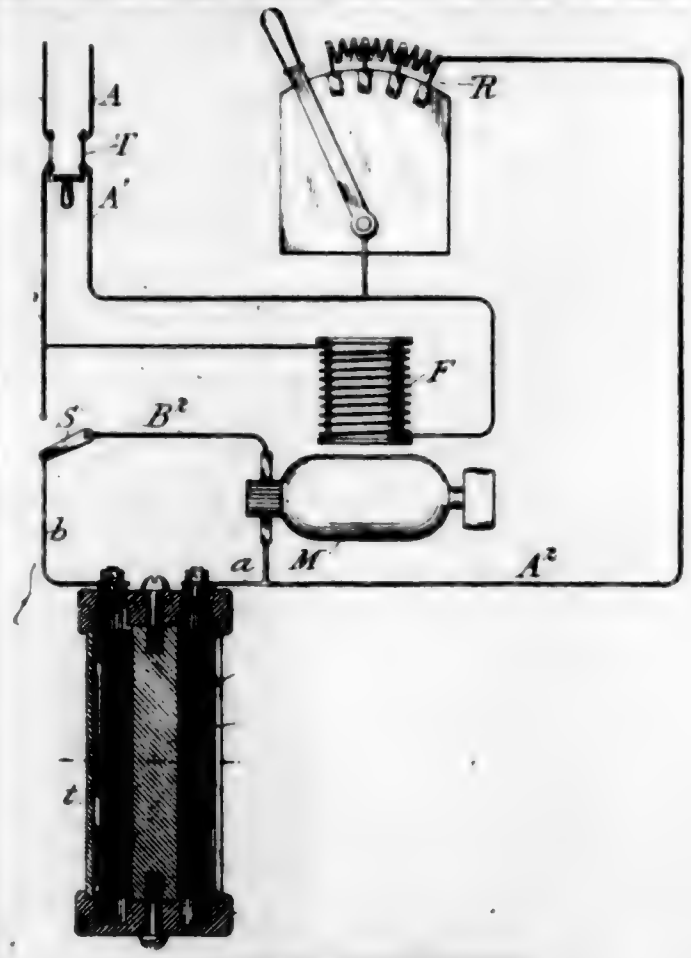
CHARLES E. CARPENTER, New York, N. Y., assignor to The Cutler-Hammer Mfg. Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed Apr. 29, 1904. Serial No. 205,514.

Claim.—1. The combination with an electric motor, of a brake-circuit containing a highly-inductive resistance in series with the armature of the motor, and means for maintaining the field for the armature in a circuit independent of the resistance, and thereby checking the speed of the motor, substantially as described.

2. The combination with an electric motor, of a brake-circuit containing a highly-inductive resistance in series with the armature of the motor, means for maintaining the field for the armature in a circuit independent of the resistance, and means for establishing the brake-circuit through the inductive resistance and armature to check the speed of the motor, substantially as described.

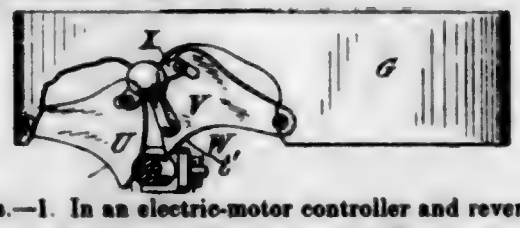
3. The combination with an electric motor, of a brake-circuit containing an electromagnetic inductance-coil in series with the armature of the motor, means for maintaining the field of the motor in a circuit independent of the resistance, and means for establishing the brake-circuit through the inductance-coil and armature to check the speed of the motor, substantially as described.

4. The combination with an electric motor, of a brake-circuit containing an electromagnetic inductance-coil in series with the armature of the motor, a permanently-closed magnetic circuit for the coil, means for maintaining the field of the motor, and means for establishing the brake-circuit through the inductance-coil and armature to check the speed of the motor, substantially as described



806,735. ELECTRIC CONTROLLING AND REVERSING SWITCH.

CHARLES E. CARPENTER, New York, N. Y., assignor to The Cutler-Hammer Mfg. Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed Feb. 3, 1905. Serial No. 243,946.



Claim.—1. In an electric-motor controller and reverser having a fixed member and a movable member for effecting motor reversal and control, a stop carried by the fixed member and engaging with the other member only at an intermediate position in which there is substantially no current-flow, and means for retracting the stop when the movable member of the controller is at said intermediate position to permit the movable member to pass the intermediate position, substantially as described.

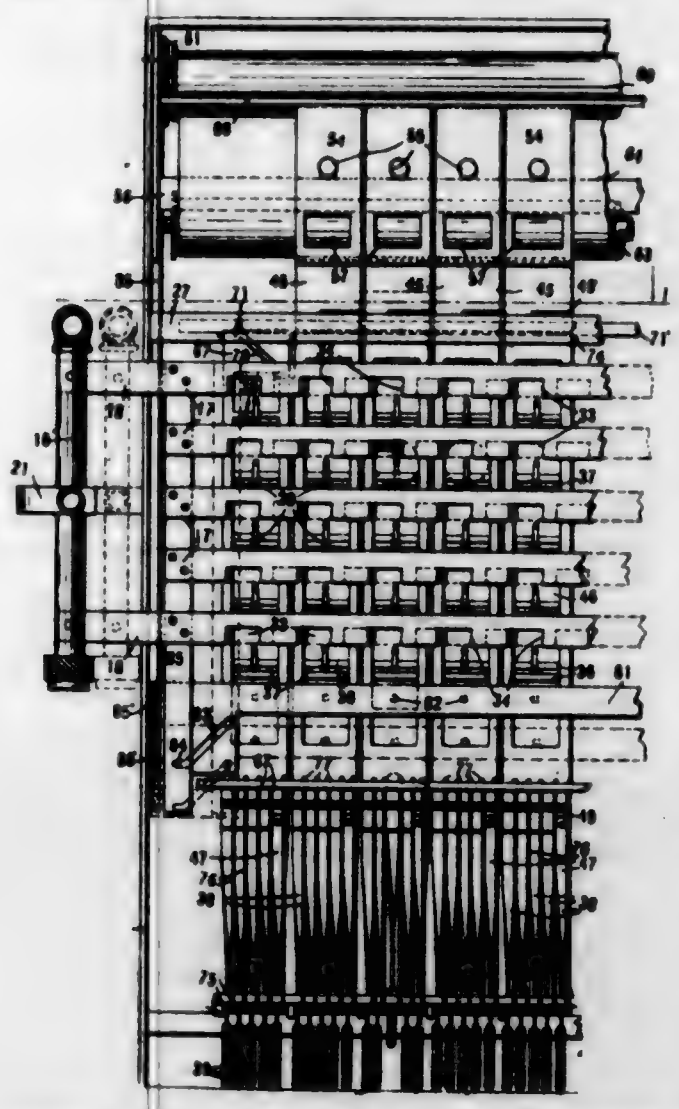
2. In an electric-motor controller and reverser having a fixed member and a movable member for effecting motor reversal and control, a stop carried by the fixed member and engaging with the other member only at an intermediate position in which there is substantially no current-flow, operative connections between the movable member and the stop for projecting the stop into engaging position when the movable member is brought to the said intermediate position, and means for retracting the stop when the movable member of the controller is at said intermediate position to permit the movable member to pass the intermediate position, substantially as described.

3. In an electric-motor controller and reverser having a fixed member and a movable member for effecting motor reversal and control, a stop carried by one of the members and having two parts engaging with the other member only at an intermediate position, one engaging part serving to prevent movement of the movable member from the intermediate position in one direction, and the other engaging part serving to prevent movement of the movable member in the contrary direction, and connections between the engaging parts to prevent their concurrent retraction, substantially as described.

4. In an electric-motor controller and reverser having a fixed member and a movable member for effecting motor reversal and control, a stop carried by the fixed member and having two parts engaging with the movable member only at an intermediate position, one

engaging part serving to prevent movement of the movable member from the intermediate position in one direction, and the other engaging part serving to prevent movement of the movable member in the contrary direction, and connections between the engaging parts to prevent their concurrent retraction, substantially as described.

808,736. VOTING-MACHINE. CHRIST CHRISTENSEN, Indianapolis, Ind., assignor, by mesne assignments, to The Columbia Voting Machine Company, Indianapolis, Ind., a Corporation of Indiana. Filed Feb. 26, 1903. Serial No. 144,036.



Claim.—1. In a voting-machine, the combination with the casing, of a plurality of voting-keys mounted therein, means for locking and releasing the keys, a gate carried by said means, and means carried by the gate for engaging the casing and shifting said locking means in the casing

2. In a voting-machine, the combination with the casing, of a plurality of voting-keys mounted therein, means for locking and releasing the keys, a pair of gates carried by said means, and means carried by each of said gates for engaging the casing and thereby shifting said locking means into and out of locking position.

3. In a voting-machine, the combination with a plurality of voting-keys, of means for locking and releasing said keys, a gate carried by said means, and means coöperating with the gate for causing a movement of the said locking and releasing means when the gate is operated.

4. In a voting-machine, the combination with a plurality of voting-keys, of means for locking and releasing said keys, a pair of axes carried by said means, a pair of gates carried upon said axes, and means coöperating with said gates for causing a reciprocation of said locking and releasing means when the gates are operated.

5. In a voting-machine, the combination with a plurality of voting-keys, of a grid-provided means for locking and releasing said keys, a pair of gates carried by said grid, and means coöperating with said gates causing a reciprocation of said grid when the gates are operated.

6. In a voting-machine, the combination with a suitable casing, of a plurality of voting-keys, mounted therein, a grid provided with means for locking and releasing said keys, a pair of gates carried by said grid, and a cam carried by each gate and adapted to engage the casing, whereby the grid will be reciprocated upon operation of the gates.

7. In a voting-machine, the combination with a plurality of series of rotatable voting-keys each having a cranked portion, of a grid through which said cranked portions pass, said grid being provided with notches into which the said cranked portions may be thrown, a pair of gates pivoted one upon each end of the grid, and means carried by said gates for shifting said grid transversely of the keys when the gates are swung.

8. In a voting-machine, the combination with the casing, of a plurality of series of rotatable voting-keys each having a cranked portion, a grid through which the said cranked portions of the keys pass, said grid being provided with notches into which the cranked portions of the keys may be thrown, a pair of gates pivoted one upon each end of said grid, and a cam carried by each gate and adapted to engage the casing whereby a movement of the gates will operate to shift the grid transversely of the keys.

9. In a voting-machine, the combination with a series of rotatable voting-keys, each having a cranked portion, of a grid through which said cranked portions pass, said grid having notches into which the said cranked porti ns may be thrown, a series of slides each engaged by the cranked portion of a key and movable transversely of the keys and transversely of the grid, interlocking mechanism between the slides, a bar adapted to engage the slides, means for shifting the grid transversely of the keys, and means for shifting the bar transversely of the grid.

10. In a voting-machine, the combination with a casing, of a plurality of rotatable voting-keys each having a cranked portion, a plurality of slides each of which is positively engaged by the cranked portion of a key and each of which is provided with a longitudinal slot, interlocking mechanism between said slides, a grid through which the cranked portions of the keys are passed, said grid being provided with a plurality of notches into each of which may be thrown the cranked portion of a key, means for shifting said grid transversely of the keys, a bar provided with a finger projecting through the slots of the slides, and intermediate connections between said bar and the grid whereby a movement of the grid will cause a movement of the bar transversely of the grid.

11. In a voting-machine, the combination with the casing, of a plurality of series of rotatable voting-keys each having a cranked portion, a plurality of series of slides each of which is positively engaged by the cranked portion of a key and each of which is provided with a longitudinal slot, interlocking mechanism between said slides, a grid through which the cranked portions of the keys are passed, said grid being provided with a plurality of notches into each of which may be thrown the cranked portion of a key, means for shifting the grid transversely of the keys, a bar provided with a plurality of fingers each projecting through the slots of all of the series of slides, and means for shifting said bar.

12. In a voting-machine, the combination with the casing, of a plurality of rotatable voting-keys each having a cranked portion, a plurality of slides each of which is positively engaged by the cranked portion of a key and each of which is provided with a longitudinal slot, interlocking mechanism between said slides, a grid through which the cranked portions of the keys are passed, said grid being provided with a plurality of notches into each of which may be thrown the cranked portion of a key, a pair of gates one pivoted upon each end of the grid, means carried by said gates for shifting the grid transversely of the keys, a bar provided with a finger adapted to enter the slots of the slides, and means for shifting the said bar.

13. In a voting-machine, the combination with the casing, of a plurality of series of rotatable voting-keys each having a cranked portion, a plurality of series of slides each of which is positively engaged by the cranked portion of a key and each of which is provided with a longitudinal slot, interlocking mechanism between said slides, a grid through which the cranked portion of the ends are passed, said grid being provided with a plurality of notches into each of which may be thrown the cranked portion of a key, means for shifting said grid transversely of the keys, a bar provided with a series of fingers each projecting through the slots of a series of slides, intermediate connections between said bar and the grid whereby a movement of the grid will cause a movement of the bar transversely of the grid, a pair of gates one pivoted upon each end of the grid, and means carried by said gates for shifting the grid transversely of the keys.

14. In a voting-machine, the combination with a plurality of series of rotatable voting-keys, of a plurality of series of condidate-slides each positively engaged by a key, a series of straight-ticket slides, a series of cross-bars arranged one adjacent the forward end of each series of candidate-slides, and means carried by each of the straight-ticket slides for shifting said cross-bars into and out of line with the candidate-slides substantially as and for the purpose set forth.

15. In a voting-machine, the combination with an independent-

ballot web, of a cover-plate normally covering said web, a series of candidate-keys, a series of slides, one for each candidate-key and each engaged by one of said keys so that it may be moved thereby both into and out of voted position, an independent-ballot slide, intermediate connections between said independent-ballot slide and the cover-plate whereby a movement of the cover can move the independent slide into voted position only, a rib carried by the independent-ballot slide, a corresponding stationary rib over which the slide-rib may be sprung as the slide passes to voted position, interlocking mechanism between the several slides, and means for returning the several slides to normal position.

16. In a voting-machine, the combination with a plurality of series of rotatable voting-keys, each having a cranked portion, of a plurality of candidate-slides each engaged by the cranked portion of a key, one or more independent slides each arranged in alinement with a series of candidate-slides, a record-receiving web arranged transversely of said independent slide, a series of cover-plates one for each independent slide and each engaging its slide in one direction only, means for exposing a portion of the web when any cover is carried to voted position, interlocking mechanism between the several slides, a grid through which the cranked portions of the keys pass, said grid having a series of notches into each of which may be thrown the cranked portion of a key, means for shifting said grid transversely of the keys and slides, a bar adapted to engage the slides, means for shifting said bar transversely of the grid, and means for advancing the record-receiving web.

17. In a voting-machine the combination with a plurality of candidate-keys each having a cranked portion, of a series of slides each positively engaged by the cranked portion of a key, one or more independent slides each arranged in conjunction with a series of candidate-slides, a record-receiving web, a pair of rollers upon which said web is carried, a series of cover-plates one for each independent slide and each normally covering a portion of said web, means carried by each cover-plate for engaging its independent slide in one direction only, an arm arranged to be engaged by any one of the cover-plates, means carried by said arm for advancing the web, a bar adapted to engage all of the said slides, a flexible connection between said bar and arm, a grid through which the cranked portions of the keys are passed, the said grid having a series of notches into which may be thrown the cranked portion of a key, means for shifting said grid transversely of the keys and slides, and means carried by the grid for shifting the bar.

18. In a voting-machine, the combination with a plurality of candidate-keys each having a cranked portion, of a series of slides each positively engaged by the cranked portion of a key, one or more independent slides each arranged in conjunction with a series of candidate-slides, a record-receiving web, a pair of rollers upon which said web is carried, a series of cover-plates one for each independent slide and each normally covering a portion of said web, means carried by each cover-plate for engaging its independent slide in one direction only, an arm arranged to be engaged by any one of the cover-plates, means carried by said arm for advancing the web, a bar adapted to engage all of the said slides, a flexible connection between said bar and arm, a grid through which the cranked portions of the keys are passed, the said grid having a series of notches into each of which may be thrown the cranked portion of a key, a pair of gates pivoted one to each end of the grid, a cam carried by each gate and adapted to engage a stationary portion of the machine, the arrangement being such that, when the gates are swung, the grid will be shifted transversely of the keys, and intermediate connections between the grid and bar for shifting the bar transversely of the grid.

19. In a voting-machine, the combination, with a series of rotatable voting-keys, each having an eccentric portion, of a grid through which said eccentric portions pass, said grid having a series of notches into which the said eccentric portions may be thrown, a series of slides each engaged by the eccentric portion of a key and movable transversely of the keys and transversely of the grid, interlocking mechanism between the keys, means independent of the keys for shifting said slides transversely of the keys, and means for shifting the grid transversely of the keys.

20. In a voting-machine, the combination, with a series of rotatable voting-keys each having an eccentric portion, of a series of slides, one for each key, each engaged and moved by the eccentric portion of a key, means independent of the keys for moving said slides transversely of the keys, and other means for engaging the keys and turning them through a portion of a revolution.

21. In a voting-machine, the combination with a plurality of rotatable keys each of which may be partially turned by a voter, of driving means independent of the keys into the path of which the voting-keys may be turned by the voter, and means for shifting said driving means to continue the rotation of the voted keys.

22. In a voting-machine, the combination, with a plurality of completely-rotatable voting-keys, of interlocking mechanism controlled by said keys, means permitting a limited angular movement of said keys by the voter, and means independent of the interlocking mechanism for engaging the voted keys and producing further movement thereof.

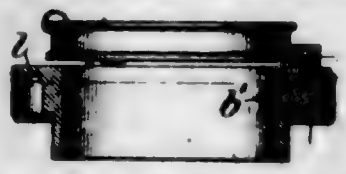
23. In a voting-machine, the combination, with a plurality of completely-rotatable voting-keys, of interlocking mechanism controlled by said keys, means permitting a limited angular movement of said keys by the voter, means independent of the interlocking mechanism for engaging the voted keys and producing further movement thereof, and means operating as a barrier for operating said last-mentioned engaging means.

24. The combination, in a voting-machine, of a series of completely-rotatable voting-keys, having eccentric portions, freely movable into and out of voted position, a bar having recesses therein, each of said voting-keys being movable to bring its eccentric portion into the corresponding recesses in said bar, means for limiting the further forward movement of said key, means operated by the exit of the voter to cause movement of the bar to engage the eccentric portions of the voted keys and continue the voting rotation thereof, and registering devices, one for each voting-key, each operated by a complete rotation of its key.

806,737. APPARATUS FOR SPINNING AND TWISTING YARN.

DÉSIRÉ DESPRADELLE, Boston, Mass., assignor to William A. Stetson, Boston, Mass.

Filed Feb. 11, 1905. Serial No. 245,261.



Claim.—1. In a machine for spinning yarn, the combination of a rotatable traveler-ring, and an expansible and contractible controller constructed and arranged to be repelled from contact with the rotating ring by the centrifugal action of the ring during its rotation.

2. In a machine for spinning yarn, the combination of a rotatable traveler-ring, and a controller having a normal tendency to press against the ring, said controller being constructed and arranged to be expanded or repelled from contact with the ring during the normal rotation of the ring.

3. In a machine for spinning yarn, the combination of a rotatable traveler-ring, and a controller constructed and arranged to freely accommodate itself to the undulatory and gyratory movements of the ring when the ring is rotating at its normal operative speed.

4. In a machine for spinning yarn, the combination of a rotatable ring, and means for exerting a uniform control over the ring during its normal rotation in order to maintain a constant speed of rotation.

5. In a machine for spinning yarn, the combination of a rotatable traveler-ring, and centripetal guides arranged to control the ring during its rotation.

6. In a machine for spinning yarn, the combination of a rotatable traveler-ring, a series of independent guides arranged to engage said ring while it is at rest and to separate away from the ring while the ring is rotating.

7. In a machine for spinning yarn, the combination of a rotatable traveler-ring provided with guides for keeping it in operative position, said guides being mounted to move into frictional contact with said ring to retard its rotation when the speed is diminished below the normal.

8. A controller for a rotary traveler-ring comprising a base member and a series of guides loosely mounted therein, said guides being constructed and arranged to engage a traveler-ring and control its rotation.

9. A controller for a rotary traveler-ring embracing in its construction, loosely-mounted guides arranged to engage a traveler-ring, and a tension device arranged to yieldingly press the guides of the traveler-ring toward a common center.

10. A controller for a rotary traveler-ring embracing a series of loosely-mounted guides, said guides being provided with antifriction-bearing recesses for engaging a ring and being arranged to normally press inwardly.

11. The above-described guide-post for a traveler-ring controller, comprising a post of rawhide having a horizontal notch or recess on one side adapted to receive the flange of a traveler-ring.

12. A controller embracing in its construction a series of guides for controlling a traveler-ring, and means for regulating the action of said guides in relation to the ring in order to govern the speed of rotation of the ring while in normal operation.

13. In a device of the class described, the combination of a rotatable traveler-ring, means for controlling and guiding the ring during its rotation while permitting its gyration, and means for regulating the action of said controlling means to govern the rotation of the ring.

14. In a device of the class described, the combination of a rotatable traveler-ring, a controller constructed and arranged to be expanded away from the ring while permitting the centrifugal action of the ring during its rotation, and means for regulating the resistance of the controller to the centrifugal action of the ring in order to govern the rotation of the ring, substantially as described.

15. In a device of the class described, the combination of a rotatable traveler-ring, an expansible controller in which the ring is loosely mounted, and means for regulating the controller in relation to the ring so as to modify or vary the speed of rotation of the ring, substantially as described.

16. In a device of the class described, the combination of a rotary traveler-ring, centripetal controller members arranged about the periphery of the ring to support and control the same, and means for regulating the centripetal tendency of the controller in order to govern the rotation of the ring, substantially as described.

17. In a device of the class described, the combination of a rotary traveler-ring, a series of independently-movable members for controlling said ring, a tension device provided with a spring for each controller member arranged to normally press the controller members toward the ring, substantially as described.

18. In a device of the class described, the combination of a rotary traveler-ring, independent controller members for supporting and guiding the ring arranged to automatically adjust themselves to the gyratory and undulatory movements of the ring, and means for applying different degrees of tension to said controller members in order to regulate the speed of the ring, substantially as described.

19. In a device of the class described, the combination of a rotatable traveler-ring, a series of guides arranged to accommodate themselves to the movements of the rotating ring, an adjustable tension device for regulating the action of said controller members in relation to the ring, and means for retaining the tension device in its different positions of adjustment.

20. In a device of the class described, the combination of a rotatable traveler-ring, controller members, comprising loosely-mounted guides having loose engagement with said ring, an adjustable tension device embracing springs having engagement with said controller members, and a non-rotatable clamping member arranged to engage said tension device to hold it against accidental displacement.

21. In a machine for spinning yarn, a rotatable ring freely responsive to variations in the pull of the yarn, and means for exerting a constant control over the rotation of the ring in whatever position the ring may assume.

22. In a machine for spinning yarn, the combination of a rotatable traveler-ring and the movable supporting guide-posts *c c* therefor, substantially as described.

806,738. **TRACING OR DUPLICATING PAD.** LOU C. EDMUND, New York, N. Y. Filed Feb. 1, 1905. Serial No. 243,744.

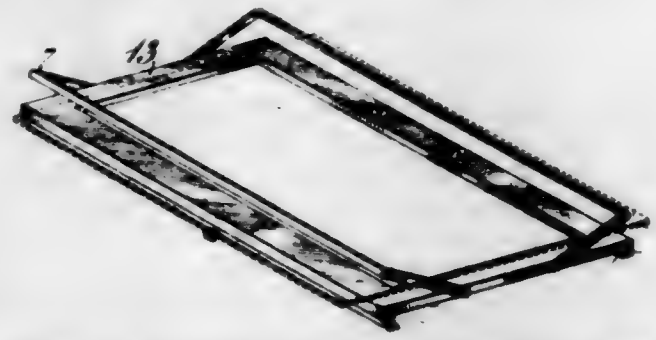
Claim.—1. A tracing or duplicating device comprising a frame, a pad having a coloring-pigment on its surface, said pad being supported upon and removable through one side of the frame, and a screen layer over the pigment-carrying surface of the pad, said layer being permanently secured on three of its edges to the frame and having its other edge freely detachable to permit removal of the pad.

2. A tracing or duplicating device comprising a frame having a receiving-recess and an entrance to said recess, a pad having a coloring-pigment on its surface, said pad being arranged in said recess and insertible and removable through said entrance, strips in the recess forming guides for the pad, and a screen layer over the pad having three of its side edges clamped to the frame by said strips, the other side edge being detachably secured to the base of the entrance to removably confine the pad in place.

3. A tracing or duplicating device comprising a rectangular frame, three of the sides of the frame being provided on their inner upper edges with grooves forming a recess, the fourth side having an entrance to said recess, strips in the recess, a pad having three of its edges seated in the recess and guided by said strips and its other edge supported by the wall of the entrance, a screen layer over the pad having three of its side edges clamped by the strips against the wall of the recess, the other edge of the layer being arranged to overlie the wall of the entrance, and means for detachably securing the latter-named edge to the wall of the entrance to removably confine the pad in place.



806,739. **TYMPAN-PLATE FOR PRESSES.** WILLIAM FULLARD, Plainfield, N. J., assignor, by mesne assignments, to United Printing Machinery Company, a Corporation of Maine. Filed Nov. 8, 1904. Serial No. 231,860.



Claim.—1. In a device of the character described, a platen having one of its upper edges inclined, a plate adapted to be secured to said platen, a lug depending from said plate and having an inclined face adapted to engage with said inclined edge on said platen, a second lug depending from said plate and a set-screw carried by said lug and adapted to abut against said platen, whereby the said platen and plate may be positively and firmly held with respect to each other.

2. In a device of the character described, a platen having an inclined upper side edge, a raised portion on the upper face of said platen, a plate adapted to be secured to said platen having a cut-away portion which fits into said raised portion on said platen, a lug depending from said plate having inclined faces adapted to engage with said inclined edge on said platen and means for locking said plate and platen together.

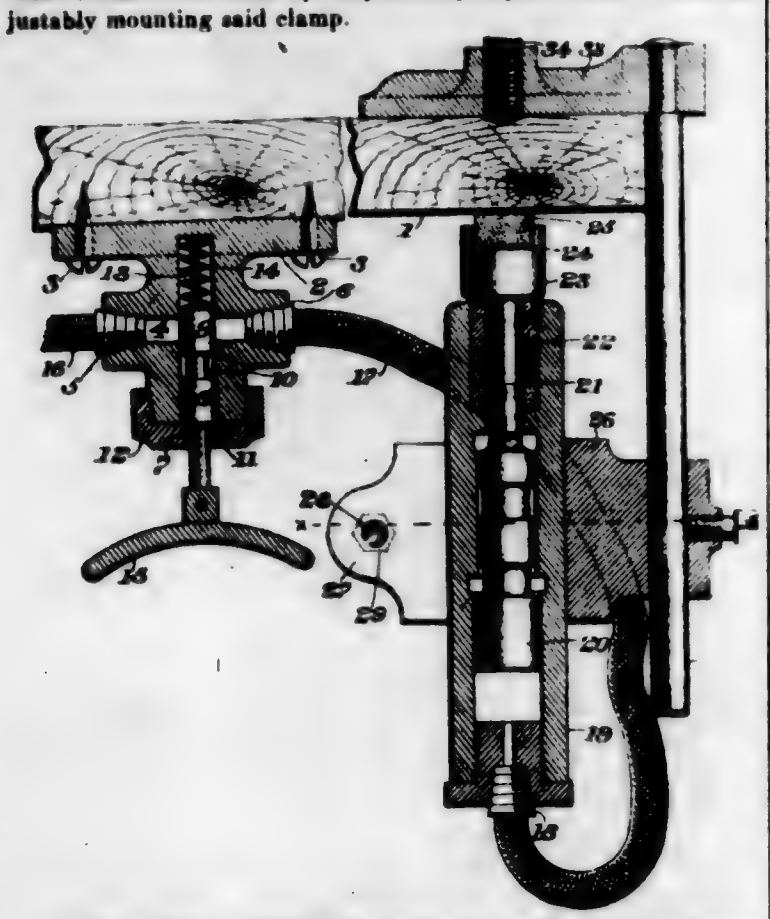
3. In a device of the character described, a platen having an inclined upper side edge, a plate adapted to be secured to said platen, means on said plate provided with an inclination which is adapted to engage with said inclined edge on said platen and means carried by said plate and adapted to abut against said platen whereby the latter and said plate may be positively and firmly held with respect to each other.

806,740. **PNEUMATIC RAPPER.** HARRY B. GRIMER, Philadelphia, Pa., assignor to Chicago Pneumatic Tool Company, Chicago, Ill., a Corporation of New Jersey. Filed Dec. 14, 1904. Serial No. 236,811.

Claim.—1. In a pneumatic bench-rapper, the combination of a pneumatic tool, a rapping device actuated thereby and constructed to be reciprocated to vibrate the mold-support by impact, means for leading motive fluid to said tool, adjustable holding means for said tool and rapping device and embodying a lower clamping-jaw in which said tool is held, and a controlling device wholly independent of said tool and adapted to be actuated by the knee or body of the operator.

2. In a device of the character described, a tool-supporting

clamp for securing a pneumatic tool to a bench and in the lower clamping-jaw of which said tool is held, a controlling-valve connected with said tool and independently supported by said bench, positive means for closing said valve automatically when the pressure is removed therefrom, a rapping device disposed to be actuated by said tool to vibrate said bench by reciprocatory impact, and means for adjustably mounting said clamp.

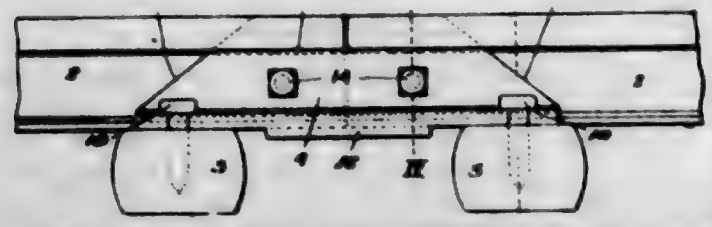


3. In a device of the character named, a clamping device comprising an upper and a lower jaw, a rod rigidly fastened to said upper jaw, the lower jaw being adjustably mounted on said rod and adapted to receive and support a pneumatic hammer, a screw mounted on the upper jaw adapted to contact with a bench and thus clamp said hammer in position a pneumatic hammer supported in said lower jaw to act by impact and a controlling-valve independently supported and automatically closing when the pressure is removed.

4. In a device of the character described, a jaw, a rod or bar extending therefrom, clamping means on said jaw, a bolt whereby a pneumatic tool may be securely retained in position, a pneumatic hammer held by said clamping means to act by impact against the mold-support a valve-casing independently supported, a motive-fluid passage leading therefrom, one end of said passage being adapted to be connected with a motive-fluid supply and the other end with a connection leading to said tool, a valve normally throttling said passage, a device on said valve against which the operator presses to actuate said valve, the latter being automatically closed on the release of said pressure.

5. In a device of the character described a two-part clamp, means for adjustably securing the same, a pneumatic rapper adjustably supported in the lower jaw of said clamp, an independent controlling means with a pressure-piece adapted to be actuated by the knee of the operator, a spring for returning said piece to its normal position, and a connection between the same and the casing of said rapper.

806,741. RAIL-JOINT. PATRICK J. HANEY, Beaverhills, and PATRICK J. LALLEY, Fullston, Pa. Filed Apr. 3, 1905. Serial No. 253,416.



Claim.—1. A separable two-part rail-joint having base portions adapted to bear against the web and flanges of the rails for the full length of the joint, intermediate under portions adapted to project inwardly underneath the rail-flanges, and upper head-bearing portions of less length with downwardly-sloping end portions, substantially as set forth.

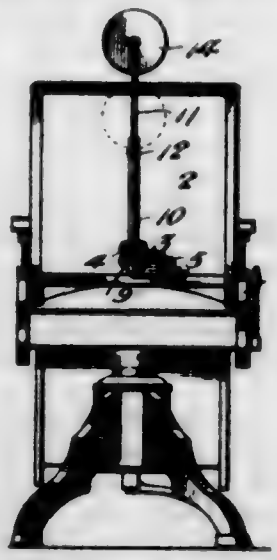
2. A separable two-part rail-joint having base portions adapted to bear against the web and flanges of the rails for the full length of the joint, intermediate under portions adapted to project inwardly underneath the rail-flanges, upper head-bearing portions of less length with downwardly-sloping end portions, and a supplemental upwardly-extending reinforcing portion at one side adapted to lie flush with the top of the rail, substantially as set forth.

3. In a rail-joint, the combination with the meeting ends of adjacent rails, of an inner and an outer fish-bar embracing the web and flanges of the rail at each side, provided with under reinforcing portions intermediate of the ends of the bar extending inwardly underneath the rail-flanges, the bars having inwardly and upwardly sloping end portions terminating in shortened head-bearing portions, the outer one of said bars having a supplemental extension projecting upwardly to the level of the top of the rail, substantially as set forth.

4. In a rail-joint, the combination with the meeting ends of adjacent rails, of an inner and an outer fish-bar embracing the web and flanges of the rail at each side, provided with under reinforcing portions intermediate of the ends of the bar extending inwardly underneath the rail-flanges, the bars having inwardly and upwardly sloping end portions terminating in shortened head-bearing portions, the outer one of said bars having a supplemental extension projecting upwardly to the level of the top of the rail, said fish-bars being provided with spike-openings and secured to the ties at each side of the rail-joint, substantially as set forth.

5. In a rail-joint, the combination with the meeting ends of adjacent rails, of an inner and an outer fish-bar embracing the web and flanges of the rail at each side, provided with under reinforcing portions intermediate of the ends of the bar extending inwardly underneath the rail-flanges, the bars having inwardly and upwardly sloping end portions terminating in shortened head-bearing portions, the outer one of said bars having a thickened body portion and a supplemental extension projecting upwardly to the level of the top of the rail, said fish-bars being provided with spike-openings and secured to the ties at each side of the rail-joint, substantially as set forth.

806,742. MIRROR FOR BARBERS' CHAIRS. GEORGE C. HOBBIE, Norfolk, Va. Filed Feb. 23, 1905. Serial No. 247,011.



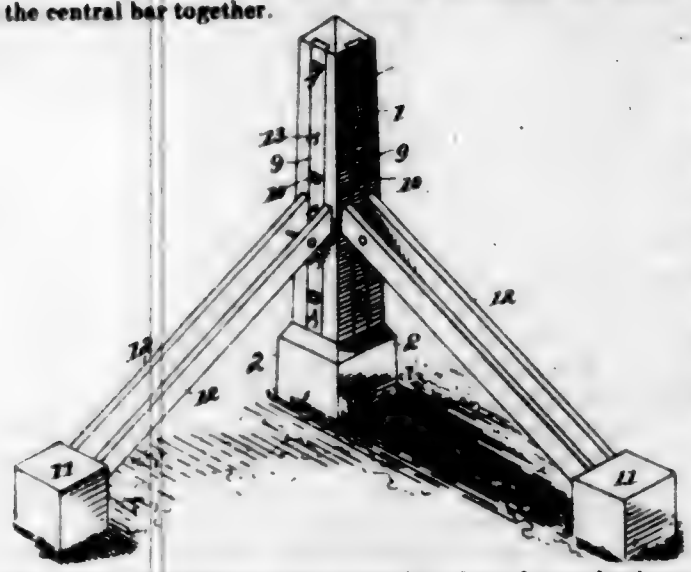
Claim.—1. In a mirror-support, a bracket comprising a base-plate carrying a sleeve, a hollow member having its lower end closed and adjustably mounted within said sleeve, a supporting-rod adjustably mounted within said hollow member, a hook member carried by the closed end of said hollow-member, a spring having one of its ends secured to the rod and its other end secured to said hook, and a mirror adjustably carried by said rod.

2. In a mirror-support, a bracket provided with a sleeve, a hollow member adjustably mounted in said sleeve and having its lower end closed, a hook carried by said closed end, a supporting-rod adjustably mounted within said hollow member, a spring having connection with said rod and hook, said rod being provided with a ball, a mirror-frame, and a socket carried by said mirror-frame and adapted to receive said ball to adjustably mount the mirror-frame upon the rod.

806,743. POST. EUGENE R. HUMBERT, Mount Zion, Ill. Filed Sept. 15, 1905. Serial No. 278,081.

Claim.—1. A post comprising a concrete body, a bar of non-plastic material incased in the concrete lengthwise thereof, strips of non-plastic material embedded in opposite faces of the concrete

body lengthwise thereof, and bolts binding the strips, the concrete and the central bar together.

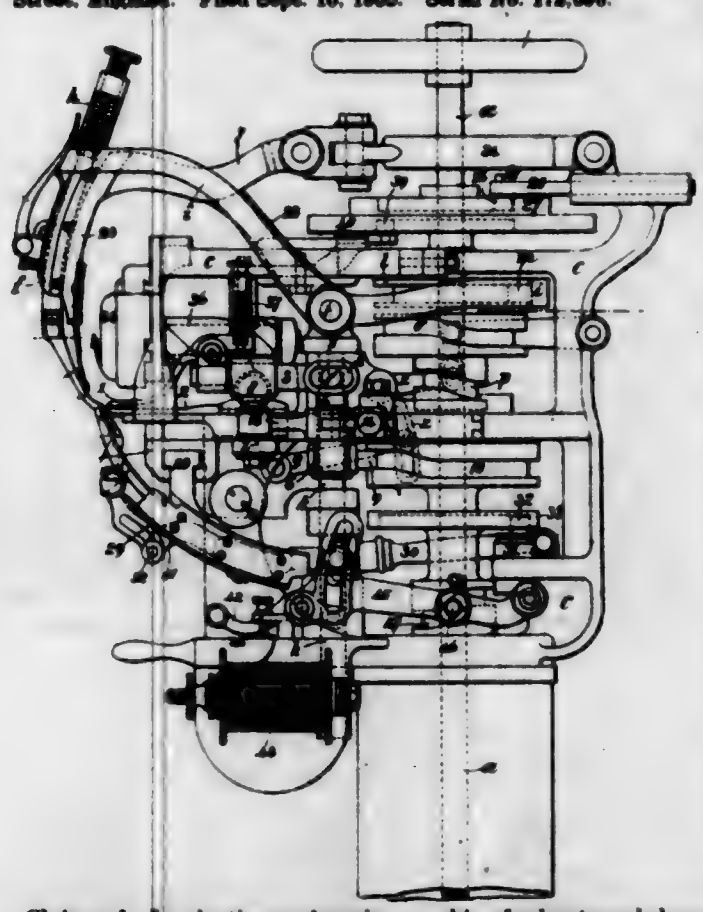


2. A post comprising a concrete body, a bar of non-plastic material incased in the concrete body lengthwise thereof, bars of non-plastic material embedded in opposite faces of the concrete body lengthwise thereof, bolts binding the bars together and to the concrete and side enlargements of the concrete incasing the side bars below the ground-line of the post.

3. A post comprising a concrete body, a cross formation of concrete on the lower end of the post, a bar of non-plastic material incased in the post lengthwise thereof and provided with a cross bar or rod on its lower end which extends into the cross formation of concrete, strips of non-plastic material embedded in opposite sides of the concrete of the post, and bolts extending through the concrete and through the wood or metal bars, or strips.

4. A post comprising a concrete body, a bar of non-plastic material incased in the concrete body lengthwise thereof, strips of non-plastic material embedded in opposite faces of the concrete body lengthwise thereof, bolts securing the parts together, and a bolt extending from the incased bar upward through the upper end of the post.

806,744. **MACHINERY FOR MAKING BOOTS AND SHOES.** JOHN C. KEATS, Northampton, England, administrator of John Keats, deceased, assignor to The Phœnix Boot Machinery Company Limited, Street, England. Filed Sept. 10, 1903. Serial No. 172,606.



Claim.—1. In a lasting and sewing machine for boots and shoes, mechanism consisting of the combination of the following elements, viz: a presser-foot and abutment for holding the work, two pairs of gripping-jaws operating in different planes on the upper, a circular shuttle, a curved needle, an awl coöperating with said needle on the opposite side of the work for feeding the latter, a driving-shaft and cams thereon, and connections between said cams, presser-foot, gripping-jaws, needle and awl for producing the feeding movements and for releasing the work from the gripping-jaws and returning the needle and awl to their normal position after feeding, all substantially as described.

2. In a lasting and sewing machine, the combination of lasting and smoothing grippers operating longitudinally and laterally on the upper, a needle, means for maintaining the needle in the work while the work is being fed and after the grippers have been released from the upper to thereby prevent the upper from slipping, means for feeding the work, and means for returning the needle to normal position to take another stitch when the grippers have taken a new grip on the upper.

3. In a lasting and sewing machine, the combination with lasting-grippers of pivotally-mounted smoothing-grippers, one of said smoothing-grippers having an elastically-mounted jaw, means for both positively opening and closing said grippers from the main driving-shaft and means for laterally moving the grippers at the will of the attendant in either direction, substantially as described.

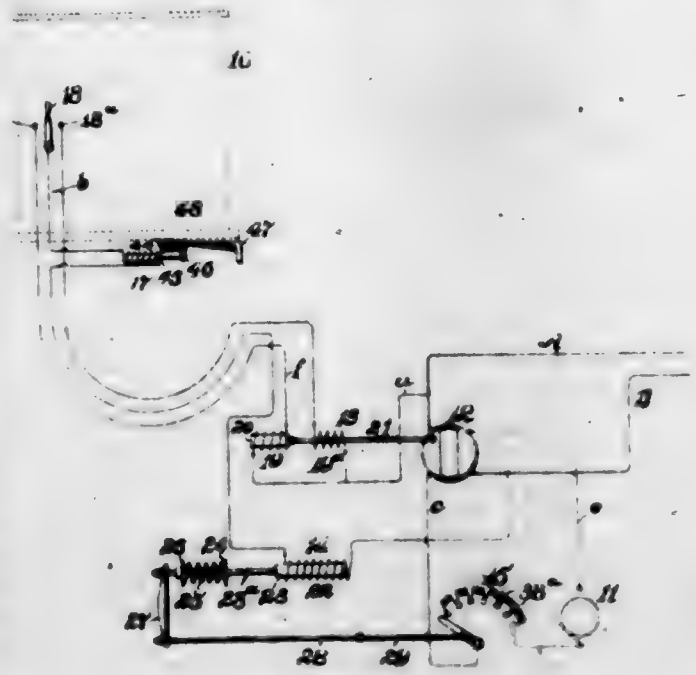
4. In a lasting and sewing machine, the combination with lasting-grippers, of pivotally-mounted smoothing-grippers, one of said smoothing-grippers having an elastically-mounted jaw, a drive-shaft, a cam on the drive-shaft for positively operating the lasting-grippers to both open and close them, and a cam on said shaft for both positively opening and closing the smoothing-grippers.

5. In a lasting and sewing machine, the combination of lasting and smoothing grippers operating longitudinally and laterally on the upper, a needle and awl operating from opposite sides of the work and coöperating with each other, means for maintaining the needle and awl in the work while the work is being fed and after the grippers have been released from the upper to thereby prevent the upper from slipping, means for moving the needle and awl for feeding the work, and means for returning the needle and awl to normal position to take another stitch when the grippers have taken a new grip on the upper.

6. In a lasting and sewing machine, the combination of lasting and smoothing grippers operating longitudinally and laterally on the upper, a pivotally-mounted needle and awl operating from opposite sides of the work and coöperating with each other to feed the work, means for maintaining the needle and awl in the work while it is being fed and after the grippers have been released from the upper to thereby prevent the upper from slipping, and means for swinging the needle and awl in a direction to feed the work and swinging them back to normal position for taking another stitch when the grippers have taken a new grip on the upper.

7. In a lasting-machine, smoothing-grippers pivoted for lateral movement, means for opening and closing said grippers, a pivoted hand-lever operatively connected to said grippers, a lever pivoted intermediate its ends, a cam for rocking said last-named lever, and an arm connected to the lever first named and having an adjustable connection with the lever last named, whereby the operator by shifting the hand-lever can vary the operation of the parts.

806,745. **ELEVATOR SYSTEM.** GEORGE A. LE FEVER, Orangeburg, N. Y. Filed Dec. 2, 1904. Serial No. 235,218.

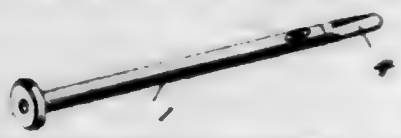


Claim.—1. In an elevator system, the combination with a car, of a motor, a driving-sheave, a hoisting-rope passing over said sheave and connected to the car, a brake-shoe, a brake-lever, a brake-spring, a brake-rod connected to the brake-lever and to the brake-spring, a solenoid, a core-piece connected to the brake-rod and adapted to be drawn into the solenoid when the latter is energized, a switch for controlling the motor, a switch-lever, a connection between the switch-lever and the brake-lever, a car-switch, and a circuit including the solenoid, the motor, and the car-switch.

Claim.—1. An electric elevator system comprising a car, an electric motor, a rheostat in the circuit of the motor, a pole-changer, and a safety-clutch for locking the car, the said rheostat, pole-changer and safety-clutch being automatically operated by the making and breaking of the controller-circuit.

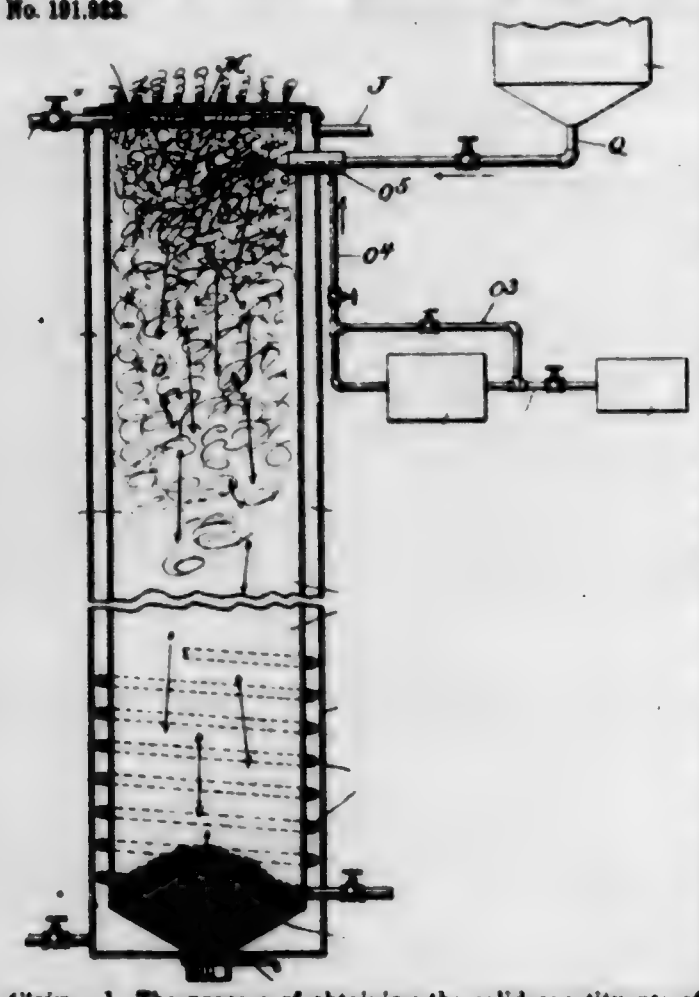
2. In an electric elevator system, the combination with the car-controller and the motor, of a rheostat included in the circuit of the motor and controller, electrically-operated means governed by the controller for moving the lever of the rheostat in one direction, a spring to move the said lever in the opposit direction, and means for quickly placing the rheostat-lever out of circuit as it is opened.

808,746. INSTRUMENT FOR RELIEF OF BLOAT. THOMAS H. MILLER, Keedysville, Md. Filed Dec. 29, 1904. Serial No. 238,844.



Claim.—As a new article of manufacture, an instrument comprising a tubular body having a head at one end and a laterally-extending opening near its other end, and a tip inserted within, and extending from, the end of the body near the opening, said tip having a cylindrical end flush with the body and merging at one end into a cutting edge extending throughout the diameter of the body.

808,747. DESICCATING PROCESS. JOHN C. MCLACHLAN, Chicago, Ill., assignor to International Desiccating Company, Chicago, Ill., a Corporation of West Virginia. Continuation of application Serial No. 144,464, filed Feb. 21, 1903. This application filed Feb. 4, 1904. Serial No. 191,862.



Claim.—1. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray, causing the spray to descend through a drying-chamber containing heated air free from the products of combustion, and separating the vapors from the solids in the same chamber by discharging the vapors above and collecting the solids below after they have passed out of the vapor-charged area.

2. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray, discharging the spray into a drying-chamber, separating the vapors from the solids by the joint action of heat, which expands the vapors and causes them to move in one direction, and gravity, which causes the solidifying material to move in the other direction, and continuing this process until the solids, practically free from vapor, have passed out of the vapor-charged area.

3. The process of obtaining the solid constituents of liquids in the form of a dry powder, which consists in atomizing said liquids and heating the same to such a degree as will evaporate only the watery constituents thereof, allowing said solid constitutents to precipitate by gravity as soon as the atomization has been accomplished, simultaneously removing the watery vapor, and continuing the precipitation of the solid constitutents and the elimination of the watery vapor until the desired product is obtained.

4. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray, causing the spray to descend through a drying-chamber containing air heated to a temperature not exceeding 150° Fahrenheit and free from the products of combustion, and separating the vapors from the solids in the same chamber by discharging the vapors above and collecting the solids below, after they have passed out of the vapor-charged area.

5. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray, causing the spray to descend through a drying-chamber heated to a temperature not exceeding 150° Fahrenheit, and separating the vapors from the solids in the same chamber by discharging the vapors above and collecting the solids below, after they have passed out of the vapor-charged area.

6. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray by means of heated air free from the products of combustion, causing the spray to descend through a drying-chamber, and separating the vapors from the solids in the same chamber by discharging the vapors above and collecting the solids below, after they have passed out of the vapor-charged area.

7. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray by means of heated air, causing the spray to descend through a drying-chamber, and separating the vapors from the solids in the same chamber by discharging the vapors above and collecting the solids below, after they have passed out of the vapor-charged area.

8. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray, dropping it through a drying-chamber, vaporizing the liquid constituents of its particles as they fall, and continuing this process of separating the vapors and solids by discharging the vapors above and collecting the solids below, after they have passed out of the vapor-charged area and are substantially free from moisture.

9. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray, passing it through a drying-chamber, vaporizing the liquid constituents of its particles as they pass, and separating the vapors as soon as formed from the solids, by moving the vapors in one direction and the solids in another during such vaporizing process, and continuing such process until the solids have passed out of the vapor-charged area and are substantially free from moisture.

10. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray, discharging it and permitting it to drop through still air in a drying-chamber, vaporizing the liquid constituents of its particles as they drop, through the action of heat, and separating the vapors and solids, drawing such vapors off in one direction and discharging the solids in another, continuing such separating until the solids have passed substantially out of the vapor-charged area and are deposited as powder.

11. The process of obtaining the solid constituents of liquids in the form of dry powder, which consists in converting the liquid into a fine spray by the action of heated air, discharging it, and permitting it to drop through still air in a drying-chamber, vaporizing the liquid constituents of its particles as they drop, through the action of heat, and separating the vapors and solids.

808,748. WINDING APPARATUS. SVEN T. NELSON, Oak Park, Ill. Filed Nov. 26, 1904. Serial No. 234,153.



Claim.—1. In a rope-winding apparatus the combination with a rope-winding drum of means positively to elevate an oncoming strand away from the face of the rope-drum and over the preceding rope-coil.

2. In a rope-winding apparatus the combination with a rope-winding drum of overwinding, rope-step-over means.

3. In a rope-winding apparatus the combination with a rope-winding drum of grooved guiding means for guiding the oncoming rope-strand over and above the preceding rope layer.

4. In a rope-winding apparatus the combination with a rope-drum of guiding means presenting a spiral directing-path of increasing radius for causing the oncoming rope-strand to move over and above the preceding rope layer.

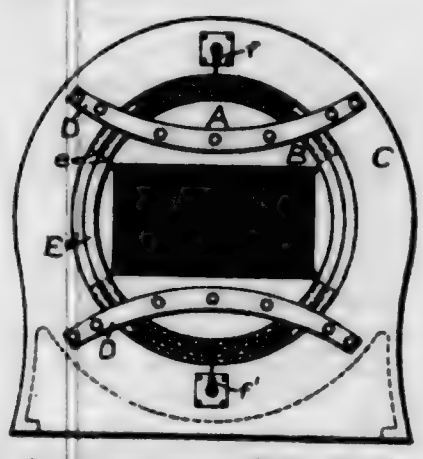
5. In a rope-winding apparatus the combination with a rope-winding drum for winding rope from one end thereof toward the other of rope-guiding means presenting to an oncoming strand a grooved path of increasing radius and leading toward the initial drum end.

6. In a rope-winding apparatus the combination with a flanged rope-winding drum of means secured to the flange thereof for elevating the oncoming rope-strand away from the drum-face and guiding it away from the inner face of said flange.

7. A rope-guiding device for overwinding comprising a grooved segmental flange of increasing radius and an inclined directing-wall adjacent thereto.

8. In a rope-winding apparatus the combination with a spirally-grooved drum of a grooved rope-path of increasing radius near one end thereof and reversely spiraled.

806,749. TRANSFORMING DEVICE FOR ELECTRIC CURRENTS. JACOB S. RODGERATE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 26, 1904. Serial No. 209,345.



Claim.—1. In a transforming device for electric currents, a tube, a conducting substance adapted to move freely in said tube, means for subjecting two or more portions of said tube to magnetic fields, means for conducting a current through one of said portions, and means for collecting the current induced in another portion by the motion of said substance therein.

2. In a transforming device for electric currents, a tube, a conducting substance adapted to move freely in said tube, means for subjecting two or more portions of said tube to magnetic fields directed at an angle to the axis of the tube, means for conducting a current through one of said portions in a direction at an angle to said field and to the axis of the tube, and means for collecting the current in another of said portions by the movement of said substance therein.

3. In a transforming device for electric currents, a tube, a conducting substance adapted to move freely therein, means for applying electric energy to a portion of said tube to produce movement of the substance, and means for utilizing said movement in another portion of said tube for producing electric energy.

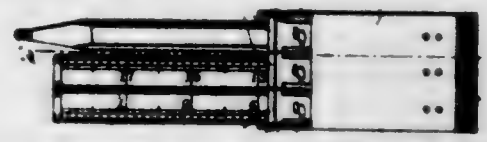
4. In a transforming device for electric currents, a plurality of tubes, a conducting substance adapted to move freely in said tubes, means for supplying electric energy to a portion of each tube to produce a movement of the substance therein, means for utilizing said movement in another portion of each tube for producing electric energy, and means for electrically connecting the substance in similar portions of the several tubes.

5. In a transforming device for electric currents, a plurality of parallel circular tubes, a substance adapted to move freely therein, means for subjecting a portion of each of said tubes to a magnetic field directed at an angle to their axes, means for sending an electric current through said portions in a direction at an angle to said field and to the axes of said tubes, means for subjecting another portion of said tubes to a second magnetic field, means for collecting the current induced in each tube by the movement of the substance through the second field, and means for electrically connecting the portions of the several tubes subjected to said second field.

6. In a transforming device for electric currents, a tube, a conducting substance adapted to move freely therein having a low resistance in a transverse direction and a high resistance in an axial direction, means for passing a current transversely through a portion of said tube, means for subjecting said portion to a transverse magnetic field at an angle to the direction of said current, means for subjecting another portion of said tube to a second transverse field, and means for collecting the current due to movement of said substance through the second field.

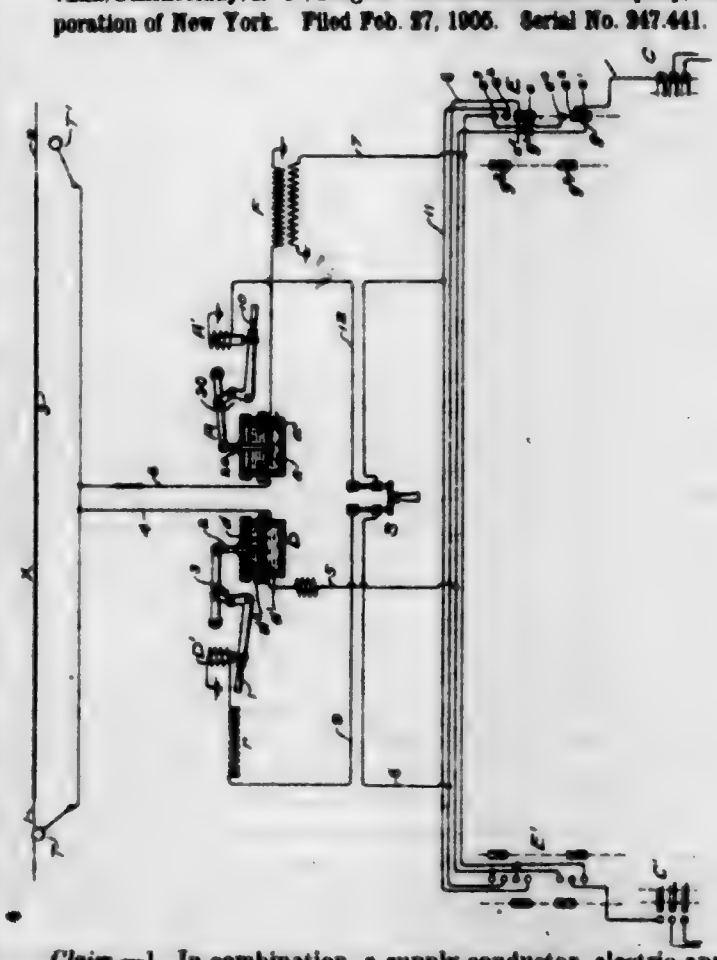
7. In a transforming device for electric currents, a tube, a conducting substance adapted to move freely therein having a low resistance in a transverse direction and a high resistance in an axial direction, means for applying electric energy to a portion of said tube to produce an axial movement of the substance therein, and means for utilizing said movement in another portion of said tube for producing electric energy.

806,750. TOOL-HOLDER. ARTHUR M. PADMORE, Lead, S. D. Filed Feb. 25, 1905. Serial No. 247,247.



Claim.—A device of the character described comprising a casing consisting of front and back walls, a bottom wall and side walls, the casing being open at the top, a rod extending transversely between and connected to the upper front portions of the end walls, spaced fingers connected at their upper ends with said rods and depending into the casing, said fingers being offset between their ends to project the lower free ends thereof toward the rear wall of the casing, and ribbon-springs, one for each finger, said springs being secured at their lower ends to the front wall of the casing and bearing at their upper free ends upon the fingers above the offset portions thereof to force the same normally toward the rear wall of the casing.

806,751. SWITCH-CONTROLLING MECHANISM. JAMES S. PEVEAR, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 27, 1905. Serial No. 247,441.



Claim.—1. In combination, a supply-conductor, electric apparatus operating upon current supplied by said conductor, a controlling device arranged to connect said apparatus to said conductor and having two working positions, a pair of switches intermediate said controlling device and said conductor, and maintaining means for

said switches energized selectively according as the controlling device is in one position or the other.

2. In combination, a supply-conductor, electric apparatus operable on both alternating and direct currents, a controlling device arranged to connect said apparatus to said conductors and having alternating-current and direct-current running positions, a pair of switches intermediate said controlling device and said conductor, and maintaining means for said switches energized selectively according as the controlling device is in its alternating-current or direct-current position.

3. In an electric system adapted for operation on both direct and alternating current, a supply-conductor, electric apparatus including a controlling device having alternating and direct current working positions, a pair of switches for connecting said apparatus to said supply-conductor, electromagnetic maintaining means for said switches, and contacts associated with said controlling device for completing the maintaining-circuit of one switch when the controlling device is in its alternating-current position and of the other switch when the controlling device is in the direct-current position.

4. In an electric railway, a car having a current-collector, a controlling device arranged to connect the motor and control apparatus to said collector and having alternating and direct current running positions, a pair of switches located between said controlling device and said collector, and maintaining means for said switches energized selectively according as the controlling device is in its alternating or direct current running position.

5. In combination, a supply-conductor, electric apparatus operating on current supplied by said conductor, a connection including a switch and a second connection including a switch and a transformer between said apparatus and said conductor, maintaining means for said switches, and a controlling device so arranged that in one position the maintaining means for the first switch is rendered inoperative while in another position the maintaining means for the second switch is rendered inoperative and the transformer is cut out.

6. In combination, a supply-conductor, electric apparatus operating on current supplied by said conductor, a controlling device arranged to connect said apparatus to said conductor and having alternating and direct current positions, a pair of switches intermediate said controlling device and said conductor, means whereby said switches may be closed, an electromagnet associated with each switch for holding it closed, actuating-circuits for said electromagnets, and means associated with said controlling device for closing said actuating-circuits selectively according as the controlling device is in its alternating or its direct current position.

7. In an electric system arranged to operate on both alternating and direct current, a supply-conductor, electric apparatus including a controlling device having alternating-current and direct-current working positions, a pair of switches adapted to connect said apparatus to said supply-conductor, an electromagnet operatively connected to each of said latter switches for holding it closed, and contacts associated with the controlling device for interrupting the circuit of one of said electromagnets when the controlling device is in its alternating-current working position and for interrupting the circuit of the other electromagnet when the controlling device is in its direct-current working position.

8. In an electric system adapted for operation on both alternating current and direct current, a supply-conductor, electric apparatus including a controlling device having an alternating-current and a direct-current position, a pair of switches for connecting said apparatus to said supply-conductor, means whereby said latter switches may be closed, means for maintaining one of said switches closed when the current supplied is alternating and the controlling device is in its alternating-current position, and means for holding the other switch closed when the current supplied is direct and the controlling device is in its direct-current position.

9. In an electric railway, a collector-shoe, a controlling device for connecting said collector-shoe to the motor and control apparatus of a car and having alternating-current and direct-current running positions, a pair of switches intermediate the collector-shoe and the controlling device, independent actuating and maintaining means for each of said switches, and means controlled by said controlling device for selectively energizing said alternating and maintaining means according as the controlling device is moved to its alternating or its direct current position.

10. In an electric railway, a collector-shoe, a controlling device for connecting said shoe to the motor and control apparatus of a car and having direct and alternating current running positions, a pair of switches intermediate the controlling device and the collector-shoe, independent actuating and maintaining means for each switch, and means associated with said controlling means for selectively causing the actuating means for the switches and the maintaining means to be energized and the actuating means again deënergized according as the controlling device is moved to its alternating or its direct current position.

11. In an electric railway, a collector-shoe, a controlling device for connecting said shoe to the motor and control apparatus of a car, a switch intermediate the controlling device and the shoe, independent actuating and maintaining means for said switch, and means associated with said controlling device for causing said actuating and maintaining means to be energized and the actuating means again deënergized as the controlling device is moved into its working position.

12. In an electric railway, a collector-shoe, a controlling device for connecting said collector-shoe to the motor and control apparatus, and having alternating and direct current running positions, a pair of switches intermediate the controlling device and the collector-shoe, pneumatic actuating means for said switches, means controlled by said controlling device for selectively energizing said actuating means according as the collecting device is moved toward its alternating or its direct current running position.

13. In an electric system adapted for operation on both alternating and direct current, a supply-conductor, electric apparatus including a controlling device, a pair of switches for connecting the said apparatus with the supply-conductor, pneumatic actuating means and electromagnetic maintaining means for said pair of switches, and means associated with said controlling device for controlling said actuating and said maintaining means.

14. In combination, a source of current-supply, electric apparatus including a controlling device, a switch for connecting said apparatus to said source of current-supply, pneumatically-actuated means for operating said switch, a valve associated with said controlling device for controlling said pneumatically-actuated means, and electromagnetic means for maintaining said switch closed.

15. In combination, a source of current-supply, electric apparatus including a controlling device, a switch for connecting said apparatus to said source of current-supply, means associated with said controlling device and operative during a portion only of the movement thereof to its working position for closing the said switch, and electromagnetic means operative when the controlling device is in its working position to maintain the said switch closed.

16. In combination, a source of current-supply, electric apparatus including a controlling device, a switch for connecting said apparatus to said source of current-supply, pneumatically-actuating means operative during a portion of the movement of the controlling device for closing said switch, and electromagnetic maintaining means including said switch in its circuit.

17. In combination, a source of current-supply, electric apparatus including a controlling device, a switch for connecting said apparatus to said source of current-supply, pneumatic actuating means for said switch, valve mechanism associated with said controlling device and arranged to supply compressed air to said actuating means during a portion of the movement of said controlling device and to again exhaust the air therefrom when the controlling device is in a working position, and electromagnetic maintaining means controlled by said switch.

18. In combination, a source of current-supply, electric apparatus arranged to operate on alternating current and on direct current and including a controlling device having alternating-current and direct-current working positions, a pair of switches for connecting said apparatus to said source of current-supply, means for holding said switches closed, and means associated with said controlling device and arranged to render said holding means effective as to one of the switches when the controlling device is in its alternating-current position and as to the other switch when the controlling device is in its direct-current position.

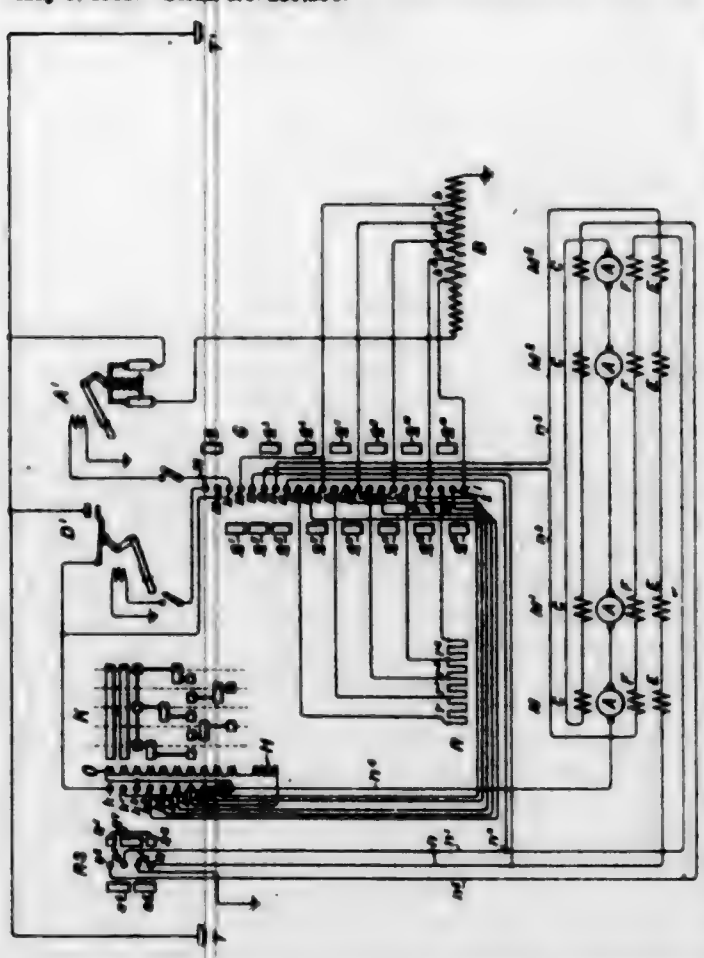
19. In combination, a source of current-supply, electric apparatus arranged to operate on both alternating and direct current and including a controlling device having alternating and direct current working positions, a pair of switches for connecting said apparatus to said source of current-supply, actuating means for said switches, and means associated with said controlling device for rendering said actuating means effective as to one of said switches when the controlling device is moved toward one of its working positions and as to the other of said switches when the controlling device is moved toward its other position.

20. In combination, a source of current-supply, electric apparatus arranged to operate on both alternating and direct current and including a controlling device having alternating and direct current

positions, a pair of switches for connecting said apparatus to said source of supply, a piston associated with each of said switches, and means associated with said controlling device for admitting air to one of said pistons when the controlling device is moved toward one of its working positions and to the other piston when the controlling device is moved toward its other working position.

21. In combination, a source of current-supply, electric apparatus arranged to operate on both alternating and direct current and including a controlling device having alternating and direct current working positions, a pair of switches for connecting said apparatus to said source of supply, a piston operatively related to each of said switches, means associated with said controlling device for admitting compressed air to one or the other of said pistons according as the controlling device is moved toward its alternating-current or its direct-current position and for exhausting the air when a full working position is reached, and means for maintaining the switches closed after they have been closed.

806,752. COMBINED ALTERNATING AND DIRECT CURRENT CONTROL APPARATUS. JESSE S. PEVEAR, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 8, 1905. Serial No. 259,291.



Claim.—1. In combination, a motor adapted for operation on either alternating current or on direct current, a variable resistance, a variable transformer element, a controller, and a switch device arranged to alternately connect said resistance and said transformer element in operative relation to said controller and said motor, whereby said controller operates to vary the amount of resistance in the motor-circuit when operating on direct current and to vary the terminal voltage of the motor when operating on alternating current.

2. In combination, a motor adapted for operation on either alternating current or on direct current, a resistance, a transformer element, a controller having a plurality of sets of contacts, and a switch device arranged to connect the motor to one terminal of the resistance and the controller-contacts to a plurality of points on said resistance and to disconnect the resistance and connect the controller, transformer element and motor in operative relation with the controller-contacts connected to said transformer element at a plurality of points, whereby the controller serves to regulate the amount of resistance in the motor-circuit on direct current and the terminal voltage of the motor on alternating current.

3. In combination, a motor adapted to operate on either alternating or direct current, a device for governing the speed of the motor when operating on direct current, a device for governing the speed of the motor when operating on alternating current, a controller constructed and arranged to control each of said devices, and a switch arranged to connect the controller and motor in operative relation with either speed-governing device, whereby the same controller regulates the speed of the motor when operating on either alternating or direct current through the intervention of a governing device adapted to the particular current in use.

4. In combination, a motor adapted to operate on either alternating or direct current, a resistance device for governing the speed of the motor when operating on direct current, a variable potential device for governing the speed of the motor when operating on alternating current, a controller constructed and arranged to control each of said devices, and a switch arranged to connect the controller and motor in operative relation with either speed-goverinng device, whereby the same controller regulates the speed of the motor when operating on either alternating or direct current through the intervention of a governing device adapted to the particular current in use.

5. In combination, a motor adapted for operation on either alternating or direct current, a device for governing the speed of the motor when operating on alternating current, a device for governing the speed of the motor when operating on direct current, a controller having a plurality of running positions, and a switch device constructed and arranged to connect the motor and controller in operative relation with either of the speed-governing devices in such a manner that in each running position of the controller corresponding speeds are attained by the motor when running on alternating and on direct current.

6. In combination, a motor adapted for operation on either alternating or direct current, a variable potential device for governing the speed of the motor when operating on alternating current, a resistance device for governing the speed of the motor when operating on direct current, a controller having a plurality of running positions, and a switch device constructed and arranged to connect the motor and controller in operative relation with either of the speed-governing devices in such a manner that in each running position of the controller corresponding speeds are attained by the motor when running on alternating and on direct current.

7. In combination, a motor adapted for operation on either alternating current or direct current, a resistance, a transformer element, a controller having a plurality of contacts, and a switch device constructed and arranged to connect the motor to one terminal of said resistance and each of said controller-contacts to a point on said resistance, said switch device being also arranged to disconnect the resistance and connect the controller, transformer element and motor in operative relation with said controller-contacts each connected to a point on the transformer element, whereby the controller is adapted to provide the same number of speed changes in the motor when operating on either alternating or direct current.

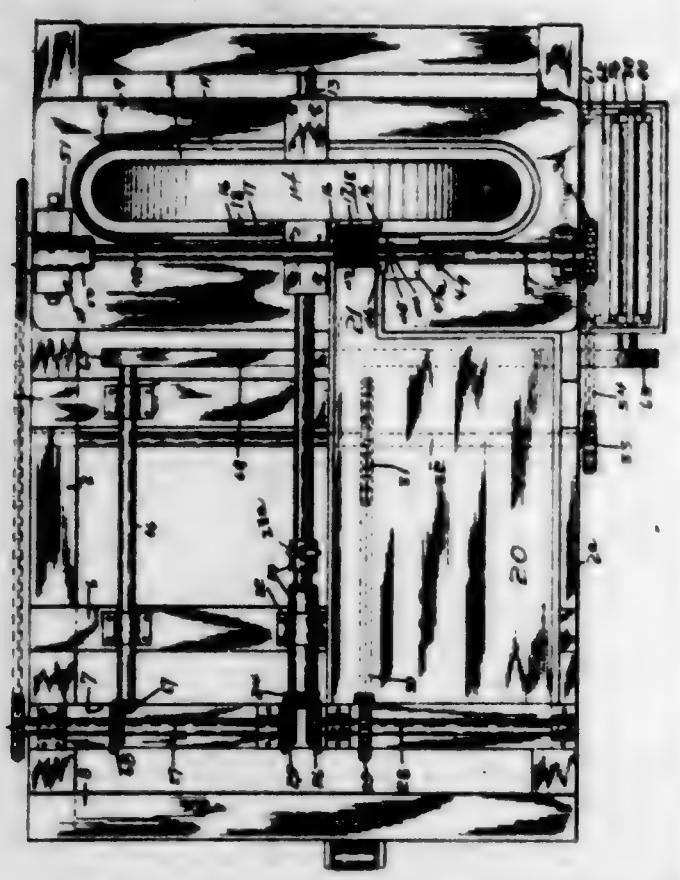
8. In combination, a motor adapted for operation on either alternating or direct current, a resistance, a transformer element, a controller having a plurality of sets of contacts arranged to engage in successive running positions of the controller, a switch device arranged to connect the controller in operative relation with the motor and resistance and to disconnect the resistance and connect the controller, transformer element and motor in operative relation to each other with one contact of each of said sets connected to a point on said transformer, an auxiliary resistance, and means for connecting said auxiliary resistance across successively-active sets of contacts in position of the controller intermediate the running position.

9. In combination, a motor adapted for operation on either alternating or direct current, a resistance, a transformer element, a controller having a plurality of sets of contacts arranged to engage in successive running positions of the controller, a switch device arranged to connect the controller in operative relation with the motor and resistance and to disconnect the resistance and connect the controller, transformer element and motor in operative relation to each other with one contact of each of said sets connected to a point on said transformer element, an electromagnetic blow-out for said contacts, an auxiliary resistance, and means for connecting the winding of said blow-out and said auxiliary resistance across successively-active sets of contacts in positions of the controller intermediate the running positions.

806,753. FIBER-CUTTING MACHINE. ARTHUR M. SHRADLEY, Stockton, Cal., assignor to Hercules Manufacturing Company, Stockton, Cal., a Corporation. Filed Aug. 30, 1904. Serial No. 223,766.

Claim.—1. In a device of the kind described the combination of upright beams and cross-beams thereon, a slotted plate arranged on said cross-beams, a shaft journaled on said plate and extending across the middle of said slot, a wheel secured on said shaft and

working in said slot, cutting-knives secured on the arms of said wheel, and a suitable feed device opening into said slot, at a point where the said knives pass, as described.



2. In a device of the kind described the combination of upright beams and cross-beams thereon, a plate provided with a longitudinal slot arranged on said cross-beams, a shaft journaled on said plate and extending across the middle of said slot, a wheel secured on said shaft and working in said slot, two outwardly-projecting lugs secured on each arm of said wheel, knives secured on the ends of said lugs, and a feed device opening into said slot at a suitable point, as described.

3. In a device of the kind described the combination of upright beams and cross-beams thereon, a slotted plate arranged on said cross-beams, an upwardly-projecting rim around said slots, a shaft journaled on said plate and extending across the middle of said slot, a wheel secured on said shaft and working in said slot, two outwardly-projecting lugs secured on each arm of said wheel, knives secured on the ends of said lugs, set-screws in said knives and extending through said arms, and a feed device opening into said slot at a suitable point, as described.

4. In a device of the kind described the combination of upright beams and cross-beams thereon, a slotted plate arranged on said cross-beams, a cutting device arranged and working in said slot, a feed device opening into said slot, said feed device consisting of two rollers one above the other, and means for rotating said rollers both in the same direction as specified.

5. In a device of the kind described the combination of upright beams and cross-beams thereon, a slotted plate arranged on said cross-beams, a cutting device arranged and working in said slot, a feed device leading to said cutting device, said feed device consisting of two rollers one arranged above the other, the upper roller being corrugated, said upper roller being pivotally mounted on a suitable shaft journaled on said plate, and means for rotating said rollers both in the same direction, as specified.

6. In a device of the character described, the combination of upright beams and cross-beams thereon, a slotted plate arranged on said cross-beams, a cutting device arranged and working in said slot, a feed device leading to said cutting device and composed of two rollers one arranged above the other, the upper roller being pivotally mounted on a suitable shaft said shaft being pivotally journaled on said plate, and means for rotating said rollers both in the same direction, as specified.

7. In a cutting-machine a feed device consisting of two shafts journaled one above the other at suitable points on said machine, said upper shaft being pivotally journaled between the two upright jaws of a Y-shaped standard, a roller on each shaft arranged one above the other, said upper roller being corrugated and pivotally mounted on its shaft, two standards suitably arranged on the body of the machine at one end of said upper roller and curving slightly toward said roller, a shaft-box suitably arranged between said standard in which box is seated the said upper shaft, means for rotating said shafts and a suitable cutting device arranged in front of said feed device, as specified.

8. In a device of the kind described the combination of upright beams and cross-beams arranged thereon, a slotted plate arranged on said cross-beams, a shaft journaled on said plate and extending across the middle of said slot, a wheel secured on said shaft and acting in said slot, a cutting device arranged on said wheel, a feed device leading to said cutting device, a conveyer arranged below said wheel and composed of a box opened at one end and closed at the other, two shafts arranged near the open end one above the other, smooth pulleys secured on the lower shaft and sprocket-wheels on the upper, a shaft arranged near the closed end of said box, chains connecting said sprocket-wheels and pulleys, slats arranged on said chains, and means for rotating said shafts, as specified.

9. In a device of the kind described, the combination of upright beams and cross-beams thereon, a slotted plate arranged on said cross-beams, an upwardly-projecting rim around said slot, a shaft journaled on said plate and extending across the middle of said slot, a wheel secured on said shaft and working in said slot, cutting-knives suitably arranged on said wheel, a feed device leading to said slot, the plate 53 secured in front of said feed device, the plate 54 attached to said plate 53, and the cutter-blade 55 welded to said plate 54 and adapted to coact with the said knives, as set forth.

10. In a device of the kind described the combination of upright beams, the longitudinal beams 2 and 2^a secured on said upright beams, the cross-beams 3, 4, 4^a, 5, 6, 7 and 8 secured across said longitudinal beams, a slotted plate secured on the beams 3, 4^a, and 4, an upwardly-projecting rim around said slot, the shaft 13 journaled on said plate and on said beam 6 said shaft extending across the middle of said slot, a wheel secured on said shaft and working in said slot, two lugs on each arm of said wheel, a knife secured on the ends of each pair of said lugs, a set-screw secured in each of said knives and extending through said arms, the shafts 27 and 28 journaled on the beam 7 and connected to the shaft 13 by suitable beveled gears, a clutch device on the shaft 13 adapted to throw said shaft in or out of connection with said shafts 27 and 28, the shaft 37 journaled on the said plate, the smooth roller 38 secured on said shaft, means for connecting said shaft with the shaft 37, the shaft 42 pivotally journaled near one end on the said plate and extending over said shaft 37, a weight on the other end of said shaft, the corrugated roller 43 pivotally mounted on said shaft 42 just above the roller 38, two standards secured on the said plate at one end of said roller 43 and curving slightly toward said roller, a shaft-box adjustably secured between said standards in which shaft-box is seated the shaft 42, means for connecting said shaft 42 to said shaft 27, a conveyer arranged beneath the said wheel and operatively connected with the shaft 28 by suitable means, and a feed-box 21 secured on the beams 5, 6, 7 and 8 and leading to the roller 38 and 43, as specified.

11. In a fiber-cutting machine, the combination with the cutter-wheel, cutter-knives carried thereby, and the drive-shaft on which the wheel is mounted, of a cutting-blade coacting with the cutter-knives, and having a feed-opening, feed-rollers disposed one above the other to receive and feed the fiber to the cutter-knives and cutting-blades, the upper of said rollers being corrugated, and being mounted on its shaft to have rocking movement thereon to accommodate different thicknesses of fiber, a conveyer-box arranged to receive the cut fiber from the knives, an endless conveyer traveling in said box to discharge the cut fiber therefrom, and means for operating the feed-rollers and endless conveyer from the drive-shaft.

12. In a fiber-cutting machine, a wheel, knives carried by said wheel, a stationary cutting-blade having its sides disposed in planes parallel to the planes described by the cutting edges of said knives.

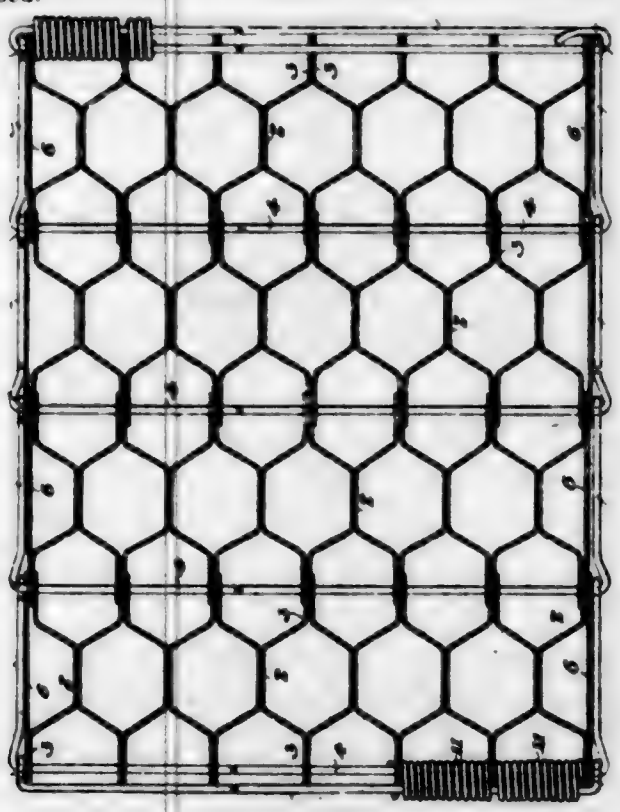
806,754. **METALLIC MAT.** PETER J. SHRUM, Pittsburg, Pa., assignor to Kearney J. Hendricks, Pittsburg, Pa. Filed Nov. 18, 1903. Serial No. 181,643.

Claim.—1. A flexible metallic mat having meshes formed of bent metal strips and provided with hinge-rods having bent end portions located below the wearing-surface, said end portions of adjacent rods engaging each other; substantially as described.

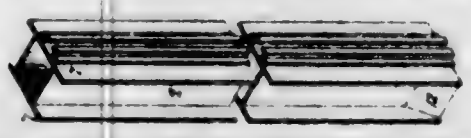
2. A flexible metallic mat having meshes formed of bent metal strips and provided with hinged rods having bent extensions located below the wearing-surface, the extensions of one rod embracing the next rod; substantially as described.

3. A flexible metallic mat having an end rod or finish-bar and a hinge-rod with hooked ends located below the wearing-surface embracing the end bar; substantially as described.

4. A flexible metallic mat having a transverse rod and spiral spacers thereon formed of a continuous length of wire with some of the spirals spread apart to receive the mesh-legs; substantially as described.



806,755. PILE FOR PIERS OR PIER-CASINGS. FRANK SHUMAN, Philadelphia, Pa. Original application filed Apr. 21, 1904. Serial No. 204,238. Divided and this application filed Aug. 20, 1904. Serial No. 221,547.



Claim.—1. A tube or pile for a pier-casing, having means for interlocking it with an adjoining tube or pile, and having on one side a longitudinal guide for the enlarged head of a tie or brace rod.

2. A tube or pile for a pier-casing having on one of its sides near the bottom a projecting flange for closing at the bottom the space between said pile and an adjoining pile.

3. A tube or pile for a pier-casing having one of its sides deflected at or near the bottom so as to close at the bottom the space between said pile and an adjoining pile.

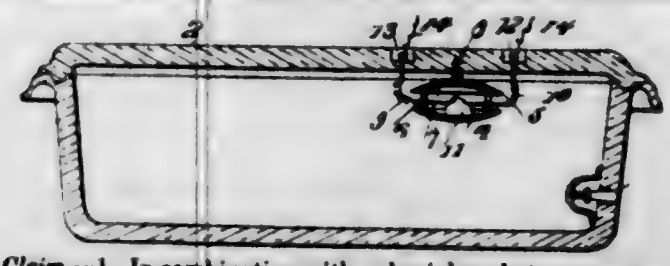
4. A tube or pile for a pier-casing having one of its sides deflected diagonally at or near the bottom, so as to close at the bottom the space between the said pile and an adjoining pile.

5. A tube or pile for a pier-casing having projecting flanges for overlapping an adjoining pile and having, on the side next to said pile, a projecting flange for closing at the bottom the space between the two piles.

6. A tube or pile for a pier-casing having projecting flanges for overlapping an adjoining pile, and having that side next to said adjoining pile deflected at or near the bottom so as to close at the bottom the space between the two piles.

7. A tube or pile for a pier-casing having projecting flanges for overlapping an adjoining pile, and having that side next to said adjoining pile deflected diagonally at or near the bottom so as to close at the bottom the space between the two piles.

806,756. APPARATUS FOR PRESERVING THE DEAD. JAMES M. STAFFORD, Petersburg, Ind. Filed May 4, 1905. Serial No. 258,828.



Claim.—1. In combination with a burial casket or receptacle, an attachment arranged within the same for containing a highly-combustible agent such as phosphorus, and means for igniting said combustible agent after the receptacle has been closed and hermetically sealed.

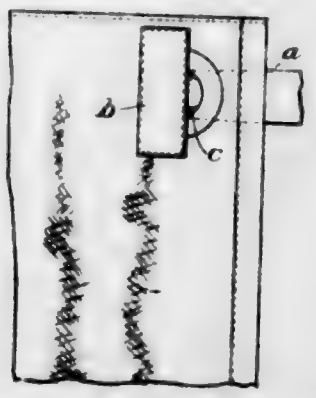
2. In combination with a burial casket or receptacle adapted to be closed or hermetically sealed, means arranged within said receptacle and adapted to receive a highly-combustible agent, and an electric igniter for said agent, the same consisting of wires having one end firmly attached to a part of the receptacle and having the opposite end portion of each loose to admit of proper adjustment of the loose ends of the wires with reference to the combustible agent and the supporting means therefor.

3. The combination of a burial casket or receptacle adapted to be closed and hermetically sealed, an attachment arranged within the same and adapted to receive a highly-combustible agent such as phosphorus, said attachment comprising a combustible agent and a deflector arranged thereover, and means for igniting said combustible agent after the receptacle has been closed and sealed.

4. In combination with a burial casket or receptacle adapted to be closed and hermetically sealed, an attachment arranged within the same comprising a pan and a deflector, means connecting the pan and deflector and other means for attaching the appliance to a part of the receptacle, and an igniter adapted to be operated from within the receptacle for igniting the highly-combustible agent placed in said pan.

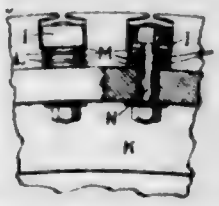
5. In combination with a burial casket or receptacle adapted to be closed or hermetically sealed, means arranged within the same adapted to receive a highly-combustible agent and means for igniting said agent, the same consisting of electric wires having an end portion attached to a part of the receptacle and having the opposite end portion loose, the outer or projecting ends of said electric wires being fitted into recesses formed in the outer side of the receptacle.

806,757. APRON. GEORGE A. STEINER, Salt Lake City, Utah. Filed May 24, 1905. Serial No. 262,062.



Claim.—An apron-string formed of tape and having a flat cross-head integrally formed at one end thereof by folding said tape a plurality of times upon itself and at the middle part of its folds to cross-fold said tape so that both edges thereof will be at the same side of said cross-head, said folds being stitched together and adapted to engage the string-aperture in an apron, as herein set forth.

806,758. RESISTANCE FOR ELECTRICAL APPARATUS. CHARLES P. STEINMETZ, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Jan. 21, 1901. Serial No. 44,067.



Claim.—1. A self-reducing starting resistance for electric motors, consisting of an oxid of iron.

2. A self-reducing starting resistance for electric motors, consisting of a tetroxid of iron.

3. In combination, an electric motor, a source of current therefor, and a self-reducing starting resistance consisting of a substance connected in circuit with one of the windings of said motor, which at starting permits the flow of normal starting-current only through said winding and when heated by said flow becomes a practically-negligible resistance.

4. In combination, an electric motor, a source of current therefor, and a self-reducing starting resistance consisting of a substance connected in circuit with one of the windings of said motor, which when cold produces a large ohmic drop when traversed by the nor-

mal current of said winding and which when heated by said current produces a practically-negligible drop.

5. The combination with the induced windings of an induction-motor, of a self-reducing resistance therefor.

6. In an induction-motor, the combination with a short-circuiting ring, of a piece of magnetite or the like in circuit therewith.

7. In an induction-motor, the combination with the armature-winding and a short-circuiting ring, of magnetite or the like between said winding and ring.

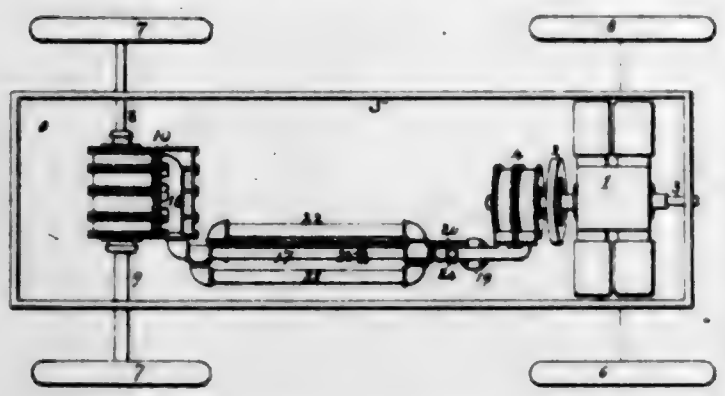
8. In an induction-motor, the combination with an armature-bar and a short-circuiting ring, of a piece of a self-reducing resistance material between said bar and ring.

9. In an induction-motor, the combination with an armature-bar and a short-circuiting ring, of alternate washers of a self-reducing resistance material and good conducting material placed between said bar and ring.

10. The combination with an electric motor, of a starting resistance therefor of marked negative temperature coefficient adapted to permit the flow of normal starting-current only to said motor and when heated to produce a practically-negligible resistance.

11. In combination, an electric motor, a source of current therefor, and a self-reducing starting resistance consisting of a stable and structurally-solid substance connected in circuit with one of the windings of said motor, which at starting permits the flow of normal starting-current only through said winding and when heated by said flow becomes a practically-negligible resistance.

806,759. FLUID-POWER TRANSMITTER. HOSMER TUTTLE, Cedar Rapids, Iowa, assignor of one-half to James Dwight Lamb, Clinton, Iowa. Filed June 13, 1903. Serial No. 161,330.



Claim.—1. In a fluid-power transmitter, a cylindrical casing having two ports, an abutment guided by said casing between the ports, a shaft passing through both heads of the casing, an arm mounted upon said shaft, and a cylindrical ring loose in said casing and rotated by said arm to roll freely upon said casing, the diameter of said ring being less than the internal diameter of the casing.

2. A power-transmitter comprising a cylindrical casing having two ports, an abutment between the ports, a shaft passing through the heads of the casing, an arm mounted upon said shaft, and a roller on the end of said arm, with a cylindrical ring free of attachment with the casing and rotated by said arm and roller pressing it against the casing.

3. A power-transmitter comprising a cylindrical casing having two ports, an abutment between said ports, a shaft passing through the heads of the casing, an arm mounted upon said shaft and having a roller on the end thereof, and a second arm also mounted upon the shaft, with a cylindrical ring free of attachment to the casing and rotated and guided by said arms against the casing.

4. The combination of a cylindrical casing having ports, an abutment between said ports, a shaft passing through the heads of the casing, an arm mounted upon said shaft and a roller on the end thereof with a cylindrical ring unattached to the abutment, and packing-rings in the edges of the cylindrical ring.

5. The combination of two cylindrical casings, each one having two ports, an abutment between each pair of ports and in each casing, a ring unattached to the abutment, a shaft passing through the heads of the casings, a hub mounted upon said shaft, two roller-carrying arms projecting on opposite sides from said hub, each arm being within a separate casing, and a cylindrical ring also within such casing and inclosing said roller-carrying arms.

6. The combination of two cylindrical casings, two cylindrical rings and two roller-carrying arms therein, said rings being adapted to be rolled within said casings, a sliding abutment in each casing, and a walking-beam lever within the walls of the casings and adapted to bear alternately upon each abutment with a spring-supported spindle 35 and its pivot-pin.

7. The combination of two cylindrical casings having lateral projections, two cylindrical rings adapted to be rolled within said casings, a sliding abutment within said casing, a walking-beam lever within the walls of the casings and pivoted upon the enlarged end of a spindle, an adjustable cup receiving the end of said spindle, and around said spindle a spring having one end pressing against the enlarged end of the spindle and the other end against the edge of the adjustable cup.

8. The combination of a cylindrical casing, having two ports, an abutment between said ports, a cylindrical ring within said casing, a shaft passing through the heads of the casing and through said ring, a hub mounted upon said shaft and within the ring, an arm projecting radially from said hub, a roller carried by said arm, its eccentric journal-pin, and split bushings clamping the ends of said pin to the arm of the hub.

9. The combination of a cylindrical casing having two ports, an abutment between said ports, a ring within said casing, a shaft passing through the heads of the casing and through said ring, a hub secured upon said shaft, an arm projecting radially from said hub, a secondary arm provided with a hub mounted upon the first hub, and means to adjust said arms relatively to each other substantially as described.

10. The combination of two cylindrical casings, a ring within each casing, a shaft passing through the heads of both casings, a hub secured upon said shaft and extended in each casing, two arms projecting radially from said hub, and two secondary arms provided with hubs, each one mounted upon one end of the first hub.

11. The combination of a casing having ports, an abutment, a ring intermediate between said casing and the abutment and unattached to said abutment, and a shaft passing through the heads of the casing and through the ring, said shaft having arms to roll the ring around the casing, whereby fluid is advanced between the ring and casing substantially as described.

12. The combination of a casing having ports an abutment, a ring intermediate of said casing and abutment and free of attachment to said abutment, a shaft passing through the heads of the casing and through the ring, said shaft having arms bearing against the interior of the ring, whereby fluid forced into the casing on one side of the abutment rolls the ring, and the latter rotates the arms and the shaft carrying them, substantially as described.

13. The combination of a prime motor, and its axle, and upon said axle a fluid-driving motor having two casings, and unattached rings adapted to roll within said casing, each casing having two ports, an upper and lower hollow casting from each pair of ports, and a stop-cock between said hollow castings whereby a by-pass is provided between them substantially as described.

14. The combination of a fluid-driving motor having two casings, and unattached rings adapted to roll within said casings, each casing having two ports, an upper hollow casting as 18 and a lower hollow casting or pipe from each pair of ports, a fluid-driven motor adapted to be mounted upon the rear axle of a vehicle, a pipe leading from the driving-motor to the driven motor, and a pipe leading from the driven motor to the driving-motor, one of each pipes being provided with three-way cocks substantially as described.

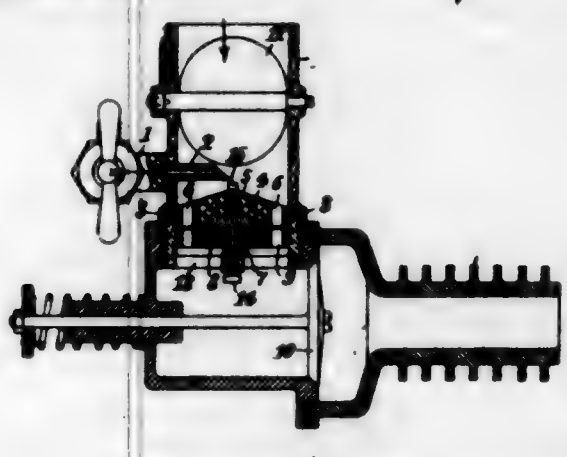
15. The combination of a fluid-driving motor having two casings and unattached rings adapted to roll within said casings, each casing having two ports, an upper and a lower hollow casting or pipe from each pair of ports, a fluid-driven motor, a pipe leading from the driving-motor to the driven motor, a pipe leading from the driven motor to the driving-motor, one of said pipes being provided with three-way cocks and pipes leading diagonally from said cocks to operate as by-passes of the fluid substantially as described.

806,760. INJECTING AND MIXING DEVICE FOR HYDROCARBON-MOTORS. ANDRÉ S. F. VAN DE PUTTE, St. Petersburg, Russia. Filed Aug. 19, 1905. Serial No. 274,960.

Claim.—1. In a hydrocarbon-motor, the combination with an air-inlet, of an injecting-tube extending to the center of said air-inlet, a conical bottom in said air-inlet and having its point in the proximity of the end of said injecting-tube, a plurality of leading channels along the periphery of said bottom, an inlet-valve box adjoining to said bottom, a turbine-wheel below said bottom and adapted to be acted upon by the air sucked in through the leading channels in said bottom, and a spring-pressed inlet-valve in said inlet-valve box.

2. In a hydrocarbon-motor, the combination with an air-inlet, of an injecting-tube extending to the center of said air-inlet, a conical bottom in said air-inlet and having its point in the proximity of

the end of said injecting-tube, a plurality of leading channels along the periphery of said bottom, an inlet-valve box adjoining to said bottom, a turbine-wheel below said bottom and adapted to be acted upon by the air sucked in through the leading channels in said bottom, a spring-pressed inlet-valve in said inlet-valve box and a gasifier adjoining to said inlet-valve.



REISSUES.

12,414. DUST-COLLECTOR. WILLIAM A. DERBY, Aurora, Ill. Filed July 12, 1905. Serial No. 269,461. Original No. 735,954, dated Aug. 11, 1903.



Claim.—1. In a dust-collector a casing provided with an upper separating-chamber and a lower collecting-chamber with a contracted free opening between them, an air-outlet pipe extending from the upper part of the separating-chamber, a tangential air-inlet in the separating-chamber, a guard-head for said opening, and a support for said head mounted in the collecting-chamber, the guard-head and its support being out of contact with the sides of the separating-chamber and said opening.

2. In a dust-collector a casing provided with an upper separating-chamber and a lower collecting-chamber with a contracted free opening between them, an air-outlet pipe extending from the upper part of the separating-chamber, a tangential air-inlet in the separating-chamber, and a guard device in the upper part of the collecting-chamber below the said opening.

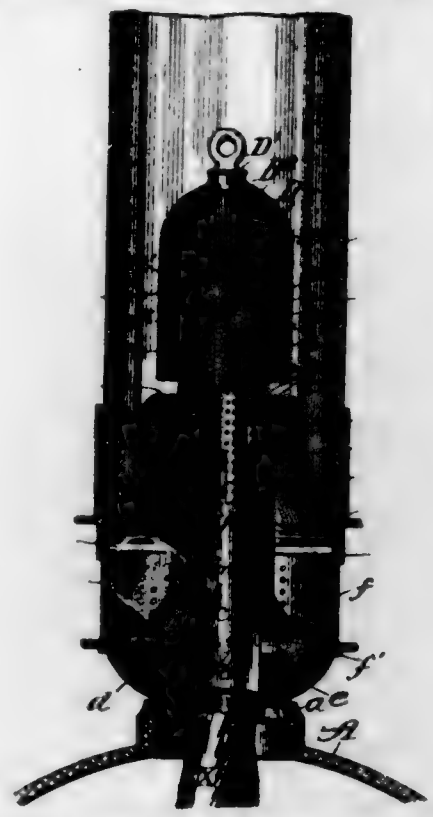
3. In a dust-collector a casing provided with an upper separating-chamber, a lower collecting-chamber, an abruptly-contracted free opening connecting the chambers, an air-outlet pipe depending into the upper portion of the separating-chamber, a tangential air-inlet in the upper part of the casing discharging air into the separating-chamber above the outlet-pipe, and a guard device in the upper part of the collecting-chamber below the opening connecting the chambers.

4. In a dust-collector a casing provided with an upper separating-chamber, a lower collecting-chamber, an abruptly-contracted free opening connecting the chambers, an air-outlet pipe depending into the upper portion of the separating-chamber, a tangential air-inlet in the upper part of the casing discharging air into the separating-chamber above the outlet-pipe, a guard device in the upper part of the collecting-chamber below the opening connecting the chambers, and a clean-out opening in the collecting-chamber with means for closing the same.

5. In a dust-collector, a casing provided with an upper funnel-form separating-chamber communicating by an unimpeded opening with a lower cylindrical collecting-chamber of greater diameter than the lower open end of the separating-chamber, an air-outlet pipe extending downward in said casing and terminating short of the lower part of said separating-chamber, an air-inlet provided in the upper part of the casing above the lower end of said outlet-pipe to discharge air into the separating-chamber past the said outlet-pipe, a clean-out opening in the lower end of the collecting-chamber, a removable plug for the clean-out opening, a vertically-disposed stem upon the plug and a head above the stem in the upper part of the collecting-chamber below said opening forming a guard, substantially as and for the purpose set forth.

6. In an air-brake system, the combination with a pipe extending from the train-pipe to the triple valve, of a dust-collector comprising a casing provided with an upper separating-chamber, a lower collecting-chamber and an abruptly-contracted free opening between the chambers, an air-outlet pipe communicating with the triple valve and extending downward in said casing and terminating short of the lower part of said separating-chamber, an air-inlet pipe extending from the train-pipe to the upper part of said casing at one side above the lower end of said outlet-pipe, to discharge air into the separating-chamber past the said outlet-pipe, and a guard device in the upper part of the collecting-chamber, substantially as and for the purpose set forth.

12,415. INCANDESCENT OIL-LAMP. ELLSWORTH E. FLORA, Chicago, Ill., assignor, by mesne assignments, to Flora Burner and Lamp Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 29, 1904. Serial No. 226,569. Original No. 711,153, dated Oct. 14, 1902.



Claim.—1. In a single-flame hydrocarbon-oil burner, a wick, an air and vapor mixing chamber, a perforate burner-head remote from the wick and forming the gas-outlet from said mixing-chamber and at which the flame is obtained exteriorly of said chamber and which constitutes the vaporizing-heat generator, a vaporizing-tube in contact with the wick-surface and engaging with said burner-head to conduct heat from the latter to the wick for vaporization, and means for adjusting the wick.

2. In a single-flame hydrocarbon-oil burner, a wick, a burner-head at which the flame is obtained exteriorly, consisting of a perforate tube closed at its top, said head being remote from the wick and constituting the vaporizing-heat generator, an inner tube with which the wick is in contact and which is connected with the upper part of said head to conduct vaporizing heat to said wick, and means for adjusting the wick along said inner tube.

3. In a hydrocarbon-oil burner, a wick, a frusto-conical burner-head remote from the wick and at which the flame is obtained exteriorly and which constitutes the vaporizing-heat generator, and an inner cylindrical tube forming between it and the burner-head an air and gas mixing chamber, said inner tube being in contact with the wick and connected with said head to conduct heat from the latter to the wick for vaporization.

4. In a wick-fed hydrocarbon-burner, the combination of a wick, an air and vapor mixing chamber, a vaporizing-tube forming one of the walls of said chamber, a perforate burner-head remote from the wick engaging said tube and forming the gas-outlet from said mixing-chamber, said head also forming the vaporizing-heat generator, and wick-lift mechanism operating to slide the wick along said tube to regulate the volume of vapor produced.

5. In a burner to which hydrocarbon oil is fed by a wick, means serving to gasify the oil at the wick, mix air with the gas and burn the mixture remote from the wick, comprising, in combination, an annular mixing-chamber, into the lower part of which the wick extends, and having lower air-inlet and upper burner-openings, and a heat-conducting wall receiving its heat from the gas consumption at said burner-openings and along the lower part of which one side of the wick extends in slidably-adjustable surface contact.

6. In a liquid-hydrocarbon burner, a liquid-hydrocarbon-conducting wick arranged for temporary ignition to produce a flame for the generation of gas, a burner-head remote from the wick, means between the wick and burner-head for mixing air with said gas for subsequent consumption at said burner-head, and means for conducting a portion of the heat from the gas consumption at the burner-head to the upper portion of the extinguished wick for gas generation, comprising a heat-conducting wall along the lower part of which one surface of the wick extends in slidably-adjustable surface contact.

7. In a liquid-hydrocarbon burner, the combination of an air and gas mixing chamber, having a perforated external wall and an internal heat-conducting wall, said external wall forming the heat-generating portion of the burner, and a wick entering the lower part of said chamber.

8. In a liquid-hydrocarbon mantle-incandescing burner, the combination of an air and gas mixing chamber, having perforated external and internal heat-conducting walls, the upper part of said external wall forming the heat-generating portion of the burner surrounded by the mantle, and a wick entering the lower part of said chamber, substantially as set forth.

9. In a lamp, the combination with a liquid-hydrocarbon reservoir, of a mantle-incandescing burner having an air and gas mixing chamber with perforated external and internal air-inlet and heat-conducting walls, and a wick entering the lower part of said chamber from the reservoir, said external wall having burner-openings in its upper part, surrounded by the mantle, and forming the heat-generating portion of the burner, substantially as set forth.

10. In a lamp, the combination with a liquid-hydrocarbon reservoir, of a mantle-incandescing burner having a central draft-tube, an annular wick-tube surrounding said draft-tube, a perforated central-draft-tube extension forming the inner heat-conducting wall of a mixing-chamber above the wick-tube, a tube surrounding said wick-tube and said tube extension, forming an outer heat-conducting wall of said mixing-chamber closed at its upper end and having a lower series of air-inlet openings, and having an upper series of burner-outlets forming the heat-generating portion of the burner surrounded by the mantle, and an air-supply chamber, about said outer wall of the mixing-chamber, having a narrow annular draft-opening around the upper portion of said mixing-chamber, substantially as set forth.

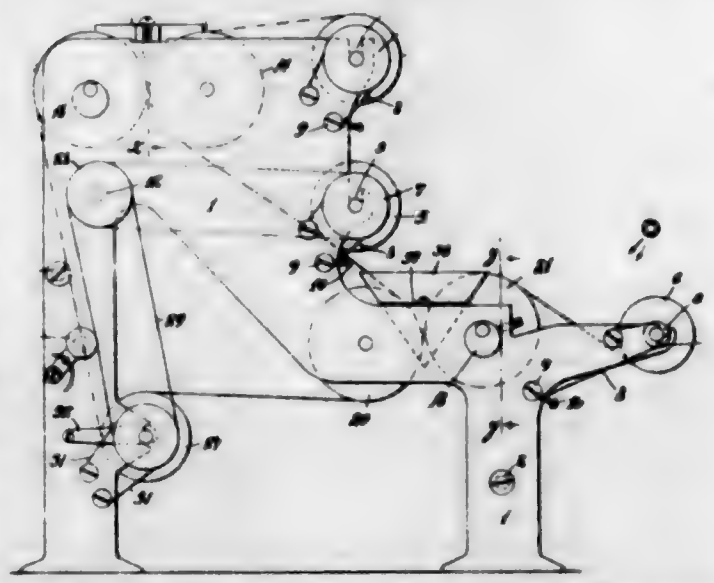
11. In a lamp, the combination with a liquid-hydrocarbon reservoir of a mantle-incandescing burner having a central draft-tube, an annular wick-tube surrounding said draft-tube, a perforated central-draft-tube extension forming the inner heat-conducting wall of a mixing-chamber above the wick-tube, means for raising and lowering said draft-tube extension in said draft-tube, a tube surrounding said wick-tube and said tube extension, forming the outer heat-conducting wall of said mixing-chamber closed at its upper end and having a lower series of air-inlet openings, and having an upper series of burner-outlets forming the heat-generating portion of the burner surrounded by the mantle, and an air-supply chamber, about said outer wall of the mixing-chamber, having a narrow annular draft-opening around the upper portion of said mixing-chamber, substantially as set forth.

12. In a lamp, the combination with a liquid-hydrocarbon reservoir, of a mantle-incandescing burner having a central draft-tube, an annular wick surrounding said draft-tube, a perforated central-draft-tube extension forming the inner heat-conducting wall of a mixing-chamber above the wick-tube, a tube, having a cylindrical part surrounding said wick-tube, and a frusto-conical part surrounding said tube extension, forming the outer heat-conducting wall of said mixing-chamber closed at its upper end and having a lower series of air-inlet openings about the wick-tube and having an upper series of burner-outlets forming the heat-generating portion of the burner surrounded by the mantle, and an air-supply chamber about said outer wall of the mixing-chamber, having a narrow annular draft-opening around the upper portion of said mixing-chamber, substantially as described.

13. In a lamp, the combination with a liquid-hydrocarbon reservoir of a mantle-incandescing burner having a central draft-tube, an annular wick-tube surrounding said draft-tube, a perforated central-draft-tube extension forming the inner heat-conducting wall of a mixing-chamber above the wick-tube, a tube surrounding said wick-tube and said tube extension, forming the outer heat-conducting wall of said mixing-chamber closed at its upper end and having a lower series of air-inlet openings, and having an upper series of burner-outlets forming the heat-generating portion of the burner surrounded by the mantle, and an air-supply chamber about said outer wall of the mixing-chamber having a narrow annular draft-opening around the upper portion of said mixing-chamber with means for varying the size of said annular draft-opening, substantially as and for the purpose set forth.

14. In a lamp, the combination with a liquid-hydrocarbon reservoir, of a mantle-incandescing burner formed of two main readily separable and replaceable parts, one said part comprising a wick-tube, a central draft-tube surrounded by said wick-tube, a perforated tubular extension of said central draft-tube forming the inner air-inlet and heat-conductcing wall of an annular mixing-chamber above the wick-tube, and the other said part comprising a central perforated tube forming the outer air-inlet and heat-conducting wall of said mixing-chamber, a chamber about said central tube having a perforated cylindrical outer wall, a frusto-conical hood forming a narrow draft-opening about said central perforated tube, an imperforate cap at the top of said central perforated tube provided with a spreader-flange, a socket-piece on said cap, a mantle-support mounted in said socket-piece, and a mantle upon said support, all constructed and arranged to operate substantially as set forth.

12,416. MACHINE FOR MAKING MATRIX-BLANKS. LOUIS QUANCHI, Yonkers, N. Y. Filed Sept. 2, 1905. Serial No. 276,910. Original No. 783,047, dated Aug. 22, 1905.



Claim.—1. In a machine for making matrix-blanks, the combination with means for dampening a web, of means for supplying a facing-web thereto and simultaneously pasting and pressing said webs together while they are supported, means for thereafter simultaneously pasting and pressing one or more additional webs thereto, and means for positively driving said pasting means in order to relieve the tension on the web, substantially as described.

2. In a machine for making matrix-blanks, the combination with a plurality of web-supplying devices, of means for simultaneously pasting and pressing two of said webs together while supported, means for winding up said pasted web, a second simultaneous pasting and pressing means adapted to paste a web from another of said web-supplying devices to said pasted web, means for winding up said web, and means for positively driving said pasting and winding-up devices whereby to relieve the tension on the web, substantially as described.

3. In a machine for making matrix-blanks, the combination with a plurality of web-supplying devices, of means for simultaneously pasting and pressing two of said webs together while supported, means for winding up said pasted web, a second simultaneous pasting and pressing means adapted to paste a web from another

of said web-supplying devices to said pasted web, means for winding up said web, and means whereby said winding-up means act alternately as web-supply devices, substantially as described.

4. In a machine for making matrix-blanks, the combination with two pairs of positively-driven rolls, each provided with paste-retaining ends, two supply-rolls, two winding-up rolls and a driving-shaft, of means adapted to drive either of said winding-up rolls singly, whereby the other, and one of said supply-rolls are adapted to feed each a web to one of said pairs of pasting-rolls and thence to the driven winding-up roll, substantially as described.

DESIGNS.

37,707. BABY-SPOON. CHARLES A. BENNETT, Taunton, Mass. Filed May 20, 1904. Serial No. 208,833. Term of patent 14 years.



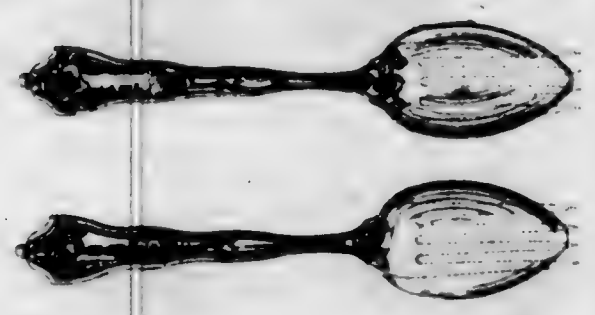
Claim.—The ornamental design for a baby-spoon, as shown.

37,708. SPOON OR FORK. CHARLES A. BENNETT, Taunton, Mass., assignor to Reed & Barton Corporation, a Corporation of Massachusetts. Filed Oct. 19, 1905. Serial No. 283,562. Term of patent 14 years.



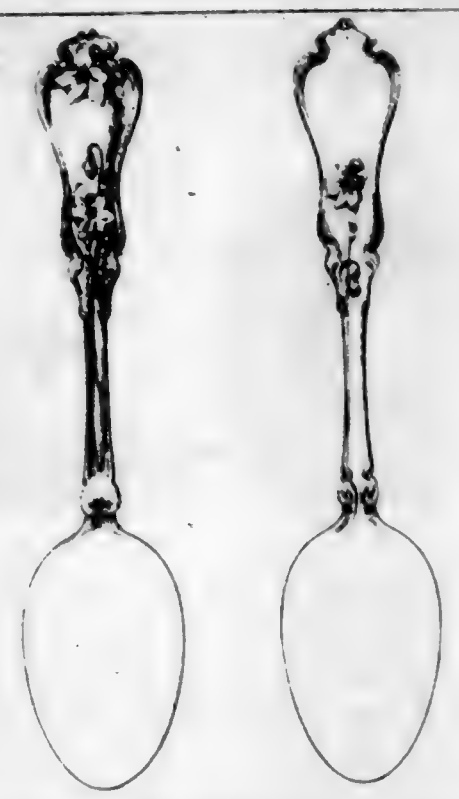
Claim.—The ornamental design for a spoon or fork, as shown.

37,709. SPOON OR FORK. CHARLES A. BENNETT, Taunton, Mass., assignor to Reed & Barton Corporation, a Corporation of Massachusetts. Filed Oct. 19, 1905. Serial No. 283,563. Term of patent 14 years.



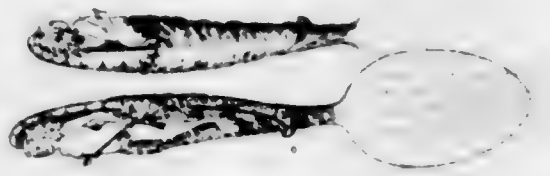
Claim.—The ornamental design for spoon or fork, as shown.

37,710. HANDLE FOR SPOONS, FORKS, OR SIMILAR ARTICLES. CHARLES OSBORNE, New York, N. Y., assignor to Whiting Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Oct. 18, 1905. Serial No. 283,330. Term of patent 14 years.



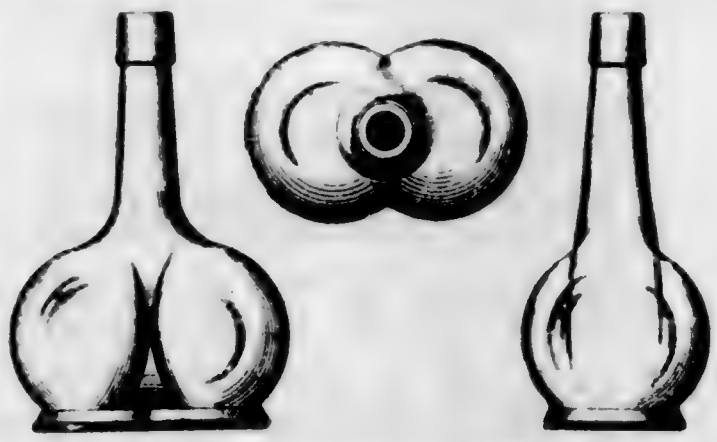
Claim.—The ornamental design for a handle for a spoon, fork or similar article, as shown.

37,711. HANDLE FOR SPOONS, FORKS, OR SIMILAR ARTICLES. CHESTER B. SHEPARD, Melrose, Mass. Filed Oct. 23, 1905. Serial No. 284,114. Term of patent 14 years.



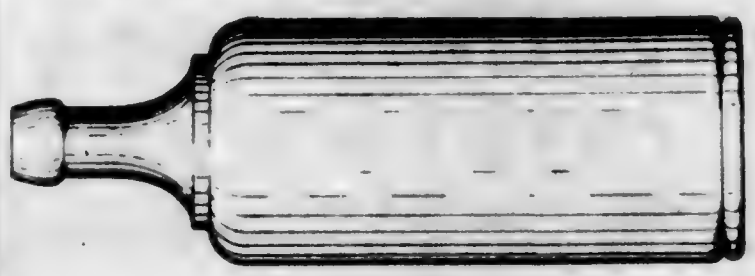
Claim.—The ornamental design for a handle of a spoon, fork or similar article, as shown.

37,712. BOTTLE. SIGMUND HOCHSTADTER, New York, N. Y. Filed Nov. 4, 1905. Serial No. 285,944. Term of patent 14 years.



Claim.—The ornamental design for a bottle, as shown.

37,713. BOTTLE. FREDERICK B. THATCHER, Providence, R. I. Filed Mar. 30, 1905. Serial No. 252,902. Term of patent 14 years.



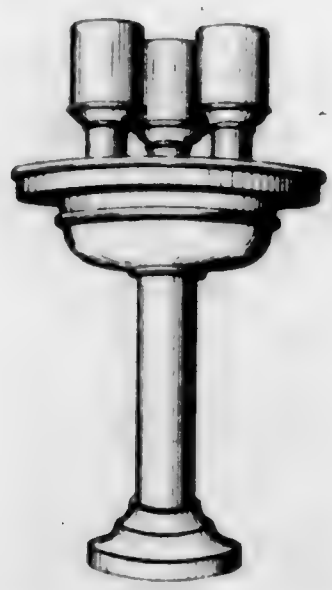
Claim.—The ornamental design for a bottle, as shown.

87,714. VESSEL. Lillian G. Barrow, Jackson, Ala. Filed Oct. 21, 1905. Serial No. 283,866. Term of patent 3½ years.



Claim.—The ornamental design for a vessel, as shown.

87,715. GAS-LAMP BODY. William S. McLewee, Yardley, Pa. Filed Apr. 19, 1905. Serial No. 256,494. Term of patent 14 years.



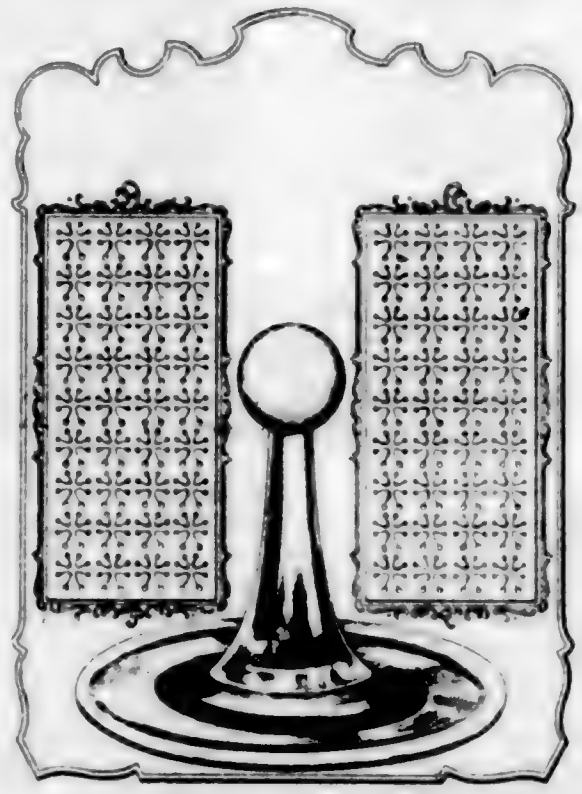
Claim.—The ornamental design for a gas-lamp body, as shown.

87,716. FONT OF TYPE. Harry W. R. Blanck, Baltimore, Md. Filed Sept. 30, 1905. Serial No. 280,844. Term of patent 7 years.



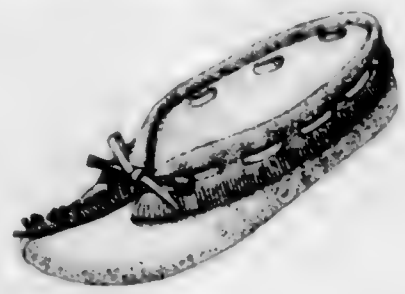
Claim.—The ornamental design for a font of type, as shown.

87,717. DISPLAY-CARD. Charles J. Steinau, New York, N. Y. Filed Oct. 10, 1905. Serial No. 282,213. Term of patent 3½ years.



Claim.—The ornamental design for a display-card as shown.

87,718. MOCCASIN. John B. Welch, Syracuse, N. Y. Filed Oct. 24, 1905. Serial No. 284,251. Term of patent 7 years.



Claim.—The ornamental design for a moccasin, as shown.

87,719. TEXTILE FABRIC. Thomas P. Black, Hoboken, N. J. Filed Sept. 8, 1905. Serial No. 277,179. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric as shown.

TRADE-MARKS

PUBLISHED DECEMBER 5, 1905.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

SER. NO. 145. TONIC MEDICINES AND KIDNEY, LIVER, AND BLADDER SPECIFICS. PETTIS & WIEHL, Chattanooga, Tenn. Filed Apr. 1, 1905.

URACURA

The word "URACURA."

SER. NO. 237. SEWING-MACHINES AND PARTS THEREOF. UNION SPECIAL MACHINE COMPANY, Chicago, Ill. Filed Apr. 3, 1905. Used ten years.

UNION SPECIAL

The words "UNION SPECIAL."

SER. NO. 238. SEWING-MACHINES AND PARTS THEREOF. UNION SPECIAL MACHINE COMPANY, Chicago, Ill. Filed Apr. 3, 1905. Used ten years.



The words "SAFE ELASTIC STITCH SEWING MACHINES," associated with the name and address "UNION SPECIAL S. M. CO. CHICAGO, ILL. U. S. A.," inclosed in an ellipse.

SER. NO. 253. WHISKY. UNION WHOLESALE LIQUOR CO., Chicago, Ill. Filed Apr. 3, 1905.

CASTING CLUB

The words "CASTING CLUB."

SER. NO. 900. REMEDY FOR COUGHS, COLDS, CROUP, AND CONSUMPTION. CHAS. B. MUMFORD, Kansas City, Mo. Filed Apr. 10, 1905.



The abbreviations and word "U. S. NAVY" and the representation of a battleship upon a body of water with smoke issuing from the smoke-stacks of said ship.

SER. NO. 914. WHISKY. THE WEIDEMAN COMPANY, Cleveland, Ohio. Filed Apr. 10, 1905.

SER. No. 914.

CRICKET

The word "CRICKET."

SER. No. 964. WRITING-INKS AND WRITING FLUIDS. DIAMOND INK COMPANY, Milwaukee, Wis. Filed Apr. 10, 1905.



The word "DIAMOND," associated with a red diamond-shaped figure having thereupon the word "INKS."

SER. No. 1,134. WHISKY. EDWARD J. QUINN, Washington, D. C. Filed Apr. 11, 1905.

Oronoco

The word "ORONOCO."

SER. No. 1,153. PORTLAND CEMENT. LEHIGH PORTLAND CEMENT CO., Ormrod and Allentown, Pa. Filed Apr. 11, 1905.



The representation of a seal surrounded by a band of contrasting color. On the upper part of the seal appears, in curved form, the word "LEHIGH," across the center, in a straight line, the word "PORTLAND," and on the lower part, in curved form, the word "CEMENT." Between the words "LEHIGH" and "PORTLAND" is a diamond-shaped figure bearing the initials and abbreviation "P L C Co," and between the words "PORTLAND" and "CEMENT" a barrel-shaped figure bearing the words and abbreviations "WORKS ORMROD LEHIGH CO. PENNA." Around the contrasting border appear the words and abbreviation "LEHIGH PORTLAND CEMENT COMPANY. OFFICE ALLENTOWN, PA."

SER. No. 1,287. TAR SOAP. THE PIONEER TAR SOAP CO., Dayton, Ohio. Filed Apr. 12, 1905.



The words "TRUE BLUE TAR SOAP" and a medallion bearing the picture of a child in Greenaway costume, the whole appearing on a rectangular blue background.

SER. No. 1,551. LAGER-BEER. DUBUQUE BREWING & MALTING CO., Dubuque, Iowa. Filed Apr. 14, 1905.



The letter "D," inclosed in concentric circles, and a circular band formed of stalks with barley-heads thereon and a vine of hops.

SER. No. 1,779. RAZORS. CHALLENGE CUTLERY CORPORATION, Bridgeport, Conn. Filed Apr. 15, 1905.



The word "RIFLE" and the representation of a rifle.

SER. No. 1,787. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

No. 175
NATIONAL WHIST

The abbreviation "No," the numerals "175," and the words "NATIONAL WHIST."

SER. No. 1,793. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

INITIAL
SERIES

The words "INITIAL SERIES."

SER. No. 1,804. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

OWLS

The word "OWLS."

SER. No. 1,966. STEAM-VALVES AND WATER-VALVES. THE FAIRBANKS CO., New York, N. Y. Filed Apr. 17, 1905.



The letter, character, and abbreviation "F & Co.," inclosed in a triangle.

SER. No. 1,966. STEAM-VALVES AND WATER-VALVES. THE FAIRBANKS CO., New York, N. Y. Filed Apr. 17, 1905.



The letter "F," inclosed in a triangle.

SER. No. 2,027. WATERPROOF FABRIC FOR INSULATING, BUILDING, AND SHEATHING PURPOSES. THE STANDARD PAINT COMPANY, New York, N. Y. Filed Apr. 17, 1905.



The representation of a peacock with his tail spread out within a circle, in which also appear the letters "S P C." This is surrounded by a black ring, on which appears at the top the word "PEACOCK."

SER. No. 2,148. REMEDY FOR PAIN IN CRAYON FORM. JOHN DICK MCLAREN, New York, N. Y. Filed Apr. 18, 1905.

SIMCURE

The arbitrary word "SIMCURE."

SER. No. 2,313. CIGARS. ABRAHAM & STRAUS, New York, N. Y. Filed Apr. 19, 1905.

KOMEEZY

The word "KOMEEZY."

SER. No. 2,693. ROOFING AND WATERPROOFING MATERIAL OF FELT, PAPER, OR TEXTILE GOODS TREATED WITH COAL-TAR OR OTHER BITUMINOUS WATERPROOFING MATERIAL. NATIONAL COAL TAR CO., Boston, Mass. Filed Apr. 22, 1905.



The representation of a genealogical tree having the words "COAL TAR" near the base of the trunk and the word "PITCH" at the upper portion of said trunk. Between the base and upper portion of the trunk are diverging branches and foliage, the diverging branches bearing the words "FIRST RUNNINGS AND LIGHT OILS," "ANILINE," "AMMONIACAL GAS LIQUOR," "CARBOLIC OILS WITH SOME NAPHTHALENE," "PHENOL," "CREOSOTE OILS AND NAPHTHALENE," "BASIC SUBSTANCES," "NAPHTHALENE," "HEAVY OILS," and "ANTHRACENE."

SER. No. 2,783. LINIMENTS AND EMBROCATIONS. WILBUR F. YOUNG, Springfield, Mass. Filed Apr. 24, 1905.

ABSORBINE

The word "ABSORBINE."

SER. No. 2,811. CHLORID OF LIME. LEGGETT & BROTHER, New York, N. Y. Filed Apr. 24, 1905. Used ten years.



The name "RED RIDING HOOD" and below the same the picture of a child representing that character standing in a wood with a

wolf at the left and immediately behind her, such picture being inclosed in a rectangular border, the words "BRAND CHLORIDE OF LIME" being arranged immediately above said picture and the words "NEW YORK" being arranged at the lower part thereof, said words and picture being inclosed by a rectangular border, with the words "RED RIDING HOOD CHLORIDE OF LIME IS THE BEST" at the left thereof, said last-named words being arranged vertically in a supplemental panel.

SER. NO. 3,106. LYE AND POTASH. BROOKMAN MANUFACTURING COMPANY, Chicago, Ill. Filed Apr. 26, 1905.



The representation of a hand holding a can and pouring out a portion of the contents thereof, a label appearing upon the can and having thereon the words "BIG BONANZA."

SER. NO. 3,523. LEGGINGS OR OVERGAITERS. THE COLUMBIA OVERGAITER & LEGGING CO., Chicago, Ill. Filed Apr. 26, 1905.



The arbitrary and fanciful word "NOLEAK," associated with the illustration of a girl running and holding her skirts extended and wearing a legging, which is disclosed.

SER. NO. 3,727. DENTIFRICE. HY-JEN CHEMICAL CO., Chicago, Ill. Filed May 1, 1905.

HY-JEN

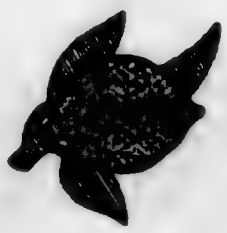
The hyphenated word "HY-JEN."

SER. NO. 3,800. WHISKY. FRIEDMAN, KEILER & CO., Paducah, Ky. Filed May 1, 1905. Used ten years.



The word and abbreviations "NEWPORT E. O. S.," associated with an oval outline containing the name and address "FRIEDMAN, KEILER & CO., DISTILLERS, PADUCAH, KY.," the whole being used on a dark rectangular figure inclosed in a rectangular double outline border.

SER. NO. 4,045. WASHING-POWDERS. CITRUS SOAP COMPANY, San Diego, Cal. Filed May 2, 1905.



The representation of a lemon supported on a twig accompanied by leaves and having the word "CITRUS" printed on the lemon.

SER. NO. 4,102. CANDY. POSTUM CEREAL CO., LIMITED, Battlecreek, Mich. Filed May 3, 1905.



The representation of three superposed rectangular panels, upon the middle one of which appear the words "DEXTRO CANDY" and the facsimile signature of C. W. Post.

SER. NO. 4,177. BRANDY. JOHN BARDENHEIER WINE AND LIQUOR CO., St. Louis, Mo. Filed May 3, 1905.

SER. No. 4,177.

KING OF ALL



The words "KING OF ALL," associated with the representation of a lion standing upon a rock, palm-trees appearing in the background, all inclosed within a rectangular figure.

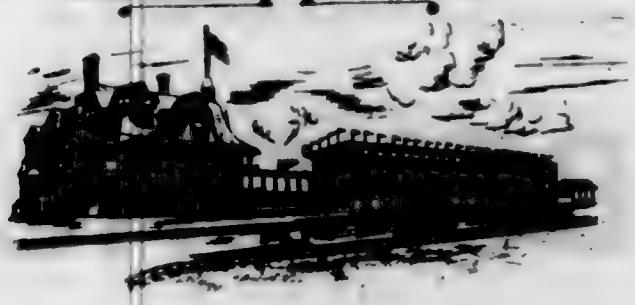
SER. No. 4,286. PLOWS, LISTERS, AND HARROWS. EMERSON MANUFACTURING CO., Rockford, Ill. Filed May 4, 1905. Used ten years.

STANDARD

The word "STANDARD."

SER. No. 4,340. WHISKY. M. SHAUGHNESSY DISTILLING COMPANY, St. Louis, Mo. Filed May 5, 1905.

CLUB HOUSE



The words "CLUB HOUSE," together with the representation of a club-house, adjacent to which is the representation of a stand. In the foreground is shown a portion of a race-track with a number of horses thereon.

SER. No. 4,372. REMEDY FOR THE TREATMENT OF RHEUMATISM, NEURALGIA, GOUT, PAINS, ACHES, AND THE LIKE. DR. M. F. GROVES' SON AND CO., Philadelphia, Pa. Filed May 5, 1905.



A portrait of M. F. Groves, M. D., deceased, surrounded by an ornamental frame, the name "DR. GROVES" appearing above the frame.

SER. No. 4,401. INSECT-POISON. JENKINS BROS., New York, N.Y. Filed May 5, 1905.



The representation of an elderly woman carrying an umbrella and a reticule, associated with the words "AUNT HANNAH."

SER. No. 4,675. URIC-ACID SOLVENT FOR ALL DISEASES ARISING FROM URIC-ACID POISON. THE DR. HASKINS CO., Toledo, Ohio. Filed May 8, 1905.

RE-NU

The hyphenated word "RE-NU."

SER. No. 4,745. MALINES AND MOUSSELINE. THEO. TIEDEMANN & SON, New York, N. Y. Filed May 8, 1905.

SER. No. 4,745.



The representation of a lion rampant holding a club in his claw and a crown surmounting the lion's head.

SER. No. 4,766. MEDICINAL PREPARATION ADAPTED FOR THE TREATMENT OF NERVOUS DISEASES, SUCH AS DISEASED CONDITIONS ARISING FROM THE EXCESSIVE USE OF ALCOHOLIC BEVERAGES, TOBACCO, OPIUM, AND OTHER NARCOTICS. THE LESLIE E. KEELEY CO., Dwight, Ill. Filed May 8, 1905. Used ten years.



The words "DOUBLE CHLORIDE OF GOLD CURE," arranged in three parallel lines one above the other, the first line containing the word "DOUBLE," the second the word "CHLORIDE," and the third the word "OF," sloping on the left diagonally downward from left to right, and with the words "GOLD CURE" arranged in a diagonal line upon the left and below the other words and sloping downward from left to right, and all printed in plain capital letters.

SER. No. 4,807. BRONCHIAL LOZENGES AND THROAT-TABLETS. FROG IN YOUR THROAT CO., New York, N. Y. Filed May 9, 1905. Used ten years.

FROG IN YOUR THROAT?

The arbitrary expression "FROG IN YOUR THROAT?"

SER. No. 4,838. MEN'S, BOYS', AND CHILDREN'S CLOTHING FOR EXTERNAL WEAR, COMPRISING OVERCOATS, COATS, VESTS, TROUSERS, AND KNEE-PANTS. THE F. B. O. CLOTHING CO., New York, N. Y. Filed May 8, 1905.



The words "THAT TOTALLY DIFFERENT."

SER. No. 4,982. COTTON PIECE GOODS. TREMONT & SUFFOLK MILLS, Lowell, Mass. Filed May 10, 1905. Used ten years.

PRINCETON

The arbitrarily-selected word "PRINCETON."

SER. No. 5,219. SEWING-MACHINES AND PARTS THEREOF. ILLINOIS SEWING MACHINE CO., Rockford and Chicago, Ill. Filed May 11, 1905.



The representation of a bonnet with strings flowing therefrom and appearing on a disk of contrasting color.

SER. No. 5,229. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905.

FRONTIER

The arbitrarily-selected word "FRONTIER."

SER. No. 5,235. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905. Used ten years.

BURLINGTON

The word "BURLINGTON."

SER. No. 5,247. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905. Used ten years.

BENGAL

The word "BENGAL."

SER. No. 5,251. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905. Used ten years.

SER. No. 5,251.

NIAGARA

The word "NIAGARA."

SER. No. 5,288. CROCHET QUILTS. UNION MANUFACTURING COMPANY, Peterboro, N. H. Filed May 12, 1905. Used ten years.

BERLIN

CROCHET

QUILT

The words "BERLIN CROCHET QUILT."

SER. No. 5,614. PREPARED CEREAL FOODS. THE AMERICAN CEREAL COMPANY, Akron, Ohio; Chicago, Ill., and Cedar Rapids, Iowa. Filed May 15, 1905.

Zest

The word "ZEST."

SER. No. 5,721. CHOCOLATE DROPS. NEW ENGLAND CONFECTIONERY CO., Boston, Mass. Filed May 15, 1905. Used ten years.

Lenox

The word "LENOX," scrolls appearing beneath the word.

SER. No. 5,724. CANDY. NEW ENGLAND CONFECTIONERY CO., Boston, Mass. Filed May 15, 1905.

NECCO

The word "NECCO."

SER. No. 5,764. CANDY. NEW ENGLAND CONFECTIONERY CO., Boston, Mass. Filed May 12, 1905.



The representation of a heavy black circle inclosing three fields, namely: a central red field, on which appear the words "NECCO SWEETS," and two white fields respectively above and below the central field. The outer edges of all three fields are bordered by lines which are concentric with the black circle, and the edges of the upper and lower fields, which are adjacent to the central field, are separated therefrom by double curved lines.

SER. No. 5,921. WOOLEN, WORSTED, AND MOHAIR YARNS. HENRY E. FRANKENBERG CO., New York, N. Y. Filed May 16, 1905.

PEACOCK

The word "PEACOCK."

SER. No. 5,996. SUITINGS FOR MEN AND BOYS. THOS. OAKES & CO., Bloomfield, N. J. Filed May 18, 1905. Used ten years.

METROPOLITAN

The word "METROPOLITAN."

SER. No. 6,045. TOOTH-BRUSHES. CHARLES LOOSER, Paris, France. Filed May 18, 1905.

RED CROSS

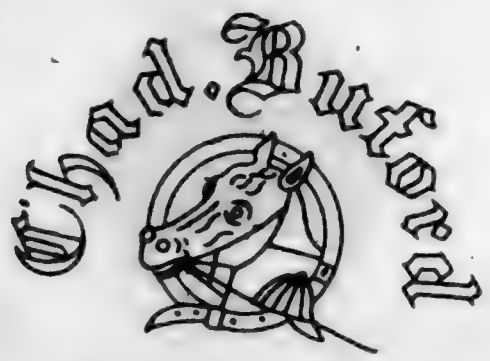
The words "RED CROSS" and the representation of a red Greek cross.

SER. No. 6,112. WOOLEN, WORSTED, AND MOHAIR YARNS. HENRY E. FRANKENBERG CO., New York, N. Y. Filed May 16, 1905.



The representation of a peacock with his tail spread.

SER. No. 6,119. WHISKY. L. W. LEVY & Co., Galveston, Tex. Filed May 20, 1905.



The letters and character "CHAD. BUFORD," printed or impressed in old English type and arranged in the form of an arc around the representation of a horse's head, which is encircled by the representation of a leather belt, the latter being intersected by the representation of a jockey's cap.

SER. No. 6,566. SILVER-PLATED FLAT WARE, HOLLOW WARE, AND TABLEWARE. WM. A. ROGERS, LIMITED, New York, N. Y. Filed May 26, 1905.



A diamond-shaped figure. About the figure are arranged the words "WARREN SILVER PLATE COMPANY," and beneath these words appear the words "NEW YORK." The words "QUADRUPLE PLATE" are arranged within the diamond-shaped figure.

SER. No. 6,719. WHISKY. J. & A. FRIEBERG, Cincinnati, Ohio. Filed May 26, 1905.



The word "FIRESIDE," with a scroll extending lengthwise directly under said word.

SER. No. 6,771. SHOES MADE OF LEATHER AND OF CANVAS. V. K. AND A. H. JONES CO., Lynn, Mass. Filed May 27, 1905.



The arbitrary title "THE MIZPAH SHOE," associated with a heraldic display consisting of an escutcheon, upon which is the capital letter "J," having griffin-supporters on each side and a crest crown at the top of the escutcheon.

SER. No. 6,887. WOMEN'S LEATHER SHOES. A. H. BERRY SHOE COMPANY, Portland, Me. Filed May 27, 1905.

Evangeline

The word "EVANGELINE."

SER. No. 7,120. COMPOUND FOR THE TREATMENT OF THE THROAT AND LUNGS AND FOR THE CURE OF COUGHS, COLDS, CROUP, SORE THROAT, HOARSENESS, AND KINDRED AFFECTIONS. JOHN P. CHOLEWINSKI, Chicago, Ill. Filed May 31, 1905.

PINET ALBA

The words "PINET ALBA."

SER. No. 7,230. WHEAT-FLOUR. HESSEL MILLING COMPANY, East St. Louis, Ill. Filed June 2, 1905.

WHITE BIRD

The arbitrarily-selected word-symbol "WHITE BIRD."

SER. No. 7,498. AUTOMOBILES AND MOTOR-CARS. BENJAMIN A. GRAHN, Chillicothe, Ohio. Filed June 5, 1905.

Logan

The word "LOGAN" in old English priory text letters, the tail of the letter "G" ending in a flourish.

SER. No. 7,499. OVERCOATS, COATS, VESTS, AND TROUSERS. MARX & HAAS CLOTHING CO., St. Louis, Mo. Filed June 5, 1905.



The words "JACK RABBIT" and the representation of the head of a jack-rabbit surrounded by concentric circles, associated with the words, character and abbreviations "MARX & HAAS CLOTHING CO." and "ST. LOUIS."

SER. No. 7,521. FASTENERS FOR THE WAISTBANDS OF TROUSERS. CATCH ON CLASP MFG. CO., Baltimore, Md. Filed June 6, 1905.

Catch On

The words "CATCH ON."

SER. No. 7,556. BOOTS AND SHOES MADE OF LEATHER. A. L. JOSLIN COMPANY, Oxford, Mass. Filed June 6, 1905.

HOMER
SHOE



The representation of the head of a carrier-pigeon, associated with the words "HOMER SHOE."

SER. No. 7,772. FRENCH BROADCLOTH. PERKINS, VAN BERGEN & CO., Paris, France, and New York, N. Y. Filed June 9, 1905.

DRAP
DE
NYMPHE

The words "DRAP DE NYMPHE."

SER. No. 7,883. WHISKY. THE EDGEWOOD DISTILLING COMPANY, Cincinnati, Ohio. Filed June 10, 1905.



The representation of a fat man in full-dress costume with his hands in his pockets and a fez upon his head, standing upon a box.

SER. No. 7,958. OILED CLOTHING. J. H. ROWE COMPANY, Portland, Me., and Gloucester, Mass. Filed June 12, 1905.



The figure of an anchor in connection with the words "ANCHOR BRAND."

SER. No. 7,968. STOVES, RANGES, GAS-STOVES, GAS-RANGES, HOT-AIR FURNACES, AND LOW-PRESSURE STEAM AND HOT-WATER BOILERS FOR HEATING PURPOSES. BARSTOW STOVE COMPANY, Providence, R. I. Filed June 12, 1905. Used ten years.

BAY STATE

The words "BAY STATE."

SER. No. 8,052. MACARONI, SPAGHETTI, AND VERMICELLI. WOODCOCK MACARONI COMPANY, Rochester, N. Y. Filed June 13, 1905.



The representation of a woodcock in a marsh surrounded by a circular band and the words "WOODCOCK BRAND."

SER. No. 8,079. HYDROSULFITE COMPOUND USED AS A CORROSIVE FOR THE DISCHARGE OF REDUCIBLE COLORING-MATTERS IN DYEING AND PRINTING. CASSELLA COLOR COMPANY, New York, N. Y. Filed June 14, 1905.

Hyraldite

The word "HYRALDITE."

SER. No. 8,178. SCREW-DRIVERS. TOWER & LYON CO., New York, N. Y. Filed June 15, 1905. Used ten years.

CHAMPION

The word "CHAMPION."

Sm. No. 8,192. TUBE-EXPANDERS. AJAX MFG. CO., Allegheny, Pa. Filed June 15, 1905. Used ten years.

COLLINS

The word "COLLINS."

Sm. No. 8,287. WHISKY. GOODMAN BROS., Memphis, Tenn. Filed June 15, 1905. Used ten years.

Raleigh Springs

The words "RALEIGH SPRINGS."

Sm. No. 8,292. SHOTGUNS, RIFLES, AND REVOLVERS. HENRY KENNEL, Baltimore, Md. Filed June 15, 1905. Used ten years.

HANOVER ARMS CO.

The arbitrary and fanciful designation "HANOVER ARMS CO."

Sm. No. 8,297. GASOLENE AND MARINE ENGINES. HENRY KENNEL, Baltimore, Md. Filed June 15, 1905.

ARDMORE

The word "ARDMORE."

Sm. No. 8,420. TOOTH WASHES AND POWDERS. PURITAN DRUG COMPANY, Boston, Mass. Filed June 17, 1905.

ASEPTIFOAM

The word "ASEPTIFOAM."

Sm. No. 8,514. HOSE-SUPPORTERS. CHRISTINA J. HISLEY, New York, N. Y. Filed June 19, 1905. Used ten years.

LINDSAY

The word "LINDSAY."

SER. No. 8,666. TOILET WATER AND LIQUID PERFUMES. R. HUDNUT'S PHARMACY, New York, N. Y. Filed June 21, 1905.

VIOLET SEC.

The words "VIOLET SEC."

SER. No. 8,785. OINTMENTS AND LOTIONS TO BE APPLIED TO THE SKIN TO SOFTEN THE SAME AND ALLAY IRRITATION. THE LÉHEALOL PREPARATION CO., Melrose, Mass. Filed June 22, 1905.

Léhealol

The word "LÉHEALOL," written in script with a paraph.

SER. No. 8,870. LEATHER BOOTS AND SHOES. JORDAN MARSH COMPANY, Boston, Mass. Filed June 24, 1905. Used ten years.



The words "OLD BRICK" and the representation of a boot or shoe resting on a brick having on its front side the words "OLD BRICK." Above the representation of the boot or shoe on the brick, are the words "SCHOOL SHOE."

SER. No. 9,009. OINTMENT. FRANK WATSON, Philadelphia, Pa. Filed June 24, 1905.

NITMOI

The word "NITMOI."

Sm. No. 9,041. LONG CLOTH. SHERMAN REID & Co., New York, N. Y. Filed June 26, 1905. Used ten years.

IMPERIAL

The word "IMPERIAL."

SER. No. 9,062. COFFEE-BERRY, EITHER WHOLE OR GROUND. MILLIKEN, TOMLINSON Co., Portland, Me. Filed June 26, 1905.

SUPERBA

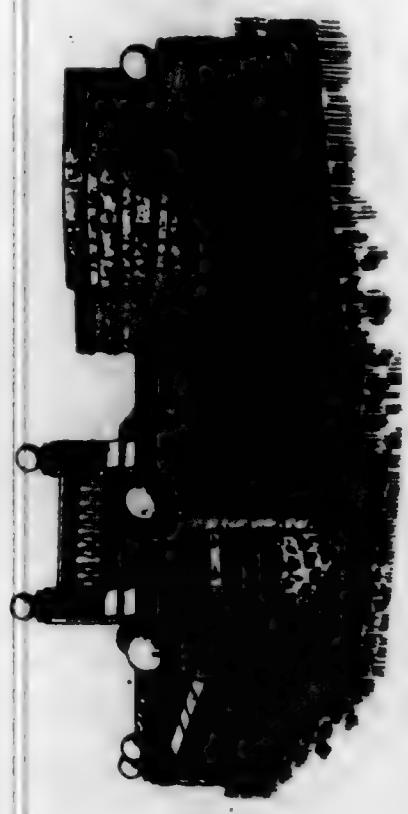
The word "SUPERBA."

SER. No. 9,273. RECORDS FOR TALKING-MACHINES. VICTOR TALKING MACHINE Co., Camden, N. J. Filed June 27, 1905.



The representation of a red disk applied to the central portion of the face of a disk sound-record.

SER. No. 9,334. MACHINES FOR MAKING CONCRETE BUILDING-BLOCKS. CEMENT MACHINERY CO., Jackson, Mich. Filed June 24, 1905.



The representation of four complete walls formed of plain and ornamental concrete building-blocks with entrances arranged through the front wall and through one of the side walls and with spheroidal cap-blocks at the sides of the entrances and on other portions of the wall.

SER. No. 9,450. CREAM-SEPARATORS. THE DE LAVAL SEPARATOR COMPANY, New York and Poughkeepsie, N. Y. Filed June 30, 1905.

DAISY

The word "DAISY."

SER. No. 9,458. DRAPERY AND UPHOLSTERY FABRICS. THE EDDYSTONE MANUFACTURING CO., Eddystone and Philadelphia, Pa. Filed June 30, 1905.



The word "PAREILSOIE" within an ornamental wreath.

SER. No. 9,463. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed June 30, 1905. Used ten years.

SER. No. 9,463.



The representation of an ornamental banner having a diagonally-arranged panel bearing the facsimile signature of the original firm of Wm. Simpson & Sons, associated with the words "SILVER GREYS" and "FAST COLORS."

SER. No. 9,464. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed June 30, 1905. Used ten years.



The representation of an ornamental banner having a diagonally-arranged panel bearing the facsimile signature of the original firm of Wm. Simpson & Sons, associated with the words "PURE INDIGO DYED," and "FAST COLORS."

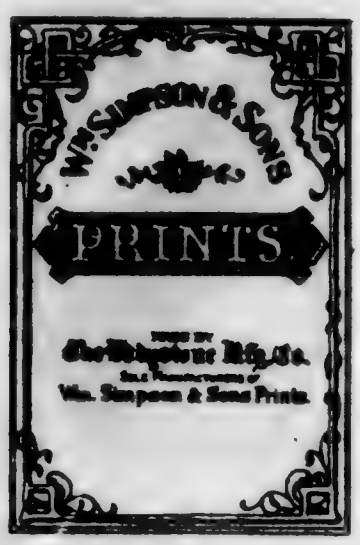
SER. No. 9,465. PRINTED AND DYED COTTON TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed June 30, 1905.



The words "SHEPHERD PLAIDS," associated with the abbreviation, words, and character "WM. SIMPSON, & SONS IMPROVED STYLES."

SER. No. 9,472. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed June 30, 1905. Used ten years.

SER. No. 9,472.



The representation of an ornamental border associated with a panel bearing the word "PRINTS," with the abbreviation, words, and character "WM. SIMPSON & SONS," and a representation of a rose above the panel, and the words, abbreviations, and character "MADE BY THE EDDYSTONE MFG. CO. SOLE MANUFACTURERS OF WM. SIMPSON & SONS' PRINTS."

SER. No. 9,564. WOOD, COAL, AND GAS HEATING-STOVES, COOKING-STOVES, AND RANGES. THE GEM CITY STOVE CO., Dayton, Ohio. Filed July 1, 1905. Used ten years.

CLERMONT

The word "CLERMONT."

SER. No. 9,640. BLOTTING-PAPER. THE EATON-DIKEMAN CO., Lee, Mass. Filed July 3, 1905.

COLUMBIAN

The word "COLUMBIAN."

SER. No. 9,664. VINEGAR USED FOR PICKLING. CHAS. E. MEYER & CO., Freeport, Ill. Filed July 3, 1905. Used ten years.

Meyer's Extra Pickling

The words "MEYER'S EXTRA PICKLING."

SER. No. 9,666. SPIRIT VINEGAR. CHAS. E. MEYER & CO., Freeport, Ill. Filed July 3, 1905.

Cereo

The word "CEREO."

SER. No. 9,805. DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 6, 1905.

SER. No. 9,805.



The representation of a banner suspended from a bamboo-rod and bearing the word "ART," associated with the representation of some Japanese lanterns and a spray of chrysanthemums and the words "JAPANESE" and "CRETONNE," and a bamboo-rod beneath the same.

SER. No. 9,807. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 6, 1905. Used ten years.



The representation of a rectangular-shaped border having a diagonal panel intercepting a transverse label, with triangular-shaped ornamental scrolls on either side of the diagonal panel, associated with the abbreviation, words, and character "WM. SIMPSON & SONS FAST BLACK. THIS COLOR IS GUARANTEED PERFECTLY FAST TO LIGHT SOAP AND PERSPIRATION."

SER. No. 9,976. VEHICLE SPRING SEATS AND CUSHIONS. J. L. CLARK, Oshkosh, Wis. Filed July 10, 1905.

L·S·S·

The letters "L. S. S."

SER. No. 10,088. IMITATION OF PERSIAN-LAMB FABRIC. JOHN & JAMES DOBSON, Philadelphia, Pa. Filed July 11, 1905.

PERSIANA

The word "PERSIANA."

SER. No. 10,193. WRITING-PAPER. FOX RIVER PAPER COMPANY, Appleton, Wis. Filed July 12, 1905.

OLD BADGER BOND

The words "OLD BADGER BOND."

SER. No. 10,303. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 14, 1905. Used ten years.



The representation of a panel bearing the words "NEW ALPACA FINISH MOURNING PRINTS," associated with a curved panel bearing the abbreviation, words, and character "WM. SIMPSON & SONS," superposed upon a cross-hatched base inclosed in a rectangular border having fancy corners.

SER. No. 10,304. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 14, 1905. Used ten years.



The representation of a cross-hatched panel inclosed in an ornamental border and bearing the words "SILVER GREYS."

SER. No. 10,305. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 14, 1905. Used ten years.



The representation of a cross-hatched panel inclosed in a rectangular ornamental border, associated with the words "ALPACA FINISH."

SER. No. 10,316. LUBRICATING-OILS. GALENA-SIGNAL OIL COMPANY, Franklin, Pa. Filed July 14, 1905.

GALENA

The word "GALENA."

SER. No. 10,330. TRUNKS. WELLEN & OICHMAN, New York, N. Y. Filed July 14, 1905.

The Unique

The words "THE UNIQUE."

SER. No. 10,403. WEEKLY NEWSPAPER. THE BILLBOARD PUBLISHING COMPANY, Cincinnati, Ohio. Filed July 15, 1905.

Billboard

The word "BILLBOARD."

SER. No. 10,468. POLISHES FOR WOOD, METAL, MARBLE, AND GLASS. C. H. SMITH & CO., Boston, Mass. Filed July 17, 1905. Used ten years.

Sparklene

The word "SPARKLENE."

SER. No. 10,512. ELECTRIC-ARC LAMPS. THE JANDUS ELECTRIC CO., Cleveland, Ohio. Filed July 18, 1905. Used ten years.

JANDUS

The word "JANDUS."

SER. No. 10,513. ELECTRIC FANS. THE JANDUS ELECTRIC CO., Cleveland, Ohio. Filed July 18, 1905.

Gyrofan

The word "GYROFAN."

SER. No. 10,569. MANUFACTURED FURS FOR WEARING-APPAREL. C. G. GUNTHER'S SONS, New York, N. Y. Filed July 19, 1905. Used ten years.

GUNTHER'S FURS

The words "GUNTHER'S FURS."

SER. No. 10,539. COTTON PIECE GOODS. INDIAN HEAD MILLS OF ALABAMA. Cordova, Ala. Filed July 13, 1905.



SOPOSA

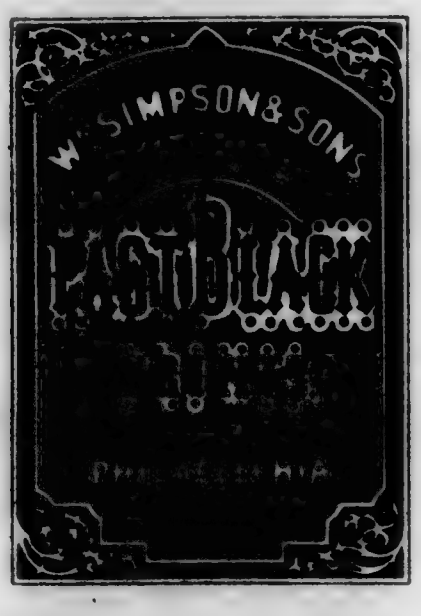
The pictorial representation of an Indian baby in an Indian cradle or baby-pack on a ground covered with vegetation, associated with the word "SOPOSA."

SER. No. 10,618. HOSE-SUPPORTERS. CHRISTINA J. HIGLEY, New York, N. Y. Filed July 20, 1905.

BRODWEB

The arbitrary word-symbol "BRODWEB."

SER. No. 10,650. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 21, 1905. Used ten years.



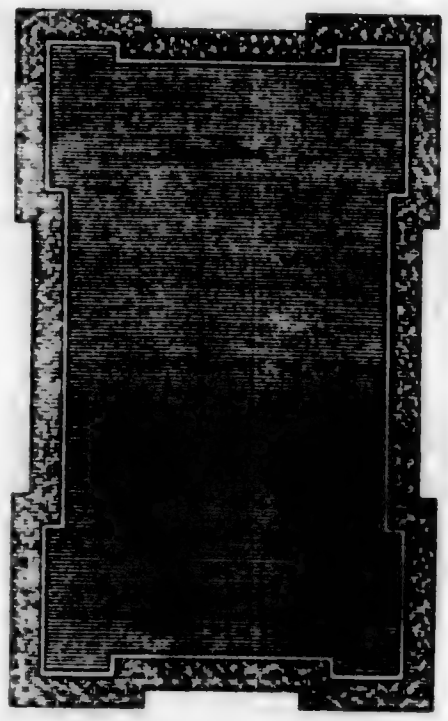
The representation of an ornamental border inclosing a cross-hatch background bearing the abbreviation, words, and character "WM. SIMPSON & SONS FAST BLACK PRINTS. PHILADELPHIA."

SER. No. 10,686. MEDICAL PREPARATION FOR GENITO-URINARY DISEASES. ALFONS F. KALKHOFF, Toledo, Ohio. Filed July 31, 1905.

SAN-CU-CO

The hyphenated word "SAN-CU-CO."

SER. No. 10,659. MINERAL WATER. ADIRONDACK SPRING COMPANY, Saratoga Springs, N. Y. Filed July 31, 1905.



The representation of a panel of general rectangular form with indented sides and having a blue background inclosed by a yellow border.

SER. No. 10,732. SHIRTS, COLLARS, AND CUFFS. FELLOWS AND COMPANY, Troy, N. Y. Filed July 24, 1905. Used ten years.

STERLING BRAND

The words "STERLING BRAND," in connection with the conventional form of the letter "£," used as an abbreviation for the word libra or pound.

SER. No. 10,867. WHITE LEAD. NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed July 27, 1905.



A representation of the zodiacal sign of Saturn and a cog-wheel within a square and circle, associated with the words, abbreviations, and character "RED SEAL BRAND, ST. LOUIS LEAD & OIL CO. ST. LOUIS, MO."

SER. No. 10,998. PRINTED PUBLICATIONS RELATING TO AGRICULTURE, HORTICULTURE, GARDENING, AND THE RAISING AND MARKETING OF FRUITS, GARDEN STUFF, AND PRODUCE. THE FRUIT-GROWER COMPANY, St. Joseph, Mo. Filed July 29, 1905.

SER. No. 10,998.



"Bro. Jonathan"

The representation of an apple, upon which is a human face and below which are the abbreviation and word "BRO. JONATHAN."

SER. No. 11,333. MONTHLY MAGAZINE PUBLISHED IN THE INTEREST OF THE SOAP TRADE. HOFFHEIMER SOAP CO., Chicago, Ill. Filed Aug. 7, 1905.

20TH CENTURY WORLD

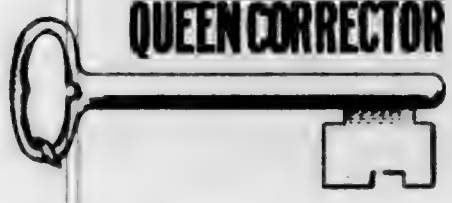
The words "20TH CENTURY WORLD."

SER. No. 11,466. WEB-PERFECTING PRINTING-MACHINES. THE GOSS PRINTING PRESS COMPANY, Chicago, Ill. Filed Aug. 10, 1905. Used ten years.

STRAIGHTLINE.

The word "STRAIGHTLINE."

SER. No. 11,539. MEDICINE FOR DISEASES OF THE VAGINA. W. H. HOLLIDAY, Albertville, Ala. Filed Aug. 11, 1905.



The words "QUEEN CORRECTOR," associated with the pictorial representation of a key.

SER. No. 11,546. MONTHLY MAGAZINE. HOFFHEIMER SOAP CO., Chicago, Ill. Filed Aug. 11, 1905.



The representation of a scroll bearing the abbreviation and words "20TH CENTURY WORLD" and extending across a representation of the earth, on which appear portions of North and South America.

SER. No. 11,584. WHITE LEAD. TOCH BROTHERS, New York, N. Y. Filed Aug. 12, 1905. Used ten years.



The words "TOCHSEDO WHITE LEAD," associated with the representation of a palette bearing the letter "T" and partly surrounded by a wreath.

SER. No. 11,626. CHOCOLATE CONFECTIONERY. E. GREENFIELD'S SON & CO., New York, N. Y. Filed Aug. 14, 1905. Used ten years.

Delatour Chocolates

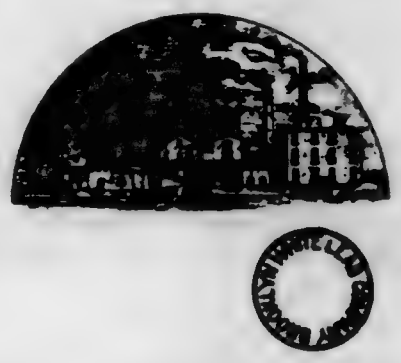
The words "DELATOUR CHOCOLATES."

SER. No. 11,766. MICA FOR LUBRICATING PURPOSES. THE UNITED STATES MICA MINING AND MILLING CO., Chicago, Ill. Filed Aug. 18, 1905.

AIR MICA FLAKE FLOATED

The representation of a double wedge-shaped latticed figure, upon which appear the words "MICA FLAKE" and associated with the words "AIR FLOATED."

SER. No. 11,812. WHITE LEAD. NATIONAL LEAD COMPANY, Jersey City, N. J. Filed Aug. 19, 1905.



The representation of a group of factory buildings inclosed in a semicircle and associated with the words "BROOKLYN WHITE LEAD COMPANY," inclosed in a circle.

Ser. No. 11,843. SILKS. HENRY B. FRANKENBERG COMPANY, New York, N. Y. Filed Aug. 21, 1905. Used ten years.

UTOPIA

The word "UTOPIA."

Ser. No. 11,847. DRESS-TRIMMINGS, WAIST-TRIMMINGS, AND BRAIDS. HENRY B. FRANKENBERG COMPANY, New York, N.Y. Filed Aug. 21, 1905.

UTOPIA

The arbitrary word "UTOPIA."

Ser. No. 11,850. COTTON, SILK, AND LINEN THREADS, CHENILLE, TINSEL, AND ARRASENE. HENRY B. FRANKENBERG COMPANY, New York, N. Y. Filed Aug. 21, 1905. Used ten years.



The representation of a winged cupid seated astride a lion and in the act of playing on a lyre.

Ser. No. 11,852. DRESS-TRIMMINGS, WAIST-TRIMMINGS, AND BRAIDS. HENRY B. FRANKENBERG COMPANY, New York, N.Y. Filed Aug. 21, 1905.



The representation of a winged cupid seated astride a lion and in the act of playing on a lyre.

Ser. No. 11,853. WOOLEN, WORSTED, AND MOHAIR YARNS. HENRY B. FRANKENBERG COMPANY, New York, N. Y. Filed Aug. 21, 1905.

ARCADIA

The arbitrary word "ARCADIA."

Ser. No. 11,864. MOTOR-CYCLES. W. F. REHFUS, Reading, Pa. Filed Aug. 21, 1905.

Ser. No. 11,864.

Thoroughbred

The word "THOROUGHBRED."

Ser. No. 11,925. SAFETY-RAZORS AND SAFETY-RAZOR BLADES. GEM CUTLERY CO., New York, N. Y. Filed Aug. 18, 1905.

GEM

The word "GEM."

Ser. No. 11,964. GRASS AND FIELD SEEDS. WM. G. SCARLETT, Baltimore, Md. Filed Aug. 24, 1905.



The representation of a shield, diagonally across which, from the upper right-hand corner, run two parallel dotted lines, and in the upper left-hand corner of which is the letter "S," to each side of which is a dash between two dots, and over which shield is the word "SHIELD," and under which is the word "BRAND."

Ser. No. 11,966. GRASS AND FIELD SEEDS. WM. G. SCARLETT, Baltimore, Md. Filed Aug. 24, 1905.



Two horns of a stag, between which is the letter "S," above which is the word "ANTLER," and under which is the word "BRAND."

Ser. No. 12,260. MOHAIR DRESS GOODS. H. ERLANGER, BLUMGART & CO., New York, N. Y. Filed Sept. 6, 1905.

SER. No. 12,260.



The word "DRAGONIA," below which word are two dragons facing one another and holding between their upraised claws a panel bearing open shears encircled by a tape-measure.

SER. No. 12,310. COMPOUND FOR CLEANING AND DISINFECTING PIPES, BEER-COILS, GLASSES, CLOSETS, SINKS, &c. KLEN-SO PHARMACAL COMPANY, Philadelphia, Pa. Filed Sept. 7, 1905.

KLEN-SO

The hyphenated word "KLEN-SO."

SER. No. 12,394. CARRIAGES, BUGGIES, WAGONS, AND CARTS. STUDEBAKER BROTHERS MANUFACTURING COMPANY, South Bend, Ind. Filed Sept. 8, 1905.

STUDEBAKER.

The word "STUDEBAKER" arranged in a reversed curve, the letters appearing as yellow blocks with black sides and standing in perspective.

SER. No. 12,396. CARRIAGES, WAGONS, TRUCKS, CARTS, AND OTHER HORSE-DRAWN VEHICLES. STUDEBAKER BROTHERS MANUFACTURING COMPANY, South Bend, Ind. Filed Sept. 8, 1905. Used ten years.

STUDEBAKER.

The word "STUDEBAKER."

SER. No. 12,404. HOSIERY. AMERICAN STOCKING COMPANY, New York, N. Y. Filed Sept. 9, 1905.



The illustration of an eagle, together with a bust picture of a boy and Washington, each inclosed in an oval and disposed one on each side of the eagle.

SER. No. 12,423. PREPARATIONS FOR COLORING BUTTER. WELLS & RICHARDSON COMPANY, Burlington, Vt. Filed Sept. 9, 1905.

DANDELION

The word "DANDELION."

SER. No. 12,461. CARBON BISULFID (CS_2.) EDWARD R. TAYLOR, Penn Yan, N. Y. Filed Sept. 11, 1905.

FUMA

The word "FUMA."

SER. No. 12,515. CROCHET QUILTS. UNION MANUFACTURING COMPANY, Peterboro, N. H. Filed Sept. 13, 1905.



The representation of a lion rampant. A crown is shown upon the head and a collar upon the neck of the lion and a twisted bar beneath.

SER. No. 12,527. BRAIDED CORD. WHITTIER MILLS, Chattahoochie, Ga. Filed Sept. 13, 1905. Used ten years.



The words "SOLID BRAID," placed in the annular space between two concentric circles, and the letters "U. S.," the word "CORD" and the abbreviation "CO." placed inside of the inner circle.

SER. No. 12,528. BRAIDED CORD. WHITTIER MILLS, Chattahoochie, Ga. Filed Sept. 13, 1905.

SPIRAL

The word "SPIRAL."

SER. No. 12,556. PLAIN AND ORNAMENTAL BRAIDS, BINDINGS, AND TRIMMINGS. FLETCHER MANUFACTURING COMPANY, Providence, R. I. Filed Sept. 14, 1905.



The representation of an uplifted arm holding a bow.

SER. No. 12,601. SKIRT-BRAIDS. THE WALTER STEWART COMPANY, New York, N. Y. Filed Sept. 14, 1905.



The word "NYSILK."

SER. No. 12,715. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y. Filed Sept. 18, 1905.

CAPITOL

The word "CAPITOL."

SER. No. 12,789. EARTH-SCRAPERS. THE KILBOURNE & JACOBS MANUFACTURING COMPANY, Columbus, Ohio. Filed Sept. 19, 1905.

WINNER

The word "WINNER."

SER. No. 12,828. EARTH-SCRAPERS. THE KILBOURNE & JACOBS MANUFACTURING COMPANY, Columbus, Ohio. Filed Sept. 20, 1905.

BOSS

The word "BOSS."

SER. No. 12,841. DISPLAY-FIXTURES. THE HEIMANN-MILLER MANUFACTURING COMPANY, St. Louis, Mo. Filed Sept. 21, 1905.

MISSING LINK

The words "MISSING LINK."

SER. No. 12,846. LAUNDRY SOAP. MAPLE CITY SOAP WORKS, Monmouth, Ill. Filed Sept. 21, 1905.

HARD MAPLE

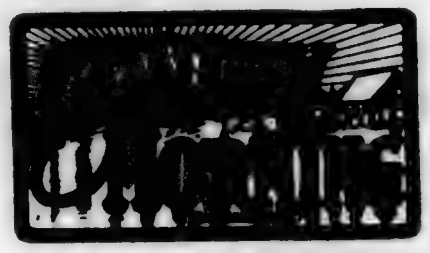
The words "HARD MAPLE," arranged one above the other.

SER. No. 12,937. LOCKS AND KEYS. RUSSELL & ERWIN MANUFACTURING COMPANY, New Britain, Conn. Filed Sept. 23, 1905.



The representation of two dragonic figures surrounding a diamond-shaped outline and inclosed in an irregular border.

SER. No. 12,847. LAUNDRY SOAP. MAPLE CITY SOAP WORKS, Monmouth, Ill. Filed Sept. 21, 1905.



The words "MONDAY MORNING," which are associated with the pictorial representation of a house, hills in the background, and a rising sun, the whole appearing upon a rectangular panel.

SER. No. 12,973. JELLIES, JELLY-POWDERS, JAMS, AND PRESERVES. FRANCIS H. LEGGETT & COMPANY, New York, N. Y. Filed Sept. 25, 1905.

Premier

The word "PREMIER."

SER. No. 13,013. FARM-TRUCKS OR LOW-WHEEL WAGONS. DEERE & WEBBER CO., Minneapolis, Minn. Filed Sept. 25, 1905.

COMMON SENSE

The words "COMMON SENSE."

SER. No. 13,014. FARM-TRUCKS OR LOW-WHEEL WAGONS. DEERE & WEBBER CO., Minneapolis, Minn. Filed Sept. 25, 1905.

UNIVERSAL

The word "UNIVERSAL."

SER. No. 13,015. FARM-TRUCKS OR LOW-WHEEL WAGONS. DEERE & WEBBER CO., Minneapolis, Minn. Filed Sept. 25, 1905.

HARVEST KING

The words "HARVEST KING."

SER. No. 13,054. COTTON THREAD. THE CLARK MILE-END SPOOL COTTON CO., East Newark, N. J. Filed Sept. 27, 1905. Used ten years.

MILE-END

The designation "MILE-END."

SER. No. 18,045. COAL, COKE, AND CHARCOAL. THE GHEE COMPANY, Ironton, Ohio. Filed Sept. 26, 1905.



Coal Coke, Charcoal.

A representation of his Satanic Majesty holding in his left hand a trident, with the word "RED" above and the word "DEVIL" below the figure, followed by the words "COAL, COKE, CHARCOAL," all painted in red.

SER. No. 13,140. GIN. THE FRANCIS GOWDY DISTILLING CO., Melrose, Conn. Filed Sept. 29, 1905. Used ten years.

THE FRANCIS GOWDY, DISTILLING CO.
SUCCESSORS TO
GOWDY, STILES & CO.
RYE GIN
OLD FASHIONED SOUR MASH
TRIPLE COPPER
DISTILLED
MELROSE, CONN.

The words and abbreviation "THE FRANCIS GOWDY DISTILLING CO.," arranged in a curve above, and the word and abbreviation "MELROSE, CONN.," arranged in a curve below, in connection with the words, character, and abbreviation "SUCCESSORS TO GOWDY, STILES & CO. RYE GIN OLD FASHIONED SOUR MASH TRIPLE COPPER DISTILLED," which are arranged in straight lines.

SER. No. 13,167. DYE-COLORS. W. CUSHING & Co., Foxcroft, Me. Filed Sept. 30, 1905. Used ten years.

PERFECTION

The word "PERFECTION."

SER. No. 13,188. LATHES. PATTERSON, GOTTFRIED & HUNTER, LIMITED, New York, N. Y. Filed Oct. 2, 1905.



A right-angled triangle represented in red.

SER. No. 13,265. CRYSTALLINE SOLUBLE CHEMICAL TO BE USED FOR SOFTENING HARD WATER. JULIUS M. KEIL, Western Springs, Ill. Filed Sept. 28, 1905.

SOFTO

The word "SOFTO."

SER. No. 13,293. WHISKY. RAPHAEL & ZEUGSCHMIDT, Pittsburg, Pa. Filed Oct. 5, 1905. Used ten years.

MOUNT UNION

The words "MOUNT UNION."

SER. No. 13,296. WHISKY. RAPHAEL & ZEUGSCHMIDT, Pittsburg, Pa. Filed Oct. 5, 1905. Used ten years.

TIOGA

The word "TIOGA."

SER. No. 13,328. WHISKY. JOHN POHLMAN & Co., Indianapolis, Ind. Filed Oct. 5, 1905. Used ten years.

ROCKWOOD

The word "ROCKWOOD."

SER. No. 13,329. WHISKY. JOHN POHLMAN & Co., Indianapolis, Ind. Filed Oct. 5, 1905.



The word "ANNEX" on a perpendicular panel-shaped figure.

SER. No. 13,330. WHISKY. JOHN POEHLMAN & Co., Indianapolis, Ind. Filed Oct. 5, 1905. Used ten years.

PATCHEN

The word "PATCHEN," inclosed by a panel-shaped outline.

SER. No. 13,333. WHISKY. GLASNER & BARSEN DISTILLING & IMPORTING Co., Kansas City, Mo. Filed Oct. 5, 1905. Used ten years.

Hand Made Laurel Hill Sour Mash WHISKEY
GLASNER & BARSEN, KANSAS CITY, U.S.A.

The words "LAUREL HILL," associated with the words, character, and abbreviations "HAND MADE SOUR MASH WHISKEY, GLASNER & BARSEN, KANSAS CITY, U. S. A."

SER. No. 13,337. WHISKY. GLASNER & BARSEN DISTILLING & IMPORTING Co., Kansas City, Mo. Filed Oct. 5, 1905.

DIPLOMAT



The word "DIPLOMAT" and a bust picture of John Jay inclosed in a circle.

SER. No. 13,402. DEMULCENTS. LAVADURA CHEMICAL Co., Savannah, Ga. Filed Oct. 7, 1905.



The representation of a sloop-yacht under sail, with the word "LAVADURA" and the phrase "BEATS ANYTHING EVER PUT IN THE WATER" on its sails.

SER. No. 13,411. WHISKY. CHARLES H. ROSS & Co., Baltimore, Md. Filed Oct. 7, 1905. Used ten years.

ROSS' 1846 RYE WHISKEY

The words and numerals "ROSS' 1846 RYE WHISKEY."

SER. No. 13,413. LEATHER BOOTS AND SHOES. JOHN JUSTUS LATTEMANN, New York, N. Y. Filed Oct. 7, 1905.



The fanciful representation of an eagle with wings spread and on the breast of which is represented a shield, with the letter "L" upon the face of the shield.

SER. No. 13,489. ERASERS. EBERHARD FABER, New York, N. Y. Filed Oct. 11, 1905.



The representation of a circumferential band of yellow or gold color contrasting with a darker color on each side thereof and produced upon a metallic band or holder.

SER. No. 13,542. KITCHEN-CABINETS. CHARLES P. MCDOUGALL, Indianapolis, Ind. Filed Oct. 13, 1905.

McDougall

The name "MCDOUGALL," written or printed in square reversed italics, the letter "M" having its terminating portion carried beneath the "c."

SER. No. 13,543. WHISKY. BRAND BROTHERS COMPANY, Chicago, Ill. Filed Oct. 13, 1905.

ALUMNUS

The word "ALUMNUS."

SER. No. 13,649. PRESSED OR BLOWN GLASSWARE. A. H. HEISEY & Co., INC., Newark, Ohio. Filed Oct. 16, 1905.

PLUNGER CUT

The words PLUNGER CUT."

SER. No. 13,760. CHOCOLATE AND COCOA. KNICKERBOCKER CHOCOLATE COMPANY, New York, N. Y. Filed Oct. 19, 1905.



The representation of the historical character Peter Stuyvesant represented as dressed in the garb of the Knickerbockers, with a wooden leg, and with a cane in his right hand and a sheathed sword at his left side, with the words "PETER STUYVESANT" on a curve below the picture

SER. No. 13,775. HYDRAULIC ENGINES AND RAMS. RIFE HYD. ENGINE MFG. CO., New York, N. Y., and Waynesboro, Va. Filed Oct. 19, 1905.

RIFE ENGINE CO.

The words and abbreviation "RIFE ENGINE CO.," arranged in a bent line with the first "N" in the word "ENGINE" expanded at the top to form an ornamental scroll.

SER. No. 13,795. SHARPENING-STONES. THE PIKE MANUFACTURING COMPANY, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Filed Oct. 20, 1905.

QUEER CREEK

The words "QUEER CREEK."

SER. No. 13,796. HONES. THE PIKE MANUFACTURING COMPANY, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Filed Oct. 20, 1905.

EzyEdge

The words "EZY EDGE."

SER. No. 13,809. DRAWING-PAPER. THE KEUFFEL & ESSER COMPANY, Hoboken, N. J. Filed Oct. 21, 1905.

Paragon

The word "PARAGON."

SER. No. 13,833. SHOVELS, SPADES, SCOOPS, AND SPADING-FORKS. SUPPLEE HARDWARE COMPANY, Philadelphia, Pa. Filed Oct. 21, 1905.

SER. No. 13,833.

THE COTTON BELT

The fanciful term "THE COTTON BELT."

SER. No. 13,870. CHOCOLATES. VAN HEUSEN COCOA CO., San Francisco, Cal. Filed Oct. 23, 1905.

Coco-Etts

The hyphenated name "COCO ETTS.

SER. No. 13,940. DIE-STOCKS. THE HART MANUFACTURING CO., Cleveland, Ohio. Filed Oct. 25, 1905. Used ten years.

DUPLEX

The word "DUPLEX."

SER. No. 13,941. METAL SCREWS. BARRETT BROS., Fitchburg, Mass. Filed Oct. 25, 1905.

SAMSON

The word "SAMSON."

SER. No. 13,992. PLASTERS. JOHNSON & JOHNSON, New Brunswick, N. J. Filed Oct. 28, 1905. Used ten years.

CANTHOS

The word "CANTHOS."

SER. No. 13,994. PLASTERS. JOHNSON & JOHNSON, New Brunswick, N. J. Filed Oct. 28, 1905. Used ten years.

ZONAS

The word "ZONAS."

SER. No. 14,008. MEMBRANES. JOHNSON & JOHNSON, New Brunswick, N. J. Filed Oct. 26, 1905.

CARGILE

The word "CARGILE."

SER. No. 14,010. SURGICAL DRESSINGS. JOHNSON & JOHNSON, New Brunswick, N. J. Filed Oct. 26, 1905. Used ten years.

LINTON

The word "LINTON."

SER. No. 14,011. CATHETERS AND BOUGIES. JOHNSON & JOHNSON, New Brunswick, N. J. Filed Oct. 26, 1905. Used ten years.

KINGSTONE

The word "KINGSTONE."

SER. No. 14,024. MIXED DRINKS OF THE CHARACTER OF CLUB HIGH BALLS. JEAN JACQUIER, Waterbury, Conn. Filed Oct. 28, 1905.



The representation of a tray, a cake of ice on the tray, and a fore arm and hand apparently passed through the cake of ice, the hand grasping and holding a bottle on the cake of ice, together with the phrase "IT'S TASTY" produced upon the cake of ice.

SER. No. 14,093. PRINTING-INKS. THE JABNBOER PRINTING INK CO., Newark, N. J. Filed Oct. 30, 1905.

SESQUI

The word "SESQUI."

SER. No. 14,135. BRICKS AND ARTIFICIAL STONE MADE OUT OF SAND AND LIME. THE FLORIDA WHITE PRESSED BRICK COMPANY, Crescent Springs, Fla. Filed Oct. 31, 1905.

XX

The letters "XX."

SER. No. 14,319. SILVER-PLATED HOLLOW WARE. INTERNATIONAL SILVER COMPANY, Meriden, Conn. Filed Nov. 4, 1905. Used ten years.



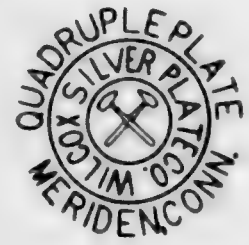
The words and abbreviation "VICTOR SILVER CO. QUADRUPLE PLATE," disposed within a circular band surrounding the fanciful representation of a horse rampant.

SER. No. 14,336. SILVER-PLATED HOLLOW WARE. INTERNATIONAL SILVER COMPANY, Meriden, Conn. Filed Nov. 4, 1905. Used ten years.



The words, character, and abbreviations "MANUFACTURED AND PLATED BY SIMPSON HALL MILLER & CO. U. S. A." inclosed within a circle.

SER. No. 14,339. SILVER-PLATED HOLLOW WARE. INTERNATIONAL SILVER COMPANY, Meriden, Conn. Filed Nov. 4, 1905. Used ten years.



The words and abbreviation "WILCOX SILVER PLATE CO.," disposed within a circular band inclosing the representation of crossed hammers and surrounded by the words and abbreviation "QUADRUPLE PLATE MERIDEN, CONN."

SER. No. 14,340. SILVER-PLATED HOLLOW WARE. INTERNATIONAL SILVER COMPANY, Meriden, Conn. Filed Nov. 4, 1905. Used ten years.



The words and abbreviation "DERBY SILVER CO. QUADRUPLE PLATE," disposed within a circular band surrounding the representation of a crown surmounted by the representation of an anchor.

TRADE-MARKS

REGISTERED DECEMBER 5, 1905.

47,977. LEATHER. W. D. BYRON & SONS, Williamsport, Md.
The word "TANOK" inclosed within a diamond-shaped field.
Filed August 29, 1905. Serial No. 12,073. PUBLISHED OCTOBER 10, 1905.

47,978. INK FOR BURNISHING THE EDGES AND BOTTOMS OF BOOTS AND SHOES. C. L. HAUTHAWAY & SONS, INCORPORATED, Boston, Mass.
The words "HAUTHAWAY'S LYNN BURNISHING INK."
Filed April 29, 1905. Serial No. 3,559. PUBLISHED OCTOBER 10, 1905.

47,979. PREPARED PAINT. DETROIT GRAPHITE MFG. CO., Detroit, Mich.
The letters "D. G. M." with a period after each.
Filed June 19, 1905. Serial No. 8,540. PUBLISHED SEPTEMBER 26, 1905.

47,980. WHISKY. FIGGE DOYLE CO., Milwaukee, Wis.
The word "FOSTER," above which is a monogram composed of the letters and abbreviation "F D Co."
Filed June 8, 1905. Serial No. 7,651. PUBLISHED OCTOBER 10, 1905.

47,981. SODA-WATER AND COMPOUNDS AND EXTRACTS FOR FLAVORING THE SAME. HANCE BROS. & WHITE, Philadelphia, Pa.
The word "RIPE."
Filed May 9, 1905. Serial No. 4,903. PUBLISHED JUNE 27, 1905.

47,982. PAPER FOR ROOFING PURPOSES. HOUSTON BROTHERS COMPANY, Pittsburg, Pa.
The word "NIAGARA," associated with the representation of a waterfall, and behind the waterfall the representation of a flexible strip, like a scroll partially unrolled, so as to extend from one side of the waterfall to the other.
Filed July 24, 1905. Serial No. 10,752. PUBLISHED OCTOBER 10, 1905.

47,983. STOVES RANGES FURNACES OVENS AND HEATING-DRUMS. ERNST H. HUENEFELD, Cincinnati, Ohio.
The word "SUCCESS."
Filed April 5, 1905. Serial No. 406. PUBLISHED MAY 30, 1905.

47,984. PLUG, CUT-PLUG, AND SMOKING TOBACCO. JOSEPH G. DILL, INC., Richmond, Va.
The representation of a woman lightly clad and wearing upon her shoulders a flowing wrap and upon her head a turban, with bared arms raised in the act of crowning with a wreath of flowers a lion that stands before her, the whole being produced in the foreground of a tropical scene comprising mountains, palms, and other foliage, and the word-symbol "LEO," there being also in the foreground the representation of an ornamental vase.
Filed May 1, 1905. Serial No. 3,362. PUBLISHED OCTOBER 10, 1905.

47,985. COCKTAILS. H. ROSENHEIM & SON, Baltimore, Md.
The word "IDEAL" and a monogram composed of the letters and character "H R & S."
Filed June 19, 1905. Serial No. 8,460. PUBLISHED OCTOBER 10, 1905.

47,986. WHISKY. H. ROSENHEIM & SON, Baltimore, Md.
The words "DIAMOND BACK" and the picture of a terrapin inclosed by a diamond-shaped outline surmounted by a scroll.
Filed June 19, 1905. Serial No. 8,462. PUBLISHED OCTOBER 10, 1905.

47,987. WHISKY. STITZEL DISTILLING COMPANY, Louisville, Ky.
The word "MONDAMIN."
Filed May 1, 1905. Serial No. 3,532. PUBLISHED OCTOBER 10, 1905.

47,988. LAGER-BEER. THE CHRISTIAN MOERLEIN BREWING CO., Cincinnati, Ohio.
The letter "M" and the representation of a crown, which surrounds said letter.
Filed May 18, 1905. Serial No. 5,957. PUBLISHED OCTOBER 10, 1905.

47,989. WHISKY. THE JOHN ELLWANGER CO., Dubuque, Iowa.
The words "SADDLE BAG" and a monogram composed of the letters and abbreviation "T J E Co" inclosed in a double circle.
Filed April 21, 1905. Serial No. 2,593. PUBLISHED JUNE 13, 1905.

47,990. LEVER-VALVES. THE LUNKENHEIMER COMPANY, Cincinnati, Ohio.
The word "HANDY."
Filed July 26, 1905. Serial No. 10,797. PUBLISHED OCTOBER 10, 1905.

47,991. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.
A design showing at the bottom a dark ace of spades, upon which are shown two young birds, a bow, and a quiver surrounded by sprays of leaves. In each lower corner is a conventional background of leaves. On the right side is shown a musical instrument resembling a double trumpet, and above that, in the upper right-hand corner, is a male figure seated on a bank holding in his left arm a mandolin. In corresponding position on the left side, seated on a bank above a basket, is a young shepherdess. At the top of the design in the center, between the heads of the two figures, is a crown.
Filed May 11, 1905. Serial No. 5,009. PUBLISHED OCTOBER 10, 1905.

47,992. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.
The words "THE NILE."
Filed April 15, 1905. Serial No. 1,567. PUBLISHED OCTOBER 10, 1905.

47,993. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.
The word "MYSTIC."
Filed April 15, 1905. Serial No. 1,598. PUBLISHED OCTOBER 10, 1905.

47,994. WHISKY. THE WEIDEMAN COMPANY, Cleveland, Ohio.
The word "TYRONE" and a monogram composed of the letters and abbreviation "T W Co" surrounded by an ornamental border.
Filed April 26, 1905. Serial No. 3,046. PUBLISHED JUNE 13, 1905.

47,995. SMOKING-TOBACCO. THREEFOOT BROS. & Co., Meridian, Miss.
The hyphenated word "Hoo-Hoo."
Filed June 19, 1905. Serial No. 8,522. PUBLISHED OCTOBER 10, 1905.

47,996. WHISKY. WHITE, HENTZ & Co., Philadelphia, Pa.
The facsimile signature "WHITE, HENTZ & Co."
Filed May 22, 1905. Serial No. 6,314. PUBLISHED OCTOBER 10, 1905.

47,997. WHISKY. JOHN P. WINAND, Baltimore, Md.
The words "WALTERS BAKER'S."
Filed April 28, 1905. Serial No. 3,481. PUBLISHED JUNE 20, 1905.

47,998. WHISKY. RUDOLPH WOLFSON, Kansas City, Mo.
The word "STARBRIGHT" and the picture of a little girl holding a wand in her hand standing on a crescent moon and surrounded by stars.
Filed April 28, 1905. Serial No. 3,147. PUBLISHED OCTOBER 10, 1905.

47,999. WHISKY. WRIGHT & TAYLOR, Louisville, Ky.
The word "REDWOOD."
Filed April 28, 1905. Serial No. 3,338. PUBLISHED JUNE 20, 1905.

48,000. LADIES' LEATHER BOOTS AND SHOES. A. H. BERRY SHOE COMPANY, Portland, Me.
The word "DEBUTANTE."
Filed May 20, 1905. Serial No. 6,171. PUBLISHED OCTOBER 10, 1905.

48,001. CHEWING-GUM. AMERICAN CHICLE CO., New York, N. Y.
The words "WHITE'S RED ROBIN."
Filed June 15, 1905. Serial No. 8,148. PUBLISHED OCTOBER 10, 1905.

48,002. CHEWING-GUM. AMERICAN CHICLE CO., New York, N. Y.
The words "ADAMS' PEPSIN TUTTI-FRUTTI."
Filed June 15, 1905. Serial No. 8,154. PUBLISHED OCTOBER 10, 1905.

48,003. TARRED FELT. BOISE GAS LIGHT COMPANY, LIMITED, Boise, Idaho.
The representation of an anvil, with the letter "V" appearing upon the front of the anvil, and the words "VULCAN BRAND."
Filed August 7, 1905. Serial No. 11,408. PUBLISHED OCTOBER 10, 1905.

48,004. VARNISHES AND SHELLACS. EMIL CALMAN & Co., New York, N. Y.
The name "FLAT-LAC" inclosed in an irregular zigzag border.
Filed April 18, 1905. Serial No. 2,108. PUBLISHED OCTOBER 10, 1905.

48,005. CHEWING-GUM. FRANK H. FLEER AND COMPANY, Philadelphia, Pa.
The word "CHICLETS."
Filed June 28, 1905. Serial No. 9,340. PUBLISHED OCTOBER 10, 1905.

48,006. PREPARATION FOR WASHING AND REMOVING GREASE-STAINS. JOSEPH A. GINGRAS, Providence, R. I.
The hyphenated word "CO-LO-NA."
Filed July 24, 1905. Serial No. 10,760. PUBLISHED OCTOBER 10, 1905.

48,007. RUBBER BOOTS. GOODYEAR RUBBER COMPANY, New York, N. Y.
The representation of a man and the stern portion of a boat. The man is shown as wearing hip-boots and a fisherman's hat and as pushing the boat from the shore into the water. Upon the stern of the boat are the words "LONG SHORE." Projecting from the boat is an oar. In the background are clouds and birds, and upon the horizon appears a sailboat. The whole is inclosed in a circular border, and associated with said representation are the words "LONG SHORE."
Filed May 17, 1905. Serial No. 5,911. PUBLISHED OCTOBER 10, 1905.

48,008. WHISKY. H. GROVES SONS, Madison, Wis.
The words "MENDOTA CLUB."
Filed June 15, 1905. Serial No. 8,225. PUBLISHED OCTOBER 10, 1905.

48,009. HARNESS AND PARTS THEREOF, SADDLES, COLLARS, AND HARNESS-LEATHER. LOVAN SADDLERY CO., Springfield, Mo.
The letter "N," upon the middle bar of which a cupid rests, surrounded by the words "LOVAN SADDLERY COMPANY, SPRINGFIELD MISSOURI," the whole being inclosed in circles.
Filed June 15, 1905. Serial No. 8,269. PUBLISHED OCTOBER 10, 1905.

48,010. UPRIGHT PIANOS. PAUL G. MERLIN & SONS, New York, N. Y.
The words "INVERTED GRAND."
Filed April 27, 1905. Serial No. 3,277. PUBLISHED AUGUST 8, 1905.

48,011. WHISKY. ISAAC MERKEL & SONS, Plattsburg, N. Y.
The words and letters "CLINTON COUNTY CLUB" "C C C," with a facsimile of the signature of Isaac Merkel across said letters.
Filed May 13, 1905. Serial No. 5,538. PUBLISHED SEPTEMBER 26, 1905.

48,012. CANDIES. MENGO L. MORGENTHAU, New York, N. Y.
The words "GRAIN CRISP" inclosed in a circular figure formed of grains or kernels.
Filed May 18, 1905. Serial No. 5,949. PUBLISHED OCTOBER 10 1905.

48,013. GIN. NATIONAL DISTILLING CO., Milwaukee, Wis.
The word "MISTLETOE" in a circular band, in the center of which is the picture of a cat's head and a spray of mistletoe and above and below a mistletoe design.
Filed May 25, 1905. Serial No. 6,609. PUBLISHED OCTOBER 10, 1905.

48,014. WHISKY. ROSENFIELD BROS. & CO., Chicago, Ill.
The word "GLADSTONE."
Filed June 19, 1905. Serial No. 8,455. PUBLISHED OCTOBER 10, 1905.

48,015. WATCHES AND PARTS THEREOF. ADOLPHE SCHWOB, New York, N. Y.
The word "ALPINE."
Filed July 12, 1905. Serial No. 10,169. PUBLISHED OCTOBER 10, 1905.

48,016. WATCHES AND PARTS THEREOF. ADOLPHE SCHWOB, New York, N. Y.
The word "CENTAUR."
Filed July 12, 1905. Serial No. 10,171. PUBLISHED OCTOBER 10, 1905.

48,017. CHEWING-GUM. SEYDEL GUM CO., St. Louis, Mo.
The words "INDIAN PEACH," associated with the representation of a peach, upon which appears an Indian's head.
Filed April 20, 1905. Serial No. 2,477. PUBLISHED OCTOBER 10 1905.

48,018. CIGARS. S. S. PIERCE CO., Boston, Mass.
The words "EL ROBLE" upon a panel, together with a picture of the head and shoulders of a man carrying a club on one shoulder, with an oak branch encircling the picture and oak branches on either side.
Filed June 5, 1905. Serial No. 7,307. PUBLISHED OCTOBER 10, 1905.

48,019. WHISKY. STITZEL DISTILLING COMPANY, Louisville, Ky.
The representation of a partially-shucked ear of corn, upon which appears the word "MONDAMIN," preceded by a representation of the head of an Indian in profile and followed by the words "THE FRIEND OF MAN" inclosed within a circular border.
Filed May 1, 1905. Serial No. 3,834. PUBLISHED OCTOBER 10, 1905.

48,020. NURSERY-GROWN PEACH-TREES. THE ALBAUGH NURSERY AND ORCHARD CO., Phoneton, Ohio.
The words "THE DIAMOND" in connection with the cut or figure of a diamond, in which appears the representation of a peach.
Filed May 17, 1905. Serial No. 5,890. PUBLISHED OCTOBER 10, 1905.

48,021. LEATHER BOOTS, SHOES, AND SLIPPERS. THE C. M. CLAPP CO., Buffalo, N. Y.
The word "NATURITE."
Filed May 15, 1905. Serial No. 5,743. PUBLISHED OCTOBER 10, 1905.

48,022. WATERPROOFED TEXTILE BELTING. THE NATIONAL BELTING COMPANY, Lawrence, Mass.
The word "TEXTOL."
Filed September 5, 1905. Serial No. 12,235. PUBLISHED OCTOBER 10, 1905.

48,023. COMPOUND SHEETS OF WOOD MADE OF SEVERAL THIN LAYERS UNITED BY A WATERPROOF COMPOSITION AND BOXES MADE THEREFROM. VENESTA LIMITED, London, England.
The word "VENESTA."

Filed May 15, 1905. Serial No. 5,089. PUBLISHED OCTOBER 10, 1905.

48,024. WHISKY. WRIGHT & TAYLOR, Louisville, Ky.

The word "KENTWOOD."

Filed April 28, 1905. Serial No. 3,344. PUBLISHED JUNE 20, 1905.

48,025. WIRE NAILS. CHARLES F. BAKER & Co., Boston, Mass.

The words "HOLD FAST," accompanied by the representation of two nails, each with its point recurved and interlocked with the recurved point of the other nail.

Filed May 24, 1905. Serial No. 6,456. PUBLISHED OCTOBER 10, 1905.

48,026. DEVICES FOR SECURING DRAWERS TO TROUSERS. CATCH ON CLASP MFG. Co., Baltimore, Md.

The word "LOOPDELOOP."

Filed June 6, 1905. Serial No. 7,522. PUBLISHED AUGUST 15, 1905.

48,027. TROUSERS. DUTCHESS MANUFACTURING Co., Poughkeepsie, N. Y.

The words "DUTCHESS TROUSERS" arranged within a rectangular figure.

Filed April 27, 1905. Serial No. 3,215. PUBLISHED AUGUST 22, 1905.

48,028. SEWING-MACHINES AND PARTS THEREOF. ILLINOIS SEWING MACHINE COMPANY, Rockford and Chicago, Ill.

The word "KANTAUK."

Filed May 27, 1905. Serial No. 6,761. PUBLISHED OCTOBER 10, 1905.

48,029. STRINGS FOR PIANOFORTES. RUDOLPH C. KOCH, New York, N. Y.

The representation of a bundle of covered piano-strings forming a broken circle, within which is a string-covering machine, and associated with the words "THE REINWARTH" arranged across the bundle, the word "REINWARTH" inclosed in quotation-marks and with a paraph extending from the letter "R" of the said word.

Filed April 24, 1905. Serial No. 2,829. PUBLISHED OCTOBER 10, 1905.

48,030. GLASS FRUIT-JARS. ALBERT G. SMALLEY, Boston, Mass.

The word "ROYAL."

Filed June 3, 1905. Serial No. 7,374. PUBLISHED OCTOBER 10, 1905.

48,031. BLOTTING-PAPER. STANDARD PAPER MFG. Co., Manchester, Va.

The words "ROYAL WORCESTER."

Filed September 5, 1905. Serial No. 12,224. PUBLISHED OCTOBER 10, 1905.

48,032. SPRINGWORK AND WIRE-SPRING SUPPORTS FOR CHAIRS, SOFAS, BEDS, AND CARRIAGE-SEATS. STAPLES & HANFORD Co., Newburgh, N. Y.

The word "SPRINGLOCK."

Filed May 25, 1905. Serial No. 6,620. PUBLISHED OCTOBER 10, 1905.

48,033. COMPOSITION INKING-ROLLERS. THE B. F. GOODRICH COMPANY, Akron, Ohio.

Two figures or symbols reversely arranged, that on the right being a letter "R" with a loop projecting from the vertical stem and forming a reversed "P," and that on the left being a "P" with lines projecting from the stem, forming a reversed "R." Between these two symbols is a rectangular figure bearing the word "ROLLER" and having a projection at each end, and above the rectangular figure is the word "RHODES."

Filed May 10, 1905. Serial No. 4,935. PUBLISHED OCTOBER 10 1905.

48,034. WIRE-CLOTH. THE GILBERT & BENNETT MANUFACTURING COMPANY, Georgetown, Conn.

Two strands of copper wire woven in the selvage of wire-cloth.

Filed May 18, 1905. Serial No. 5,931. PUBLISHED OCTOBER 10, 1905.

48,035. WIRE-NETTING FOR FENCING PURPOSES. THE GILBERT & BENNETT MANUFACTURING COMPANY, Georgetown, Conn.

The word "COTTAGE" inclosed within quotation-marks.

Filed May 18, 1905. Serial No. 5,933. PUBLISHED OCTOBER 10, 1905.

48,036. TABLE UTENSILS MADE OF STERLING SILVER. THE NEVIUS COMPANY, New York, N. Y.

The representation of an hour-glass, above which appears the letter "N," and at the upper corners of which, on both sides of the letter "N," is shown scrollwork.

Filed April 27, 1905. Serial No. 3,316. PUBLISHED OCTOBER 10, 1905.

48,037. ROPE, CORD, AND TWINE. THE SCHLICHTER JUTE CORDAGE Co., Philadelphia, Pa.

The representation of a keystone with the letter "S" displayed upon the same.

Filed June 10, 1905. Serial No. 7,864. PUBLISHED OCTOBER 10, 1905.

48,038. SEWING-MACHINES AND PARTS THEREOF. UNION SPECIAL MACHINE COMPANY, Chicago, Ill.

The representation of two padlocks, with a link or staple uniting the loops.

Filed April 3, 1905. Serial No. 240. PUBLISHED OCTOBER 10, 1905.

48,039. LININGS AND FOUNDATIONS. ANDREW MCLEAN Co., Passaic, N. J., and New York, N. Y.

The figure of a knight on horseback waving aloft a standard, the figure resting upon an ornamental pedestal, on which are inscribed the words "THE VICTOR," the whole being surrounded by an ornamental border in oak-leaf design.

Filed May 24, 1905. Serial No. 6,535. PUBLISHED OCTOBER 10, 1905.

48,040. CORSETS. BAY STATE CORSET Co., Springfield, Mass.

The letter "X" and the word "RAY" connected by a hyphen

Filed April 26, 1905. Serial No. 3,084. PUBLISHED SEPTEMBER 12, 1905.

48,041. HATS. BOOGHER, FORCE & GOODBAR HAT COMPANY, St. Louis, Mo.

The word "THOROUGHBRED."

Filed May 8, 1905. Serial No. 4,772. PUBLISHED OCTOBER 10, 1905.

48,042. KNITTED UNDERWEAR. GLASTONBURY KNITTING COMPANY, Addison, Conn.

The representation of an eight-sided figure.

Filed April 28, 1905. Serial No. 3,426. PUBLISHED OCTOBER 10, 1905.

48,043. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass.

The representation of a fanciful bird known as the "Chinese phenix," the bird being represented in the act of flying, the body and a portion of the wings being in heavy perforated construction and the head, neck, and legs in solid skeleton formation, and also sundry of the breast and tail feathers, the other feathers being shown with shadow effect.

Filed May 10, 1905. Serial No. 4,972. PUBLISHED OCTOBER 10, 1905.

48,044. MEN'S HATS AND CAPS. ALFRED MATTHEWS, St. Louis, Mo.

The words "MATTHEWS WANTS YOUR HEAD" in white lettering upon a dark rectangle.

Filed June 26, 1905. Serial No. 9,090. PUBLISHED OCTOBER 10, 1905.

48,045. COTTON DUCK. MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md.

The word "ARETAS" in conjunction with the representation of a hand with rays radiating therefrom, intended to represent a clenched fist holding a bolt of lightning.

Filed May 18, 1905. Serial No. 5,985. PUBLISHED OCTOBER 10, 1905.

48,046. HATS AND CAPS. SAMUEL MUNDHEIM COMPANY, New York, N. Y.

The word "IMPERIAL," associated with a scroll and bars upon an oblong fanciful panel surmounted by a crown and wreath.

Filed April 28, 1905. Serial No. 3,486. PUBLISHED OCTOBER 10, 1905.

48,047. CARPETS. THE HARTFORD CARPET CORPORATION, Thompsonville, Conn.

The word "PERA."

Filed May 20, 1905. Serial No. 6,940. PUBLISHED OCTOBER 10, 1905.

48,048. COTTON DRILLS. WELLINGTON, SEARS & Co., Boston, Mass.

The representation of a shield bearing a pair of wings and several stars.

Filed April 28, 1905. Serial No. 3,183. PUBLISHED OCTOBER 10, 1905.

48,049. INKSTAND. FRANK M. ASHLEY, New York, N. Y.

The word "CAPITOL."

Filed June 16, 1905. Serial No. 8,327. PUBLISHED AUGUST 8, 1905.

48,050. PREPARED MINCE-MEAT. BROWNELL & FIELD COMPANY, Providence, R. I.

The word "AUTOCRAT."

Filed July 17, 1905. Serial No. 10,426. PUBLISHED OCTOBER 10, 1905.

48,051. MOLASSES. P. DUFF & SONS, Pittsburg, Pa.

The representation of a Southern scene showing a number of palm-trees, a rude cabin on the right, in the foreground a kettle over a fire, a colored boy on his knees in front thereof, a colored woman behind the same, on the left a colored man holding a child by the hand, and on the right a colored woman with a child in her arms, the scene being inclosed in an oval border with a scroll at the top, and palm-trees outside of the border at both sides.

Filed July 14, 1905. Serial No. 10,287. PUBLISHED OCTOBER 10,1905.

48,052. JELLIES, JAMS, AND PRESERVES. FRANCIS H. LEGGETT & COMPANY, New York, N. Y.

The word "EMPRESS."

Filed July 29, 1905. Serial No. 10,996. PUBLISHED OCTOBER 10, 1905.

48,053. COSMETIC. HATTIE WENTWORTH FRISBY, Taunton, Mass.

The words "MAY CREAM."

Filed May 8, 1905. Serial No. 4,746. PUBLISHED OCTOBER 10, 1905.

48,054. TOOTHACHE REMEDY. HUGH MCGONNELL, New York, N. Y.

The representation of a bird held in a partly-closed hand.

Filed April 27, 1905. Serial No. 3,274. PUBLISHED OCTOBER 10, 1905.

48,055. LOTIONS FOR EXTERNAL APPLICATION. FRED N. NAGEL, Bryant, Iowa.

The representation of two clasped hands.

Filed April 8, 1905. Serial No. 845. PUBLISHED OCTOBER 10, 1905.

48,056. FIRE-EXTINGUISHERS. EDWARD G. PARKER, Harlan, Iowa.

The representation of a fireman's hat.

Filed June 14, 1905. Serial No. 8,380. PUBLISHED OCTOBER 10, 1905.

48,057. WHEAT-FLOUR. PITTSBURGH MILLING CO., Pittsburg and Allegheny, Pa.

The words "WEDDING CAKE."

Filed June 5, 1905. Serial No. 7,495. PUBLISHED OCTOBER 10, 1905.

48,058. CANNED FISH. SIEGEL, COOPER & Co., Chicago, Ill.

The word "HAZEL" and a design showing hazel-leaves and hazel-nuts.

Filed May 13, 1905. Serial No. 5,432. PUBLISHED OCTOBER 10, 1905.

48,059. CANNED VEGETABLES. SIEGEL, COOPER & Co., Chicago, Ill.

The word "HAZEL" and a design showing hazel-leaves and hazel-nuts.

Filed May 13, 1905. Serial No. 5,433. PUBLISHED OCTOBER 10, 1905.

48,060. SYRUPS AND MOLASSES. STEUART KNATZ & Co., Baltimore, Md.

The words "GOLDEN CROWN," associated with the representation of a crown having rays radiating therefrom.

Filed April 25, 1905. Serial No. 2,960. PUBLISHED OCTOBER 10, 1905.

48,061. WHEAT-FLOUR. STRASBURG STEAM FLOURING MILLS, Strasburg, Va.

The word "ACME."

Filed July 17, 1905. Serial No. 10,462. PUBLISHED OCTOBER 10, 1905.

48,062. MEDICINAL TABLETS. THE ANTIKAMNIA CHEMICAL COMPANY, St. Louis, Mo.

The letters "A K Q" arranged in the form of a monogram.

Filed April 18, 1905. Serial No. 2,096. PUBLISHED SEPTEMBER 5, 1905.

48,063. MEDICINAL TABLETS. THE ANTIKAMNIA CHEMICAL COMPANY, St. Louis, Mo.

The letters "A K S" arranged in the form of a monogram.

Filed April 18, 1905. Serial No. 2,097. PUBLISHED SEPTEMBER 5, 1905.

48,064. MEDICINAL TABLETS. THE ANTIKAMNIA CHEMICAL COMPANY, St. Louis, Mo.

The letters "A K C" arranged in the form of a monogram.

Filed April 18, 1905. Serial No. 2,098. PUBLISHED SEPTEMBER 5, 1905.

48,065. ROLLED OATS AND OATMEAL. THE GREAT WESTERN CEREAL CO., Chicago, Ill.

The word "FRIENDS'."

Filed July 24, 1905. Serial No. 10,738. PUBLISHED OCTOBER 10, 1905.

48,066. DISTILLERS' DRIED GRAINS. THE J. W. BILES CO., Cincinnati, Ohio.

The words "FOUREX GRAINS" printed in plain block letters.

Filed July 24, 1905. Serial No. 10,730. PUBLISHED OCTOBER 10, 1905.

48,067. LAUNDRY STARCH. THE MILLCREEK VALLEY STARCH CO., Cincinnati, Ohio.

The word "DIRIGO," represented as painted on a rock on a somewhat barren hillside with a few tropical trees in the distance, and the figure of a military officer in the foreground looking rearward and advancing up the hill with arms and sword extended upward toward the rock.

Filed July 17, 1905. Serial No. 11,085. PUBLISHED OCTOBER 10, 1905.

48,068. BIRD-FOOD. ASCHENBACH & MILLER, Philadelphia, Pa.

The words "BIRD MANNA," associated with which is a circle inclosing said words and the representations of bands with in-turned ends extending from said circle.

Filed July 8, 1905. Serial No. 9,930. PUBLISHED OCTOBER 10, 1905.

48,069. TEA. BROWNELL & FIELD COMPANY, Providence, R. I.

The word "AUTOCRAT."

Filed July 17, 1905. Serial No. 10,425. PUBLISHED OCTOBER 10, 1905.

48,070. HATS, CAPS, AND BONNETS. COLLINS & FAIRBANKS COMPANY, Boston, Mass.

A representation of the globe surrounded on either side by clouds and having on top a hat.

Filed April 24, 1905. Serial No. 2,877. PUBLISHED SEPTEMBER 19, 1905.

48,071. CANNED CORN. CHARLES S. CRARY, Hoopeston, Ill.

A central quadrilateral field of solid color with lozenge-shaped fields above and below in a contrasting color and similar figures of irregular outline upon opposite sides of the fields, each bearing thereon the pictorial representation of an ear of corn and of a field with trees in the distance.

Filed June 3, 1905. Serial No. 7,351. PUBLISHED OCTOBER 10, 1905.

48,072. SALT. DIAMOND CRYSTAL SALT CO., St. Clair, Mich.

The word "SHAKER."

Filed May 27, 1905. Serial No. 6,786. PUBLISHED OCTOBER 10, 1905.

48,073. MOLASSES. P. DUFF & SONS, Pittsburg, Pa.

The word "PALMETTO."

Filed July 14, 1905. Serial No. 10,288. PUBLISHED OCTOBER 10, 1905.

48,074. CANNED MEATS. FRANCIS H. LEGGETT & COMPANY, New York, N. Y.

The word "PREMIER."

Filed June 19, 1905. Serial No. 8,498. PUBLISHED OCTOBER 10, 1905.

48,075. WHEAT-FLOUR. LEWIS M. PASCHALL, Minneapolis, Minn.

The representation of a brand composed of two concentric circles. Within the inner is the word "PRISCILLA," with the word

"MINNESOTA" above and "FLOUR" beneath. Between the peripheries of the two circles are the words "PRISCILLA, THE PURITAN MAIDEN, THE FLOWER OF NEW ENGLAND."

Filed August 18, 1905. Serial No. 11,769. PUBLISHED OCTOBER 10, 1905.

48,076. INCANDESCENT LAMPS. PETTINGELL-ANDREWS COMPANY, Boston, Mass.

The letters "O. K."

Filed June 24, 1905. Serial No. 8,985. PUBLISHED AUGUST 22, 1905.

48,077. BAKING-POWDER. ROYAL BAKING POWDER COMPANY, New York, N. Y.

The word "ROYAL."

Filed July 31, 1905. Serial No. 11,054. PUBLISHED OCTOBER 10, 1905.

48,078. TEA. SHERMAN BROTHERS AND COMPANY, Chicago, Ill.

The words "NEW MOON" above the pictorial representation of a new moon located in the starry clouds or firmament.

Filed April 20, 1905. Serial No. 2,329. PUBLISHED JULY 4, 1905.

48,079. DRIED, SMOKED, PICKLED, SALTED, AND CANNED FISH. WILLIAM T. SHUTE, Gloucester, Mass.

The words "SWANS DOWN."

Filed May 3, 1905. Serial No. 4,075. PUBLISHED OCTOBER 10, 1905.

48,080. DRIED, SMOKED, PICKLED, SALTED, AND CANNED FISH. WILLIAM T. SHUTE, Gloucester, Mass.

The words "RED CROSS," associated with the representation of a Maltese cross inclosed in a shield-shaped border.

Filed May 3, 1905. Serial No. 4,080. PUBLISHED OCTOBER 10, 1905.

48,081. SPICES OF ALL VARIETIES. WILLIAM R. SIBLEY, Freeport, Ill.

The word "EMPEROR."

Filed August 28, 1905. Serial No. 12,049. PUBLISHED OCTOBER 10, 1905.

48,082. CANNED FRUITS. SIEGEL COOPER & Co., Chicago, Ill.

The word "HAZEL" and a design showing hazel-leaves and hazel-nuts.

Filed May 13, 1905. Serial No. 5,436. PUBLISHED OCTOBER 10, 1905.

48,083. ZWIEBACK. PAUL J. STERN, Milwaukee, Wis.

The representation of a rectangular figure having a line extending from one angle thereof to its diagonally opposite angle, said line dividing the rectangle into two right-angle triangles, one of said triangles being printed in one color and the other in a different color, said contrasted colors being also different from the color of the rectangular subdivided figure. The entire rectangular figure is also inclosed by an outer rectangular border. One half of this border or the portion thereof which incloses one of the triangles is of one color and the remaining one half or the portion thereof which incloses the other triangle is of another color, both of said colors being different from the colors of the triangles which they respectively incloses and being also different from the color of the inner subdivided rectangular border.

Filed April 10, 1905. Serial No. 1,026. PUBLISHED OCTOBER 10, 1905.

48,084. DRIED BEANS. THE ALBERT DICKINSON COMPANY, Chicago, Ill.

The representation of a globe.

Filed July 24, 1905. Serial No. 10,726. PUBLISHED OCTOBER 10, 1905.

48,085. WITHDRAWN.

LABELS

REGISTERED DECEMBER 5, 1905.

12,522.—*Title:* "HORLACHER." (For Beer.) FRED H. HORLACHER, Allentown, Pa. Filed October 28, 1905.

12,523.—*Title:* "LA ALBULA." (For Cigars.) A. C. HENSCHEL & Co., Chicago, Ill. Filed October 23, 1905.

12,524.—*Title:* "POMO-FERRUM." (For Medicine.) FRANK C. REIONTER, Chicago, Ill. Filed November 6, 1905.

12,525.—*Title:* "DR. PIERRE'S SANGUI-NEURO." (For Medicine.) JOSEPH J. BRIN, Chicago, Ill. Filed November 10, 1905.

12,526.—*Title:* "DR. PIERRE'S LIVRO-TONE." (For Medicine.) JOSEPH J. BRIN, Chicago, Ill. Filed November 10, 1905.

12,527.—*Title:* "COLD AND GRIP CURE NO. 4." (For Medicine.) WM. P. POYTHRESS & Co., Richmond, Va. Filed July 10, 1905.

12,528.—*Title:* "ROUSER." (For Medicine.) WILLIAM FECHTELER, Kansas City, Mo. Filed October 9, 1905.

12,529.—*Title:* "G. L. G." (For Medicine.) CURTISS MANUFACTURING Co., Denver, Colo. Filed November 4, 1905.

12,530.—*Title:* "REITZERINE." (For a Toilet Preparation.) DR. J. B. REITS MEDICINE Co., Chicago, Ill. Filed May 22, 1905.

12,531.—*Title:* "DR. DICK'S MALTED POULTRY FOOD." (For Poultry-Food.) DR. DICK'S MALTED STOCK FOOD Co., Davenport, Iowa. Filed November 6, 1905.

12,532.—*Title:* "LESLIE'S VERMONT SYRUP, ROCK MAPLE BRAND." (For Syrup.) LESLIE, DUNHAM & Co. New York, N. Y. Filed October 18, 1905.

12,533.—*Title:* "McLEOD'S HIGHLAND CLUB CHEESE." (For Club Cheese. McLEOD & ORMSBEE, Utica, N. Y. Filed November 7, 1905.

12,534.—*Title:* "SAPOROSO." (For Bologna.) C. MASPERO, New York, N. Y. Filed November 7, 1905.

12,535.—*Title:* "CUROSO." (For Ointment.) MARY P. E. SALTZMAN, Des Moines, Iowa. Filed November 10, 1905.

12,536.—*Title:* "X RAY LINIMENT." (For Liniment.) ROBERT HELLER, Chicago, Ill. Filed November 3, 1905.

12,537.—*Title:* "PALMETTO THE PAINT FOR THE SOUTH." (For Paints, Stains, and Tinting Colors.) PALMETTO PAINT M'F'G Co., Columbia, S. C. Filed November 8, 1905.

12,538.—*Title:* "ELECTRIC LUMP." (For Coal.) JAMES C. McGREW, Lexington, Mo. Filed November 6, 1905.

PRINTS

REGISTERED DECEMBER 5, 1905.

1,503.—*Title:* "CASTORIA." (For Medicine.) THE CENTAUR COMPANY, New York, N. Y. Filed November 4, 1905.

1,504.—*Title:* "THE RIGHT FLOUR." (For Flour.) WASHBURN-CROSBY COMPANY, Minneapolis, Minn. Filed November 6, 1905.

1,505.—*Title:* "BEAVER'S BLUE RIBBON BRAND GRAHAM FLOUR." (For Flour.) L. A. BEAVER Co., Davenport, Iowa. Filed November 10, 1905.

1,506.—*Title:* "PEERLESS STOCK FOOD." (For Stock-Food.) THE PEERLESS STOCK FOOD Co., Lancaster, Ohio. Filed October 30, 1905.

1,507.—*Title:* "MILROSE." (For Underwear.) JOSEPH W. NORTH & SON, Elizabeth, N. J. Filed August 22, 1905.

1,508.—*Title:* "MILROSE." (For Underwear.) JOSEPH W. NORTH & SON, Elizabeth, N. J. Filed August 22, 1905.

1,509.—*Title:* "HOP SCOTCH." (For Games.) GAMALIEL BARTLETT THOMPSON, Boston, Mass. Filed October 7, 1905.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

NEWELL v. CLIFFORD v. ROSE.

Decided November 15, 1905.

INTERFERENCE—REFERENCE UNDER RULE 126—CONSIDERATION OF MERITS OF AN APPLICATION NOT POSTPONED ON ACCOUNT OF POSSIBLE ERRONEOUS DECISION ON PRIORITY.

Where an interference is before the Primary Examiner upon reference under Rule 126 after decision on priority by Examiner of Interferences to consider the patentability of the issue to the unsuccessful party aside from the question of priority and it is sought to prevent decision by the Primary Examiner on the ground that dissolution of interference at this time will prevent appeal on priority and may result in the issue of a patent to one not the original inventor, *Held* that the right of the unsuccessful party to further oppose the grant of a patent to the successful party depends upon the validity of the standing of the former as an applicant entitled to patent in the event of final decision on priority in his favor and that the order sending the case to the Primary Examiner should not be revoked.

ON PETITION.

WATER-COOLERS.

Mr. A. S. Pattison for Newell.

Messrs. Griffin, Bernhard & Cavanagh and *Messrs. Griffin & Bernhard* for Clifford.

Mr. Willis Fowler and *Mr. John C. Pennie* for Rose.

ALLEN, *Commissioner:*

This is a petition by Rose requesting revocation of the order issued in this interference on October 6, 1905, remanding the case to the Primary Examiner for consideration of the patentability of the issue to Rose.

Rose is involved in the interference upon an application for reissue. The Examiner of Interferences rendered a decision awarding priority of invention to Clifford. He called attention in his decision to matters aside from priority of invention which, in his opinion, show that a patent to Rose upon his reissue application is barred. The interference is now before the Primary Examiner upon reference under Rule 126 for decision upon these matters. The Primary Examiner has fixed a time for hearing the parties and notified them thereof. The object of the present petition is to prevent decision by the Office upon the merits of Rose's application until after final determination of the question of priority of invention upon appeal from the decision of the Examiner of Interferences.

Hearing upon the petition and stay of proceedings pending decision thereon are requested. The importance of this petition is not sufficient to justify a hearing and the attendant delay. These requests must therefore be denied.

The petition sets forth the reasons why the petitioner thinks that the merits of the Rose application should not be passed upon at this time. The reasons given, however, are not convincing. The petition points out that an adverse decision by the Primary Examiner at this time upon the merits of the Rose application if affirmed on final appeal would result in dissolution of the interference and prevent appeal by Rose from the decision of the Examiner of Interferences awarding priority of invention to Clifford. In such event it might be that a patent would issue to Clifford for matter of which, if appeal were taken, Rose might be found to have been the prior inventor. It is not to be assumed, however, that the decision of the Examiner of Interferences is in error until it has been so decided upon appeal. Until such decision upon the appeal is rendered the presumption is that the decision already rendered is correct.

Clifford, after full consideration of the case, has been regularly adjudged the prior inventor of the matter in issue, and the question now before the Office is whether, in view of the matters to which attention has been called, Rose has such standing as will entitle him to appear and be heard in further opposition of the grant of a patent to Clifford. The principle is well established that members of the general public as such are not entitled to contest before the tribunals of this Office the rights of applicants to the grant of patents upon their supposed inventions. The statute provides for such contests between rival applicants and between patentees and applicants for the same invention, and Rose has been permitted thus far to contest the question of priority with Clifford and Newell upon the strength of his supposed position as an applicant entitled to patent upon the matter in issue in the event of his overcoming his opponents upon priority. If Rose is not, in fact, entitled to this standing, he has no more right to be heard against his opponents than has any member of the general public. I am convinced that the only proper course is to pass upon the validity of Rose's claims to reissue, in view of the matters to which attention has been called, without waiting for further proceedings upon the question of priority. This course is provided for by the rules of practice, and the court of appeals has clearly signified that it should be followed. (*Oliver* v. *Felbel*, 20 D. C. App., 255; 100 O. G., 2384.)

The petition is denied.

EX PARTE PERSON.

Decided November 22, 1905.

DRAWINGS—ILLUSTRATION IN ACCORDANCE WITH "CHART FOR DRAFTSMEN."

Where the invention relates to a non-refillable bottle and the specification does not state of what material the bottle is made, *Held* that applicant should not be required to amend the draw-

ings so as to show the bottle as constructed of glass, in accordance with the suggestions found in the "Chart for Draftsmen" in the Rules of Practice.

ON PETITION.

NON-REFILLABLE BOTTLES.

Mr. William Zimmerman for the applicant.

ALLEN, *Commissioner:*

This is a petition from a decision of the Primary Examiner raising certain objections to the original drawings and to a proposed additional view and requiring that a part of the structure be illustrated in accordance with the suggestions found in the "Chart for Draftsmen," published in the Rules of Practice.

The invention relates to a non-refillable bottle, and the Examiner has required that the bottle be shown as constructed of glass, in accordance with the suggestions found in the "Chart for Draftsmen" in the Rules of Practice; but inasmuch as applicant has not mentioned glass as the material of which the bottle is made this requirement was improper and should not be insisted upon.

Objection has also been made to the illustration of shoulders *i* in Figures 1 and 2. This objection was well taken, as it is obvious that both shoulders should not be shown in a vertical sectional view, since at diametrically opposite points these shoulders face in opposite directions. This objection can be cured by placing a section-line on Fig. 3, with an arrow pointing upward to indicate from which direction the sectional view is taken, and by erasing the inclined line which marks the inner boundary of shoulder *i* at the left on Figs. 1 and 2. The Examiner's objection to proposed Fig. 7 was also well taken. This view shows a right-hand female thread for the bottle-neck, in which case, if the view were taken on the line above suggested in connection with the discussion of Fig. 3, the shoulders *i* should be shown as facing in the opposite direction.

It is also noted that the screw-threads on the flange *j* are improperly shown in Figs. 1 and 2. In Fig. 1 these screw-threads extending from one side of the flange to the other should not appear at all, while in Fig. 2 they should incline in an opposite direction. This objection to Fig. 2 may be waived as being unimportant; but Fig. 1 as now illustrated seems to show a plug in the upper end of part *b*, which is misleading and should therefore be corrected.

The petition is granted as to the illustration of the cross-hatching to indicate glass, but as to all other matters it is denied.

KOPS BROTHERS *v.* ROYAL WORCESTER CORSET COMPANY.

Decided November 23, 1905.

1. INTERFERENCE IN FACT—"AUTOGIRDLE" AND "AUTO-GARTER."

There is such close resemblance between the trade-marks "Autogirdle" and "Auto-Garter" that the purchasing public is likely to be deceived, and therefore there is an interference in fact.

2. SAME—APPEARANCE AND SOUND CONSIDERED—DIFFERENCE IN DETAILS.

In determining the question of interference in fact in trade-mark cases the sound of the words as well as their appearance is to be considered, and it must be remembered that the purchasing public will not carefully observe details of the marks with the purpose of detecting differences.

3. SAME—CONSENT OF PARTIES TO DISSOLUTION NOT CONTROLLING.

Where two trade-marks are so nearly alike as to deceive purchasers, the interference will not be dissolved merely because neither party opposes dissolution.

APPEAL on motion.

TRADE-MARK FOR CORSETS, ETC.

Mr. Harold Serrell for Kops Brothers.

Mr. John C. Dewey and *Mr. Robert P. Hains* for Royal Worcester Corset Company.

ALLEN, *Commissioner:*

This is an appeal by the Royal Worcester Corset Company from the decision of the Examiner of Trade-Marks denying its motion to dissolve the above-entitled interference on the grounds—

(1) That the Examiner erred in holding that there is an interference in fact between the trade-marks of the respective parties hereto.

(2) That the Examiner erred in holding that the words "Autogirdle" and "Auto-Garter" are the same or sufficiently similar to mislead.

(3) That the Examiner erred in holding that there was no irregularity in declaring the interference such as would preclude a proper determination of the question of priority.

The issue is as follows:

The word "Autogirdle," or the hyphenated word "Auto-Garter," for corsets.

No irregularity in the declaration has been pointed out, and therefore the only question to be considered is that of interference in fact. Both parties apply their marks to the same class of goods, and therefore the question of interference in fact turns upon the question whether the mark "Autogirdle" so nearly resembles the mark "Auto-Garter" as to be likely to be mistaken therefor by the public. (Sec. 7, act of February 20, 1905.) There is undoubtedly some resemblance between the marks as they appear to the eye, and the resemblance is very close when the words are pronounced. In determining the likelihood of confusion the pronunciation of the marks as well as their appearance must be taken into consideration, and it must be remembered that the purchasing public will not carefully observe the marks with the purpose of detecting the difference. The purchasing public does not ordinarily give close attention to the details of marks, but identifies them by their general appearance or similarity of sound. I am of the opinion that in the present case the marks so nearly resemble each other as to be likely to deceive purchasers. The resemblance is, to say the least, as close as that between "Gold Dust" and "Gold Drop," which were held by the Court of Appeals of the Ninth Circuit to be so nearly alike as to deceive purchasers. (*N. K. Fairbanks v. Luckel, King & Cake Soap Co.*, 102 Fed. Rep., 327.)

It is noted that the appellant here calls attention to the fact that Kops Brothers have made no opposition to the present motion for dissolution and appear willing that the interference shall be dissolved. It is believed, however, that mere acquiescence by the parties furnishes no good ground for dissolving an interference where, in the opinion of this Office, an actual interference in fact exists.

The decision of the Examiner of Trade-Marks refusing to dissolve the interference is affirmed.

VAN AUKEN *v.* OSBORNE *v.* HARRISON *v.* CANFIELD AND VAN AUKEN.

Decided November 23, 1905.

1. INTERFERENCE—DISSOLUTION—TRANSMISSION OF MOTIONS—ORDER TO SHOW CAUSE.

Where motion for dissolution is brought by H. and V. appeals from the transmission thereof because H.'s preliminary statement did not overcome the filing date of the senior party and H. was under order to show cause why judgment should not be rendered against him, *Held* that if H.'s motion was well

founded it is a complete answer to the order to show cause and that since it was filed in the time permitted by the rule and was found to be in proper form it was properly transmitted to the Primary Examiner as a matter of course.

2. SAME—SAME—SAME—ESTOPPEL.

Held that party is not estopped from bringing motions alleging that the interference was improperly declared because he made the claim constituting the issue and filed a preliminary statement relating to it

APPEAL on motion.

VALVES FOR RADIATORS.

Mr. Charles T. Brown for Van Auken.

Mr. E. F. Osborne pro se.

Mr. John W. Hill and *Mr. Ernest H. Hunter* for Harrison.

Messrs. Poole & Brosse for Canfield and Van Auken.

ALLEN, *Commissioner:*

This is an appeal by Van Auken from the action of the Examiner of Interferences transmitting to the Primary Examiner a motion by Harrison for a dissolution of the interference.

The record shows that the preliminary statement filed by Harrison failed to overcome the filing date of the senior party, and on July 21, 1905, an order was made requiring him to show cause on August 10, 1905, why judgment should not be entered against him on the record. On August 9 he filed a motion for dissolution, and it is apparent that if his motion is well founded it constitutes a complete answer to the order to show cause. The motion was filed within the time permitted by the rule, and since the Examiner of Interferences found that it was in proper form it was transmitted to the Primary Examiner as a matter of course.

Van Auken contends that since he made the claim constituting the issue and filed a preliminary statement relating to it he is estopped from now alleging that the interference was improperly declared. In regard to this matter it is to be noted that under the rules Harrison was not permitted to see the applications of the opposing party until after he had filed his preliminary statement, and therefore it is obvious that he could not before that time determine whether there was an interference in fact or whether there was irregularity in the declaration. The universal rule is that motions for dissolution should not be made until after the preliminary statements are filed and the applications are open to the inspection of the other parties to the proceeding. The rule expressly gives to the parties the right to bring motions like the present within a fixed time, and therefore the Examiner of Interferences was right in transmitting the motion.

The decision of the Examiner of Interferences is affirmed.

EX PARTE MCCLAIN.

Decided November 29, 1905.

1. CLAIMS—PRINTED MATTER—FUNCTIONAL STATEMENT.

A claim covering certain printed matter and including, among other features, "spaces to receive collected data relating to a number of checks" is functional, and therefore objectionable.

2. SAME—SAME—SAME.

A claim covering certain printed matter and including, among other features, a "form * * * having lines to receive collected data for a number of deposits" is functional, and therefore objectionable, sufficient structure not being included to carry the function stated.

3. SAME—SAME—INDEFINITENESS.

A claim for certain printed matter including, among other features properly set forth, "another form" located at a certain place with respect to other features is not objectionable as being indefinite, the language involving a question as to the scope of the claim rather than its form.

ON PETITION.

BANKING-BOOK.

Messrs. Bakewell & Byrnes and *Messrs. Byrnes & Townsend* for the applicant.

ALLEN, *Commissioner:*

This is a petition asking that the Primary Examiner be advised that certain claims, to which formal objections have been made, are in proper form and that he be directed to proceed to an examination of the case on its merits.

The invention relates to a book having stubs, each stub bearing a form or forms having designated spaces for a given purpose. Claims 6 and 7 each specify, among other things—

A book having stubs bearing an appropriately-designated form having spaces to receive collected data relating to a number of checks.

The Examiner objects to the words "appropriately designated form" as being indefinite in the particular connection in which they are now used; but the petitioner calls attention to a decision of the Examiners-in-Chief passing favorably upon the claims of a prior application of this petitioner for the same subject-matter in which the words "appropriately-designated spaces" were used, and petitioner contends that if the words "appropriately-designated spaces" are not objectionable neither are the words "appropriately-designated form," contending that the difference is one relating to the scope of the claim and not to its form; but in this it is thought the petitioner is in error. As understood, the word "form," as the term is used in this case, refers to an arrangement of words, figures, or other characters, one or all, with lines or blank spaces at suitable intervals adapted to be filled in by the user. Now the words or figures, etc., are for the purpose of designating the spaces where the matter is to be filled in. It would therefore appear to be correct in this case to state that each stub bears a form having appropriately-designated spaces, but incorrect to state that each stub bears an appropriately-designated form, as there seems to be nothing to designate the form as a whole. Since the words "appropriately designated" do not appear to be intended to limit the "spaces," the language now used raises another objection, because it leaves the construction or character of such spaces defined only by the words "to receive collected data relating to a number of checks," which obviously do not define structure, but function only. It appears that the whole objection to this part of the claim may be overcome by cancelling the words "appropriately designated" from before the word "form" and inserting them before "spaces." It is not understood why petitioner objects to this, since in that part of his brief in which he states what he is trying to cover by the language in question he uses the very language which he objects to putting into the claims—namely, "appropriately-designated spaces." The Examiner's objection to the language in the first three lines of claims 6 and 7 was therefore right, and his decision is affirmed.

The words "another form vertically separated therefrom and having lines to receive collected data for a number of deposits," occurring in lines 5, 6, and 7 of claim 7, are objectionable for substantially the same reason as the

words "spaces to receive collected data," etc., above discussed. There is a slight difference in the two expressions, the latter containing no definition of structure at all other than a blank surface, which may be considered as composed of any number of "spaces," while the former defines "lines," which may be considered as structure in this particular art; but every arrangement of lines is not adapted or appropriate to receive collected data relating to deposits, and hence the clause in question does not include enough structure to carry the function stated. In other words, the arrangement or relation of the lines which makes them appropriate for receiving this particular kind of data is not set forth. It follows, therefore, that it is attempted to define structure purely by stating the function which it is intended to perform, and this is objectionable.

But it is thought that the objection to the words "another form on the same face of the stub and vertically separated from the check form," in lines 4 and 5 of claim 6, is well taken. As above stated, the word "form" indicates structure of *some* character, and whether this structure is one thing or another or is for one purpose or another are questions which appear to go to the breadth or scope of the claims and is not a mere formal matter.

As to the objection to the latter part of claim 6 the petition is granted; but as to the other objections it is denied.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

COMPUTING SCALE COMPANY OF AMERICA *v.* THE AUTOMATIC SCALE COMPANY.

Decided November 22, 1905.

1. PATENTABILITY—COMPUTING-SCALES—CLAIMS INVALID.
   Claims 6, 7, and 8 of Patent No. 700,919, granted to Austin B. Hayden May 27, 1902, for an improvement in computing-scales, *Held* void for lack of patentable invention in view of the prior art and proceedings in the Patent Office.
2. INFRINGEMENT—LIMITATION OF CLAIMS BY PRIOR ART.
   The claims of Patent No. 700,919 in suit are not infringed by the defendant when those claims are limited, as they must be, by the prior art.
3. ABANDONMENT AND ESTOPPEL—CLEAR PROOF REQUIRED.
   No limitation upon the claims by proceedings in the Patent Office, nor any abandonment of any part of the invention is to be presumed, but must be shown by clear and convincing proof.
4. CONSTRUCTION OF CLAIMS—ESTOPPEL BY PROCEEDINGS IN PATENT OFFICE.
   While the courts are zealous to protect an inventor to the full extent of the contribution which he has made to the art, they must give due weight to any estoppel which he has created by anything done either prior or subsequent to the issue of his patent which prevents him from claiming his invention in its entirety.
5. SAME—ACQUIESCENCE IN REJECTION OF BROAD CLAIM.
   Where after rejection a claim is amended and allowed, it must be read and interpreted with reference to the rejected claim.
6. SAME—LIMITATIONS IMPOSED BY PATENT OFFICE.
   Where the Patent Office rejected a claim as not patentable in view of the prior art, but suggested that if the limitation "depending" were made at a certain point the claim would be patentable, and the applicant, acquiescing, makes the amendment, *Held* that the patentability of the claim depends upon whether there is invention in making the part "depending."
7. SAME—SAME—ERROR BY PATENT OFFICE IMMATERIAL.
   Where an applicant before the Patent Office acquiesces in the ruling that his claim is not patentable without amendment, he cannot be heard to question the ruling thereafter, and it is immaterial whether it was right or wrong.
8. PATENTABILITY—SUBSTITUTION OF PARTS.
   It being old to employ "depending" means for supporting the load in computing-scales, there was no invention in substituting such means in an old combination.
9. EVIDENCE OF INVENTION—MANY APPLICANTS FOR THE SAME THING.
   Where similar improvements are made by many inventors at the same time, the inferences are that the desirability for improvement has become known and that no great exercise of inventive talent was called into play.

Messrs. Church & Church for the appellant.

Mr. H. P. Doolittle for the appellee.

DUELL, *J.*:

This suit was brought for the alleged infringement of Letters Patent No. 700,919 issued May 27, 1902, to the appellant, as assignee of Austin B. Hayden, for alleged improvements in computing-scales. The invention relates particularly to computing-scales of the spring-balance type, and its main object, as stated, is to increase the computing capacity of scales of this type. It may be said that a computing-scale is a device which enables the price of the article weighed thereon to be at once read upon the scales, thus avoiding the necessity of mathematical calculation upon the part of the operator.

The art in question was quite fully developed at the time when Hayden filed the application upon which the patent in suit issued. The record discloses one patent issued some fifty years ago, and it may be, as urged, that its device was not a commercial success, although the record is silent as to this. Like many other inventions it very likely was born out of due season, and long before the demands of trade led to a commercial demand for computing-scales. Nevertheless the patent, and others set forth in the record, cannot be overlooked in considering the state of the art. Other patents were issued, at later dates disclosing various improvements and Hayden's invention is therefore but one of many improvements contributed by one of many inventors. While his application was pending it appears from an examination of the record that other inventors were at work in this art, and improvements, similar to those set forth in the Hayden patent, were disclosed in other applications for patents. In the absence of testimony the fair inference to be drawn from this fact is, that, the desirability for such improvements having become known a solution of the problems occurred to many minds and when that solution is shown to be the same, that no great exercise of inventive talent was called into play.

Hayden, as the record discloses is not a pioneer in the art, but as an improver he is entitled to such recognition as his contribution to the art warrants, and his assignee to protection to the same extent, subject however to such limitations, if any, as either of them permitted to be imposed upon the grant as disclosed by the file-wrapper and contents of the application upon which the patent issued. No such limitations, nor any abandonment of any part of the invention, is to be presumed, but must be shown by clear and convincing proof. While the courts are vigilant to protect the public, which is interested in having even a lawfully-patented invention kept within legal bounds, they should be equally zealous to find the contribution which the inventor has made to the art to which his invention relates and to protect him to the full extent of that contribution, but in so doing they must give due weight to any estoppel which he has created by reason of anything done by him, or suffered to be done, either prior or sub-

sequent to the issue of his patent, which prevents him from claiming his invention in its entirety.

To the patent we turn for a description of the invention; to the file-wrapper and contents of the application, and to the prior art, for the limitations to be imposed upon the claimed invention.

Mr. Browne, appellant's expert, has fairly and clearly set forth the general construction and operation of the device of Hayden's patent. He says:

> The two principal parts of the mechanism are as follows: first, a vertically-arranged, non-rotating frame which comprises and included a vertical cylindrical casing which incloses, conceals and protects the major portion of the operating portions of the scale, and upon which are marked the price indications which indicate the price per pound at which the articles weighed are to be sold. As clearly shown in the drawings, this external casing or frame is provided with a vertically-disposed sight-opening through which the coacting mechanism is observable, and along one vertical edge of this sight-opening are arranged the numerals indicating the price per pound, these numerals in the illustrated instance running consecutively from 2 to 30.
>
> The second of these principal parts is a second cylinder located within the casing, this cylinder constituting a computing-cylinder or chart-drum upon which are placed indications indicating the weight in pounds of the article weighed, and also having other indications indicating the price of an article weighed corresponding to the weight and to the price per pound. This chart-drum or computing-cylinder extends vertically within the external casing and it is arranged to rotate on a vertical axis within the external casing. This casing is appropriately connected to the spring balancing mechanism and to the scale-pan so that when the spring balancing mechanism moves up and down on the placing or removing of a load on the scale-pan, the chart-drum will be rotated in one direction or the other within the external casing or frame.
>
> * * * * * * *
>
> As shown in Figure 2 of the drawings the weight and value indicating figures are placed in horizontal rows on the external surface or periphery of the rotatable chart-drum of the computing-cylinder, the weight indications being shown in a horizontal row at the bottom, and the price indications in horizontal rows above, there being as many of these horizontal rows or price-indicating figures as there are "price-per-pound" indicating-figures on the fixed external casing. These value-indicating figures on the chart-drum are computed at different rates corresponding to the "price-per-pound" figures on the external casing. As indicated in Figure 2 of the drawings of the patent, there is supposed to be a weight on the scale-pan of five pounds, this weight being indicated on the weight-scale, and it will be seen that in such instance the various value indications on the chart-drum opposite the "price-per-pound" indications on the fixed casing, are in each illustrated instance, five times as great as the corresponding "price-per-pound" indications. The drawings illustrate only a portion of the indicating-figures on the chart-drum, but it will be understood in practice that this drum will be entirely covered on its external surface with figures corresponding to the weights multiplied by the figures indicating "price per pound" on the non-rotatable external casing. Accordingly whenever the interior chart-drum is turned a distance corresponding to the load placed on the scale-pan, the value of the load can be read at once opposite the figures on the external casing which correspond to the price per pound of the article weighed.
>
> The various price indications on the chart-drum are visible through the sight-opening in the external casing.
>
> The mechanism whereby the chart-drum is rotated a distance corresponding to the weight of the load placed on the scale-pan is as follows: The balancing mechanism is a spring-balance comprising two springs, clearly shown in Figure 3 of the drawing, which are suspended from a suitable portion of the non-rotating frame of the scale. To the lower ends of these springs is attached a cross-bar in the middle of which depends a rod indicated by the letter E this cross-bar and rod constituting the runner of the scale. The scale-pan is suspended from the lower end of this rod as illustrated in Figure 1. When a load is placed on the scale-pan the vertical runner moves vertically downward distending the spring to an extent proportional to the weight of the load. In order to indicate the weight this vertical movement of the spring-supported runner is converted or translated into a rotary movement of the chart-drum by suitable intervening mechanism. In the specific embodiment of the invention as illustrated in the drawings this intervening mechanism consists of a spiral groove of high pitch on the vertical rod E and two rollers journaled in suitable bearings carried by the rotatable chart-drum, the bearing of one of these rollers being spring-pressed so that the rollers are held in yielding contact with the spiral groove on the rod. Consequently as the rod moves vertically the spiral groove thereof causes the chart-drum or computing-cylinder to rotate on its vertical axis.
>
> Accordingly, the mechanism is such that the vertical movement of the runner is translated into rotary movement of the chart-drum and the chart-drum is rotated to an extent proportional to the vertical movement of the runner.

The specification of the patent ends with eleven claims of which 1, 2, 6, 7 and 8 are alleged to be infringed. It will however be necessary to only consider claims 1 and 6. Claim 2 differs from claim 1, barring certain immaterial variations in phraseology, in that it limits the spring-supported load-bearing and cylinder-revolving rod to one that is "non-rotatably" suspended from the casing. Claims 7 and 8 admittedly do not differ patentably from claim 6, these three claims stating in varying phraseology the same invention—one of the many examples of word-painting too often found in Letters Patent.

Claims 1 and 6 are as follows:

> 1. In a spring-balance computing-scale, the combination of a suitably-supported vertical non-rotatable casing provided with a price-index, a vertical rotatable computing-cylinder journaled in said casing, provided with cost computations, a spring-supported load-bearing and cylinder-revolving rod suspended from said casing, and connecting means between rod and computing-cylinder, whereby by longitudinal movement of the rod rotary movement is imparted to said cylinder, substantially as and for the purpose set forth.
>
> 6. In a spring-balance, the combination of a non-rotating frame providing an external casing and having means for supporting it from above weighing-springs secured at their upper ends to rigid parts of said frame, a vertically-movable runner which is suspended from the lower ends of said springs and is provided with depending means to support the load, a chart-drum rotatably mounted within said casing on a vertical axis and having external horizontal rows of value-indicating figures computed at different rates, said casing having a sight-opening through which portions of said value-indicating rows may be seen, and corresponding rate-indicating figures on the outer face of said frame adjacent to the value-indicating rows on the chart-drum, and mechanism for translating the vertical movements of the runner into the rotary movements of the chart-drum.

The defenses are the ordinary ones of anticipation, non-patentability, non-infringement and prior invention by one Christopher. While it will not be necessary to consider any but those of non-infringement and absence of patentable invention, we have however examined the evidence relating to the alleged priority of invention by Christopher and from such examination we do not find sufficient to warrant a finding that Christopher is shown to be a prior inventor of the subject-matter set forth in the claims in suit. For a correct determination of the questions of patentability and infringement the claims must be considered in the light of the prior art and of the proceedings in the Patent Office. If the claims are valid and can be taken at their face value they are clearly infringed.

The limitations arising out of the prior art, if any, will be found in the following patents, Phinney, No. 106,869, August 30, 1870; Beckwith, No. 12,249, January 16, 1855; Babcock, No. 421,805, February 18, 1890; Freeman, No. 431,456, July 1, 1890; and Smith No. 545,616, September 3, 1895.

Phinney discloses a spring-balance computing-scale comprising a suitable supported non-rotatable case having a price-index, a rotatable computing-cylinder journaled in said case provided with cost computations, a spring-supported load-bearing and cylinder-revolving rod suspended from the case, and connecting means between the rod and computing-cylinder, whereby by a longitudinal movement of the rod rotary motion is imparted to the cylinder.

Comparing this device with the patented structure which is the subject of claims 1 and 2 it is apparent that the main difference between the two, broadly considered, is that Hayden's cylinders are arranged vertically while Phinney's are arranged horizontally. It is shown however that such arrangement of a cylinder of a cost-computing scale was old long before any date that can be assigned to Hayden. Beckwith's patent No. 12,249 of January 16, 1855, discloses this. Invention cannot be predicated upon differently positioning the cylinders, and this we understand is not seriously controverted. Freeman No. 431,456 is another example of a rotatable cylinder carrying the computations and mounted to move vertically.

The prior patents to Babcock No. 421,805 and Smith No. 5.

No. 545,616 disclose spring-balance computing-scales, having suitably-supported horizontal stationary cylinders, (or as in the Babcock patent an equivalent therefor) provided with price-marks and rotatable chart-drums operatively connected to the vertically-movable load-supporting rod. In the light of these patents, and especially the Smith patent, we can discover little room for broad claims for a combination of elements such as set forth in the claims in controversy. While Smith's construction differs from that of the patent in suit in the relative arrangement of the casing and cylinder, in other respects they differ patentably only in details of construction. There being no invention in view of the prior art in substituting for the horizontal case and cylinder of the Smith patent the old vertical arrangement of those parts the first and second claims of the patent in suit must, if they are to be held valid, be limited to the specific forms of the parts set forth in the claims. The line of demarcation between Hayden's patented structure and those of the prior art, is, at the best, but slight. His device may be commercially better than the prior devices but there is no evidence before us to show that this has been recognized by the commercial world, or that the patented device has supplanted the prior devices, or that it has gained any recognized position. The record is silent as to all these points.

It being the duty of the court, as stated, to find what contribution Hayden has made to the art we turn to the specification to find what Hayden has actually contributed. We find that broadly considered the elements of the claims referred to are old and that they have been arranged in substantially the same manner and thereby have produced substantially the same result. We however find some specific forms of parts of the device that apparently are new and therein lies the novelty of the device. The main novelty seems to reside in the construction of the spring-supported load-bearing and cylinder-revolving rod, and the means by which the longitudinal movement of that rod produces the rotary movement of the cylinder. The specification states that the load-supporting and cylinder-actuating rod is provided with a spiral groove which moves between rollers centrally located on the inner surface of the bottom of the cylinder. It further states that—

> It will be noted that in the construction shown the rod E is non-rotatable, and this is the preferred construction. The spiral rod passing through the lower ends of the casing and serving, by means of its connection with the two cylinders, to rotate the computing-cylinder is regarded as the essence of this feature of the invention, however, regardless of the precise details of connection between cylinders and rod. The spiral of the rod E may be regarded as a motion-translating member, and the antifriction-rollers *f f'*, engaging said spiral, may be regarded as an antifriction member coacting with said spiral. It is necessary that one of said motion-translating members be supported by the spring of the scale to have a simple vertical movement and that the other motion-translating member shall be connected directly to the computing-cylinder to impart rotary motion thereto. Thus one of said motion-translating members moves with the computing-cylinder about a vertical axis, while the other acts as a spring-supported runner which engages the cylinder carried or connected member and has its own vertical movement translated into a rotary movement.

We have not overlooked the statement that in the preferred construction the rod is non-rotatable, and that claim 1 is not limited in terms to a non-rotatable rod. Nor have we overlooked the fact that neither in claims 1 or 2 is there a limitation in terms to the specific construction of the rod and to the specific means by which, in connection with the rod, movement is imparted to the cylinder. It is evident that Hayden thought that his invention was broader than in our opinion it proves to be, and so claimed it. Nevertheless we can see no escape from the conclusion that claims 1 and 2 are devoid of patentable invention unless limited to combinations, one element of which is a rod provided with a spiral adapted to engage with rollers coacting therewith. It may be that when so construed and limited claim 2 will not patentably differ from claim 3, but it is unnecessary to pass upon that question at this time. If we are correct in limiting claims 1 and 2 to the specific form of the rod and the coacting means by which motion is imparted to the cylinder then admittedly the defendant does not infringe for its structure does not have the rod provided with a spiral and consequently the means for producing rotary movement of the cylinder are different. It is admitted by appellant's counsel that the appellee is not shown to have used the specific form of translating device shown and described in the patent.

What we have said in reference to claims 1 and 2 applies equally to claims 6, 7 and 8 for each of these have as an element mechanism for translating the vertical movement of the runner into the rotary movements of the chart-drum. This mechanism is the rod provided with the spiral and the rollers journaled on the inner surface of the bottom of the cylinder. The defendant does not employ such mechanism, and its mechanism cannot be held to be an equivalent. Claim 6, however, in our opinion, cannot be held valid in view of the proceedings in the Patent Office as shown by the file-wrapper and contents of the application upon which the patent issued. It appears that a claim was presented identically the same as this claim save that it omitted the word "depending" before the phrase "means to support the load," or, in other words, was not limited to a structure where the means for supporting the load to be weighed was below the scales. The Office held that the claim as presented was not patentably distinguishable from a prior patent, saying:

> Upon consideration of claim 6 preparatory to the declaration of interference it is found that the claim does not clearly and patentably distinguish from the scale shown in the patent to Herr, No. 651,801, June 12, 1900, price-scales, and it is therefore necessary to reject the claim. It is believed, however, that the claim may be rendered allowable by inserting *depending* before "means" in line 6.

This Herr patent is not in evidence but that is immaterial, for, whether the Examiner was right or wrong, the patentee having acquiesced in the ruling neither he, nor his assignee, can be heard to question the correctness of the ruling. The courts have gone so far as to hold that even where the ground of an objection, made by the Patent Office and acquiesced in by the applicant, was later held by the Supreme Court not to be a valid one, that, nevertheless, the applicant thereafter is bound by it. (*Blades* v. *Rand, McNally & Company*, 27 F. R., 93.) Of course it is not contended by appellant that the claim can be read as though the word "depending" has not been inserted, but as we understand it the rule goes further than merely holding that the limitation cannot be read out of the claim. It goes to the extent of holding that "the claim as allowed must be read and interpreted with reference to the rejected claim." (*Hubbell* v. *United States*, 179 U. S., 77.) A claim differing from claim 6 only in omitting the word "depending" having been rejected the allowed claim must depend for vitality upon the fact that it involved invention in a computing-scales to employ depending means for supporting the load to be weighed. Some means of course had to be employed for supporting the load and the substitution of one old arrangement for another would scarcely involve or show invention. Depending means for supporting the load were old and most common in computing-scales. Examples are to be found in the patents to Babcock, Beckwith, Smith and others heretofore cited. The depending means for supporting the load to be weighed being old their substitution in an old combination is insufficient to warrant a finding of patentable invention. The patentee having admitted that the claim as presented was met by the reference, and, having, to avoid the reference, inserted a non-patentable limitation, his assignee, being bound by such action, cannot escape the penalty.

Claims 7 and 8 being but restatements in somewhat different phraseology of the same alleged invention as recited in claim 6 are also devoid of patentable invention. Our conclusion is that the claims in suit are not infringed when limited as they must be by the prior art, and that claims 6, 7 and 8 are void for lack of patentable invention as disclosed by the proceedings in the Patent Office and by the prior art.

It follows that the decree of the Supreme Court of the District of Columbia was correct and it will therefore be affirmed with costs. It is so ordered. Affirmed.

THE

OFFICIAL GAZETTE

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United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 119—No. 6. TUESDAY, DECEMBER 12, 1905. PRICE—$5 per year.

CONTENTS.

	Page.
ISSUE OF DECEMBER 12, 1905	1589
TRADE-MARKS	1589
REGULATIONS IN RELATION TO MAIL-MATTER	1589
PRINTED COPIES OF PATENTS	1589
APPLICATIONS UNDER EXAMINATION	1590
AMENDMENTS	1590
PATENTS GRANTED	1591
REISSUES	1884
DESIGNS	1889
TRADE-MARKS—REGISTRATION APPLIED FOR	1893
TRADE-MARKS—REGISTERED	1915
LABELS	1920
PRINTS	1920
COMMISSIONER'S DECISIONS—	
Sanders v. Melvin	1921
York v. Hartman	1921
Sobey v Holsclaw	1922
Dow v. Des Jardins	1923
Ex parte The Dr. Peter Fahrney & Sons Co	1924
Schofield v. McGovern v. Woods	1924
Mulligan v. Tempest Salve Company	1924
Ex parte Lambert	1925
Ex parte Standard Underground Cable Company	1925
Dunker v. Reist	1925

ISSUE OF DECEMBER 12, 1905.

Patents	666—No. 806,761 to No. 807,426,	inclusive.
Designs	15—No. 37,720 to No. 37,734,	inclusive.
Trade-Marks	109—No. 48,086 to No. 48,194,	inclusive.
Labels	14—No. 12,539 to No. 12,552,	inclusive.
Prints	5—No. 1,510 to No. 1,514,	inclusive.
Reissues	8—No. 12,417 to No. 12,424,	inclusive.
Total issue	817	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	.....	Nevada	1	.....
Alaska, District of	.....	.....	New Hampshire	8	1
Arizona Territory	.....	.....	New Jersey	22	6
Arkansas	1	.....	New Mexico Ter'r'y	.....	.....
California	26	1	New York	87	33
Colorado	5	.....	North Carolina	4	1
Connecticut	21	3	North Dakota	3	.....
Delaware	1	.....	Ohio	55	6
District of Columbia	5	.....	Oklahoma Territ'y	.....	.....
Florida	4	1	Oregon	3	.....
Georgia	5	2	Pennsylvania	71	11
Hawaii Territory	.....	.....	Porto Rico	.....	.....
Idaho	.....	.....	Rhode Island	7	1
Illinois	40	7	South Carolina	1	.....
Indian Territory	.....	.....	South Dakota	1	.....
Indiana	15	3	Tennessee	9	4
Iowa	12	.....	Texas	12	3
Kansas	3	1	Utah	2	.....
Kentucky	1	.....	Vermont	.....	2
Louisiana	2	.....	Virginia	5	.....
Maine	1	.....	Washington	7	6
Maryland	10	3	West Virginia	3	1
Massachusetts	41	12	Wisconsin	14	5
Michigan	21	1	Wyoming	.....	.....
Minnesota	13	7	U. S. Army	.....	.....
Mississippi	.....	.....	U. S. Navy	.....	.....
Missouri	19	6			
Montana	4	.....	Total to citizens of the United States	801	127
Nebraska	5	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Netherlands	1	.....
Austria-Hungary	4	.....	Newfoundland	.....	.....
Belgium	1	.....	New South Wales	2	.....
Brazil	.....	.....	New Zealand	5	.....
British West Indies	.....	.....	Norway	.....	.....
Canada	10	.....	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Roumania	.....	.....
China	.....	.....	Russia	2	.....
Costa Rica	.....	.....	San Salvador	.....	.....
Cuba	.....	.....	Scotland	3	.....
Denmark	.....	.....	South Africa	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	15	1	Sweden	2	.....
France	11	.....	Switzerland	5	.....
Germany	15	.....	Transvaal, South Africa	1	.....
India	.....	.....	Victoria	2	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	1	.....			
Japan	.....	.....			
Java	.....	.....			
Mexico	.....	.....	Total to citizens of foreign countries	80	1

Trade-Marks.

The publication of trade-marks under the act of February 20, 1905, in the OFFICIAL GAZETTE, commenced May 2, 1905, and will appear in each weekly number of the GAZETTE thereafter.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment therefor.

Regulations in Relation to Mail-Matter.

In order to insure the ready identification of the division from which mail-matter emanating from this Office was sent, and the prepayment of any foreign postage thereon, as well as to prevent the retention for general delivery in the post-office of the city of any wrongly-addressed letter when this Office could supply a fuller or more accurate address, it is directed that the following regulations be observed with reference to all mail-matter forwarded from this Office:

Each envelop forwarded from any division will be stamped or marked in the upper left-hand corner with the division number or letter, as the case may be.

Each envelop addressed to a foreign country must be forwarded to the mail-room and the proper stamps affixed thereto before mailing.

Such mail as is to be delivered in this city shall be directed "Washington, D. C." If a letter addressed to a person in this city and not marked for general delivery be returned to this Office, it will be promptly remailed with an accurate and full local address supplied, if possible. In remailing, the envelop should be marked or stamped "Hold in General Delivery," but no envelop should be thus marked until the address thereon is as full and accurate as the Office can supply. A letter to a person in this city will not be filed "Undelivered" until it is returned to this Office in an envelop thus addressed and marked.

Printed Copies of Patents.

A printed copy of the complete specification and drawings of any patent published herein can be obtained for five cents.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business December 5, 1905.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
	Under one month.			
145	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Nov. 24	Aug. 1	554
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Nov. 21	Oct. 28	255
167	V. Fine Arts, Bookbinding, Harvesters, Jewelry, and Music.	Nov. 21	Sept. 29	282
208	XVII. Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Nov. 21	Sept. 5	322
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Nov. 20	Oct. 26	193
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Nov. 20	Oct. 13	349
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Nov. 20	Sept. 1	241
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Nov. 18	Oct. 19	232
312	VII. Velocipedes, Clutches, Fire-Escapes, Games and Toys, Ladders, Mechanical Motors, and Paper Manufactures.	Nov. 18	May 29	531
251	I. Tillage, etc., Fences, and Railway Draft Appliances.	Nov. 17	Oct. 28	209
104	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Nov. 17	Oct. 14	300
278	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Nov. 17	Oct. 3	369
332	X. Carriages and Wagons.....	Nov. 16	Aug. 17	609
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Nov. 15	July 14	648
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Nov. 14	Oct. 16	444
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Nov. 14	Sept. 8	270
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Nov. 13	Oct. 4	256
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Nov. 10	Aug. 21	528
	Between one and two months.			
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Nov. 4	Apr. 10	668
222	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Nov. 3	Oct. 31	320
224	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Nov. 2	Sept. 11	409
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Nov. 2	Aug. 1	548

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
147	XXIX. Coopering, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools.	Nov. 1	Aug. 25	344
327	XVIII. Steam-Engineering, etc ...	Oct. 27	Sept. 12	342
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufacturing, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Oct. 27	July 11	414
109	XVI. Telegraphy and Telephony..	Oct. 21	Sept. 26	221
123	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Oct. 16	June 15	595
307	XIV. Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Metal Personal Wear, Making, Sheet-Metal Ware, Making, Tools, Wire-Working.	Oct. 14	Aug. 3	305
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Optics, Signals, Time Controlling Mechanism.	Oct. 11	Aug. 16	579
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Oct. 11	July 3	720
	Between two and three months.			
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Sept. 28	July 13	584
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Sept. 26	July 3	425
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, Sewerage, and Water Distribution.	Sept. 25	June 6	990
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Sept. 23	June 6	605
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Sept. 20	May 26	857
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Sept. 13	Aug. 3	602
162	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing-Machines.	Sept. 5	May 8	620
	Between four and five months.			
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 21	July 20	402
	Total number of applications awaiting action			17,400
159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Between one and two months.			
	Trade-Marks.....	Oct. 16	Oct. 2	4273
	Under one month.			
	Designs.....	Dec. 4	Nov. 20	15
	Labels and Prints.....	Nov. 24	Dec. 1	

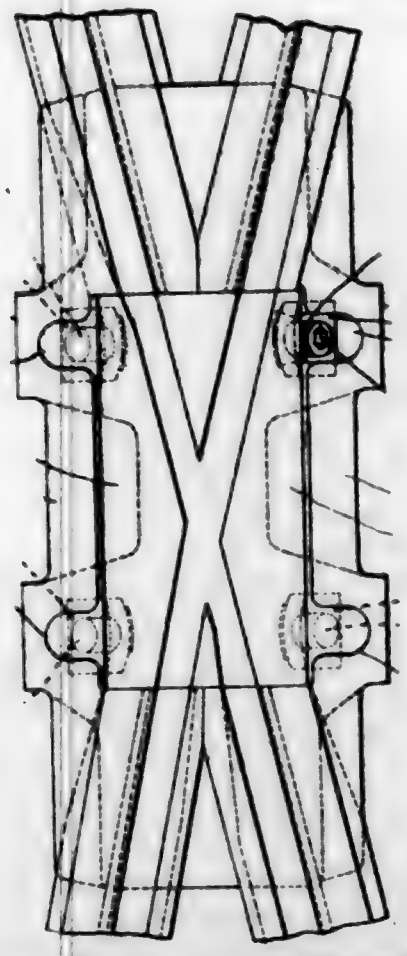
Amendments.

RULE 73. In every amendment the exact word or words to be stricken out or inserted in the application must be specified and the precise point indicated where the erasure or insertion is to be made. All such amendments must be on sheets of paper separate from the papers previously filed, and written on but one side of the paper. Erasures, additions, insertions, or mutilations of the papers and records must not be made by the applicant.

PATENTS

GRANTED DECEMBER 12, 1905.

806,761. **RAILWAY-CROSSING.** CHARLES A. ALDEN, Steelton, Pa., assignor to The Pennsylvania Steel Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 20, 1905. Serial No. 261,486.



Claim.—1. In a railway frog or crossing, the combination of the base, the hard-metal wear-plate seated in a depression in said base, together with the bolts in compression securing said wear-plate and base together, substantially as set forth.

2. In a railway frog or crossing, the combination of the base, the wear-plate seated in a depression in said base, the nut engaging said base, and the bolt extending through said nut and abutting against said wear-plate, substantially as set forth.

3. In a railway frog or crossing, the combination of the base, having the recesses therein, the wear-plate seated in a depression in said base, and having the shoulders adjacent said recesses respectively, the nuts engaging the upper walls of said recesses, and the bolts extending through said nuts and abutting against said shoulders of the wear-plate, substantially as set forth.

4. In a railway frog or crossing, the combination of the base, having the recesses therein with the inclined upper walls, the wear-plate having the inclined shoulders adjacent said recesses respectively, the nuts engaging the said inclined upper walls of said recesses, and the bolts extending through said nuts and abutting against the said shoulders of the wear-plate, substantially as set forth.

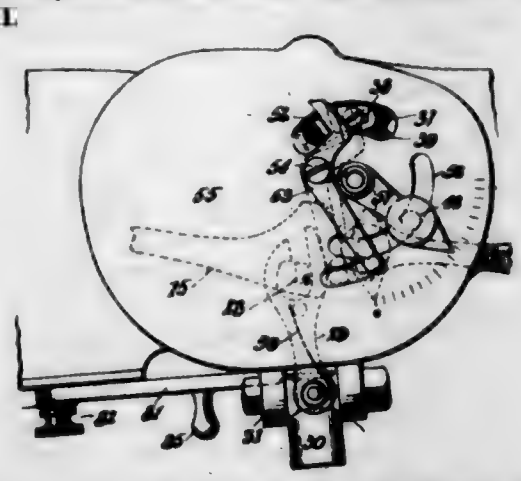
5. In a railway frog or crossing, the combination of the base, having the depression therein, the wear-plate seated in said depression, said base having also the undercut recesses with the inclined upper walls, the nuts engaging the upper walls of said recesses respectively, the bolts extending through said nuts and whose lower ends abut against said wear-plate, substantially as set forth.

6. In a railway frog or crossing, the combination of the base, having the depression therein, the wear-plate seated therein, said base having also the recesses, the nuts engaging the upper walls of said recesses respectively, the bolts extending through said nuts and whose lower ends abut against said wear-plate, there being conservities between said wear-plate and base above said bolts and through which access may be had thereto, substantially as set forth.

7. In a railway frog or crossing, the combination of the base, the wear-plate seated in a depression of said base, said base having also the recesses adjacent said depression, the inset plates whose upper limbs constitute the upper walls of said recesses and whose lower limbs are embedded in the body of the base, the nuts engaging the under surfaces of the upper limbs of said inset plates, and the bolts through said nuts whose lower ends abut against the said wear-plate, substantially as set forth.

8. In a railway frog or crossing, the combination of the base, the wear-plate seated in a depression of said base, said base having also the recesses with inclined upper walls adjacent said depression, the inset Z-shape plates whose upper limbs constitute the upper walls of said recesses and whose lower limbs are embedded deep in the body of said base, the inclined shoulders of said wear-plate adjacent said recesses, the nuts engaging the under surfaces of the upper limbs of said Z-plates, and the bolts extending through said nuts and whose lower ends abut against said inclined shoulders of said wear-plate, substantially as set forth.

806,762. **BUTTONHOLE-SEWING MACHINE.** EDWARD B. ALLEN, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Dec. 26, 1903. Serial No. 186,811.



Claim.—1. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism, a work-holder, means for producing a relative movement of the stitch-forming mechanism and the work-holder to space the stitches, and means for producing a relative vibratory movement between the stitch-forming mechanism and the work-holder to form the side stitches, of barring mechanism for varying the relative movement between the stitch-forming mechanism and the work-holder in producing barring-stitches at the ends of the buttonhole and comprising a member adapted to be shifted through certain limits to control the number of bar-stitches produced and beyond such limits to render said barring mechanism inoperative.

2. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism, a work-holder, means for producing a relative movement of the stitch-forming mechanism and the work-holder to space the stitches, and means for producing a relative vibratory movement between the stitch-forming mechanism and the work-holder to form the side stitches, of barring mechanism for varying the relative movement between the stitch-forming mechanism and the work-holder in producing barring-stitches at the ends of the buttonhole and comprising a normally stationary member adapted to be shifted through certain limits to control the number of bar-stitches produced and beyond said limits to render said barring mechanism inoperative.

3. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism, a work-holder, means for producing a relative feeding movement of the stitch-forming mechanism and the work-holder to space the stitches, and means for producing a relative vibratory movement between the stitch-forming mechanism and the work-holder to form the side stitches, of bar-producing means comprising mechanism for increasing the relative vibratory movement between the stitch-forming mechanism and the work-holder, means for arresting the relative movement of the stitch-forming mechanism and work at the ends of the buttonhole in producing barring-stitches, and means for determining the period of operation of said bar-producing means including a controlling member adapted to be shifted within certain limits to vary the period of action of the bar-producing means and beyond said limits to render said bar-producing means inoperative.

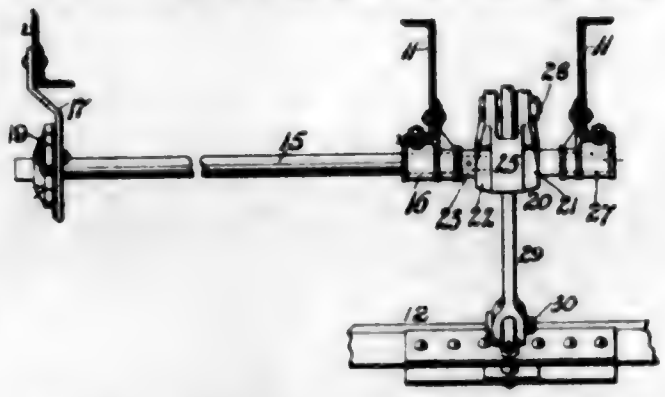
4. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism including a vertically-reciprocating and laterally-moving needle, and a continuously-vibrating member from which the lateral movements of said needle are derived through a suitable connection, of an automatically-acting device for changing the point of attachment of the needle connection with said vibrating member and thereby producing an increased amplitude of the needle movements, and controlling means adapted for determining the period of action of said device and including an adjustable member constructed and arranged to be shifted so as to vary the period of action of said device or to render it wholly inoperative.

5. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism including a vertically-reciprocating needle and a laterally-moving frame in which the same is mounted, feeding mechanism, a continuously-vibrating member having pins at different distances from its center of motion, a connection intermediate the needle-frame and said vibrating member including a link-bar adapted to engage either of said pins, a spring for yieldingly holding said link-bar in engagement with one of said pins, a pawl-lever deriving reciprocating movements periodically from said feeding mechanism and adapted to shift said link-bar into engagement with the other of said pins, and a pawl-releasing device comprising an oscillating member carrying a tripping-lug and having a step-by-step rotary movement initiated and terminated by the shifting of said link-bar, and a lever having two arms disposed suitably for engagement respectively with said tripping-lug and with said pawl-lever.

6. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism including a vertically-reciprocating needle and a laterally-moving frame in which the same is mounted, feeding mechanism, a continuously-vibrating member having pins at different distances from its center of motion, a connection intermediate the needle-frame and said vibrating member including a link-bar adapted to engage either of said pins, a spring for yieldingly holding said link-bar in engagement with one of said pins, a pawl-lever deriving reciprocating movements periodically from said feeding mechanism and adapted to shift said link-bar into engagement with the other of said pins, and a pawl-releasing device comprising a spring-retracted oscillating member having a stop-shoulder and carrying a tripping-lug to which is communicated a step-by-step forward rotary movement initiated and terminated by the shifting of said link-bar, an adjustable stop-pin adapted to engage the stop-shoulder of said oscillating member, and a lever having two arms disposed suitably for engagement respectively with said tripping-lug and with said pawl-lever.

7. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism including a vertically-reciprocating needle and a laterally-moving frame in which the same is mounted, feeding mechanism, a continuously-vibrating member having pins at different distances from its center of motion, a connection intermediate the needle-frame and said vibrating member including a link-bar adapted to engage either of said pins, a spring for yieldingly holding said link-bar in engagement with one of said pins, a pawl-lever deriving reciprocating movement periodically from said feeding mechanism and adapted to shift said link-bar into engagement with the other of said pins, and a pawl-releasing device comprising a spring-retracted oscillating member having a stop-shoulder and carrying a tripping-lug to which is communicated a step-by-step forward rotary movement initiated and terminated by the shifting of said link-bar, a stop-pin adapted to engage the stop-shoulder of said oscillating member, and a lever having two arms disposed suitably for engagement respectively with said tripping-lug and with said pawl-lever, said stop-pin being adjustable between certain operable limits to control the timing of the shifting of said link-bar by determining the initial position of said oscillating member and adapted for further movement to lock said pawl-lever continuously in non-engaging relation with said link-bar.

806,763. **TRANSPORTATION-CAR AND THE LIKE.** JOHN M. ARMS, New Brighton, N. Y., assignor to Benjamin A. Hegeman, Jr., North Plainfield, N. J. Filed May 1, 1905. Serial No. 258,213.



Claim.—1. In a car having an inclined floor-section and a downwardly-hanging discharge-door at the lower end thereof, the door mechanism comprising the crank-frame affording connected crank-arms, hub and shaft mounted between the draft-sills, a bearing for said shaft, the transverse operating-shaft extending below said floor-section and connected with said hub, and the connecting-rod pivotally mounted at its upper end between said crank-arms and at its lower end pivotally connected with the lower edge of the door, said crank-frame and rod when the door is closed standing substantially in line with each other and with said floor-section; substantially as set forth.

2. In a car having an inclined floor-section and a downwardly-hanging discharge-door at the lower end thereof, the door mechanism comprising the crank-frame affording connected crank-arms, hub and shaft mounted between the draft-sills, a bearing for said shaft, the transverse operating-shaft extending below said floor-section and connected with said hub, and the connecting-rod pivotally mounted at its upper end between said crank-arms and at its lower end pivotally connected with the lower edge of the door, said crank-frame and rod when the door is closed standing substantially in line with each other and with said floor-section, and said parts being arranged to permit the crank-pin to pass beyond the center line of the shaft and lower pivot-point of said rod when the door is closed, for locking the door closed; substantially as set forth.

3. In a car having an inclined floor-section and a downwardly-hanging discharge-door at the lower end thereof, the door mechanism comprising the crank-frame mounted between the draft-sills and affording the crank-arms and section connecting said arms beyond the pivotal center of said frame, the transverse operating-shaft extending below said floor-section and connected with said frame, and the connecting-rod pivotally mounted at its upper end between said crank-arms and at its lower end pivotally connected with the lower edge of the door, said crank-frame and rod when the door is closed standing substantially in line with each other and with said floor-section; substantially as set forth.

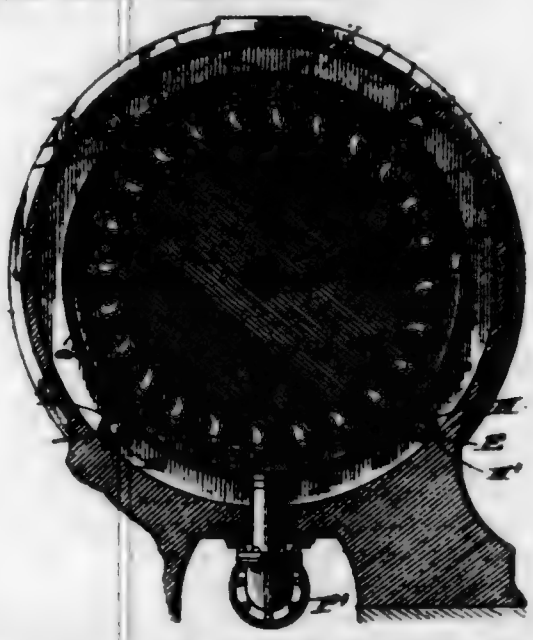
4. In a car having an inclined floor-section and a downwardly-hanging discharge-door at the lower end thereof, the door mechanism comprising the crank-frame mounted between the draft-sills and affording the crank-arms, section connecting said arms beyond the pivotal center of the frame, hub and shaft, a bearing for said shaft, the transverse operating-shaft extending below said floor-section and connected with said hub, and the connecting-rod pivotally mounted at its upper end between said crank-arms and at its lower end pivotally connected with the lower edge of the door, said crank-frame and rod when the door is closed standing substantially in line with each other and with said floor-section; substantially as set forth.

5. In a car having an inclined floor-section and a downwardly-hanging discharge-door at the lower end thereof, the door mechanism comprising the integral crank-frame mounted between the draft-sills and affording the connected crank-arms, the transverse operating-shaft extending below said floor-section and connected with said frame, and the connecting-rod pivotally mounted at its upper end between said crank-arms and at its lower end pivotally connected with the lower edge of the door, said crank-frame and rod when the door is closed standing substantially in line with each other and with said floor-section; substantially as set forth.

6. In a car having an inclined floor-section and a downwardly-hanging discharge-door at the lower end thereof, the door mechan-

ism comprising the transverse operating-shaft extending below said floor-section and having a bearing at the side of the car and in a hanger connected with one of the draft-sills and possessing a polygonal inner end, and the crank-frame between said sills affording the connected crank-arms, hub and shaft, said hub being recessed to receive the inner polygonal end of said operating-shaft, and the shaft of said crank-frame being mounted in a hanger-bearing connected with the other one of said sills, combined with the connecting-rod pivotally mounted at its upper end between said crank-arms and at its lower end pivotally connected with the lower edge of the door, said crank-frame and rod when the door is closed standing substantially in line with each other and with said floor-section; substantially as set forth.

808,764. REVERSIBLE ROTARY TURBINE-ENGINE. CHARLES G. ABBEY, Camden, N. J., and JOHN F. MACLINDON, Philadelphia, Pa. Filed Feb. 13, 1906. Serial No. 300,459.



Claim.—1. In an engine of the kind described, the combination with a casing having a cylinder arranged therein, said cylinder being smaller than the casing whereby a steam-space is provided, a second cylinder arranged within the first-mentioned cylinder, said second-mentioned cylinder being smaller in diameter whereby an exhaust-chamber is provided, a turbine-wheel mounted to revolve within the second cylinder and having a series of pockets which register with exhaust-ports provided in the said second-mentioned cylinder during the revolution of the turbine, valve-cylinders arranged within the steam-space and having inlet and exhaust ports, nozzles for conducting steam from the exhaust-ports to the pockets of the turbine, valves for controlling the inlet-ports, means connected to the valves to intermittently open and close the said inlet-ports and valves for controlling the exhaust-ports.

2. In a device of the kind described, the combination with a casing having a cylinder arranged therein to provide a steam-chamber within the casing, a second cylinder arranged within the first-mentioned cylinder to provide an exhaust-chamber between the cylinders, a turbine-wheel operating within the second cylinder and having a series of ribs projecting from its periphery which are arranged in serpentine alinement across the periphery thereof, whereby a plurality of series of alternating pockets are produced, nozzles communicating with the steam-chamber for conducting steam into the pockets, means for controlling the supply of steam into the pockets, the said second cylinder having a series of exhaust-ports, an inlet-pipe connected to the casing and an exhaust-pipe connected to the inner cylinder and communicating with the exhaust-chamber.

3. In a device of the kind described, the combination with a casing having a steam and exhaust chamber, of a turbine-wheel operating within the casing and having a series of alternating pockets in its periphery, the sides of the ribs forming said pockets being concaved, nozzles for conducting steam to the pockets, cylinders connected to the nozzles and having ports which communicate therewith, valves controlling the ports, and means for operating the valves.

4. In a reversible rotary turbine-engine, the combination with a rotary turbine-wheel, having a plurality of series of alternating concaved pockets in its periphery, of a cylinder surrounding the wheel and having a series of alternating ports which communicate with the pockets of the wheel when the latter is revolved, sets of steam-feeding nozzles for conducting steam to both sets of pockets, and means for controlling the entrance to either set of pockets.

5. In a reversible rotary turbine-engine, the combination with a turbine-wheel having a plurality of series of alternating pockets, each series of which being communicating, the ribs forming the pockets being arranged in serpentine form across the peripheries of the cylinder, whereby the alternating pockets are produced, a cylinder within which the wheel is mounted, said cylinder having ports which communicate with each series of pockets as the turbine revolves, cylinders having nozzles connected thereto for conducting steam to the pockets, the said nozzles extending in opposite directions from the cylinders, valves within the cylinders for controlling the entrances to the nozzles, and means for controlling the valves.

6. In a reversible rotary engine of the kind described, the combination with a turbine-wheel having a plurality of series of alternating pockets, of a cylinder within which the wheel is mounted, said cylinder having a series of ports communicating with the pockets nozzles projecting through the said cylinder and substantially tangential to the peripheries thereof, the first set of ports in cylinder being arranged somewhat in advance of the nozzles, cylinders having ports with which the nozzles communicate, and also inlet-ports through which steam is fed to the nozzles, valves for intermittently opening and closing the inlet-ports, and valves for controlling the ports which communicate with the nozzles, substantially as specified.

7. In an engine of the kind described, the combination with a casing of a cylinder arranged therein, said cylinder being smaller in diameter than the casing whereby a steam-chamber is formed within the casing, a second cylinder arranged within the first-mentioned cylinder whereby an exhaust-chamber is formed between the said cylinders, a turbine-wheel mounted within the inner cylinder, valve-cylinders arranged within the steam-chamber, said valve-cylinders having inlet and exhaust ports therein, sets of discharge-nozzles extending in opposite directions from the valve-cylinders and projected through openings formed in the periphery of the turbine-cylinder to discharge into alternating pockets formed in the said turbine, valves arranged within one end of the valve-cylinders for controlling the inlet-ports, reversing-valves arranged in the valve-cylinders for controlling the exhaust-ports and means for independently operating said valves as specified.

8. In an engine of the kind described, the combination with the casing of a cylinder arranged therein, a shaft operating through the casing and cylinder, a turbine-wheel mounted upon the shaft within the cylinder, and having pockets arranged in its periphery, valve-cylinders arranged within the casing and having inlet and exhaust ports, sets of discharge-nozzles connected to the said valve-cylinder and extending in opposite diverging direction into the cylinder surrounding the turbine, valves operating in one end of the valve-cylinders and controlling the inlet-ports, the ends of the valves projecting through the casing, and having weighted crank-arms connected thereto, links connected to one end of the crank-arms and having their opposite ends connected to rods, the opposite ends of which are connected to an eccentric-strap carried by an eccentric disk mounted upon the shaft, reversing-valves operating in the remaining portions of the valve-cylinders and having ports to register with the exhaust-ports of the said valve-cylinders, one end of the reversing-valves projecting through the casing and having crank-arms connected thereto, a disk mounted upon the head of the casing and having arms radiating therefrom, links connecting the said arms and crank-arms, and a lever connected to the disk and operating upon a segment for holding the lever in position as specified.

9. In an engine of the kind described, the combination with a casing, of a cylinder arranged therein, said cylinder being of a smaller diameter than the casing whereby a steam-chamber is provided within the casing, a second cylinder arranged within the first-mentioned cylinder, a turbine-wheel mounted within the second-mentioned cylinder, valve-cylinders arranged within the steam-chamber and having inlet and exhaust ports, the inlet-ports communicating with the steam-chamber, sets of discharge-nozzles connected to the valve-cylinders and communicating with the exhaust-ports and extending into the turbine-cylinder in opposite diverging direction to discharge upon the sides of the pockets formed in the wheel, cut-off valves controlling the inlet-ports, reversing-valves controlling the exhaust-ports, and means for operating the cut-off valves and means for controlling the reversing-valves.

10. In an engine of the kind described, the combination with a casing, of a cylinder arranged therein, a turbine-wheel operating within the cylinder and having pockets in the periphery thereof, valve-cylinders arranged within the casing and having inlet and exhaust ports, sets of discharge-nozzles connected to the valve-cylinders and communicating with the exhaust-ports, said nozzles extending into the cylinder surrounding the turbine to discharge into pockets and upon the sides thereof formed in the periphery of the turbine-wheel, cut-off valves arranged in one end of the valve-cyl-

inders and having ports which register with the inlet-ports, reversing-valves also arranged within the cylinders and having ports which register with the exhaust-ports, means for operating the cut-off valves to momentarily open and close the inlet-ports, and means for controlling the reversing-valves to open and close each set of ports.

11. In an engine of the kind described, the combination with a casing, of a cylinder arranged therein, a turbine-wheel mounted to revolve within the cylinder, said turbine-wheel having a series of pockets in its periphery, the ribs forming the pockets being in serpentine form across the periphery of the wheel whereby a plurality of series of alternating pockets are produced, valve-cylinders arranged within the casing and having inlet and exhaust ports upon opposite sides thereof, sets of discharge-nozzles connected to the valve-cylinders and extending in diverging direction to the turbine to discharge into and upon the sides of the pockets thereof, reversing-valves controlling the discharge through the exhaust-ports, cut-off valves for intermittently closing the inlet-ports, and means for independently operating both sets of valves.

12. In an engine of the kind described, the combination with a casing, of a cylinder arranged therein, and having a series of exhaust-ports in its periphery, a turbine-wheel mounted to revolve within the cylinder, valve-cylinders arranged within the casing and having inlet and exhaust ports, the said exhaust-ports being upon opposite sides of the cylinders, discharge-nozzles connected to the valve-cylinders and extending in diverging directions into the turbine-cylinder to discharge into pockets formed in the periphery of the turbine-wheel, reversing-valves for closing the exhaust-ports upon either side of the valve-cylinders, means for operating the valves, cut-off valves arranged in the cylinders and controlling the inlet-ports, means connected to the cut-off valves for operating them to intermittenly open and close the said inlet-ports.

13. In an engine of the kind described, the combination with a casing, of a cylinder arranged therein, said cylinder being of a smaller diameter than the casing whereby an annular steam-chamber is provided within the casing, a second cylinder arranged within the first-mentioned cylinder and having exhaust-ports in its periphery, a shaft journaled in the casing and cylinders, a turbine-wheel mounted upon the shaft within the second-mentioned cylinder, said turbine-wheel having a plurality of series of pockets in its periphery, the ribs forming the pockets being arranged in serpentine form across the periphery of the wheel whereby a series of alternating pockets are produced upon the opposite sides of the ribs, the faces of the ribs being concaved, valve-cylinders arranged within the steam-chamber and having inlet and exhaust ports, the exhaust-ports being in the opposite sides of the valve-cylinders, discharge-nozzles connected to the valve-cylinders and communicating with the exhaust-ports, and extending tangentially into the second-mentioned cylinder, the said nozzles upon one side of the valve-cylinders being arranged to discharge in one set of pockets, and the discharge-nozzles upon the opposite sides of the valve-cylinders being arranged to discharge in the opposite or alternating pockets of the turbine-wheel, reversing-valves for controlling the exhaust-ports, and means for operating all of the valves substantially as described.

14. In an engine of the kind described the combination with a casing, of a cylinder arranged therein, a second cylinder arranged within the first-mentioned cylinder, a shaft mounted in the first-mentioned cylinder and casing, a turbine-wheel mounted upon the shaft within the second-mentioned cylinder, said wheel having a plurality of series of alternating pockets arranged in its periphery, the sides of which are concaved, valve-cylinders arranged within the casing and having inlet and exhaust ports, the said exhaust-ports being upon both sides of the valve-cylinders, discharge-nozzles connected to the valve-cylinders and communicating with the discharge-ports, said nozzles extending in diverging directions and tangentially into the second cylinder, reversing-valves arranged within the valve-cylinders and controlling the exhaust-ports, one end of each valve extending through the head of the casing and having a crank-arm connected thereto, a disk mounted upon the head of the casing, said disk having a series of arms radiating therefrom, links connecting said arms and crank-arms, a lever connected to the said disk for controlling the movement thereof, cut-off valves arranged in the valve-cylinders and controlling the inlet-ports, said valves extending through the opposite head of the cylinder and having weighted crank-arms connected thereto, an eccentric mounted upon the shaft, an eccentric-strap operating thereon, rods connected to the said strap and links connecting said rods and crank-arms of the cut-off valves.

15. In an engine of the kind described, the combination with a casing, of a cylinder arranged therein, a second cylinder arranged within the first-mentioned cylinder, a shaft mounted in the casing and first-mentioned cylinder, a turbine-wheel mounted upon the shaft and having pockets in the periphery thereof, valve-cylinders arranged in the casing and having inlet and exhaust ports, discharge-nozzles extending from the exhaust-ports into the second-mentioned cylinder and adapted to discharge into the pockets of the turbine, cut-off valves operating in one end of the valve-cylinders, each valve having its outer end projecting through the head of the casing, weighted crank-arms connected to the said projecting ends, an eccentric and strap mounted upon the shaft, rods projecting from the strap, links connecting the rods and weighted crank-arms, reversing-valves operating in the said valve-cylinders, each valve having its outer end projecting through the head of the casing, crank-arms connected to the said ends, a disk mounted upon the head and having arms radiating therefrom, links connecting the arms of the disk and crank-arms, a lever connected to the disk, all substantially as and for the purpose specified.

16. In an engine of the kind described, the combination with the main and auxiliary casings, of cylinders arranged one within the other in each casing, to provide steam and exhaust chambers, a shaft mounted in the casings and cylinders, turbine-wheels mounted upon the shaft and operating in each inner cylinder, valve-cylinders arranged within the main casing and having inlet and exhaust ports, discharge-nozzles connected to the valve-cylinders and extending from the exhaust-ports into the inner cylinders, cut-off valves arranged in one end of each valve-cylinder and controlling the inlet-ports, reversing-valves arranged in the opposite end of each valve-cylinder and controlling the exhaust-ports, valve-tubes arranged in the auxiliary casing and having inlet and exhaust ports, reversing-valves arranged in the valve-tubes and controlling the exhaust-ports, means connected to the reversing-valves by which they are simultaneously operated, means connected to the said cut-off valves by which they are simultaneously operated, an inlet-pipe connected to the main casing, an exhaust-pipe connecting the exhaust-chamber in the main casing and the steam-chamber in the auxiliary casing and an exhaust-pipe connected to the exhaust-chamber of the auxiliary casing, all substantially as specified.

17. In an engine of the kind described, the combination with the main and auxiliary casings, each having steam and exhaust chambers, of the cylinders arranged one within the other in each casing, a turbine-wheel mounted in the inner cylinder of each casing, an inlet-pipe connected to the main casing, an exhaust-pipe connecting the exhaust-chamber in the main casing and the steam-chamber in the auxiliary casing, an exhaust-pipe connected to the exhaust-chamber in the auxiliary casing, valve-cylinders arranged in the main casing and having inlet and exhaust ports, discharge-nozzles connected to the valve-cylinders and extending into the inner cylinder, cut-off valves controlling the inlet-ports, reversing-valves controlling the exhaust-ports, valve-tubes arranged in the auxiliary casing and having inlet and exhaust ports, discharge-nozzles connected to the tubes and extending into the inner cylinder in the auxiliary casing, reversing-valves for controlling the exhaust-ports in the valve-cylinders and valve-tubes, cut-off valves controlling the inlet-ports in the valve-cylinders, means for simultaneously operating the reversing-valves, and means for operating the cut-off valves.

18. In an engine of the kind described, the combination with a main and auxiliary casing, each having steam and exhaust chambers, of the cylinders arranged one within the other in each casing, a shaft journaled within the casings and cylinders, an inlet-pipe connected to the main casing, an exhaust-pipe connecting the exhaust-chambers in the main casing and the steam-chamber in the auxiliary casing, and an exhaust-pipe connected to the exhaust-chamber in the auxiliary casing, turbine-wheels mounted upon the shaft and operating within the inner cylinders, valve-cylinders arranged within the main casing and having inlet and exhaust ports, discharge-nozzles extending from the exhaust-ports into the inner cylinder, cut-off valves controlling the inlet-ports, reversing-valves controlling the exhaust-ports, valve-tubes arranged in the auxiliary casing and having inlet and exhaust ports, discharge-nozzles extending from the said exhaust-ports into the cylinder of the auxiliary casing, reversing-valves controlling the exhaust-ports, and means for operating the said cut-off valves.

19. In an engine of the kind described, the combination with the main and auxiliary casings, each having steam and exhaust chambers, of cylinders within the casings, a second cylinder within each of the first-mentioned cylinders, a shaft journaled in the casings and cylinders, turbine-wheels mounted upon the shaft, an inlet-pipe connected to the main casing, a discharge-pipe connecting the exhaust-chamber of the main casing and the steam-chamber of the auxiliary casing, an exhaust-pipe connected to the exhaust-chamber in the auxiliary casing, valve-cylinders arranged within the main cas-

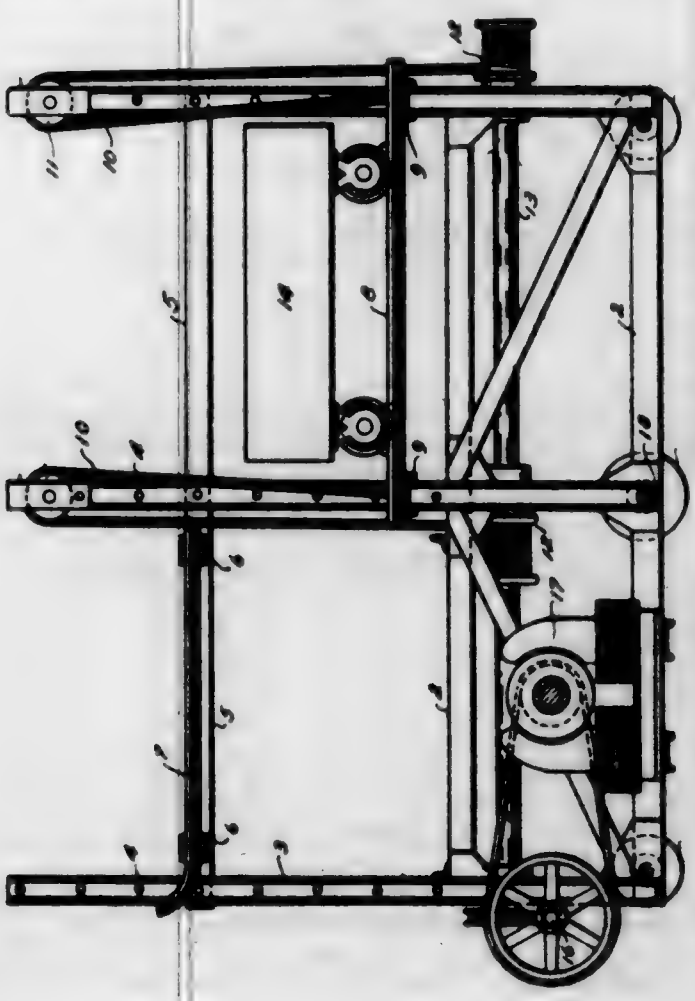
ing and having inlet and exhaust ports, discharge-nozzles extending from the exhaust-ports into the inner cylinder, cut-off valves and reversing-valves arranged within the valve-cylinders, valve-tubes arranged within the auxiliary casing and having inlet and exhaust ports, discharge-nozzles extending from the said exhaust-ports into the inner cylinder of the auxiliary casing, reversing-valves controlling the exhaust-ports, crank-arms connected to the reversing-valves, disks mounted upon the ends of the casings, each disk having arms radiating therefrom, links connecting the said arms of the disks and the said crank-arms, a rock-shaft journaled to the casings, crank-arms extending from each end of the shaft, a link connecting one disk and crank-arm and a second link connecting the second-mentioned disk and crank-arm, and a lever connected to one disk for operating the said disks, and reversing-valves and means for operating the cut-off valves.

20. In an engine of the kind described, the combination with a casing having cylinders arranged therein, and one within the other to provide steam and exhaust chambers, of a turbine operating within the inner cylinder, the said turbine having pockets in its periphery, the said inner cylinder having ports communicating with the pockets and exhaust-chamber, nozzles for feeding steam to the pockets, and valves for intermittently opening and closing the inlets to the nozzles.

21. In an engine of the kind described, the combination with a casing having an annular steam-chamber, of valve-cylinders arranged within the casing, and in the steam-chamber, said valve-cylinders having inlet and exhaust ports, rotary valves operating within the cylinders, for independently controlling the said ports, means for operating the valves, a turbine operating within the casing, and nozzles connected to the valve-cylinders for conducting steam from the exhaust-ports onto the periphery of the turbine-wheel.

22. In an engine of the kind described, the combination with a casing having an annular steam-chamber and an annular exhaust-chamber, of a turbine-wheel, valve-cylinders arranged in the casing and within the annular steam-chamber, said cylinders having inlet-ports arranged in the one end and exhaust-ports arranged upon opposite sides throughout the remaining portion of their length, nozzles connected to the exhaust-ports and arranged to discharge upon the turbine-wheel, rotary valves for controlling the inlet-ports, means for operating the valves to intermittently open and close the ports, rotary valves for controlling the exhaust-ports, and means for operating the last-mentioned valves.

806,765. **PORTABLE BRICK-ELEVATOR.** FREDERICK A. BACH, Chicago, Ill. Filed Apr. 10, 1905. Serial No. 254,743.

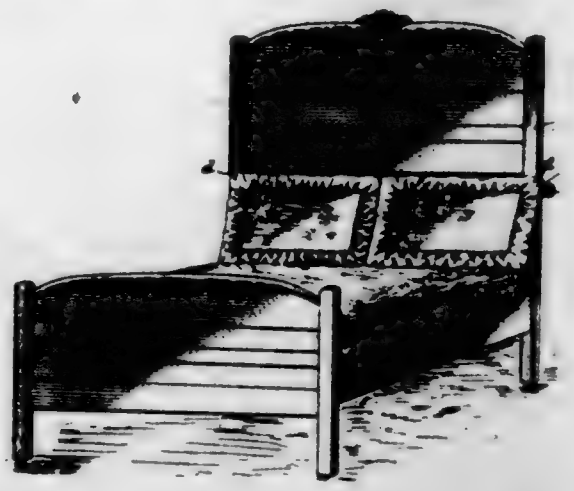


Claim.—1. The combination of a portable frame, wheels supporting said frame, a horizontally-disposed platform adjustable to fixed positions at a plurality of different levels in said frame, a second horizontal platform suspended by cables in said frame and vertically movable therein, a pair of tracks on each of said platforms for supporting a car, said tracks being adapted to be brought into alinement with each other to permit a car to be run from one platform to the other when said platforms are at the same level, and mechanism for raising and lowering said second platform.

2. The combination of a portable frame, wheels supporting said frame, a horizontally-disposed platform adjustable to fixed positions at a plurality of different levels in said frame, a second horizontal platform mounted to move vertically in said frame, a pair of tracks on each of said platforms for supporting a car, said tracks being adapted to be brought into alinement with each other to permit a car to be run from one platform to the other when said platforms are at the same level, and mechanism for raising and lowering said second platform.

3. The combination of a portable frame, wheels supporting said frame, a horizontally-disposed platform adjustable to fixed positions at a plurality of different levels in said frame, a second horizontal platform mounted to move vertically in said frame, a pair of tracks on each of said platforms for supporting a car, said tracks being adapted to be brought into alinement with each other to permit a car to be run from one platform to the other when said platforms are at the same level, four cables secured directly to the corners of said second platform, sheaves at the upper part of said frame for said cables, drums engaging said cables for raising and lowering said second platform and worm-gearing for simultaneously driving said drums.

806,766. **PILLOW-SHAM HOLDER.** ROBERT M. BALENTINE, Greenville, S. C. Filed June 23, 1905. Serial No. 266,637.



Claim.—1. In combination with a bedstead, a pair of vertical ways attached to the rear side of the headboard thereof, a vertically-movable bar arranged to slide in each of these ways, means for raising and lowering said bars, bracket-arms carried by said bars and extending around to a point in front of the headboard, and a sham-carrying bar supported on these bracket-arms, substantially as set forth.

2. In combination with a bedstead, of a sham-holding bar extending across in front of the headboard thereof, a bracket-arm engaging each end of said bar and extending around behind the headboard, and means for supporting and raising and lowering said bracket-arms, said means being supported on the rear face of the headboard.

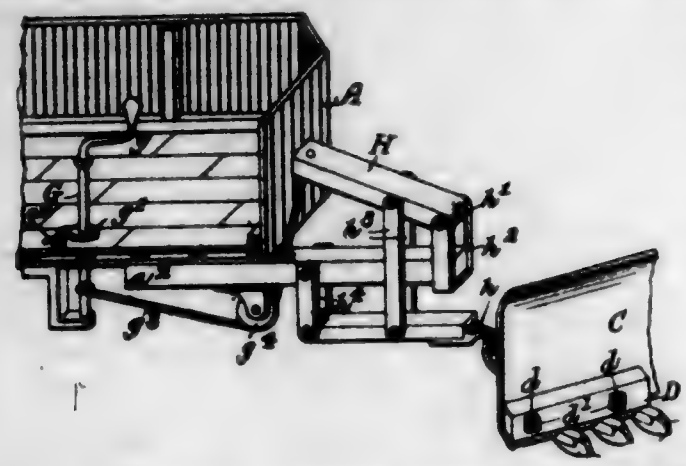
3. In combination with a bedstead, of a sham-holding bar extending across the front of the headboard thereof, bracket-arms attached to this bar and extending around behind the headboard, a vertically-slidable bar attached to the rear end of each bracket-arm, and means supported on the rear face of the headboard for simultaneously raising and lowering said bars, substantially as set forth.

806,767. **ICE-REMOVING TRACK-CLEARER.** FRANCIS M. BANCROFT, Lowell, Mass. Filed Mar. 22, 1905. Serial No. 251,255.

Claim.—1. In a track-clearer, the combination of a shear, means for holding down said shear, a cutter-bar carried by said shear, and cutters secured to said cutter-bar.

2. In a track-clearer, the combination of a cutter-bar arranged diagonally, means for holding said cutter-bar down to operative position, cutters secured to said cutter-bar and arranged parallel with

the path of said clearer and having convex sides which overlap the paths of adjacent cutters.



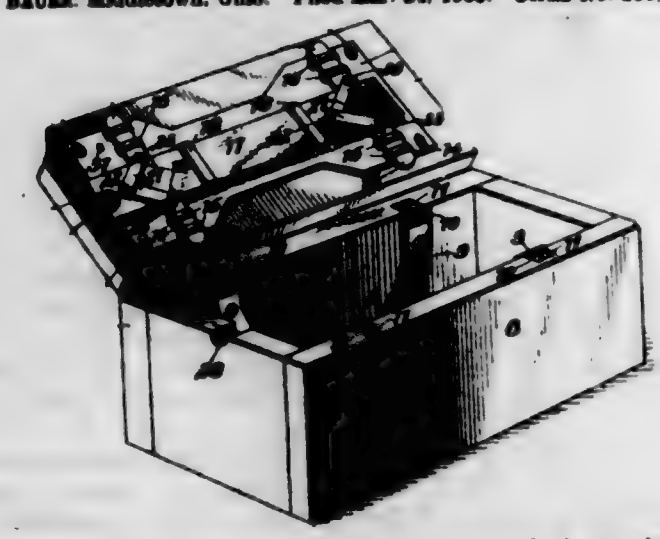
3. In a track-clearer, a cutter-bar arranged diagonally to the path of said clearer, cutters each comprising a shank rigidly secured to said cutter-bar and a cutting-bit having a shoulder and ears to receive and fit said shank, and bolts to unite each bit to its shank.

4. In a track-clearer, the combination of a car-body, a shear, means for raising and lowering said shear, a lever mediately supported by said car-body, and engaging said shear, means supported on said body for depressing said lever and holding down said shear, and a cutter-bar and cutters carried by said shear.

5. In a track-clearer, the combination of a shear, a cutter-bar, cutters carried by said bar, wings or extensions, pivoted to said bar and adapted to extend beyond the ends of said shear and to be turned up within the ends of said bar.

6. In a track-clearer, the combination of a car-body, a shear, connecting means to support said shear from said car-body, a cutter-bar, supported by said shear, cutters carried by said bar, pivots supported and turning in said cutter-bar, extensions or wings rigidly secured to said pivots, in front of said shear, arms secured to said pivots, a rotary shaft, having arms above and below the same, links necting the arms of said shaft to the arms of said pivots, and means supported on said car-body for rotating said shaft to raise and lower said wings out of or into parallelism with said cutter-bar.

806,768. **MULTIPLE-BOLT LOCKING DEVICE.** THEODOR H. BAUER, Middletown, Ohio. Filed Mar. 24, 1905. Serial No. 251,837.



Claim.—1. In mechanism of the class described, the combination with a closure, of a bolt slidably mounted thereon, an actuating-bar also slidably mounted on the closure in rear of the bolt and having a recess that receives the rear end thereof, the recess having an inclined wall and the said rear end being likewise inclined and movable into and out of the recess, and a link pivotally connected to the bolt in advance of its rear end and to the bar.

2. In mechanism of the class described, the combination with a closure, of oppositely-movable bolts slidably mounted on the closure, a sliding actuating-bar disposed between the bolts in angular relation thereto and having recesses in its opposite edges that receive the rear ends of the bolts, sets of links pivotally connected to the bolts in advance of the portions that are received in the recesses, and a common pivotal device for connecting the links of each set to the bar.

3. In mechanism of the class described, the combination with a closure, of a base-plate secured thereto, oppositely-extending sets of bolts mounted on the base-plate, guides for said bolts carried by the plate, an actuating-bar extending longitudinally of the base and slidable thereon, said bar extending between the bolts at substantially right angles thereto, guides for retaining the bar to the base, and oppositely-extending sets of links, each set having a common pivotal connection with the bar and being furthermore pivotally connected to the bolts, said bolts and operating mechanism therefor being thereby carried by and removable with the base-plate in assembled relation.

4. In mechanism of the class described, the combination with a closure, of a locking-bolt therefor, an actuating device for the bolt having a key-receiving socket, and a holding-dog movable into and out of the key-receiving socket and engaging the walls of said socket to hold the actuating device against movement.

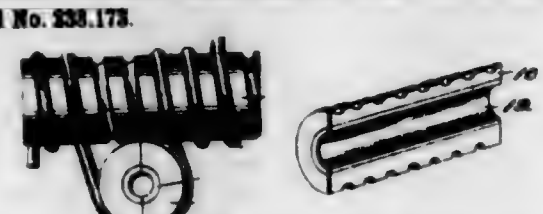
5. In mechanism of the class described, the combination with a closure, of a locking-bolt therefor, an actuating-bar for the bolt slidably mounted on the closure and having an opening constituting a key-receiving socket, and a spring-pressed holding-dog mounted on the closure and movable into and out of the key-receiving socket and engaging the walls of said socket to maintain the bar against its sliding movement.

6. In mechanism of the class described, the combination with a closure, of a base mounted thereon, bolts slidably mounted on the base, an actuating-bar slidably mounted on the base in angular relation to the bolts, said bar having a key-receiving opening in one end, a spring mounted on the base, and a dog pivotally mounted on the base and secured to the spring, said dog being movable into the key-receiving opening and engaging the walls thereof to hold the bar against movement when said bar is in a predetermined position and being furthermore moved out of said opening when the key is inserted therein.

7. In mechanism of the class described, the combination with a closure, of a base mounted thereon, oppositely-extending bolts slidably mounted on the base, an actuating-bar located at right angles between the bolts and slidably mounted on the base, said bar having a key-receiving opening in one end, links pivotally connecting the bar and bolts, and a spring-pressed dog secured to the rear side of the base and being movable into the opening when the bar is in a predetermined position and engaging the walls of said opening to hold said bar in said predetermined position.

8. In mechanism of the class described, the combination with a box or case having opposite side walls provided with spaced recesses, of curved holding-plates secured to the opposite walls of the case and having terminals located over the recesses and provided with bolt-receiving seats, a closure for the box or case, sliding bolts mounted on the under side of the closure and being movable into the bolt-receiving seats, means located between the bolts for moving the same in opposite directions, and a key arranged to be passed through the box or case and engage said actuating means.

806,769. **ADJUSTABLE SUPPORT FOR TELEGRAPH LINE-WIRES.** JASPER N. BELL, Stratford, Iowa. Filed Dec. 23, 1904. Serial No. 238,173.



Claim.—1. An insulator for telegraph line-wires consisting of two parts of rigid insulating material semicircular in cross-section fitted together to produce a short tube having a longitudinal bore in its center extending from end to end to admit a wire conductor in the manner set forth, a spiral groove in its outside surface and a wire coiled in the groove, for the purposes stated.

2. An insulator for telegraph-wires composed of a wooden tube having a longitudinal bore and a spiral groove on its outside surface and divided longitudinally into two mating parts and a glass tube divided longitudinally and fitted in the bore in the wooden tube for the purposes stated.

3. In the insulation of telegraph line-wires, two line-wires, two insulators composed of two mating parts provided with longitudinal grooves extended from end to end and provided with spiral grooves on their exterior surfaces and a wire coiled at its ends on the spirally-grooved insulators, arranged and combined as set forth for the purposes stated.

4. In the insulation of a plurality of telegraph line-wires, two pairs of parallel line-wires and each wire in each pair inclosed in an insulator-tube having spiral grooves on its outside and the wires in each pair connected by the ends of a wire coiled on the insulators

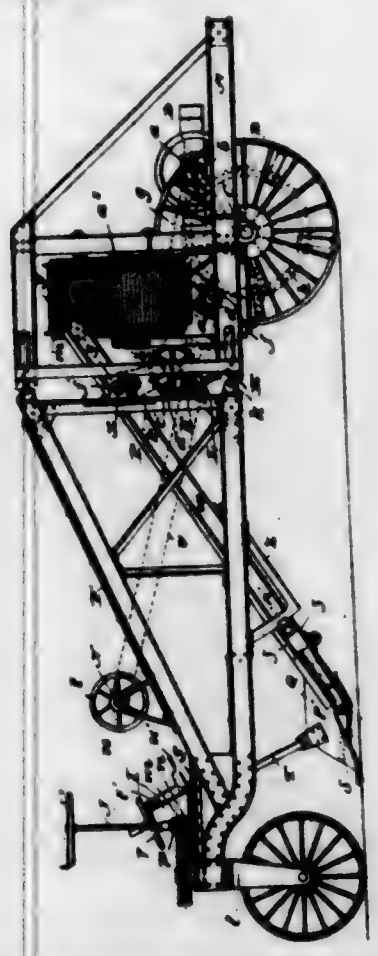
and means for connecting the pairs of wires, arranged and combined in the manner set forth.

5. An insulator for telegraph-wires composed of a wooden tube having a longitudinal bore and a spiral groove on its outside surface and divided longitudinally into two mating parts and a glass tube divided longitudinally and fitted in the bore in the wooden tube, for the purposes stated.

6. An insulator for telegraph-wires composed of a tube having a longitudinal bore and a spiral groove on its outside surface and divided longitudinally into two mating parts, a wire, coiled at its ends, in combination with the tubular insulator, a line-wire, and wires for connecting pairs of line-wires extended through the insulators, for the purposes stated.

7. An insulator for telegraph-wires composed of a tube having a longitudinal bore and a spiral groove on its outside surface and divided longitudinally into two mating parts, a wire, coiled at its ends, in combination with the tubular insulator, a line-wire and means for connecting pairs of line-wires extended through the insulators, for the purposes stated.

808,770. EXCAVATOR. ARTHUR A. BOOTH, Spokane, Wash. Filed June 8, 1905. Serial No. 263,941.



Claim.—1. In an excavator, the combination of a wheel-supported main frame, a forward frame connected to and adjustable laterally on the main frame, a shovel and an elevating-conveyer carried by said forward frame, and means for adjusting the forward frame laterally on the main frame.

2. In an excavator, the combination of a wheel-supported main frame, a forward frame connected to and adjustable laterally on the main frame, a shovel and an elevating-conveyer carried by the forward frame, a steering-wheel supporting the forward portion of the forward frame, means for positioning the said steering-wheel, and means for adjusting the forward frame laterally on the main frame.

3. In an excavator, the combination of a wheel-supported main frame, a forward frame connected to and adjustable laterally on the main frame, a shovel and an elevating-conveyer carried by said forward frame, a nut fixed on the main frame, and a transverse threaded shaft journaled and held against endwise movement in bearings on the forward frame and extending through and engaging the nut on the main frame.

4. In an excavator, the combination of a wheel-supported main frame having upper and lower horizontally-disposed guide-rails on its forward portion, a laterally-adjustable forward frame having boxes on its rear portion receiving the said rails, a shovel and an elevating-conveyer carried by said forward frame, and coacting means on the main frame and the forward frame for adjusting the latter sidewise.

5. In an excavator, the combination of a wheel-supported main frame having upper and lower horizontally-disposed guide-rails on its forward portion, and also having a nut provided with a transverse threaded aperture, a laterally-adjustable forward frame having boxes on its rear portion receiving the guide-rails of the main frame, a shovel and an elevating-conveyer carried by said forward frame, a transverse, threaded shaft journaled and held against endwise movement in bearings on the forward frame and extending through and engaging the nut on the main frame, a steering-wheel supporting the forward portion of the forward frame, means for positioning the said steering-wheel, means arranged adjacent to the said steering means for moving the forward frame sidewise, and a driving connection intermediate the last-mentioned means and the threaded shaft for rotating the latter.

6. In an excavator, the combination of a wheel-supported main frame, a forward frame equipped with excavating means and carried by and adjustable laterally on the main frame, and means for moving the forward frame sidewise with respect to the main frame.

7. In an excavator, the combination of a wheel-supported main frame, a wheel-supported forward frame equipped with excavating means, horizontal guides connecting the main frame and the forward frame so as to adapt the latter to be adjusted in the direction of the width of the machine, and means for so adjusting the forward frame on the main frame.

8. In an excavator, the combination of a wheel-supported frame, vertically-movable excavating means carried by said frame, means for adjusting the active end of said excavating means vertically with respect to the frame, a spring arranged to be placed under tension when said end of the excavating means is moved downwardly, and means for releasing the adjusting means so as to enable the expansion of the spring to instantaneously raise the active end of the excavating means.

9. In an excavator, the combination of a wheel-supported frame, vertically-movable excavating means carried by said frame, a shaft connected to the excavating means and provided with an upper threaded portion, a nut mounted on and engaging said shaft, a trigger for normally holding said nut against movement with respect to the frame, a spring interposed between the shaft and the frame and arranged to be put under tension by downward movement of the shaft, and suitable means for disengaging the trigger from the nut.

10. In an excavator, the combination of a wheel-supported frame, vertically-movable excavating means carried by said frame, a box fixed with respect to the frame and receiving a shaft or rod, the said shaft or rod connected to the excavating means and having an upper threaded portion and also having an abutment, a spring contained in the box and interposed between the same and the abutment of the shaft or rod, a support on the frame having an opening in its top and a guideway intersecting said opening, a nut disposed in the opening of the support and on the threaded portion of the shaft or rod and having a circumferential groove, a trigger extending through the guideway of the support and normally resting in the groove of the nut, and a pedal-lever connected to the trigger.

11. In an excavator, the combination of a frame, vertically-movable excavating means carried by said frame, means connecting the active end of the excavating means and the frame and arranged to adjust said active end of the excavating means with respect to the frame, a spring arranged to be placed under tension incident to downward movement of the said connection, and means for releasing the connection from the frame so as to enable the expansion of the spring to raise the active end of the excavating means.

12. In an excavator, the combination of a frame, excavating means comprising a shovel and an elevating-conveyer carried by said frame; the conveyer being pivoted to and arranged to swing vertically on the frame, a knee-brace connected to the frame, and an abutment on the conveyer arranged to bear against the forward portion of the knee-brace and thereby impose on the knee-brace the thrust to which the shovel is subjected.

13. In an excavator, the combination of a wheel-supported main frame, a forward frame connected to and adjustable laterally on the main frame and provided adjacent to its forward end with a platform, a shovel and an elevating-conveyer carried by the forward frame, a steering-wheel supporting the forward portion of the forward frame, means adjacent to the said platform for positioning the said steering-wheel, a nut fixed on the main frame, a transverse threaded shaft journaled and held against endwise movement in bearings on the forward frame and extending through and engaging the nut on the main frame, a shaft mounted on the forward frame at a point adjacent to the platform thereof, and a driving connection intermediate said shaft and the threaded shaft.

14. In an excavator, the combination of a carrier, a shovel having side flanges disposed alongside the carrier, and transverse pins,

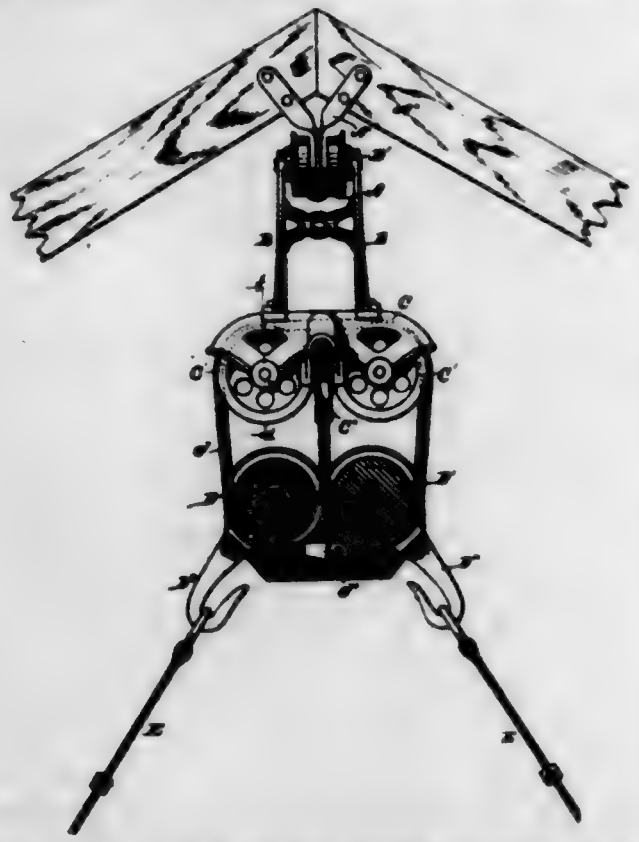
of wood or other readily-breakable material, extending through and connecting the flanges of the shovel and the carrier.

15. In an excavator, the combination of a main frame, wheels supporting the same, a forward frame connected to and adjustable laterally on the main frame, means for adjusting the forward frame laterally, a steering-wheel carried by and supporting the forward frame, an endless conveyer and a shovel carried by the forward frame, a transverse conveyer carried by the main frame and arranged to receive from the first-mentioned conveyer; said transverse conveyer being adjustable vertically and in the direction of its length on the main frame, an engine on the main frame, and driving connections intermediate the engine and one of the supporting-wheels of the main frame, the first-mentioned conveyer, and the transverse conveyer; the connection to the transverse conveyer being reversible.

16. In an excavator, the combination of a frame, an endwise-movable and vertically-adjustable conveyer carried by the frame and comprising a belt, means for driving the belt, and a connection intermediate the driving means and the belt comprising a reversing-gear.

17. In an excavator, the combination of a frame, an endwise-movable and vertically-adjustable conveyer comprising a shaft journaled on the frame, and a conveyer having a frame provided with slots receiving the shaft and a belt arranged in engagement with sprocket-wheels on said shaft, means for driving the shaft, a connection intermediate the driving means and the shaft including a reversing-gear, and means for adjustably fixing the frame and the belt of the conveyer with respect to the first-mentioned frame.

806,771. HAY-CARRIER. ALLEN P. BOYER, Goshen, Ind. Filed Mar. 13, 1905. Serial No. 249,852.



Claim.—1. In a hay-carrier, the combination with a track of a carriage; trucks adapted to travel on said track, to which said carriage is pivotally secured; a pulley-block secured to said carriage having a pair of sheaves arranged transversely to said carriage and track, and a sheave arranged longitudinally thereof at a point central to said pair of sheaves; a pair of running pulley-blocks having sling-engaging hooks thereon; and a power or hoisting rope secured to one of said running-blocks and rove over the other block, thence over the pair of transversely-arranged sheaves of said carriage pulley-block, thence over the first-named running pulley-block, and thence over the longitudinally-arranged sheave of said carriage pulley-block, for the purpose specified.

2. In a hay-carrier, the combination with a track of a carriage; a pulley-block secured to said carriage, having a pair of sheaves arranged transversely to said carriage and track, and a sheave arranged longitudinally thereof at a point central to said pair of sheaves; a pair of running pulley-blocks having sling-engaging hooks thereon; and a power or hoisting rope secured to one of said running-blocks and rove over the other block, thence over the pair of transversely-arranged sheaves of said carriage pulley-block, thence over the first-named running pulley-block, and thence over the longitudinally-arranged sheave of said carriage pulley-block, for the purpose specified.

3. In a hay-carrier, the combination with a track of a carriage; trucks adapted to travel on said track, to which said carriage is pivotally secured; a pulley-block secured to said carriage, having a pair of sheaves arranged transversely to said carriage and track, and a sheave arranged longitudinally thereof at a point central to said pair of sheaves; a pair of running pulley-blocks; and a power or hoisting rope secured to one of said running-blocks and rove over the other block, thence over the pair of transversely-arranged sheaves of said carriage pulley-block, thence over the first-named running pulley-block, and thence over the longitudinally-arranged sheave of said carriage pulley-block, for the purpose specified.

4. In a hay-carrier, the combination with a track of a carriage; a pulley-block secured to said carriage, having a pair of sheaves arranged transversely to said carriage and track, and a sheave arranged longitudinally thereof at a point central to said pair of sheaves; a pair of running pulley-blocks; and a power or hoisting rope secured to one of said running-blocks and rove over the other block, thence over the pair of transversely-arranged sheaves of said carriage pulley-block, thence over the first-named running pulley-block, and thence over the longitudinally-arranged sheave of said carriage pulley-block, for the purpose specified.

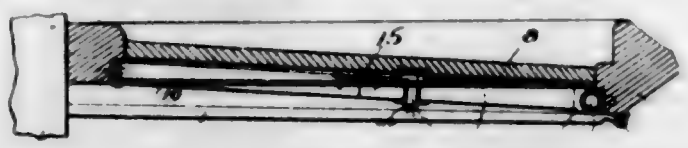
5. In a hay-carrier, the combination with a track of a carriage; trucks adapted to travel on said tracks, to which said carriage is pivotally secured; and a pulley-block rigidly secured to said carriage, having a pair of sheaves arranged transversely to said carriage and track, and a sheave arranged longitudinally thereof at a point central to said pair of sheaves, for the purpose specified.

6. In a hay-carrier, the combination with a track of a carriage; and a pulley-block rigidly secured to said carriage, having a pair of sheaves arranged transversely to said carriage and track, and a sheave arranged longitudinally thereof at a point central to said pair of sheaves, for the purpose specified.

7. In a hay-carrier, the combination of a carriage; a pulley-block secured to said carriage, having a pair of sheaves arranged transversely to said carriage and a sheave arranged longitudinally thereof; a pair of running pulley-blocks; and a power-rope secured to one of said running-blocks and rove over the other block, thence over the pair of transversely-arranged sheaves of said carriage pulley-block, thence over the first-named running pulley-block, and thence over the longitudinally-arranged sheave of said carriage pulley-block, for the purpose specified.

8. In a hay-carrier, the combination of a carriage; and a pulley-block secured to said carriage, having a pair of sheaves arranged transversely to said carriage, and a sheave arranged longitudinally thereof and in a central relation to said pair of sheaves; for the purpose specified.

806,772. VESTIBULE-DOOR. JOHN A. BRILL and CHARLES K. PICKLES, Philadelphia, Pa.; said Pickles assignor to said Brill. Filed Jan. 8, 1904. Serial No. 187,294.



Claim.—1. A folding door comprising a plurality of sections, spring-hinges connecting said sections and tending to hold them in one plane, the end one of said sections being hinged to a relatively fixed part, guide-rails for controlling the movement of said other sections and fasteners for securing said doors in either their closed or open positions.

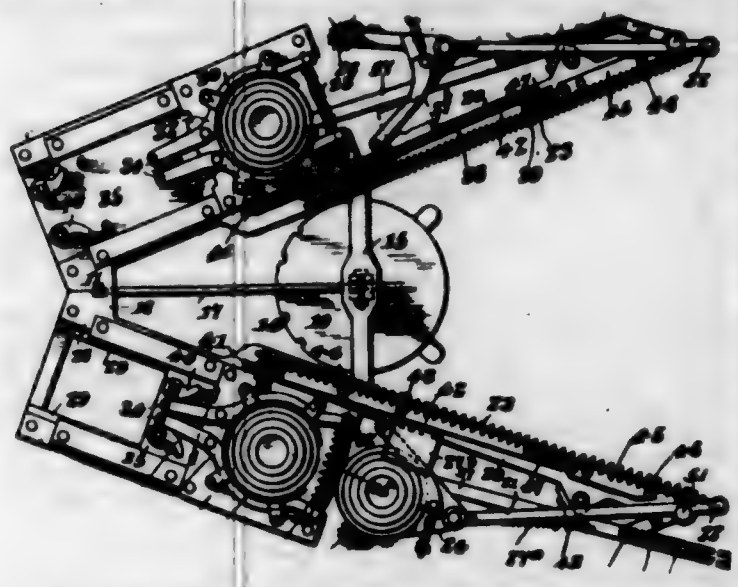
2. A folding door comprising one section hinged to a fixed part, a second section pivoted at one end to said first section, guide-rails to control the movement of the other end of said second section, a manually-operable catch carried by said second section, and means to engage said catch in either the open or closed position of said door.

806,773. TARGET-TRAP. JOHN H. BROOKMAN, Central City, Iowa, assignor of one-half to Charles B. Warner, Central City, Iowa. Filed Apr. 24, 1903. Serial No. 154,164.

Claim.—1. In a target-trap, the combination with a target-projector movable from and to a set position, of projector-actuating mechanism including self-acting means for moving the projector from and returning it to such set position.

2. In a target-trap, the combination with a target-carrier mov-

able from and to a set position, of carrier-actuating mechanism including self-acting means for automatically moving the carrier from and returning it to set position.



3. In a target-trap, the combination with a target-carrying arm, of means for swinging the arm from a set position in one direction to eject a target and including self-acting means for returning the arm to set position in an opposite direction in the same path of movement.

4. In a target-trap, the combination with a swinging target-projector movable in one direction from and returning in an opposite direction to a set position, of means for automatically actuating the projector to move it away from its set position and including a spring for also returning the projector to said set position.

5. In a target-trap, the combination with a target-projector, of a spring for actuating the same, and means for automatically releasing the tension of the spring upon the projection of a target.

6. In a target-trap, the combination with a target-projector, of a spring for actuating the same, and means operated by the projector for automatically releasing the tension of the spring upon the projection of a target.

7. In a target-trap, the combination with a swinging target-carrying arm, of a spring for moving the arm, and means for automatically releasing the tension of the spring when the arm is swung to a predetermined position to project a target.

8. In a target-trap, the combination with a target-carrying arm, of a common spring for actuating the arm to project a target and returning said arm after such projection, and means associated with said arm and spring for effecting such movement of the former by the latter.

9. In a target-trap, the combination with a movable target-carrying arm, of a spring for moving the arm from and to a set position, and movable connections between the spring and arm for returning the latter.

10. In a target-trap, the combination with a target-carrier, of means for moving the carrier to a set position, and a device for holding the setting means inactive, said carrier constituting means for moving the holding device to release the setting means.

11. In a target-trap, the combination with a target-carrier, of self-acting means for moving the carrier to a set position, and a device for holding the setting means inactive.

12. In a target-trap, the combination with a target-carrier, of automatic means for moving the carrier to a set position, and a device for holding the setting means inactive, said device being moved to an inoperative position by the target-carrier upon its movement in projecting a target to permit the actuation of the setting means.

13. In a target-trap, the combination with a target-carrier movable in one direction, of a self-acting device for resetting the carrier connected thereto and movable in an opposite direction, and means actuated by the carrier for throwing the resetting device into operation.

14. In a target-trap, the combination with a swinging target-carrying arm, of a pivoted lever, and an extensible coiled spring connecting the arm and lever.

15. In a target-trap, the combination with a target-carrier movable in one direction, of a spring for moving the carrier, a lever connected with the spring, and a holding device for securing the lever with the tension upon the spring.

16. In a target-trap, the combination with a target-carrier movable in one direction, of a spring for moving the carrier, a lever connected with the spring, a holding device for securing the lever with the tension upon the spring, and means for moving the holding device to automatically release the lever upon the actuation of the carrier.

17. In a target-trap, the combination with a target-carrier, of a spring having an operative connection with the carrier for moving said carrier from its set position and returning it to said set position.

18. In a target-trap, the combination with a target-carrier movable from a set position, of means including a spring for moving the carrier to said set position, a device for holding the carrier against actuation by the spring, and means for placing the spring under tension when the carrier is in set position.

19. In a target-trap, the combination with a target-carrier movable from a set position, of means including a spring for moving the carrier to its set position, a device for holding the spring against acting upon the carrier, and means moved by the carrier for actuating the device.

20. In a target-trap, the combination with a target-carrier, of a lever having a connection with the carrier for setting said carrier, and a spring connected to the lever and to the carrier for actuating said lever.

21. In a target-trap, the combination with a target-carrier, of a lever for moving the same, a spring for actuating the lever having connection with the carrier, and a latch for holding the lever against movement.

22. In a target-trap, the combination with a target-carrier, of a lever for moving the same, a spring for actuating the lever, and a latch for holding the lever against movement, said latch being actuated by the carrier.

23. In a target-trap, the combination with a swinging target-carrying arm, of a movable bar, a movable connection between the bar and arm, and means for automatically moving the bar to swing the arm in one direction.

24. In a target-trap, the combination with a swinging target-carrying arm, of a bar having a slot, a crank-arm carried by the target-carrying arm and movable in the slot of the bar, and a spring having an operative connection with the bar for automatically moving the bar in one direction.

25. In a target-trap, the combination with a swinging target-carrying arm, of a bar, a crank-arm carried by the arm, a spring connecting the crank-arm and the bar, and means for moving the bar to swing the arm.

26. In a target-trap, the combination with a movable target-carrier, of self-acting means for moving the carrier to a set position, and a swinging latch for holding said automatic means inoperative.

27. In a target-trap, the combination with a movable carrier of a lever having a connection with the carrier, a spring for moving the lever, a latch coacting with the lever, and a trip for moving the latch, said trip having a portion located in the path of movement of the carrier.

28. In a target-trap, the combination with a swinging target-carrying arm, of a pivoted lever, a spring connecting the arm and lever on one side of the pivot of the latter, and a connection between the portion of the lever on the opposite side of its pivot and the arm.

29. In a target-trap, the combination with a swinging target-carrying arm, of a pivoted lever, a spring connecting the arm and lever on one side of the pivot of the latter, and a crank-arm and link connection between the portion of the lever on the opposite side of its pivot and the arm.

30. In a target-trap, the combination with a swinging target-carrying arm, of a lever pivoted between its ends, a spring connecting one end of the lever and the arm, a crank-arm carried by the target-carrying arm, a longitudinally-movable bar having a link connection with the lever and a movable engagement with the crank-arm, a pivoted latch coacting with the lever and a trip having a portion located in the path of movement of the target-carrying arm and actuating the latch.

31. In a target-trap, the combination with a magazine for the targets, of means for supporting the targets therein, a plunger for moving the targets from the magazine, and means operated by the movement of and simultaneously with the plunger for actuating the supporting means.

32. In a target-trap, the combination with a magazine for the targets, of means for supporting the targets therein, a plunger for moving the targets from the magazine, and means carried by the plunger for actuating the supporting means.

33. In a target-trap, the combination with a magazine for the targets, of a jaw operating in the lower portion of the magazine and constituting a support for the target, and a device operating to expel the targets from the magazine and simultaneously move the jaw.

34. In a target-trap, the combination with a magazine for the targets, of a jaw mounted in the lower portion of the magazine, a

plunger slidable below the jaw, and a projection carried by the plunger and arranged to engage said jaw to move the same.

35. In a target-trap, the combination with a magazine for the targets, of movable jaws arranged to support the targets, a plunger movable beneath the jaws, and means for automatically opening the jaws when the plunger is beneath the same.

36. In a target-trap, the combination with a magazine for the targets, of movable jaws pivoted between their ends and arranged to support the targets, a spring for urging the jaws toward each other, a plunger movable beneath the jaws, and means for opening the jaws when the plunger is beneath the same.

37. In a target-trap, the combination with a magazine for the targets, of movable jaws pivoted between their ends and arranged to support the targets, a spring for urging the jaws toward each other, a plunger movable beneath the jaws, means for opening the jaws when the plunger is beneath the same, and a lever having a link connection with the plunger for moving the same.

38. In a target-trap, the combination with a magazine for the targets, of target-projecting means, mechanism for feeding the targets from the magazine to the projecting means, and self-acting means for moving the projecting means to set position and simultaneously moving the feeding mechanism.

39. In a target-trap, the combination with a magazine for the targets, of a target-carrier, a spring for actuating the carrier, mechanism for feeding the targets from the magazine to the carrier, and means for actuating the feeding mechanism and tensioning the spring.

40. In a target-trap, the combination with a magazine for the targets, of a target-carrier, a plunger for feeding the targets from the magazine to the carrier, and a lever having a pivotal link connection with the plunger for actuating the same.

41. In a target-trap, the combination with a magazine for the targets, of a target-carrier, a plunger for feeding the targets from the magazine to the carrier, a lever connected with the plunger, and a spring for actuating the carrier, said spring being connected with the lever.

42. In a target-trap, the combination with a magazine for the targets, of a target-carrier, a plunger for feeding targets from the magazine to the carrier, a lever for actuating the plunger, return mechanism for the carrier having a connection with the plunger, and a spring for actuating said carrier, said spring being connected with the lever.

43. In a target-trap, a target-holding device comprising yieldingly-associated arms, one of said arms carrying a rotatable post, and means for preventing the rotation of the post in one direction.

44. In a target-trap, a target-holding device comprising yieldingly-associated arms, a rotatable target-engaging post supported on one of the arms, a ratchet-disk carried by the post, and a dog engaging the disk.

45. In a target-trap, the combination with a magazine for the targets, of a target-carrier, and means for transferring the target from the magazine to the carrier, said means having yielding engagement with the target.

46. In a target-trap, the combination with a magazine for the targets, of a target-carrier, and a plunger for feeding targets from the magazine to the carrier, said plunger having a yielding portion that engages the targets.

47. In a target-trap, the combination with a magazine for the targets, of a target-carrier, a plunger for feeding targets from the magazine to the carrier, and a spring arranged upon one end of the plunger and constructed to bear against the targets.

48. In a target-trap, the combination with an oscillatory target-carrying arm movable from and to a set position, of means for actuating the arm to automatically move it from its set position and including a self-acting spring for returning the arm to set position.

49. In a target-trap, the combination with an oscillatory target-carrying arm movable from a set position and returnable to the same, of means including a spring for moving the arm from such set position and returning it to the same.

50. In a target-trap, the combination with a movable target-carrying arm, of a spring for moving the arm from and toward a set position, movable connections between the spring and arm for returning said arm, and means for holding said connections inactive during the movement of the arm from its set position.

51. In a target-trap, the combination with a swinging target-carrying arm, of a crank-arm rigidly connected thereto and swinging therewith, a spring connected to the target-carrying arm for swinging the same in one direction, means including a link for swinging the target-carrying arm in a direction opposed to the action of the spring, and a pivot connecting said link and crank-arm.

52. In a target-trap, the combination with a swinging target-carrying arm, of a crank-arm rigidly connected thereto and swinging therewith, a spring connected to the target-carrying arm for swinging the same in one direction, means for swinging the target-carrying arm in a direction opposed to the action of the spring, and a pivotal connection between said means and crank-arm that permits the relative sliding movement thereof.

53. In a target-trap, the combination with a swinging target-carrying arm, of a crank-arm rigidly connected thereto and swinging therewith, a spring connected to the target-carrying arm for swinging the same in one direction, and means for swinging said target-carrying arm in a direction opposed to the action of the spring, said means comprising a reciprocatory member, a bar pivoted to the member and having a pivotal connection with the crank-arm, and means for reciprocating the member.

54. In a target-trap, the combination with a swinging target-carrying arm, of a crank-arm rigidly connected thereto and swinging therewith, a spring for swinging the target-carrying arm in one direction and an operating-bar having a pivotal connection with the crank-arm for swinging the target-carrying arm in an opposite direction.

55. In a target-trap, the combination with a swinging target-carrying arm, of a crank-arm rigidly secured thereto and swinging therewith, and a longitudinally-movable operating-bar having a sliding pivot connection with the crank-arm.

56. In a target-trap, the combination with a swinging target-carrying arm, of a support for the same, said arm being located above the support and having a depending pivot extending through the same, a crank-arm secured to the lower end of the pivot, a longitudinally-movable bar having a sliding connection with the crank-arm, and a lever connected to the bar.

57. In a target-trap, the combination with a movable target-carrier, of a target-magazine, a movable feeder for delivering targets from the magazine, a connection between the carrier and feeder and means connected to the feeder for moving the same and through the connection, moving the carrier.

58. In a target-trap, the combination with a swinging target-carrying arm, of a target-magazine, a movable feeder for delivering the targets from the magazine to the arm, and a lever having connections with both the feeder and the arm for moving the same.

59. In a target-trap, the combination with a swinging target-carrying arm, of a crank-arm connected thereto, a target-magazine, a plunger for delivering the targets from the magazine, a longitudinally-movable bar having connections with the plunger and with the crank-arm, and means for moving the plunger.

60. In a target-trap, the combination with a support, of a target-carrying arm mounted thereover and having a depending pivot extending therethrough, a crank-arm attached to the lower end of the pivot, a target-magazine, a plunger for delivering targets from the magazine, a movable bar having a connection with the plunger and with the crank-arm, and a lever having a connection with the plunger.

61. In a target-trap, the combination with an oscillatory target-projecting arm, of a spring for moving the same in one direction, target-feeding means including a reciprocatory feeding-plunger, and common means for moving the arm in an opposite direction to the spring action and for reciprocating said plunger of the feeding means.

62. In a target-trap, the combination with a movable target-projector, of movable means for feeding targets thereto, means for moving the target-projector, said moving means being connected to the target-feeding means and operated thereby, and means connected to said feeding means for moving the same.

63. In a target-trap, the combination with a movable target-projector, of movable means for feeding targets thereto, means for moving the target-projector, means connected to the feeding means for moving said feeding means, and a connection between the feeding means and projector-moving means that permits the movement of the feeding means independently of the movement of said projector and moving means.

64. In a target-trap, the combination with a movable target-projector, of movable means for feeding targets thereto, means for moving the target-projector, means connected to the feeding means for moving said feeding means, and a sliding connection between the feeding means and the projector-moving means.

65. In a target-trap, the combination with a swinging target-carrying arm, of target-feeding means including a movable plunger, a sliding connection between the plunger and the arm, and means connected to the plunger for moving the same and, through the sliding connection, effecting the swinging of the arm in one direction.

66. In a target-trap, the combination with an oscillatory target-projecting arm, of a spring for swinging the same in one direction, means for feeding the targets to the arm, including a reciprocatory plunger, a sliding connection between the plunger and the arm, and means for positively moving the plunger in opposite directions.

67. In a target-trap, the combination with an oscillatory target-carrying arm, of a spring for swinging the same in one direction, a latch for holding the arm against movement under the action of the spring, reciprocatory means, and a sliding connection between the arm and means for effecting the movement of said arm against the action of the spring.

68. In a target-trap, the combination with an oscillatory target-carrying arm, of a spring for swinging the same in one direction, a latch for holding the arm against movement under the action of the spring, and reciprocatory means including a longitudinally-movable bar having a sliding connection with the arm for moving the same against the tension of the spring.

69. In a target-trap, the combination with a movable target-projector, of movable means for feeding targets thereto, means for moving the target-projector, means separate from the projector-moving means and connected to the feeding means for moving said feeding means, and a connection between the feeding means and projector that permits the movement of the feeding means independently of the movement of said projector.

70. In a target-trap, the combination with an oscillatory target-projecting arm, of a spring for moving the arm in one direction, target-feeding means, and means movable in one direction to move the arm against the action of the spring and movable in an opposite direction to actuate the feeding means for delivering a target to the arm.

71. The combination in a target-throwing trap, of a throwing-arm, a crank connected with the throwing-arm, a spring attached to the crank, means for placing the spring under tension and securing it in that condition, a lock for securing the throwing-arm, and means operated by the throwing-arm for releasing the tension on the spring after the arm has been released by its holding-lock, substantially as set forth.

72. The combination in a target-throwing trap, of a throwing-arm, a crank connected with the throwing-arm, an operative spring for the throwing-arm connected with the crank, means for placing the spring under tension, a lock for securing the throwing-arm while the spring is under tension, operating means for said lock, and means for releasing the tension on the spring after the throwing-arm has been released by its lock, substantially as set forth.

73. The combination in a target-throwing trap of a throwing-arm, a crank connected with the throwing-arm, a spring attached to the crank, means for placing the spring under tension, and a catch for securing the spring under tension, a lock for securing the throwing-arm together with the crank in set position, means for releasing the throwing-arm lock, and a trip for releasing the catch which secures the spring under tension, arranged to be operated after the arm has been released by its lock, substantially as set forth.

74. In a target-throwing trap, the combination of a throwing-arm, a crank connected with the throwing-arm, a spring attached at one end to the crank, a spring-tensioning device to which the other end of the spring is attached, a catch for securing the tensioning device with the spring under tension, a lock for securing the throwing-arm in set position, a trip operated by the throwing-arm to release the catch of the spring-tensioning device, and means for operating the lock.

75. The combination in a target-throwing trap, of a throwing-arm, a crank connected with the throwing-arm, a spring attached to the crank, means for placing the spring under tension, means for securing the spring under tension, and means for releasing the spring from tension after the throwing operation of the arm.

76. The combination in a target-throwing trap, of a throwing-arm, a crank connected with the throwing-arm, a spring attached to the crank, means for placing the spring under tension, a device for securing the spring under tension, a catch for securing the throwing-arm in set position, and means for releasing the spring-tensioning device after the throwing operation, substantially as set forth.

77. The combination with a target-throwing trap, of a frame, a swinging throwing-arm pivoted on the frame and arranged to make a movement around the pivot-axis and return to starting position, a spring for operating the arm in the throwing movement, a catch for securing the arm in its set position, means for placing the throwing-spring under tension, a catch for securing the throwing-spring under tension, and a trip for the said catch arranged to be operated from the throwing-arm when in its returning movement, whereby the throwing-spring becomes inert.

78. A combination in a target-throwing trap, of a frame, a throwing-arm pivoted thereon and arranged to make a movement around the pivot-axis and a return to starting position, a crank attached to said arm, a throwing-spring attached to said crank at one end and adjustably connected to the frame at the other end, means operating upon the adjustable end of the spring for placing the spring under tension, a catch for securing the throwing-spring under tension, means for tripping said catch when the arm is in its returning movement, whereby the throwing action of the spring becomes inert after the throwing-arm has started in its return movement, and a catch for securing the throwing-arm in its set or starting position.

79. A combination in a target-throwing trap, of a frame, a throwing-arm and crank pivoted on the frame and arranged to make a movement around the pivot-axis and a return to starting position, which movement will carry the crank to opposite sides of the pivot, a throwing-spring attached at one end to the crank and adjustably connected at the other end with the frame, means for placing the throwing-spring under tension operating upon the frame-connected end of said spring, the arrangement of spring and crank being such that prior to passing the dead-center the spring will act to accelerate the speed of the throwing-arm and after passing the dead-center to check the arm, a tripping-device connection between the throwing-arm and the spring-securing means, arranged to trip and release the means during the return movement of the throwing-arm, and a catch for securing the throwing-arm in set position, substantially as set forth.

80. The combination in a target-throwing trap, of a frame, a swinging throwing-arm pivoted on the frame and arranged to make a partial revolution around the pivot and return to starting position, a spring for operating the arm in the throwing movement, a catch for securing the arm in its retracted set position, means for placing the throwing-spring under tension, a catch for securing the throwing-spring under tension, and a trip for the said catch, arranged to be operated from the throwing-arm when in its returning movement, whereby the throwing action of the spring becomes inert, substantially as set forth.

81. A combination in a target-throwing trap, of a frame, a throwing-arm pivoted thereon and arranged to make a partial revolution around the pivot and return to starting position, a crank attached to said arm, a throwing-spring attached to said crank at one end and adjustably connected to the frame at the other end, means operating upon the adjustable end of the spring for placing the spring under tension, a catch for securing the throwing-spring under tension, means for tripping said catch when the arm is in its returning movement, whereby the throwing action of the spring becomes inert after the throwing-arm has started in its return movement, and a catch for securing the throwing-arm in its set or starting position, substantially as set forth.

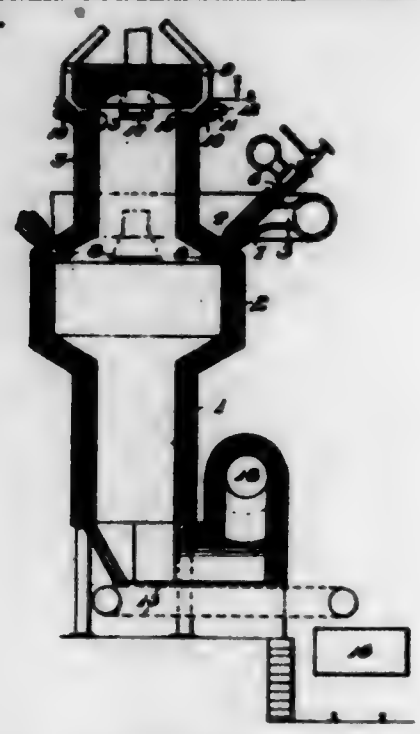
82. A combination in a target-throwing trap, of a frame, a throwing-arm and crank pivoted on the frame and arranged to make a partial revolution around the pivot and return to starting position, which partial revolution will carry the crank to opposite sides of the pivot, a throwing-spring attached at one end to the crank and adjustably connected at the other with the frame, means for placing the throwing-spring under tension, said means operating upon the frame-connected end of said spring, the arrangement of spring and crank being such that prior to passing the dead-center the spring will act to accelerate the speed of the throwing-arm and after passing the dead-center to check and stop the arm and start it toward set position, a tripping-device connection between the throwing-arm and the spring securing the means, arranged to trip and release the means during the returning movement of the throwing-arm, and a catch for securing the throwing-arm in set position, substantially as set forth.

83. The combination in a target-throwing trap, of a frame, a throwing-arm located above and pivotally mounted on the end of the frame, a throwing-spring, a movable lever to which one end of the spring is attached, a catch for securing the lever, a trip between the arm and the said catch, and a catch for securing the arm in set position, substantially as set forth.

806,774. PROCESS OF TREATING ORES. HORACE F. BROWN, Oakland, Cal. Filed May 25, 1904. Serial No. 209,671.

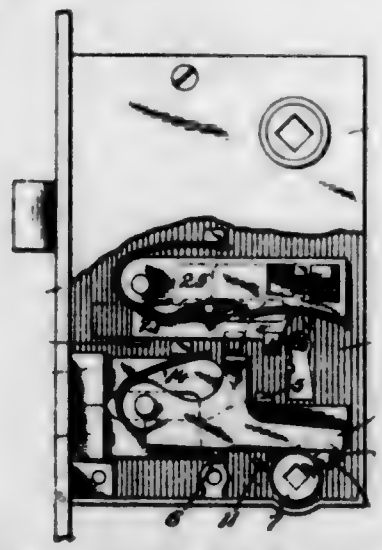
Claim.—The process of treating finely-divided iron ores which consists in reducing the same while in atmospheric suspension and during such suspension causing the reduced particles to agglomerate into clinker, the bonding of the ore being caused by the resultant spongy condition thereof.

806,774.



7. In a lock mechanism, the combination of a pair of locking-bolts, a pair of hubs with thumb-pieces for operating said bolts, tumblers coöperating with said hubs and a dead-bolt for blocking said tumblers to prevent the retraction or extension of either of said locking-bolts.

806,775. LOCK MECHANISM. CHARLES J. CALEY, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 19, 1904. Serial No. 229,077.



Claim.—1. In a lock mechanism, the combination of a pair of independent bolts and a pair of corresponding independent hubs with projections for operating said bolts, stops for said hubs and independent spring-pressed tumblers coöperating with said hubs for holding them in position against said stops and preventing the accidental longitudinal movement of said bolts.

2. In a lock mechanism, the combination of a pair of independent bolts and a pair of corresponding independent hubs with projections for operating said bolts, stops for said hubs and independent tumblers coöperating with said hubs for holding them in position and preventing the accidental longitudinal movement of said bolts and controllable means for blocking the movement of either of said tumblers.

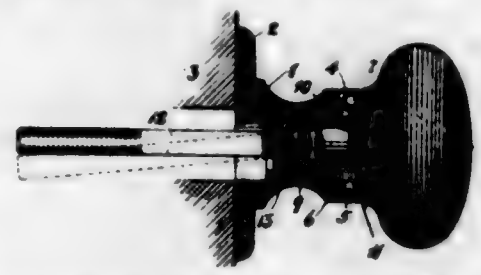
3. In a lock mechanism, the combination of a pair of independent bolts and a pair of corresponding independent hubs with projections for operating said bolts, stops for said hubs and independent spring-pressed tumblers coöperating with said hubs for holding them in position and preventing the accidental longitudinal movement of said bolts, and key-operable means for preventing the operation of said bolts.

4. In a lock mechanism, the combination of a pair of independent locking-bolts, independent means for operating said bolts from either side and a single key-operable means for preventing the retraction of either of said bolts.

5. In a lock mechanism, the combination of a pair of independent locking-bolts, independent means for operating said bolts from either side and key-operable means for preventing the operation of either of said bolts in either direction.

6. In a lock mechanism, the combination of a pair of independent locking-bolts, a thumb-piece with connections for each locking-bolt and key-operable means coöperating therewith for preventing the retraction of either of said bolts.

806,776. LOCK AND LATCH OPERATING MECHANISM. CHARLES J. CALEY, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Mar. 9, 1905. Serial No. 249,154.



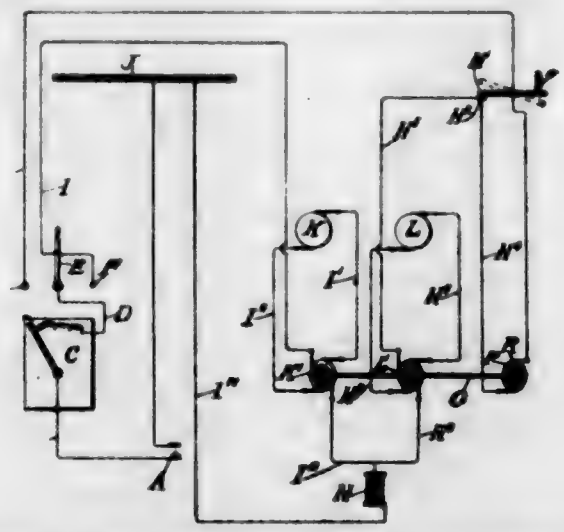
Claim.—1. A lock and latch fitting comprising a long tubular thimble, a spring-pressed antifriction device carried in the outer end thereof, a knob, a bearing therefor, coöperating with said spring-pressed antifriction device, and a shank extending therefrom and into said thimble and guided thereby.

2. A lock and latch fitting comprising a long tubular thimble, a spring-pressed antifriction device carried in the outer end thereof, a knob, a bearing therefor coöperating with said spring-pressed device, a shank extending therefrom and into said thimble and guided thereby, and a spindle having a loose pivotal connection with said knob-shank and a screw-threaded portion at its opposite end for the purpose specified.

3. A lock and latch fitting comprising a thimble, a yielding antifriction device carried thereby, a knob and shank having a bearing for coöperating with said antifriction device, a spindle having a screw-threaded portion at one end and means for loosely pivoting said spindle at the other end to said shank.

4. In a knob-and-spindle construction the combination of a rose-plate or thimble forming a long tubular guide, an antifriction device arranged at the outer end thereof, a knob, a shank, a bearing coöperating with said antifriction device, said shank projecting into and closely fitting in the tubular guide portion of said thimble or rose-plate, a spindle, and means for loosely pivoting said spindle in said shank for the purpose specified.

806,777. CONTROLLING MEANS FOR ELECTRIC MOTORS. CHARLES M. CLARK, South Orange, N. J. Filed July 7, 1903. Serial No. 164,555.



Claim.—1. The combination of the telpher and hoisting motors receiving current from different lines, a single switch and connections for operating either of said motors, and means for automatically reversing both motors when the circuit is broken at any point, substantially as described.

2. The combination of a hoisting-motor and connections for supplying current thereto, means for breaking the circuit through said motor when it is operated in the hoisting direction to a predetermined point, and automatic means for reversing said motor when it has reached said point, substantially as described.

3. The combination of a hoisting-motor and connections for supplying current thereto, a circuit-breaker in said connections adapted to be operated and break the circuit when the hoist has

reached a predetermined point, an automatic safety-switch operated by the breaking of said circuit to complete the circuit through the motor in the downward direction, substantially as described.

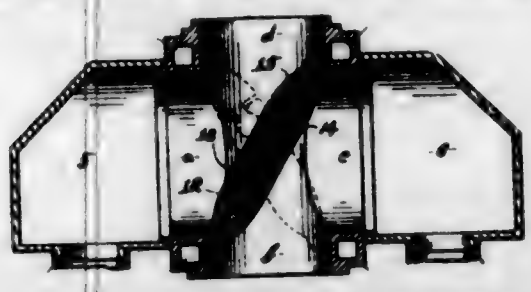
4. The combination of a hoisting-motor and connections for supplying current thereto, a circuit-breaker in said circuit adapted to be operated by the hoist when it has reached a predetermined point, and means to prevent the circuit being established through said motor in the hoisting direction until said circuit-breaker is in its normal position, substantially as described.

5. The combination of a telpher-motor, a hoisting-motor, a circuit for supplying current thereto, automatic switches for each motor adapted to be operated upon the breaking of the circuit, and a safety-switch adapted to be operated simultaneously with said aforementioned switches, substantially as described.

6. The combination of a telpher-motor, a hoisting-motor, a circuit for supplying current thereto, automatic switches for each motor adapted to be operated upon the breaking of the circuit, a safety-switch forming part of said circuit, and a single operative means for simultaneously actuating all of said switches upon the breaking of the circuit, substantially as described.

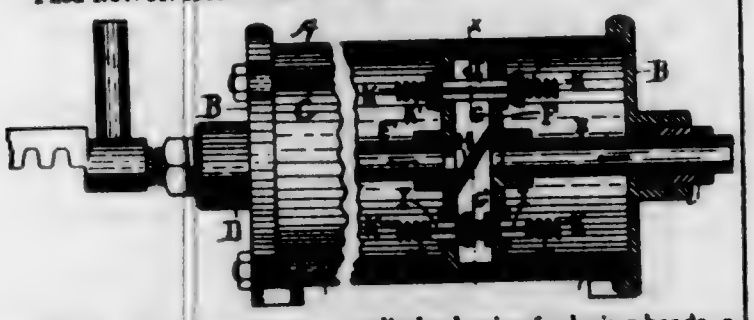
7. The combination of a motor, a switch for automatically reversing the same upon breaking of the circuit, and automatic means for locking said switch against motion when in its operative position, substantially as described.

806,778. **REVERSING-VALVE FOR FURNACES.** JOHN H. CLEWER, Kansas City, Mo. Filed Mar. 24, 1905. Serial No. 251,728.



Claim.—A reversing-valve for regenerative furnaces, comprising the shaft 10, the main valve member mounted thereon and having a groove, the complementary valve member having a tongue 14, said tongue being loosely held in said groove, the central portion of the main member being thickened, forming a shoulder 18, and both members being provided with ribs 17.

806,779. **WATER-MOTOR.** PETER T. COFFIELD, Chicago, Ill. Filed Nov. 30, 1903. Serial No. 183,119.



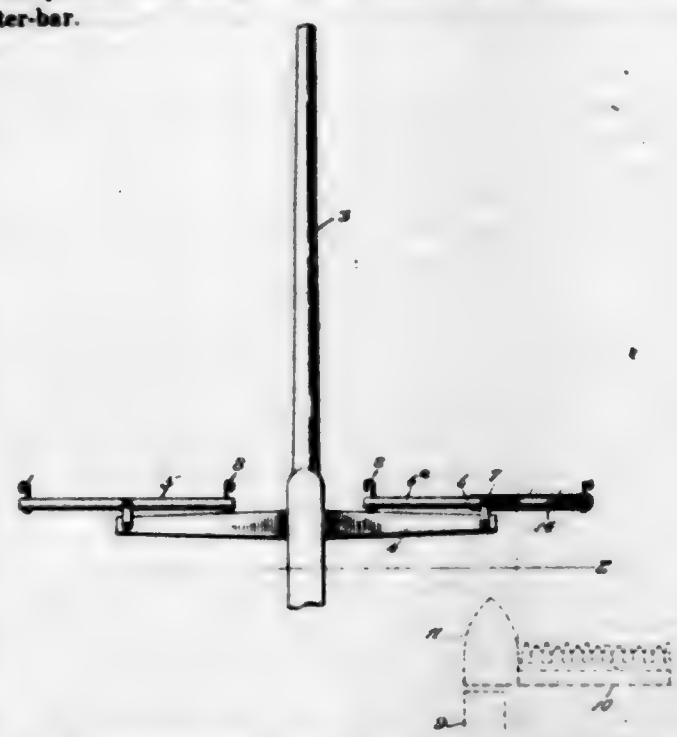
Claim.—In a water-motor, a cylinder having inclosing heads, a piston divided into two non-communicating chambers, hollow piston-rods communicating with said chambers, balanced exhaust-valves lying on the outside of one of said chambers and seating against the outer side of the piston, said exhaust-valves being connected to a common stem and having extensions beyond the valves, balanced inlet-valves located within the other chamber, said inlet-valves having stems projected on each side beyond the piston, coil-springs carried upon the stems of said exhaust and inlet valves and adapted to impart the final movement to the valves after said valves have been given their initial movement by the contact of their stems with the cylinder-heads, substantially as set forth.

806,780. **MOWER.** JOSEPH DAIN, Ottumwa, Iowa. Filed May 13, 1905. Serial No. 260,244.

Claim.—1. A mower, having a cutter-bar, and a draft connection having an upwardly-extending arched draft portion arranged to project over the standing grass in advance of the cutter-bar.

2. A mower, having a cutter-bar, and a whiffletree having an upwardly-extending arched arm arranged to extend over the standing grass in advance of the cutter-bar.

3. A mower, having a cutter-bar, a double-tree, and a whiffletree pivotally connected with said doubletree and having a vertically-arched portion extending over the standing grass in advance of the cutter-bar.



4. A mower, having a cutter-bar, a doubletree, a whiffletree pivotally connected with said doubletree and having a vertically-arched portion extending over the standing grass in advance of the cutter-bar, and a straight arm extending inwardly from said arched portion.

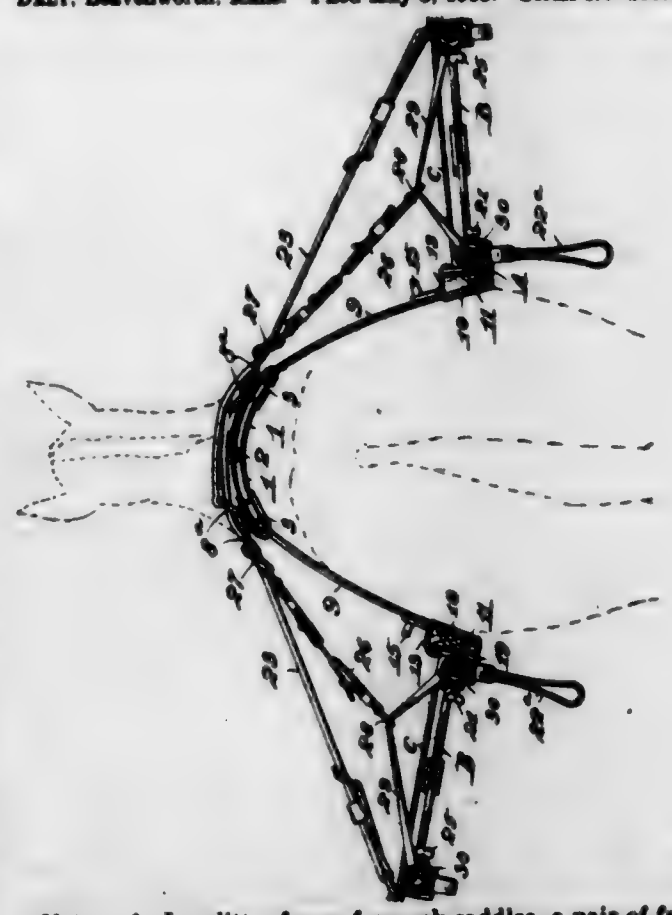
5. A whiffletree, having an upwardly-extending arched portion, the intermediate portion of the arch being higher than the end portions thereof.

6. A whiffletree, having a straight arm, and an arm arched in a vertical plane.

7. A whiffletree, having an upwardly-extending arched portion, the intermediate portion of the arch being higher than the end portions thereof, and a stiffening-plate at one side of said arched portion.

8. A whiffletree having an upwardly-extending arch at one side of the pivot thereof, the intermediate portion of the arch being higher than the end portions thereof.

806,781. **LITTER-FRAME FOR PACK-SADDLES.** HENRY W. DALY, Leavenworth, Kans. Filed May 8, 1905. Serial No. 259,286.



Claim.—1. In a litter-frame for pack-saddles, a pair of frames hinged together and adapted to be positioned on a pack-animal; swivel-clamps carried by said frames for engaging the inside rails of

a pair of open litters, straps secured to said frames, and clamps secured to said straps for engaging the outside rails of the open litters, substantially as specified.

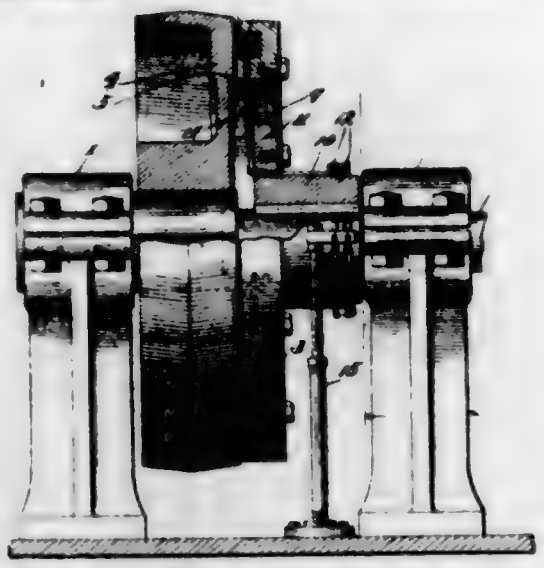
2. In a litter-frame for pack-saddles, a pair of frames hinged together and adapted to be positioned on a pack-animal; swivel-clamps carried by said frames for engaging the inside rails of a pair of open litters, straps secured to said frames, and straps secured to the frames for engaging the handles of the open litters, substantially as specified.

3. In a litter-frame for pack-saddles, a pair of frames adapted to be positioned on the sides of a pack-animal, plates hinged at the middle and hinged to the upper ends of the frames, and straps connected to said hinged plates for engaging and holding open litters against the lower ends of the frames; substantially as specified.

4. In a litter-frame for pack-saddles, a pair of frames adapted to be positioned on the sides of a pack-animal, a pair of plates hinged at the middle and hinged to the upper ends of the frames, swivel-clamps carried by the lower ends of the frames for engaging the inner rails of open litters, straps connected to the hinged plates, and clamps carried by the ends of said straps for engaging the outer rails of the open litters; substantially as specified.

5. In a litter-frame for pack-saddles, a pair of frames adapted to be positioned on the sides of a pack-animal, a pair of plates hinged at the middle and hinged to the outer ends of said frames, swivel-clamps carried by the lower ends of the frames for engaging the inside rails of open litters, straps secured to the hinged plates, swivel-clamps carried by the lower ends of said straps for engaging the outer rails of the open litters, and straps secured to the hinged plates for engaging the handles of the open litters; substantially as specified.

806,782. **MAGNETIC CLUTCH.** GEORGE A. DAMON, Chicago, Ill., assignor to The Arnold Magnetic Clutch Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Feb. 21, 1903. Renewed Dec. 7, 1903. Serial No. 184,229.



Claim.—1. In a magnetic clutch, the combination with coacting members, of a yielding support for at least one of said members arranged to permit other than a right-line movement of one of said members in approaching the other member, substantially as described.

2. In a magnetic clutch, the combination with an armature member, of a magnet member, and a yielding spring-support for at least one of said members arranged to permit other than a right-line movement of one of said members in approaching the other member, substantially as described.

3. A magnetic clutch comprising coacting members having suitable meeting faces and one or both of said members having a yielding support arranged to permit the opposing faces of the said clutch members to conform to each other, substantially as described.

4. A magnetic clutch comprising coacting members having suitable meeting faces, and a yielding support for at least one of said members arranged to permit the faces of said members to conform to each other, substantially as described.

5. A magnetic clutch, comprising coacting members, having suitable meeting faces and a yielding spring-support for at least one of said members arranged to permit the said opposing faces to conform to each other, said members being mounted with their opposing faces normally a slight distance apart whereby when the energizing-coil is deënergized the members will be quickly released by the tension of said spring-support, substantially as described.

6. In a magnetic clutch, the combination with coacting members having corresponding meeting faces with portions thereof so formed as to cause said members to center themselves when clutched, of a yielding support for at least one of said members arranged to permit the opposing faces of said members to conform to each other, substantially as described.

7. In a magnetic clutch, the combination with coacting members having corresponding meeting surfaces, concentric portions of which are beveled to cause said parts to center themselves when clutched, and a yielding support for at least one of said members arranged to permit the opposing faces of said members to conform to each other, substantially as described.

8. In a magnetic clutch, the combination of a magnet member and an armature member, said members having corresponding meeting surfaces concentric portions of which are beveled to cause said parts to center themselves when brought together and to prevent lateral displacement of the parts, and a yielding support for one of said members, arranged to permit the abutting faces of the members to conform to each other when the members are clutched, substantially as described.

9. In a magnetic clutch, the combination with suitable shafts, of an armature member mounted upon one of said shafts, an opposing magnet member mounted upon the other shaft, said members having suitable meeting faces and at least one of said members having a yielding support arranged to permit said opposing faces to conform to each other, substantially as described.

10. A magnetic clutch comprising coacting members having suitable meeting faces, a hub, and a yielding support for one of said members mounted upon said hub, and arranged to permit said meeting faces to conform to each other, substantially as described.

11. In a magnetic clutch, the combination with coacting members having corresponding meeting faces, of a spring-disk supporting one of said members whereby the faces of said members are adapted to conform, substantially as described.

12. In a magnetic clutch, the combination with an armature member, of a magnet member, said magnet member comprising a ring carrying the energizing-coil and having its meeting face corresponding to the opposing face of the armature member, a hub, and a spring-disk supported by said hub and connected to said ring, substantially as described.

13. In a magnetic clutch, the combination with coacting members having corresponding meeting faces normally slightly separated from one another, of a yielding spring-support for at least one of said members arranged when the device is clutched to permit the face of said spring-supported member to conform to the face of the other member and to instantly unclutch the device when the magnet is deënergized, substantially as described.

14. In a magnetic clutch, the combination of an armature member, a magnet member comprising a ring carrying the magnet-coil, a yielding spring-support for said magnet member, arranged to permit the face of said member to conform to the face of the opposite member, collecting-rings suitably connected with said coil, and a brush-support having brushes engaging said rings, substantially as described.

15. A magnetic clutch comprising coacting members having their meeting faces normally spaced apart, at least one of said members suitably supported by a spring-disk whereby said members will be instantly released from each other when the clutch is deënergized.

16. In a magnetic clutch, the combination with coacting members having their meeting faces normally spaced apart, of a spring-disk supporting one of said members, whereby said members will be instantly released from each other when the clutch is deënergized.

17. In a magnetic clutch, the combination with an armature member, of a magnet member, at least one of said members comprising a ring having its meeting face normally spaced apart from the opposing face of the other member, a hub and a spring-disk supported by said hub and connected to said ring.

18. In a magnetic clutch, the combination with an armature member, of a magnet member, at least one of said members comprising a ring having its meeting face normally spaced apart from the opposing face of the other member, a hub having a peripheral flange, a spring-disk secured to said flange and connected to said ring.

19. In a magnetic clutch, the combination with an armature member, of a magnet member, at least one of said members comprising a ring having its meeting face normally spaced apart from the opposing face of the other member, a hub, a spring-disk supported by said hub and connected to said ring, said disk having a central opening to permit it to be slipped over said hub and secured thereto.

20. In a magnetic clutch, the combination with an armature member, of a magnet member, at least one of said members comprising a ring having its meeting face normally spaced apart from the

opposing face of the other member, a hub having a peripheral flange, a spring-disk supported by said hub and connected to said ring, said disk having a central opening to permit it to be slipped over said hub and secured to said flange.

21. In a magnetic clutch, the combination with an armature member, of a magnet member, said magnet member comprising a ring carrying the energizing-coil and having its meeting face normally spaced apart from the opposing face of the armature member, a hub and a spring-disk supported by said hub and connected to said ring.

22. In a magnetic clutch, the combination with an armature member, of a magnetic member, said magnet member comprising a ring carrying the energizing-coil, and having its meeting face normally spaced apart from the opposing face of the armature member, a hub and a spring-disk supported by said hub and connected to said ring, said disk having a central opening to permit it to be slipped over said hub and secured thereto.

23. In a magnetic clutch, the combination with an armature member, of a magnet member, said magnet member comprising a ring carrying the energizing-coil and having its meeting face normally spaced apart from the opposing face of the armature member, a hub having a peripheral flange, a spring-disk supported by said hub and connected to said ring, said disk having a central opening to permit it to be slipped over the hub, and secured to said flange.

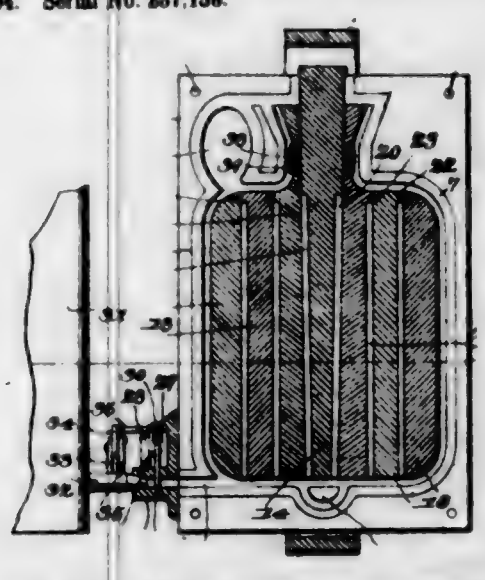
24. In a magnetic clutch, the combination with a magnet member, of an armature member, a resilient support for at least one of said members for transmitting the power thereof and arranged to permit other than a right-line movement of the same in approaching the other member.

25. A magnetic clutch comprising coacting members having suitable meeting faces, a hub and a yielding support interposed between at least one of said members, and its hub for transmitting the power of said member to the hub and arranged to permit said meeting faces to conform to each other.

26. In a magnetic clutch, the combination with coacting members, of a radial yielding support for at least one of said members.

27. A magnetic clutch comprising coacting members having suitable meeting faces, a hub and a radial yielding support for one of said members mounted upon said hub.

806,783. MOLD. ANSEL J. DAYTON, Tacoma, Wash. Filed Dec. 16, 1904. Serial No. 237,136.



Claim.—1. A mold for forming hollow articles having a core made up of separable sections capable of being individually withdrawn through an opening in the molded article, one of the core-sections being projected through an opening in the molded article and accessible from the exterior thereof, the other core-sections being provided in their inner edges with sockets for the reception of means introduced through an opening in the molded article to individually withdraw the core-sections.

2. A mold comprising a flask, a core made up of longitudinal sections, means to interlock one of the sections with the flask, and means to successively interlock the sections with one another and the first-mentioned core-section, said means capable of being disengaged from the exterior of the mold when the first-mentioned core-section has been withdrawn.

3. A mold comprising a flask, a core made up of longitudinally-separable sections, means to interlock one of the core-sections with the flask, and said core-section capable of being withdrawn when disengaged from the flask, and the core-sections being provided with interengaging shoulders to successively interlock the same with one another and the first-mentioned core-section, said interengaging shoulders capable of being disengaged when said first-mentioned core-section is withdrawn from the mold to permit withdrawal of the other core-sections.

4. A mold comprising a flask and a core made up of separably-connected sections, the central section being projected through an opening in the flask and having a detachable connection with the latter and capable of being withdrawn through an opening in the molded article when disconnected from the flask, the successive outer core-sections having shoulders underlapping corresponding shoulders upon the successive inner core-sections to prevent endwise separation of the core-sections in one direction.

5. In a molding apparatus, the combination of a mold having a filling-spout, a slide-valve for the spout, a controlling-lever fulcrumed intermediate of its ends and connected to the valve, a filling-receptacle having a discharge-spout connected to the filling-spout of the mold and provided with a slide-valve, a lever connected to said valve and also to the first-mentioned lever for simultaneous operation of the two valves, and a spring to yieldably maintain the valves closed.

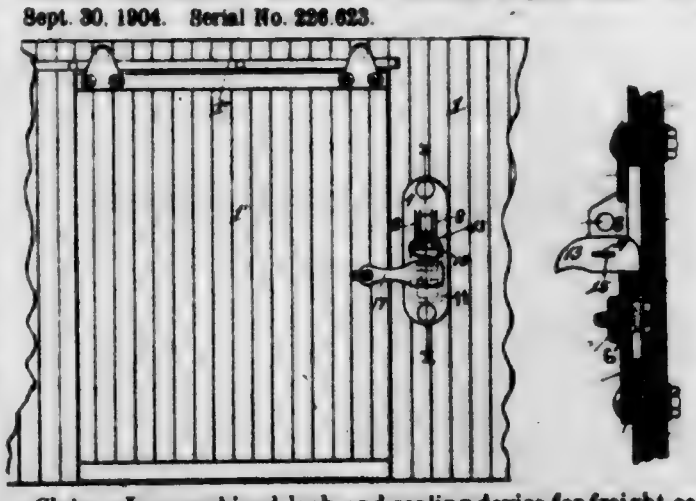
6. In a mold, the combination of a flask made up of separably-connected sections having complementary cast-chambers provided with portions intersecting one side of the flask and having a filling-inlet at the opposite side of the flask, and a core made up of longitudinal sections connected against lateral separation, the center core-section being projected outwardly through that portion of the cast-chamber which intersects one side of the flask and capable of removal therefrom, the remaining core-sections being successively connected to one another from the outermost sections inwardly against endwise separation by the incoming molding material.

7. A mold comprising a flask provided at one end with a filling-opening, a core made up of longitudinal sections, one of the sections being projected beyond the other sections to reduce an opening in the molded article, means to detachably connect said core-section to the flask, and others of the sections being successively detachably interlocked with the extended section against endwise displacement by the introduction of the molding material.

8. A mold comprising a flask provided at one end with a filling-opening, a core made up of longitudinal sections, the center core-section being extended beyond the other sections to form an opening in the molded article, means to detachably connect the center section to the flask and the other sections being detachably interlocked successively with the center section and with one another against endwise displacement by the introduction of the molding material, the center section and the other sections capable of being successively withdrawn through the opening formed in the molded article by the center section.

9. A mold comprising a flask having separably-connected sections provided with complementary cast-chambers, and a core made up of longitudinal substantially parallel separably-connected sections, each pair of adjacent sections having a tongue-and-groove slidable connection, the several grooves being open at one and the same end of the core and closed at the opposite end of the core with the tongues abutted against the respective shoulders to prevent endwise separation of the sections in one direction, said sections being separable endwise in the opposite direction.

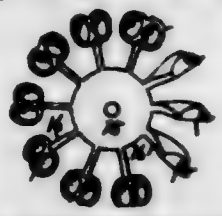
806,784. COMBINED CAR-DOOR LOCK AND SEALING DEVICE. WALTER H. DEAVER, CARL B. THOMPSON, JOHN H. THOMPSON, CHARLS KREITNER, and RICHARD W. DEAVER, Dayton, Ohio. Filed Sept. 30, 1904. Serial No. 226,623.



Claim.—In a combined lock and sealing device for freight-cars, a slidable frame having a locking-bolt projected therefrom, and an

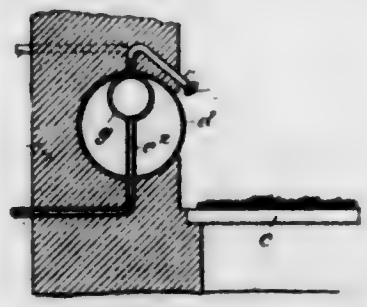
apertured sealing-tongue projected at right angles to said bolt, a hasp having an opening therein adapted to receive said locking-bolt, in combination with a casing, the rearward wall of which has an opening for the reception of said hasp, and a further opening through which the sealing-tongue projects, said last-named opening having walls inclosing the sides of said tongue, and alined sealing-apertures which register with the sealing-aperture in said tongue, and openings in said walls above the sealing-apertures, substantially as set forth.

806,785. WATER OR IMPACT MOTOR. BRADFORD H. DIVINE, Utica, N. Y. Filed Apr. 14, 1905. Serial No. 255,515.



Claim.—A wheel for impact-motors consisting of a body, integral radial malleable arms and cupped blades on the end of the arms, the arms being twisted to turn the blades from a position facing laterally to a position facing the mesial plane of the wheel, substantially as set forth.

806,786. BAKER'S OVEN. MAX BICHNER, Yonkers, N. Y. Filed June 13, 1905. Serial No. 264,978.

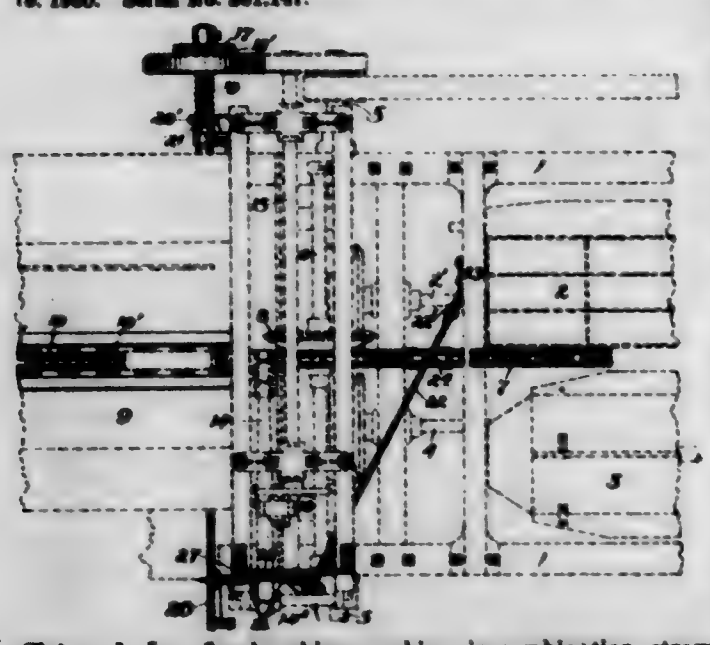


Claim.—1. A baker's oven provided with a baking-chamber, a fire-grate in communication with said chamber, and with a nozzle adapted to deliver a volume of hot water upon said grate, substantially as specified.

2. A baker's oven provided with a baking-chamber, a fire-grate in communication with said chamber, a boiler, and a nozzle on the boiler adapted to deliver a volume of hot water upon said grate, substantially as specified.

3. A baker's oven provided with a baking-chamber, a fire-grate in communication with said chamber, an outer boiler, an inner boiler, a nozzle on the inner boiler adapted to deliver a volume of hot water upon the grate, and means for controlling the supply of feed-water to the inner boiler, substantially as specified.

806,787. AUTOMATIC FEED-REGULATING DEVICE FOR FLAX-BRAKES. GEORGE H. ELLIS, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed May 19, 1905. Serial No. 261,147.



Claim.—1. In a flax-breaking machine, in combination, straw holding and conveying means, a feeding device, and mechanism actuated by said straw holding and conveying means for regulating said feeding device.

2. In a flax-breaking machine, in combination, straw holding and conveying means, a feeding device, a friction-clutch for driving said feeding device, and means actuated by the said straw holding and conveying means for regulating said feeding device.

3. In a flax-breaking machine, in combination, a longitudinally-arranged grasping-chain beneath which the straw is held and conveyed, a feeding-chain, a friction-clutch for driving said feeding-chain, a clutch-lever, and means actuated by the vertical movement of said grasping-chain for controlling said clutch-lever.

4. In a flax-breaking machine, in combination, a longitudinally-arranged grasping-chain beneath which the straw is held and conveyed, a feeding-chain, a friction-clutch for driving said feeding-chain, a clutch-lever, and a regulating-lever actuated by the vertical movement of the said grasping-chain for controlling said clutch-lever.

5. In a flax-breaking machine, in combination, a longitudinally-arranged grasping-chain and a slide coöperating therewith between which the straw is held and conveyed, a feeding-chain, a friction-clutch for driving said feeding-chain, a clutch-lever, a regulating-lever pivoted at one end and extending across the lower run of the grasping-chain, a roller-truck secured to said regulating-lever and bearing upon said grasping-chain, and a suitable connection between the ends of said clutch-lever and regulating-lever.

6. In a flax-breaking machine, in combination, a longitudinally-arranged grasping-chain beneath which the straw is held and conveyed, a feeding-chain, a friction-clutch for driving said feeding-chain, a clutch-lever, a regulating-lever actuated by the vertical movement of the said grasping-chain, and an adjustable connection interposed between the ends of the clutch-lever and regulating-lever.

7. In a flax-breaking machine, in combination, a longitudinally-arranged grasping-chain beneath which the straw is held and conveyed, a feeding-chain, a friction-clutch for driving said feeding-chain, a clutch-lever, a regulating-lever actuated by the vertical movement of the said grasping-chain for controlling said clutch-lever, and a weight for counterbalancing the said clutch-lever and for pressing the regulating-lever into constant contact with the grasping-chain.

8. In a flax-breaking machine, in combination, a longitudinally-arranged grasping-chain and a slide coöperating therewith between which the straw is held and conveyed, a feeding-chain, a friction-clutch for driving said feeding-chain, a clutch-lever, a regulating-lever pivoted at one end and extending across the lower run of the grasping-chain, a roller-truck secured to said regulating-lever and bearing upon the lower run of said grasping-chain, a rope passing about a suitable guide and connecting the ends of the said regulating and clutch levers, and a weight suspended from the regulating-lever for pressing same into contact with the grasping-chain and for counterbalancing the weight of said clutch-lever.

806,788. METHOD OF AGING PORTLAND CEMENT. WILLIAM O. EMERY, Crawfordsville, Ind. Filed Dec. 18, 1903. Serial No. 185,699.

Claim.—1. The art of aging Portland cement which consists in spraying the heated clinker with a dilute carbonate or bicarbonate solution, and in afterward exposing the freshly-ground cement to the action of gases containing a large percentage of carbonic acid.

2. The improvement in the art of aging Portland cement which consists in spraying the heated clinker with a dilute solution of ammonium bicarbonate.

3. The improvement in the art of aging Portland cement which consists in spraying the heated clinker with a dilute solution of ammonium bicarbonate, and in the introduction of stack or kiln gases into the conveyer which carries the freshly-ground cement away from the grinding apparatus.

806,789. JOINT FOR ELECTRIC CONDUCTORS. AUSTIN FLEMING, Chicora, Pa. Filed May 3, 1905. Serial No. 258,716.



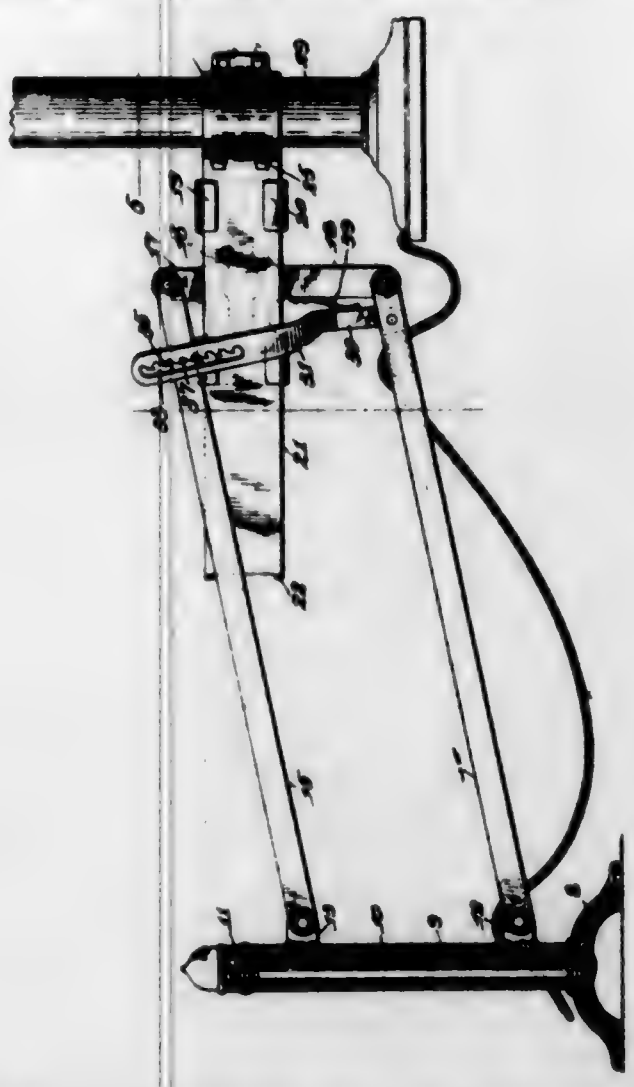
Claim.—1. A joint for electric conducting-wires, comprising alined wires provided with enlarged terminal portions, and a sleeve of ductile conducting material inclosing said enlarged portions, extending beyond the same, and having its extremities swaged down so as to firmly grip the straight portions of the wires and present con-

tinuous internal annular shoulders forming abutments which resist longitudinal separating movements of said wires, substantially as described.

2. A joint for electric conducting-wires, comprising alined wires provided with enlarged and interlocked terminal portions, and a sleeve of ductile conducting material inclosing said enlarged portions, extending beyond the same, and having its extremities swaged down so as to firmly grip the straight portions of the wires and present continuous internal annular shoulders forming abutments which resist longitudinal separating movements of said wires, substantially as described.

3. A joint for electric conducting-wires, comprising alined wires provided with enlarged and interlocked terminal portions, and a sleeve of ductile conducting material inclosing said enlarged portions, extending beyond the same, and having its extremities swaged down so as to firmly grip the straight portions of the wires and present continuous internal annular shoulders forming abutments which resist longitudinal separating movements of said wires, the ends of said wires being intertwisted to form interlocked coils, whereby the enlargement and interlocking of said ends is accomplished, substantially as described.

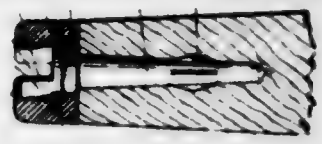
806,790. **TELEPHONE-BRACKET.** HENRY F. FORRSTERLING, St. Louis, Mo. Filed Mar. 6, 1905. Serial No. 248,636.



Claim.—1. In a telephone-bracket, a post, a sleeve mounted for rotation thereon, pairs of parallel bars pivotally secured to said sleeve, a vertical bar pivotally secured to the outer ends of said bars, a horizontal bearing formed on the vertical bar, a plate arranged to slide through said bearing, a clamp on the end of said plate for engaging the telephone instrument, and a spring-actuated ratchet-plate pivotally secured to one of the pairs of first-mentioned bars, and pins projecting outwardly from the other pair of said bars for engaging between the teeth of the ratchet-plate; substantially as specified.

2. In a telephone-bracket, a post, a sleeve rotating thereon, two sets of parallel bars pivotally secured to the sleeve and extending outwardly therefrom, a pair of ratchet-plates extending upwardly alongside the upper pair of parallel bars, which ratchet-plates are united at their lower ends and pivotally secured to the lower pair of parallel bars, pins projecting outwardly from the upper pair of parallel bars for engagement between the teeth of the ratchet-plates, a vertically-arranged bar pivotally secured at its ends to the outer ends of the pairs of parallel bars, a spring fixed to said vertically-arranged bar and bearing on the ratchet-plates, a horizontal bearing formed integral with the vertically-arranged bar, a plate arranged to slide through said bearing, and a clamp arranged at one end of the sliding plate for engaging the telephone instrument; substantially as specified.

806,791. **WIRE-CUTTING DEVICE.** JAMES B. FOOTE, Fredericktown, Ohio. Filed May 22, 1905. Serial No. 261,733.



Claim.—1. A wire-cutter comprising a head, a slotted sleeve surrounding the same, the head having a cutting edge adapted to coöperate with the edge of the sleeve to shear a wire in the slot.

2. The combination of a handle, a head rigidly secured thereto, a sleeve loosely journaled on the head and having slots in its wall, the head having an extension adapted to engage a wire occupying the slots.

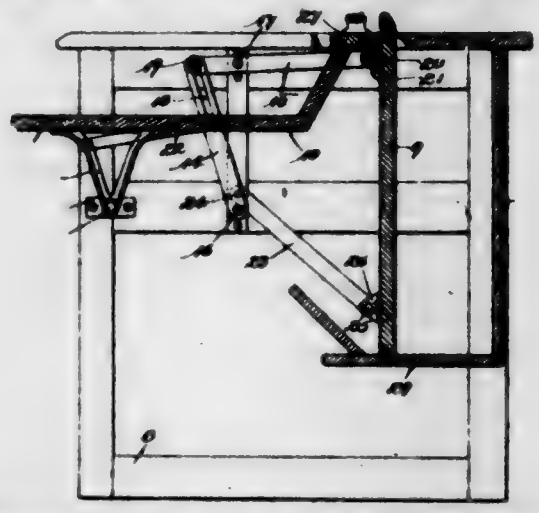
3. The combination of a head, a surrounding sleeve having slots through its wall, the head having an extension adapted to stand between a wire occupying the slots and the wall of the sleeve, said extension terminating some distance within the end of the sleeve.

4. In a wire-cutter, the combination of a cylindrical head having an extension which is a segment of the cylinder, and a sleeve surrounding the head and movable relative thereto and having slots through its opposite walls.

5. In a wire-cutter, the combination of a head having a shearing edge, and a sleeve surrounding the head and movable relative thereto and having slots through its opposite walls, said head having a reduced shank, and said sleeve having an inward flange loosely surrounding said shank.

6. In a wire-cutter, the combination of a handle, a cylindrical head having a segmental extension and a reduced shank, said shank extending rigidly into the handle, a sleeve having a cylindrical bore which said head occupies and having an inwardly-extended flange surrounding the shank between the head and the end of the handle, said sleeve having its opposite walls slotted, and said head having an extension adapted to engage and shear a wire held in the head.

806,792. **TYPE-WRITER DESK.** WARREN F. FRASER, Boston, Mass., assignor of one-half to Arthur Orpin and one-half to Fletcher Orpin, Boston, Mass. Filed Feb. 20, 1905. Serial No. 246,444.



Claim.—1. In a type-writer desk a stationary frame, a type-writer table pivoted thereto, a movable cover, two levers pivoted to said frame, a connection joining said levers together, and two links, one of said links connecting one of said levers to said table, the other lever pivotally connected to said cover, the other of said links connecting said cover to said frame, said connection joining said levers together, being substantially on a dead-center with the pivot of said last-named lever when said cover is in a vertical or horizontal position.

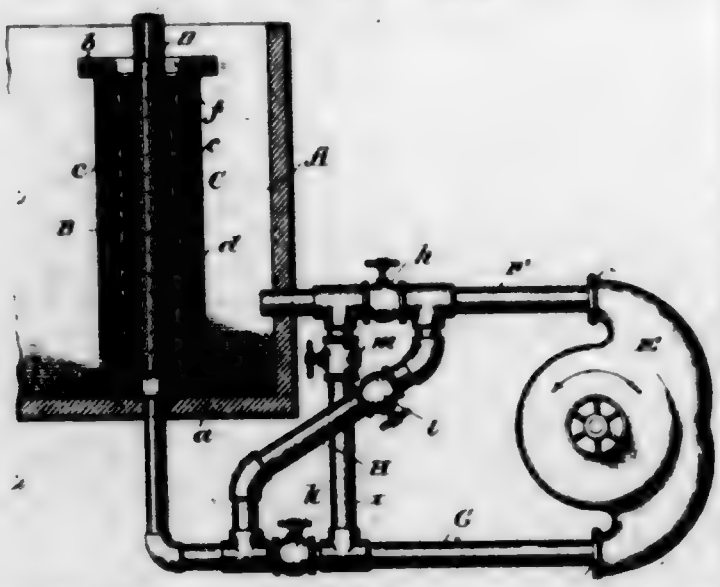
2. In a type-writer desk, a stationary frame, a type-writer table pivoted thereto, a movable cover, two levers pivoted to said frame, one of said levers provided with a slot, said levers connected together by a pin projecting into and slidable in said slot, and two links one connecting said slotted lever to said table, the other lever pivotally connected to said cover, the other of said links connecting said cover to said frame, said pin being substantially on a dead-center with the pivot of said last-named lever when said cover is in a ver-

tical or horizontal position and crossing a line joining the pivots of said levers when said cover is being moved from a horizontal to a vertical position and vice versa.

3. In a type-writer desk, a stationary frame, a type-writer table pivoted thereto, a movable cover, a lever provided with a slot pivoted to said frame, a link connecting said slotted lever to said table, a supporting-link pivoted at one end to the rear portion of said cover and at the other end to said frame, and a lever pivoted to said frame, one end of said last-named lever pivotally connected to said cover, and a pin fast to the other end of said last-named lever and projecting into said slot, said pin being substantially on a dead-center with the pivot of said last-named lever when said cover is in a vertical or horizontal position.

4. In a type-writer desk, a stationary frame, a type-writer table pivoted thereto, a movable cover, a lever provided with a slot pivoted to said frame, a link connecting said slotted lever to said table, a supporting-link pivoted at one end to the rear portion of said cover and at the other end to said frame, a lever pivoted to said frame, one end of said last-named lever pivotally connected to said cover, a pin fast to the other end of said last-named lever and projecting into said slot, said pin being substantially on a dead-center with the pivot of said last-named lever when said cover is in a vertical or horizontal position, and a stationary support upon which said cover is adapted to rest when in a vertical position.

808,793. DYEING APPARATUS. GUSTAVE A. FRIEDRICHS, Woonsocket, R. I., assignor of one-half to Charles A. Proulx, Woonsocket, R. I. Filed July 20, 1905. Serial No. 270,562.

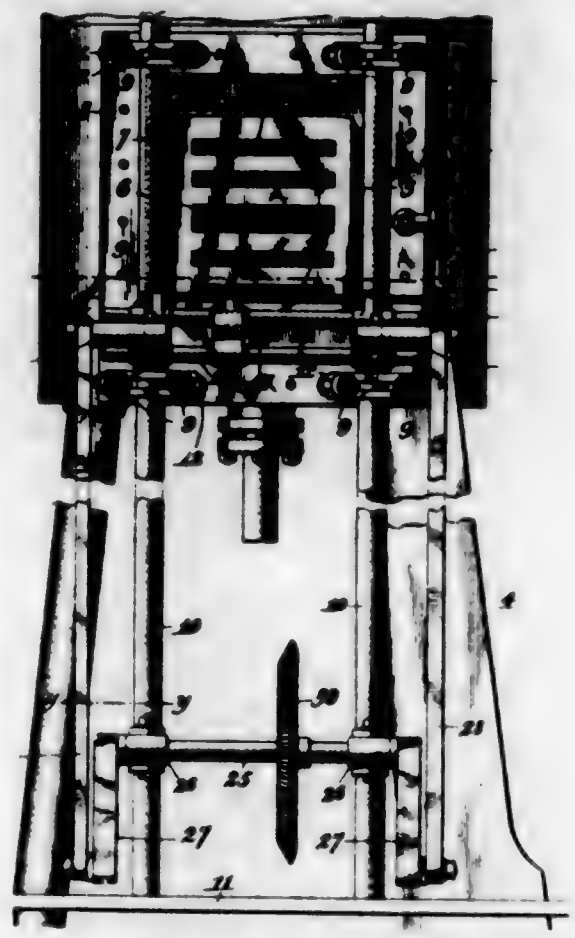


Claim.—1. In an apparatus for dyeing textile rovings and other material, the combination of a vat, a spray-tube extending upwardly in the vat and adapted to be connected with a source of dye-liquor supply, a material-holder surrounding the spray-tube, within the vat, and having passages in its side wall, and a cover comprising a tubular portion receiving and vertically movable on the upper portion of the spray-tube and closed at its upper end and a flange surrounding the lower end of said tubular portion and snugly occupying and movable vertically in the material-holder.

2. In an apparatus for dyeing textile rovings and other material, the combination of a vat, a spray-tube disposed in the vat, a material-holder arranged in the vat around the spray-tube and having passages in its side wall, a pump, a conduit intermediate the vat and the induction-orifice of the pump and having a valve *h* at an intermediate point of its length, a conduit intermediate the lower end of the spray-tube and the eduction-orifice of the pump and provided with a valve *k*, a valved conduit connecting the portion of the first-mentioned conduit between the pump and the valve *h* with the portion of the second-mentioned conduit between the spray-tube and the valve *k*, and a second valved conduit connecting the portion of the first-mentioned conduit between the vat and the valve *h* with the portion of the second-mentioned conduit between the valve *k* and the pump.

3. In an apparatus for dyeing textile rovings and other material, the combination of a vat, a spray-tube extending upwardly in the vat and adapted to be connected with a source of dye-liquor supply, a material-holder removably arranged in the vat, around the spray-tube, and having passages in its side wall, and a cover comprising a tubular portion closed at its upper end and snugly receiving and movable vertically on the upper portion of the spray-tube and a flange surrounding the lower end of said tubular portion and snugly occupying and movable vertically in the material-holder.

806,794. PORTABLE PLANING-MACHINE. JOHN B. GILLIE, North Tonawanda, N. Y. Filed Oct. 2, 1903. Serial No. 175,448.



Claim.—1. In a portable planer adapted to plane the valve-seat of an engine, the combination with stud-bolts projecting from the engine-casing, of an open frame comprising two vertical frame-bars adapted to be positioned between said stud-bolts, adjustable plates having each a longitudinal slot adapted to fit onto said stud-bolts and being located between said frame-bars and the valve-casing, set-screws passing through the adjusting-plate and serving to hold the latter any desired distance from the valve-casing, clamping-plates having each a longitudinal slot and being adapted to fit over said stud-bolts and bear against the frame-bars, and securing-nuts engaging the ends of said stud-bolts and serving to force said clamping-plate against the frame-bars to hold the same securely against the adjusting-plates.

2. In a portable planer adapted to plane the valve-seat of an engine, the combination of two parallel frame-bars secured to the engine, slide-heads movable on said frame-bars, parallel rods connecting said slide-heads and being adjustable therein, a tool-holder movable on said parallel rods, a tool held adjustable on said tool-holder, means to reciprocate said parallel rods and attached parts, and feed mechanism to intermittently move said tool-holder on said parallel rods.

3. In a portable planer adapted to plane the valve-seat of an engine, the combination of two parallel bars secured to the engine on either side and in advance of the valve-seat, slide-heads having each a vertical socket encircling said frame-bars and two horizontal sockets in advance of said vertical socket, two parallel rods held in said horizontal sockets, a tool-holder carried on said parallel rods, a tool held adjustable on said tool-holder, means to reciprocate said parallel rods and attached parts, and mechanism to intermittently move the tool-holder on said parallel rods.

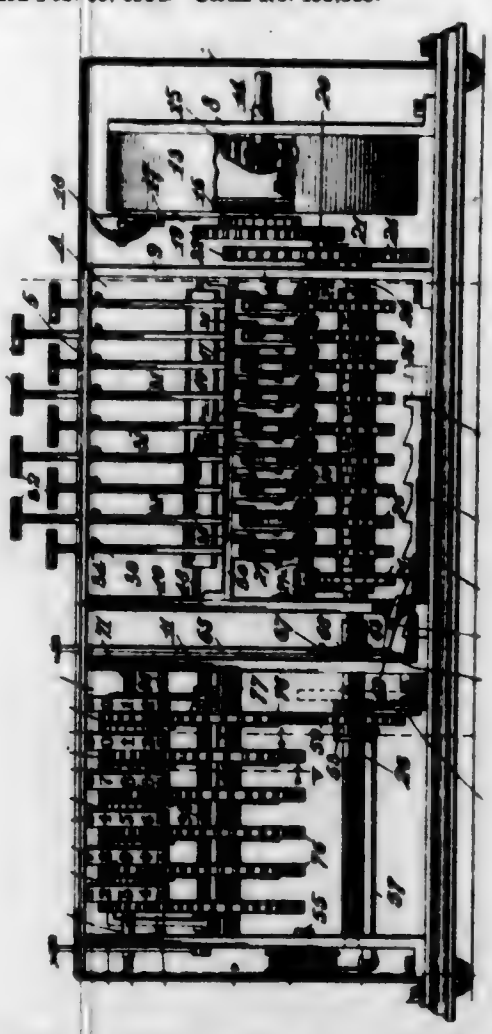
4. In a portable planer adapted to plane the valve-seat of an engine, the combination with stud-bolts projecting from the engine-casing, of an open frame comprising two vertical frame-bars adapted to be positioned between said stud-bolts, an adjustable clamping-plate between the casing and each of the frame-bars and having a longitudinal slot fitting onto said stud-bolts, said clamping-plate serving to adjust the frame-bars toward and from the engine-casing, a slotted clamping-plate lying outside of each frame-bar, and means for clamping the frame-bars between said clamping-plates.

5. In a portable planer adapted to plane the valve-seat of an engine, the combination with the frame-bars and a reciprocating carriage on said frame-bars, of bearings secured to said frame-bars and comprising securing portions held to said frame-bars and bearing portions adjustable on the securing portions, a crank-shaft journaled in said bearing portions, and a pitman connecting said crank-shaft with the reciprocating carriage.

6. In a portable planer adapted to plane the valve-seat of an engine, the combination with the frame-bars and a reciprocating carriage on said frame-bars, of bearings adjustable on said frame-bars, each comprising a socket-like securing portion held on the bars and having a bifurcated front end and a bearing portion having a rearwardly-extending lug entering said bifurcated end of the securing portion and being adjustable therein, a crank-shaft journaled in said bearing portions, and a pitman connecting said crank-shaft with the reciprocating carriage.

7. In a portable planer adapted to plane the valve-seat of an engine, the combination with the frame-bars and a reciprocating carriage on said frame-bars, of bearings on said frame-bars, each comprising a securing portion adjustably secured to the frame-bars and having a slot therein and a bearing portion coöperating with said securing portion, a bolt passing through the bearing portion and the slot in the securing portion to render the bearing portion adjustable on the securing portion, a crank-shaft journaled in said bearing portions, and a pitman connecting the crank-shaft with the reciprocating carriage.

806,795. **ADDING-MACHINE.** JOSEPH H. GINET, Jr., St. Louis, Mo. Filed Feb. 15, 1904. Serial No. 193,505.



Claim.—1. In an adding-machine, the combination of a series of counting-wheels, mechanism for operating said counting-wheels, a series of numeral-keys, and controlling-wheels carried directly by said keys and arranged to be brought into engagement with said counting-wheel-operating mechanism; said controlling-wheels being provided with series of teeth corresponding to the numerals of the keys by which they are carried, substantially as set forth.

2. In an adding-machine, the combination of a series of counting-wheels, mechanism for operating said counting-wheels, a series of numeral-keys, controlling-wheels carried by said numeral-keys and arranged for engagement with said operating mechanism, and means for retaining said keys to hold said controlling-wheels in engagement with said mechanism, substantially as set forth.

3. In an adding-machine, the combination of a series of counting-wheels, mechanism for operating said counting-wheels, a series of numeral-keys, controlling-wheels carried by said numeral-keys and arranged for engagement with said operating mechanism, and spring-catches for engaging with said keys to hold said controlling-wheels in engagement with said mechanism, substantially as set forth.

4. In an adding-machine, the combination of a series of counting-wheels, mechanism for operating said counting-wheels, a series of numeral-keys, controlling-wheels carried by said numeral-keys and arranged for engagement with said operating mechanism, means for holding said keys to maintain the engagement between said controlling-wheels and operating mechanism, and means for freeing said keys after said controlling-wheels have partaken of a rotation corresponding to the extent of active engagement between the controlling-wheels and operating mechanism, substantially as set forth.

5. In an adding-machine, the combination of a series of counting-wheels, mechanism for operating said counting-wheels, a series of numeral-keys, controlling-wheels rotatively mounted in said keys for engagement with said operating mechanism, spring-catches for engagement with said keys to maintain said controlling-wheels in engagement with said operating mechanism, and studs carried by said controlling-wheels for moving said catches out of engagement with said keys when the controlling-wheels have partaken of a rotation corresponding to the extent of active engagement between the counting-wheels and operating mechanism, substantially as set forth.

6. In an adding-machine, the combination of a series of counting-wheels, a power-shaft, mechanism between said power-shaft and counting-wheels for imparting rotation to said counting-wheels, a series of pinions on said power-shaft, a series of numeral-wheels, controlling-wheels rotatively mounted in said numeral-keys and bearing teeth corresponding in number to the numerals of the keys, and means for holding said controlling-wheels in fixed engagement with said pinions and freeing them from said engagement when the controlling-wheels have partaken of a rotation corresponding to the extent of teeth thereon that engage said pinions, substantially as set forth.

7. In an adding-machine, the combination of a series of counting-wheels, a power-shaft, mechanism for transmitting motion from said power-shaft to said counting-wheels, means for holding said power-shaft from rotation, a series of pinions on said power-shaft, a series of numeral-wheels rotatively mounted in said keys and arranged to be moved into engagement with said pinions, means for freeing said power-shaft for rotation while a controlling-wheel is in engagement with one of said pinions, and means for checking the rotation of said power-shaft and separating the previously-operating controlling-wheel from the pinion engaged thereby, substantially as set forth.

8. In an adding-machine, the combination of a series of counting-wheels, a power-shaft, mechanism for transmitting motion from said power-shaft to said counting-wheels, a check-wheel fixed to said power-shaft, a series of pinions fixed to said power-shaft, a spring-actuated pawl engaging said check-wheel, a series of numeral-keys, controlling-wheels rotatively mounted in said keys, and arranged for engagement with said pinions, and a series of fingers associated with said check-wheel pawl and extending into proximity to said keys to be actuated thereby, substantially as set forth.

9. In an adding-machine, the combination of a series of counting-wheels, mechanism for operating said counting-wheels, a series of numeral-keys, controlling-wheels rotatively mounted in said keys and arranged for engagement with said operating mechanism to govern the movement of the mechanism, means for freeing said controlling-wheels from said mechanism, and return-springs associated with said controlling-wheels to retract them into normal position, substantially as set forth.

10. In an adding-machine, the combination of a series of counting-wheels, intermediate gear-wheels for actuating said counting-wheels, a power-shaft, a drive-wheel reciprocally mounted on said shaft for engagement with either of said intermediate gear-wheels, a spring controlling member for imparting reciprocation to said drive-wheel on said shaft, a ratchet-bar for holding said drive-wheel from reciprocation, a pawl engaging said ratchet-bar, a push-rod having connection with said pawl, and a finger carried by said push-rod for engaging said ratchet-bar when said pawl is freed therefrom, substantially as set forth.

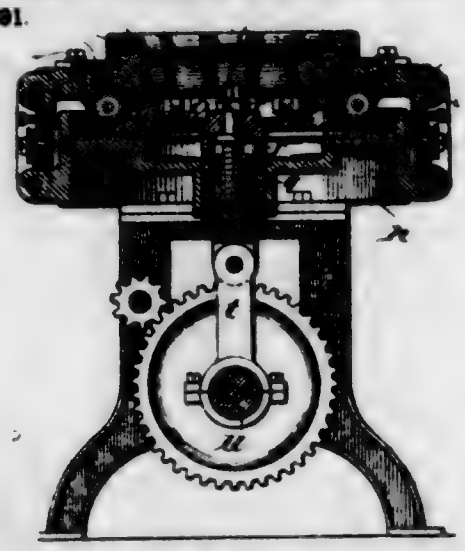
11. In an adding-machine, the combination of a series of counting-wheels, a shaft on which said wheels are mounted, pinions associated with said counting-wheels, means for imparting rotation to said pinions, transfer-wheels associated with said counting-wheels, means for imparting rotation to said transfer-wheels, and means for preventing said pinions from rotating more than a single step while said transfer-wheels are being rotated; said last-named means consisting of a series of dogs to engage said pinions, and swinging arms mounted on said counting-wheel shaft and connected to said dogs and arranged to be engaged by said transfer-wheel-rotating means, substantially as set forth.

12. In an adding-machine, the combination of a series of counting-wheels, mechanism for operating said counting-wheels, a series of numeral-keys, means carried by said keys for controlling said

counting-wheel-operating mechanism, and a rocker for upholding the remainder of said keys after one of them is depressed; said keys being provided with cams and studs arranged respectively to move said rocker and serve as stops, substantially as set forth.

13. In an adding-machine, the combination of a series of counting-wheels provided with perimetral protuberances, a yoke rockingly mounted in proximity to said counting-wheels, a rotatable shaft journaled in said yoke, a roller carried by said shaft arranged to rotate in frictional contact with said counting-wheels, and a single cross-bar forming a part of said yoke and arranged to receive the engagement of all of said counting-wheel protuberances in common, substantially as set forth.

806,796. MACHINE FOR FLARING OR CONING BARREL-HOOPS. WILLIAM GLAESER, Chicago, Ill. Filed Sept. 1, 1905. Serial No. 276,691.



Claim.—1. The combination with a series of cylindrically-placed formers, free at their upper ends, integral at their lower ends with pivoted, radial, and radially-adjustable arms, of means, with said arms, to move said formers into conical position.

2. The combination with a series of cylindrically-placed formers, free at one end and integral at their opposite ends with pivoted, radial, and radially-adjustable arms, said arms parallel to a horizontal plane, of mechanism to support the free ends of said arms, said mechanism reciprocable transversely to the plane of said arms, and adjustable transversely to the plane of said arms.

3. The combination with a series of cylindrically-placed formers, free at one end, and integral at their opposite ends with pivoted, radial, and radially-adjustable arms, in a plane, of mechanism to support the free ends of said arms, said mechanism reciprocable transversely to the plane of said arms, and adjustable transversely to the plane of said arms, whereby the degree of flare may be regulated, substantially as specified.

4. The combination with a series of cylindrically-placed formers, free at one of their ends, integral at their other ends swith pivoted, radial, and radially-adjustable arms, former-blocks on said arms, said arms in a plane, of adjustable reciprocating mechanism to the free ends of said arms, to flare said formers, and supports for the hoop, said supports, with said formers, when coned, holding the hoop, fixedly, in an angle.

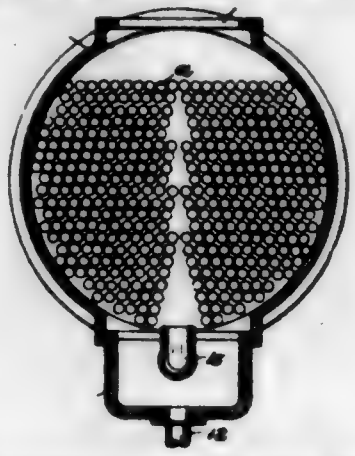
5. The combination with a series of pivotally-held and cylindrically-placed hoop-formers adapted to change from cylindrical to conical form, of hoop-supporting elements and mechanism to change said cylindrical into conically-placed formers, whereby a hoop is flared and held between said formers and hoop-supports.

6. The combination with a series of cylindrically-placed formers, free at one end and at their other ends integral with pivoted arms placed in the same horizontal plane, and hoop-supporting mechanism, of mechanism to expand said formers at their free ends into continuously-increasing conical form.

7. The combination with a series of cylindrically-placed formers, free at their upper ends, integral at their other ends with arms placed at right angles to said formers, said arms pivoted at their outer ends and placed radially in a horizontal plane, of means to change said cylindrically-placed formers into an inverted conical form.

806,797. CONDENSER. JOHN F. GRACE, New York, N. Y., assignor to Henry R. Worthington, New York, N. Y., a Corporation of New Jersey. Filed Oct. 1, 1904. Serial No. 226,762.

Claim.—1. In a surface condenser, the combination with the casing and condensing-water passages, of condensing-surfaces cooled by the condensing-water and arranged to conduct the water of condensation sidewise as it passes downward over the condensing-surfaces and to provide a space at the bottom of the condenser from above which the water of condensation is conducted by the condensing-surfaces, and an air-discharge pipe entering said space.



2. In a surface condenser, the combination with the casing and condensing-water passages, of condensing-surfaces cooled by the condensing-water and arranged to conduct the water of condensation outwardly from the center toward the sides of the condenser-casing and to provide a central space from above which the water of condensation is conducted by the condensing-surfaces, and an air-discharge pipe entering said space at the bottom of the condenser.

3. A surface condenser having condensing-surfaces consisting of tubes through which the condensing liquid passes with the tubes of successive rows arranged out of line with each other vertically, so that the water of condensation falls from one tube onto the side of the next lower tube whereby the water of condensation is conducted sidewise as it passes downward through the condenser, said condenser being provided with a space from above which the water of condensation is conducted by said tubes, and an air-discharge pipe entering said space.

4. A surface condenser having condensing-surfaces consisting of tubes through which the condensing liquid passes, with the tubes of successive rows arranged out of line with each other vertically and thus offset in opposite directions from the center toward the opposite sides of the condenser, so that the water of condensation falls from one tube onto the outer side of the next lower tube and is conducted outward from the center of the condenser as it passes downward over the tubes.

5. A surface condenser having condensing-surfaces consisting of tubes through which the condensing liquid passes, with the tubes of successive rows arranged out of line with each other vertically and thus offset in opposite directions from the center toward the opposite sides of the condenser, so that the water of condensation falls from one tube onto the outer side of the next lower tube and is conducted outward from the center of the condenser as it passes downward over the tubes, and an air-discharge pipe entering the central space between the tubes.

806,798. TRUSSED FRAME FOR AUTOMOBILES. BENJAMIN A. GRAHN, Chillicothe, Ohio. Filed July 28, 1905. Serial No. 271,653.

Claim.—1. In an automobile-frame, the combination of a beam; a hanger depending therefrom; a pair of tie-rods extending from the ends of said beam to said hanger; and a pair of strut-rods connecting said hanger with the axle members; and said axle members.

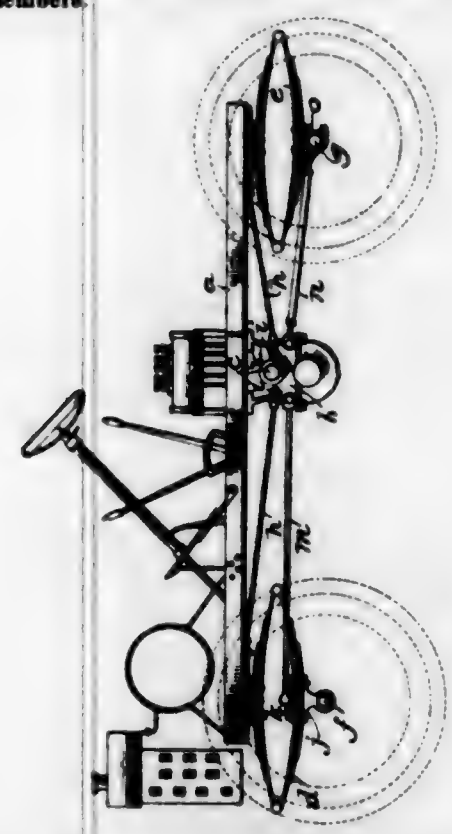
2. In an automobile-frame, the combination of a beam mounted above the axle members; said axle members; a hanger depending from said beam midway thereof; a pair of tie-rods connecting said hanger with the ends of said beam; and a pair of strut-rods connecting said hanger with said axle members.

3. In an automobile-frame, the combination of a beam mounted above the axle members; said axle members; a hanger depending from said beam midway thereof; a pair of tie-rods connecting said hanger with the ends of said beam; and a pair of strut-rods one end of each of which is pivotally connected with the adjacent axle member and the other end of each of which is pivoted to said hanger.

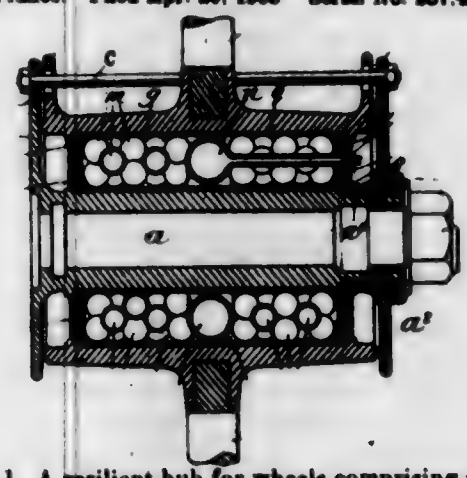
4. In an automobile-frame, the combination of a beam; a hanger depending therefrom; a driving-shaft journaled in said hanger; a pair of tie-rods extending downwardly from the ends of said beam to said hanger; a pair of strut-rods extending downwardly from said hanger to axle members; and said axle members.

5. In an automobile-frame, the combination of a beam; a hanger depending from the central part thereof; a pair of tie-rods

connecting said hanger with the ends of said beam and transmitting a pulling stress thereto; means connecting said beam with axle members; and a pair of strut-rods connecting said hanger with said axle members and transmitting thereto a compressive stress; and said axle members.



806,799. ELASTIC HUB FOR WHEELS. EDOUARD GUARDEL, Amiens, France. Filed Apr. 26, 1905. Serial No. 257,455.



Claim.—1. A resilient hub for wheels comprising an axle-box, a sleeve to which the spokes are secured, a bag or envelop interposed between the sleeve and box, and a plurality of inflated cushions filling said bag.

2. A resilient hub for wheels comprising an axle-box, a sleeve to which the spokes are secured, a bag or envelop interposed between the sleeve and box, a plurality of inflated cushions filling for said bag, and a suitable material for preserving the elasticity of the bag and cushion.

3. A resilient hub for wheels comprising an axle-box, a sleeve to which the spokes are secured, a bag or envelop interposed between the sleeve and box, a plurality of inflated cushions for said bag, and a single cushion having an inflating-tube projecting through the bag.

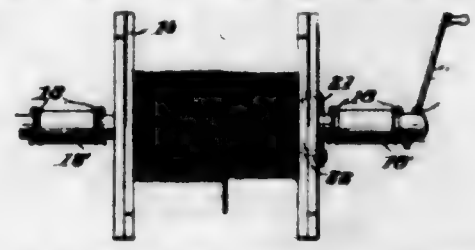
4. A resilient hub for wheels comprising an axle-box, a sleeve to which the spokes are secured, a bag or envelop interposed between the sleeve and box, a plurality of inflated cushions for said bag, and a single inflated ring having an inflating-tube projecting through the bag.

5. A resilient hub for wheels comprising an axle-box, a sleeve to which the spokes are secured, a bag or envelop interposed between the sleeve and box, and a plurality of non-metallic resilient cushioning elements filling said bag.

6. A resilient hub for wheels comprising an axle-box, a sleeve to which the spokes are secured, a bag or envelop interposed between the sleeve and box, a plurality of resilient non-metallic cushions filling said bag, and means limiting movement of said sleeve with respect to said box.

7. A resilient hub for wheels comprising an axle-box, a sleeve to which the spokes are secured, retaining-rims for said sleeve and box, a bag or envelop interposed between said sleeve and box and said rims, and a plurality of resilient non-metallic yielding members filling said bag, said rims forming chambers between the ends of said hub and said bag respectively.

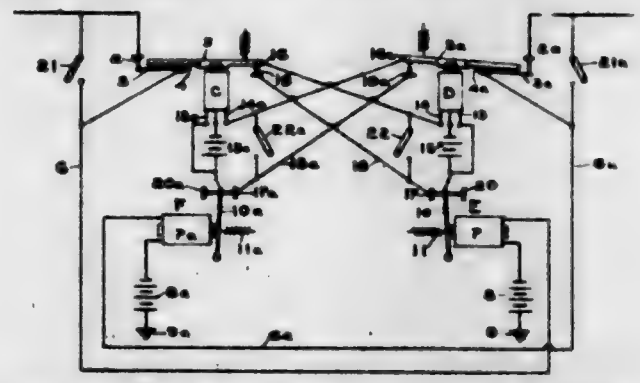
806,800. REEL-CARRIER. FLEMING B. GREATHOUSE, Garden City, Kans. Filed June 30, 1905. Serial No. 267,855.



Claim.—1. A device of the class described comprising a shaft provided with a terminal opening, a threaded operating-handle engaging said opening, a wire-receiving spool mounted for rotation with the shaft, bearing-collars mounted on the shaft at opposite ends thereof, means for clamping the spool on said shaft and nuts engaging the threaded portion of the operating-handle and bearing against the shaft.

2. A device of the class described comprising a shaft provided with a terminal operating-handle, a wire-receiving spool mounted on the shaft, a clamping member extending through the shaft and engaging the wire-receiving spool for clamping the latter to the shaft, bearing-sleeves mounted on said shaft on each side of the wire-receiving spool, and pins seated in openings in the shaft on each side of the bearing-collars for retaining the latter in position on said shaft.

806,801. TELEGRAPH-REPEATER. OSCAR C. GREENE, St. Paul, Minn., and CHARLES H. GAUNT, Topeka, Kans. Filed Apr. 28, 1902. Serial No. 104,946.



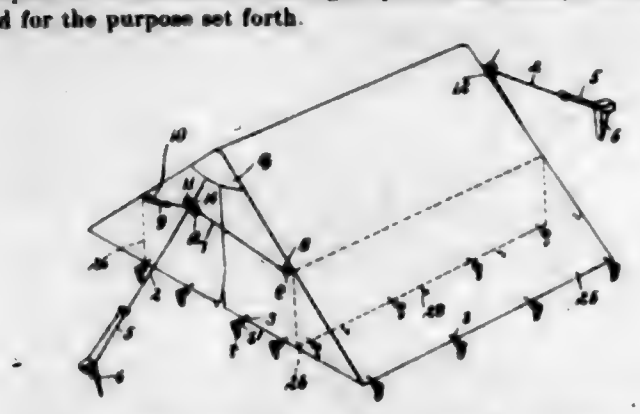
Claim.—1. The combination, with two main telegraph-lines and their relays, of a pair of repeating sounders, the magnet of each sounder having two differential windings, one winding forming a permanently-closed and energized local circuit, and the opposite winding forming a local circuit through one of the contact-points of the adjacent relay and one of the contact-points of the other repeating sounder, whereby the armature of the sounder upon the outgoing side will open or close the local circuit of the opposite sounder which passes through the contact-point of its relay.

2. A telegraph-repeater comprising two relays and two repeating sounders, each sounder having two differential windings, one of said windings forming a permanently-closed and energized local circuit and the other winding forming a circuit through the back contact-point of the adjacent relay and the front contact-point of the armature of the other repeating sounder, each sounder-armature having also a contact-point for the adjacent main line, said contact-points of the sounder being so arranged that the front contact-point breaks the opposite unenergized local circuit before the other contact-point breaks the adjacent main line, for the purpose described.

3. The combination, with two main telegraph-lines and their relays, of a pair of differentially-wound repeating sounders, one of the windings of each sounder forming a permanently-closed and energized local circuit and the opposite winding forming a circuit through the back contact-point of the adjacent relay and the front contact-point of the armature of the other repeating sounder, whereby the repeating sounder on the outgoing side will directly control the action of the repeating sounder on the incoming side, substantially as described.

806,802. TENT. HENRY L. GULLIER, Granby, Canada. Filed May 10, 1904. Serial No. 208,202.

Claim.—1. A tent comprising a pair of knockdown supporting-frames each having a rigid eye, a fabric covering adapted to receive and be supported by the frames at each end and having eyelets to allow the eyes of the frames to project therethrough, and guy-ropes adapted to be fastened to the rigid eyes, substantially as described and for the purpose set forth.



2. A tent comprising a pair of knockdown supporting-frames each having a rigid eye near its top and a pair of rigid eyes one located at each side thereof, a fabric covering adapted to receive and be supported by the said frames and having at each end of the top, an eyelet to allow the top eyes of said frames to project therethrough, and having a pair of eyelets one near each side to allow the side eyes of said frames to project therethrough, substantially as described and for the purpose set forth.

3. A tent comprising a pair of supporting-frames each frame consisting of a pair of diagonal members pivotally connected at their upper ends to opposite ends of a web having a pair of diagonal flanges for limiting the movement of the members from one another when spread apart and a pair of vertical members pivotally connected at their upper ends to the lower ends of the diagonal members; a flexible covering; such frames being separate from and independent of one another and located one at each end of such flexible covering and retained thereby against displacement away from one another; and guy-ropes for drawing said frames from one another substantially as described and for the purpose of tightening and bracing the tent.

4. A tent comprising a pair of knockdown supporting-frames each having a rigid eye near its top and a pair of rigid eyes one located at each side thereof, a fabric covering adapted to receive and be supported by the said frames and having at each end of the top, an eyelet to allow the top eyes of said frames to project therethrough, and having a pair of eyelets one near each side to allow the side eyes of said frames to project therethrough, a pair of main guy-ropes having snap-hooks at one end and sliding loops at their other ends, such snap-hooks being adapted to be fastened upon the said top eye, a pair of horizontal guy-ropes each having a sliding loop at one end and a pair of snap-hooks one carried by such sliding loop and the other by the opposite end of such horizontal guy-rope, said last-mentioned hooks being adapted to be fastened upon the said pair of side eyes, a pair of brackets, and a pair of rollers disposed at right angles to one another and carried by each of the said brackets, one roller of each of said pair of rollers being adapted to have one of the said guy-ropes run thereunder and the other roller of each pair being adapted to have one of the horizontal guy-ropes run thereover, substantially as described and for the purpose set forth.

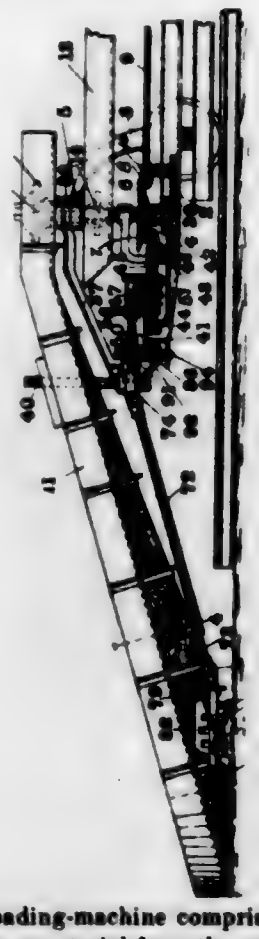
5. A tent-supporting frame consisting of a pair of diagonal members, means effecting a hinged connection between the upper ends of said members, a pair of vertical members pivotally connected at one end to the opposite ends of said diagonal members, and a pair of rigid braces each pivotally connected at one end to one of the vertical members between the ends of the latter, a sleeve slidably mounted upon each of said diagonal members and having the opposite ends of the said rigid parts pivotally connected thereto, means for clamping said sleeve rigidly in any position to which it may be moved along said diagonal member, and each of said diagonal members having a shoulder formed rigidly thereon between the said slidable sleeve and the end thereof which is pivotally connected to the vertical member, substantially as described and for the purpose set forth.

6. A tent-supporting frame consisting of a pair of diagonal members, means effecting a hinged connection between the upper ends of said members, a pair of vertical members pivotally connected at one end to the opposite ends of said diagonal members, and a pair of rigid braces each pivotally connected at one end to one of the vertical members between the ends of the latter, a sleeve slidably mounted upon each of said diagonal members and having the opposite ends of the said rigid parts pivotally connected thereto, and each of said diagonal members having a shoulder formed rigidly thereon between the said slidable sleeve and the end thereof which is pivotally connected to the vertical member, substantially as described and for the purpose set forth.

7. The combination with a wall-tent-supporting frame, of a flexible covering supported by the frame and comprising a middle portion conforming to the area defined by the roof members of the frame, a pair of wall portions one at each side of and adjoining the middle portion, a pair of wall-extension portions adjoining the wall portions, and a pair of end portions; means whereby the wall portions are fastened to the ground, and means whereby the wall-extension portions are fastened to the ground.

8. The combination with a wall-tent-supporting frame, of a flexible covering supported by said frame and comprising a middle portion conforming to the area defined by the roof members of the frame, a pair of wall portions one at each side of and adjoining the middle portion; a series of fastening devices carried by the lower edges of such wall portions, a pair of wall-extension portions adjoining the wall portions and a pair of end portions; and a series of fastening devices carried by the lower edges of such wall-extension portions.

806,803. LOADING-MACHINE. WILLIAM E. HAMILTON, Columbus, Ohio, assignor to The Hamilton Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed May 16, 1904. Serial No. 208,180.



Claim.—1. A loading-machine comprising gathering mechanism arranged to gather material from the ground and feed mechanism connected to said gathering mechanism and having independent engagement with the ground whereby it is adapted to feed said gathering mechanism in its gathering movement.

2. A loading-machine comprising a gathering mechanism arranged to gather material from the ground and feed mechanism mounted at the gathering end of said gathering mechanism and in engagement with the ground.

3. A loading-machine comprising a pivotally-mounted gathering mechanism and feed mechanism mounted upon said gathering mechanism and arranged to engage the ground.

4. A loading-machine comprising pivotally-mounted gathering mechanism and feed mechanism arranged to cause said gathering mechanism to sweep about its pivot-point and to vibrate the gathering end of said gathering mechanism.

5. A loading-machine comprising gathering mechanism and feed mechanism connected thereto comprising creepers arranged to successively engage the ground, and means to actuate said creepers.

6. A loading-machine comprising gathering mechanism, and feed mechanism therefor comprising a frame, an eccentric-shaft journaled in said frame, creepers connected to said eccentric-shaft, means to rotate said shaft, and means connecting said feed mechanism to said gathering mechanism.

7. A loading-machine comprising a truck, a main shaft thereon,

gathering mechanism pivoted on said truck and arranged to rest on the ground at its forward end, feed mechanism for said gathering mechanism connected near the forward end thereof and comprising creepers arranged to successively engage the ground and means operatively connecting said main shaft and said creepers to actuate the same.

8. A loading-machine comprising a truck, a main shaft thereon, gathering mechanism pivoted thereon and arranged to rest on the ground at its forward end, feed mechanism connected near the forward end of said gathering mechanism and arranged to engage the ground, and means operatively connecting said main shaft and said feed mechanism and comprising a tumbler-shaft having relatively longitudinally movable sections.

9. A loading-machine comprising a truck, gathering mechanism pivoted thereon arranged to rest on the ground at its forward end, feed mechanism mounted near the forward end of said gathering mechanism and arranged to engage the ground and means on said mechanism to raise said feed mechanism from the ground at will.

10. A loading-machine comprising a truck, gathering mechanism pivoted thereon and arranged to rest on the ground at its forward end, feed mechanism mounted near the forward end of said gathering mechanism and arranged to engage the ground and means comprising a roller mounted on said feed mechanism and arranged to support said feed mechanism out of engagement with the ground at will.

11. A loading-machine comprising a truck, gathering mechanism pivoted thereon and arranged to rest on the ground at the forward end, feed mechanism mounted near the forward end of said gathering mechanism and arranged to engage the ground, means comprising a roller mounted on said feed mechanism and arranged to support said feed mechanism out of engagement with the ground and means to hold said means in any position of adjustment.

12. A loading-machine comprising a truck, gathering mechanism pivotally mounted at one end on said truck and arranged to rest upon the ground at the other end, a main feed mechanism and a booster feed mechanism to cause said gathering mechanism to sweep about its pivot.

13. A loading-machine comprising a truck, gathering mechanism pivoted thereon, a main shaft, main feed mechanism and booster feed mechanism for said gathering mechanism, said feed mechanisms being both driven from said main shaft.

14. A loading-machine comprising a truck, gathering mechanism pivoted on said truck, a main feed mechanism and a booster feed mechanism for said gathering mechanism said feed mechanisms being yieldingly connected.

15. A loading mechanism comprising a platform, an arcuate feed-rack thereon, gathering mechanism pivoted on said truck, feed mechanism comprising a shaft, a pinion in engagement with said feed-rack held to rotate with said shaft by friction, means to adjust the force of friction, a main shaft and means operatively connecting said main shaft and said first-mentioned shaft.

16. A loading-machine comprising a platform, an arcuate feed-rack thereon, a main shaft, a shaft provided with a conical shoulder and operatively connected with said main shaft, a pinion loosely mounted on said second-mentioned shaft in engagement with said shoulder and meshing with said feed-rack, a sleeve slidingly mounted on said second-mentioned shaft and provided with a conical portion arranged to engage said pinion, and a hand-wheel in screw-threaded engagement with said second-mentioned shaft and arranged to adjust said sleeve.

17. A loading-machine comprising gathering mechanism, a main shaft, feed mechanism for said gathering mechanism and operative connections between said feed mechanism and said main shaft comprising a shaft continuously rotating in one direction, a sprocket-wheel and a gear-wheel loosely mounted on said shaft, and a clutch between said wheels having a portion secured to said shaft to rotate therewith and arranged to clutch either of said wheels, a parallel shaft provided with a sprocket-wheel and a gear-wheel secured thereto, said sprocket-wheels being connected by a sprocket-chain and said gear-wheels meshing with each other.

18. A loading-machine comprising a conveyer-frame having a chain-guiding channel, an endless chain in said channel and guided thereby, a sprocket to drive said chain, said chain being guided only by said channel and said driving-sprocket, a conveyer-trough and flights connected to said chain and projecting into said trough.

19. A loading-machine comprising a conveyer-frame having a chain-channel, a chain confined in said channel, a sprocket to drive said chain, flights pivotally connected to said chain and outwardly projecting therefrom, and an endless cam-guide arranged to control the angular position of said flights.

20. A loading-machine comprising a conveyer-frame, a trough, an endless chain provided with pivotally-mounted flights extending into and coöperating with said trough, and an endless cam-guide arranged to be engaged by said flights and hold them perpendicular to said trough when ascending, permitting the retreat of the free ends of said flights when descending and advancing the free ends of said flights beyond the ends connected to said chain when approaching the receiving end of said conveyer.

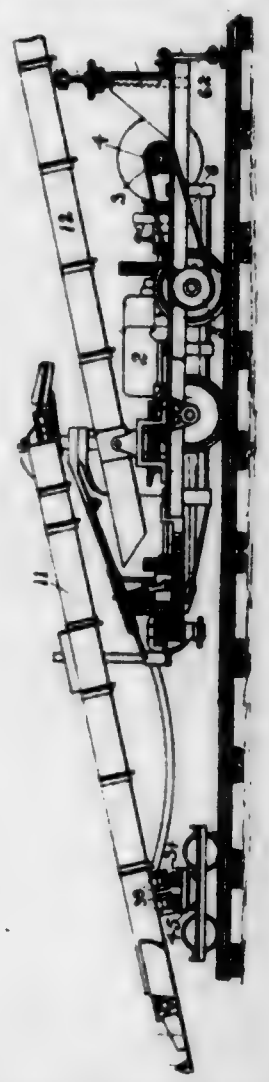
21. A loading-machine comprising a conveyer-frame having a chain-channel, a chain confined therein, a sprocket to drive said chain, a conveyer-trough, flights pivotally connected to said chain and outwardly projecting therefrom, and an endless cam-guide arranged to be engaged by said flights and hold them perpendicular to said trough when ascending, permitting the free ends of said flights to retreat in descending, and advancing the free ends of said flights when approaching the receiving end of said conveyer.

22. A loading-machine comprising a conveyer arranged to rest on the ground at one end, the opposite sides of said conveyer vertically diverging from each other, said sides being connected at the gathering end by a gathering-plate parallel with the ground.

23. A loading-machine comprising a conveyer having an ascending trough and a return-casing, having their longitudinal axes in different vertical planes, said return-casing being more sharply inclined than said ascending trough.

24. A loading-machine comprising a conveyer arranged to rest on the ground at one end, and comprising an ascending trough terminating at the gathering end of the conveyer in a gathering edge and a descending casing more sharply inclined than said ascending trough, the bottom plate of said casing descending to the rear end of said gathering edge.

806,804. **LOADING-MACHINE.** WILLIAM B. HAMILTON, Columbus, Ohio, assignor to The Hamilton Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed Aug. 31, 1904. Serial No. 223,646.



Claim.—1. A loading-machine comprising a conveyer arranged to have sweep movement about a vertical axis, a gathering-plate pivotally mounted upon the end of said conveyer and fluid-pressure feed mechanism mounted on said conveyer near its end and having engagement with the floor.

2. A loading-machine comprising a conveyer arranged to have

movement about both horizontal and vertical axes, a gathering-plate pivotally mounted upon the end of said conveyer and having gathering edges upon its opposite sides, and reversible fluid-pressure feed mechanism mounted on said conveyer near its end and having engagement with the floor.

3. A loading-machine comprising gathering mechanism arranged to have a sweep movement about a vertical axis, and fluid-pressure feed mechanism mounted on said gathering mechanism near its end and having engagement with the floor.

4. A loading-machine comprising gathering mechanism arranged to have sweep movement in either direction about a vertical axis, and reversible fluid-pressure feed mechanism mounted on said gathering mechanism near its end and having engagement with the floor.

5. A loading-machine comprising gathering mechanism arranged to have sweep movement about a vertical axis, a fluid-pressure feed mechanism mounted near the end of said gathering mechanism and having a toothed creeper in contact with the floor.

6. A loading-machine comprising gathering mechanism arranged to have sweep movement about a vertical axis, a cylinder mounted on said gathering mechanism near its end and provided with a piston and piston-rod, and a toothed creeper pivotally connected to said piston-rod and arranged to engage the floor.

7. A loading-machine comprising gathering mechanism arranged to have sweep movement about a vertical axis, a cylinder mounted on said gathering mechanism near its end and provided with a piston and a piston-rod projecting through both ends of the cylinder, and a toothed bar pivotally connected at its ends to the opposite ends of said piston-rod and arranged to engage the floor.

8. A loading-machine comprising a conveyer arranged to have a sweep movement about a vertical axis and a gathering-plate mounted on the end of said conveyer and arranged to gather material from the ground when moving in either direction.

9. A loading-machine comprising a conveyer arranged to have a sweep movement about a vertical axis, a gathering-plate projecting from the end of said conveyer and arranged to be forced under the material to be loaded and gather the material from the ground when moving in either direction, and symmetrical means on said gathering-plate to loosen the material when moving in either direction.

10. A loading-machine comprising a conveyer arranged to have a sweep movement in either direction about a vertical axis, a gathering-plate projecting from the end of said conveyer and arranged to be forced under the material to be loaded from either direction and means on said gathering-plate to loosen the material.

11. A loading-machine comprising a conveyer arranged to have a sweep movement in either direction about a vertical axis, a gathering-plate projecting from the end of said conveyer and having forwardly-converging gathering edges, and means at the forward end of said plate to loosen the material to be loaded.

12. A loading-machine comprising a conveyer arranged to have a sweep movement about a vertical axis, a gathering-plate pivoted upon the end of said conveyer and having forwardly-converging gathering edges and a projection upon the forward end of said gathering-plate.

13. A loading-machine comprising a conveyer arranged to have sweep movement about a substantially vertical axis, a gathering-plate projecting from the end of said conveyer and having a gathering edge, and a member projecting from said gathering-plate to move material that is out of the path of said gathering edge into said path.

14. A loading-machine comprising a conveyer, a gathering-plate projecting from the forward end of said conveyer and having a gathering edge, and a member projecting laterally and rearwardly from said gathering-plate to move material into the path of said gathering edge.

15. A loading-machine comprising a conveyer, a gathering-plate projecting from the forward end of said conveyer and having a gathering edge, and a plate projecting laterally and rearwardly from said gathering-plate and having its lower edge in substantially the plane of said plate.

16. A loading-machine comprising a head-shaft, a conveyer mounted on said head-shaft to have universal movement and actuated by said head-shaft, and a secondary conveyer arranged to be actuated by said head-shaft and to receive the material discharged from said first-mentioned conveyer, said secondary conveyer being provided with trunnions near one end, and a bearing-plate mounted to turn about said head-shaft in bearings concentric therewith and provided with bearings for said trunnions.

17. A loading-machine comprising gathering mechanism having an endless conveyer the going and return sections of which are in substantially the same horizontal plane, a final conveyer having its going and return sections in substantially the same horizontal plane arranged to receive the material discharged from said gathering mechanism, and a head-shaft to actuate both said conveyers, said conveyers being mounted to have universal movement about said head-shaft.

18. A loading-machine comprising vertically-alined bearings, a shaft journaled in said bearings, a sprocket mounted on said shaft by means of a universal joint, a conveyer actuated by said sprocket and having trunnions at right angles to said shaft, and a bearing-plate resting in bearings concentric with said shaft and provided with bearings for said trunnions.

19. A loading-machine comprising a truck, a conveyer pivotally mounted on said truck, sockets mounted on said truck rearwardly of the pivot-point of said conveyer, screws extending into said sockets and provided with sprockets, a sprocket-chain connecting said sprockets, and a support for said conveyer rigidly connected to said screws.

20. A loading-machine comprising a truck, a conveyer pivotally mounted on said truck, actuating mechanism for said conveyer mounted on said truck, independently vertically movable stays on said truck and rollers on said stays, respectively, in position to engage opposite sides of a track-rail.

21. A loading-machine comprising a truck, a conveyer pivotally mounted at one end on said truck, a creeper feed mechanism on said conveyer near its forward end, and a pony-truck having a pivoted table to support said creeper feed mechanism.

22. A loading-machine comprising a head-shaft, a conveyer mounted to have universal movement about said shaft and provided with a chain, transverse journals on said head-shaft, a frame mounted on said journals, and provided with bearings at right angles to said journals, and a sprocket provided with journals to engage said bearings and driving said chain.

23. In a loading-machine, a conveyer comprising a frame having a trough on the load-carrying side, sprockets journaled in the opposite ends of said frame, a sprocket-chain connecting said sprockets, flights on said chain provided with bearing projections, and a fixed guide extending from sprocket to sprocket on the load-carrying side of said frame curving rapidly inward near the rear end of the conveyer and arranged to be engaged by the bearing projections of said flights whereby said flights are held perpendicular to the longitudinal axis of said trough during their movement therealong and are permitted to incline with respect to the radial position in passing around the rear sprocket but held in an operative position

24. In a loading-machine a conveyer comprising a trough, an endless chain, flights pivotally mounted on said chain and extending into said trough and a guide to hold said flights in operative positions, said guide extending beyond said trough at the discharge end of said conveyer whereby said flights may act upon the material being loaded after it has passed from said trough.

25. The combination of a car having an end-gate, and a loading-machine comprising a conveyer having a trough, an endless chain and flights on said chain and projecting into said trough, the discharge end of said conveyer projecting into said car and being located at an elevation not higher than the top of said end-gate, whereby as said car is filled it may be moved with respect to said conveyer by the action of said flights on the material between said flights and said end-gate.

26. The combination of a car having a front end-gate and a loading-machine comprising a truck, a conveyer pivotally mounted on said truck and having a trough, an endless chain and flights on said chain projecting into said trough, the end of said conveyer projecting into said car, and a support on said truck for said conveyer to hold the end thereof at an elevation not higher than the top of said end-gate, whereby as said car is filled it may be moved with respect to said conveyer by the action of said flights on the material between said flights and said end-gate.

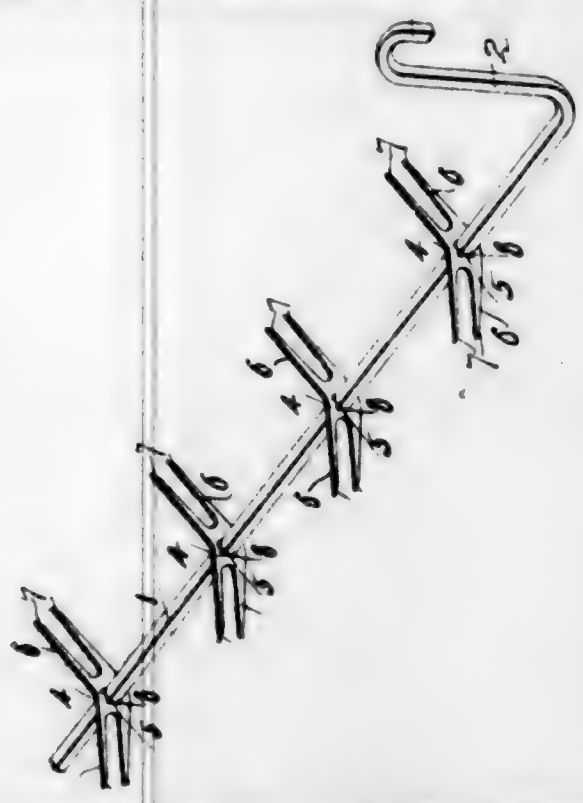
808,805. CAKE-HANGER. HOWARD I. HARDIN, Peoria, Ill. Filed July 3, 1905. Serial No. 268,179.

Claim.—1. A cake-hanger, comprising a polygon-shaped bar, one or more hangers suitably secured to said bar, said hangers having oppositely-extended bifurcated prongs, which extend diagonally upward and outward from said bar.

2. A cake-hanger, comprising a bar, one or more hangers suitably secured to said bar, said hangers having oppositely-extended bifurcated prongs, which extend diagonally upward and outward from said bar, and said bar having its ends formed with hooks.

3. A cake-hanger, comprising a square bar, a hanger-plate provided with a rectangular opening to adapt it to fit over said bar, said

hanger provided with oppositely-extended bifurcated prongs, and means for fixedly attaching the said hanger to the bar.



4. A cake-hanger, comprising a bar, a series of hanger-plates spaced at intervals on said bar, each of said plates having a pair of oppositely-extended prongs overlying each other and their extremities tapered; and means for securing said plates to the bar against lateral displacement.

5. A cake-hanger, comprising a bar, a series of hanger-plates spaced at intervals on said bar, each of said plates provided with tapered fingers which extend diagonally upward and outward from said bar, and means for securing the plates to the bar.

6. A cake-hanger, comprising a bar, a series of hanger-plates spaced at intervals on said bar, each of said plates provided with oppositely-disposed bifurcated prongs which extend diagonally upward and outward from said bar and have their outer extremities beveled, and means for securing the plates to the bar.

7. A cake-hanger, comprising a plate provided with two pairs of oppositely-extended prongs, the prongs of each pair being separated a suitable distance and integral with the body of said plate, and a suitable support for said plate.

8. A cake-hanger, comprising a plate provided with two pairs of oppositely-extended prongs which project upwardly and outwardly, the prongs of each pair being separated a suitable distance and integral with the body of said plate, and a suitable support for said plate.

9. In a device of the character described, a plate having a body portion provided with an opening of polygon shape, bifurcated prongs extending outwardly in opposite directions from the body of said plate, and the ends of said prongs beveled, substantially as specified.

806,806. PHONOGRAPH. WILLIAM HAVERMAN, Cleveland, Ohio. Filed May 15, 1905. Serial No. 260,390.

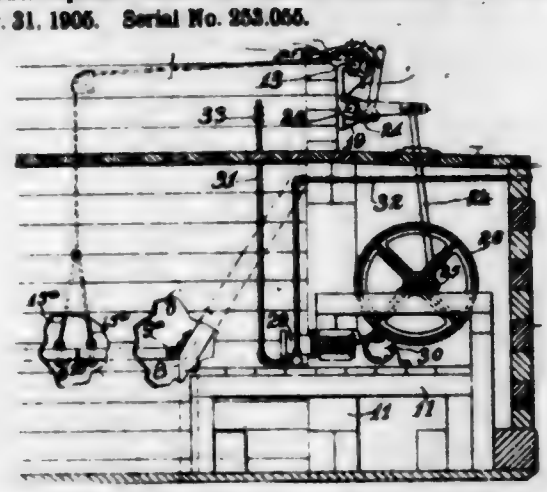


Claim.—1. In a phonograph, the combination, with means for rotating the record, of a pair of reproducers, a common stylus for both the reproducers, a pair of horns corresponding to the two reproducers, and a pivoted arm carrying the reproducers and supporting the horns.

2. In a phonograph, in combination, a reproducer comprising a multiple sound-box and a plurality of diaphragms carried thereby, tubular extensions on the sound-box above the diaphragms, a stylus carried by the sound-box between the diaphragms, a connection from the stylus to the under sides of the various diaphragms, a shank for said sound-box, a pivoted supporting-arm to which said shank is secured, a support on said arm for horns, and a plurality of horns resting on said support and connected at their small ends with the tubular extensions of the sound-box.

3. In a phonograph, in combination, a pivoted arm, a multiple sound-box removably clamped to the forward end of the arm, a plurality of diaphragms for said sound-box, a stylus-support projecting downward from the sound-box between the diaphragms thereof, a connection leading from such support to the center of each diaphragm, and a stylus carried by the support.

806,807. DOOR-CLOSING MECHANISM FOR SCOWS. FRANK HAYES, Superior, Wis., and WILLIAM CLIFFORD, Duluth, Minn. Filed Mar. 31, 1905. Serial No. 253,055.



Claim.—1. In door-closing means for scows, the combination with a scow having a load-receiving hopper provided with hinged floor-doors, of a rotatable shaft journaled on said scow above the plane of said doors when closed, flexible means secured at one end to said shaft and at the opposite ends to the meeting edges of said doors, a ratchet-wheel keyed to said shaft, a rock-shaft journaled in suitable supports on said scow, an eccentric pawl mounted on said rock-shaft and adapted in operative position to engage said ratchet-wheel to rotate the same, means adapted in operative position to prevent the counter rotation of said ratchet-wheel, and means adapted in operation to rock said rock-shaft.

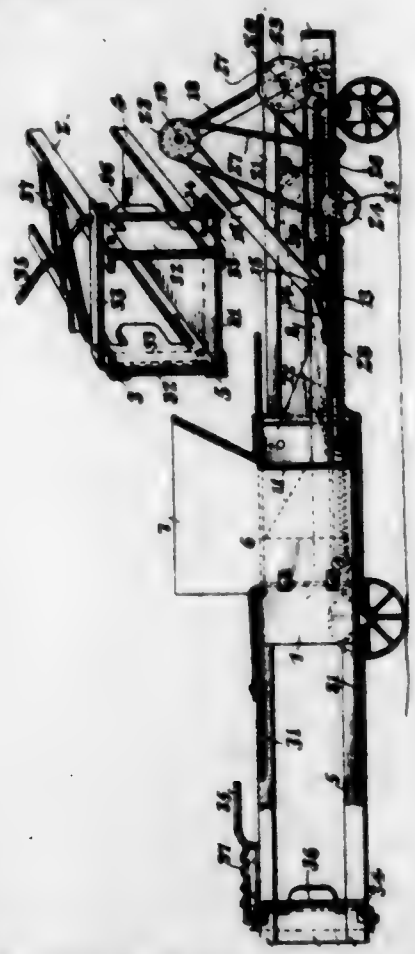
2. The combination with a suitable support containing a load-receiving hopper or compartment provided with a load-retaining door or doors adapted to close a load-discharging opening in said compartment, of a shaft journaled on said support, flexible means secured to said shaft and to a free edge of said door or doors, a ratchet-wheel keyed to said shaft, a rock-shaft, an arm secured thereon and adapted to rock therewith, a pawl pivotally secured to said arm and adapted in operative position to engage said ratchet-wheel to rotate the same, a dog mounted on said support and adapted in operative position to engage said ratchet-wheel oppositely to said pawl to prevent counter rotation of said wheel, a second arm keyed to said rock-shaft, a connecting-rod pivotally secured at one end to the outward end of the latter said arm and means for reciprocating said connecting-rod.

3. The combination with a structure containing a load-receiving compartment having a load-retaining door or doors, adapted to close a load-discharging opening, of a shaft journaled on said construction, flexible means secured at one end to said shaft and adapted to be partly wound thereon and secured at its other end or ends to the free edge of said door or doors, a ratchet-wheel on said shaft adapted to rotate therewith, a rock-shaft journaled on said structure an arm mounted on said rock-shaft and adapted to rock therewith, a pawl pivotally connected to said arm and adapted to be manually raised into operative engagement with said ratchet-wheel to rotate the same, means adapted in operative position to prevent the counter rotation of said ratchet-wheel, a second arm mounted on said rock-shaft and adapted to rock therewith, a connecting-rod pivotally connected to the latter said arm and by an eccentric-pin to a gear-wheel, and means including an engine adapted to rotate said gear-wheel, substantially as described.

806,808. BALING-PRESS. GEORGE D. HAYES, Hillsboro, Tex. Filed Nov. 13, 1903. Serial No. 181,078.

Claim.—1. In a baling-press, the combination with a frame, a press-box, a plunger, and a plunger-rod provided with a concave seat; of an operating-toggle, one member of which is provided with a terminal roller engaging the seat in the plunger-rod and the other member of which is pivoted to the frame of the press and has a bifurcated end extending beyond its fulcrum, a pair of toggle-retracting springs mounted in the press-frame and connected to the bifurcated

end of the toggle member, a pulley mounted at the connection of the toggle with the frame, a second pulley mounted at the joint of the toggle and a third pulley mounted on the press-frame below the toggle, and a cable secured at one end to the press-frame and passed around the several pulleys.



2. In a baling-press, the combination with a frame, a press-box, a plunger, and plunger-retracting mechanism, of an operating-toggle one member of which is of annular form, a shaft carried by the frame and passed through the angular member of the toggle at the angle thereof, a toggle-retracting spring secured to the angular member of the toggle at a point below the shaft, three pulleys, one carried by the frame, another at the joint of the toggle, and the third on the shaft which supports the angular toggle member, an operating-cable passed around the several pulleys, and means for automatically disconnecting the toggle from the plunger at one limit of its stroke.

3. In a baling-press, the combination with a frame, a press-box, a plunger, and a plunger-rod provided with a seat, of an operating-toggle one member of which detachably engages the seat in the plunger-rod and the other member of which is pivoted to the frame of the press and has an end extended beyond its fulcrum, a toggle-retracting spring mounted in the press-frame and connected to the extended end of the toggle member, a pulley mounted at the connection of the toggle with the frame, a second pulley mounted at the joint of the toggle, a third pulley mounted on the press-frame below the toggle, and a cable secured at one end to the press-frame and passed around the several pulleys.

806,809. SEMI-CONVERTIBLE CAR. WILLIAM H. HEULINGS, Jr., Philadelphia, Pa., assignor to John A. Brill, Philadelphia, Pa. Filed May 27, 1905. Serial No. 261,294.

Claim.—1. In a car or similar vehicle, a sill comprising a channel-iron with horizontal and outwardly-disposed webs, and a wooden reinforcing secured to the inner edge thereof.

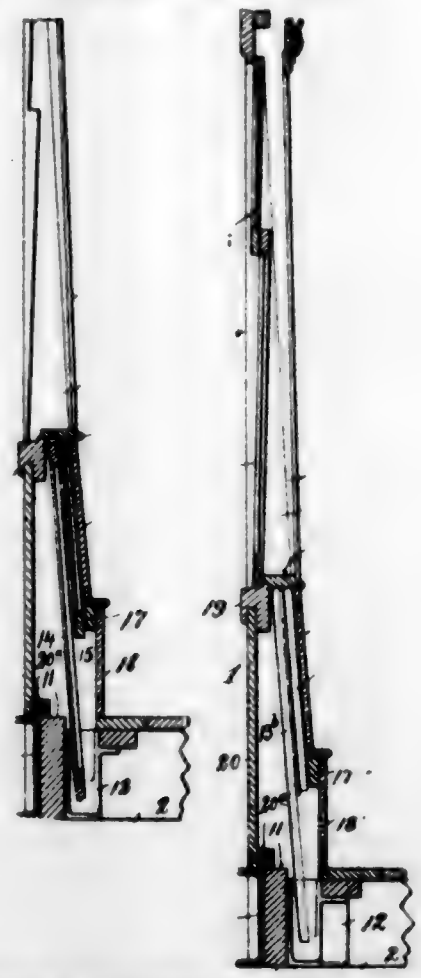
2. In a car or similar vehicle, a frame, provided with a sill comprising a channel-iron, a wooden filling secured to said channel-iron, and a chair fixed to said filling.

3. In a car or similar vehicle, a frame provided with a sill comprising a channel-iron, with a wooden filling, and chairs secured to said wooden filling, and stanchions extending from said sill at points adjacent to said chairs.

4. In a car or similar vehicle, a sill, comprising a channel-iron with a wooden filling, a chair secured to said filling, tie-pieces and braces secured to said chair.

5. In a car or similar vehicle, a sill comprising a channel-iron with a wooden filling fixed thereto, a chair fixed to said filling, and a tie-piece and braces fixed to said chair, and floor-supports secured to said braces.

6. In a car or similar vehicle, a car-body comprising a frame with side sills, and the window or sash pockets extending below the upper surface of said sill, and within the same.



7. As an article of manufacture, a chair for the frames of street-cars, comprising two plates united by a grooved web, and horizontal and vertical webs extending from one of said plates.

8. In a car or similar vehicle, a sill comprising an outer angle-iron, and an inner wooden reinforce, and chairs secured to said reinforce.

9. In a convertible car or similar vehicle, sills comprising an outer angle-iron, and an inner wooden reinforce, chairs, and a flooring supported on said chairs.

10. In a car or similar vehicle, a sill comprising an outer angle-iron and an inner reinforce, chairs, and stanchions secured to said chairs.

11. In a car or similar vehicle, a sill comprising an outer angle-iron and an inner wooden reinforce, chairs with pockets inside the same, and posts or stanchions extending into said pockets.

806,810. WHEEL-TIRE ATTACHMENT. JOSIAH F. HORN, Hazleton, Pa. Filed June 21, 1905. Serial No. 266,263.



Claim.—1. In a device of the class described, a non-elastic tire-casing, and spaced lugs secured upon opposite sides of and arched above the casing.

2. In a device of the class described, a non-elastic tire-casing and spaced lugs secured to and upon opposite sides of and arched above the casing.

3. In a device of the class described, a non-elastic tire-casing, strips provided with spaced lugs and secured upon opposite sides of and with the lugs arched above the casing.

4. In a device of the class described, a non-elastic tire-casing, strips provided with spaced lugs and secured to and upon opposite sides of and with the lugs arched above the casing.

5. In a device of the class described, a non-elastic tire-casing, spaced lugs arched above and secured at their opposite ends upon opposite sides of the casing.

6. In a device of the class described, a tire-casing, strips secured upon opposite sides of the casing and spaced lugs arched above the casing and secured at their opposite ends to the strips.

7. In a device of the class described, a non-elastic tire-casing, strips secured upon opposite sides of the casing and spaced lugs arched above the casing and secured at their opposite ends to the strips.

8. In a device of the class described, a tire-casing and spaced lugs arching and spaced above the casing.

9. In a device of the class described, a non-elastic tire-casing and spaced lugs arching and spaced above the casing.

10. In a device of the class described, a non-elastic tire-casing, and strips provided with spaced lugs secured to and with the lugs arching and spaced above the casing.

11. In a device of the class described, a rim, an inflatable tire, segmental rigid bands adjacent the edges and upon each side of the rim, strips secured adjacent the bands and spaced lugs secured at each end to the strips and arching the tire.

12. In a device of the class described, a tire-casing rigid strips secured upon opposite sides of and carrying lugs arched and spaced above the casing

13. In a device of the class described, a rim, an inflatable tire mounted in the rim, a rigid segmental band spaced upon opposite sides of the tire, strips provided with spaced lugs secured to the band and with the lugs arching the tire and means for securing the band and strips to the rim.

14. In a device of the class described, a rim, a tire, a non-elastic tire-casing, strips provided with spaced lugs secured to and arching the casing.

15. In a device of the class described, a rim, a tire mounted within the rim, a non-elastic tire-casing, a rigid segmental band secured to the casing and strips provided with spaced lugs secured to and the lugs arching the casing.

16. In a device of the class described, a rim, an inflatable tire mounted within the rim, a non-elastic tire-casing, rigid segmental bands secured to and adjacent the edges of the casing, strips provided with spaced lugs secured to the casing adjacent the bands and means for securing the casing upon the tire.

17. In a device of the class described, a rim, an inflatable tire mounted upon the rim, a segmental non-elastic casing covering the outer periphery of the tire, strips provided with spaced lugs secured to and the lugs arching the casing and means for drawing the segments together to clamp the casing upon the tire.

18. In a device of the class described, a rim, a tire mounted upon the rim a segmental non-elastic casing covering the outer periphery of the tire, a segmental band secured adjacent the edge of the casing, strips provided with spaced lugs secured to and the lugs arching the casing and means for drawing the segments together to clamp the casing upon the tire.

19. In a device of the class described, a rim, a tire mounted upon the rim, a tire-armor, means for securing the armor upon the tire and a flexible cover secured to the armor and arranged to cover the rim and armor-securing device.

20. In a device of the class described, a rim, a tire mounted upon the rim, a tire-armor, means for securing the armor upon the tire a fabric secured to the armor and means for covering the rim and the armor-securing device with the fabric.

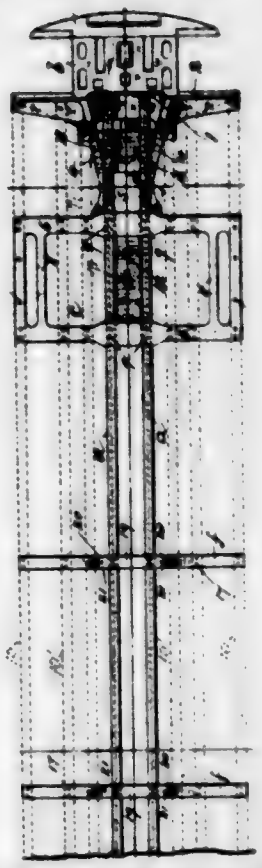
21. In a device of the class described, a rim, a tire mounted upon the rim, a tire-armor, means for securing the armor upon the tire, a fabric secured to the armor and means for bringing together the edges of the fabric to cover the rim and the armor-securing device.

22. In a device of the class described, a rim, an inflatable tire mounted upon the rim, a non-elastic tire-casing a band secured to the casing, a fabric secured between the band and the casing and means for drawing together the edges of the fabric over the rim.

23. In a device of the class described, a rim, an inflatable tire mounted upon the rim, a segmental non-elastic tire-casing, a segmental band secured to the casing, means for securing the segments upon the rim, a fabric clamped between the casing and the band and means for drawing together the edges of the fabric to cover the rim and casing-securing device.

24. In a device of the class described, a rim, an inflatable tire mounted upon the rim a segmental non-elastic tire-casing, segmental bands secured to the casing-segments, strips provided with spaced lugs secured to and the lugs arching the casing, means for drawing together the segments, means for securing the casing upon the tire, a fabric clamped between the casing and the band and means for lacing the edges of the fabric over the rim and the casing-securing device.

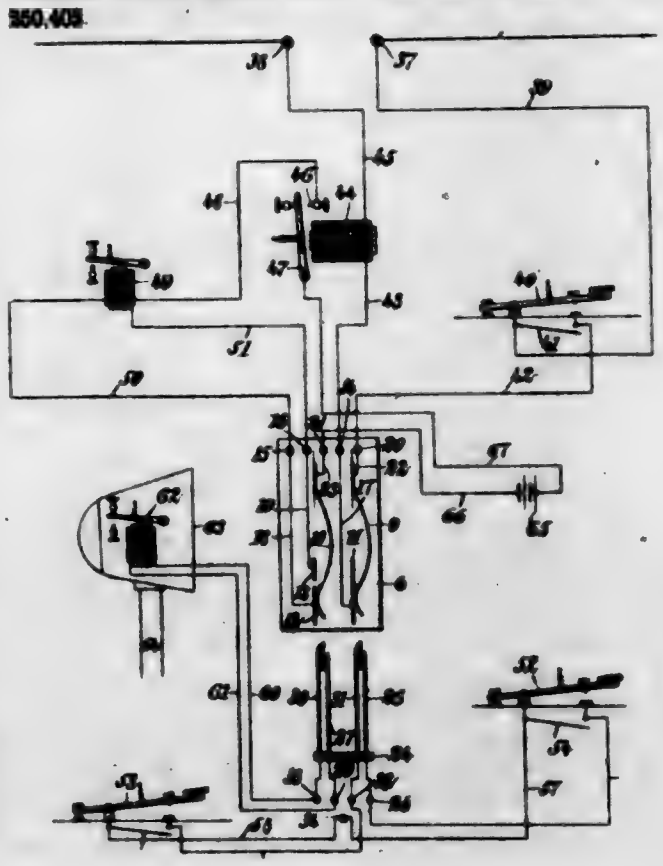
806,811. **RAILROAD-CAR.** CLARENCE H. HOWARD, St. Louis, Mo. Filed May 22, 1905. Serial No. 261,087.



Claim.—1. In an underframe for a railroad-car, the combination of the middle longitudinal sills, a body-bolster fixed to the said sills, a platform fixed to the ends of the said sills, and arms projecting from the platform and fixed to the said sills, laterally thereto, the ends of the said arms abutting against and fixed to the body-bolster, all the said parts being metallic and alined to each other in the same plane, or thereabout, and means for fixing the body-bolster to the wood floor-sills of the frame, substantially as described.

2. In an underframe of the character described, the combination with the middle longitudinal metallic sills and wood floor-sills, of a needle-beam adapted to bear against the under side of the said floor-sills and having a recessed portion adapted to straddle the said middle sills, a tension member spanning the said portion and bearing against the under side of the middle sills, a projection on the said member adjacent to each side of the said pocket and adapted to engage in a recess in the said beam, and means for removably fixing the said member to the beam, substantially as described.

806,812. **DOUBLE JACK FOR TELEGRAPH-CIRCUITS.** OLA JOHNSON, Conway Springs, Kans. Filed Mar. 16, 1905. Serial No. 250,405.



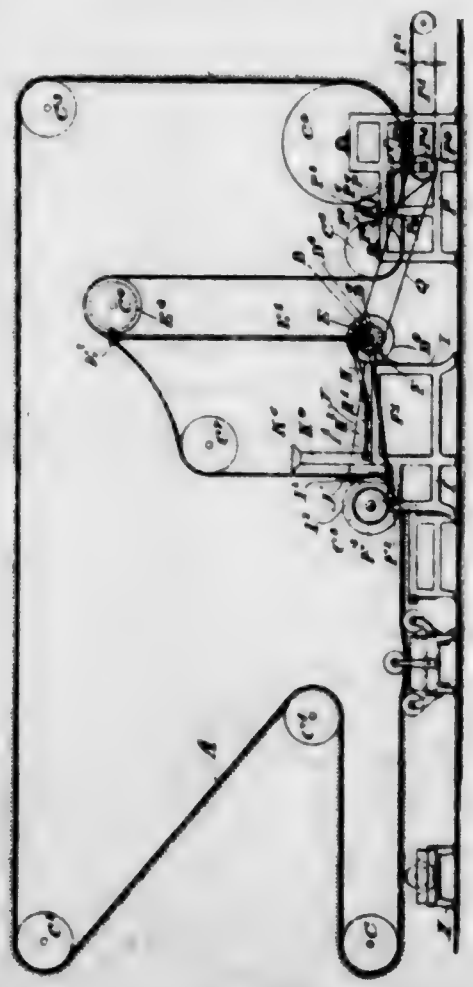
Claim.—1. The combination of a relay, a main-line circuit for energizing the same, a local circuit connected with said relay and controllable thereby, a sounder connected with said local circuit and normally adapted to be energized thereby, an auxiliary wire connected with said local circuit for cutting out said sounder, a jack connected with said local circuit and also connected with said auxiliary wire, and a second sounder connected with said jack and adapted to be cut into circuit by aid of said wire for cutting out said first-mentioned sounder.

2. The combination of a relay, a main circuit connected therewith for energizing the same, a plurality of local circuits connected by means of said relay, a double jack connected with both said main circuit and said local circuits, a key and a sounder connected with said jack, and main wiring constituting virtually a continuation of the main line, said local wiring containing an extra sounder to be actuated in lieu of said first-mentioned sounder.

3. The combination of a relay, a main circuit connected therewith for energizing the same, a local circuit connected with said relay, a double jack connected with both said main circuit and said local circuit, a key and a sounder connected with said jack, and main and local wiring connected with said jack, said local wiring containing an extra sounder to be energized in lieu of said first-mentioned sounder.

4. The combination of a main circuit, a relay connected therewith and energized thereby, a local circuit connected with said relay, an auxiliary wire connected with said local circuit and adapted to cut out said sounder, another sounder adapted to be cut into said local circuit by aid of said auxiliary wire, and a jack connected with said last-mentioned sounder for cutting the same into circuit and cutting said first-mentioned sounder out of circuit at will.

806,813. **MATCH-MAKING MACHINE.** ALEXANDER KELLEY, Wilmington, Del., assignor of one-half to Anthony Higgins, Wilmington, Del. Filed Nov. 25, 1902. Renewed May 13, 1905. Serial No. 260,553.



Claim.—1. In a match-making machine, a carrier-belt having a parallel series of U-shaped gripping-springs, A^3, A^3, &c., each adapted to engage and hold a series of match-sticks, in combination, with means for forcing the arms of said spring-holders apart to release the sticks.

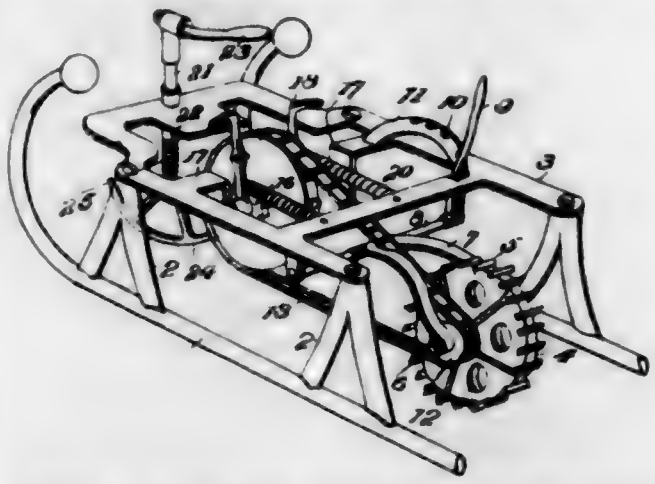
2. In a match-making machine, a carrier-belt having a parallel series of U-shaped gripping-springs, A^3, A^3, &c., with arms, A^4, flaring outward at their ends, each said spring adapted to engage and hold a series of match-sticks, in combination, with means for forcing the arms of said spring-holders apart to release the sticks.

3. In a match-making machine, a carrier-belt having a parallel series of U-shaped gripping-springs, A^3, A^3, &c., with arms A^4 flaring outward at their ends and formed with recesses, a^4, a^4, &c., each said springs adapted to engage and hold a series of match-sticks, in combination, with means for forcing the arms of said spring-holders apart to release the sticks.

4. In a match-making machine, a carrier-belt having a series of parallel U-shaped gripping-springs, A^3, A^3, &c., each adapted to engage and hold a row of match-sticks, in combination with a series of spring distending-bars B, B, &c., one lying in the hollow of each spring and adapted when turned to open the arms of the springs, and means for turning said rods B, B, &c., located in the path of the belt.

5. In a match-making machine, a carrier-belt having a series of parallel U-shaped gripping-springs, A^3, A^3, &c., each adapted to engage and hold a row of match-sticks, in combination with a series of spring distending-bars, B, B, &c., one lying in the hollow of each spring and adapted when turned to open the arms of the springs, means for turning said rods B, B, &c., located in the path of the belt, and means for tapping the springs, located in the path of the belt at a point where the matches are delivered.

806,814. **SLED.** LINCOLN H. KELLEY and ANDREW J. ERSKINE, Ottumwa, Iowa. Filed Jan. 20, 1905. Serial No. 242,009.



Claim.—1. In a sled, the combination of a traction-wheel, means for imparting rotation thereto, a spring-fork support for the traction-wheel, a shaft having said spring-fork support attached thereto, and means for turning the shaft and securing it in an adjusted position for varying the effective tension of said spring-fork support.

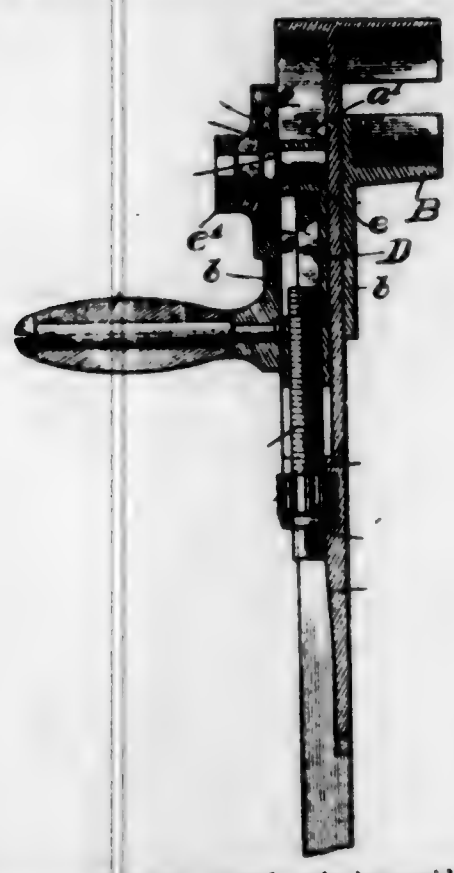
2. In a sled, the combination of a traction-wheel, a movable support therefor, a shaft, a gear-wheel mounted upon said shaft, ratchet-wheels connected with said gear-wheel for rotation therewith, spring-actuated pedal-levers mounted coaxially with said gear-wheel and provided with pawls for coöperating with said ratchet-wheels, springs for normally holding the pawls in engagement with the teeth of the ratchet-wheels and serving to return the pedal-levers to a given position, and means for transmitting power from the gear-wheel to said traction-wheel.

806,815. **WRENCH.** EMIL R. KLEMM, Chicago, Ill. Filed Sept. 12, 1904. Serial No. 224,113.

Claim.—1. A wrench comprising a shank or body provided with a non-adjustable jaw, an adjustable jaw provided with a hollow portion inclosing and sliding upon the said shank or body portion, and comprising means including a rotary screw-threaded rod for adjusting said last-mentioned jaw, said rod being held against endwise movement, and a non-rotatable endwise-sliding member having an eccentric connection with said adjustable jaw and a screw-threaded engagement with said rod, the said shank or body having a front wall which completely separates the engaging portion of the movable jaw from the entire adjusting means, and the connection between such portion of the movable jaw and the adjusting means being made through the medium of that portion of the movable-jaw structure which extends around at each side and in the rear of said front wall, substantially as described.

2. A wrench comprising a shank or body provided with a non-adjustable jaw, an adjustable jaw mounted to slide on said shank or body, means for adjusting said jaws relatively to each other, said means including a non-rotatable endwise-sliding member having an eccentric connection with the adjustable jaw, a handle rigidly secured to the adjustable jaw, and a rotary screw for moving said member endwise, the said shank or body having a front wall which completely separates the engaging portion of the movable jaw from the

entire adjusting means, and the connection between such portion of the movable jaw and the adjusting means being made through the medium of that portion of the movable-jaw structure which extends around at each side and in the rear of said front wall, substantially as described.



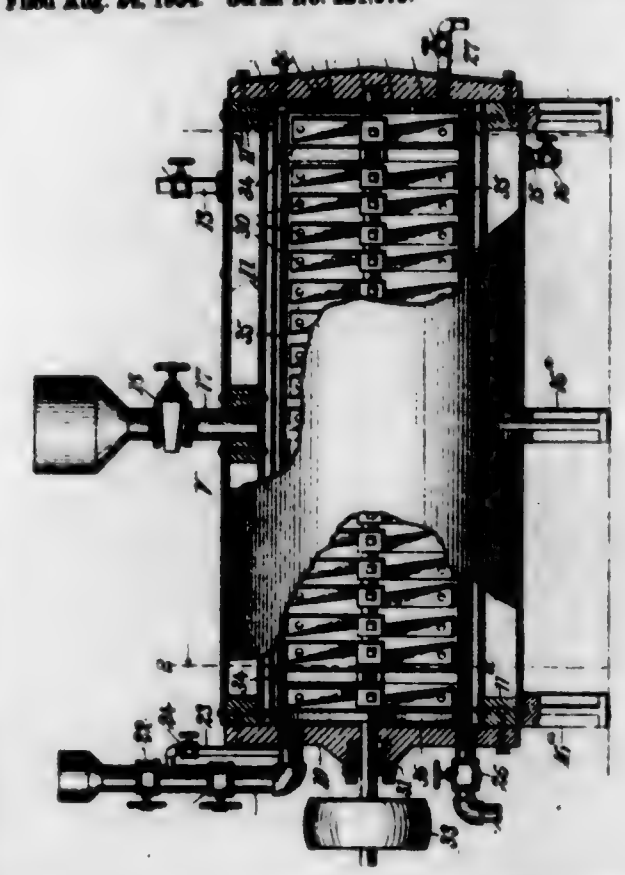
3. A wrench comprising a shank or body provided with a jaw, an adjustable jaw slidingly mounted upon said shank or body, means for adjusting said last-mentioned jaw, said means including a rotary screw-threaded rod and an eccentric device, together with a non-rotatable member connecting said screw with said eccentric device, the said shank or body having a front wall which completely separates the engaging portion of the movable jaw from the entire adjusting means, and the connection between such portion of the movable jaw and the adjusting means being made through the medium of that portion of the movable-jaw structure which extends around at each side and in the rear of said front wall, substantially as described.

4. A wrench comprising a shank or body provided with a jaw, a jaw slidingly mounted on said shank or body, a rotary screw-threaded rod for adjusting the last-mentioned jaw, and additional means for adjusting said last-mentioned jaw longitudinally of and independently of said screw-threaded rod, together with a non-rotatable member having threaded engagement with said rod and connecting the latter with said additional means, the said shank or body having a front wall which completely separates the engaging portion of the movable jaw from the entire adjusting means, and the connection between such portion of the movable jaw and the adjusting means being made through the medium of that portion of the movable-jaw structure which extends around at each side and in the rear of said front wall, substantially as described.

5. A wrench comprising a shank or body provided with a jaw, another jaw slidingly mounted upon said shank or body, a nut adapted to slide upon said shank or body, an eccentric device connecting said nut with said adjustable jaw, and a rotary screw engaging and operating said nut, said screw being held against endwise movement, the said shank or body having a front wall which completely separates the engaging portion of the movable jaw from the entire adjusting means, and the connection between such portion of the movable jaw and the adjusting means being made through the medium of that portion of the movable-jaw structure which extends around at each side and in the rear of said front wall, substantially as described.

6. A wrench comprising a shank or body provided with a jaw, another jaw slidingly mounted upon said shank or body, said adjustable jaw having a hollow portion inclosing and extending entirely around said shank or body portion, a sliding nut and rotary screw, the latter being held against endwise movement, an eccentric device connecting said sliding and non-rotatable nut with the back wall of the adjustable jaw, a cover-plate removably applied to said back wall to hold the eccentric device in place, and a handle for operating said eccentric device, said nut having threaded engagement with said screw, the said shank or body having a front wall which completely separates the engaging portion of the movable jaw from the entire adjusting means, and the connection between such portion of the movable jaw and the adjusting means being made through the medium of that portion of the movable-jaw structure which extends around at each side and in the rear of said front wall, substantially as described.

806,816. SOAP-MACHINE. NEWTON G. KNIGHT, Crestline, Ohio. Filed Aug. 24, 1904. Serial No. 221,979.



Claim.—1. A soap-making machine, comprising a jacketed vessel having a main feed-pipe and an auxiliary feed-pipe, a rotatable shaft mounted in the heads of the vessel, mixing-blades on the shaft, spiders loosely mounted on the shaft near the ends thereof, plates loosely mounted on the shaft between the spiders and the heads of the vessel, one of the plates being in the form of a ring and having internal gear-teeth, semicylindrical buckets secured to the spiders and to the said plates, a gear-wheel on the shaft within the ring-like plate, and a pinion mounted in the head of the vessel adjacent to which the ring-like plate is located and meshing with the gear of the said plate and the gear-wheel, substantially as described.

2. In a soap-making machine, a vessel, a rotatable shaft mounted in the heads of the vessel, mixing-blades secured to the shaft, spiders loosely mounted on the shaft near the ends thereof, plates loosely mounted on the shaft between the spiders and the heads of the vessel, one of the plates being in the form of a ring and having internal gear-teeth, curved buckets secured to the spiders and plates, a gear-wheel on the shaft within the ring-like plate, and a pinion mounted in the head of the vessel and meshing with the gear-wheel and the internal gear of the said plate, substantially as described.

3. In a soap-making machine a vessel, a rotatable shaft mounted in the heads of the vessel, mixing-blades secured to the shaft, buckets rotatable about the shaft, an internal gear carried by the buckets adjacent to the inner face of one head of the vessel, a gear-wheel on one end of the shaft, and a pinion on the inner face of the head of the vessel and meshing with the gear-wheel and the internal gear carried by the buckets, substantially as described.

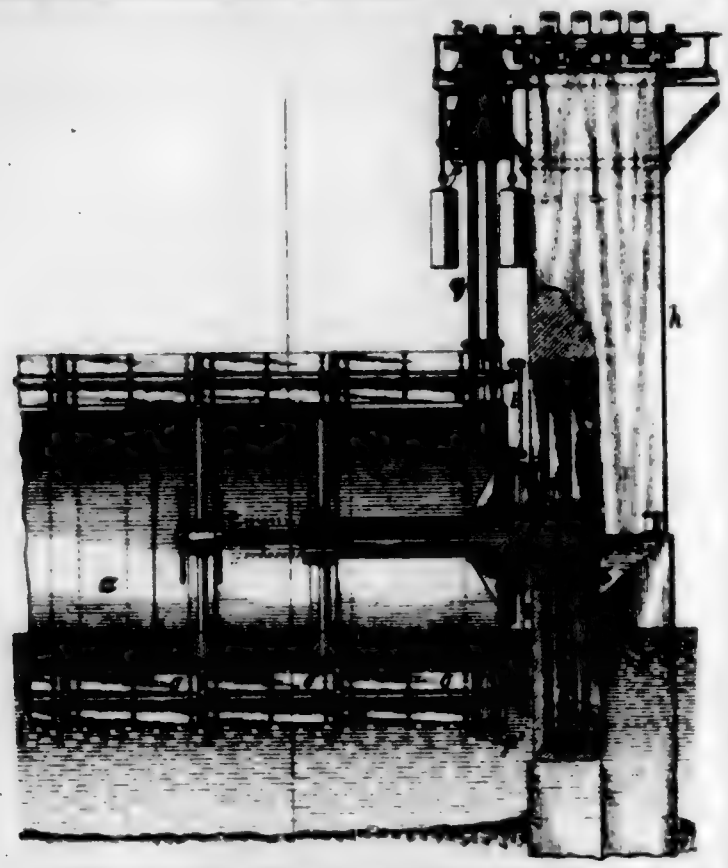
806,817. WATER-WHEEL. ALONZO C. MATHER, Chicago, Ill. Filed Aug. 8, 1904. Serial No. 220,013.

Claim.—1. The combination with a partly-floated shell provided with paddles, of axially reciprocable and adjustable gudgeons, bearings for said gudgeons vertical guides for said bearings and hydraulic lifts provided with means to control and to stop the hydraulic action for said bearings.

2. The combination with a shell having paddles, of reciprocable gudgeons and means to operate said gudgeons on the interior of the wheel provided with bearings, vertical guides for said bearings and means to guide said gudgeons, axially, and means to lift and to hold them.

3. The combination with a floating drum provided with feather-

ing-paddles of interiorly-operated and longitudinally-reciprocable gudgeons, vertically-reciprocable and hydraulically-operated bearings for said gudgeons, a sprocket-wheel to said drum, a chain to said sprocket-wheel and a pulley actuated by said chain, and automatic tension mechanism to said chain.

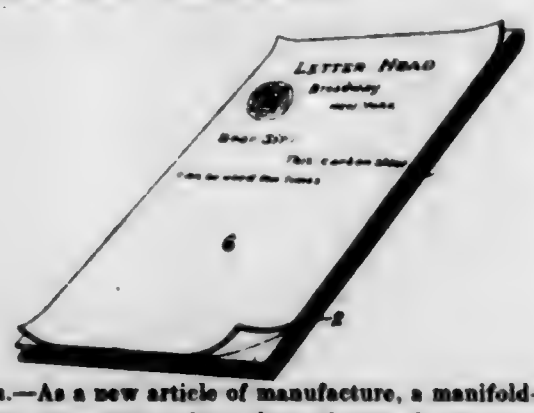


4. The combination with a drum provided with floats, and reinforced heads, of axially reciprocable and adjustable gudgeons capable of entering within said heads and mechanism on the inner ends of said gudgeons to operate them.

5. The combination with a water-wheel and longitudinally-reciprocable and interiorly-adjustable gudgeons therefor, of vertically-adjustable bearings for said gudgeons vertical guides for said bearings and hydraulic lifts with means to regulate said bearings.

6. The combination with a pier provided with vertical guides, of vertically-reciprocable gudgeon-bearings in said guides, hydraulic lifts to said bearings, and axially reciprocable and adjustable gudgeons for said bearings.

806,818. MANIFOLDING-SHEET FOR TYPE-WRITING. HARRY N. MATHEWS and DUDLEY VAN HOLLAND, New York, N. Y. Filed Mar. 12, 1904. Serial No. 197,875.



Claim.—As a new article of manufacture, a manifold-sheet for type-writing comprising a long sheet of paper having a coating of carbon on one side covering the entire width and one-half the length of the sheet and folded where the carbon-surface ends so as to form a duplex sheet with the carbon-surface on the inner side, and a number of plain sheets placed between the parts of said duplex sheet and the whole designed to be inserted in a type-writing machine with a letter-head or the like in front thereof and which receives the impressions from the type of the machine and which impressions are duplicated on the first plain sheet adjacent to the carbon-surface of the duplex sheet, and said duplex sheet with its pack of plain sheets may be used again with another letter-head or the like after removing the carbon copy previously made.

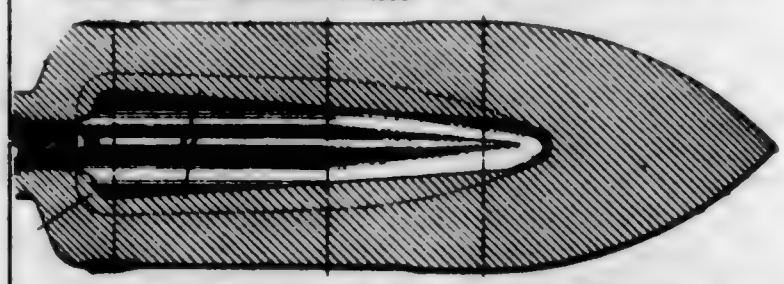
806,819. MILK-TEST-BOTTLE RACK. JOHN MATTSON, Druser Junction, Wis. Filed June 30, 1905. Serial No. 267,767.

Claim.—1. A device of the class described comprising a frame provided with a plurality of bottle-receiving compartments, and locking members pivoted to the frame for retaining the bottles in said compartments, said locking members being adapted when in open position to form lateral supports for the frame.



2. A device of the class described comprising a frame having its base provided with a plurality of bottle-receiving recesses and spaced from the top of the frame by end walls, said top being of less width than the base to form oppositely-disposed shoulders and having its longitudinal edges formed with spaced recesses disposed in vertical alinement with the recesses in the base, locking-bars pivoted to the end walls of the frame and adapted to engage the shoulders for retaining the bottles in said recesses, pins carried by the bars and spring latching members secured to the top of the frame and provided with apertures adapted to receive said pins.

806,820. ARMOR-PIERCING PROJECTILE. JOHN F. MEIGS and EMIL GATHMANN, South Bethlehem, Pa., assignors to Bethlehem Steel Company, South Bethlehem, Pa., a Corporation of Pennsylvania. Filed June 23, 1904. Serial No. 213,635.



Claim.—1. A projectile having a central cavity surrounded by a cylindrical wall, a conical point and a base, and having inwardly-projecting ribs or stiffeners on said cylindrical wall and base.

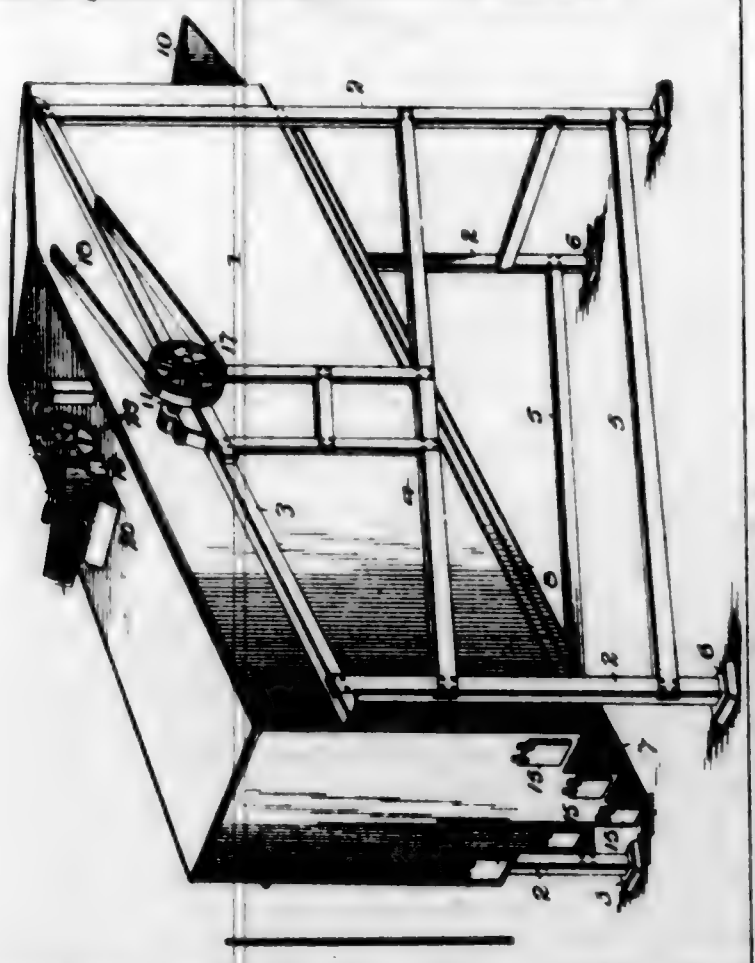
2. A projectile having a central cavity surrounded by a cylindrical wall, a conical point and an internally-arch-shaped base, and having inwardly-projecting ribs or stiffeners on said cylindrical wall and base.

3. A projectile having a cylindrical wall and a base and a central cavity, and having said wall and base supported by internal ribs or stiffeners, the ribs or stiffeners of the base being continuous with those of the cylindrical wall.

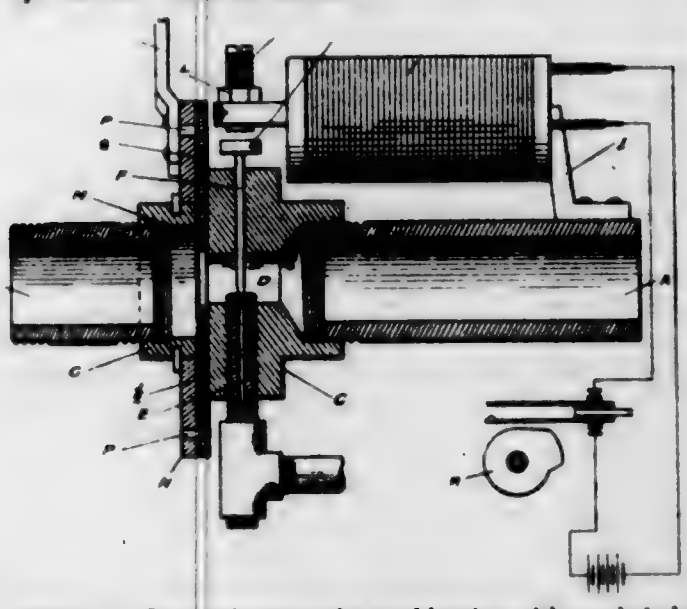
4. A projectile having a cylindrical wall, and a base provided with internal ribs or stiffeners, and having a rifling-band located at the base surrounding the rear thickened end of the projectile, for the purpose set forth.

806,821. GRAIN-SEPARATOR. HENRY H. MITTEL, Red Wing, Minn. Filed May 3, 1904. Serial No. 206,176.

Claim.—In a suction grain-separator, the combination with a casing having its bottom of step-like formation with a plurality of inclined chutes on opposite sides of the central chute which is lowermost, the said central chute having a bottom of closely-meshed reticulated material, a hopper for the central chute, said casing being wholly air-tight, a suction-fan mounted in bearings in said casing, a flap-door for each chute at the lower end thereof exteriorly of the casing and opening outwardly, and downwardly inclined normally and held closed by the suction of said fan, the said chutes having flanges upon their inner edges extended above the bottoms of the adjacent chutes whereby a suction induced through the mesh-wire bottom will act upon the grain thereon and remove all lighter particles and grade the grain by leaving the relatively heavier grains in each succeeding chute, and a supporting-frame between the sides of which said casing is supported with its lower end out of contact with the ground, substantially as shown and described.



806,822. CARBURETER. ORSON MILLARD, Flint, Mich. Filed Apr. 18, 1905. Serial No. 256,323.

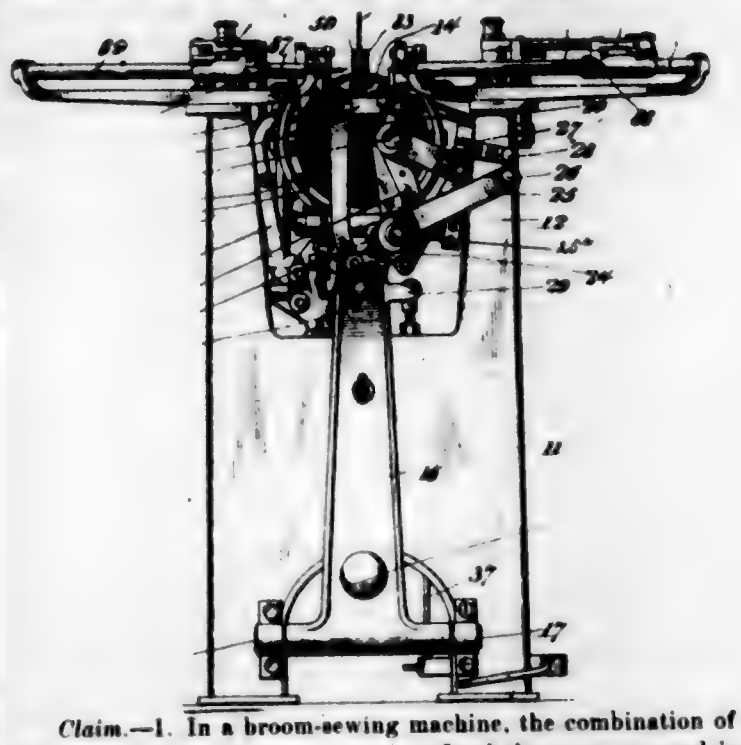


Claim.—1. In a carbureter, the combination with an air-induction conduit, of an oil-inlet connected therewith, a valve controlling said air-inlet, an electromagnet for lifting said valve and means for energizing said magnet during the induction of air.

2. In a carbureter, the combination with an oil-inlet, of a valve controlling the same, an electromagnet for lifting said valve, and an adjustable pole-piece for said magnet forming a stop for limiting the lift of the valve.

3. In a carbureter, the combination with an oil-inlet conduit, of a valve controlling the same, an armature connected with said valve, an electromagnet, a pole-piece projecting therefrom, and a screw constituting an extension of said pole-piece adjustable toward or from said armature.

806,823. BROOM-SEWING MACHINE. ANDREW E. MILLER, Baltimore, Md., assignor, by mesne assignments, to Hamilton Cassard, Baltimore, Md. Filed Oct. 31, 1901. Serial No. 79,472.



Claim.—1. In a broom-sewing machine, the combination of a rocking vise-frame having a vise-jaw fixed thereon, a second jaw pivotally secured to the vise-frame, a rock-shaft pivotally mounted on the fixed jaw, connections between said rock-shaft and the movable jaw, a lever connected to the rock-shaft for closing the vise, a latch for locking the lever when the vise is closed, a pivotally-mounted arm to which said latch is connected, and means for securing said arm in various adjustments.

2. In a broom-sewing machine, the combination with the rocking vise-frame having fixed and movable jaws, of an arm pivotally mounted upon the fixed jaw, a link connecting said arm with the movable jaw, an operating-lever arranged to rock said arm, and a latch adjustably secured to the fixed member of the vise-frame and adapted to lock said parts when the vise-jaws are closed upon a broom.

3. In a broom-sewing machine, the combination with a rocking vise-frame having fixed and movable jaws, the arms pivotally mounted upon the fixed jaw, a link connecting one of said arms with the movable jaw, an operating-lever, a link connecting said operating-lever with the other arm, and a latch adjustably secured to the fixed jaw and adapted to engage and lock the parts when the vise-jaws are closed upon a broom.

4. In a broom-sewing machine, the vise-feeding mechanism comprising a pair of relatively movable bars, means for alternately holding and releasing said bars, a connection between one of the bars and the vise, and means connected with the said bars whereby the movement of each bar is limited by the other.

5. In a broom-sewing machine, the combination with sewing mechanism, of a vise, means connected to the vise and constantly tending to move a broom carried by the vise from operative position relative to the sewing mechanism, means for holding the vise stationary with the broom in position to be operated on by the sewing mechanism, and means for intermittently releasing said holding means and including a stop and devices for adjusting the same to permit variation in the length of stitch.

6. In a broom-sewing machine, the combination of a rocking vise-frame having a vise-jaw fixed thereon, a second jaw pivotally connected to the vise-frame, a rock-shaft pivotally mounted on the fixed jaw, connections between said rock-shaft and the movable jaw, a lever connected to the rock-shaft for closing the vise, and a spring-latch for locking the lever when the vise is closed.

7. In a broom-sewing machine, the combination with the rocking vise-frame, of the vise-jaws connected thereto, the rock-shaft on one vise-jaw, the arms and links connecting said shaft with the other vise-jaw, the operating-lever for closing the vise, connections substantially as described between said lever and the rock-shaft, and means for locking and unlocking the vise.

8. In a broom-sewing machine, the combination with the rocking vise-frame, of the vise-jaws connected thereto, the rock-shaft on

one vise-jaw, connections between said shaft and the other vise-jaw, the operating-lever for closing the vise, connections between said lever and the rock-shaft, and a spring-latch connected to the rock-shaft and adapted to lock the lever when the vise is closed.

9. In a broom-sewing machine, the combination of a rocking vise-frame having a vise-jaw fixed thereon, a second jaw pivotally connected to the vise-frame, a rock-shaft mounted on the fixed jaw and connected with the movable jaw, a lever connected to the rock-shaft for moving the movable vise-jaw toward and from the fixed jaw, an arm mounted on said rock-shaft, and a spring-latch connected with said arm and adapted to engage the lever when the vise is closed.

10. In a broom-sewing machine, the combination with the vise, of feeding mechanism comprising a pair of bars one of which is connected with the vise, clamps arranged to alternately hold and release said bars, a stop-link connecting said bars, a stop arranged to limit the movement of said link in one direction, and an adjustable stop arranged to limit the movement of the link in the other direction, whereby the length of stitch may be varied.

11. In a broom-sewing machine, the combination with the movable vise, of feeding mechanism comprising two sliding bars, clamps operating to hold and release said bars alternately, a connection between one of said bars and the vise-frame, a spring connecting said bars, a stop-link pivotally connected to the bars, and stops for limiting the movement of said link whereby the relative movement of the bars is regulated.

12. In a broom-sewing machine, the combination with the vise-frame, of feeding mechanism therefor comprising a pair of sliding rods, clamps for holding and releasing said rods alternately, cams and cam-levers for operating said clamps, a stop adjustably connected to one of said bars, a stop-link pivotally connected to both of said bars, and a spring connection between said bars, for the purpose set forth.

13. In a broom-sewing machine, the combination with the vise-frame movable to and from the sewing mechanism, of a clutch for connecting the sewing mechanism with the power, a lever for operating the clutch and means for preventing the operation of the lever to start the machine while the vise-frame is apart from the sewing mechanism.

14. In a broom-sewing machine, the combination with the sewing mechanism, and the vise-frame movable to and from the sewing mechanism, of a treadle for starting the machine, and means for preventing the operation of the treadle while the vise-frame is apart from the sewing mechanism.

15. In a broom-sewing machine, the combination with the sewing mechanism and the vise movable to and from said mechanism, of a clutch for starting the machine, a lever connected with said clutch, a spring arranged to throw said lever to stop the machine, a lock or detent engaging said lever to prevent the stoppage of the machine, and a device connected with the vise for operating said detent to permit the machine to be stopped.

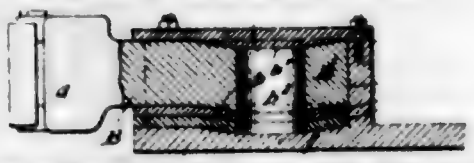
16. In a broom-sewing machine, the combination with the sewing mechanism, and the vise movable to and from said mechanism, of a clutch for starting and stopping the machine, a brake device, a lever having connections to said clutch and brake, a latch for holding said lever in the stopping position, a second latch or detent for holding said lever in the starting position and means whereby said latches are disengaged alternately by the vise in its movements to and from the sewing mechanism.

17. In a broom-sewing machine, the combination with the sewing mechanism and the vise, of the feeding mechanism connected with the vise comprising a pair of bars, one of which is connected with the vise, and means for alternately holding and releasing said bars, cams and cam-levers for operating the feeding mechanism, a brake and means for automatically applying the same to stop the machine, and means for automatically disengaging the bars from the holding mechanism to permit the vise to move away from the sewing mechanism on the completion of each row of stitches.

18. In a broom-sewing machine, the combination with the vise, the needle-heads and the guides for said heads, of the arms arranged to rock in a horizontal plane, the link pivotally connecting said arms, the vertical guide or slot in said link, the box movably mounted in said guide, and the shaft having a crank-pin working in said box, for the purpose set forth.

806,824. COUPLING FOR LOCOMOTIVE-ENGINES AND TENDERS. JAMES MUNTON, Maywood, Ill., assignor to Latrobe Steel and Coupler Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Oct. 13, 1905. Serial No. 282,536.

Claim.—1. A coupler for locomotives or tenders having a shank furnished with an integral cylindrical pivot-head having curved or non-flat upper and lower faces in combination with a socket-piece furnished with a cylindrical socket having a curved or non-flat bottom face, and receiving and fitting said pivot-head of the coupler, and a cap-plate removably secured to said socket-piece above the pivot-head of the coupler and having a curved or non-flat lower face corresponding to the curved or non-flat upper face of the pivot-head of the coupler, substantially as specified.



2. A coupler for locomotives or tenders having a shank furnished with an integral cylindrical pivot-head having curved or non-flat upper and lower faces in combination with a socket-piece furnished with a cylindrical socket having a curved or non-flat bottom face, and receiving and fitting said pivot-head of the coupler, and a cap-plate removably secured to said socket-piece above the pivot-head of the coupler and having a curved or non-flat lower face corresponding to the curved or non-flat upper face of the pivot-head of the coupler, and a removable curved or non-flat filler-plate fitting in the socket of the socket-piece to adjust the height of the coupler, substantially as specified.

3. A coupler for locomotives or tenders having a shank furnished with an integral cylindrical pivot-head having curved or non-flat upper and lower faces in combination with a socket-piece furnished with a cylindrical socket having a curved or non-flat bottom face and receiving and fitting said pivot-head of the coupler, and a cap-plate removably secured to said socket-piece above the pivot-head of the coupler and having a curved or non-flat lower face corresponding to the curved or non-flat upper face of the pivot-head of the coupler and a plurality of removable curved or non-flat filler-plates fitting in the socket of the socket-piece to adjust the height of the coupler, substantially as specified.

4. A coupler for locomotives or tenders having a shank furnished with an integral cylindrical pivot-head having a curved or non-flat lower face in combination with a socket-piece furnished with a cylindrical socket, having a curved or non-flat bottom face receiving and fitting said pivot-head of the coupler and provided with shoulders or stops to limit the lateral or swinging movement of the coupler, and a cap-plate removably secured to said socket-piece above the pivot-head of the coupler, substantially as specified.

5. A coupler for locomotives or tenders having a shank furnished with an integral cylindrical pivot-head, having a curved or non-flat upper face, in combination with a socket-piece having a cylindrical socket receiving and fitting said pivot-head of the coupler, and a cap-plate removably secured to said socket-piece above the pivot-head of the coupler, and having a curved or non-flat face corresponding to the curved or non-flat upper face of the pivot-head of the coupler, substantially as specified.

6. A coupler for locomotives or tenders having a shank furnished with an integral cylindrical pivot-head having curved or non-flat upper and lower faces in combination with a socket-piece furnished with a cylindrical socket having a curved or non-flat bottom face, and receiving and fitting said pivot-head of the coupler, and a cap-plate removably secured to said socket-piece above the pivot-head of the coupler and having a curved or non-flat lower face corresponding to the curved or non-flat upper face of the pivot-head of the coupler, said removable cap-plate having a holding shoulder or lug engaging said socket-piece, substantially as specified.

7. A coupler for locomotives or tenders having a shank furnished with an integral cylindrical pivot-head having curved or non-flat upper and lower faces in combination with a socket-piece furnished with a cylindrical socket having a curved or non-flat bottom face and receiving and fitting said pivot-head of the coupler, and a cap-plate removably secured to said socket-piece above the pivot-head of the coupler and having a curved or non-flat lower face corresponding to the curved or non-flat upper face of the pivot-head of the coupler and a plurality of removable curved or non-flat filler-plates fitting in the socket of the socket-piece to adjust the height of the coupler, said removable cap-plate having a holding shoulder or lug engaging said socket-piece, substantially as specified.

8. A coupler for locomotives or tenders having a shank furnished with an integral cylindrical pivot-head having a curved or non-flat lower face in combination with a socket-piece furnished with a cylindrical socket, having a curved or non-flat bottom face receiving and fitting said pivot-head of the coupler and provided with shoulders or stops to limit the lateral or swinging movement of the

coupler, and a cap-plate removably secured to said socket-piece above the pivot-head of the coupler, said removable cap-plate having a holding shoulder or lug engaging said socket-piece, substantially as specified.

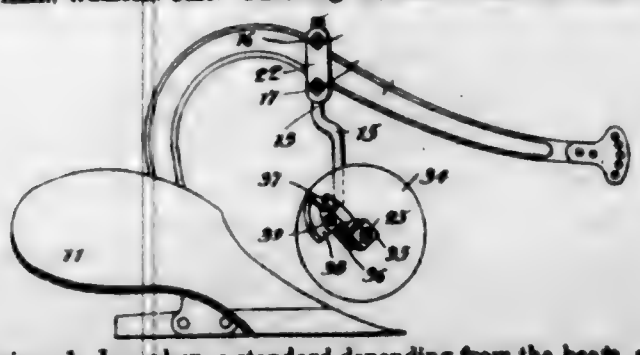
9. A coupler for locomotives or tenders having a shank furnished with an integral cylindrical pivot-head, in combination with a socket-piece having a cylindrical socket receiving and fitting said pivot-head of the coupler, and a cap-plate removably secured to said socket-piece above the pivot-head of the coupler, and having a curved or non-flat face corresponding to the curved or non-flat upper face of the pivot-head of the coupler, said removable cap-plate having a holding shoulder or lug engaging said socket-piece, substantially as specified.

806,825. SKIRT-HOLDING DEVICE. FRIEDRICH MÜHR, Stuttgart, Germany. Filed June 13, 1905. Serial No. 264,980.



Claim.—A skirt-holder provided with a pair of curved arms, a connecting-pivot extending at right angles to the plane of the arms, a spring connecting the convex sides of the arms, and perforated disks rotatably secured to the ends of the arms and extending at right angles to the pivot, substantially as specified.

806,826. COLTER ATTACHMENT FOR PLOWS. HOLLIS A. MCQUILLIN, Wauseon, Ohio. Filed Aug. 16, 1905. Serial No. 274,431.



Claim.—1. In a plow, a standard depending from the beam, an arm extending transversely of said standard and carrying a cutting-disk at one end and with the other end forked to embrace the standard and with forked portions of the arm threaded, a clamp-plate carried by said threaded portions and bearing against said standard and clamp-nuts carried by said threaded portion and bearing against said plate.

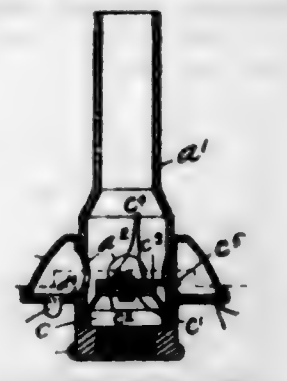
2. In a plow, a standard depending from the beam, an arm extending transversely of said standard, and with a lateral shoulder intermediate the ends and with one end threaded and the other end forked for embracing said standard, the terminals of the forked portions being likewise threaded, a clamp-plate carried by said forked portions and bearing against said standard, clamp-nuts carried by said forked portions and bearing against said plate, a cutting-disk carried by said arm and bearing against said shoulder, and clamp-nuts upon the arm in advance of the disk and bearing upon the same.

3. In a plow, a standard depending from the beam, an arm extending transversely of said standard means for adjustably coupling said arm to said standard, a cutting-disk mounted for rotation upon said arm, a standard carried by said arm and bearing upon the disk-supporting members, a scraper adjustably connected to said arm-standard and engaging said disk-supporting members, and a clamp-nut operating upon said arm and bearing upon said arm-standard.

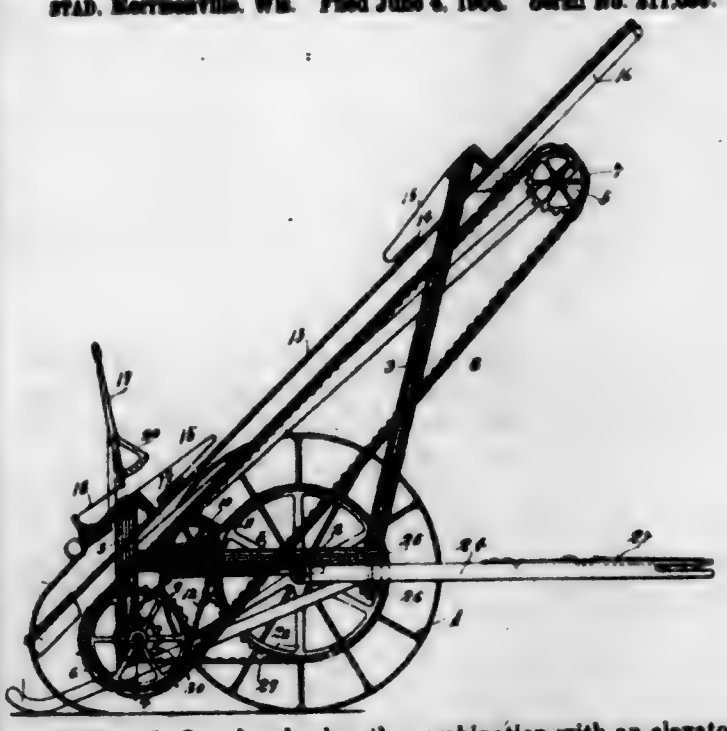
4. In a plow the combination of a draft-beam, a vertical standard having the upper end threaded and extending above and below the draft-beam, rods having eyes at one end for engaging said standard above and below the draft-beam and with the opposite ends threaded, a clamp-plate engaging said rods and bearing upon the opposite side of the draft-beam, clamp-nuts operating on said rods and bearing upon said plate, and a clamp-nut upon said standard and bearing upon the adjacent rod.

806,827. BUNSEN BURNER. EDWIN J. HOYER, Boston, Mass. Filed Apr. 23, 1904. Serial No. 204,502.

Claim.—A Bunsen burner having a diaphragm provided with orifices, an occluding-plate rotatably mounted on said diaphragm having an outwardly-extended lug, a revoluble actuating member for said occluding-plate comprising a conical body and a perforated plate fixed to its lower end having an entrance-slot for said lug, and having a lug-engaging portion, and a perforated plate superimposed on the aforesaid fixed plate, having a lug projecting through an opening in said fixed plate for moving it independently of but with relation to said fixed plate, to vary the size of the air-inlets, and having a slot for the passage of the lug on the occluding-plate, which is adapted to register with the entrance-slot of the fixed plate, substantially as described.



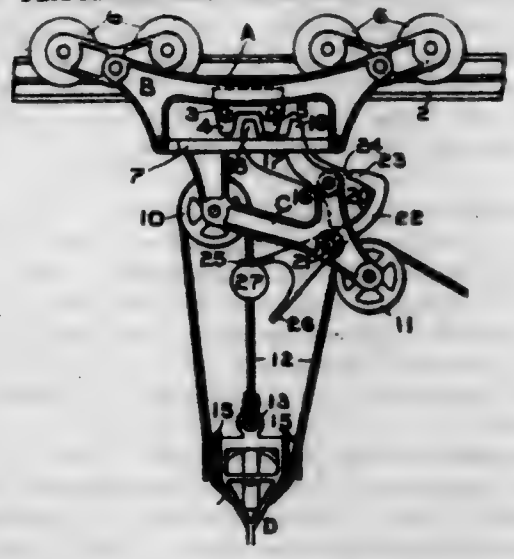
806,828. HAY-LOADER. JOEL R. OHNSTAD and MICHAEL L. OHNSTAD, Merrimacville, Wis. Filed June 4, 1904. Serial No. 211,099.



Claim.—1. In a hay-loader, the combination with an elevator-frame, gathering-rake and toothless loading-conveyer, of a toothed pick-up conveyer with its supporting-surface, mounted to travel with the loading-conveyer through the rake-arc, and in the same plane with said loading-conveyer for a limited distance, upward along the elevator-frame, with its teeth projecting through the face of the loading-conveyer, substantially as and for the purpose set forth.

2. In a hay-loader, the combination with the truck-axle and the loader-frame pivoted thereto, of a pole-tree pivoted to said truck-axle, a frame cross-bar underlying said pole-tree and means for locking the pole to said cross-bars, substantially as and for the purpose set forth.

806,829. HAY-SLING CARRIER. GUSTAV A. OLSON, Albert Lea, Minn. Filed June 27, 1904. Serial No. 214,261.

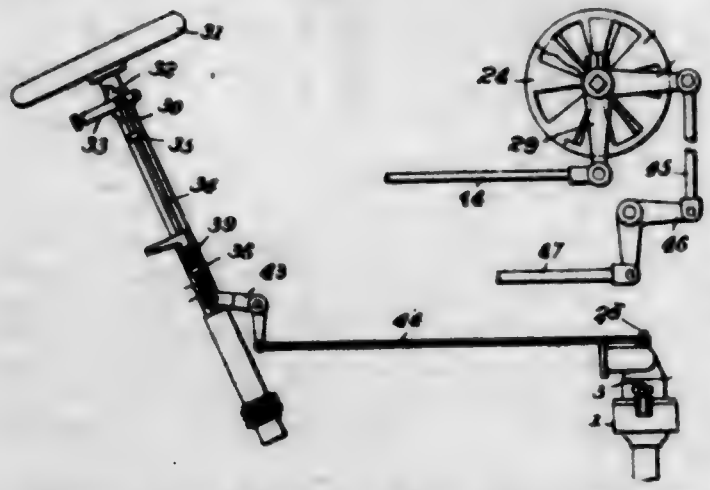


Claim.—1. In a sling-carrier, in combination, a carrier-frame and two pulleys carried thereby, a sling-block and pulleys carried thereby, a draft-rope secured at one end to the sling-block and engaging all of said pulleys, a trip secured to the draft-rope above the sling-block, a pivotally-supported locking-dog, a pivoted catch engaging the dog at one end and having its other end forked, the forked end being in position to overlap the trip and straddle the draft-rope and to be engaged by the trip to turn the catch when the draft-rope is pulled, and to support and hold the trip when the draft-rope is released, the catch and dog being provided with coöperating means for holding the catch in trip-supporting position.

2. In a sling-carrier, in combination, a carrier-frame, a sling-block, a draft-rope secured to the sling-block and pulleys therefor, a pivoted dog in position to engage the stop-block, a pivoted catch engaging the dog and provided at one end with a pair of interspaced forks arranged in a vertical plane in position to straddle the draft-rope, and a trip-block carried by the draft-rope in position to engage the upper fork to trip the catch when the draft-rope is pulled, and to be engaged and held by the lower fork when the draft-rope is released.

3. In a sling-carrier, in combination, a supporting-track and a stop-block carried thereby, a carrier-frame, a sling-block and pulleys therefor, a trip-block secured to the draft-rope above the sling-block, a pivoted dog in position to engage the stop-block, a pivotally-supported catch engaging the dog at one end and formed at the other end with a pair of interspaced forks arranged one above the other in position to straddle the draft-rope, the upper fork in position to be engaged by the trip-block to trip the catch and the lower fork in position to support the trip-block after the catch has been tripped, the catch and dog being provided with coöperating means for holding the catch in trip-supporting position.

806,830. MIXER AND VAPORIZER FOR HYDROCARBON-ENGINES. JAMES W. PACKARD, Warren, Ohio, assignor to Packard Motor Car Company, Warren Ohio, a Corporation of West Virginia. Filed June 20, 1903. Serial No. 162,200.



Claim.—1. In a hydrocarbon-engine, a mixer and vaporizer comprising a gasolene-inlet, a casing surrounding said inlet, an air-valve, adapted to be operated by suction, arranged about the gasolene-inlet within said casing, a second air-valve arranged outside of said casing, and means for manually operating said second air-valve, said air-valves being arranged to control independent supplies of air to the mixing-chamber.

2. In a hydrocarbon-engine, a mixer and vaporizer comprising a gasolene-inlet, a cylindrical casing surrounding said inlet and provided with air-ports, an air-valve, arranged within the casing to move longitudinally thereof, a second air-valve surrounding said casing, and means for rotating said second valve, said air-valves being arranged to control independent supplies of air to the mixing-chamber.

3. In a hydrocarbon-engine, a mixer and vaporizer comprising a gasolene-inlet, a casing surrounding said inlet and having an outwardly-projecting annular flange, a suction-valve arranged within the casing and having an apertured section adapted to control the admission of air through ports formed in said casing between the inner end thereof and the annular flange thereon, and a manually-operated valve for controlling the passage of air through ports formed in said flange.

4. In a hydrocarbon-engine, a mixer and vaporizer comprising the gasolene-inlet valve 11, the annular suction-valve 16 having a lateral opening 17, and the annular valve 19 surrounding said suction-valve and controlling the supply of air to said lateral openings.

5. In a hydrocarbon-engine, the combination with the mixer and vaporizer of a mixture-valve, means for locking said valve in a given position, and means whereby said valve may be temporarily shifted without disturbing said locking means.

6. In a hydrocarbon-engine, the combination with a mixer and vaporizer, of a mixture-valve, a locking device for said valve, connections between said locking device and said valve including a spring portion and means for compressing the spring to temporarily shift the valve without disturbing the locking means.

7. In a hydrocarbon-engine, the combination with the vaporizer and mixer, of a mixture-valve, means for locking said valve normally in any desired position, and means whereby the valve may be temporarily opened without disturbing the locking means comprising the rod 34, sleeve 37, spring 39, stop 40, and means for compressing the spring and moving the sleeve.

8. In a hydrocarbon-engine, the combination with a mixer and vaporizer, of a mixture-valve comprising two independently-movable parts, means for locking one of said parts in any desired position, and connections for moving the other part as desired.

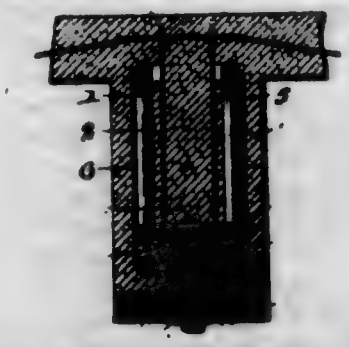
9. In a hydrocarbon-engine, the combination with a mixer and vaporizer, of a mixture-valve comprising two relatively movable parts, means for locking one of said parts in any desired position, means whereby said part may be temporarily shifted without disturbing said locking means, and independent means for moving the other part of said valve.

806,831. GARMENT-FASTENER. IRVING H. PECK, Derby, Conn. Filed Apr. 18, 1905. Serial No. 256,257.



Claim.—A fastener comprising two members designed to be attached to opposite flaps of a garment, one member consisting of a stamped plate having perforations for the attaching-threads and two integral projections of different widths that are wider at their tops than at their bases struck out from the plate with their bases adjacent, the wider projecting outwardly and rearwardly and the narrower projecting outwardly and forwardly, and the other member consisting of a spring-wire loop having eyes for the attaching-threads, the said loop being wider at the closed end than at the eye end and the opening between the eyes being narrower than the upper width of the narrow projection on the plate whereby when the members are together the pressure on the eye ends of the loop against the sides of the narrow projection tends to draw and hold the wide end of the loop under the wide projection on the plate, substantially as specified.

806,832. FASTENING DEVICE FOR USE IN BUILDING CONSTRUCTION. EMILE G. PERROT, Philadelphia, Pa., assignor to Unit Concrete Steel Frame Company, a Corporation of New Jersey. Original application filed Nov. 19, 1904. Serial No. 233,411. Divided and this application filed Apr. 15, 1905. Serial No. 255,662.



Claim.—1. Means for fixing a structural part or other device in position, comprising a block or casting, relatively movable means engaging said block or casting to hold the same in position on a fixed support, and other relatively movable means also engaging said block to hold said part permanently in position relative thereto.

2. Means for fixing a structural part or other device in position, comprising a block or casting having a socket, relatively movable means engaging said socket to hold said block in position on a fixed support, and other relatively movable means also engaging said block to hold said stuctural part or device permanently in position relative to said block.

3. Means for fixing a structural part or similar device in posi-

tion, comprising a block or casting having a screw-threaded socket therein, means engaging said screw-threaded socket to hold said block in position upon its support, and other means also engaging said screw-threaded socket to hold said part in position relative to said block.

4. Means for fixing a structural part or other device in position, comprising a block or casting having screw-threaded sockets therein, means for engaging one of said sockets to hold said block in position on a suitable support, and means for engaging the other of said sockets to hold said part in position relative to said block.

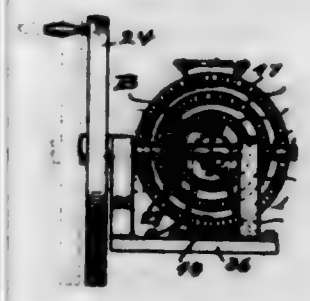
5. Means for fixing a structural part or other device in position, comprising a block or casting having sockets therein, means for engaging one of said sockets to hold said block in position on its support, a screw-threaded stud engaging another of said sockets, and means carried by said stud to hold said part in position relative to said block.

6. Means for fixing a structural part or other device in position, comprising a block or casting having screw-threaded sockets therein, means for engaging one of said sockets to hold said block in position or on its support, a screw-threaded stud engaging other of said sockets, and nuts engaging said stud for holding said part or device in position relative to said block.

7. Means for fixing a structural part or device in position, comprising a block or casting having screw-threaded sockets therein, a bolt engaging one of said sockets to hold said block in position upon its support, a screw-threaded stud engaging other of said sockets, and a nut or plate engaging said stud to hold said device in position relative to said block.

8. Means for fixing a structural part or other device in position, comprising a block or casting having a central screw-threaded opening therein, means engaging said block to hold the same permanently in position upon its support, a screw-threaded stud adapted to enter said socket, means carried by said stud for holding said part in position relative to said block, and separators also carried by said stud.

806,833. **MECHANISM FOR TRANSMITTING ROTARY MOTION.** JOSEPH F. PFLUM, Cincinnati, Ohio, assignor to Cincinnati Butchers Supply Co., Cincinnati, Ohio, a Corporation of Ohio. Filed Aug. 18, 1905. Serial No. 274,668.



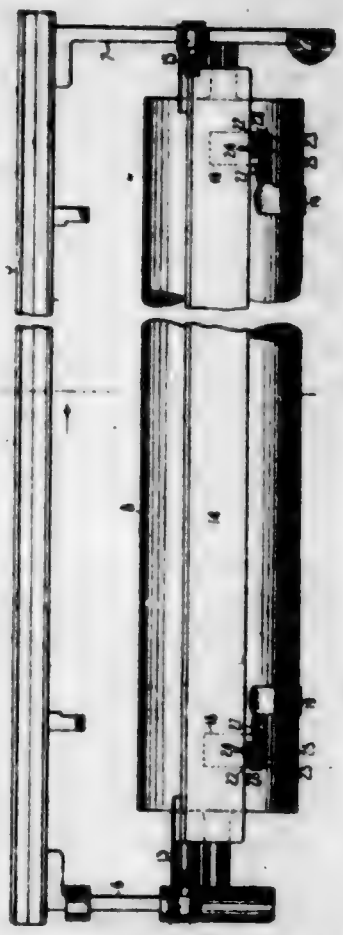
Claim.—1. A driving mechanism for transmitting rotation at variable speeds, consisting of a driven wheel adapted to receive in its hub the end of the shaft to be driven and being provided on its side with a number of sets of gear-teeth, a bearing to which the hub of this wheel is fitted, a pin occupying a bore, formed partly in this bearing and partly formed by an annular groove around the outside of this hub whereby the wheel is held in position without interfering with the rotation and permitting quick detachment, a driving-wheel supported adjustably with reference to this driven wheel so as to engage any one of the sets of gear-teeth thereon and means to rotate this driving-wheel.

2. A driving mechanism for transmitting rotation at variable speeds, consisting of a driven wheel adapted to be operatively connected to the device to be operated and being provided on its side with a number of sets of crown gear-teeth and with a central set of bevel gear-teeth, a driving-wheel having on its face spur-teeth and bevel gear-teeth adjoining them, said driving-wheel being adjustably mounted in a manner to permit engagement of it with either one of the sets of gear-teeth on the driven wheel, and means to rotate the drive-wheel.

3. A driving mechanism for transmitting rotation, consisting of a driving-wheel, a driven wheel having an axially-perforated hub, and a coupling loosely fitted into this perforation and adapted to receive the end of the shaft to be driven.

4. A driving mechanism for transmitting rotation, consisting of a shaft-coupling adapted to receive the end of the shaft to be rotated, a driven wheel having an opening in its hub to receive this shaft-coupling, which latter is otherwise than round so as to rotate with the driven wheel, but smaller than the opening which it encompies, to permit a certain limited play, rotary as well as axially, a driving-wheel to rotate the driven wheel and means to actuate the drive-wheel.

806,834. **TYPE-WRITING MACHINE.** MORRIS W. POOL, New York, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Aug. 20, 1904. Serial No. 221,515.



Claim.—1. In a type-writing machine, the combination of a platen, an erasing-plate, and means for guiding the paper, said means projecting forwardly from beneath said erasing-plate, said means being in part between said platen and said erasing-plate.

2. In a type-writing machine, the combination of a platen, an erasing-plate, and means for guiding the paper, said means projecting forwardly from beneath said erasing-plate and being movable longitudinally of the platen beneath said erasing-plate.

3. In a type-writing machine, the combination of a platen, an erasing-plate, and means for guiding the paper, said means projecting forwardly from beneath said erasing-plate and being secured to said erasing-plate.

4. In a type-writing machine, the combination of a platen, an erasing-plate, and means for holding and guiding the paper, said means projecting forwardly from beneath said erasing-plate and being movable longitudinally of the platen beneath said erasing-plate.

5. In a type-writing machine, the combination of a platen, an erasing-plate, and a paper-finger, said paper-finger being mounted upon said erasing-plate and projecting forwardly from beneath said erasing-plate.

6. In a type-writing machine, the combination of a platen, an erasing-plate, and a paper-finger comprising a supporting-arm and a guiding part secured to said supporting-arm, said supporting-arm projecting forwardly beneath the erasing-plate and being in part between said erasing-plate and said platen.

7. In a type-writing machine, the combination of a platen, an erasing-plate and a paper-finger comprising a supporting-arm and a spring-pressed guiding part pivotally mounted upon said supporting-arm, said supporting-arm projecting forwardly beneath said erasing-plate and between the platen and said erasing-plate.

8. In a type-writing machine, the combination of a platen, an erasing-plate and a paper-finger comprising a supporting-arm and a guide, said paper-finger being arranged between said platen and said erasing-plate.

9. In a type-writing machine, the combination of a platen, an erasing-plate and a paper-finger mounted upon said erasing-plate and between it and the platen, said paper-finger comprising a supporting part and a guiding part pivoted upon said supporting part and spring-pressed toward the platen.

10. In a type-writing machine, the combination of a platen, an erasing-plate formed with a dovetail longitudinally of its under side,

and a paper-finger formed with a dovetailed groove or mortise and mounted to slide upon said erasing-plate.

11. In a type-writing machine, the combination of a platen, an erasing-plate and a paper-finger mounted upon and adapted to slide longitudinally of said erasing-plate and being so arranged as to leave the entire top surface of the erasing-plate at all times free and unobstructed.

12. In a type-writing machine, the combination of a platen, an erasing-plate, a slide mounted on the under side of said plate, and paper guiding or feeding means attached to said slide.

13. In a type-writing machine, the combination of a platen, an erasing-plate, and adjustable paper-guides supported from the under side of said erasing-plate, whereby the paper feeds over the plate and the top of the plate is at all times free and clear for the making of erasures.

14. In a type-writing machine, the combination of a platen, an erasing-plate, and adjustable paper-feeding means supported from the under side of said plate.

15. In a type-writing machine, the combination of a platen, an erasing-plate, offset paper-feeding devices, and supports therefor adjustably mounted on the under side of said plate.

16. In a front-strike type-writing machine, the combination of a platen, an erasing-plate mounted above said platen, and a paper-finger mounted on the under side of said erasing-plate and extending in front of the platen, said paper-finger being slidable longitudinally of the platen.

806,885. **ELECTROPLATING APPARATUS.** LOUIS POTTSOFF, Flushing, N. Y. Filed Dec. 1, 1904. Serial No. 234,967.



Claim.—1. A tumbling-barrel having an opening in one side thereof, and means whereby the contents of the barrel are retained when it is rotated in one direction, and discharged when rotated in the other, substantially as described.

2. A tumbling-barrel having an opening in one side thereof, and an interior shield over said opening, said shield being inclined with respect to the plane of the opening, substantially as described.

3. The combination with a tumbling-barrel having a longitudinal opening, and an interior shield over said opening, of an interior cathode, and an anode, substantially as described.

4. The combination with a porous tumbling-barrel having a longitudinal opening, and an interior shield over said opening, of an interior cathode and an exterior anode, substantially as described.

5. The combination with a porous tumbling-barrel having a longitudinal opening, and an interior shield over said opening, of an interior cathode and a fixed exterior anode, substantially as described.

6. The combination with a tumbling-barrel having a longitudinal opening and an interior shield over said opening, of an interior cathode and a fixed exterior anode, the anode being adapted to guide the material discharged through said opening, substantially as described.

7. A tumbling-barrel having a longitudinal opening in one side thereof, a shield over said opening, means for rotating the barrel in one direction to tumble the material, and means for rotating the barrel a partial revolution in the opposite direction to discharge the material, substantially as described.

8. A tumbling-barrel having a longitudinal opening in one side thereof, a shield over said opening, an interior cathode, means for rotating the barrel in one direction to tumble the material, means for rotating the barrel a partial revolution in the opposite direction to discharge the material, and a fixed outside anode adapted to guide the material when discharged, substantially as described.

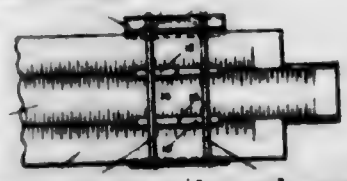
9. The combination with an open-ended tumbling-barrel mounted at its ends on annular trunnions, of an anode, and a cathode-terminal comprising a cranked rod mounted independently of the barrel and carrying movable arms on the cranked portion adapted to contact with material contained within the barrel, substantially as described.

10. The combination with an open-ended tumbling-barrel mounted at its ends on annular trunnions, of an anode, and a cathode-terminal comprising a cranked rod mounted independently of the barrel and carrying movable arms on the cranked portion adapted to contact with material contained within the barrel, and means for adjusting the cranked rod to different positions, according to the nature and amount of material, substantially as described.

11. The combination with a rotatable tumbling-barrel having means whereby the material is retained therein when rotated in one direction, and discharged when rotated in the opposite direction, of a series of connected cathode-terminals moving with said barrel, and an anode, substantially as described.

12. The combination with a rotatable tumbling-barrel having means whereby the material is retained therein when rotated in one direction, and discharged when rotated in the opposite direction, of a series of connected cathode-terminals moving with said barrel, and a fixed exterior anode adapted to guide the material when discharged, substantially as described.

806,886. **RUNNER OR CURSOR.** CARL J. PRIPPE, Milwaukee, Wis. Filed May 3, 1905. Serial No. 258,580.



Claim.—1. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule, and being above said face of the rule, and having its ends movably fitted to the rule, and an arm carried by the bridging member and below the same and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm being provided with a mark.

2. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule, and being above said face of the rule, and having its ends movably fitted to the rule, and arms carried by the bridging member and below the same and resting on the rule at such points as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, each of said arms being provided with a mark.

3. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being above said face of the rule, and having their ends movably fitted to the rule, and an arm connecting the bridging or spanning members and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm being provided with a mark.

4. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being above said face of the rule, and having their ends movably fitted to the rule, and arms connecting the bridging or spanning members and resting on the rule at such points as not to obscure the full length of the marks of the rule, nor to obscure the figures or numerals of said rule, each of said arms being provided with a mark.

5. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule and being above said face of the rule, an arm extending from the bridging or spanning member and resting on the rule at such point as not to obscure the full length of the marks of the rule, nor to obscure the figures or numerals of said rule, the said arm provided with a mark, and plates at the opposite ends of the bridging member, said plates movably fitted to the side edges of the rule.

6. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule, and being above said face of the rule, an arm connecting said bridging members and resting on the rule at such point as not to obscure the full length of the marks of the rule, nor to obscure the figures or numerals of said rule, the said arm provided with a mark, and plates connecting the opposite ends of the bridging members and movably fitted to the side edges of the rule.

7. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule, and being above said face of the rule, an arm extending from the bridging or spanning member and resting on the rule at such point as not to obscure the full length of the marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with

a mark, and plates at opposite ends of the bridging member, one of said plates provided with an inwardly-extending lip adapted to fit a groove in the side edge of the rule.

8. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being above said face of the rule, an arm connecting said bridging or spanning members and resting on the rule at such point as not to obscure the full length of the marks of the rule, nor the figures or numerals of said rule, the said arm provided with a mark, and end plates connecting the opposite ends of the bridging members, one of said plates provided with an inwardly-extending lip adapted to fit a groove in the side edge of the rule.

9. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule and being above said face of the rule, and having its ends movably fitting the rule, one of the ends having a yielding spring-pressure against one of the longitudinal edges of the rule, and an arm carried by the bridging member and below the same and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, said arm provided with a mark.

10. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule and being above said face of the rule, and having its ends movably fitting the rule, one of said ends connected to a spring-carrying plate, the spring bearing yieldingly against the longitudinal edge of the rule, and an arm carried by the bridging member and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with a mark.

11. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being above said face of the rule and having their opposite ends movably fitted to the rule, corresponding ends of the bridging members having a yielding spring-pressure against one of the longitudinal edges of the rule, and an arm carried by the bridging member and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with a mark.

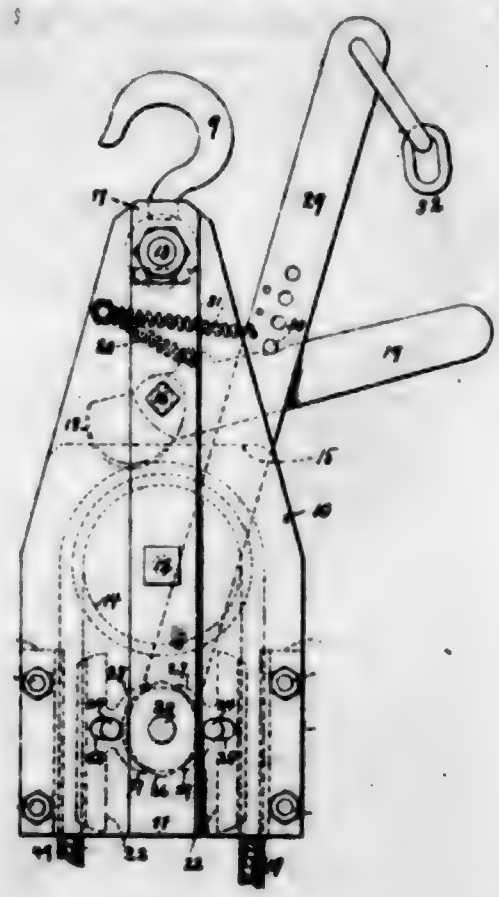
12. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being out of contact with said face of the rule and having their opposite ends movably fitting the rule, and corresponding ends connected to a spring-carrying plate, the spring bearing yieldingly against one of the longitudinal edges of the rule, and an arm connecting the bridging members, and in contact with the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with a mark.

13. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being out of contact with said face of the rule, an arm connected to the bridging or spanning members and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with a mark, a plate connecting corresponding ends of the bridging members, said plate provided with an inwardly-extending lip adapted to engage a groove in the side edge of the rule, a plate connecting opposite corresponding ends of the bridging members, and a spring carried by said plate and having its ends bearing against the longitudinal edge of the rule.

14. A runner or cursor for a rule, consisting of a bridging or spanning member extending over but not in contact with one face of the rule, thence extended around one longitudinal edge of the rule, thence beneath the rule but not in contact with the opposite face of said rule, the ends of said bridging member having a movable connection with the rule, and arms carried by the portions of the bridging or spanning members which lie over the opposite faces of the rule, the said arms resting on the rule at such points as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, and each of said arms provided with a mark.

15. A runner or cursor for a rule, consisting of bridging or spanning members extending over but not in contact with one face of the rule, thence extended around one longitudinal edge of the rule, thence beneath the rule but not in contact with the opposite face of said rule, the ends of said bridging members having a movable connection with the rule, and arms carried by the portions of the bridging members which lie over the opposite faces of the rule, said arms being in contact with said opposite faces of the rule at such points as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, and each of said arms provided with a mark.

806,837. PULLEY-BLOCK. JOHN RATHBE, New York, N. Y. Filed July 27, 1905. Serial No. 271,413.



Claim.—1. In a pulley-block, a wheel-brake, a rope-brake for clamping the rope at a point independent of the wheel, means for manually applying the rope-brake to control the descent of the weight, and coacting means for releasing the wheel-brake when the rope-brake is applied; substantially as set forth.

2. In a pulley-block, a pivoted wheel-brake having a lever-arm, a rope-brake for clamping the rope at a point independent of the wheel and having a lever-arm, means for manually operating the last-mentioned lever-arm to apply the rope-brake whereby to control the descent of the weight, and means carried by said lever-arm for engaging the wheel-brake lever-arm and releasing the wheel-brake when the rope-brake is applied; substantially as set forth.

3. In a pulley-block, a wheel-brake, a rope-brake independent of the wheel, springs for normally holding the wheel-brake applied and the rope-brake released, and means for releasing the wheel-brake when the rope-brake is applied; substantially as set forth.

4. In a pulley-block, a pivoted wheel-brake having a lever-arm, a rope-brake independent of the wheel and having a lever-arm, springs for normally holding the wheel-brake applied and the rope-brake released, and means connecting said lever-arms so that the movement of one may actuate the other; substantially as set forth.

5. In a pulley-block, a wheel-brake, a rope-brake independent of the wheel-brake comprising a pair of grooved clamping members between which the rope passes, an eccentric for moving one of said members to clamp the rope against the other member, a lever-arm connected with said eccentric for actuating the same, and means for releasing the wheel-brake when the rope-brake is to be used; substantially as set forth.

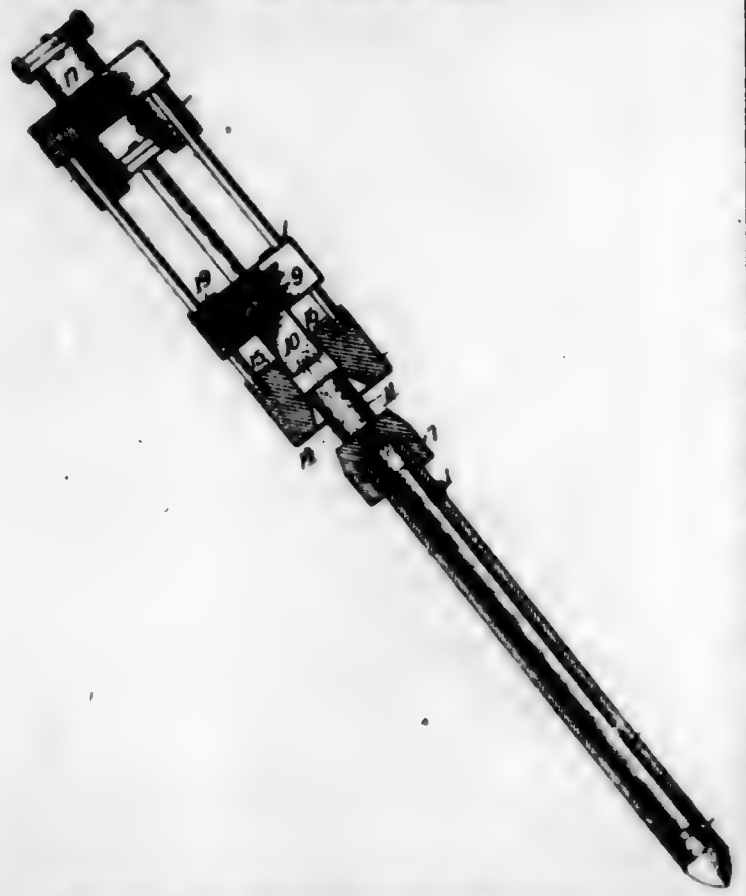
6. In a pulley-block, a rope-brake independent of the wheel and comprising clamping members to engage both reaches of the rope, an eccentric for actuating the same to clamp the rope, a lever-arm for operating said eccentric, and a spring normally holding said eccentric in its inoperative position; substantially as set forth.

7. In a pulley-block, a rope-brake for engaging both reaches of the rope and comprising the pairs of grooved blocks between which the rope passes, the outer blocks being stationary and the inner movable, a double eccentric between said movable blocks for actuating the same, a lever-arm for operating said eccentric, and a spring normally holding said eccentric in its inoperative position; substantially as set forth.

8. In a pulley-block, a rope-brake for engaging both reaches of the rope and comprising the pairs of grooved blocks between which the rope passes, the outer blocks being stationary and the inner mov-

able, a double eccentric between said movable blocks for actuating the same, a lever-arm for operating said eccentric, and a spring normally holding said eccentric in its inoperative position, combined with a wheel-brake, and means for releasing the wheel-brake when the rope-brake is to be used; substantially as set forth.

806,888. METHOD OF AND MEANS FOR FORMING CONCRETE PILES. ALFRED A. RAYMOND, Chicago, Ill., assignor to Raymond Concrete Pile Company, Chicago, Ill., a Corporation of New Jersey. Filed Nov. 20, 1903. Serial No. 183,195.



Claim.—1. The method of forming concrete piles consisting in sinking an outer shell or pipe, inserting an inner shell therein, filling such inner shell with a suitable filler, and withdrawing the outer shell or pipe.

2. The method of forming concrete piles consisting in sinking an outer pipe provided with a tip or shoe at its lower end, inserting an inner shell in the pipe, filling such shell with a suitable filler, and withdrawing the pipe leaving the shell and tip in the ground.

3. The method of forming concrete piles consisting in sinking an outer pipe, inserting an inner shell therein, filling such shell with concrete, and withdrawing the pipe after the shell has been filled.

4. The method of forming concrete piles consisting in simultaneously sinking a pipe and a pile-shell contained therein, filling such inner shell with a suitable filler, and withdrawing the pipe.

5. The method of forming concrete piles consisting in sinking a pipe provided with a detachable tip to form a cavity in the ground inserting a pile-shell in the pipe, withdrawing the pipe without the tip and shell, and filling the shell with concrete or the like.

6. The method of forming concrete piles consisting in sinking a pipe provided with a detachable tip, to form a cavity in the ground inserting in the pipe a separate pile-shell of less diameter than the pipe, withdrawing the pipe without the shell, and filling the latter with concrete or the like.

7. The method of forming concrete piles consisting in simultaneously sinking a pipe and a pile-shell contained therein, withdrawing such pipe without the inner shell, and filling the latter with concrete or the like.

8. The means for forming concrete piles comprising an outer shell or pipe by which an inner shell is to be sunk or carried into the ground, pile-driver mechanism, and a driving-cap removably secured to such pipe and adapted to transmit the force of the hammer-blows to the pipe.

9. The means for forming concrete piles comprising an outer shell or pipe by which an inner shell is to be sunk or carried into the ground, pile-driver mechanism, and a driving-cap mounted on such mechanism and arranged to screw upon said pipe, said cap being arranged to transmit the force of the hammer-blows to the pipe.

10. The means for forming concrete piles comprising an outer shell or pipe by which an inner shell is to be sunk or carried into the ground, pile-driver mechanism, a driving-cap arranged upon the upper end of the pipe and adapted to transmit the hammer-blows thereto, and catches for removably securing the cap to the driver mechanism.

11. The means for forming concrete piles comprising an outer shell or pipe by which an inner shell is to be sunk or carried into the ground, pile-driver mechanism, a driving-cap arranged upon the upper end of the pipe and adapted to transmit the hammer-blows thereto, and pivoted catches secured to the pipe and adapted to engage the driver mechanism for holding the cap thereto.

12. The means for forming concrete piles comprising an outer shell or pipe by which an inner shell is to be sunk or carried into the ground, pile-driver mechanism, a driving-cap arranged upon the upper end of the pipe and adapted to transmit the hammer-blows thereto, and catches hinged to said cap and adapted to engage the driver mechanism.

13. The means for forming concrete piles comprising an outer shell or pipe by which an inner shell is to be sunk or carried into the ground, pile-driver mechanism, a driving-cap removably secured to the upper end of the pipe and adapted to transmit the hammer-blows thereto, and catches hinged to said cap and adapted to engage the driver mechanism.

14. The means for forming concrete piles comprising an outer shell or pipe by which an inner shell is to be sunk or carried into the ground, pile-driver mechanism, a driving-cap arranged upon the upper end of the pipe and adapted to transmit the hammer-blows thereto, pins 16 on the driver mechanism and catches hinged to the cap and arranged to engage said pins.

15. The means for forming concrete piles comprising an outer pipe 1, an inner shell arranged therein, a tip or shoe 2 having an annular shoulder on which the shell rests and having a larger annular shoulder on which the pipe rests, and means for driving and withdrawing the pipe.

16. The means for forming piles comprising an outer pipe adapted to be driven or sunk into the ground, a tip or shoe fitting upon the lower end of the pipe, and an inner shell arranged within the pipe and adapted to be filled with concrete or the like and to form an outer covering therefor.

17. The means for forming piles comprising an outer pipe adapted to be driven or sunk into the ground, a tip or shoe fitting upon but loosely carried by the lower end of the pipe whereby such pipe may be withdrawn therefrom, and an inner shell within the pipe and adapted to be filled with concrete or the like and to form an outer covering therefor.

18. The means for forming piles comprising an outer pipe adapted to be driven or sunk into the ground, a tip or shoe fitting upon but loosely carried by the lower end of the pipe whereby such pipe may be withdrawn therefrom, and an inner shell within the pipe and adapted to be filled with concrete or the like and to form an outer covering therefor, said shell resting upon the tip or shoe, whereby the latter forms the lower end of the completed pile when the shell is filled.

19. The method of driving piles, consisting in sinking an outer shell or pipe, inserting a pile within said outer shell, and withdrawing said outer shell or pipe.

20. The method of driving concrete piles, consisting in sinking an outer shell or pipe, inserting a formed concrete pile therein, and withdrawing said outer shell or pipe.

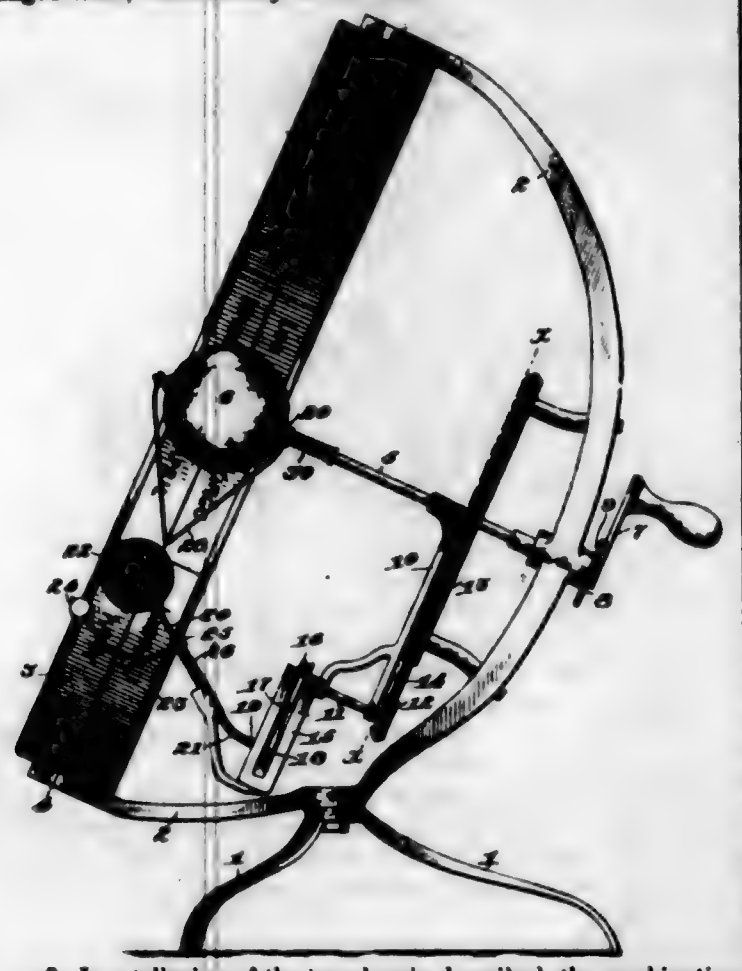
21. The method of driving concrete piles, consisting in simultaneously sinking an outer pipe or shell and a formed concrete pipe contained therein, and then withdrawing said outer pipe or shell.

22. The means for sinking piles, comprising a pipe adapted to receive within itself a formed pipe having a maximum external diameter less than the minimum internal diameter of said shell, mechanism for driving said outer shell into the ground, and a tip or shoe fitting upon but loosely carried by the lower end of the outer shell, said tip or shoe having a portion adapted to support the formed pile within said outer shell.

806,889. TELLURIAN. JACOB B. RAMPP, Kankakee, Ill., assignor of one-half to Margaret M. Walsh, Kankakee, Ill. Filed May 19, 1905. Serial No. 261,128.

Claim.—1. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a main shaft journaled in said frame, a sun sphere carried by said shaft, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric re-

lation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, and an earth sphere carried on said obliquely-arranged shaft, substantially as set forth.



2. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a main shaft journaled in said frame, a sun sphere carried by said shaft, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, an earth sphere carried on said obliquely-arranged shaft, a curved arm carried by said shaft, and a moon sphere carried by said arm, substantially as set forth.

3. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a main shaft journaled in said frame, a sun sphere carried by said shaft, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, an earth sphere carried on said obliquely-arranged shaft, a curved arm yieldingly secured to said shaft, and a moon sphere carried by said arm, substantially as set forth.

4. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a main shaft journaled in said frame, a sun sphere carried by said shaft, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, an earth sphere carried on said obliquely-arranged shaft, a curved arm carried by said shaft, a moon sphere mounted on said arm, and a shifting weight arranged inside of said moon sphere, substantially as set forth.

5. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a main shaft journaled in said frame, a sun sphere carried by said shaft, a loop-shaped pointer adjustably attached to the main shaft adjacent to the sun sphere, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured at the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, and an earth sphere carried on said obliquely-arranged shaft, substantially as set forth.

6. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a main shaft journaled in said frame, a sun sphere carried by said shaft, a handle for rotating said shaft, a peripherally-notched disk carried by the main frame, a latch-bar carried by the handle and engaging said disk, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, and an earth sphere carried on said obliquely-arranged shaft, substantially as set forth.

7. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a circular zodiac-band secured to said frame, a main shaft journaled in said frame in axial relation to the zodiac-band, a sun sphere carried by said shaft, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, and an earth sphere carried on said obliquely-arranged shaft, substantially as set forth.

8. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a circular zodiac-band secured to said frame, a main shaft journaled in said frame in axial relation to the zodiac-band, a sun sphere carried by said shaft, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concen-

tric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, an earth sphere carried on said obliquely-arranged shaft, a curved arm carried by said shaft, and a moon sphere carried by said arm, substantially as set forth.

9. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a circular zodiac-band secured to said frame, a main shaft journaled in said frame in axial relation to the zodiac-band, a sun sphere carried by said shaft, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, an earth sphere carried on said obliquely-arranged shaft, a curved arm yieldingly secured to said shaft, and a moon sphere carried by said arm, substantially as set forth.

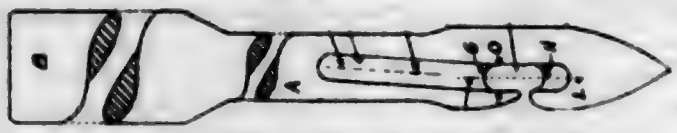
10. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a circular zodiac-band secured to said frame, a main shaft journaled in said frame in axial relation to the zodiac-band, a sun sphere carried by said shaft, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, an earth sphere carried on said obliquely-arranged shaft, a curved arm carried by said shaft, a moon sphere mounted on said arm, and a shifting weight arranged inside of said moon sphere, substantially as set forth.

11. In a tellurian of the type herein described, the combination of a supporting-base, a vertical frame semicircular in form secured to said base, a circular zodiac-band secured to said frame in a pivotal manner, a main shaft journaled in said frame in axial relation to the zodiac-band, a sun sphere carried by said shaft, means for rotating said shaft, an arm carried by said shaft, an intermediate shaft journaled at the free end of said arm, sheaves secured to the respective ends of the intermediate shaft, a fixed sheave secured to the main frame in concentric relation to the main shaft, an elastic endless belt connecting the sheave at the rear end of the intermediate shaft with the stationary sheave aforesaid, a pendent frame loosely mounted on said intermediate shaft, a shaft journaled at the free end of said pendent frame, a sheave on said shaft, a crossed belt connecting said sheave and the sheave at the forward end of the intermediate shaft, a shaft journaled at the free end of the pendent frame in an oblique position, a flexible connection between said shaft and the other shaft journaled in the pendent frame, and an earth sphere carried on said obliquely-arranged shaft, substantially as set forth.

806,840. **SLOTTED SEWING-MACHINE NEEDLE.** SAMUEL F. RICHARDSON, Alcester, England, assignor to George A. Harvering, Bayonne, N. J. Filed Oct. 3, 1904. Serial No. 226,983.

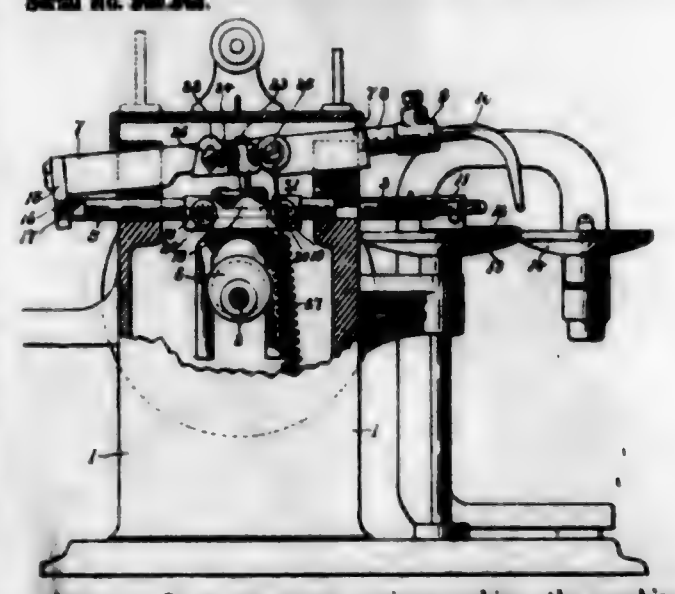
Claim.—1. An open-eyed sewing-machine needle having a slotted portion an enlarged body portion a straight back opposite the eye, said enlargement being at the eye and immediately contiguous thereto, and a tapered lip on one side of the slot.

2. An open-eyed sewing-machine needle having a slotted portion an eye forward toward the slotted side an enlarged body portion with a vertical straight back said enlarged portion being at and immediately contiguous to the slotted portion.



3. An open-eyed slotted sewing-machine needle having a slotted portion S, a forwardly-placed eye C, a tapered lip M, E, M, an enlarged body portion D, D, D, N, and a vertically straight back opposite the eye at D, D.

806,841. **OVERSEAM SEWING-MACHINE.** THOMAS RICHARDSON and JEROME H. BISHOP, Jr., Wyandotte, Mich. Filed Mar. 10, 1905. Serial No. 249,948.



Claim.—1. In an overseam sewing-machine, the combination with a reciprocating needle-bar, an oscillating loop-finger, and reciprocating means for carrying said finger; of a member having an upper cam-surface adjustably supported in the casing adjacent to and below said means and adapted to support the same, and means for yieldingly holding said carrying means in engagement with said cam member.

2. In an overseam sewing-machine, the combination with a reciprocating needle-bar, a reciprocating looper-bar, and an oscillating loop-finger carried by said bar; of a horizontally-adjustable cam for vertically raising the looper-bar carried by the frame, adjustable means on the looper-bar for engaging the cam and supporting the bar thereon, and a spring for holding said means in engagement with its cam.

3. In an overseam sewing-machine, the combination with a reciprocating needle-bar, a reciprocating looper-bar pivoted at one end and adapted to rise and fall at its opposite end, and a loop-finger carried by the movable end of the looper-bar; of a track having an upper cam-surface supported adjacent to the looper-bar, vertically-adjustable means on the looper-bar for engaging the cam-surface of the track and supporting the said bar thereon, and a spring to hold said means in contact with said cam-surface.

4. In an overseam sewing-machine, the combination with the drive mechanism, of a reciprocating needle-bar, a reciprocating looper-bar pivoted at one end on the reciprocating drive mechanism and adapted to rise and fall at its opposite end, a finger-bar journaled in bearings on said looper-bar, and a loop-finger secured to one end of the finger-bar; of a track having a cam-surface adjustably supported on the frame adjacent to the looper-bar, adjustable means on the looper-bar for engaging the track to raise the bar vertically, a cam-wheel on the drive-shaft adjacent to the finger-bar having a peripheral cam-surface, a rock-arm on the finger-bar to engage the periphery of the cam-wheel, and a spring to hold the arm in contact with said cam.

5. In an overseam sewing-machine, the combination with a reciprocating needle-bar, a reciprocating looper-bar pivotally supported at one end, and a loop-finger carried by said looper-bar; of a member having an upper cam-surface supported adjacent to the looper-bar, a vertically-adjustable pin on the looper-bar to engage said cam member and support said bar thereon, and means for yieldingly holding said pin in contact with the surface of said member.

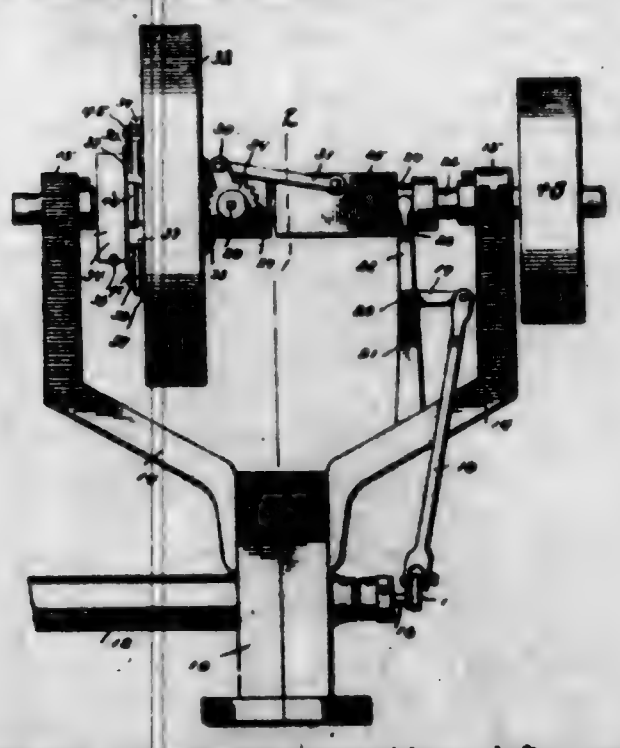
6. In an overseam sewing-machine, the combination with a reciprocating needle-bar, a reciprocating and vertically-movable looper-bar, a finger-bar rotatable upon said looper-bar, and a loop-finger secured to the end of said finger-bar; of an arm on the finger-bar, a vertically-adjustable pin carried by said arm, a cam-wheel

having a peripheral cam-surface engaged by said pin, and means for yieldingly holding said pin in contact with said cam-surface.

7. In an overseam sewing-machine, the combination with a driving-shaft, a horizontal needle-bar, a looper-bar pivoted at one end, cams on the shaft to reciprocate said needle-bar and looper-bar, a rotatable finger-bar supported in bearings on the looper-bar, and a loop-finger on the end of the finger-bar; of a track having an upper cam-surface supported adjacent to the looper-bar, a bracket secured to the looper-bar and having a socket, a contact-pin in said socket to engage the cam-surface, a set-screw to hold the pin in its adjusted position in its socket, an arm in the finger-bar, a vertical contact-pin in an opening in said arm, a set-screw to hold the pin in its opening, a cam-wheel on the shaft having a peripheral cam-surface engaged by the pin on the arm, and a spring to hold said pin on the arm in contact with its cam-surface.

8. In an overseam sewing-machine, the combination with the casing having a horizontal slot in one side, of a driving-shaft supported in bearings on the casing, a horizontal needle-bar, a cam on the shaft to reciprocate said needle-bar, a guide-bar, a cam on the shaft to reciprocate said guide-bar, a looper-bar pivotally attached at one end to said guide-bar, a track having an upper cam-surface, screws extending through the slot in the casing to adjustably secure the track thereto, a stud-bolt on the looper-bar, a bracket pivotally supported on said stud-bolt and having a slotted opening near one end, a screw engaging said opening to adjustably secure the bracket to the looper-bar, a vertical contact-pin adjustably secured in a socket on the bracket and engaging the track, a spring attached to the bracket to hold the contact-pin in engagement with the track, a cam-wheel on the driving-shaft having a peripheral cam-surface, a finger-bar rotatable in bearings on the looper-bar, a downwardly-curved arm on the finger-bar adjustably secured thereto, a vertically-extending contact-pin in an opening in said arm, a set-screw to hold the pin in its opening, pins on the arm, springs attached at one end to said pins to hold the contact-pin in engagement with the cam-wheel.

806,842. SPEED-GOVERNOR. OLOVER W. ROBERTS, Durham, Tex. Filed May 27, 1905. Serial No. 262,695.



Claim.—1. A speed-governor comprising a shaft; a member made fast to the shaft, and carrying governor-weights; a member loosely mounted on the shaft, and connected to the governor-weights and rotatable thereby; and a gearing and connection between said loose member and the governor-valve.

2. A speed-governor comprising a shaft; a member made fast to the shaft, and carrying governor-weights; a member loosely mounted on the shaft, and connected to the governor-weights and rotatable thereby; a sleeve slidable lengthwise on the shaft, and having a connection with the governor-valve; and a gearing and connection between the loose member and the sleeve.

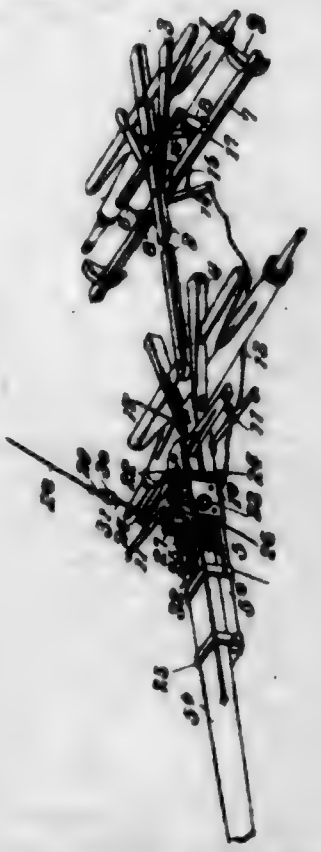
3. A speed-governor comprising a shaft; a member made fast to the shaft, and carrying governor-weights; a member loosely mounted on the shaft, and connected to the governor-weights, and having a gear; a sleeve slidable lengthwise on the shaft, and having a connection with the governor-valve; a sleeve fast on the shaft; a gear-wheel carried by the latter sleeve, and meshing with the gear on the loose member; and a connection between said gear-wheel and the slidable sleeve.

4. A speed-governor comprising a shaft; a member made fast to the shaft and carrying projecting pins; cam-sleeves mounted on the pins; weighted arms extending outwardly from the sleeves; a member loosely mounted on the shaft, and connected to the weighted arms; a gearing and connections between said loose member and the governor-valve; and springs secured to the loose member, and bearing on the cams of the aforesaid sleeves.

5. A speed-governor comprising a rotatable shaft; a fast and loose member on the shaft; centrifugally-operated means to vary the relative angularity of said members by turning the loose member on the shaft with respect to the fast one; and gearing and connection between the loose member and the governor-valve.

6. A speed-governor comprising a fast and a loose member on the shaft; centrifugally-operated means to vary the relative angularity of said member by turning the loose member on the shaft, with respect to the fast member; a gear on the loose member; a sleeve slidable lengthwise on the shaft, and having a connection with the governor-valve; a sleeve fast on the shaft; a gear-wheel carried by the latter sleeve, and meshing with the gear on the loose member; and connection between said gear-wheel and the slidable sleeve.

806,843. WAGON-BRAKE. ELIAS B. ROSS, Electric, Mont. Filed Apr. 22, 1905. Serial No. 256,967.



Claim.—1. In a vehicle-brake, the combination of the running-gear of the vehicle, brake mechanism, a tongue composed of relatively stationary and movable sections connected with the running-gear, and a flexible connection connected at one end with the brake mechanism, the movable section of the tongue being operably connected with said flexible connection between its ends to deflect the same and thereby actuate the brake mechanism.

2. In a vehicle-brake, the combination of the running-gear of the vehicle, brake mechanism, a tongue composed of relatively movable and stationary sections and connected with the running-gear, and a flexible connection connected at one end with the brake mechanism and at its opposite end with the stationary section of the tongue, said flexible connection passing through the movable section of the tongue to be operably connected therewith for actuation thereby.

3. In a vehicle-brake, the combination of the running-gear of the vehicle, brake devices, a tongue of sectional construction connected with the running-gear, and a flexible connection connected at one end with the brake devices and passing at its opposite end through the sections of the tongue, and operable upon movement of one section of the tongue relative to the other section.

4. In a vehicle-brake, the combination of the running-gear of the vehicle, brake devices, a tongue of sectional construction connected with the running-gear, a connection between the brake devices and the sections of the tongue operable upon movement of one

section of the tongue relative to the other section, and a lock device for preventing relative movement of the sections of the tongue.

6. In a vehicle-brake, the combination of the running-gear of the vehicle, brake devices, a tongue of sectional construction connected with the running-gear, a connection between the brake devices and the sections of the tongue operable upon movement of one section of the tongue relative to the other section, a lock device for preventing relative movement of the sections of the tongue, and means for actuating the connection aforesaid independently of the sections of the tongue.

6. In a vehicle-brake, the combination of the running-gear of the vehicle, brake mechanism a tongue embodying relatively movable and stationary sections, a connection between the brake mechanism and the movable section of the tongue for actuation thereby, and means adapted for operable connection with the connection aforesaid for actuating the brake mechanism independently of the operation thereof by the tongue.

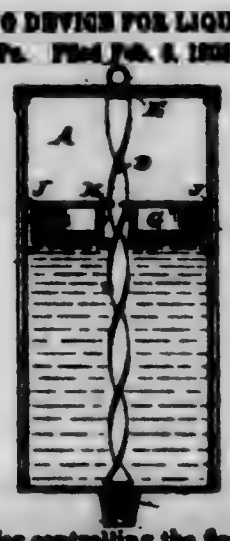
7. In a vehicle-brake, the combination of the running-gear of the vehicle, brake mechanism, a tongue composed of relatively movable and stationary sections, a flexible connection connected at one end with the brake mechanism and passing at its opposite end portion through both of the sections of the tongue, a lock-dog for locking the movable section of the tongue from movement, and connecting means connected with the lock-dog and the flexible connection aforesaid and adapted for operation of the brake mechanism independently of the actuation thereof by the tongue.

8. In a vehicle-brake, the combination of the running-gear, brake means, a tongue embodying a relatively stationary section, a movable section slidable relative to the stationary section, means for limiting the movement of the movable section of the tongue, a flexible connection connected at one end with the brake means and passing at its opposite end through the sections of the tongue, and a lock-dog pivotally mounted upon the stationary section of the tongue for coöperation with the movable section.

9. In a vehicle-brake, the combination of the running-gear, brake means, a vehicle-tongue embodying a relatively stationary section, a sleeve upon said section, a relatively movable section movable in the sleeve aforesaid, a connection connected at one end with the brake means and operably connected with the stationary section of the tongue, said connection passing through the movable section of the tongue, and a lock-dog carried by the stationary section of the tongue for coöperation with the movable section.

10. In a vehicle-brake, the combination of the running-gear, brake means, a vehicle-tongue embodying a relatively stationary section, a sleeve upon said section, a relatively movable section movable in the sleeve aforesaid, a connection connected at one end with the brake means and operably connected with the stationary section of the tongue, said connection passing through the movable section of the tongue, a lock-dog carried by the stationary section of the tongue for coöperation with the movable section, and operating means adapted for connection with the connection aforesaid and the lock-dog for operating the brake means independently of the tongue.

806,844. FEEDING DEVICE FOR LIQUIDS. MORRIS B. ROSENSTOCK, Philadelphia, Pa. Filed Feb. 8, 1905. Serial No. 244,922.



Claim.—1. Means for controlling the flow of liquids consisting of a vessel to contain the liquid having a discharge-nozzle, combined with means to vary the orifice of the nozzle through which the liquid flows, a rotating shaft to operate the said means, and a float sustained by the liquid within the vessel for rotating the shaft upon its descent, whereby as the float descends the orifice through which the liquid flows will be changed to reduce the friction in opposition to the flow of the liquid whereby the flow is made substantially constant.

2. Means for controlling the flow of liquids consisting of a vessel to contain the liquid having a nozzle, a valve to regulate the flow of liquid from the nozzle, a float within the vessel supported by the liquid therein, and continuously-acting connecting means between the float and the valve whereby the valve is continuously and gradually opened to reduce the resistance to the flow of the liquid as the float descends.

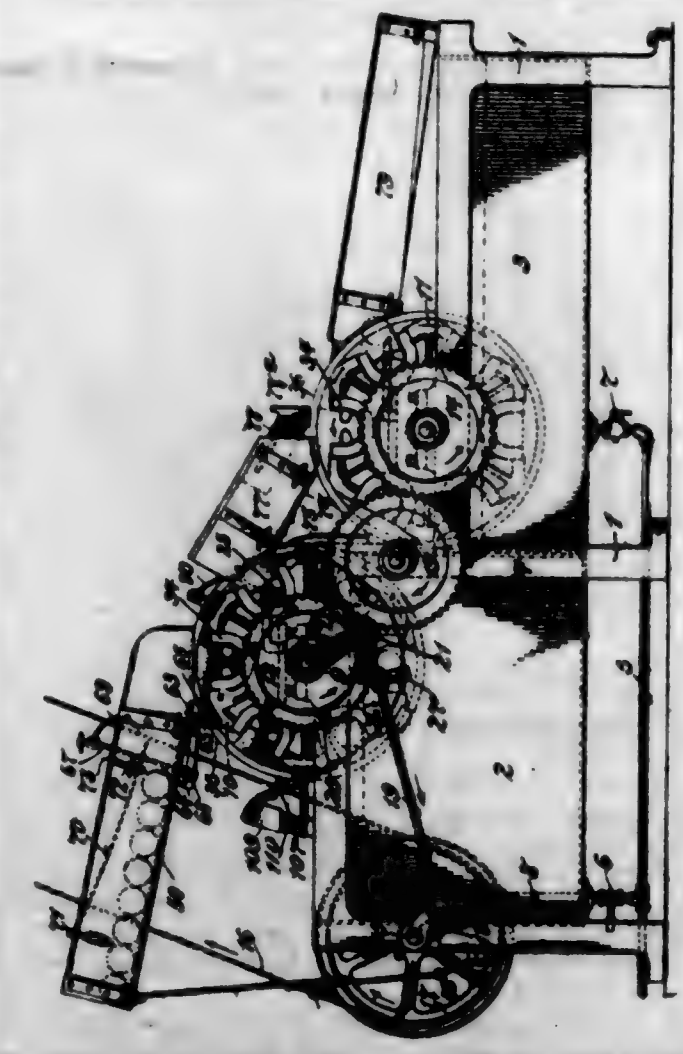
3. Means for controlling the flow of liquids consisting of a vessel to contain the liquid provided with a discharge-nozzle, combined with a screw-plug loosely fitting the nozzle so as to permit the slow passage of liquid, a shaft to rotate the screw-plug to vary the degree of resistance to the flow of the liquid, and a float supported by the liquid within the vessel for rotating the shaft.

4. Means for controlling the flow of liquids consisting of a vessel to contain the liquid provided with a discharge-nozzle, combined with a screw-plug loosely fitting the nozzle so as to permit the slow passage of liquid, a spiral shaft to rotate the screw-plug to vary the degree of resistance to the flow of the liquid, and a float supported by the liquid within the vessel for rotating the shaft as it descends with the lowering of the level of the liquid.

806,845. MANUFACTURE OF BRIQUET FUEL FROM COAL-MINE WASTE OR DUST-COAL. THOMAS ROGERS and HERRMANN COHN, London, England. Filed May 16, 1905. Serial No. 260,721.

Claim.—The process of agglomerating waste or coal-dust into briquets by means of a solution raised to the boiling-point consisting of one part of petroleum emulsion, obtained by levigating caustic lime in petroleum until a cream is formed and four parts of water-glass dissolved in eighty parts of water.

806,846. CAN AND BOTTLE WASHING MACHINE. WILLIAM A. ROUTSON, New York, N. Y. Filed Apr. 15, 1905. Serial No. 255,690.



Claim.—1. In a device of the class described, a tank, a carrying wheel mounted partly in said tank, a receptacle on said wheel, a cleaning device and a reciprocating holder therefor projecting through the side of said tank opposite said wheel, substantially as described.

2. In a device of the class described, a rotary carrying-wheel, receptacles for containers on the periphery thereof and a flexible band partly embracing said wheel and fastened at its ends, substantially as described.

3. In a device of the class described, a rotary carrying-wheel, receptacles for containers on the periphery thereof, a flexible band

partly embracing said wheel, a fixed support for one end of said band and an adjustable support for the opposite end thereof, substantially as described.

4. In a device of the class described, a rotary carrying-wheel and a receptacle therein and extending across the same near its periphery, said container comprising a rear wall, a concave bottom and curved arms projecting from one side of the wheel, substantially as described.

5. In a device of the class described, a rotary carrying-wheel cut away at intervals near its periphery and removable pockets adapted to be secured in said cuts, substantially as described.

6. In a device of the class described, a rotary carrying-wheel cut away at intervals near its periphery and pockets adapted to enter said cuts and provided with ears bolted to the periphery of said wheel, substantially as described.

7. In a device of the class described, a rotary carrying-wheel, a receptacle therein and opening at one side of said wheel and an adjustable guard-plate parallel and near to said carrying-wheel on the same side as said opening, substantially as described.

8. In a device of the class described, a plurality of carrying-wheels having receptacles for containers and means for transferring containers from one of said wheels to the next, substantially as described.

9. In a device of the class described, a plurality of carrying-wheels, gearing connecting them, a common main driving-shaft therefor and feeding means operatively connected to said driving-shaft for transferring containers from one wheel to the next, substantially as described.

10. In a device of the class described, a plurality of tanks, a carrying-wheel mounted partly within each tank, and means for transferring containers from one wheel to the next, substantially as described.

11. In a device of the class described, two tanks, one of which is higher than the other, two carrying-wheels partly mounted in said tanks respectively and means for transferring containers from the higher to the lower wheel, substantially as described.

12. In a device of the class described, a series of carrying-wheels mounted in line and geared together; in combination with means for feeding containers through said series of wheels, said means comprising a number of inclined channels mounted over said wheels, substantially as described.

13. In a device of the class described, a carrying-wheel and an inclined channel for conveying containers thereto; in combination with a two-armed lever pivoted beneath said channel, one arm of which projects upward into the path of said containers and lifting-blocks on said wheel adapted to impinge upon the other arm of said lever for its operation, substantially as described.

14. In a device of the class described, a carrying-wheel and an inclined channel for conveying containers thereto; in combination with a two-armed lever pivoted beneath said channel, one arm of which projects upward into the path of said containers, a sliding rod carried on the same arm of said lever and projecting above said channel, a restraining-wire depending from said sliding rod and lifting-blocks on said wheel adapted to impinge against the shorter arm of said lever for its operation, substantially as described.

15. In a device of the class described, a carrying-wheel in combination with an inclined conveying-channel above said wheel, said channel comprising a platform, a fixed side wall and an adjustable side wall, substantially as described.

16. In a device of the class described a carrying-wheel, an inclined channel above it and a guard-plate pivoted to a fixed pin at one end over said channel and an adjustable support for the other end of said guard-plate, substantially as described.

17. In a device of the class described, a frame, a carrying-wheel mounted thereon, an inclined channel over said wheel, a two-part slotted prop for one end of said channel and a nut for adjustably securing the two parts of said prop, substantially as described.

18. In a device of the class described, a series of carrying-wheels and a series of inclined channels over said wheels for conveying containers to and from said wheels, said channels having each a fixed side wall and an adjustable side wall, substantially as described.

19. In a device of the class described, a carrying-wheel having a series of receptacles on its periphery, an inclined channel over said wheel and an adjustable confining-plate movably fixed to one wall of said channel and extending across the lower end of said channel, substantially as described.

20. In a device of the class described, a carrying-wheel having a series of receptacles on its periphery, an inclined channel over said wheel and an adjustable confining-plate movably fixed to one wall of said channel and extending across the lower end of said channel, substantially as described.

21. In a device of the class described and in combination with means for holding articles to be washed, a main driving-shaft, a cam thereon, a reciprocating bar, a cleaner on one end thereof, a shifting-lever connected at one end with said bar and at the other end controlled by said cam and adjustable pivotal means between the ends of said shifting-lever whereby the degree of movement imparted to the reciprocating bar may be varied between certain limits, substantially as described.

22. In a device of the class described, a carrying-wheel having receptacles near its periphery, a driving-shaft for said wheel, a sliding ejecting-bar mounted so as to be movable across said receptacles and parallel to the plane of said wheel when in a given position and means connecting said bar with the driving-shaft for operation, substantially as described.

23. In a device of the class described, a carrying-wheel having receptacles near its periphery, a driving-shaft for said wheel, a sliding ejector-bar, an ejecting-finger carried by said bar and so placed as to move across said receptacles when in one position and means connecting said bar with the driving-shaft for operation, substantially as described.

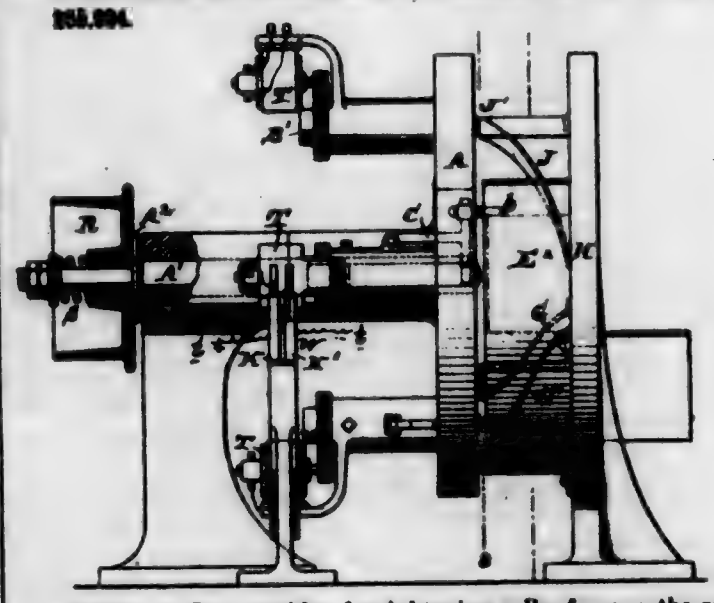
24. In a device of the class described, a carrying-wheel and a driving-shaft therefor, in combination with a sliding ejector-bar, a pivoted operating-lever therefor having two arms radiating from the pivot so as to straddle the driving-shaft and a pin carried by said shaft and adapted to impinge successively on the two arms of said operating-lever, substantially as described.

25. In a device of the class described, a plurality of carrying-wheels, a driving-shaft for rotating them, a sliding ejector-bar, ejecting-fingers carried by said bar and arranged to reciprocate parallel and near to each wheel and means for connecting said shaft with said ejector-bar for its operation, substantially as described.

26. In a device of the class described, a tank, a shaft over said tank, a carrying-wheel adjustably secured on said shaft and a guard-plate parallel to said wheel and also supported on said shaft, substantially as described.

27. In a device of the class described, a tank, a shaft over said tank, a carrying-wheel secured on said shaft and a guard-plate adjustably secured on said shaft parallel to said wheel, substantially as described.

806,847. **MACHINE FOR TIGHTENING ROLLS OF PAPER.** ARTHUR H. SCOTT, Philadelphia, Pa. Filed Apr. 17, 1905. Serial No. 255,894.



Claim.—1. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means to rotate said spindle, and means to cause said spindle to be projected into the space between the guides whereby it enters the hole in the roll of paper.

2. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means to rotate said spindle, means to discharge the tightened roll of paper from the spindle, and means to cause said spindle to be projected into the space between the guides whereby it enters the hole in the roll of paper.

3. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the

discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means to rotate said spindle, means to discharge the tightened roll of paper from the spindle, means to control the rotation of the spindle whereby it is rotated only while in contact with the paper-roll, and means to cause said spindle to be projected into the space between the guides whereby it enters the hole in the roll of paper.

4. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means to rotate said spindle, means to cause said spindle to be projected into the space between the guides whereby it enters the hole in the roll of paper and means operated by contact with the paper-roll to control the time of the projection of the spindle.

5. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means to rotate said spindle, means to cause said spindle to be projected into the space between the guides whereby it enters the hole in the roll of paper and means operated by contact with the paper-roll to control the time of the projection of the spindle, and means to control the rotation of the spindle whereby it is rotated only while in contact with the paper-roll.

6. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means to rotate said spindle, means to cause said spindle to be projected into the space between the guides whereby it enters the hole in the roll of paper, and means to return the spindle to its original position after passing the guides.

7. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means to rotate said spindle, means to cause said spindle to be projected into the space between the guides whereby it enters the hole in the roll of paper, means to return the spindle to its original position after passing the guides, and means to discharge the tightened roll of paper from the spindle.

8. In a machine for tightening rolls of paper, the combination of a guide for a roll of paper having a restricted discharge-opening at its rear end, with a rotating carrier, a spindle supported by the carrier, and means for imparting to the spindle a rotary and reciprocating movement.

9. In a machine for tightening rolls of paper, the combination of a guide for a roll of paper having a restricted discharge-opening at its rear end, with a rotating carrier, a spindle supported by the carrier, and means for imparting to the spindle a rotary motion during its travel through the guide and a reciprocating movement upon entering and after leaving the guide.

10. In a machine for tightening rolls of paper, the combination of a guide for a roll of paper having a restricted discharge-opening at its rear end, with a rotating carrier, a spindle supported by the carrier, a spring to project the shaft into the space inclosed by the guide, means to rotate the spindle, and a cam to return the spindle to its original position on the carrier after passing beyond the guide.

11. In a machine for tightening rolls of paper, the combination of a guide for a roll of paper having a restricted discharge-opening at its rear end, with a rotating carrier, a spindle supported by the carrier, a spring to project the shaft into the space inclosed by the guide, means to rotate the spindle, consisting of an electric motor and current-controlling means for regulating its operation, and a cam to return the spindle to its original position on the carrier after passing beyond the guide.

12. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means consisting of an electric motor movable with the carrier for rotating the spindle, a switch for putting the motor into and out of operation at stated intervals, and means for reciprocating the spindle to enter the roll of paper.

13. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means consisting of an electric motor movable with the carrier for rotating the spindle, a switch for putting the motor into and out of operation at stated intervals, and means for reciprocating the spindle to enter the roll of paper consisting of a spring to project the spindle into the roll and a cam to return it to its original position on the carrier.

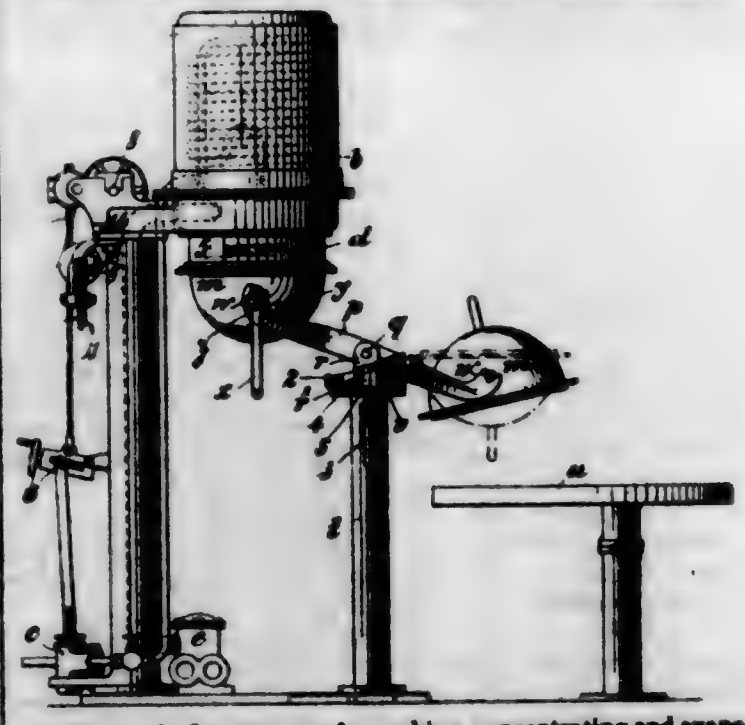
14. In a machine for tightening rolls of paper, the combination of guides forming a passage-way broader at the entrance than at the discharge end through which the roll of paper is fed, with a rotating carrier, a spindle adjustably carried thereby, means consisting of an electric motor movable with the carrier for rotating the spindle, a switch for putting the motor into and out of operation at stated intervals, means for reciprocating the spindle to enter the roll of paper, and a latch to control its time of reciprocation governed by the paper-roll

15. In a machine for tightening rolls of paper, the combination of a guide passage-way for a roll of paper comprising top and bottom plates adjustable to and from each other at the discharge end of the passage-way, with a rotating carrier, a spindle supported by the carrier, means to impart a rotary motion to the spindle, and means for reciprocating the spindle at stated intervals in its travel with the carrier.

16. In a machine for tightening rolls of paper, the combination of a guide passage-way for a roll of paper comprising top and bottom plates adjustable to and from each other at the discharge end of the passage-way, with a rotating carrier, a spindle supported by the carrier, means to impart a rotary motion to the spindle, means for reciprocating the spindle at stated intervals in its travel with the carrier, and a latch controlled by the paper-roll for regulating the time of reciprocation of the spindle.

17. In a machine for tightening rolls of paper, the combination of a guide for a roll of paper having a restricted discharge-opening at its rear end, with a rotating carrier, a spindle supported by the carrier, means for imparting to the spindle a rotary and reciprocating movement, and a latch controlled by the paper-roll for regulating the time of reciprocation of the spindle.

806,848. APPARATUS FOR COOKING LIQUIDS. EDWARD SHAW, London, England. Filed June 7, 1904. Serial No. 211,568.



Claim.—1. In apparatus for cooking, concentrating and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a chamber, into which said tube discharges, having a body portion with open bottom and a removable bottom portion adapted to be readily connected to the body portion in an air-tight manner, and means for maintaining a low pressure in said chamber, as set forth.

2. In apparatus for cooking, concentrating and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, an open-bottomed tubular body into which said tube discharges, a hemispherical vessel removably connected in an air-tight manner to the open bottom of said tubular body and means for maintaining a low pressure in said chamber, as set forth.

3. In apparatus for cooking, concentrating and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, an open vessel formed with a grooved

external flange, a packing-ring of resilient material located in the groove of said flange, a collecting-chamber into which said tube discharges and comprising a tubular body, the lower edge of said body being formed with an annular recess the lower face of the ring-like outer wall of which is adapted to make an air-tight joint with the said packing-ring of said open vessel, and means for maintaining a low pressure in the said collecting-chamber, as set forth.

4. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a hemispherical vessel formed with a grooved external flange near its upper end, a ring of rubber located in said groove, a collecting-chamber into which said tube discharges and comprising a cylindrical tubular body with open bottom, the lower edge of said body being formed with an annular recess, the lower face of the ring-like outer wall of which is serrated and adapted to make an air-tight joint with the said rubber ring, and means for maintaining a low pressure in said collecting-chamber, as set forth.

5. In apparatus for cooking, concentrating and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a body to which the discharge end of said tube is connected, collecting vessels, means for supporting same and carrying them to and from a charging position below the discharge end of said tube, means for connecting either of said vessels in an air-tight manner to said body and means whereby a low pressure is then maintained in said vessel, as set forth.

6. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a support adapted to rotate in a vertical sense, a lever fulcrumed midway between its ends to said support, a pair of open vessels mounted one on each end of said lever, an open-bottomed tubular body into which said tube discharges, means whereby either of said vessels can be connected in an air-tight manner to the open bottom of said tubular body, and means whereby a low pressure is maintained in the chamber formed by said tubular body and either of said vessels when connected thereto, as set forth.

7. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a support provided with a vertical bearing, a headed pin mounted in said bearing, a lever fulcrumed midway between its ends to the head of said pin, a pair of vessels trunnioned one to each end of said lever and each formed with a grooved external flange, two rubber rings located one in each of said grooves, a collecting-chamber into which said tube discharges, and comprising a cylindrical tubular body with open bottom, the lower edge of said body being formed with an annular recess, the lower face of the ring-like outer wall of which is adapted to make an air-tight joint with the said rubber ring of either vessel, and means whereby a low pressure is maintained in the collecting-chamber, as set forth.

8. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a support provided with a vertical bearing, a headed pin mounted in said bearing, a lever fulcrumed midway between its ends to the head of said pin, a pair of vessels trunnioned one to each end of said lever and each formed with a grooved external flange, two rubber rings located one in each of said grooves, a collecting-chamber into which said tube discharges, and comprising a cylindrical tubular body with open bottom, the lower edge of said body being formed with an annular recess, the lower face of the ring-like outer wall of which is adapted to make an air-tight joint with the said rubber ring of either vessel, a removable pivoted stop arranged to arrest the horizontal movement of said lever, and means whereby a low pressure is maintained in the collecting-chamber, as set forth.

9. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a support provided with a vertical bearing, a headed pin mounted in said bearing, a lever formed with a hole near each end and fulcrumed midway between its ends to the head of said pin, a pair of vessels trunnioned one to each end of said lever and each formed with a grooved external flange, two rubber rings located one in each of said grooves, a pair of hand-levers one secured to one of the trunnion-pins of each hemispherical vessel and each formed with an arc slot, two pins each adapted to pass through the arc slot of either said hand-lever and into the hole at the corresponding end of said pivoted lever, a collecting-chamber into which said tube discharges, and comprising a cylindrical tubular body with open bottom, the lower edge of said body being formed with an annular recess, the lower face of the ring-like outer wall of which is adapted to make an air-tight joint with the said rubber ring of either vessel, a steam-heating coil arranged to extend within either hemispherical vessel and the inlet and outlet ends of which are connected to and pass through the wall of said tubular body, a removable pivoted stop arranged to arrest the horizontal movement of said lever, and means whereby a low pressure is maintained in the collecting-chamber, as set forth.

10. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a support provided with a vertical bearing, a headed pin mounted in said bearing, a lever fulcrumed midway between its ends to the head of said pin, a pair of vessels trunnioned one to each end of said lever and each formed with a grooved external flange, two rubber rings located one in each of said grooves, a collecting-chamber into which said tube discharges, and comprising a cylindrical tubular body, with open bottom, the lower edge of said body being formed with an annular recess, the lower face of the ring-like outer wall of which is adapted to make an air-tight joint with the said rubber ring of either vessel, a stop arranged to arrest the horizontal movement of said lever, and means whereby a low pressure is maintained in the collecting-chamber, as set forth.

11. In apparatus for cooking, concentrating and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a chamber, into which said tube discharges, and formed with a readily-removable portion, a steam-heating coil arranged within said chamber and means for maintaining a low pressure in the said chamber, as set forth.

12. In apparatus for cooking, concentrating and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a chamber, into which said tube discharges, formed with a readily-removable portion, a steam-heating coil arranged within said chamber and the inlet and outlet ends of which are connected to and extend through the wall of the stationary portion thereof, and means for maintaining a low pressure in the said chamber, as set forth.

13. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a readily-removable chamber into which said tube discharges, a steam-heating coil arranged within said chamber and means for maintaining a low pressure in the said chamber, as set forth.

14. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquids therethrough, a collecting-chamber into which said tube discharges and comprising an open-bottomed tubular body, a hemispherical vessel removably connected in an air-tight manner to the open bottom of said tubular body, a steam-heating coil arranged to extend within said hemispherical vessel and the inlet and outlet ends of which are connected to and pass through the wall of said tubular body and means for maintaining a low pressure in the said chamber, as set forth.

15. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, an open vessel formed with a grooved external flange near its upper end, a packing-ring of resilient material located in the groove of said flange, a collecting-chamber into which said tube discharges, and comprising an open-bottomed tubular body, the lower edges of said body being formed with an annular recess the lower face of the ring-like outer wall of which is adapted to make an air-tight joint with the said packing-ring of said open vessel, a steam-heating coil arranged to extend within said vessel and the inlet and outlet ends of which are connected to and pass through the wall of said tubular body and means for maintaining a low pressure in the said chamber, as set forth.

16. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a support provided with a vertical bearing, a headed pin mounted in said bearing, a lever formed with a hole near each end and fulcrumed midway between its ends to the head of said pin, a pair of vessels trunnioned one to each end of said lever and each formed with a grooved external flange, two rubber rings located one in each of said grooves, a pair of hand-levers one secured to one of the trunnion-pins of each hemispherical vessel and each formed with an arc slot, two pins each adapted to pass through the arc slot of either said hand-lever and into the hole at the corresponding end of said pivoted lever, a collecting-chamber into which said tube discharges, and comprising a cylindrical tubular body with open bottom, the lower edge of said body being formed with an annular recess, the lower face of the ring-like outer wall of which is adapted to make an air-tight joint with the said rubber ring of either vessel, a steam-heating coil arranged to extend within either hemi-

spherical vessel and the inlet and outlet ends of which are connected to and pass through the wall of said tubular body, a cam on the upper end of said supporting-column on which said lever is arranged to bear, a removable pivoted stop arranged to arrest the horizontal movement of said lever, means whereby a signal is given when a certain quantity or weight of liquid has passed through the heated tube, and means whereby a low pressure is maintained in the collecting-chamber, as set forth.

17. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a support provided with a vertical bearing, a headed pin mounted in said bearing, a lever formed with a hole near each end and fulcrumed midway between its ends to the head of said pin, a pair of vessels trunnioned one to each end of said lever and each formed with a grooved external flange, two rubber rings located one in each of said grooves, a pair of hand-levers one secured to one of the trunnion-pins of each hemispherical vessel and each formed with an arc slot, two pins each adapted to pass through the arc slot of either said hand-lever and into the hole at the corresponding end of said pivoted lever, a collecting-chamber into which said tube discharges, and comprising a cylindrical tubular body with open bottom, the lower edge of said body being formed with an annular recess, the lower face of the ring-like outer wall of which is adapted to make an air-tight joint with the said rubber ring of either vessel, a cam on the upper end of said supporting-column on which said lever is arranged to bear, a removable pivoted stop arranged to arrest the horizontal movement of said lever, and means whereby a low pressure is maintained in the collecting-chamber, as set forth.

18. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a support provided with a vertical bearing, a headed pin mounted in said bearing, a lever formed with a hole near each end and fulcrumed midway between its ends to the head of said pin, a pair of vessels trunnioned one to each end of said lever and each formed with a grooved external flange, two rubber rings located one in each of said grooves, a pair of hand-levers one secured to one of the trunnion-pins of each hemispherical vessel and each formed with an arc slot, two pins each adapted to pass through the arc slot of either said hand-lever and into the hole at the corresponding end of said pivoted lever, a collecting-chamber into which said tube discharges, and comprising a cylindrical tubular body with open bottom, the lower edge of said body being formed with an annular recess, the lower face of the ring-like outer wall of which is adapted to make an air-tight joint with the said rubber ring of either vessel, a steam-heating coil arranged to extend within either hemispherical vessel and the inlet and outlet ends of which are connected to and pass through the wall of said tubular body, a cam on the upper end of said supporting-column on which said lever is arranged to bear, a removable pivoted stop arranged to arrest the horizontal movement of said lever, and means whereby a low pressure is maintained in the collecting-chamber, as set forth.

19. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a collecting-chamber into which said tube discharges, means for maintaining a low pressure in said collecting-chamber and means for indicating when a definite charge or weight of liquid has passed through said tube, as set forth.

20. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a collecting-chamber into which said tube discharges, and means for indicating when a definite charge or weight of liquid has passed through said tube, as set forth.

21. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a collecting-chamber into which said tube discharges, means whereby an indication is given when a definite charge or weight of liquid has passed through said tube, and means for actuating said liquid-forcing means and said signaling means, as set forth.

22. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a collecting-chamber into which said tube discharges, a gong and means for sounding said gong when a definite charge or weight of liquid has passed through said tube, as set forth.

23. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a collecting-chamber into which said tube discharges, means for actuating said liquid-forcing means, a shaft driven therefrom, a worm on said shaft, a worm-wheel that gears into said worm, a disk mounted on the boss of said worm-wheel and frictionally driven from said worm-wheel, a pin projecting from said disk, and a gong adapted to be operated by said pin, the face of said disk being marked with radial lines and numbers that indicate the number of teeth on the said worm-wheel in relation to said pin, as set forth.

24. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a collecting-chamber into which said tube discharges, means for actuating said liquid-forcing means, a rotary disk frictionally driven therefrom, a pin projecting from said disk and a gong adapted to be operated by said pin, as set forth.

25. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a chamber, into which said tube discharges, formed with a readily-removable portion, and means for indicating when a definite charge or weight of liquid has passed through said tube, as set forth.

26. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a chamber, into which said tube discharges, formed with a readily-removable portion, means for maintaining a low pressure in the said chamber, and means for indicating when a definite charge or weight of liquid has passed through said tube, as set forth.

27. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a readily-removable chamber into which said tube discharges, and means for indicating when a definite charge or weight of liquid has passed through said tube, as set forth.

28. In apparatus for cooking, concentrating, and evaporating liquids, the combination of an externally-heated tube, means for forcing liquid therethrough, a readily-removable chamber into which said tube discharges, means for maintaining a low pressure in the said chamber, and means for indicating when a definite charge or weight of liquid has passed through said tube, as set forth.

806,849. CAR-BRAKE. NICHOLAS P. SHUR, Utica, N. Y. Filed Nov. 17, 1904. Serial No. 233,061.



Claim.—1. In a device of the character described comprising a brake-shoe with a surface adapted to engage the wheel in ordinary use thereof and having on said surface a friction-shoe and an anti-friction-roller, the said brake-shoe also having a face to bear on the track for emergency use, together with means for lifting and holding the brake-shoe above the track and forcing it against the wheel and

operative by the release of said means to permit the brake-shoe instantly to drop on the track, substantially as shown.

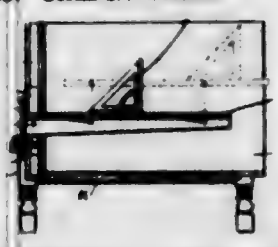
2. In a device of the character described, a brake, means for lifting and supporting the same relatively to the wheel and rail, the said means comprising a drum, connections between the same and the brake, and a ratchet-wheel connected to the drum and dogs mounted with lever means for operating the same to revolve the drum and to release the same, substantially as shown.

3. In a car, a brake having faces to engage the wheel and the rail, and means for operating the said brake to clamp the wheel or to engage the wheel and the rail, the said means comprising a drum with a ratchet-wheel thereon, chain connections from the drum to the said brake, and a lever provided with pawls to engage the ratchet-wheel and operate the same to wind the chain maintaining the tension thereon throughout the different stages of operation, and means for releasing the pawls and the tension of said chain, substantially as shown.

4. In a car, a brake comprising brake members mounted on the car-truck, a brake-shoe swingingly supported on the said brake, chain connections to the brake and to the brake-shoe and extended to a drum whereby the position of the brake-shoe is governed by the revolutions of the drum, lever means for operating the said drum to wind the chain, a ratchet-wheel connected to the drum and pawls mounted to engage the wheel and hold the chain under tension to support the brake-shoe above the rail and by increase of said tension to force the shoe against the wheel, and means whereby the pawls may be released from the drum to drop the brake-shoe onto the rail, substantially as described.

5. In a device of the character described, a brake-shoe, lever means for operating the same, the said means comprising a drum and ratchet-wheel with lever connections to operate the same whereby the drum may be turned to draw the brake-shoe against the wheel and to release it therefrom, and whereby the said lever means can be disconnected from the drum to drop the brake-shoe on to the rail against the wheel, and whereby the shoe may be raised from the rail into its wheel-engaging position, substantially as described.

806,850. **DRAWING-BOARD.** LEWIS SOBRAR, Germantown, Pa. Filed June 16, 1905. Serial No. 265,621.



Claim.—1. In combination, a table, a sliding frame mounted thereon, a drawing-board frame hinged to said sliding frame, and means for supporting said drawing-board frame at any desired angle with said sliding frame, said means consisting of a rod, one end of which is pivotally connected to said drawing-board frame, the other end being pivotally connected to a base mounted and adjustable in a groove in said sliding frame, substantially as described.

2. In combination, a grooved drawing-board, a T-square, the head of which is formed in two relatively movable parts mounted and adapted to slide in said groove, and means, consisting of a cam, spring and thumb-nut, for locking said T-square head in said groove, substantially as described.

3. In combination, a drawing-board frame furnished with a grooved strip extending above the level of said frame, a drawing-board, level, when in position upon said drawing-board frame, with said grooved strip, a T-square, the head of which is formed in relatively movable portions mounted and adapted to move in said grooved strip, and means for locking said head at any desired point in said grooved strip, said means consisting of the thumb-nut D and cam E, a semirotation of the latter being adapted to wedge the movable portions of said T-square head in the groove in said strip, substantially as described.

4. In combination, a drawing-board frame furnished with a grooved strip, a T-square, the head of which is formed in relatively movable portions adapted to move in said grooved strip, and means for locking said T-square head in said groove, said means consisting of a cam, the semirotation of which forces the parts of said T-square head against the sides of said groove, substantially as described.

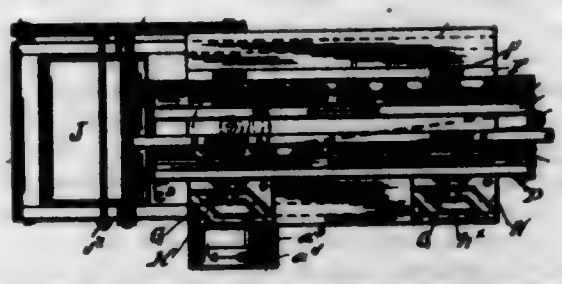
5. In combination, a drawing-board frame one side of which is furnished with a groove, a T-square head mounted therein and formed in two parts adjustable relatively to each other, and means for locking said head in said groove by wedging said parts against the sides thereof, said means consisting of the spring H and cam E, substantially as described.

6. In combination, a table, a sliding frame mounted thereon, a grooved drawing-board frame hinged to said sliding frame, means for supporting said drawing-board frame at any angle with said sliding frame, said means consisting of a support one end of which is attached to said drawing-board frame and the other adjustably mounted in a groove in said sliding frame, a T-square, the head of which is formed in relatively movable portions mounted and adapted to move in the groove in said drawing-board frame, and means for locking said T-square head in said groove, said means consisting of a spring, and a cam, the semirotation of which wedges said relatively movable portions of said T-square head against the sides of said groove, substantially as described.

7. In combination, a table, a sliding frame mounted thereon, a grooved drawing-board frame hinged to said sliding frame, means for supporting said drawing-board frame at any angle with said sliding frame, said means consisting of a support one end of which is attached to said drawing-board frame and the other adjustably mounted in a groove in said sliding frame, a T-square, the head of which is formed in relatively movable portions mounted and adapted to move in the groove in said drawing-board frame, the ruler O adjustably attached to the blade of said T-square, and means for locking said T-square head in said groove, said means consisting of a spring, and a cam, the semirotation of which wedge the relatively movable portions of said T-square head against the sides of said groove, substantially as described.

8. In combination, a drawing-board furnished on one side with a groove, a T-square head mounted therein and formed in two parts adjustable relatively to each other, and means fo locking said head in said groove by wedging said parts against the sides thereof, said means consisting of the spring H and cam E, substantially as described.

806,851. **DOUGH-MOLDING MACHINE.** FRANK STRELICH, Chicago, Ill., assignor to Phil F. Carroll, Joliet, Ill. Filed Jan. 7, 1905. Serial No. 240,042.



Claim.—1. In a dough-molding machine, a table, a timber secured at an angle to said table, a molding-board having its face set at an angle to said timber, and means for operating said molding-board whereby it will move toward, parallel to and away from said timber substantially in the manner described.

2. In a dough-molding machine, a table, a timber secured at right angles to said table, a molding-board having its face set at an acute angle to the face of said timber and means for operating said molding-board whereby it will move toward, parallel to and away from said timber substantially in the manner described.

3. In a dough-molding machine, a table, a timber secured at an angle to said table, a molding-board having its face set at an angle to said timber and having a scraper secured to its lower edge, means for operating said molding-board whereby it will move toward, parallel to and away from said timber in the manner described, and a strip supported above said molding-board and adapted to rest on the lumps of dough being operated on.

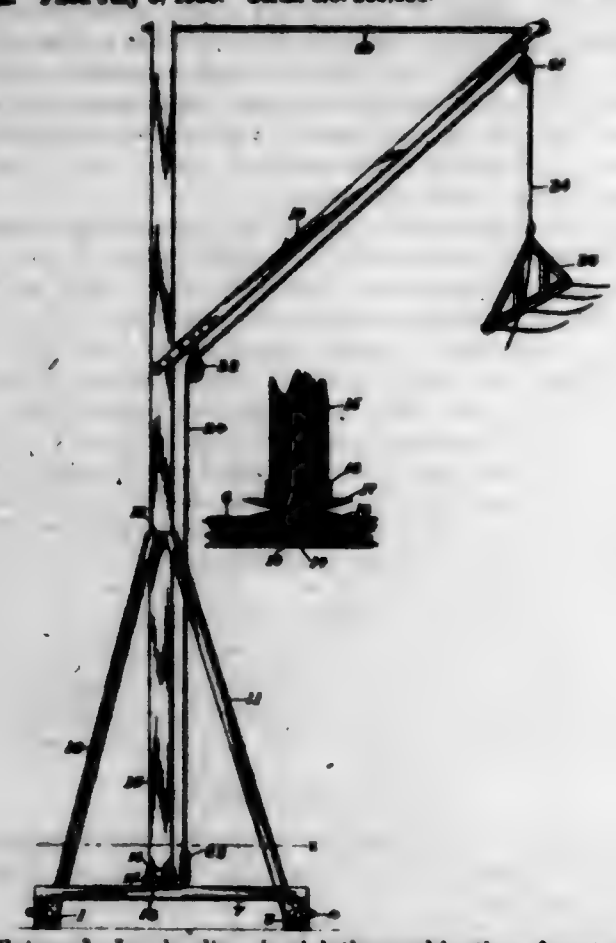
4. In a dough-molding machine, a table, a timber secured at right angles to said table, a molding-board having its face set at an acute angle to said timber and having a scraper secured to its lower edge, means for operating said molding-board substantially as described, and a strip pivotally supported above said molding-board and adapted to frictionally engage the lumps of dough being operated on.

5. In a dough-molding machine, a table, a fixed element secured to said table and having one face at an angle thereto, a molding-board adapted to move on the table and having its molding-face at an angle to said fixed element, and means for operating said molding element whereby it will alternately move toward and away from the fixed element, for the purpose described.

6. In a dough-molding machine, a table, a timber secured to said table, a molding-board having its face set at an acute angle to the face of said timber, means for operating said molding-board sub-

stantially as described, an endless apron adapted to receive the lumps of dough after leaving said molding-board, means for operating said apron and a pressure-board yieldingly mounted above said apron.

806,852. LOADING-DERRICK. CHARLES S. SWIFT, Clay Station, Cal. Filed July 3, 1905. Serial No. 268,051.



Claim.—1. In a loading-derrick the combination of a set of runners, a supporting-frame arranged on the front half of said runners, an iron ring arranged in said frame slightly off the center thereof, a center post or mast, a pin secured in the lower end thereof, said pin turning in said iron ring, two convex disks arranged around said pin apex to apex, and lifting means arranged on said center post.

2. In a derrick the combination of a supporting-frame, braces extending upward from said frame and secured at their upper ends to an iron ring, a center post pivotally mounted slightly off the center of said frame and extending upward through said ring, an oblique boom secured to said center post, a brace connecting the top of said center post to the top of said boom, a pulley secured to the under side of said boom at each end thereof, a similar pulley secured to said frame at one side of said center post, a tackle-cable extending through said pulleys and being provided at its upper end with a suitable lifting-fork and at its lower end with suitable hitching means, as fully set forth herein.

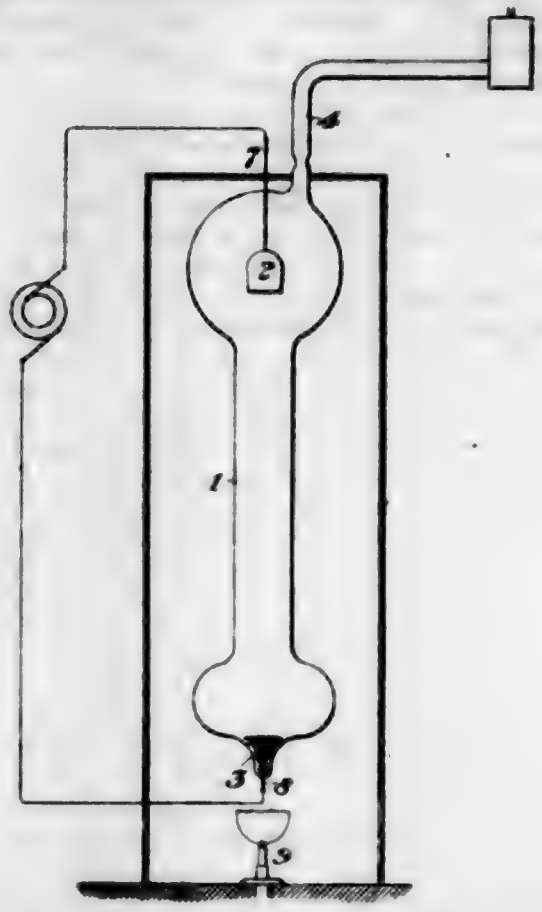
3. In a derrick the combination of two runners, three cross-beams secured across the front half of said runners at equal distances apart, oblique braces secured to the outer of said cross-beams and connected at their upper ends to an iron ring, a pin pivotally mounted in the middle one of said cross-beams slightly off the center thereof, two convex disks surrounding said pin on the upper side of said beam and laid apex to apex, a center post secured on said pin, and extending upward through said ring, and lifting means secured to said center post as and for the purpose set forth.

806,853. MANUFACTURE OF VAPOR ELECTRIC APPARATUS. PERCY H. THOMAS, East Orange, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Filed Feb. 13, 1904. Serial No. 193,393.

Claim.—1. The method of removing injurious gases or vapors from an electrode inside a suitable container, which consists in making the said electrode a terminal of an electric circuit, passing current therethrough, and regulating the pressure of the vapor in the path between the said electrode and its codperating electrode.

2. The method of removing injurious gases from an electrode in a gas or vapor electric apparatus containing two or more electrodes, which consists in passing electric current between the two electrodes and developing heat at the selected electrode by properly regulating the pressure of the gas or vapor between the electrodes.

3. The method of removing injurious gases from a solid electrode inside a gas or vapor electric apparatus containing two or more electrodes, which consists in passing current through the apparatus, and developing within the apparatus a high vapor density.



4. The method of creating a vacuum within a gas or vapor electric apparatus containing two or more electrodes, which consists in passing current between two of the electrodes, developing the proper degree of vapor-pressure within the apparatus, and exhausting the apparatus by any suitable means.

5. The method of removing injurious gases from a solid electrode inside a gas or vapor electric apparatus containing two or more electrodes, which consists in partially pumping the apparatus, developing heat at the selected electrode by properly regulating the pressure of the gas or vapor between the electrodes, and subsequently exhausting the apparatus.

6. The method of removing injurious gases from an electrode in a gas or vapor apparatus containing two or more electrodes, which consists in making the said electrode a terminal of an electric circuit, passing alternating current therethrough and regulating the pressure of the vapor in the path between the said electrode and a codperating electrode.

7. The method of removing injurious gases from an electrode inside a gas or vapor electric apparatus containing two or more electrodes, which consists in developing within the apparatus a high degree of density, passing an electric current through the vapor, thereby localizing the heat at a certain point upon the electrode, and shifting the point of heat development over the whole electrode

8. The method of removing injurious gases from an electrode in a gas or vapor electric apparatus containing two or more electrodes, which consists in passing electric current between the two electrodes and developing heat at the selected electrode by properly regulating the pressure of the gas or vapor between the electrodes, at the same time heating the said electrode as a negative electrode by applying thereto the negative impulses from an alternating-current source.

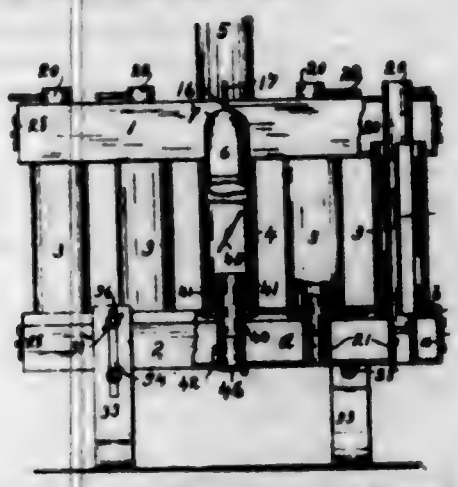
806,854. KNOB FOR LOCKS AND LATCHES. HENRY G. VOIGHT, New Britain, Conn., assignor to The Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Feb. 16, 1905. Serial No. 245,801.



Claim.—1. In a knob, a hollow body or grip portion, a central passage into said knob-body arranged to receive a lock, a covering or finishing plate arranged to overstand the passage through which said lock is introduced, and a recess in said knob to receive and protect the edge of said plate.

2. In a knob, a body or grip portion, a shank projecting therefrom, a rose-plate surrounding said shank and arranged to bear against said grip portion, the edge of said rose being flanged, and a recess in said grip portion to receive the flanged edge of said rose-plate.

808,855. HOT-AIR RADIATOR. JOHN WASHER, Portage, Wis. Filed Apr. 25, 1904. Serial No. 204,742.



Claim.—1. The combination of upper and lower chambers; flues connecting said chambers; an inlet-flue leading to the upper chamber; a discharge-flue leading from the lower chamber through the upper chamber; and air-flues leading through both chambers and their connecting-flues; each of said air-flues being rotatable and provided with a wing extending therefrom in a direction opposite that of rotation, and contacting with the wall of the connecting-flue; said connecting-flue being provided with a similar wing projecting in the direction of rotation of the flue and in contact with the latter.

2. The combination of a set of lower and upper chambers connected by smoke-flues; an inlet-pipe communicating with the upper chamber; a discharge-pipe leading from the lower chamber through the upper chamber; a set of slotted legs adjustably connected with the top of the lower chamber by headed pins; a removable pin engaged in suitable apertures in the legs and adapted to support the bottom of said lower chamber; the bottom and top portions of said lower chamber being separable.

3. In a heater of the described class, the combination with a set of chambers connected by suitable flues; a discharge-flue leading from one chamber through the other; an inlet-pipe connected with said last-mentioned chamber near the discharge-flue; a slide-valve covering an aperture in the discharge-flue opposite said inlet; a collar partially encircling said flue and arranged to serve as a guide for said valve; and an asbestos lining interposed between said collar and flue and arranged to serve as a packing for the valve.

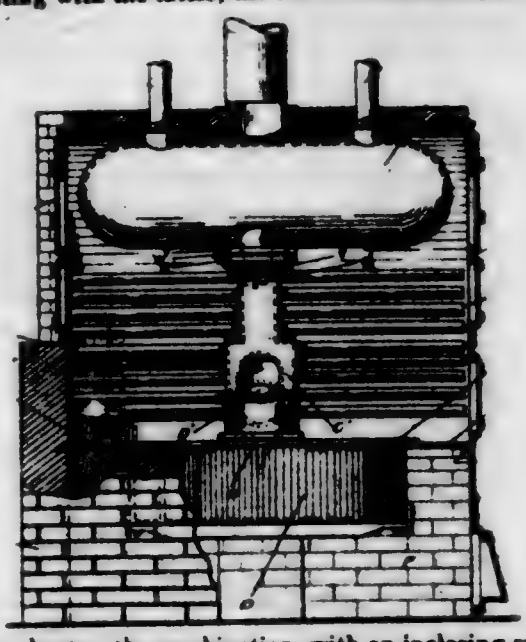
4. In a heater of the described class, the combination of a set of smoke-receiving chambers connected by suitable smoke-flues and located one above another, a discharge-flue connected with the lower chamber, a removable pan constituting a bottom for the lower chamber and provided with tubular projections extending upwardly in said chamber in line with the connecting smoke-flues and discharge-flue; air-pipes having their lower ends engaging said tubular projections and arranged to extend upwardly therefrom in the smoke-flues and through the upper chamber, said removable pan also having an air-pipe extending upwardly in the discharge-flue.

808,856. HEATER. SEYMOUR D. WATSON, St. Johns, Mich. Filed Feb. 18, 1905. Serial No. 246,230.

Claim.—1. In a heater, the combination with an inclosing casing, of a water-wall therein provided with a plurality of communicating water-tubes, a fire-pot beneath said wall, and a water-jacket about the fire-pot having communication with the interior of the wall.

2. In a heater, the combination with a vertical water-wall, of water-tubes communicating with and projecting from opposite sides of the wall, a communicating drum above and supported upon said wall, a fire-pot supporting the wall, and a water-jacket about the fire-pot having communication with the wall and drum.

3. In a heater, the combination with a fire-pot having an annular unobstructed water-chamber formed in its inclosing wall, of an arched water-wall provided with water-legs supported upon the fire-pot, and communicating with the water-chamber therein, a plurality of water-tubes having communication with and projecting from the opposite sides of the water wall and legs forming a fire-chamber above the pot, and a steam-drum, supported upon the water-wall, communicating with the latter, the tubes and the fire-pot.



4. In a heater, the combination, with an inclosing casing, of a fire-pot within and spaced from the casing, a water-wall provided with water-tubes projecting beyond the fire-pot into proximity to the casing, and a closure covering the space between the fire-pot and casing.

5. In a heater, the combination with an inclosing casing, of a fire-pot within and spaced from the casing ends, a vertical water-wall provided with a plurality of communicating water-tubes projecting horizontally from opposite sides of the wall beyond the fire-pot into proximity to the casing ends, an ash-pit section beneath the fire-pot having a draft-inlet, and draft-cut-off plates supported in the casing and covering the openings between the casing ends and the adjoining ends of the fire-pot.

6. In a heater, the combination with an arched water-wall, of a plurality of communicating water-tubes projecting therefrom, a fire-pot beneath the wall, a casing inclosing the wall, fire-pot and water-tubes, and a magazine extending through one of the legs of the water-wall and adapted to discharge within the fire-pot.

7. In a heater, the combination with a water-wall, of a plurality of communicating water-tubes projecting therefrom, a fire-pot beneath the wall, a casing inclosing the wall, fire-pot and water-tubes, a magazine leading from the exterior of the casing through the water-wall to the fire-pot, and a draft-opening leading from the exterior of the casing within the magazine above its point of passage through the water-wall.

8. In a heater, the combination with a vertical wall having an opening formed in its top and an annular horizontally-projecting flange surrounding the opening, a drum upon the wall communicating with the latter through the opening and carrying a lateral flange at the point of communication seated upon the wall-flange, connections between the flanges, a plurality of water-tubes extending from the water-wall and having communication with the latter at their inner ends, and a casing inclosing the drum, the water-wall and the tubes.

808,857. WINDING OR HAULING APPARATUS FOR MINES AND THE LIKE. EDWIN G. WELDON, Johannesburg, Transvaal. Filed Jan. 21, 1905. Serial No. 242,150.

Claim.—1. In winding or hauling apparatus of the nature specified, the combination with the head-gear and pulley-wheel round which the hauling-rope passes, of a trunk for the skip or cage passing over said head-gear and pulley, and connections for drawing said skip or cage past said parts as far as desired and freely thereof, substantially as described.

2. In winding or hauling apparatus of the nature specified, the combination with the head-gear and pulley-wheel, round which the hauling-rope passes, of a trunk for the skip or cage passing over said head-gear and pulley and extending in the direction of the pull of the hauling-rope, and connections for drawing said skip or cage past said parts as far as desired and freely thereof, substantially as described.

3. In winding or hauling apparatus of the nature specified, the combination with the head-gear, pulley-wheel and the rails or guides traversed by the skip or cage as it ascends and descends the head-gear, of an extension of said guides or rails passing over or round the pulley-wheel for the hauling-rope, said extension serving to guide the skip clear of the pulley-wheel, and a track from said extension in the direction of the pull of the hauling-rope, and means for braking the skip as it traverses said track, substantially as described.



4. In winding or hauling apparatus of the nature specified, the combination with the head-gear, pulley-wheel and rails or guides traversed by the skip or cage as it ascends and descends the head-gear, of an extension of said guides or rails passing over or round the pulley-wheel for the hauling-rope, said extension serving to guide the skip clear of the pulley-wheel, and a track from said extension in the direction of the pull of the hauling-rope, said track comprising lower and fixed rails and upper and movable rails, and means for forcing the latter toward the fixed rails to apply a braking action on the wheels of the skip, substantially as described.

5. In winding or hauling apparatus of the nature specified, the combination with the head-gear, pulley-wheel and rails or guides traversed by the skip or cage as it ascends and descends the head-gear, of an extension of said guides or rails passing over or round the pulley-wheel for the hauling-rope, said extension serving to guide the skip clear of the pulley-wheel, and a track from said extension in the direction of the pull of the hauling-rope, said track comprising lower and fixed rails and upper and movable rails, frames carrying said movable rails and springs arranged in the frames above the upper rails, which force the movable rails in the direction of the fixed rails to apply a braking action to the wheels of the skip as it passes along the track, substantially as described.

6. In winding or hauling apparatus of the nature specified, in combination, the head-gear, pulley-wheel and rails or guides which are traversed by the skip as it ascends and descends the head-gear, extensions of said guides or rails, which extensions pass over or round the pulley-wheel and serve to guide the skip above and clear of the head-gear and pulley-wheel and a track from said extensions in the direction of the pull of the hauling-rope, said track comprising lower and stationary rails carried by a framework and upper and movable rails carried by said framework, a framework and members parallel with the track, springs between said members and upper and movable rails which operate to force the movable rails toward the lower and stationary rails to apply a braking action to the wheels of the skip as it traverses the track, substantially as described.

7. In winding or hauling apparatus of the nature specified, in combination, the head-gear, pulley-wheel and the rails or guides and tipper, extensions of the guides or rails curved round the pulley-wheel, a track comprising lower and stationary rails and upper and movable rails, frames carried by the head-gear supporting said track, members carried by said frames, bolts attached to the movable rails for supporting said rails from the fixed members and springs located on the rods or bolts between the movable rails and the supporting members, which rods and springs allow the movable rails to move toward or from the lower and stationary rails so that the springs exert a braking action on the wheels of the skip through the top rails in the event of overwinding, substantially as described.

8. In winding or hauling apparatus of the nature specified, the combination with the head-gear, pulley-wheel and rails or guides traversed by the skip or cage, of an extension of said guides or rails passing round the pulley-wheel for the hauling-rope, said extensions serving to guide the skip over the head-gear and above the pulley-wheel, and a track from said extensions comprising upper and lower rails and means for braking the skip as it traverses said track and means for arresting the movement of the skip when it reaches the end of the track, substantially as described.

9. In winding or hauling apparatus of the nature specified, the combination with the head-gear, pulley-wheel and rails or guides traversed by the skip or cage, of an extension of said guides or rails passing round the pulley-wheel for the hauling-rope, said extensions serving to guide the skip over the head-gear and above the pulley-wheel, a track from said extensions comprising upper and lower rails and means for braking the skip as it travels along said track, said means comprising springs located between the upper and lower rails at the end of the track and plates in front of the springs adapted to be engaged by the wheels of the skip, substantially as described.

10. In winding or hauling apparatus of the nature specified, the combination with the head-gear, pulley-wheel and rails or guides traversed by the skip or cage, of an extension of said guides or rails passing round the pulley-wheel for the hauling-rope, said extensions serving to guide the skip over the head-gear and above the pulley-wheel, a track from said extensions comprising upper and lower rails and means for braking the skip as it travels along said track, means for arresting the movement of the skip at the end of the track, a return-track between the track from the head-gear and the head-gear for returning the skip to the rails or guides in the head-gear, substantially as described.

11. In winding or hauling apparatus of the nature indicated, in combination, the head-gear and the pulley-wheel for the hauling-rope and the rails or guides for the skip, of a tipper or means for dumping the contents of the skip, a track above the tipper passing round the pulley-wheel along which the skip may pass from the tipper above the head-gear, and a track from which the skip may pass from the track above the pulley-wheel, means for applying a braking action to the skip as it passes along said track, means for arresting the movement of the skip at the end of said track and a return-track for passing the skip into the guides or rails in the head-gear, substantially as described.

12. In winding or hauling apparatus of the nature specified, in combination, the head-gear and the pulley-wheel and guides or rails, of the skip adapted to traverse said guides or rails, the tipper for dumping the contents of the skip, a track above said tipper passing round the pulley-wheel along which the skip may pass after it leaves the tipper in the event of overwinding, the track to which the skip may pass from the track above the tipper, said track comprising the bottom or stationary and top and movable rails, the frames carrying said stationary rails and angle-irons parallel with the track, bolts fixed to the movable rails passed through said longitudinal members, springs on said bolts between the longitudinal members and the rails for forcing the movable rails toward the fixed rails, nuts on the bolts for supporting the movable rails, the springs in the ends of the track and the plates in front of the springs for engaging the wheels of the skip at the end of the track and in front of the winding-drum of the engine, points or hinged portions of the lower rails, the return-track and the small pulley in the head-gear over which the hauling-rope is passed to haul the skip along the return-track, substantially as described and shown.

13. In a winding or hauling apparatus of the nature specified, the combination with the head-gear and pulley round which the hauling-rope passes, of a track for the skip or cage passing over said head-gear and pulley, connections for drawing said skip or cage past said parts as far as desired and freely thereof, and a yielding resistance which permits the overriding travel of the skip or cage, substantially as described.

14. In a winding or hauling apparatus of the nature specified, the combination with the head-gear and pulley round which the hauling-rope passes, of a track for the skip or cage passing over said

head-gear and pulley, connections for drawing said skip or cage past said head-gear and pulley as far as desired and freely thereof, and a yielding resistance pressing upon opposite sides of the car and permitting the overriding travel of the skip or cage, substantially as described.

18. In winding or hauling apparatus of the nature specified, the combination with the head-gear and pulley round which the hauling-rope passes, of a track for the skip or cage passing over said head-gear and pulley and extending down an incline in the direction of pull of the hauling-rope, and a switch for directing the skip or cage from said track to a lower track, substantially as described.

806,858. **HORSE-CONTROLLING DEVICE.** JOHN O. WESTCOTT, Winnemucca, Nev. Filed June 1, 1905. Serial No. 263,269.



Claim.—1. An animal-controlling device, comprising straps arranged to limit and restrain the action of the limbs of the animal, means for supporting the straps in a movable position, an adjustable strap passing beneath the body of the animal and connecting the limiting and restraining straps, and a pulley arrangement also passing beneath the body of the animal and connecting the limiting and restraining straps and affording means whereby said limiting and restraining straps are operated to limit the action of the limbs of the animal.

2. An animal-controlling device, comprising a harness, straps arranged to limit and restrain the action of the limbs of the animal, an adjustable strap passing under the body of the animal and connecting the limiting and restraining straps, and a pulley arrangement also passing under the body of the animal to connect the limiting and restraining straps and affording means for operating said straps.

3. An animal controlling and training device, comprising a harness, an adjustable strap passing diagonally beneath the body of the animal and adjustably connecting the two sides of the harness, and a block-and-pulley attachment connecting the two sides of the harness and passing diagonally beneath the body of the animal to cross the adjustable strap, the two forming an X, and by means of which the harness is operated to control and restrain the animal.

4. In a horse-controlling device, a harness comprising straps partly encircling the rear and front legs of the animal, means for adjustably supporting the straps in a horizontal position, means for adjustably connecting the ends of the straps on one side of the animal, and a block-and-pulley attachment whereby the other ends of said straps may be actuated and controlled.

5. In a horse-controlling device, a harness comprising straps partly encircling the rear and front legs of the animal, means for adjustably supporting the straps in a horizontal position, means for adjustably connecting the ends of the straps on one side of the animal, a block-and-pulley attachment whereby the other ends of said straps may be adjusted, and an adjustable yoke or collar.

806,859. **PERCUSSION-FUSE.** HARRY WILSON and ARTHUR H. CRAMP, Washington, D. C., assignors, by direct and mesne assignments, to The United States Ordnance Company, Washington, D. C., a Corporation of Virginia. Filed Mar. 28, 1905. Serial No. 252,574.



Claim.—1. In a percussion-fuse a seat for a primer, a channel leading from said seat to the shell charge, a valve closing said channel and means whereby said valve is shifted by impact of the projectile after discharge.

2. In a percussion-fuse, a seat for a primer, a chamber for an igniting charge, a channel leading from said seat to the said chamber, a valve closing said channel and means whereby said valve is shifted by impact of the projectile after discharge.

3. In a percussion-fuse, a seat for a primer, means for exploding the primer upon impact of the projectile, a channel leading from the primer-seat to the shell charge, a valve closing said channel and means whereby said valve is shifted by impact of the projectile after discharge.

4. In a percussion-fuse, the combination with a primer-seat and primer-exploding means, of a channel extending forward from the primer-seat to the shell charge, a valve closing said channel and arranged to be shifted by impact of the projectile after discharge.

5. In a percussion-fuse, a seat for a primer, a firing-hammer, means for holding the firing-hammer inactive, a valve leading from the primer-seat to the shell charge, a valve closing said channel and means whereby said valve is shifted by impact of the projectile after discharge.

6. In a percussion-fuse, a primer-seat, a channel leading from said seat to the shell charge, a valve closing said channel, a second channel in said valve normally out of alinement with the first-named channel and means whereby the valve is shifted by impact of the projectile after discharge and the channel of the valve alined with the channel leading from the primer-seat.

7. In a percussion-fuse, a primer-seat, a channel leading from the primer-seat to the shell charge, a valve closing said channel, a second channel in said valve normally out of alinement with the first-named channel and means actuated by impact of the projectile to aline the valve-channel with the channel leading from the primer-seat.

8. In a percussion-fuse, a primer-seat, means for exploding the primer upon impact of the projectile, a channel leading from the primer-seat to the shell charge, a valve closing said channel, a second channel in said valve normally out of alinement with the first-named channel and means actuated by impact of the projectile to aline the valve-channel with the channel leading from the primer-seat.

9. In a percussion-fuse, a primer, a primer-seat, primer-exploding means, a channel leading from the primer-seat to the shell charge, a valve closing said channel, a second channel in the valve housing a powder-train of slow explosive normally out of alinement with the first-named channel and means actuated by impact of the projectile to aline the valve-channel with the channel leading from the primer-seat.

10. In a percussion-fuse, a seat for a primer, a channel leading from said seat to the shell charge, a valve closing said channel and means whereby said valve is shifted after discharge independent of the rotation of the projectile.

11. In a percussion-fuse, the combination of a casing, a primer, primer-exploding means, locking means normally holding the primer-exploding means inactive and adapted to be unlocked by the action of centrifugal force and means operating independent of the action of centrifugal force for imparting the initial unlocking movement to the locking means.

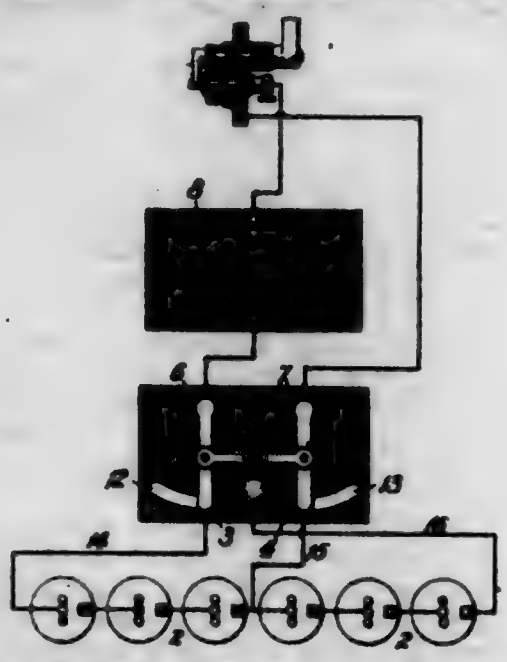
12. In a percussion-fuse, the combination of a casing, a primer, primer-exploding means, locking means loosely mounted in the casing normally holding the primer-exploding means inactive and adapted to be unlocked by the action of centrifugal force and means operating independent of the action of centrifugal force for imparting the initial unlocking movement to the locking means.

13. In a percussion-fuse, the combination of a casing, a primer, primer-exploding means, locking means normally holding the primer-exploding means inactive and adapted to be unlocked by the action of centrifugal force and means interposed between the locking means and the casing operating independent of the action of centrifugal force for imparting the initial unlocking movement to the locking means.

14. In a percussion-fuse, the combination of a casing, a primer, primer-exploding means, locking means loosely mounted in the casing normally holding the primer-exploding means inactive and unlocked by the action of centrifugal force and additional means loosely contacting with said casing, but adapted to positively engage the same and thereby immediately impart to the locking means the full rotation of the shell.

806,860. **SPARK-IGNITER SYSTEM FOR EXPLOSION-ENGINES.** DAVID L. WESTING, Chicago, Ill. Filed Mar. 6, 1905. Serial No. 248,452.

Claim.—1. In an electrical ignition system for explosion-engines, the combination of a plurality of battery-cells, a pair of switch-arms, a working circuit having terminal connections with the pair of switch-arms, each of said switch-arms having an individual contact-point and a contact-point in common, and three connections between the plurality of battery-cells and the aforesaid contact-points to divide the battery-cells into two portions which may be switched into the working circuit separately or together by means of the pair of switch-arms aforesaid, substantially as set forth.



2. In an electrical ignition system for explosion-engines, the combination of a plurality of battery-cells, a pair of switch-arms, a working circuit having terminal connections with the pair of switch-arms, each of said switch-arms having an individual contact-point and a contact-point in common, and three connections between the plurality of battery-cells and the aforesaid contact-points to divide the battery-cells into two portions, said connections being adapted to change the direction of the current when changing from one portion to the other and so arranged that they may be switched into the working circuit separately or together by means of the pair of switch-arms aforesaid, substantially as set forth.

3. In an electrical ignition system for explosion-engines, the combination of a plurality of battery-cells, a pair of switch-arms connected together and moving in unison, a working circuit having terminal connections with the pair of switch-arms, each of said switch-arms having an individual contact-point and a contact-point in common, and three connections between the plurality of battery-cells and the aforesaid contact-points to divide the battery-cells into two portions which may be switched into the working circuit separately or together by means of the pair of switch-arms aforesaid, substantially as set forth.

4. In an electrical ignition system for explosion-engines, the combination of a plurality of battery-cells, a pair of switch-arms connected together and moving in unison, a working circuit having terminal connections with the pair of switch-arms, each of said switch-arms having an individual contact-point and a contact-point in common, and three connections between the plurality of battery-cells and the aforesaid contact-points to divide the battery-cells into two portions, said connections being adapted to change the direction of the current when changing from one portion to the other and so arranged that they may be switched into the working circuit separately or together by means of the pair of switch-arms aforesaid, substantially as set forth.

5. In an electrical ignition system for explosion-engines, the combination of a plurality of battery-cells, a pair of switch-arms connected together and moving in unison, a working circuit having terminal connections with the pair of switch-arms, said switch-arms having a contact-point common to both and each having an individual contact-point with an extended wing or contact-surface of sufficient length to allow either switch to reach the common contact-point without breaking the circuit with the other switch, and three connections between the plurality of battery-cells and the aforesaid contact-points to divide the battery-cells into two portions which may be switched into the working circuit separately or together by means of the switch-arms aforesaid, substantially as set forth.

6. In an electrical ignition system for explosion-engines, the combination of a plurality of battery-cells, a pair of switch-arms connected together and moving in unison, a working circuit having terminal connections with the pair of switch-arms, said switch-arms having a contact-point common to both and each having an individual contact-point with an extended wing or contact-surface of sufficient length to allow either switch to reach the common contact-point without breaking the circuit with the other switch, and three connections between the plurality of battery-cells and the aforesaid contact-points to divide the battery-cells into two portions, said connections being adapted to change the direction of the current when changing from one portion to the other and so arranged that they may be switched into the working circuit separately or together by means of the pair of switch-arms aforesaid, substantially as set forth.

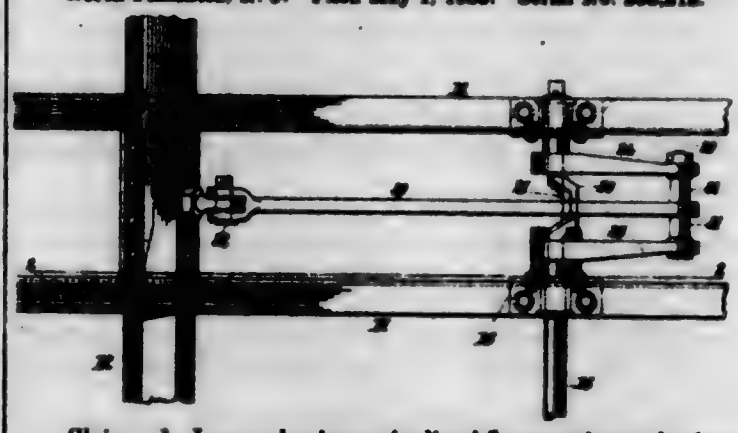
806,861. **TEMPORARY BINDER.** FREDERICK H. WOLF, St. Louis, Mo. Filed Mar. 13, 1905. Serial No. 249,962.



Claim.—1. The improved temporary binder, comprising the integral combined prong and ring carriers made of a single piece of metal bent to form yielding arms, and a suitable tubular base within which said arms are inserted; and projections extending from said base and engaging the yielding arms of said carriers to retain them in position; substantially as specified.

2. The improved temporary binder, comprising the integral combined prong and ring carrier made of a single piece of metal bent to form yielding arms, and a suitable tubular base within which said arms are inserted; and projections extending from said base and engaging the yielding arms of said carriers to retain them in position; and the book-supporting flange 8 projecting from said base at the lower end thereof; substantially as specified.

806,862. **TRANSPORTATION-CAR AND THE LIKE.** JOHN M. ARMS, New Brighton, N. Y., assignor to Benjamin A. Hegeman, Jr., North Plainfield, N. J. Filed May 1, 1905. Serial No. 258,212.



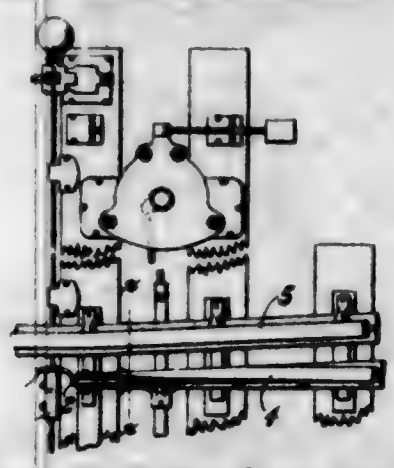
Claim.—1. In a car having an inclined floor-section and a downwardly-hanging discharge-door at the lower end thereof, the door mechanism comprising the transverse operating-shaft extending below said floor-section and having the offset portion between the draft-sills of the car, crank-arms on said shaft at opposite sides of said offset, and the rod pivotally mounted between said crank-arms and pivotally connected to the door and adapted to enter said offset when the door is closed, for locking the door, said crank-arms and rod when the door is closed standing substantially in line with each other and with said floor-section; substantially as set-forth.

2. In a car having an inclined floor-section and a downwardly-hanging discharge-door at the lower end thereof, the door mechanism comprising the transverse operating-shaft extending below said floor-section and having the offset between the draft-sills and the polygonal portions at opposite sides of said offset, the crank-arms on said polygonal portions, and the rod pivotally mounted between said crank-arms and pivotally connected with the door and adapted to enter said offset when the door is closed, for locking the door, one of said crank-arms having a hub to be slipped upon the end of said shaft and the other crank-arm having a hub made up of parts to be secured together around said shaft, and said crank-arms and rod when the door is closed standing substantially in line with each other and with said floor-section; substantially as set forth.

806,863. **GUARD FOR CLOSED POINT-RAILS.** FRANK C. ARMSTRONG, Cincinnati, Ohio, assignor of one-half to The American Valve & Meter Company, Cincinnati, Ohio, a Corporation of West Virginia. Filed Apr. 12, 1905. Serial No. 255,573.

Claim.—1. A guard secured to a point-rail and adapted to project in front thereof and bear against the web of the adjacent stock-rail.

2. A guard for a closed point-rail comprising a plate secured to the free end of a closed point-rail and extending across said end whereby said guard is adapted to bear against the web of the adjacent rail when said point-rail is in closed position.



3. A guard for a closed point-rail comprising a plate having a bend between its ends and so attached to said point-rail that the part forming the bend will extend in front of the end of said point-rail and form a guard therefor whereby the opening between said point-rail and the web of the adjacent stock-rail is closed.

4. In a guard for a closed point-rail, a plate having a bend between its ends and formed integral with a reinforcement for a point-rail, and adapted to be secured thereto.

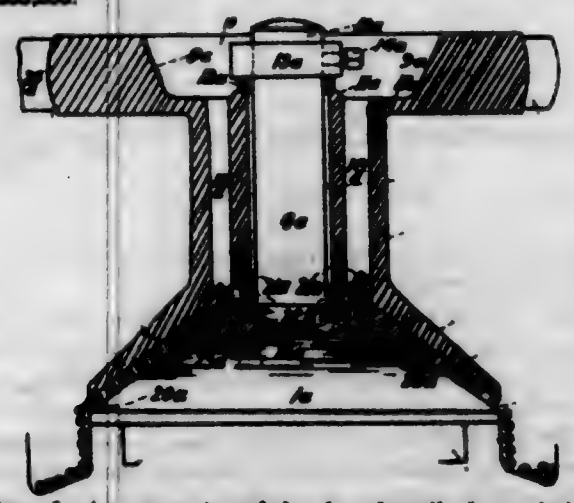
5. A guard secured to a closed point-rail and adapted to project in front thereof and bear against the web of the adjacent stock-rail and having an extended bearing-surface adapted to engage a keeper upon safety or interlocking mechanism and thereby permit of creeping of the point-rail.

6. A guard secured to a point-rail and adapted to project beyond the free end thereof and bear against the web of the adjacent stock-rail.

7. A guard secured to the free end of a point-rail and adapted to close the opening between the end of said point-rail and the web of the adjacent stock-rail.

8. A guard for a closed point-rail comprising a plate having a bend therein to cause said plate to engage with the adjacent rail, and a bend to form a recess for bolt-heads substantially and for the purposes set forth.

806,864. APPARATUS FOR MAKING SPHERICAL SHOT. ALFRED G. BAKER, Dunedin, New Zealand. Filed Apr. 13, 1904. Serial No. 203,853.

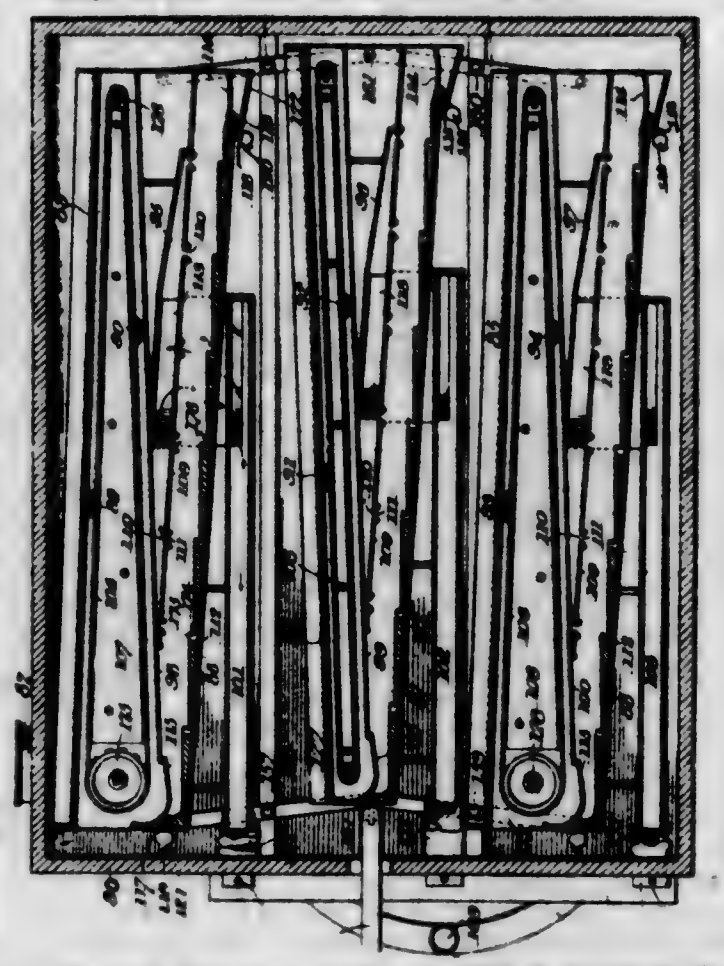


Claim.—1. An apparatus of the class described, consisting of a stationary conical base, a vertical spindle secured thereto, a capstan-shaped piece 7ª having a central vertical hole therein through which the spindle extends, said piece 7ª having a hollow conical portion surrounding the conical base and leaving a space between itself and said base, the upper end of said piece having a hopper formed at the upper end of the piece 7, said piece having a plurality of passages extending from said hopper to the top of the base-piece, said passages surrounding the central hole, means for rotating said piece and means for adjusting the distance of said piece from the base and for giving it an up-and-down springing motion.

2. An apparatus of the class described, consisting of a conical stationary base, a vertical spindle secured to the top thereof and leaving an annular shoulder at the top of the base-piece, a capstan-shaped piece having a hollow conical end and a hopper formed in its upper end, said piece having also a central piece having also a central hole through which the spindle extends, a coiled spring resting on the shoulder and engaging a lower part of the capstan-piece, an adjustable collar on the upper end of the spindle, a coiled spring held between said collar and the upper part of the capstan-piece, passages leading from the hopper to the top of the base-piece and means for rotating the capstan-piece.

3. In an apparatus of the class described, a rotatable hollow member of truncated-cone shape and a stationary coacting member also of conoidal shape, said stationary member having an upper milled portion and a lower plain portion, said plain portion being parallel to the inner wall of the rotatable member and said milled portion being inclined with relation to said inner wall whereby a tapering space is formed in which the cubes are gradually reduced prior to receiving their finishing rolling between the parallel walls, substantially as described.

806,865. FLOUR-MILLING MACHINERY. LOUIS W. BEHNKE, Houghton, Mich. Filed Aug. 10, 1904. Serial No. 220,259.



Claim.—1. In a machine of the class described, a supporting-frame, a separating-chamber, horizontally-disposed bars mounted for swiveled movement within the supporting-frame, and arms having their intermediate portions swiveled to the bars, and their terminals connected for lateral and longitudinal movement with the supporting-frame and with the chamber.

2. In a machine of the class described a sieve, a cleaning-platform provided with orifices and air-deflecting devices bridging the orifices, and counterweighted dumping-doors combined with the terminals of the platform.

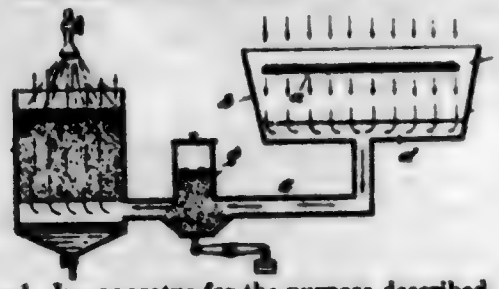
3. In a machine of the class described, a sieve, a table disposed below the sieve, traveling brushes coacting with the table and the sieve to prevent accumulation of flour, a cleaning-platform disposed below the table, and an automatically-operative door for controlling the passage between the table and the platform.

4. In a machine of the class described, a sieve, a table disposed beneath the same, a cleaning-platform below the table, a counterweighted door for controlling the passage between the table and the platform, and a similar door for controlling the escape of material from the platform.

5. In a machine of the class described, a frame, a plurality of pairs of plan sifters and separators supported thereby, vertical shafts including eccentrics operatively connected with the plan sifters and separators to impart gyratory movements thereto, pulleys carried by the said shafts, a drive-shaft carrying a plurality of pairs of pulleys one of each pair being tight and the other loose upon the shaft, and belts engaging the pulleys of the vertical shafts and of the drive-shaft and being independently shiftable into engagement with either the tight or loose pulleys thereon, thereby to cause either pair of plan sifters and separators to operate to the exclusion of the other.

6. In a machine of the class described, a sieve, a traveling brush coacting therewith, a table disposed beneath the sieve, a cleaning-platform below the table, a counterweighted door for controlling the passage between the table and the platform, and a similar door for controlling the escape of material from the platform.

806,866. APPARATUS FOR RECOVERING THE VAPORS OF VOLATILE SOLVENTS. EDOUARD BOUCHAUD-PRACHEZ, Paris, France. Filed Mar. 28, 1905. Serial No. 252,108.



Claim.—1. In apparatus for the purpose described, the combination of a vaporizing-chamber adapted to receive material to be dried or treated to remove volatile solvent therefrom, the interior of said chamber being exposed to atmospheric pressure, a solvent-fixing and air-purifying chamber, and a passage connecting the bottom of said vaporizing-chamber with said solvent-fixing and air-purifying chamber, said chamber being so relatively positioned as to form between the same through the connecting-passage a column of fluid said column exerting by gravity greater fluid-pressure at its vaporizing-chamber end than at its other end, whereby said fluid will be automatically and naturally propelled through the system by the force of gravity.

2. In apparatus for the purpose described, the combination of a vaporizing-chamber adapted to receive material to be dried or treated to remove volatile solvent therefrom, the interior of said chamber being exposed to atmospheric pressure, a solvent-fixing and air-purifying chamber, a passage connecting the bottom of said vaporizing-chamber with said solvent-fixing and air-purifying chamber, said chambers being so relatively positioned as to form between the same through the connecting-passage a column of fluid said column exerting by gravity greater fluid-pressure at its vaporizing-chamber end than at its other end, whereby said fluid will be automatically and naturally propelled through the system by the force of gravity, and a drier interposed in said connecting-passage.

3. The combination of a vaporizing-chamber adapted to receive material to be dried or treated to remove volatile solvent therefrom, said chamber being open at the top and thus exposed to atmospheric pressure, a solvent-fixing and air-purifying chamber, and a passage connecting the bottoms of the chambers, said chambers being so relatively positioned as to form between the same through the connecting-passage a column of mixed air and gas, said column exerting by gravity greater fluid-pressure at its vaporizing-chamber end than at its other end, whereby said mixed air and gas will be automatically and naturally propelled through the system by the force of gravity.

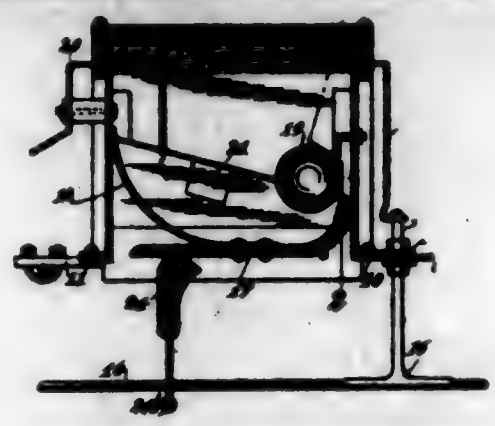
4. In apparatus of the kind described, the combination with a vaporizing-chamber open at its top, of an apron of flexible transparent material extending upward about the open upper end of said chamber.

5. In apparatus of the kind described, the combination with a vaporizing-chamber open at its top, of an apron of flexible transparent material extending upward about the open upper end of said chamber, and elastic means supporting said apron at its upper edge.

6. In apparatus of the kind described, the combination with a vaporizing-chamber open at its top, of an apron of flexible transparent material extending upward about the open upper end of said chamber, a frame above the chamber and elastic fastenings supporting said apron from said frame.

806,867. TROLLEY-CONTACT. IRA J. BRADSHAW, Waukegan, Ill., assignor of one-half to Jacob J. Distmeyer, Waukegan, Ill. Filed Sept. 1, 1905. Serial No. 276,981.

Claim.—In the bracket of an electrical annunciator, substantially as described, the combination of the metal bolts, 21 and 23, passing through the sides of the bracket, the wires, 20 and 22, secured to these bolts, the former leading to the electromagnets in the case which contains the annunciator, the latter leading to the bolt, 14, electrically connected with the trolley-wire, the trap 17, the bell, 19 and the spring, 18, secured to the trap and impinging against the inner end of the bracket, and the lever, 24, pivoted in the bottom of the bracket below the curved end of the trap so the trolley will come in contact with the branches, 24½, for the purpose stated.

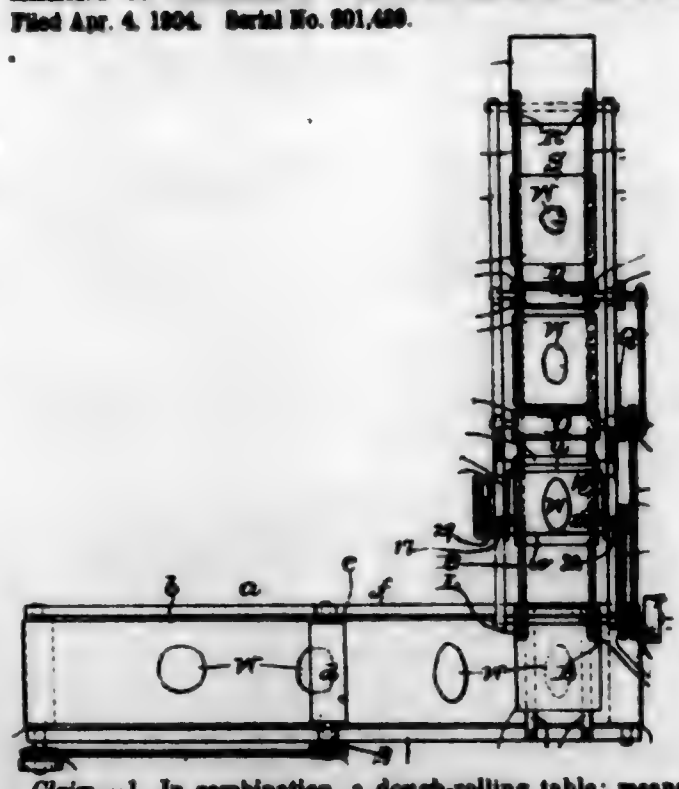


806,868. MANUFACTURED PEAT. WILLIAM H. BUNKER, Lida, Canada. Filed Feb. 17, 1905. Renewed Nov. 15, 1905. Serial No. 287,483.

Claim.—1. A manufactured peat block, consisting of peat, combustible fibrous material, and fertile seed intimately mixed together, and compressed into a homogeneous mass.

2. A manufactured peat block, consisting of peat, combustible fibrous material, fertile seed, and a caustic substance intimately mixed together and compressed into a homogeneous mass.

806,869. APPARATUS FOR SPREADING DOUGH FOR THE MAKING OF PIE-CRUSTS. JOSEPH H. BURNS, Cleveland, Ohio. Filed Apr. 4, 1904. Serial No. 201,429.



Claim.—1. In combination, a dough-rolling table; means for loosening dough rolled upon the said table relative to the table; another table arranged to receive the loosened dough, and means whereby the loosened dough is turned over and onto the last-mentioned table.

2. In combination, a table comprising a movable dough-feeding conveyer, and means for rolling and thereby elongating a piece of dough upon the said table, of mechanical means for loosening the elongated piece of dough relative to the said table, another table arranged to receive the loosened elongated piece of dough, and means whereby the loosened piece of dough is turned over and onto the last-mentioned table.

3. In combination, a dough-feeding conveyer; means for rolling a piece of dough upon and longitudinally of the said conveyer; another conveyer arranged in suitable proximity to the first-mentioned conveyer; means for loosening dough relative to the first-mentioned conveyer and arranged between the aforesaid dough-rolling means and the second-mentioned conveyer; means for rolling dough upon the second-mentioned conveyer, and means for effecting the delivery of dough rolled upon and loosened relative to the first-mentioned conveyer onto the second-mentioned conveyer.

4. In combination, a table comprising a dough-feeding conveyer and means for rolling a piece of dough upon and longitudinally of the said conveyer; means for loosening the elongated piece of dough relative to the conveyer; another table arranged in suitable

proximity and at an angle to the first-mentioned table and comprising a dough-feeding conveyer and means for rolling the dough upon and longitudinally of the last-mentioned conveyer, and means for effecting the delivery, to and crosswise of the last-mentioned conveyer, of the piece of dough elongated upon and loosened relative to the conveyer of the first-mentioned table.

5. In combination, a table comprising a dough-feeding conveyer and means for rolling a chunk or piece of dough upon and elongating it longitudinally of the said conveyer; means for loosening the elongated piece of dough relative to the said conveyer; another dough-feeding conveyer arranged in suitable proximity to the first-mentioned conveyer and means for rolling the dough upon and longitudinally of the last-mentioned conveyer, and means for effecting not only the delivery, to and crosswise of the last-mentioned conveyer of the piece of dough elongated and loosened relative to the first-mentioned conveyer, but also turning the dough over during the said delivery.

6. In combination, a dough-feeding conveyer having dough-receiving aprons suitably spaced longitudinally of the conveyer; means for rolling a piece of dough placed upon an apron; and means for loosening the rolled piece of dough relative to the dough-bearing apron.

7. In combination, a dough-rolling table comprising a dough-feeding conveyer having dough-receiving aprons arranged at suitable intervals longitudinally of the outer side of the said conveyer; means for rolling a piece of dough placed upon an apron into an oblong shape longitudinally of the conveyer; means for again rolling the dough upon the said apron and thereby further elongating the piece of dough longitudinally of the conveyer, and means for loosening the finally-elongated piece of dough relative to the dough-bearing apron.

8. In combination, a dough-rolling table comprising a dough-feeding conveyer having dough-receiving aprons arranged at suitable intervals longitudinally of the outer side of the said conveyer; means for rolling a piece of dough placed upon an apron into an oblong shape longitudinally of the conveyer, and a strand for loosening the rolled dough relative to the dough-bearing apron.

9. In combination, a dough-rolling table; an endless dough-feeding conveyer arranged to deliver dough to the said table and provided with dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at the forward end and capable of swinging, during the actuation of the conveyer in the required direction, upwardly toward and over the aforesaid table so as to deliver the dough thereon onto the said table; dough-rolling means arranged to operate upon a piece of dough placed upon an apron a suitable distance from the aforesaid table and thereby give the said piece of dough an oblong shape; other dough-rolling means arranged nearer the said table in position to operate upon the partially-elongated piece of dough and further elongate the said piece, and means for loosening the dough relative to the dough-bearing apron between the last-mentioned dough-rolling means and the said table.

10. In combination, a dough-rolling table, an endless dough-feeding conveyer arranged to deliver dough to the said table and provided with dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at the forward end and capable of swinging, during the actuation of the conveyer in the required direction, upwardly toward and over the aforesaid table so as to deliver the dough thereon onto the said table; dough-rolling means arranged to operate upon a piece of dough placed upon an apron a suitable distance from the aforesaid table and thereby give the said piece of dough an oblong shape; and a fine strand for loosening the dough relative to the dough-bearing apron between the dough-rolling means and the aforesaid table.

11. The combination, with a dough-rolling table, and a conveyer arranged to feed dough to the said table and provided with dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at the forward end and capable of swinging, during the actuation of the conveyer in the required direction, upwardly toward and over the aforesaid table so as to deliver the dough thereon onto the said table, and dough-rolling means arranged to operate upon a piece of dough placed upon an apron a suitable distance from the aforesaid table and thereby give the said piece of dough an oblong shape, of a strand for loosening the dough relative to the dough-bearing apron between the dough-rolling means and the said table, which strand is arranged to be rendered operative and bear upon the dough-laden apron in advance of the dough upon the apron and remain operative until after the passage of dough over the strand, and means whereby the strand is rendered inoperative and held in an inoperative position until the next succeeding apron has begun to pass in under the strand.

12. The combination, with a dough-rolling table, and a conveyer arranged to feed dough to the said table and provided with dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at the forward end and capable of swinging, during the actuation of the conveyer in the required direction, upwardly toward and over the aforesaid table so as to deliver the dough thereon onto the said table, and dough-rolling means arranged to operate upon a piece of dough placed upon an apron a suitable distance from the aforesaid table and thereby give the said piece of dough an oblong shape, of a strand for loosening the dough relative to the dough-bearing apron between the dough-rolling means and the said table, which strand is arranged over and transversely of the path of the said apron; means whereby the said strand is caused to bear upon the dough-laden apron in advance of the dough upon the apron and remain operative until after the passage of the dough over the strand, and means whereby the strand is rendered inoperative and held in an inoperative position until the next succeeding apron has begun to pass in under the strand.

13. The combination, with a dough-rolling table, and a conveyer arranged to feed dough to the said table and provided with dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at the forward end and capable of swinging, during the actuation of the conveyer in the required direction, upwardly toward and over the aforesaid table so as to deliver the dough thereon onto the said table, and dough-rolling means arranged to operate upon a piece of dough placed upon an apron a suitable distance from the aforesaid table and thereby give the said piece of dough an oblong shape, of a strand for loosening the dough relative to the dough-bearing apron between the dough-rolling means and the said table, which strand is arranged to be rendered operative and closely engage the dough-laden apron in advance of the dough upon the apron and remain operative until after the passage of the dough over the said strand; means for bearing upwardly upon the under side of the dough-bearing apron during the passage of the dough over the strand, and means whereby the strand is rendered inoperative and held in an inoperative position until the next succeeding apron has begun to pass in under the strand.

14. The combination, with a dough-feeding conveyer having dough-carrying aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at the forward end, and dough-rolling means arranged to operate upon a piece of dough placed upon an apron a suitable distance from the place of delivery of dough from the conveyer and thereby to give the said piece of dough an oblong shape; of a shaft capable of oscillation and arranged a suitable distance above and transversely of the conveyer and provided with two arms projecting downwardly and in the direction of the aforesaid place of delivery from opposite end portions respectively of the shaft; a strand extending between and attached to the free ends of the said arms and arranged to rest, in its lower and operative position, upon a dough-laden apron passing in under it; means arranged to afford bearing to and lift the said apron during the passage of the apron in under the strand, and means whereby the aforesaid arms are swung in the direction required to elevate the strand above the dough upon the apron when the said dough has passed over the strand and held in their upwardly-swung position until the next succeeding apron has begun to pass in under the strand.

15. The combination, with a dough-feeding conveyer having dough-carrying aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at the forward end, and dough-rolling means arranged to operate upon a piece of dough placed upon an apron a suitable distance from the place of delivery of dough from the conveyer and thereby give the said piece of dough an oblong shape; of a shaft capable of oscillation and arranged a suitable distance above and transversely of the conveyer and provided with two arms projecting downwardly and in the direction of the aforesaid place of delivery from opposite end portions respectively of the shaft; a strand extending between and attached to the free ends of the said arms and arranged to rest, in its lower and operative position, upon a dough-laden apron passing in under it; a roller arranged to afford bearing to and lift the said apron during the passage of the apron in under the strand, and means whereby the aforesaid arms are swung in the direction required to elevate the strand above the dough upon the apron when the said dough has passed over the strand and held in their upwardly-swung position until the next succeeding apron has begun to pass in under the strand.

16. The combination, with a dough-feeding conveyer having dough-carrying aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at the forward end,

and dough-rolling means arranged to operate upon a piece of dough placed upon an apron a suitable distance from the place of delivery of dough from the conveyer and thereby give the said piece of dough an oblong shape; of a strand arranged over and transversely of the path of a dough-laden apron and in position to rest, in its lower and operative position, upon the said apron; a roller arranged to afford bearing to and lift the said apron during the passage of the apron in under the strand, and means whereby the strand is lifted above the dough upon the apron when the said dough has passed over the strand and held elevated until the next succeeding apron has begun to pass in under the strand.

17. The combination, with a dough-feeding conveyer having dough-carrying aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at the forward end, and dough-rolling means arranged to operate upon a piece of dough placed upon an apron a suitable distance from the place of delivery of dough from the conveyer and thereby give the said piece of dough an oblong shape; of a strand arranged over and transversely of the path of a dough-laden apron and in position to rest, in its lower and operative position, upon the said apron; means acting to hold the strand down upon the said apron, and means whereby the strand is lifted above the dough upon the apron when the said dough has passed over the strand and held elevated until the next succeeding apron has begun to pass in under the strand.

18. In combination, a dough-rolling table; two diametrically-corresponding sprocket-wheels L arranged in line axially and in the same plane horizontally adjacent the said table; endless chains operatively engaging the said sprocket-wheels and instrumental in forming an endless conveyer and provided, at the outer side of the conveyer, with dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached to the chains at their forward ends; a pair of dough-rolling rolls arranged at and transversely of the upper side and lower side respectively of the upper and dough-feeding portion of the said conveyer a suitable distance from the aforesaid table, and means for loosening the dough relative to the dough-bearing aprons between the rolls and the table, and the arrangement of the parts being such that the aprons are capable of swinging from over the aforesaid sprocket-wheels, during the actuation of the conveyer in the required direction, upwardly toward and over the said table.

19. In combination, a dough-rolling table; two diametrically-corresponding sprocket-wheels L arranged in line axially and in the same plane horizontally adjacent the said table; and endless chains operatively engaging the said sprocket-wheels and instrumental in forming an endless conveyer and provided, at the outer side of the conveyer, with dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached to the chains at their forward ends, and a pair of dough-rolling rolls arranged at and transversely of the upper side and lower side respectively of the upper and dough-feeding portion of the said conveyer a suitable distance from the aforesaid table, and the arrangement of the parts being such that the aforesaid aprons are capable of swinging from over the aforesaid sprocket-wheels, during the actuation of the conveyer in the required direction, upwardly toward and over the said table, and the lower roll of the aforesaid pair of rolls being annularly grooved in their periphery to accommodate the location of the aforesaid chains.

20. In combination, a dough-feeding conveyer having aprons arranged at suitable intervals longitudinally of the conveyer and attached to the conveyer at their forward end; a strand arranged over and transversely of the path of a dough-laden apron and in position to rest, in its lower and operative position, upon the said apron; a roller arranged to afford bearing and lift the said apron during the passage of the apron in under the strand, which roll has a convex peripheral surface; means whereby the strand is lifted above the dough upon the apron when the said dough has passed over the strand and held elevated until the next succeeding apron has begun to pass in under the strand, and dough-rolling means arranged to operate upon the said dough preparatory to the passage of the loosening of the said dough relative to the dough-laden apron by the strand.

21. In combination, means for rolling a chunk or piece of dough into an oblong shape; means for rolling the oblong piece of partially-rolled dough widthwise of the said piece; means for conveying the dough to the last-mentioned dough-rolling means from the first-mentioned dough-rolling means, and means for loosening the dough relative to the dough-conveying means during the travel of the dough from the first-mentioned dough-rolling means.

22. In combination, means for rolling a chunk or piece of dough into an oblong shape; means for rolling the oblong piece of partially-rolled dough widthwise of the said piece; means for conveying the dough to the last-mentioned dough-rolling means from the first-mentioned dough-rolling means; means for loosening the dough relative to the dough-conveying means during the travel of the dough from the first-mentioned dough-rolling means, and means for turning the loosened dough over preparatory to the operation upon it by the second-mentioned dough-rolling means.

23. In combination, a dough-feeding conveyer having dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer; means for rolling a piece of dough placed upon an apron longitudinally of the conveyer, and a strand for loosening the rolled dough relative to the dough-bearing apron and arranged to be interposed between the said apron and the dough carried by the apron.

24. In combination, a dough-feeding conveyer having dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer; means for spreading dough placed upon an apron, and a fine strand for loosening the spread dough relative to the dough-bearing apron.

25. A dough-rolling table provided with a fine strand extending transversely of the said table and arranged for interposition between the table and dough rolled or spread upon the table.

26. A dough-rolling table provided with a strand extending transversely of the said table and arranged for interposition between the table and the dough rolled or spread upon the table, which strand is fine enough to accommodate the passage of the dough over the strand while the dough rests upon the table.

27. The combination, with a dough-rolling table comprising an endless dough-feeding conveyer, and rolls arranged to roll or spread dough fed by the said conveyer and located a suitable distance from the dough-delivering end of the said table, and means for actuating the said conveyer, of a fine strand arranged above and transversely of the conveyer between the rolls and the dough-delivering end of the table and far enough from the said end of the table to accommodate the passage of dough operated upon by the rolls past the strand during the passage of the dough toward the aforesaid end of the table, the said strand being arranged to be interposed between the conveyer and the dough fed by the conveyer with contact between the strand and the conveyer.

28. The combination, with a dough-rolling table comprising an endless dough-feeding conveyer, and rolls arranged to roll or spread dough fed by the said conveyer and located a suitable distance from the dough-delivering end of the said table, and means for actuating the said conveyer, of a fine strand arranged above and transversely of and movable from and toward the said conveyer between the rolls and the dough-delivering end of the table and far enough from the said end of the table to accommodate the passage of dough operated upon by the rolls past the strand during the passage of the dough toward the aforesaid end of the table, the said strand being arranged to be interposed between the conveyer and the dough fed by the conveyer with contact between the strand and the conveyer, and means for actuating the said strand relative to the conveyer.

29. The combination, with a dough-feeding conveyer and dough-rolling means arranged to operate upon a piece of dough fed by the said conveyer of a movable strand for loosening the rolled dough relative to the conveyer, which strand in its operative position is arranged to loosen the dough relative to the conveyer and rendered operative in advance of the dough carried by the conveyer and remains operative until after the passage of the dough over the strand, and means whereby the strand is rendered inoperative and held in an inoperative position until the next succeeding piece of dough to be loosened has approached within suitable proximity of the strand.

30. The combination, with a dough-feeding conveyer provided with dough-receiving aprons suitably spaced longitudinally of the conveyer and dough-rolling means arranged to operate upon a piece of dough placed upon an apron, of a strand for loosening the dough relative to the dough-bearing apron and arranged to be rendered operative and bearing upon the dough-laden apron in advance of the dough upon the apron and remaining operative until after the passage of the dough over the strand, and means whereby the strand is rendered inoperative and held in an inoperative position until the next succeeding apron has begun to pass in under the strand.

31. In combination, two diametrically-corresponding sprocket-wheels arranged in line axially and in the same plane horizontally, endless chains operatively engaging the sprocket-wheels and instrumental in forming an endless conveyer and provided with dough-receiving aprons suitably spaced longitudinally of the conveyer and overlapping the upper sides of both chains, which aprons are attached to the chains only at their forward ends, and means for operating upon dough carried by the aprons during the actuation of the aprons.

32. In combination, two diametrically-corresponding sprocket-

wheels arranged in line axially and in the same plane horizontally, endless chains operatively engaging the sprocket-wheels and instrumental in forming an endless conveyer and provided with dough-receiving aprons suitably spaced longitudinally of the conveyer, which aprons are attached to the chains only at their forward ends; means for rolling dough carried by the aprons during the actuation of the aprons; means for loosening the rolled dough relative to the dough-bearing aprons, and the arrangement of the parts being such that the aprons are capable of swinging from over the aforesaid sprocket-wheels during the actuation of the conveyer in the required direction and thereby deliver the loosened dough from the aprons.

33. In combination, a dough-feeding conveyer comprising a pair of suitably-actuated endless chains, and a pair of dough-rolling rolls arranged at and transversely of the upper side and lower side respectively of the upper and dough-feeding portion of the conveyer, with the said chains extending through the lower roll at the periphery of the said roll, which roll is peripherally grooved circumferentially to accommodate the location of the aforesaid chains.

34. In combination, an endless dough-feeding conveyer having aprons suitably spaced longitudinally of the conveyer and attached to the conveyer at their forward ends; a movable strand extending over and transversely of and movable toward and from the upper and dough-feeding portion of the conveyer, and arranged to rest in its lower and operative position upon an apron of the conveyer; a roller arranged to afford bearing to and lift the said apron during the passage of the apron in under the strand, and means whereby the strand is elevated above the travel of the dough when the said dough has passed over the strand and held elevated until the next succeeding apron has begun to pass in under the strand.

35. In combination, an endless dough-feeding conveyer; a dough-loosening strand extending over and transversely of and movable toward and from the upper and dough-feeding portion of the conveyer and arranged in contact with the conveyer during its operation, and a roller arranged to afford bearing to and lift the dough-carrying portion of the conveyer during the passage of the said portion under the strand.

36. In combination, a dough-feeding conveyer; a flexible dough-loosening strand extending transversely of the conveyer, and means for maintaining contact between the strand and the conveyer during the operation of the strand.

37. In combination, a dough-loosening flexible strand, a dough-feeding conveyer extending in under the strand and arranged to feed dough over the strand; means for causing the conveyer to bear upwardly against the strand, and means for rolling the dough upon the conveyer preparatory to the passage of the dough over the strand.

38. The combination, with a movable dough-feeding surface, of a strand extending transversely of the travel of the said surface and arranged for interposition between the said surface and dough rolled or spread upon the said surface, which strand is fine enough to accommodate the passage of the dough over the strand while the dough rests upon the dough-feeding surface.

39. In a dough-rolling apparatus, a table comprising an endless dough-feeding conveyer consisting of two parallel endless chains arranged side by side and a suitable distance apart laterally, with each chain provided with laterally-projecting members spaced longitudinally of the conveyer and arranged in line endwise with the different projecting members respectively of the other chain; dough-receiving aprons which are wide enough to render them capable of resting upon both chains and respectively provided at their forward end with two ears or members arranged a suitable distance apart laterally and in line endwise and journaled upon one of the aforesaid projecting members of the different chains respectively, and the chains having enough slack to accommodate the detachment of an apron from the engaging members of the chains; means for rolling dough carried by said aprons, and a bed arranged below and in position to limit the sagging of the upper and dough-feeding portion of the conveyer between the dough-rolling means and the dough-receiving end of the table.

40. In combination, two diametrically corresponding sprocket-wheels arranged in line axially and in the same plane horizontally; endless chains operatively engaging the sprocket-wheels and instrumental in forming an endless conveyer and provided each with laterally-projecting members spaced longitudinally of the conveyer, with the projecting members of each chain arranged in line endwise and projecting away from the different corresponding projecting members respectively of the other chain; dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer and provided at their forward ends with two ears or members journaled upon one of the aforesaid projecting members of the different chains respectively; a pair of dough-rolling rolls arranged at and transversely of the upper side and lower side respectively of the upper and dough-feeding portion of the conveyer; and the lower roll of said pair of rolls being provided externally with annular circumferentially extending recesses arranged to accommodate the location of the chains and wide enough to accommodate the pressing of the chains toward each other to detach any apron from the engaging members of the chains.

41. In combination, two diametrically corresponding sprocket-wheels arranged in line axially and in the same plane horizontally; endless chains operatively engaging the said sprocket-wheels and instrumental in forming an endless conveyer; dough-receiving aprons arranged at suitable intervals longitudinally of and attached at their forward ends to the chains and wide enough to rest upon both chains; a pair of intergeared dough-rolling rolls arranged at and transversely of the upper side and lower side respectively of the upper and dough-feeding portion of the conveyer, means for transmitting power to one of the aforesaid rolls, and an operative connection between the lower roll and the aforesaid sprocket-wheels, which operative connection is arranged between the upper and lower portions of the conveyer.

42. In combination, a dough-feeding conveyer provided with dough-carrying aprons spaced longitudinally of the conveyer; dough-rolling means arranged to operate upon a piece of dough placed upon an apron of the upper and dough-feeding portion of the conveyer; a shiftable strand arranged above and transversely of the travel of the aprons and in position to loosen the dough relatively to a dough-bearing apron in the lower position of the strand; a shaft capable of oscillation and arranged a suitable distance from and transversely of the conveyer, which shaft is provided with arms bearing the strand; a revoluble member; means for actuating the revoluble member and an arm rigid with the shaft and extending into the path of the said revoluble member, and the parts being so arranged and timed that normally the strand is arranged to bear upon a dough-laden apron moving in under the strand in advance of the dough upon the apron and remains operative until after the passage of the dough over the strand whereupon the aforesaid revoluble member comes into engagement with the last-mentioned shaft-arm and oscillates the shaft in the direction and to the extent required to elevate the strand and thereby render the strand inoperative until the next succeeding apron has begun to pass in under the strand.

43. In combination, a dough-feeding conveyer; dough-rolling means arranged to operate upon a piece of dough placed upon the conveyer; a shiftable strand arranged above and transversely of the conveyer, and in position to loosen the dough relative to the conveyer, a shaft capable of oscillation and arranged a suitable distance above and transversely of the conveyer between the strand and the dough-rolling means, which shaft is provided with depending arms bearing the strand, a revoluble member arranged a suitable distance below the shaft; means for actuating the revoluble member, and an arm rigid with the shaft and depending into the path of the said revoluble member, and the parts being so arranged and timed that the strand bears upon the conveyer in advance of the piece of dough to be loosened and remains operative until after the passage of the said piece of dough over the strand whereupon the aforesaid revoluble member comes into engagement with the last-mentioned shaft-arm and oscillates the shaft in the direction and to the extent required to elevate the strand.

44. In combination, a dough-feeding conveyer; dough-rolling rolls adapted to operate upon a piece of dough placed upon an apron of the conveyer; means for operating the rolls; a shiftable strand arranged above and transversely of the conveyer and in position to loosen the dough relative to the conveyer; a shaft capable of oscillation and arranged a suitable distance from and transversely of the conveyer, which shaft is provided with arms bearing the strand; a revoluble member intergeared with one of the aforesaid rolls, and an arm rigid with the shaft and extending into the path of the said revoluble member, and the parts being so arranged and timed that the strand bears upon the conveyer in advance of the dough to be loosened and remains operative until after the passage of the dough over the strand whereupon the aforesaid revoluble member comes into engagement with the last-mentioned shaft-arm and oscillates the shaft in the direction and to the extent required to elevate the strand and thereby render the strand inoperative.

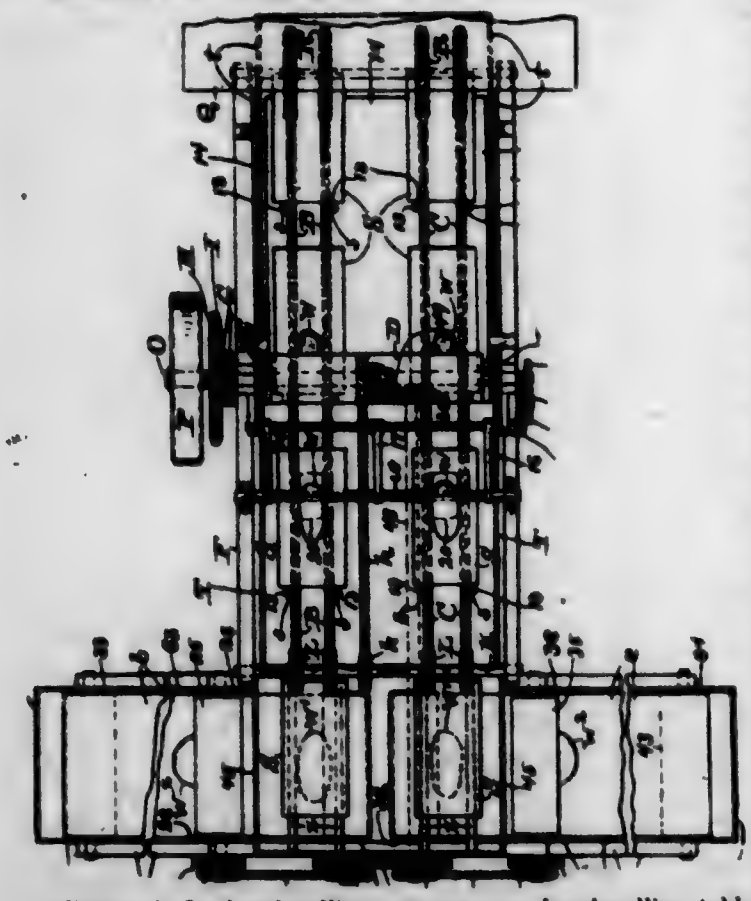
45. In combination, with a dough-rolling table comprising a dough-feeding conveyer and a dough-rolling means arranged to operate upon dough carried by the conveyer, of a bottom bearing for the upper and dough-feeding portion of the conveyer between the dough-rolling means and the dough-delivering end of the table; a shiftable strand arranged above and transversely of the travel of the dough rolled upon the conveyer, and substantially in the same plane vertically with the aforesaid bearing and in position to loosen the

dough relatively to the conveyer in the lower position of the strand, and means for elevating and thereby rendering the strand inoperative.

46. The combination, with a dough-rolling table comprising a dough-feeding conveyer which consists of two parallel endless chains arranged side by side and a suitable distance apart laterally and aprons attached at their forward ends only to the said chains and wide enough to rest upon the chains, which aprons are spaced longitudinally of the conveyer, a dough-rolling means arranged to operate upon dough placed upon the aprons, of a bottom bearing for the aprons between the dough-rolling means and the dough-delivering end of the table, which bearing is approximately as wide as the space between the aforesaid chains; a shiftable strand arranged above and transversely of the travel of the aprons and vertically over the aforesaid bearing and in position to loosen the dough relative to the aprons in the lower positions of the strand, and means for elevating and thereby rendering the strand inoperative.

47. The combination, with a dough-rolling table comprising a dough-feeding conveyer which consists in two parallel endless chains arranged side by side and a suitable distance apart laterally and aprons attached to their forward ends only to the said chains, and wide enough to rest upon the chains, which aprons are spaced longitudinally of the conveyer, and dough-rolling means arranged to operate upon dough placed upon the aprons, of a roller between the dough-rolling means and the dough-delivering end of a table and arranged within and transversely of the space between the aforesaid chains and in position to form a bottom bearing for the aprons, which roller extends approximately the full width of the said space and has a diameter increasing from both ends toward the central portion of the roller; a shiftable strand arranged above and transversely of the travel of the aprons and in the same or approximately the same plane vertically with the axis of the aforesaid roller and in position to loosen the dough relative to the aprons in the lower position of the strand, and means for elevating and thereby rendering the strand inoperative.

808,870. DOUGH-ROLLING APPARATUS. JOSEPH H. BURNS, Cleveland, Ohio. Filed Sept. 13, 1904. Serial No. 224,086.



Claim.—1. In dough-rolling apparatus, a dough-rolling table comprising a dough-feeding conveyer consisting of two parallel endless chains arranged side by side and a suitable distance apart laterally and dough-receiving aprons spaced longitudinally of the conveyer and attached to the chains, of a flour-collecter arranged below and longitudinally of the conveyer and in position to catch flour dropping from or falling between the aprons.

2. In dough-rolling apparatus, the combination, with a dough-rolling table comprising two dough-feeding conveyers arranged side by side and a suitable distance apart laterally, and means for actuating the conveyers, of a dough-supply table overhanging the said conveyers at the dough-receiving end of the dough-rolling table, and a trough arranged in under both conveyers and extending longitudinally of the conveyers, which trough declines in the direction of the dough-receiving end of the dough-rolling table and terminates in a dish-shaped portion below the dough-supply table.

3. In combination, a dough-rolling table comprising an endless dough-feeding conveyer arranged longitudinally of the table and provided at its outer side with dough-receiving aprons arranged at suitable intervals longitudinally of the conveyer, which aprons are attached only at their forward ends to the conveyer; a trough arranged in under the conveyer and declining from in under the dough-delivering end of the table and arranged in such proximity to the conveyer that the aprons during their return from the dough-delivering end to the dough-receiving end of the table shall make contact at their free ends with the bottom of the trough.

4. In combination, two diametrically corresponding sprocket-wheels arranged in line axially and in the same plane horizontally; a dough-supply table arranged a suitable distance from the said sprocket-wheels; endless chains operatively engaging the sprocket-wheels and instrumental in forming an endless conveyer arranged to convey dough from the dough-supply table to the aforesaid dough-rolling table; dough-receiving aprons arranged at suitable intervals longitudinally of the chains and wide enough to rest upon both chains, which aprons are attached at their forward ends to the chains, and a pair of dough-rolling rolls arranged at and transversely of the upper side and lower side respectively of the upper and dough-feeding portion of the conveyer.

5. In combination, a dough-supply table; an endless conveyer arranged to convey dough from the dough-supply table; a pair of intergeared dough-rolling rolls arranged at and transversely of the upper side and lower side respectively of the upper and dough-feeding portion of the conveyer; a flour-collector arranged in under and longitudinally of the conveyer; a driving-shaft in under the trough, and an operative connection between the said shaft and one of the aforesaid rolls.

6. In combination, two dough-feeding conveyers arranged side by side and provided with dough-carrying aprons, with the aprons of both conveyers correspondingly spaced longitudinally of the conveyers; dough-rolling means arranged to operate upon two pieces of dough placed upon adjacent aprons of the different conveyers respectively; a shiftable strand arranged above and transversely of the travel of the aprons and in position to loosen the dough relative to the aprons in the lower position of the strand; a shaft capable of oscillation and arranged transversely of both conveyers, which shaft is provided with an arm arranged centrally between the ends of the shaft and two arms arranged at opposite ends respectively of the shaft, which arms all participate in supporting the strand, and means for oscillating the shaft in the direction and to the extent required to elevate the strand and thereby render the strand inoperative.

7. In combination, two dough-feeding conveyers arranged side by side; dough-rolling means arranged to operate upon two pieces of dough placed upon adjacent portions of the different conveyers respectively; a shiftable strand arranged above and transversely of the upper and dough-feeding portions of the conveyers and in position to loosen the dough relative to the conveyers in the lower position of the strand; a shaft capable of oscillation and arranged a suitable distance above and transversely of both conveyers between the strand and the dough-rolling means, which shaft is provided with a depending arm arranged centrally between the ends of the shaft and two depending arms arranged at opposite ends respectively of the shaft, which arms all participate in supporting the strand, and means for oscillating the shaft in the direction and to the extent required to elevate the strand and thereby render the strand inoperative.

8. In dough-rolling apparatus, the combination, with a dough-rolling table comprising two endless dough-feeding conveyers arranged side by side and a suitable distance apart laterally, of two endless conveyers arranged to recieve dough from the different conveyers respectively of the aforesaid table; a hood arranged over the adjacent dough-receiving portions of the second-mentioned conveyers, and a flour-collector arranged below the said portions of the second-mentioned conveyers.

9. The combination, with a dough-rolling table comprising two endless dough-feeding conveyers arranged side by side and a suitable distance apart laterally, and two endless conveyers arranged to receive dough from the different conveyers respectively of the aforesaid table, of a hood arranged over the adjacent dough-receiving portions of the second-mentioned conveyers; a receptacle arranged vertically below the hood and in under the adjacent portions of the second-mentioned conveyers, which receptacle has a declining bottom.

10. The combination, with a dough-rolling table comprising two endless dough-feeding conveyers arranged side by side and a

suitable distance apart laterally, and two endless conveyers arranged to receive dough from the different conveyers respectively of the aforesaid table, of a hood arranged over the adjacent dough-receiving portions of the second-mentioned conveyers; a receptacle arranged vertically below the hood and in under the adjacent portions of the second-mentioned conveyers, and troughs arranged in under and longitudinally of the second-mentioned conveyers and in position to catch flour displaced from the said conveyers, which troughs communicate with the aforesaid receptacle.

11. In dough-rolling apparatus, the combination with a dough-rolling table, and an endless conveyer arranged to receive dough from one end of the aforesaid table, of a hood arranged over the dough-receiving portion of the conveyer, and a flour-collector below the hood and below the said portion of the conveyer.

12. The combination, with a dough-rolling table, and an endless conveyer arranged to receive dough from one end of the table, of a hood arranged over the dough-receiving portion of the conveyer and open adjacent the aforesaid table to accommodate the delivery of dough from the table onto the conveyer, and a receptacle arranged vertically below the hood and in position to catch flour displaced over or from the aforesaid portion of the conveyer.

13. The combination, with a dough-rolling table, and an endless conveyer arranged to receive dough from one end of the table, of a hood arranged over the dough-receiving portion of the conveyer and open adjacent the aforesaid table to accommodate the delivery of dough from the table onto the conveyer; a receptacle arranged vertically below the hood and below the aforesaid portion of the conveyer, and a trough arranged in under and longitudinally of the conveyer and in position to catch flour falling from the conveyer, which trough connects with and communicates with the aforesaid receptacle.

14. The combination, with a dough-rolling table, and an endless conveyer arranged to receive dough from one end of the table, of a hood arranged over the dough-receiving portion of the conveyer and open adjacent the aforesaid table to accommodate the delivery of dough from the table onto the conveyer, and means for overturning dough rolled on the table onto the conveyer within the hood.

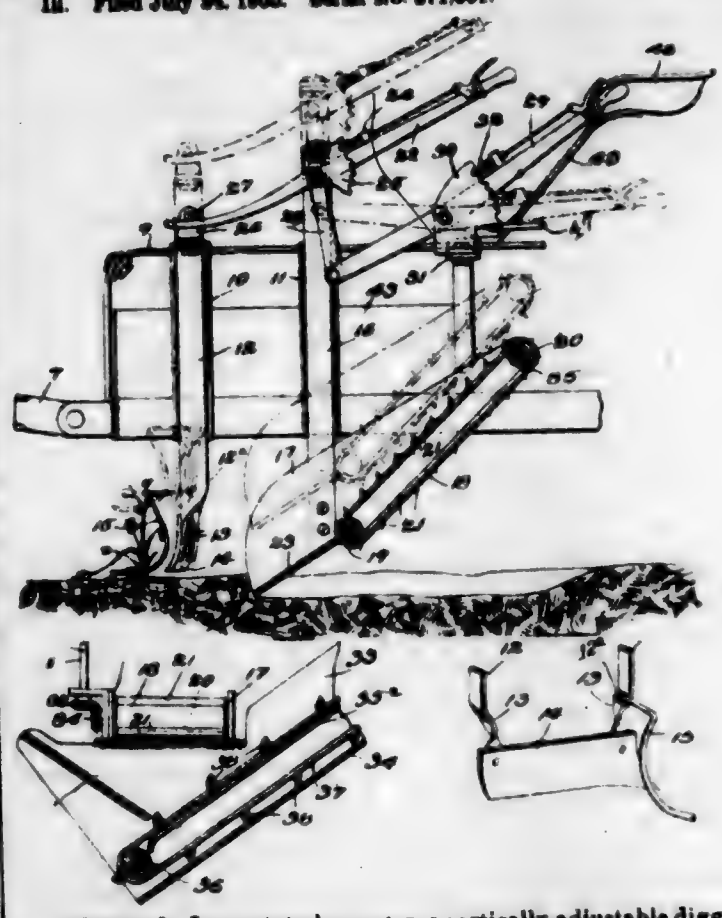
15. In dough-rolling apparatus, the combination with a dough-rolling table comprising two endless dough-feeding conveyers arranged side by side and a suitable distance apart laterally, and two endless conveyers arranged to receive dough from the different conveyers respectively of the aforesaid table, of a hood arranged over the adjacent dough-receiving portions of the second-mentioned conveyers and open adjacent the aforesaid table, and means whereby dough is delivered simultaneously from the first-mentioned conveyers to the second-mentioned conveyers respectively within the hood and turned over during the delivery of the dough.

16. In dough-rolling apparatus, the combination with a dough-rolling table, of two endless conveyers arranged to receive dough from the table and feed the dough laterally of the table in different directions respectively, which conveyers are intergeared adjacent the dough-delivering end of the said table, a shaft provided with a pinion meshing with one of the gears establishing operative connection between the conveyers, and means for driving the shaft.

17. The combination, with a dough-rolling table comprising an endless conveyer provided with aprons spaced longitudinally of the conveyer, which aprons are attached to the conveyer at their forward ends only and arranged to swing from over the said table at the dough-delivering end of the table, and a pair of rolls arranged at and transversely of the upper side and lower side respectively of the upper and dough-feeding portion of the conveyer, and a driving-shaft arranged a suitable distance below the conveyer and operatively connected with the rolls, of another conveyer arranged to receive dough from the aprons of the first-mentioned conveyer when the said aprons are overturned at the dough-delivering end of the aforesaid table; a shaft operatively connected with the second-mentioned conveyer and intergeared with the aforesaid driving-shaft, and a guard arranged to prevent the aforesaid aprons from making contact with the intergeared shafts during the travel of the aprons from the dough-delivering end to the dough-receiving end of the aforesaid table.

18. The combination, with a dough-rolling table comprising an endless conveyer provided with aprons spaced longitudinally of the conveyer, which aprons are attached to the conveyer at their forward ends only and arranged to swing from over the said table at the dough-delivering end of the table, and another conveyer arranged to receive dough from the aprons of the first-mentioned conveyer when the said aprons are overturned at the dough-delivering end of the aforesaid table, of two shafts arranged and intergeared a suitable distance below the first-mentioned conveyer; operative connections between the different shafts and the different conveyers respectively, and means for preventing the aforesaid aprons from making contact with the gearing between the shaft during the travel of the aprons from the dough-delivering end to the dough-receiving end of the aforesaid table.

806,871. **POTATO-HARVESTER.** ALVIN P. CLARKE, Edwardsville, Ill. Filed July 24, 1905. Serial No. 271,061.



Claim.—1. In a potato-harvester, a vertically-adjustable digger-carrying frame, a vertically-movable cutter-carrying frame, and a lever for the adjustment of the cutter-carrying frame supported upon and connected with the adjustable digger-carrying frame.

2. In a machine of the class described, a vertically-adjustable digger-carrying frame, elevating means permanently connected with said frame, a vertically-movable cutter-carrying frame, an adjusting-lever fulcrumed upon the digger-carrying frame, and lugs upon the cutter-carrying frame connected by a pin or roller beneath which the adjusting-lever extends.

3. In a machine of the class described, a digger-carrying frame, a suitably-supported adjusting-lever for raising and lowering said frame, means for supporting the frame at various adjustments, a vertically-movable cutter-carrying frame, and means connected with and supported by the digger-carrying frame for adjusting said cutter-carrying frame and for supporting it at various adjustments.

4. In a machine of the class described, a vertically-adjustable digger-carrying frame, elevating means connected with said frame, means for continuously operating said elevating means at various adjustments and periods between adjustments of the digger-carrying frame, a cutter-carrying frame supported for vertical movement, and means connected with and supported by the digger-carrying frame for adjusting and for retaining at various adjustments the said cutter-carrying frame.

5. In a machine of the class described, a pair of simultaneously-adjustable frames one of which carries a vine-cutter and the other of which carries a digger and an elevator, and means for adjusting the cutter-carrying frame independently of the digger-carrying frame.

806,872. **WHEEL FOR TOY VEHICLES.** DAVID P. CLARK, Dayton, Ohio, assignor to D. P. Clark and Company, Dayton, Ohio. Filed June 3, 1905. Serial No. 263,553.

Claim.—1. In a toy vehicle, the combination, with an axle having a reduced end forming a shoulder, of a sheet-metal wheel having a center apertured to fit the reduced end of the axle, said center bearing against the shoulder on one side, and a resilient cupped disk centrally apertured to fit the reduced end of the axle and bearing at its marginal portion against the other side of the wheel-center, the extremity of the axle projecting beyond said disk and being swaged or headed against the outer face of the same so as to force and hold the disk against the wheel-center, and to force and hold the wheel-center against the shoulder of the axle, substantially as described.

2. In a toy vehicle, the combination, with an axle having a straight reduced end forming a shoulder, of a sheet-metal wheel having a center apertured to fit the reduced end of the axle, said center bearing against the shoulder on one side, and a resilient cupped disk centrally apertured to fit the reduced end of the axle and bearing at its marginal portion against the other side of the wheel-center, the extremity of the axle projecting beyond said disk and being swaged or headed against the outer face of the same so as to force and hold the disk against the wheel-center, and to force and hold the wheel-center against the shoulder of the axle, the reduced portion of the axle being non-circular in cross-section and the apertures of the wheel-center and disk being similar in form, to cause said parts to rotate in unison, substantially as described.



3. In a toy vehicle, the combination with an axle having a reduced end forming a shoulder, of a sheet-metal wheel having a center apertured to fit the reduced end of the axle, said center bearing against the shoulder on one side and being provided with an annular marginal seat or recess on its other side, and a resilient disk centrally apertured to fit the reduced end of the axle and having its marginal portion seated and fitting in the seat or recess of the wheel-center, the extremity of the axle projecting beyond said disk and being swaged or headed against the outer face of the same so as to force and hold the disk into its seat in the wheel-center, and to force and hold the wheel-center against the shoulder of the axle, substantially as described.

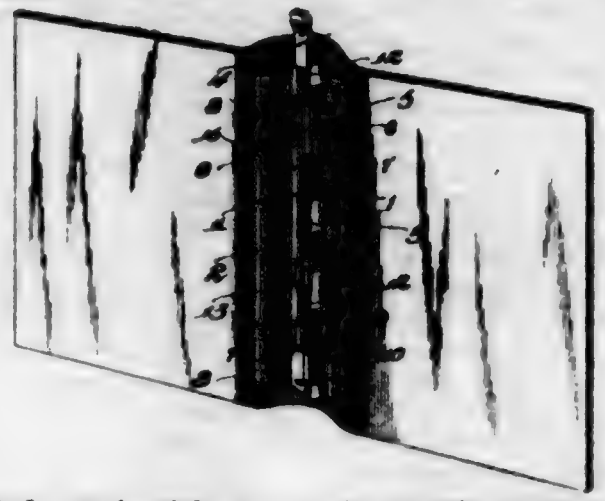
4. In a toy vehicle, the combination, with an axle having a straight reduced end forming a shoulder, of a sheet-metal wheel having a center apertured to fit the reduced end of the axle, said center bearing against the shoulder on one side and being provided with an annular marginal seat or recess on its other side, and a cupped disk centrally apertured to fit the reduced end of the axle and having its marginal portion seated and fitting in the seat or recess of the wheel-center, the extremity of the axle projecting beyond said disk and being swaged or headed against the outer face of the same so as to force and hold the disk into its seat in the wheel-center, and to force and hold the wheel-center against the shoulder of the axle, the reduced portion of the axle being non-circular in cross-section and the apertures of the wheel-center and disk being similar in form, to cause said parts to rotate in unison, substantially as described.

5. In a toy vehicle, the combination, with an axle having a reduced end forming a shoulder, of a sheet-metal wheel having a center apertured to fit the reduced end of the axle, said center bearing against the shoulder on one side and being provided with an annular marginal seat or recess on its outer side, and a cupped disk centrally apertured to fit the reduced end of the axle and having its marginal portion seated and fitting in the seat or recess of the wheel-center, the extremity of the axle projecting beyond said disk and being swaged or headed against the outer face of the same so as to force and hold the disk into its seat in the wheel-center, and to force and hold the wheel-center against the shoulder of the axle, the reduced end of the axle being flattened to form parallel surfaces on two opposite sides, and the apertures of the wheel-center and disk being in the form of slots having two parallel opposite walls to fit the end of the axle, to cause said parts to rotate in unison, substantially as described.

806,873. BINDER FOR BOOKS. JOSEPH W. CROWDUS, Colbn, Tex., assignor of one-half to W. W. SIMMONS, Colbn, Tex. Filed May 1, 1905. Serial No. 258,305.

Claim.—1. In a binder of the character described the combination with oppositely-disposed members hinged together and leaf-engaging means upon the members; of parallel sleeves rigidly connected to one of the members, a rod slidably mounted in one of said sleeves, a locking-arm rigidly connected to the rod and slidably mounted in the other sleeve, and means rigidly connected to the other member and adapted to register with and be engaged by the locking-arm.

2. In a binder of the character described the combination with oppositely-disposed members hinged together and curved prongs rigidly connected to said members; of parallel sleeves rigidly secured to one of the members adjacent its hinge, a rod slidably mounted in one of the sleeves, a locking-arm rigidly connected thereto and slidably mounted in the other sleeve, means for manipulating the rod and its arm, and an arm-receiving device rigidly connected to the other member and adapted to register with the sleeve of the locking-arm.

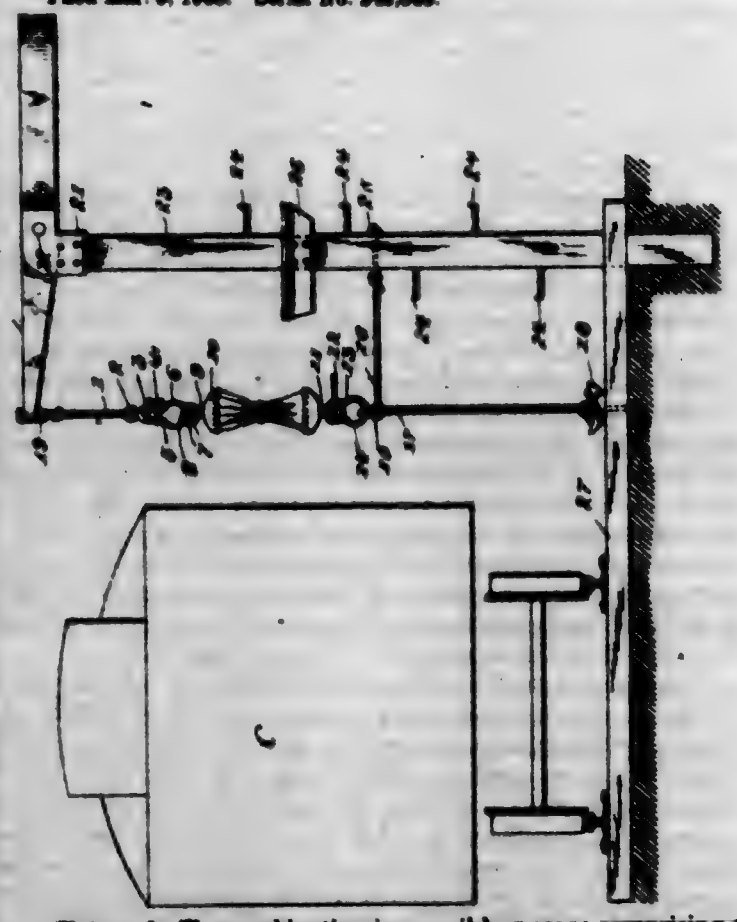


3. In a binder of the character described the combination with oppositely-disposed members hinged together and having inwardly-extending curved prongs rigidly connected thereto, of parallel sleeves rigidly connected to one of the members adjacent its hinge, a rod slidably mounted in one of the sleeves, means for limiting the movement of the rod in either direction, a locking-arm rigidly connected to the rod and slidably mounted in the other sleeve, and an arm-receiving portion rigidly connected to the other member and adapted to register with the sleeve of the locking-arm.

4. In a binder of the character described the combination with oppositely-disposed members movably connected; of non-rotatable locking devices slidably mounted upon one of the members adjacent opposite edges of the members, means upon the other member adapted to be engaged by the locking devices, and a rigid connection between the locking devices for actuating the same in unison.

5. In a binder the combination with oppositely-disposed pronged members movably connected; of sleeves upon one of the members adjacent opposite edges of the members, a locking device slidably mounted within each sleeve, means upon the other member adapted to register with the respective sleeves, and means for simultaneously moving the locking device into, or out of, engagement with the registering means.

806,874. MAIL-BAG CRANE. WILLIAM DAVIDSON, Atlanta, Ga. Filed Mar. 3, 1905. Serial No. 248,303.



Claim.—1. The combination in a mail-bag crane comprising a vertical post, a metallic cap on top of said post, said cap having ver-

tical jaws, an arm pivoted between said jaws, the said arm rotating in a vertical plane, the end of said arm, next to the track, having a flexible connection extending down a distance suitable to hold the top end of a mail-bag in position to be caught by a catcher on a passing-train, the lower end of the said flexible connection having an adjustable spring-clamp, the said spring-clamp having jaws, the said jaws having grooves suitable to receive and hold the ring on a mail-bag, the said spring-clamp has an adjustable bolt and nut, said bolt and nut being used to adjust the spring-clamp to suit the weight of the mail-bag that the said adjustable spring-clamp is to hold, substantially as set forth.

2. The combination in a mail-bag crane comprising a vertical post, a metallic cap on top of said post, said metallic cap having vertical jaws, an arm pivoted between said jaws, the said arm rotating in a vertical plane, a flexible connection extending down from the said arm a distance suitable to hold the top end of a mail-bag in position to be caught by a catcher on a passing train, the lower end of said flexible connection having an adjustable spring-clamp, the said adjustable spring-clamp having jaws, said jaws having grooves suitable to receive and hold the ring on a mail-bag, the said adjustable spring-clamp has a bolt and nut, said bolt and nut being used to adjust the said adjustable spring-clamp to suit the weight of the mail-bag that said adjustable spring-clamp is to hold, the said vertical post has steps and a shelf, the said shelf being used to stand upon while hanging mail-bag to the said adjustable spring-clamp, the said vertical post being located far enough from the track that no one can come in contact with said post while passing the said post on a car or engine, the said post is high enough that no one can come in contact with the said arm which is pivoted to the top of said post, while passing the said arm and post on a car or engine, substantially as set forth.

3. The combination in a mail-bag crane comprising a vertical post, a metallic cap on top of said post, said metallic cap having vertical jaws, an arm pivoted between said jaws, said arm rotating in a vertical plane, a flexible connection and an adjustable spring-clamp connected to the said arm, the said flexible connection and adjustable spring-clamp being used to hold the top end of a mail-bag, a lower flexible connection extending up from the ground a distance suitable to hold the lower end of a mail-bag in position to be caught by a catcher on a passing train, the top end of the said lower flexible connection having a spring-clamp with a fixed tension, the said spring-clamp having jaws and grooves within said jaws, the said grooves being used to receive and hold the ring on the lower end of a mail-bag, the said top flexible connection and the lower flexible connection being of such material and size as to most likely not to hurt any person in case the said person should come in contact with the said connections when passing the said connections on a car or engine, the said post and arm being far enough from the track that no one can hit the said post or arm while passing the said post or arm on a car or engine, substantially as set forth.

4. The combination in a mail-bag crane comprising a vertical post, a metallic cap on top of said post, said cap having vertical jaws, an arm pivoted between said jaws, said arm rotating in a vertical plane, a flexible connection fastened to the said arm, an adjustable spring-clamp on the flexible connection, the said spring-clamp having jaws there being grooves within said jaws, the said grooves being suitable to receive and hold the ring on the end of a mail-bag, a lower flexible connection extending up from the ground a distance suitable to hold the lower end of a mail-bag in position to be caught by a catcher on a passing train, the lower flexible connection having a spring-clamp with a fixed tension, the said spring-clamp having jaws and grooves within said jaws, the said grooves being suitable to receive and hold the ring on the lower end of a mail-bag, a horizontal connection running from the top of the lower flexible connection over to the said vertical post, the said horizontal connection keeping the lower flexible connection and clamp off of the track when not in use and the said post and arm are placed far enough from the track that no person can hit the said post or arm while passing the said arm or post on a car or engine, substantially as set forth.

806,875. **PAPER-FASTENER.** JOHN E. DAY, Huntington, Ind. Filed Mar. 28, 1905. Serial No. 252,698.

Claim.—1. A paper-fastener comprising a middle and coöperating side-gripping members of loop form, the elements of the middle loop being intertwisted at their free ends and the elements of each of the side loops constituting independent gripping members.

2. A paper-fastener comprising coöperating gripping elements lying in a plane, and a centrally-disposed finger-piece projected from the plane of the gripping elements about at a right angle and adapted to coöperate therewith to grip an article placed between them.

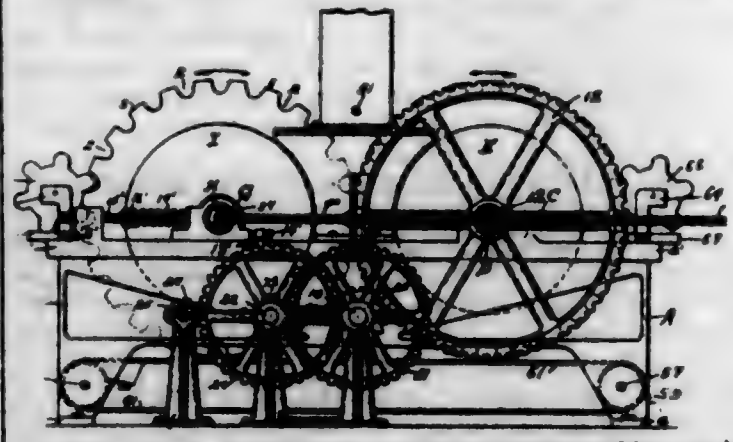


3. A paper-fastener comprising coöperating gripping elements lying in a plane, and a coöperating loop-shaped gripping member arranged approximately in a plane at a right angle to the plane of the gripping elements and forming a finger-piece.

4. A paper-fastener comprising a side and middle loops, the component parts of each side loop being crossed and forming gripping elements lying in a plane and the middle loop forming a gripping element and arranged approximately at a right angle to the plane of the side loops and constituting a finger-piece.

5. A paper-fastener comprising a middle and side loops, the latter having their inner elements crossing the outer elements and having said outer elements connected by short bends with elements of the middle loop, said bends being deflected to form a flaring space and the elements of the middle loop being intertwisted.

806,876. **ARTIFICIAL-FUEL FORMING AND COMPRESSING MACHINE.** JAMES M. DENNIS, Richmond, Ind., assignor of one-half to William H. Alford, one-fourth to George B. Kemper, and one-fourth to George W. Deuker, Richmond, Ind. Filed Feb. 16, 1905. Serial No. 245,589.



Claim.—1. In a fuel forming and compressing machine consisting in combination of a main frame, a pair of compressor-wheels meshing together and mounted in said frame, compression-chambers formed in the peripheries of said wheels, a pair of housing-plates closing the ends of the compression-chambers at the point of contact of the said wheels, antifriction-disks mounted in the inner faces of said housing-plates whereby they close the open ends effectually of the compression-chambers at the point when power is being applied to form a fuel unit, means for positioning said disks whereby they will revolve, and means for compounding the power applied, all substantially as shown and described.

2. In a machine for compressing powdered or other conditioned material, a main frame, a pair of compressor-wheels having compressing-chambers located in their peripheries with a facet located between each two of said chambers, means for resiliently mounting one of the compressor-wheels in meshing contact with the other compressor-wheel whereby as the facets of each of the compressor-wheels enter the compressor-chambers of the other compressor-wheel as they revolve in contact with each other they will exert a pressure on the material contained in the compression-chambers, all substantially as shown and described.

3. In a machine for compressing powdered or other conditioned material, a main frame, a pair of compressor-wheels having compression-chambers located in their peripheries with a facet located between each two of said chambers, means for resiliently mounting one of the compressor-wheels in meshing contact with the other compressor-wheel whereby as the facets of each of the compressor-wheels enter the compressor-chamber of the other compressor-wheels as they revolve in contact with each other they will exert a pressure on the material contained in the compression-chambers, a pair of housing-plates for inclosing the segmental portions of the contacting parts of the compressor-wheels, a pair of disks mounted in the opposite faces of the housing-plates and being located to one side of the line of contact of said wheels, and the means for mounting said disks on ball-bearings, all substantially as shown and described.

4. In a machine for compressing powdered or other conditioned material, a main frame, a pair of compressor-wheels having compressor-chambers formed in their peripheries with a facet located between each two of said chambers, means for resiliently and slidably mounting one of the compressor-wheels in meshing contact with the other compressor-wheel whereby the facets of one wheel will enter the compressor-chambers of the other compressor-wheel as the said wheels revolve, means for closing the ends of the compression-chambers during the compression of the material, means for feeding the material to the machine, means for heating the compressor-chambers, and a knocker for each compression-wheel for removing the finished product from the compression-chambers, all substantially as shown and described.

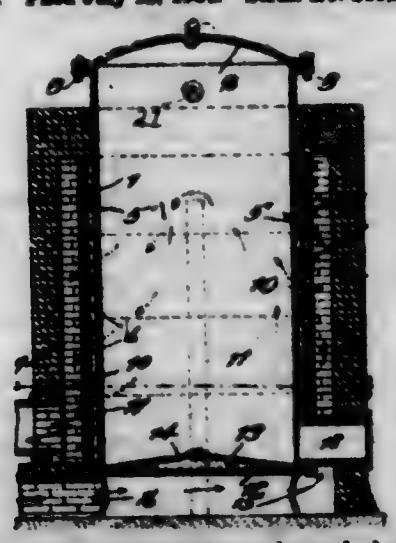
5. In a machine for compressing powdered or other conditioned material, a frame for supporting the parts, a pair of compressor-wheels having compressor-chambers formed in their peripheries at equal distances apart with a facet located between each two compression-chambers which facet corresponds to the curvature of the compressor-wheels, means for revolubly mounting one of said compressor-wheels on an axle carried in permanent bearings, means for revolubly mounting the other of said compressor-wheels on an axle carried in laterally-slidable bearings, springs acting on the bearings of the last-named bearings whereby the peripheries of the compressor-wheels are retained in resilient meshing contact, and means for revolving said wheels together by means of a compounding gear, all substantially as described.

6. The combination with the main frame, a pair of compressor-wheels mounted in said frame and meshing together—the cogs and the spaces thereof forming chambers to receive powdered materials to be compressed as said wheels mesh together, a pair of housing-plates inclosing the contacting portions of said wheels, antifriction-disks mounted in the inner faces of the housing-plates a little to one side of the point of contact of the said wheels, means for depositing material between the meeting peripheries of the wheels, and a heating system for heating the material while being operated on, all substantially as shown and described.

7. In a fuel forming and compressing machine the combination of two relatively revoluble steam-containing wheels mounted in a common frame and each having a separate axle, means for adjusting one of said wheels whereby they will mesh together resiliently, means for oiling the peripheries of said wheels, and means for frictionlessly and positively closing the ends of the compression-chambers formed in the peripheries of said wheels and at the point said wheels are meshing together, all substantially as described.

8. In a machine for forming and compressing fuel units from a powdered compost, the combination of a pair of interiorly-steam-heated compression-wheels mounted in a frame, means for feeding the compost to the compressor-chambers, means for automatically oiling the compressor-chambers, and means for conveying the finished units to the point of delivery, all substantially as shown and described.

806,877. **WOOD-DISTILLING RETORT.** JOHN T. DENNY, Cremartie, N. C. Filed July 12, 1904. Serial No. 216,282.



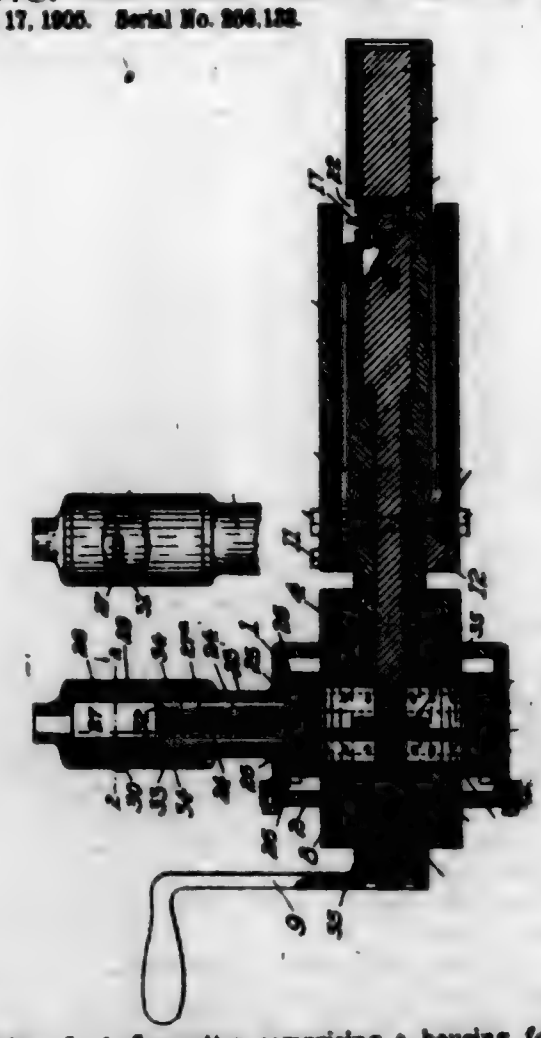
Claim.—1. A retort comprising a lagged shell, a casing surrounding the shell and separated therefrom by a heat passage-way and provided with a heat-intake opening and a heat-outtake opening, baffles arranged in the passage-way, an extension to the retort provided with an intake-opening registering with that of the casing and with an outtake-opening discharging into the passage-way, and a manhole and escape-pipe arranged in alinement with the floor.

2. In a retort, a lagged shell provided with a double floor, the upper one of which is cone-shaped, lagging disposed between the floors, and a manhole and an escape-pipe in alinement with the upper floor.

3. A retort comprising a lagged shell, a casing surrounding the shell and separated therefrom by a heat passage-way and provided with a heat-intake opening and a heat-outtake opening, baffles arranged in the passage-way, and an extension to the retort provided with an intake-opening registering with that of the casing and with an outtake-opening discharging into the passage-way.

4. In a retort, a lagged shell provided with a double floor, the upper one of which is cone-shaped, and lagging disposed between the floors.

806,878. **FLUE-CUTTER.** JOHN W. DOYLE, Seattle, Wash. Filed Apr. 17, 1905. Serial No. 256,132.



Claim.—1. A flue-cutter comprising a housing formed with channels, a casing rotatable in the housing and being formed with continuous grooves registering with said channels, said casing having apertures communicating with said grooves, a valve formed with inlet and outlet ports alternately registering with said channels, a piston operating in said casing, a mandrel secured to said casing, a cutter slidably mounted in said mandrel, and means actuated by said piston for projecting and retracting said cutter.

2. A flue-cutter comprising a housing formed with channels, a rotary valve secured thereto and having inlet and outlet ports alternately registering with the respective channels of the housing, a casing formed with apertures to receive a motive fluid from said channels, a piston slidable in the casing, a mandrel rotated by said casing, a cutter slidable in said mandrel, means actuated by said piston for projecting and retracting said cutter.

3. A flue-cutter comprising a housing formed with channels, a casing rotatable in the housing, means for rotating the same, a piston slidable in said casing and being driven by a motive fluid received from the channels in said housing, a mandrel secured to said casing, a cutter movable into and out of the mandrel, and means actuated by said piston for projecting and retracting said cutter.

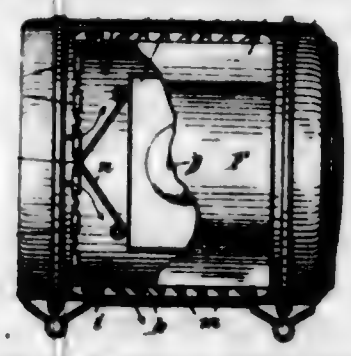
4. A flue-cutter comprising a housing formed with a neck having channels, a rotary valve mounted on said neck and having inlet and outlet ports alternately registering with the respective channels thereof, a rotary casing in said housing formed with apertures to receive motive fluid from said channels, a piston slidable in the casing, a mandrel rotated by said casing, a cutter slidable in said mandrel, and means actuated by said piston for projecting and retracting said cutter.

5. A flue-cutter comprising a housing having a neck formed with channels, a rotary valve removably secured to the neck of said housing and having inlet and outlet ports alternately registering

with the respective channels thereof, a casing formed with apertures to receive a motive fluid from said channels, a piston slidable in the casing, a mandrel rotated by said casing, a cutter slidable in said mandrel, means actuated by said piston for projecting and retracting said cutter.

6. A flue-cutter comprising a housing formed with a neck having channels, a rotary valve comprising an inner shell formed with inlet and outlet ports adapted to alternately register with the respective channels, a shell fixed to said neck and inclosing the first shell, and an outer shell connected to said inner shell, a casing rotatable in said housing and being formed with apertures to receive a motive fluid from said channels, a piston slidable in the casing, a mandrel rotated by said casing, a cutter slidable in the mandrel, and means actuated by the piston for sliding said cutter.

806,879. LAMP. ERNEST C. EVERETT, New York, N. Y., assignor to R. E. Dietz Company, New York, N. Y. Filed Apr. 6, 1905. Serial No. 254,229.



Claim.—1. The combination of a lamp-body having in its upper portion an exit-opening for the products of combustion, and a top or dome arranged upon said body and inclosing said exit-opening, said top or dome comprising a transverse front wall provided with air-inlets, longitudinal side walls provided with air-outlets and an imperforate transverse rear wall, substantially as set forth.

2. The combination of a lamp-body having in its upper portion an exit-opening for the products of combustion, and a top or dome arranged upon said body and inclosing said exit-opening, said top or dome comprising a transverse front wall provided with air-inlets and longitudinal side walls provided with air-outlets and having external deflectors extending from the front edges of said outlets rearwardly and outwardly, substantially as set forth.

3. The combination of a lamp-body having in its upper portion an exit-opening for the products of combustion, a top or dome arranged upon said body and inclosing said exit-opening, said top or dome having air-inlets at the front and air-outlets at the sides, and an internal deflector arranged within said top or dome in front of said exit-opening, substantially as set forth.

4. The combination of a lamp-body having in its upper portion an exit-opening for the products of combustion, a top or dome arranged upon said body and inclosing said exit-opening, said top or dome having air-inlets at the front and air-outlets at the sides, and an internal, rearwardly-diverging, deflector arranged within said top or dome in front of said exit-opening and deflecting the air entering through the front inlets toward the side outlets, substantially as set forth.

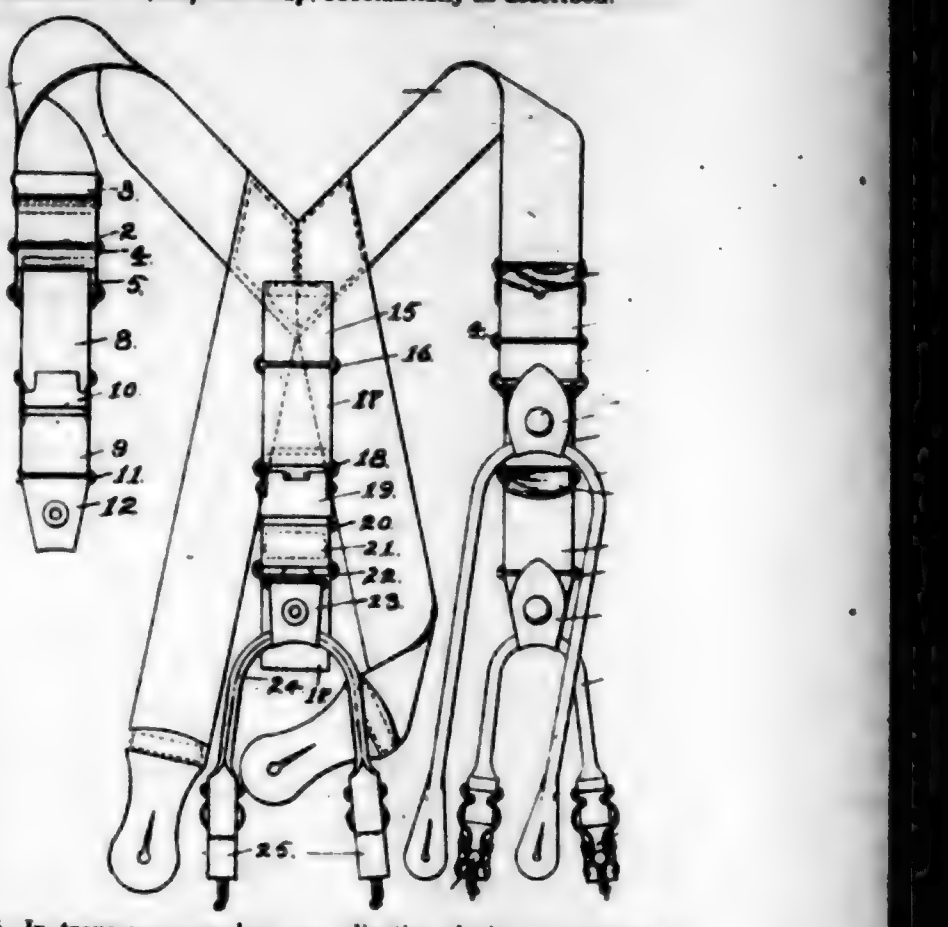
806,880. TROUSERS-SUSPENDERS. FINDUS FERGUSON, Santa Rosa, Cal. Filed Oct. 24, 1904. Serial No. 229,751.

Claim.—1. Trousers-suspenders having in combination with the rear trouser and drawer supporting means, means for supporting the trousers and the drawers at the front, comprising supporting means both for the trousers and the drawers, and means located between the suspender-straps and the supporting means, for adjusting both absolutely and relatively the trousers and drawers, substantially as described.

2. Trousers-suspenders having in combination with the rear trouser and drawer supporting means, means for supporting the trousers and drawers at the front, comprising suspender-straps, cast-offs for the drawers and trousers, and means for relatively adjusting the drawers and trousers, located above the cast-offs, substantially as described.

3. Trousers-suspenders comprising suspender-straps, cast-offs for the drawers and trousers, means for relatively adjusting the drawers and trousers, located above the cast-offs and a locking device locking the adjusting means against release in either direction, substantially as described.

4. In trousers-suspenders, in combination, a suspender-strap, supporting means, and an adjustable device between said strap and means, comprising a slidable strap slidably connected to the shoulder-strap, a buckle-plate connected to the suspender-strap, and two buckle-clamps pivotally attached to said plate, between which clamps and the plate the slidable strap passes, said clamps turning in opposite directions to clamp the strap, substantially as described.



5. In trousers-suspenders, an adjusting device comprising a buckle-clamp support, a connection between the lower side thereof and the garment to be suspended thereby, an adjusting-strap connected to the upper side of the buckle, a device attached to the shoulder-strap through which said adjusting-strap passes, and a buckle-clamp pivoted to said support, the clamping edge of said clamp pointing downward or toward the free edge of the strap when the clamp is opened, substantially as described.

6. In trousers-suspenders, the combination with the shoulder-straps, of a strap secured adjacent to the rear union of the straps, a device carrying the means of attachment to the drawers, and an adjusting-strap connecting the last-named strap and the device, said adjusting-strap provided with a clamp for locking the same, said device being adapted to open automatically upon pulling the free end of the adjusting-strap, substantially as described.

7. In trousers-suspenders, the combination with the shoulder-straps, of means detachably secured adjacent to the rear union of the straps, a device carrying the means of attachment to the drawers, and an adjusting-strap-connecting means and the device, said adjusting-strap provided with a clamp for locking the same, said device being adapted to open automatically upon pulling the free end of the adjusting-strap, substantially as described.

8. In trousers-suspenders, in combination with the shoulder-straps, means for suspending the drawers at the rear comprising a strap, means for removably securing the same to the shoulder-straps adjacent to the union thereof at the rear, and means for attaching said strap to the drawers, substantially as described.

9. Trousers-suspenders having in combination with the front trouser and drawer supporting means, means for supporting both the trousers and the drawers at the rear, comprising the shoulder-straps, and means for supporting the trousers, also means of attachment to the drawers, cast-off means and means of adjustment located above the drawer-attaching means, substantially as described.

10. Trousers-suspenders having supporting means both for the trousers and the drawers, and means located between the suspender-straps and the supporting means, for adjusting both absolutely and relatively the trousers and drawers, said means being adjustably engaged with the suspender-strap by the same member, substantially as described.

11. Trousers-suspenders comprising suspender-straps, cast-offs for the drawers and trousers, and means for relatively adjusting the drawers and trousers, located above the cast-offs, adjustably engaging the suspender-straps, by the same member, substantially as described.

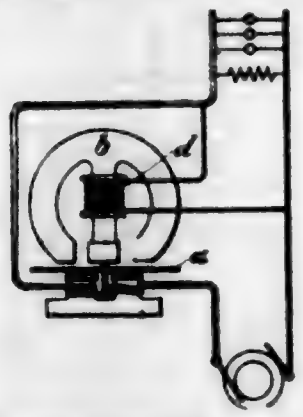
12. Trousers-suspenders comprising suspender-straps, cast-offs for the drawers and trousers, means for relatively adjusting the drawers and trousers, located above the cast-offs, and a locking device, locking the adjusting means against release in either direction, said means being adjustably engaged with the suspender-strap, by the same member, substantially as described.

13. In trousers-suspenders, an adjustable connection between the suspender and the garment to be supported, comprising a device, and an adjusting-strap, said device being adapted to open automatically upon pulling the free end of the adjusting-strap, a clamp for locking the same, and means of attachment to the garment, substantially as described.

14. Trousers-suspenders having in combination with the front trousers and drawers supporting means, means for relatively adjusting the trousers and drawers at the rear comprising supporting means for the trousers and drawers, cast-off means, and means of adjustment, substantially as described.

806,881. ALTERNATING-CURRENT ELECTRICITY-METER.

SEBASTIAN Z. DE FERRANTI and WILLIAM HAMILTON, Hollinwood, England. Filed Aug. 14, 1903. Serial No. 169,486.



Claim.—1. An electric meter for use on alternating circuits comprising in combination, a series electromagnet; a multipolar shunt-magnet; a coil connected as a shunt across the supply-mains and wound on a part only of said shunt-magnet whereby considerable magnetic leakage is produced from the remaining parts, together with a rotatable element mounted between said series and said shunt magnets, substantially as described.

2. An electric meter for use on alternating circuits comprising in combination, a multipolar series electromagnet; a multipolar shunt-magnet; a coil connected as a shunt across the supply-mains and wound on a part only of said shunt-magnet whereby considerable magnetic leakage is produced from the remaining parts, together with a rotatable element mounted between said series and said shunt magnets, substantially as described.

3. An electric meter for use in alternating circuits comprising in combination, a series electromagnet; a mutipolar shunt-magnet having its poles in proximity to one another; a coil connected as a shunt across the supply-mains, and wound on a part of said shunt-magnet remote from its poles, whereby considerable magnetic leakage is produced between the remaining parts, together with a rotatable element mounted between said series and said shunt magnets, substantially as described.

4. An electric meter for use in alternating circuits, comprising in combination, a multipolar series electromagnet; a multipolar shunt-magnet having its poles in proximity to one another; a coil connected as a shunt across the supply-mains, and wound on a part of said shunt-magnet remote from its poles, whereby considerable magnetic leakage is produced between the remaining parts; an adjustable metallic mass mounted on said shunt-magnet between its coil and its poles, together with a rotatable element mounted between said series and shunt magnets, substantially as described.

5. An electric meter for use in alternating circuits, comprising in combination, a multipolar series electromagnet; a multipolar shunt-magnet having its poles in proximity to one another, said poles being alternately of opposite polarity; means for adjusting the relative lateral position of said poles of opposite polarity; a coil connected as a shunt across the supply-mains, and wound on a part of said shunt-magnet remote from its poles, whereby considerable magnetic leakage is produced between the remaining parts, together with a rotatable element mounted between said series and said shunt magnets, substantially as described.

6. An electric meter for use in alternating circuits, comprising in combination, a multipolar series electromagnet; a multipolar shunt-magnet, having its poles in proximity to one another, said poles being alternately of opposite polarity; a coil connected as a shunt across the supply-mains, and wound on a part of said shunt-magnet remote from its poles, whereby considerable magnetic leakage is produced between the remaining parts together with a rotatable element mounted between said series and shunt magnets, substantially as described.

7. An electric meter for use in alternating-current circuits, comprising in combination, a multipolar series electromagnet; a multipolar shunt-magnet having its poles in proximity to one another; means for adjusting the relative lateral position of said series and shunt magnets; a coil connected as a shunt across the supply-mains, and wound on a part of said shunt-magnet remote from its poles, whereby considerable magnetic leakage is produced between the remaining parts, together with a rotatable element mounted between said series and shunt magnets, substantially as described.

8. An electric meter for use on alternating circuits, comprising in combination a multipolar series electromagnet; a multipolar shunt-magnet having concentric limbs, on one of which a coil is wound and connected as a shunt across the supply-mains, and a rotatable element mounted between the series and shunt magnets, the poles of the shunt-magnets being interleaved so as to produce considerable magnetic leakage between them, substantially as set forth.

9. An electric meter for use in alternating circuits, comprising in combination a multipolar series electromagnet; a multipolar shunt-magnet having concentric limbs, on one of which a coil is wound connected as a shunt across the supply-mains; a sector-shaped gap in said shunt-magnet; brake-magnets disposed within said gap, together with a rotatable element mounted between the series and shunt magnets, the poles of the shunt-magnets being interleaved so as to produce considerable magnetic leakage between them, substantially as set forth.

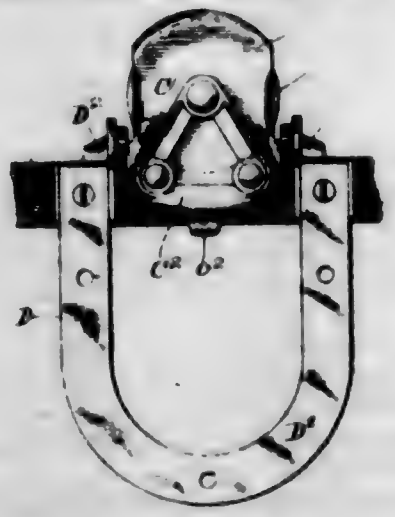
10. An electric meter for use on polyphase circuits, comprising in combination, a plurality of multipolar series electromagnets; an equal number of multipolar shunt-magnets, each of which has its poles in proximity to one another; a shunt-coil wound on a part of each of said shunt-magnets remote from its poles, whereby considerable magnetic leakage is produced between the remaining parts, together with a rotatably-mounted element operatively disposed in the fields of said coöperating series and shunt magnets, substantially as set forth.

11. An electric meter for use on alternating-current circuits, comprising in combination, a multipolar series electromagnet; a multipolar shunt-magnet having its poles in proximity to one another; an axially-adjustable coil connected as a shunt across the supply-mains, and wound on a part of each of said shunt-magnets remote from its poles, whereby considerable magnetic leakage is produced between the remaining parts, together with a rotatable element mounted between said series and shunt magnets, substantially as set forth.

12. An electric meter for use on alternating circuits, comprising in combination, a multipolar series electromagnet; a multipolar shunt-magnet having certain of its poles provided with a greater effective metallic cross-sectional area than that of its limbs; a coil connected as a shunt across the supply-mains and wound on a part of said shunt-magnet remote from its poles, whereby considerable magnetic leakage is produced between the remaining parts, together with a rotatable element mounted between said series and said shunt magnets, substantially as set forth.

806,882. DOOR-HANGER.

HENRY L. FERRIS, Harvard, Ill., assignor to Hunt, Heim, Ferris & Company, Harvard, Ill., a Corporation of Illinois. Filed Oct. 19, 1904. Serial No. 229,061.

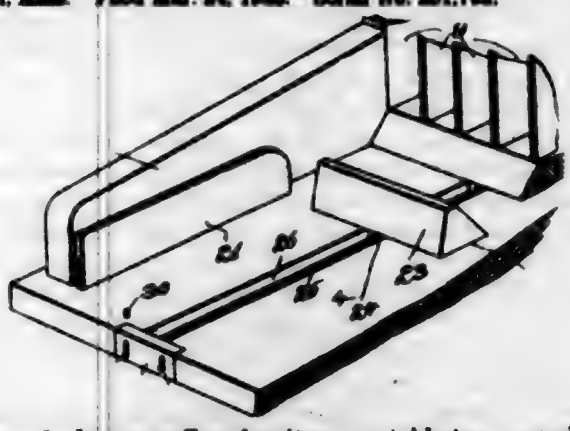


Claim.—1. In a device of the class described, the combination with a track, a roller, a hanger-frame projecting on the front below the level of the track, and a hook on the frame, engaging with the track, and arms on the front of the frame extending behind the track, of a door-support having arms extending over the track and pivoted to the arms on the hanger-frame, and limiting-lugs on the frame adapted to be engaged by the arms on the door-support.

2. In a device of the class described, the combination with a track, a roller and a frame supported by the track, of arms on the frame in front of the track and extending thereover and behind the same, a door-support, rearward extensions on the door-support crossing said track and pivoted to the arms on the frame below the level of the track and behind the same.

3. In a device of the class described, the combination with a track, a roller, and a frame supported by the roller, of a door-support extending over the track and pivoted to the frame behind the track and limiting-lugs on the frame in front of the track and engaging the door-support when the door is below the track, whereby the weight of the door is distributed between the pivot and the limiting-lugs.

806,883. **POST-OFFICE FURNITURE.** MARCELLUS S. FIELD, Boston, Mass. Filed Mar. 24, 1905. Serial No. 251,762.

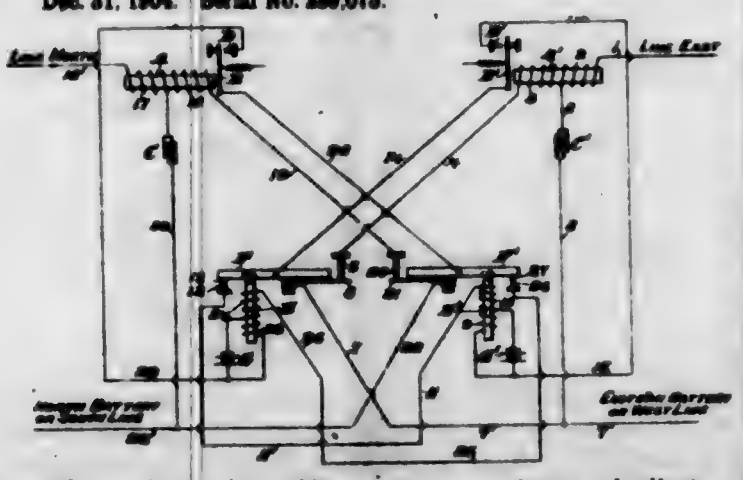


Claim.—1. In post-office furniture, a table-top, a swinging mail-rest hinged thereto and movable over said table-top and arranged to be swung outwardly substantially parallel with the front edge thereof, and a sliding mail-rest movable toward and from the front edge of the table-top.

2. In post-office furniture, a table-top having side boards, a swinging mail-rest hinged to the front edge of one side board and movable over the table-top into operative position substantially parallel to the front edge of the table, and a sliding mail-rest movable toward and from the front edge of the table.

3. In post-office furniture, a table-top having a groove therein, a guide-rod within said groove, a slidable mail-rest movable over the table-top and guided by said rod, and a folding mail-rest adapted when in operative position to be placed parallel with the front of the table-top, and when in inoperative position to be folded back against the side of the table-top.

806,884. **TELEGRAPHIC REPEATER.** STEPHEN D. FIELD, Stockbridge, Mass., assignor to John J. Ghegan, Newark, N. J. Filed Dec. 31, 1904. Serial No. 239,073.



Claim.—1. A telegraphic repeater comprising a duplicate, a main line, a relay connected therein, a circuit-controlling device actuated by said relay and controlling line and local contacts of the opposite set, and adapted to operate the line-contacts before the local contacts, and means for accelerating the movement of the relay-armature when the opposite controlling device closes the line-contacts.

2. In a telegraphic repeater, two main lines, a relay connected in each line, a circuit-controlling device actuated by each relay-armature and its back-stop, and means for accelerating the movement of the relay-armatures.

3. A telegraphic repeater comprising, in duplicate, a main line, a relay connected therein, a circuit-controlling device actuated by the relay and controlling line and local contacts of the opposite set, and condensers in shunt with a winding of the relay and the line-contacts.

4. In a telegraphic repeater, a relay, a circuit-controlling device provided with a differentially-wound magnet, a local battery and a divided circuit from said battery, one division of said circuit being normally closed through one of the windings of the said magnet, and the other division including the other winding of the magnet, and adapted to be controlled by said relay.

5. A telegraphic repeater comprising, in duplicate, a main line, a relay connected therein, a differentially-wound repeating sounder, a local battery-circuit divided through the two windings of the sounder-magnet, one division of the circuit being normally closed and the other controlled by the said relay and the opposite sounder.

6. A telegraphic repeater comprising, in duplicate, a main line, a relay connected therein, a differentially-wound repeating sounder, a local battery-circuit divided through the two windings of the sounder-magnet, one division of the circuit being normally closed and the other controlled by the armature of the said relay and its back-stop, and by the opposite sounder.

7. A telegraphic repeater comprising, in duplicate, a main line, a relay connected therein, a repeating device having a differentially-wound magnet controlling line and local contacts of the opposite set, a local battery-circuit divided through the two windings of the said magnet, one division of the circuit being normally closed and the other controlled by the opposite repeating device and by the relay-armature and its back-stop, and a condenser in shunt-circuit with the winding of the relay and its line-contacts.

8. A telegraphic repeater comprising, in duplicate, a main line, a relay connected therein, a differentially-wound sounder controlling the opposite line-contacts and opposite local circuit-contacts, and a condenser in shunt with the winding of the relay-armature and the line-contacts controlled by the opposite sounder.

806,885. **GARBAGE OR ASH CAN.** GEORGE FOCHT, Hoboken, N. J. Filed Mar. 7, 1905. Serial No. 248,814.

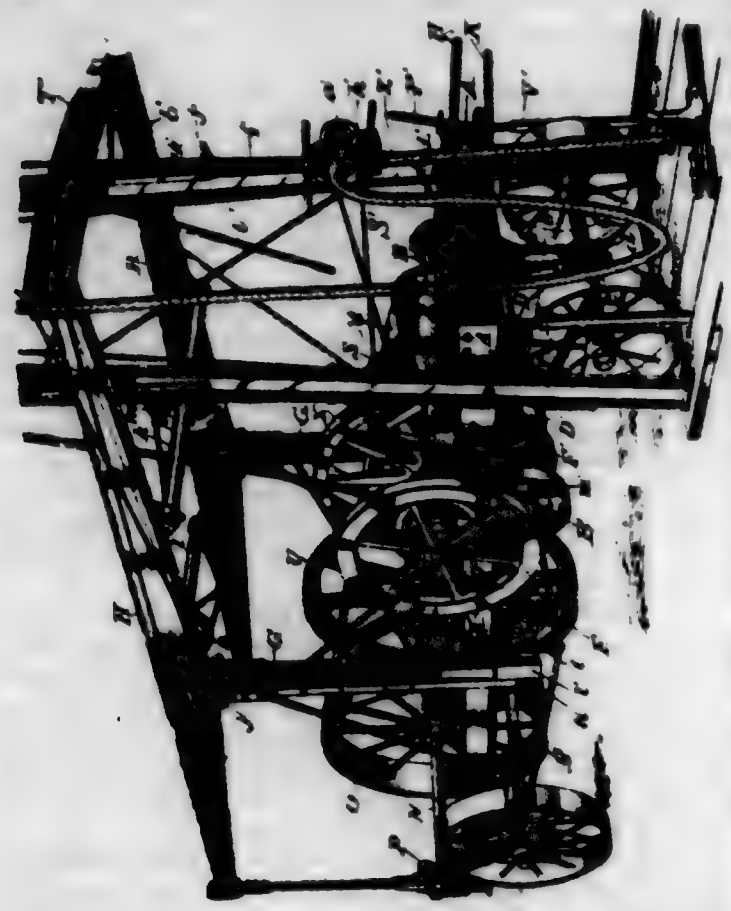


Claim.—In a receptacle of the class described, the combination with a base-ring having an inwardly-extended annular flange curved in cross-section, a can-body arranged within said base-ring and having an arched bottom curved to conform to the curvature of the flange and resting thereon, a pair of sets of lugs projecting from the rear portion of the base-ring, rollers journaled between said lugs, and an operator's handle secured to the upper rear portion of the can in vertical alinement with the rollers, the can being of gradually-increasing diameter from bottom to top, and its rear edge being in a plane above the plane of the front edge to permit rearward tilting of the can during transportation.

806,886. **PORTABLE DRILLING-MACHINE.** HARVEY S. GLENN and COULTER E. GLENN, Oakmont, Pa. Filed Jan. 10, 1903. Serial No. 138,976.

Claim.—1. In a drilling-machine, in combination with an engine, and its shaft J; shaft W provided with gear U and drum V; shaft O provided with drum R and gear S; shaft N provided with belt-

wheel O; belt-pulley M loosely mounted upon shaft J; belt W' connecting belt-pulley M with belt-pulley O; pinion T slidable on but splined to shaft J and adapted to be thrown into mesh with either gear at will or out of mesh with both; and a clutch carried by shaft J and serving to lock the belt-pulley M to or release it from the shaft J at will.



2. In a drilling-machine, in combination with an engine, and its shaft J; shaft W provided with pinion U and drum V; shaft N provided with belt-wheel O; belt-pulley M loosely mounted upon shaft J; belt W' connecting belt-pulley M with belt-wheel O; pinion T slidable on but splined to shaft J and adapted to be thrown into and out of mesh with pinion U; and a clutch M^3, carried by shaft J, serving to lock the belt-pulley M to or release it from the shaft J at will.

3. In combination with a drilling-machine, comprising a main frame, an engine, a walking-beam, a drill-rope drum; a sand-pump-rope drum, a casing-rotating drum, and brakes for the drill-rope and sand-pump-rope drums; levers H', K', L' and P', serving to control the movements of the walking-beam, drill-rope drum, sand-pump-rope drum, and casing-rotating drum, all brought into close proximity at the forward end of the machine, whereby the driller without leaving his drilling position is enabled to manipulate said levers and control the several mechanisms, as set forth.

4. In a drilling-machine, the combination of a main frame; a walking-beam or oscillating frame fulcrumed thereon; means for oscillating said beam; two pulleys carried by said beam, one in advance and the other in rear of its fulcrum; and a drill-rope passing over the rear pully and under the forward pulley; whereby the rope is adapted to be drawn down and again allowed to ascend in advance of the walking-beam fulcrum, and to be paid out or reeled in as required by the descent of the drill or in elevating the same and withdrawing it from the well.

5. In a drilling-machine, the combination of a suitable frame; a walking-beam fulcrumed thereon; and two sheaves or pulleys located one in advance and the other in rear of the fulcrum and adjustable relatively thereto; whereby the movements of the rope and tools may be varied at will.

6. In a drilling-machine, a walking-beam comprising two pivoted beams H, H, connected and spaced by cross-ties *k*, *l*, provided with sheaves or pulleys *m*, *n*.

7. In a drilling-machine, the combination of a suitable frame, a mast or derrick provided with an elevated sheave; a walking-beam or oscillating member fulcrumed in the frame; two rope-guides carried by said walking-beam or oscillating member, and located one in advance and the other in rear of its fulcrum; and a rope or cable passing over the rear rope-guide, beneath the forward rope-guide, over the elevated sheave, and thence downward to receive the drilling-tools.

8. In a drilling-machine, the combination of a suitable frame; a walking-beam or oscillating member fulcrumed thereon; two rope-guides carried by said walking-beam or oscillating member, and located one in advance and the other in rear of its fulcrum; and means, substantially as described, for varying the relative distances of said rope-guides from the fulcrum of the walking-beam.

9. In a drilling-machine, the combination of an engine, and an engine-shaft adapted to be continuously driven thereby; a pulley loosely mounted upon said shaft; a clutch for locking said pulley to its shaft; a walking-beam; a second shaft parallel with the engine-shaft and provided with a band-wheel; a belt passing about said band-wheel and about the pulley on the engine-shaft; two independent drums mounted in the frame of the machine and each provided with a gear-wheel; and a pinion carried by the engine-shaft and adapted to be moved at will to a position where it shall mesh with one or the other of said gear-wheels or to a position where it shall cease to mesh with either gear-wheel, substantially as set forth.

10. In a drilling-machine, the combination with a suitable frame and derrick provided with a crown-sheave, of a walking-beam, sheaves secured to the walking-beam on either side of the fulcrum and moving with the walking-beam, and a flexible connection passing over the crown-sheave, thence beneath one sheave on the walking-beam and over the other sheave on the walking-beam, a winding-drum to which the flexible connection extends directly from the walking-beam, and means for oscillating the walking-beam.

11. In a drilling-machine, the combination of a suitable frame and derrick provided with a crown-wheel; a walking-beam; sheaves carried by the walking-beam on opposite sides of its fulcrum and movable with the walking-beam; and a flexible cable passing over the crown-wheel, and under one and over the other of the sheaves on the walking-beam; a winding-drum to which the cable extends from the walking-beam; and means for oscillating the walking-beam.

12. In a drilling-machine, the combination of a suitable frame, and a derrick provided with a crown-wheel; a walking-beam; sheaves on opposite sides of its fulcrum and movable with the walking-beam; and a flexible cable passing directly from the drilling-tools to and over the crown-wheel, and thence under one and over the other of the sheaves of the walking-beam.

13. In a drilling-machine, the combination of a suitable frame, and a derrick provided with a crown-wheel; a walking-beam; a fulcrum for said walking-beam, supported at both sides of said beam; two sheaves carried by and movable with said beam, one in advance and the other in the rear of its fulcrum, and both between the end supports or journals of the beam-fulcrum; and a flexible cable passing from the tools directly to and over the crown-wheel, under one sheave of the walking-beam and over the other sheave thereof.

808,887. **INSULATOR-PIN.** WALTER T. GODDARD, Victor, N. Y., assignor to The Locke Insulator Manufacturing Company, Victor, N. Y. Filed May 24, 1905. Serial No. 261,965.



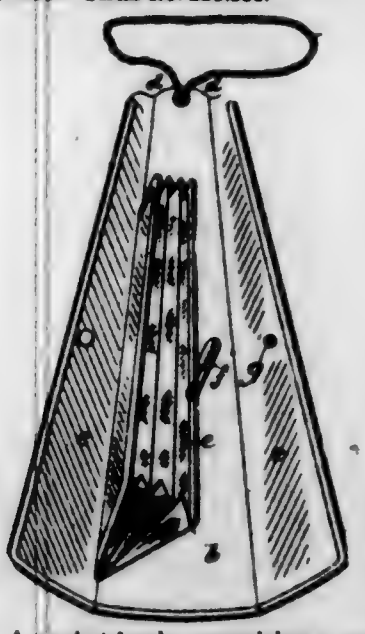
Claim.—1. An insulator-pin comprising a hollow base and a bolt which passes through the bore of said base and is secured in the base from longitudinal movement by means independent of the support to which the bolt is attached, said bolt having an enlarged head portion which bears at its inner end upon the end of the base and projects for a considerable distance beyond the base to provide an attaching-shank for the insulator, substantially as set forth.

2. An insulator-pin comprising a hollow base, and a bolt which passes through said base, said bolt having a head portion provided with ribs which bear at their inner ends on the end of the base and project for a considerable distance beyond the base to provide an attaching-shank for the insulator, substantially as set forth.

3. An insulator-pin comprising a hollow base, and a bolt which passes through said base, said bolt having an enlarged head portion which bears at its inner end on the end of the base and projects for a considerable distance beyond the base to provide an attaching-shank for the insulator, said bolt and base having interlocking parts which positively hold them from relative longitudinal movement, substantially as set forth.

4. An insulator-pin comprising a hollow base, and a bolt which passes through said base, said bolt having an enlarged head portion which bears at its inner end on the end of the base and projects for a considerable distance beyond the base to provide an attaching-shank for the insulator, said bolt having a screw-thread adjacent to its head engaging a coöperating thread near the end of the base, substantially as set forth.

806,888. POCKET-BOOK. GUSTAV GOLDSTEIN, New York, N. Y. Filed Oct. 5, 1905. Serial No. 281,206.

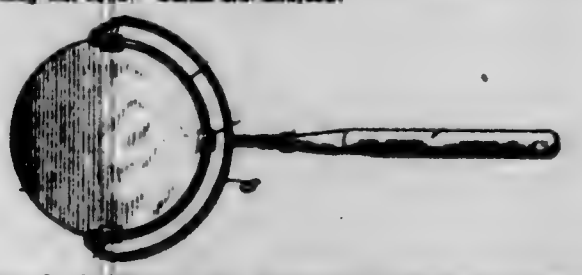


Claim.—1. A pocket-book, comprising a cover adapted to fold along diverging lines that are substantially radii of the same circle, and an inclosed receptacle attached to the inside of the cover along one of said radial folds.

2. A pocket-book, comprising a cover adapted to be folded along diverging lines that are substantially radii of the same circle, and an inclosed receptacle attached to the inside of the cover along a radial fold thereof and having sides substantially similar in outline to the sides of the inclosing cover.

3. A pocket-book, comprising a cover adapted to be folded along diverging lines that are substantially radii of the same circle, and an inclosed receptacle containing a plurality of compartments and attached to the inside of the cover along a radial fold thereof and having sides substantially similar in outline to the sides of the inclosing cover.

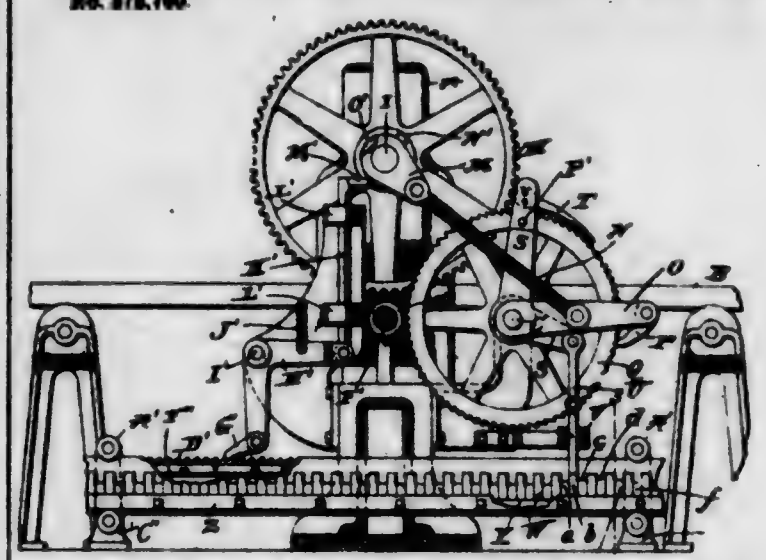
806,889. PLATE-LIFTER. NORBERT D. HAHN, Gardner, Mass. Filed May 25, 1905. Serial No. 261,626.



Claim.—1. A lifter of the character described comprising a plate having formed therein radially-projecting tongues, a wire supporting-frame secured to said plate by means of said tongues, a guard formed by said supporting-frame, and a handle secured to said frame, substantially as described.

2. A lifter of the character described comprising a circular plate having formed thereon radially-disposed integral tongues, a supporting-frame formed of a single piece of wire bent to form an attaching member around which is clenched the tongues on said plate, a guard member arranged above said attaching member, the ends of the wire after forming said guard being twisted and bent upwardly and outwardly, and a handle adapted to receive said outwardly-bent ends of the wire, substantially as described.

806,890. SPACING MECHANISM FOR PUNCHING-MACHINES. SAMUEL C. HARVEY, Chicago, Ill., assignor to Williams, White & Company, Moline, Ill., a Corporation of Illinois. Filed Aug. 4, 1905. Serial No. 273,760.



Claim.—1. In combination with a punching-machine or the like, a table; mechanism for periodically advancing the same, said mechanism being normally held out of action; and a series of blocks serving normally to throw said advancing mechanism into action at fixed intervals according to the dimensions of the blocks.

2. In combination with a punching-machine or the like, a table; means for advancing said table; a block-carrier; a series of blocks carried thereby; means for advancing said carrier step by step; and means acting in conjunction with the blocks for throwing the table-advancing means into action, at fixed intervals according to the dimensions of the blocks.

3. In combination with a punching-machine or the like, a block-carrier; a series of blocks carried thereby; means for advancing said carrier step by step; a feed-table; mechanism for advancing said table, said mechanism being normally held out of action; means coacting with the blocks, for throwing said table-advancing mechanism into action; and connections between said table-advancing mechanism and the power-shaft of the machine for actuating said table-advancing mechanism.

4. In combination with a punching-machine or the like, a block-carrier; a series of blocks carried thereby; a table; table-advancing means coacting with said blocks and controllable by the latter; and means for advancing the block-carrier when the table-advancing means is inactive, substantially as described.

5. In combination with a punching-machine or the like, a block-carrier; a series of blocks carried thereby; a shaft for operating the punches or the like; means coacting with said shaft to advance the block-carrier step by step; a table; and feed mechanism for said table, comprising a toothed wheel, a pawl-carrier, a pawl coacting with said wheel, a pawl-lifter, means coacting with the blocks to arrest the movement of said pawl-lifter, and connections between the punch-operating shaft and the pawl-carrier for operating the latter, substantially as described.

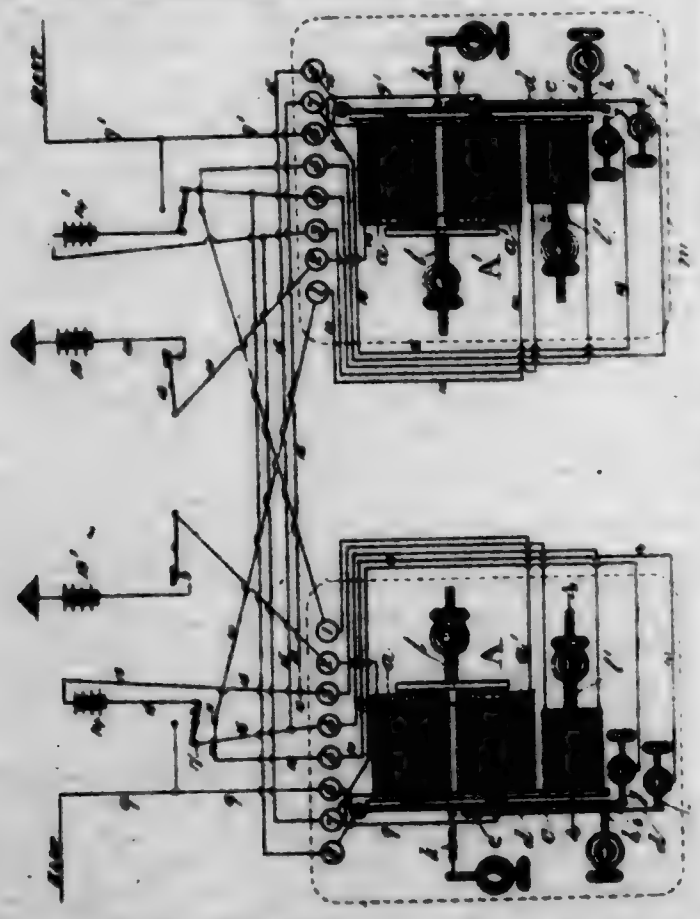
6. In combination with a punching-machine or the like, a series of blocks; means for presenting the same one by one to the table-feeding mechanism; a table; and means for feeding the table, said means comprising a shaft, connections intermediate said shaft and the table for advancing the latter as the shaft is rotated, a toothed wheel secured to the shaft, a pawl-carrier swiveled upon the shaft, a pawl pivoted upon the pawl-carrier and working in line with the teeth of the toothed wheel, a pawl-lifter working over the wheel and in line with the pawl, a stop bar or rod coacting with said pawl-carrier, said rod standing in alinement with the blocks as they are moved beneath the same, means for moving the pawl-lifter rearwardly with the pawl-carrier, and connections between the pawl-carrier and a movable portion of the machine for actuating said carrier.

7. In combination with a punching-machine or the like, a block-carrier; a series of blocks mounted therein; a rack-bar secured to said carrier; a pawl coacting with said rack-bar; means to advance the pawl and thereby move the block-carrier; a table; a shaft operatively connected therewith for advancing the table; a toothed wheel secured upon said shaft; a pawl-carrier swiveled upon

the shaft; a pawl carried thereby and normally standing in alinement with the teeth of said wheel; a pawl-lifter; a stop bar or rod connected to the pawl-lifter, said rod standing in line with the blocks and coacting therewith to arrest the movement of the pawl-carrier; a pin extending outwardly from the pawl-lifter in line with the pawl-carrier; a crank-arm secured upon a movable member of the punching-machine; and a pitman connecting said crank-arm with the pawl-carrier.

8. In combination with a punching-machine or the like, a trough or member; means for supporting said member; a series of blocks mounted in said trough; a rack secured to the trough; an elbow-lever pivotally connected to the frame of the machine; a pawl carried by the downwardly-projecting arm of said elbow-lever, said pawl coacting with the rack; means for normally elevating said elbow-lever; a rod secured to the opposite end of said elbow-lever; an operating-shaft for the punches; a sleeve mounted upon said shaft; a projection carried by said sleeve and serving to depress the rod secured to the elbow-lever; a table; a shaft; operative connections between said shaft and the table for advancing the latter as the shaft is rotated; a toothed wheel secured upon said shaft; a pawl-carrier swiveled upon the shaft; a pawl carried thereby in line with the toothed wheel; a crank-arm secured to the punch-operating shaft; a pitman interposed between said crank-arm and the pawl-carrier; a pawl-lifter; a support for said pawl-lifter, said support being swiveled upon the shaft for feeding the table; a stop bar or rod pivotally connected to said swiveled support, the lower end of said bar or rod standing in alinement with the blocks carried by the trough; and a pin extending outwardly from the swiveled support for the pawl-lifter into the path of travel of the pawl-carrier, substantially as described.

806,891. **TELEGRAPHIC APPARATUS.** MELVILLE A. HAWLEY and WILLIAM L. RHOADS, St. Louis, Mo.; said Rhoads assignor to said Hawley. Filed Apr. 3, 1905. Serial No. 253,476.

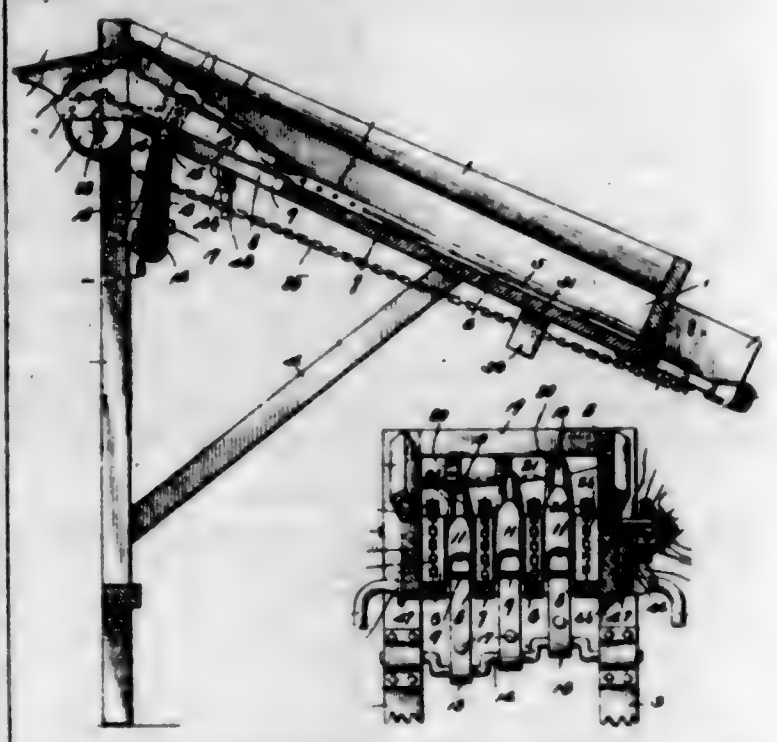


Claim.—In telegraphic apparatus, the combination with a relay having the main-line magnets and armature for shunting the circuit of a local battery, of an auxiliary magnet, and a secondary springy armature fixed to, and insulated from the said main armature, the free end of the secondary armature being extended beyond the corresponding end of the main armature and adapted to make and break contact with an adjustable contact-point in the main-line circuit for directly repeating and transmitting signals into the opposite line, substantially as described.

806,892. **FEEDER FOR CORN-SHELLERS.** PETER H. HELGERSEN, Inwood, Iowa. Filed Apr. 21, 1905. Serial No. 256,730.

Claim.—1. A feed-trough subdivided into ways by ribs provided with vibratory heads, and feed-chains moving in said ways.

2. A feed-trough subdivided into ways by ribs provided with reduced shanks and vibratory heads, and feed-chains moving in said ways.



3. A feed-trough subdivided into ways by ribs having vibratory heads separated from the bodies of the ribs by reduced neck-sections, and feed-chains moving in said ways.

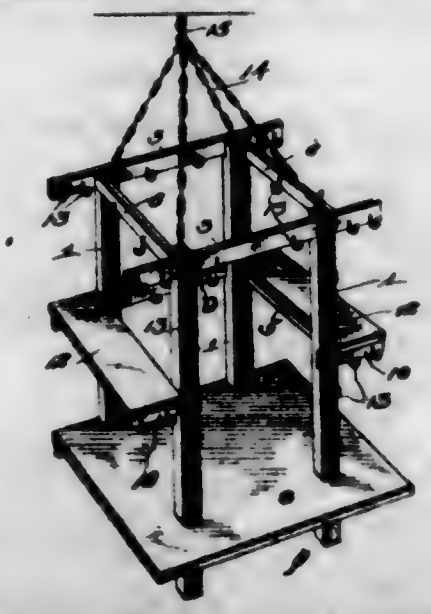
4. A feed-trough subdivided into ways by ribs having vibratory heads flexibly connected with the bodies of said ribs by reduced neck-sections, protective casings for said neck-sections, and feed-chains moving in said ways.

5. A feed-trough subdivided into ways by ribs having vibratory heads flexibly connected with the bodies of said ribs by reduced neck-sections, protecting-plates connected with the ribs and with the heads respectively one of said plates being overlapped by the other, and feed-chains moving in said ways.

6. A feed-trough, a table or platform supported thereby and having depending flanges provided with downward-extending points, ribs mounted upon the trough and having flexibly-supported vibratory heads provided with feed-plates arranged adjacent to the sides of the depending flanges, and feed-chains moving in the ways between the ribs.

7. In a feeding device of the class described, a trough, ribs in said trough provided with vibratory heads, notched feed-plates extending from said heads, a table or platform supported by the trough, flanges depending from said table between the feed-plates of the vibratory heads, and feed-chains moving in the ways between the ribs.

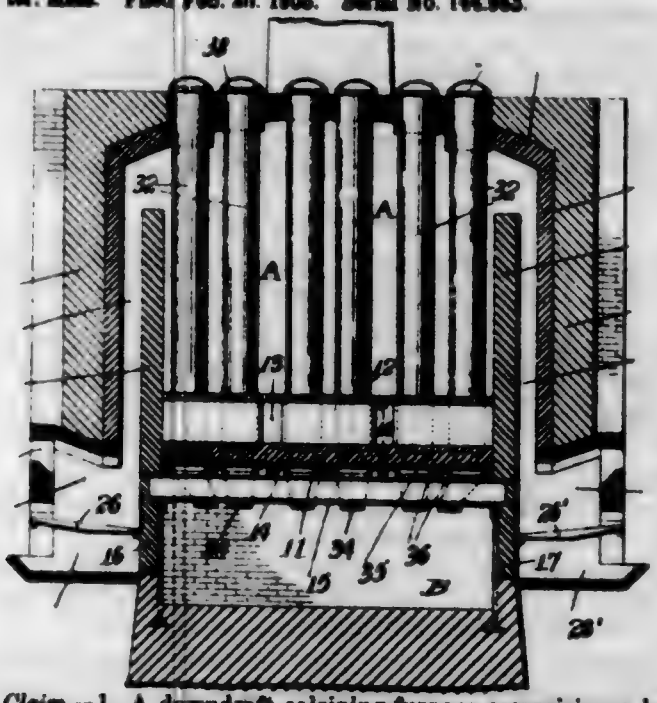
806,893. **KITCHEN-RACK.** WILLIAM R. HOLDER, Lake Charles, La. Filed Apr. 3, 1905. Serial No. 253,464.



Claim.—A rack of the class described, comprising two pairs of uprights, cross-bars connecting them together, near their lower ends, and at their upper ends, a cross-bar connecting the rear pair of uprights at their centers longitudinal bars also connecting said uprights and disposed respectively in the same horizontal plane with the re-

spective first-mentioned cross-bars, said longitudinal bars extending beyond the said uprights to form projecting ends for the rack, a bottom plate supported by the bottom longitudinal cross-bars and through which the uprights extend, shelf-plates supported on the projecting ends of the intermediate longitudinal bars, and hooks attached to the front uprights, the front longitudinal bars, the upper cross-bars, and projecting from the front side of the upper rear longitudinal bar, for the purpose set forth, the front uprights and front longitudinal bars forming an open space in the front side of the rack, above the bottom plate, substantially as described.

806,894. CALCINING-FURNACE. GEORGE H. JEFFSON, Worcester, Mass. Filed Feb. 25, 1903. Serial No. 144,963.



Claim.—1. A downdraft calcining-furnace comprising a heating-chamber, a fire-box, flues connecting the fire-box with the upper portion of said chamber and flues at the lower portion of said chamber for carrying away the products of combustion, a series of tubes within said chamber and extending through the walls thereof, and collars fitted within the walls of said chamber and loosely surrounding said tubes whereby the tubes are permitted to expand longitudinally.

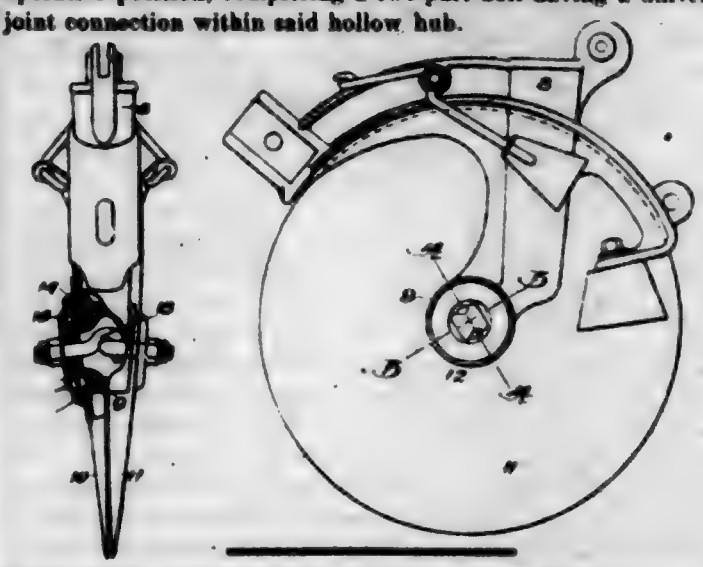
2. A downdraft calcining-furnace comprising a heating-chamber, a fire-box, flues connecting the fire-box with the upper portion of said chamber and flues at the lower portion of said chamber for carrying away the products of combustion, a perforated floor interposed between said heating-chamber and said lower series of flues for retarding the exit of the heated gases, a series of tubes within said chamber and extending through the walls thereof, and collars fitted within the walls of said chamber and loosely surrounding said tubes whereby the tubes are permitted to expand longitudinally.

3. A downdraft calcining-furnace comprising a heating-chamber, a fire-box, flues connecting the fire-box with the upper portion of said chamber and flues at the lower portion of said chamber for carrying away the products of combustion, a perforated floor interposed between said chamber and said lower series of flues, a series of flues extending through the walls of said chamber and through the perforated floor and collars loosely surrounding the said tubes and placed within the walls of the furnace to allow of longitudinal expansion of said tubes.

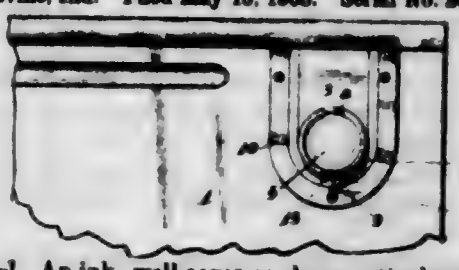
806,895. GRAIN-DRILL. ANDREW L. JOHNSON, Hamilton, Canada, assignor to International Harvester Company, a Corporation of New Jersey. Filed June 10, 1905. Serial No. 264,573.

Claim.—1. In a double-disk grain-drill, the combination of a disk-support comprising a hollow hub, the end faces thereof being angularly arranged relative to the line of draft of the machine and provided with annular grooves, furrow-opening disks having complementary annular grooves coinciding with the grooves in said hub, balls seated in the grooves, and a single holding means for retaining said disks in operative position, comprising a two-part bolt having a universal-joint connection within said hollow hub.

2. In a double-disk grain-drill, the combination of a disk-support comprising a hollow hub, the end faces thereof being angularly arranged relative to the line of draft of the machine and provided with annular grooves, metal plates having projecting annular inner surfaces adapted to be received by the grooves in the end faces of the hub and having annular grooves in their outer faces, furrow-opening disks having axial openings therein, metal plates secured to said disks and covering said axial openings and having annular grooves coinciding with the grooves in the outer surfaces of said first-mentioned plates, and a single holding means for retaining said disks in operative position, comprising a two-part bolt having a universal-joint connection within said hollow hub.



806,896. DUST-PROOF INK-WELL COVER. JOHN KASTNER, Jr., Evansville, Ind., assignor, by direct and mesne assignments, of one-third to Fred W. Goedeke and one-third to Sigurd E. Anderson, both of Evansville, Ind. Filed May 18, 1905. Serial No. 261,086.



Claim.—1. An ink-well cover or closure attachment for desks, comprising a guiding-frame adapted for attachment to the desk and composed of two parts having an opening therethrough to permit access to the ink-well, said parts being separated, and a cover or slide located between said parts of the frame and adapted to close the ink-well opening through them.

2. An ink-well cover or closure attachment for desks, comprising a guiding-frame adapted for attachment to the desk and composed of two parts having an opening therethrough to permit access to the ink-well, one of said parts having an offset portion and the other part provided with flanges fitting in the offset portion, said parts of the frame being separated, and a cover or slide for the ink-well which is movable in the space between the parts of the guiding-frame and said cover being adapted to close the ink-well opening in said frame parts.

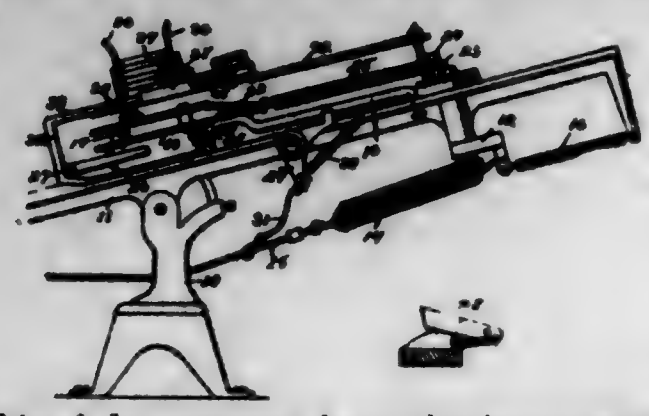
3. An ink-well cover or closure attachment for desks, comprising a guiding-frame adapted for attachment to the desk and having an opening to permit access to the ink-well, and a cover or slide movable in said guiding-frame and adapted to close the opening therein said cover being provided with flanges where it moves within the guiding-frame.

4. An ink-well cover or closure attachment for desks, comprising a guiding-frame adapted for attachment to the desk and having an opening to permit access to the ink-well, and a cover or slide movable in said guiding-frame and adapted to close the opening therein said cover being provided with side and end flanges where it moves within the guiding-frame.

5. An ink-well cover or closure attachment for desks, comprising a two-part guiding-frame adapted for attachment to the desk, the parts of said frame being separated and lie one under the other and have an opening to permit access to the ink-well, and a cover or slide for the ink-well which is movable between the two parts of the frame aforesaid and adapted to close the ink-well opening, said cover or slide being provided with flanges where it moves between the parts of the frame aforesaid

6. An ink-well cover or closure attachment for desks, comprising a two-part frame adapted for attachment to the desk, one part of said frame being offset and the other part having flanges and received within the offset portion aforesaid, both of said parts having an opening to permit access to the ink-well, and a cover or slide movable between the parts of the frame aforesaid and adapted to close the ink-well opening, said cover or slide being provided with flanges where it moves between the two parts of the frame aforesaid.

806,897. ATTACHMENT FOR TARGET-TRAPS. JOSEPH EASTERLY, Fort Dodge, Iowa. Filed Mar. 22, 1904. Serial No. 199,285.



Claim.—1. In a target-trap, a frame, a throwing-arm pivotally mounted on the frame, an upright attached to the frame, an extension at right angles to said upright having a parallel portion at its forward end with a circular opening through it, retaining-wires extending upwardly from said circular portion, a slide having a circular opening of the same size as the opening in said circular portion, a pivotally-mounted disk-retaining member connected with said circular portion, means connected with the throwing-arm and with the sliding member designed to be operated by the arm as it is swung on its pivot for operating the sliding member and the disk-retaining member to drop a disk mounted inside of the retaining-wires onto the arm after it has been swung in a complete circle on its pivot.

2. In a target-trap, a throwing-arm, a hand pivotally attached to the throwing-arm, a spring-controlled substantially semicircular finger pivotally mounted above and forming a part of said hand.

3. In a target-trap, a throwing-arm, a hand pivotally attached to the throwing-arm, a spring-controlled substantially semicircular finger pivotally mounted above and forming a part of said hand, a pin extending upwardly from and forming a part of the hand, for the purposes stated.

4. In a target-trap, a pivotally-mounted throwing-arm, a pivotally-mounted hand attached to the free end of said arm, a spring connected with the hand and with the arm for holding the hand in position relative to the arm, means for actuating said arm, a spring-held trigger designed to maintain the arm at its starting-point, a retaining member and a spring-held lug designed to hold the hand in position when the throwing-arm engages the said trigger.

5. In a target-trap, a pivotally-mounted throwing-arm, a pivotally-mounted hand attached to the free end of said arm, a spring-connected with the hand and with the arm for holding the hand in position relative to the arm, means for actuating said arm, a spring-held trigger and designed to maintain the arm at its starting-point, a retaining member and a spring-held lug designed to hold the hand in position when the throwing-arm engages the said trigger, a target-retaining device mounted above the hand when the throwing-arm is in engagement with the trigger, a dropping mechanism mounted adjacent to the retaining device, means connected with the dropping mechanism and with the arm for operating the dropping mechanism as the arm is swung on its pivot to feed the disks mounted in the retaining device onto the hand as the hand comes to position beneath it.

806,898. ARTIFICIAL BAIT. IRVIN F. KEPLER, Akron, Ohio. Filed July 24, 1905. Serial No. 271,168.



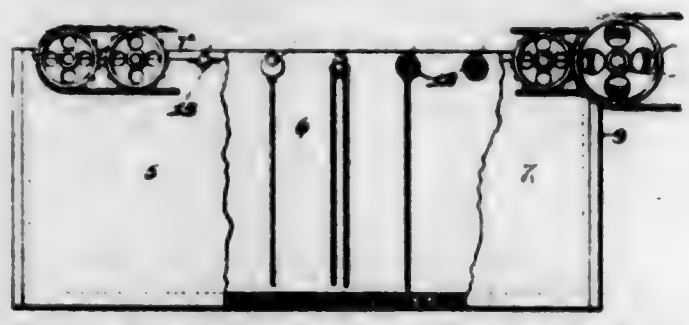
Claim.—1. A device of the class described comprising two body members united together and spaced apart forming an opening between said members, a looped spring-bar provided with hooked ends the normal tendency of which is to force the hooked ends from said opening, suitably mounted in said opening, means to confine said hooks within the outlines of said opening, and releasing mechanism for releasing said confining means.

2. A device of the class described comprising two body members united together and spaced apart forming an opening between said members, a looped spring-bar in said opening the looped portion thereof arranged to project from said opening to constitute means for attaching said device to a supporting medium, said bar being provided with hooked ends the normal tendency of said ends being to project from said opening, means in said opening to confine the bar within said opening and means to release said confining means.

3. A device of the class described comprising two oppositely-disposed body portions united together and spaced apart forming an opening between said members, a looped spring-bar mounted in said opening provided with hooked ends the normal tendency of said ends being to project from said opening, a toothed wheel in said opening, means on said toothed wheel to engage portions of said bar and compress the same, whereby the hooked ends thereof are confined within the opening in said device, and a blade pivoted in said device arranged to engage said toothed wheel and lock the same against rotation.

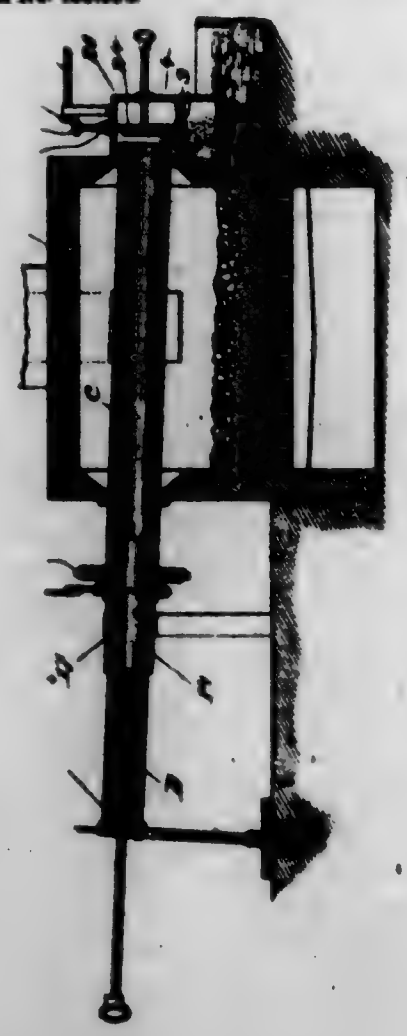
4. An artificial bait comprising a body portion, a plurality of spring-hooks suitably located in said body portion and arranged to spring therefrom, a revoluble toothed wheel in said body portion, means on said wheel to operatively engage said spring-hooks, whereby said spring-hooks are normally held within the outlines of said body portion, and means to lock said toothed wheel against revolution.

806,899. TANNING-VAT. ROBERT KOHNTERR, St. Louis, Mo. Filed Nov. 28, 1904. Serial No. 234,471.



Claim.—A device of the class described comprising a vat; shafts located in a frame on top of said vat; said shafts provided with pintles formed eccentric thereto; a rotating mechanism for rotating said shafts; means for suspending hides and skins to said shafts; said shafts arranged to roll and unroll the hides out of the tanning solution, permitting said hides to drain; substantially as specified.

806,900. GALVANIZING APPARATUS. WILLIAM A. LEONARD, West Wareham, Mass., assignor of one-half to Tremont Nail Company, West Wareham, Mass., a Corporation of Massachusetts. Filed Dec. 19, 1903. Serial No. 186,854.



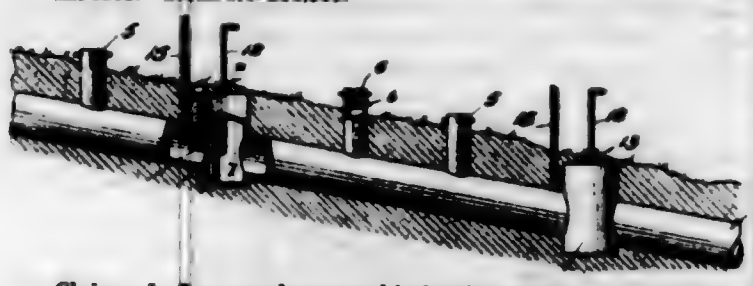
Claim.—1. In a galvanizing apparatus, the combination with a tank, of a rotatable frame mounted above the tank, a plurality of pivoted arms carried by the frame, a plurality of pivoted arms carried by the frame, a plurality of pivoted arms carried by the frame

Claim.—1. In a galvanizing apparatus, a rotary substantially horizontal container or retort for the articles to be galvanized, a furnace to heat said retort, a water-cooled casing surrounding the discharge end of the container and a suspended separator in said casing said separator comprising an arm movable in a horizontal plane across the path of the articles as they are delivered from the container.

2. In a galvanizing apparatus, a furnace, a container adapted to be heated by the furnace, a water-tank, a casing surrounding the delivery end of the container and having a discharge-opening below the surface of the water in the tank, a vertical shaft in said casing, a plurality of blades projecting horizontally from said shaft below the delivery end of the container, the bearings for said shaft being all above the delivery end of the container, and means to rotate the shaft

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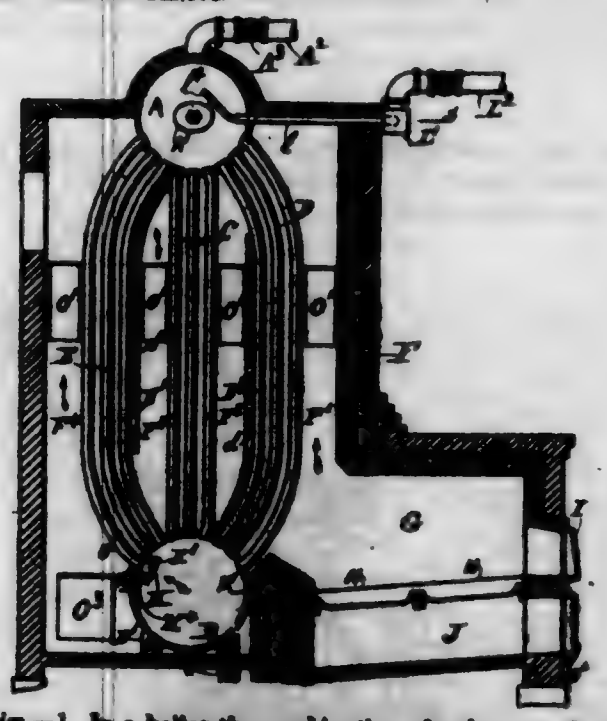
808,901. IRRIGATING SYSTEM. SAMUEL P. MENDENHALL, Whittier, Cal., assignor of one-half to J. E. Taylor, Whittier, Cal. Filed Mar. 22, 1905. Serial No. 251,501.



Claim.—1. In an underground irrigating system, an irrigating-line; a plurality of gate-chambers on said irrigating-line having a closed top, each of said gate-chambers having a partition therein with an aperture therethrough; a gate in each of said chambers having a stem projecting through the top of said chamber and above the surface of the ground; a plurality of stand-pipes intermediate said gate-chambers connected with said irrigating-line; and means in said stand-pipes to cut off the whole or a part of the flow through said stand-pipes.

2. In an underground irrigating system, an irrigating-line; a plurality of gate-chambers on said irrigating-line having a closed top, each of said gate-chambers having a partition therein with an aperture therethrough; a gate in each of said chambers having a stem projecting through the top of said chamber and above the surface of the ground; a vent-pipe adjacent to said gate-chamber connected with said irrigating-line and on that side of the gate-chamber toward the water-supply; a plurality of stand-pipes intermediate said gate-chambers connected with said irrigating-line; and means in said stand-pipes to cut off the whole or a part of the flow through said stand-pipes.

808,902. BOILER. JOHN MILLER, Brooklyn, N. Y. Filed Jan. 23, 1906. Serial No. 297,374.



Claim.—1. In a boiler the combination of a drum, a chamber connected with said drum and the interior thereof isolated from the drum, a removable bonnet bolted to the chamber, a second drum, tubes connecting the chamber with the second drum, and other tubes connecting the drums.

2. In a boiler the combination of a drum, a cover over a manhole on said drum, a chamber bolted to the drum, a removable bonnet bolted to the chamber, the interior of the chamber isolated from the drum, a second drum, tubes connecting the interior of the chamber with the interior of the second drum, and a cover over a manhole in the second drum, and other tubes connecting the drums.

3. In a boiler the combination of a drum, a manhole with cover on said drum, a feed-chamber connected with said drum having its interior isolated therefrom, a bonnet bolted to said chamber, tubes connecting said feed-chamber with another drum, other tubes connecting the drums, and a cover over a manhole on the second drum.

4. In a boiler the combination of a pair of drums, walls connected with one of the drums to form a feed-chamber with its interior isolated from the drum, a removable bonnet bolted to said feed-chamber, a nest of tubes connecting the feed-chamber with the drum distant therefrom, other nests of tubes connecting the drums, each nest comprising a plurality of rows of tubes, the nests separated from one another to form a space between each pair of nests, a main chamber inclosing the said elements, a furnace connected with said main chamber, and doors over openings in said main chamber adjacent to the spaces between the nests of tubes.

5. In a boiler the combination of a pair of drums, walls extending from the interior surface of one of the drums to form a feed-chamber with its interior isolated from the interior of the drum in which it is contained, a removable bonnet bolted to said walls, tubes connecting the feed-chamber with one of said drums distant therefrom, other tubes connecting the drums, a main chamber inclosing the said elements, a furnace connected with said main chamber, a steam-outlet connected with one of the drums, and partitions between some of the tubes.

6. In a boiler the combination of a pair of drums, nests of tubes connecting the drums, the nests separated from one another, partitions having perforations separating the nests, a main chamber inclosing the said elements, and a furnace connected with said chamber.

7. In a boiler the combination of a pair of drums, a feed-chamber connected with one of said drums, tubes connecting the feed-chamber with the drum distant therefrom, other tubes connecting the drums, a main chamber inclosing the said elements, steam-outlet pipes extending from one of the said drums above the water-line therein, and extending through the main chamber.

8. In a two-drum boiler the combination of a pair of drums, tubes connecting the drums, a main chamber inclosing said elements, a furnace connected with the main chamber, a steam-outlet connected with one of the drums, walls extending from one of the drums to form a feed-chamber, a bonnet bolted to the said walls, tubes connecting the said feed-chamber with the drum distant therefrom, and partitions between some of the tubes.

9. In a boiler the combination of a pair of drums, tubes connecting the drums, a main chamber inclosing the said elements, doors covering openings in said chamber, a furnace connected with the said chamber, a steam-outlet connected with one of the drums outside of the said chamber, and other steam-outlet pipes connected with the same drum and passing through the said chamber.

10. In a boiler the combination of a pair of drums, tubes connecting the drums, a main chamber inclosing the said elements, doors covering openings in said chamber, a furnace connected with the said chamber, a steam-outlet connected with one of the drums outside of said chamber, other outlet-pipes connected with the same drum and passing through the said main chamber, a manifold connected to the outer ends of the outlet-pipes passing through the main chamber, piping connecting the said drum with said manifold and running outside of said main chamber, a valve in the latter piping.

11. In a boiler the combination of a drum, a feed-chamber connected with the drum, a feed-injection pipe leading to the feed-chamber, the interior of said feed-chamber isolated from the drum, a second drum, tubes connecting the feed-chamber and the second drum, other tubes connecting the drums, a main chamber inclosing the said elements, doors covering openings in the main chamber, a furnace connected with the main chamber, an outlet for steam connected with one of the drums outside of the said main chamber, and other outlet-pipes connected with the latter drum and passing through the said main chamber.

12. In a boiler the combination of a drum, a feed-chamber connected with the drum, a feed-injection pipe leading to the feed-chamber, the interior of said feed-chamber isolated from the drum, a second drum, tubes connecting the feed-chamber and the second drum, other tubes connecting the drums, a main chamber inclosing the said elements, doors covering openings in the main chamber, a furnace connected with the main chamber, an outlet for steam connected with one of the drums outside of the said chamber, other outlet-

pipes connected with the latter drum and passing through the said main chamber, a manifold connecting the outer ends of the said outlet-pipes outside of the main chamber, steam-outlet piping connected to the manifold, a flooding-pipe connecting the drum having the steam-outlet pipe with the manifold, said flooding-pipe located outside of the main chamber, and a valve connected up with the flooding-pipe.

13. In a boiler the combination of an upper and a lower drum, walls extending from the interior of one of the drums to form a feed-chamber with its interior isolated from the interior of the drum in which it is located, a bonnet bolted to said walls, an injection-pipe connected to the feed-chamber, tubes connecting the feed-chamber with the drum distant therefrom, other tubes connecting the drums, a blow-off pipe connected with the lower drum, and a steam-outlet pipe connected with the upper drum.

14. In a boiler the combination of an upper drum and a lower drum, a feed-chamber connected with the lower drum, the interior of the feed-chamber isolated from the said lower drum, a feed-injection pipe leading to the feed-chamber, tubes connecting the feed-chamber and the upper drum, other tubes connecting the drums, a main chamber inclosing the said elements, doors covering openings leading into the main chamber, a furnace connected to the main chamber, a steam-outlet extending from the upper drum outside of the main chamber, other steam-outlet pipes leading from the upper drum and passing through the main chamber, a manifold connecting the latter steam-outlet pipes, a steam-outlet pipe extending from the manifold, a flooding-pipe connecting the upper drum with the manifold and running outside of the chamber, and a valve in the latter pipe.

15. In a boiler the combination of an upper drum and a lower drum, a feed-chamber connected with one of the drums, the interior of the said chamber isolated from the drum with which it is connected, tubes connecting the feed-chamber with the drum distant from the feed-chamber, other tubes connecting the drums, a main chamber inclosing the said elements, partitions in the main chamber having perforations, dividing the main chamber into secondary chambers.

16. In a boiler the combination of an upper drum and a lower drum, a feed-chamber connected with one of the drums, the interior of the said chamber isolated from the drum with which it is connected, tubes connecting the feed-chamber with the drum distant from the feed-chamber, other tubes connecting the drums, a main chamber inclosing the said elements, partitions in the main chamber having perforations which increase in area from one end of each partition to the other, and the said partitions dividing the main chamber into secondary chambers.

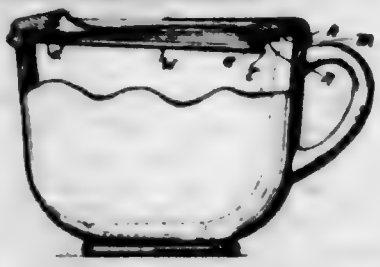
17. In a two-drum steam-boiler the combination of an upper drum and a lower drum, a feed-chamber on the interior of the lower drum, and the interior of said feed-chamber isolated from the lower drum, a removable bonnet on the said feed-chamber, a feed-pipe leading to the feed-chamber, a blow-off pipe connected with the lower drum, a main chamber inclosing the said elements, doors covering openings leading into the main chamber, partitions between the tubes dividing the main chamber in secondary chambers, so as to direct the course of the flame and gases of the boiler, a combustion-chamber connected with the main chamber, grates in the combustion-chamber, doors over openings leading to the combustion-chamber, an ash-pit under the grates, a door over an opening leading to said ash-pit, a steam-outlet pipe leading from the upper drum outside of the main chamber, other steam-outlet pipes leading from the upper drum through the main chamber, a manifold connecting the ends of the latter outlet-pipes outside of the main chamber, an outlet-pipe connected to the said manifold, a flooding-pipe connecting the upper drum with the said manifold, a valve in the flooding-pipe, and a manhole in each of the drums of the boiler, tubes connecting the feed-chamber with the upper drum, other tubes connecting the drums.

18. In a boiler the combination of inclosing walls forming a main chamber, the latter having an opening for the spent products of combustion, a combustion-chamber connected and opening into said main chamber, grates in the combustion-chamber, the combustion-chamber having openings in its walls for a fuel-supply, an upper and a lower drum connected by separate nests of tubes inclosed in said main chamber, a plurality of rows of tubes forming each nest, each of said nests of tubes separated from the others, so as to form a space between each pair of nests, doors covering openings leading into the said main chamber adjacent to the said spaces, a feed-chamber in one of the drums, the interior of which is isolated from the interior of the drum into which it is placed, a nest of tubes connecting said feed-chamber and the other drum, a feed-pipe connecting with the said feed-chamber, partitions between the nests of tubes in said main chamber, forming secondary chambers, the said partitions having perforations of various sizes, a steam-outlet in the upper drum, a blow-off in the lower drum, covers over manholes in both drums, and bolsters under one of the drums to support the boiler.

19. In a boiler the combination of an upper and a lower drum, walls extending from the lower drum to form a feed-chamber with its interior isolated from the interior of the lower drum, a bonnet bolted to said walls, a feed-pipe leading to the feed-chamber, tubes connecting the feed-chamber with the upper drum, other tubes connecting the drums, a main chamber inclosing the said elements, doors over openings leading into the main chamber, partitions between the tubes dividing the main chamber in secondary chambers, so as to direct the courses of the flames and gases of the boiler, a combustion-chamber connected with the main chamber, and a steam-outlet pipe leading from the upper drum.

20. In a boiler the combination of an upper and a lower drum, walls extending from the interior of one of the drums to form a feed-chamber, a bonnet bolted to the feed-chamber, tubes connecting the feed-chamber with the drum distant therefrom, other tubes connecting the drums, a main chamber inclosing the said elements, and partitions in the main chamber dividing it into secondary chambers.

806,903. COMMODE-SEAT. WILLIAM MOORE, Cincinnati, Ohio. Filed Dec. 3, 1904. Serial No. 235,410.



Claim.—1. In a commode-seat of the character described, formed of a ring-shaped seat, rings on the bottom of said seat, said rings being widest at the rear of the seat, and becoming less in width as they approach the forward part of the seat, as and for the purposes set forth.

2. In a commode-seat of the character described, formed of a ring-shaped seat, rings on the bottom of said seat being thickest at the rear of the seat, gradually becoming less in thickness as they approach the forward part of the seat, as and for the purposes set forth.

3. In a commode-seat of the character described, formed of a ring-shaped seat, rings on the bottom of said seat, said rings being thickest at the rear of said seat, gradually becoming less in thickness as they approach the forward part of the seat, said rings being widest at the rear, gradually diminishing in width as they approach the forward part of the seat, as and for the purposes set forth.

4. In a commode-seat of the character described, adjustment-ribs on the under side of said seat, said rings all meeting in the same vertical plane at the forward part of the seat to form an abutment for the seat, as and for the purposes set forth.

806,904. COMBINED OIL AND STEAM REGULATING VALVE FOR BURNERS. ROYAL J. MULLEN, Seattle, Wash. Filed Nov. 17, 1904. Serial No. 233,121.



Claim.—1. A device of the class described, comprising, in combination, a casing provided with three non-communicative chambers arranged one over the other, two of said chambers being provided with valve-seats, valves for said seats, a single stem fixedly connected to each of said valves, a fluid-operated means located in the third chamber and also connected with said valves and adapted to move in unison therewith to open and close the same and means for conveying fluid under substantially stable pressure to said third chamber.

2. In a device of the class described, the combination with a casing provided with two valve-chambers and a diaphragm-chamber, a diaphragm, two valves, a stem positively connecting the said valves to each other and with said diaphragm, said valve-chambers being provided with inlet and outlet openings, pipes for said openings, an oil-straining device attached to one of the said pipes a steam-injection pipe leading into said oil-straining device and a draw-off pipe leading from the same.

3. A device of the class described, comprising, in combination, a casing, a diaphragm and oil and steam regulating valves positioned in non-communicative chambers of said casing and fixedly connected to a stem, said valves being provided with differently inclined or tapering seating-faces, communicative connection between the steam-supply and the chamber containing said diaphragm, a spring in said chamber positioned upon the opposite side of the diaphragm from the inlet of said steam connection, and means whereby the tension of said spring may be regulated.

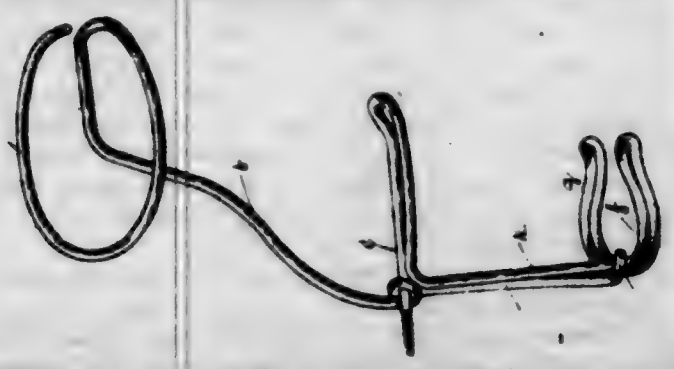
4. In a device of the class described, the combination with the casing having steam and oil inlet and outlet connections, the diaphragm, the oil and steam valves, a stem fixedly connected to said diaphragm and valves, and a spring; of the strainer-chamber included in said oil-inlet connection and provided with a sediment draw-off opening upon one side of a strainer provided interiorly of the chamber, said strainer, and communicative connection between the said chamber upon the opposite side of said strainer from the draw-off opening and the said steam-inlet connection.

806,905. **SMOKE-BELL HANGER.** SAMUEL S. MURDOCK, Columbus, Ohio, assignor of one-half to John J. Gallagher, Columbus, Ohio. Filed July 31, 1905. Serial No. 271,869.



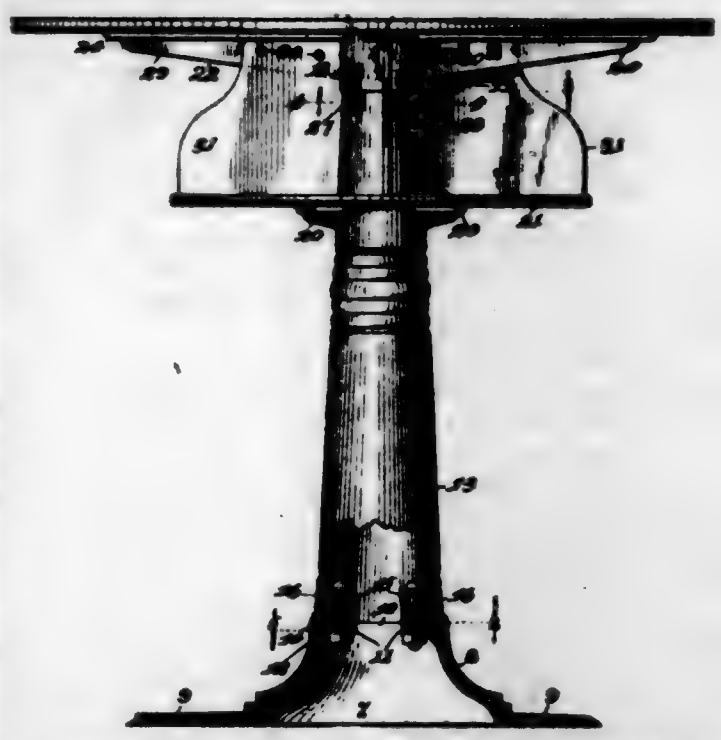
Claim.—A smoke-bell hanger for chandeliers or the like, comprising a clamping-band, a screw for clamping the ends of said band upon a chandelier or the like, transversely-extending parallel corrugations formed in said band and having their projecting portions at one end cut away to form stop-shoulders, and a supporting-arm having a smoke-bell-engaging hook at one end and an angularly-bent portion at its opposite end adapted to enter one of the corrugations in said band and to engage said shoulders, whereby it will be prevented from turning, substantially as described.

806,906. **APPAREL-HANGER.** JOHN E. NELSON, Worcester, Mass. Filed Nov. 4, 1904. Serial No. 231,360.



Claim.—In a device of the character described, a hat-support comprising a loop on approximately a horizontal plane with an inturned portion on the same plane with the loop and extending to about the center thereof, an arm depending from the inturned portion, an eye formed by bending the arm on an approximately vertical plane, a split ring at the bottom of the arm formed by bending the material on itself, an eye above the ring formed by bending the material around the arm, the said material being extended parallel with the arm for a suitable distance, a hook formed by doubling the material on itself in a plane at right angles to the lower portion of the arm, the extremity of the material passing through the vertical eye and forming a securing means, the whole device being made of a single piece of material.

806,907. **TABLE.** JAMES L. NEWELL, St. Louis, Mo. Filed May 8, 1905. Serial No. 259,402.



Claim.—1. A table of the class described, comprising a base having integral arms and boss, a center section mounted upon the base-section, an upper section having integral arms mounted upon the top of the center section and held thereto by bolts, one crossing over the other, a shelf formed on the center section, partitions located between the shelf and upper section said partitions being connected to the arms of the upper section, substantially as specified.

2. A table of the class described, comprising a base, inwardly-projecting lugs formed in said base, a center post, inwardly-projecting lugs formed at the bottom of said post to come in alinement with the lugs formed in the base, said sections held together by bolts passing through said lugs, an upper section provided with a slotted collar located on the top of the post, bolts passed through the upper end of the post at right angles to each other and passing through the slots formed in the collar of the upper section for retaining said upper section upon the top of the center post, a plurality of arms forming a part of the upper section, integral lugs formed on the center post for supporting a shelf, substantially as specified.

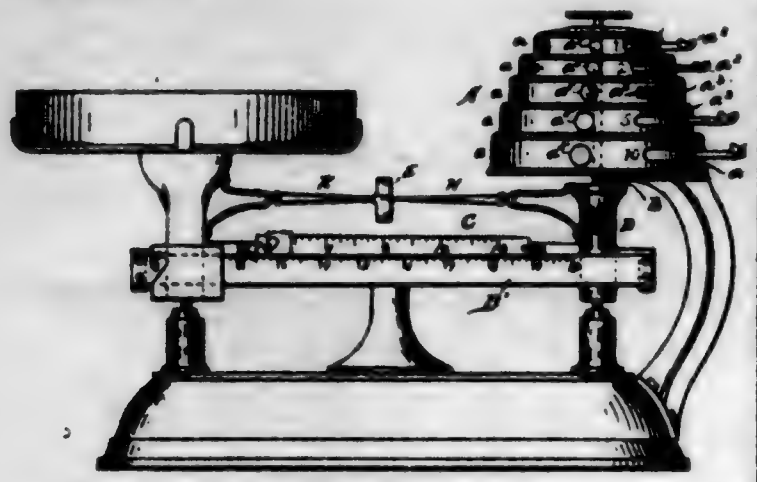
3. A table of the class described, comprising three members, each arranged to be detachably connected to the other, a center section and base provided with lugs whereby the same are bolted together, the upper section provided with a collar whereby the same may be connected to the center section, integral arms formed on the collar a shelf supported by the center section, a plurality of partitions formed on the shelf and secured to the arms of the upper section, substantially as specified.

806,908. **WEIGHING-SCALE.** FRANCIS C. OSBORN, Detroit, Mich., assignor to The F. C. Osborn Company, Detroit, Mich. Filed Sept. 20, 1900. Serial No. 31,522.

Claim.—1. In a weight-holder mechanism for weighing-scales, a series of weights, a mechanism for moving the weights into and out of weighing position said mechanism bearing three series of denominational indications for the weights two of said series of indications being arranged to be concealed when the weights are in non-weighing position and to be displayed when the weights are in weighing position, the third series of indications being so arranged as to be displayed continuously.

2. In a weighing-scale provided with a weight-holder mechanism of the type described, a series of flat weights arranged one above the other, a mechanism for raising out of or lowering into weighing

position any one of the weights at will, said mechanism arranged within the vertical limits measured by the thickness of the weights and the space required for their movement in weighing, substantially as set forth.



3. In a weighing-scale provided with a weight-holder mechanism, a weight, and a combination of elements having a plurality of active cam-surfaces arranged to move said weight into and out of weighing position, substantially as set forth.

4. In a weight-holder mechanism for weighing-scales, two cooperating parts, having a plurality of active cam-surfaces, and means for moving one of the parts, substantially as set forth.

5. In an apparatus for moving the weights of a weighing-scale into and out of weighing position, a mechanism comprising two cooperating elements having a plurality of active cam-surfaces, one of said elements arranged to be moved by the other through said cam-surfaces, substantially as set forth.

6. In a weight-holder mechanism for weighing-scales, two cooperating elements having a plurality of active cam-surfaces at two or more separated points, and means for moving one of the elements with respect to the other whereby the position of one of the elements is changed vertically, substantially as set forth.

7. In a weighing-scale provided with a weight-holder mechanism, two coöperating elements having a plurality of active cam-surfaces, a weight combined therewith and arranged to be moved into and out of weighing position thereby, and means for moving one of the elements with respect to the other whereby the weight may be moved into or out of weighing position at will, substantially as set forth.

8. In a weighing-scale provided with a weight-holder mecnanism, two coöperating elements having a plurality of active cam-surfaces, a weight combined therewith, and arranged to be raised or lowered thereby, and means for moving one of the elements with respect to the other whereby the weight may be moved into or out of weighing position, substantially as set forth.

9. In a weighing-scale provided with a weight-holder mechanism, two coöperating elements having a plurality of active cam-surfaces, a weight carried by one of the elements, means for moving one of the elements with respect to the other whereby the element carrying the weight is moved vertically, substantially as set forth.

10. In an apparatus for moving the weights of a weighing-scale into and out of weighing position, a mechanism comprising a series of elements arranged in pairs, the elements of each pair coöperating through a plurality of active cam-surfaces and operating independently of the others, and separate independent means for moving one of the elements of each pair, substantially as set forth.

11. In an apparatus for moving the weights of weighing-scales into and out of weighing position, a mechanism comprising a series of rings arranged in pairs, the rings comprising each pair arranged to coöperate, by means of cam connection between the rings, and means for moving one of the rings of each pair, substantially as set forth.

12. In an apparatus for moving the weights of a weighing-scale into and out of weighing position, a mechanism comprising a series of rings arranged in pairs, the rings comprising each pair arranged to coöperate and to operate independently of the others, by means of cam connection between the rings, and separate independent means for moving one of the rings of each pair, substantially as set forth.

13. In a weighing-scale provided with a weight-holder mechanism, a series of weights, a corresponding series of pairs of elements having a plurality of active cam-surfaces arranged to move said weights, a weight connected with one of the elements of each pair, and means for moving selectively at will one of the elements of each pair, substantially as set forth.

14. In a weighing-scale provided with a weight-holder mechanism, a series of weights, a corresponding series of pairs of elements having a plurality of active cam-surfaces arranged to move said weights, one of said weights being connected with one of the elements of each pair, and means for moving one of the elements of each pair whereby the weights may be moved into weighing position in any order or combination at will, substantially as set forth.

15. In a weighing-scale provided with a weight-holder mechanism, a series of weights, a housing for said weights arranged in separable parts, one part for each weight and its operating mechanism, each weight and its operative mechanism and housing therefor forming a separable member of said weight-holder mechanism, substantially as set forth.

16. In a weighing-scale provided with a weight-holder mechanism, a series of separable members, each comprising a weight, operating mechanism therefor and a housing for said weight and operating mechanism, and a weight-receiving element common to all the weights, substantially as set forth.

17. In a weight-holder mechanism for weighing-scales, two cooperating circular elements, inclined cam connections between these elements whereby one of them may be moved vertically, and means for rotating one of the elements, substantially as set forth.

18. In a weighing-scale provided with a weight-holder mechanism, a weight, two weight-holder rings, means for giving one of the rings a rotary movement, means for holding the other ring from rotary movement, but permitting vertical movement thereof, the said rings being so arranged and of such form as to cause one ring to move vertically when the other ring is moved in a rotary direction and connection between the vertically-movable ring and weight whereby the weight is moved therewith, substantially as set forth.

19. In a weighing-scale provided with a weight-holder mechanism, a weight, a longitudinally-movable weight-holder ring, a rotatable weight-holder ring, and means for moving the rotatable weight-holder ring, substantially as set forth.

20. In a weighing-scale provided with a weight-holder mechanism, the series of weights, a series of longitudinally-movable weight-holder rings, a series of rotatable weight-holder rings, the weights and rings arranged in telescopic relation to one another and means for moving the rotatable weight-holder rings, substantially as set forth.

21. In a weighing-scale provided with a weight-holder mechanism, a circular weight, a vertically-movable weight-holder ring arranged to carry said weight, a rotatable weight-holder ring arranged to carry said vertically-movable weight-holder ring, guide for said rotatable ring, and a handle fixed to said rotatable ring, substantially as set forth.

22. In a weighing-scale provided with a weight-holder mechanism, the weight *d*, the ring *c*, the ring *b*, suitable guides and support for the ring *b*, means for holding the ring *c* against rotary movement, and means for moving the ring *b* in a rotary direction, substantially as set forth.

23. In a weight-holder mechanism, a series of circular weight-casings so arranged and formed as to fit one upon the other in definite, relative, circular relation and to be held against rotation by the interlocking of said casings, substantially as set forth.

24. In a weighing-scale of the type described, the combination of a weighing beam or lever, a suitable weight-receiver, a weight holder mechanism comprising a series of independent weight-moving elements, a series of weights carried by the weight-holder mechanism and inclosed thereby, and suitable means of connection between the weights and the weight-receiving mechanism, substantially as set forth.

25. In a weighing-scale of the type described, a counterpoise-rod, a series of weights arranged one above the other and embracing said rod, suitable means for holding and selectively moving said weights so arranged, and suitable connecting means between said rod and each of said weights, substantially as set forth.

26. In a weighing-scale of the type described, a counterpoise-weight rod, a series of weights arranged one above the other and embracing said rod, a weight-holder mechanism embracing said weights and arranged to selectively move said weights independently of one another, and connecting means between said rod and each of said weights, substantially as set forth.

27. In a weighing-scale of the type described, a counterpoise-weight-receiving rod, a series of weights arranged one above the other embracing said rod, a weight-holder mechanism embracing said weights, means for moving into and out of weighing position any one of said weights selectively at will, and connecting means between said rod and each of said weights, substantially as set forth.

28. In a weighing-scale of the type described, a weight-receiving element comprising a series of weight-receiving flanges or pro-

jections, a series of weights, a series of separable housings or casings for said weights each inclosing a weight and an independent mechanism for moving into and out of weighing position said weight, substantially as set forth.

29. In a weighing-scale of the type described, a weight-receiving element, a series of flat weights with central openings therethrough, operative connective means between said element and said weights at said openings, a mechanism engaging the weights at their outer edge for moving the weights independently and selectively into and out of connection with said weight-receiving element, substantially as set forth.

30. In a weighing-scale of the type described, a counterpoise-rod with a series of weight-plates fixed thereon, corresponding series of weights arranged to be used in connection with said weight-plates, means for holding said weights in juxtaposition to said plates, but out of operative connection therewith, and means for moving said weights independently and selectively at will into operative connection with said plates, substantially as set forth.

31. In a weighing-scale of the type described, a series of weights, a weight-holder mechanism comprising a series of practically independent and separable elements, each of said elements combining weight, a weight-moving mechanism, and a housing or casing for said weight and mechanism, substantially as set forth

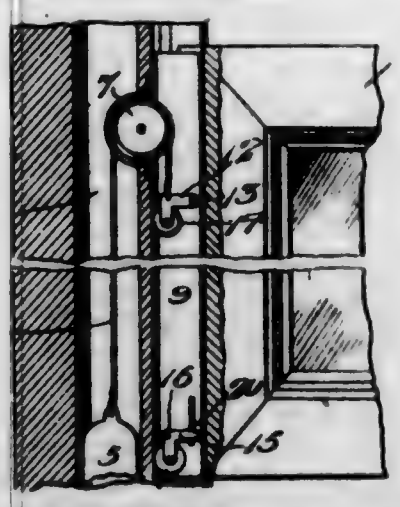
32. In a weighing-scale of the type described, a weight, a weight-holder mechanism comprising a handle arranged to be moved in a substantially horizontally circular plane, and suitable connections between the weight and the handle whereby the weight may be moved into and out of weighing position, substantially as set forth.

33. A weighing-scale of the type described, a weight-holder mechanism provided with a weight or weights arranged to be operated thereby, counterpoise-receiving means for said weights when in weighing position, and additional counterpoise-receiving means adapted to receive additional weights independent of said weight-holder mechanism, substantially as set forth.

34. In a weighing-scale of the type described, the combination of the inclosed weight-holder mechanism and the uninclosed weight-receiver *e*, substantially as set forth.

35. In a weight-holder mechanism, a series of weights, a like number of operating-handles, connecting mechanism comprising elements having a plurality of active cam-surfaces between said weights and handles whereby said weights are moved vertically when said handles are moved horizontally, substantially as set forth.

806,909. **WINDOW-SASH.** CHARLES F. OVERLY, Economy, Pa. Filed June 23, 1905. Serial No. 266,627.



Claim.—1. The combination with a window-frame, and a sash slidably mounted therein, of a balancing-weight arranged in the window-frame, an L-shaped bracket having one of its arms horizontally disposed and pivoted to the sash and its vertical arm carrying a bearing-roller to bear upon the window-frame, and a connection between the balancing-weight and bracket, said connection being attached to the bracket at the junction of the arms thereof.

2. The combination with a window-frame, and a sash slidably mounted therein, said frame and sash being provided with recesses, of a joint-closing strip mounted in the recess of the sash and projecting into the recess of the frame, a balancing-weight arranged in the window-frame, a bearing-bracket provided with a roller-bearing upon the window-frame, a fastening member securing said strip to the sash and pivotally mounting the bracket thereon, and a connection between the weight and bracket whereby the weight is suspended from said bracket and serves to hold the roller in contact with the window-frame with the desired degree of force.

3. The combination with a window-frame, and a sash slidably mounted therein, said frame and sash being provided with recesses, of a channeled joint-strip mounted in the recess and projecting into the recess of the window-frame, bearing-rollers arranged in the channeled joint-strip and projecting into the recess of the window-frame and bearing thereon, means for adjusting the lower roller to regulate the pressure thereof, a balancing-weight arranged in the window-frame, and a connection between said weight and the upper bearing-roller, whereby the weight is suspended from said roller and serves to hold the same in contact with the frame with the desired degree of force.

4. The combination with a window-frame, and a sash slidably mounted therein, said frame and sash being provided with recesses, of a channeled joint-closer disposed in the recess of the sash and projecting into the recess of the frame, upper and lower bearing-rollers arranged in the channeled joint-closer and projecting into the recess in the window-frame and engaging said frame, a sash-balancing weight connected with the upper roller for automatically regulating the pressure thereof, and means for manually regulating the pressure of the lower roller.

5. In a combined joint-closer and antifriction guide-bearing for sashes or doors, the combination with a sash provided with a recess in its side edge, a window-frame provided in its face portion with a recess having a substantially V-shaped inner wall, V-shaped upper and lower bearing-rollers engaging the inner wall of the recess in the window-frame, and a joint-closing support mounted in the recess in the sash and carrying said rollers and projecting into the recess in the window-frame.

6. The combination with a window-frame provided in its face portion with a recess, of a window-sash slidably mounted therein and provided in its side edge with a recess, a channeled joint-closing strip disposed in the recess in the sash and projecting therefrom into the recess in the window-frame, said strip being provided at its lower end with slots in the side walls thereof, upper and lower pivot-pins projecting transversely through said strip and securing the same to the sash, angular brackets pivotally mounted upon said pivot-pins and provided with rollers bearing against the window-frame, a pin adjustably mounted in the slots in the strip and sash to adjust the lower bearing-bracket to regulate the pressure of the roller thereof, a balancing-weight arranged in the window-frame, and a connection between said weight and the upper bearing-bracket, whereby the weight is suspended from said bracket and automatically regulates the pressure of the roller carried thereby on the window-frame.

7. In a combined joint-closer and antifriction guide-bearing for window-sashes or doors, the combination of a window-frame provided with a guide-recess, a sash provided in its side edge with a recess, a channeled strip mounted in the latter-named recess and projecting therefrom into said guide-recess, bearing-rollers supported in said strip and projecting into and bearing upon the wall of the guide-recess, a sash-balancing weight, a connection between the same and the upper bearing-roller to support the sash and automatically project said roller with the desired pressure, and means for regulating the pressure of the lower roller

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806,910. **MILLING-MACHINE.** JOHN PARKER, Providence, R. I., assignor to Brown and Sharpe Manufacturing Company, Providence, R. I., a Corporation of Rhode Island. Filed May 8, 1902. Serial No. 106,366.

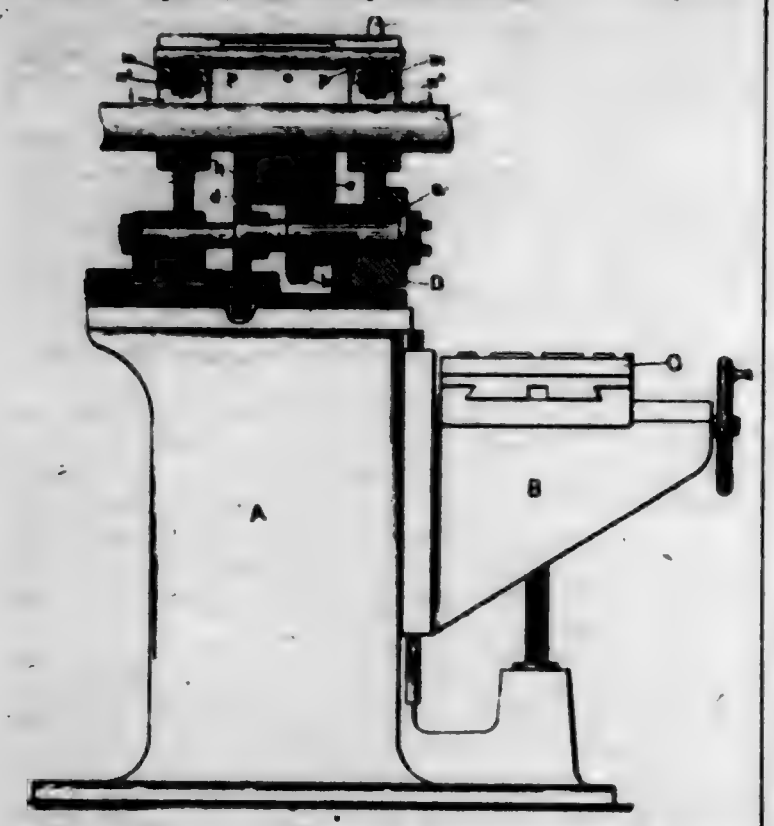
Claim.—1. A milling-machine having in combination, a spindle-head, a cutter-spindle mounted therein, bearings parallel with the spindle, a center-bearing arm mounted in said bearings, a clamping device for clamping the arm in each bearing, and a manually-operated device for simultaneously operating both clamping devices, and means for adjusting the clamping relation between said devices, substantially as described.

2. A milling-machine having in combination, a spindle-head, a cutter-spindle mounted therein, bearings parallel to the spindle, a clamping nut and bolt for each bearing, and a manually-operated device for simultaneously operating said clamping devices, and means for adjusting the clamping action of each nut and bolt with relation to the other, substantially as described.

3. A milling-machine having in combination, a spindle-head, a cutter-spindle mounted therein, bearings parallel with the spindle, a center-bearing arm mounted in said bearings, a clamping nut and bolt for each bearing, a single manually-operated device connected with one of the screw-threaded parts for each bearing, and means for adjusting one or more of the screw-threaded parts independently of the manually-operated device, substantially as described.

4. A milling-machine having in combination a spindle-head,

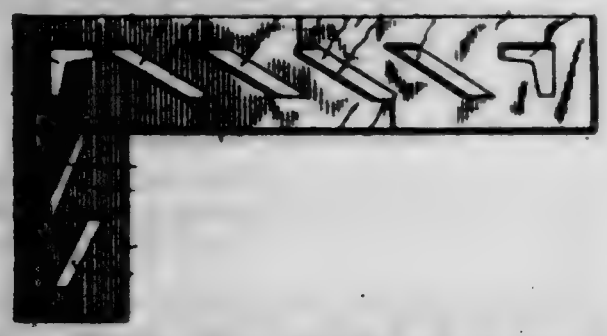
cutter-spindle mounted thereon, bearings parallel with the spindle, a center-bearing arm mounted in said bearings, a clamping-bolt for each bearing, a clamping-nut for each bearing, a lever connected with one of the screw-threaded parts for the front bearing, gear-teeth formed on said part, gear-teeth formed on the corresponding part of the rear bearing, and a toothed rack-bar engaging the gear-teeth on said parts, substantially as described.



5. A milling-machine having in combination a spindle-head, a cutter-spindle mounted therein, bearings parallel with the spindle, a center-bearing arm mounted in said bearings, a clamping-bolt for each bearing, a nut cooperating with each bolt, a single device connected to simultaneously operate both nuts, and adjusting-nuts on the bolts, substantially as described.

6. A milling-machine having in combination a spindle-head, a cutter-spindle mounted therein, bearings parallel with the spindle, a center-bearing arm mounted in said bearings, bolts *m* for each bearing, nuts *n* provided with gear-teeth, a rack-bar connecting said nuts, and a lever *q* secured to the nut *n* for the front bearing, substantially as described.

806,911. BUILDING-BLOCK. WILLIAM L. PHILLIPS, Broken Bow, Nebr. Filed Apr. 10, 1905. Serial No. 254,802.



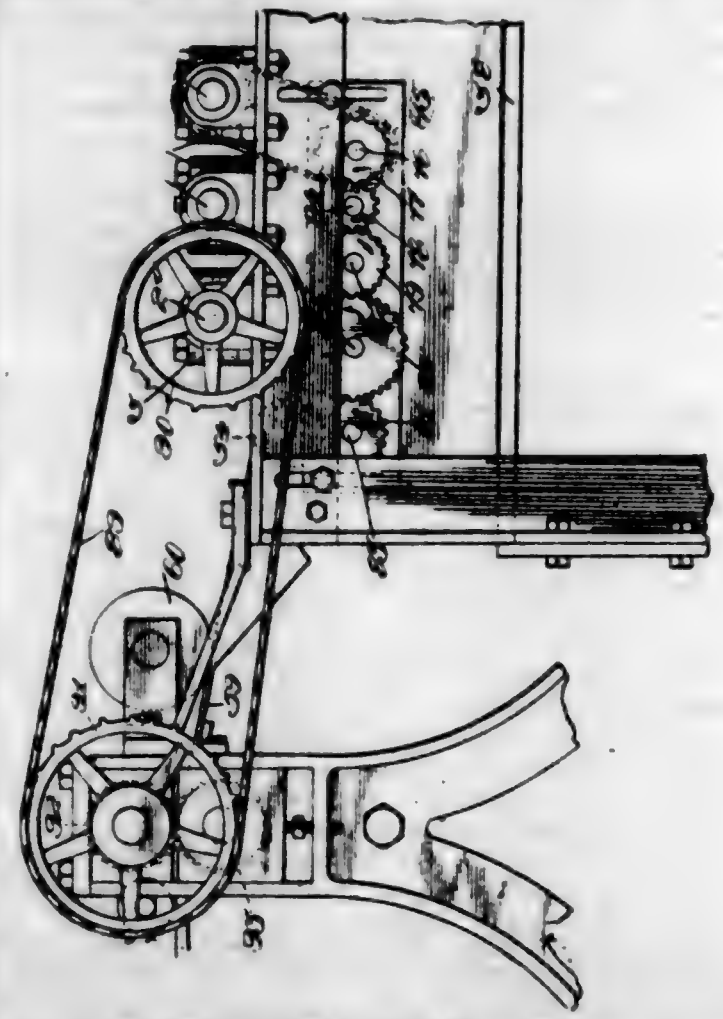
Claim.—A building-block having its ends cut away or recessed on opposite sides of the block form tongues having obliquely-disposed inner walls, which when the blocks are arranged in a wall will overlap and form a break-joint, said obliquely-disposed walls having formed therein recesses which when the blocks are brought together form vertically-disposed air-passages and similarly-disposed air-passages formed in the body of the blocks, substantially as described.

806,913. EXPANDED-METAL MACHINE. FRANK H. PITKIN, Chicago, Ill. Filed Sept. 26, 1904. Serial No. 226,457.

Claim.—1. In an expanded-metal machine the combination of means for slitting the metal, and means other than said slitting means for engaging the individual strands of the metal and holding the same against contraction.

2. In an expanded-metal machine the combination of means for slitting the metal, and means other than said slitting means for simultaneously engaging a plurality of the strands in a crosswise series and holding the same against contraction.

3. In an expanded-metal machine the combination of means for slitting the metal, and means other than said slitting means for simultaneously engaging a plurality of the strands of the metal in a crosswise series and holding the same against contraction, operatively connected with said slitting means and acting in unison with and during the slitting action thereof.



4. In an expanded-metal machine the combination of means holding and advancing the strip of metal, means for slitting the strip, a step upon which to support the strand, and means for pressing the strand against said step.

5. In an expanded-metal machine the combination of means for holding and advancing the strip of metal, means for slitting the strip, a plurality of steps upon which to support the strands respectively, and means matching with said steps respectively for pressing the strands against the steps.

6. In an expanded-metal machine the combination of means for holding and advancing the strip of metal, means for slitting the strip, a step upon which to support the strand after it is formed and during the slitting of another strand, and means for pressing the former said strand against said step.

7. In an expanded-metal machine the combination of a table, a plurality of steps arranged in an inclined series at the side thereof, means at the edge of the table above said steps for slitting the metal, and a roll arranged over said steps and having flanges matching with said steps for holding the strands against said steps respectively.

8. In an expanded-metal machine the combination with means for slitting the metal, and means for imparting the initial expansion thereto, of final expanding means comprising steps over which the strands engage and a roll having flanges matching said steps for engaging and pressing the strands thereon.

9. In an expanded-metal machine the combination with means for slitting the metal, and means for imparting the initial expansion thereto, of a plurality of flanged rolls arranged in the line of movement of the strip of metal and adapted to engage with the strands thereof, and inclined steps continuing from one of said rolls to the other in the line of movement of the strands and adapted to support the same, the flanges of said rolls matching the said steps and being adapted to press the strands against the steps respectively so as to pull the sheet downwardly as a whole and impart further expansion thereto as the movement of the sheet progresses.

10. In an expanded-metal machine the combination of a table, means at both edges thereof for slitting the metal and depressing the strands thereof, a series of steps arranged at each side of the table for engaging the individual strands of the metal and means for pressing the strands individually against said steps at both sides of the table simultaneously.

11. In an expanded-metal machine the combination of a table, means at both sides thereof for slitting and depressing strands of the metal while resting upon said table, and a stripper extending longitudinally of the table for engaging the upper side of the metal and preventing the latter from lifting from the table.

12. In an expanded-metal machine the combination of a table, cutters arranged at the sides thereof for slitting the metal resting upon the table, a grooved spacing-roll arranged between said cutters and having its periphery arranged contiguous to the surface of the table and provided with a circumferential groove, and a stripper-bar arranged longitudinally of the table in said groove and at a distance above the level thereof, for engaging the upper side of the metal and preventing it from lifting from the table.

13. In an expanded-metal machine the combination of a disk or narrow roll, for supporting the sheet of metal, a feed-roll engaging the periphery of said disk, for pinching and feeding the metal, and a cutter having protruding knives arranged in shearing relation contiguous to and overlapping the face of said disk for engaging and slitting the metal.

14. In an expanded-metal machine the combination of a table, a disk or narrow roll having a central aperture, fitted at the side of the table, a plate fitted over the outer side of said disk and having a journal projecting into said aperture for supporting and journaling said disk, means for holding said plate against outward movement, means below said plate for vertically adjusting the same and means coöperating with said disk for slitting a sheet of metal.

15. In an expanded-metal machine the combination of a disk, a plate in which said disk is journaled and from the upper edge of which the edge of the disk protrudes, said plate having a horizontal shoulder or rabbet along the outer face thereof and which shoulder or rabbet is wider at one end than at the other, means coacting with said disk for slitting and depressing a strand of the metal at the edge thereof over said rabbet, and means for slitting and depressing a strand of the metal at another point in a plane inwardly from the outer face of said disk.

16. In an expanded-metal machine the combination of a disk, a plate in which said disk is journaled and above the edge of which the disk projects, one edge of said plate at the top thereof being projected outwardly from the plane of the outer side of the disk and the other edge at the top thereof being substantially flush with the said plane, means coacting with said disk for depressing a strand of metal downwardly against the outer face of the disk, and means removed from said disk for depressing a strand of the metal downwardly in line with the plane of the outer face of the wider edge of said plate.

17. In an expanded-metal machine the combination of a table tapering from end to end and having a succession of recesses diametrically opposite each other in the sides thereof, a plate set in each of said recesses and having its outer face parallel with the longitudinal axis of the table and its edge at one side of the recess projected from said longitudinal axis a farther distance than at the other side of the recess and both sides of the plate being substantially flush with the side of the table at its upper edge, rotary disks journaled in said plates respectively, and means coöperating with each of said disks for slitting the metal and depressing a strand thereof over the outer face of the disk.

18. In an expanded-metal machine the combination of a rotary disk, a feed-roll engaging the periphery of the disk and having beveled edges, and a cutter arranged contiguous to and overlapping one face of the disk

19. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately inverted-V shape in cross-section, and means for engaging between the sides of said strip and bending it into a flat form.

20. In an expanded-metal machine the combination of a tapering table or support for the sheet to be slitted and expanded, means for slitting and depressing strands from the sheet on both sides of the table and producing a strip of expanded metal approximately inverted-V shape in cross-section, and means arranged at the smaller end of the table in the line of movement of the strip, for engaging between the sides thereof as the strip advances and bending or spreading same into a flat form.

21. In an expanded-metal machine the combination of means for producing a strip of expanded metal substantially V shape in cross-section, a wedge arranged in the line of movement of the strip and adapted to engage between the sides thereof for imparting an initial spreading thereto, and means of a wider angle than said wedge located farther along in the line of movement of the strip and adapted to engage between the sides of the strip for spreading the same farther apart.

22. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately V shape in cross-section, means for holding the strip along the center thereof at the apex of such V and means for engaging between the sides of the strip while thus held and spreading the sides apart.

23. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately V shape in cross-section, a roller arranged in the line of movement of the strip and having convex ends adapted to engage between the sides of the strip for spreading the same apart, and means for forcing the strip over said roller.

24. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately V shape in cross-section, a wedge having a flat surface presented toward the crotch of said V for engaging between the sides of said strip and spreading the same apart, and a flattening-roller arranged over the flat surface of said V for flattening the strip thereagainst.

25. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately V shape in cross-section, a wedge arranged to engage between the sides of said strip for imparting the initial spreading thereto, and means arranged over said wedge for holding the apex of the strip against the wedge.

26. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately V shape in cross-section, a wedge arranged to engage between the sides of the strip for imparting the initial spreading thereto, and a shoe having a groove opposed to the face of said wedge and arranged longitudinally along the line of movement of the strip for receiving the apex of the strip and holding the same against the wedge.

27. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately V shape in cross-section, a spreading member arranged in the line of movement of the strip for engaging between the sides thereof and being beveled from its top downwardly on both sides and at its forward end, and means for holding the strip against said spreading member and drawing it thereover.

28. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately V shape in cross-section, a roller having convexed ends arranged in the line of movement of the strip for engaging between the sides thereof, steps arranged at both ends of said roller and adapted to support the individual strands of the strip, and flanged rolls arranged one at each end of said roller for engaging the individual strands of the strip and holding the same against said steps as the strip passes over said convexed roller.

29. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately V shape in cross-section, a roller having convexed ends arranged in the line of movement of the strip for engaging between the sides thereof, a wedge having a projection let into said roller, a flattening-roller arranged over said wedge, and means for forcing the sheet over said convexed roller and wedge and under said flattening-roller.

30. In an expanded-metal machine the combination of means for producing a strip of expanded metal approximately V shape in cross-section, means for engaging both sides of said strip and pulling the same in a direction away from the apex thereof, and converging guides arranged in the line of movement of both sides of the strip for catching the same and directing said sides to their said respective stretching means.

31. In an expanded-metal machine the combination of a cutter-shaft, two rotary cutters mounted thereon for slitting the sheet, means for supporting the sheet while being thus acted upon by the cutters, a drive-shaft, a gear connecting said drive-shaft with said cutter-shaft, and means whereby the cutter-shaft may be adjusted rotatably independently of said gear.

32. In an expanded-metal machine the combination of means for slitting the metal at intervals in rows transverse to the direction of the slit, and thereby producing strands, and means for engaging and holding one of said strands while another strand in the same transverse row is being cut or formed.

33. In an expanded-metal machine the combination of means for slitting the metal at intervals in rows transverse to the direction of the slit, and thereby producing strands, and means for engaging and holding the strands immediately contiguous to a strand which is being cut or formed in the same transverse row.

34. In an expanded-metal machine the combination of means for slitting the metal at intervals in rows transverse to the direction of the slit, and thereby producing strands, and means for engaging and holding a plurality of strands in one of said transverse rows

while another strand in the same transverse row is being cut or formed.

35. In an expanded-metal machine the combination of means for slitting the sheet to produce strands, and means for engaging and holding a multiplicity of said strands simultaneously in a series extending transversely of the sheet.

36. In an expanded-metal machine, a rotary cutter comprising a plurality of flutes or protruding knives, each having the greater part of its cutting edge constituting a portion of an arc concentric with the center of rotation of the cutter and the ends of said knives being rounded inwardly toward the center of the cutter, in combination with a companion shearing member having a reversely-curved edge arranged contiguous to the plane of rotation of said rotary cutter.

37. In an expanded-metal machine the combination of means for holding and feeding the sheet, a rotary knife for slitting the metal having peripheral flutes whereby strands of the metal will be formed and pressed away from the plane of the sheet, and means opposite said flutes for engaging and holding the strands individually.

806,913. LOOSE-LEAF BOOK. WILLIAM P. PITT, Independence, Mo., assignor to The Irving-Pitt Mfg. Co., Kansas City, Mo. Filed Jan. 31, 1905. Serial No. 243,515.



Claim.—1. In a device of the character described, hook-carrying members, a resilient member arranged to hold the hooks in an open or closed position, and a member engaging the inner sides of the hook-carrying members.

2. In a device of the character described, a plurality of hook-carrying members adapted to hold the hooks in an open or closed position, a resilient member having marginal flanges to engage the outer edges of the hook-carrying members, and a member engaging the inner sides of said hook-carrying members.

3. In a device of the character described, a plurality of hook-carrying members adapted to hold the hooks in an open or closed position, a resilient member having slotted marginal flanges which engage the outer edges of the hook-carrying members and permit the hooks to open, and a member engaging the inner sides of said hook-carrying members.

4. In a device of the character described, a pair of hook-carrying members adapted to hold the hooks in an open or closed position, a resilient member detachably engaging the hook-carrying members and adapted to secure them from accidental movement when the hooks are in an open or closed position, and a tongue member detachably engaging the adjacent edges of said hook-carrying members.

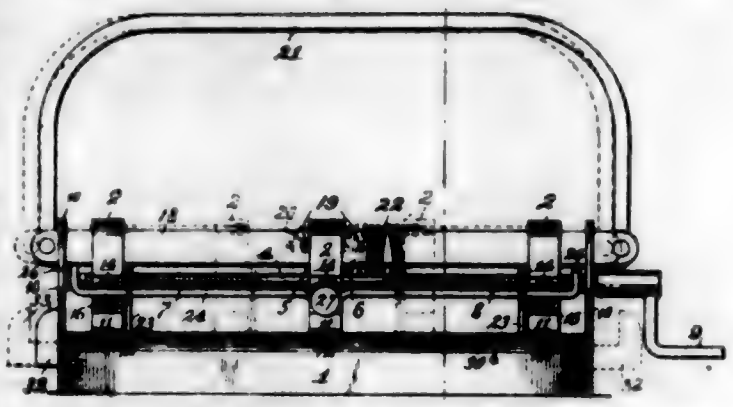
5. In a device of the character described, a plurality of hook-carrying members adapted to hold the hooks in an open or closed position, a resilient member engaging the hook-carrying members and adapted to secure them from accidental movement when the hooks are in an open or closed position, and a member provided with a plurality of tongues lapping the adjacent portions of said hook-carrying members.

6. In a device of the character described, a plurality of hook-carrying members adapted to hold the hooks in an open or closed position, a resilient member engaging the hook-carrying members and adapted to secure them from accidental movement when the hooks are in an open or closed position, and a member provided with a plurality of alternately-arranged tongues which engage the adjacent portions of said hook-carrying members.

7. In a device of the character described, a plurality of hook-carrying members adapted to hold the hooks in an open or closed position, a resilient member engaging the hook-carrying members and adapted to secure them from accidental movement when the hooks are in an open or closed position, and a member provided with a plurality of alternately-arranged tongues flaring at their outer ends and underlapping and overlapping the adjacent portions of said hook-carrying members.

8. In a device of the character described, a plurality of hook-carrying members adapted to hold the hooks in an open or closed position, a resilient member overlapping and engaging the hook-carrying members and adapted to secure them from accidental movement when the hooks are in an open or closed position, a member engaging the inner sides of the hook-carrying members, and a strip of suitable material underlying said hook-carrying members and secured to the resilient member, in combination with a suitable cover to which the strip is secured.

806,914. ADJUSTABLE PUNCH. WILLIAM P. PITT, Independence, Mo., assignor to The Irving-Pitt Mfg. Co., Kansas City, Mo. Filed Apr. 8, 1904. Serial No. 202,147.



Claim.—1. In a device of the character described, dies adjustably mounted consisting of bases and heads formed integral with the bases, said bases being provided with apertures, punches carried by the heads and arranged in coincidence with the apertures, means for operating said punches, and a single rod provided with threads for simultaneously adjusting the dies, substantially as described.

2. In a device of the character described, a base-board, dies arranged thereon the center die being rigidly secured thereto, said dies consisting of bases and heads formed integral with the bases, said bases being provided with apertures, punches carried by the heads and arranged in coincidence with the apertures, means for operating said punches, and a threaded rod journaled in the center die and engaging the other dies so the latter will be adjusted in opposite directions when the rod is rotated, substantially as described.

3. In a device of the character described, a plurality of dies suitably mounted, punches carried by said dies, and a member adjustably arranged in the dies adapted to operate all of the punches when it is adjusted to one position, and operate only a portion of said dies when it is adjusted to another position.

4. In a device of the character described, a plurality of dies suitably mounted, punches carried by said dies, and a bar slidably arranged in the dies adapted to operate all of the punches when it is slid in one direction and provided with a groove which registers with one of said dies when the bar is slid in the opposite direction.

5. In a device of the character described, a base-board, dies carried thereby, punches carried by the dies, a bar arranged to slide and turn in the dies and operate the punches provided with a marginal groove which registers with one of the punches when the bar is slid in one direction, and a handle for operating the bar.

6. In a device of the character described, dies suitably mounted and provided with slots for the reception of the paper to be perforated, a gage having members intersecting the slots to limit the entrance of the paper therein and means for simultaneously adjusting said members, either backward or forward.

7. In a device of the character described, suitably-mounted dies provided with slots for the reception of the material to be operated on, a gage having members intersecting the slots to limit the entrance of the material therein, and means for simultaneously adjusting the dies and said members laterally to accommodate material of different widths.

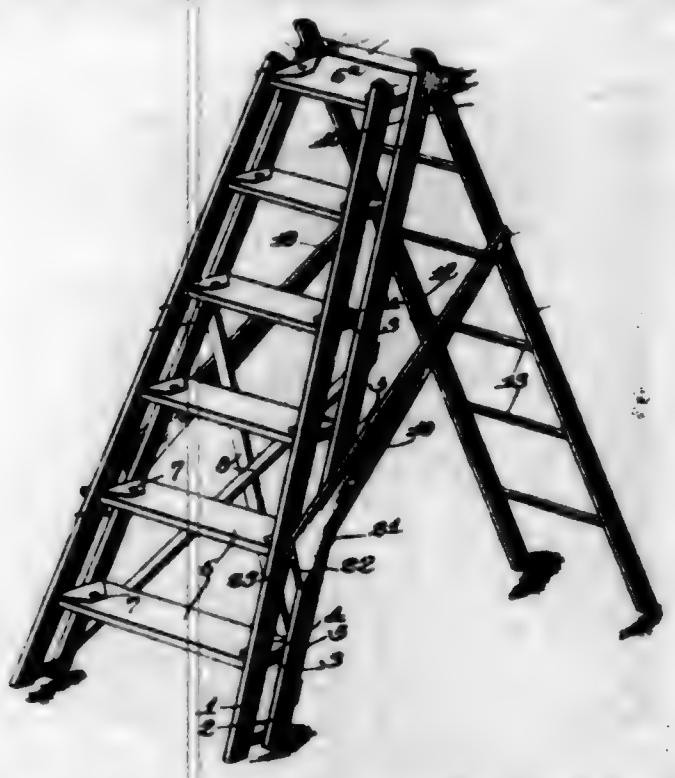
8. In a device of the character described, suitably-mounted dies provided with slots for the reception of the material to be operated on, a journaled rod connecting the dies and provided with right and left threads for simultaneously adjusting said dies laterally, and a gage having members intersecting the slots and engaging the right and left threads so they will be adjusted laterally with the dies.

9. In a device of the character described, a base-board, dies suitably arranged thereon and provided with slots for the reception of the paper to be perforated, a rod extending through the dies, bell-crank levers fulcrumed on the rod and having their depending members intersecting the slots to limit the entrance of the paper therein a U-shaped bar pivotally secured to the rod which engages the bell-

crank levers, and means for holding said U-shaped bar at any desired position.

10. In a device of the character described, a base-board, a plurality of dies secured upon the base-board having rearwardly-extending slots arranged on a level with the upper surface of said base-board, and a casing inclosing the dies having a segmental front portion forming a flaring entrance to the slots in the dies.

806,915. STEP-LADDER. MELANCTHON W. REED, Marion, Ind. Filed Jan. 30, 1905. Serial No. 243,202.



Claim.—1. In a ladder, the combination of a step-section, a prop-section including side rails and connecting-rungs, the uppermost step of the step-section being extended to engage across the top of one of the rungs of the prop-section, and clamping means carried by the step-section to engage the prop-section and hold one of the rungs of the ladder beneath the extended step.

2. In a ladder, the combination of a step-section, a prop-section including side rails and connecting-rungs, the uppermost step of the step-section being extended to engage over the top of one of the rungs, and a locking rock-bar carried by the upper end of the step-section in rear of the extended uppermost step to bear against the prop and detachably hold one of the rungs beneath the extended step.

3. In a ladder, the combination of a step-section, a prop-section including side rails and connecting-rungs, the uppermost step of the step-section being extended rearwardly to engage over the top of one of the rungs, brackets carried by the upper portion of the step-section and extended rearwardly, and a locking rock-bar pivotally supported between the brackets in a position to bear against the back of the prop-section and hold one of the rungs thereof beneath the upper extended step.

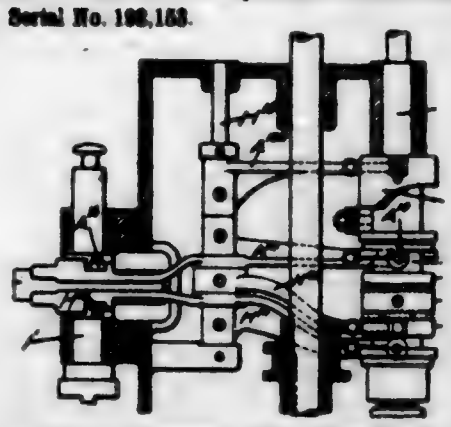
4. In a ladder, the combination of a step-section, a prop-section including side rails and connecting-rungs, the uppermost step of the step-section being extended rearwardly to engage over the top of a rung, brackets carried by the top of the step-section and extended in rear thereof, and a locking-bar pivotally supported between the brackets in rear of the longitudinal axis of the bar and in position to bear against the back of the prop and hold one of the rungs thereof beneath the extended step, said locking-bar capable of being turned rearwardly to free the prop-section and permit of the latter being moved to withdraw the rung from beneath the extended step.

5. In a ladder, the combination of a step-section, a prop-section capable of different angular adjustments with respect thereto, a brace pivotally connected at opposite ends to the step-section and the prop-section, and a stop projection carried by the step-section in coöperative relation with the adjacent end of the brace, said end of the brace being beveled for engagement with the stop projection in different adjusted positions of the ladder to lock the same in rigid condition.

6. In a ladder, the combination of a step-section including front and rear side rails and steps pivotally connected to the respective side rails, a prop capable of different angular adjustments with respect to the step-section, a brace pivotally connected at opposite ends to the prop and one of the rear rails of the step-section, and a stop projection carried by the adjacent front rail in position for engagement by the adjacent end of the brace to lock the ladder in rigid condition.

7. In a ladder, the combination of a step-section including spaced front and rear rails and steps pivotally connected to the rails to assume substantially horizontal positions in any inclined position of the step-section, brackets carried by the upper ends of the rear rails and extending rearwardly therefrom, the uppermost step being extended rearwardly between the brackets, a locking-bar terminally pivoted between the brackets in rear of its longitudinal axis and capable of being turned inwardly into close proximity with the rear end of the extended step and of being turned rearwardly and away from the step, a prop-section including side rails and connecting-rungs, the prop-section capable of being inserted between the brackets and in front of the locking-bar with one of its rungs engaging the under side of the projected upper step, the locking-bar serving to engage the prop and hold the rung thereof beneath said upper extended step, braces pivotally connected to the prop and the respective rear rails of the step-section, and stop projections carried by the front rails in position for engagement with the adjacent ends of the respective braces to lock the ladder in rigid condition.

806,916. CLUTCH-CONTROLLING MECHANISM. CHARLES A. RICH, Providence, R. I., assignor to Brown and Sharpe Manufacturing Company, Providence, R. I., a Corporation of Rhode Island. Filed Feb. 5, 1904. Serial No. 192,153.



Claim.—1. The combination with a clutch, of a cam-shoulder thereon, an abutment engaging said shoulder, a trip for operating said abutment, a traveling dog for operating said trip, and means for freeing the dog and trip independently of the travel of the dog, substantially as described.

2. The combination of a traveling trip-dog, a trip operated by the dog, and means for freeing the dog and trip independently of the travel of the dog, substantially as described.

3. The combination of a traveling trip-dog, a trip having a limited movement with the dog, and means for restoring the trip to normal position when disengaged from the dog, substantially as described.

4. The combination with a clutch of a cam-shoulder thereon, an abutment engaging said shoulder, tripping devices comprising a traveling part and a coöperating part engaged thereby connected with the abutment, one of said parts being yieldingly mounted to have a limited idle movement as the traveling part engages the coöperating part, substantially as described.

5. The combination with a clutch, of an abutment, a cam on the clutch for engaging said abutment and disengaging said clutch, a trip connected with said abutment, a traveling trip-dog for operating said trip, and means operated by the clutch for freeing the trip and dog, substantially as described.

6. The combination with a clutch, provided with a cam, a trip-lever provided with an abutment normally engaging said cam, a spring-trip on the lever, a traveling trip-dog for engaging said trip, and a cam connected with the clutch for moving said lever to disengage the trip and dog, substantially as described.

7. The combination with a clutch, of a trip-lever for controlling the operation of the clutch, a spring-trip on the lever, and a traveling dog engaging said trip to trip the lever, substantially as described.

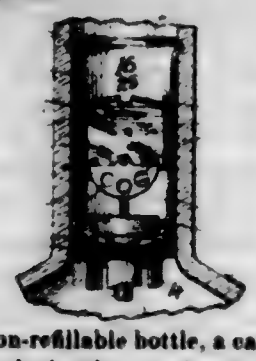
8. The combination with a clutch, of a trip-lever for controlling the operation of the clutch, a spring-trip on the lever, a traveling dog engaging said trip to trip the lever, and a cam operated by the rotation of the clutch for operating the trip-lever to disengage the trip and dog, substantially as described.

9. The combination with a clutch, a plurality of cams thereon, an abutment for engaging said cams and holding the clutch out of action, a traveling dog, a trip in the path of the dog connected with

the abutment and having a limited movement with the dog, substantially as described.

10. The combination with a clutch, a plurality of cams thereon, an abutment for engaging said cams and holding the clutch out of action, a traveling dog, a trip in the path of the dog connected with the abutment and having a limited movement with the dog, and a cam operated by the rotation of the clutch for disengaging the trip and dog, substantially as described.

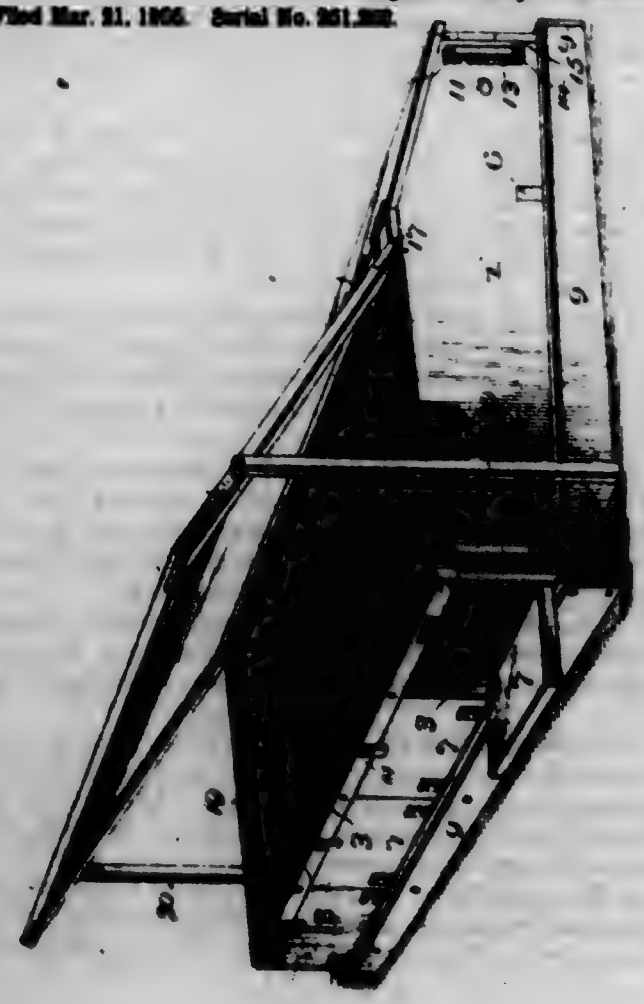
806,917. **NON-REFILLABLE BOTTLE.** EMILE RIBER and CHARLES O. SOBINSKI, St. Louis, Mo., assignors of seven-tenths to said Riber and three-tenths to James Clausen, St. Louis, Mo. Filed May 27, 1905. Serial No. 262,571.



Claim.—1. In a non-refillable bottle, a casing adapted to be inserted into the neck of the bottle, a reciprocating valve for controlling the passage of the casing, a pin projecting from the top of the valve, a hollow plug mounted in the casing above the valve, a weighted sector suspended in the plug and oscillating to release the valve for the inverted position of the bottle, an air-duct being formed in the periphery of the plug, a top with openings for the plug, and a guard for the top having openings out of alinement with the openings of the top, substantially as set forth.

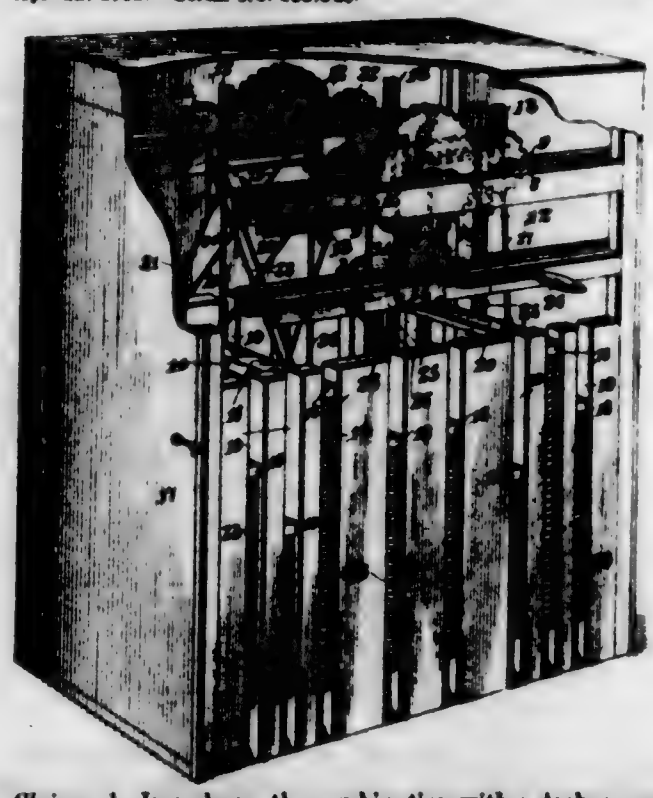
2. In a non-refillable bottle, a casing adapted to be inserted into the neck of the bottle, an extension of the casing having peripheral openings leading to the interior of the bottle, a flange at the free end of the extension, a valve for controlling the passage through the casing, a stem for the valve passing loosely through the extension, a weighted pendant hinged to the stem and having a flange adapted to engage the flange of the casing extension, the pendant serving as a lever for drawing the valve to its seat for a partially-tilted position of the bottle, and a releasing-lock for the valve mounted in the casing above the valve, substantially as set forth.

806,918. **DEVICE FOR USE IN POULTRY CULTURE.** HIRAM H. ROUDABUSH, Penn Laird, Va., assignor to Mary C. Roudabush. Filed Mar. 21, 1905. Serial No. 251,252.



Claim.—The herein-described housing or nesting compartment comprising the housing proper divided into a plurality of nesting-chambers and runways; a base-section loosely receiving the lower end of said nesting-compartment and suitable supporting-legs carried by the nesting-compartment and adapted to rest upon the base member whereby the nesting-compartment may be held in an elevated position and means to lock said supporting-legs in a folded or extended position all combined substantially as specified and for the purpose set forth.

806,919. **CHURN.** WASHINGTON B. ROSE, Kingston, Tenn. Filed Apr. 22, 1903. Serial No. 153,845.



Claim.—1. In a churn, the combination with a dasher, a cross-head connected with the dasher, operating mechanism connected with the cross-head for reciprocating the dasher, said operating mechanism being provided with coiled springs arranged to be distended at both the upward and downward movement of the dasher, and means for limiting the downward movement of the cross-head, substantially as described.

2. In a churn, the combination with a churn-body provided at its cover with a funnel, a cross-head, a dasher connected with the cross-head, operating mechanism provided with coiled springs arranged to be distended during both the upward and downward movement of the dasher, and means for limiting the downward movement of the cross-head to prevent the same from striking the funnel, substantially as described.

3. In a churn, the combination with a churn-body having a reciprocating dasher, a cross-head connected with the dasher, ways receiving the cross-head, springs located in the ways beneath the cross-head and connected with the latter to assist the downward movement of the same, means for moving the cross-head upward, and springs arranged to assist the upward movement of the cross-head, substantially as described.

4. In a churn, the combination with a churn-body having a vertically-reciprocating dasher, of a plurality of ways located at opposite sides of the churn-body, a plurality of cross-heads operating in the ways, one of the cross-heads being connected with the dasher, and operating mechanism for reciprocating the dasher, said operating mechanism being provided with springs connected with the cross-heads and arranged to be brought into action by both the upward and downward movement of the dasher, substantially as described.

5. In a churn, the combination with a churn-body having a dasher, of a plurality of cross-heads, one of the cross-heads being connected with the dasher, springs connected with the cross-heads, and a crank-shaft also connected with the cross-heads, and arranged to distend the springs during both the forward and downward movement of the dasher, substantially as described.

6. In a churn, the combination with a churn-body having a dasher, of a plurality of cross-heads, connected with the dasher and also located at opposite sides thereof, springs located beneath the cross-heads and connected with the same for moving the cross-heads downward, and means for raising the cross-heads, substantially as described.

7. In a churn, the combination with a churn-body having a dasher, of a plurality of cross-heads, connected with the dasher and also located at opposite sides thereof, springs connected with the cross-heads for moving the same downward, and means for moving the cross-heads upward, substantially as described.

8. In a churn, the combination with a churn-body having a dasher, of a plurality of cross-heads, one of the cross-heads being connected with a dasher, springs for moving the cross-heads downward, and means for raising the cross-heads and for distending the springs during both the upward and downward movement of the dasher, substantially as described.

9. In a churn, the combination with a churn-body having a dasher, of a plurality of springs connected with the dasher, and means for operating the dasher and for distending the springs during both the upward and downward movement of the dasher, substantially as described.

10. In a churn, the combination of a churn-body having a dasher, a plurality of cross-heads, one of the cross-heads being connected with the dasher, springs for moving the cross-heads downward, and a crank-shaft connected with the cross-heads for raising the same and for successively bringing the springs into action, substantially as described.

11. In a churn, the combination of a churn-body having a dasher, a plurality of springs, and a crank-shaft provided with a plurality of cranks connected with the springs and with the dasher for operating the latter and for successively bringing the springs into action, substantially as described.

12. The combination of a plurality of cross-heads, springs connected with the same for moving the cross-heads in one direction, and operating mechanism for moving the cross-heads in the opposite direction and for successively bringing the springs into action, substantially as described.

13. The combination of a plurality of cross-heads, springs connected with the cross-heads for moving the same in one direction, and a crank-shaft having a plurality of cranks connected with the cross-heads for moving the same in the opposite direction and for successively bringing the springs into action, substantially as described.

14. The combination of a plurality of cross-heads, springs connected with the same for moving the same downward, a crank-shaft provided with a plurality of cranks, and flexible connections between the cranks and the cross-heads, substantially as described.

15. The combination with opposite ways, of cross-heads guided in the ways, springs for moving the cross-heads downward, a crank-shaft provided with a plurality of crank-bends and located above the cross-heads, flexible connections extending from the cranks to the cross-heads, and means for operating the crank-shaft, substantially as described.

16. The combination of a plurality of cross-heads, springs connected with the cross-heads for moving the same downward, a four-throw crank-shaft provided with crank-bends, and flexible connections extending from the crank-bends to the cross-heads, substantially as described.

17. The combination with a pair of churn-bodies having dashers, of a plurality of cross-heads, means for connecting the dashers with the adjacent cross-heads, springs connected with the cross-heads for moving the same downward, shafts having a plurality of cranks connected with the cross-heads, and gearing connecting the shafts, substantially as described.

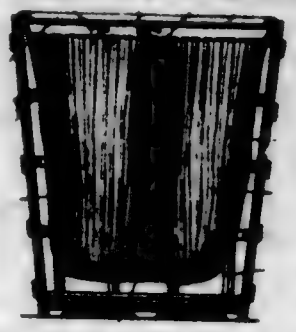
18. The combination of a cabinet of casing provided with opposite ways, cross-heads operating in the ways, springs housed in the ways and connected with the cross-heads for moving the same downward, crank-shafts having a plurality of cranks connected with the cross-heads for moving the same upward, gearing connecting the crank-shafts, and means for operating the gearing, substantially as described.

19. The combination of a plurality of dashers, a plurality of springs for assisting the upward and downward movement of the dashers, and operating mechanism for reciprocating the dashers, said operating mechanism being connected with the springs and distending the same at both the upward and downward movements of the dashers, substantially as described.

806,920. **FILTER.** GIORDANO ROSSI, Milan, Italy. Filed July 27, 1903. Serial No. 167,119.

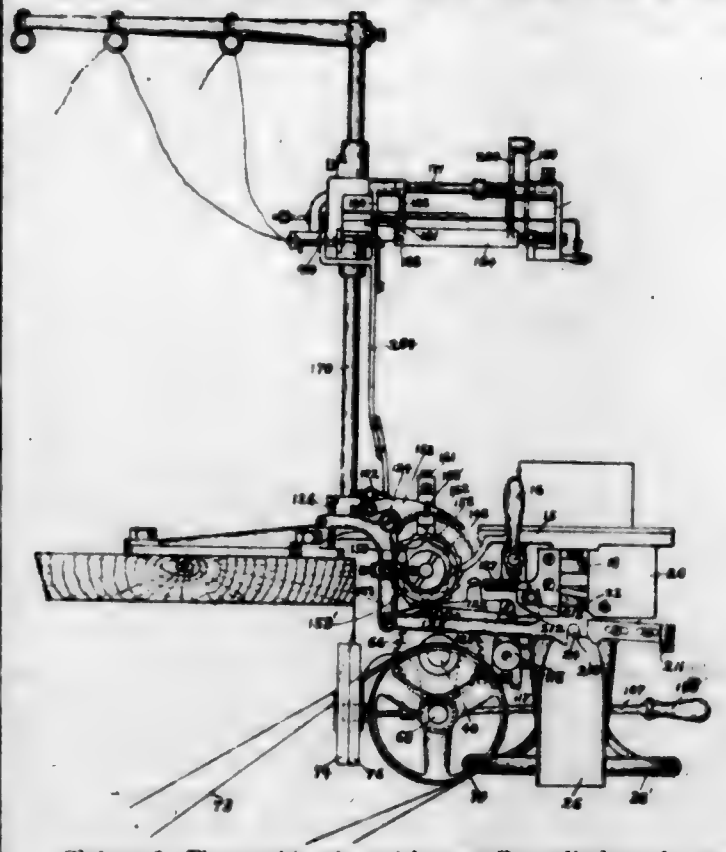
Claim.—1. A filter comprising a vessel, a filter-bag, a supporting-ring located within the edge of the filter-bag, and a packing-ring U-shaped in cross-section and embracing the edge of the filter-bag and the supporting-ring.

2. A filter comprising a vessel, a filter-bag, an envelop, a supporting-ring located within the edges of the filter-bag and the envelop, and a packing-ring U-shaped in cross-section and embracing the edges of the filter-bag and the envelop and the supporting-ring.



3. A filter comprising a vessel having a rabbet and a cover, a filter-bag, a supporting-ring located within the edge of the filter-bag, and a packing-ring U-shaped in cross-section and embracing the edge of the filter-bag and the supporting-ring and seating in the rabbet and held down by the cover of the vessel.

806,921. **KNITTING-MACHINE.** JAMES E. ROWE, Pawtucket, R. I., assignor to E. Jenckes Manufacturing Company, Pawtucket, R. I., a Corporation of Rhode Island. Filed Feb. 5, 1900. Serial No. 4,095.



Claim.—1. The combination with a needle-cylinder, of a concentric ring supporting the same, a concentric adjusting-ring, and springs holding the supporting-ring firmly against the adjusting-ring.

2. The combination with a needle-cylinder, of a concentric ring supporting the same, means for securing the needle-cylinder thereto, a concentric adjusting-ring, and springs for holding the supporting-ring firmly against the adjusting-ring.

3. The combination with a needle-cylinder, of a ring for supporting the same, an adjusting-ring provided with a spiral cam-groove, and supports engaging said groove.

4. The combination with a needle-cylinder, of a ring supporting the same, means for securing the cylinder thereto, an adjusting-ring provided with a spiral cam-groove, supports for engaging said groove, and springs for holding the supporting-ring firmly against the adjusting-ring.

5. The combination with a needle-cylinder, of a cup-ring, a clamp for securing the cylinder therein, a positioning-pin on the cup-ring, an adjusting-ring provided with a spiral cam-groove, and supports engaging said groove.

6. The combination with a needle-cylinder, of a ring for supporting the same, lugs projecting from said ring, grooves in which said lugs ride, an adjusting-ring, and springs between said lugs and a fixed frame.

7. The combination with a needle-cylinder, of a cup-ring 11, a clamping-rod 15, lugs 18 on said ring 11, grooves 19, an adjusting-ring 17 having a cam-groove 22, supports 21 engaging said groove, and spring 23 above lugs 18.

8. The combination, with a cam-cylinder, of a clutch, connections between said clutch and cam-cylinder for transmitting the motion of the clutch to the cylinder, a reciprocating member, a rotary member, a rotary cam, a lever connected with the clutch to move it into engagement with either one or the other of said members and having two arms arranged on opposite sides of said cam and in different planes, and means for shifting said cam to engage either of said arms, substantially as described.

9. The combination with a cam-cylinder, a rotary and an oscillating pinion, of a clutch for engaging either of said pinions, connections between said clutch and cam-cylinder for transmitting the motion of the clutch to the cam-cylinder, a rotary cam, a lever connected with said clutch and having two arms arranged on opposite sides of said cam and in different planes, and means for shifting said cam to engage either of said arms.

10. The combination of a shaft, two pinions one of which is a spiral pinion, a clutch for connecting either of said pinions with the shaft, a spiral gear engaging the spiral pinion and arranged in a different plane, a rack engaging the other pinion, and connections between said spiral gear and rack for reciprocating said rack.

11. The combination of a shaft, two pinions one of which is a spiral pinion, a clutch for connecting either of said pinions with said shaft, a spiral gear engaging said spiral pinion and arranged in a different plane, a bar provided with a rack engaging the other pinion, a transverse slot in said bar, and a crank-pin carried by said spiral gear and engaging said slot.

12. The combination of a clutch-shaft, two pinions one of which is a spiral pinion, a clutch for connecting either of said pinions with said shaft, a shaft arranged at right angles to said clutch-shaft, a spiral gear secured to said shaft and engaging said spiral pinion, a rack engaging the other pinion, and connections between said rack and said spiral gear.

13. The combination of a clutch-shaft, two pinions one of which is a spiral pinion, a clutch for connecting either of said pinions to said shaft, a shaft arranged at right angles to said clutch-shaft, a spiral gear carried thereby and engaging said spiral pinion, a rack-bar engaging said other pinion and provided with a transverse slot, and a crank-pin on said spiral gear engaging said slot.

14. The combination with a cam-cylinder, of a vertical clutch-shaft geared thereto, two pinions on said shaft one of which is a spiral pinion, a clutch for connecting either of said pinions to said shaft, a horizontal shaft, a spiral gear thereon engaging said spiral pinion, a rack-bar engaging said other pinion and having a transverse slot therein, and a crank-pin on said spiral gear engaging said slot.

15. The combination with a cam-cylinder, of a gear 29 secured thereto, a clutch-shaft 27, a gear 26 secured thereto and engaging gear 29, a pinion 30 on said shaft, a spiral pinion 31 on said shaft, a clutch 32 between said pinions, driving-shaft 40, a spiral gear 39 thereon engaging pinion 31, a rack-bar 41 engaging pinion 30, a slot 42 therein, and a crank-pin 43 carried by gear 39 and engaging said slot.

16. The combination, with the cam-cylinder of a knitting-machine, of mechanism for changing the motion thereof from rotary to reciprocating and vice versa, embodying a clutch, a rotary cam 51, a lever 47 connected with said clutch and having arms 49 and 50, and means for shifting said cam 51 laterally.

17. The combination, with the cam-cylinder of a knitting-machine, of mechanism for changing the motion thereof from rotary to reciprocating and vice versa, embodying a clutch, a rotary cam 51, a lever 47 connected with said clutch, and having arms 49 and 50, a lever 53 for shifting said cam 51, and an intermittently-operating cam for acting on said lever.

18. In a knitting-machine, the combination with mechanism for changing the motion from rotary to reciprocating, of a driving-pulley, two idle pulleys, two belt-shifters independently movable, a starting-lever for operating either of said shifters to start the machine, and means for preventing the movement of said lever to carry the fast belt onto the driving-pulley when the machine is on reciprocating knitting.

19. In a knitting-machine, the combination with mechanism for changing the motion from rotary to reciprocating, a lever 53 for operating the same, a speed-changing mechanism embodying two shifters 77 and 75, a lever 107 for operating either of said shifters, and a stop carried by lever 53 for preventing the movement of lever 107 in one direction when said lever 53 is in position for reciprocating knitting.

20. The combination with a needle-cylinder, of an adjusting-ring for raising and lowering the same, a lever connected therewith, a sleeve from which said lever projects having a lug, a second sleeve having a corresponding lug, a screw for adjusting the distance between said lugs, a lever projecting from said second sleeve, and a cam for acting on said lever.

21. The combination with a needle-cylinder, of an adjusting-ring for raising and lowering the same, a link 125 connected therewith, a lever 121, a link 122 connecting said lever and link 125, a lever 115 connected with lever 121, and a cam 114 for acting on lever 115.

22. The combination with a needle-cylinder, of devices for lowering and raising the same, a lever connected with said devices, a cam 148 for operating said lever, a ratchet connected to said cam, a reciprocating pawl for engaging said ratchet, a guard for holding said pawl out of action, and a pattern-chain provided with lugs for operating said guard.

23. The combination with a needle-cylinder, of devices for lowering and raising the same, a cam for operating the same, a ratchet connected with said cam, a reciprocating pawl for engaging said ratchet, a guard for holding said pawl out of action, a shaft carrying said guard, an arm secured to said shaft, and a pattern-chain having a series of lugs for engaging said arm.

24. In a machine for knitting stockings, the combination with the needle and cam cylinders, of mechanism for rotating and reciprocating one of said cylinders, mechanism for changing the motion from rotary to reciprocating, and mechanism for changing the relation of the needles and knitting-cam and operating the motion-changing mechanism during successive revolutions of the rotary cylinder whereby a course of loose stitches is formed adjoining the short courses formed during reciprocating knitting.

25. In a machine for knitting stockings, the combination with the needle and cam cylinders, of mechanism for rotating and reciprocating the cam-cylinder, mechanism for changing the motion from rotary to reciprocating, and means for raising the needle-cylinder and operating the motion-changing mechanism during successive revolutions of the cam-cylinder whereby a course of loose stitches is formed adjoining the short courses formed during reciprocating knitting.

26. In a machine for knitting stockings the combination with the needle-cylinder, of devices for raising the same, a lever connected therewith, a drum carrying two sets of cams, and an adjustable roll on said lever for engaging either set of cams.

27. In a machine for knitting stockings the combination with the needle-cylinder, of devices for raising the same, a drum two sets of cams carried thereby, and means for connecting either set of cams with the raising devices.

28. In a knitting-machine the combination with a speed-changing mechanism, a lever for operating the same, a motion-changing mechanism, a lever for operating the same, mechanism for controlling the operation of the needles, a lever for operating the same, of a disk carrying cams for shifting the speed-changing lever and the motion-changing lever and holding them in their shifted positions until said disk has made substantially a revolution, and a series of cams on said disk for successively operating the needle-controlling lever during the revolution of said disk.

29. In a knitting-machine the combination with a motion-changing mechanism, and mechanism for varying the length of stitch, of levers for operating said mechanisms, and a cam-disk carrying cams for shifting said levers and holding them in their shifted position during substantially a revolution of said disk.

30. In a knitting-machine the combination with a motion-changing mechanism, and mechanism for controlling the operation of the needles, of a cam-disk, a cam on said disk for operating the motion-changing mechanism, a series of cams on said disk for operating the needle-controlling mechanism, a ratchet on said disk having a series of long teeth forming dwells corresponding in number to said series of cams, a pawl for engaging said ratchet, and means for starting said disk.

31. The combination with a speed-changing mechanism, of a lever 89 connected therewith, a motion-changing mechanism, a lever 53 connected therewith, a needle-controlling mechanism, a lever 64 connected therewith, a cam-disk 58, cams 88 and 57 thereon, a series of cams 65 on said disk, ratchet-teeth on said disk having a number of long teeth corresponding to cam 65, a pawl for engaging said ratchet and means for starting said disk.

32. The combination with a controller-disk, of arms connected therewith, a pattern-chain having projections for engaging said arms, and means for yieldingly supporting said arms in the path of said projections.

33. The combination with a controller-disk, of arms 132 pivoted thereto, a pattern-chain having projections for engaging said

arms, and a yielding cam for supporting said arms in the path of said projections.

34. The combination with a stud, of a controller mounted thereon, a pattern-chain carrier mounted thereon, a cam-drum for raising the needle-cylinder mounted thereon, ratchets connected with said controller, carrier and drum, a pawl-carrier mounted on said stud, and pawls carried by said carrier for engaging said ratchets.

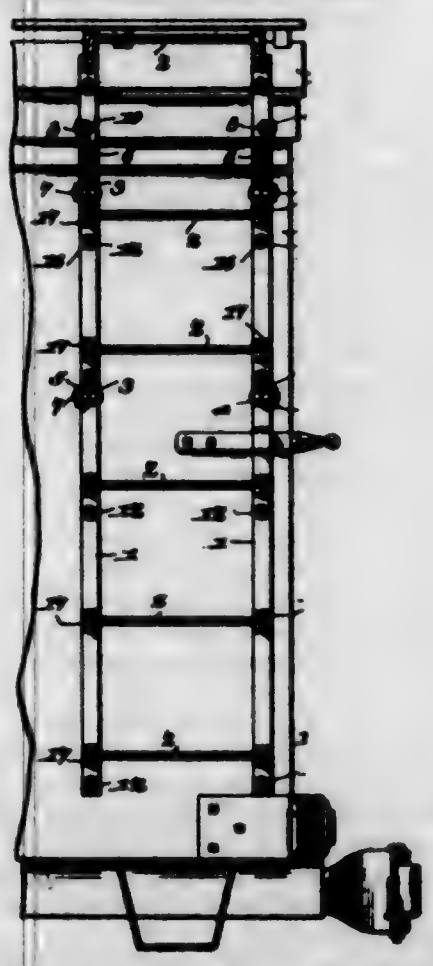
35. The combination with a stud, of a controller mounted thereon, a pattern-chain carrier mounted thereon, a cam-drum for raising the needle-cylinder mounted thereon, ratchets connected with said controller, carrier, and drum, a pawl-carrier mounted on said stud, pawls carried by said carrier for engaging said ratchets, a stop mechanism, an operating-frame connected therewith and supported on said stud, and a pawl carried by said pawl-carrier for operating said frame.

36. The combination, with the cam-cylinder of a knitting-machine, of mechanism for changing the motion thereof from rotary to reciprocating and vice versa, embodying a clutch, a rotary cam 51, a lever 47 connected with the clutch and provided with arms 49 and 50, a spring 52 for holding cam 51 in line with arm 49, a lever 53 connected with cam 51 and a cam 57 for acting on lever 53.

37. In a knitting-machine, the combination of an adjusting-ring for regulating the height of the needle-cylinder, a rod 24 connected therewith, a link 125 provided with an open recess for engaging said rod, and mechanism for operating said link.

38. In a knitting-machine the combination of an adjusting-ring for regulating the height of the needle-cylinder, a rod 24 connected therewith, a link 125 provided with a recess 210 engaging said rod, a stop 211 carried by said link, a shoulder 212 on said link, a stop 213, and mechanism for operating said link.

806,922. LADDER. THOMAS W. SALENS and JAMES MCKIEL, Marshall, Tex. Filed Jan. 4, 1905. Serial No. 239,694.



Claim.—1. A ladder comprising side rails provided with integral socketed brackets, and grab-irons or handholds having their terminals disposed in the sockets.

2. A ladder comprising side rails provided with integral brackets each having a seat and a socket, and handholds having their terminals formed to engage the seat and the socket.

3. A ladder comprising side rails having integral brackets provided with seats and sockets disposed at right angles to the seats, handholds having their terminals formed to engage the seats and sockets, and means for holding the terminals against disconnection from the brackets.

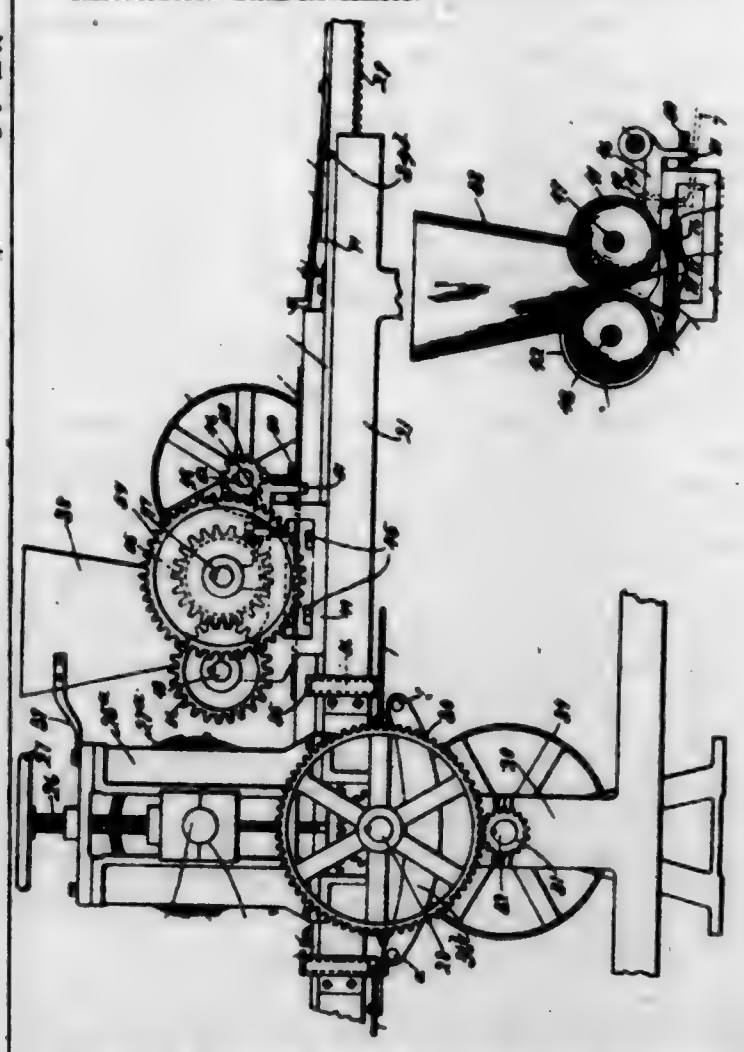
4. A ladder comprising side rails having integral brackets provided with seats and sockets disposed at right angles to the seats, handholds having their terminals formed to engage the seats and sockets, and bolts combined with the brackets for holding the terminals against disconnection from the brackets.

5. A ladder comprising side rails having integral brackets provided with seats and sockets disposed at right angles to the seats, handholds having their terminals formed to engage the seats and sockets, means for holding the terminals against disconnection from the brackets, and an angular top section hinged to the upper ends of the side rails, and provided with brackets and a handhold similar to those on the side rails.

6. A ladder comprising side rails having integral brackets provided with seats and sockets disposed at right angles to the seats, handholds having their terminals formed to engage the seats and sockets, and means for holding the terminals detachably connected with the brackets.

7. A ladder comprising side rails having integral brackets provided with seats and sockets disposed at right angles to the seats, handholds having their terminals formed to engage the seats and sockets, and pins or bolts passing through the brackets above the terminals of the handholds to hold the latter combined with the brackets.

806,923. FEEDING APPARATUS FOR PICTURE-FRAME-PUTTYING MACHINES, &c. CHARLES H. SANDSTROM, Chicago, Ill. Filed Nov. 25, 1903. Serial No. 182,398.



Claim.—1. In combination with a machine of the general class described, a feeding device comprising means for effecting the delivery of the material to be fed, and means governed by and during continuous movement of the machine for starting and then arresting the feeding device.

2. In combination with a machine of the general class described, of a movable work-support, means for feeding the material to the work-support, and means controlled by the work-support for starting and then stopping the feeding means during continuous movement of the support.

3. In a machine of the class described, the combination with a movable work-support, of feeding means, means for starting and then stopping the feeding means during the movement of the support, and means for automatically arresting the support after the stopping of the feeding means.

4. In a machine of the class described, the combination with a movable work-support, of feeding means, a clutch controlling the feeding means and adapted to be shipped and unshipped during the movement of the support, and means controlled by the support for arresting the latter after the stopping of the feeding means.

5. In a machine of the class described, the combination with a

reciprocating bed, of feeding means, a clutch controlling the feeding means, a clutch-lever actuated by the bed to ship and then unship the clutch, and a connection controlled by the bed to arrest the movement of the latter after the stopping of the feeding means.

6. In combination with a machine of the general class described provided with a reciprocating bed, a pair of feed-rolls, clutch-controlled means for driving the rolls, a clutch-controlling lever, and cams mounted on the bed for moving the lever to ship and then unship the clutch during continuous movement of the bed.

7. In combination with a machine of the general class described provided with a reciprocating bed, a pair of feed-rolls, a shaft, gear connection between the shaft and rolls for driving the latter, a driving-wheel on the shaft, a clutch connection between the wheel and shaft, a lever for shipping and unshipping the clutch, an arm pivoted to the lever, and cams mounted on the bed to actuate the arm.

8. In combination with a machine of the general class described provided with a reciprocating bed, a hopper, feed-rolls located at the outlet of the hopper, a shaft, gearing driven by the shaft for moving the feed-rolls, a belt-pulley loose on the shaft and provided with a clutch member, a clutch member fixed to the shaft, a pivoted lever for sliding the pulley to ship and unship the clutch, an arm pivoted to the lever and provided with a finger extending over the reciprocating bed, and cams carried by the bed to engage the finger and move the arm in opposite directions.

9. In combination with a machine of the general class described provided with a reciprocating bed, a pair of feed-rolls located at the outlet of the hopper and provided with shafts, supports upon which one of the shafts is journaled, brackets adjustably mounted on the supports and upon which the other shaft is journaled, intermeshing gears fixed on the shafts, a spur-gear fixed on one of the shafts, a second shaft journaled on the brackets and having a pinion meshing with the spur-gear, a pulley loose on said shaft and provided with a clutch member, a clutch member fixed to the said shaft, a pivoted lever for sliding the pulley, an arm pivoted to the lever and provided with a finger extending over the reciprocating bed, and cams carried by the bed to engage the finger and move the arm in opposite directions.

10. In combination with a machine of the general class described, a hopper, feed-rolls at the outlet thereof, means for driving the feed-rolls, means for arresting the movement of the feed-rolls, and a cut-off for severing the material as the movement of the feed-rolls is arrested.

11. In combination with a machine of the general class described, a hopper, feed-rolls at the outlet thereof, means for driving the feed-rolls, means for arresting the movement of the feed-rolls, a sliding cut-off located beneath the feed-rolls, a pair of trips engaging the cut-off to slide the same, and cams for disengaging the trips from the slide.

12. In combination with a machine of the general class described provided with a reciprocating bed, a hopper, feed-rolls at the outlet thereof, means for driving the feed-rolls, means for arresting the rolls, guides located at opposite ends of and beneath the hopper, a sliding knife movable in the guides, trips fixed on the bed and engaging the knife in both directions of movement of the bed, and cams for disengaging the trips from the knife.

13. In combination with a machine of the general class described provided with a reciprocating bed, a hopper, feed-rolls at the outlet thereof, clutch-controlled means for driving the rolls, means for automatically shipping and then unshipping the clutch during the advance of the bed, a knife located under the rolls, and means for moving the knife to cut the material on the advance of the bed and for returning the knife to its original position on the retraction of the bed.

14. In combination with a machine of the general class described provided with a reciprocating bed, a hopper, feed-rolls at the outlet thereof, cleaner-plates for the rolls, clutch-controlled means for driving the rolls, cams for shipping and then unshipping the clutch on the advance movement of the bed, guides located at the opposite ends of and under the hopper, a plate sliding in the guides and having a knife-edge coacting with one of the cleaner-plates to cut the sheet of material fed from the hopper, trips mounted on the bed and having fingers engaging the plate to move it into coöperation with the latter cleaner-plate on the advance of the bed and for returning the plate to its original position on the retraction of the bed, shoulders on the trips, and cams engaging the shoulders to disengage the arms from the plate after the movement of the plate in either direction.

15. In a device of the class described, the combination with a reciprocating bed, of a hopper, feed-rolls located at the mouth of the hopper, clutch-controlled means for driving the rolls, a clutch-lever, and cams carried by the bed and for moving the lever to ship and then unship the clutch during continuous movement of the bed.

16. In a device of the class described, in combination, a moving work-support, a hopper, feed-rolls located at the mouth of the hopper, clutch-controlled means for driving the rolls, a lever for shipping and unshipping the clutch, cams carried by the work-support, and an arm pivoted to the lever and provided with a finger engaged by the cams during continuous movement of the work-support to move the arm in opposite directions.

17. In a device of the class described, in combination, a hopper, feed-rolls located at the mouth of the hopper, clutch-controlled means for driving the rolls, means for shipping and then unshipping the clutch, a knife located under the rolls, trips for engaging the knife to move the same to sever the material fed from the hopper as the movement of the rolls is arrested and then for returning the knife to its original position, and cams for disengaging the trips from the knife after each movement of the latter.

18. In a device of the class described, in combination, a hopper, adjustable feed-rolls located at the outlet thereof, a shaft, gearing for communicating motion from the shaft to the rolls, a clutch on the shaft, a lever for shipping and then unshipping the clutch, a reciprocating member, cams on such member for successively actuating the lever, a knife located under the rolls, trips on the reciprocating member and for engaging the knife to sever the material fed from the hopper on the advance of the member and as the movement of the rolls is arrested, and for returning the knife to its original position on the retraction of the member, and cams for disengaging the trips from the knife at the end of the movement of the latter in either direction.

19. In combination with a machine of the class described, of a moving work-support, feeding means, means for driving the feeding means, and means controlled by and during the continuous movement of the support for throwing the driving means into and out of operation.

20. In combination with a machine of the general class described and provided with a reciprocating bed, a die-roll associated with the bed, of feeding means, and means for starting and stopping the feeding means during the movement of the bed in one direction only.

21. In combination with a machine of the general class described and provided with a reciprocating bed, a die-roll associated with the bed, of feeding means, and means controlled by the bed for starting and stopping the feeding means during the movement of the bed in one direction only.

22. In combination with a machine of the general class described and provided with a moving bed, a die associated with the bed, a driving connection for moving the bed, means under which the bed moves for feeding plastic material thereto, and means for starting and stopping the feeding means during the continuous movement of the bed.

23. In combination with a machine of the general class described and provided with a bed, a die associated with the bed, a driving connection for moving the bed, a hopper under which the bed reciprocates, means for feeding the plastic material from the hopper and a controller governed by the bed and actuated during the movement of the bed in one direction only to start and then arrest the feeding means.

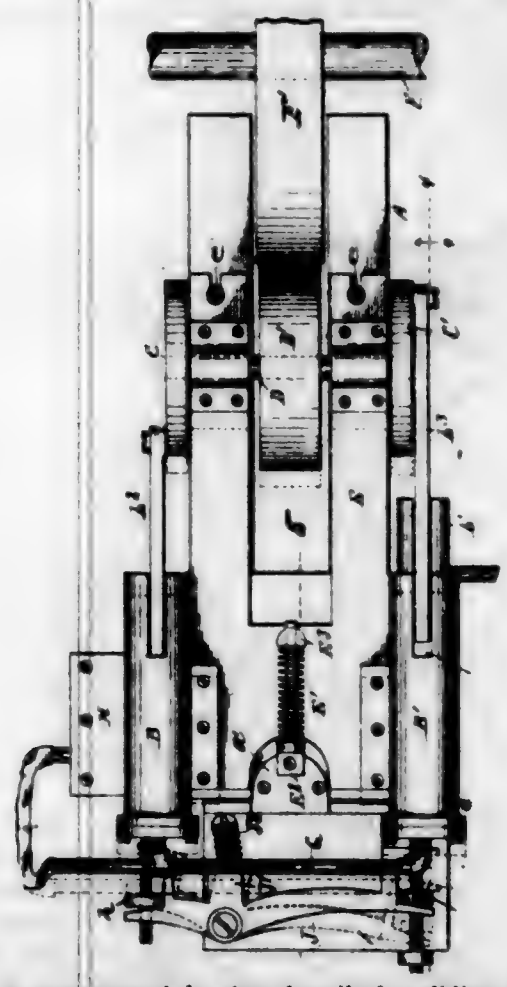
24. In combination with a machine of the general class described and provided with a reciprocating bed, a die associated with the bed, a driving connection for moving the bed, a hopper under which the bed reciprocates, means for feeding plastic material from the hopper, a controller governed by the bed and actuated during the movement of the bed in one direction only to start and then arrest the feeding means, and a cut-off for severing the plastic material delivered by the feeding means.

25. In combination with a machine of the general class described and provided with a reciprocating bed, a die associated with the bed, a driving connection for moving the bed, a hopper under which the bed reciprocates, means for feeding plastic material from the hopper, a controller governed by the bed and actuated during the movement of the bed in one direction only to start and then arrest the feeding means, and a sliding cut-off controlled by the bed for severing plastic material delivered by the feeding means.

806,924. **AIR-COMPRESSOR.** WILLIAM J. SCHULTE, Detroit, Mich., assignor of one-half to Charles L. Viseman and William H. Turner, Detroit, Mich. Filed June 11, 1904. Serial No. 212,976.

Claim.—1. In an apparatus of the class described, a reciprocat-

ing carriage, compression-pumps mounted thereon, a frictional driving-pulley mounted on said carriage and geared to operate the pumps, a main driving-pulley to operate said pump-pulley, means operated by the air under compression to shift the pump-driving pulley into or out of frictional driving contact with the main driving-pulley as determined by the air-pressure itself, substantially as described.



2. In an apparatus of the class described, a sliding carriage, a driving-pulley to operate the compression-pumps, an independent driving-pulley to operate said pump-driving pulley by frictional contact, a fixed frame, air-chambers provided with elastic diaphragms supported therein, an arm secured to the sliding carriage and lying adjacent to the diaphragms of the air-chambers, means for delivering the air to and exhausting it from the air-chambers alternately, whereby the alternate distention of the diaphragms bearing against the arm of the sliding carriage will cause it to reciprocate thereby bringing the frictional driving-pulleys into or forcing them out of driving relation, substantially as described.

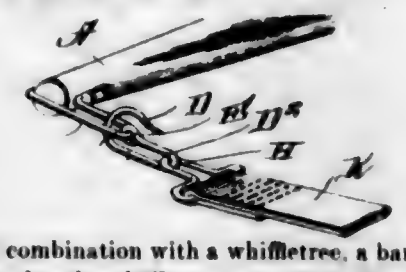
3. In an apparatus of the class described, a sliding carriage carrying a friction driving-pulley to operate compression-pumps, two oppositely-disposed diaphragmed air-chambers, an arm secured to said sliding carriage and projecting between the air-chambers adjacent to the diaphragms, and means for admitting air to and exhausting from said air-chambers alternately whereby the sliding carriage is given a reciprocating movement in order that the driving-pulleys may be brought into frictional driving contact or released therefrom, substantially as described.

4. In an apparatus of the class described, a sliding carriage carrying a frictional driving-pulley to operate compression-pumps and having channels to receive a frame, a fixed frame provided with similar channels, a frame interposed between the fixed frame and sliding carriage and housed within the channels formed in the carriage and fixed frame, said intermediate frame provided with antifriction-rollers upon which the carriage travels, substantially as described.

5. In an apparatus of the class described, a sliding carriage, a driving-pulley to operate the compression-pumps, an independent driving-pulley to operate said pump-driving pulley by frictional contact, air-chambers provided with elastic diaphragms, an arm secured to the sliding carriage and projecting between the oppositely-disposed air-chambers adjacent to their elastic diaphragms, an auxiliary cylinder fitted with a piston having a projecting rod engaging a rocking lever, the lever, a valve-chest, pipe connections from the compression-pumps to the valve-chest and from the valve-chest to the auxiliary cylinder, to the storage-tank and to the diaphragmed air-chambers, and a sliding valve housed within the valve-chest under the control of said rocking lever to govern by its movement the admission and release of air to each of the air-chambers alternately, substantially as described.

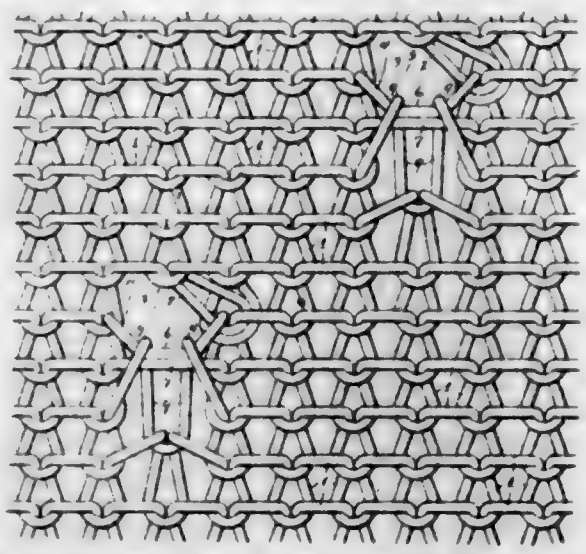
6. In an apparatus of the class described, a sliding carriage, compression-pumps suitably mounted, a driving-pulley to operate the compression-pumps mounted on the sliding carriage, an independent driving-pulley designed to operate the driving-pulley mounted on the sliding carriage when the latter is brought into frictional contact therewith, means controlled by a rocking lever for reciprocating said sliding carriage, the rocking lever, an auxiliary cylinder fitted with a piston having a projecting rod connected with said rocking lever, a spring having a bearing against one side of said piston, means for increasing the tension of said spring, pipe connections between said auxiliary cylinder and the source of air compression, whereby when said compression has reached a predetermined pressure the piston is forced against the tension of the spring to operate the rocking lever and to throw the frictional driving-pulley out of driving contact with the power controlling the same, substantially as described.

806,925. TRACE-HOOK. JOHN T. SCOGIN, Luthersville, Ga. Filed July 14, 1905. Serial No. 269,687.



Claim.—In combination with a whiffletree, a bar B, the ends of which are fastened to the whiffletree at positions diametrically opposite, said bar having a U-shaped portion extending at right angles from the whiffletree with one of the legs of said U-shaped portion in contact with the end of the whiffletree, a hook having an eye engaging said U-shaped portion, the shank portion of said hook being bent upon itself forming a loop for the engagement of a trace-hook, the end of said hook extending through said U-shaped loop, as shown and described.

806,926. KNITTED FABRIC. MARTIN J. SHAUGHNESSY, Amsterdam, N. Y. Filed July 24, 1905. Serial No. 270,966.

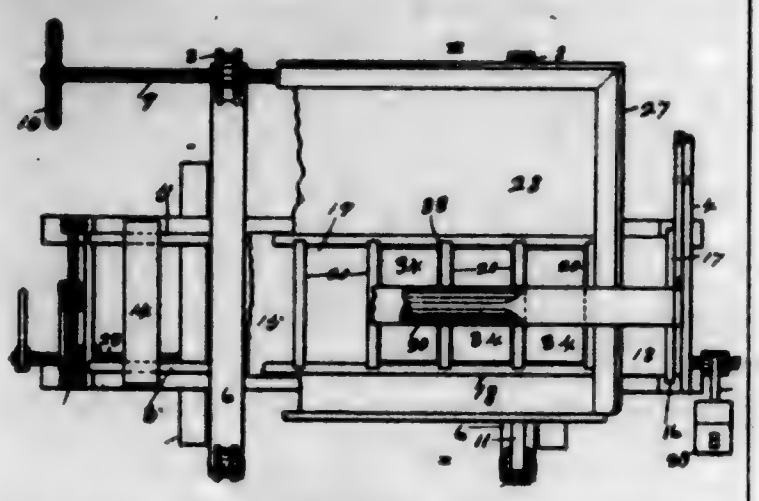


Claim.—A knitted fabric having a transferred stitch, and immediately below the space caused by said transferred stitch, a loop in the first course thereafter, and a loop in the second course thereafter, both intermeshed with the same loop in the third course thereafter.

806,927. CEMENT BLOCK AND BRICK MACHINE. TAYLOR F. SHOEMAKER, Bluffton, Ind. Filed Apr. 10, 1905. Serial No. 254,806.

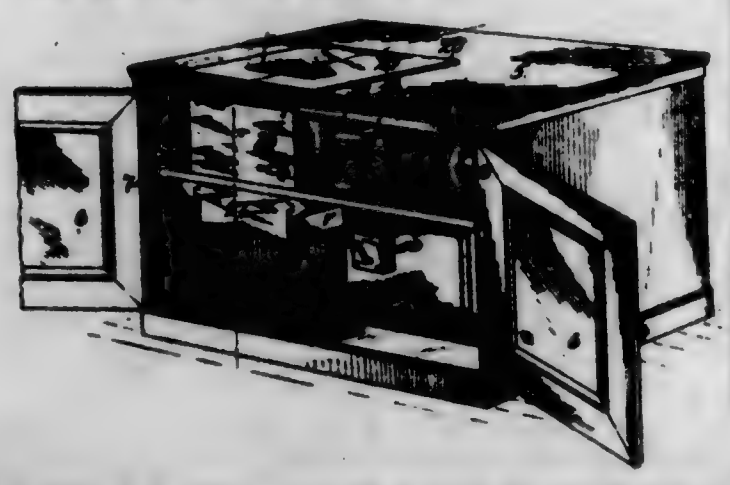
Claim.—1. In a cement-block machine, an upright supporting-frame; horizontal bars arranged transversely of said frame with rotatable pulleys mounted on the opposite ends of each bar; an endless belt passing over the pulleys of each of said bars provided with means for engaging with a pallet supported on said belt; a pallet mounted on said carrier-belts and transverse bars in said frame; a mold vertically adjustable relatively to said pallet and arranged in coöperative relation therewith; (bifurcated) vertical standards slidably mounted in grooves in the inner faces of upright standards at each end of the machine, and secured at their upper ends to the mold-box; duplicate operating-rods pivotally connected at their upper ends with said bifurcated standards and at their lower ends pivotally connected to one end of a lever whose other end is rigidly mounted upon a rotatable horizontal shaft; an upright operating-lever con-

nected with said rotatable horizontal shaft to elevate and lower the said standards supporting said molding-box; and means for actuating the carriers to remove the loaded pallet from beneath the mold when elevated.



2. In a machine of the class specified, a supporting-frame; horizontal bars arranged transversely of said frame with rotatable pulleys mounted in bifurcated opposite ends of each bar; an endless belt mounted in each of said bars provided with means for a holding engagement with a pallet carried on said belts; a pallet loosely mounted on said carrier-belts and transverse bars in said frame; a mold vertically adjusted relatively to said pallet and arranged in cooperative relation therewith; a work-board mounted on the frame in coöperative relation to the mold; vertical standards slidably mounted in the inner faces of upright standards at each end of the machine and secured at their upper ends to the mold-box; duplicate operating-rods, pivotally connected at their upper ends with said slidably-mounted standards and at their lower ends pivotally connected to one end of a lever whose other end is rigidly mounted upon a rotatable horizontal shaft; an upright operating-lever connected with said rotatable horizontal shaft adapted to elevate and lower the said standards supporting said molding-box and means for actuating the carriers to remove the loaded pallet from beneath the mold when elevated.

806,928. **LETTER-OPENER.** GEORGE W. SIMMONS, St. Louis, Mo. Filed July 17, 1905. Serial No. 270,167.

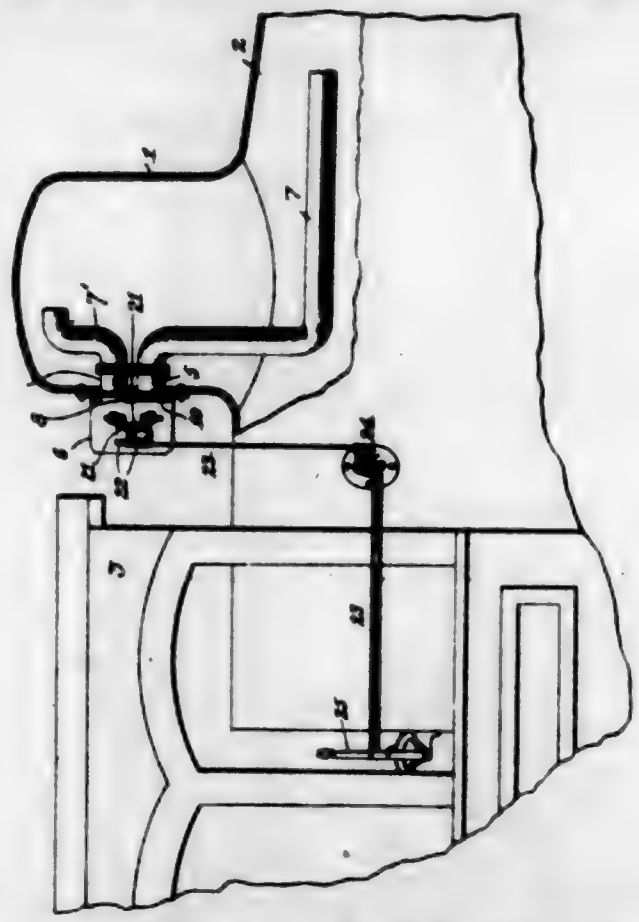


Claim.—1. In a letter-opener, the combination of a closed casing having an opening in the top thereof through which the letters are inserted, a traveling abrading mechanism arranged with the abrading-surface close to the inner end of the opening through the top of the casing, means for operating the abrading mechanism, and means for collecting the dust produced by the abrading mechanism arranged within the casing, substantially as set forth.

2. In a letter-opener, the combination with the casing provided with an opening, a pair of rollers mounted therein and a belt having a roughened surface mounted on the rollers, means for driving the rollers, and a movable plate provided with a slot, and arranged to rest on the said casing, for varying the width of the opening therein, substantially as set forth.

3. In a letter-opener, the combination with the casing provided with an opening, a set of rollers mounted therein, means for driving the rollers, a belt mounted on the said rollers and provided with a roughened outer surface and arranged to move in close proximity to the said opening, a removable dust-collecting box arranged below the belt, and a dust-deflecting plate in front of the belt for deflecting the dust downward into the said box, substantially as set forth.

806,929. **COMBINED THROTTLE-VALVE AND STOP-VALVE.** GEORGE R. SMITH, Norfolk, Va., assignor of one-half to Joseph H. Bowen, Norfolk, Va. Filed Apr. 25, 1905. Serial No. 257,256.



Claim.—1. The combination with a boiler having a steam-dome, of a casing secured to the outside of said dome and communicating therewith, a pipe leading from said casing, a hand-operated stop-valve controlling the admission of steam to said casing, and a valve controlling the admission of steam from the casing to the pipe.

2. The combination with a boiler having a steam-dome, of a casing secured to the outside of said dome and containing three chambers, one of which communicates with said dome, a valve controlling the passage of steam from said chamber to the next, and a valve controlling the flow of steam from the second to the third chamber.

3. The combination with a boiler having a steam-dome, of a casing secured to the outside of said dome and containing three chambers, one of which communicates with said dome, a valve controlling the passage of steam from said chamber to the next, and a valve controlling the flow of steam from the second to the third chamber, said valves being provided with operating mechanism passing through the walls of said casing.

4. The combination with a boiler having a steam-dome, of a casing secured to the outside of said dome and containing three chambers, one of which communicates with said dome, a valve controlling the flow of steam from said chamber to the intermediate chamber, a valve controlling the flow of steam from the intermediate chamber to the third, a dry-pipe leading from said third chamber, and separate means for operating said valves from outside the casing.

5. The combination with a locomotive-boiler provided with a steam-dome and a dry-pipe, of a throttle-valve and a stop-valve both located outside of said dome, and both controlling the passage of steam from said dome to the dry-pipe.

6. In a locomotive, the combination with the steam-dome, of a casing secured to the outside thereof, a stop-valve and a throttle-valve mounted in said casing, and separate operating mechanism leading back to the cab outside of the boiler.

7. In a locomotive, the combination with the steam-dome and dry-pipe, of a stop-valve and a throttle-valve both controlling the flow of steam to the dry-pipe and separate means for operating said valves by hand.

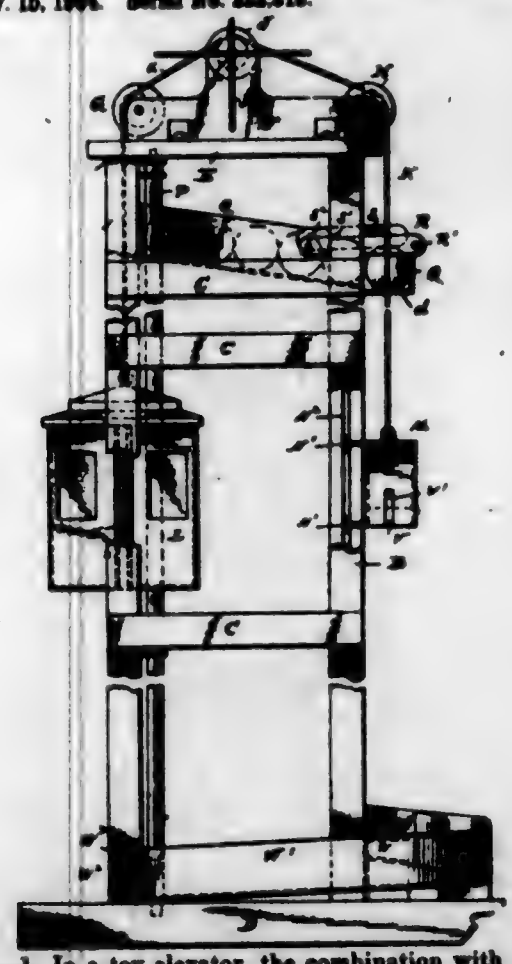
8. In a locomotive, the combination with the steam-dome and the dry-pipe, of a stop-valve and a throttle-valve both controlling the flow of steam to the dry-pipe, and means for holding the throttle-valve permanently open in case of accident to its operating mechanism.

9. In a locomotive, the combination with the steam-dome, of a casing secured to the outside thereof, a stop-valve and a throttle-valve both located in said casing, operating mechanism located outside the boiler, and means for forcing open the throttle-valve in case of accident to its operating mechanism.

10. In a locomotive, the combination with the steam-dome, of a casing secured to the outside thereof, a stop-valve and a throttle-valve both located in said casing, operating mechanism for each valve located outside the boiler, and a screw-plug passing through the wall of the casing in line with the stem of the throttle-valve.

11. In a locomotive, the combination with the steam-dome, of a casing for the throttle-valve secured to the outside of said dome and having two necks projecting into said dome.

806,930. TOY ELEVATOR. WILLIAM H. SMITH, Yonkers, N. Y. Filed Nov. 15, 1904. Serial No. 232,818.



Claim.—1. In a toy elevator, the combination with a vertical frame and pulleys at the top of the same, of a cord passed over the pulleys, receptacles attached to the opposite ends of the cord and guided to move on the vertical frame, a detached weight, means for automatically delivering the weight into one of said receptacles when the said receptacle is in its highest position thus supporting said weight entirely by said receptacle, and means for automatically discharging this weight from said receptacle, which means are located at the bottom of the vertical frame, substantially as set forth.

2. In a toy elevator, the combination with a vertical frame and pulleys on the same, of a cord passed over the pulleys, two receptacles suspended from the ends of said cord and guided in the vertical frame, a gutter at the top of the frame and a gutter at the bottom of the frame, a detached weight, means at the top of the frame for automatically releasing the weight from the upper gutter into one of said receptacles, whereby said weight is supported entirely by said receptacle, and means at the bottom gutter for automatically discharging the weight from said receptacle into the bottom gutter, substantially as set forth.

3. In a toy elevator, the combination with a frame and pulleys on the same, of a cord passed over said pulleys, receptacles attached to the ends of the cord and guided in the frame, and a brake for said cord, substantially as set forth.

4. In a toy elevator, the combination with a frame and pulleys on the same, of a cord passed over said pulleys receptacles attached to the ends of the cord and guided in the frame, an upright shaft mounted to turn axially, an arm on said shaft, which arm has an aperture through which said cord passes, substantially as set forth.

5. In a toy elevator, the combination with a frame and pulleys on the same, of a cord passed over the pulleys, receptacles attached to the ends of said cord and guided to move vertically in the said frame, a gutter at the upper part of the frame and having an open end, means at said open end of the gutter for temporarily closing the gutter, means on one of the said receptacles for opening said closing means, and a detached ball resting loosely in the gutter at the upper part of the frame and retained in the same by the closing means at the open end of said gutter, when said closing means closed the gutter, and which ball, when the gutter is temporarily open, can roll into one of the receptacles, substantially as set forth.

6. In a toy elevator, the combination with a frame and pulleys on the same, of a cord passed over the pulleys, receptacles attached to the ends of the cord and guided in the frame, a gutter in the upper part of the frame and having its rear end open, an arm pivoted at said rear end of the gutter to extend across the same, a pivoted lever mounted so as to be capable of extending into said gutter and located some distance from the above-mentioned pivoted arm and connected therewith, and means on one of said guided receptacles for lifting the pivoted arm, substantially as set forth.

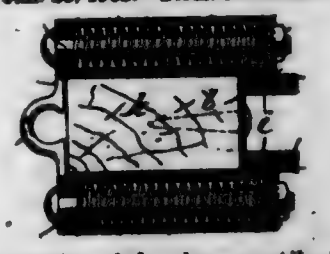
7. In a toy elevator, the combination with a frame and pulleys on the same, of a cord passed over the pulleys, two receptacles attached to the ends of the cord and guided in said frame, a gutter on the frame at the top and having an open inner end, an arm pivoted at said open end, means on one of the above-mentioned receptacles for lifting said arm, and a lever located at the gutter a short distance from said arm and pivoted to a suitable support and connected with the said arm, substantially as set forth.

8. In a toy elevator, the combination with a frame and pulleys on the same, of a cord passed over the pulleys, receptacles attached to the ends of the cord and guided in the frame, a wedge-shaped piece in the bottom of one receptacle and means for raising said wedge-shaped piece when the receptacle arrives at its lowermost position, substantially as set forth.

9. In a toy elevator, the combination with a frame and pulleys on the same, of a cord passed over the pulleys, receptacles attached to the ends of the cord and guided in the frame, a wedge-shaped piece in one of the receptacles, a pin projecting from the narrower end of said piece, and a stop on the bottom part of the frame, which said pin can contact with when the said receptacle arrives at its lowermost position, substantially as set forth.

10. In a toy elevator, the combination with a frame and pulleys on the same, of a cord passed over the pulleys, receptacles attached to the ends of the cord and guided in the frame, one of said receptacles having an open side, a ledge at the bottom of said open side, a wedge-shaped piece resting on the bottom of the receptacle, the thicker end of the wedge being at said ledge and of the same height as the ledge, a pin projecting from the narrower end of said wedge, and a stop-piece in the bottom of the frame, with which stop-piece the pin can contact to tilt the wedge when said receptacle arrives in its lowermost position, substantially as set forth.

806,931. YIELDING DRAFT-CLEVIS. WILLIAM B. SMITH, Chicago, Ill. Filed Jan. 26, 1905. Serial No. 242,749.



Claim.—1. In a device of the class described, the combination with a doubletree of a metal fitting attached to the rear thereof, said fitting being provided with rearwardly-extended lugs having openings therein, a clevis consisting of two separable tubes restricted at the front ends to form interior stops, springs within said tubes, a draft member at the front ends of said tubes extending from one to the other, means for connecting said draft member to the rear ends of said springs, extensions upon the said tubes and means for securing the engagement thereof with said lugs.

2. In a device of the class described, the combination with a doubletree of a metal fitting attached to the rear end thereof, said fitting being provided with rearwardly-extended lugs having openings therein, a clevis consisting of two separable tubes restricted at the front ends to form interior stops, springs within said tubes, a draft member at the front ends of said tubes extending from one to the other, means for connecting said draft member to the rear ends of said springs, extensions upon said tubes, said extensions being bent at right angles to said tubes, and means upon said extensions for insuring the operative engagement thereof with said lugs when the parts are assembled.

3. In a device of the class described, the combination with a doubletree of a metal fitting attached to the rear thereof, said fitting being provided with rearwardly-extended lugs having openings therein, a clevis consisting of two separable tubes restricted at the front ends to form interior stops, springs within said tubes, a draft member at the front ends of said tubes extending from one to the other,

means for connecting said draft member to the rear ends of said springs, and extensions upon said tubes, said extensions being bent at right angles to said tubes and provided in turn with a projection or enlargement upon the end at right angles thereto, whereby they may be loosely inserted within the openings in said lugs and retained therein when the parts are assembled.

806,932. PROCESS OF MAKING ORGANIC-ACID ANHYDRIDS. RUDOLF SCHMID, Vienna, Austria-Hungary. Filed June 22, 1905. Serial No. 266,409. (Specimens.)

Claim.—1. The method of producing acid anhydrid from dehydrated salts of the acids, consisting in subjecting a dehydrated salt to the action of tetrafluorid of silicon.

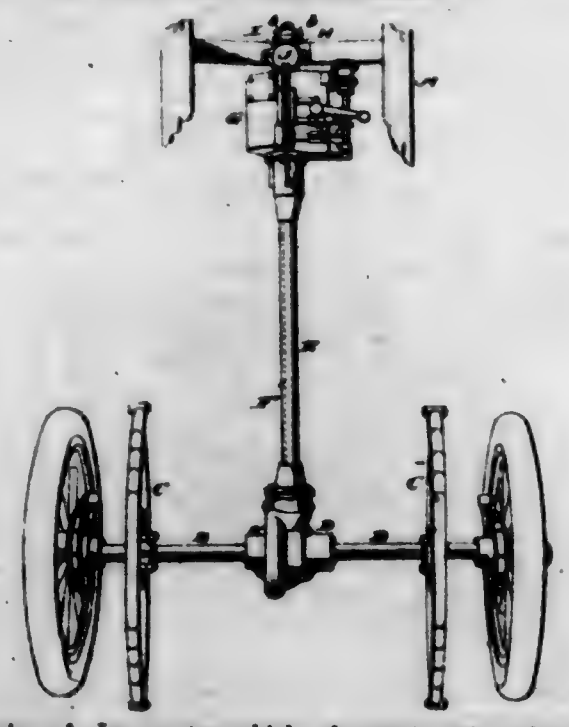
2. The method of producing acid anhydrid from sodium acetate, consisting in subjecting heated sodium acetate to the action of tetrafluorid of silicon.

3. The method of producing acid anhydrid from dehydrated salts of the acids, consisting in treating tetrafluorid of silicon with a heated mixture of sand and sulfuric acid, and then passing the tetrafluorid of silicon into a dehydrated salt.

4. In the production of anhydrid from dehydrated salts of the acids, the steps consisting in subjecting heated dehydrated salt to the action of tetrafluorid of silicon, heating the residue of such distillation with sand and sulfuric acid, drying the gas generated, conveying the dried gas into a heated benzoic-acid salt, and extracting with benzin.

5. In the production of anhydrid from dehydrated salts of the acids, the steps consisting in subjecting heated dehydrated salt to the action of tetrafluorid of silicon and heating the residue of such distillation with sand and sulfuric acid to recover tetrafluorid of silicon therefrom.

806,933. MOTOR-VEHICLE. TERRY STAFFORD, Topeka, Kans., assignor of one-half to L. Anton Smith and Clement Smith, Topeka, Kans. Filed Apr. 5, 1905. Serial No. 254,014.



Claim.—1. In a motor-vehicle, the combination of a frame, a rear axle connected with the frame, a gear-case connected with the rear axle, a socket carried by the forward portion of the frame, a ball complementary to said socket arranged and movable therein and having a bore, a transmission-gear case fixed with respect to the ball, a shaft connecting the gearing in the two cases, a tube interposed between and connected to the two cases and inclosing the said shaft, and a shaft connected with the gear in the second-mentioned case and journaled in the bore of the ball and provided in front of said ball with means, whereby the shaft may be connected with a motor.

2. In a motor-vehicle, the combination of a frame, a rear axle connected with the frame, a gear-case connected with the rear axle, a transmission-gear case, a shaft for connecting the gearing in the two cases, a tube interposed between and connected to the two cases and inclosing the said shaft, and a shaft connected with the gear in the second-mentioned case and journaled in and movable with respect to the forward portion of the main frame and provided with means for connecting it with a motor.

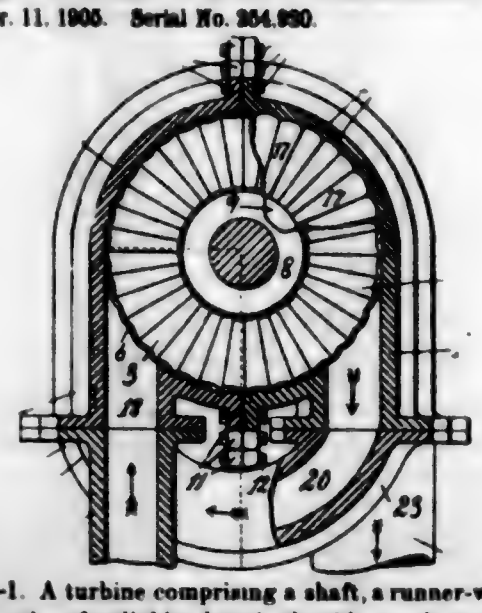
3. In a motor-vehicle, the combination of a frame, a transmission-gear case, a socket carried by the forward portion of the frame, a ball fixed with respect to said gear-case and arranged and movable in the latter, and having a bore, and a shaft connected with the gear in the case and journaled in the bore of the ball and provided, in front of the ball, with means for connecting it with a motor

4. In a motor-vehicle, the combination of a rear axle, a casing containing the same, a tube connected to and extending forwardly from said casing, and a transmission-gear case connected to the forward portion of the tube.

5. In a motor-vehicle, the combination of a frame, a socket carried thereby, a ball complementary to said socket, a gear-case fixed with respect to the ball, and a power-transmitting shaft journaled in the ball and the gear-case.

6. In a motor-vehicle, the combination of a rear axle, a casing containing the same, a tube connected to and extending forwardly from said casing, a transmission-gear case connected to the forward portion of the tube, transmission-gearing arranged in said case and connected with the rear axle, and a universal-joint connection for connecting the transmission-gearing with a motor.

806,934. TURBINE. DANVILL W. STARRETT, San Francisco, Cal. Filed Apr. 11, 1905. Serial No. 254,930.



Claim.—1. A turbine comprising a shaft, a runner-wheel thereon, having a series of radial buckets in the sides, and a casing having a series of corresponding radial buckets in the sides, the edges of the buckets in the runner-wheel just clearing those of the casing, substantially as described.

2. A turbine comprising a shaft, a runner-wheel thereon having concave radial buckets in the sides and transverse buckets in the circumference, and a casing having corresponding buckets in the sides and circumference, the buckets of the runner-wheel just clearing those of the casing, substantially as described.

3. A turbine having a shaft, a runner-wheel thereon having a plane or smooth central portion on each side and radial cavities extending from said smooth portion to the circumference and a casing having similar plane or smooth portions fitting against those of the runner-wheel and having radial concavities or buckets corresponding to those of the runner-wheel, the edges of the buckets of the one just clearing those of the other, substantially as described.

4. A turbine comprising a shaft, a runner-wheel thereon having a continuous series of concavities or buckets of a curvature symmetrical in both directions, and a casing having a similiar series, the edges of the buckets of one just clearing those of the other, substantially as described.

5. A turbine comprising a shaft, a runner-wheel thereon having a continuous series of radial concavities or buckets of a curvature symmetrical in both directions, and a casing having a similar series, the edges of the buckets of one just clearing those of the other, substantially as described.

6. A turbine comprising a shaft, a runner-wheel thereon having a continuous series of transverse circumferential concavities or buckets of a curvature symmetrical in both directions, and a casing having a similar series, the edges of the buckets of one just clearing those of the other, substantially as described.

7. A turbine comprising a shaft, a series of successively-increasing runner-wheels thereon and a casing having a series of partitions fitting closely around the shaft, forming chambers successively increasing in size to correspond with the runner-wheels, each runner-wheel having a series of concavities or buckets, and the casing having in each chamber corresponding series of concavities or buckets, the edges of the buckets of one just clearing those of the other, a tangential supply-conduit for the pressure fluid to the smallest chamber

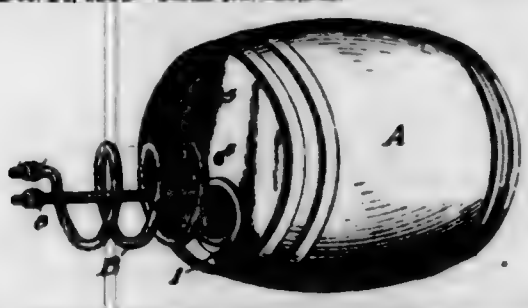
of the series, a pipe leading from said smallest chamber and discharging tangentially into the next larger chamber of the series, and so on in succession, substantially as described.

8. A turbine comprising a shaft, a series of successively-increasing runner-wheels thereon and a casing having a series of partitions fitting closely around the shaft, forming chambers successively increasing in size to correspond with the runner-wheels, each runner-wheel having a series of radial concavities or buckets, and the casing having in each chamber corresponding series of concavities or buckets, the edges of the buckets of one just clearing those of the other, a tangential supply-conduit for the pressure fluid to the smallest chamber of the series, a pipe leading from said smallest chamber and discharging tangentially into the next larger chamber of the series, and so on in succession, substantially as described.

9. A turbine comprising a shaft, a series of successively-increasing runner-wheels thereon and a casing having a series of partitions fitting closely around the shaft, forming chambers successively increasing in size to correspond with the runner-wheels, each runner-wheel having a series of transverse circumferential concavities or buckets, and the casing having in each chamber corresponding series of concavities or buckets, the edges of the buckets of one just clearing those of the other, a tangential supply-conduit for the pressure fluid to the smallest chamber of the series, a pipe leading from said smallest chamber and discharging tangentially into the next larger chamber of the series, and so on in succession, substantially as described.

10. A turbine comprising a shaft, a series of successively-increasing runner-wheels thereon and a casing having a series of partitions fitting closely around the shaft, forming chambers successively increasing in size to correspond with the runner-wheels, each runner-wheel having a series of radial buckets and a series of transverse circumferential concavities or buckets, and the casing having in each chamber corresponding series of concavities or buckets, the edges of the buckets of one just clearing those of the other, a tangential supply-conduit for the pressure fluid to the smallest chamber of the series, a pipe leading from said smallest chamber and discharging tangentially into the next larger chamber of the series, and so on in succession, substantially as described.

806,935. COMBINATION SPIRAL-SCREW COOLING DEVICE. WILLIAM L. STRAUS and GOTTFRIED ENGEL, Baltimore, Md.; said Engel assignor of one-half of his right to Louis Kirchstner, Baltimore, Md. Filed Dec. 24, 1904. Serial No. 238,342.



Claim.—The combination with a tank having a manhole therein of a coil of piping or tubing, one end of which coil extends through the axial center of the coil and the other end parallel therewith, and removed therefrom a distance slightly less than the diameter of the manhole, whereby the entire coil may be screwed into the tank through the manhole and the ends thereof afterward inserted through holes in the end of the tank from the inside outward.

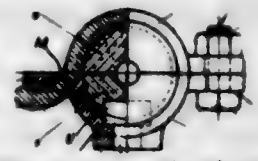
806,936. TRAP. ROBERT L. STRIPPELHOFF, White Bluffs, Tenn. Filed Apr. 8, 1905. Serial No. 254,562.



Claim.—1. A trap comprising a box having a trough-shaped top provided with an opening therein; and trap-doors in said opening and having projecting flanges extending under the top.

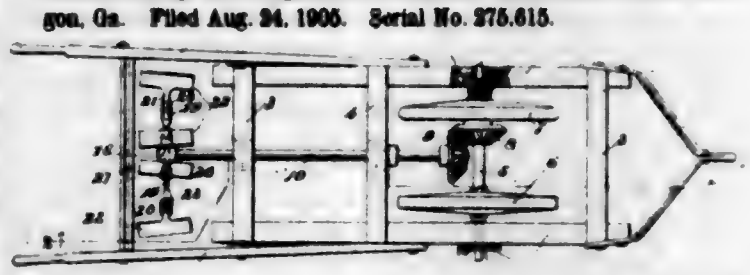
2. A trap comprising a box having a trough-shaped top provided with an opening therein; trap-doors in said opening; weights on the doors and extending into the box for normally holding said doors closed; and compartments in the box inclosing the weights.

806,937. INSULATED WIRE-SUPPORT. JOHN A. SULLIVAN, Cleveland, Ohio, assignor of one-half to I. F. Holper, Cleveland, Ohio. Filed Dec. 15, 1904. Serial No. 236,860.



Claim.—The combination of an insulated wire-support comprising a pair of semicylindrical grip-sections having means to detachably secure them together and one of said sections having a radial opening, an insulator comprising a pair of semicylindrical separable sections secured together by the grip-sections, one of said insulator-sections having a recess in one side registering with the radial opening in the said grip-section, and a bolt having its head in said recess and its stem portion extending through said radial opening, substantially as described.

806,938. COTTON-CHOPPER. JOHN V. SULLIVAN and DAVID A PORTER, Senoy, Ga., assignors of one-half to Henry Arther Powers, Aragon, Ga. Filed Aug. 24, 1905. Serial No. 275,615.



Claim.—In a cotton-chopper, a frame one side member of which is provided with a recess in the inner side thereof, a laterally-slidable axle extending through and concentric with said recess, and transporting-wheels upon the axle; a spring coiled upon the latter, seated in the recess of the frame and bearing against the proximate transporting-wheel, said axle projecting normally through the distant side piece of the frame; a latch member pivotally connected with the latter side piece and normally resting upon the protruding end of the axle, and a stud adapted for engagement with said latch member when the projecting portion of the axle is withdrawn against the tension of the spring upon the latter; in combination with a bevel-pinion upon the axle, and a chopper-carrying shaft supported for rotation longitudinally in the frame and having at the front end thereof a bevel-pinion intermeshing with the bevel-pinion upon the axle; the spring coiled on the axle and seated in the recess of the frame serving to hold the bevel-pinions normally in mesh with each other when the latch member is raised out of the path of the protruding end of the axle.

806,939. COMBINED LEGGING AND SOCK. AMOS H. SWITZER and LUKE M. SWITZER, Sutton West, Canada. Filed Oct. 1, 1904. Serial No. 226,871.



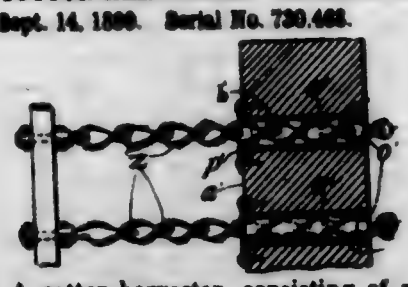
Claim.—1. In a combined legging and sock, a blank having the central V-shaped notch, and an irregularly-placed notch on each side of the central notch, whereby when the central seam is made through the central notch and opposing edges of the blank the seam of the cross notches will end in the central seam at points remote from each other as and for the purpose specified.

2. The combination with the sock having the central slit and lace-holding means on opposite sides of the slit, of the legging secured intermediate of its length to the top of the sock and having the overlapping portion or flap extending over the ankle portion of the sock, said legging having a front opening and lace-holding means on opposite sides of said opening and a hole extending through the front of the legging near the top of the sock, whereby the lace of the sock is extended through the lace-holding means of the legging as and for the purpose specified.

3. The combination with the sock having the central slit and lace-holding means on opposite sides of the slit, of the legging secured intermediate of its length to the top of the sock and having the overlapping portion or flap extending over the ankle portion of the sock, said legging having a front opening and lace-holding means on opposite sides of said opening and a hole extending through the front of the legging near the top of the sock, whereby the lace of the sock is extended through the lace-holding means of the legging, and the front flap of the legging provided with a notch, whereby a lower supplemental flap is formed and the lace of the sock is carried through to the lace-holding means at the front of the legging as and for the purpose specified.

4. The combination with the sock having the central slit and lace-holding means on opposite sides of the slit, of the legging secured intermediate of its length to the top of the sock and having the overlapping portion or flap extending over the ankle portion of the sock, said legging having a front opening and lace-holding means on opposite sides of said opening a hole extending through the front of the legging near the top of the sock, whereby the lace of the sock is extended through the lace-holding means of the legging, the front flap of the legging provided with a notch, whereby a lower supplemental flap is formed and the lace of the sock is carried through to the lace-holding means at the front of the legging and a lace passing through the lace-holding means on one edge of the overlapping flap or portion of the legging and adapted to be fastened to the lace-holding means on the supplemental flap of the legging to fasten the legging completely together as and for the purpose specified.

808,940. COTTON-HARVESTER. GEORGE H. TODD, Los Angeles, Cal. Filed Sept. 14, 1899. Serial No. 730,468.



Claim.—1. A cotton-harvester, consisting of a frame or carriage mounted on ground-wheels, said frame carrying and supporting two wiper-wheels provided with guideways, cotton-pickers, means for pushing said pickers into and out of the guideways of said wiper-wheels, and rotating said pickers and wiper-wheels in a direction reverse to that of the ground-wheels of said carriage or frame, to thereby card or comb the cotton from the cotton-plants.

2. A cotton-harvester consisting of a frame or carriage mounted on ground-wheels, wiper-wheels provided with guides and journaled to rotate in said carriage, cotton-pickers arranged in radial lines in said guides of said wiper-wheels and adapted to be projected or pushed in and out from said guides of the wiper-wheels in lines parallel with the horizontal axes of the wiper-wheels, means for rotating said pickers and wiper-wheels, and pushing the cotton-pickers in and out of the guides of the wiper-wheels thereby wiping said spindles, and means for depositing the gathered cotton in a cotton-receptacle.

3. A cotton-harvester frame or carriage provided with two ground-wheels, two adjustable caster-wheels, a cotton receptacle and elevator, a rotatable cotton-picking wheel and a wiper-wheel on each side of said receptacle and elevator, picking-spindles carried by and movable with said picking-wheels, and means for rotating the picking and wiper wheels in a direction reverse to that of the ground-wheels.

4. A cotton-picking wiper-wheel consisting of a series of spokes secured to a hub and provided with a series of holes or apertures forming guides and wipers, combined with picking-spindles in said guides.

5. A tube for cotton-pickers, having a beveled or funnel mouth at one end adapted to be secured to a support, the other end being closed except a narrow slot adapted to rotate and wipe the picker, combined with a picker or spindle of spiral form in said tube.

6. The combination of a fixed central axle, a bushing-hub keyed thereto and having its axis at an angle to the axis of the axle, a cotton-picker wheel mounted on said hub and rotating at an angle to the axle, radial arms journaled to said wheel, bars pivoted to said arms, a rotatable wiper-wheel, rotatable spiral cotton-picking spindles journaled at one end in said bars, the other ends of said spindles being sleeved in said wiper-wheel, said wiper-wheel being journaled to rotate upon said central axle, a gear on the hub of the cotton-picking wheel, and means for rotating said cotton-picking wheel and thereby rotating said wiper-wheel and sliding said spindles in and out of the wiper-wheel, by which latter they are wiped and rotated.

7. A cotton-picking wiper-wheel consisting of a series of spokes secured to a hub, and provided with a series of slots forming guides and wipers for cotton-picking spindles and adapted to rotate said spindles, and a guard or shield closing the spaces between the spokes.

8. A cotton-harvester consisting of a carriage mounted on ground-wheels, a cotton receptacle and elevator attached to said carriage, a rotatable and inclinable cotton-picking wheel, rotatable picking-spindles carried thereby, a rotatable wiper-wheel having apertures engaged by said spindles, means for rotating the said picking-wheel, and means for depositing the gathered cotton in the receptacle.

9. The combination of a horizontal axle, a wiper-wheel journaled on said axle and provided with guides, cotton-picking spindles moving bodily with the wiper-wheel and also moving in said guides in lines parallel with the horizontal axis of the wheel, the guides acting to rotate the spindles and wipe the same, a carriage supporting said axle and mounted on ground-wheels, and means for carrying said spindles around said axle.

10. A cotton-harvesting machine, comprising a wheel, a series of guides carried by said wheel, a series of cotton-pickers working in said guides, an inclined wheel associated with the wheel carrying the guides, and a connection between said inclined wheel and each of said pickers, said connection comprising two parts pivotally connected together, one part connected with the picker and the other part connected with the inclined wheel.

11. A cotton-harvesting machine, comprising a wiper-wheel, a series of guides carried by said wiper-wheel, a series of cotton-pickers working in said guides, a wheel associated with said wiper-wheel, a connection between said associated wheel and each of said pickers, said connection comprising two parts pivotally connected together, and adjustable carrying and ground wheels.

12. A cotton-harvesting machine, comprising a wiper-wheel, guides carried by the wiper-wheel, a series of rotary cotton-pickers sliding in and rotated and wiped by said guides, and means for carrying the cotton-pickers around the axis of the wiper-wheel and sliding them in said guides.

13. The combination of a wiper-wheel having guides, picker-spindles working in said guides, and a support carrying said spindles, said support rotating about an axis inclined to the axis of the wiper wheel, whereby the spindles are carried around and reciprocated.

14. The combination of a wiper-wheel having guides, picker-spindles working in said guides, and a support carrying said spindles, said support rotating about an axis inclined to the axis of the wiper-wheel, whereby the spindles are carried around and reciprocated, and the spindles being of spiral form and rotated by said guides.

15. A cotton-harvesting machine, comprising a wheel; a series of guides carried thereby; a series of cotton-pickers mounted in said guides; an inclined wheel carrying a series of picker-supporting devices; said picker-supporting devices being movably connected with the wheel, whereby they may be given a radial movement as the wheel is rotated.

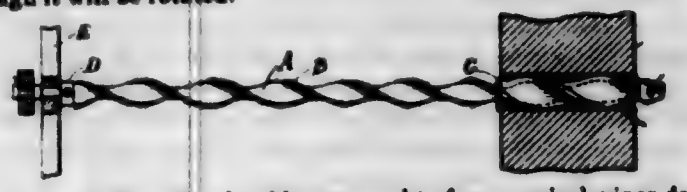
16. A cotton-harvesting machine, comprising a wheel; a series of guides associated therewith; a series of cotton-pickers working in said guides; an inclined wheel associated with the wheel carrying the guides; a series of bars connected with said inclined wheel and a series of compensating bars movably connected with said bars, said pickers being attached to said compensating bars.

17. A cotton-harvesting machine comprising wheels provided with a series of apertures, guides and inclosing devices, spiral cotton-pickers movably held therein, and means for screwing said cotton-pickers in and out of the guides.

808,941. SPIRAL COTTON-PICKING SPINDLE AND WIPER. GEORGE H. TODD, Los Angeles, Cal. Filed Dec. 8, 1899. Serial No. 739,713.

Claim.—1. A spiral cotton-picking spindle provided with a tubular spiral wiper device.

2. The combination, in a cotton-harvesting machine, of a picker provided with a spiral part which comes in contact with the cotton, and a spiral guide associated with the machine and engaging said spiral part of the picker, so that when the picker is moved therethrough it will be rotated.



3. A spirally-twisted guide arranged to form a spiral wiper device, combined with a cotton-picking spindle, and a support having a hole in which said wiper device is inserted.

4. A spiral cotton-picking spindle provided with hair or yielding picking-points; a tubular spiral wiper device; and means for screwing said spindle in and out of said wiper device.

5. A tubular spiral wiper device; a spiral cotton-picking spindle; and means for screwing said spindle in and out of said wiper device.

6. The combination of a tubular spiral wiper device secured in a holder or tube, with a spiral cotton-picking spindle; and means for screwing said spindle in and out of said wiper device.

7. In a cotton-harvesting machine, the combination of a spiral picker, and a spiral guide through which the picker passes, said spiral guide consisting of a continuous flattened tube formed into a spiral shape.

8. A cotton-picking device comprising a spiral picker provided with yielding picking-points, a spiral guide or wiper through which said picker passes, and a support for said spiral guide.

9. A cotton-picking device comprising a spiral picker consisting of two strips fastened together with a piece of haircloth between them and twisted into a spiral form, a tube twisted into a spiral guide through which the picker passes, and means for reciprocating the picker in the guide.

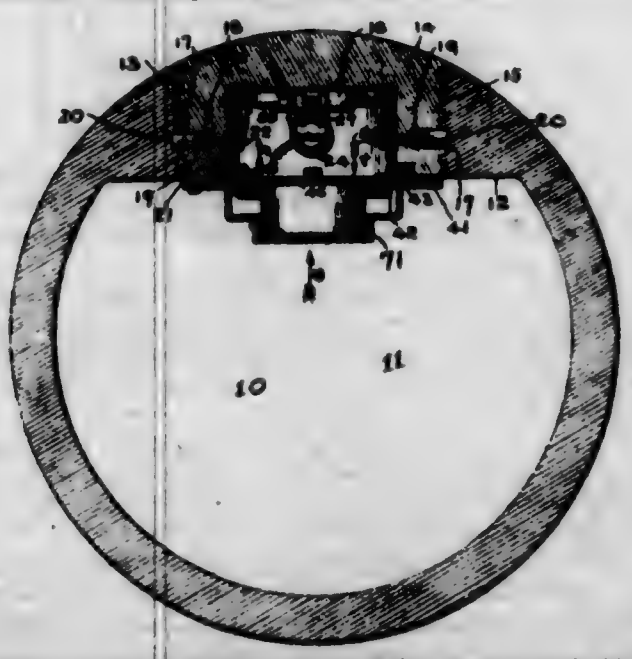
10. A picking device for cotton-harvesting machines, comprising a spiral part provided with engaging devices for engaging the cotton, a spiral guide through which said spiral part passes and adapted, when the spiral part is reciprocated, to produce a rotation thereof, and an inclosing device in which said spiral part is supported.

11. A spirally-twisted tube non-circular in cross-section, inserted in a hole or tube and arranged to form a spiral tubular wiper device, combined with a cotton-picking spindle.

12. A tubular wiper device and spiral cotton-picking spindle, and means for screwing said spindle in and out of said wiper device.

13. A spiral cotton-picking spindle, a tubular wiper device arranged and adapted to conform to and inclose the spiral body of said spindle, and means for screwing said spindle in and out of said wiper device.

808,942. **ELECTRIC TIME-LOCK.** JOHN T. VAN DILLEN, St. Louis, Mo. Filed Aug. 17, 1904. Serial No. 221,155.



Claim.—1. In an electric time-lock: the spherical body 10 constructed of cast-steel and cored to form the chamber 11 and the internal boss 12; there being a door-opening through the boss 12; a continuous screw-thread 13 in said door-opening; the door 14 having an exterior screw-thread to fit in the screw-thread 13; the outer face of the door being a segment of a sphere to match the spherical form of the body; an electric time-lock mechanism controlling the operation of the door; and means of operating the electric time-lock mechanism from the outside; said means comprising an insulated plug; an electric connection between the body of the safe and the electric time-lock mechanism; an electric connection between the plug and the electric time mechanism; a handle having nipples one to engage the body of the door, and one to engage the plug; said nipples being insulated from each other; and a battery connected to said nipples; substantially as specified.

2. In an electric time-lock: the combination with a suitable safe-body and a door adapted to be screw-seated in the body; there being a chamber in the rear face of the door; of locking-bolts mounted in bearings formed from the periphery of the door and adapted to pass into seats in the body of the safe; expansive coil-springs mounted in the bearings behind the bolts to move the bolts into the seats; an electromagnet mounted in the chamber of the door; an armature mounted upon a lever pivoted to the frame in position to be operated by the electromagnet; said armature being connected to the locking-bolts, so that when the armature is energized, the bolts will be withdrawn from their locked positions; and means for energizing the electromagnet from the outside of the safe; an insulated plug through the wall of the safe; the electromagnet being connected to the plug and to the body of the safe; a handle having nipples to engage the body of the door and the plug; said nipples being insulated from each other; and a battery connected to said nipples; substantially as specified.

3. In an electric time-lock: the combination with a safe, and a door adapted to be seated in the safe; of locking-bolts slidingly mounted in the door in position to engage in seats in the body of the safe; an electromagnet; an armature for the electromagnet connected to the locking-bolts, so that when the magnet is energized, the bolts are withdrawn; clock mechanism for opening and closing the electromagnet-circuit inside of the safe; and means for opening and closing the circuit outside of the safe; substantially as specified.

4. In an electric time-lock: the combination with a safe-body, and a door adapted to be seated in the safe-body, of locking-bolts slidingly mounted in the door to engage in seats in the body; electromagnet mechanism for operating the locking-bolts; said electromagnet mechanism being mounted in a chamber in the rear face of the door; a disk for covering the chamber; a clock mounted upon the disk; rings mounted upon insulation-plugs around the clock; a brush mounted upon insulation carried by the clock-shell in position to engage one of the rings; a second brush mounted upon insulation carried by the clock-shell in position to engage the other ring; spring-arms extending from the brushes; a plate extending from one of the spring-arms over the other spring-arm; and means for pressing said plate downwardly upon the spring-arm to close the circuit; said means being controlled by the clock mechanism; substantially as specified.

808,943. **SCREEN-FRAME.** SHERMAN T. WALP, Summerford, Ohio. Filed Mar. 9, 1905. Serial No. 249,205.



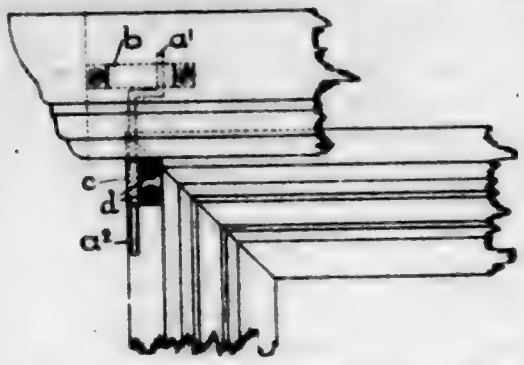
Claim.—1. A screen having one of its side members divided longitudinally and hinged together, a stop-plate extending laterally from the hinged side of said divided portion, and a vertically-adjustable member secured to said frame and adapted to engage the stop-plate for locking said divided portion in transverse alinement with the adjacent side member of the screen-frame.

2. A screen-frame having one of its side members divided longitudinally and hinged together, a stop-plate extending laterally from the hinged side of said divided portion, and a vertically-adjustable locking member secured to the frame and provided with a lateral projection adapted to engage the stop-plate for locking said divided portion in transverse alinement with the adjacent side member of the screen-frame.

3. A screen-frame having one of its side members divided longitudinally and hinged together, a stop-plate extending laterally from the hinged side of said divided portion, a locking member having a longitudinal slot and movably connected to said screen-frame by screws passing through said slot and provided with a lateral projection for bearing against said stop-plate when the lock-plate is in

one position and detachable therefrom when the stop-plate is in another position.

806,944. SUPPORT FOR CORNICE OR CURTAIN HOLDERS. PER WIKSELIUS and ERIK MATTSSON, Stockholm, Sweden. Filed Feb. 16, 1905. Serial No. 245,985.



Claim.—1. In combination with a clamp for attachment to a door or window casing, a stem engaged by the clamp, vertically and pivotally movable therein and having a crank at its upper end, and a cornice supported by the crank and having a slot in which the crank is adjustable longitudinally of the cornice, substantially as described.

2. In combination with a clamp for attachment to a door or window casing, a stem engaged by the clamp, vertically and pivotally movable therein and having a crank at its upper end, a cornice, and a guide and supporting element secured thereto, bearing on the arm of the crank and forming a longitudinal guide-slot for the reception of the crank-pin, and in which the crank-pin is adjustable longitudinally of the cornice.

806,945. PROCESS OF PREPARING AND FEEDING REAGENTS. JOHN F. WIXFORD, St. Louis, Mo. Filed Apr. 28, 1905. Serial No. 257,550.



Claim.—1. The process of preparing and feeding reagents which consists in passing a stream of liquid through a mass of a reagent in solid form and into the matter to be treated, and in adding uniform measured charges of the reagent to said mass at regular measured intervals.

2. The process of preparing and feeding reagents which consists in passing a stream of liquid through a mass of a reagent in solid form and into the matter to be treated and in adding to said mass at regular measured intervals charges of the reagent in solid form each equivalent in amount to the amount of the reagent carried away by the liquid during each interval.

3. The process of preparing and feeding reagents which consists in passing a stream of liquid upwardly through a mass of a reagent in solid form and into the matter to be treated and in adding measured charges of the reagent to said mass at measured intervals.

4. The process of preparing and feeding soluble reagents which consists in passing a stream of a solvent through a mass of a reagent in solid form and into the matter to be treated, and in adding uniform measured charges of the reagent to said mass at regular measured intervals.

5. The process of preparing and feeding soluble reagents which consists in passing a stream of a solvent through a mass of a soluble reagent in solid form and into the matter to be treated, and in adding to said mass at regular measured intervals uniform measured charges of the reagent each equal in amount to the amount of the reagent going into solution during each interval.

6. The process of preparing and feeding soluble reagents which consists in passing a stream of a solvent upwardly through a mass of a reagent in solid form and into the matter to be treated, and in adding measured charges of the reagent to said mass at measured intervals.

7. The process of preparing and feeding ferrous sulfate which consists in passing a stream of water through a mass of ferrous sulfate in solid form and into the matter to be treated, and in adding equal measured charges of ferrous sulfate to said mass at equal measured intervals.

8. The process of preparing and feeding ferrous sulfate which consists in passing a stream of water through a mass of ferrous sulfate in solid form and into the matter to be treated, and in adding to said mass at regular measured intervals uniform charges of ferrous sulfate equal in amount to the amount of ferrous sulfate dissolved during each interval.

9. The process of preparing and feeding ferrous sulfate which consists in passing a stream of water upwardly through a mass of ferrous sulfate in solid form and into the matter to be treated and in adding measured charges of ferrous sulfate to said mass at measured intervals.

10. The process of making liquid preparations from solid reagents which consists in passing a stream of liquid through a mass of a reagent in solid form and in adding measured charges of the reagent in solid form to said mass at measured intervals.

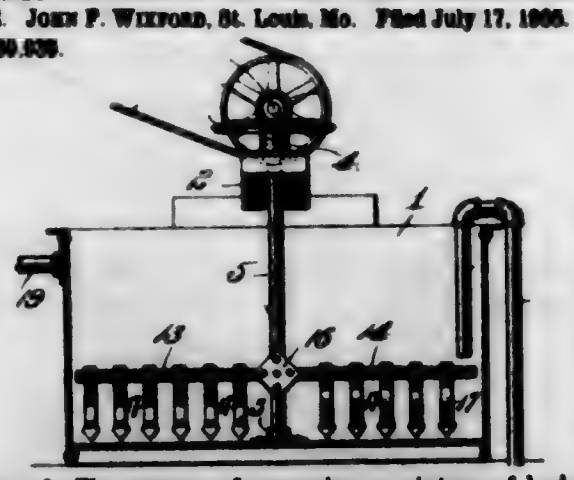
11. The process of preparing solutions of constant strength which consists in passing a stream of liquid through a mass of a reagent in solid form and in adding to said mass at equal intervals equal charges of the reagent each equal in amount to the amount dissolved during each interval.

12. The process of preparing constant solutions of ferrous sulfate which consists in passing a stream of water through a mass of the ferrous sulfate in solid form and in adding to said mass at regular measured intervals charges of ferrous sulfate equal in amount to the amount dissolved during each interval.

13. The process of making liquid preparations from solid reagents which consists in passing a liquid upwardly through a mass of reagent in solid form and in adding measured charges of the reagent to said mass at measured intervals.

14. The process of making liquid preparations from solid reagents which consists in passing a liquid through a mass of a reagent in solid form and in adding measured charges of the reagent to said mass at measured intervals, each of said charges being small in comparison with said mass.

806,946. PROCESS OF PREPARING AND FEEDING MILK OF LIME. JOHN F. WIXFORD, St. Louis, Mo. Filed July 17, 1905. Serial No. 269,939.



Claim.—1. The process of preparing a mixture of hydrate of lime which consists in passing a stream of hot water through a mass of lime or hydrate of lime and in adding measured charges of lime thereto at measured intervals of time.

2. The process of preparing a mixture of hydrate of lime which consists in passing a stream of hot water through a mass of lime or hydrate of lime and in adding measured charges of lime thereto at measured intervals of time and in agitating said mass and thoroughly mixing the same with the water.

3. The process of preparing milk of lime which consists in passing a continuous stream of hot water through a mass of lime or hydrate of lime and in adding thereto at measured intervals measured charges of lime or hydrate of lime.

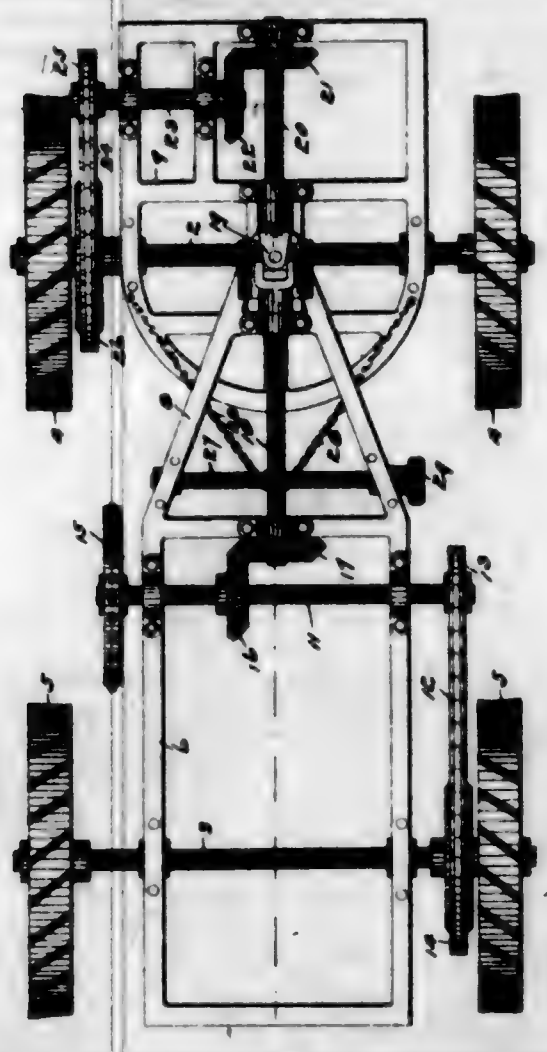
4. The process of preparing milk of lime which consists in passing a continuous stream of water through a mass of lime or hydrate of lime, in adding thereto measured charges of lime or hydrate of lime at measured intervals of time, and in agitating said mass and thoroughly mixing the same with the water.

5. The process of preparing milk of lime which consists in passing a continuous stream of hot water through a mass of lime or hydrate of lime, in adding thereto measured charges of lime or hydrate of lime at measured intervals of time, and in agitating said mass and thoroughly mixing the same with the water.

6. The process of continuously preparing milk of lime of a constant strength which consists in passing a continuous stream of hot water through a mass of lime or hydrate of lime and in adding at equal intervals of time charges of lime each equivalent to the amount of the hydrate of lime carried away during each interval.

7. The process of continuously preparing milk of lime which consists in passing a continuous stream of hot water through a mass of lime or hydrate of lime, in adding thereto at equal intervals of time charges of lime each equivalent to the amount of the hydrate of lime carried away during each interval and in agitating said mass and thoroughly mixing the same with the water.

806,947. **RUNNING-GEAR FOR TRACTION-ENGINES.** CHAS. O. WYMAN, Anoka, Minn. Filed Mar. 23, 1904. Serial No. 200,437.



Claim.—1. In a traction-engine, the combination, with the forward and rear axles and their wheels, of a frame mounted on said rear axle and having a pivotal connection with said forward axle, a shaft transversely mounted on said frame and operatively connected with said rear axle, a second shaft longitudinally arranged on said frame and geared to said transverse shaft, operative connections provided between said longitudinal shaft and said forward axle, and a universal joint interposed between the forward end of said longitudinal shaft and said operative connections, the pivot of said joint being in line, substantially, with the pivot of said frame on said forward axle.

2. In a traction-engine, the combination, with a wheeled frame supporting a boiler and engine and having pivotally-connected front and rear axles, of a transverse shaft having operative connections with said rear wheels, a longitudinally-arranged shaft geared to said transverse shaft and having operative connections with said forward axle, a universal joint interposed between the forward end of said longitudinally-arranged shaft and said operative connections, the pivot of said joint being in line, substantially, with the pivot of said axles, and a suitable mechanism for oscillating the forward axle.

3. In a traction-engine, the combination, with the forward and rear axles and their wheels, of a frame mounted on said rear axle and supporting an engine-boiler, a shaft transversely mounted on said frame and operatively connected with said rear wheels, a hollow reach mounted on said frame and pivotally connected with said forward axle, a second shaft arranged within said reach and geared to said transverse shaft and to said forward axle, and a universal joint interposed between said shaft and said forward-axle connections, substantially as described.

4. In a traction-engine, the combination, with a wheeled frame, of a driving-shaft transversely mounted thereon and operatively connected with the rear wheels, a second shaft geared to said driving-shaft and arranged longitudinally on said frame and having operative connections with a forward wheel, and a universal joint interposed between said shaft and said forward-wheel connections, for the purpose specified.

5. In a traction-engine, the combination, with a wheeled frame, of a driving-shaft transversely mounted thereon and operatively connected with the rear wheels, a hollow reach, a shaft arranged in said reach and geared to said driving-shaft and having operative connections with a forward wheel, and a universal joint interposed between said shaft and said forward-wheel connections.

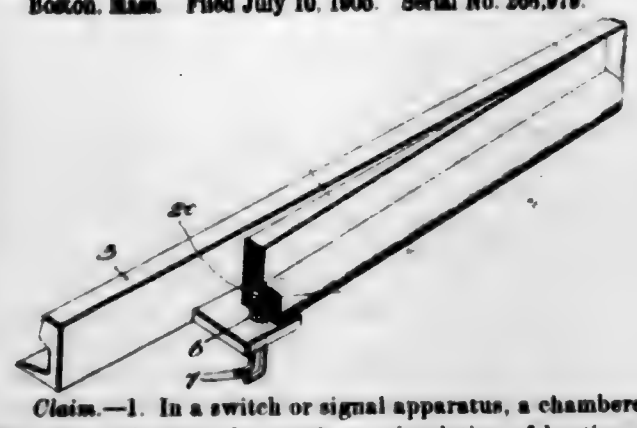
6. In a traction-engine, the combination, with a wheeled frame having a pivotal connection with the forward axle and supporting an engine-boiler, of a driving-shaft having operative connections with said rear wheels, a second shaft longitudinally arranged on said frame and geared to said driving-shaft, operative connections provided between said second shaft and a forward wheel, and a universal joint interposed between said second shaft and said operative connections, the pivot of said joint being in line substantially with the pivot of said frame on said forward axle.

7. In a traction-engine, the combination, with the forward and rear axles and their wheels, of frames mounted on said axles, said rear-axle frame having a king-bolt connection with said forward-axle frame, a shaft transversely mounted on said rear-axle frame and having driving connections with the rear wheels, a longitudinally-arranged shaft mounted on said rear-axle frame and geared to said driving-shaft and to said forward axle, and a universal joint interposed between said longitudinally-arranged shaft and the forward-axle connections, the pivot of said joint being in line substantially with said king-bolt, for the purpose specified.

8. In a traction-engine, the combination, with a wheeled frame, of an engine-boiler mounted thereon, a driving-shaft, a driven shaft geared thereto, a hollow reach inclosing said shaft, operative connections provided between said driving and driven shafts and said rear and forward axles whereby the power applied to said driving-shaft will be transmitted to all the wheels, for the purpose specified.

9. In a traction-engine, the combination, with a wheeled frame having a pivotal connection with the forward axle, of an engine-boiler mounted on said frame, a driving-shaft, a driven shaft geared thereto, operative connections between said driving and driven shafts and said rear and forward axles whereby the power applied to said driving-shaft will be transmitted to all the wheels, and a universal-joint connection interposed between said driven shaft and said forward-wheel connections, for the purpose specified.

806,948. **SWITCH OR SIGNAL APPARATUS.** FRANK L. YOUNG, Boston, Mass. Filed July 10, 1905. Serial No. 268,979.



Claim.—1. In a switch or signal apparatus, a chambered movable part, and means for causing a circulation of heating medium through the chamber.

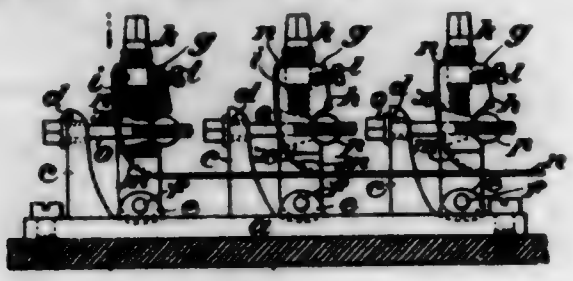
2. In a switch or signal apparatus, a chambered movable part, and a circulating system for a heating medium with which said chamber communicates.

3. In a switch or signal apparatus, a movable part having a heating-chamber associated and movable therewith, and a circulating system for heating a medium with which said heating-chamber communicates.

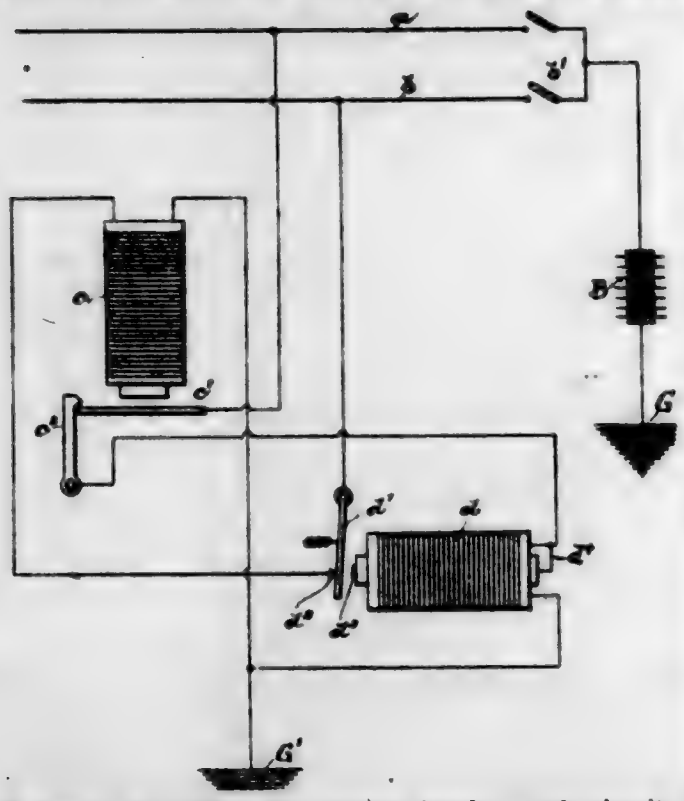
4. In a switch or signal apparatus, a movable part having a heating-chamber associated therewith, said chamber having an inlet and outlet port, and a circulating system for a heating medium with which said ports communicate, whereby a medium may be caused to circulate through said chamber.

806,949. **DEVICE FOR TUNING PIANOS.** CARL BRAUN, Zurich, Switzerland. Filed Mar. 27, 1905. Serial No. 252,410.

Claim.—In a device for tuning pianos, a bar, arms in number corresponding with that of the strings of one note fulcrumed thereto, a wrest-pin in each free end, and a tensioning-bolt through each of the said arms, the said bar being adapted to be secured to the wrest-plank, each of the said arms having at the side between the fulcrum and wrest-pin, a rounded shoulder over which and the edge of the said arm the string passes to the said wrest-pin and projections on the said bar each carrying one of the said bolts, all combined substantially as and for the purpose set forth.



806,950. SELECTIVE SYSTEM FOR PARTY-LINE TELEPHONES. WILLIAM H. BRANCH, Jr., Springfield, Ohio, assignor of one-third to James S. Bradley, Jr., Wasseon, Ohio, and one-third to Charles D. Juvenal, Springfield, Ohio. Filed Apr. 3, 1905. Serial No. 253,700.



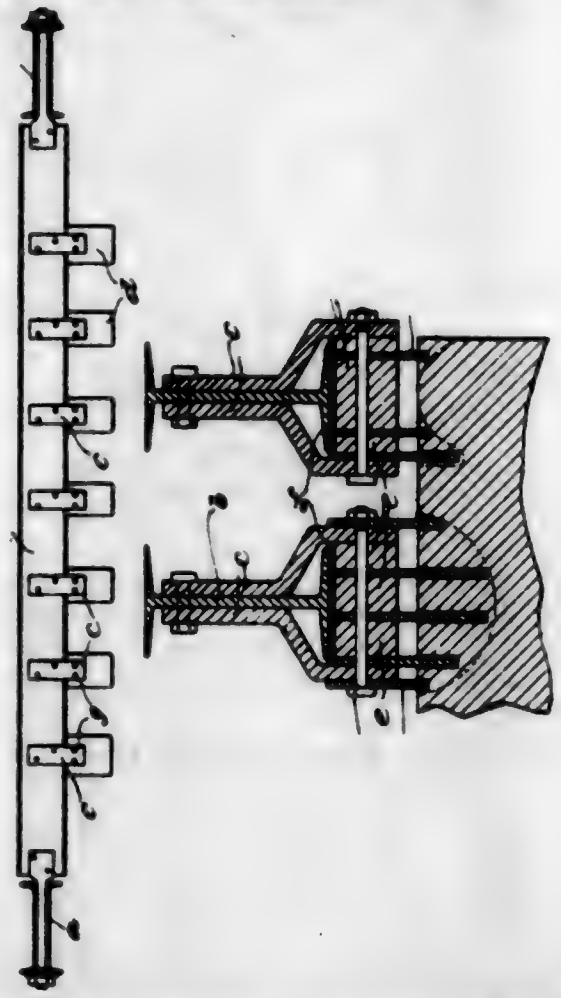
Claim.—1. In a system for selective signals, a main circuit, a source of electrical supply, one pole of which is grounded and the other pole adapted to be connected to either or both sides of said main circuit, a grounded connection from one side of said main circuit, including a circuit-breaker and a main operating-magnet, and a grounded connection from the other side of said main circuit including a circuit-breaker and an auxiliary magnet, the circuit-breakers in each of said circuits being adapted to be controlled by the magnet in the other circuit, and means for sending an impulse from said source of electrical supply in the same direction through either or both sides of said circuit, substantially as and for the purpose specified.

2. In combination with a telephone-circuit, an operating-magnet in a grounded circuit connected to one side of said main circuit, an auxiliary magnet in a grounded circuit normally disconnected from the other side of said main circuit, but adapted to be brought into connection therewith by the operation of the main magnet, a circuit-breaker operated by said auxiliary magnet to break the circuit through the main magnet from one side of said telephone-circuit and establish a connection from the same side of said telephone-circuit to said auxiliary magnet, and means for sending an electrical impulse over both sides of said telephone-circuit through said main and auxiliary magnets, substantially as and for the purpose specified.

3. The combination with a main telephone-line of main and auxiliary magnets, branch lines including circuit-breakers from each side of the main line to said main and auxiliary magnets, respectively, and to ground, the circuit-breaker in one branch line being adapted to be controlled by the magnet in the other branch line, and an auxiliary circuit adapted, when the auxiliary magnet is operated, to change the connection of the auxiliary magnet from one side of the main line to the other side, substantially as and for the purpose specified.

4. The combination with a main telephone-line of an operating-magnet and a releasing-magnet located in grounded branch lines, including circuit-breakers, which branch lines are connected to opposite sides of said main telephone-line, said releasing-magnet being adapted to be brought into circuit by the operating-magnet, and when operated to cut out said operating-magnet, and an auxiliary circuit through the core of said releasing-magnet adapted to establish an electrical connection with the opposite side of the main telephone-line when the armature of said releasing-magnet is operated, substantially as and for the purpose specified.

806,951. GANG-SAW. JAMES R. W. BRYMER, Philadelphia, Pa. Filed Aug. 4, 1905. Serial No. 272,697.



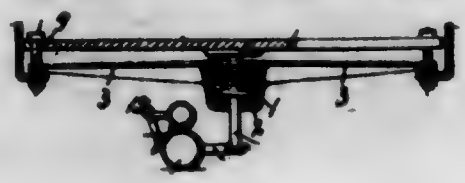
Claim.—1. In combination a gang-saw and its complemental heads of a beam carried thereby, clamps secured to the beam and a plurality of blade-sections supported by and depending from said clamps, substantially as described.

2. In combination a gang-saw and its complemental heads of a beam carried thereby, clamps secured to the beam, a plurality of blade-sections supported by and depending from said clamps, and separators interposed between said blades, substantially as described.

3. In combination a gang-saw and its complemental heads of an I-beam carried thereby, a series of clamps secured to the beam, a plurality of short blade-sections supported by and depending from said clamps and separators interposed between said blades, substantially as described.

4. The combination of a gang-saw and its heads of an I-beam carried thereby, a series of clamps secured throughout the length of said beam, a plurality of short blade-sections supported by and depending from each clamp, separators interposed between the blades, and a plate between the beam and blades, substantially as described.

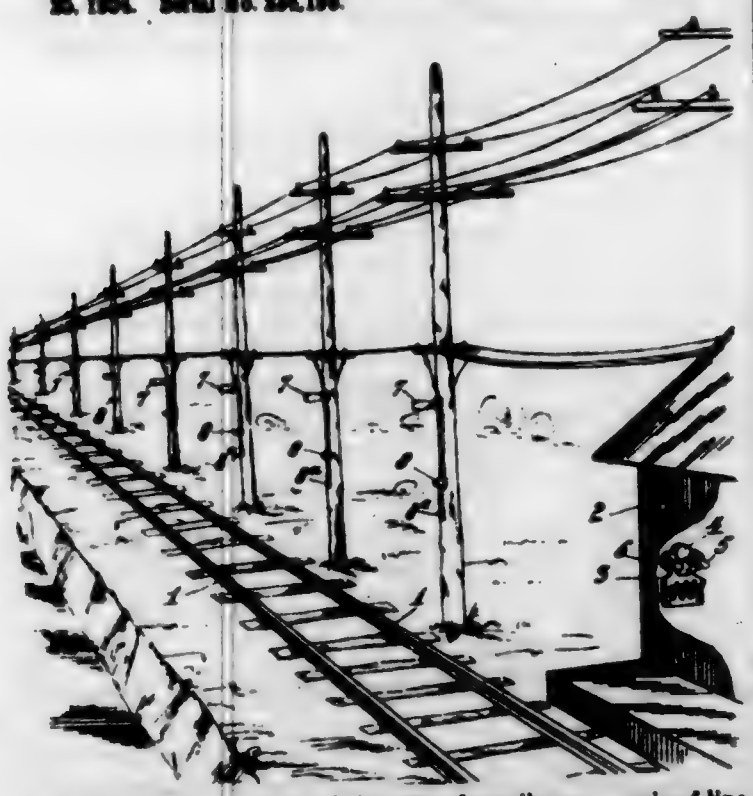
806,952. STEP REGISTERING DEVICE. JOHN A. CARMICHAEL, Syracuse, N. Y. Filed Mar. 6, 1905. Serial No. 248,837.



Claim.—1. In a step registering device, the combination of a hub having a socket, arms projecting horizontally from the hub in a plane below the top face of the hub, a spring seated in said socket and projecting some distance above the upper face of the hub, a tread centrally supported and balanced on the upper end of the spring to overhang said arms and provided with apertures in its ends, bolts projecting upwardly from the ends of said arms through said apertures and provided with heads forming limiting-stops engaging the top face of the tread, a plunger depending from the lower side of the tread through the spring and bottom of the hub, and a counting device connected to and actuated by said plunger.

2. In a step registering device, the combination of a supporting-frame having a central socket and upwardly-projecting studs arranged equidistant from and at opposite sides of the socket, a coil-spring seated in and projecting some distance above the upper end of the socket, a tread centrally balanced on the upper end of the spring and provided with a central depending plunger projecting through the bottom of the socket, heads on the upper ends of the studs forming limiting-stops engaging the top face of the tread, the spring being tensioned to normally press the tread upwardly against said heads, and a counting device actuated by the plunger when the tread is depressed.

806,953. ELECTRIC SIGNALING APPARATUS. LOUIS A. COUSINEAU and ALPHONSE B. CROQUETTE, Sherbrooke, Canada. Filed Nov. 25, 1904. Serial No. 234,196.



Claim.—1. In a system of signaling for railways, a pair of line conductors normally maintained in open circuit, the first of said conductors extending unbroken past a plurality of stations, a third conductor unbroken between each station, a plurality of electric signals connected across the said third conductor and the first circuit-conductor, switches closing said third conductor at each station to extend its continuity beyond said station, the second of said pair of conductors being also unbroken between each railway-station, and a plurality of contact devices connected across said second conductor and said third conductor.

2. In a system of signaling for railways, a pair of line conductors normally maintained in open circuit, the first of said conductors extending unbroken past a plurality of stations, a third conductor unbroken between each station, a plurality of electric signals connected across the said third conductor, and the first circuit-conductor, the second line conductor normally broken at each station, means for extending the continuity of said second conductor beyond any station, a plurality of generators connected in parallel on said pair of line conductors, and a plurality of contact devices connected across said second conductor, and said third conductor.

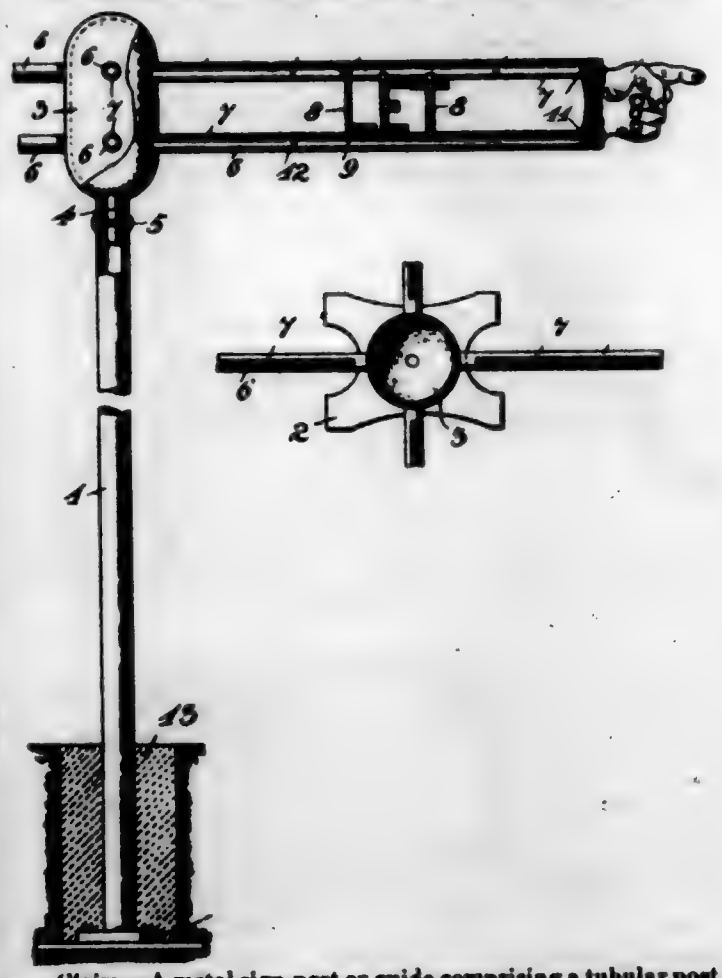
3. In a system of signaling for railways, a pair of line conductors normally maintained in open circuit, the first of said conductors extending unbroken past a plurality of stations, a third conductor unbroken between each station, a plurality of electric lamps or other visible signals connected across the said first conductor and third conductor, an audible signal at each station connected in series with one of said visible signals or lamps, the second line conductor normally broken at each station, means for extending the continuity of said second conductor beyond any station, a plurality of generators connected in parallel on said pair of line conductors, and a plurality of contact devices connected across said second conductor and said third conductor.

806,954. SOLVENT TO BE USED IN EFFECTING THE INCIPIENT SUBDIVISION AND DECOMPOSITION OF THE SCLEROGENOUS CAMBIUM LAYER AND EPIDERMIS OF BAST FIBERS. MARY H. COLAHAN, Chicago, Ill. Filed Apr. 15, 1905. Serial No. 255,780.

Claim.—1. The process of making a solvent by combining the discharge waste and refuse of sludge-oil with the discharge waste of the spent soda of the paraffin-oils, and blending and uniting the same as a compound by the application of heat of 212° Fahrenheit, substantially as shown and described.

2. As a new solvent, the product obtained by the combination of the discharge waste and refuse of sludge-oil with the discharge waste of the spent soda of the paraffin-oils blended and united as a compound by the application of heat 212° Fahrenheit, substantially as shown and described.

806,955. METAL SIGN-POST AND GUIDE. JOHN C. CORCORAN, Stevens Point, Wis. Filed Feb. 18, 1905. Serial No. 245,975.



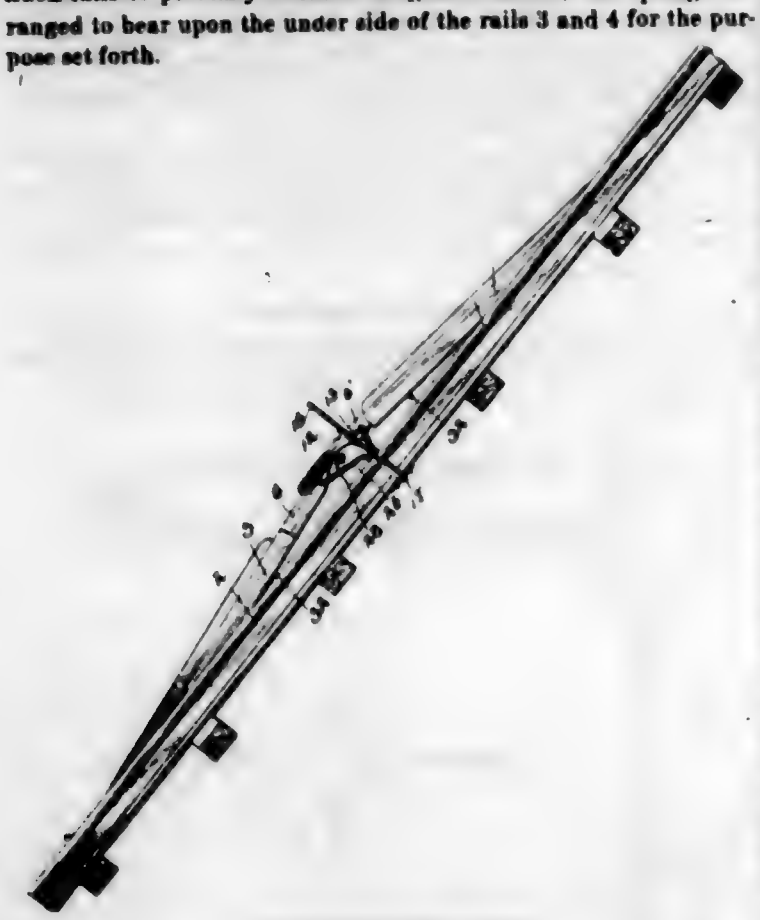
Claim.—A metal sign-post or guide comprising a tubular post, a hollow head secured to the upper end thereof, laterally-extending tubular arms secured to the hollow head and provided with oppositely-disposed slots, cross braces or rivets in said lateral arms, outline-letters having upper and lower lugs to slide in the slots in the tubular arms and an index-hand or pointer provided with lugs to fit the ends of the hollow arms, said index-hand being secured to said arms, substantially as described.

806,956. CATTLE-GUARD FOR RAILWAYS. BENJAMIN F. CRABTREE, Winchester, Tenn. Filed Aug. 30, 1905. Serial No. 276,420.

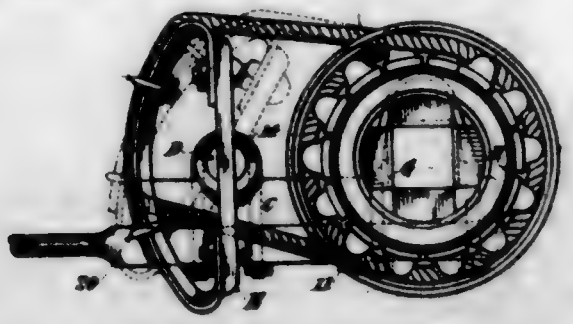
Claim.—1. The combination with the track-rails, of rails 3 and 4 arranged therebetween as described and pivoted at their outer ends, a pivotal connection for the inner ends of said rails 3 and 4, curved or cam-bearing edges 10 on the inner ends of the rails, rods secured to the inner ends of rails 4 and bent to form looped bearing portions 26 and the inclined portions 28, a pivotally-mounted guard extending transversely of the track-rails, a rod carried by the guard and bent to provide portions 33 which lie within the said looped bearing portions, and springs arranged to bear upon the under side of the rails 3 and 4 for the purpose set forth.

2. The combination with the track-rails, of rails 3 and 4 arranged therebetween as described and pivoted at their outer ends, a

pivotal connection for the inner ends of said rails 3 and 4, curved or cam-bearing edges 10 on the inner ends of the said rails 3 and 4, rods secured to the inner ends of rails 4 and bent to form looped bearing portions 26 and the inclined portions 28, a guard extending transversely of the track-rails and comprising an intermediate section occupying a position between the track-rails and end sections occupying a position exteriorly of the said rails, each section consisting of uprights and horizontal connecting-bars, a rod 21 connecting the several sections of the guard and bent to provide the portions 33 seating in the looped portions 26, and said rod 21 bearing under track-rails to pivotally connect the guard thereto, and springs arranged to bear upon the under side of the rails 3 and 4 for the purpose set forth.



806,957. VEHICLE-BRAKE. JOHN CURRY, Vancouver, Wash. Filed Nov. 16, 1904. Serial No. 233,986.



Claim.—1. In a vehicle-brake, the combination of: a brake-drum B, having a securing fulcrum-plate G and the brake-rope opening 9 and slot 11 therein and means to secure the drum to the axle; the two-armed frame C, formed as shown in Fig. 5 with one side curved, and partly grooved on the side, and having means to secure it to the axle; a transverse brake-bar D, having the bell-crank lever 16, the triangular bell-crank lever E, grooved on its shorter sides, and means to secure the brake-bar to the axle; a wheel provided with a cylindrical metal hub-casing H and means to secure the same to it; the coil brake-rope 10 having means to secure one end thereof to the triangular bell-crank lever E and the other to the frame C, and having the brake-shoe K provided with segmental friction-pieces formed as shown in Fig. 6 and having means to secure them to the brake-rope; power-transmitting mechanism, having means to connect the same with the brake-bar D and the brake; all substantially as described.

2. In a vehicle-brake the combination of: a brake-drum B, having a securing fulcrum-plate G and a brake-rope opening 9 and slot 11 therein, and means to secure the drum to the axle; a wheel provided with a cylindrical metal hub-casing H and means to secure the same to it; the coil brake-rope 10, having means to secure one end thereof to the triangular bell-crank lever E and the other to the frame C and also having the brake-shoe K provided with segmental friction-pieces formed as shown in Fig. 6 and having means to secure them to the brake-rope; power-transmitting mechanism, having means to connect the same with the brake-rope and the brake; all substantially as set forth.

3. In a vehicle-brake, the combination of: a wheel provided with a cylindrical metal hub-casing H and means to secure the same to it; an automatically-releasing metal coil brake-cable 10, having means to secure one end thereof to power-transmitting mechanism and the other to the axle, also having the brake-shoe K provided with all-metal segmental friction-pieces of like breadth but of suitable lengths and formed with suitably-curved engaging surfaces and with grooves on their opposite sides adapted to receive the cable therein and also having the cable-clenching parts 23 23; power-transmitting mechanism, having means to connect the same with the brake-cable and brake; all substantially as set forth.

4. In a vehicle-brake, a brake-shoe-retaining drum or casing B upon the axle, having a securing fulcrum-plate G and provided with a brake-rope slot 11 in a suitable place, and of dimensions adapting it to allow the free movement of the brake-rope laterally and through the same, also having an opening 9 in a suitable place adapted to allow the free passage of the brake-rope through the same, substantially as described.

5. In a vehicle-brake, an automatically-releasing metal coil brake-cable 10, having means to secure one end thereof to power-transmitting mechanism and the other to the axle, also having the brake-shoe K provided with all-metal segmental friction-pieces of like breadth but of suitable lengths and formed with suitably-curved engaging surfaces and with grooves on their opposite sides adapted to receive the cable therein and also having the cable-clenching parts 23 23, substantially as described.

6. A vehicle-brake comprising a brake-drum B, having a securing fulcrum-plate G, brake-rope opening 9 and slot 11 with means to secure it to the axle; a frame C formed as shown in Fig. 5, one side curved and partly grooved on the side with means to secure it to the axle; a transverse brake-bar D having a bell-crank lever 16 and a triangular bell-crank lever E grooved on its shorter sides with means to secure the brake-bar to the axle; a wheel provided with a cylindrical metal hub-casing H and means to secure same to it; a coil brake-rope 10 having means to secure one end to the lever E and the other to the frame C; and a brake-shoe composed of segmental friction-pieces formed as shown in Fig. 6 with means to secure same to the brake-rope, substantially as described.

806,958. BOOK. MARBERY L. DAVIDSON, Boston, Mass., assignor of one-half to Wilkins Bros., Milford, N. H., a Firm. Filed Feb. 1, 1905. Serial No. 243,657.



Claim.—1. A book comprising a cover; a movable pad or body of leaves; a hook upon one of these parts; a hook-engaging member upon the other, coöperating with the hook; a stop pivoted to the cover and adapted, when in its vertical position with reference to the cover, to engage the edge of the pad or body of leaves and prevent the disengagement of the hook and the hook-engaging member, and a spring for holding the stop in a vertical position while in use.

2. A book comprising a cover provided with a hook-engaging member, a movable pad or body of leaves provided with a hook coöperating with the hook-engaging member, a stop pivoted to the cover and adapted, when in its vertical position with reference to the cover, to engage the edge of the pad or body of leaves and prevent the disengagement of the hook and the hook-engaging member, and a spring for holding the stop in a vertical position while in use.

3. A book, comprising a cover provided with a hook-engaging member; a removable pad or body of leaves provided with a hook coöperating with the hook-engaging member; a stop pivoted to the cover and adapted when in its vertical position with reference to the cover to engage the edge of the pad or body of leaves and prevent the disengagement of the hook and the hook-holder; and a spring normally urging the stop toward such vertical position.

4. A book, comprising a cover provided with a pocket; a removable pad or body of leaves provided with a tongue coöperating with said pocket; and a stop pivoted upon the cover near the mouth of the pocket normally adapted to prevent the disengagement of the tongue and pocket and capable of movement to admit of such disengagement.

5. A book, comprising a cover provided with a pocket; a removable pad or body of leaves provided with a tongue coöperating with said pocket; and a movable stop upon the cover near the mouth of

the pocket yieldingly held in position to prevent the disengagement of the tongue and pocket.

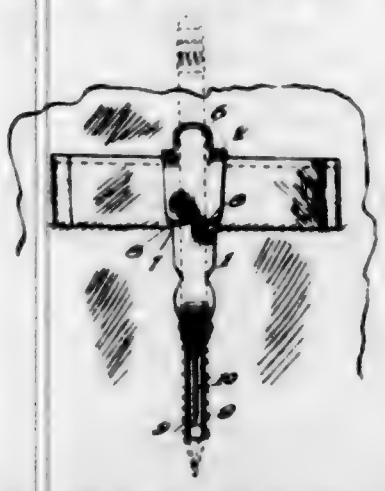
6. A book, comprising a cover provided with a pocket; a removable pad or body of leaves provided with a tongue coöperating with the pocket; and a stop pivoted to the cover near the mouth of the pocket, yieldingly held in a vertical position with reference to the cover, and normally adapted to engage the edge of the pad or body of leaves and retain the tongue in engagement with the pocket.

7. A book, comprising a cover provided with a pocket; a removable pad or body of leaves provided with a tongue coöperating with the pocket; a plate pivoted to the cover near and across the mouth of the pocket, adapted to be swung substantially into the plane of the cover or into a position perpendicular to the cover; and a spring normally urging the plate into such perpendicular position.

8. In a book of the character described, a hook-engaging member adapted to receive a hook upon a pad or the like; that pad, provided with a hook; and a spring-actuated movable stop normally adapted to engage one side of the pad to prevent the disengagement of such hook and the hook-engaging member and movable against resistance of the spring to admit of the insertion of such hook into, or the removal of such hook from, the hook-engaging member.

9. In a book-cover of the character described, a pocket adapted to receive a tongue upon a pad or the like, and a plate pivoted to the cover near and across the mouth of the pocket yieldingly held in a position substantially perpendicular to the cover and in the path of the edge of such pad when its tongue is in the pocket, and movable out of the path of the pad to admit of the insertion of such tongue into or the removal of such tongue from, the pocket.

806,959. **HANDY DESK DEVICE.** JOHN R. DAY, Huntington, Ind. Filed Mar. 30, 1905. Serial No. 253,856.



Claim.—1. In a device of the class described, the combination of a body having an end portion thereof folded upon itself to form a clip, a spur or tongue pressed from the clip toward the body, a portion of the clip approximately at the bend joining the same with the body being provided with an opening, and a longitudinally-extending member at the opening in the clip forming a scratching-blade.

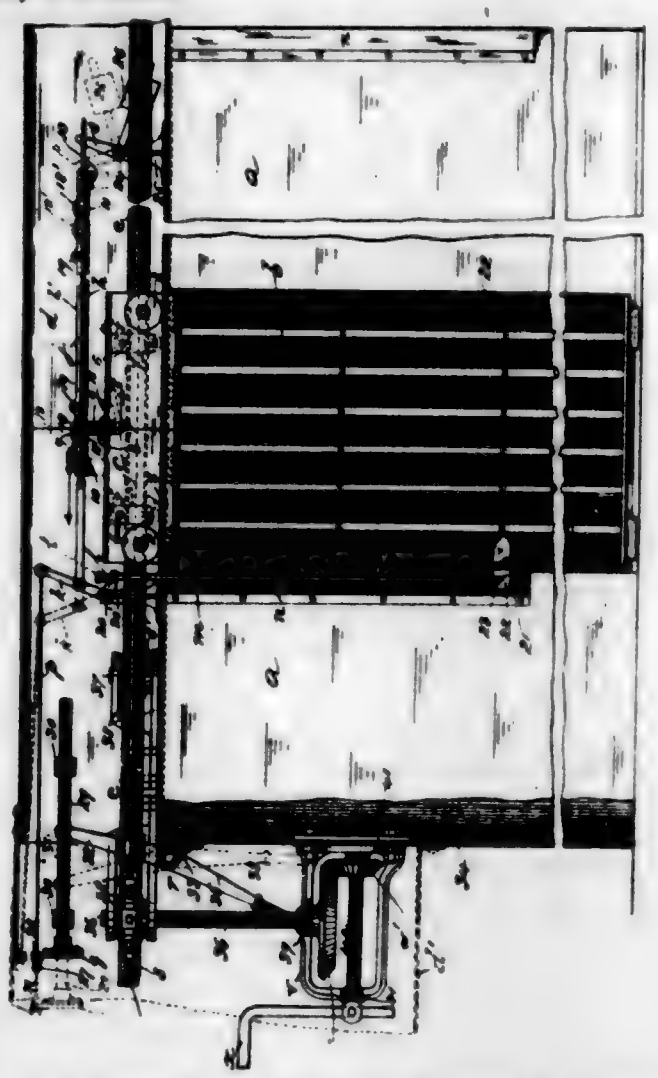
2. In a device of the class described, the combination of the body 1, having the clip 3 bent from the end thereof, and the U-shaped cut 5 in the body forming an opening at the bend of the clip and the scratching-blade 6 adjacent thereto.

3. In a device of the class described, the combination of the body 1, having the clip 3 bent from the end thereof, the U-shaped cut 5 in the body forming an opening at the bend of the clip and the scratching-blade 6 adjacent thereto, and the spur or tongue 4 projecting from the clip toward the body 1 and adapted to engage a pen passed through the opening in the clip.

4. In a device of the class described, the combination of a body having longitudinal edge portions bent at an angle to the plane thereof to form spaced guide members, and a knife forming an integral bent portion of the body arranged between the guide members aforesaid.

806,960. **MECHANISM FOR OPERATING JAIL-DOORS.** WILLIAM DOWLING, St. Louis, Mo. Filed May 25, 1905. Serial No. 262,306.

Claim.—1. In mechanism of the character described, the combination with a jail-cell door, of a hanger-plate fixed thereto and adapted to travel therewith along the front of the cell, a shaft located above and longitudinally with the door beneath an overhanging portion of the said plate and having a circumferential hole, bearings for the shaft, a bolt adapted to slide vertically through the said portion into and out of engagement with the said hole, a lever fulcrumed to the said portion and engaging the said bolt, the said lever having a counterbalance-weight, a stationary bar located above and longitudinally with the shaft beneath the said portion and having two openings vertically therethrough at points corresponding to the closed and open positions respectively of the door, a slidable bar bearing on the stationary bar and having two concave recesses in its bearing-face corresponding to the said openings and adapted therewith to be engaged by the said bolt, means for moving the slidable bar along the stationary bar and for moving the shaft longitudinally, substantially as described.

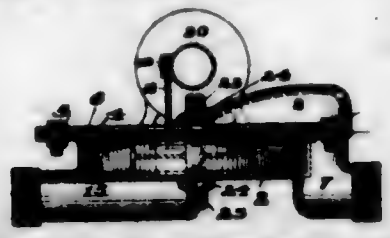


2. In mechanism of the character described, the combination with a jail-cell door, of a hanger-plate fixed thereto and adapted to travel therewith along the front of the cell, a shaft located above and longitudinally with the door beneath an overhanging portion of the said plate and having a circumferential hole, bearings for the shaft, a bolt adapted to slide vertically through the said portion into and out of engagement with the said hole, a lever fulcrumed to the said portion and engaging the said bolt, the said lever having a counterbalance-weight, a stationary bar located above and longitudinally with the shaft beneath the said portion and having two openings vertically therethrough at points corresponding to the open and closed positions respectively of the door, a slidable bar bearing on the stationary bar and having two concave recesses in its bearing-face corresponding to the said openings and adapted therewith to be engaged by the said bolt, a lever of the second order coupled to one end of the slidable bar and fulcrumed to a shaft mounted in suitable bearings, an arm on the said shaft, a lock-bar depending from the said arm and adapted to engage in a projection on the door, an arm engaging with the other end of the slidable bar and fulcrumed to a spindle having suitable bearings, the said arm having a counterbalance-weight, a wire extending from the free end of the said lever of the second order, and means for holding and operating the said wire from a suitable part of the jail, substantially as described.

3. In mechanism of the character described, the combination with a jail-cell door, of a hanger-plate fixed thereto and adapted to travel therewith along the front of the cell, a shaft located above and longitudinally with the door beneath an overhanging portion of the said plate and having a circumferential hole, bearings for the shaft, a bolt adapted to slide vertically through the said portion and to be engaged with and disengaged from the said hole, two sprocket-wheels axially mounted in bearings, a chain engaged by the said wheels, the said shaft being fixed at one end to the said chain, and means for partly rotating the said wheels, substantially as described.

4. In mechanism of the character described, the combination with a jail-cell door, of a hanger-plate fixed thereto and adapted to travel therewith along the front of the cell, a shaft located above and longitudinally with the door beneath an overhanging portion of the said plate and having a circumferential hole, bearings for the shaft, a bolt adapted to slide vertically through the said portion and to be engaged with and disengaged from the said hole, and means for moving the shaft longitudinally, substantially as described.

806,961. **WATER-METER.** CHESTER P. DRAKE, Pittsburg, Pa., assignor to Thomas A. Mellon and Edward P. Mellon, Pittsburg, Pa. Filed Mar. 27, 1906. Serial No. 308,142.



Claim.—1. In a meter, the combination of a casing, consisting of a top and bottom plate and an annular ring or flange, a turbine-wheel having inner and outer rings and flat wings extending between the rings and extending between the top and bottom plates of the casing, said wings being motionless relatively to the two rings, and inlet and outlet ports, the inlet-port opening into the casing tangentially to the periphery of the same; substantially as specified.

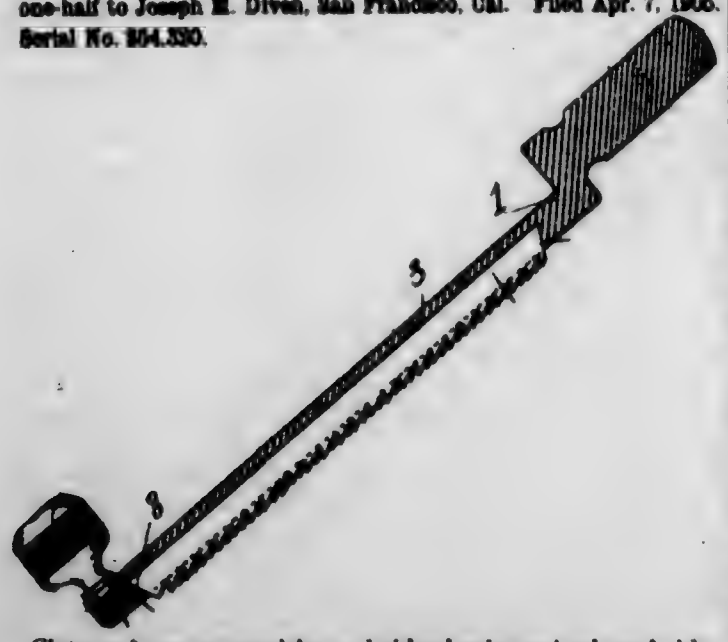
2. In a meter, the combination of a casing consisting of an upper and lower plate, and an interposed flange or ring, a turbine-wheel having concentric rings, and wings extending radially between the rings, said wings being motionless relatively to the rings, the rings and wings extending between the two plates of the casing, ball-bearings supporting the turbine-wheel in the casing, and means for adjusting the ball-bearings and the casing in relation to the turbine-wheel; substantially as specified.

3. In a meter, the combination of a casing consisting of an upper and lower plate and an interposed ring or flange, supply and service pipe sockets extending from the meter-case on the same tangential line at or below the base of the meter-case, and a turbine-wheel having concentric rings and wings extending radially between the rings and motionless relatively thereto; substantially as specified.

4. In a meter, the combination of a meter-case having an upper and lower plate and an interposed ring or flange, a turbine-wheel, consisting of concentric rings and radial wings so arranged as to form pockets, and inlet and outlet ports so located in the casing that fluid cannot pass from one to the other without moving the turbine-wheel; substantially as specified.

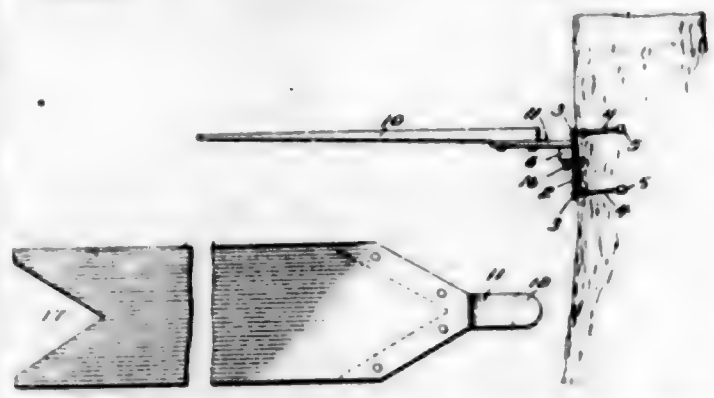
5. In a meter, a casing consisting of an upper and a lower plate, having an intervening flange or ring, a turbine-wheel consisting of concentric rings and radial wings, inlet and outlet sockets extending radially from the casing, and a pivoted arm extending in the path of the spokes of the turbine-wheel to prevent the backward movement of the same; substantially as specified.

806,962. **RASP.** ROBERT J. ELLIS, San Francisco, Cal., assignor of one-half to Joseph M. Diven, San Francisco, Cal. Filed Apr. 7, 1906. Serial No. 310,330.



Claim.—A rasp comprising a holder having a back and sides, toothed blades received in the cavity between said back and sides, a clamping-plate having an inner side engaging the ends of the blades to hold them in position, and a screw for holding said clamping-plate to the holder, said screw having an enlarged head to serve as a handle, substantially as described.

806,963. **TREE-FELLING FOOTBOARD.** ARTHUR B. EVANS and FORTUNA CARON, Beaton, Canada. Filed July 19, 1905. Serial No. 270,342.



Claim.—1. In a device of the class described; the combination with a footboard having a downwardly-projecting pivot at one end, of a socket therefor secured to a rectangular frame to each corner of which an anchor-spike is connected by a link, means for retaining the pivot of the footboard in varied positions of angular rotation and means for releasing it from such retention.

2. In a device of the class described; the combination with a footboard having a downwardly-projecting pivot at one end and a swallow-tailed V at the other, of means by which the board may be attached to a tree or the like, such means comprising a rectangular plate-frame to each corner of which an anchoring-spike is connected by a link, and a socket designed to receive the downwardly-projecting pivot of the footboard secured toward the upper side of the plate.

3. In a device of the class described; the combination with a footboard having a downwardly-projecting pivot at one end, of a socket designed to receive the pivot, secured to a rectangular frame to each corner of which an anchor-spike is secured by a link, means for retaining the pivot against rotation in its socket, such means comprising a downwardly-projecting portion on the under side of the horizontal portion of the pivot member designed to enter any one of a series of grooves in the upper edge of the socket, and means for lifting the pivot to enable the downwardly-projecting portion to clear the groove.

4. In a device of the class described; a rectangular plate having connected to each corner by a link an anchoring-spike having a thin flat shank member backwardly curved to conform to the round of the trunk of a tree or the like, a socket secured toward the upper edge of the rectangular plate, the upper edge of which socket is provided with a series of radial notches, a pivotal member the pivot of which is designed to enter and pass a short distance through the socket and having a horizontal portion to which the footboard is secured, a downward projection on the under side of the horizontal portion adjacent to the pivot to engage the radial notches of the socket, and means for lifting the pivotal member in the socket so that the downward projection of its horizontal portion may be freed from engagement with the radial notches.

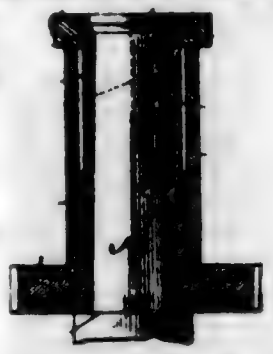
5. In a device of the class described; the combination with a footboard, of a pivotal member having a horizontally-extended upper portion to which the footboard is secured, a downwardly-projecting portion on the under side of the horizontal portion adjacent to the pivot, of a socket secured to a frame member to which frame anchoring-spikes are each connected by a link, means for lifting the pivot member from engagement with the notches of the socket, such means comprising a treadle member pivotally mounted on the frame to which the socket and anchor members are connected, and extended beneath the end of the pivot which downwardly projects below the socket.

806,964. **CANNON-PINION FOR WATCHES.** LEWIS A. FALLER, Nashville, Tenn. Filed July 20, 1905. Serial No. 269,206.

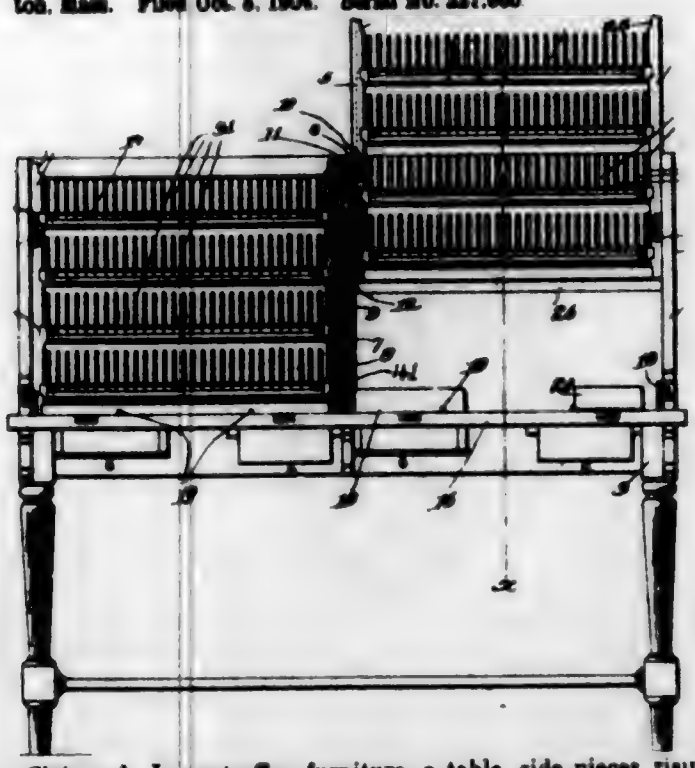
Claim.—1. A device of the kind described comprising a center-post, a pinion having a tubular portion longitudinally split, a sleeve surrounding the tubular portion and terminating short of the split end of the tubular portion, and a minute-hand adapted to rest on the end of the sleeve and compress the split end of the sleeve.

2. A cannon-pinion for watches comprising a center-post having an undercut shoulder at its upper end, a pinion having a tubular

portion longitudinally split adjacent its upper end and having a seat formed at its upper end adapted to engage the undercut shoulder, a sleeve surrounding the said tubular portion the contacting faces of the sleeve and tubular portion being smooth, and a minute-hand adapted to rest on the sleeve and force the seat of the tubular portion into engagement with the shoulder of the center-post.



806,965. POST-OFFICE FURNITURE. MARCELLUS S. FIELD, Boston, Mass. Filed Oct. 8, 1904. Serial No. 227,965.



Claim.—1. In post-office furniture, a table, side pieces rising therefrom, a vertically-movable case received between said side pieces, and two coiled counterpoise-springs, each having one end connected to the upper end of a side piece and the other end connected to the bottom of the vertically-movable case, said springs being partially received in grooves in the side pieces.

2. In post-office furniture, a table, side pieces rising therefrom, a vertically-movable case received between said side pieces, and counterpoise-springs secured at one end to the upper end of said side pieces and at the other end to the bottom of the vertically-movable case, each spring being received partially in a groove in the side of the case whereby said springs serve both as a counterpoise for the case and as a guide therefor.

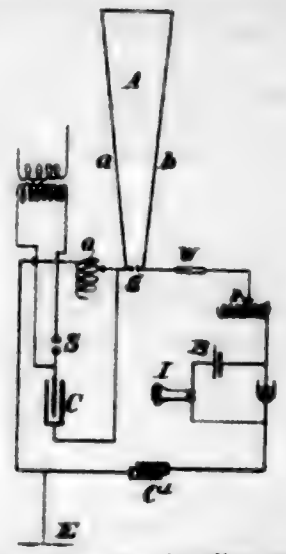
3. In a device of the class described, a table, side pieces rising therefrom, a case between said side pieces movable toward and from the table, said case having shelves and a shelf-rest at its upper end, the lower shelf being removable and adapted to be transferred to said shelf-rest, and springs acting to restrain the movement of said case toward the top of said table.

4. In a device of the class described, a table, a vertically-movable case above the table, said case having shelves, and a detachable back piece or guard for each shelf.

5. In a device of the class described, a table, side pieces rising therefrom, a vertically-movable case having shelves received between said side pieces, counterpoise-springs secured at one end to the upper end of said side pieces and at the other end to the bottom of said vertically-moving case, each spring received partially in a groove in the side of the case, and a route-indicating strip detachably secured to the front of each shelf.

6. In a carrier's desk, a table, a case supported above the table, said case comprising side pieces and shelves supported thereby, each shelf having rising therefrom partitions in the form of wire loops, each side piece being provided with an opening in line with the loops of wire on each shelf.

806,966. WIRELESS-TELEGRAPH SYSTEM. LEE DE FOREST, New York, N. Y. Filed Jan. 25, 1904. Renewed Oct. 14, 1905. Serial No. 282,811.



Claim.—1. In an electric-wave signaling system, the combination with an antenna-loop, joined at the top but insulated at the base; of a closed electric circuit connected to the antenna base-terminals; transmitting and receiving means operatively associated with the closed electric circuit; and a spark-gap constructed and arranged to permit both sides of the antenna-loop to act as a single transmitting-radiator, and also to enable the antenna to act as a loop in receiving.

2. In an electric-wave signaling system, the combination with an antenna-loop, joined at the top but insulated at the base, of a closed electric circuit connected to the antenna base-terminals; an adjustable tuning-helix connected in one branch of said closed electric circuit; and in the same branch, a second adjustable tuning-helix shunted by a spark-gap; an adjustable helix in the other branch of said closed electric circuit; and a receiving device operatively associated with said closed electric circuit.

3. In an electric-wave signaling system, the combination with an antenna-loop, joined at the top but insulated at the base; of a closed electric circuit connected to the antenna base-terminals; a tuning-helix in said closed circuit, a second closed circuit operatively associated with said closed electric circuit; a tuning-helix in said second closed circuit, a receiving device in said second closed circuit; means for adjusting said helix in the first closed circuit; and means for adjusting said helix in the second closed or receiver circuit.

4. In an electric-wave signaling system, the combination with an antenna-loop, joined at the top but insulated at the base; of a closed electric circuit connected to the antenna base-terminals; a receiver operatively associated with said closed circuit; and an impedance-coil shunted by a spark-gap, in said closed electric circuit.

5. In an electric-wave signaling system, the combination with an antenna-loop, joined at the top but insulated at the base; of a closed electric circuit connected to the antenna base-terminals; a receiver operatively associated with said closed circuit; a tuning-helix in one branch of said closed circuit; and an impedance-coil shunted by a spark-gap, in the other branch of said closed circuit.

6. In an electric-wave signaling system, the combination with an antenna-loop, joined at the top but closed at the base; of a closed electric circuit connected to the antenna base-terminals, and forming with the antenna-loop, a closed circuit equivalent in length to a half-wave length or a multiple thereof; an adjustable tuning-helix in one branch of said closed circuit; a second adjustable helix in the other branch of said closed circuit; and a receiving device operatively associated with said closed electric circuit.

7. A wireless signaling system comprising two antennæ connected at one end, separate connections from the other end of each to the earth, adjustable tuning devices in each of said connections, and a receiving mechanism connected with one of said connections.

8. A wireless signaling system comprising two antennæ electrically connected at one end, separate connections from their other ends to the earth or capacity, a transmitting mechanism connected with one of said earth connections, a receiving mechanism connected with the other earth connection, adjustable tuning devices connected with each of said earth connections, and means for cutting out the receiving mechanism when sending.

9. A wireless signaling system comprising two antennæ connected at one end, a wave-producing mechanism connected with one antenna, a signal-receiving mechanism connected with the other antenna, a ground connection and means for disconnecting the latter mechanism from the antennæ.

10. In an electrical-wave system of communicating intelligence, the combination with an antenna-loop connected at the top but insulated at its base-terminals specifically by a spark-gap; of an electric circuit connected to the antenna-terminals and forming with the antenna-loop a closed circuit; transmitting and receiving means operatively associated with said closed circuit; and means for cutting out the receiving means while the transmitting means is in use.

11. In an electrical-wave system of communicating intelligence, the combination with an antenna-loop connected at the top but insulated at its base-terminals specifically by a spark-gap; of an electric circuit connected to the antenna-terminals and forming with the antenna-loop a closed circuit; a secondary closed circuit including transmitting apparatus and operatively associated with the first closed circuit; a secondary closed circuit including receiving apparatus and operatively connected with the first closed circuit; and means for cutting out the receiving means while the transmitting means is in use.

12. In an electrical-wave system of communicating intelligence, the combination with an antenna-loop connected at the top but insulated at its base-terminals specifically by a spark-gap; of an electric circuit connected to the antenna-terminals and forming with the antenna-loop a closed circuit; a secondary closed circuit including transmitting apparatus and operatively associated with the first closed circuit; receiving means operatively associated with the first closed circuit; and means for cutting out the receiving means when the transmitting apparatus is in use.

13. In an electrical-wave system of communicating intelligence, the combination with an antenna-loop connected at the top but insulated at its base-terminals; of an electrical circuit connected to the antenna base-terminals and forming with the antenna-loop a closed circuit approximately equivalent in length to a half-wave length or a multiple thereof; a secondary closed circuit operatively associated with said first closed circuit; a receiving device operatively associated with said second closed circuit; means for making the first closed circuit most strongly responsive to the transmitted waves; and means for adjusting the period of the second closed circuit.

14. In an electrical-wave system of communicating intelligence, the combination with an antenna-loop connected at the top but insulated at its base-terminals; of an electric circuit connected to the antenna base-terminals and forming with the antenna-loop a closed electrical circuit; an adjustable inductance in one branch of said closed circuit; and a receiving device operatively associated with the branch of said closed circuit which contains said inductance.

15. In an electrical-wave system of communicating intelligence, the combination with an antenna-loop connected at the top but insulated at its base-terminals specifically by a spark-gap; of a circuit connected to the antenna base-terminals and forming with the antenna-loop a closed electrical circuit; a transmitting apparatus and an adjustable inductance therefor, operatively associated with one branch of said closed circuit; a receiving apparatus and an adjustable inductance operatively associated with the other branch of said closed circuit; and means for cutting out the receiving apparatus when the transmitting apparatus is in use; both said inductances coöperating independently of the operation of the transmitting apparatus when the receiving apparatus is in use.

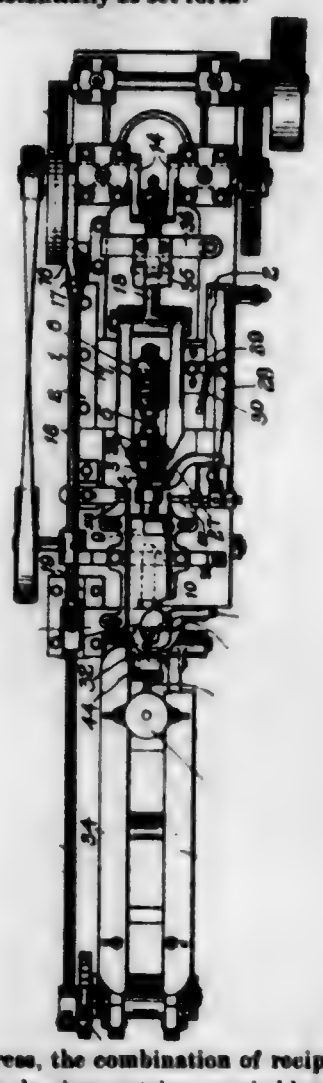
16. In an electrical-wave system of communicating intelligence, the combination with an antenna-loop connected at the top but insulated at its base-terminals; of a circuit connected to the antenna base-terminals and forming with the antenna-loop a closed electrical circuit; adjustable inductance in said closed circuit; a receiving apparatus operatively associated with said closed circuit; and a circuit other than said closed circuit, which includes an indicating means for the receiver.

17. In an electrical-wave system of communicating intelligence, the combination with an antenna-loop connected at the top but insulated at its base-terminals; of a circuit connected to the antenna base-terminals and forming with the antenna-loop a closed electrical circuit; adjustable inductance in said closed circuit; a secondary closed circuit, and receiving means connected therein; and a third circuit which includes the receiving means and indicating means therefor.

808,987. SOAP-PRESS. JOHN J. FOGARTY, Avalon, Pa. Filed Dec. 23, 1904. Serial No. 238,015.

Claim.—1. In a soap-press the combination of reciprocating plungers, heads provided with shaping-matrices carried by the plungers, dislodging-blocks having faces forming parts of the shaping-matrices, stems connected to said blocks and extending through the plungers and means actuated by the plungers in their outward movement for shifting said stems and blocks, substantially as set forth.

2. In a soap-press the combination of reciprocating plungers, heads provided with shaping-matrices carried by the plungers, a dislodging-block having a face forming a part of one of the shaping-matrices, a stem connected to said block and extending through the plunger carrying the head of which the block forms a part, and means actuated by the plungers in their outward movement for shifting the stem and block, substantially as set forth.



3. In a soap-press, the combination of reciprocating plungers, heads provided with shaping-matrices carried by the plungers, a dislodging-block having a face forming a part of one of the shaping-matrices, a stem connected to said block and extending through the plunger carrying the head of which the block forms a part, a lever pivotally mounted on the plunger for shifting the block and means for shifting the lever, substantially as set forth.

4. In a soap-press the combination of reciprocating plungers, heads provided with shaping-matrices carried by the plungers, a dislodging-block having a face forming a part of one of said matrices, a stem connected to said block and extending along the plunger carrying the head of which the block forms a part, a lever pivotally mounted on the plunger and engaging the stem and means operated by the plunger in its movement to shift the lever, substantially as set forth.

5. In a soap-press, the combination of a feed-chute, a swinging arm provided with means for supporting a blank, a stop-finger carried by the arm and means for raising and lowering the arm, substantially as set forth.

6. In a soap-press, the combination of a feed-chute, an arm movable in front of the chute, a blank-supporting finger and a stop-finger carried by the arm, a reciprocating cross-head provided with means for shifting the arm, substantially as set forth.

7. In a soap-press, the combination of a mold-box, a feed-chute having its discharge end arranged in line with the open end of the mold-box, an arm movable from the chute to the mold-box, a blank-supporting finger and a stop-finger carried by the arm, a reciprocating cross-head provided with means for shifting the arm, substantially as set forth.

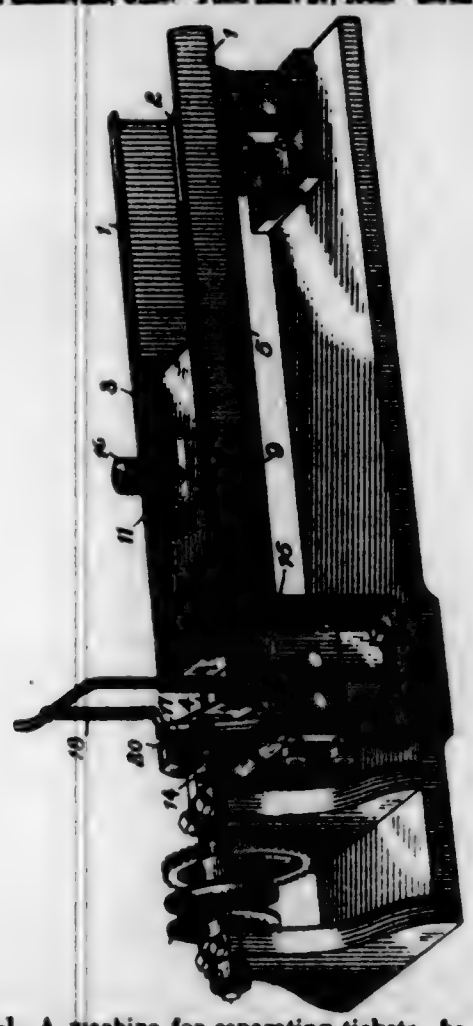
8. In a soap-press the combination of a feed-chute means for applying lubricating material to blanks, and means for rotating the blank whereby the lubricating material may be applied all around the blank, substantially as set forth.

9. In a soap-press, the combination of a chute, a belt forming a portion of the chute and an absorbent material arranged to coöperate with the belt to change the positions of the blanks, substantially as set forth.

10. In a soap-press, the combination of a chute having a movable portion, means for shifting the movable portion and means for applying lubricating material to the blank and arranged to coöperate

with the movable portion to turn the blank during the application of the lubricating material, substantially as set forth.

806,968. MACHINE FOR SEPARATING TICKETS, &c. WALTER A. GUESS, Zanesville, Ohio. Filed Mar. 27, 1905. Serial No. 252,494.



Claim.—1. A machine for separating tickets, &c., having in combination means for removing a ticket from others in a pack or pile and means for registering such shifting of the ticket operative by the ticket after its removal from the pack or pile.

2. A machine for separating tickets, &c., having in combination means for engaging a ticket or other article, means for moving such ticket away from others of the pack or pile and a counter operative by the ticket after removal from the pack or pile.

3. A machine for separating tickets, &c., having in combination means for engaging a ticket or other article, means for moving the ticket away from others in the pile or pack, and means for mutilating the ticket.

4. A machine for separating tickets, &c., having in combination means for engaging a ticket, means for moving the ticket away from others in the pile or pack, means for mutilating the ticket and a counter operative by the ticket.

5. A machine for separating tickets, &c., having in combination a revolving pin, means for forcing a ticket onto the pin, and means for moving the ticket along the pin.

6. A machine for separating tickets, &c., having in combination a revolving pin, means for forcing a ticket onto the pin, and means for moving the ticket along the pin a rate higher than its movement onto the pin.

7. A machine for separating tickets, &c., having in combination a revolving pin, means for forcing a ticket onto the pin, means for moving the ticket along the pin, and means for pulling the ticket off of the pin.

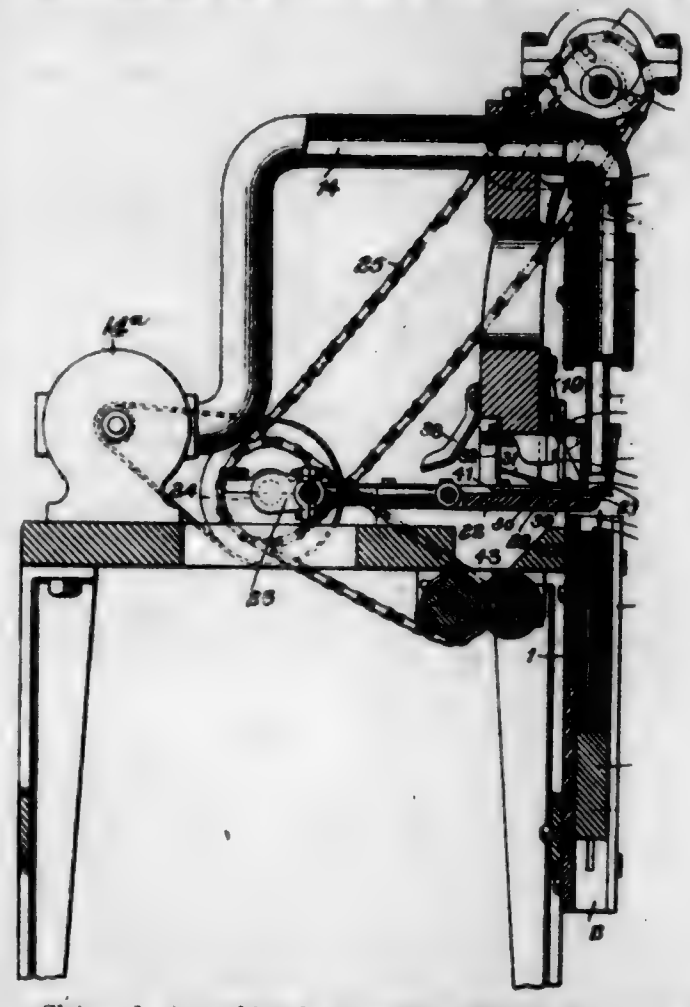
8. A machine for separating tickets, &c., having in combination a revolving pin, means for forcing a ticket onto the pin, means for moving the ticket along the pin, and a pair of rollers for pulling the ticket from the pin.

9. A machine for separating tickets, &c., having in combination a revolving pin, means for forcing a ticket onto the pin, and a pair of rollers arranged in such relation to the pin that the ticket is shifted by the pin into the bite of the rolls.

10. A machine for separating tickets, &c., having in combination means for removing tickets one at a time from a pack or pile, a pair of rollers, a rod extending loosely between the rolls and a counter operative by said rod.

11. A machine for separating tickets, &c., having in combination a revolving screw, means for forcing a ticket onto the screw, a pair of rollers arranged to pull a ticket from the screw and provided with a pass or opening between them, a rod extending loosely through the pass or opening and a counter operative by said rod.

806,969. MACHINE FOR SEPARATING TICKETS. WALTER A. GUESS, Zanesville, Ohio. Filed Mar. 27, 1905. Serial No. 252,495.



Claim.—1. A machine for separating tickets, &c., having in combination a reciprocating hollow head, means for exhausting air from said head and a tubular stripper for an extension of the head in certain positions of the latter.

2. A machine for separating tickets, &c., having in combination a reciprocating hollow head, means for exhausting air from said head, reciprocating grippers arranged to engage a ticket when shifted by the head, and a counting mechanism operative by the grippers when in engagement with a ticket.

3. A machine for separating tickets, &c., having in combination a reciprocating hollow head, means for exhausting air from said head, reciprocating grippers arranged to engage a ticket when shifted by the head and a counting mechanism operative by the grippers when in engagement with a ticket.

4. A machine for separating tickets, &c., having in combination a hollow head, a ticket-holder, means for reciprocating the head toward and from the ticket-holder, means for exhausting air from the head, reciprocating grippers arranged to engage a ticket when shifted by the head, means for mutilating the ticket and means for receiving the ticket from the grippers and directing it to the mutilating means.

5. A machine for separating tickets, &c., having in combination a hollow head, means for exhausting air from the head, a ticket-holder, means for forcing tickets along the holder, means for retaining tickets in the holder, means for reciprocating the head toward and from the holder, and means operative by the head in its movement toward the holder to release a ticket.

6. A machine for separating tickets, &c., having in combination, a tubular stripper, a hollow head movable into and out of the stripper, a ticket-holder, means for exhausting air from the head, and means for reciprocating the head toward and from the holder.

7. A machine for separating tickets, &c., having in combination a hollow head connected to an exhaust mechanism, and a valve in such connection automatically operative to close the connection on the admission of air to the head.

8. A machine for separating tickets, &c., having in combination a ticket-holder, means for removing tickets one at a time from the holder, a reciprocating gripper, a counting mechanism and means operative when the gripper is in engagement with a ticket to operate the counting mechanism.

9. A machine for separating tickets, &c., having in combination a ticket-holder, means for removing tickets one at a time from said holder, a reciprocating slide provided with gripping-jaws, one movable relative to the other, a counting mechanism and means operative by the slide when the jaws are in engagement with a ticket.

10. A machine for separating tickets, &c., having in combination a ticket-holder, means for removing tickets one at a time from the holder, a reciprocating slide provided with jaws, one movable relative to the other, and an ejector operative by the slide.

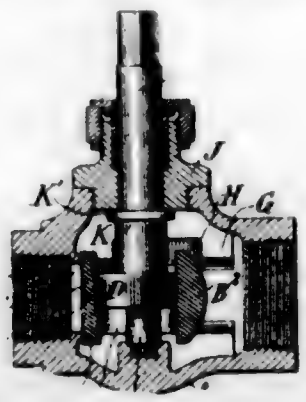
11. A machine for separating tickets, &c., having in combination a ticket-holder, a pair of rolls provided with grooves and collars, the collars on one roll projecting into the grooves of the other rolls, and means for transferring tickets from the holder to the rolls.

12. A machine for separating tickets, &c., having in combination a ticket-holder, a pair of rolls provided with grooves and collars, the collars on one roll projecting into the grooves on the other roll, and a crimping rib and groove on the rolls.

13. A machine for separating tickets, &c., having in combination a ticket-holder, a reciprocating hollow head, constantly-operative means for exhausting air from the head, and means for removing a ticket from the head while a vacuum is maintained therein.

14. A machine for separating tickets, &c., having in combination a ticket-holder, means for maintaining a feed-pressure on tickets in said holder, a reciprocating ticket-shifting head and means for retaining the tickets in the holder and operative by the head to release the tickets.

806,970. STEAM-VALVE FOR TRAIN-PIPES. EDWARD E. GOLD, New York, N. Y. Filed June 20, 1904. Serial No. 213,429.



Claim.—1. In a train-pipe valve, in combination, a valve-casing adapted to be connected to the train-pipe at opposite ends, a valve-body movable in the axial line of the train-pipe, a seat at one end of the casing, an eccentric for opening said valve and arranged to turn in the opening direction approximately to its dead-center, the valve-body being provided with a slot through which the eccentric-spindle passes and said eccentric and the length of said slot being shaped and proportioned to limit the movement of the eccentric to stop it substantially at the dead-center.

2. In a train-pipe valve, in combination, a valve-casing adapted to be connected to the train-pipe at opposite ends, an operating-spindle, a valve-body movable in the axial line of the train-pipe, a seat at one end of the casing, and an eccentric for opening said valve operated by said spindle and arranged to turn in the opening direction approximately to its dead-center to lock the valve against accidental closing and to close the valve by approximately a quarter-turn of said spindle from the open position.

3. In a train pipe valve, in combination, a valve-casing adapted to be connected to the train-pipe at opposite ends, an operating-spindle, a valve-body movable in the axial line of the train-pipe, a seat at one end of the casing, an eccentric for opening said valve operated by said spindle and arranged to turn in the opening direction approximately to its dead-center to lock the valve against accidental closing and to close the valve by approximately a quarter-turn of said spindle from the open position, the movement of the eccentric being limited to prevent its going far beyond the dead-center.

4. In an end train-pipe valve, in combination, a valve-casing adapted to be connected to the train-pipe at opposite ends, a valve-body B movable in the axial line of the train-pipe, a seat C at one end of the casing, an eccentric D for opening said valve, a spindle E carrying said eccentric, said valve-body being provided with a slot F' through which a portion of said spindle passes, the parts being proportioned to limit the opening movement of the eccentric approximately to its dead-center and to close the valve when the eccentric is turned a quarter-turn from the extreme open position.

5. In combination in a valve, a seat, a valve-body, an eccentric for reciprocating said body toward and from said seat, and a spindle for operating said eccentric, said eccentric being arranged to turn in the opening direction approximately to its dead-center to lock the valve against accidental closing and to close the valve by approximately a quarter-turn of said spindle from the open position.

6. In a train-pipe valve, in combination, a valve-casing comprising a single integral member having longitudinal guiding-ribs above and below the valve-body and integral with said casing, a reciprocable valve-body guided in said ribs, an eccentric for reciprocating said valve-body, and a cap for closing the top of said casing, the ribs above the valve-body being cut away to permit the introduction of the eccentric to its operative position.

7. In a train-pipe valve in combination, a valve-casing comprising a single integral member having longitudinal guiding-ribs G above and below the valve-body and integral with said casing, a reciprocable valve-body B guided in said ribs, an eccentric D for reciprocating said valve-body, a spindle E integral with said eccentric, and a cap J for closing the top of the casing and through which the spindle passes, the ribs above the valve-body being cut away to permit the introduction of the eccentric to its operative position.

8. A train-pipe valve apertured at vertically-separated points to permit the escape of steam and water of condensation separately when the valve is closed.

9. A train-pipe valve provided with a passage at the bottom and a passage above the bottom for the escape of water of condensation and steam respectively when the valve is closed.

10. A train-pipe valve apertured at vertically and horizontally separated points to permit the escape of water of condensation and steam separately when the valve is closed and when the valve-spindle is in either of two positions substantially at right angles to each other.

11. A train-pipe valve provided with grooves L and M at the bottom and side respectively.

806,971. INSTRUMENT FOR LINEAR MEASUREMENTS. GEORG GOSSA, Breslau, Germany, assignor of one-third to Erwin Heyber, Post Stroppen, Germany, and one-third to Max Gossa, Breslau, Germany. Filed May 26, 1905. Serial No. 262,458.



Claim.—1. In an instrument for linear measurement the combination of a rotatable base, a sighting instrument carried thereby, a rotatable reflecting-prism at the upper end of the base a second sighting instrument directed toward said prism and mounted integrally therewith and means for indicating the angle of rotation of the prism aforesaid, substantially as described.

2. In an instrument for linear measurement the combination of a rotatable base, a sighting instrument carried thereby, a rotatable arm pivoted to said base, a reflecting-prism carried by said arm, and a sighting instrument also carried by said arm and directed toward said prism substantially as described.

3. In an instrument for linear measurement the combination of a rotatable base, a sighting instrument carried thereby, a rotatable arm pivoted to said base, a reflecting-prism carried by said arm, a sighting instrument also carried by said arm and directed toward said prism and means for indicating the angle contained by the aforesaid base and arm substantially as described.

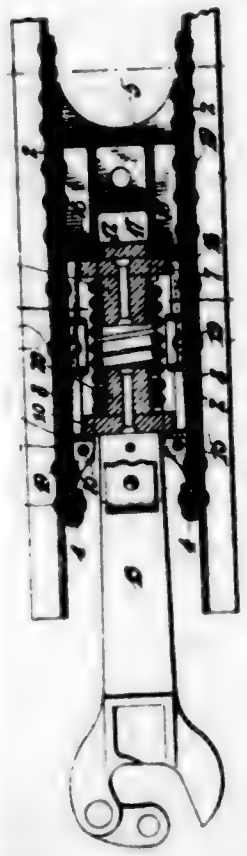
4. In an instrument for linear measurement the combination of a rotatable base, a sighting instrument carried thereby a rotatable arm pivoted to the upper end of said base, a right-angular reflecting-prism carried by said arm and a sighting instrument also carried by said arm and directed toward the prism substantially as described.

5. In an instrument for linear measurement the combination of a rotatable base, a sighting instrument carried thereby at right angles thereto, a rotatable arm pivoted to the upper end of said base, a right-angular reflecting-prism carried by said arm at its upper end, a sighting instrument also carried by said arm at the lower end thereof and directed toward said prism and means for indicating the angle contained by said base and arm substantially as described.

6. In an instrument for linear measurement the combination of

a rotatable base, a sighting instrument carried thereby, a rotatable arm pivoted to the upper end of said base, a right-angular reflecting-prism carried by said arm at its upper end and having the center of its hypotenuse coinciding with the pivotal point of said arm, a sighting instrument also carried by said arm at the lower end thereof and directed toward said prism and means for indicating the angle contained by said base and arm substantially as described.

806,972. DRAFT-RIGGING. GEORGE L. HARVEY, Chicago, Ill. Filed Aug. 17, 1904. Serial No. 221,151.



Claim.—1. In a device of the kind described, longitudinal draft-sills, plates secured to said sills, follower-stops between said plates and gripping connections between the plates and the stops, substantially as described.

2. In a device of the kind described, longitudinal draft-sills, plates secured to said sills and having flanges constituting follower-guides, follower-stops between said plates, and gripping means integral with the plates and engaging the follower-stops, substantially as described.

3. In a device of the kind described, a draft-sill, a reinforcing-plate secured to the sill and a stop for controlling the action of a draw-bar, a bent portion of the reinforcing member overlapping the end of the stop, substantially as described.

4. In a device of the kind described, a draft-sill, a reinforcing-plate secured to the sill and a stop having a gripping engagement with the reinforcing member and controlling the action of a draw-bar, substantially as described.

5. In a device of the kind described, longitudinal draft-sills, and flanged members secured to the draft-sills and having portions bent inward and backward, substantially as described.

6. In a device of the kind described, longitudinal draft-sills, a back stop secured to the draft-sills, forward stops secured to the draft-sills, followers between the stops, and guides for the followers also secured to the sills, substantially as described.

7. In a device of the kind described, parallel draft-sills, flanged members secured to said sills and an integral back stop secured between said flanged members, substantially as described.

8. In a device of the kind described, parallel draft-sills, flanged members secured to the draft-sills, an integral back stop secured between the flanged members and forward stops independent of said back stops, substantially as described.

9. In a device of the kind described, the combination of draft-sills, flanged members secured thereto, side pieces carrying stops secured to the flanged members, the ends of said members being bent around the ends of said pieces, substantially as described.

10. In a device of the kind described, longitudinal draft-sills, reinforcing members attached to said sills, an integral back stop secured to said longitudinal sills, and front stops engaged by said reinforcing members, substantially as described.

11. In a device of the kind described, longitudinal draft-sills, reinforcing members attached to said sills and carrying front stops, an integral back stop secured to said longitudinal sills and provided with shoulders, followers between said front stops and said shoulders, and a spring between said followers, substantially as described.

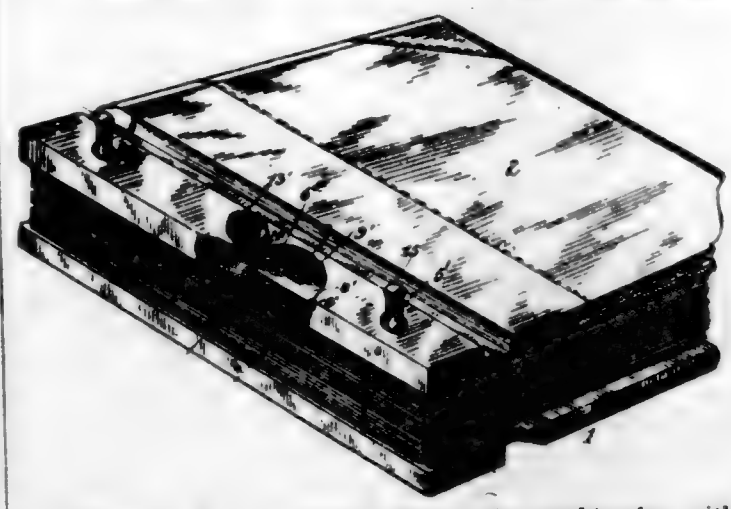
12. In a device of the kind described, longitudinal draft-sills, reinforcing members attached to said draft-sills, and carrying front stops, guides attached to said reinforcing members, an integral back stop secured to said sills and carrying shoulders, followers adapted to engage said front stops and said shoulders, a spring between said followers and attached to a draw-head, substantially as described.

806,973. CANDLE-TIP MOLD. JOSEPH T. HOMAN, Cincinnati, Ohio, assignor to Homan & Company, Cincinnati, Ohio, a Firm. Filed Mar. 30, 1905. Serial No. 253,968.



Claim.—A candle-mold formed of soft metal having a bell portion and a conical wick-channel, a hardened metal sleeve being located between the conical portion of the channel and the bell, substantially as described.

806,974. TEMPORARY OR LOOSE-LEAF BINDER. JOHN W. HUSING, San Francisco, Cal., assignor to The Hicks-Judd Company, San Francisco, Cal., a Corporation. Filed Nov. 10, 1904. Serial No. 232,069.

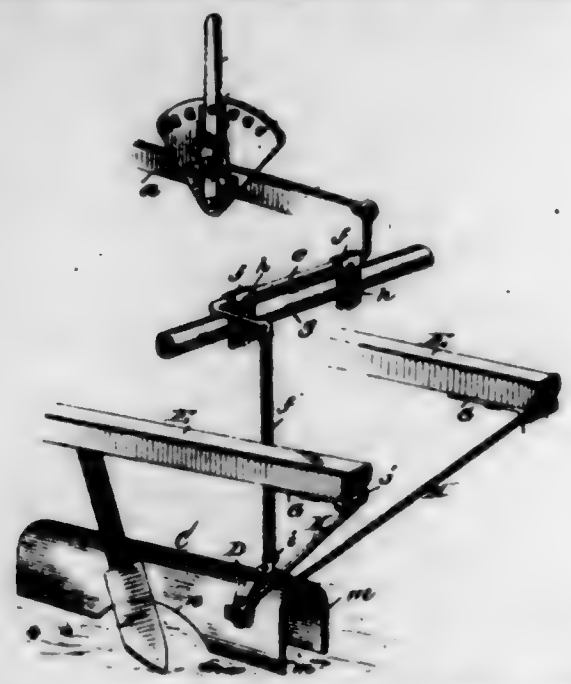


Claim.—1. In a temporary binder, the combination with a cover, of the spaced clamp-plates secured therein, the file-posts on which said plates are vertically movable, the longitudinally-movable lock-plates held between the spaced clamp-plates, a fixed screw threaded post separating the lock-plates, a cone slidably mounted on the screw-threaded post in contact with said lock-plates and a thumb-nut working on the said post, the movement of which thumb-nut serves to control the position of the cone to actuate the slide lock-plates for engaging the file-posts and locking the clamp-plates against movement, or to permit of the lock-plates moving inward to release the said clamp-plates.

2. In a temporary binder, the combination with a cover, of clamp-plates secured therein, posts on which the clamp-plates are vertically adjustable, lock slide-plates arranged between the clamp-plates, and means for controlling the movement of the lock slide-plates toward and from the binding-posts for locking the clamp-plates thereto or for releasing the same, said means including a screw-threaded post projecting upwardly from the lower plate, a conical wedging member freely movable on said post, an operating-nut having screw-threaded engagement with said post and arranged to impart movement to said conical member, and means on the post for limiting the upward movement of the nut.

3. In a temporary binder, oppositely-disposed clamping-plates mounted for vertical adjustment on vertically-arranged clamping-posts, the said posts, a locking-plate comprising sections arranged intermediate said clamping-plates and adapted to engage and disengage said clamping-posts, and means for imparting sliding movement to said sections of the clamping-plate including an intermediately-arranged threaded post secured to the lower clamping-plate and projecting upwardly therefrom, a conical wedging member freely movable on said threaded posts, a nut having screw-threaded engagement with said threaded posts and adapted to impart movement to said conical wedging member, and washers interposed between the nut and said conical wedging member.

806,975. CULTIVATOR-SHIELD. ELMER A. HYDE and HERBERT H. FARLEE, Villisca, Iowa. Filed Aug. 1, 1905. Serial No. 272,186.



Claim.—1. A shield for cultivators or other like agricultural machines, and means for connecting it with said machine, consisting of adjustable brackets connecting with the ends of the beams of the machine, hangers having its bearings in the ends of the hangers and pivotally connecting with the shield, and suitable means for raising and lowering the shield and an intermediate flexible connection between said means and the shield, substantially as and for the purpose described.

2. A shield for cultivators or other like agricultural machines, said shield having a straight or vertical front end and a suitable opening upon the side of the shield, adjustable brackets upon the ends of the beams of the machine, hangers pivotally connecting with the brackets and with the shield, a saddle upon the front end of the shield, means for raising or lowering the shield and a flexible connection between said raising and lowering means and the shield, substantially as and for the purpose specified.

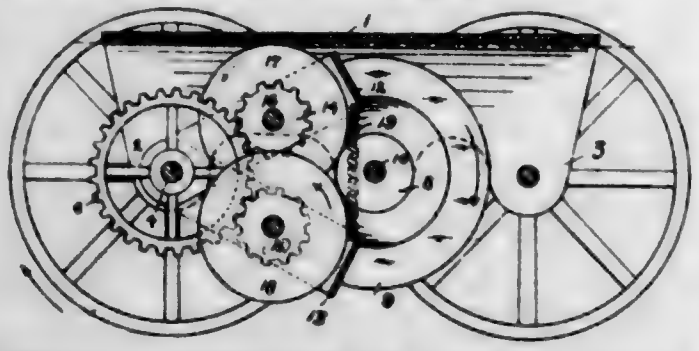
806,976. FUMIGATING COMPOSITION. JOB R. INSKEEP, Galion, Ohio. Filed Dec. 22, 1904. Serial No. 237,998.

Claim.—1. A fumigating composition containing sulfur, licorice-root, lemon-peel, and hickory-bark.

2. A fumigating composition containing sulfur, charcoal, saccharine matter, hickory-bark, licorice-root and lemon-peel.

3. A fumigating composition consisting of flowers of sulfur, one hundred and sixty parts, powdered willow-charcoal, thirty-two parts, New Orleans molasses, sixteen parts, powdered hickory-bark, six parts, powdered licorice-root, four parts, grated lemon-peel, one part.

806,977. INERTIA-WHEEL TOY. HARRY T. KINGSBURY, Keene, N. H. Filed May 16, 1904. Serial No. 208,201.



Claim.—1. A wheeled toy comprising in combination, running-wheels, an inertia-wheel and the supporting-frame for said wheels, means for transmitting motion from the running-wheels to the inertia-wheel and from the inertia-wheel to the running-wheels, including two sets of frictional contact devices, and including means operated by the rotation of the running-wheels to increase the frictional contact-pressure of one set, as the speed of the running-wheels increases, and including means operated by the rotation of the inertia-wheel to maintain the frictional contact-pressure of the other set while the inertia-wheel is rotating; substantially as described.

2. A wheeled toy comprising in combination, a supporting-frame, running-wheels carried thereby, an inertia-wheel mounted in said frame, friction-wheels for transmitting motion to and from said inertia-wheels, gear-wheels for positively connecting the friction-wheels with the running-wheels, and independently-movable carriers for supporting said friction-wheels respectively; substantially as described.

3. A wheeled toy, comprising in combination, a supporting-frame, running-wheels carried thereby, an inertia-wheel mounted in said frame, friction-wheels for transmitting motion to and from said inertia-wheels, gear-wheels for positively connecting the friction-wheels with the running-wheels, and independently-movable carriers for supporting said friction-wheels respectively, and yielding means for connecting said carriers; substantially as described.

4. In a wheeled toy, the running-wheels, the inertia-wheel, the shafts upon which the same are respectively mounted, a plurality of friction-wheels, and means for yieldingly pressing them together to normally engage the inertia-wheel, and a plurality of gear-wheels between the friction-wheels and the running-wheel shaft; substantially as described.

5. A wheeled toy, comprising in combination, a supporting-frame, running-wheels carried thereby, a shaft connecting said wheels, a gear-wheel carried by said shaft, an inertia-wheel, a friction-drum connected thereto, friction-wheels engaging said drum, and gear-wheels connected to said friction-wheels and engaging the first-named gear-wheel; substantially as described.

6. A wheeled toy comprising in combination, a supporting-frame, running-wheels carried thereby, a shaft connecting said wheels, a gear-wheel carried by said shaft, an inertia-wheel, a friction-drum connected thereto, friction-wheels engaging said drum, gear-wheels connected to said friction-wheels and engaging the first-named gear-wheel, and movable carriers for supporting said friction-wheels; substantially as described.

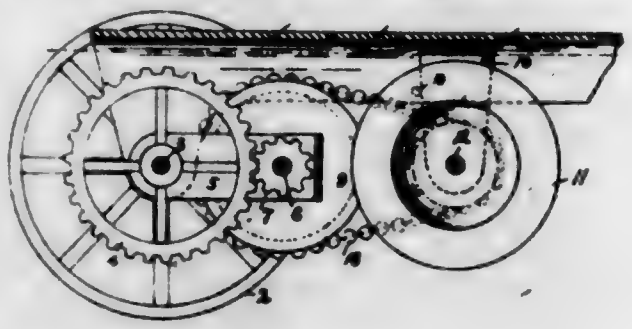
7. A wheeled toy comprising in combination, a supporting-frame, running-wheels carried thereby, a shaft connecting said wheels, a gear-wheel carried by said shaft, an inertia-wheel, a friction-drum connected thereto, friction-wheels engaging said drum, gear-wheels connected to said friction-wheels and engaging the first-named gear-wheel, and carriers pivoted on the shaft and supporting said friction-wheels; substantially as described.

8. A wheeled toy comprising in combination, a supporting-frame, running-wheels carried thereby, a shaft connecting said wheels, a gear-wheel carried by said shaft, an inertia-wheel, a friction-drum connected thereto, friction-wheels engaging said drum, gear-wheels connected to said friction-wheels and engaging the first-named gear-wheel, carriers pivoted on the shaft and supporting said friction-wheels, and yielding means connected to said carriers and holding the friction-wheels in contact with the drum; substantially as described.

9. A wheeled toy comprising in combination, a supporting-frame, running-wheels carried thereby, a shaft connecting said wheels, a gear-wheel carried by said shaft, an inertia-wheel, a friction-drum connected thereto, friction-wheels engaging said drum, gear-wheels connected to said friction-wheels and engaging the first-named gear-wheel, carriers pivoted on the shaft and supporting said friction-wheels, and a spring connecting the free ends of said carriers and holding the friction-wheels in contact with said drum; substantially as described.

10. In a wheeled toy, running-wheels, an inertia-wheel, shafts respectively supporting the same, a gear-wheel on the running-wheel shaft, frames pivoted on said shaft, one extending above and one extending below the same, a shaft on each of said frames, a gear-wheel on each of said shafts meshing with the gear-wheel on the running-wheel shaft, a friction-wheel on each of said shafts in frictional engagement with the inertia-wheel, and a spring connecting the frames; substantially as described.

806,978. INERTIA-WHEEL TOY. HARRY T. KINGSBURY, Keene, N. H. Filed May 16, 1904. Serial No. 208,202.

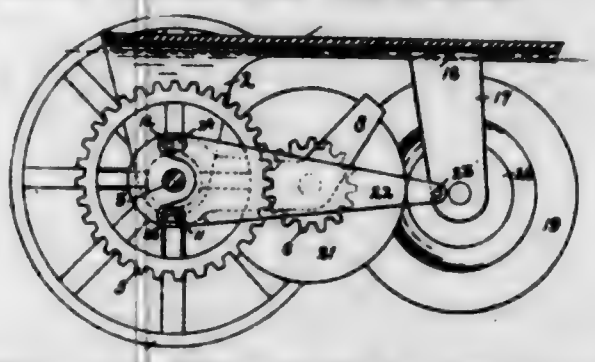


Claim.—1. A wheeled toy, comprising in combination running-wheels, a shaft connecting said wheels, an inertia-wheel, a shaft supporting said inertia-wheel, a frame, a pulley carried by said frame, means for pivotally supporting said frame, a belt for transmitting power from said pulley to said inertia-wheel, movable bearings for supporting said inertia-wheel, means for moving said inertia-wheel outward to maintain a tension on said belt, means for limiting the inward movement of the inertia-wheel, and devices for operatively connecting said pulley to the running-wheels, said devices operating during movements of the wheels to turn said frame about its pivot and to increase the tension on the said belt; substantially as described.

2. A wheeled toy, comprising in combination running-wheels, a shaft connecting said wheels, an inertia-wheel, a shaft supporting said inertia-wheel, a frame, a pulley carried by said frame, means for pivotally supporting said frame, a belt for transmitting power from said pulley to said inertia-wheel, movable bearings for supporting said inertia-wheel, means for moving said inertia-wheel outward to maintain a tension on said belt, means for limiting the inward movement of the inertia-wheel, and devices for operatively connecting said pulley to the running-wheels, including a gear-wheel connected to said pulley and a gear-wheel on the shaft of the running-wheels meshing with said first-named gear, said devices operating during movements of the wheels to turn said frame about its pivot and to increase the tension on the said belt; substantially as described.

3. A wheeled toy comprising in combination a supporting-frame, running-wheels carried thereby, a pivoted bracket, a spring for forcing said bracket outward, a stop to limit the innerward movement thereof, an inertia-wheel and means for transmitting power between the inertia-wheel and the running-wheels, including a belt and devices operated from the running-wheels for increasing the tension on the belt as the power transmitted increases.

806,979. INERTIA-WHEELED TOY. HARRY T. KINGSBURY, Keene, N. H. Filed May 16, 1904. Serial No. 208,206.



Claim.—1. A wheeled toy, comprising in combination running-wheels, an inertia-wheel, movable means for supporting said inertia-wheel, and means for transmitting power between said inertia-wheel and said running-wheels, including a friction-wheel, means for supporting said friction-wheel whereby the same may move bodily about the axis of the running-wheels, devices for operatively connecting said friction-wheel to the running-wheels, said devices rotatably connecting said wheels and moving said friction-wheel bodily and means operated by the bodily movement of the friction-wheel to move said inertia-wheel and thereby increase the transmitting friction of the friction-wheel.

2. A wheeled toy, comprising in combination running-wheels, an inertia-wheel, a pivoted bracket for supporting said inertia-wheel, and means for transmitting power between said inertia-wheel and said running-wheels, including a friction-wheel, means for supporting said friction-wheel whereby the same may move bodily about the axis of the running-wheels, devices for operatively connecting said friction-wheel to the running-wheels, said devices rotatably connecting said wheels and moving said friction-wheel bodily and means operated by the bodily movement of the friction-wheel to move said inertia-wheel and thereby increase the transmitting friction of the friction-wheel.

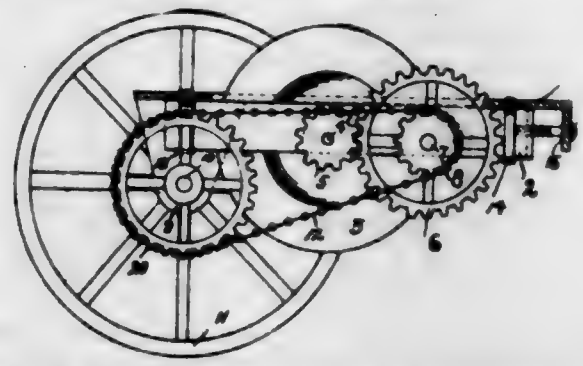
3. A wheeled toy, comprising in combination running-wheels, an inertia-wheel, a pivoted bracket for supporting said inertia-wheel, and means for transmitting power between said inertia-wheel, and said running-wheels, including a friction-wheel, a pivoted frame for said friction-wheel, devices for operatively connecting said friction-wheel to the running-wheels, and means operated by movement of said pivoted frame to move said inertia-wheel and thereby increase the transmitting friction of the friction-wheel.

4. A wheeled toy comprising in combination, running-wheels, a friction-wheel, devices for operatively connecting said running-wheels and said friction-wheel, an inertia-wheel, a drum operatively connected to said inertia-wheel and in contact with said friction-wheel, a pivoted bracket for supporting said inertia-wheel and drum, a pivoted frame for supporting said friction-wheel, and means connecting said pivoted frame to said pivoted bracket, whereby movement of the frame will move said drum toward said friction-wheel and increase the transmitting friction as the power transmitted increases.

5. A wheeled toy comprising in combination running-wheels, a shaft supporting the same, a frame pivoted on said shaft, a friction-wheel supported in said frame, a pivoted bracket, an inertia-wheel and a drum supported by said bracket, and means for moving the drum toward the friction-wheel, said means including a link connecting the bracket and pivoted frame.

6. A wheeled toy comprising in combination running-wheels, a shaft supporting the same, a frame pivoted on said shaft, a friction-wheel supported in said frame, a pivoted bracket, an inertia-wheel and a drum supported by said bracket, and means for moving the drum toward the friction-wheel, said means including a link having forked ends, slots in said forked ends and pins on the pivot-frame engaging said slots.

806,980. INERTIA-WHEEL TOY. HARRY T. KINGSBURY, Keene, N. H. Filed May 16, 1904. Serial No. 208,205.



Claim.—1. A wheeled toy comprising in combination, a main frame, running-wheels carried thereby, a carrier slidingly supported by said main frame, an inertia-wheel mounted in said carrier, means for operatively connecting said running-wheel and inertia-wheel including a sprocket-chain and means for adjusting the carrier.

2. A wheeled toy comprising in combination, a main frame, running-wheels carried thereby, a carrier slidingly supported by said main frame, an inertia-wheel mounted in said carrier, a sprocket-wheel connected to the running-wheels, a second sprocket geared to the inertia-wheel, a chain connecting said sprockets and means for adjusting the carrier.

3. A wheeled toy comprising in combination, a main frame, running-wheels carried thereby, a carrier slidingly supported by said main frame, an inertia-wheel mounted in said carrier, a sprocket-wheel connected to the running-wheels, a second sprocket geared to the inertia-wheel, a chain connecting said sprocket, said main frame having a downwardly-projecting portion, a screw carried thereby and threaded in the carrier whereby said carrier may be adjusted.

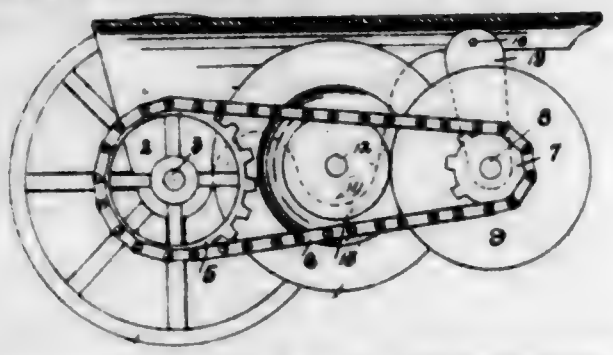
4. A wheeled toy, comprising in combination, a main frame having depending supports, running-wheels carried thereby, a carrier adjustably supported by said main frame, means for adjusting said carrier, an inertia-wheel mounted in said carrier, a sprocket-wheel connected to the running-wheels, a second sprocket-wheel mounted in said carrier, a chain connecting said sprocket-wheels, gearing between said second sprocket-wheel and said inertia-wheel.

5. A wheeled toy comprising in combination, a main frame, supports depending therefrom, keepers carried by said frame, a carrier sliding in said keepers, running-wheels carried by said supports, an inertia-wheel mounted in said carrier, a sprocket-wheel connected to the running-wheels, a second sprocket-wheel mounted in said carrier, a chain connecting said sprocket-wheels, gearing between said second sprocket-wheel and said inertia-wheel, said main frame having a downwardly-projecting portion, a screw carried thereby and threaded in the carrier, whereby said carrier may be adjusted.

6. A wheeled toy, comprising in combination a main frame, supports depending therefrom, a shaft freely carried in said supports, running-wheels on said shaft, U-shaped brackets carried by said frame, a carrier slidingly supported in said brackets, an inertia-wheel mounted in said carrier, a sprocket-wheel connected to the shaft of the running-wheels, a second sprocket-wheel mounted in said carrier, a chain connecting said sprocket-wheels, gearing between said second sprocket-wheel and said inertia-wheel, said main frame having a downwardly-projecting portion, a screw carried

thereby and threaded into said carrier, whereby said carrier may be adjusted.

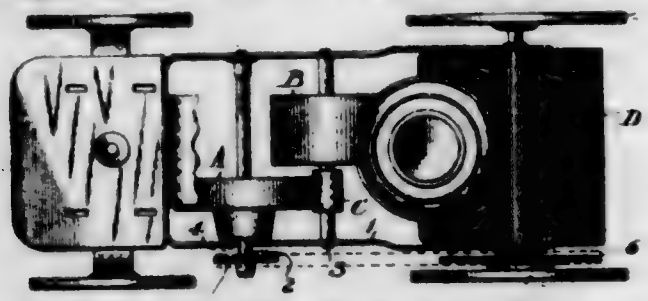
806,981. INERTIA-WHEELED TOY. HARRY T. KINGSBURY, Keene, N. H. Filed May 18, 1904. Serial No. 208,204.



Claim.—1. A wheeled toy, comprising in combination running-wheels, a friction-wheel, an inertia-wheel intermediate the friction and running wheels in operative engagement with the friction-wheel, an axle supporting the friction-wheel, movable bodily toward the axle of the inertia-wheel, a sprocket-wheel on the friction-wheel axle, a sprocket connected to the running-wheels, and a chain connected to the sprockets.

2. A wheeled toy, comprising in combination a frame, depending brackets carried thereby, running-wheels, a shaft supported in said brackets and connected to the running-wheels, a sprocket-wheel on said shaft, arms pivotally connected to the frame, a shaft supported thereby, a friction-wheel carried by said last-named shaft, a sprocket-wheel carried by and secured to the shaft on which the friction-wheel is mounted, an inertia-wheel intermediate the friction-wheel and the running-wheels, a drum connected to said inertia-wheel said drum being in driving contact with the friction-wheel.

806,982. WHEELED TOY. HOMER N. PARKER, Winchendon, Mass., assignor to The National Novelty Corporation, New York, N. Y., a Corporation of New York. Filed Jan. 18, 1905. Serial No. 241,569.



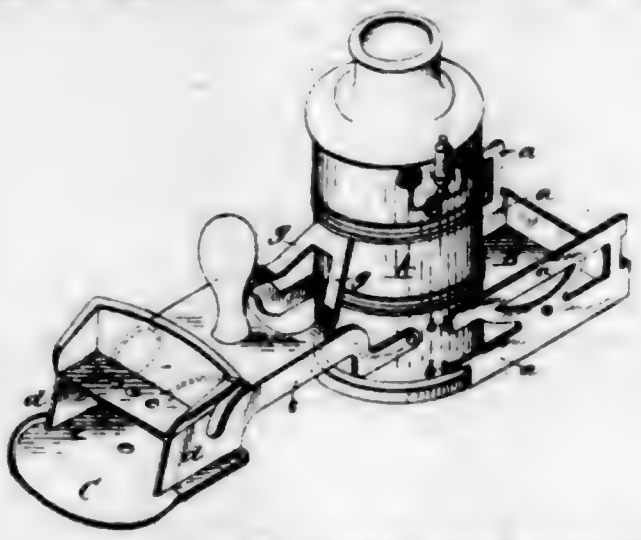
Claim.—1. A wheeled toy comprising in combination running-wheels, a friction-wheel, an inertia-wheel intermediate the friction and running wheels in operative engagement with the friction-wheel, an axle supporting the friction-wheel, supported at one end to move bodily toward the axle of the inertia-wheel, a sprocket-wheel on the friction-wheel axle, a sprocket connected to the running-wheels, and a chain connecting the sprockets.

2. A wheeled toy, comprising a suitable frame, running-wheels, a friction-wheel, an inertia-wheel intermediate the running-wheels and friction-wheel in operative engagement with the friction-wheel, a shaft supporting the friction-wheel having bearings in said frame, said frame being provided with an elongated slot forming one of the bearings for said friction-wheel shaft, a sprocket connected to the running-wheels, and a sprocket on the friction-wheel shaft, and a chain connecting the sprockets; substantially as described.

3. A wheeled toy, comprising a suitable frame, running-wheels, the axle of which supports one end of said frame, a friction-wheel shaft, and friction-wheel thereon, one end of which shaft has bearings in an elongated slot in the frame, an inertia-wheel shaft, having bearings in the frame, an inertia-wheel thereon, and a roller on said inertia-wheel shaft adapted to engage the friction-wheel, a sprocket connected to the running-wheels, a sprocket on the friction-wheel shaft, and a chain connecting the sprockets; substantially as described.

806,983. TOY FIRE-ENGINE. HARRY T. KINGSBURY, Keene, N. H., assignor to National Novelty Corporation, Westfield, N. Y., a Corporation of New Jersey. Filed July 18, 1904. Serial No. 216,891.

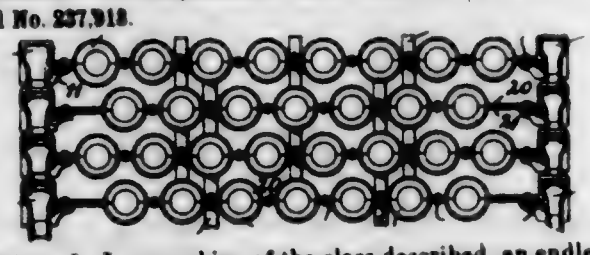
Claim.—1. In a toy fire-engine, the combination with the central portion, the forward frame having the rear side arms, front side portions, said rear side arms being secured to the central portion of the engine and an upwardly-extending rear portion on the said forward frame having lugs *h* adapted to engage openings in the central portion of the engine, substantially as described.



2. In a toy fire-engine the combination with the central portion, the forward frame having the rear side arms secured to said central portion and the upwardly-extending rear portion provided with lugs, adapted to enter openings in the central portion and to be bent down to grip said central portion, said forward frame having also the front downwardly-extending side arms, a foot board attached to said front downwardly-extending side arms, a cross-plate between said side arms and a seat attached to said cross-plate, substantially as described.

3. In a toy fire-engine, the combination of the central portion, the forward frame having the rear side arms, front side portions, said rear side arms being secured to the central portion of the engine, and an upwardly-extending rear portion on the forward frame having lugs *h* adapted to be secured to the central portion of the engine; substantially as described.

806,984. BOTTLE-WASHING MACHINE. GEORGE R. LAWRENCE, Cleveland, Ohio, assignor to Loew Supply & Manufacturing Company, Cranford, N. J., a Corporation of New Jersey. Filed Dec. 23, 1904. Serial No. 237,918.



Claim.—1. In a machine of the class described, an endless conveyer provided with transverse bottle-holding receptacles arranged in rows, in combination with means intermediate the ends of said rows to prevent them from sagging and keep them at predetermined spaces apart.

2. In a machine of the class described, an endless conveyer provided with transverse bottle-holding receptacles arranged in rows, in combination with means adapted to keep such rows at predetermined spaces apart, said means consisting of spacing members each secured to one of the rows of receptacles intermediate its ends and reaching to an adjacent row.

3. In a machine of the class described, an endless conveyer provided with transverse bottle-holding receptacles arranged in rows, in combination with means adapted to keep such rows at predetermined spaces apart, said means consisting of a plurality of spacing members secured to the rows of receptacles, intermediate their ends, each member extending from the row to which it is secured to an adjacent row.

4. In a machine of the class described, the combination with two rows of the bottle-holding receptacles, of spacing members secured to one of said rows intermediate its ends and adapted to keep the rows a predetermined space apart.

5. In a machine of the class described, the combination with a plurality of rows of bottle-holding receptacles, of two spacing members, each secured to one of said rows intermediate its ends and adapted to keep said row a predetermined space apart from the adjacent rows on each side thereof.

806,985. TICKET-HOLDER. ROLAND H. MALLORY, New York, N. Y. Filed May 26, 1905. Serial No. 262,450.

Claim.—1. The combination of a case with a cover therefor provided with a clear opening for direct access to a stack of tickets contained in the case; the case being formed with an end, stack-retaining wall over which a ticket may be drawn; and spring mechanism for depressing the side margins of the tickets near said retaining-wall.



2. The combination with a case having the top thereof provided with an opening for access to a stack of tickets contained therein, and also provided with an end stack-retaining wall over which a ticket may be drawn; of means within the case for normally lifting the stack toward said opening; and means, coöperating with the stack-lifting means, for depressing the top tickets at points below the retaining-wall to prevent accidental withdrawal thereof.

3. The combination with a case having the top thereof provided with an opening for access to a stack of tickets contained therein, and also provided with an end retaining-wall over which a ticket may be drawn, said wall having a raised middle portion; of means within the case for bending the tickets longitudinally; and means for depressing the tickets at certain points below the retaining-wall on opposite sides of said middle portion, whereby a wipe of the thumb will carry the topmost bent ticket over said middle portion of the end wall with comparatively little friction.

4. The combination with a case having the top thereof provided with an opening for access to a stack of tickets contained therein, and also provided with an end retaining-wall having a raised middle portion, of means carried by the case for bending the tickets of the stack and for holding certain portions thereof below the retaining-wall.

5. The combination with a case having an opening for access to the topmost ticket of a stack of tickets contained therein; of means for depressing the margins of the tickets within the case; and vertical stack-retaining walls one near one side and the other near the other side of the case.

6. The combination with a case, for holding a stack of tickets, provided with a retaining-wall having a raised middle portion, of means for bending the tickets of the stack so that, as the topmost ticket is withdrawn from the case, its front end will be bent to substantially conform with the middle portion of the retaining-wall, thus facilitating its passage over the latter.

7. The combination with a case, for holding a stack of tickets, having a retaining-wall and an opening for access to the tickets; of means for normally lifting the stack within the case; and means for depressing certain portions of the tickets of the stack below the retaining wall, whereby, though the wall will normally retain the stack, the topmost ticket can be drawn thereover by pressure.

8. The combination with a case having an opening for access to a stack of tickets contained therein; of a retaining-wall having ribs against which the tickets may rest; and means for yieldingly holding portions of the topmost ticket of the stack below the top of said ribs, whereby slight pressure may wipe the said ticket over the ribs and retaining-wall.

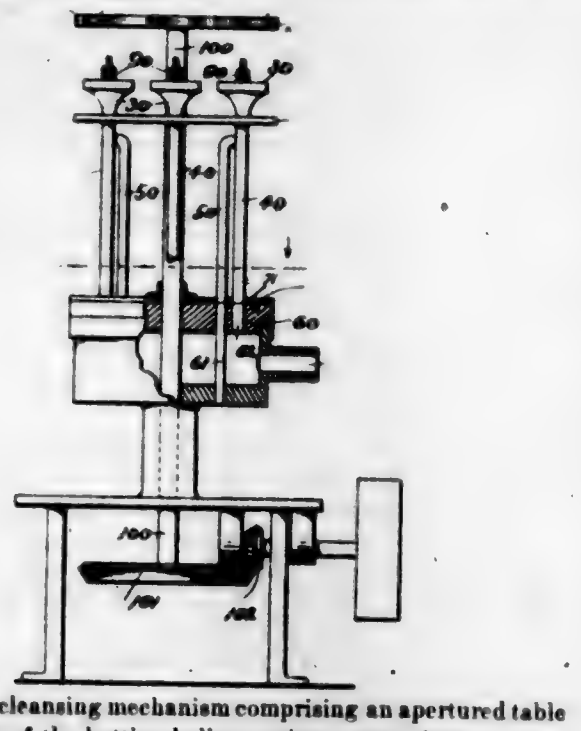
9. The combination of a case having a thumb-space in one of its walls and a ticket-exit at its front end; with vertical stack-retainers at said front end and below said exit; an interior stack-lifting device near the front end of the case and substantially in its central longitudinal line; and interior means operatively mounted near the sides of the case and comprising parts that severally rest on the upper surfaces of the stack-retainers.

808,986. **BOTTLE-RINSER.** HENRY G. MILLER, Cleveland, Ohio. Filed Mar. 19, 1904. Serial No. 198,943.

Claim.—1. A bottle-cleansing mechanism comprising an apertured table for the reception of the bottles and a fluid-supply tank or receptacle movable the one relatively to the other, hollow rinsing-stems, and means controlled by the movement of the movable part for automatically establishing and closing communication of said stems with the fluid-supply tank or receptacle at predetermined places in the travel of said movable part.

2. A bottle-cleansing mechanism comprising an apertured table for the reception of the bottles and a fluid-supply tank or receptacle movable the one relatively to the other, hollow rinsing-stems movable toward and from said table, and means controlled by the relative movement of said table and tank or receptacle for automatically establishing and closing communication of the interiors of said stems with the fluid-supply tank and for advancing and retracting said stems, at predetermined places in the travel of said movable part.

3. A bottle-cleansing mechanism comprising an apertured table for the reception of the bottles, hollow reciprocatory rinsing-stems, tubes in which said stems are mounted to reciprocate and through which the same are supplied with rinsing fluid, and a receptacle or tank for the rinsing fluid having communication with a source of supply of said fluid under pressure and provided with a passage for the inlet of said fluid to said tubes, said tubes and tank or receptacle being movable the one relatively to the other to automatically establish communication between the same at predetermined places in the movement of the movable part.



4. A bottle-cleansing mechanism comprising an apertured table for the reception of the bottles, hollow reciprocatory rinsing-stems, tubes in which said stems are mounted to reciprocate, each of said tubes having an inlet for the rinsing fluid at its bottom and a separate inlet above its bottom and each tube provided with a tube leading to the upper inlet, a tank or receptacle having communication with a supply of rinsing fluid under pressure and provided with a passage for the inlet of said fluid to said tubes and with a passage for the drainage of said fluid therefrom, said tubes and tank or receptacle being movable the one relatively to the other to throw each tube successively into communication with said supply and drainage passages.

5. A bottle-cleansing mechanism, comprising bottle-holding means and a fluid-supply tank movable the one relatively to the other, hollow rinsing-stems provided with spraying-tips turned by the pressure of rinsing fluid issuing from said stems, and means controlled by the movement of said movable part for automatically establishing and closing communication of said stems with the fluid-supply tank or receptacle at predetermined places in the travel of said movable part.

6. A bottle-cleansing mechanism, comprising bottle-holding means and a fluid-supply tank movable the one relatively to the other, hollow rinsing-stems provided with tips or wheels turned by the pressure of rinsing fluid issuing from said stems, means controlled by the movement of said movable part for automatically establishing and closing communication of said stems with the fluid-supply receptacle at predetermined places in the travel of said movable part, and brushing means secured to said tips or wheels.

7. A bottle-cleansing mechanism, comprising a rotative table having apertures for the reception of the bottles, rinsing-stems movable with said table, a stationary supply means for the rinsing fluid and means movable with said table for automatically establishing and cutting off communication of said stems with said supply means at predetermined places in the travel of the parts.

8. A bottle-cleansing mechanism, comprising a rotative table having apertures for the reception of the bottles, rinsing-stems movable with said table and also movable toward and from the same, a stationary supply means for the rinsing fluid and means movable with said table for automatically establishing and cutting off communication of said stems with said supply means at predetermined places in the travel of the parts.

9. A bottle-cleansing mechanism, comprising a rotative table having apertures for the reception of the bottles, tubes movable with said table, rinsing-stems reciprocatorily mounted in said tubes, a stationary supply means for the rinsing fluid, having a passage through which it communicates with said tube and means for closing said passage at predetermined places in the travel of the parts.

10. A bottle-cleansing mechanism, comprising a rotative table having apertures for the reception of the bottles, a plurality of tubes movable with said table, rinsing-stems reciprocatorily mounted in said tubes, a tube connected with each of the first-mentioned tubes above the bottom of the same, a stationary supply means for the rinsing fluid having supply and drainage passages with which each of said tubes alternately communicates, and means for closing said passages when said tubes are not in communication therewith.

11. A bottle-cleansing mechanism, comprising a rotative table having apertures to receive the bottles, a plate or frame rotative with said table and provided with supports to engage the bottle-necks, tubes projecting therefrom, rinsing-stems reciprocatorily mounted in said tubes, an apertured plate or disk arranged at the lower ends of said tubes and mounted to rotate therewith, and a stationary supply means for the rinsing fluid having a passage to communicate with said tubes.

12. A bottle-cleansing mechanism, comprising a rotative table having apertures to receive the bottles, a plate or frame rotative with said table and provided with supports to engage the bottle-necks, a plate or disk also partaking of the rotative movement imparted to said table and plate or frame, a series of pairs of tubes arranged between said plates and carried thereby, one tube of each of said pairs opening into the other tube thereof above the bottom of the same, a reciprocatory rinsing-stem in one tube of each of said pairs, and a stationary supply means for the rinsing fluid having supply and drainage passages with which said tubes alternately communicate at predetermined places in the travel of the parts.

13. A bottle-cleansing means, comprising a bottle-holding device, a rinsing-stem provided with a revolubly-mounted spraying-tip having spirally-arranged passages, and means through which the rinsing fluid is supplied to said tip.

14. A bottle-cleansing means, comprising a bottle-holding device, a rinsing-stem having a cap provided with exit-apertures, a spraying-tip revolubly mounted on said cap and having spirally-arranged passages, and means through which the rinsing fluid is supplied to said stem.

15. A bottle-cleansing means, comprising a rinsing-stem provided with a spraying tip or wheel revolubly mounted thereon, brushing means secured to said tip or wheel, and means by which said tip or wheel is revolved by the pressure of the rinsing fluid.

16. A bottle-cleansing means, comprising a rinsing-stem having a cap provided with exit-apertures, a spraying tip or wheel revolubly mounted on said cap and having spirally-arranged passages or vanes, brushing means secured to said tip or wheel, and means for supplying the rinsing fluid to said stem.

17. A bottle-cleansing means, comprising a reciprocatory rinsing-stem having a revoluble spraying tip or wheel and means by which the pressure of the rinsing fluid reciprocates said stem and turns said tip or wheel.

18. A bottle-cleansing means, comprising a reciprocatory rinsing-stem having a revoluble spraying tip or wheel provided with a brushing means partaking of the movements thereof, and means by which the pressure of the rinsing fluid reciprocates said stem and turns said wheel.

19. A bottle-cleansing means, comprising a rinsing-stem, a revoluble brushing means connected therewith, and means operated by the pressure of the rinsing fluid for turning the brush relatively to said stem.

20. A bottle-cleansing means, comprising a rinsing-stem, a revoluble brushing means connected therewith and comprising a body having flexible brushing members, and means operated by the pressure of the rinsing fluid for turning the brush relatively to said stem.

21. A bottle-cleansing means, comprising a reciprocatory rinsing-stem, a revoluble brushing means connected therewith, and means whereby the rinsing fluid reciprocates said stem and turns said brushing means.

22. A bottle-cleansing means, comprising a reciprocatory rinsing-stem having a cap provided with exit-apertures, a spraying tip or wheel carried by said stem and revolubly mounted on said cap, means by which said tip or wheel is turned by the pressure of the rinsing fluid issuing from said stem, brushing means secured to said tip or wheel and partaking of the movements thereof, said brushing means comprising a body having flexible brushing members, means for holding the bottles, and means for automatically admitting the rinsing fluid to said stems and for causing the same to reciprocate at predetermined times.

23. A bottle-cleansing mechanism comprising a shaft, means for rotating the same, a table carried by said shaft and having recesses in its edge to receive the bottles, spring clamping means in said recesses, and means for automatically supplying rinsing fluid to the interiors of the bottles at predetermined places in the travel thereof with said table.

24. A bottle-rinser, comprising a bottle-carrying portion and a fluid-supply tank or receptacle having an aperture for the egress of the fluid, said parts being relatively movable in parallel planes, and said bottle-carrying portion comprising a bottle-holder, a tube having means for discharging the rinsing fluid against the bottle and a plate through which the supply of fluid to said tube is controlled, said plate having an aperture and a solid portion which alternately register with the aperture in said tank or receptacle.

25. A bottle-rinser, comprising a bottle-carrying portion and a fluid-supply tank or receptacle having an aperture for the egress of the fluid, said parts being relatively movable in parallel planes, and said bottle-carrying portion comprising a bottle-holder, a tube having means for discharging the rinsing fluid against the bottle and means for automatically establishing and closing communication of the interior of said tube with the interior of said tank or receptacle at predetermined place in the movement of the movable part

26. A bottle-rinser, comprising a bottle-carrying portion and a fluid-supply tank or receptacle, said parts being relatively movable in parallel planes, and said bottle-carrying portion comprising a bottle-holder, a tube provided with a reciprocatory rinsing-stem, having a head, and means for automatically establishing and closing communication of the interior of said tube, alternately at opposite sides of said head, with the interior of said tank or receptacle at predetermined places in the movement of said movable part.

806,987. LEVEL. ALBERT F. MCDOWELL, Malden, Mass. Filed Nov. 4, 1904. Serial No. 231,359.



Claim.—1. A device of the character described comprising in its construction a body portion, a tubular bushing extending transversely therethrough and rotatable therein, said bushing having at one end thereof an annular flange and provided at the opposite end thereof with screw-threads upon its periphery, a nut engaging said screw-threaded portion of said bushing and adapted to clamp the same to said body, a spirit-level tube fast to said bushing and extending transversely thereacross, a pointer fast to said bushing, and a graduated plate fast to said body adjacent to the free end of said pointer.

2. A device of the character described comprising in its construction a body portion, a tubular bushing extending transversely therethrough and rotatable therein, said bushing having at one end thereof an annular flange and provided at the opposite end thereof with screw-threads upon its periphery, a nut engaging said screw-threaded portion of said bushing and adapted to clamp the same to said body, a spirit-level tube fast to said bushing and extending transversely thereacross, a pointer fast to said bushing, a graduated plate fast to said body adjacent to the free end of said pointer, and means to adjust said plate transversely of said body.

3. A device of the character described comprising in its construction a body portion, a tubular bushing extending transversely therethrough and rotatable therein, said bushing having at one end thereof an annular flange and provided at the opposite end thereof with screw-threads upon its periphery, a nut engaging said screw-threaded portion of said bushing and adapted to clamp the same to said body, a spirit-level tube fast to said bushing and extending transversely thereacross, a pointer detachably fastened to said bushing, a plate fast to said body, and a graduated plate slidably mounted upon said first-named plate beneath the free end of said pointer.

4. A device of the character described comprising in its construction a body portion, a tubular bushing extending transversely therethrough and rotatable therein, said bushing having at one end thereof an annular flange and provided at the opposite end thereof with screw-threads upon its periphery, a nut engaging said screw-threaded portion of said bushing and adapted to clamp the same to said body, a spirit-level tube fast to said bushing and extending transversely thereacross, a pointer detachably fastened to said bushing, a plate fast to said body, a graduated plate slidably mounted upon said first-named plate beneath the free end of said pointer, and means to fasten said plates together.

5. A device of the character described comprising in its construction a body portion, a tubular bushing extending transversely therethrough and rotatable therein, said bushing having at one end thereof an annular flange and provided at the opposite end thereof

with screw-threads upon its periphery, a nut engaging said screw-threaded portion of said bushing and adapted to clamp the same to said body, a spirit-level tube fast to said bushing and extending transversely thereacross, a pointer detachably fastened to said bushing, a plate fast to said body, a graduated plate slidably mounted upon said first-named plate beneath the free end of said pointer, means to fasten said plates together, and means to fasten said pointer to said first-named plate.

6. A device of the character described comprising in its construction a body portion, a tubular bushing extending transversely therethrough and rotatable therein, means to clamp said bushing to said body portion, a spirit-level tube fast to said bushing and extending transversely thereacross, a pointer fast to said bushing and a graduated plate fast to said body adjacent to the free end of said pointer.

7. A device of the character described comprising in its construction a body portion, a tubular bushing extending transversely therethrough and rotatable therein, means to clamp said bushing to said body portion, a spirit-level tube fast to said bushing and extending transversely thereacross, a pointer fast to said bushing, a graduated plate fast to said body adjacent to the free end of said pointer, and means to adjust said plate transversely of said body.

8. A device of the character described comprising in its construction a body portion, a tubular bushing extending transversely therethrough and rotatable therein, means to clamp said bushing to said body portion, a spirit-level tube fast to said bushing and extending transversely thereacross, a pointer detachably fastened to said bushing, a plate fast to said body, and a graduated plate slidably mounted upon said first-named plate beneath the free end of said pointer.

9. A device of the character described comprising in its construction a body portion, a plurality of tubular bushings extending transversely therethrough and rotatable therein, means to clamp each of said bushings to said body portion, a spirit-level tube fast to each of said bushings, respectively, and extending transversely therethrough, a pointer fast to one of said bushings, a graduated plate fast to said body adjacent to the free end of said pointer, and means to adjust said plate transversely of said body.

806,988. OILER. HALVER H. HERDOVIS, Jr., Sheldon, Iowa. Filed Mar. 6, 1905. Serial No. 248,613.



Claim.—1. An oiler comprising an oil reservoir or container having an oil-discharge and an air-inlet formed with a screw-threaded portion, an air-casing surrounding said air-inlet opening, a piston in said casing, a hollow piston-rod upon said piston and extending through said casing, a spring in said casing for actuating said piston, and a stem or rod extending through said hollow piston-rod and formed with a screw-threaded portion to engage the screw-threads of said air-inlet opening, substantially as described.

2. An oiler comprising a reservoir or container having a valve-opening at one end, an adjustable element in the other end of said reservoir, a needle-valve carried by said element and coacting with said opening, and means for controlling the inlet of air into said reservoir, substantially as described.

3. An oiler comprising a reservoir or container having a valve-opening at one end, an adjustable element in the other end of said reservoir, formed with an air-inlet, a needle-valve carried by said element and coacting with said valve-opening, and a screw-closure for said air-inlet.

4. An oiler comprising a reservoir or container having a valve-opening at one end, an air-vent tube adjustably mounted in the other end of said reservoir and formed adjacent to its inner end with a vent-opening, a needle-valve upon the inner end of said tube and adapted to coact with said valve-opening, and means upon said reservoir for forcing air into said vent-tube, substantially as described.

5. An oiler comprising a reservoir or container having a tapered apertured end forming a valve-seat, an adjustable head screwed into the other end of said reservoir and formed with a screw-threaded opening and an air-vent tube secured in said head in alinement with said screw-threaded opening and having adjacent to its inner end an air-vent opening, a needle-valve upon the inner end of said tube and coacting with said valve-seat, a casing upon said head, a spring-actuated piston in said casing, a tubular piston-rod attached to said piston and slidably mounted in said casing, and a rod extending through said hollow piston-rod and formed with a screw-threaded inner end adapted to engage the screw-threads in said head, for the purpose of closing said air-vent tube, substantially as described.

806,989. GARMENT-HOOK. THOMAS F. NIGHTINGALE, Boston, Mass. Filed Apr. 5, 1905. Serial No. 253,919.



Claim.—1. A wall hook or peg composed of stamped and folded halves and integral wings divergently bent from the folded portions, said wings forming a substantially continuous flat attaching-base for the hook or peg.

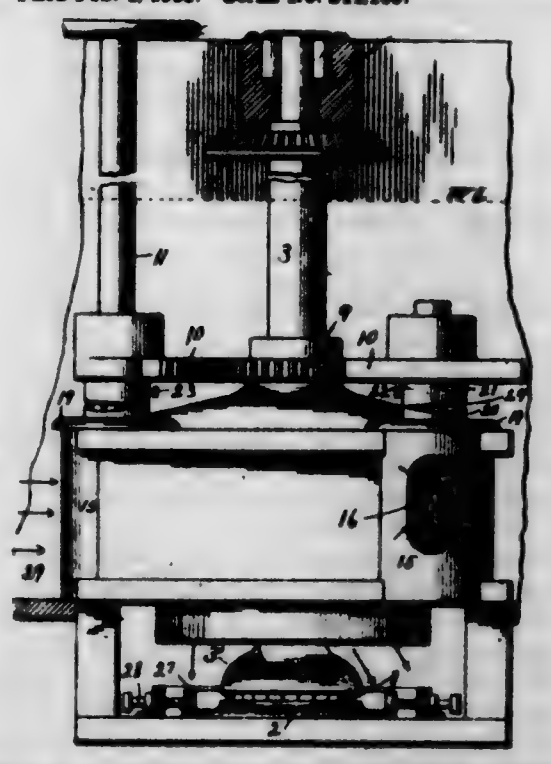
2. A wall hook or peg composed of stamped, channeled and folded sheet-metal halves and integral wings divergently bent from the folded portions, said wings forming a substantially continuous flat attaching-base for the hook or peg.

3. A wall hook or peg composed of stamped, channeled, folded and swaged sheet-metal halves, and integral wings divergently bent from the folded portions, said wings forming a substantially continuous flat attaching-base for the hook or peg.

4. A wall hook or peg consisting of two symmetrical sheet-metal halves, integrally joined at the tip of the hook or peg, and folded to a plane of juncture, and integral wings divergently bent from said plane of juncture to form a base for said hook or peg.

5. A wall hook or peg consisting of two symmetrical, channeled sheet-metal halves, integrally joined at the tip of the hook or peg, and folded to a plane of juncture, and integral wings divergently bent from said plane of juncture to form a base for said hook or peg.

806,990. WATER-WHEEL. ORRIN H. NORDSTROM, Punxsutawney, Pa. Filed Feb. 4, 1905. Serial No. 244,109.



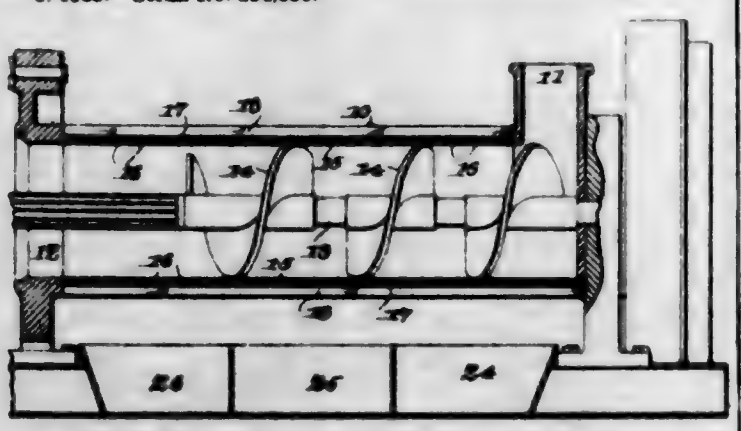
Claim.—1. A turbine water-wheel, comprising a vertical shaft, a water-motor mounted thereon, a gear-wheel loosely mounted on

said shaft, a plurality of tapering valve-seats having oblong openings therein opposite each other, a tapering valve having an oblong opening therethrough rotatably mounted in each valve-seat, a valve-stem formed integral with each valve, a circular plate mounted above each valve-seat, a cam-ring rigidly mounted on the valve-stem, a second cam-ring formed integral with the top of said plate, ball-bearings interposed between the two cam-rings, adjustable cam-rings surrounding the fixed cam-rings and having extending edges to hold the ball-bearings in place, and cog-segments mounted on each valve-stem and engaging with a gear-wheel.

2. In a water-wheel, the combination, with a suitable frame, a vertical shaft mounted in said frame, a gear-wheel rotatably mounted on the shaft above the frame, a plurality of tapering valve-seats, each valve-seat having two oblong openings therein opposite each other, a plurality of valves corresponding in contour to the valve-seats and adapted to rotate therein, each valve having an oblong opening corresponding to the openings in said valve-seats, a vavle-stem mounted on each valve by which the same is adapted to be actuated, a plate rigidly mounted over each valve and valve-seat and having a cam-ring formed integral therewith, or rigidly mounted thereon, said cam-ring and plate having an opening in which the valve-stem is adapted to rotate, a ring encircling the cam-ring, a second cam-ring rigidly mounted on each valve-stem, a ring encircling the second cam-ring, ball-bearings interposed between the cam-rings and held in place by the rings encircling them, a cog-segment rigidly mounted on each valve-stem and adapted to engage the gear-wheel, one cog-segment being adapted to operate the gear-wheel and thereby actuate the remaining cog-segments, and roller-bearings having the upper end of the vertical shaft journaled therein.

3. In a turbine water-wheel, the combination, with a suitable frame, and a vertical water-motor shaft extending into the frame, of a gear-wheel loosely mounted on the shaft above the frame, a plurality of tapering valve-seats, each valve-seat having two oblong openings therein opposite each other, a plurality of tapering valves adapted to rotate in the valve-seats, each valve having an oblong opening therethrough corresponding to the openings in said valve-seats, a valve-stem mounted on each valve by which the same is adapted to be actuated, a plate rigidly mounted over each valve and valve-seat, concentric cam-rings mounted on the plate, the outer cam-ring being adjustably mounted and having one edge extending beyond the inner cam-ring, the inner cam-ring and the plate having an opening through which the valve-stem extends, other concentric cam-rings, the inner one being rigidly mounted on the valve-stem and the outer one adjustably mounted on the inner and having its edge extending beyond it, ball-bearings interposed between the inner cam-rings and held in place by the outer cam-rings, a cog-segment rigidly mounted on each valve-stem and adapted to engage the gear-wheel, one cog-segment being adapted to operate the gear-wheel and thereby actuate the remaining cog-segments, and roller-bearings having the upper end of the shaft journaled therein.

806,991. PRESS. FREDERICK OLIVER, Portsmouth, Va. Filed Apr. 8, 1905. Serial No. 254,590.



Claim.—1. A continuous press, having a casing provided with liquid-passages, the axes of which are disposed in planes oblique to the longitudinal axis of the casing.

2. A continuous press, having a casing provided with liquid-passages, said passages gradually decreasing in area from their inner to their outer ends.

3. A continuous press having a casing provided with liquid-passages, said passages gradually decreasing in area from their inner to their outer ends and being disposed with their longitudinal axes in planes oblique to the longitudinal axis of the casing.

4. A continuous press having inner and outer casings provided with liquid-passages, the passages of the inner casing being disposed with their longitudinal axes oblique to the longitudinal axis of the casing, and a straining or filtering medium between said casings.

5. A continuous press, the casing of which is provided with liquid-passages, a compression member therein, and liquid-receptacles arranged to separate the liquid at different stages of compression.

6. A continuous press having a perforated casing, a screw within the casing, and a plurality of vessels for receiving liquid of different qualities expressed at different points in the length of the casing.

7. A press having means for progressively increasing the pressure on the charge, and receptacles for successively receiving the expressed liquid.

8. A press having means for advancing the charge and progressively increasing the pressure thereon, and receptacles consecutively arranged for successively receiving the expressed liquid.

806,992. BUCKET-DUMPING APPARATUS. JOHN PETERSON, Idaho Springs, Colo., assignor of one-half to Andrew Anderson, Denver, Colo. Filed May 8, 1905. Serial No. 259,311.



Claim.—1. In bucket-dumping apparatus, the combination with a suitable frame, of a spring-supported platform mounted on the frame and having projections entering slots formed in the frame, the strength of the springs being such that they will support the platform in such a position that the projections will engage the upper extremities of the slots, while when the loaded bucket is on the platform, the said projections will be moved downwardly to cause the platform to assume a position of greater inclination.

2. The combination with a suitable frame, of a slotted spring-supported platform mounted on the frame, the platform being hinged and the springs acting on its hinged extremity to hold the latter at its upward limit of movement, the strength of the springs being so regulated that a bucket of predetermined weight resting on the platform will depress the latter to a position of greater inclination.

3. The combination with a suitable frame and a bucket, the latter having a hanger, of a platform pivoted on the frame, the frame being provided with slots which the pivots of the platform engage, a spring for holding the pivoted end of the platform at its upward limit of movement in the slots, the tension of the spring, however, being such that a loaded bucket will depress the platform to the bucket-dumping inclination, the platform being slotted to receive the hanger of the bucket, substantially as described.

4. The combination with a suitable frame, of a platform pivoted thereon, an inclined support for the platform, a spring for supporting the platform, the pivots of the latter engaging elongated bearings, a bucket whose bottom is provided with a hanger, the platform having a slot to receive the bucket-hanger, substantially as described.

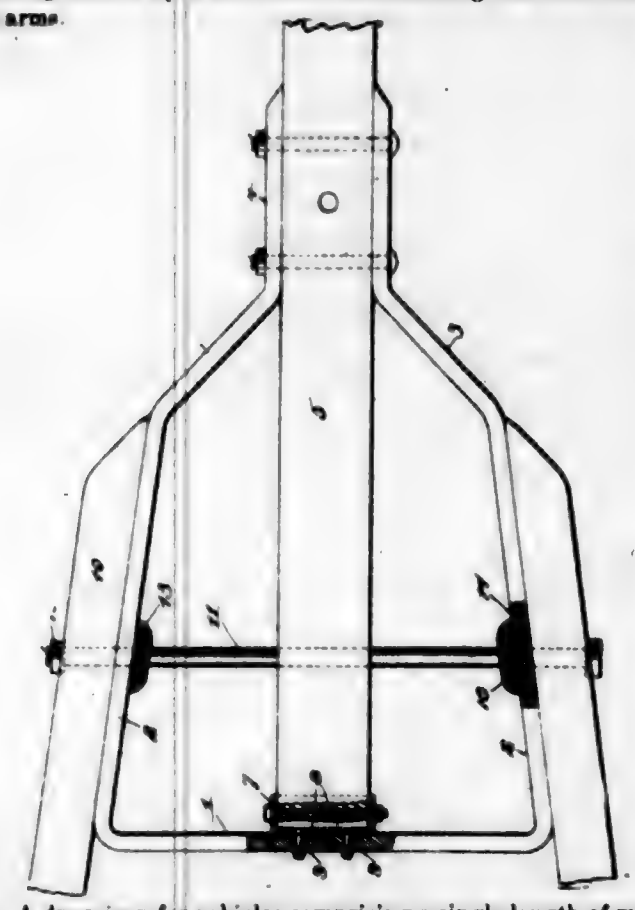
5. The combination with a suitable frame, of a platform pivotally mounted thereon and having a centrally-located slot narrowest at the pivoted end of the platform and increasing in size outwardly from the pivot, a spring for supporting the pivoted end of the platform, the tension of the spring being regulated to raise the pivoted end of the platform when an empty bucket is located thereon, the spring yielding, however, to allow the pivoted end of the platform to be depressed whereby the inclination of the platform is increased, when a loaded bucket is located on the platform.

806,993. WAGON-HOUND. REINHOLD T. PFEILICH, Enderlin, N. D. Filed July 12, 1905. Serial No. 269,383.

Claim.—1. The combination with hounds and a tongue disposed therebetween; of a draw-iron interposed between the hounds and secured to the tongue, a socket adjustably secured upon the draw-iron and constituting a seat for one end of the tongue, and means for securing the hounds to the draw-iron.

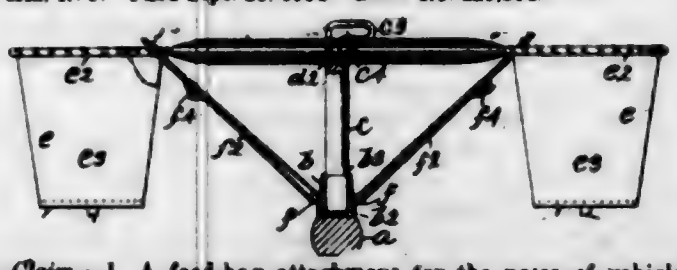
2. The combination with a tongue and hounds at opposite sides thereof; of a draw-iron interposed between the hounds and formed in a single length of metal, said draw-iron consisting of an intermediate portion, arms at the ends thereof and angular extensions within the arms, means for clamping the extensions upon opposite sides of the tongue, a socket adjustably secured to the intermediate portion and constituting a seat for one end of the tongue, a brace ex-

tending transversely of the draw-iron and through the arms thereof and the hounds, means for clamping the hounds upon the arms, and reinforcing devices upon the brace and contacting with and secured to the arms.



3. A draw-iron for vehicles comprising a single length of metal bent to form an intermediate portion, integral arms at the ends thereof and angular extensions from the arms adapted to be clamped upon a tongue, a socket adjustably secured to the intermediate portion and constituting a seat for the tongue, a brace extending transversely of the iron through the arms, and reinforcing means upon the brace and contacting with and secured to the arms.

806,994. **SUPPORT FOR FEED-BAGS.** JOHN N. PRUSER, Union Hill, N. J. Filed Sept. 21, 1904. Serial No. 226,304.



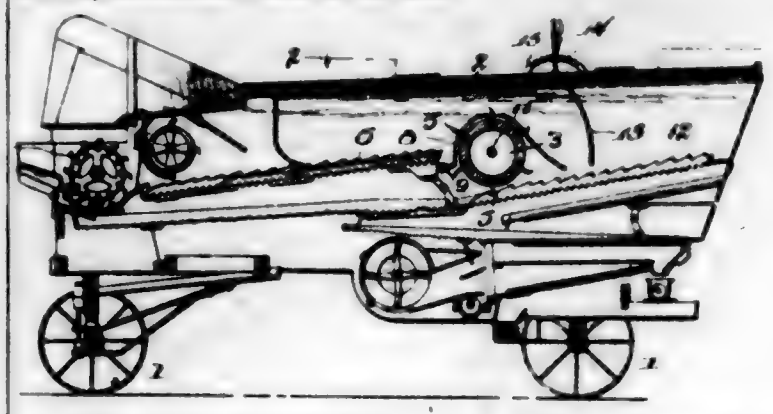
Claim.—1. A feed-bag attachment for the poles of vehicles, comprising a socket member adapted to be connected with the pole of the vehicle, an upright and non-rotatable member inserted into said socket member, a rigid transverse support loosely mounted in the top of the upright member transversely thereof and adapted to be folded longitudinally thereof and feed-bags connected with the opposite ends of said support, substantially as shown and described.

2. A feed-bag attachment for the poles of vehicles, comprising a socket member adapted to be connected with the pole of the vehicle, an upright and non-rotatable member inserted into said socket member, a transverse support mounted in the top of the upright member transversely thereof and adapted to be folded longitudinally thereof, feed-bags connected with the opposite ends of said support, and straps connecting the opposite ends of the support with the socket member, substantially as shown and described.

806,995. **ATTACHMENT FOR GRAIN-SEPARATORS.** RICHARD W. ROBINSON, Neponset, Ill. Filed May 1, 1905. Serial No. 258,293.

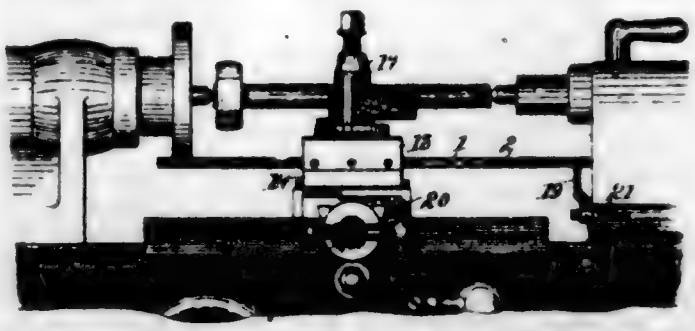
Claim.—1. In a grain-separator the combination with a conveyer; of a cylinder rotatably mounted adjacent thereto and having longitudinally-extending grooves therein, bars seated within the grooves, curved teeth extending through the bars and beyond the surface of the drum, said teeth having heads seated within the bars, a plurality of bars anchored adjacent the conveyer and extending between the paths of the teeth, said bars having smooth unbroken surfaces and concentric for a part of their length with the drum, the other end of the bars being free.

2. In a grain-separator the combination with a conveyer; of a rotary toothed drum adjacent thereto, a plurality of bars anchored between the drum and conveyer and extending between the paths of the teeth, said bars being free at one end and concentric for a part of their length with the drum, and an adjustable deflector-plate above and adjacent the free ends of the bars.



3. In a grain-separator, the combination with a conveyer; of a cylinder rotatably mounted adjacent thereto and having longitudinally-extending grooves therein, bars seated within the grooves, and teeth extending through the bars and beyond the surface of the drum, said teeth having heads seated within the bars.

806,996. **SCREW-CUTTING LATHE.** ANTON SCHUERMANN, Decatur, Ill., assignor of one-half to H. Mueller Manufacturing Company, Decatur, Ill., a Corporation of Illinois. Filed June 10, 1905. Serial No. 264,784.



Claim.—1. In a screw-cutting lathe, the combination of a slide-rest member attached to the carriage, a second slide-rest member movable on the first lengthwise of the lathe and carrying a screw-cutting tool, a plate in the first slide-rest member slidable crosswise thereof, a bar extended along the line of travel of the slide-rest and provided with an oblique groove, a slide-key fixed on the plate in engagement with the oblique groove, a slide-key pivoted on the plate, and an adjustable dial-plate on the tool-carrying member of the slide-rest having a groove in which the pivoted slide-key slides.

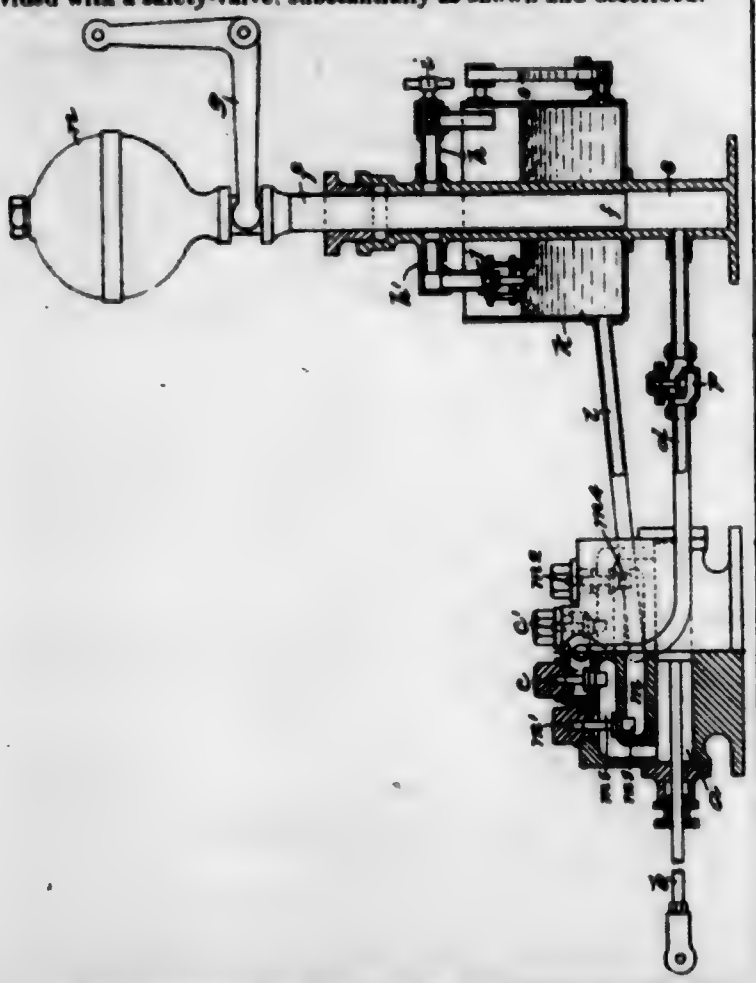
2. In a screw-cutting lathe, the combination of a slide-rest member attached to the carriage, a second slide-rest member movable on the first lengthwise of the lathe and carrying a screw-cutting tool, a plate on the first slide-rest member slidable crosswise thereof, a bar attached to the tail-stock crosswise of the lathe, a flat bar grooved crosswise of one of its ends to slidably engage the bar on the tail-stock, and also having a groove extending obliquely along its length, a fixed slide-key on the cross-plate engaging the oblique slot of the slotted bar, a slide-key pivoted on the cross-plate, and an adjustable dial-plate on the tool-carrying member of the slide-rest, having a groove in which the pivoted slide-key slides.

3. In a screw-cutting lathe, the combination of a slide-rest member attached to the carriage and having a gib on its upper surface extended lengthwise of the lathe, a bar fitted slidably in the gib lengthwise thereof, said bar being provided with an oblique groove in its upper surface and held against lengthwise motion, a tool-carrying slide-rest member mounted slidably lengthwise of the lathe on the gibbed member, a plate having motion in the tool-rest crosswise of the travel thereof, a slide-key fixed on the under side of the cross-plate in engagement with the slot of the bar, a slide-key pivoted on the cross-plate, a grooved dial-plate engaging the pivoted slide-key, and means for holding the dial-plate in various positions.

806,997. **HYDRAULIC GOVERNOR FOR ENGINES OR MOTORS.** EDWIN SHUKER, Rotherham, England. Filed July 24, 1905. Serial No. 270,963.

Claim.—1. In an apparatus for governing the speed of engines or motors by the use of water or other fluid as a medium, a hydraulic

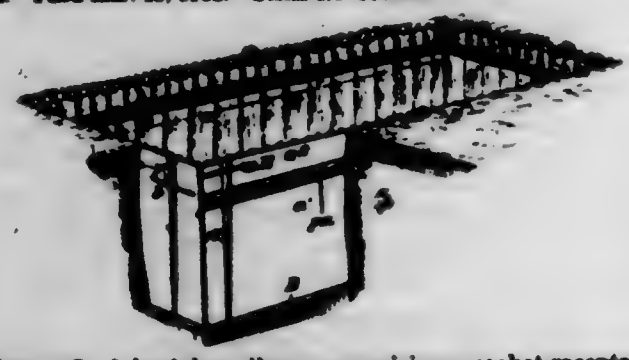
ram adapted to be connected with the throttle-valve of the engine or motor, and a double-acting pump also adapted to be connected with the engine or motor, the ram-cylinder being provided with a by-pass, and a tank with which said by-pass communicates, said by-pass being also provided with a regulating-valve, and another by-pass communicating with said ram-cylinder and with said tank and provided with a safety-valve, substantially as shown and described.



2. In an apparatus for governing the speed of engines or motors by the use of water or other fluid as a medium, a hydraulic ram adapted to be connected with the throttle-valve of the engine or motor, and a double-acting pump also adapted to be connected with the engine or motor, the ram-cylinder being provided with a by-pass, and a tank with which said by-pass communicates, said by-pass being also provided with a regulating-valve, and another by-pass communicating with said ram-cylinder and with said tank and provided with a safety-valve, said tank being also in communication with the suction-chamber of the pump, substantially as shown and described.

3. In an apparatus of the class described, a vertically-arranged ram-cylinder, a double-acting pump in communication with the bottom portion thereof, a tank arranged in connection with said ram-cylinder and in communication with the suction-chamber of the pump, a vertically-movable ram or plunger arranged in the ram-cylinder, by-passes forming a communication between the ram-cylinder and the tank and provided, one with a regulating-valve and the other with a safety-valve, a crank-lever adapted to connect the ram or plunger with the throttle-valve of the engine, and means for operating said crank-lever in one direction, substantially as shown and described.

806,988. BURIAL APPLIANCE. JACOB W. SKULL, Springtown, Pa. Filed Mar. 13, 1905. Serial No. 250,705.



Claim.—1. A burial appliance comprising a casket-receptacle, a box and means carried thereon foldable within the said box and extensible from the sides and ends of the box to form a lining for the walls of the grave.

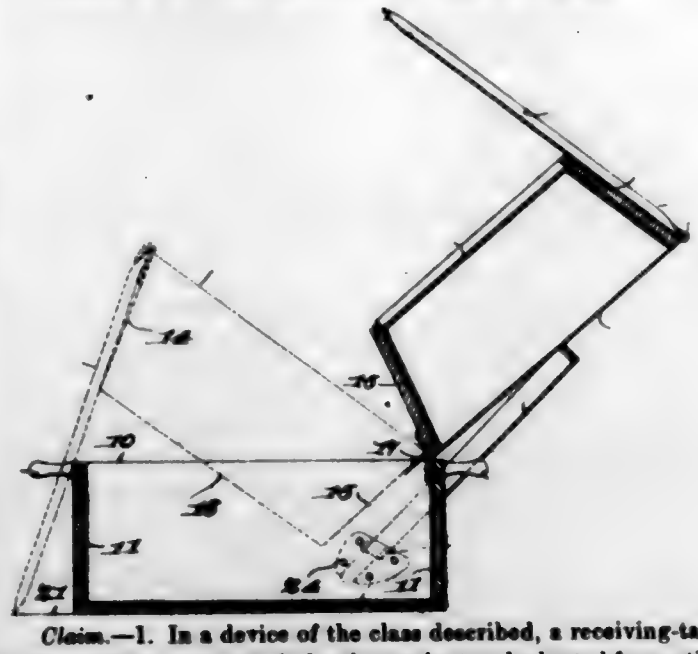
2. An attachment for burial-boxes, consisting of a frame adapted to be hinged to the upper edge of the box to fold therein, said frame having a covering and adapted to be swung up over the wall of the grave to form a lining therefor.

3. An attachment for burial-boxes, which comprises a frame adapted to be hinged to the box to fold therein and to be swung up against the side of the grave, said frame having extensible end portions, and a fabric covering for the said frame.

4. An attachment for burial-boxes which comprises a flexible frame hinged to the box to fold therein and to swing up against the wall of the grave, said frame having extensible end portions, means for drawing the ends inwardly, a fabric loosely mounted on the frame for the purposes described.

5. In combination with the box B, the side and end frame formed of a flexible material hinged at their lower end to the inner side of the upper edges of the box, said frames having extensible end sections, spring devices for drawing the end sections normally inward and a flexible body wholly covering the said frames, and having sufficient fullness to permit of drawing out the end portions of the said end and side members for the purposes specified.

806,999. DEVICE FOR TREATING SEEDS. WILLIAM S. SMITH, Langdon, N. D. Filed June 12, 1905. Serial No. 264,913.



Claim.—1. In a device of the class described, a receiving-tank for the solution, a receptacle for the product and adapted for seating in said receiver and provided with a perforated bottom, said receptacle hinged to said receiver for swinging from the same, and an arm hinged to the free end of said receptacle and swinging therefrom, and serving as a pull-rod to elevate the receptacle and as a prop to support the same in partly-overturned position.

2. In a device of the class described, a receiving-tank for the solution, a receptacle for the product and adapted for seating in said receiver and provided with a perforated bottom, said receptacle hinged to said receiver for swinging from the same, spaced guides upon the sides of said receiving-tank, keeper members at the upper end of said guides, a U-shaped bar for passing by its ends beneath said keepers and between said guides, and forming a stop to limit the movement of said receptacle when partly overturned.

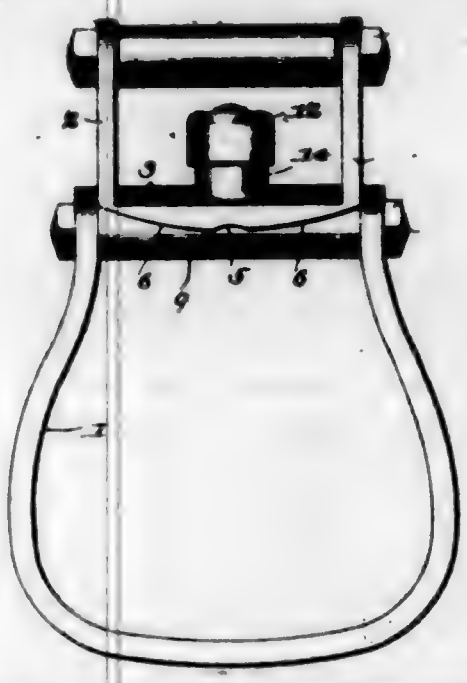
807,000. RIDING-STIRRUP. ALFRED B. SOUTHWORTH, Smuggler, Colo. Filed Jan. 21, 1905. Serial No. 242,118.

Claim.—1. A riding-stirrup comprising a hanger, a stirrup swiveled upon a vertical axis upon the hanger, one of these members being provided with seats at substantially right angles to one another and the other member having a part for alternate engagement with the seats to lock the stirrup against accidental rotation in its opposite positions, and a spring to yieldably maintain the hanger and stirrup members in locked engagement.

2. A riding-stirrup comprising a hanger, a substantially horizontal cross-bar mounted to rotate upon a substantially vertical axis intermediate of its ends, a stirrup hung from the cross-bar and movable therewith, seats provided upon the hanger at substantially right angles to one another for the alternate reception of the cross-bar to lock the stirrup at its opposite limits, and a spring to yieldably maintain the cross-bar and the stirrup in locked engagement.

3. A stirrup comprising a hanger, a stirrup yieldable vertically thereon and mounted to rotate upon a substantially vertical axis, one of these members being provided with seats at substantially

right angles to one another and the other member having a part to alternately engage the seats and lock the stirrup at its opposite limits, the stirrup being yieldable to break the interlocking connection between the stirrup and the hanger and permit rotation of the stirrup, and a spring to yieldably maintain the stirrup and hanger in locked engagement.



4. A stirrup comprising a hanger, a stirrup including a cross-bar having an upstanding headed stem rotatably piercing a portion of the hanger, and a spring interposed between the head of the stem and the hanger to yieldably support the stirrup, and means to interlock the stirrup with the hanger in opposite positions of the stirrup.

5. A stirrup comprising a hanger having a vertical opening, a stirrup having a stem projected through the opening, a head upon the stem, a helical spring embracing the stem and bearing in opposite directions against the head and the hanger, a washer loosely embracing the stem between the spring and the head, and antifriction devices interposed between the head and the washer.

6. A stirrup comprising a substantially U-shaped hanger having an upright opening piercing the base and surrounded by an upstanding annular flange, a cross-bar connecting the sides of the hanger, a stirrup having a cross-bar provided with an upstanding stem rotatable within the opening of the hanger, the under side of the hanger having seats disposed at substantially right angles for the alternate reception of the cross-bar of the stirrup, a nut upon the stem and having a pendent annular flange telescoping with the flange of the hanger, and a spring embracing the stem and bearing in opposite directions against the nut and the base of the hanger.

807,001. **RIBBON-SPOOL.** CHARLES SPIRO, New York, N. Y., assignor to Columbia Typewriter Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Mar. 25, 1905. Serial No. 252,061.



Claim.—1. A spindle for type-writer ribbon-spools comprising two tubes, the outer one being shorter and embracing in solid contact the inner tube, a portion of the outer tube being deflected tangentially from its remaining portion.

2. A ribbon-spool for type-writers having its heads formed as centrally-apertured disks, an inner tube fitting and passing through said apertures and upset at each end against the outer surfaces of the disks, and an outer tube mounted in solid contact upon the inner tube and extending from the inner surface of one disk to that of the other.

3. A spindle for type-writer ribbon-spools comprising two tubes, the outer one being shorter and embracing in solid contact the inner tube, a portion of the outer tube being deflected tangentially from its remaining portion and the adjacent remaining portion being beveled at its end opposite the deflected portion.

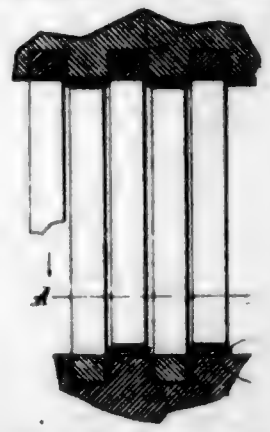
4. An outer member for type-writer ribbon-spools comprising a longitudinally-slitted tube tangentially deflected at one side of the slit and inwardly tapered at the opposite side of the slit.

807,002. **DRILL-ROD.** JACOB VON GUNTEN, Massillon, Ohio. Filed Feb. 18, 1905. Serial No. 246,256.



Claim.—A drill-rod formed in sections, and the sections provided with screw-threaded ends, short tubes located in the ends of the drill-rod sections, and said short tubes provided with apertures, and means for holding the short tubes in fixed position with the ends of the drill-rod, substantially as set forth.

807,003. **ELASTIC-FLUID TURBINE.** GEORGE WESTINGHOUSE, Pittsburg, Pa. Filed May 2, 1905. Serial No. 258,488.



Claim.—1. In combination with a turbine blade or vane holding element provided with an annular or circumferentially-extending blade or vane channel or slot, blades or vanes secured in said slot and a contact-piece secured in said slot and extending longitudinally of the turbine-axis.

2. In an elastic-fluid turbine, in combination with the annular rows of rotor-blades and stator-vanes secured in channels or slots in the rotor and stator respectively, segmental clearance-determining rings secured in said slots and extending longitudinally of the turbine-axis beyond the succeeding row of blades or vanes.

3. In an elastic-fluid turbine, in combination with the annular rows of unshrouded rotor-blades, a stator and yielding lining-rings for said stator in line with said rows of rotor-blades.

4. In an elastic-fluid turbine, in combination with the annular rows of unshrouded rotor-blades, a stator and yielding lining-rings for said stator in line with said rows of rotor-blades and formed from metal adapted to resist the detrimental action of moisture thrown thereagainst.

5. In combination with annular rows of rotor-blades and stator-vanes of an elastic-fluid turbine, the roots of the blades and vanes of which are secured within annular channels in their respective holding elements, flexible clearance-pieces secured within said slots and formed so as to project below the successive row of blades or vanes as the case may be.

6. In combination with annular rows of unshrouded rotor-blades and stator-vanes of an elastic-fluid turbine, flexible abnormal-condition contact members secured to the rotor in line with the stator-rows and to the stator in line with the rotor-rows.

7. In combination with annular rows of rotor-blades of an elastic-fluid turbine, the roots of the blades of which are secured within annular channels formed in the rotor, segmental annular guards secured within said channels, a stator, channels formed in said stator, vanes arranged in said channels, and annular segmental guards secured within said channels and formed so as to project in line with the rotor-rows.

807,004. **CLOTHES-WASHER.** EMMA M. WHITTEMORE, Troy, N. H. Filed Apr. 16, 1904. Serial No. 203,476.

Claim.—A clothes-washer comprising a corrugated metallic plate which is bowed to produce a convexed under face and a concaved upper face, a handle set at an inclination to the radius of the concaved face of the plate, and a fork carried by the handle with its prongs secured to the concaved face of the plate, the corrugations of the plate extending transversely to the direction of concavity of the plate.

807,004.

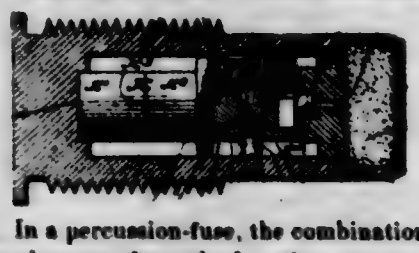


807,005. BOTTLE-STOPPER. JOHN B. WILDMAN and LEONARD C. TERRANE, New York, N. Y. Filed June 29, 1905. Serial No. 267,536.



Claim.—A closure device for bottles and similar vessels, comprising a plug member having a central longitudinal bore, a supplemental plug member secured in the bottom of said bore, said supplemental plug member being thimble-shaped in form and the closed end thereof being perforated and inserted into said bore, and a detachable plug member adapted to close the top of said bore and provided with a handle, substantially as shown and described.

807,006. PERCUSSION-FUSE FOR EXPLOSIVE PROJECTILES. HARRY WILSON and MICHAEL A. LYNCH, Washington, D. C., assignors to United States Ordnance Company, Washington, D. C., a Corporation of Virginia. Filed Sept. 23, 1903. Serial No. 174,356.



Claim.—1. In a percussion-fuse, the combination of a casing, a primer, a firing-hammer formed of spring-compressed members adapted to be moved transversely of the casing under the influence of centrifugal force, one of said members carrying a firing pin or point rigidly secured thereto and moving transversely therewith and centrifugally-released securing means normally holding the firing-hammer in its inactive position.

2. In a percussion-fuse, the combination of a casing, a primer, a firing-hammer formed of spring-compressed segments adapted to be moved transversely of the casing under the influence of centrifugal force, one of said segments carrying a firing pin or point rigidly secured thereto and moving transversely therewith and centrifugally-released securing means normally holding the firing-hammer in its inactive position.

3. In a percussion-fuse, the combination of a casing, a primer, means for supporting the primer in the casing, a firing-hammer formed of spring-compressed members adapted to be moved transversely of the casing under the influence of centrifugal force, a firing pin or point carried by one of said members and moving transversely therewith and means carried by the members normally retaining the firing-hammer against forward movement by engagement with the primer-supporting means and adapted to telescope on said primer-support-ing means upon impact when the members of the firing-hammer have been moved transversely under the influence of centrifugal force.

4. In a percussion-fuse, the combination of a casing, a primer, means for supporting the primer in the casing, a firing-hammer formed of spring-compressed members adapted to be moved transversely of the casing under the influence of centrifugal force, a firing pin or point carried by one of said members and moving transversely therewith and a flange on one of said members normally retaining the firing-hammer against forward movement by engagement with the primer-supporting means and adapted to telescope on said primer-supporting means upon impact when the members of the firing-hammer have been moved transversely under the influence of centrifugal force.

5. In a percussion-fuse, the combination of a casing, a primer having a fixed position in the longitudinal axis of the fuse, a firing pin or point constantly at right angles to the transverse axis of the fuse and out of alinement with the primer and means operated independently of the shock of discharge for alining said firing pin or point with the primer.

6. In a percussion-fuse, the combination of a casing, a primer having a fixed position in the longitudinal axis of the fuse, a plunger, a firing pin or point constantly at right angles to the transverse axis of the fuse and out of alinement with the primer and means operated independently of the shock of discharge for alining the firing pin or point with the primer.

7. In a percussion-fuse the combination of a casing, a primer, a firing-hammer formed of spring-compressed members adapted to be moved transversely of the casing under the influence of centrifugal force, one of said members carrying a firing pin or point rigidly secured thereto and moving transversely therewith and securing means normally locking the firing-hammer in safe position and unlocked by the transverse movement of the members of the firing-hammer.

8. In a percussion-fuse, the combination of a casing, a primer, a firing-hammer formed of spring-compressed segments adapted to be moved transversely of the casing under the influence of centrifugal force, one of said segments carrying a firing pin or point rigidly secured thereto and moving transversely therewith and securing means normally locking the firing-hammer in safe position and unlocked by the transverse movement of the segments of the firing-hammer.

9. In a percussion-fuse, the combination of a casing, a primer, a firing-hammer formed of spring-compressed members adapted to separate transversely of the casing under the influence of centrifugal force, one of said members carrying a firing pin or point rigidly secured thereto and moving transversely therewith and centrifugally-released securing means normally holding the firing-hammer in safe position.

10. In a percussion-fuse, the combination of a casing, a primer, a firing-hammer formed of spring-compressed segments adapted to separate transversely of the casing under the influence of centrifugal force, one of said segments carrying a firing pin or point rigidly secured thereto and moving transversely therewith and centrifugally-released securing means normally holding the firing-hammer in safe position.

11. In a percussion-fuse, the combination of a casing, a primer, means for supporting the primer in the casing, a firing-hammer formed of spring-compressed members adapted to separate transversely of the casing under the influence of centrifugal force, a firing pin or point carried by one of said members and moving transversely therewith and means carried by one of the members normally retaining the firing-hammer against forward movement by engagement with the primer-supporting means and adapted to telescope on said primer-supporting means upon impact when the members of the firing-hammer have separated under the influence of centrifugal force.

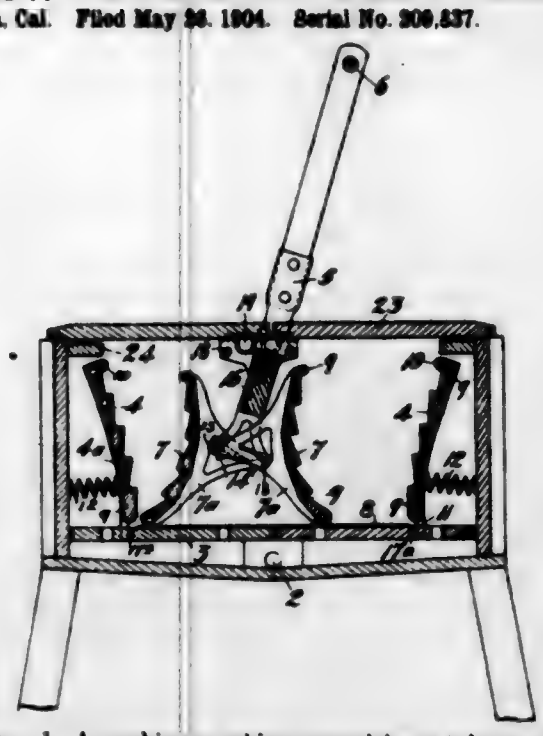
12. In a percussion-fuse, the combination of a casing, a primer, means for supporting the primer in the casing, a firing-hammer formed of spring-compressed members adapted to separate transversely of the casing under the influence of centrifugal force, a firing pin or point carried by one of said members and moving transversely therewith and a flange on one of said members normally retaining the firing-hammer against forward movement by engagement with

the primer-supporting means and adapted to telescope on said primer-supporting means upon impact when the members of the firing-hammer have separated under the influence of centrifugal force.

13. In a percussion-fuse, the combination of a casing, a primer, a firing hammer formed of spring-compressed members adapted to separate transversely of the casing under the influence of centrifugal force, one of said members carrying a firing pin or point rigidly secured thereto and moving transversely therewith and securing means normally locking the firing-hammer in safe position and unlocked by the separation of the members of the firing-hammer.

14. In a percussion-fuse, the combination of a casing, a primer, a firing-hammer formed of spring-compressed segments adapted to separate transversely of the casing under the influence of centrifugal force, one of said segments carrying a firing pin or point rigidly secured thereto and moving transversely therewith and securing means normally locking the firing-hammer in safe position and unlocked by the separation of the segments of the firing-hammer.

807,007. **WASHING-MACHINE.** MARTIN L. WIEGARDEN, Alameda, Cal. Filed May 26, 1904. Serial No. 209,837.



Claim.—1. A washing-machine comprising a tub, opposed rubbers at the ends of the tub, dashers intermediate of the rubbers having oppositely-disposed extending overlapping portions, and oscillating arms having flared lower ends and pivotally mounted at an intermediate point to the tub, said arms having pintles upon which the extended portions of the dashers are pivotally connected.

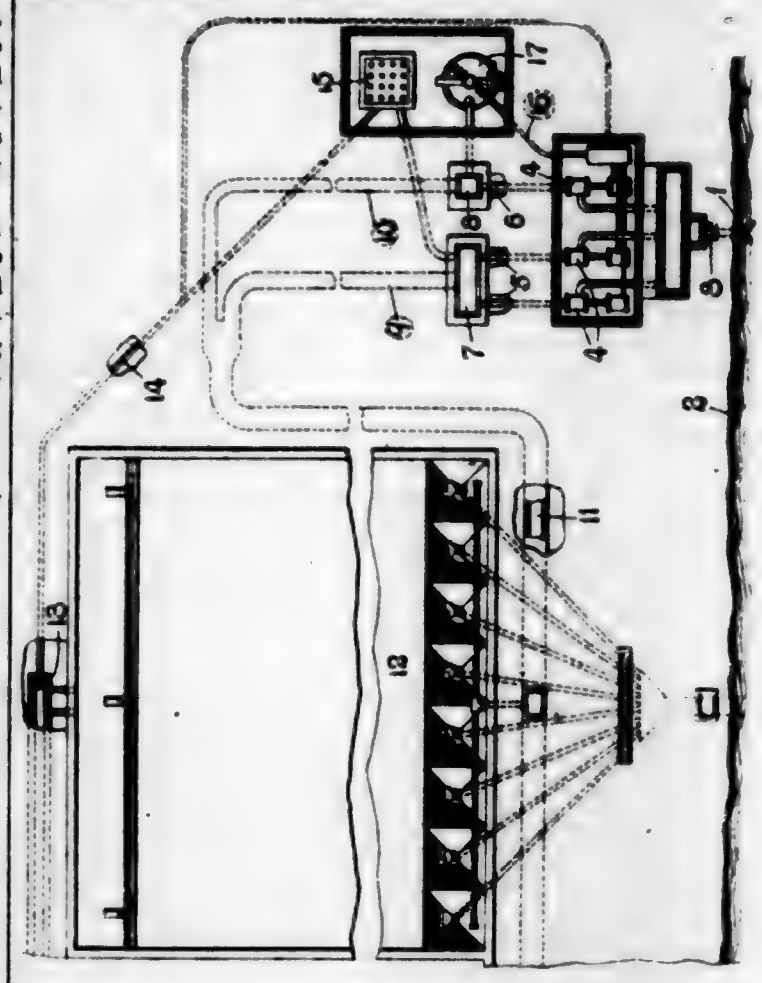
2. A washing-machine comprising a tub, opposed substantially vertical rubbers hinged at the end portions of the tub, oppositely-facing dashers located between the rubbers having oppositely-disposed extending overlapping portions, and oscillating arms having flared lower ends and pivotally mounted at an intermediate point to the tub, said arms having pintles upon which the extremities of the extended portions of the dashers are pivotally connected, said dashers having stepped surfaces opposing corresponding surfaces on the rubbers.

3. A washing-machine comprising a tub, opposed substantially vertical rubbers in the ends of the tub said rubbers being pivoted at their upper ends and being spring-pressed at the lower portions, oppositely-facing dashers located between the rubbers having oppositely-disposed extending overlapping portions, and oscillating arms having flared lower ends and pivotally mounted at an intermediate point to the tub, said arms having pintles upon which the extremities of the extended portions of the dashers are pivotally connected, said dashers and rubbers each comprising end casting and connecting slats forming a stepped surface.

807,008. **PROCESS OF PURIFYING WATER.** JOHN F. WILFORD, St. Louis, Mo. Continuation of application Serial No. 225,611, filed Sept. 23, 1904. This application filed June 26, 1905. Serial No. 266,948.

Claim.—1. The process of purifying water which consists in adding thereto a solution of a metallic sulfate and a quantity of lime approximately equal to the amount of lime required to be added to the raw water to make it give a caustically-alkaline reaction.

2. The process of purifying water which consists in adding thereto separately a solution of metallic sulfate and a quantity of lime approximately equal to that required to be added to the raw water to make it indicate caustic alkalinity after a considerable time when tested with nitrate of silver.



3. The process of purifying water which consists in adding thereto separately a solution of a metallic sulfate and a quantity of lime approximately equal to that required to make raw water indicate caustic alkalinity after a considerable time when tested with nitrate of silver, and keeping the water agitated for several minutes and then permitting sedimentation.

4. The process of purifying water which consists in adding thereto a solution of a mineral salt of iron and treating it with hydrate of lime, the proportion of lime being approximately the same as that required to be added to the raw water to make it indicate caustic alkalinity.

5. The process of purifying water which consists in adding thereto a solution of a mineral salt of iron and treating it with hydrate of lime, the proportion of lime being approximately the same as that required to make the raw water indicate caustic alkalinity, keeping the water agitated for several minutes and then permitting sedimentation.

6. The process of purifying water which consists in treating it with hydrate of lime in the presence of a coagulant, the proportion of lime being practically the same as that required to make the raw water indicate caustic alkalinity when tested with nitrate of silver several hours after the addition of lime.

7. The process of purifying water which consists in treating it with hydrate of lime in the presence of a coagulant, the proportion of lime being practically the same as that required to be added to the raw water to make it indicate caustic alkalinity when tested with nitrate of silver several hours after the addition of lime, and keeping the water agitated for several minutes and then permitting sedimentation.

8. The process of purifying water which consists in adding thereto a sulfate of iron and then treating it with hydrate of lime, the proportion of lime being approximately the same as that required to be added to the raw water to make it indicate caustic alkalinity when tested with silver nitrate a considerable time after the addition of lime.

9. The process of purifying water which consists in adding thereto a sulfate of iron and then treating it with hydrate of lime, the proportion of lime being approximately the same as that required to be added to the raw water to make it indicate caustic alkalinity when tested with silver nitrate a considerable time after the addition of lime, and keeping the water agitated for several minutes and then permitting sedimentation.

10. The process of purifying water of the kind described which consists in adding ferrous sulfate thereto in the proportion of from

one-half of a grain to three grains per gallon of water, and adding lime in the proportion of from four to eight grains per gallon of water.

11. The process of purifying water of the kind described which consists in adding ferrous sulfate thereto in the proportion of from one-half of a grain to three grains per gallon of water, and adding lime in the proportion of from four to eight grains per gallon of water, and keeping the water agitated for several minutes and then permitting sedimentation.

12. The process of purifying water which consists in keeping the same in motion sufficient to keep the precipitates in suspension and treating the water while thus in motion with a solution of a metallic sulfate and then with hydrate of lime, and afterward reducing the rate of flow to permit sedimentation, the proportion of lime being approximately the same as that required to make the raw water indicate caustic alkalinity when tested with silver nitrate a considerable time after the addition of lime.

13. The process of purifying water which consists in keeping the water in motion sufficiently violent to prevent sedimentation and treating the same while in motion with a solution of a metallic sulfate and adding hydrate of lime to the moving water thus treated, and afterward reducing the rate of flow to permit sedimentation, the proportion of lime being approximately the same as that required to be added to the raw water to make it indicate caustic alkalinity when tested with silver nitrate a considerable time after the addition of lime.

14. The process of purifying water which consists in continuously directing into a stream thereof separate streams containing a sulfate of iron and hydrate of lime, respectively, and afterward permitting the water to settle, the stream containing the hydrate of lime being directed into the main stream at a point beyond the point where the stream containing the ferrous sulfate enters said main stream, the quantity of sulfate of lime being approximately one grain per gallon of the raw water and the quantity of lime being approximately equal to the amount of lime required to be added to the raw water to make it give a caustically-alkaline reaction.

15. The process of purifying water which consists in continuously directing into a stream thereof separate streams containing a sulfate of iron and hydrate of lime, respectively, keeping the treated water sufficiently agitated to prevent sedimentation for several minutes, and afterward permitting the water to settle, the hydrate of lime being added at a point in the stream beyond the point where the iron is added, substantially in the proportions and for the purpose described.

16. The process of purifying water which consists in adding a sulfate of iron to one stream thereof and lime to a second stream thereof, causing the water of said streams to unite soon after they are treated with such reagents, keeping the commingled water of the two streams agitated for several minutes sufficiently to prevent sedimentation, and afterward permitting the water to settle, the sulfate and lime being added in substantially the proportions specified.

17. The process of purifying water which consists in continuously adding to a stream thereof a dilute solution of sulfate of iron and continuously adding hydrate of lime to that portion of the water in the stream which is already treated with ferrous sulfate, the lime being at least eight times the quantity required to satisfy the sulfate added to the water.

18. The process of purifying water which consists in keeping the same in motion and continuously adding thereto a sulfate of iron and hydrate of lime in substantially the proportion of one grain of ferrous sulfate and six grains of hydrate of lime per gallon of water, the lime being added to the main stream at a point beyond the point of admission of the sulfate and in excess of the amount required to satisfy the free carbonic acid and the sulfate in the water, said reagents being added by means of streams of water running continuously through masses of the respective reagents to which measured quantities are added at intervals to secure uniformity of distribution.

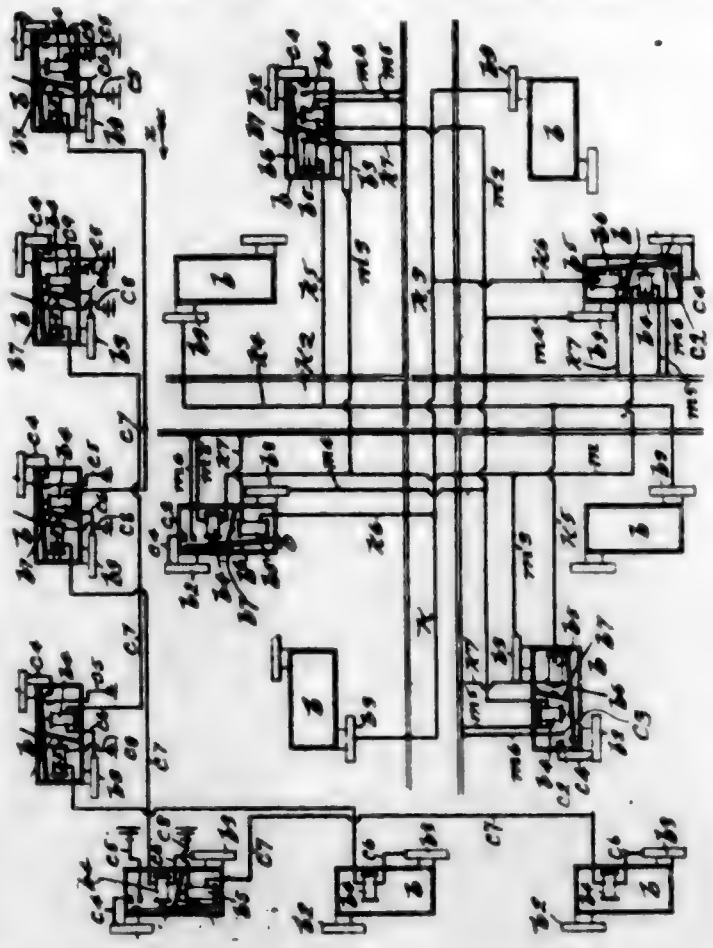
19. The process of purifying water which consists in adding to a stream of water to be purified approximately one grain of ferrous sulfate per gallon and approximately six grains of hydrate of lime per gallon, and then permitting such water to settle, the lime being added to such stream at a point beyond the point of admission of the ferrous sulfate.

20. The process of purifying water which consists in adding to a stream of water to be purified approximately one grain of ferrous sulfate per gallon and approximately six grains of hydrate of lime per gallon, keeping the water thus treated in a state of agitation for several minutes, and then permitting such water to settle, the lime being added to such stream at a point beyond the point of admission of the ferrous sulfate.

21. The process of purifying water which consists in adding to a stream of water to be purified approximately one grain of ferrous sulfate per gallon and adding to a second stream of such water approximately six grains of hydrate of lime per gallon, causing the water of said streams to unite soon after the addition of said reagents thereto, keeping the commingled water in agitation for several minutes and then permitting such water to settle.

22. The process of purifying water which consists in adding thereto while in motion approximately one grain of ferrous sulfate and approximately six grains of hydrate of lime per gallon, the ferrous sulfate being added before the lime by means of a stream of water flowing continuously through a mass of ferrous sulfate to which measured quantities are added at measured intervals.

807,009. **SAFETY APPARATUS FOR RAILWAYS.** SAMUEL L. ADELSON, New York, N. Y., assignor of one-half to Maurice Adelson, New York, N. Y. Filed June 29, 1905. Serial No. 267,481.



Claim.—1. A safety apparatus for railways, comprising a casing arranged in each of a plurality of blocks of said railways, two electrical contact-plates arranged on each of said casings, two contact devices arranged on a car or locomotive on said railway and each of which is adapted to strike the corresponding one of said contact-plates of each of said casings, and devices connected with said car or locomotive and with each of said casings for notifying the engineer of a following car or locomotive of the fact that another car or locomotive is in a preceding block of said railway, substantially as shown and described.

2. A safety apparatus for railways, comprising a casing arranged in each of a plurality of blocks of said railways, two electrical contact-plates arranged on each of said casings, two contact devices arranged on a car or locomotive on said railway and each of which is adapted to strike the corresponding one of said contact-plates of each of said casings, devices connected with said car or locomotive and with each of said casings for notifying the engineer of a following car or locomotive of the fact that another car or locomotive is in a preceding block of said railway, and devices connected with said car or locomotive and each of said casings whereby the apparatus therein is returned to a normal or unset position in the second block to the rear, substantially as shown and described.

3. A safety apparatus for railways, comprising a casing arranged in each of a plurality of blocks of said railway, two contact-plates arranged on each of said casings, two contact-arms arranged on a car or locomotive on said railway, said arms being adapted to engage the corresponding one of said contact-plates of each of said casings, an electrical circuit adapted to be closed when one of said contact-arms engages the corresponding one of said plates of each of said casings and thereby partially close a supplemental electrical

circuit in the adjacent one of said casings and a battery arranged in said first-named electrical circuit, substantially as shown and described.

4. A safety apparatus for railways, comprising a casing arranged in each of a plurality of blocks of said railway, two contact-plates arranged on each of said casings, two contact-arms arranged on a car or locomotive on said railway, said arms being adapted to engage the corresponding one of said contact-plates of each of said casings, an electrical circuit adapted to be closed when one of said contact-arms engages the corresponding one of said plates of each of said casings and thereby partially close a supplemental electrical circuit in the adjacent one of said casings and a battery arranged in said first-named electrical circuit, said supplemental circuit being adapted to be closed by one of said arms on a following car or locomotive, an alarm arranged in said supplemental circuit, and a battery arranged in said supplemental circuit, substantially as shown and described.

5. A safety apparatus for railways, comprising a casing arranged in each of a plurality of blocks of said railway, and adjacent to the tracks thereof, two contact-plates arranged on each of said casings, two contact-arms arranged on a car or locomotive on said railway, a magnet in each of said casings, a spring-operated pivoted armature adapted to be operated by said magnet, an electrical circuit adapted to be closed through said car or locomotive and said magnet when one of said arms engages the corresponding one of said contact-plates and thereby energize said magnet and operate said armature, substantially as shown and described.

6. A safety apparatus for railways, comprising a casing arranged in each of a plurality of blocks of said railway, and adjacent to the tracks thereof, two contact-plates arranged on each of said casings, two contact-arms arranged on a car or locomotive on said railway, a magnet in each of said casings, a spring-operated pivoted armature adapted to be operated by said magnet, an electrical circuit adapted to be closed through said car or locomotive and said magnet when one of said arms engages the corresponding one of said contact-plates and thereby energizes said magnet and operate said armature, said armature being adapted when in its lower position to electrically communicate two spring-contacts in a supplemental circuit in operative connection with the other of said spring-plates and adapted to be closed by the corresponding contact-arm of a following car or locomotive, substantially as shown and described.

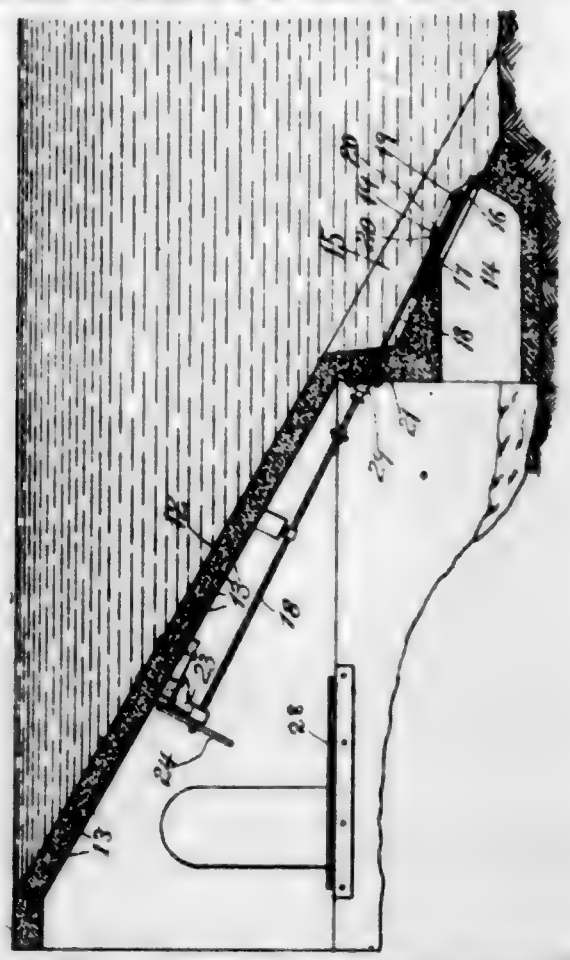
7. A safety apparatus for railways, comprising a casing arranged in each of a plurality of blocks of said railway and adjacent to the tracks thereof, two contact-plates arranged on each of said casings, two contact-arms arranged on a car or locomotive on said railway, said arms being adapted to engage the corresponding ones of said contact-plates on each of said casings, a magnet in each of said casings, a pivoted armature in operation therewith, an electrical circuit adapted to be closed through said magnet when one of said contact-arms engages the corresponding one of said contact-plates and thereby energize said magnet and operate said armature, and devices for holding said armature in the last-named position, substantially as shown and described.

8. A safety apparatus for railways, comprising a casing arranged in each of a plurality of blocks of said railway and adjacent to the tracks thereof, two contact-plates arranged on each of said casings, two contact-arms arranged on a car or locomotive on said railway, said arms being adapted to engage the corresponding ones of said contact-plates on each of said casings, a magnet in each of said casings, a pivoted armature in operation therewith, an electrical circuit adapted to be closed through said magnet when one of said contact-arms engages the corresponding one of said contact-plates and thereby energize said magnet and operate said armature, and devices for holding said armature in the last-named position, said devices comprising a spring-operated armature adapted to engage a pin on said first-named armature, a supplemental magnet in each of said casings in operation with each of said supplemental armatures and an electrical circuit adapted to be closed through said supplemental magnet of one of said casings when one of said contact-arms engages the corresponding contact-plate of one of said casings arranged in a block of said railway ahead of said last-named casing in the direction in which said car or train moves, said supplemental magnet being thereby energized and operating said supplemental armature and thereby releasing said first-named armature, substantially as shown and described.

9. A safety apparatus for railways, comprising an apparatus arranged in each of a plurality of blocks of said railway, devices on each car or train operating on said railway adapted to engage the apparatus in each of said blocks, an electrical circuit adapted to be closed by the engagement of one of said devices with said apparatus in each of said blocks and thereby set said apparatus at danger, and an electrical circuit adapted to be closed by the other of said devices when in engagement with said apparatus and thereby release the apparatus in a block already passed by said railway from its position of danger, substantially as shown and described.

10. A safety apparatus for railways, comprising an apparatus arranged in each of a plurality of blocks of said railway, devices on each car or train operating on said railway adapted to engage the apparatus in each of said blocks, an electrical circuit adapted to be closed by the engagement of one of said devices with said apparatus in each of said blocks and thereby set said apparatus at danger, and an electrical circuit adapted to be closed by the other of said devices when in engagement with said apparatus and thereby release the apparatus in a block already passed by said train from its position of danger, and a supplemental electrical circuit adapted to be closed and energize an alarm on a following car or locomotive when the devices thereon engage the apparatus in each of said blocks when set, substantially as shown and described.

807,010. **WASTE-GATE FOR DAMS.** NILS F. AMBURSEN, Newton, Mass. Filed June 2, 1905. Serial No. 263,455.



Claim.—1. A dam having a waste-outlet, surrounded by a seat located at the upstream side of the dam, a gate held against said seat by the confined water, and gate-operating mechanism located underneath and protected by the crest and deck of the dam.

2. A dam having a waste-outlet in its deck, surrounded by a seat located at the upstream side of the dam, a gate held against said seat by the confined water, a rod movable with the gate and extending beneath the deck, and means located beneath the crest and deck of the dam for operating the rod and gate.

3. A dam having in its deck a waste-outlet surrounded by a seat located at the upstream side of the dam and an orifice extending through the deck adjacent to the outlet, a gate held against said seat by the confined water, a rod engaged with the gate and extending through said orifice, and means located beneath the crest and deck of the dam for operating the rod and gate.

4. A dam having a recess in the deck, a waste-outlet extending through the bottom of the recess, and an orifice in a wall of the recess, a gate for the outlet located in said recess, a rod engaged with the gate and extending through the orifice, and means located beneath the crest and deck of the dam for operating the rod and gate.

5. A dam having in its deck a waste-outlet and an orifice adjacent to the outlet, a rod engaged with the gate and extending through said orifice, said rod having a screw-threaded portion, and a nut engaged with the threaded portion and journaled in a fixed support beneath the crest and deck of the dam.

807,011. BAG. BARTLETT ARKELL, New York, N. Y., assignor to Arkell Safety Bag Company, a Corporation of New York. Filed Dec. 12, 1904. Serial No. 236,451.



Claim.—1. A compound bag comprising an outer bag and an inner bag, the inner bag being made of paper and comprising two similar sides joined at the bottom of each at their line of closure; and a free fold parallel to the line of closure and extending across the bottom of the inner bag to relieve strain transverse to the line of closure.

2. A compound bag comprising an outer bag and an inner bag, the inner bag being made of paper and comprising two similar sides joined at the bottom of each by a stitched seam at the line of closure; and a free fold extending across the bottom of the inner bag parallel to said line of closure to relieve strain transverse to the line of closure.

3. A compound bag comprising an outer bag and an inner bag, the inner bag being made of paper and comprising two similar sides with their bottom margins folded together and secured by a line of stitching, said inner bag having said stitched fold turned up to form a free fold.

4. A compound bag comprising an outer bag and an inner bag, the inner bag comprising two similar sides of vertically-crinkled paper with their bottom margins folded together and secured by a line of stitching, said inner bag having said stitched fold turned up to form a free fold.

5. A compound bag comprising an outer bag of textile material and an inner bag of paper, the outer bag having ears formed at its lower corners, and the inner bag having its corresponding corners turned up, whereby when the outer bag is grasped by said ears the corners of the inner bag will be out of the way and the inner bag thus saved from damage.

6. A compound bag comprising an outer bag of textile material and an inner bag of paper, the outer bag having ears formed at its lower corners, said inner bag having its margin at the bottom turned up to form a free fold, and said inner bag having its lower corners turned up so as to be out of the way of said ears, substantially as set forth.

807,012. RIFLE-BULLET. JAMES E. BELL, Washington, D. C. Filed June 26, 1905. Serial No. 266,940.



Claim.—1. A service-rifle bullet, consisting of a soft core and a thin jacket, said bullet comprising a relatively long cylindrical body portion having a diameter substantially equal to the bore of the rifle and a relatively short cylindrical base portion having a diameter substantially equal to that of a circle coincident with the base of the grooves of the rifle, as set forth.

2. A bullet for the United States service-rifle, consisting of a soft core and a thin jacket said bullet comprising a relatively long cylindrical body portion having a diameter of about three hundred thousandths of an inch and a relatively short cylindrical base portion having a diameter of about three hundred and eight thousandths of an inch, as set forth.

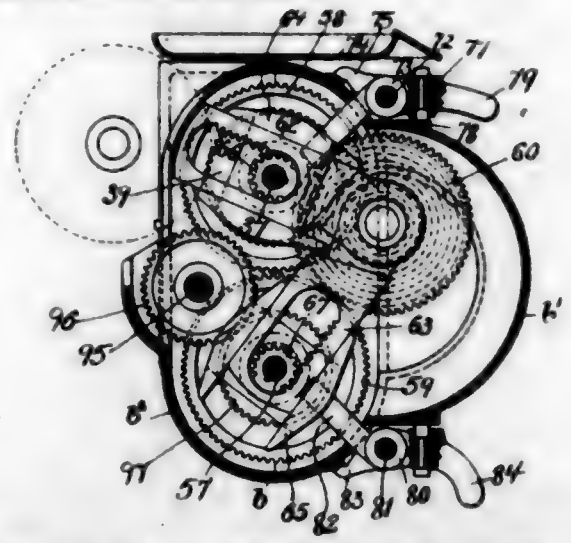
807,013. BUCKLE. ROYL A. BROWN, Ashland, Ohio, assignor of one-half to George S. Lucas, Mansfield, Ohio. Filed Jan. 14, 1905. Serial No. 241,068.



Claim.—1. In a buckle, a body portion 1 comprising the side bars *a* and *b*, end sections *c* and *d* and a cross-bar 2, a portion of said side bars being upwardly directed to form a grip whereby said body portion may be readily grasped and moved longitudinally, in combination with a frame 3 movably mounted on said body portion, comprising side bars *e* and *f* and end bars 6 and 6′, flanges formed integral with the side bars *e* and *f* and adapted to be bent over the side bars *a* and *b* holding said member 3 on the body 1, and a strap, one end of which is secured to one of the members of the buckle and the other free end thereof secured by the coaction of the body 1 and member 3, as set forth.

2. In a buckle, a body portion 1 comprising side bars *a* and *b*, end sections *c* and *d* and a cross-bar 2, the gripping edge of the bar 2 and the end section *d* being outwardly curved, in combination with a movable member 3 comprising the side bars *e* and *f* and end sections 6 and 6′, the end section 6′ also being outwardly curved to coact with the gripping edge of the cross-bar 2 and a strap, one end of which is secured to one of the buckle members and the opposite end designed to be inserted between the bar 2 and the end section 6′ whereby, when the strap is drawn taut around an object, it will be securely held by the coaction of said body 1 and member 3, as set forth.

807,014. SPEED-CHANGING MECHANISM FOR METAL-WORKING MACHINES. LOUIS S. BURBANK, Worcester, Mass. Filed July 12, 1905. Serial No. 269,361.



Claim.—1. In speed-changing mechanism, a gear-cone having gears of different diameter and means by which said cone may be adjusted transversely in any direction.

2. In speed-changing mechanism, an axially-movable rotary driving member, an axially-movable rotary driven member, means for moving said members independently of each other a rotary cone having power-transmitting members of different diameters, and means by which said cone may be adjusted toward and from the axes of the driving and driven members.

3. In speed-changing mechanism, the combination with driving and driven shafts arranged in parallelism, of longitudinally-adjustable gear-wheels on said shafts, means for moving said gear-wheels independently of each other a radially-adjustable gear-cone, and means for adjusting said gear-cone toward or from said shafts in intersecting lines.

4. In speed-changing mechanism, the combination with driving and driven shafts arranged in parallelism, of longitudinally-adjustable gear-wheels on said shafts, a radially-adjustable gear-cone, adjustable links connecting said gear-cone and shafts, means for adjusting said links, and means for adjusting said gear-wheels and holding them to their adjustment relative to said gear-cone.

5. In speed-changing mechanism, the combination with a shaft and its adjustable gear-wheel, of an adjustable gear-cone axially parallel to said shaft, links connecting said gear-cone and shaft, means for adjusting said links, and means for holding them to their adjustment.

6. In speed-changing mechanism, the combination with parallel hollow shafts, longitudinally-adjustable gear-wheels thereon, and inner shafts within said hollow shafts, of an intermediate gear-cone, jointed adjustable links connecting said gear-cone and inner shafts, and means for adjusting said links and gear-cone.

7. In speed-changing mechanism, the combination of parallel shafts longitudinally-adjustable gear-wheels thereon, and means for transmitting power from one of said shafts to the other comprising an intermediate floating gear-cone, means for adjustably connecting said gear-cone and shafts, and means for securing the said elements after adjustment.

8. In speed-changing mechanism, a floating gear-cone, links for adjusting said cone in any direction transversely of its axis, and means for actuating said links.

9. In speed-changing mechanism, a floating gear-cone, links for adjusting said cone in any direction transversely of its axis, racks on said links, and gears for moving said racks.

10. In speed-changing mechanism, the combination with a shaft a longitudinally-adjustable gear thereon, of a radially-adjustable gear-cone, and adjustable links for adjusting said gear-cone relatively to said shaft.

11. In speed-changing mechanism, the combination with a shaft, and means for driving the same, of a longitudinally-adjustable gear on said shaft, a radially-adjustable gear-cone, adjustable links in connection with said gear-cone and said shaft, and means for adjusting said links, substantially as specified.

12. In speed-changing mechanism, the combination with a hollow shaft an adjustable gear-wheel thereon, an inner shaft and one or more pinions on said inner shaft, of a radially-adjustable gear-cone, adjustable links and one or more racks on said links engaging said pinion or pinions.

13. In speed-changing mechanism, the combination with a hollow shaft an adjustable gear-wheel thereon, an inner shaft and pinions on said inner shaft, of a radially-adjustable gear-cone, adjustable links racks connected to said links engaging said pinions, and a locking device for locking the pinions and the racks against relative movement.

14. In speed-changing mechanism, driving and driven shafts arranged in parallelism, a gear-cone adjustable toward and from said shafts about the axes of said shafts, gears on said shafts adapted to be engaged by the gear-cone, and means for adjusting said gears independently of each other along their respective shafts and locking them in their adjusted positions.

15. In speed-changing mechanism, a floating gear-cone, toothed links for adjustably supporting said gear-cone, a shaft pinions fast on said shaft and engaging said toothed links, guides on said shaft for said links, and means for locking said shaft and said guides against relative rotary movement.

16. In speed-changing mechanism, a floating gear-cone, a toothed link supporting one end of said cone, a shaft a pinion fast on said shaft engaging the toothed link, a guide loose on said shaft a locking-plate rigidly secured to said guide, a handle fast on said shaft and means on the handle for engaging said locking-plate.

17. In a lathe, the combination with the floating gear-cone and the independently-adjustable driving and driven gears which coöperate therewith and means for adjusting said cone about the axes of said gears, of means for transmitting power to the driving-gear, comprising an axially-movable driving-gear, an axially-movable driven gear, and rigidly-connected gears movable transversely of their axes.

18. In a lathe, the combination with the floating gear-cone and the independently-adjustable driving and driven gears which coöperate therewith and means for adjusting said cone about the axes of said gears, of means for transmitting power to the driving-gear, comprising an axially-movable driving-gear, and an axially-movable driven gear which are adjustable independently of each other, rigidly-connected gears movable transversely of their axes in the arc of a circle into three different positions whereby three different speeds of the driven gear may be obtained, and means for securing said transversely-movable connected gears after adjustment.

19. A speed-changing attachment for a lathe comprising a driving-gear, a driven gear, said gears being separately and independently adjustable axially and rigidly-connected intermediate gears of different diameters transversely movable into different positions said driving, driven, and intermediate gears having their axes located at the apexes of a triangle, whereby any one of said intermediate gears may be intermeshed with either of the driving and driven gears.

20. A speed-changing attachment for a lathe comprising an axially-movable driving-gear, an axially-movable driven gear, rigidly-connected intermediate gears of different diameters transversely movable into different positions whereby any one of said intermediate gears may be intermeshed with either of the driving and driven gears said driving, driven and intermedtate gears having their axes at the apexes of a triangle, and means for rigidly securing said intermediate gears in the position to which they are adjusted.

21. A speed-changing device comprising two mechanisms geared together, each mechanism comprising a transversely-movable gear-cone and independently axially movable driving and driven gears each adapted to be engaged with any gear of the cone, whereby the speed of the ultimately-driven member may be changed by either of said mechanisms.

22. In a lathe, the combination with the floating gear-cone and the driving and driven gears which coöperate therewith, of a spindle, and interchangeable mechanisms adapted to be inserted between the driving-gear and the spindle, one of said interchangeable mechanisms consisting of a floating cone with driving and driven gears and the other consisting of a swinging support, a driving-gear and an idler, substantially as described.

23. In a lathe, the combination with a variable-speed gearing and a driving-shaft, of interchangeable mechanisms for actuating said variable-speed gearing, one of said interchangeable mechanisms comprising independently axially adjustable driving and driven gears, and a transversely-movable gear-cone, all bodily removable, with the driving-gear adapted to be attached to said driving-shaft, and the other of said interchangeable mechanisms comprising removable change-gears of which one is adapted to be attached to said driving-shaft.

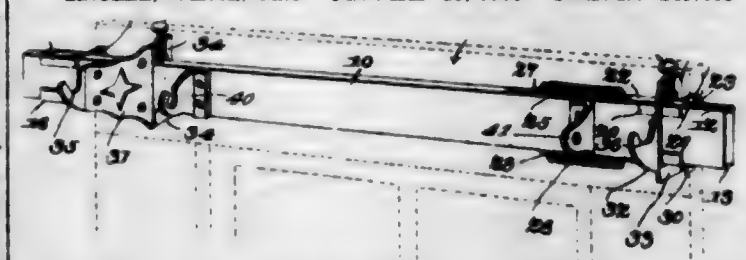
24. In a lathe, a variable-speed gearing, comprising a driving-gear and a driven gear which are axially adjustable separately and independently of each other, into either of two positions, two rigidly-connected intermediate gears of different diameters, means by which said intermediate gears may be adjusted transversely into three different positions, in consequence of which the larger intermediate gear may be engaged with the driving and driven gears, or the larger intermediate gear and the smaller intermediate gear may be engaged with the driving and the driven gears respectively, or the larger intermediate gear and the smaller intermediate gear may be engaged with the driven and the driving gears respectively to secure three different speeds of the driven gear, as described.

25. In a lathe, the combination with driving and driven shafts, of a removable change-speed mechanism adapted to be interposed between said shafts, comprising a casing or support adapted to be removably attached to a lathe, three hollow shafts or members, as at 53, 49 and 42, of which one, as at 53, is adapted to be keyed on the driving-shaft, driving and driven gears, as at 52 and 43, on said members, as 53 and 42, and adjustable axially independently of each other, intermediate gears of different diameters on one of said members, as 49, and means for pivoting said last-mentioned member 49 on an eccentric axis, all combined substantially as set forth.

26. In speed-changing mechanism, driving and driven shafts arranged in parallelism, a gear-cone adjustable toward and from said shafts, gears on said shafts adapted to be engaged by the gear-cone, means for adjusting said gears independently of each other along their respective shafts, locking devices adjustable with said gears, and notched plates adapted to coact with said locking devices.

27. In speed-changing mechanism, driving and driven shafts arranged in parallelism, a gear-cone adjustable toward and from said shafts, gears on said shafts adapted to be engaged by the gear-cone, means for adjusting said gears independently of each other along their respective shafts, locking devices adjustable with said gears, and reversible or interchangeable notched plates adapted to coact with said locking devices.

807,015. **CURTAIN AND SHADE HANGER.** LUCIOUS D. BURLINGAME, Warren, Ohio. Filed Mar. 10, 1905. Serial No. 249,461.



Claim.—1. In a curtain-hanger, a body member for extending transversely of the window-casing, a bracket having means for attaching to said body member and with a laterally-extending arm at one end terminating in spurs for bearing against the window-casing at one side and with spaced clips at the upper and lower edges for bearing over and beneath said body member, a bracket having a laterally-extending arm at one end terminating in spurs for bearing against the window-casing at the other side and with spaced clips at the upper and lower edges for bearing over and beneath the body member, springs connected to support said last-mentioned bracket yieldably upon said body member, and supporting means for a curtain attached to said body member.

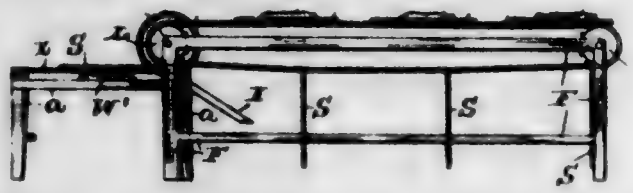
2. In a curtain-hanger, a body member for extending transversely of the window-casing and with longitudinal channels in its upper and lower edges at one end, a bracket having means for attaching to said body member and with a laterally-extending arm at one end terminating in spurs for bearing against the window-casing at one side and with spaced clips at the upper and lower edges for bearing over and beneath said body member, a bracket having a lat-

erally-extending arm at one end terminating in spurs for bearing against the window-casing at the other side and with spaced clips at the upper and lower edges for bearing over and beneath the body member, springs bearing in said channels and supported from lateral movement thereby and connected at one end to said body member and by the other ends to said last-mentioned bracket and holding the same yieldably in contact with said casing and supporting means for a curtain attached to said body member.

3. In a curtain-hanger, a body member for extending transversely of the window-casing, a bracket having clips at one side for engaging the body member and with an arm extending from the other side and provided with lateral spurs for engaging one side of the window-casing, a bracket having clips at one side for slidably engaging said body member and with an arm extending from the other side and provided with lateral spurs for engaging the other side of said window-casing, means for adjusting said slidable bracket longitudinally of said body member, and brackets having terminal sockets for the curtain-pole and with clips for slidably engaging said body member near the ends, said brackets spaced apart upon said body member and bent to cause the socket portions to extend beyond the window-casing at each side.

4. In a curtain-hanger, a body member for extending transversely of the window-casing, a bracket having clips at one side for engaging the body member and with an arm extending from the other side and provided with lateral spurs for engaging one side of the window-casing, a bracket having clips at one side for slidably engaging said body member and with an arm extending from the other side and provided with lateral spurs for engaging the other side of said window-casing, means for adjusting said slidable bracket longitudinally of said body member, brackets having terminal sockets for the curtain-pole and with clips for slidably engaging said body member near the ends, and with set-screws in said clips and bearing upon said body member.

807,018. **CONVEYER.** JOSEPH H. BURNS, Cleveland, Ohio. Filed Filed Oct. 22, 1904. Serial No. 229,641.



Claim.—1. A conveyer comprising two parallel chains arranged side by side and a suitable distance apart laterally and aprons spaced longitudinally of the chains and wide enough to overlap and arranged to rest upon both chains and attached at their forward ends only and removably to the chains, which aprons are detached by pressing the chains toward each other at the forward ends of the aprons.

2. A conveyer comprising two chains arranged side by side and a suitable distance apart and provided with projecting members spaced longitudinally of the chains, and aprons wide enough and arranged to rest upon both chains, which aprons are provided at their forward ends with ears or members loosely embracing and removable from the aforesaid projecting members of the chains

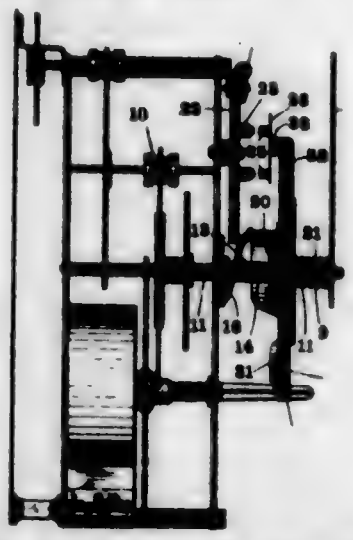
3. An endless conveyer comprising two parallel endless chains arranged side by side and a suitable distance apart and provided with projecting members spaced longitudinally of the chains, and aprons wide enough and arranged to rest upon both chains, which aprons are provided at their forward ends with ears or members journaled upon the aforesaid projecting members of the chains.

4. A conveyer comprising two chains arranged side by side and a suitable distance apart, with each chain provided with horizontally-arranged projecting members spaced longitudinally of the chains and arranged in line endwise with the different projecting members respectively of the other chain, and aprons wide enough and arranged to rest upon both chains, and each apron being provided at its forward end with two horizontally-arranged ears or members arranged in line endwise and journaled upon one of the aforesaid projecting members of the different chains respectively, and the chains having enough slack to render them capable of being bent laterally far enough to disengage any apron from the engaging projecting members of the chains.

5. A conveyer comprising two endless chains arranged side by side and a suitable distance apart laterally, with each chain provided with projecting members spaced longitudinally of the chain, with the projecting members of each chain arranged in line endwise with and projecting laterally and away from the different projecting members respectively of the other chain, and aprons wide enough and arranged to rest upon both chains, and each apron being provided at its forward end with two ears or members arranged in line endwise and journaled upon one of the aforesaid projecting members of the different chains respectively, and the chains having enough slack to render them capable of being pressed toward each other to detach an apron.

6. An endless conveyer comprising two parallel endless chains arranged side by side and a suitable distance apart, and flexible aprons arranged and wide enough to rest upon both chains, and each apron and each chain being provided at the forward end of the apron with mutually-engaging ears and projecting members arranged as required to render the said apron capable of swinging in a vertical plane, and the chains having enough slack to render them capable of being bent laterally far enough to disengage the aforesaid mutually-engaging ears and projecting members.

807,017. **ELECTRIC TIME-SWITCH.** MILTON T. CAMPBELL, Indianapolis, Ind., assignor of one-half to John C. Ertel, Indianapolis, Ind. Filed June 5, 1905. Serial No. 263,821.



Claim.—1. The combination, with a time-train, of a cam-disk driven by the hour-sleeve thereof, intermediate connections between said disk and hour-sleeve permitting axial movement of the disk without preventing angular movement, means for automatically shifting said disk axially, switch mechanism, and means operated by the axial movement of the disk for operating said switch mechanism.

2. The combination, with a time-train, of a cam-disk driven thereby, a spring for normally urging said cam-disk axially in one direction, a cam-flange carried by said cam-disk, a snail arranged to coöperate with said cam-flange to shift said disk axially in opposition to the spring, a switch member arranged in conjunction with said cam-disk to be operated in one direction upon axial movement of the cam-disk in one direction, and means for moving the switch member in an opposite direction upon the opposite axial movement of the cam-disk.

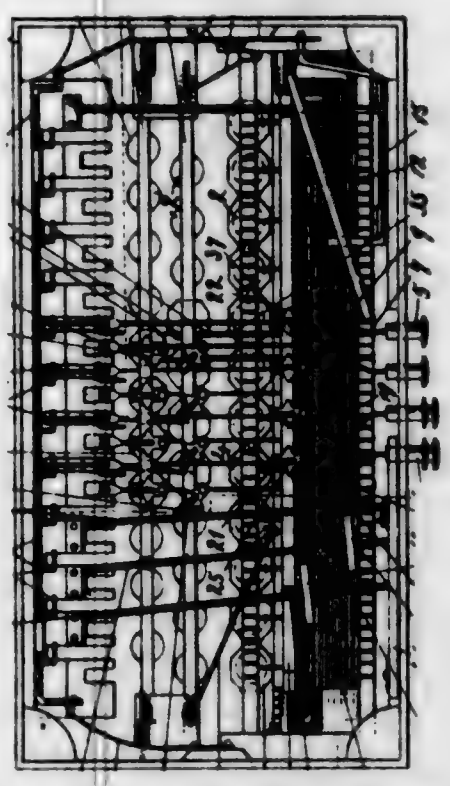
3. The combination, with a time-train comprising an hour-sleeve, of a cam-disk journaled thereon, a driving connection between said cam-disk and hour-sleeve permitting angular and axial adjustment of the disk upon the hour-sleeve, a cam-flange carried by the cam-disk, a coacting stationary snail coacting with said cam-flange to shift the cam-disk axially in one direction, a spring serving to urge the cam-disk axially in the opposite direction, an angularly-adjustable cam-flange carried by said cam-disk, and a movable switch member arranged to be engaged by said angularly-adjustable cam-flange.

4. The combination, with a time-train comprising an hour-sleeve, of a cam-disk journaled thereon, a driving connection between said cam-disk and hour-sleeve permitting angular and axial adjustment of the disk upon the hour-sleeve, a cam-flange carried by the cam-disk, a coacting stationary snail coacting with said cam-flange to shift the cam-disk axially in one direction, an angularly-adjustable cam-flange carried by said cam-disk, and a movable switch member arranged to be engaged by said angularly-adjustable cam-flange, and a second angularly-adjustable switch-operating cam-flange also carried by a cam-disk.

5. The combination, with a time-train comprising an hour-sleeve, of a cam-disk journaled thereon, a driving connection between said cam-disk and hour-sleeve permitting angular and axial adjustment of the disk upon the hour-sleeve, a cam-flange carried by the cam-disk, a coacting stationary snail coacting with said cam-flange to shift the cam-disk axially in one direction, an angularly-

adjustable cam-flange carried by said cam-disk, a movable switch member arranged to be engaged by said angularly-adjustable cam-flange, a second angularly-adjustable switch-operating cam-flange also carried by a cam-disk, a second snail-engaging cam-flange carried by the disk, and means for adjusting said second snail-engaging flange into and out of operating position.

807,018. ACCORDION. RAFFAELE CARBONARI, San Francisco, Cal. Filed Mar. 6, 1905. Serial No. 248,523.



Claim.—1. In a musical instrument of the character described, the combination of a casing, operating-keys, levers connected with the keys, a set of bass-valves connected with and operable by said levers, a second set of bass-valves and means by which said second set of bass-valves may be thrown into operative relation with said levers, said last-named means comprising bell-crank levers to which said second set of valves are connected, and pivoted members carried by said bell-crank levers normally interposed in the path of the levers which are connected with the operating-keys.

2. In a musical instrument of the character described, the combination of a casing, operating-keys, levers connected with the keys, a set of bass-valves connected with and operable by said levers, a second set of bass-valves means by which said second set of bass-valves may be thrown into operative relation with said levers, said last-named means comprising bell-crank levers to which said second set of valves are connected, and pivoted members carried by said bell-crank levers normally interposed in the path of the levers which are connected with the operating-keys, and means for operating said pivoted members to throw them into inoperative position.

3. In a musical instrument of the character described, the combination of a casing, operating-keys, levers connected with the keys, a set of bass-valves connected with and operable by said levers, a second set of bass-valves and means by which said second set of bass-valves may be thrown into operative relation with said levers, said last-named means comprising bell-crank levers to which said second set of valves are connected, pivoted members carried by said bell-crank levers, and a spring-pressed rock-shaft having projections engaging slots in said pivoted members to throw them into or out of the path of the first-named levers.

4. In a musical instrument of the class described, the combination of operating-keys, levers with which said keys are connected, reciprocating bars connecting with said levers, a series of rock-shafts each carrying a valve, arms on said shafts engageable by said bars on the operation of the keys and rockable members carried by certain of said bars and engageable with certain of said rocker-arms as are not ordinarily actuated by said bars.

5. In a musical instrument of the class described, the combination of operating-keys, levers with which said keys are connected, reciprocating bars connecting with said levers, a series of rock-shafts each carrying a valve, arms on said shafts engageable by said bars on the operation of the keys and rockable members carried by certain of said bars and engageable with certain of said rocker-arms as are not ordinarily actuated by said bars, said rockable members being slotted and a part reciprocal transverse to the movement of said bars having projections engaging said slots to move said rockable members.

6. In an accordion, a key, a lever connected with said key, a reciprocating bar connected with said lever, a pivoted member on said bar and reciprocable with and rockable from side to side thereof, valves and means connected with the valves interposable in the path of said rockable member to permit one valve or another to be opened according as to whether said rockable member is turned to one side or the other, and means for operating said rockable member.

7. In an accordion, a key, a lever connected with said key, a reciprocating bar connected with said lever, a pivoted member on said bar rockable from side to side thereof, valves and means connected with the valves interposable in the path of said rockable member to permit one valve or another to be opened according as to whether said rockable member is turned to one side or the other and means for operating said rockable member, said last-named means comprising a part reciprocal at right angles to the bar and having a projection engaging the said rockable member.

8. In an accordion, the combination with an operating-key, of a lever connected therewith, a reciprocating bar connected with the lever, rock-shafts, valves connected with and operatable by said rock-shafts, arms on said rock-shafts, a supplemental reciprocating bar arranged parallel with the first-named bar and having means to engage one of said arms to operate a corresponding valve and means carried by the first-named bar to engage the supplemental bar to operate said corresponding stop.

9. In an accordion, the combination of an operating-key and a lever connected therewith, a reciprocating bar connected with the lever, rock-shafts, valves carried by said rock-shafts, arms on the rock-shafts, supplemental reciprocating bars on each of said first-named bars and having means to engage corresponding rocker-arms on the bar which is connected with the lever to engage either of said supplemental bars.

10. In an accordion, the combination of an operating-key and a lever connected therewith, a reciprocating bar connected with the lever, rock-shafts, valves carried by said rock-shafts, arms on the rock-shafts, supplemental reciprocating bars on each of said first-named bars and having means to engage corresponding rocker-arms on the bar which is connected with the lever to engage either of said supplemental bars, said last-named means including a slotted rockable member and a spring-pressed part reciprocal at right angles to said part, engaging said member.

11. In an accordion, the combination of a lever pivoted intermediate of its ends, an operating-key connected with one end of the lever, a sliding bar connected with the other end of the lever, a rock-shaft, a valve operated by said rock-shaft, a projection on said rock-shaft, a rockable member on said sliding bar interposable in the path of the projection on said rock-shaft, and means to operate said rockable member.

12. In an accordion, the combination of a valve, a rock-shaft, connections between the rock-shaft and valve for operating the latter, a projection on the rock-shaft, a sliding part, a rockable member carried by said part engageable with said projection, a key, connections between the key and said part to operate the latter, and means to operate said rockable member.

13. In an accordion, the combination of a valve, a rock-shaft, connections between the rock-shaft and valve for operating the latter, a projection on the rock-shaft, a sliding part, a rockable member carried by said part engageable with said projection, a key, connections between the key and said part to operate the latter, means to operate said rockable member, a supplementary sliding part, means on the first sliding part to operate the said second sliding part, a second valve, and means operated by said second sliding part to operate said second valve.

14. In an accordion, the combination of a valve, a rock-shaft, connections between the rock-shaft and valve for operating the latter, a projection on the rock-shaft, a sliding part, a rockable member carried by said part engageable with said projection, a key, connections between the key and said part to operate the latter, and means to operate said rockable member, said means for operating said rockable member including a sliding bar having a projection to engage a slot in the rockable member.

15. In an accordion, the combination of a key, a lever connected therewith, a valve operated by the lever, a second lever disposed behind the first-named lever, a second valve operated by said second lever, and a coupler for the levers including a pivoted member carried by the second lever and interposable in the path of the first-named lever, and means to operate said pivoted member to throw it into or out of the path of the first-named lever.

16. In an accordion, a sliding part, pivoted members carried by

said part and reciprocable therewith, a key, and connections between the key and said part to reciprocate the latter, means to rock said pivoted members, valves, and means connected with the valves interposable in the path of said rockable members to operate the valves.

17. In an accordion, a sliding part, rockable members carried by said part and having lateral projections on either side thereof, valves, rock-shafts, connections between the rock-shafts and valves to operate the latter, projections on said rock-shafts interposable in the path of the lateral projections on said rockable members, and means to operate the latter.

18. In an accordion, a sliding part, rockable members carried by said part and having lateral projections on either side thereof, valves, rock-shafts, connections between the rock-shafts and valves to operate the latter, projections on said rock-shafts interposable in the path of the lateral projections on said rockable members, means to operate the latter, and means for holding certain of said rockable members in normal inoperative position relative to the rock-shaft projections.

19. In an accordion, a sliding part, rockable members carried by said part and having lateral projections on either side thereof, valves, rock-shafts, connections between the rock-shafts and valves to operate the latter, projections on said rock-shafts interposable in the path of the lateral projections on said rockable members, means to operate the latter, means for holding certain of said rockable members to normal inoperative position relative to the rock-shaft projections, and means for holding certain other of said rockable members in normal operative position relative to their respective rock-shaft projections.

807,019. LACTIC MORDANT. ALAN A. CLAFLIN, Littleton, Mass. Filed Mar. 6, 1905. Serial No. 248,845.

Claim.—1. An assistant mordant consisting of a mixture of a neutral ammonium salt and free lactic acid.

2. A dyeing-bath containing in solution as an assistant mordant, free lactic acid and neutral ammonium salt in such proportion that the free lactic acid will be present in excess of the acid which is combined with and is required for neutralizing the ammonium of the neutral ammonium salt.

807,020. SHOE-FASTENING. SUSIE W. DUKE, Arcola, N. C. Filed May 6, 1905. Serial No. 259,196.



Claim.—1. In a shoe-fastener, the combination of the uppers and the tongue provided with a series of sockets, studs comprising shanks having balls at each end thereof, the balls at one end fitting into the sockets in the tongue, while those at the other end pass through openings in one upper, and clasps designed to fit over the last-mentioned balls of the stud and secured to the other upper.

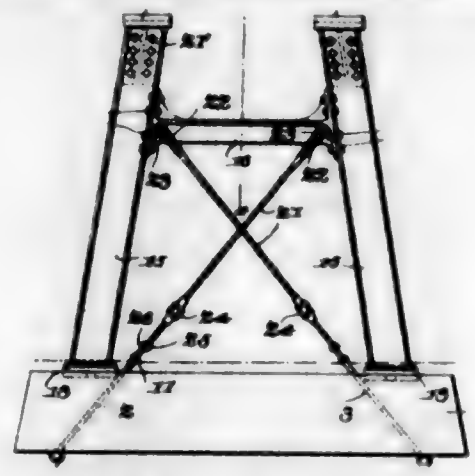
2. In a shoe-fastener, the combination of a tongue secured to the upper along one of its sides and provided with a series of studs along its opposite side, a series of corresponding eyelets in the upper opposite that to which the tongue is secured, and buckles attached to the same upper as the tongue and having hinged joints, said buckles being provided with clasps to engage the heads of the before mentioned studs.

3. In a shoe-fastener, the combination of a tongue secured to the upper along one of its sides and provided with a series of studs along its opposite side, a series of corresponding eyelets in the upper opposite that to which the tongue is secured, and buckles attached to the same upper as the tongue, and provided with clasps to engage the heads of the before-mentioned studs.

4. In a shoe-fastening, the combination of a socket secured to the tongue of the shoe, a clasp provided with means for securing it to one of the uppers and also for securing said upper to the tongue, and a stud provided with two heads and an intermediate shank, one of said heads fitting within said socket and the other protruding through the other upper and designed to be received in said clasp.

807,021. FOUNDATION FOR BAND-SAW FRAMES. ELIJAH FALK, Eureka, Cal. Filed June 13, 1905. Serial No. 265,094.

Claim.—1. A foundation for band-saw frames comprising a base having its upper face provided with cruciform sockets, stepping-plates having their under faces provided with cruciform ribs to engage the sockets and their upper faces with I-shaped sockets, I-beam columns having their lower ends in engagement with the last-named sockets, means for connecting the upper portions of the beams, and means for holding the beams within the sockets.

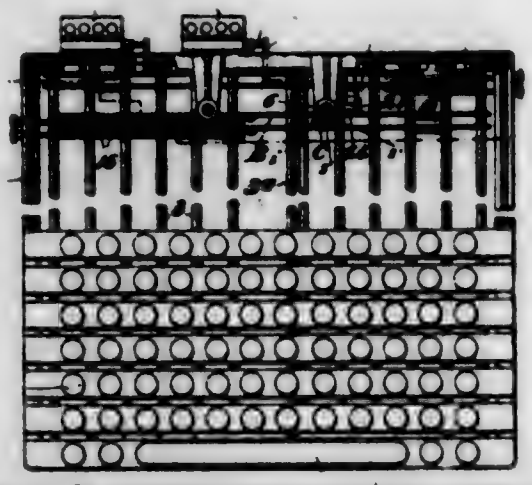


2. A foundation for band-saw frames embodying a base, stepping-plates carried thereby and provided in their upper faces with I-shaped sockets, I-beam columns having their ends seated in the sockets cross-beams longitudinally connecting the I-beams near their upper ends, top plates transversely connecting the I-beams at their upper ends, straining-rods having their upper ends secured to the cross-beams and top plates, and means for adjustably connecting the lower portions of the straining-rods with the base.

3. A foundation for band-saw frames embodying a base, stepping-plates carried thereby and provided in their upper faces with I-shaped sockets, I-beam columns having their ends seated in the socket, cross-beams longitudinally connecting the I-beams near their upper ends, top plates transversely connecting the I-beams at their upper ends, crossed straining-rods having their upper ends secured to the cross-beams and top plates, and means for adjustably connecting the lower portions of the straining-rods with the base.

4. A foundation for band-saw frames comprising a base, obliquely-disposed anchor-bolts embedded therein, stepping-plates secured in the upper face of the base and provided with sockets, columns having their lower ends seated in the sockets, crossed beams longitudinally connecting the I-beams, top plates transversely connecting the I-beams, and straining-rods including turnbuckles having their upper ends connected with the cross-beams and top plates and their lower ends connected with the anchor-bolts.

807,022. WORD-REGISTERING ATTACHMENT FOR TYPE-WRITING MACHINES. ROBERT R. POWLER, Madera, Cal. Filed Mar. 6, 1905. Serial No. 248,513.



Claim.—1. In a counting attachment for type-writing machines, the combination with a key of the keyboard, and a rock-shaft operated by said key, of a spacing-carriage operatable by said rock-shaft, a reciprocating part operatable by said rock-shaft, and a register mechanism operatable by said reciprocating part, and locking means to prevent the actuation of said register-actuating part.

2. In a counting attachment for type-writing machines, the combination with a key of the keyboard, and a rock-shaft operated by said key, a spacing-carriage operatable by said rock-shaft, a reciprocating part operatable by said rock-shaft, a register mechanism operatable by said reciprocating part, and locking means to prevent

the actuation of said register-actuating part, a second rock-shaft and a second separate reciprocating part actuated by said second rock-shaft to release said locking means.

3. In a counting attachment for type-writing machines, the combination with a key and a rock-shaft actuated by the key, of a registering device, operative connections between said registering device and said rock-shaft, and locking means to prevent the actuation of the register-operating connections.

4. In a counting attachment for type-writing machines, the combination of a key, a rock-shaft connected with the key, a sliding plate operating at right angles to the rock-shaft, lugs on the rock-shaft to operate said plate, a registering device operatable by said plate, and locking means to prevent the actuation of the register-operating plate.

5. In a counting attachment for type-writing machines, the combination with the keyboard, of a registering device, a sliding plate to operate said device, means for actuating said plate from the keyboard, and means engaging said plate to lock it against operation by certain keys on the keyboard.

6. In a counting attachment for type-writing machines, the combination with the keyboard, of a registering device, a sliding plate to operate said device, rock-shafts connected with the keys of the keyboard for actuating said plate, means for locking said plate against operation by certain keys on the keyboard, and means including a second sliding plate to release said locking means.

7. In a word-counting attachment for type-writing machines the combination with the keys of the keyboard, of a registering device, two plates arranged parallel and reciprocal in opposite directions, one of said plates connected with said registering device to operate the latter, connections between said plates and certain keys of the keyboard, and stop means interposed between the plates operating alternately to lock or to release the register-actuating plate.

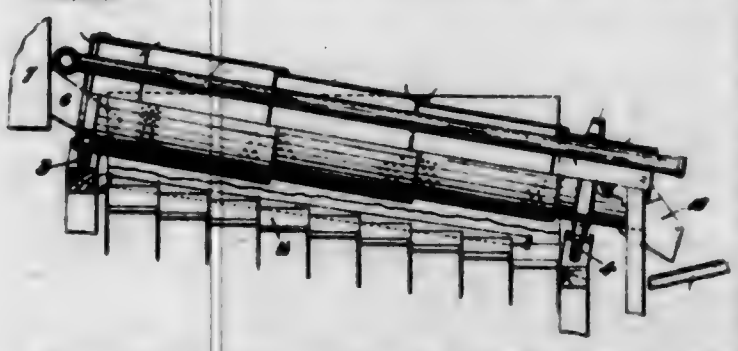
8. The combination with the keyboard of a type-writing machine, of two sliding plates, a registering device connected with one of said plates, means connected with the keys of the keyboard to actuate said plates, means engaging the register-actuating plate to prevent the actuation of said plate, and means operating through the medium of the other plate to release said stop means.

9. The combination with the keyboard of a type-writing machine, of a sliding plate, rock-shafts connected with the keys on the keyboard and passing through slots in said plate and having means to operate said plate in one direction, means tending to operate the plate in opposition to said rock-shaft operating means, a register mechanism operatably connected with said plate, and locking means to prevent the actuation of the plate.

10. The combination with the keyboard of a type-writing machine, of a sliding plate, rock-shafts connected with the keys on the keyboard and passing through slots in said plate and having means to operate said plate in one direction, means tending to operate the plate in opposition to said rock-shaft operating means, a register mechanism operatably connected with said plate, and means for locking the plate to prevent the actuation of the register.

11. The combination with the keyboard of a type-writing machine, of a sliding plate, rock-shafts connected with the keys on the keyboard and passing through slots in said plate and having means to operate said plate in one direction, means tending to operate the plate in opposition to said rock-shaft operating means, a register mechanism operatably connected with said plate, means to limit the actuation of said plate, and means to release said limiting means, said releasing means comprising a plate operatably connected with certain keys of said rock-shafts and movable in the direction of the first plate.

807,028. **GOLD WASHING AND SEPARATING SCREEN.** CHARLES W. GARDNER, Oroville, Cal. Filed Mar. 9, 1905. Serial No. 249,226.



Claim.—1. A tubular, perforated, revoluble metallic screen supported at an inclination, said screen being formed in sections diminishing in diameter from the upper to the lower end to form a series of dams adapted to retard the passage of material and cause the same to overflow into the smaller succeeding sections.

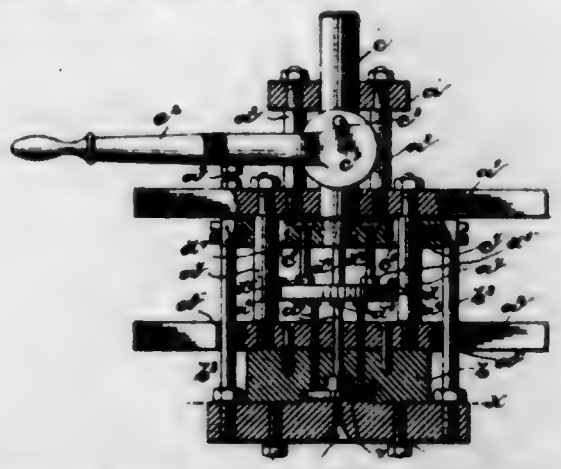
2. An inclined, tubular, revoluble screen consisting of perforated metallic sections of gradually-decreasing diameter, said sections each having a substantially uniform diameter from end to end, and having overlapping meeting ends, rings to which the meeting ends of the sections are secured, said rings forming dams adapted to retard the passage of the material and cause the same to overflow into the smaller succeeding sections, tread-bands surrounding the screen, and journaled rollers upon which said bands are supported.

3. An inclined, tubular, revoluble screen consisting of perforated metallic sections of gradually-decreasing diameter said sections each having a uniform diameter from end to end and having overlapping meeting ends, rings to which the meeting ends of the sections are secured said rings forming dams adapted to retard the passage of material and cause the same to overflow into the smaller succeeding sections, tread-bands surrounding the screen, rollers upon which the bands are supported and through which motion is transmitted to the screen, and thrust-bearing rollers adapted to prevent longitudinal movement of the screen in the direction of its axis.

4. An inclined, perforated revoluble cylinder composed of metallic sections decreasing in diameter from the upper to the lower end said sections each having a uniform diameter from end to end and one fitting within the other to form dams which retard the passage of material and cause the same to overflow into the smaller succeeding sections, and annular wear-plates fixed at the dams.

5. An inclined, perforated, revoluble screen, said screen composed of tubular metallic sections of successively-decreasing diameter from the upper to the lower end, and each having a uniform diameter from end to end, said sections fitting one within the other to form dams adapted to retard the passage of material and cause the same to overflow into the smaller succeeding sections, annular wear-plates fixed at the meeting ends of contiguous sections, rollers supporting the screen and communicating motion thereto, means for supplying material at the upper end of the screen, an annular upwardly-projecting flange to prevent backflow of material, and means for discharging waste at the lower end of the screen.

807,024. **MOLD FOR MAKING CASTINGS.** CHARLES D. GRIEBEL, BENJAMIN F. BILLEBRAN, and THOMAS A. LEGLER, Jr., Dayton, Ohio. Filed Feb. 8, 1905. Serial No. 244,739.



Claim.—1. In a device as described, a main frame, a two-part mold, one of said parts being secured to said frame, a plunger, an eccentric pivoted to said plunger and bearing upon adjacent oppositely-disposed portions of the main frame, connections between said plunger and the movable part of the mold, a second plunger, ejector means carried by said second plunger, means for transmitting movement to said second plunger by the movement of said first-mentioned plunger, substantially as specified.

2. In a device as described, a main frame, a two-part mold, one part of which is secured to said frame, a plunger, an eccentric pivoted to said plunger and bearing on adjacent portions of the main frame, connections from said plunger to the movable part of said mold, casting-ejector devices, means for giving to said casting-ejector devices a limited movement in either direction by the movement of said plunger, substantially as specified.

3. In a device as described, a main frame and a movable head mounted therein, a lever to move said head, a mold, the drag of which is secured to said main frame, the cope of which is secured to and movable with said movable head, casting-ejector devices adapted to be contacted and given a limited movement by said movable head near the limit of its stroke, and means to return said casting-ejector

devices to normal position by the movement of said movable head near the limit of its return stroke, substantially as specified.

4. In a device as described, a main frame, a movable head mounted therein, means for giving to said head a reciprocating movement, a mold, the drag of which is secured to said main frame, and the cope of which is secured to and movable with said head, casting-ejector devices, means whereby said head will be given a movement independent of said casting-ejector, means for giving to said head an additional movement coincident with the movement of said casting-ejector devices, means for giving to said head a return movement independent of said casting-ejector devices, means for giving to said head an additional return movement coincident with the return movement of said casting-ejector devices, substantially as specified.

5. In a machine as described a main frame, an operating-lever, a separable mold, a series of movable false cores forming a part of said mold, casting-ejector means, means connected with said operating-lever for operating all of said parts, viz. the separable mold, the false cores and the casting-ejector by a single operation of the lever and means for returning said parts to normal position by the reverse movement of said lever, substantially as specified.

6. In a device as described, a main frame, a movable head mounted therein, means giving to said head a reciprocating movement, a mold, the drag of which is secured to said main frame, and the cope of which is secured to said movable head, casting-ejector devices, false cores forming a part of said mold, a reciprocating member to operate the false cores upon the movement of the mold, means for giving to said cope an additional movement independent of said reciprocating member whereby the cope will be opened and the casting ejected, substantially as and for the purpose specified.

7. In a device as described, a separable mold, one or more drawbacks, protruding ends on said drawbacks, a lever member pivoted to each of said drawbacks, a longitudinally-movable member adapted when moved in one direction to operate said lever members and withdraw said drawbacks, and when moved in the opposite direction to contact the protruding ends of said drawbacks and return said drawbacks to normal position, an operating-lever, means for opening said mold and withdrawing said drawbacks by giving to the cope of said mold an initial movement independent of the movement of said drawbacks, and means for giving to said cope an additional movement simultaneous with the movement of said drawbacks through the operation of said operating-lever, substantially as specified.

8. In a device as described, a main frame, a mold, drawbacks forming a part of said mold, a longitudinally-movable member adapted upon movement to operate said drawbacks, an operating-lever, a link connected to said movable member, camways in said link, a projection on said main frame engaging one of said camways and a projection on said operating-lever engaging the other camway, substantially as and for the purpose specified.

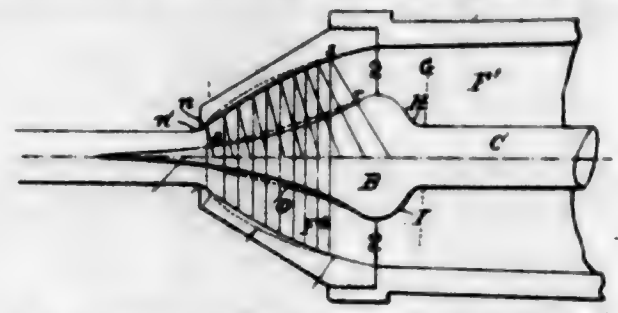
9. In a device as described, a mold, an operating-lever, drawbacks forming a part of said mold, protruding ends on said drawbacks, a lever member pivoted to each of said drawbacks, a longitudinally-movable member adapted when moved in one direction to operate said lever member and withdraw said drawbacks, and when moved in the opposite direction to contact the protruding ends of said drawbacks to return said drawbacks to normal position, means for simultaneously moving the cope of said mold and withdrawing said drawbacks by the operation of said lever, substantially as specified.

10. In a device as described, a separable mold, one or more casting-ejectors, an operating-lever, means for opening said mold and ejecting the casting by giving to the cope of said mold an initial movement independent of said casting-ejector, means for giving to said cope additional movement simultaneous with the movement of said casting-ejectors through the operation of said operating-lever, substantially as specified.

11. In a device as described, a separable mold for irregular casting, a casting-ejector, a drawback, an operating-lever, connections between said lever and said separable mold, connection between said lever and said casting-ejector, connection between said lever and said drawback, and means for operating all of said parts by the single operation of said lever, substantially as specified.

807,025. REGULATING-NOZZLE. GEORGE J. HENRY, Jr., San Francisco, Cal., assignor of one-half to The Pelton Water Wheel Co., San Francisco, Cal., a Corporation of California. Filed Dec. 20, 1904. Serial No. 237,991.

Claim.—1. A regulating-nozzle for the discharge of fluids, the same comprising a body portion, a tip united thereto, a plug provided with a needle portion, said plug being longitudinally movable within the nozzle, the surface of the plug and the inner surface of the tip being formed on such coacting curves that the series of equidistant annular cross-sections taken through the annular passage formed between the nozzle's tip and plug decreases at a constant ratio so as to impart to the moving fluid a constant acceleration of velocity during its flow toward the discharge-orifice of the nozzle.



2. A regulating-nozzle for the discharge of fluids, the same comprising a body portion, a tip secured thereto, a needle-plug located within the nozzle forming an annular passage for the stream between the tip and needle-plug, the surface of the needle portion of said plug being of parabolic form, the inner surrounding and directing surface of the nozzle-tip having such a curvature that the series of equidistant annular cross-sections taken through the annular passage for the stream's flow decreases at a constant ratio so as to cause a constant rate of acceleration in the body of fluid moving over the needle-surface of the plug.

3. A regulating-nozzle for the discharge of fluids, the same comprising a body portion, a tip united thereto, a longitudinally-movable plug located therein, and forming an annular passage for the flow of fluid between the plug and nozzle, the walls of the said annular passage for the flow of fluid being on such curves that the series of equidistant annular cross-sections of the annular passage decreases at a constant ratio so as to impart to the moving fluid a constant acceleration of velocity.

4. A regulating-needle for the discharge of fluids, the same comprising a body portion, a tip united thereto, a longitudinally-movable plug located therein to form an annular passage for the fluid, the walls of the said passage being on such curves that the series of equidistant annular cross-sections of the passage decreases at a constant ratio so as to cause a constant rate of acceleration in the body of fluid moving over the surface of the plug, the inner wall of the nozzle's tip immediately adjacent to and surrounding the discharge-orifice of the nozzle being constructed to permit of the jet's discharge from the said discharge-orifice without acceleration.

5. A regulating-nozzle for the discharge of fluids, the same comprising a body having a reduced outer portion, a plug located within the nozzle, the surface of the plug and the inner surface of the outer reduced portion of the nozzle being formed on such coacting curves that equidistant cross-sections taken through the passage formed between the reduced portion of the nozzle and the plug decrease at a constant ratio, so as to impart to the fluid moving therein a constant acceleration of velocity during its flow toward the discharge-orifice of the nozzle.

807,026. PROCESS OF CONVERTING CAST-IRON INTO IRON OR STEEL. PAUL L. T. HÉROULT, La Praz, France, assignor to Société Electro Métallurgique Française, Froges, Isère, France. Filed May 19, 1903. Serial No. 157,863.

Claim.—1. A process for converting cast-iron or the like into high-grade or "crucible" steel, which consists in first treating the metal in a Bessemer converter, then transferring it to an electric furnace in which it is finally treated to deoxidize and carburize it, substantially as described.

2. A process for converting cast-iron or the like into high-grade or "crucible" steel, which consists in first refining it by oxidation, and then transforming it in an electric furnace into the desired product.

3. A process for converting cast-iron or the like into high-grade or "crucible" steel, which consists in first refining it by oxidation, and then removing the slag and transferring the remainder to an electric furnace and there deoxidizing and transforming it into the desired product.

4. A process for converting cast-iron into iron or steel, which consists in first refining it by oxidation until any phosphorus contained has been practically completely oxidized, and then deoxidiz-

ing and transforming it in an electric furnace into the desired product.

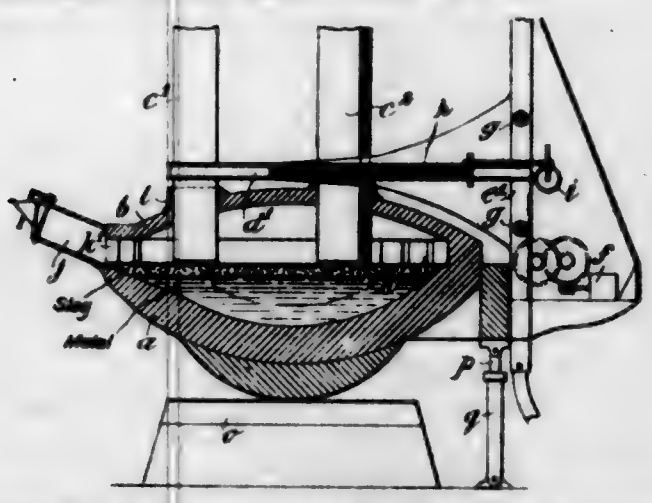
5. A process for converting cast-iron or the like into iron or steel of exceptional purity, which consists in first oxidizing it, continuing the oxidation until the mass is superoxidized beyond the point at which substantially all the carbon has been oxidized, and then transforming it in an electric furnace into the desired product.

6. A process of converting cast-iron or the like into high-grade or "crucible" steel, which consists in first refining it by oxidation beyond the point to which oxidation is ordinarily carried in the Bessemer process and until the content of harmful ingredients is sufficiently reduced for the manufacture of such steel, and then deoxidizing and transforming it into steel of the desired composition in the electric furnace.

7. A process for converting cast-iron or the like into high-grade or "crucible" steel, which consists in first refining it by oxidation beyond the point to which oxidation is ordinarily carried in the Bessemer process and until the content of harmful ingredients is sufficiently reduced for the manufacture of such steel, and then oxidizing and transforming it into steel of the desired composition under the application of the heat of an electric arc.

8. A process for converting cast-iron or the like into iron or steel, which consists in first refining it by oxidation until any phosphorus present has been practically completely oxidized, and then deoxidizing and transforming it into iron or steel of the desired composition under the application of the heat of an electric arc.

807,027. **STEEL-MIXING PROCESS.** PAUL L. T. HÉROULT, La Praz, France. Filed Apr. 19, 1905. Serial No. 256,365.



Claim.—1. In the treatment of steel, the process of mixing the products from a number of converters or the like, which consists in introducing them in a molten condition into a single receptacle, and maintaining the mass molten in said receptacle by heat from an electric current, removing portions only of the composite molten contents of the receptacle without entirely emptying the same, and successively replenishing the receptacle with fresh additions, whereby to secure uniformity of product from said number of converters, said process being carried on in a non-oxidizing atmosphere, whereby desulfuration and conservation of the oxidizable additions are favored.

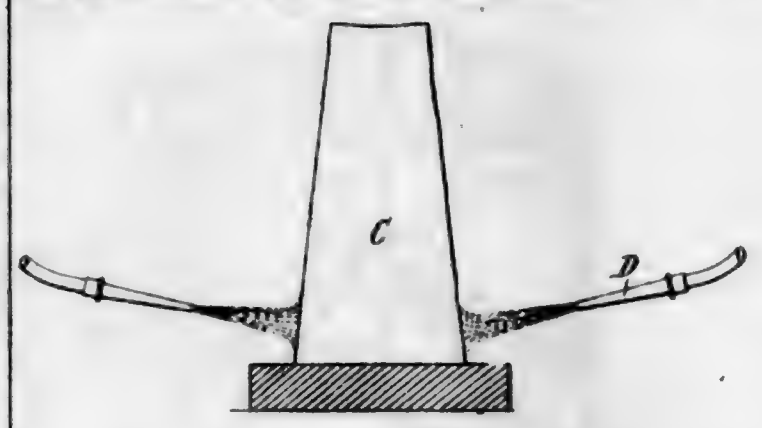
2. In the treatment of steel, the process which consists in introducing the steel, purified and deoxidized substantially as usual, and in a molten condition, into a receptacle, and maintaining it molten and in a non-oxidizing atmosphere, whereby desulfuration and conservation of the oxidizable additions are favored.

3. In the treatment of steel, the process which consists in introducing the steel, purified and deoxidized substantially as usual, and in a molten condition, into a closed receptacle, maintaining it molten in said receptacle, and supplying an oxygen-free gas within the receptacle, whereby desulfuration and conservation of the oxidizable additions are favored.

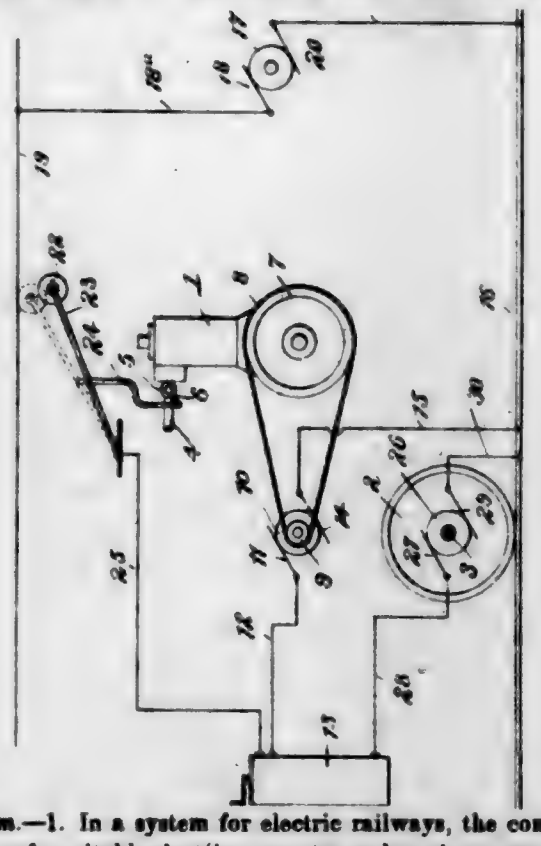
4. In the treatment of steel, the process which consists in introducing the steel in a molten condition into a receptacle, and maintaining it molten in said receptacle by the heat from an electric current, said process being carried on in a non-oxidizing atmosphere, whereby desulfuration and conservation of the oxidizable additions are favored.

807,028. **PROCESS OF OBTAINING SOUND INGOTS.** PAUL L. T. HÉROULT, La Praz, France, assignor to Société Electro Metallurgique Française, Froges, Isère, France. Filed June 14, 1905. Serial No. 265,174.

Claim.—The process of making sound ingots which consists in running the metal into a mold, permitting the ingot to harden sufficiently to form a solid shell while the interior is still substantially fluid, removing the mold, and applying a cooling fluid to the shell of the ingot to cause it to contract upon the central portion so as to prevent the formation of pipes in said central portion.



807,029. **SYSTEM OF ELECTRIC RAILWAYS.** JOSEPH H. HOADLEY, New York, N. Y. Filed Sept. 16, 1904. Serial No. 224,765.



Claim.—1. In a system for electric railways, the combination with a car of a suitable electric generator and a prime motor therefor carried on said car, and a suitable electric generator independent of and adapted to be connected to said car.

2. In a system for electric railways, the combination with a car, an internal-combustion engine mounted on said car, and means of electric generation operated by said engine, suitable stationary source of electric generation adapted to be connected with the car, and a motor driven by either of said generators.

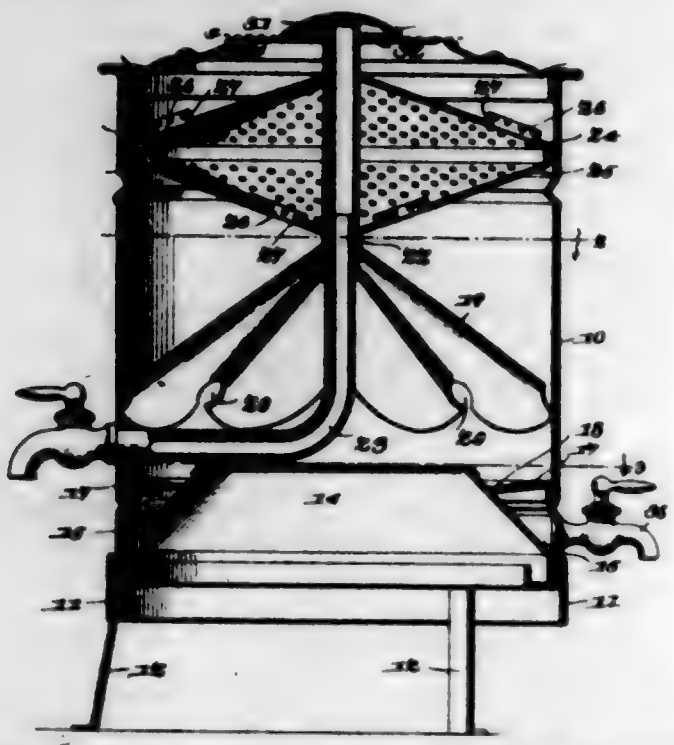
3. In a system for electric railways, the combination with a car, a combustion-engine on said motor, an electric generator operated by said engine, of an electric conductor adjacent the car, a suitable source of electric supply for said conductor, suitable connection between the car and the conductor, a motor for propelling the car and a controller interposed beween the motor and the two sources of power.

4. A motor-car comprising a motor on its axle, a prime mover, an electric generator operated by said prime mover, and connected electrically with said motor, a contact device connected electrically to said motor, and a controller interposed between the generator and contact device and said motor, in combination with a stationary source of power and a conductor adjacent said car leading from said stationary source and in position to be engaged by said contact device.

5. A motor-car comprising an engine, an electric generator operated by said engine, a motor operated by current generated by said generator, a contact device on said car, means operated by movement of the contact device for shutting off the engine, and a controller interposed between the contact device, the generator and said motor in combination with a stationary source of power, and a con-

ductor leading therefrom adjacent the car and in position to be engaged by said contact device.

807,030. WATER-HEATER. RUFUS J. HUTCHINS, Austin, Tex. Filed Dec. 23, 1904. Serial No. 238,127.



Claim.—1. In a water-heater, a casing, a plurality of disks arranged therein and provided with minute perforations for the passage of water, said disks being inclined, and their lower surfaces forming supports for a film of water exposed to the direct action of a heating agent, and to which the water clings in its downward passage or flow, the disks being further provided with openings for the passage of the heating agent.

2. In a water-heater, a casing, perforated disks disposed therein and provided with minute perforations for the passage of water, said disks inclining, respectively, in opposite directions, and their lower surfaces forming a support to which the water clings in its downward passage or flow in the form of a film after its passage through the perforations, the disks being further provided with flanged openings disposed in staggered relation to form a tortuous passage for the heating agent.

3. In a water-heater, a casing, a centrally-disposed water-supply pipe, a disk inclined downward from the pipe toward the wall of the casing, said disk being provided with minute perforations to permit the passage of the water to the under side of the disk where it may cling in its downward passage or flow in the form of a thin film, said disk being further provided with flanged openings for the passage of a heating agent, and a sprayer or rose arranged at the upper portion of the water-pipe.

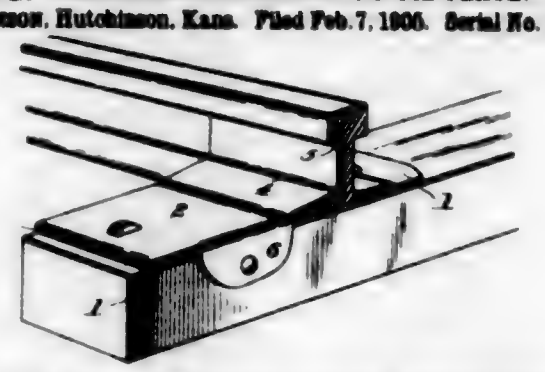
4. The combination in a water-heater, of a casing arranged for the passage of a heating agent in an upward direction, an inclined disk having minute perforations to permit the passage of the water to its under surface where the water may cling in its downward passage or flow in the form of a thin film exposed to the direct action of the heating agent, the disk being further provided with larger openings for the passage of such heating agent.

5. The combination in a water-heater, of a casing, a centrally-disposed water-supply pipe, a perforated disk secured thereto and provided with openings for the passage of a heating agent, a fluted conical disk arranged to receive the water flowing from the perforated disk, and to direct the same against the inner wall of the casing, said conical disk being provided with openings or recesses for the passage of the heating agent.

6. The combination in a water-heater, of a casing having a vertical side wall and a bottom, inclined upward and inward and forming a continuous circular open space, said bottom forming, in connection with the side wall of the casing, an annular reservoir for hot water, and the inner face of the bottom forming a condensing-surface, a trough at the lower end of the bottom for collecting water of condensation, and a conical shield arranged within the casing and extending continuously over the whole of the open space of the bottom and serving to deflect the downwardly-passing stream of water from the center toward the side walls of the casing, substantially as specified.

7. The combination in a water-heater, of a base, a casing seated thereon and having an inwardly and forwardly directed bottom portion provided with a central opening for the passage of a heating agent, an inclined ring secured to the casing and adapted to direct water into contact with said bottom portion, a centrally-disposed water-supply pipe having a telescopically-fitting upper section, a conical disk secured to said upper section and provided with flutings or corrugations for directing water into contact with the inner wall of the casing and having peripheral slots or openings for the passage of water and a heating agent, a plurality of foraminous disks also secured to said upper section and inclining, respectively, in opposite directions, said foraminous disks being provided with flanged openings for the passage of a heating agent, a spraying device or rose secured to the top of the upper section, and a detachable cover having a central opening for the passage of the heating agent.

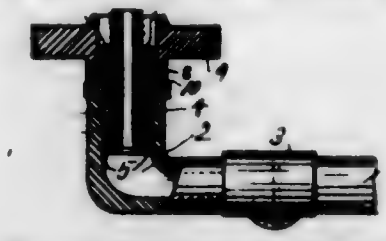
807,031. COMBINED RAIL-BRACE AND TIE-PLATE. DEWITT C. JOHNSON, Hutchinson, Kans. Filed Feb. 7, 1905. Serial No. 244,533.



Claim.—1. In a combined rail-brace and tie-plate made of a single piece of metal and having the rail-brace bent up from the tie-plate approximately to the contour of the rail, and having said rail-brace terminating in an abutting edge to fit the under surface of the head of the rail and means for securing the rail-brace and tie-plate to the tie substantially as described.

2. In a combined tie-plate and rail-brace, comprising a tie-plate having an end turned upon itself to form a rail-brace, said rail-brace terminating in an abutting edge adapted to support the web of the rail, and ears formed integral with the rail-brace and bent at an angle to the brace, means for securing the rail-brace and tie-plate to the tie as and for the purpose set forth.

807,032. COUPLING FOR TIRE-CHARGING VALVES. GEORGE W. KELLOGG, Rochester, N. Y. Filed Feb. 1, 1905. Serial No. 243,099.



Claim.—1. In a coupling, the combination of the hose-fixture a coupling to connect said fixture with a hose, the rotatable tube 12 having one end screw-threaded and having at its other end a stop 5, the externally-threaded sleeve situated between the tube and fixture to connect the same, and means for rotating the tube to screw it into a corresponding tube or nipple.

2. In a coupling, the combination of the hose-fixture, the screw-threaded tube having at its inner end a stop, the sleeve to connect the tube and hose-fixture, means for rotating the tube for screwing it into a corresponding tube or nipple said means consisting of a thumb-piece, and packing between the thumb-piece and tube.

3. In a coupling, the combination of the hose-fixture, the screw-threaded tube having at its inner end a stop, the sleeve to connect the tube and hose-fixture, means for rotating the tube to screw it into a corresponding tube or nipple, and packing between the thumb-piece and tube, said tube having a seat for the packing.

4. In a coupling, the combination of a hose-fixture, a tube rotatively connected thereto, means to rotate the tube to connect it to a nipple, and a packing holding the thumb-piece on the tube.

5. In combination the tube 7 having the flange and screw-threaded at one end to fit a nipple or the like, the thumb-piece, the packing between the tube and thumb-piece, and means for connecting the tube to a hose-fixture, said packing being compressed between the thumb-piece and tube and the latter provided with a seat for the packing.

6. In combination the tube 7 having the flange screw-threaded at one end to fit a nipple or the like, the thumb-piece, the packing between the tube and thumb-piece, means for connecting the tube to a

hose-fixture, said packing being compressed between the thumb-piece and tube and the latter provided with a seat for the packing, and a packing between the tube-flange and said connecting means substan tially as set forth, whereby both packings may be compressed by rotating the thumb-piece.

807,033. GAS-HOLDER TANK. AUGUST KLÖNNE, Dortmund, Germany. Filed Jan. 6, 1905. Serial No. 239,933.



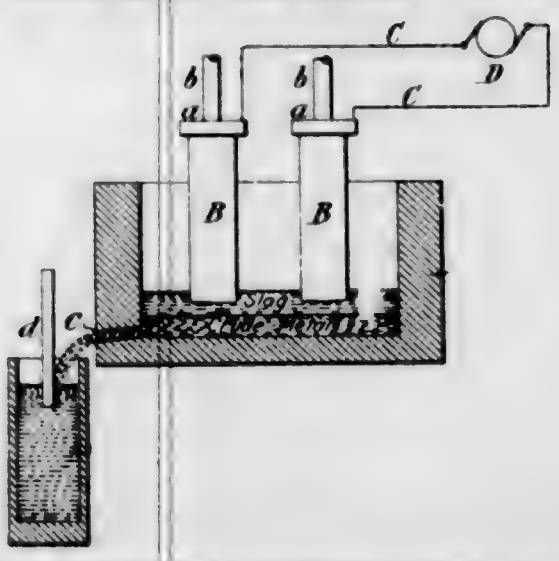
Claim.—1. A tank for gas-holders and the like, consisting of the combination of an annular tank proper having inner and outer walls, a roof covering the inner space formed by the inner wall of said annular tank, said roof having a depression at its center adapted to contain water, and means for trussing the roof and said inner wall, substantially as and for the purpose set forth.

2. A tank for gas-holders and the like, consisting of the combination of an annular tank proper having inner and outer walls, a roof covering the inner space formed by the inner wall of said annular tank, said roof having in its central portion a suspended vessel adapted to contain water, and means for trussing the roof and said inner wall, substantially as and for the purpose set forth.

3. A tank for gas-holders and the like, consisting of the combination of an annular tank proper having inner and outer walls, a roof covering the inner space formed by the inner wall of said annular tank, said roof having a depression at its center adapted to contain water, and jointed beams within the inner space surrounded by the inner wall of the annular tank for trussing the roof and said inner wall, substantially as and for the purpose set forth.

4. A tank for gas-holders and the like, consisting of the combination of an annular tank proper having inner and outer walls, a roof covering the inner space formed by the inner wall of said annular tank, said roof having in its central portion a suspended vessel adapted to contain water, the upper portion of said vessel projecting above said roof, a framework on said roof for supporting the gas-holder in its lowest position, and means for trussing the roof and said inner wall, substantially as described.

807,034. PROCESS OF DECARBURIZING. FRANZ VON KÜGELGEN and GEORGE O. SEWARD, Holcombs Rock, Va., assignors to The Willson Aluminum Company, New York, N. Y., a Corporation of New York. Filed Jan. 16, 1904. Serial No. 189,273.



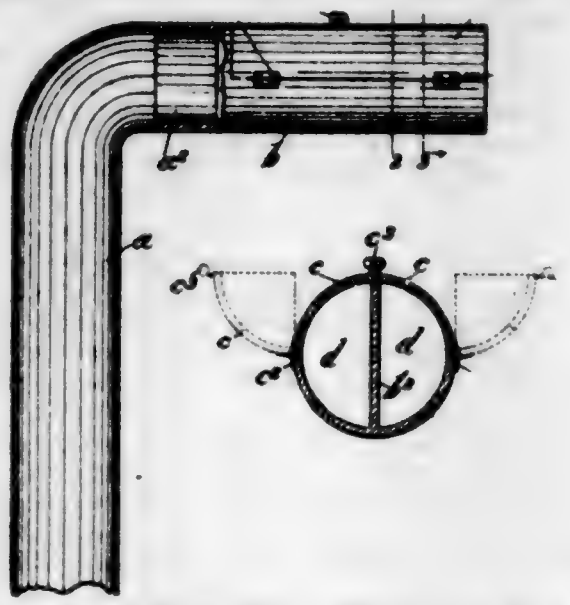
Claim.—1. Decarburizing a metalliferous substance by fusing it as an electrode in presence of a substance having a high affinity for carbon.

2. Decarburizing a metalliferous substance by electrically fusing it as an electrode in absence of carbonaceous material and in presence of a substance having a high affinity for carbon.

3. Producing a metal or alloy low in carbon by first reducing it in presence of carbonaceous material to produce a metal or alloy high in carbon, and then decarburizing the same by fusing it as an electrode in absence of carbonaceous material and in presence of a substance having a high affinity for carbon.

4. Producing low-carbon ferrochrome by first reducing the ore in presence of carbonaceous material to produce a product high in carbon, and then decarburizing the same by fusing it as an electrode in absence of carbonaceous material and in presence of a substance having a high affinity for carbon.

807,035. UMBRELLA-STICK AND CANE. JEAN LANDES and HENRY LANDES, New York, N. Y. Filed Mar. 14, 1905. Serial No. 249,880.



Claim.—1. An umbrella-stick, walking-cane or the like, the handle of which is provided with a cylindrical box or casing which forms a part thereof, said box or casing being provided with a longitudinal and vertical partition and the top side portions thereof being formed into doors which are hinged at the opposite sides of the box or casing, and means for holding said doors in a closed position, substantially as shown and described.

2. An umbrella-stick, walking-cane or the like, provided with a cylindrical box or casing which forms a part of the handle thereof, said box or casing being provided with a longitudinal and vertical partition forming separate chambers, and the top side walls of the box or casing being formed into doors which are hinged at the opposite sides of the box or casing, substantially as shown and described.

807,036. SAND-BLAST MACHINE. GEORGE W. LEIMAN and WILLIAM H. LEIMAN, New York, N. Y. Filed June 3, 1905. Serial No. 263,545.


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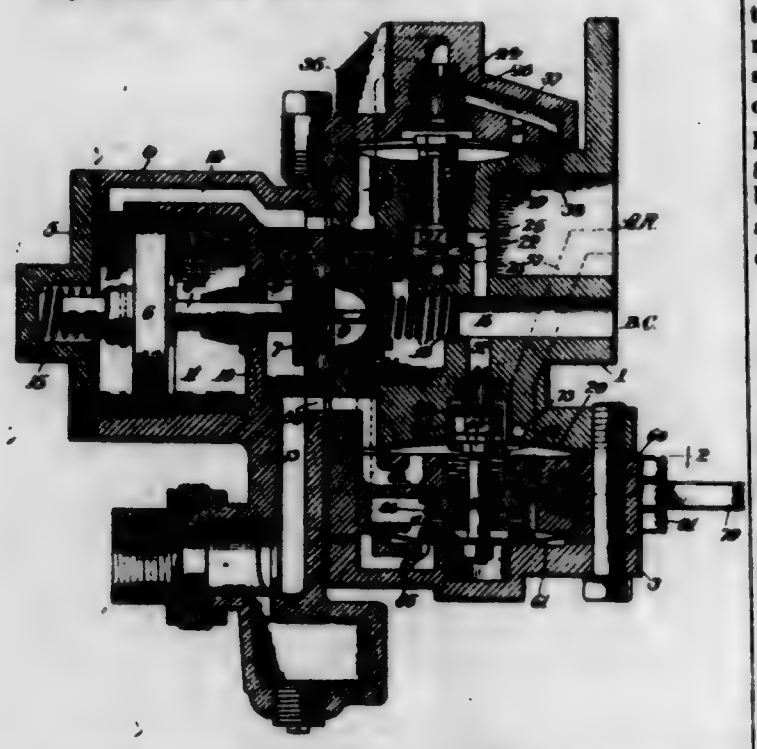
tube connected with the sand-receptacle for lifting dry sand from the receptacle through the sand-feed tube.

3. A sand-blast machine comprising a mixing-chamber, a sand-ejecting nozzle connected with the mixing-chamber, an air-jet tube projecting into the chamber in alinement with the sand-ejecting nozzle, a sand-receptacle, a sand-feed tube having a funnel-shaped inlet located within the sand-receptacle and having its opposite end connected with the side of the mixing-chamber at a point above the mouth of the air-jet tube and an air-tube connecting the air-supply pipe with the interior of the sand-receptacle below the mouth of the said feed-pipe whereby suction is produced upon one end of the sand-feed pipe and pressure upon the opposite end by the action of the air.

4. In a sand-blast machine, the combination with a sand-receptacle, a sand-ejecting nozzle, means for directing an air-jet through the sand-ejecting nozzle and means for directing an air-jet to the interior of the sand-receptacle, of a sand-feed pipe having its discharge end located in proximity to the air-jet directed through the sand-ejecting nozzle and its inlet end within the sand-receptacle in proximity to the end of the air-jet pipe connected therewith whereby suction is produced at one end of the said feed-pipe and pressure at the opposite end.

5. In a sand-blast machine, the combination with a sand-receptacle, a sand-feed pipe and an air-jet located in the sand-receptacle for lifting the sand from the receptacle into the sand-feed pipe, of a mechanical agitator located at the juncture of the sand-receptacle and air-jet pipe for loosening the sand in starting the machine.

807,037. **FLUID-PRESSURE BRAKE.** WILLIAM P. A. MACFARLANE, Chicago, Ill., assignor to Richard Fitzgerald, Chicago, Ill. Filed July 18, 1905. Serial No. 270,216.



Claim.—1. In a device for actuating fluid-pressure brakes, the combination with the service-valve mechanism actuated by variations in train-pipe pressure, of means for closing the service-valve and acting to so close the valve only when the brake-cylinder pressure exceeds a predetermined maximum amount.

2. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism actuated by variations in train-pipe pressure, of fluid-pressure-actuated means for closing the service-valve and acting to so close the valve only when the brake-cylinder pressure exceeds a predetermined maximum amount.

3. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism actuated by variations in train-pipe pressure, of means under the control of the brake-cylinder pressure for closing the service-valve and acting to so close the valve only when the brake-cylinder pressure exceeds a predetermined maximum amount.

4. In a device for actuating fluid-pressure brakes, the combination with the service-valve mechanism actuated by variations in train-pipe pressure, of fluid-pressure-actuated mechanism under the control of the brake-cylinder pressure and arranged to hold the service-valve closed when the brake-cylinder pressure exceeds a predetermined maximum amount.

5. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a movable abutment under the control of the brake-cylinder pressure and inactive during ordinary graduating action of the service-valve mechanism, said abutment having a projection arranged, when the abutment is operated by excess brake-cylinder pressure, to coöperate with the service-valve and hold the same closed when the brake-cylinder pressure exceeds a predetermined maximum amount.

6. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a movable abutment under the control of the brake-cylinder pressure, and a stem or plunger actuated by the abutment and arranged to be projected into the path of movement of the service-valve and, when operated by excess brake-cylinder pressure, to hold such valve closed.

7. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism actuated by variations in train-pipe pressure, of a movable abutment normally exposed on one side to atmospheric pressure and on the other side to brake-cylinder pressure when the brakes are applied, and means operated by such abutment for controlling the action of the service-valve and arranged to close the latter only when the brake-cylinder pressure exceeds a predetermined maximum amount.

8. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism actuated by variations in train-pipe pressure, of a movable abutment normally exposed on one side to atmospheric pressure and on the other side to brake-cylinder pressure when the brakes are applied, said abutment being normally held with a yielding pressure corresponding with the predetermined pressure to be permitted in the brake-cylinder, and means operated by such abutment for controlling the action of the service-valve and arranged to close the latter when the brake-cylinder pressure exceeds a predetermined amount.

9. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a movable abutment normally exposed on one side to atmospheric pressure and on the other side to brake-cylinder pressure when the brakes are applied, a spring coöperating with the abutment and opposing the brake-cylinder pressure with a tension corresponding with the predetermined degree of pressure desired in the brake-cylinder, and means operated by such abutment for controlling the action of the service-valve and arranged to close the latter when the brake-cylinder pressure exceeds a predetermined amount.

10. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a movable abutment normally exposed on one side to atmospheric pressure and on the other side to brake-cylinder pressure when the brakes are applied, a spring coöperating with the abutment and opposing the brake-cylinder pressure with a tension corresponding with the predetermined degree of pressure desired in the brake-cylinder, means for adjusting the tension of said spring, and means operated by such abutment for controlling the action of the service-valve and arranged to close the latter when the brake-cylinder pressure exceeds a predetermined amount.

11. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a movable abutment normally exposed on one side to atmospheric pressure and on the other side to brake-cylinder pressure when the brakes are applied, a spring coöperating with the abutment and opposing the brake-cylinder pressure with a tension corresponding with the predetermined degree of pressure desired in the brake-cylinder, an adjustable spring-seat by whose adjustment the tension of the spring is regulated, and means operated by such abutment for controlling the action of the service-valve and arranged to close the latter when the brake-cylinder pressure exceeds a predetermined amount.

12. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a diaphragm controlled by brake-cylinder pressure and normally subject to a pressure equaling a predetermined brake-cylinder pressure, and a stem carried thereby and arranged to be projected to interfere with and close the service-valve when the brake-cylinder pressure exceeds such predetermined amount.

13. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a diaphragm controlled by brake-cylinder pressure, a spring opposing the brake-cylinder pressure, and a stem carried by the diaphragm and arranged to be projected to interfere with and close the service-valve when the brake-cylinder pressure exceeds the predetermined amount represented by said spring.

14. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a diaphragm controlled by brake-cylinder pressure, a spring opposing the brake-cylinder

pressure, an adjustable seat for said spring to vary the tension thereof, and a stem carried by the diaphragm and arranged to be projected to interfere with and close the service-valve when the brake-cylinder pressure exceeds the predetermined amount.

15. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a diaphragm controlled by brake-cylinder pressure, a spring opposing the brake-cylinder pressure, an adjustable seat for said spring to vary the tension thereof, a spring-seat on the diaphragm to receive the spring, and a stem carried by the diaphragm and arranged to be projected to interfere with and close the service-valve when the brake-cylinder pressure exceeds the predetermined amount.

16. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of a diaphragm controlled by brake-cylinder pressure, a spring opposing the brake-cylinder pressure, a stem carried by the diaphragm and arranged to be projected to interfere with and close the service-valve when the brake-cylinder pressure exceeds the predetermined amount, and a stuffing-box for such stem.

17. In a valve device for actuating fluid-pressure brakes in which the service-valve mechanism is independent of the brake-release and emergency mechanisms, mechanism under the control of the brake-cylinder pressure for holding the service-valve closed when the brake-cylinder pressure exceeds a predetermined amount.

18. In a valve device for actuating fluid-pressure brakes in which the service-valve mechanism is independent of the brake-release and emergency mechanisms, fluid-pressure-operated mechanism under the control of the brake-cylinder pressure for holding the service-valve closed when the brake-cylinder pressure exceeds a predetermined amount.

19. In a valve device for actuating fluid-pressure brakes, in which the service-valve mechanism is independent of the brake-release and emergency mechanisms, mechanism under the control of the brake-cylinder pressure for holding the service-valve closed when the brake-cylinder pressure exceeds a predetermined amount, said last-named mechanism being arranged to resist the brake-cylinder pressure, and means for varying the degree of such resistance.

20. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed when the brake-cylinder pressure exceeds a predetermined amount, and means for rendering said last-named mechanism inoperative at the will of the operator.

21. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed when the brake-cylinder exceeds a predetermined amount, and manually-operated means for rendering said last-named mechanism inoperative.

22. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed when the brake-cylinder exceeds a predetermined amount, comprising a movable abutment having a stem arranged to be projected into the path of movement of the service-valve, said abutment being exposed on one side to brake-cylinder pressure and on the other side to atmospheric pressure for empty-car braking, and means for admitting pressure to that side of the abutment thus exposed to atmospheric pressure for loaded-car braking.

23. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed when the brake-cylinder pressure exceeds a predetermined amount, comprising a movable abutment having a stem arranged to be projected into the path of movement of the service-valve, said abutment being exposed on one side to brake-cylinder pressure and on the other side to atmospheric pressure for empty-car braking, and means for admitting auxiliary-reservoir pressure to that side of the abutment thus exposed to atmospheric pressure for loaded-car braking.

24. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed when the brake-cylinder exceeds a predetermined amount, comprising a movable abutment having a stem arranged to be projected into the path of movement of the service-valve, said abutment being exposed on one side to brake-cylinder pressure and on the other side to atmospheric pressure for empty-car braking, and means under the control of the operator for closing the communication between said abutment and the atmosphere and simultaneously admitting auxiliary-reservoir pressure to the abutment to oppose the brake-cylinder pressure.

25. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed when the brake-cylinder exceeds a predetermined amount, comprising a movable abutment having a stem arranged to be projected into the path of movement of the service-valve, said abutment being exposed on one side to brake-cylinder pressure and on the other side to atmospheric pressure for empty-car braking, and means for closing the communication between said abutment and the atmosphere and simultaneously admitting auxiliary-reservoir pressure to the abutment to oppose the brake-cylinder pressure, said means comprising a valve controlling the flow of said auxiliary-reservoir pressure, and a stem connected with said valve for operating it.

26. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed when the brake-cylinder exceeds a predetermined amount, comprising a movable abutment having a stem arranged to be projected into the path of movement of the service-valve, said abutment being exposed on one side to brake-cylinder pressure and on the other side to atmospheric pressure for empty-car braking, and means for closing the communication between said abutment and the atmosphere and simultaneously admitting auxiliary-reservoir pressure to the abutment to oppose the brake-cylinder pressure, said means comprising a spring-pressed valve controlling the flow of said auxiliary-reservoir pressure, and a stem having manually-operated means for actuating the same.

27. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed, when the brake-cylinder exceeds a predetermined amount, comprising a movable abutment having a stem arranged to be projected into the path of movement of the service-valve, said abutment being exposed on one side to brake-cylinder pressure and on the other side to atmospheric pressure for empty-car braking, said abutment operating in a chamber and constantly exposed to brake-cylinder pressure on one side and on the other side normally exposed to atmospheric air, a valve-chamber arranged at one side of and communicating with the abutment-chamber and normally at exhaust, a valve in the valve-chamber for closing said exhaust and at the same time opening the chamber to auxiliary-reservoir air which is thereby admitted to the abutment-chamber to oppose the brake-cylinder pressure.

28. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed when the brake-cylinder exceeds a predetermined amount, comprising a movable abutment having a stem arranged to be projected into the path of movement of the service-valve, said abutment being exposed on one side to brake-cylinder pressure and on the other side to atmospheric pressure for empty-car braking, said abutment operating in a chamber and constantly exposed to brake-cylinder pressure on one side and on the other side normally exposed to atmospheric air, a valve-chamber arranged at one side of and communicating with the abutment-chamber and normally at exhaust, a spring-pressed valve in the valve-chamber for closing said exhaust and at the same time opening the chamber to auxiliary-reservoir air which is thereby admitted to the abutment-chamber to oppose the brake-cylinder pressure.

29. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of mechanism under the control of brake-cylinder pressure for holding the service-valve closed when the brake-cylinder exceeds a predetermined amount, comprising a movable abutment having a stem arranged to be projected into the path of movement of the service-valve, said abutment being exposed on one side to brake-cylinder pressure and on the other side to atmospheric pressure for empty-car braking, said abutment operating in a chamber and constantly exposed to brake-cylinder pressure on one side and on the other side normally exposed to atmospheric air, a valve-chamber arranged at one side of and communicating with the abutment-chamber and normally at exhaust, a valve in the valve-chamber for closing said exhaust and at the same time opening the chamber to auxiliary-reservoir air which is thereby admitted to the abutment-chamber to oppose the brake-cylinder pressure, a valve-stem connected with the valve, and a coiled spring surrounding the stem and tending to close the valve against the reservoir-pressure.

30. The combination of a casing containing service, brake-re

lease and emergency mechanisms, and means also arranged within said casing for closing communication between the auxiliary reservoir and brake-cylinder and normally inactive but arranged to act when the brake-cylinder pressure has reached a predetermined amount, regardless of the pressure in the auxiliary reservoir.

31. In a device for braking cars according to weight empty and loaded, the combination, with the triple-valve and the service-valve mechanisms thereof, of means arranged to close the service-valve when, in empty-car braking, the brake-cylinder pressure reaches a predetermined amount, and mechanism for rendering said means inoperative.

32. The combination of a casing containing service, brake-release and emergency mechanisms, the service mechanism being independent of the other mechanisms, and means also arranged in the casing for controlling the operation of the service mechanism and arranged to hold the same to a position preventing the flow of auxiliary-reservoir pressure to the brake-cylinder when the brake-cylinder pressure exceeds a predetermined amount.

33. In a device for actuating fluid-pressure brakes of the species in which the service, brake-release and emergency mechanisms are independent, physically and operatively, the combination, with the service mechanism, of means for rendering the same inoperative when the brake-cylinder pressure exceeds a predetermined amount.

34. In a valve device for actuating fluid-pressure brakes in which the service-valve is independent of the brake-release and emergency valves, means for closing the service-valve when the brake-cylinder pressure exceeds a predetermined amount.

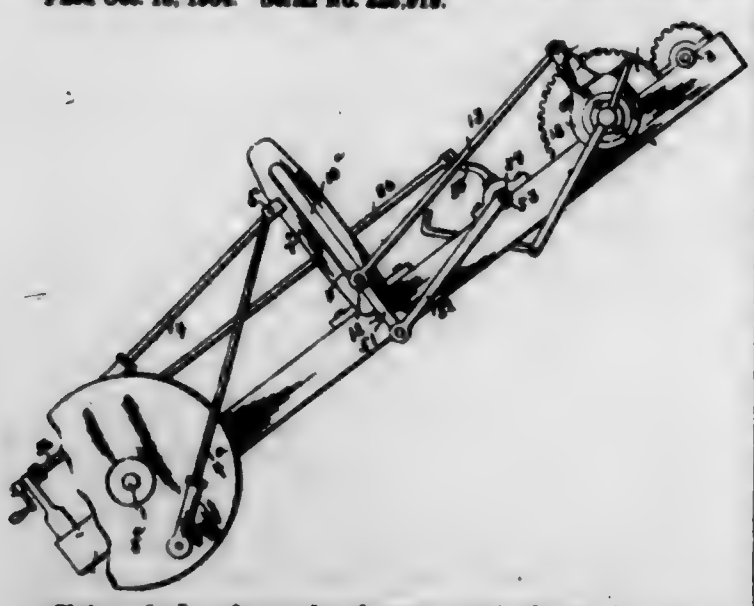
35. In a valve device for actuating fluid-pressure brakes in which the service-valve is independent of the brake-release and emergency valves, controlling means for closing the service-valve when the brake-cylinder pressure exceeds a predetermined amount, and means for rendering said controlling means inoperative.

36. In a valve device for actuating fluid-pressure brakes in which the service-valve is independent of the brake-release and emergency valves, controlling means for closing the service-valve when the brake-cylinder pressure exceeds a predetermined amount, said controlling means being normally in operative condition, and means for rendering such controlling means inoperative at the will of the operator.

37. In a device for actuating fluid-pressure brakes, the combination, with the service-valve, of mechanism arranged to hold the service-valve closed when the brake-cylinder pressure exceeds a predetermined amount, and means for rendering said last-named mechanism inoperative at the will of the operator.

38. In a device for actuating fluid-pressure brakes, the combination, with the service-valve mechanism, of means inactive during graduation operations of the service-valve but arranged to act to close the service-valve when the brake-cylinder pressure reaches or exceeds a predetermined maximum amount.

807,088. **REVERSIBLE VARIABLE SPEED AND POWER TRANSMISSION MECHANISM.** JOHN G. MACPHERSON, Philadelphia, Pa., assignor, by direct and mesne assignments, of two-thirds to Robert P. Murphy and one-third to Ralph L. Galt, Washington, D. C. Filed Oct. 18, 1904. Serial No. 228,919.



Claim.—1. In a forward-and-reverse variable speed and power transmitting mechanism, the combination with a fixed-speed continuously-revolving driving-shaft, a driven shaft and an intermediate driven shaft, of a variable speed and power transmitting mechanism connected with the driving-shaft and the intermediate driven shaft and consisting of a pair of rocking frames for regulating the speed of the intermediate shaft, rods having one end slidably mounted in said rocking frames, so as to be limited in their forward and rearward movement, and a series of gripping members for regulating the direction of the movement of the driven shaft, said gripping members being so constructed as to grip the entire surface to which they are attached.

2. In a forward-and-reverse variable speed and power transmitting mechanism, the combination with a fixed-speed continuously-revolving driving-shaft, an intermediate driven shaft and a driven shaft, of variable speed and power transmitting mechanism, consisting of a pair of rocking frames for regulating the speed of the intermediate driven shaft, a pair of rods each having one end slidably connected to its respective rocking frame, and gripping members arranged in pairs operably connected to the other end of said rods, the said gripping members being so constructed as to grip the entire surface to which they are attached.

3. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a base, a continuously-revolving fixed-speed driving-shaft, mounted thereon, an intermediate driven shaft mounted thereon and a driven shaft mounted thereon, sliding rocking frames operably connected to the driving-shaft, oppositely-working gripping members connected to each end of the intermediate driven shaft, mechanism slidably connected to each of the rocking frames and to each pair of the gripping members for imparting motion to the gripping members and mechanism for controlling the gripping members to control the movement of the intermediate driven shaft, said gripping members being so constructed as to grip the entire surface to which they are attached.

4. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a base, a fixed-speed continuously-revolving driving-shaft mounted on one end thereof, an intermediate driven shaft and a driven shaft mounted in the other end thereof, a pair of slotted rocking frames mounted upon the base and oppositely connected to the intermediate shaft so as to be rocked simultaneously in opposite directions, two pairs of gripping members one pair of each being operably connected to the opposite ends of the driven shaft and one of each pair being adapted to coact to operate the intermediate driven shaft forward or reverse, said gripping members being so constructed as to grip the entire surface to which they are attached, mechanism for controlling the operation of said gripping members, and mechanism operably connected with the rocking frames and the gripping members for regulating the speed at which the gripping members are operated.

5. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, two pairs of oppositely-arranged coned collars one pair mounted on each end of the intermediate shaft, gripping members surrounding each collar and arranged in pairs, and mechanism for varying the speed of the gripping members operably connected therewith and with the driving-shaft.

6. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate and a driven shaft, rocking frames operably connected to the driving-shaft, gripping mechanism connected to the intermediate driven shaft for operating the same, mechanism for controlling the gripping mechanism to cause the intermediate shaft to be moved forward or reverse, and mechanism connected to the gripping mechanism and the rocking frames for varying the speed transmitted from the driving to the driven shaft, said gripping mechanism being so constructed as to grip the entire surface to which it is attached.

7. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, a pair of oppositely-arranged collars mounted on each end of the intermediate driven shaft, gripping members, one to each collar adapted to surround and engage the same for transmitting motion to the intermediate driven shaft, said gripping members being arranged in oppositely-operating pairs, mechanism for varying the speed of the gripping members operably connected therewith and with the driving-shaft, and mechanism for controlling the gripping members so that two of them will operate upon the intermediate shaft while the other two are idle.

8. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, a

pair of oppositely-arranged collars mounted at each end of the intermediate driven shaft, gripping members, one to each collar adapted to surround and engage the same for transmitting motion to the intermediate driven shaft, said gripping members being arranged in oppositely-operating pairs, mechanism for varying the speed of the gripping members operably connected therewith and with the driving-shaft, and releasing mechanism for engaging the gripping members in pairs so that two at a time will be released from engagement with their collars.

9. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, a pair of oppositely-arranged gripping members mounted upon each end of said intermediate driven shaft one of each pair adapted to operate the shaft in opposite directions from the other, mechanism for varying the speed of the gripping members operably connected therewith and with the driving-shaft, and mechanism for releasing one of each pair of the gripping members at a time for the purpose set forth.

10. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, a pair of oppositely-arranged collars mounted upon each end of the intermediate driven shaft, gripping members, one to each collar adapted to surround and engage the same for transmitting motion to the intermediate driven shaft, said gripping members being arranged in oppositely-operating pairs, mechanism for varying the speed of the gripping members operably connected therewith and with the driving mechanism, and means for engaging each gripping member, said means being arranged so that two of the gripping members are operated upon at a time so that the proper pair will be released from engagement with the collars.

11. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, a pair of collars mounted upon each end of the intermediate driven shaft, gripping members, one to each collar adapted to surround and engage the same for transmitting motion to the intermediate driven shaft, said gripping members being arranged in oppositely-operating pairs, mechanism for varying the speed of the gripping members operably connected therewith and with the driving-shaft, and pins arranged in pairs adapted to operate upon the gripping members for releasing the proper ones from engagement, for the purpose set forth.

12. In a forward-and-reverse variable power and speed transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, a pair of oppositely-arranged gripping members mounted upon each end of said intermediate shaft, one member of each pair being adapted to be operated in unison to revolve the shaft, mechanism for varying the speed of the gripping members operably connected therewith and with the driving-shaft, and a pair of pins for each pair of gripping members adapted to engage the gripping members for releasing the proper ones from engagement, for the purpose set forth.

13. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven shaft and a driven shaft, a pair of oppositely-arranged gripping members mounted upon each end of said intermediate shaft, one member of each pair being adapted to be operated in unison to revolve the shaft, mechanism for varying the speed of the gripping members operably connected therewith and with the driving-shaft, and means arranged in pairs for operating upon the gripping members for releasing the proper ones from engagement, for the purpose set forth.

14. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a continuously-revolving driving-shaft, an intermediate driven and a driven shaft, means for regulating the speed of the intermediate driven shaft and mechanism for imparting motion to the intermediate driven shaft, comprising a series of gripping members arranged in pairs upon opposite ends of the intermediate driven shaft, each one of the gripping members consisting of an open spring-ring surrounding the shaft whereby when the member is pulled toward the opening in the spring-ring the shaft is gripped and motion transmitted thereto.

15. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a continuously-revolving fixed-speed driving-shaft, an intermediate driven and a driven shaft, means for regulating the speed of the intermediate driven shaft, mechanism for imparting motion thereto, comprising a series of gripping members arranged in pairs connected to the opposite ends of the intermediate driven shaft, each gripping member consisting of an open spring-ring surrounding the shaft whereby when the member is pulled toward the opening of the spring the shaft is operated and motion transmitted thereto, and mechanism for releasing said springs from said shaft adapted to enter in the opening of said springs, for the purpose set forth.

16. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, means for regulating the speed of the intermediate driven shaft, and mechanism for imparting motion to the intermediate driven shaft, comprising a series of gripping members arranged in pairs upon each end of the intermediate driven shaft, each one of said gripping members having an open spring-ring surrounding the shaft whereby when the member is pulled toward the opening of the spring the shaft is operated and motion transmitted thereto and pins arranged in pairs one to each member adapted to enter in the opening of the spring to hold the spring loosely on the shaft.

17. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, means to regulate the speed of the intermediate driven shaft, and mechanism for imparting motion thereto, consisting of a pair of oppositely-arranged gripping members mounted on each end of the intermediate shaft, each gripping member consisting of an upwardly-extending arm and an open spring-ring, the said ring surrounding the shaft and mechanism for entering the opening in each of the spring-rings, one of each pair at a time to allow the said gripping members to revolve freely upon the shaft.

18. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, means for regulating the speed of the intermediate driven shaft, and mechanism for imparting motion to said shaft, consisting of a pair of oppositely-arranged gripping members arranged upon each end of the intermediate shaft, each gripping member consisting of an upwardly-extending arm and an open spring-ring surrounding the shaft, and pins arranged in pairs one for each member adapted to enter the opening of one member of each pair, and release the grip thereof upon the shaft.

19. In a forward-and-reverse variable speed and power transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven and a driven shaft, a pair of oppositely-arranged collars mounted at each end of the intermediate driven shaft, gripping members, one to each collar adapted to surround and engage the same for transmitting motion to the intermediate driven shaft, the said gripping members being arranged in oppositely-operating pairs, said gripping members each consisting of an upwardly-extending arm and an open spring-ring, said spring-ring surrounding and engaging its respective collar, mechanism for causing one member of each pair to engage the collar to revolve the shaft, and mechanism for controlling the speed of the gripping members operably connected thereto and the driving-shaft.

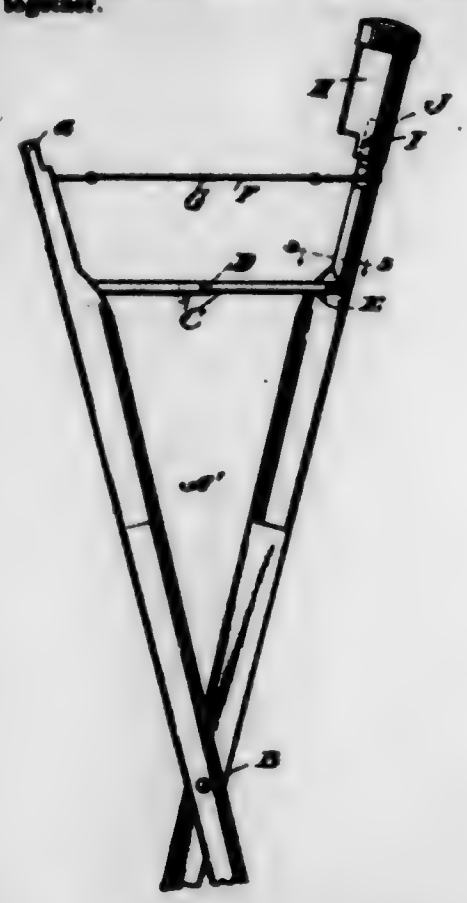
20. In a forward-and-reverse variable power and speed transmitting mechanism, the combination of a fixed-speed continuously-revolving driving-shaft, an intermediate driven shaft and a driven shaft, a pair of collars mounted on each end of the intermediate shaft, gripping members one for each collar, each gripping member having an upwardly-extending arm and an open spring-ring, said spring-ring surrounding its respective collar, pins arranged in pairs adapted to operate upon the gripping members for releasing the proper ones from engagement, one gripping member of each pair adapted to be operated simultaneously, the said pins adapted to control the tension of the spring-ring upon the collars so as to release the same from engagement therewith, and mechanism for varying the speed of the gripping members operably connected therewith and with the driving-shaft.

807,089. **COMBINED CANE AND STOOL.** JOSEPH H. MARTIN, Riverside, Cal. Filed Mar. 7, 1905. Serial No. 248,926.

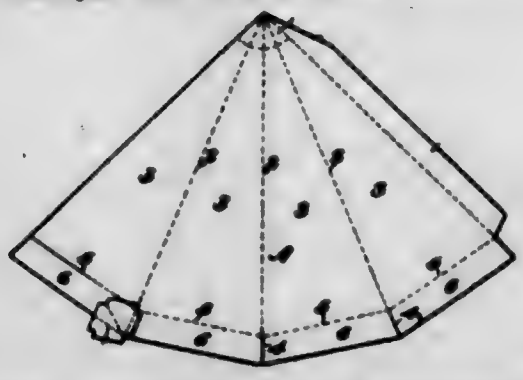
Claim.—1. A combined cane and stool comprising two tubular members pivoted together at their lower ends and provided with a folding brace connecting the two; a spring to normally hold the brace in its expanded position; a seat attached at each end to the upper ends of the members and having on its center a bar adapted to roll the seat into a roll and for placement in the upper tubular end of the cane when folded together.

2. The herein-described cane and stool comprising two members pivotally mounted as at B and having in the upper ends thereof

a spreading brace D; a spring E adapted to hold the brace in its extended position; a seat F composed of cloth or other suitable fabric and having in the center thereof a bar G adapted when turned to wind the seat into a roll; a cap H for the top thereof adapted when turned to the left to permit the members to be spread apart when turned to the right to pass over the ends of both members and hold them securely together.



807,040. STICKY FLY-PAPER. OTTO MAGNUSEN, San Francisco, Cal. Filed Apr. 6, 1905. Serial No. 254,160.



Claim.—1. A sheet of sticky fly-paper folded into substantially pyramidal form.

2. As a new article of manufacture, a flexible sheet folded into pyramidal form and having an adhesive applied to its exterior surface.

3. As a new article of manufacture, a flexible sheet folded into a hollow permanently-inclosed structure having an adhesive applied to its exterior surface except at its upper and lower edges, said upper and lower edges which are unsupplied with adhesive providing a suitable finger-hold.

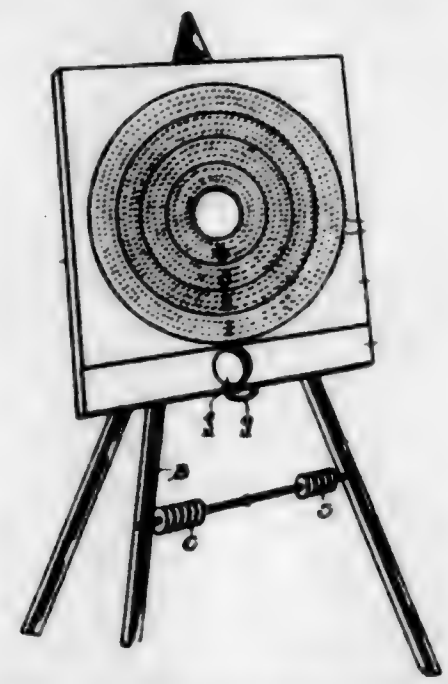
4. A pyramidal structure of paper having an external adhesive coating, and having a non-adhesive integral base-flange substantially as described.

5. A blank for sticky fly-paper, of substantially sector shape and foldable into pyramidal form, said blank radially creased in accordance with the sides of the pyramid and slitted at the perimeter on the lines of the creases, to enable the blank to be creased crosswise to form a self-supporting base, and means to unite the opposite edges of the blank.

6. A blank for sticky fly-paper, substantially sector shape, said blank radially creased, said blank radially slitted at the perimeter on the lines of the creases, and said blank being creased crosswise and proximate to the inner ends of said slits.

807,041. GAME APPARATUS. WELLEVE T. KIRKSMAN, Jackson, Mich. Filed Apr. 28, 1905. Serial No. 257,418.

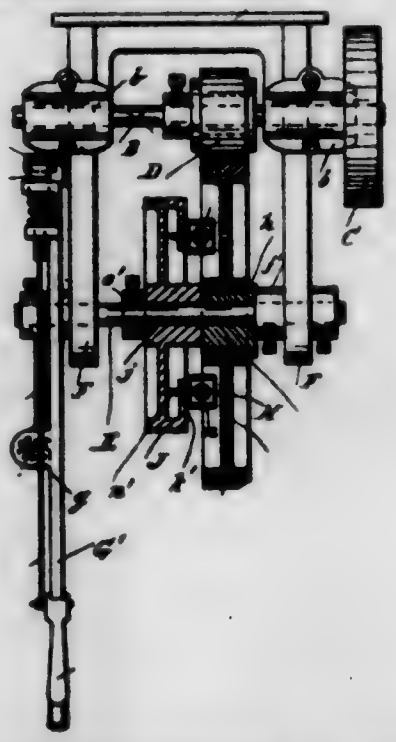
Claim.—1. In a game apparatus, the combination with a target having a bull's-eye forming an opening in the target, a chamber at the back of the target forming a receiving-pocket for a ball passing into said opening, an opening in the rear wall of said chamber opposite the bull's-eye opening and a flexible curtain covering said opening.



2. In a game apparatus, the combination with a target having a bull's-eye forming an opening in the target, a chamber at the back of the target forming a receiving-pocket for a ball entering through said opening, a flexible curtain forming the rear wall of said chamber opposite the bull's-eye opening, a passage leading from said chamber to the outside and mechanism for ringing a bell by the passing of the ball through the passage.

3. In a game apparatus, the combination with a target having a series of concentric rings studded with sharp points for impaling thrown balls thereon and with a bull's-eye constituting an opening in the center of the target for the passage of balls therethrough, a chamber at the back of the target adapted to receive the balls entering the bull's-eye opening, a passage for the ball leading from said chamber to an opening in the target, and adapted to conduct the ball through said opening and a receptacle for the ball in front of said opening, the target being mounted upon legs and supported in an inclined position.

807,042. DRIVING MECHANISM. OSCAR H. NEIMAN, Freeport, Ill. Filed May 16, 1905. Serial No. 260,715.



Claim.—1. In a driving mechanism, the combination, with a pair of friction-wheels, and means for revolving one of them; of a driving device, a spring connection having its ends pivoted to the said driving device and to the other one of the said friction-wheels respectively and yielding when the said friction-wheels are placed in

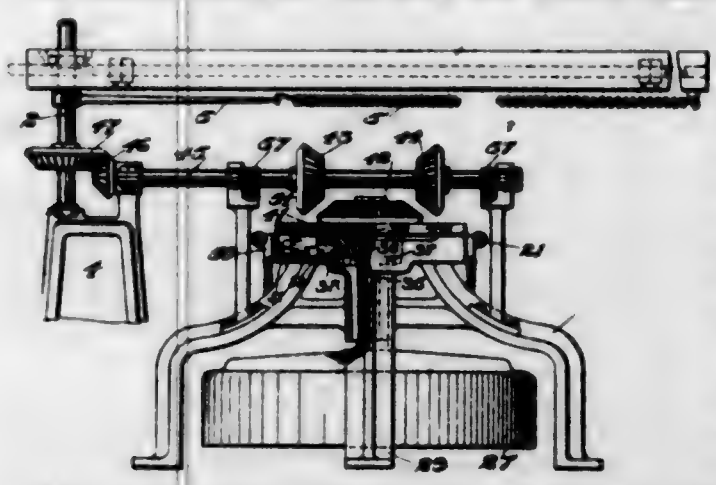
motion, and means for pressing the said friction-wheels into driving contact.

2. In a driving mechanism, the combination, with a pair of friction-wheels, and means for revolving one of them; of a driving device, a carrier provided with a spiral spring and having its end portions connected to the said driving device and to the other said friction-wheel respectively, and means for pressing the said friction-wheels into driving contact.

3. In a driving mechanism, the combination, with a supporting-frame, a friction-pinion journaled in the said frame, and means for revolving the said pinion; of a shaft mounted in the said frame, an eccentric secured on the said shaft, a friction-wheel journaled on the said eccentric, a handle provided with catch mechanism and connected to the said shaft and operating to hold the said friction-wheel in contact with the said friction-pinion, a driving device journaled on the said shaft, and a spring connection between the said friction-wheel and driving device.

4. In a driving mechanism, the combination, with a supporting-frame, a friction-pinion journaled in the said frame, and means for revolving the said pinion; of a shaft mounted in the said frame, an eccentric secured on the said shaft, a friction-wheel journaled on the said eccentric, a driving-pulley journaled on the said shaft, a spring connection between the said friction-wheel and driving-pulley, an arm secured to the said shaft, an operating-arm mounted on the said shaft and provided with catch mechanism for connecting it with the said frame, and a spring connection between the two said arms.

807,043. DOOR OPENING AND CLOSING DEVICE. KENSABURO NISHIMOTO, Fresno, Cal. Filed June 7, 1905. Serial No. 264,105.



Claim.—1. In apparatus of the character described, the combination of a door, a gear-shaft connected with the door, and means to operate the shaft to open the door, said last-named means including a motor mounted on a shiftable carriage.

2. In apparatus of the character described, the combination of a door, a gear-shaft connected with the door, and means to operate the shaft to open the door, said last-named means including a motor mounted on a shiftable carriage, a gear carried by the motor, and engageable by the gear on said shaft.

3. The combination of a door, a hinged platform, a motor, a shiftable carriage for the latter, a gear on the motor-shaft above the carriage, a second shaft having gears engageable with but normally out of contact with the motor-gear, and connection between the shaft and the door to open the latter when the shaft is rotated.

4. The combination of a door, an operating-shaft and connections between the latter and the door to turn the latter in unison with the operating-shaft, a gear on said shaft, a gear to engage said shaft-gear, a motor to operate said gear, a shiftable carriage for said motor and its gear, and means to operate said carriage to carry said gears into and out of engagement with each other.

5. The combination of a door, an operating-shaft connected with the door and turnable in unison therewith, a motor, a carriage supporting the motor and shiftable in the line of said shaft, interruptible connections between the motor and said shaft to rotate the latter, and means to control the movements of said carriage.

6. In apparatus of the character described, the combination of a door, an operating-shaft connected therewith, a gear on the latter, a motor-driven gear to engage the first-named gear, a carriage shiftable in the line of the shaft and supporting the motor-driven gear, and means to operate the carriage to move said gears into and out of engagement with one another.

7. In apparatus of the character described, the combination of a door, an operating-shaft connected therewith, a gear on the latter, a motor-driven gear to engage the first-named gear, a carriage shiftable in the line of the shaft and supporting the motor-driven gear, and means to operate the carriage to move said gears into and out of engagement with one another, said last-named means including an elliptical cam.

8. In an apparatus of the character described, the combination of a door, an operating-shaft connected therewith, a gear on the latter, a motor-driven gear to engage the first-named gear, a carriage shiftable in the line of the shaft and supporting the motor-driven gear, and means to operate the carriage to move said gears into and out of engagement with one another, said last-named means including an elliptical cam connected with said motor-driven gear and carried by the carriage.

9. In an apparatus of the character described, the combination of a door, an operating-shaft connected therewith, a gear on the latter, a motor-driven gear to engage the first-named gear, a carriage shiftable in the line of the shaft and supporting the motor-driven gear, and means to operate the carriage to move said gears into and out of engagement with one another, said last-named means including an elliptical cam connected with said motor-driven gear and carried by the carriage, a motor connected to and movable with the carriage.

10. The combination of a door, an operating-shaft therefor, a carriage slidable in the line of the shaft and carrying a gear to engage a corresponding part on the shaft to rotate the latter, a motor carried by the carriage to rotate said gear, and means to reciprocate the carriage.

11. The combination of a door, an operating-shaft therefor, a gear on said shaft, a second gear, a shiftable carriage supporting said second gear, a motor carried by the carriage to operate said second gear, means to shift said carriage to move said gears into and out of engagement with one another, said last-named means including an elliptical cam, a hinged floor-section, and means operable by the floor-section and interposable in the path of said cam.

12. The combination of a door, an operating-shaft therefor, a gear on said shaft, a second gear, a shiftable carriage supporting said second gear, a motor carried by the carriage to operate said second gear, means to shift said carriage to move said gears into and out of engagement with one another, said last-named means including an elliptical cam, a hinged floor-section, means operable by the floor-section and interposable in the path of said cam, and means operated by the floor-section controlling the operation of the motor.

13. The combination of a door, an operating-shaft connected therewith, means for operating said shaft, said means including a gear on the shaft, a second gear engageable with said gear on the shaft, a shiftable support for said second gear, a hinged floor-section, and means controlled by the floor-section to operate said second gear, means operated by the floor-section to move said shiftable support to carry said gears into engagement and independent means for disengaging said gears.

14. The combination of a door, an operating-shaft therefor, a gear on said shaft, a second gear engageable therewith, a shiftable support for the second gear, a hinged floor-section, means controlled by the floor-section to operate said second gear, an elliptical cam rigid with said gear, and stop mechanism operated by the floor-section to engage said cam to shift said support and move said gears into engagement.

15. The combination of a door, an operating-shaft therefor, a gear on said shaft, a second gear engageable therewith, a shiftable support for the second gear, a hinged floor-section, means controlled by the floor-section to operate said second gear, an elliptical cam rigid with said gear, a stop mechanism operated by the floor-section to engage said cam to shift said support and move said gears into engagement, means engaging said support to maintain the engagement of said gears during the door-opening movement, and means to release said support the moment the door is opened and disengage the gears.

16. The combination of a door, a hinged platform, a door-opening mechanism operated by the platform and connected with the door, said means including an operating-shaft a gear on the shaft, a second gear engageable with said shaft-gear, a sliding carriage for said second gear, a motor supported by said carriage to operate said second gear, means actuated by the hinged platform to control the motor, an elliptical cam rigid with the second gear, a toggle member operable by the floor-platform, a rod connected with said toggle member, and means operable by said rod to engage said elliptical cam to move the carriage to carry said gears into engagement.

17. The combination of a door, a hinged platform, a door-opening mechanism operated by the platform and connected with the door, said means including an operating-shaft, a gear on the shaft, a second gear engageable with said shaft-gear, a sliding carriage for

said second gear, a motor supported by said carriage to operate said second gear, means actuated by the hinged platform to control the motor, an elliptical cam rigid with the second gear, a toggle member operable by the floor-platform, a rod connected with said toggle member, and means operable by said rod to engage said elliptical cam to move the carriage to carry said gears into engagement, and means controlled by the rotative movements of the operating-shaft to disengage said gears.

807,044. MAGAZINE-FIREARM. ALFRED M. HOLF, Salt Lake City, Utah. Filed June 30, 1903. Serial No. 163,763.



Claim.—1. In a magazine-firearm, the combination of a stock, guides extending forwardly from the stock, a barrel slidably mounted upon said guides, a guide-bar rigidly supported beneath said barrel and attached to the stock, a rib on said guide-bar near the forward end thereof, a metal strap secured to said barrel on the under surface thereof and having an opening, a guide-loop slidable on said strap and on said guide-bar, a spring-pressed pawl in said guide-loop adapted to engage the opening in said strap and to be forced out of engagement therewith by the rib upon said guide-bar and a fore-end rigidly associated with said guide-loop.

2. In a magazine-firearm, the combination of a hammer, a trigger, a latch for said trigger, a sliding fore-end, and connections between said fore-end and said hammer and between said fore-end and said trigger-latch, whereby the forward movement of said fore-end cocks said hammer and locks said trigger.

3. In a magazine-firearm, the combination of a hammer, a trigger, a latch for said trigger, a lock to hold said trigger-latch positively in operative position, and a sliding fore-end operatively connected with the said latch and said hammer whereby the forward movement of the fore-end cocks the hammer, sets and latches the trigger and locks the trigger-latch positively in operative position.

4. In a magazine-firearm, the combination with a barrel, of a pair of cartridge-chambers one on either side of the barrel near the breech end, means in said chambers for raising the cartridges therein, and means for alternately removing the uppermost cartridge in each chamber and introducing it into the barrel.

5. In a magazine-firearm, the combination with a barrel, of a pair of cartridge-chambers located one on each side of the barrel near the breech end thereof, a pivoted cartridge-shifter for each of said chambers, and means for operating said shifters alternately.

6. In a magazine-firearm, the combination of a barrel, a pair of cartridge-chambers located one on either side of said barrel near the breech end thereof, a pivotally-mounted fork lying in each of said chambers and forming means for shifting cartridges from said chamber into position beneath the barrel, means for raising the cartridges in each of said chambers, and means for alternately actuating said forks to remove the uppermost cartridge in each of said chambers.

7. In a magazine-firearm, the combination of a sliding barrel, a pair of cartridge-chambers located one on either side of the breech end of said barrel, a pivoted cartridge-shifting fork located in each of said chambers, means associated with said barrel for operating said forks alternately to shift the cartridge from the magazine-chamber into position beneath said barrel, and means for holding the fork in position under the barrel until the cartridge has been disengaged from the fork.

8. In a magazine-firearm, the combination of a sliding barrel, a pair of cartridge-chambers located one on either side of said barrel near the breech end thereof, a pair of pivoted cartridge-shifting forks, means associated with the barrel whereby the rearward movement of the barrel actuates one of said cartridge-forks and causes it to shift a cartridge into position beneath the barrel, and means for locking said fork in position beneath the barrel until the forward movement of the barrel.

9. In a magazine-firearm, the combination of a stationary guide-bar, a barrel slidably mounted above said guide-bar, a pair of cartridge-chambers located adjacent to the breech end of said barrel one upon either side thereof and below the level of the barrel, a pair of pivoted cartridge-shifting forks adapted to shift the cartridges alternately from said chambers into position under said barrel, a pair of spring-fingers attached to said guide-bar and provided with locking-lug adapted to lock said forks alternately in position under said barrel when they have been shifted into position thereunder, and means associated with said barrel for disengaging said locking-lugs and said forks.

10. In a magazine-firearm, the combination of a sliding barrel, a pair of cartridge-chambers located one on either side of said barrel near the breech end, a stationary member beneath said barrel, a pair of cartridge-shifting forks pivotally mounted on said stationary member and adapted to shift cartridges from said chambers into position beneath said barrel, a pair of spring-fingers provided on said stationary member, each of said spring-fingers having a pair of upwardly-projecting lugs one of which is adapted to lock the cartridge-shifting fork in position under the barrel after a cartridge has been shifted into position beneath the barrel, and means provided beneath the barrel for engaging with the other lug upon each of said spring-fingers to depress either of the fingers and release the cartridge-fork locked by either of said fingers.

11. In a magazine-firearm, the combination of a sliding barrel, a pair of cartridge-chambers located one on either side of said barrel near the breech end, a stationary member beneath said barrel, a pair of forks pivotally mounted on said stationary member and adapted to shift cartridges from said chambers into position beneath said barrel, a pair of spring-fingers attached to said stationary member and each having a pair of upwardly-projecting lugs the rear one of which is adapted to lock the fork in position beneath the barrel, and a pivoted cam mounted beneath the barrel and adapted to contact with the forward lugs on said spring-fingers and to depress said spring-fingers sufficiently to release said cartridge-shifting forks.

12. In a magazine-firearm, the combination of a sliding barrel, a pivoted cam secured in position beneath said barrel, a stop-lug for limiting the pivotal movement of said cam, a spring adapted to hold said cam always in contact with the stop-lug, a pair of cartridge-chambers, a pair of cartridge-shifting forks located in said chambers, and ribs upon said forks adapted to be engaged by said cams to operate said forks.

13. In a magazine-firearm, the combination of a sliding barrel, a pivoted spring-actuated cam secured beneath said barrel and movable therewith, a stationary member beneath said barrel, a pair of cartridge-chambers located one on either side of said barrel near the breech end, a pair of cartridge-forks pivotally mounted on said stationary member and adapted to shift cartridges from said chambers into position beneath said barrel, a rib provided on the upper surface of each of said forks and adapted to be engaged by said cam to operate the fork to which the rib is attached, latch mechanism provided on said stationary member and adapted to engage said forks to hold either in position beneath the barrel after shifting a cartridge, said latch mechanism being adapted to be engaged by said cam and thrown into operative position.

14. In a magazine-firearm, the combination of a sliding barrel, a magazine adjacent to the breech end of said barrel at one side thereof and below the level of the barrel, means for shifting a cartridge from the magazine to a position beneath the barrel, an elevator adapted to raise a cartridge from position beneath the barrel into alinement with the bore of the barrel, a rod having a cam-groove associated with the barrel and reciprocated thereby, a pivoted lever having

one end connected with the elevator and the other end engaging the cam-groove in said rod, whereby the reciprocation of said rod raises and lowers said elevator.

15. In a magazine-firearm, a cartridge-elevator comprising a member mounted for vertical reciprocation, and a pair of spring-actuated cartridge-gripping jaws projecting forward from said member and each having the forward portion curved to conform to the contour of the cartridge and at the rear a vertically-disposed groove immediately in front of said member to permit the upward passage of the head of a cartridge.

16. In a magazine-firearm, a stationary member having laterally-projecting studs, a cartridge-elevator comprising a vertically-slidable plate having guide-loops engaged by said studs, and a pair of spring-actuated cartridge-clamping jaws projecting forward from said slidable plate.

17. In a magazine-firearm, the combination of a sliding barrel, a magazine adjacent to the breech end of said barrel, means for shifting a cartridge from said magazine to a position beneath said barrel, a downwardly-projecting lug at the breech end of said barrel, said lug being curved to correspond to the curvature of the cartridge and serving by engagement with said cartridge to hold the same in position beneath said barrel, and a cartridge-elevator beneath the breech of said barrel into which a cartridge will be forced by the rearward movement of said sliding barrel.

18. In a magazine-firearm having a barrel, a magazine below the level of said barrel, said magazine being open at the bottom for charging, a pivoted closure-plate for said magazine, a pair of lugs provided on said closure-plate, spring-actuated follower-fingers pivotally mounted on said lugs, said follower-fingers having slots intermediate of their ends, equalizer-fingers pivotally mounted on said closure-plate in the rear of said lugs, and studs provided on said equalizer-fingers and adapted to engage the slots in the follower-fingers, the cartridge-engaging end of such pivot members maintaining the same positions relatively to each other during the entire upward movement within the magazine.

19. In a magazine-firearm, the combination with a slidable barrel, a breech-piece provided on its opposite sides and bottom with ribs and grooves, those on the sides being arranged on lines oblique to the axis of the bore, and a slidably-mounted locking-bolt having similarly-disposed ribs and grooves for engagement with those of the breech-piece and exercising a cam-like action in forcing the breech-piece in the direction of breech-block of the firearm.

20. In a magazine-firearm, a slidable barrel, a breech-piece rigidly secured thereto, a slidable locking-bolt disposed at right angles to said barrel for engaging with said breech-piece, cams provided on said locking-bolt, and a reciprocating member having grooves for engaging with said cams to throw said locking-bolt into and out of operative position.

21. In a magazine-firearm, a frame having forwardly-extending portions forming guides, a barrel slidably mounted on said guides, a breech-piece rigidly secured to said barrel, a locking-bolt slidably mounted in said frame and engaging positively with said breech-piece, a spring interposed between said locking-bolt and said frame to cause frictional engagement between said locking-bolt and said frame, and means for operating said locking-bolt.

22. In a magazine-firearm, the combination of a pivoted hammer, an eccentric lever for cocking said hammer, a sear, a trigger, a trigger-latch, a lever for throwing said trigger-latch into operative position, and a reciprocating member engaging said eccentric lever and the lever for locking the trigger-latch and throwing them into operative position.

23. In a firearm, the combination of a hammer, a sear, a trigger having a recess formed therein, a trigger-latch entering said recess, an automatic lock engaging said trigger-latch and serving to lock it in operative position, and a reciprocating member for cocking said hammer and throwing said trigger-latch into operative position.

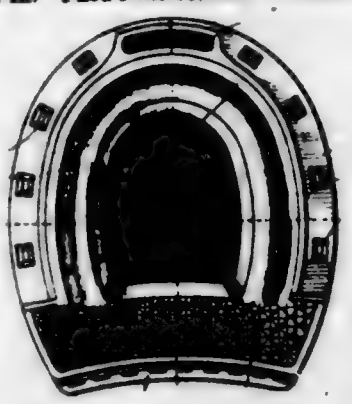
24. In a firearm, the combination of a hammer, a trigger having a recess, a trigger-latch entering said recess, an automatic lock engaging said trigger-latch and holding it securely in operative position, and a reciprocating member operating on one movement to cock said hammer and throw said trigger-latch into operative position and serving upon the reverse movement to partially disengage the lock for said trigger-latch.

25. In a firearm, the combination of a sliding barrel, a locking-bolt for said barrel, a cartridge-elevator, a sliding fore-end, and a rod having cam-grooves adapted to be engaged by portions of said elevator and said locking-bolt and attached to said sliding fore-end.

26. In a magazine-firearm, the combination of a magazine, means for shifting cartridges from said magazine to said barrel, a sliding fore-end for imparting movement to said cartridge-shifting means, and a latch-pin upon said fore-end by means of which said cartridge-shifting means may be rendered operative or inoperative at will.

27. In a magazine-firearm, the combination of a magazine, means for shifting cartridges from said magazine to the barrel, a lock, a sliding fore-end, connections between said fore-end and said shifting means and between said fore-end and said lock whereby the movement of said fore-end operates said cartridge-shifting means and said lock, and a catch upon said fore-end by means of which the movement of the fore-end may be limited so as to prevent the operation of the cartridge-shifting means without binding the operation of the lock.

807,045. **COMBINED HORSESHOE AND PAD.** THOMAS C. OCTIGAN, Chicago, Ill. Filed June 15, 1903. Serial No. 161,471.

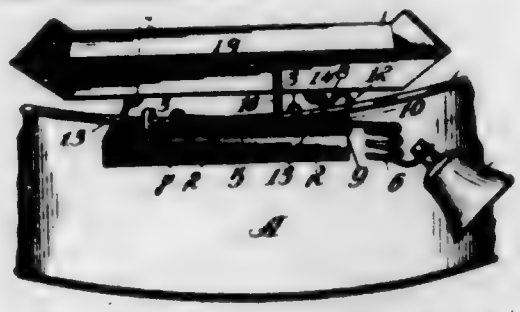


Claim.—1. A combined horseshoe and pad comprising a pad provided on its under surface at its outer margin with a curved rabbet of angular cross-section and a three-quarter or tip shoe located in said rabbet and comprising a flat web provided with nail-holes and a continuous calk-flange extending from one end of the shoe to the other, said flange being located at the inner margin of said web and closely embracing the pad.

2. A combined horseshoe and pad comprising a pad consisting of a continuous base made of tough, durable material, a flat web which fits against said base, a transverse bar portion at the rear thereof and a forwardly-extending rim inclosing the central part of the web, said rim being located inside the margin of said base, and a three-quarter shoe or tip surrounding said rim and comprising a flat horizontal web provided on its inner margin in contact with said rim with a continuous calk or flange coextensive with the web.

3. A combined horseshoe and pad comprising a pad having on its under surface a rim surrounding a central recess, of a three-quarter or tip shoe comprising a flat web and a thin vertical flange of substantially equal thickness throughout its height and coextensive with the web and closely embracing said rim.

807,046. **SIGNAL.** THEOPHILE PAQUETTE, Webster, Mass. Filed Aug. 3, 1904. Serial No. 219,396.



Claim.—1. The combination with a suitable receptacle, of an alarm carried thereby, the alarm comprising a pivotally-supported, signal-carrying arm, a drip-cup connected with the arm intermediate its ends, the cup adapted to catch and normally retain a portion of the commodity subsequently received in the receptacle, and a restraining member normally locking the signal-carrying arm against movement.

2. A leak-alarm comprising a signal, a gravity-actuated tripping member for operating the signal, the signal normally overbalancing the tripping member and fluid-actuated means in contact with the signal for normally preventing its operation.

3. A leak-alarm comprising a suitably-pivoted arm, a signal operated thereby, a gravity-operated tripping means normally tending to actuate the arm and a fluid-operated restraining member in contact with the arm for normally locking it against movement.

4. The combination with a receptacle, of a pivotally-supported inherently resilient signal-carrying arm, a gravity-operated trip-

ping member normally tending to raise the arm, and a fluid-actuated restraining member normally engaging the arm at a point separate from the point of engagement of the tripping member and arm, to lock the arm against movement.

5. A leak-alarm comprising a suitably-pivoted arm, a bell located on the arm, a coil formed in the arm intermediate the bell and the pivotal point of the arm, a gravity-operated tripping means normally tending to actuate the arm to oscillate the bell, and a fluid-actuated restraining means for normally locking the arm against movement.

6. A leak-alarm comprising a signal, a gravity-operated tripping means normally tending to actuate the signal, a suitably-pivoted lever-rod, a gooseneck or shoulder on the lever-rod, adapted to normally engage and lock the signal against movement and a fluid-operated member carried on the lever-rod for releasing the shoulder and signal.

7. A leak-alarm comprising a signal, a gravity-operated means normally tending to actuate the signal, a pivotally-mounted lever-rod, a shoulder formed on the rod adjacent its pivotal point, the shoulder normally adapted to engage and lock the signal against movement and fluid-actuated member carried by the rod for moving the latter to release the shoulder and signal.

8. A leak-alarm comprising a signal-operating arm, a gravity-operated means normally tending to actuate the signal-arm, a pivotally-mounted rod, a shoulder formed in the rod and normally adapted to engage the signal-arm to prevent its movement, a bent or recessed portion located adjacent the shoulder and a fluid-operated member connected with the rod and adapted to move the rod to cause the disengagement of the shoulder and signal-arm, the tripping means adapted to move the signal-arm within the space inclosed by the recessed portion of the rod.

9. The combination with a suitable drip-catching receptacle, of a base removably secured thereto, an arm pivotally secured to the base, a signal actuated by the arm, a gravity-operated tripping means normally tending to actuate the arm, a rod pivotally secured to the base at a point beneath the arm, locking means on the rod normally adapted to engage the arm to prevent its movement and a fluid-actuated member connected to the rod for moving the locking means out of engagement with the arm.

10. The combination with a suitable receptacle having a beaded rim, of a base, hangers secured to the base within its inner edge, the hangers adapted to embrace the edge of the receptacle, the inner edge of the base adapted to take beneath the beaded rim, a signal-actuating arm, means normally tending to operate the signal-arm and fluid-actuated restraining means normally adapted to lock the arm against movement.

11. The combination with a suitable receptacle, of a base removably secured thereon, a signal-arm mounted on the base, brackets mounted on the base, a trip-cup, pintles carried by the cup and hinged in the brackets, means loosely connecting the trip-cup and arm and fluid-actuated restraining means normally locking the arm against movement.

12. The combination with a suitable receptacle, of a base mounted thereon, a signal-arm, a signal operated by the arm, a trip-cup, a strap secured to the trip-cup and passing loosely around the arm, the strap engaging the base to support the cup, and fluid-actuated means normally engaging the arm to prevent its movement.

13. The combination with a receptacle, of a suitably-supported signal-arm, a signal operated thereby, a scoop-shaped trip-cup, the trip-cup pivotally mounted to one side of its center of gravity, means connecting the trip-cup and arm and normally tending to actuate the latter, and fluid-actuated means normally locking the arm against movement.

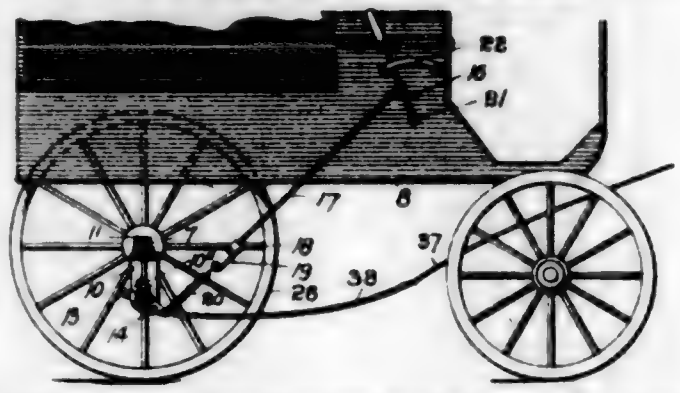
14. The combination with a catch-basin, of a hinge-supported trip-cup offset from its center of gravity, the trip-cup adapted to be filled with liquid, a signal-operating arm, means connecting the trip-cup and arm and a fluid-operated restraining member normally locking the arm against movement.

15. The combination with a catch-basin, of a pivotally-supported trip-cup offset from its center of gravity, the trip-cup projecting over the catch-basin and adapted to catch and retain a portion of the liquid designed to be received by the catch-basin, a signal-operating arm, means connecting the trip-cup and arm, and fluid-actuated restraining means normally engaging the arm to prevent its movement.

16. A leak-alarm comprising a gravity-operated tripping member, adapted to be filled with a dischargeable commodity, a signal-arm with which the member is connected, a signal carried by the arm and of greater weight than the tripping member when the latter is empty, and a fluid-actuated restraining member for normally preventing the operation of the signal-arm.

17. The combination with a fluid-receiving receptacle, of a pivotally-supported drip-cup adapted to primarily receive the fluid and subsequently discharge it into the receptacle, a signal, which the drip-cup normally tends to operate, and an automatically-operated member normally locking the signal against premature actuation.

807,047. **HITCHING ATTACHMENT FOR VEHICLES.** JOHN B. PLATO and WILLIAM H. KILGORE, Denver, Colo.; said Kilgore assignor to said Plato. Filed Apr. 29, 1905. Serial No. 258,088.



Claim.—1. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a drum on said shaft, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, means adapted to raise said shaft, means adapted to resiliently retain the shaft in its raised position, means to disengage the gears through action of the rearward movement of the vehicle and means to simultaneously cause reverse rotation of the shaft.

2. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, means adapted to raise said shaft, means to disengage the gears through action of the rearward movement of the vehicle and means to simultaneously cause reverse rotation of the shaft.

3. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, means adapted to raise said shaft, and a cam loosely mounted on said shaft and adapted to disengage said gears during rearward movement of the vehicle.

4. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, means adapted to raise said shaft, and a cam on said shaft adapted to force said shaft downwardly during the rearward movement of the vehicle.

5. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, means adapted to raise said shaft, a cam loosely mounted on said shaft and adapted to disengage said gears during rearward movement of the vehicle, and means adapted to rotate said shaft in reverse direction when said gears are disengaged.

6. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, means adapted to raise said shaft, a spring adapted to be brought under tension by the rotation of the shaft during the forward movement of the vehicle, and means to cause the disengagement of said wheels by action of the rearward movement of the vehicle.

7. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, a lever, fulcrumed to a suitable stationary part of the attachment, supporting the shaft, a rod, one

extremity of which extends from a suitable part of the vehicle and a spring connecting its opposite extremity with said lever.

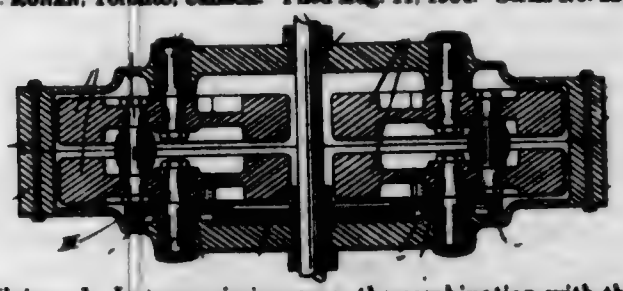
8. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, a lever, fulcrumed to a suitable stationary part of the attachment, supporting the shaft, a rod, one extremity of which extends from a suitable part of the vehicle, its opposite end being threaded, a turnbuckle on said threaded extremity, and a spring connecting said turnbuckle and said lever.

9. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, a lever, fulcrumed to a suitable stationary part of the attachment, supporting the shaft, a flexible, adjustable, connection leading from said lever to a point in convenient proximity to the occupant of the vehicle, and a spring wound round said shaft, one of its extremities being secured thereto while its opposite extremity is connected with said lever.

10. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, a lever, fulcrumed to a suitable stationary part of the attachment, supporting the shaft, a flexible, adjustable, connection leading from said lever to a point in convenient proximity to the occupant of the vehicle, a spring wound around said shaft, one of its extremities being secured thereto while its opposite extremity is connected with said lever, and a cam on said shaft adapted to engage the gear-wheel on the vehicle and to separate said gear-wheel and the gear on the shaft during rearward movement of the vehicle.

11. A device of the class described comprising in combination with a vehicle, a gear-wheel rigidly secured to one of its wheels, a vertically-movable shaft revolubly mounted on said vehicle, a gear-wheel mounted on said shaft and adapted to engage the first-mentioned gear when the shaft is raised, means for raising said shaft, and a spring wound round said shaft, one of its extremities being secured thereto while its opposite extremity is connected with said lever.

807,048. **TRANSMISSION-GEAR FOR GAS-ENGINES.** ARTHUR G. RONAN, Toronto, Canada. Filed Aug. 11, 1904. Serial No. 220,363.



Claim.—1. In transmission-gear, the combination with the engine-casing; a first toothed pinion; the engine-pitman operating same; a second toothed pinion, and engine-pitman operating same, of the drive-shaft journaled in said engine-casing, and a toothed wheel keyed to said drive-shaft and in mesh with said pinions from which it receives energy.

2. In transmission-gear, the combination with the engine-casing; a first fly-wheel journaled in said engine-casing; a stub-shaft for same; a second fly-wheel journaled in said engine-casing; a stub-shaft for same; a toothed pinion secured to said first fly-wheel; a toothed pinion secured to said second fly-wheel; a first pitman operating said first fly-wheel, and a second pitman operating said second fly-wheel, of the drive-shaft journaled in said engine-casing, and a toothed wheel keyed to said drive-shaft and in mesh with said pinions, the said pinions being one-half the size of said toothed wheel.

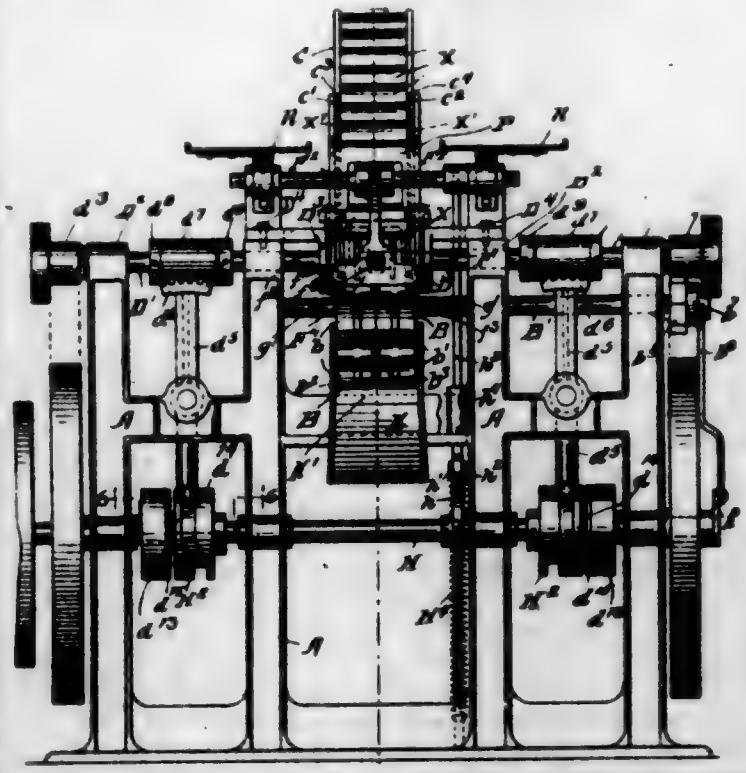
3. In transmission-gear the combination with the engine-casing; a fly-wheel journaled therein; a stub-shaft held in said engine-casing and on which said fly-wheel has movement; a pinion provided with a hollow center suitably secured to said fly-wheel so as not to embrace bearing for same, and the engine-pitman operating said fly-wheel, of the drive-shaft journaled in said engine-casing, and a wheel keyed to said drive-shaft and receiving energy from said pinion.

4. In transmission-gear, the combination with the engine-casing; a first fly-wheel journaled in said engine-casing; a stub-shaft for same; a second fly-wheel journaled in said engine-casing; a stub-shaft for same; a toothed pinion secured to said first fly-wheel and on the outside thereof; a toothed pinion secured to said second fly-wheel, and on the outside thereof; a first pitman operating said first fly-wheel, and a second pitman operating said second fly-wheel, of the drive-shaft journaled in said engine-casing, and a toothed wheel keyed to said drive-shaft and in mesh with said pinions, the said pinions being one-half the size of said toothed wheel.

5. In transmission-gear, the combination with the engine-casing; a first fly-wheel journaled in said engine-casing; a stub-shaft for same; a second fly-wheel journaled in said engine-casing; a stub-shaft for same; a toothed pinion provided with a hollow center, secured on the outside of said first fly-wheel; a toothed pinion, provided with a hollow center, secured on the outside of said second fly-wheel; a first pitman operating said first fly-wheel, and a second pitman operating said second fly-wheel, of the drive-shaft journaled in said engine-casing, and a toothed wheel keyed to said drive-shaft and in mesh with said pinions, the said pinions being one-half the size of said toothed wheel.

6. In transmission-gear, the combination with the engine-casing; a first fly-wheel journaled in said engine-casing; a stub-shaft for same; a second fly-wheel journaled in said engine-casing; a stub-shaft for same; a pinion secured on the outside of said first fly-wheel; a pinion secured on the outside of said second fly-wheel; a first pitman operating said first fly-wheel, and a second pitman operating said second fly-wheel, of the drive-shaft journaled in said engine-casing, and a wheel keyed to said drive-shaft and receiving energy from said pinions.

807,049. **CAN HEADING AND CRIMPING MACHINE.** LEE C. SHARP, Omaha, Nebr., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 9, 1903. Serial No. 146,826.



Claim.—1. In a can heading and crimping machine, the combination with a three-part chute having passages or compartments for can-bodies and can-heads, of an intermittently-rotating can-body feed wheel or carrier having a series of pockets therein for receiving each a pair of can-heads and a can-body and centering the same with each other, a movable can-body shaper or former, a pair of reciprocating and rotating plungers or chucks for pushing the can heads and body together and rotating the can, and a pair of movable crimping-rollers, substantially as specified.

2. In a can heading and crimping machine, the combination with a three-part feed-chute having passages or compartments in juxtaposition to each other for the can-bodies and can-heads, and an intermittently-rotating feed wheel or carrier having a series of pockets for receiving, conveying, holding and centering with each other the can-bodies and can-heads, a pair of reciprocating and revolving plungers or chucks coöperating in turn with each of the pockets of said carrier for pushing the can-heads on the can-body and rotating the can, and a pair of movable crimping-rollers for crimping the can-heads on the can-body, substantially as specified.

3. In a can heading and crimping machine, the combination with a three-part chute, having passages or compartments for can-bodies and can-heads, of an intermittently-rotating can-body-feed wheel or carrier having a series of pockets therein for receiving each

a pair of can-heads and a can-body and centering the same with each other, a pair of reciprocating and rotating plungers or chucks coöperating in turn with each of the pockets of said carrier for pushing the can heads and body together and rotating the can, and a pair of movable crimping-rollers, substantially as specified.

4. In a can heading and grimping machine, the combination with an intermittently-rotating feed wheel or carrier having a series of pockets, each adapted to receive and center with each other a pair of can-heads and a can-body, of a pair of rotating and reciprocating plungers or chucks coöperating in turn with each of the pockets of said carrier, and a pair of movable crimping-rollers, substantially as specified.

5. In a can heading and crimping machine, the combination with an intermittently-rotating feed wheel or carrier having a series of pockets, each adapted to receive and center with each other a pair of can-heads and a can-body, of side guides for holding the can-heads in an upright position, a pair of rotating and reciprocating plungers or chucks coöperating in turn with each of the pockets of said carrier, and a pair of movable crimping-rollers, substantially as specified.

6. In a can heading and crimping machine, the combination with an intermittently-rotating feed-wheel having a series of pockets, each adapted to receive and center a can-body and a pair of can-heads, of a pair of reciprocating and rotating plungers or chucks cooperating in turn with each of the pockets of said carrier, the centers of which plungers or chucks are slightly eccentric to or out of line with the can-heads and can-body resting in the pocket of the feed wheel or carrier, which is in position for registartion or coöperation with said plungers or chucks, whereby the plungers or chucks are caused to lift the can-heads and can-body out of contact with the pocket while the cans are being rotated, substantially as specified.

7. In a can heading and crimping machine, the combination with an intermittently-rotating feed-wheel having a series of pockets, each adapted to receive and center a can-body and a pair of can-heads, of a pair of reciprocating and rotating plungers or chucks cooperating in turn with each of the pockets of said carrier, the centers of which plungers or chucks arp slightly eccentric to or out of line with the can-heads and can-body resting in the pocket of the feed wheel or carrier, which is in position for registration or coöperation with said plungers or chucks, whereby the plungers or chucks are caused to lift the can-heads and can-body out of contact with the pocket while the cans are being rotated, and a movable crimping-roller, substantially as specified.

8. In a can heading and crimping machine, the combination with an intermittently-moving feed wheel or carrier having a series of pockets therein adapted each to receive and center with each other a pair of can-heads and a can-body, of a pair of reciprocating and rotating plungers or chucks coöperating in turn with each of the pockets of said carrier, the pockets in said feed wheel or carrier being slightly larger in diameter than the can-bodies and can-heads resting therein, whereby the plungers or chucks are caused to lift the can-heads and can-body out of contact with the pocket while the can is being rotated, substantially as specified.

9. In a can heading and crimping machine, the combination with an intermittently-moving feed wheel or carrier having a series of pockets therein adapted each to receive and center with each other a pair of can-heads and a can-body, of a pair of reciprocating and rotating plungers or chucks coöperating in turn with each of the pockets of said carrier, the pockets in said feed wheel or carrier being slightly larger in diameter than the can-bodies and can-heads resting therein, whereby the plungers or chucks are caused to lift the can-heads and can-body out of contact with the pocket while the can is being rotated, and a movable crimping-roller, substantially as specified.

10. In a can heading and crimping machine, the combination with a can head and body receiving and centering pocket, of a pair of rotating chucks or plungers, one movable toward the other, the pocket being larger in diameter than the can heads and body resting therein to cause the chucks or plungers to lift the can head and body out of contact with the pocket while the can is being rotated, substantially as specified.

11. In a can heading and crimping machine, the combination with a can head and body receiving and centering pocket, of a pair of rotating chucks or plungers, one movable toward the other, the pocket being larger in diameter than the can heads and body resting therein to cause the chucks or plungers to lift the can head and body out of contact with the pocket while the can is being rotated, and a movable crimping-roller, substantially as specified.

12. In a can heading and crimping machine, the combination with a can head and body receiving and centering pocket, of a pair of rotating plungers or chucks, one movable toward the other, the centers of said plungers or chucks being slightly eccentric or out of line with the can head and body resting in said pocket, whereby the chucks or plungers are caused to lift the can head and body out of contact with the pocket as the can is rotated, substantially as specified.

13. In a can heading and crimping machine, the combination with a can head and body receiving and centering pocket, of a pair of rotating plungers or chucks, one movable toward the other, the centers of said plungers or chucks being slightly eccentric or out of line with the can head and body resting in said pocket, whereby the chucks or plungers are caused to lift the can head and body out of contact with the pocket as the can is rotated, and a movable crimping-roller, substantially as specified.

14. In a can heading and crimping machine, the combination with a chute having passages for can-bodies and can-heads, of a feed-wheel having receiving and centering pockets for can-bodies and can-heads, and a pair of plungers coöperating in turn with each of said can-body and can-head receiving pockets on said feed-wheel substantially as specified.

15. In a can heading and crimping machine, the combination with a chute having passages for can-bodies and can-heads, of a feed-wheel having receiving and centering pockets for can-bodies and can-heads, and a pair of rotating plungers or chucks coöperating in turn with each of said can-body and can-head receiving pockets on the feed-wheel, one having a reciprocating movement to and from the other, substantially as specified.

16. In a can heading and crimping machine, the combination with a chute having passages for can-bodies and can-heads of a feed-wheel having receiving and centering pockets for can-bodies and can-heads, a pair of rotating plungers or chucks, coöperating in turn with each of said can-body and can-head receiving pockets on the feed-wheel, one having a reciprocating movement to and from the other, and a movable crimping-roller, substantially as specified.

17. In a can heading and crimping machine, the combination with a chute having passages for can-bodies and can-heads, of a feed-wheel having receiving and centering pockets for can-bodies and can-heads, a pair of rotating plungers or chucks, one having a reciprocating movement to and from the other, and a spring or yielding connection through which thrust is imparted to one of said plungers or chucks, substantially as specified.

18. In a can heading and crimping machine, the combination with a chute having passages for can-bodies and can-heads, of a feed-wheel having receiving and centering pockets for can-bodies and can-heads, a pair of rotating plungers or chucks, one having a reciprocating movement to and from the other, a movable crimping-roller, and a spring or yielding connection through which pressure is applied to said crimping-roller to force it against the rotating can, substantially as specified.

19. In a can heading and crimping machine, a three-part feed-chute having passages or compartments for can-heads and can-bodies in juxtaposition to each other, a can-body and can-head feed-wheel having a series of pockets adapted to simultaneously receive can-heads and can-bodies from said feed-chute and convey them to a position to have the heads forced upon the body, and reciprocating plungers coöperating in turn with each of the pockets on said feed-wheel substantially as specified.

20. In a can heading and crimping machine, a feed-chute having passages for can-bodies and can-heads, of a feed wheel or carrier having can-body and can-head receiving and centering pockets, the mouth of the chute registering with a pocket on the feed wheel or carrier when the same is in an upright position, and plungers coöperating in turn with each of the can head and body receiving pockets on the feed-wheel substantially as specified.

21. The combination with a pair of rotating and reciprocating plungers or chucks, of a movable crimping-roller, and means for moving the crimping-roller against the rotating can in a direction approaching a tangential one as contradistinguished from a radial one, to cause the crimping-roller to have a kind of wiping or dragging action on the rotating can and prevent vibration or chattering of the crimping-roller, substantially as specified.

22. In a can heading and crimping machine, the combination with a feed-wheel having can head and body receiving pockets, of a pair of reciprocating and rotating plungers or chucks, and antifriction thrust-blocks through which said chucks or plungers are reciprocated, substantially as specified.

23. The combination with a feed wheel or carrier having can head and body receiving and centering pockets, of a pair of rotating and reciprocating plungers, a movable former or shaper, a pair of movable crimping-rollers, and a movable holder upon which said

former or shaper and said crimping-rollers are all mounted, substantially as specified.

24. The combination with a feed wheel or carrier having can head and body receiving and centering pockets, of a pair of rotating and reciprocating plungers, a movable former or shaper, a pair of movable crimping-rollers, and a movable holder upon which said former or shaper and said crimping-rollers are all mounted, said former or shaper having a spring or yielding connection with said holder, substantially as specified.

25. The combination with a feed wheel or carrier having can head and body receiving and centering pockets, of a pair of rotating and reciprocating plungers, a movable former or shaper, a pair of movable crimping-rollers, and a movable holder upon which said former or shaper and said crimping-rollers are all mounted, said former or shaper having a spring or yielding connection with said holder, and a fixed stop for arresting the movement of the former or shaper, the spring or yielding connection between said former and shaper and said holder permitting the holder and crimping-rollers carried thereby to continue their movement toward the can after the former or shaper is stopped, substantially as specified.

26. In a can heading and crimping machine, the combination with chucks or plungers for grasping and rotating the cans, of a can head and body centering pocket, a movable shaper or former, a crimping-roller, and a movable head or holder carrying the crimping-roller and shaper or former, substantially as specified.

27. The combination with a pair of rotating chucks or plungers, of a pair of independently-adjustable crimping-rollers, a movable head or holder upon which both of said crimping-rollers are carried, and a can-body former or shaper also mounted upon said movable head or holder, substantially as specified.

28. The combination of the feed wheel or carrier provided with a series of pockets, of a discharge-chute having a yielding or hinged bottom, and a stripping-finger secured to said yielding bottom, substantially as specified.

29. In a can heading and crimping machine, the combination with a feed-chute having can head and body passages or compartments, of a feed-wheel having can head and body receiving pockets, a pair of rotating and reciprocating plungers, and a pair of stripping cups or hoods surrounding said plungers, substantially as specified.

30. In a can heading and crimping machine, the combination with a feed-chute having can head and body passages or compartments, of a feed-wheel having can head and body receiving pockets, a pair of rotating and reciprocating plungers, a pair of stripping cups or hoods surrounding said plungers, and side guides extending from said cups or hoods to the feed-chute, substantially as specified.

31. The combination with a pair of rotating and reciprocating plungers or chucks, of a pair of stripping cups or hoods, and a pair of crimping-rollers substantially as specified.

32. The combination with a pair of rotating and reciprocating plungers for pushing can-heads upon a can-body, of a stripping device loosely fitting the plunger to strip the can therefrom as it is withdrawn, and a pair of crimping-rollers substantially as specified.

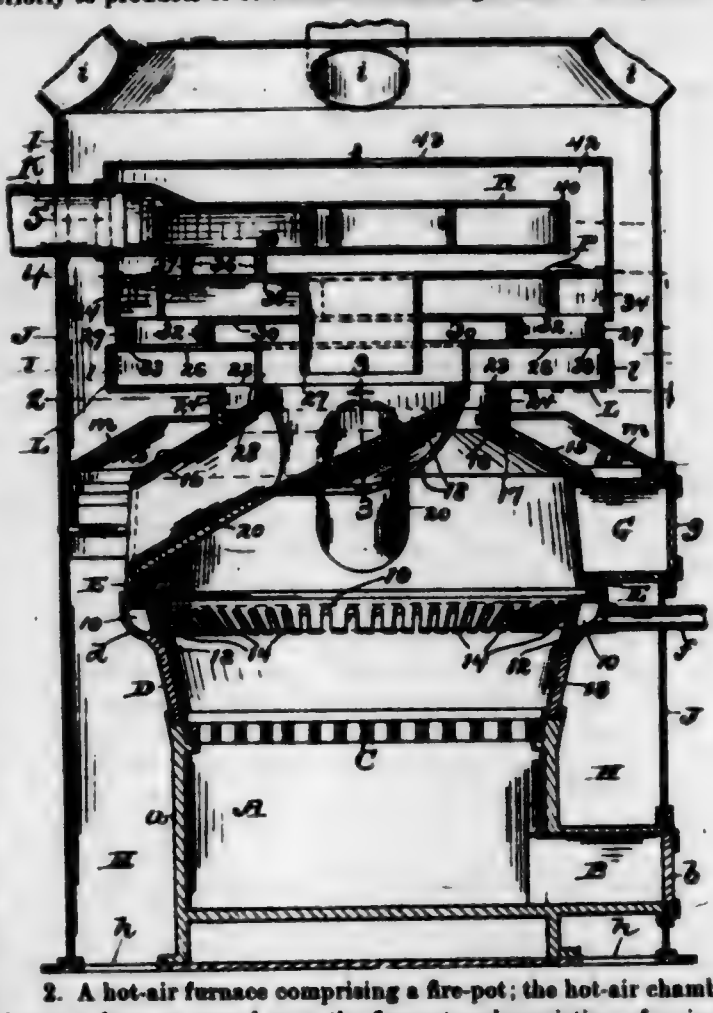
33. The combination with a pair of rotating and reciprocating plungers for rotating the can, of an arm bearing against the can to stop its rotation after being released by the chucks or plungers, substantially as specified.

34. In a can heading and crimping machine, a three-part feed-chute having passages for can-heads and can-bodies in juxtaposition to each other, each of the can-head passages being open at the top and provided with an enlarged or beveled entrance to facilitate the placing of the can-heads therein, substantially as specified.

35. In a can heading and crimping machine, a three-part feed-chute having passages for can-heads and can-bodies in juxtaposition to each other, each of the can-head passages being open at the top and provided with an enlarged or beveled entrance to facilitate the placing of the can-heads therein, and the inner wall or partition of said can-head feed-passage being higher than the outer one, substantially as specified.

807,050. **HOT-AIR FURNACE.** CHARLES W. STRAN, Cleveland, Ohio. Filed Mar. 26, 1904. Serial No. 200,162.

Claim.—1. A hot-air furnace comprising a fire-pot; the hot-air chamber above; a dome mounted upon the fire-pot and provided at the top and centrally with an outlet; means for conducting products of combustion from the said outlet; the cold-air chamber arranged exteriorly of the fire-pot and extending upwardly next exteriorly of the dome and in communication with the atmosphere exteriorly of the furnace; a plurality of ducts extending upwardly and inwardly from the exterior and lower end of the dome, which ducts communicate at their lower ends with the aforesaid cold-air chamber, and an air-chamber formed in and centrally of the top of the dome and open at the top, and the last-mentioned air-chamber being in communication with the aforesaid ducts and with the aforesaid hot-air chamber and arranged centrally of the aforesaid outlet so as to be exposed exteriorly to products of combustion ascending from the fire-pot.



2. A hot-air furnace comprising a fire-pot; the hot-air chamber above; a dome mounted upon the fire-pot and consisting of a single casting provided at the top and centrally with an outlet for products of combustion arising from within the fire-pot; means for conducting products of combustion from the said outlet; the cold-air chamber arranged exteriorly of the fire-pot and extending upwardly next exteriorly of the dome and in communication with the atmosphere exteriorly of the furnace; a plurality of ducts formed in the aforesaid casting and extending upwardly and inwardly from the exterior and lower end of the dome, which ducts are arranged wholly above the fire-pot and communicate at their lower ends with the aforesaid cold-air chamber, and an air-chamber formed in and centrally of the upper portion of the aforesaid casting and open at the top, and the last-mentioned air-chamber being in communication with the aforesaid ducts and with the aforesaid hot-air chamber and arranged centrally of the aforesaid outlet so as to be surrounded by products of combustion ascending from the fire-pot.

3. A hot-air furnace comprising a fire-pot; a dome mounted upon the fire-pot and provided, at the top, with an outlet for the products of combustion arising from within the fire-pot; a cold-air chamber arranged exteriorly of the fire-pot and dome and in communication with the atmosphere exteriorly of the furnace; a hot-air chamber above the dome and provided with air-outlets; a radiator forming interiorly-chambered heating-drum arranged above the dome and annular to form an opening arranged centrally of the drum, which opening is in communication, at its upper end, with the hot-air chamber, and with the interior chamber of the drum provided, at the bottom and centrally, with an inlet communicating with the outlet of the dome; a plurality of ducts extending upwardly and inwardly from the exterior and lower end of the dome, which ducts communicate, at their upper ends, with the aforesaid opening and are in communication, at their lower ends, with the cold-air chamber, and means for conducting products of combustion from the interior chamber of the drum.

4. A hot-air furnace comprising a fire-pot; a dome mounted upon the fire-pot and provided, at the top, with an outlet for the products of combustion arising from within the fire-pot, which dome has its upper portion conical; a cold-air chamber arranged exteriorly of the fire-pot and dome and in communication with the atmosphere exteriorly of the furnace; a hot-air chamber above the dome and provided with air-outlets; a radiator-forming interiorly-chambered heating-drum arranged above the dome and annular to form an open-

ing arranged centrally of the drum, which opening is in communication, at its upper end, with the hot-air chamber, and with the interior chamber of the drum provided, at the bottom and centrally, with an annularly and downwardly flanged inlet communicating with the outlet of the dome, with the flange, which extends around the said inlet, resting upon the aforesaid conical portion of the dome; a plurality of ducts extending upwardly and inwardly from the exterior and lower end of the dome, which ducts communicate, at their upper ends, with the aforesaid opening and are in communication, at their lower ends, with the cold-air chamber, and means for conducting products of combustion from the interior chamber of the drum.

5. A hot-air furnace comprising a fire-pot; a dome mounted upon the fire-pot and provided, at the top, with an outlet for the products of combustion arising from within the fire-pot, which dome has its upper portion conical; a cold-air chamber arranged exteriorly of the fire-pot and dome and in communication with the atmosphere exteriorly of the furnace; the hot-air chamber above; an annular conical deflector overhanging the aforesaid conical portion of the dome, which deflector is large enough diametrically to form an annular space between it and the dome, which space communicates, at the upper end of the deflector, with the hot-air chamber above and is in communication, at its lower end, with the cold-air chamber below; a radiator-forming interiorly-chambered heating-drum arranged a suitable distance above and extending over the deflector, which drum is annular to form an opening arranged centrally of the said drum, which opening is in communication, at its upper end, with the hot-air chamber, and with the interior chamber of the drum provided, at the bottom and centrally, with an inlet communicating with the outlet of the dome; means for conducting air from the cold-air chamber upwardly and inwardly to the aforesaid opening, and means for conducting products of combustion from the interior chamber of the drum.

6. A hot-air furnace comprising a fire-pot; a dome mounted upon the fire-pot and provided, at the top, with an outlet for the products of combustion arising from within the fire-pot; the furnace-casing extending around the fire-pot and dome and large enough in dimensions to form the hot-air chamber above and the cold-air chamber below, with the latter arranged exteriorly of the fire-pot and dome and in communication with the atmosphere exteriorly of the furnace; an annular conical deflector supported from the furnace-casing and overhanging the upper portion of the dome, which deflector is large enough diametrically to form an annular space between it and the dome, which space communicates, at the upper end of the deflector, with the hot-air chamber above and is in communication, at its lower end, with the cold-air chamber below; a radiator-forming interiorly-chambered heating-drum arranged a suitable distance above and extending over the deflector, which drum is annular to form an opening arranged centrally of the drum, which opening is in communication, at its upper end, with the hot-air chamber and with the interior chamber of the drum provided, at the bottom and centrally, with an inlet communicating with the outlet of the dome; several upwardly and inwardly extending ducts arranged at suitable intervals around the dome and communicating, at their upper ends, with the aforesaid opening, which ducts are in communication, at their lower ends and below the aforesaid deflector, with the cold-air chamber, and means for conducting products of combustion from the interior chamber of the drum.

7. A hot-air furnace comprising a fire-pot; the cold-air chamber arranged exteriorly of the fire-pot and in communication with the atmosphere exteriorly of the furnace; the hot-air chamber above; a radiator-forming interiorly-chambered heating-drum provided, at the bottom, with an inlet communicating with the interior chamber of the fire-pot; a smoke-flue in communication with the interior chamber of the drum; several ducts extending upwardly and inwardly over the fire-pot and in communication, at their upper ends, with the hot-air chamber and communicating, at their lower ends, with the aforesaid cold-air chamber, and means for guiding air ascending next exteriorly of the fire-pot into the said ducts.

8. A hot-air furnace comprising a fire-pot; a cold-air chamber arranged exteriorly of the fire-pot and in communication with the atmosphere exteriorly of the furnace; the hot-air chamber above; a radiator-forming interiorly-chambered heating-drum arranged a suitable distance above the fire-pot, and annular to form an opening arranged centrally of the drum, which opening is in communication, at its upper end, with the hot-air chamber, and with the interior chamber of the drum provided, at the bottom and centrally, with an inlet in communication with the interior chamber of the fire-pot; a plurality of upwardly and inwardly extending ducts communicating, at their upper ends, with the aforesaid opening and in communication, at their lower ends, with the cold-air chamber, and means for conducting products of combustion from the interior chamber of the drum.

9. A hot-air furnace comprising a fire-pot; a cold-air chamber arranged exteriorly of the fire-pot and in communication with the atmosphere exteriorly of the furnace; the hot-air chamber above; a radiator-forming interiorly-chambered heating-drum arranged a suitable distance above the fire-pot and annular to form an opening arranged centrally of the drum, which opening is in communication, at its upper end, with the hot-air chamber, and with the interior chamber of the drum provided, at the bottom and centrally, with an inlet which is in communication with the interior chamber of the fire-pot; a plurality of upwardly and inwardly extending ducts communicating, at their upper ends, with the aforesaid opening and in communication, at their lower ends, with the cold-air chamber; another radiator-forming interiorly-chambered heating-drum arranged a suitable distance above the aforesaid annular drum and provided centrally with an upright air-flue and having its interior in communication with the interior chamber of the aforesaid annular drum, said air-flue being in communication, at its upper end, with the hot-air chamber and communicating, at its lower end, with the aforesaid ducts, and means for conducting products of combustion from the interior chamber of the upper drum.

10. A hot-air furnace comprising a fire-pot; a dome mounted upon the fire-pot and provided with an outlet for the products of combustion arising from within the fire-pot; the furnace-casing extending around the fire-pot and dome and large enough in dimensions to form the hot-air chamber above and the cold-air chamber below, with the latter arranged exteriorly of the fire-pot and dome and in communication with the atmosphere exteriorly of the furnace; a suitably-supported deflector overhanging the upper portion of the dome, which deflector is arranged to form a space between it and the dome, which space communicates with the hot-air chamber and with the cold-air chamber; a radiator-forming interiorly-chambered heating-drum arranged a suitable distance above and extending over the deflector and having an interior chamber communicating with the outlet of the dome, which drum is shaped to form an opening which is arranged centrally of the drum and communicates with the hot-air chamber; several upwardly and inwardly extending ducts arranged at suitable intervals around the dome and communicating at their upper ends with the aforesaid opening, which ducts are in communication at their lower ends and in under the aforesaid deflector with the cold-air chamber, and means for conducting products of combustion from the interior chamber of the drum.

11. A hot-air furnace comprising a fire-pot; a dome mounted upon the fire-pot and provided with an outlet for the products of combustion arising from within the fire-pot; the furnace-casing extending around the fire-pot and dome and large enough in dimensions to form the hot-air chamber above and the cold-air chamber below, with the latter arranged exteriorly of the fire-pot and dome and in communication with the atmosphere exteriorly of the furnace; a suitably-supported deflector overhanging the upper portion of the dome, which deflector is arranged to form a space between it and the dome, which space communicates with the hot-air chamber and with the cold-air chamber; several upwardly and inwardly extending ducts arranged at suitable intervals around the dome and in communication at their upper ends with the hot-air chamber, which ducts are in communication at their lower ends and in under the aforesaid deflector with the cold-air chamber, and means for conducting products of combustion from the outlet of the dome.

12. A hot-air furnace comprising a fire-pot; a dome mounted upon the fire-pot and provided with an outlet for the products of combustion arising from within the fire-pot; the furnace-casing extending around the fire-pot and dome and large enough in dimensions to form the hot-air chamber above and the cold-air chamber below, with the latter arranged exteriorly of the fire-pot and dome and in communication with the atmosphere exteriorly of the furnace; a deflector supported from the furnace-casing and extending around and overhanging the upper portion of the dome, which deflector is arranged to form a space between it and the dome, which space communicates with the hot-air chamber and with the cold-air chamber; a radiator-forming interiorly-chambered heating-drum arranged a suitable distance above and extending over the deflector, which drum is shaped to form an opening centrally of the drum, with the said opening in communication with the hot-air chamber, and with the interior chamber of the drum in communication with the outlet of the dome; several upwardly and inwardly extending ducts arranged at suitable intervals around the dome and communicating, at their upper ends, with the aforesaid opening, which ducts are in communication, at their lower ends and below the aforesaid de-

flector, with the cold-air chamber, and means for conducting products of combustion from the interior chamber of the drum.

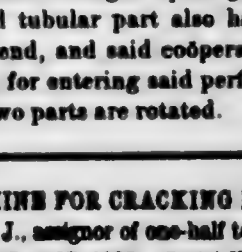
13. A hot-air furnace comprising a fire-pot; a dome mounted upon the fire-pot and having an upper conical portion provided with an outlet for the products of combustion arising from within the fire-pot; means for conducting products of combustion from the said outlet; the furnace-casing extending around the fire-pot and dome and large enough in dimensions to form the hot-air chamber above and the cold-air chamber below, with the latter arranged exteriorly of the fire-pot and dome and in communication with the atmosphere exteriorly of the furnace; a deflector supported from the furnace-casing and extending around and overhanging the aforesaid conical portion of the dome, which deflector is large enough diametrically and arranged to form a space between it and the dome, which space communicates with the hot-air chamber below, and several upwardly and inwardly extending ducts arranged at suitable intervals around the dome and in communication, at their upper ends, with the aforesaid hot-air chamber, which ducts are in communication, at their lower ends and below the aforesaid deflector, with the cold-air chamber.

14. A hot-air furnace comprising a fire-pot; the hot-air chamber above; a dome mounted upon the fire-pot and provided with an outlet for products of combustion arising within the fire-pot; means for conducting products of combustion from the said outlet; the cold-air chamber arranged exteriorly of the fire-pot and extending upwardly next exteriorly of the dome and in communication with the atmosphere exteriorly of the furnace; a plurality of ducts extending upwardly and inwardly from the exterior and lower end of the dome, which ducts communicate, at their lower ends and above the fire-pot, with the aforesaid cold-air chamber; an air-chamber arranged centrally of and formed in the upper portion of the dome and in communication with the said ducts and with the aforesaid hot-air chamber, and a deflector overhanging the dome and arranged to form a space between the deflector and the dome above the lower and air-receiving ends of the aforesaid ducts.

15. A hot-air furnace comprising a fire-pot; the hot-air chamber above; a dome mounted upon the fire-pot and consisting of a single casting, which dome is provided with an outlet for products of combustion arising from within the fire-pot; means for conducting products of combustion from the said outlet; the cold-air chamber arranged exteriorly of the fire-pot and extending upwardly next exteriorly of the dome and in communication with the atmosphere exteriorly of the furnace, and several ducts formed in the aforesaid casting and extending upwardly and inwardly from the exterior and lower end of the dome, which ducts communicate, at their lower ends, with the aforesaid cold-air chamber, and are in communication at their upper ends, with the aforesaid hot-air chamber; a deflector overhanging and extending around the aforesaid casting and arranged to form a space between the deflector and the casting above the lower and air-receiving ends of the aforesaid ducts.

16. A hot-air furnace comprising a fire-pot; the hot-air chamber above; a dome mounted upon the fire-pot and comprising a casting provided at the top of the dome with an outlet for products of combustion arising from within the fire-pot, which dome is provided at the front of the furnace with an inlet; means for conducting products of combustion from the aforesaid outlet; the cold-air chamber arranged exteriorly of the fire-pot and extending upwardly next exteriorly of the dome and in communication with the atmosphere exteriorly of the furnace; a plurality of ducts formed in the aforesaid casting at suitable intervals round the dome rearward of the aforesaid inlet and extending upwardly and inwardly from the exterior and lower end of the dome, which ducts communicate, at their upper ends, with the last-mentioned chamber and are in communication, at their lower ends, with the aforesaid cold-air chamber, and means for conducting products of combustion from the interior chamber of the drum.

807,051. **ELECTRIC ATTACHMENT-PLUG.** FREDERICK F. STRONG, Boston, Mass. Filed Apr. 3, 1905. Serial No. 253,537.



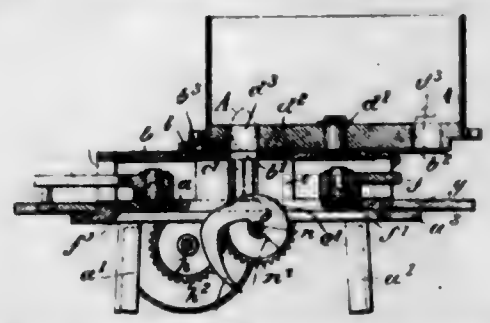
Claim.—1. An electric attachment-plug, comprising coöperating parts adapted to fit into each other and each provided with a plurality of independent threaded portions separated by longitudinal threadless portions, the containing part being tubular and having its threadless portions of greater radius than its threaded portions.

2. An electric attachment-plug, comprising a tubular part having a plurality of narrow threaded portions extending longitudinally thereof and offset on a shorter radius than the intervening threadless portions of said part, and a coöperating part having projecting threaded portions corresponding to the threaded portions of the tubular part, said parts being provided with locking means, operating when the coöperating threaded portions are interlocked, for positively locking the parts in operative relation.

3. An electric attachment-plug, comprising a tubular part, and a coöperating part to enter the same, said two parts having a series of broken threads permitting direct longitudinal insertion of one part within the other part and becoming fully interlocked by a partial relative rotation, said tubular part having a cylindrical inner end, and said coöperating part having a tapering forward end for fitting within the latter.

4. An electric attachment-plug, comprising a tubular part, and a coöperating part to enter the same, said two parts having a series of broken threads permitting direct longitudinal insertion of one part within the other part and becoming fully interlocked by a partial relative rotation, said tubular part having a cylindrical inner end, and said coöperating part having a tapering forward end for fitting within the latter, said tubular part also having a spring-contact perforated at its free end, and said coöperating member having a tapering contact-point for entering said perforated end with a wiping movement as the two parts are rotated.

807,052. **MACHINE FOR CRACKING NUTS.** CHARLES J. WERNER, Ridgefield, N. J., assignor of one-half to Edward C. Eustace, New York, N. Y. Filed Jan. 27, 1905. Serial No. 242,231.



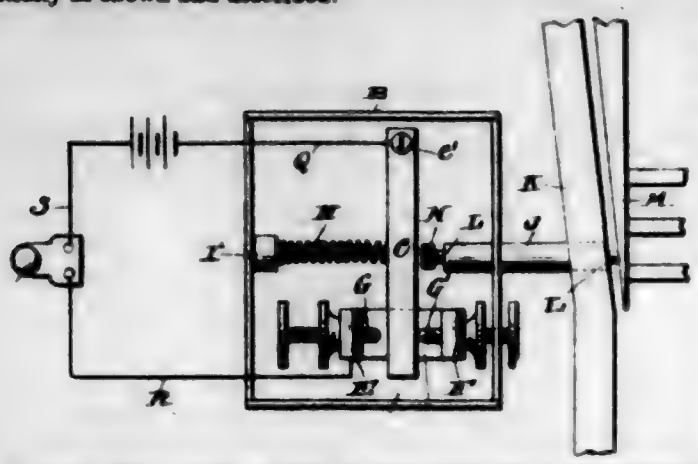
Claim.—1. A machine for cracking nuts, provided with a table having a tubular slotted head and a slotted rim, radially-movable blades guided in said head and rim, an oscillating ring, and elbow-levers having inner arms that engage the blades and outer arms that project through the rim and are operatively connected to the oscillating ring, substantially as specified.

2. In a machine for cracking nuts, an upright tubular head combined with a series of blades adapted to enter the head, and with an upright recessed disk having a stripper and projecting across the lower end of the head, substantially as specified.

807,053. **SWITCH-SIGNAL.** JOHN C. WISMAN, Crumbey, Wis. Filed Apr. 6, 1905. Serial No. 254,135.

Claim.—1. A circuit-closer for switch-signals, comprising, in combination with the switch-point, a bar secured to said switch-point, a lever mounted to oscillate in a horizontal plane and positioned to be struck by said bar, electrical connections with said lever and a contact-post in the path of the oscillation of said lever, and

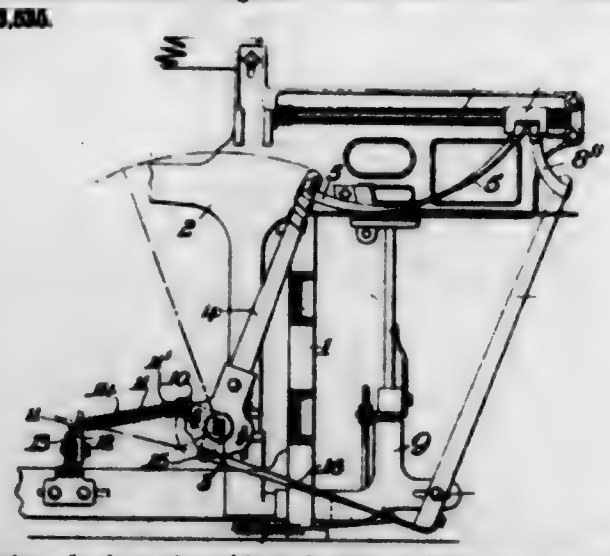
means to normally hold said lever out of contact with said post, substantially as shown and described.



2. A circuit-closer for switch-signals, comprising in combination with a switch-point, a bar secured to said switch-point, a lever mounted to oscillate in a horizontal plane and be struck by said bar, a contact-post arranged in the path of said lever, a suitable signal, electrical connections between said signal and the lever and contact-post, and an expansible coil-spring to normally hold said lever out of contact with said contact-post, substantially as shown and described.

3. A circuit-closer for switch-signals comprising in combination with the switch-point, a bar secured to said switch-point, a base suitably mounted adjacent to the switch, a lever mounted on said base and adapted to oscillate in a horizontal plane, the end of said bar adapted to strike said lever, a standard secured to said base, posts secured to said standard on each side of the end of said lever, set-screws mounted in said posts, a suitable signal and battery for energizing said signal, the lever in circuit with the battery and one of the contact-posts with the signal, and a coil-spring to hold the lever out of engagement with the set-screw in the last-named contact-post, substantially as shown and described.

807,054. **UNDER-WHIP PICK-MOTION FOR LOOMS.** JOHN S. ASHLEY, Huddersfield, England. Filed June 3, 1905. Serial No. 263,535.

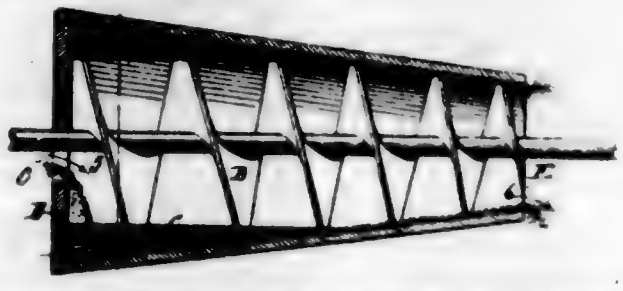


Claim.—1. An under-whip pick-motion of a loom, comprising a picking-shaft, a picking-stick fast thereon, a picker, a strap connecting the picking-stick and the picker, a pivoted arm movable with the lay, a strap connecting said arm to the picker, and means for controlling the picking-stick, said means consisting of a lever-arm fast on the picking-shaft, and a spring which is put in compression or in tension in one-half of the movement of said lever-arm, and after the latter passes the dead-center acts to assist the final movement and prevent rebound of the picking-stick.

2. In an under-whip pick-motion of a loom, the combination with a picking-shaft, a picking-stick fast thereon, a picker, a strap connecting the picking-stick and the picker, a supplementary pivoted draw-back arm, and a strap connecting said arm to the picker, of a lever-arm fast on the picking-shaft, a spindle or rod pivotally connected to said lever-arm, a bracket having an opening therein, in which the free end of the spindle is supported, and a spring surrounding said spindle, and confined between the bracket and a collar fast on the spindle.

3. In an under-whip pick-motion of a loom, the combination with a picking-shaft, a picking-stick fast thereon, a picker, a strap connecting the picking-stick and the picker, a supplementary pivoted draw-back arm, a strap connecting said arm to the picker, and a flexible connection between the picking-stick and the supplementary arm, of means for controlling the picking-stick to prevent rebound thereof, said means comprising a lever-arm fast on the picking-shaft, and a spring acted upon by said lever-arm to compress or extend it in one part of its movement, and to be acted upon by the expansion or contraction of said spring, after said lever-arm passes the dead center, for the purpose stated.

807,055. **CENTRIFUGAL SEPARATOR.** JOHN J. BERRIGAN, East Orange, N. J., assignor to Francis J. Arend, New York, N. Y., and John Bernstrom, Stockholm, Sweden. Filed Mar. 1, 1904. Serial No. 196,057.



Claim.—1. In a machine for separating solids and liquids, a rotary separating vessel, a liquid-escape conduit opening into the interior of said vessel between its circumferential wall and axis of rotation and extending at an angle to the axis of said vessel, and means for conveying solid material in a direction longitudinally of said vessel from inlet to outlet.

2. In a machine for separating solids and liquids, a rotary separating vessel, a liquid-escape conduit opening into the interior of said vessel between its circumferential wall and axis of rotation and extending through a wall of said vessel at an angle to the axis of rotation thereof, and means for conveying solid material in a direction longitudinally of said vessel from inlet to outlet.

3. In a machine for separating solids and liquids, a conical rotary separating vessel, a head for the large end thereof, having an inlet-opening, an annular lining-piece disposed in the angle between said head and the circumferential wall of said vessel, a liquid-escape conduit extending through said lining-piece and said wall, and means for conveying solid material in a direction longitudinally of said vessel from inlet to outlet.

4. In a machine for separating solids and liquids, a conical rotary separating vessel, a head for the large end thereof having an inlet-opening, an annular lining-piece disposed in the angle between said head and the circumferential wall of said vessel and having a concave face, a liquid-escape conduit extending through said lining-piece and said wall and means for conveying solid material in a direction longitudinally said vessel from inlet to outlet.

807,056. **CENTRIFUGAL SEPARATOR.** JOHN J. BERRIGAN, East Orange, N. J., assignor to Francis J. Arend, New York, N. Y., and John Bernstrom, Stockholm, Sweden. Filed Mar. 1, 1904. Serial No. 196,058.

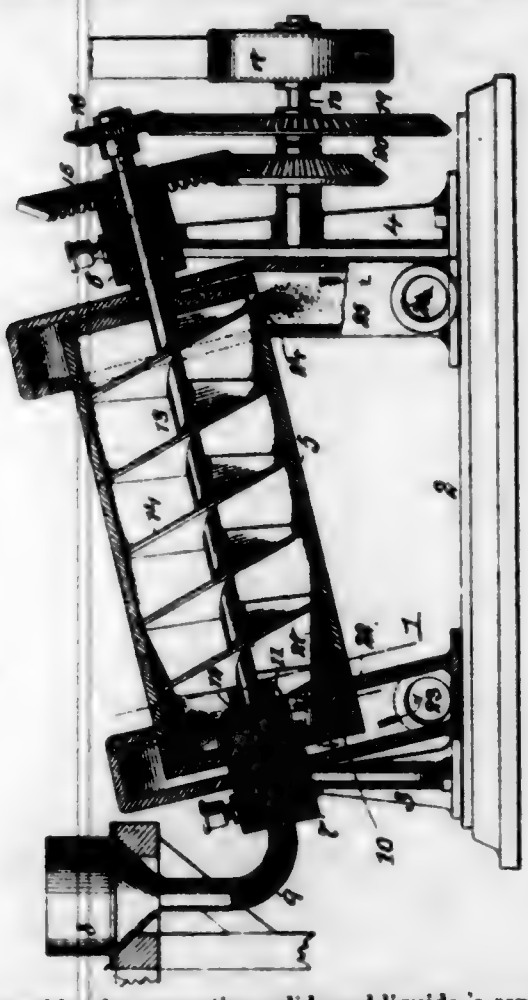
Claim.—1. In a machine for separating solids and liquids, a rotary separating vessel having a feed-inlet at one end and an outlet for solids at the other end, the said inlet end of said vessel being below the said outlet end, and means within said vessel for conveying said solid material to said outlet; the said vessel having a liquid-escape opening disposed between its circumferential wall and its axis of rotation.

2. In a machine for separating solids and liquids, a separating vessel rotary on an inclined axis and having a feed-inlet at one end and an outlet for solids at the other end, the said inlet end being below the said outlet end and means within said vessel for conveying said solid material to said outlet; the said vessel having a liquid-escape opening disposed between its circumferential wall and its axis of rotation.

3. In a machine for separating solids and liquids, a cylindrical separating vessel rotary on an inclined axis and having a feed-inlet centrally disposed in its lower head and an outlet for solids and means within said vessel for conveying solid material to said outlet; the said vessel having a liquid-escape opening disposed between its circumferential wall and its axis of rotation.

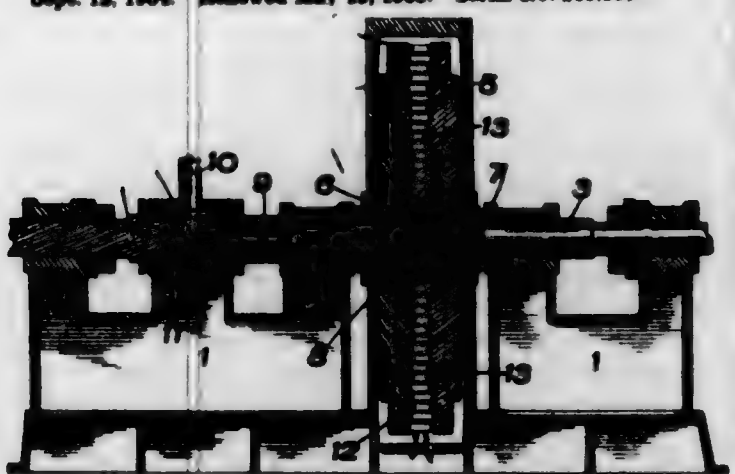
4. In a machine for separating solids and liquids, a separating vessel rotary on an inclined axis, a feed-inlet conduit extending through the lower head thereof and turned at an angle to said axis of rotation, and means within said vessel for conveying said solid material to an outlet; the said vessel having a liquid-escape opening disposed between its circumferential wall and its axis of rotation.

5. In a machine for separating solids and liquids, a separating vessel rotary on an inclined axis and having an outlet for solids in its circumferential wall, and near its upper end, a feed-inlet at the lower end, and a liquid-escape opening disposed between its said wall and its axis of rotation, and a rotary screw conveyer within said vessel.



6. In a machine for separating solids and liquids, a separating vessel rotary on an inclined axis and having an outlet for solids in its circumferential wall, and near its upper end, a feed-inlet at the lower end and a liquid-escape opening disposed between its said wall and its axis of rotation, a rotary screw conveyer within said vessel and means for revolving said conveyer and said vessel at different rates of speed.

807,057. STEAM-TURBINE. JOHN F. BRADY, Chicago, Ill. Filed Sept. 12, 1904. Renewed May 15, 1905. Serial No. 260,589.

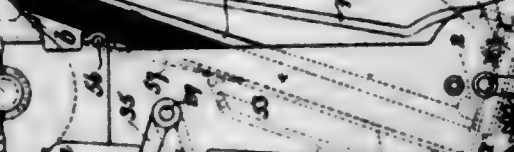


Claim.—1. In a steam-turbine having vane-wheels mounted with side faces thereof in proximity and forming an interspace, a steam-inlet at the central portion of the interspace, opposing sets of vanes projecting from the opposite wheels into the interspace, the latter being wider at the peripheral than at the central portion, for the purpose stated.

2. In a steam-turbine having vane-wheels mounted with side faces thereof in proximity and forming an interspace, a passage-way for steam leading into the interspace at the axial portion of the wheels, opposing sets of vanes projecting from the opposite wheels into the interspace, the interspace wider and the vanes longer at the peripheral than at the axial portions of the opposing wheels, for the purpose stated.

3. In a steam-turbine having vane-wheels mounted upon separate revoluble shafts, the vane-wheels having side faces disposed in close proximity and forming an interspace; opposing sets of vanes projecting from the opposite wheels into the interspace, an axial steam-receptacle connected with one of the vane-wheels outside of the shaft upon which this wheel is mounted, the receptacle provided with peripheral passage-ways, and the shaft around which the receptacle is mounted provided with a passage-way leading to a steam-supply and into the axial receptacle.

807,058. TRACE-SPLICE. HENRY BRENDING, Sterling, Ill. Filed June 5, 1905. Serial No. 263,714.



Claim.—1. In combination with the ends of the trace, of a trace-splice comprising a central plate, and a pair of leaves pivotally attached to said plate at opposite sides thereof, said plate being provided with an aperture, and a buckle arranged on one of the ends of the trace and being provided with a pin, said pin being normally received in said aperture.

2. In a device of the character described, the combination with the ends of the trace, of a pair of leaves each secured in one of the ends of the trace, a plate pivotally connected on its opposite sides with the leaves and being provided with an aperture, and a buckle arranged on one of the ends of the trace and being provided with a pin, said plate being capable of movement whereby said pin may be engaged or disengaged from said aperture.

3. In a device of the character described, the combination with the ends of the trace, of means connecting said ends, and a buckle provided with a pin and arranged on one of the trace ends, said means being capable of a swinging movement for engagement or disengagement with said pin.

4. In a device of the character described, in combination with the trace ends, of ribbed leaves, each secured between the folds of one of the trace ends, a plate provided on each of its opposite sides with a bar said leaves secured on opposite sides of the said plate by means of said bars, said plate being provided with an aperture intermediate said bars, and a buckle having a pin arranged on one of the trace ends, said plate being capable of a swinging movement whereby said pin may be engaged or disengaged from said aperture.

807,059. SHEET-FEEDING MACHINE. WILLIAM CARTER, Glasgow, Scotland, assignor to The Carter Automatic Sheet Feeder Syndicate Limited, London, England. Filed July 31, 1903. Serial No. 167,708.

Claim.—1. In a pneumatic feeder, the combination with an inclined sheet-holder consisting of an inclined frame carried by slides

working on guides, of racks on the slides, pinions engaging with the racks, means for driving said pinions and feeding the slides forward intermittently, a frame which rests by gravity against the pile of sheets of paper on the holder and means for moving said frame away at certain times from the sheets.

2. In a pneumatic feeder, the combination with an inclined sheet-holder consisting of an inclined frame carried by slides working on guides, of racks on the slides, pinions engaging with the racks, a shaft carrying the pinions, worm-gear for driving the shaft, ratchet-and-pawl gear for driving the worm-gear, means for automatically regulating the number of teeth skipped by the pawl at each feed movement and means for operating the ratchet-and-pawl gear.

3. In a pneumatic feeder, the combination with a sheet-holder consisting of a frame carried by slides working on guides, of racks on the slides, pinions engaging with the racks, a shaft carrying the pinions, worm-gear for driving the shaft, ratchet-and-pawl gear for driving the worm-gear, a worm-wheel on said shaft, a worm on a worm-shaft for driving the worm-wheel, a ratchet-wheel on the worm-shaft, a weighted pawl pivotally secured on the worm-shaft, a pawl-operating lever, and a cam operated by the machine for operating the lever, substantially as described.

4. In a pneumatic feeder, the combination with an inclined sheet-holder consisting of an inclined frame carried by slides working on guides, of racks on the slides, pinions engaging with the racks, a shaft carrying the pinions, worm-gear for driving the shaft, ratchet-and-pawl gear for driving the worm-gear, a finger on the pawl, a cam for acting on the finger and raising the pawl up out of engagement with the ratchet and means for moving said cam, substantially as described.

5. In a pneumatic feeder, the combination with a sheet-holder consisting of a frame carried by slides working on guides, of racks on the slides, pinions engaging with the racks, a shaft carrying the pinions, worm-gear for driving the shaft, ratchet-and-pawl gear for driving the worm-gear, a finger on the pawl, a cam for acting on the finger and raising the pawl up out of engagement with the ratchet, quadrant and bevel gears for moving the cam and means for operating the quadrant and bevel gears, substantially as described.

6. In a pneumatic feeder, the combination with a sheet-holder consisting of a frame carried by slides working on guides, of racks on the slides, pinions engaging with the racks, a shaft carrying the pinions, worm-gear for driving the shaft, ratchet-and-pawl gear for driving the worm-gear, a finger on the pawl, a cam for acting on the finger and raising the pawl up out of engagement with the ratchet, quadrant and bevel gears for moving the cam, a movable frame resting on the sheets of paper on the sheet-holder, means for moving this frame, and a toe-piece on the frame for operating the quadrant-gear, substantially as described.

7. In a pneumatic feeder, the combination with a sheet-holder consisting of a frame carried by slides working on guides, of racks on the slides, pinions engaging with the racks, a shaft carrying the pinions, worm-gear for driving the shaft, ratchet-and-pawl gear for driving the worm-gear, a finger on the pawl, a cam for acting on the finger and raising the pawl up out of engagement with the ratchet, bevel-gear for moving the cam, quadrant-gear for operating the bevel-gear, a movable frame arranged in connection with the sheet-holder and which is adapted to operate the quadrant-gear and means for moving the said frame, substantially as described.

8. In a pneumatic feeder, the combination with the sheet-holder of the machine of a frame which rests by gravity against the pile of sheets of paper on the holder, links connected to the frame, supports to which the links are attached, and means for moving the frame away from the paper sheets with a parallel-ruler movement.

9. In a pneumatic feeder, the combination with the sheet-holder of the machine of a frame which rests by gravity against the pile of sheets of paper on the holder, links connected to the frame, supports to which the links are attached, a fork connected with the frame, a roller thereon, a lever adapted to push up said roller and a cam for operating the lever, substantially as described.

10. In a pneumatic feeder, the combination of a sheet-holder carried by slides, of means for feeding forward the slides, backstays hinged to the holder, teeth at the lower ends of the stays, pins connected with the slides for engaging said teeth, and means for moving the pins, substantially as described.

11. In a pneumatic feeder, the combination with the sheet-holder, the suction-cylinder and the means for producing the suction, of a shaft, a check-wheel means for operating the check-wheel from said shaft, and gear connected with the check-wheel for stopping the machine to which the sheets are being fed.

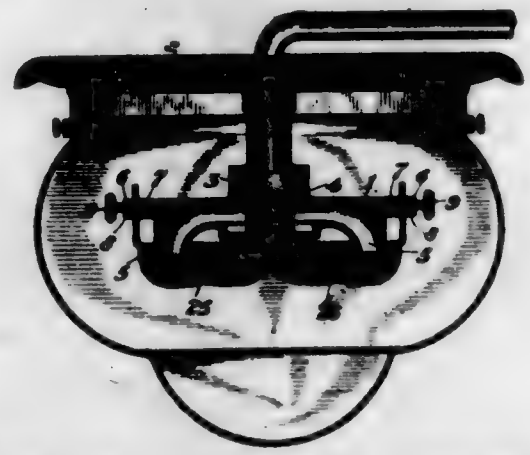
12. In a pneumatic feeder, the combination with the sheet-holder, the suction-cylinder and the means for producing the suction, of a shaft, a check-wheel means for operating the check-wheel, hinged pawls on the check-wheel, means for knocking out said pawls, means for forcing them in again, and gear connected with the check-wheel for stopping the machine to which the sheets are being fed.

13. In a pneumatic feeder, the combination with the sheet-holder, the suction-cylinder, and the means for producing the suction, of mechanism for automatically stopping the machine to which the sheets of paper are being fed whenever a sheet of paper is missed by the feeder, and mechanism for controlling the feeder so that one sheet only can be fed for every two revolutions of the suction-cylinder.

14. In a pneumatic feeder the combination with the sheet-holder of the machine of a frame which rests by gravity against the pile of sheets of paper on the holder, a revoluble suction-cylinder, means for producing the suction, means for moving said frame away from the sheets on the holder and means for controlling said moving means so that one sheet only shall be fed for every two revolutions of the suction-cylinder, substantially as described.

15. In a pneumatic feeder, the combination with the sheet-holder of the machine of a frame which rests by gravity against the pile of sheets of paper on the holder, links connected to the frame, supports to which the links are attached, a fork connected with the frame, a roller thereon, a lever adapted to push up said roller, a cam for operating the lever, a clutch connected with said cam and means for throwing said clutch out of gear, substantially as described.

807,080. **INCANDESCENT MANTLE.** DANIEL J. CLARK, Jersey City, N. J., assignor to Hillary Eldridge and James C. Young, Jersey City, N. J. Filed June 14, 1905. Serial No. 265,152.



Claim.—1. An incandescent mantle consisting of a plurality of independent hollow sections inclosing a space therebetween, substantially as described.

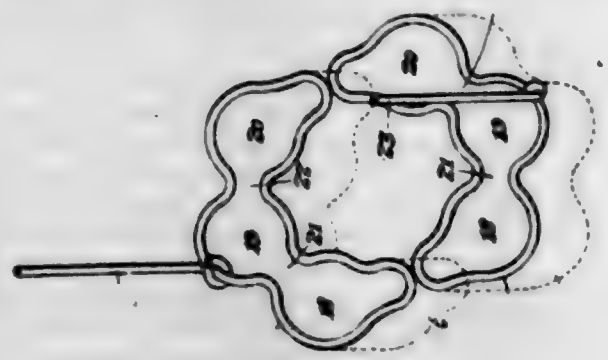
2. An incandescent mantle consisting of a plurality of independent hollow sections inclosing a space therebetween, each section having a plurality of pockets, substantially as described.

3. A ring-like incandescent mantle, comprising a plurality of independent curved hollow sections substantially U-shaped in cross-section, substantially as described.

4. A ring-like incandescent mantle, comprising a plurality of independent curved hollow sections, each having a plurality of communicating pockets, substantially as described.

5. A ring-like incandescent mantle, comprising a plurality of independent curved hollow sections substantially U-shaped in cross-section and having a plurality of communicating pockets, substantially as described.

807,081. **MANTLE-HANGER.** DANIEL J. CLARK, Jersey City, N. J., assignor to Hillary Eldridge and James C. Young, Jersey City, N. J. Filed June 14, 1905. Serial No. 265,153.

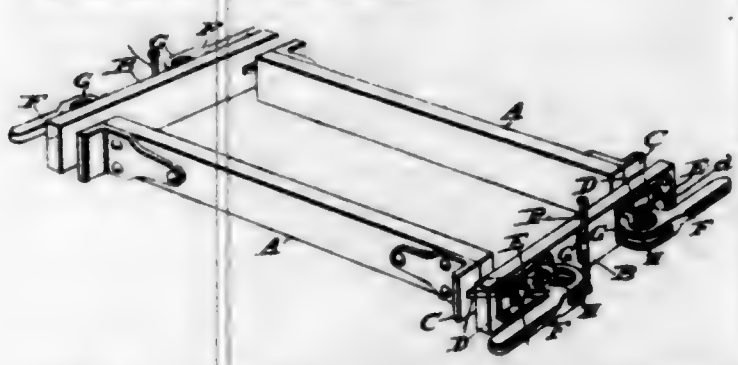


Claim.—1. A hanger for incandescent mantles, consisting of independent frames inclosing a space, each frame having an opening adapted to receive a plurality of burners, substantially as described.

2. A hanger for incandescent mantles, consisting of independent frames inclosing a space, each frame having an opening adapted to receive a plurality of burners and means for supporting it on a burner, substantially as described.

3. A hanger for incandescent mantles, consisting of independent irregularly-curved frames inclosing a space, each frame having an opening adapted to receive a plurality of burners, substantially as described.

807,082. CEMENT-MOLD. ROBERT B. COLTRIN, Jackson, Mich. Filed May 20, 1905. Serial No. 261,407.



Claim.—1. A mold having separable side and end members, arms extending from the ends of said side members and passing slidably through openings therefor in the end members, the arms at each end of the mold being inclined in converging directions, and devices mounted on said arms outside the end members for forcing them toward each other.

2. A mold having separable side and end members, arms extending from the ends of said side members and passing slidably through openings therefor in the end members, the arms at each end of the mold being inclined in converging directions, and levers fulcrumed on said arms having means for forcing inwardly the end members, whereby the inward movement of the end members also forces inwardly the side members.

3. A mold having separable side and end members, arms extending from the ends of said side members and passing slidably through openings therefor in the end members, the arms at each end of the mold being inclined in converging directions, and levers pivoted to said arms outside of and connected to said end members for operating and closing the mold.

4. A mold having separable side and end members, arms extending from the ends of said side members and passing slidably through openings therefor in the end members, the arms at each end of the mold being inclined in converging directions, and levers pivoted to said arms having cams bearing against the end members.

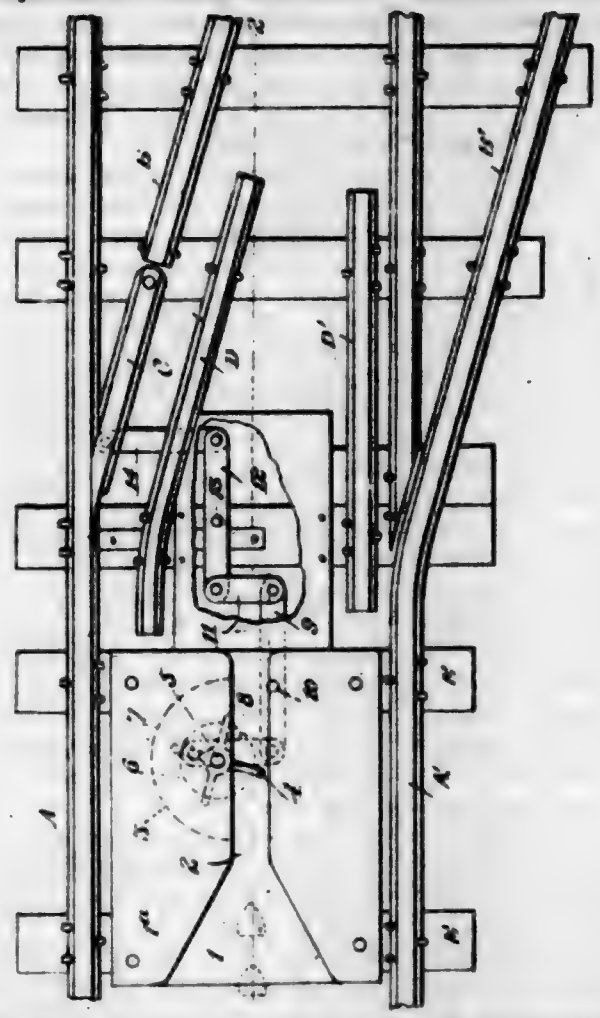
5. A mold having separable side and end members, arms extending from the ends of said side members and passing slidably through openings therefor in the end members, the arms at each end of the mold being inclined in converging directions, and levers pivoted to said arms outside the end members having cams bearing against the end members, whereby the mold is operated for closing by forcing the cams against said end members, and means for separating by reverse movement of said levers.

6. A mold having separable side and end members, arms extending from the ends of said side members and passing slidably through openings therefor in the end members, the arms at each end of the mold being inclined in converging directions, and levers outside the mold pivoted to the said arms having cams bearing against the end members, said cams being annular, and straps on said end members engaged by said cams.

7. A mold having separable side and end members, arms extending from the ends of said side members and passing slidably through openings therefor in the end members, the arms at each end of the mold being inclined in converging directions, bearing-plates on the outer faces of the end members, and levers pivoted to said arms having cams bearing against said plates.

8. A mold having separable side and end members, arms extending from the ends of said side members and passing slidably through openings therefor in the end members, the arms at each end of the mold being inclined in converging directions, levers fulcrumed on said arms having means for forcing inwardly the end members whereby the inward movement of the end members also forces inwardly the side members, and latches on the end members adapted to engage catches in said oblique arms when the mold is closed.

807,083. SWITCH-OPERATING MECHANISM. GEORGE J. CURRAN, Plymouth, Pa. Filed Oct. 14, 1904. Serial No. 228,772.

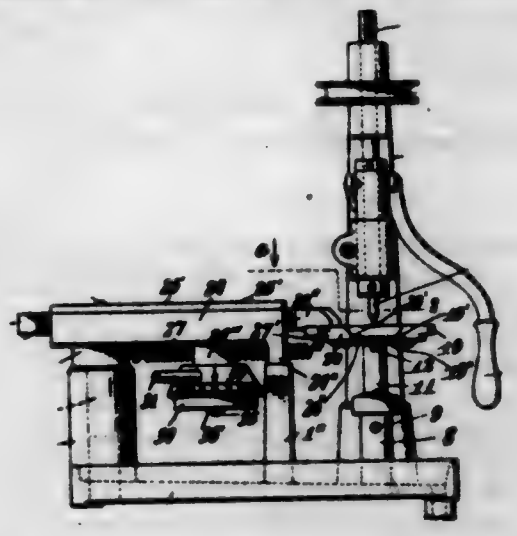


Claim.—1. In combination with the rails and switch-point of a railway-switch, a guide-channel located in advance of the switch, a vertical spindle carrying a four-point star-wheel bridging said channel and a crank or wrist pin, a plurality of levers fulcrumed between said spindle and the switch-point, and links connecting the spindle and switch-point to the outermost ends of the levers and the inner ends of the levers to each other.

2. In combination with the rails and switch-point of a railway-switch, a guide-channel located in advance of the switch, a vertical spindle carrying a four-point star-wheel bridging said channel and a wrist-pin, a disk secured to the lower end of said spindle, a plurality of levers fulcrumed between said disk and the switch-point, and links connecting the spindle and switch-point to the outermost ends of the levers and the inner ends of the levers to each other.

3. In combination with the rails and switch-point of a railway-switch, a housing located in advance of the switch and provided with a guide-channel, a vertical spindle carrying a four-point star-wheel bridging said channel, and a crank or wrist pin, said housing having the removable portion 1^a, a plurality of levers fulcrumed between said spindle and the switch-point, and links connecting the spindle and switch-point to the outermost ends of the levers and the inner ends of the levers to each other.

807,084. LENS-DRILLING MACHINE. GEORGE H. DAY, Southbridge, Mass., assignor to American Optical Company, a Corporation of Massachusetts. Filed Mar. 25, 1905. Serial No. 251,863.



Claim.—1. In a machine for drilling lenses, &c., the combination with two longitudinally-reciprocating slides or bars extending in the same horizontal plane, and each bar carrying a support for a lens and having teeth thereon to be engaged by a pinion, of means for positively moving said bars in opposite directions to move apart said supports, preparatory to receiving a lens, and means for moving said bars yieldingly toward each other.

2. In a machine for drilling lenses, &c., the combination with two longitudinally-reciprocating slides or bars, extending in the same horizontal plane, and each bar carrying a lens-support and having teeth thereon to be engaged by a pinion, of means for positively moving said bars in opposite directions to move apart said support, preparatory to receiving a lens, and means for moving said bars yieldingly toward each other, and means for positively moving the two bars and supports simultaneously in a direction toward or away from the drill, to change the position of the lens relatively to the position of the drill.

3. In a machine for drilling lenses, &c., the combination with two lens-supports for holding a lens, movable toward and away from each other, and bars carrying such supports and having teeth thereon, and adapted to be moved in opposite directions, and also moved in the same direction, of means for moving said bars, said means comprising a pinion meshing with the teeth on one bar and fast on a rotary shaft, and said shaft secured to a rotary disk, and said disk, and means for rotating the same, and a second pinion meshing with the teeth on the other bar, and fast on a hollow rotary shaft, and said shaft secured to a rotary disk, and said disk, and means for rotating the same, and movable connections between said disks, to cause them to rotate together in the same direction, and cause the two pinions to rotate as a single pinion, to move the two bars in opposite directions, or to allow said disks to be rotated separately in opposite directions, and cause the two pinions to rotate separately in opposite directions, to move the two bars in the same direction.

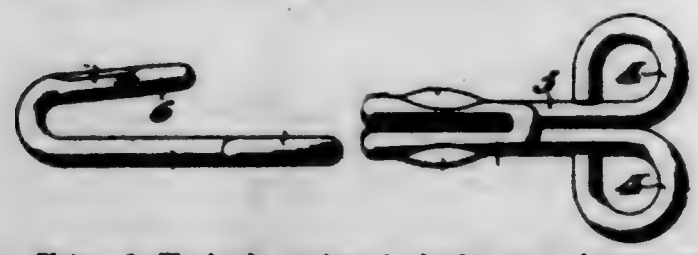
4. In a machine for drilling lenses, &c., the combination with supports for holding a lens, and means for moving said supports apart to receive the lens, and means for yieldingly moving them together to hold the lens, of a rotary or swivel support for the lens at the point where it is to be drilled, and an adjustable stop or gage on said support, adapted to engage the edge of the lens and to adjust itself to the edge of the lens in its different positions relatively to the drill.

5. In a machine for drilling lenses, &c., a rotary or swivel support for a lens at the point where it is to be drilled, and an adjustable stop or gage on said support, to engage the edge of the lens.

6. In a machine for drilling lenses, &c., the combination with two supports for holding a lens, and rack-bars carrying said supports and pinions meshing with said rack-bars, of mechanism for moving said rack-bars in opposite directions to open the supports to receive the lens, and mechanism for moving said rack-bars in the same direction, to move the lens a predetermined distance for the drilling of the hole, at the right or left of the major axis of the lens.

7. In a machine for drilling lenses, &c., the combination with two supports for holding a lens, and two rack-bars carrying said supports, of means for moving said rack-bars in opposite directions, and in the same direction, said means comprising two pinions adapted to be rotated as a single pinion in the same direction, and also rotated as two separate pinions in opposite directions, and means for rotating said pinions.

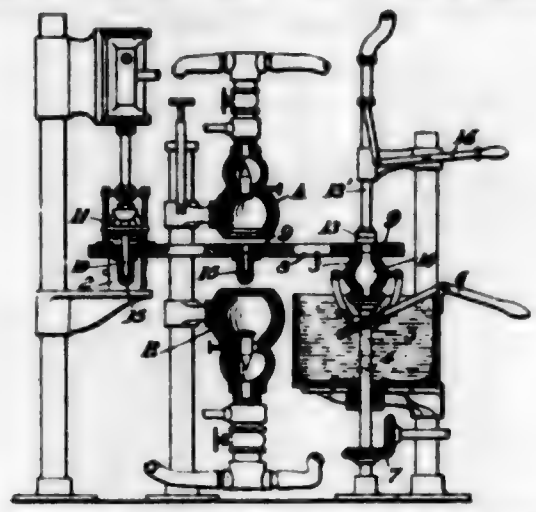
807,065. HOOK-AND-EYE FASTENER. FRANK B. DE LONG, Philadelphia, Pa. Filed Nov. 12, 1904. Serial No. 232,625.



Claim.—1. The hook member of a hook and eye fastener constructed of a single piece of wire bent to form the shank and the bill of the hook, the said shank consisting of two portions of wire arranged side by side and in contact, and the bill consisting of two wires arranged side by side and parallel but separated or spaced from each other, and projections formed upon the outer sides of the said bill by flattening out portions of the metal of the said bill.

2. The hook member of a hook and eye fastener consisting of a single piece of wire bent so as to form the shank and bill of the hook, and the shank consisting of two portions of wire arranged side by side and in contact, and the bill consisting of two portions of wire arranged side by side and parallel but separated from each other, and projections formed upon the outer sides of the said bill, the said projections consisting of flattened out portions of the metal of the bill of the hook and being curved outwardly gradually from their opposite ends toward their centers.

807,066. MANUFACTURE OF GLASSWARE. PHILIP EBELING, Moundsville, W. Va. Filed Mar. 28, 1905. Serial No. 252,468.



Claim.—1. The method of heating a hollow glass article in the manufacture thereof consisting in heating uniformly and simultaneously the interior and exterior surfaces thereof.

2. The method of heating a hollow glass article consisting in making a direct application of heat to the interior and exterior surfaces thereof.

3. The method of heating a hollow glass article consisting in projecting flames directly against the interior and exterior surfaces of the article.

4. The method of heating a hollow glass article consisting in simultaneously projecting oppositely-disposed flames respectively against the interior and exterior surfaces of the article.

5. The method of heating a hollow glass article consisting in supporting the same with its concavity disposed vertically, and heating uniformly the inner and outer surfaces thereof.

6. The method of heating a hollow glass article consisting in supporting the article with its concavity disposed vertically, and projecting reheating-flames upwardly and downwardly against opposite surfaces of the article.

7. The method of heating a hollow glass article consisting in supporting the article with its concavity open upwardly, projecting a downwardly-directed flame into the concavity of the article, and projecting an upwardly-directed flame against the under or exterior surface of the article.

8. The method of heating a hollow glass blank consisting in supporting the blank with its concavity disposed vertically, and then heating the blank without distorting the shape thereof by projecting reversely-disposed flames simultaneously against the upper and lower surfaces thereof.

9. The method of manufacturing glassware consisting in forming a hollow blank, then making a direct application of heat to both the interior and exterior surfaces of the blank for the purpose of reheating the same, and then blowing the reheated blank.

10. The method of manufacturing glassware consisting in pressing a blank in a mold by means of a plunger, then making a direct application of heat to both the inner and outer surfaces of the blank chilled by contact with the plunger and mold, and then blowing the reheated blank.

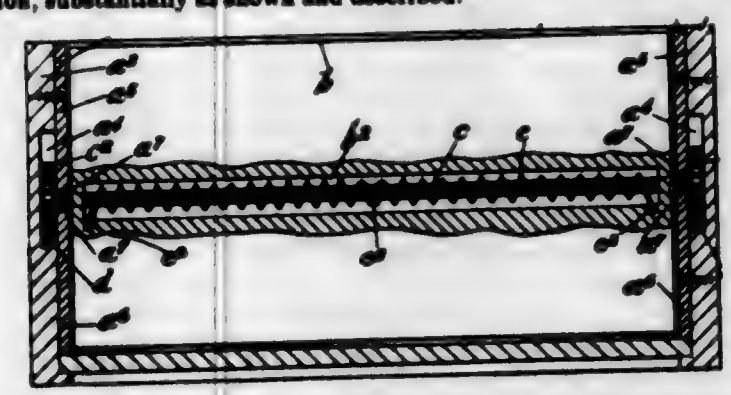
807,067. FILING-CASE. HUMPHREY FALVEY, Parkville, N. Y. Filed Mar. 30, 1905. Serial No. 252,851.

Claim.—1. A file of the class described, comprising a case, a partition movable therein, and devices for automatically forcing said partition in one direction, said devices being entirely concealed within the partition and the sides of the case, substantially as shown and described.

2. A file of the class described, comprising a case, a partition movable longitudinally therein, and devices for automatically forcing said partition the full length of the case in one direction, said devices being entirely concealed within the partition and the sides of the case, substantially as shown and described.

3. A file of the class described, comprising a case having side

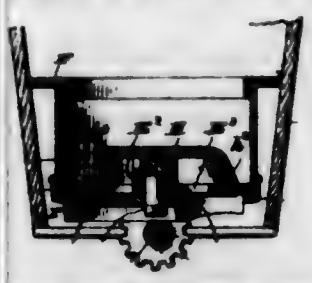
guides, a shaft mounted transversely of the case and movable longitudinally thereof in said guides, a partition connected with said shaft and means for automatically forcing said partition in one direction, substantially as shown and described.



4. A file of the class described, comprising a case, a shaft mounted transversely of the case and movable longitudinally thereof, a partition connected with said shaft and means for automatically forcing said partition in one direction, consisting of racks mounted in the opposite sides of the case, gear-wheels connected with said shaft and meshing with said racks, and a spiral spring or springs connected with said shaft and with said partition, substantially as shown and described.

5. A file of the class described, comprising an oblong case having longitudinal recesses in the opposite sides thereof which open inwardly and which are provided with covers having longitudinal slots, a shaft mounted transversely of the case and passing through said slots and movable therein, racks placed in said recesses, gear-wheels connected with said shaft and operating in connection with said racks, a partition mounted on said shaft and spiral springs connecting said partition with said shaft, substantially as shown and described.

807,088. **FERTILIZER-DISTRIBUTER.** WILLIAM FETZER, Middletown, Ohio. Filed Sept. 12, 1905. Serial No. 278,116.



Claim.—1. In a fertilizer-distributer, the combination of a rotary hopper, of a stationary cap, and means adjustable relatively to the cap and in the direction of feed of the fertilizer for regulating the admission of fertilizer to said cap.

2. In a fertilizer-distributer, a discharging device comprising a substantially circular cap provided with a tangentially-disposed opening leading thereinto, and a circumferentially-adjustable gate carried by the cap for varying the size of said opening.

3. In a fertilizer-distributer, a discharging device comprising a cap provided with a downwardly-extending flange extending partially therearound and a gate secured to said cap and adjustable to vary the distance between the ends of said flange.

4. In a fertilizer-distributer, a discharging device comprising a cap provided with a downwardly-extending flange extending partially therearound, one end of said flange being flared outwardly to form a lip, and a gate extending from the opposite end of said flange and adjustable toward and from said lip.

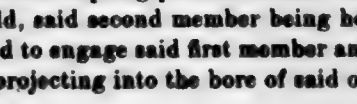
5. In a fertilizer-distributer, a discharging device comprising a cap provided with a flange extending partially therearound, one edge of said flange being flared outwardly to form a lip, and a gate adjustably secured to said cap and arranged to form substantially a continuation of the opposite end of said flange.

6. In a fertilizer-distributer, a discharging device comprising a cap provided with a downwardly-extending flange extending partially therearound, a gate secured to said cap and forming substantially a continuation of one end of said flange, and means for adjusting said gate toward and from the opposite end of said flange.

7. In a fertilizer-distributer, a discharging device comprising a substantially circular cap provided with a flange extending partially therearound, and a gate adjustably secured to said cap, said gate being provided at one end with an offset tailpiece adapted to engage the inner side of a portion of said flange.

8. In a fertilizer-distributer, a discharging device comprising a substantially circular cap provided with a downwardly-extending flange partially therearound, one end of said flange being flared outwardly to form a lip, and a circumferentially-adjustable gate extending from the opposite end of said flange.

807,089. **AUTOMATIC FASTENING DEVICE.** ARTHUR R. GROPPROT, Newark, N. J. Filed Aug. 11, 1905. Serial No. 273,782.



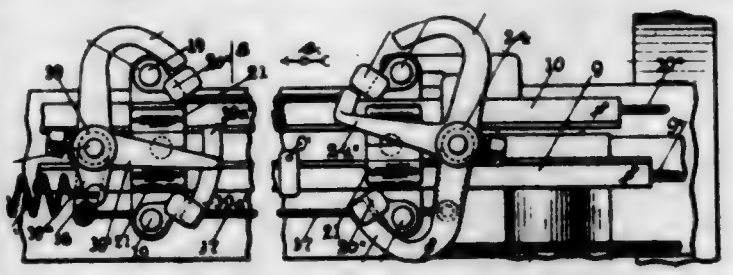
Claim.—1. In a fastening device for necklaces and the like, the combination with a tubular member provided at one end with means for connecting it to a chain or other device, and provided near its other end with a passage for a chain or other flexible device to be held, of a spring-actuated gripping member within said tubular member and arranged to press against an object within said passage, said gripping member provided with operating means projecting through a slot in the side of said tubular member.

2. In a fastening device for necklaces and the like, the combination with a tubular member provided at one end with means for connecting it to a chain or other device, and provided near its other end with a passage for a chain or other flexible device to be held, of a spring-actuated gripping member within said tubular member and arranged to press against an object within said passage, an operating-collar mounted on said tubular member, and means connecting said gripping member and collar working through a slot in said tubular member.

3. In an automatic fastening device, the combination with a tubular member comprising a passage for a chain or other flexible device to be held, and a spring-actuated hollow gripping member arranged to press normally against a chain or the like within said tubular member, of a cast-off fastening adapted to engage said tubular member and when in engagement therewith projecting into the bore of said hollow gripping member.

4. In an automatic fastening device, the combination with two coacting members one of which is provided with means for guiding a chain or other flexible article to be held and the other is guided by said first member and is spring-pressed toward a chain or other flexible article so held, said second member being hollow, of a cast-off fastening adapted to engage said first member and when in engagement therewith projecting into the bore of said other member.

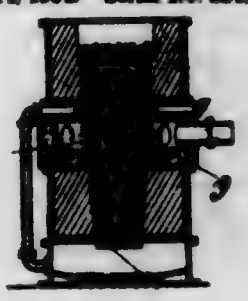
807,070. **LAPPET-LOOM.** ALBERT A. GORDON, Jr., and ALFRED MORELL, Worcester, Mass., assignors to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed May 24, 1905. Serial No. 261,334.



Claim.—1. In a lappet-loom, locking mechanism for holding the needle bar or bars in raised position, comprising locking-arms having a pivotal movement in a horizontal plane, and having downwardly-extending inclined or bevel-shape projections on their engaging ends, substantially as shown and described.

2. In a lappet-loom, locking mechanism for holding the needle bar or bars in raised position, comprising locking-arms having a pivotal movement in a horizontal plane, and having downwardly-extending inclined or bevel-shape projections on their engaging ends, and means for moving said locking-arms, substantially as shown and described.

807,071. **GAS-PRODUCER.** EZUDO GRAUPE, Cologne-Deutz, Germany. Filed Sept. 14, 1904. Serial No. 224,442.



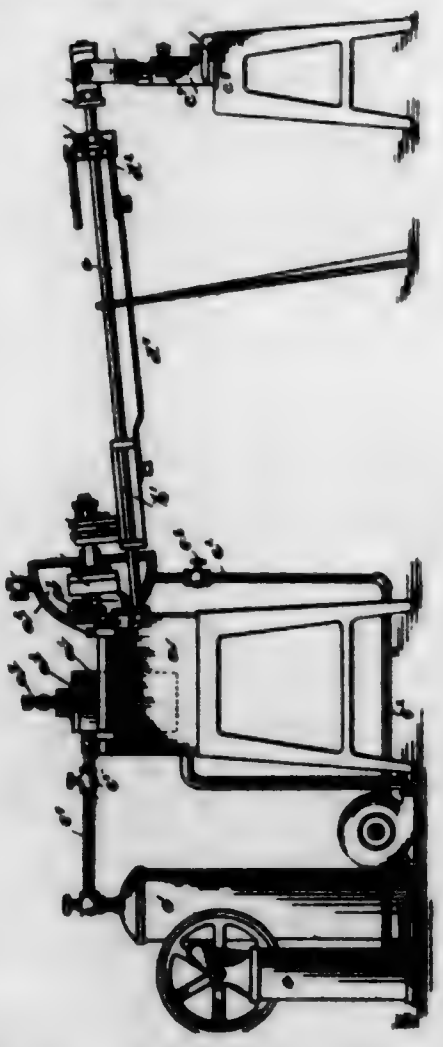
Claim.—1. In a gas-producer with top and bottom combustion zones and intermediate means for the withdrawal of the gas, a substantially vertical grating composed of vertically-extending grate-bars forming part of the producer-walls, through which the gases are led off, substantially as and for the purpose described.

2. In a gas-producer of the kind herein referred to, a substantially vertical grating forming part of the producer-walls through which the gases are led off in combination with an annular evaporating-chamber encircling the grating and in communication with an air-supply, and means connecting said chamber with the interior of the producer.

3. In a gas-producer with top and bottom combustion zones and intermediate means for the withdrawal of the gas of a substantially vertical grating forming part of the producer-walls, through which the gases are led off, the said producer having an open hand-hole in its top through which air enters the producer and by which access may be had to said grating.

4. In a gas-producer of the kind referred to, a substantially vertical grating forming part of the producer-walls through which the gases are led off in combination with two annular evaporating-chambers, one surrounding the top, and the other surrounding the bottom of said grating, one of said chambers being connected to an air-supply, means for connecting the other of said chambers with the interior of the producer and means for connecting said chambers.

807,072. CASTING APPARATUS. CHARLES D. GRIMES, BENJAMIN F. BILLMAN, and THOMAS A. LESLIE, Jr., Dayton, Ohio. Filed Aug. 12, 1904. Serial No. 220,645.



Claim.—1. In a casting apparatus as described, a closed melting-pot, a die connecting with said melting-pot by means of an unobstructed conduit leading from the lower part of said melting-pot to a point above the level of the metal within said pot, a pressure-chamber connected to said melting pot, a vacuum-chamber surrounding said die, a pump between said vacuum and pressure chambers, and a valved opening between the atmosphere and the said vacuum-chamber, substantially as and for the purpose specified.

2. In a casting apparatus as described, a melting-pot, a die removably secured to a reciprocating carriage, means for reciprocating said carriage, a vacuum-chamber surrounding said die, a pump having its supply-pipe connected with said vacuum-chamber, an air-reservoir into which said pump discharges, a valved connection from said reservoir to said melting-pot, an unobstructed conduit leading from said pot to said die, and a valved atmospheric opening from said vacuum-chamber, which opening forms the atmospheric supply to said pump, whereby the air for said pressure-reservoir is drawn through said vacuum-chamber when said valve is opened, and drawn from said chamber when said valve is closed, substantially as and for the purpose specified.

3. In a casting-machine as described, a melting-pot, a die removably secured to a reciprocating carriage, parallel supporting-shafts for said carriage, means for reciprocating said carriage, a stationary support for one end of said shafts, and an adjustable swiveled support for the other end of said shafts, and pneumatic means for forcing the molten metal from the pot to the die, substantially as and for the purpose specified.

4. In a casting apparatus, a closed metal-pot, a die, a conduit leading from said melting-pot to said die, a vacuum-chamber around said die, a valved atmospheric opening leading to said chamber, an air-compressor and an air-reservoir, and connection from said chamber to said compressor, and from said compressor to said reservoir, and a valved connection from said reservoir to said melting-pot, said valved atmospheric opening being adapted to form the atmospheric air-supply for said compressor through said chamber when said valve is opened, and to cause said chamber to be exhausted by said compressor when said valve is closed, substantially as and for the purpose specified.

807,073. BICYCLE-TIRE. LOUIS W. GROAT, Hudson, N. Y. Filed Mar. 25, 1898. Serial No. 564,767.



Claim.—1. A wheel-tire comprising an outer portion and an inner portion separate from the outer portion, said inner portion comprising a looped or knitted fabric formed of metallic wire, the wales of the knitted fabric extending longitudinally of the tire.

2. A wheel-tire comprising a knitted tube formed of malleable wire and an outer covering of rubber, the said knitted malleable wire tube being drawn into and embedded in the rubber covering.

3. A pneumatic tire comprising an outer rubber tube, and an inner tube formed of wire circular knit course after course to produce a tube without seam, said wire tube being drawn into the outer tube.

4. A pneumatic tire comprising an outer rubber covering and an inner metallic tube formed of malleable wire knitted circularly course after course throughout the circular extent of said wire in rib-stitch, the said tube being then tempered to give resiliency and spring to the knitted tube, the wales of said knitted tube extending circularly of the tire.

5. A wheel-tire composed of a knitted or interlooped inner tube formed of wire and an outer tube surrounding the inner wire tube.

6. A wheel-tire comprising a knitted tube formed of malleable wire and then tempered, the said tube having an outer and an inner covering of rubber.

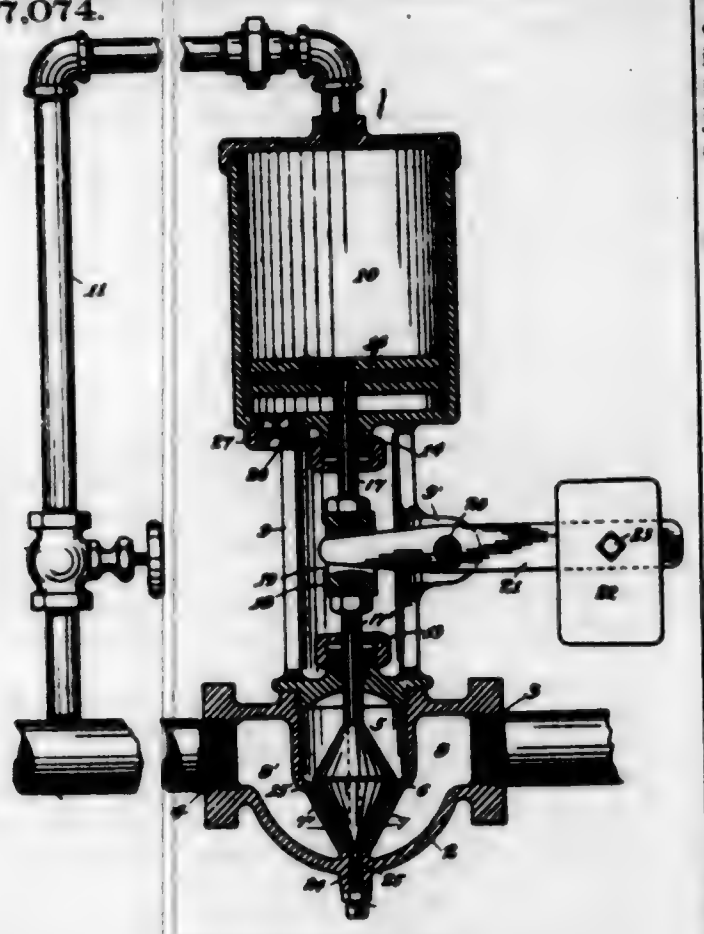
7. A pneumatic tire comprising an outer tube and an inner tube, said inner tube being formed of interlooped or knitted malleable wire, the wales whereof extend longitudinally of the tire.

807,074. REDUCING-VALVE. HARVEY L. HARRADUN, Seattle, Wash. Filed Apr. 13, 1905. Serial No. 255,262.

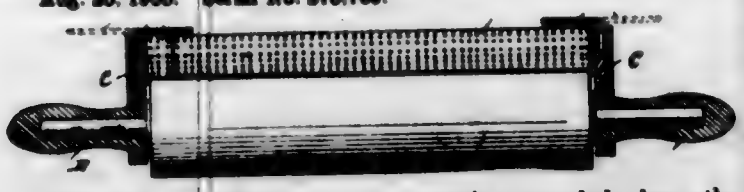
Claim.—1. A reducing-valve, comprising a valve-casing provided with a perforated conical-shaped valve-seat, a valve of corresponding shape, a cylinder rigidly connected with said casing, a piston within the cylinder, a stem operatively connecting said valve with the piston, a lever having one of its arms engaging with the stem and carrying a weight upon its other arm, said weight, and a communicative connection between the discharge end of the valve-casing and the cylinder in proximity of its upper end.

2. A reducing-valve, comprising a valve-casing provided with inlet and outlet openings and a valve-seat therebetween, a valve for said seat, a stem for the valve and extending through a stuffing-box of said casing and into a superposed cylinder and connected therein to a piston, said piston, said cylinder which is provided at its lower end with a check-valve having a leakage-port extending therethrough, said check-valve, communicative connection between the upper end of the cylinder and the casing through said outlet-opening thereof, and means engaging with said stem tending to open the valve.

807,074.



807,075. ROLLING-PIN. MORTON HARLOR, Hawley, Pa. Filed Aug. 25, 1905. Serial No. 276,769.

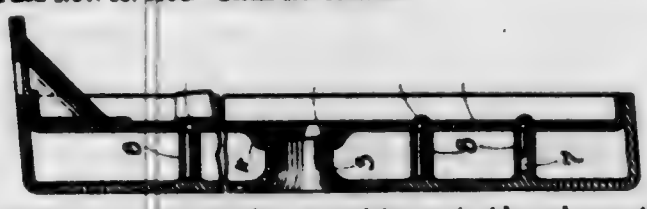


Claim.—1. A rolling-pin and a trough suspended above the same, and a cylindrical dredger in said trough, in combination.

2. A rolling-pin, pivoted handles on said pin, a trough rigid with the handles, and a rotating dredger in said trough, all combined.

3. A rolling-pin having a trough suspended above the same, a dredger in said trough, and means for retaining the dredger in the trough, all combined.

807,076. WATER-JACKET. CHARLES W. HAWKES, Springfield, Ill. Filed Nov. 18, 1904. Serial No. 233,301.



Claim.—1. A water-jacket comprising an inside and an outside sheet, and having twyer-openings formed in the respective sheets, a nipple bounding the opening of the inside sheet and integrally united at its base with said sheet, the outer end of the nipple being passed through the opening of the outside sheet and expanded against the face thereof, substantially as set forth.

2. A water-jacket comprising an inside and an outside sheet, and having twyer-openings formed in the respective sheets, an inwardly-flaring nipple bounding the opening of the inside sheet and forming an integral part of said sheet, the end of the nipple being passed through the opening of the outside sheet and expanded against the face thereof, substantially as set forth.

3. A water-jacket comprising an inside and an outside sheet, and having twyer-openings formed in the respective sheets, an inwardly-flaring nipple bounding the opening of the inside sheet, an outwardly-flaring nipple bounding the opening of the outside sheet, the end of the inner nipple being passed through the end of the outer nipple and expanded against the outer face of the latter, substantially as set forth.

4. A water-jacket comprising an inside and an outside sheet, and having twyer-openings formed in the respective sheets, an inwardly-flaring nipple bounding the opening of the inside sheet, an outwardly-flaring nipple of compound curvature bounding the opening of the outside sheet, the inner edge of the outer nipple snugly embracing the peripheral wall of the inner nipple and making a tight joint therewith, and the end of the inner nipple being expanded against the outer face of the outer nipple, substantially as set forth.

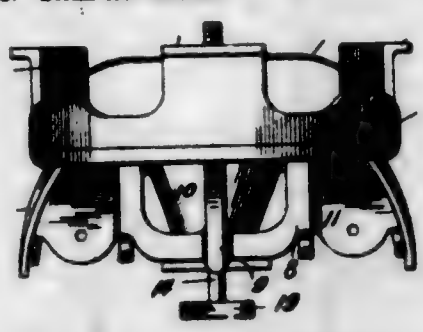
807,077. CAP FOR VESSELS. JAMES M. HICKS, Summit, N. J., assignor, by direct and mesne assignments, to The Auto Stopper Company, New York, N. Y. Filed Oct. 11, 1904. Serial No. 228,010.



Claim.—1. In a means for sealing vessels, the combination consisting of a vessel provided with a circumferential bead upon the exterior of its neck and having the lower edge of said bead sharply defined: a sealing-cap having a top surface and a flange pendent from its outer diameter and provided with circumferential furrows on the inner surface of said flange, whereby when the said cap is compressed upon the sealing material on the bottle-mouth, the furrows grip the lower edge of said bead and retain said cap firmly in place regardless of the variations in the dimensions of said bead, substantially as specified.

2. In a means for sealing vessels, a sealing member consisting of a metallic cap substantially cup-shaped, and provided on its substantially vertical surface with continuous horizontal furrows, a vessel having a bead near its mouth presenting an engaging surface at its lower extremity, and a groove beneath, whereby the said metallic cap by engaging by one of its furrows with the said lower part of the said bead is securely held against removal, by the pressure from within the vessel, substantially as specified.

807,078. TRIPOD-HEAD. GEORGE J. HOELZER, Chicago, Ill. Filed Mar. 7, 1905. Serial No. 248,886.



Claim.—1. In a tripod-head, the combination with a ring upon which the camera rests, of a curved member on which the ring fits, and having a central opening and socket, and a binding-bolt extending through said opening and the ring and adapted to be screwed into the camera and having a ball thereon fitting the socket.

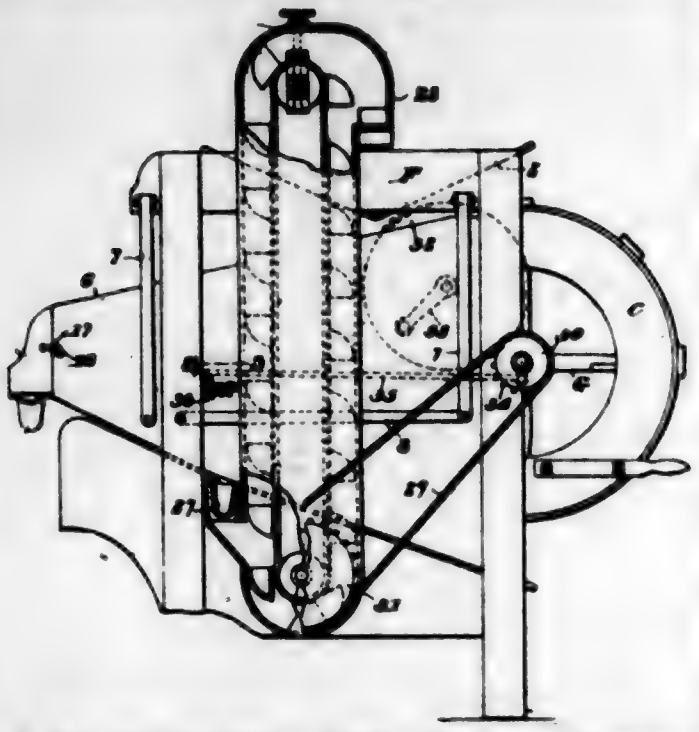
2. In a tripod-head, the combination with the socket-ring 6 upon which the camera rests, of the ball-member 8 upon which the ring fits, having the central tube 10, the spring extending across and resting on the ring, and the bolt connected to the spring and extending through said tube and having a ball fitting against the lower end thereof.

807,079. GRAIN-SEPARATOR. EDWARD HORAKOVSKY, Montgomery, Minn. Filed July 25, 1905. Serial No. 271,206.

Claim.—1. A shaking-shoe having a grooved cross-bar and provided with hinged brackets supporting a tailings-trough, in combination with a screen-frame supported at its upper edge in said cross-bar and engaged at its lower edge by said brackets.

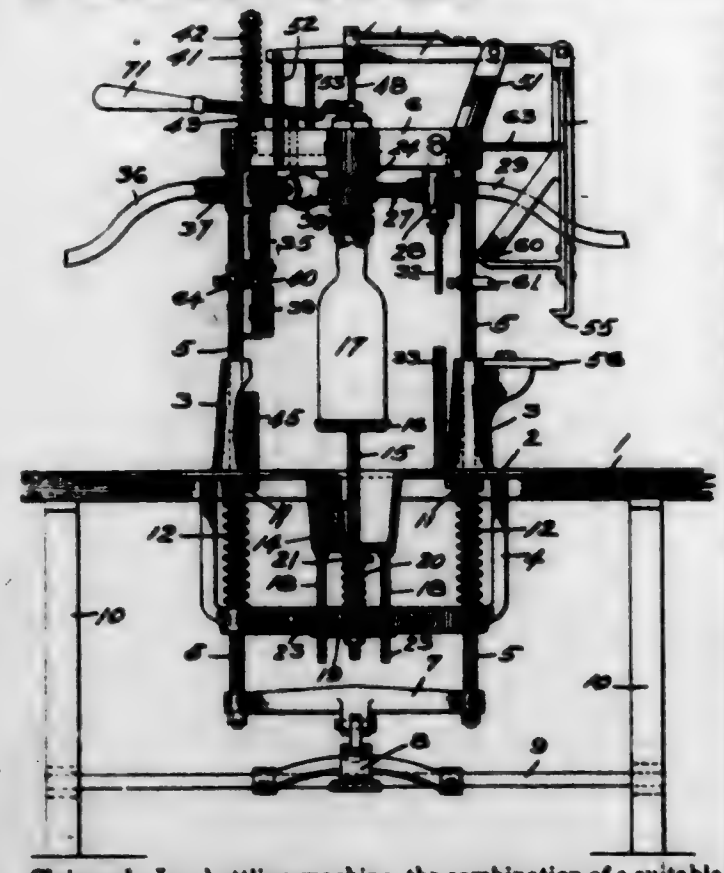
2. A shaking-shoe having a grooved cross-bar near its upper

front portion and an inclined bottom board at its rear portion, and brackets hingedly connected with said shoe and a tailings-trough supported by said brackets, in combination with a screen-frame supported at its upper edge in the grooved cross-bar and at its lower edge upon the upper edge of the bottom board; the lower edge of said screen-frame being operatively engaged by the hinged brackets.



3. In a grain-separator, a shaking-shoe, a screen-frame supported therein, a gage-plate connected adjustably with said screen-frame, an inclined bottom board in the shoe, a guide-board between the bottom board and the gage-plate, a cockle-screen disposed to receive material guided thereto by said board, and a curved shield above said cockle-screen to protect the latter from the impact of blast from the fan which is a part of the machine.

807,080. **AUTOMATIC BOTTLING-MACHINE.** JOSEPH KERNAN, Allegheny, Pa., assignor of one-half to William G. Lindsay, Pittsburg, Pa. Filed Mar. 13, 1905. Serial No. 249,883.



Claim.—1. In a bottling-machine, the combination of a suitable frame, a bottle-rest unconnected with the moving parts of the machine, a vertically-movable frame, means for actuating the same, a presser immovably secured to said frame and provided with a delivery-passage, a syrup-pump and water-valve also carried by said frame and connected to the delivery-passage in the presser, and stationary abutments located in the paths of movement of the operating means for the water-valve and syrup-pump, whereby in the downward movement of the operating-frame the presser will be forced against the neck of the bottle and the syrup-pump and water-valve will be operated.

2. In a bottling-machine, the combination of a suitable frame, a yielding bottle-rest unconnected with the moving parts of the machine, a vertically-movable operating-frame, means for actuating the same, a presser immovably secured to said operating-frame and provided with a delivery-passage, a syrup-pump and water-valve also carried by said operating-frame and connected to the delivery-passage in said presser, and stationary abutments located in the paths of movement of the operating means for the water-valve and syrup-pump, whereby in the downward movement of the operating-frame the presser will be forced against the neck of the bottle and the syrup-pump and water-valve will be operated.

3. In a bottling-machine, the combination of a suitable frame, a bottle-rest unconnected with the moving parts of the machine, a spring bearing against said rest and holding the same normally elevated, a vertically-movable operating-frame, means for actuating the same, a presser immovably secured to said frame and provided with a delivery-passage, a syrup-pump and water-valve and operating means also carried by said frame and connected to the delivery-passage in said presser, and stationary abutments located in the paths of movement of the operating means of the water-valve and syrup-pump.

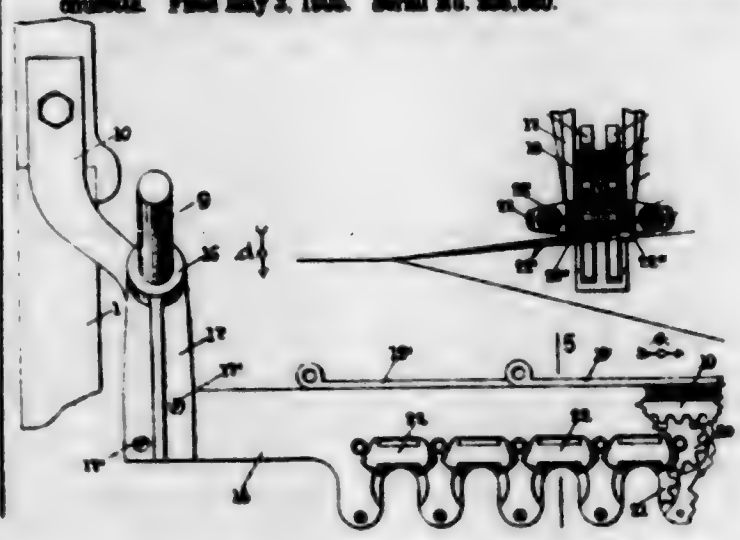
4. In a bottling-machine, the combination of a suitable frame, a bottle-rest unconnected with the moving parts of the machine, a vertically-movable operating-frame, a presser immovably secured to said frame and provided with a delivery-passage, a syrup-pump and water-valve also carried by said operating-frame and connected to the delivery-passage of said presser, operating means for said pump and water-valve, means for varying the extent of movement of the operating means of the pump, and stationary abutments located in the paths of movement of the operating means for the pump and water-valve.

5. In a bottling-machine, the combination of a suitable frame, a bottle-rest, a vertically-movable operating-frame, means for actuating the same, a presser connected to said operating-frame, a cork-puller extending through the presser, an operating-lever for said cork-puller pivoted to the movable frame, and a latch connected to said lever and arranged to engage a stationary stop in the upward movement of the frame.

6. In a bottling-machine, the combination of a suitable frame, a bottle-rest, a vertically-movable operating-frame, means for actuating the same, a presser carried by said operating-frame and provided with a delivery-passage, a cork-puller extending into said delivery-passage, an operating-lever for said cork-puller pivoted to said vertically-movable frame, a latch connected to said lever and arranged to engage a stationary stop on the upward movement of said frame, and a tripping-dog on said vertical-movable frame arranged to disengage said latch from said stop.

7. In a bottling-machine, the combination of a suitable frame, a bottle-rest, a vertically-movable operating-frame, means for depressing the same, springs for elevating the same, a presser carried by said frame and provided with a delivery-passage, a cork-puller projecting into said delivery-passage, an operating-lever therefor pivoted to the vertically-movable frame, yielding connections between said puller and lever, a latch connected to said lever, and a stationary abutment arranged to be engaged by said latch on the upward movement of the operating-frame.

807,081. **SWIVEL-LOOM.** HENRY LEDOUX, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed May 3, 1905. Serial No. 258,060.



Claim.—1. In a loom of the class described, a lay, a crank-shaft for operating the lay, a swivel-shuttle rail and a second crank-shaft for operating the swivel-shuttle rail.

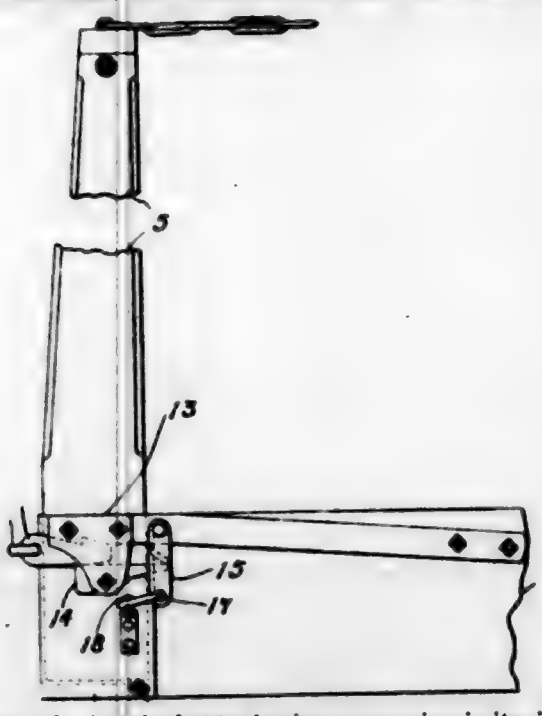
2. In a loom of the class described, a lay, a crank-shaft for operating the lay, a swivel-shuttle rail and a second crank-shaft for operating the swivel-shuttle rail, and means for operating said crank-shafts.

3. In a swivel-shuttle loom, the combination with a swivel-shuttle rail carrying swivel-shuttles, and supported and operated independently of the lay, of a crank-shaft, and connections therefrom to the swivel-shuttle rail, to operate the same.

4. In a swivel-shuttle loom, a swivel-shuttle rail, a crank-shaft for operating the swivel-shuttle rail, and connections from said crank-shaft to said rail, to operate the same independently of the lay.

5. A swivel-shuttle rail, having swivel-shuttles extending in a horizontal plane on its front side, and also on its rear side, and the swivel-shuttles having guide-eyes for the thread at their inner ends.

807,082. **STAKE-HOLDER.** CUTLER LEWIS and ARTHUR J. BOSTWICK, Eau Claire, Wis. Filed Feb. 24, 1905. Serial No. 247,082.



Claim.—1. A stake-holder having an opening in its side wall of sufficient size to allow the discharge of a stake therethrough, means for temporarily locking a stake in said holder, and means hinged near the rear wall of the holder and arranged to brace or support the lower end of the stake against the outward thrust caused by inward pressure on the upper part of the stake.

2. A stake-holder having an open bottom and side, means for temporarily closing said side and bottom and supporting the lower end of a stake against outward thrust, and means extending across said open side for temporarily locking said closing means.

3. A stake-holder having an opening in its side wall to allow the discharge of a stake therethrough, a hinged plate arranged to close said opening, and means extending across the opening in said holder for locking said plate against premature movement.

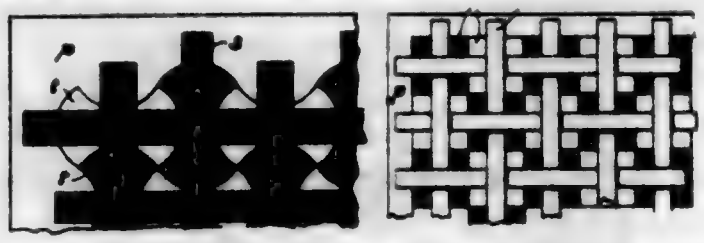
4. A stake-holder having an opening in its side wall to allow the discharge of a stake therethrough, and means hinged near the rear wall of said holder and arranged to brace or support the lower end of the stake against outward thrust caused by inward pressure on the upper part of the stake.

5. A stake-holder having an opening in its side wall to allow the discharge of a stake therethrough and also having an open bottom, an angle-plate hinged in said bottom near the rear wall and adapted to close the bottom and open side of the holder, and means for locking said plate against premature movement.

6. A stake-holder having an opening in its side wall to allow the discharge of a stake therethrough and also having an open bottom, and means pivoted in said holder near said bottom and adapted to temporarily close the same and said side-wall opening, substantially as described.

807,083. **TILING.** FRANK C. MILLIGOTT, Akron, Ohio. Filed Apr. 17, 1905. Serial No. 256,081.

Claim.—1. The combination with individual tiles of suitable shape and material, of a flexible strip or band uniting the same in single strips in substantially fixed relation, whereby coacting strips of tile may be united therewith or "woven" into a covering for floor, walls, and the like, substantially as set forth.



2. A tiling-strip comprising individual tiles of rubber or composition, symmetrical in shape and united by a flexible strip of fabric in substantially fixed relation; the same being separated or spaced upon said flexible strip and thereby adapted to be "woven" together with similar strips, to form a covering for floors or walls, substantially as set forth.

3. A tiling-strip comprising individual members *t*, mounted at definite intervals upon a strip or band of fabric *s*, the said tiles *t* having the general shape of an hour-glass, and being formed of intersecting sectors of a given circle, substantially as set forth.

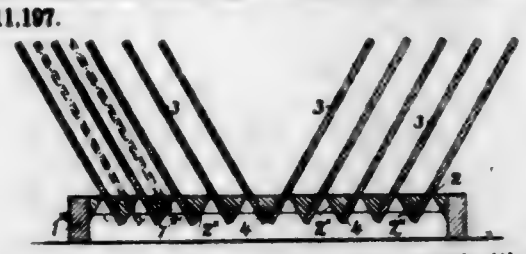
4. The herein-described tiling, comprising a plurality of symmetrical members disposed adjacent to each other in horizontal and vertical rows; said members being described in outline by two convex and two concave intersecting arcs of a given circle, and strips or bands secured to and uniting respectively the individual members of the horizontal and vertical rows of tiling in substantially fixed relation.

5. The combination with a plurality of tiles, of a mounting strip or band connecting the same in units of suitable length; said tiles being secured to said strip at intervals adapted to accommodate intersecting rows or stripe of tiles, substantially as set forth.

6. A covering of tiling for floors or walls comprising a plurality of intersecting units or strips of tiles of similar or complementary shape; the units or strips consisting of a plurality of individual tile members mounted or spaced at definite intervals upon flexible strips; the said units or strips of tile being united or interwoven in intersecting rows when laid in position, substantially as set forth

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807,084. **DEVICE FOR ASSORTING PAPERS AND THE LIKE.** CARL L. T. MÜLLER, Hamburg, Germany. Filed June 11, 1903. Serial No. 111,197.



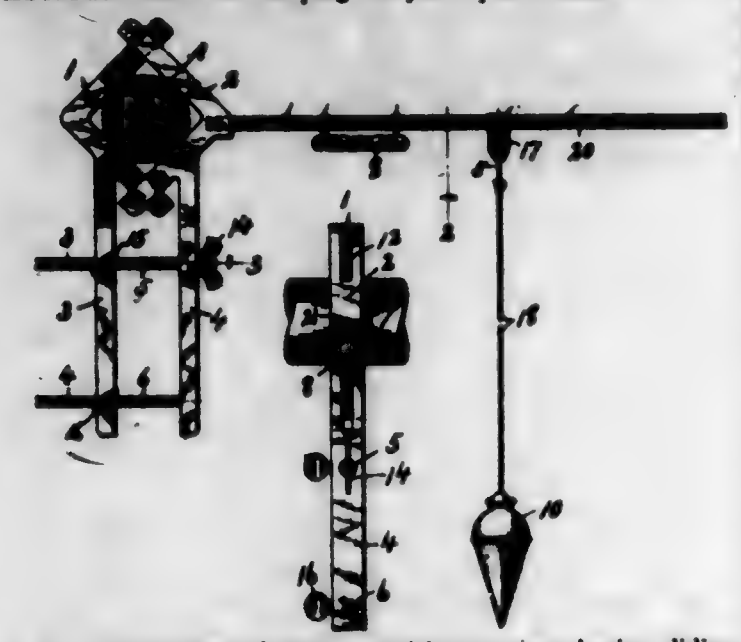
Claim.—1. In a device for assorting papers and the like, the combination of a suitable base, a plurality of partition-plates mounted thereon, means for rotatably securing such partition-plates on the said base, so as to be a suitable distance apart and capable of being rocked in either direction, and means for limiting the amplitude of the rocking partition-plates and for preventing at the same time the latter from closing upon one another, the said limiting means being arranged below the axes of rotation of the partition-plates and adapted not to interfere with the compartments formed between the rocking partition-plates, but to allow of an unobstructed access to and use of such compartments, substantially as and for the purpose set forth.

2. In a device for assorting papers and the like, the combination of a board or plate, rows of separate apertures provided in the latter, a plurality of partition-plates resting with their lower edges on the said plate, lugs extending from the lower edges of the partition-plates and engaging each a separate aperture, and stops for the lugs, the said stops being on the under side of the plate at the sides of the apertures, substantially as and for the purpose set forth.

3. In a device for assorting papers and the like, the combination of a base-board, two sets of partition-plates, two sets of rows of apertures provided in the base-board and alternating with each other, lugs extending from the lower edges of the partition-plates and engaging the corresponding sets of apertures, and stops for the lugs, the said stops being formed by the beveled sides of the apertures, substantially as and for the purpose set forth.

807,085. **SHAFT-ALINER.** HARLAN L. NEWTON, Sandycreek, N. Y., assignor of one-half to Merven J. Salisbury and one-half to Minnie Newton. Filed May 31, 1905. Serial No. 262,973.

Claim.—1. A shaft-alining device, comprising two open-sided jaws having their open sides facing and interlocked with each other, a laterally-projecting rod on one of the jaws, a level slidable upon said rod and means for clamping said jaws upon a shaft.



2. A shaft-alining device, comprising two jaws having sliding interlocking engagement one with the other, each of said jaws being provided with a pendent arm, a guide-rod mounted upon one of the pendent arms and having sliding engagement with the other arm, a second arm projecting laterally from one of the jaws, and a level slidable upon said second arm.

3. In a shaft-alining device, the combination of two opposed jaws and means for drawing them together to engage opposite faces of the shaft, an arm projecting laterally from one of the jaws, a level on said arm for bringing the latter to a level, a gage adjustable on the arm, and a plumb suspended from said gage.

4. In a shaft-alining device, two opposed jaws and means for drawing them together to engage opposite faces of the shaft, one of the jaws being provided with a laterally-projecting arm, a gage slidable lengthwise on the arm and a plumb suspended from the gage for the purpose described.

5. In a shaft-alining device, two opposed jaws having pendent arms, guide-rods mounted upon one of the pendent arms and upon which the other pendent arm is movable, a horizontal bar secured to one of the jaws and a plumb adjustably supported upon said bar.

6. In a shaft-alining device, an open-sided jaw and means to clamp it upon a shaft, a horizontal bar secured to said jaw, a level carried by the bar and a plumb also carried by the bar and adjustable lengthwise thereof.

7. In a shaft-aliner, two opposed jaws each having a pendent arm, and means for drawing said arms together, one of the jaws having a horizontally-projecting bar, the pendent arms of the jaws partially counteracting the weight of the laterally-projecting bar to bring said bar toward a horizontal position.

8. In a shaft-aliner, two opposed jaws each having a pendent arm, and means for drawing said arms together, one of the jaws having a horizontally-projecting bar, the pendent arms of the jaws partially counteracting the weight of the laterally-projecting bar to bring said bar toward a horizontal position, and a gage slidable lengthwise upon said bar.

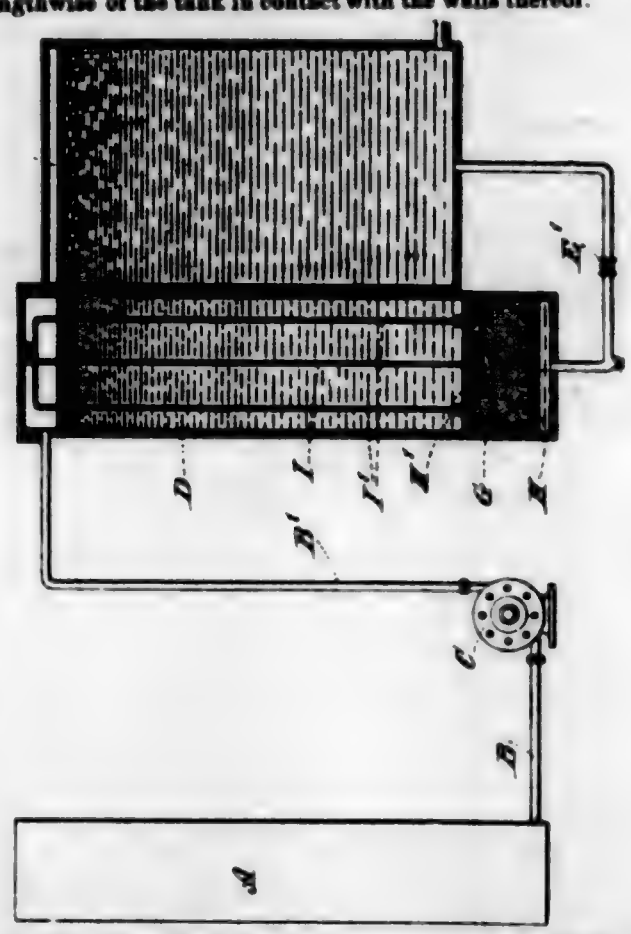
9. In a shaft-alining device, the combination with a jaw having a laterally-projecting arm, clamping means whereby said jaw may be secured to a shaft, a level mounted upon the bar and movable lengthwise thereon, a gage slidable upon the bar and a plumb suspended from the gage.

10. In a shaft-alining device, the combination of two jaws having sliding interlocking engagement with each other, and each provided with a pendent arm, means for clamping said jaws in their adjusted position, a horizontal bar secured to and projecting from one of the jaws, a level slidable upon the bar, a gage also slidable upon the bar and a plumb suspended from the gage.

807,086. OIL-SEPARATOR. RUSSELL PARKER, Brooklyn, N. Y., assignor to J. Russell Parker, Brooklyn, N. Y., and Carl H. Page, New York, N. Y. Filed May 27, 1904. Serial No. 210,126.

Claim.—1. The combination, with the separator-tank, of a pervious plunger located therein, movable members between which said plunger is held, and handles connected with said members and terminating adjacent to each other.

2. The combination with the separator-tank of substantially uniform cross-section from one end to the other, of a filter normally located near one end of the said tank, two apertured members between which said filter is held, and handles connected with said members and extending lengthwise of the separator-tank to the other end thereof, to permit of compressing said filter and of moving it lengthwise of the tank in contact with the walls thereof.



3. The combination with the separator-tank D and the water-tank F the lower portions of which are connected with each other, said separator-tank extending below the level of the water-tank, of a filter G extending within that portion of the separator-tank which is below the level of the water-tank, the outlet of the water-tank being at the lower portion thereof, yet above the level of the filter-bottom.

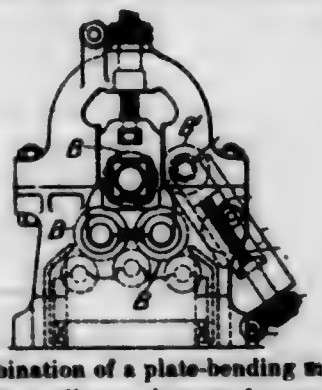
807,087. TIRE-PLUG. FRED B. PARKS, Grand Rapids, Mich. Filed Feb. 27, 1901. Serial No. 49,151.



Claim.—1. A tire-plug having a head and a lenticular stem projecting from one side thereof, said stem thick in the center and tapering to thin sharp edges, substantially as and for the purpose set forth.

2. The combination in a tire-plug of a head and a thin lenticular stem projecting from one side thereof, said stem tapering smaller toward the end and to sharp edges, substantially as and for the purpose set forth.

807,088. PLATE BENDING AND STRAIGHTENING MACHINE. ANDREW C. PATRICK, Johnstone, Scotland. Filed Feb. 1, 1905. Serial No. 243,701.

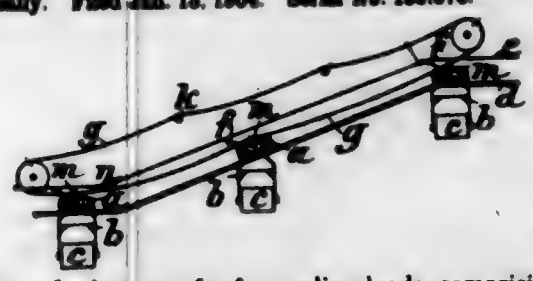


Claim.—The combination of a plate-bending machine comprising a set of three bending-rollers and means for operating the same, of a supplemental roller normally held in an inoperative position, guides for said supplemental roller, and means for moving said roller

in said guides to bring it in line with any one of said bending-rollers to form a four-roller plate-straightening machine.

807,089. ELECTRICALLY-DRIVEN SUSPENDED RAILWAY.

RUDOLF PFAFFENBACH, Leipsic, and HERMANN MÜLLER, Leipsic-Gohlis, Germany. Filed Jan. 13, 1904. Serial No. 188,876.

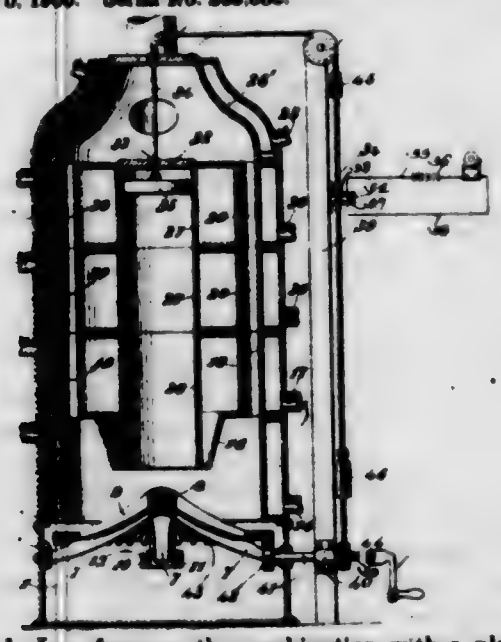


Claim.—1. A system for forwarding loads, comprising a series of carriers having pivotally-suspended loads, automatic cable gripping and releasing clutches, and electric propelling-motors provided with current-collectors, two sections of suspended trackway at different altitudes, an intermediate and connecting section of suspended trackway of steep incline, and an auxiliary propelling-cable ranged along the said intermediate section and in line with the automatic clutches on the carriers; whereby a continuous and automatic forwarding of the carriers is obtained, from one level to another and up a steep intermediate gradient, while maintaining a vertical suspension of the loads; substantially as described.

2. A system for forwarding loads, comprising a series of carriers having pivotally-suspended loads, automatic cable gripping and releasing clutches, and electric propelling-motors provided with current-collectors, two sections of suspended trackway at different altitudes, an intermediate and connecting section of suspended trackway of steep incline, a supply-conductor having a dead or currentless portion with which the current-collectors remain in touch during their progress along the intermediate section of the trackway, and an auxiliary propelling-cable ranged along the said intermediate section and in line with the automatic clutches on the carrier; whereby a continuous and automatic forwarding of the carriers is obtained, from one level to another and up a steep intermediate gradient, while maintaining a vertical suspension of the loads, and without interrupting mechanical contact of the current-collectors with the supply-conductor; substantially as described.

807,090. BOILER-FURNACE. AUGUST RABNER, Creston, Iowa.

Filed June 5, 1905. Serial No. 263,232.

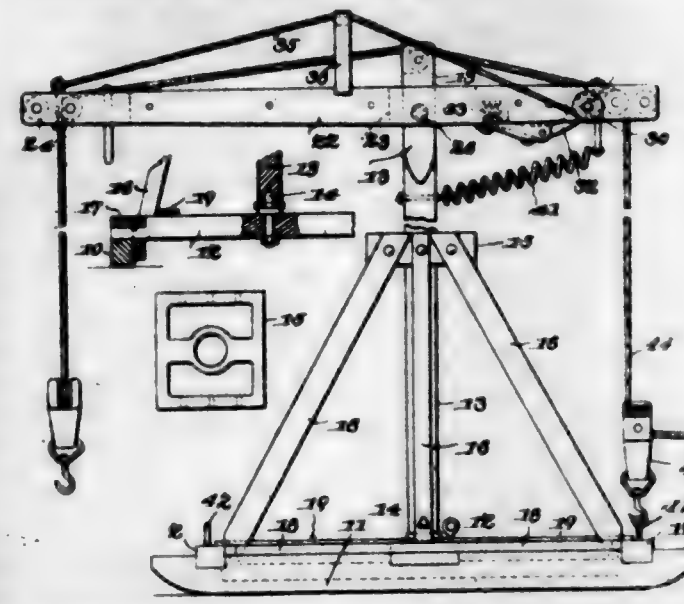


Claim.—1. In a furnace, the combination with a plurality of superposed water-heater units provided with registering openings coöperating to form a fuel-magazine, and also provided with registering-flues for the passage of products of combustion, of a cap member having an annular water-space and a feed-opening; said cap member being also provided with a chute extending from the feed-opening across the flues or smoke-conductors to the magazine, and with a smoke-exit.

2. In a furnace, a plurality of water-heater members coöperating to form a magazine, a base having a grate supported for rotation beneath said magazine, an upright adjacent to the furnace, a shaft supported for rotation on said upright and having grate-operating means at its inner end and a pulley at its outer end, guide-pulleys upon the upright, a weight movable in the magazine, a flexible member connected with said weight, guided under the pulley upon the grate-operating shaft and provided at its free end with a weight whereby said flexible element is kept taut, and an electric circuit including a sounder, a fixed contact-point upon the upright, and a movable contact adjacent to said fixed contact and disposed in the path of the ascending weight at the free end of the flexible element.

807,091. HAY-DERRICK. ANTON ROUSSBURG, Lewellen, Nebr.

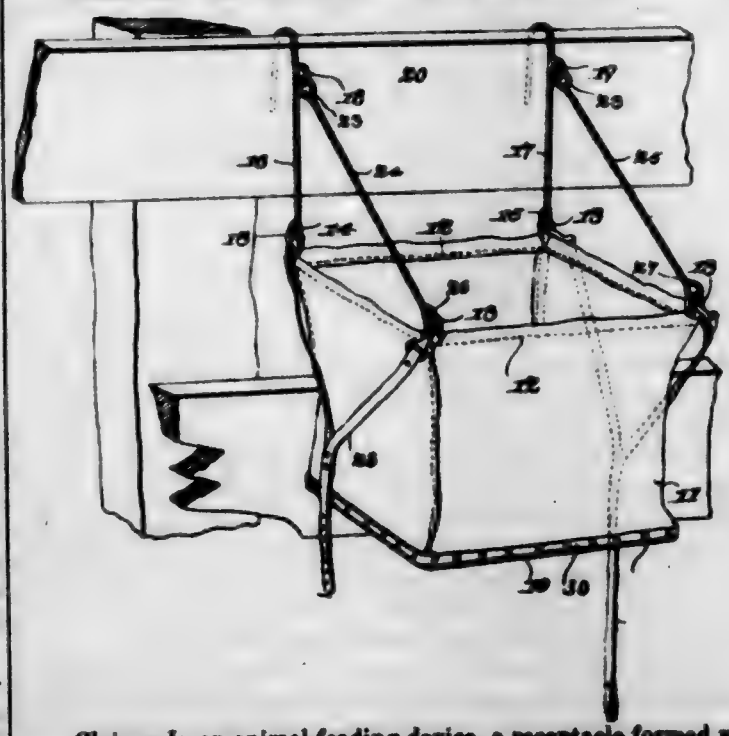
Filed June 17, 1905. Serial No. 265,763.



Claim.—1. In a derrick structure, a base-platform, a mast mounted for rotation upon said platform, a guide-frame engaging said mast above said platform, diagonal brace members between said guide-frame and platform, a boom mounted to swing vertically upon and rotate with said mast, cable-guide pulleys carried by said boom for receiving the hoisting-cable, and a spring connecting the shorter end of said boom and said mast.

2. In a derrick structure, a platform comprising spaced side members having upwardly-inclined ends and spaced transverse members connecting the side members, a mast stepped for rotation upon one of said transverse members, a guide-plate engaging said mast intermediately of the same, diagonal brace members between said guide-plate and side members, stay members supported upon said side members and bearing against the outer faces of said diagonal brace members, stay members supported transversely of said transverse members and bearing against the opposite sides of said diagonal brace members, and a boom mounted to swing vertically upon and rotate with said mast.

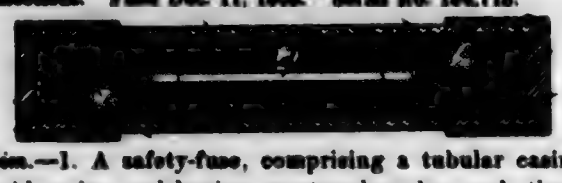
807,092. ANIMAL-FEED DEVICE. GEORGE W. RUSSELL, Fort Worth, Tex. Filed June 3, 1905. Serial No. 263,644.



Claim.—In an animal-feeding device, a receptacle formed with an imperforate bottom and fabric sides and with a wire frame bound into its upper edge, the wire frame having spaced loops projecting through the fabric, rods having eyes at one end movably engaging a

pair of said loops and with intermediate coils and means at the other ends for engaging a supporting medium, and brace-rods having eyes at the ends for movably engaging said coils and another pair of said frame-coils.

807,083. SAFETY-FUSE. JOSEPH SACHS, Hartford, Conn., assignor to The Johns-Pratt Company, Hartford, Conn., a Corporation of Connecticut. Filed Dec. 11, 1902. Serial No. 134,718.



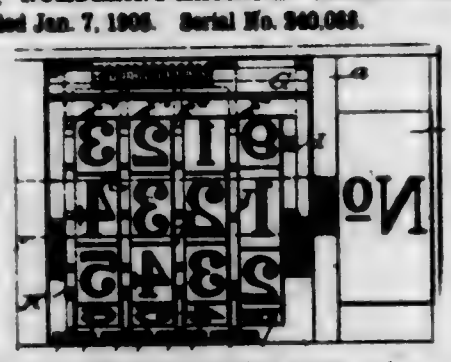
Claim.—1. A safety-fuse, comprising a tubular casing, caps fitting said casing and having apertured sunken ends that extend into said casing, a fuse-strip having returned ends and having terminals or ends composed of doubled wires threaded through the returned ends of the fuse-strip and so connected therewith and also passing through the apertures of the end caps into the sunken parts, and a material filling the sunken ends and surrounding the fuse ends or terminals and securing the same to the end caps.

2. A safety-fuse, comprising a tubular casing, caps fitting said casing and having apertured sunken ends that extend into said casing, a fuse-strip having returned ends and having terminals or ends composed of doubled wires threaded through the returned ends of the fuse-strip and so connected therewith and also passing through the apertures of the end caps into the sunken parts, a material filling the sunken ends and surrounding the fuse ends or terminals and securing the same to the end caps, and a granulated filling material within the said casing and surrounding the fuse-strip and portions of the terminals.

3. A safety-fuse, comprising a tubular open-ended casing, caps fitting said casing and having apertured sunken ends that extend into said casing, and the extreme diameter of which substantially agrees with the inner diameter of the casing, a fuse-strip, terminals or ends connected with the fuse-strip and passing through the apertures of the end caps into the sunken parts, and a material filling the sunken ends and surrounding the fuse ends or terminals and securing the same to the end caps.

4. A safety-fuse, comprising a tubular open-ended casing, caps fitting said casing and having apertured sunken ends that extend into said casing, and the extreme diameter of which substantially agrees with the inner diameter of the casing, a fuse-strip, terminals or ends connected with the fuse-strip and passing through the apertures of the end caps into the sunken parts, a material filling the sunken ends and surrounding the fuse ends or terminals and securing the same permanently in place, and a granular filling material within the said casing and surrounding the fuse-strip and portions of the terminals.

807,084. NUMBERING-MACHINE. CURTIS F. SMITH, Brooklyn, N. Y. Filed Jan. 7, 1905. Serial No. 240,066.



Claim.—1. A numbering-machine having, in combination, a type mechanism, and actuating mechanism operating said type mechanism to print consecutive numbers by increasing the number of digits from left to right.

2. A numbering-machine having, in combination, a type mechanism, a prime mover, and actuating mechanism operated by the successive movements thereof for successively changing the type to print consecutive numbers with digits increasing always from left to right.

3. A numbering-machine having, in combination, a changeable type which prints consecutive numbers by increasing the number of digits from left to right, and actuating mechanism therefor.

4. A numbering-machine having, in combination, an automatically-changeable type or printing line whose number of figures increases outward from the initial figure of the higher numbers, and actuating mechanism therefor, whereby the consecutive impressions made from such type have their number of digits increasing from left to right.

5. A numbering-machine having, in combination, a consecutively-changing type or printing line whose number of figures increases outward from the initial figure of the higher numbers, an automatic actuating mechanism therefor, whereby the impression of consecutive numbers is effected by increasing the number of digits from left to right.

6. A numbering-machine having, in combination, a type mechanism, a prime mover, and actuating mechanism operated thereby which at every operation shifts the type to change the numbers consecutively, the number of figures on the type-line being increased outward from the initial figure of the highest number.

7. A numbering-machine having, in combination, a changeable type-line, an actuating mechanism operating the same to print consecutive numbers with the initial or left-hand figure of each successive number in vertical alinement with respect to previous impressions.

8. A numbering-machine having, in combination, a fixed or non-sliding prefix-type, numbering-type for printing successively impressions of consecutive numbers after the prefix without spaces between the prefix and any number of the series, and actuating mechanism therefor.

9. A numbering-machine having, in combination, a fixed or non-sliding prefix-type, an associated changeable type mechanism, and actuating mechanism therefor controlling said type mechanism to print consecutive numbers by increasing the number of digits outward from the prefix.

10. A numbering-machine having, in combination, a fixed or non-sliding prefix, a changeable type-line controlled to bring consecutive numbers onto the printing-line with the initial figure of every number adjacent to the prefix, and actuating mechanism therefor.

11. A numbering-machine having, in combination, a plurality of numbering-wheels arranged to form consecutive numbers all beginning at one and the same wheel, and actuating mechanism therefor.

12. A numbering-machine having, in combination, a plurality of numbering-wheels arranged to form consecutive numbers all beginning at the first wheel of the series and increasing their number of digits at the tens, hundreds, &c., periods toward the last wheel of the series, and actuating mechanism therefor.

13. A numbering-machine having, in combination, a plurality of at least two numbering-wheels, means for actuating the first wheel to form the units-figures of a series of numerals all of which have the same number of digits, means for actuating the second wheel to form the units-figures of the following series of numerals having an extra digit, and means for actuating the first wheel to form the tens-figures of the latter series.

14. A numbering-machine having, in combination, a series of numbering-wheels for forming consecutive numbers, actuating mechanism, means for bringing the wheels in order into action as units-wheels at the periods of forming the numbers 10, 100, 1000, &c., and means effectively operating at such periods for retiming the previously-active wheels in order from the acting units-wheel according to the series 1, 1s, 1s², &c.

15. A numbering-machine having, in combination, a series of numbering-wheels for forming consecutive numbers, actuating mechanism, and means controlled thereby for operating each wheel in order first as a units-wheel, then as a tens-wheel, &c.

16. A numbering-machine having, in combination, a series of numbering-wheels, means for organizing into operativeness successive groups thereof, starting from the first wheel of the series which bears the initial type for all the numbers, and mechanism for actuating the wheels of each group to form consecutive numbers.

17. A numbering-machine having, in combination, a series of numbering-wheels, means for organizing into operativeness successive groups thereof each inclusive of the first wheel which prints the initial digits of the numbers and all the wheels between it and the last of the group, and mechanism for actuating the respective groups for forming consecutive numbers.

18. A numbering-machine having, in combination, a plurality or group of numbering-wheels, mechanism for actuating the same as constant-wheels to form consecutive numbers, means for introducing a new wheel into the group and retiming the remaining wheels, and mechanism for actuating the new group as constant-wheels to form higher consecutive numbers.

19. A numbering-machine having, in combination, a plurality of numbering-wheels for printing consecutive numbers the initial digits whereof are printed from the first wheel, and means for preventing the impression of figures on the wheels following the wheel or wheels which print the desired numbers.

20. A numbering-machine having, in combination, a plurality of numbering-wheels for printing consecutive numbers the initial digits whereof are printed from the first wheel, and means for avoiding impression of figures after the desired numbers comprising drop-type in the second and all following wheels, said drop-type being located in the printing-line but depressed when the wheels are inactive, and means for raising each drop-type to the printing-surface after the wheel is brought into action.

21. A consecutive-numbering machine having, in combination, a plurality of numbering-wheels the first of which bears the type or figures 1 to 9 inclusive while the following wheel or wheels bear the usual ten digit figures inclusive of the cipher, and actuating mechanism operating initially the first wheel and then the first and following wheels in regular order, the first wheel always operating as the wheel of highest denomination of any acting group.

22. A numbering-machine having, in combination, a plurality of numbering-wheels, actuating mechanism therefor, means rendering said mechanism initially inoperative as to all the wheels but the first, automatic means for bringing the wheel or wheels following the first successively into action with the same timing as the initial timing of the first wheel, and means whereby said actuating mechanism actuates all the wheels after they are brought into action.

23. A numbering-machine having, in combination, a plurality of numbering-wheels, actuating mechanism therefor, means rendering said mechanism initially inoperative as to all the wheels but the first, automatic means for bringing the wheel or wheels following the first successively into action, means whereby said actuating mechanism actuates all the wheels after they are brought into action, and means whereby said actuating mechanism changes the timing of all previously-acting wheels every time a new wheel is brought into action.

24. A numbering-machine having, in combination, a plurality of numbering-wheels, all of which following the first are initially inactive, means for introducing said inactive wheels in order into action as units-wheels, and actuating mechanism which constantly actuates the active wheel or wheels.

25. A numbering-machine having, in combination, a plurality of numbering-wheels, all of which following the first are initially inactive, means for introducing said inactive wheels in order into action, and actuating mechanism which constantly actuates the active wheel or wheels, said mechanism changing the timing of the active wheel or wheels every time a new wheel is brought into action.

26. A numbering-machine having, in combination, a plurality of numbering-wheels, means for bringing successively into action the wheels which print the initial, second and successive digits of the numbers, and actuating mechanism which operates the active wheel or wheels.

27. A numbering-machine for printing consecutive numbers having, in combination, a plurality of numbering-wheels having ratchets, actuating-pawls therefor, means rendering the pawls of all but the first wheel bearing the initial type of the numbers initially inoperative, means for bringing the inactive wheels successively into action to print the second and succeeding digits of the numbers, and means concurrently rendering their respective pawls operative.

28. A numbering-machine having, in combination, a plurality of numbering-wheels having ratchets, actuating-pawls therefor, means rendering the pawls of all but the first wheel initially inoperative, means for bringing the inactive wheels successively into action, means concurrently rendering their respective pawls operative, and means changing the timing of action of all previously-acting pawls each time a new wheel is brought into action.

29. A numbering-machine having, in combination, a plurality of numbering-wheels the first of which prints the initial digits of the numbers, said wheels having ratchets, actuating-pawls therefor, means rendering the pawls of all but the first wheel initially inoperative, means for bringing the inactive wheels successively into action, and means causing the respective pawls to actuate said wheels after they are brought into action.

30. A numbering-machine having, in combination, a plurality of numbering-wheels having ratchets, actuating-pawls therefor, means rendering the pawls of all but the first wheel initially inoperative, means for bringing the inactive wheels successively into action, and means causing the respective pawls to actuate said wheels after they are brought into action, the timing of actions of each pawl varying when a new wheel and pawl is brought into action.

31. A numbering-machine having, in combination, a plurality of numbering-wheels, means for bringing them successively into action, starting with the first wheel, actuating mechanism which operates the active wheel or wheels according to a constant periodicity, and means maintaining such periodicity always the same for the last or outermost wheel of any acting group and timing the other wheels in order therefrom according to the series $\frac{1}{1}$, $\frac{1}{10}$, $\frac{1}{100}$, &c.

32. A numbering-machine having, in combination, a plurality of numbering-wheels, means for bringing them successively into order starting with the first or inner wheel, and actuating mechanism which operates every active group according to a constant periodicity whereof the last or outer wheel is always the one of lowest denomination while the others increase in denomination in order therefrom, the first or inner wheel being always the one of highest denomination.

33. A numbering-machine having, in combination, a plurality of numbering-wheels, means for bringing them successively into order starting with the first or inner wheel, such means being timed to act at the periods of introducing an extra digit into the numbers to be formed, and actuating mechanism which operates every active group according to a constant periodicity whereof the last or outer wheel is always the one of lowest denomination while the others increase in denomination in order therefrom, the first or inner wheel being always the one of highest denomination.

34. A numbering-machine having, in combination, a plurality of numbering-wheels for forming consecutive numbers, means for bringing them into action in order, starting with the first or inner wheel of the group, such means being timed to act at the periods of forming the numbers 10, 100, 1000, &c., and actuating mechanism which operates any active group with the last or outer wheel as the units-wheel, the next as the tens-wheel, and so on.

35. A numbering-machine having, in combination, a plurality of numbering-wheels having ratchets, a series of actuating-pawls therefor which operate different groups of wheels exclusive of the first with the last wheel of the particular group as the units-wheel, the next as the tens-wheel, &c., and means for bringing the wheels successively into action starting from the first or inner wheel.

36. A numbering-machine having, in combination, a plurality of numbering-wheels for forming consecutive numbers, means for increasing the number of active wheels in an outward direction from the wheel which prints the initial digits of the numbers, and actuating mechanism which operates any active wheel or group of wheels for forming consecutive numbers.

37. A numbering-machine having, in combination, a group of numbering-wheels for forming consecutive numbers, said wheels having ratchets with deep notches, a corresponding plurality of actuating-pawls of successively longer lengths from the first or inner one, whereby the pawl for any acting wheel adjacent to another outer acting wheel can only engage its ratchet when the pawl for said outer wheel engages in the deep notch of its ratchet, means for bringing the wheels into action in order starting from the first, and means rendering the pawls for any and all inactive wheels inoperative with respect thereto.

38. A numbering-machine having, in combination, a group of numbering-wheels having mutilated ratchets and dormant teeth adapted to appear or come into being in the vacant spaces thereof, means for bringing the wheels into action and the said dormant teeth into being, and a series of actuating-pawls which move inoperatively in the vacant spaces of the respective ratchets prior to the appearance of the dormant teeth.

39. A numbering-machine having, in combination, a group of numbering-wheels having mutilated ratchets and dormant teeth adapted to appear or come into being in the interrupted spaces thereof, means for bringing the wheels successively into action and the dormant teeth into being, a series of actuating-pawls which move inoperatively in the interrupted spaces of the respective ratchets prior to the appearance of the dormant teeth, and means controlling the timing of any acting wheel or number of wheels of the group to form consecutive numbers.

40. A numbering-machine having, in combination, a group of numbering-wheels having mutilated ratchets and dormant teeth adapted to appear or come into being in the interrupted spaces thereof, means for bringing the wheels successively into action and the dormant teeth into being, a series of actuating-pawls which move inoperatively in the interrupted spaces of the respective ratchets prior to the appearance of the dormant teeth, and means controlling the timing of the engagement of the actuating-pawls for any acting number of wheels of the group to form consecutive numbers.

41. A numbering-machine having, in combination, a group of numbering-wheels having mutilated ratchets and dormant teeth adapted to appear or come into being in the interrupted spaces thereof, means for bringing the wheels successively into action and the dormant teeth into being, a series of actuating-pawls which move inoperatively in the interrupted spaces of the respective ratchets prior to the appearance of the dormant teeth, and means controlling the

timing of the engagement of the actuating-pawls for any acting number of wheels of the group to form consecutive numbers, such means comprising successively greater lengths of the pawls and deep notches in the several ratchets.

42. A numbering-machine having, in combination, a group of numbering-wheels having ratchets, each with one deep notch and an interrupted space and means for supplying the said interrupted space, means for bringing the wheels into action in order, and a corresponding group of actuating-pawls of different lengths which move inoperatively in the interrupted spaces of the ratchets before such spaces are supplied.

43. A numbering-machine having, in combination, a group of numbering-wheels having ratchets, each with one deep notch and an interrupted space and means for supplying the said interrupted space, means for bringing the wheels into action in order, and a corresponding group of actuating-pawls which move inoperatively in the interrupted spaces of the ratchets before such spaces are supplied, the arrangement of said pawls being such that each when operative holds the preceding one out of engagement with its ratchet except when the former engages in the deep notch of its ratchet.

44. A numbering-machine having, in combination, a group of numbering-wheels having mutilated ratchets whereof two spaces are interrupted and dormant teeth adapted to appear and supply one interrupted space, means for bringing the wheels into action and the dormant teeth into being, and a series of actuating-pawls which move inoperatively in the interrupted spaces before the appearance of the dormant teeth.

45. A numbering-machine having, in combination, a group of numbering-wheels having ratchets, each with two contiguous interrupted spaces and means for restoring one of such spaces, means for bringing the wheels into action in order, and a corresponding group of actuating-pawls of different lengths which move inoperatively in the interrupted spaces of the ratchets before the respective wheels come into action.

46. A numbering-machine having, in combination, a group of numbering-wheels having ratchets, each with two contiguous interrupted spaces and means for restoring one of such spaces, means for bringing the wheels into action in order, and a corresponding group of actuating-pawls which move inoperatively in the interrupted spaces of the ratchets before the respective wheels come into action, the arrangement being such that each pawl when operative holds the preceding one out of engagement with its ratchet except when the former engages in the deep notch of its ratchet.

47. In a numbering-machine, a numbering-wheel having a ratchet with an interrupted space and a dormant tooth adapted to supply the same.

48. In a numbering-machine, a numbering-wheel having an interrupted space substantially equivalent to two notches and a dormant tooth adapted to supply one notch and leave one deep notch.

49. A numbering-machine having, in combination, a series of numbering-wheels for forming consecutive numbers, wheel-ratchets of which the second and all following have an interrupted space and a dormant tooth adapted to supply the same, means for bringing the wheels successively into action and the respective dormant teeth into being, and a series of actuating-pawls which move inoperatively in the interrupted ratchet-spaces before appearance of the dormant teeth but engage said ratchets after such teeth have appeared, and means controlling the timing of the wheels of any active group to form consecutive numbers.

50. A numbering-machine having, in combination, a series of numbering-wheels for forming consecutive numbers, wheel-ratchets of which the second and all following have an interrupted space and a dormant tooth adapted to supply the same, means for bringing the wheels successively into action and the respective dormant teeth into being, and a series of actuating-pawls which move inoperatively in the interrupted ratchet-spaces before appearance of the dormant teeth but engage said ratchets after such teeth have appeared, and means whereby the pawl of any acting wheel is held from contact with its ratchet except once per complete rotation of the adjacent wheel of next lower denomination.

51. A numbering-machine having, in combination, a series of numbering-wheels for forming consecutive numbers, wheel-ratchets of which the second and all following have an interrupted space of approximately two teeth or notches and a dormant tooth adapted to supply the space of one tooth or notch and leave a deep notch, means for bringing the wheels into action in order and the respective dormant teeth into being, and a series of actuating-pawls of which the second and following ones travel inoperatively in the interrupted ratchet-spaces before appearance of the respective dormant teeth, and means whereby each acting pawl is held from contact with its ratchet except when the following pawl engages in the deep notch of its ratchet.

52. In mechanism of the character described, a numbering-wheel having an interrupted space, a dormant tooth adapted to supply the same, and means for bringing such tooth into being when the wheel first comes into action.

53. In mechanism of the character described, a numbering-wheel having an interrupted space, a dormant tooth adapted to supply the same, and means for bringing such tooth into being operated by the initial turn of the wheel.

54. In mechanism of the character described, a numbering-wheel having an interrupted space, a dormant tooth adapted to supply the same, a drop-type, and means actuated by the rise of the drop-type for causing appearance of the dormant tooth.

55. In mechanism of the character described, a numbering-wheel having an interrupted space, a dormant tooth adapted to supply the same, a drop-type, and means actuated by the rise of the drop-type for causing appearance of the dormant tooth, comprising a rod extending from the drop-type and movably fitted in a hole in the dormant tooth inclined to its direction of movement.

56. In mechanism of the character described, a numbering-wheel having an interrupted space, a dormant tooth adapted to supply the same, a drop-type, and means acting concurrently with its rise to cause appearance of the dormant tooth.

57. A numbering-machine having, in combination, a plurality of numbering-wheels for forming consecutive numbers, actuating mechanism therefor, means rendering such mechanism inoperative with respect to the several wheels before they are brought into action, and mechanism for bringing the wheels in order into action comprising an engaging means acting between the last acting wheel of any group and the adjacent inactive wheel at the periods necessary for increasing the number of active wheels, and means for actuating each new wheel brought into action as the units-wheel.

58. A numbering-machine having, in combination, a plurality of numbering-wheels of which the first has nine type and each of the following ones ten type including the cipher, transversely-movable pins in said wheels spring-held to project to their inner sides but adapted to be forced to project to the outer sides and alined when the nines of all the wheels are on the printing-line, the adjacent ends of said pins having opposed catches the backs of which are rounded or beveled, the adjacent ends of any two pins being adapted to engage when such pins project from opposite sides of their respective wheels, and a fixed surface adapted to engage and force outward the pin in the first wheel when its nine is up; and mechanism for actuating the first or any group of wheels.

59. In a numbering-machine, the combination with a reciprocatory plunger, of a pawl-carrying swing, and a link pivotally connecting the swing and plunger.

60. In a numbering-machine, the combination of numbering-wheels, actuating-pawls adapted for operating said wheels to form consecutive numbers, an oscillating pawl-carrying swing, a vertically-reciprocating plunger, and a link pivotally connecting said plunger and swing, the pivotal connection between the link and swing oscillating through an arc transverse to the vertical oscillation of the pivotal connection between the link and plunger.

61. In a typographic numbering-machine, the combination of a box having a vertical chamber at one end, a plurality of numbering-wheels in said box mounted loosely on a center shaft, an oscillating swing hung on said shaft, pawls carried thereby adapted for operating said wheels to print consecutive numbers, a vertically-reciprocating plunger working in said chamber and actuated by the action of the press, and a link pivotally connecting said plunger and swing, said link being arranged in the plunger-chamber, and the inner wall of said chamber having an arc slot to accommodate the pivot-pin between the link and swing.

62. A numbering-machine for printing consecutive numbers by increasing the digits from left to right and having, in combination, a plurality of coaxial numbering-wheels, wheel-ratchets therefor, the second and all following ratchets having a vacant or interrupted space embracing two notches, drop-type in the second and following wheels which are alined and depressed at the start, dormant teeth in said second and following wheels adapted to supply the place of one notch or space when brought into being, an oscillating swing carrying a plurality of actuating-pawls for the respective ratchets, said pawls being of successively longer lengths beginning from the first, the second and all following pawls moving inoperatively in interrupted spaces of the second and following ratchets prior to the coming of said wheels into action, automatic means for introducing the second and following wheels into action successively at periods of in-

creasing the number of digits in the numbers to be printed, means for raising the drop-type, and automatic means for causing the forthcoming of each dormant tooth as its wheel comes into action, leaving one deep notch in said wheel.

63. A numbering-machine having, in combination, a plurality of coaxial numbering-wheels, wheel-ratchets therefor of which the second and following ones have deep notches, an oscillating swing carrying a plurality of actuating-pawls for the respective ratchets, said pawls being of successively longer lengths from the first, the second and following ratchets having interrupted spaces in which the respective pawls can move inoperatively when the respective wheels are inactive, and means for introducing the second and following wheels into action and supplying the interrupted spaces of their respective ratchets at the completion of every rotation of the first wheel.

64. A numbering-machine having, in combination, a plurality of coaxial numbering-wheels, wheel-ratchets therefor of which the second and following ones have deep notches, an oscillating swing carrying a plurality of actuating-pawls for the respective ratchets, said pawls being of successively longer lengths from the first, the second and following ratchets having interrupted spaces in which the respective pawls can move inoperatively when the respective wheels are inactive, the said second and following wheels having drop-type which are alined and depressed at the outset, dormant teeth in said second and following wheels actuated to supply the respective ratchets by the rise of the respective drop-type as the wheels are turned, and means whereby each wheel at the completion of its action as a units-wheel effects a turning of the next outer wheel.

65. A numbering-machine having, in combination, a plurality of numbering-wheels, and actuating mechanism for operating said wheels in regular order as units-wheels and the previously-acting wheel or wheels as a wheel or wheels each of one higher denomination, said mechanism comprising a swing carrying successively longer pawls and wheel-ratchets of which the second and following wheels have deep notches and means for preventing effective engagement of the second and following pawls with their respective ratchets prior to a predetermined number of movements of the swing.

66. A numbering-machine having, in combination, a plurality of numbering-wheels, transversely-movable pins in said wheels initially projecting at their inner sides but adapted to be forced to project to their outer sides, the adjacent ends of said pins having opposed catches the backs of which are rounded or beveled, a fixed surface adapted to engage and force outward the first wheel's pin at the completion of every rotation thereof, whereby an effective engagement is established successively between adjacent pairs of wheels at the successive completions of rotation of the first, and mechanism for actuating any wheel or group of wheels in the order in which they are brought into action to form consecutive numbers.

67. In numbering-machine mechanism, the combination of a numbering-wheel, a movable drop-type therein, a dormant tooth therein, means for raising said drop-type, and means for bringing said dormant tooth into effective action comprising a rod carried by said drop-type having a part extending at an angle to the direction of movement of the drop-type and slidably fitted in a hole therefor in said dormant tooth.

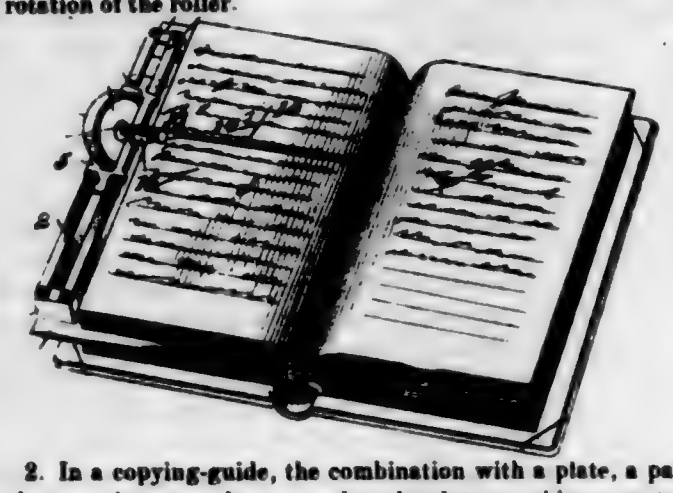
68. In numbering-machine mechanism, the combination of a numbering-wheel, a movable drop-type carried thereby, means for raising said drop-type, a coöperative instrumentality carried by the wheel, and connections for actuating the same by the rise of the drop-type.

69. In numbering-machine mechanism, the combination of a numbering-wheel, a movable drop-type carried thereby, means for raising said drop-type, an instrumentality carried by the wheel and movable at an angle to the movement of the drop-type, and actuating means therefor comprising a connecting device between the said drop-type and said instrumentality having a sliding engagement with one of these parts inclined to the direction of movement of said part.

70. In numbering-machine mechanism, the combination of a supporting-shaft, a number-wheel mounted thereon, a movable type-block carried thereby and movable tangentially with respect to said shaft, and a movable dormant tooth carried by the wheel at the same side of the shaft as the inner end of the type-block, and a connection between said type-block and dormant tooth having a sliding engagement with one of these parts inclined to the direction of its movement.

807,095. COPYING-GUIDE. SHADRICH A. SMITH, Memphis, Tenn., assignor of one-half to John P. Bullington, Memphis, Tenn. Filed Dec. 27, 1904. Serial No. 238,546.

Claim.—1. In a copying-guide, the combination with a plate, a track supported on the plate, a guide movably mounted on the track, a roller supported by the guide in contact with the plate, and a finger also supported by the guide, whereby the finger may be moved upon the rotation of the roller.



2. In a copying-guide, the combination with a plate, a pair of tracks spaced apart and supported on the plate, a guide supported on the tracks, a roller carried by the guide extending through the guide and between the tracks into contact with the plate and a finger carried by the guide, whereby the finger may be moved upon the rotation of the roller.

3. In a copying-guide, the combination with a plate, of supporting means movably mounted on the plate, and a removable guide-finger provided with a lateral projection pivotally supported by said means, whereby guide-fingers of different lengths may be used.

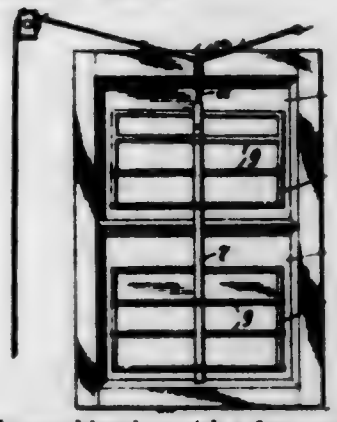
4. In a copying-guide, the combination with a plate, of a track composed of two bars spaced apart mounted on the plate, a guide movably mounted on the track, a spring-tongue provided with projections carried by the guide, the tongue extending between the bars of the track with the projections in engagement with the track to act as a brake on the movement of the guide, and a finger carried by the guide.

5. In a copying-guide, the combination with a plate, a track supported on the plate, a guide movably mounted on the track, a shaft carried by the guide, a finger, a lateral extension on the finger by which the finger is pivoted on the shaft and means carried by the shaft for clamping the lateral projection in position on the shaft, whereby the finger may be held in positions of different adjustment.

6. In a copying-guide, the combination with a plate, a track supported on the plate, a guide movably mounted on the track, a shaft mounted in the guide, a roller mounted on the shaft in contact with the plate and a finger also mounted on the guide, whereby the finger may be moved upon the rotation of the roller.

7. In a copying-guide, the combination with a plate, a track supported on the plate, a guide movably mounted on the track, a shaft mounted in the guide, a roller mounted on the shaft in contact with the plate, and a finger provided with a lateral extension, said finger being mounted on the shaft by the shaft passing through the lateral extension.

807,096. BURGLAR-ALARM. KARL STASTKA, Irwin, Pa. Filed Aug. 9, 1904. Serial No. 220,101.



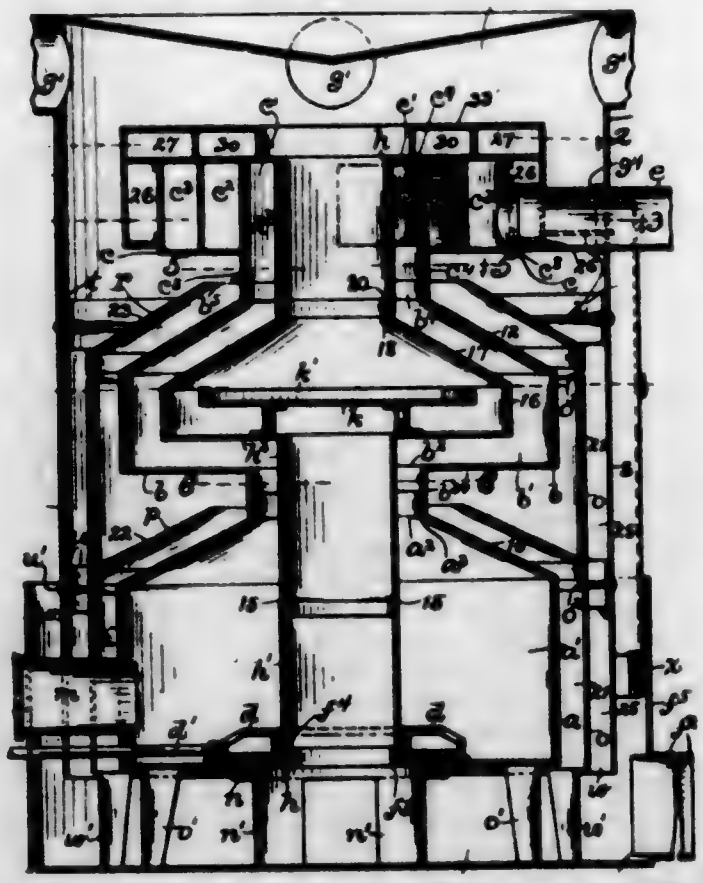
Claim.—1. The combination with a frame adapted to be pivotally suspended in front of a building-closure, said rame being formed with a projecting horizontal portion, of a swinging lever pivotally suspended from the window-frame and having a hooked end, said lever engaging the projecting portion of the frame a rope engaged by said hooked end, an alarm, a sliding bar connected to said rope and engaging the clapper of the alarm, a weight attached to said sliding bar and adapted to move the same out of engagement with the clapper of the alarm when said rope is released by the hooked lever.

2. In a burglar-alarm the combination with a frame adapted

to be pivotally suspended at its upper edge in front of an opening in the building, a hooked lever adapted to be pivotally suspended adjacent to said frame and engaged thereby, a cord fixed at one end and attached to a sliding bar at the other end, said cord being engaged by said hooked lever, means for moving said sliding bar when the tension on said cord is released, an alarm mechanism, and means whereby when the cord is released and the sliding bar allowed to move the alarm mechanism will be thrown into action.

3. In a burglar-alarm, the combination of a frame adapted to be pivotally suspended at its upper edge in front of an opening in a building, means for pivotally suspending said frame at its upper edge a hooked lever adapted to be pivotally suspended adjacent said frame and engaged thereby, a cord secured at one end and engaged by said lever, alarm mechanism, a locking-bar arranged adjacent said alarm mechanism, and adapted to normally maintain the mechanism in passive condition, said cord being connected to said locking-bar, and said parts being so constructed and arranged that, when the tension of the cord is relieved by the swinging of the frame, the locking-bar will release the alarm mechanism and the alarm will be sounded.

807,097. **HOT-AIR FURNACE.** CHARLES W. STRAN, Cleveland, Ohio. Filed Feb. 23, 1904. Serial No. 194,808.



Claim.—1. A hot-air furnace comprising a heater consisting of a plurality of heating-drums arranged at different elevations respectively and in line vertically with their interior chambers in communication; a hot-air chamber exteriorly of and adjacent to the upper portion of the heater and having air-outlets; a cold-air chamber exteriorly of and adjacent to the lower portion of the heater and having an air-inlet communicating with the atmosphere externally of the furnace; means for conducting air from the cold-air chamber to the hot-air chamber centrally through the heating-drums, and means for conducting air upwardly along and externally of the drums from the cold-air chamber to the hot-air chamber.

2. A hot-air furnace comprising a heater consisting of a plurality of heating-drums arranged at different elevations respectively and in line vertically with their interior chambers in communication; a hot-air chamber extending over the heater; a cold-air chamber extending below the heater and in communication with the atmosphere externally of the furnace; means for conducting air from the cold-air chamber to the hot-air chamber centrally through the heating-drums, and means for conducting air upwardly along and externally of the drums from the cold-air chamber to the hot-air chamber.

3. A hot-air furnace comprising a heater consisting of a plurality of heating-drums arranged at different elevations respectively and in line vertically, with their interior chambers in communication; a hot-air chamber extending over the heater; a cold-air chamber extending below the heater and in communication with the atmosphere externally of the furnace; a flue arranged to conduct air from the cold-air chamber to the hot-air chamber through the heating-drums, and means for conducting air upwardly along and externally of the drums from the cold-air chamber to the hot-air chamber.

4. A hot-air furnace comprising a heater consisting of a plurality of heating-drums arranged at different elevations respectively, with their interior chambers in communication; a hot-air chamber exteriorly of and adjacent to the upper portion of the heater; a cold-air chamber extending below the heater and in communication with the atmosphere externally of the furnace; an upright air-flue extending through the heating-drums and communicating, at its lower end, with the cold-air chamber, which flue communicates, at its upper end, with the hot-air chamber.

5. A hot-air furnace comprising a heater; a hot-air chamber exteriorly of and adjacent to the upper portion of the heater; a cold-air chamber extending below the heater and communicating with the atmosphere exteriorly of the furnace; an upright flue extending through the heater and communicating, at its lower end, with the cold-air chamber, which flue communicates, at its upper end, with the hot-air chamber, and means for retarding the passage of air upwardly through the said flue.

6. A hot-air furnace comprising a heater; a hot-air chamber extending over the heater; a cold-air chamber extending below the heater and communicating with the atmosphere exteriorly of the furnace; an upright flue extending through the heater and communicating, at its lower end, with the cold-air chamber, which flue communicates, at its upper end, with the hot-air chamber; means for retarding the passage of air upwardly through the said flue; means whereby the passage of air exteriorly of the heater from the cold-air chamber to the hot-air chamber is effected, and means for retarding the last-mentioned passage of air.

7. A hot-air furnace comprising a heater consisting of a plurality of heating-drums arranged at different elevations respectively and in line vertically, with their interior chambers in communication; a hot-air chamber exteriorly of and adjacent to the upper portion of the heater; a cold-air chamber extending below the heater and communicating with the atmosphere exteriorly of the furnace; an upright inner flue extending through the heating-drums and communicating, at its lower end, with the cold-air chamber, which flue communicates, at its upper end, with the hot-air chamber; and means for conducting air upwardly along the exterior of the drums from the cold-air chamber and comprising an upright outer flue communicting, at its lower end, with the cold-air chamber; air-conducting passage-ways formed next exteriorly of the upper portion of the heater and establishing communication between the aforesaid outer flue and the hot-air chamber.

8. A hot-air furnace comprising a heater; a hot-air chamber exteriorly of and adjacent to the upper portion of the heater; a cold-air chamber extending below the heater and communicating with the atmosphere exteriorly of the furnace; an upright inner flue extending through the heater and communicating, at its lower end, with the cold-air chamber, which flue communicates, at its upper end, with the hot-air chamber; and means for conducting air upwardly along the exterior of the heater from the cold-air chamber to the hot-air chamber and comprising an upright outer flue communicating, at its lower end, with the cold-air chamber; an air-conducting passage-way formed next exteriorly of and extending around the upper portion of the heater and communicating, at one end, with the aforesaid outer flue, and another air-conducting passage-way formed next above the heater and communicating, at one end, with the first-mentioned passage-way and in communication, at its other end, with the hot-air chamber.

9. In a hot-air furnace, an interiorly-chambered heating-drum having a conical upper portion and provided with an outlet; means for conducting products of combustion from the said outlet; a hot-air chamber above; a cold-air chamber below; an upright flue extending through the interior chamber of the drum, which flue communicates, at its lower end, with the cold-air chamber and is in communication, at its upper end, with the hot-air chamber; an open-ended cylinder surrounding the drum and enough larger diametrically than the drum to form an annular chamber interiorly of the cylinder and exteriorly of the drum, and an annular deflector supported from the cylinder and overhanging the conical portion of the drum and enough larger diametrically than the said conical portion to form a space around the said conical portion, which space is in communication below with the cold-air chamber and communicates above with the hot-air chamber.

10. In a hot-air furnace, an interiorly-chambered heating-drum having a conical upper portion and provided with an outlet at the upper end and centrally of the said conical portion; means for conducting products of combustion from the said outlet; a hot-air chamber above; a cold-air chamber below; an upright flue arranged centrally

of the drum and extending through the aforesaid outlet, which flue communicates, at its lower end, with the cold-air chamber and is in communication, at its upper end, with the hot-air chamber; an open-ended cylinder surrounding the drum and enough larger diametrically than the drum to form an annular space interiorly of the cylinder and exteriorly of the drum; and a conical deflector supported from the cylinder and overhanging the conical portion of the drum and enough larger diametrically than the said conical portion to form a space around the said conical portion, which space is in communication below with the cold-air chamber and communicates above with the hot-air chamber.

11. In a hot-air furnace, an interiorly-chambered heating-drum having a conical upper portion and provided with an outlet; means for conducting products of combustion from the said outlet; a hot-air chamber above; a cold-air chamber below; an upright flue extending through the interior chamber of the heating-drum, which flue communicates, at its lower end, with the cold-air chamber and is in communication, at its upper end, with the hot-air chamber; an open-ended cylinder surrounding the drum and enough larger diametrically than the drum to form an annular space interiorly of the cylinder and exteriorly of the drum, which cylinder is provided with legs standing upon the bottom of the cold-air chamber, and a conical deflector supported from the cylinder and overhanging the conical portion of the drum and enough larger diametrically than the said conical portion to form a space around the said conical portion, which space is in communication below with the cold-air chamber and communicates above with the hot-air chamber.

12. In a hot-air furnace, an interiorly-chambered heating-drum having a conical upper portion and provided with an outlet; means for conducting products of combustion from the said outlet; a hot-air chamber above; a cold-air chamber below; an upright flue interiorly of the drum, which flue communicates, at its lower end, with the cold-air chamber and is in communication, at its upper end, with the hot-air chamber; an open-ended cylinder surrounding the drum and enough larger diametrically than the drum to form an annular chamber interiorly of the cylinder and exteriorly of the drum; an annular deflector supported from the cylinder and overhanging the conical portion of the drum and enough larger diametrically than the said conical portion to form a space around the said conical portion, which space is in communication below with the cold-air chamber and communicates above with the hot-air chamber, and an annular chamber formed externally of the aforesaid cylinder and communicating, at its lower end, with the cold-air chamber and, at its upper end, with the hot-air chamber.

13. A hot-air furnace comprising a heater having two interiorly-chambered heating-drums arranged one above the other, with the upper portion of each drum conical, and with the interior chamber of the higher drum communicating, at the bottom, with the interior chamber of the lower drum; means for conducting products of combustion from the interior chamber of the higher drum; a hot-air chamber adjacent the upper portion of the heater and having an outlet; a cold-air chamber at the bottom of the heater and in communication with the atmosphere externally of the furnace; an upright flue extending through the drums, which flue communicates, at its lower end, with the cold-air chamber and, at its upper end, with the hot-air chamber, and means whereby air is conducted from the cold-air chamber upwardly around the drums and over the conical portions of the drums to the hot-air chamber.

14. A hot-air furnace comprising a heater having two interiorly-chambered heating-drums arranged one above the other, with the upper portion of each drum conical, and with the interior chamber of the higher drum communicating, at the bottom, with the interior chamber of the lower drum; means for conducting products of combustion from the interior chamber of the higher drum; a hot-air chamber adjacent the upper portion of the heater and having an outlet; a cold-air chamber at the bottom of the heater and in communication with the atmosphere externally of the furnace; an upright flue extending through the drums and provided, within the interior chamber of the higher drum, with a diametrical enlargement overhanging the bottom of the said chamber, which flue communicates, at its lower end, with the cold-air chamber and, at its upper end, with the hot-air chamber, and means whereby air is conducted from the cold-air chamber upwardly around the drums and over the conical portions of the drums to the hot-air chamber.

15. A hot-air furnace comprising a heater having two interiorly-chambered heating-drums arranged one above the other, with the upper portion of each drum conical, and with the interior chamber of the higher drum communicating, at the bottom, with the interior chamber of the lower drum; means for conducting products of combustion from the interior chamber of the higher drum; a hot-air chamber adjacent the upper portion of the heater and having an outlet; a cold-air chamber at the bottom of the heater and in communication with the atmosphere externally of the furnace; an upright flue extending through the drums and provided, within the interior chamber of the higher drum, with a diametrical enlargement overhanging the bottom of the said chamber, which flue communicates, at its lower end, with the cold-air chamber and, at its upper end, with the hot-air chamber, and means within the aforesaid diametrically-enlarged portion of the flue for spreading and distributing the air received within the said portion over the bottom of the interior space of the said portion.

16. A hot-air furnace comprising a heater having two interiorly-chambered heating-drums arranged one above the other, with the upper portion of each drum conical, and with the interior chamber of the higher drum communicating, at the bottom, with the interior chamber of the lower drum; means for conducting products of combustion from the interior chamber of the higher drum; a hot-air chamber adjacent the upper portion of the heater and having an outlet; a cold-air chamber at the bottom of the heater and in communication with the atmosphere externally of the furnace; an upright flue extending through the drums and provided, within the interior chamber of the higher drum, with a diametrical enlargement overhanging the bottom of the said chamber, which flue communicates, at its lower end, with the cold-air chamber and, at its upper end, with the hot-air chamber, and a horizontally-arranged plate within the said diametrically-enlarged portion of the flue, which plate overhangs the bottom of the space within the said enlarged portion of the flue and is provided with an upwardly-projecting flange extending along the edge of the plate.

17. A hot-air furnace comprising a heater having two interiorly-chambered heating-drums arranged one above the other, with the upper portion of each drum conical, and with the interior chamber of the higher drum communicating, at the bottom and centrally, with the interior chamber of the lower drum at the upper end and centrally of the conical portion of the lower drum; a hot-air chamber adjacent the upper portion of the heater and having air-outlets; a cold-air chamber at the bottom of the heater and in communication with the atmosphere externally of the furnace; an upright flue arranged centrally of the drum and provided, within the interior chamber of the higher drum, with a diametrical enlargement having a conical upper portion and overhanging the bottom of the interior chamber of the said drum, which flue communicates, at its lower end, with the cold-air chamber and, at its upper end, with the hot-air chamber, and means within the aforesaid diametrically-enlarged portion of the flue for spreading and distributing the air received within the said portion over the bottom of the interior space of the said portion, and means whereby air is conducted from the cold-air chamber upwardly around the drums and over the conical portions of the drums to the hot-air chamber.

18. A hot-air furnace comprising a heater consisting of three interiorly-chambered drums arranged at different elevations respectively and in line vertically, with the interior chambers of adjacent drums in communication with each other; means for conducting products of combustion from the heater; a hot-air chamber extending around and over the uppermost drum and having air-outlets; a cold-air chamber extending in under the lowermost drum and upwardly around the lower portion of the heater and communicating, at the upper end of its upwardly-extending portion, with the atmosphere externally of the furnace; a flue extending through the drums and communicating, at its lower end, with the cold-air chamber and, at its upper end, with the hot-air chamber; means for retarding the passage of air upwardly through the said flue, and means whereby air is conducted from the cold-air chamber upwardly externally of the heater to the hot-air chamber.

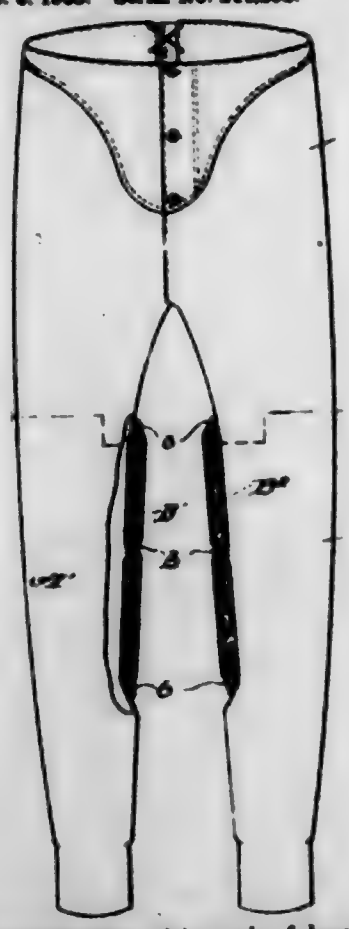
19. A hot-air furnace comprising a heater consisting of three interiorly-chambered drums arranged at different elevations respectively and in line vertically, with the interior chamber of adjacent drums in communication with each other centrally of the respective drums; means for conducting products of combustion from the heater; a hot-air chamber extending around and over the uppermost drum and having air-outlets; a cold-air chamber extending in under the lowermost drum; and having an air-inlet communicating with the atmosphere externally of the furnace; a flue extending through the drums and communicating, at its lower end, with the cold-air chamber and, at its upper end, with the hot-air chamber; means for retarding the passage of air upwardly through the said flue; means whereby air is conducted from the cold-air chamber upwardly externally of the heater to the hot-air chamber, and a deflector for deflecting the last-mentioned air, during its ascent, inwardly against the heater.

20. A hot-air furnace comprising a heater consisting of three in-

teriorly-chambered drums arranged at different elevations respectively and in line vertically, with the upper portions of the intermediate and lowermost drums conical and with the interior chambers of adjacent drums in communication with each other; means for conducting products of combustion from the heaters; a hot-air chamber externally of the upper portion of the heater and having an outlet; a cold-air chamber extending in under the heater and provided with an air-inlet communicating with the atmosphere externally of the furnace; means for conducting air from the cold-air chamber upwardly through the heating-drums to the hot-air chamber; an open-ended cylinder surrounding the intermediate and lowermost drums and enough larger diametrically than the said drums to form an annular chamber interiorly of the cylinder and exteriorly of the said drums, and annular deflectors supported from the said cylinder and overhanging the conical portions of the intermediate and lowermost drums and enough larger diametrically than the said conical portions to form air-spaces around the said conical portions, which air-spaces are in communication with the cold-air chamber below and with the hot-air chamber above.

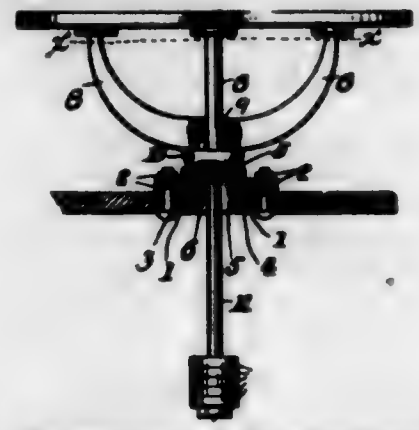
21. A hot-air furnace comprising a heater consisting of three interiorly-chambered drums arranged at different elevations respectively and in line vertically, with the upper portions of the intermediate and lowermost drums conical and with the interior chambers of adjacent drums in communication with each other; means for conducting products of combustion from the heater; a hot-air chamber externally of the upper portion of the heater and having an outlet; a cold-air chamber extending in under the heater and provided with an air-inlet communicating with the atmosphere externally of the furnace; means for conducting air from the cold-air chamber upwardly through the heating-drums to the hot-air chamber; an open-ended cylinder surrounding the intermediate and lowermost drums and enough larger diametrically than the said drums to form an annular chamber interiorly of the cylinder and exteriorly of the said drums, which cylinder is provided with legs standing upon the bottom of the cold-air chamber; annular deflectors supported from the said cylinder and overhanging the conical portions of the intermediate and lowermost drums and enough larger diametrically than the said conical portions to form air-spaces around the said conical portions, which air-spaces are in communication with the cold-air chamber below and with the hot-air chamber above; an annular chamber formed next exteriorly of the aforesaid cylinder-section by a casing having legs standing on the bottom of the cold-air chamber, and the last-mentioned chamber communicating, at its lower end, with the cold-air chamber and, at its upper end, with the hot-air chamber.

807,098. **LIMB APPLIANCE.** ARTHUR M. VALENTINE, Janesville, Wis. Filed Feb. 6, 1905. Serial No. 244,269.



Claim.—The combination with a pair of drawers, of a pad composed of soft flexible material folded to a length, width and thickness to complement the curvature in the legs of a wearer, and means for detachably securing the pad to the leg of the drawers.

807,099. **SELF-LEVELING TABLE.** HARRY A. VANCE, Empire, Ohio, assignor of one-third to L. F. Brown, Empire, Ohio. Filed Oct. 27, 1904. Serial No. 229,258.



Claim.—1. The combination with a floor having an opening therein, and a plate arranged in said opening and having a lateral flange, said flange being affixed to the floor and having a concavity in its top, of a table-top, a plurality of legs secured to said table-top, a semispherical portion carried by said legs and seating in the concavity in said plate, a rod attached to said semispherical portion and extending through the plate and a weight carried by said rod below the floor.

2. The combination with the floor of a compartment said floor having an opening formed therein, of a plate secured in said opening, said plate having concavities formed therein, a table, a semispherical portion carried by the table and mounted in one of said concavities, removable weights mounted below the floor of the compartment and connecting with said table for maintaining the level thereof, substantially as described.

3. The combination with a floor having an opening therethrough, of a plate arranged over said opening and attached to the floor, said plate being formed with a concavity in its upper side, a table-top, a plurality of legs secured to said table-top and meeting below the center of the same, a semispherical portion carried by said legs at their meeting-point, said semispherical portion seating in the concavity of said plate, a rod screwing into said semispherical portion and a plurality of removable weights carried on said rod below the said floor.

807,100. **SUPPORT FOR EXERCISING-BAGS.** WILLIAM G. WOOD, San Francisco, Cal. Filed Mar. 3, 1903. Serial No. 145,953.



Claim.—1. A support for exercising-bags, comprising a stationary member and a movable member universally mounted within the stationary member; the movable member being provided with a hollow projecting neck which receives the suspension-rope and forms a guard for the same, whereby the rope is prevented from coming into contact with the stationary member.

2. A support for exercising-bags, comprising a stationary member and a movable member universally mounted within the stationary member; the movable member being provided with a hollow projecting slotted neck which receives the suspension-rope and forms a guard for the same, whereby the rope is prevented from coming into contact with the stationary member.

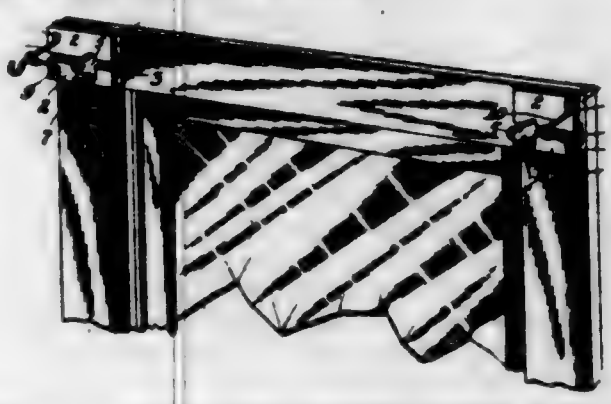
3. In a support for a punching-bag, a base-plate having a projecting rim, a movable part for a suspension-rope, seated in said rim, and a bayonet-joint connecting the movable part to said rim.

4. In a support for a punching-bag, a base-plate having a projecting rim, a movable part for a suspension-rope, seated in said rim, a bayonet-joint connecting the movable part to said rim, and a hollow neck or extension forming portion of the movable part through which the suspension-rope passes.

5. In a support for a punching-bag, a base-plate having a projecting rim, a movable part for a suspension-rope, seated in said rim, a bayonet-joint connecting the movable part to said rim, means for

locking the bayonet-joint, and a hollow neck or extension forming part of the movable part through which the suspension-rope passes.

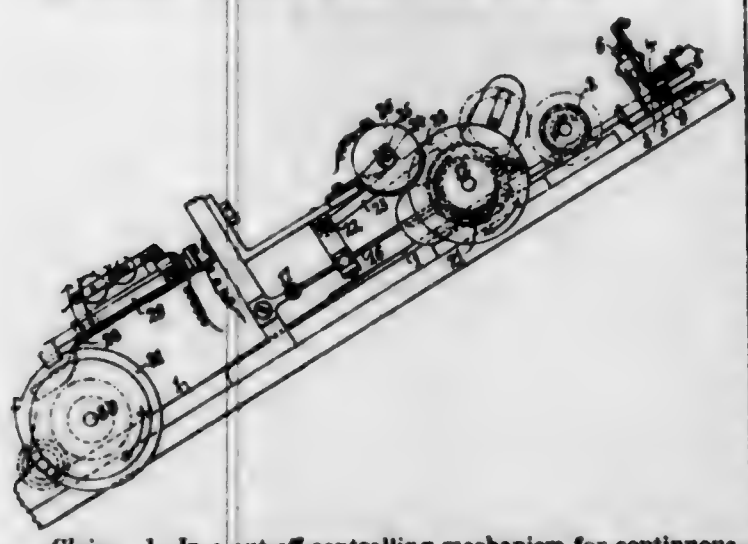
807,101. WINDOW-FIXTURE. JACOB E. WOODS, Donora, Pa. Filed June 10, 1905. Serial No. 264,627.



Claim.—1. A window-fixture comprising a supporting member embodying two plates superposed one on the other, the outer plate being formed in two sections spaced from each other and overlying a groove formed in the underneath plate, brackets adjustably mounted in said groove, set-screws passing through the brackets and engaging the outer plate and curtain-supporting brackets secured to the outer plate, substantially as described.

2. A window-fixture, comprising a supporting member embodying a plate having an undercut groove, and a shade-supporting bracket having a T-shaped head working in said groove and having a depending lug and a set-screw passing through the lug of said bracket and engaging said plate.

807,102. CUT-OFF-CONTROLLING MECHANISM FOR CONTINUOUS-CIGARETTE MACHINES. EDMUND ZSCHERSIG, Dresden, Germany. Filed Feb. 23, 1905. Serial No. 246,934.



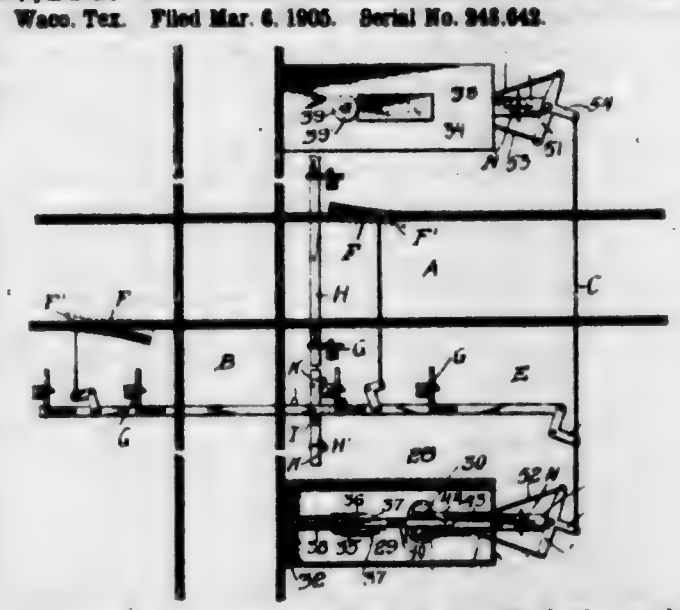
Claim.—1. In a cut-off-controlling mechanism for continuous-length cigarette and cigarette-wrapping machines, the combination with a cutting device for the continuous strip, of a feed-retarding mechanism controlling the relative position between the strip and the cutting device, and means for making and breaking an electrical circuit for throwing into and out of action the said retarding mechanism, said electric circuit being closed through a conducting-mouthpiece tip on the said strip, substantially as described.

2. In a cut-off-controlling mechanism for continuous-length cigarette and cigarette-wrapping machines, the combination with a cutting device for the continuous strip, of a feed-retarding mechanism controlling the forward movement of the strip, an electromagnet, an insulated finger carried by the cutting device, a guide-bearing for the strip, a source of electricity and electrical connections from the said finger to the magnet, to the source of electricity, to the guide-bearing, the circuit being closed through a conducting-mouthpiece on said strip.

3. In a cut-off-controlling mechanism for continuous-length cigarette and cigarette-wrapping machines, the combination with a cutting device for the continuous strip, of a feed-retarding mechanism controlling the forward movement of the strip, an insulated finger carried by the cutting device, a guide-bearing for the strip, two electromagnets, two sources of electricity and electrical connections so that the closing of one circuit through a conducting-mouthpiece on the strip closes the other circuit to actuate the feed-retarding mechanism.

4. In a cut-off-controlling mechanism for continuous-length cigarette and cigarette-wrapping machines, the combination with a cutting device for severing a continuous strip, of a feeding-wheel causing the forward movement of the strip, an insulated finger carried by the cutting device, a guide-bearing for the strip, two electromagnets, independent sources of electricity, two clutch parts with oppositely-arranged teeth displaced half a pitch, two disks forming a groove, a spring-bolt forming the armature of the electromagnet, a falling lever held by such spring-bolt, a wedge-nose on each disk inside the groove, and electric connections whereby the circuit to one magnet is closed by the said finger contacting with a conducting-mouthpiece on the said strip, thereby closing the circuit to the other magnet and causing the withdrawal of the said spring-bolt and falling of the lever and the momentary disengagement of the clutch parts to retard the movement of the said feeding-wheel.

807,103. SWITCH AND SIGNAL SYSTEM. EDWIN J. ADAMS, Waco, Tex. Filed Mar. 6, 1905. Serial No. 248,642.



Claim.—1. In a system of the class described, the combination with operative mechanism, of a shift-rod connected with said mechanism for operation thereof, means for moving the shift-rod, said means comprising a slidable member, loops carried by the slidable member, slides, dogs carried by the slides and arranged for alternate engagement by the loops of the slidable member for movement of the slides with said member, connections between the slides and the shift-rod for movement of the latter when the slides are moved.

2. The combination with an operative mechanism, of means for operating said mechanism comprising a casing including top and bottom plates provided with registering longitudinal slots, a member slidably engaged in the slots and extending between the plates, means for holding the member slidably at one limit of its movement, loops carried by the member, slides engaged in the plates for movement longitudinally thereof, dogs carried by the slides and movable into and out of position for engagement by the loops for movement of the slides with the member, means for moving the dogs of the slides out of position for engagement by the loops, said means being arranged to thus move one of the dogs when the member is moved to engage one of its loops with the other dog, a rock-lever, links connected with the slides and with the rock-lever for movement of the latter when the slides are moved, connections between the rock-lever and the operative mechanism for operation of the latter when the rock-lever is moved, and means carried by the movable member by which it may be moved.

3. The combination with a switch and signals, of operating means comprising spaced parallel slides, dogs pivoted to the slides and movable into and out of position to extend into the space between the latter, a sliding member, loops carried by said member and movable with the member into and out of the space between the slides, a rock-lever, links connected with the slides and with the rock-lever and arranged to hold one of the slides at one limit of its movement when the other slide is at the opposite limit of its movement, said dogs being adapted for engagement by the loops for movement of the slides with the slidable member, means for moving the dog of one member out of position for engagement by one of the loops when the member is moved to engage its other loop with the other dog, means for holding the sliding member yieldably at the limit of its movement away from the slides, and means connected with the rock-lever and with the switch and signals for operation thereof when the rock-lever is moved.

4. The combination with intersecting tracks having movable rails, of a shift-rod for each track, connections between the shift-rods and movable rails for movement of the rails when the shift-rods are moved longitudinally, said shift-rods being disposed one above the other and at right angles to each other, and projections carried by the shift-rods, the projection of one shift-rod being arranged for movement to lie in the path of movement of the projection of the other shift-rod when the first-named shift-rod is at one limit of its movement to prevent movement of the second-named shift-rod, the projection of the second-named shift-rod being arranged to lie in the path of movement of the projection of the first-named shift-rod when the second-named shift-rod is at one limit of its movement to hold the first-named shift-rod against movement.

5. An operating mechanism for signal and switch systems comprising spaced top and bottom plates, a member slidably disposed between the plates, a spring secured to the member and arranged to hold the latter yieldably at the rearward limit of its movement, forwardly-extending loops carried by the member, slides disposed between the plates at opposite sides of the paths of movement of the loops, said slides being arranged for forward and rearward movement, dogs carried by the slides and movable into and out of position to extend into the paths of movement of the loops, said slides being arranged to lie at the opposite limits of their movement from each other, means carried by the movable member for moving the rearmost dog out of position for engagement by one of the loops when the member is moved into position to engage its other loop with the other dog, the dog thus engaged and its slide being arranged for movement rearwardly with the movable member, a rock-lever connected at its ends with the slides for movement when the slides are moved, said lever being arranged for connection with an operative mechanism for operation of the latter when the lever is moved, and a projection carried by the movable member and adapted for engagement by an instrument carried by a piece of rolling-stock to move the member against the action of the spring and into position for engagement of its loops with the dogs.

6. The combination with intersecting tracks each provided with movable rails, of a shift-rod for each track, connections between the shift-rods and the movable rails for movement of the rails when the shift-rods are moved, said shift-rods being disposed in cross-relation and projections carried by the shift-rods, the projections of the shift-rods being arranged for movement with their rods into and out of the paths of movement of each other.

7. The combination with a shift-rod, of a revolubly-vertical standard, a base in which the standard is journaled, connections between the standard and the shift-rod for rotation of the former when the latter is moved longitudinally, a horizontal member having a central opening therein in which the standard is revolubly engaged, said member having a slot communicating with its opening, and adapted for engagement by the standard for movement of the standard with the member, said member being movable to engage the standard in its slot, and means for holding the member against such movement.

8. An operating instrument for rolling-stock comprising pivoted wings movable into and out of position to extend laterally, means for holding the wings yieldably out of such position, and means for moving the wings against the action of the holding means, said wings when in their laterally-extending position being adapted for engagement of track-operating mechanism to actuate the latter.

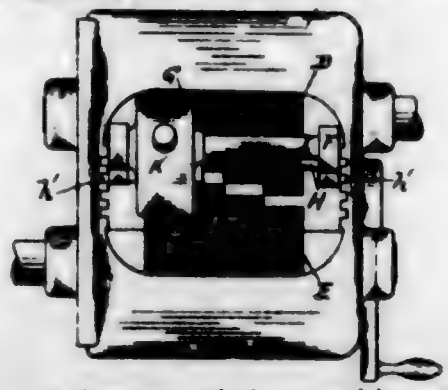
9. In a system of the class described, the combination with operative mechanism of operating means therefor comprising a slidable member, loops carried by the slidable member, slides, dogs carried by the slides and arranged for engagement by the loops for movement of the dogs and slides with the member and connections between the operating means and the operative mechanism for operation of said mechanism when slides are moved.

10. In a system of the class described the combination with crossed shift-rods arranged for longitudinal movement and having projections thereon the projection of each shift-rod being arranged to lie at times in the path of movement of the projection of the other shift-rod to hold the latter against movement means for reducing the friction between the mutually-engaging portions of the shift-rods and projections and braces for each shift-rod said braces being located at the opposite sides of their shift-rods from the projection of the other shift-rod.

11. The combination with intersecting tracks each provided with rails movable into and out of operative position, of a shift-rod for each track, connections between the shift-rods and the movable rails to their respective tracks for movement of said rails when the shift-rods are moved, means operable by rolling-stock for moving the shift-rods, and signals connected with the shift-rods for operation thereby said signals being arranged to indicate the position of the movable rails.

12. An operating mechanism for signal and switch systems comprising spaced plates, a member slidably disposed between the plates for movement longitudinally thereof, forwardly-extending spring-loops carried by the member, said plates having coinciding grooves therein located at opposite sides of the paths of movement of the loops, slides engaged in the coinciding grooves and arranged for movement longitudinally of the plates said plates also having coinciding arcuate grooves therein adjacent to the rearward ends of the first-named grooves and communicating at their ends therewith, the convexities of said arcuate grooves being directed outwardly, dogs pivoted to the slides, pins carried by the dogs and extending into the grooves, said dogs having shoulders arranged to project into the paths of movement of the loops for engagement thereby to move the dogs and slides rearwardly with the loops, connections between the slides arranged to hold the slides at opposite limits of their movements and means for moving the dogs to bring their pins into the arcuate grooves and to bring their shoulders out of position for engagement by the loops when said dogs are at the rearward limits of their movements, said dogs lying in position for engagement by the loops when the dogs are at the forward limits of their movements said slides being arranged for connection with a switch or signal system for operation thereof.

807,104. **CHANGE-SPEED GEARING.** LARS W. ANDERSON, Cincinnati, Ohio, assignor to The Cincinnati Shaper Company, Cincinnati, Ohio. Filed June 17, 1904. Serial No. 212,978.



Claim.—1. A change-gear device comprising a driving-shaft, a driven shaft, similar reversed cones of gears keyed to each shaft, a shaft eccentrically journaled with means for rotating it, a frame journaled on said shaft, an intermediate gear carried by said frame and sliding on said frame in a direction parallel to the axes of said cones of gears, said intermediate gear being adapted to engage any two of the opposite gears of said cones, and means for locking said frame in position, substantially as described.

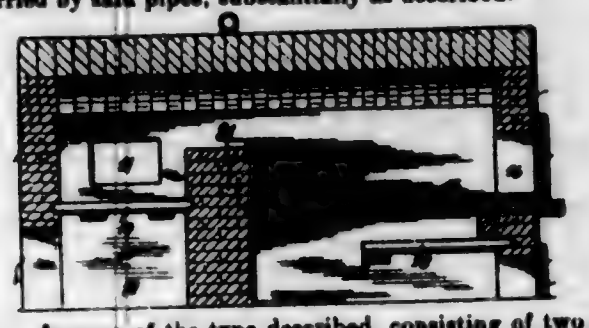
2. A change-gear device comprising a driving-shaft, a driven shaft, oppositely-disposed reversed cones of gears keyed to each shaft, a vibratory frame, a shaft on which said frame is journaled, rotatable disks in which said shaft is eccentrically mounted, means for rotating said disks, an intermediate gear sliding on said frame in a direction parallel to the axes of said cones and adapted to engage any pair of the oppositely-disposed gears, and means for locking said frame in position, substantially as described.

3. A change-gear device comprising a box open in front, a driving and driven shaft journaled therein, oppositely-disposed reversed cones of gears keyed to each shaft, a vibratory frame, a shaft on which said frame is journaled, rotatable disks journaled in the sides of the box, said shaft being eccentrically mounted in said disks, a crank secured to one of said disks, an intermediate gear sliding on said frame in a direction parallel to the axes of said cones of gears and adapted to engage any pair of the oppositely-disposed gears, notches in the sides of the opening in said gear-box corresponding to the number of pairs of oppositely-disposed gears, and lugs at the sides of said frame adapted to engage said notches, substantially as described.

807,105. **FURNACE.** REGINALD A. BAILEY, Newcastle, Pa. Filed June 8, 1905. Serial No. 264,313.

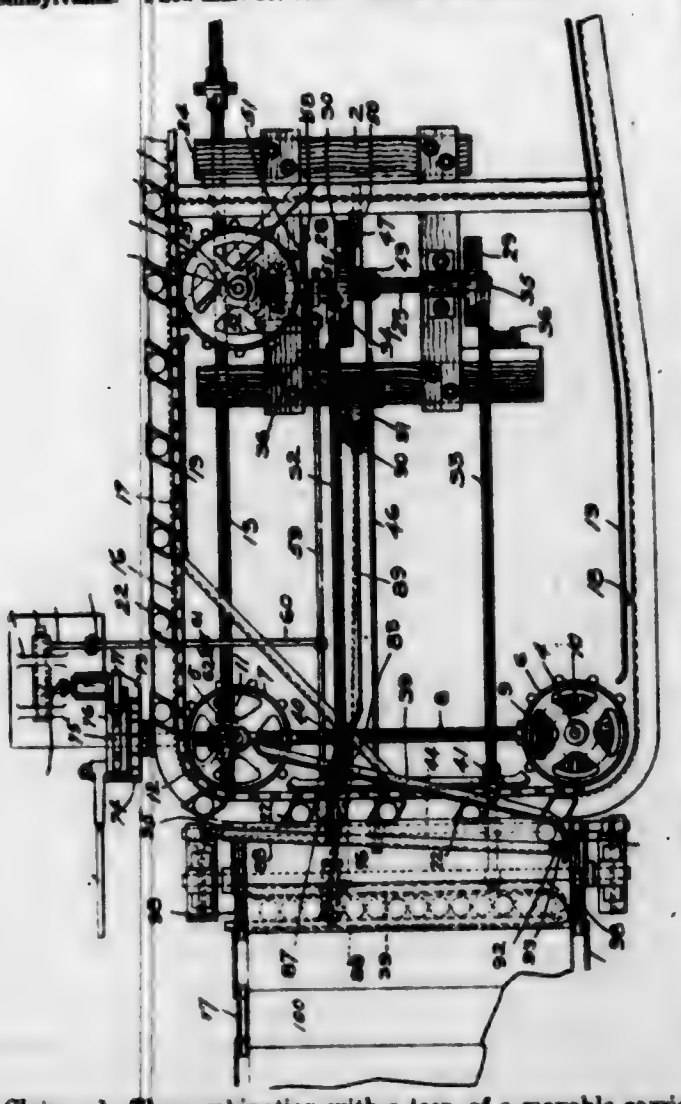
Claim.—1. A furnace of the type described consisting of two compartments, a bridge-wall constructed transversely of each of said compartments, a grate mounted in each of said compartments upon each side of said bridge-wall, a platform constructed upon one side of said wall in each compartment, said compartments having doorways formed therein whereby access may be had to said grates and said platforms, said bridge-walls having a plurality of openings

formed therein above said platforms, pipes connecting with said openings and adapted to connect with a suitable steam-supply, and valves carried by said pipes, substantially as described.



2. In a furnace of the type described, consisting of two compartments, each compartment being provided with a bridge-wall, one of said bridge-walls being formed with a row of openings and the other of said bridge-walls being provided with a plurality of rows of openings, pipes connecting with the openings in both bridge-walls and adapted to supply steam or air thereto, a platform in each compartment disposed below the level of the openings in said bridge-walls, a grate in each compartment on each side of the bridge-wall therein, one grate in each compartment being below the said platform.

807,106. **TRANSFER MECHANISM FROM PRESS-CONVEYERS TO LEER-CONVEYERS.** JACOB BERRINGER, Pittsburg, Pa., assignor to Heyl & Patterson Incorporated, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 10, 1905. Serial No. 249,444.



Claim.—1. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, mechanism for transferring the ware from said ware-carrier to said movable carrier, and means for supporting the ware from in front against the impelling force of the transfer mechanism.

2. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, mechanism for transferring the ware from said ware-carrier to said movable carrier, and a supporting-frame in front of said ware adapted to support said ware against the impelling force of the transfer mechanism.

3. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, mechanism for transferring the ware from said ware-carrier to said movable carrier, a supporting-frame in front of said ware connected to said transfer mechanism and advancing therewith, and independent means for withdrawing said supporting-frame.

4. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, a reciprocating pusher adapted to move the ware from said ware-carrier to said movable carrier, a supporting-frame in advance of said pusher and connected thereto.

5. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, a reciprocating pusher adapted to move the ware from said ware-carrier to said movable carrier, a supporting-frame in advance of said pusher and having a swinging connection therewith.

6. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, a reciprocating pusher adapted to move the ware from said ware-carrier to said movable carrier, mechanism for lifting said pusher on its return movement, a supporting-frame in advance of said pusher and having a swinging connection therewith, and means for withdrawing said supporting-frame independent of said pusher.

7. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, a reciprocating pusher adapted to move the ware from said ware-carrier to said movable carrier, mechanism for lifting said pusher on its return movement, a supporting-frame in advance of said pusher and having a swinging connection therewith at one end, the other end of said supporting-frame engaging a stop, and means for holding said frame normally in engagement with said stop.

8. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, a reciprocating pusher adapted to move the ware from said ware-carrier to said movable carrier, mechanism for lifting said pusher on its return movement, a supporting-frame in advance of said pusher and having a swinging connection therewith at one end, the other end of said supporting-frame engaging a stop, and a weight connected to said frame to hold same normally in engagement with said stop.

9. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, a reciprocating pusher adapted to move the ware from said ware-carrier to said movable carrier, mechanism for lifting said pusher on its return movement, a supporting-frame in advance of said pusher and pivotally connected thereto at one end, the opposite end of said frame engaging a stop, means for holding said frame normally in engagement with said stop, and a stop carried by said pusher adapted to engage said frame in its advanced position.

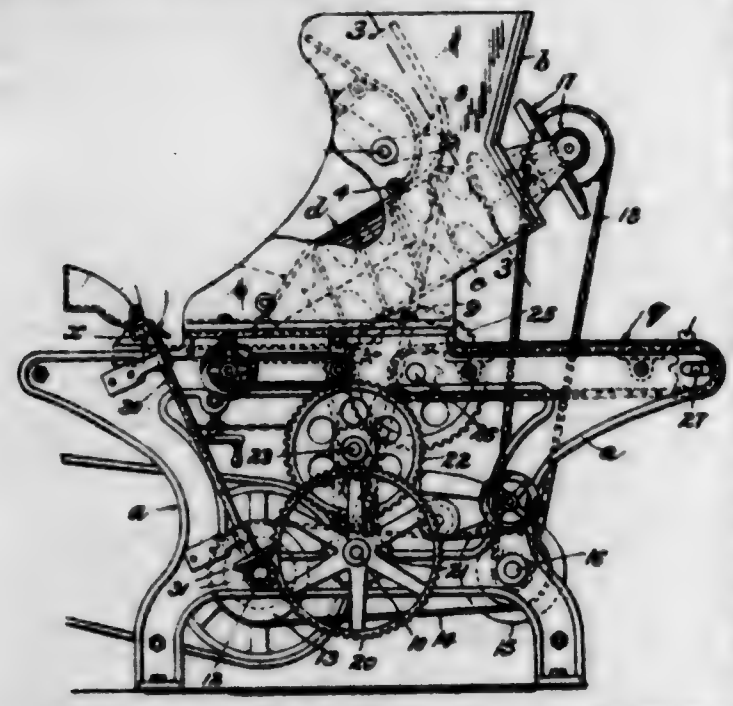
10. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, a reciprocating pusher adapted to move the ware from said ware-carrier to said movable carrier, mechanism for lifting said pusher on its return movement, a supporting-frame in advance of said pusher and pivotally connected thereto at one end, the opposite end of said frame engaging a stop, means for holding said frame normally in engagement with said stop, a sliding connection between said frame and pusher intermediate their ends, and a stop on said pusher.

11. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, a reciprocating pusher adapted to move the ware from said ware-carrier to said movable carrier, mechanism for lifting said pusher on its return movement, said pusher being arranged diagonally of the line of travel of the ware, a supporting-frame in front of said pusher and pivotally connected at one end thereto, the opposite end of said frame engaging a stop, means for holding said frame normally in engagement with said stop, a curved guide-bar on said frame, a sliding connection between said pusher and said guide-bar, and a stop on said pusher adapted to engage said frame in its advanced position.

12. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel across the receiving-opening of said leer, a reciprocating pusher arranged diagonally of the line of travel of the ware, a supporting-frame in advance of said pusher and extending diagonally of the movable carrier, said frame engaging a stop.

807,107. **PASTE-MOLDING MACHINE.** GABRIEL CARLSON, Springfield, Mass. Filed Apr. 10, 1905. Serial No. 254,887.

Claim.—1. In a machine for filling molds with confections in a plastic state, a hopper to receive the plastic material, there being a delivery-slot in the hopper extending transversely of the machine, the under side of the hopper constituting a bearing-surface for molds to receive said material, means to move a mold through the machine in yielding contact with said bearing-surface, guide-rails for the sides of the molds, and means to force the material in the hopper through said delivery-slot into the molds.



2. In a machine for filling molds with confections in a plastic state, a hopper to receive the plastic material, there being a delivery-slot in the hopper extending transversely of the machine, the under side of the hopper constituting a bearing-surface for molds to receive said material, means to move a mold through the machine in adjustably-yielding contact with said bearing-surface, guide-rails for the sides of the molds, and means to adjust said rails laterally, together with mechanism to force the material in the hopper through said delivery-slot into the mold.

3. In a machine for filling molds with confections in a plastic state, a hopper to receive the plastic material, there being a delivery-slot in the hopper extending transversely of the machine, the under side of the hopper constituting a bearing-surface for molds to receive said material; a feed-screw located in said hopper in operative relation to said delivery-slot; means to move a mold through the machine in close contact with said bearing-surface, and means to vary the speed of movement of said molds relative to the speed of rotation of the feed-screw

4. In a machine for filling molds with confections in a plastic state, a hopper to receive the plastic material, there beinga delivery-slot in the hopper extending transversely of the machine, the under side of the hopper constituting a bearing-surface for molds to receive said material, a yieldingly-supported table beneath said bearing-surface, and means to press said table toward said surface, a feeding mechanism to move a mold through the machine between said table and said bearing-surface, and means to force the material in the hopper through said delivery-slot into the mold.

5. In a machine for filling molds with confections in a plastic state, a hopper to receive the plastic material, there being a delivery-slot in the hopper extending transversely of the machine, the under side of the hopper constituting a bearing-surface for molds to receive said material, means to move a mold through the machine in adjustably-yielding contact with said bearing-surface, guide-rails for the sides of the molds, adjusting means to simultaneously move said guide-rails transversely of the machine in opposite directions, together with a feed-screw located in said hopper in operative relation to said delivery-slot to force the material in the hopper through said slot into the mold.

6. In a machine for filling molds with confections in a plastic state, a hopper to receive the plastic material, there being a delivery-slot in the hopper extending transversely of the machine, the under side of the hopper constituting a bearing-surface for molds to receive said material; a feed-screw located in said hopper in operative relation to said delivery-slot; a table located beneath said bearing-surface to support molds in yielding contact with said surface, springs located at the corners of said table to support the latter, screw-threaded studs on which the springs are supported, and means to simultaneously rotate said studs to vary the tension of the springs, together with means to move a mold through the machine between the table and said bearing-surface.

7. In a machine for filling molds with confections in a plastic state, a hopper for said material one wall of which is movable toward and from the opposite wall, and suitable mechanism to reciprocally actuate said movable wall by the movement of the machine, said hopper being provided with a delivery-slot extending transversely of the machine, the under side of the hopper constituting a bearing-surface for molds to receive said material; means to move a mold through the machine in yielding contact with said bearing-surface, and guide-rails for the sides of the mold.

8. In a machine for filling molds with confections in a plastic state, a hopper for said material one wall of which is movable toward and from the opposite wall, and suitable mechanism to reciprocally actuate said movable wall by the movement of the machine, said hopper being provided with a delivery-slot extending transversely of the machine, the under side of the hopper constituting a bearing-surface for molds to receive said material; means to move a mold through the machine in yielding contact with said bearing-surface, and a scraper arranged to bear on the upper surface of the molds beyond said bearing-surface.

9. In a machine for filling molds with confections in a plastic state, a hopper for said material one wall of which is movable toward and from the opposite wall and suitable mechanism to reciprocally actuate said movable wall by the movements of the machine, a feed-screw located in the hopper in proximity to the movable wall of the latter, there being a delivery-slot in the hopper operatively located therein relative to said feed-screw, together with means to move a mold through the machine past said delivery-slot, the under side of said hopper constituting a bearing-surface for the mold, together with means to press the mold against said surface.

10. In a machine for filling molds with confections in a plastic state, a hopper, a feed-screw located in a casing communicating with the hopper, said casing being provided with a delivery-slot extending transversely of the machine, the under side of said casing and hopper constituting a flat bearing-surface for the molds; a table beneath said bearing-surface yieldingly pressed toward the latter, means to move a mold past the delivery-slot in said bearing-surface between the latter and the table.

807,108. **WINDOW-FIXTURE.** WINFIELD S. COOPER, Braddock, Pa., assignor of one-half to John F. Pifer, Braddock, Pa. Filed Aug. 19, 1905. Serial No. 274,929.



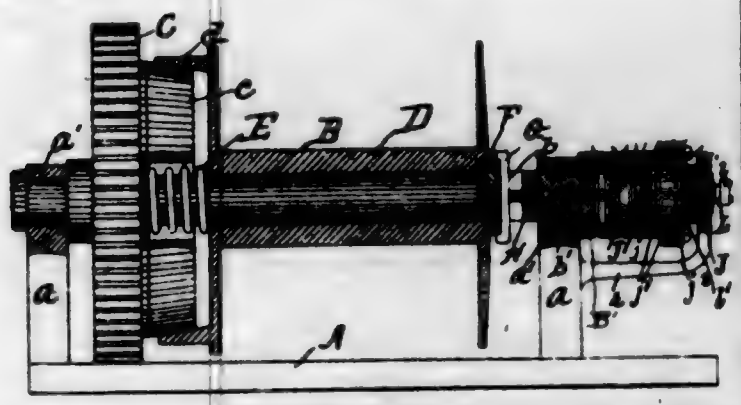
Claim.—1. A window-fixture of the character described comprising stripe of metal, a channel-bar connecting said stripe, a piece of metal carried by the outer end of each of said stripe, slotted brackets carried by said pieces of metal, said brackets having inwardly-bent pierced ends, hook-shaped rods passing through said pierced ends and slidably connected to said brackets, means to lock said rods in engagement with said brackets, means to lock said stripe of metal in said channel-bar, and means to support a curtain-shade roller between said brackets; substantially as described.

2. A window-fixture of the character described, comprising stripe of metal, a channel-bar connecting said stripe, means to lock said stripe of metal at adjusted positions in said channel-bar, a piece of metal carried by the outer end of each of said stripe, slotted brackets formed integral with said pieces of metal and projecting at right angles thereto, said brackets having inwardly-bent pierced ends, hook-shaped rods passing through said pierced ends and slidably connected to said brackets, and means carried by said rods to lock the same at adjusted position in the bracket.

807,109. **HOISTING OR LOGGING DEVICE.** WILLIAM H. CORBETT, Portland, Oreg. Filed Nov. 4, 1903. Serial No. 179,758.

Claim.—1. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-

wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; and a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a carrier attached to the shaft; a relatively fixed screw member mounted on the carrier, the carrier being arranged to receive the axial thrust of said screw member; means for locking said relatively fixed screw member from rotating with the carrier; an active screw member operating in connection with the relatively fixed screw member and adapted to exert a thrust on said thrust devices.



2. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; and a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a carrier attached to the shaft; a relatively fixed screw member mounted on the carrier, the carrier being arranged to receive the axial thrust of said screw member; means for locking said relatively fixed screw member from rotating with the carrier; an active screw member operating in connection with the relatively fixed screw member and adapted to exert a thrust on said thrust devices; and a roller-bearing between said relatively fixed screw member and the carrier.

3. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; and a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a carrier attached to the shaft; a relatively fixed screw member mounted on the carrier, the carrier being arranged to receive the axial thrust of said screw member; means for locking said relatively fixed screw member from rotating with the carrier; an active screw member operating in connection with the relatively fixed screw member and adapted to exert a thrust on said thrust devices; and a roller-bearing interposed between the active screw member and the thrust devices.

4. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; and a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a carrier attached to the shaft; a relatively fixed screw member mounted on the carrier, the carrier being arranged to receive the axial thrust of said screw member; means for locking said relatively fixed screw member from rotating with the carrier, an active screw member operating in connection with the relatively fixed screw member and adapted to exert a thrust on said thrust devices; a roller-bearing between the relatively fixed screw member and the carrier; and a roller-bearing interposed between the active screw member and the thrust devices.

5. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a carrier attached to the shaft; a relatively fixed screw member mounted on the carrier, the carrier being arranged to receive the axial thrust of said screw member; means for locking said relatively fixed screw member from rotating with the carrier; an active screw member operating in connection with the relatively fixed screw member and adapted to exert a thrust on said thrust devices; and a loose pin interposed between said active screw and said thrust devices.

6. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; and a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a carrier attached to the shaft; a relatively fixed screw member mounted on the carrier, the carrier being arranged to receive the axial thrust of said screw member; means for locking said relatively fixed screw member from rotating with the carrier; an active screw member operating in connection with the relatively fixed screw member and adapted to exert a thrust on said thrust devices, said screw member having a thrust-pin socket; and a loose pin interposed between said active screw and said thrust devices, said pin being arranged in the socket in the screw member.

7. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a sleeve-shaped carrier having an internally-flanged shoulder; a nut having an external shoulder opposed to the shoulder on the flange; and a screw in the nut adapted to exert thrust on said thrust devices.

8. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a sleeve-shaped carrier having an internally-flanged shoulder; a nut having an external shoulder opposed to the shoulder on the flange; a screw in the nut adapted to exert thrust on said thrust devices; and a roller-bearing interposed between the internally-flanged shoulder on the carrier, and the external shoulder on the nut.

9. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-

wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a sleeve-shaped carrier attached to the end of the shaft having an internal flanged shoulder; a nut having an opposing shoulder and journaled in the flanged end of the carrier, said nut having a cavity; a roller-bearing washer arranged in said cavity; and a screw in said nut arranged to exert force on said thrust devices, the roller-bearing washer being interposed between the screw and said devices.

10. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; and a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a sleeve-shaped carrier attached to the end of the shaft having an internally-flanged shoulder; a nut having an opposing shoulder journaled in the flanged end of the carrier, said nut having a cavity; a roller-bearing washer arranged in said cavity; and a screw in said nut arranged to exert force on said thrust devices, the roller-bearing washer being interposed between the screw and said devices; and a roller-bearing between the shoulder on the nut and the internal flanged shoulder on the carrier.

11. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; and a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising the carrier I secured on the end of the shaft and having the flanged plate I' forming the shoulder *i*; the nut J journaled in the flange-plate and having the shoulder *j* opposing the shoulder *i*, said nut also having a cavity J', at its inner end; a roller-bearing interposed between the shoulders *j* and *i*; the screw L arranged in the nut; means for locking the nut J from rotating with the carrier; a roller-bearing washer arranged in the cavity of the nut; said roller-bearing washer being arranged to act upon said thrust devices; and a loose pin arranged between the screw and washer.

12. In a hoisting or logging device the combination with the main bearings; the shaft journaled in said bearings and having an attaching end; a driving friction-wheel mounted on said shaft; a drum mounted on said shaft; a driven friction-wheel locked against rotation relatively to said drum, said driving and driven friction-wheels being adapted to be brought into frictional engagement by an axial movement of one of them; thrusting devices in the attaching end of the shaft, extending from without the bearing to within the bearing; and a connection between said thrust devices and the one of the friction-wheels free to move axially into engagement; of an apparatus mounted on the attaching portion of the shaft for actuating said thrust devices comprising a screw member fixed against axial movement relatively to the shaft, said screw member being mounted outside of the bearing, the shaft being free to rotate without rotating the screw member; and an active screw member arranged to operate with said relatively fixed screw member for exerting thrust on the thrust devices.

807,110. AXLE AND BOX FOR VEHICLES. SAMUEL D. COX, Baltimore, Md. Filed Feb. 17, 1905. Serial No. 246,084.

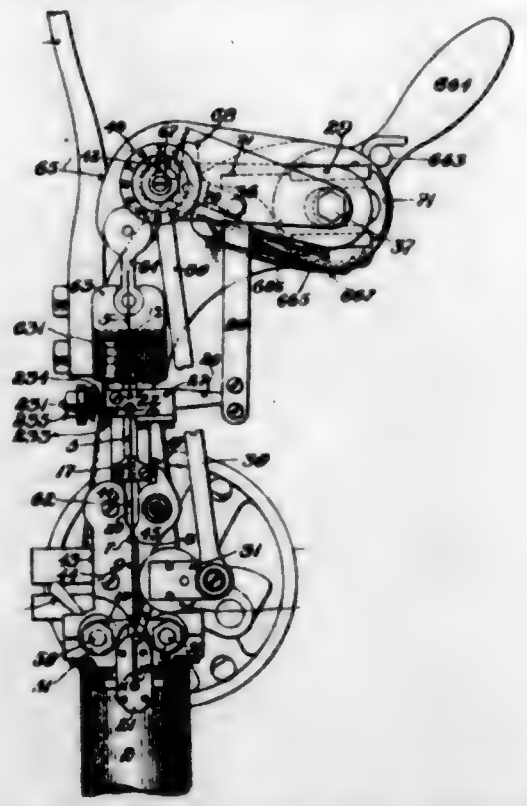
Claim.—1. The combination with the box having an annular flange on its inner surface, of an axle, a spring secured to said axle projecting into the said box and adapted to take over the said flange and lock the axle within the box, said spring having a lug on its upper surface impinging against the axle, whereby when the axle is locked within the box the said spring will assume a true horizontal position parallel with the axle.

2. The combination with the box having an internal annular shoulder near its outer end, an annular flange near its inner end, of an axle, a spring secured to the said axle and having one end projecting into the said box and adapted to take over the said flange and lock the axle within the box, and the opposite end provided with a lug on its upper surface whereby when the axle is locked to the box the said spring will assume a true horizontal position parallel with the axle.



3. The combination with the box having an internal annular shoulder near its outer end, an internal annular shoulder near the center thereof, and an annular flange near the inner end, of an axle having a shoulder at the rear of the spindle, and a locking-spring secured to the axle and having a tapering head on one end projecting into the box and adapted to take over the said annular flange and lock the axle within the box, and a lug at the other end on the upper surface thereof, whereby when the axle is locked to the box the said spring will assume a true horizontal position parallel with the axle.

807,111. TACKING-MACHINE. HENRY H. CUMMINGS, Malden, Mass., assignor, by mesne assignments, to James H. Cutten, Boston, Mass. Filed Feb. 21, 1900. Serial No. 6,007.



Claim.—1. The improved cutting devices comprising cutter-carrying shafts mounted on opposite sides of the path of the wire, cutters carried by the said shafts and engaging the opposite sides of the wire, and means for actuating the said shafts, including intermediate devices to cause the shafts to turn in unison, and also provisions for effecting an angular shift or adjustment of the cutters relatively to each other, substantially as described.

2. The improved cutting devices comprising cutter-carrying shafts mounted on opposite sides of the path of the wire, cutters carried by the said shafts and engaging the opposite sides of the wire, and means for actuating the said shafts, including arms secured to the respective shafts and in pin-and-slot connection with each other, the pin having eccentric portions and also having capacity for rotary adjustment whereby to effect an angular shift or adjustment of the cutters relatively to each other, substantially as described.

3. The clamping devices having a movable jaw, a spring acting on the said jaw with a tendency to hold the same closed, a moving cam or eccentric whereby for part of the time the said jaw is closed positively, and a shaft carrying an eccentrically-disposed pivot on which the said movable jaw is mounted, whereby by making rotary adjustment of the said shaft the relative position of the said movable jaw may be varied as required.

4. The improved tacking-machine comprising the feeding device to advance the wire past the cutters, the clamping devices to hold the wire from undesired movement after it has been fed, the cut-

ting devices, the plate having the nail or tack receiving slot directly in the line of feed and the driving-channel adjacent the same, the transversely-moving pusher working in the said slot and operating to push the nail or tack into the said channel, and the driver, substantially as described.

5. The combination with the feeding device to engage the wire, of a rod in operative connection with the said feeding device and provided with a pin, an actuating-arm constructed to engage the pin in the movement of the arm in one direction, a supplemental piece moving in unison with the said arm and constructed to engage with the said pin in the movement in the other direction, and means to adjust the position of the said supplemental piece with reference to the said arm, whereby to vary at will the amount of lost motion and the extent of the feed, substantially as described.

6. The combination with the feeding device to engage the wire of a rod in operative connection with the said feeding device and provided with a pin, an actuating-arm constructed to engage the pin in the movement of the arm in one direction, a supplemental arm constructed to engage with the said pin in the movement of the arm in the other direction, the said supplemental arm having a gear-segment, and a pinion mounted on the said actuating-arm and engaging with the said gear-segment, whereby to adjust the said supplemental arm in order to vary at will the amount of lost motion and the extent of the feed, substantially as described.

7. The combination with the block 22 having a fixed jaw and a movable jaw, and the lever 26 movably connected with the said block and serving to operate the said movable jaw, of a rod connected with the said lever 26 and provided with a pin, an actuating-arm constructed to engage the pin in the movement of the arm in one direction, a supplemental arm constructed to engage with the said pin in the movement of the arm in the other direction, the said supplemental arm having a gear-segment, and, a pinion mounted on the said actuating-arm and engaging with the said gear-segment, whereby to adjust the said supplemental arm in order to vary at will the amount of lost motion and the extent of the feed, substantially as described.

8. The combination with the block 22 having jaws to engage the wire, the lever 23 on which the said block is mounted, and the lever 26 pivoted to the said block and serving to actuate the movable jaw, of the rod having universal-joint connections with the said lever 26, and an actuating-arm with which the said rod is operatively connected, the said lever 23 and actuating-arm swinging in planes at an angle to each other, substantially as described.

9. The combination with the block 22 having a fixed jaw and a movable jaw, and the lever 26 movably connected with the said block and serving to operate the said movable jaw, of actuating devices connected to the said lever, and a drag device whereby to retard the movement of the said block, substantially as described.

10. The combination with feed-jaws, one of which is movable toward and from the other, a carrier for the said jaws, and a lever movably connected with the said carrier and serving to operate the said movable jaw, of actuating devices connected to the said lever, a pin applied to the said carrier, an adjustable friction device applied to the said pin, and a fixed part which is engaged by the said friction device, substantially as described.

11. The combination with the driver, an arm 65 operatively connected therewith, and a spring to depress the said arm 65, of an actuating-arm carrying a spring-pressed dog to engage with the said arm 65 and cause it to rise in unison with the actuating-arm, and a fixed stop which disengages the dog from the said arm 65 in the course of the movement of the actuating-arm, and allows the spring to depress the same, substantially as described.

12. The combination with the driver, an arm 65 operatively connected therewith and provided with a lateral projection, and a spring to depress the said arm, of an actuating-arm carrying a spring-pressed dog to engage with the said projection and cause the arm 65 to rise in unison with the actuating-arm, the said dog having a projecting portion or tail, and a fixed stop or abutment against which the said tail is carried in the movement of the parts and whereby the dog is disengaged from the projection of the arm 65 and the spring is allowed to depress the said arm, substantially as described.

807,112. MANHOLE FOR STEAM-BOILERS. CHARLES T. DAIN Contesville, Pa. Filed Feb. 1, 1905. Serial No. 243,674.

Claim.—1. The bearing edge of the turned flange of a manhole-cover having its joint-forming edge of greater width in a single thickness than the thickness of the plate from which said bearing edge is projected and terminates in said turned flange.

2. A manhole bearing-flange for the cover said flange upset into a wedge form of a single thickness to increase the area of its joint-forming edge and render the flange stronger.



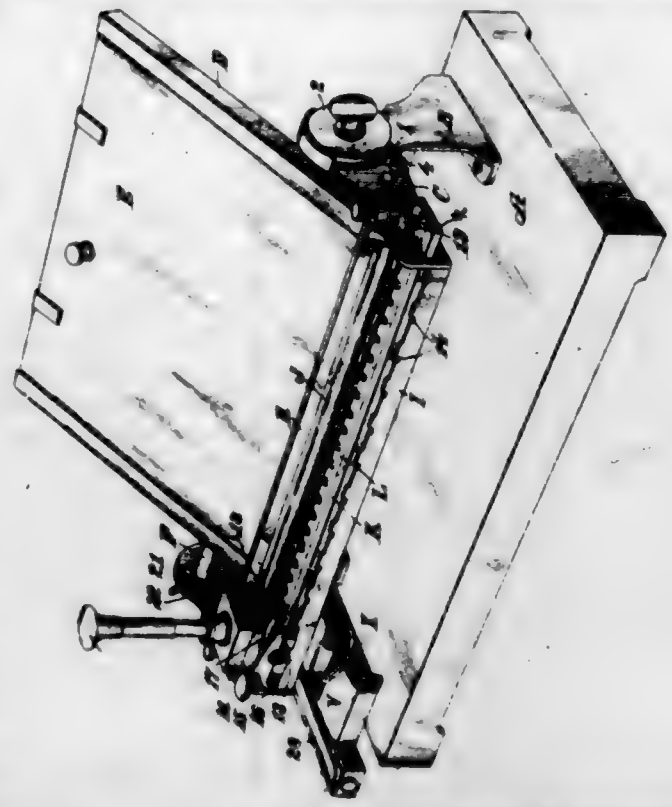
3. The combination of a metal sheet having a flange upset around a manhole of wedge form and of a single thickness in cross-section to increase its joint-forming area, a cover, and means for clamping the same upon said thickened flange edge.

807,113. PUZZLE. FREDERICK O. DYER, Touisset, Mass. Filed Mar. 27, 1905. Serial No. 252,169.



Claim.—As an improved article of manufacture, a puzzle comprising a square box and its cover, in combination with a number of consecutively-numbered square blocks adapted to be contained in said box, said blocks being of such size and shape that when all are arranged in the box they will fill the same, each block being provided on its upper and numbered side with a centrally-disposed headed pin, of such height as to reach substantially to the cover of the box when the latter is in place.

807,114. ENVELOP-STAMPING MACHINE. EDWARD E. FLEMING, Washington county, Md. Filed Aug. 17, 1904. Serial No. 221,055.



Claim.—1. An envelop-stamping machine having, in combination, a frame comprising a holder for a sheet of stamps, and guideways for a carriage along the front of said holder, a carriage supported by said guideways and carrying a stamp detaching and affixing device and adapted to move step by step for bringing said device successively in range of the stamps of a row, a drum having a flexible connection with said carriage, an actuating-spring for said drum adapted to be wound thereby when the carriage is moved from an advanced position back to initial position and then to exert its force in reversing the drum to wind the flexible connection and thus impel the carriage step by step in an opposite direction, notches at intervals in one of said guideways spaced according to the widths of

the stamps, and a spring-catch pivoted to the carriage and adapted to engage said notches to hold the carriage stationary at its successive positions and having a finger-piece for disengaging said catch from said notches to permit the movement of the carriage.

2. An envelop-stamping machine having, in combination, standards and guideways for a carriage connecting them, a stamp-box supported between said standards, a carriage traveling on said guideways carrying a stamp detaching and affixing device, a hollow tube connecting said standards, a rod therein, a torsional spring encircling said rod within said tube having one end connected to a standard and the other end connected to the rod, a drum on said rod having a flexible connection with said carriage, and a catch for holding the carriage in successive positions for operation of the stamp detaching and affixing device on successive stamps.

3. In an envelop-stamping machine, means for holding a sheet of stamps, a slide or carriage onto which a row of stamps is presented, a stamp detaching and affixing device carried by the carriage adapted to be brought within range of the stamps in succession, a top plate or cover on the carriage above the row of stamps, a spring for impelling the carriage, a catch for holding the carriage in its successive operative positions, and a presser carried by said catch adapted to press upon said top plate when the carriage is at rest and to lift away therefrom when the catch is released to permit movement of the carriage.

4. In an envelop-stamping machine, the combination with means for holding a sheet of stamps, of a slide carrying a stamp detaching and affixing device, means for feeding the sheet to place a row of stamps on said slide, and a movable plate adapted to lift behind the slide to retain the last row of stamps thereon.

5. In an envelop-stamping machine, standards and longitudinally-disposed connecting-rods, and a removable inclined stamp-box supported by said rods and having curved bottom fingers taking under said rods to hold the stamp-box firmly in place.

6. An envelop-stamping machine having, in combination, an inclined stamp-box open at its lower edge to permit feeding out a row of stamps from a sheet in the box, a stamp detaching and affixing device, and a carriage therefor adapted to move said device step by step along said edge of the box to engage the stamps of the out-fed row in succession, a spring impelling said carriage in one direction and adapted to be wound by the shifting back of the carriage, and a spring-pressed catch pivoted to the carriage and adapted to engage a series of notches along the path of movement and having a finger-piece for releasing it.

7. In an envelop-stamping machine, a stamp-sheet holder, a stamp-detaching and applying device, a carriage, and carriage-actuating mechanism comprising a rod having a torsional spring adapted to turn it in one direction, a drum on said rod and an intermediate ratchet adapted to turn the drum with the rod in one direction and the rod with the drum in the opposite direction but to permit independent turning of the rod in the latter direction to adjust the tension of the spring, means for turning said rod independently to effect such adjustment, and connections between said drum and the carriage.

8. In an envelop-stamping machine, means for holding a sheet of stamps, a slide or carriage onto which a row of stamps is presented, a stamp detaching and affixing device carried by the carriage adapted to be brought within range of the stamps in succession, a top plate or cover on the carriage adapted to rest upon the top of said row of stamps, and a spring-actuated presser adapted to press upon said top plate and having means for releasing it when the carriage is moved.

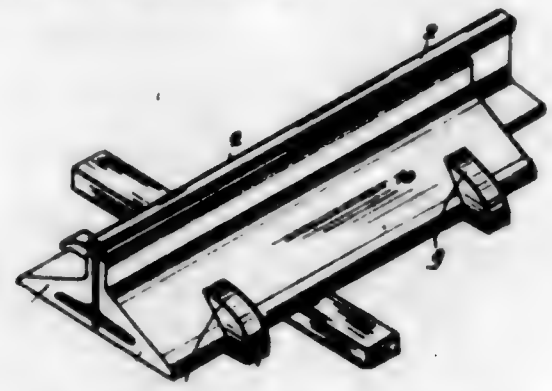
9. In an envelop-stamping machine, a frame having guideways for the carriage of a stamp-affixing device and longitudinally-disposed rods, and an inclined stamp-box removably supported in proper relation to the carriage upon said rods and having curved bottom fingers taking under said rods.

807,115. **CAP FOR VESSELS.** JAMES M. HICKS, Somerville, N. J., assignor, by direct and mesne assignments, to The Auto Stopper Company, New York, N. Y. Filed June 26, 1904. Serial No. 214,457.



Claim.—As an article of manufacture, a metallic sealing-cap for vessels, comprising a top surface, a flange pendent from the outer diameter of said top surface said pendent flange being shaped with flat sides, said flat sides being provided with locking and stop indents impressed therein, substantially as specified.

807,116. **RAIL-JOINT.** JAMES S. INES, McKeesport, Pa. Filed Sept. 6, 1905. Serial No. 277,197.



Claim.—A rail-joint comprising, in combination with rail-sections, fish-plates arranged on each side thereof, each fish-plate being formed with a recess adapted to receive one side of the base of the rail and each fish-plate having a base portion inclining upwardly on its upper side from the outer edge of the fish-plate to a point substantially midway of the height of the web of the rail and a vertical portion extending above the base portion and terminating at its upper edge in a shoulder bearing against the lower surface of the head of the rail and yokes embracing said fish-plates, each yoke being composed of a single piece having two upwardly and inwardly projecting arms, which decrease in thickness gradually to their inner edges and extend over the inclined upper surface of the base portions of said fish-plates.

807,117. **SULFO-ACID AND PROCESS OF MAKING SAME.** GEORG KALISCHER, Frankfort-on-the-Main, Germany, assignor to Cassella Color Company, New York, N. Y. Filed Aug. 21, 1905. Serial No. 275,171.

Claim.—1. The process of producing new sulfo-acids of the general formula

$$C_{10}H_4\begin{cases} -N=C.X & (1.2) \\ -N\angle CH_2-X & \\ -OH & (5) \\ -SO_3H & (7) \end{cases}$$

(in which X represents an aromatic radical) by condensing in aqueous solution one molecule of 1.2.diamidonaphthalene.5.oxy.7.sulfo-acid with two molecules of an aromatic aldehyde substantially as described.

2. The new sulfo-acids obtained by condensing in aqueous solution one molecule of 1.2.diamidonaphthalene.5.oxy.7.sulfo-acid with two molecules of an aromatic aldehyde, the said substances being powders of a slightly-yellowish tinge insoluble in water, alcohol and ether, soluble in alkalies and being precipitated from these solutions by means of acids substantially as described.

807,118. **APPARATUS FOR DRAWING COKE-OVENS.** ISAAC C. KELLY, Scottdale, Pa. Filed Dec. 23, 1904. Serial No. 238,128.

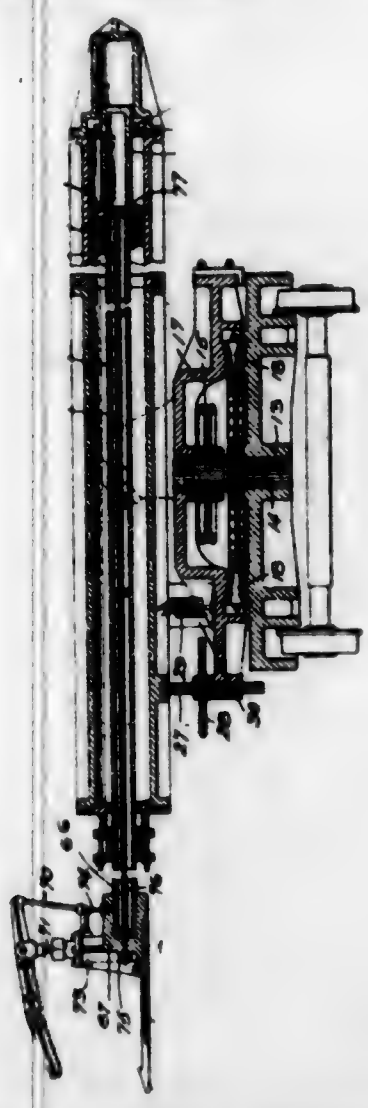
Claim.—1. In coke-drawing apparatus, the combination of tongs constructed to grasp the coke and hold the same, a carrier for said tongs arranged to alternately project the same into and draw the same out of the oven, and automatically-operating mechanism for opening and closing said tongs.

2. In coke-drawing apparatus, the combination of tongs constructed to grasp the coke and hold the same, a carrier for said tongs arranged to project the same into and draw the same out of the oven, and means arranged to automatically close said tongs before the carrier begins its outward movement.

3. In coke-drawing apparatus, the combination of tongs constructed to grasp the coke and hold the same, a carrier for said tongs arranged to alternately project the same into and draw the same out of the oven, and automatically-operating mechanism arranged to close said tongs before the carrier begins its outward movement and to open said tongs on the inward movement of said carrier.

4. In coke-drawing apparatus, the combination of tongs constructed to grasp the coke and hold the same, a reciprocating carrier therefor, power mechanism for actuating said carrier, and automatically-operating mechanism for opening and closing said tongs.

5. In coke-drawing apparatus, the combination of tongs constructed to grasp the coke and hold the same, a reciprocating carrier therefor, power mechanism for actuating said carrier, and mechanism operated automatically from the reciprocating mechanism and arranged to open and close said tongs.



6. In coke-drawing apparatus, the combination of tongs, a carrier therefor arranged to project the tongs into and draw the same out of the oven, and fluid-pressure means for opening and closing said tongs.

7. In apparatus for drawing coke-ovens, the combination of a tongs, a carrier therefor, fluid-pressure means for actuating said carrier, and fluid-pressure means for opening and closing said tongs.

8. In apparatus for drawing coke-ovens, the combination of a tongs, a carrier therefor, fluid-pressure means for reciprocating said carrier, and fluid-pressure means operated simultaneously with said reciprocating means for opening and closing said tongs.

9. In apparatus for drawing coke-ovens, the combination of a tongs, a power-cylinder having a piston-rod by which said tongs is carried, and mechanism for opening and closing said tongs.

10. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston-rod therefor, a tongs carried by said piston-rod, and mechanism arranged to automatically open said tongs before starting to move into the oven and for automatically closing said tongs before starting to move out of the oven.

11. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston-rod therefor, a tongs carried by said piston-rod, a fluid-pressure cylinder for opening and closing said tongs, and connections between the same and said power-cylinder.

12. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston therein, inlets to said cylinder on opposite sides of said piston, a tongs carried by the piston-rod, and a fluid-pressure cylinder having a piston for opening and closing said tongs, said last-named cylinder being connected on opposite sides of its piston to the main power-cylinder on opposite sides of its piston.

13. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston therein, inlets to the cylinder on opposite sides of the piston, a hollow piston-rod connected to said piston and communicating with the main cylinder forward of the main piston, a tongs carried by said piston-rod, a cylinder for opening and closing said tongs, connections from one end of said last-named cylinder with the hollow piston-rod, a connection to the opposite end of said cylinder, a tube communicating with said connection and extending through the hollow piston-rod and communicating with the main cylinder to the rear of the main piston.

14. In apparatus for drawing coke-ovens, the combination of a tongs constructed to grasp the coke and hold the same, a power-actuated carrier therefor, and mechanism for automatically opening the tongs when the carrier advances and for automatically closing the tongs when the carrier is withdrawn.

15. In apparatus for drawing coke-ovens, the combination of a drawing-head, a carrier therefor arranged to project the same into the oven and withdraw the same therefrom, and mechanism for automatically rotating said head when the carrier approaches the limit of its outward movement.

16. In apparatus for drawing coke-ovens, the combination of a drawing-head, a reciprocating carrier therefor, fluid-pressure means for actuating the same, and mechanism for automatically rotating said head when the carrier approaches the limit of its outward movement.

17. In apparatus for drawing coke-ovens, the combination of a drawing-head, a reciprocating carrier therefor, and a non-rotatable member arranged to engage said carrier at the end of its outward movement, said carrier and member being provided with coöperating cam members, whereby said carrier will be rotated.

18. In apparatus for drawing coke-ovens, the combination of a drawing-head, a power-cylinder and its piston-rod to which said head is connected, and a non-rotatable member arranged to engage the piston of said power-cylinder, said parts being provided with coöperating cam members whereby said piston will be rotated.

19. In apparatus for drawing coke-ovens, the combination of a tongs, a reciprocating power-actuating carrier therefor, and a stationary member arranged to engage said carrier, said parts being provided with coöperating cam members whereby said carrier and tongs will be rotated.

20. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston and piston-rod therefor, a tongs carried by said piston-rod, a non-rotatable member, and a member moving with the piston and arranged to engage the non-rotatable member as the piston approaches the limit of its outward movement, said members being provided with coöperating cam-faces whereby the piston and tongs are rotated.

21. In apparatus for drawing coke-ovens, the combination of a scraper, a power-cylinder for reciprocating the same, and means for rotating said scraper about an axis parallel to the axis of said cylinder.

22. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston and piston-rod therefor, a scraper carried by said piston-rod, and mechanism for rotating said scraper about an axis parallel with said piston-rod.

23. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston and piston-rod therefor, a scraper attached to said piston-rod, and mechanism for rotating said piston-rod.

24. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston and piston-rod therefor, a scraper on the end of said piston-rod, a rotatable bushing in the end of said cylinder in which the piston-rod has a sliding but not a rotary movement, and means for rotating said bushing.

25. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston and piston-rod therefor, a scraper carried by said piston-rod, a gear connected to said scraper, a shaft mounted on said cylinder and having a pinion for engaging said gear, and means for rotating said shaft.

26. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston and piston-rod therefor, a tongs carried by said piston-rod, trunnions on which said cylinder is mounted, and adjustable means bearing against said cylinder and arranged to tilt the same about said trunnions.

27. In apparatus for drawing coke-ovens, the combination of a power-cylinder, a piston and piston-rod therefor, a tongs carried by said piston-rod, trunnions on which said power-cylinder is mounted, an adjusting means bearing against said cylinder to move the same about its trunnions, and a spring for holding the cylinder against said adjusting means.

28. In apparatus for drawing coke-ovens the combination of a rotary table, a reciprocating power mechanism carried thereby, adjustable means engaging said power mechanism, and arranged to tilt the same and a tongs carried by said power mechanism.

29. In apparatus for drawing coke-ovens, the combination of a rotary table, a power-cylinder trunnioned thereon, adjustable means engaging said power-cylinder and arranged to tilt the same about its trunnions, a piston and piston-rod for said power-cylinder, and a tongs connected to said piston-rod.

807,119. **RED AZO DYE AND PROCESS OF MAKING SAME.** FELIX KLINGEMANN and GEORG KALLENBERG, Frankfort-on-the-Main, Germany, assignors to Cassella Color Company, New York, N. Y. Filed Aug. 21, 1905. Serial No. 275,166.

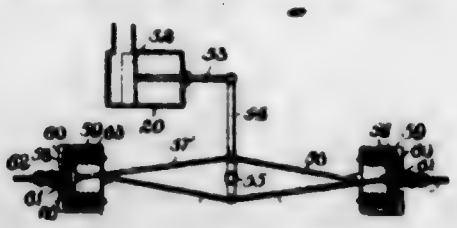
Claim.—1. The herein-described process of making disazo dyestuffs, which consists in condensing in aqueous solution one molecule of 1.2-diamidonaphthalene-5-hydroxy-7-sulfonic acid with two molecules of a monoazo dyestuff prepared from the diazo compound of meta-amido-benzaldehyde and a naphtholsulfonic acid in the manner hereinbefore described, substantially as described.

2. The herein-described process of making disazo dyestuffs, which consists in condensing in aqueous solution one molecule of 1-2-diamidonaphthalene-5-hydroxy-7-sulfonic acid with two molecules of two different monoazo dyestuffs prepared from the diazo compound of meta-amido-benzaldehyde and a naphtholsulfonic acid in the manner hereinbefore described, substantially as described.

3. The herein-described process of making trisazo dyestuffs, which consists in combining an aromatic diazo compound in alkaline solution with the products obtained by condensing in aqueous solution one molecule of 1-2-diamidonaphthalene-5-hydroxy-7-sulfonic acid with two molecules of a monoazo dyestuff containing an aldehyde group, the latter being formed by combining one molecule of diazotized meta-amido-benzaldehyde with one molecule of a naphtholsulfonic acid, substantially as described.

4. The trisazo coloring-matters obtained by combining in an alkaline solution one molecule of an aromatic diazo compound with one molecule of the products of condensation obtained by condensing in aqueous solution one molecule of 1-2-diamidonaphthalene-5-hydroxy-7-sulfonic acid with two molecules of a monoazo dyestuff containing an aldehyde group, the latter being formed by combining one molecule of diazotized meta-amido-benzaldehyde with one molecule of a naphtholsulfonic acid, the said trisazo coloring-matters representing in the dry state powders of a reddish-brown shade, soluble in water with a red color, dissolving in concentrated sulfuric acid with a bluish-red color which changes into a more yellowish shade by adding water, and dyeing unmordanted cotton red shades, substantially as described.

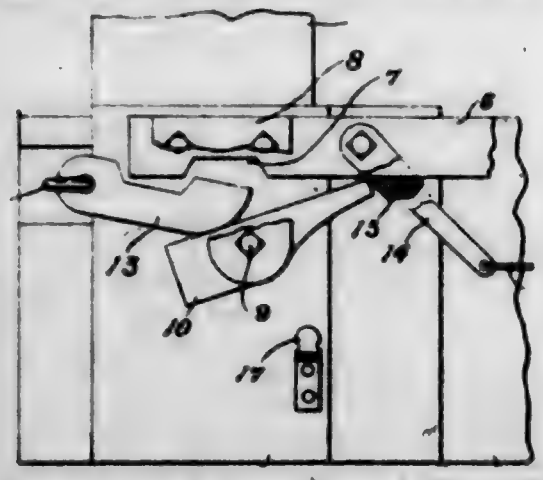
807,120. **ELEVATOR SYSTEM.** GEORGE A. LE FEVER, Orangeburg, N. Y. Filed Nov. 17, 1904. Serial No. 233,097.



Claim.—1. In an elevator system, the guide-rails each comprising a supporting-plate arranged with one of its edges toward the center of the shaft, and angle-irons arranged on said inner edge of the supporting-plate and forming therewith a flat inner surface.

2. In an elevator system, the guide-rails each comprising a flat supporting-plate arranged to be fastened to the wall of a shaft, its inner edge projecting toward the center of the shaft, and separate angle-irons secured on both sides of the supporting-plate and arranged to form with its inner edge, a flat surface.

807,121. **STAKE-HOLDER.** CUTLER LEWIS and ARTHUR J. BOSTWICK, Eau Claire, Wis. Filed Nov. 7, 1904. Serial No. 231,658.



Claim.—1. A stake-holder having an opening in one side of sufficient size to allow the discharge of a stake therethrough, locking means for said stake, a retaining device for said locking means, a latch engaging said retaining device, and means for locking said retaining device against accidental movement.

2. A stake-holder having an opening in its side wall of sufficient size to allow the discharge of a stake laterally therethrough, and having a recess on one side, a link extending across the open side of said holder and having a hook to enter said recess, a retaining-lever engaging said hook and a latch engaging said lever, and means preventing the accidental movement of said latch, substantially as described.

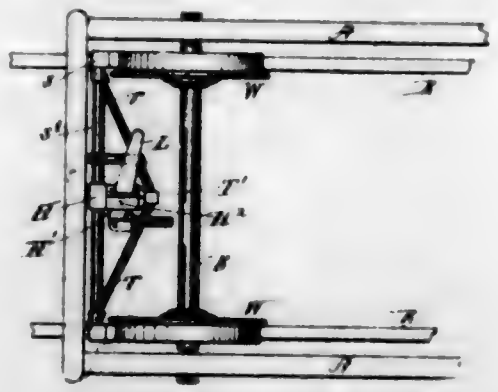
3. A stake-holder having an opening in one side of sufficient size to allow the discharge of a stake therethrough, locking means extending across the open side of said stake, a retaining device engaging said locking means, a locking-latch engaging said retaining device, and means for locking said retaining device against accidental movement, substantially as described.

4. A stake-holder having an opening in its outer side wall to permit the discharge of a stake therethrough, a locking device extending across the open side of said holder, means engaging said locking device to temporarily lock the same, a device for holding said engaging means in its locked position, and means preventing the accidental movement of said holding device, for the purpose specified.

5. The combination, with a stake-holder having an open side and provided with a recess, of a link extending across the open side of said holder and having a hook to enter said recess, a centrally-pivoted retaining-lever engaging said hook, a latch having a lug to slip over one end of said lever and hold it in its locked position, and means preventing the accidental movement of said latch, substantially as described.

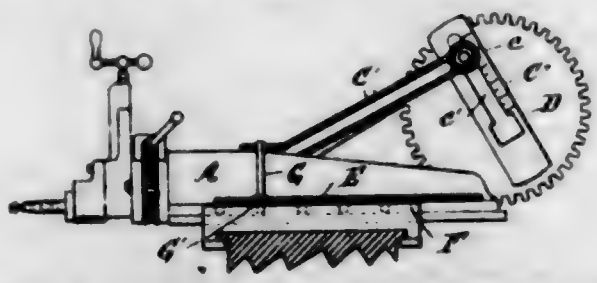
6. The combination, with a timber provided on one side with a stake-holder having an open wall, of a link extending across said open side and provided with a hook adapted to enter a recess on the wall of said holder, a pivoted retaining-lever engaging said hook, a latch having a lug to engage the free end of said retaining-lever, and a link carried by said latch to engage a clip provided on said holder, for the purpose specified.

807,122. **BRAKE-LEVER SUPPORT.** JAMES A. LIGHTBODY, Waterville, Me. Filed Apr. 19, 1905. Serial No. 256,491.



Claim.—A brake-lever support comprising an inverted yoke-piece attached to the brake-bar truss and constructed to support the brake-lever, substantially as and for the purpose set forth.

807,123. **SHAPING-MACHINE.** PERRIN G. MARCH, Fernbank, Ohio, assignor to Cincinnati Shaper Company, Cincinnati, Ohio. Filed Aug. 4, 1902. Serial No. 118,322.



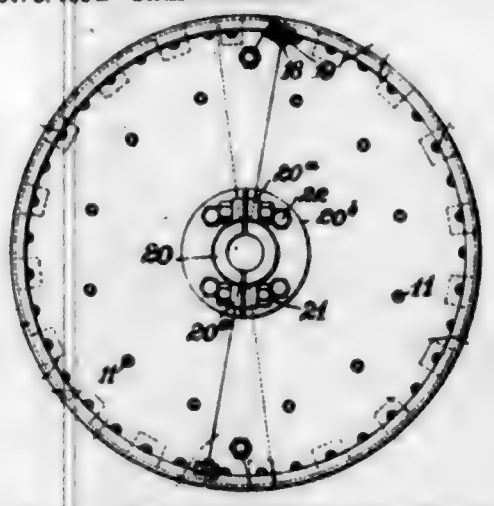
Claim.—In a shaping-machine, in combination with a ram and frame supporting the same, the driving-arm, the pitman, and the adjustable connection of said pitman, respectively, to the said driving-arm and to the said ram, a rack on said ram, sockets in the top plate of the slideway of the ram, and a removable pin provided with a handle at one end, and adapted at the other to fit in said sockets, and a pinion secured to said pin, in position to engage said rack, substantially as described.

807,124. VAGINAL GLASS APPLICATOR. MAURICE B. PEARLSTEIN, New York, N. Y. Filed June 25, 1904. Serial No. 214,102.



Claim.—A vaginal glass applicator, consisting of a glass tube, slightly curved, and with its end depressed for the purpose of warm or cold vaginal applications, fitted with an inner tube for the purpose of circulation of water therein, as hereinbefore described, and also with two necks for the inflow and outflow of such water, substantially as hereinbefore described.

807,125. SPLIT PULLEY. EDWARD H. PHIPPS, New York, N. Y. Filed Nov. 5, 1904. Serial No. 231,596.



Claim.—1. In a split pulley, the rim comprising opposed sections having their meeting side edges formed into interlocking parts extending radially inward, and means for securing the parts together.

2. A split pulley having a suitable body portion, and a rim formed of interlocking inwardly-extending parts, the said parts being rigidly secured to the body portion of the pulley.

3. In a pulley, the combination with a body portion, of the rim formed of interlocking inwardly-extending parts, the said parts being rigidly secured to the body portion.

4. A split pulley, comprising a body portion, and a separate rim portion fastened to the body portion, the said rim portion being formed of sections having radial interlocking parts along their meeting side edges.

5. A split pulley comprising a separable disk-body, and a rim formed of opposed sections secured to the body, the rim having meeting interlocking parts along the edges of the sections and having the end portions of the rim-sections bent inward and adapted to be secured together.

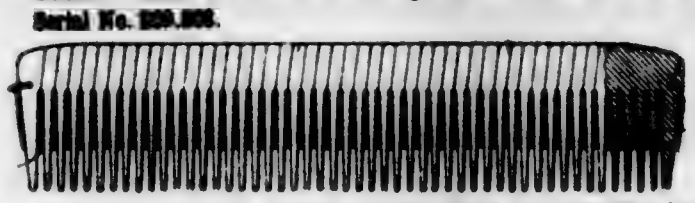
6. A split pulley, comprising two essentially half-sections, each formed of half-disks of metal sheets, fastened together, the disks of each half being slightly skewed, split hubs attached to the pulley-sections, and rims having inturned lugs along their meeting edges, the said lugs being rigidly fastened between the disk portions of the pulley.

7. A split pulley, comprising a longitudinally and diametrically separable hub, a body formed of similar half portions secured to the hub, each half portion comprising a pair of half-disks skewed slightly in relation to each other, means for fastening the sections of the pulley-body and hub together, and a rim formed of opposed similar sections, the meeting edges of which have interlocking and radially-extending lugs which are held between the disk portions of the pulley.

807,126. OLEAGINOUS MIXTURE FOR SPRINKLING ON ROADS, &c. CHARLES V. POTTER, Balwyn, Victoria, Australia, assignor to Robert Maximilian Hahn, Melbourne, Victoria, Australia. Filed Dec. 29, 1904. Renewed Nov. 16, 1905. Serial No. 287,680.

Claim.—The herein-described mixture for the purpose specified consisting in the combination of carbolic acid, oil, powdered asphaltum, tar, glycerin refuse and water in the proportions mentioned and prepared substantially as described.

807,127. HAIR CLEANING, DRYING, AND MEDICATING COMB. ROSEY R. POWERS, Los Angeles, Cal. Filed May 10, 1905. Serial No. 259,806.



Claim.—1. A comb having an absorbent or brush-like lining between its teeth on the inside faces thereof.

2. A comb provided with loops of yarn between its teeth said loops being open transversely of the comb.

3. A comb provided with means on its teeth for holding a yarn or the like and means on its back for holding the same in loops between the teeth.

4. A comb having perforated teeth, a yarn or the like passed through the perforations and a means for looping the yarn to form a lining between the teeth.

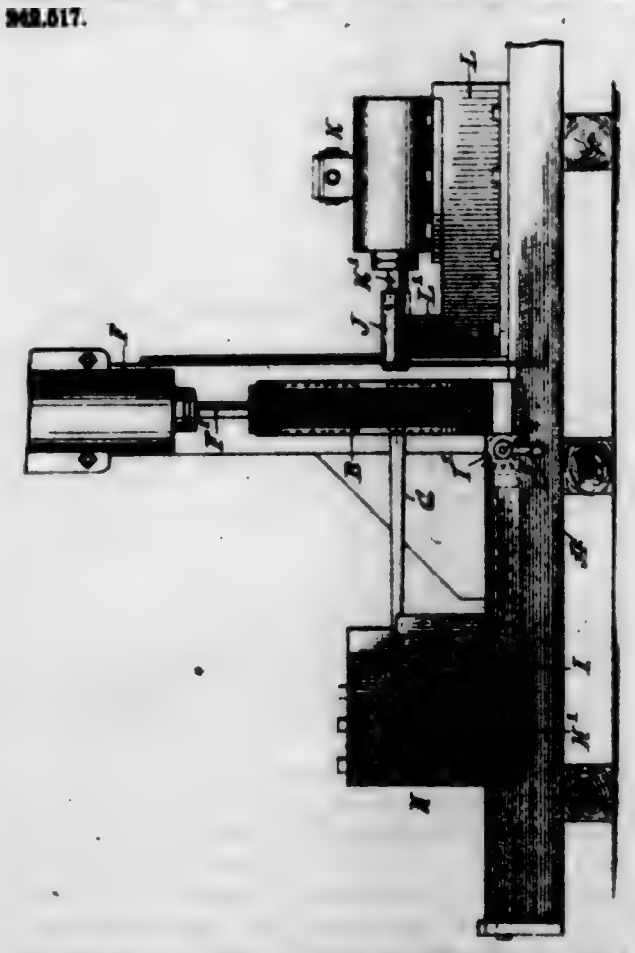
5. A comb having a hole bored through the teeth lengthwise of the comb, a yarn or the like passed through the hole and fastened to the ends of the comb, and means for holding the yarn looped between the teeth.

6. A comb having its teeth perforated lengthwise of the comb, a yarn or the like passed through the perforations and fastened to the ends of the comb and a wrapping-thread wound around the back of the comb and between the teeth to hold the yarn in loops.

7. A comb perforated longitudinally through the teeth and having holes at the ends, a yarn or the like passed through the perforations of the teeth and fastened in the holes in the ends of the comb and a wrapping-thread wound around the back of the comb and between the teeth to hold the yarn in loops.

8. A comb having notches in its back and perforations through its teeth lengthwise of the comb, a yarn or the like passed through the perforations and fastened at its ends to the comb and a thread looped around the back of the comb and seated in the notches and arranged to hold the yarn in loops between the teeth.

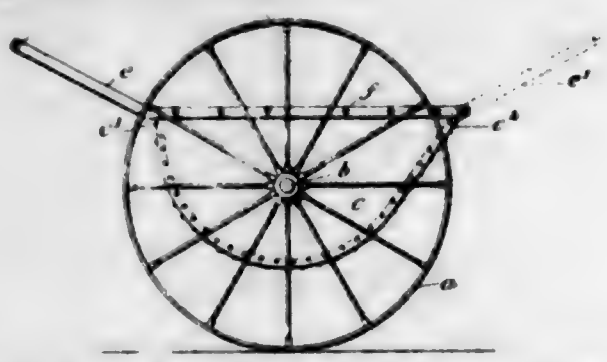
807,128. SHARPENING-MACHINE FOR DRILL-BITS. THEODORE H. PROSSER, Denver, Colo. Filed Jan. 24, 1905. Serial No. 242,517.



Claim.—A sharpening-machine for drill-bits, provided with a pair of dies, each having a V-shaped recess in its working face, the

recesses registering with each other and tapering from the front ends of the dies to the rear ends thereof, whereby provision is made for holding different-sized drill-bits in the same recesses of the dies with their ends at varying distances from the front ends of the dies according to size, and a dolly having a tapering head for entering the recesses of the dies to upset or sharpen the bits, the taper of the head of the dolly corresponding to the taper of the recesses and the head being of a length to enter the recesses of the dies a distance equal to the distance the bit is held within the said recesses according to the size of bit.

807,129. CART. ARTHUR W. RANSOME, New York, N. Y. Filed June 5, 1905. Serial No. 264,371.



Claim.—1. A wheeled cart having a dumping-body, one end of which lies inward of the periphery of the wheel or wheels, and the other end of which projects beyond the periphery of the wheel or wheels, and a handle reversibly secured to the body, for the purpose specified.

2. A cart comprising two wheels, an axle connecting the wheels, a dumping-body supported on the axle, the said body having one end lying within the peripheries of the wheels and the other end elongated to project beyond said peripheries, and a reversible handle attached to the body, for the purpose specified.

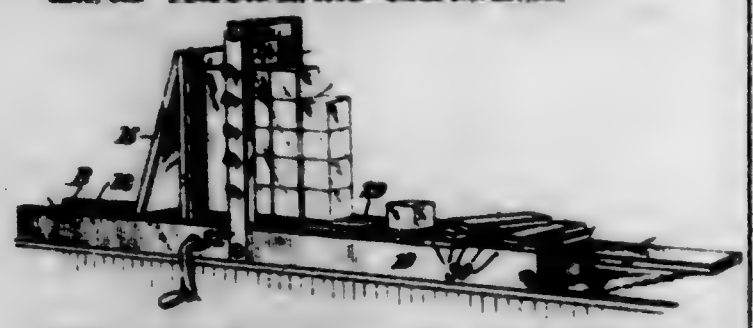
3. A wheeled cart having a dumping-body, one end of which lies within the periphery of the wheel or wheels, and the other end of which projects beyond said periphery, and a reversible handle capable of connection with the body of the cart to project from either end thereof, as may be desired.

4. A wheeled cart having a dumping-body, and a handle therefor including side arms extending along and fastened to the upper edges of the sides of the body.

5. A wheeled cart having a dumping-body, one end of which lies within the periphery of the wheel or wheels and the other end of which projects beyond such periphery, and a reversible handle comprising side arms adapted to be removably connected to the upper side edges of the body of the cart for the double purpose specified.

6. A cart comprising wheels, an axle connecting the same, a dumping-body carried by the handle, and having one end lying within the peripheries of the wheels and the other end projecting beyond the same, and a handle comprising a cross member and side arms, the side arms being connected to the cross member and extending respectively along and fastened removably to the upper side edges of the body of the cart, whereby to strengthen the body of the cart and to permit the reversal of the handle, for the purpose specified.

807,130. BUTTER-CUTTER. WILLIAM H. ROUSSEL, San Francisco, Cal. Filed Dec. 22, 1904. Serial No. 237,906.

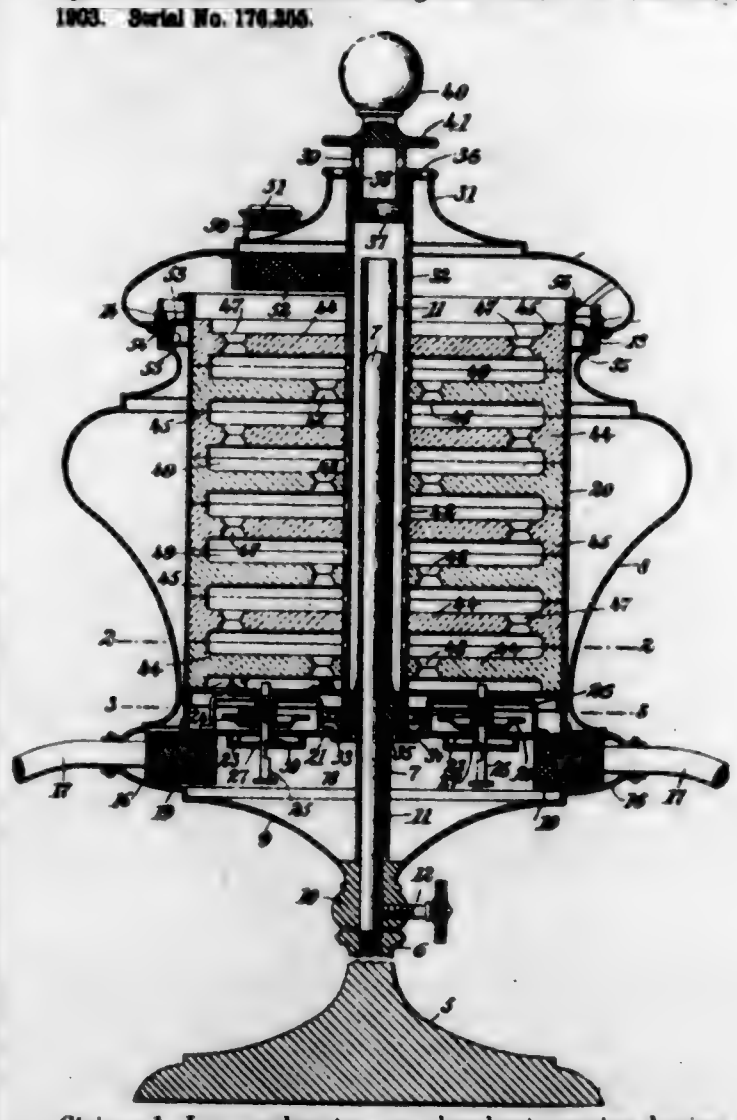


Claim.—1. A butter-cutter comprising a base, cutting mechanism, a table movable upon the base and having depending projections, a power-shaft journaled upon the base beneath the table and between the projections, and a flexible member fixed to the shaft and being movable over the projections longitudinally of the table.

2. A butter-cutter comprising a base, cutting mechanism, a table movable upon the base, a stop carried by the base near one extremity removed from the cutting mechanism and with which an element moving with the table may coöperate, gage members which may coact with the stop and said element, and means for moving the table.

3. A butter-cutter comprising a base, a frame rising therefrom, cutting members mounted upon the frame, a table movable upon the base through the frame, a stop for the table, a power-shaft journaled in the base, a flexible member connecting the table and shaft, and gage-blocks which may coact with the stop and an element carried by the table.

807,131. CARBURETER. JOHN B. SALO, New York, N. Y., assignor of one-half to Andrew H. Hoag, New York, N. Y. Filed Oct. 9, 1903. Serial No. 176,205.



Claim.—1. In a carbureter, an absorbent member having a thickened edge portion, and a plurality of air-circulation openings.

2. In a carbureter, a plurality of members each consisting of a flanged and perforated absorbent cake of solid porous material, the perforations in contiguous cakes being out of alinement said members being superposed one upon the other and spaced by the flanges thereof to produce air-circulation channels between their opposing surfaces.

3. In a carbureter, a plurality of absorbent members having thickened peripheral edges superposed one upon the other for the thickened edges thereof to have abutting engagement, said members producing a plurality of passages and each member having circulation-openings in communication with said passages.

4. In a carbureter, a plurality of flanged absorbent members each consisting of a porous cake of solid integral material and spaced by the flanges thereof to produce air-channels between their surfaces, said members being provided with transverse air-circulation openings which are arranged out of alinement and have communication with said channels.

5. In a carbureter, a plurality of absorbent members each consisting of a porous cake of solid material and provided with air-circulation openings, said members being also provided with marginal flanges and superposed one upon the other, said flanges of the members having abutting engagement and separating the members to produce air-circulating channels between the opposing faces of the members.

6. The combination with a casing, of a receptacle removably fitted therein and provided with valved openings at its lower portion, a plurality of absorbent members contained within said shell or receptacle, a stem disposed within said casing, and means for coupling the receptacle or shell by a rotary motion to said stem.

7. The combination with a casing having a stem, of a receptacle provided with a central air-tube adapted to be coupled by a rotary motion to the stem, and absorbent members contained within said receptacle and insertible therewith into the casing.

8. The combination with a casing, of a receptacle insertible into and removable from said casing, a central air-tube attached to said receptacle, a plurality of absorbent members confined within the receptacle and surrounding said air-tube, and means for regulating the admission of air to said tube and to the casing.

9. The combination with a casing, of a receptacle removable therefrom and provided with a perforated air-tube, a plurality of absorbent members assembled within said receptacle to form circulation-passages which have communication with the air-tube through the perforations therein, and means for controlling the admission of air to said tube and the absorbent members of the receptacle.

10. The combination of a casing provided with air-ports in its upper portion, a series of absorbent members within said casing, a perforated air-tube disposed within the casing and having communication through its perforations with air-passages which are formed by said members, and a capped sleeve screwed to the air-tube and making provision for regulating the air admitted to the tube and to the casing.

11. The combination with a fixed stem, of a casing provided with an internal sleeve which is fitted slidably to said stem, means for clamping the casing and its sleeve at a desired elevation on the stem, a carbureter-receptacle provided with a tube or sleeve and arranged within said casing for the sleeve of the receptacle to fit the internal sleeve of the casing, and an absorbent within the carbureter-casing.

12. In a carbureter, a plurality of absorbent members each consisting of a cake of porous material, said members being provided with thickened edges which have abutting engagement and are effective in spacing the members to produce air-circulating channels between them, the adjacent members being also provided with displaced air-circulating openings.

13. In a gravity-carbureter, a receptacle provided with a downdraft perforated air-inlet tube located internally therein, and a plurality of absorbent members inclosed within said receptacle and spaced therein to produce channels which are in communication with the tube through the perforations therein, said members having means whereby air is free to circulate in a zigzag course through the receptacle.

14. In a carbureter, a receptacle provided with an air-inlet at its top and a vapor-outlet at its bottom, a downdraft air-inlet tube having perforations connected with said air-inlet, and a plurality of absorbent members assembled within the receptacle to produce air-spaces between themselves which provide for the back-and-forth circulation of air, said spaces communicating with the air-inlet tube through the perforations therein.

15. In a carbureter, a receptacle provided with an air-inlet, an air-tube in said receptacle, absorbent members forming air-circulating channels having communication with said air-tube, and a valve mechanism common to the receptacle and the tube for controlling the admission of air to both said receptacle and the air-tube.

16. In a carbureter, a receptacle provided with an air-inlet, a perforated air-tube in said receptacle, perforated absorbent members fitted in said receptacle for producing air-channels which have communication with said tube, and a valve mechanism for controlling the admission of air to the receptacle and the air-tube.

17. In a carbureter, the combination with a casing, of a receptacle provided at its bottom with valved outlets which are normally open for the egress of a combustible vapor, said receptacle being insertible and withdrawable in respect to the casing, and the valves being closable on the withdrawal of said receptacle, an absorbent within said receptacle, and means for admitting air to the upper part of the receptacle.

18. In a carbureter, the combination with a casing, of a receptacle fitted removably therein and provided at its bottom portion with valved outlets for the egress of a combustible vapor, means for securing a tight joint between the casing and the receptacle, an absorbent in the receptacle, and means for admitting air to the upper part of the receptacle.

19. In a carbureter, the combination with a casing having a stationary spindle, of a receptacle provided with a guide-tube arranged to fit the spindle and to be coupled thereto, a perforated air-tube within the receptacle and enveloping the guide-tube, valved vapor-outlets at one portion of the receptacle, means for admitting air to the opposite portion of the receptacle, and a plurality of spaced absorbent members disposed within the receptacle and producing air-channels which communicate with the air-tube.

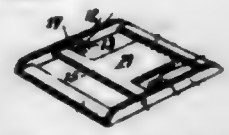
20. In a carbureter, the combination with a casing, of a body of non-compressible absorbent material built up of a plurality of perforated sections of non-compressible absorbent material, said sections being spaced apart by walls of non-compressible absorbent material, the perforations in the sections and said spacing-walls being arranged to produce a zigzag air-channel through said body.

21. In a carbureter, a body of non-compressible absorbent material built up of a plurality of non-compressible absorbent sections, each section having an integral marginal flange adapted to have engagement with the similar flange or flanges on adjacent sections and thereby space the sections apart by walls of non-compressible absorbent material; said spaced sections being provided with perforations arranged to produce a tortuous air-circulation channel through said body.

22. In a carbureter, an inclosing shell provided with an air-inlet and a vapor-outlet, a casing removable from said shell, a body of absorbent material within the casing, and a spring-closure between the casing and the shell for securing an air-tight joint between said parts.

23. In a carbureter, an inclosing shell, a locking member extending upwardly from the bottom thereof, a removable inclosing casing provided with means for interlocking engagement with said locking member, a sectional body of absorbent material within said casing, sections of said body being spaced for the circulation of air therethrough, means in the locking devices whereby air is admitted to the body of absorbent material at a number of points intermediate the height thereof, an air-inlet to said shell, and vapor-outlets from the shell and the casing.

807,132. **BUCKLE.** LOUIS SANDERS, New York, N. Y. Filed Aug. 30, 1905. Serial No. 276,236.



Claim.—1. As an improved article of manufacture, a buckle consisting of a skeleton frame having stirrups extending inward from its side pieces, each stirrup having a spring locking member, and a tongue provided with a pivot-bar which is fulcrumed in the side pieces of the frame to the rear of the stirrups, the said tongue being provided with fingers which extend forward and in the closed position of the tongue enter the said stirrups, thereby limiting the movement of the tongue and locking it in closed position.

2. As an improved article of manufacture, a buckle comprising a skeleton frame and stirrups extending inward from the side pieces of the frame, each stirrup comprising a lower horizontal member and an upwardly-extending locking spring member having more or less of a curvature in direction of the said side pieces of the frame, a tongue provided with a pivot-bar, which pivot-bar is fulcrumed in the sides of the frame at the rear of the stirrups, and forwardly-extending fingers carried by the said pivot-bar of the tongue within the frame, which fingers when the tongue is closed enter the said stirrups being supported and clamped thereby, the said tongue being of sufficient length to extend only to the inner edge of the front bar of the frame when the tongue is in closed position, at which time the upper and lower portions of the tongue are in substantially the same horizontal plane with the corresponding portions of the said front bar of the frame.

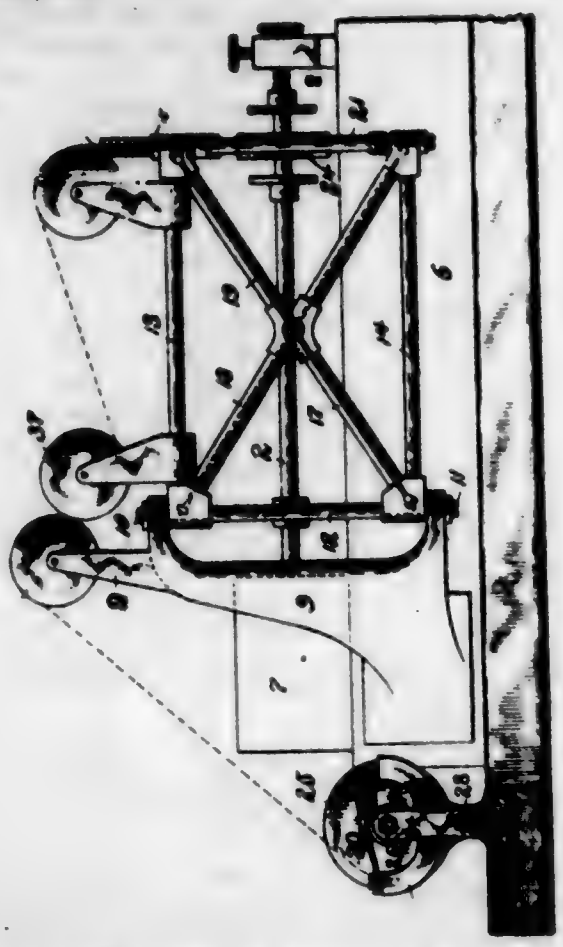
807,133. **WINDING-MACHINE.** ARCHIBALD D. SCOTT, Providence, R. I., assignor to Varley Duplex Magnet Company, a Corporation of New Jersey. Filed Jan. 25, 1902. Serial No. 91,222.

Claim.—1. In a winding-machine, in combination, the coil-receiver, a crane comprising a quadrilateral frame, an approximately triangular frame pivoted to the outer vertical side of the quadrilateral frame, a guide carried by the upper inclined side of the triangular frame and positioned adjacent to the quadrilateral frame, and a delivery-guide standing at an angle with the axis of said coil-receiver and mounted upon the extremity of the triangular frame, whereby the strand being wound produces the traverses by the sidewise movement of said guide.

2. In a winding-machine, in combination, the coil-receiver, a crane containing a plurality of pivotally-connected arms, the forward one of which arms stands at an angle with the axis of said coil-receiver, a delivery-guide mounted upon the extremity of said forward arm and a leader upon said forward arm whereby the strand being wound controls the traverse by the sidewise movement of said forward arm.

3. In a winding-machine, in combination, the coil-receiver, a

crane containing a plurality of pivotally-connected arms, the pivotal connection of the forward arm of the same standing in a plane approximately at right angles with the axis of said coil-receiver at its middle, and a delivery-guide mounted upon said forward arm; whereby the traverses of said delivery-guide are free to be controlled by the pull of the strand being wound symmetrically on opposite sides of said plane.



4. In a winding-machine, in combination, the coil-receiver, a frictional device operating on said coil-receiver, a crane containing a plurality of pivotally-connected arms, a delivery-guide mounted upon the forward arm and a pair of guide-wheels one on each side of each pivotal connection; each pivotal line being approximately tangent to the adjacent pair of guide-wheels.

5. In a winding-machine, in combination, the coil-receiver, a crane containing a plurality of pivotally-connected arms, a vertical delivery-guide mounted upon the forward arm, a series of vertical guide-wheels in such position that the centers of said pivotal connections are in approximate alinement with the tangents to each pair of said guide-wheels.

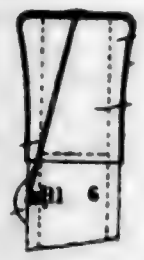
6. In a winding-machine, in combination, the coil-receiver, a crane containing two pivotally-connected arms, the forward arm consisting of a converging frame, and the arm to which it is pivotally connected consisting of a braced quadrilateral frame, and a delivery-guide mounted at the extremity of the converging frame.

7. In a winding-machine, in combination, the coil-receiver, a crane-supporting column, a crane pivotally connected therewith and containing a plurality of pivotally-connected arms, a guide-wheel mounted upon the top of said column and overhanging the pivotal connection therewith, a coöperating guide-wheel mounted upon the top of the crane and also overhanging the pivotal connection with said column, two guide-wheels on the ends of said arms adjacent to each other and both overhanging the pivotal connection between said arms and a delivery-guide mounted upon the extremity of the forward arm.

8. In a winding-machine, in combination, the coil-receiver, a crane containing a plurality of pivotally-connected arms, a delivery-guide mounted upon the extremity of the forward arm, a supply-spool holder and a frictional device operating upon the side of said spool-holder.

807,134. **FASTENING FOR BOTTLES AND LIKE CONTAINERS TO PREVENT THEM BEING FRAUDULENTLY REUSED.** JAMES J. SCUTTLEWORTH, Ryde, near Sydney, New South Wales, Australia. Filed Jan. 27, 1905. Serial No. 242,935.

Claim.—1. The combination with a bottle or like container and a closure therefor, of a fastening means to engage said closure and consisting of one or more wires, and a piece of glass for securing the wire or wires to the bottle or container before the latter has been annealed, the said piece of glass being applied in molten condition and the wire or wires bent where they are applied to the bottle or container.

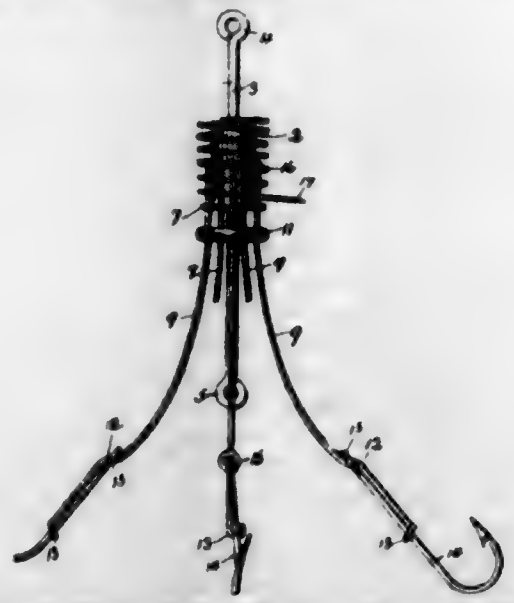


2. The combination with a bottle or like container and a cork or stopper and a capsule or the like therefor, of a wire or wires immovably or inseparably fixed to a part of the bottle before annealing the latter, said wire or wires being passed through the capsule or the like and engaging said cork or stopper and the ends thereof twisted or plaited together near where fixed to the bottle and pressed or weakened substantially as hereinbefore described and explained.

3. The combination with a bottle or like container and a cork or stopper and capsule or cover therefor, of a wire or wires immovably or inseparably fixed to a part of the bottle before annealing the latter, said wire or wires being passed through the capsule or cover, the bottle-cap and the cork or stopper and the ends thereof twisted plaited or knotted together near where fixed to the bottle and pressed or weakened substantially as hereinbefore described and explained.

4. The combination with a bottle having a closing means and a cover disposed over the latter, of a fastening consisting of a wire or wires immovably or inseparably fixed to the bottle before annealing and passed through the cover, the ends of the wires being twisted, plaited or knotted, and pressed or weakened, substantially as hereinbefore described.

807,135. **SNAG-HOOK.** JOHN P. SMITH, New Haven, Conn. Filed Aug. 24, 1905. Serial No. 275,694.



Claim.—1. The herein-described snag-hook comprising a head, wires connected therewith, said wires terminating at the outer ends with open eyes, and having shoulders formed above said eyes, and hooks having eyes engaged with said shoulders, and having their shanks engaged with said open eyes, substantially as described.

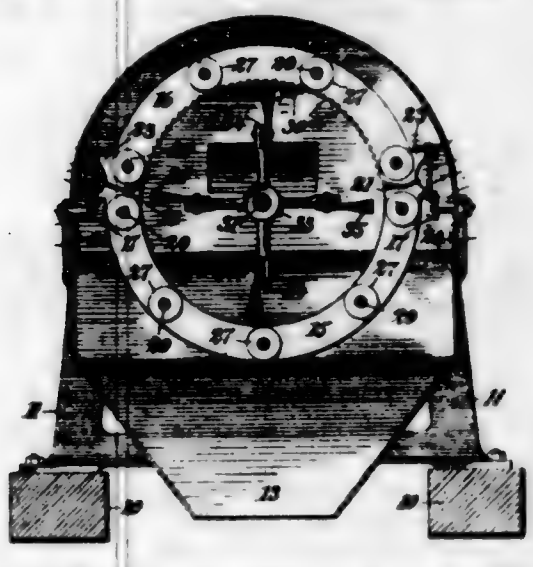
2. The herein-described snag-hook comprising a hollow head having perforations in its side walls, wires having bends at the upper ends to enter said perforations, a ring surrounding said wires and holding them in engagement with said head, and hooks connected with the outer ends of said wires, substantially as described.

3. The herein-described snag-hook comprising a hollow head, a stem passing through it, said head formed at its lower end with a notched flange, holes in the side of said head in line with said notches, wires passing through said notches and formed at the upper ends with bends which enter said holes, means for holding said wires in engagement with said head, and hooks connected with the outer ends of said wires, substantially as described.

807,136. **PULVERIZER.** NICHOLAS SPONSEL, Ottawa, Ill., assignor of one-half to Benjamin B. Holland, Ottawa, Ill. Filed Sept. 3, 1904. Serial No. 223,369.

Claim.—1. In a pulverizer, the combination with a chamber comprising spaced rings provided with internal teeth, of a beater having inclined blades and being rotatable within the chamber.

2. In a pulverizer, the combination with a chamber comprising a series of rings tapered outwardly throughout their peripheries and having integral bosses extending from the tapered portions, said bosses being provided with openings, of tie-rods extending through the boss-openings and serving to draw the outer faces of the bosses to a bearing, and a beater rotatable within the chamber.

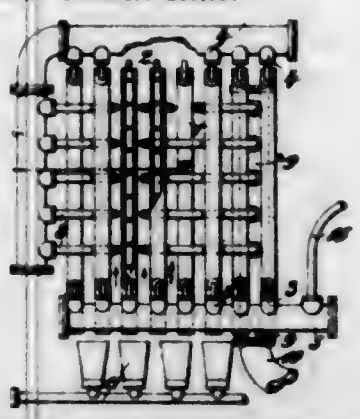


3. In a pulverizer, the combination with a chamber comprising a series of rings, each of which has at one side a straight face and at the opposite side a tapered face, of bosses projecting from the tapered faces to the plane of the body of the ring and having openings, tie-rods extending through the openings, and a beater rotatable within the chamber.

4. In a pulverizer, a chamber comprising a series of separated rings, each of which rings is formed in sections having external projections, bars contacting with the projections, and means for drawing the bars toward one another.

5. In a pulverizer, the combination with a casing, of bars fixed thereto, lower ring-sections having projections resting upon the bars, upper ring-sections carried by the lower sections, bars contacting with the upper sections, and bolts connecting these last-named bars with the fixed bars.

807,137. STEAM-GENERATOR. PETER STOLTZ, Berlin, Germany. Filed May 6, 1904. Serial No. 206,650.

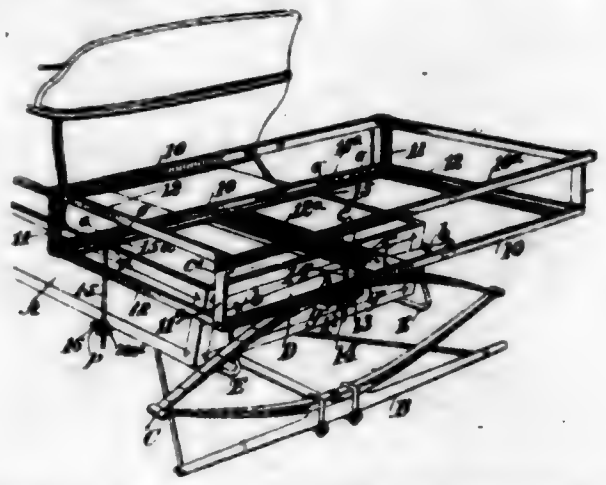


Claim.—1. The improved steam-generator comprising a series or group of flat tubular sections, arranged parallel vertically, and separated by narrow spaces which are open at the bottom to admit flame and heated gases of combustion, a water-supply pipe, arranged at the bottom and along one side of the series of tubular sections and having a series of tubes each communicating with one of said sections, a steam-collecting pipe arranged at the top of the series of sections and pipes connecting the same, said pipe extending down on the side of the series of tubular sections, and a series of steam-superheating tubes attached to such depending pipe and extending in convolutions in the vertical spaces between the several tubular sections, the convolutions being thus arranged parallel one above another, and a collecting-pipe with which the several superheating-tubes connect after passing through the spaces between the sections, as shown and described.

2. The improved generator, comprising a series of flat tubular sections arranged parallel vertically and separated by narrow spaces which are open at the bottom, and a series of horizontal superheating-tubes arranged one above another in parallel series in the heat-spaces between the several sections, a collecting-pipe arranged at one side of the group or series of sections and with which the several superheating-tubes are connected, and a common receiving-pipe 9 arranged vertically contiguous to the sections and with which the opposite ends of said superheating-tubes are connected, all arranged substantially as described.

3. The improved generator comprising a series of flat tubular sections arranged vertically and spaced apart, superheating-tubes arranged in the heat spaces or passages between the several sections, their coils or convolutions being arranged one above another in such spaces, and collecting-pipe with which such tubes are connected at their ends, and a water-supply tube connected with all the sections at their lower ends, and a heating medium arranged below the group or series of sections, as shown and described.

807,138. EGG-CASE-CARRYING ATTACHMENT FOR VEHICLES. RAYMOND N. STORY, Clay Center, Kans. Filed Sept. 1, 1905. Serial No. 276,733.



Claim.—1. A carrier for freight on spring-supported vehicles, consisting of a rectangular metallic frame having a hinged top cross-bar at the rear side of the frame, and means for securing said bar closed, clamps for detachably holding the forward portion of the frame on the top edges of the vehicle-body, and means for supporting the rear portion of said frame from the rear spring of the vehicle.

2. A carrier-frame for freight comprising elongated frame-bars, posts connecting the ends of said frame-bars, one of the frame-bars having hinged connection with an adjacent post at one end thereof, and a latched connection with a corresponding post at the other end thereof, and stretcher-bars joining the posts and frame-bars, producing an elongated rectangular structure.

3. A carrier-frame for freight, comprising elongated frame-bars, two of said frame-bars being of L-shaped angle-iron, angle-iron posts joining two of the frame-bars at their ends, flat-bar posts joining the remaining frame-bars at their ends, the upper one of said frame-bars being pivoted at one end upon an adjacent flat-bar post and having a latched engagement at the other end with the remaining flat-bar post, and stretcher-bars joined at their ends to the frame-bars and posts, thus forming a skeleton rectangular elongated carrier-frame that may be opened at one side.

4. A carrier for freight on a vehicle, comprising elongated frame-bars, two of said bars being of L-shaped angle-iron, angle-iron posts joining two of the frame-bars at their ends, flat-bar posts joining the remaining frame-bars at their ends, the upper one of said flat bars, having one end pivoted, and the other end latched respectively on corresponding posts, stretcher-bars joined at their ends to the frame-bars and posts forming a skeleton rectangular frame, a flat brace extended across the frame on its lower side, and clamping means engaging the brace and the running-gears of the vehicle for holding the frame thereon.

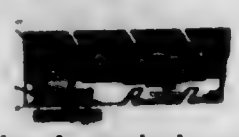
5. In a freight-carrier of the character described, the means for clamping the carrier-frame upon the body of a vehicle, comprising clamping-bolts having lateral arms securable upon the lower frame-bars of the freight-carrier, clamping-plates adjustably held by links on the bottom of the vehicle-body, and nuts on the clamping-bolts, adapted for holding the clamping-plates compressed against the bottom of said body.

6. In a freight-carrier for a vehicle, the means for supporting a carrier-frame of the character described at its rear side above and from a vehicle-spring, comprising a flat brace on the lower side of the carrier-frame, a clamping-plate on said spring, and a standard erected from the clamping-plate and changeably engaging the flat brace.

807,139. FENCE-POST. SAMUEL H. SUMMERSCALES, Winnipeg, Canada. Filed Feb. 25, 1905. Serial No. 246,869.

Claim.—1. A support, comprising a standard having an H-shaped cross-section, the web thereof being provided with perfora-

tions and with flanges having notches, and a fastening device passing through said perforations and extending to a position beyond a point directly between two of said notches, said fastening device being adjustable toward and from the web.



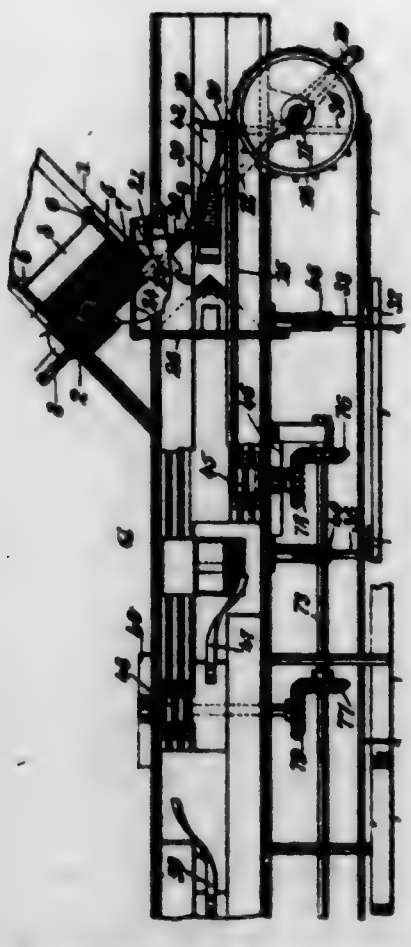
2. The combination of a standard provided with a lateral notch, a rail provided with a tongue fitting in the notch, and means for securing the rail to the standard.

3. The combination of a standard provided with spaced flanges having notches in their edges, a rail having a tongue fitting in the notches of the flanges, and means for securing the rail to the standard.

4. The combination of a standard provided with spaced flanges having notches in their edges, a rail having a tongue fitting in the notches of the flanges, the tongue of the rail being apertured, and a hook secured to the standard and engaging the aperture in the tongue of the rail.

5. The combination of an apertured standard having flanges at its longitudinal edges, said flanges being provided with inclined notches in its edges, a rail provided with an inclined and apertured tongue fitting in the notches of the flanges, and a hook-bolt secured in an aperture of the standard and engaging the aperture in the tongue of the rail.

807,140. CARTON MAKING AND SEALING MACHINE. RICHARD SUNDERMAN, Buffalo, N. Y. Filed June 25, 1904. Serial No. 214,159.



Claim.—1. The combination with means for expanding flattened carton shells or tubes, means for forming bottoms for said shells or tubes, and means for sealing the cartons, of devices for transporting the cartons without pause during the operation of said expanding bottom-forming and closing means, but permitting the cartons to come to rest and remain stationary for a time between the operation of the bottom-forming means and the closing means.

2. The combination in a machine, of means for expanding flattened carton-shells having foldable flaps at the ends, means for folding and securing the bottom flaps to form a carton, means for folding and securing the top flaps to close the carton, and means for transporting the shells or tubes through the machine, said transporting means being adapted to produce a dwell in the movement of the cartons between the operations of the bottom-forming devices and the operation of the carton-closing devices.

3. The combination with conveying means, of means for intermittently feeding carton shells or tubes to said conveying means, movable stops adjacent to said conveying means and coöperating therewith after the feeding of each carton shell or tube to expand the same, and means for retracting said stops after the expansion of each shell or tube.

4. The combination with the continuously-traveling conveying means, of means for intermittently feeding flattened carton shells or tubes thereto, movable dogs adapted to be projected into the path of shells or tubes carried by said conveying means to coöperate with said conveying means in expanding the shells or tubes, and means for alternately projecting and retracting said dogs.

5. The combination with a guideway and a conveyer traveling therein, of a feed-chute disposed obliquely to the guideway, a plunger moving transversely of the feed-chute and entering said guideway, and devices provided in the guideway to coöperate with the conveyer to expand flattened carton-shells when introduced into the guideway by said plunger.

6. The combination of means for conveying carton-shells having foldable flaps at the top and bottom thereof, and simultaneously-operated devices for folding flaps at one end of the shell and for spreading flaps at the other end of the shell.

7. The combination with means for conveying carton-shells having foldable flaps at the ends thereof, of simultaneously-operative spring-actuated devices for folding a flap at one end of the shell and for spreading flaps at the other end of the shell.

8. The combination with means for conveying carton-shells having foldable flaps at the ends thereof, of a pivoted resilient flap-spreader adjacent to said conveying means, and means operative upon the passage of a carton-shell to bring said flap-spreader into engagement with the flaps at the adjacent end of the carton-shell.

9. The combination with a conveyer for carton-shells, of a flap-spreader at one side of said conveyer and a flap-folder at the opposite side of the conveyer, and means operative upon the passage of a carton-shell for simultaneously operating said flap-folder and flap-spreader.

10. The combination with means for conveying carton-shells having foldable flaps, of a flap-folder adjacent to the conveyer, a spring-supported shoe adjacent to the conveyer and adapted for intermittent engagement by the conveyer, and connections between said shoe and said folder to impart movement to the latter.

11. The combination with a conveyer for carton-shells having foldable flaps, of a flap-spreader upon one side of said conveyer, a flap-folder upon the other side of said conveyer, connections between said folder and spreader to produce simultaneous movement thereof, springs for imparting movement to said folder and spreader, and mechanism intermittently operated by said conveyer to throw said folder and spreader into operative position.

12. The combination with a guideway for carton-shells, of a primary conveyer traveling in the forward portion of said guideway, and a secondary conveyer traveling in the rear portion of said guideway, said secondary conveyer being adapted to engage a carton-shell after having been allowed to come to rest after the primary conveyer has passed out of engagement therewith.

13. The combination of a guideway for cartons provided with an opening in the top, means in said guideway for bringing a carton-shell into position beneath said opening, and means in the guideway beyond the opening for removing the carton-shell from beneath the opening.

14. The combination with a guideway for cartons having an opening in the top thereof, of a primary conveyer at one side of said guideway extending to said opening, and a secondary conveyer at the opposite side of the guideway extending from and beyond said opening.

15. The combination with a guideway for cartons, of means for conveying cartons through the guideway, a discharge-chute projecting laterally from said guideway, and means for intermittently transferring cartons from said guideway to said discharge-chute.

16. The combination of means for feeding flattened carton shells or tubes provided with foldable flaps at the ends thereof, mechanism for compressing said shells or tubes edgewise, to reduce them to tubular form, and means for folding and securing said flaps to form bottoms for the cartons.

17. The combination of means for feeding flattened carton shells or tubes having foldable flaps at the ends thereof, mechanism for compressing said shells edgewise so as to reduce them to tubular form, and devices for forming bottoms for said cartons by folding and pasting together the flaps at the lower ends of the shells or tubes.

18. The combination of means for feeding flattened carton shells or tubes, means for compressing said shells edgewise so as to reduce them to tubular form, bottom-forming mechanism for the cartons, sealing mechanism for the cartons, and carrying mechanism for passing the cartons from said bottom-forming mechanism to said sealing mechanism.

19. The combination of means for feeding flattened carton shells or tubes, means for expanding said shells or tubes, bottom-forming devices, means for carrying said shells or tubes to said bottom-forming devices, means for sealing the cartons, carrying mechanism for passing the cartons to the sealing devices, and means for causing said cartons to pause at a point intermediate of said bottom-forming devices and said sealing devices.

20. The combination with conveying means, of means for feeding flattened carton shells or tubes to said conveying means, and means coöperating with said conveying means to compress said shells or tubes edgewise, so as to reduce the same to cylindrical form.

21. The combination with conveying means, of means for feeding flattened carton shells or tubes to said conveying means, and means coöperating with said conveying means to compress said cartons edgewise so as to expand the same into tubular form.

22. The combination with conveying means, of means for intermittently feeding flattened shells or tubes thereto, and means cooperating with said conveying means after the feeding of each flattened shell, to compress the same edgewise and thus expand the shell or tube into cylindrical form.

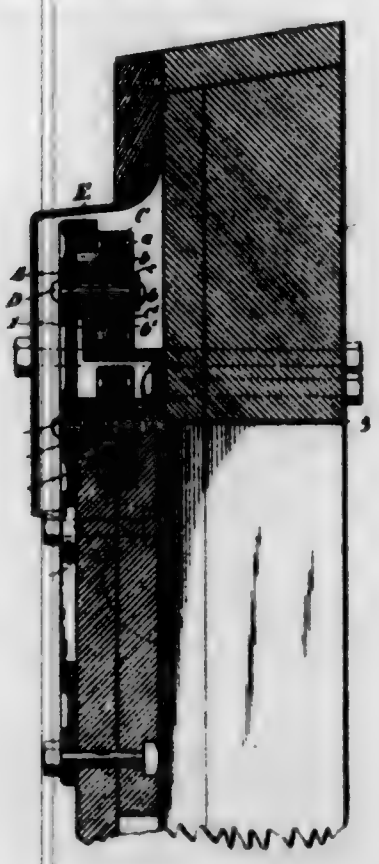
23. The combination with a conveyer, of a feed-chute disposed obliquely to the line of travel of the conveyer, means at the end of the feed-chute for intermittently feeding flattened carton shells or tubes from the feed-chute to the conveyer, and means coöperating with the conveyer to compress said shells or tubes edgewise, so as to reduce the same to tubular form.

24. The combination with a guideway for carton-shells and a conveyer traveling therein, of devices for intermittently feeding carton-shells to the conveyer, a movable dog adapted to be projected into the guideway, means for projecting said dog into the guideway and holding said dog in projected position engaged for a time, and means adjacent to the conveyer, for compressing said carton-shells edgewise against said dog, so as to cause said carton-shells to spring into tubular form.

25. The combination with a guideway for carton-shells and a conveyer movable therein, of means for feeding carton-shells obliquely to said conveyer, movable dogs adjacent to the conveyer, means for projecting said dogs into said guideway and retracting them therefrom, and springs, coacting with said dogs, for compressing said carton-shells edgewise, thus causing them to spring into tubular form.

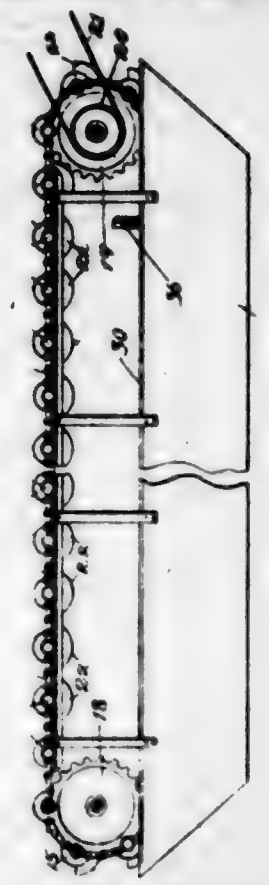
26. The combination with a guideway for carton-shells, which is normally unobstructed, and a conveyer traveling in said guideway, of movable dogs oppositely arranged in the conveyer, means for intermittently projecting said dogs into the guideway, and means coacting with said dogs, for compressing said shells edgewise, thereby causing the same to spring into tubular form.

807,141. **DOOR-HANGER.** JOHN J. TATUM, Baltimore, Md. Filed May 22, 1905. Serial No. 261,575.



Claim.—In a door-hanger, the combination with a rail, of a hanger adapted to be secured to the door and comprising a plate having bearings cast thereon having two or more diameters, rollers fitted thereto and means for retaining the rollers on the bearings, one above and the other beneath the rail.

807,142. **PROCESS OF PRESERVING MEATS.** EDWARD TILDEN, Chicago, Ill. Filed June 7, 1902. Serial No. 110,622.



Claim.—1. The improvement in the art of treating meats contained in sealed receptacles, which consists in processing the meats and agitating the receptacle while cooling so as to disseminate the fluid matter therein throughout the contents thereof, substantially as described.

2. The improvement in the art of treating meats contained in sealed receptacles, which consists in processing the meats and rotating the receptacle until the fluid-matter therein is substantially congealed, substantially as described.

807,143. **FILE.** ALEXIS VERNAZ, Yverdon, Switzerland. Filed May 24, 1905. Serial No. 262,055.



Claim.—1. A file provided with teeth cut in the form of arcs having equal radii the centers of which coincide with the axis of the file.

2. A file provided with teeth cut in the form of arcs having their centers coincident with the axis of the file.

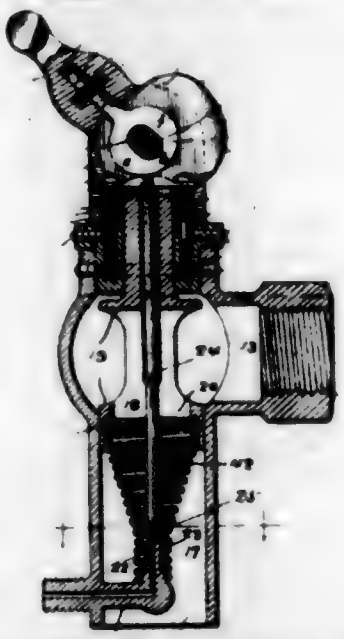
3. A file provided with teeth cut in the form of arcs having their centers coincident with the axis of the file and the bases of the

area located rearwardly with respect to the cutting edges of the teeth.

4. A file provided with teeth cut in the form of arcs having their bases located rearwardly with respect to the cutting edge of the teeth.

5. A file provided with teeth cut in the form of arcs having equal radii, the centers of which coincide with the axis of the file, the bases of said arcs being rearwardly disposed with respect to the cutting edge of the teeth.

807,144. CARBURETER. BENJAMIN F. WALKER, Bridgeport, Conn. Filed Jan. 16, 1905. Serial No. 241,196.



Claim.—1. In a carbureter the combination with a body having an air-inlet and a central fuel-spraying nozzle, of a cone-shaped coil-spring air-throttle through which air passes and whose smaller coils surround and rest upon the spraying-nozzle and means for closing the coils to shut off the passage of air.

2. In a carbureter the combination with a body having an air-inlet and a central fuel-spraying nozzle having grooves for the passage of air, of a cone-shaped coil-spring air-throttle through which air passes and whose smaller coils surround the spraying-nozzle and means for closing the coils to shut off the passage of air between the coils and cause air to pass through the grooves and to the fuel-spray in jets.

3. In a carbureter the combination with a body having an air-inlet and a central spraying-nozzle, of a coil-spring air-throttle through which air passes, a plunger resting upon the coil-spring air-throttle, a fuel-valve having a stem extending longitudinally through the plunger and cams adapted to act on the plunger and the valve-stem respectively.

4. In a carbureter the combination with a body having an air-inlet and a central spraying-nozzle and a coil-spring air-throttle through which air passes, of a plunger resting upon the coil-spring air-throttle, a fuel-valve having a stem extending longitudinally through the plunger, a spring-actuated cross-piece to which the upper end of the valve-stem is attached, a cam for actuating the cross-piece and valve-stem against the power of the spring and a cam for actuating the plunger against the power of the coil-spring air-throttle.

5. In a carbureter the combination with a body having an air-inlet and a central spraying-nozzle and a coil-spring air-throttle through which air passes, of a plunger resting upon the coil-spring air-throttle, a fuel-valve having a stem extending longitudinally through the plunger and simultaneously-moving cams for actuating said plunger and valve-stem, the periphery of the plunger-cam being a true circle on one side and having a rapidly-increasing radius on the other side and the fuel-valve cam having its shortest radius at the central portion and portions having rapidly-increasing radii on opposite sides of said central portion so that when said cams are oscillated in one direction the fuel-valve will be moved toward the closed position without materially affecting the coil-spring air-throttle and when the cams are oscillated in the opposite direction the coil-spring air-throttle and fuel-valve will be moved toward the closed position simultaneously to shut off the fuel and air supply but without materially changing the relative proportions in the mixture.

6. In a carbureter the combination with a body having an air-inlet and a central fuel-spraying nozzle having grooves for the passage of air, of a cone-shaped coil-spring air-throttle whose smaller coils surround the spraying-nozzle, a plunger engaging the coil-spring air-throttle and a cam acting on the plunger to close the coils and cause air to pass through the grooves and to the spraying-nozzle in jets.

7. In a carbureter the combination with a body having an air-inlet and a central fuel-spraying nozzle, of a coil-spring air-throttle, a plunger resting thereon, a fuel-valve adapted to engage the spraying-nozzle and having a stem extending through the plunger and cams acting on said plunger and spraying-nozzle respectively, substantially as described, for the purpose specified.

8. In a carbureter the combination with a spraying-nozzle and a spring-opened valve therefor, of a cam for actuating the valve, said cam having its shortest radius at the center so that when oscillated in either direction it will move the valve toward the closed position.

9. In a carbureter the combination with a spraying-nozzle and a spring-opened valve therefor, of a cam for actuating the valve, and means for adjusting said cam, substantially as described for the purpose specified.

10. In a carbureter the combination with a body having an air-inlet and a spraying-nozzle, of a coil-spring air-throttle, a plunger resting thereon, a fuel-valve having a stem passing through the plunger, cams acting on the plunger and the valve-stem respectively and means for adjusting the fuel-valve cam relative to the plunger-cam.

11. In a carbureter the combination with a body having an air-inlet and a top adjustable in the horizontal plane relative to the body, of a coil-spring air-throttle, a plunger resting thereon and a cam for actuating the plunger, which is pivoted on the top and is provided with an operating-lever, the vertical plane of oscillation of said lever being determined by the adjustment of the top relative to the body.

12. In a carbureter the combination with a body having an air-inlet and a spraying-nozzle, of a coil-spring air-throttle, a plunger resting thereon, a fuel-valve having a stem extending through the plunger, an adjustable top having standards, a cam for actuating the plunger lying between the standards and having a recess, a cam in said recess for actuating the valve-stem and a pivot-screw passing through the standards and cam whereby the valve-stem cam may be clamped in the recess and locked to the plunger-cam.

13. In a carbureter the combination with a spraying-nozzle and a coil-spring air-throttle, of a plunger resting on the air-throttle, a fuel-valve having a stem passing through the plunger and cams for actuating said plunger and valve-stem respectively, the plunger-cam being so shaped that when oscillated in one direction it will close the air-throttle and when oscillated in the opposite direction it will be inoperative, and the valve-stem cam having its shortest radius at the center so that when oscillated in either direction from a central position it will close the fuel-valve.

807,145. ELASTIC-FLUID TURBINE. GEORGE WESTINGHOUSE, Pittsburg, Pa. Filed Nov. 17, 1904. Serial No. 233,053.



Claim.—1. In an elastic-fluid turbine, in combination with its rotor, a nozzle or blade section mounted in the stator and movable radially outward from its normal position and means tending to yieldingly hold said section so that its axis coincides with the geometric axis of the rotor.

2. In an elastic-fluid turbine, in combination with the rotor thereof, a nozzle-ring mounted in the stator so as to be capable of radial movement in all directions and means tending to yieldingly hold the same concentric with its normal axis.

3. In an elastic-fluid turbine, a rotor, nozzle-sections located in and movable radially of the stator beyond the periphery of the rotor and means yieldingly holding said sections toward the rotor.

4. In an elastic-fluid turbine, a rotor, sections mounted in the stator portion peripherally of the rotor and provided with fluid-directing passages and means yieldingly forcing said sections toward the rotor.

5. In an elastic-fluid turbine, a rotor, loosely-mounted stator members having fluid-directing passages extending therethrough, means limiting the movement of said members toward the rotor and agents yieldingly forcing said members toward said means.

6. In an elastic-fluid turbine, nozzle-sections loosely mounted

in the casing thereof and yielding means tending to force said sections radially inward.

7. In combination with a rotatable shaft, a casing located peripherally thereof, a ring located in the casing and capable of movement radially of the shaft, means limiting the inward movement of said ring and means tending to yieldingly hold said ring toward the limit of its inward movement.

8. In an elastic-fluid turbine, a rotor, a stator, nozzle-sections carried by the turbine-stator radially movable and normally held in close proximity with the periphery of the rotor and means yieldingly holding said sections in normal position.

9. In an elastic-fluid turbine, a rotor, a channeled stator, members located within said channel and having nozzles formed therethrough and springs located in said channel for forcing said members toward said rotor.

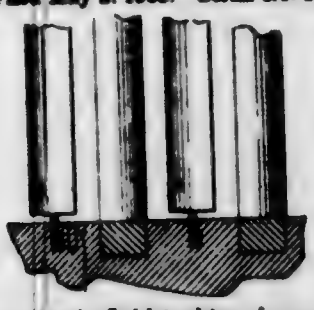
10. In an elastic-fluid turbine, agents loosely mounted in the turbine-stator whereby a portion of the thermal energy of the working fluid is converted into kinetic energy in the form of velocity, an annular row of impulse-blades carried by the turbine-rotor for absorbing the energy due to said velocity and means yieldingly forcing said agents toward the rotor.

11. In an elastic-fluid turbine, stator members containing passages whereby a portion of the thermal energy of the working fluid is converted into kinetic energy in the form of velocity, means carried by the rotor for absorbing the energy due to said velocity and agents yieldingly forcing said members toward the rotor.

12. In an elastic-fluid turbine, agents whereby a portion of the thermal energy of the working fluid is converted into kinetic energy in the form of velocity, instrumentalities carried by the rotor whereby the energy due to said velocity is abstracted and means tending to yieldingly force said agents radially of the rotor.

13. In an elastic-fluid turbine, radially-movable stator agents whereby a portion of the thermal energy of the working fluid is converted into kinetic energy in the form of velocity, rotor instrumentalities whereby the energy due to said velocity is abstracted and yielding means holding said agents in close proximity to said rotor.

807,146. **ELASTIC-FLUID TURBINE.** GEORGE WESTINGHOUSE, Pittsburg, Pa. Filed May 2, 1905. Serial No. 258,494.



Claim.—1. In an elastic-fluid turbine, in combination with the annular rows of rotor-blades, clearance-determining rings yieldingly mounted in the stator in line with said rows.

2. In an elastic-fluid turbine, in combination with the annular rows of rotor-blades, radial clearance-determining rings yieldingly mounted in the stator in line with said rows.

3. In an elastic-fluid turbine, in combination with the annular rows of rotor-blades, clearance-determining rings yieldingly mounted in the stator adjacent to the outer ends of the blades in said rows.

4. In an elastic-fluid turbine, in combination with the annular rows of rotor-blades, a stator, channels in said stator in line with said rows, segmental clearance-determining rings located in said channels and means tending to yieldingly hold said rings toward the blades of said rows.

5. In an elastic-fluid turbine, in combination with the annular rows of blades or vanes thereof, clearance-determining rings loosely mounted adjacent to the free ends of said blades or vanes, means limiting the movement of said rings toward said blades or vanes and resilient means tending to yieldingly hold said rings toward the limit of said movement.

6. In an elastic-fluid turbine, in combination with the annular rows of rotor-blades, clearance-determining rings yieldingly mounted in the stator in line with said blades and each of which is provided with a flange portion extending longitudinally of the turbine-axis and normally beyond the stator-surface.

7. In an elastic-fluid turbine, in combination with annular rows of shrouded rotor-blades, clearance-determining rings yieldingly mounted in the stator adjacent to the blade-shrouds.

8. In an elastic-fluid turbine, in combination with an annular row of rotor-blades, a shroud covering the outer ends of a plurality of said blades, a segmental clearance-determining ring loosely mounted in the stator adjacent to said shroud, and a spring tending to yieldingly force said ring toward said shroud.

807,147. **GRATE.** JAMES WOOD, Norton, Conn. Filed Oct. 15, 1904. Serial No. 228,560.



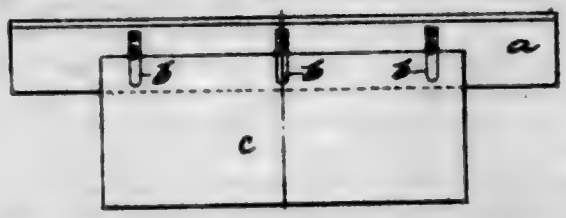
Claim.—1. The combination of a base or support having a stop-lug therein at its upper portion, the stop-lug having a notch in its lower edge, a gear mounted to turn on the base on a horizontal axis at a point opposite the stop-lug, said gear having a socket therein coincident to its axis, a horizontal rocker-bar having one end mounted to turn in the socket of the gear, and the other end mounted to turn and to slide in the base in a position under and adjacent to the stop-lug, said rocker-bar having near its second-named end an arc-shaped flange and a finger projecting from one end of the flange, the arc-shaped flange of the rocker-bar being adapted to move through the notch in the stop-lug and the finger being adapted to engage the stop-lug to limit the rocking movement of the bar, and a horizontally-disposed grate mounted to turn on the rocker-bar on a vertical axis, the grate having peripheral teeth in mesh with the teeth of the first-named gear.

2. The combination with a base or support, of a rocker-bar having one end portion mounted to turn and to slide in the base, a grate carried by the bar, and means mounted on the base for sustaining the second end of the rocker-bar, said means having a socket receiving the second-named end of the bar, the base having an interior stop-lug with a notch in its lower edge, the stop-lug lying over the first-named end portion of the rocker-bar, and the rocker-bar having an arc-shaped flange adapted to move through the notch in the stop-lug, and a finger projecting from one end of the flange and adapted to engage the stop-lug to limit the rocking movement of the bar.

3. The combination of a base or support, a rocker-bar mounted thereon, a grate carried by the rocker-bar, means for limiting the rocker movement of the bar in one direction, an arm attached to the rocker-bar, said arm having a shoulder thereon, a swinging dog mounted on the base and having a shoulder adapted to engage the shoulder on the arm, the dog also having a beveled end outward of the shoulder adapted to be engaged by the handle for operating the arm, whereby to release the dog from the arm.

4. The combination of a base or support, a rocker-bar mounted thereon, a grate held by the rocker-bar, means for limiting the rocking movement of the bar in one direction, an arm attached to the rocker-bar outside of the base and adapted to be engaged by a handle to operate the rocker-bar, and a swinging dog mounted alongside of the said arm, the dog normally engaging the arm to prevent movement thereof, and the dog having a portion adapted to be engaged by said handle for operating the arm whereby to disengage the dog from the arm.

807,148. **RULER.** ROBERT BACHIA, New York, N. Y. Filed Sept. 7, 1905. Serial No. 277,346.



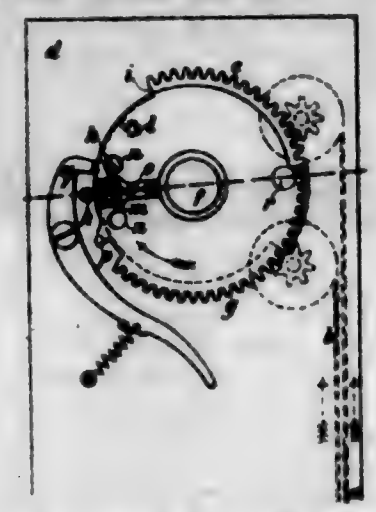
Claim.—1. A ruler, the back of which is provided with a plurality of transversely-arranged spring-tongues connected therewith adjacent to the back edge of the ruler and the free ends of which project in the direction of the front edge of the ruler, substantially as shown and described.

2. A ruler having parallel front and back sides, and spring-tongues connected with the back side thereof adjacent to the back edge thereof and having free ends which project transversely of the back side thereof and in the direction of the front edge thereof, substantially as shown and described.

3. A ruler provided with a handle which is secured to the top

thereof adjacent to one end thereof, the back of the ruler being also provided with a plurality of spring-tongues which project toward the front edge of the ruler, substantially as shown and described.

807,149. PHOTOGRAPHIC SHUTTER. MAX BERGER, Jena, Germany, assignor to The Firm of Carl Zeiss, Jena, Saxe-Weimar, Germany. Filed Apr. 26, 1904. Serial No. 205,681.



Claim.—1. In a double roller-blind safety-shutter the two blinds of which are independent of each other and confine the exposure-slit, the combination, with two toothed wheels arranged coaxially and controlling one the upper and the other the lower blind, of a set of stops on these wheels adapted to engage each other so as to limit the rotation of the wheels relatively to each other, one of the stops being adjustable for adjusting the height of slit, a winding-head on the wheel controlling the lower blind, means releasably checking the shutter after it has been wound, and a handle on the wheel controlling the upper blind, essentially as and for the purpose set forth.

2. In a double roller-blind safety-shutter the two blinds of which are independent of each other and confine the exposure-slit, the combination, with two toothed wheels arranged coaxially and controlling one the upper and the other the lower blind, of a set of stops on these wheels adapted to engage each other so as to limit the rotation of the wheels relatively to each other, one of the stops being adjustable for adjusting the height of slit, a winding-head on the wheel controlling the lower blind, means releasably checking the shutter after it has been wound, a handle on the wheel controlling the upper blind, and means for disengaging the stops, essentially as and for the purpose set forth.

3. In a double roller-blind safety-shutter the two blinds of which are independent of each other and confine the exposure-slit, the combination, with two toothed wheels arranged coaxially and controlling one the upper and the other the lower blind, of a set of stops on these wheels adapted to engage each other so as to limit the rotation of the wheels relatively to each other, one of the stops being adjustable for adjusting the height of slit, a winding-head on the wheel controlling the lower blind, means for releasably checking the shutter after it has been wound, a handle on the wheel controlling the upper blind, means for extending the axial distance between the two wheels, and a spring counteracting such extension, essentially as and for the purpose set forth.

4. In a double roller-blind safety-shutter the two blinds of which are independent of each other and confine the exposure-slit, the combination, with two toothed wheels arranged coaxially and controlling one the upper and the other the lower blind, of a set of stops on these wheels consisting of one stop on the wheel of the upper blind and two stops on the wheel of the lower blind, one of the latter two stops being adjustable for adjusting the height of slit, a winding-head on the wheel of the lower blind, means for checking both wheels after the shutter has been wound by means of the said winding-head, means for releasing the wheel of the lower blind, a projection on the adjustable stop adapted to release the wheel of the upper blind, and a handle on the wheel of the upper blind, essentially as and for the purpose set forth.

807,150. ATTACHMENT FOR FOOTWEAR. HENRY C. BOICE, Hanford, Cal. Filed July 14, 1905. Serial No. 269,612.

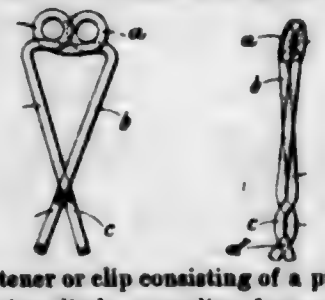
Claim.—1. A device for footwear, of the character specified, comprising an elastic free-ended loop for application to the article across the opening therein, at or near the bend in the article corresponding to the ankle bend of the wearer of the article, said loop being provided in the bights thereof with means for permanently attaching the same to the hook on one side of the opening, and for releasable attachment thereof to the hook on the opposite side of the opening, and further provided with a plate having triplicate slots therein separated by ribs, with the ends of the loop extending through the central slot reversely and over the ribs, thence beneath the adjacent edge portions of the plate.



2. A device for footwear, of the character specified, comprising an elastic free-ended loop for application to the article across the opening therein at or near the bend in the article corresponding to the ankle bend of the wearer of the article, and means supported in bights of the loop for attaching the same to hooks on opposite sides of said opening, said loop being provided with a plate having triplicate slots therein separated by ribs, with the ends of the loop extending through the central slot reversely and over the ribs and through the outer slots, thence beneath the adjacent edge portions of the plate.

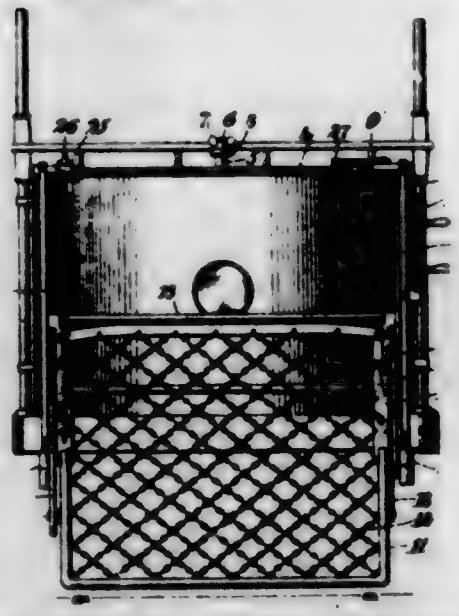
3. A device for footwear, of the character specified, comprising an elastic member for application to the article across the opening therein at or near the bend in the article corresponding to the ankle bend of the wearer of the article, said member being provided at one end with means for permanently attaching the same to a hook on one side of the opening and at the other end with means for releasable attachment thereof to a hook on the opposite side of said opening, said second-named means embodying a plate provided with a finger-grip and having a slot through which a portion of the loop extends, and also an open-ended slot for receiving the shank of the hook.

807,151. CLIP. COLIN C. CALDER and ROBERT G. EUSTACE, London, England. Filed June 21, 1905. Serial No. 266,200.



Claim.—A fastener or clip consisting of a piece of wire bent to form a looped portion, limbs extending from said looped portion, crossing each other, and lying in substantially the same plane as the looped portion, the portions of said limbs beyond the crossing relatively to the looped portion lying in a plane substantially at right angles to said first-named plane and being also crossed, substantially as described.

807,152. CAR-FENDER. ELI CAMPANARI, New York, N. Y. Filed Aug. 11, 1905. Serial No. 273,702.



Claim.—1. A car-fender comprising a main frame, a fender-frame consisting of two hinged sections having swinging connection with the main frame, an arm mounted to swing on the main frame, toggle-link connections between said arm and the lower members of the fender-frame, a segment-plate having pivotal connection with said arm, and a guide on the main frame through which said segment-plate may move.

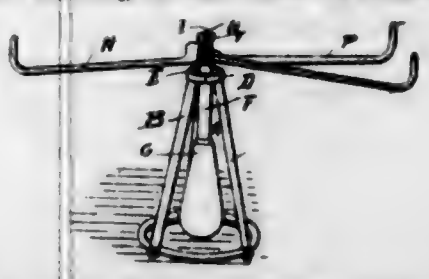
3. In a car-fender, a main frame, hangers on the car in which the lower ends of the side rails of the main frame removably engage, a hook on the dashboard of the car, a threaded extension on the top rail of the main frame with which said hook is designed to engage, a clamping-nut on said extension, and a fender attached to the main frame.

3. A car-fender comprising a main frame, a fender-frame consisting of upper and lower pivotally-connected sections, the upper member being pivotally connected to the side bars of the main frame, a slotted guide-arm pivoted to one of said side bars of the main frame, a pin extended from the lower section of the fender-frame into the slot of said arm, an arm mounted to swing on the main frame, a toggle-link connection between said arm and the lower member of the fender-frame, a segment-plate pivoted to said arm, and a guide on the main frame in which said segment-plate may slide.

4. In a car-fender, a main frame, hangers secured to a car-sill and each having socket members arranged at different vertical planes for receiving the lower ends of the main frame, means for detachably connecting the upper portion of the main frame with the rail of the car-dashboard, and a fender mounted on the main frame.

5. A car-fender comprising a main frame, a foldable fender mounted on the main frame, an arm having swinging connection with the main frame, a toggle-link connection between said arm and the fender-frame, a lug on the upper member of said toggle-link, and a hook on the main frame for engaging with said lug.

807,158. **POSITION-FINDER.** HUGH S. CLARK, Onehunga, New Zealand, assignor of one-half to Robert Logan, the younger, Devonport, New Zealand. Filed Aug. 19, 1904. Serial No. 221,388.



Claim.—1. A position-finder, comprising a standard, a sight-spindle extended upward from the standard, a hub removably engaging the said spindle, means for preventing rotary movement of the hub, three outwardly-extended arms having ring formations around said hub and having upward projections, sight-points on said upward projections, washers for keeping said ring formation in position, and means for securing the removable arms as adjusted, as specified.

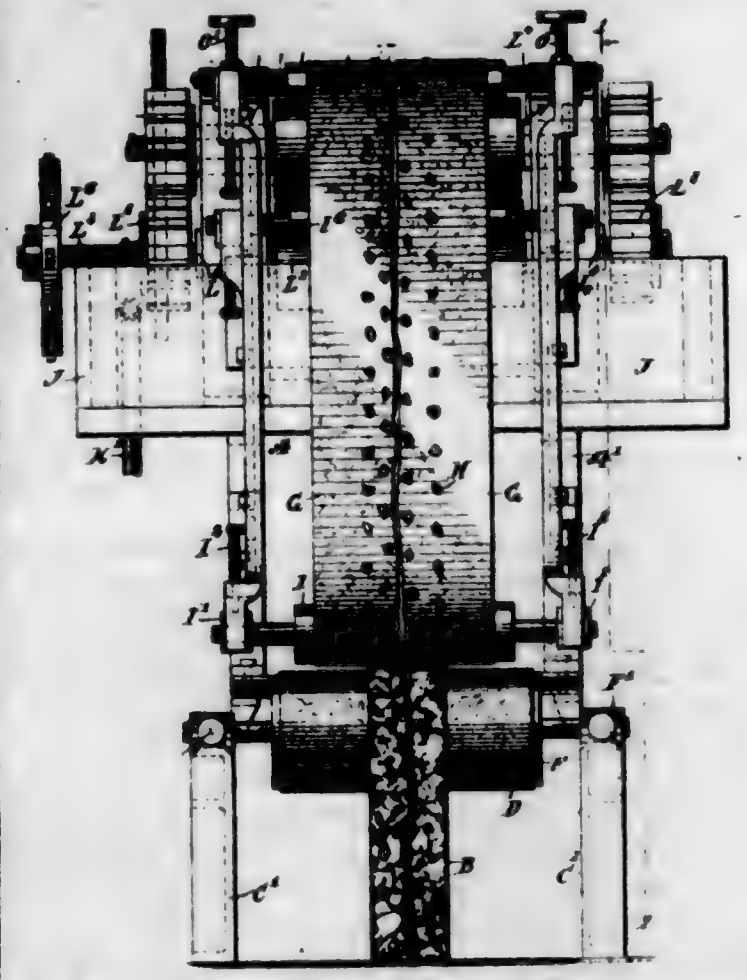
2. A position-finder, comprising a standard, a spindle extended upward from the standard and pointed at its end, a hub removably mounted on the spindle, means for preventing rotary movement of the hub on said spindle, the upper end of said hub having an outwardly-threaded portion, three arms extended outwardly from the hub, having ring formations around said hub, said three arms having upward extensions provided with sights brought into same plane or line of sight with pointed upper end of said spindle, washers for keeping said ring formation in position, and thumb-screw for engaging with said thread of hub for securing said rotary arms as adjusted, as specified.

3. A position-finder, comprising the upper part of the spindle from and including the shoulder as described extended upward from and fixed to the outside center of and at right angles to the glass covering a ship's compass, upper end of said spindle, a hub removably mounted on said spindle, means for preventing rotary movement of the hub on said spindle, the upper end of said hub having an outwardly-threaded portion, three arms extended outwardly from the hub, having ring formations around said hub, said three arms having upward extensions provided with sights brought into same plane or line of sight with pointed upper end of said spindle, washers for keeping said ring formation in position, and thumb-screw for engaging with said thread of hub for securing said rotary arms, as adjusted as specified.

4. A position-finder comprising a center or base sight and outer sights mounted to swing relatively to the said center sight, a pendulum binnacle-support for the center sight, and a tubular hub for the outer sights, from which the outer sights radially extend and upon which the outer sights have independent movement, the said hub being removably fitted on the said pendulum-support below yet adjacent to the center sight.

5. The combination with a spindle having a base-sight at its upper end and a weight at its lower end, and a binnacle-support for the spindle, of a cylinder or hub removably mounted on the spindle below the base-sight, a lock for the cylinder or hub, arms radially extending from the hub, having independent rotary movement thereon, terminating at their free ends in upturned outer sides in the same horizontal plane with the base-sight, and tension devices for the said arms.

807,154. **MACHINE FOR PRODUCING PLUSH EFFECTS ON WALL-COVERINGS.** TIMOTHY CLEARY, Schuylerville, N. Y., assignor to Standard Wall Paper Company, Sandyhill, N. Y. Original application filed Dec. 5, 1904, Serial No. 235,513. Divided and this application filed Feb. 20, 1905. Serial No. 246,497.



Claim.—1. A machine for producing plush effects on wall-coverings, provided with spaced wipers for taking up portions of the wet coating on the fabric body of the covering, the wipers each having an irregular surface for taking up more or less of the coating.

2. A machine for producing plush effects on wall-coverings, provided with an endless traveling apron, and wipers on the said apron, formed of a fabric material and having an irregular surface, the said wipers being adapted to engage the wet coating of the fabric body of the covering and take up portions of the coating at the points of contact.

3. A machine for producing plush effects on wall-coverings, provided with an endless traveling apron, and wipers on the said apron, adapted to engage the wet coating of the fabric body of the covering, the said wipers being spaced and formed of a bunched fabric material, the wipers moving in contact with the coating so as to take up corresponding portions thereof.

4. A machine for producing plush effects on wall-coverings, provided with a wiper for engaging the wet coating on the fabric body of the covering, the said wiper being formed of a soft fabric material gathered into a bunch and having an irregular surface adapted to take up more or less of the coating.

5. A machine for producing plush effects on wall-coverings, comprising an endless traveling apron, wipers on the said apron, a washing-tank through which passes the apron and its wipers, and a wringing device for the passage of the apron and its wipers after leaving the washing-tank.

6. The combination with a coating-machine for coating the surface of a fabric body with a ground color, of a wiping-machine coacting with the said coating-machine, the said wiping-machine being provided with spaced wipers, each having an irregular surface and arranged to take up corresponding portions of the ground color, for producing plush effects on the said coated surface.

7. The combination with a coating-machine for coating the surface of a traveling fabric body with a ground color, of a wiping-machine having an endless traveling apron provided with spaced wipers

formed of a soft bunched fabric material, the said apron traveling in unison with the said fabric body and the wipers coming in contact with the said coated surface.

8. The combination with a coating-machine for coating the surface of a traveling fabric body with a ground color, of a wiping-machine having an endless traveling apron provided with spaced wipers formed of a soft bunched fabric material, the said apron traveling in unison with the said fabric body and the wipers coming in contact with the said coated surface, and means for adjusting the apron and its wipers at the point of contact with the coated surface.

9. The combination with a coating-machine for coating the surface of a traveling fabric body with a ground color, of a wiping-machine having an endless traveling apron provided with spaced wipers formed of a soft bunched fabric material, the said apron traveling in unison with the said fabric body and the wipers coming in contact with the said coated surface, a washing-tank for the passage of the said apron and its wipers, and a wringing device for wringing the apron and its wipers after leaving the said washing-tank and previous to the wipers coming in contact with the said coated surface.

10. The combination with a support over which passes a traveling fabric body provided with a ground color, of a wiping-machine provided with spaced wipers of a soft bunched fabric material arranged to come in contact with the coating while the fabric is passing over the support, the wipers at the time of contact traveling in the same direction as the traveling fabric.

11. The combination with a roller over which passes a traveling fabric body provided with a wet ground color, of a wiper having an irregular surface and adapted to be brought into contact with the wet coating at a point opposite the roller to take up more or less of the ground color.

12. The combination with an endless traveling apron carrying a coated fabric, and a roller around which said apron passes, of a second roller arranged above the first roller and adjustable toward and from the latter, the coated fabric passing beneath the said second roller, and an endless traveling apron passing around the second roller and provided with wipers adapted to contact with the coated surface of the fabric at a point opposite the first roller.

807,155. **WALL-COVERING.** TIMOTHY CLEARY, Schuylerville, N. Y., assignor to Standard Wall Paper Company, Sandyhill, N. Y. Original application filed Dec. 5, 1904, Serial No. 235,512. Divided and this application filed Feb. 20, 1905. Serial No. 246,496.



Claim.—1. As a new article of manufacture, a wall-covering consisting of a fabric body, and a color coating thereon having spaced portions irregular in shape, the color on the irregularly-shaped spaced portions being in varying shades and contrasting with the general surface of the color coating, producing a plush effect.

2. As a new article of manufacture, a wall-covering consisting of a fabric body, and a ground-color coating thereon having spaced portions irregularly separated from each other by the general surface of the color coating, the coating at each of said spaced portions having irregular gradations of shade, thereby producing a plush effect.

3. As a new article of manufacture, a wall-covering consisting of a fabric body, and a color coating thereon having irregularly-wiped portions, spaced from each other by the general surface of the color coating, the color coating at the wiped portions being more or less removed, producing irregular gradations of shade.

807,156. **STEERING MECHANISM.** WILLIAM K. CLEVELAND, St. Petersburg, Fla. Filed May 12, 1905. Serial No. 260,183.



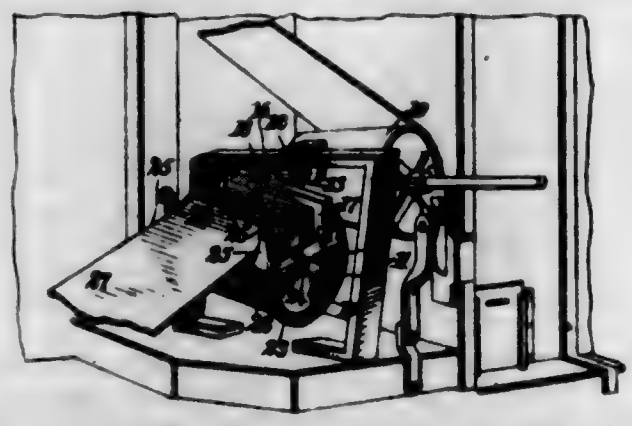
Claim.—1. In an apparatus of the class described, means for supporting and moving a vehicle-body comprising a bracket provided with a casing, a drive-shaft journaled in the casing and composed of a central section and two end sections, the end section comprising a cylindrical inner portion and a squared outer portion, trunnions on the ends of the central section, trunnions on the inner ends of the end sections and arranged at right angles to the trunnions on the central section, split rings encircling the junctions of the sections and provided with radial openings to form bearings for the trunnions, hollow spindles mounted on the cylindrical portions of the end sections and having cup-shaped inner ends to receive the split rings, ball-races on the outer surfaces of the hollow spindles, trunnions on the inner ends of the hollow spindles and in line with the axes of the drive-shaft-section couplings, yokes journaled on the drive-shafts and provided with bearings to receive the trunnions on the hollow spindles, braces connecting the yokes with the body-supporting bracket, hubs journaled on the hollow spindles and provided on their interior surfaces with ball-races for coacting with the races on the hollow spindles, balls in the races, diaphragms on the hubs and provided with squared openings to receive the square portions of the end drive-shaft sections, and crank-arms on the hollow spindles for turning them on their trunnions.

2. In an apparatus of the class described, vehicle-driving means comprising a drive-shaft consisting of a central and two end sections, trunnions on the ends of the central sections, trunnions on the inner ends of the end sections and at right angles to the trunnions of the central sections, a split ring encircling the junction of the sections and provided with grooves on its coacting faces to form bearings for the trunnions, a hollow spindle journaled in the end drive-shaft section and having a chamber to receive the split ring, trunnions on the inner end of the hollow spindle and in line with the split ring, a yoke journaled on the central section of the drive-shaft and provided with bearings for the spindle-trunnions, a crank-arm rigid with the hollow spindle for swinging it upon its trunnions, a hub journaled on the hollow spindle and provided with means for engaging the end section of the drive-shaft and means for securing the hub on the spindle.

3. In an apparatus of the character described, vehicle-driving means comprising a drive-shaft having central and end sections, trunnions on the adjacent ends of the sections, a split ring encircling the junctions of the sections and engaging the trunnions, a hollow spindle journaled on the end section of the drive-shaft, and adapted to receive the split ring, trunnions on the hollow spindle and in line with the axis of the drive-shaft trunnions, a yoke journaled on the drive-shaft, bearings on the yoke to receive the hollow spindle-trunnions, a hub journaled on the hollow spindle, means for securing the hub to the spindle, means in the hub for engaging the drive-shaft, and means for swinging the hollow spindle upon its trunnions.

4. In an apparatus of the character described, vehicle-driving means comprising a drive-shaft having central and end sections, trunnions on the adjacent ends of the sections, a split ring encircling the junctions of the sections and having bearings for the trunnions, a hollow spindle journaled on the end sections and partially encircling the split ring, trunnions on the hollow spindle and in line with the axis of the drive-shaft trunnions, a yoke journaled on the drive-shaft and having bearings for the hollow spindle-trunnions, a hub journaled on the hollow spindle, means in the hub for engaging the drive-shaft, means for preventing longitudinal movement of the hub upon the hollow spindle, and means for swinging the hollow spindle on its trunnions.

807,157. **BELT-GUIDE.** MORRIS E. DE GREE and DONALD C. MCALISTER, Fenton, N. D. Filed Jan. 4, 1905. Serial No. 239,502.



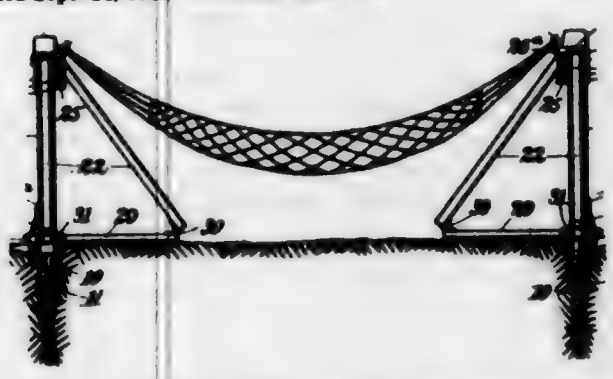
Claim.—1. The combination of a pulley mounted on a horizontal axis, with a stationary frame mounted in front of said pulley, a bracket upon said frame provided with a pair of projections having perforations, a stud rotatably mounted in said perforations and provided with a head, a frame pivotally mounted in said head, a guide-pulley having flanges rotatably mounted on said last-mentioned frame, and a pair of arms on opposite sides of said last-mentioned

frame, each being provided with an upwardly-projecting extension having a rotatable roller thereon; said rollers being located on opposite sides of the guide-pulley and at the front thereof.

2. The combination of a pulley mounted on a horizontal axis, with a stationary frame mounted in front of the pulley, a bracket upon said frame provided with projections having perforations, a stud rotatably mounted in said perforations and provided with a head, a frame pivotally mounted in said head, and a guide-pulley rotatably mounted on said last-mentioned frame.

3. The combination of a pulley mounted to rotate on an axis, with a stationary frame adjacent to the pulley, a stud mounted on said frame, a second frame pivotally mounted with respect to said stud on the side of the stationary frame opposite said pulley, and a guide-pulley rotatably mounted upon said second frame.

807,158. SUPPORT. MILAN A. DICKINSON, West Swanzey, N. H. Filed Sept. 24, 1904. Serial No. 225,777.



Claim.—1. A support, comprising an upright having a portion for extending into the ground and provided with spaced and slotted lugs at its upper end, a retaining member pivotally connected with the lower end of the upright and adapted to lie on the ground, a strut hinged to the retaining member and having at its upper end pins projecting into the slots of the lugs, and means for clamping the pin in said slots.

2. A support, comprising an upright, a cap provided with a socket to receive the upper end of the upright and with spaced and slotted lugs, a retaining member pivotally connected with the upright and adapted to lie on the ground, and a strut hinged to the retaining member and provided with pins projecting into the slots of the lugs, the pins being threaded and provided with nuts.

3. A support, comprising an upright, a plurality of retaining members independently pivoted to the lower end of the upright and adapted to lie on the ground, a plurality of struts each having an adjustable pivotal connection with the upright, the lower end of the struts being hinged to the retaining members, and a supporting device on the upper end of the upright.

4. A support comprising a hollow socket provided with lateral openings, a threaded spindle rotatable within the socket, a yoke operating upon the spindle, arms pivoted upon the yoke and extending through the openings, and a post coacting with the socket.

5. A support comprising a socket, a coacting post, a latch mounted upon one of these members and movable into engagement with the other, a retaining member extending from the upright adjacent to the latch, and a strut coacting with the upright and retaining member.

6. The combination with a post, of a pair of lugs projecting from said post and having opposite longitudinal slots, and a strut provided with projections movable in the slots and extending downwardly therefrom

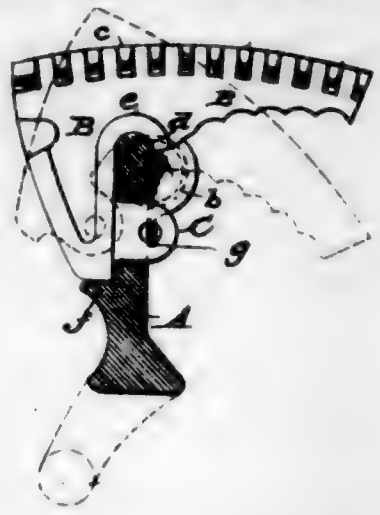
7. The combination with a post, of a pair of lugs projecting from said post and having opposite longitudinal slots, a strut provided with projections movable in the slots, and nuts threaded upon the strut projections.

8. A support, comprising a socket adapted to be secured into the ground, an upright detachably secured in the socket, a plurality of retaining members pivotally connected with the upright, and a strut hinged to each retaining member and having its upper end pivotally and slidably connected with the upright, and a supporting device on the upper end of the upright.

9. In a support, the combination with an upright, of a sleeve fitting upon the upper end of the upright and provided with pairs of spaced and slotted lugs, retaining members connected with the lower end of the upright, and struts hinged to the retaining members and each having its upper end projecting between a pair of lugs of the sleeve, and bolts passing through the struts and the slots of the lugs of said sleeve.

10. In a support, the combination with an upright, of a sleeve on each end of the upright and provided with pairs of spaced lugs, the lugs of the sleeve on the upper end of the upright being longitudinally slotted, retaining members pivoted between the lugs of the sleeve on the lower end of the upright, and struts hinged to the retaining members and having their upper end pivoted upon bolts passing through the slots of the lugs of the sleeve on the upper end of the upright.

807,159. FURNACE-GRATE. GEORGE A. ELLIS, Mount Vernon, N. Y. Filed Feb. 27, 1905. Serial No. 247,434.



Claim.—1. In a grate, the combination with the supporting-bar having the perforations through it and a top extended on one side beyond the face of the bar, of the separate sections adapted to fit and be turned upon the extended top and provided with tongues arranged to pass through the perforations in the supporting-bar, and means for locking the tongues within said perforations.

2. In a grate, the herein-described grate-bar composed of the supporting-bar having the rounded top extended on one side thereof and the perforations below said top, the separate sections having tongues for entering the perforations, and means for locking the tongues in place, the sections being adapted to fit and be turned on the bar, substantially as and for the purposes set forth.

3. In a grate, the combination of the separate sections and the supporting-bar, the sections being fitted to turn upon the top of the bar and being provided with tongues, and the supporting-bar having a rounded top extended on one side thereof and being perforated and supplied with a ledge against which the separate sections abut, the tongues passing through the perforations, the parts being constructed and arranged substantially as and for the purposes set forth.

807,160. SURGICAL APPLIANCE. HUBERT T. FOOTE, New Rochelle, N. Y. Filed Oct. 27, 1904. Serial No. 230,238.



Claim.—1. The herein-described article of manufacture, comprising a ring made in parts hinged together at one end and adapted to be adjustably connected with each other at the free end, points on the inner face of the ring, and supporting spring-arms attached at one end to the ring parts and movable therewith to vary the size of the opening between the spring-arms.

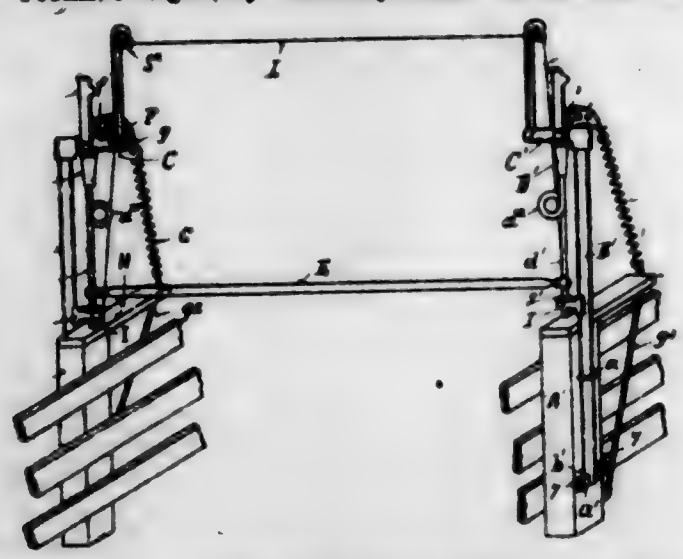
2. The herein-described article of manufacture, comprising a ring made in parts hinged together at one end, means for adjustably connecting the free ends of the said parts, points on the inside of the ring parts, and yielding spring-arms secured to the ring parts at the inside thereof and divided longitudinally to form spaces therebetween located before the said points, the said spring-arms being movable bodily with said ring parts, for the purpose set forth.

3. The herein-described article of manufacture, comprising a ring made in parts hinged together at one end, one of said parts having a stud means for adjustably connecting the free ends of the said parts, having apertures to receive the stud, points on the inside of the ring parts, and yielding segmental spring-arms secured to the ring parts, at the inside thereof adjacent to the hinged ends of the ring parts, the said spring-arms extending approximately concentric with the ring parts, and having members spaced apart for their full length for the passage of the said points, the said spring-arms protecting

the points and preventing accidental irritation of the wearer, and the arms being adjustable with the said ring parts to vary the size of the opening formed by said arms, the attaching ends of said arms being angular and spaced apart to prevent pressure upon the urethra.

4. The herein-described article of manufacture, comprising a ring made in movably-connected parts, one part having thereon a stud, a spring member permanently joined to one part, and having apertures therein to receive said stud, said ring being provided with points on its inner surface, and yieldable arms supported by the ring parts, at the inner sides thereof, said arms being separated longitudinally by spaces located before said points, and one of the said ring parts having lugs thereon preventing lateral displacement of said spring member.

807,161. STARTING-GATE FOR RACE-TRACKS. CHARLES B. FOULKS, Covington, Ky. Filed July 3, 1905. Serial No. 268,181.



Claim.—1. In a starter, the detachable supporting-frames carrying latch and trigger mechanism and horizontal studs, hubs journaled on said studs and provided with spring tape-carrying arms at one side to strain the tape and eccentrically-curved arms at the opposite side, and tension-cords engaging said curved arms to rotate the hubs and lift the tape when the latches are released.

2. In a starter, supporting-frames at opposite sides of the track provided with latch mechanism and horizontal studs, tape-carrying arms journaled at an intermediate point on said arms to said studs, the ends of the arms at the opposite side of the journals from the tape being curved and recessed to retain the tension-cords, and tension-cords resting on said curved ends of the arms to rotate the arms and lift the tape when the latch is released.

3. In a starter, supporting-frames at opposite sides of the track provided with latch mechanism and horizontal studs, arms journaled on said studs with tape-carrying shanks adapted to engage the latch mechanism, means for turning said arms on their journals to raise the tape when the latch is released, faces adapted to frictionally engage each other to bring the arms to rest, and cam-faces adapted to force said faces into contact when it is desired to bring the arms to rest.

4. In a starter, supporting-frames at opposite sides of the track carrying latch mechanism and studs to receive the tape-carrying arms, arms journaled on said studs carrying a tape and adapted to be engaged by the latch mechanism a cord passing across the track from one latch mechanism to the other, one end of said cord being released by the withdrawal of a pin by the latch mechanism at one side of the track from an eye in the cord, and the opposite latch mechanism being released by the endwise movement of the cord.

5. In a starter in combination with supporting-frames and tape-carrying arms movable relative thereto, latch mechanisms to lock said arms in the lower position consisting of the recessed frame-pieces, beveled latch-bars adapted to automatically permit the passage of the arms in either direction over said latch-bars, and triggers to engage and lock the latch-bars in position to hold the arms, and to be tripped to release the latch-bars when it is desired to operate the starter.

6. In a starter, a latch mechanism to release the distant tape-arm consisting of a latch-bar, a trigger to lock the latch-bar in position to hold the arm, a spring-actuated lever having a slot, and a pin projecting from the trigger through said slot.

7. In a starter, supporting-frames at opposite sides of the track having latch mechanism and horizontal studs, tape-carrying arms journaled on said studs and adapted to turn through an arc of substantially ninety degrees, said arms having their ends opposite to the tape eccentrically curved and channeled to retain the tension-cords, and tension-cords resting on said curved ends and adapted to rotate said arms when released by the latch.

8. In a starter, detachable supporting-frames located at opposite sides of the track and provided with tape-carrying arms, and latch mechanism, said frames being secured to permanent posts by straps, and prevented from turning by slots in the frames engaging bars attached to the posts.

9. In a starter, supporting-frames at opposite sides of the track provided with latch mechanism and horizontal studs, arms journaled on said studs with tape-carrying shanks at one end adapted to engage the latch mechanism and with curved projections at the opposite ends, tension-cords resting on said curved projections to rotate the arms and lift the tape when the latch is released, and stop-arms adapted to strike and rest on said tension-cords to limit the motion of said arms.

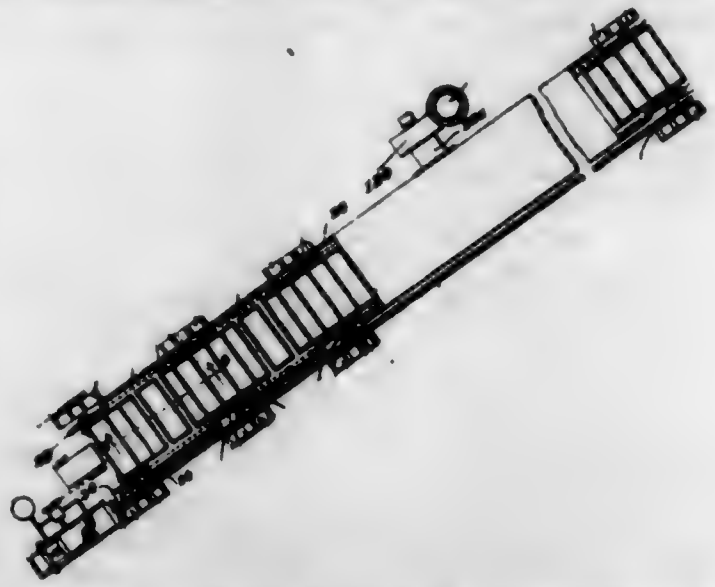
10. In a starter, detachable supporting-frames located at opposite sides of the track and provided with tape-carrying arms and latch mechanism, permanent posts to which said frames are detachably secured, and means for rotatively adjusting said frames relative to the posts to bring the arms into alinement.

11. In a starter, supporting-frames carrying latch and trigger mechanism and horizontal studs, arms journaled on said studs having tape-carrying shanks and means for turning said arms on their journals to raise the tape when the latches are released, a cord leading from one trigger mechanism to the other, and terminating at one end in a ring, a pin to engage the ring when the arm is latched in position, and mechanism to release the ring when the arm is unlatched.

12. In a starter, a near tape-arm to be directly released by the operator, a distant tape-arm to be released simultaneously with the near tape-arm, a latch-bar to engage the distant tape-arm, a trigger to lock said latch-bar in position to hold said distant arm, a spring-actuated lever to release said trigger, a cord passing across the track and adapted to hold said spring-actuated lever out of contact with the trigger until the near tape-arm is released, and means for releasing said cord simultaneously with the release of said near tape-arm.

13. In a starter, permanent posts located at opposite sides of the track and provided with members to engage and prevent the rotation of the detachable supporting-frames, and detachable supporting-frames provided with members adapted to engage and interlock with the members on the permanent posts, said supporting-frames being provided with pivoted tape-carrying arms and latch mechanism therefor.

807,162. APPARATUS FOR PROCESSING MEATS, &c. HORACE C. GARDNER, Chicago, Ill. Filed June 7, 1902. Serial No. 110,618.



Claim.—1. In a processing apparatus, the combination of a plurality of tanks, a series of baskets linked together in the form of an endless chain, said baskets being adapted to move through said tanks, and means for applying power to said chain of baskets at a plurality of points in the length thereof, for driving the same, substantially as described.

2. In a processing apparatus, the combination of a plurality of tanks, a series of baskets linked together in the form of an endless chain, said baskets being adapted to move through said tanks, a motor, and means for transmitting power from said motor to said chain of baskets at a plurality of points in the length thereof, for driving the same, substantially as described.

3. In a processing apparatus, the combination of a plurality of tanks, a series of baskets linked together in the form of an endless

chain, said baskets being adapted to move through said tanks, a motor, and ratchet mechanism for transmitting power from said motor to said chain of baskets at a plurality of points in the length thereof, for driving the same, substantially as described.

4. In a processing apparatus, the combination of a plurality of tanks, supporting devices between consecutive tanks, a series of baskets connected together in the form of an endless chain, and adapted to be supported by said supporting devices and to move through said tanks, and means for applying power to said chain of baskets at a plurality of points in the length thereof, for driving the same, substantially as described.

5. In a processing apparatus, the combination of a plurality of tanks, a plurality of supporting devices between consecutive tanks, a series of baskets connected together in the form of an endless chain, and adapted to be supported by said supporting devices and to move through said tanks, sprocket-wheels carried by said supporting devices, and means independent of the baskets for applying power to said sprocket-wheels, for driving the baskets, substantially as described.

6. The combination of a semicylindrical basket, means for supporting and conducting said basket, a semicylindrical hood adapted to coact with said basket to form a substantially cylindrical closed chamber, and means for moving said hood over said basket, substantially as described.

7. The combination of a semicylindrical basket, means for supporting and conducting said basket, a semicylindrical hood adapted to coact with said basket to form a substantially cylindrical closed chamber, and means operated by the progressive movement of the basket for moving said hood thereover, substantially as described.

8. The combination of a semicylindrical basket, means for supporting and conducting said basket, a semicylindrical hood adapted to coact with said basket to form a substantially cylindrical chamber, means for moving said hood over said basket, and means for rotating the hood and basket in unison, substantially as described.

9. In a processing apparatus, the combination of a series of baskets connected together in the form of an endless chain, means for driving said baskets, hoods for said baskets, means for moving said hoods over said baskets, and means for axially rotating said baskets, substantially as described.

10. In a processing apparatus, the combination of a series of semicylindrical baskets connected together in the form of an endless chain, means for driving said semicylindrical baskets, semicylindrical hoods for said semicylindrical baskets, means for moving said semicylindrical hoods over said semicylindrical baskets, and means for axially rotating said semicylindrical baskets, substantially as described.

11. The combination of a tank, a series of baskets movable through said tank, said baskets being connected together in the form of an endless chain, means for moving said baskets through said tank, hoods for said baskets, and means for rotating said baskets and hoods as they move through the tank, substantially as described.

12. The combination of a tank, a series of baskets movable through said tank, said baskets being connected together in the form of an endless chain, means for moving said baskets through said tank, hoods for said baskets, means for automatically moving said hoods over said baskets, and means for rotating said baskets as they move through the tank, substantially as described.

13. The combination of a tank, a series of baskets connected together in the form of an endless chain, means for moving said baskets through said tank, means for rotating said baskets as they move through the tank, and means for dumping said baskets, substantially as described.

14. The combination of a tank, a series of baskets connected together in the form of an endless chain, means for moving said baskets through said tank, hoods for said baskets, means for moving said hoods over said baskets, means for rotating said baskets and hoods as they move through the tank, and means for dumping said baskets, substantially as described.

15. The combination of a tank, a series of baskets connected together in the form of an endless chain, means for moving said baskets through said tank, hoods for said baskets, means for moving said hoods over said baskets, means for rotating said baskets and hoods as they move through the tank, and means for cooling said baskets as they move through the tank, substantially as described.

16. The combination of a tank, a series of baskets connected with one another in the form of an endless chain, said chain being movable through said tank, speed-indicating mechanism, and means operated by said chain of baskets for actuating said speed-indicating mechanism, substantially as described.

17. The combination of a tank, a series of baskets movable therethrough, said baskets being connected together in the form of an endless chain, means for driving said baskets, an indicator-chain connected with said chain of baskets, the speed of said indicator-chain being controlled by the speed of said chain of baskets, a looping chain, supporting devices therefor, independent means for driving said looping chain, and means carried by said indicator-chain for engaging said looping chain and forming loops therein, substantially as described.

18. The combination of a tank, an endless carrier movable therethrough, said carrier having baskets, a traveling indicator-chain, means for driving the same from said carrier, an independently-driven looping chain, and means carried by said indicator-chain adapted to form loops in said looping chain, substantially as described.

19. The combination of a tank, an endless carrier movable therethrough, said carrier having baskets, a traveling indicator-chain, a looping chain, independent means for driving one of said chains at a uniform speed, means for driving the other of said chains from said carrier, and means carried by said indicator-chain adapted to form loops in said looping chain, substantially as described.

20. In a processing apparatus, the combination of a tank, a series of baskets connected together in the form of an endless chain, said baskets being adapted to move through said tank, and means for applying power to said series of baskets at a plurality of points in the length thereof for driving the same, substantially as described.

21. The combination of a tank, a series of baskets connected together in the form of an endless chain, said baskets being adapted to move through said tank, and means for intermittently applying power to said baskets at a plurality of points in the length thereof for driving the same, substantially as described.

22. In a processing apparatus, the combination of a plurality of tanks, a series of baskets connected together in the form of an endless chain, said baskets being adapted to move through said tanks, and means between said tanks for applying power to said baskets at a plurality of points in the length thereof for driving the same, substantially as described.

23. The combination of a tank, a plurality of baskets connected with one another in the form of an endless chain, means for moving said chain of baskets through said tank, means for rotating said baskets with their contents while in said tank, means for automatically closing said baskets before they are rotated, and means for automatically opening said baskets after they have been rotated, substantially as described.

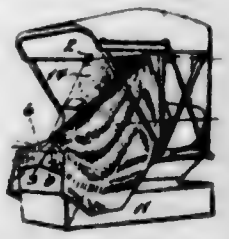
24. The combination of a tank, an open basket, means for pivotally supporting said basket and moving it through the tank, means for rotating said basket, and means for automatically closing said basket so as to retain its contents therein when it is rotated, substantially as described.

25. The combination of an open basket, traveling means pivotally supporting said basket, means for rotating said basket, and means for closing said basket to retain its contents therein when it is rotated, substantially as described.

26. The combination of a semicylindrical basket, means for supporting and conducting said basket, a semicylindrical hood adapted to coact with said basket to form a substantially closed chamber and arranged to swing under said basket when in inoperative position, and means for moving said hood over said basket, substantially as described.

27. The combination of a semicylindrical basket, means for supporting and conducting said basket, a semicylindrical hood adapted to coact with said basket to form a substantially closed chamber and arranged to swing under said basket when in inoperative position, means for moving said hood over said basket, and means for rotating said hood and basket, substantially as described.

807,163. **STORM-APRON.** JOHN P. GORDON, Columbus, Ohio. Filed June 23, 1905. Serial No. 266,612.



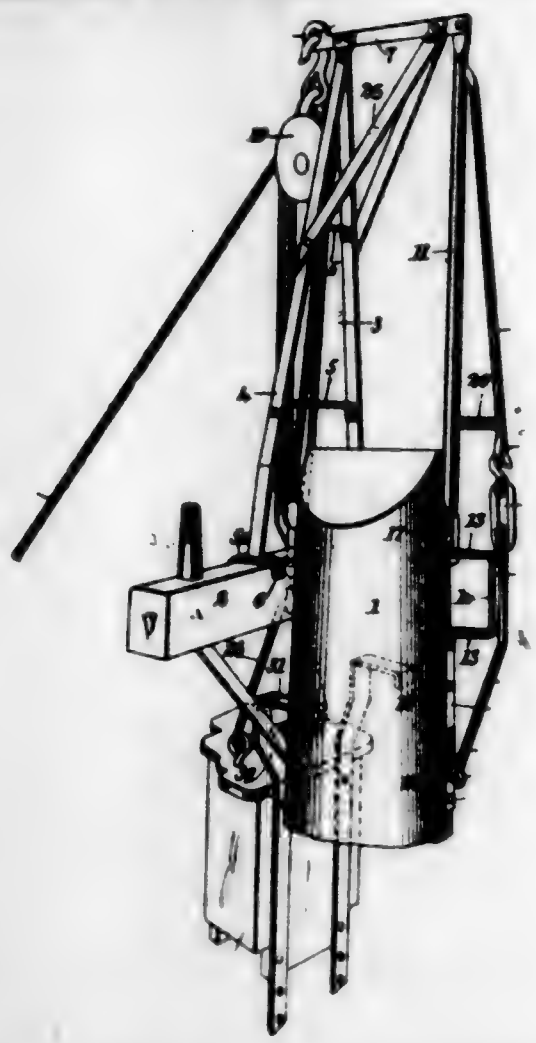
Claim.—1. A storm-apron comprising a body portion cut at its lower end and spread to form an opening, and an elongated gusset having contracted ends secured in the opening.

2. A storm-apron comprising a body portion cut at its lower

end and spread to form an opening, an elongated gusset having contracted ends secured in the opening, and means carried by the gusset for securing the apron to the dashboard of a vehicle.

3. A storm-apron comprising a body portion cut at its lower end to form an opening without removing any of the material of the body, and a gusset having an enlarged central portion secured to the body in the opening thereof.

807,164. HOISTING DEVICE. PERLEY A. GOULD and GEORGE R. WATSON, Saranac Lake, N. Y.; said Watson assignor to said Gould. Filed June 6, 1905. Serial No. 264,272.



Claim.—1. A hoisting device, comprising a frame presenting feet adapted to seat upon a horizontal arm, a beam attached to the upper extremity of said frame, a stanchion attached to the said beam and extending substantially vertically downwardly therefrom, means for supporting a weight from the forward extremity of said beam beyond said frame, and means for fixing the lower extremity of said stanchion.

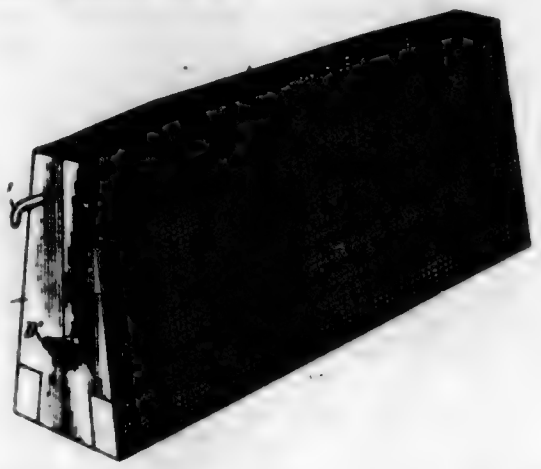
2. In a device of the class described, in combination, an A-frame presenting feet adapted to seat upon a horizontal arm, a beam to which the upper extremity of said frame attaches, a stanchion attached to the rear extremity of said beam and having a bracket formed at the lower extremity thereof adapted to be fixed to a support, a tie-bar on the side of said stanchion removed from said frame, and means for anchoring said tie-bar to said bracket.

3. In a device of the class described, in combination, an A-frame having feet formed at the lower extremity thereof adapted to seat upon a cross-arm, a beam attached to the upper extremity of said A-frame and projecting therebeyond to constitute a support for a block and tackle, a substantially vertically-disposed stanchion supporting the rear extremity of said beam and having a bracket formed at the lower extremity thereof adapted to be fixed to a support, a tie-bar attached to the side of said stanchion remote from said A-frame, means for anchoring said tie-bar to said bracket, and diagonal braces connecting said A-frame with said beam.

4. A lifting device adapted to be set up upon an electric-light pole and presenting a structure having feet adapted to seat on a cross-arm of the pole, said structure including a bracket offset so as to present a space adapted to receive a cross-arm opposite to said first-named cross-arm.

5. In a device of the class described, in combination, a frame presenting feet adapted to rest upon a horizontal arm, a beam supported by said frame, a stanchion extending downwardly from said beam and terminating below in a bracket, and a second bracket attached to said first-named bracket and having clamps adapted to attach to horizontal arms.

807,165. FLY-TRAP. ROBERT GRAHAM, Greeley, Colo. Filed Apr. 17, 1905. Serial No. 255,973.

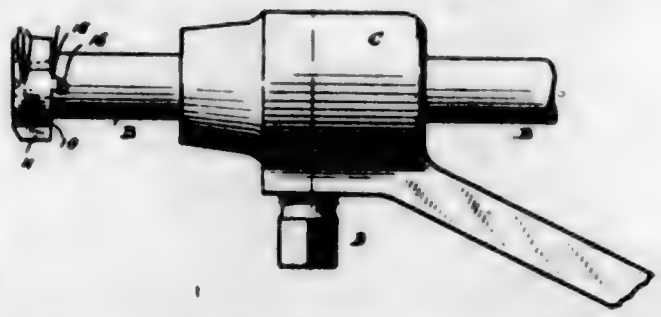


Claim.—1. In a trap for catching insects the combination of two frame members flexibly connected by wire-netting and provided at their inner lower edges with cut-away portions to allow the entrance of insects, the ends of the netting being turned up between the said frame members to form a trapping device.

2. In a fly-trap, the combination of the two frame members flexibly connected by wire-netting, the ends of said frame members fitting snugly together and the bottom part of the members being cut away to form a V-shaped opening in the bottom of the trap.

3. In a fly-trap, the combination of two frame members connected flexibly or foldingly together at their tops and covered by wire-netting, ends of said netting extending upwardly within an opening formed between the said frame members.

807,166. TOOL-HOLDER AND TOOL. CHARLES W. GRANT, Derby, Conn. Filed Apr. 28, 1904. Serial No. 205,282.



Claim.—1. The combination with a tool-bar having a tapering end and radial recesses 16, of a combination-tool having a boring edge and a threading-cutter and having an opening to receive the end of the tool-bar and radial lugs to engage the recesses, and means for retaining the tool in place upon the said tapered end of the tool-bar.

2. The combination with a tool-bar having a tapering end, a shoulder and oblique recesses back of the shoulder, of a tool having an opening to receive the end of the tool-bar and oblique lugs which engage the recesses and means for retaining the tool in place upon the tool-bar.

807,167. CHAIN ARMOR FOR PNEUMATIC TIRES. EDWARD B. HAMILTON, Sheffield, England. Filed Dec. 20, 1904. Serial No. 237,707.



Claim.—1. A chain armor for a pneumatic tire, said armor extending entirely around the tire and inclosing a part of the sides thereof and being provided with side extensions having eyelets, and wire cords passed through said eyelets and secured to the rim of the wheel, substantially as shown and described.

2. A chain armor for a pneumatic tire, said armor extending entirely around the tire and inclosing a part of the sides thereof and being provided with side extensions having eyelets, and wire cords passed through said eyelets and provided with binding members which are passed inwardly, radially and across the rim of the wheel and are secured to the inner side of the rim of the wheel, substantially as shown and described.

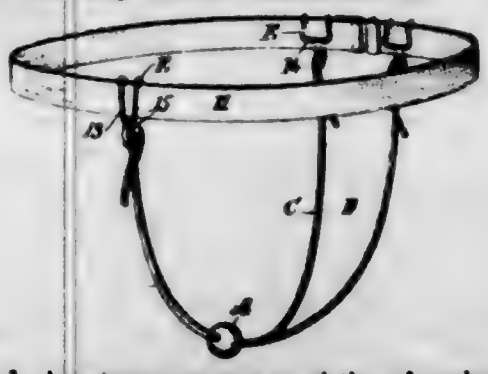
807,168. **MEANS FOR SEALING VESSELS.** JOHN A. HICER, Summit, N. J., assignor to The Auto Stopper Company, New York, N. Y. Filed Dec. 10, 1904. Serial No. 236,344.



Claim.—1. A sealing-cap for vessels, comprising a top surface; a flange pendent from said top surface provided with horizontal indents near its lower edge and substantially parallel with the said top surface, to lock it to a vessel-neck; a stop-indent located slightly above the horizontal line of the said horizontal locking-indents, all constructed, arranged and combined, when on a vessel to lock the cap to it, by taking under a lug or lugs thereon, and to limit its circumferential movement by taking against the vertical side of a lug, substantially as specified.

2. In a means for sealing vessels, the combination consisting of a sealing-cap having a top surface; a flange pendent from said top surface, provided with horizontal indents substantially parallel with said top surface; and a stop-indent located slightly above the line of said horizontal indents, such that when placed on a vessel, having a lug or lugs as I, the horizontal indents will take thereunder and the stop-indent will take against the vertical sides of a lug and limit the circumferential movement of the cap; a vessel having a lug or lugs near the top of its neck; a vessel-mouth having a contraction located within said mouth forming a detent, a stopper compressible between the under surface of the top of the cap and said detent located within the vessel-mouth, and into the space between the under surface of the cap and the walls of the vessel-mouth, substantially as specified.

807,169. **RECTUM-SUPPORTER.** EDWARD H. HIGNER, Roodhouse, Ill. Filed May 16, 1905. Serial No. 260,646.



Claim.—1. A rectum-supporter, consisting of a spherical body, a rear cord integral with the body and leading from the rear central portion thereof and front cords which lead side by side from the front central portion of the said spherical body, the said cords and spherical body being constructed of elastic rubber and the rear cord being of double the strength of each of the front cords.

2. A belt, hooks carried by the belt, and a rectum-supporter consisting of a spherical body, a rear cord leading from the central portion of the spherical body at the rear, and forward cords leading from the forward central portion of the spherical body, all of the cords and the body being constructed of elastic rubber, the rear cord being of greater strength than either of the forward cords, and means for removably and adjustably connecting the cords with the hooks.

3. The combination with a waist-belt and hooks carried thereby, said hooks being provided with downwardly-extending shanks having eyes therein arranged one above the other, of a supporter, consisting of a ball-body, a rear cord extending from the rear central portion of said ball-body, and forward cords extending side by side from the forward central portion of the body, all of the cords and the body being of elastic rubber but the rear cord being of greater strength than either of the other cords, the ends of the said cords being laced through the eyes of the said hooks, as described.

4. A rectum-supporter, consisting of a waist-belt, a ball-body, a rear cord extending from said ball-body at its rear, forward cords extending side by side from the ball-body at its front, the cords and body being integrally constructed of a yielding material, the rear cord being of greater strength than either of the forward cords, and means for removably and adjustably connecting the ends of said cords in said belt.

5. A rectum-supporter, comprising a spherical body having integral therewith a rear and two forward cords, the body and cords being of elastic material.

807,170. **FLUSH HANDLE.** JACOB HOLTHOUSER, New Britain, Conn., assignor to Stanley Works, New Britain, Conn., a Corporation of Connecticut. Filed Mar. 20, 1905. Serial No. 250,902.



Claim.—A flush ring-handle comprising the combination of a wrought-metal grip portion A, having outwardly-turned pivotal ends A′ A′, a wrought-metal plate B having a set-back portion forming a recess B′ for the grip portion, and an extension B^3 therefrom with passages D′ D′ arranged at right angles to said plate, for the reception of said ends A′ A′, the floor and walls of said set-back portion being otherwise imperforate and extending up to said opening, said openings being formed by breaking the metal in the setting back of the extension B^3.

807,171. **SWITCH-OPERATING DEVICE.** WILLSON B. HUBBARD, Dennis, Tex., assignor of one-half to Hugh H. Hubbard, Dennis, Tex. Filed Apr. 19, 1905. Serial No. 256,396.

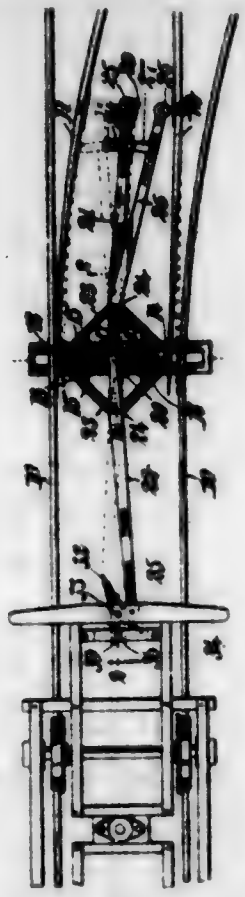
Claim.—1. A switch-operating device for railways, comprising a foundation having ways transverse to the rails, a slide in said ways connected with the movable part of a switch, a second slide in the ways, a spring connecting said slides, and a lever adapted to engage the second slide for moving the first slide.

2. A switch-operating device for railways, comprising a foundation having ways and a pair of oppositely-disposed extensions located between the rails, a pair of slides movable along the ways and each connected with a movable part of a switch, and a pair of levers pivoted to said extensions and having their short arms extending to the center of said ways and adapted to move said slides, the long arms of said levers being provided with means for receiving motion from a moving train.

3. A switch-operating device comprising a foundation having ways, a pair of slides movable along the ways, a second pair of slides each resiliently connected with one of the first-mentioned slides and having a space between them, and a pair of levers pivoted to the foundation and having their arms located between said second slides.

4. A switch-operating device comprising a foundation having ways, a pair of slides movable along the ways, a second pair of slides each resiliently connected with one of the first-mentioned slides and

having a space between them, a pair of levers pivoted to the foundation and having their arms located between said second slides, and a plate covering said foundation and a portion of said levers.



5. A switch-operating device, comprising ways, slides movable along the ways, slides resiliently connected with the first-mentioned slides and separated from each other, means connected with said last-mentioned slides for moving the first-mentioned slides, and a plate covering said ways and a portion of said means.

6. A switch-operating device, comprising ways, a pair of slides movable along the ways, a second pair of slides each resiliently connected with one of the first-mentioned slides and having a space between them, and means connected with the ways for engaging between the second pair of slides and operating them.

7. A switch-operating device, comprising ways, a slide in said ways connected with a movable part of the switch, a second slide in the ways, a spring connecting said slides, and means adapted to engage the second slide for moving the first slide.

8. In a switch-operating device for railways, the combination of a foundation having ways transverse to the rails, a slide movable along said ways and connected with the movable part of a switch, a lever for operating the slide, and means for swinging the lever; said means comprising a rudder pivotally and reciprocally mounted upon a vehicle which is movable along the track and a movable cam for operating the rudder.

807,172. **SAFETY-RAZOR.** AMOS H. JACKSON, Fremont, Ohio. Filed Aug. 7, 1905. Serial No. 273,056.



Claim.—1. A safety-razor consisting of a blade, a guard constructed of a single piece of metal and having its lower edge provided with outwardly-curved teeth, extending slightly beyond the cutting edge of the blade, said guard being slitted at two points to form a handle and end clamping or gripping lips or flanges, and means for holding the blade in adjusted positon.

2. A safety-razor consisting of a blade, a guard constructed of a single piece of metal and having its lower edge provided with outwardly-curved teeth, extending slightly beyond the cutting edge of the blade, said guard being slitted at two points to form a handle and end clamping lips or flanges, said handle being bent in reverse direction to the lips, and means for holding the blade in adjusted position.

807,173. **GUARD ATTACHMENT FOR CHANDELIERS.** VICTOR J. JANSEN and HENRY MEYER, Springfield, Mass. Filed Feb. 24, 1905. Serial No. 247,103.

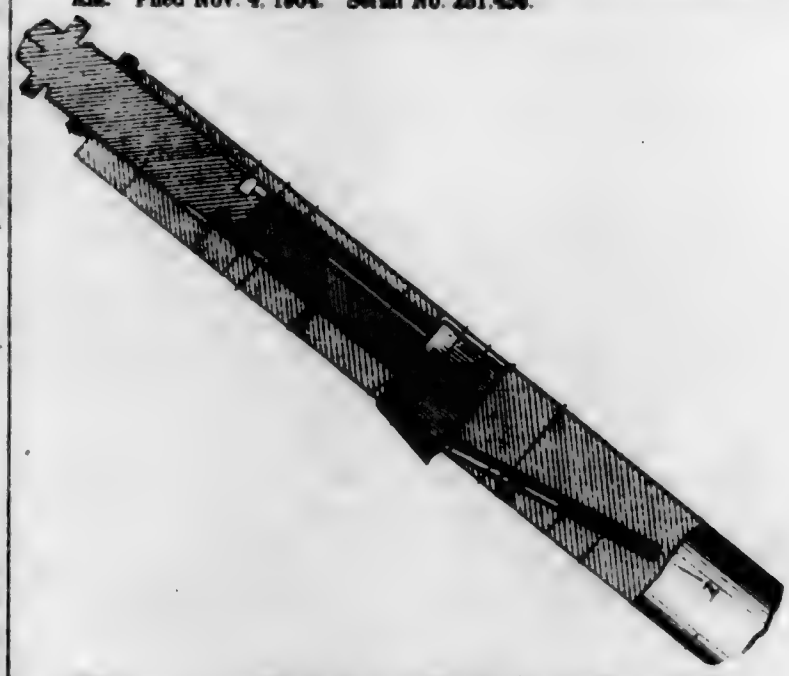
Claim.—1. In an appliance of the character described, a sleeve or ring made in hinge-connected sections, provided with means for locking the sleeve-sections in their closed relations, and formed with three or more holes radially therethrough, three or more studs having threaded shanks screw-engaged through said radial holes and protruding beyond the inner wall of the sleeve to assume engagements with the depending chandelier gas-pipe to secure the appliance to said pipe, at different points thereabout, and said studs being provided with tubular extensions, and rods, endwise adjustable in said tubular extensions and carrying guards or canopies at their outer ends.



2. In an appliance of the character described, in combination, a sleeve or ring made in hinge-connected sections and provided with means for locking the sections closed, and constructed with three or more screw-threaded holes therethrough, a corresponding number of studs having threaded shanks screw-engaged through said radial holes, and protruding beyond the inner wall of the sleeve for engagement with variably-sized chandelier-pipes to secure the appliance to said pipes said studs having the outwardly-open axial sockets, tubular arms having their inner ends engaged in said sockets, and the rods frictionally engaged, and endwise adjustable, in said tubes and having gas-light guards at their outer ends.

3. In an appliance of the character described, a supporting-ring comprising a plurality of movably-connected segments, and means to secure said segments together, said segments being formed with a plurality of radially-disposed threaded openings extending entirely therethrough, a plurality of radiating studs, each of which is formed with a threaded end engaging one of said openings and projecting within the segmental ring to impinge against a pipe to secure the appliance in position thereon, the outer end of each stud being formed with an axial socket, arms rigidly mounted in the sockets and shields on the arms.

807,174. **KEY-SEATING DEVICE.** IVOR W. JONES, Birmingham, Ala. Filed Nov. 4, 1904. Serial No. 231,436.



Claim.—1. A tool-holder, comprising a bar having a slot for a cutting-tool, means for feeding the tool, said means comprising a slide engaging the tool and adapted to move toward the tool to feed it outwardly, means for moving said slide, a plunger on the slide for engaging the tool, a spring for forcing the plunger against the tool, a second plunger mounted on the tool-holder and engaging the tool at a point diagonally opposite the point at which the first-mentioned plunger engages it, and a spring for forcing the second plunger toward the tool.

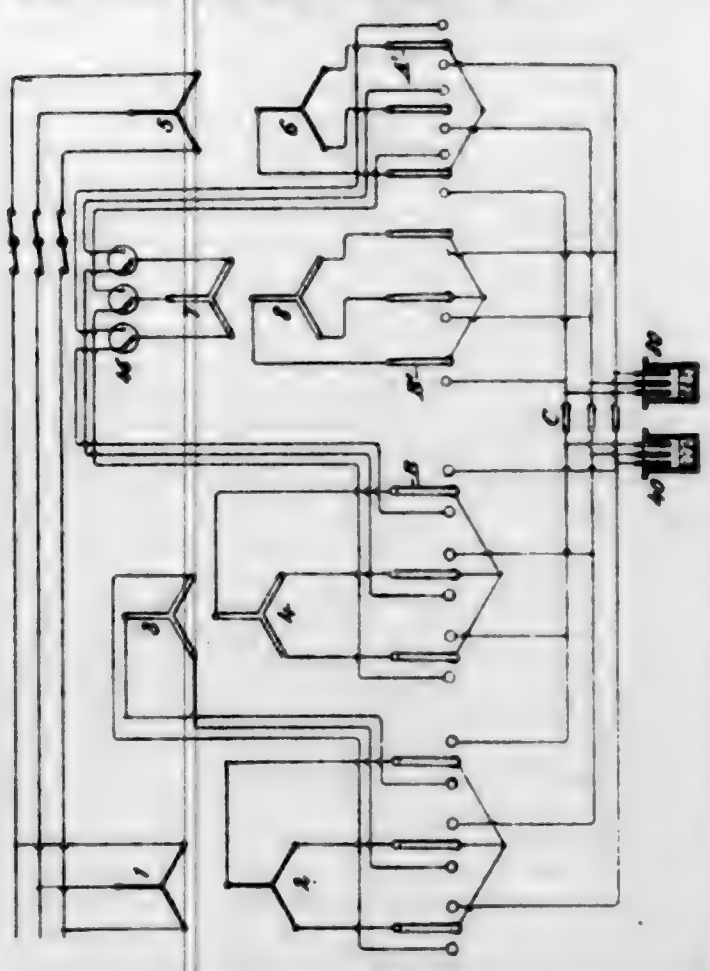
2. A tool-holder, comprising a bar having a transverse slot therethrough for a cutting-tool, means for feeding a tool along the slot, said means comprising a slide having means for connecting it with the tool and adapted to move toward the tool to feed it out-

wardly, means for moving said slide, a plunger mounted on the slide for engaging the tool at a point diagonally opposite its cutting edge, a second plunger on the other side of the tool adapted to engage it at a point near its cutting edge, and springs for forcing both of said plungers toward the tool.

3. A tool-holder, comprising a bar having a transverse slot therethrough for a cutting-tool, means for feeding the tool along the slot, said means comprising a slide having a projection for engaging the tool and adapted to move toward the tool to feed it outwardly, means for moving said slide, a plunger mounted on the slide for engaging the tool, and a spring for forcing the plunger against the tool.

4. In a key-seating device, the combination with a holder having a transverse slot, of a tool in the slot provided with an inclined channel in each of its opposite faces, a slide or feeding-pin in the holder having two projections one upon each side of the tool and each engaging in one of said channels and adapted to move toward the tool to feed it outwardly, a screw having swiveled engagement with the slide, a plunger in the slide adapted to engage with the tool, a spring for forcing the plunger into engagement with the tool, and means for limiting the motion of the slide in both directions.

807,175. **MULTIPLE-CASCADE DRIVING SYSTEM OF ROTARY CURRENT-MOTORS.** COLOMAN DE KANDO, Budapest, Austria-Hungary, assignor to Railway Electric Power Company, a Corporation of Maine. Filed Oct. 14, 1903. Serial No. 177,084.



Claim.—1. The combination, with a plurality of motor-cascades, and a source of supply to which the leading motor of each motor-cascade is connected, of means for switching a motor of one motor-cascade into another of the motor-cascades.

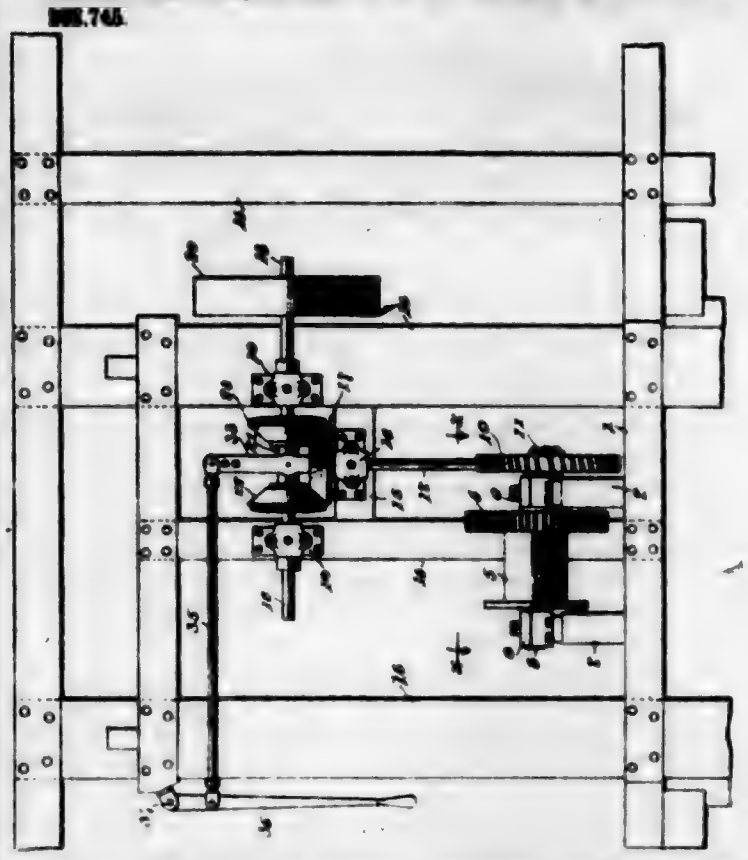
2. The combination, with a plurality of motor-cascades, each comprising a plurality of motors, a source of supply to which each cascade may be connected, and means for disconnecting one of said motor-cascades from the source of supply, of means for switching one of the motors of the latter cascade into another of the motor-cascades.

3. In a system of rotary current-motors, the combination of a plurality of cascade systems, the primary motors of which are wound for direct connection with the line and the secondary motors of which are wound for connection with the secondaries of the primary motors, with means for connecting a secondary motor of one system as a cascade-motor of higher order in another system.

4. In a system of rotary current-motors, the combination of a plurality of cascade systems, the primary motors of which are wound for direct connection with the line and the secondary motors of which are wound for connection with the secondaries of the primary motors, with means for connecting the secondary motors of two or more systems in cascade relation with one primary motor.

5. The combination, with a plurality of motor-cascades, of means for switching one of the secondary motors of one cascade into the other cascade.

807,176. **RAISING AND LOWERING MECHANISM.** GEORGE W. KING, Marion, Ohio, assignor to The Marion Steam Shovel Company, Marion, Ohio, a Corporation of Ohio. Filed May 29, 1905. Serial No. 262,745.



Claim.—1. In a mechanism of the character described, a winding-drum, a worm-gear operatively connected with said drum, a shaft provided with a worm meshing with said worm-gear, said shaft being also provided with a friction-gear, a driving-shaft having splined thereon two friction-gears located on opposite sides of the worm-shaft friction-gear, and means for engaging either of said driving-shaft friction-gears with the worm-shaft friction-gear, and for disengaging both of said first-mentioned friction-gears from the third friction-gear, substantially as described.

2. In a mechanism of the character described, a winding-drum, a worm-gear operatively connected with said drum, a shaft provided with a worm meshing with said worm-gear, said shaft being also provided with a friction-gear, a driving-shaft, a sleeve splined on said driving-shaft and provided with two friction-gears located on opposite sides of the worm-shaft friction-gear and normally out of contact therewith, and a lever operatively connected with said sleeve and adapted to move the same longitudinally of the driving-shaft so as to bring either of the sleeve friction-gears into contact with the worm-shaft friction-gear, substantially as described.

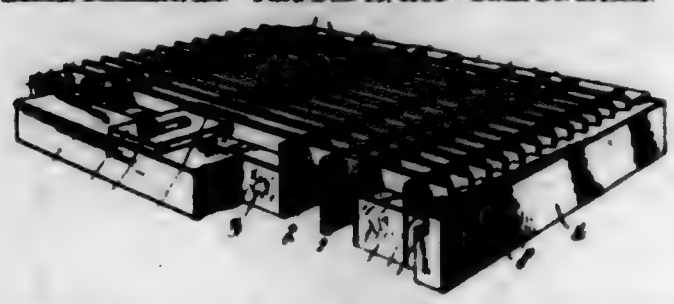
3. In a mechanism of the character described, the combination, with a winding-drum, and a worm-gearing for driving the same comprising a worm-shaft having a friction-gear secured thereon, said shaft projecting beyond the gear and being provided with a loose collar, of a driving-shaft arranged transversely at the end of the worm-shaft, a sleeve splined on said driving-shaft and having friction-gears located on opposite sides of the worm-shaft friction-gear, and a lever fulcrumed on the collar and engaging the sleeve to move the same longitudinally of the driving-shaft, substantially as described.

4. In a mechanism of the character described, a supporting-frame, a winding-drum mounted therein and provided with a gear, a counter-shaft mounted in said frame and provided with a pinion meshing with the drum-gear, said counter-shaft being also provided with a worm-gear, a shaft provided with a worm to mesh with said worm-gear, a driving-shaft, a reversible friction-gear drive connecting said driving and worm shafts, and means controlling said friction-gear drive to disconnect said shafts, and to connect them to drive the worm-shaft in either direction, substantially as described.

5. In a mechanism of the character described, a winding-drum, a worm-gear operatively connected with said drum, a vertical shaft having at its lower end a worm meshing with said worm-gear and having at its upper end a friction-gear, an elevated counter-shaft connected with a source of power to constitute a driving-shaft, a sleeve splined on said counter-shaft and provided with friction-gears located on opposite sides of the worm-shaft friction-gear and normally out of contact therewith, and a lever operatively connected

with said sleeve to move the same longitudinally of its shaft to bring either of its friction-gears into contact with the worm-shaft friction-gear, substantially as described.

807,177. SKELETON-FRAME RULE FOR PRINTING. JOSEPH KLOSE, Baltimore, Md. Filed Dec. 10, 1904. Serial No. 236,285.



Claim.—1. A skeleton-frame rule comprising a plurality of rules and a plurality of cross-rules, one of the series of rules provided with kerfs therein which kerfs are enlarged or broadened at their inner ends, the remaining series of rules receivable in the kerfs, the kerfed series of rules being adjustable relative to the unkerfed series.

2. A skeleton-frame rule comprising a series of vertical and a series of horizontal column-rules, one series having slots formed therein for the reception of the remaining series and being adjustable relative thereto, one of the series being type-high, and spacing means received between the adjacent individual members of the type-high series of rules and beneath the remaining series of rules.

3. A skeleton-frame rule comprising a plurality of series of suitably-meshed rules, the ends of one series of rules being recessed and grooved blocks, one wall of the recess being received within the groove in the block, the remaining wall engaging the upper surface of the block.

4. A skeleton-frame rule comprising vertical and horizontal column-rules, one series of column-rules being of less width than the remaining series and spacing-blocks received between the adjacent column-rules of greater width and beneath the series of column-rules of less width.

5. A skeleton-frame rule comprising a series of vertical and a series of horizontal column-rules, and means separately formed from either series for engaging each individual member of one of the series intermediate its ends for retaining them in parallelism.

6. A skeleton-frame rule comprising a series of vertical and a series of horizontal column-rules, each individual member of one of the series being provided with an aperture intermediate its ends and means passing through the apertures for retaining such series in parallelism.

7. A skeleton-frame rule comprising a series of vertical and a series of horizontal column-rules, each individual member of one of the series being provided with an aperture intermediate its ends, a rod received in and passing through the apertures and means for securing the rod at its ends.

8. A knockdown skeleton-frame rule comprising a plurality of slotted vertical column-rules, a plurality of horizontal column-rules received therein, the vertical column-rules slidable upon the horizontal column-rules, to vary the widths of the vertical columns, means for retaining the ends of the horizontal columns steady and removable means for retaining the horizontal columns in parallelism.

9. The combination with a skeleton-frame rule comprising a series of cross-rules and a series of rules, the rules and cross-rules engaging each other, of a separately-formed means engaging each member of one series for maintaining them in parallelism, furniture located on opposite sides of the frame, and means for adjustably securing the first-named means to the furniture.

807,178. FABRIC. ALBERT DE LASKI and PETER D. THROPP, Trenton, N. J., assignors to de Laski & Thropp Circular Woven Tire Company, Trenton, N. J., a Corporation of New Jersey. Filed July 1, 1905. Serial No. 267,929.



Claim.—1. A fabric having incorporated therein a thread of twisted rubber-treated fabric.

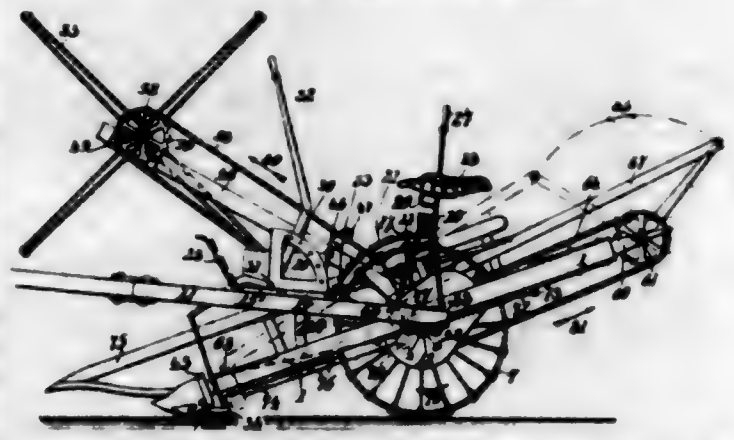
2. A fabric composed of weft and warp threads, the warp-threads consisting of twisted rubber-treated fabric.

3. A fabric composed of weft and warp threads, the weft-threads composed of twisted rubber-treated fabric.

4. A fabric composed of weft and warp threads, the weft and warp threads consisting of twisted rubber-treated fabric.

5. A fabric including threads formed of twisted rubber-treated strips, the said strips being formed from a sheet of rubber-treated material having embedded therein a series of threads.

807,179. HARVESTING-MACHINE. WLADIMIR LIVTSCHAK, Wilna, Russia. Filed May 9, 1905. Serial No. 259,626.



Claim.—1. In a harvesting-machine, the combination with a rectangular main frame provided with an intermediate bar in the driving direction, of a horizontal shaft mounted to turn in one side portion and the intermediate bar of said rectangular main frame, a driving-wheel on said horizontal shaft, a pin in the other side position of said rectangular main frame in the center line of said horizontal shaft, a lateral wheel on said pin, a finger-bar with a reciprocating knife-bar on the front portion between the last-named side portion and the intermediate bar of said rectangular main frame, means for transmitting the motion from said driving-wheel to said reciprocating knife-bar, a draft-frame adapted to turn on said horizontal shaft and engaging said shaft between the said first-named side portion and the intermediate bar of said rectangular main frame, a driver's seat on said draft-frame, a bow on said draft-frame, a two-armed hand-lever mounted to turn on said draft-frame in a vertical plane and adapted to be adjusted by means of said bow, and a rod pivotally connecting the lower arm of said two-armed hand-lever with the front portion of said rectangular main frame.

2. In a harvesting-machine, the combination with a rectangular main frame provided with an intermediate bar in the driving direction, of a horizontal shaft mounted to turn in one side portion and the intermediate bar of said rectangular main frame, a driving-wheel on said horizontal shaft, a pin in the other side portion of said rectangular main frame in the center line of said horizontal shaft, a lateral wheel on said pin, a finger-bar with a reciprocating knife-bar on the front portion between the last-named side portion and the intermediate bar of said rectangular main frame, means for transmitting the motion from said driving-wheel to said reciprocating knife-bar, a draft-frame adapted to turn on said horizontal shaft and engaging said shaft between the said first-named side portion and the intermediate bar of said rectangular main frame, a driver's seat on said draft-frame, means for raising and lowering or adjusting the front portion of said rectangular main frame from said driver's seat, a reel-support adapted to be turned around said horizontal shaft, means for adjusting said reel-support on said rectangular main frame, a slide adjustable on said reel-support, a horizontal reel adapted to be supported by said slide, and means for transmitting the motion from said horizontal shaft to said horizontal reel, said rectangular main frame with all parts thereon being nearly balanced, so that there remains a small overweight on the front side of the center line of said driving-wheel and said lateral wheel.

3. In a harvesting-machine, the combination with a rectangular frame, of a finger-bar on the front portion of said rectangular frame, a roll guided in said rectangular frame, an apron secured with its front edge on the front portion of said rectangular frame behind said finger-bar and with its rear edge on said roll, means for periodically advancing said roll toward said finger-bar and for returning it to its initial position, and means for turning said roll in one direction during its forward motion to wind on said apron and for turning the former in the opposite direction during its return to unwind said apron.

4. In a harvesting-machine, the combination with a rectangular

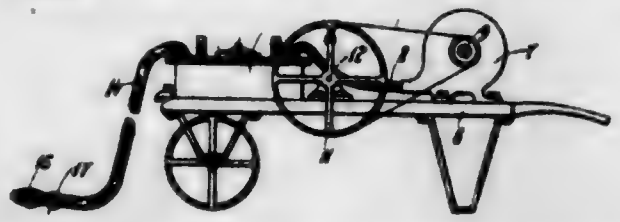
frame, of a driving-wheel mounted in said rectangular frame to turn, a chain-wheel, means for throwing said chain-wheel into and out of gear with said driving-wheel, a finger-bar on the front portion of said rectangular frame, a shaft mounted to turn in the rear portion of said rectangular frame, a second chain-wheel loose on said shaft, two short crank-arms fastened on said shaft on both sides of said second chain-wheel, an endless chain put around said chain-wheel and said second chain-wheel, a plurality of pins on both sides of said endless chain and adapted to strike against said two short crank-arms and to take same along with them, two long crank-arms fastened on said shaft in the same plane, two rods pivotally connected at their rear ends with said two long crank-arms while their front ends are guided in said rectangular frame, a roll mounted to turn in the front ends of said two rods, an apron secured with its front edge on the front portion of said rectangular frame behind said finger-bar and with its rear edge on said roll, a small drum rigidly connected with said roll, a helical spring attached at its one end to said rectangular frame, and a chain connected at its one end with the other end of said helical spring and secured at its other end on said small drum and adapted to wind said apron on said roll during the forward motion of the latter.

5. In a harvesting-machine, the combination with a rectangular frame, of a driving-wheel mounted in said rectangular frame to turn, a chain-wheel, means for throwing said chain-wheel into and out of gear with said driving-wheel, a finger-bar on the front portion of said rectangular frame, a shaft mounted to turn in the rear portion of said rectangular frame, a second chain-wheel loose on said shaft, two short crank-arms fastened on said shaft on both sides of said second chain-wheel, an endless chain put around said chain-wheel and said second chain-wheel, a plurality of pins on both sides of said endless chain and adapted to strike against said two short crank-arms and to take same along with them, two long crank-arms fastened on said shaft in the same plane, two rods pivotally connected at their rear ends with said two long crank-arms while their front ends are guided in said rectangular frame, a roll mounted to turn in the front ends of said two rods, an apron secured with its front edge on the front portion of said rectangular frame behind said finger-bar and with its rear edge on said roll, a small drum rigidly connected with said roll, a helical spring attached at its one end to said rectangular frame, a chain connected at its one end with the other end of said helical spring and secured at its other end on said small drum and adapted to wind said apron on said roll during the forward motion of the latter, and two buffers adapted to be shifted and adjusted on said rectangular frame for limiting the stroke of said roll.

6. In a harvesting-machine, the combination with a rectangular main frame provided with an intermediate bar in the driving direction, of a horizontal shaft mounted to turn in one side portion and the intermediate bar of said rectangular main frame, a driving-wheel loose on said horizontal shaft, a clutch on said horizontal shaft, means for throwing said clutch into and out of gear with said driving-wheel, a pin in the other side portion of said rectangular main frame in the center line of said horizontal shaft, a lateral wheel on said pin, a finger-bar with a reciprocating knife-bar on the front portion between the last-named side portion and the intermediate bar of said rectangular main frame, means for transmitting the motion from said horizontal shaft to said reciprocating knife-bar, a draft-frame adapted to turn on said horizontal shaft and engaging said shaft between the first-named side portion and the intermediate bar of said rectangular main frame, a driver's seat on said draft-frame, means for raising and lowering or adjusting the front portion of said rectangular main frame from said driver's seat, a roll guided on the last-named side portion and the intermediate bar of said rectangular main frame, an apron secured with its front edge on the front portion of said rectangular main frame behind said finger-bar and with its rear edge on said roll, means for periodically advancing said roll toward said finger-bar and for returning it to its initial position, and means for turning said roll in one direction during its forward motion to wind on said apron and for turning the former in the opposite direction during its return to unwind said apron.

7. In a harvesting-machine, the combination with a rectangular main frame provided with an intermediate bar in the driving direction, of a horizontal shaft mounted to turn in one side portion and the intermediate bar of said rectangular main frame, a driving-wheel loose on said horizontal shaft, a clutch on said horizontal shaft, means for throwing said clutch into and out of gear with said driving-wheel, a pin in the other side portion of said rectangular main frame in the center line of said horizontal shaft, a lateral wheel on said pin, a finger-bar with a reciprocating knife-bar on the front portion between the last-named side portion and the intermediate bar of said rectangular main frame, means for transmitting the motion from said horizontal shaft to said reciprocating knife-bar, a draft-frame adapted to turn on said horizontal shaft and engaging said shaft between the one side portion and the intermediate bar of said rectangular main frame, a driver's seat on said draft-frame, means for raising and lowering or adjusting the front portion of said rectangular main frame from said driver's seat, a chain-wheel loose on said horizontal shaft, means for coupling said chain-wheel with said horizontal shaft during the forward motion of the machine, a shaft mounted to turn in the rear portion of said rectangular main frame, a second chain-wheel loose on said shaft, two short crank-arms fastened on said shaft on both sides of said second chain-wheel, an endless chain put around said chain-wheel and said second chain-wheel, a plurality of pins on both sides of said endless chain and adapted to strike against said two short crank-arms and to take same along with them, two long crank-arms fastened on said shaft in the same plane, two rods pivotally connected at their rear ends with said two long crank-arms while their front ends are guided on the one side portion and the intermediate bar of said rectangular main frame, a roll mounted to turn in the front ends of said two rods, an apron secured with its front edge on the front portion of said rectangular main frame behind said finger-bar and with its rear edge on said roll, a small drum rigidly connected with said roll, a helical spring attached at one end to said rectangular main frame, and a chain connected at one end with the other end of said helical spring and secured at its other end on said small drum and adapted to wind said apron on said roll during the forward motion of the latter.

807,180. **APPARATUS FOR GENERATING VAPOR USED IN THE DESTRUCTION OF WEEDS AND RABBITS.** BENJAMIN LOCKING, Napier, New Zealand. Filed Mar. 13, 1905. Serial No. 249,973.



Claim.—1. A device of the kind described comprising in combination, a combustion-chamber, a lid therefor, an outer casing receiving said chamber, a fan, a tube connecting said fan with the combustion-chamber, a flexible delivery-tube one end of which is connected to the combustion-chamber and a conical wire shield for the end of said flexible tube substantially as specified.

2. A device of the kind described comprising in combination, a combustion-chamber, a lid therefor, an outer casing receiving said chamber, a fan, a tube connecting said fan with the combustion-chamber, a flexible delivery-tube one end of which is connected to the combustion-chamber and a conical wire shield over the end of said flexible tube, a pulley on the fan-spindle, a driving-wheel fixed upon an axle, a handle for revolving said driving-wheel, a driving-band connecting said driving-wheel with the said pulley and a barrow upon which the apparatus is mounted substantially as specified.

807,181 **YELLOW-GREEN DYE AND PROCESS OF MAKING SAME.** CHARLES OSWALD, HERMANN LORSTAN, and CHARLES DE LA HARPE, Basel, Switzerland, assignors to Dyeworks formerly L. Durand Huguenin & Co., Basel, Switzerland. Filed Sept. 13, 1905. Serial No. 278,066. (Specimens.)

Claim.—1. The process for the manufacture of new dyestuffs dyeing with chromium mordanted fibers yellowish green, by treating gallocyanin dyestuffs with formaldehyde, as described.

2. The process for the manufacture of new dyestuffs dyeing with chromium mordanted fibers yellowish green by treating with formaldehyde the gallocyanin dyestuff resulting from the reaction of a nitrosodialkylanilin hydrochlorid on gallamic acid, as described.

3. As a new article of manufacture, the dyestuff obtained by the action of formaldehyde on a gallocyanin dyestuff, which dyes with chromium mordanted fibers yellowish green, dissolves in acidulated water with a rose-colored coloration turning to intense fuchsin red by addition of a little sodium nitrite and dissolves in concentrated sulfuric acid with a blue-green coloration turning to reddish by addition of water, the said dyestuff being transformed into a blue coloring-matter by its heating with water or certain solutions of salts and its aqueous solutions giving by addition of sodium acetate a green precipitate and by addition of alkalies a brownish precipitate.

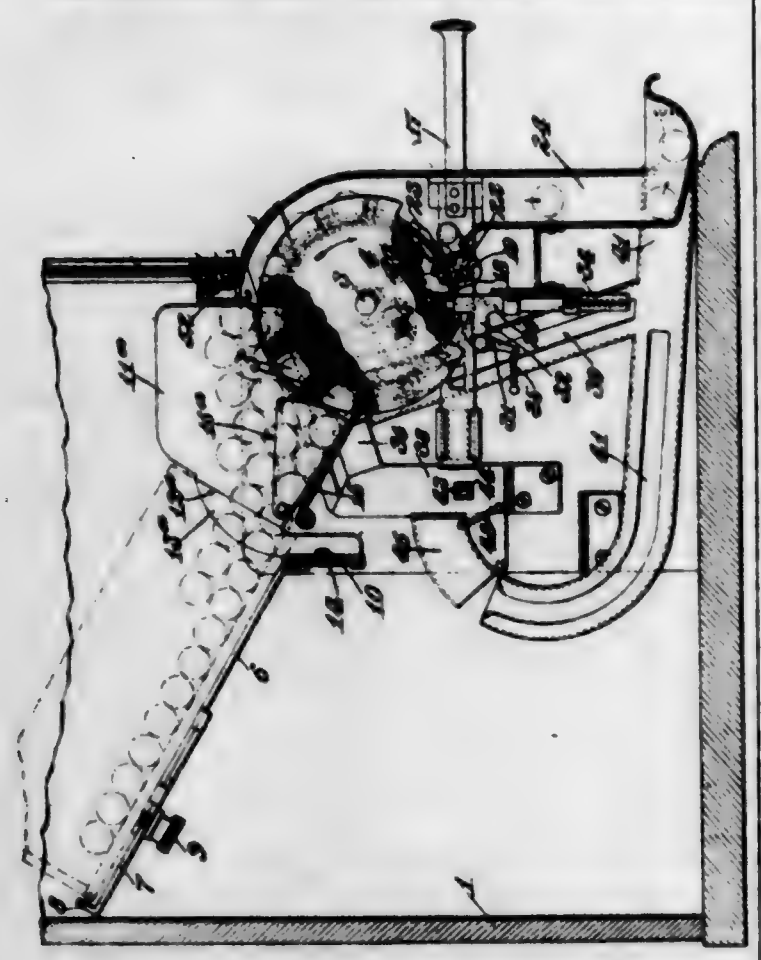
807,182. GREEN DYE AND PROCESS OF MAKING SAME. CHARLES OSWALD, HERMANN LORETAN, and CHARLES DE LA HARPE, Basel, Switzerland, assignors to Dyeworks formerly L. Durand Huguenin & Co., Basel, Switzerland. Filed Sept. 12, 1905. Serial No. 278,067. (Specimens.)

Claim.—1. The described process for the manufacture of dyestuffs dyeing with chromium mordanted fibers green, by treating with reducing agents the yellowish-green dyestuff obtained by the action of formaldehyde on gallocyanin dyestuffs.

2. The described process for the manufacture of dyestuffs dyeing with chromium mordanted fibers green, by treating with reducing agents the yellowish-green dyestuffs obtained by the action of formaldehyde on the gallocyanin dyestuffs resulting from the reaction of a nitrosodialkylanilin hydrochlorid on gallamic acid.

3. As a new article of manufacture, the described dyestuff resulting from the action of a reducing agent on the yellowish-green dyestuff obtained by the action of formaldehyde on a gallocyanin dyestuff, which is easily soluble in water with yellow coloration turning to intense fuchsin red by addition of an acid and of a small quantity of sodium nitrite, dissolves in concentrated sulfuric acid with a slightly-reddish dirty coloration, turning to intense blue-green by addition of a small quantity of an oxidant, and whose aqueous solution gives by addition of sodium acetate a yellow precipitate.

807,183. VENDING-MACHINE. FRANK E. MACCORDY, Chicago, Ill., assignor to MacCordy Cigar Vending Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 16, 1905. Serial No. 245,921.



Claim.—1. In a vending-machine, a rotatable drum, a vertically-movable bolt adapted to intermittently engage said drum and having a pivoted cam thereon, a pusher-bar having means for rotating the drum and provided with a projection adapted to move over the top of the cam during its actuating stroke and to pass beneath the cam during its return stroke, and means for returning the pusher-bar; substantially as described.

2. In a vending-machine, the combination with a delivery mechanism, of a device normally engaging the delivery part of the mechanism to prevent movement thereof, said device having a pivoted cam thereon, a pusher-bar having means for actuating the delivery part of the delivery mechanism, and means for engagement with the cam to move the locking device out of engagement with the delivery part before the actuating part on the pusher-bar may operate the delivery part; substantially as described.

3. In a vending-machine, the combination with a rotatable drum having ratchet-teeth thereon, of a vibratory table adjacent to the drum, an elbow-lever whose fulcrum is in axial alinement with the drum, said lever having one end adapted to contact with the table to impart a vibratory motion thereto, the other part of said lever having an opening therein, and a pusher-bar in engagement with the opening and carrying a pawl for engagement with the ratchet-teeth whereby a movement of said pusher-bar to actuate the drum will cause one part of the lever to contact with the vibratory table; substantially as described.

4. In a vending-machine, the combination with a rotatable drum having pockets therein, of a box-holder comprising two resiliently-connected parts having shoulders to receive a box portion, a vibratory table beneath the box-holder, a drum-actuating means, and means actuated by the drum-actuating means for vibrating the table; substantially as described.

5. In a vending-machine, a box-holder comprising a bar having an extension end, a hopper at one end of the bar whose sides are resiliently connected, a vibratory table forming the bottom of the hopper, and a rotatable drum adapted to receive articles from the hopper; substantially as described.

6. In a vending-machine, a box-holder comprising a bar having an extension end, a hopper at one end of the bar whose sides are resiliently connected, a vibratory table forming the bottom of the hopper, a rotatable drum adapted to receive articles from the hopper, a sliding bolt for intermittently engaging the drum to prevent its rotation, and a pusher-bar having means for releasing the bolt from engagement with the drum; substantially as described.

7. In a vending-machine, a box-holder comprising a bar having an extension end, a hopper at one end of the bar whose sides are resiliently connected, a vibratory table forming the bottom of the hopper, a rotatable drum adapted to receive articles from the hopper, a sliding bolt for intermittently engaging the drum to prevent its rotation, a pusher-bar having means for releasing the bolt from engagement with the drum, and a ratchet mechanism controlled by the pusher-bar for rotating the drum when the bolt is not in engagement therewith; substantially as described.

8. In a vending-machine, the combination with a rotatable drum, of means for introducing articles to be vended into the recesses in the drum, including a vibratory table, an elbow-lever whose fulcrum is in axial alinement with the drum, one arm of said elbow-lever being capable of engagement with the vibratory table, a projection on the other end of the lever, a spring-pressed pawl carried by said projection, ratchets on the drum adapted to be engaged by said pawl, and a pusher-bar connected to the last-named arm of the lever and having movement to cause the spring-pressed pawl to engage the ratchets on the drum; substantially as described.

9. In a vending-machine, the combination with a rotatable drum having pockets therein, of a buffer immediately above the drum, a hopper having a vibratory bottom, pivoted guide-segments carried by the sides of the hopper and resting upon the table, means for actuating the drum, and means for vibrating the table; substantially as described.

10. In a vending-machine, a box-support comprising a longitudinally-arranged bar having a sliding extension at one end, a transverse bar at the other end, a hopper whose sides are carried by said transverse bar, one of said sides being slidable toward and away from the other, and a delivery device adapted to receive articles from said hopper; substantially as described.

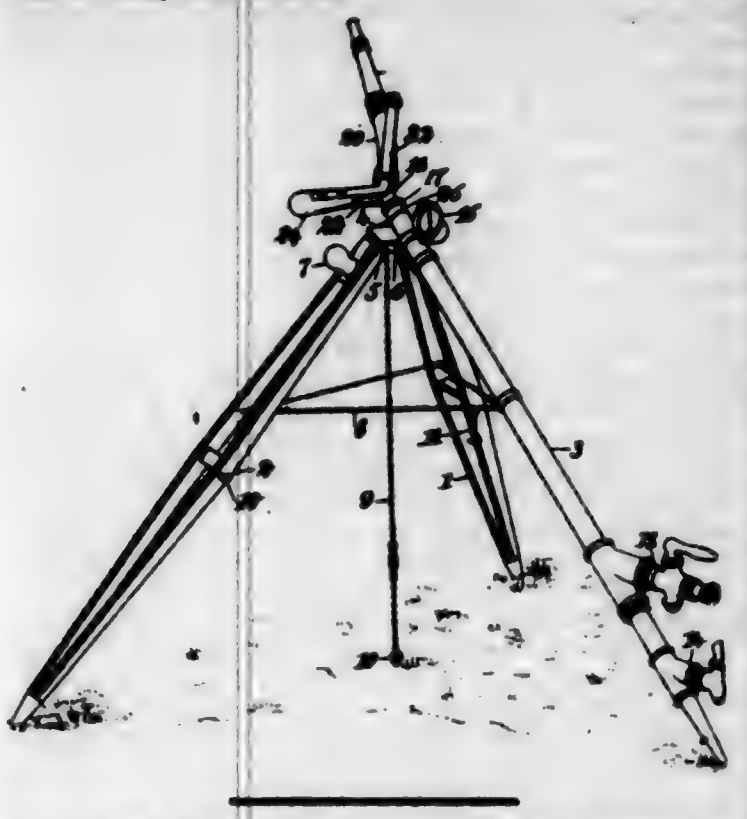
11. In a vending-machine, the combination with a delivery part, of a sliding bolt normally in engagement with said part to prevent movement thereof, a projection on said bolt, a pivoted cam carried by said projection, a stop on which said cam rests, a sliding bar for actuating the delivery part and having a projection movable across one face of the cam to cause the release of the bolt from engagement with the delivery part, said projection passing beneath the cam on the return stroke of the pusher-bar, and means carried by the pusher-bar for actuating the delivery part; substantially as described.

807,184. HOSE-SUPPORT. JOHN E. MALSBURG, San Francisco, Cal. Filed Feb. 8, 1905. Serial No. 244,747.

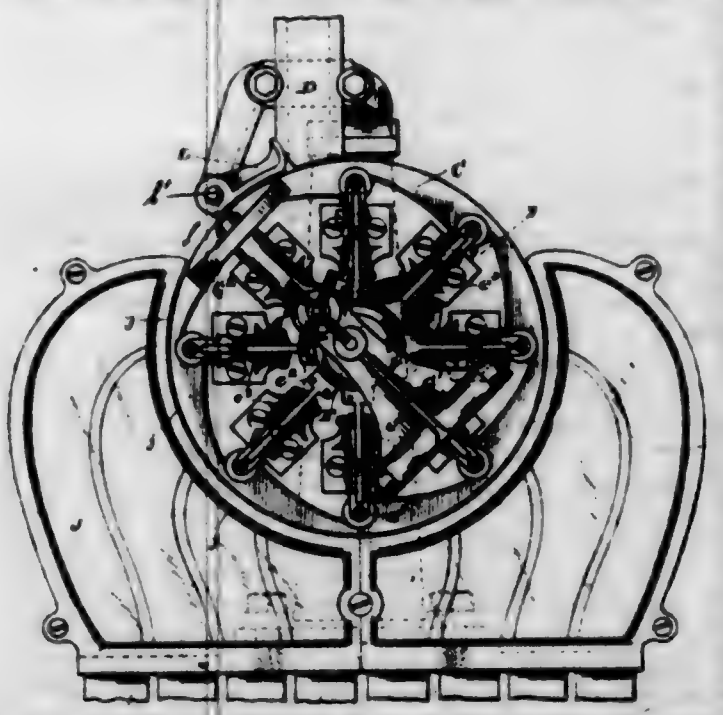
Claim.—1. A hose-support comprising a folding tripod, one leg thereof being tubular, a hose-coupling on said tubular leg, a short curved pipe having rotary connection with the upper end of the tubular leg, a flexible nozzle-carrying pipe extended from said short pipe, arms pivoted to opposite sides of the short pipe and having portions extended along opposite sides of the flexible pipe and provided with outwardly-extended handle members, and a collar on the flexible pipe with which said arms engage.

2. A hose-support comprising a folding portable tripod, one leg thereof being tubular, a hose-coupling on said tubular leg, a short pipe having rotary connection with the upper end of said tubular leg, a flexible pipe having connection with said short pipe, a nozzle connected to the flexible pipe, and an arm pivoted to said short pipe and

having connection with the flexible pipe, said arm being provided with outwardly-extended handle.



807,185. WAD-SORTING MACHINE. WILLIAM L. MORRIS, Cleveland, Ohio, assignor to The Austin Cartridge Company, Cleveland, Ohio, a Corporation of Ohio. Filed Mar. 8, 1901. Serial No. 50,342.



Claim.—1. In a wad-sorting device, the combination of a wad-carrier; independent channels for wads of different thicknesses; means for compressing the wads in said carrier; means for retaining the compressors in position against the wads during a limited movement of the carrier; and means for ejecting the wads from the carrier upon the release of the compressors, the time when such release is effected being determined by the thickness of the wads.

2. In a wad-sorting device, the combination of a wad-carrier; independent channels for wads of different thicknesses; means for compressing the wads in said carrier; means for retaining such compressors in position against the wads during a limited movement of the carrier; and means for ejecting the wads from the carrier upon the release of the compressing means, such ejecting means being inoperative after the wad has been compressed and until the release of the compressors, the time when such release is effected being determined by the thickness of the wads.

3. In a wad-sorting device, the combination of a wad-carrier; independent channels for wads of different thicknesses; means for compressing the wad in said carrier; means for retaining such compressors in position against the wads during a limited movement of the carrier; and means operating at right angles to the compressors, for ejecting the wads from the carrier upon the release of the compressors, the period when such release is effected being determined by the thickness of the wads.

4. In a wad-sorting device, the combination of a wad-carrier; independent channels for wads of different thicknesses; means for compressing the wads in said carrier; means for retaining such compressors in position against the wads during a limited movement of the carrier; and means operating at right angles to said compressors, for ejecting the wads from the carrier upon the release of the compressors, said ejecting means being inoperative after the wad has been compressed until the release of the compressors, the time when such release is effected being determined by the thickness of the wads.

5. In a wad-sorting device, the combination of a wad-carrier, reciprocating means for compressing wads at intervals upon such carrier, means for actuating said compressing means to release the wads at various points in the carrier travel, and ejecting means held inoperative by said compressing means and rendered operative on the release actuation of said compressing means.

6. In a wad-sorting device, the combination of a rotary wad-carrier, a series of channels located at various points in the travel of such carrier, a series of reciprocating devices for compressing the wads on said carrier, means for adjusting said reciprocating devices according to the wad thickness and means for controlling said reciprocating devices to release the wads at various points in the carrier travel, such points varying as the wad thickness, and means operative by the release of such reciprocating devices for ejecting wads at such points.

7. In a wad-sorting device, the combination of a rotary wad-carrier having a series of peripheral recesses adapted to hold wads, a pressure device operative in each such recess, means for operating each such device, and a series of means operative throughout parts of the carrier travel and of varying lengths adapted to hold said pressure devices, whereby the latter may be caused to release the wads at various points in such travel.

8. In a wad-sorting device, the combination of a rotary wad-carrier having a series of peripheral recesses adapted to hold wads, a pressure device operative in each such recess, means for operating each such device, a series of means operative throughout parts of the carrier travel and of varying lengths adapted to hold said pressure devices, whereby the latter may be caused to release the wads at various points in such travel, and a series of ejecting devices controlled by said holding devices so as to operate on the release of the latter.

9. In a wad-sorting device, the combination of a rotary carrier provided with a series of wad-holding devices each operatively connected with a pivoted arm, a stationary hub provided with a series of holding-lugs of various lengths, and means for actuating said devices so as to throw said arms into engagement with one of such lugs.

10. In a wad-sorting device, the combination of a rotary carrier provided with a series of wad-holding devices operatively connected with a pivoted arm, of a stationary hub provided with a series of holding-lugs of various lengths, a presser-roller located in the path of said holding devices and adapted to actuate the latter to throw said arms into engagement with said lugs.

11. In a wad-sorting device, the combination of a rotary wad-carrier having a series of peripheral recesses for holding wads; independent channels for wads of different thicknesses; means for feeding wads into said recesses at a fixed point in the carrier's rotation; means for retaining the wads in said recesses during a limited movement of the carrier; ejectors adapted to discharge the wads from said recesses; and means for actuating said ejectors to discharge the wads at different points in the path of travel thereof, the particular point of discharge for any wad being determined by the thickness of such wad.

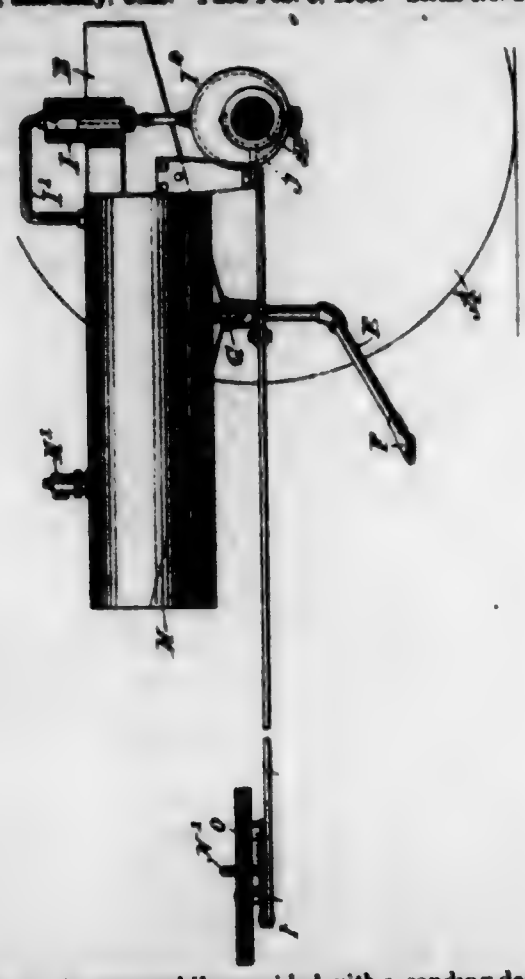
12. In a wad-sorting device, the combination of a rotary wad-carrier having a series of recesses for holding wads, a series of plungers, one such plunger being mounted upon said carrier adjacent to each recess and adapted to be projected therein, means located in the path of said plungers for actuating same inwardly, means for securing same in such inwardly-actuated position, the distance of such actuation being determined by the wad thickness.

13. In a wad-sorting device, the combination of a rotary wad-carrier having a series of recesses for holding wads; means adapted to retain the wads in said recesses under compression, the operation of such means being regulated by the wad thickness; means for applying, and means tending to remove, such retaining means; and a series of ejectors adapted to discharge the wads from said recesses upon the removal of such retaining means.

14. In a wad-sorting device, the combination of a rotary wad-carrier having a series of recesses for holding wads, each recess having a spring-actuated plunger mounted contiguously to it and capable of projection into such recess, an ejector having a direction of movement transverse with respect to the plunger movement, mounted contiguously to each such recess and capable of projection therein,

means for actuating each said plunger and means for reciprocating said ejectors.

807,186. SANDING DEVICE FOR AUTOMOBILES. AUGUSTUS L. HOAG, Sandusky, Ohio. Filed Feb. 8, 1905. Serial No. 244,727.



Claim.—1. An automobile provided with a sanding device having pipes terminating in nozzles and extending at an angle toward the path to be traveled by the driving-wheels but terminating away from the wheels, at the inner side of said path, for scattering sand over a roadway in front of the driving-wheels of the automobile and across their pathway.

2. An automobile provided with a sanding device having pipes terminating in flat nozzles and extending forwardly and outwardly toward the path of travel of the driving-wheels but terminating away from the wheels at the inner side of said path, the nozzles being arranged to scatter sand in fan shape over a roadway in front of the driving-wheels of the automobile and across their pathway.

3. The combination with an automobile, of a sanding device comprising a sand-container, a compressed-air reservoir carried on the automobile, an air-pump for charging the said compressed-air reservoir with compressed air, nozzles for scattering sand over a roadway, in front of and around the driving-wheels of the automobile, a valve for controlling the connection between the said sand-container and the said nozzles and for controlling the connection between the compressed-air reservoir and the said nozzles, to force the sand out of the latter by compressed air from the said reservoir, and means under the control of the chauffeur for actuating in unison the said valve and the stopping and starting device of the said air-pump.

4. The combination with an automobile, of a sanding device held on the said automobile and comprising a sand-container, nozzles connected with the said container and arranged to scatter sand over a roadway in front of and around the driving-wheels of the automobile, a compressed-air reservoir, a pipe leading therefrom and a manually-controlled valve having a nozzle adapted to register with said pipe, the said valve simultaneously controlling the connection between the said nozzles and the said air-reservoir.

5. The combination with an automobile, of a sanding device held on the said automobile and comprising a sand-container, nozzles connected with the said container and arranged to scatter sand over a roadway, in front of and around the driving-wheels of the automobile, a compressed-air reservoir, a manually-controlled valve for simultaneously controlling the connection between the said nozzles and the said sand-container and between the said nozzles and the said air-reservoir, an air-pump having a stopping and starting device connected with a driven part of the automobile, and means under the control of the chauffeur and connected with the said stopping and starting device and with the said valve, for successively actuating the same.

6. The combination with an automobile, of a sanding device held on the said automobile and comprising a sand-container, nozzles connected with the said container and arranged to scatter sand over a roadway, in front of and around the driving-wheels of the automobile, a compressed-air reservoir, a manually-controlled valve for simultaneously controlling the connection between the said nozzles and the said sand-container and between the said nozzles and the said air-reservoir, an air-pump having a stopping and starting device connected with a driven part of the automobile, and means under the control of the chauffeur and connected with the said stopping and starting device and with the said valve, for successively actuating the same, to start the pump ahead of the opening of the said valve.

7. A sanding device provided with a valve having a valve-casing connected with a sand-container, a compressed-air reservoir, a pipe connecting said reservoir with the valve-casing, a sand-discharge leading from the valve-casing, and a valve-plug mounted to turn in the said casing and under the control of the operator, the valve plug having an outlet adapted to register with the sand-discharge, and a nozzle in the valve-plug registering with the outlet of the valve-plug and adapted to register with the pipe leading from the reservoir, the said valve-plug connecting the said discharge simultaneously with both the sand-container and the said compressed-air reservoir.

8. An automobile provided with a sanding device, an air-reservoir for delivering a blast of air to the said sanding device, a pump for pumping air into the reservoir, and means under the control of the operator, for actuating the said sanding device, the said means also controlling the starting mechanism of the pump to start the same.

9. An automobile provided with a valve-controlled sanding device, an air-reservoir for delivering a blast of air to the said sanding device, a pump for pumping air into the reservoir, and means under the control of the operator, for actuating the said sanding device and for starting the said pump ahead of the said sanding device, the said means comprising a rod movable in the direction of its length and connected with the valve of the sanding device, the said rod also controlling the starting mechanism for the pump.

10. An automobile provided with a sanding device, a compressed-air reservoir for delivering a blast of air to the said sanding device, a pump, mechanism for actuating the pump, a clutch for connecting said mechanism with a driven part of the automobile, for charging the said reservoir with compressed air, and means under the control of the operator, for actuating the said sanding device and for actuating said clutch to stop or start the pump.

11. An automobile provided with a sanding device comprising a sand-container mounted on the automobile and provided with an outlet, and pipes extending downwardly, outwardly and forwardly from the said outlet, the said pipes each extending at an angle toward the path to be traveled by the respective driving-wheels, but terminating short of said path, for scattering sand over the roadway in front of the driving-wheels and across the path of travel thereof.

12. An automobile provided with a sanding device comprising a sand-container mounted on the automobile and provided with an outlet and pipes branching in opposite directions from said outlet, the said pipes extending downwardly, outwardly and forwardly from the said outlet, the said pipes each extending at an angle toward the path to be traveled by the driving-wheel but terminating short of said path, and each provided at its terminal with a flat nozzle for spreading the sand in fan shape over a roadway in front of the driving-wheels and across their path of travel.

13. A sanding device, comprising a sand-container, a valve for controlling the discharge of sand from said container, an air-reservoir connected with the sanding device, a pump for pumping air into the reservoir, mechanism for actuating the pump, a stopping and starting device for the pump, and means connected with the said valve to actuate the same, the said means also having a controlling connection with the stopping and starting device for the pump.

14. A sanding device, comprising a sand-container, a valve for controlling the discharge of sand from said container, an air-reservoir for delivering a blast of air to the said sanding device, a pump for pumping air into the reservoir, means for actuating the pump, a stopping and starting device for the pump, and a rod for actuating said valve and having a loose sliding connection with the same, the said rod also controlling the stopping and starting device for the pump.

15. In a sanding device, the combination with a sand-container, of a valve-casing connected with the sand-container, a compressed-air reservoir connected with the valve-casing, a pump for pumping air into the reservoir, a stopping and starting device for the pump, a sand-discharge leading from the valve-casing, a valve-plug mounted to turn in the casing to connect the said discharge with the sand-

container and with the compressed-air reservoir, an arm on the said valve-plug provided at its free end with a pin, a rod for actuating said valve and having an elongated slot engaged by said pin, a lever connected with said rod, a spring connected with said lever, and a controlling connection between the said rod and the stopping and starting device for the pump.

16. The combination with a valve-controlled sanding device, of an air-reservoir for delivering air to the said sanding device, a pump for pumping air into the reservoir, means for actuating the valve of the sanding device, the said means including a longitudinally-movable rod operatively connected with the said valve, mechanism for actuating the pump, a clutch for controlling said mechanism, a shifting-fork engaging the said clutch, a spring connected with the shifting-fork for moving the clutch into active position, and a connection between the said longitudinally-movable rod and the shifting-fork for normally holding the shifting-fork against the tension of its spring.

17. A sanding device comprising a sand-container, a valve-casing connected at its top by ports with the sand-container, a compressed-air reservoir connected by a pipe with the valve-casing, a sand-discharge pipe connected with the valve-casing, a valve-plug mounted to turn in the said casing and under the control of the operator, the said plug having a recess in its upper part into which open ports adapted to register with the ports in the top of the casing, the said recess terminating at its lower end in a side extension adapted to register with the discharge-pipe, and a nozzle in said valve-plug opening into the said side extension and adapted to register with the pipe leading from the air-reservoir.

18. A sanding device comprising a sand-container, a compressed-air reservoir, an air-pump for charging the said reservoir with compressed air, a sand-discharge, a valve for controlling the connection between the sand-container and the said discharge and for controlling the connection between the compressed-air reservoir and the said discharge, and means for actuating in unison the said valve and the stopping and starting device for the air-pump.

807,187. CHAIR SEAT OR BACK. GEORGE B. MULLEN and TOBIAS P. MULLEN, New York, N. Y. Filed Mar. 21, 1905. Serial No. 251,189.



Claim.—1. In a device of the character described, the combination of a plate provided with a central aperture, and also provided with a beveled flange projecting outwardly therefrom and with a flange projecting inwardly therefrom, a seat portion connected with said flange thus projecting inwardly, and a seat-frame encircling said plate.

2. The combination of a rectangular seat-frame, provided with a central aperture, a plate mounted within said central aperture and provided with a beveled flange extending outwardly therefrom, said beveled flange resting upon said seat-frame, a second frame mounted within said frame first mentioned, and bolts for connecting said frames together.

3. The combination of a seat-frame provided with a central aperture, a plate provided with a beveled flange and disposed within said seat-frame, said beveled flange projecting over a portion of said seat-frame, said plate being provided with a central aperture, and a member mounted within said central aperture for supporting a bottom of wicker-work or the like.

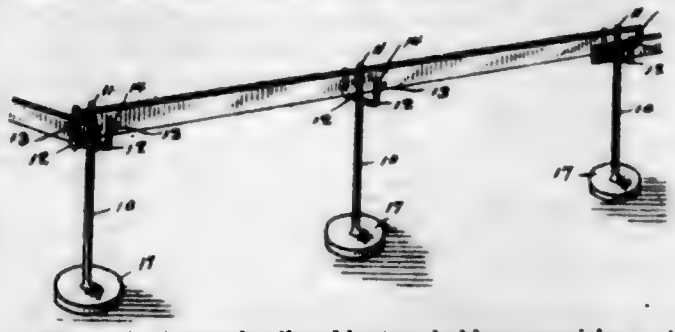
807,188. PROCESS FOR PRODUCING PLASTIC RAILWAY-TIES. JOHN MURPHY, Columbus, Ohio. Filed Apr. 19, 1905. Serial No. 256,451.



Claim.—1. A process for handling, drying and burning plastic railway-ties consisting in first placing each tie in a suitable moving device, then moving the tie into a suitable inclosure, then positioning the tie in the inclosure so that it rests on one end and then connecting the ties by embedding bricks in their upper ends to fasten them in fixed relation to each other and hold them in place during the drying and burning operation to prevent cracking and distorting of the same.

2. A process for handling, drying and burning plastic railway-ties consisting in first forming suitable recesses or openings in the tie while in its green state, secondly placing the tie in a suitable moving device, thirdly moving the tie into an inclosure and arranging it on one end in vertical position and fourthly in embedding connecting means in the adjacent recesses of the ties to fasten the ties together to hold them against displacement and prevent cracking during the drying and burning operation.

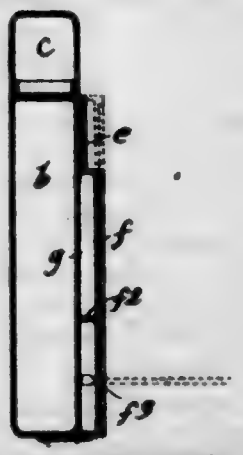
807,189. GUARD-RAIL AND LANTERN HOLDER. DANIEL F. MCCARTHY, Waterbury, Conn. Filed Oct. 13, 1905. Serial No. 282,589.



Claim.—1. A guard-rail and lantern holder comprising a standard provided with a support to rest upon the ground, a head, a rail-holder extending outward and upward from the standard and provided with a hole to receive a padlock, for the purpose set forth, and a lantern-holder extending from the rail-holder below said hole, whereby the bail of a lantern resting on the lantern-holder may be embraced by the shackle of a padlock passing through said hole.

2. A guard-rail and lantern holder comprising a standard provided with a support to rest upon the ground, a head and rail holders extending therefrom at angles to each other and adapted to support rails at angles to each other, for the purpose set forth, one or more of said rail-holders being provided with lantern-holders.

807,190. MATCH-SAFE. KARL NAAB, Brooklyn, N. Y. Filed Aug. 7, 1905. Serial No. 272,963.



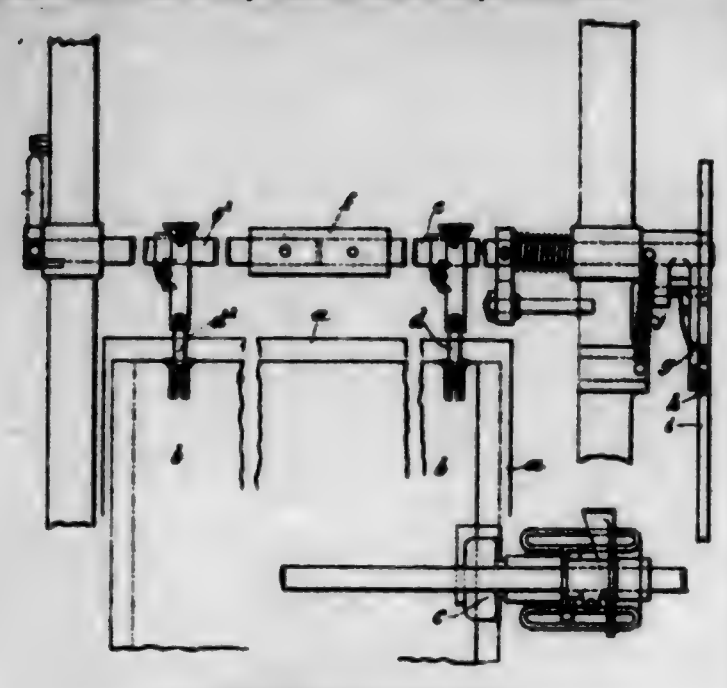
Claim.—1. A match-safe provided with a box-shaped casing which is movable longitudinally of one side thereof, said casing being provided with an aperture and the match-safe being provided within said casing with a rough surface, substantially as shown and described.

2. A match-box one side of which is provided with parallel guides, and a box-shaped casing movable in said guides and the inner side of which is open, said casing being also provided with an aperture through which a match may be inserted and said box with a rough surface, substantially as shown and described.

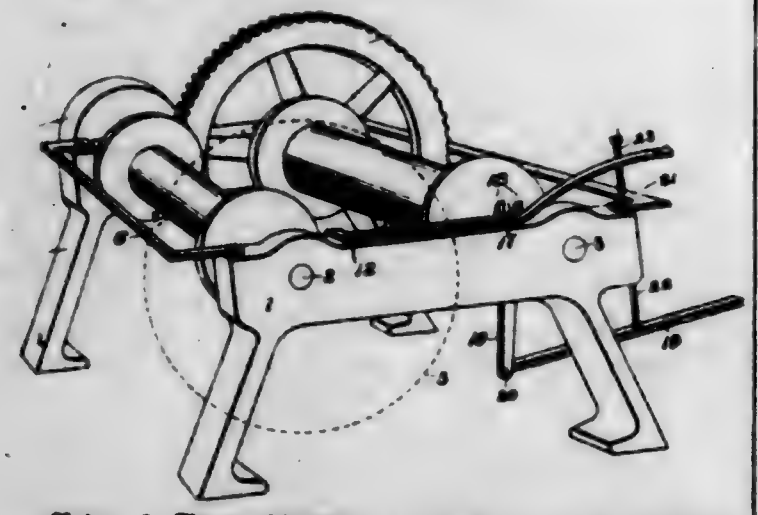
807,191. PRINTING AND SIMILAR MACHINERY. THOMAS A. WILSON and JOHN MURRAY, Edinburgh, Scotland. Filed July 15, 1905. Serial No. 269,775.

Claim.—In printing and similar machinery means whereby an improved register of the sheets is effected, such means comprising mechanism for removing the front lays one before the other, mech-

anism for moving the sheet back and forth, and means for so timing the movements that one lay is removed before and one after the sheet is moved into the home position, substantially as set forth.



807,192. FRICTION-WINDLASS. WILLIAM J. NELSON, Adams, Mass. Filed Mar. 6, 1905. Serial No. 248,553.



Claim.—1. The combination in a windlass of a pair of shafts, a gear-wheel on each shaft and meshing, a loosely-carried drum on each shaft, a coupling between one gear-wheel and drum and means for engaging said coupling, and a wedge-shaped lever adapted to slide the second drum into frictional contact with the second gear-wheel, whereby said drum is rotated.

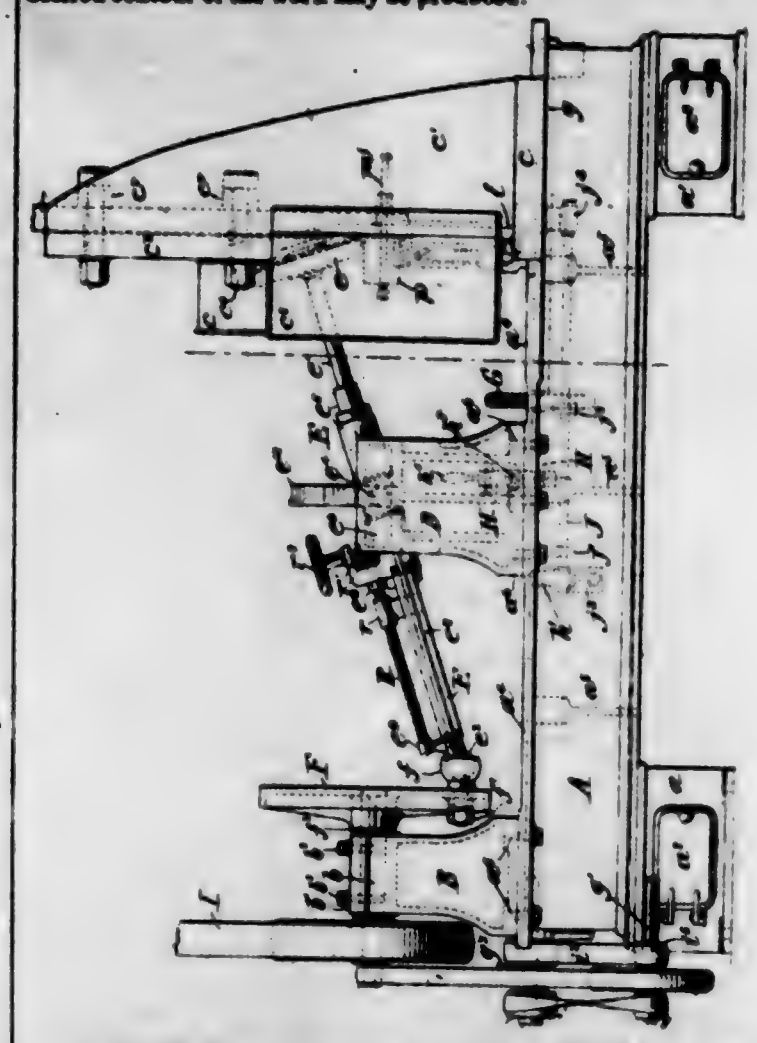
2. The combination in a windlass of a pair of shafts, a pair of gear-wheels, a pair of loosely-carried drums on said shafts, a coupling formed by lugs between one of said wheels and a drum, a sleeve on said drum a lever to engage said sleeve for longitudinally sliding said drum and engaging the coupling, and a wedge-shaped lever for sliding the second drum into frictional contact with the second gear-wheel for driving the said drum.

807,193. GRINDING-MACHINE. HENRY B. NICHOLS, Philadelphia, Pa. Filed Feb. 28, 1905. Serial No. 247,748.

Claim.—1. In a grinding-machine, the combination with a work-support of a tool-support, a tool-spindle swiveled for universal movement therein, means for adjusting said tool-spindle relative to said work, means to rotate said spindle operative in all the angular positions thereof, and means on the other side of said tool-support from said work-support to impart to said spindle a motion which will give the desired contour to the work.

2. In a grinding-machine, the combination with a work-support of a tool-support, a tool-spindle swiveled for universal movement therein, means for adjusting said tool-spindle relative to said work, means to rotate said spindle operative in all the angular positions thereof, means to slide said spindle to impart the desired contour to the work, and means to feed said work-support relatively to said tool-support.

3. In a grinding-machine, the combination with the frame thereof, of a work-support carried by said frame, a tool-support also carried by said frame, a tool-spindle mounted therein and means to rotate the same, means for adjusting said tool-spindle relative to said work, and driving means, also carried by said frame, and connected to the spindle to impart to the latter a shaping motion whereby the desired contour of the work may be produced.



4. In a grinding-machine, the combination with the frame thereof, of a work-support mounted upon said frame, means for feeding work-support, a tool-support also mounted upon the frame, and a cutting or grinding tool carried thereby so as to have universal motion thereon, means for driving said tool so as to impart to it a cutting motion, means for adjusting said tool-spindle relative to said work and other means to guide the tool to impart the desired contour to the work.

5. In a grinding-machine, a bed-plate, a work-support thereon, means for clamping work thereto, a cutting or grinding tool and a support therefor, the tool having longitudinal motion upon said support, and means for driving said tool.

6. In a grinding-machine, the combination with the frame thereof, of a tail-stock or work-support, a tool-support, and a head-stock carried by said frame, a tool-spindle carried by said tool-support with means for driving the same, means for adjusting said tool-spindle relative to said work and means carried by said head-stock for guiding the tool to impart the desired contour to the work.

7. In a grinding-machine, the combination with the frame thereof, of a tool-support fixed upon said frame, a tool-spindle movably mounted upon said support, a work-support or tail-stock movably carried by said frame, means to impart a cutting motion to said tool-spindle and tool, means to feed said tool-spindle in said support and means to feed said work-support relatively to said tool-support.

8. In a grinding-machine, the combination with the frame thereof, of a tail-stock or work-support slidably mounted thereon, means for clamping the work rigidly to said tail-stock, a tool-support mounted upon said frame, a head-stock secured to said frame, a tool-spindle swiveled on said tool-support, a cutting or grinding tool carried thereby, means to drive the same directly to impart thereto a cutting motion, means carried by said head-stock to impart a guiding motion to said tool-spindle, means connected with said head-stock to feed the work-support along the frame, and automatic means to reverse said feed.

9. In a grinding-machine, a box-frame composed of vertical webs with upper and lower flanges, a work-support slidably mounted at one end of said frame to slide upon the upper flange thereof, said support comprising side plates and clamping means between them for securing work-pieces of an elongated form, a tool-support secured intermediate of the ends of the frame to the upper flange thereof, a rotary tool and tool-holder mounted upon said tool-support so as to have universal motion thereon, driving means for imparting

cutting motion to said tool, a third support bolted to said frame, and secondary driving means mounted thereon to drive the tool in a predetermined path with respect to the work held in the work-support.

10. In a metal-working machine, the combination of a tool-support, a tool-holder swiveled therein, a tool-spindle mounted for longitudinal adjustment in said tool-holder, a rotary face-plate, a universal joint connection between said face-plate and tool-holder and means to rotate said tool-spindle.

11. In a metal-working machine, the combination of a tool-support, means rotatable on a vertical axis carried thereby, a tool-holder trunnioned in said means, a tool-spindle carried by said tool-holder, a rotary face-plate, a universal-joint connection between said face-plate and tool-spindle and means to rotate the latter.

12. In a machine of the class described, the combination of a standard, a tool-carrying member swiveled thereon for universal movement, a tool carried thereby, a work-support and means for feeding the same toward and away from said standard, and rotatable means on the other side of said standard from said work-support adapted and arranged to engage said tool-carrying member and to thereby cause the tool to travel in a curved path around the work.

13. In a machine of the class described, the combination of a standard, a bearing swiveled thereon for universal movement, a rotary tool-spindle journaled in said bearing and carrying a cutting or abrading tool, a work-support and means for feeding it toward and away from said standard, a rotatable face-plate located on the other side of said standard from said work-support, and means carried by said bearing adapted to engage said face-plate, whereby said bearing may be caused to carry said tool in a curved path around the work.

14. In a machine of the class described, the combination with a frame, a head-stock secured thereto and a work-support slidably mounted thereon, of an intermediate tool-support carrying horizontal, segmental guides, shoes slidably carried in said guides, a bearing provided with trunnions journaled in said shoes, a rotatable tool-spindle mounted in said bearing, a pulley centrally secured on said spindle between the trunnions of said bearing, rotatable means on said head-stock and connections therefrom to said bearing, whereby the latter is given a universal movement and the tool is carried in a curved path around the work.

15. In a machine of the class described, the combination of a work-support provided with means for clamping the work thereto, a tool-support provided at its upper end with horizontal segmental guides, shoes carried by said guides, a tool-carrying member provided with trunnions journaled in said shoes, a rotatable member located on the other side of said tool-support from said work-support and connections between said member and said bearing whereby the latter is given a universal swinging movement.

16. In a machine of the class described, the combination of a work-support, a tool-support, a bearing member universally swiveled on the latter, a tool-spindle journaled in said bearing member and carrying a cutting or abrading tool, a head-stock, a rotatable face-plate carried thereby, an extension on said bearing member adapted to engage said face-plate, a feed-screw journaled longitudinally in said extension and connections therefrom to said spindle, whereby the latter may be adjusted longitudinally in said bearing member, and the latter be given a universal movement to carry the tool in a curved path around the work.

17. In a machine of the class described, the combination of a tool-spindle, means to rotate the same and means to simultaneously give the same a universal motion about an intermediate point of its axis.

18. In a machine of the class described, the combination of a tool-spindle, means to give the same a universal motion about an intermediate point of its axis, means located about said intermediate point to rotate said spindle, a cutting or abrading tool carried at one end of said spindle, and means connected with the other end thereof to swing the same about said intermediate point, whereby said tool may be given an orbital motion and at the same time be rotated.

19. A machine of the class described, comprising a tool-support having horizontal segmental guideways formed on the upper end thereof, shoes carried in said guideways, a bearing member comprising two alined bearings, connected by yokes provided with trunnions journaled in said shoes, and a yoke-like extension, a tool-spindle journaled in said bearings, a pulley intermediate said bearings and fast on said spindle, a feed-screw longitudinally and centrally journaled in said extension, connections therefrom to said spindle, manual means to operate said feed-screw to adjust said spindle longitudinally in said bearings, a ball-like member on the end of said extension, a head-stock, a rotatable spindle journaled therein, a face-plate carried thereby, and a socket secured eccentrically on said face-plate and adapted to engage said ball-like member, whereby said bearing member and tool-spindle are given a universal movement and the latter is simultaneously rotated.

20. In a machine of the class described, the combination of a frame, a head-stock secured thereto, a spindle journaled therein, a face-plate carried on the inner end of said spindle and having the socket member of a universal joint eccentrically secured thereto, a tail-stock, provided with means to secure the work thereto, slidably mounted on said frame, a feed-screw for said tail-stock, connections from said live-spindle to drive said feed-screw in either direction, adjustable means adapted to be actuated by the movement of said tail-stock to stop the rotations of said feed-screw, a tool-support secured to said frame intermediate said head and tail stocks and a tool-carrying member universally swiveled on said tool-support, said tool-carrying member carrying the ball member of a universal joint adapted to engage in said socket member carried by the face-plate.

21. In a machine of the class described, the combination of a standard, a tool-carrying member universally swiveled thereon, a work-support on one side of said standard and a head-stock on the other side thereof, a live-spindle journaled in said head-stock and carrying on its inner end a face-plate provided with guideways, a block slidably mounted on said guideways, a feed-screw for said block, a driving member pivoted to said block, and connections between said driving member and said tool-carrying member, whereby rotation of said face-plate will impart a universal swinging movement to said tool-carrying member.

22. In a machine of the class described, the combination of a frame, a head-stock and a tool-support secured thereto, a tail-stock or work-support movable thereon, a bearing member universally swiveled on said tool-support, said member comprising two alined bearings connected by yokes carrying trunnions, a tool-spindle journaled in said bearings, a tool carried on the end of said spindle, means to rotate said spindle mounted on the same between said bearings, a live-spindle in said head-stock, a face-plate on said live-spindle, a block slidably carried on said face-plate, a driving member pivoted to said bock, and a pitman connecting said driving member and one of the said sleeves of the bearing member.

23. In a machine of the class described, the combination of a frame, a head-stock secured thereto, a tail-stock slidably mounted thereon and provided with means to clamp the work and means to center the work, the latter means being arranged to be withdrawn from the work after the latter is accurately centered and securely clamped, a tool-spindle swiveled on said tool-support, and means carried by said head-stock to give said spindle a universal swinging movement, whereby the tool carried by said spindle can be moved in a curved path around the work.

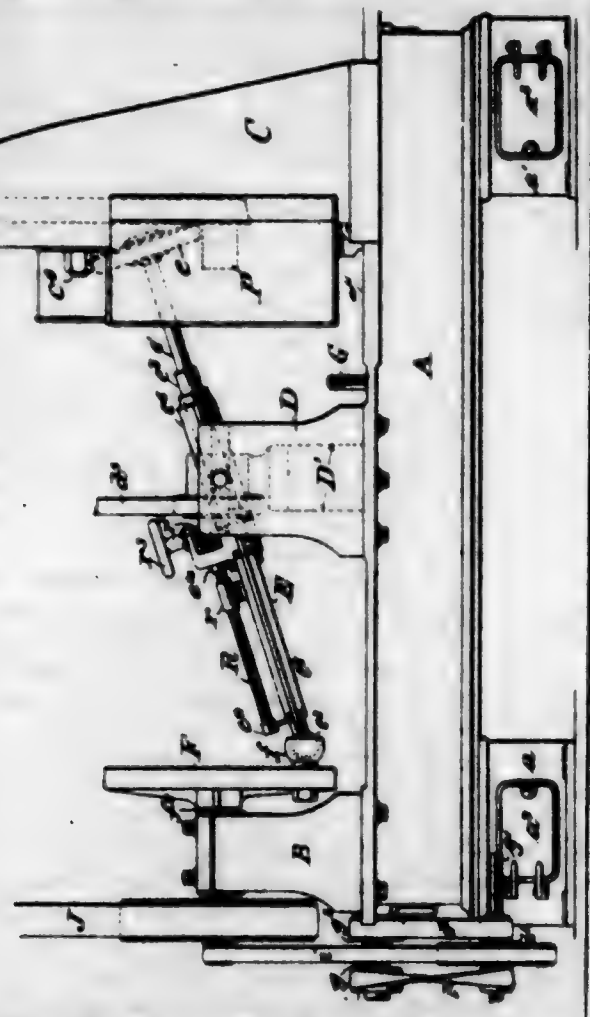
24. In a machine of the class described, the combination of a tool-support, a tool-carrying member universally swiveled on said support, a head-stock carrying a rotatable face-plate, an arc-shaped slotted member secured to said face-plate having its center coinciding with the center of universal movement of said tool-carrying member, a socket member adjustably secured to said arc-shaped member and connections between said socket member and said tool-carrying member whereby rotation of the face-plate will impart a universal swinging movement to said tool-carrying member.

25. In a machine of the class described, the combination of a tool-support, a tool-carrying member universally swiveled on said support, a head-stock carrying a rotatable face-plate, an arc-shaped slotted member secured to said face-plate and having its center coinciding with the center of universal movement of said tool-carrying member, a socket member provided with a shank adapted to be inserted through the slot of said arc-shaped member, a nut on said shank to clamp said socket member in adjusted position, said shank being provided with an aperture and the front curved faces of said arc-shaped member being provided with semicircular grooves, a pin adapted to be passed through said aperture and engage in one pair of said grooves, and a pitman connecting said socket member and said tool-carrying member whereby rotation of the face-plate will impart a universal swinging movement to said tool-carrying member.

26. In a rotary-motion machine, the combination of a tool-support, a tool-spindle pivoted in said support, a pair of grooved pulleys secured to said spindle on each side of its pivoted axis, and a belt passing consecutively around said pulleys and similar pulleys on a suitable driving-shaft, whereby said spindle can be rotated by said belt in any angular position.

807,194. GRINDING-MACHINE. Henry B. Nichols, Philadelphia, Pa. Filed Feb. 25, 1905. Serial No. 247,748.

Claim.—1. In a machine of the class described, the combination of a tool-spindle, a dressing-tool secured to one end thereof, means to move said spindle so as to carry said tool around the work, a bevel-pinion secured to said spindle, an internal bevel-gear mounted in a fixed bearing so as to continuously mesh with and drive said pinion and spindle while the latter is at the same time carrying the tool around the work and means for feeding the tool-spindle.



2. In a machine of the class described, the combination of a tool-support, a work-support, a tool-spindle swiveled in said tool-support for universal movement, a grinding-wheel on the end of said spindle adjacent to said work-support, means to move said spindle so as to carry said wheel around the work, an internal bevel-gear journaled in said tool-support, a bevel-pinion secured to said spindle and meshing with said gear, whereby said spindle can be constantly rotated, while at the same time being carried around the work and means for feeding the tool-spindle.

3. In a machine of the class described, the combination with a tool-support, of a tool-spindle swiveled therein for universal movement, a pinion secured to said spindle an internal bevel-gear journaled for rotation in said tool-support and meshing with said pinion, whereby said spindle can be simultaneously rotated and given a universal motion and means for feeding the tool-spindle.

4. In a machine of the class described, the combination with a tool-support of a bracket-bearing swiveled therein for universal motion, a tool-spindle journaled in said bearing and provided with means to feed the same longitudinally in said bearing, a bevel-pinion secured to said spindle, an annular internal bevel-gear journaled in said support and surrounding said spindle, means to rotate said gear and thereby said pinion, also, and means to impart a universal motion to said bracket-bearing.

5. In a machine of the class described, the combination with a head-stock, a tool-support and a work-support, of a bracket-bearing swiveled for universal motion in said tool-support, a face-plate rotatably carried in said head-stock, a universal joint between said face-plate and bracket-bearing, a tool-spindle journaled in said bearing, a dressing-tool carried by said spindle, an annular, internal gear rotatably mounted in said tool-support, a conjugate pinion secured to said spindle so as to mesh with said gear, means to feed said work-support relatively to said tool-support, and means to drive said face-plate and annular gear, whereby the tool is rotated and simultaneously moved in a circular path around the work.

6. In a machine of the class described, the combination with a tool-support, of a tool-spindle swiveled therein, carrying a grinding-wheel, a bevel-pinion secured to said spindle, a combined annular, internal bevel-gear and pulley journaled in said support and surrounding said spindle, means to rotate said pulley means to move said spindle to carry said wheel around the work and means for feeding the tool-spindle longitudinally.

7. In a metal-working machine, a bed or support, a work-support mounted thereon, means for holding the work rigidly thereto, a tool-support, means for feeding the work-support a tool-holder having universal motion upon said tool-support, means for driving the tool so as to direct its cut, means for feeding the tool, fixed transmission means mounted on the tool-support and power-driven, together with conjugate transmission means upon or connected with the tool and so positioned relatively to the center of motion as to properly take power from the fixed transmission means in all positions of the tool, substantially as described.

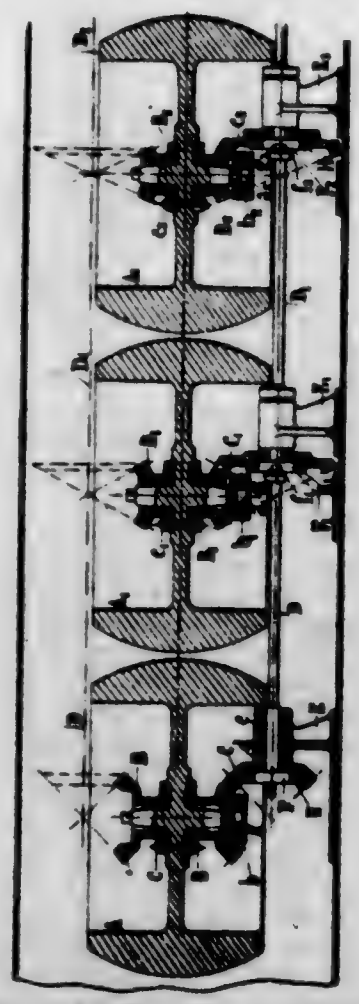
8. In a grinding-machine, the combination with the frame thereof of a work-support and a tool-support, means for rigidly clamping work on the work-support, means for feeding the work-support toward the tool-support means movably supporting a tool on the tool-support, means to cause said tool to travel relatively to the work, and conjugate driving means having one element fixed with respect to the frame for receiving power from without, and a coöperating element connected to the tool and driven from the first element in all positions of the tool, substantially as described.

9. In a grinding-machine, the combination with a work-support of a tool-spindle, means to swing said spindle and thereby cause the tool to travel with respect to the work, means for feeding the tool longitudinally and tool-driving mechanism comprising two elements, one relatively fixed to receive power from without the machine, and the other movable with relation to the first during the swing of the spindle, but operatively connected to receive the transmitted power uniformly throughout its travel, substantially as described.

10. In a grinding-machine, a work-support, and a movable tool-holder, a tool-spindle adjustably carried by said holder, and a pair of gears one carrying a pulley and driven from without the machine, the other secured to the spindle and meshing with the first throughout the movement of the tool-holder, substantially as described.

11. In a metal-working machine, a work-support, a tool-spindle and a swinging bracket-bearing therefor, a drive-pulley mounted to receive power from without the machine, and a pair of intermeshing gears connecting the drive-pulley and tool-spindle so as to transmit said power to the spindle in all positions of the latter.

807,195. AUTOMOTOR-TORPEDO. HENRI A. HOALNAT and GEORGES FOURNIER, Paris, France. Filed May 5, 1905. Serial No. 259,054.



Claim.—1. The combination with an automotor-torpedo, of a plurality of fly-wheels adapted to receive rapid rotation at the moment at which the torpedo is started, the propeller-shafts composed

of several sections or lengths which in number correspond with that of the fly-wheels and which are connected with each other by suitable joints, said joints enabling the first section or length to drive the second, the latter to drive the third section or length, sets of gear-wheels for the transmission of movement from each fly-wheel to the corresponding section or length of the propeller-shaft, the ratio of the set of gear-wheels of the first fly-wheel being greater than that of the set of gears of the second fly-wheel, the ratio of the set of gears of the latter being again greater than that of the set of gears of the third fly-wheel, a clutch-coupling between the set of gears of each fly-wheel and the corresponding section or length of the propeller-shaft to permit transmission of movement from each of the fly-wheels to the corresponding section or length of the propeller-shaft at a desired moment, substantially and for the purpose as specified.

2. The combination with an automotor-torpedo, of a plurality of fly-wheels adapted to receive rapid rotation at the moment at which the torpedo is started, the propeller-shafts composed of several sections or lengths which in number correspond with that of the fly-wheels and which are connected with each other by suitable joints, said joints enabling the first section or length to drive the second, the latter to drive the third section or length, bevel gear-wheels keyed upon the shaft of each fly-wheel and bevel gear-wheel mounted upon each section or length of the propeller-shafts and meshing with the bevel gear-wheel of the corresponding fly-wheel, the ratio of the intermeshing gear-wheels of the first fly-wheel being greater than that of the intermeshing gear-wheels of the second, and the ratio of the intermeshing gear-wheels of the latter being greater than that of the third fly-wheel, a clutch-coupling between each bevel gear-wheel of the propeller-shafts and the corresponding section or length of the latter for the transmission of movement from each of the fly-wheels to the corresponding sections or lengths of the driving-shafts, substantially and for the purpose as specified.

807,196. **BROODER-COOP.** THOMAS O'BRIEN, Branford, Conn. Filed Mar. 23, 1904. Serial No. 199,437.



Claim.—1. A brooder-coop comprising an elongated box having a roof and provided with a removable slat partition extending from front to rear and dividing the box into a brooding-compartment and a scratching and feeding compartment for chicks, the spaces between the slats forming passage-ways for the chicks to pass from one compartment to the other, and the said partition confining a hen in the brooding-compartment, as set forth.

2. A brooder-coop, comprising a box having a roof, a transverse removable slat partition dividing the box into a brooding-compartment and a scratching and feeding compartment for the chicks, and a removable closure for the front of each compartment, as set forth.

3. A brooder-coop, comprising a box having a roof, a transverse removable slat partition dividing the box into a brooding-compartment and a scratching and feeding compartment for the chicks, and an open-work closure for the front of each compartment, as set forth.

4. A brooder-coop comprising a box, a transverse removable slat partition dividing the box into a brooding-compartment and a scratching and feeding compartment for chicks, the spaces between the slats forming passage-ways for the chicks to pass from one compartment to the other, and the said partition confining a hen in the brooding-compartment, and a removable slat front for the front opening of the brooding-compartment, as set forth.

5. A brooder-coop comprising a box, a transverse removable slat partition dividing the box into a brooding-compartment and a scratching and feeding compartment for chicks, the spaces between the slats forming passage-ways for the chicks to pass from one compartment to the other, and the said partition confining a hen in the brooding-compartment, a removable slat front for the front opening of the brooding-compartment, a screen hinged on the said front, and a cover hinged on the said screen, as set forth.

6. A brooder-coop comprising a box, a transverse removable slat partition dividing the box into a brooding-compartment and a scratching and feeding compartment for chicks, the spaces between the slats forming passage-ways for the chicks to pass from one compartment to the other, and the said partition confining a hen in the brooding-compartment, a removable slat front for the front opening of the brooding-compartment, and a removable screen for the front opening of the scratching and feeding compartment, as set forth.

7. A brooder-coop comprising a box, a transverse removable slat partition dividing the box into a brooding-compartment and a scratching and feeding compartment for chicks, the spaces between the slats forming passage-ways for the chicks to pass from one compartment to the other, and the said partition confining a hen in the brooding-compartment, a removable slat front for the front opening of the brooding-compartment, a removable screen for the front opening of the scratching and feeding compartment, and a pane of glass for removable connection with the said screen, as set forth.

8. A brooder-coop comprising a box, a transverse removable slat partition dividing the box into a brooding-compartment and a scratching and feeding compartment for chicks, the spaces between the slats forming passage-ways for the chicks to pass from one compartment to the other, and the said partition confining a hen in the brooding-compartment, a removable slat front for the front opening of the brooding-compartment, a screen hinged on the said front, a cover hinged on the said screen, and means for holding the cover and the screen in open positions, as set forth.

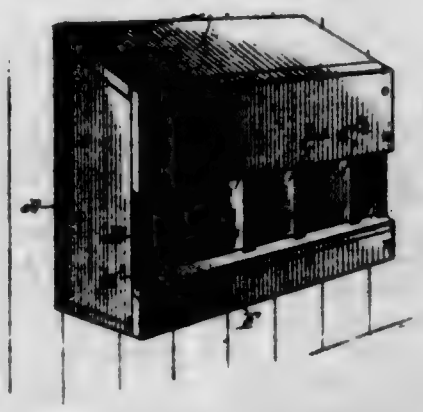
9. A brooder-compartment comprising a box having an open reinforcing-frame at or near the middle thereof, extending in a transverse direction, the reinforcing-frame having front and rear posts and roof and bottom bars, and a transverse removable slat partition, dividing the box into a brooding-compartment and a scratching and feeding compartment for chicks, the said slat partition being removably secured to the said frame and the spaces between the slats forming passage-ways for the chicks to pass from one compartment to the other, and the said partition confining a hen in the brooding-compartment, as set forth.

10. The combination with a coop, of a slat front, a screen carried by the slat front, and a door carried by the screen, as set forth.

11. The combination with a coop, of a removable slat front, a screen hinged to the front, and a door hinged to the screen, as set forth.

12. A brooder-coop, having a partition dividing it into two compartments, a removable slatted front for one compartment, said front being provided with a screen hinged thereto and with a door hinged to the screen, and a removable screen for the other compartment, said screen being provided with a removable pane of glass, as set forth.

807,197. **POULTRY LUNCH-BOX.** THOMAS O'BRIEN, Branford, Conn. Filed Mar. 23, 1904. Serial No. 199,438.



Claim.—1. A poultry lunch-box, comprising a box having an opening in its front and provided with vertical partitions extending from front to rear and dividing the box into a plurality of compartments, each having a front opening, the openings being above the bottoms of the compartments and having inwardly and upwardly inclined flanges on their bottom walls, and an inclined rack in each compartment for supporting the material in the upper portion thereof the racks having openings and extending from the lower rear sides of the compartments to the fronts of the same above the openings, and forming receptacles in the bottoms of the compartments, as set forth.

2. A poultry lunch-box, comprising a box having an opening in front and provided with vertical partitions dividing the box into a plurality of compartments, each having a front opening, the openings being above the bottoms of the compartments, and an inclined rack in each compartment for supporting the material in the upper portion thereof, the racks extending from the rear sides of the com-

partments to the fronts of the same above the openings and forming receptacles in the bottoms of the compartments.

3. A poultry lunch-box comprising a box having a compartment formed with an opening in the front, the bottom wall of the opening being a distance above the bottom of the compartment, and a slatted rack in the said compartment, extending upwardly and forwardly from the lower rear portion of the compartment to the front thereof, a pair of adjacent slats of the rack being spaced farther apart than the remaining slats, as set forth.

807,198. ILLUMINATED SIGN. LOUIS R. PARR, Worcester, Mass., assignor to Eugene A. Bellamy, New York, N. Y. Filed Nov. 14, 1903. Serial No. 181,581.



Claim.—1. As an article of manufacture, an illuminated sign comprising a sign-box having a light therein, and a sign-front of translucent fabric with an opaque coating around the characters or letters to be displayed, said letters or characters having opaque bodies or center lines.

2. As an article of manufacture, an illuminated sign comprising a sign-box having a light therein, and a sign-front of translucent fabric with an opaque coating thereon around the characters or letters to be displayed, and raised characters within the outlines of the lettering on the sign-front.

3. As an article of manufacture, an illuminated sign comprising a sign-box having a light therein, and a sign-front of translucent fabric painted with an opaque pigment of shellac alcohol and lamp-black and smalted over the entire surface except within the outlines of the characters or letters to be displayed, and raised wooden characters fastened by staples within the outlines of the letters or characters displayed.

4. A sign comprising an opaque body formed as a letter or other character, a foraminous sheet to which said body is attached, said sheet being of greater area than the body, and opaque filling material applied to the foraminous sheet and presenting edges which are substantially parallel with the edges of the body and are separated therefrom by light-emitting crevices forming a skeleton letter or character.

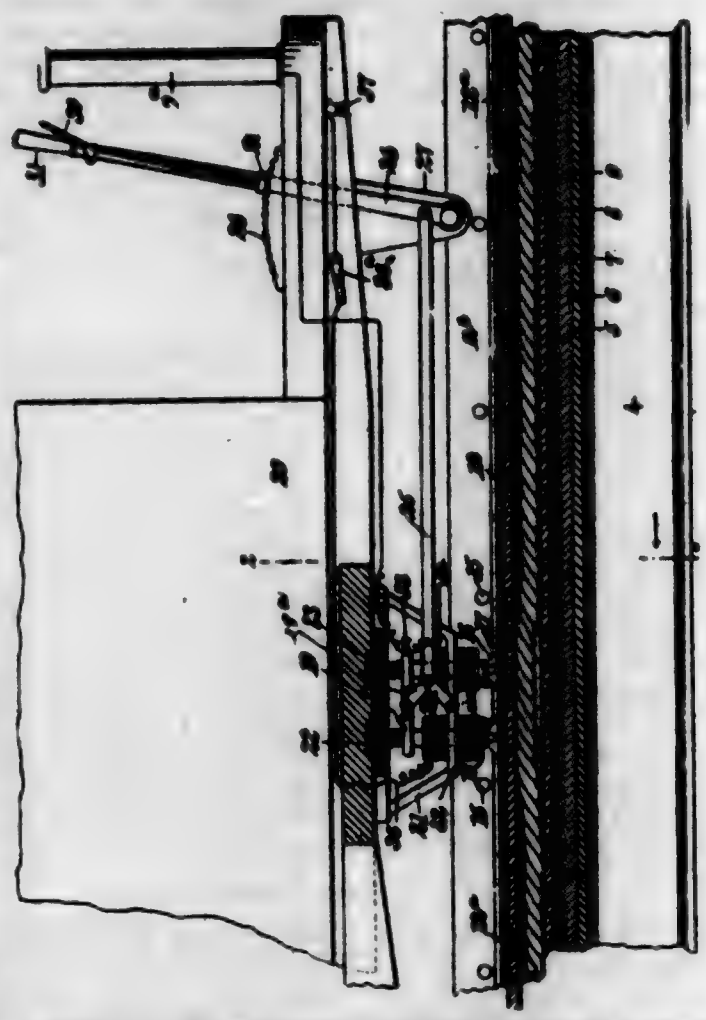
5. A sign comprising an opaque body formed as a letter or other character, an opaque filling presenting edges which are substantially parallel with the edges of the body and are separated therefrom by light-emitting crevices forming a skeleton letter or character, and connecting members attached both to the body and filling and extending across the said crevices, said members being formed to maintain the body and filling in their proper relative positions without obstructing the passage of light through the said crevices.

6. In an illuminated sign, the combination with an opaque shield provided with apertures in the shape of sign characters; of opaque sign characters corresponding in form with, and smaller in dimensions than, said apertures within which they are located respectively with free space on all sides between the edges of said opaque characters and the edges of said apertures; and means for transmitting light through said free spaces.

7. In an illuminated sign, the combination with an opaque shield provided with apertures in the shape of sign characters; of opaque sign characters corresponding in form with, and smaller in dimensions than, said apertures within which they are located respectively with free space on all sides between the edges of said opaque characters and the edges of said apertures; a netting extending across and exposed through said free spaces; and means for transmitting light through the exposed portions of said netting.

8. In an illuminated sign, the combination with a frame; of a sheet of netting mounted upon said frame; an opaque shield adjacent to said netting provided with apertures in the shape of sign characters; opaque sign characters corresponding in form with, and smaller in dimensions than, said apertures within which they are respectively mounted upon said netting with free space on all sides between the edges of said opaque characters and the edges of said apertures through which free spaces said netting is exposed; and means for transmitting light through the exposed portions of the netting.

807,199. MAGNET-CONTROLLED THIRD-RAIL SYSTEM. HENRY J. PALMER, Philadelphia, Pa., assignor of one-half to Max Blitman, New York, N. Y. Filed Oct. 3, 1904. Serial No. 226,986.



Claim.—1. The combination of a cable, magnetic mechanism for attracting the same, a contact member to be engaged by said cable when lifted by said magnetic mechanism, a support mounted upon a vehicle for sustaining said magnetic mechanism, toggles connected with said magnetic mechanism and with said support for the purpose of raising and lowering said magnetic mechanism relatively to said support, a hand-lever connected with said toggles for controlling the same, and means controllable at will for holding said hand-lever in predetermined positions for the purpose of adjusting the height of said magnetic mechanism relatively to said vehicle.

2. The combination of a movable vehicle, solenoids mounted thereon and fixed relatively thereto, movable cores associated with said solenoids and adapted to be energized thereby, toggles connected with said cores for moving the same relatively to said vehicle, a hand-lever connected with said toggles for actuating the same, contact-shoes mounted upon said cores, contact members disposed along the track, and a conducting-cable of magnetic material extending along the track and adapted to be drawn in engagement with said contact members when said cable is attracted by said cores.

3. The combination of a conducting-cable of magnetic material, magnetic cores carried by a movable vehicle for attracting said cable, contact members disposed along the railway-track and adapted to be engaged by said cable when the latter is attracted by said magnetic cores, a yoke connected with said magnetic cores, solenoids encircling said cores for the purpose of energizing the same, and manually-operated toggle mechanism for moving said cores toward and from said contact members.

4. The combination of a movable conductor adapted to be attracted, a contact member disposed adjacent thereto, a pair of insulating members engaging opposite edges of said contact member for the purpose of supporting the same, magnetic mechanism mounted upon a movable vehicle and adapted to pass over said contact member, means for energizing said magnetic mechanism, a conductor adapted to temporarily engage said contact member for the purpose of completing a circuit through said movable conductor and said contact member, a metallic gutter for supporting said conductor, a member of insulating material for supporting said gutter, a metallic trough for supporting said member of insulating material, and means for supporting said metallic trough.

807,200. CLAMP FOR WIRE-STRETCHERS. DANIEL H. PARKER, Boston, Ga. Filed Aug. 26, 1905. Serial No. 275,599.

Claim.—1. A clamp for wire-stretchers consisting of a front and a back member, and resilient connecting means at their lower ends.



2. A clamp for wire-stretchers consisting of a front and a back member, resilient connecting means at their lower ends, and means for clamping the upper parts of the members together.

3. A clamp for wire-stretchers consisting of a front and a back member, a strap at the lower end of each member extending beyond the lower edge of the same, and means for connecting the straps at their lower ends.

4. A clamp for wire-stretchers consisting of a front and a back member, an elastic strap secured to the outer face of each member at its lower end and projecting below the lower edge of the same, and a link for connecting the lower ends of said straps.

5. A clamp for wire-stretchers consisting of a front and a back member, an elastic strap secured to the outer face of each member at its lower end and projecting below the lower edge of the same, a link connecting the lower ends of said straps, and means for forcing the upper portions of the front and back members together.

6. A clamp for wire-stretchers consisting of a front and a back member, an outwardly-sprung strap secured to the outer face of each member at its lower end projecting beyond the lower edge of the same, a link connecting the lower ends of the straps, threaded bolts passing through the body portion of members and clamping-nuts adapted to fit the threaded bolts and draw the inner faces of the two members together.

7. A clamp for wire-stretchers consisting of a front and a back member, an outwardly-sprung strap secured to the outer face of each member at its lower end and a link adapted to connect the lower ends of the straps, and draw the lower ends of the members together.

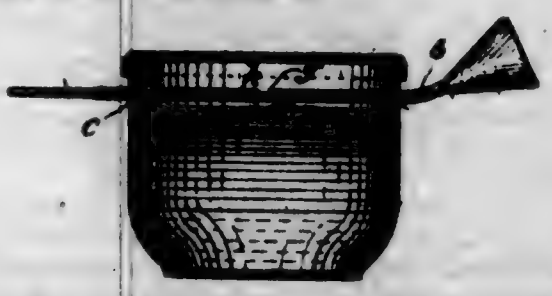
8. A clamp for wire-stretchers consisting of a front and a back member, an outwardly-sprung strap secured to the outer face of the front member, at its lower end, an outwardly-sprung strap secured to the outer face of the back member at its lower end, and a connecting member pivotally secured to the free end of the strap of the front member and adapted to engage the lower end of the strap secured to the back member.

9. A clamp for wire-stretchers consisting of a front and a back member, an outwardly-sprung strap secured to the outer face of the front member at its lower end, an outwardly-sprung strap connected to the outer face of the back member, and means for connecting the free ends of the outwardly-sprung straps, and drawing them inwardly, whereby the lower ends of the front and back members will be drawn together.

10. A clamp for wire-stretchers consisting of a front and a back member, a resilient connection at the lower ends of the same adapted to normally force the upper portions of the two members apart, bolts passing the two members in their body portions, and means engaging said bolts for forcing the upper portions of the two members together.

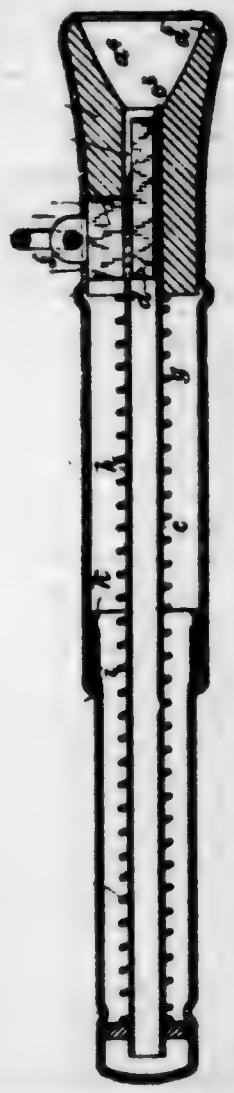
11. A clamp for wire-stretchers consisting of a front and a back member, elastic connections at the lower end of the same, normally forcing the upper portions of the two members apart, bolts passing through the upper portion of the two members, and crank-nuts engaging the bolts, whereby the upper portions of the two members may be forced together.

807,201. **SOAP-BUBBLE GENERATOR.** CHARLES J. PAULSON, New York, N. Y., assignor to Phoebe E. MacLaurin, New York, N. Y. Filed Oct. 6, 1904. Serial No. 227,248.



Claim.—A soap-bubble toy comprising a water-holding cup adapted to sit upright, a removable flanged cover for closing the top of said cup, a blow-tube extending through the cup and beneath the top and having an aperture within the cup, a mouthpiece extension applied on the said tube at one side of the cup, and a funnel extension applied on the said tube on the other side of the cup, the parts being arranged and combined substantially as shown and described.

807,202. **CIGAR-PIERCER.** CARL PEPER, Budweis, Austria-Hungary, assignor to L. & C. Hardtmuth, Budweis, Austria-Hungary. Filed Mar. 10, 1904. Serial No. 197,978.



Claim.—1. A cigar-piercer of the kind specified, consisting in the combination with the two telescopically-slidable tubular members of the casing normally held extended by a spring, of a tubular longitudinally-slotted cutter carried by and slidable with the one member and adapted to work through a guide-aperture in and coaxial with the bell-mouthed outer extremity of the other member, the slot of the tubular cutter near its outer end and a core-ejector in the cutter-tube and held stationary with relation to the outer member by the engagement with a hole in said member of a laterally-projecting portion of the ejector passing outward through the slot in the cutter, substantially as described.

2. In a cigar-piercer of the kind specified, the combination with two telescoping tubular members, the outer member having a flaring outer end forming a bell-mouthed cavity for the reception of the cigar-tip, of a plug or lining of wood or other suitable material seated and held within the flaring end of the said outer member with its inner end forming an abutment, a collar in the inner tubular member, and a spring between the collar and abutment whereby the two members of the casing are normally kept extended, substantially as described.

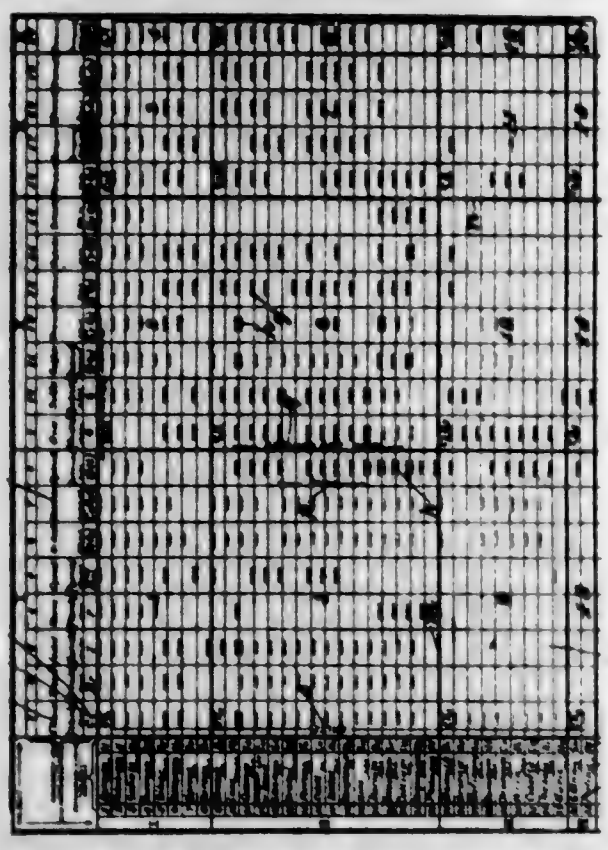
3. A cigar-piercer, comprising two telescoping tubular members, the outer member having a flaring outer end, a plug centrally apertured and having a bell-shaped mouth, in the flaring end of said outer member, a tubular cutter secured to the inner tubular member and sliding in the bore of the plug, said cutter having a longitudinal slot terminating short of its outer end, a spring surrounding the cutter between a stop thereon and the plug of the outer member, a plate secured in slots in the outer member and its plug, the inner end of the plate being reduced and extending through the slot of the tubular cutter, and an ejector secured to the inner reduced end of the said plate, within the tubular cutter, substantially as described.

4. In a cigar-piercer, the combination with two telescoping and spring-pressed members, the outer member having a flaring outer end, of a tubular cutter secured to the inner member and projecting

into the outer member, the cutter being provided with a longitudinal slot terminating short of its outer end, and an ejector in the tubular cutter and having a member extending out through the slot thereof and secured to the outer telescoping member, substantially as and for the purpose set forth.

5. In a cigar-piercer, the combination with two telescoping and spring-pressed members, the outer member having a flaring outer end and provided with a centrally-apertured plug secured in said end, said outer member and block being provided with lateral openings, of a tubular cutter secured to the inner member and projecting into the central aperture of the plug, said cutter being provided with a longitudinal slot terminating short of its outer end, and an ejector in the tubular cutter and provided with a member extending through the lateral openings of the plug and outer member.

807,203. CHEMICAL CHART. CHARLES D. POCHE, Minneapolis, Minn. Filed Mar. 17, 1905. Serial No. 250,601.



Claim.—A chemical chart, comprising a number of designations indicating anions and arranged in a column, a number of designations indicating cathions and arranged in another column, a number of symbols representing the valance values of said anions, a number of other symbols representing the valance values of said cathions, and a number of distinct squares related to said valances of said cathions and to said valances of said anions for the purpose of exhibiting the characteristics of compounds formed by said anions and said cathions.

807,204. FOLDING BED. CHARLES T. RICE, Chicago, Ill. Filed Oct. 20, 1904. Serial No. 229,094.



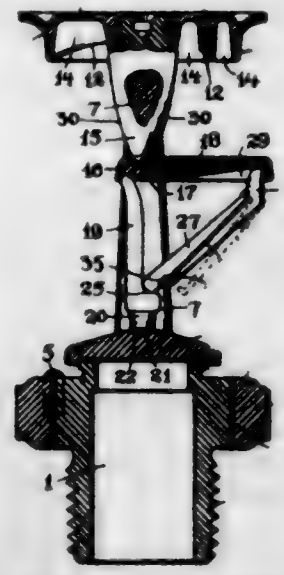
Claim.—1. In a bed, in combination, a head; a foot; brackets secured to said head and said foot; folding side rails hinged to said brackets, each of said brackets having a recess upon its inner face, also having stop-shoulders integral with said brackets, the end of one of which side rails lies within said recess, the end of said side rail when in its normal position lying beneath one of said stop-shoulders and resting upon the other of said stop-shoulders and means for holding said head and said foot upright.

2. In a bed, in combination, a head; a foot; folding side rails hinged to said head and said foot; two steadying-arms for maintaining said head and said foot in an upright position, one of said arms being connected at one end with said head and the other being connected at one of its ends with the foot, the other inner ends of said arms being pivotally connected together, each of said arms being shorter than the width of said head and said foot, whereby said arms will lie wholly within the bed at all times; and a rod for supporting the inner ends of said steadying-arms.

3. In a bed, in combination, a head; a foot; a bottom comprising end bars and two-part folding side rails, said end bars and side rails being formed from angle-iron, one flange of which extends vertically and the other flange horizontally inward, the ends of the vertically-extending flanges of said side rails abutting to limit the downward movement of said side rails; brackets on said head and said foot to which said bottom is pivotally connected, said brackets having recesses in which the corners of said bottom lie, said brackets also having stop-shoulders adapted to support said bottom and take the strain off the pivotal connection between said bottom and said brackets and means for holding said head and said foot upright.

4. In a bed, in combination, a head; a foot; a bottom having a transverse hinge-joint therein substantially at its longitudinal center; and a foot-lever attached to one end of said bottom for tilting said bottom upwardly.

807,205. AUTOMATIC SPRINKLER. GEORGE I. ROCKWOOD, Worcester, Mass. Filed June 15, 1905. Serial No. 265,503.



Claim.—1. In an automatic sprinkler, the combination with a water-nozzle, and a cap closing said nozzle, of a fixed boss and a cap-retaining device between said cap and said boss, comprising a lever arranged parallel to said cap, a post having one end bearing against said cap and its opposite end bearing against one end of said lever, and a strut interposed between said post and the opposite end of said lever, said strut consisting of attached pieces detachable by heat.

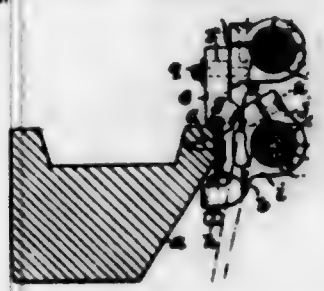
2. In an automatic sprinkler, the combination with a water-nozzle, and a cap closing said nozzle, of a cap-retaining device comprising a lever arranged parallel to the cap, a post resting upon said cap and supporting one end of said lever, a strut placed at an oblique angle to said post, and interposed between said post and the opposite end of said lever, said strut consisting of attached pieces detachable by heat, and means for applying pressure to said lever between its supported ends.

3. In an automatic sprinkler, the combination with a water-nozzle, and a closing-cap for said nozzle, of a fixed boss having its axis coincident with the axis of the nozzle, a lever bearing against said boss, and between its ends, a post interposed between one end of said lever and said cap, and a strut interposed between said post and the opposite end of said lever, the integrity of said trust being destroyable by heat.

4. In an automatic sprinkler, the combination with a water-nozzle and a closing-cap for said nozzle, of a fixed boss, above said cap, a lever parallel with the cap and bearing against said boss, a post bearing on said cap and supporting one end of said lever and a strut resting against a shoulder on said post and supporting the opposite end of said lever, means for varying the distance between said boss and said cap.

5. In an automatic sprinkler, the combination with a water-nozzle, and a cap closing said nozzle, of a fixed boss above said cap, and a cap-retaining device interposed between said boss and said cap and consisting of a frame comprising an upright post, an oblique strut bearing against said post, and a lever supported upon said post and strut and bearing against said boss, one member of said retaining device being composed of pieces attached together by solder fusible at a predetermined degree of heat.

807,206. GLASS-BAR BRACKET FOR DOUBLE-DECKER LOOMS. OTTO W. SCHAUB, Philadelphia, Pa. Filed Jan. 28, 1905. Serial No. 243,045.



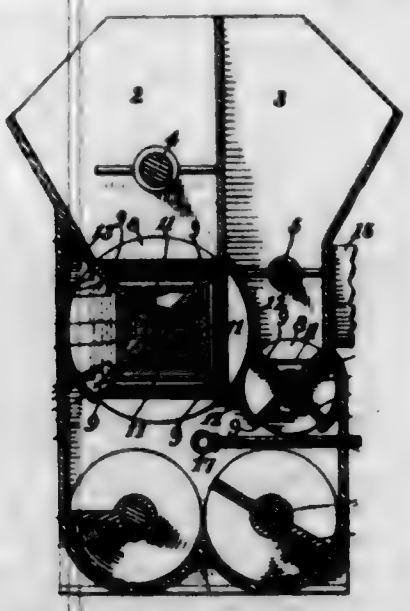
Claim.—1. In a loom adapted to weave goods in a plurality of tiers, a breast-beam and a means thereon for supporting the webs being woven in a plurality of tiers, said means comprising brackets adjustable vertically to vary the distance between the tiers of webs and also adjustable laterally relatively to each other, substantially as described.

2. In a loom adapted to weave goods in a plurality of tiers, a breast-beam and a means thereon for supporting the webs being woven in a plurality of tiers, said means comprising the devices over which the webs directly extend and two clamping members each carrying one of said devices and one being secured to the other for adjustment vertically and the latter being secured to the breast-beam, substantially as described.

3. In a loom adapted to weave goods in a plurality of tiers, a breast-beam and a means thereon for supporting the webs being woven in a plurality of tiers, said means comprising the devices over which the webs directly extend and two clamping members each carrying one of said devices and one being secured to the other for adjustment vertically and the latter being secured to the breast-beam for adjustment laterally, substantially as described.

4. In a loom adapted to weave goods in a plurality of tiers, a breast-beam and a means thereon for supporting the webs being woven in a plurality of tiers, said means comprising the devices over which the webs directly extend, a casting secured to the breast-beam, a clip coacting with the casting to hold one of said devices and a clamping member for holding the other of said devices, said clamping member being adjustable vertically in the casting, substantially as described.

807,207. MACHINE FOR MIXING CONCRETE. GEORGE D. SCHEIFFLER, Jackson, Mich. Filed May 8, 1905. Serial No. 259,322.



Claim.—1. The combination of two hoppers, rotary agitators in the hoppers, chambered cylinders beneath the hoppers, concaves at the opposite sides of the cylinders, a mixer below the cylinders, means for supplying water to the mixer, means for rotating the agitators and the cylinders, and means for operating the mixer.

2. In a cement-mixer, the combination of a hopper, a cylinder having heads provided with openings and also having radial partitions, concaves at opposite sides of the cylinder, detachable plates in the cylinder, and lugs and a spring-catch on the plates to engage the openings in the heads.

3. In a concrete-mixer, a mixing device comprising two parallel shafts, radial paddles and short screw conveyers arranged alternately on said shafts, and means for rotating the shafts in opposite directions.

4. In a concrete-mixer, a mixing device comprising a double trough having a ridge therebetween, a shaft in the axis of each trough, radial paddles and short screw conveyers arranged alternately on each shaft and alternately opposite on the respective shafts, and means for rotating the shafts in opposite directions.

5. In a concrete-mixer, a hopper, a chambered cylinder, a shaft on which the cylinder is mounted, concaves at each side of the cylinder, a disk fixed on the shaft, pins in the disk, a wheel journaled on the shaft, a radial arm pivoted on the wheel, and a cam partially surrounding the disk and engaging the arm to move it out of contact with the pins in the disk.

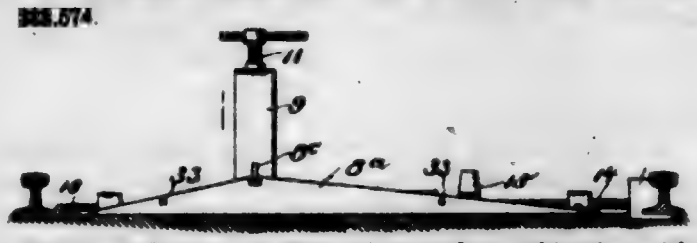
6. In a concrete-mixer, a hopper, a yielding gate in the lower edge of one side of the hopper, a spring engaging the gate a cylinder having heads and radial partitions, a vertical wall, a concave at one side of the cylinder and below the gate, a concave at the opposite side of the cylinder, and means for rotating the cylinder.

7. In a concrete-mixer, a hopper for sand, a hopper for cement, a water-tank, a shaft below each hopper, a chambered cylinder on each shaft, means for imparting a simultaneous intermittent movement to said shafts and cylinders, a mixer below the cylinders, means for operating the mixer, a pipe extending from the tank to the mixer, a valve in the pipe, a lever adjustably attached to the valve, a spring attached to the lever, a wheel on one of the shafts, and pins in the wheel to engage and move the lever.

8. The combination of a mixer, means for supplying sand and cement to the mixer, a water-tank, a pipe extending from the tank to the mixer, a plug-valve in the pipe, a disk attached to the valve and having segmental slots, a lever attached to the disk by bolts adjustable in the slots, a spring connected to the lever to close the valve, a rotative wheel, and pins in the wheel to engage the lever and periodically open the valve.

9. The combination of a hopper for sand, a hopper for cement, a tank for water, a shaft beneath each hopper and connected by sprocket-wheels and chain to rotate simultaneously, a cylinder on each shaft, each cylinder having two heads and four equidistant radial partitions, concaves at each side of each cylinder, an agitator in each hopper, a mixer comprising a double trough below said cylinders, parallel shafts in the axis of said troughs, paddles and screw conveyers on said shafts, a pipe extending from the tank to the mixer, a valve in the pipe, means for constantly rotating the agitators and the mixer, and means for simultaneously and intermittently rotating the cylinders and opening the valve.

807,208. TRACK-ALINING APPARATUS. FRANK B. SHAW and JOHN M. EBERLE, Warsaw, Ind. Filed Oct. 13, 1905. Serial No. 282,574.

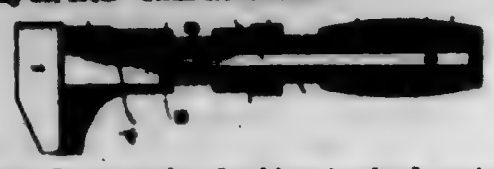


Claim.—1. In a track-alining device, the combination with a bed-plate and means thereon to apply pressure to the track, of an anchoring-blade, and an upright frame on the bed-plate and having a screw bearing on top of the blade to drive the same in the ground, said frame and screw being movable to horizontal position to allow a train to clear the device.

2. In a track-alining device, the combination with a bed-plate having means thereon to apply pressure to the track, and an anchoring-blade adapted to be driven into the road-bed, of a frame detachably connected to the bed-plate and having a screw which bears upon the blade, to drive the same.

3. In a track-alining device, the combination with a bed-plate having thereon a screw engageable with one of the rails, of an anchor-blade adapted to be driven into the ground, a frame carrying a screw arranged to bear upon the top of the blade and drive the same, and hooks connecting the bed-plate and frame, and arranged to hold the latter in place on the former.

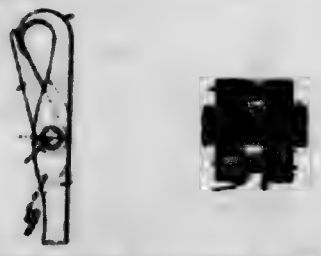
807,209. WRENCH. JAMES H. SHERMAN, Idaho Springs, Colo. Filed July 21, 1905. Serial No. 270,044.



Claim.—1. In a wrench, a fixed jaw, its shank, and rectangular enlargement with shoulder, a movable jaw with rectangular socket with shoulder to receive said enlargement, exteriorly-threaded extension, a handle portion with interiorly-threaded socket, and a sleeve sliding on said shank and with interiorly-threaded socket to receive the threads of the movable jaw and an exteriorly-threaded extension received in the socket of the handle portion, the threaded engagement of said sleeve with said parts being of an opposite nature, and means for securing the end of the shank of the fixed jaw within the handle portion.

2. In a wrench, a movable jaw having an exteriorly-threaded extension and an interior rectangular socket said enlargement and socket having coöperating shoulders, a fixed jaw with a shank with rectangular enlargement received in said socket, a handle portion with socket to receive the end of the said shank and a threaded socket, means for securing the shank within the first-mentioned socket of the handle portion, and a sleeve sliding on said shank and having a threaded extension directly engaging the threads of the socket of the handle portion and an interiorly-threaded socket receiving directly the threaded extension of the said movable jaw, the threaded engagements of the said sleeve with the opposite parts being of opposite nature.

807,210. LATCH-NEEDLE FOR KNITTING-MACHINES. CHARLES J. SEDGLEY, Troy, N. Y.; and DAMON A. VANCE, Bennington, Vt., assignors to Charles Cooper, Bennington, Vt. Filed June 24, 1905. Serial No. 266,709.



Claim.—1. A latch-needle for knitting-machines provided with a slot extending longitudinally thereof between two walls and comprising in its construction a rivet extending transversely of said needle across said slot, said rivet having a plurality of annular projections thereon in engagement with one of said walls between the outer side face thereof and said slot, and a latch pivoted on said rivet between said walls.

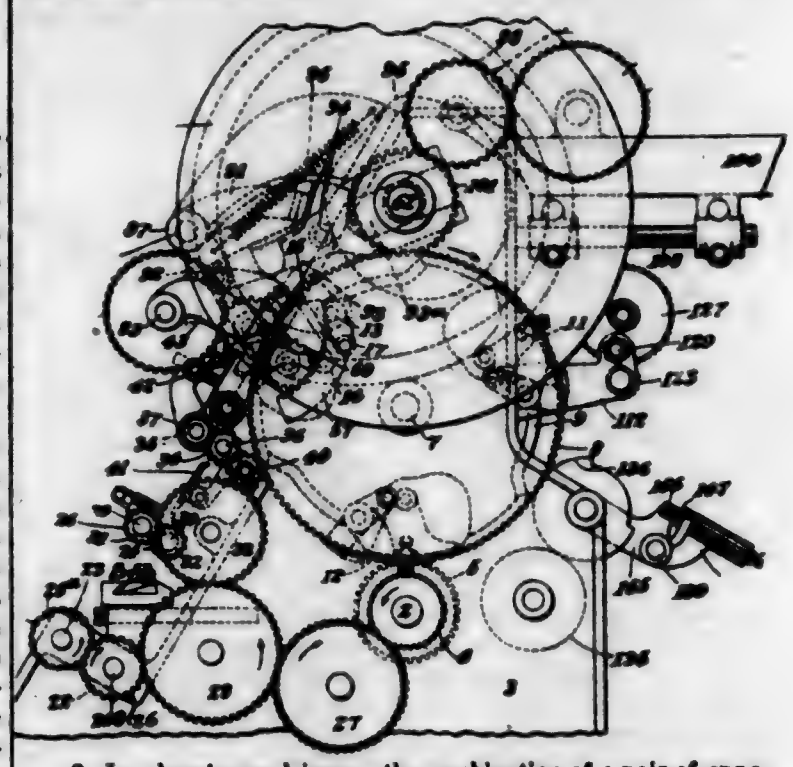
2. A latch-needle for knitting-machines provided with a slot extending longitudinally thereof between two walls and comprising in its construction a rivet extending transversely of said needle across said slot, said rivet having a plurality of annular projections thereon in engagement with one of said walls between the outer side face thereof and said slot, the diameter of said rivet between said walls being greater than the diameter of the portion of said rivet having engagement with said walls, and a latch pivoted on said rivet between said walls.

3. A latch-needle for knitting-machines provided with a slot extending longitudinally thereof between two walls and comprising in its construction a rivet extending transversely of said needle across said slot, said rivet having a series of parallel annular V-shaped projections in engagement with each of said walls.

4. A latch-needle for knitting-machines provided with a slot extending longitudinally thereof between two walls and comprising in its construction a rivet extending transversely of said needle across said slot, said rivet having a plurality of annular projections thereon projecting into annular depressions in each of said walls between said slot and the outer side faces of said walls, respectively, and a latch pivoted on said rivet between said walls.

807,211. PAPER-BAG MACHINE. CHARLES F. SMITH, Bridgeport, Conn., assignor to Continental Paper Bag Company, a Corporation of Maine. Filed June 22, 1904. Serial No. 214,863.

Claim.—1. The combination of a revoluble folding-bed, means for forming the diamond fold thereon, an integral combined breaker and ironer comprising a pair of oppositely-disposed downwardly-reaching ears and means for moving said breaker and ironer toward and away from the folding-bed; all combined and operating together substantially as described.



2. In a breaker and ironer, the combination of a pair of oppositely-disposed right and left ears, 90ª, 90ᵇ, respectively, for turning inwardly the sides of the mouth of the bag-blank, and one or more yieldable fingers, 90ᶜ, for flattening the diamond fold, all combined and operating together substantially as described.

3. The combination with a diamond-folding means, including a revoluble folding-bed, of an integral combined breaker and ironer comprising a reversed-U-shaped member, and means for moving said combined breaker and ironer in approximate parallelism with the folding-bed.

4. The combination with diamond-folding means, of the ironer 90, means to operate the ironer in substantial parallelism with the diamond fold, breaker-ears 90ª, 90ᵇ, and means to oscillate said ears on fixed trunnions, all combined and operating together substantially as described.

5. The combination of a revoluble folding-bed with rear flap-folders comprising a pair of oppositely-disposed members, each pivotally mounted for rotation on a pivot whose axis forms an acute angle with the face of the revoluble folding-bed, and means for rotating the flap-folders all combined and operating together substantially as described.

6. The combination of a folding-bed with rear flap-folders comprising a pair of oppositely-disposed members, each having an extension or extensions thereof in its line of travel respectively, to prolong its period of coöperation with the folding-bed, and means for rotating the flap-folders all combined and operating together substantially as described.

7. The combination of a revoluble folding-bed and rear flap-folders, said rear flap-folders being so mounted for rotation that their path of travel, during their period of coaction with the folding-bed, is substantially concentric with the path of said folding-bed, and means for rotating the flap-folders all combined and operating together substantially as described.

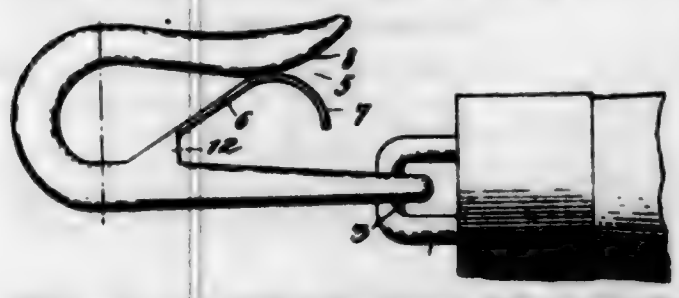
8. The combination of a folding-bed having a cylindrical working face, side clips 19, 20, and rear flap-folders 115, 116, said rear flap-folders mounted for rotation so that their path of travel, during their period of coaction with the folding-bed, is substantially parallel to the path of travel of the folding-bed, and means for rotating the flap-folders all combined and operating together substantially as described.

9. The combination of a revoluble folding-bed having its surface curved in its plane of revolution, side clips 19, 20 thereon, and rear flap-folders, whose blank-engaging portions are curved to conform substantially to the curved surface of the folding-bed; all combined and operating together substantially as described.

10. The combination of a revoluble folding-bed 10, side clips 19, 20 thereon, a yieldably-mounted roll 136, clip 129 thereon to grip thereto and remove the bag-blank from the folding-bed, said roll also for coaction with said folding-bed for folding the front flap of the bag-blank and roll 135 for coaction with roll 136 for discharging the bag from the machine all combined and operating together substantially as described.

11. The combination of a folding-bed 10 having a cylindrical face, side clips 19, 20, rear flap-folders 115, 116, whose blank-engaging portions are curved to conform substantially to the cylindrical surface of the folding-bed yieldably-mounted combined folding and delivery roll 136, clip 129 and roll 135, all combined and operating together substantially as described.

807,212. WHIFFLETREE-HOOK. JOHN STAHL, Manitowoc county, Wis. Filed June 15, 1903. Serial No. 161,344.



Claim.—As a new article of manufacture, the herein-described U-shaped whiffletree-hook comprising the arm and bill, substantially in parallel relation and curved at their meeting, merging ends, said arm having an eye at its outer end, and provided near its inner end, on the side opposite to the bill, with an inwardly-projecting lug forming a reinforce thereof and having an inclined face, and a flat spring seated and secured to the said arm, bearing against the inclined face of said lug, and bearing near its outer end against the bill of the hook.

807,213. TREE-PROTECTOR. SAMUEL S. STALEY and JOSEPH T. WARD, Philadelphia, Pa. Filed Sept. 12, 1905. Serial No. 278,139.

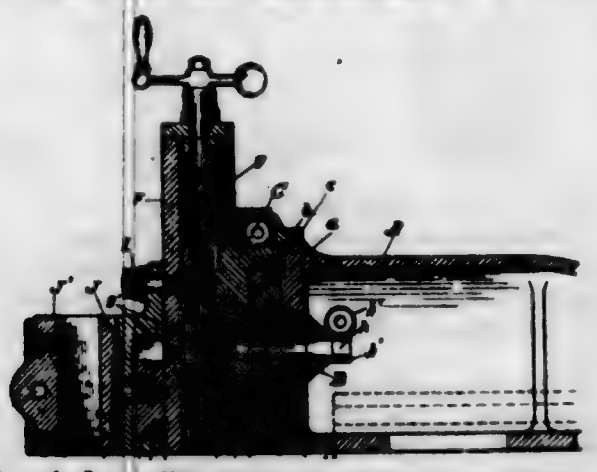


Claim.—1. A tree-protector comprising a band for surrounding the tree, flaring toward its upper extension, and provided with a fringe of needles around its upper margin.

2. A tree-protector comprising a band for surrounding the tree having a smooth inclined under surface toward its upper margin, and provided with a fringe of needles around said upper margin.

3. A tree-protector comprising a band for surrounding the tree having a smooth inclined under surface toward its upper margin and provided with a fringe of downwardly-projecting needles around said upper margin.

807,214. SHAPING-MACHINE. JAMES C. STEEN, Cincinnati, Ohio, assignor to The Cincinnati Shaper Company, Cincinnati, Ohio, a Corporation. Filed May 31, 1904. Serial No. 210,619.



Claim.—1. In a pull-cut shaping-machine, in combination with the ram and down-feed box, a boss on the front face of said box, a bifurcated tool-carrier having a socket in its rear face to receive said boss, engaging shoulders forming arcs of circles at the edges of said boss and said socket, the sum of the two arcs being less than three hundred and sixty degrees, a pin centrally located as to said arcs secured to said boss and forming a journal for said tool-carrier, means for clamping said tool-carrier in any angular position, and a tool-holder pivoted at the forward ends of the bifurcations of said tool-carrier, substantially as described.

2. In a pull-cut shaping-machine, in combination, the ram, the down-feed box, a bifurcated tool-carrier rotatably supported with its rear face against the face of said down-feed box, a boss on the face of said down-feed box, a socket in the rear face of said tool-carrier to receive said boss, engaging shoulders forming arcs of circles at the edges of said boss and said socket, the sum of the angles of said arcs being less than three hundred and sixty degrees, means for clamping said tool-carrier in position, and a tool-holder pivoted in the bifurcation of said tool-carrier, substantially as described.

3. In a pull-out shaping-machine, in combination with the ram, a boss at the forward end of said ram formed into a radially-extending annular shoulder and an annular groove between said shoulder and the forward end of the ram, a flanged disk journaled on the end of the ram, the flange of the same forming with the annular shoulder and groove in said boss a closed annular slot, bolts with their heads in this closed slot clamping said flanged disk to the ram, vertically-extending flanged ribs in the front face of said disk, the down-feed box embracing said flanged ribs, its sides being provided with flanges located behind the flanges on said ribs, wedges embraced between said flanged ribs and the flanged sides of said box, a boss on said down-feed box, a bifurcated tool-carrier journaled on said boss, a socket in the rear face of said tool-carrier to receive said boss, engaging shoulders forming arcs of circles at the edges of said boss and said socket, the sum of the angles of the two arcs being less than three hundred and sixty degrees, means for clamping said tool-carrier in any angular position, and a tool-holder pivoted in the bifurcations of said tool-carrier, substantially as described.

4. In a pull-cut shaping-machine, in combination with the ram, a boss at the forward end of said ram, an annular groove in said boss, a flanged disk the flange of which together with said annular groove on said boss forms a closed annular slot, bolts with their heads in this closed slot clamping said disk to the ram, a key provided with flanges engaging the groove in the ram and the front face of said disk, the down-feed box provided with vertical shoulders engaging similar shoulders on said disk, wedges clamping these shoulders in position, a bifurcated tool-carrier rotatably supported with its rear face against the face of said down-feed box, a boss on the face of said down-feed box, a socket in the rear face of said tool-carrier to receive said boss, engaging shoulders forming arcs of circles at the edges of said boss and said socket, the sum of the angles of said arcs being less than three hundred and sixty degrees, means for clamping said tool-carrier in any angular position, and a tool-holder pivoted in the bifurcations of said tool-carrier, substantially as described.

5. In a pull-cut shaping-machine, in combination with the ram, a boss at the forward end of said ram formed into a radially-extending annular shoulder and an annular groove between said shoulder and the forward end of the ram, a flanged disk journaled on the end of the ram, the flange of the same forming with the annular shoulder and groove in said boss a closed annular slot, bolts with their heads in this closed slot clamping said flanged disk to the ram, a key provided with flanges engaging the groove in the ram and the front face of said disk, vertically-extending flanged ribs in the front face of said disk, the down-feed box embracing said flanged ribs, its sides being provided with flanges located behind the flanges of said ribs, wedges embraced between said flanged ribs and the flanged sides of said box, and a tool-carrier and means for securing the same to said down-feed box, substantially as described.

807,215. BEEHIVE. JAMES F. STILLS, School, Ill. Filed Mar. 10, 1905. Serial No. 249,265.



Claim.—1. In a beehive a moth-deceiver attachment, consisting of boxes having open front and bottoms, and the rear ends there-

of closed, said boxes resting on the floor of the brood-chamber at each side of the bee-entrance.

2. In a beehive, open front and bottom boxes resting on the floor of the hive, said boxes constituting a moth-deceiver and also a rest for the bottoms of the brood-frames.

3. In a beehive a division-board having outwardly-projecting upper ends resting on the side walls of the hive, guides projecting from the side walls of the hive at the rear to retain the division-board against the rear wall of the hive when not in use.

4. A beehive consisting of a chamber having a floor and a front bee-entrance bar, said bee-entrance bar provided with notches or openings on each side of the main bee-entrance, open front and bottom boxes inserted in said notches and resting on the floor of the chamber, said boxes having perforations in their top and side walls and adapted to serve as moth-deceivers and also as a bottom-rest for the brood-frames of the hive.

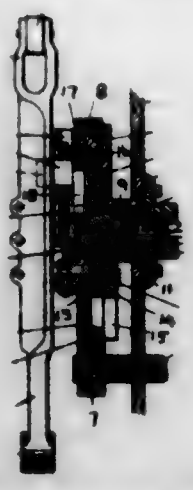
5. In a beehive a bee-entrance bar having a central slot or opening in its lower edge and notches on each side of said central opening, said notches adapted to receive and hold in position moth-deceivers.

6. A beehive consisting of side and front walls and a floor, a removable bee-entrance bar resting on said floor, said bee-entrance bar having a central opening in its lower edge at its center, and provided with notches at each side of the central opening, and elongated open bottom boxes inserted in said notches and resting on the floor of the hive, said boxes adapted to serve as moth-deceivers and also as rests for the honey-frames.

7. In a beehive elongated boxes open at their front ends closed at their rear ends and resting on the floor of the brood-chamber at or near the lower corners of the hive.

8. A beehive comprising side and front walls and a floor, guide-strips secured to said floor near its rear end, a bee-entrance bar having notches in its lower edge near each end, and an elongated open-front box inserted in said notches and adapted to be guided and retained in position at its rear end by the aforesaid guide-strips secured to the floor of the hive.

807,216. **VARIABLE-SPEED DRIVING MECHANISM.** RADFORD STOCKBRIDGE, Worcester, Mass., assignor of one-half to Arthur W. Beaman, Worcester, Mass. Original application filed Oct. 24, 1903. Serial No. 178,503. Divided and this application filed Dec. 9, 1903. Serial No. 184,295.



Claim.—1. The combination with a slotted vibrating pitman and a crank-plate engaging the slot of said pitman, said crank-plate having a radial slot, of a rotating gear journaled concentrically with said crank-plate and having a radial slot and a rotating ring interposed between said gear and said crank-plate and having its axis eccentric to the axis of said gear and said crank-plate, said eccentric-ring engaging the slots in said crank-plate and said gear, whereby the rotation of said gear is imparted to said crank-plate with a variable movement.

2. The combination with a framework, of a fixed hollow hub, a crank-plate journaled within said hub, a gear journaled outside said hub and concentrically with said crank-plate, and an eccentric-ring interposed between said gear and said crank-plate radial, slots in said gear and said crank-plate, and sliding blocks engaging said slots and pivotally attached to said eccentric-ring.

3. The combination of a rotating gear and a crank-plate journaled concentrically, interposed connecting mechanism between said gear and crank-plate whereby the latter is driving at a variable speed from said gear, a slotted vibrating pitman, a sliding block in the slot of the pitman pivotally attached to a block carried by said crank-plate, and means for radially varying the position of said block, comprising a rotating spindle journaled concentrically with said crank-plate.

4. The combination with a framework having a fixed hollow hub, of a rotating gear journaled on the outside of said hub, a crank-plate journaled inside said hub and concentrically with said gear, an eccentric attached to said hub between said gear and crank-plate, a ring turning on said eccentric, means for operatively connecting said gear and said ring, whereby the latter is driven by said gear, and means for operatively connecting said ring and said crank-plate, whereby the latter is driven by said ring.

807,217. **RAIL-BOND.** WILLIAM G. STUART, Newburyport, Mass., assignor to Chase-Shawmut Company, Newburyport, Mass., a Corporation of Maine. Filed July 14, 1904. Serial No. 216,471.



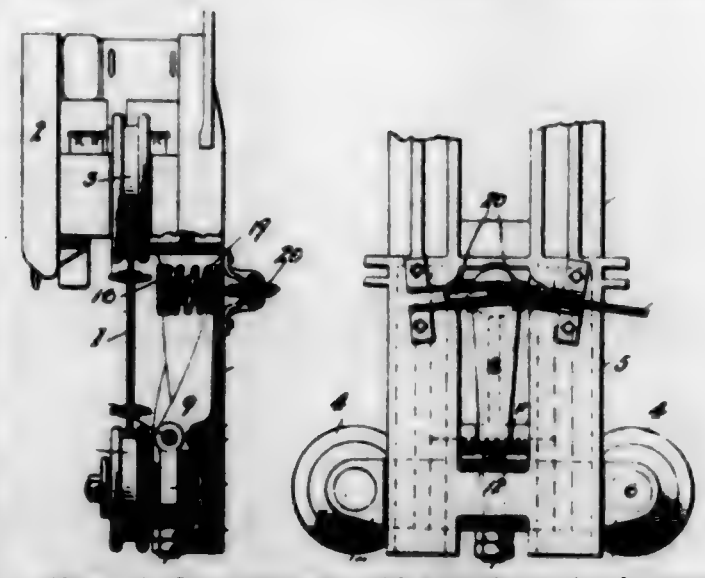
Claim.—1. A rail-bond comprising an intermediate portion bent and turned rearwardly near its opposite ends and terminating in circular loops, in combination with the meeting ends of two rails having counterbores in which said loops are seated, substantially as described.

2. A laminated rail-bond having its ends bent rearwardly and formed into loops, and rails provided with counterbores in which said loops are seated, substantially as described.

3. A laminated rail-bond having an intermediate portion with its ends bent and turned rearwardly and formed into loops, the faces of which are in a plane parallel with the intermediate portion, substantially as described.

4. A laminated rail-bond having an intermediate portion with its ends bent rearwardly and formed into loops, the faces of which are in a plane parallel with the face of the intermediate portion, and rails provided with counterbores in which said loops are seated, and means for securing said loops in said bores, substantially as described.

807,218. **GRIPPER MECHANISM FOR TRACTION-TOWING.** PERCY THOMPSON, New York, N. Y. Filed Apr. 21, 1905. Serial No. 256,514.



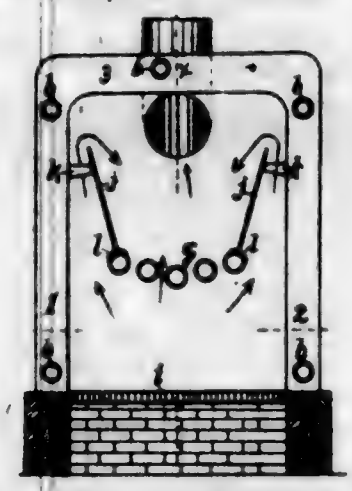
Claim.—1. The combination with a traction-way and a tractor having wheels running thereon, of a hanging pendant from said tractor, a lever pivoted to the hanger, a link pivoted to said lever, a frame connected to the link, wheels on said frame bearing on the traction-way, and a towing connection from the lever, substantially as described.

2. The combination with a track, of a tractor having wheels traveling thereon, a hanger connected to the tractor, a lever pivoted to said hanger and having a link pivotally connected to its short arm, a frame connected to said link and having wheels which grip the track, and a tow-line connected to the long arm of the lever by a buffer-spring.

3. The combination with a track, of a tractor having wheels thereon, a hanger connected to the tractor and a traction-lever pivoted to the hanger, a link pivoted to said lever and a frame pivoted to said link, gripper-wheels on the frame in position to bear on the track, a yoke connected to the hanger and bearing pulleys at each side of said hanger, and a tow-rope passing between said pulleys and secured to said lever, all substantially as described.

4. The combination with a tractor and rail, a hanger from the tractor, a movable frame supported by the hanger, gripper-wheels carried by said frame, a lever pivotally connected to both the hanger and frame and a tow-line connected to the lever, whereby the gripper-wheels are gripped to the track with a pressure proportioned to the load on the tow-line.

807,219. COMBINED GARBAGE-CREMATOR AND WATER-HEATER. GOTTLIEB TRUMM, Chicago, Ill. Filed July 17, 1905. Serial No. 269,919.

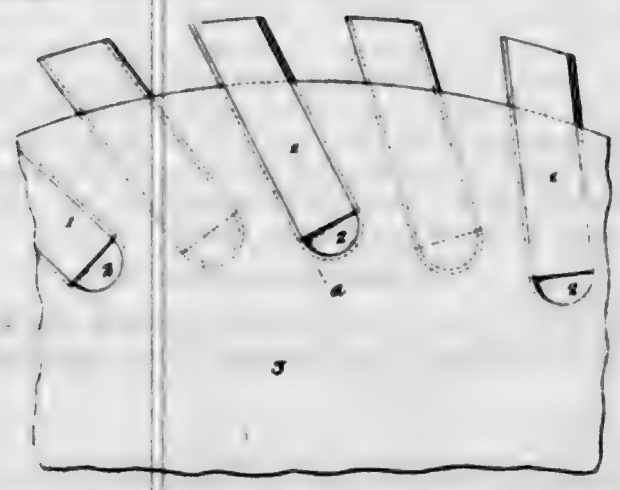


Claim.—1. The combination with water-holding ends of a water-heater and U-shaped water-holding elements, intermediate said ends, unthreaded tubular-nipple connections between said ends and intermediate parts, and between said intermediate parts, a garbage-grate of unthreaded water-tubes connecting said ends, and means to hold said ends and intermediate parts together, of side plates, laterally adjustable, on said grate, and means to hold said plates to form a smoke-passage between said plates and the furnace-chamber walls.

2. The combination with a water-heater having water-holding sides, ends and top, forming a chamber, a fuel-grate, and a garbage-grate over said grate, narrower than said chamber, of side plates between the edges of said upper grate and chamber sides, and means to hold said plates to form a smoke-passage between said plates and chamber sides.

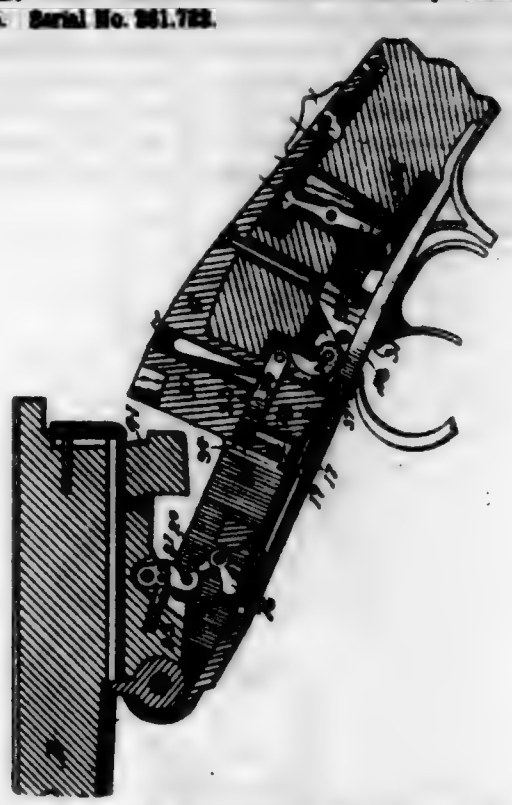
3. The combination with a water-heater having water-holding sides, ends, and top, forming a chamber, a fuel-grate, and a grate over said grate, narrower than said chamber, and connecting the ends of said chamber, of side plates over said narrow grate, and means to hold said plates, to form a smoke-passage between them and the chamber-walls.

807,220. ROTARY CUTTING-TOOL. ADAM TINDEL, Philadelphia, Pa., assignor to The High Duty Saw and Tool Company, Eddystone, Pa., a Corporation of Pennsylvania. Filed Oct. 12, 1903. Serial No. 176,739.



Claim.—A rotary cutter having undercut grooves and teeth set therein, said grooves being of less depth than the thickness of the cutter-body and having their bases or inner walls inclined in a lateral direction from a plane parallel with the face of the body outward toward the periphery, the teeth being thicker at the front edge than at the rear edge, whereby side clearance is obtained without the necessity of inclining the base of the grooves in respect to a plane parallel with the face of the cutter-body and crossing the grooves in the direction of their width or smaller dimensions, substantially as specified.

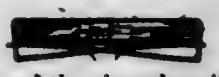
807,221. GUN. ISIDORE A. TOMASINI, Guadalupe, Cal. Filed May 23, 1905. Serial No. 261,782.



Claim.—1. In a double-barreled gun the combination of the barrels, a lock-frame hinged thereto, a depending lug on the barrels, provided with a notch in its rearward end, a plunger sliding in the frame for engaging the notch, a spring normally maintaining the plunger in its engaging position, a trigger pivoted in the frame, a tail pivoted to the rearward end of the plunger, a friction-roller in the lower end of the tail, and a lug on the trigger for engaging the friction-roller to withdraw the plunger.

2. In a double-barreled gun the combination of the barrels, a lock-frame hinged thereto, a depending lug on the barrels, and provided with a notch in its rearward end, a spring-actuated plunger sliding in the frame and engaging the notch to maintain the barrels and the frame in alinement, a tail pivoted to the rear end of the plunger, and provided with a friction-roller in its lower end, and a trigger pivoted in the frame and means on the trigger for engaging the tail to withdraw the plunger.

807,222. ADJUSTABLE PAPER-KNIFE. ELOF TORNQUIST, St. Paul, Minn., assignor to The Western Autographic Register Company, St. Paul, Minn., a Corporation of Minnesota. Filed Sept. 23, 1905. Serial No. 279,563.



Claim.—1. A device of the class described comprising a metal plate bent to form a flat top and ends at right angles therewith, and oppositely-disposed parallel spring-tongues extending inwardly and upwardly from the bottom of the opposite ends.

2. A device of the class described comprising a metal plate bent to form a flat top with cutting edges upon its opposite sides, downwardly-extending ends, and oppositely-disposed inwardly and upwardly extending bottom springs.

3. In combination with slips of the class described, a device consisting of a metal plate bent to form a flat top with cutting edges, downwardly-extending ends, and inwardly and upwardly extending bottom spring-tongues, the ends of said tongues projecting through openings in the ends of the device, for the purpose set forth.

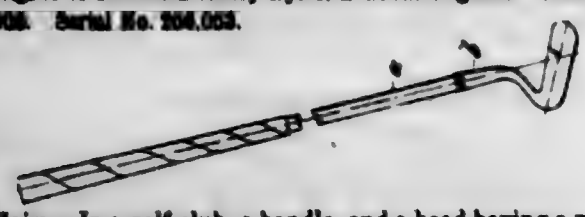
807,223. SEAL AND TUBULAR INLET FOR CANS AND OTHER RECEPTACLES. HARRY A. THUMSDALE, Conneaut, Ohio, assignor to Conneaut Can Company, Conneaut, Ohio, a Corporation of Ohio. Filed Sept. 2, 1903. Serial No. 171,707.

Claim.—1. A can-top having a neck of less diameter than the said top and provided with an upwardly-extending flange, the upper portion of which is curved over to form a bead with the free edge against the said flange, in combination with a cap having an upwardly-extending portion engaging the inner side of said flange and a downwardly-extending portion surrounding the said head, the edge of said downwardly-extending portion being curved inwardly against the flange and closely engaging said head, whereby said cap is securely joined without soldering.

2. A can-top having a closure including a raised flange the upper portion of which is curved over to form a bead with the free edge against the said flange, in combination with a cap having an upwardly-extending portion engaging the inner side of the said flange and a downwardly-extending portion surrounding the said bead, the edge of said downwardly-extending portion being bent inwardly against the flange and closely engaging said bead whereby said cap is securely joined without soldering.

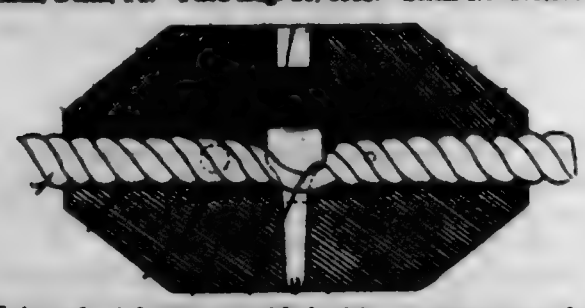


807,224. GOLF-CLUB. Percy A. Vaile, Westminster, England, assignor to Frederick Henry Ayres, London, England. Filed Apr. 17, 1905. Serial No. 256,053.



Claim.—In a golf-club, a handle, and a head having a neck projecting inwardly on an angle to the latter and upwardly at an inclination to aline the handle diagonally of the plane of said head and to allow a clear view of the center of the latter.

807,225. STOP-BUTTON FOR OVERHEAD CABLES. John G. Waile, Delta, Pa. Filed Aug. 26, 1905. Serial No. 275,936.



Claim.—1. A button provided with a seating-recess for the reception of a cable and having a longitudinal opening formed therein communicating with said recess, a locking member adapted to engage the cable, and a slide seated in the opening on each side of the locking member.

2. A button provided with a longitudinal opening having a seating-recess communicating therewith for the reception of a cable, slides seated in said opening and having their adjacent ends threaded, and a locking member adapted to engage the cable and provided with a threaded portion for engagement with the threads on the slides.

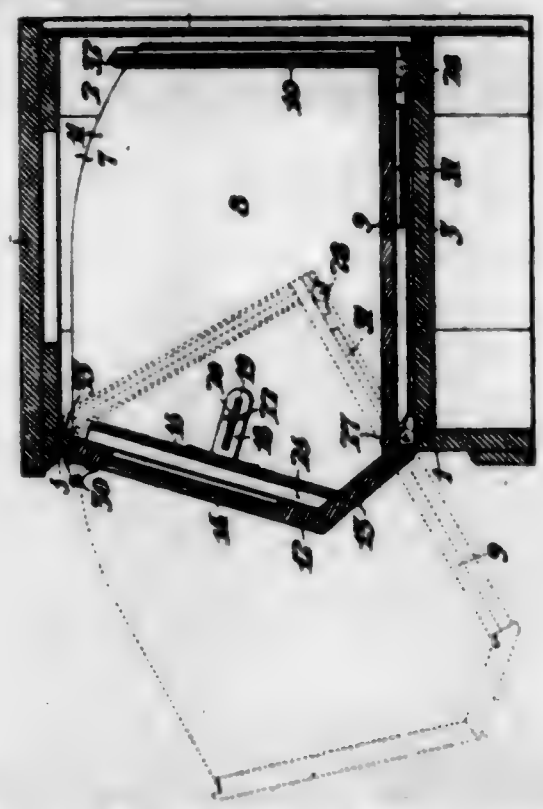
3. A button provided with a seating-recess for the reception of a cable and having a longitudinal opening communicating therewith the walls of which are provided with guiding-grooves, slides engaging said guiding-grooves, and a locking member interposed between the slides and adapted to engage the cable.

4. A button provided with a longitudinal opening having a seating-recess communicating therewith for the reception of a cable, slides seated in the longitudinal opening, a locking member interposed between said slides and adapted to engage the cable, and means for locking the slides.

5. A button provided with a longitudinal opening having a seating-recess communicating therewith for the reception of a cable, slides seated in the longitudinal opening and having their adjacent ends threaded, a locking member adapted to engage the cable and provided with a threaded portion for engagement with the threads on the slides, transverse pins engaging said slides and a socket formed in the threaded end of the locking member for the reception of an operating-tool.

6. A button provided with a seating-recess for the reception of a cable and having a pocket formed in the walls of the recess adapted to receive a metallic packing, there being a plurality of openings communicating with the pocket, and a locking-key carried by the button and adapted to engage the cable at said pocket.

807,226. BIN. Brown J. Walker, Jr., Philadelphia, Pa. Filed June 18, 1904. Serial No. 213,113.

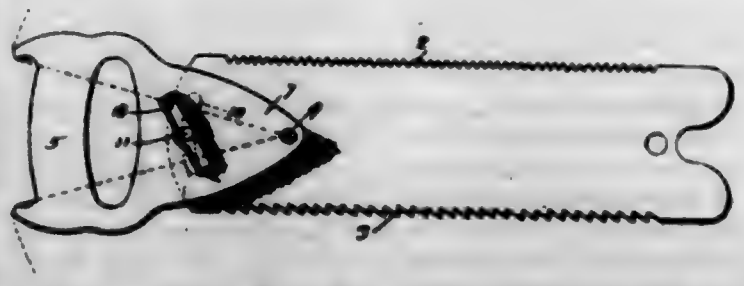


Claim.—1. The combination with a casing comprising a bin-chamber; of a stationary floor; a bin constructed to horizontally reciprocate on said floor and to oscillate on a stationary axis; rollers secured to said casing at the front of said chamber, constructed to support said bin; and, a stop member on said bin, constructed to engage said rollers and limit the horizontal forward movement of said bin, substantially as set forth.

2. The combination with a casing comprising a bin-chamber; of a stationary floor within said chamber; rollers secured to said casing at the front edge of said chamber; a bin constructed for horizontal reciprocation in removable relation with said casing, and constructed to tilt upon said rollers; stop members secured to said bin to limit its horizontal movement by their encountering said rollers, substantially as set forth.

3. The combination with a casing comprising a bin-chamber having a stationary floor; of rollers in fixed relation to the casing at the front of said chamber; a bin constructed to horizontally traverse said rollers and to tilt thereon; stop members secured to said bin, and constructed to encounter said rollers; to limit the horizontal movement of said bin; and rollers secured to the bin, constructed to support its rear end, substantially as set forth.

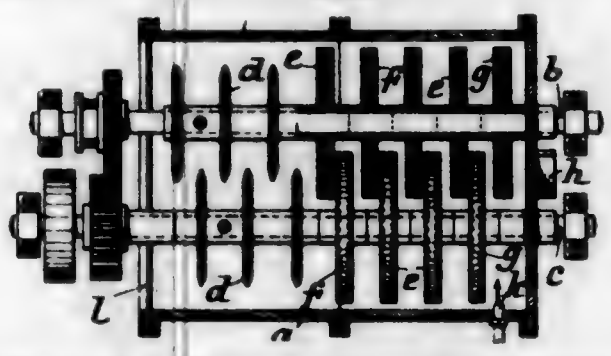
807,227. COMBINED CROSSCUT AND RIP SAW. Frederick A. Wurst, Lawrenceburg, Ind. Filed June 26, 1905. Serial No. 267,095.



Claim.—The herein-described combined crosscut and rip saw comprising a blade, having crosscut teeth upon one edge thereof, rip-saw teeth upon the opposite edge thereof, one end of said blade being curved, a curved slot 10 near said end, a handle connected at its outer

end to the blade by a single pivot, 9, and provided with a slot 6 in which the blade is secured, a transverse bolt passing through the handle, and through the slot 10 in the blade and provided with a head 14 which bears at one side against said blade and is seated in a socket in one side of the handle, a wing-nut adjustable on the threaded end of the bolt, and a plug 16 for covering the head of the bolt in the socket, substantially as described.

807,228. **KNEADING-MACHINE FOR THE MATERIALS OF PAPER MANUFACTURE.** CASIMIR WUNSTER, London, England. Filed June 3, 1905. Serial No. 263,887.



Claim.—1. In a refining-engine, the combination with a casing, of a rotary member in said casing provided on one face with a grinding-surface and on the other with a cutting-surface, a second member at one side of said first-named member and provided with a grinding-surface facing the grinding-surface of said first-named member, a third member at the other side of said first-named member and provided with a cutting-surface facing the cutting-surface of said first-named member, and means for actuating said first-named member.

2. In a refining-engine, the combination with a casing, of a rotary member in said casing, provided on one face with a grinding-surface and on the other with a cutting-surface, a second member at one side of said first-named member and provided with a grinding-surface facing the grinding-surface of said first-named member, a third member at the other side of said first-named member and provided with a cutting-surface facing the cutting-surface of said first-named member, means for adjusting said first-named member between said second and third members, and means for actuating said first-named member.

3. In a refining-engine, the combination with a casing, of a set of rotary members, each provided on one face with a grinding-surface and on the other with a cutting-surface, a second set of members, each provided with a cutting-surface and a grinding-surface the like surfaces of the two sets of members facing each other, and means for actuating one of said sets of members.

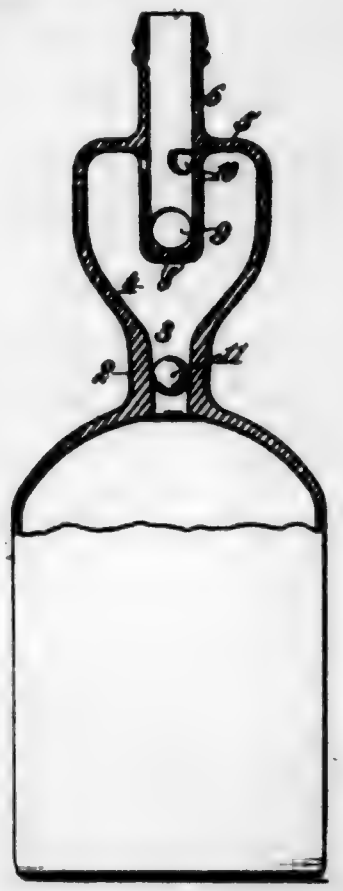
4. In a refining-engine, the combination with a casing, of a set of rotary members, each provided on one face with a grinding-surface and on the other with a cutting-surface, a second set of members each provided with a cutting-surface and a grinding-surface, the like surfaces of the two sets of members facing each other, means for longitudinally adjusting one of said sets of members and means for actuating one of said sets of members.

5. In a refining-engine, the combination with a casing, of a set of neutral stirrers, a set of rotary members each provided on one face with a cutting-surface and on the other with a grinding-surface, a second set of members each provided with a cutting-surface and a grinding-surface, the like surfaces of the two sets of members facing each other, and means for actuating one of said sets of members.

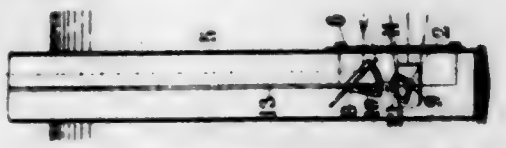
807,229. **NON-REFILLABLE BOTTLE.** JESSE J. YEATES, Montgomery, Ala., assignor of one-half to Charles Milton Smith, Montgomery, Ala. Filed Mar. 20, 1905. Serial No. 251,236.

Claim.—1. A non-refillable bottle, comprising a bottle proper provided with a neck having an inclined or conoidal throat, a chamber extending above said neck and forming a continuation thereof, a tube located in the top wall of said chamber and projecting within the latter, said tube being provided at its bottom with an aperture, and a ball-valve adapted to seat in the throat of said bottle and of a size to pass through said aperture.

2. A non-refillable bottle comprising a bottle proper having a neck provided with an inclined or conoidal throat, a chamber located above said neck formed as a continuation thereof, a tube located in the top wall of said chamber and projecting within the latter, said tube having an open upper end and a closed lower end and provided within the chamber adjacent to the top wall thereof with an opening and at its lower end portion with a circular aperture, and a ball-valve adapted to seat in the throat of said neck and of a diameter to pass through said aperture.



807,230. **APPARATUS FOR SUBMARINE EXPLORATIONS.** JUSTUS C. ZUBLI, Amersfoort, Netherlands. Filed May 16, 1905. Serial No. 260,673.



Claim.—1. In a device of the character described, the combination, with an illuminating-projector, and means for directing the rays of light from the illuminated field to the eye of the operator, of means for simultaneously aiming the projector and altering the position of the directing means relative thereto to direct the light-rays to the point of observation, and means for excluding disturbing influences from the path of the directed rays.

2. In a device of the character described, the combination, with an illuminating-projector, and a reflector, of means for simultaneously aiming the projector and altering the inclination of the reflector to its support to maintain the direction of the light-rays to the point of observation, and means for excluding the water from the path of the directed rays.

3. In a device of the character described, the combination, with an illuminating-projector, and a reflector, of means for simultaneously aiming the projector and altering the inclination of the reflector to its support to maintain the direction of the light-rays to the point of observation, and a tube inclosing the path of the directed rays.

4. In a device of the character described, the combination, with an illuminating-projector, of means for simultaneously moving the projector through a given angle and the reflector through a proportionately less angle to maintain the direction of the light-rays to the point of observation, and a tube inclosing the path of the directed rays.

5. In a device of the character described, the combination, with a tube provided with a window, an illuminating-projector mounted thereon, and a mirror therein for directing the light-rays from the illuminated field to the eye of the operator, of means for simultaneously moving the projector through a desired angle and the mirror through one-half of the same angle to maintain the direction of the light-rays upon the point of observation.

6. In a device of the character described, a tube provided with a window, toothed sectors carried therein and pivotally mounted on parallel axes, an illuminating-projector fixed upon one sector, a reflecting-mirror fixed upon the other sector opposite the window, the projector-sector having a radius one-half that of the mirror-sector, a

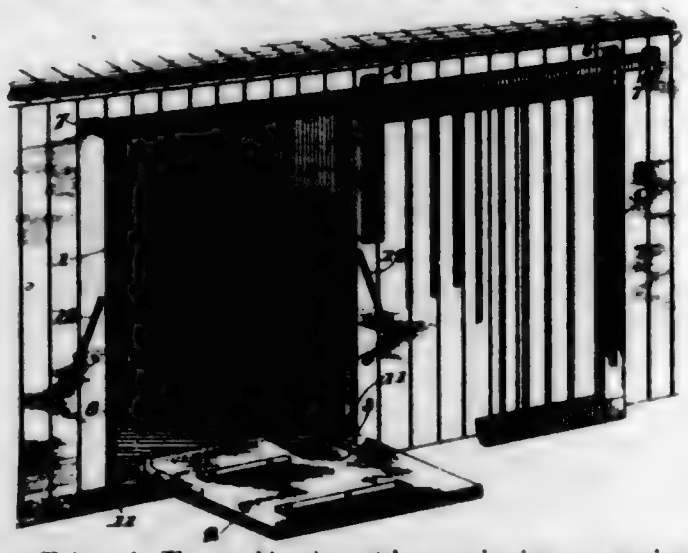
pinion with its threads in engagement with the teeth of the sectors, and means for rotating the pinion.

7. In a device of the character described, the combination, with an illuminating-projector, and a reflector, of means for simultaneously aiming the projector and altering the inclination of the reflector to maintain the direction of the light-rays to the point of observation, and means for receiving said light-rays and presenting the same to view.

8. In a device of the character described, the combination, with an illuminating-projector, and a reflector, of means for simultaneously aiming the projector and altering the inclination of the reflector to maintain the direction of the light-rays to the point of observation, and a camera for receiving said light-rays and presenting the same to view.

9. In a device of the character described, a tube provided with a window, toothed sectors carried therein and pivotally mounted on parallel axes, an illuminating-projector fixed upon one sector, a reflecting-mirror fixed upon the other sector opposite the window, the projector-sector having a radius one-half that of the mirror-sector, a pinion with its threads in engagement with the teeth of the sectors, means for rotating the pinion, and a lens in the observation end of the tube.

807,231. **SAFETY-BRIDGE FOR CARS.** HENRY ALSOP, Chicago, Ill. Filed June 12, 1905. Serial No. 264,845.

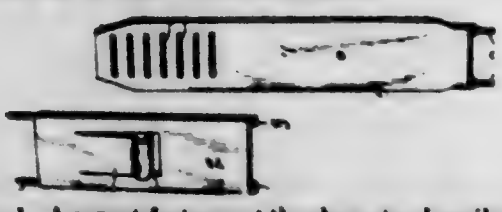


Claim.—1. The combination with a car having an opening or doorway, vertical guide-rods within said opening at each side thereof, of a bridge hinged at its lower end to a transverse bar, said bar having eyes at each end sliding on the vertical guide-rods, and vertically-swinging latches secured to the car at one side of the door-opening, said latches adapted to be swung into the path of the bridge to secure it against outward movement.

2. The combination with a car having an opening or doorway, vertical guides secured within the opening at each side, of a horizontal rod mounted at its ends on said guides and adapted to slide thereon, a bridge pivotally secured to said horizontal rod, and U-shaped latches pivotally secured to the opening at each side, the side arms of said latches adapted to be swung into the opening to hold the bridge in its vertical position.

3. The combination with a car having an opening or doorway, vertical guides secured within the opening at each side, of a horizontal rod mounted at its ends on said guides and adapted to slide thereon, a bridge pivotally secured to said horizontal rod, U-shaped latches pivotally secured adjacent to the opening at each side thereof, the side arms of said latches adapted to be swung into the opening to hold the bridge in its vertical position, and stops mounted on the car to limit the downward swing of the latches.

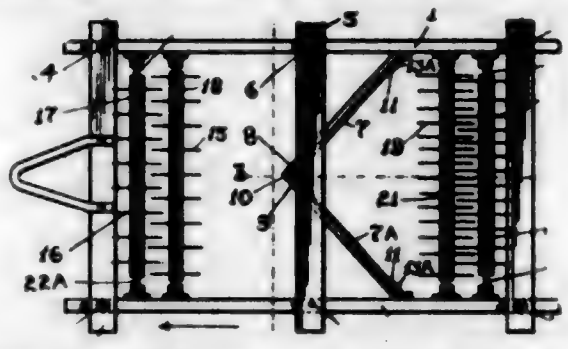
807,232. **CARPET-FASTENER.** SILAS R. ANDERSON, Brookville, Pa. Filed May 15, 1905. Serial No. 261,046.



Claim.—1. A carpet-fastener of the character described consisting of two sections, guideways formed on the edges of one of said sections to receive the end of the other section, a series of slots in one section and a tongue on the other section, whereby the engaging ends of said sections are secured together, and points arranged in the outer ends of said sections to engage and hold the carpet in place, substantially as described.

2. A carpet-fastener of the character described consisting of two sections, an outer section having its edges bent inwardly to form guideways to receive the end of the inner section, said end having formed therein a series of transversely-disposed slots, a spring-tongue formed in the outer section to engage said slots and thereby adjustably connect said sections together, attaching-points arranged in the outer ends of said sections to engage and hold the carpet in place, and a tack adapted to be inserted through an aperture in one of said sections, substantially as described.

807,233. **DISK HARROW AND LEVELER.** ROBERT E. ATKINSON, Norfolk, Va. Filed Aug. 3, 1905. Serial No. 272,490.



Claim.—1. In a disk harrow a main frame inclosing a V-shaped frame attached to the side and center bars for deflecting the earth from the center to the sides thereof, substantially as described.

2. In a disk harrow, a plurality of disk-carrying shafts, a main frame inclosing a V-shaped frame attached to the side and center bars for deflecting the earth from the center to the sides thereof to clear the path of the rear disk-carrying shafts; substantially as described.

3. In a disk harrow a main frame, a slantingly-disposed V-shaped frame attached to the side and center bars of the main frame for deflecting the earth from the center to the sides of the main frame, and a plurality of rows of disks at each end of the said V-shaped frame, substantially as described.

4. In a disk harrow, a main frame inclosing a V-shaped frame attached to the side and center bars for deflecting the earth from the center to the sides thereof, said V-shaped frame having its apex in the direction of travel of said main frame, and a plurality of disks at each end of said V-shaped frame, substantially as described.

5. In a disk harrow a main frame inclosing an inclined V-shaped frame attached to the side and center members of said main frame, a plurality of rows of disks at each end of the said V-shaped frame, and means for vertically adjusting the said frame, substantially as described.

6. In a disk harrow a main frame inclosing a V-shaped slantingly-disposed frame adjustably fitted to the side and center members thereof, a V-shaped slotted plate at the apex of the said V-shaped frame, a set of slotted corner-plates at the ends of said V-shaped frame, and means for deflecting the earth to both sides of the said V-shaped frame.

7. In a disk harrow a main frame inclosing an inclined adjustable V-shaped frame, a series of disk-carrying shafts, a series of bearing hangers or journals for the said shafts comprising a web or plate portion, a sleeved portion thereon placed at or below the lower edge of the sides of the said main frame, and a brace-bar connecting the said sleeved and the web portions, substantially as described.

807,234. **TRAIN-ORDER-HOLDING DEVICE.** WALTER W. AYERS, Bighorn, Mont. Filed May 3, 1905. Serial No. 258,606.

Claim.—1. An order-holder comprising a frame, a plate secured to the frame, and a clip secured to the plate.

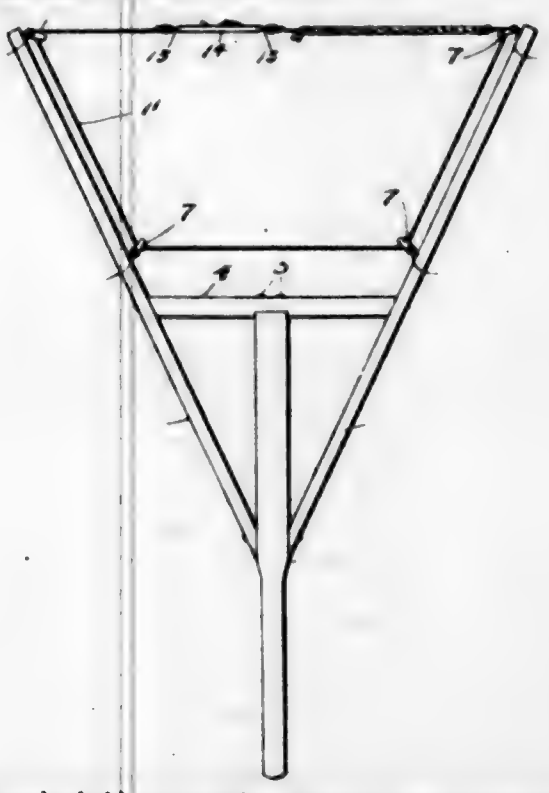
2. In a device of the class described, a handle having diverging arms secured to its inner end, clips pivotally secured upon the inner faces of the arms, and an order-holder having a flexible connection adapted for detachable engagement with said clips.

3. In a device of the class described, a handle having clips pivotally secured thereto, and an order-holder detachably associated with the said clips.

4. An order-holder comprising a wire frame, a plate secured to the frame, and a spring-clip secured to the plate.

5. An order-holder comprising a piece of wire arranged to form a frame having parallel side members and convergent ends, a piece

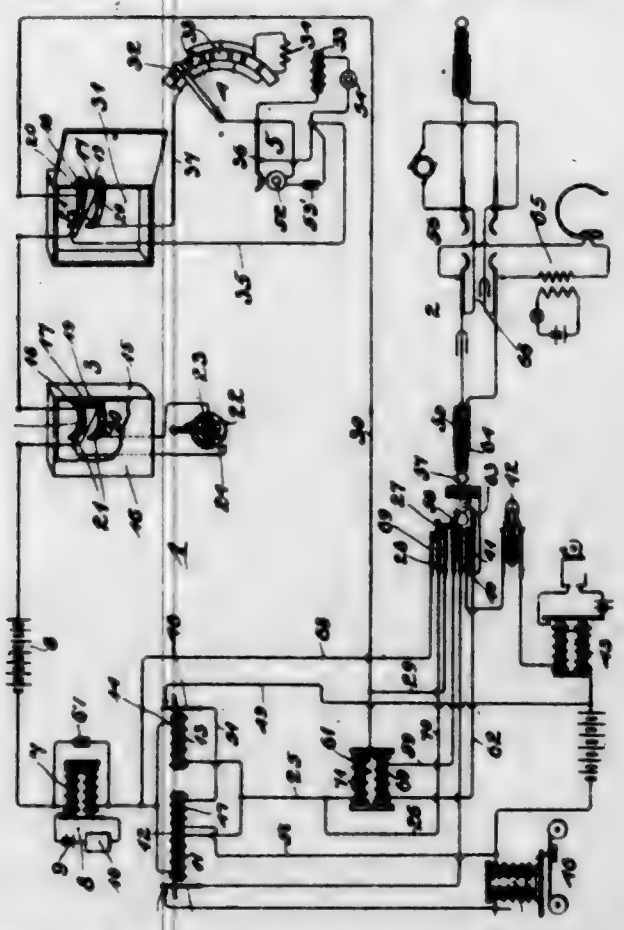
of metal having its longitudinal side edges bent around the said parallel side members, and a spring-clip secured to said piece of metal between the sides and ends of the frame.



6. An order-holder comprising a frame, a plate having its longitudinal edges bent around the ends of the frame and out of contact with the body of the plate for the support of a message, and a clip arranged for engagement with the message to prevent accidental dislodgment thereof.

7. A device of the character described comprising a handle provided with arms, elements mounted upon the arms, and an order-holder having means arranged for detachable engagement with said elements.

807,285. **ALARM AND TELEPHONE SYSTEM.** GARRISON BABCOCK, Chicago, Ill. Filed Dec. 14, 1903. Serial No. 185,090.



Claim.—1. In a combination telephone and alarm system, the combination with a normally closed main circuit leading to a central exchange, of alarm apparatus and telephonic apparatus included in said circuit, a source of current in said circuit, independent indicating means at the central exchange for said alarm apparatus and said telephonic apparatus and means for preventing actuation of either of said indicating means upon actuation of the other.

2. In an alarm-circuit, the combination with a normally closed main circuit leading to a central exchange, of a plurality of substations adapted to be serially connected in said circuit, means at some of said substations for repeatedly opening said normally closed circuit, a relay at the said exchange adapted to actuate alarm apparatus at each opening of the line, means at some of the other substations for intermittently including a resistance in said normally closed circuit, a second relay at the central exchange adapted to actuate signaling apparatus at each inclusion of said resistance in said circuit, and means for causing the said alarm apparatus and said indicating apparatus to be actuated each without actuation of the other.

3. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a sensitive relay included serially in said circuit and responsive to slight resistance changes in said circuit, an additional relay in said circuit responsive only to comparatively great resistance change in said circuit and means for preventing actuation of said sensitive relay upon actuation of said additional relay.

4. In an alarm system, the combination with a normally closed circuit, of a source of current for the said circuit, a plurality of substations in said circuit, means at one of said substations for repeatedly opening said normally closed circuit, a relay in said circuit adapted to actuate alarm apparatus as said line is opened, means at another substation for repeatedly including resistance in said circuit, an additional relay in said circuit adapted to actuate indicating mechanism when said resistance is included in said circuit, and means for preventing actuation of said second relay when said line is opened.

5. In an alarm system, the combination with a normally closed main circuit leading to a central exchange, of a plurality of substations adapted for inclusion in said line, a source of current in said circuit, a relay included serially in said main circuit, a local alarm-circuit controlled by said relay, means at one of said substations for repeatedly opening said line, whereby alarm apparatus in said alarm-circuit is repeatedly actuated, an additional relay included serially in said main circuit, a local indicating-circuit including the armature of said additional relay, means at one of said substations for repeatedly including resistance in said main circuit, whereby said additional relay is actuated to cause the actuation of indicating devices included in said indicating-circuit, and means for preventing actuation of said second relay when said first relay is actuated.

6. In an alarm system, the combination with a normally closed main circuit leading to a central exchange, of a plurality of substations included in said circuit, a source of current in said circuit, a relay in said circuit, a local alarm-circuit controlled by said relay, means at one of the substations for repeatedly opening said main circuit to cause said relay to repeatedly open said local alarm-circuit, a second relay in said main circuit, a local indicating-circuit including the armature of said second relay, said second relay being normally sufficiently energized to attract its armature to open said local indicating-circuit, means at one of said substations for repeatedly including resistance in said main circuit, whereby said second relay is weakened to release its armature to close said local indicator-circuit, an additional winding for said second relay, and means for closing a local circuit through said second winding upon the actuation of said alarm-controlling relay, whereby said second relay is prevented from releasing its armature to close said local indicating-circuit.

7. In an alarm system, the combination with a normally closed main circuit, of a plurality of substations included in said circuit, a source of current in said circuit, a relay in said circuit, a local alarm-circuit controlled by said relay, means at one of said substations for repeatedly opening said main circuit, whereby said relay is deënergized to allow opening of said alarm-circuit, whereby alarm apparatus is actuated, a second relay in said circuit, a local indicating-circuit including the armature of said second relay, said armature being normally attracted by said second relay to open said indicating-circuit, means at one of said substations for repeatedly including resistance in said main circuit, whereby said second relay is weakened to release its armature to close said indicating-circuit, a third relay included in said main circuit, a local circuit including the armature of said third relay, said armature being normally attracted by said third relay to open said local circuit, and an additional winding for said second relay included in said local circuit, the opening of said main circuit causing deënergization of said third relay to release its armature to close the local circuit containing said armature and said additional winding for said second relay, whereby said second relay is prevented from releasing its armature to close the indicating-circuit.

8. In a combined alarm and telephone system, the combination

with a normally closed main circuit leading to a central exchange, of alarm apparatus and telephone apparatus adapted for connection in said main circuit, a source of current in said circuit, a relay in said circuit, alarm apparatus controlled by said relay, means at one of said substations for repeatedly opening said main circuit to cause the alarm apparatus to be actuated, a second relay in said circuit, an indicating local circuit controlled by said second relay and including indicating devices, resistance adapted for inclusion in the said main circuit upon actuation of said telephone apparatus, the inclusion of said resistance causing said second relay to be weakened to allow closure of said indicating-circuit, whereby said indicating devices are actuated, and means for preventing the operation of either of said relays upon actuation of the other.

9. In a combined telephone and alarm system, the combination with a normally closed main circuit leading to a central exchange, of a plurality of substations connected with said circuit, a source of current in said circuit, means at one of said substations for repeatedly including resistance in said main circuit, a relay at the central exchange, an indicating-circuit controlled by said relay and including indicating devices, repeated inclusion of said resistance in said circuit causing repeated actuation of said relay to repeatedly close said indicating-circuit to repeatedly actuate said indicating devices, telephonic apparatus at one of said substations, the actuation of said telephonic apparatus causing resistance to be continuously included in said circuit, whereby said relay is continuously actuated to cause continued closure of said indicating-circuit to cause continued actuation of said indicating devices, recording mechanism included in said local indicating-circuit adapted to be actuated upon repeated inclusion of resistance in said circuit and telephonic apparatus at the central exchange, connection of said central telephone apparatus with the circuit causing said indicating device to become inert.

10. In a combined telephone and alarm system, the combination with a normally closed main circuit leading to a central exchange, of a spring-jack and cord connecting apparatus at the central exchange, a plurality of substations and a source of current included in the said main circuit, a relay in said main circuit, a local alarm-circuit controlled by said relay, means at one of said substations for repeatedly opening said main circuit, whereby said relay allows the actuation of alarm apparatus in said local alarm-circuit, a second relay in said circuit, an indicating local circuit including the armature of said second relay, said armature being normally attracted by said second relay to open said indicating-circuit, means at one of said substations for repeatedly including resistance in said main circuit, whereby said second relay is weakened to allow closure of said indicating-circuit, means for preventing actuation of said second relay upon opening of said main circuit, telephonic apparatus at one of said substations, resistance adapted upon the actuation of said telephonic apparatus to be continuously included in said main circuit, whereby said second relay is continuously actuated to allow continued closure of said indicating-circuit, indicating devices in said indicating-circuit, said indicating devices being intermittently actuated upon the repeated inclusion of resistance in said circuit, the actuation of said indicating devices being continued upon an actuation of said telephone apparatus, and means upon the insertion of a plug in said spring-jack for short-circuiting said second relay.

11. In a combined telephone and alarm system, the combination with a normally closed main circuit leading to a central exchange, of a spring-jack and an operator's cord-circuit at the central exchange, a plurality of substations and a source of current included in said main circuit, a relay in said main circuit, a local alarm-circuit controlled by said relay, alarm apparatus in said alarm-circuit, means at one of said substations for repeatedly opening said main circuit, whereby said alarm apparatus is actuated, a second relay in said circuit, a local indicating-circuit including the armature of said second relay, said armature being normally attracted by said relay to open said indicating-circuit, recording apparatus and indicating devices included in said indicating-circuit, means at one of said substations for repeatedly including a resistance in the said main circuit, whereby said second relay is weakened to allow closure of said indicating-circuit to repeatedly actuate said recording apparatus and said indicating devices, a third relay included in said circuit, a local circuit controlled by the said third relay including the armature for said relay, said armature being normally attracted by said third relay to open said local circuit, an additional winding for said second relay included in said local circuit, demergination of said third relay upon the opening of said main circuit causing the closure of said local circuit controlled by said third relay, whereby said additional winding is energized to prevent closure of said indicating-circuit, telephonic apparatus at one of said substations, resistance adapted upon the actuation of said telephonic apparatus to be included in said main circuit, whereby said second relay is continuously weakened to allow a continued closure of said indicating-circuit, whereby said recording apparatus in said indicating-circuit is inactive and the indicating devices in said circuit are continuously actuated, and means upon insertion of a plug in said spring-jack for short-circuiting said second and third relays and for opening said indicating-circuit.

12. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a sensitive relay in said circuit, said relay being responsive to slight changes of current strength in said circuit, and means associated with said relay to prevent its actuation upon a larger change of current strength in said circuit.

13. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a sensitive electromagnetic signal-controlling device in said circuit, said electromagnetic device being responsive to slight changes in the strength of current in said circuit, and means for preventing the actuation of the signal associated with said electromagnetic device upon a larger change of current strength in said circuit.

14. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a sensitive relay included serially in said circuit and responsive to slight resistance changes in said circuit, an additional relay in said circuit responsive only to comparatively great resistance changes in said circuit, and means associated with said sensitive relay for preventing actuation thereof upon actuation of said additional relay.

15. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay in said circuit responsive only to comparatively great resistance change in said circuit, a second relay having a sensitive winding included in said circuit and responsive to slight resistance change in said circuit, and an additional winding for said second relay for preventing said relay from becoming inert upon great resistance change in said circuit.

16. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay included serially in said circuit and actuated only upon comparatively great resistance changes in said circuit, a second relay having a sensitive winding included serially in said main circuit, said winding causing said relay to become inert upon a very slight increase of resistance in said circuit, and an additional winding for said sensitive relay for preventing said relay from becoming inert upon comparatively great resistance increase in said circuit.

17. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay included serially in said circuit and actuated substantially only upon opening of said main circuit, an additional relay having a winding included serially in said main circuit, and a second winding for said additional relay for preventing said relay from becoming inert upon opening of the main-line circuit.

18. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay included serially in said circuit adapted to be actuated only upon opening of said circuit, a second relay having a winding included serially in said main circuit, a third non-sensitive relay connected in bridge of said winding, an additional winding for said second relay, and a local circuit controlled by said third relay and including said additional winding, opening of said main circuit causing said third relay to close said local circuit whereby said second relay is prevented from becoming inert.

19. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay in said circuit actuated only upon substantially open circuit, a second relay having a winding connected in said circuit, a third relay connected with said circuit, a local circuit controlled by said third relay, an additional winding for said second relay included in said local circuit, opening of said main circuit causing said third relay to close said local circuit whereby said second relay is prevented from becoming inert, and a signaling-circuit controlled by said second relay.

20. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay included serially in said circuit and actuated only upon substantially open circuit, a second relay having a winding included serially in said circuit, said winding being sensitive and causing said relay to become inert upon only slight increase of resistance in said circuit, a third relay connected in said main circuit in bridge of said sensitive winding of said second relay, said third relay being also non-sensitive, a normally open local circuit controlled by said third relay, an additional winding for said second relay included in said

local circuit, opening of said main circuit causing said non-sensitive relays to become inert whereby said local circuit is closed to prevent said second relay from becoming inert, and a signaling-circuit controlled by said second relay.

21. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay included serially in said circuit and responsive only to comparatively great resistance increase in said circuit, alarm mechanism controlled by said relay, a second relay having a winding included serially in said main circuit, said winding being sensitive and causing inertness of said second relay upon only slight increase of resistance in said main circuit, a third relay connected in said main circuit in bridge of said sensitive winding, said third relay being also non-sensitive, a normally open local circuit controlled by said third relay, an additional winding for said second relay included in said local circuit, and a signal-circuit controlled by said second relay, a slight decrease of current in said main circuit causing only said second relay to become inert, whereby said signal-circuit is closed, a comparatively large decrease of current in said main circuit causing said non-sensitive relays to become inert whereby the local circuit controlled by said third relay is closed and whereby said second relay is prevented from becoming inert.

22. In an alarm system, the combination with a central station, of a line leading therefrom and connecting with a plurality of substations, a first and second relay at the central station connected with the line, means at some of the substations for changing the condition of the line for causing actuation of said first relay, means at some of the substations for changing the condition of the line tending to cause actuation of both of said relays, and means at the central station for preventing actuation of said first relay upon such tendency to actuate both relays whereby only said second relay is actuated.

23. In an alarm system, the combination with a normally closed main circuit extending from a central exchange, of a plurality of substations connected therewith, a non-sensitive relay at the central exchange included serially in said circuit, a sensitive relay at said substation included serially in said circuit, means at said substation for varying the resistance of said circuit to cause actuation of only said sensitive relay, means upon actuation of other substation apparatus for causing actuation only of said non-sensitive relay, independent signal-circuits controlled by each relay, telephone apparatus at the substations, and telephone apparatus at the central exchange normally disconnected from the line, connection of said central exchange telephonic apparatus with the line causing a shunt-circuit to be connected about said non-sensitive relay.

24. In a telephone and alarm system, the combination with a normally closed main circuit extending from a central exchange, of alarm and telephone substations connected with said line, a relay at the central exchange responsive only to apparatus at said alarm-stations, an additional relay at the central exchange responsive to only actuations of apparatus at the telephone-stations, signals controlled by each relay, telephone apparatus at the central exchange, and normally ineffective means for removing the impedance of the additional relay from said circuit upon conversation therethrough.

25. In a telephone and alarm system, the combination with a normally closed main circuit extending from a central exchange, of alarm and telephone substations connected with said line, a relay at the central exchange responsive only to apparatus at said alarm-stations, an additional relay at the central exchange responsive to only actuations of apparatus at the telephone-stations, signals controlled by each relay, telephone apparatus at the central exchange, and normally ineffective means for shunting the additional relay from the circuit upon conversation therethrough.

26. In an alarm and telephone system, the combination with a line extending from a central exchange, of alarm and telephone substations connected with said line, a relay at the central exchange responsive only to apparatus at the telephone-substations, signals controlled by said relay, and telephone apparatus at the central exchange normally disconnected from the line, connection of said central-exchange telephone apparatus with said line causing closure of a normally open short-circuit path about said relay to cause the impedance of said relay to be removed from the talking-circuit.

27. In a combined alarm and telephone system, the combination with a normally closed main line extending from the central exchange and including telephone and alarm substations, actuation of apparatus at said alarm-stations causing said line to be opened, actuation of telephone apparatus at said telephone-stations causing resistance to be included in said circuit, a sensitive relay at the central exchange included serially in said circuit adapted to be actuated only upon actuation of telephone apparatus at the substations, telephone-signals controlled by said sensitive relay, a non-sensitive relay included serially in said line-circuit at the central exchange adapted to be actuated only upon actuation of alarm-substation apparatus, alarm-signals controlled by said non-sensitive relay, telephone apparatus at the central exchange adapted to be inductively connected with said line, and means for removing the impedance of said relays from the main circuit only when conversation is carried on therethrough.

28. In a combined telephone and alarm system, the combination with a normally closed main circuit including alarm and telephone substations and terminating at a central exchange in a spring-jack, alarm apparatus at said substations for opening said line, telephone apparatus at said telephone-stations for including resistance in said line-circuit, a relay at the central exchange responsive only to actuations of the apparatus at the alarm-stations, a sensitive relay actuated only upon inclusion of resistance in the circuit at the telephone-substations, an operator's cord-circuit at the central exchange for connecting an operator or another line with said main circuit, and means upon connection of said cord-circuit with said spring-jack for closing a short circuit about the sensitive relay to remove its impedance from the talking-circuit.

29. In a combined alarm and telephone system, the combination with a normally closed main circuit including alarm and telephone substations and terminating at a central exchange, of telephone apparatus at the central exchange normally disconnected from the main circuit, a source of current in said main circuit, means at the alarm-substations for opening said line, a non-sensitive relay included serially in the circuit at the central exchange and responsive only to actuations of signals from said alarm-substations, means at the telephone-substations for including a resistance in said main circuit, a second relay at the central exchange having a winding serially included in said main circuit, said winding being sensitive and causing actuation of said relay only upon inclusion of resistance in said line at the telephone-substations, a third relay associated with said second relay for preventing said second relay from becoming inert when said line is open at said alarm-stations, and means upon telephonic conversation through said main circuit for removing the impedance of said relays therefrom

30. In a combined alarm and telephone system, the combination with a normally closed main circuit including alarm and telephone substations and terminating at a central exchange, of telephone apparatus at the central exchange normally disconnected from the main circuit, a source of current in said main circuit, means at the alarm-substations for opening said line, a non-sensitive relay included serially in the circuit at the central exchange and responsive only to actuations of signals from said alarm-substations, means at the telephone-substations for including a resistance in said main circuit, a second relay at the central exchange having a winding serially included in said main circuit, said winding being sensitive and causing actuation of said relay only upon inclusion of resistance in said line at the telephone-stations, a third relay associated with said second relay for preventing said second relay from becoming inert when said line is open at said alarm-stations, a condenser shunting the first relay, and means upon connection of said central-exchange telephone apparatus with said main circuit for closing a short circuit about said second and third relays whereby the impedance of said relays is removed from the talking-circuit.

31. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay in said circuit adapted to become inert only upon comparatively great resistance increase in said circuit, a second relay having a sensitive winding included in said circuit and adapted to become inert upon slight resistance increase in said circuit, an additional winding for said second relay for preventing said relay from becoming inert upon great resistance change in said circuit, and a third relay controlling a circuit through said additional winding.

32. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay in said circuit adapted to become inert only upon comparatively great resistance increase in said circuit, a second relay having a sensitive winding included in said circuit and adapted to become inert upon slight resistance increase in said circuit, an additional winding for said second relay for preventing said relay from becoming inert upon great resistance change in said circuit, and a third relay controlling a circuit through said additional winding, said third relay being included serially in circuit with said non-sensitive relay.

33. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive re-

lay in said circuit adapted to become inert only upon comparatively great resistance increase in said circuit, a second relay having a sensitive winding included in said circuit and adapted to become inert upon slight resistance increase in said circuit, an additional winding for said second relay for preventing said relay from becoming inert upon great resistance change in said circuit, and a third relay controlling a circuit through said additional winding, said third relay being connected in bridge of the sensitive winding of the second relay.

34. In an alarm system, the combination with a normally closed main circuit, a source of current in said circuit, a non-sensitive relay in said circuit adapted to become inert only upon comparatively great resistance increase in said circuit, a second relay having a sensitive winding included in said circuit and adapted to become inert upon slight resistance increase in said circuit, an additional winding for said second relay for preventing said relay from becoming inert upon great resistance change in said circuit, and an additional non-sensitive relay included serially in circuit with said other non-sensitive relay and controlling the circuit through said additional winding of the second relay.

35. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay in said circuit adapted to become inert only upon comparatively great resistance increase in said circuit, a second relay having a sensitive winding connected serially in said circuit with said relay, said sensitive winding allowing said second relay to become inert upon slight resistance increase in said circuit, an additional winding for said second relay for preventing said relay from becoming inert upon great resistance change in said circuit, and an additional non-sensitive relay connected in bridge of the sensitive winding of the second relay and controlling a circuit through the additional winding for said second relay.

36. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a normally inactive sensitive relay in said closed circuit, said relay becoming active upon slight changes of current strength in said circuit, and means associated with said relay to prevent its actuation upon a larger change of current in said circuit.

37. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a normally inactive sensitive electromagnetic signal-controlling device in said circuit, said device becoming active upon slight changes in the strength of current in said circuit, and means for preventing the actuation of a signal controlled by said electromagnetic device upon a larger change of current strength in said circuit.

38. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a sensitive relay in said circuit and normally inactive upon a slight current-flow through the circuit upon closure thereof, and means associated with said relay to prevent its actuation upon an increase of the current-flow in said circuit which would tend to cause actuation of the relay.

39. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a sensitive relay in said closed circuit irresponsive to the normal current-flow through the circuit, said relay being responsive to slight increases of the current strength in said circuit, and means associated with said relay to prevent its actuation upon a larger current-flow in said circuit which would tend to cause actuation of said relay.

40. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a sensitive relay in said closed circuit irresponsive to the normal current-flow through the circuit, said relay being responsive to slight increases of the current strength in said circuit, means associated with said relay to prevent its actuation upon a larger current-flow in said circuit which would tend to cause actuation of said relay, and an additional relay in said circuit for controlling said means.

41. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a sensitive relay in said closed circuit irresponsive to the normal current-flow through the circuit, said relay being responsive to slight increases of the current strength in said circuit, means associated with said relay to prevent its actuation upon a larger current-flow in said circuit which would tend to cause actuation of said relay, and a non-sensitive relay included in said circuit and responsive to only large current changes for controlling said means.

42. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a sensitive relay in said closed circuit irresponsive to the normal current-flow therethrough but responsive to slight current increase in the circuit, and a non-sensitive relay included in said circuit and responsive only to comparatively large current-flow through said circuit, said non-sensitive relay preventing actuation of said sensitive relay upon large current-flow through the circuit.

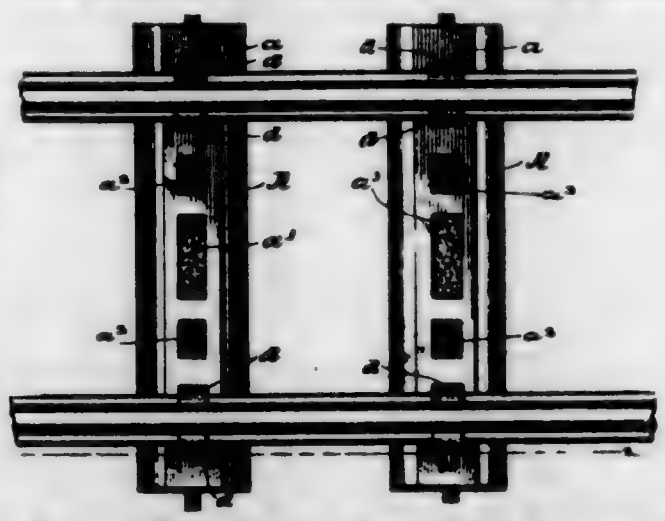
43. In an alarm-circuit, the combination with a normally closed circuit, of a source of current in said circuit, a sensitive relay included serially in said circuit and adapted to become inert upon slight resistance increase in said circuit, an additional relay in said circuit responsive only upon comparatively great resistance increase in said circuit, and means associated with said sensitive relay for preventing inertness thereof upon actuation of said additional relay.

44. In an alarm system, the combination with a normally closed main circuit, of a source of current in said circuit, a non-sensitive relay in said circuit adapted to become inert only upon comparatively great resistance increase in said circuit, a second relay having a sensitive winding included in said circuit and adapted to become inert upon slight resistance increase in said circuit, and an additional winding for said second relay for preventing said relay from becoming inert upon great resistance change in said circuit.

45. In a telephone and alarm system, the combination with a normally closed main circuit extending from a central exchange, of alarm and telephone substations connected with said line, a relay at the central exchange responsive only to apparatus at said alarm-stations, an additional relay at the central exchange responsive to only actuations of apparatus at the telephone-stations, signals controlled by each relay, telephone apparatus at the central exchange, and means upon conversation through said telephone-circuit for closing a non-impedance circuit about both said relays to remove their impedance from the telephone-circuit.

46. In a combined telephone and alarm system, the combination with a normally closed main circuit extending from a central exchange, of alarm and telephone substations connected with said line, a relay at the central exchange responsive only to apparatus at said alarm-stations, an additional relay at the central exchange responsive to only actuations of apparatus at the telephone-stations, signals controlled by each relay, telephone apparatus at the central exchange, and means mechanically actuated upon connection of the telephone apparatus at the central exchange with the line for closing a normally open short circuit about the additional relay to remove its impedance from the talking-circuit.

807,236. **RAILROAD-TIE.** EDWIN S. BEGLER and HENRY WITTMANN, Cincinnati, Ohio. Filed Sept. 1, 1905. Serial No. 276,730.



Claim.—1. The combination with a rail, of a tie for supporting the same comprising a hollow cylindrical metallic casing, having a thickened flattened upper surface provided with a plurality of openings, and with perforations through its lower face, cylindrical plugs having transverse openings within the cylinder beneath the rail-bases and of a thickness corresponding to the width thereof, an extension on either side of each end of the tie for supporting the rail-bases, coil-springs seated in openings in the upper face of the extensions and engaging the rail-bases, bars on either side of the plugs, and provided with vertical openings, plates having flanges for engaging the rail-bases and provided with openings registering with the transverse openings of the plugs, and extending through the openings in the bars, keys traversing the plugs and plates for retaining the plates in position, partitions within the casing on the inner sides of the plugs, and plates within the casing on the outer side of the plugs and having arms extending without the tie, substantially as described.

2. A railroad-tie comprising a hollow cylindrical casing, plugs within the casing at points corresponding to the positions of the rail-bases, plates having flanges for engaging the rail-bases and extending into the tie, and means within the casing for locking the plates.

3. A railroad-tie comprising a cylindrical casing, plugs within the casing adjacent to either end of the same, means on either side of the plugs for securing the rail to the tie, and means traversing the plugs for locking the securing means.

4. A railroad-tie comprising a cylindrical casing, plugs within the casing adjacent to either end of the same, means on either side of the plugs for securing the rail to the tie, and means for locking the securing means.

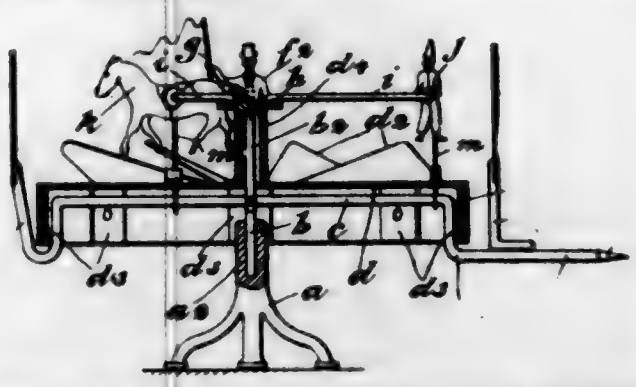
5. A railroad-tie comprising a cylindrical casing, means for securing a rail to the tie, means within the casing for locking the securing means, and a disk for closing the end of the tie provided with an arm extending without the casing.

6. A railroad-tie comprising a cylindrical casing, and plugs within the casing at points corresponding to the positions of the rail-bases on the tie.

7. A railroad-tie comprising a cylindrical casing, and disks fitting within the ends of the casing and provided with arms extending without the same.

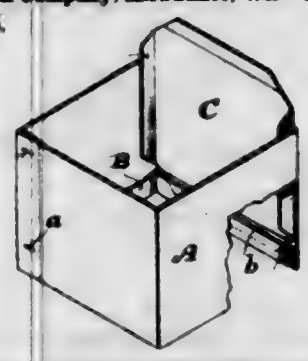
8. A railroad-tie comprising a cylindrical casing, and means for closing the ends of the same comprising disks fitting within the casing and arms on the disks projecting without the casing.

807,237. TOY. LARS B. BERGENSTEN, New York, N. Y. Filed June 23, 1904. Serial No. 213,756.



Claim.—A toy of the class described, comprising a stationary frame provided with radially-arranged members, a rotatable device mounted over said frame and provided with a central upright member and radial fan-blades, radial arms connected with said upright member over said fan-blades, and figures pivotally mounted on said arms and adapted to be carried around by said rotatable device and to swing in a vertical plane, said figures being provided with hanging members which pass through the rotatable device outside of said fan-blades and which come in contact with the radially-arranged members of the stationary frame and give motion to said figures, substantially as shown and described.

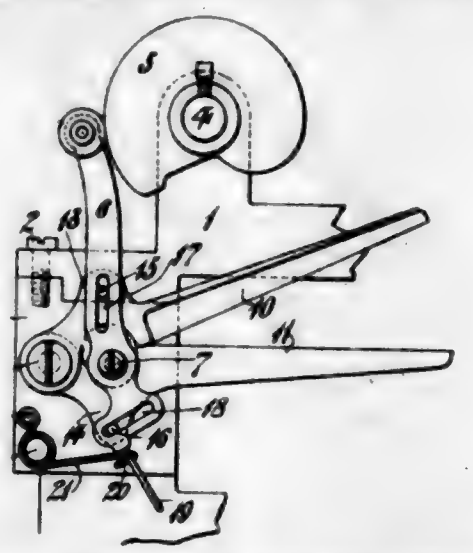
807,238. PAPER FOLDING FRUIT-BOX. HARRY W. BREWER, Milwaukee, Wis., assignor, by direct and mesne assignments, to Monarch Folding Box Company, Milwaukee, Wis. Filed Sept. 3, 1904. Serial No. 223,205.



Claim.—1. In a two-piece collapsible box, a rectangular side-wall strip having its lapped ends riveted together, and provided with an upward-inturned edge whereby pockets are formed, means for securing said pockets to the corners of the side walls of said strip, whereby the latter is strengthened, and a separable rectangular bottom-piece having downturned edges and angular-cut corners, whereby when said bottom-piece is pushed into place, vents are formed between said bottom and corners of the said walls, substantially as set forth.

2. A two-piece rectangular strawboard folding box having its side walls upturned inwardly whereby a pocket is formed at the lower edge of each wall thereof, means for securing said pockets at the corners of said walls, and a detachable rectangular bottom having downturned flanges fitted into said pockets, the said flanges and bottom being cut away at the corners thereof whereby vents are formed in the bottom of the box, substantially as set forth.

807,239. CUTTING DEVICE. ROSS BARTON, Clifton, Pa., assignor of one-half to Mayer M. Swaab, Jr., and Henry Fleer, Philadelphia, Pa. Original application filed Dec. 14, 1903, Serial No. 185,006. Divided and this application filed Mar. 2, 1904. Serial No. 196,135.



Claim.—1. A cutting device comprising suitably-supported shear-blades, a pivoted lever and pins and slots common to said lever and to both said shear-blades, whereby the movement of said lever actuates said shears said lever being pivoted between the point of support of said blades and the cutting edge thereof.

2. A cutting device comprising suitably-supported shear-blades, an intermittently-actuated pivoted lever and pins and slots common to said lever and to both said shear-blades, whereby the movement of said lever actuates said shears said lever being pivoted between the point of support of said blades and the cutting edge thereof.

3. A cutting device comprising suitably-supported shear-blades, a slotted lever pivoted between the point of support of said blades and the cutting edge thereof, pins on both said blades engaging in such slots and means for moving said lever whereby said shears are actuated.

4. A cutting device comprising suitably-supported shear-blades, a lever pivoted intermediate the point of support and the cutting edge of said blades, said lever being slotted at each side of its pivotal point, pins on said shear-blades engaging in such slots and means for moving said lever whereby said shears are actuated.

5. A cutting device comprising suitably-supported shear-blades, a pivoted lever pivoted between the pivotal point and the cutting edge of said blades, pins and slots common to said lever and to both said blades whereby the movement of said lever actuates said blades.

6. A cutting device comprising suitably-supported shear-blades, a pivoted lever, means for actuating said lever and means common to said lever and to both the said blades, whereby the movement of said lever operates said shears said lever being pivoted between the point of support of said blades and the cutting edge thereof.

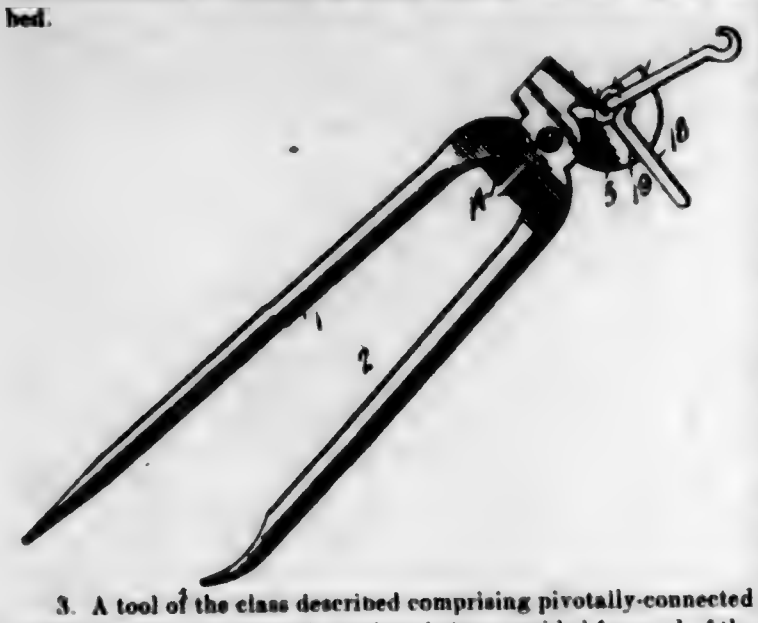
7. A cutting device comprising suitably-supported shear-blades, a pivoted lever, means for actuating said lever in one direction, means common to said lever and to both the said shear-blades, whereby the movement of said lever actuates said shears and a spring for operating said lever in the opposite direction from the first-mentioned means.

807,240. PINCERS. NELS E. CARSTENSEN, Cedarbluffs, Nebr. Filed May 10, 1905. Serial No. 259,762.

Claim.—1. A tool of the class described comprising connected members, one of said members being formed with a head and the other of said members being provided with a curved bed to coöperate with the head and with an anvil projecting forward of the bed, the head of the first-mentioned member being shaped to conform to the shape of the bed, and terminating in vertical alinement with the forward edge of the bed.

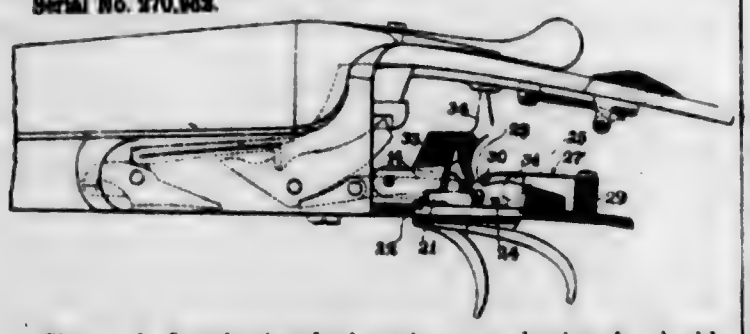
2. A tool of the class described comprising connecting members, one of said members being provided with a head, the other of said members being provided with a curved bed to coöperate with the head and with an anvil of less width than the width of the bed, said anvil projecting forwardly from the bed and terminating in a

plain face slightly above the plane of the bed, the head of the first-mentioned member being shaped to conform to the shape of the bed and terminating in vertical alinement with the forward edge of the bed.



3. A tool of the class described comprising pivotally-connected handle members, one of said members being provided forward of the pivot with a bed having a curved face, and with an anvil projecting forwardly of the bed and formed with a concaved face and with a vertically-projecting portion, the other of said members being provided with a head terminating in alinement with the forward edge of the bed and formed with a face curved to conform with the face of the bed.

807,241. **DOUBLE-BARRELED SMALL-ARM.** JOHN CARTER, Sparkbrook, England, assignor to The Webley and Scott Revolver and Arms Company Limited, Birmingham, England. Filed July 24, 1905. Serial No. 270,952.



Claim.—1. In selective duplex-trigger mechanism for double-barrel guns; the combination with two separate triggers each adapted to directly actuate the sear of the corresponding barrel when pulled for obtaining the first discharge, of a sliding clutch-plate or coupling adapted to be engaged, by a spring, with the trigger-blades for connecting them together after the first discharge; means being also provided for holding the clutch or coupling out of engagement with the trigger-blades until after the first shot has been fired, for preventing accidental or unintentional discharge of the second barrel by the involuntary pull set up by the recoil from the first discharge, and for disengaging and resetting the clutch device after each discharge of one or both barrels, substantially as herein described.

2. In selective duplex-trigger mechanism for double-barrel guns, the combination with two separate triggers whose blades are each adapted to act directly upon its sear when the corresponding trigger is pulled for firing the first barrel and which are clutched or coupled together after the first discharge so that the pulling of either trigger will then fire the second barrel, of a free or loosely mounted and weighted clutch-slide, provided with a spring which tends to engage same with the trigger-blades, and an intercepter which normally holds the said slide out of engagement with the said blades and is disconnected therefrom by the pulling of either trigger, and is also adapted to admit of the relative movement of the said slide by virtue of its own inertia when the gun recoils; the several parts operating in such a manner that the clutch cannot be moved into coupling connection with the trigger-blades until the involuntary pull following the recoil from the first discharge has been utilized to disengage the intercepter from the said slide, substantially as herein described and also as set forth in the drawings.

3. In a selective duplex-trigger mechanism for double-barrel guns, the combination with the two triggers or trigger-blades and a clutch device for connecting together and disconnecting said triggers of a combined safety limb and resetting device adapted to disengage the clutch and restore same to its normal or inoperative position when the bolt-lever of the gun is moved, substantially as herein described and set forth.

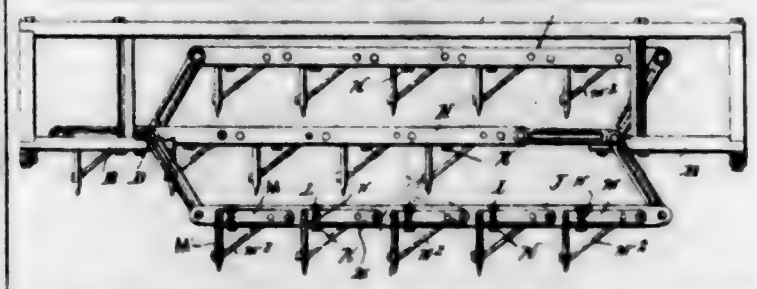
4. A duplex-trigger mechanism for double-barreled guns having trigger-blades, movable means for automatically coupling together the said trigger-blades, means for controlling the movement of the said coupling means, means for resetting the latter to its normal inoperative position, and a safety element coöperative therewith for locking the trigger-blades.

5. A duplex-trigger mechanism including trigger-blades, a movable element for automatically coupling said blades and for releasing the same, means for resetting said coupling element, and a safety device operated by the resetting means for locking the said trigger-blades.

6. A duplex-trigger mechanism having a movable coupling element, an intercepter controlling the displacement of the said coupling element, and means for returning the said coupling element to a normal inoperative position and for locking the triggers.

7. In a duplex-trigger mechanism, pivotal trigger-blades separated from one another, a movable coupling element interposed between the blades, a resetting device for returning the said coupling element to an inoperative position, a safety limb actuated by the resetting device for locking the said blades, and a yieldable intercepter arranged within the path of movement of the said coupling element for controlling the movement of the same.

807,242. **PROPELLING MECHANISM.** WILLIAM J. CHANCE, Dawson, Canada. Filed Nov. 3, 1904. Serial No. 231,313.

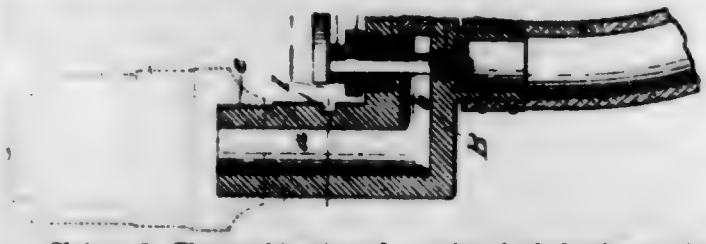


Claim.—1. A propelling mechanism, consisting of the frame, the crank-shafts mounted in each end of said frame, the pitmen connecting said shafts, the longitudinal rails connected to the cranks of said crank-shafts, and the series of angular pivoted paddles carried by said longitudinal rails.

2. A propelling mechanism, consisting of the frame, the crank-shafts mounted in each end of said frame, the pitmen connecting said shafts, the longitudinal rails connected to the cranks of said crank-shafts, and the series of angular pivoted paddles carried by said longitudinal rails and cushioning-springs connected with said paddles.

3. In a propelling mechanism, the combination of the longitudinal rails, the angular-shaped paddles pivoted to said rails and the cushioning-springs connected to said paddles.

807,243. **SELF-CLOSING HOSE COCK OR VALVE.** RALPH B. CHAPIN, Batavia, N. Y. Filed Mar. 14, 1904. Serial No. 198,018.

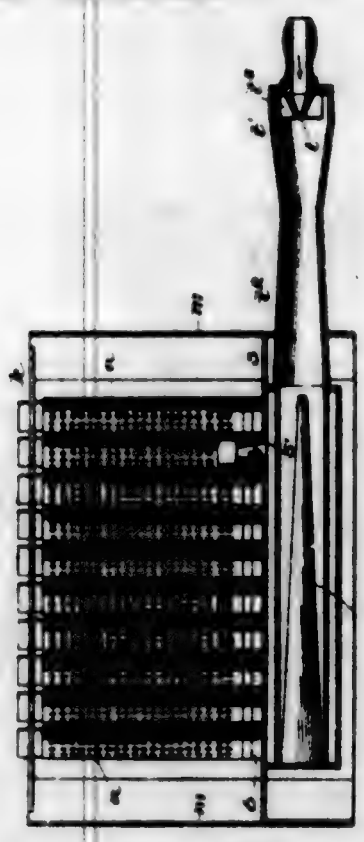


Claim.—1. The combination of a valve-body having an inlet-nipple for attachment to a hose or the like, and a discharge-tube which is substantially parallel with and offset relative to said nipple, a stop on one side of said discharge-tube, a valve in said valve-body, a valve-stem which is slidable longitudinally in said valve-body and extends out of the same beside said discharge-tube, a head carried by the outer end of said valve-stem for moving the latter to open the valve and which is adapted to be moved into engagement with the stop on said discharge-tube to hold said valve open, and a spring for seating said valve to close the passage of the body and holding said head against said stop, substantially as set forth.

2. The combination of a valve-body having a nipple for attachment to a hose or the like, and a discharge-tube which is substantially parallel with and is offset relative to said nipple and is provided with a notch in one side, a valve-stem which is slidably mounted in said valve-body and extends out of the same parallel with and beside said discharge-tube, a valve carried by the inner end of said valve-stem

and controlling the liquid passage through said body, a head on the outer end of said stem which is movable longitudinally beside said discharge-tube and is adapted to be turned into engagement with said notch in the discharge-tube to hold the valve open, and a spring for seating said valve, substantially as set forth.

807,244. GAS-STOVE. CHARLES CLAMOND, Paris, France. Filed Aug. 18, 1900. Serial No. 27,221.



Claim.—1. A gas-stove comprising the combination of walls of refractory radiating material having small perforations therein and constituting a substantially closed chamber, a device for supplying a self-burning mixture of air and gas thereto, and a burner-tip for supporting the flame of the self-burning mixture within the chamber, the arrangement of parts being such as to permit the escape of the products of combustion of the flame from the inside of the chamber through the perforations but to prevent the entrance of air through the perforations to the interior of the chamber, substantially as described.

2. A gas-stove comprising the combination of a tube closed at the top of refractory radiating material, having small perforations on one side thereof, a device for supplying a self-burning mixture of air and gas thereto, and a burner-tip for supporting the flame of the self-burning mixture within the tube, the arrangement of parts being such as to permit the escape of the products of combustion of the flame from the inside of the tube through the perforations but to prevent the entrance of exterior air through the perforations to the interior of the tube, substantially as described.

3. A gas-stove comprising a series of substantially closed tubes of refractory radiating material each provided with small perforations, a burner-tip on the inside of each tube for supporting the flame within the tube and a common device for supplying a self-burning mixture of air and gas to the burner-tips, substantially as described.

4. A gas-stove comprising the combination of a series of substantially closed tubes of refractory radiating material, each provided with small perforations in its side and with a projection at the top, a top plate provided with apertures matching the projections, a bottom plate for supporting the tubes, a burner-tip on the inside of each tube for supporting the flame within the tube, and a device for supplying a self-burning mixture of air and gas to the burner-tip, substantially as described.

5. A gas-stove comprising a series of substantially closed tubes of refractory radiating material, each provided with small perforations, a burner-tip on the inside of each tube for supporting the flame within the tube, a common device for supplying a self-burning mixture of air and gas to the burner-tips, and a reflector coöperating with the tubes, substantially as described.

6. A gas-stove comprising a series of substantially closed tubes of refractory radiating material, each provided with small perforations on one side and closed on the other side, a burner-tip on the inside of each tube for supporting the flame within the tube, a common device for supplying a self-burning mixture of air and gas to the burner-tips, and a reflector coöperating with the closed sides of the tubes, substantially as described.

7. A gas-stove comprising a device for supplying a self-burning mixture of gas and air, a perforated cylindrical diaphragm connected therewith, a cylinder surrounding the same having axially-distributed apertures connected with burner-nozzles, and a cone on the inside of the perforated diaphragm having its apex toward the gas and air supply, whereby the amount of self-burning mixture passing to the burner-nozzles is independent of their position along the cylinder, substantially as described.

807,245. METHOD OF BURNING GAS TO DEVELOP RADIANT HEAT. CHARLES CLAMOND, Paris, France. Filed June 19, 1901. Serial No. 65,183.

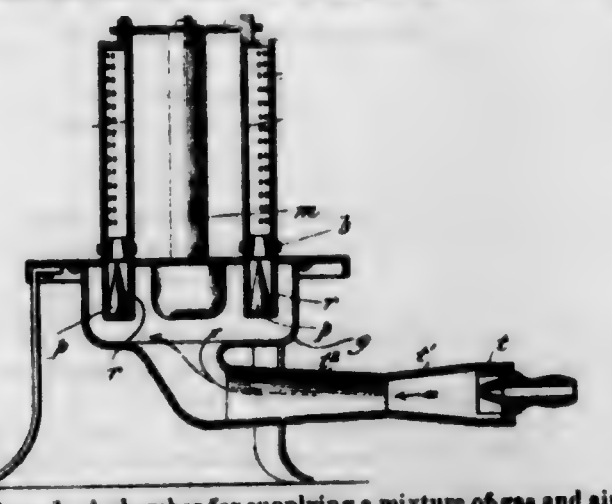


Claim.—1. The method of obtaining in the form of radiant heat a large number of heat units developed by the combustion of gas, which consists in burning a self-burning mixture of the gas and air on the inside of a substantially closed chamber of refractory radiating material provided with small perforations, and of causing the products of combustion to escape through the perforations, whereby the walls of the chamber are heated both by the direct contact of the flame with the inside of the chamber and by the contact of the products of combustion with the walls of the perforations, substantially as described.

2. The method of obtaining, in the form of radiant heat, a large number of heat units developed by the combustion of gas, which consists in burning a self-burning mixture of gas and air on the inside of a substantially closed chamber of refractory radiating material provided with small perforations, and of causing the products of combustion to escape through and a portion of the flame to pass through the perforations, whereby the walls of the chamber are heated both by the direct contact of the flame with the inside of the chamber and by the contacts of the products of combustion and of the flame with the walls of the perforations, substantially as described.

3. The method of burning a self-burning mixture of gas and air on the inside of a substantially closed chamber of refractory, radiating material, provided with small perforations, under such pressure as will prevent the entrance of air through the perforations to the interior of the tube, whereby there is developed a relatively large number of heat units in the form of radiant heat, substantially as described.

807,246. GAS-STOVE. CHARLES CLAMOND, Paris, France. Original application filed Aug. 18, 1900. Serial No. 27,221. Divided and this application filed Mar. 10, 1905. Serial No. 249,409.



Claim.—1. A chamber for supplying a mixture of gas and air, a perforated cylinder within the chamber, a burner-tip supported on the top of the cylinder, and a cone on the inside of the cylinder and having its apex directed upward, whereby a uniform supply of the mixture to the burner-tip is assured, substantially as described.

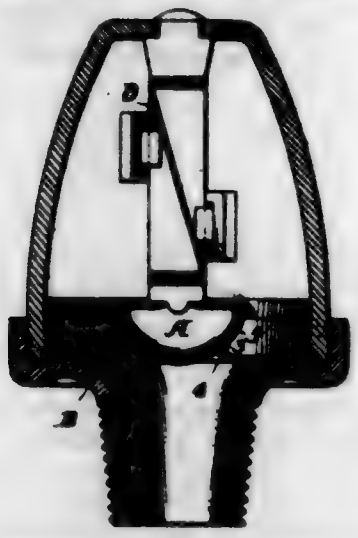
2. A gas-stove comprising a chamber for supplying a mixture of gas and air, a perforated cylinder within the chamber, a burner-tip on top of the cylinder, a cone on the inside of the cylinder and having its apex directed upward, and a tube of refractory radiating material, having small perforations, mounted on the burner, substantially as described.

3. A chamber for supplying a mixture of gas and air, a series of perforated cylinders within the chamber, a burner-tip on the top of each cylinder, a cone on the inside of each cylinder and having its

apex directed upward, a tube of refractory radiating material, having small perforations, connected to each burner and having a projection at the top, and a top plate having apertures receiving the projections, substantially as described.

4. A gas-stove comprising a chamber for supplying a mixture of gas and air, a series of perforated cylinders within the chamber, a burner-tip on the top of each cylinder, a cone on the inside of each cylinder having its apex upward, a tube for each burner of refractory radiating material, having small perforations in one side, and a reflector codperating with the closed sides of the tubes, substantially as described.

807,247. AUTOMATIC SPRINKLER-HEAD. ERNEST S. CLAYTON, Newark, N. J. Filed Apr. 12, 1905. Serial No. 255,141.



Claim.—1. In a stop-valve, the combination of an annular valve, seat, and a plug consisting of a cup of thin metal having a vitreous coating, substantially as set forth.

2. In a stop-valve, the combination of a plug and a seat therefor consisting of the flexible edge of an annular flange having an inclined outer face and an inner face of uniform diameter from the outer to the inner edge, substantially as set forth.

3. The combination with the plug of a stop-valve, of a plate having an opening surrounded by a sharpened flexible flange projecting toward the plug and gradually decreasing in thickness toward the edge, substantially as set forth.

4. The combination with the plug of a stop-valve, of a plate having an opening opposite the plug, and an annular flange surrounding said opening, the inner wall of the flange perpendicular to the plane of the plate and the outer wall inclined and meeting the inner wall and forming a flexible sharp-edged seat for the valve, substantially as set forth.

5. In a stop-valve, the combination of a plug and a plate having an opening opposite the plug, the edge of the plate around the opening being shaped to form an annular flexible sharp-edged flange with an inclined outer face and an inner face perpendicular to the plane of the plate, substantially as set forth.

6. In a stop-valve, the combination of a plug having an approximately semispherical face, and a plate having an opening and surrounding flange with a flexible knife-edge seat for the plug, substantially as set forth.

7. In a stop device, the combination of a plug having a rounded face, and a plate having an opening surrounded by a flange with faces meeting at an angle and forming a sharp and yielding knife-edge valve-seat, substantially as set forth.

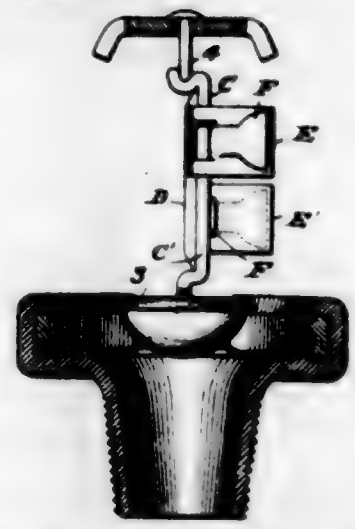
8. A stop-valve consisting of a cup of thin metal provided with a vitreous coating having substantially the same coefficient of expansion as the metal, substantially as set forth.

807,248. LOCKED SPRINKLER-STRUT. ERNEST S. CLAYTON, Newark, N. J. Filed Apr. 12, 1905. Serial No. 255,142.

Claim.—1. The combination in a strut for automatic sprinklers, of two bent levers, an interposed fulcrum-plate, the ends of which engage the bent ends of the levers, and locking means for holding the levers in position in respect to the plate and secured in place by solder, substantially as set forth.

2. The combination in a strut for automatic sprinklers, of two bent-ended levers arranged in the same plane, an interposed plate, the ends of which abut the bent ends of the levers, and a locking device for each lever, secured by solder to the plate, substantially as set forth.

3. The combination in a strut for automatic sprinklers, of two bent-ended levers, the long arms of which are side by side in the same plane, a fulcrum-plate interposed between the bent ends of the levers, and means for locking the parts together, said means secured in place by solder, substantially as set forth.



4. The combination of the bent-ended levers, interposed fulcrum-plate having perforated wings, and an L-shaped locking-bracket, one arm of each extending through the perforation of one of the wings and over the adjacent lever, and the other arm secured by solder to the wing, substantially as set forth.

5. The combination with the fulcrum-plate and its perforated wings, of bent-ended levers, each having a curved arm, and locking means for holding said arm of each lever flat in contact with said plate, the locking means secured in place by solder, substantially as set forth.

6. The combination of the bent-ended levers with arms in the same plane, an intermediate fulcrum-plate with perforated wings at opposite sides, one near each end, and L-shaped locking-brackets extending through the perforations and secured in place by solder, substantially as set forth.

7. The combination with the fulcrum-plate and its perforated wings arranged at opposite edges near the opposite ends, of bent-ended levers having arms extending side by side on said plate, and means for locking the parts in position, substantially as set forth.

8. The combination with the bent-ended levers, of a fulcrum-plate having diverging perforated wings, and L-shaped locking-brackets extending through the perforations and secured in place by solder, substantially as set forth.

9. The combination in an automatic sprinkler, of a frame having a valve-seat and valve, a bearing opposite the valve, a strut consisting of bent-ended levers, one bearing on the valve and the other on the said bearing, a fulcrum-plate intermediate the bent ends of the levers, and locking means for holding the plate and levers together, the parts secured by solder, substantially as set forth.

10. The combination with the bent-ended levers, of a fulcrum-plate having diverging wings with perforations extending at an angle through the same, and L-shaped locking-brackets extending through the perforations and secured in place by solder, substantially as set forth.

807,249. INSECTICIDE. ALBERT P. CROMWELL, Florida, N. Y. Filed June 12, 1905. Serial No. 264,905.

Claim.—1. The herein-described composition of matter for use as an insecticide, comprising benzin, hellebore, nightshade, laurel and water.

2. The herein-described composition of matter for use as an insecticide, comprising benzin, hellebore, nightshade, laurel and water combined in substantially the proportions specified.

807,250. MANUFACTURE OF SUGAR FROM CELLULOSE. CHARLES F. CROSS, London, England. Filed Jan. 30, 1905. Serial No. 243,415.

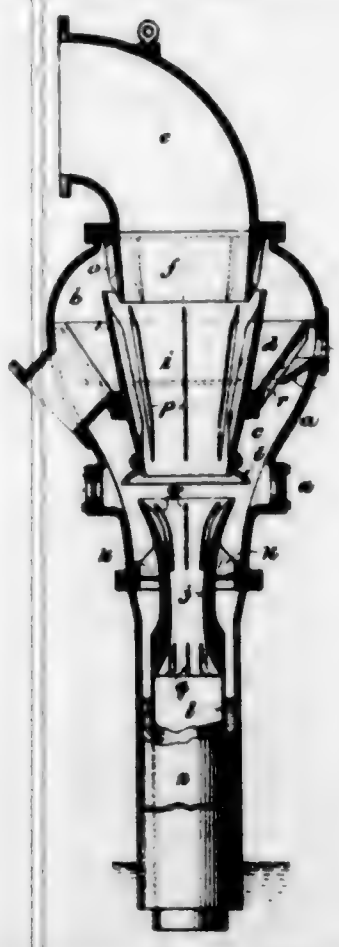
Claim.—1. A process for the manufacture of a crystalline sugar from cotton-seed hulls, consisting in treating the hulls to isolate the cellulose, separating the cellulose into longer fibers and shorter fibers, hydrolyzing the said shorter fibers and crystallizing the product of hydrolysis.

2. A process for the manufacture of a crystalline sugar, consisting in subjecting cotton-seed hulls successively to the action of first an alkaline solution, second chlorin and third an alkaline solution,

then separating the longer from the shorter fibers and finally hydrolyzing the shorter fibers.

3. A process for the manufacture of a crystalline sugar, consisting in subjecting cotton-seed hulls successively to the action of first an alkaline solution, second chlorin and third an alkaline solution, then breaking up the mass of cellulose produced, then suspending the broken mass in water, then collecting the portion which settles first and finally hydrolyzing this portion.

807,251. CONDENSER. CHARLES J. DAVIDSON and EUCLID P. WORDEN, Milwaukee, Wis., assignors to Fred M. Prescott Steam Pump Company, West Allis, Wis., a Corporation of Wisconsin. Filed May 11, 1905. Serial No. 260,023.



Claim.—1. In a condenser, the combination of a steam-and-water-combining funnel, a case inclosing said funnel and having steam and water inlet connections in constant open communication with the upper end of the funnel and a contracted throat located below, in line with and at a distance from said funnel, an outlet connection with the lower part of the throat, and an overflow-outlet in constant open communication with the space between said funnel and throat, substantially as described.

2. In a condenser the combination of a water cone or funnel, a case inclosing said funnel and having steam and water inlet connections in communication with the upper end of the funnel, an exhaust connection opening out of the air-space between the case and funnel and a contracted throat located below and in line with said funnel and having an outlet connection at its lower end, substantially as described.

3. In a condenser the combination of a water cone or funnel, a case inclosing said funnel and having steam and water inlet connections in communication with the upper end of the funnel and a barometric overflow connection communicating with the lower end of the funnel, and a contracted throat located below, in line with and at a distance from the funnel and having an outlet connection at its lower end, substantially as described.

4. In a condenser the combination of a water cone or funnel, a case inclosing said funnel and having steam and water inlet connections in communication with the upper end of the funnel, a contracted throat located below, in line with and at a distance from said funnel, and being of smaller area than the funnel; and barometric outlet connections communicating with the upper and lower ends of said throat, substantially as described.

5. In a condenser the combination of a water cone or funnel, a case inclosing said funnel and having steam and water inlet connections in communication with the upper end of the funnel and an exhaust connection with the air-space around the funnel, a contracted throat located below, in line with and at a distance from the funnel, and barometric outlet-pipes communicating with the upper and lower ends of the throat, substantially as described.

6. In a condenser the combination of a funnel, a case inclosing said funnel and having steam and water inlet connections in communication with the upper end of the funnel, a contracted throat below and in line with the funnel, and barometric or gravity tail-pipes arranged one within the other and connected with the throat and case respectively, substantially as described.

7. In a condenser the combination of a funnel, a case inclosing said funnel and having steam and water inlet connections in communication with the upper end of the funnel, a partition or wall surrounding said funnel and provided on the outer or under side with air-cooling vanes, a contracted throat located below and in line with said funnel and having an outlet connection at its lower end, and an exhaust-air connection opening out of said case adjacent to said partition, substantially as described.

8. In a condenser the combination of a funnel, a case inclosing said funnel and having steam and water inlet connections in communication with the upper end of the funnel, a partition or wall forming a waterway around said funnel and provided with air-cooling vanes on its outer or under side, a deflector extending inwardly from the case toward said partition, an exhaust-air connection opening out of the case above said deflector, and a contracted throat located below and in line with said funnel and having an outlet connection at its lower end, substantially as described.

9. In a condenser the combination of a funnel, a case inclosing said funnel and having steam and water inlet connections in communication with the upper end of said funnel, a contracted throat located below and in line with said funnel and having an outlet connection at its lower end, and a deflector surrounding the lower end of the funnel, substantially as described.

10. In a condenser the combination of a case having steam and water inlet connections in constant open communication with the upper part and an outlet connection with the lower part thereof, the steam-inlet terminating in a downwardly-directed nozzle, a contracted throat located below and in line with said nozzle and communicating at its lower end with said outlet connection, a funnel arranged between, in line with and at a distance from said nozzle and throat, and an overflow outlet connection with the case in constant open communication with the space between the funnel and throat, substantially as described.

11. In a condenser the combination of a case having steam and water inlet connections with the upper part and an outlet connection with the lower part and divided between its inlet and outlet connections into an upper water-chamber and a lower air-chamber, the steam-inlet terminating in a downwardly-directed nozzle, a contracted throat communicating at its upper end with the air-chamber and at its lower end with the outlet connection which is of larger area than the throat, and a funnel of larger area than the throat arranged between and in line with said nozzle and throat and communicating at its upper end with the water-chamber and at its lower end with the air-chamber, substantially as described.

12. In a condenser the combination of a case divided into upper and lower chambers and having steam and water inlet connections opening into the upper chamber, a funnel leading from the upper into the lower chamber, a contracted throat located below and in line with said funnel and communicating at its upper end with the lower chamber, and tail-pipes connected with the lower chamber and said throat, substantially as described.

13. In a condenser the combination of a case divided into upper and lower chambers and having steam and water inlet connections opening into the upper chamber, a funnel between said chambers, a contracted throat located below and in line with said funnel and communicating at its upper end with the lower chamber, and tail-pipes arranged one within the other and connected with said throat and the lower chamber, substantially as described.

14. In a condenser the combination of a case having steam and water inlet connections, a funnel inclosed in said case, a contracted throat below and in line with said funnel, and gravity tail-pipes connected at their upper ends with said throat and case and extending at their lower ends into a waterway or receptacle below the normal liquid-level therein, substantially as described.

15. In a condenser the combination of a funnel having on the inside longitudinal guide-vanes, and a case inclosing said funnel and having steam and water inlet connections in communication with the upper end of the funnel, and a contracted throat below the funnel, substantially as described.

16. In a condenser the combination of a funnel, and a case inclosing said funnel and having steam and water inlet connections in

communication with the upper end of the funnel and a contracted throat below the funnel, the steam-inlet connection terminating within the upper end of the funnel in a downwardly-directed nozzle which has longitudinal guide-vanes on the outside, substantially as described.

17. In a condenser the combination of a funnel having on the inside longitudinal guide-vanes, a case inclosing said funnel and having steam and water inlet connections communicating with the upper end of the funnel and an outlet connection communicating with the lower end of the funnel, and a nozzle projecting from the steam-inlet connection into the upper end of the funnel and having longitudinal guide-vanes on the outside, substantially as described.

18. In a condenser the combination of a funnel, a case inclosing said funnel and having steam and water inlet connections communicating with the upper end of the funnel, a throat located below and in line with said funnel and having on the inside longitudinal guide-vanes, and a tail-pipe connected with the lower end of said throat, substantially as described.

19. In a condenser the combination of a case having steam and water inlet connections, the steam-inlet terminating in a downwardly-directed nozzle which has on the outside longitudinal guide-vanes, a funnel inclosed by said case in line with said nozzle and having on the inside longitudinal guide-vanes, a throat located below and in line with said funnel and having on the inside longitudinal guide-vanes, and an outlet connected with the lower end of said throat, substantially as described.

20. In a condenser the combination of a case divided into upper and lower chambers and having steam and water inlet connections opening into the upper chamber and an air-exhaust connection leading out of the upper part of the lower chamber, a funnel leading from the upper into the lower chamber, a throat located below and in line with said funnel and a tail-pipe connected with the lower end of the throat, substantially as described.

21. In a condenser the combination of a case divided by a partition into upper and lower chambers and having steam and water inlet connections opening into the upper chamber, a funnel leading from a point in the upper chamber above said partition into the lower chamber which has an air-exhaust connection leading out from the upper part thereof, a throat located below and in line with said funnel and a tail-pipe connected with the lower end of the throat, said partition being provided on the under side with air-cooling vanes, substantially as described.

22. In a condenser the combination of a case divided into upper and lower chambers by a horizontally-disposed conical partition and having steam and water inlet connections with the top and side respectively of the upper chamber, and an air-exhaust connection leading out from the upper part of the lower chamber, the steam-inlet terminating in a downwardly-directed nozzle, a funnel passing through said partition in line with said nozzle, a throat located below and in line with said funnel and a tail-pipe connected with the lower end of said throat, substantially as described.

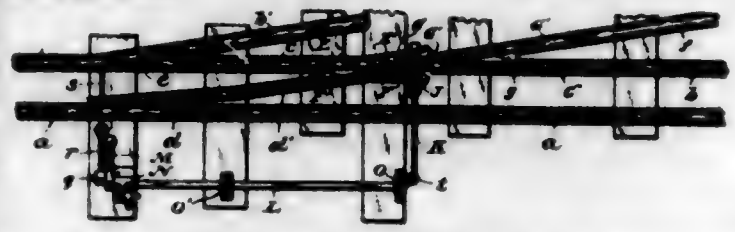
23. In a condenser the combination of a case divided into two chambers by a horizontally-disposed partition which is provided on the under side with air-cooling vanes and having steam and water inlet connections opening into the upper chamber and an air-exhaust connection opening out of the lower chamber, a funnel leading from the upper into the lower chamber through said partition, a throat located below and in line with said funnel, and a tail-pipe connected with the lower end of said throat, substantially as described.

24. In a condenser the combination of a case divided into upper and lower chambers by a horizontally-disposed partition which is provided on the under side with air-cooling vanes, and having steam and water inlet connections opening into the upper chamber and an air-exhaust connection opening out of the lower chamber, a deflector extending inwardly from the case toward said partition below the air-exhaust connection, a funnel extending through said partition from the upper into the lower chamber, a contracted throat located below said funnel, and a tail-pipe connected with the lower end of said throat, substantially as described.

807,252. ADJUSTABLE RAILWAY-SWITCH FROG. CLEMENT DU CROSS, Westport, Ind., assignor of one-third to Mathew D. Harding and one-third to William F. McCullough, Westport, Ind. Filed June 8, 1905. Serial No. 264,519.

Claim.—1. A railway-switch frog including a point that is movable laterally and comprising a branch that is connected to a main-track rail and a branch that is connected to a siding-rail, one of the branches being movable longitudinally, a plurality of lead-rails fixed in proximity to opposite sides of the point, and means for controlling the point.

2. A railway-switch frog including a point that is movable laterally and comprising a branch that is connected to a main-track rail and a branch that is connected to a siding-rail, one of the branches being movable longitudinally, a plurality of deflected lead-rails fixed in proximity to opposite sides of the point, an arm attached to the point and extending below the plane of the bottoms of the lead-rails, and an operating-rod connected to the arm and extending under one of the lead-rails.

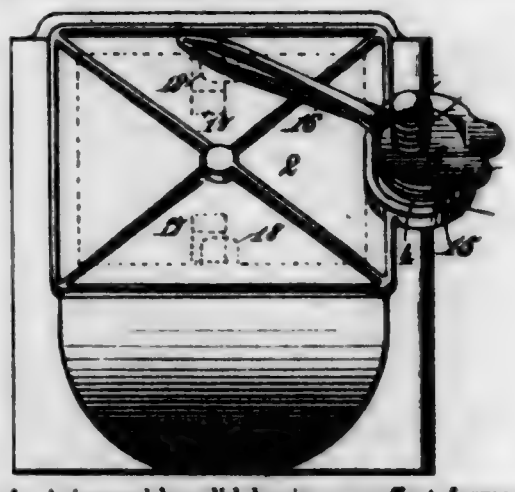


3. A railway-switch frog including a point that is movable laterally and comprising a branch that is connected to a main-track rail and a branch that is connected to a siding-rail, one of the branches being movable longitudinally, a plurality of lead-rails fixed in proximity to opposite sides of the point, and an operating-rod extending under one of the lead-rails and connected with the point.

4. A railway-switch frog including a point that is movable laterally and comprising a branch that is connected to a main-track rail and a branch that is connected to a siding-rail, one of the branches being movable longitudinally, a plurality of deflected lead-rails fixed in proximity to opposite sides of the point, a pair of reinforcing-bars secured to the point and having lips extending under the fixed lead-rails, a reinforcing-plate secured to the lips, and an operating-rod connected with the reinforcing-plate.

5. In a railway, the combination with a pair of switch-points, main-track rails, siding-rails, and a switch-lever connected with the switch-points, of a frog comprising a point that is movable laterally and having a branch that is connected to a main-track rail and a branch that is connected to a siding-rail, one of the branches of the point being movable longitudinally, a plurality of deflected lead-rails fixed in proximity to opposite sides of the point and connected with the switch-points, an arm attached to the point, an operating-rod connected with the arm and extending under one of the lead-rails, and a journaled rock-shaft operatively connected with the operating-rod and also with the switch-lever.

807,253. JOURNAL-BOX. MARTIN D. DOWNS, Washington, D. C. Filed June 9, 1905. Serial No. 264,530.



Claim.—1. A journal-box lid having an offset formed with a cam-surface, means engaging said surface for shifting the lid, and means forming a part of the offset and engaging in the first-mentioned means to prevent the displacement thereof.

2. A journal-box lid having an offset at one side provided with a cam-surface and an overhanging ledge, and means engaging in said cam-surface for shifting the lid, said means provided with a slit adapted to receive said ledge to prevent the displacement of said means.

3. A journal-box lid having an offset provided with a cam-surface, an overhanging ledge and a toothed rack, and means engaging in said cam-surface for shifting the lid, said means engaging in said rack to retain it in the position set, and said ledge engaging in said means to prevent the displacement thereof.

4. A journal-box lid having an offset provided with a recess, a cam-surface, a slot, an overhanging ledge and a toothed rack, a rotatable means mounted in said recess and adapted to engage said cam-surface for shifting the lid, said means engaging in said rack for retaining it in the position set and said ledge adapted to engage in said

means to prevent said means from being displaced out of the recess, combined with means extending through said slot and adapted to support the rotatable means.

5. A journal-box lid having an offset provided with a recess, a cam-surface, a slot, an overhanging ledge and a toothed rack, a rotatable means mounted in said recess and adapted to engage said cam-surface for shifting the lid, said means engaging in said rack for retaining it in the position set and said ledge adapted to engage in said means to prevent said means from being displaced out of the recess, combined with means extending through said slot and adapted to support the said rotatable means, and a lever carried by said rotatable means.

6. In a journal-box, the combination with the body portion thereof provided with a pair of lugs and a lid provided with a pair of lugs adapted to interlock with the first-mentioned lugs, said lid further provided with an offset having a cam-surface, of rotatable means supported by said body portion and adapted to engage said cam-surface for shifting the lid to and from closure position.

7. In a journal-box, the combination with the body portion thereof provided with a pair of lugs and a lid provided with a pair of lugs adapted to interlock with the first-mentioned lugs, said lid further provided with an offset having a cam-surface, of rotatable means supported by said body portion and adapted to engage said cam-surface for shifting the lid to and from closure position, and means forming a part of the offset and engaging in said rotatable means for preventing the displacement of the latter.

8. In a journal-box, the combination with the body portion thereof provided with a pair of lugs and a lid provided with a pair of lugs adapted to interlock with the first-mentioned lugs, said lid further provided with an offset having a cam-surface, of rotatable means supported by said body portion and adapted to engage said cam-surface for shifting the lid to and from closure position, means forming a part of the offset and engaging in said rotatable means for preventing the displacement of the latter, a part of said rotatable means engaging in said offset for retainng the said rotatable means in the position set.

9. In a journal-box, the combination with a body portion and a lid therefor, of means for securing the lid in closure position, a rotatable and eccentrically-mounted disk engaging with the lid for shifting it to and from closure position, and said lid having a part thereof engaging in the disk to prevent the displacement thereof.

10. In a journal-box, the combination with a body portion and a lid therefor, of means for securing the lid in closure position, a rotatable and eccentrically-mounted disk engaging with the lid for shifting it to and from closure position, said lid having a part thereof engaging in the disk to prevent the displacement thereof, and means carried by the disk and engaging in the lid for retaining said disk in the position set.

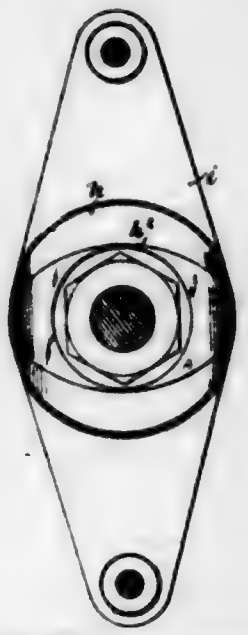
11. A journal-box lid, having an offset provided with a cam-surface and further provided with a beveled lower face, of rotatable means adapted to engage said cam-surface for shifting the lid to and from closure position, said beveled lower face of said offset permitting of the rocking of the lid so that the latter can be swung downwardly.

12. A journal-box lid, having an offset provided with a cam-surface and further provided with a beveled lower face, of rotatable means adapted to engage said cam surface for shifting the lid to and from closure position, said beveled lower face of said offset permitting of the rocking of the lid so that the latter can be swung downwardly, and said offset having a part thereof engaging in said rotatable means for preventing the displacement of the latter.

13. A journal-box lid having an offset provided with a cam-surface and further provided with a beveled lower face, of rotatable means adapted to engage said cam-surface for shifting the lid to and from closure position, said beveled lower face of said offset permitting of the rocking of the lid so that the latter can be swung downwardly, a part of said offset engaging in said rotatable means for preventing the displacement of the latter, and a part of said rotatable means engaging with said offset for retaining the rotatable means in the position set.

807,254. CLUTCH MECHANISM FOR COUPLING ROTATABLE PARTS. JOSEPH EVANS, Birmingham, England. Filed Dec. 16, 1903. Serial No. 185,457.

Claim.—1. In a clutch mechanism, the combination with a pair of rotatable members provided with driving-inclines adapted to abut, causing thereby the rotation of said members in unison, of a coupling device for said members, said device consisting of a sleeve, bell-crank levers carried thereby, a block pivotally connected to each of said bell-cranks and adapted to engage in one of said members for shifting the same, thereby causing the abutting of said inclines, and a pair of levers for shifting said bell-crank levers to operative position, causing thereby the engagement of the blocks in one of said members.



2. In a clutch mechanism, the combination with a pair of rotatable members having the opposing ends thereof provided with interlocking driving-inclines, one of said members being shiftable, of a coupling device for said members, said device consisting of a sleeve, lever mechanisms carried thereby and adapted when operated to actuate said shiftable member, causing thereby the interlocking of the inclines and the rotating of said members in unison, and means for actuating one of said lever mechanisms, causing thereby the operation of the other of said mechanisms and the actuation of said shiftable member.

3. A clutch mechanism comprising a single shaft, two longitudinal abutments fast on said shaft, rotatable members mounted upon said shaft and provided with interlocking driving-inclines on the opposing ends thereof, said inclines when interlocking adapted to cause the rotation of said members in unison, one of said members rotatable with said shaft and the other of said members rotatable with and longitudinally movable upon said shaft, means interposed between one of said abutments and said longitudinally-movable member for shifting the latter, causing thereby the interlocking of the inclines, and a longitudinally-movable device adapted to operate the said means.

4. In a clutch mechanism, the combination of a pair of rotatable members having their opposing ends provided with interlocking driving-inclines, one of said members being longitudinally shiftable, of a coupling device for said members, said device comprising a sleeve, means carried thereby and adapted to engage said shiftable member for actuating it, causing thereby the interlocking of the inclines and the rotating of said members in unison, a lever mechanism for shifting said means to and from operative position, and a longitudinally-movable means engaging said lever mechanism for operating it.

5. A clutch mechanism comprising a single shaft, a pair of abutments fixed thereto, a sleeve rotatably mounted upon said shaft, arranged in close proximity to one of said abutments and provided with an interlocking driving-incline, a longitudinally-movable collar mounted upon said shaft, rotatable with the shaft, arranged adjacent to said sleeve and provided on that face opposing the sleeve with an interlocking driving-incline and on its other face with recesses, said driving-inclines adapted when said collar is shifted in one direction to interlock, causing thereby the rotation of said collar, sleeve and shaft in unison, means engaging in said recesses and adapted when operated in one direction to shift said collar toward said sleeve, causing thereby the interlocking of the inclines, a lever mechanism for operating said means in opposite directions, supporting means for said lever mechanism and means for operating said lever mechanism.

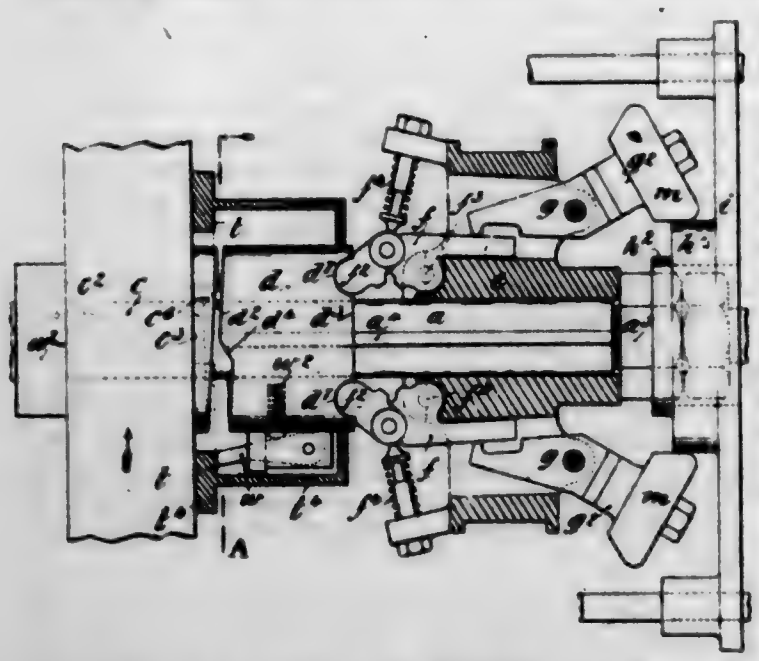
6. A clutch mechanism comprising a single shaft, a pair of abutments fixed thereto, a sleeve rotatably mounted upon said shaft, arranged in close proximity to one of said abutments and provided with an interlocking driving-incline, a longitudinally-movable collar mounted upon said shaft, rotatable with the shaft, arranged adjacent to said sleeve and provided on that face opposing the sleeve with an interlocking driving-incline and on its other face with re-

cesses, said driving-inclines adapted when said collar is shifted in one direction to interlock, causing thereby the rotation of said collar, sleeve and shaft in unison, blocks engaging in said recesses and adapted when operated in one direction to shift the said collar toward the sleeve, causing thereby the interlocking of the inclines, levers pivoted to said blocks, spring elements bearing against the point of connection between the levers and blocks, supporting means for said levers and means for operating said levers.

7. A clutch mechanism comprising a single shaft, a pair of abutments fixed thereto, a sleeve rotatably mounted upon said shaft, arranged in close proximity to one of said abutments and provided with an interlocking driving-incline, a longitudinally-movable collar mounted upon said shaft, rotatable with the shaft, arranged adjacent to said sleeve and provided on that face opposing the sleeve with an interlocking driving-incline and on its other face with recesses, said driving-inclines adapted when said collar is shifted in one direction to interlock, causing thereby the rotation of said collar, sleeve and shaft in unison, blocks engaging in said recesses and adapted when operated in one direction to shift the said collar toward the sleeve, causing thereby the interlocking of the inclines, levers pivoted to said blocks, spring elements bearing against the point of connection between the levers and blocks, levers for actuating the first-mentioned levers, supporting means for said levers and means for operating the levers which actuate the first-mentioned levers.

8. In a clutch mechanism, the combination with a pair of rotatable members provided with interlocking driving-inclines, a coupling device for said members, said device consisting of a sleeve, means carried thereby and engaging in said shiftable member for actuating it, causing thereby the interlocking of said inclines and the rotating of the said members in unison, a lever mechanism for operating said means, a shiftable collar having a cam-lead adapted to engage said lever mechanism, thereby actuating it, and a frame for shifting the said collar.

807,255. **CLUTCH MECHANISM FOR COUPLING ROTATABLE PARTS.** JOSEPH EVANS, Birmingham, England. Filed Jan. 30, 1905. Serial No. 243,295.

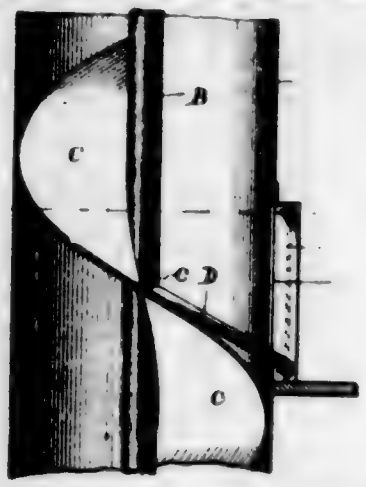


Claim.—1. A governing device for clutch mechanisms, comprising the combination with a driving and a driven element adapted to interlock one with the other, of locking means carried by one of said elements and engaging the other of said elements for preventing the operation of the driven element by the driving element until said elements are in position to interlock, and means provided on the other of said elements and adapted to release said locking means to permit of the interlocking of the said element so that the two elements can be operated together.

2. A governing device for clutch mechanisms, comprising the combination with a driving element provided with an offset, a cam-piece and a gap, of a driven element, a clutch member carried thereby and adapted to be moved into locking engagement with the driven element for clutching the two elements together causing thereby their operation in unison, and means carried by said clutch member to prevent the interlocking of said member with the driven element until the said member and driven element are in proper position to interlock, said means operating upon said offset, in said gap and directly off said offset into said gap by said cam-piece.

3. In a governing device for clutch mechanisms, the combination with a driving element and a driven element, of a clutch member carried by the driven element and adapted to interlock with the driving element for coupling said elements together, and means carried by the clutch member for preventing the interlocking thereof with the driving element until the said driving element and member are in proper position, said means when said driving element and clutch member are in proper position to interlock adapted to engage in the driving element to permit of the interlocking of the driving element and said clutch member so that the two elements will operate in unison.

807,256. **CHUTE.** JOHN W. FELLERS, Chicago, Ill., assignor to Russell Wiles, Chicago, Ill. Filed July 14, 1905. Serial No. 269,858.



Claim.—1. In a device of the class described, the combination with a spiral slideway, of a plurality of discharge-slides at the various floors arranged to be moved into contact with the slideway to deflect material moving on the same, and means at the floors above each of said discharge-slides for controlling the same.

2. In a device of the class described, the combination with a spiral slideway, of a plurality of discharge-slides at the various floors arranged to be moved into contact with the slideway to deflect material moving on the same, means at the floors above each of said slideways for controlling the same, and means for indicating the position of said discharge-slides.

3. In a device of the class described, the combination with a tube and a spiral slideway therein, of pivoted discharge-slides forming doors which close suitable openings of the tube at various floors, said discharge-slides being adapted to be swung down in contact with the slideway to deflect material moving thereon and means capable of being operated from the various floors above each of said discharge-slides to control the same.

4. In a device of the class described, the combination with a spiral chute, of devices for deflecting material therefrom at the various floors above the basement, and means capable of being operated from the various floors above each of said devices for controlling the same.

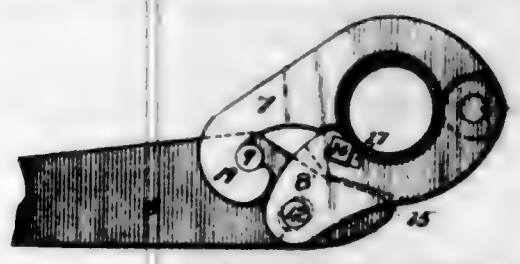
807,257. **SHELF-SUPPORT.** JACOB W. FRENEL, Johnstown, N. Y. Filed June 15, 1905. Serial No. 265,375.

Claim.—In a shelf-support, the combination with depending supporting-rods, each having at its upper end a hook 2, of the right-angularly-projecting brackets 4, 5 slidably mounted on said rods, set-screws to hold said brackets in adjusted position on said rods, a shelf 8 supported on said brackets, screws to secure said shelf to the brackets, and a depending plate 12 secured to said shelf and provided with an aperture 13 for a fastening 14, whereby the shelf and support may be secured to the wall, substantially as described.

807,258. **PIPE-WRENCH.** GEORGE FOGGAN, Pleasantville, Pa. Filed May 4, 1905. Serial No. 258,743.

Claim.—1. A pipe-wrench comprising a handle, a link having a pin-and-slot connection with the handle, a tooth near the attached end of the link and adapted to engage the pipe, a second link pivoted to the free end of the first link, means whereby the free end of the second link may be connected to the handle and means whereby

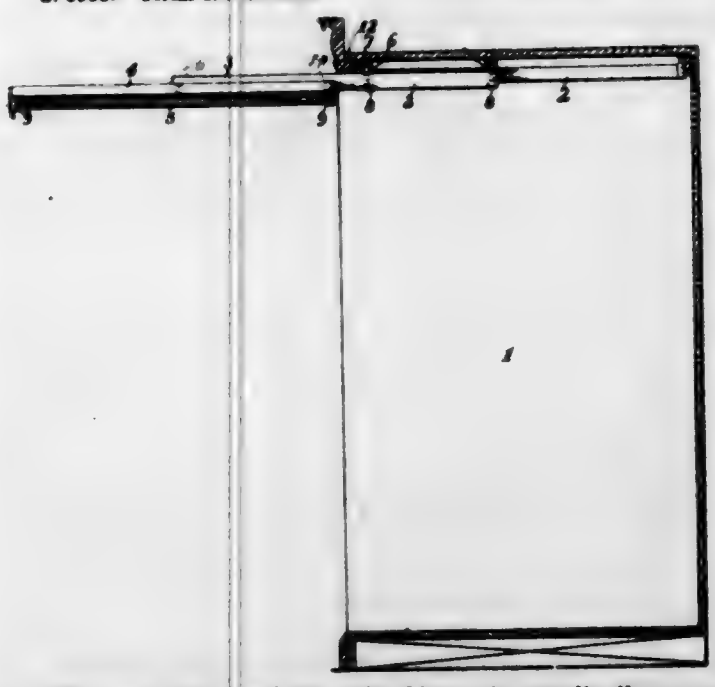
the handle may engage the link beyond its connection therewith to force the tooth into engagement with the pipe.



2. A pipe-wrench comprising a handle provided with a downwardly-beveled portion at its front end, a link connected to the handle and provided with a surface normally in contact with the beveled portion and a recess on its upper edge adjacent its attached end, a tooth in the recess for engaging the pipe, means for retaining the tooth in position, a second link pivoted to the first link, means whereby the free end of the first link may be connected with the handle and means to permit the beveled portion of the handle to be forced against the outer surface of the link to force the tooth into engagement with the pipe.

3. A pipe-wrench comprising a handle having a slot at its front end and a pin traversing an opening at the rear of the slot, a link having ears to receive the handle and a recess on the upper edge thereof, a pin traversing the ears of the link and the slot in the handle an angular toothed piece extending lengthwise in the recess and projecting at one of its longitudinal corners, a key for retaining the tooth in place, a second link pivoted to the first link, and a hook on the link for engaging the pin on the handle.

807,259. **CLOTHING-SUPPORT FOR WARDROBES.** LOUIS GALLOT, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Aug. 2, 1905. Serial No. 272,353.



Claim.—1. In a wardrobe, a fixed bar, a longitudinally-movable bar at each side of the fixed bar and supported thereby, means for connecting the movable bars arranged to traverse the fixed bar, channel-bars longitudinally movable on the said movable bars and supported thereby, means for connecting said channel-bars, and means for suspending clothing from said connecting means.

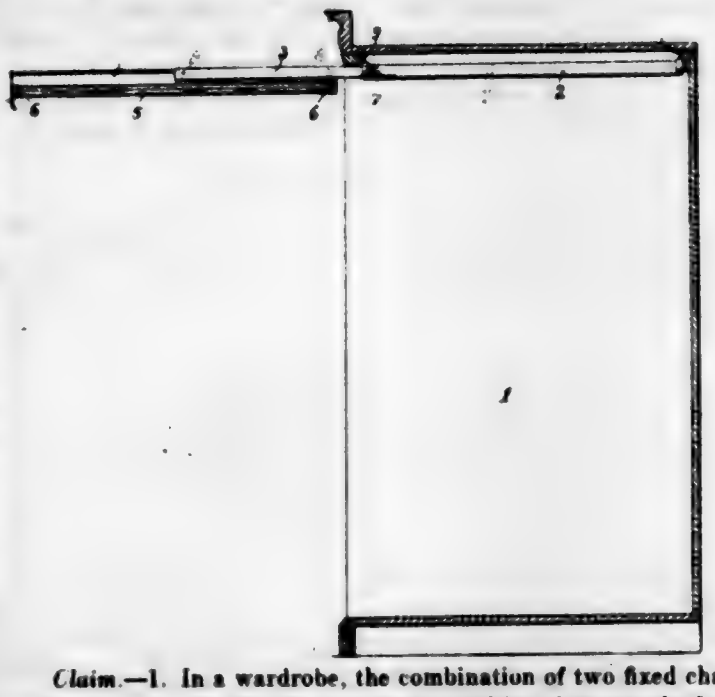
2. In a wardrobe, a fixed bar, brackets connecting the ends of said bar to the wardrobe, vertically-arranged straps movable on the fixed bar and connected to each other, longitudinally-movable bars attached to said straps, channel-bars supported by the movable bars and longitudinally movable thereon, a connecting member between the channel-bars, and a rod supported by said connecting member.

3. In a wardrobe, a fixed bar, means for attaching the ends of said bar to the wardrobe, straps embracing the bar, rolls journaled between the ends of the straps and traversing the respective upper and lower edges of the bar, two flat bars attached to the straps and movable therewith, rolls journaled on said bars, channel-bars engaging and traversing the rolls, a connecting member between the channel-bars and means for supporting clothing by the connecting member.

4. In a wardrobe, a fixed bar, brackets connecting the ends of the bar to the wardrobe, two pairs of vertically-disposed straps embracing the bar and movable thereon, flat bars attached to the straps and movable therewith, channel-bars movable on the flat bars and supported thereby, a semicylindrical member connecting the channel-bars, and a rod supported and carried by the said member.

5. The combination of a wardrobe, a fixed bar, brackets connecting the ends of the bar to the wardrobe, vertically-disposed straps arranged in pairs and connected at the ends, rolls journaled between the respective ends of the straps and traversing the respective upper and lower edges of the bar, flat bars attached to the straps and movable therewith, rolls mounted on the flat bars, channel-bars engaging and traversing the rolls, a semicylindrical member connecting the channel-bars, hangers attached to said member, and a rod supported by said hangers.

807,260. **MOVABLE SUPPORT FOR WARDROBES.** LOUIS GALLOT, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Aug. 2, 1905. Serial No. 272,354.



Claim.—1. In a wardrobe, the combination of two fixed channel-bars, two longitudinally-movable channel-bars between the fixed bars, and supported thereby, a bar supported by the inner channel-bars and longitudinally movable between the same, and means for suspending clothing below the last-named bar.

2. In a wardrobe, the combination of two fixed channel-bars spaced apart in parallel planes, and with their channeled sides turned inward, two smaller channel-bars longitudinally movable between the outer channel-bars and also having their channeled sides turned inward, a T-shaped bar supported by the inner channel-bars and longitudinally movable therebetween and a rod attached to the last-named bar and movable therewith.

3. In a wardrobe, the combination of two channel-bars, brackets connecting the wardrobe and bars, two smaller channel-bars supported by the first-named bars and longitudinally movable therebetween, a T-shaped bar supported by the smaller channel-bars and longitudinally movable and also extending below the channel-bars and a rod supported by the T-shaped bar.

4. In a wardrobe, the combination of two channel-bars spaced apart in parallel planes and with their channeled sides turned inward, brackets connecting the bars and attached to the wardrobe, two smaller bars also spaced apart and longitudinally movable between the outer bars and also with their channeled sides turned inward, a T-shaped bar longitudinally movable between the inner bars and supported thereby and also extending below the same, hangers attached to the last-named bar, and a rod supported by the hangers.

5. In a wardrobe, two fixed channel-bars spaced apart in parallel planes and with their channeled sides inward, two longitudinally-movable channel-bars therebetween, and also having their channeled sides inward, rolls journaled on the inner channel-bars and traversing the channels of the outer bars, a longitudinally-movable bar between the inner channel-bars and supported thereby and means for suspending articles upon the last-named bar.

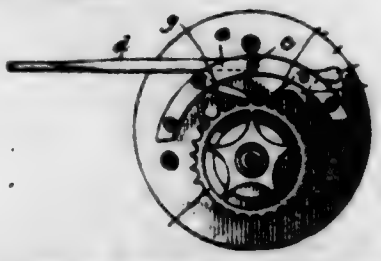
6. The combination of two channel-bars spaced apart in parallel planes and with their channeled sides inward, brackets adapted to be attached to a wardrobe and connecting said bars, two longitudinally-movable channel-bars between the first-named bars also spaced apart and with their channeled sides turned inward, rolls journaled on the inner bars and traversing the channels of the outer bars, a T-shaped bar longitudinally movable between the inner chan-

nel-bars, rolls journaled on the T-shaped bar and traversing the channels of the inner bars, and a rod attached to and supported by the T-shaped bar.

7. In a wardrobe, the combination of two fixed channel-bars, two longitudinally-movable channel-bars therebetween, rolls journaled on the movable bars and traversing the channels of the fixed bars, a T-shaped bar longitudinally movable between the movable channel-bars, a pair of rolls journaled on the last-named bar near the middle thereof and traversing the lower flanges of the movable bars, rolls on the inner end of said bar, adapted to engage both flanges of the movable bars, and a rod suspended below the T-shaped bar and attached thereto.

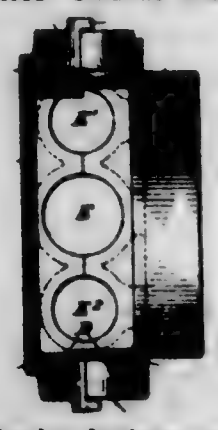
8. In combination with a wardrobe, two fixed channel-bars spaced apart in parallel planes and with their channeled sides inward, brackets connecting said bars and the wardrobe, two longitudinally-movable channel-bars between the fixed bars, and also spaced apart and with their channeled sides inward, rolls journaled on the inner bars and traversing the channels of the outer bars, a T-shaped bar longitudinally movable between the inner bars, rolls near the middle of said bar and traversing the lower flange of the inner channel-bars, rolls at the inner end of the T-shaped bar and adapted to engage and traverse both flanges on the inner channel-bars, hangers on the T-shaped bar, and a rod supported and carried by the hangers.

807,261. **ESCAPEMENT.** ALBERT F. GRUCHENDEN, Baltimore, Md., assignor of one-half to Frank A. Perrohn, Baltimore, Md. Filed May 9, 1905. Serial No. 259,566.



Claim.—In a device of the class described, the combination of a frame, a wheel carried by a shaft journaled in the frame, a rocking pawl-carrying frame mounted over the wheel and means for rocking this frame, and a pair of pawls carried by this frame and pivotally depending therefrom and normally resting in engagement with the teeth of the wheel, one pawl disposed at each side of the axis of movement of the pawl-carrying frame and each pawl being provided with a locking-finger which is adapted to engage a tooth of the wheel when its pawl is in working engagement with the wheel, substantially as set forth.

807,262. **JUNCTION-BOX.** EDWIN T. GREENFIELD, Monticello, N. Y. Filed Jan. 23, 1904. Serial No. 190,397.



Claim.—1. A junction-box having a series of inleading necks and a series of closing-disks therefor cast integral with the walls of the box and in planes parallel therewith, the thickness of said disks being less in each instance than that of the corresponding wall of the box.

2. A junction-box having one or more hollow inleading necks cast integral therewith and closing-disks therefor cast integral with the necks, the construction being such that said disks may be broken down or removed without injuring or impairing the structure.

3. A junction-box having an inleading neck and a disk at one end thereof cast integral with the box, said disk being in a plane parallel with the wall of the box and so constructed that it may be broken away without injuring or impairing the structure.

4. A junction-box having an inleading neck and a closing-disk therefor both cast integral with the box, said disk being located in a plane parallel with the inner wall of the box and the inner end of the neck undercut between it and the disk, whereby the latter may be removed on inserting a tool without injuring or impairing the wall of the box.

807,263. **JUNCTION-BOX FOR ELECTRICAL CONDUCTORS.** EDWIN T. GREENFIELD, Monticello, N. Y. Filed June 21, 1904. Serial No. 213,491.



Claim.—1. A junction-box provided with clamping means concentric with the inner surface or wall of the box and additional means for causing the same to act simultaneously upon all of the ends of the inleading armored conductors or conduits.

2. A junction-box provided with a series of inlets; a series of shutters or disks one for each inlet, and clamping means concentric with the inner surface or wall of the box for holding the shutters or disks in such position as to close the inlets.

3. A junction-box provided with a series of inlets and a series of shutters or disks for closing said inlets, said shutters or disks being supported by a ring concentric with the inner surface or wall of the box and detachable therefrom.

4. A junction-box provided with a series of inlets; in combination with a clamping-ring concentric with the inner surface or wall of said box and a series of shutters or disks carried by said clamping-ring; together with means for securing the clamping-ring to the bottom of the box and in such position as to hold the inleading ends of corresponding armored conductors and to maintain the shutters or disks in such position as to close the unused inlets.

5. A junction-box provided with a clamping-ring having curvilinear lugs adapted to fit about the ends of inleading armored conductors, and means for securing detachable shutters or disks opposite the unused inlets; together with means for securing said ring to the bottom of the box.

6. A junction-box provided with a plurality of inlets for the reception of the ends of inleading conductors or conduits; in combination with removable shutters for closing the same; together with means common to all the inlets for clamping the shutters and conduit or cable ends in position, and additional means for securing the aforesaid means to the bottom of the box.

7. A junction-box having the side walls provided with openings for the reception of the ends of inleading conductors or conduits; in combination with removable shutters for closing the same and removable clamping means adjacent to said inlets for clamping the shutters and conduit or cable ends in position, said clamping means being secured to the bottom of the box.

8. A junction-box having circular openings in the side walls of the box proper; in combination with removable shutters and means within the box for securing the shutters in front of the openings, the shutters, when in position, resting upon the bottom of the box.

9. A junction-box having circular openings in its side walls and a series of detachable shutters for closing the same; in combination with means located wholly within the box for securing the shutters in place, said means being adapted also to grip or hold the ends of inleading conduits or cables in such of the openings as are not provided with shutters.

807,264. **METAL TUBE.** EDWIN T. GREENFIELD, Monticello, N. Y. Filed Dec. 12, 1904. Serial No. 236,584.

Claim.—1. A tube formed from a skelp of metal having a sealing-strip embedded in grooves in the adjoining edges.

2. A tube formed from a skelp of metal having a sealing-strip embedded in triangular grooves in the adjoining edges and integrally united thereto by brazing material.

3. A tube formed from a skelp of metal having a sealing-strip embedded between the adjoining edges, the interior of said tube and the adjacent interior parts of the edges and sealing-strip being lined with brazing material.



4. A tube formed from a skelp of metal having a sealing-strip embedded between the adjoining edges, the tube being coated throughout its interior with a relatively non-oxidizable metal.

5. A tube formed from a skelp of metal having a sealing-strip embedded between the adjoining edges, said tube being interiorly lined with a relatively non-oxidizable metal and the adjoining edges of the tube and the sealing-strip also coated with brazing material.

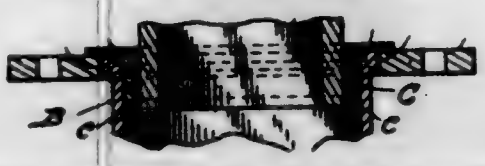
6. A tube formed from a skelp of metal having its edges connected together by a sealing-strip and a fusible brazing metal.

7. A tube formed from a skelp of metal having its edges connected together by a sealing-strip *f* of greater thickness at its lateral edges than at its center, the edges of the sealing-strip being embedded in the adjoining edges of the tube and all of said parts firmly locked together.

8. A tube formed from a skelp of metal having its edges united together by a locking-strip of metal, the lateral edges of the locking-strip being securely embedded in the adjoining edges of the tube.

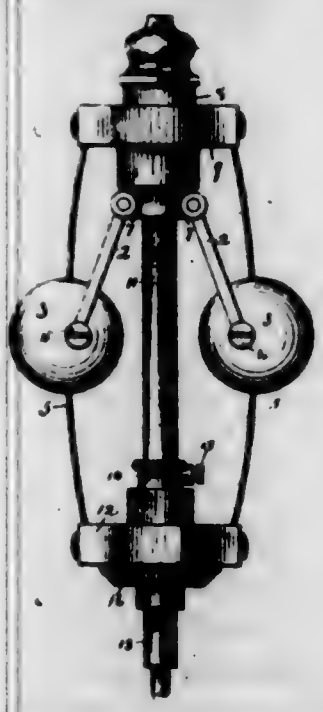
9. A tube formed from a skelp of metal having its edges united together by a locking-strip of metal, the lateral edges of the locking-strip being securely embedded in the adjoining edges of the tube and united together by a brazing material.

807,265. **CLOSET CONNECTION.** NORMAN A. GUTHLIUS, Washington, Pa. Filed July 21, 1905. Serial No. 270,627.



Claim.—A closet connection, consisting of a metallic ring resting on the top edge of the lead pipe, a flexible packing provided with a shoulder or flange adapted to rest on the top edge of the metallic ring and between said ring and the neck of the closet, substantially as and for the purposes shown and described.

807,266. **GOVERNOR-HEAD.** STEPHEN S. HALL, Portland, Conn., assignor to The Pickering Governor Co., Portland, Conn., a Corporation. Filed June 26, 1905. Serial No. 267,696.



Claim.—1. In a governor-head, the combination with the springs thereof, of balls mounted thereupon, a valve-rod, and connections, independent of the springs, between the balls and the valve-rod, including links.

2. In a governor-head, the combination with the springs thereof, of an upper and a lower frame-piece with which the ends of the springs are connected, of balls mounted upon the springs, a valve-rod, and connections, independent of the said frame-pieces, between the balls and the valve-rod, including links.

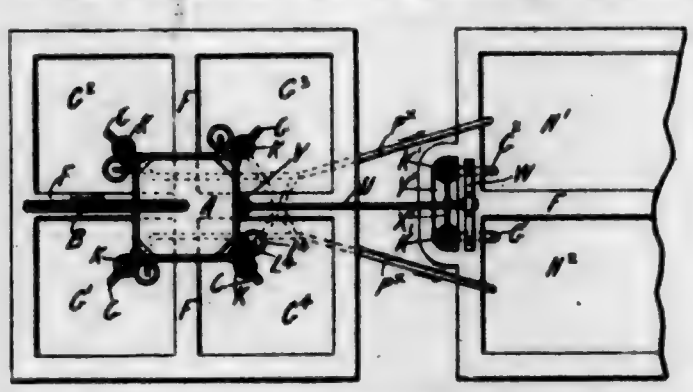
3. In a governor-head, the combination with the springs thereof, of an upper and a lower frame-piece with which the ends of the springs are connected, of balls mounted upon the springs, a valve-rod, an operating-sleeve, and connection, independent of the said frame-pieces, between the valve-rod and operating-sleeve, including links.

4. In a governor-head, the combination with the springs thereof, of an upper and a lower frame-piece, balls mounted upon the said springs, a valve-rod, an operating-sleeve, link connection, independent of the said frame-pieces, between the balls and the operating-sleeve, and means for coupling the valve-rod with the operating-sleeve.

5. In a governor-head, the combination with the springs thereof, of an upper and a lower frame-piece, balls mounted upon the said springs, a valve-rod, an operating-sleeve located within the upper frame-piece, and link connection, independent of the upper frame-piece, between the balls and the operating-sleeve, and means for connecting the operating-sleeve with the valve-rod.

6. In a governor-head, the combination with the springs thereof, of balls mounted thereupon, an upper and a lower frame-piece with which the ends of the springs are connected, a spindle on which the frame-pieces turn, an operating-sleeve turning upon the spindle, a valve-rod passing through the said spindle and coupled with the operating-sleeve, and links connecting the balls and operating-sleeve.

807,267. **MECHANISM FOR CONTROLLING THE DISCHARGE OF FLOWING MATERIAL.** ROBERT HARVEY, Newtown, Sydney, New South Wales, Australia. Filed Jan. 30, 1905. Serial No. 243,247.



Claim.—1. In means for governing the discharge of flowing material, a sealing-chamber provided with fluid, in combination with an outlet-tube from said chamber, a siphon having its outlet in said chamber, a bell or bell-shaped valve covering said outlet and sealed by the liquid in said chamber and automatic mechanism for lifting the said bell, substantially as set forth.

2. A siphon G located within a compartment and having its receiving end near the bottom thereof, in combination with a lower tube H and vertical outlet I continuous with said siphon, an air-tube K having its bottom closed around said siphon-outlet I to form a liquid-containing sealing-chamber concentric with said outlet, a bell or bell-shaped valve normally fitting over said outlet and immersed in said liquid and means for automatically lifting the said bell to uncover said outlet substantially as and for the purpose set forth.

3. In combination with a tilting tray provided with arms projecting from its corners and means for automatically tilting said corners of said tray in regular succession, a series of bells or bell-shaped valves suspended from said arms, a series of siphons provided with vertical outlets which extend up into said bells, a series of sealing-chambers which contain liquid for sealing said bells in the normal position of the latter and a series of compartments, successively supplied with liquid or other flowing material by the tilting of the said tray, each of which compartments contains one of the said siphons and is discharged thereby, substantially as set forth.

4. In combination with a tilting tray, provided with means for automatically tilting the corners thereof in regular succession, tilting levers arranged to be operated by the depression of the said corners successively, a rock-shaft actuated by said tilting levers, and means operated by the rocking of said shaft for permitting the discharge of flowing material substantially as set forth.

5. In combination with a tilting tray, provided with arms projecting from its corners and means for automatically shifting the

center of gravity from corner to corner of said tray in regular succession, a series of bells or bell-shaped valves suspended from said arms, sealing-chambers for said bells or bell-shaped valves, siphons having outlets extending up into said chambers within said bells or bell-shaped valves, a filter-bed composed of compartments each of which contains one of said siphons, a second filter-bed also divided into compartments, means governing the discharge of the latter, a rock-shaft provided with arms and connections for operating said compartment-discharging devices and provided also with arms for receiving actuating impulses, and a pair of levers having upturned ends arranged under the corners of said tray in proximity thereto and adapted to act on the last-named arms for rocking the said shaft, in order that the same tilting tray may operate, substantially as set forth.

6. In combination with a tilting tray for receiving and discharging fluid, a series of floats under the corners thereof arranged to be lifted by fluid, a series of compartments arranged to successively receive the fluid from the corners of the said tray as each of these successively becomes the lowest, a series of siphon-tubes and sealed bell-shaped valves for discharging the said compartments and devices connecting the several corners of the tray with the valves under them in order that the uptilting of each corner may open the valve under it and thereby empty the compartment having its outlet governed by the said valve, the fluid thus escaping being directed to the floats successively for maintaining the tilting of the corners of the tray in regular order substantially as set forth.

807,268. **PADDLE FOR CARRYING GLASSWARE TO THE TEMPERING-LEERS OF FURNACES.** JESSE T. HIGBEE, Millville, N. J. Filed Mar. 9, 1905. Serial No. 249,192.



Claim.—1. In a device of the character stated, a paddle, a support on which said paddle is pivotally mounted, and means slidably mounted on the stock for operating said paddle, said means being eccentrically connected to the paddle relative to the pivot of the latter.

2. In a device of the character stated, a paddle, a support on which the same is pivotally mounted, means slidably mounted on the stock for operating said paddle, said means being connected to the paddle eccentrically with relation to the pivot of the paddle, and a stop on which the paddle is supported when in normal position.

3. In a device of the character stated, a paddle, a support on which the same is pivotally mounted, means slidably mounted on the stock for operating said paddle, said means being connected to the paddle eccentrically with relation to the pivot of the paddle, and a stop on which the paddle is supported when in normal position, said stop being movable with the pivot of the paddle.

4. In a device of the character stated, a paddle formed of metal and having end flanges and an article-supporting flange at right angles thereto and a facing of non-combustible material thereon and means passed through said paddle and material for securing said facing to the paddle.

5. In a device of the character stated, a tiltably-mounted paddle open upon two opposite sides and having guards extending angularly thereon.

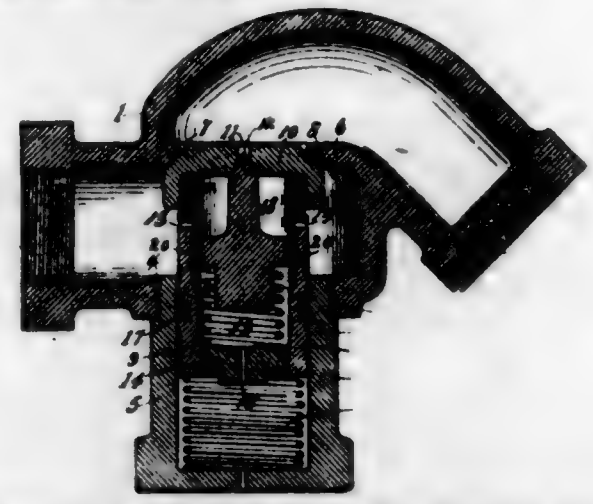
6. In a device of the character stated, a paddle having an ear thereon, an axis for the paddle in said ear, an additional ear, a gudgeon in the latter, and a slidable rod connected with said gudgeon, said ears being integral and secured to the paddle.

7. A paddle having ears, and an ear intermediate said ears and eccentric thereto, rods having cross portions mounted in said first-mentioned ears, a sliding rod having a right-angled gudgeon mounted in the other ear, a stock carrying said rods, and a trigger for actuating the sliding rod.

8. A paddle having ears, and an ear intermediate said ears and eccentric thereto, rods having cross portions mounted in said first-mentioned ears, a sliding rod having a right-angled gudgeon mounted in the other ear, a stock carrying said rods, a spring actuating on said rod, and a trigger for actuating the sliding rod.

9. A paddle having ears, and an ear intermediate said ears and eccentric thereto, rods having cross portions and deflected end pieces mounted in said first-mentioned ears, a sliding rod having a right-angled gudgeon mounted in the other ear, a stock carrying said rods, and a trigger for actuating the sliding rod.

807,269. **ANGLE-COCK.** FREDRICK D. HILDEBRAND, Toledo, Ohio. Filed Mar. 2, 1905. Serial No. 248,092.



Claim.—1. In a device of the described character, an air-conduit, a valve-seat in the conduit a hollow valve in operative relation with said valve-seat, a spring for said valve, a second valve disposed within said first-mentioned valve and in operative relation with an opening through said first-mentioned valve, and a spring for said second valve, said two springs being differently tensioned.

2. An angle-cock comprising an angle-cock casing adapted for connection with a train-line and having a divided air-passage therethrough, a spring-controlled valve for one part of the air-passage, and another spring-controlled valve for the other part of the air-passage, the springs for said two valves being differently tensioned.

3. In a device of the described character, a casing adapted for connection in a train air-line and having an air-passage therethrough, a valve in said air-passage arranged to open by a predetermined pressure upon one side thereof, and devices for opening said valve by means of a different pressure upon the other side of said valve.

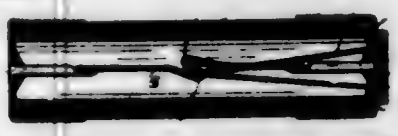
4. In a device of the described character, a casing having therethrough an air-passage adapted at one end for engagement with an air-pipe and at its other end for engagement with an air-hose, and two valves in said casing, one of said valves being arranged to open at a pressure greater than service-pressure, the other of said valves being arranged to open at a less pressure than service-pressure.

5. A combined automatic angle-cock and air-brake safety device, comprising an angle-cock casing adapted at one end for connection with a train-line and the other end for connection with an air-hose, a valve-seat in the air-passage through said casing, a hollow plunger in said casing having apertures through its side walls, a valve on said plunger in operative relation with said valve-seat and having a central orifice therethrough, a spring which holds the valve normally closed, a second plunger within the chamber of the plunger first mentioned, a valve on the second plunger in operative relation with the orifice through the first-mentioned valve, and a spring which holds the valve on the second plunger normally closed, one of said springs being of greater tension than the other.

807,270. **THERMAL CUT-OUT FOR ELECTRIC CONDUCTORS.** BRYSON D. HORTON, Detroit, Mich., assignor to Horton-Morehouse Company, Detroit, Mich. Filed Mar. 18, 1905. Serial No. 250,606.

Claim.—1. In an electric cut-out, in combination with an inclosing casing, a fusible conductor running lengthwise thereof, the central portion thereof being more readily fusible than the end portions,

a projectile plate at one end of the casing, means for projecting it therefrom along the line of the axis of the casing, and means connecting said plate and the most readily fusible portion of said conductor and normally holding said projecting means under tension, substantially as described.

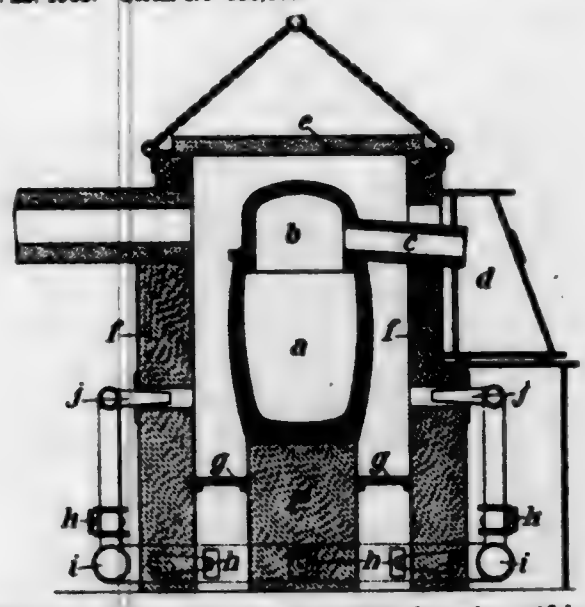


2. In an electric cut-out, in combination with a casing of non-conducting material, a fusible conductor having one portion more easily fusible than the adjacent portions running lengthwise thereof, a projectile plate at one end of said casing, means for projecting it from the end of said casing, and means connecting said easily-fusible portion of the conductor and said projectile plate and normally compressing said projecting means, substantially as described.

3. In an electric cut-out, in combination with a casing, a fusible connector curved at its middle part with the parts of the fuse forming the curved portion lying in close proximity, and a spring connected to and normally held under tension by said curved portion and arranged to be relieved therefrom by the breaking thereof, substantially as described.

4. In an electrical cut-out, in combination with a case, a fuse-wire traversing the case and provided at its middle part with a portion more readily fusible than other portions, a spring located at one end of the case, a tie connecting said spring to the more readily fusible part of the conductor and holding the spring in a state of tension while the fuse remains in an uninjured condition, substantially as described.

807,271. **PROCESS OF EXTRACTING METALS FROM THEIR SULFIDS.** ANTOINE H. IMBERT, Grand-Montrouge, France. Filed Dec. 22, 1903. Serial No. 186,179.



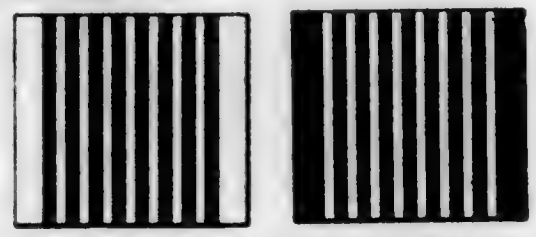
Claim.—1. The process for extracting from its sulfid, a metal having less affinity for sulfur than is possessed by copper, consisting in mixing the sulfid of such metal with the amount of copper only sufficient to combine with the whole of the sulfur, in heating this mixture to a temperature suitable for the reaction for forming copper sulfid and liberating the other metal, and collecting this liberated metal and the copper sulfid separately.

2. The process for extracting zinc from blende, consisting in mixing the blende with the necessary fluxes and copper, in progressively heating the mixture to the vaporization temperature of zinc, removing the vaporized zinc and condensing the same, in separating the resulting copper sulfid and the scoriæ, and in recovering the copper from the sulfid in order that it may be used over again.

3. The process of extracting zinc and lead from a complex ore containing blende and galena, consisting in adding to the ore the necessary copper and fluxes; in heating the mixture to the vaporization temperature of zinc, but maintaining the lead at a temperature below the vaporizing-point of this latter metal, in condensing the vaporized zinc and drawing off the molten lead; in separating the resulting scoriæ and copper sulfid; and in recovering the copper from the sulfid, in order that it may be used over again substantially as described.

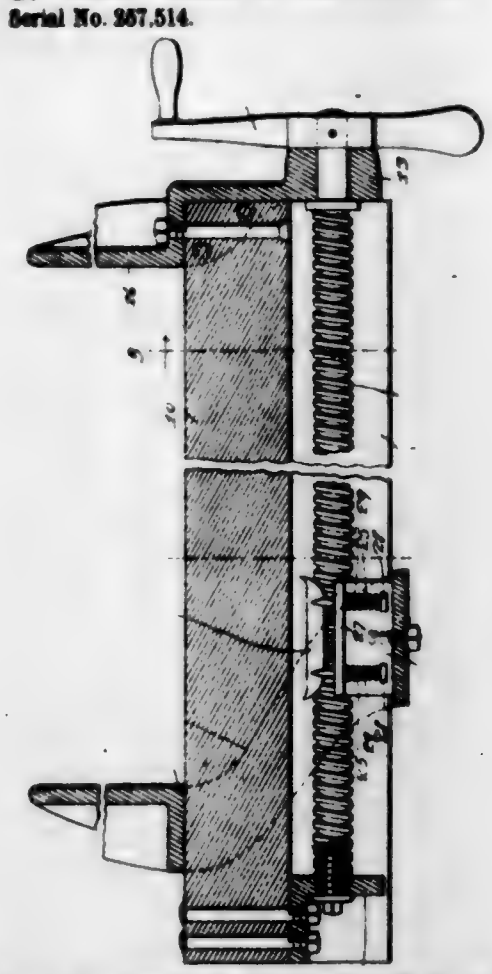
807,272. **PHOTOMECHANICAL PRINTING.** JOHN W. IPPEN, New York, N. Y., assignor to Albert Henry Walker, trustee, New York, N. Y. Filed July 14, 1896. Serial No. 599,598.

Claim.—1. The following process of photomechanical printing: making a sensitive surface on a stone slab or metal plate: exposing that sensitive surface to light, through a sheet which is partly transparent and partly opaque: developing that exposed surface into a condition in which some of its areas will receive ink, while some of its areas remain free from ink: applying ink to those areas which are to receive it: transferring ink from that inked surface, to the periphery of a soft and receptive transfer-roller: transferring ink from that periphery, to the periphery of a metal roller: etching away the uninked parts of that periphery: applying printing ink or "color" to the printing parts thus produced on that periphery: and transferring ink or "color" from those printing parts, to the surface of whatever cloth or other material constitutes the base of the picture or other print which results from the process; all substantially as described.



2. The following process in photomechanical printing: making a sensitive surface on a stone slab or metal plate: exposing that sensitive surface to light, through a sheet which is partly transparent and partly opaque: developing that exposed surface into a condition in which some of its areas will receive ink, while some of its areas remain free from ink: applying ink to those areas which are to receive it: transferring ink from that inked surface, to the periphery of a soft and receptive transfer-roller: transferring ink from that periphery, to the periphery of a metal roller: and etching away the uninked parts of that periphery; all substantially as described.

807,273. **CLAMP.** JOSEPH A. JIRUS, Racine, Wis. Filed Apr. 26, 1905. Serial No. 257,514.

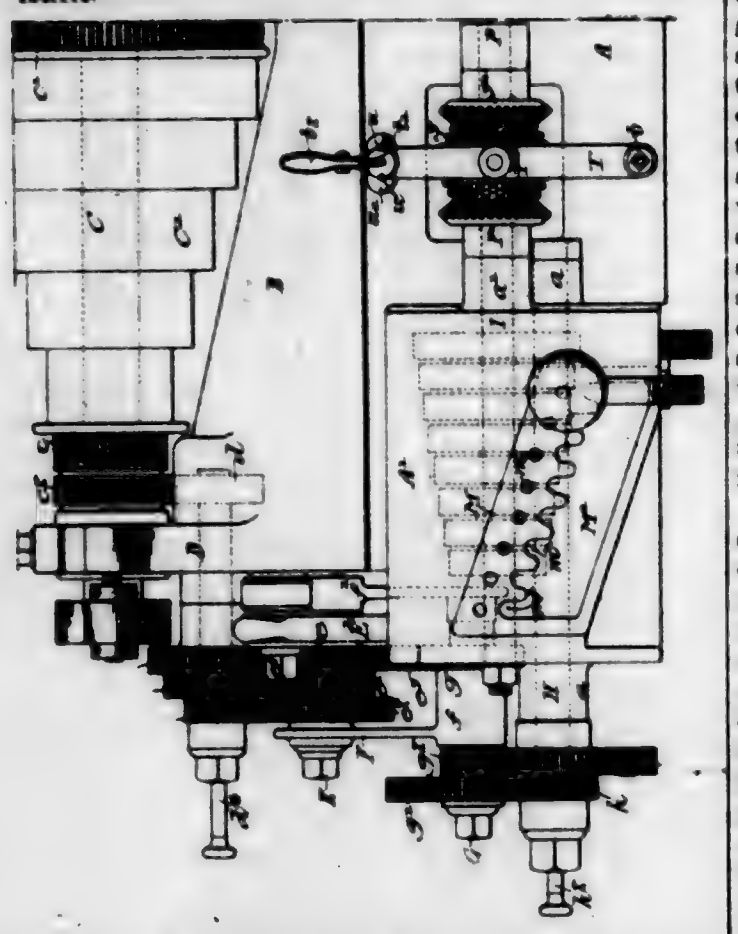


Claim.—1. In a device of the class described, a clamp-bar provided with a longitudinal channel along its under side, a screw mounted for rotation within the channel, a rigid jaw carried at one end of the bar, a jaw slidably mounted upon the top of the bar and having downwardly and forwardly extending side arms connected by a plate beneath the bar and spanning the channel, a half-nut mounted rigidly upon the plate and extending upwardly within the channel and in engagement with the screw and so arranged that a forward pressure upon the movable jaw disengages the half-nut from the screw.

2. In a device of the class described, a clamp-bar provided with a longitudinal channel along its under side, a screw mounted for ro-

tation within the channel, a rigid jaw upstanding from one end of the bar, a jaw slidably mounted upon the top of the bar and having downwardly and forwardly extending side arms connected by a plate transversely beneath the bar and spanning the channel, a half-nut mounted rigidly upon the plate and extending upwardly within the channel, and a cap mounted upon the half-nut and disposed over the screw and to hold the nut in yielding engagement with the screw.

807,274. GEARING FOR LATHES OR OTHER TOOLS. ISRAEL H. JOHNSON, Jr., Philadelphia, Pa. Filed Mar. 2, 1904. Serial No. 196,170.



Claim.—1. The combination in change-gearing, of a driving-shaft, a gear-wheel mounted on the shaft so as to turn with it but to slide thereon, an arm, a gear-wheel carried by the arm and meshing with the gear-wheel on the shaft, a driven shaft, a series of gears secured to said shaft, said gears differing in diameter, a casing inclosing the said gears, a perforated plate secured to the casing and having a series of notches corresponding to the gears, the said arm extending under the casing and having a portion bent relatively to the remainder, with a pin arranged to be projected into any one of the perforations in the plate, and a lug also on the arm arranged to enter any one of the notches to bring the arm in proper alinement with a perforation and with the gear corresponding thereto, substantially as described.

2. The combination of a driving-shaft having a longitudinal groove therein, a gear-wheel mounted on the shaft and having a spline entering the groove so that the gear-wheel will turn with but slide on the shaft, an arm mounted on the extended hub of the gear-wheel and bent substantially as described, a driven shaft, a series of gears secured to said shaft, said gears differing in diameter, an independent casing inclosing the gears and having the bearings for the two shafts, a stud on the arm, a gear-wheel carried by the stud and meshing with the gear-wheel on the driving-shaft, said gear-wheel on the stud being movable to mesh with any one of the gears on the driven shaft, said arm extending under the frame, a notched and perforated plate secured to the frame, a lug on the arm arranged to enter the notches and to limit the movement of the arm, and a pin carried by the arm and arranged to enter any one of the perforations in the plate, substantially as described.

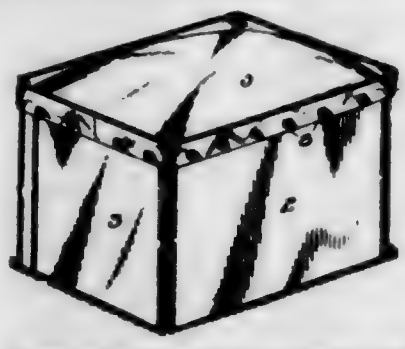
3. The combination in change-gearing of a driving-spindle, means operatively connecting said spindle and shaft including a driven shaft, a series of gears differing in diameter, a shaft, a gear splined to said shaft and arranged to slide thereon, an arm, an intermediate gear carried thereby and arranged to mesh with any one of a series of gears and with the gear on the spline-shaft, means for adjusting said arm, with a plurality of sets of change-gearing between said mechanism and the driving-spindle, each of said sets including a plurality of shafts, intermeshing gears, of which certain are loose on their shaft, a sliding rod, and a key for connecting any one of the loose gears with its shaft, substantially as described.

4. The combination in change-gearing of a driving-spindle, a driven shaft, a series of gears differing in diameter, a shaft, a gear splined to said shaft and arranged to slide thereon, an arm, an intermediate gear carried thereby and arranged to gear with any one of the series of gears and with the gear on the spline-shaft, means for adjusting said arm, two sets of change-gearing between the said mechanism and the driving-spindle, and reverse mechanism between said two sets of change-gearing, substantially as described.

5. The combination in change-gearing of a supporting-frame, a driving-spindle, a shaft geared to the said spindle, three change-gears loosely mounted on the shaft, a key-rod constructed to lock any one of the gears to the said shaft, a stud mounted on the frame, three gears loose on the said stud and meshing with the three gears on the shaft, a reverse-lever, two gears therefor, means for locking the reverse-lever in position, a bearing-frame, a shaft carried thereby, a gear-wheel for said shaft constructed to mesh with either one of the wheels on the reverse-lever, a gear-wheel and a pinion on the said shaft, an intermediate shaft, a gear-wheel and pinion loose thereon, a key-rod constructed to lock either the gear or pinion to the shaft, said shaft having a keyway, a gear-wheel mounted on said intermediate shaft, a key entering said keyway so that it will turn with the shaft but be free to slide thereon, an arm pivoted to the shaft, an intermediate gear carried by said arm, a driven shaft, a series of gears differing in diameter on said shaft, said arm being movable to bring its gear into line with any one of the gears, and means for locking the arm in position, substantially as described.

6. The combination in change-gearing, of a driving-spindle, a shaft geared to the said spindle, three change-gears loosely mounted on the shaft, a key-rod constructed to lock any one of the gears to the said shaft, a stud, three gears loose on the said stud and meshing with the three gears on the shaft, a reverse-lever, two gears therefor, means for locking the reverse-lever in position, a bearing-frame, a shaft carried thereby, a gear-wheel for the shaft placed to mesh with either one of the gears of the reverse-lever, a gear-wheel and a pinion on the said latter shaft, an intermediate shaft, a gear-wheel and pinion loose thereon, a key-rod constructed to lock either the gear or pinion to the shaft, said shaft having a keyway, a gear-wheel mounted on said shaft, a key for said wheel entering the keyway so that it will turn with the shaft but be free to slide thereon, an arm pivoted to the shaft, an intermediate gear carried by said arm, a driven shaft, a series of gears differing in diameter therefor, said arm being movable to bring its gear into line with any one of the gears, and means for locking the arm in position, a screw-shaft and reversing mechanism between the screw-shaft and the driven shaft, substantially as described.

807,275. ANNEALING-BOX. MALCOM JOHNSON, Allegheny, Pa. Filed June 23, 1905. Serial No. 266,474.



Claim.—1. An annealing-box having a body portion, and a top portion welded to the body portion and means for protecting the reduced welded portion of the box, consisting of a separate strip of metal disposed over said weld portion and secured to the body by securing means which have a tight fit in the body portion and are adapted to form permanent closing-plugs in the body portion after the removal of the said strip, substantially as described.

2. An annealing-box having a body portion, and a top portion welded to the body portion and means for protecting the reduced welded portion of the box, consisting of a separate strip of metal disposed over said weld portion and secured to the body by securing means which have a tight fit in the body portion and are adapted to form permanent closing-plugs in the body portion after the removal of the said strip, said securing means projecting loosely through said strip, substantially as described.

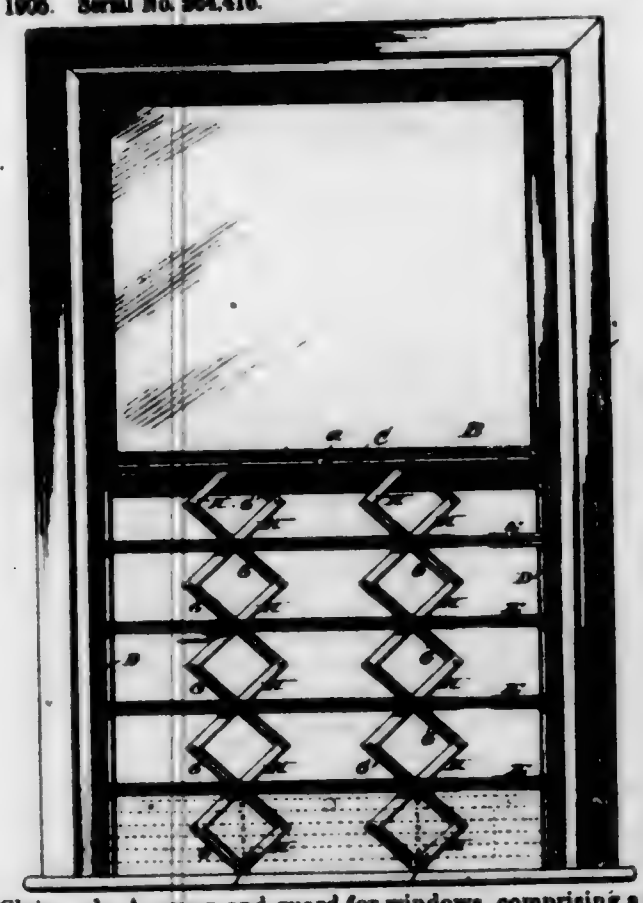
3. An annealing-box having the body portion formed of a single piece of wrought metal with the ends of the piece welded together at one corner of the body, a cover for the body formed with a depend-

ing flange and welded to the body, protecting-strips extending around the upper end of the body and disposed over the welded portion and flange of the cover, said strips projecting above the body and the flange of the cover, and a series of screw-threaded bolts for fastening the strips to the body, said bolts passing freely through the strip, and having their threaded portions engaging the body, substantially as described.

4. An annealing-box having its body formed of a single piece of metal, a cover for the body welded thereto, a protecting-strip of metal extending around the upper end of the body and over the welded portion, and screw-threaded bolts, passing through the strip and having their threaded portions engaging the body, substantially as described.

5. An annealing-box consisting of a welded body portion, a top welded to the body portion, and means for protecting the weld-line of the top and body consisting of a strip of metal disposed over the weld-line and secured to the body by screw-threaded bolts having their threaded portions engaging the body, whereby they are adapted to form tight, closing-plugs in the body when the strip is broken away or removed, substantially as described.

807,276. **SCREEN AND GUARD FOR WINDOWS.** ABNER JOHNSTON, Long Island City, N. Y., assignor of two-thirds to William Harvey and one-third to Harold J. Murtha, New York, N. Y. Filed June 9, 1905. Serial No. 264,416.



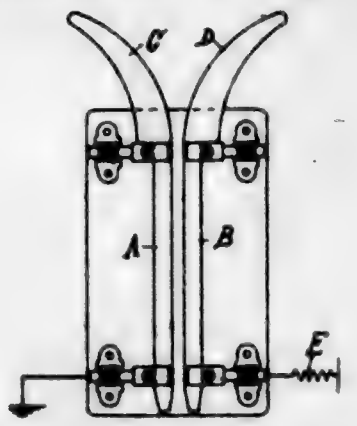
Claim.—1. A screen and guard for windows, comprising a plurality of lazy-tongs connecting with the sash and sill of the window-frame, a plurality of horizontal guide-bars having hooked ends to which said lazy-tongs are pivoted, and upright guides upon the window-frame having U-shape extensions with which the hooked ends of the guide-bars engage, substantially as and for the purpose set forth.

2. A screen and guard for windows, comprising a plurality of lazy-tongs pivotally connecting with the window sash and sill of the frame thereof, a plurality of horizontal guide-bars having extensible ends, and upright guides upon the window-frame with which the guide-bars engage, substantially as and for the purpose specified.

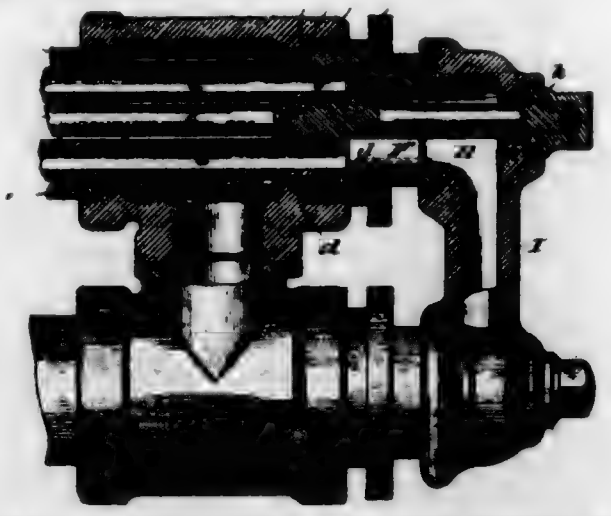
3. A screen and guard for windows, comprising a plurality of lazy-tongs connecting with the sash and with the window-frame, a plurality of horizontal guide-bars having horizontal guide-grooves at their ends, and arms slidable thereon having longitudinal ribs to engage the grooves in the bars and overlapping flanges to engage the same, and upright guides upon the window-frame with which the ends of the extensible bars engage, substantially as and for the purpose described.

807,277. **HIGH-VOLTAGE SPARK-ARRESTER.** FRITZ JORDAN, Frankfort-on-the-Main, Germany, assignor to Society of Elektrizitäts-Aktien-Gesellschaft vorm. W. Lahmeyer & Co., Frankfort-on-the-Main, Germany. Filed Jan. 6, 1904. Serial No. 187,943.

Claim.—A high-voltage spark-arrester comprising two vertically-disposed bars placed at a distance from each other, and presenting their sides as electrodes to each other, one of the bars being of metal and the other of carbon, whereby when a spark is struck between the bars, a pearl of fused metal is formed on one bar and a corresponding depression is formed on the carbon bar, thereby maintaining the spark-gap constant, substantially as described.



807,278. **CONDENSER.** FREDERICK KAMER, New Orleans, La., assignor of one-half to George Sharp, New Orleans, La. Filed Feb. 10, 1905. Serial No. 245,169.



Claim.—1. The improved condenser herein described, comprising the shell, the couplings at the opposite ends of the shell and rabbeted in their outer ends, the glands fitting in said rabbeted ends of the couplings, the heads within said glands and provided with threaded openings for the tubes, and tubes threaded at their ends in said openings and having the threads at one end made longer than their threaded sockets, whereby the tubes may be turned to project at such ends sufficiently far to enable them to be returned in the opposite direction to properly thread into the opposite head, and said heads being adjusted relatively, whereby to give the tubes a spiral twist, substantially as and for the purposes set forth.

2. A condenser having a set of condensing-tubes twisted spirally, heads to which the opposite ends of the tubes are connected, pins projecting outwardly from said heads, the couplings and nuts on the pins for securing the couplings substantially as described.

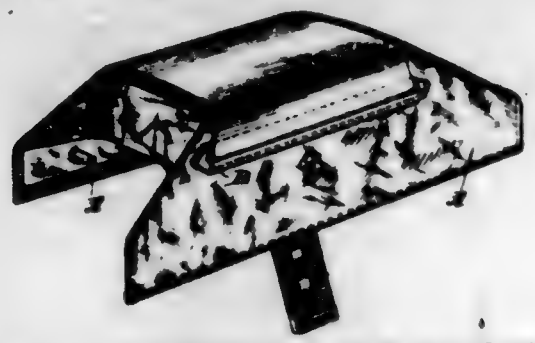
3. A condenser having a set of condensing-tubes and heads at the ends thereof, provided with threaded sockets for the tubes and with outwardly-projecting pins, the couplings and means coöperating with the pins for securing the couplings substantially as set forth.

4. A condenser having a set of condensing-tubes, heads at the ends thereof, one of said heads having an outwardly-projecting flange or shoulder, shells having sockets in their ends for the glands, and the glands and packing, substantially as set forth.

5. The combination of the shell, the couplings at the ends thereof and having sockets in their outer ends, the condenser-tubes, the heads at the ends of the condenser-tubes, one of said heads being flanged to fit in the socket of its coupling-section, and the other head being free from such obstructing flange whereby it may be inserted through the couplings to its position, and glands around the opposite heads and within the sockets in the outer ends of the opposite couplings, substantially as set forth.

6. The combination with the condenser-tube and the head at the ends thereof and having a projecting pin, of the coupling receiving said head, and the gland coöperating with said head and coupling, and means coöperating with the pin for securing the coupling substantially as set forth.

807,279. HEAD-REST. FURMAN M. KAMDER, Atlantic City, N. J. Filed July 24, 1905. Serial No. 271,091.



Claim.—1. A cover for head-rests consisting of a flexible sheet adapted to fit over and envelop and obscure a head-rest and having on its under side a pair of flaps and coöperating fastening means for securing the said flaps to the head-rest, and a pocket on the under side of the cover-sheet and forming a holder for a package of paper, the cover-sheet being slitted for the passage of the paper from said pocket, substantially as set forth.

2. The combination with a head-rest of a flexible sheet fitted thereon, and means on the under side of and carried and obscured from view by said flexible sheet for supporting a package of paper in position for the paper to be guided and stretched over the said cover-sheet, the said sheet being adapted to envelop and obscure the head-rest, and means for permitting its ready application to and removal therefrom substantially as set forth.

3. A cover for head-rests consisting of a flexible sheet adapted to fit over and hang in skirt-like fashion from the head-rest and provided beneath and obscured by the skirt-like portion with means for holding a paper package, the skirt-like portions depending at the sides and ends of the cover substantially as set forth.

4. The combination in a cover for head-rests of a flexible sheet adapted for application to said head-rest, and having skirt-like portions at its sides and ends to depend alongside and obscure the head-rest when applied thereto, a paper-holder carried beneath and obscured by the flexible sheet, the latter having guides for the paper means for securing the flexible sheet upon the head-rest, and a paper-holder beneath and obscured by the flexible sheet, substantially as set forth.

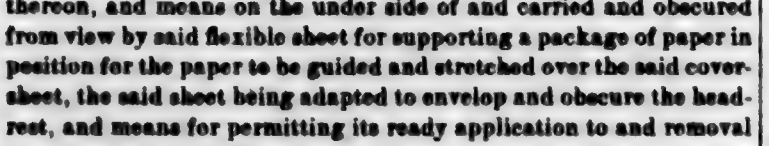
5. A head-rest cover consisting of a flexible sheet adapted to fit over the head-rest and slitted for the passage of a paper sheet, the said flexible sheet having at its sides and ends free flexible portions adapted to depend in skirt-like fashion along the sides and ends of a head-rest and obscure the latter when applied thereto, means for securing the said sheet on a head-rest, and means for supporting a package of paper beneath the slitted sheet substantially as set forth.

6. The combination with a head-rest cover having a slit for the passage of a paper sheet of a bearing-surface at one side of said slit, and a cutter consisting of a frame pivoted approximately at the opposite side of the said slit and having at one end a bar to bind the paper against said bearing-surface, and provided at its opposite end with a cutter, substantially as set forth.

7. The combination with a flexible cover-sheet having a slit for the passage of paper of a cutter-frame having a cutter at one edge pivoted between its edges and having at its other edge a bar by which to bind the paper during the cutting operation.

8. A cover for head-rests consisting of a flexible sheet provided on its under side with flaps by which it may be secured to a head-rest, and a paper-holder secured to one of the flaps substantially as set forth.

807,280. SELF-FILLING FOUNTAIN-PEN. FRANK M. KNERR, Philadelphia, Pa. Filed Mar. 23, 1905. Serial No. 251,653.



Claim.—1. A fountain-pen comprising a barrel, a flexible ink-sack therein, and a flexible air-sack for compressing the ink-sack.

2. A fountain-pen comprising a barrel, a flexible ink-sack therein, a flexible air-sack for compressing the ink-sack, and a feeder leading from the ink-sack to the nib.

3. A fountain-pen comprising a barrel, a flexible ink-sack therein, a flexible air-sack extending alongside the ink-sack, and means whereby air may enter and escape from the air-sack.

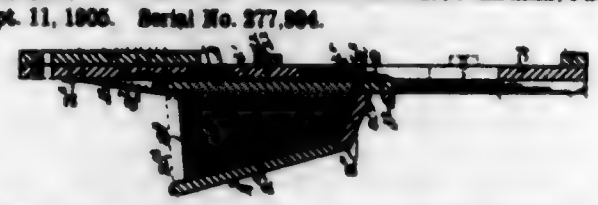
4. A fountain-pen comprising a barrel, a flexible normally expanded ink-sack therein, a flexible normally collapsed air-sack extending alongside the ink-sack, and means for conducting the ink from the ink-sack to the pen-nib.

5. A fountain-pen comprising a barrel, a nozzle at one end thereof, an air-inlet stopper at the opposite end thereof, a flexible air-sack connected to the air-inlet stopper, and a flexible ink-sack connected to the nozzle.

6. A fountain-pen comprising a barrel, a flexible ink-sack therein, an air-inlet stopper, a flexible air-sack extending alongside the ink-sack and fitting over a portion of the air-inlet stopper, and a band fitting around the air-sack where the latter fits over the air-inlet stopper for securing the air-sack thereto.

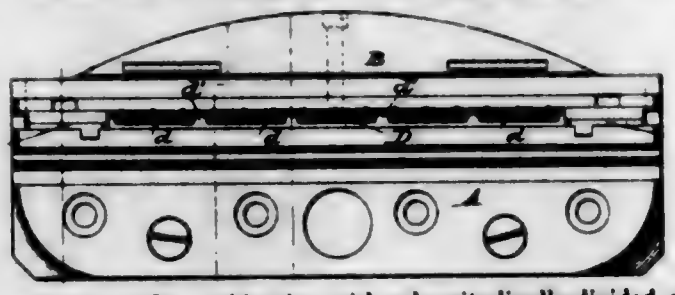
7. A fountain-pen comprising a barrel, a nozzle at one end thereof, a pen-nib, an air-inlet stopper at the opposite end thereof, a flexible ink-sack connected with the nozzle, a flexible air-sack connected with the air-inlet stopper, and a feeder exending through the nozzle from the ink sack to the pen-nib.

807,281. MATCH-BOX. MARTIN B. KELLER, Penn Mills, Pa. Filed Sept. 11, 1905. Serial No. 277,904.



Claim.—In a match-box of the character described, in combination, the back plate A having the side edge ribs a, the central upward projection a' with the back lining T-plate a^3, the lower edge bar a^4, and the central vertical guide-slot a^5; the fixed striker-plate A′ and the overlying spring-plate A^2, both rigidly secured to the front face of said upward projection a', said striker-plates having in their adjacent surfaces the respective match-igniting ridges or points a^6 a^7; the hopper or match receptacle A^3 mounted on the front surface of the upper half of the plate A, said hopper having the downwardly and rearwardly sloping side walls a^9, the downwardly and rearwardly inclined front wall a^{10} and the downwardly and rearwardly sloping bottom a^{11} with the oblong rear edge opening a^{12} for the passage of the sliding plate; the sliding plate B mounted against the front surface of the back plate A and movable up and down through said opening a^{12}, said sliding plate B having the upper edge practically semicircular groove b, the rearward surface-secured guide-block b', with the rigidly-secured cross-bar b^3, and having the central forwardly-projecting finger-grip b^4; all substantially as described and for the purpose hereinbefore set forth.

807,282. LINOTYPE-MACHINE. LUTHER L. KENNEDY, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed May 10, 1905. Serial No. 259,691.



Claim.—1. In combination with a longitudinally-divided slotted linotype-mold a removable core extending the entire length of the mold-slot and having its ends confined by and between the mold members.

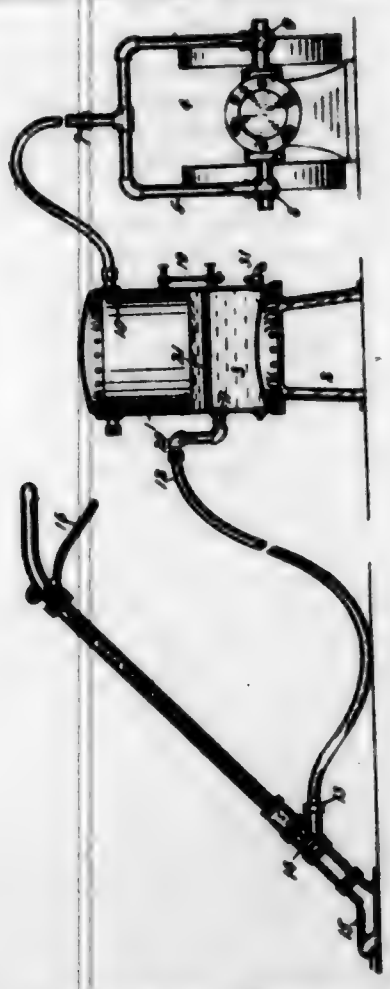
2. A slotted linotype-mold, having a movable cap, in combination with an internal detachable core confined in place by the cap and having projections to form cavities in the linotype.

3. As a new article of manufacture, in a linotype-mold, the combination of the body portion, the cap portion, intermedate liners at the ends, and a removable core, having its extremities confined between the cap and the liners, and having its body portion provided with projections to form cavities in the side of the linotype, said projections terminated at a distance from the front of the liner, whereby the mold is adapted to form the type-bearing edge of the linotype of full thickness.

4. As a new article of manufacture, a core for linotype-molds having one or more projections on its side face to form recesses or cavities in the side of the slug, and having its ends extended beyond the operative portions and fashioned substantially as described for confinement by and between the two portions of the mold substantially as described.

5. In a linotype-mold, the combination of cap and body portions, the intermediate liners, and the core having projections on its under surface, one of the liners being recessed to admit the projections on the core, substantially as described.

807,283. **SEPARATOR FOR APPARATUS FOR REMOVING DUST.** DAVID T. KENNEY, North Plainfield, N. J., assignor to Vacuum Cleaner Company, North Plainfield, N. J., a Corporation of New Jersey. Original application filed Nov. 21, 1901, Serial No. 84,056. Divided and this application filed Feb. 8, 1902. Serial No. 93,157.



Claim.—1. A separator for a dust-removing apparatus, said separator consisting of a liquid-chamber, a dust-laden air-inlet pipe discharging horizontally into the said chamber below the liquid-level, an air-outlet above the liquid-level, a perforated plate located in the chamber above the air-pipe and below the normal liquid-level, and means for causing a current of air to flow through the said air-pipe, substantially as described.

2. A separator for a dust-removing apparatus, said separator consisting of a liquid-chamber, a dust-laden air-inlet pipe opening horizontally through the wall of the liquid-chamber below the liquid-level, a perforated plate projecting from the side of the liquid-chamber, above the air-inlet and below the normal liquid-level, and means for causing a current of air to flow through the said pipe.

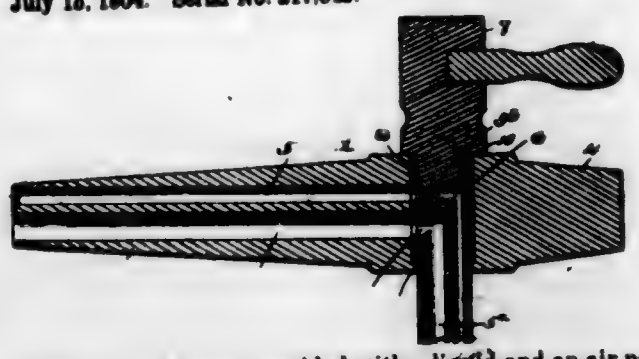
807,284. **BOW-FACING OAR.** GEORGE M. KERRY, Boyne, Mich. Filed Apr. 17, 1905. Serial No. 255,963.

Claim.—1. In a bow-facing oar the combination of a casing comprising top and bottom plates, bolts connecting the plates, arbors on the bolts, and between the plates, a divided oar comprising blade and handle sections journaled on the arbors, gear-segments on the adjacent ends of the sections and intermeshing with each other, a transverse depending lug on the lower face of the lower plate, a yoke having arms engaging the ends of the lug, and pivoted thereto, a rectangular projection on the lower face of the body of the yoke, a thole-pin depending from the rectangular portion, a gunwale-plate, provided with a groove having an opening in the bottom thereof, to receive the body of the yoke and the rectangular projection, depending portions on the gunwale-plate for engaging the gunwale of a boat, clamping-screws in the depending portions for securing the plate in place, and cotter-pins engaging perforations in the plates and oar-sections for securing the sections in alinement.

2. In apparatus of the class described, the combination of a casing comprising upper and lower plates, bolts connecting the plates, arbors around the bolts and between the plates, an oar-handle section journaled on one of the arbors, an oar-blade section journaled on an opposing arbor, intermeshing gear-segments on the adjacent ends of the sections, a transverse depending lug on the free face of the lower plate, a yoke comprising arms pivoted to the ends of the lug, and a body portion cut away to form a rectangular projection, a thole-pin depending from the rectangular projection, a gunwale-plate provided with a groove having an opening in the bottom thereof and for seating the yoke-body and means for securing the gunwale-plate to the gunwale of a boat.



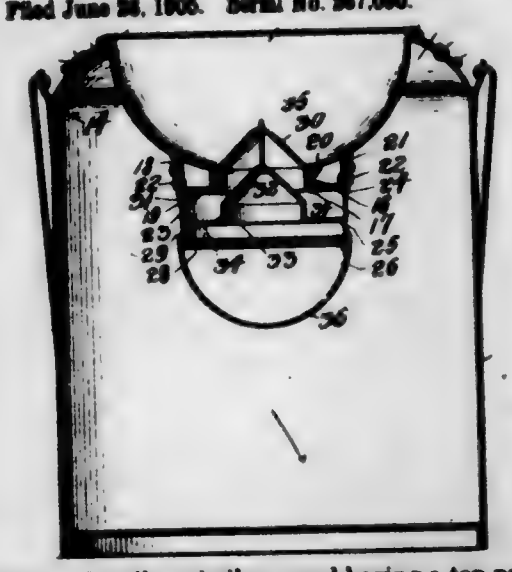
807,285. **FAUCET.** ANDREW J. KETTLER, Seattle, Wash. Filed July 18, 1904. Serial No. 217,043.



Claim.—1. A faucet provided with a liquid and an air passage, said faucet provided with an aperture formed therein above the inlet end of the air-passage, which provides direct communication between said air-passage and the outer atmosphere.

2. A faucet, comprising a casing provided with liquid and air passages, a valve provided with liquid and air passages carried by said casing, the liquid and air passages of the valve of less width throughout their length than the respective passages of the casing, and said valve provided with an aperture formed therein above the inlet end of the air-passage, which provides direct communication between said air-passage and the outer atmosphere.

807,286. **NON-SPILLABLE MILK-PAIL.** JOHN H. KING, Garrity, Ala. Filed June 26, 1905. Serial No. 267,060.



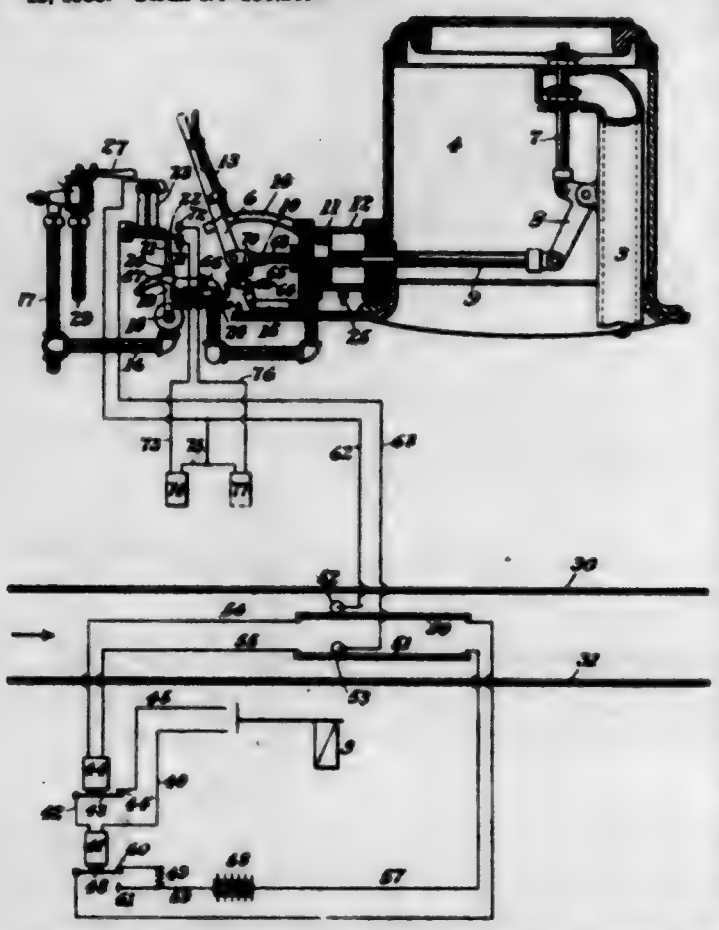
Claim.—1. A pail or similar vessel having a top provided with an opening and a raised bead surrounding said opening, and a bowl to fit in said opening and having an outwardly-extending flange to

bear on the vessel-top, said flange provided with a groove on its under side to receive the said bead, substantially as described.

3. A pail or similar vessel having a top provided with an opening and a raised bead surrounding said opening, and a bowl to fit in said opening and having an outwardly-extending flange provided with a groove on its under side to receive the said bead, said bowl and said vessel having coacting means to detachably secure the bowl to the top of the vessel, substantially as described.

8. A pail or similar vessel having a top provided with an opening and a raised bead extending around said opening, a receiving-bowl, and a supporting-flange for the said bowl, to bear on the top, and provided on its under side with a groove to receive said bead.

807,287. SIGNALING AND TRAIN-CONTROLLING SYSTEM FOR RAILWAYS. FRANK E. KNIGHAN, Plainfield, N. J. Filed Apr. 18, 1905. Serial No. 256,289.



Claim.—1. The combination with a line of way, of controlling means on said line of way for governing the movement of a vehicle or train, and a signal-circuit separate therefrom and governing a semaphore or similar signal and governed as to its danger condition by a corresponding condition of said controlling means.

2. The combination with a line of way, of controlling means on said line of way for governing the movement of a vehicle or train, and a signal-circuit separate therefrom and governing a semaphore or similar signal and having a break governed as to its danger condition by a corresponding condition of said controlling means.

3. The combination with a line of way, of controlling means on said line of way for governing the movement of a vehicle or train, and a signal-circuit governing a semaphore or similar signal and having a break normally closed by said controlling means.

4. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake, or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and is governed by said first circuit.

5. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake, or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and has a break governed by said first circuit.

6. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake, or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and has a break normally closed by said first circuit.

7. The combination with a line of way, of a pair of electric circuits, one of which is normally closed and governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and has a break normally closed by said first circuit.

8. The combination with a line of way, of a pair of electric circuits one of which is a track-circuit, and one of which governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and is governed by said first circuit.

9. The combination with a line of way, of a pair of track-circuits one of which governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and is governed by said first circuit.

10. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and is governed by said first circuit, and means for intermittently varying the strength of the current flowing in said first circuit.

11. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake, or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and is governed by said first circuit, and means controlled by a danger condition on the line of way for intermittently increasing the strength of the current flowing in said first circuit.

12. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and is governed by said first circuit, and means controlled by said second circuit for intermittently increasing the strength of the current flowing in said first circuit.

13. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake or other movement-controlling medium on a vehicle or train and includes a resistance adapted to be short-circuited by a danger condition on the line of way, and the other of which governs a semaphore or similar signal and is governed by said first circuit.

14. The combination with a line of way, of a pair of electric circuits, one of which is normally closed and governs the power, brake or other movement-controlling medium on a vehicle or train and includes a resistance adapted to be short-circuited by a danger condition on the line of way, and the other of which governs a semaphore or similar signal and is governed by said first circuit.

15. The combination with a line of way, of an electric circuit governing the power, brake or other movement-controlling medium on a vehicle or train, a semaphore, and means for actuating said semaphore and increasing the strength of the current flowing in said circuit.

16. The combination with a line of way, of an electric circuit governing the power, brake or other movement-controlling medium on a vehicle or train and including a resistance adapted to be short-circuited, a semaphore, and means for actuating said semaphore and short-circuiting said resistance.

17. The combination with a line of way, of a normally closed electric circuit governing the power, brake or other movement controlling medium of a vehicle or train and including a resistance adapted to be short-circuited, a semaphore, and means for actuating said semaphore and short-circuiting said resistance.

18. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake or other movement-controlling medium of a vehicle or train and includes a resistance adapted to be short-circuited by a danger condition on the line of way, and the other of which governs a semaphore or similar signal and also governs the short-circuiting of said resistance and is governed by said first circuit.

19. The combination with a line of way and with a vehicle movable therealong, of a normally closed track-circuit, means located at a fixed point on the line of way for intermittently varying the strength of the current in said closed circuit, a semaphore or similar signal which is not influenced by said variations of current strength, and an automatic controller governing the movement of said vehicle and controlled by said track-circuit.

20. The combination with a line of way and with a vehicle movable therealong, of a normally closed track-circuit, means located at a fixed point on the line of way for intermittently increasing the strength of the current in said closed circuit, a semaphore or similar signal which is not influenced by said variations of current strength, and an automatic controller governing the movement of said vehicle and controlled by said track-circuit

21. The combination with a line of way and with a vehicle mov-

able thereatong, of a semaphore or similar signal, a normally closed track-circuit including a resistance having no control over said semaphore, means located at a fixed point on the line of way for short-circuiting said resistance, and an automatic controller governing the movement of said vehicle and controlled by said track-circuit.

22. The combination with a line of way and with a vehicle movable thereatong, of a semaphore or similar signal, a normally closed track-circuit including a resistance having no control over said semaphore, means located at a fixed point on the line of way for automatically short-circuiting said resistance, and an automatic controller governing the movement of said vehicle and controlled by said track-circuit.

23. The combination with a line of way and with a vehicle movable thereatong, of a semaphore or similar signal, a normally closed track-circuit including a resistance having no control over said semaphore, an automatic controller governing the movement of said vehicle, and a short circuit on the line of way and governing the operation of said controller and controlled by current in the track-circuit and adapted to short-circuit said resistance.

24. The combination with a line of way, of a pair of electric circuits, one of which is normally closed and governs the power, brake or other movement-controlling medium on a vehicle or train and includes a resistance adapted to be short-circuited by a danger condition on the line of way, and the other of which governs a semaphore or similar signal and also governs the short-circuiting of said resistance and is governed by said first circuit.

25. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal, and each of which governs the other.

26. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal, and each of which governs a danger condition of the other.

27. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and embodies a detector device responsive to a danger condition of the first circuit.

28. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and each of which embodies a detector device responsive to a danger condition of the other circuit.

29. The combination with a line of way, of a pair of electric circuits, one of which is normally closed and governs the power, brake or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and embodies a detector device responsive to a danger condition of the first circuit.

30. The combination with a line of way, of a pair of electric circuits, one of which governs the power, brake or other movement-controlling medium on a vehicle or train and includes a resistance adapted to be short-circuited, and the other of which includes the immediate electrical signal-controlling means for a semaphore or similar signal and governs the short-circuiting of said resistance of the first circuit.

31. The combination with a line of way, of a pair of electric circuits, one of which is normally closed and governs the power, brake or other movement-controlling medium on a vehicle or train and includes a resistance adapted to be short-circuited, and the other of which includes the immediate electrical signal-controlling means for a semaphore or similar signal and governs the short-circuiting of said resistance of the first circuit.

32. The combination with a line of way, of a track-circuit for controlling the movement of a vehicle and including an electrical controlling device adapted to be short-circuited, and a signal-circuit controlling a semaphore or similar signal and governed by said electrical controlling device.

33. The combination with a line of way, of a normally closed track-circuit for controlling the movement of a vehicle and including an electrical controlling device adapted to be short-circuited, and a signal-circuit controlling a semaphore or similar signal and governed by said electrical controlling device.

34. The combination with a line of way, of a track-circuit for controlling the movement of a vehicle and including an electrical controlling device adapted to be short-circuited by a vehicle on said line of way, and a semaphore or similar signal governed by said electrical controlling device.

35. The combination with a line of way, of a track-circuit for controlling the movement of a vehicle and including an electrical controlling device adapted to be short-circuited, and a signal-circuit controlling a semaphore or similar signal and embodying a detector device governed by said electrical controlling device.

36. The combination with a line of way, of a track-circuit for controlling the movement of a vehicle and including an electrical controlling device adapted to be short-circuited, and a signal-circuit controlling a semaphore or similar signal and controlled by said device.

37. The combination with a line of way and with a vehicle movable thereatong, of a pair of controlling means one of which governs the other, and one of which is a normal danger system of block-signals, and the other of which is means for automatically governing the movement of said vehicle.

38. The combination with a line of way and with a vehicle movable thereatong, of a pair of controlling means each of which governs the other, and one of which is a normal danger system of block-signals, and the other of which is means for automatically governing the movement of said vehicle.

39. The combination with a line of way and with a vehicle movable thereatong, of a pair of controlling means one of which governs the other, and one of which is a normal danger system of block-signals, and the other of which is means for automatically controlling a brake or brakes on said vehicle.

40. The combination with a line of way and with a vehicle movable thereatong, of a pair of controlling means one of which governs the other, and one of which is a normal danger system of block-signals, and the other of which is means for automatically controlling the power mechanism and brakes of said vehicle.

41. The combination with a line of way and with a vehicle movable thereatong and operated by fluid-pressure, of a throttle-valve governing said fluid-pressure, a brake, and a pair of controlling means one of which is governed by the other, and one of which is a normal danger system of block-signals, and the other of which is means for automatically controlling said throttle-valve and brake.

42. The combination with a line of way and with a vehicle movable thereatong, of a pair of controlling means one of which governs the other, and one of which is a normal danger system of block-signals, and the other of which is an electric circuit for automatically governing the movement of said vehicle.

43. The combination with a line of way and with a vehicle movable thereatong, of a pair of controlling means one of which governs the other, and one of which is a normal danger system of block-signals, and the other of which is a normally closed electric circuit for automatically governing the movement of said vehicle.

44. The combination with a line of way and with a vehicle movable thereatong, of a pair of controlling means one of which governs the other, and one of which is a normal danger system of block-signals and includes a block-circuit having a normally closed break, and the other of which is an electric circuit for automatically governing the movement of said vehicle and also governs said break in the block-circuit.

45. The combination with a line of way and with a vehicle movable thereatong, of an automatic controller governing the movement of said vehicle, and a pair of controlling means one of which is a track-circuit governing said automatic controller and including a resistance, and the other of which is a normal danger system of block-signals governing the short-circuiting of said resistance.

46. The combination with a line of way and with a vehicle movable thereatong, of an automatic controller governing the movement of said vehicle, and a pair of controlling means one of which is a normally closed track-circuit governing said automatic controller and including a resistance, and the other of which is a normal danger system of block-signals governing the short-circuiting of said resistance.

47. The combination with a line of way and with a vehicle movable thereatong, of a pair of controlling means, one of which is a normal danger system of block-signals and includes a block-circuit having a normally closed break, and the other of which is an electric circuit for automatically governing the movement of said vehicle and governs said break in said block-circuit and is also governed by said block-circuit.

48. The combination with a line of way and with a vehicle movable thereatong, of a pair of controlling means, one of which is a normal danger system of block-signals and includes a block-circuit, and the other of which is an electric circuit for automatically governing the movement of said vehicle and also governs and is governed by a danger condition of said block-circuit.

49. The combination with a line of way, of a pair of controlling

means, one of which is a normal danger system of block-signals, and the other of which governs a signal device of a different character and is governed by said first controlling means.

50. The combination with a line of way, of a pair of controlling means, one of which is a normal danger system of block-signals, and the other of which is means governed by such block-signal system for automatically governing the movement of a vehicle.

51. The combination with a line of way, of a pair of controlling means, one of which is a normal danger system of block-signals, and the other of which is means governed by such block-signal system for automatically controlling a brake or brakes on a vehicle.

52. The combination with a line of way, of a pair of controlling means, one of which is a normal danger system of block-signals, and the other of which is means governed by such block-signal system for automatically controlling the power mechanism and brakes on a vehicle.

53. The combination with a line of way and with a vehicle movable therealong and operated by fluid-pressure, of a throttle-valve governing said fluid-pressure, a brake, and a pair of controlling means, one of which is a normal danger system of block-signals, and the other of which is means governed by such block-signal system for automatically controlling said throttle-valve and brake.

54. The combination with a line of way, of a pair of controlling means, one of which is a normal danger system of block-signals, and the other of which is an electric circuit governed by such block-signal system for automatically governing the movement of a vehicle.

55. The combination with a line of way, of a pair of controlling means, one of which is a normal danger system of block-signals, and the other of which is a normally closed electric circuit governed by such block-signal system for automatically governing the movement of a vehicle.

56. The combination with a line of way, of means for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling thereon, and means for indicating danger, safety, and non-working conditions of such controlling means.

57. The combination with a line of way, of means for automatically controlling the movement of a vehicle traveling thereon, and means for recording danger, safety and non-working conditions of such controlling means.

58. The combination with a line of way and with a vehicle movable therealong, of means for automatically controlling the power, brake or other movement-controlling medium of said vehicle, and means on the vehicle for indicating danger, safety, and non-working conditions of such controlling means.

59. The combination with a line of way and with a vehicle movable therealong, of means for automatically controlling the movement of said vehicle, and means on the vehicle for recording danger, safety, and non-working conditions of such controlling means.

60. The combination with a line of way and with a vehicle movable therealong, of means for automatically controlling the movement of said vehicle, a recording device, and means for shifting said recording device to three recording positions representing danger, safety, and non-working conditions of such controlling means.

61. The combination with a line of way and with a vehicle movable therealong, of means for automatically controlling the movement of said vehicle, a recording device on the vehicle, and means for shifting said recording device to three recording positions representing danger, safety, and non-working conditions of such controlling means.

62. The combination with a line of way and with a vehicle movable therealong, of means for automatically controlling the movement of said vehicle, means for imparting traveling movement to a record medium, a recording device movable crosswise to the line of travel of such record medium, and means for shifting said recording device to three positions representing danger, safety, and non-working conditions of such controlling means.

63. The combination with a line of way and with a vehicle movable therealong, of means for automatically controlling the movement of said vehicle, a recording device having a normal recording position corresponding to the non-working condition of such controlling means, and a pair of actuators controlled respectively by the danger and safety conditions of such controlling means and controlling the making of records in two other recording positions.

64. The combination with a line of way, of an electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way, means for indicating the condition of said circuit, and differential controlling devices responsive to different electrical conditions of said circuit and controlling such indicating means.

65. The combination with a line of way, of an electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way, means for indicating danger and safety conditions of said circuit, and differential controlling devices responsive respectively to danger and safety conditions of said circuit and controlling such indicating means.

66. The combination with a line of way, of an electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way, said circuit being adapted to exhibit different electrical characteristics corresponding to danger and safety conditions, means for indicating said different characteristics of said circuit, and differential electrical controlling devices governed respectively by said different electrical characteristics of said circuit and controlling such indicating means.

67. The combination with a line of way, of an electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way, said circuit being adapted to exhibit different characteristics corresponding to danger and safety conditions, a controlling-selector having selecting functions corresponding to and controlled respectively by said different characteristics of said circuit, and means governed by said selector for indicating said different characteristics of said circuit.

68. The combination with a line of way, of an electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way, said circuit being adapted to exhibit different electrical characteristics corresponding to danger and safety conditions, a controlling-selector having selecting functions corresponding to and controlled respectively by said different electrical characteristics of said circuit, and means governed by said selector for indicating said different characteristics of said circuit.

69. The combination with a line of way, of an electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way, said circuit being adapted to exhibit different electrical characteristics corresponding to danger and safety conditions, a controlling-selector having selecting functions corresponding to and controlled respectively by said different electrical characteristics of said circuit, means for indicating said different characteristics of said circuit, and differential electrical controlling devices governed respectively by the different selecting functions of said selector and controlling such indicating means.

70. The combination with a line of way, of an electric circuit for automatically controlling the movement of a vehicle traveling on said line of way, said circuit being adapted to exhibit different electrical characteristics corresponding to danger and safety conditions, means for recording said different characteristics of said circuit, and differential electrical controlling devices governed respectively by said different electrical characteristics of said circuit and controlling such recording means.

71. The combination with a line of way, of an electric circuit for automatically controlling the movement of a vehicle traveling on said line of way, said circuit being adapted to exhibit different electrical characteristics corresponding to danger and safety conditions, a controlling-selector having selecting functions corresponding to and controlled respectively by said different electrical characteristics of said circuit, and means governed by said selector for recording said different characteristics of said circuit.

72. The combination with a line of way, of an electric circuit for automatically controlling the movement of a vehicle traveling on said line of way, said circuit being adapted to exhibit different electrical characteristics corresponding to danger and safety conditions, a controlling-selector having selecting functions corresponding to and controlled respectively by said different electrical characteristics of said circuit, means for recording said different characteristics of said circuit, and electrically-differentiated record-controlling devices governed respectively by the different selecting functions of said selector and controlling such recording means.

73. The combination with a line of way, of an electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle on said line of way, said circuit having a resistance adapted to be short-circuited, means for indicating different conditions of said circuit, and differential electrical controlling devices governed by such differences in the resistance of said circuit and controlling such indicating means.

74. The combination with a line of way, of an electric circuit for automatically controlling the movement of a vehicle on said line of way, said circuit having a resistance adapted to be short-circuited,

means for recording danger and safety conditions of said circuit, and differential electrical controlling devices governed by such differences in the resistance of said circuit and controlling such recording means.

75. The combination with a line of way, of an electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle on said line of way, said circuit having a resistance adapted to be short-circuited, a controlling-selector having selecting functions corresponding to and controlled respectively by such differences in the resistance of said circuit, and means governed by said selector for indicating said different characteristics of said circuit.

76. The combination with a line of way, of a normally closed electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way said circuit having a resistance adapted to be short-circuited, means for indicating different conditions of said circuit, and differential electrical controlling devices governed by such differences in the resistance of said circuit and controlling said indicating means.

77. The combination with a line of way, of an electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way said circuit being adapted to exhibit different characteristics corresponding to danger and safety conditions, and differential electrical detector devices responsive to such different characteristics of said circuit.

78. The combination with a line of way, of a normally closed electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way said circuit being adapted to exhibit different characteristics corresponding to danger and safety conditions, and differential electrical detector devices responsive to such different characteristics of said circuit.

79. The combination with a line of way, of a normally closed electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way said circuit being adapted to exhibit different characteristics corresponding to danger and safety conditions, and differential electrical detector devices carried by such vehicle and responsive to such different characteristics of said circuit.

80. The combination with a line of way, of a normally closed electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way said circuit having a resistance adapted to be short-circuited, and differential electrical detector devices one of which is responsive when the total resistance is in circuit and the other of which is responsive when the aforesaid resistance is short-circuited.

81. The combination with a line of way, of a normally closed electric circuit for automatically controlling the power, brake or other movement-controlling medium of a vehicle traveling on said line of way said circuit having a resistance adapted to be short-circuited, and differential electrical detector devices carried by said vehicle and one of which is responsive when the total resistance is in circuit and the other of which is responsive when the aforesaid resistance is short-circuited.

82. The combination with a line of way, of an electric circuit for automatically controlling the movement of a vehicle traveling on said line of way said circuit being adapted to exhibit different characteristics corresponding to danger and safety conditions, a main electrical detector device adapted to be energized or deenergized according as said circuit exhibits one or the other of said characteristics, and secondary electrical detector devices one of which is responsive when the main detector device is energized and the other of which is responsive when said main detector device is deenergized.

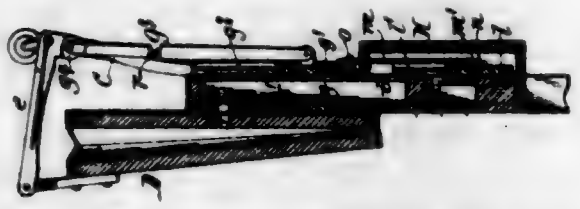
83. The combination with a line of way, of a normally closed electric circuit for automatically controlling the movement of a vehicle traveling on said line of way said circuit having a resistance adapted to be short-circuited, a main electrical detector device adapted to be energized or deenergized according as said resistance is or is not short-circuited, and secondary electrical detector devices one of which is responsive when the main detector device is energized and the other of which is responsive when said main detector device is deenergized.

84. The combination with a line of way, of a normally closed electric circuit for automatically controlling the movement of a vehicle traveling on said line of way said circuit having a resistance adapted to be short-circuited, a main electrical detector device adapted to be energized or deenergized according as said resistance is or is not short-circuited, and secondary electrical detector devices the resistances of which differ from each other and one of which is responsive when the main detector device is energized and the other of which is responsive when said main detector device is deenergized.

85. The combination with a line of way, of an electric circuit for automatically controlling the movement of a vehicle traveling on said line of way said circuit being adapted when closed to exhibit different characteristics, and a short circuit on the vehicle and containing three parallel branches one of which includes a main electrical detector device adapted to be energized or deenergized according as said circuit exhibits one or another characteristic and the others of which include respectively a pair of secondary electrical detector devices one of which is responsive when the main detector device is energized and the other of which is responsive when the main detector device is deenergized.

86. The combination with a line of way, of a pair of controlling means, one of which governs the power, brake, or other movement-controlling medium on a vehicle or train, and the other of which governs a semaphore or similar signal and each of which governs the other.

807,288. **PNEUMATIC MOTOR.** EUGENE DE KLEIST, North Tonawanda, N. Y. Filed Dec. 21, 1903. Serial No. 186,945.



Claim.—1. In a pneumatic motor, the combination with a shaft having a plurality of cranks, of a series of pneumatics connected with said cranks, a wind-board having air-channels leading to the responsive pneumatics, each of said channels being provided in one of its walls with a suction-port and an air-inlet port arranged in line with each other lengthwise of the channel, sliding suction and inlet valves applied to the corresponding ports of each of said air-channels, a connection between the suction and air-inlet valves of each pair, and means for connecting each pair of valves with the companion crank on said shaft, substantially as set forth.

2. In a pneumatic motor, the combination with a shaft having a plurality of cranks, of a series of pneumatics connected with said cranks, an upright wind-board having vertical air-channels leading to the respective pneumatics, each of said channels being provided in one of its walls with a suction-port and an air-inlet port arranged one above the other, sliding suction and air-inlet valves applied to the corresponding ports of each air-channel, a connection between the suction and air-inlet valves of each pair which causes one of said valves to be opened when the other is closed, and means for connecting each pair of valves with the companion crank on said shaft, substantially as set forth.

3. In a pneumatic motor, the combination with a shaft having a plurality of cranks, of a series of pneumatics connected with said cranks, a wind-board having upright air-channels leading to the respective pneumatics, each of said channels being provided in one of its walls with a suction-port and an air-inlet port arranged above the suction-port, a suction-chamber applied to said wall over each of said suction-ports and arranged below the corresponding air-inlet port, sliding suction-valves arranged in said chambers and controlling the corresponding ports, sliding valves applied to said air-inlet ports, a connection between the suction and air-inlet valves of each pair, and means for connecting each pair of valves with the companion crank on said shaft, substantially as set forth.

4. In a pneumatic motor, the combination with a shaft having a plurality of cranks, of a series of pneumatics connected with said cranks, a wind-board having air-channels leading to said pneumatics, each of said channels being provided with an air-inlet port, air-inlet valves applied to said ports, a suction-channel, valve-chambers connected by separate ports with said air-channels and said suction-channel, the ports leading from said valve-chambers to said air-channels being open at all times, suction-valves arranged in said valve-chambers and applied to the ports leading from said suction-channel to said chambers, and means for transmitting the motion of said cranks to said air-inlet and suction valves, substantially as set forth.

5. In a pneumatic motor, the combination with a shaft having a plurality of cranks, of a series of pneumatics connected with said cranks, a wind-board having air-channels leading to the respective pneumatics, each of said channels having an air-inlet port, valves applied to said ports, a suction-channel arranged below said air-chan-

nals and separated therefrom by an intervening partition, suction-chambers arranged below said air-inlet ports and each connected with said suction-chamber and one of said air-channels by separate ports located on opposite sides of said partition, suction-valves applied to the ports which connect said suction-chambers with said suction-channel, and means for transmitting the motion of said cranks to said suction and air-inlet valves, substantially as set forth.

6. In a pneumatic motor, the combination with a shaft having a plurality of cranks, of a series of pneumatics connected with said cranks, a wind-board having air-channels leading to said pneumatics, each of said channels being provided with an air-inlet port and a suction-port arranged one above the other, sliding air-inlet and suction valves applied to the corresponding ports of each of said channels, one valve of each pair being provided with a pin and the other with a lug having a screw-threaded opening, a connecting-rod for each pair of valves provided at one end with an opening for receiving said pin and at the other end with a screw-thread engaging in said lug, and a rod connecting each pair of valves with one of said cranks and composed of sections having their inner ends adjustably connected by a longitudinal screw, substantially as set forth:

807,289. **BROWN AZO DYE AND PROCESS OF MAKING SAME.** THEO KNECHT, Basel, Switzerland, assignor to Society of Chemical Industry in Basle, Basel, Switzerland. Filed July 15, 1905. Serial No. 269,894. (Specimens.)

Claim.—1. The described process for the manufacture of brown monoazo dyestuffs, developed by chroming, which process consists in combining triamidobenzene derivatives corresponding to the general formula

$$R-NH-C_6H_3\begin{cases}X\\NH_2\\NH_2\end{cases}$$

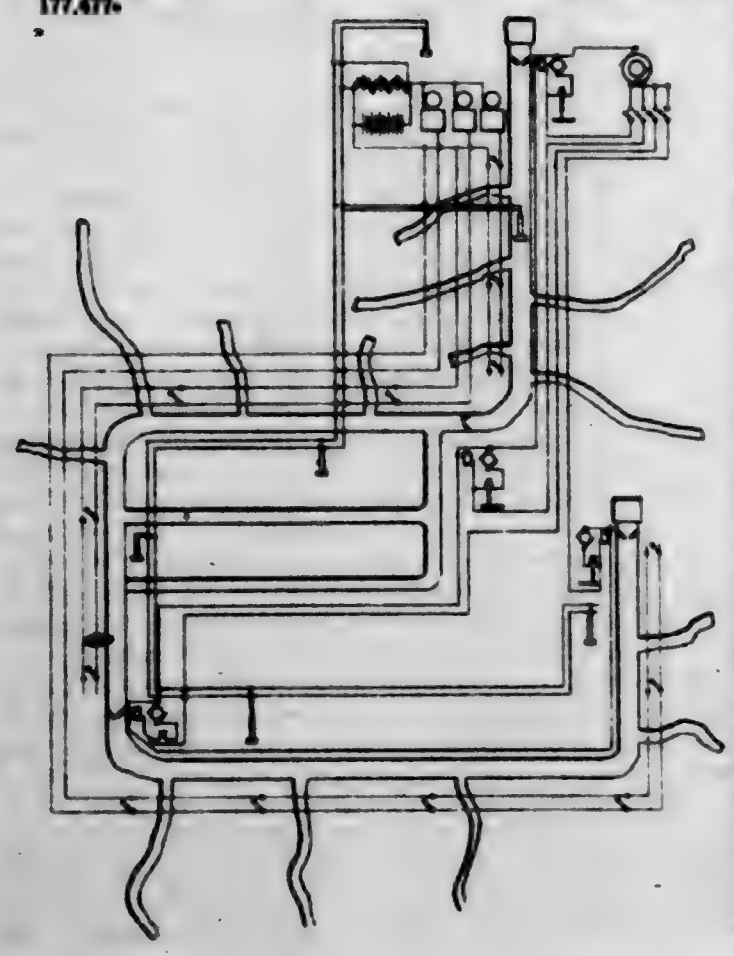
with orthodiazophenol derivatives.

2. As new articles of manufacture, the brown monoazo dyestuffs, corresponding to the general formula

$$R-N=N-C_6H\begin{cases}X\\NH_2\\NH_2\\NH-R\end{cases}$$

which constitutes in dry state, dark-colored powders, easily soluble in water with yellow to brown color and dye wool in an acid-bath brown tints, becoming fast to light and fulling by chroming.

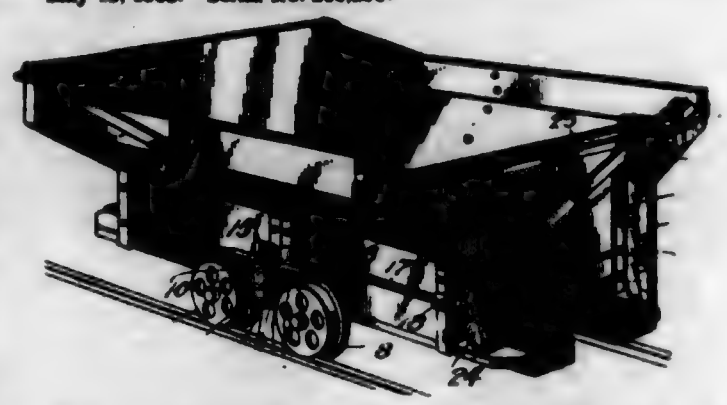
807,290. **METHOD OF PROVIDING FOR THE EXTINGUISHMENT OF FIRES IN MINES.** JOSEPH KRITZANOWSKI and STANISLAUS WYSOCKI, Jurewka, Russia. Filed Oct. 17, 1903. Serial No. 177,477.



Claim.—The method herein described of providing for the extinguishment of fires in mines, which consists in dividing the mine into sections distributed lengthwise along the principal air-passage, setting up in the principal air-passage, which connects said sections, permanent but normally open closing devices, one at each end of each section, and providing means for closing at will any or all such devices

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807,291. **BRAKE.** HOMER T. LAMBERT, Thacker, W. Va. Filed May 13, 1905. Serial No. 260,262.



Claim.—1. The combination with a vehicle, of a braking mechanism therefor, comprising brake-shoes, brake-rods mounted on opposite sides of the vehicle, and a lever pivotally mounted on one of said brake-rods, and means to operate both of said brake-rods in the operation of the lever.

2. The combination with a vehicle, of a braking mechanism comprising brake-rods revolubly mounted on opposite sides of the vehicle, brake-shoes connected with said rods, a lever pivoted on one side of said rods, and means connecting said lever and the other of said rods.

3. The combination with a vehicle, of a braking mechanism therefor comprising brake-rods revolubly mounted on opposite sides of the vehicle, brake-shoes connected with said rods, means for operating the rods, and means for independently supporting and guiding the brake-shoes to insure their direct vertical movement in the operation of the rods.

4. The combination with a vehicle, of braking mechanism therefor, comprising brake-rods revolubly mounted on opposite sides of the vehicle, brake-shoes carried by said rods, means for operating the rods, cross-bars carried by the vehicle, and the studs depending from the brake-shoe and engaging said cross-rods.

5. The combination with a vehicle of braking mechanism therefor comprising brake-rods revolubly mounted on opposite sides of the vehicle, brake-shoes connected with said rods, a lever loosely mounted on one of said rods, means connected with said lever with the other of said rods, and means connecting the respective brake-rods.

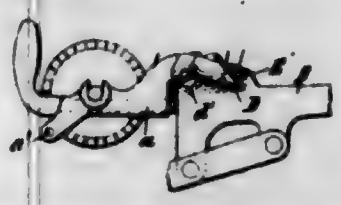
6. The combination with a vehicle of braking mechanism therefor comprising brake-rods revolubly mounted on opposite sides of the vehicle, brake-shoes connected with said rods, a lever loosely mounted on one of said rods, means connecting the respective brake-rods, and means for locking the lever in adjusted position.

7. The combination with a vehicle, of a braking mechanism therefor comprising brake-rods revolubly mounted on opposite sides of the vehicle, brake-shoes connected to said rod, an operating-lever loosely mounted on one of said rods, a connecting-rod intermediate the lever and the other of said brake-rods, and a connecting-rod joining both of said brake-rods, whereby operation of the lever will rock both of said brake-rods.

8. The combination with a vehicle, of a braking mechanism therefor comprising brake-rods revolubly mounted on opposite sides of the vehicle, brake-shoes connected to said rod, an operating-lever loosely mounted on one of said rods, a connecting-rod intermediate the lever and the other of said brake-rods, and a connecting-rod joining both of said brake-rods, whereby operation of the lever will rock both of said brake-rods, and means for locking the lever in adjusted position.

9. The combination with a vehicle, of a braking mechanism therefor comprising brake-rods revolubly mounted on opposite sides of the vehicle, brake-shoes connected to said rod, an operating-lever loosely mounted on one of said rods, a connecting-rod intermediate the lever and the other of said brake-rods, and a connecting-rod joining both of said brake-rods, whereby operation of the lever will rock both of said brake-rods, a notched bar secured to the vehicle, and a plate secured to the operating-lever and arranged to engage said notched bar.

807,292. CARRIAGE-BEARING FOR TYPE-WRITING MACHINES. ERNST G. LATTA, Friendship, N. Y., assignor of one-half to Harvey A. Moyer, Syracuse, N. Y. Original application filed July 5, 1904, Serial No. 215,248. Divided and this application filed Oct. 15, 1904. Serial No. 228,571.



Claim.—1. The combination of a carriage provided with a race part, an opposing race part, and two sets of rolling bearings arranged between said race parts one in front of the other which constitute the sole support for the carriage, each of said race parts having a portion which bears downwardly on one set of bearings and upwardly on the other set of bearings, substantially as set forth.

2. In a type-writing machine, the combination with a laterally-movable carriage, of two sets of balls on which the carriage runs, a race-bar for the balls connected to the carriage and having an upwardly-facing bearing at its rear, and a downwardly-facing bearing at its front, and an opposable race-bar for the balls having an upwardly-facing bearing at its front and a downwardly-facing bearing at its rear, substantially as set forth.

3. The combination with a movable carriage, of a ball-bearing guide therefor, comprising two sets of balls, and a two-part race for the balls, each race part having a portion resting under one set of balls and a portion resting over the other set of balls, the race for one set of balls consisting of opposable grooves, and that for the other set of balls consisting of a groove and an opposable plain surface, substantially as set forth.

4. In a type-writing machine, the combination with a laterally-movable carriage and platen, of a ball-bearing guide and support for the carriage, comprising two sets of balls arranged in rear of the platen in substantially the same horizontal plane, and ball-races arranged to support the carriage by downward pressure on the front set of balls and upward pressure on the rear set of balls, substantially as set forth.

5. In a type-writing machine, the combination with a laterally-movable carriage and platen, of a ball-bearing guide for the carriage comprising two sets of balls arranged at one side of the platen in substantially the same horizontal plane, and forming the sole support for the carriage, and a race part bearing downwardly on one set of balls and upwardly on the other set of balls, whereby the weight of the carriage retains the parts in proper adjustment, substantially as set forth.

6. In a type-writing machine, the combination with a laterally-movable carriage and platen, of a ball-bearing guide and support comprising two sets of balls arranged in substantially the same horizontal plane in rear of the platen, the balls forming the sole support of the carriage and platen, and being adjustable for wear by the action of gravity alone, substantially as set forth.

807,293. SPUTUM-CUP. JOHN E. LEE, Conshohocken, Pa., assignor to J. Ellwood Lee Company, Conshohocken, Pa., a Corporation of Pennsylvania. Filed May 1, 1905. Serial No. 258,223.

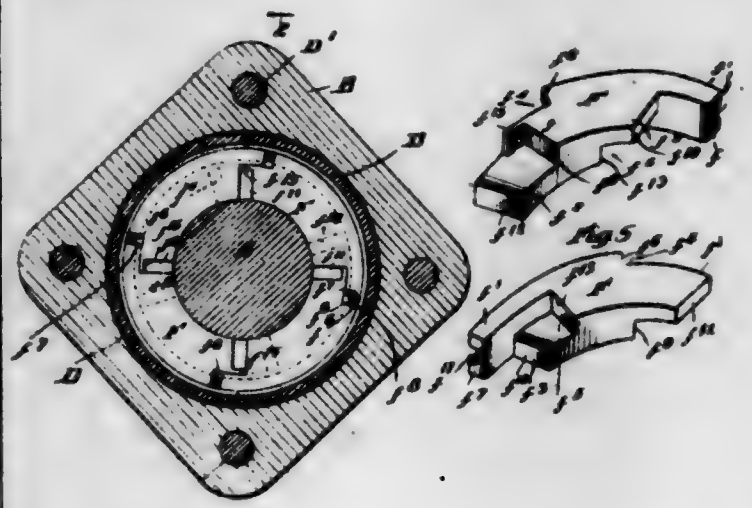


Claim.—1. A sputum-cup comprising an absorbent layer secured to a suitable backing by a waterproof adhesive substance, the said united materials being creased and pressed into plaited pocket-book form.

2. A sputum-cup comprising an absorbent layer secured to a suitable backing by a waterproof adhesive substance, the whole pressed together to form one sheet, said piece of material being creased and pressed into a plaited pocket-book form.

3. A sputum-cup comprising an absorbent layer secured to a suitable backing by an adhesive, these united materials being creased and folded with accordion plaits projecting into the cup, the absorbent layer covering the entire inner face of the cup, including the plaits.

807,294. METALLIC PACKING FOR PISTON-RODS. JOHN H. LEWIS and LOUIS G. KUEHNE, Chicago, Ill. Filed July 24, 1905. Serial No. 270,561.



Claim.—1. A metallic packing for piston-rods comprising a plurality of segments offset, halved or notched together at their meeting ends in two different planes or directions, and forming three joints at different points of the circumference, one joint extending radially through the outer portion of the ring and the other two extending only part way through the inner portion of the ring, the inner leaf on each segment having a thin or narrow compression-finger overlapped by the outer leaf of the adjacent segment, and adapted to upset or be compressed to permit the segments to contract or come together to compensate for wear, substantially as specified.

2. A metallic piston-rod packing comprising a plurality of segments having each at their meeting ends double notches or offsets forming overlapping leaves or members, and three joints at different points of the circumference, one of which extends only through the outer portion of the packing-ring, and the other two of which extend each only part way through the inner portion of the packing-ring, the inner leaf or member of each segment being provided with a compression-finger abutting against a radial shoulder of the adjacent segment and being overlapped by the outer leaf or member of such adjacent segment, said compression-finger yielding or upsetting to permit contraction of the segments and compensate for wear, substantially as specified.

3. A metallic packing comprising a plurality of segments having at their meeting ends double notches or offsets in different planes forming overlapping leaves, and three joints at different points of the circumference, one of which extends only through one portion of the radial thickness of the packing-ring, and the other two of which joints extend each only part way through the other portion of the radial thickness of the packing-ring, said segments being furnished on their inner leaves or members with a compression finger or member overlapped by the outer leaf or member of the adjacent segment and serving by its upsetting or compression to permit the segments to contract and compensate for wear, substantially as specified.

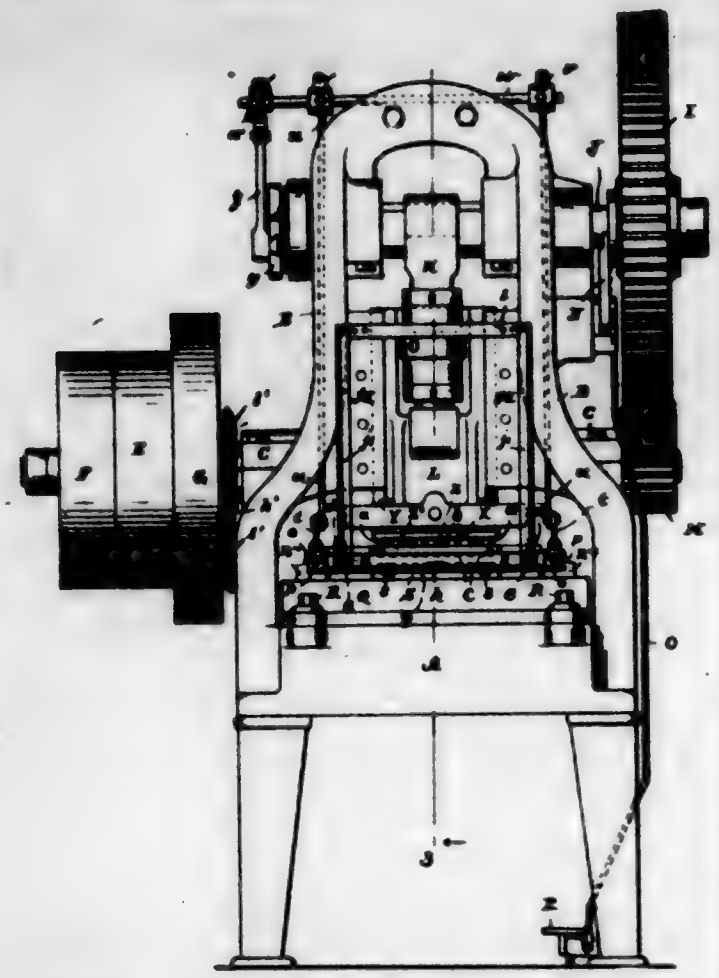
4. A metallic packing comprising a plurality of segments having overlapping leaves or members at their meeting ends forming a plurality of partial radial joints, said segments being provided with narrow compression members yielding or upsetting to permit contraction of the segments and compensation for wear, substantially as specified.

5. A metallic packing comprising a plurality of segments having overlapping leaves or members at their meeting ends forming three partial radial joints, the inner leaf or member of each segment having a narrow compression-finger yielding or upsetting to permit contraction of the segments and compensation for wear, substantially as specified.

807,295. CHAIR-SEAT-PERFORATING MACHINE. CHARLES L. LINCOLN, Bridgeport, Conn., assignor to The A. H. Nilson Machine Company, Inc., Bridgeport, Conn. Filed May 20, 1905. Serial No. 261,054.

Claim.—1. A chair-seat-perforating mechanism, comprising a die-plate having holes with raised bushings therein, punches to engage the holes of the bushings, a clamping-plate, raised bushings therein through which the punches operate, and springs for normally

holding said clamping-plate in an extended position with relation to the ends of the punches.



2. A chair-seat-perforating mechanism, comprising a die-plate having raised bushings therein containing punch-holes, a gang of punches to operate in said holes, a clamping-plate with extended bushings through which the punches operate, means for normally holding the plate extended with its bushings below the ends of the punches and devices to permit the plate to yield and to operate the punches therethrough and into the bushings of the lower plate.

3. A chair-seat-perforating mechanism, comprising a die-plate with a series of holes therethrough, raised bushings surrounding such holes, a clamping-plate, bushings in said clamping-plate, punches mounted in the bushings of said clamping-plate, and means to insure a firm engagement of said bushings with the chair-seat in advance of the engagement of the punches.

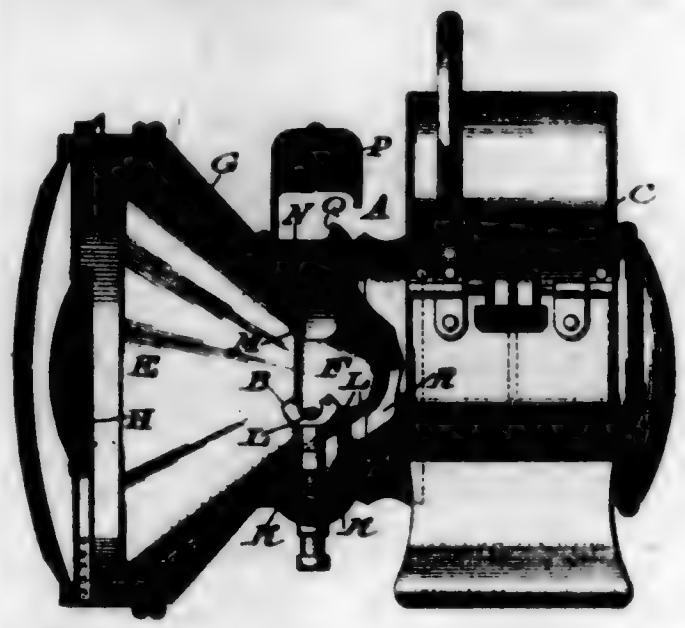
4. In a chair-seat-perforating machine, the combination with a seat-holder and feed mechanism, of perforating mechanism comprising a die-plate with a series of holes therethrough, raised bushings in such holes, a clamping-plate having holes therein, bushings mounted in the holes of said clamping-plate, a carrier bearing punches adapted to be operated through the bushings of the clamping-plate, and means to insure a firm engagement of said bushings of the chair-seat in advance of the engagement of the punches.

5. Chair-seat-perforating mechanism, comprising a die-plate with holes therethrough, raised bushings in such holes a punch and carrier, a plate under the carrier, extended bushings in the carrier-plate through which the punches operate, springs intermediate of the carrier and die-plate to normally hold said plate and its bushings in an extended position to insure the engagement of the bushings with the seat in advance of the punches.

6. In a chair-seat-perforating machine, the combination with perforating mechanism, comprising a die-plate with a series of holes therethrough, raised bushings surrounding such holes, a clamping-plate with bushings therein, punches operating through the bushings of the clamping-plate, of a holder comprising parallel ways to direct the seats into said perforating mechanism, angle-iron corner-posts to retain the seats upon the ways, a slide beneath the ways with means for reciprocating said slide and successively feeding a seat through the ways to the perforating mechanism.

7. In a chair-seat-perforating mechanism, the combination with perforating punches and dies, of a seat-holder adjacent thereto, feeding mechanism comprising a pair of parallel guide-rods attached to the fixed perforating-die, a slide mounted upon said rods with means for successively engaging the seats in the holder, and mechanism for reciprocating said slide to feed the seats from the holder to the perforating mechanism.

807,296. LAMP FOR AUTOS AND OTHER VEHICLES AND PURPOSES. NICOLAS LOEWENSTEIN, Philadelphia, Pa. Filed June 26, 1905. Serial No. 267,061.



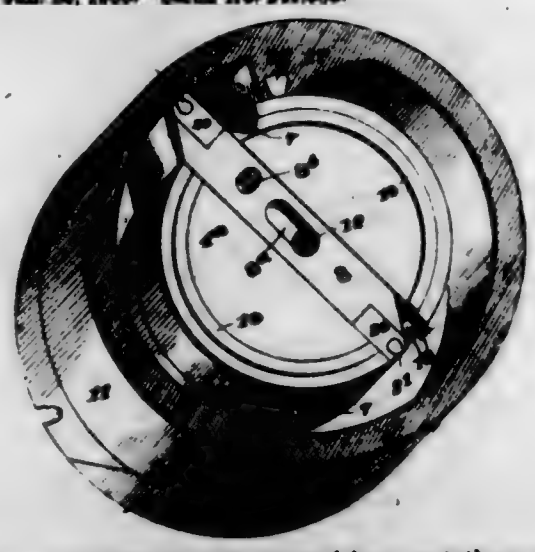
Claim.—1. In a lamp, a reflector composed of members, the rear one of which is in the form of a prolate spheroid, and the front one of which is that of a cone, the reflecting-surfaces of said members being practically continuities and in unbroken planes, the burner of the lamp occupying the rear member of said reflector and located entirely within the same, a casing and a plurality of differential lenses on said casing, one behind the other and both in front of said reflector, the inner lens being supported by arms, so that a comparatively unobstructed space exists in the casing around the periphery of said lens.

2. In a lamp, a reflector having openings in its lower portion and an opening in its upper portion, an interior casing in which the same is contained, annular exterior means for directing the products of combustion from said lamp, and a guard on the casing over said means.

3. In a lamp, a reflector having openings in its lower side, an interior casing in which the same is contained, means for directing the products of combustion from said lamp, and a guard on the exterior casing over said means, said casing having means within the same for returning some of the products of combustion to the burner of the lamp through said openings.

4. In a lamp, a reflector having openings in its lower portion, a casing therefor having an opening with one wall extended over the outlet forming a deflector for the products of combustion from the burner, and a hood over said opening, whereby a portion of the products of combustion are returned through said openings in the reflector to supply the burner with warm air.

807,297. ROTARY ENGINE. GILBERT L. LOPER, Worcester, Kans. Filed Jan. 30, 1905. Serial No. 243,905.



Claim.—1. A rotary engine comprising a rotating case having inwardly-projecting piston, a stationary hub with inlet and exhaust ports, a combined steam-chest and shaft-support, a valve arranged in the steam-chest and controlling the inlet-port and a shaft fixed to the rotating case and bearing a cam-flange in the steam-chest arranged to act upon and open the inlet-valve substantially as described.

2. A rotary engine comprising a rotating case with inwardly-projecting piston and detachable collar, a stationary hub with inlet and exhaust ports, a combined steam-chest and shaft-support, a valve arranged in the steam-chest and controlling the inlet-port, a rotating shaft with cam-flange in the steam-chest for operating the inlet-valve, the hub being formed with exhaust-ports opening on the neck of the hub between the casing and the steam-chest substantially as described.

3. A rotary engine comprising a rotating case having an inward projection forming a piston, a stationary hub arranged within the case and having inlet and exhaust ports formed therein and a diametrical groove, and a diametrically sliding abutment arranged in said groove, and means for sliding the abutment substantially as described.

4. A rotary engine comprising a rotating case having an inwardly-projecting piston, a stationary hub made smaller than the case to leave an annular steam-space and having a diametrical slideway, a diametrically sliding abutment arranged in the slideway and means for shifting this abutment, the stationary hub being formed with inlet-port opening on the periphery and with an outlet-port opening into the slideway of the hub in which the abutment moves substantially as described.

5. A rotary engine comprising a rotating case having an inwardly-projecting piston, a stationary hub having a diametrical slideway, an abutment sliding therein and made with wedge-shape ends and means for shifting the abutment, the stationary hub being formed with inlet-port opening on the periphery and outlet-port opening into the slideway and arranged to be exposed by the wedge-shape end of the abutment as described.

6. A rotary engine, comprising a rotating case having an inwardly-projecting piston and a cam-groove in its head, a stationary hub with inlet and outlet ports and a sliding abutment having a friction-roller playing in the cam-groove of the head of the case substantially as described.

7. A rotary engine comprising a rotating case and attached shaft, the case having an inwardly-projecting piston, a stationary hub made in two sections joined together in a plane at right angles to the shaft and formed with inlet and exhaust ports partly in each half of the hub, and a diametrically-arranged and sliding abutment substantially as described.

8. A rotary engine, comprising a rotating case with attached shaft, the case having an inwardly-projecting piston, a stationary hub having a diametrical slideway shallow in the middle and opening on one side of the hub and extending across the full steam-space of the hub at the ends and a sliding abutment made of corresponding shallow proportions at the middle and wide at the ends substantially as described.

9. A rotary steam-engine comprising a rotating case with inwardly-projecting piston, a stationary hub with diametrically-arranged sliding abutment, said hub being formed with its exhaust-opening in the slideway of the abutment to be uncovered by the reciprocation of the latter substantially as described

10. A rotary engine comprising a combined steam-chest and shaft-support having a laterally-projecting and enlarged hub with inlet and exhaust ports in it, valves arranged in the steam-chest controlling the inlet-ports, a rotating case with inwardly-projecting piston, a shaft rigidly attached to the case and extending into the steam-chest and bearing a cam-flange acting upon the inlet-valve, a detachable ring or collar secured to the case about the neck of the hub, a diametrically-disposed sliding abutment arranged in a slideway of the hub and means for shifting it substantially as described.

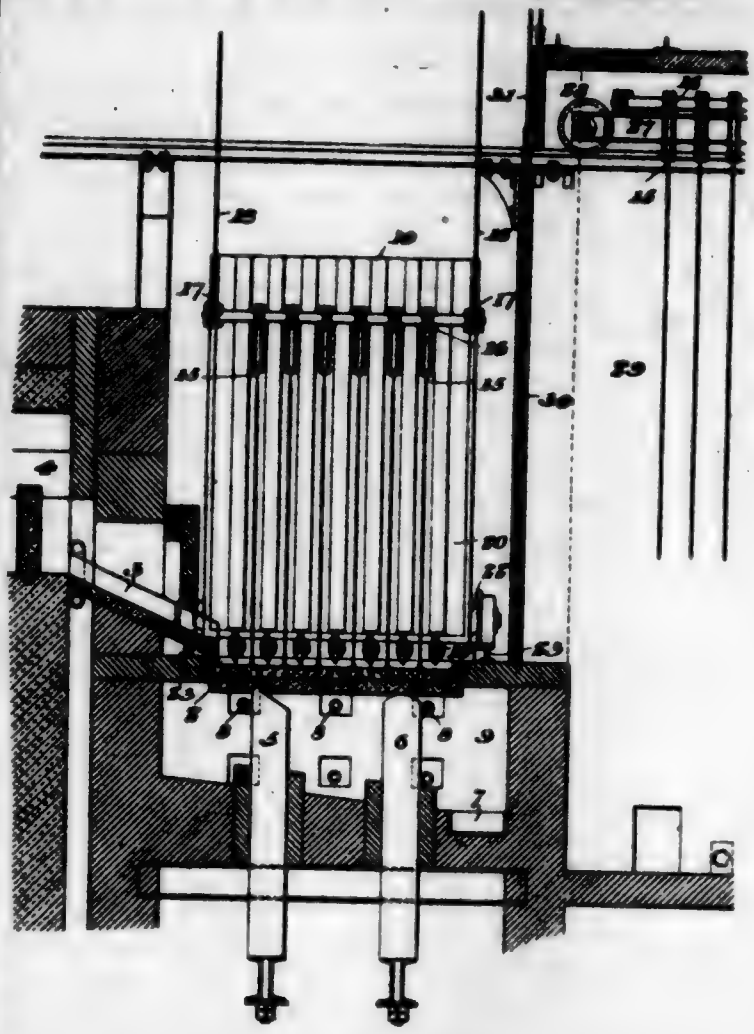
807,298. **MANUFACTURE OF GLASS SHEETS.** JOHN H. LUBBERS, Allegheny, and SAMUEL L. BOSLEY, Berwyn, Pa., assignors to Window Glass Machine Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Oct. 19, 1904. Serial No. 229,054.

Claim.—1. The method of forming glass sheets, consisting in drawing a sheet upwardly from a glass-bath in the open air, and retarding the cooling of the edges of the sheet; substantially as described.

2. The method of forming glass sheets, consisting in drawing a plurality of glass sheets simultaneously and upwardly into the open air, and retarding the cooling of their edge portions during drawing; substantially as described.

3. The method of forming glass sheets, consisting in simultaneously drawing a plurality of glass sheets upwardly from a bath and within the open air, applying heat to the edge portions of the sheets and then passing said sheets through an annealing-leer; substantially as described.

4. The method of forming glass sheets, consisting in engaging the lower edge of a bait with the glass of a bath, drawing the sheet vertically from the bath in the open air, and retarding the cooling of the edge portions only of the sheet; substantially as described.



807,299. **VIBRATOR FOR MEDICAL USE.** DAVID T. MARSHALL, New York, N. Y. Filed Oct. 6, 1904. Serial No. 227,430.



Claim.—1. A vibrator, comprising a casing, a revoluble shaft therein, a tube secured to the casing, a collar having a hole of polygonal outline, a rod of polygonal cross-section passing freely through the opening, said rod having a cranked connection with the shaft and passing out of the tube and carrying a pad at its end.

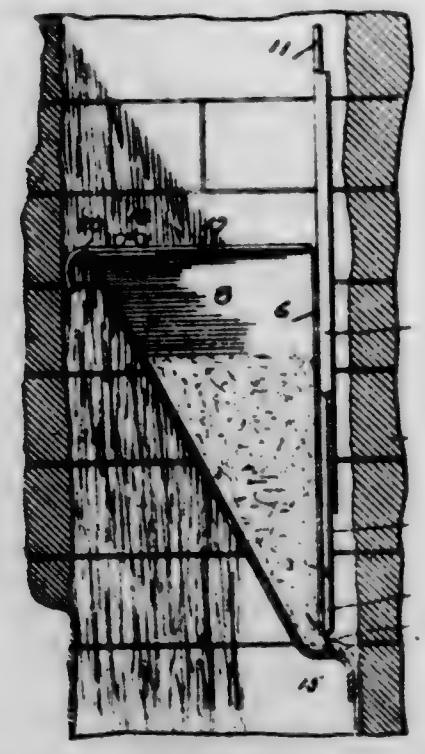
2. A vibrator, comprising a casing, a revoluble shaft therein, a tube secured to the casing, a collar having a hole of polygonal outline and rounded edges, a rod of polygonal cross-section passing freely through the opening, said rod having a cranked connection with the shaft and passing out of the tube and carrying a pad at its end.

807,300. METHOD OF MANUFACTURING LIQUID LENSES. CHARLES MAYERHOFER, Sichyfalva, Austria-Hungary. Filed Apr. 18, 1903. Renewed Nov. 13, 1905. Serial No. 287,183.

Claim.—1. The method of manufacturing lenses which consists in immersing suitably-shaped hollow lens-halves into the liquid to be used for filling the lens, uniting the said lens-halves while under the surface of the said liquid so as to form an entire lens, removing the said entire lens from the liquid, and sealing the edges of said entire lens by means of a suitable cementing substance.

2. The method of manufacturing lenses which consists in immersing suitably-shaped hollow lens-halves into the liquid to be used for filling the lens, uniting the said lens-halves while under the surface of the said liquid so as to form an entire lens, removing the said entire lens from the liquid, sealing the edges of said entire lens by means of water-glass, drying the said sealing means, and treating it with hydrochloric acid so as to harden the same.

807,301. PLASTERING IMPLEMENT. FRANK H. MOHYA, Alvaly, Minn. Filed Apr. 28, 1905. Serial No. 257,364.



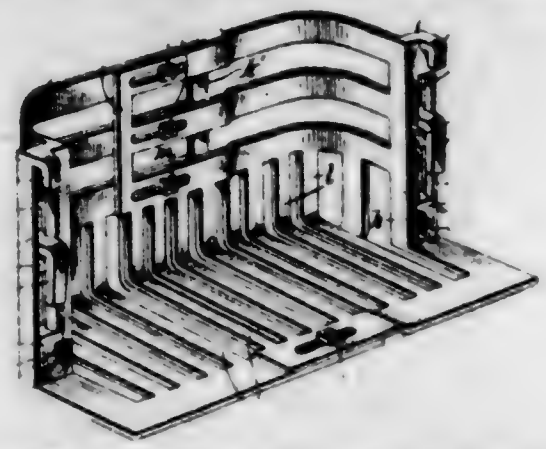
Claim.—1. An implement for plastering vertical walls, comprising a mortar-hod having a valve at the lower edge of the front wall thereof, an inclined bottom leading to the valve and terminating in a lip which projects forwardly under the valve beyond the front wall of the hod, so as to spread and smooth the mortar on the wall being plastered, and an operating-handle connected to the hod.

2. An implement for plastering the inside of chimneys and the like, comprising a mortar-hod having a valve at the bottom and a smoothing and spreading lip projecting thereunder, a handle connected to the hod, to raise and lower the same, and means projecting at the back of the hod, and adapted to contact with one wall of the chimney, to press the lip against the other wall.

3. An implement for plastering the inside of chimneys and the like, comprising a mortar-hod having an opening in the side at the bottom and a lip below the same arranged to spread the mortar on one wall of the chimney, a gate-valve at said opening having an operating-rod extending upwardly therefrom, a handle connected to the hod, and adjustable springs secured to the hod and extending backwardly to contact with the opposite wall of the chimney.

807,302. ADJUSTABLE FIREPLACE GRATE-BASKET. HENRY B. HOGSHAW, Chattanooga, Tenn. Filed Feb. 25, 1905. Serial No. 247,267.

Claim.—1. A grate-basket provided with side bars and a hook at each upper corner, said bars being vertically slotted below said hooks, and a downwardly-turned self-adjusting hook working vertically freely in each of said slots, each hook being provided with integral means for preventing it from swinging inward or outward.



2. A grate-basket provided with vertically-slotted side bars and a hook at each upper corner, a headed downwardly-turned hook working freely in each of said slots so as to be self-adjusting, the side walls of the head of each hook being grooved for the reception of the adjacent walls of the slots, whereby the hooks are prevented from swinging inward and outward, and fastening-bolts are rendered unnecessary, for the purpose set forth.

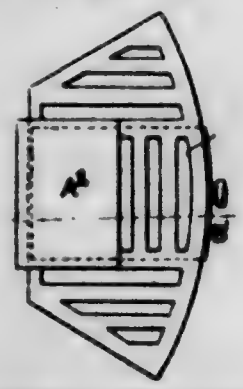
3. A grate-basket provided with vertically-slotted side bars and a hook at each upper corner, a headed downwardly-turned hook working freely in each of said slots so as to be self-adjusting, the heads of the hooks being vertically grooved for the reception of the walls of the slots, the lower end of each of said slots being enlarged, for the purpose set forth.

4. A grate-basket provided with vertically-slotted side bars and a hook at each upper corner, one end of each of said slots being enlarged, a closure-piece inserted in said enlarged part of each slot, an adjustable hook slidably mounted in each of said slots and having a grooved head working in engagement with the inner walls of the slots.

5. A grate-basket for fireplaces, consisting of but two integral sections, each section comprising a corner-post provided with means for engaging the supporting-lugs of the fireplace-frame, front cross-bars connected to the post, the back cross-bar, the bottom bars *l* connecting the back cross-bars to the lower one of the front cross-bars, and the vertical bars *k'* connecting the ends of the front cross-bars, the ends of the front cross-bars and the back cross-bar being bent inward at *k*, whereby said two sections may be overlapped at the middle of the grate-basket, the sections of the front cross-bars and the rear cross-bar being in alinement and the bottom bars *l* being capable of being brought into alinement, and means for adjustably clamping the overlapping parts of the rear cross-bar and the front cross-bars together in their adjusted positions.

6. A grate-basket provided with side bars and a hook at each upper corner, said bars being vertically slotted below said hooks, and a downwardly-turned self-adjusting hook working freely in each of said slots, each hook being provided with integral means for preventing it from swinging inward or outward, and with an upward-extending biting edge *r* adapted to engage the adjacent face of the side bar.

807,303. GRATE. BARBARA J. MOUAT, Dunedin, New Zealand. Filed Nov. 28, 1904. Serial No. 234,536.



Claim.—1. In combination with a grate, a box-like projection connected to and extending above the grate at the rear thereof, and a damper slidably supported beneath the grate and controlling the draft of air through the grate proper and said projection.

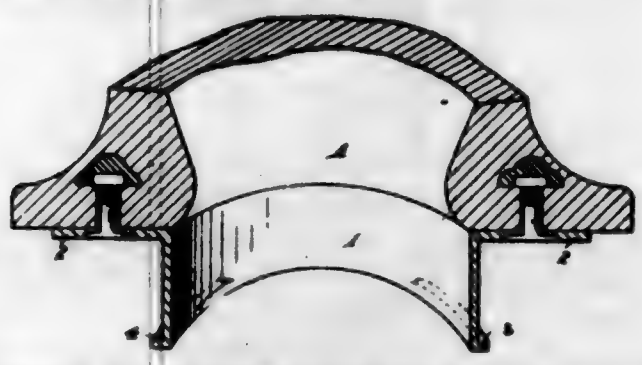
2. In combination with a grate, a box-like projection connected to and extending above the grate at the rear thereof and having openings in its sides, and a damper slidably mounted beneath the grate

and controlling the draft of air through the grate proper and said projection.

3. In combination with a grate, a box-like projection connected to and extending above the grate at the rear thereof, and a damper supported beneath the grate and having independent means for controlling the draft of air through the grate proper and through said projection.

4. In combination with a grate, a box-like projection connected thereto and extending above the grate at the rear thereof, a damper slidably mounted beneath said grate and said projection and provided with openings adapted to be brought into and out of alinement with the openings in the grate proper to control the draft through the same, and with a valve normally located beneath said projection, and means carried by the damper for opening and closing said valve.

807,304. TRAP-JOINT. CHARLES H. MUCKENHIRN, Salem, N. J. Filed Sept. 6, 1904. Serial No. 223,260.

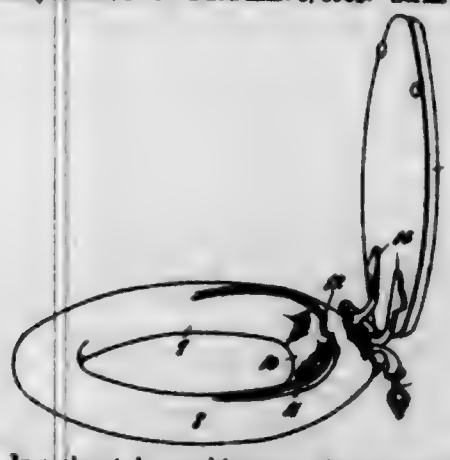


Claim.—1. In a coupling to secure the bowls of water-closets to soil-pipes, the combination of a soil-pipe, a ring secured to the bowl and provided with partial flanges, a ring adapted to be secured to the inside of the upper end of the soil-pipe, and provided with partial flanges arranged to interlock with the flanges on said first-mentioned ring, and a third ring secured to the outside of the upper end of the soil-pipe, substantially as described.

2. In a coupling to secure water-closets to soil-pipes, in combination with a soil-pipe, a plurality of interlocking rings secured respectively to the bowl and to the inside of the upper end of the soil-pipe, and an additional ring adapted to be secured to the outside of the soil-pipe and to one of said interlocking rings by soldering, substantially as described.

3. A coupling to secure water-closets to soil-pipes, comprising, in combination with a soil-pipe, a pair of concentric rings one of which is secured to the floor with the end of said soil-pipe engaging between them, there being a partial flange extending inwardly on one of said rings, and a ring secured to the bowl and provided with similar though outwardly-extending flanges adapted to interlock with the flanges on the other ring, substantially as described.

807,305. WATER-CLOSET AND SEAT THEREFOR. CHARLES H. MUCKENHIRN, Salem, N. J. Filed Mar. 6, 1905. Serial No. 248,651.

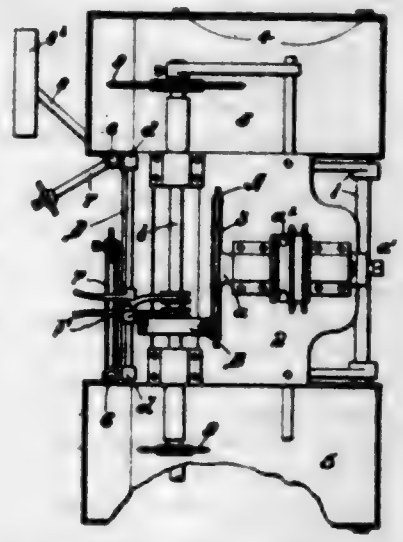


Claim.—1. In a closet, in combination with a bowl having a rim inclined from the front to the rear and with the higher part of the inclination to the front, a seat hinged to rest upon the inclined bowl, and provided at the rear of the opening therethrough with a concaved surface, a ridge surrounding the rear of the opening increasing the transverse extent of said concave surface, substantially as described.

2. In a closet, in combination with a bowl having a rim inclined from the front to the rear and with the higher part of the inclination to the front, a seat hinged to rest upon the inclined bowl, and provided at the rear of the opening therethrough with a concaved surface, a ridge surrounding the rear of the opening, increasing the transverse extent of said concave surface, and provided with a notch at the extreme rear, substantially as described.

3. In a closet, in combination with a bowl having a rim inclined from the front to the rear and with the higher part of the inclination to the front, a seat hinged to rest upon the inclined bowl, and provided at the rear of the opening therethrough with a concaved surface, a ridge surrounding the rear of the opening, increasing the transverse extent of said concave surface, said ridge having a notch at the extreme rear, and being highest on either side of said notch and gradually diminishing toward the front of the opening, substantially as described.

807,306. VARIABLE-SPEED MECHANISM FOR GLASS-WORKING MACHINES. HORACE B. MURDOCK, Detroit, Mich. Filed Aug. 4, 1904. Renewed May 27, 1905. Serial No. 262,680.



Claim.—1. In a variable-speed mechanism, the combination with a driving-shaft and means for rotating same, of a friction-disk carried by said shaft, a driven shaft disposed at right angles thereto and provided with a longitudinal groove, a friction-wheel carried by said driven shaft and slotted to register with said groove, a key operating in said groove and slot, means for shifting said friction-wheel along said driven shaft in engagement with the face of said friction disk, and independent means for operating said key for securely keying said friction-wheel to its shaft when shifted.

2. In a variable-speed mechanism, the combination with a driving-shaft and means for rotating same, of a friction-disk carried by said shaft, a driven shaft disposed at right angles thereto and provided with a longitudinal groove, a friction-wheel carried by said driven shaft and slotted to register with said groove, a key operating in said groove and slot, a sliding arm engaging said friction-wheel, and a lever pivotally carried by said sliding arm and operatively connected to said key.

3. In a variable-speed mechanism, the combination with a driving-shaft and means for rotating same, of a friction-disk carried by said shaft, a driven shaft disposed at right angles thereto and provided with a longitudinal groove, a friction-wheel carried by said driven shaft and slotted to register with said groove, a key operating in said groove and slot, a hub carried by said friction-wheel provided with an annular slot, a collar secured to said key provided with an annular slot, a sliding arm engaging the annular slot of said hub, and a lever pivotally carried by said sliding arm and engaging at one end the annular slot of said collar.

4. In variable-speed mechanism, the combination with a driving-shaft and means for rotating the same, of a friction-disk carried by said shaft, a driven shaft disposed at right angles thereto and provided with a plurality of longitudinally-disposed V-shaped grooves, a friction-wheel carried by said driven shaft and provided with a plurality of V-shaped slots to register with said grooves, a plurality of keys having angular faces operating in said grooves and slots, means for shifting said friction-wheel along said driven shaft in engagement with the face of said friction-disk, and independent means for operating said keys.

5. In a variable-speed mechanism, the combination with a driving-shaft and means for rotating same, of a centrally-apertured friction-disk carried by said shaft, a driven shaft disposed at right angles thereto and provided with a longitudinal groove, a friction-wheel carried by said driven shaft and slotted to register with said groove, a key operating in said groove and slot, means for shifting said friction-wheel along said driven shaft in engagement with the

face of said friction-disk, and independent means for operating said key for securely keying said friction-wheel to its shaft when shifted.

6. In a variable-speed mechanism, the combination with a driving-shaft and means for rotating same, of a friction-disk carried by said shaft, a driven shaft disposed at right angles thereto and provided with a longitudinal groove, a friction-wheel carried by said driven shaft and slotted to register with said groove, a key operating in said groove and slot, means for shifting said friction-wheel along said driven shaft in engagement with the face of said friction-disk, independent means for operating said key for securely keying said friction-wheel to its shaft when shifted, and means for regulating the degree of contact between said disk and wheel.

7. In a variable-speed mechanism, the combination with a driving-shaft and means for rotating same, of a centrally-apertured friction-disk carried by said shaft, a driven shaft disposed at right angles thereto and provided with a longitudinal groove, a friction-wheel carried by said driven shaft and slotted to register with said groove, a key operating in said groove and slot, a sliding arm engaging said friction-wheel, and a lever pivotally carried by said sliding arm and operatively connected to said key.

8. In a variable-speed mechanism, the combination with a loosely-journaled driving-shaft and means for rotating same, of a friction-disk carried by said shaft, a driven shaft disposed at right angles thereto and provided with a longitudinal groove, a friction-wheel carried by said driven shaft and slotted to register with said groove, a key operating in said groove and slot, a hub carried by said friction-wheel provided with an annular slot, a collar secured to said key provided with an annular slot, a sliding arm engaging the annular slot of said hub, a lever pivotally carried by said sliding arm and engaging at one end the annular slot of said collar, and means for regulating the degree of contact between said friction disk and wheel, comprising a set-screw engaging the free end of said loosely-journaled driving-shaft.

807,307. **INSULATOR.** LOUIS MCCARTHY, Boston, Mass. Filed Feb. 18, 1904. Serial No. 194,155.

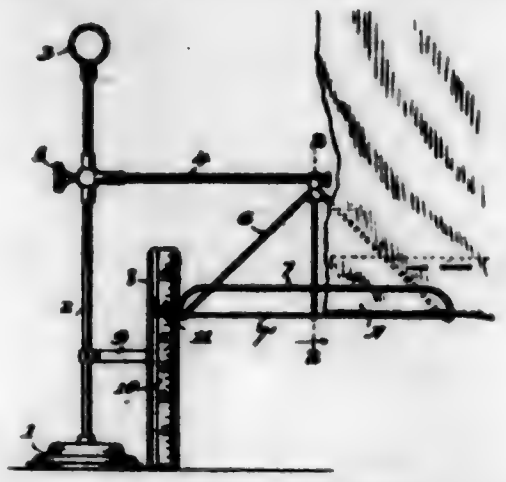


Claim.—An insulator comprising a body portion of molded composition having formed thereon one or more skirts or projections for the shedding of moisture, and having an opening therethrough to permit the passage or supply-wires of a size sufficient for the reception of surplus wires, and independent metallic-sleeve connections insulated from each other at each end of said opening and forming a continuation thereof, said metallic connections being molded into said body portion and serving as a means of attaching the said insulator to the contiguous portions of the construction.

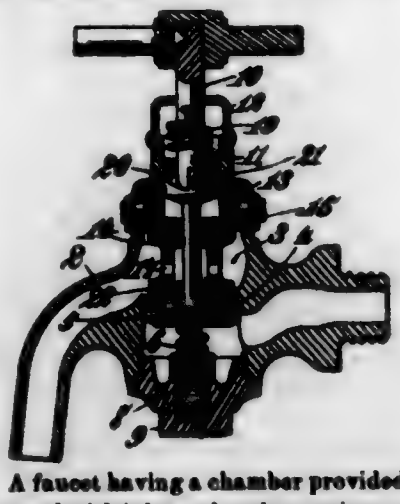
807,308. **DRESSMAKER'S SKIRT SCALE AND GUIDE.** ELIZABETH M. MCCOLLUM, Chicago, Ill. Filed Apr. 26, 1905. Serial No. 257,469.

Claim.—1. A dressmaker's skirt scale and guide comprising a base member, a standard mounted thereupon, arms mounted upon said standard, one carrying a vertically-disposed scale, and the other a guide-frame, provided with an indicator for indicating the height of said frame from the floor, substantially as described.

2. A dressmaker's skirt scale and guide comprising a base member, a standard mounted thereupon, an arm mounted upon said standard and provided with a vertically-disposed scale casing or holder, a scale mounted within said casing, an arm adjustably mounted upon said standard, a guide-frame comprising a wire skeleton frame having a straight trough-like portion carried by said adjustable arm, and an indicator carried by said guide-frame for indicating the height of said frame from the floor, substantially as described.



807,309. **FAUCET.** JOHN F. OTT, Warren, Pa., assignor to The Rushlin Company, Warren, Pa., a Corporation of Pennsylvania. Filed Aug. 11, 1904. Serial No. 220,268.



Claim.—1. A faucet having a chamber provided internally with an annular flange and with inlet and outlet portions opening into said chamber at opposite sides of said flange, a cage having a packing in its bottom arranged to seat against the upper side of the flange and peripherally perforated for the passage of water, a removable sleeve fitted into the upper side of the faucet and removably united with the upper portion of the cage, a packing-ring between the sleeve and cage and in engagement with the body of the faucet, a cap-nut threaded onto the upper side of the faucet and engaging said sleeve, a packing fitted in the upper side of the cage, means actuated by the sleeve for holding the last-mentioned packing in place, a spindle extending through the sleeve, gasket and cage, and a valve arranged to be opened by the spindle and having two seating portions, one to normally fit against the first-mentioned packing and the other to fit against the under side of said flange when the cage is removed.

2. A faucet having a chamber provided internally with an annular flange and with inlet and outlet portions opening into said chamber at opposite sides of said flange, a cage having a packing in its bottom arranged to seat against the upper side of the flange and peripherally perforated for the passage of water, a removable sleeve fitted into the upper side of the faucet and removably united with the upper portion of the cage, a packing-ring between the sleeve and cage and in engagement with the body of the faucet, a cap-nut threaded onto the upper side of the faucet and engaging said sleeve, a packing fitted in the upper side of the cage, means actuated by the sleeve for holding said last-mentioned packing in place, a spindle extending through the sleeve, gasket and cage, and a valve having two seating portions, one to normally fit against the first-mentioned packing and the other to seat against the under side of said flange when the cage and packing carried thereby are removed, and said valve having a perforated boss extending freely into the cage for receiving the lower end of said spindle.

807,310. **BASE FOR GARMENT-FORMS.** EMIL T. PALMENBERG, New York, N. Y. Filed July 6, 1905. Serial No. 268,366.

Claim.—1. A base for garment-forms having feet displaying footwear and stockings, the feet being pivotally and adjustably mounted on the base.



2. A base for garment-forms having pivotally-mounted and laterally-adjustable feet.

3. A base for garment-forms having feet covered by shoes and stockings, and a rearwardly-extending brace for the said feet.

4. A base for garment-forms having feet covered by shoes and stockings, and a rearwardly-extending brace for the said feet and adapted to be raised or lowered to tilt the form more or less.

5. A base for garment-forms provided with a socket for receiving the supporting-post of the garment-form, and feet pivotally and adjustably secured to the said socket.

6. A base for garment-forms provided with a socket for receiving the supporting-post of the garment-form, and feet pivoted to and laterally adjustable on the said socket and covered with shoes and stockings.

7. A base for garment-forms provided with a socket for receiving the supporting-post of the garment-form, feet secured to the said socket, and a rearwardly-extending brace adjustably secured to the said socket.

8. A base for garment-forms provided with a socket for receiving the supporting-post of the garment-form, feet covered with shoes and stockings, and means for securing the feet to the base, whereby the feet may be turned and adjusted to and from the socket.

9. A base for garment-forms provided with a socket for receiving the supporting-post of the garment-form, feet covered with shoes and stockings and adjustably secured to the said socket, and a rearwardly-extending brace adjustably secured to the said socket.

10. A base for garment-forms comprising a socket for the reception of the supporting-post of the garment-form, the socket having slotted flanges extending laterally from the socket, and feet having bolts adjustably engaging the said slotted flanges.

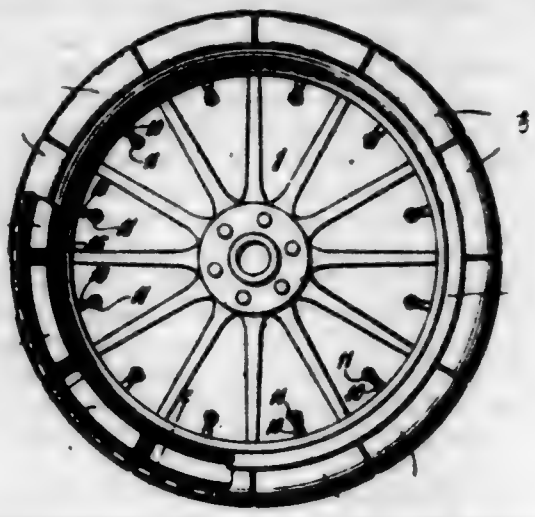
11. A base for garment-forms comprising a socket for the reception of the supporting-post of the garment-form, the socket having slotted flanges extending laterally from the socket, the slots of the flanges being diverging, and feet having bolts adjustably engaging the said slotted flanges.

12. A base for garment-forms comprising a socket for the reception of the supporting-post of the garment-form, the socket having slotted flanges extending laterally from the socket, the said socket also having an apertured lug at its rear, feet covered with shoes and stockings, bolts for adjustably connecting the said feet with the said flanges, a rear brace engaging the said apertured lug, and a set-screw for fastening the said rear brace in place in the said lug.

807,311. **TIRE FOR VEHICLES.** RUFUS B. PARKER, Hartford, Conn. Filed Feb. 25, 1905. Serial No. 247,261.

Claim.—1. The combination, with a wheel, of a plurality of tire units each conforming to the periphery of said wheel; a circular binder for clamping the units to the wheel; and devices secured to the wheel and serving to separate the units from each other.

2. The combination, with a wheel, of grooved tire units; a wear-resisting device inserted in the groove of each unit; and a circumferential binder for securing the units to the wheel, said binder serving as a tread-surface should any of the units collapse.



3. The combination, with a wheel, of tire units fitted to the periphery thereof; separators secured to, and projecting from, said periphery between each pair of tire units; and a metallic binder for securing the tire units to said periphery, said binder serving as a tread-surface should any of the units collapse.

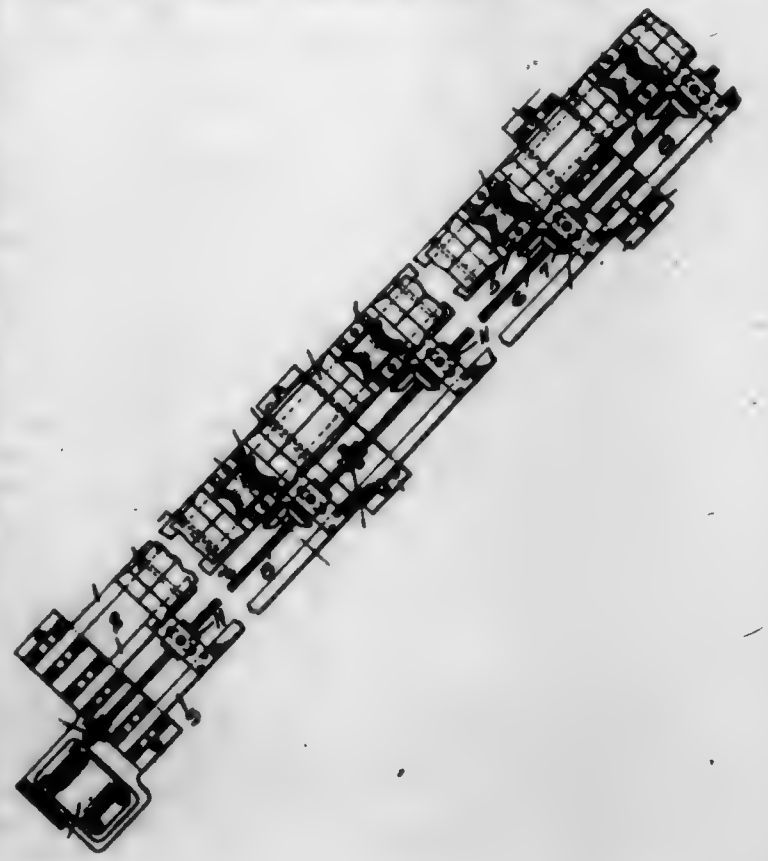
4. The combination, with a wheel, of a plurality of tire units, each having a groove; a flanged wear-resisting device passing through each groove; and a circumferential binder bearing against said wear-resisting device, and serving to secure the units to said wheel.

5. The combination, with a wheel, of pneumatic-tire units secured to the periphery thereof; a circumferential binder; and separating devices projecting from the felly, and each having a notch to receive the binder, should one of the units collapse.

6. The combination, with a vehicle-wheel, of a series of pneumatic-tire units arranged circumferentially thereof, and each having a groove and a tread portion on each side of said groove; a wear-resisting device passing through each groove; a binder fitted over the wear-resisting device; and separators for sustaining said binder when a unit collapses.

7. The combination, with a vehicle-wheel, of a series of separators spaced apart on, and secured to, the rim thereof; a series of grooved tire units curved to conform to the rim, and prevented from engaging each other by said separators; and a binder fitted in the grooves of the units below the tread, and serving to fasten said units to said rim.

807,312. **CONVEYING-TROUGH.** PETER C. PATTERSON, McKeesport, Pa., assignor to National Tube Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Jan. 23, 1904. Serial No. 190,283.



Claim.—1. In conveyers for tube and like mills, the combination with a series of rollers, a longitudinal driving-shaft, intermeshing bevel-gears on said rollers and shaft, the gears on the shaft being provided with journal-sleeves slidable on and rotatable with said shaft, and means for rotating said shaft.

2. In conveyers for tube and like mills, the combination of a frame, a series of rollers mounted therein, a longitudinal driving-shaft, coöperating bevel-gears on said rollers and longitudinal shaft, the gears on said shaft being provided with journal-sleeves having collars and being provided with polygonal openings therethrough, said longitudinal shaft being polygonal in cross-section and slidable in said journal-sleeves, bearings in which said journal-sleeves are mounted, and means for rotating said longitudinal shaft.

3. In conveyers for tube and like mills, a frame comprising sections having longitudinal members meeting at their ends, uniting means therefor arranged to permit endwise movement of said members, rollers mounted on said frame, a longitudinal power-driven shaft, and coöperating gearing between said rollers and shaft.

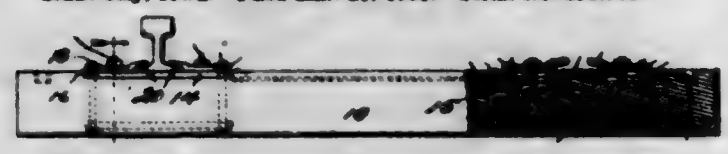
4. In conveyers for tube and like mills, the combination of a frame comprising sections having longitudinal members meeting at their ends, said members being provided with oblong slots in their ends, connecting-plates provided with bosses extending into said slots, bolts extending through said connecting-plates and bosses, rollers mounted in said frame, and a longitudinal driving-shaft geared to said rollers.

5. In conveyers for tube and like mills, the combinaton with a frame, rollers mounted therein, a longitudinal shaft geared to said rollers, power means for driving said shaft, and a coupling member between said power means and shaft so arranged as to permit longitudinal movement of the shaft.

6. In conveyers for tube and like mills, the combination of a frame comprising longitudinal members placed end to end, connections between said members arranged to permit longitudinal movement thereof, rollers mounted in said frame, a sectional longitudinal shaft, connecting-gearing between said shaft and rollers, a coupling member for uniting the ends of adjacent shaft-sections and so arranged as to permit longitudinal movement thereof, and means for rotating said shaft.

7. A conveying-trough for tube and like mills, comprising three beams, trough members connecting the middle beam and one side beam, grooved rollers, bearings therefor mounted on said beams, a longitudinal shaft geared to said rollers, and bearing members for said shaft connecting the middle beam and the other side beam.

807,313. CONCRETE RAILROAD-TIE. CHARLES PELNULDER, Grant City, Iowa. Filed Mar. 20, 1905. Serial No. 251,378.



Claim.—1. In a concrete railway-tie, a metal plate embedded in its bottom portion, a corresponding plate, provided with longitudinal slots in its end portions, embedded in the top portion and means for connecting the two plates.

2. A concrete railway-tie, having a metal plate embedded in the bottom part of its end portion, bolts fixed in the plate to project upward and a second plate fixed to the tops of the bolts and embedded in the top surface of the tie and a box fixed to the under side of the second and upper plate to inclose the head of a bolt, in the manner set forth.

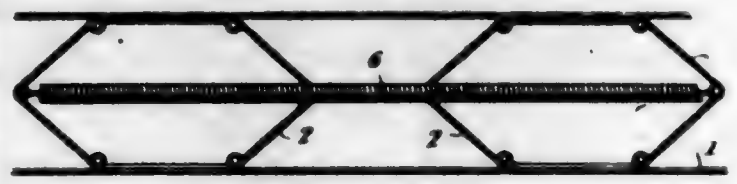
3. A concrete railway-tie having a metal plate embedded in the bottom part of its end portion, bolts fixed in the plate to project upward, a second plate fixed to the tops of the bolts and embedded in the top surface of the tie, a box fixed to the under side of the second and upper plate, slots in the end portions of the second and upper plate, a bolt extended up through the slot and provided with a square head to engage the box on the under side of the plate and rail-clamps adjustably connected with the top of the plate by means of the bolts in the manner set forth.

4. A concrete railway-tie having two metal plates embedded in each end at its top and a cavity between the plates, as shown and described.

5. A railway-tie comprising a concrete main portion, metal plates embedded in the bottom of its end portions, bolts fixed in the plates to project upward, metal plates fixed to the tops of the bolts and embedded in the top surface of the tie and connected by a metal bar embedded in the tie, boxes fixed to the under sides of the top plates, bolts extended from the boxes up through slots in the plates, and rail-clamps adjustably connected with the plates by means of the bolts, in the manner set forth, for the purpose stated.

6. A railway-tie comprising a concrete main portion, metal plates embedded in the bottom of its end portions, bolts fixed in the plates to project upward, metal plates fixed to the tops of the bolts and embedded in the top surface of the tie, boxes fixed to the under sides of the top plates, bolts extended from the boxes up through slots in the plates, rail-clamps adjustably connected with the plates by means of the bolts and metal plates embedded in parallel position in the top and end portions of the tie and cavities between the plates, in the manner set forth for the purpose stated.

807,314. SPRING-SEAT. SAMUEL PEPPLE, Smithville, Tex. Filed Feb. 18, 1905. Serial No. 246,277.



Claim.—1. The combination with a base and a seat, of pivotally-connected leaves arranged in duplicate pairs at opposite ends of the seat, and means connecting the remote pivots of the respective pairs, said means being arranged intermediate the ends of the seat.

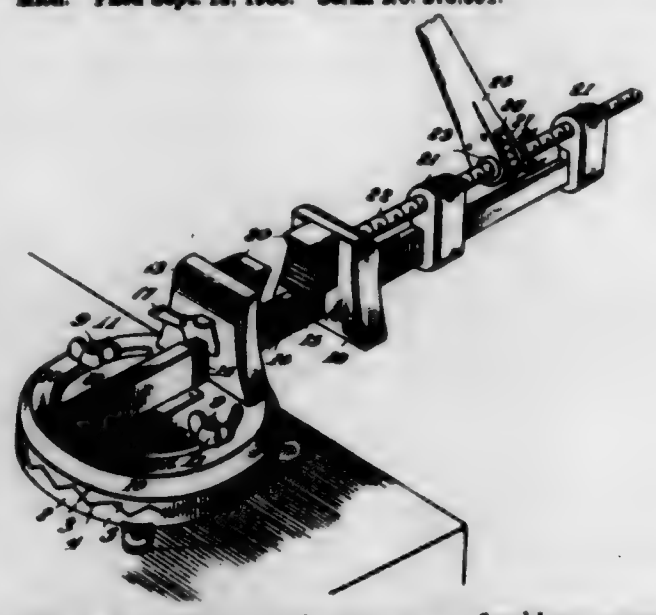
2. The combination with a base, and a seat; of leaves hinged to the base and seat and to each other, rods forming pivots for the end leaves, coiled springs connecting said rods, and coiled springs connecting the pivots of the adjoining pairs of leaves.

3. The combination with a base, and a seat; of leaves hinged thereto in pairs, said leaves being pivoted together, rods forming pivots of the end leaves, coiled springs connecting the rods, equalizing-bars extending inwardly from the cross-rods, guide-strips extending from the pivots of the inner pairs of leaves and inclosing the equalizing-bars, and springs upon the bars for controlling the movement thereof.

4. The combination with a base, and a seat; of leaves hinged thereto and to each other to form pairs which are oppositely arranged alternately, coiled springs connecting the pivots of every two adjoining pairs, cross-rods forming pivots of the end pairs of leaves, equalizing-bars extending inwardly therefrom, guide-rods forming the pivots of the inner pairs of leaves and inclosing the equalizing-bars, stops upon said bars, and coiled springs upon the bars and interposed between the guide-bars and the lugs.

5. A seat-support comprising a plurality of pivoted members arranged in similar pairs at opposite ends of the seat, means for connecting the remote members of each pair, and means for connecting the contiguous member of each pair.

807,315. VISE. EDGARD PERRON and FRANCIS A. JEFFS, Rockland, Mich. Filed Sept. 18, 1905. Serial No. 278,991.



Claim.—1. A vise comprising a support, a fixed jaw, an arm provided with two bearings 21, a movable jaw slidable on said arm, a shifting-rod connected with said movable jaw and provided between the bearings with a sleeve or collar rigidly connected thereto, and a manipulating handle or lever mounted on said sleeve and provided with two oppositely-acting pawls, either one of which is susceptible of engagement with the ratchet.

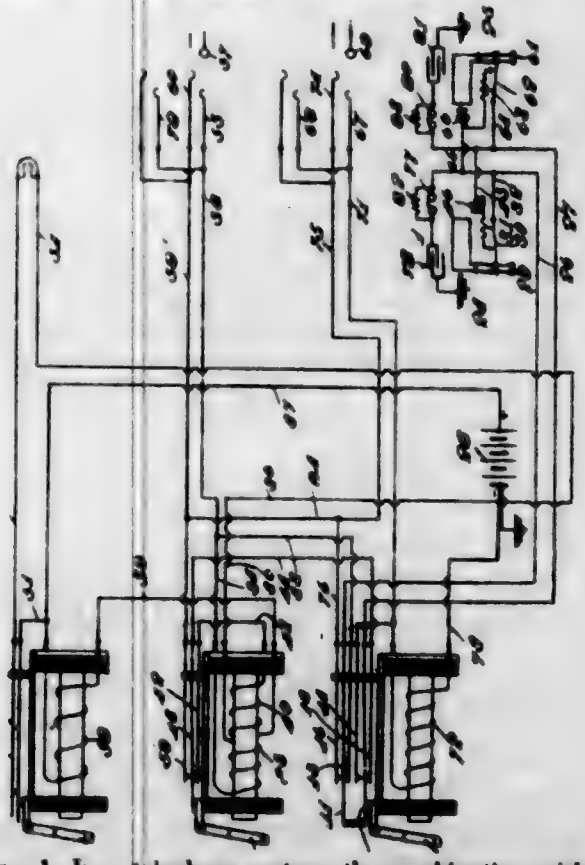
2. A vise comprising a support, a fixed jaw, a longitudinally-slidable vise-arm on said support and provided at its outer end with spaced-apart bearings, a movable jaw slidable on said arm, a shifting-rod mounted in said bearings and connected to said movable jaw, and a manipulating-handle mounted on said rod between the bearings.

3. A vise comprising a support, a fixed jaw, thereon, a longitudinally-slidable vise-arm provided at its outer end with two spaced-apart bearings, a movable jaw slidable on said arm and connected to said rod, a sleeve rigidly secured to said rod, and a manipulating-handle provided with a pawl engaging said sleeve.

4. A vise comprising a support, a fixed jaw thereon, a vise-arm longitudinally adjustable on said support, and provided at its outer end with two spaced-apart bearings, a movable jaw mounted to slide on said arm, a shifting-rod mounted in said bearings and connected to said movable jaw, a sleeve mounted on said rod between the bearings and provided with a ratchet-flange, and an actuating-handle having a bifurcated end mounted on said sleeve and embracing said ratchet-flange and provided with two pawls, either one of which is susceptible to engagement with the ratchet.

5. A vise comprising two superposed disks arranged for axial adjustment and constituting a support, a fixed jaw rising from the upper face of one of said disks and provided on its rear face with a pivoted dog, a longitudinally-extending sleeve 12 secured to the upper disk back of the jaw, the latter having an opening in alinement with the sleeve, a vise-arm having a notched end inserted through said jaw and into said sleeve and slidable therethrough, the notches thereof being designed for engagement by said dog, and said arm provided at its other end with two spaced-apart bearings, a movable jaw mounted on said arm, a shifting-rod mounted on said bearings and connected to said movable jaw, and a manipulating-handle mounted on the rod between said bearings and designed to actuate said rod.

807,316. **TELEPHONIC SYSTEM.** ROBERT H. POLE, Birmingham, Ala. Filed Jan. 19, 1904. Serial No. 189,603.



Claim.—1. In a telephone system, the combination with two sets of receiving and transmitting instruments, and a single metallic talking-circuit therefor, of an electric signal device on each side of said circuit, one of said signal devices being designed to be actuated by current supplied through one side of said circuit, and electrically-actuated means for reversing the sides of said circuit for supplying said current to the other of said signal devices.

2. In a telephone system, the combination with a plurality of sets of receiving and transmitting instruments, of a plurality of sets of contact-plates spaced apart, a switch interposed between each set of plates normally contacting with one of said plates, a full metallic talking-circuit common to all of said sets of receiving and transmitting instruments and to one of the plates of each of said sets of plates, and to said switches, a grounded electric signal on each side of said circuit, one for each of said sets of receiving and transmitting instruments, and means for moving said switches for causing the same to contact with the opposite plates for reversing the line-wires for changing the signal-circuits.

3. In a telephone system, the combination of two sets of receiving and transmitting instruments, and a single metallic talking-circuit therefor, of an electric signal device on each side of said circuit, one of said signal devices being designed to be actuated through current supplied through one side of said circuit, a plurality of switches interposed in said metallic circuit, and a plurality of plates also interposed in said circuit, and electric means for moving said switches out of contact with some of said plates and into contact with others of said plates for reversing the sides of said circuit for supplying current to the other of said signal devices.

4. In a telephone system, the combination with a plurality of receiving and transmitting instruments, and a circuit common to the same, of an electric signal on each side of said circuit, a grounded conductor for each of said signals, a condenser interposed in the length of each of said grounded conductors, and a resistance shunted across each signal and forming a path for the discharge from the respective condenser.

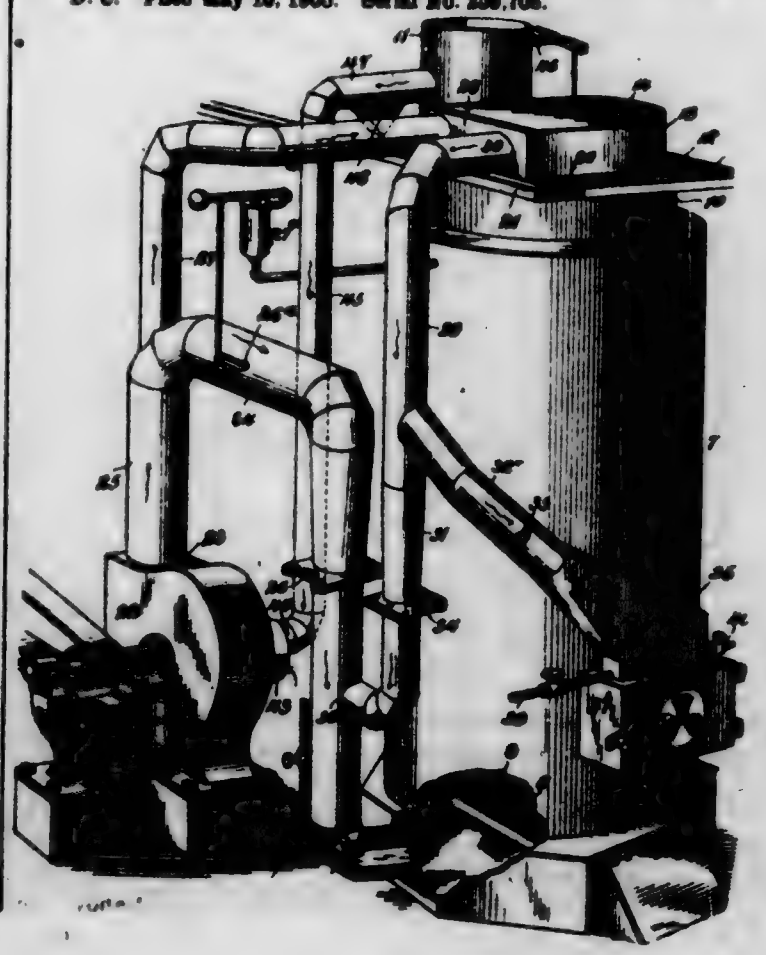
5. In a telephone system, the combination with a set of receiving and transmitting instruments, and a circuit therefor, of an electric signal on one side of said circuit, a grounded conductor for said signal, a condenser interposed in the length of said grounded conductor, and a resistance shunted across said signal for forming a path for the discharge from said condenser independent of said signal.

6. In a telephone system, the combination with a plurality of receiving and transmitting instruments and a circuit common to the same, of a signal-coil on each side of said circuit, a wire grounding said coil, a condenser interposed in the length of said wires, and an impedance-coil shunted across each of said coils.

7. In a telephonic system, the combination with a plurality of sets of receiving and transmitting instruments, a circuit common to all of said sets, an electric signal for each of said sets connected with one side of said circuit and grounded at the other side, the winding of each signal being of comparatively high resistance, a condenser interposed between each of said signals and ground, and an impedance-coil of lower resistance shunted across the coil of each of said signals.

8. In a telephone system, the combination with a plurality of sets of receiving and transmitting instruments and a talking-circuit common to the same, of an electric signal for each of said sets, each signal having a circuit including one side of said talking-circuit and ground, a condenser interposed between each of said signals and ground, and means for preventing operation of the signals by the discharge from the condensers upon closing of the talking-circuit of either instrument.

807,317. **SMOKE-CONSUMER.** JAMES RANDALL, Washington, D. C. Filed May 10, 1905. Serial No. 259,706.



Claim.—1. In a smoke-consumer, the combination with a boiler having a stack and a furnace provided with a grate, of a heater having an indirect passage-way therethrough, an air-conducting pipe leading from the heater and having branches communicating with the boiler-furnace above and below the grate, a fan having an open air-inlet, an outlet-pipe from the fan communicating with the heater, and a return-pipe communicating with the stack and having a delivery end of less diameter than the fan-inlet and projecting into the same, said fan thereby delivering commingled air and products of combustion to the outlet-pipe.

2. In a smoke-consumer, the combination with a boiler having a furnace, of a fan, a direct trunk-pipe connection between the fan and furnace, a heater associated with the boiler, means for delivering air from the fan to the heater, and a discharge-pipe leading from the heater having branches, one of which communicates directly with the trunk prior to its connection to the furnace, to temper the air passing through the trunk, the other branch being connected directly to the furnace.

3. In a smoke-consumer, the combination with a boiler having a furnace and a grate therein, of a fan, a trunk directly connecting the fan and the furnace below the grate, a heater constituting a part of the boiler, means for delivering air from the fan to the heater, a discharge-pipe from the heater having branches, one of which communicates with the trunk prior to its connection to the furnace, to temper the air passing through the trunk, the other branch being connected directly to the furnace above the grate, and separate valves located in the branches for separately controlling the passage of air through the same.

4. In a smoke-consumer, the combination with a boiler having a furnace, of a fan, a trunk directly connecting the fan and furnace, a heater located at one end of the boiler and heated therefrom, means for delivering air to the heater, an outlet-pipe from the heater having branches, one of which communicates with the trunk between the fan and furnace, the other branch being connected directly to the furnace, a valve located in the trunk between the fan and branch connection, and a valve located in each of the branches for separately controlling the passage of air therethrough.

5. In a smoke-consumer, the combination with a boiler-furnace having a grate, of a fan, a trunk directly connecting the fan and furnace below the grate, a heater, means for delivering air to the heater, and a discharge-pipe from the heater having branches, one of which communicates with the trunk prior to its connection with the furnace, to temper the air passing through said trunk, the other branch being connected and delivering to the furnace above the grate.

6. In a smoke-consumer, the combination with a boiler having a furnace provided with a grate, of a fan, a trunk directly connecting the outlet from the fan and the furnace below the grate, a heater constituting one end of the boiler, a supply-pipe for the heater communicating with the trunk, an outlet-pipe from the heater having branches, one of said branches communicating with the furnace above the grate, the other of said branches communicating with the trunk in advance of its communication with the furnace, and gates for controlling the passage of air through the branches of the heater outlet-pipe.

7. In a smoke-consumer, the combination with a boiler having a furnace provided with a grate, a smoke-box, and a stack leading from the smoke-box, of a heater having one of its walls forming a wall of the smoke-box, said heater being provided with an indirect passage-way therethrough, a fan having an inlet, a return-pipe leading from the stack and having a discharge end of less diameter than the fan-inlet and inserted into the same, a trunk leading from the outlet of the fan and communicating with the furnace below the grate, a supply-pipe leading from the trunk to the heater, and an outlet-pipe leading from the heater and having branches communicating with the trunk and with the furnace above the grate.

8. In a smoke-consumer, the combination with a boiler-furnace having a door and grate, of a fan, a trunk leading from the fan and delivering to the furnace below the grate, a heater, a pipe leading from the trunk and delivering to the heater, an outlet-pipe from the heater having branches, one of which is connected to the trunk prior to its connection with the furnace, the other delivering to the furnace above the grate and over the door, a valve in the trunk between the fan and branch connection, a valve in said branch connection with the trunk, and a valve in the branch that communicates with the furnace.

9. In a smoke-consumer, the combination with a boiler having a furnace provided with a grate and a doorway located above the grate, of means for supplying air to the furnace, said means comprising a fan, a heater associated with the boiler, a downwardly-extending discharge-nozzle opening downwardly above and into the doorway, and a rearwardly and downwardly extending deflector disposed beneath the discharge-opening in the nozzle and located above the doorway.

10. In a smoke-consumer, the combination with a furnace provided with a grate and an outwardly-projecting door-frame having a doorway therethrough, of means for supplying air to the furnace, said means comprising a fan, a heater, a pipe leading from the heater and having a downwardly-extending flaring nozzle located exteriorly of the furnace and communicating with the furnace from the projecting top of the door-frame, and a deflector located within said frame and over the doorway therethrough.

11. In a smoke-consumer, the combination with a boiler having a furnace and a smoke-box, of a hollow heater-body closing the outer end of the smoke-box and having partitions therein forming an indirect passage-way having an inlet and an outlet, a stationary wall having inlet and outlet openings that communicate with the inlet and outlet of the heater-body passage-way when said body is in place upon the boiler, said body being movable to and from a position adjacent to the wall, an outlet-pipe leading from the outlet-opening of the wall to the furnace, a fan, and a pipe leading from the fan to the inlet-opening of the said wall.

12. In a smoke-consumer, the combination with a boiler having a furnace and a smoke-box, of a frame arranged adjacent to the box, a hollow heater-body hinged to the frame and closing the outer end of the smoke-box, said body having an indirect passage-way therethrough and being provided with spaced inlet and outlet openings, a stationary wall carried by the frame and having inlet and outlet openings that aline with the corresponding openings in the heater-body when said body is in place upon the boiler, an outlet-pipe leading from the outlet-opening of the wall to the furnace, a fan, and a pipe leading from the outlet of the fan to the inlet-opening of said wall.

13. In a smoke-consumer, the combination with a boiler having a furnace provided with a grate, a smoke-box, and a stack leading from the smoke-box, of a heater having one of its walls forming a wall of the smoke-box, said heater being provided with an indirect passage-way therethrough, a fan having an inlet, a return-pipe leading from the stack and having a discharge end inserted into the inlet of the fan, a trunk leading from the outlet of the fan and communicating with the furnace, a supply-pipe leading from the trunk to the heater, and an outlet-pipe leading from the heater and communicating with the furnace.

14. In a smoke-consumer, the combination with a boiler having a stack and a furnace provided with a grate, of a heater having an indirect passage-way therethrough, an air-conducting pipe leading from the heater and having branches communicating with the boiler-furnace, a fan having an inlet, an outlet-pipe from the fan communicating with the heater, and a return-pipe communicating with the stack and having a delivery end projecting into the fan-inlet and of less diameter than the same to permit the introduction of fresh air with the products of combustion.

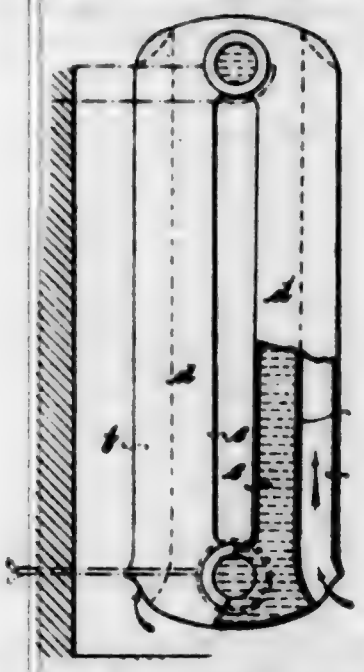
15. In a smoke-consumer, the combination with a boiler having a furnace and a stack, of a heater, a fan having a fresh-air inlet, a return-pipe leading from the stack and connected to the fan, said return-pipe permitting the inlet of fresh air to the fan, a trunk for carrying a portion of the mixture of products of combustion and fresh air from the fan to the furnace, a conduit for carrying a portion of the mixture of fresh air and products of combustion to the heater, and a conduit for conducting the heated mixture from the heater to the furnace.

16. In a smoke-consumer, the combination with a boiler having a furnace and a stack, said furnace being provided with a grate, of a heater located on the boiler, a fan having a fresh-air inlet, a return-pipe leading from the stack and connected to the fan, said return-pipe permitting the inlet of fresh air to the fan, a trunk for carrying a portion of the mixture of products of combustion and fresh air below the grate, a conduit for carrying a portion of the mixture of fresh air and products of combustion from the fan to the heater, and a conduit leading from the heater and having branches, one of which is connected to the trunk, the other being connected to the furnace above the grate.

807,318. HEATING DEVICE FOR CENTRAL-HEATING SYSTEMS. FRIEDRICH O. RICHTER, Dessau, Germany. Filed Mar. 8, 1904. Serial No. 197,681.

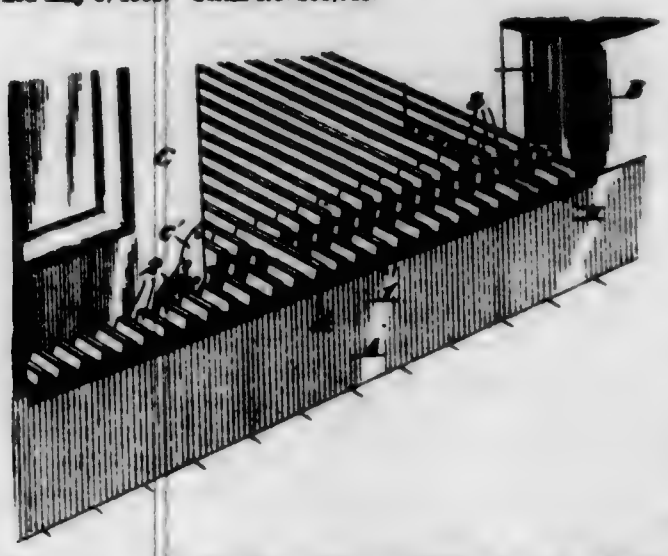
Claim.—1. A radiator element provided with a passage for the heating medium, and an internal partition connecting the side walls of said element and dividing off said passage from the front outer wall.

3. A radiator element provided with an internal partition connecting the side walls of the same and extending substantially throughout the length thereof, said element being provided at each end in front of said partition with an opening communicating with the passage formed by the latter at the front of said element.



3. A radiator element comprising a passage for the heating medium, and an air-passage parallel thereto, said passages having a common wall, said air-passage being open at each end of said element and having its open portions similarly disposed.

807,319. CAR-DOOR GUIDE. EDWARD T. ROBINSON, St. Louis, Mo., assignor to St. Louis Car Company, St. Louis, Mo., a Corporation. Filed May 3, 1905. Serial No. 258,718.



Claim.—1. A metallic door-guide consisting of a plate having ribs extending transversely thereof at its upper side, and having a guideway extending longitudinally of the plate substantially as set forth.

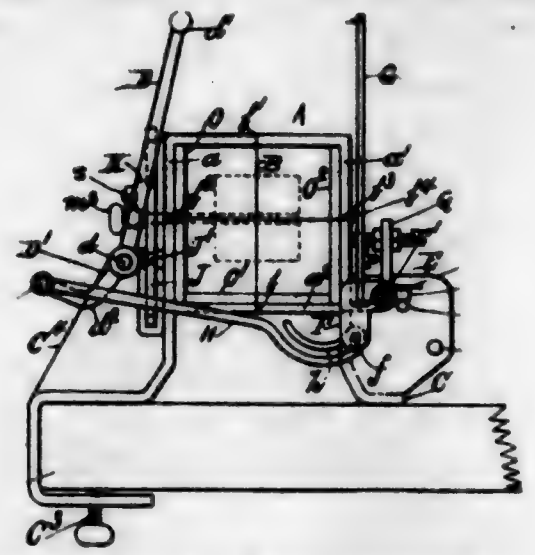
2. A metallic door-guide consisting of a plate having ribs extending transversely thereof; said ribs being spaced apart at their ends to provide a guideway extending longitudinally of the plate, substantially as set forth.

3. A metallic door-guide consisting of a plate having ribs at its upper side arranged in pairs and having their facing ends separated, and guide-studs located between the facing ends of said ribs, substantially as set forth.

4. A metallic door-guide consisting of a plate having ribs at its upper side arranged in pairs and having their facing ends separated, guide-studs located between the facing ends of said ribs, and a stop-rib extending continuously across said plate at its longitudinal center and separating said pairs of ribs, substantially as set forth.

807,320. BUTTER-CUTTING MACHINE. JOHN B. M. V. ROTTINGER, New York, N. Y., assignor of one-half to J. Frederick Scheffer, New York, N. Y. Filed Feb. 24, 1905. Serial No. 247,142.

Claim.—1. The combination of a trough, dividing-wires on one end thereof, a cutter journaled at said end, a link adjustably connected with the cutter, means to move the cutter past the said dividing-wires in the end of the trough, means to release the link from the cutter, and means to restore the cutter to its original position.



2. The combination of a trough, dividing-wires on one end thereof, a lever carrying a cutter journaled at one end of the trough and on one side thereof, a bell-crank journaled on the other side of the trough, a link connecting the bell-crank and the said lever, a releasing-pin adjacent to the lever and in the path of the link, to release the latter from the said lever.

3. The combination of a trough, dividing-wires on one end thereof, a cutter on said end, a lever journaled at one side of the trough and near the said end thereof, a bell-crank journaled in the path of the said lever and adapted to actuate the same, a rack-bar journaled on said lever, a guide-bar supported adjacent to one side of the trough, a sleeve on the guide-bar arranged to engage with the rack-bar and a pusher in the trough connected with said sleeve.

4. The combination of a trough, dividing-wires on one end thereof, a bracket extending from the trough on one side thereof, a lever carrying a cutter journaled on the said bracket, a pin extending from the lever, a spring interposed between the lever and bracket to restore the lever with its cutter in a vertical position, a releasing-pin extending from the bracket, a second bracket extending from the trough and on the other side thereof, a bell-crank journaled to the second bracket, a link connecting the bell-crank and the lever journaled to the said first bracket, the link moving in the path of the said releasing-pin, and a pusher in the trough actuated by virtue of the movements of the bell-crank.

5. The combination of a trough, dividing-wires on one end thereof, a cutter on said end, a lever with arms journaled at one side of the trough and near the said end thereof, a bell-crank journaled in the path of the arms of said lever and adapted to move the latter, a rack-bar adjustably journaled in a slot in the lever having the arms, a guide-bar supported adjacent to the outside of the trough, a sleeve on the bar, a pusher in the trough connected with said sleeve, a tooth extending from the sleeve and arranged to mesh with the teeth of the rack-lever.

6. The combination of a trough, dividing-wires on one end thereof, a spring-actuated cutter on said end, a pusher in the trough, and a handle on the pusher to actuate the latter.

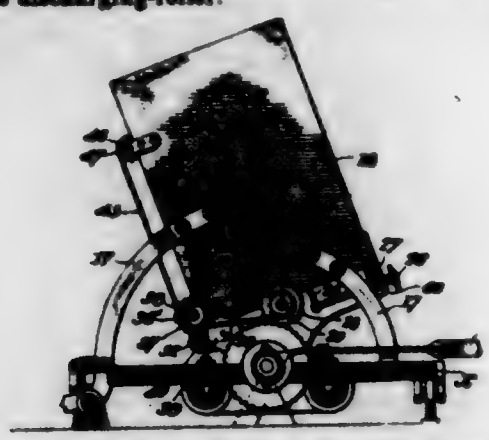
7. The combination of a trough, dividing-wires on one end thereof, a cutter-frame with a cutting-wire at one end of the trough, a spring to restore the cutter-frame with its wire in a vertical position, a lever journaled near the end of the trough and carrying a cutter-frame, a link journaled to the lever on a pin extending from the latter, means to move the link with the said lever, cutter frame and wire, from a vertical position across the end of the trough to a horizontal position, a pin in the path of the link to disengage the said link from the lever with which it is journaled, and thereby allow the cutter-frame with its appurtenances to return to a vertical position, and a pusher in the trough.

8. The combination of a trough, dividing-wires on one end thereof, stationary plates in the trough, an adjustable plate in the trough, a cutter actuating on one end of the trough, a pusher in the trough, and means to actuate the latter.

807,321. PAPER AND ENVELOP FEEDING ATTACHMENT FOR TYPE-WRITERS. SAMUEL D. RUTH, Beatrice, Nebr. Filed Oct. 31, 1904. Serial No. 230,795.

Claim.—1. In a feed attachment for type-writing machines, a casing having an inclined bottom provided with a discharge-slot, a

pair of feed-rollers arranged below and adapted to engage articles delivered from the slot, gearing connections between one of said rollers and the roller-platen of the machine, a discharging-roller having its periphery extending within the casing at a point immediately above the slot, and gearing connections between the driven feed-roller and the discharging-roller.



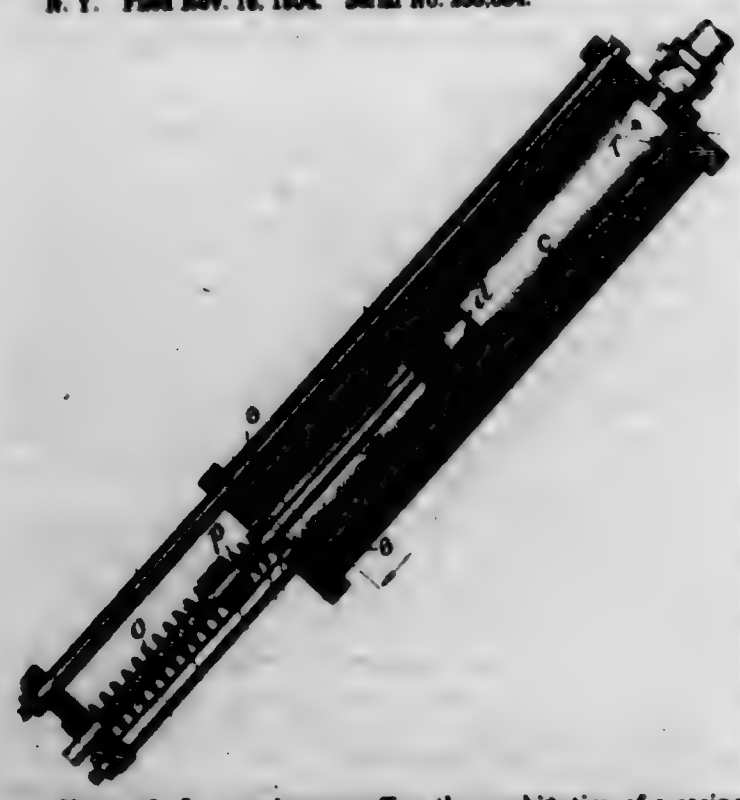
2. In a feed attachment for type-writing machines, a casing having a delivery-slot, a pair of feed-rollers arranged under the slot and adapted to engage articles discharged therethrough, gearing connections between the feed-rollers and the roller-platen of the machine, a pair of discharging-rollers arranged in spaced relation at the front of the casing and having their peripheries extending within said casing, and gearing connections between the feed-rollers and the discharging-rollers.

3. In a feed attachment for type-writing machines, of a slotted casing, a pair of feed-rolls in alinement with the slot, main and auxiliary rollers having portions of their peripheries extending within the casing, gearing connections between the several rollers, and means for connecting and disconnecting the auxiliary roller and gearing connections.

4. The combination with a casing having an inclined bottom, and provided with a discharge-slot, of a false bottom arranged for the support of the contents of the casing, and adjustable to alter the width of the slot, said false bottom serving when adjusted to carry with it the contents of the box, feed-rollers arranged under the slot, discharging-rollers having their peripheries extending within the casing, and gearing connections between the several rollers and the roller-platen of the machine.

5. The combination in the carriage, of a roller-platen, a shaft carrying said roller-platen, a gear-wheel mounted loosely on the shaft, means for clutching the gear-wheel to the shaft, a slotted casing, feed-rolls for discharging articles therefrom, to a position in alinement with the roller-platen, and gearing connections between the gear-wheel and said feeding-rolls.

807,322. **EXHAUST-MUFFLER.** HENRY R. SELDEN, Rochester, N. Y. Filed Nov. 16, 1904. Serial No. 233,084.



Claim.—1. In an exhaust-muffler, the combination of a casing into which the exhaust is delivered and which is always open to receive the exhaust, and spring-operated means fitting in said casing, to receive the force of the exhaust and to allow the burned gases to expand, said casing being provided with means whereby the burned gases may escape therefrom, substantially as described.

2. In an exhaust-muffler, the combination of a casing into which the exhaust is delivered, and a spring-controlled piston movably located in said casing, said casing being provided with means for allowing the burned gases to escape therefrom, substantially as described.

3. In an exhaust-muffler, the combination of a cylinder provided with outlet-ports, one end of said cylinder being open to the atmosphere and the other end connected with the exhaust-pipe, a piston freely movable in said cylinder, a piston-rod connected to said piston, and a spring supported by said rod, substantially as described.

4. In an exhaust-muffler, the combination of a casing into which the burned gases are delivered, spring-controlled means located in said casing for receiving the shock of the exhaust, and a plurality of receptacles into which the burned gases are successively delivered from said casing, substantially as described.

5. In an exhaust-muffler, the combination of a cylinder provided with outlet-ports, one end of said cylinder being open to the air and the other connected to the exhaust-pipe of the engine, a piston freely movable in said cylinder, a piston-rod fastened to said piston, a spring supported by said piston-rod, and a plurality of receptacles into which the gases successively pass after leaving said cylinder, substantially as described.

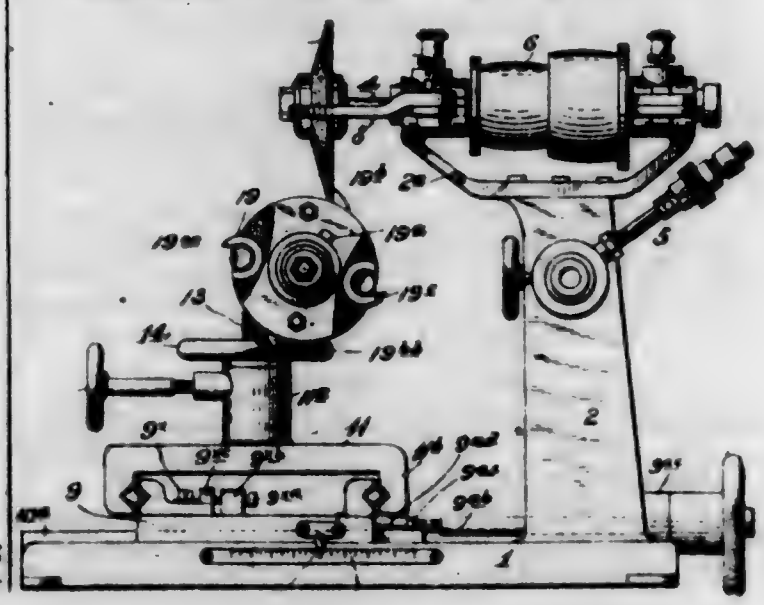
6. In an exhaust-muffler, the combination of a series of concentric cylinders each provided with exhaust-ports, whereby communication is established between said cylinders, one of said cylinders being connected to the exhaust-pipe of an engine, and a spring-controlled piston located in one of said cylinders and freely movable therein, substantially as described.

7. In an exhaust-muffler, the combination of a plurality of concentric cylinders each provided with a series of outlet-ports, the inner cylinder having one end open to the air, and the other end connected with the exhaust-pipe of an engine, a piston freely movable in said inner cylinder, a piston-rod connected to said piston, and a spring surrounding said rod, substantially as described.

8. In an exhaust-muffler, the combination of a plurality of concentric cylinders each provided with a series of exhaust-ports, said exhaust-ports being located near the opposite ends of said cylinders respectively, one end of the innermost cylinder being open to the air, and the other end connected to the exhaust-pipe of an engine, a piston freely movable in said innermost cylinder, a piston-rod connected to said piston, and a spring supported on said piston-rod, substantially as described.

9. In an exhaust-muffler, the combination of a plurality of concentrically-arranged cylinders each provided with outlet-ports, flanged heads supporting said cylinders, a piston freely movable in the innermost cylinder, a piston-rod fastened to said piston, a third head supported at a distance from one of said heads, tie-rods passing through all three of said heads, thimbles keeping two of said heads at the proper distance apart, said piston-rod passing through two of said heads, a collar on said piston-rod, and springs mounted one on each side of said collar, substantially as described.

807,323. **GRINDING-MACHINE.** ELMER S. SHIMER and GEORGE S. SHIMER, Milton, Pa., assignors to Samuel J. Shimer and Sons, Incorporated, Milton, Pa. Filed Dec. 28, 1904. Serial No. 238,647.



Claim.—1. A machine of the character described, employing a grinding-tool, two carriages mounted one upon the other and traveling in directions at right angles to each other, one of said carriages having lateral recessed portions opposed to upstanding recessed parts adjunctive of the other carriage, and ball-bearings arranged intermediately of said recessed parts, and support bearing the object operated upon by said grinding-tool and carried by one of said carriages.

2. A machine of the character described, comprising a grinding-tool, a carriage adapted to travel in a direction at right angles to the axial plane of the shaft of said grinding-tool, a second carriage mounted upon the aforesaid carriage to travel in a direction parallel to said axial plane and bearing a post, an adjusting-screw arranged in connection with said post, a bracket or arm having a collar-like formation embracing said screw at its upper end and having indicia thereon arranged with relation to a central right line produced upon said end of said screw for guidance in adjusting said bracket to the right or left, said bracket adapted to carry the object to be operated upon by said grinding tool.

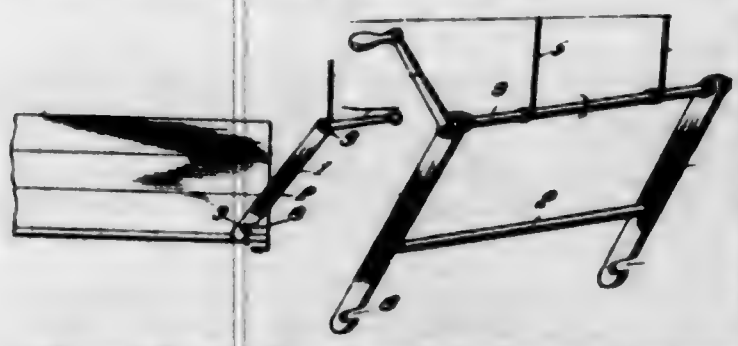
3. A machine of the character described, comprising a grinding-wheel, a bracket, an adjustable means of support for said bracket, means for carrying said bracket-support, adapted to be moved in a direction at right angles to the axial plane of the shaft of said grinding-wheel, said bracket having a mandrel or spindle member for carrying the object to be operated upon by said grinding-wheel and held by a bearing let into an annular groove of said spindle, within a tubular portion of said bracket, and a holding-screw working in said tubular portion and engaging said bearing and means adapted to bear said bracket-support-carrying means, traveling in a line parallel to said axial plane.

4. A machine of the character described, comprising a grinding-tool, a carriage for supporting the object to be operated upon by said grinding-tool, a second carriage bearing the aforesaid carriage, and itself suitably supported in position and having upstanding longitudinally-recessed members opposed to correspondingly-recessed members of the first-referred-to carriage, between which members are arranged ball-bearings, one of said members being adjustable or movable toward and away from its opposite or companion member.

5. A machine of the character described, comprising a grinding-tool, a carriage for supporting the object to be operated upon by said tool, adapted to travel in a line at right angles to the axial plane of the shaft of said tool, a second carriage bearing the aforesaid carriage and adapted to travel in a line parallel to said axial plane, and having upstanding longitudinally-recessed members opposed to correspondingly-recessed members of the first-referred-to carriage, one of said members being adjustable or movable toward and away from its opposite or companion member, and ball-bearings arranged in the opposite recesses in said members.

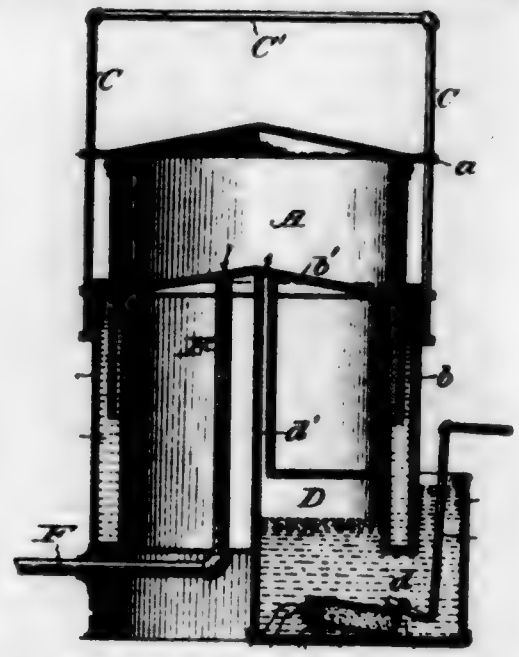
6. A machine of the character described, comprising a grinding-tool, a carriage adapted to travel in a line at right angles to the axial plane of the shaft of said tool, a second carriage bearing the aforesaid carriage and adapted to travel in a line parallel to said axial plane, a post adapted to be borne by the aforesaid carriage, a vertically-adjustable screw working in said post, and a bracket carried by said screw, equipped with a spindle or mandrel for carrying the object to be operated upon by said grinding-wheel and angularly adjustable in said bracket.

807,324. **WAGON-BODY LIFTER.** JOHN H. SIMONTON, Brighton, Tenn. Filed Sept. 21, 1905. Serial No. 279,493.



Claim.—A lifting appliance for wagon-bodies comprising transversely-spaced end pieces, having end portions free and provided with hooks and adapted to receive between them the wagon-body to be elevated, said hooks adapted to make positive connection with outer projections at the sides of the wagon-body to hold the appliance in suspension and in proper position, a tie connecting said end pieces at a point between their ends and adapted to engage with the end of the wagon-body and to act jointly with the hooks and projections to retain the device in operative position, and a windlass journaled in opposite ends of said end pieces and serving to connect and brace the same.

807,325. **ACETYLENE-GENERATOR.** WILLIAM SINCLAIR, San Antonio, Tex. Filed Mar. 27, 1905. Serial No. 252,220.



Claim.—1. In combination, a gasometer having a water-containing generating-chamber and a water-containing leg communicating at bottom with such generating-chamber; with a carbid-charging vessel having a mouth, a cover for closing said mouth, a spring for holding said cover closed while the charger is in use, and means whereby the vessel may be introduced mouth downward through the leg and moved into the generating-chamber, substantially as and for the purpose described.

2. In combination, a gasometer having an interior water-containing generating-chamber and an exterior water-containing leg communicating at bottom with such generating-chamber; with a carbid-charging vessel having a mouth, a conoidal-shaped cover for closing said mouth, and a spring for holding said cover closed during the operation of the charger; with means whereby said charging vessel may be introduced mouth downward through the leg and into the generating-chamber, substantially as and for the purpose described.

3. In combination with a gasometer having a water-containing generating-chamber, and a water-containing leg communicating at bottom with such generating-chamber, of a carbid-charger comprising a holder open at one end, a cover closing the mouth of said holder, a rod attached to said cover and bent over and alongside the holder, guides for said rod on the holder, a spring for holding the cover closed, and means for introducing the holder mouth downward through the leg and into the generating-chamber, substantially as described.

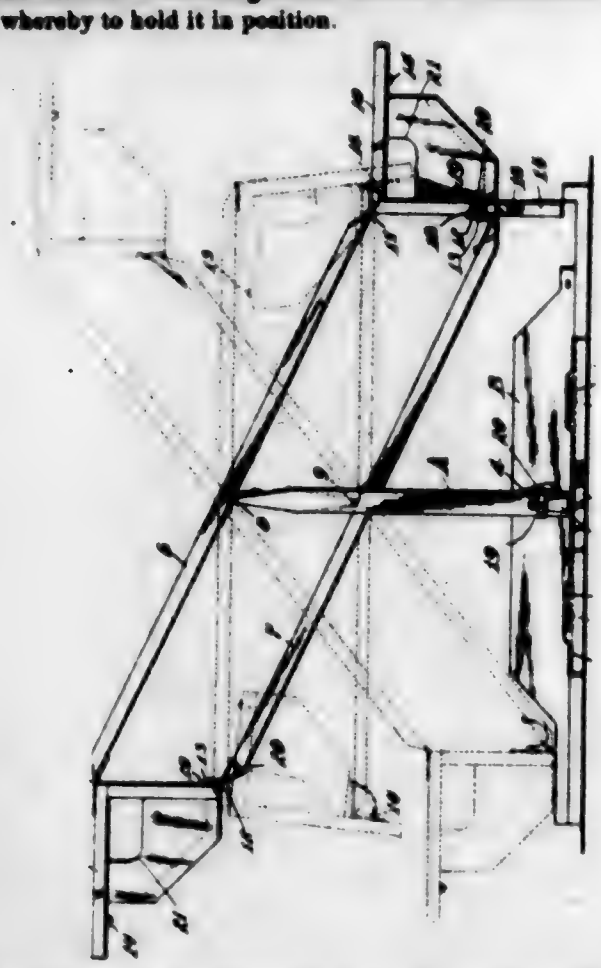
4. A carbid-charging device for acetylene-gas generators, comprising a holder open at one end, a cover for closing the open end of said holder, a rod movable in guides on the holder having its forward end connected to the cover, a spring on said rod for holding the cover normally closed, perforations in the cover for admitting water into the holder, and a handle-rod having its lower end pivotally connected to the holder, all substantially as and for the purpose described

5. The herein-described carbid-charging device for acetylene-gas generators, comprising a holder open at one end, a conoidal-shaped cover for closing the open end of said holder, a rod movable in guides on the side of the holder, and having its forward end bent over and connected to the cover, a spring on said rod for holding the cover normally closed, perforations in the cover for admitting air into the holder, and a handle-rod having its lower end bent upwardly and pivotally connected to the rear or closed end of said holder, all substantially as and for the purpose described.

807,326. **SEESAW.** EDWIN D. SMITH, Pittsburg, Pa. Filed Feb. 8, 1905. Serial No. 244,959.

Claim.—1. A seesaw comprising a base, a post erected therefrom, boards pivotally supported on the post, seats hinged to the ends of the boards, and means connected with the base for securing one end of the seesaw in its lowered position whereby the seesaw is held stationary and converted into a slide.

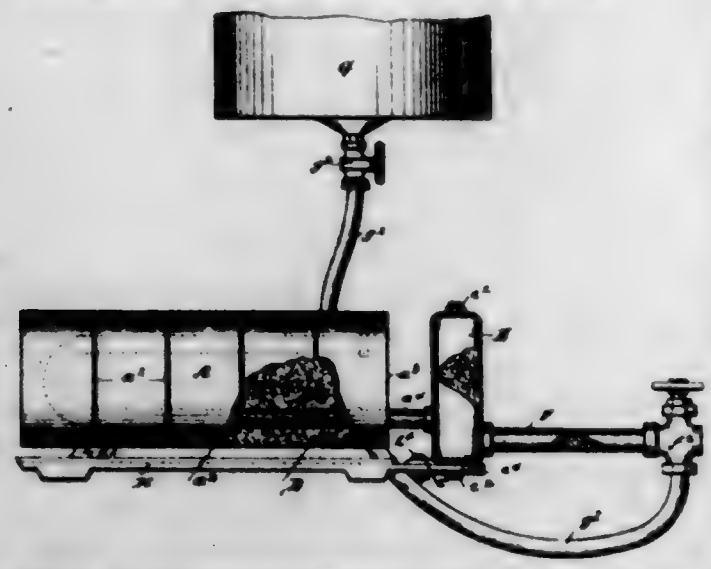
2. A seesaw comprising a base, a post erected therefrom, boards pivotally supported on the post, seats hinged to the ends of the boards, and means connected with the base for securing one end of the seesaw in its lowered position whereby the seesaw is held stationary and converted into a slide, said means consisting of a hinged section of the base and a fastening device thereon for attachment to the seesaw whereby to hold it in position.



3. The combination with a base and post, of boards hinged to the post, seats hinged to the boards, the lower hinges in the form of hasps, removably secured to the lower ends of the seats and capable of being secured to the outer ends of the latter whereby to fasten the seats either in their normal horizontal positions or in their folded positions.

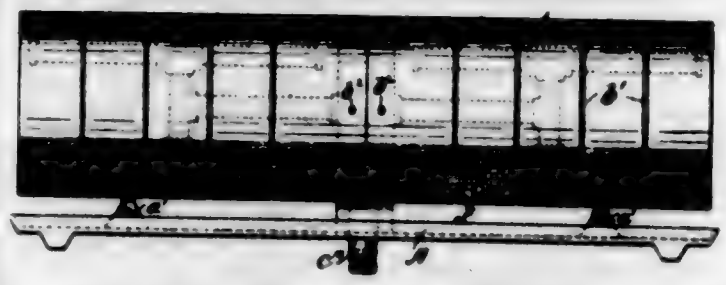
4. The combination in a seesaw, of a base having a recess in its lower edge, a section pivotally mounted therein, a hinged section capable of being folded into a horizontal or upright position, boards, a post upon which the boards are pivotally supported, seats hinged to the boards, and means on the hinged section of the base for securing it to the base or to one of the seats.

807,327. HYDROCARBON-FLUID BURNER. ELY SPENCER, Jacksonville, Fla. Filed Dec. 14, 1904. Serial No. 236,776.



Claim.—In a burner for hydrocarbon fluids, a cylindrical burner having semi-annular slots and packed with a non-combustible absorbent, means for distributing fluid throughout said burner consisting of a pipe bent in U shape and having holes therethrough, a fluid-storage reservoir arranged exteriorly of said burner and communicating with said bent pipe, said reservoir supplied with a packing material, means for conducting fluid to said reservoir, a base supporting said burner and reservoir and means for detachably connecting the reservoir to the base.

807,328. HYDROCARBON-FLUID BURNER. ELY SPENCER, Jacksonville, Fla. Filed Mar. 6, 1905. Serial No. 248,632.

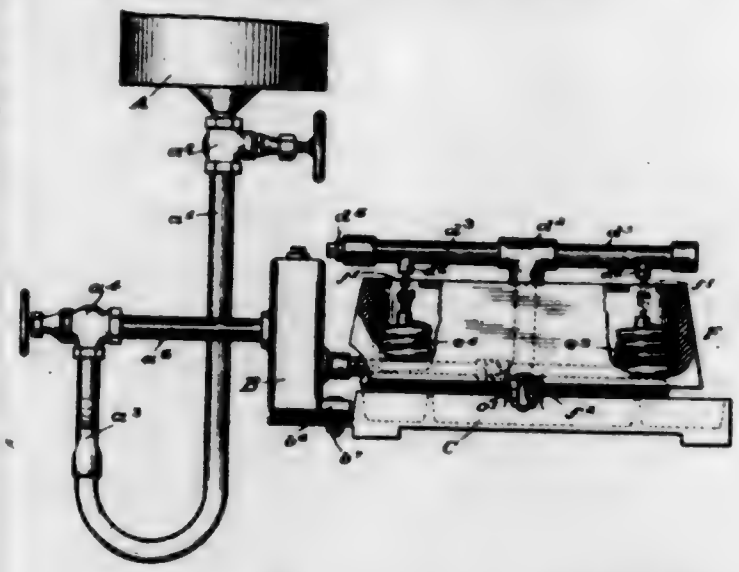


Claim.—1. In a hydrocarbon-fluid burner of the class described, a cylinder having a plurality of spaced slots and packed with a suitable non-combustible absorbent material, a fluid-reservoir arranged centrally of said burner and having fluid inlet and outlet openings in its walls, in combination with fluid-distributing perforated pipes connected with said reservoir and extending throughout said burner, said reservoir provided with a suitable absorbent and non-combustible packing, and means for introducing fluid into said reservoir.

2. In a hydrocarbon-fluid burner of the class described, a cylinder having a plurality of spaced slots and packed with a suitable non-combustible absorbent material, a fluid-reservoir arranged centrally of said burner and having discharge-openings in its opposite walls, in combination with fluid-distributing means connected with said reservoir and extending throughout said burner, said means consisting of a supply-pipe connected with the center of parallel perforated pipes having closed ends, and means for introducing fluid to said reservoir.

3. In a hydrocarbon-fluid burner, a cylindrical burner having slots in its sides and bottom and packed with a suitable absorbent and non-combustible material, a reservoir arranged centrally of said burner and formed with a central chamber and with pockets surrounding said chamber, said pockets packed with a protecting material, means communicating with the central chamber of said burner and adapted to distribute the fluid throughout said burner.

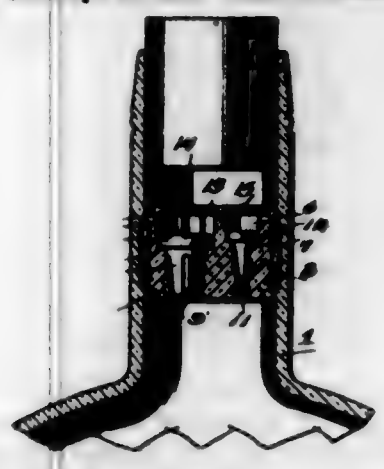
807,329. HYDROCARBON-BURNER. ELY SPENCER, Jacksonville, Fla. Filed Mar. 23, 1905. Serial No. 251,560.



Claim.—1. In a hydrocarbon-burner, combustion-chambers having openings at the top, gas-generating coils arranged in said chambers and having apertures therein, means for conducting fluid to said coils from a suitable supply-tank, fluid-distributing pipes having apertures registering with the apertures in said coils, means for conveying fluid to said distributing-pipes, said means being controlled independently of the coil fluid-supply means.

2. In a hydrocarbon-burner, a dome having combustion-chambers therein and provided with an open bottom and with openings in its top, gas-generating coils arranged in said chambers and having apertures therein arranged below the openings in said dome, means for conducting fluid to said coils from a suitable supply-tank, fluid-distributing pipes adapted to project fluid upon said coils, and means for conveying fluid to said distributing-pipes, said conveying and conducting means comprising a storage-reservoir and independently-controlled pipes.

907,380. **STOPPER FOR BOTTLES.** GEORGE STANICH, Galveston, Tex. Filed Apr. 19, 1906. Serial No. 312,251.



Claim.—1. A bottle and its neck, a body seated in the latter and provided with a discharge and an inlet passage, said passages being of relatively different sizes and having valve-seats, valves movably disposed in the passages to close on said seats and housed wholly within the body, the latter having its normally upper end recessed, and a shield seated and secured in said recess and provided with a discharge and an inlet opening of relatively different sizes and adapted to communicate with the respective passages, the inner face of the shield being concaved at points surrounding the openings.

2. A bottle and its neck, a body seated in the latter and provided with a discharge-passage having a valve-seat, a valve movably disposed in the passage to close on said seat and housed wholly within the body, said valve having its outer end face provided with radial recesses and its side wall grooved longitudinally and a shield fixed at the outer end of the body above the said valve and provided with a discharge-opening and an air-inlet opening, said openings being of relatively different sizes and the inner face of the shield concaved throughout a portion of its area around said openings.

807,381. **WIRE-STRETCHER.** WARREN A. STUBER, Harford, Pa. Filed Mar. 23, 1905. Serial No. 251,661.

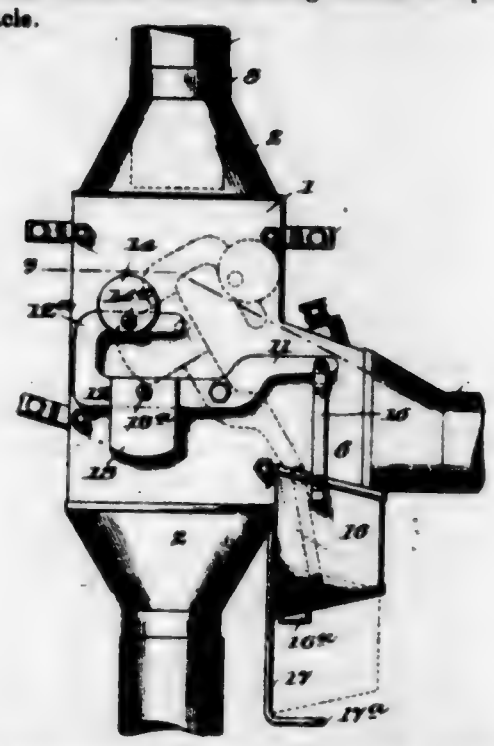


Claim.—A wire-fence tool comprising a handle member, means carried thereby for gripping the wire and hooks secured at one end of the handle member to engage a post or the like, said hooks being duplicates and inserted in vertical alinement in the end of the handle member, the hook-terminals projecting in reverse directions.

807,382. **CISTERN CUT-OFF.** GEORGE S. STUART, Hollidaysburg, Pa. Filed Mar. 3, 1905. Serial No. 248,227.

Claim.—1. In a cistern cut-off, the combination with a casing provided with a main and an auxiliary outlet-pipe, controlling means for the outflow of water and a water-receptacle for operating same, of a valve-casing, within said auxiliary outlet-pipe, above said water-receptacle provided with rearwardly-directed passages, and a valve operating within said casing between said passages and water-receptacle.

2. In a cistern cut-off, the combination with a casing provided with a main and auxiliary outlet-pipe, of controlling means for the outflow of water, means for operating said controlling means comprising a water-receptacle connected therewith, a valve-casing within said auxiliary pipe extending forwardly therein and having a valve-bore and a longitudinal web forming rearwardly-directed passage-ways communicating with said valve-bore, and a hollow valve mounted in said bore and communicating between said passage-ways and receptacle.



3. In a cistern cut-off, the combination with a casing provided with a main and auxiliary outlet-pipe, of controlling means for the outflow of water, means for operating said controlling means comprising a water-receptacle connected therewith, a valve-casing within said auxiliary pipe extending forwardly therein and having a valve-bore, a rearwardly-disposed longitudinal web terminating at said valve-bore forming rearwardly-directed passage-ways communicating with said bore, and a hollow valve mounted in said bore and communicating between said passage-ways and receptacle.

4. In a cistern cut-off, the combination with a casing provided with a main and auxiliary outlet-pipe, of controlling means for the outflow of water, means for operating said controlling means comprising a water-receptacle connected therewith, a valve-casing within said auxiliary pipe extending forwardly and upwardly therein and having a valve-bore, a rearwardly-disposed longitudinal web terminating at said valve-bore forming rearwardly-directed passage-ways communicating with said bore, transversely-disposed deflecting-shoulders formed at the forward end of said web, and a hollow valve mounted in said bore and communicating between said passage-ways and receptacle.

5. In a cistern cut-off, the combination with a casing provided with a main and auxiliary outlet-pipe, of controlling means for the outflow of water, means for operating said controlling means comprising a water-receptacle connected therewith, a valve-casing within said auxiliary pipe extending forwardly therein and having a valve-bore, a longitudinal web having rearwardly-converging faces terminating at said bore and forming rearwardly-directed passage-ways communicating with said valve-bore, and a hollow slotted tubular valve mounted in said bore and communicating between said passage-ways and receptacle.

6. In a cistern cut-off, the combination with a casing provided with a main and auxiliary outlet-pipe, of controlling means for the outflow of water, means for operating said controlling means comprising a water-receptacle connected therewith, a valve-casing within said auxiliary pipe extending forwardly therein and having a valve-bore, a longitudinal web having rearwardly-converging faces terminating in a knife-edge at said bore and forming rearwardly-directed passage-ways communicating with said valve-bore, and a hollow slotted tubular valve mounted on said bore and communicating between said passage-ways and receptacle, the said knife-edge adapted to contact the tubular valve.

7. In a cistern cut-off, the combination with a casing provided with a main and auxiliary outlet-pipe, of controlling means for the outflow of water, means for operating said controlling means comprising a water-receptacle connected therewith, a valve-casing within said auxiliary pipe extending forwardly and upwardly therein and having a valve-bore, a longitudinal web having rearwardly-con-

verging faces terminating in a knife-edge at said bore and forming rearwardly-directed passage-ways communicating with said valve-bore, transversely-disposed deflecting-shoulders formed at the forward end of said web, and a hollow slotted tubular valve mounted in said bore and communicating between said passage-ways and receptacle, the said knife-edge adapted to contact the tubular valve.

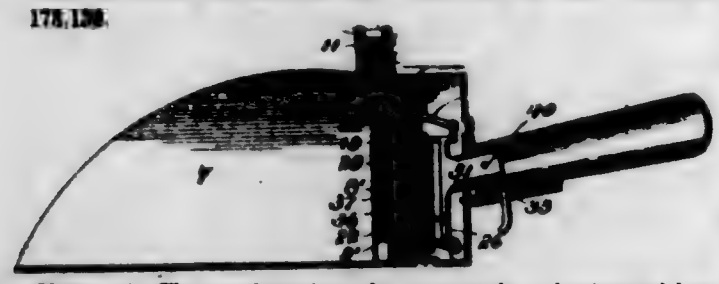
8. In a cistern cut-off, the combination with a casing provided with a main and auxiliary outlet-pipe, of controlling means for the outflow of water, means for operating said controlling means comprising a water-receptacle connected therewith, a valve-casing within said auxiliary pipe extending forwardly therein comprising a solid rear portion terminating forwardly in short spaced walls having beveled forward edges, forming a substantially U-shaped valve-bore provided with a flaring opening, a longitudinal web having rearwardly-converging faces terminating in a knife-edge within said U-shaped bore and coöperating to form rearwardly-directed passage-ways, having enlarged transversely-disposed openings at their forward ends, and a hollow slotted tubular valve mounted in said bore and communicating between said passage-ways and receptacle, the said knife-edge adapted to contact the tubular valve.

9. In a cistern cut-off, the combination with a casing provided with an inlet and a main and auxiliary outlet-pipe, the auxiliary pipe having a leak-opening therein, a pivoted trough operating between said outlets, levers carried by the axis of said trough, having a U-shaped weight-arm with counterbalancing-weights thereon disposed in different horizontal planes and means for adjusting the position of same, relatively to each other, longitudinally of said U-shaped weight-arm, and a water-receptacle located beneath said leak-opening and pivotally suspended from the power-arms of said levers.

10. In a cistern cut-off, the combination with a casing provided with an inlet and a main and auxiliary outlet-pipe, the auxiliary pipe having a leak-opening therein, a pivoted trough operating between said outlets, levers carried by the axis of said trough, having a U-shaped weight-arm with adjustable counterbalancing-weights thereon disposed in different horizontal planes and means for adjusting the position of same, relatively to each other, longitudinally of said U-shaped weight-arm, means for positively securing said weights in position when so adjusted, and a water-receptacle located beneath said leak-opening and pivotally suspended from the power-arms of said levers.

11. In a cistern cut-off, the combination with a casing comprising a body portion provided with an inlet and a main and auxiliary outlet, of controlling means for the outflow of water through said outlets, a water-receptacle connected to and operating said controlling means, and means for emptying said receptacle comprising an automatically-operated valve adapted to be opened upon the descent of said receptacle and closed upon its ascent.

807,333. CONTENTS-INDICATOR FOR RECEPTACLES. ARTHUR L. SWANK, Battlecreek, Mich. Filed Oct. 22, 1903. Serial No. 178,138.



Claim.—1. The combination of a receptacle, a horizontal handle therefor with reference to which the receptacle is vertically movable, and mechanism mounted on the receptacle and connected with the handle for indicating data relative to the contents of the receptacle.

2. The combination of a receptacle, a handle therefor relatively to which the receptacle is vertically movable, an indicator mounted on the receptacle and actuated by the vertical movement thereof, and a scale along which the indicator moves.

3. The combination of a receptacle, a handle therefor relatively to which the receptacle is vertically movable, an indicator pivoted on the receptacle, a connection between the indicator and the handle whereby the vertical movement of said receptacle will actuate the indicator, and a scale along which the indicator moves.

4. The combination of a receptacle, a handle therefor relatively to which the receptacle is vertically movable, an indicator pivoted on the receptacle and movable transversely of the handle by the vertical movement of the receptacle, and a scale along which the indicator moves.

5. The combination of a receptacle, a horizontally-extending handle therefor relatively to which the receptacle is vertically movable, a vertical indicator that is movable transversely of the handle by the vertical movement of the receptacle, and a scale along which the indicator moves.

6. The combination of a receptacle, a handle therefor relatively to which the receptacle is vertically movable, an indicator actuated by the vertical movement of the receptacle and a scale on the receptacle and along which the indicator moves.

7. The combination of a receptacle, a handle therefor relatively to which the receptacle is vertically movable, an indicator actuated by the vertical movement of the receptacle, and a scale on the receptacle extending throughout the width of the receptacle along which the indicator moves.

8. The combination of a receptacle provided with a vertical chamber adjacent thereto, a handle extending into the chamber and relatively to which the receptacle and chamber are vertically movable, and indicating means within said chamber that is actuated by such movement.

9. The combination of a receptacle provided with a vertical chamber adjacent thereto, a handle extending into the chamber through a vertical slot, a connection within the chamber between the receptacle and the handle which permits the vertical movement of the chamber relatively to the handle, and an indicator within the chamber that is actuated by such movement.

10. The combination of a receptacle provided with a vertical chamber adjacent thereto, a handle extending into said chamber through a vertical slot, a spring connected at its upper end with said handle and at its lower end with the lower wall of said chamber, whereby the receptacle is vertically movable relatively to the handle, and an indicator in said chamber that is actuated by such movement.

11. The combination of a receptacle with a vertical chamber adjacent thereto, a handle extending into said chamber through a vertical slot, a spring connected with said handle that supports said receptacle and chamber and permits their vertical movement, upper and lower pivoted arms connecting said receptacle and handle for maintaining the relative position of said handle and receptacle, and an indicator in said chamber that is actuated by the vertical movement of said receptacle.

12. The combination of a receptacle provided with a vertical chamber adjacent thereto, a handle extending into the chamber with reference to which said receptacle and chamber are vertically movable, a spring for holding the receptacle and chamber normally in an upper position relatively to the handle, and means mounted on the handle for engaging the wall of said chamber and positively holding said chamber and receptacle in such upper position until the release of said means.

13. The combination of a receptacle, a handle therefor, a spring engaging said parts, and an indicator pivoted to swing transversely between said receptacle and handle, substantially as described.

14. The combination of a receptacle, a handle for the support thereof, a connection between the receptacle and the handle that permits the vertical movement of the receptacle relatively to the handle, and a transversely-movable indicator between said handle and receptacle and pivoted at its lower end centrally between the sides of the receptacle over the bottom thereof, substantially as set forth.

15. The combination of a receptacle, a handle therefor, a connection between the handle and receptacle that permits the vertical movement of the receptacle relatively to the handle, and an indicator pivoted on a fixed support at its lower end to the wall of the receptacle between the handle and receptacle and adapted to swing transversely of the receptacle and operatively connected with said handle near its pivotal point.

16. The combination of a receptacle, a casing secured thereto to form a vertical chamber adjacent said receptacle, a handle independent of said casing, a connection between the handle and the receptacle comprising parallel upper and lower links, a spring connected at one end with said receptacle and at the other end with said handle, and a transversely-movable indicator between said handle and receptacle.

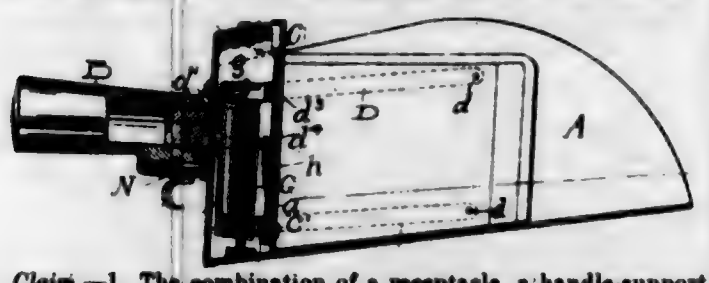
17. The combination of a receptacle, a handle for the support thereof, a connection between the receptacle and handle that permits the vertical movement of the receptacle with reference to the handle, and means for locking the receptacle rigidly to the handle comprising a bolt supported on the handle and slidable lengthwise thereof, substantially as set forth.

18. The combination of a receptacle having a wall that extends transversely of said receptacle, a transversely-extending scale on said wall, a handle, a connection between the handle and the recep-

tacle that permits the vertical movement of the receptacle relatively to the handle, and an indicator pivoted to the receptacle and adapted to indicate the extent of movement of said receptacle.

19. The combination of a receptacle having a wall at one side projecting above the other sides thereof and forming a horizontal ledge, a scale on said ledge that extends transversely of the receptacle, a handle to support the receptacle provided with a vertical plate on its inner end, parallel upper and lower links connecting the upper and lower ends of said plate with said receptacle, a spring connected at its upper end with said plate and at its lower end with said receptacle which permits the vertical movement of said receptacle relatively to the handle, and an indicator fulcrumed on said receptacle with an arm extending from the lower end thereof and pivoted to said vertical plate, whereby the vertical movement of said receptacle will actuate said indicator.

807,334. **AUTOMATIC WEIGHING-SCOOP.** ARTHUR L. SWANK, Cleveland, Ohio, assignor of one-half to H. L. Hess, Ashland, Ohio. Filed Feb. 23, 1904. Renewed Sept. 21, 1905. Serial No. 279,433.



Claim.—1. The combination of a receptacle, a handle-support therefor, a pair of parallel links on each side of the receptacle connected therewith at their front ends and with the handle-support at their rear ends, the receptacle provided with a compartment inclosing said handle-support, and a spring engaging the receptacle with said support and located in said compartment.

2. The combination of a receptacle, a handle-support at the rear of the receptacle, a set of links of equal length pivoted at their rear ends top and bottom to said support and at their front ends at the sides of the receptacle, a spring connecting said support and receptacle, and an indicator pivotally supported on the receptacle and having actuating connections with the handle-support substantially as described.

3. The combination of a handle-support, a receptacle in movable relations to said support, a pair of links of equal length at each side pivotally connected with the said support at their rear ends and with the sides of the receptacle at their front ends, a spring between said support and receptacle, and an indicator having connections with both the support and the receptacle at its lower end, substantially as described.

4. The combination of a receptacle, weighing mechanism therefor provided with parallel upper and lower supporting-links pivoted at the sides of the receptacle approximately near its middle portion, a support carrying the rear ends of said links, a spring engaged at its respective ends with said support and said receptacle, a handle fixed on said support, and an indicator having operative connection with said support and pivoted on said receptacle, substantially as described.

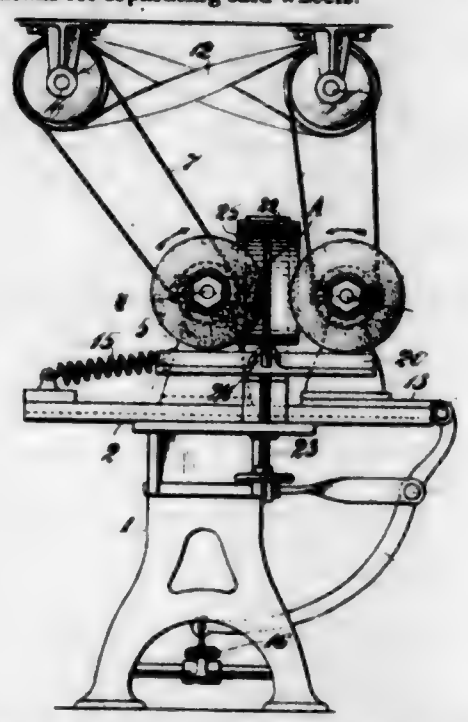
5. The combination of a receptacle, a handle-support in the rear portion thereof, a pair of links of equal length pivoted at their respective ends on each side to said receptacle and support, a spring connecting the receptacle and support, an indicator supported on the receptacle at the rear and bottom thereof having a lateral projection at its lower end, and a link pivotally connected with said projection and said support, substantially as described.

6. The combination of a receptacle, a separate handle-support therefor in the rear of the receptacle, a spring connected at its respective ends with said support and receptacle, an indicator pivoted at the lower part of the receptacle and operatively connected with said support off the pivot thereof, substantially as described.

7. The combination of a receptacle having a compartment rigid therewith, a support for the receptacle independent of said parts and located in said compartment, upper and lower links of equal length pivoted at the sides of the receptacle and on said support at their respective ends, a spring connecting the receptacle and support in said compartment and an indicator operatively connected with both said receptacle and support, substantially as described.

807,335. **BUFFING AND POLISHING MACHINE.** JOHN J. SWEENEY, New York, N. Y. Filed June 16, 1905. Serial No. 265,561.

Claim.—1. A machine for the purpose specified, having two rotatable buffing-wheels, means for rotating said wheels in opposite directions, means actuated by the operative for bringing said wheels together with the desired pressure on the article to be buffed or polished, means for supporting the article between the buffing-wheels, and automatic means for separating said wheels.



2. A machine for the purpose specified, having two rotatable buffing-wheels, means for rotating said wheels in opposite directions, means actuated by the operative for bringing said wheels together with the desired pressure on the article to be buffed or polished, an adjustable non-moving support for the article to rest on while being polished, and automatic means for separating said wheels.

3. A machine for the purpose specified, having two rotatable buffing-wheels, means for rotating said wheels in opposite directions, means actuated by the operative for bringing said wheels together on the article to be buffed or polished, the hinged and channeled and normally non-moving platform to support the article being polished, the screw which regulates the height of said platform, and automatic means for separating the buffing-wheels.

4. A machine for the purpose specified, having two rotatable buffing-wheels, means for rotating said wheels in opposite directions, means actuated by the operative for bringing said wheels together on the article to be buffed or polished, the adjustable non-moving platform to support the article being polished, the yielding limiting stop, and automatic means for separating the buffing-wheels.

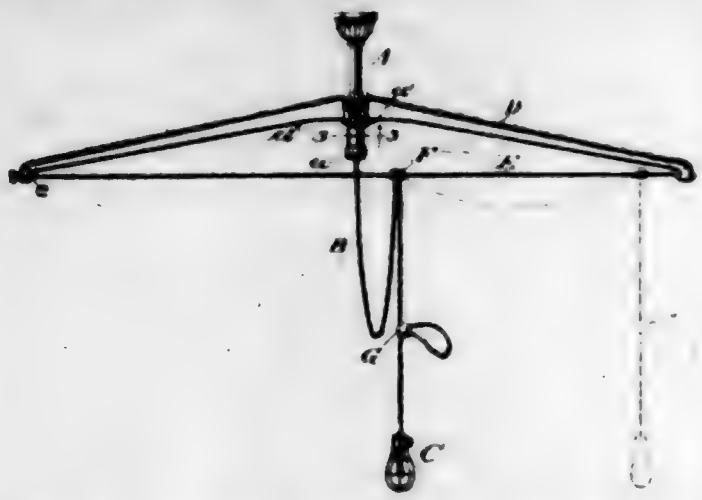
5. A machine for the purpose specified, having two rotatable buffing-wheels, means for rotating said wheels in opposite directions, means actuated by the operative for bringing said wheels together on the article to be buffed or polished, automatic means for separating said wheels, the hinged and channeled non-moving platform 20 to support the article being polished, the means for adjusting the height of said platform, the limiting-stop 25, and the spring 26 back of said stop.

6. A machine for the purpose specified, having two rotatable buffing-wheels, one only of which is movable laterally toward and from the other, means for rotating said wheels in opposite directions, automatic means tending to draw the laterally-movable wheel away from the other wheel, normally operative mechanism for pressing the laterally-movable wheel up toward the other wheel with variable pressures, and a non-moving but adjustable support for the article being polished.

7. A machine for the purpose specified, having two rotatable buffing-wheels, one only of which is movable laterally toward and from the other, means for rotating said wheels in opposite directions, automatic, yielding means for moving the laterally-movable wheel away from the other, an adjustable support for the article being polished, and a treadle mechanism for pressing the laterally-movable wheel up to and against the article being polished.

8. A machine for the purpose specified, having a fixed supporting-bed, a shaft 4 rotatably mounted on said shaft, a buffing-wheel 5 on said shaft, a slidable bed 13 on the fixed bed, a shaft 4^a mounted rotatably on the bed 13, parallel with the shaft 4, a buffing-wheel 5^a on said shaft 4^a, springs 15 for moving the shaft 4^a from the shaft 4 laterally, the treadle mechanism for bringing the wheel 4^a up to the wheel 4, and the adjustable support for the article to be buffed or polished.

807,336. ADJUSTABLE LAMP-HANGER. JOHN H. THOMPSON, Charleston, W. Va., assignor to Universal Electric Equipment Company, Birmingham, Ala., a Corporation of Alabama. Filed Mar. 4, 1905. Serial No. 248,082.



Claim.—1. An adjustable supporting device for suspended electric lamps, the same comprising an elevated frame pivotally mounted to turn or swing about a medial vertical axis, an elevated horizontal way supported by said frame and offset to one side of said axis, a slide or carrier movable on said way, and an electric lamp suspended from said carrier and connected to the electric wires.

2. An adjustable supporting device for suspended electric lamps, the same comprising a vertically-disposed tubular post or hanger containing the electric wires for the lamp, a laterally-extending frame pivotally attached to said post to turn or swing about the same as an axis and comprising oppositely-extending inclined arms, a wire or rod connecting the ends of said arms and held thereby offset to one side of said post and constituting an elevated horizontal way, a carrier movable on said way to which the said electric wires are attached, sufficient slack being provided in the wire between the post and carrier to allow movement of the latter from end to end of the way, and an electric lamp suspended by said electric wires from said carrier.

3. An adjustable supporting device for suspended electric lamps, the same comprising a vertically-disposed post or hanger, a frame pivotally mounted thereon to turn or swing about the same as an axis, said frame consisting of oppositely-extending arms, a horizontally-disposed wire or rod connecting the outer ends of said arms, a spool or other suitable carrier movable on said wire, and an electric lamp suspended from said carrier.

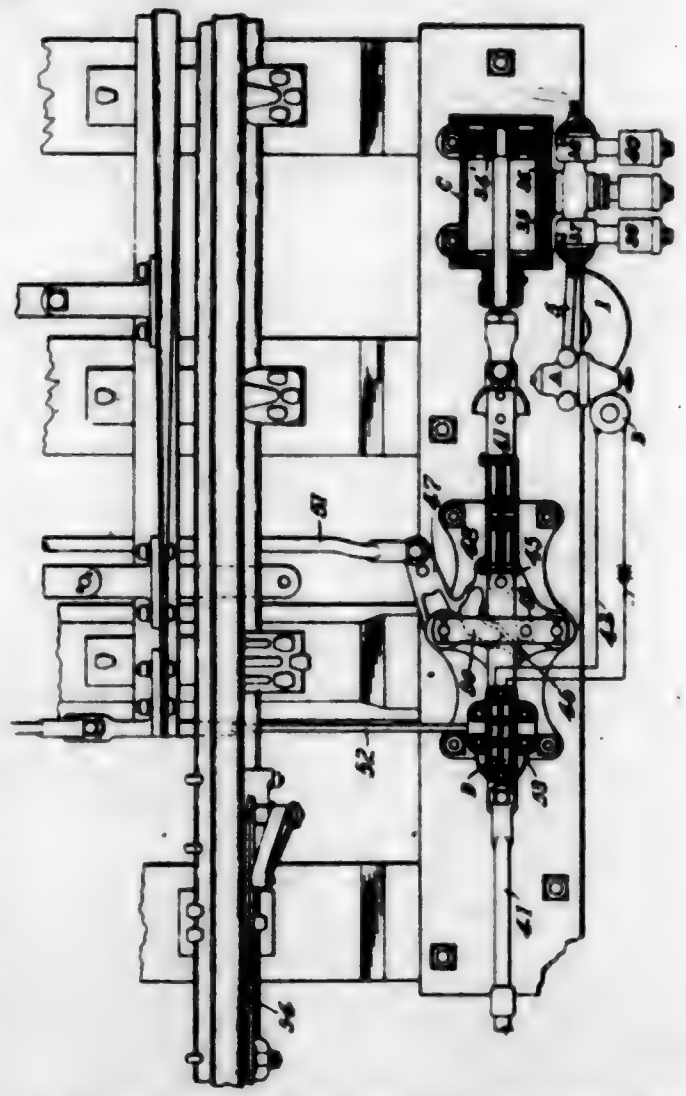
4. An adjustable supporting device for suspended electric lamps, the same comprising a vertically-disposed tubular post or hanger containing the electric wires for the lamp, a frame pivotally mounted on said post to turn or swing horizontally and consisting of oppositely-extending arms connected by a horizontally-disposed taut wire or rod, said wire or rod being offset to one side of said post, a spool or carrier movable on said wire and attached to the said electric wires in which sufficient slack is provided between the carrier and the post to allow the carrier to be moved back and forth upon said wire, and an electric lamp suspended by said electric wires from said carrier.

5. An adjustable supporting device for suspended electric lamps, the same comprising a vertically-disposed post or hanger, a frame pivotally mounted thereon to turn or swing horizontally and comprising oppositely-projecting arms arranged at an angle, a wire or rod connecting the ends of said arms and held offset to one side of said post, and a spool or other suitable carrier movable on said wire and adapted to hold a suspended electric lamp.

6. An adjustable supporting device for suspended electric lamps, the same comprising a vertically-disposed tubular post or hanger adapted for containing the electric wires for the lamp, a frame pivotally mounted on said post to turn or swing horizontally and comprising oppositely-extending arms connected by a horizontally-disposed taut wire or rod, a spool or carrier movable on said wire and adapted for attachment to said electric wires, and means limiting the rotation of said frame to a half-turn.

807,337. SWITCH AND LOCK MOVEMENT AND DETECTOR-BAR. LOUIS E. TAUSSIG, Edgewood, Pa. Filed Aug. 30, 1905. Serial No. 276,077.

Claim.—1. In a fluid-pressure mechanism for operating switch and lock movements and detector-bars connected therewith, the combination of a detector-bar adapted to be operated by fluid-pressure less than that of the reservoir, a switch and lock mechanism operated by reservoir-pressure, and means controlled by the free movement of the detector-bar for increasing the pressure upon the piston from sufficient to move the detector-bar to pressure required to throw the switch.



2. A switch and lock mechanism and a detector-bar operated by the same piston, means to admit pressure upon said piston less than the reservoir pressure during a part of the stroke of said piston for the purpose of operating the detector-bar, and means, controlled by the free movement of the detector-bar, for increasing the said pressure to that of the reservoir during the intermediate part of the stroke of said piston for the purpose of operating the switch mechanism.

3. In a fluid-pressure mechanism for operating switch and lock mechanism and detector-bars connected therewith, the combination of a cylinder, a piston operable therein, means to admit pressure to said cylinder, means to reduce the normal pressure acting upon said piston to a pressure only sufficient to move the detector-bar when unobstructed, and means controlled by the uninterrupted movement of the detector-bar, for increasing the pressure upon the piston to the reservoir-pressure, substantially as described.

4. In a fluid-pressure mechanism for operating switch and lock mechanism and detector-bars connected therewith, the combination of a switch and lock mechanism and a detector-bar operated by the same piston, means for reducing the pressure upon the piston at the beginning and at the end of its stroke and to increase the pressure upon said piston at the intermediate part of its stroke whereby the said piston is actuated by pressure at the beginning and at the end of the stroke only sufficient to move the detector-bar when unobstructed, and at the intermediate portion of its stroke by the maximum or reservoir pressure.

5. In a fluid-pressure switch and lock mechanism, the combination of a reducing-valve located in the fluid-supply pipe, means for reducing the pressure in the operating-cylinder during part of the movement of the piston therein and for increasing the pressure during a part of the movement of said piston, the pressure upon said piston being continuous during the whole movement of the same, substantially as described.

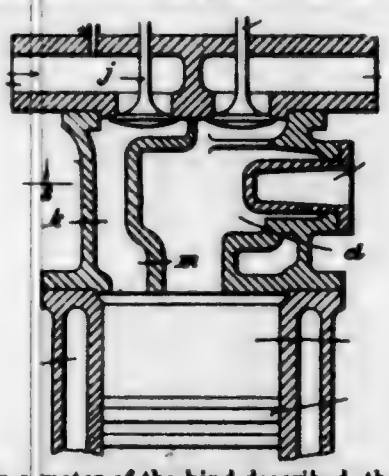
6. In a switch and lock mechanism for operating switch and lock movements and detector-bars connected therewith, the combination of a source of fluid-supply, a reducing-valve located in the supply-pipe, a piston having a cylinder operable therein, means for

electrically operating said reducing-valve whereby varying pressure is admitted upon the piston during the movement thereof, substantially as herein described.

7. In a switch and lock mechanism for operating switch and lock movements and detector-bars connected therewith, the combination of a source of fluid-supply, a reducing-valve located in the supply-pipe, a piston having a cylinder operable therein, means for electrically operating said reducing-valve whereby uninterrupted but varying pressure is admitted upon the piston during the whole of its movement.

8. In mechanism of the character described, the combination with a switch and lock movement, of a cylinder having a piston operable therein for operating the movement, a source of fluid-supply, a controlling-valve governing the fluid-supply, a source of electric energy and a contact device adapted to operate the controlling-valve at different parts of the movement of said piston.

807,338. **MOTOR OPERATING WITH HEAVY HYDROCARBONS.** EMILE L. P. TURENNE, Paris, France, assignor to The Firm of Barbier Benard & Turenne, Paris, France. Filed June 5, 1905. Serial No. 263,537.



Claim.—1. In a motor of the kind described, the combination, with a cylinder in which a piston is actuated, an explosion-chamber, means for injecting a charge of finely-divided liquid fuel into this chamber and means for producing the ignition of the charge, of a tube or channel passing through said explosion-chamber and communicating with the cylinder, a chamber for air and water, a valve between this chamber and the said tube, means for admitting air to the chamber for air and water, and means for supplying the said chamber with water, the said valve opening during the suction-stroke of the piston into the cylinder for the purpose of causing the mixed air and the water to pass from the said chamber for air and water to the said tube, substantially as described and shown and for the purposes set forth.

2. In a motor of the kind described, the combination, with a cylinder, a piston in this cylinder and an explosion-chamber provided with devices for injecting therein finely-divided liquid fuel and means for ignition, of a baffled or non-baffled tube or channel placed in the said chamber and in communication with the said cylinder, a valve-box connected to the said tube, means for supplying this box with air and water, an inlet-valve in the said valve-box, which opens during the suction-stroke of the piston to allow the air and water to pass in a mixed condition from the valve-box through the said tube to the said cylinder, substantially as described and shown, and for the purposes set forth.

3. In a motor of the kind described, the combination with a cylinder, a piston in this cylinder and an explosion-chamber, of a tube or channel placed within the explosion-chamber and communicating with the cylinder; a valve for the admission of air to the said tube and a valve for the admission of water to the said tube, the above said valves for the admission of air and water opening, during the suction-stroke of the piston, into the cylinder for letting air and water enter the said tube, where the air and the water are mixed and heated and whence they pass into the cylinder, the first at a very high temperature and the second in the state of steam; means for injecting at the same time a certain quantity of liquid fuel into the said explosion-chamber so as to produce with the air and steam an explosive mixture and an ignition device for producing the ignition of the explosive charge, substantially as described and for the purposes set forth.

807,339. **NON-REFILLABLE BOTTLE.** JOHN H. UHL, Buffalo, N. Y., assignor of one-half to George Keipper, Sr., Buffalo, N. Y. Filed Sept. 2, 1905. Serial No. 276,888.

Claim.—1. In a device of the character stated, the combination with the neck of a receptacle, of a guard, a valve, and means for supporting the valve and locking the guard in applied position.

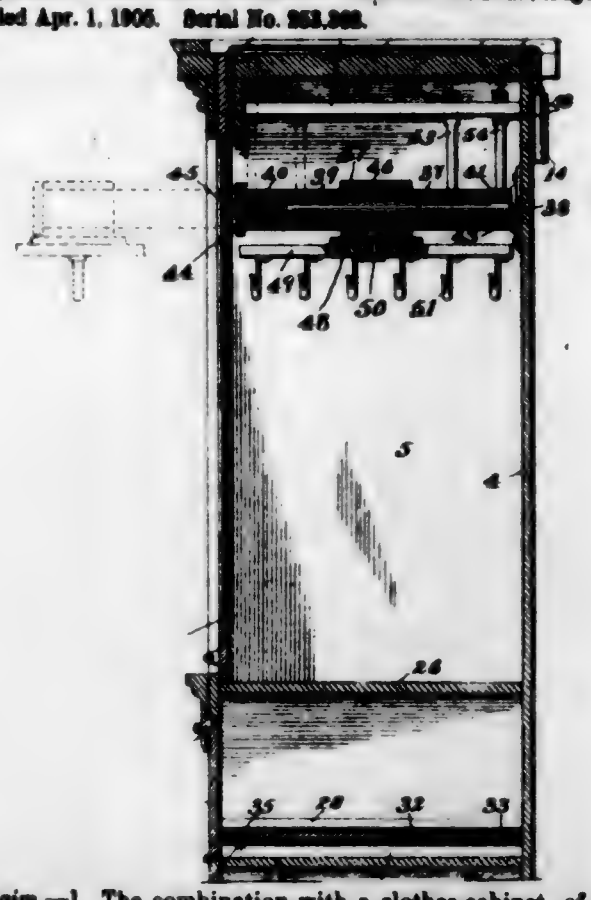


2. In a device of the character stated, the combination with the neck of a receptacle, of a guard arranged within the neck, a valve-casing, means carried by the valve-casing to secure the guard in applied position, and a valve mounted within the casing.

3. In a device of the character stated, the combination with the neck of a receptacle, of a guard mounted within said neck, a valve-casing provided with an arm and a locking-head to secure the guard in applied position, and a valve mounted within the casing.

4. In a device of the character stated, the combination with the neck of a receptacle provided with a recess, of a guard provided with a recess and an inclined groove, a valve-casing provided with an arm occupying said groove and having a locking-head mounted within said recess, and a valve mounted within the casing.

807,340. **CLOTHES-CABINET.** JAMES M. WALKER, Augusta, Ga. Filed Apr. 1, 1905. Serial No. 253,202.



Claim.—1. The combination with a clothes-cabinet, of a substantially horizontal supporting-rod within said cabinet and secured to one of the walls thereof, a supporting member longitudinally movable upon said rod to form a support extensible beyond one end of said rod, a pivot-supporting member carried by and movable on said longitudinally-movable supporting member, a pivot carried by said pivot-supporting member, a garment-supporting arm supported substantially midway between its ends upon said pivot to rotate in a horizontal plane, whereby said garment-supporting arm may be made to extend either longitudinally of said extensible support movable on said supporting-rod or crosswise of the same, the said arm when extending crosswise of said extensible support projecting beyond both sides of said support, said garment-supporting arm adapted to support a row of garments located one behind the other and extending longitudinally of said arm.

2. The combination with a clothes-cabinet, of an extensible garment-supporting device consisting of a horizontal rod made fast to the interior of said cabinet, a sleeve arranged to slide longitudinally over said rod, a second sleeve arranged to slide longitudinally on said first sleeve, a supporting-plate carried by said second sleeve, an arm pivoted to said plate and rotatable in a horizontal plane, and garment-supporting hooks secured to said arm.

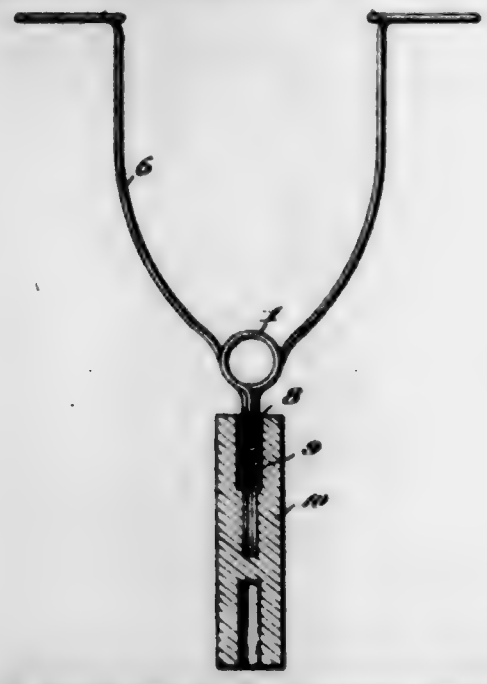
3. The combination with a clothes-cabinet, of an extensible garment-supporting device consisting of a horizontal rod made fast to the interior of said cabinet, a sleeve arranged to slide longitudinally over said rod, a second sleeve arranged to slide longitudinally on said

first sleeve, ball-bearings between the said horizontal rod and first sleeve and between said first sleeve and second sleeve, a supporting-plate carried by said second sleeve, an arm pivoted to said plate and rotatable in a horizontal plane, and garment-supporting hooks secured to said arm.

4. The combination with a clothes-cabinet, of an extensible garment-supporting device consisting of a horizontal rod made fast to the interior of said cabinet, a sleeve arranged to slide longitudinally over said rod, a second sleeve arranged to slide longitudinally on said first sleeve, a substantially horizontal rail extending across said cabinet above said garment-support, an upright secured to said first sleeve, a roller carried by said upright and arranged to travel on the top of said rail, a supporting-plate carried by said second sleeve, an arm pivoted to said plate and rotatable in a horizontal plane, and garment-supporting hooks secured to said arm.

5. The combination with a clothes-cabinet, of an extensible garment-supporting device consisting of a horizontal rod made fast to the interior of said cabinet, a sleeve arranged to slide longitudinally over said rod, a second sleeve arranged to slide longitudinally on said first sleeve, a substantially horizontal rail extending across said cabinet above said garment-support, uprights secured to said first sleeve, a roller carried by one of said uprights and arranged to travel on top of said rail, and a pair of rollers carried by a second upright, one of said rollers being arranged to engage the top of said rail and the other the lower face thereof, substantially as described.

807,341. **DISPLAY-STAND.** GEORGE A. WELCH, Baltimore, Md., assignor of one-half to Philip Hamburger, Jr., Baltimore, Md. Filed June 13, 1905. Serial No. 265,014.



Claim.—A display-stand for hats comprising duplicate frames each constructed of a single length of wire bent intermediate its ends to provide oppositely-disposed loops, one arm of each of the loops being in alinement and forming a straight line transverse of the holder, the body of said loops lying in a plane beyond the holder, the terminals of the wire being projected downwardly from said loops in a curved plane and bent adjacent their respective ends to form spring-coils, the respective coils of each of the frame-terminals being arranged in alternate order, and the terminals of the wires below said coils being secured together to provide a single projecting member, and a handle formed to receive said member.

807,342. **HARROW.** WILLIAM M. WILLMORE and WILLIAM L. SCHMIDT, Vincennes, Ind. Filed Aug. 22, 1905. Serial No. 275,263.



Claim.—1. In a harrow, a tooth-carrying bar, a clip positioned thereon and provided with openings, a tooth entered through the openings in the clip, and a wedge entered through said openings for retaining the tooth in place, said wedge being provided with terminal-engaging portions and having its bar-engaging face recessed at spaced intervals.

2. In a harrow, a tooth-carrying bar of substantially U shape in cross-section, a clip positioned on the bar and provided with tooth-receiving openings, a tooth entered through said openings, and a tooth-retaining wedge also entered in the openings for fixing the tooth in place, said wedge being adapted to bear upon the spaced edges of the bar and having its bearing-faces provided with a pair of recesses designed to register with said edges.

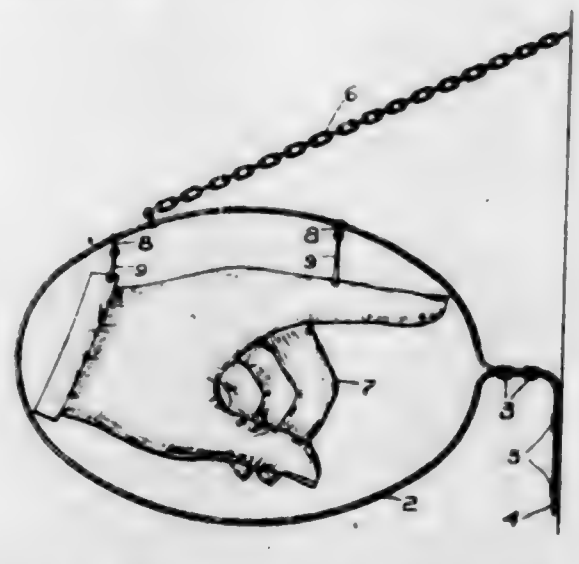
3. In a harrow, a tooth-carrying bar, a clip positioned on the latter and provided with tooth-receiving openings, a tooth entered in said openings and a tooth-retaining wedge also entered through the openings and designed to bear upon one face of the bar for fixing the tooth in place, said wedge being provided with projecting portions disposed at opposite sides of the clip.

4. In a harrow, a frame-bar, a tooth-carrying bar having a recess, a pivoting member entered through the frame-bar and seated in the recess, said member having a head presenting a bearing-face, a clip disposed upon the bar and having tooth-receiving openings, a tooth entered through said openings, and a wedge entered through the clip for fixing the tooth in place, said wedge being designed for engagement with the bearing-face to lock the pivoting member to the bar.

5. In a harrow, a frame-bar, a tooth-carrying bar having a recess, a pivoting member journaled in the frame-bar and entered in the recess, a tooth-receiving clip disposed upon the bar and provided with openings, a tooth positioned in said openings, and a wedge designed to fix the tooth in place, said wedge being adapted for interlocking engagement with the pivoting member to lock the latter to the bar.

6. In a harrow, a frame-bar, a tooth-carrying bar, a pivoting member for said tooth-bar, one of the parts having a recess to receive the other and the other being provided with a bearing-face, a clip positioned on the bar and having tooth-receiving opening, a tooth entered through said opening, and a retaining member for fixing the tooth in place, said retaining member being designed for interlocking engagement with the bearing-face to lock the pivoting member to the tooth-bar.

807,343. **SIGN.** THEODOR R. WILLWERSCHEID, St. Paul, Minn. Filed Apr. 20, 1905. Serial No. 256,044.



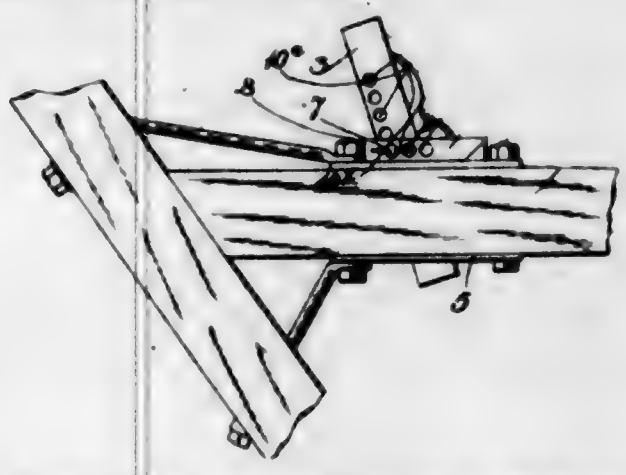
Claim.—1. A sign of the class described, comprising a metal bar bent to form a loop, the ends of the bar outside the loop being riveted together and bent at an angle with the loop, and a hand hinged within said loop.

2. A sign of the class described comprising a metal bar bent to form a loop, the ends of the bar beyond the loop being secured together and turned at an angle with said loop, hooks depending from the upper side of the loop, and a sign having hinge-support from said hooks.

807,344. **PLOW-COLTER.** JOHN P. ABERNATHY and JAMES W. HIETT, Jonesboro, Ark. Filed June 10, 1905. Serial No. 264,705.

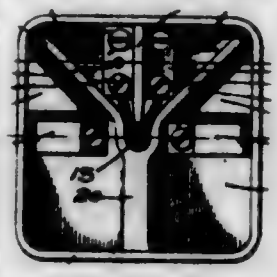
Claim.—1. A device of the character described, comprising a spring locking bar or member for insertion into the colter-shank-receiving mortise, and a dog or lever member eccentrically connected or pivoted to said bar and effective to obtain a binding or clamping action upon said colter-shank.

2. A device of the character described, comprising a spring locking bar or member having an angular lower end terminal, with its opposite end terminating in an eye, and a dog or lever member having a lateral bifurcated terminal receiving said eye, and a clenched pivot bolt or rivet for effecting connection between said bar member and said dog or lever member.



3. In a plow, the combination of a colter-shank with the carrying-beam therefor having a mortise receiving said shank, means for securing in place and effecting the adjustment of said shank in said mortise, and a locking contrivance for said colter-shank comprising a resilient bar or member insertible in said mortise and a dog or lever member having an eccentric or cam connection with the latter, and effective for securing a binding or clamping action thereof upon said colter-shank.

807,345. **FUSIBLE CUT-OUT.** GEORGE BAKER, McKeesport, Pa., assignor to National Tube Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Jan. 14, 1904. Serial No. 189,016.



Claim.—1. A rosette cut-out comprising two insulating members which together form a chamber, one of said members being provided with a central opening, two terminals mounted on said member, one terminal being adjacent to the central opening, a fuse connecting said terminals, an insulating-partition formed by a rib integral with one of said members and terminating in proximity to the walls of said chamber and dividing the latter into two parts, said fuse extending around the end of said partition, and means for securing the two members together.

2. A rosette cut-out comprising two insulating members which together form a chamber, one of said members being provided with a central opening, two terminals mounted on said member, one terminal being adjacent to the central opening, a fuse connecting said terminals, an insulating-partition formed by a rib integral with one of said members and terminating in proximity to the walls of said chamber and dividing the latter into two parts, said fuse extending around the end of said partition, and coöperating interlocking hooked terminals on said members.

3. A rosette cut-out comprising insulating members which together form two chambers, two pairs of terminals mounted on one of said members, one pair in each chamber, a fuse connecting the terminals of each pair, insulating-partitions formed by ribs integral with one of said members and terminating in proximity to the walls of the chambers and dividing the latter into two parts, said fuses extending around the ends of said partitions, and means for securing the two members together.

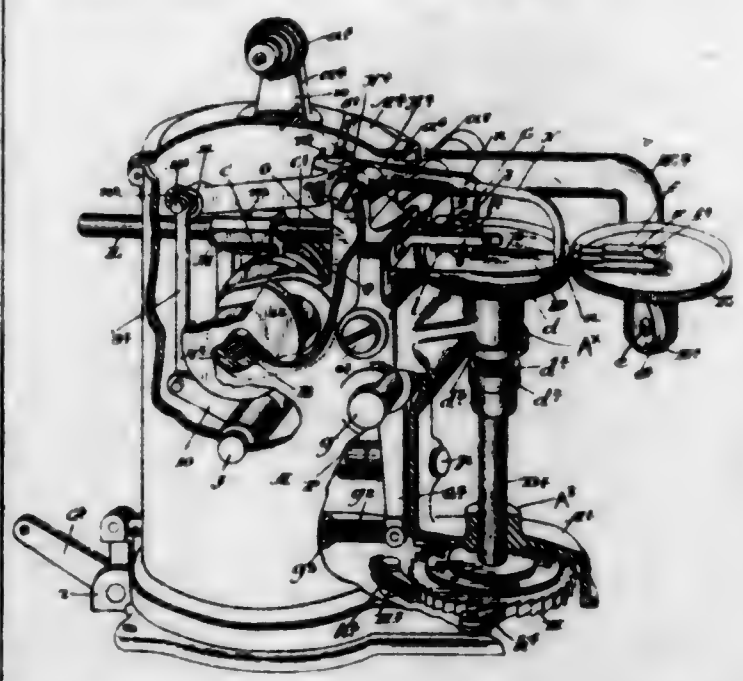
4. A rosette cut-out comprising two insulating members which together form two chambers, one of said members being provided with a central opening, two pairs of terminals mounted on said member, one pair in each chamber, one terminal of each pair being adjacent to the central opening, a fuse connecting the terminals of each pair, insulating-partitions formed by ribs integral with one of said members and terminating in proximity to the walls of said chambers and dividing the latter into two parts, said fuses extending around the ends of said partitions, and means for securing the two members together.

5. A rosette cut-out comprising two insulating members which together form two chambers, two pairs of terminals mounted on one of said members, one pair in each chamber, one terminal of each pair being formed as a hook, a fuse connecting the terminals of each pair, insulating-partitions formed by ribs integral with one of said members and terminating in proximity to the walls of the chambers and dividing the latter into two parts, said fuses extending around the end of said partitions, and hooked terminals on the other of said members which interlock with the hooked terminals of the first-named member.

6. A cut-out comprising an insulating-body, a V-shaped rib projecting from the face of said body, a second rib lying between the branches of said V-shaped rib, terminals on either side of the last-named rib and inside of the branches of the V-shaped rib, coöperating terminals outside of the V-shaped rib and near the apex thereof, and fuses connecting the terminals inside of the V-shaped rib with those outside of the V-shaped rib and extending through passages at the ends of the branches of the V-shaped rib.

7. A cut-out comprising an insulating-body, a V-shaped rib projecting from the face thereof, a second rib lying between the branches of said V-shaped rib, terminals on either side of said last-named rib and inside the branches of the V-shaped rib, other terminals provided with hook-shaped contacts lying outside of the branches of the V-shaped rib and near the apex thereof, fuses connecting said terminals in pairs and extending through passages at the ends of the branches of the V-shaped rib, and a coöperating base of insulating material provided with hook-shaped contacts arranged to interlock with the hook-shaped contacts of the first-named body.

807,346. **FUR-SEWING MACHINE.** GEORGE L. BALLARD, Toronto, Canada, assignor of one-half to Sydney Eustace Ballard, Toronto, Canada. Filed May 12, 1904. Serial No. 207,671.



Claim.—1. A fur-sewing machine, comprising an inner feed-wheel, an outer feed-wheel, a needle, means for giving the needle a longitudinal movement, a looper having a curved end and toe, means for giving said looper a reciprocating movement, means for giving the forward end of the looper a lateral oscillating movement, means for giving said end a rising-and-falling movement said means being independent of each other and means including an eccentric for regulating the rising-and-falling movement, substantially as described.

2. The combination with the looper and looper-holding lever, of a bell-crank journaled in the frame and pivotally connected to said lever, means for tilting the bell-crank so as to impart a reciprocating movement to the looper, a counter-shaft, an arm journaled thereon, a link connected at one end to the arm, a pin extending through the end of the looper-lever said pin having an eccentrically-arranged projection, said projection extending through the opposite end of the link, means for imparting a rocking movement to the arm and means for giving said lever a rocking movement.

3. The combination with the looper and the looper-holding lever suitably pivoted and means designed to impart a reciprocating movement to the looper means for giving the end of the looper an up-and-down movement, of a rod provided with a clamping sleeve-shaped upper end fitting within a notch in the looper-lever and through which the looper extends, an arm journaled on the stud within the

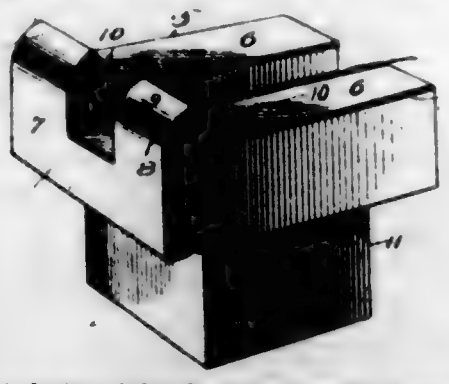
frame and provided with a guideway, a ball-shaped roller journaled on the lower end of the rod and located in the guideway, a roller journaled on a pin on the arm and a peripheral cam secured on the main shaft and into which such roller extends as and for the purpose specified.

4. The combination with the looper and looper-holding lever, means for reciprocating said looper, means for giving the end of said looper an up-and-down movement, a rod having a clamping-sleeve at its upper end, said looper-lever having a recess near one end into which said sleeve is adapted to fit, an internal sleeve having one end extending into the recess over which the clamping-sleeve extends so as to hold said clamping-sleeve in position to receive the looper and means for oscillating the rod, substantially as described.

5. The combination with the needle and needle-bar held in suitable bearings in the casing, of the main divided shaft journaled in the casing and provided at the point of division with inner end disks a pin removably connected to said disks, a block journaled on said pin between the disks, a depending fork secured to the needle-bar and straddling the block on the crank-pin and a guideway for the lower end of the fork as and for the purpose specified.

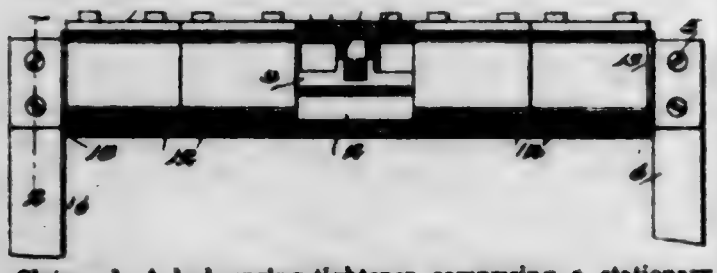
6. The combination with the needle and needle-bar and looper-bar, of the main divided shaft journaled in the casing, disks mounted at the point of division of said shaft, a crank-pin connecting said disks, a block journaled on said pin, a depending fork secured to the needle-bar and straddling the block, one of said disks having a cam-groove therein, a bar having a portion engaging said groove and a connection from said bar to the looper-bar for giving the end of the looper-bar a reciprocating movement.

807,347. **DEVICE FOR SHARPENING DIAMOND ORE-DRILLS.** CHARLES BARBERO, Aspen, Colo., assignor of one-half to John Webb, Aspen, Colo. Filed June 7, 1904. Serial No. 211,570.



Claim.—A device of the character described comprising a body portion having a longitudinal groove extending throughout its length, and lugs projecting from one end of the body at opposite sides of the groove, said lugs having beveled working faces and having their outer faces receding from said working faces.

807,348. **BED-SPRING TIGHTENER.** ALBERT L. BARNUM, Pineridge, S. D., assignor of one-half to H. A. Dawson, H. P. Simmons, R. C. Stirk, B. J. Gleason, and Jas. R. Walker. Filed July 15, 1905. Serial No. 269,767.



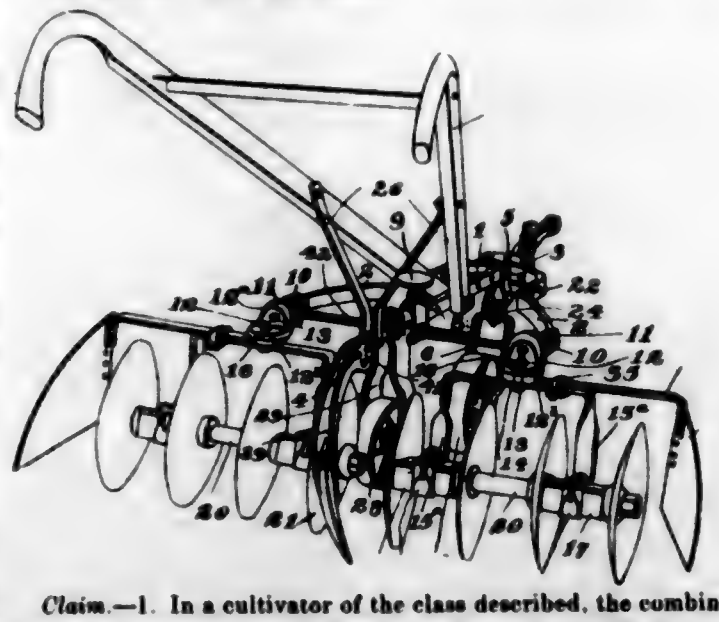
Claim.—1. A bed-spring tightener comprising a stationary member provided with a series of chambers or pockets, a series of rolls adapted to turn upon said stationary member, and dogs disposed in said pockets and adapted to engage the rolls to hold the same from retrograde rotation, said dogs being adapted to tilt to permit the rolls to be turned in one direction for tightening a spring.

2. A bed-spring tightener comprising a stationary member composed of a bar provided with means of attachment to the side rails of a spring-frame and having a series of pockets, a series of rolls mounted to turn upon said bar, disks or heads mounted upon the ends of the bars and closing the outer ends of the outer rolls, and dogs in said pockets to engage and hold the rolls from retrograde rotation, said dogs being adapted to tilt to permit adjustment of said rolls in one direction, whereby the rolls may be independently adjusted to tighten the spring.

3. A bed-spring tightener comprising a stationary member provided with a pocket having walls arranged approximately at right angles to each other, a roll adapted to turn upon the stationary member, and a segmental dog disposed loosely in said pocket, said dog having a straight bearing edge adapted to rest against one of said walls, a rocking edge adapted to rest upon the other wall, and an abutting tooth to engage and hold the roll from retrograde movement, the construction being such that when the roll is turned forwardly the dog will tilt upon its rocking edge to accommodate such movement and adapt the roll to be turned forwardly to the desired extent, whereby upon a prescribed retrograde movement of the roll the dog will swing back to locking position to hold the roll from further retrograde movement.

4. A bed-spring tightener comprising a stationary member provided with a series of chambers or pockets, a series of rolls adapted to turn upon said stationary member, each of said pockets having walls arranged substantially at right angles to each other, and segmental dogs loosely disposed in said pockets, each of said dogs having a bearing edge to engage one of the walls, a fulcrum edge to tilt upon the other wall, and an abutting tooth to engage the roll, whereby when the roll is turned forwardly the dog will tilt upon its fulcrum edge to accommodate such movement and permit the roll to be adjusted as desired, and upon the prescribed retrograde movement of the roll the dog will swing back to locking position to hold the dog from further retrograde movement.

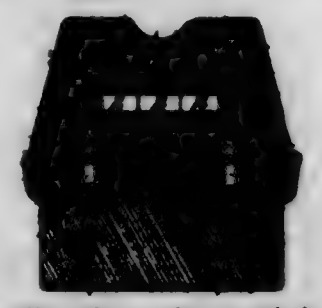
807,349. **CULTIVATOR.** FRANK BRADLEY, Lyons, N. C. Filed Aug. 23, 1905. Serial No. 275,446.



Claim.—1. In a cultivator of the class described, the combination of a frame embodying side bars, gang-frames carried by the rear end portions of said side bars, a gang of cultivating members carried by said gang-frames, and fender-plates arranged upon the outer side of the outermost cultivating member of each gang-frame and supported by the adjacent gang-frame.

2. In a cultivator of the class described, the combination of a frame embodying side bars, gang-frames carried by the rear end portions of said side bars, a gang of cultivating members carried by said gang-frames, and fender-bars adjustably attached to the side bars of the frame and curving rearwardly and outwardly therefrom in advance of the cultivating members of the gang-frames.

807,350. **RESILIENT TIRE AND MEANS FOR SECURING SAME IN PLACE.** WILLIAM F. BRASLEY, Plymouth, N. C. Filed Feb. 20, 1903. Serial No. 144,327.



Claim.—1. A resilient tire-section, consisting of a strip having wedge-shaped notches diagonally disposed in its inner and outer faces, and having apertures of substantially rhombic shape formed in its middle portion, whereby a series of intersecting trussed walls are formed, substantially as described.

2. A resilient tire-section, consisting of an elastic strip, having notches in its inner and outer surfaces, and having at its center a plurality of series of apertures of substantially rhombic shape, the apertures of the several series and the notches being disposed in diagonal lines across the strip, whereby a series of intersecting trussed walls are formed, substantially as described.

3. In a resilient tire, the combination with a resilient section consisting of a strip having wedge-shaped notches diagonally disposed in its inner and outer faces, and having apertures of substantially rhombic shape formed in its middle portion, whereby a series of intersecting trussed walls are formed, and a wearing-casing surrounding the resilient section and separate therefrom, substantially as described.

4. In a resilient tire, the combination with a wearing-casing, having a central cavity, of a resilient section removably contained therein and consisting of a strip having wedge-shaped notches diagonally disposed in its inner and outer faces, and having apertures of substantially rhombic shape formed in its middle portion, whereby a series of intersecting trussed walls are formed, substantially as described.

5. In a resilient tire, the combination with a wearing-casing having a central cavity therein, the outer wall of the cavity being provided with a plurality of circumferential grooves, of a resilient section consisting of a plurality of stripe, said stripe having circumferential flanges thereon, interlocking with the said grooves, substantially as described.

6. In a resilient tire, the combination with a resilient section, of a wearing-section having a flat tread encircled by a circumferential channel forming flanges at the edges of the tread, a portion of each of the flanges being supported entirely by the material of the wearing-section and another portion of the flanges being supported by the resilient section which has less rigidity than the support formed by material of the wearing-section, substantially as described.

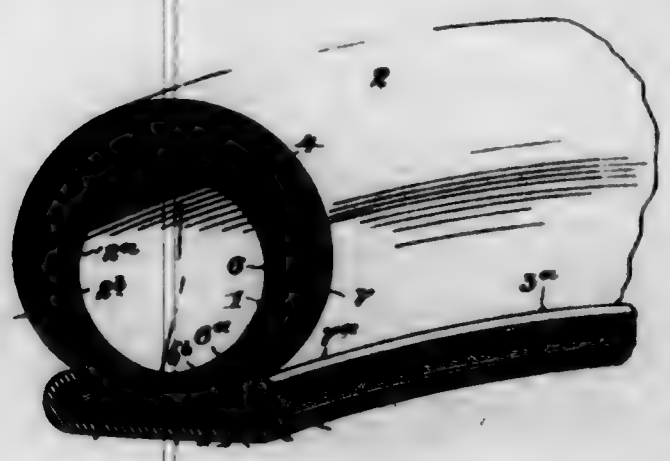
7. The combination with a tire having embedded therein a metallic ribbon, the ribbon and the material of the inner face of the tire being each provided with a series of elongated slots, of a wheel-rim, having a series of headed threaded studs thereon the heads of the studs being located in the plane of revolution of the tire, and pointed in the same direction therein, and means for locking the tire on the wheel against rotation, substantially as described.

8. The combination with a resilient tire having a metallic ribbon embedded therein, the ribbon and the inner face of the tire being provided with a series of registering elongated slots, of a wheel-rim, a metallic tire on the wheel-rim, bushings having external and internal threads mounted in the metallic tire, a series of headed studs, the shanks of which are provided with threads to take into the internal threads of the bushings and with threads to take into the wooden wheel-rim, the heads of the said studs entering the said slots in the resilient tire, and means for preventing rotation of the resilient tire on the wheel-rim, substantially as described.

9. A tire having a metallic ribbon therein, in combination with means for securing the ends of the tire together, said means consisting of a clamping-bolt provided with a head having a concave under surface forming biting edges adapted to engage the ends of the metallic ribbon when the ends are brought together in placing the tire on the wheel, substantially as described.

10. A resilient tire-section, consisting of a strip having apertures of substantially rhombic shape formed in its middle portion, whereby a series of intersecting trussed walls are formed, substantially as described.

807,351. **PNEUMATIC TIRE.** JOHN H. BLISCO, New York, N. Y., assignor to Abraham B. Levy, New York, N. Y. Filed Mar. 2, 1905. Serial No. 248,003.



Claim.—1. A tire comprising rubber having a plurality of series of spring-protectors embedded therein, spaces being provided between the edges of the protectors of each series, a layer of rubber being between the protectors, a layer of rubber within the inner protectors, a layer of rubber over the outer protectors, and rubber extending between the edges of the protectors of each series and uniting the adjacent layers of rubber, the rubber being vulcanized upon the protectors, substantially as described.

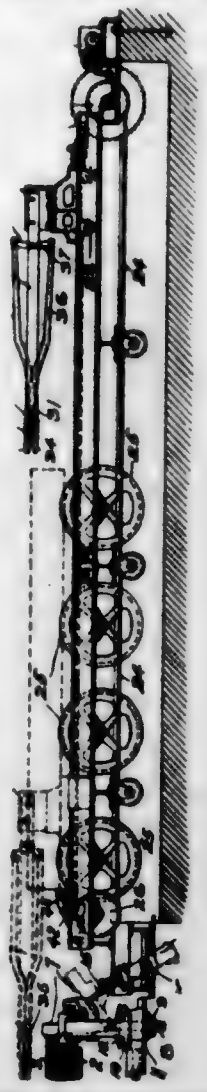
2. A tire-shoe having ribs along its outer edges, combined with curved springs embedded in the material of the shoe, said springs extending along the tread and sides of the shoe and having inwardly-bent foot portions overlying a rim.

3. A tire-shoe having ribs along its outer edges, combined with curved springs embedded in the material of the shoe, said springs extending along the tread and sides of the shoe and having their end portions bent outwardly into the ribs of the shoe, said springs also having inwardly-bent foot portions overlying a rim, substantially as described.

4. A tire-shoe having ribs along its outer edges, combined with a plurality of series of springs embedded in the material of the shoe, one series of springs overlapping the other series, said springs having inwardly-bent flat foot portions at their ends.

5. A tire-shoe having ribs along its outer edges, combined with a plurality of series of springs embedded in the material of the shoe, one series of springs overlapping the other series, said springs being bent at their ends, the outer springs extending into said ribs, said springs also extending inwardly at their ends over a rim, substantially as described.

807,352. **STRIPPER FOR BENDING-ROLLS.** JOHN J. BOAK, McKeesport, Pa., assignor to National Tube Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Jan. 29, 1904. Serial No. 191,173.



Claim.—1. A stripping device for plate-bending rolls comprising a device arranged to reciprocate longitudinally of the axes of the bending-rolls, a gripper carried by said reciprocating device and arranged to engage the tube and strip the same from the rolls, and mechanism controllable independently of the rolls for reciprocating said device.

2. A stripping device for plate-bending rolls comprising a carriage arranged to reciprocate longitudinally of the axes of the bending-rolls, an automatically opening and closing device carried by said carriage, and mechanism controllable independently of the rolls for reciprocating said carriage.

3. A stripping device for plate-bending rolls comprising a carriage arranged to reciprocate longitudinally of the axes of the bending-rolls, a gripping device connected thereto and comprising tongs provided with gripping-jaws and reins, links pivotally connected to said reins and to the reciprocating carriage, and mechanism for reciprocating the said carriage.

4. A stripping device for bending-rolls comprising a reciprocating carriage, an automatically-opening gripping device connected to said carriage, a swinging step at the front end of said device, and reversing driving means for said reciprocating carriage.

5. A stripping device for bending-rolls comprising a bench, a counterweighted pivoted dog at the forward end of said bench, a member adapted to reciprocate along said bench, a reversing-motor for reciprocating said member, and an automatically-opening gripping device carried by said reciprocating member.

6. A stripping device for bending-rolls comprising a reciprocating member, a gripping device connected thereto and comprising a supporting-bar, tong members, a pivot for said tong members having a sliding connection with said bar, and links pivotally connected to the reins of said tong members and to said bar.

7. A stripping device for bending-rolls comprising a reciprocating carriage, a gripping device carried by said carriage and comprising a support, tongs having pivotally-connected members, the pivot thereof having a sliding bearing on said support, and links connected at one of their ends to the reins of said tong members and having their opposite ends connected to said support.

8. A stripping device for bending-rolls comprising a bench, a swinging counterweighted dog at the forward end thereof, a reciprocating carriage moving on said bench, reversing power mechanism for driving said carriage, tongs connected to said carriage and having two members pivotally connected together, a support for said tongs with which they have a sliding connection, and links connected to the reins of said tongs and to the carriage.

807,353. PAPER STAND AND CUTTER. GEORGE B. BRETZ, Columbus, Ohio, assignor to the West Supply Company, Columbus, Ohio, a Corporation of Ohio. Filed Jan. 23, 1905. Serial No. 242,259.



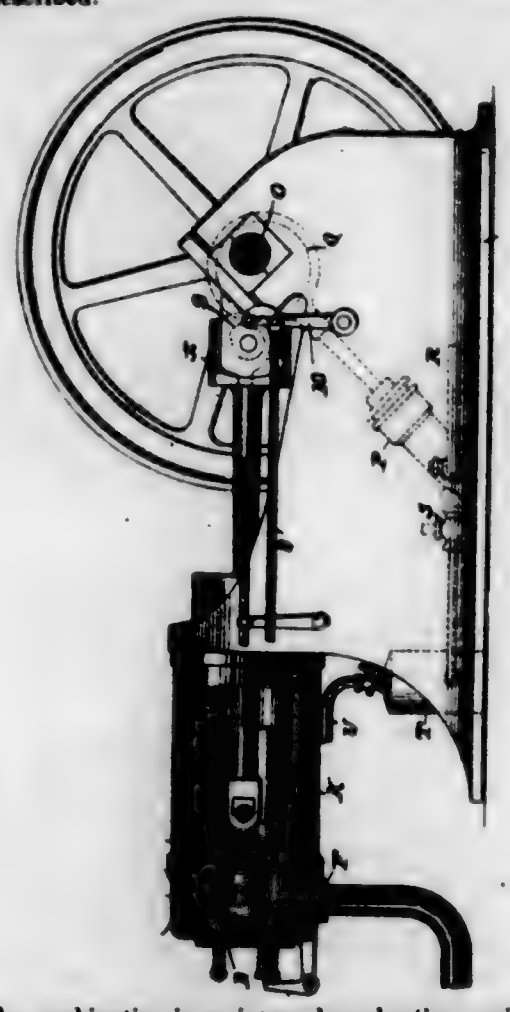
Claim.—1. The combination with a roll of paper and a stand therefor, of a cutter-bar support resting on the roll of paper and constructed to have a limited rocking movement on the said roll, a rod carried on the support below and in the rear of the cutter-bar adapted to rest on the roll and cause the free end of the paper to project below the cutter-bar so as to be grasped on both sides, projections on the support normally out of contact with the roll and adapted to bear upon the roll of paper to prevent unwinding thereof when the cutter-bar support is rocked.

2. The combination with a roll of paper and a stand therefor, of a cutter-bar support removably mounted on the roll of paper, projections on the support engaging the roll to allow a limited rocking movement of the support, a rod carried by the support below the cutter-bar normally resting upon the roll of paper and holding the free end thereof elevated so as to be grasped on both sides, and means for preventing the roll of paper from unwinding when the cutter-bar support is rocked.

3. The combination with a roll of paper and a stand therefor, of a cutter-bar support removably and rockingly mounted on the stand and provided with upwardly-curved ends, a cutter-bar supported on the ends and arranged at an angle, and means carried by the support normally out of contact with the roll for engaging the roll when the support is rocked to prevent unwinding thereof.

807,354. GAS-ENGINE. FRANK DUNCAN, Fort Wayne, Ind., assignor of three-fourths to Henry M. Williams, Fort Wayne, Ind. Filed Feb. 13, 1902. Serial No. 93,945.

Claim.—1. The combination in an internal-combustion engine, of a cylinder having a transverse partition forming a chamber at the rear of the cylinder, a port in said partition, means for introducing air into said chamber and for compressing the same, a gas-nozzle for delivering gas through said port, and an igniter in said port, substantially as described.



2. The combination in an internal-combustion engine, of a cylinder having a transverse partition forming a chamber at the rear of the cylinder, a port in said partition, means for introducing air into said chamber and for compressing the same, a gas-nozzle in said chamber for delivering gas through said port, and means for igniting the gas in its passage through the port, substantially as described.

3. The combination in an internal-combustion engine, of a cylinder having a transverse partition near the rear end forming an air-chamber, a water-jacket surrounding the cylinder throughout its length, a port in said partition, means for introducing air into the chamber, and means for injecting gas through said port into the cylinder and means for igniting the same in its passage through the port, substantially as described.

4. The combination in an internal-combustion engine, of a cylinder having a transverse partition near the rear end forming an air-chamber, a water-jacket surrounding the cylinder throughout its length, a nipple in said partition forming a port between the chamber and cylinder, means for introducing air into the chamber, and means for injecting gas through said port and means for igniting the same in its passage through the port, substantially as described.

5. The combination of a cylinder having a surrounding water-jacket and divided into two sections, the rear section having a transverse partition with a port therein, with means for introducing air into the chamber back of the partition, means for delivering gas through said port into the cylinder, and means for igniting the gas in its passage through the port, substantially as described.

6. The combination of a cylinder having a surrounding water-jacket and divided into two sections, the rear section having a transverse partition with a port therein, with means for introducing air into the chamber back of the partition, means for delivering gas through said port into the cylinder, means for igniting the gas in its passage through the port, and a channel extending through the rear portion and provided with an exhaust-port and valve, substantially as described.

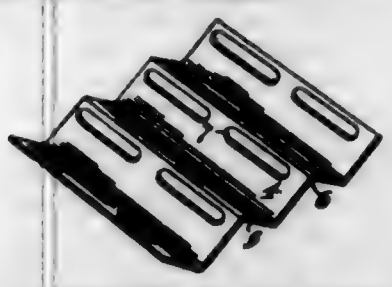
7. A cylinder having a transverse partition forming an air-chamber at its rear end an open port in said partition for the passage of air from the chamber to the cylinder, an air-inlet port for said chamber, a valve in said inlet-port, an exhaust-port in said partition communicating with an exhaust-channel outside of said air-chamber, and a valve for controlling said exhaust-port, substantially as set forth.

8. In an internal-combustion engine, the combination of a cylinder having a transverse partition forming a chamber at its rear end, an air-admission valve opening into said chamber, a nipple in

said partition having a flaring opening at each end and forming a port between the chamber and cylinder, a gas-supply nozzle within the chamber projecting into said nipple with an annular space between them, means for forcing gas through said nozzle, and means for igniting said gas in its passage through the nozzle, substantially as set forth.

9. In an internal-combustion engine, the combination of a cylinder having a transverse partition forming a chamber at its rear end, an air-admission valve opening into said chamber, a separated exhaust-passage opening into the cylinder through said partition, a valve for said passage, a nipple in said partition having a flaring opening at each end and forming a port between the chamber and cylinder, a gas-supply nozzle within the chamber projecting into said nipple with an annular space between them, means for forcing gas through said nozzle and an igniter in said nozzle, substantially as set forth.

807,355. **GRAIN-RIDDLE.** WILLIAM B. CAMPBELL, Detroit, Mich. Filed May 18, 1905. Serial No. 260,923.



Claim.—1. A sorting-riddle for corn, having in combination with a frame, a sheet of metal whose surface is sharply corrugated the sides of each corrugation being of unequal length and provided with perforations for the passage of grain-kernels therethrough, said perforations lying near the base of one slanting side of each corrugation and near the apex of the other side, substantially as described.

2. A sorting-riddle for corn having, in combination with a frame, a sheet of metal angularly corrugated, the sides of each corrugation being of unequal length and diversely angular to the plane of the sheet as a whole, the shorter of each of said sides having a series of perforations whose lower edges lie in the line of union with the adjacent long side, and the long sides of each corrugation having similar perforations near the apex, substantially as described.

3. A sorting-riddle for corn, consisting of a sheet of angularly-corrugated metal provided with perforations on each face of each corrugation, the perforations in one of the corresponding faces of each corrugation lying near the bottom and reaching to the line of union with a side of the adjoining corrugation, and the perforations on the other face of each corrugation lying near the apex thereof, substantially as described.

4. A sorting-riddle for corn, consisting of a sheet of metal angularly corrugated, the sides of each corrugation being of unequal length, the shorter of each side having a plurality of perforations adjacent to its line of union with a side of the next corrugation and the longer sides having perforations near the apex of the corrugation, substantially as described.

807,356. **HOSE-SUPPORTER CLASP.** EDWARD CLEARY, Bridgeport, Conn., assignor to The Connecticut Web Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Nov. 8, 1904. Serial No. 231,825.



Claim.—1. In a hose-supporter clasp, a loop formed from sheet metal the lower end or socket portion being rolled in to form a closed hollow tubular construction.

2. In a hose-supporter clasp, a loop formed of sheet metal, the opposite edges of the lower sides and end being turned in to form a closed hollow tubular engaging portion.

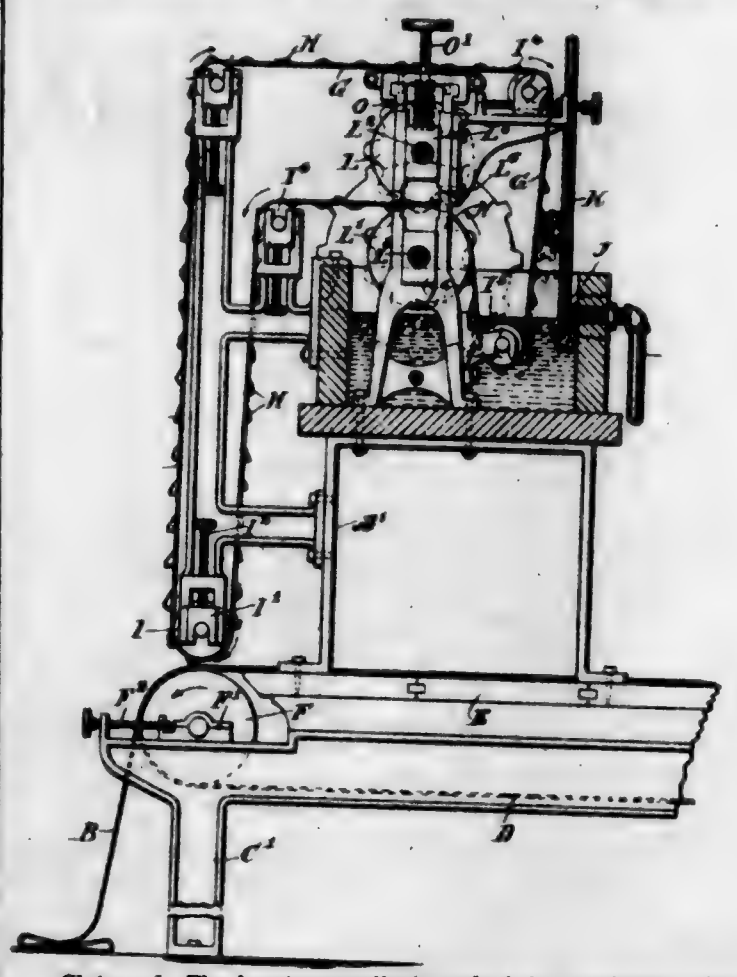
3. A loop for a hose-supporter clasp, comprising a stud-opening, and a reduced socket communicating therewith, the sides and ends forming such socket being of a round hollow construction.

4. A loop for a hose-supporter clasp, comprising a broad upper portion and a narrow lower part and formed in part of flat sheet metal and in part of tubular round hollow metal.

5. A loop for a hose-supporter clasp, formed of sheet metal and comprising an open flat upper portion with a large opening therethrough, a contracted lower portion forming the stud-socket, the sides and bottom of said socket portion being formed of round stock.

6. A loop for a hose-supporter clasp, formed of sheet metal and comprising a stud-opening having a reduced socket the upper part of the metal forming such loop being flat and the lower or socket portion being rolled together forming a closed hollow tubular construction.

807,357. **MANUFACTURE OF WALL-COVERINGS.** TIMOTHY CLEARY, Schuylerville, N. Y., assignor to Standard Wall Paper Company, Sandyhill, N. Y. Filed Dec. 5, 1904. Serial No. 235,512.



Claim.—1. The herein-described method for producing plush effects on wall-coverings, consisting of uniformly coating the smooth face of the fabric body of the covering with a ground color, and then absorbing irregularly-spaced portions of the said coating in irregular gradation.

2. The herein-described method for producing plush effects on wall-coverings, consisting in coating the fabric body of the covering with a ground color, and then subjecting the wet coating, at spaces irregularly separated from each other, to the wiping action of a soft, flexible material, to absorb the coating at the said spaces in irregular gradation.

3. The herein-described method for producing crushed plush effects on wall-coverings, consisting in coating the fabric body of the covering, causing the coated body to travel, and subjecting the coated face of the said fabric body to the wiping action of wetted and spaced bunches of a soft flexible fabric material traveling in unison with the said coated fabric body.

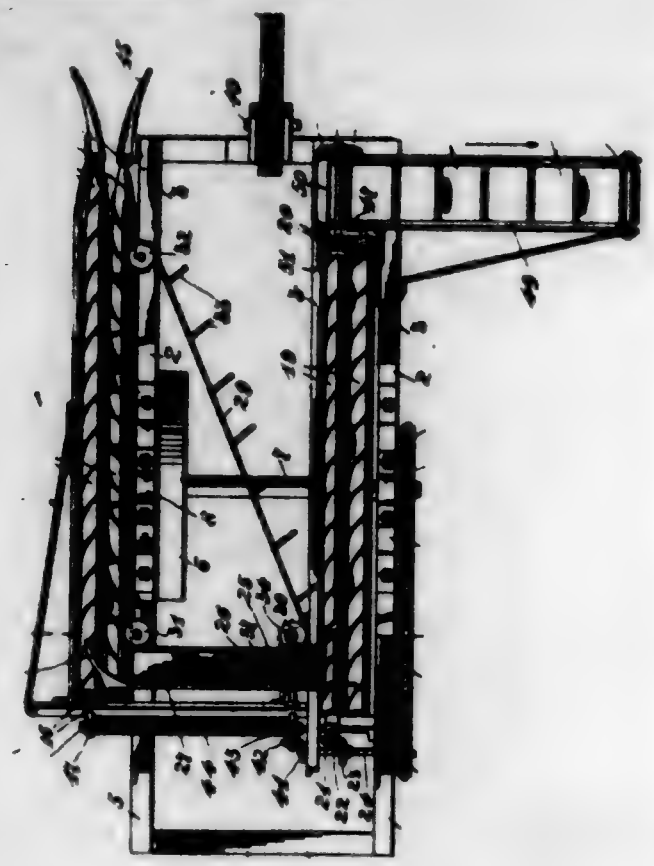
807,358. **CORN-HARVESTER.** FREDERICK J. COOK, Heyworth, Ill. Filed Dec. 15, 1904. Serial No. 236,972.

Claim.—1. In a corn-harvester, the combination with longitudinally-disposed snapping-rolls and husking-rolls, of a transversely-extending guide between said rolls, and an endless conveyer for positively feeding ears of corn along said snapping-rolls and through said guide, substantially as described.

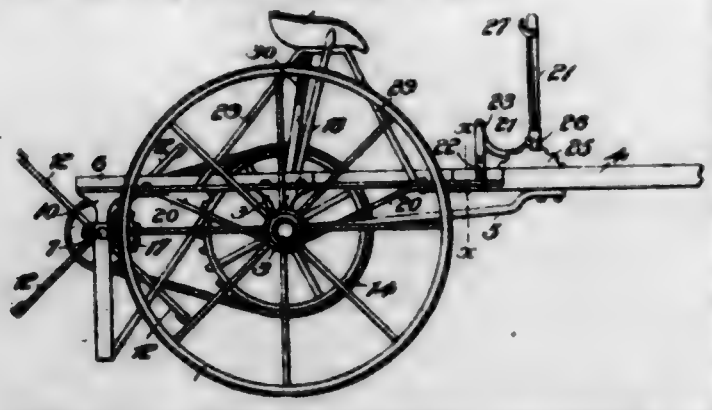
2. In a corn-harvester, the combination of a wheeled frame, a pair of snapping-rolls mounted thereon, a pair of husking-rolls mounted longitudinally upon said frame to one side of said snapping-rolls, a guideway upon said frame between said pairs of rolls, a fingered endless conveyer mounted upon said frame to travel along said snapping-rolls and said guideway, and means for simultaneously operating said rolls and said conveyer, substantially as described.

3. In a corn-harvester, the combination with a wheeled frame,

a pair of snapping-rolls mounted thereon, a pair of husking-rolls mounted upon said frame to one side of the said snapping-rolls, a guideway upon said frame between the adjacent inner ends of said pairs of rolls, an endless conveyer mounted upon said frame to travel along said snapping-rolls and said guideway, a hopper at the lower end of said husking-rolls, a deflecter-plate for directing the ears of corn from said husking-rolls into said hopper, and an endless conveyer for conducting the ears of corn from said hopper to a suitable receptacle, substantially as described.



807,359. STALK-BREAKER. STEPHEN A. COWART, Midlothian, Tex. Filed Aug. 15, 1905. Serial No. 274,345.

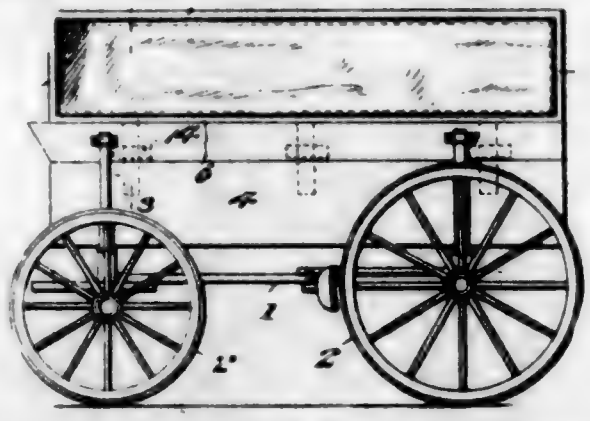


Claim.—1. A stalk-breaker comprising a supporting-axle and wheels therefor, hounds for attaching said tongue to said axle, a rocking frame consisting of four angle-bars extending backward and the two outer bars bent forward of said axle and bolted to the two inner angle-bars, bearings engaging said axle and bolted to said angle-bars and supporting said rocking frame high enough above said axle to permit rocking of said frame without coming in contact with the tongue-attaching devices of the stalk-breaker, a reel-shaft mounted on the outer ends of said angle-bars, bearings in two parts engaging said reel-shaft and bolted to said angle-bars, reels mounted on said shaft, a sprocket-wheel mounted on said shaft, a driving sprocket-wheel mounted on said axle, a sprocket-chain mounted on said sprocket-wheels, means for throwing said driving sprocket-wheel into and out of operative relation with said axle, and means for rocking said frame on said axle.

2. A stalk-breaker comprising a supporting-axle and wheels and a tongue therefor, hounds for attaching said tongue to said axle, a rocking frame consisting of four angle-bars mounted on said axle, bearings engaging said axle and bolted to and supporting said angle-bars high enough above said axle to permit the rocking of said frame without coming in contact with said hounds, the two outer angle-bars being bent forward of said axle and attached to the inner angle-bars, a reel-shaft mounted on the rear ends of said angle-bars, reels on said shaft, sprocket-wheels mounted on the central parts of said reel-shaft and of said axle, means for throwing the driving sprocket-wheel into and out of operative relation of said axle, means permitting said reels to revolve by accumulated momentum after said wheels stop turning, and means for rocking said rocking frame.

3. A stalk-breaker comprising a supporting-axle and wheels and a tongue therefor, hounds for attaching said tongue to said axle, a rocking frame mounted on said axle and carrying a reel-shaft, reels on said reel-shaft, said frame consisting of four angle-bars, bearings engaging said axle and supporting said rocking frame high enough above said axle to permit the rocking of said frame without coming in contact with said hounds, sprocket-gearing operated on the central parts of said axle and said shaft, and means for rocking said frame consisting of brackets attached to the two inner angle-bars, a yoke pivotally connected to said brackets, a lever pivotally connected to said yoke and fulcrumed on said tongue, and means adapting said lever to hold said rocking frame at any elevation desirable.

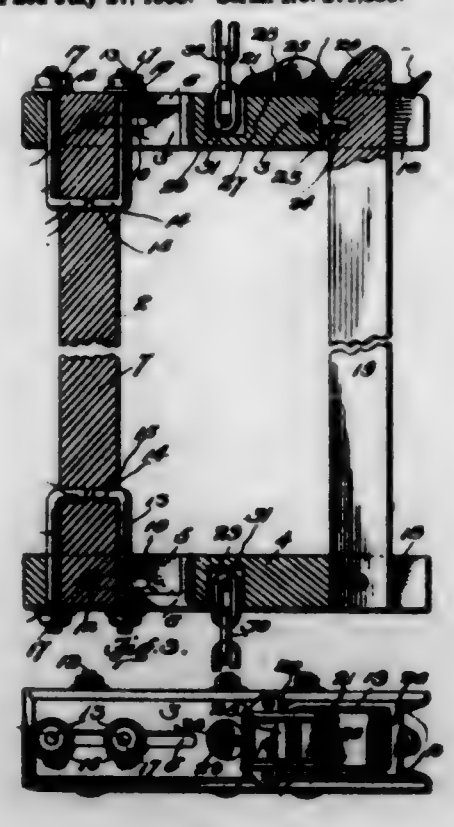
807,360. SIDE-BOARD FOR WAGONS. JOHN J. COYLE, Honeycreek, Iowa. Filed Mar. 15, 1905. Serial No. 250,206.



Claim.—1. In a device of the class described, a rigid skeleton frame, standards connected to and depending from the normally lower bar of said frame, a pair of pliable sheets or webs applied to the frame in relatively spaced relation, a filling of soft material between the webs, and sprockets designed to receive the standards, the latter and sockets being positioned relatively to permit reversal of the frame for bringing either web into active position.

2. In a device of the class described and in combination with a vehicle having one of its walls provided with sockets, a wall extension comprising a skeleton frame, a pair of pliable sheets applied thereto in relatively spaced relation, and a filling of soft material between the sheets, and standards depending from the normally lower bar of the frame and adapted for entrance into the sockets, the latter and standards being spaced relatively to permit reversal of the wall extension for bringing either sheet into active position.

807,361. CATTLE-STANCHION. WALLACE B. CRUMB, Forestville, Conn. Filed July 27, 1905. Serial No. 271,530.



Claim.—1. A cattle-stanchion, consisting of upper and lower cross-bars having formed in the inner sides of one of their ends vertically-disposed slots, and in the outer sides of said ends reduced slots opening into said inner slots, a side bar having reduced shouldered ends to engage the slots in said cross-bars, means to adjustably secure said shouldered ends of the side bar in said slotted ends of the cross-bars, a side bar pivotally mounted in the opposite end of said lower cross-bar, and means to detachably connect the free end of said pivoted side bar with the free end of said upper cross-bar, substantially as described.

2. A cattle-stanchion, consisting of upper and lower cross-bars having formed in the inner sides of one of their ends vertically-disposed slots and the outer sides of said ends reduced slots opening into said inner slots, a side bar having reduced shouldered ends to engage the vertical slots in said cross-bars, transversely-disposed bolts adapted to be passed through the shouldered ends of said side bar and through horizontally-disposed slots in said cross-bars, right-angle clamping-bolts adapted to be engaged with the ends of said side bars and to pass through the vertical slots in said side bar, clamping nuts and washers arranged on the outer ends of said clamping-bolts to engage the outer sides of said cross-bars, a side bar pivotally mounted in the opposite end of said lower cross-bar, and means to detachably secure the upper free end of said pivoted side bar within the free end of said upper cross-bar, substantially as described.

3. A cattle-stanchion consisting of upper and lower cross-bars having formed in the inner sides of one of their ends vertically-disposed slots, and in the outer sides of said ends reduced slots opening into said inner slots, said upper cross-bar provided with a forked free end a side bar having reduced shouldered ends to engage the slots in said cross-bars, means to adjustably secure said shouldered ends of the side bar in said slotted ends of the cross-bars, a side bar pivotally mounted in the opposite end of said lower cross-bar, and a catch to detachably secure the upper end of said pivoted side bar with the free end of said upper cross-bar, said catch consisting of a right-angularly-formed bearing-bracket adapted to be secured in the forked free end of said upper cross-bar, a spring-actuated bail-shaped latch pivoted in said bracket to engage the free upper end of said pivoted side bar, and means to loosely connect said stanchion with a suitable supporting-frame, substantially as described.

4. A cattle-stanchion consisting of upper and lower cross-bars having formed in the inner sides of one of their ends vertically-disposed slots and in the outer sides of said ends reduced slots opening into said inner slots, a side bar having reduced shouldered ends to engage the vertical slots in said cross-bars, transversely-disposed bolts adapted to be passed through the shouldered ends of said side bar and through horizontally-disposed slots in said cross-bars, right-angle clamping-bolts adapted to be engaged with the ends of said side bar and to pass through the vertical slots in said side bar, clamping nuts and washers arranged on the outer ends of said clamping-bolts to engage the outer sides of said cross-bars, a side bar pivotally mounted in the opposite end of said lower cross-bar, a catch to detachably secure the upper end of said pivoted side bar with the free end of said upper cross-bar, said catch consisting of a right-angularly-formed bearing-bracket adapted to be secured in the forked free end of said upper cross-bar, a spring-actuated, bail-shaped latch pivoted in said bracket to engage the free upper end of said pivoted side bar, a stud or lug formed on said bracket to engage a recess formed in said side bar, and chains connected to the upper and lower cross-bars and to a supporting-frame, whereby said stanchion is loosely supported, substantially as described.

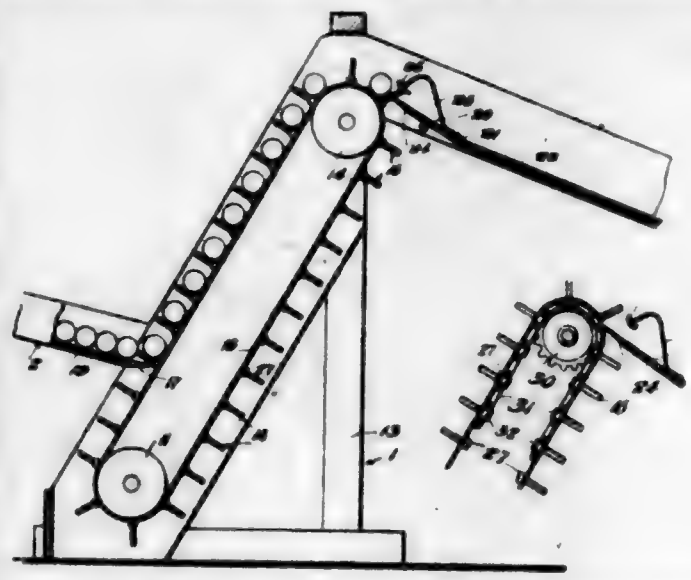
807,362. **FRUIT-ELEVATOR.** ERNEST S. DE LONG, Upland, Cal., assignor to Packing House Equipment Company, Upland, Cal., a Corporation of California. Filed Aug. 23, 1904. Serial No. 221,662.

Claim.—1. The combination with a fruit-elevating conveyer of delivery means for taking off the fruit therefrom, extending adjacent to the conveyer, mounted to have vibratory movement, and means on the conveyer for engaging and vibrating said delivery means.

2. The combination with a fruit-elevating conveyer of a delivery device to receive fruit therefrom, and projections on the conveyer for engaging and vibrating said delivery device.

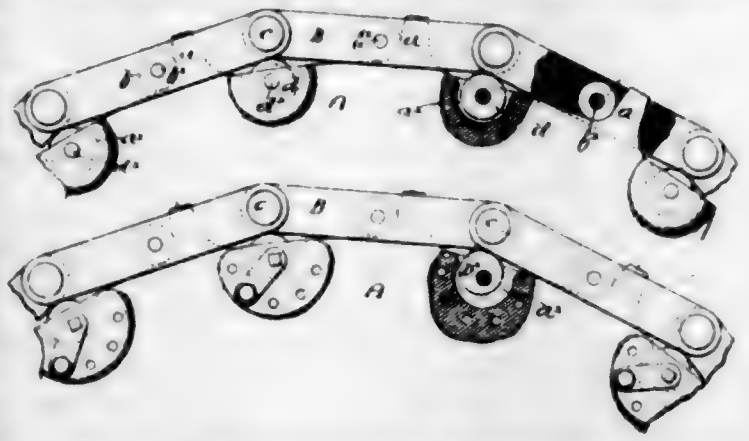
3. A fruit-elevator comprising a conveyer-belt provided with projections arranged in transverse and longitudinal rows, a delivery-trough, a comb device pivoted thereto with its free end adjacent to the conveyer-belt and its teeth extending between the paths of movement of the projections, and means for vibrating said comb device.

4. A fruit-elevator comprising a conveyer-belt provided with projections arranged in transverse and longitudinal rows, a delivery-trough, a comb device pivoted thereto with its free end adjacent the conveyer-belt and its teeth extending between the paths of movement of the projections, and means for vibrating said comb device, consisting of a tappet on said device engaged by said projections.



5. In a fruit-elevator, a conveyer-belt provided with projecting pins, said pins having sleeves of elastic material.

807,363. **SPROCKET-WHEEL.** JAMES M. DODGE, Philadelphia, Pa., assignor to The Link Belt Engineering Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed June 1, 1904. Serial No. 210,666.



Claim.—1. The combination of a chain consisting of a series of links connected together by pivot-pins, with a sprocket-wheel having teeth arranged to engage the chain and having rollers mounted between the teeth and so situated that they will bear upon the chain in line with the pivots, substantially as and for the purpose set forth.

2. The combination of a chain made up of a series of links, a roller mounted on each link midway between the ends thereof, with a sprocket-wheel having teeth arranged to engage the rollers of the chain, and having rollers for supporting the chain at the pivot-points, substantially as and for the purpose set forth.

3. A sprocket-wheel having teeth, and rollers mounted on the sprocket-wheel between the teeth, and means for adjusting the rollers, substantially as described.

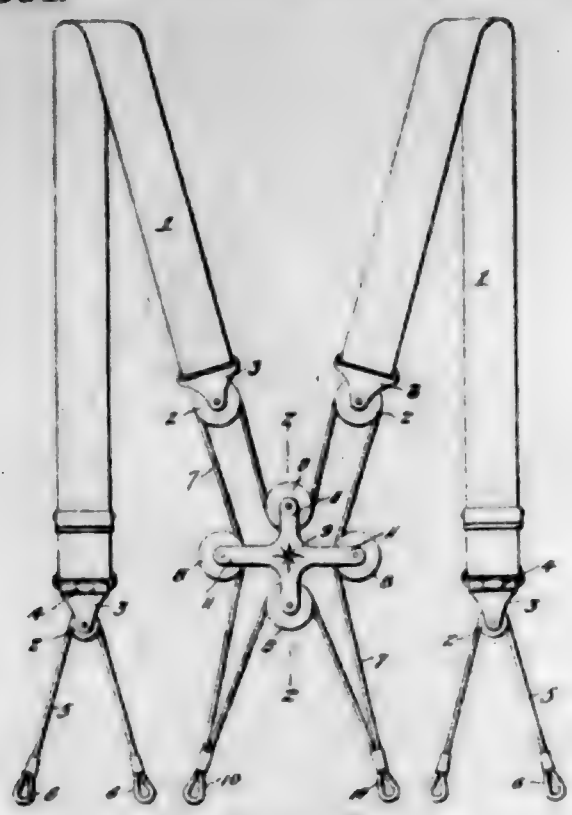
4. The combination of a sprocket-wheel having teeth, rollers mounted between the teeth and eccentrics upon which the rollers are mounted, said eccentrics being adjustable, substantially as described.

5. The combination of a sprocket-wheel having teeth, with eccentrics mounted between the teeth acting as supports for a chain, means for adjusting the eccentrics and locking them in the adjusted position.

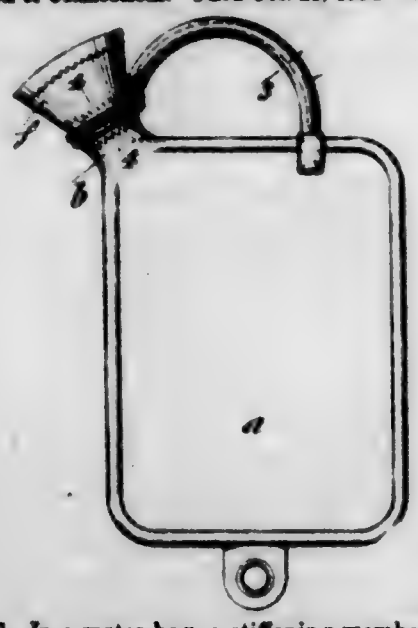
807,364. **SUSPENDERS.** FRED DRAPER, Danville, Ill. Filed Aug. 3, 1905. Serial No. 272,567.

Claim.—The herein-described suspenders comprising the shoulder-straps, the pulleys attached to the front ends thereof, the cords engaging said pulleys, the pulleys attached to the rear ends of the shoulder-straps, the hanger comprising the pair of X-shaped plates, the pulleys mounted for revolution between said plates at the outer ends of the arms thereof, and the endless cord engaging the pulleys at the rear ends of the shoulder-straps and the pulleys of the hanger, and provided with button-engaging eyes.

807,364.



807,365. WATER-BAG. ANTON C. BOEMM, New York, N. Y., assignor to Goodyear's India Rubber Glove Mfg. Co., New York, N. Y., a Corporation of Connecticut. Filed Oct. 20, 1904. Serial No. 229,353.



Claim.—1. In a water-bag, a stiffening member for the handle extending about the neck.

2. A water-bag having a handle extending about and attached to the neck thereof, and a reinforcing member for said handle also extending about the neck.

3. A water-bag having a reinforcing member embedded in the handle thereof and extending about the neck.

4. A water-bag having a flexible handle attached to the neck thereof, and a stiffening member embedded in said handle at its neck-engaging portion and embracing the neck.

5. A water-bag having a handle attached to the neck thereof and provided with a core formed into a loop extending about the neck.

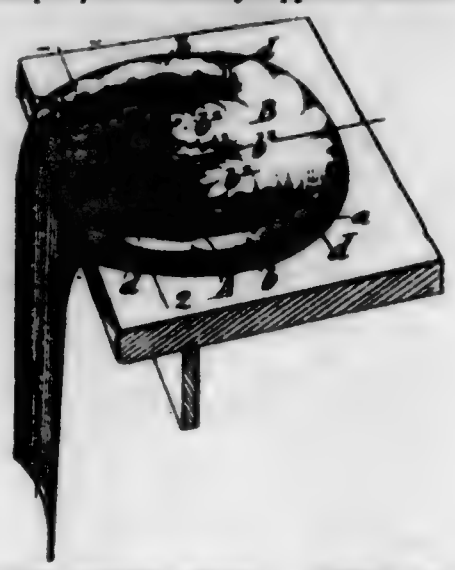
6. A water-bag having a handle attached to the neck thereof and provided with a double core, said core being formed into a loop embracing the neck.

7. In a water-bag, a handle connecting the neck with the body portion, and a double core embedded in said handle and having a terminal loop extending about said neck.

807,366. SURGICAL OPERATING-CUSHION. ANTON C. BOEMM, New York, N. Y., assignor to The Goodyear's India Rubber Glove Manufacturing Company, New York, N. Y., a Corporation of Connecticut. Filed Jan. 25, 1905. Serial No. 242,655.

Claim.—1. A surgical operating-cushion comprising a flexible apron, and a pad detachably supported thereon.

2. A surgical operating-cushion comprising a flexible apron, and a crescent-shaped pad detachably supported thereon.



3. In a surgical operating-cushion, a flexible apron having a flange thereon, and a pad detachably retained against said flange.

4. In a surgical operating-cushion, a flexible apron carrying a plurality of loops, and a pad detachably retained by said loops.

5. In a surgical operating-cushion, a flexible apron provided with a flange, a pad, and loops for holding said pad against said flange.

6. In a surgical operating-cushion, a flexible apron having a flange upon one face, flexible loops attached to said flange, and a crescent-shaped pad abutting against said flange and having the ends thereof embraced by said loops.

7. In a surgical operating-cushion, an apron provided with loops, and a crescent-shaped pad having each end portion thereof embraced by one of said loops.

8. A surgical operating-cushion embodying a flexible apron provided with an extension, a pad resting on the main portion of said apron, and means for detachably retaining said pad upon said apron.

9. A surgical operating-cushion embodying an apron provided with an extension, and a crescent-shaped pad supported on the main portion of said apron and provided with an inwardly-directed extension directed toward said first-named extension.

10. A surgical operating-cushion embodying a flexible apron provided with an extension, a flange upon the main portion of said apron, a crescent-shaped pad abutting against said flange and having its open portion disposed toward said extension, and means for detachably retaining said pad against said flange.

11. A surgical operating-cushion embodying an apron, and a crescent-shaped cushion or pad supported thereon and provided at its intermediate portion with an inwardly-directed extension.

12. A surgical operating-cushion embodying a crescent-shaped pad provided at its intermediate portion with spaced inwardly-directed extensions.

13. A surgical operating-cushion comprising an apron having a trough-shaped extension and provided upon its main portion with a curved flange, a crescent-shaped cushion or pad abutting against said flange and having its open portion directed toward said extention, said cushion being provided with an intermediate extension, also directed toward the extension of said apron, and a plurality of retaining-loops in connection with said flange for retaining said cushion against the same.

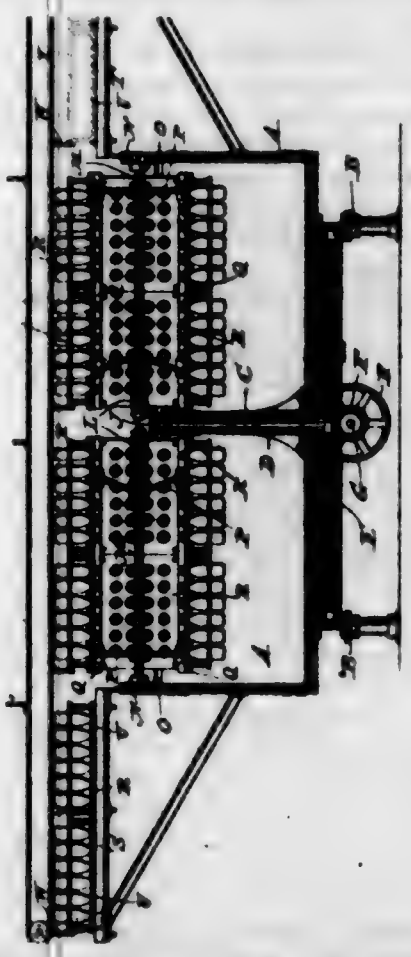
807,367. BOTTLE WASHING AND STERILIZING APPARATUS. OTTO ECK, Baltimore, Md. Filed Feb. 24, 1905. Serial No. 247,145.

Claim.—1. In an apparatus for washing bottles, the combination of a tank; a shaft overlying the tank; means for bodily shifting the shaft with reference to the tank; means for rotating the shaft; and means carried by the shaft for supporting a bottle-rack.

2. In an apparatus for washing bottles, the combination of a tank; a shaft overlying the same; a gear mounted upon the shaft; a rack carried by the tank, with which said gear meshes; and means carried by the shaft for supporting a bottle-holding rack.

3. In an apparatus for washing bottles, the combination of a tank; a shaft overlying the same and supported thereby; means for moving the shaft at an angle to its longitudinal axis and with reference to the tank and thereby causing the shaft to rotate; and means carried by the shaft for supporting a bottle-holding rack.

4. In an apparatus for washing bottles, the combination of a tank; a shaft overlying the same and supported thereby; means for moving the shaft at an angle to its longitudinal axis and with reference to the tank and thereby causing the shaft to rotate; means carried by the shaft for supporting a bottle-holding rack; means located at the sides of the tank for maintaining the rack in line with the rack-supporting means; and means for moving the rack, substantially as described.



5. In an apparatus for washing bottles, the combination of a tank; a shaft overlying the same and supported thereby; means for moving the shaft with reference to the tank and thereby causing the shaft to rotate; means carried by the shaft for supporting a bottle-holding rack; and means to advance the rack through said supporting means.

6. In combination with a tank; a bottle-rack-supporting means located above the tank; pinions carried at the outer ends of said means; rack-teeth carried by the tank and meshing with said pinions; and means for moving said rack-supporting means, whereby said means will be caused to rotate and the bottle-racks carried thereby will be moved into and out of the tank, substantially as described.

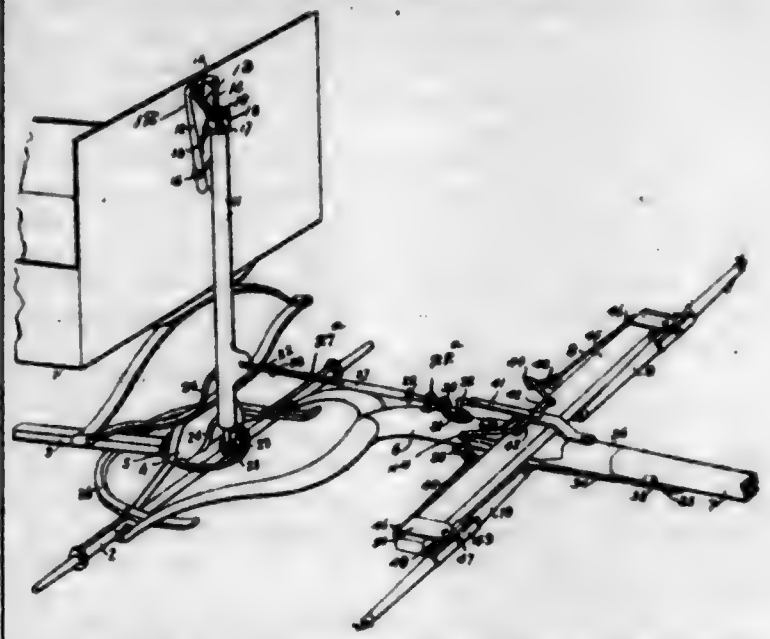
7. In combination with a circular tank; a shaft centrally disposed therein; a frame or casting carried thereby; means for rotating the shaft; a horizontally-disposed shaft extending outwardly from the frame; a pinion mounted upon the outer end of the horizontal shaft; a rack mounted upon the tank in line with the pinion; and means carried by the horizontal shaft for holding a bottle-rack, substantially as described.

8. In combination with a circular tank; a shaft centrally disposed therein; means for rotating said shaft; a frame or casting carried by the shaft; radially-disposed shafts swiveled in the casting; a pinion carried by the outer end of each of said shafts; a circular rack mounted upon the tank in line with the pinions; and bottle-rack-supporting means carried by said radial shafts.

9. In combination with a circular tank; a shaft centrally disposed therein; means for rotating said shaft; a frame or casting carried by the shaft; radially-disposed shafts swiveled in the casting; a pinion carried by the outer end of each of said shafts; a circular rack mounted upon the tank in line with the pinions; bottle-rack-supporting means carried by said radial shafts; and bottle-rack-supporting platforms located upon opposite sides of the tank.

10. In combination with a circular tank; a shaft centrally disposed therein; means for rotating said shaft; a frame or casting carried by the shaft; radially-disposed shafts swiveled in the casting; a pinion carried by the outer end of each of said shafts; a circular rack mounted upon the tank in line with the pinions; bottle-rack-supporting means carried by said radial shafts; bottle-rack-supporting platforms located upon opposite sides of the tank; and means extending over said platforms and the tank for moving the racks, substantially as described.

807,388. **HORSE-DETACHER.** CHARLES H. BUTLER, near Ramah, Colo. Filed Feb. 1, 1905. Serial No. 243,736.



Claim.—1. In a mechanism of the class described, the combination with a vehicle, of a sectional tongue secured thereto, said sectional tongue provided with a sleeve positioned upon the engaging ends of the sections, locking means for positively securing the engaging ends of said sections within said sleeve, a doubletree carried by said tongue, swingletrees carried by said doubletree, clamping means carried by said doubletree and engaging said swingletrees each of said swingletrees comprising sections, means for permitting of synchronous movement of said clamping means, and locking means for permitting of the separation of the sections of said tongue and the swingletrees.

2. In a mechanism of the class described, the combination with a vehicle and a sectional tongue, locking means for securing the sections of said tongue together, a doubletree carried by said tongue, sectional swingletrees carried by said doubletree, separable clamping means for securing said sections of each swingletree together, and guiding means for and supported upon said vehicle for controlling movement of said locking and clamping means, permitting of the separation of the sections of said tongue and the swingletrees.

3. The combination with a vehicle and a sectional tongue, of guiding means for said vehicle, a doubletree positioned upon said tongue, sectional swingletrees carried by said doubletree, separable clamping means carried by said doubletree for each of said swingletrees, means connecting said clamping means and guiding means, and locking means for securing the sections of said tongue together, being connected to and operable by said guiding means.

4. In a mechanism of the class described, the combination with a vehicle, a sectional tongue secured thereto, a doubletree carried by said tongue, sectional swingletrees carried by said doubletree, of guiding means carried by said vehicle, locking means for securing the sections of said swingletrees and the tongue in an assembled position, and lever and slidable means coacting with said locking means and operable by, and connected to the guiding means.

5. In a mechanism of the character described, the combination with a vehicle and a tongue, a doubletree carried by said tongue, of a sectional swingletree carried by said doubletree, clamping means for said swingletree, guiding means carried by said vehicle and connected to said clamping means and capable of controlling movement of the same.

6. In a mechanism of the class described, the combination with a vehicle, a tongue secured thereto, a doubletree carried by said tongue, clamping means carried by said doubletree, a sectional swingletree carried by said clamping means, said clamping means comprising a pivotally-mounted clamp, comprising two members, one of said members capable of being separated from the other member, and means for controlling movement of said clamp.

7. In a mechanism of the class described, the combination with a vehicle and a sectional tongue, a doubletree carried by said tongue, of a sectional swingletree carried by said doubletree, clamping means for securing the sections of said swingletree together, locking means for securing the sections of the tongue together, guiding means connected to said locking and clamping means and capable of synchronously actuating the same.

8. In a mechanism of the class described, the combination with a vehicle, a sectional tongue carried thereby, a doubletree carried by said tongue, of clamping means carried by said doubletree, said clamping means comprising two pivotally-mounted members, one of said members capable of being separated from the other, a sectional, swingletree positioned between each of said clamping means, means for holding the members of each of the clamping means together, means for locking the sections of said tongue together, and slidable, lever, and revoluble means connecting said clamping and locking means and guiding means.

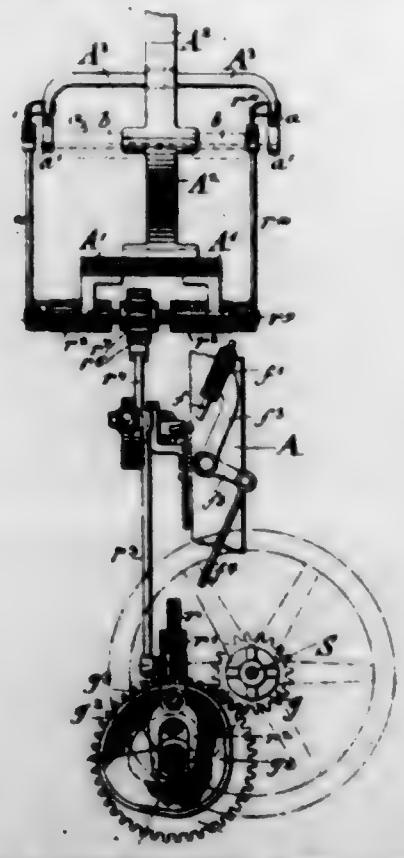
9. In a mechanism of the class described, the combination with a support, of pivotally-mounted clamping means carried by said support, said clamping means carried by a primary member provided with pins, a horizontal, movable member coacting with said primary member, a sectional, swingletree positioned between said members, and means for securing said members in a fixed position upon said swingletree.

10. In a mechanism of the class described, the combination with a support, of clamping means pivotally mounted upon said support, said clamping means comprising a primary member provided with a pin, an auxiliary member coacting with said primary member, means for drawing said auxiliary member toward said primary member, a swingletree positioned between said primary and auxiliary members, and slidable means for retaining said auxiliary and primary members in a fixed position.

11. In a mechanism of the class described, the combination with a running-gear, of a tubular member carried by said running-gear, a slidable member positioned within said tubular member, means for sliding and rotating said slidable member, a beveled gear member secured to an axle of said running-gear, a beveled gear secured to said slidable member, said beveled gear adapted to engage said beveled member when said slidable member is moved to its lowermost position, a tongue connected to said running-gear, a doubletree carried by said tongue, clamping means carried by said doubletree near each end, a swingletree supported by each of said clamping means, said clamping means comprising primary and auxiliary members, said auxiliary member capable of being adjusted relative to said primary member, and slidable means connecting said clamping means and slidable member positioned within the tubular member.

12. In a mechanism of the class described, the combination with a support, of clamping means carried by said support, sectional swingletrees engaging said clamping means, and guiding means coacting with said clamping means and capable of permitting of the same to be operated for releasing said swingletrees.

807,369. ENVELOP-MACHINE. EDWARD ERMOLD, New York, N. Y. Filed Apr. 7, 1905. Serial No. 254,384.



Claim.—1. In an envelop-machine, the combination, with a paste-roller and means for imparting reciprocating motion to the same, of a mechanism for interrupting the motion of the roller-operating mechanism, and an elevator-platform provided with means for actuating said interrupting mechanism during the descending and ascending motion of the platform.

2. In an envelop-machine, the combination, with a paste-roller and mechanism for reciprocating the same, of a clutch mechanism arranged for interrupting or restoring the motion of the reciprocating mechanism, and an elevator-platform provided with means for releasing the clutch from or relocking the same with said reciprocating mechanism.

3. In an envelop-machine, the combination, with a paste-roller and mechanism for imparting reciprocating motion to the same, of a clutch mechanism adapted to interrupt or reestablish the motion of the reciprocating mechanism, an oscillating lever connected with said clutch mechanism, a rocker-pin adapted to engage one end of said lever, means for oscillating said rocker-pin, and an elevator-platform provided with means for acting on the opposite end of the lever.

4. In an envelop-machine, the combination, with a paste-roller and means for imparting reciprocating motion to the same, of a clutch mechanism adapted to interrupt or restore the motion of said reciprocating mchanism, a lever connected with said clutch, said lever being capable of a horizontally and a vertically rocking motion, an oscillating rocker-pin adapted to engage one end of said lever, a locking device for locking the opposite end of said lever after it has been shifted by said rocker-pin, and an elevator-platform provided with means for engaging the opposite end of said rocking-lever and with means for releasing the locking device and clutch-lever.

5. In an envelop-machine, the combination, with a paste-roller and means for imparting reciprocating motion to the same, of a clutch mechanism interposed in said reciprocating mechanism, a lever connected with said clutch mechanism and adapted to be rocked horizontally and vertically, an oscillating rocker-pin adapted to engage one end of said clutch-lever, a locking device adapted to lock the opposite end of the clutch-lever, a vertically-reciprocating elevator-platform, an arm attached to the under side of said platform and adapted to release the locking device from the clutch-lever, and a heel pivoted to said arm and adapted to engage the clutch-lever for placing it in the path of the rocker-pin for locking the clutch-lever.

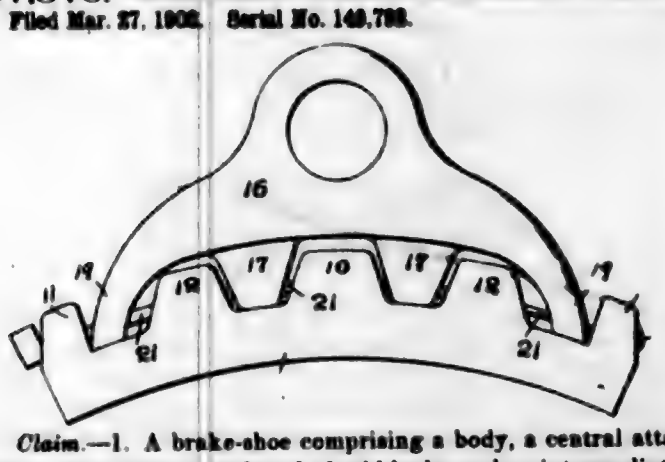
6. In an envelop-machine, the combination, with a paste-roller and mechanism for reciprocating the same, of a clutch interposed in said reciprocating mechanism, a clutch-lever connected with said clutch, an oscillating rocker-pin adapted to engage one end of said clutch-lever, a locking-latch adapted to engage the opposite end of said lever for locking the same, a vertically-reciprocating elevator-platform, a downwardly-extending arm applied to the under side of said platform, a heel pivoted to said arm parallel with the same and adapted to engage the inner end of said clutch-lever so as to place it in the path of the rocker-pin and produce the locking of the clutch-lever and of the clutch out of mesh with the mechanism for transmitting reciprocating motion to the paste-roller.

7. In an envelop-machine, the combination, with a paste-roller and mechanism for imparting reciprocating motion to the same, of a clutch interposed in said reciprocating mechanism and composed of a movable and spring-actuated member, a stationary member, and interlocking means between said members, a clutch-lever connected with the movable clutch member, an oscillating rocker-pin adapted to engage the outer end of said clutch-lever, means for imparting intermittent oscillating motion to said rocker-pin, a vertically-reciprocating elevator-platform, a pivoted heel supported below said platform for engaging the inner end of the clutch-lever and shifting its outer end into engagement with the rocker-pin, a locking-arm on said clutch-lever, and a pivoted and spring-actuated latch for locking said arm and clutch-lever and holding the movable clutch member out of mesh with the stationary member, for interrupting the motion of the reciprocating mechanism of the paste-roller.

8. In an envelop-machine, the combination, with a paste-roller and mechanism for imparting reciprocating motion to the same, of a clutch interposed in said reciprocating mechanism, and composed of a movable and spring-actuated member, a stationary member, and locking-pins between said members, a rocking clutch-lever connected with said movable clutch member, an oscillating rocker-pin adapted to engage the outer end of said clutch-lever, means for intermittently actuating said rocker-pin, a locking-latch adapted to engage and lock the inner end of the clutch-lever, a vertically-reciprocating elevator-platform and a curved arm attached to the under side of said platform, and located in the plane of the locking-latch, said arm engaging the latch during the upward motion of the platform for releasing the clutch-lever, returning the clutch members into mesh with each other and resuming the reciprocating motion of the paste-roller.

9. In an envelop-machine, the combination, with a paste-roller and mechanism for imparting reciprocating motion to the same, of a clutch interposed in said reciprocating mechanism, and composed of a movable and spring-actuated member, a stationary member, locking means between said members and a device for locking the movable member after it is withdrawn from the stationary member, an oscillating rocker-pin adapted to engage the outer end of said clutch-lever, means for intermittently actuating said rocker-pin, a locking device adapted to lock the inner end of the clutch-lever, a vertically-reciprocating elevator-platform and means supported at the under side of said platform for actuating the movable clutch member and locking the same by its locking device and simultaneously locking the clutch-lever, and means for releasing the locking-lever and movable clutch member for actuating the reciprocating mechanism of the paste-roller.

807,370. **BRAKE-SHOE.** JOSEPH D. GALLAGHER, Glenridge, N. J. Filed Mar. 27, 1905. Serial No. 251,782.



Claim.—1. A brake-shoe comprising a body, a central attaching-lug, an end lug at each end of said body, and an intermediately-placed lug between each end lug and said central lug, said lugs being provided with keyways, for the reception of a key and attachment of the brake-shoe body to the brake-head.

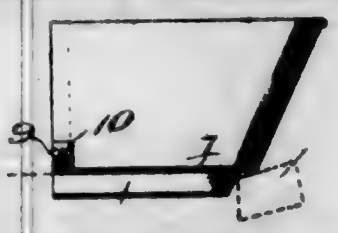
2. A brake-shoe comprising a body having curved surfaces, a central attaching-lug, an end lug at each end of said body, and an intermediately-placed lug between each end lug and said central lug, and keyways in all of said lugs parallel in their longitudinal direction with the upper curved surface of said body, for the reception of a key and attachment of the brake-shoe body to the brake-head.

3. The combination, with a brake-head, of a brake-shoe comprising a body, a central attaching-lug, end lugs, and an intermediately-placed lug between each end lug and said central lug all on said body, holding-lugs on said brake-head, keyways in all of said lugs in alinement, and a key extending through all of said keyways for attaching said brake-shoe to said brake-head.

4. The combination, with a brake-head, of a brake-shoe comprising a body having curved surfaces, a central attaching-lug, end lugs, and an intermediately-placed lug between each end lug and said central lug, holding-lugs on said brake-head, keyways in all of said lugs in circular alinement and parallel in their longitudinal direction with the upper curved surface of said body of the brake-shoe, and a curved key extending through said keyways for attaching said brake-shoe to said brake-head.

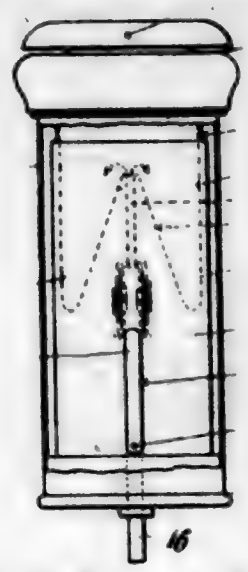
5. A brake-shoe comprising a body, a central attaching-lug, an end lug at each end of said body, and an intermediately-placed lug between each end lug and said central lug, all of said lugs being provided with keyways having flaring mouths for easy access of a key.

807,371. **WASHBOILER ATTACHMENT.** SAMUEL J. GIBSON, The Dalles, Oreg. Filed Jan. 4, 1905. Serial No. 239,631.



Claim.—A clothes-strainer comprising a receptacle having a semicircular bottom, a vertical depending semicircular flange secured to said bottom and being partly cut away, a semicircular flared wall, the side of said receptacle adjacent to the straight edge of said bottom being open, braces connected with the ends of said flared wall and with said semicircular flange, handles secured to said wall, and a wedge-shaped brace extending along the straight edge of said semicircular bottom on the upper surface thereof.

807,372. **PNEUMATIC TEAT-CUP.** ALEXANDER GILLIES, Pyramg, Victoria, Australia. Filed June 26, 1905. Serial No. 267,123.



Claim.—1. In pneumatic teat-cups, an inner casing having an inflatable "tongue" extending almost the entire length of the cup on one side in combination with a comparatively short inflatable "gum" on the opposite side and near the mouth of the cup and arranged substantially as and for the purposes set forth.

2. In pneumatic teat-cups a long inflatable "tongue" formed by splitting the wall of the inner casing down one side in combination with a short inflatable "gum" on the opposite side to said "tongue" formed by similarly splitting the wall of the inner casing, said "tongue" being connected to the pulsator and the "gum" open to the atmosphere, and a constant vacuum within the casing substantially as set forth.

3. In pneumatic teat-cups a long inflatable "tongue" formed by splitting the wall of the casing from the top longitudinally and parallel with its periphery for about half its circumference and forming a cavity between having a pair of V-shaped ends near the base on each side of a comparatively rigid triangular part, said cavity being closed at the top and a tube in communication with a pulsator extending through the base of the casing and passing through the apex of the triangular part substantially as set forth.

4. In pneumatic teat-cups an inflatable "gum" formed near the mouth of the casing and on one side thereof and in permanent communication with the atmosphere substantially as and for the purposes set forth.

5. In pneumatic teat-cups a short inflatable "gum" formed near the mouth of the cup by splitting the wall of the casing from the top longitudinally and parallel with its periphery for about half its circumference and forming a cavity between, having a pair of V-shaped legs on either side of a comparatively rigid triangular part, said cavity being closed at the top and open at the bottom to the atmosphere by means of a tube communicating with a passage extending through the apex of the triangular part substantially as set forth.

6. In pneumatic teat-cups an outer shell and an inner flexible casing having a tube extending upwardly through the wall of said casing to the inflatable "gum" and in open communication with the atmosphere at its lower end, said tube having a pin-hole on one side thereof communicating with the space between the rigid shell and the flexible casing and said casing having holes pierced through the wall thereof at its upper end and a constant vacuum therein substantially as set forth.

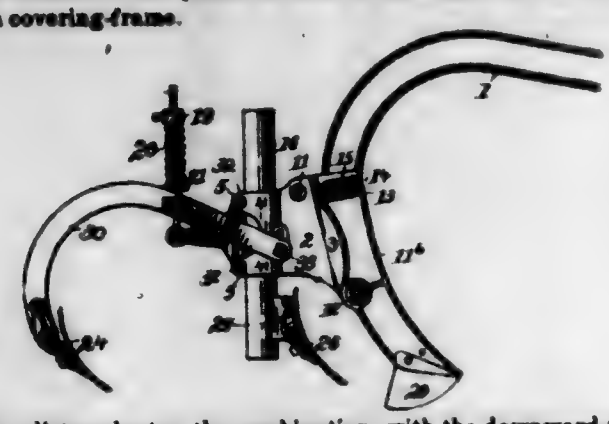
7. In pneumatic teat-cups, a rigid shell and a circular mouthpiece sprung thereover, said mouthpiece being substantially U-shaped in cross-section and having holes therethrough.

8. In pneumatic teat-cups, a rigid shell, a split casing in the shell, a flat metal ring fitted around the casing and over which the edges of said casing are turned, said ring being fitted in the shell, and a circular mouthpiece sprung over said shell.

807,373. **ATTACHMENT FOR LISTER-PLANTERS.** WILLIAM S. GRAHAM, Canton, Ill., assignor to Parlin & Orendorff Company, Canton, Ill., a Corporation of Illinois. Filed Oct. 23, 1905. Serial No. 284,601.

Claim.—1. In a lister-planter, the combination of a beam having a downward rear extension, a pair of plates secured to the downward extension of the beam and projecting rearward therefrom, a seed-tube clamped between the projecting parts of the plates, and a shank for soil-cutting appliances swingably adjustable on the plates in approximate alinement with the downward extension of the beam.

2. In a lister-planter, the combination with a beam having a downward rear extension, of a pair of plates attached to the downward extension of the beam on opposite sides thereof and projected rearward therefrom, a seed-tube clamped between the rearward extensions of the plates by bolts inserted through the plates in the rear of the tube, a bracket held in place by the tube-clamping bolts and extended rearward from the tube and a pair of perforated bosses on the outer surfaces of the plates in front of the tube, for the attachment of a covering-frame.

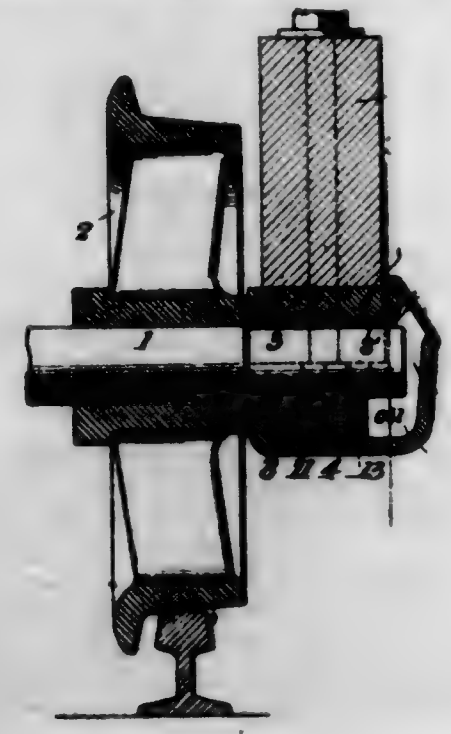


3. In a lister-planter, the combination, with the downward-terminating beam thereof, of a pair of plates attached to opposite sides of the beam, extended rearward out of contact with each other for a distance sufficient to form a space for a subsoiler-standard and shaped to receive a seed-tube between their rear ends, bolts for clamping the plates onto the seed-tube, a bracket held in the rear of the seed-tube by the tube-clamping bolts and extended rearward, a pair of shovel-beams pivotally hitched to the plates in front of the seed-tube, a cross-bar conjoining the shovel-beams, a plate on the cross-bar, a threaded rod pivotally connected with the rear end of the bracket and extended through a hole in the plate on the cross-bar, a nut on the threaded end of the rod and a spring on the rod between the nut and the plate.

4. In a lister-planter, the combination with the downward-terminating beam thereof, of a pair of plates attached to opposite sides of the beam, extended rearward therefrom and forming between their extended surfaces a recess for a subsoiler-standard, a recess for a seed-tube and a space for a spring-rod bracket.

5. In a lister-planter, the combination with the downturned beam of the planter of a pair of plates attached to opposite sides of the beam and extended rearward therefrom, a seed-tube clamped between the rear extensions of the plates, a shank for soil-cutting appliances pivoted between its ends on the lower, front corners of the plates and adjustably secured to the plates at its upper end, a bracket secured to the plates and extended rearwardly therefrom, beams for covering-shovels pivotally connected with the sides of the plates, a cross-bar for the beams of the covering-shovels, a plate on the cross-bar, a rod pivotally connected with the rear end of the bracket and extended through a hole in the plate, a nut on the threaded end of the rod, and a spring on the rod between the nut and the plate.

807,374. **SELF-OILING JOURNAL-BOX.** CHARLES J. GUSTAFSON, Chattanooga, Tenn. Filed Jan. 20, 1904. Serial No. 191,374.



Claim.—A journal-box formed of a single casting provided with a central transversely-disposed enlargement having a curved bottom and defining oppositely-disposed laterally-projecting seating-flanges having bolt-receiving openings formed therein, the body of the casting beneath said enlargement being cored or hollowed out to form an oil-well the front wall of which is spaced from the front edge of the enlargement to form an oil-supply opening, there being an opening formed in the rear wall of the casting communicating with the oil-well for the reception of a journal, said opening being of greater diameter than that of the journal to permit the insertion of a journal-brass between said journal and the curved bottom of the central enlargement, a vertical partition formed integral with the casting and provided with a terminal concavity arranged in horizontal alinement with the lower wall of the journal-receiving opening, said partition dividing the oil-well into a plurality of lubricating-compartments of unequal size, and a lid hinged to the central enlargement of the casting and adapted to normally cover the oil-supply opening.

807,375. **STEEL PROJECTILE.** ALBERT HAASE, Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Mar. 31, 1905. Serial No. 253,087.



Claim.—1. A projectile comprising a body portion and a rear hollow portion; said rear hollow portion containing a part which, on impact of the projectile, moves forward therein and expands radially to burst the hollow portion from the body of the projectile.

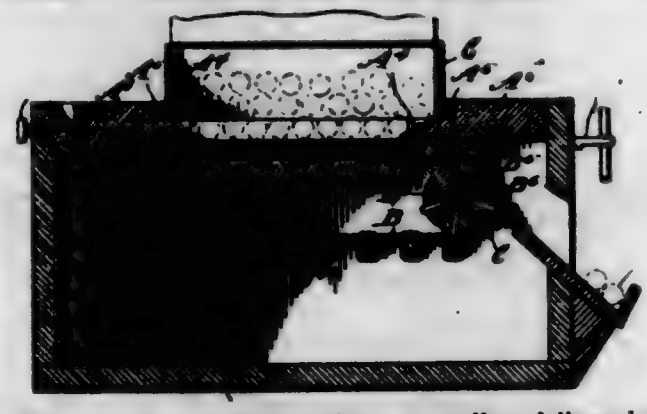
2. A projectile comprising a body portion and a rear hollow portion with a thin cylindrical wall; said rear hollow portion containing a metallic body movable relatively thereto under impact of the projectile and expanding radially under such movement to burst the hollow portion from the body of the projectile.

3. A projectile comprising a solid main body portion and a hollow rear portion having a thin cylindrical wall; said rear hollow portion containing a metal filling which, under impact of the projectile, flows in the direction of its flight and by such flowing, expands outwardly and separates the hollow cylindrical portion from the main body of the projectile.

4. A steel projectile comprising a solid front body portion and a hollow rear portion provided with a filling of metal of higher specific gravity than steel the filling being constructed to move forward within the hollow portion and separate the hollow portion from the front portion.

5. A steel projectile comprising a solid front body portion, a hollow rear portion with a thin cylindrical wall, a filling in said hollow rear portion of metal of higher specific gravity than steel and a rifling-ring surrounding the thin cylindrical wall of the rear hollow portion.

807,376. **VENDING-MACHINE.** ARTHUR T. HALLOCK, Canandaigua, N. Y., assignor, by mesne assignments, to Chas. B. Knox, Johnstown, N. Y. Filed Feb. 18, 1905. Serial No. 246,280.



Claim.—1. In a vending-machine, an endless delivery-belt, a driving-roller therefor, and cross-bars to form pockets upon said belt downwardly tapered toward each side at their opposite ends and provided with a plane supporting portion intermediate of said ends.

2. In a vending-machine, an endless delivery-belt, a driving-roller, cross-bars upon said belt disposed to form a series of pockets extending transversely of the belt, sockets disposed in said belt beneath each of said bars at their mid-length, and radial projections carried by the driving-roller to engage said sockets.

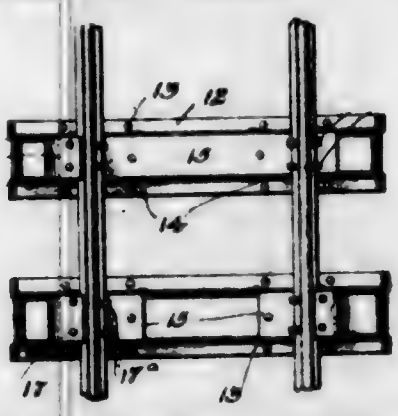
3. In a vending apparatus, a delivery-belt provided with adja-

cent cross-bars reduced in diameter relative to other bars upon the belt to form pockets thereon of different capacities, and means for intermittently moving said belt.

4. In a vending-machine, a frame, a top portion comprising fixed and movable sections, a shoulder upon said sections to receive a package containing articles to be delivered, and a hopper portion extending downward from said shoulder.

5. In a vending-machine, a frame, a top portion comprising fixed and movable sections, a shoulder upon said sections to receive a package containing articles to be delivered, a hopper portion extending downward from said shoulder, an endless carrier provided with a series of pockets upon its surface adapted to travel beneath said hopper, and means for imparting an intermittent motion to said belt.

807,377. **RAILWAY-TIE.** WILLIAM I. F. HARDER, Hartford, Kans. Filed Mar. 23, 1905. Serial No. 251,631.



Claim.—1. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion and a filling for the upper portion consisting of part concrete and part wood.

2. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion and a filling for the upper portion consisting of part concrete and part wood, and means to retain said wood in place.

3. A railroad-tie comprising a casing formed with a broad angular lower portion or base and a narrower angular upper portion, a concrete filling for the lower portion and a filling for the upper portion consisting partly of concrete and partly of wood.

4. A railroad-tie comprising a casing made from sheet metal and having its sides bent from the base, first upward, then inward and thence upward again forming a broad lower portion and a narrow upper portion, a concrete filling for the lower portion and a filling for the upper portion consisting partly of concrete and partly of wood.

5. A railroad-tie comprising a metallic casing made from a single sheet and having its sides bent from the base first upward, then inward, and thence upward again forming a broad lower portion and a narrower upper portion, a concrete filling for the lower portion and a filling for the upper portion consisting partly of concrete and partly of wood.

6. A railroad-tie comprising a casing made from sheet metal and having its sides bent from the base first upward, then inward, and thence upward again forming a broad lower portion and a narrower upper portion, the extremities of said casing slit and turned inward to close the ends, a concrete filling for the lower portion and a filling for the upper portion consisting partly of concrete and partly of wood.

7. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion extending up into the upper portion at the center and a wood filling for the ends of said upper portion.

8. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion extending up into the upper portion at the center and ends leaving intermediate recesses in said concrete, and blocks of wood arranged in said recesses.

9. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion at the center and ends leaving intermediate recesses below said rails, and blocks of wood arranged in said recesses.

10. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion extending up into the upper portion at the center and ends leaving intermediate recesses in said concrete, and blocks of wood arranged in said recesses, and drain-passages from said recesses.

11. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion extending up into the upper portion at the center and ends leaving intermediate recesses in said concrete, blocks of wood arranged in said recesses, and drain-passages from said recesses to the ends of the ties.

12. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion extending up into the upper portion at the center and ends leaving intermediate recesses in said concrete, and blocks of wood arranged in said recesses, each recess having an undercut step at one end, the said wood filling having an extension thereunder.

13. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion extending up into the upper portion at the center and ends leaving intermediate recesses in said concrete, and blocks of wood arranged in said recesses, each recess having an undercut step at the outer end, the said wood filling having an extension thereunder.

14. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion, a filling for the upper portion consisting partly of concrete and partly of wood, and a rail-engaging plate arranged over the wood filling.

15. A railroad-tie comprising a casing formed with a broad lower portion or base and a narrower upper portion, a concrete filling for the lower portion, a filling for the upper portion consisting partly of concrete and partly of wood, and angular brace-bars arranged in the outer upper angles of said casing, and means to secure the horizontal flanges of said bars to the horizontal portions of said casing.

807,378. **METAL PILING.** JAMES J. HAROLD, Jersey City, N. J., assignor, by mesne assignments, to Emma Harold, Jersey City, N. J. Filed Aug. 31, 1904. Serial No. 222,952.



Claim.—1. In metal sheet-piling, a beam-section consisting of a flat web-plate and companion locking-angles rigidly mounted thereon, the respective edges of the web-plate extending beyond the line of the free hook edges of the angles.

2. In metal sheet-piling, a beam-section consisting of a flat web-plate and companion locking-angles rigidly mounted on and located adjacent to the respective edges thereof, the bent-around hook edges of said angles being set at angle other than a right angle.

3. In metal sheet-piling, a channel-beam section and a piling-section consisting of a web-plate and companion angles rigidly mounted thereon and provided with hook edges adapted to conform to and interlock with the companion flanges on the channel-beams in assembling the piling-sections in their alternate arrangement.

807,379. **FOOD-CUTTER.** HOWARD S. HART, New Britain, Conn. Filed May 10, 1904. Serial No. 207,196.

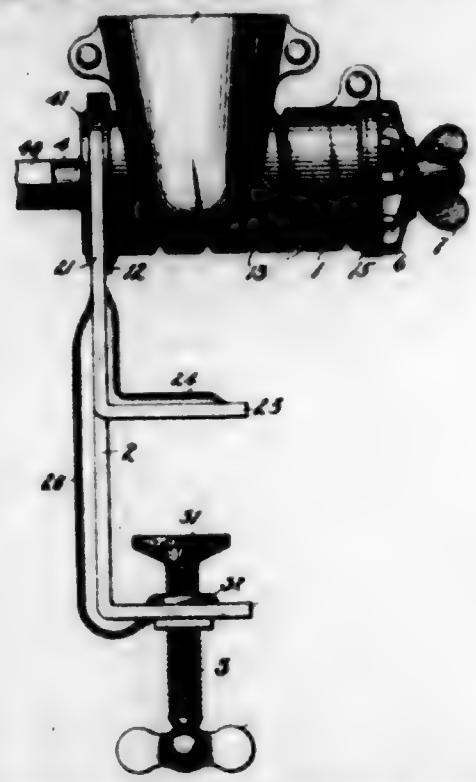
Claim.—1. In a food-cutter, a casing formed from a single blank of sheet metal having its sides formed upwardly into a hopper and united at its upper ends at the side of the hopper, its body having spirally-formed corrugations, an annular flange at one end, a standard having an annular flange riveted to said casing-flange and means at the other end for mounting a knife and cutter.

2. In a food-chopper the combination of a casing having a hopper, a standard formed of sheet metal and having an opening surrounded by an annular flange secured to one end of said casing, a forcer extending through the opening in said standard, a knife mounted in the end of said casing opposite said standard and concentric with said forcer, said knife being at least as small as and so constructed that it may be formed of the sheet metal cut out from the standard portion to form the opening for said forcer.

3. A food-chopper comprising the combination of a casing having an annular flange at one end, a forcer, a knife, a cutter and a standard for supporting said parts formed from a separate blank of sheet metal having an annular flange secured to said casing-flange and having a reinforced main arm with means for clamping and a pair of inwardly-turned reinforced feet for the purpose specified.

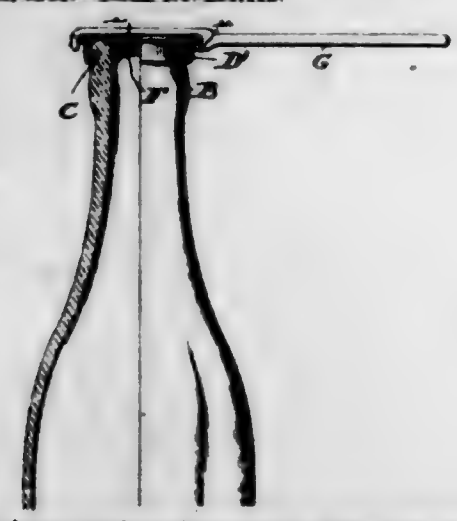
4. A casing for a food-cutter formed from a single blank of sheet metal, and comprising a substantially cylindrical body portion having an annular flange at each end, the edges of the blank being

brought together and united at the top of said cylindrical portion only, and a hopper portion integral with the body portion intermediate the ends thereof, and opening upwardly, said flanges affording means for mounting a knife and for the attachment of a standard in combination with a knife arranged at one end and a standard arranged at the other end of said body portion.



5. A food-cutter comprising the combination of a casing, having a substantially cylindrical body portion and an open-mouthed hopper, an annular flange at one end of the body portion, a forcer mounted to rotate in the body portion and having a hub projecting from the flanged end of the casing, a knife and a cutter at the opposite end, a standard formed of sheet metal and having an annular portion secured to the flanged portion of said body through which the hub projects, and three downwardly-extending vertically-reinforced legs with laterally-extending feet, and clamping means for the purpose specified.

807,380. SEALING-CAP FOR VESSELS. JAMES M. HICKS, Summit, N. J., assignor to The Auto Stopper Company, New York, N. Y. Filed Mar. 15, 1905. Serial No. 250,192.



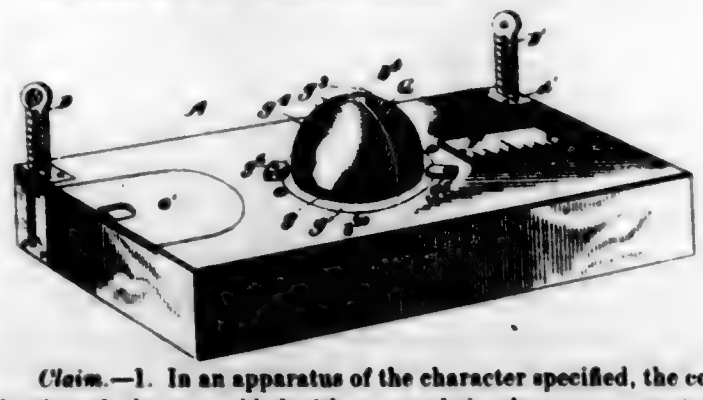
Claim.—A sheet-metal cap for a vessel, having a flat top surface, a downwardly-trending flange, beneath said top surface, a circumferential flange as an extension of said flat top surface, said flat top surface and flange being of larger diameter than the said downwardly-trending flange, whereby when the said cap is on a vessel the under part of the circumferential flange is above the top of the walls of the vessel and the downwardly-trending flange gripe the under side of the bead upon the vessel-neck by virtue of the elasticity of the metal of the flange, in combination with a vessel having a neck and a bead surrounding the neck near the top thereof, all arranged to operate as and for the purposes specified.

807,381. MEANS FOR SECURING STOPPERS FOR VESSELS IN THEIR CAPS. JOHN A. HICKS, Summit, N. J., assignor to The Auto Stopper Company, New York, N. Y. Filed Jan. 10, 1905. Serial No. 240,627.

Claim.—An article of manufacture consisting of a sealing-cap for vessels comprising a cup-shaped cap, and sealing-stopper of less diameter than the inner diameter of the said cap, the one cemented to the other by adhesive material between the top of the stopper and the inner surface of the top of the cap only, substantially as specified.



807,382. COMBINATION-TOOL. ELI HOGAN, Portland, Oreg. Filed June 12, 1905. Serial No. 264,953.



Claim.—1. In an apparatus of the character specified, the combination of a base provided with a central circular recess, a metallic disk in the recess, means for leveling the disk, a gasket on the disk, an inner dome on the gasket provided with a circumferential flange and a circumferential groove above the flange, a gasket-ring on the flange, an outer transparent dome provided with a flange resting on the gasket-ring and a circumferential groove, and fitting over and spaced apart from the inner dome, a liquid within the space between the domes, an air-bubble being provided, means within the grooves for sealing the domes, bolts for securing the domes together, the inner dome being provided with a graduated base-line on the convex face thereof, comprising four quadrants of ninety degrees, and a major meridian cutting the base-line, and with a series of tangential circles of nine degrees diameter arranged with their diameters on the base-line, and a major meridian, and bearing numerals above the line from 0 to 9 and below the line from 0 to 90, the circles bearing the numeral 0 being at the apex of the dome and at the junction of the base-line and meridians, and with a minor meridian at right angles to the major meridian, and provided with a series of tangential circles similarly arranged and numbered to the circles on the major meridian, and with lines parallel with the base-line and cutting the centers of the circles of the meridians, and with lines parallel with the meridians cutting the centers of the circles on the base-line, countersunk brackets at the front and rear of the base and in line with each other, graduated sights slidably mounted in the brackets, the front sight provided with cross-wires, and the rear sight with a perforated disk, a compass in an opening in the base and in front of the domes, and a scale secured to the upper face of the base behind the dome.

2. In an apparatus of the character specified, the combination of a base provided with a central circular recess, a metallic disk in the recess, means for leveling the disk, a gasket on the disk, an inner dome on the gasket, an outer transparent dome fitting over and spaced apart from the inner dome, a liquid within the space between the domes, an air-bubble being provided, means for sealing the domes, means for securing the domes in the base, the inner dome being provided with a graduated base-line on the convex face thereof, and a major meridian cutting the base-line, and with a series of tangential circles of nine degrees diameter arranged with their diameters on the base-line and major meridian, and bearing numerals above the lines from 0 to 9, and below the lines from 0 to 90, the cir-

cles bearing the numeral 0 being at the apex of the dome and at the junctions of the base-line and meridian, and with a minor meridian at right angles to the said major meridian and provided with a series of tangential circles arranged and numbered similarly to the circles on the major meridian, and with a series of lines parallel with the base-line and cutting the centers of the circles on the meridians, and with a series of lines parallel with the meridian and cutting the centers of the circles on the base-line, movable sights at the front and rear of the base and in line with each other, a compass in front of the dome, and a scale at the rear of the dome on the upper surface of the base.

3. In an apparatus of the character described, the combination of a base, a metallic disk in a recess in the base, means for leveling the disk, a gasket on the disk, an inner dome on the gasket, an outer transparent dome fitting over and spaced apart from the inner dome, a liquid within the space between the domes, an air-bubble being provided, means for sealing the domes, the inner dome being provided with a graduated base-line on the convex face thereof, and a major meridian cutting the base-line, and with a series of tangential circles of nine degrees diameter, arranged with their diameters on the base-line and major meridian, and bearing numerals above the lines from 0 to 9, and below the lines from 0 to 90, the circles bearing the numeral 0 being at the apex of the dome, and at the junction of the base-line and meridian, and with a minor meridian at right angles to the said major meridian, and provided with a series of tangential circles numbered and arranged similarly to the circles on the major meridian, parallels and meridians cutting the centers of the circles on the major and minor meridians on the base-line respectively and a compass and a scale secured in the upper face of the base.

4. In an apparatus of the character described, the combination of a base, a metallic disk within a recess in the base, means for leveling the disk, an inner dome resting on the disk, an outer transparent dome fitting over and spaced apart from the inner dome, a liquid within the space between the domes, an air-bubble being provided, the inner dome being provided with a graduated base-line on the convex face thereof and a major meridian cutting the base-line and with a series of tangential circles of nine degrees diameter, arranged with their diameters on the base-line and major meridian and bearing numerals above the lines from 0 to 9, and below the line from 0 to 90, the circles bearing the numeral 0 being at the apex of the dome, and at the junctions of the base-line and meridian, and with a minor meridian at right angles to the said major meridian, and provided with a series of tangential circles numbered and arranged similarly to the circles on the major meridian, and a compass and a scale secured to the upper surface of the base.

5. In an apparatus of the character described, the combination of a base, an inner dome resting within a recess in the base, an outer transparent dome fitting over and spaced apart from the inner dome, a liquid within the space between the domes, an air-bubble being provided, the inner dome being provided with a graduated base-line on the convex face thereof, and a major meridian cutting the base-line, and with a series of tangential circles of nine degrees diameter, arranged with their diameters on the base-line and major meridian, and bearing numerals above the line from 0 to 9, and below the line from 0 to 90, the circles bearing the numeral 0 being at the apex of the dome, and at the junction of the base-line and meridian, and with a minor meridian at right angles to said major meridian and provided with a series of tangential circles numbered and arranged similarly to the circles on the major meridian, and means for leveling the domes with respect to the base.

6. In an apparatus of the character described, the combination of a base, inner and outer domes resting on the base and spaced apart from each other, a liquid within the space between the domes, an air-bubble being provided, the inner dome being provided with a graduated base-line on the convex face thereof, a major meridian cutting the base-line, and with a series of tangential circles of nine degrees diameter, arranged with their diameters on the base-line and major meridian and bearing numerals above the lines from 0 to 9 and below the lines from 0 to 90, the circles bearing the numeral 0 being at the apex of the dome and at the junction of the base-line and meridian, and with a minor meridian at right angles to the said major meridian and provided with a series of tangential circles numbered and arranged similarly to the circles on the major meridian, means for sealing the domes, and means for leveling the domes with respect to the base.

7. In an apparatus of the character described the combination of a base, an inner and outer dome spaced apart and secured to the base, the inner dome being provided with a graduated base-line on the convex face thereof and a major meridian cutting the base-line and with a series of tangential circles of nine degrees diameter arranged with their diameters on the base-line and major meridian, and bearing numerals above the line from 0 to 9, and below the line from 0 to 90, the circles bearing the numeral 0 being at the apex of the dome, and at the junction of the base-line and meridian, and with a minor meridian at right angles to said major meridian, and provided with a series of tangential circles numbered and arranged similarly to the circles on the major meridian, a liquid within the space between the domes, an air-bubble being provided of a diameter equal to that of the circles, and adapted to coincide therewith, and means for leveling the domes with respect to the base.

8. In an apparatus of the character described the combination of a base, an inner and outer dome spaced apart and resting upon the base, the inner dome being provided with a graduated base-line on the convex face thereof, and a major meridian cutting the base-line, and with a series of tangential circles of nine degrees diameter, arranged with their diameters on the base-line and major meridian, and with a minor meridian at right angles to said major meridian, and provided with a series of tangential circles similarly arranged to the circles of the major meridian, a liquid within the space between the domes, an air-bubble being provided having a diameter corresponding to that of the diameter of the circles and means for leveling the domes with respect to the base.

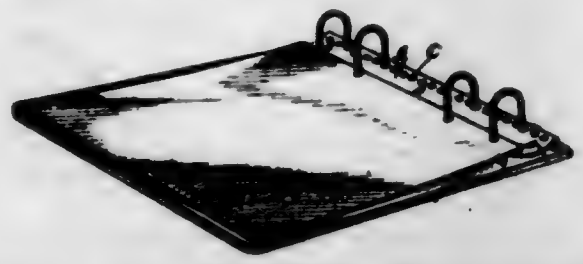
9. In an apparatus of the character described, the combination of a base, inner and outer domes spaced apart and resting on the base, the inner dome being provided with a graduated base-line on the convex face thereof, and a major meridian cutting the base-line and with a minor meridian at right angles to said major meridian and with each of the lines provided with a series of tangential circles of nine degrees diameter, and arranged with their diameters on the lines, a liquid within the space between the domes, an air-bubble being provided of a diameter corresponding to that of the circles, and means for leveling the domes with respect to the base.

10. In an apparatus of the character described, the combination of a base, an inner and outer dome spaced apart and resting on the base, a liquid within the space between the domes, an air-bubble being provided, the inner dome being provided with a graduated base-line on the convex face thereof, and major and minor meridians cutting the base-line and with a series of tangential circles of nine degrees diameter arranged with their centers on the lines and means for leveling the domes with respect to the base.

11. In an apparatus of the character described, the combination of a base, an inner and outer dome spaced apart and resting upon the base, the inner dome being provided with a graduated base-line on the convex face thereof and major and minor meridians cutting the base-line, a shield for the domes comprising a metallic cap, resting on the base, and provided with an opening at its apex and with radial openings corresponding to the major and minor meridians of the dome, and means for removably securing the shield to the base.

12. In an apparatus of the character specified, the combination of an inner dome, an outer dome fitting over and spaced apart from the inner dome, the inner dome being provided with a graduated base-line on the convex face thereof and major and minor meridians cutting the base-line and with a series of tangential circles of nine degrees diameter arranged with their centers in the line and a liquid within the space between the domes, an air-bubble being provided, and means for securing the domes together.

807,383. **ARCH-FILE.** RUFUS H. JOHNSON, Jersey City, N. J., assignor of one-half to James S. Boden, New York, N. Y. Filed Jan. 26, 1905. Serial No. 243,092.



Claim.—1. A loose-leaf holder, comprising a plate having a plurality of perforations in two rows, and leaf-holding elements adapted to be secured in said perforations the number of perforations in each row exceeding the number of leaf-holding elements.

2. A loose-leaf holder, comprising a plate having a plurality of perforations, and leaf-holding elements adapted to be secured in said perforations; each of said elements having a notch for securing

it in place in contact with the walls of the perforations said leaf-holding elements being held solely by said walls.

3. A loose-leaf holder, comprising a plate having a plurality of perforations arranged in a row along one edge of the plate, a plurality of resilient arches adapted to have one leg of each secured in said perforations, and means for securing the other leg of each arch opposite said perforations.

4. A loose-leaf holder, comprising a plate having a concave upper surface and a series of perforations along one edge of said surface, and a series of arches adapted to be secured in said perforations.

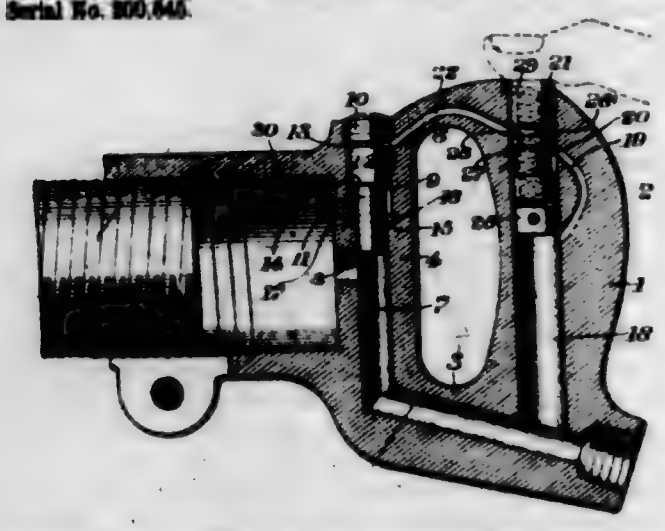
5. A loose-leaf holder, comprising a series of arches having notches in their feet, and a base for holding them comprising a plate of sheet material provided with a concave upper surface and two series of perforations along the opposite outer edges of said concave surface for the reception of said notches.

6. A loose-leaf holder comprising a plate having a series of perforations along one edge extending from one end of the plate to the other, and a plurality of arches adapted to be secured in said perforations.

7. An arch-file, comprising a base, and a plurality of resilient arches removably mounted thereon, the base having a plurality of means for receiving the feet of the arches the number of said means exceeding the number of feet.

8. An arch-file comprising a plate having a concave upper surface and two series of perforations spaced opposite each other in said surface near its outer and upper edges, and a series of arches each having a notch and a hook below the notch in each leg thereof, said arches being formed of resilient material and normally having the space between the notches greater than the space between the outside surfaces of two opposite perforations, whereby the arches can be sprung into the perforations from either side and will be retained therein, said concave surface constituting a guide for directing the feet of the arches into the perforations.

807,384. **HANDLE FOR PNEUMATIC TOOLS.** WILLIAM H. KELLUM, Philadelphia, Pa., assignor to Chicago Pneumatic Tool Company, Chicago, Ill., a Corporation of New Jersey. Filed Mar. 29, 1904. Serial No. 200,646.



Claim.—1. The combination of a pneumatic-tool handle, a throttle-valve outside of the grasping portion of the handle for controlling the admission of motive fluid to a pneumatic tool and means also outside of the grasping portion of the handle for operating said valve in both directions by fluid-pressure.

2. The combination of a pneumatic-tool handle, an inlet-port for the admission of the motive fluid to the tool, a throttle-valve outside of the grasping portion of the handle for controlling said port and manually-operated means for operating said throttle-valve in both directions by fluid-pressure.

3. The combination of a pneumatic-tool handle, a port for the admission of motive fluid to the tool, a throttle-valve outside of the grasping portion of the handle for controlling said port, differential pressure areas on said throttle-valve and means for controlling the flow of the motive fluid to one of said areas.

4. The combination of a pneumatic-tool handle, a differential throttle-valve outside of the grasping portion of the handle for controlling the inlet of motive fluid to the pneumatic tool, means for permitting constant live-air pressure to act upon one area of said throttle-valve, and means for causing intermittent live-air pressure upon the other area of said throttle-valve.

5. The combination of a pneumatic-tool handle, a port for leading fluid-pressure to the tool proper, a differential throttle-valve outside of the grasping portion of the handle controlling said port, means for permitting constant live-air pressure to act upon the small area of said throttle-valve and means for permitting intermittent live-air pressure to act on the larger area of said throttle-valve.

6. The combination of a pneumatic-tool handle, a port for leading fluid-pressure to the tool proper, a differential throttle-valve outside of the grasping portion of the handle controlling said port, means for permitting constant live-air pressure to act upon the small area of said throttle-valve and means for permitting intermittent live-air pressure to act on the larger area of said throttle-valve, in combination with means for permitting an exhaust to the atmosphere from said larger area of said throttle-valve.

7. The combination of a pneumatic-tool handle, a throttle-valve outside of the grasping portion of the handle for controlling the admission of motive fluid to the tool-cylinder, live-air ducts leading to both ends of said throttle-valve, and a manually-operated button for controlling one of said ducts.

8. The combination of a pneumatic-tool handle, a differential throttle-valve outside of the grasping portion of the handle for controlling the admission of motive fluid, to the tool proper, means for limiting the movement of said throttle-valve in each direction, means for permitting constant live-air pressure upon the smaller area of said valve, and a manually-operated button for controlling the admission of motive fluid to the larger area of said valve.

9. In a device of the character named, a grasping-handle, a pressure-supply duct located wholly outside of said handle for conveying motive fluid to the tool proper, a differential throttle-valve located wholly outside of the grasping portion of said handle, and having its smaller extremity acted upon by constant live-air pressure, a by-pass for leading live-air pressure to the larger area of said valve, and a manually-operated button located also outside of the grasping portion of said handle for controlling said by-pass.

10. In a device of the character named, a grasping-handle, a pressure-supply duct located wholly outside of said handle for conveying motive fluid to the tool proper, a differential throttle-valve located wholly outside of the grasping portion of said handle, and having its smaller extremity acted upon by constant live-air pressure, a by-pass for leading live-air pressure to the larger area of said valve, and a manually-operated button for controlling said by-pass, said button also having a groove therein for permitting the exhaust to the atmosphere of the air above said throttle-valve.

11. The combination of a pneumatic-tool handle, a throttle-valve located outside the grasping portion of the handle and controlling the admission of motive fluid to the pneumatic tool, means for operating said valve in both directions by fluid-pressure, and a button for controlling said fluid-pressure, said button having a passage therein and exhaust-ports for permitting the exhaust from one end of said valve to flow to the atmosphere.

12. The combination of a pneumatic-tool handle, a throttle-valve located outside of the grasping portion of the handle for controlling the admission of motive fluid to the pneumatic tool, means for permitting constant live-air pressure to act upon one area of said throttle-valve, a by-pass for leading live-air to the other area of said throttle-valve, a button in said by-pass for controlling the latter and exhaust-passages in said button leading to the atmosphere, said button being operated in one direction manually and in the opposite direction by a spring, and a stop limiting the movement of said button in both directions.

13. The combination of a pneumatic-tool handle, a throttle-valve for controlling the admission of motive fluid to the pneumatic tool, means for permitting constant live-air pressure to act upon one area of said throttle-valve and a button for causing live-air pressure to intermittently act upon the other area of said throttle-valve, said button having a groove and ports therein for permitting exhaust from one end of said throttle-valve to the atmosphere, and being operated in one direction manually and in the opposite direction by a spring, and a stop limiting the movement of said button in both directions.

14. The combination of a pneumatic-tool handle comprising a body portion and a grasping portion, a differential throttle-valve located in the body portion and wholly outside of the handle proper or its grasping portion, means for permitting constant live-air pressure to act upon the lower area of said throttle-valve, a manually-operated hollow button having a passage therethrough and ports and grooves therein, a spring normally pressing said button outwardly, a pin for limiting the outward movement of said button, and a passage leading from the main supply-duct around said button to the larger area of said valve, said passage being controlled by said button.

15. In a device of the character named, the combination of a differential throttle-valve, a port controlled thereby, a wall 15 upon

which said throttle-valve normally rests, a recess 16 in proximity to said wall, a port 17 discharging from said recess, and means for operating said throttle-valve.

16. The combination of a pneumatic-tool handle, a throttle-valve for controlling the admission of motive fluid to the pneumatic tool, said throttle-valve having a shoulder, a wall adapted to support said shoulder, a recess adjacent said wall, a port discharging from said recess and means for operating said valve in both directions by fluid-pressure.

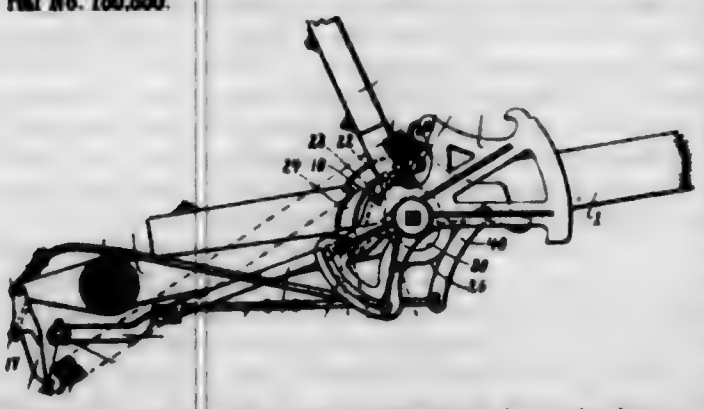
17. In a device of the character named, an inlet-port for the admission of fluid to a pneumatic tool, a throttle-valve for controlling said port, a seat for said throttle-valve, a recess adjacent said seat, a port discharging from said recess and means for operating said valve in both directions by fluid-pressure.

18. In a device of the character named, a port for the admission of motive fluid to a pneumatic tool, a throttle-valve for controlling said port, differential pressure areas on said throttle-valve, a wall for limiting the movement of said valve, a recess adjacent said wall, a port leading from said recess and means for controlling the flow of the motive fluid to one of said areas.

19. In a device of the character named, a throttle-valve having differential pressure areas, passages for leading live air to both ends of said throttle-valve, a manually-operated button controlling one of said passages, said button being hollow and provided with exhaust-ports, an abutment below said button and a spring intermediate said button and abutment.

20. The combination of a sleeve, an integral body portion, a grasping portion attached to said body portion by upper and lower necks, a differential throttle-valve, a main pressure-supply duct located wholly outside of said grasping portion, a branch duct leading through said grasping portion to the larger area of said valve, a manually-operated button for controlling the supply to said valve, an abutment below said button, a spring intermediate said button and abutment, a groove in said button for permitting live motive fluid to act intermittently on said valve-inlet, outlet-ports in said button serving as exhaust-passages and means for limiting the outward movement of said button.

807,385. **MOWER.** SAMUEL V. KENNEDY and CHARLES S. SHARP, Auburn, N. Y., assignors, by mesne assignments, to International Harvester Company, a Corporation of New Jersey. Filed Apr. 3, 1903. Serial No. 150,550.



Claim.—1. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, an operating-lever journaled on the main frame and having engaging means, a primary lever journaled on substantially the same axis as the operating-lever and having front and rear shoulders arranged substantially radially to the axis of the primary lever, the rear shoulder being normally arranged at the rear of the engaging means of the operating-lever in position to coöperate therewith, and the outer end of the front shoulder being arranged nearer the axis of the primary lever than the outer end of the rear shoulder and being movable beneath said engaging means, a spring connecting the primary lever and the main frame, means for moving the primary lever independently of the operating-lever and thereby moving the front shoulder of the primary lever beneath and at the rear of the engaging means of the operating-lever, and a cam for moving the operating-lever downwardly during the initial rearward movement of its upper end and arranging the engaging means of said lever in position to coöperate with the front shoulder of the primary lever when said front shoulder is at the rear of said engaging means, substantially as and for the purpose described.

2. In a mower, the combination of a main frame, a coupling-frame, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected, respectively, to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into operative position, a spring for normally engaging the clutch-sections with each other, an operating-lever, movable connections between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, and means associated with said connections for preventing the engagement of the clutch-sections by the spring until after the finger-bar has been lowered a predetermined distance, substantially as and for the purpose described.

3. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected, respectively, to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, an operating-lever, movable connections between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, a latch associated with said connections for preventing the engagement of the clutch-sections by the spring, said latch being movable into operative position when said relatively movable clutch-section is being moved out of operative position, a fixed shoulder coöperating with the latch for holding the relatively movable clutch-section in its inoperative position, and a knock-off pin provided on the operating-lever for forcing the latch out of its operative position after the finger-bar has been lowered a predetermined distance, substantially as and for the purpose set forth.

4. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected, respectively, to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, an operating-lever, movable connections between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, a latch connected to the relatively movable clutch-section for preventing the engagement of the clutch-sections by the spring, said latch being movable by the operating-lever into operative position when the finger-bar has been lowered a predetermined distance, means coöperating with the latch for holding the relatively movable clutch-section in its inoperative position, and means movable with the operating-lever for forcing the latch from operative position during the return movement of said lever, substantially as and for the purpose specified.

5. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, an operating-lever journaled on the main frame and having engaging means, a primary lever journaled on substantially the same axis as the operating-lever and having front and rear shoulders arranged substantially radially to the axis of the primary lever, the rear shoulder being normally arranged at the rear of the engaging means of the operating-lever in position to coöperate therewith, and the outer end of the front shoulder being arranged nearer the axis of the primary lever than the outer end of the rear shoulder and being movable beneath said engaging means, a movable arm supported by the main frame at the rear of the axis of the primary lever, means for varying the position of the arm relatively to the contiguous portion of the main frame, a spring connecting the primary lever and the arm, means for moving the primary lever independently of the operating-lever and thereby moving the front shoulder of the primary lever beneath and at the rear of the engaging means of the operating-lever, and a cam for moving the operating-lever downwardly during the initial rearward movement of its upper end and arranging the engaging means of said lever in position to coöperate with the front shoulder of the primary lever when said front shoulder is at the rear of said engaging means, substantially as and for the purpose specified.

6. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, an operating-lever, movable means between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, a latch, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means for forcing the latch from operative position, substantially as and for the purpose specified.

7. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an

inoperative position, a spring for normally engaging the clutch-sections with each other, an operating-lever, movable means between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, a latch supported by said movable means, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means for forcing the latch from operative position, substantially as and for the purpose set forth.

8. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, an operating-lever, movable means between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, said means being movable independently of the operating-lever to permit the spring to engage the clutch-sections with each other, a latch supported by the movable means for holding said means in its position assumed when the clutch-sections are disengaged, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means for forcing the latch from operative position, substantially as and for the purpose described.

9. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, an operating-lever, movable means between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, a latch supported by said movable means, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means fixed to the operating-lever for forcing the latch from operative position, substantially as and for the purpose described.

10. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, a shoulder rigid with the main frame, an operating-lever, movable means between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, a latch coacting with said shoulder rigid with the frame for holding the relatively movable clutch-section in inoperative position, and means for forcing the latch from operative position, substantially as and for the purpose set forth.

11. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, a shoulder rigid with the main frame, an operating-lever, movable means between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, a latch having its rear end supported by said movable means and its front end normally supported by said shoulder and movable into operative engagement therewith when the operating-lever disengages the clutch-sections, and means for forcing the latch from operative position, substantially as and for the purpose specified.

12. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, a shoulder rigid with the main frame, an operating-lever, movable means between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, a latch having its rear end supported by said movable means and its front end normally supported upon an upper face of said shoulder and movable into engagement with a front face thereof when the operating-lever disengages the clutch-sections, and means fixed to the operating-lever for elevating the front end of the latch out of engagement with said front face of the shoulder rigid with the main frame, substantially as and for the purpose set forth.

13. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, a movable part pivoted to the main frame and connected to the relatively movable clutch-section, an operating-lever having means for actuating the movable part to disengage the clutch-sections, a latch, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means for forcing the latch from operative position, substantially as and for the purpose described.

14. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a rod connected to the relatively movable clutch-section and provided with an adjustable shoulder, a spring for normally engaging the clutch-sections with each other, a movable part pivoted to the main frame and having an arm normally engaged with the adjustable shoulder on the rod, a shoulder rigid with the main frame, an operating-lever connected to the movable part for actuating the same to disengage the clutch-sections, a latch having its rear end supported by the movable part and its front end normally supported by the latter shoulder and movable into operative engagement therewith when the operating-lever actuates the movable part to disengage the clutch-sections, and means for forcing the latch from operative position, substantially as and for the purpose set forth.

15. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a rod connected to the relatively movable clutch-section and provided with an adjustable shoulder, a spring for normally engaging the clutch-sections with each other, a movable part pivoted to the main frame and having an arm normally engaged with the adjustable shoulder on the rod, a shoulder rigid with the main frame, an operating-lever connected to the movable part for actuating the same to disengage the clutch-sections, a latch having its rear end supported by the movable part and its front end normally supported upon an upper face of the latter shoulder and movable into engagement with a front face thereof when the operating-lever actuates the movable part to disengage the clutch-sections, and means fixed to the operating-lever for elevating the front end of the latch out of engagement with said front face of the latter shoulder, substantially as and for the purpose described.

16. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a rod connected to the relatively movable clutch-section and provided with an adjustable shoulder, a spring for normally engaging the clutch-sections with each other, an operating-lever, means between the adjustable shoulder and the operating-lever for disengaging the clutch-sections, a latch, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means for forcing the latch from operative position, substantially as and for the purpose specified.

17. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, a movable part pivoted to the main frame and connected to the relatively movable clutch-section, an operating-lever connected to the movable part for actuating the same to disengage the clutch-sections, a latch supported by the movable part and movable therewith into operative position, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means for forcing the latch from operative position, substantially as and for the purpose described.

18. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected

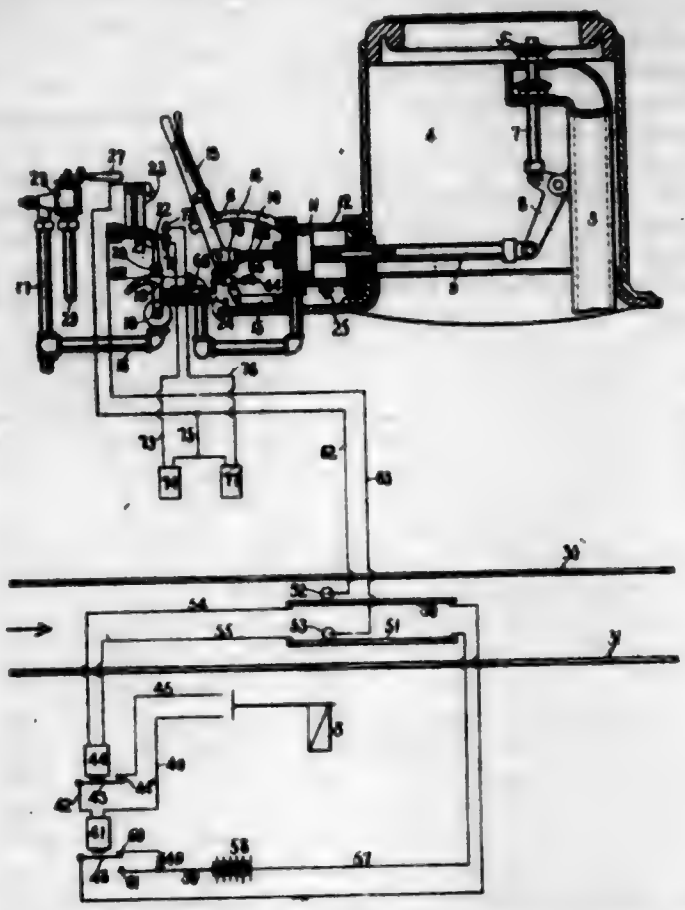
respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, a movable part pivoted to the main frame and connected to the relatively movable clutch-section, an operating-lever connected to the movable part for actuating the same to disengage the clutch-sections, a latch supported by the movable part and movable therewith into operative position, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means fixed to the operating-lever for forcing the latch from operative position, substantially as and for the purpose specified.

19. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, an operating-lever journaled on the main frame and having engaging means, a primary lever journaled on substantially the same axis as the operating-lever and having front and rear shoulders arranged substantially radially to the axis of the primary lever, the rear shoulder being normally arranged at the rear of the engaging means of the operating-lever in position to coöperate therewith, and the outer end of the front shoulder being arranged nearer the axis of the primary lever than the outer end of the rear shoulder and being movable beneath said engaging means, means for moving the primary lever independently of said operating-lever and thereby moving the front shoulder of the primary lever beneath and at the rear of the engaging means of the operating-lever, a cam for moving the operating-lever downwardly during the initial rearward movement of its upper end and arranging the engaging means of said lever in position to coöperate with the front shoulder of the primary lever when said front shoulder is at the rear of said engaging means, movable means between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, a latch for holding said movable means in its position assumed when the clutch-sections are disengaged, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means for forcing the latch from operative position, substantially as and for the purpose set forth.

20. In a mower, the combination of a main frame, a coupling-frame, a finger-bar, a cutter-bar, a driving-shaft, power-transmitting mechanism for actuating the cutter-bar, clutch-sections connected respectively to the driving-shaft and power-transmitting mechanism, one clutch-section being movable relatively to the other into an inoperative position, a spring for normally engaging the clutch-sections with each other, an operating-lever journaled on the main frame and having engaging means, a primary lever journaled on substantially the same axis as the operating-lever and having front and rear shoulders arranged substantially radially to the axis of the primary lever, the rear shoulder being normally arranged at the rear of the engaging means of the operating-lever in position to coöperate therewith, and the outer end of the front shoulder being arranged nearer the axis of the primary lever than the outer end of the rear shoulder and being movable beneath said engaging means, means for moving the primary lever independently of said operating-lever and thereby moving the front shoulder of the primary lever beneath and at the rear of the engaging means of the operating-lever, a cam for moving the operating-lever downwardly during the initial rearward movement of its upper end and arranging the engaging means of said lever in position to coöperate with the front shoulder of the primary lever when said front shoulder is at the rear of said engaging means, movable means between the relatively movable clutch-section and the operating-lever for disengaging the clutch-sections, said means being movable independently of the operating-lever to permit the spring to engage the clutch-sections with each other, a latch supported by the movable means for holding said means in its position assumed when the clutch-sections are disengaged, means coöperating with the latch for holding the relatively movable clutch-section in inoperative position, and means for forcing the latch from operative position, substantially as and for the purpose set forth.

807,386. SIGNALING AND TRAIN-CONTROLLING SYSTEM FOR RAILWAYS. FRANK E. KINSMAN, Plainfield, N. J. Original application filed Apr. 18, 1905. Serial No. 256,269. Divided and this application filed July 24, 1905. Serial No. 270,961.

Claim.—1. The combination with a line of way, of a semaphore or equivalent signal located in a fixed position on the line of way, and means for recording danger and safety conditions of such signal.



2. The combination with a line of way, of a semaphore or equivalent signal located in a fixed position on the line of way, a track-circuit controlling the position of such signal, and means for recording danger and safety conditions of such signal.

3. The combination with a line of way, of a semaphore or equivalent signal located in a fixed position on the line of way, a recording device, and means associated with such signal for shifting said recording device to two positions representing respectively danger and safety conditions of such signal.

4. The combination with a line of way and with a vehicle movable therealong, of a semaphore or equivalent signal located in a fixed position on the line of way, and means on the vehicle for recording danger and safety conditions of such signal.

5. The combination with a line of way and with a vehicle movable therealong, of a semaphore or equivalent signal located in a fixed position on the line of way, a recording device, and means controlled by the condition of such signal for shifting said recording device to two positions representing respectively danger and safety conditions of such signal.

6. The combination with a line of way and with a vehicle movable therealong, of a semaphore or equivalent signal located in a fixed position on the line of way, a recording device, and means on the vehicle for shifting said recording device to two positions representing respectively danger and safety conditions of such signal.

7. The combination with a line of way, of a semaphore or equivalent signal located in a fixed position on the line of way, means for imparting traveling movements to a record medium, a recording device movable crosswise to the line of travel of such record medium, and means for shifting said recording device to two positions representing respectively danger and safety conditions of such signal.

8. The combination with a line of way, of a semaphore or equivalent signal located in a fixed position on the line of way, recording means for making records representing danger and safety conditions of such signal, and a pair of actuators controlled respectively by the danger and safety conditions of such signal for actuating said recording means.

9. The combination with a line of way, of a semaphore or equivalent signal located in a fixed position on the line of way, an electric circuit for controlling the movements of such signal, recording means for making records representing danger and safety conditions of such signal, and differential controlling devices responsive respectively to danger and safety conditions of such circuit and controlling said recording means.

10. The combination with a line of way, of means for automatically controlling the power, brake or other movement-controlling medium on a vehicle traveling thereon, a semaphore or equivalent

signal located in a fixed position on the line of way, and means for recording danger and safety conditions of such signal.

11. The combination with a line of way, of means for automatically controlling the power, brake or other movement-controlling medium on a vehicle traveling thereon, a semaphore or equivalent signal located in a fixed position on the line of way, and means for recording danger and safety conditions of such signal and of such controlling means.

12. The combination with a line of way, of means for automatically controlling the power, brake or other movement-controlling medium on a vehicle traveling thereon, a semaphore or equivalent signal located in a fixed position on the line of way, and means on such vehicle for recording danger and safety conditions of such signal.

13. The combination with a line of way, of means for automatically controlling the power, brake or other movement-controlling medium on a vehicle traveling thereon, a semaphore or equivalent signal located in a fixed position on the line of way, and means on such vehicle for recording danger and safety conditions of such signal and of such controlling means.

14. The combination with a line of way and with a vehicle movable therealong, of a pair of controlling means one of which governs the other, and one of which is a semaphore or equivalent signal, and the other of which is means for automatically controlling the power, brake or other movement-controlling medium on said vehicle, and means for recording danger and safety conditions of such signal.

15. The combination with a line of way, of a pair of electric circuits one of which controls the other and one of which governs a semaphore or similar signal, and the other of which governs the power, brake or other movement-controlling medium on a vehicle or train, and means for recording danger and safety conditions of such signal.

16. The combination with a line of way, of a normal danger system of block-signals, and means for recording danger and safety conditions of such signals.

17. The combination with a line of way and with a vehicle movable therealong, of a normal danger system of block-signals, and means on the vehicle for recording danger and safety conditions of such signals.

18. The combination with a line of way and with a vehicle movable therealong, of a pair of controlling means one of which is a normal danger system of block-signals and the other of which is means for automatically controlling the power, brake or other movement-controlling medium on said vehicle, and means for recording danger and safety conditions of the block-signals.

19. The combination with a line of way and with a vehicle movable therealong, of a pair of controlling means one of which is a normal danger system of block-signals and the other of which is an electric circuit governed by such block-signal system for automatically governing the power, brake or other movement-controlling medium on a vehicle or train, and means for recording danger and safety conditions of the block-signals.

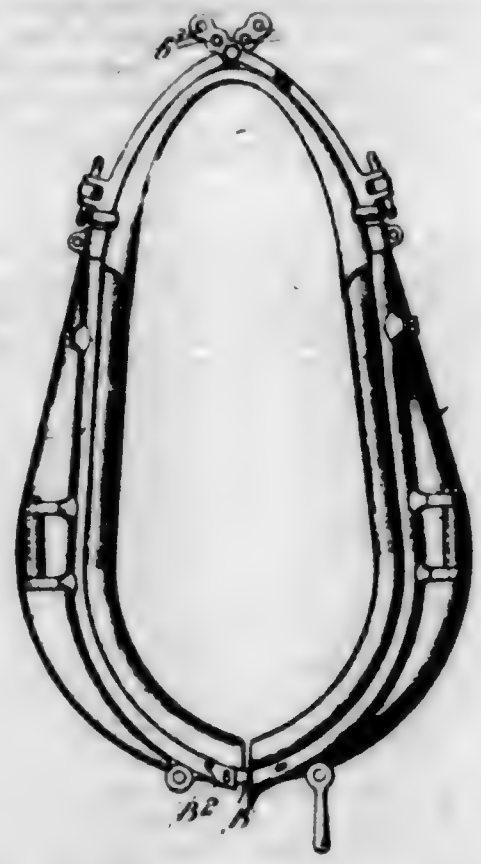
20. The combination with a line of way and with a vehicle movable therealong and operated by fluid-pressure, of a throttle-valve governing said fluid-pressure, a brake, a pair of controlling means one of which is a normal danger system of block-signals and the other of which is means for automatically controlling said throttle-valve and brake, and means for recording danger and safety conditions of the block-signals.

21. The combination with a line of way and with a vehicle movable therealong, of a pair of controlling means one of which governs the other, and one of which is a normal danger system of block-signals, and the other of which is means for automatically governing the power, brake or other movement-controlling medium on said vehicle, and means for recording danger and safety conditions of the block-signals.

22. The combination with a line of way and with a vehicle movable therealong, of a pair of controlling means one of which governs the other, and one of which is a normal danger system of block-signals and the other of which is an electric circuit for automatically governing the power, brake or other movement-controlling medium on said vehicle, and means for recording danger and safety conditions of the block-signals.

807,387. **HAME FOR HARNESS.** IVERT LARSEN, Chicago, Ill. Original application filed Apr. 7, 1902. Serial No. 101,648. Divided and this application filed Oct. 8, 1904. Serial No. 227,711.

Claim.—A pair of hames for a horse-collar one of which is provided at its upper end with fork-arms and the corresponding end of the other with a head which fits between said fork-arms, said fork-arms and head being provided with a plurality of longitudinally-disposed, registering apertures, and a pintle adapted to extend through corresponding apertures of the fork-arms and head, said fork-arms and head being made straight and inclined upwardly away from the curvature of the upper ends of the hames.



807,388. **ATTACHMENT FOR FRUIT CANS AND JARS.** CLARSON M. LEVINGWELL, Littlefalls, Minn. Filed July 19, 1904. Serial No. 217,278.



Claim.—1. The improved jar attachment for the purpose specified, comprising a disk and three wire hangers, having the angular form specified, their lower ends being rigidly connected with the disk and their upper ends diverging laterally, as shown and described.

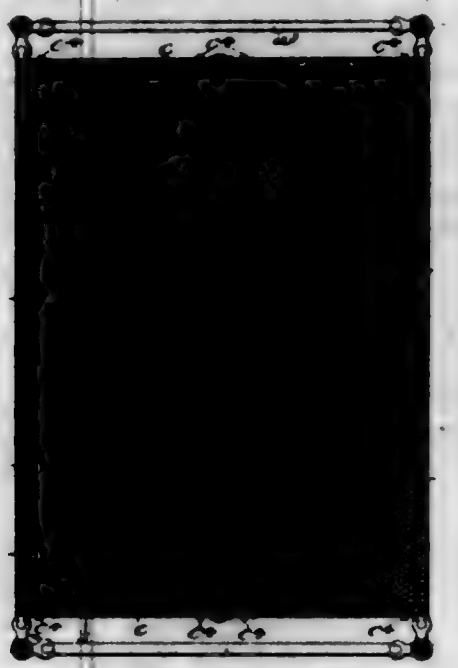
2. The combination, with a can or jar, of an attachment for the purpose specified, comprising a disk made of wood and a series of wire hangers adapted to rest on the top edge of the can or jar and having their lower ends extended inward and connected with the disk, such ends being arranged crosswise of the grain of the wood, as and for the purpose specified.

807,389. **MEANS FOR SUPPORTING MATTRESSES ON BED-FRAMES.** PETER J. LEYENDECKER, Philadelphia, Pa. Filed Oct. 1, 1904. Serial No. 228,897.

Claim.—1. The combination with a bed-frame and a mattress having a supporting-frame, of a transverse bar or bars supported by said bed-frame but independent thereof, said mattress-frame having lugs placed to removably engage said transverse bar or bars and thereby hold the mattress in position, substantially as described.

2. The combination with a bed-frame having side members, of transverse bars connected to said members, a mattress having a supporting-frame, and means at each end of said mattress constructed to removably engage said bars for maintaining the mattress in a fixed position relatively to the bed-frame, and means other than said

mattress-maintaining means for supporting the mattress, substantially as described.



3. The combination of a bed-frame, a folding mattress, and bars for supporting said mattress on said frame, means for retaining the bars in position, means positively connecting the mattress to said bars for preventing relative movement of said parts, and means other than said connecting means for transferring the weight of the mattress to the supporting-bars, substantially as described.

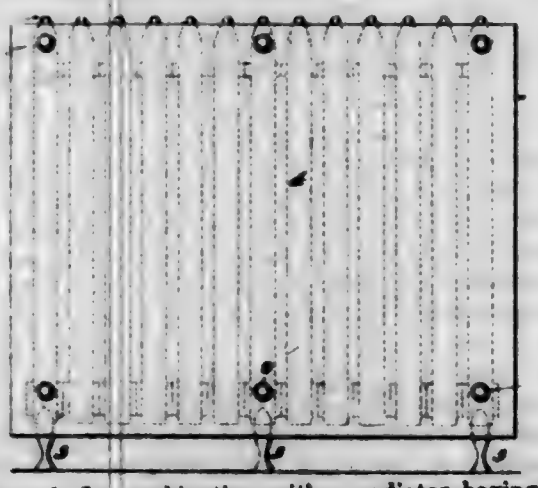
4. The combination of a bed-frame, mattress-supporting bars carried by but movable independently upon said bed-frame, a folding mattress including frames hinged together, and projections on each end of said mattress-frames placed to engage said bars, substantially as described.

5. The combination of a bed-frame, a folding mattress including frames hinged together and each having at its ends a plurality of lugs, and angles on the bed-frame each having a substantially vertical flange for engagement with said lugs, whereby the mattress is maintained in its extended position, said angles being carried by but movable independently of said bed-frame, substantially as described.

6. The combination of a bed-frame having side members, angle-sections respectively at the head and foot of the frame and extending between said side members thereof, projections on said angle-sections engaging the side members, a mattress, and a frame therefor, including castings having hook-lugs placed to engage the edges of certain of the flanges of said angle-sections, substantially as described.

7. The combination of a bed-frame having side members, angle-sections respectively at the head and foot of the frame and extending between said side members thereof, projections on said angle-sections engaging the side members, a mattress and a frame therefor, including castings having hook-lugs placed to engage the edges of the vertical flanges of said angle-sections, said castings resting upon and being supported by the horizontal flanges of said angle-sections, substantially as described.

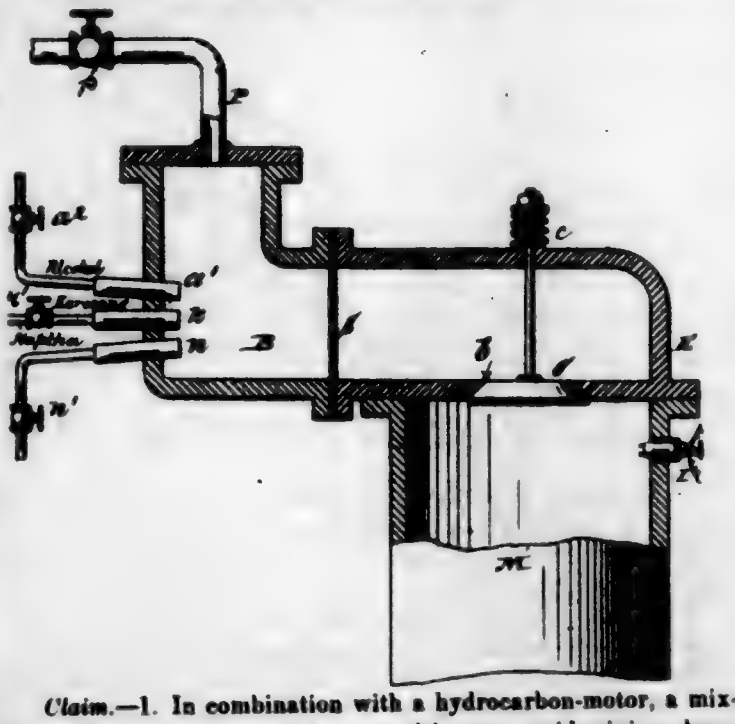
807,390. **RADIATOR AND COIL.** JOHN H. LINDSAY, New York, N. Y., assignor of one-half to Frank Dobson, New York, N. Y. Filed Mar. 19, 1904. Serial No. 199,047.



Claim.—1. In combination with a radiator having threaded lugs cast on the outside thereof, of a sheet-metal shield having punched perforations therein, counterbored spacing-collars between the shield and lugs, and screws for rigidly securing the shield to the lugs, the said screws passing through the collars, and the bur punched on the shield occupying the counterbore of the spacing-collar.

2. In combination with a radiator having threaded lugs cast on the outside thereof, of a plurality of sheet-metal shields having punched perforations therein, counterbored spacing-collars between the shields, and screws for rigidly securing the shields to the lugs, the said screws passing through the collars, and the bur punched on a shield occupying the counterbore of a spacing-collar.

807,391. **HYDROCARBON-MOTOR.** ABBOT A. LOW, Horseshoe, N. Y. Filed Feb. 20, 1903. Serial No. 144,418.



Claim.—1. In combination with a hydrocarbon-motor, a mixing-chamber, an inlet-valve interposed between said mixing-chamber and the combustion-chamber, means for injecting alcohol, naphtha and kerosene-oil either independently or simultaneously into said mixing-chamber, and means for introducing compressed air into said mixing-chamber for the purpose described.

2. In combination with a hydrocarbon-motor, a mixing-chamber, an inlet-valve interposed between said mixing-chamber and the combustion-chamber, an interticed screen in said mixing-chamber, means for injecting alcohol, naphtha and kerosene-oil against said screen either independently or simultaneously, and means for introducing compressed air into said mixing-chamber for the purpose described.

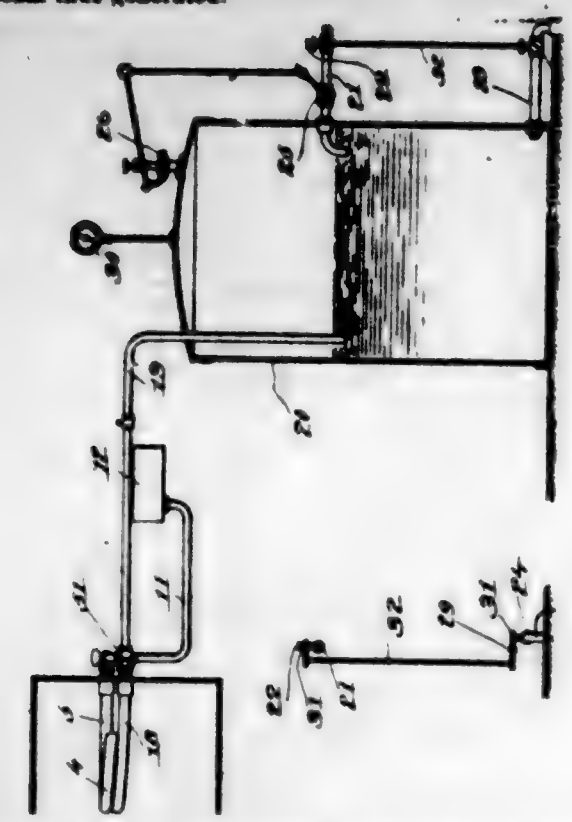
807,392. **OIL-BURNER.** MORRIS MARTIN, Malden, Mass., assignor to Clarence E. Clisbee, Revere, Mass. Filed July 22, 1903. Serial No. 166,542.

Claim.—1. In a device of the class described, an atomizer connected to a source of oil-supply, a steam-generating chamber connected with the atomizer and situated to be heated by the flame issuing therefrom, a closed tank, a conduit leading to said steam-generating chamber, and opening into the tank at a point above its bottom, and an inlet-pipe to admit water to the tank under pressure whereby when water is admitted to the tank the air is forced out of the tank through the atomizer to start the same, and subsequently water is delivered to the heated chamber.

2. In a device of the class described, an atomizer connected to a source of oil-supply, and a steam-generating coil connected to the atomizer and also to a water-tank at a point below the top thereof, said coil being in the path of the spray from the atomizer whereby when water under pressure is delivered to the empty tank the air in said tank is forced through the coil and into the atomizer to operate the same, and when the tank is partially filled the water therein is forced through the heated coil and the atomizer is operated by the steam generated in said coil.

3. In a device of the class described, an atomizer connected to a source of oil-supply, a steam-generating coil situated in the path of the spray from the atomizer and connected thereto, a water-tank, connections between the same at a point below the top thereof and the atomizer, and means to deliver water under pressure to said tank, whereby the atomizer is started in operation by the air which is forced through the latter by the water which is delivered to the

empty tank, and when the water-level in said tank reaches the level of the connection between said tank and atomizer and water is forced into the generating-coil the operation of the atomizer is continued by the steam thus generated.



4. In a device of the class described, an atomizer connected to a source of oil-supply, a steam-generating chamber connected to the atomizer and situated to be heated by the flame issuing therefrom, a closed water-tank having an inlet, connections between the tank and the steam-generating chamber, the outlet from said tank being between the top and bottom thereof whereby as the tank fills with water, the air in the tank is forced through the atomizer until the water in the tank rises to the level of the outlet, and means to automatically control the supply of water to the tank.

5. In a device of the class described, an atomizer connected to a source of oil-supply, a steam-generating chamber connected to the atomizer, a closed water-tank, connections between the chamber and the tank at a point between the top and bottom of the tank whereby as water is admitted to the tank the air therein is forced through the atomizer until the level of the water reaches the outlet, and means governed by the pressure in the tank to control the supply of water to said tank whereby water is fed to said tank only as fast as it is used therefrom.

6. In a device of the class described, a combustion-chamber, a steam-generating coil inclosed within said chamber, said coil having both legs terminating at the wall of said chamber, means to detachably secure said legs to the wall, a source of water-supply communicating with one of the legs, an atomizer situated outside of the combustion-chamber, and means to detachably connect the other leg of said coil to said atomizer whereby said atomizer and coil are both secured to and supported by the wall of the combustion-chamber.

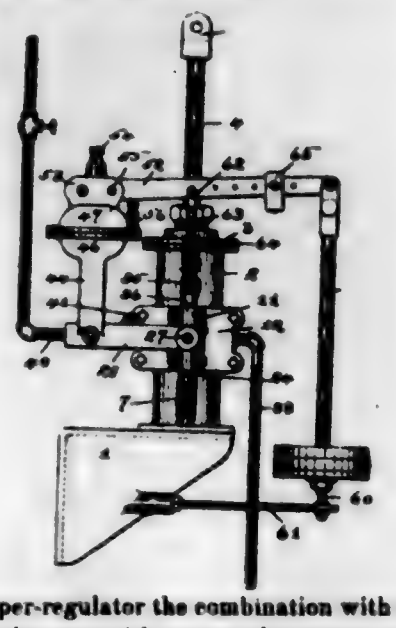
7. In a device of the class described, an atomizer connected to a source of oil-supply, a steam-generating chamber connected to the atomizer and situated to be heated by the flame issuing therefrom, a closed water-tank, connections between said tank and the steam-generating chamber, the outlet from the tank being below the top thereof whereby an air-chamber exists at the upper portion of the tank, and an automatic valve operated by variations of pressure in the tank to control the supply of water to said tank.

8. In an oil-burner, an atomizer comprising a body having oil and steam ducts extending from one end thereof to the other and connected intermediate of their ends with sources of oil and steam supply respectively, a cap removably supported on said body and serving as a means to close one end of both said ducts.

9. In an oil-burner, an atomizer comprising a body having oil and steam ducts extending from one end thereof to the other, and connected with sources of oil and steam supply respectively, a cap removably supported on said body and serving as a means to close one end of both said ducts, and an adjustable nozzle-piece on said body to regulate the amount of oil delivered.

807,893. DAMPER-REGULATOR. WILLIAM A. MURRAY, Baltimore, Md. Filed Nov. 8, 1904. Serial No. 231,861.

Claim.—1. In a damper-regulator, the combination with a cylinder having an exterior valve-seat with ports and passages extending from said seat and terminating at opposite ends of the cylinder, of a piston in the cylinder; a valve-casing secured to said seat and having a laterally-extending arm with an extension projecting therefrom, said arm and extension having passages which communicate with the ports and passages in said seat; a valve in said seat; a diaphragm sustained by the extension of said arm and above the passage-way therein; a beam extending over the diaphragm, and means for connecting the beam with the valve



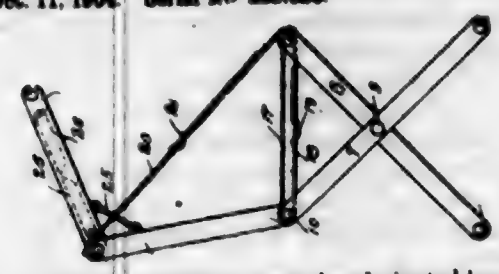
2. In a damper-regulator the combination with a cylinder having an exterior valve-seat with ports and passages extending to opposite ends of the cylinder, of a piston in said cylinder; a valve-casing secured to said seat and having an integral arm which extends laterally from the valve-seat and which is provided with an integral extension adjacent its end, said arm and extension having passages which communicate with the ports in said seat; a valve in said seat; a diaphragm sustained by the extension; a valve in the arm between the seat and extension; a steam-supply pipe communicating with the passages in the arm and extension and between the valve and diaphragm; a beam coacting with the diaphragm, and connections between the beam and valve in the seat.

3. In a damper-regulator the combination with a cylinder having a piston-chamber, an exterior seat and passages extending from the seat to opposite ends of the piston-chamber; a piston in said chamber; a valve-casing secured to the seat and having ports and passages communicating with the cylinder; an arm formed integrally with and projecting laterally from said casing and having a vertically-extending stem, said arm and stem having communicating passages; a steam-supply pipe communicating with the passage in said arm; a valve interposed between the passage in the arm and the ports in said valve-casing; a diaphragm at the upper end of the vertical stem; a beam pivoted adjacent said diaphragm and extending over the valve at the side of the cylinder, and means for pivotally connecting the beam with the valve.

4. In a damper-regulator the combination with a cylinder having a piston-chamber and passages leading from opposite ends of the chamber and opening at the side of the cylinder, of a piston in said chamber and movable between the passage-openings; a valve-casing secured to the exterior of the cylinder at the outer end of said passage-openings and having passages communicating with the cylinder-passages, said casing also having a fluid-supply passage, 26, with a plug to close the end thereof; a valve in said casing between the fluid-supply passage and the passages in the cylinder; an arm formed integrally with and extending laterally from said valve-casing and having a steam-supply passage which opens into the passage, 26, of the valve-casing; a valve, 41, in the steam-supply passage; a stem formed integrally with and extending vertically from the arm and having a passage therein; a diaphragm at the upper end of said stem; a beam above the diaphragm and extending laterally above the valve, and a link connecting the beam and valve.

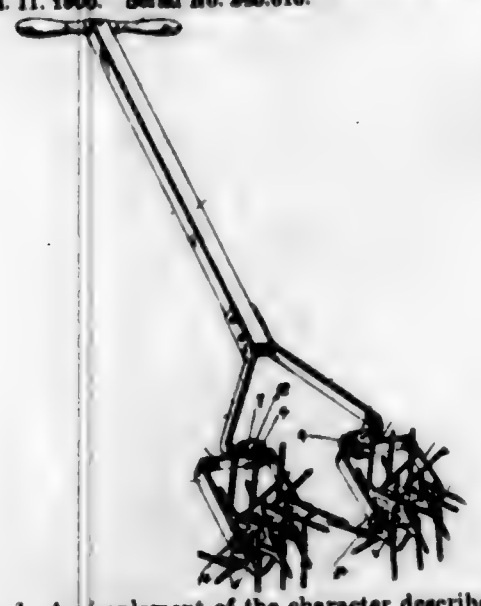
5. In a damper-regulator the combination with a cylinder having a piston-chamber with passages leading from opposite ends of said chamber, of a valve at the side of said cylinder and controlling said cylinder-passages; a fluid-operated beam above the valve and provided at one end with a pendent rod which latter has a recess in its lower end; means for pivotally connecting the beam and valve; a bracket at the lower end of said pendent rod, and a pin projecting from said bracket and into the recess at the lower end of the rod to prevent swaying of said rod.

807,394. CHAIR. BENJAMIN MCKEEVER, Jr., Mineralridge, Ohio. Filed Oct. 11, 1904. Serial No. 228,026.



Claim.—A chair comprising crossed and pivoted legs connected by cross-bars at their upper ends; a back having side pieces hinged at their lower ends to the rear cross-bar, and connected at their upper ends by a cross-bar; a sunshade attachment having side pieces pivoted on the latter cross-bar and carrying folding legs; a strip of fabric stretched over the side pieces; and means to support the back and said attachment in adjusted position.

807,395. CULTIVATOR. WILLIAM NEWBY, Pittsburg, Pa., assignor to The New Idea Implement Company, Pittsburg, Pa., a Copartnership. Filed Jan. 11, 1905. Serial No. 240,610.



Claim.—1. An implement of the character described comprising a bar, a handle carried by said bar, a plurality of angle-bars attached to said bar, a U-shaped bracket adjustably secured to each of said angle-bars, a plurality of substantially rectangular interlocking frames journaled in said brackets, said frames having their flat edges in staggered relation, and a plurality of straight teeth carried by each frame, said teeth being arranged in alinement with the straight edges of the frame.

2. A manually-operable implement of the character described comprising a bar having a handle, a plurality of brackets carried by said bar, a plurality of substantially rectangular interlocking frames journaled in said brackets, each frame being provided with a plurality of straight tangentially-extending teeth, the teeth on certain of said frames being in staggered relation to the teeth on the other frames.

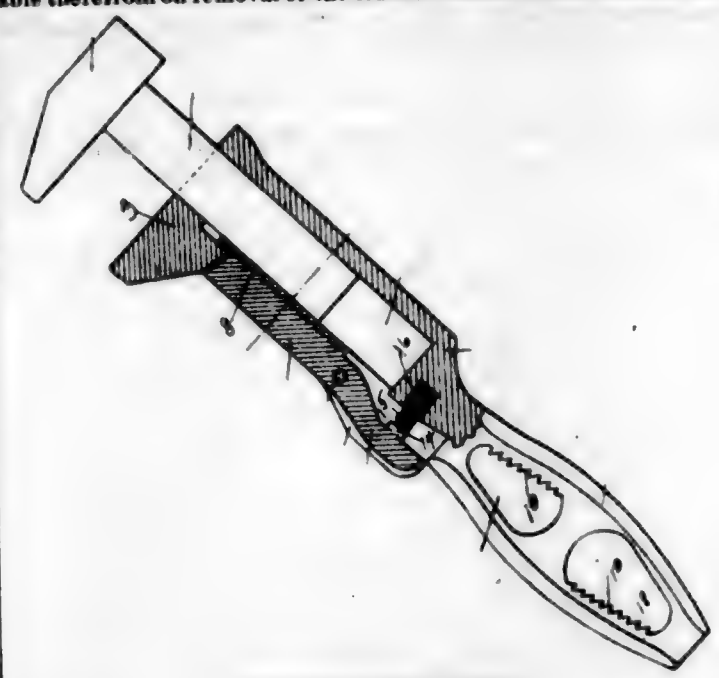
3. A manually-operated implement of the character described comprising a bracket, a bar on which the bracket is mounted, a handle carried by said bar, a plurality of substantially rectangular frames rotatably mounted in said bracket, each frame being provided with a plurality of straight tangentially-disposed teeth, said frames being provided with means whereby they may be adjusted relatively to one another, and locked in adjusted position, with the teeth of one frame in staggered relation to the teeth of the other frame.

4. In a cultivator the combination with supporting-brackets, of cylinders supported by said brackets, each cylinder consisting of a plurality of frames, each frame being provided with a plurality of straight tangentially-disposed detachable teeth.

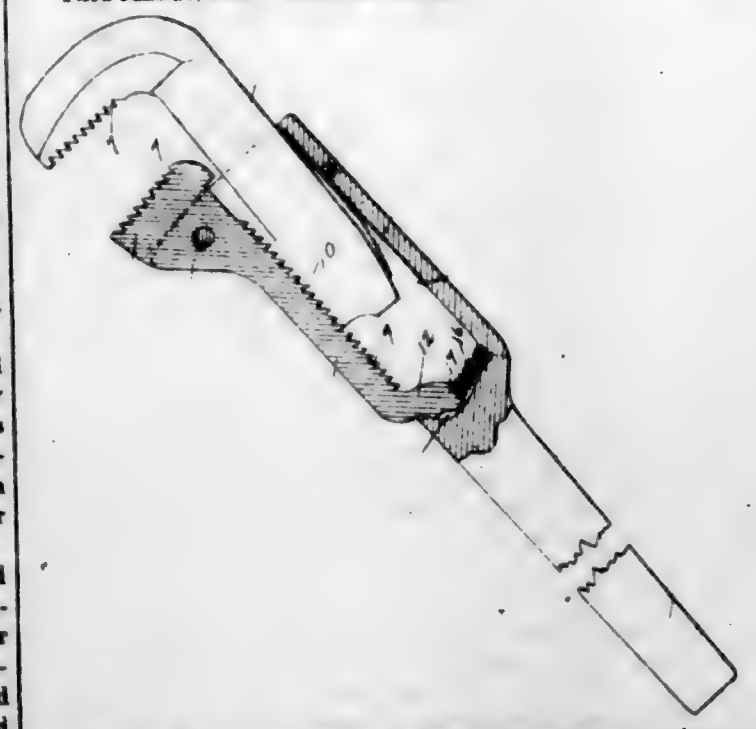
5. In a cultivator, the combination with a suitable bracket, of a cylinder mounted in said bracket, said cylinder consisting of a plurality of interlocking frames, tangentially-disposed straight teeth carried by each frame.

807,396. WRENCH. HENRY L. NEWTON, Butte, Mont. Filed June 28, 1905. Serial No. 267,429.

Claim.—A wrench comprising a main shank provided at one end with a handle and at the other end with a rigid jaw, said shank being hollow near one end thereof, a movable jaw having a shank received in the hollow portion of the main shank, the toothed plate 10 affixed to the shank of the movable jaw, and limiting the movement of the movable jaw away from the rigid jaw, a side of the main shank being cut away at the hollow portion thereof, a clutch member pivoted between its ends and arranged in the cut-away portion of the main shank, said clutch member having teeth to engage the toothed plate on the shank of the movable jaw, a finger-piece at one end of the clutch member, a spring between the main shank and the finger-piece, and spaced ears projected from a side of the main shank and arranged upon opposite sides of the finger-piece of the clutch member, the toothed plate on the shank of the movable jaw being displaceable therefrom on removal of the clutch member on the main shank.



807,397. PIPE-WRENCH. HENRY L. NEWTON, Butte, Mont. Filed June 28, 1905. Serial No. 267,431.



Claim.—1. In a pipe-wrench, the combination of a shank, a work-engaging jaw pivoted to said shank, a second work-engaging jaw adjustable longitudinally of the shank, and means upon the pivoted jaw for positive locking engagement with the longitudinally-adjustable jaw to hold the latter in an adjusted position.

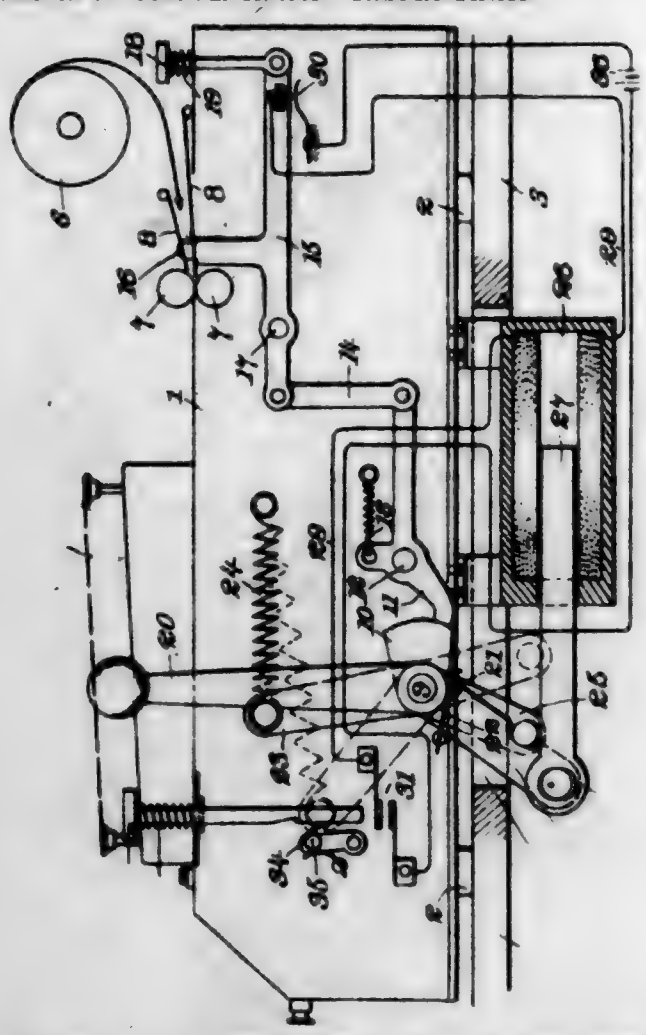
2. In a pipe-wrench, the combination of a shank, a work-engaging jaw pivoted to said shank, a second work-engaging jaw adjustable longitudinally of the shank and adapted for oscillatory movement thereon, and teeth carried by the two jaws for intermeshing engagement so as to fix the position of the longitudinally-movable jaw at a predetermined adjustment.

3. In a pipe-wrench, the combination of a shank, a work-engaging jaw pivoted to said shank, and a second work-engaging jaw adjustable longitudinally of the said shank and coacting with the first-mentioned jaw, the pivoted work-engaging jaw being adapted for locking engagement with the longitudinally-adjustable jaw to position the latter at a predetermined adjustment.

4. In a pipe-wrench, the combination of a main shank provided with a handle, a work-engaging jaw pivoted to said shank and also having a shank, and a work-engaging longitudinally-movable jaw having a toothed shank and adapted for oscillatory movement on the main shank, the toothed shank of the pivoted jaw having teeth coacting with the shank of the longitudinally-movable jaw so as to position the latter at a predetermined adjustment.

5. In a pipe-wrench, the combination of a main shank, a jaw pivoted to said shank and also having a shank, a longitudinally-movable jaw mounted upon the main shank and adapted for oscillatory movement thereon, the shank of the pivoted jaw having teeth coacting with the shank of the longitudinally-movable jaw so as to position the latter at a predetermined adjustment, and springs interposed between the main shank and the shanks of the pivotally and longitudinally movable jaws.

807,898. ADDING-MACHINE. WALTER H. PUMPHREY, New York, N. Y. Filed Jan. 28, 1905. Serial No. 243,153.



Claim.—1. In an adding-machine, the combination with the rock-shaft operating the printing mechanism, of an electrical device and a hand-crank for independently rocking said shaft and connecting mechanism between the hand-crank and the rock-shaft which permits the hand-crank to remain stationary when the shaft is rocked by the electrical device.

2. In an adding-machine, the combination with the rock-shaft operating the printing mechanism, of an electrical device and a hand-crank for independently rocking said shaft, connecting mechanism between the shaft and the hand-crank, and the shaft and the electric device, permitting the shaft to be rocked by either without moving the other.

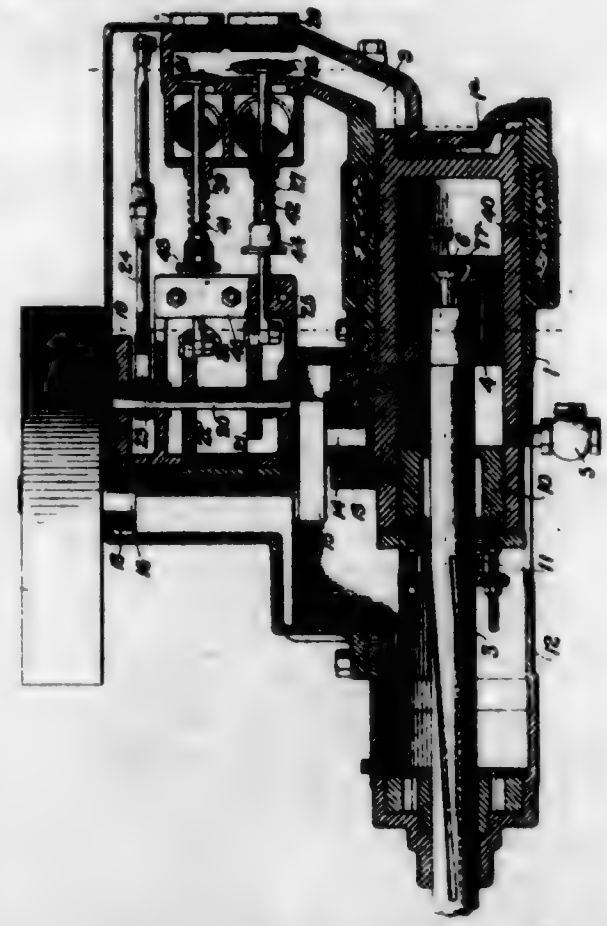
3. In an adding-machine, the combination with the rock-shaft operating the printing mechanism, of an electrical device and a hand-crank for independently rocking said shaft, connecting mechanism between the shaft and the hand-crank, and the shaft and the electric device, permitting the shaft to be rocked by either without moving the other, together with a yielding friction device tending to hold the hand-crank against movement.

4. In an adding-machine, the combination with the rock-shaft operating the printing mechanism, of an electrical device and a hand-crank for independently rocking said shaft, connecting mechanism between the shaft and the hand-crank, and the shaft and the electric device, permitting the shaft to be rocked by either without moving the other, said connecting mechanism comprising rigid radial projections from the shaft of the operative stroke of the driving member.

5. In an adding-machine, the combination with the rock-shaft operating the printing mechanism, of an electrical device and a hand-crank for independently rocking said shaft, said electrical device comprising an electromagnet and armature therefor, one of which is connected to the frame of the machine and the other directly connected to a crank-arm mounted on the rock-shaft.

6. In an adding-machine, the combination with the printing and paper-feeding mechanism, of electrical mechanism for operating the printing mechanism, a supply-circuit for such electrical mechanism, a normally open switch in said circuit, and means controlled by the paper introduced into the machine for holding said switch closed.

807,899. GAS ROCK-DRILL. JOHN V. RICE, Jr., Edgewater Park, N. J. Filed Oct. 8, 1900. Serial No. 32,360.



Claim.—1. The combination of the main cylinder having at one end an explosion-chamber, a hollow, elongated piston, a piston-rod elastically connected to said piston, a cross-head on the piston, a crank-shaft actuating said cross-head, a cam-shaft parallel to the crank-shaft and driven thereby, and the inlet and outlet valves controlled by the cams of said shaft.

2. The combination with the main cylinder having at one end an explosion-chamber, of a hollow, elongated piston provided with an elastically-connected piston-rod, and provided also with an automatic check-valve for admitting air automatically to the interior of the piston, and the gas inlet and exhaust outlet valves together with means for operating them.

3. The combination of the main cylinder, a hollow piston therein, an inner sliding block in the piston having an air-valve, a piston-rod provided with a longitudinal air-passage therein, said rod being attached to the inner sliding block, and the gas inlet and exhaust outlet valves together with means for operating them.

4. The combination with the main cylinder, having at one end an explosion-chamber, of a hollow piston within the cylinder, an inner sliding block in the piston, an air-valve arranged in said block, a piston-rod attached to the block and provided with a longitudinal air-passage which is controlled by the valve located in the block, an automatically-operating air-inlet valve on the wall of the piston, a cross-head on the piston, a crank-shaft, and the gas inlet and exhaust outlet valves.

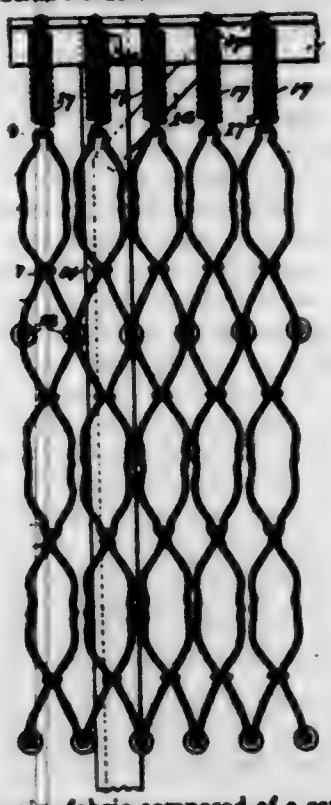
5. The combination of the cylinder, its hollow piston, a piston-rod, a sliding block within the piston to which the piston-rod is attached, said sliding block having an air-valve controlling the passage of air through the piston-rod into the piston at one side of the sliding block, an air-inlet valve on the wall of the piston for admitting air automatically to the other side of the sliding block, and the gas inlet and exhaust outlet valves together with means for operating them.

6. The combination of the cylinder, a piston therein, a piston-

rod, a sliding block within the piston to which the piston-rod is attached, a valve in the sliding block controlling the delivery of air through a passage in the piston-rod into the piston at one side of the sliding block, and means on the wall of the piston for admitting air automatically to the other side of the sliding block.

7. The combination with the main cylinder having at one end an explosion-chamber, of a hollow elongated piston therein, a piston-rod having an air-passage, means for yieldingly connecting the piston-rod to the piston consisting of a sliding block within the piston and on the end of the piston-rod, a valve in the sliding block for controlling the delivery of air which comes through the piston-rod at one side of the block, and means on the wall of the piston for automatically admitting air to the other side of the block, a crank-shaft, means connecting said shaft with the piston, and the gas inlet and exhaust valves together with means for operating them.

807,400. WIRE FABRIC. HENRY RICHARDSON, Chicago, Ill. Filed Dec. 21, 1904. Serial No. 237,803.



Claim.—1. A wire fabric composed of a series of endwise and transversely connected units, each unit comprising a wire bent to form a substantially oval loop portion and a semi-oval portion constituting an integral endwise extension of said loop portion, and a clip uniting the sides of the unit at the junction of said oval and semi-oval portions, substantially as described.

2. A wire fabric comprising a series of units each composed of a wire bent to form a substantially oval loop portion and a semi-oval portion constituting an integral extension of said loop-shaded portion, said units being arranged with their closed ends interhooked and their open ends in proximity and means uniting said open ends to create longitudinal strands, substantially as described.

3. A wire fabric comprising a plurality of units each composed of a wire bent to form a loop portion and a semiloop portion constituting an endwise extension of said loop portion, clips uniting the sides of the units at the junction of the loop and semiloop portions, and means connecting the open ends of the semiloop portions of endwise adjacent units, substantially as described.

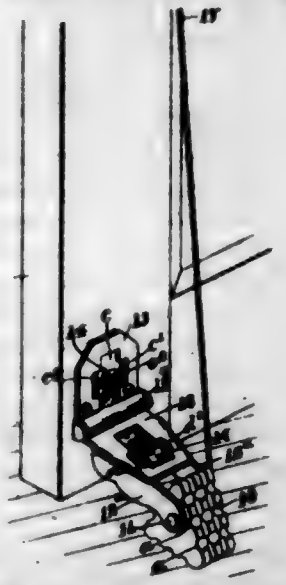
4. A wire fabric comprising a plurality of units each consisting of a wire bent to form a loop portion and a semiloop portion constituting an end extension of said loop portion, the semiloop portions of all of said units terminating at their open ends in hooks, and the loop portions of certain of said units terminating in eyes and of certain other of said units in hooks of double wire to engage said eyes, clips uniting the sides of the units at the junctions of the loop and semiloop portions, and rings engaging the hooks of the semiloop portions of both endwise and sidewise adjacent units whereby to connect the units of the fabric both longitudinally and transversely, substantially as described.

5. A wire fabric of the class described, comprising a series of independent bent-wire units disposed side by side and each having an open and a closed end, in combination with a corresponding series of independent bent-wire units also disposed side by side and having each an open and a closed end extended and bent to form hooks engaging the closed ends of said first-mentioned series of units, and links transversely connecting the open ends of sidewise adjacent units, substantially as described.

6. A wire fabric of the class described, comprising a series of independent bent-wire units disposed side by side and each having an open and a closed end formed with an eye, in combination with a corresponding series of independent bent-wire units also disposed side by side and having each an open end and a closed end extended and bent to form double-wire hooks engaging the eyes of said first-mentioned series of units, and links transversely connecting the open ends of sidewise adjacent units, substantially as described.

7. A wire fabric of the class described, composed of a series of endwise and crosswise connected units each made of a wire bent to form a loop portion and a semiloop portion, the side members of said loop portion being crimpled or wrinkled to afford increased resistance to longitudinal strains, substantially as described.

807,401. COMBINED DOOR HOLDER AND BUFFER. JOSEPH A. ROSS, Elgin, Utah. Filed Apr. 26, 1905. Serial No. 257,444.



Claim.—1. In a door holder and buffer, the combination with a spring-pressed arm held rockably on a door near its lower edge, and a pressure-block on the outer end of said arm, of a lifting-rod loosely connected by one end with the spring-pressed arm, and releasable means for holding the rod raised and the arm rocked upward.

2. In a door holder and buffer, the combination with a spring-pressed arm held rockably on a door near its lower edge, and a pressure-block on the outer end of said arm, of a lifting-rod loosely connected with the spring-pressed arm, and a lifting-arm pivoted upon the door above said spring-pressed arm, the upper end of the rod having loose engagement with the lifting-arm a distance from its pivot.

3. In a door holder and buffer, the combination with a spring-pressed arm held rockably on a door near its lower edge, and an elastic angular block pivoted upon the outer end of the rockable spring-pressed arm, of a lifting-rod loosely connected with said arm, and a lifting-arm pivoted upon the door above the spring-pressed arm, the upper end of the lifting-rod having a loose engagement with the lifting-arm a distance from its pivot.

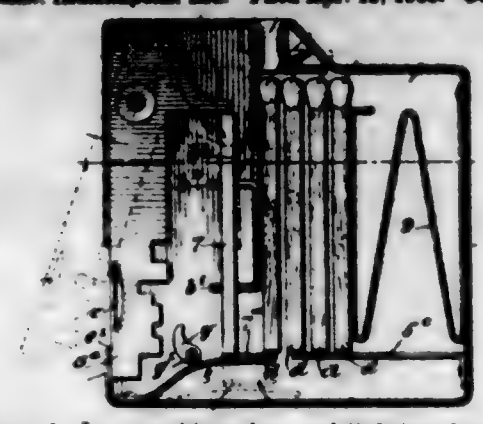
4. In a door holder and buffer, the combination with a bracket-plate secured on a door near its lower edge, a spring-pressed arm hinged upon the lower end of the bracket-plate, and an angular elastic block pivoted upon the outer end of the spring-pressed arm, of a lifting-rod loosely secured on an end of the pivot for the elastic block, a lifting-arm centrally pivoted upon the door and having a loose engagement with the upper end of the lifting-rod a distance from the pivot of said arm.

5. In a door holder and buffer, the combination with a bracket-plate having an opening therein, and a transverse hook on the lower edge below the opening, said plate being secured upon a door near its free edge and lower edge, a bracket-arm also having an opening, and a hook on the rear end that hingedly engages the hook on the bracket-plate, and a plate-spring having a substantially U shape and passing at its ends respectively through the opening in the bracket-plate and the bracket-arm, said spring normally pressing the arm downward, of a block on the outer end of the bracket-arm, and means for raising and releasably holding the block raised from the floor to serve as a buffer at a side wall.

6. In a door holder and buffer, the combination with a bracket-plate having an opening therein and a transverse hook on the lower edge, said opening having guides formed on its side edges by rabbet-

ing said edges, and a roller the ends of which may rest and roll on the guides, of a bracket-arm having a hook engaging the hook on the bracket-plate and also having an opening and a cross-bar over the opening, a bent plate-spring passing at its ends through the openings in the bracket plate and arm, said ends respectively resting upon the roller and cross-bar, thus adapting the spring for the depression of the bracket-arm, and an angular block pivoted on the outer end of the bracket-arm.

807,402. COMBINED KEY AND LIGHTING DEVICE. JOHN L. BOANLAR, Indianapolis, Ind. Filed Apr. 18, 1905. Serial No. 256,198.



Claim.—1. In a combined key and lighting device, the combination with a casing, and a locking and releasing key pivoted near one end in the casing and rockable out of the same, of means for ejecting a taper partially from the casing, and means carried by the casing adapted for lighting the taper when ejected.

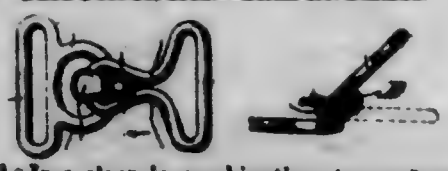
2. In a combined key and lighting device, the combination with a casing open along one edge, and a door-lock key pivoted near one end in the casing and rockable into and out of the casing through said open edge, of means for ejecting one end of a taper from the casing, means for lighting the taper as it is ejected, and means actuated by the rocking movement of the key adapted to control the taper-ejecting means.

3. The combination with a casing open along one edge, a key rockable on a pivot near one end out of and into the casing through its open edge, and a projection on the inner edge of the key near the pivot, of means for ejecting one end of a taper from the casing means for lighting the taper as it is ejected, and means impinged upon by the projection on the key, said means being adapted for actuating the taper-ejecting means.

4. The combination with a casing slotted along one side edge, a key pivoted near one end in the casing, and adapted for rocking into and out of the casing through the slot, a limb extended from the normally inner edge of the key, and an upright pusher-bar slidable in the casing and whereon the limb may press when the key is rocked out of the casing, of a support in the casing whereon a plurality of tapers may rest, a tubulation in the upper edge of the casing roughened on the inner surface for engaging the fulminate head of each taper that is brought below the tubulation, means for pressing the tapers toward the tubulation, and means actuated by the pusher-bar for ejecting a taper.

5. The combination with a casing, a tubulation in the top wall of the casing and roughened on the inner surface, of a supporting-wing in the lower part of the casing, an undulating spring adapted for pressing a plurality of tapers having fulminate heads toward the tubulation, an arched plate-spring having one end extended near to the wing for support of a single taper that is pressed beneath the tubulation, a cam-head, a shaft held to rock in the casing above the arched spring, and whereon the cam is secured, and means for rotating the shaft and cam-head.

807,403. CLASP OR FASTENER. CLARENCE E. SMITH, New Britain, Conn. Filed Feb. 11, 1905. Serial No. 245,311.



Claim.—1. In a clasp in combination, two coöperative detachable members, a hook borne by one of said members projecting rearwardly, a locking enlargement forward of said hook, the other member comprising yielding side arms having hooked extremities, said hooks turning toward each other and arranged to engage the hooked portion of the first-mentioned member, the space between said side arms being normally less than the width of the locking enlargement.

2. In a clasp in combination, two coöperative detachable members, one of said members having a broad rearwardly-projecting hook and a locking enlargement carried forwardly of said hook and in line therewith, the other member including two yielding side arms and having hooked extremities arranged to coöperate with the hooked portion of the first-mentioned member, said side arms adjacent to the locking enlargement being arranged to engage on opposite sides thereof and underneath the same when the parts are assembled.

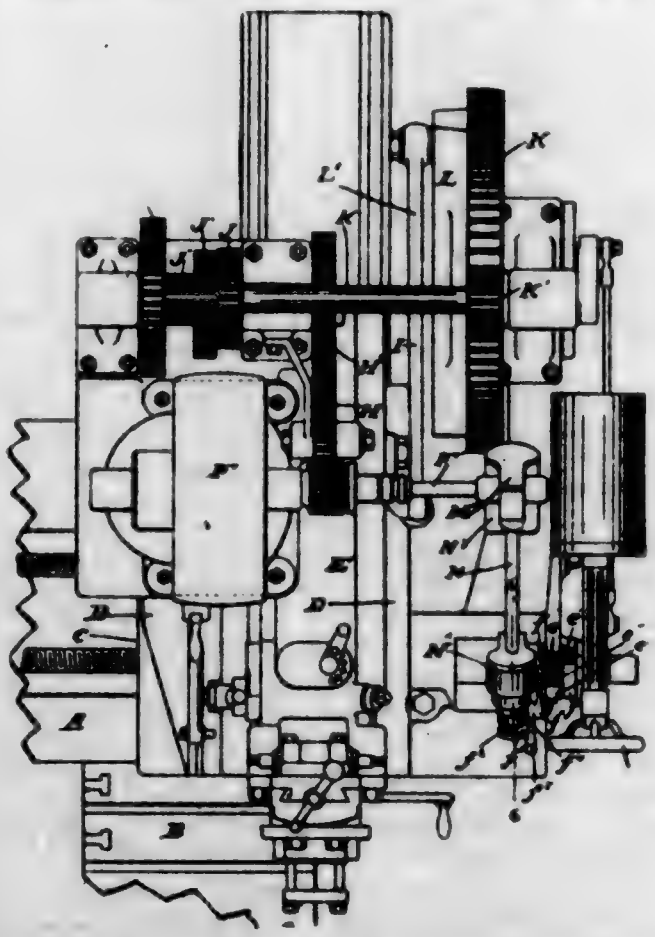
3. The combination of a member having a rearwardly-projecting retaining-bill and a locking enlargement adjacent thereto and forwardly projecting, of a second member comprising yielding side arms having hooked extremities arranged to engage said bill, said side arms being arranged to engage on each side of said enlargement and snap over the same when said members are being connected.

4. The combination of a member having a rearwardly-projecting retaining-bill and a forwardly-projecting locking enlargement in line therewith, of a second member including yielding side arms arranged to snap over the opposite sides of said locking enlargement when said members are being connected.

5. A hook member of a hook-and-eye clasp, comprising, in a single piece of metal, a body portion, means at its rear end for fastening the hook member to a garment or other object, a centrally-disposed hook proper adapted to engage with the eye member of said clasp, and a locking-head forward of said hook proper consisting of an enlargement over which the side members of the said eye must be sprung in order to effect an engagement of the two members of the said clasp, the said enlargement connected with the body of said hook member by a contracted neck, all substantially as described.

6. In a hook-and-eye clasp, in combination, a hook member comprising a body portion having a centrally-disposed hook proper elevated above the plane of said body portion, means at its rear end for being attached to a garment, and at its forward end a locking-head elevated above the plane of said body portion and consisting of an enlargement connected with the said body portion by a contracted neck, of an eye member consisting of a single length of resilient wire bent into loop form, the ends of the wire meeting in one end of said loop, one end of the loop adapted to serve as the bow proper of said eye to engage the hook proper, the side arms of said eye adapted to engage with the locking-head, all substantially as set forth.

807,404. SHAPING-MACHINE. JAMES C. STERN, Cincinnati, Ohio, assignor to The Cincinnati Shaper Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Apr. 13, 1904. Serial No. 203,943.



Claim.—1. In a shaping-machine, in combination with the bed-plate, feed-screw, rotatable nut thereon, and traveling carriage, a rotatable saddle bearing on said carriage, means for locking said saddle in any angular position, the ram, motor, driving-shaft and driv-

ing-arm carried by said rotatable saddle and mechanism intermediate said driving-shaft and said rotatable nut adapted to rotate the same irrespective of the angular position of said rotatable plate, substantially as described.

2. In a shaping-machine, in combination with the bed-plate, feed-screw, rotatable nut thereon and traveling carriage, a rotatable saddle bearing on said carriage with means for locking the same in any angular position, the motor, driving-shaft, ram and driving-arm carried by said saddle, a second shaft journaled in said carriage with its axis coincident with the axis of rotation of said rotatable saddle, mechanism supported by said saddle intermediate said driving-shaft and said second shaft, and mechanism supported by said carriage intermediate said second shaft and rotatable nut, adapted to rotate the same, substantially as described.

3. In a shaping-machine, in combination with the bed-plate, feed-screw, rotatable nut thereon and traveling carriage, a rotatable saddle bearing on said carriage with means for locking the same in any angular position, the motor, driving-shaft, ram and driving-arm carried by said saddle, an intermediate shaft, supported on said saddle and adapted to be driven either continuously from the driving-shaft or intermittently from the driving-arm, a clutch adapted to at the same time couple with the one and uncouple with the other, a vertical shaft journaled in the carriage, together with mechanism between said intermediate shaft and said vertical shaft carried by said revoluble saddle and mechanism intermediate said vertical shaft and said nut adapted to revolve the latter, substantially as described.

4. In a shaping-machine, in combination with the bed-plate, feed-screw, rotatable nut thereon and traveling carriage, a vertical shaft with bearing in said carriage and mechanism adapted to communicate its rotation to said rotatable nut, a rotatable saddle bearing on said carriage with means for locking the same in any angular position, the ram, motor, driving-shaft, and driving-arm carried by said rotatable saddle, an intermediate shaft supported on said rotatable saddle with mechanism connecting said shaft with said vertical shaft adapted to rotate the latter, said mechanism being supported on said revoluble saddle, mechanism supported by said revoluble saddle between said driving-shaft and said intermediate shaft and between said driving-arm and said intermediate shaft, clutching devices adapted to operatively connect said intermediate shaft with either of these, and a clutch-operating device adapted to lock either mechanism in inoperative position when the other is in operative position, substantially as described.

5. In combination, a revoluble shaft, a continuously-rotating shaft at an angle thereto, a gear loosely mounted on said continuously-revolving shaft with its hub provided with clutch-teeth, gearing intermediate said loosely-mounted gear and said revoluble shaft, a clutch member feathered to said continuously-revolving shaft adapted to engage the hub of said loosely-mounted gear, a ratchet-wheel keyed to said revoluble shaft, a rocker-arm and spring-controlled pawl carried thereby adapted to engage said ratchet-wheel, with means for rocking the same, a flanged sleeve controlling the active throw of said spring-controlled pawl, a notch in said sleeve, a bell-crank lever pinioned adjacent said revoluble shaft, one arm adapted to operate said clutch member and the other arm bearing on said flanged sleeve and adapted to enter said notch therein, and permit said clutch member to be thrown into engagement with the hub of said loosely-mounted gear when said flanged sleeve is in position to prevent the pawl from engaging said ratchet-wheel, substantially as and for the purpose described.

807,405. **PIPE-GRIP.** DAVID W. STERLING, Glade Mills, Pa., assignor of one-third to Jacob Daubenspeck and one-third to Henry Crumrav, Glade Mills, Pa. Filed July 10, 1905. Serial No. 268,891.

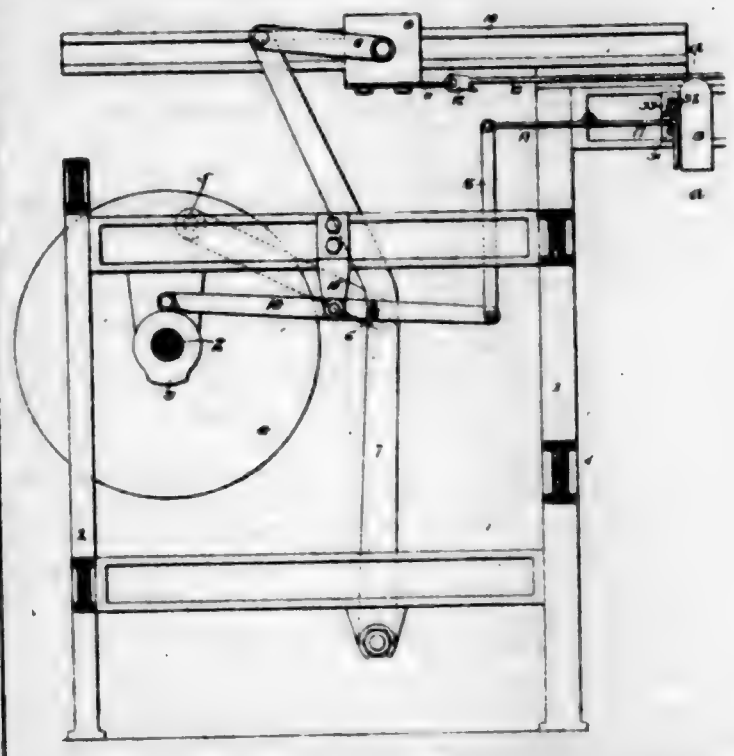


Claim.—1. A gripping device of the character described consisting of two substantially semicircular straps hinged together, an eyelet carried by one of said straps, the other of said straps having a substantially hook-shaped end, and projections or teeth carried by the inner or confronting faces of said straps, substantially as described.

2. A gripping device of the character described consisting of two straps hinged together, an eyelet carried by one of said straps, a link carried by said eyelet and adapted to be attached to a rope, the other of said straps having a substantially hook-shaped end over which the rope is adapted to engage, and projections carried by the confronting or inner faces of said straps, substantially as described.

3. A gripping device consisting of two straps hinged together, an eyelet carried by the free end of one strap, a flexible connection attached to said eyelet, the other of said straps having a hook-shaped end, with which said flexible connection is adapted to engage.

807,406. **PILE-WIRE LUBRICATOR.** WILLIAM TURSTALL, Philadelphia, Pa., assignor to Ivins, Dietz and Metzger Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 6, 1904. Serial No. 192,577.



Claim.—1. A pile-wire lubricator for looms, consisting of a block of resisting material, disposed so as to contact with the back of the pile-wire during the withdrawal or insertion of the same, and means for supplying said block with lubricating material, substantially as specified.

2. A pile-wire lubricator for looms, consisting of a block of capillary material, presenting a resisting-surface and disposed so as to contact with the back of the pile-wire during the withdrawal or insertion of the latter, and means for supplying said block with lubricating material, substantially as specified.

3. A pile-wire lubricator for looms, consisting of a block of resisting material disposed so as to contact with the back of the wire during the insertion or withdrawal of the same, and means, comprising a reservoir of lubricant and a wick or other body of textile material, for supplying said block with lubricant, substantially as specified.

4. A pile-wire lubricator for looms, consisting of a block of resisting material disposed so as to contact with the back of the wire during the insertion or withdrawal of the same, and means comprising a reservoir of lubricant and a wick or other body of textile material, contained in a goove in the block, for supplying said block with lubricant, substantially as specified.

5. A pile-wire lubricator, consisting of a lubricating-block, disposed in line with the pile-wire during the withdrawal or insertion of the same, said block being combined with means for applying lubricating material thereto and with means for moving it positively from and toward the back of the pile-wire, substantially as specified.

6. A pile-wire lubricator, consisting of a lubricating-block disposed in line with the pile-wire during the withdrawal or insertion of the same, a reservoir for supplying said block with lubricating material, and means for positively moving said reservoir and its lubricating-block from and toward the back of the wire, substantially as specified.

7. A pile-wire lubricator, consisting of a vessel containing lubricating material, and a roller of resisting material journaled in said vessel and having a belt depending into the lubricating material therein, said roller being located so as to contact with the back of the pile-wire during the withdrawal or insertion of the same, substantially as specified.

8. A pile-wire lubricator, consisting of a vessel containing lubricating material, a roller journaled in said vessel and located so as to contact with the pile-wire during the withdrawal or insertion of the same, means for supplying oil to the surface of said roller, and means for imparting intermittent movements of partial rotation to said roller, substantially as specified.

9. A pile-wire lubricator, consisting of a vessel containing lubricating material, a roller journaled in the upper portion of said vessel, another roller submerged in the lubricating material in the vessel, a belt connecting the two rollers, and means for imparting movement of partial rotation to the upper roller, substantially as specified.

10. A pile-wire lubricator, comprising a vessel containing lubricating material, a frame removable from said vessel, and having upper and lower rollers mounted in it, a belt connecting said rollers, and means for imparting movement of partial rotation to the upper roller, substantially as specified.

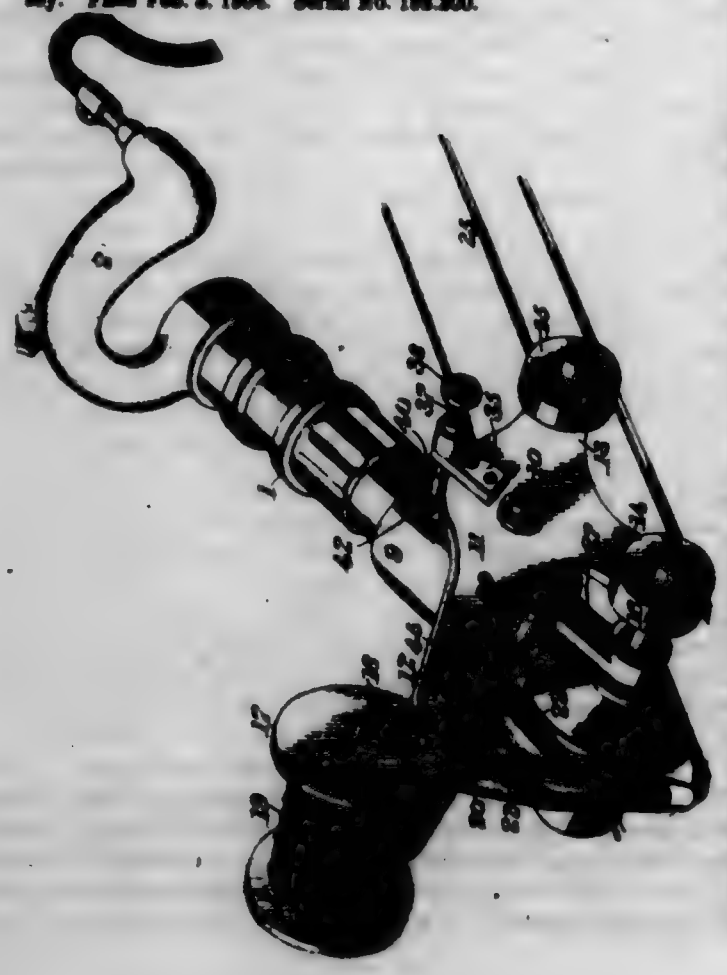
11. A pile-wire lubricator, comprising a vessel containing lubricating material, a roller journaled in said vessel, means for raising and lowering the vessel so as to carry its roller from and toward the back of the pile-wire, and mechanism, having as elements a ratchet and pawl, whereby such movement of the lubricating vessel is caused to impart movement of partial rotation to the lubricating-roller, substantially as specified.

12. A pile-wire lubricator, consisting of a vessel containing lubricating material, means for positively raising and lowering said vessel, and a roller journaled in said vessel, and having a belt depending into the lubricating material therein, said roller being located in line with the pile-wire during the withdrawal or insertion of the same, substantially as specified.

13. A pile-wire lubricator, consisting of a vessel containing lubricating material, a roller journaled in said vessel and located in line with the pile-wire during the withdrawal or insertion of the same, means for raising and lowering said lubricating vessel, and means for imparting intermittent movements of partial rotation to the roller therein, substantially as specified.

14. A pile-wire lubricator, consisting of a vessel containing lubricating material, a roller journaled in the upper portion of said vessel and located in line with the pile-wire during the withdrawal or insertion of the same, another roller submerged in the lubricating material in the vessel, a belt connecting the two rollers, means for raising and lowering the lubricating vessel, and means for imparting movements of partial rotation to the upper roller, substantially as specified.

807,407. CALKING PROCESS. JOSEPH J. TYRAN and HARRY C. MOSTELLER, Philadelphia, Pa., assignors, by mesne assignments, to Chicago Pneumatic Tool Company, Chicago, Ill., a Corporation of New Jersey. Filed Feb. 5, 1904. Serial No. 192,200.



Claim.—1. The method of calking which consists in forcing the calking material into the seam by impact upon a rotary tool in a direction at an acute angle to the surface being calked.

2. The method of calking which consists in striking a rotary calking-tool in such direction that the seam is calked and the calking material fed into the seam at the same time that the tool is advanced by the blow.

3. The method of calking which consists of striking the calking-tool in such a direction that the tool is advanced by the blow and oakum fed from a position outside the seam to one within the seam at the same time that the seam is calked.

4. The method of calking which consists in reaming the seam calked, supplying the calking material under tension and impressing the material by a blow upon a rotary tool such that the tool is advanced and a further supply of the material drawn down into the seam as a result of the blow.

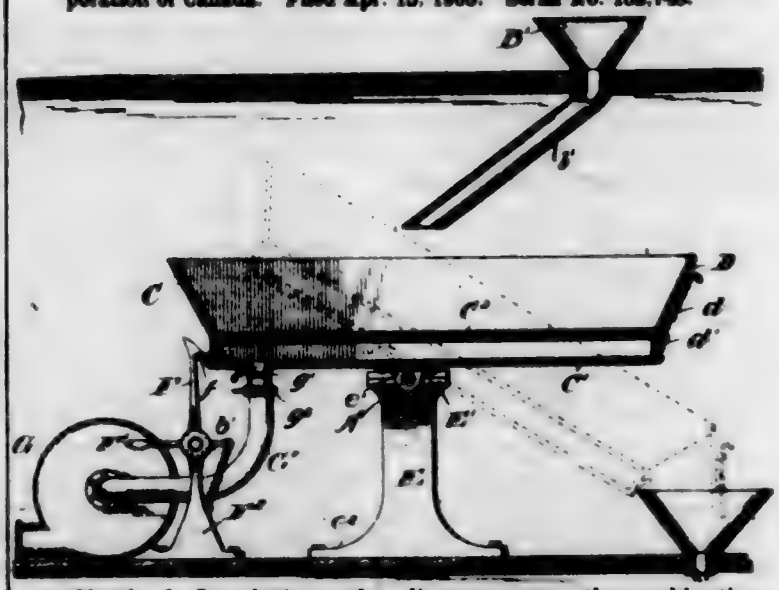
5. The method of calking which consists in reaming the seam and impressing the calking material therein from a point outside the same by a blow upon a rotary tool delivered at an acute angle to the surface calked.

6. The method of calking which consists in supplying the material under tension, and calking the seam by a blow upon a rotary tool delivered in such a direction that the tool is advanced and a further supply of material drawn down into the seam as the result of the blow.

7. The method of calking which consists in forcing the calking material into the seam by impacts upon a rolling tool at an angle acute to the surface to be calked.

8. The method of calking which consists in forcing calking material into the seam by successive impacts upon a rolling tool in a direction acute to the surface to be calked.

807,408. COOLING AND DRYING APPARATUS. FREDERICK A. WEGNER and JESSE D. BOURDEAU, Detroit, Mich., assignors to Cereal Machinery and Production Company, Limited, Windsor, Canada, a Corporation of Canada. Filed Apr. 15, 1903. Serial No. 152,745.



Claim.—1. In a drying and cooling apparatus, the combination with a tilting receptacle, of means for normally maintaining said receptacle in a horizontal position, a perforated plate supported within said receptacle above the bottom thereof upon which the material is received, a coupling communicating with and projecting downwardly from the bottom of the receptacle, a conduit terminating in a fixed coupling adapted to be engaged by the coupling on said receptacle, and exhausting mechanism communicating with said conduit.

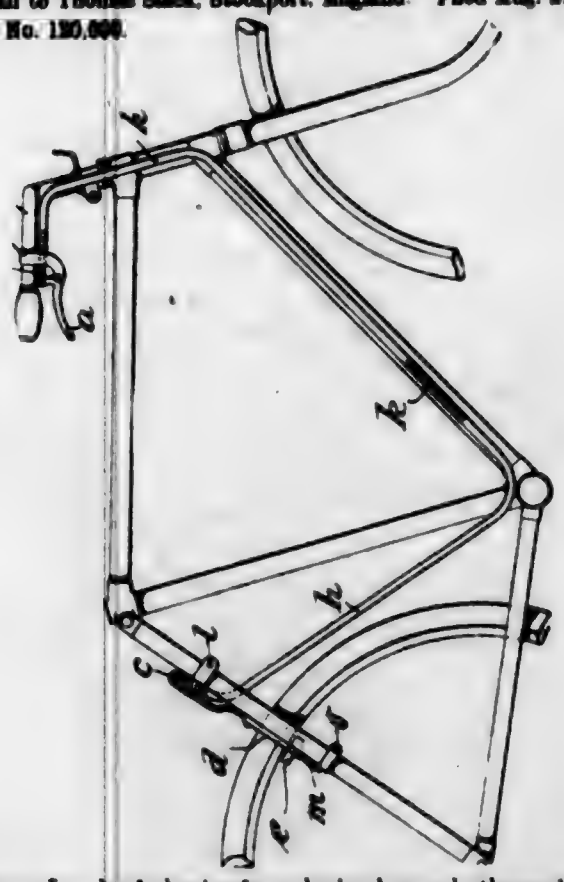
2. In a drying and cooling apparatus, the combination with a tilting receptacle, of means for normally maintaining said receptacle in a horizontal position, a perforated plate supported within said receptacle above the bottom thereof upon which the material is received, an exhausting apparatus, means for detachably connecting said exhausting apparatus with said receptacle below the perforated plate therein, and a door through said receptacle above said perforated plate therein, whereby when the receptacle is swung downwardly it is disconnected from the exhausting device and the material is discharged therefrom through said door.

3. In a drying and cooling apparatus, the combination with a tilting receptacle having outwardly-inclined side walls, of means for normally maintaining said receptacle in a horizontal position, a perforated plate supported within said receptacle above the bottom thereof upon which the material is received, an outwardly-swinging door closing an opening in a side wall in said receptacle above said plate, a coupling communicating with and projecting downwardly

from the bottom of said receptacle, a conduit terminating in a fixed coupling adapted to be engaged by the coupling on the receptacle when the latter is in a horizontal position, an exhausting device communicating with said conduit, and an outwardly-swinging door closing an opening in the side wall of said receptacle above said plate, whereby when the receptacle is swung downwardly it is disconnected from the exhausting device and the material discharged through said door, the latter swinging open by gravity.

4. In a drying and cooling apparatus for cereals in manufacturing flake and granular food, the combination with a tilting receptacle having outwardly-inclined side walls and a normally horizontal bottom wall, a perforated plate supported within said receptacle above the bottom wall thereof, an inwardly-tapering coupling projecting below and communicating with said receptacle, an outwardly-flaring fixed coupling adapted to receive said tapered coupling when the receptacle is in a horizontal position, a conduit connected with said fixed coupling, a blower communicating with said conduit, an outwardly-swinging door closing an opening in the side wall of said receptacle, and a hopper located beneath said receptacle and adapted to receive the material therefrom as it passes through said door.

807,409. **BRAKE FOR VELOCIPEDES AND OTHER ROAD-VEHICLES.** THOMAS WHITAKER, Cheadle, Hulme, England, assignor of one-half to Thomas Slack, Stockport, England. Filed Aug. 21, 1903. Serial No. 170,009.



Claim.—In a back brake for velocipedes and other vehicles, a tube at the side of the vehicle-frame, constructed of woven wire and one end of which is secured to the handle-bar and the other to the back fork, a series of longitudinally-movable incompressible balls in the said tube, the said tube being inexpansible to resist the lateral pressure of the said balls and flexible to accommodate itself in steering to the various positions of the handle-bar, a plunger in one and a sliding rod connected with the back brake in the other end of the said tube bearing against the respective ends of the said ball series and means for operating the said plunger and thereby exert pressure upon the said balls, all combined substantially as and for the purpose set forth.

807,410. **CLOSING DEVICE FOR BOTTLES.** GEORG WERNE, Stockholm, Sweden. Filed Sept. 10, 1903. Serial No. 172,653.



Claim.—1. In a closing device for bottles in combination with a hinged stopper, a closing-piece *f*, a rotatable disk *i*, provided with an eccentrically-located hole *h*, and a pin *l* on the bottle about which said disk is rotated.

2. In a closing device for bottles in combination with a hinged stopper, a closing-piece *f*, a rotatable disk *i*, provided with an eccentrically-located hole *h*, a handle *k* therefor, and a pin *l* on the bottle, about which said disk is rotated.

3. In a closing device for bottles in combination with a stopper, a ring *a* to which it is hinged, a closing-piece *f*, a rotatable disk *i* with a hole *h*, a handle *k* for rotating said disk, a pin *l* on the said ring *a*, about which said disk is rotated and bolt *b* connecting the stopper to the said ring *a*.

807,411. **APPARATUS FOR FORCING FLUIDS INTO WOOD.** SIGMUND WILLNER, Memphis, Tenn. Filed May 6, 1905. Serial No. 259,244.



Claim.—1. In an apparatus of the class described, the combination of a frame for supporting a log, a member on said frame having a plurality of depressions in one face thereof, ridges inclosing said depressions and separating each from the other, all of said ridges being adapted to have water-tight engagement with one end of the log when said member is forced against the same and means for supplying liquid under pressure to each of said depressions independently of the others.

2. In an apparatus of the class described the combination of a frame for supporting a log, a member in said frame having a plurality of depressions in one face thereof, pointed ridges inclosing each of said depressions and separating one from the other, said ridges being sharpened and having their crests lying substantially in the same plane and adapted to penetrate the log when said member is forced endwise against the same, means for forcing the log and member toward each other, and means for supplying liquid under pressure to each of said depressions independently of the other depressions.

3. In an apparatus of the class described, the combination of a frame for supporting a log, a member in said frame having in one face a plurality of concentric annular depressions each separated from the other by a continuous ridge, each of said ridges being sharpened at its crest and the crests of said ridges lying in the same plane and adapted to penetrate the log when said member is forced endwise against the log, and means for supplying liquid to each of said depressions independently of the others.

4. In an apparatus of the class described, the combination of a frame for supporting a log, a member in said frame having in one face a plurality of concentric annular depressions each separated from the other by a continuous ridge, each of said ridges being sharpened at its crest and the crests of said ridges lying in the same plane and adapted to penetrate the log when said member is forced endwise against the log, and individual valve-controlled pipes for conducting liquid to each of said depressions.

5. In an apparatus of the class described, the combination of a frame for supporting a log, a member in said frame having in one face a plurality of concentric annular depressions each separated from the other by a continuous ridge, each of said ridges being sharpened at its crest and the crests of said ridges lying in the same plane and adapted to penetrate the log when said member is forced endwise against the log, means for supplying liquid to each of said depressions independently of the others, and a ridge outside of the outer depression and having a plurality of sharpened crests lying in the same plane with each other.

807,412. PROCESS OF PURIFYING WATER. JOHN F. WILFORD, St. Louis, Mo. Original application filed Sept. 23, 1904, Serial No. 226,611. Divided and this application filed June 26, 1905. Serial No. 266,949.

Claim.—1. The process of purifying water which consists in treating the same with a fluorid in a form capable of reaction with dissolved carbonates and afterward but before sedimentation treating it with lime.

2. The process of purifying water which consists in adding thereto a fluorid in a fluid form and afterward adding lime, substantially as and for the purpose described.

3. The process of purifying water which consists in treating the same with a soluble fluorid, and afterward adding lime thereto and keeping the water in motion to prevent sedimentation while the lime reactions are occurring, and then permitting sedimentation.

4. The process of purifying water which consists in treating the same with a soluble fluorid of a non-alkali element, and afterward adding lime thereto and keeping the water in motion to prevent sedimentation while the lime reactions are occurring, and then permitting sedimentation.

5. The process of purifying water which consists in treating the same with a fluorid of iron, and afterward adding lime thereto and keeping the water in motion to prevent sedimentation while the lime reactions are occurring, and then permitting sedimentation.

6. The process of purifying water which consists in treating the same with ferrous fluorid and afterward adding lime thereto and keeping the water in motion to prevent sedimentation while the lime reactions are occurring, and then permitting sedimentation.

7. The process of purifying water which consists in treating the same with a soluble fluorid, then adding thereto hydrate of lime in excess of the quantity that would be required to satisfy such fluorid, preventing the precipitates from settling for a period of several minutes, and afterward permitting sedimentation.

8. The process of purifying water which consists in treating the same with a soluble fluorid of a non-alkali element, then adding thereto hydrate of lime in excess of the quantity that would be required to satisfy such fluorid, preventing the precipitates from settling for a period of several minutes, and afterward permitting sedimentation

9. The process of purifying water which consists in treating the same with a soluble metallic fluorid, then adding thereto lime in approximately such proportion as would be necessary to make the natural water indicate caustic alkalinity if tested several hours after the addition of lime thereto, keeping the water in motion to prevent sedimentation during the lime reactions, and afterward permitting sedimentation.

10. The process of purifying water which consists in adding thereto a solution of a fluorid of a non-alkali element in the proportion required to produce a suitable coagulation, afterward adding hydrate of lime thereto in the proportion specified, agitating the water during the lime reactions, and afterward permitting sedimentation.

11. The process of purifying water which consists in adding ferrous fluorid thereto in the proportion of from one-quarter of a grain to two grains of anhydrous ferrous fluorid per gallon of water, and adding lime in the proportion of from four to eight grains per gallon of water.

12. The process of purifying water which consists in treating the same while in motion with a solution of a fluorid of a non-alkali element and afterward adding hydrate of lime to the moving water thus treated, and afterward reducing the rate of flow to permit sedimentation, the proportion of lime being approximately the same as that required to be added to the natural water to make it show caustic alkalinity when tested with silver nitrate a considerable time after the addition of lime.

13. The process of purifying water which consists in continuously directing into a stream thereof separate streams containing a fluorid of iron and hydrate of lime, respectively, and afterward permitting the water to settle, the hydrate of lime being added at a point in the stream beyond the point where the iron is added, substantially in the proportions and for the purpose described.

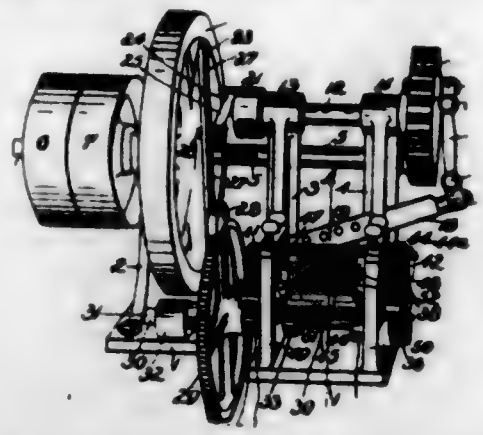
14. The process of purifying water which consists in keeping the same in motion and continuously adding thereto a fluorid of iron and hydrate of lime in substantially the proportions specified, the hydrate of lime being added at a point beyond the point of admission of the fluorid and in excess of the amount required to satisfy the free carbonic acid and the fluorid in the water, said reagents being added by means of streams of water running continuously through masses of the respective reagents to which measured quantities are added at intervals to secure uniformity of distribution.

15. The process of purifying water which consists in adding a solution of ferrous fluorid to a stream of water to be purified in the proportion of approximately one grain of anhydrous ferrous fluorid per gallon of water, and adding approximately six grains of lime per gallon in the form of hydrate of lime, and then permitting such water to settle, the hydrate of lime being added to such stream at a point beyond the point of admission to the ferrous fluorid.

16. The process of purifying water which consists in adding a solution of ferrous fluorid thereto while in motion in the proportion of approximately one grain of anhydrous ferrous fluorid and approximately six grains of lime per gallon, the ferrous fluorid being added before the lime by means of a stream of water flowing continuously through a mass of ferrous fluorid to which measured quantities are added at measured intervals.

17. The process of purifying water which consists in mixing therewith a solution of a fluorid of a non-alkali element and then mixing hydrate of lime therewith, keeping the water in agitation sufficient to prevent sedimentation of the precipitates for several minutes after the addition of lime, and then causing the water to well upwardly at slow velocity below the surface of the water in the settling-basin.

807,413. MACHINE FOR CUTTING MATERIAL INTO STRIPS AND BLOCKS. ALFRED G. BAKER, Dunedin, New Zealand. Original application filed Apr. 13, 1904, Serial No. 203,063. Divided and this application filed July 3, 1905. Serial No. 268,195.



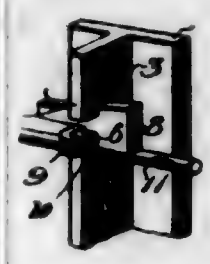
Claim.—1. A machine for cutting material into strips and blocks comprising a feed-roller and strip-cutter roller, means for rotating said rollers in unison, a ratchet-wheel operatively connected to one of said rollers, a rocking lever, a pawl carried thereby engaging the teeth of the ratchet-wheel, an operating-shaft, a crank, a link having one end connected to said crank and the other end adjustably connected to said lever, a pivoted knife-blade for severing the material after leaving the rollers, and operating connections between the knife-blade and operating-shaft, substantially as described.

2. A machine for cutting material into strips and blocks consisting of a feed-roller and a disk strip-cutter roller, said rollers being geared together, a ratchet-wheel, geared to one of said rollers, a slotted lever, a pawl carried thereby engaging with the ratchet-wheel, a shaft 12, a crank connected to one end thereof, a pin adjustably secured in the slot of the lever, a link connecting said pin with the crank, a crank on the other end of the shaft 12, a lever having one end pivoted to the framework and a swiveled connection between the other end of the lever and the last-named crank, a knife on said lever adapted to cut the material after it leaves the disk cutter-roller and means for rotating the shaft 12.

807,414. FENCE. THOMAS BRITTON, Pittsburg, Pa. Original application filed May 3, 1904, Serial No. 206,220. Divided and this application filed June 22, 1904. Renewed Aug. 12, 1905. Serial No. 274,015.

Claim.—1. A fence, comprising a post formed with a plurality of T-shaped slots and tongues adjacent thereto, a wire strand inserted

in each slot, and a wedge-shaped key having its reduced end split to form arms fitted in each slot, one of which arms is horizontally bent around one of said tongues.



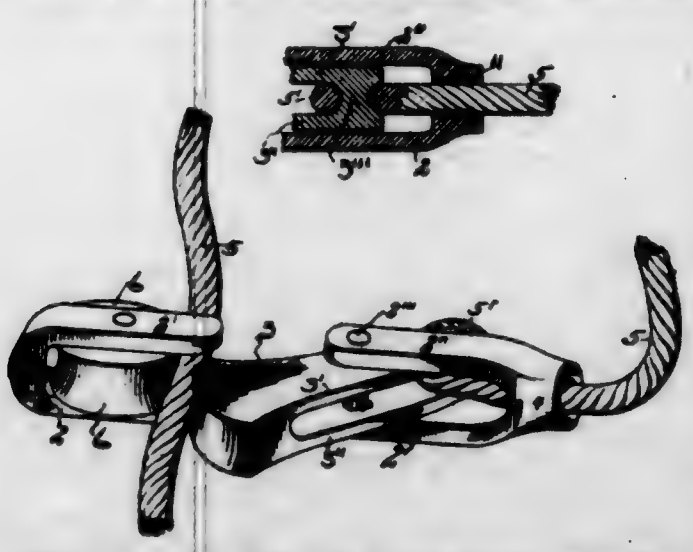
2. A fence, comprising a post formed with a plurality of T-shaped slots and tongues adjacent thereto, a wire strand inserted in each slot, and wedge-shaped key having its reduced end split to form arms fitted in each of said slots, one of which arms is horizontally bent around one of said tongues, said keys bearing firmly upon the wire strands and the sides of said slots.

3. A fence, comprising a post formed with a plurality of T shaped slots therein and opening outwardly therefrom, tongues being formed thereby, a wire strand inserted in each slot, and wedge-shaped keys of the same width as the slots and disposed therein above each wire strand and having their reduced ends longitudinally split to form arms, the lowermost arm of each key bent horizontally around the adjacent tongue.

4. A fence, comprising posts formed with a plurality of T-shaped slots therein arranged in vertical succession and opening out through the edge thereof, the depending vertical portions of the slots extending a greater distance below the throats of said slots than the upper vertical portions thereof, tongues being thus formed between the slots and the side of the post, wire strands inserted and held in the lower portions of the slots, and wedge-shaped keys of the same width as the slots disposed therein above the strands, said keys having their reduced ends longitudinally split to form arms, one of the arms in each instance being bent around an adjacent tongue.

5. A fence, comprising posts formed with a plurality of slots arranged in vertical succession, wire strands inserted in each slot, flat wedge-shaped keys in each of said slots, the reduced ends of said keys being split to form arms and adapted to be horizontally bent around portions of each post between said slots and the outside of the post.

807,415. **ROPE-CLUTCH FOR FODDER-BINDERS.** CLIFFORD G. BRINK, Nashua, Iowa. Filed May 4, 1905. Serial No. 258,880.



Claim.—1. A rope-clutch for fodder-binders, comprising a frame, a pulley mounted on the frame, and a dog pivoted to the frame cooperating with the pulley to grip a binder-rope and adapted to be connected to the binder-rope, the said frame being provided with an eye for the passage of the binder-rope, rearwardly of the dog.

2. A rope-clutch for fodder-binders, comprising a frame, a pulley mounted on the frame, a dog pivoted to the frame and coöperating with the pulley to grip a binder-rope, the said dog being extended rearwardly beyond its pivot for attachment to the end of the binder-rope, and the frame being provided with an eye for the passage of said rope, the eye being located rearward of the dog and in line with the pivot of the dog.

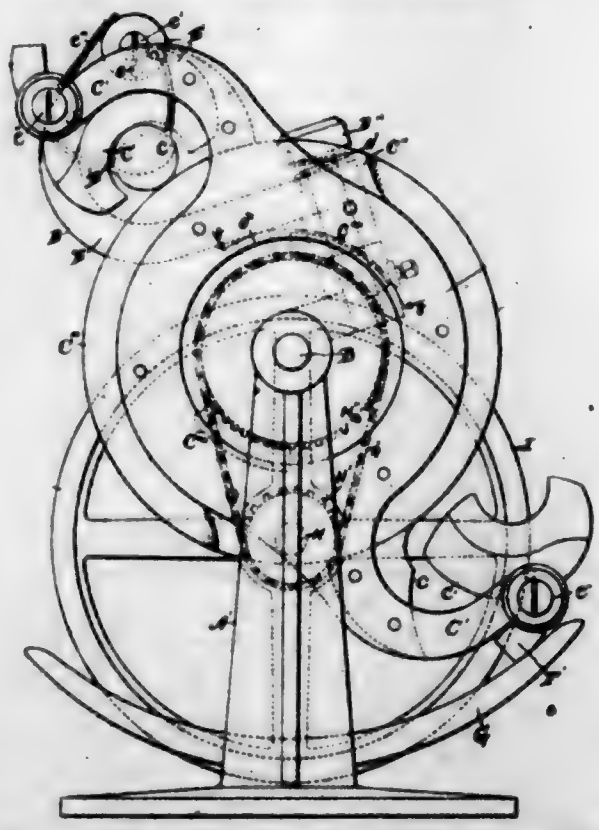
3. A rope-clutch for fodder-binders, comprising a frame, a pulley mounted at one end of the frame, a dog pivoted to the frame and coöperating with the pulley to grip a binder-rope and having an extension beyond said pivot for attachment to the end of the binder-rope, and an eye on the frame rearward of the dog and in line with the pivot thereof, said eye having a passage therethrough whose ends are rounded for the passage of the rope.

4. A rope-clutch for fodder-binders, comprising a longitudinal frame formed with upper and lower separated side portions, a pulley mounted at one end of the frame and between the said side portions, a dog having a rearward extension pivoted at its middle between the sides of the frame and coöperating with the pulley to grip a binder-rope, means on the end of the dog extension by which to attach the end of the binder-rope, and a tubular extension at the end of the frame forming an eye for the passage of said rope, the walls of the tubular extension being rounded at their entrance and exit ends.

5. A rope-clutch for fodder-binders, comprising a longitudinal frame having re-turned ends forming one side of said frame, a pulley mounted between the frame and one re-turned end, a sector-shaped dog having a rearward extension pivoted at its middle between the other re-turned end and the frame, a pillar on the end of the extension for the attachment of a binder-rope, and a tubular extension on the frame in rear of the dog for the passage of the rope, the walls of said extension being rounded at their entrance and exit ends.

6. A rope-clutch for fodder-binders, comprising a longitudinal frame 2, having re-turned ends 2′ 2″, a pulley 6, and a sector-shaped dog formed of the conjoined side pieces 3′ 3″, and having the pillar 3‴ at its end, the said end of said frame rearward of the dog having the tubular extension 4, the entrance and exit ends of said tubular extension being rounded outwardly.

807,416. **PITTING-MACHINE.** STEWART L. CAMPBELL, Kalamazoo, Mich. Filed Dec. 5, 1904. Serial No. 235,588.



Claim.—1. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *c* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *c*′ pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *c*; a curved plate arranged beneath said revolving knife-carrier; arms on said pivoted knives *c* adapted to engage said plate as they are carried forward, whereby they are returned to their outer positions; a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a spring adapted to return said pivoted knife-carrier to its normal position; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′ forming, when in its inner position, a continuation of said knife E; a spring adapted to hold said knife E′ normally outward; a roller on said pivoted knife-carrier; and cams on the face of said disk C″ adapted to engage said roller, the said knives on the revolving knife-

carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

3. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon secured to said carrier; outwardly-curved knives *e* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *e′* pivoted on said arm C′, forming, when in their inner position, continuations of the said knives *e;* a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a spring adapted to return said pivoted knife-carrier to its normal position; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′ forming, when in its inner position, a continuation of said knife E; a spring adapted to hold said knife E′ normally outward; a roller on said pivoted knife-carrier; and cams on the face of said disk C″ adapted to engage said roller, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

3. The combination of a revolubly-mounted knife-carrier C having curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon secured to said carrier; outwardly-curved knives *e* secured to said arms C′ forming continuations of the knives C″ of said disk; inwardly-facing curved knives *e′* pivoted on said arm C′, forming, when in their inner position, continuations of the said knives *e;* a curved plate arranged beneath said revolving knife-carrier; arms on said pivoted knives *e* adapted to engage said plate as they are carried forward, whereby they are returned to their outer positions; a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a spring adapted to return said pivoted knife-carrier to its normal position; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′ forming, when in its inner position, a continuation of said knife E; a spring adapted to hold said knife E′ normally outward, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

4. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *e* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *e′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *e;* a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a spring adapted to return said pivoted knife-carrier to its normal position; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′, forming, when in its inner position, a continuation of said knife E; a spring adapted to hold said knife E′ normally outward, said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

5. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *e* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *e′* pivoted on said arms C′, forming when in their inner position, continuations of the said knives *e;* a curved plate arranged beneath said revolving knife-carrier; arms on said pivoted knives *e* adapted to engage said plate as they are carried forward, whereby they are returned to their outer positions; a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a spring adapted to return said pivoted knife-carrier to its normal position; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′ forming, when in its inner position, a continuation of said knife E; a roller on said pivoted knife-carrier; and cams on the face of said disk C″ adapted to engage said roller, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

6. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *e* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *e′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *e;* a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a spring adapted to return said pivoted knife-carrier to its normal position; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′ forming, when in its inner position, a continuation of said knife E; a roller on said pivoted knife-carrier; and cams on the face of said disk C″ adapted to engage said roller, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

7. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *e* secured to said arms C′, forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *e′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *e;* a curved plate arranged beneath said revolving knife-carrier; arms on said pivoted knives *e* adapted to engage said plate as they are carried forward, whereby they are returned to their outer positions; a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a spring adapted to return said pivoted knife-carrier to its normal position; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′, forming, when in its inner position, a continuation of said knife E, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

8. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *e* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *e′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *e;* a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a spring adapted to return said pivoted knife-carrier to its normal position; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′, forming, when in its inner position, a continuation of said knife E, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

9. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *e* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *e′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *e;* a curved plate arranged beneath said revolving

knife-carrier; arms on said pivoted knives *c* adapted to engage said plate as they are carried forward, whereby they are returned to their outer positions; a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′, forming, when in its inner position, a continuation of said knife E; a spring adapted to hold said knife E′ normally outward; a roller on said pivoted knife-carrier; and cams on the face of said disk C″ adapted to engage said roller, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

10. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *c* secured to said arms C′, forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *c′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *c;* a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′, forming, when in its inner position, a continuation of said knife E; a spring adapted to hold said knife E′ normally outward; a roller on said pivoted knife-carrier; and cams on the face of said disk C″ adapted to engage said roller, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

11. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *c* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *c′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *c;* a curved plate arranged beneath said revolving knife-carrier; arms on said pivoted knives *c* adapted to engage said plate as they are carried forward, whereby they are returned to their outer positions; a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′, forming, when in its inner position, a continuation of said knife E; and a spring adapted to hold said knife E′ normally outward, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

12. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *c* secured to said arms C′, forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *c′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *c;* a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′, forming, when in its inner position, a continuation of said knife E; and a spring adapted to hold said knife E′ normally outward, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

13. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *c* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *c′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *c;* a curved plate arranged beneath said revolving knife-carrier; arms on said pivoted knives *c*, adapted to engage said plate as they are carried forward, whereby they are returned to their outer positions; a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; an inwardly-facing curved knife E′ pivoted on said arm D′, forming, when in its inner position, a continuation of said knife E; a roller on said pivoted knife-carrier; and cams on the face of said disk C″ adapted to engage said roller, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

14. The combination of a revolubly-mounted knife-carrier C having forwardly-curved arms C′ thereon; a circular disk C″ having knives C‴ formed thereon, secured to said carrier; outwardly-curved knives *c* secured to said arms C′ forming continuations of the knives C‴ of said disk; inwardly-facing curved knives *c′* pivoted on said arms C′, forming, when in their inner position, continuations of the said knives *c;* a pivotally-supported knife-carrier D having a rearwardly-projecting arm D′ thereon, said arm lying, when in its normal position, in a plane substantially parallel to that of said disk; a compoundly-curved outwardly-facing knife E secured to the arm D′ of said pivoted knife-carrier, said knife E, when said knife-carrier is in its normal position, being adapted to rest against said disk and its forward portion corresponding to the curvature thereof; and an inwardly-facing curved knife E′ pivoted on said arm D′ forming, when in its inner position, a continuation of said knife E′, the said knives on the revolving knife-carrier coacting with the knives on the swinging carrier to divide the pulp of the peach and to loosen the pit therefrom, for the purpose specified.

15. The combination of a revolubly-mounted knife-carrier; an outwardly-facing curved knife secured thereto; an inwardly-facing curved knife pivoted on said carrier; a pivotally-supported knife-carrier; a spring adapted to return said pivoted knife-carrier to its normal position; an outwardly-facing curved knife carried by said pivoted knife-carrier, adapted to rest against the fixed knife of the revolving carrier when said pivoted carrier is in its normal position; an inwardly-facing curved knife pivoted on said swinging knife-carrier, the knives of said revolving and swinging carriers coacting to divide the pulp of the peach and to engage the pit thereof; and a cam carried by said revolving knife-carrier, adapted to engage the swinging knife-carrier as the said revolving knife-carrier is revolved, for the purpose specified.

16. The combination of a revolubly-mounted knife-carrier; an outwardly-facing curved knife secured thereto; an inwardly-facing curved knife pivoted on said carrier; a pivotally-supported knife-carrier; an outwardly-facing curved knife carried by said pivoted knife-carrier, adapted to rest against the fixed knife of the revolving carrier when said pivoted carrier is in its normal position; an inwardly-facing curved knife pivoted on said swinging knife-carrier, the knives of said revolving and swinging carriers coacting to divide the pulp of a peach and to engage the pit thereof; and a cam carried by said revolving knife-carrier, adapted to engage the swinging knife-carrier as the said revolving knife-carrier is revolved, for the purpose specified.

17. The combination of a revolubly-mounted knife-carrier; an outwardly-facing curved knife secured thereto; an inwardly-facing curved knife pivoted on said carrier; a pivotally-supported knife-carrier; a spring adapted to return said pivoted knife-carrier to its normal position; an outwardly-facing curved knife carried by said pivoted knife-carrier, adapted to rest against the fixed knife of the revolving carrier when said pivoted carrier is in its normal position; and an inwardly-facing curved knife pivoted on said swinging knife-carrier, the knives of said revolving and swinging carriers coacting to divide the pulp of a peach and to engage the pit thereof, for the purpose specified.

18. The combination of a revolubly-mounted knife-carrier; an outwardly-facing curved knife secured thereto; an inwardly-facing curved knife pivoted on said carrier; a pivotally-supported knife-carrier; an outwardly-facing curved knife carried by said pivoted

knife-carrier, adapted to rest against the fixed knife of the revolving carrier when said pivoted knife-carrier is in its normal position; and an inwardly-facing curved knife pivoted on said swinging knife-carrier, the knives of said revolving and swinging carriers coacting to divide the pulp of a peach and to engage the pit thereof, for the purpose specified.

19. The combination of a revolubly-mounted knife-carrier; an outwardly-facing relatively fixed knife carried thereby; an inwardly-facing knife pivoted on said carrier; a pivotally-supported knife-carrier; a spring adapted to return said pivoted knife-carrier to its normal position; an outwardly-facing relatively fixed knife carried by said pivoted knife-carrier, adapted to rest against the fixed knife of the revolving carrier when said pivoted carrier is in its normal position; an inwardly-facing knife pivoted on said swinging knife-carrier, the knives of said revolving and swinging carriers coacting to divide the pulp of a peach and to engage the pit thereof; and a cam carried by said revolving knife-carrier, adapted to engage the swinging knife-carrier as the said revolving knife-carrier is revolved, for the purpose specified.

20. The combination of a revolubly-mounted knife-carrier; an outwardly-facing relatively fixed knife carried thereby; an inwardly-facing knife pivoted on said carrier; a pivotally-supported knife-carrier; an outwardly-facing relatively fixed knife carried by said pivoted knife-carrier, adapted to rest against the fixed knife of the revolving carrier when said pivoted carrier is in its normal position; an inwardly-facing knife pivoted on said swinging knife-carrier, the knives of said revolving and swinging carriers coacting to divide the pulp of a peach and to engage the pit thereof; and a cam on said revolving knife-carrier, adapted to engage the swinging knife-carrier as the said revolving knife-carrier is revolved, for the purpose specified.

21. The combination of a revolubly-mounted knife-carrier; an outwardly-facing relatively fixed knife carried thereby; an inwardly-facing knife pivoted on said carrier; a pivotally-supported knife-carrier; a spring adapted to return said pivoted knife-carrier to its normal position; an outwardly-facing relatively fixed knife carried by said pivoted knife-carrier, adapted to rest against the fixed knife of the revolving carrier when said pivoted carrier is in its normal position; and an inwardly-facing knife pivoted on said swinging knife-carrier, the knives of said revolving and swinging carriers coacting to divide the pulp of a peach and to engage the pit thereof, for the purpose specified.

22. The combination of a revolubly-mounted knife-carrier; an outwardly-facing relatively fixed knife carried thereby; an inwardly-facing knife pivoted on said carrier; a pivotally-supported knife-carrier; an outwardly-facing relatively fixed knife carried by said pivoted knife-carrier, adapted to rest against the fixed knife of the revolving knife-carrier when said pivoted knife-carrier is in its normal position; and an inwardly-facing knife pivoted on said swinging knife-carrier, the knives of said revolving and swinging carriers coacting to divide the pulp of a peach and to engage the pit thereof, for the purpose specified.

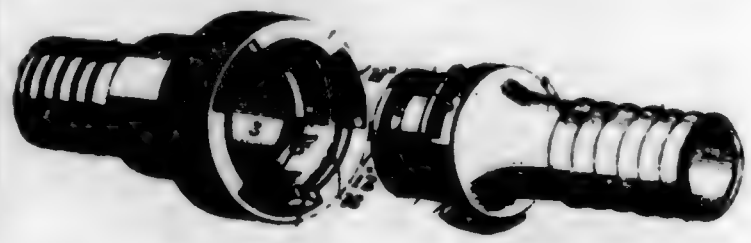
23. The combination of a movably-supported knife-carrier; an outwardly-facing relatively fixed knife carried thereby; an inwardly-facing knife pivoted on said carrier; a pivotally-supported knife-carrier; an outwardly relatively fixed knife carried by said pivoted knife-carrier, adapted to rest against the fixed knife of the first-mentioned carrier, when said pivoted knife-carrier is in its normal position; and an inwardly-facing pivoted knife on said swinging knife-carrier, all of said knives coacting to divide the pulp of the peach and to engage the pit thereof, and impart a twisting motion thereto: for the purpose specified.

24. The combination of a movably-supported knife-carrier; knives carried thereby; a second knife-carrier, capable of swinging relatively to the first-named knife-carrier; knives carried by said second carrier; and means for operating the carriers, whereby their knives divide the pulp and engage and impart a twist to the pit, for the purpose specified.

25. The combination of a pair of knife-carriers arranged to swing relatively to each other; knives carried by said carriers: and means for swinging the carriers to cause their knives to enter the pulp and engage and twist the pit relatively to the pulp.

807,417. COUPLING. SAMUEL S. GARRET, Philadelphia, Pa. Filed May 26, 1903. Serial No. 158,280.

Claim.—1. A coupling comprising male and female members, a detachable ring adapted to inclose said members, means for the admission of a fluid-pressure in a direction to force said members asunder, interlocking devices common to said ring and one of said members, fastening devices common to said ring and the other member, said ring being interlocked with one of said members, said members being compressible in a direction opposite to the admission of the fluid-pressure, to uncouple, packing interposed between the male and female members, and means for admitting fluid-pressure from within the coupling radially and longitudinally against said packing, said ring and its interlocked member being freely rotatable with respect to the other member when under pressure.



2. A coupling comprising a male and a female member, a detachable ring adapted to embrace said members, means for the admission of a fluid-pressure in a direction to force said members asunder, interlocking devices common to said ring and one of said members, fastening devices common to said ring and the other member, said ring being interlocked with one of said members, said members being compressible in a direction opposite to the admission of the fluid-pressure, to uncouple, packing seated in an annular recess in the male member intermediate the said members, and means for admitting fluid-pressure from within the coupling into said groove both radially and longitudinally against said packing, said ring and its interlocked member being freely rotatable with respect to the other member when under pressure.

3. A coupling comprising male and female members connected to turn freely under pressure and adapted for engagement by means of their relative rotation, and compressible in a direction opposite to the admission of the fluid-pressure, to uncouple, projections on one of said members adapted to engage with recesses in the other member, a packing around the male member, passages in said male member both radially and longitudinally thereof for admitting fluid-pressure against said packing in directions at right angles to each other, a detachable ring adapted to interlock with one of said members and means for forcing said projections into said engaging recesses.

4. A coupling comprising male and female members connected to turn freely under pressure and adapted for engagement by means of their relative rotation, and compressible in a direction opposite to the admission of fluid-pressure, to uncouple, projections on one of said members adapted to engage with recesses in the other member, a packing around the male member, passages in said male member both radially and longitudinally thereof for admitting fluid-pressure from within the coupling against said packing in directions at right angles to each other, a detachable ring adapted to interlock with one of said members, and a spring bearing against the inner end of the male member and against a bearing within the female member and tending to force said members apart and in the direction of the admission of the fluid-pressure.

807,418. BOX. RAYMOND CAVANAGH, St. Paul, Minn. Filed Dec. 15, 1904. Serial No. 236,841.

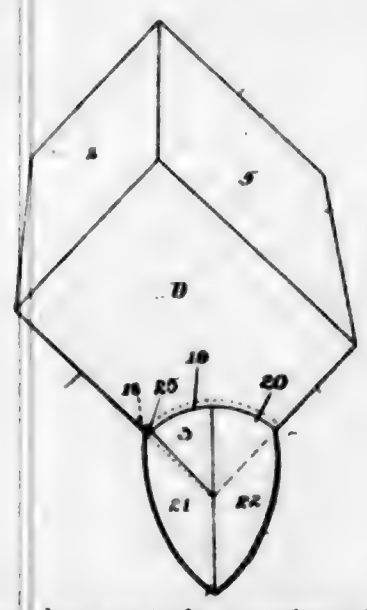
Claim.—1. A combined holding and pouring vessel having a plurality of overlying end flaps forming a wall thereof, said wall having a segmental opening, a spout formed on one of the walls of said vessel and having a segmental side and floor, said floor corresponding with said opening, having a radius greater than that of said opening, and receding flush with the surface of said box and a stop carried by the side of said spout, for the purposes specified.

2. A box having a reinforced side formed with an opening, a spout formed with a floor which corresponds with said opening and is integral with another of the sides of said box, and a flap which is of substantially similar shape and of the same dimensions as said floor, and a stop carried by said flap on said spout, for the purposes specified.

3. A box having one of its end walls fixed on the sides thereof and formed with an opening, a pair of flaps of substantially similar shape and the same dimensions forming a spout on said side, one of said flaps corresponding with said opening, and means carried by said flaps to limit the unfolding movement of said spout.

4. A box having one of its fixed walls reinforced and formed with an opening, the edge of said opening having a guiding-notch, a

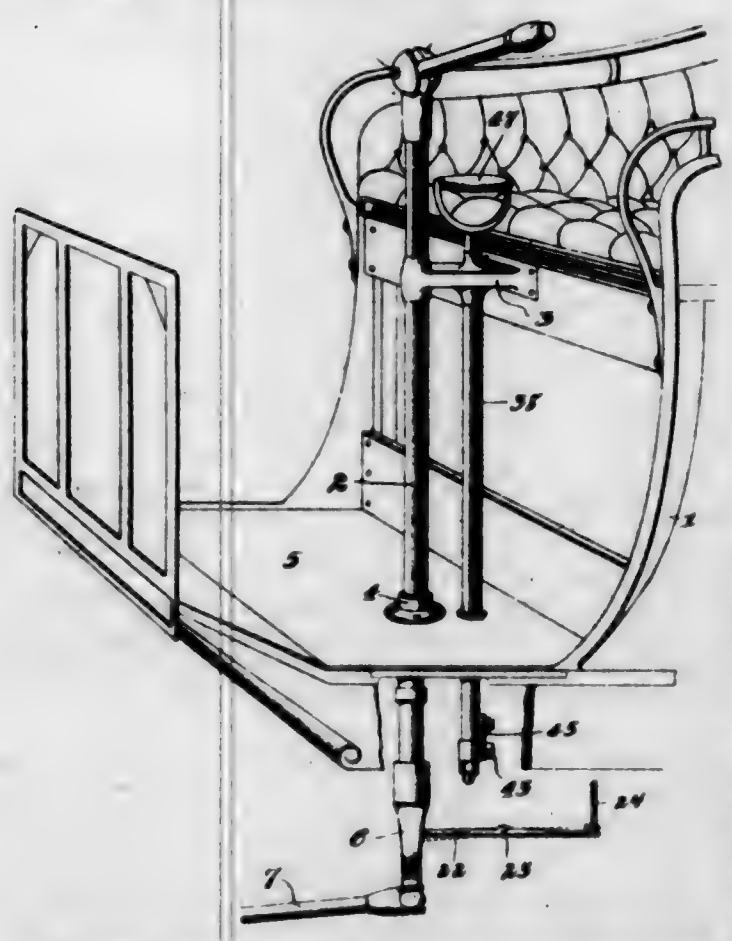
folding spout, the floor of which corresponds with, and is adapted to lap over, an edge of said opening when closed, one of the sides of said spout adapted to slide through said notch when said spout is extended, and a stop carried by said side to limit the unfolding movement of said spout.



5. A blank for a box, cut to form overlying flaps on a wall thereof, a segmental outlet-opening through said flaps and having a stop cut from said flaps, a segment forming a spout, the floor of which corresponds with, and its side adapted to slide through, said opening, the edge of one of said flaps forming a guide for said side and said stop adapted to impinge against the edge of said opening when said spout is extended.

6. A box made out of a single piece of material having flaps which overlap and form an end with an outlet-opening and a guiding-notch, means for fastening said flaps together to form a fixed wall, and a folding spout having a floor which corresponds to lap over the inner and rest within the outer edges of said opening flush with the surface of said box and having a side adapted to pass into said opening and guide through said notch.

807,419. MOTOR-PROPELLED VEHICLE. EDWARD S. CLARK, Boston, Mass. Filed Feb. 26, 1903. Serial No. 96,758.



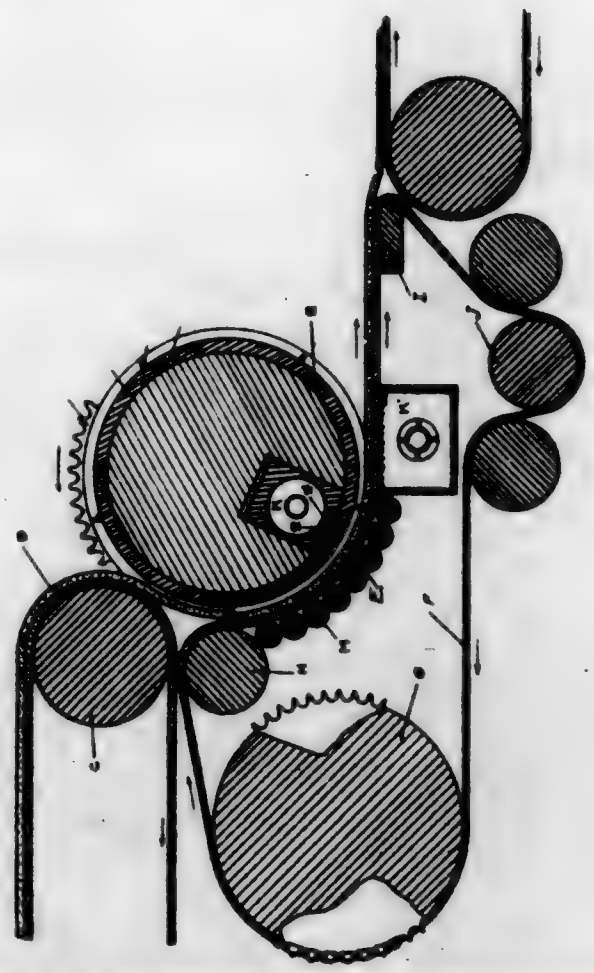
Claim.—1. In a motor-propelled vehicle, the combination of a rotatable steering-post, a steering-lever for rotating said post and pivoted thereto to swing in a vertical plane, a cam on the head of said lever, a fuel-supply-controlling rod mounted parallel with said post and bearing endwise against said cam, whereby the fuel-supply is regulated by the pivotal movements of said lever and cam, substantially as set forth.

2. In a motor-propelled vehicle, the combination of a rotatable steering-post, a steering-lever for rotating said post and pivoted thereto to swing in a vertical plane, a cam on the head of said lever, a fuel-supply rod disposed parallel with said post and bearing endwise against said cam, and a spring bearing against said rod and tending normally to force it toward said cam, substantially as set forth.

3. In a motor-propelled vehicle, the combination with a flash-boiler of a rotatable steering-post, a steering-lever for rotating said post and pivoted thereto, a fuel-supply-controlling rod disposed parallel with said post, an auxiliary pump for injecting an initial charge into the boiler, and connections between said pump, said fuel-supply rod and said lever whereby said pump and said rod are operated simultaneously by the pivotal movements of said lever, substantially as set forth.

4. In a motor-propelled vehicle, a rotatable and longitudinally-movable rod, a handle thereon, a bracket through which said rod passes, a cam on said rod, a throttle-valve, connecting means for operating said valve by the rotation of said cam, and a reversing-lever operated by the longitudinal movements of said rod, substantially as set forth.

807,420. DOUGH-CUTTER. ALEXANDER W. COPLAND, Detroit, Mich. Filed Jan. 26, 1904. Serial No. 190,722.



Claim.—1. The combination with a rotary cutter having cutting-ribs to outline the articles to be cut, of means for removing the cut dough from the cutter comprising a moving surface traveling substantially parallel with a segment of the cutter said surface being held slightly away from the cutter, and means moving the cut articles bodily against said surface.

2. The combination with a rotary cutter having cutting-ribs to outline the articles to be cut, of means for removing the cut dough from the cutter, comprising a moving surface traveling substantially parallel with a segment of the cutter said surface being held slightly away from the cutter, and pneumatic means for moving the cut articles bodily against said surface.

3. In a rotary cutter, the combination with ribs outlining cutting-spaces, of means for admitting air under pressure into said spaces at a point in the rotation of said cutter to partially remove the cut dough bodily therefrom, means for limiting the outward movement of the dough in the cutting-spaces when the air is thus admitted, such means retaining the dough in its partially-expelled position to distribute the air in the cutting-space, and means for subsequently stripping the cut dough thus loosened.

4. In a rotary cutter, the combination of ribs outlining spaces, of pneumatic means in said spaces for moving out the cut dough bodily and a stop permitting the slight bodily movement of the dough.

5. In a rotary cutter, the combination of ribs outlining spaces, of means for moving out the cut dough bodily in said spaces sufficiently to loosen the cut dough, and means for subsequently stripping the dough and removing it from the cutter.

6. The combination of a rotary cutter, ribs on the surface outlining cutting-spaces, of a belt surrounding a segment of said cutter, means for holding the belt at such segment in close proximity to but free from the cutter, and means for moving the dough in the cutting spaces against the belt at such segment.

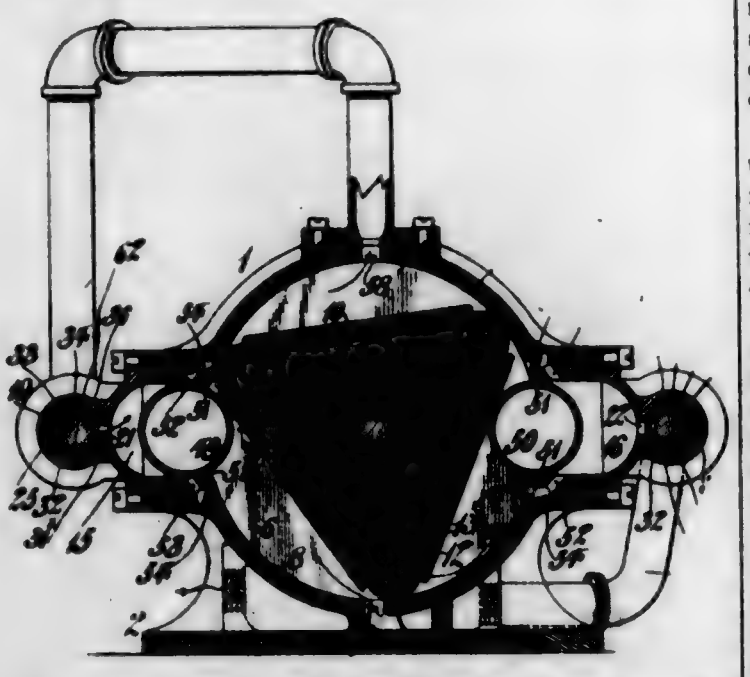
7. The combination of a rotary cutter, ribs on the surface outlining cutting-spaces, of a belt surrounding a segment of said cutter, and wheels on the cutter over which said belt runs at the edges, for holding the said belt in close proximity to but free from the surface of said cutter.

8. The combination of a rotary cutter having ribs outlining spaces, of a belt guided to pass around a segment of said cutter, in proximity to but held free therefrom, and then extending tangentially from said cutter, of means for forcing the cut dough against said belt.

9. The combination with a rotary cutter of an endless traveling surface guided to pass around a segment of said cutter, but separated therefrom, and then extending tangentially from said cutter, and means for loosening the dough and moving it against said surface, and for applying suction to the tangential surface to complete the stripping.

10. In a cutter the combination with a plurality of severing-ribs outlining separated cutting-spaces, of non-severing ribs connecting said severing-ribs and dividing the area intermediate said cutting-spaces into separate compartments, and air-supply ports leading to the spaces between the cutters.

807,421. **ROTARY ENGINE.** ADAM S. DICKSON, Woodbury, N. J. Filed June 7, 1904. Serial No. 211,468.



Claim.—1. In a rotary engine, a cylinder, a plurality of fluid-admission ports in said cylinder, a rotary piston-carrier, and a plurality of pistons on said carrier, the number of said pistons being greater than that of said admission-ports and bodily-movable fluid-actuated roller-abutments arranged for engagement by said pistons.

2. In a rotary engine, a cylinder, two fluid-admission ports at opposite sides of said cylinder, bodily-movable roller-abutments disposed opposite said ports to be actuated in one direction by the piston and in the opposite direction by the fluid, a rotary piston-carrier, and pistons not fewer than three in number on said carrier.

3. In a rotary engine, a plurality of cylinders, a plurality of oppositely-disposed fluid-admission ports in each of said cylinders, bodily-movable roller-abutments disposed opposite said ports to be actuated in one direction by the piston and in the opposite direction by the fluid, and means for simultaneously opening the ports at opposite sides of each of said cylinders.

4. In a rotary engine, a cylinder, a rotary piston-carrier, a plurality of pistons in said carrier, an admission-port, a bodily-movable roller-abutment interposed between said valve and the piston-carrier to be actuated in one direction by the fluid admitted through said port and in the opposite direction by direct contact therewith of said pistons, and a rotary admission-valve having a plurality of ports corresponding in number to the number of said pistons.

5. In a rotary engine, a cylinder, a rotary piston-carrier, a plurality of pistons in said carrier, a plurality of fluid-admission ports in said cylinder, bodily-movable roller-abutments disposed opposite said ports to be actuated in one direction by the piston and in the opposite direction by the fluid, a rotary valve controlling each of said admission-ports and provided with a number of ports corresponding to the number of said pistons, and means for alternately opening said valves.

6. In a rotary engine, a cylinder, a rotary shaft, a piston-carrier on said shaft, pistons on said carrier, fluid-admission ports on opposite sides of said cylinder, bodily-movable roller-abutments disposed opposite said ports to be actuated in one direction by the piston and in the opposite direction by the fluid, rotary valves controlling said ports, and means exterior of said cylinder whereby the rotation of said shaft is communicated to said valves.

7. In a rotary engine, a cylinder, a substantially polygonal piston-carrier, segmental recesses at the corners of said carrier, and cylindric pistons in said recesses.

8. In a rotary engine, a cylinder, a substantially polygonal piston-carrier, segmental recesses at the corners of said carrier, and antifrictional bearings in said recesses on which said pistons are mounted.

9. In a rotary engine, a cylinder, a rotary piston-carrier in said cylinder, said cylinder being provided with a recess and a fluid-admission port in said recess, a roller-abutment movable in said recess, and antifriction-bearings in said recess adjacent its mouth with which said abutment contacts.

10. A rotary engine, a cylinder, a rotary piston-carrier in said cylinder, said cylinder being provided with a recess and a fluid-admission port in said recess, a roller-abutment movable in said recess, and a valved fluid-admission port connecting said recess and said cylinder.

11. In a rotary engine, a cylinder, a rotary piston-carrier in said cylinder, said cylinder being provided with a recess and a fluid-admission port in said recess, a roller-abutment movable in said recess, a plurality of fluid-admission ports connecting said recess and said cylinder, valves in said last-named ports, and means for alternatively opening and closing said valves.

12. In a rotary engine, a cylinder, a rotary piston-carrier, a piston in said carrier, a fluid-admission port in said cylinder, bodily-movable roller-abutments disposed opposite said ports to be actuated in one direction by the piston and in the opposite direction by the fluid, a rotary valve controlling said port, and a rotary cut-off sleeve concentric with said valve.

13. In a rotary engine, a cylinder, a rotary piston-carrier in said cylinder, a piston in said carrier, a plurality of fluid-admission ports in said cylinder, bodily-movable roller-abutments disposed opposite said ports to be actuated in one direction by the piston and in the opposite direction by the fluid, a rotary valve controlling each of said admission-ports, a rotary cut-off sleeve concentric with each of said valves, and means for simultaneously rotating said cut-off sleeves.

14. In a rotary engine, a cylinder, a rotary piston-carrier in said cylinder, a piston in said carrier, a plurality of fluid-admission ports in said cylinder, bodily-movable roller-abutments disposed opposite said ports to be actuated in one direction by the piston and in the opposite direction by the fluid, a rotary valve controlling each of said admission-ports, a rotary cut-off sleeve concentric with each of said valves, and manual means exterior of said cylinder for simultaneously rotating said cut-off sleeves.

15. In a rotary engine, a plurality of cylinders adjacent each other, piston-carriers in said cylinders, pistons in said carriers, a plurality of fluid-admission ports in said cylinders, bodily-movable roller-abutments disposed opposite said ports to be actuated in one direction by the piston and in the opposite direction by the fluid, a casing adjacent all of said cylinders and connected therewith, a rotary valve-sleeve in said casing having ports opening into each of said cylinders, a rotary cut-off sleeve in said casing and concentric with said valve-sleeve also having ports opening into each of said cylinders, a partition in one of said sleeves separating the ports leading into each of said cylinders, and means for the admission of fluid at each side of said partition.

807,422. **AZO NAPHTHOL DYE AND PROCESS OF MAKING SAME.** KARL ELBEL, Biebrich, Germany, assignor to The Firm of Kalle and Company, Aktiengesellschaft, Biebrich, Germany. Filed Sept. 15, 1903. Serial No. 173,671.

Claim.—1. The herein-described process for the manufacture of zinc compounds of 2-oxy-sulfonaphthalene-1-azo-beta-naphthols, which consists in treating 1-amido-2-naphtholsulfonic acids in concentrated aqueous solution or suspension with alkali nitrite and at least an equivalent amount of zinc sulfate and bringing the so-obtained product into reaction with beta-naphthol in concentrated alkaline solution.

2. The new zinc compounds of 2-oxy-sulfonaphthalene-1-azo-beta-naphthols obtainable by treating 1-amido-2-naphtholsulfonic acids in concentrated aqueous solution or suspension with alkali-nitrite and at least an equivalent amount of zinc sulfate and combining the product of this reaction with beta-naphthol, soluble in water and aqueous soda solution with bluish-red color, dyeing wool in an acid-bath bluish-red to violet shades, which are turned into blue blacks by a subsequent treatment with bichromate.

3. The new zinc compounds of 2-oxy-4-sulfonaphthalene-1-azo-beta-naphthol produced by treating 1-amido-2-naphthol-4-sulfonic acid with an equivalent quantity of sodium nitrite in presence of at least an equivalent quantity of zinc sulfate and combining the product of this reaction with beta-naphthol, being a dark-brown powder, soluble in water and aqueous soda solution with bluish-red color dyeing wool in an acid-bath a bluish-red shade which is turned into a fast blue black by a subsequent treatment with bichromate.

807,423. SCREEN. WILLIAM H. FERN, Scranton, Pa. Filed Dec. 5, 1904. Serial No. 235,513.



Claim.—1. In a device of the character described, a suitably-supported shaft, a hollow shaft thereon, means for oscillating the first-named shaft, connections between the first-named shaft and hollow shaft whereby said hollow shaft oscillates therewith, said connections being such as to allow a longitudinal movement of the hollow shaft on the first-named shaft, and means for imparting longitudinal movement to the hollow shaft and a screen supported by the hollow shaft.

2. In a device of the character described, a suitably-supported shaft, a hollow shaft thereon, lugs on the first-named shaft engaging the hollow shaft, means for oscillating the first-named shaft, and means for imparting longitudinal movement to the hollow shaft and a screen supported by the hollow shaft.

3. In a device of the character described, a suitably-supported shaft, a hollow shaft thereon, means whereby the shafts are oscillated simultaneously, means for imparting a longitudinal movement of the hollow shaft independent of the first-named shaft, and a screen supported by the hollow shaft.

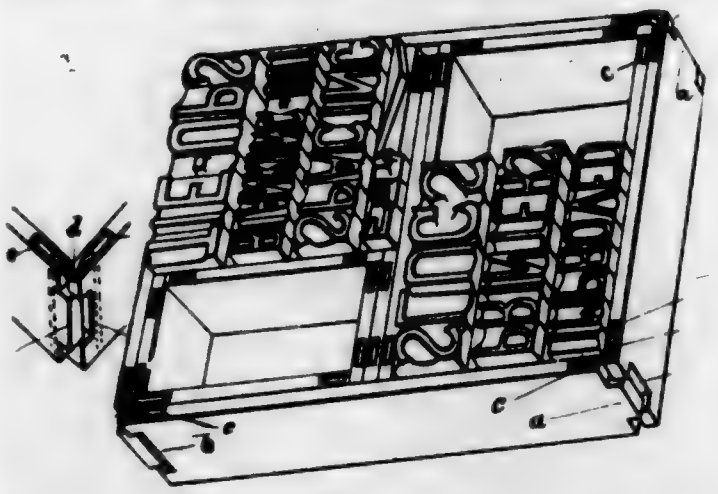
4. In a device of the character described, a suitably-supported shaft, a hollow shaft thereon having slots, lugs on the first-named shaft passing through the slots of the hollow shaft and riding therein, means for oscillating the first-named shaft and means for reciprocating the hollow shaft.

5. In a device of the character described, a suitably-supported shaft, a hollow shaft mounted thereon, said hollow shaft being formed of a plurality of transverse sections, spiders having their hubs interposed between the opposing edges of the transverse sections and secured thereto and screen-sections secured to the spiders.

6. In a device of the character described, a suitably-supported shaft, a hollow shaft thereon, means for oscillating the first-named shaft, a plate secured to an end of the hollow shaft, connections between the first-named shaft and the hollow shaft, whereby said hollow shaft oscillates therewith, said connections being such as to allow a longitudinal movement of the hollow shaft on the first-named shaft, a suitably-driven cam engaging the plate of the hollow shaft for moving said shaft in one direction and means for imparting motion to the hollow shaft in the opposite direction.

7. In a device of the character described, a suitably-supported shaft, a hollow shaft thereon, means for oscillating the first-named shaft, a plate secured to an end of the hollow shaft, connections between the first-named shaft and the hollow shaft, whereby said hollow shaft oscillates therewith, said connections being such as to allow a longitudinal movement of the hollow shaft on the first-named shaft, a suitably-driven cam engaging the plate of the hollow shaft for moving said shaft in one direction, means for imparting motion to the hollow shaft in the opposite direction, and a collar on the first-named shaft to limit the second movement of the hollow shaft, with relation to the cam.

807,424. PRINTER'S METAL SLUG. ALBERT H. FIELD, Providence, R. I. Filed Jan. 27, 1903. Serial No. 140,760.



Claim.—As a new article of manufacture, a tie-up for printers' type-forms, consisting of metal slugs, having a boss at one end and a gain at the other, and also having mortises at equal distances from the ends, running perpendicularly through the width of slugs, for receiving staples formed of three bends or kinks at angles of forty-five degrees, the top portion being lateral to the side portions of the staples; all substantially as set forth and used for the purpose specified.

807,425. BRIDLE-FRONT. JOHN FISHER, St. Paul, Minn. Filed Oct. 24, 1902. Serial No. 128,543.



Claim.—As an improved article of manufacture, a leather strap, a thin covering of celluloid, a reinforcing-wire running lengthwise under said covering, narrow strips of celluloid longitudinally disposed on the surface of said covering and on each side of said wire, and means for fastening said strips and covering to said strap to hold said wire in place.

807,426. STRAP. JOHN FISHER, St. Paul, Minn. Filed May 31, 1904. Serial No. 210,378.

Claim.—1. A device of the class set forth, consisting of a strap having front and back plies, one of said plies having a perforation, a band surrounding said perforation, a backing between the unperforated ply and said band, and means for fastening said plies together.

2. A device of the class set forth, consisting of a pair of overlying straps, one of said straps beng perforated, means for fastening

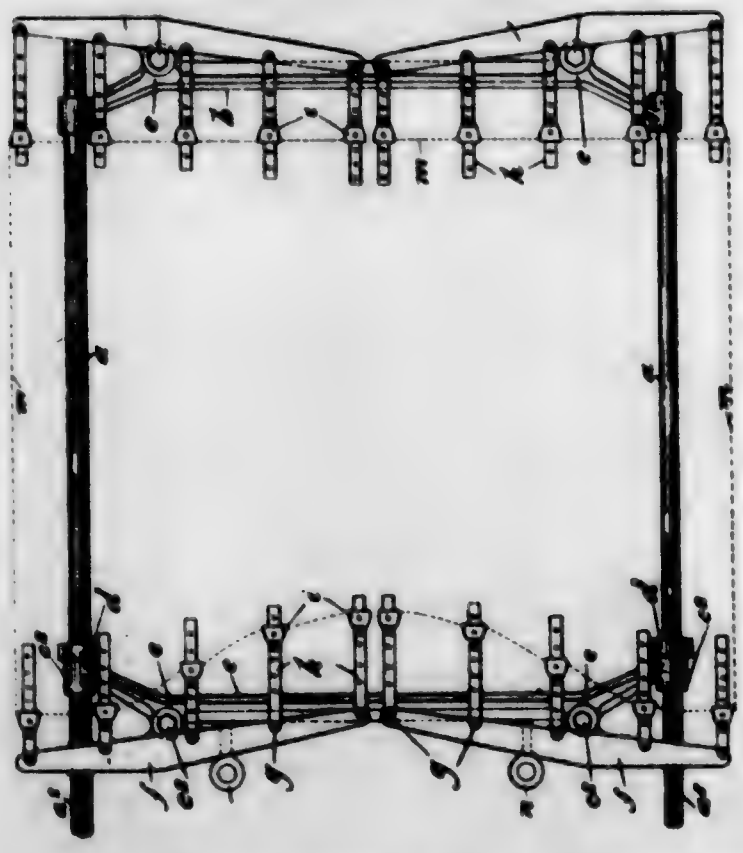
said straps together, a band surrounding said perforation, and a backing of celluloid between the unperforated strap and said band.



3. A device of the class set forth, consisting of a pair of perforated and unperforated straps overlying each other, means for fastening said straps together, bands surrounding said perforations, and a strip of celluloid between said bands and the unperforated strap.

REISSUES.

12,417. MACHINE FOR STRETCHING LEATHER USED FOR MAKING POWER-BELTS. Ezra L. Poer, Wallingford, Conn. Filed Feb. 8, 1906. Serial No. 300,517. Original No. 772,084, dated Oct. 11, 1904.



Claim.—1. A leather-stretching apparatus, comprising parallel side members provided with two cross-heads one of which is stationary and the other movable longitudinally of said side members, bars pivoted to said cross-heads so as to swing over said cross-heads and said parallel members, clutch-holders pivotally connected with said bars and adapted to swing thereon and clutches adjustably mounted on said holders, substantially as shown and described.

2. A leather-stretching apparatus, comprising parallel side members, two cross-heads connected with said side members one of which is stationary and the other movable longitudinally thereon, two cross-bars pivotally connected with each of said cross-heads, the outer ends of said bars being shorter than the inner ends thereof, clutch-holders detachably and pivotally connected to said cross-bars, and clutches adjustable on said holders, substantially as shown and described.

3. A machine of the class described, provided with a clutch-holder comprising a bar having holes at intervals and a clutch the base portion of which is connected with said bar by means of the tongue-and-groove construction, said clutch-holder being also provided with a vertically-movable locking-pin adapted to enter the holes in said bar, substantially as shown and described.

4. In a leather-stretching apparatus, a frame, bars arranged transversely of said frame adapted to swing in a horizontal plane parallel with said frame, said bars being pivotally mounted in respect to said frame, and means for securing a hide or sheet of leather to said bars, said construction including means whereby the distance between said bars can be increased to stretch the said hide or sheet of leather in a plane parallel with the said frame, substantially as described.

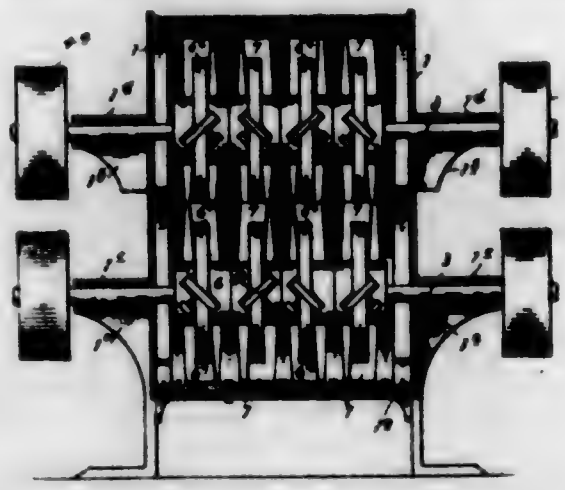
5. In a leather-stretching machine, a frame, bars extending transversely of and in a plane parallel to said frame and pivotally mounted in respect to the said frame, means for securing opposite sides of a hide or sheet of leather to said bars, in the plane of said bars and means for moving the parts secured to one side of the said hide or sheet of leather longitudinally of the frame to stretch the leather, the said hide or sheet of leather being held in a plane parallel to said frame during the operation of stretching, substantially as described.

6. In an apparatus for stretching leather, a frame, a plurality of bars extending transversely of said frame, and pivoted in respect to said frame to swing in a plane parallel to said frame, devices for securing the opposite sides of a hide or sheet of leather to all of said bars, in the plane of the same, and means whereby the distance between the bars on opposite sides of said hide or sheet of leather may be increased to stretch the same in a plane parallel to the plane of the said frame, substantially as described.

7. In an apparatus for stretching leather, a frame composed of parallel side members and transverse end members, bars extending transversely of said frame and in a plane parallel thereto, and pivotally mounted to swing in said plane, means for securing said bars to opposite sides of a hide or sheet of leather, the parts on one side of said hide or sheet of leather and secured thereto being movable in respect to said frame in the plane of said bars, and means whereby said movable parts can be moved away from those on the opposite side of said hide or sheet of leather to stretch the same in a plane parallel to the plane of said frame, substantially as described.

8. In a leather-stretching apparatus, a frame composed of side and end members, one of said end members being movable longitudinally of said frame, bars extending transversely of said frame and pivotally mounted on said end members to swing in a plane parallel to the plane of the frame, means for securing a hide or sheet of leather to said pivoted bars, and means for moving the movable end member away from the other to stretch the leather, said leather being held during the operation in a plane parallel with the plane of the said frame, substantially as described.

12,418. PULVERIZER. James W. Boilbau, Detroit, Mich., assignor to Louis C. Sherwood, trustee, Detroit, Mich. Filed Nov. 21, 1904. Serial No. 233,745. Original No. 764,266, dated July 5, 1904.



Claim.—1. A pulverizer-wheel comprising a disk having radial blades extending from a point near the hub thereof and projecting obliquely on each side of the disk, said blades having their obliquity alternately reversed.

2. A pulverizer-wheel comprising a disk having blades extending therethrough at an angle of approximately forty-five degrees to

the axis of the wheel and with the blades cutting the plane of the disk and extending on either side thereof with their inner ends abutting the hub of the disk.

3. A pulverizer-wheel comprising a wheel having blades removably secured therein and extending therethrough in planes at an angle of approximately forty-five degrees to the axis of the wheel, the blades extending beyond the plane of the disk on either side thereof throughout their length and with their inner ends abutting the hub of the disk.

4. A pulverizer-wheel comprising a disk having peripheral blades with enlarged inner ends located near the hub of the disk, said blades fitted in tapering openings and projecting obliquely through and beyond the face and periphery of the disk at an angle of approximately forty-five degrees to the axis of the wheel and adapted to be firmly held in place by the centrifugal force of the wheel when in operation.

5. A pulverizing-wheel comprising a disk having radial openings or slots extending from a point near the hub thereof toward the periphery and obliquely through the disk at an angle to the plane thereof, blades secured within the slots and projecting on each side of the disk, said blades having their obliquity alternately reversed.

6. A pulverizer-wheel comprising a wheel having radial tapering slots extending from a point near the hub of the disk to its periphery and obliquely through the disk at an angle of approximately forty-five degrees to the plane thereof, tapering blades fitted within and removably secured in the openings, the blades projecting beyond the periphery and on each side of the disk and being disposed alternately at an angle of approximately ninety degrees to each other.

7. A pulverizer having a series of wheels on a common shaft, each wheel comprising a disk carrying blades disposed at an angle to the plane of the disk and alternately at an angle to each other so as to present a zigzag periphery to the wheel, the blades being arranged on the shaft so that the blades of adjoining disks may be disposed at approximately the same radial distance from the shaft and at an angle to each other and present a zigzag line as viewed lengthwise of the series.

8. A pulverizer having a series of wheels on a common shaft, each wheel comprising a disk carrying blades disposed at an angle of approximately forty-five degrees to the plane of the disk and alternately to an angle of approximately ninety degrees to each other so as to present a zigzag periphery to the wheel, the wheels being arranged on the shaft so that the blades of adjoining disks will be disposed at approximately the same radial distance from the shaft and at an angle of approximately ninety degrees to each other and present a zigzag line of pulverizing edges as viewed lengthwise of the series.

9. A pulverizer comprising a plurality of shafts, each shaft having mounted thereon a series of pulverizing-wheels each wheel consisting of a disk having radial openings or slots extending from a point near the hub thereof toward the periphery and obliquely through the disk at an angle to the plane thereof, blades secured within the slots, said blades being disposed in intersecting planes, the blades of adjoining wheels in each series disposed at an angle to each other so as to present a zigzag line as viewed lengthwise of the series, the several shafts so relatively arranged that the periphery of one series of wheels will not intermesh with the periphery of another series.

10. A pulverizer comprising a plurality of shafts, each shaft having mounted thereon a series of pulverizing-wheels, each wheel consisting of a disk provided with radial openings extending obliquely through the disk in opposite directions alternately at an angle of approximately forty-five degrees to the plane of the disk and ninety degrees to each other, blades removably secured within the openings with their inner ends approaching the hub and with their outer ends extending beyond the periphery of the disk, the blades of adjoining wheels in each series disposed at approximately ninety degrees to each other so as to present a zigzag line of pulverizing edges as viewed lengthwise of the series, the several shafts so relatively arranged parallel that the periphery of one series of wheels will not intermesh with the periphery of another series.

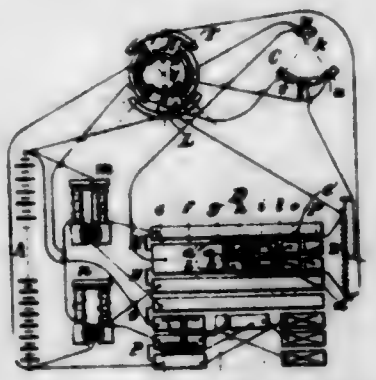
11. In a pulverizer, the combination of an inclosing casing formed with a feed-inlet and a rotating series of pairs of oppositely-angling blades mounted within said casing, the blades of successive pairs being alternately convergent and divergent, whereby in their rotation the material under reduction is alternately divided and forcibly flung together.

12. In a pulverizer, the combination of an inclosing casing formed with a feed-inlet and a series of rows of alternately oppositely angling pairs of blades mounted in said casing, the corresponding blades in successive rows which pass through the same path being oppositely inclined, whereby in the rotation thereof the material under reduction is alternately divided and forcibly flung together.

13. In a pulverizer the combination of an inclosing casing formed with a feed-opening, a plurality of adjacent rotary beaters, each comprising a rotating series of pairs of adjacent oppositely-angling blades, the blades of successive pairs on the same axis being alternately convergent and divergent, means for rotating said beaters so that their adjacent peripheral portions are traveling in opposite directions, and means for delivering the material under reduction into the space between said beaters, whereby it is alternately divided and forcibly flung together by the conjoint action of said beaters.

14. In a pulverizer the combination of an inclosing casing provided with a feed-opening therein, three adjacent rotary beaters therein, each comprising a rotating series of pairs of adjacent oppositely-angling blades, the blades of successive pairs being alternately convergent and divergent, the axes of two of said beaters being in substantially the same horizontal plane, and the axis of the third being arranged above and between the axes of the others, whereby the peripheries of said beaters form therebetween a substantially triangular pocket, means for rotating said beaters so that the adjacent peripheral portions of the lower members are traveling in opposite directions, and the adjacent peripheral portion of the lower and upper members are traveling in the same direction, and means for delivering the material under reduction between the upper and lower beaters in their direction of rotation.

12,419. **ELECTROMECHANICAL DEVICE FOR ELECTRIC TRACTION.** EUGENIO CAFFORO, Rome, Italy, assignor, by direct and mesne assignments, of thirty-six fortieths to Giovanni Mazzocrati, two-fortieths to Edward de Remke, and two-fortieths to Paul M. Herneg, New York, N. Y. Filed May 10, 1905. Serial No. 259,858. Original No. 806,236, dated Feb. 4, 1903.



Claim.—1. In a steering mechanism for vehicles the combination of a plurality of motors independently geared to the driving-wheels, means for connecting the armatures of said motors in series, and means for steering the vehicle when traveling forward, with the motors so connected, by increasing the excitation of the field and thereby increasing the speed of that motor on the side opposite to that of the direction of turning.

2. In a steering mechanism for vehicles the combination of a plurality of motors independently geared to the driving-wheels, means for connecting the armatures of said motors in series, and means for steering the vehicle to the left or right when traveling backward, with the motors so connected, by increasing the excitation of the field and thereby increasing the speed of that motor on the same side as that of the direction of turning.

3. In a steering mechanism for vehicles the combination of a plurality of motors independently geared to the driving-wheels, means for connecting the armatures of said motors in parallel, and means for steering the vehicle when traveling forward, with the motors so connected, by decreasing the excitation of the field and thereby increasing the speed of that motor on the side opposite to that of the direction of turning.

4. In a steering mechanism for vehicles the combination of a plurality of motors independently geared to the driving-wheels, means for connecting the armatures of said motors in parallel, and means for steering the vehicle to the left or right when traveling backward, with the motors so connected, by decreasing the excitation of the field and thereby increasing the speed of that motor on the same side as that of the direction of turning.

5. In a steering mechanism for vehicles the combination of a

plurality of motors independently geared to the driving-wheels, means for connecting the armatures of said motors either in series or in parallel, and means for steering the vehicle to the left or right when traveling forward by increasing the excitation of the field and thereby increasing the speed of that motor on the side opposite to that of the direction of turning when the motors are in series, and decreasing the excitation of the field of the same motor and thereby increasing its speed when the motors are connected in parallel.

6. In a steering mechanism for vehicles the combination of a plurality of motors independently geared to the driving-wheels, means for connecting the armatures of said motors either in series or in parallel, and means for steering the vehicle to the left or right when traveling backward, by decreasing the excitation of the field and thereby decreasing the speed of that motor on the side opposite to that of the direction of turning when the motors are in series, and increasing the excitation of the field and thereby decreasing the speed of the same motor when the motors are connected in parallel.

7. In an electrically-propelled vehicle the combination with a driving-axle, of a plurality of motors independently geared to the driving-wheels, a switch included in the circuits of the fields of said motors, a resistance controlled by said switch so as to be inserted wholly into the circuit of either motor, a mechanical steering mechanism and means connecting said mechanism and switch whereby the latter is controlled by the movement of said mechanism.

8. A steering mechanism for vehicles comprising electric motors connected independently to the driving-wheels, a switch, means controlled by said switch for varying the excitation of the fields of said motors, mechanical steering mechanism connected with the axle, and means controlled by said mechanical steering mechanism to actuate said switch, the parts being so related that the switch will be actuated before the steering by the mechanical mechanism is effected.

9. In a steering mechanism for vehicles the combination of electric motors connected independently to the driving-wheels, a switch, a resistance controlled by said switch so as to be inserted wholly into the circuit of the field of either motor, mechanical steering mechanism connected with the axle, and means controlled by said mechanical steering mechanism to actuate said switch, the parts being so related that the switch will be actuated before the steering by the mechanical mechanism is effected.

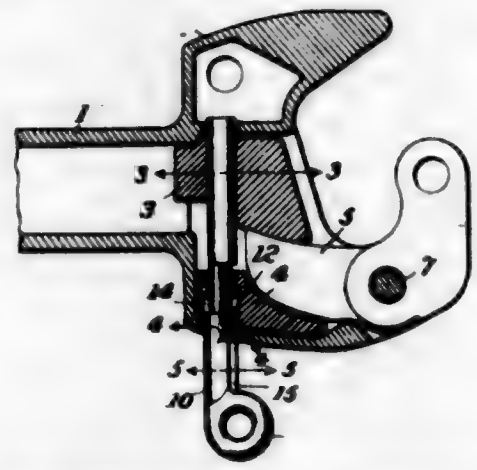
10. The combination with the motors, of a steering-switch comprising contact-blocks and a lever adapted to be brought into contact with said blocks, a resistance adapted to be brought into the magnetic field of the motors or either of them to vary their speed according as the lever is brought in contact with the different blocks as described, means for mechanically actuating the lever comprising a hand-wheel, a worm actuated thereby, a spirally-toothed wheel meshing with the worm, a driving-wheel on the shaft of the spirally-toothed wheel, a steering-wheel mounted on the axle of the vehicle, a chain gearing the steering-wheel and driving-wheel together, a pin on the worm adapted to actuate the lever of the steering-switch, and connections between the steering mechanism and the motors and adapted to be actuated by the latter as set forth.

11. In a steering mechanism for vehicles the combination of a plurality of motors independently geared to the driving-wheels of the vehicle, means for connecting the armatures of said motors in series, and means for steering the vehicle to the left or right when traveling forward by increasing the excitation of the field and thereby increasing the speed of that motor on the side opposite to that of the direction of turning, and reversing said conditions when traveling backward.

12. In a steering mechanism for vehicles the combination of a plurality of motors independently geared to the driving-wheels of the vehicle, means for connecting the armatures of said motors in parallel, and means for steering the vehicle to the left or right when traveling forward by decreasing the excitation of the field and thereby increasing the speed of the motor on the side opposite to that of the direction of turning, and reversing said conditions when traveling backward.

12,420. CAR-COUPLING. ALFRED H. RENSHAW, Darien, Conn., assignor to The Trojan Car Coupler Company, a Corporation of New York. Filed Feb. 2, 1906. Serial No. 299,911. Original No. 737,773, dated Sept. 1, 1903.

Claim.—1. In a car-coupler of the class described, the combination with a lock-surface on the reciprocatory and rotatory block-actuating rod, of a lock-surface on the draw-head adapted to be engaged by the lock-surface on the rod when the rod is given a rotatory movement to raise the lock-block from its locking position and subsequently an inward longitudinal movement, whereby the lock-block is locked in such raised position, substantially as described.



2. In a car-coupler of the class described, the combination with the lock-block and draw-head, of an actuating-rod reciprocatory in apertures in such block and head, the said apertures and rod being so shaped in cross-section that while the rod is not rotatory in the lock-block in any position, it is rotatory in the draw-head in one longitudinal position to raise the lock-block from its locking position, and in another position longitudinally it is not rotatory in a direction to restore the lock-block to its locking position.

3. In a car-coupler of the class described, the combination with the lock-block and push-block of a draw-head, of an actuating-rod sliding in the said blocks and having an enlargement adapted to a socket in the push-block, and provided with a projection arranged to engage a face on the draw-head when the rod is turned to elevate the lock-block and the enlargement is partly in said socket, substantially as set forth.

4. In a car-coupler of the class described, a lock-block, a push-block, and a rod sliding in both blocks and rotating with the lock-block, and provided with an enlargement adapted to a socket of the push-block to permit the rod to have a limited longitudinal movement independent of the push-block, substantially as set forth.

5. In a car-coupler of the class described, the combination with an actuating-shoulder on the reciprocatory and rotatory rod, of a push-block apertured for the passage of the rod and provided with a countersink at the outer end of the aperture in which the shoulder is free to travel during the reciprocatory locking movement of the rod, and a shoulder at the bottom of the countersink engageable by the rod-shoulder to actuate the push-block, substantially as described.

6. The combination with the pivoted knuckle and locking-block of a draw-head, of lifting means for carrying the block to its locking and unlocking positions, and means connected with the draw-head itself for securing said lifting means when holding the block in unlocking position and for permitting the release of said lifting means to restore the block to locking position, substantially as set forth.

7. The combination with the knuckle and lock-block of a draw-head, of means for elevating the block extending laterally from the draw-head and embodying also devices connected with said means and with the draw-head which in one position will lock the elevated block and in another position will release the same, substantially as set forth.

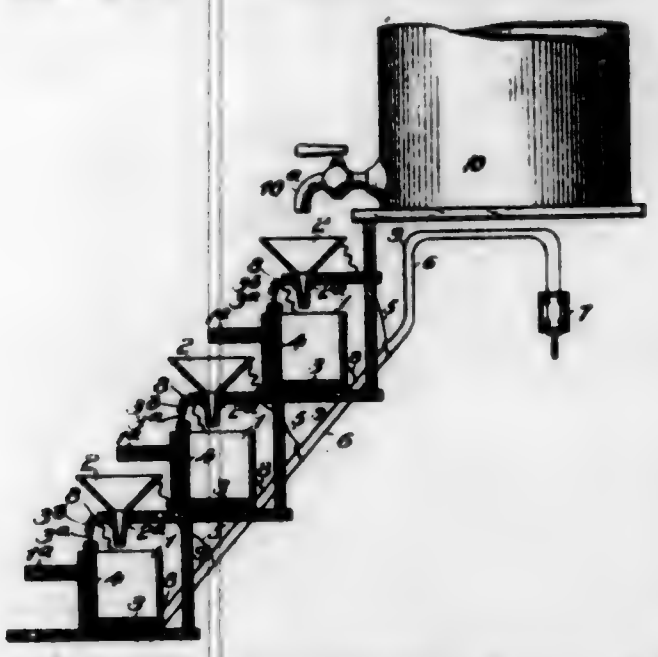
8. The combination in a draw-head, of a pivoted knuckle, a lock-block pivoted to swing downward by gravity, a rod connected to lift the block by a rotary movement, and devices partly on the draw-head for retaining the block elevated and for locking and unlocking the block by a longitudinal movement of the rod, substantially as set forth.

9. The combination in a draw-head, of a pivoted knuckle, a lock-block, a rod connected to lift the block by a rotary movement, and a projection on the rod adapted on a longitudinal movement of the rod to engage a part of the draw-head to lock the block in its elevated position, substantially as set forth.

10. The combination in a draw-head, of a pivoted knuckle, a lock-block, a rod turning in bearings of the draw-head and sliding in said block, and a projection on the rod adapted when the rod is in one position to engage a part of the draw-head to lock the block in an elevated position, substantially as set forth.

11. The combination in a draw-head, of a pivoted knuckle, a lock-block, a rod turning in bearings of the draw-head and sliding in said block, and a projection on the rod adapted when the rod is in one position to engage a part of the draw-head to lock the block in an elevated position, and to release the block when the longitudinal position of the rod is changed, substantially as set forth.

12,421. APPARATUS FOR PURIFYING, STERILIZING, AND AGING LIQUIDS. ROBERT J. TURNER, Columbus, Ohio, assignor of one-half to Clarence B. Turner, Columbus, Ohio. Filed July 22, 1905. Serial No. 271,707. Original No. 795,823, dated Apr. 21, 1903.



Claim.—1. Apparatus for purifying, sterilizing or aging liquids comprising two or more separate vessels having spouts or outlets near their tops and arranged to discharge from one into the other, a metallic funnel constituting an electrode, arranged to discharge above the liquid-level of the vessel and a metallic piece also constituting an electrode in each of said vessels, and conductors of electricity attached to such electrodes.

2. Apparatus for purifying, sterilizing or aging liquids comprising two or more separate vessels having spouts or outlets near their tops and arranged to discharge from one into the other, a metallic funnel constituting an electrode arranged to discharge above the liquid-level of the vessel, a metallic piece in the bottom of said vessels also constituting an electrode, a conductor of electricity leading from the last-named electrodes out of said vessels, and insulating-tubes for said conductors, substantially as described.

3. In an apparatus for treating liquid, two electrically-insulated vessels, one above the other, arranged to have the liquid flow through a single escape-passage from the upper to the lower in a reduced stream which is exposed throughout to the air, said vessels being adapted each to hold a body of liquid, which bodies are electrically insulated from each other except through the said stream, and an electrical conductor for each vessel electrically connected with the liquid therein, the said conductors for the two vessels being of different polarity said parts being arranged substantially as set forth, to have the electric current flow exclusively along the exposed reduced stream from one vessel to the other.

4. In an apparatus for treating liquid, the combination of a vessel situated at a relatively high level and adapted to permit a flow of liquid in a substantially continuous stream therefrom, an electric conductor adapted to be electrically connected with the liquid in said vessel and to deliver an electric current to the initial end of said stream, a vessel receiving the said stream, and a second electric conductor of different polarity from the first arranged to receive the electric current from the end of said stream, and means for supplying said conductors with electric current, substantially as set forth.

5. In an apparatus for treating liquid, the combination of an upper insulated vessel 2, a lower non-conducting vessel 1, means for delivering liquid from the upper vessel to the lower one in a reduced stream exposed to the open air, the conductor connected electrically with the liquid in the upper vessel, the conductor of different polarity from the first connected electrically with the liquid in the lower vessel, the aforesaid exposed stream electrically connecting the liquid in one vessel with that in the other, the means for supplying said electric conductors with an electric current, and means for controlling the quantity of liquid flowing in said stream, substantially as set forth.

6. In an apparatus for electrically treating liquid, a series of pairs of liquid-receiving vessels, the vessels of each pair being similar to those of the other pairs, one vessel of each pair being relatively higher than its companion vessel, and one vessel of each pair being adapted to deliver liquid to one of the vessels of the succeeding pair, means for causing the liquid to pass in a reduced stream from the first vessel to the second of each pair, and electrodes arranged in pairs and connected with each pair of vessels, the electrode for one vessel of a pair being of opposite polarity to that for the other vessel arranged substantially as set forth whereby a current of electricity can be caused to pass from one vessel of each pair to the other through the said reduced stream, independently of the current passing through the vessels of the other pairs.

7. In an apparatus for electrically treating liquid, a series of pairs of liquid-receiving vessels arranged relatively to each other to have a continuous stream of liquid pass from the vessels of one pair to the vessels of the next, means for causing the liquid to pass from the first vessel of each pair to the second in a relatively reduced stream exposed to the air, and electrodes arranged substantially as set forth whereby a current of electricity can be caused to pass from one vessel of each pair to the other through the said reduced stream the electrode for one vessel of a pair being of opposite polarity to that of the other.

8. In an apparatus for electrically treating liquid, a series of liquid receiving and delivering elements each comprising a primary vessel and a secondary vessel, and each adapted to have a continuous stream of liquid flow therethrough, and each adapted to have the said stream fall therefrom through the open air to the next succeeding element, main electric-supply conductors, and conductors arranged substantially as set forth to cause a series of electric currents to pass respectively each through one of the said liquid receiving and delivering elements and through one of the falling parts of the said stream independently of the others the conductors connected respectively with contiguous vessels in the series being of opposite polarity.

9. In an apparatus for electrically treating liquid, a series of liquid-receiving and liquid-delivering elements each comprising a secondary vessel and a primary vessel, all of the primary vessels being substantially similar to each other, and all of the secondary vessels being substantially similar to each other, each secondary vessel being adapted to deliver liquid to the next primary vessel, an electric supply, and a series of sets of conductors one for each vessel respectively arranged substantially as set forth whereby each of said receiving and delivering devices is supplied with an electric current independent of the others, said current passing from the supply through a primary vessel and a secondary vessel and through their intervening stream of liquid and then back to the supply, substantially as set forth.

10. In an apparatus for electrically treating liquid, the combination of a series of liquid holding and delivering vessels each adapted to deliver to the next liquid in a continuous stream and to support a part of said stream as a part of an electric circuit, the current-conducting liquid body in each being similar in dimensions to those in the others, a source of electrical supply, and a pair of electric conductors of opposite polarity, one for each of said vessels, said pairs of conductors being arranged respectively similarly relatively to their vessels and relatively to the current-conducting bodies of liquid therein, substantially as set forth.

11. In an apparatus for electrically treating liquid, the combination of a series of liquid receiving and delivering vessels, a source of electrical supply and current conductors respectively interposed between the said source of current-supply and the said vessels, the said vessels being adapted to have a continuous stream of liquid pass through them in series, and the conductors being connected one with each of the vessels and arranged to pass electric currents along the lines of said stream through said vessels in multiple arc, substantially as set forth.

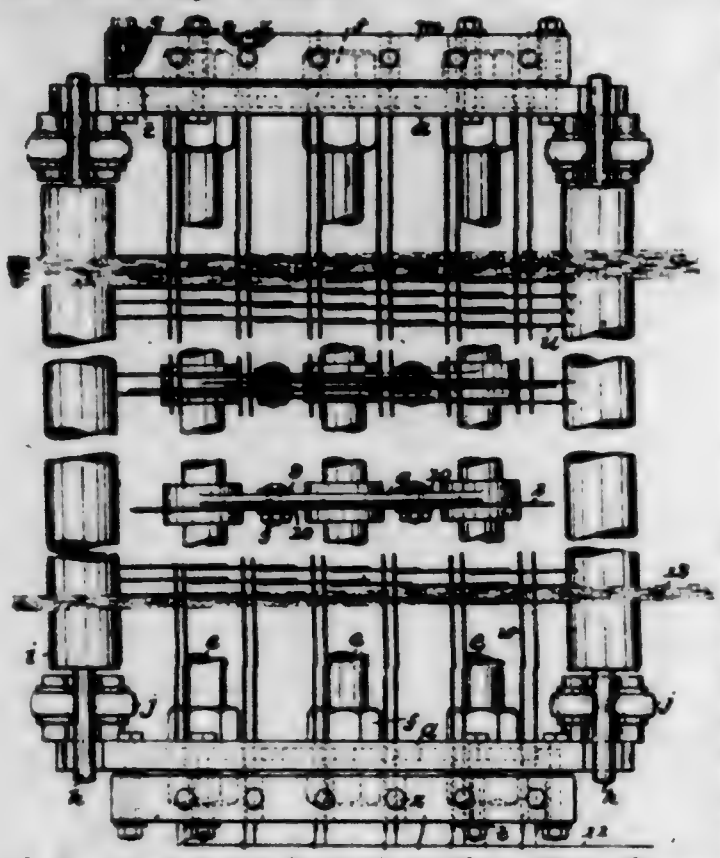
12,422. ELECTRICAL STOP-MOTION MECHANISM FOR TEXTILE MACHINERY. JOSEPH B. WHITNEY, Brooklyn, N. Y. Filed Oct. 2, 1905. Serial No. 281,091. Original No. 787,653, dated Apr. 18, 1905.

Claim.—1. In a stop-motion mechanism for textile machinery, the combination of pivoted detectors or fallers, wires, each of said detectors or fallers being adapted to coact with said wires as a circuit-closer, and means for maintaining said wires under tension, substantially as described.

2. In a stop-motion mechanism for textile machinery, the combination of pivoted detectors or fallers, wires, each of said detectors or fallers being pivoted on one wire and adapted to contact with the other wire as a circuit-closer, and means for maintaining said wires under tension, substantially as described.

3. The combination of spaced supports, a pair of wires constituting contact devices, fallers pivoted on one of said wires and movable into engagement with the other wire, and means, adjustably mounted in said supports, for securing said wires under tension, substantially as described.

4. In a stop-motion mechanism for textile machinery, the combination of pivoted detectors or fallers, wires, each of said detectors or fallers being adapted to coact with said wires as a circuit-closer, and means, comprising individual clamps for each wire, and mounted independently of each other, for maintaining said wires under tension, substantially as described.



5. In a stop-motion mechanism for textile machinery, the combination of pivoted detectors or fallers, wires, each of said detectors or fallers being adapted to coact with said wires as a circuit-closer, a suitable supporting structure, and means, adjustable in said structure transversely of the wires, for maintaining said wires under tension, substantially as described.

6. The combination, with a suitable supporting structure, of fallers, an electric-circuit-terminal structure comprising bars held spaced by the supporting structure, substantially parallel taut wires secured at each end to one of said bars and adapted to be contacted by the fallers as circuit-closers, and means for insulating said bars from the supporting structure, substantially as described.

7. The combination of spaced supports, a pair of wires constituting contact devices and penetrating said supports, fallers pivoted on one of said wires and movable into engagement with the other wire, and adjustable clamping means adapted to maintain said wires under tension and arranged against the relatively outer sides of said supports, substantially as described.

8. The combination of spaced supports, pairs of bars arranged against the relatively outer sides of said supports, sets of wires penetrating said supports, means for clamping each set of wires in one of the pairs of bars under tension, detectors or fallers pivoted on one set of wires and engageable with the other set of wires, and means for adjustably securing said bars to the supports, substantially as described.

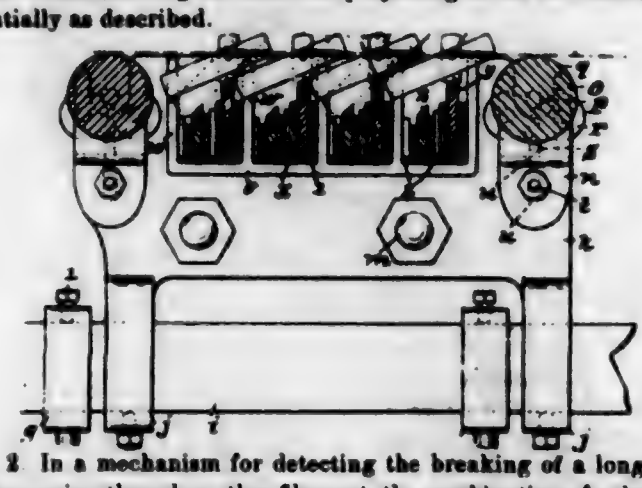
9. The combination of spaced supports, wires, means for securing said wires to the supports under tension, an auxiliary support for the wires disposed between and spaced from said first-named supports, and fallers or detectors arranged on some of said wires, and adapted to contact with the other, substantially as described.

10. The combination of spaced means for holding a series of threads taut, pivoted fallers, and a supporting means for said fallers, said fallers normally engaging the threads at intervals between said holding means, and the pivots of the fallers remote from the holding means being disposed in a plane different from the plane of the pivots of the fallers adjacent the holding means, substantially as described.

11. The combination of spaced means for holding a series of threads taut, pivoted fallers and faller-supporting means, said fallers normally engaging said threads at intervals between said holding means and pressing upwardly thereon, and the pivots of the fallers remote from the holding means being higher than the pivots of those adjacent the holding means, substantially as described.

12,423. ELECTRIC STOP-MOTION FOR TEXTILE MACHINERY. Joseph B. Whitney, Brooklyn, N. Y. Filed Oct. 2, 1905. Serial No. 281,602. Original No. 790,786, dated May 23, 1905.

Claim.—1. In a mechanism for detecting the breaking of a longitudinally-moving thread or other filament, the combination of a detector or faller and a pivotal support for said detector or faller, said detector or faller having one end heavier than the other, being adapted to be engaged by the thread between its pivot and its other end and held out of its gravity-maintained position by the thread, and, when so held, having its other end projecting above the thread, substantially as described.



2. In a mechanism for detecting the breaking of a longitudinally-moving thread or other filament, the combination of a detector or faller and a pivotal support for said detector or faller, said detector or faller having one end heavier than the other, being adapted to be engaged by the thread between its pivot and its other end and held out of its gravity-maintained position by the thread, and having its pivoting-point on that side of its longitudinal axis which is uppermost when said detector is engaged by the thread, substantially as described.

3. In a mechanism for detecting the breaking of a longitudinally-moving thread or other filament, a detector or faller consisting of a flattened strip having a perforation forming a thread-eyelet, the material of said faller or detector at the edge portion of said eyelet on one side thereof being disposed in a different plane from the material of said detector or faller at the edge portion of said eyelet on the other side thereof, substantially as described.

4. In a mechanism for detecting the breaking of a longitudinally-moving thread or other filament, a detector or faller consisting of a flattened strip having a perforation forming a thread-eyelet, the material of said detector or faller on one side of said eyelet being disposed in a plane different from that on the other side of said eyelet, substantially as described.

5. In a mechanism for detecting the breaking of a longitudinally-moving thread or other filament, a detector or faller consisting of a flattened strip having a perforation forming a thread-eyelet, said perforation having its axis or thread-line disposed approximately parallel with the plane of said detector or faller, substantially as described.

6. In an electromagnetic stop-motion for textile machinery having to do with longitudinally-moving threads, the combination of an electric circuit, a circuit-closer adapted to be controlled by one of the threads, an electromagnet adapted to be controlled by said circuit, an armature for said magnet, and means for moving the armature against the magnet at stated periods, substantially as described.

7. In an electromagnetic stop-motion for looms, the combination of an electric circuit, a circuit-closer adapted to be controlled by one of the warp-threads which is to form the material produced by the loom, an electromagnet adapted to be controlled by said circuit, an armature for said magnet, and means for moving the armature against the magnet at stated periods, substantially as described.

8. In an electromagnetic stop-motion for looms, the combination, with the batten, of an electric circuit, a circuit-closer adapted to be controlled by one of the warp-threads which is to form the material produced by the loom, an electromagnet adapted to be controlled by said circuit, an armature for said magnet, and means, actuative from the batten, for periodically moving the armature against the magnet, substantially as described.

9. In an electromagnetic stop-motion for looms, the combination of an electric circuit, a circuit-closer adapted to be controlled by one of the warp-threads which is to form the material produced by the loom, an electromagnet adapted to be controlled by said circuit, an armature for said magnet, the batten, and operative connecting means between the batten and the armature whereby said armature is periodically moved against the magnet, substantially as described.

10. In a loom, the combination, with the controller for the movement thereof, of an electric circuit, a circuit-closer adapted to be controlled by one of the warp-threads which is to form the material produced by the loom, an electromagnet controlled by said circuit, an

armature for said magnet, means for periodically moving said armature against the magnet, and power-transmitting mechanism operatively connecting said armature and said controller, substantially as described.

11. In an electromagnetic stop-motion for textile machinery having to do with longitudinally-moving threads, the combination of an electric circuit, a circuit-closer adapted to be controlled by one of the threads, an electromagnet adapted to be controlled by said circuit, an armature for said magnet, said circuit having a break therein, means for moving the armature against the magnet at stated periods, and means for closing the circuit at said break upon contact of the armature with the magnet, substantially as described.

12. In an electromagnetic stop-motion for textile machinery having to do with longitudinally-moving threads, the combination of supporting structures having opposed pockets, contact strips or bars sustained at their ends in said pockets, insulation separating the strips or bars from each other and from said supporting structures, and wedges interposed between said strips or bars and the supporting structures, substantially as described.

13. In a stop-motion for looms, the combination of a series of fallers or detectors engaging the warp, mechanism controlled by said fallers or detectors for stopping the loom upon the breaking of a warp-thread and the consequent dropping of a faller or detector, spaced rollers sustaining the warp, said fallers or detectors being arranged between said rollers, and means for vertically adjusting said rollers, substantially as described.

14. In a stop-motion for looms, the combination of spaced frames, fallers or detectors, sustaining means for said fallers or detectors arranged in said frames, vertically-adjustable brackets arranged in said frames, and spaced rollers journaled in said brackets, said detectors or fallers being disposed between said rollers and adapted to engage the warp-threads, substantially as described.

15. A support for the detectors or fallers of a stop-motion mechanism for longitudinally-moving threads consisting of a bar having elevations on its end portions, chucks adjustably secured in said elevations, and a wire mounted in and stretched between said chucks, substantially as described.

16. In a stop-motion mechanism for looms, the combination of a movable member, 18, a longitudinally and laterally movable part, 26, said member having a projection adapted to be engaged by said part, a lever, supporting means for the lever, said lever being operatively connected with said part at one of its ends to effect the lateral movement thereof, a movable element *b* of the loom, operative connecting means between said element and said part adapted to effect the longitudinal movement of the latter, and means for moving said lever on its fulcrum, substantially as described.

17. In a stop-motion mechanism for looms, the combination of a movable member, 18, a longitudinally and laterally movable part, 26, said member having a projection adapted to be engaged by said part, a fulcrumed armature, supporting means for the armature, said armature being operatively connected with said part at one of its ends to effect the lateral movement thereof, a movable element *b* of the loom, operative connecting means between said element and said part adapted to effect the longitudinal movement of the latter and also engageable with the armature to move the same on its fulcrum and so move said part laterally, an electric circuit comprising a magnet cooperative with the armature, and fallers arranged in said circuit and constituting circuit-closers, said fallers being normally held by threads being operated upon to maintain the circuit open, substantially as described.

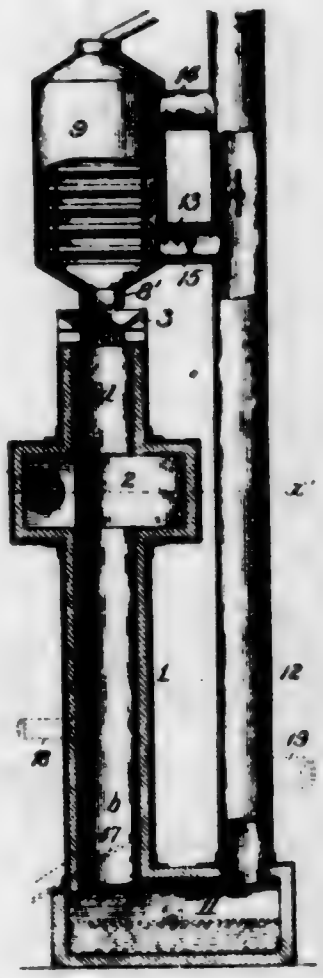
18. In a mechanism for detecting the breaking of a longitudinally-moving thread or other filament, the combination of a detector or faller and a pivotal support for said detector or faller, said detector or faller having one end heavier than the other and being adapted to be engaged by the thread between its pivot and its other end and near its relatively lower longitudinal edge and to be held out of its gravity-maintained position by the thread, whereby, when so held, its other end projects above the thread, substantially as described.

19. The combination of the loom-frame, the fallers, contact devices for the fallers, a supporting structure for said contact devices and fallers, and means for sustaining said structure in the loom-frame for adjustment longitudinally, substantially as described.

20. The combination of a plurality of series of pivoted fallers, and a plurality of horizontal pivotal supports, one for each series of fallers, arranged substantially parallel with each other and closer together than the distance represented by the length of each faller, said fallers being thus adapted when operatively engaged by the threads to stand in parallel inclined planes, overlapping each other, substantially as described.

21. In combination, with means for sustaining the warp, a pivoted faller, and a pivotal support therefor disposed in close proximity to and parallel with the plane of the warp.

12,424. PROCESS OF REDUCING ORES. HORACE F. BROWN, Chicago, Ill. Filed Sept. 20, 1905. Serial No. 280,712. Original No. 774,930, dated Nov. 15, 1904.



Claim.—1. The process of treating finely-divided ore, which consists in subjecting it, while in atmospheric suspension, to a preliminary-heating atmosphere, then to the action of a reducing, fusing-frame and at the same time gradually bringing the particles of ore into approximate physical contact.

2. The process of treating finely-divided ore, which consists in subjecting it, while in atmospheric suspension, to a preliminary-heating atmosphere, and then to a heating and reducing flame in the form of an inverted cone, for the purpose of bringing the particles of ore into approximate physical contact.

3. The process of treating finely-divided ore, which consists in subjecting it, while in atmospheric suspension, to an oxidizing atmosphere and then to a reducing fusing-flame, at the same time gradually bringing the particles into approximate physical contact.

4. The process of reducing ores as a continuous operation which consists in first passing the ore in a finely crushed or pulverized condition through a non-whirling atmosphere, and then subjecting the highly-heated ore to the action of a whirling heated atmosphere moving in the same direction as the travel of the falling body of ore.

DESIGNS.

37,720. BADGE. HARRY W. TUCKEY, San Francisco, and LUCIEN W. KLINE, Alameda, Cal. Filed July 17, 1905. Serial No. 270,141. Term of patent 14 years.



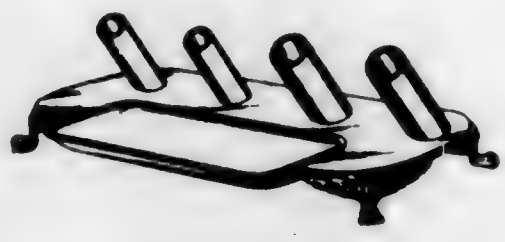
Claim.—The ornamental design for a badge, as shown.

37,721. RING. ARNO A. DONEY, Cincinnati, Ohio. Filed Sept. 22, 1905. Serial No. 279,718. Term of patent 7 years.



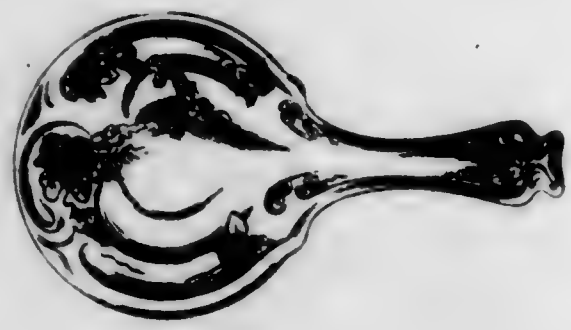
Claim.—The ornamental design for a ring, as shown.

37,722. FOUNTAIN-PEN HOLDER AND TRAY. MEINRAD ALOIS BENZIGER, New York, N. Y. Filed Nov. 1, 1905. Serial No. 285,494. Term of patent 7 years.



Claim.—The ornamental design for a fountain-pen holder and tray as shown.

37,723. HAND-MIRROR OR SIMILAR ARTICLE. SIDNEY A. KELLER, New York, N. Y., assignor to Marcus T. Goldsmith, New York, N. Y. Filed Oct. 31, 1905. Serial No. 285,360. Term of patent 7 years.





Claim.—The ornamental design for a hand-mirror or similar article, as shown.

37,724. SPOON. ERNEST P. RUBCHERT, Providence, R. I., assignor to John Hood, Santa Rosa, Cal. Filed Oct. 28, 1905. Serial No. 284,918. Term of patent 14 years.



Claim.—The ornamental design for a spoon, as shown.

37,725. SPOON OR FORK. CHARLES A. BENNETT, Taunton, Mass., assignor to Reed and Barton Corporation, a Corporation of Massachusetts. Filed Aug. 7, 1905. Serial No. 273,196. Term of patent 14 years.



Claim.—The ornamental design for a spoon or fork as shown.

37,726. BONBON-DISH. CHARLES A. BENNETT, Taunton, Mass., assignor to Reed & Barton Corporation, a Corporation of Massachusetts. Filed Oct. 19, 1905. Serial No. 283,564. Term of patent 14 years.



Claim.—The ornamental design for a bonbon-dish, as shown.

37,727. SALT OR PEPPER POT. CHARLES A. BENNETT, Taunton, Mass., assignor to Reed & Barton Corporation, a Corporation of Massachusetts. Filed Nov. 13, 1905. Serial No. 287,191. Term of patent 14 years.



Claim.—The ornamental design for a salt or pepper pot as shown.

37,728. COFFEE-POT. CHARLES A. BENNETT, Taunton, Mass., assignor to Reed & Barton Corporation, a Corporation of Massachusetts. Filed Nov. 13, 1905. Serial No. 287,192. Term of patent 14 years.



Claim.—The ornamental design for a coffee-pot as shown.

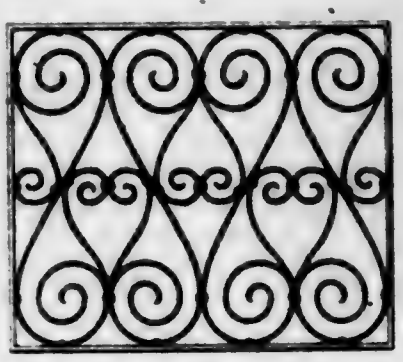
37,729. PASTE-JAR. JOHN A. LARRABEE, East Milton, Mass. Filed May 17, 1905. Serial No. 260,901. Term of patent 14 years.



Claim.—The ornamental design for a paste-jar, as shown.

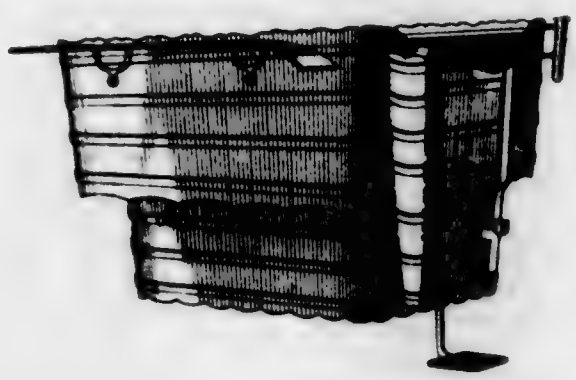
37,730. GATE. JOHN H. WEHLOCK, Worcester, Mass. Filed Sept. 23, 1905. Serial No. 279,719. Term of patent 7 years.

37,780.



Claim.—The ornamental design for a gate as shown.

37,781. CARRIAGE-BODY. CHRISTIAAN KRAMER, Brussels, Belgium. Filed June 28, 1905. Serial No. 267,455. Term of patent 7 years.



Claim.—The ornamental design for a carriage-body as shown.

37,782. PRINTED TEXTILE FABRIC. EDWARD B. VANDERSAW, Brooklyn, N. Y. Filed Nov. 13, 1905. Serial No. 287,167. Term of patent 7 years.



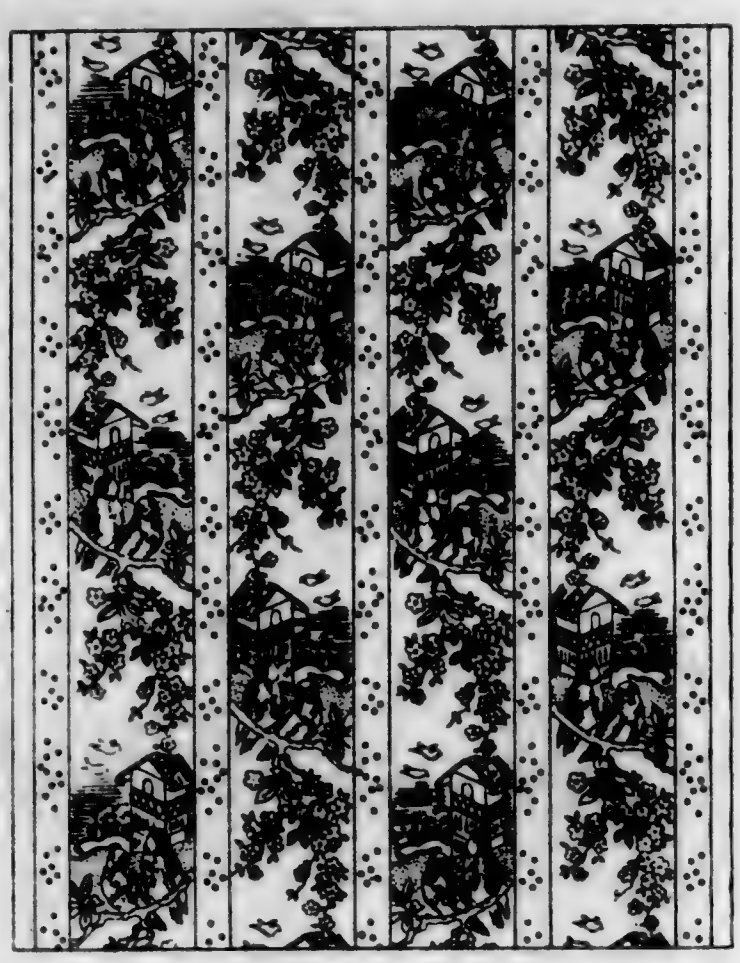
Claim.—The ornamental design for a printed textile fabric, as shown.

87,783. PRINTED TEXTILE FABRIC. EDWARD B. VANDERGAW, Brooklyn, N. Y. Filed Nov. 13, 1905. Serial No. 287,181. Term of patent 7 years.



Claim.—The ornamental design for a printed textile fabric as shown.

87,784. PRINTED TEXTILE FABRIC. EDWARD B. VANDERGAW, Brooklyn, N. Y. Filed Nov. 13, 1905. Serial No. 287,188. Term of patent 7 years.



Claim.—The ornamental design for a printed textile fabric as shown.

TRADE-MARKS

PUBLISHED DECEMBER 12, 1905.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

SER. No. 184. DOUBLE AND SINGLE GATE-VALVES, AIR-VALVES, CHECK-VALVES, FOOT-VALVES, RELIEF-VALVES, REGULATING-VALVES, FLOAT-VALVES, AND SLUICE-VALVES OR GATES, HYDRANTS, VALVE-INDICATORS, AND THEIR PARTS. THE LUDLOW VALVE MANUFACTURING COMPANY, Troy, N. Y. Filed Apr. 1, 1905. Used ten years.

LUDLOW

The word "LUDLOW."

SER. No. 810. CANVAS STITCHED AND BALATA BELTING. NEW YORK LEATHER BELTING CO., New York, N. Y. Filed Apr. 6, 1905.

VICTOR

The word "VICTOR."

SER. No. 826. REMEDY FOR CROUP, SORE THROAT, COUGHS, COLDS, NEURALGIA, EARACHE, FROSTED FEET, CHILBLAINS, AND WHOOPING-COUGH. MOYER BROS., Bloomsburg, Pa. Filed Apr. 6, 1905.

OIL OF GLADNESS

The words "OIL OF GLADNESS."

SER. No. 718. GOLD-PLATED RINGS. THE F. H. SADLER CO., Attleboro, Mass. Filed Apr. 7, 1905.



The letter "S," surrounded by two circular rings.

SER. No. 1,183. WOVEN SILK FABRICS. HERMAN SIMON, Union, N. J. Filed Apr. 11, 1905.



The word "REGATTA" and a marine scene representing a regatta.

SER. No. 1,388. CARTRIDGES. ELEY BROTHERS LIMITED, London, England. Filed Apr. 13, 1905.



The representation of a shield having an ornamental border and with a monogram of the letters "E B L" upon its face.

SER. No. 1,528. INFANTS' HATS AND CAPS. S. MAYER & SONS, New York, N. Y. Filed Apr. 14, 1905.



The representation of a stork standing in a nest and holding an infant with his bill and a number of infants disposed within the nest.

SER. No. 1,582. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

ARMY & NAVY

The words and character "ARMY & NAVY."

SER. No. 1,568. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

CONGRESS

The word "CONGRESS."

SER. No. 1,613. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

CUPID

The word "CUPID."

SER. No. 1,788. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

CYCLIST

The word "CYCLIST."

SER. No. 1,796. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

THISTLE

The word "THISTLE."

SER. No. 1,800. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

LOTUS

The word "LOTUS."

SER. No. 1,806. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

WHEEL

The word "WHEEL."

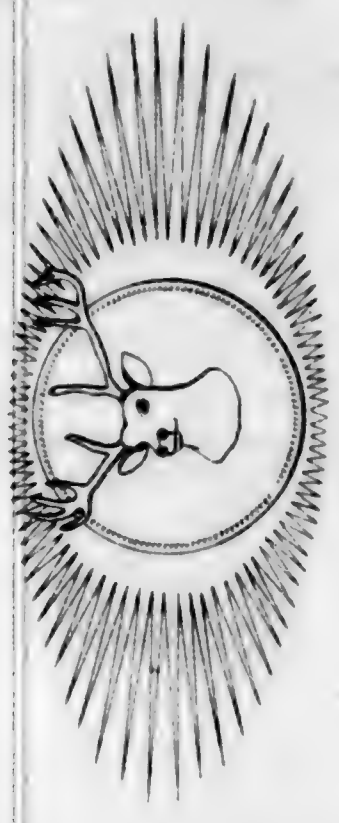
SER. No. 1,845. WHEAT-FLOUR. LISTMAN MILL COMPANY, La Crosse, Wis. Filed Apr. 17, 1905. Used ten years.

LISTMAN'S BEST

The words "LISTMAN'S BEST."

SER. No. 2,043. WAGONS, CARRIAGES, CARTS, ROAD-WAGONS, FARM-WAGONS, PHAETONS, BUGGIES, SPRING-WAGONS, AND SURREYS. DEERE & WEBBER COMPANY, Minneapolis, Minn. Filed Apr. 17, 1905.

SER. No. 2,048.



The representation of a deer's head within an ornamental circle surrounded by rays.

SER. No. 2,229. WATCH-MOVEMENTS. THE HAMPDEN WATCH CO., Canton, Ohio. Filed Apr. 19, 1905.



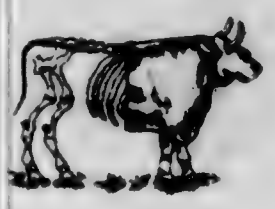
The words "MOLLY STARK," displayed on a scroll.

SER. No. 2,532. PAINT-BRUSHES. E. CLINTON & CO., Philadelphia, Pa. Filed Apr. 21, 1905. Used ten years.

CLINTON

The word "CLINTON."

SER. No. 2,685. BONE PHOSPHATE. BAUER & SONS COMPANY, Philadelphia, Pa. Filed Apr. 22, 1905.



The representation of a bull standing erect, the front half of which presents an appearance as in life, while the rear half is shown in skeleton form.

SER. No. 2,928. ARTIFICIAL TEETH AND PARTS CONNECTED THEREWITH. JOHNSON & LUND, Philadelphia, Pa. Filed Apr. 24, 1905.

KAZAN

The word "KAZAN."

SER. No. 3,228. CRYSTALLINE SUBSTANCE USED AS AN ABRADANT AND FOR OTHER PURPOSES. THE CARBORUNDUM COMPANY, Niagara Falls, N. Y. Filed Apr. 27, 1905.

CARBORUNDUM

The word "CARBORUNDUM."

SER. No. 3,457. SINGLE COMPOUND IN POWDERED FORM, WHICH IS BOTH A FOOD AND A MEDICINE FOR LIVE STOCK AND POULTRY. THE HERB MEDICINE COMPANY, Springfield, Ohio. Filed Apr. 28, 1905.



A rectangular figure divided into three transverse panels, within the upper one of which appears the word "LIGHTNING," the representation of a horse, and a horse's head inclosed within a circular figure, upon the middle one of which appears the representation of a rooster and a hen, to the left of which is the head of a turkey inclosed within a scroll-shaped figure and to the right of which is the head of a duck inclosed within a circular figure, and in the lower panel of which appears the word "LIGHTNING," associated with the representation of a cow, a portion of a hog, and the head of a sheep appearing upon an oblong panel.

SER. No. 3,881. HAIR WAVERS AND CURLERS. ALBERTINE DREES, Newark, N. J. Filed May 1, 1905.

Alberta

The word "ALBERTA."

SER. No. 3,964. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 3, 1905. Used ten years.

GEM

The word "GEM."

Sm. No. 4,189. WHISKY. Geo. H. Goodman Company, Paducah, Ky. Filed May 3, 1905.

RED ROCK



The words "Red Rock" and a monogram composed of the letters "G H G Co."

Sm. No. 4,298. PLAYING-CARDS. The New York Consolidated Card Company, New York, N. Y. Filed May 5, 1905. Used ten years.

69

The number "69."

Sm. No. 4,305. PLAYING-CARDS. The New York Consolidated Card Company, New York, N. Y. Filed May 5, 1905. Used ten years.

98

The number "98."

Sm. No. 4,309. PLAYING-CARDS. The New York Consolidated Card Company, New York, N. Y. Filed May 5, 1905. Used ten years.

SQUARED FARO

The words "Squared Faro."

Sm. No. 4,330. PLAYING-CARDS. The New York Consolidated Card Company, New York, N. Y. Filed May 5, 1905. Used ten years.

HART'S

The word "Hart's."

Sm. No. 4,350. FOUNTAIN-PENS. L. E. Waterman Company, New York, N. Y. Filed May 5, 1905.

WATERMAN'S IDEAL FOUNTAIN PEN N.Y.

The words "Waterman's Ideal Fountain Pen N. Y."

Sm. No. 4,597. WATCHES, WATCHCASES, AND WATCH-MOVEMENTS. Philadelphia Watch Case Co., Riverside, N. J. Filed May 5, 1905. Used ten years.

WALDORF

The word "Waldorf."

Sm. No. 4,603. WATCHES, WATCHCASES, AND WATCH-MOVEMENTS. Philadelphia Watch Case Co., Riverside, N. J. Filed May 5, 1905.

PREMIER

The word "Premier," surrounded by an elongated hexagonal border.

Sm. No. 4,604. WATCHES, WATCHCASES, AND WATCH-MOVEMENTS. Philadelphia Watch Case Co., Riverside, N. J. Filed May 5, 1905. Used ten years.

PERFECTION

The word "Perfection."

Sm. No. 4,662. RAT-POISON. James H. Hawn, Chicago, Ill. Filed May 8, 1905.



A semicircular panel having thereon a picture of a rat having upon its side a skull and crossbones and the word "Poison," associated with the hyphenated word "Death-on-Rats" and the words "Kills and Leaves no Odor, They Don't Die in the Walls," all inclosed in two concentric circles.

Sm. No. 4,834. TOILET-PAPER. Stone & Forsyth, Boston, Mass. Filed May 8, 1905.



The arbitrary word-symbol "Signet," composed of shaded capital letters, which gradually increase in size from the center to each end, arranged in a straight line within an oval figure with a deep border. Above the outside of the oval figure are the words "Stone & Forsyth" and below the said figure the word "Boston."

SER. No. 4,868. WASHBOARDS. THE AMERICAN WASHBOARD COMPANY. Cleveland, Ohio. Filed May 10, 1905. Used ten years.

COMPETITION

The word "COMPETITION."

SER. No. 4,919. CANNED CORN. S. N. Hyde Co., Hyde, Md. Filed May 19, 1905.



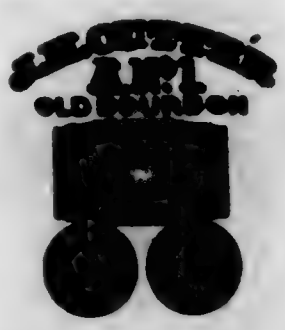
The portrait of S. N. Hyde and a facsimile of his signature arranged in a circular field.

SER. No. 5,007. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 11, 1905. Used ten years.



A design consisting of a dark ace of spades, in the center of which is shown an infant seated with his left leg crossed over his right leg and holding in his left hand five playing-cards outspread. Around the child curves a spray of flowers and leaves like a vine. From each lower corner a spray of leaves springs upward having a few buds or berries thereon, and toward the top, on each side, is a figure of a cupid among the leaves with arms stretched toward the center to uphold a crown at the top of the design.

SER. No. 5,080. WHISKY. C. P. MOORMAN & COMPANY, INC., Louisville, Ky. Filed May 11, 1905.



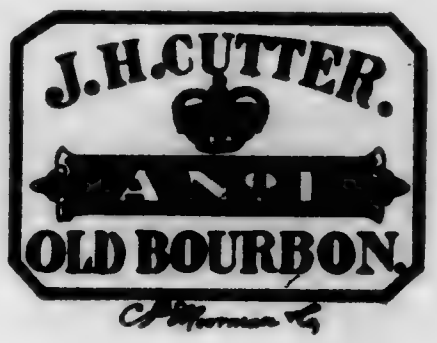
The name, letters, numeral, and words "J. H. CUTTER A. No. 1. OLD BOURBON" and the representation of three peculiarly-shaped barrels, two of which are arranged parallel and the third arranged transversely of the others. On the exposed head of one of the barrels the following matter appears: "J. H. CUTTER OLD BOURBON" and the representation of a crown and upon the other the words "J. H. CUTTER PURE OLD RYE" and the representation of a crown, while the transversely-arranged barrel bears the initial letters "J. H. C."

SER. No. 5,081. WHISKY. C. P. MOORMAN & COMPANY, INC., Louisville, Ky. Filed May 11, 1905.



The name "J. H. CUTTER," followed by a panel containing the letters "O. K.," which in turn are followed by the words "OLD BOURBON," beneath which appear the representations of three oddly-shaped barrels, two of which are arranged parallel and the third arranged transversely of the others. On the exposed head of one of the barrels the name and words "J. H. CUTTER OLD BOURBON" and the representation of a crown appear and upon the other the name and words "J. H. CUTTER PURE OLD RYE" and the representation of a crown appear, while the transversely-arranged barrel bears the initial letters "J. H. C."

SER. No. 5,082. WHISKY. C. P. MOORMAN & COMPANY, INC., Louisville, Ky. Filed May 11, 1905.



The name "J. H. CUTTER," followed by the representation of a crown, which appears above an ornamental panel, upon which appears "A No. 1," and below the panel the words "OLD BOURBON" appear. The described matter appears within a rectangular border, beneath which is a facsimile of the firm signature "C. P. MOORMAN & Co."

SER. No. 5,084. WHISKY. C. P. MOORMAN & COMPANY, INC., Louisville, Ky. Filed May 11, 1905.



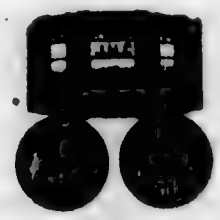
The name "J. H. CUTTER," followed by the words "PURE OLD RYE," there appearing between the words "PURE" and "OLD RYE" the representation of a crown inclosed within an oval border flanked on one side by the representation of leaves and acorns and on the other by leaves and berries. The described matter appears within a rectangular border, beneath which is a facsimile of the firm signature "C. P. MOORMAN & Co."

SER. No. 5,085. WHISKY. C. P. MOORMAN & COMPANY, INC., Louisville, Ky. Filed May 11, 1905.



The name "J. H. CUTTER," followed by the words "OLD RESERVE" there appearing between the words "OLD" and "RESERVE" the representation of a crown within an oval border flanked on one side by leaves and acorns and on the other by leaves and berries, all surrounded by a rectangular border, below which appears the facsimile firm signature "C. P. MOORMAN & CO."

SER. No. 5,086. WHISKY. C. P. MOORMAN & COMPANY, INC., Louisville, Ky. Filed May 11, 1905.



The representation of three barrels, two of which are arranged parallel and the third arranged transversely of the others. On the exposed head of one of the barrels appears the following matter: "J. H. CUTTER OLD BOURBON" and the representation of a crown and on the other the words "J. H. CUTTER PURE OLD RYE" and the representation of a crown, while on the transversely-arranged barrel appear the initial letters "J. H. C."

SER. No. 5,239. BLEACHED AND UNBLEACHED DRILLINGS AND PLAIN SHEETINGS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905. Used ten years.

ROME

The word "ROME."

SER. No. 5,673. PLAYING-CARDS. A. DOUGHERTY, New York, N. Y. Filed May 15, 1905. Used ten years.

DOUGHERTY'S

PLAYING CARDS.

The words or phrase "DOUGHERTY'S PLAYING CARDS."

SER. No. 5,734. DYNAMO-ELECTRIC MACHINES, ELECTRIC FANS, AND ELECTRIC MOTORS AND GENERATORS. DIEHL MANUFACTURING COMPANY, Elizabethport, N. J. Filed May 15, 1905. Used ten years.

Diehl

The word "DIEHL."

SER. No. 5,742. BURIAL-CASKETS, COFFINS, AND FIXTURES THEREFOR. NATIONAL CASKET CO., Hoboken, N. J. Filed May 15, 1905. Used ten years.

NATIONAL

The word "NATIONAL."

SER. No. 6,157. STERLING-SILVER FLAT WARE, HOLLOW WARE, AND TABLEWARE. HAMILTON AND HAMILTON, JR., Providence, R. I. Filed May 20, 1905.

★H&H.

A star and the characters "H. & H."

SER. No. 6,183. DISINFECTANTS. WARREN BROTHERS COMPANY, Boston, Mass. Filed May 20, 1905.

CIDE

The word "CIDE."

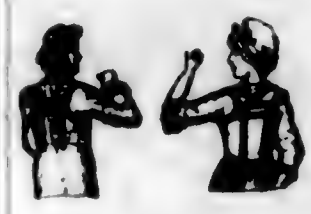
SER. No. 6,304. BRANDIES. WM. HOSLACKER AND CO., INC., San Francisco, Cal. Filed May 22, 1905.

HERMITAGE.

The word "HERMITAGE," below which is a picture of a monk holding aloft in his right hand a glass of liquor and surrounded by a triple circle.

SER. No. 6,395. SHOULDER-BRACES, CHEST-EXPANDERS, AND SUSPENDERS. KNICKERBOCKER BRACE CO., Boston, Pa. Filed May 26, 1905.

SER. No. 6,395.



The representation of the upper portion of two figures from the back, one a man and the other a woman, in colonial costume, each with an arm extended, each figure having a shoulder-brace.

SER. No. 6,458. CHEMICAL FINISHING COMPOUND TO BE USED IN THE TEXTILE INDUSTRY IN THE FINISHING OF PIECE GOODS. ROSE BERNHEIM, Pfersee-Augsburg, Bavaria, Germany. Filed May 24, 1905.

Volumin

The arbitrarily-coined word "VOLUMIN."

SER. No. 6,573. BRANDY. THE WM. BERGENTHAL CO., Milwaukee, Wis. Filed May 25, 1905. Used ten years.



The representation of a shield, within which appear the word "MONTILLA" and a star formed by superimposed triangles inclosing a cross, the shield being partially surrounded by grapevines showing leaves and bunches of grapes.

SER. No. 6,645. MEDICINE MADE IN THE FORM OF A PILL, TABLET, OR GRANULE USED AS A REMEDY FOR NERVOUS DISEASES, BLOOD DISEASES, AND THE LIKE. JAMES H. WEAGLE, Oakland, Cal. Filed May 25, 1905.

LIFE GRANULES

The words "LIFE GRANULES."

SER. No. 6,651. DRESS-SILKS. LIBERTY SILK CO., New York, N. Y. Filed May 25, 1905.

GRANDMOTHER

The word "GRANDMOTHER."

SER. No. 6,807. LEATHER BOOTS, SHOES, AND SLIPPERS OF ALL KINDS AND UPPER AND SOLE LEATHER USED IN THEIR MANUFACTURE. PACKARD & FIELD, Brockton, Mass. Filed May 27, 1905. Used ten years.



The representation of a human foot visible through the upper of a boot or shoe, within which it is inclosed, and in connection therewith the words "KORRECT SHAPE," inscribed on the remaining upper portion of the shoe.

SER. No. 6,891. WATERPROOF HATS. A. J. TOWER COMPANY, Portland, Me., and Boston, Mass. Filed May 29, 1905.

STORM KING

The words "STORM KING."

SER. No. 7,148. LEATHER KNOWN AS KID. MARTIN BRADENKOPF, Wilmington, Del. Filed June 1, 1905.



The words "DIAMOND BACK" and the representation of a turtle.

SER. No. 7,234. PULLEYS OR BLOCKS. BOSTON & LOCKPORT BLOCK COMPANY, Boston, Mass. Filed June 2, 1905.

HUB

The word "HUB."

SER. No. 7,285. TRUNKS, VALISES, AND SATCHELS. ABRAHAM & STRAUS, New York, N. Y. Filed June 2, 1905.

LETHERSOL

The word "LETHERSOL."

SER. No. 7,278. WATERPROOFING FELT. HYDREX FELT & ENGINEERING CO., East Walpole, Mass. Filed June 2, 1905.

HYDREX

The word "HYDREX."

SER. No. 7,369. THREAD-YARN. ELIZABETH MILL CO., Providence, R. I. Filed June 3, 1905.

ELIZABETH MILLS

The words "ELIZABETH MILLS" in plain block letters.

SER. No. 7,380. ALE. RUSTER & COMPANY, (INCORPORATED,) Roxbury, Mass. Filed June 5, 1905.



The representation of a bucket, shovel, and rake, with handles crossing each other and interlacing with the character "&," the letter and abbreviation "R" and "Co" appearing upon the sides of the figure and the words "SEMPER IDEM" beneath the same, all within a circle upon a circular background.

SER. No. 7,503. LEATHER BOOTS AND SHOES. ROBERTS, JOHNSON & RAND SHOE CO., St. Louis, Mo. Filed June 5, 1905.

Our Family

The words "OUR FAMILY."

SER. No. 7,504. LEATHER BOOTS AND SHOES. ROBERTS, JOHNSON & RAND SHOE CO., St. Louis, Mo. Filed June 5, 1905.

PATRIOT

The word "PATRIOT."

SER. No. 7,505. LEATHER BOOTS AND SHOES. ROBERTS, JOHNSON & RAND SHOE CO., St. Louis, Mo. Filed June 5, 1905.

Planet

The word "PLANET."

SER. No. 7,536. WHISKY. R. B. DOWNMAN CO., Alexandria, Va. Filed June 6, 1905. Used ten years.

SER. No. 7,536.



The words "OLD MANSION" and a representation of the mansion-house at Mount Vernon, Va.

SER. No. 7,594. WOODEN LADDERS OF ALL KINDS. THE MILLER LADDER COMPANY, Chicago, Ill. Filed June 7, 1905. Used ten years.

MILLER

The word "MILLER."

SER. No. 7,771. LADIES' AND MISSES' SHIRT-WAISTS AND SUITS. ROSENTHAL BROS. CO., New York, N. Y. Filed June 9, 1905. Used ten years.



The word "UNIQUE" and the representation of two full-blown roses on their stems, contained within a circular border, and a scroll which appears at the base of the stems of the roses.

SER. No. 7,896. FILES AND RASPS AND HOLDERS AND HANDLES THEREFOR. NICHOLSON FILE COMPANY, Providence, R. I. Filed June 12, 1905. Used ten years.



The pictorial representation of a workman at his bench surrounded by an ornamental border, associated with the words and abbreviation "NICHOLSON FILE CO.," and the characters "N F Co" in the form of a monogram.

SER. No. 7,898. FILES AND RASPS. NICHOLSON FILE COMPANY, Providence, R. I. Filed June 12, 1905. Used ten years.

AMERICAN

The word "AMERICAN," associated with the representation of a triangle.

SER. No. 7,905. FILES AND RASPS. NICHOLSON FILE COMPANY, Providence, R. I. Filed June 12, 1905. Used ten years.

McCLELLAN FILE CO.

The words "McCLELLAN FILE Co." and the letters "M F Co," arranged in a monogram on the representation of a Maltese cross.

SER. No. 7,916. FILES AND RASPS. ARCADE FILE WORKS, Anderson, Ind. Filed June 12, 1905.

ARCADE

The representation of a horseshoe, associated with the word "ARCADE."

SER. No. 7,917. FILES AND RASPS. ARCADE FILE WORKS, Anderson, Ind. Filed June 12, 1905.

THE ARCADE FILE WORKS.

The words "THE ARCADE FILE WORKS," associated with the representation of a file, a horseshoe with the word "ARCADE" on the horseshoe, and a seal.

SER. No. 7,926. FILES AND RASPS. G. & H. BARNETT COMPANY, Philadelphia, Pa. Filed June 12, 1905.

The letters "A N" in the form of a monogram, associated with the representation of a file.

SER. No. 7,928. FILES AND RASPS. KEARNEY & FOOT COMPANY, Paterson, N. J. Filed June 12, 1905. Used ten years.

KEARNEY & FOOT CO.

The words "KEARNEY & FOOT Co." upon the representation of a file and the letters "K & F," inclosed in an oblong border.

SER. No. 7,935. OILED CLOTHING. A. J. TOWER COMPANY, Portland, Me., and Boston, Mass. Filed June 12, 1905.

NEPTUNE

The word "NEPTUNE."

SER. No. 7,954. STIMULATING AND NON-INTOXICATING TONIC BEVERAGE. INEEDA-COFFEE CO., Louisville, Ky. Filed June 12, 1905.

INEEDA

The coined word "INEEDA," printed in a curved line.

SER. No. 8,003. SAWS OF ALL KINDS. E. C. ATKINS & COMPANY, Indianapolis, Ind.; New York, N. Y.; Memphis, Tenn.; Atlanta, Ga.; Minneapolis, Minn.; Portland, Oreg.; Seattle, Wash.; San Francisco, Cal.; Chicago, Ill., and Toronto, Canada. Filed June 12, 1905.

SEGMENT GROUND

The words "SEGMENT GROUND."

SER. No. 8,132. FILES AND RASPS. KEARNEY & FOOT COMPANY, Paterson, N. J. Filed June 14, 1905.

K&F

The letters "K & F" inclosed in an oval border.

SER. No. 8,214. HORSE-NAILS. STANDARD HORSE NAIL COMPANY, New Brighton, Pa. Filed June 15, 1905.

BEAVER

The word "BEAVER."

SER. No. 8,215. HORSE-NAILS. STANDARD HORSE NAIL COMPANY, New Brighton, Pa. Filed June 15, 1905.



The representation of a bright strip or streak extending longitudinally on an edge of a blue horse-nail.

SER. No. 8,273. PILLS AND TABLETS USED AS A REMEDY FOR THE TREATMENT OF CONSTIPATION, LIVER TROUBLES, BILIOUSNESS, HEADACHE, AND SOUR STOMACH. EMILE BRUNOR, New York, N. Y. Filed June 15, 1905. Used ten years.

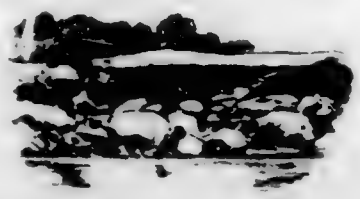
Dr. BRUNORS

CONSTIPATION CURE

The words "DR. BRUNORS CONSTIPATION CURE" and the representation of a red cross.

SER. No. 8,313. WHISKY. MORRIS LANGE, Cincinnati, Ohio. Filed June 16, 1905.

UNDERCLIFF



The representation of a landscape comprising a stream of water in the foreground having a rocky shore, above which ascends a cliff with a house, trees and foliage in the background, the whole associated or in combination with the word "UNDERCLIFF," arranged in the form of an arc above the landscape.

SER. No. 8,531. CANDY. REYHER & BROTHERS, INCORPORATED, Pittsburg, Pa. Filed June 16, 1905.



The representation of Fort Duquesne, associated with the words "FORT DUQUESNE" and the numerals "1764."

SER. No. 8,454. WHISKY. ROSENFIELD BROS. & CO., Chicago, Ill. Filed June 19, 1905. Used ten years.



The words "SUN BEAM" and a representation of the sun with beams projecting in all directions from it.

SER. No. 8,535. BLANK BOOKS, TABLETS, RULED AND FLAT PAPERS. ROARING SPRING BLANK BOOK CO., Roaring Spring, Pa. Filed June 19, 1905.



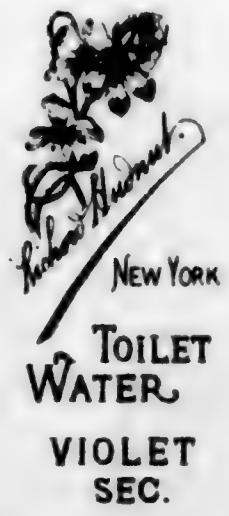
The representation of a central disk bearing a monogram of the letters "R S B" and inclosed by two double-line concentric circles of varying diameter, having eleven circular dots between the circles, and the whole figure crossed by a short double-edged sword having a point resembling a pen.

SER. No. 8,536. GOLD-LEAF. STEPHEN HICKSON, New York, N. Y. Filed June 19, 1905.

EUREMA

The word-symbol "EUREMA."

SER. No. 8,667. TOILET WATER. R. HUDNUT'S PHARMACY, New York, N. Y. Filed June 21, 1905.



The representation of a bunch of violets and the name "RICHARD HUDNUT" in script, associated with the words "NEW YORK," "TOILET WATER," and "VIOLET SEC."

SER. No. 8,774. LEATHER BELTING. THE GRATON AND KNIGHT MANUFACTURING COMPANY, Worcester, Mass. Filed June 23, 1905.



The representation of three acorns on an oak-twig, with the letters "G. K." above and the figures "1851" below said twig, inclosed by two concentric circles, between which are the words "ROYAL WORCESTER."

SER. No. 8,981. VELVETEENS. COCHECO MFG. CO., Dover, N. H. Filed June 24, 1905.



The representation of a unicorn rampant inclosed by a laurel-wreath and surmounted by a crown.

SER. No. 8,990. COTTON PIECE GOODS. JACKSON COMPANY, Nashua, N. H. Filed June 24, 1905.



The picture of an Indian maiden, dressed in the costume of a savage, holding a spear, standing in the midst of a tropical scene.

SER. No. 9,328. OUTER SHIRTS AND DRESS-SHIRTS. CLUETT, PEABODY & CO., Troy, N. Y. Filed June 28, 1905.

CLUPECO

The word "CLUPECO."

SER. No. 9,455. DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING CO., Eddystone and Philadelphia, Pa. Filed June 30, 1905.

CRESCENT

The word "CRESCENT."

SER. No. 9,456. DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING CO., Eddystone and Philadelphia, Pa. Filed June 30, 1905.

SER. No. 9,456.



The word "CRESCENT," associated with a representation of a crescent and the words "ART ROBES."

SER. No. 9,457. DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed June 30, 1905.



The word "CLOVER," associated with the representation of a four-leaf clover.

SER. No. 9,461. DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING CO., Eddystone and Philadelphia, Pa. Filed June 30, 1905.

CLOVER

The word "CLOVER."

SER. No. 9,468. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed June 30, 1905. Used ten years.



The representation of a rectangular border having reentrant corners, with an inner border interlocked with the outer border at the corners, the two borders being embraced by an ornamental clamp, associated with the words "FAST BLACK."

SER. No. 9,471. PRINTED AND DYED TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed June 30, 1905. Used ten years.



The representation of a rectangular border having diagonal lines at its ends forming a lozenge-shaped panel with triangular latticed corners, associated with the words "ILLUMINATED GREYS."

Ser. No. 9,588. NON-INTOXICATING TABLE-MALT. LAURITZEN MALT Co., Minneapolis, Minn. Filed July 1, 1905.

GOLD FOAM

The words "GOLD FOAM."

Ser. No. 9,653. DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 3, 1905.



The representation of a horseshoe with a four-leaf clover and the words "GOBELIN ART DRAPERY."

Ser. No. 9,654. DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 3, 1905.



The arbitrary word "EDGEWOOD," associated with the word "DRAPERIES," and both superposed upon some ornamental scrollwork with an ornamental border.

Ser. No. 9,678. CIGARS. S. S. PIERCE Co., Boston, Mass. Filed July 5, 1905.



The words "LA IBERIA," together with the representation of a female figure seated between two pillars and carrying a shield, on which is represented a lion rampant, and the picture of a lion couchant at her feet, with boxes and bunches of cigars and the representation of palms in the foreground, the background representing a general landscape.

Ser. No. 9,679. CIGARS. S. S. PIERCE Co., Boston, Mass. Filed July 5, 1905.



A triangular-shaped shield having curved sides and a heavy border, with the figure of a lion rampant bearing a crown on its head in the center, and the words "PURITAS ET CUBA" on the border and the words "EL LEON DEL REY" above the shield.

Ser. No. 9,803. PRINTED AND DYED DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 6, 1905.

ELYSIAN

The word "ELYSIAN."

Ser. No. 9,804. DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 6, 1905.



The representation of a four-leaf clover.

Ser. No. 10,085. PUBLICATIONS TREATING OF ELECTROTECHNICS. ELECTRICAL REVIEW PUB. Co., New York, N. Y. Filed July 11, 1905.

ELECTRICAL REVIEW

The words "ELECTRICAL REVIEW."

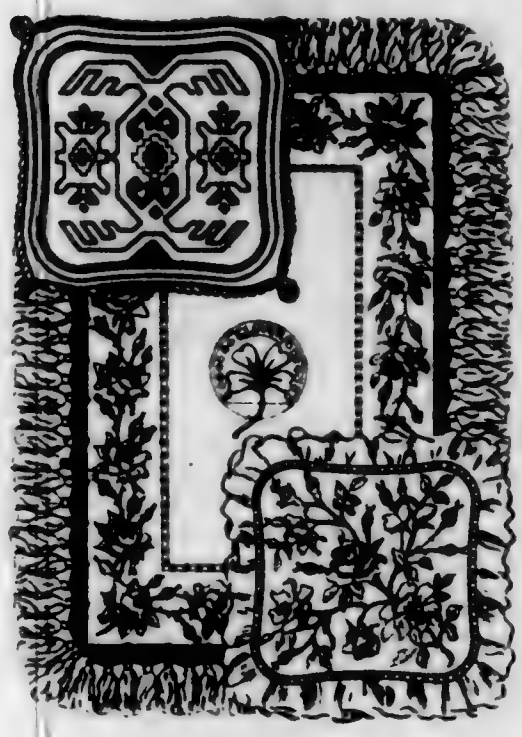
Ser. No. 10,321. LIQUID ALKALINE ANTISEPTIC AND GERMICIDE FOR INTERNAL AND EXTERNAL USE. THE BUDDER PHARMACAL COMPANY, New York, N. Y. Filed July 14, 1905.

Sanorine

The word "SANORINE."

SER. No. 10,800. DRAPERY AND UPHOLSTERY TEXTILE FABRICS. THE KENSINGTON MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed July 14, 1905.

Wm Simpson & Sons



The word "CLOVER" and a representation of a four-leaf clover, associated with the representation of a piece of art drapery having superposed at its corners two additional pieces, and the abbreviation, words, and character "WM. SIMPSON & SONS."

SER. No. 10,822. LEATHER BOOTS AND SHOES. M. N. ARNOLD CO., North Abington and Boston, Mass. Filed July 14, 1905. Used ten years.

King

The word "KING."

SER. No. 10,889. PARTICULAR KIND OF RESTORED OR DEVULCANIZED RUBBER MANUFACTURED FROM WASTE RUBBER GOODS. PHILADELPHIA RUBBER WORKS, Philadelphia, Pa. Filed July 15, 1905. Used ten years.

EUREKA

The word "EUREKA."

SER. No. 10,605. PURE RED LEAD. THE EAGLE WHITE LEAD CO., Cincinnati, Ohio. Filed July 20, 1905.



The representation of an eagle perched on a rock bearing a ribbon in its beak and appearing against a panel of red as a background.

SER. No. 10,958. LAUNDRY SOAP. MAGIC SOAP CO., LTD., New Orleans, La. Filed July 26, 1905.



The representation of a fish, associated with the words "BUFFALO SOAP," all being inclosed in an elliptical ornamental border.

SER. No. 10,954. LAUNDRY AND TOILET SOAP. MAGIC SOAP CO., LTD., New Orleans, La. Filed July 26, 1905.



The representation of a sow and her litter, associated with the words "CREAM OLIVE SOAP. WHAT IS HOME WITHOUT A MOTHER," all being inclosed in an ellipse.

SER. No. 10,972. MEN'S HATS. SAKS & COMPANY, Washington, D. C. Filed July 28, 1905.



The letter "S" in a circular panel with a spray of leaves at each side appearing on an ornamental oval panel associated with the word "KARLTON."

SER. No. 11,220. BAKING-POWDER. THE SEA GULL SPECIALTY CO., Baltimore, Md. Filed Aug. 3, 1905.



The representation of a parrot and monkey on the limb of a tree and the words "PARROT AND MONKEY." The representation is surrounded by a scroll. The parrot holds in its claw a cracker and the monkey holds a can in its arm.

SER. No. 11,334. SOAP FOR HOUSEHOLD AND GENERAL CLEANING PURPOSES. HOFFHEIMER SOAP CO., Chicago, Ill. Filed Aug. 7, 1905.



The representation of the earth, above which appears the bust view of a woman in the act of scrubbing the same, associated with the words "A THOROUGH CLEANER, ABSOLUTELY PURE," the words "20TH CENTURY SOAP" appearing on the globe, all being inclosed in wreaths of vapor arising from a pail.

SER. No. 11,362. GUITARS AND MANDOLINS. LYON & HEALY, Chicago, Ill. Filed Aug. 7, 1905.

AMERICAN CONSERVATORY

The words "AMERICAN CONSERVATORY."

SER. No. 11,421. HAVANA CIGARS. HAVANA COMMERCIAL COMPANY, New York, N. Y. Filed Aug. 8, 1905. Used ten years.



The words "LA AFRICANA," arranged within the upper half of the border of a double ellipse, and a monogram of the letters "E G," arranged at the center of the mark. The word "HABANA" has also been arranged within the lower half of the border.

SER. No. 11,707. NEEDLES. CHARLES H. CROWLEY, New York, N. Y. Filed Aug. 16, 1905. Used ten years.



The words "LION BRAND," together with the representation of the head and fore legs of a lion.

SER. No. 11,920. CORSETS. ALBERT ROMAINE COLTON, Newark, N. J. Filed Aug. 22, 1905.



The representation of a woman having her corsets laced by a young girl, associated with which are the words "COLTON'S INVISIBLE LACING." The woman is represented as saying "LOOK AT MY BACK," while to the girl are attributed the words, "OH, MAMMA, HOW EASY IT PULLS!"

SER. No. 11,965. GRASS AND FIELD SEEDS. WM. G. SCARLETT, Baltimore, Md. Filed Aug. 24, 1905.



The representation of a wreath, within which is the letter "S," above which is the word "EMPIRE," and under which is the word "BRAND."

SER. No. 11,967. GRASS AND FIELD SEEDS. WM. G. SCARLETT, Baltimore, Md. Filed Aug. 24, 1905.



The representation of an oak-leaf, on which is the letter "S," above which is the word "OAK," and under which is the word "BRAND."

SER. No. 11,969. GRASS AND FIELD SEEDS. WM. G. SCARLETT, Baltimore, Md. Filed Aug. 24, 1905.

SER. No. 11,969.

MAPLE
BRAND

The representation of a maple-leaf, on which is the letter "8," above which is the word "MAPLE," and under which is the word "BRAND."

SER. No. 11,970. GRASS AND FIELD SEEDS. WM. G. SCARLETT, Baltimore, Md. Filed Aug. 24, 1905.

ORIOLE
BRAND

The representation of a bird, on which is the letter "8," above which is the word "ORIOLE," and under which is the word "BRAND."

SER. No. 12,053. WHEAT-FLOUR. MAPLETON MILLING COMPANY, Mapleton, Minn. Filed Aug. 28, 1905.

MAPLESOTA

The word "MAPLESOTA."

SER. No. 12,109. GRAIN-BINDING HARVESTERS, CORN-HARVESTERS, RICE-HARVESTERS, MOWERS, AND REAPERS, AS WELL AS EXTRA AND REPAIR PARTS AND PIECES FOR SUCH APPARATUS, LEDGER-PLATES EXCLUDED. INTERNATIONAL HARVESTER CO. OF AMERICA, Chicago, Ill. Filed Aug. 31, 1905.



A figure of a general trapezoidal form having its acute corners at its broader end cut away and having at its smaller end a centrally-arranged curved projection.

SER. No. 12,137. OIL FOR EXTERNAL AND INTERNAL USE. HOLLAND MEDICINE COMPANY, Philadelphia, Pa. Filed Sept. 1, 1905.

C. de Koning Tilly

The facsimile signature "C. DE KONING TILLY," with a horizontal line under the first half of the signature and a mark something like the letter "n" through said line or underscore.

SER. No. 12,138. OIL FOR EXTERNAL AND INTERNAL USE. HOLLAND MEDICINE COMPANY, Philadelphia, Pa. Filed Sept. 1, 1905.



The representation of a rectangular panel having at the upper left-hand corner a circle, within which are certain radial lines and the figures "1696." In the upper right-hand corner is a figure of a crown surmounting a shield. Between the circle and the crown and shield is a scroll, upon which is printed the words "ONLY GENUINE WHEN PROVIDED." Below the scroll is a centrally-located panel having on it the words "WITH THIS LAWFULLY DEPOSITED BAND," and below the panel is the signature "C. DE KONING TILLY." A branch or twig is arranged across the upper left-hand corner, the central portion of which is hidden by other features above described.

SER. No. 12,171. NEWS PERIODICALS AND MAGAZINES. MUNICIPAL NEWS ASSOCIATION, New York, N. Y. Filed Sept. 2, 1905.

MUNICIPAL NEWS

The words "MUNICIPAL NEWS."

SER. No. 12,284. REMEDY FOR HEADACHE, NEURALGIA, AND NERVOUSNESS. JAMES G. MUNSON, San Jose, Cal. Filed Sept. 6, 1905.

YE-TI-VA

The hyphenated word "YE-TI-VA."

SER. No. 12,287. REMEDY FOR CHOLERA, CHOLERA MORBUS, AND DYSENTERY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905. Used ten years.

MANSFIELD'S
MISSISSIPPI
DIARRHŒA
CORDIAL

The words "MANSFIELD'S MISSISSIPPI DIARRHŒA CORDIAL" and the representation of an old-fashioned steamboat.

Ser. No. 12,289. VERMIFUGE. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905. Used ten years.

SWEET'S
HONEY
VERMIFUGE

The words "SWEET'S HONEY VERMIFUGE."

Ser. No. 12,290. PREPARATION FOR THE CURE AND ALLEVIATION OF DISEASES PECULIAR TO WOMEN. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905.

FEMENINA



The word "FEMENINA" and a pictorial representation of a young lady, her face being a full or front view, the neck, bust, and right arm bare, the latter being raised across the bosom and supporting loose flowing drapery, together with the representation of a leafy branch, which appears over the left shoulder.

Ser. No. 12,292. REMEDY FOR COUGHS, COLDS, AND OTHER AILMENTS OF THE THROAT AND LUNGS. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905. Used ten years.

SWEET'S
WILD CHERRY CURE

The words "SWEET'S WILD CHERRY CURE."

Ser. No. 12,424. REMEDY FOR CONSTIPATION, LIVER COMPLAINTS, BILIOUSNESS, AND RESULTANT DISORDERS. WELLS & RICHARDSON COMPANY, Burlington, Vt., and Montreal, Canada. Filed Sept. 9, 1905. Used ten years.

WILLS'
ENGLISH
PILLS.

The representation of a device composed of a disk with serrated edges bearing the words "WELLS' ENGLISH PILLS" the word "WELLS'" being arranged around the upper section, the word "PILLS" being similarly arranged around the lower, and the word "ENGLISH" between upon a curved scroll-like band.

Ser. No. 12,429. REMEDY FOR CONSTIPATION, LIVER COMPLAINTS, BILIOUSNESS, AND RESULTANT DISORDERS. WELLS & RICHARDSON COMPANY, Burlington, Vt., and Montreal, Canada. Filed Sept. 9, 1905. Used ten years.

WILLS'
ENGLISH
PILLS.

The words "WELLS' ENGLISH PILLS."

Ser. No. 12,516. CORSETS. BENJAMIN ALTMAN, New York, N. Y. Filed Sept. 13, 1905.

"Athenia"

The word "ATHENIA," inclosed in quotation-marks.

Ser. No. 12,543. CEYLON TEA. JAEGER BROS., New York, N. Y. Filed Sept. 14, 1905.

TEA FLOWERS

The words "TEA FLOWERS."

Ser. No. 12,687. LAXATIVE COMPOUND OR PREPARATION. HERBERT SUTHERLAND COOLEY, Keyport, N. J. Filed Sept. 18, 1905.

Sweet Mint Ola

The words "SWEET MINT OLA." These words are arranged within a scroll border, and from the parallel perpendiculars of the letter "M" of the word "MINT," at top and bottom, project prolonged horizontal bars.

Ser. No. 12,749. UTERINE TONIC AND SEDATIVE. THE ELI LILLY & COMPANY, Indianapolis, Ind. Filed Sept. 18, 1905.

FEMAGEN

The word "FEMAGEN."

SER. No. 12,811. DISTILLATION OF HAMAMELIS. POND'S EXTRACT COMPANY, New York, N. Y. Filed Sept. 20, 1905. Used ten years.

POND'S EXTRACT
POND'S EXTRACT

The representation of a diamond-shaped figure arranged within a rectangular figure formed by the duplicated words "POND'S EXTRACT" connected at the sides—that is to say, with the first and last letters of each duplicate set of words joined.

SER. No. 12,879. TONICS. KATHARION CHEMICAL CO., St. Louis, Mo. Filed Sept. 21, 1905. Used ten years.

HAGEE'S
CORDIAL
OF
Cod Liver Oil

The words "HAGEE'S CORDIAL OF COD LIVER OIL."

SER. No. 12,889. PILE REMEDY. LEVI B. TRAMMER, Hamilton, Pa. Filed Sept. 21, 1905.



The representation of a male figure dressed in ancient costume and standing upon the world. The figure is also represented as holding a bottle in each hand.

SER. No. 12,975. SALT. FRANCIS H. LEGGETT & COMPANY, New York, N. Y. Filed Sept. 25, 1905.

NABOB

The word "NABOB."

SER. No. 12,976. LARD. FRANCIS H. LEGGETT & COMPANY, New York, N. Y. Filed Sept. 25, 1905.

NABOB

The word "NABOB."

SER. No. 13,046. HORSE-RENOVATING POWDERS. JAMES J. WALSH, Quincy, Ill. Filed Sept. 27, 1905.

COMMON-SENSE

The word "COMMON-SENSE."

SER. No. 13,047. COLIC MEDICINE FOR HORSES. JAMES J. WALSH, Quincy, Ill. Filed Sept. 27, 1905.

COMMON-SENSE

The word "COMMON-SENSE."

SER. No. 13,082. MEDICINE FOR THE CURE OF FEVER, RHEUMATISM, CATARRH, BURNS, BOILS, CUTS, ECZEMA, BRONCHITIS, ASTHMA, BRUISES, SPRAINS, CHAPPED HANDS, SORE FEET, SORENESS, STIFFNESS, SWELLINGS, AND INFLAMMATION, DESTROYS FETOR. PERCY R. PALETHORPE, Louisville, Ky. Filed Sept. 27, 1905.

PERSOLA

The word "PERSOLA."

SER. No. 13,137. BISCUITS, CRACKERS, AND WAFERS. THE HITCHNER BISCUIT CO., West Pittston, Pa. Filed Sept. 29, 1905.

CRESO

The word "CRESO."

SER. No. 13,154. REMEDY FOR THE NERVES. B. H. BACON CO., Rochester, N. Y. Filed Sept. 30, 1905. Used ten years.

CELERY KING

The words "CELERY KING."

SER. No. 13,310. MOLASSES. BOSTON MOLASSES CO., Boston, Mass. Filed Oct. 5, 1905.

Xtravim

The word "XTRAVIM."

The word "XTRAVIM."

Ser. No. 13,812. WHISKY. ANGELO MYERS, Philadelphia, Pa. Filed Oct. 5, 1905. Used ten years.



The word "NESHAMINY," associated with the words "RYE WHISKEY ANGELO MYERS PHILADELPHIA," all inclosed within a dotted shield-shaped outline.

Ser. No. 13,838. WHISKY. GLASNER & BARSKY DISTILLING & IMPORTING CO., Kansas City, Mo. Filed Oct. 5, 1905.



The words "BELLE SPRINGS" and a fanciful circular figure inclosing a monogram of the letters and character "G & B."

Ser. No. 13,436. CANDIES, CHOCOLATES, LICORICE CONFECTIONS, CANDIED FRUITS, GLACÉ FRUITS, AND BONBONS. C. POTTS, INC., New York, N. Y. Filed Oct. 9, 1905.

ONYX

The word "ONYX."

Ser. No. 13,533. HOSE-SUPPORTERS. THE WARNER BROS. CO., Bridgeport, Conn. Filed Oct. 12, 1905. Used ten years.

Security

The word "SECURITY."

Ser. No. 13,791. FOLDING CANVAS HAMMOCKS AND SWINGS. GEORGE H. WYMAN, Kalamazoo, Mich. Filed Oct. 30, 1905.

QUEEN

The word "QUEEN."

Ser. No. 13,792. SCYTHE-STONES, WHETSTONES, AX-STONES, OIL-STONES, OIL AND WATER STONES, HONES, GRINDSTONES, AND GRINDING DISKS AND WHEELS. THE PIKE MANUFACTURING COMPANY, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Filed Oct. 30, 1905. Used ten years.

PIKE'S

The word "PIKE'S."

Ser. No. 13,939. INSULATING-TAPE. MASSACHUSETTS CHEMICAL COMPANY, Walpole, Mass. Filed Oct. 25, 1905.

ARMATAPE

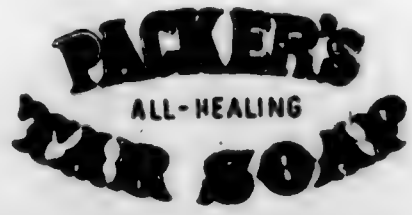
The word "ARMATAPE."

Ser. No. 13,943. WEEKLY NEWSPAPER. W. C. & F. P. CHURCH, INCORPORATED, New York, N. Y. Filed Oct. 26, 1905. Used ten years.

ARMY AND NAVY GAZETTE

The words "ARMY AND NAVY GAZETTE."

Ser. No. 13,972. TAR SOAP. EDWARD A. OLDS, New York, N. Y. Filed Oct. 27, 1905. Used ten years.



The words "PACKER'S ALL-HEALING TAR SOAP."

Ser. No. 13,995. PLASTERS. JOHNSON & JOHNSON, New Brunswick, N. J. Filed Oct. 28, 1905. Used ten years.

WOOD'S

The word "WOOD'S."

Ser. No. 14,008. SOAP. JOHNSON & JOHNSON, New Brunswick, N. J. Filed Oct. 31, 1905.

SYNOL

The word "SYNOL."

SER. No. 14,014. PISTOLS. COLT'S PATENT FIRE ARMS MANUFACTURING COMPANY, Hartford, Conn. Filed Oct. 28, 1905. Used ten years.

COLT

The word "COLT."

SER. No. 14,027. LEATHER-POLISH. WHITTEMORE BROTHERS AND COMPANY, Cambridge, Mass. Filed Oct. 28, 1905.

JUMBO

The word "JUMBO."

SER. No. 14,035. BRANDY. CALIFORNIA WINE ASSOCIATION, San Francisco, Cal. Filed Oct. 30, 1905.

FOLLE BLANCHE

The words "FOLLE BLANCHE."

SER. No. 14,041. LEATHER BOOTS AND SHOES. A. W. TRECARTLE & Co., Boston, Mass. Filed Oct. 30, 1905.



The representation of a shoe-bottom having a counter extending from the heel end thereof and having the toe end cut off.

SER. No. 14,053. WHISKY. CARSTAIRS, MCCALL & CO., Philadelphia, Pa. Filed Oct. 30, 1905. Used ten years.

The word "INVINCIBLE," associated with the words "RYE" and "BOTTLED BY CARSTAIRS, MCCALL & CO. PHILADELPHIA," inclosed in a rectangular outline, in the center of which appears a circular design bearing a winged dragon carrying a sword and holding in one claw a sheaf of grain, with radiating lines in background, beneath which is a fanciful scroll design bearing the name "CARSTAIRS, MCCALL & CO."

SER. No. 14,054. WHISKY. CARSTAIRS, MCCALL & CO., Philadelphia, Pa. Filed Oct. 30, 1905. Used ten years.



The word "CARSTAIRS," associated with the words "RYE" and "BOTTLED BY CARSTAIRS, MCCALL & CO., PHILADELPHIA," inclosed in a rectangular outline, in the center of which appears a circular design bearing a winged dragon carrying a sword and holding in one claw a sheaf of grain, with radiating lines in background, beneath which is a fanciful scroll design bearing the name "CARSTAIRS, MCCALL & CO."

SER. No. 14,056. WHISKY. TO KALON VINEYARD CO., Chicago, Ill. Filed Oct. 30, 1905. Used ten years.



The words "OLD MONASTERY," associated with a picture of an old monastery bordered by trees and shrubs.

SER. No. 14,057. WHISKY. TO KALON VINEYARD CO., Chicago, Ill. Filed Oct. 30, 1905.



The words "FIRST NATIONAL," associated with the picture of the front of a bank-building inclosed within a fanciful rectangular outline with rounded corners and a fancy ornamental design at each end.

SER. No. 14,058. WHISKY. TO KALON VINEYARD CO., Chicago, Ill. Filed Oct. 30, 1905.

Ser. No. 14,058.



The word "NORTHLAND," associated with a fanciful shield design bearing the picture of a lily and of a mountain peak and also bearing a monogram of the letters "T K."

Ser. No. 14,059. WHISKY. TO KALON VINEYARD CO., Chicago, Ill. Filed Oct. 30, 1905.



The word "HOUSEHOLD," associated with a fanciful shield design bearing the picture of a lily and of a mountain peak and also bearing a monogram of the letters "T K."

Ser. No. 14,065. WHISKY. HENRY SANDER, Philadelphia, Pa. Filed Oct. 30, 1905.



The figures and letters "12 P. M.," written diagonally between two lines, above and below which is a fanciful scroll design inclosed in a triangle figure, all arranged on a rectangular background of contrasting color

Ser. No. 14,066. WHISKY. JACOBS & GARRETT, Memphis, Tenn. Filed Oct. 30, 1905.



The words "OLD GARRETT," above which is a shield design, upon which appears the monogram "J & G," inclosed in a double circle, and beneath the word "GARRETT" appear the words "BOURBON NONE GENUINE WITHOUT SIGNATURE" and the facsimile signature of the firm-name "JACOBS & GARRETT."

Ser. No. 14,068. WHISKY. FELIX P. MORWAY & SON, Worcester, Mass. Filed Oct. 30, 1905.

FOGGY DEW
CLUB

The words "FOGGY DEW CLUB."

Ser. No. 14,070. WHISKY. LAVENTHAL BROS., Sacramento, Cal. Filed Oct. 30, 1905.

SILKWOOD

The word "SILKWOOD."

Ser. No. 14,071. WHISKY. THE WM. H. HOLMES CO., Pittsburg, Pa. Filed Oct. 30, 1905. Used ten years.



The word "CONESTOGA" and a monogram composed of the word, letters, and abbreviation "THE W H H Co," inclosed in an ornamental circle.

Ser. No. 14,072. WHISKY. S. S. FLEISCHER MERCANTILE CO., Kansas City, Mo. Filed Oct. 30, 1905.

Old Bondage

The words "OLD BONDAGE."

Ser. No. 14,095. MAGAZINE OR PERIODICAL. HOMEMAKER PUBLISHING COMPANY, A CORPORATION, Chicago, Ill. Filed Oct. 30, 1905.

THE HOMEMAKER

The words "THE HOMEMAKER."

SER. No. 14,108. BOOKS. WM. H. LEE, Chicago, Ill. Filed Oct. 30, 1905.



The fanciful outline figure composed of a plurality of curved lines or arcs, the upper side of the figure consisting of four outwardly-concave arcs joined so as to form three exterior cusps, each end of the figure consisting of an outwardly-convex arc, and the lower side of the figure consisting of two reversed curves, the end arcs and reversed curves being joined so as to form one exterior and two interior cusps, while the whole figure is symmetrical about a vertical axis.

SER. No. 14,107. SAWS. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Oct. 31, 1905.

ORIOLE

The word "ORIOLE."

SER. No. 14,111. SAWS. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Oct. 31, 1905.

TRIUMPH

The word "TRIUMPH."

SER. No. 14,112. SAWS. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Oct. 31, 1905.

IDEAL

The word "IDEAL."

SER. No. 14,119. SAWS. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Oct. 31, 1905.

LUMBERMAN

The word "LUMBERMAN."

SER. No. 14,120. SAWS. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Oct. 31, 1905.

SER. No. 14,120.

VIM

The word "VIM."

SER. No. 14,289. CLOCKS. THE ANSONIA CLOCK COMPANY, Ansonia, Conn., and New York, N. Y. Filed Nov. 3, 1905. Used ten years.

ANSONIA

The word "ANSONIA."

SER. No. 14,250. WHISKY. JOHN W. FLOOD, Louisville, Ky. Filed Nov. 2, 1905.

KENTUCKY BROOK

The words "KENTUCKY BROOK."

SER. No. 14,324. FLEXIBLE TUBING. CHICAGO TUBING & BRAIDING CO., Chicago, Ill. Filed Nov. 4, 1905.

REX

The word "REX."

SER. No. 14,409. BABBITT METAL. NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed Nov. 8, 1905.



The words "OLD HICKORY" and a pictorial representation of Genl. Andrew Jackson.

SER. No. 14,410. BABBITT METAL. NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed Nov. 8, 1905. Used ten years.

HEAVY PRESSURE METAL

The words "HEAVY PRESSURE METAL."

SER. No. 14,411. BABBITT METAL. NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed Nov. 8, 1905. Used ten years.

SER. No. 14,411.

STERLING JOURNAL METAL

The words "STERLING JOURNAL METAL."

SER. No. 14,412. BABBITT METAL. NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed Nov. 8, 1905. Used ten years.

BEARING METAL

The words "BEARING METAL."

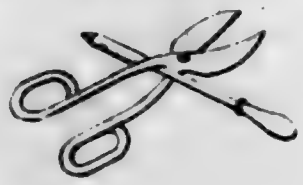
SER. No. 14,413. BABBITT METAL. NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed Nov. 8, 1905. Used ten years.

No. 1 JOURNAL METAL

The words "No. 1 JOURNAL METAL."

SER. No. 14,419. SOLDER. NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed Nov. 8, 1905. Used ten years.

STANDARD



The word "STANDARD" and the pictorial representation of a soldering-iron and tinners' shears crossed one upon the other.

SER. No. 14,456. PACKINGS. KRAMERY & MATTISON COMPANY, Ambler, Pa. Filed Nov. 9, 1905.

AUTOBESTOS

The word "AUTOBESTOS."

SER. No. 14,472. HAY-TEDDERS. DEERE & WEBBER CO., Minneapolis, Minn. Filed Nov. 10, 1905.

THE NEW HAY CHIEF

The words "THE NEW HAY CHIEF."

SER. No. 14,488. LEATHER BOOTS, SHOES, AND SLIPPERS. THE STETSON SHOE COMPANY, Weymouth, Mass. Filed Nov. 10, 1905.



The representation of a spray of red roses having superimposed thereon a diamond or lozenge shaped figure so shaped as to be longer than it is wide, said figure being colored red and having within it the words "THE STETSON SHOE."

SER. No. 14,802. COMIC SECTION OF NEWSPAPERS. THE NEW YORK HERALD COMPANY, New York, N. Y. Filed Nov. 20, 1905.

BUSTER BROWN

The words "BUSTER BROWN."

PHOTO-LITHOGRAPHED BY
SACHETT & WILHELMS
LITHOGRAPHING & PRINTING CO.
NEW YORK

TRADE-MARKS

REGISTERED DECEMBER 12, 1905.

48,086. MATTRESSES. TOM B. BURNETT, Dallas, TEX.

The representation of a swan floating upon the water among cattails, with a dim line of the shore in the distance, associated with the words "WHITE SWAN," appearing in a curved panel above the shield, which incloses the swan and is supported below by a panel with an ornamental border. A dark field is located on either side of the shield and above the lower panel, from which field and panel radiate rays.

Filed May 2, 1905. Serial No. 4,039. PUBLISHED OCTOBER 17, 1905.

48,087. LEATHER AND LEATHER-AND-CLOTH BOOTS, SHOES, AND SLIPPERS. GEO. F. DANIELS & CO., Boston, Mass.

The word "PENNANT."

Filed April 6, 1905. Serial No. 571. PUBLISHED SEPTEMBER 5, 1905.

48,088. FABRIC FORMED OF WOVEN SPLINTS, STRIPS, OR SLATS, AND THREAD, CORD, OR WIRE FOR SHADES, SCREENS, CURTAINS, AND THE LIKE. HOUGH SHADE CORPORATION, Janesville, Wis.

The word "VUDOR."

Filed May 1, 1905. Serial No. 3,939. PUBLISHED AUGUST 1, 1905.

48,089. PREPARED MUSTARD. JOSEPH CAMPBELL COMPANY, Camden, N. J.

An elliptical figure with an upper half of red and a lower half of white, with the word "CAMPBELL'S" upon the upper half.

Filed June 20, 1905. Serial No. 8,583. PUBLISHED AUGUST 29, 1905.

48,090. LEATHER BOOTS, SHOES, AND SLIPPERS, AND UPPER AND SOLE LEATHER. PACKARD & FIELD, Brockton, Mass.

The words "THAT LOOK."

Filed May 29, 1905. Serial No. 6,985. PUBLISHED OCTOBER 17, 1905.

48,091. COTTON AND PART-COTTON PIECE GOODS. SMITH, HOGG & CO., New York, N. Y.

The word "FLANOLA" inclosed in quotation-marks.

Filed May 11, 1905. Serial No. 5,273. PUBLISHED OCTOBER 17, 1905.

48,092. SILK FABRIC. STEWART SILK COMPANY, Easton, Pa., and New York, N. Y.

The word "ONE SEAM O."

Filed April 21, 1905. Serial No. 2,647. PUBLISHED SEPTEMBER 12, 1905.

48,093. GUANO. TENNESSEE CHEMICAL COMPANY, Davidson county, Tenn.

A representation of the skeleton of an ox in a standing or upright position and surrounded and inclosed by the outline of the body of an ox.

Filed April 13, 1905. Serial No. 1,362. PUBLISHED JUNE 20, 1905.

48,094. BITS, STIRRUPS, SPURS, AND HARNESS-BUCKLES. THE SMITH-WORTHINGTON COMPANY, Hartford, Conn., and New York, N. Y.

The word "NEXTOSTEEL."

Filed May 17, 1905. Serial No. 5,597. PUBLISHED OCTOBER 17, 1905.

48,095. SMOKING-TOBACCO AND CIGARETTES. CARRERAS LIMITED, London, England.

A representation of the head of a black cat with a ribbon scroll beneath and the letters "J. J. C.," all inclosed in a circle.

Filed June 1, 1905. Serial No. 7,155. PUBLISHED OCTOBER 17, 1905.

48,096. PERIODICAL MAGAZINES. DOUBLEDAY, PAGE & CO., New York, N. Y.

The words "THE WORLD'S WORK."

Filed September 13, 1905. Serial No. 12,507. PUBLISHED OCTOBER 17, 1905.

48,097. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y.

The word "SCHOLASTIC."

Filed September 16, 1905. Serial No. 12,712. PUBLISHED OCTOBER 17, 1905.

48,098. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y.

The word "NEROGRAPH."

Filed September 16, 1905. Serial No. 12,714. PUBLISHED OCTOBER 17, 1905.

48,099. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y.

The word "PROGRESS."

Filed September 16, 1905. Serial No. 12,716. PUBLISHED OCTOBER 17, 1905.

48,100. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y.

The word "ORLOFF."

Filed September 16, 1905. Serial No. 12,717. PUBLISHED OCTOBER 17 1905.

48,101. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y.

The word "STUDIO."

Filed September 16, 1905. Serial No. 12,718. PUBLISHED OCTOBER 17, 1905.

48,102. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y.

The word "HERALD."

Filed September 16, 1905. Serial No. 12,719. PUBLISHED OCTOBER 17, 1905.

48,103. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y.

The words "ROB ROY."

Filed September 16, 1905. Serial No. 12,720. PUBLISHED OCTOBER 17, 1905.

48,104. MATTRESSES. FOSTER-ALLISON COMPANY, Utica, N. Y.

The representation of a mattress, upon which appear the words "ELASTIC FELT FACO IDEAL GUARANTEE," and a scroll, upon which appears the word "IDEAL."

Filed May 20, 1905. Serial No. 7,055. PUBLISHED OCTOBER 17, 1905.

48,105. STEEL PENS. HALL BROTHERS, Barre, Vt.

The letters and word "B. P. COY" written in script, with the representation of a pen forming the vertical member of the letter "B," the whole appearing on a scroll-shaped figure with sprays of laurel-leaves at each end thereof.

Filed May 1, 1905. Serial No. 3,941. PUBLISHED OCTOBER 17, 1905.

48,106. BRILLIANT SOFT-TWISTED SILK CRAPE. HESS, GOLDSMITH & CO., New York, N. Y.

The word "JUNO."

Filed August 4, 1905. Serial No. 11,270. PUBLISHED OCTOBER 17, 1905.

48,107 CORSETS, CORSET-WAISTS, AND CORSET-STEELS. KORS BROS., New York, N. Y.

The words "SMART SET."

Filed May 11, 1905. Serial No. 4,993. PUBLISHED OCTOBER 17, 1905.

48,108. RUBBER BOOTS AND SHOES. LAMBERTVILLE RUBBER COMPANY, Lambertville, N. J.

The word "SNAG."

Filed May 23, 1905. Serial No. 6,378. PUBLISHED OCTOBER 17, 1905.

48,109. RUBBER BOOTS AND SHOES. LAMBERTVILLE RUBBER COMPANY, Lambertville, N. J.

The word "SNAGS."

Filed May 23, 1905. Serial No. 6,379. PUBLISHED OCTOBER 17, 1905.

48,110. BELT-DRESSING. NEW YORK LEATHER BELTING CO., New York, N. Y.

The word "VICTOR."

Filed May 12, 1905. Serial No. 5,370. PUBLISHED OCTOBER 17, 1905.

48,111. COTTON FLANNEL. PEMBERTON COMPANY, Lawrence and Boston, Mass.

The words "ROYAL FLANNEL."

Filed June 24, 1905. Serial No. 8,998. PUBLISHED OCTOBER 17, 1905.

48,112. WELL-BUCKETS. PREWITT-SPURR MFG. CO., Nashville, Tenn.

The words "THE BOSS."

Filed May 12, 1905. Serial No. 5,366. PUBLISHED OCTOBER 17, 1905.

48,113. HORSE-NAILS. THE CAPEWELL HORSE NAIL COMPANY, Hartford, Conn.

The words "BLACK PRINCE."

Filed June 5, 1905. Serial No. 7,426. PUBLISHED OCTOBER 17, 1905.

48,114. CHURCH AND SCHOOL BELLS. THE C. S. BELL CO., Hillsboro, Ohio.

The words "STEEL ALLOY" in plain Roman letters.

Filed April 27, 1905. Serial No. 3,381. PUBLISHED OCTOBER 17, 1905.

48,115. LEATHER BELTING. THE GRATON AND KNIGHT MANUFACTURING COMPANY, Worcester, Mass.

A representation of the sea-god Neptune seated in his chariot drawn over the surface of the sea by his team of sea-horses.

Filed June 22, 1905. Serial No. 8,772. PUBLISHED OCTOBER 17, 1905.

48,116. ELASTIC PADS AND CUSHIONS FOR THE BOTTOMS OF BOOTS AND SHOES. TREDAIR RUBBER COMPANY, Boston, Mass.

The word "TREDAIR."

Filed June 5, 1905. Serial No. 7,473. PUBLISHED OCTOBER 17, 1905.

48,117. READY TAR-AND-FELT ROOFING. BARRETT MANUFACTURING COMPANY, New York, N. Y.

The representation of a seal, with the words "RED SEAL" in the center thereof.

Filed September 13, 1905. Serial No. 12,536. PUBLISHED OCTOBER 17, 1905.

48,118. LADIES' NECKWEAR-SUPPORTERS. BLUMENKRON CROCHET BUTTON WORKS, New York, N. Y.

The word "TRYUSE."

Filed June 27, 1905. Serial No. 9,263. PUBLISHED OCTOBER 17, 1905.

48,119. CUFFS. JOHN BROOKS BOYLE, Baltimore, Md.

The word "ITSGRATE."

Filed June 9, 1905. Serial No. 7,776. PUBLISHED OCTOBER 17, 1905.

48,120. VARNISH AND PAINT BRUSHES. E. CLINTON & Co., Philadelphia, Pa.

The word "EUREKA."

Filed April 21, 1905. Serial No. 2,881. PUBLISHED OCTOBER 17, 1905.

48,121. LUBRICATING OILS AND GREASES. ARTHUR W. CONSTANS, New York, N. Y.

The representation of an ecorce.

Filed June 7, 1905. Serial No. 7,606. PUBLISHED OCTOBER 17, 1905.

48,122. WHEAT-FLOUR. GEO. C. CHRISTIAN & COMPANY, Minneapolis, Minn.

The words "NEW CENTURY."

Filed May 20, 1905. Serial No. 6,961. PUBLISHED AUGUST 15, 1905.

48,123. PASTE. DIAMOND PASTE CO., Albany, N. Y.

The representation of three parallel bars within a circle, with a curved figure having a diamond figure intersecting the middle thereof placed beneath said circle.

Filed September 6, 1905. Serial No. 12,691. PUBLISHED OCTOBER 17, 1905.

48,124. CANDLES. E. SCHNEIDER & Co., Chicago, Ill.

The words "STEARIC WAX."

Filed June 2, 1905. Serial No. 7,295. PUBLISHED OCTOBER 17, 1905.

48,125. CIGARS AND CHEROOTS. FILOGAMO & ALVAREZ, Tampa, Fla.

The representation of a fancy bust-portrait of a man in old Italian costume inclosed in a fancy frame, the frame being surrounded by medals, flowers, and leaves and associated with the words "GONZALO DE GUZMAN."

Filed September 6, 1905. Serial No. 12,277. PUBLISHED OCTOBER 17, 1905.

48,126. EGGS. HAZELWOOD COMPANY, LIMITED, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg.

The word "HAZELWOOD" written in script with a paraph thereunder.

Filed September 18, 1905. Serial No. 12,765. PUBLISHED OCTOBER 17, 1905.

48,127. CAKE AND ICE-CREAM CONES MADE FROM CAKE. HAZELWOOD COMPANY, LIMITED, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg.

The word "HAZELWOOD" written in script with a paraph thereunder.

Filed September 18, 1905. Serial No. 12,766. PUBLISHED OCTOBER 17, 1905.

48,128. CHEESE. HAZELWOOD COMPANY, LIMITED, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg.

The word "HAZELWOOD" written in script with a paraph thereunder.

Filed September 18, 1905. Serial No. 12,767. PUBLISHED OCTOBER 17, 1905.

48,129. MILK AND CREAM. HAZELWOOD COMPANY, LIMITED, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg.

The word "HAZELWOOD" written in script with a paraph thereunder.

Filed September 18, 1905. Serial No. 12,768. PUBLISHED OCTOBER 17, 1905.

48,130. ICE-CREAM. HAZELWOOD COMPANY, LIMITED, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg.

The word "HAZELWOOD" written in script with a paraph thereunder.

Filed September 18, 1905. Serial No. 12,769. PUBLISHED OCTOBER 17, 1905.

48,131. HATS, HAT-FRAMES, AND HAT-TRIMMINGS. JOHN MILES, INC., New York, N. Y

The representation of a number of trees ranging in size from small to large and the words "AS I LIVE I GROW."

Filed May 1, 1905. Serial No. 3,871. PUBLISHED OCTOBER 17, 1905.

48,132. RINGS. JONES & WOODLAND, Newark, N. J.

The pictorial representation of a battle-ax, the handle of which is shown as broken away shortly below the ax-head.

Filed April 12, 1905. Serial No. 1,274. PUBLISHED OCTOBER 17, 1905.

48,133. RUBBER BOOTS AND SHOES. LAMBERTVILLE RUBBER COMPANY, Lambertville, N. J.

The hyphenated word "COCK-OF-THE-WALK," associated with the representation of a strutting rooster.

Filed June 8, 1905. Serial No. 7,713. PUBLISHED OCTOBER 17, 1905.

48,134. WHISKY. MORRIS-POWERS MERC. CO., Kansas City, Mo.

The words "GRAND CANYON," underneath which is the representation of a cañon scene.

Filed June 21, 1905. Serial No. 8,730. PUBLISHED OCTOBER 17, 1905.

48,135. PAINT. NANSEN COMPOSITION & PAINT CO., New York, N. Y.

The representation of a ship's steering-wheel.

Filed April 17, 1905. Serial No. 2,082. PUBLISHED OCTOBER 17, 1905.

48,136. MOLASSES. N. W. TAUSSIG CO., New York, N. Y.

The words, character, and abbreviation "JOSE BELLAVAL & Co." in a semicircle and the words "PONCE, PORTO RICO" in a straight line below the same.

Filed May 15, 1905. Serial No. 5,620. PUBLISHED OCTOBER 17 1905.

48,137. WHISKY. THOMAS PEPPER'S SONS, Ashland, Pa.

The word "GIANT."

Filed June 24, 1905. Serial No. 8,876. PUBLISHED OCTOBER 17, 1905.

48,138. MEN'S AND BOYS' COATS, PANTS, AND VESTS. REINHARD, MEYER & Co., Baltimore, Md.

The words "HONOR BRAND," associated with a monogram comprising the letters, character, and abbreviation "R M & Co."

Filed June 29, 1905. Serial No. 9,392. PUBLISHED OCTOBER 17, 1905.

48,139. ROOFING-SLATE. SLATINGTON-BANGOR SLATE SYNDICATE, Slatington, Pa.

The letters "S B S."

Filed August 29, 1905. Serial No. 12,069. PUBLISHED OCTOBER 17, 1905.

48,140. LARD. TENNESSEE PACKING & PROVISION COMPANY, Nashville, Tenn.

A representation of the equestrian statue of Andrew Jackson having thereupon the word "JACKSON," associated with the words "OLD HICKORY."

Filed May 23, 1905. Serial No. 6,377. PUBLISHED OCTOBER 17, 1905.

48,141. BEEF EXTRACTS, BOUILLON, AND BEEF-TEA. THE CUDAHY PACKING COMPANY, Chicago, Ill., and South Omaha, Nebr.

The word "REXSOMA."

Filed May 23, 1905. Serial No. 6,374. PUBLISHED OCTOBER 17, 1905.

48,142. COFFEE. THE GEIGER TINNEY CO., Indianapolis, Ind.

The word "MIKADO."

Filed April 13, 1905. Serial No. 1,347. PUBLISHED MAY 30, 1905.

48,143. BUFFING COMPOUNDS. THE GEORGE ZUCKER COMPANY, Newark, N. J.

The word "ACME."

Filed April 22, 1905. Serial No. 2,732. PUBLISHED OCTOBER 17, 1905.

48,144. WATCH-MOVEMENTS. THE HAMPDEN WATCH CO., Canton, Ohio.

The words "JOHN HANCOCK," written in imitation of the signature of John Hancock as the same appears on the Declaration of Independence.

Filed April 19, 1905. Serial No. 2,235. PUBLISHED OCTOBER 17, 1905.

48,145. SOIL-PIPES AND FITTINGS. ABENDROTH BROS., Port Chester and New York, N. Y.

The representation of a star.

Filed May 22, 1905. Serial No. 6,268. PUBLISHED OCTOBER 17, 1905.

48,146. WHEAT-FLOUR. ACME MILLING COMPANY, Indianapolis, Ind.

The representation of a full-length figure of a man dressed in primitive garb carrying a sunshade, a hatchet, gun, basket, and parrot perched upon the basket and in the act of discovering footprints in the sands of the seashore, and the word "KRUSO" associated with the said pictorial scene.

Filed June 26, 1905. Serial No. 9,017. PUBLISHED OCTOBER 17, 1905.

48,147. ALE. ADAM SCHEIDT BREWING COMPANY, Norristown, Pa.

The representation of two promontories of land separated by a body of water. The sun is shown rising above the horizon and rays are shown radiating therefrom. Located upon each promontory is a wireless-telegraph apparatus, the two being connected by a field of electric sparks, upon which appear the words "TWENTIETH CENTURY." The word "ALE" appears upon the surface of the water.

Filed April 15, 1905. Serial No. 1,665. PUBLISHED OCTOBER 17, 1905.

48,148. LAGER-BEER. ADAM SCHEIDT BREWING CO., Norristown, Pa.

The representation of a lotus-flower in bloom, together with the letters and abbreviation "A S B Co" arranged in the form of a monogram. This monogram is arranged upon the representation of the lotus-flower, and the word "LOTOS," written in script, is arranged across the face of the design.

Filed April 15, 1905. Serial No. 1,666. PUBLISHED OCTOBER 17, 1905.

48,149. GLOVES. JACOB ADLER & Co., New York, N. Y.

The words and letters "ADLERS N. Y. MAKE."

Filed June 13, 1905. Serial No. 8,022. PUBLISHED OCTOBER 17, 1905.

48,150. WHEAT-FLOUR. MATTHEW ALEXANDER, Winfield, Kans.

The letters "O B."

Filed April 18, 1905. Serial No. 2,109. PUBLISHED AUGUST 15, 1905.

48,151. WHEAT-FLOUR. GEO. C. CHRISTIAN & COMPANY, Minneapolis, Minn.

The words "TWENTIETH CENTURY."

Filed May 29, 1905. Serial No. 6,962. PUBLISHED AUGUST 15, 1905.

48,152. PAINT-BRUSHES. E. CLINTON & Co., Philadelphia, Pa.

The letter "C" inclosed within a hexagonal border.

Filed April 21, 1905. Serial No. 2,530. PUBLISHED OCTOBER 17, 1905.

48,153. GAME. F. I. HORSMAN CO., New York, N. Y.

The word "DIN."

Filed July 10, 1905. Serial No. 9,979. PUBLISHED OCTOBER 17, 1905.

48,154. MAGAZINE OR PERIODICAL. HOMEFOLKS PUBLISHING COMPANY, Chicago, Ill.

The words "COMMERCIAL POULTRY."

Filed September 13, 1905. Serial No. 12,513. PUBLISHED OCTOBER 17, 1905.

48,155. BAKING-POWDER. J. C. GRANT CHEMICAL COMPANY, East St. Louis, Ill.

The words "SPOT CASH."

Filed August 7, 1905. Serial No. 11,390. PUBLISHED OCTOBER 17, 1905.

48,156. LEATHER BOOTS AND SHOES. JENKINS BROS. SHOE CO., Winston-Salem, N. C.

The word "WACHOVIA."

Filed July 6, 1905. Serial No. 9,830. PUBLISHED OCTOBER 17, 1905.

48,157. RAZORS. KRUSIUS BROTHERS, New York, N. Y.

The words "BLACK DIAMOND."

Filed May 13, 1905. Serial No. 5,371. PUBLISHED OCTOBER 17, 1905.

48,158. PLAYING-CARDS. ASBURY O. LEONARD, Detroit, Mich.

The word "JAPINO."

Filed June 26, 1905. Serial No. 9,079. PUBLISHED OCTOBER 17, 1905.

48,159. SHEETINGS. MINOT, HOOPER & Co., New York, N. Y.

The representation of a goat rampant displayed above the capital letter "B."

Filed April 29, 1905. Serial No. 3,640. PUBLISHED JUNE 13, 1905.

48,160. LAGER-BEER. VICTOR NEUSTADTL, New York, N. Y.

The representation of a fanciful portrait of a stout bald-headed smiling gentleman having a full beard holding a lighted cigar in his left hand and a glass filled with beer in his right hand, which is raised to his lips.

Filed July 1, 1905. Serial No. 9,386. PUBLISHED OCTOBER 17, 1905.

48,161. PENNY-CANDY. NEW ENGLAND CONFECTIONERY Co., Boston, Mass.
The letters "O. K."
Filed May 15, 1905. Serial No. 5,722. PUBLISHED OCTOBER 17, 1905.

48,162. WHISKY. THOMAS PEPPER'S SONS, Ashland, Pa.
The word "KNIGHTHOOD."
Filed June 24, 1905. Serial No. 8,877. PUBLISHED OCTOBER 17, 1905.

48,163. RUM. P. J. BOWLIN LIQUOR Co., St. Paul, Minn.
The words "GOLD CROSS" and the representation of a Greek cross.
Filed June 21, 1905. Serial No. 8,639. PUBLISHED OCTOBER 17, 1905.

48,164. STOMACH-BITTERS. P. J. BOWLIN LIQUOR Co., St. Paul, Minn.
The word "DIGESTINE."
Filed June 21, 1905. Serial No. 8,640. PUBLISHED OCTOBER 17, 1905.

48,165. WHISKY. GUSTAVE REXINGER, Cincinnati, Ohio.
The words "OLD NOLAN," above which is a monogram composed of the letters, character, and abbreviation "B R & Co" on a black circular background inclosed in three circles.
Filed June 21, 1905. Serial No. 8,726. PUBLISHED OCTOBER 17, 1905.

48,166. DRIED, SMOKED, PICKLED, SALTED, AND CANNED FISH. WILLIAM T. SHUTE, Gloucester, Mass.
The words "EIDER DOWN."
Filed May 3, 1905. Serial No. 4,079. PUBLISHED OCTOBER 17, 1905.

48,167. CEREAL COFFEE. SLEEPY EYE MILLING COMPANY, Sleepyeye, Minn.
The word "KOFFIO."
Filed June 17, 1905. Serial No. 8,386. PUBLISHED AUGUST 1, 1905.

48,168. CHAINS AND LOCKETS. THE BASSETT JEWELRY COMPANY, Providence, R. I.
A reversed letter "R" and the letter "B" arranged as a monogram.
Filed June 29, 1905. Serial No. 9,402. PUBLISHED OCTOBER 17, 1905.

48,169. COLOGNE SPIRITS. THE DIAMOND DISTILLERIES Co., Cincinnati, Ohio.
The words "SILK FINISH," associated with a monogram of the letters, character, and abbreviation "M H & Co."
Filed May 3, 1905. Serial No. 4,114. PUBLISHED OCTOBER 17, 1905.

48,170. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.
The word "METEOR."
Filed May 5, 1905. Serial No. 4,307. PUBLISHED OCTOBER 17, 1905.

48,171. BROOMS. HORACE THOMPSON, Concord, N. H.
The words "BLACK HANDLE" and the representation of a boy on roller-skates carrying a broom over his shoulder.
Filed April 11, 1905. Serial No. 1,155. PUBLISHED OCTOBER 17, 1905.

48,172. WHISKY. A. BRESLAUER COMPANY, Milwaukee, Wis.
The word "CHEDDINGTON."
Filed June 24, 1905. Serial No. 8,881. PUBLISHED OCTOBER 17, 1905.

48,173. CORDIALS. A. BRESLAUER COMPANY, Milwaukee, Wis.
The word "CHESELY" and a monogram composed of the letters and abbreviation "A B Co," which is inclosed in a triple circle. Below this is a scroll design.
Filed June 26, 1905. Serial No. 8,890. PUBLISHED OCTOBER 17, 1905.

48,174. REMEDY IN TABLET FORM FOR COLDS, HEADACHE, AND GRIP. BROMO CHEMICAL COMPANY, Chicago, Ill.
The words "BROMO-LAX CONTAINS NO QUININE."
Filed June 15, 1905. Serial No. 8,262. PUBLISHED SEPTEMBER 5, 1905.

48,175. WHISKY. ISAAC CHENEY, Indianapolis, Ind.
The word "COMPEER."
Filed May 11, 1905. Serial No. 5,191. PUBLISHED OCTOBER 17, 1905.

48,176. MEDICINE FOR COWS. DAIRY ASSOCIATION Co., Lyndonville, Vt.
The hyphenated word "KOW-KURE."
Filed May 18, 1905. Serial No. 6,017. PUBLISHED OCTOBER 17, 1905.

48,177. WHISKIES. SOLOMON C. HERBST, Milwaukee, Wis.
The name "JNO. E. FITZGERALD."
Filed April 26, 1905. Serial No. 3,159. PUBLISHED OCTOBER 17, 1905.

48,178. MEDICINE FOR THE REMEDY OF NERVOUS DEBILITY. HO LY-YUEN, Kansas City, Mo.
The abbreviation and words "DR. HO LY-YUEN," shown as a facsimile of applicant's signature.
Filed May 20, 1905. Serial No. 6,352. PUBLISHED OCTOBER 17, 1905.

48,179. VARNISH AND JAPAN. MAYER & LOEWENSTEIN, New York, N. Y.
The word "ADAMANT."
Filed June 9, 1905. Serial No. 7,727. PUBLISHED AUGUST 29, 1905.

48,180. REMEDY FOR CERTAIN NAMED DISEASES. PATTON-WORSHAM DRUG Co., Dallas, Tex.
The word "OXIDINE."
Filed May 1, 1905. Serial No. 3,513. PUBLISHED OCTOBER 17, 1905.

48,181. BRANDY. P. J. BOWLIN LIQUOR Co., St. Paul Minn.
The word "CAMILLA."
Filed June 21, 1905. Serial No. 8,631. PUBLISHED OCTOBER 17, 1905.

48,182. GIN. P. J. BOWLIN LIQUOR Co., St. Paul, Minn.
The word "GOPHER" and the representation of a gopher inclosed in a double circle.
Filed June 21, 1905. Serial No. 8,634. PUBLISHED OCTOBER 17, 1905.

48,183. VETERINARY ANTISEPTIC REMEDY FOR SCREW-WORM. CECIL ROBINSON, Kerrville, Tex.
The word "VITROLINE."
Filed June 16, 1905. Serial No. 8,360. PUBLISHED OCTOBER 17, 1905.

48,184. WHISKY. R. M. ROSE Co., Atlanta, Ga.
The words "ROSE'S CONSTITUTION," associated with the representation of a shield with floral decorations and bearing the letter "R" and the words "PURITY GUARANTEED;" also, a fanciful architectural design bearing scrollwork, in which appear the words "CONSTITUTION," "WISDOM," "JUSTICE," and "MODERATION."
Filed May 29, 1905. Serial No. 7,005. PUBLISHED OCTOBER 17, 1905.

48,185. CURE FOR ABSCESSES IN TEETH. FRANK P. RUTHERFORD, Philadelphia, Pa.
The word "CANALINE."
Filed June 15, 1905. Serial No. 8,274. PUBLISHED OCTOBER 17, 1905.

48,186. OINTMENT OR SALVE. E. SCHMIDT & Co., Baltimore, Md.
The hyphenated word "ROSE-VEL."
Filed May 31, 1905. Serial No. 7,195. PUBLISHED OCTOBER 17, 1905

48,187. WHISKY. THOMAS H. SWAN, Boston, Mass.
The word "SWANSDOWN," used in connection with the following device: a scroll above the word "SWANSDOWN," and just below the final letter "N" in the word "SWANSDOWN" a star; under the word "SWANSDOWN" a circle, within which is a representation of the figure of a swan swimming in a pond. Back of the pond appears a wooded embankment. From the left of the circle proceeds a scroll.
Filed May 26, 1905. Serial No. 6,864. PUBLISHED OCTOBER 17, 1905.

48,188. MEDICINES FOR THE REGULATION OF THE LIVER AND PURIFICATION OF THE BLOOD. THE A. H. LEWIS MEDICINE Co., St. Louis, Mo.
The letters "N R," same being printed as a monogram, in which the last line of the "N" is the first line of the "R."

Filed April 1, 1905. Serial No. 72. PUBLISHED OCTOBER 17, 1905.

48,189. MEDICINAL TABLETS. THE ANTIKAMNIA CHEMICAL COMPANY, St. Louis, Mo.

The letters "L A K" arranged in the form of a monogram.

Filed April 18, 1905. Serial No. 2,092. PUBLISHED SEPTEMBER 5, 1905.

48,190. MEDICINAL TABLETS. THE ANTIKAMNIA CHEMICAL COMPANY, St. Louis, Mo.

The letters "L A K Q" arranged in the form of a monogram.

Filed April 18, 1905. Serial No. 2,093. PUBLISHED SEPTEMBER 5, 1905.

48,191. MEDICINAL TABLETS. THE ANTIKAMNIA CHEMICAL COMPANY, St. Louis, Mo.

The letters "A K Q S" arranged in the form of a monogram.

Filed April 18, 1905. Serial No. 2,095. PUBLISHED SEPTEMBER 5, 1905.

48,192. BRANDY. THE WM. BERGENTHAL CO., Milwaukee, Wis.

The words "RED CROSS" and the representation of a red Greek cross, associated with the picture of an invalid reclining on a cot and of a woman dressed as a nurse and pouring medicine into a glass from a bottle.

Filed May 25, 1905. Serial No. 6,574. PUBLISHED OCTOBER 17, 1905.

48,193. TONIC. VOIGT & CO., Chattanooga, Tenn.

The word "VEROTONE."

Filed June 16, 1905. Serial No. 8,342. PUBLISHED OCTOBER 17, 1905.

48,194. TOOTH DENTIFRICE IN POWDER, LIQUID, AND PASTE FORM. WOODMAN-DAVIS CO., Worcester, Mass.

The words "DR. WOODMAN'S DENTOSONE."

Filed May 22, 1905. Serial No. 6,346. PUBLISHED OCTOBER 17, 1905.

LABELS

REGISTERED DECEMBER 12, 1905.

12,539.—*Title:* "SPARKLINGSTONE." (For Cigars.) GOLDBERG & FINKELSTEIN, Scranton, Pa. Filed November 16, 1905.

12,540.—*Title:* "QUEEN AROMA." (For Cigars.) I. DELATINSKY & SON, Chicago, Ill. Filed November 16, 1905.

12,541.—*Title:* "LIEBOTSCHANER." (For Beer.) THE JOLIET BOTTLING COMPANY, Joliet, Ill. Filed November 18, 1905.

12,542.—*Title:* "CAR-WI-CO. GEORGIA SYRUP." (For Syrup.) CARGILL-WIGHT CO., Columbus, Ga. Filed November 17, 1905.

12,543.—*Title:* "HOSTERMAN'S EQUINE INVINCIBLE HEALER." (For Ointment.) JOHN H. HOSTERMAN, Everett, Mass. Filed October 26, 1905.

12,544.—*Title:* "IRENO." (For Hair-Tonic.) JOHN S. RILEY, Chester Park, Brooklyn, N. Y. Filed September 13, 1905.

12,545.—*Title:* "DIAMOND BAR." (For Prunes.) J. J SHANER, Los Gatos, Cal. Filed October 11, 1905.

12,546.—*Title:* "HOLSTEIN." (For Cheese.) SIGFRIED VAN KORNGUT, Cleveland, Ohio. Filed November 17, 1905.

12,547.—*Title:* "DURHAM." (For Cheese.) SIGFRIED VAN KORNGUT, Cleveland, Ohio. Filed November 17, 1905.

12,548.—*Title:* "SEABORG'S SILVERSIDE." (For Canned Salmon.) SEABORG PKG CO, Skamokawa, Wash. Filed November 14, 1905.

12,549.—*Title:* "TAROENA." (For Cooked Flour Made from the Taro-Root.) THE TARO FOOD COMPANY, INCORPORATED, Danbury, Conn. Filed November 16, 1905.

12,550.—*Title:* "ADIRONDACK LINE." (For Shoes.) EDWARD A. QUIRI, Amsterdam, N. Y. Filed September 11, 1905.

12,551.—*Title:* "PUNCTURE COVER." (For Cans.) WM. UNDERWOOD COMPANY, Boston, Mass. Filed November 15, 1905.

12,552.—*Title:* "THE AMERICAN BUREAU OF INFORMATION." (For Publications Relating to National Industries) ARTHUR E. HORTON, Boston, Mass. Filed September 6, 1905.

PRINTS

REGISTERED DECEMBER 12, 1905.

1,510.—*Title:* "CELEBRATED CURATIVE WINE OF CHENSTHOW." (For a Wine.) ANTHONY SKARZYNSKI & Co., Buffalo, N. Y. Filed November 15, 1905.

1,511.—*Title:* "A REAL AMERICAN." (For Tobacco.) THE BLOCH BROTHERS TOBACCO COMPANY, Wheeling, W. Va. Filed November 18, 1905.

1,512.—*Title:* "REUTER'S SOAP." (For Soap.) BARCLAY & Co., New York, N. Y. Filed November 15, 1905.

1,513.—*Title:* "SAY JACK—THAT'S THE STUFF THAT MAKES YOU FEEL LIKE A HORSE." (For Stock-Food.) PRATT FOOD CO., Philadelphia, Pa. Filed November 1, 1905.

1,514.—*Title:* "BLANCHITE PROCESS PAINT." (For Preservative Paints, Composition Coatings, Enamels, and Water Paint.) BLANCHITE PROCESS PAINT COMPANY, New York, N. Y. Filed July 27, 1905.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

SANDERS v. MELVIN.

Decided November 29, 1905.

INTERFERENCE—INTERFERENCE IN FACT—GENERIC TERMS.

Where the terms of an issue are generic, there may be an interference in fact, although the devices of the parties may differ in specific details.

APPEAL on motion.

DISK ROWS.

Messrs. Spear, Middleton, Donaldson & Spear for Sanders.

Mr. Julian C. Dowell for Melvin.

ALLEN, *Commissioner:*

This case comes before me on appeal by Sanders from the decision of the Primary Examiner refusing his motion to dissolve the interference on the ground of non-interference in fact and irregularity in declaring the same and on Melvin's motion to dismiss this appeal on the ground that while apparently relating to appealable matters it does, in fact, relate to the merits of which the Commissioner does not take cognizance on direct appeal. In a brief filed in opposition to the motion to dismiss appellant waived the question of irregularity, and this ground will therefore not be considered.

In support of the allegation that there is no interference in fact appellant calls attention to the fact that the issue calls for "a diagonal furrow-opener supporting-frame, and means for adjustment of the furrow-openers lengthwise of said frame," and points out that the words "supporting-frame" refer, in appellee's case, from which the issue was taken, to two bars adjustably bolted together, while in his case it must refer to the single bar 5; but the single bar 5 would not support the furrow-openers in their proper position for use and was obviously not intended to do so, because appellant in his specification refers to said part 5 as a "frame *member*," thus clearly indicating that it was only a *part* of the supporting-frame, and upon examination of appellant's construction it is found that the supporting-frame consists of the bar 5, a portion of the bar 6 carrying one of the furrow-openers and the parts on which the wheels are mounted, and this construction is substantially the same as that shown by appellee. The words "supporting-frame," therefore, may be read on the constructions of both parties with the same meaning.

As to the "means for adjustment of the furrow-openers lengthwise of said frame," it may be said the terms used are very broad, and as both parties have means for adjusting the furrow-openers lengthwise the words may be read on both constructions with the same meaning. I therefore find that the issue may be read on the construction of both parties with substantially the same meaning in each case and that there is therefore an interference in fact, and the decision of the Primary Examiner is therefore affirmed.

The motion brought by Melvin to dismiss the appeal is denied.

YORK v. HARTMAN.

Decided December 1, 1905.

TRADE-MARKS—LACK OF INTERFERENCE—"MA-LE-NA" AND "MAN-A-LIN."

There is no interference in fact between the words "Ma-Le-Na" and "Man-A-Lin," used as trade-marks for medicines, since they are unlike in appearance and in sound.

APPEAL on motion.

TRADE-MARK FOR PILLS, ETC.

Messrs. Wiedersheim & Fairbanks for York.

Messrs. Steuart & Steuart for Hartman.

ALLEN, *Commissioner:*

This is an appeal by Hartman from the decision of the Examiner of Trade-Marks granting a motion by York to dissolve the above-entitled interference on the ground that there is no interference in fact.

The issue is as follows:

The hyphenated word "Ma-Le-Na," or the word-symbol "Man-A-Lin," for laxative medicines or remedies for diseases of the blood, liver, stomach, bowels, kidneys and nerves.

As here indicated, one party claims the word "Man-A-Lin" as his trade-mark, and the other party claims "Ma-Le-Na." The Examiner holds that the goods to which the marks have been applied by the parties are of substantially the same descriptive properties, but that the marks themselves are not so nearly alike as to deceive the public or mislead purchasers into accepting the goods of one party supposing them to be the goods of the other party.

The words are undoubtedly different in appearance, and there are still greater differences in the sound. It is believed that the Examiner was right in holding that there is not such close resemblance between them as would be likely to confuse the public or deceive purchasers.

It is to be noted that the records of this Office show that Hartman filed a notice of opposition to the registration of York's mark, and upon consideration of that case the Examiner of Interferences reached the conclusion that the marks of the parties were not substantially the same and for that reason dismissed the opposition. That decision had become final by reason of the fact that no appeal was taken therefrom within the limit set.

The decision of the Examiner of Trade-Marks granting the motion for dissolution is affirmed.

SOBEY v. HOLSCLAW.

Decided December 8, 1905.

1. INTERFERENCE—PATENTABILITY QUESTIONED AFTER JUDGMENT—AFFIRMATIVE DECISION BINDING.

Since well-established policy, expressed in Rule 124, denies the right of appeal from decisions affirming the patentability of claims, it would seem that the opportunity of a party whose preliminary statement failed to overcome the record date of his opponent to contest his opponent's right to a patent was at an end when the Primary Examiner held on motion for dissolution that the issue was patentable.

2. SAME—SAME—SAME—JUNIOR PARTY RELEGATED TO POSITION OF ONE OF GENERAL PUBLIC.

Where junior party failed to file preliminary statement alleging dates prior to the record date of the senior party, *Held* regarding consideration of patentability on appeal on priority that the junior party was relegated by his preliminary statement to a position comparable to one of the general public; that he was no longer in the position of a party seeking a patent; that the question of patentability as now presented by him would not be considered, and that the conclusion that the issues are patentable is no longer to be considered as directed against his private interests.

3. SAME—JUDGMENT ON THE RECORD—APPEAL ON PRIORITY—CONSIDERATION OF PATENTABILITY.

Where the preliminary statement of the junior party failed to overcome the record date of the senior party and judgment on the record was rendered and the Examiners-in-Chief upon appeal upon priority considered the question of patentability and refused to make any statement against the patentability of the issue, but affirmed the decision on priority, *Held* that upon appeal to the Commissioner the question of priority alone is raised and that the question of patentability will not be considered.

4. SAME—SAME—SAME.

Where consideration of patentability was urged on appeal on priority in case where judgment had been rendered on the record and it was contended that no proper decision on priority could be rendered until the issue had been determined to be patentable, *Held*, in view of action of Primary Examiner holding *ex parte* and also *inter partes* on motion for dissolution the issue to be patentable and in view of refusal of Examiners-in-Chief to state that the claims were not patentable, that the issue had been regularly determined to be patentable and that the determination was a final one and a sufficient basis for the determination of priority.

5. SAME—CONSIDERATION OF PATENTABILITY ON APPEAL ON PRIORITY—SUPERVISORY AUTHORITY.

Where consideration of patentability on appeal on priority was urged with a view to the exercise of the supervisory authority of the Commissioner, *Held* that introduction of supervisory authority into the judicial determinations of the Patent Office is a thing which should not be done excepting as a last resort to avoid a clear miscarriage of justice.

6. SAME—CONSIDERATION OF PATENTABILITY AFTER AFFIRMATIVE DECISION BY EXAMINER ON MOTION—SUPERVISORY AUTHORITY.

Where the supervisory authority was invoked for the consideration of the patentability of the issue and it appeared that the Primary Examiner had found the issue to be patentable and that the Examiners-in-Chief had refused to recommend adversely to the patentability of the issue in their decision on priority and that in each case the action had been made in view of the references still relied upon, *Held* that the case instead of being one presenting palpable necessity for interference by supervisory authority is one in which the patentability of the issue is so well settled by the determination of competent tribunals that the prevailing party should be allowed to take the claims and support their validity before the courts.

APPEAL from Examiners-in-Chief.

PLANTERS.

Messrs. Peirce & Fisher for Sobey.

Messrs. Mason, Fenwick & Lawrence for Holsclaw.

ALLEN, *Commissioner:*

This is an appeal by Sobey from the decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences awarding priority of invention to Holsclaw.

* * * * * * *

It appears that the dates of invention alleged by Sobey in his preliminary statement are insufficient to overcome the case established for Holsclaw by the filing date of his application and that Sobey can therefore make no contest upon the question of priority of invention. That he can make no further contest upon priority is conceded by Sobey, who admittedly took his appeal to the Examiners-in-Chief from the decision of the Examiner of Interferences upon priority of invention and also the present appeal for the sole purpose of attacking the patentability of the issue. The regular procedure for raising the question of patentability by a party in an interference proceeding is by motion under Rules 114 and 122. Such motion was made by Sobey, and his contention that the issues are not patentable was considered thereon by the Primary Examiner in connection with the same references upon which Sobey seeks to present this contention here. The Primary Examiner held upon this *inter partes* consideration, as he had previously held in the *ex parte* prosecution of the applications, that the issues were patentable. Well-established policy, expressed in Rule 124, denies the right of appeal from decisions affirming the patentability of claims. It would seem, in view of this policy and rule and in view of Sobey's preliminary statement, that Sobey's opportunity to contest the right of Holsclaw to a patent upon the claims in issue was at an end when this decision of the Primary Examiner appeared.

However, Rule 126 provides that the Examiners-in-Chief may, either before or in their decision on the question of priority, direct the attention of the Commissioner to any matter not relating to priority which may have come to their notice and which in their opinion amounts to a statutory bar to the grant of a patent to either of the parties of the claims in interference. Sobey petitioned the Examiners-in-Chief to take action under this rule by calling attention to the fact that in their opinion the claims are not patentable. In view of this petition the Examiners-in-Chief did include in their decision upon priority the following statement:

> We have considered the question which we have been petitioned to consider, in view of the patents cited by Sobey to sustain his contention against the claim and of the decision of the Principal Examiner, and decline to express the opinion that the counts of the issue are unpatentable.

It is clear to my mind that this case is before me upon the single question of the priority of the parties with regard to the subject-matter of the issue and that Sobey having conceded that he is subsequent to Holsclaw in the possession of this matter there is nothing for me to do here but affirm the decision of the Examiners-in-Chief in favor of Holsclaw. It is urged that there can be no proper decision upon priority of invention until the claims in controversy have been determined to be patentable. This contention does not, however, appear to have any application in the present case, for the claims in issue have been regularly determined to be patentable, and the determination was a final one, so far as the necessity for a basis for determination of priority is concerned.

It is also urged by Sobey that I consider the question of patentability with a view to the exercise of the supervisory authority in order to prevent the alleged improper issue of a patent to Holsclaw; but the introduction of supervisory

authority into the judicial determinations of this Office is a thing which I will never do, excepting as a last resort to avoid a clear miscarriage of justice. Rather than this case presenting a question of the palpable necessity of interference by supervisory authority I should consider that by the determination of the competent tribunals of this Office Holsclaw has been found to be entitled to his claims, and in a case where the right to receive claims is so well settled as in this case I should consider it a clear duty to let the applicant take the claims and support their validity before the courts.

The failure of Sobey to furnish a preliminary statement which claimed invention of a date sufficient to overcome the filing date of the senior party relegates him to a position comparable to that of the general public, whose interests this Office is charged to protect. He is no longer in the position of a party seeking a patent. The only distinction which can be raised between his position after furnishing such a statement and that of one of the general public is that the cloak of confidence between him and the case of the other party to this interference has been temporarily withdrawn, the result of which is that he has been permitted to appear and, with access to the other interferant's case, argue against the patentability of that case before certain of the tribunals of this Office. The question of the patentability of these issues can, however, be given no further consideration when now presented by him, nor is the conclusion that these issues are patentable now to be considered as directed against his private interests any more than it would be if he were not a party to this interference, but one of the general public.

Counsel for Sobey requests that the fact appear that upon this hearing I refused to permit him to go into argument upon the patentability of the claims. He was so refused upon the hearing for the reasons hereinbefore stated.

The decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences, awarding priority of invention to Holsclaw is affirmed.

DOW v. DES JARDINS.

Decided December 4, 1905.

1. INTERFERENCE—PRINTING TESTIMONY—INABILITY TO PRINT MUST BE SHOWN.

A corporation will not be relieved from the necessity of printing its testimony in an interference because of a showing that it has no ready mondy for that purpose when it appears that it is not in reality poor and there is no showing that the parties interested in the corporation are unable to bear the expense.

2. SAME—SAME—IMPOSSIBLE TO PRINT.

The provision in Rule 162 relating to the acceptance of type-written testimony in place of printed testimony where the party is unable to print applies only to those cases where the inventor is so poor that it is impossible for him to print. The rule is not to be extended.

3. SAME—SAME—QUESTION OF HARDSHIP CONSIDERED.

In considering whether the printing of testimony may be dispensed with it is proper to take into consideration the burden which will or may be placed upon this Office and the opposing party, since the rule requiring printing is based solely upon the inconvenience and burden which results from a failure to print.

APPEAL on motion.

TYPE-JUSTIFYING MACHINE.

Messrs. Steuart & Steuart for Dow.

Messrs. Philipp, Sawyer, Rice & Kennedy for Des Jardins.

ALLEN, *Commissioner:*

This is an appeal by Dow from the decision of the Examiner of Interferences denying his motion that he be relieved of the necessity for printing his testimony in the above-entitled case.

It appears that Dow's application has been assigned to the Dow Composing Machine Company, and that company is prosecuting his application and conducting this interference on his behalf. It is said that to print the testimony on Dow's behalf would cost about four hundred dollars, and it is urged that type-written copies of the testimony should be received in place of the printed copies, because the Dow Composing Machine Company is unable financially to print the testimony.

It is said in the brief on behalf of Dow:

> The Dow Composing Machine Company has filed a petition and an affidavit in which it states that it has no money with which to print the record on behalf of Dow in this case; that it has no sources of income from which it can expect to derive the money necessary for printing; that it has no property upon which it can borrow the money necessary for printing; that there is no person, firm, or corporation who would be willing to loan it the money necessary for printing; that it is a corporation; that all of its stock which has been paid is full paid and non-assessable stock, and that it is unable to assess its stockholders to obtain money with which to print the record herein; that it has a quantity of unissued stock which it has been unable to sell, and which, so far as the market is concerned, has no value whatever; that the persons interested in the company after frequent contributions to its resources heretofore, have now positively refused to supply the corporation with any more money; and that it is in fact wholly without funds with which to comply with Rule 162 of the Rules of Practice as to printing.

It very clearly appears that the Dow Composing Machine Company is not in reality poor and that the present motion is based upon the mere allegation that the company has no ready money with which to print. As stated by the Examiner of Interferences:

> It is shown by the affidavit of Herbert L. Baker in opposition to this motion, and is admitted in a supplementary affidavit by Perry, the treasurer of the Dow Composing Machine Company, that said company is capitalized at four million dollars ($4,000,000.00), that it is now occupying rooms the rental of which is $250.00 per month, and that it owns certain valuable machines, patents, etc.

It further appears that the debts of the company are insignificant.

Even if the showing were such as to make it appear that the Dow Composing Machine Company were unable to print, there is no showing whatever that the parties interested in that company and who would be the real beneficiaries from any decision in its favor in this interference are unable to furnish the money for the purpose of printing. Rule 162 was clearly not intended to permit the filing of type-written copies of the record in place of printed copies under circumstances such as appear in this case. That rule was made in the interest of those inventors who are, in fact, so poor that it is impossible for them to bear the expense of printing their testimony. The rule is not to be extended, in view of the great burden which would be placed upon the tribunals of this Office and upon the opposing party in considering type-written testimony in place of printed testimony. An additional consideration and one of much force, referred to by the Examiner of Interferences, is that it will be necessary to print the testimony if an appeal is taken to the Court of Appeals of the District of Columbia, and if it should happen that Des Jardins was the one compelled to take that appeal it would be necessary for him to bear the expense of printing Dow's testimony.

In the brief on behalf of Des Jardins it is urged that this Office has no authority to make rules for the court of appeals, and while this is true it by no means follows that

this Office is not to consider and take judicial notice of the rules which have already been made by the court of appeals. It must take into consideration the hardship which will or may result to the parties, whether that hardship is due to the rules of this Office or the court of appeals. The question of hardship to the tribunals of this Office and to the opposing party is of course the foundation for the rule requiring that testimony be printed, and it must be taken into consideration in applying the rule.

The decision of the Examiner of Interferences is affirmed.

EX PARTE THE DR. PEPPER FAHRNEY & SONS CO.

Decided December 5, 1905.

1. TRADE-MARKS—DESCRIPTION SHOULD INCLUDE FEATURES SHOWN.

Where the drawing of the application shows several things constituting trade-mark subject-matter, the description should mention them all and should not merely refer to one.

2. SAME—DESCRIPTION NEED NOT INCLUDE MARGINAL LINE.

Where the trade-mark is shown in the drawing surrounded by the usual marginal line, it is not necessary to refer to the marginal line in the description. It clearly constitutes no part of the trade-mark.

3. SAME—DIVISION—REJECTION—APPEAL.

The requirement for division of an application, so as to include a single trade-mark right, amounts to a rejection of the application and is not reviewable on interlocutory petition.

ON PETITION.

TRADE-MARK FOR PREPARATION FOR TREATMENT OF STOMACH TROUBLES.

Messrs. Bradford & Hood for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner of Trade-Marks requiring an amendment of the description to accord with the drawing and refusing registration on the ground that the application is not limited to goods of the same descriptive properties.

The mark is described as follows:

The trade-mark consists of the pictorial representation of a century-plant.

The Examiner says:

The drawing shows, in addition to said representation, a rectangular panel surrounding the same, and the letters and numerals "P 1780" and "B 1880" within the panel and arranged on opposite sides of the plant respectively.

The Examiner requires that these additional features be referred to in the description or omitted from the drawing. It is very clear that the letters and numerals "P 1780" and "B 1880" might be used alone as a trade-mark, and since they constitute trade-mark subject-matter included in the mark shown they cannot be ignored upon the theory that they constitute no part of the applicant's mark. The Examiner was right in ruling that they should not be omitted from the description.

The rectangular panel referred to is simply the usual marginal line drawn around the picture or mark and clearly does not constitute trade-mark subject-matter. It is not necessary to describe it as part of the mark.

The Examiner's requirement for a division of the application, so as to include a single trade-mark right, amounts to a rejection of the application and is not reviewable upon interlocutory petition.

The petition is granted in so far as description of the marginal line is concerned and is denied as to the letters and numerals included in the mark. The petition is dismissed in so far as the question of division is concerned.

SCHOFIELD v. MCGOVERN v. WOODS.

Decided December 5, 1905.

INTERFERENCE—APPEAL ON MOTION TO DISSOLVE.

Where on an appeal to the Commissioner on the question of interference in fact it appears from the decision of the Primary Examiner and the brief of the appellant that the real question is one relating to the right to make the claims, the appeal will be dismissed.

APPEAL on motion.

TOY RACE-COURSE.

Messrs. Alexander & Dowell for Schofield.

Mr. J. Granville Meyers, Jr., for McGovern.

Mr. H. C. Townsend for Woods.

ALLEN, *Commissioner:*

This is an appeal by Woods from a decision of the Primary Examiner dissolving the above-entitled interference as to his application.

The motion was brought on all the grounds specified in Rule 122, and the Examiner granted the motion on the ground that Woods had no right to make the claims in issue, but denied it as to all other grounds. The case now comes before me on appeal by Woods, who alleges that the points on which the decision was based were points involving the question of interference in fact and not a right to make the claims, and he contends that he cannot be deprived of his right of appeal direct to the Commissioner by the Examiner's misnaming the ground of his decision.

From an examination of the Examiner's decision it is clear that the points raised by appellant do not relate to interference in fact, but to the right of Woods to make the claims of the issue. Both the Examiner's decision and appellant's argument in the brief on this appeal are directed to the question whether or not Woods has a construction readable on certain parts of the issue, and, as clearly pointed out in the case of *Kaczander* v. *Hodges and Hodges*, (118 O. G., 836,) this is a question of the right to make the claims. This is a question for the Examiners-in-Chief in the first instance, and the appeal is therefore dismissed.

MULLIGAN v. TEMPEST SALVE COMPANY.

Decided December 5, 1905.

INTERFERENCE—APPEAL—REFUSAL TO ENTER JUDGMENT.

There is no appeal from the refusal of the Examiner of Interferences to enter judgment of priority in favor of a particular party, nor will the matter be reviewed upon interlocutory petition. The appeal must be from the final judgment when entered.

ON PETITION.

TRADE-MARK FOR LINIMENT.

Messrs. Pennie & Goldsborough for Mulligan.

Messrs. Fred G. Dieterich & Co. for Tempest Salve Company.

ALLEN, *Commissioner:*

This is a petition by the Tempest Salve Company that the Examiner of Interferences be directed to enter judgment of priority in its favor.

It appears that at the hearing a motion was made on behalf of the Tempest Salve Company that judgment be entered in its favor because of a prior registration by it antedating the registration by Mulligan. Upon considering the motion the Examiner of Interferences made an order shifting the burden of proof in the interference and setting new times for taking testimony. He, however, denied the motion for judgment.

It is very clear that the action of the Examiner of Interferences refusing to enter judgment should not be reviewed and reversed upon interlocutory petition. To do so would be to dispose of the entire case upon its merits before any final judgment has been entered by the Examiner of Interferences. The case must go to final judgment before there can be any review upon appeal, and it is clear that a refusal to decide the case in favor of a particular party without testimony is not a final judgment.

This petition is, in effect, an appeal before judgment and is dismissed.

EX PARTE LAMBERT.

Decided December 5, 1905.

DESIGNS—LACK OF INVENTION.

A design for collapsible tubes differing from a patented tube merely in that the bottom is rounded instead of flat and there is a bead near the top contains no patentable novelty. While the tubes may be distinguished in appearance, no invention was required to make the changes.

APPEAL from Examiners-in-Chief.

DESIGN FOR COLLAPSIBLE TUBES.

Mr. George H. Knight for the applicant.

ALLEN, *Commissioner:*

This is an appeal from the decision of the Examiners-in-Chief affirming the decision of the Primary Examiner refusing to grant a patent upon a design for collapsible tubes.

The ground of refusal is that the appellant's collapsible tube contains no patentable novelty in view of what is disclosed in the patent to Price, No. 614,410, November 15, 1898.

As shown in the drawing, the appellant's tube differs from that shown by Price only in that the bottom is rounded instead of flat and there is a bead near the top of the cylindrical portion of the tube. While these differences are sufficient to enable the observer to distinguish the two devices, they are not such differences as call for the exercise of the inventive faculty. Judicial notice is taken of the fact that it is common to make tubes with rounded bottoms, and to make the particular tube shown by Price in this way calls for no exercise of the inventive faculty. The same thing is true of the bead appearing near the top of the tube. The changes are insignificant and unimportant and are mere matters of choice with the manufacturer.

The decision of the Examiners-in-Chief is affirmed.

EX PARTE STANDARD UNDERGROUND CABLE COMPANY.

Decided December 5, 1905.

1. TRADE-MARKS—REFUSAL TO REGISTER PART OF MARK.

This Office will not register the word "Eclipse" alone as the applicant's trade-mark when it appears from the specimens filed that in actual use it has been printed across a representation of the sun in eclipse.

2. SAME—REGISTRATION MUST INCLUDE ENTIRE MARK.

Where a trade-mark as used is made up of separate features each of which constitutes trade-mark subject-matter, registration must include the whole and not merely one of the features.

3. SAME—SAME—PREDOMINANT FEATURE IMMATERIAL.

A party cannot register as his trade-mark one feature of the mark used upon the theory that it is the predominant feature, but must register the mark itself, leaving it to the courts to determine what is the predominant feature and what would infringe his rights.

4. SAME—REGISTRATION MUST INCLUDE THE MARK USED.

Since registration does not create or modify the trade-mark right which the appellant has, it is fundamental that the mark registered be the mark used.

5. SAME—REGISTRATION DOES NOT CHANGE SCOPE OF RIGHT.

This Office is not called upon to determine and fix by registration the scope of the applicant's trade-mark right, but merely registers the mark which has been used, leaving it to the courts to determine the scope of the right acquired by use.

ON APPEAL.

TRADE-MARK FOR CONDUCTORS AND INSULATORS.

Messrs. Christy & Christy for the applicant.

ALLEN, *Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing to register a mark shown and described as consisting of the word "Eclipse."

The ground of refusal is that the mark shown and described is not the mark which the appellant has used. In accordance with the requirements of the law the appellant has filed specimens of the mark as actually used, and it does not appear therefrom that it has actually used the word "Eclipse" alone as a trade-mark. It has used that word printed across the face of a representation of the sun in eclipse. The word and the representation both constitute valid trade-mark matter, and therefore neither can be disregarded as constituting no part of the appellant's mark. Either could be removed from the mark shown in the specimens and valid trade-mark subject-matter would remain. To constitute separate trade-marks, however, the separation must be made in actual use, and not for the first time in the application for registration. They have been combined in use, and since registration in this Office is simply a recording of the mark which has been used they must be combined in the registration.

Since registration does not create or modify the trade-mark right which the appellant has, it is fundamental that the mark registered be the mark used.

The desire of this appellant to register the word "Eclipse" alone indicates that it wishes to modify by registration its common-law right, and this it is clearly not entitled to do. The suggestion that there is no modification of the right, because the word "Eclipse" so predominates that it is the only thing by which the mark will be known, whether the other features are present or absent, is not pertinent to the present question. If it does so predominate in actual use, it will have the same predominance in the mark as registered, and consequently its registration as used will not limit the right. In such case there is no valid reason why the entire mark should not be included in the registration. If, on the other hand, the word does not so predominate as to render the other features of the mark negligible, it is clear that to omit those other features is to modify the mark materially. In either case the omission of portions of the mark is not permissible. This Office is not called upon to determine and fix by registration the scope of the applicant's trade-mark right. It merely registers the mark which has been used, leaving it to the courts to determine the scope of the right acquired by use.

The decision of the Examiner of Trade-Marks is affirmed.

DUNKER v. REIST.

Decided December 5, 1905.

1. INTERFERENCE—DEFINITENESS IN MOTIONS TO DISSOLVE—RIGHT TO MAKE CLAIMS.

A motion to dissolve alleging that a party has no right to make the claims is not sufficiently definite where the point to be argued is stated to be merely the failure of such party to disclose anything in his application which is "suggestive of the issue." The particular element or elements which are believed to be not properly disclosed and the particular count or counts including such elements should be specified.

2. SAME—SAME—LACK OF INTERFERENCE IN FACT.

In a motion to dissolve the bare allegation that there is no interference in fact is insufficient. The point or points to be argued should be specified with great particularity. Not only the count or counts, but the particular element or elements which are to be brought in question, should be specified.

3. SAME—TRANSMISSION OF MOTIONS TO DISSOLVE—SUFFICIENCY OF GROUNDS ALLEGED.

While as a general rule the Examiner of Interferences in transmitting a motion to dissolve does not pass upon the sufficiency of the grounds alleged, he may and should do so where the consideration of the motion would obviously result in a mere waste of time.

4. SAME—SAME—IMPROPER ISSUE OF OPPONENT'S PATENT.

A motion to dissolve an interference on the ground of irregularity which alleges the irregularity to be the improper issue of his opponent's patent during the pendency of his application should not be transmitted to the Primary Examiner, as it is a matter which the Office cannot remedy.

APPEAL on motion.

ROTOR CONSTRUCTION.

Mr. Charles E. Lord for Dunker.
Mr. Albert G. Davis for Reist.

ALLEN, *Commissioner:*

This is an appeal by Reist from a decision of the Acting Examiner of Interferences transmitting Dunker's amended motion to dissolve.

The original motion alleged lack of interference in fact, irregularity, and that Reist had no right to make the claims. In connection with the last ground—the right of Reist to make the claims—the motion stated that the application of Reist contained no disclosure "suggestive of the invention covered by the issue," and this was the only specific statement contained in the motion conveying any information as to what particular points were to be argued in support of the grounds on which the motion was brought. Reist opposed the transmission of this motion on the ground that it did not state the points to be argued with that definiteness called for by the practice laid down in *Vreeland* v. *Fessenden* v. *Schloemilch*, (117 O. G., 2633.)

Upon consideration of the motion the Acting Examiner of Interferences held that the motion did not sufficiently specify the points to be argued and gave the moving party fifteen days in which to present a motion in proper form. An amended motion was duly presented which differed from the prior motion only in stating the particular point to be urged in support of the allegation of irregularity. The motion to transmit this motion was granted, and this case is now before me on appeal from this decision.

In connection with the allegation of no right to make the claims the point to be argued is stated to be the failure of Reist to disclose anything in his application which is "suggestive of the invention of the issue." Appellant contends that this statement is insufficient within the meaning of the decision above referred to, because the "Primary Examiner, an expert, with the Dunker patent before him, having decided that Reist can properly make the claims it is idle to argue that there is nothing in the disclosure even *suggestive* of the issue." While this language in the motion may be fairly taken to mean that Reist does not disclose in his application the subject-matter of the issue, it is not sufficiently specific to inform the opposing party of the point to be urged. It is hardly conceivable that no element of the issue is disclosed by Reist, and in fairness to him the feature or features of the issue upon which the motion is based should be specified. It is to be noted that there are two counts of the issue and that the motion is further informal in that it does not specify the counts to which it is directed.

The motion further alleges irregularity in declaring the interference, since if, in the opinion of the Examiner, an interference in fact really existed while the applications of Reist and Dunker were copending in the Patent Office, then he should have declared the interference at that time instead of allowing the Dunker application to go to issue and then declaring the interference after the patent was granted thereon. It is contended that this is obviously not such a "vital formal defect" as will preclude a proper determination of the question of priority, and for this reason is not a sufficient reason to warrant the transmission of the motion. This contention is well founded. While as a general rule the Examiner of Interferences in transmitting a motion does not pass upon the sufficiency of the grounds alleged, he may and should do so where, as in this case, further consideration of the motion would obviously result in a mere waste of time. It is perfectly clear that the error, if there was one in the issue of the Dunker patent, cannot be remedied now, and it is equally clear that a dissolution of the interference would merely make matters worse instead of remedying the supposed error about which complaint is made. This ground of the motion should not be transmitted for decision.

The motion further alleges lack of interference in fact; but no statement of facts is made to show that the allegation is well founded, and this part of the motion is therefore clearly informal. Since the allegation raises a question of form, the point or points to be argued should be specified with great particularity. In this interference the counts are claims made by both parties in identically the same language, and if there is no interference in fact it must be because one or more elements of the issue cannot be read on the constructions of both parties with the same meaning, and these particular elements should be specified as well as the count or counts where they are found.

The decision of the Acting Examiner of Interferences transmitting the motion to dissolve is reversed and the moving party is given fifteen days in which to amend the motion to accord with the views expressed in this decision.

Patents Nos. 807,427 to 808,061. 1927

THE OFFICIAL GAZETTE OF THE United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 119—No. 7. TUESDAY, DECEMBER 19, 1905. PRICE—$5 per year.

CONTENTS.

	Page.
ISSUE OF DECEMBER 19, 1905	1927
TRADE-MARKS	1927
PHOTOGRAPHIC COPIES OF DRAWINGS	1927
APPLICATIONS UNDER EXAMINATION	1928
FOREIGN PATENTS	1928
PATENTS GRANTED	1929
REISSUES	2197
DESIGNS	2198
TRADE-MARKS—REGISTRATION APPLIED FOR	2203
TRADE-MARKS—REGISTERED	2227
LABELS	2232
PRINTS	2232
COMMISSIONER'S DECISIONS—	
Scott v. Emmet and Hewlett	2233
Ex parte The Kingan Packing Association	2234
Ex parte The Eli Lilly Company	2234
Wright & Taylor v. Bluthenthal & Bickart v. Mayer, Sons & Company v. Cushman & Company	2234
Ex parte Ljungstrom	2235
Ex parte Bloomington Canning Co	2235
Ex parte E. C. Atkins & Company	2236
Ex parte The F. B. Q. Clothing Company	2236
Dunn v. Halliday	2236
Ex parte Kenney	2237
Townsend v. Corey	2237

ISSUE OF DECEMBER 19, 1905.

Patents	695	No. 807,427 to No. 808,061, inclusive.
Designs	20	No. 37,735 to No. 37,754, inclusive.
Trade-Marks	106	No. 48,195 to No. 48,300, inclusive.
Labels	17	No. 12,553 to No. 12,569, inclusive.
Prints	6	No. 1,515 to No. 1,520, inclusive.
Reissues	1	No. 12,425.
Total issue	785	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	1	.....	Nevada	.....	.....
Alaska, District of	.....	.....	New Hampshire	3	.....
Arizona Territory	.....	.....	New Jersey	22	3
Arkansas	1	1	New Mexico Ter't'y	.....	.....
California	18	3	New York	31	26
Colorado	9	2	North Carolina	6	.....
Connecticut	13	2	North Dakota	1	.....
Delaware	1	.....	Ohio	30	21
District of Columbia	6	.....	Oklahoma Territ'y	6	.....
Florida	4	.....	Oregon	4	.....
Georgia	3	1	Pennsylvania	65	13
Hawaii Territory	.....	.....	Porto Rico	.....	.....
Idaho	.....	.....	Rhode Island	7	1
Illinois	71	6	South Carolina	2	.....
Indian Territory	1	.....	South Dakota	.....	.....
Indiana	23	2	Tennessee	2	1
Iowa	15	1	Texas	8	.....
Kansas	8	.....	Utah	2	.....
Kentucky	6	1	Vermont	1	.....
Louisiana	3	1	Virginia	5	.....
Maine	.....	1	Washington	8	.....
Maryland	4	4	West Virginia	5	.....
Massachusetts	29	13	Wisconsin	9	2
Michigan	17	2	Wyoming	1	.....
Minnesota	11	1	U. S. Army	.....	.....
Mississippi	2	.....	U. S. Navy	.....	.....
Missouri	24	3			
Montana	2	.....	Total to citizens of the United States	467	126
Nebraska	8	1			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Netherlands	.....	.....
Austria-Hungary	2	.....	Newfoundland	1	.....
Belgium	2	.....	New South Wales	.....	.....
Brazil	.....	.....	New Zealand	.....	.....
British West Indies	.....	.....	Norway	1	.....
Canada	6	.....	Queensland	.....	.....
Cape Colony	.....	.....	Roumania	.....	.....
Chile	.....	.....	Russia	1	.....
China	.....	.....	San Salvador	.....	.....
Costa Rica	.....	.....	Scotland	1	.....
Cuba	.....	.....	South Africa	.....	.....
Denmark	1	.....	Spain	1	.....
Ecuador	.....	.....	Sweden	.....	.....
England	9	2	Switzerland	3	.....
France	6	1	Tasmania	.....	.....
Germany	33	.....	Transvaal, South Africa	.....	.....
Honduras	.....	.....	Victoria	.....	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	1	.....			
Japan	.....	.....			
Java	.....	.....			
Mexico	.....	.....	Total to citizens of foreign countries	68	3

Trade-Marks.

The publication of trade-marks under the act of February 20, 1905, in the OFFICIAL GAZETTE, commenced May 2, 1905, and will appear in each weekly number of the GAZETTE thereafter.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment therefor.

Photographic Copies of Drawings.

The Patent Office is now prepared to furnish black line on white ground copies of any unbound drawing, foreign or domestic, which may be in its possession, instead of the blue-prints heretofore furnished. Only the 7x11 (patent) size and the full or 10x15 size prints will hereafter be furnished, at 15 and 25 cents per sheet, respectively.

Copies of drawings of pending, abandoned, forfeited, or informal cases and of caveats may be had in either of the above-named sizes except when they are to be certified, in which case they must be the 10x15 size.

Copies of United States or foreign patent drawings will be made only in the 10x15 size.

When ordering copies of foreign patent drawings, either the serial number of the applications in which they were cited as references or the class and subclass where they may be found must be given. The title of the invention or the number of the division will not be sufficient. Bound volumes cannot be used for making prints. Failure to give the fullest data whereby the mounted drawing may be found will result in delay and unnecessary correspondence.

The work will be much facilitated if a separate order be made for each drawing. The Office will furnish, gratuitously, blanks for this purpose on request.

As a result of abolishing the small (5x8) size the requirement that duplicate prints must be ordered in certain cases will no longer be enforced. The requirement that less than all the sheets of a case will not be printed unless there is already a full set in the file will not be insisted upon; but applicants or attorneys are strongly urged to file a set of prints or order them to be made by the Office at the time of filing an application. Such procedure will save delay later if correction of the drawing is desired or required.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business December 18, 1905.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
	In arrears—Under one month.			
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Dec. 1	June 14	556
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Nov. 29	Nov. 4	246
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Nov. 29	Sept. 8	249
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Nov. 28	Oct. 28	280
309	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Nov. 27	Oct. 16	362
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Nov. 27	Oct. 6	401
303	XVII. Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Nov. 27	Sept. 15	326
167	V. Fine Arts, Bookbinding, Harvesters, Jewelry, and Music.	Nov. 25	Oct. 2	360
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Nov. 25	Sept. 1	250
332	X. Carriages and Wagons.....	Nov. 25	Aug. 26	677
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Nov. 25	Apr. 10	676
173	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Nov. 24	Nov. 2	201
147	XXIX. Coopering, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools.	Nov. 24	Aug. 26	315
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Nov. 24	Aug. 1	581
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Nov. 23	Oct. 23	394
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Nov. 21	Aug. 1	579
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Nov. 20	Oct. 4	281
234	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Nov. 20	Sept. 13	403
112	VII. Velocipedes, Clutches, Fire-Escapes, Games and Toys, Ladders, Mechanical Motors, and Paper Manufactures.	Nov. 18	July 7	522
231	I. Tillage, etc., Fences, and Railway Draft Appliances.	Nov. 17	Nov. 1	231
264	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Nov. 15	Oct. 16	454
222	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Nov. 13	Nov. 11	334

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
	Between one and two months.			
109	XVI. Telegraphy and Telephony..	Nov. 11	Oct. 30	226
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Nov. 10	Sept. 2	524
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufacturing, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Nov. 8	July 11	412
327	XVIII. Steam-Engineering, etc ...	Nov. 1	Sept. 18	355
207	XIV. Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Metal Personal Wear, Making, Sheet-Metal Ware, Making, Tools, Wire-Working.	Nov. 1	Aug. 3	293
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Nov. 1	June 15	575
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Optics, Signals, Time Controlling Mechanism.	Oct. 20	Aug. 18	584
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Oct. 13	July 6	741
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Oct. 12	June 6	605
	Between two and three months.			
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Oct. 9	July 13	626
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Oct. 7	July 3	421
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Oct. 6	May 26	890
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, Sewerage, and Water Distribution.	Sept. 25	June 6	1005
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Sept. 23	May 8	625
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Sept. 13	Aug. 3	620
	Between four and five months.			
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 24	July 10	508
	Total number of applications awaiting action			17,736
189	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Between one and two months.			
	Trade-Marks.....	Oct. 17	Oct. 2	4323
	Under one month.			
	Designs.....	Dec. 9	Nov. 24	25
	Labels and Prints.....	Dec. 7	Dec. 8	16

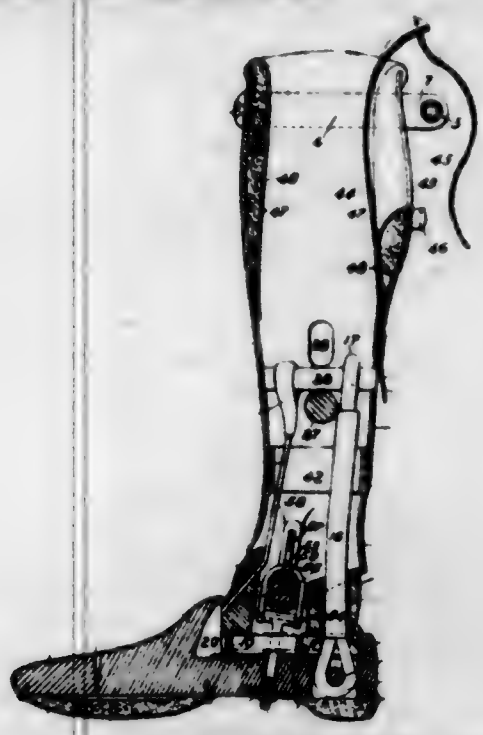
Foreign Patents.

RULE 29. The receipt of Letters Patent from a foreign government will not prevent the inventor from obtaining a patent in the United States, unless *the application on which the foreign patent was granted was filed more than twelve months prior to the filing of the application in this country, in which case no patent shall be granted in this country.*

PATENTS

GRANTED DECEMBER 19, 1905.

807,427. **ARTIFICIAL LEG.** JOHN T. APGAR, New York, N. Y. Filed Oct. 3, 1903. Serial No. 175,644.



Claim.—1. A securing-clamp for artificial human members formed of resilient spring metal adapted to be secured around the stump-socket of such member and to contract the stump-socket by the rotation of a screw-bolt passing through wings thereof at the ends of the band with outwardly-extending abutting ends thereof forming such clamp.

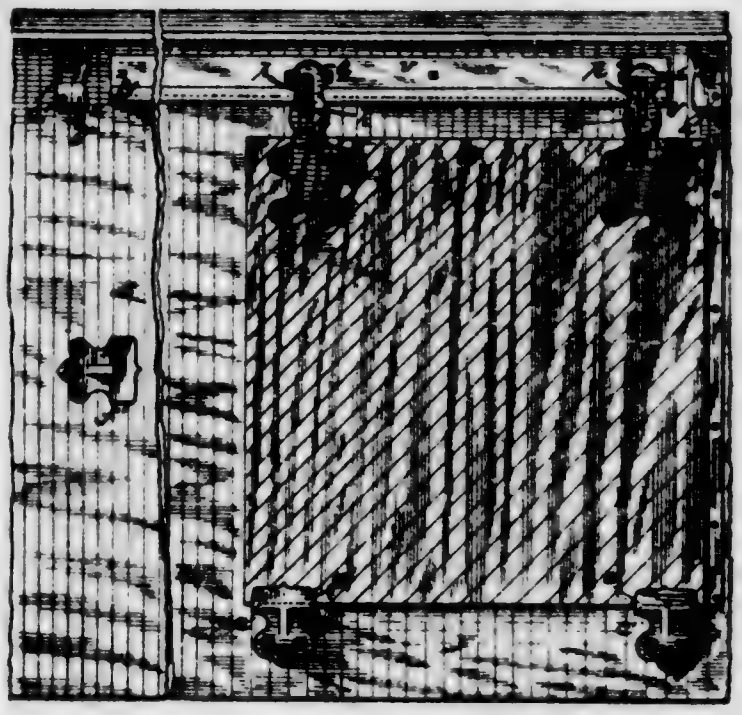
2. An ankle-piece for artificial legs comprising a heavy metal hollow securing-pin secured to an ankle-piece or sleeve proper of lighter metal cast upon the pin so that a core of the soft metal merging at the ends in the walls of the sleeves lies in the hollow of the securing-pin, a fin of the heavy metal having a hole to receive the securing-yoke being formed integral with the hollow securing-pin, the edges of which fin are secured in interior wings of the sleeve cast around same.

807,428. **COFFEE-URN.** ROBERT M. BANFORD, Chicago, Ill. Filed Apr. 18, 1904. Serial No. 203,553.



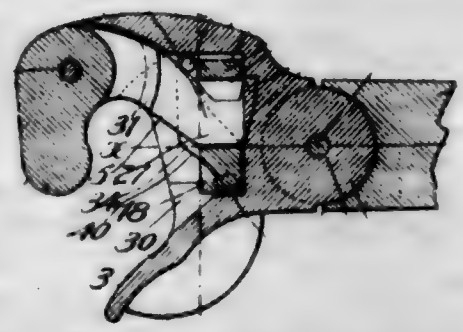
Claim.—In a device of the class described, in combination, an outer receptacle having a bottom, an inner receptacle supported by the outer receptacle and provided with a substantially cone-shaped bottom terminating in a discharge-outlet, a downwardly-extending outlet-pipe connected to the discharge-opening and passing through the wall of the outer receptacle and having a closing-cap at its outer end, and a horizontal draw-off pipe passing through the wall of the outer receptacle and having a downwardly-inclined portion connecting with the outlet-pipe near and below the discharge-opening of the inner receptacle, and a controlling-cock for the draw-off pipe.

807,429. **DOOR-HANGER FOR SLIDABLE DOORS.** AMOS O. BANKS and GEORGE B. BANKS, Baltimore, Md. Filed Sept. 28, 1904. Serial No. 226,331.



Claim.—In a device of the character described, an L-shaped track secured to the side of the car above the opening therein and formed with a vertical flange along its outer edge, a door slidably mounted parallel with the face of the car, hangers secured to the outer face of the door and extending above the upper end thereof and formed with inwardly-extending housings at their upper end portions surrounding the rollers therein and having open-slot bearings in their inner walls and a vertical slot in the upwardly-extending portion of the hanger, an inwardly-extending bracket formed on the stem of the hanger below the track and having a vertical flange at the inner side formed with an open-slot bearing rollers journaled within the housings to run upon the track, and rollers journaled in the brackets below the track to run against the under face thereof, said upper and lower rollers formed with hubs the outer extensions of which are longer than the inner extensions thereof to throw the tread thereof beyond the vertical flange of the track.

807,430. **AUTOMATIC CAR-COUPLER.** ANDREW J. BEARD, Mount Pinson, Ala., assignor to Beard Automatic Coupler Co., a Corporation of Alabama. Filed May 16, 1904. Serial No. 208,123.



Claim.—1. A coupler comprising a recessed draw-head, a pivoted knuckle having a tail-wing, a locking device having a guide

portion with a curved bearing-surface which is disposed in said recess, a lever pivoted to said head and adapted to engage said tail-wing and disposed in the path of the locking device's opening movement to release the tail-wing, said lever being adapted to be actuated by said locking device to cause the knuckle to open fully.

2. The combination with a recessed draw-head, of a knuckle pivotally connected thereto and provided with a tail-wing which swings into said recess, a pivoted element disposed in said recess and adapted to engage said tail-wing, and a locking device disposed in said recess and adapted to straddle said tail-wing when in its closed position, and to actuate said element to throw said tail-wing outwardly as it continues its unlocking movement after releasing said tail-wing.

3. The combination with a recessed draw-head, of a knuckle pivoted thereto and provided with a tail-wing, a knuckle-opening lever mounted in said recess and engaging said tail-wing, a locking device adapted to straddle said tail-wing when in its locked position and to engage said lever after releasing the tail-wing to move said latter to its open position, and means to operate said locking device.

4. A coupler comprising a recessed draw-head, a pivoted knuckle having a tail-wing, a locking device having a guide portion with a curved bearing-surface which causes the device to be shifted bodily when moved into engagement with a wall of said recess, said device being moved by said tail-wing to a locking position, means to move said device to an open position, and a knuckle-opening lever actuated by said device in its opening movement to throw the tail-wing outwardly.

5. In a coupler having a recessed draw-head and a swinging knuckle, an inverted-U-shaped locking device which is engaged by said knuckle and shifted bodily to lock said knuckle, means to move said device to release said knuckle, a curved groove in said head and a similarly-curved shoulder on said knuckle which enters said groove when the knuckle is closed.

6. A coupler comprising a recessed draw-head, a pivoted knuckle having a tail-wing which swings into said recess, a curved locking device movable without fixed pivot in said recess and engaging said tail-wing to be moved thereby to a position astride the latter to block its outward movement, a knuckle-opening lever, and means to move said locking device from a position astride said tail-wing and cause it to engage said lever to open said knuckle.

7. A coupler comprising a recessed draw-head, a pivoted knuckle having a tail-wing, a locking device movable without fixed pivot within said draw-head and comprising a head and a guide-body portion which is engaged by said tail-wing and shifted to force said head into the path of the opening movement of said tail-wing to lock it, said guide-body portion being adapted by its configuration to maintain said locking device set in its open position until engaged by said tail-wing during its closing movements.

8. In a coupler, the combination with a recessed draw-head, a pivoted knuckle having a tail-wing which swings into said recess, and a locking device disposed within said recess and in the path of the tail-wing's movement whereby the latter moves it to its locking position, of a knuckle-opening lever pivoted in said recess and engaging said tail-wing, and means whereby said locking device, as it is moved to its open position, engages said lever and by a wedging action throws it outwardly to open said knuckle.

807,481. ELECTRIC CONTROLLING MECHANISM FOR RAILWAY APPLIANCES. WALTER J. BELL, Los Angeles, Cal., assignor of one-half to Leon F. Moss, Los Angeles, Cal. Filed June 3, 1905. Serial No. 263,650.

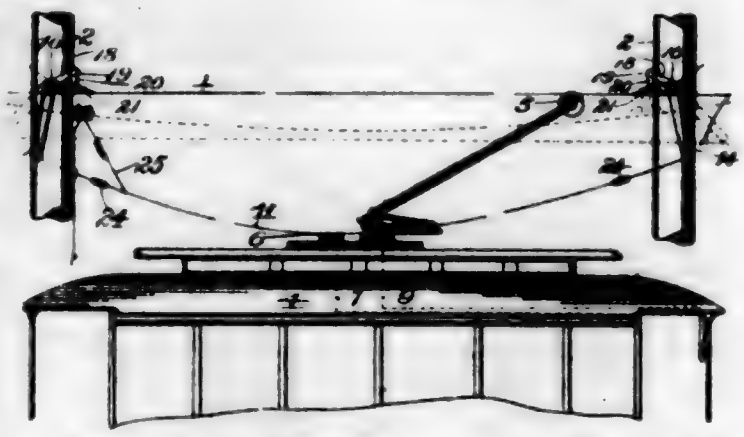
Claim.—1. In a controlling apparatus of the character described, the combination of a trolley-wire adapted to be moved by a car trolley-wheel or the like, a contact on the car, and a contact connected with the trolley-wire to move therewith into and out of engagement with the car-contact.

2. In a controlling apparatus of the character described, the combination of a trolley-wire adapted to be moved by a car trolley-wheel or the like, a contact on the car, and a flexible contact connected with the trolley-wire to move therewith into and out of engagement with the car-contact.

3. In a controlling apparatus of the character described, the combination of a trolley-wire having rise and fall movements, and a contact connected with the trolley-wire to fall and rise with the said movements of said wire.

4. In a controlling apparatus of the character described, the combination of a trolley-wheel having rise and fall movements, and a contact having bell-crank connection with said wire and adapted to fall and rise with the said movements of the latter.

5. In a controlling apparatus of the character described, the combination of a trolley-wire having rise and fall movements, a bell-crank lever having a fixed pivot and having one arm hinge-jointed to said wire, and a flexible contact extending from the other arm of said lever.



6. In a controlling apparatus of the character described, the combination of a trolley-wire having rise and fall movements, a rod supported from uprights, a sleeve on the rod, an arm on the sleeve having hinge-joint connection with the trolley-wire, a second arm on said sleeve, and a flexible contact connected with said second arm.

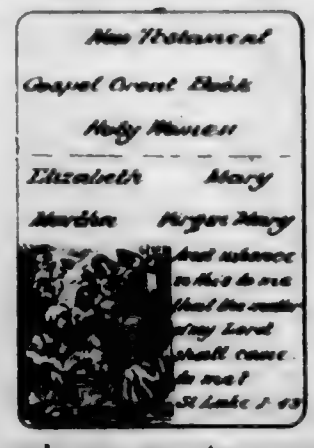
807,432. SKELP FOR MAKING TUBES. MILDRED BLAKEY, Pittsburg, Pa. Filed Jan. 4, 1905. Serial No. 239,598.



Claim.—1. A tube-skelp having material at one edge offset in opposite directions from the plane of the body of the skelp to receive material at the opposite side thereof.

2. A tube-skelp having one edge thicker than the body of the skelp and provided with a groove.

807,433. CARD GAME. BELLE C. BLANCHARD, Fayetteville, Ark. Filed June 27, 1905. Serial No. 267,251.



Claim.—1. A card-game apparatus comprising a plurality of great books subdivided into general classes, and each great book being further subdivided into primary books, and each primary book consisting of a number of cards bearing like identifying matter corresponding with the general classification, the nature of the great book the character of the primary book, and names designating the personage or character of the card comprising the primary book.

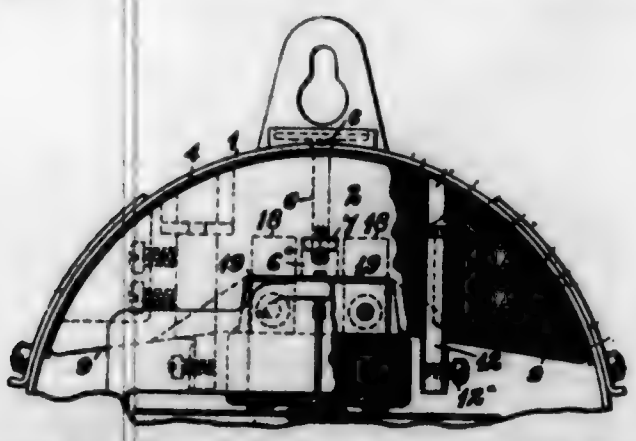
2. A card-game apparatus comprising a plurality of books subdivided according to a general classification, and each general classification further subdivided according to great books, and the latter in turn subdivided into primary books or a like number of cards each of the cards of the primary books provided with like names to identify the several cards of the respective primary books and with other identifying matter to enable associating the primary books with the great books and with the books of the general classification.

3. A card-game apparatus comprising a plurality of books subdivided according to general classification and the general classes coming under specific headings, each of the primary books comprising a number of cards provided with like identifying matter and with a quotation and a pictorial illustration corresponding with the quotation, both the illustration and the quotation referring to some incident bearing upon the identifying matter of said cards.

4. A biblical card-game apparatus comprising a plurality of great books subdivided according to the Old and New Testaments, each of the great books being further subdivided into primary books according to the classification of the great books in the Bible, each of the cards of a primary book bearing a name to identify to which great book the primary book belongs, and the several cards of the primary book bearing like names of personages to facilitate assembling of the cards in the formation of the books.

5. A biblical card-game apparatus comprising a plurality of great books subdivided according to the Old and New Testaments, each of the great books being further subdivided into primary books according to the classification of the great books in the Bible, each of the cards of a primary book bearing a name to identify to which great book the primary book belongs, and the several cards of the primary book bearing like names of personages to facilitate assembling of the cards in the formation of the books, each of the primary cards being further provided with a biblical quotation and a pictorial representation illustrative of said quotation, and with matter identifying the place where the quotation may be found in the Bible.

807,434. CASING AND TERMINAL BLOCK FOR ELECTRICAL MEASURING INSTRUMENTS. WILLIAM M. BRADSHAW, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Mar. 17, 1905. Serial No. 250,645.



Claim.—1. A terminal block for electrical measuring instruments having a plurality of cylindrical sockets, terminal posts in said sockets, triangular recesses adjacent to said sockets and binding-screws projecting through the walls of said recesses and into said posts.

2. A terminal block for electrical measuring instruments having a plurality of cylindrical sockets, tubular terminal posts in said sockets, triangular recesses adjacent to said sockets and binding-screws projecting through the walls of said recesses and into said posts.

3. The combination with a cylindrical instrument-casing, of a terminal block having a curved face to fit the casing, cylindrical sockets, tubular posts in said sockets, triangular recesses adjacent to said sockets and binding-screws that project through the walls of the recesses and into the posts.

4. A cylindrical instrument-casing provided with a segmental terminal block having, removable, tubular terminal posts and a single nut-and-screw bolt for attaching the block to the casing.

5. A segmental terminal block for electrical measuring instruments having recesses for the reception of supporting-studs, cylindrical sockets for terminal posts and recesses at the bases of said sockets having linings of insulating material.

6. A terminal block for measuring instruments having a curved top face and channels in its bottom face, terminal-post sockets extending between its top and bottom faces and triangular recesses in in its top face and adjacent to the post-sockets.

7. A casing for electrical measuring instruments, a terminal block having recesses in its ends, a sheet of fabric between the casing and the block and movable plates that normally cover the end recesses in the terminal block.

8. A terminal block for measuring instruments having a curved upper face, terminal post sockets and binding-screw recesses, a casing having a sheet of fabric between its upper, inner face and the upper face of the block and a screw for clamping the block against said fabric.

9. A porcelain terminal block for electrical measuring instruments having terminal-post sockets and adjacent recesses, in combination with tubular terminal posts seated in said sockets and binding-screws that project from said recesses into said terminal posts.

10. A segmental terminal block for electrical measuring instruments having cylindrical sockets for terminal posts and recesses at the bases of said sockets having dust-excluding linings.

11. A casing for electrical measuring instruments provided with a terminal block having recesses in its ends, a sheet of fabric between the casing and the block and movable plates that normally cover the end recesses in the terminal block and have dust-excluding packing-strips.

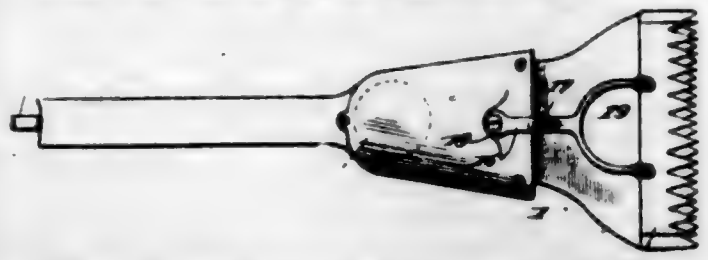
12. A terminal block for measuring instruments having a curved upper face, terminal-post sockets and binding-screw recesses in combination with a casing having a sheet of dust-excluding fabric between its upper, inner face and the upper face of the block and a screw for clamping the block against said fabric.

13. The combination with a terminal block having terminal-wire recesses provided with dust-excluding linings, of a casing the internal contour of which conforms to the external contour of the block, a cushioning and dust-excluding lining between the block and the casing.

14. An electrical instrument-casing having a terminal block provided with recesses for terminal wires and binding-screws, linings for the wire-terminal recesses, a lining between the block and the casing and movable covers for the binding-screw recesses

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807,435. SHEEP-SHEARING MACHINE. SETH R. BURGHAM, Ionia, Wyo. Filed May 23, 1905. Serial No. 261,848.



Claim.—1. A sheep-shearing machine comprising a frame provided with cutting mechanism and having a circular recess or chamber forming a cylinder and provided with inlet and exhaust openings in communication with said cylinder, and a motor-wheel mounted in the cylinder and adapted to actuate the cutting mechanism.

2. A sheep shearing or clipping machine comprising a frame provided with cutting mechanism and having a circular recess or chamber forming a cylinder and provided with inlet and exhaust openings, arranged to operate in the said cylinder, a cap-plate closing the open side of the cylinder and forming a bearing for the axle of the motor-wheel, a crank fast to the projecting end of the motor-wheel axle, and a lever fulcrumed near its ends to the frame and having a fork operating with the crank-wheel whereby said lever is oscillated and adapted to transmit motion to the cutting mechanism.

3. A sheep shearing or clipping machine comprising a frame provided with cutting mechanism and having a circular recess or chamber forming a cylinder and provided with inlet and exhaust openings arranged to operate in the said cylinder, a cap-plate closing the open side of the cylinder and forming a bearing for the axle of the motor-wheel, a crank fast to the projecting end of the motor-wheel axle, a lever fulcrumed near its ends to the frame and having a fork operating with the crank-wheel whereby said lever is oscillated and adapted to transmit motion to the cutting mechanism, and a cover attached to the frame and forming a housing for the rear portion of said lever and the crank-wheel coöperating therewith.

4. In a sheep-shearing machine or clipper, a frame having a handle and provided with a circular depression forming a cylinder and having a passage extending through the handle and in communication at its inner end with said cylinder and formed with an exhaust-opening, a motor-wheel arranged in the cylinder, a cap-plate closing the open side of the cylinder, a crank-wheel fitted to the projecting end of the motor-wheel axle, a power-transmitting lever having an offset between its ends and fulcrumed to the frame adjacent to the offset and having its rear end forked to resist said crank-wheel, and a covering for the rear portion of said lever and crank-wheel and forming a housing therefor.

807,436. APPARATUS FOR MAKING GAME-BALLS. ALONZO L. BURT, Milburn, N. J. Filed Dec. 5, 1901. Serial No. 84,750.

Claim.—1. A mold comprising a tubular body open at both ends for the entrance of dies, and provided between its ends with transversely-movable plugs having ends adapted to extend into the bore of the tubular body and to engage a mass of plastic compressible material and retain the same therein.

2. A mold comprising a tubular body open at both ends and provided between its ends with diametrically-opposed orifices perpendicular to the axis of said tubular body, and plugs movable transversely in said orifices and adapted to extend into the interior of said tubular body and to engage a mass of plastic compressible material placed therein and to retain the same in a fixed position.



3. As means for producing the central, or core-like portion of the composition ball, a tubular or female mold or die, provided with diametrically opposite, movable core-plugs, the ends of which may be set to protrude within bore of the hollow die, to produce in the molding operation cavities to receive number inserts, and capable of being withdrawn from within the bore of said die at pleasure; also a pair of male dies adapted to enter the opposite ends of the said female die, and to mold or compress into shape the central core-like portion of the ball, as hereinbefore specified; the whole arranged and operating so that after the molding of said central portion of the ball, the cores which produce the cavities for the inserts may be withdrawn from said cavities, and the molded ball portion then withdrawn from the mold, all substantially as and for the purposes hereinbefore set forth.

4. As means for molding a pool-ball, the combination, with a tubular or female die having radially-movable core-plugs, of two pairs of male dies, one pair of which is adapted to form, in conjunction with the core-plugs, the middle portion of the ball with cavities to receive inserts, and the other pair of which is adapted to form segmental body portions and compress them upon said middle portion, substantially as described.

807,437. PROCESS OF MAKING GAME-BALLS. ALONZO L. BURT, Milburn, N. J., assignor to The Burt Company, Milburn, N. J., a Corporation of New Jersey. Filed June 3, 1903. Serial No. 159,259.



Claim.—1. The process of making composition game-balls which process consists in shaping by cold compression of the loose material the separate parts whereof the ball is composed, and integrating the entire article by the application of heat and high pressure.

2. The process of making composition balls by compressing the loose material in a cold state to form a core or center, completing the spherical outline by compressing loose material upon the core or center in a cold state, and integrating the entire article by heat and pressure.

3. The process of making composition balls by compressing loose material in a cold state to the approximate form desired and simultaneously forming cavities therein, compressing similar material in a cold state to form the spots, inserting the spots in the cavities and integrating the article by heat and pressure.

4. The process of making composition balls by compressing loose material in a cold state to form the center and simultaneously forming cavities therein, compressing similar material upon the center to complete the spherical outline, forming spots by cold compression of said material, introducing the spots in the cavities, and integrating the article by heat and pressure.

5. Molding the central or middle portion out of colored stock, cold, and simultaneously coring out the cavities therein, adapted to receive the number-inserts; and then molding onto the opposite faces of the said central portion, the two parts composed of white stock; these molded-together parts being adapted to be, subsequently, heated and solidified, with the usual inserts applied to the middle ball portion.

6. Molding the middle, colored portion of the ball and simultaneously forming therein the insert-cavities; then applying thereto the inserts; next molding onto the opposite surfaces of said middle portion the two segmental white portions to complete the ball-blank; and then subjecting the concrete mass to the usual heat and pressure to solidify and harden it, for the usual final turning down and polishing of the ball, as set forth.

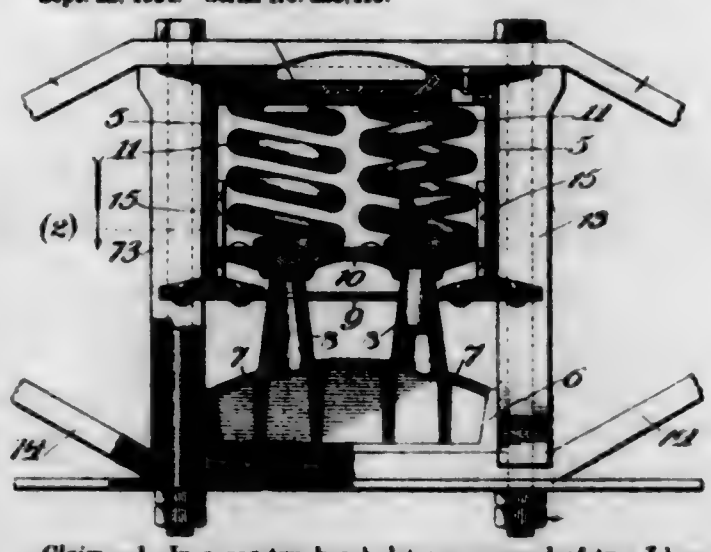
807,438. FENCE-POST. ELNATHAN CALVERT, Des Moines, Iowa. Filed Mar. 31, 1905. Serial No. 253,212.



Claim.—1. An artificial-stone post with an opening in an end portion, having embedded therein a wire bent upon itself, forming a loop, said loop extending from said post, and a plurality of auxiliary reinforcing-wires having the ends extending from near opposite edges of said post for the purpose set forth.

2. An artificial-stone post having a reinforcing-wire bent upon itself, forming a loop, said loop extending from said post, and anchor-wires, adapted also as barbs, having the ends extending from near the edges of said post substantially as described.

807,439. CAR-TRUCK. JAMES R. CARDWELL, Chicago, Ill. Filed Sept. 22, 1904. Serial No. 225,418.

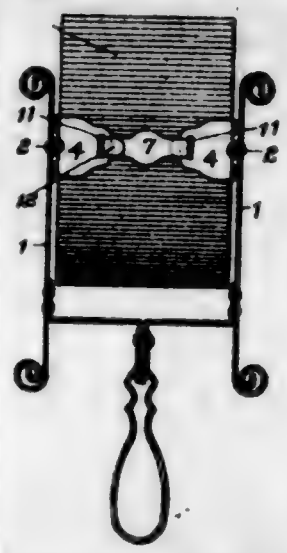


Claim.—1. In a car truck a bolster composed of two I-beams and a set of springs confined between the said I-beams, and means for transmitting the pressure upon the bolster through the springs to the wheel truss.

2. The combination with a bolster composed of two I-beams forming a box, springs within said box resting upon a floating plate, all confined in the box, and supporting posts extending within the bolster and engaging said floating plate, substantially as described.

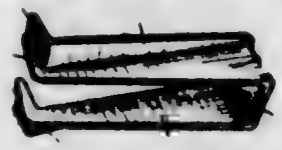
3. The combination of a car bolster forming a closed box at the ends, springs and a supporting plate therefor in the box, apertures in the base of the box, and a plate on the wheel truss having studs extending through said apertures and engaging the floating plate.

807,440. SUPPORT FOR MIRRORS. JOHN M. CONROY, Allegheny, Pa. Filed July 28, 1905. Serial No. 271,668.



Claim.—A mount for a mirror which consists of a pair of clips engaging the edge of the mirror upon opposite sides and extending inwardly from the edge upon the back thereof, and a tie-strap uniting said clips by slot-and-tongue connection and rigidly securing said clips in engagement with said mirror, substantially as described.

807,441. PROCESS OF MAKING WROUGHT-METAL JOIST-HANGERS. JAMES CRAIG, Cleveland, Ohio, assignor to The National Iron and Wire Company, Cleveland, Ohio, a Corporation of Ohio. Filed Apr. 3, 1905. Serial No. 253,703.

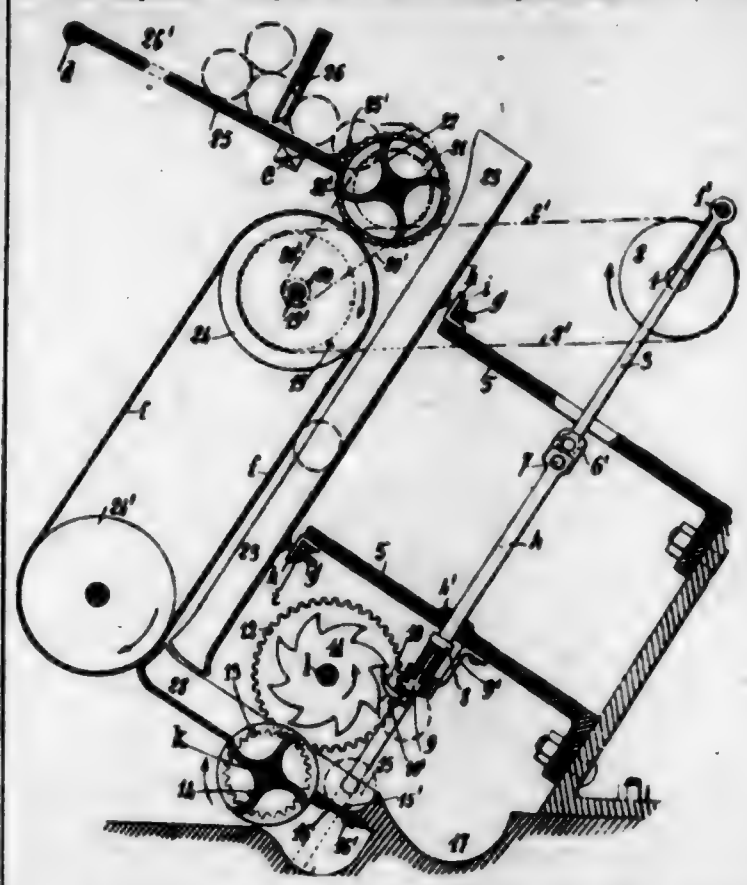


Claim.—The process hereinbefore described of making a wrought-metal joist-hanger consisting, first, in the provision of a straight wrought-metal blank-forming bar uniform or substantially uniform in width from end to end, then suitably heating the bar and bending opposite end portions thereof somewhat edgewise toward each other, then bending the bar on a line extending longitudinally of the longitudinal edges of the original blank to form a flange extending longitudinally of the bar, then bending the end portions of the bar upwardly at the sides of the joist-seat-forming central portion of the bar to form the side members of the joist-hanger to be formed, and then bending the upper ends of the upwardly-bent end portions of the bar rearwardly to form supporting-arms.

807,442. MACHINE FOR STONING CHERRIES, &c. HENRI CRESTE, Apt, France. Filed Dec. 31, 1903. Serial No. 187,383.

Claim.—1. In a machine for stoning cherries and similar fruit, the combination of a hopper for the reception of the fruit, a shaking-chute to which said hopper delivers, a rotary cupped feed-wheel taking the fruit one by one from the end of said chute, an inclined adjustable breastplate to which said wheel delivers, a feed-apron coöperating with said breastplate to carry the fruit downwardly therealong, a guide-channel receiving the fruit at the foot of said breastplate, a cupped feed-wheel at the end of said channel adapted to take the fruit one at a time therefrom, a pocket having centrally-perforated bottom, to which the latter wheel delivers the fruit, a radially-slitted elastically yielding bed normally closing the bottom of the pocket, and a plunger-frame carrying grouped prongs opposite said pocket and means for reciprocating said frame.

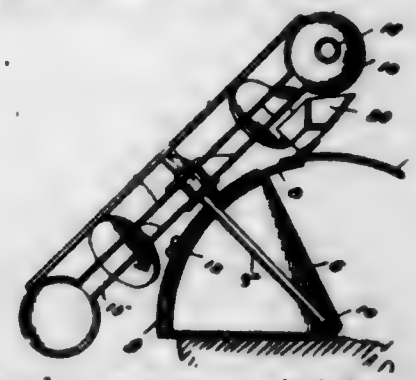
2. In a machine for stoning cherries and similar fruit, the combination of a shaking-chute to which said fruit is delivered, a rotary cupped feed-wheel taking the fruit one by one from the discharge end of said chute, an inclined adjustable breastplate to which said wheel delivers, and a flexible traveling feed-apron coöperating with said breastplate to carry the fruit downwardly thereon.



3. In a machine for stoning cherries and similar fruit, the combination of a chute to which said fruit is delivered, receiving means for taking the fruit one by one from the discharge end of said chute, an adjustable breastplate to which said receiving means delivers, and a traveling feed-apron coöperating with said breastplate whereby the fruit is engaged on opposite sides during transmission thereof.

4. A machine for stoning cherries and similar fruit provided with a chute to which the fruit is delivered, a cup feeding-wheel taking the fruit one by one from said chute, an adjustable breastplate to which said wheel delivers, and a traveling apron provided with a smooth contacting surface for frictionally engaging the fruit with said breastplate when discharged from said wheel.

807,443. WATER-ELEVATOR. JAMES M. DINSMORE, Moab, Utah. Filed May 13, 1905. Serial No. 260,370.



Claim.—1. A current water-wheel elevator having blades and dip-buckets, and movable up and down into and out of the water, and a discharge-gutter movable up and down with the wheel, and located near the top and above the axis thereof, and arranged to receive water from the buckets.

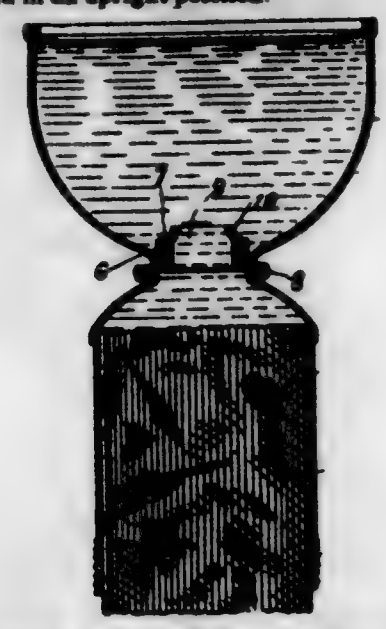
2. The combination with a casing on the bank of a stream or ditch, and having a plate slidable up and down therein, of an axle pivoted at one end in the casing and extending out through a bearing in the plate, and a current-wheel carried on said axle and having dip-buckets.

3. The combination with an axle pivoted to a support on the bank of a stream, of a slide having bearings for the axle, a current-wheel on the axle having dip-buckets, and a gutter on the slide, arranged to receive water emptied from the buckets.

807,444. OIL-APPLYING IMPLEMENT. JOHN T. BARHART, Kirksville, Mo. Filed Aug. 13, 1903. Renewed Nov. 7, 1905. Serial No. 286,337.

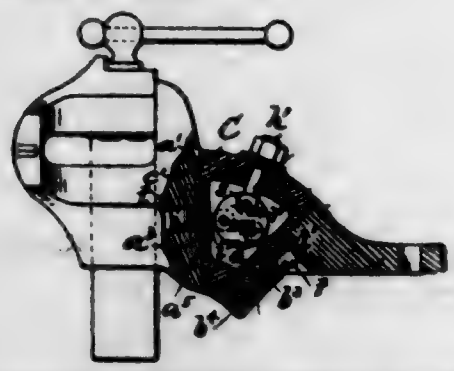
Claim.—1. A woodwork oiler and polisher comprising an oil-

tank having a discharge-opening, an open-ended tube carried by the tank in communication with the discharge-opening thereof, and a roll of absorbent and polishing material snugly contained within the tube with its outer end projected beyond the tube and its inner end terminated at the inner end of the tube, whereby the absorbent and polishing material is out of engagement with the oil when the device is not in use and in an upright position.



2. A woodwork oiler and polisher comprising a portable invertible oil-tank having a central discharge-opening in one end thereof, a tube which is open at opposite ends and is detachably connected with the discharge-opening of the tank, and a roll of burlap snugly contained within the tube with its outer end projected beyond the tube and its inner end terminated short of the tube.

807,445. **BENCH-VISE.** EDWARD M. ER, Providence, R. I. Filed July 24, 1905. Serial No. 270,923.



Claim.—1. As a new and improved article of manufacture, a bench-vise comprising a stationary base member provided with a working face, a wedge-shaped member movably secured to said face of the base member, a work-holding vise proper movably secured to the other or upper face of said wedge member, and a single clamping device mounted in the latter and operatively connected with said base and vise members, whereby the vise is adapted to be adjustably secured in angular positions in horizontal, vertical and intermediate planes, substantially as herein described.

2. The combination of a beveled-face base adapted to be rigidly secured to a bench, a wedge-shaped member revolubly mounted on the beveled portion of said base, a bench-vise proper revolubly mounted on the opposite or upper face of the wedge-shaped member, slightly-movable holding-down axial bolts or pins mounted in the wedge member and secured to said vise and base members, and a clamping-bolt operatively connected with said axial bolts for simultaneously securing the vise and wedge members in any desired position.

3. The combination of a base-plate having a beveled face arranged at an angle of forty-five degrees, a wedge-shaped member having its two sides or faces arranged at an angle of forty-five degrees to each other revolubly mounted on the beveled face of said base, a bench-vise proper revolubly mounted on the other face of said wedge member, locking-pins movably mounted in said base wedge and vise members for holding the vise in any predetermined axial position, axially-mounted bolts or members connecting the vise and base members with the wedge, and a clamping-bolt mounted in the wedge-piece and connected with said axial bolts for rigidly securing the vise member in horizontal vertical and intermediate planes, substantially as hereinbefore described.

4. The combination with a hollow wedge member having each of the two beveled faces thereof bored perpendicular to the plane of its surface, of vise and base members seated in said bored portions, two holding-down bolts or pins mounted in the seated portions of said vise and base members and forming live axes, a clamping-bolt passing through the peripheral side of said wedge-piece, and a central connection contained in the wedge member having the said three bolts jointed thereto, substantially as hereinbefore described and for the purpose set forth.

807,446. **STENCIL-SHEET ATTACHMENT DEVICE FOR CIRCULAR OR OTHER DUPLICATING-MACHINES.** JAMES ELLAM, Cheapside, London, England. Filed Sept. 17, 1904. Serial No. 224,850.



Claim.—1. An attachment device for stencil-sheets of duplicating-machines, consisting of a substantially trough-shaped plate formed with a plurality of tongues adapted to engage corresponding holes formed in the stencil-sheet, said tongues being in the same plane as the upper side of the trough-shaped plate.

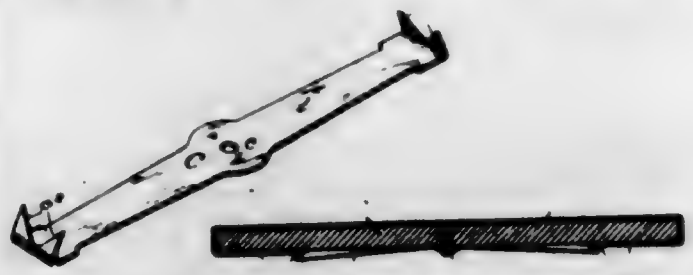
2. An attachment device for stencil-sheets of duplicating-machines, consisting of a substantially trough-shaped plate, a plurality of tongues integral with said plate, said tongues being in the same plane as the upper side of the trough-shaped plate, and means for fixing said plate to the machine

3. In combination with a slotted bar of duplicating-machines, an attachment device for stencil-sheets of said duplicating-machines, consisting of a plate, a plurality of tongues integral with said plate, and means for securing said plate to the slotted bar.

4. In combination with the slotted bar of duplicating-machines, an attachment device for stencil-sheets of said duplicating-machines, consisting of a shaped bar, and a plurality of tongues integral with the upper plate, the lower plate and side of said bar being adapted to pass through the slot of the slotted bar and the edge of the lower plate to abut against one flange of said slotted bar, as set forth.

5. In combination with the slotted bar of duplicating-machines, an attachment device for the stencil-sheets of said duplicating-machine, consisting of a bar of angular section adapted to engage in the slot of the slotted bar, a plurality of tongues integral with one edge of said angular bar, and a plurality of tongues integral with the other edge of said angular bar adapted to be bent under and engage one flange of said slotted bar, as set forth.

807,447. **CLIP FOR IRONING-BOARD COVERS.** WILLIAM L. ELY and GERTRUDE L. ELY, Cleveland, Ohio. Filed Dec. 9, 1904. Serial No. 236,115.



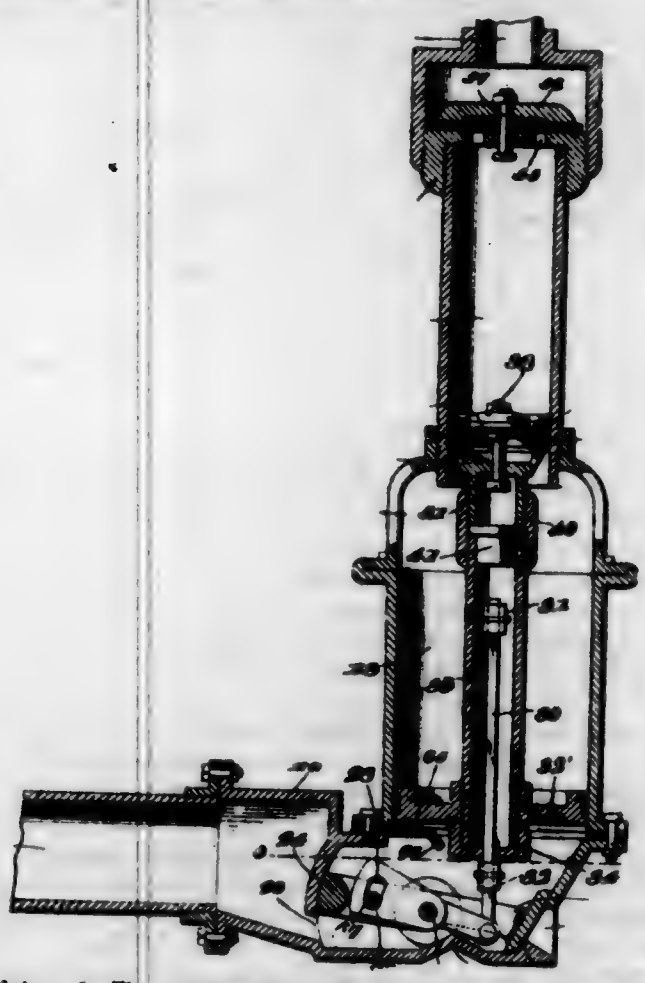
Claim.—1. A clip for ironing-board covers comprising a member provided with prongs at its ends adapted to engage the cover and detachably secure same to the board and an intermediate laterally-enlarged portion adapted to be permanently secured to the board.

2. A clip for ironing-board covers comprising a flat spring member provided with angular ends formed of a plurality of pointed prongs adapted to engage the cover and detachably secure same to the board and an intermediate laterally-enlarged strengthening portion adapted to be permanently secured to the board.

3. A clip for ironing-board covers, comprising a flat spring member adapted to be permanently secured to the board and provided with angular ends each formed of two pointed prongs adapted to engage the cover and retain the same against the board.

4. A clip for ironing-board covers, comprising a member adapted to be permanently secured to the board, and provided with an enlarged strengthening portion and angular ends formed of a plurality of pointed prongs adapted to engage the cover and detachably secure the same against the board.

807,448. **FLUID-MOTIVE POWER-PUMP.** HENRY T. FARNSWORTH, Glade Spring, Va., assignor of one-half to George Newton Wertz, Abingdon, Va. Filed Nov. 12, 1904. Serial No. 232,512.



Claim.—1. The combination with a casing, of a pivot-rod, a pair of valve-carrying levers mounted thereon, inlet and discharge valves carried by said levers, a cross-bar connecting the levers, a weighted lever mounted on the pivot-rod and provided with a slot for the passage of the cross-bar, a cylinder in communication with the casing, a piston disposed in said cylinder and exposed to water-pressure, and means for transmitting movement from the piston to the weighted lever.

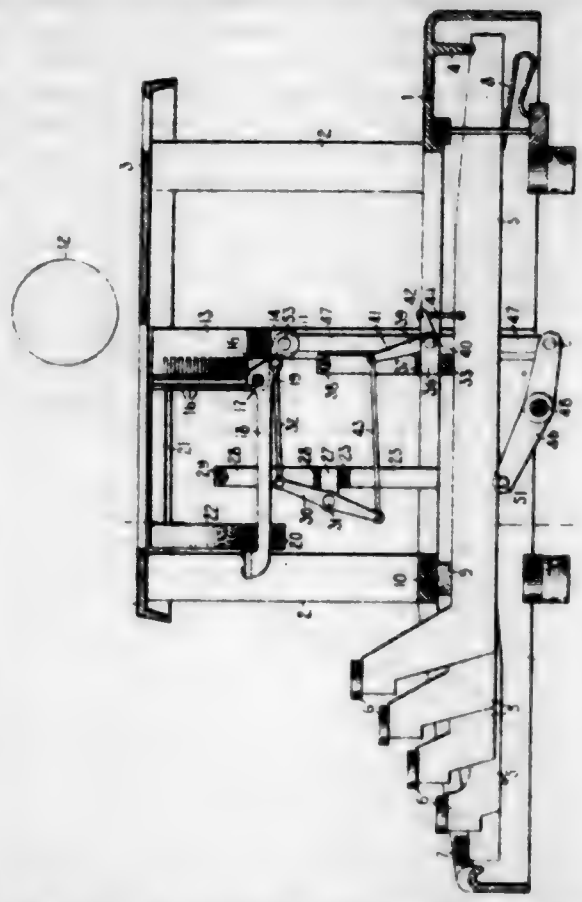
2. The combination with a casing having inlet and discharge ports, of a pair of connected valves for successively opening and closing said ports, said valves being pivotally mounted, and the inlet-valve being movable to closed position by gravity, a counterweighted lever for moving said valves, the lever having limited play independent of said valves, a cylinder, a piston disposed therein, and means for connecting said piston to the weighted lever.

3. The combination with a casing having inlet and discharge ports, of a pair of superposed cylinders, pistons arranged in said cylinders, a hollow stem or rod connecting such pistons, a cap member at the lower end of said stem or rod, a valve-operating rod extending through the cap to the interior of the stem and provided with collars near its upper and lower ends to be engaged by said cap, pivotally-mounted valves in the casing, a counterweighted lever for transmitting movement to said valves, and means for connecting the lever to the valve-operating rod.

4. The combination with a casing having inlet and discharge ports, controlling-valves therefor, a pair of superposed cylinders, of which the lowest is in communication with the casing, pistons arranged in said cylinders, a hollow stem connecting said pistons, a closing-plug arranged in the stem, and a valve-operating rod extending through said stem and serving to transmit movement to the valves.

5. In a device of the class specified, the combination with a casing having inlet and discharge ports, of valves for controlling the flow of fluid through said ports, a cylinder in communication with the casing, a division plate or ring between the casing and cylinder and provided with a pendent flange or deflecting-apron facing the inlet-port, and a pumping-piston in said cylinder.

807,449. **TYPE-WRITING MACHINE.** JACOB FRANKEL, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed July 15, 1903. Serial No. 165,540.



Claim.—1. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers each having arms of equal length and movable at its ends on arcs whose chords are substantially horizontal, means connecting the ends of said levers on one side of their pivotal axes with the type-bars, and means connecting the other ends of said levers with the key-actuated devices.

2. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers each having arms of equal length and movable at its ends on arcs whose chords are substantially horizontal, links pivoted to the ends of said levers on one side of their pivotal axes and to the type-bars, and means connecting the other ends of said levers with the key-actuated devices.

3. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers each having arms of equal length and movable at its ends on arcs whose chords are substantially horizontal, means connecting the ends of said levers on one side of their pivotal axes with the type-bars, and links pivoted to the other ends of said levers and to the key-actuated devices.

4. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers each having arms of equal length and movable at its ends on arcs whose chords are substantially horizontal, links pivoted to the ends of said levers on one side of their pivotal axes and to the type-bars, and links pivoted to the other ends of said levers and to the key-actuated devices.

5. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers each having arms of equal length and movable at its ends on arcs whose chords are substantially horizontal, means connecting the ends of said sublevers on one side of their pivotal axes with the type-bars, and means connecting the other ends of said sublevers with the key-levers.

6. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers each having arms of equal length and movable at its ends on arcs whose chords are substantially horizontal, links pivoted to the ends of said sublevers on one side of their pivotal axes and to the type-bars, and means connecting the other ends of said sublevers with the key-levers.

7. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers each having arms of equal length and movable at its ends on arcs whose chords are substantially horizontal, means connecting the

ends of said sublevers on one side of their pivotal axes with the type-bars, and links pivoted to the other ends of said sublevers and operatively connected with the key-levers.

8. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers each having arms equal to one another and to those of each other lever of the system in length, and movable at its ends on arcs whose chords are substantially horizontal, means connecting the ends of said levers on one side of their pivotal axes with the type-bars, and means connecting the other ends of said levers with the key-actuated devices.

9. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers each having arms equal to one another and to those of each other lever of the system in length, and movable at its ends on arcs whose chords are substantially horizontal, links pivoted to the ends of said levers on one side of their pivotal axes and to the type-bars, and means connecting the other ends of said levers with the key-actuated devices.

10. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers each having arms equal to one another and to those of each other lever of the system in length, and movable at its ends on arcs whose chords are substantially horizontal, means connecting the ends of said levers on one side of their pivotal axes with the type-bars, and links pivoted to the other ends of said levers and to the key-actuated devices.

11. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers each having arms equal to one another and to those of each other sublever of the system in length, and movable at its ends on arcs whose chords are substantially horizontal, means connecting the ends of said sublevers on one side of their pivotal axes with the type-bars, and means connecting the other ends of said sublevers with the key-levers.

12. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers each having arms equal to one another and to those of each other sublever of the system in length, and movable at its ends on arcs whose chords are substantially horizontal, means connecting the ends of said sublevers on one side of their pivotal axis with the type-bars, and links pivoted to the other ends of said sublevers and operatively connected with the key-levers.

13. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers supported in front of a vertical plane cutting the set of type-bars near their pivotal axes, each of said levers being movable at its ends on arcs whose chords are substantially horizontal, means connecting the upper arms of said levers with the type-bars, and means connecting their lower arms with the key-actuated devices.

14. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers supported in front of a vertical plane cutting the set of type-bars near their pivotal axes, each of the sublevers being movable at its ends on arcs whose chords are substantially horizontal, means connecting the upper arms of the sublevers with the type-bars, and means connecting their lower arms with the key-levers.

15. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers supported in front of a vertical plane cutting the set of type-bars near their pivotal axes, each of the sublevers being movable at its ends on arcs whose chords are substantially horizontal, links pivoted to the upper arms of the sublevers and to the type-bars, and links pivoted to the lower arms of the sublevers and operatively connected with the key-levers.

16. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers supported in front of a vertical plane cutting the set of type-bars near their pivotal axes, each of said levers having upper and lower arms and being movable at its ends from side to side of a vertical plane containing its pivotal axis, means connecting the upper arms of said levers with the type-bars, and means connecting their lower arms with the key-actuated devices.

17. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers supported in front of a vertical plane cutting the set of type-bars near their pivotal axes, each of said sublevers having upper and lower arms and being movable at its ends from side to side of a vertical plane containing its pivotal axis, means connecting the upper arms of the sublevers with the type-bars, and means connecting their lower arms with the key-levers.

18. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers at its ends on arcs whose chords are substantially horizontal and said pivots being at elevations progressively increasing from the middle to the sides of the system, means connecting the upper arms of said levers with the type-bars, and means connecting the lower arms of said levers with the key-actuated devices.

19. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers at its ends on arcs whose chords are substantially horizontal and said pivots being at elevations progressively increasing from the middle to the sides of the system, means connecting the upper arms of said sublevers with the type-bars, and means connecting the lower arms of said sublevers with the key-levers.

20. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, each of said sublevers being movable at its ends on arcs whose chords are substantially horizontal, links pivoted to the upper arms of said sublevers and to the type-bars, and means connecting the lower arms of said sublevers with the key-levers.

21. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, each sublever of the system being movable at its ends on arcs whose chords are substantially horizontal and having its arms equal to one another and to those of each other sublever of the system in length, means connecting the upper arms of said sublever with the type-bars, and means connecting the lower arms of said sublevers with the key-levers.

22. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers supported in front of a vertical plane cutting the set of type-bars near their pivotal axes, said levers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system and each of said levers being movable at its ends on arcs whose chords are substantially horizontal, means connecting the upper arms of said levers with the type-bars, and means connecting the lower arms of said levers with the key-actuated devices.

23. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers supported in front of a vertical plane cutting the set of type-bars near their pivotal axes, said sublevers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system and each of said sublevers being movable at its ends on arcs whose chords are substantially horizontal, means connecting the upper arms of the sublevers with the type-bars, and means connecting the lower arms of the sublevers with the key-levers.

24. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers supported in front of a vertical plane cutting the set of type-bars near their pivotal axes, said sublevers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, and each of said sublevers being movable at its ends on arcs whose chords are substantially horizontal, links pivoted to the upper arms of the sublevers and to the type-bars, and links pivoted to the lower arms of the sublevers and operatively connected with the key-levers.

25. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers, each movable at its ends on arcs whose chords are substantially horizontal, means connecting said levers with the type-bars, and means connecting said levers with the key-actuated devices, all the levers of said system being interchangeable with one another.

26. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers, each movable at its ends on arcs whose chords are substantially horizontal, means connecting the sublevers with the type-bars, and means connecting the sublevers with the key-levers, all the sublevers of said system being interchangeable with one another.

27. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers, each movable at its ends on arcs whose chords are substantially horizontal, means connecting said levers with the type-bars, and means connecting said levers with the key-actuated devices, each lever of said system being normally operative in a reversed position.

28. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of levers, each movable at its ends on arcs whose chords are substantially horizontal, means connecting said levers with the type-bars, and means connecting said levers with the key-actuated devices, all the levers of said system being interchangeable with one another and each lever thereof being normally operative in a reversed position.

29. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-actuated devices, a system of straight levers each having symmetrical arms and being movable at its ends on arcs whose chords are substantially horizontal, means connecting the ends of said levers on one side of their axes with the type-bars, and means connecting the other ends of said levers with the key-actuated devices.

30. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers, a system of sublevers each having symmetrical arms and being movable at its ends on arcs whose chords are substantially horizontal, links pivoted to the ends of the sublevers on one side of their axes and to the type-bars, and links pivoted to the other ends of the sublevers and operatively connected with the key-levers.

31. In a type-writing machine, the combination of a front-strike pivoted type-bar, a lever supported in front of a vertical plane cutting the type-bar near its pivotal axis, said lever having upper and lower arms, a key-actuated device behind the vertical plane containing the axis of said lever, means connecting the upper arm of said lever with the type-bar, and means extending backward from the lower arm of said lever and connecting it with the key-actuated device.

32. In a type-writing machine, the combination of a front-strike pivoted type-bar, a sublever supported in front of a vertical plane cutting the type-bar near its pivotal axis, said sublever having upper and lower arms, a key-lever, means connecting the upper arm of said sublever with the type-bar, and means attached to and extending backward from the lower arm of said sublever and operatively connected with the key-lever.

33. In a type-writing machine, the combination of a front-strike pivoted type-bar, a sublever supported in front of a vertical plane cutting the type-bar near its pivotal axis, said sublever having upper and lower arms, a key-lever, a link extending backward from the upper arm of said sublever and connecting it with the type-bar, and another link attached to and extending backward from the lower arm of said sublever and operatively connected with the key-lever.

34. In a type-writing machine, the combination of a front-strike pivoted type-bar, a sublever supported in front of a vertical plane cutting the type-bar near its pivotal axis, said sublever having upper and lower arms, a key-actuated angular lever supported behind the vertical plane containing the axis of said sublever, means connecting the upper arm of said sublever with the type-bar, and means extending backward from the lower arm of said sublever and connecting it with the angular lever.

35. In a type-writing machine, the combination of a front-strike pivoted type-bar, a sublever supported in front of a vertical plane cutting the type-bar near its pivotal axis, said sublever having upper and lower arms, a key-actuated angular lever supported behind the vertical plane containing the axis of said sublever, a link extending backward from the upper arm of said sublever and connecting it with the type-bar, and another link extending backward from the lower arm of said sublever and connecting it with the angular lever.

36. In a type-writing machine, the combination of a front-strike pivoted type-bar, a sublever supported in front of a vertical plane cutting the type-bar near its pivotal axis, said sublever having upper and lower arms, an angular lever supported behind a vertical plane containing the axis of said sublever, a key-lever, and devices forming with said sublever and angular lever operative connections between the key-lever and type-bar.

37. In a type-writing machine, the combination of a front-strike pivoted type-bar, a sublever supported in front of a vertical plane cutting the type-bar near its pivotal axis, said sublever having upper and lower arms, an angular lever supported behind a vertical plane containing the axis of said sublever, a key-lever, and links connecting said levers with one another and with the type-bar.

38. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel levers, equal in width to the set of type-bars, a set of parallel key-actuated devices, wider than said system of levers, means connecting said levers with the type-bars, and means connecting said levers with the key-actuated devices.

39. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers, equal in width to the set of type-bars, a set of parallel key-levers, wider than the system of sublevers, means connecting the sublevers with the type-bars, and means connecting the sublevers with the key-levers.

40. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers, equal in width to the set of type-bars, a set of parallel key-levers, wider than the system of sublevers, links pivoted to the sublevers and to the type-bars, and other links pivoted to the sublevers and operatively connected with the key-levers.

41. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers, equal in width to the set of type-bars, a set of parallel key-actuated angular levers, wider than the system of sublevers, means connecting said sublevers with the type-bars, and means connecting said sublevers with the angular levers.

42. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers, equal in width to the set of type-bars, a set of parallel key-actuated angular levers, wider than the system of sublevers, links pivoted to said sublevers and to the type-bars, and links pivoted to said sublevers and to said angular levers.

43. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers in front of a vertical plane cutting the set of type-bars near their pivotal axes, said system being equal in width to the set of type-bars, a set of parallel key-actuated angular levers behind the sublevers, said set of angular levers being wider than said system of sublevers, means connecting said sublevers with the type-bars, and means connecting said sublevers with said angular levers.

44. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers in front of a vertical plane cutting the set of type-bars near their pivotal axes, said system being equal in width to the set of type-bars, a set of parallel key-actuated angular levers behind the sublevers, said set of angular levers being wider than said system of sublevers, links pivoted to said sublevers and to the type-bars, and other links pivoted to said sublevers and to said angular levers.

45. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of levers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, said levers extending above their pivotal axes, connections extending from said levers above their pivotal axes to the type-bars, and key-actuated means operative to move the upper ends of said levers in substantially horizontal directions from their normal positions and away from a vertical plane cutting the type-bars near their pivotal axes, said means including a set of pivoted devices having their pivotal axes at elevations progressively increasing from the middle to the sides of said set of devices, and connections extending from said devices to said levers.

46. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of levers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, each of said levers being movable at its ends on arcs whose chords are more nearly horizontal than vertical, a set of pivoted key-actuated devices having their pivotal axes at elevations progressively increasing from the middle to the sides of said set of devices, means connecting said levers with the type-bars, and means connecting said levers with said key-actuated devices.

47. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of sublevers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, a set of key-actuated angular levers having their pivotal axes at elevations progressively increasing from the middle to the sides of said set of angular levers, means connecting said sublevers with the type-bars, and means connecting said sublevers with said angular levers.

48. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of sublevers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, a system of key-actuated angular levers having their pivotal axes at elevations progressively increasing from the middle to the sides of said system, links pivoted to said sublevers and to the type-bars, and links pivoted to said sublevers and to said angular levers.

49. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel levers, equal in width to the set of type-bars, said levers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, a set of pivoted and parallel key-actuated devices, wider than

said system of levers, said devices having their pivotal axes at elevations progressively increasing from the middle to the sides of said set of devices, means connecting said levers with the type-bars, and means connecting said levers with said key-actuated devices.

50. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers, equal in width to the set of type-bars, said sublevers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, a set of parallel key-actuated angular levers, wider than said system of sublevers, said angular levers having their pivotal axes at elevations progressively increasing from the middle to the sides of said set of angular levers, means connecting said sublevers with the type-bars, and means connecting said sublevers with said angular levers.

51. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers, equal in width to the set of type-bars, said sublevers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, a system of parallel key-actuated angular levers, wider than said system of sublevers, said angular levers having their pivotal axes at elevations progressively increasing from the middle to the sides of said system, links pivoted to said sublevers and to the type-bars, and other links pivoted to said sublevers and to said angular levers.

52. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers, equal in width to the set of type-bars, a set of parallel key-levers, wider than the system of sublevers, a third set of parallel levers, equal in width to the set of key-levers, connections between the type-bars and sublevers, connections between the key-levers and the levers of said third set, and connections between the last-mentioned levers and the sublevers.

53. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers, equal in width to the set of type-bars, a set of parallel key-levers, wider than the system of sublevers, a set of parallel angular levers, equal in width to the set of key-levers, connections between the type-bars and sublevers, connections between the key-levers and angular levers, and connections between the angular levers and sublevers.

54. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers in front of a vertical plane cutting the set of type-bars near their pivotal axes, said system being equal in width to the set of type-bars, a set of parallel key-levers, wider than the system of sublevers, a third set of parallel levers above the key-levers and behind the sublevers, said third set of levers being equal in width to the set of key-levers, connections between the type-bars and sublevers, connections between the key-levers and the levers of said third set, and connections between the last-mentioned levers and the sublevers.

55. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers in front of a vertical plane cutting the set of type-bars near their pivotal axes, said system being equal in width to the set of type-bars, a set of parallel key-levers, wider than the system of sublevers, a set of parallel angular levers above the key-levers and behind the sublevers, said set of angular levers being equal in width to the set of key-levers, connections between the type-bars and sublevers, connections between the key-levers and angular levers, and connections between the angular levers and sublevers.

56. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers, equal in width to the set of type-bars, the sublevers of said system having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, a set of parallel key-levers, wider than the system of sublevers, a third set of parallel levers, equal in width to the set of key-levers, the levers of said third set having their pivotal axes at elevations progressively increasing from the middle to the sides of the set, connections between the type-bars and sublevers, connections between the key-levers and the levers of said third set, and connections between the last-mentioned levers and the sublevers.

57. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers in front of a vertical plane cutting the set of type-bars near their pivotal axes, said system being equal in width to the set of type-bars, and the sublevers of said system having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, a set of parallel key-levers, wider than the system of sublevers, a third set of parallel levers above the key-levers and behind the sublevers, said third set of levers being equal in width to the set of key-levers, and the levers of said third set having their pivotal axes at elevations progressively increasing from the middle to the sides of the set, connections between the type-bars and sublevers, connections between the key-levers and the levers of said third set, and connections between the last-mentioned levers and the sublevers.

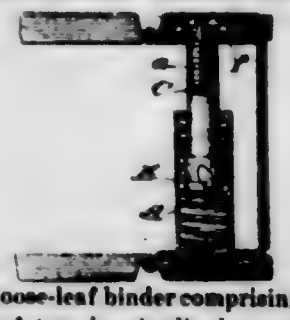
58. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers in front of a vertical plane cutting the set of type-bars near their pivotal axes, said system being equal in width to the set of type-bars, and the sublevers of said system having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, a set of parallel key-levers, wider than the system of sublevers, a set of parallel angular levers above the key-levers and behind the sublevers, said set of angular levers being equal in width to the set of key-levers, and said angular levers having their pivotal axes at elevations progressively increasing from the middle to the sides of the set, connections between the type-bars and sublevers, connections between the key-levers and angular levers, and connections between the angular levers and sublevers.

59. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a system of parallel sublevers in front of a vertical plane cutting the set of type-bars near their pivotal axes, said system being equal in width to the set of type-bars, and the sublevers of said system having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, a set of parallel key-levers, wider than the system of sublevers, a set of parallel angular levers above the key-levers and behind the sublevers said set of angular levers being equal in width to the set of key-levers, and said angular levers having their pivotal axes at elevations progressively increasing from the middle to the sides of the set, parallel connections between the type-bars and sublevers, connections of gradually-increasing length from the center outward between the key-levers and angular levers, and links pivoted at their rear ends to the angular levers and at their front ends to the sublevers, the said links being more and more obliquely arranged from the middle of the system toward the sides thereof.

60. In a type-writing machine, the combination of a front-strike pivoted type-bar, a sublever supported in front of a vertical plane cutting the type-bar near its pivotal axis, said sublever having upper and lower arms, a key-actuated angular lever supported behind the vertical plane containing the axis of said sublever, a key-lever, a link extending backward from the upper arm of said sublever and connecting it with the type-bar, another link extending backward from the lower arm of said sublever and connecting it with the angular lever, and another link extending downward from the angular lever and connecting it with the key-lever.

61. In a type-writing machine, the combination of a set of front-strike pivoted type-bars, a set of key-levers wider than the set of type-bars, a system of sublevers having their pivotal axes at elevations progressively increasing from the middle to the sides of the system, each of said sublevers being movable at its ends on arcs whose chords are more nearly horizontal than vertical, and said system of sublevers at the top being substantially equal in width to the set of type-bars, links pivoted to the upper arms of said sublevers and to the type-bars, and means connecting the lower arms of said sublevers with the key-levers.

807,450. BAFFLE FOR THE LOCKS OF THE ADJUSTABLE BACKS OF LOOSE-LEAF BINDERS, &c. JOHN FIEBERG, Chicago, Ill., assignor to J. S. McDonald Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 29, 1904. Serial No. 238,778.



Claim.—1. A loose-leaf binder comprising two clamping-plates; a lock consisting of two longitudinal coacting members, one of which is adjustable longitudinally; a screw adjustably securing said member to one of said plates; and a built-up portion on the head of said screw consisting of a circular disk of greater diameter than said head and fitted into a countersunk portion of the clamping-plate engaged thereby.

2. A loose-leaf binder comprising two clamping-plates; a lock

consisting of two longitudinally-coacting members, one of which is adjustable longitudinally; a screw adjustably securing said member to one of said plates; and a built-up portion on the head of said screw consisting of a circular disk of greater diameter than said head, said disk having recesses in its outer surface, and fitted into a countersunk portion of the clamping-plate engaged thereby.

3. A loose-leaf binder comprising two clamping-plates; a lock consisting of two longitudinally-coacting members, one of which is adjustable longitudinally; a screw adjustably securing said member to one of said plates, a built-up portion on the head of said screw consisting of a circular disk of greater diameter than said head and fitted into a countersunk portion of the clamping-plate engaged thereby; and a centering-pin projecting upwardly from the center of said screw and passing through said disk.

4. A loose-leaf binder comprising two clamping-plates; a lock consisting of two longitudinally-coacting members, one of which is adjustable longitudinally, a screw adjustably securing said member to one of said plates; a built-up portion on the head of said screw consisting of a circular disk of greater diameter than said head and fitted into a countersunk portion of the clamping-plate engaged thereby; a centering-pin projecting upwardly from the center of said screw and passing through said disk; and a loose sleeve on said pin.

5. A loose-leaf binder comprising two clamping-plates; a lock consisting of two longitudinally-coacting members, one of which is adjustable longitudinally; a screw adjustably securing said member to one of said plates; a built-up portion on the head of said screw consisting of a circular disk of greater diameter than said head and fitted into a countersunk portion of the clamping-plate engaged thereby; a centering-pin projecting upwardly from the center of said screw and passing through said disk; a loose leaf on said pin; and an escutcheon covering said disk and provided with a suitable keyhole in its upper face.

6. A loose-leaf binder comprising two clamping-plates; a lock consisting of two longitudinally-coacting members, one of which is adjustable longitudinally; a screw adjustably securing said member to one of said plates; a built-up portion on the head of said screw consisting of a circular disk of greater diameter than said head and fitted into a countersunk portion of the clamping-plate engaged thereby; and an escutcheon covering said disk and provided with a suitable keyhole in its upper face.

7. A loose-leaf binder comprising two clamping-plates; a lock consisting of two longitudinally-coacting members, one of which is adjustable longitudinally; a screw adjustably securing said member to one of said plates; a built-up portion on the head of said screw consisting of a circular disk of greater diameter than said head and fitted into a countersunk portion of the clamping-plate engaged thereby; a centering-pin projecting upwardly from the center of said screw and passing through said disk; and an escutcheon covering said disk and provided with a suitable keyhole in its upper face.

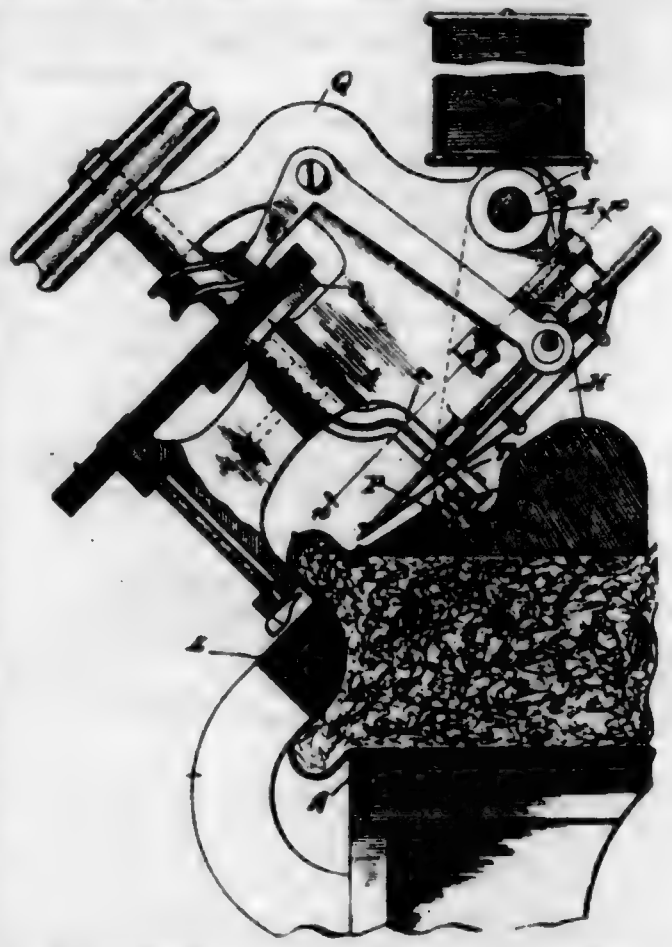
807,451. MATTRESS-SEWING MACHINE. CHARLES A. FISHER, Chicago, Ill. Filed Oct. 21, 1901. Serial No. 79,409.

Claim.—1. In a machine of the class described, the combination with a bed, of a vertically-adjustable presser-block, a guide-bar carried by said presser-block, means slidably mounted on said bar for sewing a seam, a rack-bar carried by said presser-block, a pawl carried by said sewing means and arranged to engage said rack-bar, and means for actuating said pawl to cause said sewing means to travel along said bar, substantially as described

2. In a machine of the class described, the combination with a bed, of means for compressing a mattress into position to be sewed along its upper edges, and means for sewing said mattress arranged to travel across said mattress while sewing a seam therein, substantially as described

3. In a machine of the class described, the combination with means for vertically compressing a mattress, of means for horizontally compressing a portion of said mattress whereby a fold of said mattress is caused to bulge outwardly between said vertical compressing means and said horizontal compressing means, and means arranged to travel across said mattress and to simultaneously sew a seam along the base of said bulging portion, substantially as described.

4. In a machine of the class described, the combination with a bed, of a vertically-adjustable presser-block, a horizontally-adjustable presser-bar, a guide-rod mounted above said presser-block, a sewing-machine pivotally and slidably mounted upon said guide-rod, a rack-bar mounted below said guide-rod, and means actuated by the driving mechanism of said sewing-machine for engaging said rack-bar and driving said machine along said rack-bar during the operation of said machine, substantially as described.

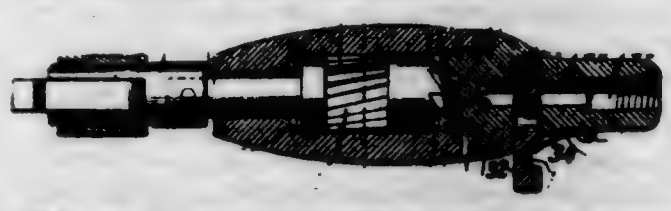


5. In a machine of the class described, the combination with a bed, of means for compressing a horizontal and a vertical surface of a mattress along lines parallel with, but a short distance away from, the line where such vertical and horizontal surfaces intersect each other, and means for sewing a seam through said mattress from such horizontal to such vertical faces and on a line parallel with, but a short distance away from, the intersection between such vertical and horizontal surfaces, and means for causing said sewing means to travel across said mattress while sewing such seam, substantially as described.

6. In a machine of the class described, the combination with a bed, of a vertically-adjustable presser-bar, a guide-bar carried by said presser-bar, means slidably mounted on said guide-bar for sewing a seam, and means whereby said sewing means is caused to travel along said guide-bar, substantially as described.

7. In a machine of the class described, the combination with means for forcing the filling material into an edge cushion of a mattress, and for holding the material in the cushion under pressure, of means arranged to travel across the mattress and sew a seam through the mattress at the inner edge of said cushion, substantially as described.

807,452. HAND PNEUMATIC TOOL. EMIL FRANKE, Hicksville, N. Y. Filed Sept. 2, 1905. Serial No. 276,871.



Claim.—1. A hand-tool comprising a casing, a rotary member therein having a set of turbine-blades on one end thereof and a second set of turbine-blades intermediate the ends thereof, said second set of turbine-blades being adapted to be impinged upon by motive fluid directed tangentially against the periphery of the rotary member, means for securing an implement to said rotary member, and means for directing motive fluid slantingly against the first set of turbine-blades and tangentially against the second set of turbine-blades.

2. A hand pneumatic tool comprising a casing, a rotary member in said casing, having one set of turbine-blades upon the end thereof and a second set of turbine-blades intermediate the ends thereof, a head secured to the casing and having a bore extending therethrough and separating into a plurality of discharge-passages, a valve in said head, a pair of oppositely-disposed outlets in said

casing adjacent to each set of turbine-blades, a pair of inlets in said casing adjacent to one set of turbine-blades, a pair of removable slotted plates for conducting motive fluid from one pair of outlets to one pair of inlets, and from the other pair of outlets to the atmosphere, and means for securing an implement to said revolving member.

807,453. INDIGO DYE. JOHN W. PRIEB, Winston Salem, N. C. Filed Oct. 12, 1904. Serial No. 228,198.

Claim.—1. A padding liquor for indigo-dyeing which consists of a mixture of indigo, milk of lime, zinc-dust, caustic soda, and starch, when mixed with a solvent.

2. A padding liquor for indigo-dyeing which consists of a mixture of indigo, milk of lime, zinc-dust, caustic soda, starch, and alizarin-oil, when mixed with water to form a solution

807,454. SAW AND CHISEL GUMMER. BURT F. PROBST, Jacobsville, Mich. Filed June 22, 1903. Serial No. 162,677.



Claim.—1. In a device of the class described, a base-plate provided with a longitudinal slot which extends from one end of the plate nearly to the opposite end thereof, the closed end of the slot being A-shaped and the walls thereof at the closed end constituting cutting edges, in combination with a cutting member arranged partly within the slot of the base-plate for a portion of its length and having its operative end recessed to provide a lower cutting portion with flanges which overhang the walls of the slot, said cutting portion being tapered to a point to coöperate with the A-shaped end of the slot of the base, and having its lower face beveled upwardly to provide a shear cut, causing the cutting operation to begin at the inner end of the cutting portion of the beveled member, and said cutting member being pivoted at an intermediate point of its length and also intermediate of the length of the base-plate, substantially as described.

2. A device of the class described comprising a base-plate provided with a longitudinal slot, the walls thereof at one end of the same constituting cutting edges, in combination with a cutting member pivoted at an intermediate point of its length and also intermediate of the length of the base, the opposite ends of the cutting member being arranged at an angle to each other, the cutting member being of less length than the base-plate and having a heavier rear portion adapted to hold the front portion normally elevated above the base-plate, and an adjustable device for limiting the upward swing of the front portion of the pivoted cutting member, substantially as described.

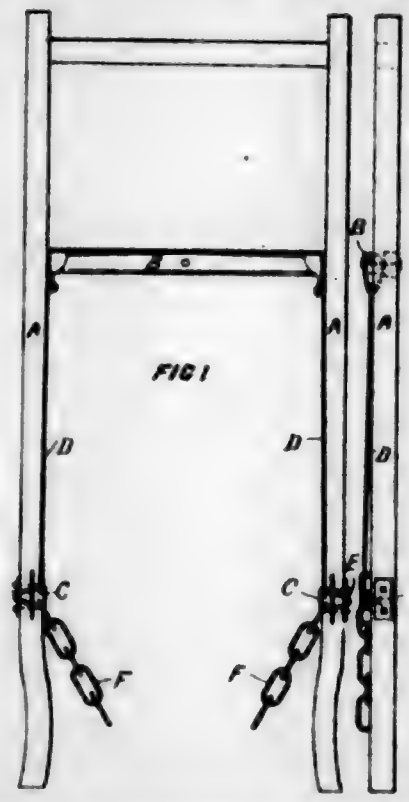
3. A device of the class described comprising a base having a longitudinal opening, and a longitudinally-adjustable pivoted cutting member having the greater portion of it arranged within the opening of the base, said pivoted cutting member having front and rear arms arranged at an angle to each other, substantially as described.

4. A device of the class described comprising a base having a longitudinal opening tapered at the front portion, and a pivoted cutting member having its greater portion arranged within the opening, and cut away at opposite sides of the bottom of its front portion to provide a tapered cutting portion to fit the said opening, the top of the front portion of the cutting member being extended laterally beyond the tapered cutting portion and adapted to receive the blows of a hammer and arranged to engage the base, substantially as described.

5. A device of the class described comprising a base, adjustable bearing-plates mounted on the base, and a cutting member having a cutting portion and provided with a pivot arranged in the bearing-plates, whereby the cutting member is capable of adjustment longitudinally of the base, substantially as described.

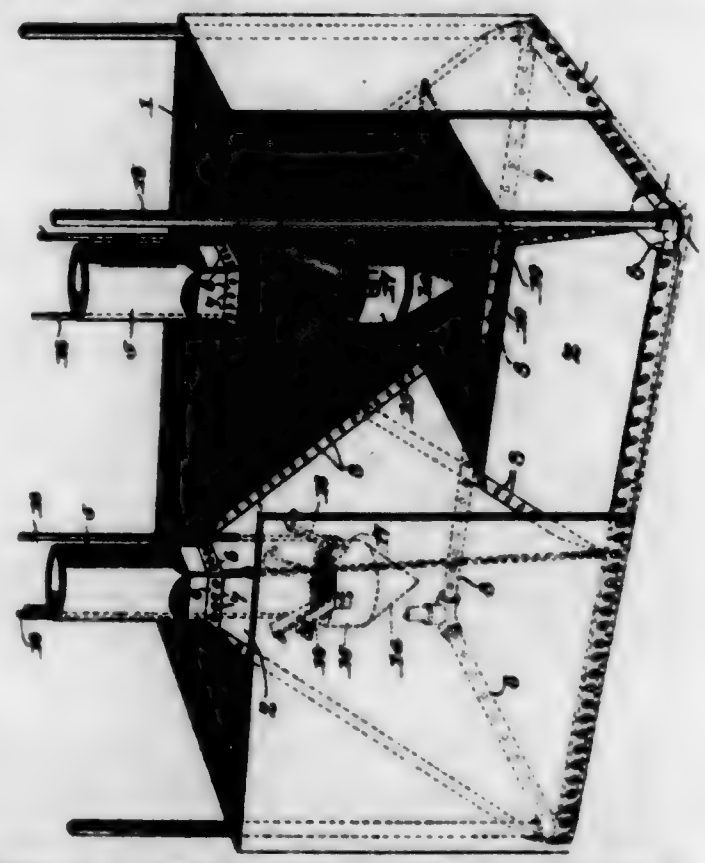
6. In a device of the class described, a base-plate provided with a longitudinal slot which extends from one end of the plate nearly to the opposite end thereof, the closed end of the slot being A-shaped, and the walls thereof at the closed end constituting cutting edges, in combination with a cutting member arranged partly within the slot of the base-plate and having its inner end tapered to a point to coöperate with the A-shaped end of the slot of the base, and having its lower face beveled upwardly to provide a shear cut, thereby causing the cutting operation to begin at the inner end of the cutting portion of the cutting member.

807,455. DRAFT-EQUALISER FOR VEHICLES. WILLIAM A. FRY, Washington, D. C. Filed Dec. 21, 1904. Serial No. 237,775.



Claim.—In an attachment for equalizing the draft, the combination of a plate carrying a vertical integral pin, extending above the outside of the shaft, and adapted to receive a swinging link interposed on the tug between its ends.

807,456. CAISSON. EDWARD H. GILBERT, Canadian, Tex. Filed Apr. 21, 1905. Serial No. 256,751.



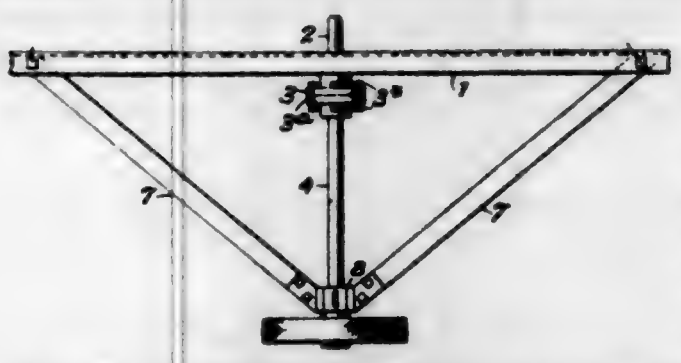
Claim.—1. A caisson embodying an earth-trap, means for supplying liquid under pressure to the lower portion thereof, and pneumatic earth-discharging means arranged in the upper portion of the trap.

2. A caisson embodying a shell, a plurality of earth-traps combined therewith, means for supplying liquid under pressure into the traps, and pneumatic earth-discharging means arranged in the upper portion of each trap.

3. A caisson comprising a shell, a plurality of open-bottom earth-traps secured therein, spraying mechanism disposed near the lower edges of the traps, a discharge-pipe connecting with the upper end of each of the traps, an air-chamber arranged within each of the traps and disposed beneath the discharge-pipe, and air-supply pipes communicating with the air-chamber.

4. A caisson comprising a rectangular shell open at its upper and lower ends, a plurality of pyramidal open-bottom earth-traps secured therein, inward-discharging spray-pipes disposed around the lower edges of the earth-traps, air-chambers supported beneath the apices of the earth-traps and provided with reduced lower terminals, discharge-pipes communicating with the upper ends of the earth-traps, and air-supply pipes connecting with the air-chambers.

807,457. **DRIVING ATTACHMENT FOR AUTOMOBILES.** BENJAMIN A. GRAHM, Chillicothe, Ohio. Filed July 28, 1905. Serial No. 271,852.



Claim.—1. The combination with the frame and driving mechanism of an automobile, a shaft readily attachable to and detachable from said mechanism; and a support for said shaft readily detachable from and attachable to the outside of said frame.

2. The combination with the frame and driving mechanism of an automobile, a shaft readily attachable to and detachable from said mechanism; braces readily attachable to and detachable from said frame for supporting the outer end of said shaft; and a support adapted to rest upon the ground for maintaining said shaft in correct alinement.

3. The combination with the frame and driving mechanism of an automobile, a shaft readily attachable to and detachable from said mechanism; said shaft extending beyond said frame; and a support for the outer free end of said shaft; said support being adapted to rest upon the ground.

4. The combination with the frame and driving mechanism of an automobile, a shaft readily attachable to and detachable from said mechanism, said shaft extending outside of said frame; and a journal-box having pivoted thereto a swinging leg adapted to fold up alongside of said shaft when not in use.

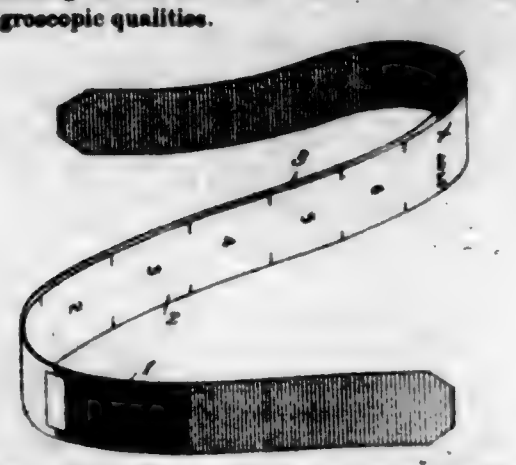
5. The combination with the frame and driving-shaft of an automobile, said shaft projecting beyond the outside of said frame; a shaft adapted to be coupled to the said driving-shaft; and an extensible support for the last-named shaft.

6. The combination with the frame and driving-shaft of an automobile, said shaft projecting beyond the outside of said frame and being provided with a coupling-head; a shaft provided with a cooperating coupling-head for attachment to said driving-shaft; a journal-box connected by braces with said frame; said braces readily attachable to and detachable from said frame; and a foldable extensible support for said journal-box.

807,458. **PHOTOGRAPHIC-FILM CARTRIDGE.** HARRY LE B. GRAY, Rochester, N. Y., assignor to Eastman Kodak Company, Rochester, N. Y., a Corporation of New York. Filed Mar. 20, 1905. Serial No. 250,948.

Claim.—1. A photographic-film cartridge composed of a strip of flexible sensitized film and a covering-strip or backing of flexible opaque material to which the film is attached at one end and wound with it into spiral form, said covering-strip having upon its outer side characters or markings for indicating the separate film exposures, printed in ink containing in solution matter contrasting in color or shade with the surface of the opaque material to which they are applied, and having the same relative hygroscopic qualities as said surface.

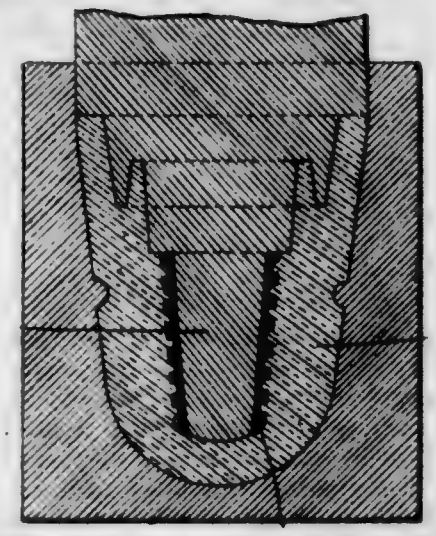
2. A photographic-film cartridge composed of a strip of flexible sensitized film and a flexible covering-strip or backing of flexible opaque material to which the film is attached at one end and wound with it into spiral form, said covering-strip having its outer surface relatively lighter in shade than its surface next the film and provided with characters or markings on said outer surface indicating the separate film exposures and printed in an ink containing in solution matter contrasting in color or shade therewith and of substantially the same hygroscopic qualities.



3. A photographic-film cartridge composed of a strip of flexible sensitized film and a flexible covering-strip or backing of opaque black paper to which the film is attached at one end and wound with it into spiral form, said paper strip having formed upon its outer surface a coating lighter in color or shade upon which are applied characters for indicating the separate film exposures in an ink of a contrasting hue and of substantially the same hygroscopic qualities as said surface.

4. A photographic-film cartridge composed of a strip of flexible sensitized film and a flexible paper covering-strip or backing to which the film is attached at one end and wound with it into spiral form, said paper covering-strip embodying an inner black, opaque paper lining and an outer paper of lighter hue, upon which latter are characters for indicating the separate film exposures in an ink containing in solution matter differing in hue from that of said outer paper and having substantially the same hygroscopic qualities.

807,459. **PROCESS OF FORMING GLASS ARTICLES.** MORTON HARLOW, Hawley, Pa., assignor of one-third to Harry P. Decker, Scranton, Pa. Filed Feb. 3, 1905. Serial No. 243,851.



Claim.—1. The method of producing hollow articles of glass, which consists in applying a sleeve, fusible and destructible by heat, to the plunger of a glass-press, embedding said sleeve in a mass of hot plastic glass in a mold, permitting the glass to set around said sleeve, and then permitting the heat of the glass to fuse the sleeve.

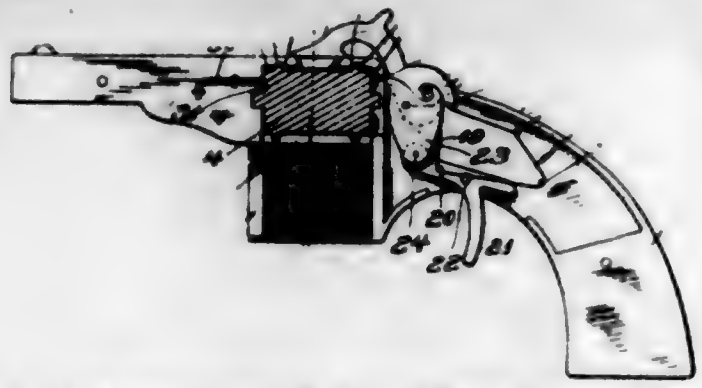
2. The method of producing hollow articles of glass with internal projections, which consists in constructing a fusible-metal sleeve having external projections, applying said sleeve to the plunger of a glass-press, forming the article of hot plastic glass about the sleeve by pressure in a mold, withdrawing the plunger from the sleeve after the glass is set, and permitting the sleeve to melt by the heat of the glass, and emptying the fused metal from the article.

807,460. **TOY PISTOL.** OWEN L. HARRISON, Egan, Ill. Filed Feb. 18, 1905. Serial No. 246,033.

Claim.—1. A toy pistol comprising a frame having a chamber and provided at opposite sides thereof with ribbon-receiving slots, a cylinder arranged within the chamber for feeding the ribbon, a hammer and lock mechanism for actuating the hammer and the cylinder, substantially as described.

2. A toy pistol comprising a frame provided at opposite sides

with ribbon-receiving slots, a hammer operating between the slots and lock mechanism for actuating the hammer, substantially as described.

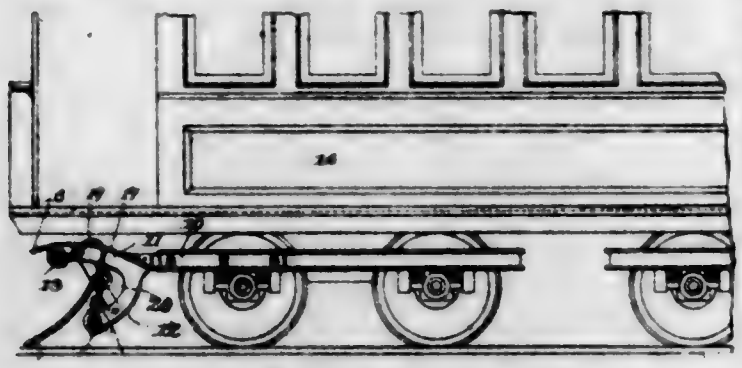


3. A toy pistol comprising a frame having upper and lower chambers, the upper chamber being provided with opposite ribbon-receiving slots, and the lower chamber forming a magazine and being open at the front, and provided at one side with a slot, a hammer operating between the slots of the chamber, a cylinder located within the chamber for feeding a ribbon, and lock mechanism for actuating the hammer and the cylinder, substantially as described.

4. A toy pistol comprising a frame, a cylinder having approximately triangular flanges, a hammer, a trigger, a dog loosely connected with a hammer and pivoted to the trigger and provided with an arm for engaging the said flanges, and a mainspring, substantially as described.

5. A toy pistol comprising a frame, a cylinder having projecting flanges, a hammer provided with a projection, a trigger, a dog pivoted to the trigger and having a hook for engaging the projection of the hammer, said dog being also provided with an arm arranged to engage the flanges of the cylinder, and a mainspring engaging the hammer, the trigger, substantially as described.

807,461. CAR-FENDER. EDWARD C. HAYNES, Portland, Oreg. Filed Aug. 23, 1905. Serial No. 275,423.



Claim.—1. In a car-fender, a slotted plate resilient fingers secured beneath the car and extending through the slots, and a bar extending transversely of the car and in the rear of the fingers, and connected with the fingers by auxiliary resilient members.

2. In a car-fender, parallel bars spaced one above the other and extending transversely of the car, resilient fingers secured to the upper bar and connected with the lower bar by auxiliary resilient members.

3. In a car-fender, parallel bars spaced one above the other, and resilient fingers secured to the upper bar and passing forward of and connected with the lower bar by auxiliary resilient members.

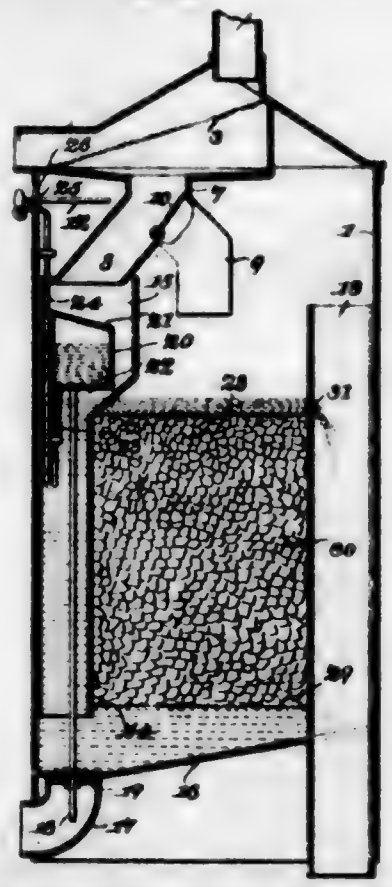
4. In a car-fender, parallel bars spaced one above the other and extending transversely of the car, resilient fingers secured to the upper bar and extending downward in a curve in front of the lower bar, and springs connecting the fingers with the lower bar.

5. In a car-fender, parallel bars spaced one above the other and extending transversely of the car, resilient fingers secured to the upper bar and extending first rearwardly then curved downwardly and forwardly in front of the lower bar and springs connecting the fingers and lower bar.

6. In a car-fender, a bar extending transversely of and beneath the car, a curved plate secured to and above the bar and having slots formed therein, resilient fingers secured to the bar and extending backward and upward then downward and forward with the upwardly-disposed curves extending through the slots in the plate.

7. In a car-fender, parallel bars one above the other and extending transversely of the car, a curved plate secured to and above the upper bar and having slots extending longitudinally of the car, resilient fingers secured to the upper bar and extending first upward and backward then forward and downward in front of the lower bar and with the upwardly-disposed curves extending through the slots in the plate and springs connecting the fingers with the lower bar.

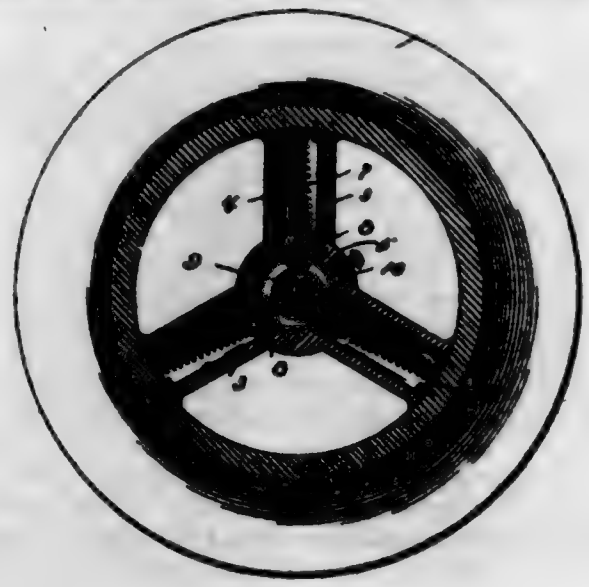
807,462. FILTER. JOHN S. HEATON, Shelbyville, Ky. Filed Aug. 2, 1905. Serial No. 273,481.



Claim.—1. In a rain-water filter, a valve-operating device including a stem carrying a valve at its lower end and having at its upper end a box provided with an inclined foraminous top and a single bottom opening, a suitably-guided vertically-movable operating-rod loosely engaging the under side of the box, a spring coiled upon said rod to balance the weight of the box and related parts, and means for locking the operating-rod at various adjustments.

2. A filter-casing having a strainer, a dished diaphragm below said strainer and a spout depending from said diaphragm and having divergent ducts and a cut-off between said ducts; a conduit within the casing beneath one of the ducts and terminating above the bottom of the casing; a conduit extending through the bottom of the casing, perforated diaphragms in the casing, filtering material between said diaphragms, an outlet in the bottom of the casing, a valve for said outlet mounted upon a stem extending through the receiving-conduit, a box connected with said stem and having a foraminous top and a drain-opening in the bottom thereof, and means for normally supporting the box in a raised and the valve in an unseated position; the discharge-conduit being provided with a drain-opening above the upper diaphragm of the filtering-compartment.

807,463. SELF-LUBRICATING TROLLEY-WHEEL. JOHN HEMSLEY, Huntington, Ind. Filed July 8, 1905. Serial No. 268,840.

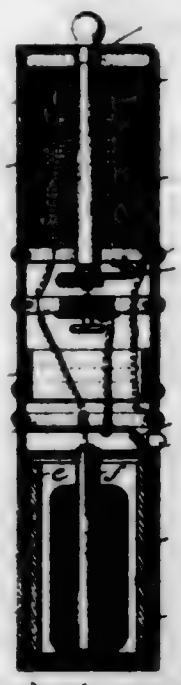


Claim.—1. A trolley-wheel having grease-containing cavities, coil-springs therein, balls engaged by the inner ends of the springs and resting upon the journal, whereby by centrifugal force the balls travel outwardly through the grease during the rotation of the wheel and are forced inwardly by the springs carrying the grease to the journal bearing-surface when the wheel is at rest.

2. A trolley-wheel having grease-containing cavities communicating with a central journal-surface, conical-shaped weak coil-springs within said cavities, metal balls rotatably mounted within the inner enlarged ends of said coil-springs, whereby the balls by centrifugal force are forced outwardly through the grease during the rotation of the wheel and are forced inwardly by the springs carrying the grease to the journal bearing-surface when the wheel is at rest.

3. The combination of a trolley-wheel having a central bore therein, of a journal passing through said bore and having at its center a peripheral groove, the said trolley-wheel having grease-containing cavities, conical-shaped weak coil-springs within said cavities, metal balls rotatably mounted within the outer enlarged ends of said coil-springs and bearing within the peripheral groove of the journal, whereby the balls compress the springs by centrifugal force and travel outwardly through the grease during the rotation of the wheel and are forced inwardly carrying the grease with the same when the wheel is at rest.

807,464. **POCKET INDUCTION-COIL.** PAUL HOFFMANN, Charlottenburg, Germany. Filed Jan. 6, 1904. Serial No. 187,897.



Claim.—1. A pocket electric apparatus comprising a casing formed in two parts detachably connected with each other, each part of the casing carrying portions of an electrical apparatus and wires connecting the said portions together so that the apparatus may be used with the parts of the casing together or apart, substantially as described.

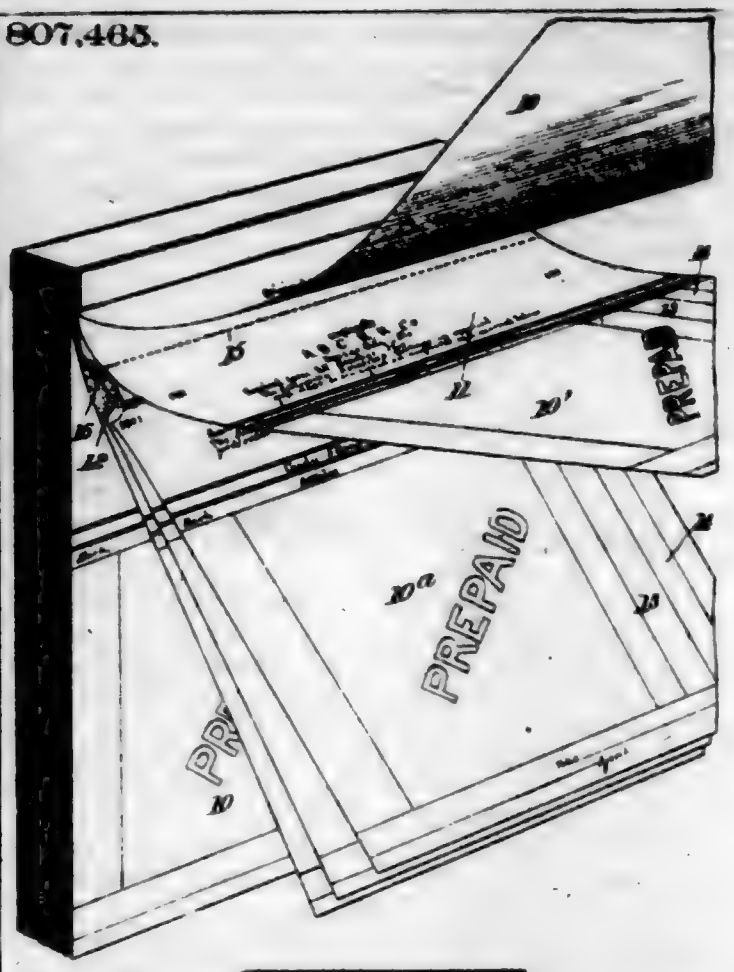
2. A pocket electric apparatus comprising two metal cases, an insulating-ring secured in the mouth of one of said cases and being adapted to removably fit in the mouth of the other case, each of said cases carrying parts of an electrical apparatus, and wires connecting said parts together so that the apparatus may be used with the cases together or separated, substantially as described.

807,465. **MANIFOLD BLANK-BOOK.** JOSEPH F. HOLMES, Kansas City, Kans. Filed Mar. 3, 1905. Serial No. 248,311.

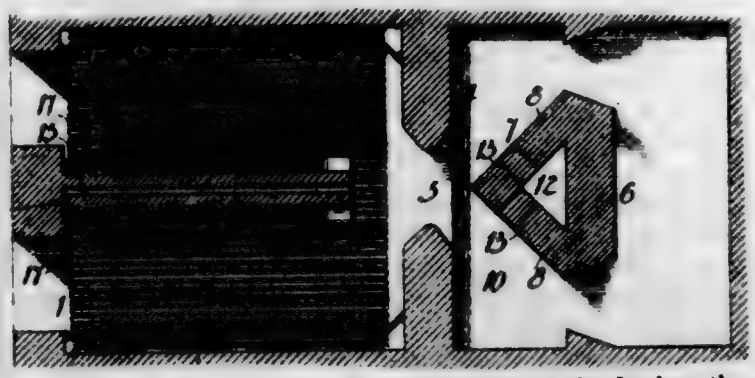
Claim.—1. A blank-book of the character described comprising a plurality of sets of sheets bound together, the sheets of each set consisting of an original, a duplicate, and a triplicate, said duplicate and triplicate each being provided with a scored or perforated line adjacent the bound edge, whereby stubs are formed, and a plurality of additional sheets secured to said triplicate along the scored or perforated line, whereby said additional sheets will adhere to said triplicate when the latter is detached from its stub.

2. A manifolding device comprising three sheets an original, a duplicate and a triplicate, said duplicate and triplicate each being provided with a scored or perforated line adjacent one edge, whereby stubs are formed, and a plurality of additional sheets gummed to each other and to said triplicate along the scored or perforated line, whereby said additional sheets will adhere to said triplicate when the latter is detached from its stub.

807,465.



807,466. **FURNACE.** HENRY HUBBARD, Pittsburg, Pa., assignor to Woolley Smokeless Furnace Company, Pittsburg, Pa. Filed Aug. 3, 1905. Serial No. 273,513.



Claim.—1. In a furnace, the combination of the fire-box the rear wall of which has a restricted outlet, an air-passage in the fire-box discharging toward said outlet, a bridge-wall beyond said rear wall forming between it and the latter a secondary combustion-chamber said bridge-wall having beveled surfaces for deflecting the products vertically and laterally, and an air-passage in said bridge-wall discharging through said deflecting-surfaces.

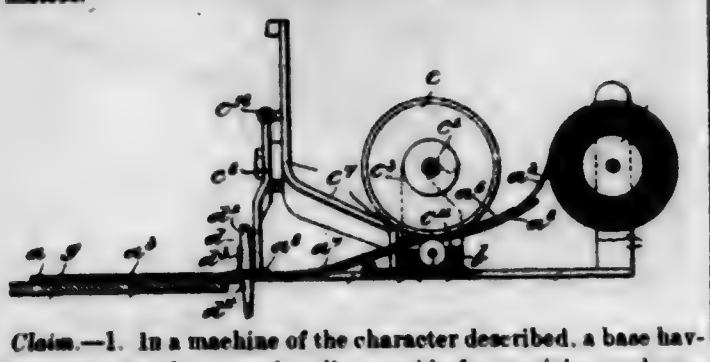
2. In a furnace, the combination of the fire-box the rear wall of which has a restricted outlet, a partition dividing said fire-box longitudinally and having an air-duct discharging adjacent to said outlet, a bridge-wall beyond said rear wall forming between it and the latter a secondary combustion-chamber, said bridge-wall having beveled surfaces for deflecting the products vertically and laterally, and an air-passage in said bridge-wall discharging through said deflecting-surfaces.

3. In a furnace, a fire-box, a main grate, a supplemental grate supported by the main grate and extending above the surface of the fuel-bed, a restricted outlet in the rear wall of the fire-box for the products of combustion, an air-passage discharging rearwardly through said outlet, a bridge-wall beyond said rear wall forming between it and the latter a secondary combustion-chamber said bridge-wall having beveled surfaces for deflecting the products vertically and laterally, and air-passages leading into said secondary combustion-chamber through the deflecting-surfaces.

4. In a furnace, a fire-box, a main grate, a supplemental grate supported by the main grate centrally thereof and extending above the surface of the fuel-bed, a restricted outlet in the rear wall of the fire-box for the products of combustion, a partition having an air-duct and supported by the supplemental grate and discharging rearwardly through said outlet, a bridge-wall beyond said rear wall forming between it and the latter a secondary combustion-chamber said bridge-wall having deflecting-surfaces, and air-passages lead-

ing into said secondary combustion-chamber through the deflecting-surfaces.

807,467. **AUTOMATIC MACHINE FOR FEEDING, MOISTENING, AND CUTTING LABELS OR STICKERS IN FILLET FORM.** James D. Humphrey, Towanda, Pa., assignor, by mesne assignments, to Charles T. Fox, Philadelphia, Pa. Filed Sept. 26, 1904. Serial No. 225,881.



Claim.—1. In a machine of the character described, a base having an opening with grooved walls, a guide for receiving and supporting a fillet at its edges to expose the upper and under side thereof and adapted to feed the fillet into said opening, a coacting feed-roller and moistening-roller for engaging the fillet at opposite sides within the guide to feed and moisten the fillet in its passage through the guide and prior to its introduction into said opening, and means adapted to permit of the severing of said fillet.

2. In a machine of the character described, means for guiding and feeding a fillet, and a cutting device consisting of spring-arms with projections having cutting-surfaces.

3. In a machine of the character described, means for guiding, feeding and moistening a fillet, and a cutting device, consisting of spring-arms with cutting-surfaces.

4. In a machine of the character described, a base having an opening with partially-grooved walls, a guide for engaging a fillet terminating in the opening and held in alinement with the grooved walls thereof, and means for engaging and moistening the fillet within the guide to moisten the same prior to its introduction by the guide into the opening.

5. In a machine of the character described, a base having an opening with partially-grooved walls, a guide for engaging a fillet at its edges and terminating in the opening and held in alinement with the grooved walls thereof, cutting means partially passing through said opening and interposed between the guide and grooved portion of the opening, and means for moistening the fillet and for feeding the same through the guide and cutting means and into the grooved walls of the opening.

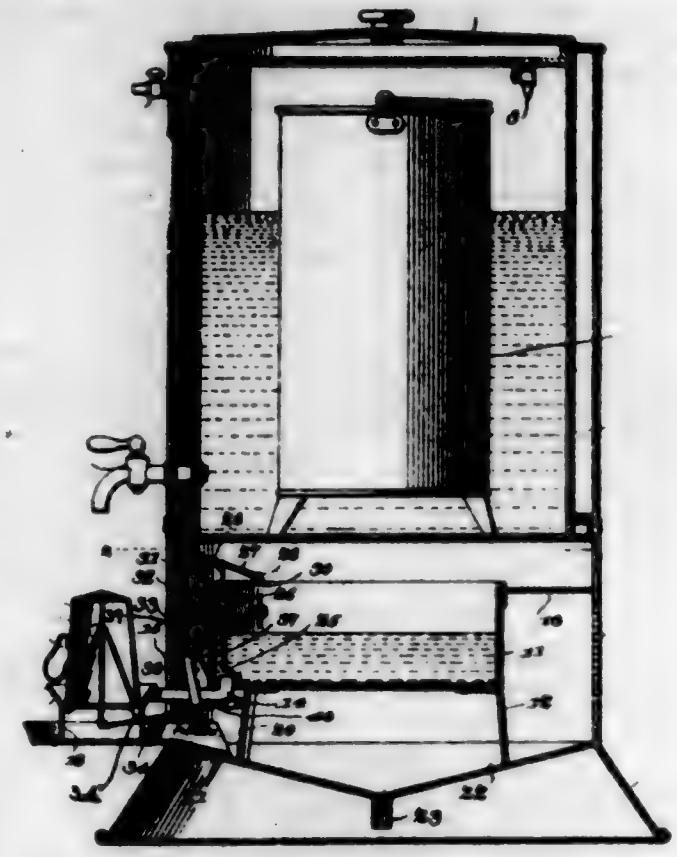
6. In a machine of the character described, a guide for engaging a fillet at its edges and portions adjacent thereto, a base having an opening forming the continuation of the guide, cutting means interposed between the guide and opening, means for moistening the fillet, and means for feeding the same through the cutting means and into the opening, certain of the walls forming said opening supporting the fillet.

7. In a machine of the character described, grooved strips for engaging a fillet at its edges, a base having an elongated opening with partially-grooved walls to form the continuation of the strips, cutting means interposed between the strips and the grooved walls of the opening, rollers for moistening the fillet and for feeding the same through the cutting means and into the grooved walls of the opening to support the portion of the fillet severed by the cutting means.

8. In a machine of the character described, a base having an elongated opening, a reel for supporting a fillet, a curved guide formed of grooved strips interposed between the reel and terminating in the opening for guiding the fillet into a portion of the opening, cutting means partially passing through the opening for severing the portion of the fillet fed into the opening, a feed-roller, and means for moistening the fillet, in combination with a fluid-receptacle and a pipe for conducting the fluid to said moistening means.

807,468. **SANITARY DRINKING APPARATUS.** Freeman S. Hawman, Bedford, Ind. Filed Dec. 3, 1904. Serial No. 235,402.

Claim.—1. A disinfecting apparatus comprising a support for the member to be disinfected, a disinfectant-receptacle, a passage leading from the receptacle to the support, a valve for the passage, a lever fulcrumed upon the receptacle, a rod connecting the lever and the valve, a push-rod hung from the lever, another lever fulcrumed intermediate of its ends beneath the support, a lifting-arm carried by said lever and adapted to engage the push-rod, and a trip-rod connected to the last-mentioned lever and piercing the bottom of the support into position for engagement by a member being placed upon the support.



2. A disinfecting apparatus comprising a support for the member to be disinfected, a disinfectant-receptacle, a passage leading from the receptacle to the support, a valve for the inner end of the passage, a bracket extending into the receptacle, a lever fulcrumed upon the bracket and projected externally of the receptacle, a rod connecting the lever and the valve, guides upon the exterior of the receptacle, a push-rod hung from the lever and working in the guides, a second lever fulcrumed intermediate of its ends upon the bottom of the support, a lifting-arm carried by said lever and adapted to engage the push-rod, and a trip-rod connected to the second-mentioned lever and rising through the bottom of the support.

3. A disinfecting apparatus comprising a cup-holder, a disinfectant-receptacle, a passage communicating from the receptacle to the cup-holder, a normally closed valve for the passage, and means controlled by the placing of a cup upon the cup-holder to open the valve, said means including mechanism to permit the closing of the valve after a predetermined period.

4. A disinfecting apparatus comprising a cup-holder, a disinfectant-receptacle, a passage communicating between the receptacle and the cup-holder, a normally closed valve for the passage, and trip mechanism extending from the cup-holder to the valve for opening the latter when the cup is placed upon the cup-holder, said mechanism including means to permit closing of the valve after a predetermined period.

5. A disinfecting apparatus comprising a cup-support, a disinfectant-receptacle, a passage communicating from the receptacle to the cup-support, a normally closed valve for the passage, a lever, a trip device connected to the lever and lying in the path of a cup to be placed upon the support, a lifting-arm pivotally connected to the lever an endwise-movable rod connected to the valve and in the path of the lifting-arm, and means to automatically shift the lifting-arm upon its pivotal support during its upward movement to disengage the same from the endwise-movable rod and permit the closing of the valve.

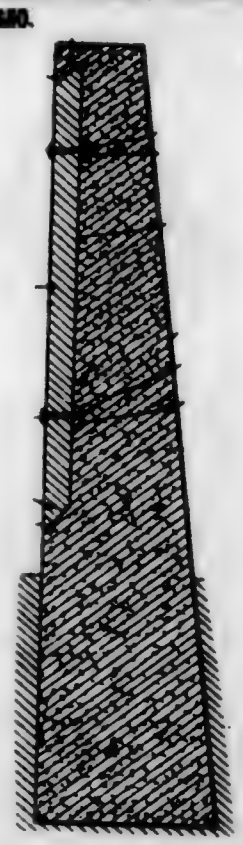
6. A disinfecting apparatus comprising a cup-support, a disinfectant-tank having a passage communicating with the support, a valve for the passage, a lever, a trip-rod connected to the lever and disposed in the path of a cup to be placed upon the support, a lifting-arm pivotally supported upon the lever, an endwise-movable rod connected to the valve and lying in the path of the lifting-arm, and a cam-guide located in the path of said arm to shift the same upon its pivotal support and disengage the lifting-arm from the rod.

7. A disinfecting apparatus comprising a cup-holder, a disinfectant-receptacle, a passage leading from the receptacle to the holder, a normally closed valve at the inner end of the passage, an endwise-movable trip-rod piercing the bottom of the holder, an intermediately-fulcrumed lever connected to the trip-rod, an upstanding lifting-arm pivotally supported upon the lever, a lever fulcrumed

upon the disinfectant-tank, a rod connecting said lever and the valve, a trip-rod depending from the lever with its lower end in the upper path of the lifting-arm, and an upwardly and outwardly inclined guide carried by the tank in the path of the upper end of the lifting-arm to shift the latter upon its pivotal support and disengage the same from the trip-rod to permit gravitation of the valve to its closed position.

8. A disinfecting apparatus comprising a support for the member to be disinfected, a disinfectant-receptacle, a passage forming a source of communication between the receptacle and the support, a valve for normally closing the passage, a lever fulcrumed intermediate of its ends beneath the support, a trip-rod between the lever and the valve for opening the latter, a trip piercing the holder and connected to the lever with its opposite end in the path of a member which is being placed upon the support, a weighted lifting-arm carried by the lever and adapted to engage the trip-rod, and an inclined guide member secured to the receptacle and adapted to engage the lifting-arm to thereby permit the valve to return to closed position.

807,469. **FENCE-POST.** AARON B. JESTER, Wentworth, Mo., assignor of one-half to Alfred M. Hilton, Wentworth, Mo. Filed Apr. 3, 1905. Serial No. 253,480.



Claim.—A post formed of plastic material and provided with a vertical socket in the face portion thereof, and transverse recesses communicating with said socket, the latter having an undercut upper wall and an outwardly-beveled lower wall, a wooden supporting-strip removably fitted in said socket and having reversely-beveled ends engaging the said undercut and beveled ends of the socket, and cross-strips seated in the recesses and to which said supporting-strip is secured, whereby the supporting-strip is held from downward and outward movement, substantially as described.

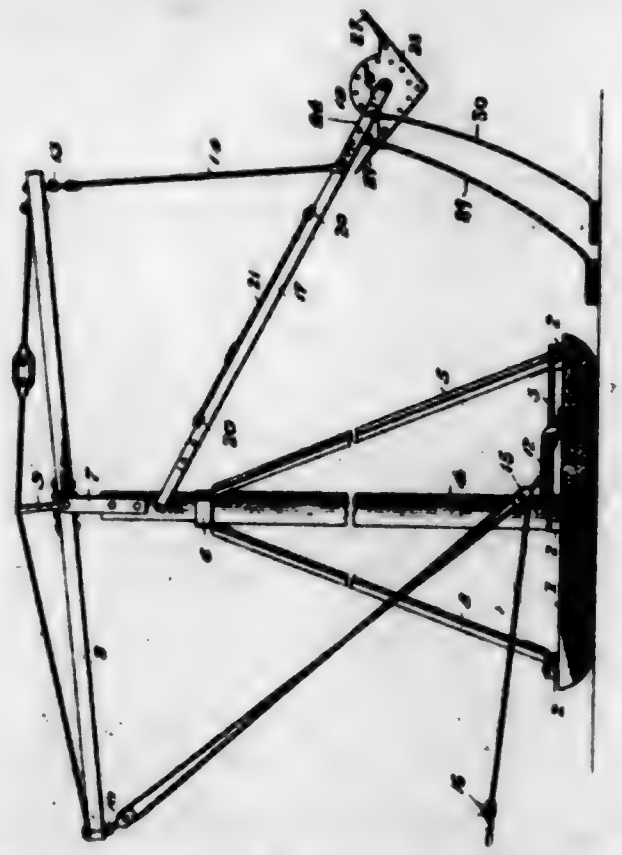
807,470. **PACKING FOR PISTONS.** WILLIAM J. KAHR, Baltimore, Md., assignor of one-half to Thomas Upperman, Baltimore, Md. Filed Apr. 11, 1904. Serial No. 202,800.



Claim.—1. The combination with a piston having a circumferential groove, said groove having a wall perpendicular to the axis of the piston and a wall inclined outwardly and toward the first wall, a ring fitting in said groove, a packing-ring, a dowel-pin connecting the two rings, said packing-ring having its inner face parallel to the perpendicular wall of the groove, and a metal ring having a face adapted to bear on the inner wall of the packing-ring and a face adapted to bear on the inclined face of the groove, as and for the purpose set forth.

2. The combination with the piston having an annular recess, the inner wall being oblique and the outer wall perpendicular to the axis of the piston, the packing-rings surrounding the piston, the outer one of which engages the perpendicular walls of the recess, and the wedge-shaped ring having an oblique face adapted to engage the oblique wall of the annular recess, the straight face of said ring being adapted to engage the packing-rings, as set forth.

807,471. **STACKER.** FRANK A. KNER, Westfall, Oreg. Filed Jan. 9, 1905. Serial No. 240,529.



Claim.—1. In a stacker, the combination with a swinging arm, of a stacking-receptacle pivoted to said arm, and releasable means for latching or fastening said stacking-receptacle to said arm in different tilted positions.

2. In a stacker, the combination with a swinging arm, of a stacking-receptacle pivoted to said arm to tilt on a substantially horizontal axis, and releasable means for latching or fastening said stacking-receptacle to said arm in different tilted positions.

3. In a stacker, the combination with a swinging arm, of a stacking-receptacle pivoted to said arm, and releasable means for latching or fastening said stacking-receptacle to said arm in different tilted positions comprising a releasable latch and a plate having a plurality of openings to engage the latch, said openings being disposed in succession at substantially equal distances from the pivotal point of the stacking-receptacle.

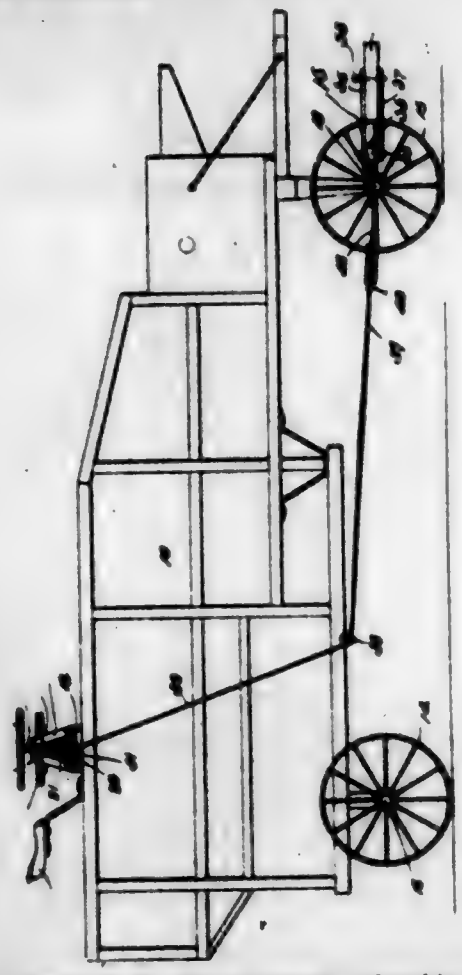
4. In a device of the class described, the combination with a suitable support, of a mast rotatably secured thereto, arms pivoted to said mast and extending outwardly therefrom, a walking-beam pivoted to said mast and connected at one end to said arms, power-operated means connected to said support and to the other end of said walking-beam, whereby the arms are raised or lowered, a fork pivotally secured between said arms, and a latch under the control of the operator for controlling the direction which the fork is to tilt and dump.

807,472. **STEERING ATTACHMENT FOR THRESHING-MACHINES.** WILLIAM M. KINGSLEY, Spring Valley, Minn. Filed July 31, 1905. Serial No. 272,010.

Claim.—1. The combination with the casing, of a threshing-machine mounted upon carrying-wheels with one of the axles swiveled, of a drum mounted for rotation upon said casing, cables extending in opposite directions from opposite sides of said drum and leading over guide-pulleys and thence extending diagonally and crossing beneath said casing and connected to said swiveled axle at opposite ends, and means for rotating said drum.

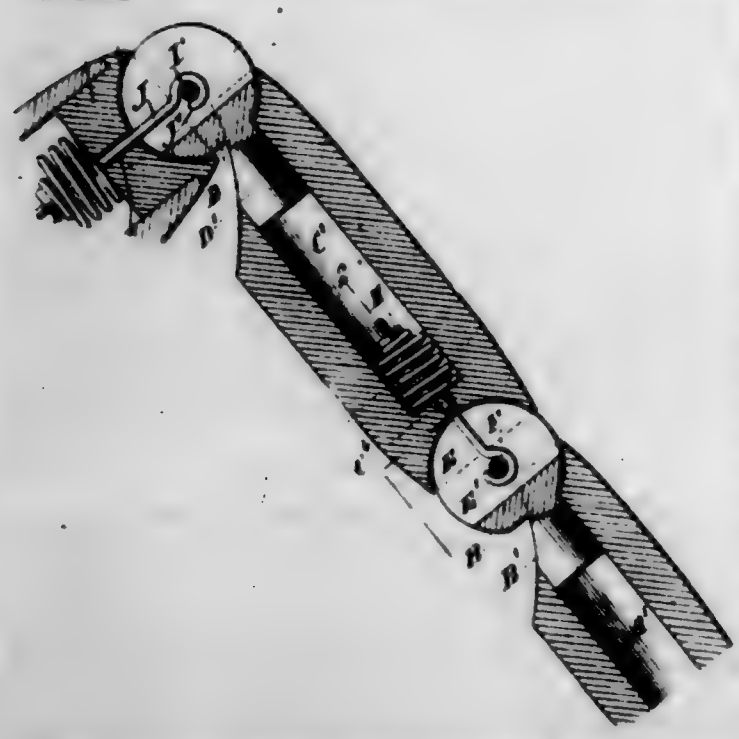
2. The combination with the casing, of a threshing-machine

mounted upon carrying-wheels with one of the axles swiveled, of a drum mounted for rotation upon said casing, cables extending in opposite directions from opposite sides of said drum and leading over guide-pulleys and thence extending diagonally and crossing beneath said casing and connected to said swiveled axle at opposite ends, means for rotating said drum, and springs connected into said cables adjacent to said axle.



3. In a device of the class described, a threshing-machine having carrying-wheels with the axle of one pair of said wheels swiveled, a base member connected upon the deck of said threshing-machine and transversely of the same, a shaft mounted for rotation upon said base member and carrying a cable-drum, cables connected to said drum and leading therefrom in opposite directions and conducted thence downwardly and crossing beneath the casing and coupled to said swiveled axle near its opposite ends, and means for actuating said drum.

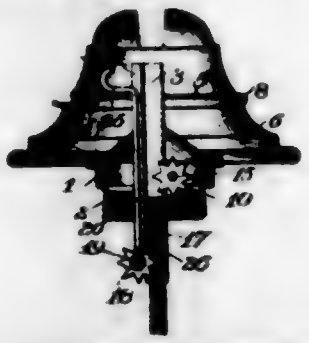
807,473. LIMB FOR DISPLAY-FIGURES. IMDOR KOLAR and VALENTINE KOLAR, Jersey City, N. J. Filed June 24, 1905. Serial No. 266,790.



Claim.—1. In a joint for display-figures and the like, the combination of two members, a ball secured to one of said members at one end thereof and loosely fitting into the adjacent end of the other member, said ball being provided with a transverse slit or recess, and with a central pin extending through said recess, a rod secured to the member into which the ball is loosely fitted, said rod being provided with a flat end portion engaging the said central pin of the ball, a spring located in the member to which said rod is secured and having a tendency to draw the ball toward said member, and a nut screwed on said rod and engaged by said spring.

2. In a joint for display-figures and the like, the combination of two members chambered at their adjacent ends, a ball set between said adjacent ends and having a loose engagement with one of them, said ball having a stem or projection fitted into the chambered end of the other member, the ball being also provided with a transverse slit or recess, and with a central pin extending therethrough, a rod secured to the member which the ball engages loosely, said rod extending into the chamber of said member and also into the slit or recess of the ball and being provided with a flat end portion engaging the said central pin, a spring surrounding said rod within the chamber of the member to which said rod is secured, and having a tendency to draw the ball toward said member, and a nut screwed on said rod and engaged by said spring.

807,474. LAMP-BURNER. FREDERICK J. LANDER, Rochester, N. Y., assignor of one-half to Charles Erdle, Rochester, N. Y. Filed Mar. 26, 1904. Serial No. 200,069.



Claim.—1. The comoination with a lamp-burner comprising a base, a shell surmounting the base having a plate and a wick-tube extending through the base and plate and provided with an aperture, of a wick-raiser located in the base and extending into the tube, a wick-retainer extending into the tube beneath the base, a grappling device journaled in the base and plate and movable longitudinally of the tube, having a finger adapted to extend through the slot in the tube and engage the wick between the wick retaining and raising devices.

2. The combination with a lamp-burner comprising a base, a shell surmounting the base having an air-deflecting plate, a removable burner-cap on the shell and a wick-tube having its lower end extending beneath the base and provided with an aperture and an upper end projecting into the burner-cap, of a wick-raiser extending into the tube, a wick-retainer projecting through the aperture in the tube and a grappling device movable longitudinally of the latter and revolubly supported in proximity thereto, an operating-handle on the device located within the burner-cap and a finger also arranged thereon and adapted to be projected through the aperture in the tube into engagement with a wick.

807,475. OPERATING MECHANISM FOR SCREENS. JOHN E LEBOSQUET, South McAlester, and THOMAS BELL, Hughes, Ind. Ter. Filed Feb. 10, 1905. Serial No. 245,127.

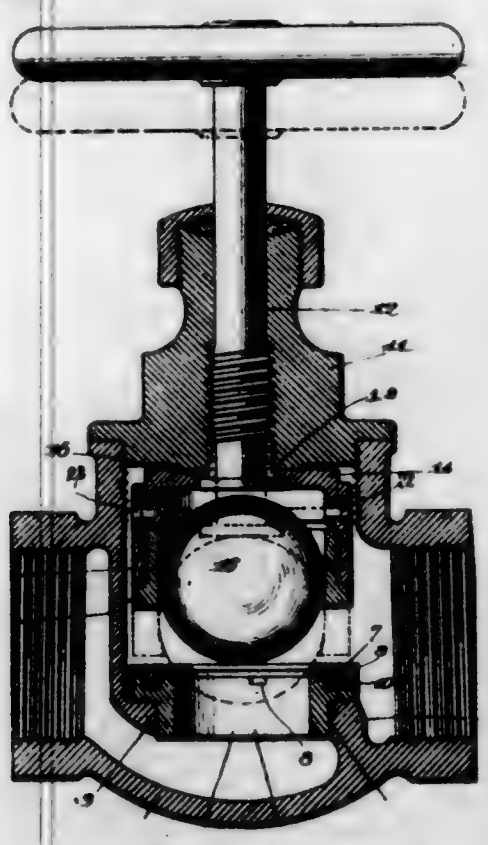
Claim.—1. In combination with a frame and two shaking screens mounted therein, springs secured to one screen and so positioned as to be struck by the other screen, a shaft suitably journaled on the frame, double-ended cranks secured to said shaft, rods connecting one end of said cranks with one screen, rods connecting the other end of said cranks with the other screen, a crank secured to the end of said shaft, means to oscillate said crank, and a spring-buffer mounted on the frame to engage the crank at the extremity of its stroke, substantially as shown and described.

2. In combination with a frame and two shaking screens mounted therein, springs secured to one screen and so positioned as to be struck by the other screen, a shaft suitably journaled on the frame, double-ended cranks secured to said shaft, rods connecting one end of said cranks with one screen, rods connecting the other end of said cranks with the other screen, an engine-cylinder, a cross-head driven by the piston in said cylinder, a drive-shaft suitably journaled and driven by said cross-head, a wheel or disk secured to said drive-shaft, a crank secured to the shaft journaled on the frame, a link connecting said wheel or disk and said crank, and a spring-buffer mounted

on the frame to engage the crank at the extremity of its stroke, substantially as shown and described.



807,476. GLOBE-VALVE. FRANK W. LEIDECKER, Marietta, Ohio, assignor to Leidecker Gauge Company, Marietta, Ohio. Filed Dec. 28, 1904. Serial No. 238,574.

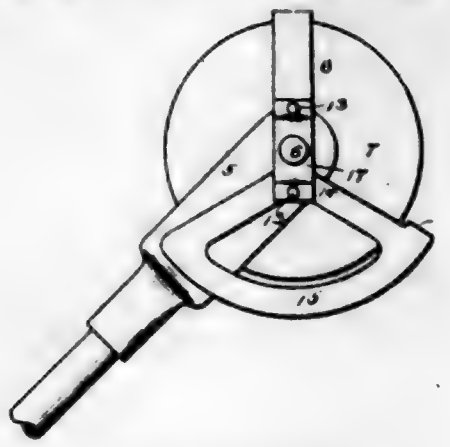


Claim.—1. The combination with a ball-valve and a seat for said valve, of a stem movable in the direction of the seat and adapted to contact directly with the ball; and means operated by the valve-stem for raising the ball from the seat; said means having movement independent of the ball before engaging with it.

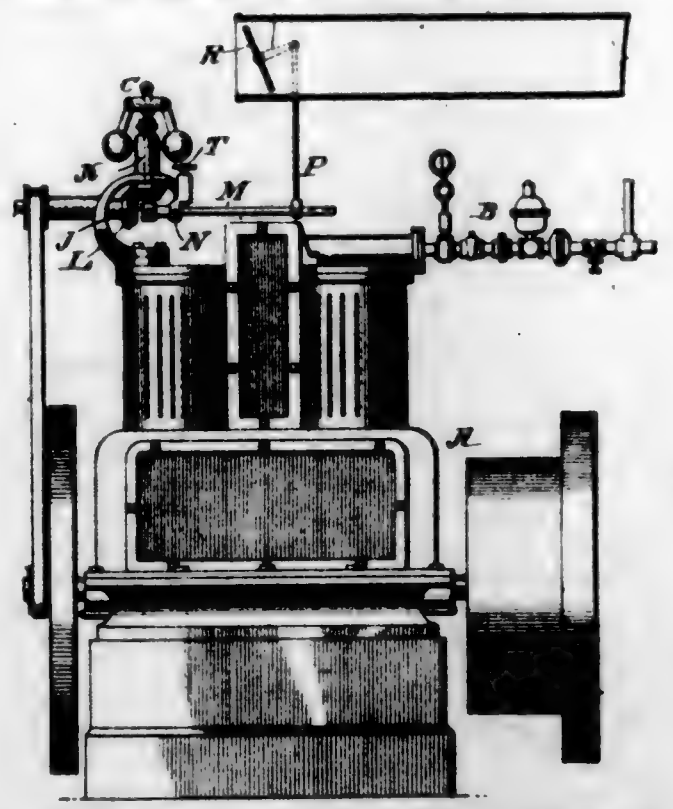
2. The combination with a ball-valve and a seat for said valve, of a stem movable in the direction of the seat and adapted to contact with the ball, and a ball-cage loosely connected with and supported by the stem, said cage having movement independent of the ball prior to engaging the latter in the act of unseating.

807,477. TROLLEY. ALLEN P. LORD, Bradford, Pa. Filed Jan. 9, 1905. Serial No. 240,296.

Claim.—1. The combination with a trolley-wheel and its axle, of a pair of guards loosely hung on the axle, strips secured to the outer side of the guards and spaced therefrom, and keys extending through the axle, in the spaces between said guards and strips.



807,478. DAMPER-REGULATOR. THOMAS G. LOVEGROVE, Philadelphia, Pa. Filed June 12, 1905. Serial No. 264,901.



Claim.—1. A pivoted furnace-damper and mechanism adapted to regulate the same consisting of a centrifugally-operated device and a connection with the same and the axis of the damper, and a motor having a regulating-valve which is independent of said centrifugally-operated device, said centrifugally-operated device being connected with the motor to be actuated in unison therewith.

2. A furnace-damper, a motor, a regulating-valve for said motor, and a centrifugally-actuated device independent of said regulating-valve, said damper being adapted to control the rate of combustion of the furnace and connections for said device and damper, said centrifugally-operated device being connected with the motor to be actuated in unison therewith.

3. In a furnace-damper, a motor, a regulating-valve for said motor and independent means for governing the generation of steam inversely as the rate of motion of the motor varies.

4. The combination of a motor, a regulating-valve therefor, a damper for controlling the rate of combustion in a steam-generating furnace, a centrifugally-actuated device independent of said regulating device, means for transmitting motion from said motor to said centrifugally-actuated device and means for transmitting motion from the latter-named device to said damper.

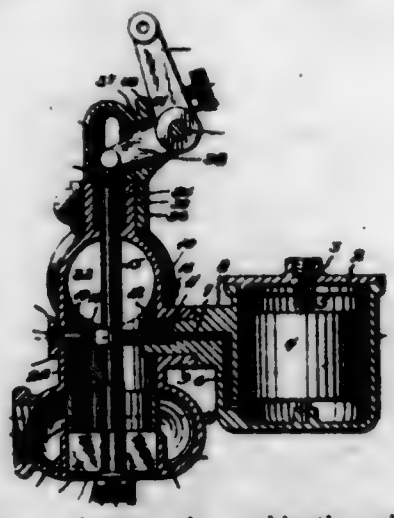
5. A pivoted furnace-damper, a centrifugally-operated device having a movable member, a lever connected with said movable member and the axis of said damper, and means interposed in said connection for adjusting the angle of said damper, in combination with a motor having a regulating-valve and means for operating said centrifugally-operated device from said motor independent of said regulating device.

6. A pivoted furnace-damper, a centrifugally-operated device having a movable member, a vibratory lever connected with the mov-

able member of said device, pivoted means connected with the axis of said damper and directly with said lever, and adjustable means for exerting more or less pressure upon said lever in proximity to its pivot in combination with a motor having a regulating-valve and means for operating said centrifugally-operated device from said motor independent of said regulating-valve.

7. In a damper-controller for directly regulating the draft to the furnace of a steam-boiler, a centrifugally-operated device adapted to control the damper in combination with a valve operative independently of said centrifugally-operated device for regulating the supply of steam from the boiler to a motor.

807,479. CARBURETER. JULIUS H. MASON, Duncan Falls, Ohio, assignor of one-fourth to Wilson S. Sprague, Zanesville, Ohio, and three-eighths to Spencer H. Garrett, Philo, Ohio. Filed Mar. 10, 1906. Serial No. 305,868.



Claim.—1. In a carbureter, the combination with fuel-supply means, of a mixing-casing, a valve yieldably held to normally cut off the supply of fuel, an air-admitting valve having a stem adjacent the fuel-valve, and means carried upon the stem of the air-valve for moving the fuel-valve to admit fuel when the air-valve is moved, and means for adjusting the said last-named means to vary the relative movements of the valves.

2. In a carbureter, the combination with fuel-supply means, of a mixing-casing, a spring-pressed valve acting to cut off the supply of fuel to the casing, an air-admitting valve, a stem extending from the air-valve adjacent the fuel-valve, a movable wedge carried by the stem and adapted to move the fuel-valve against the tension of the spring when the stem is moved, means for moving the stem and the air-valve, and means for adjusting the wedge.

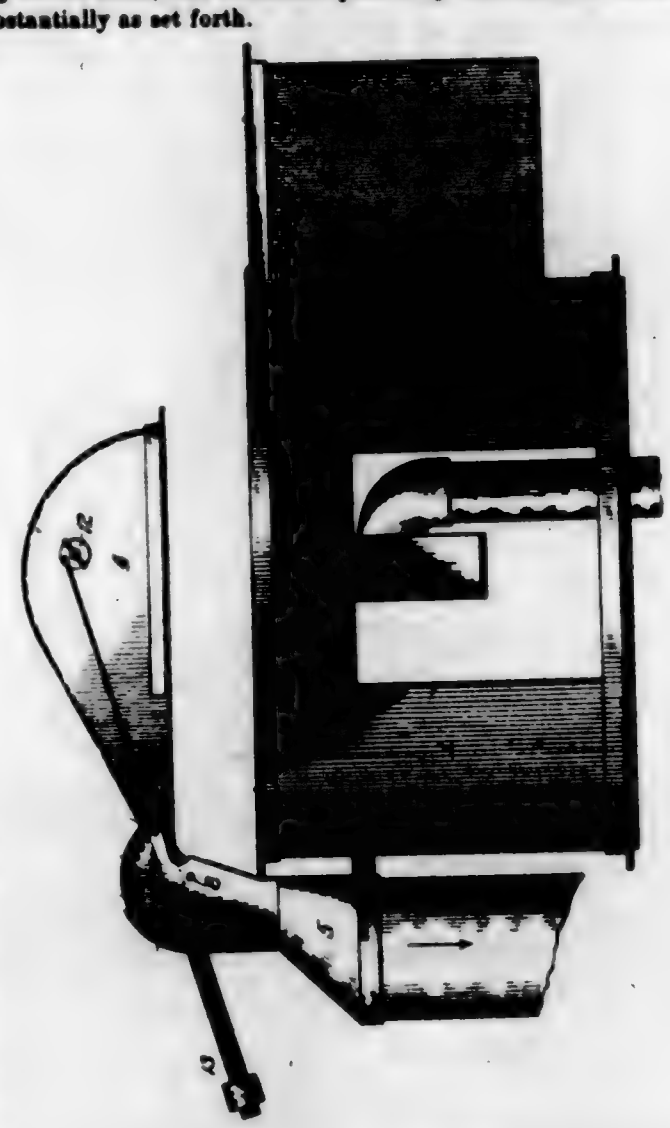
807,480. FORGE. AUGUST MATHIS, Chicago, Ill., assignor to Mathis Brothers Company, a Corporation of Indiana. Filed Sept. 16, 1905. Serial No. 278,717.

Claim.—1. The combination of a forge-body having its top formed with a fire-hearth, a vertical exhaust-trunk adapted for attachment to the side of the forge-body and provided with a curved portion at its upper end, a suction-hood arranged above the fire-hearth and having at its rear end a curved portion fitting the curved portion of the exhaust-trunk, and a pivot bolt or axis pivotally connecting the hood to the trunk, the contacting walls of the hood and trunk having a concentric relation to said pivot-axis, substantially as set forth.

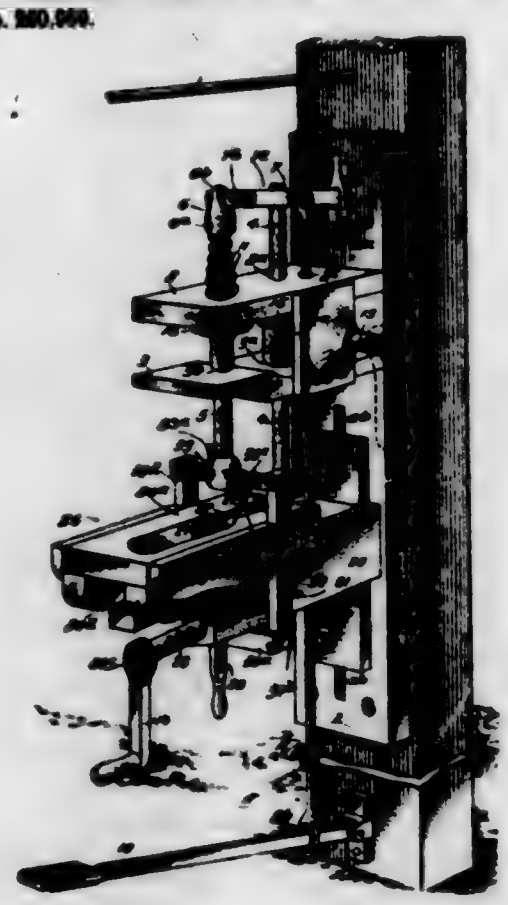
2. The combination of a forge-body having its top formed with a fire-hearth, a vertical exhaust-trunk adapted for attachment to the side of the forge-body and provided with a curved portion at its upper end, a suction-hood arranged above the fire-hearth and having at its rear end a curved portion fitting the curved portion of the exhaust-trunk, and a pivot bolt or axis arranged adjacent to the forward walls of the curved portions of the hood and trunk to pivotally connect the parts, the contacting walls of the hood and trunk having a concentric relation to said pivot-axis, substantially as set forth.

3. The combination of a forge-body having its top formed with a fire-hearth, a vertical exhaust-trunk adapted for attachment to the side of the forge-body and provided with a curved portion at its upper end, a suction-hood arranged above the fire-hearth and having at its rear end a curved portion fitting the curved portion of the exhaust-trunk, a pivot bolt or axis pivotally connecting the hood to the trunk, the contacting walls of the hood and trunk having a concentric relation to said pivot-axis, and means for securing the hood in its required adjustment, substantially as set forth.

4. The combination of a forge-body having its top formed with a fire-hearth, a vertical exhaust-trunk adapted for attachment to the side of the forge-body and provided with a curved portion at its upper end, arranged above the fire-hearth, and a suction-hood having at its rear end a curved portion fitting the curved portion of the exhaust-trunk, a pivot bolt or axis pivotally connecting the hood to the trunk, and means for securing the hood at its required adjustment, the same comprising a toothed sector on the exhaust-trunk, a spring-dog on the hood, and a handle operatively connected to said dog, substantially as set forth.



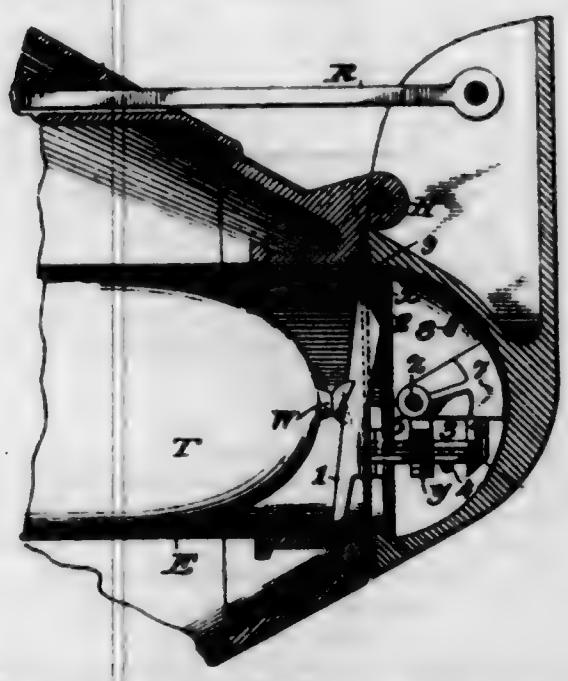
807,481. TIRE BOLTING, BORING, AND DRILLING MACHINE. GEORGE L. MILLER, Socialville, Ohio. Filed May 18, 1905. Serial No. 260,969.



Claim.—1. In a machine of the class described, a base, a main anvil adjustably mounted thereon, said anvil having a bifurcated portion, a supplemental anvil mounted on said main anvil over said bifurcated portion and having a portion for straddling said main anvil, a cam-lever fulcrumed on the bifurcated portion of the main anvil, said supplemental anvil having a slot, a bolt-holder fulcrumed in said supplemental-anvil slot and operatable by said cam-lever, a wheel-clamp straddling said anvil, means for connecting said wheel-clamp with said cam-lever to operate the clamp and a tool carrying and operating mechanism mounted on the base above the anvil, substantially as shown and described.

2. In an apparatus of the class described, a base, a pair of longitudinal extensions secured to said base, a main shaft passing through a pair of apertures in said horizontal extensions, a tool-holding shaft passing through apertures in said horizontal extensions, gear connections between said main and tool-holding shafts, said tool-holding shaft having a cap-bearing at the upper end, a bifurcated lever fulcrumed to said cap-bearing, said base having a slotted portion, a link fulcrumed in said slotted portion of the base, said bifurcated lever fulcrumed to said link, a spring on said tool-holding shaft for normally moving the same upwardly, means for moving the tool-holding shaft downwardly, a laterally-exteading drive-shaft mounted in a bearing secured to said horizontal extensions, gear connections between said drive-shaft and said main shaft, and an anvil adjustably secured to said base below said horizontal extensions, said main shaft being mounted on said anvil to move therewith, a drive-shaft mounted in bearings in said anvil, gear connections between said anvil drive-shaft and said main shaft, a wheel-clamp and a bolt-holder mounted on said anvil, and means mounted on the anvil for operating said wheel-clamp and said bolt-holder, substantially as shown and described.

807,482. **TORPEDO-BOAT.** THOMAS J. MORIARTY, Newport, R. I. Filed Mar. 31, 1905. Serial No. 253,251.

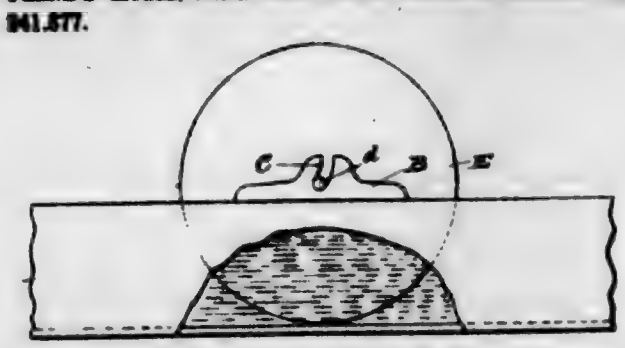


Claim.—1. A torpedo-boat, having an expulsion-tube, a hinged outboard-cap therefor, a pivotally-mounted spring locking-arm to engage the war-head of a torpedo in the tube, nippers in the cap to grasp and uphold the said locking-arm when the latter is thrown up by the expelled torpedo, and automatic means for opening the jaws of said nippers when the cap is closed.

2. A torpedo-boat, having an expulsion-tube, a hinged outboard-cap therefor, a pendent spring locking-arm mounted in the cap in position to engage the war-head of a torpedo in the tube, spring-nippers mounted in the cap in position to grasp and hold said locking-arm when the latter is thrown up by the expelled torpedo, and a weighted, pivotally-mounted wedge in position to automatically open the jaws of the nippers when the cap is closed.

3. A torpedo-boat, having an expulsion-tube, a hinged outboard-cap therefor, a pendent spring locking-arm hung in the cap in position to engage the war-head of a torpedo in the tube, and provided with a ribbed lug 5, nippers 3, having two crossed members and pivotally mounted in the cap, the jaws of the nippers being in position to grasp the said lug when the locking-arm is thrown up, and the weighted wedge 7, pivotally mounted in the cap, said wedge having a wedge portion 7ª in position to engage the nipper-arms by gravity when the cap is closed and spread apart the jaws thereof.

807,488. **FISH-SCREEN FOR IRRIGATING-DITCHES, &c.** FRANK B. MOORE, Walla Walla, Wash. Filed Jan. 19, 1905. Serial No. 241,577.



Claim.—1. A fish-screen for ditches, &c., comprising a cylinder rotatably mounted in the ditch, paddles rigidly secured to said cylinder, and wire-gauze fabric secured to the edges of said paddles, substantially as shown and described.

2. In combination with a flume, journal-bearings secured thereto, a cylinder journaled in said bearings, paddles rigidly secured to said cylinder, and a wire-gauze fabric secured to the edges of said paddles, substantially as shown and described.

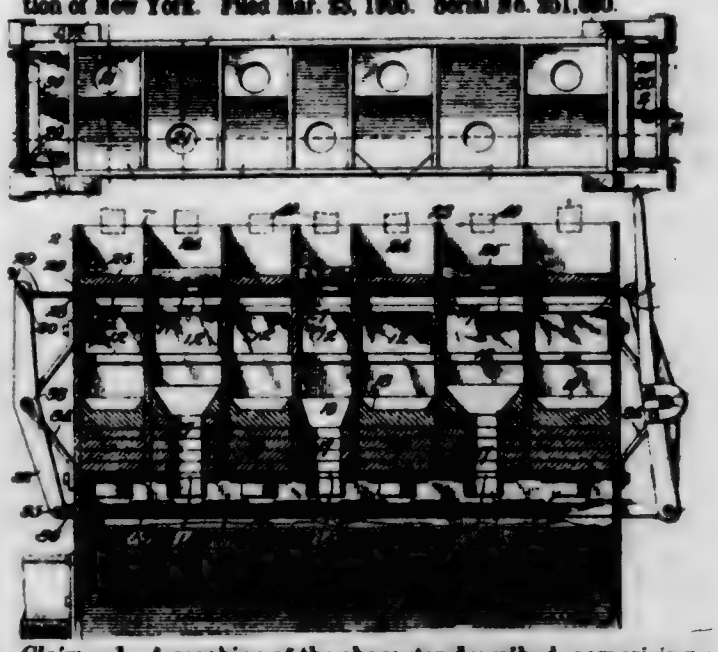
3. In combination with a flume, blocks secured to the upper edges thereof having slots therein curved away from the entrance to the flume and upwardly, a cylinder journaled in said slots, paddles secured to said cylinder, and wire-gauze fabric secured to the edges of said paddles, substantially as shown and described.

4. A fish-screen for ditches, &c., comprising a cylinder rotatably mounted, paddles secured upon said cylinder, and wire-gauze fabric secured to the outer edges of said paddles, substantially as shown and described.

5. A fish-screen for ditches, &c., comprising a cylinder rotatably mounted, paddles secured upon said cylinder, a circular flange at each end of the cylinder and extending outwardly level with the outer edges of the paddles, and a wire-gauze fabric secured to the outer edge of said paddles and flanges, substantially as shown and described.

6. In combination with a flume, blocks secured to the upper edges thereof having slots therein curved away from the entrance to the flume and upwardly, a cylinder journaled in said slots, paddles secured to said cylinder, a circular flange at each end of the cylinder and extending outwardly level with the outer edges of the paddles, and a wire-gauze fabric secured to said paddles and flanges, substantially as shown and described.

807,484. **FEED-MIXING MACHINE.** HENRY E. MOSS, Kansas City, Mo., assignor to Cyphers Incubator Co., Buffalo, N. Y., a Corporation of New York. Filed Mar. 23, 1905. Serial No. 251,080.

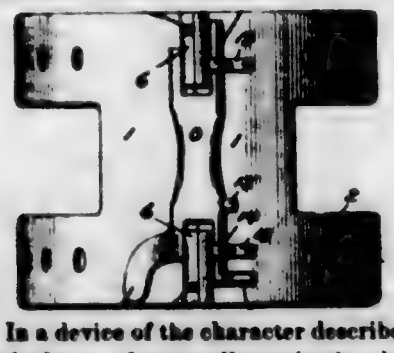


Claim.—1. A machine of the character described, comprising a body portion divided into a series of lower chambers having staggered valve-controlled openings in their bottoms, and a corresponding series of upper chambers superposed with relation to the lower chamber and also having staggered valve-controlled openings in their bottoms, and provided with an opening in its side wall communicating with the lower chambers, and with a door controlling said opening, blocks to rest on the bottoms of the lower chambers and provided with downwardly-tapering holes registering with the holes of said bottoms, and means whereby said valves shall be operated simultaneously.

2. A machine of the character described, comprising a body portion divided into a series of lower chambers having staggered openings in their bottoms, and a corresponding series of upper chambers superposed with relation to the lower chambers, and also having staggered openings in their bottoms, and provided with an opening in its side wall communicating with the lower chambers, and with a door controlling said opening, blocks to rest on the bottoms of the lower chambers and provided with downwardly-tapering holes registering with the holes of said bottoms, a reciprocatory valve disposed between said chambers and provided with a staggered series of holes, bars underlying the bottoms of the lower chambers and provided with staggered valves, walking-beams fulcrumed upon the end walls of the body and having a pin-and-slot connection at their upper ends with the reciprocatory valve and having a pivotal connection at their lower ends with said bars, and a lever for operating said walking-beams in one direction or the other.

3. A machine of the character described, comprising a body portion divided into a series of lower chambers having staggered openings in their bottoms, and a corresponding series of upper chambers superposed with relation to the lower chambers, and also having staggered openings in their bottoms, and provided with an opening in its side wall communicating with the lower chambers, and with a door controlling said opening, blocks resting on the bottoms of the lower chambers and provided with downwardly-tapering holes registering with the holes of said bottoms, one or more spacing-blocks interposed between the bottom and the first-named blocks of each chamber and provided with holes registering with the holes of its bottom, a reciprocatory valve disposed between said chambers and provided with a staggered series of holes, bars underlying the bottoms of the lower chambers and provided with staggered valves, walking-beams fulcrumed upon the end walls of the body and having a pin-and-slot connection at their upper ends with the reciprocatory valve, and having a pivotal connection at their lower ends with said bars, and a lever for operating said walking-beams in one direction or the other.

807,485. **HORSE-COLLAR FASTENER.** FRED MULL, Worth, Mo. Filed Apr. 27, 1905. Serial No. 257,564.

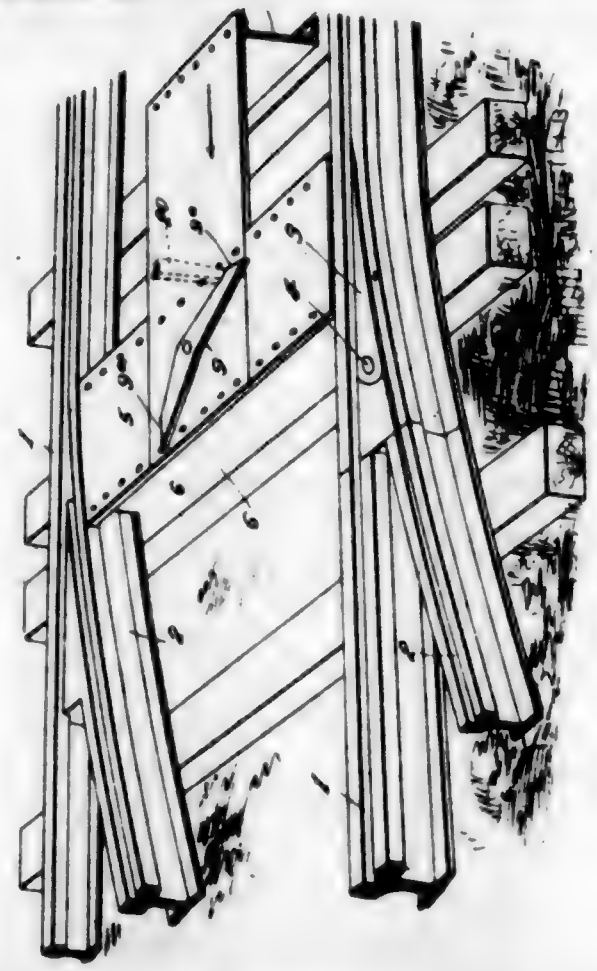


Claim.—1. In a device of the character described, the combination, with curved plates, of upwardly-projecting lugs arranged on the plates opposite each other, horizontally-projecting lugs on one of the plates, kerfs in the opposite plate adapted to receive the lugs, a spring-pressed latch having one of its sides hinged or pivotally mounted on one of the plates, the free end being adapted to engage with lugs on the opposite plate to hold the two plates together, and a step-lug projecting from the latch to limit its action.

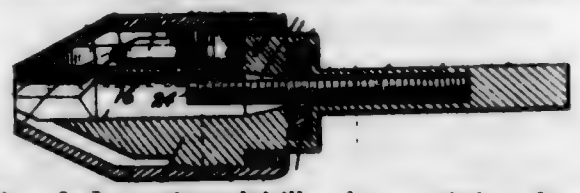
2. In a device of the character described, the combination, with curved plates, of upwardly-projecting lugs arranged on the plates to contact with each other, horizontal lugs on one of the plates, kerfs in the other plate adapted to receive the lugs, a spring-pressed latch, longitudinal projections formed integral with the latch by means of which said latch is hinged or pivoted on one of the plates, said latch being adapted to engage with the lugs on the opposite plate to hold the two plates together, a lug projecting from the latch to control its action, and a thumb-piece formed integral with the latch by means of which it is operated.

807,486. **SWITCH-OPERATING MECHANISM.** JOHN A. MCCASKEY, Hubbard, Ohio. Filed Apr. 17, 1905. Serial No. 256,064.

Claim.—In switch-operating mechanism, the combination of main and siding rails, a pivoted switch-point, a transverse casing arranged between the main rails at the switch, a longitudinal surface plate between the main rails and extending across the casing flush with the top thereof, a vertical shaft mounted within the casing and extending through the surface plate, a plate attached to the under side of the surface plate and provided with a bushing extending downwardly therefrom and receiving the shaft aforesaid, the hollow portion of said bushing being enlarged near its upper end to form a shoulder, a trip-lever above the surface plate and provided intermediate its ends with a tubular stud projecting from the under side thereof and secured to the shaft, said stud resting on the shoulder-form in the bushing, the lower end of the shaft projecting from the bushing, a crank carried by the lower end of the shaft and arranged in the casing, and a bar pivoted at one end to the crank and having pivotal connection at its opposite end with the switch-point between the ends of the latter.



807,487. **UNIVERSAL DRILL SOCKET OR CHUCK.** STEPHEN MCCLELLAN, Brooklyn, N. Y. Filed Apr. 4, 1904. Serial No. 201,510.



Claim.—1. In a universal drill-socket, consisting of means for grasping a drill or bit; a flat and recessed extension 18, and shank 20, extending from the rear end of said body, flat extension and shank provided with a central opening 16—17—21; a threaded cylindrical plug provided with a centering-recess, fitting in and adapted to work up and down in said opening, and a nut 23, working around said plug and in the recesses of said flat extension, substantially as shown and described and for the purposes set forth.

2. A drill-socket, comprising a body having long grooves in its outer surface, flat springs in said grooves, and jaws in said grooves overlying said springs; screws, with which said jaws have a loose connection, said screws securing the springs to the body, and means for closing the jaws, substantially as shown and described and for the purposes set forth.

807,488. **FENCE-POST.** JOSEPH A. MCDANIEL, Letts, Iowa. Filed July 25, 1905. Serial No. 271,247.



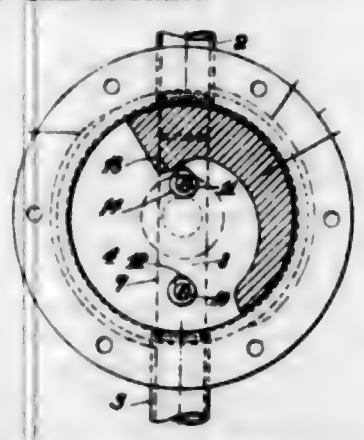
Claim.—1. A fence-post comprising a plastic body, and a core embedded or molded in the body of the post and comprising a plate or strip of flat form having the lower portion thereof received in the basal portion of the post and bent at an angle to the plane of the upper portion of said core.

2. A fence-post comprising a plastic body consisting of a lower basal portion embodying four sides, two opposite sides of the basal portion tapering toward the lower extremity thereof to form an edge,

the upper body portion of the post being three-sided or of triangular form in cross-section, and a core embedded or molded in the body of the post and comprising a plate or strip of flat form having the lower portion received in the basal portion of the post and bent in a plane about at a right angle to the plane of the upper portion of said core.

3. A fence-post comprising a plastic body consisting of a lower basal portion embodying four sides, two opposite sides of the basal portion tapering toward the lower extremity thereof to form an edge, the upper body portion of the post being three-sided or of triangular form in cross-section, and a core embedded or molded in the body of the post and comprising a plate or strip of flat form having the lower portion received in the basal portion of the post and bent in a plane about at a right angle to the plane of the upper portion of said core, the lower extremity of the core terminating at the lower extremity of the basal portion of the post and reinforcing the edge formed at this terminal.

807,489. ROTARY PUMP. CHARLES NOSS, Newark, N. J. Filed Feb. 24, 1905. Serial No. 247,078.



Claim.—1. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable member operating in said cylinder adapted to carry the fluid from the inlet to the outlet pipe, and having a portion adapted to receive the fluid from the inlet-pipe, means for rotating said member, and a passage extending diametrically through said member adapted to receive the fluid from the inlet-pipe, and means operating in said passage adapted to simultaneously draw the fluid from the inlet-pipe into one end of the passage and to discharge through the outlet from the other end of the passage the fluid previously received therein.

2. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder on opposite sides, a rotatable member in said cylinder provided with a diametral passage extending therethrough, means for rotating said member, a piston carried by the member and operating in the passage, and means adapted to thrust the piston as it crosses the pipes to simultaneously produce a forcible suction and discharge at the opposite ends of the piston at predetermined periods during the rotation of the member.

3. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder on opposite sides, a rotatable member in said cylinder provided with a diametral passage extending therethrough, means for rotating said member, a piston carried by the member and operating in the passage, and means adapted to thrust the piston to simultaneously produce a forcible suction and discharge at the opposite ends of the piston at predetermined periods during the rotation of the member.

4. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder on opposite sides, a rotatable member in said cylinder provided with a diametral passage extending therethrough, means for rotating said member, a piston carried by the member and operating in the passage, and means adapted to thrust the piston in the same direction as it crosses the pipes to simultaneously produce a forcible suction and discharge at the opposite ends of the piston at predetermined periods during the rotation of the member.

5. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder on opposite sides, a rotatable member in said cylinder provided with a diametral passage, extending therethrough, means for rotating said member, a piston carried by the member and operating in the passage, and means adapted to thrust the piston in the same direction to simultaneously produce a forcible suction and discharge at the opposite ends of the piston at predetermined periods during the rotation of the member.

6. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder on opposite sides, a rotatable member in said cylinder provided with a diametral passage extending therethrough, means for rotating said member, a piston carried by the member and operating in the passage, means adapted to thrust the piston to simultaneously produce a forcible suction and discharge at the opposite ends of the piston at predetermined periods during the rotation of the member, and means adapted to limit the thrust of the piston.

7. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable member in said cylinder provided with a passage extending therethrough, means for rotating said member, a piston carried by the member and operating in the passage, means adapted to thrust the piston in the same direction at predetermined periods during the rotation of the member, and means adapted to limit the thrust of the piston.

8. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder on opposite sides, a rotatable member in said cylinder provided with a diametral passage extending therethrough, means for rotating said member, a piston carried by the member and operating in the passage, means adapted to thrust the piston as it crosses the pipes to simultaneously produce a forcible suction and discharge at the opposite ends of the piston at predetermined periods during the rotation of the member, and means adapted to hold the piston against back pressure from the outlet-pipe.

9. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder on opposite sides, a rotatable member in said cylinder provided with a diametral passage extending therethrough, means for rotating said member, a piston carried by the member and operating in the passage, means adapted to thrust the piston to simultaneously produce a forcible suction and discharge at the opposite ends of the piston at predetermined periods during the rotation of the member, means adapted to limit the thrust of the piston, and means adapted to hold the piston against back pressure from the outlet-pipe.

10. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable member in said cylinder provided with a passage extending therethrough, means for rotating said member, a piston carried by the member and operating in the passage, means adapted to thrust the piston in the same direction at predetermined periods during the rotation of the member, and means adapted to hold the piston against back pressure from the outlet-pipe.

11. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head.

12. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage of a cross-sectional area greater than that of the pipes, means for rotating the head, a piston carried by the head and operating in the passage, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head.

13. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, and arranged to cross the pipes during the rotation of the head, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head, the cam being so timed as to thrust the piston as it crosses the pipes to produce a forcible suction and discharge at opposite ends of the piston.

14. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage of a cross-sectional area greater than that of the pipes, means for rotating the head, a piston carried by the head and operating in the passage, and arranged to cross the pipes during the rotation of the head, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head, the cam being so timed as to thrust the piston as it crosses the pipes to produce a forcible suction and discharge at opposite ends of the piston.

15. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, a cam-disk, pins

connected to the piston, passing through a slot in the head and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head.

16. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head, and means adapted to hold the piston against back pressure from the outlet-pipe.

17. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage of a cross-sectional area greater than that of the pipes, means for rotating the head, a piston carried by the head and operating in the passage, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head, and means adapted to hold the piston against back pressure from the outlet-pipe.

18. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, and arranged to cross the pipes during the rotation of the head, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head, the cam being so timed as to thrust the piston as it crosses the pipes to produce a forcible suction and discharge at opposite ends of the piston, and means adapted to hold the piston against back pressure from the outlet-pipe.

19. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage of a cross-sectional area greater than that of the pipes, means for rotating the head, a piston carried by the head and operating in the passage, and arranged to cross the pipes during the rotation of the head, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head, the cam being so timed as to thrust the piston as it crosses the pipes to produce a forcible suction and discharge at opposite ends of the piston, and means adapted to hold the piston against back pressure from the outlet-pipe.

20. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, a cam-disk, pins connected to the piston, passing through a slot in the head and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head, and means adapted to hold the piston against back pressure from the outlet-pipe.

21. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatabe head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage adapted to form with the passage, and at the end of its thrust, a receiving-pocket in the head, means adapted to thrust each end of the piston alternately in one direction only at predetermined periods during the rotation of the head, and means adapted to relieve the pressure upon the liquid in the pocket as the thrust takes place.

22. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a groove formed in the inner face of the cylinder leading to the outlet-pipe, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, a cam-disk, pins connected to the piston and adapted to alternately act against the cam-disk to thrust the piston in the same direction at predetermined periods during the rotation of the head, the cam being so timed as to begin the thrust when the discharge-head of the piston reaches the groove.

23. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a groove formed in the inner face of the cylinder leading to the inlet-pipe, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, a cam-disk, pins connected to the piston adapted to alternately act against the cam-disk to thrust the piston in the same direction at predetermined periods during the rotation of the head, the cam being so timed as to begin the thrust when the receiving-head of the piston reaches the groove.

24. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, grooves formed in the inner face of the cylinder leading to the said pipes, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction at predetermined periods during the rotation of the head, the cam being so timed as to begin the thrust when the heads of the piston reach the grooves.

25. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, grooves formed in the inner face of the cylinder and leading to the said pipes, a head rotating in said cylinder, means for rotating the head, a diametral passage, through said head of a cross-sectional area greater than that of the inlet-pipe, a piston carried by the head and operating in said passage, a cam-disk, roller-pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction, the cam being so timed as to begin the thrust on the piston when the heads thereof reach the grooves.

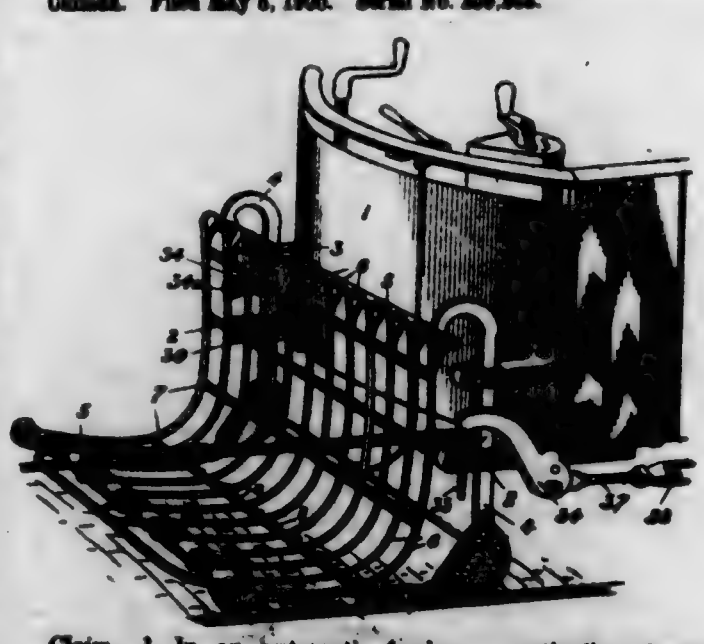
26. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a head rotating in the cylinder, means for rotating the head, a passage through the head, a piston carried by the head and operating in said passage, a cam-disk, pins connected to the piston and adapted to alternately act against the cam to thrust the piston in the same direction, and a bearing against which the pins bear after leaving the cam, adapted to hold the piston against back pressure from the outlet-pipe.

27. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head and operating in the passage, a member fixed in relation to said head and piston and adapted to thrust each end of the piston alternately in the same direction at predetermined periods during the rotation of the head.

28. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in the cylinder provided with a passage of a cross-sectional area greater than that of the inlet-pipe, means for rotating said head, a piston carried by the head and operating in the passage, a second member fixed in relation to said head and piston and adapted to thrust each end of the latter alternately in the same direction at predetermined periods during the rotation of the head.

29. In a device of the character set forth, a cylinder, inlet and outlet pipes opening into said cylinder, a rotatable head in said cylinder provided with a passage, means for rotating the head, a piston carried by the head operating in the passage, and means adapted to thrust each end of the piston alternately in the same direction at predetermined periods during the rotation of the head.

807,490. CAR-FENDER. FREDERICK W. O'CONNOR, Toronto, Canada. Filed May 8, 1905. Serial No. 259,903.



Claim.—1. In an automatic fender, a vertically-adjustable frame provided with a flexible screen, a series of brackets adapted to support said frame, a spring-actuated retractive device adapted to force said fender to recede with a simultaneous downward motion, a device pivoted on lower brackets of said series and adapted to en-

gage said frame, and said device adapted to change the direction of motion communicated thereto through the medium of a connecting-rod from the car-truck, whereby the undulation of the car-body is compensated for and the fender maintained at a uniform height above the roadway, for the purpose hereinbefore set forth.

2. In an automatic fender, a vertically-adjustable frame provided with a flexible screen, a series of brackets adapted to support and guide said frame, a spring-actuated retractive device adapted to force said fender to recede with a simultaneous downward motion, an actuating-cam pivoted on the lower brackets of said series and engaging said frame and adapted to change the direction of motion communicated thereto through the medium of a connecting-rod from the car-truck, and an actuating bell-crank lever adapted to change the direction of motion imparted by the undulation of the car-body, whereby the fender is maintained at a uniform height above the roadway, for the purpose hereinbefore set forth.

3. In an automatic fender, a vertically-adjustable frame provided with a flexible screen and susceptible of swinging longitudinally, upper and lower brackets adapted to receive the frame, a spring-actuated retractive device adapted to force said fender to recede with a simultaneous downward motion and maintain said fender in positive contact with the roadway, an actuating device pivoted on the lower brackets of said series and engaging said frame, a bell-crank lever pivoted on the car-body and adapted to engage the frame of the car-truck, and a pivoted rod adjustably connecting said bell-crank and said actuating device, whereby the undulation of the car-body is compensated for and the fender maintained at a uniform height above the roadway, for the purpose hereinbefore set forth.

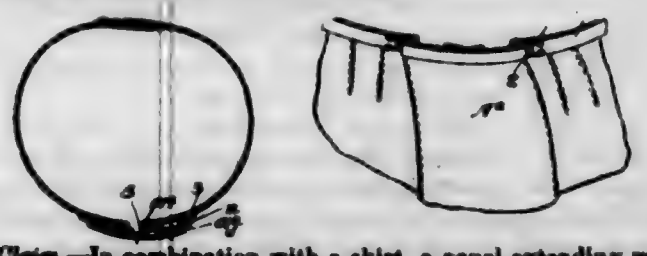
4. In an automatic fender, a vertically-adjustable frame provided with a flexible screen and susceptible of swinging longitudinally, upper and lower brackets provided with rolls and elongated openings adapted to receive the said frame, said lower brackets provided with a spring-actuated retractive device adapted to engage said frame and force said fender to recede with a simultaneous downward motion, said retractive device adapted to maintain said fender in contact with the roadway, an actuating-cam pivoted on said lower brackets and engaging said frame, a bell-crank lever pivoted on the car-body and adapted to engage the frame of the car-track, and a pivoted rod adjustably connecting said bell-crank and said actuating device, whereby the undulation of the car-body is compensated for and the fender maintained at a uniform height above the roadway, for the purpose hereinbefore set forth.

5. In an automatic fender, a vertically-adjustable frame provided with a flexible screen, a series of brackets adapted to support said frame whereby said frame swings pendulously, a spring-actuated retractive device provided with an inclined face and adapted to engage the mechanism contained in the lower brackets of said series, an actuating-cam pivoted on the said lower brackets and adapted to engage said frame, a bell-crank lever pivoted on the car-body and adapted to engage the car-truck, and a pivoted rod adjustably connecting said bell-crank and said actuating-cam, whereby the undulation of the car-body is compensated for and the fender maintained at a uniform height above the roadway, for the purpose hereinbefore set forth.

807,491. **PROCESS OF MANUFACTURING NITRIC ACID.** HARRY PAULING, Brandau, Austria-Hungary. Filed Apr. 2, 1902. Serial No. 101,005.

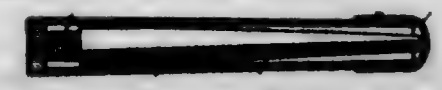
Claim.—The herein-described process, which consists in treating atmospheric air with electric-spark discharges, adding fresh atmospheric air to the air treated, exposing the mixture thus obtained to the action of dark electric discharges, and, adding moisture to the mixture thus obtained.

807,492. **WOMAN'S SKIRT.** ERNEST L. PHELPS, Toronto, Canada. Filed Nov. 10, 1904. Serial No. 232,151.



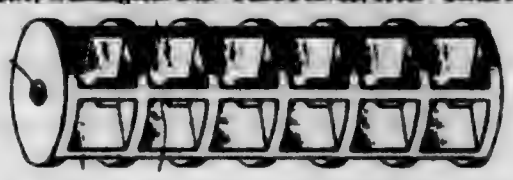
Claim.—In combination with a skirt, a panel extending vertically and connected to the main body by folds, one at each side of the panel, said sides overlying the body of the skirt and said panel concealing the folds when the skirt-body is in the contracted condition, means for connecting that part of the main body where the folds join it to the back of the panel and means for connecting the sides of the panel and the folds to the waistband, said means extending across the space between the said sides and the skirt.

807,493. **DRUMSTICK.** ARTHUR D. PHILLIPS, Mannington, W. Va. Filed Feb. 9, 1905. Serial No. 244,962.



Claim.—A drumstick composed of the tubular section 1 open at one end, the section 2 telescoping in the section 1, the spring 4 arranged in the section 1 and normally tending to project the section 2 from said section 1, and a cap fitted to the open end of the section 1 and coöperating with the section 2 to hold the latter in the section 1 against the tension of the spring aforesaid.

807,494. **SMOKELESS-POWDER PRIMING CHARGE.** FRANCIS I. DU PONT, Wilmington, Del. Filed Feb. 25, 1905. Serial No. 247,344.



Claim.—1. A smokeless-powder priming charge, consisting of a skeleton framework of smokeless powder, comprising partitions, forming between them cells said cells being open at their outer ends, and a quick-burning powder in some or all of the cells.

2. A smokeless-powder priming charge, consisting of a skeleton framework of smokeless powder, comprising radial partitions, forming between them cells said cells being open at their outer ends, and a quick-burning powder in some or all of the cells.

3. A smokeless-powder priming charge, consisting of a skeleton framework of smokeless powder, comprising partitions, forming between them cells said cells being open at their outer ends, a quick-burning powder in some or all of the cells, and a passage communicating with some or all of said cells.

4. A smokeless-powder priming charge, consisting of a skeleton framework of smokeless powder, comprising partitions, forming between them cells said cells being open at their outer ends, a quick-burning powder in some or all of the cells, and means to simultaneously ignite the powder in the cells.

5. A smokeless-powder priming charge, consisting of a skeleton framework of smokeless powder, comprising partitions, forming between them cells said cells being open at their outer ends, a quick-burning powder in some or all of the cells, a passage and means to simultaneously ignite the powder in all the cells through said passage.

6. A smokeless-powder priming charge, consisting of a skeleton framework of smokeless powder, comprising spaced radially-extending horizontal and vertical partitions, forming between them cells said cells being open at their outer ends, and a quick-burning powder within some or all of the cells.

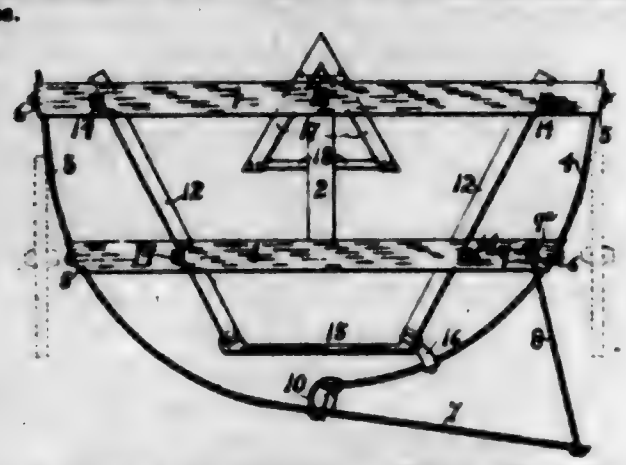
7. A smokeless-powder priming charge, consisting of a skeleton framework of smokeless powder composed of spaced radially-extending horizontal and vertical partitions, forming between them radially-extending cells, a passage extending through the center of the framework, said cells being open at their outer ends and communicating with the central passage at their inner ends, and a quick-burning powder within some or all of the cells.

807,495. **SCRAPER-BLADE FOR ROAD-MAKING MACHINES.** STEPHEN RANDALL, Russell, Iowa. Filed May 13, 1905. Serial No. 260,257.

Claim.—1. A scraper, consisting of supporting-beams disposed transversely and connected by means of a beam, a pair of side cutting-blades suitably secured thereto, a pair of inclined inwardly and rearwardly extending cutting-blades mounted within said side cutting-blades and secured to said beams, and a pair of inclined outwardly and rearwardly extending cutting-blades secured to said beams intermediate the front ends of said cutting-blades.

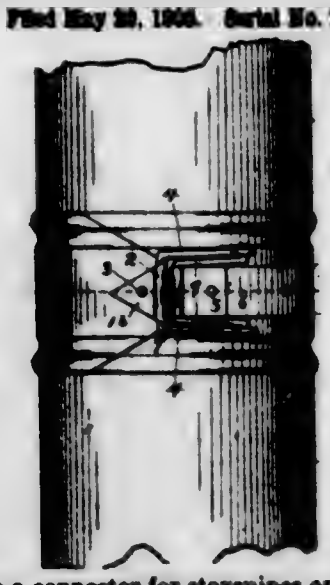
2. A scraper, consisting of supporting-beams, side cutting-blades suitably secured thereto and providing a recess at their rear and a rearwardly and outwardly extending portion, inwardly and rearwardly extending cutting-blades suitably secured to said beams, and A-shaped cutting-blades secured to one of said beams intermediate the end thereof.

3. A scraper, consisting of supporting-beams, side cutting-blades suitably secured thereto and provided at their rear with a rearwardly and outwardly extending portion, a pair of cutting-blades mounted within said side cutting-blades and suitably secured to said supporting-beams, and a pair of cutting-blades suitably secured intermediate the front ends of said last-mentioned cutting-blades.



4. In a scraper, the combination with supporting-beams, and side cutting-blades suitably secured thereto and provided at their rear with a recess and a rearwardly and outwardly extending portion; of a pair of inwardly and rearwardly extending cutting-blades suitably secured to said supporting-beams within said side cutting-blades and adapted to convey material to said recess and rearwardly and outwardly extending portion.

807,496. STOVEPIPE-CONNECTOR. CHARLES M. RANKIN, McLouth, Kans. Filed May 29, 1905. Serial No. 262,153.



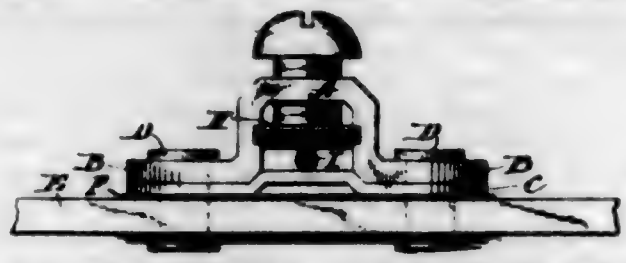
Claim.—1. In a connector for stovepipes or other tubes, an expansible and contractible lap-collar, said collar having beads adapted to engage beads on the stovepipes or other tubes, a U-shaped tension member pivotally connected to the outer end of said collar, a U-shaped compression member pivotally connected to the tension member and pivotally connected to the collar; said tension member being adapted to lie closer to the collar than the compression member, for the purpose specified.

2. The combination, with two abutting stovepipes or other tubes, having beads thereon adjacent their ends, of a connector comprising an expansible and contractible lap-collar, said collar having beads adapted to engage the beads aforesaid, a U-shaped tension member pivotally connected to the outer end of the collar, a U-shaped compression member pivotally connected to the tension member and pivotally connected to the collar, said tension member being adapted to lie closer to the collar, when closed, than the compression member, for the purpose specified.

3. A connector for stovepipes or other tubes, the same comprising an expansible and contractible lap-collar, a U-shaped tension member 4, pivotally connected to the outer end of the collar, a U-shaped compression member 3 pivotally connected to said tension member and pivotally connected to the collar; the free ends of the tension member being connected to the free ends of the compression member, and the collar being tightened by pressing the tension member inwardly, thereby moving the compression member inwardly; substantially as described.

807,497. BINDING-POST. HENRY B. REEVE, Brooklyn, N. Y. Filed Mar. 6, 1905. Serial No. 248,499.

Claim.—1. In a binding-post, a sheet-metal arched portion, a base for said arched portion, a clamping-screw carried by said arched portion, and means of attachment of said base to a suitable support.



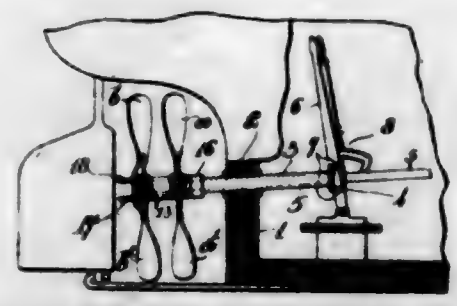
2. In a binding-post, an arched portion, outwardly and oppositely extending feet carried by said arched portion, and a screw clamping device carried by said arched portion and a base-plate.

3. In a device of the character described, an arched portion, outwardly and oppositely projecting feet, a base-plate extending entirely across the bottom of said arched portion, a movable plate within said arched portion and above said base-plate, and a screw coöperating with said movable plate for the purpose specified.

4. In a binding-post, an arched portion, outwardly and oppositely projecting feet, a stationary yielding base-plate extending entirely across the bottom of said arched portion and under said feet, a screw carried by said arched portion, and a movable clamping-plate below the end of the screw and above the base-plate.

5. In a binding-post, an arched portion having outwardly and oppositely projecting feet, a stationary base-plate extending entirely across the bottom of said arched portion and under said feet, a screw carried by said arched portion a movable plate below the same and above said base-plate, and lateral extensions at the corners of said movable plate.

807,498. SPEED-CONTROLLING REVERSING-PROPELLER. CHARLES F. ROPER, Hopedale, Mass. Filed Aug. 12, 1905. Serial No. 273,558.



Claim.—1. A shaft adapted to be rotated in one direction at a substantially uniform speed, a propeller mounted thereon, comprising two sets of angularly-movable blades, and means to vary the angularity of the blades of the sets and to vary the relative angularity of the blades of the two sets by a differential movement of such blades, the change in the angularity of the blades effecting a variation in the force of propulsion, and also serving to reverse the direction thereof, while the differential movement causes the blades to maintain a substantially constant resistance on the motor.

2. A rotatable shaft, two sets of propeller-blades mounted thereon, each set consisting of two blades oppositely extended and pivotally connected with the shaft in a plane at right angles thereto, and a controlling instrumentality to effect equal and opposite angular movement of the blades of a set in unison, and also to cause a differential movement of the blades of one set relatively to the blades of the other set to vary their relative angularity, said controlling instrumentality including means to hold the blades of one set from angular movement while the blades of the other set approach and pass beyond their pivotal plane.

3. A propeller having a plurality of sets of blades, two oppositely-extended blades in each set, and means to vary the relative angularity of the blades of the several sets while maintaining a substantially constant resistance on the motor, such variation in angularity effecting a change in propulsive effort from zero to the maximum either ahead or astern.

4. A shaft adapted to be rotated uniformly in direction and speed, two sets of propeller-blades mounted thereon and angularly movable with relation thereto and to each other, and a controller movable longitudinally of the shaft and operatively connected with the several blades, to vary the angularity of the blades and to vary the relative angularity of the two sets of blades by a differential movement, to thereby maintain a substantially constant resistance on the motor.

5. A rotatable shaft, two sets of propeller-blades mounted

thereon, each set consisting of two blades oppositely extended and pivotally connected with the shaft in a plane at right angles thereto, and controlling means to effect equal and opposite angular movement of the blades of a set and also to vary the angularity of the blades of one set relatively to those of the other set.

6. A rotatable shaft, a blade-carrying hub fixed thereon and having parallel bosses thereon at opposite sides of the shaft, a pair of propeller-blades oppositely extended and pivotally mounted in the bosses, a controller longitudinally movable on the hub and operatively connected with the said blades eccentric to their pivots, to swing them oppositely thereon, a second pair of oppositely-extended blades, and connections between them and the controller, to oppositely swing said blades and also to vary the angularity of the same relatively to the first-named pair.

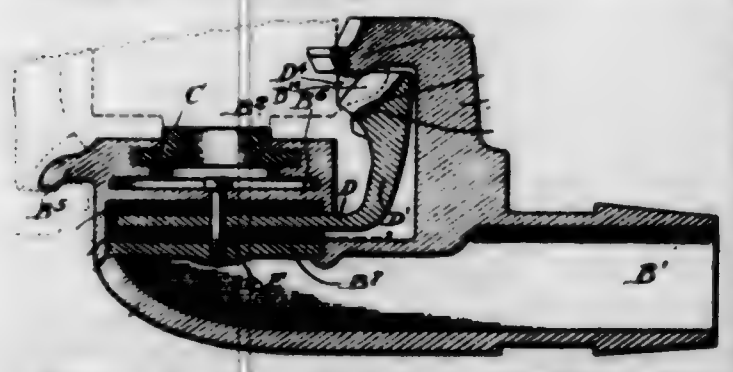
7. A shaft adapted to be rotated uniformly as to direction and speed, a speed-controlling and reversing propeller mounted thereon comprising two pairs of oppositely-extended blades, and a pivot connection between each blade and the shaft, whereby the blades are angularly movable with relation thereto, combined with a controller operatively and individually connected with the several blades, to effect simultaneous opposite angular movement of the blades of a pair and to also vary the angularity of the blades of one pair relatively to the blades of the other pair.

8. A rotatable shaft, a blade-carrying hub fast thereon and longitudinally grooved on opposite sides, two pairs of propeller-blades pivotally mounted on the hub, a blade of each pair extending in the same direction from the shaft, a bifurcated controller slidably mounted in the grooves of the hub and having cam-slots in its bifurcation, and a follower on the base of each blade eccentric to its pivot and coöperating with a cam-slot, longitudinal movement of the controller varying the angularity of the blades of one pair with relation to the blades of the other pair and swinging oppositely the blades of a pair, whereby the propulsive effort of the blades can be varied from zero to the maximum and its direction reversed.

9. A shaft adapted to be rotated uniformly as to speed and direction, two pairs of oppositely-extended propeller-blades, each having a pivot, bearings for said pivots rigidly connected with the shaft, the several pivots being in parallelism in planes intersecting the shaft, and means to vary the relative angularity of the blades of the two pairs, to thereby change the direction and vary the propulsive effort of the blades from zero to the maximum ahead or astern.

10. A propeller comprising a hub, two sets of blades arranged in oppositely-extended pairs and pivotally connected with the hub, and means to effect differential angular movement of the blades of one set relatively to the blades of the other set, whereby the adjacent blades of said sets can be set in parallelism for movement ahead or astern, and at an angle to each other, to vary the speed.

807,499. **HOSE-COUPLING.** PAUL ROULSTONE, Bayonne, N. J. Filed May 10, 1905. Serial No. 259,794.



Claim.—1. In a hose-coupling having a bearing-face adapted to be partially revolved relatively to a corresponding face on another coupling, and having provisions for engaging and releasing by such movement, a body having an apertured partition parallel to such face in combination with a thin partially-revoluble plate, having corresponding apertures adapted to serve as a valve and an arm D′ extending outside of the casing and engaging with the opposite coupling, all arranged to serve substantially as herein specified.

2. In a hose-coupling having a bearing-face adapted to be partially revolved relatively to a corresponding face on another coupling, and having provisions for engaging and releasing by such movement, a body having an apertured partition parallel to such face in combination with a thin partially-revoluble plate, having corresponding apertures adapted to serve as a valve and an arm D′ extending outward from such plate having lips D^4 arranged to either be engaged and turned by another coupling in the acts either of engaging together the two couplings or of disengaging the same, all arranged to serve substantially as herein specified.

3. In a hose-coupling having a bearing-face adapted to be partially revolved relatively to a corresponding face on another coupling, and having provisions for engaging and releasing by such movement, a body having an apertured partition parallel to such face in combination with a thin partially-revoluble plate, having corresponding apertures adapted to serve as a valve and an arm D′ extending outward from such plate having lips D^4 arranged to be engaged and turned by another coupling in the acts either of engaging together the two couplings or of disengaging the same and having an arm adapted to serve in so operating a corresponding valve in the opposite coupling, all substantially as herein specified.

4. In a hose-coupling having a bearing-face adapted to be partially revolved relatively to a corresponding face on another coupling and having provisions for engaging and releasing by such movements, the body B having the recess *b′* and an apertured fixed partition B^2 formed integral therewith, the thin plate D constituting a flat valve correspondingly apertured, in combination with each other and with a second partition B^7 apertured to correspond with both and adapted to be applied and removed as shown, and with provisions by a projection on such partition engaging in said recess *b′* for holding the partition against turning, the packing C C similarly held against turning and the pivot E the latter parts being adapted to be inserted and removed, all to serve substantially as herein specified.

807,500. **FOUNTAIN-PEN.** WILLIAM W. SANFORD, Newark, N. J., assignor of one-half to Frederick D. Bennett, Freehold, N. J. Filed May 9, 1905. Serial No. 260,065.



Claim.—The combination in a self-filling pen of a barrel in one piece and provided with male threads *b* and *c* and with an operating-orifice, said threads lying at opposite ends of said orifice a guard provided with female threads adapted to engage with one or the other of said male threads in different positions of said guard, a resilient ink-containing sack wholly within said barrel, and a rigid bar secured to said sack in position to be accessible from said orifice, substantially as described.

807,501. **PROCESS OF CONCENTRATING ORES.** ALFRED SCHWARZ, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz., a Corporation of Arizona. Filed Apr. 19, 1905. Serial No. 256,457.

Claim.—1. The method of treating ores which consists in subjecting a non-sulfid ore to the action of a soluble sulfid to convert the mineral into a sulfid, then treating the mass with a hydrocarbon and finally separating the hydrocarbon with the entrapped metallic constituents of the ore from the tailings.

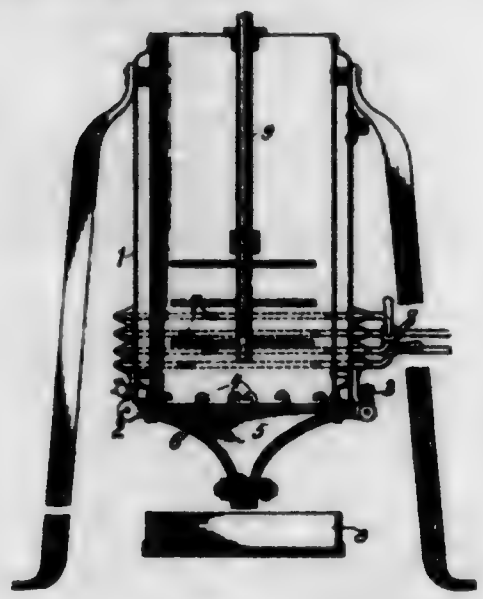
2. The method of treating an ore containing non-sulfid mineral by subjecting the same to the action of an alkaline sulfid to convert the mineral into a sulfid, then treating the mass with a hydrocarbon and finally separating the hydrocarbon with the entrapped metallic constituents of the ore from the tailings.

3. The method of treating an ore containing non-sulfid mineral by subjecting the same to the action of an aqueous solution of potassium or sodium sulfid to convert the mineral into a sulfid, then treating the mass with a hydrocarbon and finally separating said hydrocarbon with the entrapped metallic constituents of the ore from the tailings.

4. The method of treating an ore containing non-sulfid mineral by subjecting the same to the action of a soluble sulfid, then treating the resulting metallic sulfid with a melted hydrocarbon which is solid at normal temperatures and finally separating said hydrocarbon with the entrapped metallic constituents from the tailings.

5. The method of treating an ore containing non-sulfid mineral by subjecting the same to the action of a soluble sulfid, then treating the resulting metallic sulfid with a compound of melted paraffin and resin, then separating said compound with the entrapped metallic constituents from the tailings.

807,502. PROCESS OF CONCENTRATING ORES. ALFRED SCHWARZ, New York, N. Y., assignor to The Schwarz Ore Treating Company, Phœnix, Ariz., a Corporation of Arizona. Filed May 27, 1904. Serial No. 210,127.



Claim.—1. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of a normally non-liquid resinous hydrocarbon and a non-resinous hydrocarbon, then separating said adhesive agent with the entrapped values from the tailings and finally separating the values from said agent.

2. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of a normally non-liquid resinous hydrocarbon and a non-resinous hydrocarbon, then separating by water the said agent with the entrapped values from the tailings and finally separating the values from said agent.

3. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a melted mixture of a resinous hydrocarbon and a non-resinous hydrocarbon which is solid at normal temperatures, then separating said agent with the entrapped values from the tailings, and finally separating the values from said agent.

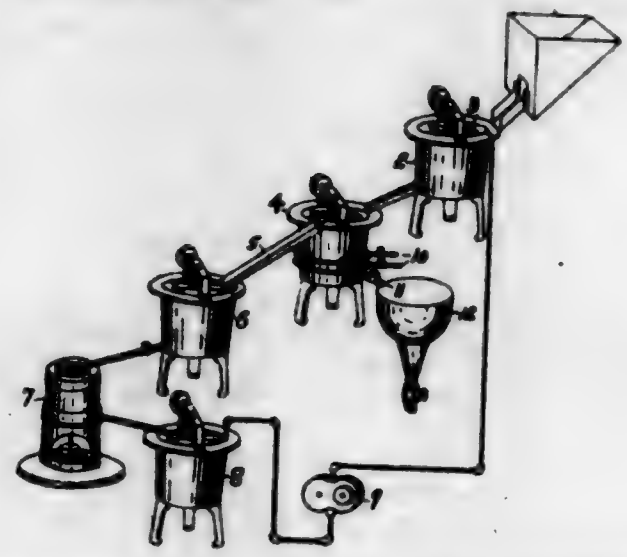
4. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a melted mixture of a resinous hydrocarbon and a fatty matter which is solid at normal temperatures, then solidifying said agent and separating the same with the entrapped values from the tailings, and finally separating the values from said agent.

5. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a melted mixture of a resinous hydrocarbon and a fatty matter which is solid at normal temperatures, then solidifying said agent by the introduction of water into the mass and effecting a separation of said agent with the entrapped values from the tailings and finally separating the values from said agent.

6. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of a resin and paraffin, then separating said agent with the entrapped values from the tailings and finally separating the values from said agent.

7. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of a resin and paraffin, then subjecting the mass to a water-bath for the purpose of separating said agent with the entrapped values from the tailings, and finally separating the values from said agent.

807,503. PROCESS OF CONCENTRATING ORES. ALFRED SCHWARZ, New York, N. Y., assignor to The Schwarz Ore Treating Company, Phœnix, Ariz., a Corporation of Arizona. Filed May 27, 1904. Serial No. 210,128.



Claim.—1. The process of concentrating ores consisting in mixing with the pulverized ore a selective agent consisting of a mixture of a liquid hydrocarbon and a normally solid fatty matter which mixture is solid at normal temperatures, separating said agent with its entrapped values from the tailings, and finally recovering the values from the selective agent.

2. The process of concentrating ores consisting in mixing with the pulverized ore a selective agent consisting of a mixture of a liquid hydrocarbon and a normally solid fatty matter which mixture is solid at normal temperatures, treating the mass with water to separate said agent with its entrapped values from the tailings, and finally recovering the values from the selective agent.

3. The process of concentrating ores consisting in mixing with the pulverized ore a selective agent consisting of a mixture of a liquid hydrocarbon and a normally solid fatty matter which mixture is solid at normal temperatures, treating the mass with cold water to separate said agent with its entrapped values from the tailings, and finally recovering the values from the selective agent.

4. The method of concentrating ores consisting in mixing with the pulverized ore a selective agent consisting of a mixture of a liquid hydrocarbon and a normally solid fatty matter which mixture is solid at normal temperatures and subjecting the mass to the action of a gaseous fluid, separating the selective agent with its entrapped values from the tailings, and finally recovering the values from the selective agent.

5. The process of concentrating ores consisting in mixing with the pulverized ore a selective agent consisting of a mixture of a liquid hydrocarbon and paraffin which mixture is solid at normal temperatures, separating said agent with its entrapped values from the tailings, and finally recovering the values from the selective agent.

6. The process of concentrating ores consisting in mixing with the pulverized ore a selective agent consisting of a mixture of a liquid hydrocarbon and paraffin which mixture is solid at normal temperatures, treating the mass with water to separate said agent with its entrapped values from the tailings, and finally recovering the values from the selective agent.

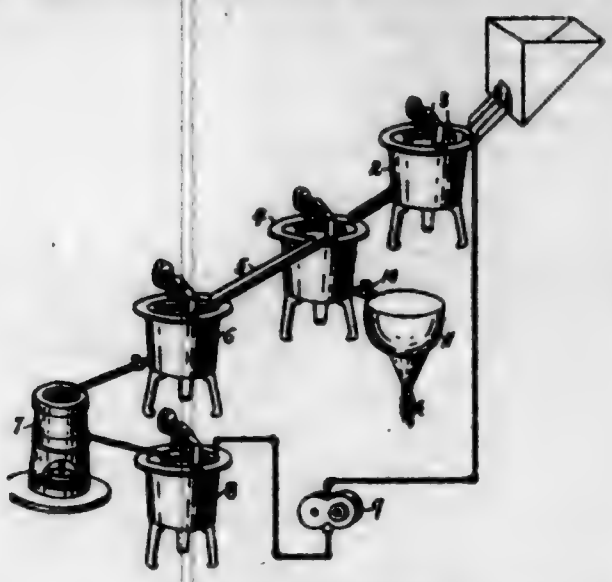
807,504. PROCESS OF CONCENTRATING ORES. ALFRED SCHWARZ, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz., a Corporation of Arizona. Filed Sept. 21, 1904. Serial No. 225,370.

Claim.—1. The process of concentrating ores consisting in melting a normally solid hydrocarbon, mixing dry pulverized ore therewith, separating said hydrocarbon with its entrapped values from the tailings by subjecting the mixture to the action of a bath of heated water while maintaining said hydrocarbon in a melted condition, and finally recovering the values from the hydrocarbon.

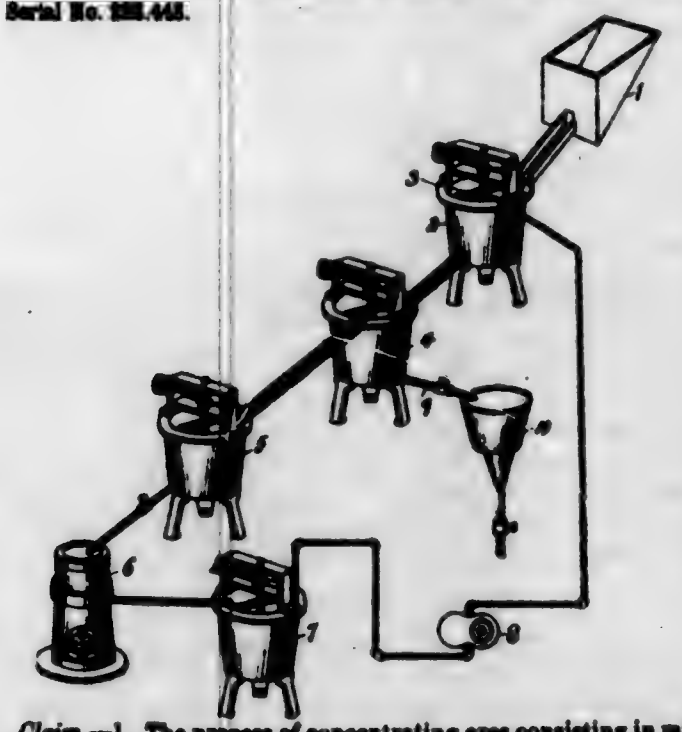
2. The process of concentrating ores consisting in mixing pulverized ore with a melted adhesive agent composed of a resinous and a non-resinous hydrocarbon which agent is solid at normal temperature, separating said agent with its entrapped values from the tailings by subjecting the mixture to a bath of heated water while maintaining said agent in a melted condition, and finally recovering the values from the adhesive agent.

3. The process of concentrating ores consisting in mixing pul-

verized ore with a melted adhesive agent composed of resin and paraffin which agent is solid at normal temperatures, separating said agent with its entrapped values from the tailings by subjecting the mixture to a bath of heated water while maintaining the agent in a melted condition, and finally recovering the values from the adhesive agent.



807,505. PROCESS OF CONCENTRATING ORES. ALFRED SCHWARZ, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz., a Corporation of Arizona. Filed Oct. 14, 1904. Serial No. 228,445.



Claim.—1. The process of concentrating ores consisting in mixing the ore with an adhesive agent composed of a hydrocarbon and sulfur, separating said agent with the entrapped values from the tailings, and recovering the values from the adhesive agent.

2. The process of concentrating ores consisting in mixing the ore out of contact with water with an adhesive agent composed of a hydrocarbon and sulfur, separating said agent with the entrapped values from the tailings, and recovering the values from the adhesive agent.

3. The process of concentrating ores consisting in mixing the ore with an adhesive agent composed of a hydrocarbon which is solid at normal temperatures and sulfur, separating said agent with the entrapped values from the tailings, and recovering the values from the adhesive agent.

4. The process of concentrating ores consisting in mixing the ore with an adhesive agent composed of a resinous hydrocarbon and sulfur, separating said agent with the entrapped values from the tailings, and recovering the values from the adhesive agent.

5. The process of concentrating ores consisting in mixing the ore with an adhesive agent composed of a resinous and a non-resinous hydrocarbon and sulfur, separating said agent with the entrapped values from the tailings, and recovering the values from the adhesive agent.

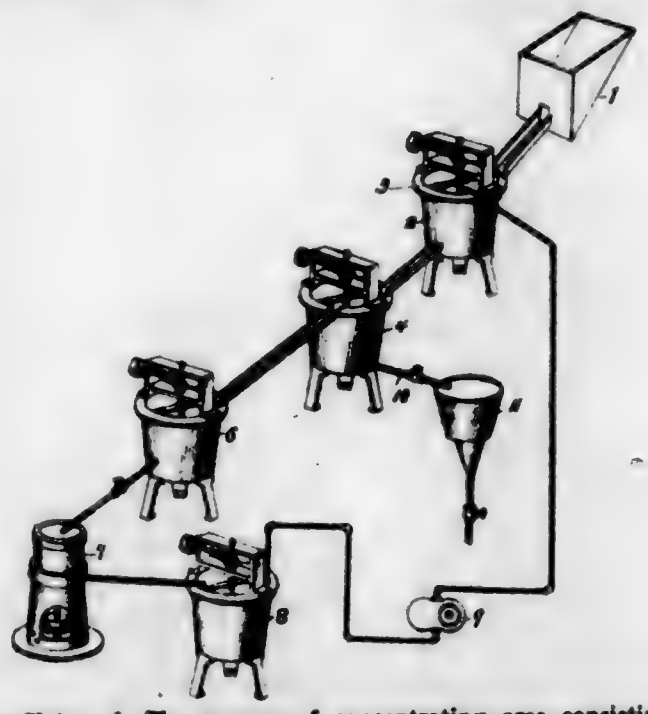
6. The process of concentrating ores consisting in mixing the ore with an adhesive agent composed of resin, paraffin and sulfur, separating said agent with the entrapped values from the tailings, and recovering the values from the adhesive agent.

7. The process of concentrating ores consisting in mixing the ore with an adhesive agent composed of resin and sulfur, separating said agent with the entrapped values from the tailings, and recovering the values from the adhesive agent.

8. The process of concentrating ores consisting in mixing the ore with an adhesive agent composed of a hydrocarbon and sulfur, washing the mixture with water, separating the said agent with its entrapped values from the tailings, and recovering the values from said agent.

9. The process of concentrating ores consisting in mixing the ore with an adhesive agent composed of a hydrocarbon and sulfur, washing the mixture with heated water, separating the said agent with its entrapped values from the tailings, and recovering the values from said agent.

807,506. PROCESS OF CONCENTRATING ORES. ALFRED SCHWARZ, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz., a Corporation of Arizona. Filed Nov. 4, 1904. Serial No. 231,395.



Claim.—1. The process of concentrating ores consisting in melting a normally solid resinous hydrocarbon, mixing the pulverized ore therewith and separating said hydrocarbon with its entrapped values from the tailings, and finally recovering the values from the resinous hydrocarbon.

2. The process of concentrating ores which consists in melting a normally solid resinous hydrocarbon, mixing the pulverized ore therewith, treating the mixture with water to separate said hydrocarbon with its entrapped values from the tailings, and finally recovering the values from the resinous hydrocarbon.

3. The process of concentrating ores consisting in melting a normally solid resinous hydrocarbon, mixing the pulverized ore therewith, treating the mixture with heated water to separate said hydrocarbon with its entrapped values from the tailings, and finally recovering the values from the resinous hydrocarbon.

4. The process of concentrating ores consisting in adding to the pulverized ore a normally solid resinous hydrocarbon, heating and agitating the mass to liquefy the hydrocarbon and to effect a mixture therewith with the ore, separating said hydrocarbon with its entrapped values from the tailings, and finally recovering the values from the resinous hydrocarbon.

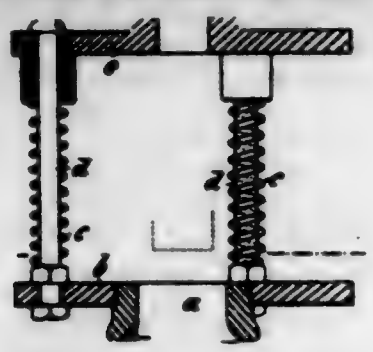
5. The process of concentrating ores consisting in mixing melted resin with the pulverized ore, separating the resin with its entrapped values from the tailings, and finally recovering the values from the resin.

6. The process of concentrating ores consisting in mixing melted resin with the pulverized ore, treating the mixture with heated water to maintain the resin in a melted condition and to separate the same with its entrapped values from the tailings, and finally recovering the values from the resin.

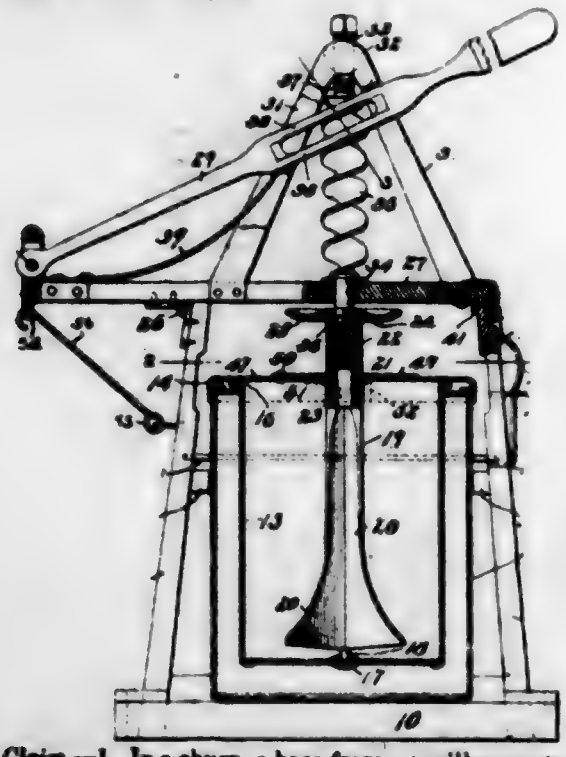
807,507. BOTTLING AND LIKE APPARATUS. CARL SELLENSCHEIDT, Berlin, Germany, assignor to Filter & Brunnenbauliche Maschinen-Fabrik Akt. Ges. vormals L. A. Riedinger, Berlin, Germany. Filed June 9, 1904. Serial No. 211,743.

Claim.—In a bottle-filling machine, a filling-head having an

inflatable cushion with a nozzle adapted to protrude within the mouth of the bottle, in combination with a guide device comprising a spring-pressed member supported below the filling-head and having a flared aperture which receives the nozzle of the inflatable cushion on one side and the mouth of the bottle on the other.



807,508. CHURN. JOHN I. SHAW, Novinger, Mo. Filed Sept. 6, 1905. Serial No. 277,153.



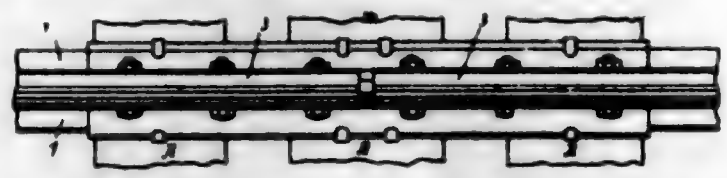
Claim.—1. In a churn, a base-frame, a milk-receptacle disposed upon said base-frame, a dasher operating in said receptacle, spaced standards rising from said base-frame, a bar hinged to one of said standards and extending beyond the same at one end and with the other end of the bar bearing upon the other standard, a supporting-frame rising from said bar, a twisted rod journaled in said bar and its supporting-frame and detachably coupled to said dasher, and an operating-lever pivoted at one end to the extended end of said bar and provided with transverse apertures bearing over said twisted rod and operatively engaging the same.

2. In a churn, a base-frame, a milk-receptacle disposed upon said base-frame, a dasher operating in said receptacle, spaced standards rising from said base-frame and supporting said receptacle, a guard-rod extending between said standards and bearing against said receptacle, a twisted rod supported for rotation above said receptacle and detachably coupled to said dasher, and an operating-lever movably disposed above said receptacle and provided with transverse apertures bearing over said twisted rod.

3. In a churn, a base-frame, a milk-receptacle disposed upon said base-frame, a dasher operating in said receptacle, spaced standards rising from said base-frame, a bar hinged to one of said standards and extending beyond the same at one end and with the other end of the bar bearing upon the other standard, said bearing-standard having a pin projecting into a socket in said bar, spaced stops depending from said bar and bearin gagainst the inner and outer faces of said bearing-standard, a resilient catch member carried by said bearing-standard and detachably engaging one of said stops, a twisted rod supported for rotation through said bar and detachably coupled to said dasher, and an operating-lever movably disposed above said bar and provided with transverse apertures bearing over said twisted rod.

807,509. RAIL-JOINT CONSTRUCTION. FRED SHERWOOD, Rome, N. Y., assignor of one-fourth to B. D. Kneeland, Rome, N. Y. Filed Nov. 9, 1904. Serial No. 231,968.

Claim.—1. A rail-joint comprising ties, rails, a longitudinal chair comprising the wide base arranged beneath adjacent rails and overlying a plurality of ties and having on one side a longitudinal web extending over one side of the rail-bases and up along the webs of the rails, whereby said wide base can slide freely transversely under the rail-bases, a separate plate arranged longitudinally along the opposite sides of the rail webs and bases, clamping-bolts passing through the webs of the adjacent rails, said plate and said chair-web, the rail ends being arranged over a tie, and said chair having transversely-arranged abutments depending between and engaging the side faces of the ties, substantially as described.



2. A rail-joint comprising a horizontal elongated chair comprising the base arranged beneath approximately the full width of adjacent rails with the ends thereof at the central portion of the chair and over a tie, the opposite longitudinal edges of said chair being notched beyond the rail-bases to receive spikes securing the same to the several ties, said chair fitting over one side of the rail bases and webs and bolted thereto and open at the opposite side to receive the rails, and having a plurality of rigid abutments depending at the vertical faces of the several ties to hold the rail-joint against creeping, substantially as described.

3. A rail-joint comprising an elongated chair having the unobstructed side opening to laterally receive the end portions of two adjoining rails and consisting of a longitudinal base under said two rail-end portions and in width approximately equal to the width of the rail-bases and overlying several ties and having a plurality of rigid depending abutments engaging the edges of the several ties to hold the chair and ties in fixed relation, and a web portion receiving one side of the rail bases and webs, a longitudinal plate engaging the opposite side of the rail-webs, and means clamping said plate and chair and rail-webs together, substantially as described.

4. A rail-joint comprising a chair elongated to rest on a plurality of ties and open throughout one side to laterally receive the end portions of two adjoining rails and consisting of the longitudinal base extending completely across and supporting said rail-end portions and formed at its opposite longitudinal edges to receive means, beyond the rail-bases, for fastening the chair to ties and having the rigid abutments depending at the vertical faces of the several ties and a web portion fitting over one side of the rail-bases and one face of the rail-webs, and means securing said chair-web portion to the rail-webs, substantially as described.

807,510. ORGAN. ERNEST M. SKINNER, Dorchester, Mass. Filed Nov. 4, 1903. Serial No. 180,071.

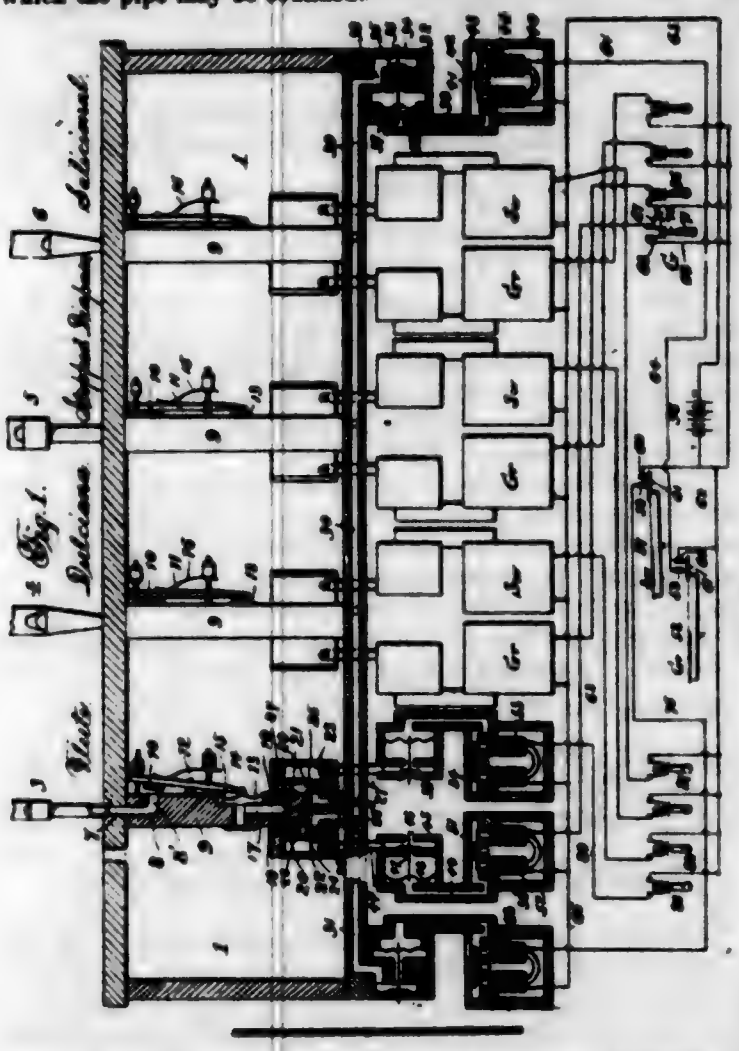
Claim.—1. In an organ the combination of a wind-chest, a pneumatic valve arranged therein and controlling one of the organ-pipes, a windway controlling said valve, two outlets for said windway, a duplex valve and puppet-valves controlling said outlets, and a channel for each of said outlets, substantially as described.

2. In a pipe or reed organ, a single set of pipes or reeds, and a single set of pneumatically-actuated valves having diaphragms connected therewith combined with channels in the bottom board and duplicate-stop wind-chambers, adapted to be vented by draw-stops, and valves, channels and a duplex valve, for automatically establishing communication between the valve-actuating diaphragm and channel in the bottom board, when a stop is on and a key depressed.

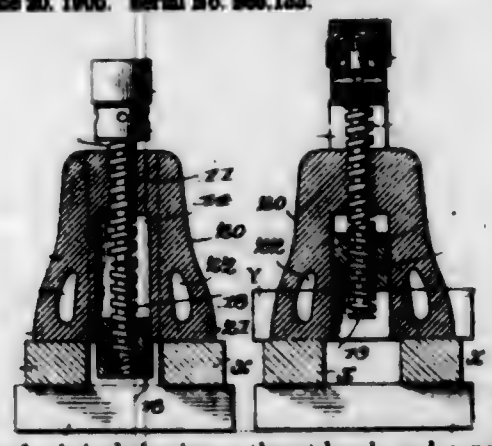
3. In a pipe or reed organ, in combination, a stop rib or bar, having a wind-passage, leading from the wind-chest to the pipe or reed, a pivoted valve-lever, a diaphragm-chamber in said rib or bar, a flexible diaphragm covering such chamber, and connected to the lower end of the valve-lever, a passage leading from the diaphragm-chamber, a conduit in open communication with said passage, a duplex valve arranged in the said conduit, passages communicating with opposite ends of the said conduit, channels in the bottom board, wind-chambers having openings, and puppet-valves, and openings, leading from the passages to the channels in the bottom board.

4. In a pipe or reed organ, a pipe or reed, duplicate-stop wind-chambers adapted to be vented by draw-stops, separate air-channels from both of which the pipe may be sounded, valve-controlled passages between the stop wind-chambers and said separate air-channels, a diaphragm-chamber, a lever carrying a pneumatically-actuated valve for controlling the passage of air to the pipe and opera-

tively connected with the diaphragm of the diaphragm-chamber, and an automatically-operated valve controlling connection between the diaphragm-chamber and the separate air-channels from which the pipe may be sounded.



807,511. LIFTING-JACK. ABRAM J. SLOUBUCKER, Trenton, Mo. Filed June 20, 1905. Serial No. 266,123.



Claim.—1. A jack having a thrust-head, and a pair of alternately-operable base members, each of which operates while the other advances toward the thrust-head.

2. A jack comprising a pair of members having right and left female screws, respectively, and a right and left hand screw connecting the same and forming a thrust-head whereby either of said members may constitute a base for the operation of the jack.

3. A jack having a screw serving as a thrust member when rotated in either direction.

4. A jack having a right and left hand screw revoluble alternately in opposite directions, one thread serving as a thrust member during movement in one direction, and the other as a thrust member during movement in the opposite direction.

5. A jack comprising a pair of interfitting members, each provided with supporting-feet, said members being provided respectively with right and left female screws, and a thrust-screw having right and left hand threads engaging said female threads.

6. The combination in a jack, of a pair of interfitting and alternately-operative base members provided, respectively, with right and left female threads, and a thrust-screw having right and left hand threads adapted to said female threads.

7. In a jack, a pair of interfitting base members, each serving as a guide for the other, and provided, respectively, with right and left female threads, and a thrust-screw having right and left hand threads adapted to said female threads.

8. In a jack, a pair of interfitting base members, each comprising a pair of spaced parallel standards, and each serving as a guide for the other, transversely-disposed blocks connecting the standards and provided, respectively, with right and left hand female threads, and a thrust-screw having right and left hand threads adapted to said female threads.

9. The combination in a jack, of a pair of base members having laterally-extended feet, the feet of one being at a right angle to those of the other, right and left hand female threads formed in said members, and a thrust-screw having right and left hand threads adapted to said female threads.

10. The combination in a jack, of a pair of base members, each comprising a pair of parallel spaced standards, and each standard having a laterally-projecting foot, transversely-extending blocks connecting the standards of each pair and provided, respectively, with right and left hand female threads, and a thrust-screw having right and left hand threads adapted to said female threads.

11. The combination in a jack, of a pair of alternately-operative base members, each comprising a pair of spaced parallel standards having projecting feet and provided with strengthening-ribs, the strengthening-ribs of one pair of standards being recessed for the reception of chains or the like, transversely-disposed blocks connecting the pairs of standards and provided, respectively, with right and left hand female threads, a thrust-screw having right and left hand threads adapted to said female threads.

12. In a jack, the combination with a pair of alternately-operative base members having right and left hand female threads, respectively, of a thrust-screw having right and left hand threads adapted to said female threads, a turning-head carried by the screw and provided with an end portion of reduced diameter, a cap fitting over the reduced end of the head, means for holding the cap in position, and bearing-balls arranged between the cap and head.

807,512. GATE-HANGER. ARTHUR W. STRAGUE, Lagrange, Ill., assignor to The American Steel & Wire Company of New Jersey, Worcester, Mass., a Corporation of New Jersey. Filed Sept. 29, 1905. Serial No. 280,861.



Claim.—1. The combination with a gate having a frame comprising a right-angled bar and fencing secured upon said frame, of a roller engaging with one leg of said right-angled bar, a support for said roller, means for limiting the movement of said roller toward the other leg of said bar and means for holding said bar upon said roller, said fencing being secured to said bar.

2. The combination with a gate having a frame comprising a right-angled bar and fencing secured upon said frame, of a roller engaging with one leg of said right-angled bar, a support for said roller, means for holding said bar upon said roller and a flange upon said roller adapted to engage with the said leg of said bar, said fencing being secured to said bar.

3. The combination with a gate having a frame comprising a T-shaped bar and fencing upon said frame secured to one side of the central leg of said bar, rollers engaging with the other portions of said bar upon each side of said central leg, supports for said rollers, and means for limiting the movement, toward the central leg, of the roller upon that side of the central leg to which the fencing is secured.

4. The combination with a gate having a frame comprising a T-shaped bar and fencing upon said frame secured to one side of the central leg of said bar, rollers engaging with the other portions of said bar upon each side of said central leg, supports for said rollers, and a flange upon the roller upon that side of the central leg to which the fencing is secured.

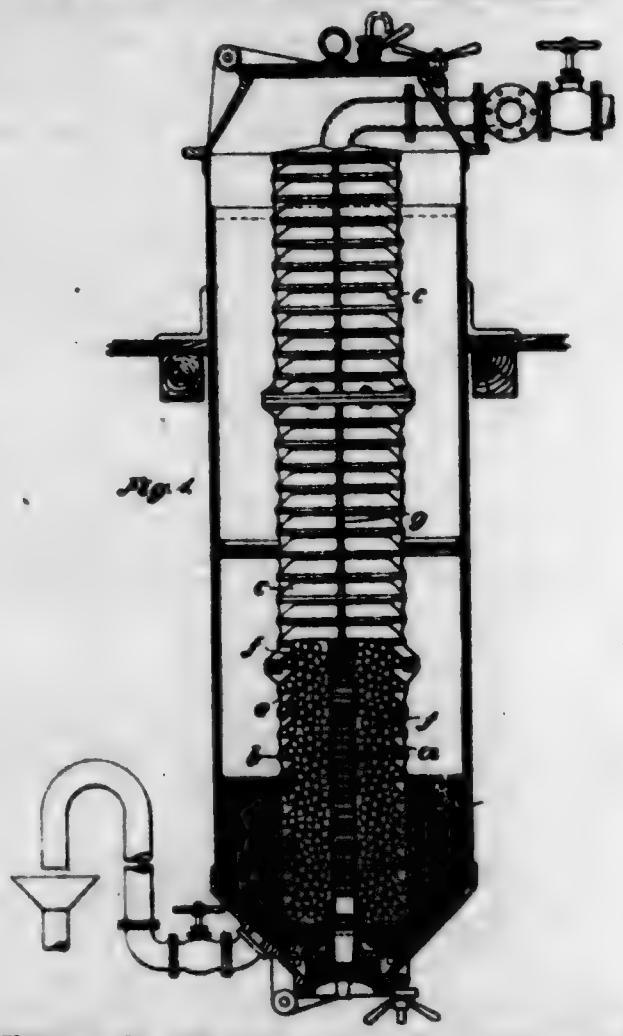
5. The combination with a gate having a frame comprising a T-shaped bar and fencing upon said frame secured to the central leg of said bar, of rollers bearing upon the legs of said bar upon each side of the central leg, supports for said rollers, and means for preventing each of said rollers from moving into contact with the central leg or fencing.

6. The combination with a gate having a frame comprising a T-shaped bar and fencing upon said frame secured to the central leg of said bar, of rollers bearing upon the legs of said bar upon each side of the central leg, supports for said rollers, and a flange on each of said rollers adapted to bear against an outer edge of said bar.

7. A gate-hanger comprising a pair of rollers, the said rollers being separately journaled, supports for said rollers and a flange upon the outer edge of each roller.

8. The combination with a gate having a frame, and fencing secured thereon, of separately-journaled rollers engaging with one side of said frame upon opposite sides thereof, and means for preventing each of said rollers from moving into contact with the fencing.

807,513. DEVICE FOR FILTERING LIQUIDS. GEORGE STADE, Berlin, Germany. Filed Feb. 23, 1904. Serial No. 194,866.



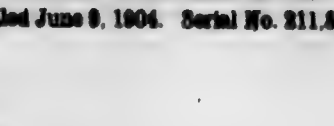
Claim.—1. In a filtering apparatus, the combination with an outer perforated mantle and an inner perforated pipe of comparatively small diameter of liquid ingress and egress pipes connecting respectively with the inner perforated pipe and with the outer mantle, a series of superimposed, spaced flat tubular members of equal diameter with partly conical and partly straight vertical walls and outwardly horizontally bent, open-ring-shaped upper rim, said members being intermediate between said inner pipe and said outer mantle.

2. In a filtering apparatus, the combination with an inner perforated vertical pipe of relatively small diameter and a surrounding outer perforated mantle or tubular casing of relatively large diameter, of ingress and egress pipes connected respectively to the top of said inner perforated pipe and to the bottom of said outer perforated mantle, a series of vertically superimposed, spaced, short, tubular members of equal diameter with partly conical and partly straight vertical walls and outwardly-extending horizontal, open-ring-shaped upper part.

3. In a filtering apparatus, the combination with an inner perforated vertical pipe of relatively small diameter and a surrounding outer perforated tubular casing of relatively large diameter, of liquid admission and discharge pipes connecting respectively with the inner perforated pipe and with the outer tubular casing, a column of intermediate superimposed, spaced, flat tubular members of equal diameter and with partly conical and partly straight side walls and outwardly-extending, open-ring-shaped rim, current-impinging and impact-breaking bodies, arranged between the inner pipe and said intermediate column of tubular members, and filtering material between said column and said surrounding outer tubular casing.

4. In a filtering apparatus, the combination with an inner perforated pipe of relatively small diameter and a surrounding outer perforated tubular casing of relatively large diameter, of liquid admission and discharge pipes connecting respectively with the inner perforated pipe and with the outer tubular casing, an intermediate column of superimposed, spaced, short tubular members of substantially equal diameter and with partly conically inclined and partly straight side walls and with outwardly-extending, open-ring-shaped rim, balls loosely arranged between the inner pipe and the said intermediate column, and filtering material between said column and said surrounding outer tubular casing.

807,514. FISH-HOOK. WILLIAM L. STOCKWELL, McLouth, Kans., assignor of one-half to Joseph K. Bradford, McLouth, Kans. Filed May 17, 1905. Serial No. 260,898.



Claim.—1. A fish-hook comprising a pair of oppositely-disposed hook members formed at intermediate points of their lengths with integral open bights and having their upper portions crossed above said bights, a flexible connection between the upper extremities of the crossed portions and a pivot-pin extending through the open bights of the hook members.

2. A fish-hook comprising a pair of oppositely-disposed hook members formed at a suitable point with eyes, and provided above said eyes with crossed arms terminating at their upper ends in eyes, a pivot engaged by the first-named eyes and provided with headed ends, a washer on said pivot between said eyes, and a flexible connection connecting the eyes of said arms, in combination with a line attached to said connection about midway its length.

807,515. BED-SLAT. JAMES W. TATUM, Durham, N. C., assignor of one-half to Benjamin Columbus Woodall, Durham, N. C. Filed June 5, 1905. Serial No. 263,766.



Claim.—1. A bed-slat comprising a slat member, a tension member extending longitudinally of the slat member and consisting of a single strand of crimped wire inherently longitudinally extensible and contractible, means for securing the opposite ends of said tension member, and an expansive cushion device arranged between the said members and exerting its force transversely thereto.

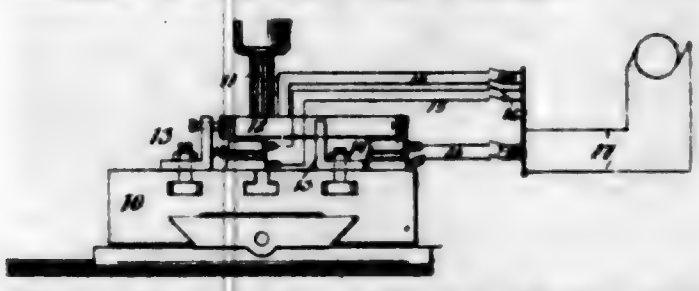
2. A bed-slat comprising a slat member, anchoring-posts at the opposite ends thereof, an elastic tension member extending longitudinally of the slat, and having its opposite ends passed around said posts and sunk into the body of the slat member, clamping devices on said posts to secure the ends of the tension members thereto, and an expansive coil-spring disposed between the tension and slat members and exerting its expansive force against the same.

807,516. HOLDER FOR LACING-HOOKS. JOHN C. TELFER, St. Louis, Mo. Filed June 9, 1904. Serial No. 211,816.

Claim.—1. A holder composed of a single sheet of metal and having vertical and inclined sides, a bottom wall connecting the inclined sides, inwardly-deflected flanges at the upper edges of the vertical sides, a terminal lip at one end, and a resilient tongue formed in either of the flanges at the opposite end, said tongue having an inwardly-formed shoulder for normally intercepting the discharge of the articles at the adjacent end, and an outwardly-inclined terminal, substantially as set forth.

2. A holder for lacing-hooks composed of a single sheet of metal and having parallel side walls and inclined side walls, and a bottom wall connecting said inclined walls, inwardly-deflected flanges at the upper edges of the parallel side walls, said flanges being separated by a suitable longitudinal sight-slit, a terminal lip deflected from the bottom wall for closing one end of the tube thus formed, and a resilient tongue cut from the opposite end of one of the flanges and having an inwardly-formed shoulder for arresting the discharge of the lacing-hooks from said end of the tube, substantially as set forth.

807,517. MAGNETIC WORK-HOLDER. WALTER H. VARNE, Chicago, Ill. Filed July 31, 1905. Serial No. 271,884.



Claim.—1. The magnetic work-holder for holding ironwork to an iron-table, which consists of a movable electromagnet having two polar surfaces, one for engaging the work to be held and the other for engaging the table, in combination with the iron-table upon which the work is to be held, whereby the work is held in fixed relation to said table, substantially as specified.

2. The combination with the ironwork-holding table, of several independent, movable electromagnetic holders each comprising a polar surface for engaging the table, and a polar surface for engaging the work to be held, substantially as specified.

3. The combination in a set of holders comprising several magnetic holders, each having two polar surfaces, one polar surface for engaging the table upon which the work is to be held, and the other polar surface for engaging the work to be held, of one or more similar holders, each provided with means for moving the upper and lower polar surfaces toward or away from each other, and for fixing them in the adjusted positions, substantially as specified.

4. The adjustable magnetic holder comprising two polar surfaces, one for engaging the iron-table and one for engaging the work to be held, said holder being made in two parts, one part to rock upon the other to better adjust it to the configuration of the work to be held, substantially as specified.

5. The adjustable magnetic holder comprising two polar surfaces, one for engaging the iron-table and one for engaging the work to be held, said holder being made in two parts, one part to rock upon the other to better adjust it to the configuration of the work to be held, the joint between said two parts being a spherical one, substantially as specified.

6. The adjustable magnetic holder comprising two polar surfaces, one for engaging the iron-table and one for engaging the work to be held, said holder being made in two parts, one part to rock upon the other to better adjust it to the configuration of the work to be held, the joint between the two parts being a spherical one, the center of the sphere being at or near the upper polar surface of the holder, substantially as specified.

7. The two-part magnetic holder having a polar surface for engaging the table, and a polar surface for engaging the work, and made so that one part may rock upon the other with a joint, and having the magnet so constructed that the joint will be held together magnetically, substantially as specified.

8. The magnetic work-holder having two helices, one energizing a polar surface which engages the work to be held, and the other energizing a polar surface which engages the table, whereby the magnetic action may be suspended at one polar surface while it is continued at the other polar surface, substantially as specified.

9. The magnetic work-holder comprising two polar surfaces, one for engaging the work to be held and one for engaging the table, and having two helices, one for energizing the one polar surface and the other for energizing the other polar surface, said holder being made in two parts jointed together and held together by the magnetic attraction, substantially as specified.

10. The adjustable magnetic holder comprising two polar surfaces, one for engaging the iron-table and one for engaging the work to be held, said holder being made in two parts, one part to rock upon the other to better adjust it to the configuration of the work to be held, combined with means for preventing the holder from rocking, substantially as specified.

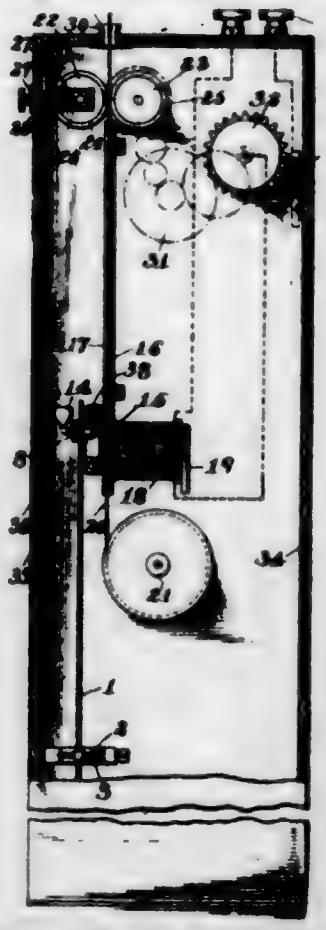
11. The adjustable magnetic holder comprising two polar surfaces, one for engaging the iron-table and one for engaging the work to be held, said holder being made in two parts, one part to rock upon the other to better adjust it to the configuration of the work to be held, combined with means for preventing the holder from rocking, said means consisting of a screw-plug passing from one part into the other, substantially as specified.

12. The adjustable magnetic holder comprising two polar surfaces, one for engaging the iron-table and one for engaging the work to be held, said holder being made in two parts, one part to rock upon the other to better adjust it to the configuration of the work to be held, the joint between said two parts being a spherical one which will permit the part to rock in any plane, combined with means which may be applied at will to restrict the motion of said part to rocking in a single plane like a cylindric joint, substantially as specified.

13. The adjustable magnetic holder comprising two polar surfaces, one for engaging the iron-table and one for engaging the work to be held, said holder being made in two parts, one part to rock upon the other to better adjust it to the configuration of the work to be held, the joint between said two parts being a spherical one which will permit the part to rock in any plane, combined with means which may be applied at will to restrict the motion of said part to rocking in a single plane like a cylindric joint, and means for preventing one part from rocking on the other, substantially as specified.

14. The combination with the two-part magnetic holder united by a spherical joint, of the movable radial plug carried by the convex part of the joint, the concave part of the joint being provided with a central locking-cavity and a great-circle slot to coact with said movable radial plug, substantially as specified.

807,518. RECORDING INSTRUMENT. CHARLES B. VAWTER, Jr., Blacksburg, Va. Filed July 25, 1905. Serial No. 271,234.



Claim.—1. In a recording instrument, the combination with a movable index having one point of support and a free end, of an armature movably mounted thereon at said free end, a recording-point operatively connected to said armature, an electromagnet over which said armature is arranged to travel, a make-and-break device located in circuit with the windings of said magnet, a record-sheet adapted to be engaged by said recording-point only when said armature is attracted by said magnet, and mechanism to impart movement to said record-sheet and to operate said make-and-break device, substantially as described.

2. In a recording instrument, the combination with a movable index having one point of support and a free end, of an armature movably mounted thereon at said free end, a fountain-pen operatively connected to said armature, a record-sheet in proximity to said

fountain-pen, electromagnetic means for intermittently attracting said armature whereby said fountain-pen is brought into contact intermittently with said record-sheet, a stop to limit the motion of said index in the direction of said record-sheet, and means to impart motion to said record-sheet, substantially as described.

3. In a recording instrument, the combination with a movable index having one point of support and a free end, of an armature movably mounted thereon, a fountain-pen carried by said armature, an electromagnet over which said armature is arranged to travel, a make-and-break device located in circuit with the windings of said magnet, a record-sheet adapted to be engaged by said fountain-pen only when said armature is attracted by the said magnet, a stop to limit the motion of said index in the direction of said record-sheet, and mechanism to impart movement to said record-sheet and to operate the make-and-break device, substantially as described.

4. In a recording instrument, the combination with a movable index, of an armature movably mounted thereon, a spring normally forcing said armature in one direction, a tube made fast to and passing through said armature and terminating at one end in a contracted portion through which extends an orifice and terminating at its other end in an ink-receptacle, a record-sheet in proximity to the contracted portion of said tube, an electromagnet over which the said armature is arranged to travel, a make-and-break device located in circuit with the windings of said magnet, means to limit the motion of said index in the direction of said record-sheet, and mechanism to impart movement to said record-sheet and to operate said make-and-break device, substantially as described.

5. In a recording instrument, the combination with a movable index having one point of support and a free end, of an armature mounted thereon, a fountain-pen carried by said armature, a record-sheet located in proximity to said fountain-pen, a roller upon which said record-sheet is wound, a guide-support over which said record-sheet is arranged to pass, said rollers arranged to engage the sides of said record-sheet to impart motion thereto, an inclosing case for the above-mentioned parts having an opening through which the free end of said record-sheet is arranged to be fed, an opening covered by transparent material through which the record-sheet may be read as the record is being made, an electromagnet over which the said armature is arranged to travel, a make-and-break device connected in circuit with the windings of said magnet, a stop to limit the motion of said index in the direction of said record-sheet, and mechanism for operating the said sheet-rollers and said make-and-break device, substantially as described.

807,519. **BOTTLE-STOPPER.** FRIEDRICH W. VIETMEYER and ALEXANDER VIETMEYER, Pyrmont, Germany. Filed July 14, 1904. Serial No. 216,577.



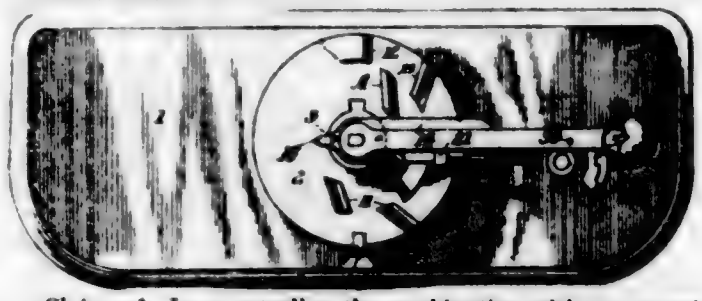
Claim.—1. In a stopper for bottles, the combination of a bottle provided with a projecting shoulder or the like, a cork, and a cap consisting of a main body portion seated on and overhanging the cork, said cap having integral pendent arms provided with hooked end portions for engaging the shoulder, said arms being longitudinally ribbed from their lower ends to a point adjacent the overhanging body portion of the cap.

2. In a stopper for bottles, the combination of a bottle provided with a projecting shoulder or the like, a cork, a cap consisting of a main body portion seated on and overhanging the cork, said cap having integral pendent arms provided on their lower end with hooked portions for engagement with the shoulder, said arms joining the overhanging portion of the cap with a gradual curve providing greater width at their bases than at the ends of said arms, the said arms being longitudinally ribbed from their lower ends to a point above the bases thereof.

3. In a stopper for bottles, the combination of a bottle provided with an annular projecting shoulder recessed at two or more points, a cork or the like, a cap comprising a main body portion seated on and adapted to overhang the cork, said overhanging portion being provided with teeth securing the cork to the stopper, said cap also having integral pendent arms provided with hooked end portions, said arms being tapered toward their lower ends and joining the overhanging portion in a gradual curve, said arms being ribbed from their lower ends to a point adjacent the overhanging portion of the cap.

4. In a stopper for bottles, the combination of a bottle provided with a projecting shoulder recessed at two or more points, and a cap comprising a main body or cork-engaging portion, said cap having integral pendent arms provided with hook-shaped ends adapted for engagement with said shoulders, said arms being longitudinally ribbed throughout their length.

807,520. **CONTROLLER.** FERDINAND VOLK, Pittsburg, Pa., assignor, by direct and mesne assignments, of one-third to John A. Rogan and one-third to John Murphy, Pittsburg, Pa. Filed Feb. 4, 1905. Serial No. 244,181.

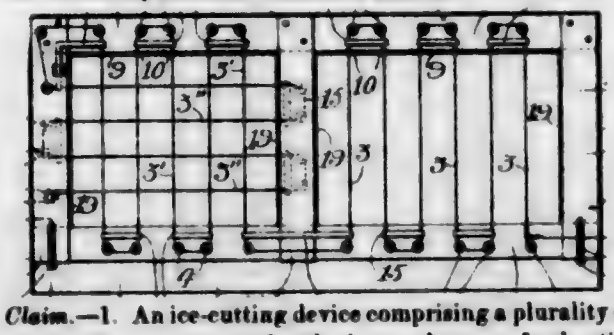


Claim.—1. In a controller, the combination with an operating-lever, a handle rotatably mounted thereon, and a detent carried by said lever and shiftable thereon, of a stop arranged in the path of movement of the lever and adapted to engage the detent, and means operated by the rotation of the handle for shifting the detent and causing it to disengage the stop, substantially as described.

2. In a controller, the combination with an operating-lever, a handle rotatably mounted thereon, and a detent carried by said lever and shiftable thereon, of a series of stops arranged in the path of movement of the lever to alternately engage the detent in its alternate positions, and means operated by rotation of the handle for shifting the detent in opposite directions and causing it to disengage the successive stops, substantially as described.

3. In a controller, the combination with an operating-lever and a handle rotatably mounted thereon, of means for stopping the movement of the lever at predetermined intervals in its traverse, and means operated by the rotation of the handle for releasing the lever and permitting its movement to be continued, substantially as described.

807,521. **ICE-CUTTING DEVICE.** FRANK WALKER, Los Angeles, Cal. Filed May 22, 1905. Serial No. 261,719.



Claim.—1. An ice-cutting device comprising a plurality of wires arranged to form a support for the ice, and means for heating said wires.

2. An ice-cutting device comprising a plurality of wires arranged to form a support for the ice, and means for passing electric current through said wires to heat the same.

3. An ice-cutting device comprising a plurality of parallel wires, means for holding said wires stretched in position to form a support for the ice, and means for passing the current through said wires.

4. An ice-cutting device comprising a frame, a set of parallel wires stretched across said frame, another set of parallel wires stretched across said frame transversely to the first set of wires, and means for passing electric current through said wires.

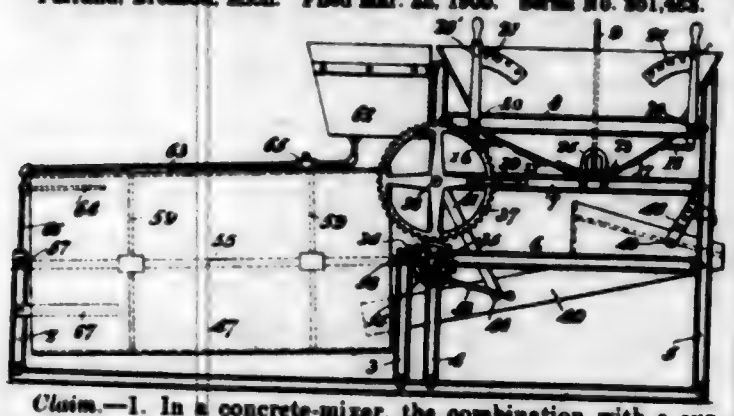
5. An ice-cutting device comprising a frame, a set of parallel wires stretched across a part of said frame, and two sets of wires stretched across another part of said frame, the wires in each of the last-named two sets being arranged parallel to the wires in the same set and transversely to the wires of the other set.

6. An ice-cutting device comprising a frame, insulators on said frame, wires on said insulators and extending across the frame parallel to one another, and short-circuiting means to shunt the current from the portion of the wires extending around the insulators.

7. An ice-cutting device comprising a frame, insulators on said frame, wires on said insulators and extending across the frame parallel to one another, and short-circuiting means to shunt the current from the portion of the wires extending around the insulators, said

short-circuiting means comprising conducting-clips slidably engaging the wires.

807,522. CONCRETE-MIXER. DANIEL WARNER, Bronson, Mich., assignor of one-fourth to Grant Farrand and one-fourth to Joseph K. Farrand, Bronson, Mich. Filed Mar. 22, 1905. Serial No. 251,422.



Claim.—1. In a concrete-mixer, the combination with a supporting-frame, of a hopper, a partition arranged therein, sliding sections combined with and constituting the bottom of the hopper, an agitator disposed upon the upper sides of the said sections, mechanism for reciprocating the agitator, and an adjusting-lever combined by interposed mechanism with each of the sections.

2. In a concrete-mixer, the combination with a supporting-frame, of a hopper, a partition arranged therein, sliding sections combined with and constituting the bottom of the hopper, an agitator disposed upon the upper sides of the said sections and embodying two series of fingers of unequal lengths, and mechanism for reciprocating the agitator.

3. In a concrete-mixer, the combination with a supporting-frame, of a hopper, a partition arranged therein, sliding sections combined with and constituting the bottom of the hopper, an agitator disposed upon the upper sides of the said sections, mechanism for reciprocating the agitator, levers combined by interposed mechanism with the sections, and graduated scales with which the levers coact.

4. In a concrete-mixer, the combination with a frame, of a hopper, an agitator disposed upon the upper face of the bottom of the hopper, means for reciprocating the agitator, a table disposed beneath the hopper and having its intake end provided with a screen, and means for imparting vibratory movements to the table.

5. In a concrete-mixer, the combination with a frame, of a shaft carrying at one end a driven pinion and at its other end a fly-wheel, a hopper, a disintegrating element arranged on the upper side of the hopper, a rock-shaft operatively connected with the disintegrator, a pitman connecting the fly-wheel and the rock-shaft, a vibratory table disposed beneath the hopper, and pitman-rods connecting the table and the fly-wheel and the pinion.

6. In a concrete-mixer, the combination with a frame, of a hopper, an agitator disposed upon the upper face of the bottom of the hopper, means for reciprocating the agitator, a table disposed beneath the hopper and having its intake end provided with a screen, means for imparting vibratory movement to the table, and a rotary drum into which the discharge end of the table projects.

807,523. HORSE-COLLAR. JOHN DE WITT WHIPPLE, Tekamah, Nebr. Filed Jan. 30, 1904. Serial No. 191,309.

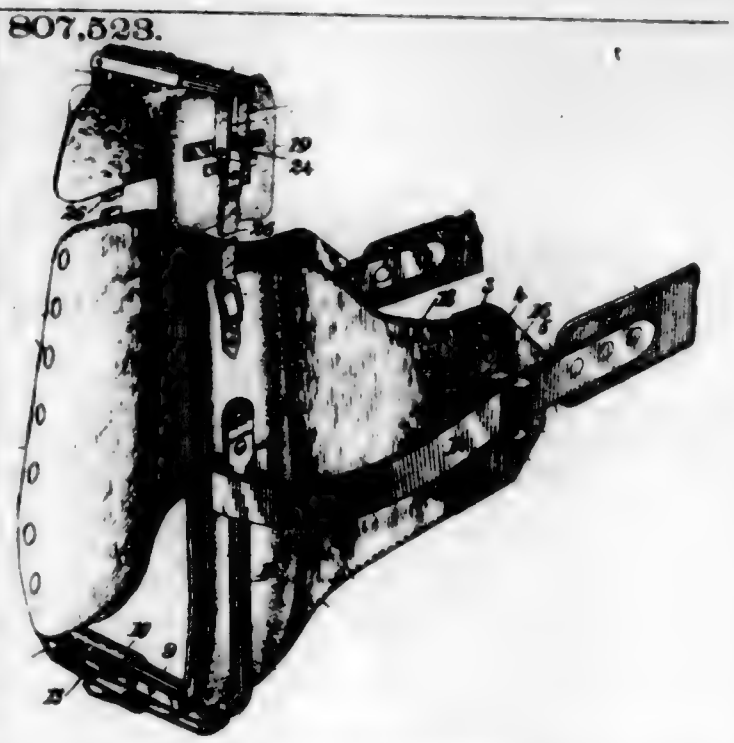
Claim.—1. A horse-collar comprising neck and shoulder engaging side or draft leathers, vertically-disposed plates secured to the front ends of said side leathers, and spring yielding connections between said plates and side leathers of each side.

2. A horse-collar comprising neck and shoulder engaging side or draft leathers, vertically-disposed plates secured to said leathers near the front end, outwardly and rearwardly curved spring-plates extended from said vertical plates, and sliding connection between said spring-plates and the side leathers, whereby a curving is permitted lengthwise of the side leathers at the inner side.

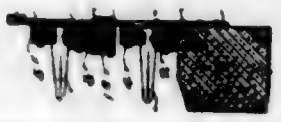
3. A horse-collar comprising side or draft leathers, transversely-curved metal plates secured to the outer sides of said leathers near the front, telescopic connections between the opposite plates, and a supporting-saddle for the leathers.

4. A horse-collar comprising side draft-leathers, diminishing in width from the front rearward, traces extended from the rear ends, vertically-disposed and transversely-curved metal plates secured to the outer sides of the leathers near the front, telescopic connections between the lower ends of said plates, a supporting-saddle having connection with the plates, and spring connections between said plates and the rear portions of the side leathers.

807,523.



807,524. NARROW-WARE LOOM. ADOLPH WIDMER and SAMUEL WIDMER, Paterson, N. J. Filed Oct. 8, 1904. Serial No. 227,694.



Claim.—1. The combination with the batten and a skeleton frame carried thereby, of two series of shuttle-races secured to said frame, alternately arranged, in horizontal planes, two series of shuttles adapted to be driven in the upper and lower races, rack-operated pinions in the lower member of each shuttle-race to drive said shuttles, a rack beneath the wheel-block of the lower raceway to operate its pinions, and a rack arranged on said frame beneath, and adapted to operate, the pinions in the lower member of the upper race, substantially as described.

2. In a double-decker batten for narrow-ware looms, two rows of shuttle-races arranged in horizontal, parallel, planes, intervening reed-spaces alternating with the shuttle-races in each row, each race being directly above or below a reed-space, pinions in the lower member of each race and shuttles, provided with a longitudinal groove having a rack, adapted to be actuated in said races by the revoluble pinions in the lower members of the upper and lower races, in combination with independently-operating rack-bars adapted to drive the upper and lower pinions respectively, substantially as described.

3. In a double-decker narrow-ware loom, two rows of shuttle-races, a race in one row being indirectly opposite a race in the other row, and pinions revoluble in the wheel-block or lower member of each race, in combination with two rows of shuttles, each having a longitudinal groove and rack in the bottom thereof, and two rack-bars, one located beneath each series of wheel-blocks, to revolve said pinions and communicate a reciprocating motion to the shuttles in the respective races, substantially as set forth.

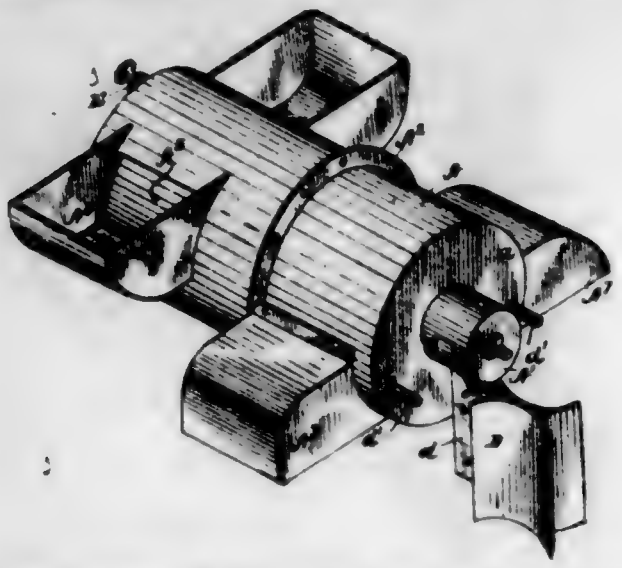
4. In a double-decker narrow-ware loom, the combination of two rows of alternating shuttle-races and reeds, the reeds in one row being opposite the races in the other row, with shuttles having a bottom longitudinal groove and rack, pinions in the lower member of each race to engage and actuate the shuttles, and a rack below each row of pinions to operate the same, substantially as set forth.

807,525. VENTILATOR. GILBERT F. WILLIAMS, Washington, D. C. Filed May 9, 1903. Serial No. 156,582.

Claim.—1. A ventilator comprising in its structure a casing having oppositely-arranged air-inlet openings in its sides and an end discharge-opening, means within the casing for closing one inlet-opening and opening the opposite opening, and means without the casing connected with said closing means for governing the position thereof, substantially as described.

2. In a ventilator, the combination with a casing having air-inlet openings in its sides and an opening in its end, of a movable element within the casing for closing an inlet-opening, and means located without the casing acted upon by air-pressures to adjust said closing means, substantially as described.

3. In a ventilator, the combination with a casing having openings in different sides thereof and an end opening, means for closing one of the openings and opening the other opening, and a vane connected with said closing and opening means for adjusting the same, substantially as described.



4. In a ventilator, the combination with a casing, of lateral air-inlet openings at one end of the casing, air-outlet openings at the opposite end at the sides of the casing, means in the casing for closing an inlet-opening and an outlet-opening, and means without the casing for adjusting said closing means, substantially as described.

5. In a ventilator the combination with a casing having openings in its opposite sides, hoods extending over the openings, shutters for the openings located within the casing, a vane for normally holding the shutters in one position and acted on by wind-pressure to move the shutters to different positions, and stops for limiting the movement of the shutters.

6. In a ventilator the combination with a casing having openings in its opposite sides, shutters for closing the openings, hoods in front of the openings, and a depending standard carrying a vane for normally retaining the shutters in one position and for moving the same into a different position.

7. In a ventilator, the combination with a casing having oppositely-arranged air-inlet openings in its sides, hoods extending over the openings and having open under faces, pivoted means within the casing for closing said openings, and a device located without the casing for adjusting said closing means, substantially as described.

8. In a ventilator, the combination with a casing having air inlet and outlet openings, of a cylinder loosely mounted in the casing and having openings therein registering with said other openings, and a vane located without the casing and connected with said cylinder for adjusting the same within the casing, substantially as described.

9. In a ventilator, the combination with a casing having inlet and outlet ports, of a rotatable cylinder within the casing having an inlet-port, partitions within the casing and a vane connected with the cylinder and located without the casing for adjusting the cylinder, substantially as described.

10. A ventilator comprising a casing having inlet-ports arranged at different points therein, curved deflecting-hoods projected over said ports and opening at an angle thereto, and means carried by the casing for closing one port and opening the opposite port.

11. In a ventilator, the combination with a casing having inlet and outlet ports, of an adjustable element within the casing for closing a port, a vane located without the casing for adjusting said element, and means independent of the vane for adjusting and securing in its adjusted position the element located without the casing, substantially as described.

12. The combination with a casing having inlet-ports, of hoods extending over said ports having open lower faces only, and means for simultaneously closing one port and opening the opposite port, substantially as described.

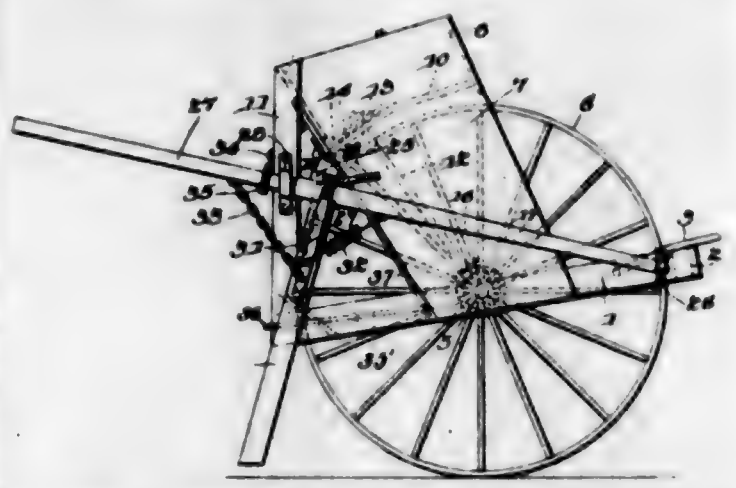
13. The combination with a casing having inlet and outlet ports, of a cylinder located within the casing for closing a port, means located without the cylinder actuated by wind-pressure for adjusting said closing means, and independent means for locking said closing means in different positions, substantially as described.

14. In a ventilator, the combination with a casing having closed sides and openings in the sides, hoods projecting over and in front of the openings and means actuated by wind-pressure for closing one of the openings.

15. In a ventilator, a casing fashioned to project beyond a support and provided with suitable air-openings, and a deflecting-surface below the plane of the openings, means for closing one opening and opening another opening, and hoods extending over the openings.

16. In a ventilator, a casing having oppositely-arranged openings and a deflecting-surface below the openings, hoods having a single open side projected over the openings, and means actuated by wind-pressure for closing one of the openings.

807,526. **FERTILIZER-DISTRIBUTER.** JEFFERSON D. WILLIAMSON, Charlotte, N. C. Filed Oct. 25, 1905. Serial No. 284,083.



Claim.—1. In a fertilizer-distributer, a frame, an axle supported for rotation within the frame, a single transporting-wheel upon said axle, a hopper having side members supported upon the frame at opposite sides of the wheel said hopper having an angular bottom, shafts supported for rotation and having agitating-wheels disposed above the rear portion of the bottom, means for transmitting motion to said shafts from the axle, cut-offs pivoted upon the rear wall of the hopper to regulate slots in said rear wall, and means for adjusting the cut-offs and for retaining them at various adjustments.

2. In a fertilizer-distributer, a hopper having slots in the rear wall thereof, means for expelling the contents of the hopper through said slots, funnels beneath the slots, pivotally-supported handles, and tubular ducts supported by said handles with their upper ends beneath the funnels.

3. In a fertilizer-distributer, a hopper, a pair of pivotally-supported handles, tubular ducts connected with said handles, and means for conveying the contents of the hopper to the tubular ducts.

4. A hopper, a pair of pivotally-supported rods constituting handles, tubular ducts connected with said handles, and means for conveying the contents of the hopper to said ducts.

5. A hopper, a pair of pivotally-supported members constituting handles, tubular ducts connected pivotally with said handles, and means for conveying the contents of the hopper to said ducts.

6. A hopper, a pair of pivotally-supported members constituting handles, tubular ducts connected pivotally with said handles, flexible means connecting the ducts with the handles to restrain the movement of the free ends of said ducts in a forward direction, spring means connecting the ducts with the handles to permit the free ends of said ducts to yield in a rearward direction, and means for conveying the contents of the hopper to the ducts.

7. The combination with a hopper, of a rock-shaft supported for oscillation and constituting a handle, a tubular duct connected pivotally and yieldably with the handle, and means for conveying the contents of the hopper to said duct.

8. The combination with a hopper, of a rock-shaft supported for oscillation and constituting a handle, a tubular duct carried by said handle, and means for conveying the contents of the hopper to said duct.

9. The combination with a hopper, of a rock-shaft supported for oscillation and constituting a handle, a tubular duct carried by said handle, means for conveying the contents of the hopper to the ducts said means including a funnel supported beneath the hopper adjacent to the upper end of the duct, and means for regularing the passage of material from the hopper to the funnel.

10. In a fertilizer-distributor, a hopper having openings in the rear wall thereof for the passage of material, cut-offs pivoted adjacent to said openings and having laterally-extending arms, a slide provided with a flange disposed in the path of said arms, means for

securing the slide at various adjustments, suitably-supported foot-levers, and links connecting said levers with the cut-offs.

807,527. WAIST AND SKIRT HOLDER. HARRY C. WILSON, New York, N. Y. Filed Oct. 2, 1905. Serial No. 281,062.



Claim.—1. A supporter comprising a hook member and an eye member, the hook member being provided with a main hook and with an auxiliary hook, the terminals of said hooks extending in opposite directions, the eye member being formed with an engaging bar adapted to engage the terminal of the main hook and lie within the auxiliary hook, said hook member and eye member being respectively formed to cause the engaging bar of the eye member to ride into the auxiliary hook as the eye member is moved into operative engaging relation with the hook member.

2. A skirt-supporter comprising a hook member terminally bent to provide main hooks and auxiliary hooks, the terminal portions of said main hooks lying forward of the plane of the body of the hook member, the terminals of the auxiliary hooks extending in a direction opposite to the main-hook terminals, and an eye member having an engaging bar adapted to engage the main-hook terminals and lie within the auxiliary hooks, said hook member being respectively formed to provide coöperating parts adapted in the operative assembling of said members to cause the engaging bar to be forced within the auxiliary hooks.

3. A skirt-supporter comprising a hook member and an eye member, the hook member being formed to provide main hooks whose terminals are arranged forward of the plane of the body of the hook member and to provide auxiliary hooks, the terminals of the respective hooks extending in opposite directions, the eye member being provided with a loop having end bars and an engaging bar adapted when connected with the hook member to engage the main-hook terminals and lie within the auxiliary hooks, the end bars being formed to coöperate with the hook member and force said engaging bar within the auxiliary hooks of the hook member in the operative connection of the members.

4. A skirt-supporter comprising a hook member and an eye member, the hook member being formed to provide main hooks and auxiliary hooks, the terminals of the respective hooks extending in opposite directions, the eye member being provided with an engaging bar having an approximately V shape, said engaging bar being adapted to engage the terminals of the main hooks and lie within the auxiliary hooks with the apex of said engaging bar projecting outwardly from the plane of the body of the hook member.

5. A waist and skirt holder comprising a corset-engaging member having two arms each formed at the upper end thereof with a rearwardly and downwardly bent portion, the lower ends of the two arms being integral with each other and being bent to form an upwardly-extending hook-terminal having a downwardly and inwardly bent portion at its upper end, and a safety-pin having a loop formed with a V bend to engage the hook-terminals on the corset-engaging member and be interlocked within the downwardly and inwardly bent portions thereof, substantially as described.

6. A waist and skirt holder comprising a corset member having two arms each formed at the upper end thereof with a rearwardly and downwardly bent hook portion, the lower ends of the two arms being integral with each other and being bent to form upwardly-extending hook-terminals having a downwardly and inwardly bent portion at their upper ends and a curved connecting member, and a safety-pin member having the upper bar thereof bent to form a loop having its ends curved inward and outward and its connecting-bar formed with a V bend.

807,528. TRANSMITTER AND TRANSMITTER-ARM CONNECTION. ERNEST B. YAXLEY, Chicago, Ill., assignor to American Electric Telephone Company, Chicago, Ill., a Corporation of New Jersey. Filed Mar. 15, 1901. Serial No. 51,320.

Claim.—1. The combination of a swinging arm provided at its distal end with a split socket, a transmitter provided with a grooved hub or boss adapted for insertion in said socket, and a clamping-screw extending through the socket and the groove in said hub or boss all substantially as and for the purpose set forth.



2. The combination of a swinging arm having its distal end provided with a split socket, a contact arranged in said socket, an insulating-cup arranged at the end of said socket, a spring interposed between the contact and cup, a wire fastened to the contact and leading through the insulating-cup to the pivoted end of said arm, a transmitter provided with a grooved hub or boss and a terminal, the said hub or boss being adapted to fit the said socket, and the said terminal being adapted to engage the said contact which is yieldingly backed by said spring, and a clamping-screw extending through said socket and a groove in said hub or boss all substantially as and for the purpose set forth.

3. The combination of a swinging hollow arm having its distal end formed with a split socket, the insulated and yieldingly-supported contact inclosed by said socket, the transmitter having a tubular and externally-grooved boss adapted to fit said socket, the said transmitter also having a back electrode and a terminal held together by a screw, a pair of clamping-screws extending through the socket and grooved portion of said boss, said yielding contact being adapted to engage said terminal all substantially as and for the purpose set forth.

4. The combination with a transmitter head or case having an annular boss, of a slotted socket-support in which said boss fits, and means to clamp said boss within the socket to provide a good electrical connection therebetween, to prevent its withdrawal therefrom, and at the same time permit its rotation all substantially as and for the purpose set forth.

5. The combination with a transmitter having an annular boss, of a slotted socket-support in which said boss fits, an annular groove in said boss, a screw adapted to pass through said slotted portions to cause them to bind the boss to provide a good electrical connection, and lying within the said annular groove to prevent withdrawal of the transmitter all substantially as and for the purpose set forth.

6. The combination with a transmitter-case having a rearwardly-extending annular boss, a transmitter-arm having a cylindrical socket for said boss, the said socket being slotted and having screws passing therethrough to clamp the same to the said socket, an annular groove in the said boss in which the screws lie, whereby the transmitter-case may be rotated without interference with its electrical connections all substantially as and for the purpose set forth.

7. The combination with transmitter-head, of a supporting-arm therefor, the connection between them permitting a relative rotation of the two parts, a terminal carried by the head, a spring-pressed terminal carried by the arm and having a concave contacting portion for said other terminal so that the terminals are not easily misplaced all substantially as and for the purpose set forth.

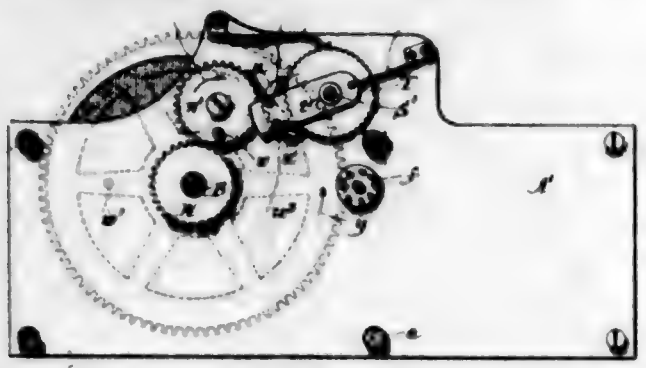
8. The combination of a hollow transmitter-arm having one end adapted to be pivoted to a suitable support, the other end thereof being split longitudinally of its length to provide a split socket, a transmitter having its back provided with a portion adapted to enter said socket, and a clamping-screw extending transversely of the arm and the said split therein and adapted for clamping the transmitter in the socket the side of the screw projecting into the bore of the socket all substantially as and for the purpose set forth.

9. The combination of a hollow transmitter-arm having its end split longitudinally at two points in its circumference to provide a split socket, a transmitter having its back provided with a portion adapted to enter said socket; and a pair of clamping-screws extending transversely of the arm and of the said splits therein, and adapted to clamp the transmitter in the socket the side of the screw projecting into the bore of the socket all substantially as and for the purpose set forth.

10. The combination of a hollow transmitter-arm having its end split longitudinally to provide a split socket, a transmitter having its back provided with a portion adapted to enter said socket, and a clamping-screw extending transversely through the split portion of the arm, said screw having a screw-threaded engagement with the arm at one side of the split the side of the screw projecting into the bore of the socket all substantially as and for the purpose set forth.

11. The combination of a hollow arm having one end adapted for pivotal connection to a suitable support and having the other end thereof provided with a socket which is split longitudinally, and a clamping-screw extending transversely of the split and thereby adapted for clamping a transmitter within the said socket the side of the screw projecting into the bore of the socket all substantially as and for the purpose set forth.

807,529. MOTOR. CHARLES E. YEOMAN, Oak Park, Ill., assignor to World Flash Company, Chicago, Ill., a Corporation. Filed Feb. 8, 1901. Serial No. 46,551.



Claim.—1. In spring-motors, the combination with an indicating-scale and pointer, a ratchet-wheel for effecting the relative movement of the same, a pair of oppositely-facing pawls for operating said ratchet-wheel in either direction, an arm carrying said pawls, a drive-shaft, an operating-spring therefor, means for winding said spring, and tappets actuated by said shaft for actuating said pawls.

2. In spring-motors, the combination of an indicating-scale and pointer, a ratchet-wheel for effecting the relative movement of the same, a spring-held arm on the shaft of said ratchet-wheel, oppositely-facing pawls on said arm, a drive-shaft, an operating-spring connected thereto, means connected to said shaft for winding said spring, gears operatively connected to said shaft and tappets on said gears for engaging said arm to operate the ratchet-wheel in either direction.

3. In spring-motors, the combination of a drive-shaft, an operating-spring therefor, a governor-shaft geared to said drive-shaft, a fixed annular flange having an internal friction-surface surrounding said governor-shaft, a disk secured to said governor-shaft, centrifugally-actuated arms pivoted to said disk, shoes on said arms adapted to engage said friction-surface, tension-springs connected to said arms and to bell-crank levers mounted on said disk, an adjustable cone-surface mounted to slide longitudinally on said shaft and engaging said bell-crank levers, and means for shifting said cone while the motor is in operation, whereby the tension of said springs may be adjusted.

4. In spring-motors, the combination of a drive-shaft, an operating-spring therefor, a governor-shaft geared to said drive-shaft, a fixed annular friction-surface, centrifugally-actuated arms connected to said governor-shaft and having friction-shoes adapted to engage said surface, springs extending between said arms and an adjusting device mounted to slide longitudinally upon said governor-shaft and means independent of said friction-surface for varying the position of said adjusting devices while the motor is in operation to vary the tension of said springs.

807,530. SEPARATOR FOR GRINDING-MACHINES. ALBERT J. TUTHILL, Detroit, Mich. Filed Oct. 6, 1904. Serial No. 227,366.

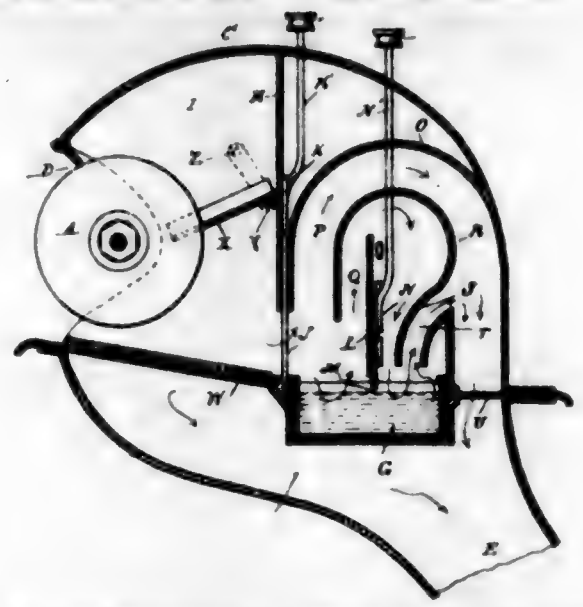
Claim.—1. The combination with a grinding-wheel, of a suction-hood partially surrounding said wheel, a collector arranged within the hood in the path of the suction-current and a cut-out for said collector.

2. The combination with a grinding-wheel, of a suction-hood therefor, a collector within said hood in the path of the suction-current, a deflector for causing said current to pass in a circuitous course around said collector and a cut-out for said collector.

3. The combination with a grinding-wheel, of a suction-hood therefor, a receptacle within said hood in the path of the suction-current and containing a liquid for collecting particles from said current, and a by-pass around said collector adapted to be closed or opened.

4. The combination with a grinding-wheel, of a suction-hood therefor, a liquid-holding receptacle in the path of the suction-current and a deflector for changing the direction of said current in passing around said receptacle.

5. The combination with a grinding-wheel, of a suction-hood therefor, a liquid-containing receptacle in the path of the suction-current, a circuitous passage-way for the current around said receptacle and means for variably restricting said passage-way.



6. The combination with a grinding-wheel, of a suction-hood therefor, a liquid-containing receptacle within said hood in the path of the suction-current and a deflector substantially perpendicular to the surface of the liquid for compelling a change in direction of said current around said receptacle.

7. The combination with a grinding-wheel, of a suction-hood therefor, a liquid-containing receptacle in the path of the suction-current within said hood, a deflector above said receptacle and an adjustable downward extension of said deflector adapted to be projected within said receptacle.

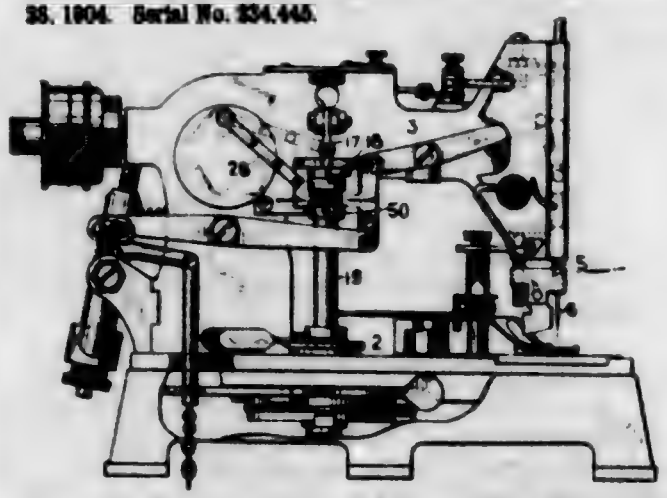
8. The combination with a grinding-wheel, of a suction-hood therefor, a liquid-containing receptacle within said hood in the path of the suction-current, a deflector for changing the direction of the current in passing around said receptacle and a second deflector for redirecting a portion of said current toward said receptacle.

9. The combination with a grinding-wheel, of a suction-hood therefor and a liquid-containing receptacle within said hood and spaced therefrom in the path of the suction-current, adapted to collect grindings from said current; said receptacle being removable through the side of said hood, and adjustable shutters for said hood whereby the suction-current may be directed toward said receptacle or directed therearound.

10. The combination with a grinding-wheel, of a suction-hood therefor, a liquid-containing receptacle within said hood in the path of the suction-current, a deflector arranged substantially perpendicular to the surface of liquid within said receptacle and means for adjusting said deflector toward or from the surface of the liquid.

11. The combination with a grinding-wheel, of a suction-hood therefor, and a liquid-containing receptacle in the path of the suction-current within said hood and spaced therefrom, and adjustable shutters within said hood, whereby said current may be directed toward or around said receptacle, for the purpose described.

807,531. BUTTONHOLE STITCHING AND BARRING MACHINE. EDWARD B. ALLEN, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Nov. 28, 1904. Serial No. 234,445.



Claim.—1. In a buttonhole-stitching machine, the combination with stitch-forming, jog-producing and cycle-feeding mechanisms

whereby a buttonhole having parallel lines of overseam side stitches connected at the ends by cross-stitches may be produced, of normally operative barring mechanism whereby the character of the stitching may be changed at an end of the buttonhole to produce a bar, and controlling means whereby said barring mechanism may be rendered inoperative at one end of the barred buttonhole without affecting its condition at the opposite end of the same.

2. In a buttonhole-stitching machine, the combination with stitch-forming, jog-producing and cycle-feeding mechanisms whereby a buttonhole having parallel lines of overseam side stitches connected at the ends by cross-stitches may be produced, of normally operative barring mechanism including a member operative twice in the cycle of operation of the machine, whereby the character of the stitching may be changed at both ends of the buttonhole to produce bars, and controlling means whereby said operative member of the barring mechanism may be rendered inoperative at one end of the buttonhole while remaining operative at the opposite end of the same.

3. In a buttonhole-stitching machine, the combination with stitch-forming, jog-producing and cycle-feeding mechanisms whereby a buttonhole having parallel lines of overseam side stitches connected at the ends by cross-stitches may be produced, of normally operative barring mechanism including a member operative twice in the cycle of operation of the machine, whereby the character of the stitching may be changed at both ends of the buttonhole to produce bars, and controlling means operative in conjunction with said member of the barring mechanism and movable into different operative relations therewith to render it inoperative at will at either end of the buttonhole without affecting its operation at the opposite end.

4. In a buttonhole-stitching machine, the combination with stitch-forming, jog-producing and cycle-feeding mechanisms whereby a buttonhole having parallel lines of overseam side stitches connected at the ends by cross-stitches may be produced, of normally operative barring mechanism including a member operative twice in the cycle of operation of the machine, whereby the character of the stitching may be changed at both ends of the buttonhole to produce bars, and controlling means for said member of the barring mechanism comprising two separate parts each of which is adapted for simultaneous operation in conjunction with a different operative part of said member and one of which is also adapted for operation singly in conjunction with one of the operative parts of said member, whereby said barring mechanism may be rendered inoperative at one or both ends of the buttonhole.

5. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism and means for producing relative feeding movements between the stitch-forming mechanism and the work, of barring mechanism comprising a cam and an engaging part for initiating the change from side stitching to barring relation of the coacting parts of the barring mechanism, and means whereby the character of the operative portion of said cam may be altered to vary its effect upon the engaging part of said barring mechanism.

6. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism and means for producing relative feeding movements between the stitch-forming mechanism and the work, of barring mechanism comprising a primary rotary cam formed with a shouldered operative portion, devices including a follower engaging and controlled by said cam in initiating the change from side stitching to barring relation of the coacting parts of the barring mechanism, and an auxiliary cam-piece adapted to cover said operative portion of the primary cam.

7. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism and means for producing relative feeding movements between the stitch-forming mechanism and the work, of barring mechanism comprising a rotary cam-shaft, a primary cam mounted thereon, devices including a follower engaging and controlled by said cam for initiating the change from side stitching to barring relation of the coacting parts of the barring mechanism, and a sleeve adapted to slide longitudinally of said cam-shaft and provided with a cam-piece adapted to overlie the operative portion of said primary cam to alter its character and thereby vary its effect upon the said follower.

9. In a buttonhole-stitching machine, the combination with stitch-forming, cycle-feeding, jog-producing and barring mechanisms, of a primary cam for controlling the action of said barring mechanism, a follower therefor, and an auxiliary cam-piece movable axially in relation to said primary cam and adapted to be shifted into and out of operative relation with said follower to change the movement of the same derived from said primary cam.

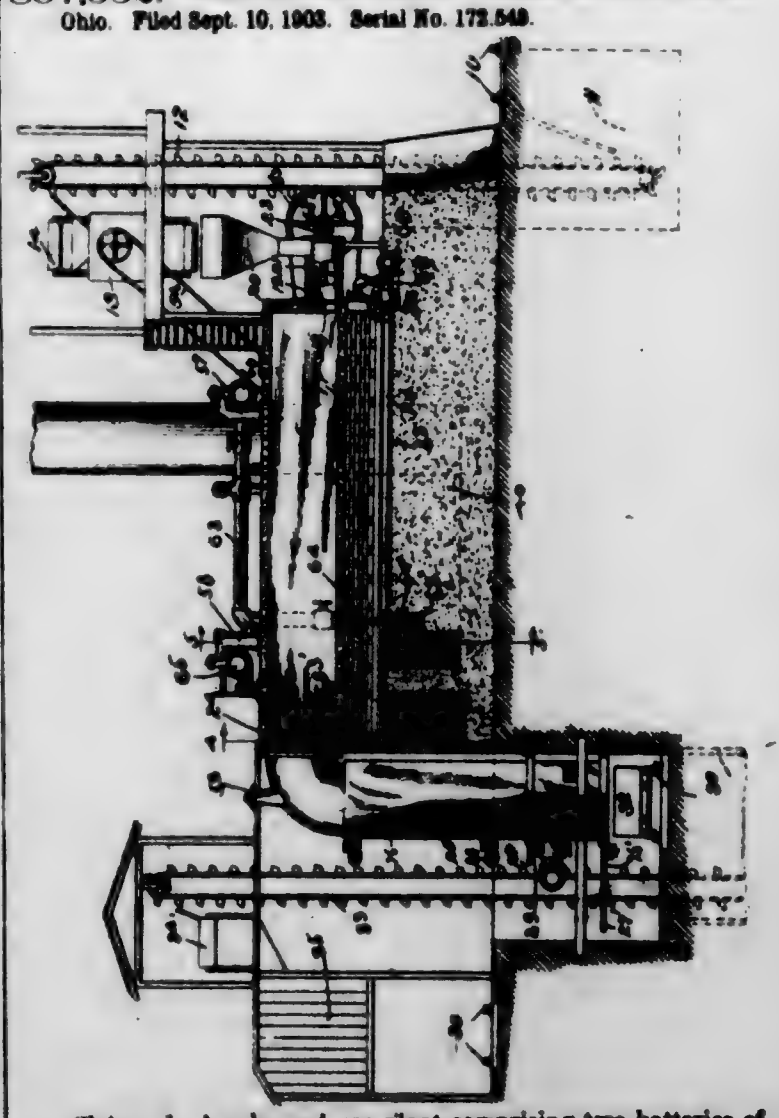
9. In a buttonhole stitching and barring machine, the combination with stitch-forming, feeding and barring mechanisms, of a cam having a peripheral shouldered portion and forming an operative member of one of said mechanisms and a follower therefor, and a cam-piece fitted to the shouldered portion of said cam and adapted to be shifted to and from the same respectively into operative and inoperative relation with said follower for producing variations in the effect of said cam upon its follower.

10. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism and means for producing relative feeding movements between the stitch-forming mechanism and the work comprising a feed-cam and a shaft upon which the same is mounted, of barring mechanism comprising a primary cam mounted upon the feed-shaft and provided with an angular operative portion, a follower therefor, a cam-piece fitted to said angular portion of said primary cam and adapted to be shifted axially thereof to and from the same respectively into and out of operative relation with said follower, and means whereby said cam-piece may be maintained in position in said relations.

11. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism and means for producing relative feeding movements between the stitch-forming mechanism and the work comprising a feed-cam and a shaft upon which the same is mounted, of barring mechanism comprising a primary cam mounted upon the feed-shaft and provided with an angular operative portion, a follower therefor, a cam-piece fitted to an operative portion of said primary cam and mounted to freely slide and rotate upon said shaft, a spring for pressing said cam-piece toward said cam, and means for locking said cam-piece from rotation when in inoperative position.

12. In a buttonhole stitching and barring machine, the combination with stitch-forming mechanism and means for producing relative feeding movements between the stitch-forming mechanism and the work comprising a feed-cam and a shaft upon which the same is mounted, of barring mechanism comprising a primary cam mounted upon the feed-shaft and provided with a plurality of angular portions, a follower therefor, and a plurality of cam-pieces mounted revolubly and slidably upon said shaft and each fitted to an angular portion of said primary cam and adapted to be shifted axially thereof to and from the same respectively into and out of operative relation with said follower.

807,532. **COKE AND GAS PLANT.** VINCENT G. APPLE, Dayton, Ohio. Filed Sept. 10, 1903. Serial No. 172,549.



Claim.—1. A coke and gas plant comprising two batteries of retorts arranged side by side in lateral alinement, a source of power-

supply arranged in the space between said batteries, a source of material-supply, and means comprising a single continuously-operable equipment of transfer devices extending laterally of the retort-batteries and said source of material-supply for constantly conveying material to the retort, and operating connections between said transfer devices and the source of power.

2. A coke and gas plant comprising two batteries of retorts and their heating means arranged side by side and suitably separated, an engine arranged between the retort-batteries, a source of material-supply centrally arranged relative to said retorts, and transfer devices for conveying material from said source of supply to the retorts, operatively connected with said engine for actuation thereby.

3. A coke and gas plant comprising two batteries of retorts and their heating means suitably separated, a steam-boiler, disposed between said batteries, and arranged to derive heat from the retort-heating means, a steam-engine operatively associated with said boiler, a source of material-supply centrally arranged relative to the batteries, transfer devices arranged to convey material from the said source of supply to the retorts, and operating connections between the transfer devices and the steam-engine.

4. In a coke-plant, a series of retorts each having an inlet-opening in one end in a plane substantially transverse to the direction of movement of material within the retort, and an outlet-opening relatively remote from the inlet, receptacles associated with said retorts in communication with said inlet-openings, pressure devices operatively associated with said receptacles, disposed outside of the retorts and arranged to propel carbonaceous material from the receptacles through the retorts, a common source of supply of carbonaceous material for said receptacles, and automatic means for transferring such material from the source of supply to the receptacle to keep the said receptacles constantly supplied with material.

5. In a coke plant, a coking-retort having an inlet, a coke-outlet, a primary gas-outlet, and a gas-inlet and its complementary secondary gas-outlet relatively remote from the primary outlet, means associated with the retort for propelling carbonaceous material through the retort from the inlet to the coke-outlet, a coke-receiver associated with the coke-outlet to receive coke therefrom, a water-jacket surrounding the receiver, a connection for conducting steam from said jacket to the gas-inlet of the retort, and a connection for conducting gas from the primary gas-outlet to said gas-inlet.

6. In a gas plant, a retort having a primary gas-outlet, a secondary gas-outlet, and a gas-inlet disposed adjacent the secondary outlet, a connection between the primary gas-outlet and the gas-inlet, a source of steam-supply and a connection between said source of supply and said gas-inlet.

7. In a coke plant, a series of retorts, and their appropriate furnaces, each retort having a feed-inlet and an outlet, devices for propelling carbonaceous material through the retort from the inlet to the outlet, a coke-receiver associated with the outlet to receive material therefrom, a water-jacket surrounding said receiver, a steam-motor for driving the propelling devices, and piping connections between said steam-motor and the said water-jacket.

8. In a coke plant, a horizontal retort having an inlet at one end and an outlet at the other, means for constantly feeding carbonaceous material through the retort from the inlet to the outlet, a coke-receiver of relatively large capacity vertically disposed in communication with the retort-outlet.

9. In a gas plant, a retort, adapted to constantly receive carbonaceous material at one area and discharge it at another area, a primary ascension-pipe communicating with the retort adjacent the receiving area, a secondary ascension-pipe communicating with the retort at a point relatively remote from said receiving area, and a piping connection between the primary ascension-pipe and the retort communicating with the retort at a point relatively remote from the said receiving area.

10. In a coke and gas plant, a retort having an inlet at one end and an outlet at the other end, a heater associated with said retort, a primary ascension-pipe communicating with said retort relatively near its inlet end, a secondary ascension-pipe communicating with said retort relatively near its outlet end, and a piping connection between the primary ascension-pipe and the retort communicating with the retort at a point adjacent the secondary ascension-pipe.

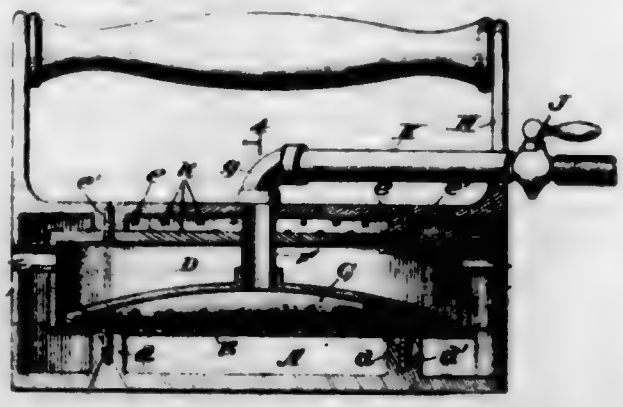
11. In a coke and gas plant, a retort, having an inlet at one end and an outlet at the other, a coke-receiver communicating with the retort-outlet, a source of steam-supply, a source of supply of air under pressure, piping connections between both the source of steam-supply and the source of air-supply and the coke-receiver, and an ascension-pipe communicating with the retort relatively adjacent the outlet.

12. In a coke plant, a coking-retort, a means for propelling material through the retort, a coke-receiver communicating with said retort, a water-jacket surrounding said coke-receiver, a steam-engine for driving the material-propelling means; and steam-piping connections from the water-jacket of the coke-receiver to the steam-engine.

13. In a plant of the character described, a built-up base, having a transverse flue formed therein, a battery of retorts and their heating-furnaces supported on said base, connections for conducting heated air from the retort-furnaces to the flue, an outlet from said flue, and a boiler arranged in the path of the heated air escaping from said flue through said outlet to receive heat therefrom.

14. In a plant of the character described, a built-up base, having a transverse flue formed therein, two batteries of retort-heaters mounted on said base, with the outlet ends of said heaters substantially over said flue, substantially vertical passages connecting said heaters with the flue, a central outlet from the flue and a boiler arranged in the path of escape from the flue to receive heat from the heated air escaping from said flue.

807,533. GAS-HEATED TAILOR'S IRON. JOSEPH BARR, Chicago, Ill. Filed Jan. 26, 1905. Serial No. 242,742.



Claim.—1. A self-heating sad-iron comprising a hollow upper section having perforated sides, a hollow lower section hinged thereto, an interiorly-located air-chamber communicating with the outer atmosphere and having a perforate bottom, and a gas-distributer inclosed within said air-chamber and connected with a suitable exteriorly-placed source of fuel-supply.

2. A self-heating sad-iron comprising a hollow upper section having perforated sides, a hollow lower section hinged thereto, an interiorly-located air-chamber held out of contact with the walls of said sections, communicating with the outer atmosphere and having a perforate bottom, and a gas-distributer inclosed within said air-chamber and connected with a suitable exteriorly-placed source of fuel-supply.

3. A self-heating sad-iron comprising a hollow upper section having perforated sides, a hollow lower section hinged thereto, an interiorly-located air-chamber communicating with the outeratmosphere and having a perforate bottom, and a gas-distributer suspended within said air-chamber out of contact with the walls thereof and having perforations in the under side of the same and connected with a suitable exteriorly-placed source of fuel-supply.

4. A self-heating sad-iron comprising a hollow upper section having perforated sides, a hollow lower section hinged thereto, an interiorly-located air-chamber which is held out of contact with the shells of said sections and has a perforate bottom, and a suitable gas-distributer suspended within said air-chamber out of contact with the walls thereof, and which has suitable perforations in the under side thereof, and is connected with a suitable exteriorly-placed source of fuel-supply.

5. A self-heating sad-iron comprising a hollow upper section having perforated sides, a hollow lower section hinged thereto, an interiorly-located air-chamber which is held out of contact with the shells of said sections and has a perforate bottom, a suitable gas-distributer suspended within said air-chamber out of contact with the walls thereof, and which has suitable perforations in the under side thereof, and a suitable exteriorly-placed valve-controlled source of fuel-supply with which said gas-distributer is connected.

6. A self-heating sad-iron comprising a hollow upper section having perforated sides, a hollow lower section hinged thereto, an air-chamber communicating with the outer atmosphere, and consisting of an upper hollow imperforate portion located within the upper section, and a perforate bottom therefor connected to the lower section, and a gas-distributer inclosed within said air-chamber

and connected with a suitable exteriorly-placed source of fuel-supply.

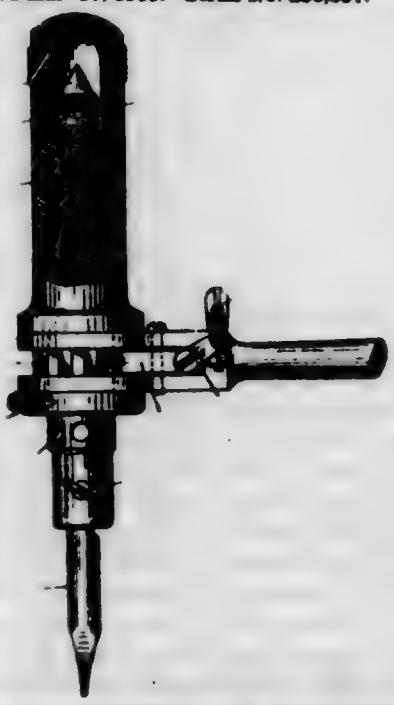
7. A self-heating sad-iron comprising a hollow upper section having perforated sides near its top, a hollow lower section hinged thereto, an air-chamber communicating with the outer atmosphere and consisting of a hollow upper portion inclosed within but out of contact with the shell of said upper section, and a perforate bottom secured to said lower section out of contact with the shell thereof, and a suitable gas-distributer inclosed within said air-chamber and connected with a suitable exteriorly-placed valve-controlled source of fuel-supply.

8. A self-heating sad-iron comprising a hollow upper section having perforated sides, a hollow lower section hinged thereto, an air-chamber communicating with the outer atmosphere, and consisting of an upper hollow imperforate portion located within the upper section, and a perforate bottom therefor connected to the lower section, and a gas-distributer suspended within the upper portion of said air-chamber out of contact with the walls thereof and having perforations in its under side and connected with a suitable exteriorly-placed source of fuel-supply.

9. A self-heating sad-iron comprising a hollow upper section having perforated sides near its top, a hollow lower section hinged thereto, an air-chamber communicating with the outer atmosphere and consisting of a hollow upper portion within but out of contact with the shell of said upper section, and a perforate bottom secured to said lower section out of contact with the shell thereof, and a suitable gas-distributer suspended within the lower portion of said air-chamber out of contact with the walls thereof and having perforations in its under side and connected with a suitable exteriorly-placed source of fuel-supply.

10. A self-heating sad-iron comprising a hollow upper section having perforations in its sides near its top, an imperforate hollow lower section hinged thereto, an interiorly-located air-chamber communicating with the outer atmosphere and consisting of an upper portion located within said upper section out of contact with the shell thereof, and a perforate bottom secured within said lower section out of contact with the walls thereof, and a gas-drum inclosed within the lower portion of said air-chamber and consisting of a horizontally-disposed flattened hollow member having its under side provided with a suitably-disposed series of perforations, and a vertically-disposed valve-controlled pipe for suspending said drum which extends to the interior of said iron.

807,534. **COMBINATION IMPLEMENT.** JOHN S. BARNES, San Francisco, Cal. Filed Mar. 17, 1905. Serial No. 250,597.



Claim.—An implement comprising a main stock having a screw-threaded bore at top, a removable screw-threaded pivot or centering point to fit the same, a removable screw-cap to protect said pivot-point, a socket-way at bottom to receive interchangeable rotatory tools and chucks, and a removable ratchet-lever to turn the stock, substantially as specified.

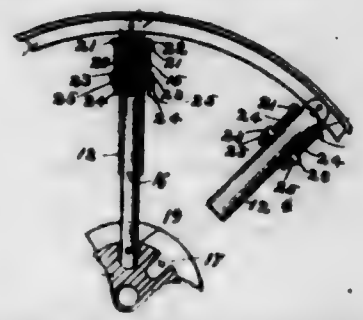
807,535. **SHOE FOR CHAIR-LEGS.** OTIS L. BRADDLEY and EDWARD W. BITTNER, Chicago, Ill.; said Bittner assignor to said Braddley. Filed June 26, 1904. Serial No. 214,553.

Claim.—1. The combination with a supporting-leg formed of a wire loop spread out and flattened to form a foot, of a shoe for said foot comprising two sheet-metal members *a b* adapted to fit the wire loop, and means for clamping said members upon the loop, the lower member having a conical socket *b'* formed therein, and a tapered cushion *d* held in said socket and projecting through the same, as described.



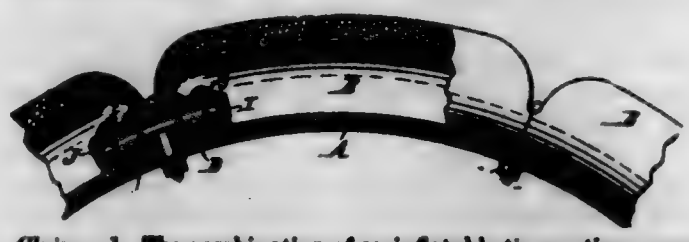
2. The combination with a leg formed of a loop of wire, said loop being spread to form a foot, of a shoe comprising a lower member provided with a socket having its walls converging toward its mouth, said mouth having rounded edges, a tapered cushion held in said socket and projecting through the same, an upper member having a curved flange adapted to fit over said wire, and a screw-bolt passing through said members and clamping them upon said foot, substantially as described.

807,536. **VEHICLE-WHEEL.** STANISLAUS BERENS, Lagrange, Ill. Filed Apr. 14, 1905. Serial No. 255,479.



Claim.—In a vehicle-wheel, the combination with a hub having a series of radial sockets, a series of rods secured in said sockets, a tubular section loosely surrounding each of the said rods at their outer portions, a spring located in each of the tubular sections between its outer end and the inner end of its rod, means on each of the tubular sections to regulate the tension of the spring therein, and a rim secured to the outer portions of the tubular sections, substantially as described.

807,537. **PNEUMATIC TIRE.** EDGAR M. BIRDSALL, Buffalo, N. Y., assignor of one-half to Mary B. Birdsall and one-half to Fletcher J. Barron, Buffalo, N. Y. Filed Jan. 26, 1904. Renewed May 22, 1905. Serial No. 261,005.



Claim.—1. The combination of an inflatable tire-section, a connecting-tube arranged in the end of the section and communicating with the air-chamber thereof, and an inflatable packing interposed between said tube and the surrounding portion of the tire-section, substantially as set forth.

2. The combination of a pair of inflatable tire-sections, a tube arranged in the adjoining ends of the sections and connecting the air-chambers thereof, and a yielding packing arranged between said connecting-tube and the surrounding portions of the tire-sections and exposed to the air-pressure within the tire-sections, substantially as set forth.

3. The combination of a pair of inflatable tire-sections, a tube arranged in the adjoining ends of the sections and connecting the air-chambers thereof, and a yielding packing surrounding said connect-

ing-tube and having its inner surface exposed to the air-pressure within the tube and the tire-sections, substantially as set forth.

4. The combination of a pair of inflatable tire-sections, a tube arranged in the adjoining ends of the sections and connecting the air-chambers thereof, and an elastic envelop or covering secured to said tube and having a portion or portions thereof detached from the tube, the tube being provided opposite said detached portions with air-passages through which the inner sides of said detached portions are exposed to the air-pressure in the tube and the tire-sections, substantially as set forth.

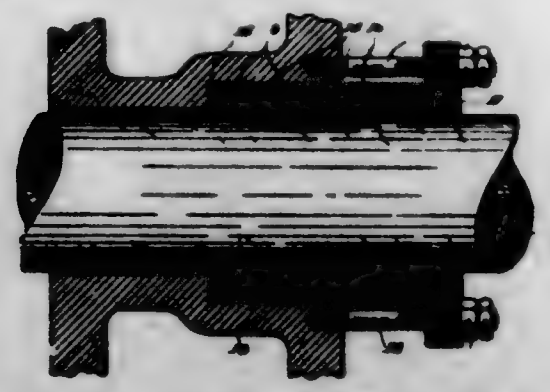
5. The combination of a pair of inflatable tire-sections, a tube arranged in the adjoining ends of the sections and connecting the air-chambers thereof, each section being provided adjacent to the wall of said tube with a recess or cavity, and an inflatable packing applied to the outer side of said tube, extending normally across said cavity and having its inner surface exposed to the air-pressure in the tube, whereby the packing is expanded into said cavities by the air-pressure, substantially as set forth.

6. The combination of a pair of inflatable tire-sections, a connecting-tube arranged in the adjoining ends of the sections and provided with lateral air-passages, the tire-sections being provided opposite said air-passages with grooves or cavities which surround the connecting-tube, and an elastic covering or envelop applied to said tube and adapted to be expanded into said cavities by the air-pressure in the tire-sections, substantially as set forth.

7. The combination of a pair of inflatable tire-sections, a connecting-tube arranged in the adjoining ends of the sections and provided with lateral air-passages, the tire-sections being provided opposite said air-passages with grooves or cavities which surround the connecting-tube, and an elastic covering surrounding said tube, the covering being secured to the tube only at intervals and the intervening detached portions of the covering being located opposite said cavities and air-passages, substantially as set forth.

8. An inflatable tire-section provided in its end with a longitudinal opening adapted to receive a connecting-tube, and in the wall of said opening with an annular cavity or recess adapted to receive an inflatable packing, substantially as set forth.

807,538. **PACKING-GLAND.** WILLIAM A. BOLE, Pittsburg, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed June 6, 1904. Serial No. 211,533.



Claim.—1. A rod-packing comprising a plurality of annular, interstitial, plastic, metallic elements and a plurality of unyielding, annular metallic members.

2. The combination with a rod, of a chamber surrounding the same, a plurality of annular, interstitial, plastic, metallic elements surrounding said rod, and means for causing said elements to flow into the desired forms.

3. The combination with a rod, of a chamber surrounding the same, and a plurality of annular, interstitial, plastic, metallic elements within said chamber and surrounding the rod and means for causing said elements to flow transversely to the axis of said rod.

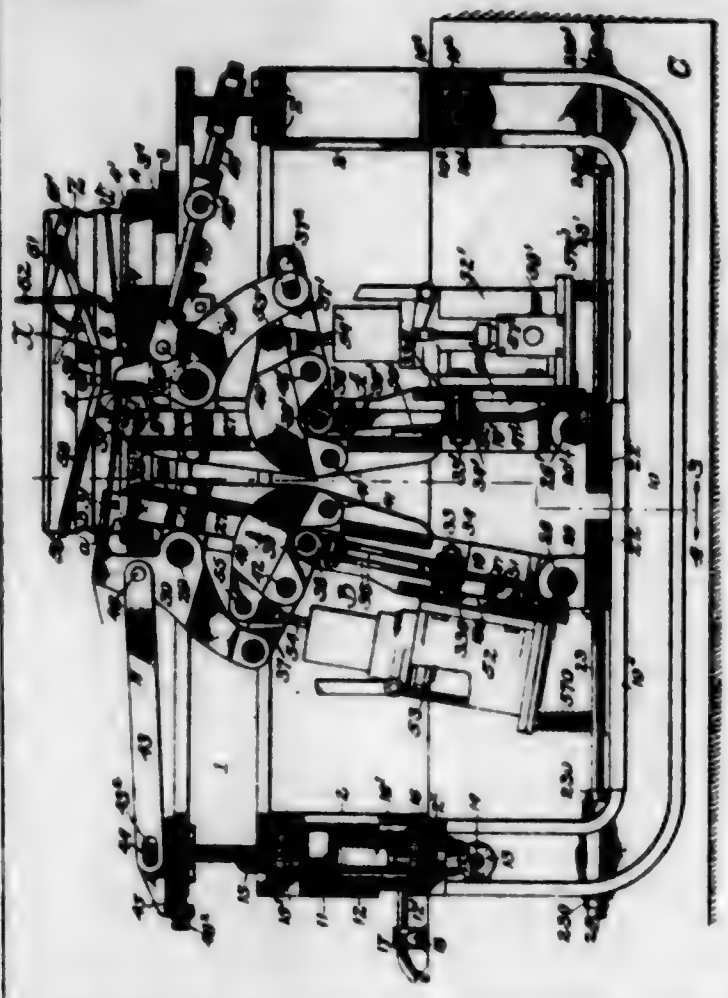
4. A packing comprising a plurality of alternate, interstitial, plastic metallic rings and unyielding metallic rings.

5. The combination with a rod, of a chamber surrounding the same, and a plurality of annular, interstitial, plastic elements surrounding said rod within the chamber, a plurality of unyielding metallic spacers between said elements having two inwardly-converging faces and means coacting with said spacers, whereby said plastic elements are caused to flow transversely to the axis of said rod.

6. A packing element comprising a series of interstitial, plastic, metallic, annular plates each of which has grooves in one of its end faces.

7. A packing comprising a channeled, interstitial, plastic, metallic ring and a plastic, metallic filling for said channel.

807,539. **MACHINE FOR MANUFACTURING METAL WHEELS.** CYRUS BENE, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Dec. 21, 1904. Serial No. 237,729.



Claim.—1. In a wheel-machine, in combination, a pivotally-mounted yoke or beam, a rocking frame pivotally mounted thereon; gripping-jaws and a heading-tool pivotally mounted on said rocking frame, the said jaws having in addition to their gripping movement a movement longitudinal of the spoke, and single means mounted also on said rocking frame for actuating the gripping-jaws and heading-tool and for effecting the movement of the jaws longitudinal of the spoke.

2. In a wheel-machine, in combination, a main frame, a spoke-fastening device comprising a rocking frame with spoke-gripping jaws and a heading-tool pivotally mounted thereon, a suitable support on which the said rocking frame is pivotally mounted, means for actuating the gripping-jaws and heading-tool, and means interposed between the said heading-tool and main frame for controlling the movement of the gripping-jaws and heading-tool in a direction longitudinal of the spoke.

3. In a wheel-machine, in combination, a main frame, a spoke-fastening device comprising a rocking frame with spoke-gripping jaws and a heading-tool pivotally mounted thereon, a suitable support on which the said rocking frame is pivotally mounted, means for actuating the gripping-jaws and heading-tool, and a bar engaging at one end the heading-tool and provided at the other end with a slot which engages a pin on the main frame, the said bar operating to control the movement of the gripping-jaws and heading-tool in a direction longitudinal of the spoke.

4. In a wheel-machine, in combination, a main frame, a spoke-fastening device comprising a rocking frame with spoke-gripping jaws and a heading-tool pivotally mounted thereon, a suitable support on which said rocking frame is pivotally mounted, means for actuating the gripping-jaws and heading-tool, and means interposed between the said main frame and heading-tool for restraining the movement of the latter about its pivotal axes with said rocking frame and for causing it to move about a new pivotal axis and thereby effect a slight rocking movement of the rocking frame with the heading-tool and spoke-gripping jaws mounted thereon.

5. In a wheel-machine, in combination, a main frame, a spoke-fastening device comprising a rocking frame, spoke-gripping jaws and a heading-tool pivotally mounted thereon, a suitable support on which said rocking frame is pivotally mounted, means interposed between said main frame and spoke-fastening device for controlling the movement of the said gripping-jaws in a direction longitudinal of the spoke, a set of links forming a toggle connection between the

lower ends of the gripping-jaws, a second set of links forming a toggle connection between the lower end of the heading-tool and the said rocking frame, a link connection interposed between the first and second sets of links, and means articulating with the second set of links for actuating both the heading-tool and gripping-jaws, substantially as described.

6. In a wheel-machine, in combination, a main frame, a spoke-fastening device comprising a rocking frame, spoke-gripping jaws and a heading-tool pivotally mounted thereon, a suitable support on which said rocking frame is pivotally mounted, means interposed between said main frame and spoke-fastening device for controlling the movement of the said gripping-jaws in a direction longitudinal of the spoke, a set of links forming a toggle connection between the lower ends of the gripping-jaws, a second set of links forming a toggle connection between the lower end of the heading-tool and the said rocking frame, one of the said links in the second set having an extension thereon, connecting means interposed between said link extension and the first set of links, and means articulating with the second set of links for actuating both the heading-tool and gripping-jaws, substantially as described.

7. In a wheel-machine, in combination, a main frame, a spoke-fastening device comprising a rocking frame, spoke-gripping jaws and a heading-tool pivotally mounted thereon, a suitable support on which said rocking frame is pivotally mounted, means interposed between said main frame and spoke-fastening device for controlling the movement of the said gripping-jaws in a direction longitudinal of the spoke, a set of links forming a toggle connection between the lower ends of the gripping-jaws, a second set of links forming a toggle connection between the lower end of the heading-tool and the said rocking frame, an extensible locking-link connection interposed between the first and second sets of links, a device for breaking said extensible locking connecting means, and means articulating with the second set of links for actuating both the heading-tool and gripping-jaws, substantially as described.

8. In a wheel-machine, in combination, a main frame, a spoke-fastening device comprising a rocking frame, spoke-gripping jaws and a heading-tool pivotally mounted thereon, a suitable support on which said rocking frame is pivotally mounted, means interposed between said main frame and spoke-fastening device for controlling the movement of the said gripping-jaws in a direction longitudinal of the spoke, a set of links forming a toggle connection between the lower ends of the gripping-jaws, a second set of links forming a toggle connection between the lower end of the heading-tool and the said rocking frame, an extensible locking-link connection interposed between the first and second set of links, a device for tripping said locking-link connection, means for temporarily locking against return movement the first set of links which form the toggle connection between the gripping-jaws, and means articulating with the second set of links for actuating both the heading-tool and gripping-jaws, substantially as described.

9. In a wheel-machine, in combination, a hub-fastener comprising a centrally-depressed spring-bar, one end of which is suitably formed to engage a spoke-receiving aperture in the wheel-rim, means on the depressed portion of the spring-bar for engaging the hub, a lever pivotally mounted on said spring-bar, said lever being also suitably formed on its outer end to engage a spoke-receiving aperture in the wheel-rim, and means for locking said lever, all combined substantially as described.

10. In a wheel-machine, in combination, a hub-fastener comprising a spring-bar, and a lever pivotally mounted thereon, the said spring-bar and lever forming a toggle-joint, and each having formed on its outer end suitable means for engaging the spoke-receiving apertures in the wheel-rim, means for securing the said spring-bar and lever in a locked position, and means on said spring-bar for engaging the hub, all combined substantially as described.

11. In a wheel-machine, a rim-support consisting of a rotatable rim-ring, means for releasably securing the wheel-rim therein, a rim-ring support, and means for temporarily holding the said rim in a fixed relation with respect to its support, all combined substantially as described.

12. In a wheel-machine, a hub-supporting mandrel consisting of a sleeve provided with a longitudinally-extending key and arranged on either end to engage the component members of the two-part hub, and a transversely-extending key for supporting one of said hubs upon the sleeve, all combined substantially as described.

13. In a wheel-machine, a hub-supporting mandrel consisting of a sleeve provided with a longitudinally-extending key, the said sleeve being arranged on either end to engage the component members of the two-part hub, a handle arranged on one end of the sleeve, and a shoulder formed on the opposite end thereof, and a transversely-extending tapered key for adjusting the distance between the hub members, all combined substantially as described.

807,540. **LAYING-OFF AND SPACING MACHINE FOR STRUCTURAL STEEL.** CYRUS M. CARNAHAN, Sandyisle, Pa., assignor to Fidelity Title and Trust Company, trustee, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 31, 1905. Serial No. 253,186.

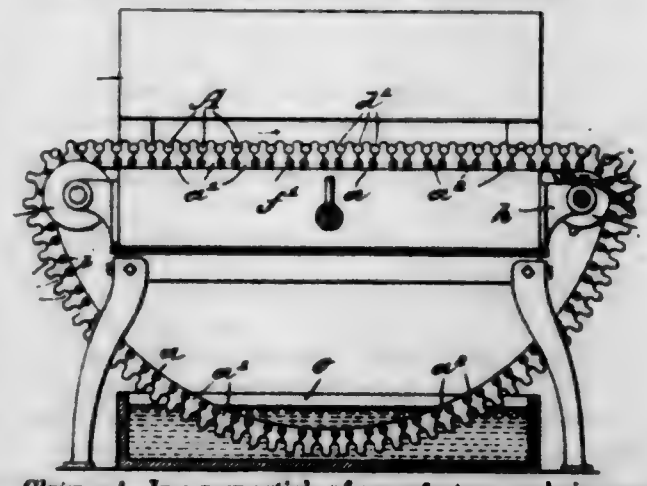


Claim.—1. In a laying-off and spacing machine, the combination of a table for supporting the pattern, said table being provided with slots and bolts for adjusting and securing the pattern, a movable carrier adapted to receive and carry the bar to be worked, and a movable stop adapted to be fixed at points indicated by the pattern.

2. In a laying-off and spacing machine, a frame having a central track, a carrier adapted to travel on the track, double pattern-carrying tables one on each side of the track, and an adjustable stop adapted to stop the carrier at points indicated by the pattern.

3. In a laying-off and spacing machine, the combination of a table for supporting the pattern, said table being provided with adjusting devices, for adjusting and securing the pattern thereto, a movable carrier adapted to receive and carry the bar to be worked, a movable stop adapted to be fixed at points indicated by the pattern, and to engage with the movable carrier; a cutting-machine, and one or more adjustable stops for gaging the position of the first cut in the bar to be worked.

807,541. **CHAIN FOR GRIPPING AND SUPPORTING METAL BLANKS.** HOWELL C. CUNNINGHAM and MACMILLAN HOOPES, Philadelphia, Pa. Filed Sept. 20, 1905. Serial No. 279,233.



Claim.—1. In a new article of manufacture, a chain consisting of links having a projection expanded at its free end to form in a parallel or substantially parallel position of the same, openings having contracted outlets to securely clamp and to prevent removal of an article placed in said openings.

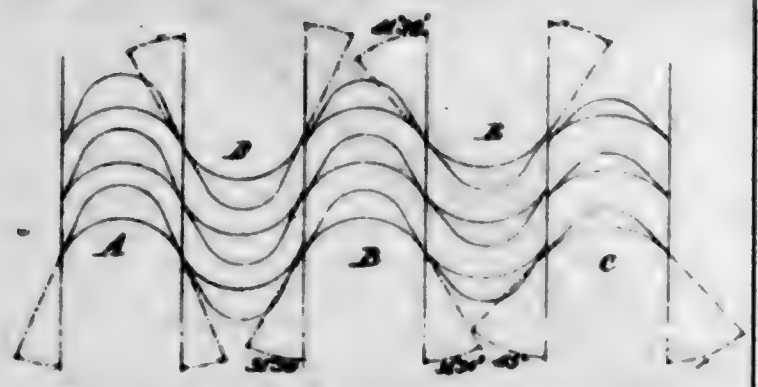
2. In a new article of manufacture, a chain consisting of links each having a contracted and expanded projection to form in a parallel or substantially parallel position of the projections, openings with contracted outlets between the same, said openings adapted to receive and to securely hold an article introduced therein.

3. In a new article of manufacture, a chain consisting of links, each having a laterally-extending contracted and expanded projec-

tion to form in a substantially parallel position of the projections, openings with contracted outlets, said outlets adapted to securely hold the article placed in said openings.

4. In a new article of manufacture, a chain consisting of links, each having a laterally-extending contracted and expanded projection to form in a substantially parallel position of the projections openings of substantially circular outline having contracted outlets, said outlets adapted to securely hold the article placed in said openings, and to permit of the insertion or removal of the same when said projections assume a substantially oblique position with respect to each other.

807,542. ELASTIC-FLUID TURBINE. CHARLES G. CURTIS, New York, N. Y., assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed May 12, 1902. Serial No. 106,726.



Claim.—1. In an elastic-fluid turbine, the combination of two or more sets of movable-vane passages and one or more sets of stationary intermediate vane passages, the movable-vane passages having parallel opposing side walls, and the stationary intermediate vane passages having non-parallel opposing side walls, substantially as set forth.

2. In an elastic-fluid turbine, the combination of two or more sets of movable-vane passages and one or more sets of stationary intermediate vane passages, the movable-vane passages having parallel opposing side walls and the stationary intermediate vane passages having opposing side walls which diverge toward their receiving ends, substantially as set forth.

3. In an elastic-fluid turbine, the combination of two or more sets of movable-vane passages and one or more sets of stationary intermediate vane passages, the movable-vane passages of each set having the same angles of entrance and discharge, and the stationary intermediate vane passages of each set having different angles of entrance and discharge, substantially as set forth.

4. In an elastic-fluid turbine, the combination of two or more sets of movable-vane passages and one or more sets of stationary intermediate vane passages, the movable-vane passages of each set having the same angles of entrance and discharge, and the stationary intermediate vane passages of each set having a greater angle of entrance than of discharge, substantially as set forth.

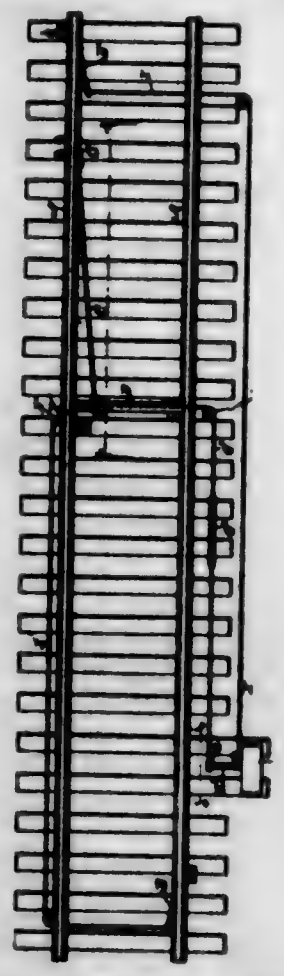
5. In an elastic-fluid turbine, the combination of two or more sets of movable-vane passages having parallel opposing side walls, and one or more sets of stationary intermediate vane passages having non-parallel opposing side walls, the vane passages increasing or expanding in cross-sectional area toward the exhaust, substantially as set forth.

6. In an elastic-fluid turbine, the combination of two or more sets of movable-vane passages, the vane passages of each of such sets having the same angle of entrance and discharge, and one or more sets of stationary intermediate vane passages, the vane passages of each of such sets having a greater angle of entrance than of discharge, the angles of entrance and discharge in all the vane passages increasing progressively toward the exhaust, substantially as set forth.

7. In an elastic-fluid turbine, the combination of two or more sets of movable-vane passages, the vane passages of each of such sets having the same angle of entrance and discharge, and one or more sets of stationary intermediate vane passages, the vane passages of each of such sets having a greater angle of entrance than of discharge, the angles of entrance and discharge in all the vane passages increasing progressively toward the exhaust, and the vane passages also increasing progressively in radial depth toward the exhaust, substantially as set forth.

807,543. RAILWAY-GATE. GEORGE W. DOUTHIT, Kalamazoo, Mich. Filed July 15, 1905. Serial No. 269,833.

Claim.—1. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; a rock-shaft; a trip-arm thereon for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel; a bolt for securing one end of said spring-trip to one of said rails; a coiled spring on said bolt, adapted to hold said trip yieldingly against said rail; and a cable connecting the free end of said spring-trip to said rock-shaft, for the purpose specified.



2. The combination with the rails, of a gate; a cable for closing said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; a rock-shaft; a trip-arm thereon for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel; a bolt for securing one end of said spring-trip to one of said rails; a coiled spring on said bolt, adapted to hold said trip yieldingly against said rail; and a cable connecting the free end of said spring-trip to said rock-shaft, for the purpose specified.

3. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a catch for retaining said trip-bar in its inner position; a rock-shaft; a trip-arm thereon for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel; a bolt for securing one end of said spring-trip to one of said rails; a coiled spring on said bolt, adapted to hold said trip yieldingly against said rail; and a cable connecting the free end of said spring-trip to said rock-shaft, for the purpose specified.

4. The combination with the rails, of a gate; a cable for closing

said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a catch for retaining said trip-bar in its inner position; a rock-shaft; a trip-arm thereon for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel; a bolt for securing one end of said spring-trip to one of said rails; a coiled spring on said bolt, adapted to hold said trip yieldingly against said rail; and a cable connecting the free end of said spring-trip to said rock-shaft, for the purpose specified.

5. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; a trip for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; and a cable connecting the free end of said spring-trip to said bar-trip, for the purpose specified.

6. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a catch for retaining said trip-bar in its inner position; a trip for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; and a cable connecting the free end of said spring-trip to said bar-trip, for the purpose specified.

7. The combination with the rails, of a gate; a cable for closing said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; a trip for releasing said trip from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; and a cable connecting the free end of said spring-trip to said bar-trip, for the purpose specified.

8. The combination with the rails, of a gate; a cable for closing said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a catch for retaining said trip-bar in its inner position; a trip for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; and a cable connecting the free end of said spring-trip to said bar-trip, for the purpose specified.

9. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; a trip for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; and a cable connecting the free end of said spring-trip to said bar-trip, for the purpose specified.

10. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; a catch for retaining said trip-bar in its inner position; a trip for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; and a cable connecting the free end of said spring-trip to said bar-trip, for the purpose specified.

11. The combination with the rails, of a gate; a cable for closing said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; a trip for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; and a cable connecting the free end of said spring-trip to said bar-trip, for the purpose specified.

12. The combination with the rails, of a gate; a cable for closing said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; a catch for retaining said trip-bar in its inner position; a trip for releasing said trip-bar from said catch; a spring-trip arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; and a cable connecting the free end of said spring-trip to said bar-trip, for the purpose specified.

13. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; and a trip for releasing said trip-bar from said catch, for the purpose specified.

14. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a catch for retaining said trip-bar in its inner position; and a trip for releasing said trip-bar from said catch, for the purpose specified.

15. The combination with the rails, of a gate; a cable for closing said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; and a trip for releasing said trip-bar from said catch, for the purpose specified.

16. The combination with the rails, of a gate; a cable for closing said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel; a plate to which one end of said trip-bar is hinged; a bolt for securing said plate to one of said rails; a coiled spring on said bolt, adapted to hold said plate yieldingly against said rail; a catch for retaining said trip-bar in its inner position; and a trip for releasing said trip-bar from said catch, for the purpose specified.

17. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; and a trip for releasing said trip from said catch, for the purpose specified.

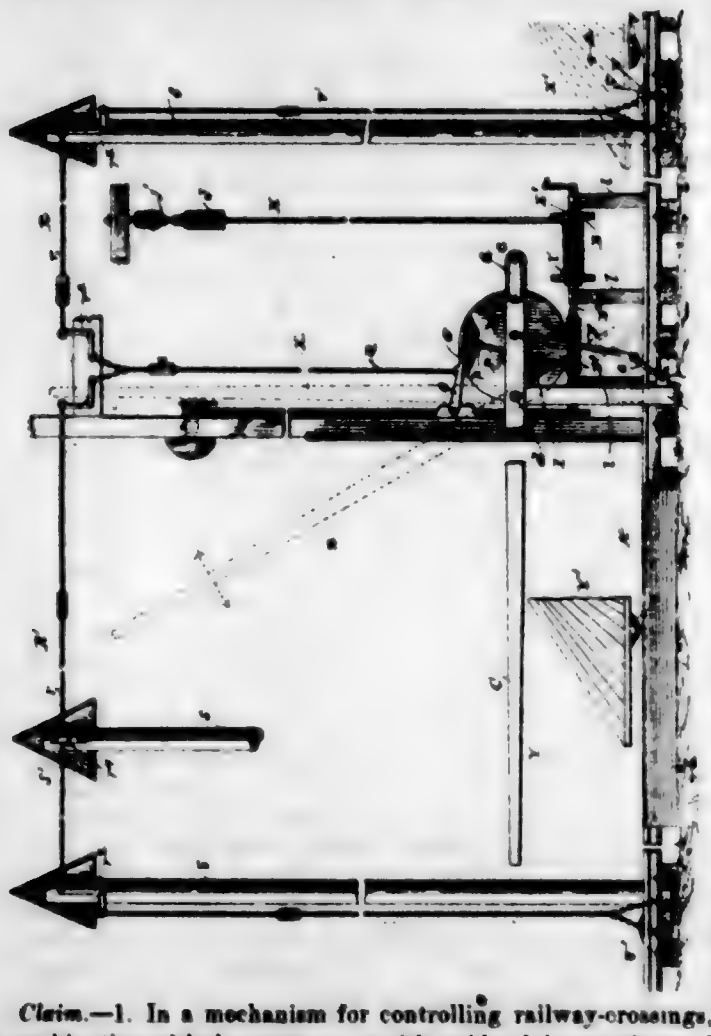
18. The combination with the rails, of a gate; a cable for closing said gate, having a coiled spring interposed therein; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; a catch for retaining said trip-bar in its inner position; and a trip for releasing said trip-bar from said catch, for the purpose specified.

19. The combination with the rails, of a gate; a cable for closing said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel, yieldingly secured to

one of the rails; a tube through which said cable is passed, arranged transversely between the rails, said tube having a portion of its upper side cut away serving as a rest for the free end of said trip-bar, and forming a stop therefor, the end of said tube forming a catch for retaining said trip-bar in its inner position; and a trip for releasing said trip-bar from said catch, for the purpose specified.

20. The combination with the rails, of a gate; a cable for closing said gate; a trip-bar to which said cable is secured, arranged to be engaged by the flange of a passing wheel, yieldingly secured to one of the rails; a catch for retaining said trip-bar in its inner position; and a trip for releasing said trip-bar from said catch, for the purpose specified.

807,544. RAILWAY-GATE. JOHN H. ELWARD, Hutchinson, Kans. Filed Jan. 17, 1905. Serial No. 240,450.



Claim.—1. In a mechanism for controlling railway-crossings, the combination with the gates one on either side of the crossing and arranged to swing together about horizontal axes, the rock-shaft H secured to one of said gates, the weight, the motor interposed between the said rock-shaft and the said weight, comprising a longitudinally-arranged driving-shaft, a transversely-arranged shaft, a reel loosely mounted on the driving-shaft, a ratchet-and-pawl mechanism interposed between the said shaft and the said reel, worm-gearing connecting the said shafts, an escapement-wheel on one of said shafts, and a crank operated by said escapement-wheel and connected to said rock-shaft H, the stop for the motor, adapted to engage the said escapement-wheel, and the two vehicle-actuated contacts for releasing the stop both situated at distances from the crossing.

2. In a mechanism for controlling a railway-crossing, the combination of the movable gate, the motor, the power-transmitting devices between the motor and the gate, and the locking device for the motor comprising a dog and a yielding engaging element for the dog on the motor, and means for releasing the dog, substantially as set forth.

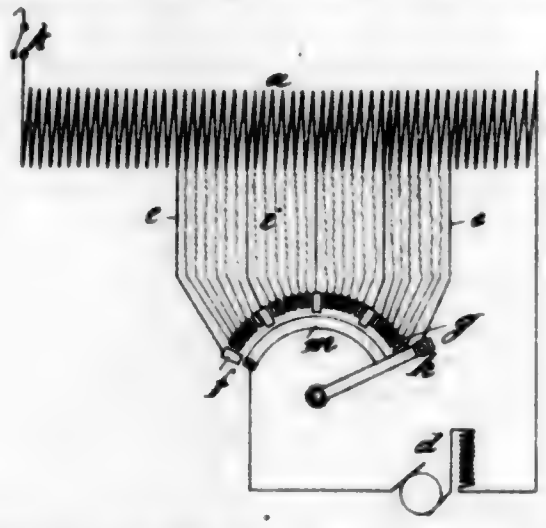
3. In a gate-operating mechanism, the combination of the gate, the motor, the power-transmitting devices between the gate and the motor, the lock for the motor comprising a dog and a wheel having slots in its periphery with yielding engaging shoulders seated in said slots and adapted to be engaged by said dog to prevent its reengagement therewith after its release therefrom until the wheel has moved a predetermined distance, substantially as set forth.

4. In a gate-operating mechanism, the combination of the gate, the motor, the power-transmitting devices between the gate and the motor, a wheel on the motor having peripheral slots and yielding shoulders adapted to move longitudinally therein, the dog adapted to engage the said shoulders, and means for releasing the dog, substantially as set forth.

5. In a gate-operating mechanism, the combination of the gate, the motor, the power-transmitting devices between the gate and the motor, the lock for the motor, comprising a wheel carried thereby and a dog mounted independently thereof, said wheel having peripheral slots with engaging shoulders for said dog mounted therein and having compression-springs adapted to permit the longitudinal movement thereof, and means for releasing the dog, substantially as set forth.

6. The combination with the gate, of a motor, power-transmitting devices between the motor and the gate, the lock for the motor comprising a yielding engaging element carried by the motor and adapted to be engaged by a second element mounted independently of said motor, and means for releasing the last-mentioned element, substantially as set forth.

807,545. ALTERNATING-CURRENT REGULATOR. GIORGIO FERRI, Milan, Italy. Filed Feb. 11, 1904. Serial No. 193,066.



Claim.—1. The combination of a switch having main and auxiliary keys with an alternating current, variable voltage, non-sparking transformer, the winding of the transformer being divided into a number of main divisions the ends of which are connected to said main keys by means of conductors of low resistance; said conductors; subdivisions of said main divisions, the ends of the subdivisions being connected to auxiliary keys; conductors of relatively high resistance for said auxiliary keys; and a brush; whereby the short-circuit current arising in the manipulation of the brush is diminished.

2. The combination of a switch having main and auxiliary keys with an alternating current, variable voltage, non-sparking transformer, the winding of the transformer being divided into a number of main divisions the ends of which are connected to said main keys by means of conductors of low resistance; said conductors; subdivisions of said main divisions, the ends of the subdivisions being connected to auxiliary keys; conductors of relatively high resistance for said auxiliary keys; and a brush; whereby the short-circuit current arising in the manipulation of the brush is diminished; and means which prevent the brush from remaining in permanent contact with the auxiliary keys.

3. In vehicles driven by alternating electric currents and having a platform at each end, the combination of a switch, adapted for the maximum voltage which corresponds to the minimum working voltage and mounted on one platform; of a similar switch mounted on the other platform; and electrical connections, substantially such as described, between the two switches; and means which cause the switch that is in the temporarily-rear platform to remain at said minimum voltage while the switch on the then front platform serves to effect the regulation between said voltage and the maximum working voltage and also the interruption of the circuit.

807,546. FINGER-RING. JOHN B. FITZGERALD, Providence, R. I. Filed Sept. 8, 1905. Serial No. 277,595.

Claim.—1. In a finger-ring, the combination of a box-head, a spring-tongue having a slot and mounted at one end in the box-head, and a signet-plate having a stud which is adapted to enter said slot and to move along said slot.

2. In a finger-ring, the combination of a box-head, a spring-tongue mounted at one end in the box-head and having a longitudi-

nal slot, and a signet-plate having a stud which is adapted to enter said slot and to move along said slot.



3. In a finger-ring, the combination of a box-head, a spring-tongue mounted at one end in the box-head and having a longitudinal V-shaped slot, and a signet-plate having a stud which is adapted to enter said slot and to move along said slot.

4. In a finger-ring, the combination of a box-head, a spring-tongue mounted at one end in the box-head and having a longitudinal slot whose sides converge to an apex at one end and whose opposite end is semicircular, and a signet-plate having a stud engageable with the spring-tongue in said slot and movable longitudinally of said slot and provided with a knob whose diameter is slightly less than the diameter of said enlarged end of the slot.

5. In a finger-ring, the combination of a box-head having an inwardly-extending ledge upon the wall thereof, a spring-tongue mounted at one end in the box-head and having a longitudinal slot, a signet-plate adapted to fit in said box-head and to rest against said ledge, and a stud mounted on the signet-plate and adapted to enter and move along said slot of the spring-tongue.

6. In a finger-ring, the combination of a box-head, a spring-tongue mounted at one end in said box-head having an inwardly-extending ledge upon the wall thereof, a spring-tongue mounted at one end in the box-head and having a longitudinal slot, a signet-plate adapted to fit in said box-head and to rest against said ledge, a stud mounted on the signet-plate and adapted to enter and move along said slot, and a knob on said stud arranged to underlie the spring-tongue and capable of a sliding cam action on the spring-tongue to vary the spring tension thereof as said stud of the signet-plate moves in said slot.

7. In a finger-ring, the combination of a box-head, having an inwardly-extending ledge on the wall thereof and a central aperture in the bottom, a spring-tongue mounted at one end in the box-head and having a longitudinal slot, a signet-plate adapted to enter and fit in said box-head and to rest against said ledge, and a stud mounted on the signet-plate at the center thereof and extending through said slot and movable along said slot, which stud is adapted to enter said aperture and to be seated therein by the force of said spring-tongue.

8. In a finger-ring, the combination of a box-head having a ledge on the inner side of the wall thereof, a spring-tongue mounted at one end in said box-head and having a longitudinal slot, a signet-plate adapted to fit in the box-head and to rest on the ledge thereof, a stud mounted on the signet-plate and adapted to enter said slot and to move along the same, and a cam carried by said stud and adapted to vary the tension of the spring-tongue according to the position of the stud in said slot.

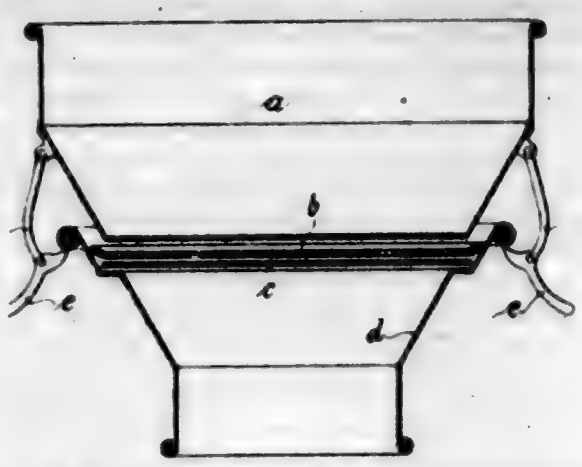
9. In a finger-ring, the combination of a box-head having a ledge on the inner side of the wall thereof and a central aperture through the bottom, a spring-tongue mounted at one end in the box-head and having a longitudinal V-shaped slot, a signet-plate adapted to fit in said box-head and to rest on the ledge thereof, a stud mounted on the signet-plate, adapted to enter said slot and to move along said slot, and a knob on said stud adapted to enter and be seated in said aperture by the force of said spring-tongue and able when pressed inwardly to disengage from said aperture and to disengage the signet-plate from the box-head and to allow the stud of the signet-plate to move along said slot to the large disengaging end thereof.

10. In a finger-ring, the combination of a box-head provided with one member of a locking device, a signet-plate provided with another member of a locking device and slidable on said box-head, and a slotted spring-tongue adapted to guide one of said locking members into engagement with the other locking member.

11. The improved finger-ring herein described, consisting of the combination of a ring A, the box-head B on the ring A and having the inner ledge *a* on its wall and the central aperture *b* through its bottom, the block C in the box-head, the spring-tongue D mounted at one end on the block C and having a V-shaped slot with a semicircular end and a signet-plate E having a stud F with a knob *d* at the end thereof which stud and knob extend through said slot, all arranged and operated substantially as specified.

807,547. **MILK-STRAINER WITH FILTER-PAD, &c.** JOSEF FITZEL, Malmitz, Germany. Filed Aug. 30, 1904. Serial No. 223,708.

Claim.—1. A milk-strainer comprising two perforated rigid plates and a filter-pad held firmly between the plates, the perforations in one plate being in alinement with those in the other plate.



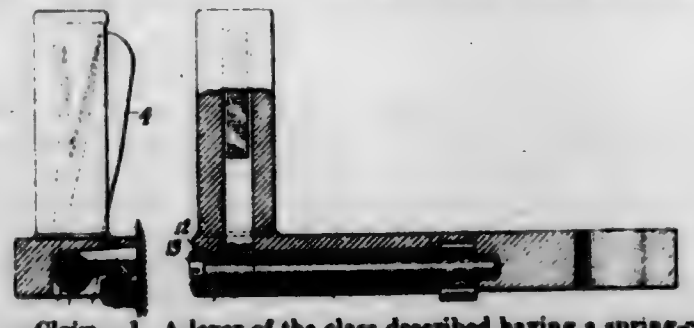
2. A milk-strainer comprising two rigid perforated plates and a filter-pad between said plates and firmly pressed thereby said plates being so arranged that the pad is alternately exposed and covered so as to form free filtering-surfaces alternated by covered filtering-surfaces.

807,548. **DRIP-TRAY.** HERMANN GANSWINDT, Schöneberg, near Berlin, Germany. Filed Jan. 12, 1904. Serial No. 188,752.



Claim.—In a drip-tray, the upper rim of which is curved inwardly and downwardly, a gripping device for holding the drinking vessel or the like to be secured to the drip-tray, the said gripping device consisting of an annular or yoke-shaped wire *d* which is located at the bottom of the drip-tray and pressing against the wall of the above-mentioned rim can be readily inserted within or detached from the drip-tray and which is provided with prongs extending from the bottom of the tray upwardly and terminating in a downward bend to form an elastic grip.

807,549. **BREECH-BLOCK-OPERATING LEVER.** GREGORY GRADON, Watervliet, N. Y. Filed June 1, 1905. Serial No. 263,282.



Claim.—1. A lever of the class described having a spring-controlled trigger and offset hook, a sleeve rigidly connecting said trigger and hook, and a removable pivot-pin for said sleeve extending axially in the body of said lever.

2. In combination with the lever having a channeled handle and arm, a sleeve removably fitted to the channel in the arm, and provided at one end with a spring-controlled trigger fitting into the channel in the handle and at the other end with a hook offset from the trigger, and a removable, axially-arranged pivot for said sleeve.

3. In combination with a lever having a longitudinal channeled arm and a channeled handle, a rocking lever removably arranged in

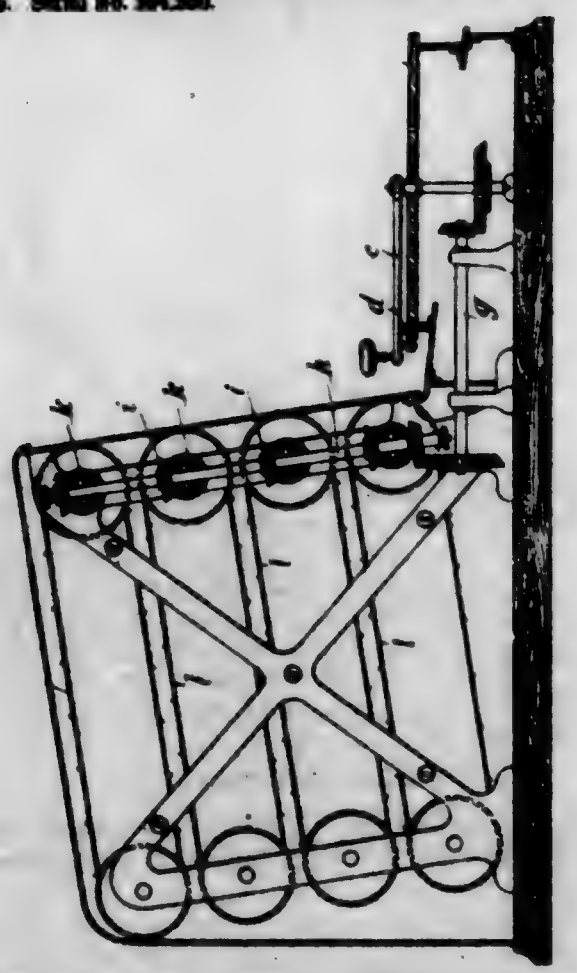
the channel in said arm and journaled therein upon an axially-arranged pivot-pin, said rocking lever being provided with a trigger fitting into the channel in said handle and a rigidly-connected offset hook adapted to arrange a catch on the breech-block carrier intermediate of the handle and the pivot of said lever.

4. A breech-block-operating lever having a removably-pivoted pin axially arranged in the body thereof a sleeve intended to rock upon said pin, and having at one end a spring-controlled trigger arranged in and projecting from a channel in the lever-handle, and at the other end a hook offset from said trigger and adapted under the tension of the spring of said trigger to engage a catch adjacent to said crank and intermediate of its handle and pivot.

5. A lever of the class described having a hollow body and handle, a rock-sleeve removably fitted to the space in said lever, and provided with a laterally-extending spring-controlled trigger fitted to the space in said handle, and a hook offset from said trigger and fitted to a lateral channel in said lever and adapted to engage a catch on the carrier intermediate of the pivot and handle of said lever.

6. A breech-block-operating lever having a locking-hook intermediate of its handle and pivot a spring-controlled trigger for tripping said hook offset therefrom and arranged in the handle of said lever, a rocking member rigidly connecting said trigger and hook, and a removable pin serving as a journal-support for said rocking member said lever being channeled to permit the assembling of said parts in place in and removal from said lever.

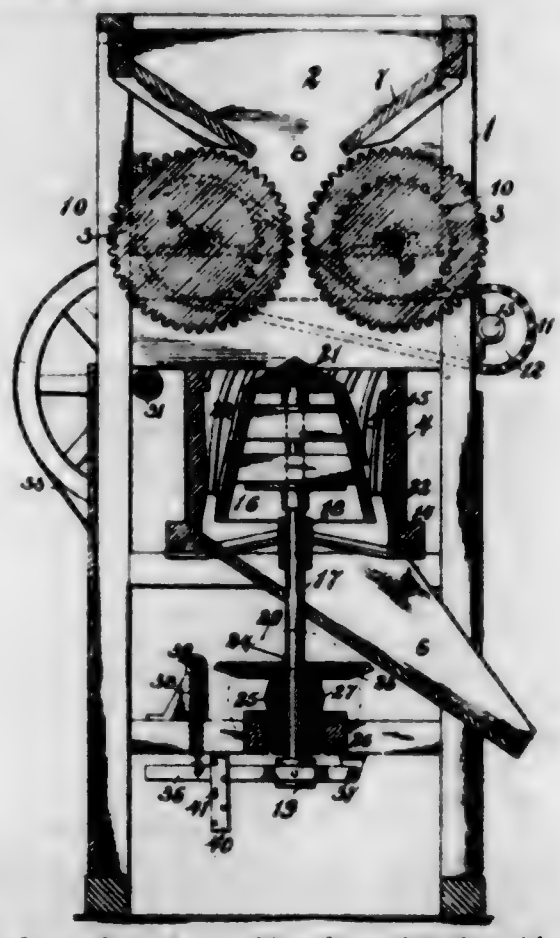
807,550. **MULTIPLYING DEVICE.** SALVADOR DE GORRILA, Malaga, Spain, assignor to Julius Wolter, Malaga, Spain. Filed June 8, 1905. Serial No. 264,580.



Claim.—A computing-machine comprising a plurality of endless bands, a plurality of rollers upon which said bands are mounted, bevel gear-wheels mounted upon the ends of the rollers which are located at one end of the bands, a shaft, a plurality of bevel gear-wheels mounted upon said shaft, one of said gear-wheels meshing with each of the gear-wheels of the rollers, a bevel gear-wheel located adjacent the lower end of the shaft, a horizontal shaft, a bevel gear-wheel mounted at one end of said shaft and meshing with the gear-wheel adjacent the lower end of the first-named shaft, a vertical shaft, gear-wheels located between said vertical and horizontal shafts, a plate bearing the multipliers and a hand-actuated lever mounted upon the vertical shaft and having an opening formed therein, adapted to register with the said multipliers.

807,551. **POD-OPENING MACHINE.** DOUGLAS GORDON, Worcester, Mass., assignor to Hiram Hunt & Company, New York, N. Y., a Corporation of New York. Filed July 26, 1904. Serial No. 218,218.

Claim.—1. In a pod-opening machine, the combination with a revoluble cone arranged to rotate about a vertical axis, of a hollow stationary drum concentrically surrounding same, the interior face of said drum being arranged throughout part of its length at an angle to form with the face of the cone an annular convergent channel for the pods, and arranged throughout another part of its length at an angle to form with the cone a concentric annular channel, said drum having spiral ribs on its interior terminating at the lower end of the convergent channel, and said cone having spiral ribs extending throughout its length.



2. In a pod-opening machine, the combination with a revoluble cone having on its periphery spiral ribs extending throughout its length, of a hollow stationary drum concentrically surrounding the cone, the upper portion of the interior surface of said drum being spirally ribbed and forming with the cone a convergent channel, and the lower portion of said interior surface being smooth and divergent from the ribbed surface in a slope substantially equal to that of the opposing ribbed surface of the cone.

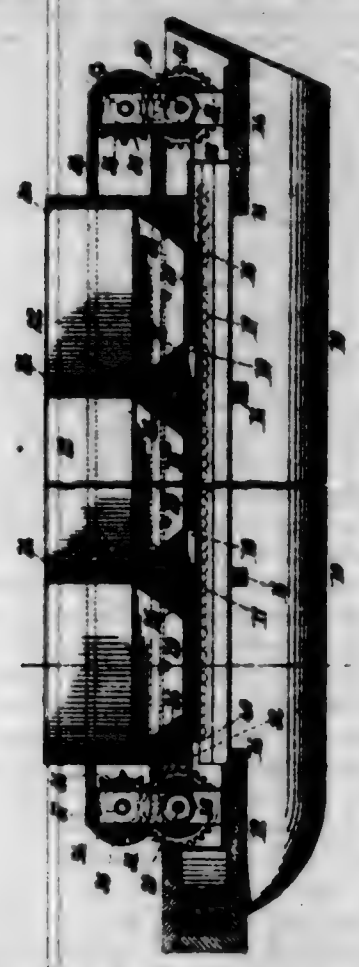
3. In a pod-opening machine, the combination with a revoluble cone having on its periphery spiral ribs extending throughout its length, of a hollow stationary drum concentrically surrounding the cone, the upper portion of the interior surface of said drum being spirally ribbed and forming with the cone a convergent channel, and the lower portion of said interior surface being smooth and divergent from the ribbed surface in a slope substantially equal to that of the opposing ribbed surface of the cone, the ribs of one member forming right-handed spirals, and those of the other member left-handed spirals.

807,552. **DUMPING-SCOW.** JOHN GUEST, New York, N. Y. Filed July 30, 1904. Serial No. 218,848.

Claim.—1. A scow comprising the connected pontoons, and the longitudinal series of bins thereon adapted to discharge between said pontoons, combined with the longitudinally-arranged sliding gate 18 having solid portions 20 and containing the openings 19, longitudinal rails for supporting said gate upon said pontoons and below said bins, and means for moving said gate longitudinally, the said solid portions 20 forming the bottoms for said bins when said gate is in one position and said openings 19 passing below said bins when said gate is moved to its other position to carry said solid portions from below said bins; substantially as and for the purposes set forth.

2. A scow comprising the connected pontoons, and the series of bins thereon adapted to discharge between said pontoons, said bins having the converging inclines at their lower inner front and rear portions, combined with the sliding gate below said bins having openings adapted to be moved into register with the lower ends of said bins, and means for sliding said gate, the said inclines being adapted to close said openings when the solid portions of said gate

are in position to close the lower ends of said bins; substantially as set forth.



3. A scow comprising the connected pontoons, and the longitudinal series of equally-spaced bins thereon adapted to discharge between said pontoons, said bins having discharge-openings at their lower ends, and said openings being equally spaced, combined with the longitudinally-sliding gate below said bins having openings adapted to register with the said discharge-openings and also, when the gate is moved to close the lower ends of the bins, to register with the spaces between said discharge-openings, and means for sliding said gate; substantially as set forth.

4. A scow comprising the connected pontoons, and the series of bins thereon adapted to discharge between said pontoons, combined with the sliding gate adapted to form bottoms for said bins and having openings adapted, when the gate is moved for that purpose, to register with the lower ends of said bins, shafts at the ends of the scow and having winding-drums thereon, chains connected with said drums and said gate, and means for simultaneously rotating said shafts and drums and moving said gate; substantially as set forth.

5. A scow comprising the connected pontoons, and the series of bins thereon adapted to discharge between said pontoons, combined with the sliding gate adapted to form bottoms for said bins and having openings adapted, when the gate is moved for that purpose, to register with the lower ends of said bins, shafts at the ends of the scow and having winding-drums thereon, chains connected with said drums and said gate, sprocket-wheels connected to said shafts, and the sprocket-chain connecting said wheels for imparting simultaneous movement to said shafts and drums and moving said gate; substantially as set forth.

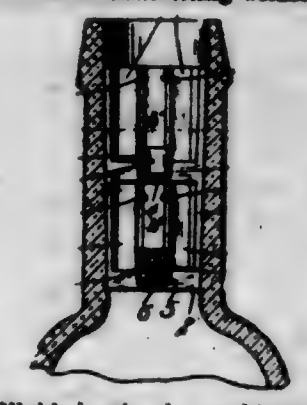
807,553. **PROCESS FOR THE TREATMENT OF WICKS FOR INCREASING THEIR INFLAMMABILITY.** ALEX HAASE, Hanover, Germany. Filed Feb. 23, 1905. Serial No. 247,016.

Claim.—1. A method for increasing the inflammability of the wicks of candles or tapers, consisting in treating their ends before the candles or tapers are formed about them, with a solution of celluloid in acetone, and evaporating the acetone.

2. A wick having its free end impregnated with celluloid dissolved in acetone.

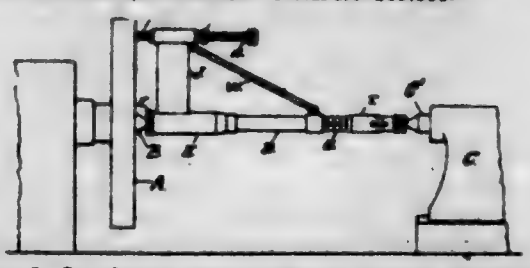
807,554. **NON-REFILLABLE BOTTLE.** FRANCIS S. HEUSTEMAN, Springfield, Mo. Filed May 26, 1905. Serial No. 262,262.

Claim.—1. In a non-refillable bottle, the combination with the bottle, of a tubular valve-casing fitting within the bottle-neck, said casing having a central partition dividing the casing into upper and lower compartments, and a lower partition, each partition having a central socket therein and a port therethrough, and said casing having longitudinally-extending guide-ribs projecting inwardly from its wall toward said ports, and having stops near the upper ends of said compartments, a cup-shaped valve in said upper compartment, having its open end toward the mouth of the bottle, a similar valve, similarly arranged in the lower compartment, and a cork or float fitting within said latter valve.



2. In a non-refillable bottle, the combination with the bottle, of a tubular valve-casing fitting within the bottle-neck, said casing having a central partition dividing the casing into upper and lower compartments, and a lower partition, each partition having a central socket therein and a port extending through the base of the socket, and said casing having longitudinally-extending guide-ribs in line with the walls of said sockets and stops near the upper ends of said compartments, a cylindrical hollow valve in the upper compartment adapted to fit into the socket in the central partition and having its lower end closed and its upper end open; a similar valve similarly arranged in the lower compartment and adapted to fit in the socket in the lower partition, and a cork or float fitting within said latter valve.

807,555. **LATHE-CENTER INDICATOR.** ADOLPH F. HENDRICKS, Troy, N. Y. Filed Dec. 31, 1904. Serial No. 239,066.



Claim.—1. In a lathe-center indicator; a tube adapted to be engaged at one end with the live-center of a lathe and at the other end with the tail-center; an adjustable bolt arranged to engage the face-plate; a bearing for said bolt supported by said tube; a lever operated by the reciprocating movement of said bolt; a piston; a connection between said piston and said lever, whereby the lever will transmit a reciprocating motion to said piston, a sleeve enveloping a portion of said tube, and a connection between said sleeve and piston, all substantially as described.

2. A lathe-center indicator, consisting of a tube; a reciprocating sleeve thereon; a piston connected with said sleeve; an adjustable bolt arranged to engage, near its circumference the face-plate of a lathe; a lever pivoted near said bolt; a means for operating said lever by the reciprocation of said bolt; a lever in operative connection with said first-mentioned lever, and with said piston whereby the movement of the bolt will cause the sleeve to move on the said tube, substantially as described.

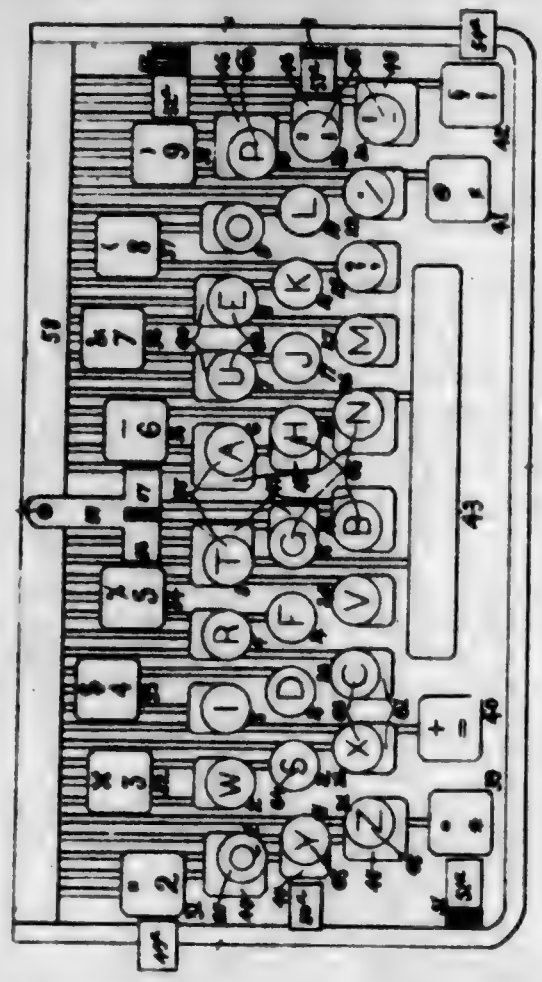
3. In a lathe-center indicator; a tube having a hollow lateral extension; a piston; a sleeve connected with one end of said piston; a lever connected with the opposite end thereof; an adjustable bolt mounted in said extension to said tube; a lever operated by said bolt and in operative connection with the said first-mentioned lever, in such a manner that the movement of said bolt will cause the reciprocation of said sleeve on said tube, substantially as described.

4. In a lathe-center indicator; a tube; a guide-sleeve; a reciprocating sleeve; a piston; a means for connecting said sleeve and piston; a toothed lever in operative contact with said piston; a lever pivoted near its end provided with teeth engaging said toothed lever; a bolt; a means for adjusting said bolt in connection with the face-plate of a lathe; a means for imparting motion to said pivoted lever by the movement of said bolt, substantially as described.

807,556. **KEYBOARD FOR TYPE-WRITING MACHINES.** JOHN H. HOWARD, Brooklyn, N. Y. Filed June 19, 1902. Serial No. 112,097.

Claim.—1. In combination with type-writer keys bearing the

letters of the alphabet, arranged in rows or banks, and divided into a left-hand and a right-hand section; a row of keys bearing figures, located along the rear of the rear row of letter-keys, said figure-keys spaced appreciably wider apart from center to center than is the case with letter-keys in one and the same cross-row within the said left-hand section, or the said right-hand section of the alphabetical keys.



2. In combination with cross-rows of type-writer keys bearing the letters of the alphabet, divided into a left-hand and a right-hand section; a row of keys bearing figures, located along the rear of the rear row of letter-keys; said figure-keys spaced appreciably wider apart from center to center than is the case with the letter-keys in one and the same cross-row within the said left-hand section or the said right-hand section of the alphabetical keys; said finger-keys being arranged in a left-hand group and a right-hand group of four keys each, each group being arranged in arc form.

3. In combination with cross-rows of type-writer keys bearing the letters of the alphabet, the rear row of which consists of ten keys; a row of eight keys bearing the figures 2, 3, 4, 5, 6, 7, 8 and 9, respectively, arranged along the rear of the said rear row of letter-keys, and so located as to occupy substantially the same extension laterally as the ten letter-keys.

4. In combination with cross-rows of type-writer keys bearing the letters of the alphabet, the rear row of which consists of ten keys; a row of four keys bearing figures, 2, 3, 4 and 5, respectively, arranged at the rear of the left five keys in the rear row of letter-keys, and spaced at appreciably wider intervals from center to center than is the case with the said left five keys of the rear row of letters; and a row of four keys bearing figures 6, 7, 8 and 9, respectively, arranged at the rear of the right five keys in the rear row of letters, and spaced at appreciably wider intervals from center to center than is the case with the said right five keys of the rear row of letters.

5. In combination with cross rows of type-writer keys bearing the letters of the alphabet, the rear row of which consists of ten keys; a row of four keys bearing figures, 2, 3, 4 and 5, respectively, arranged at the rear of the left five keys in the rear row of letter-keys, and spaced at appreciably wider intervals from center to center than is the case with the said left five keys of the rear row of letters, so as to occupy substantially the same extension laterally as the said five letter-keys; and a row of four keys bearing figures 6, 7, 8 and 9, respectively, arranged at the rear of the right five keys in the rear row of letters, and spaced at appreciably wider intervals from center to center than is the case with the said right five keys of the rear row of letters, so as to occupy substantially the same extension laterally as the said five letter-keys.

6. In combination with cross-rows of type-writer keys bearing the letters of the alphabet, the rear row of which consists of ten keys; a row of four keys bearing figures, 2, 3, 4 and 5, respectively, arranged in arc form, substantially as shown, at the rear of the left five keys in the rear row of letter-keys, and spaced at appreciably wider intervals from center to center than is the case with the said left five keys of the rear row of letters; and a row of four keys bearing figures 6, 7, 8 and 9, respectively, arranged in arc form, substantially as shown, at the rear of the right five keys in the rear row of letters, and spaced at appreciably wider intervals from center to center than is the case with the said right five keys of the rear row of letters.

7. In combination with cross-rows of type-writer keys bearing the letters of the alphabet, arranged in rows or banks; the rear row of letters comprising ten keys; four keys bearing figures, 2, 3, 4, and 5, respectively, placed at the rear of the left five keys of the rear row of letter-keys, and spaced appreciably wider apart from center to center than is the case with the said left five letter-keys; said figure-keys being so located that they are in convenient proximity to the letter-keys generally operated by the same fingers in all-finger operating, the key bearing 2 being in convenient proximity to the letter-key generally operated by the little finger of the left hand (Q in the arrangement of the letters of the alphabet on type-writer keys known as the universal); the key bearing 3 being in convenient proximity to the letter-key generally operated by the left third finger in all-finger operating (W in the universal arrangement); the key bearing 4 in convenient proximity to the letter-key generally operated by the left second finger (E in the universal arrangement); and the key bearing 5 being in convenient proximity to the letter-keys generally operated by the left first or index finger in all-finger operating (T and R in the universal arrangement); the key bearing 6 being in convenient proximity to the letter-keys generally operated by the first finger of the right hand (Y and U in the universal arrangement); the key bearing 7 being in convenient proximity to the letter-key generally operated by the right second finger in all-finger operating in the universal arrangement); the key bearing 8 being in convenient proximity to the letter-key generally operated by the right third finger in all-finger operating (O in the universal arrangement), and the key bearing 9 being in convenient proximity to the letter-key generally operated by the right fourth finger in all-finger operating (P in the universal keyboard).

8. In combination with type-writer keys bearing the letters of the alphabet, arranged in rows or banks, which rise toward the rear like the steps of a stair, a row of keys bearing figures arranged at the rear of the rear row of letter-keys, and at an elevation above the rear row of letter-keys appreciably greater than the elevation of one row of letter-keys above the one next in front of it.

9. In combination with type-writer keys bearing the letters of the alphabet, arranged in cross rows or banks, which rise toward the rear, like the steps of a stair; a row of keys bearing figures arranged at an elevation above the rear row of letter-keys appreciably greater than the elevation of one row of letter-keys above the one next in front of it; said figure-keys being arranged in a right-hand group and a left-hand group of four keys each, each group arranged in arc form, substantially as described.

10. In a type-writer keyboard, in combination with banks of letter-keys, each full cross-bank being arranged substantially in the form of a shallow arc; a row of keys bearing figures, arranged at an elevation above the rear row of letter-keys appreciably greater than the elevation of one row of letter-keys above the one next in front of it, and arranged in a right and a left hand arc of four keys each, each key adapted to be operated by its corresponding finger, by raising and straightening out the respective finger to reach and depress its respective key.

11. In combination with type-writer keys bearing the letters of the alphabet, arranged in rows or banks, which rise toward the rear like the steps of a stair, and divided into a left-hand and a right-hand section; a row of keys bearing figures located to the rear of the rear row of letter-keys, said figure-keys spaced appreciably wider apart from center to center than is the case with letter-keys in one and the same cross-row within the said left-hand section or the said right-hand section of the alphabetical keys; said figure-keys arranged at an elevation above the rear row of letter-keys appreciably greater than the elevation of one row of letter-keys above the one next in front of it.

12. In combination with cross-rows of type-writer keys bearing the letters of the alphabet, which rise toward the rear like the steps of a stair, and divided into a left-hand section and a right-hand section; a row of keys bearing figures, located to the rear of the rear row of letter-keys; said figure-keys spaced appreciably wider apart from center to center than is the case with the letter-keys in one and the same cross-row within the said left-hand section or the said right-hand section of the alphabetical keys; said figure-keys being ar-

ranged in a left-hand group and a right-hand group of four keys each, each group being arranged in arc form; said figure-keys arranged at an elevation above the rear row of letter-keys appreciably greater than the elevation of one row of letter-keys above the one next in front of it.

13. In combination with cross-rows of type-writer keys bearing the letters of the alphabet, which rise toward the rear like the steps of a stair, the rear row of which consists of ten keys; a row of eight keys bearing the figures 2, 3, 4, 5, 6, 7, 8, and 9, respectively, arranged along the rear of the said rear row of letter-keys and spaced out so as to occupy substantially the same extension laterally as the ten letter-keys; said figure-keys arranged at an elevation above the rear row of letter-keys appreciably greater than the elevation of one row of letter-keys above the one next in front of it.

14. In combination with cross-rows of type-writer keys bearing the letters of the alphabet, which rise toward the rear like the steps of a stair, the rear row of which consists of ten keys; a row of four keys bearing figures, 2, 3, 4 and 5, respectively, arranged at the rear of the left five keys in the rear row of letter-keys, and spaced at appreciably wider intervals from center to center than is the case with the said left five keys of the rear row of letters; and a row of four keys bearing figures, 6, 7, 8 and 9, respectively, arranged at the rear of the right five keys in the upper row of letters, and spaced at appreciably wider intervals from center to center than is the case with the said right-hand five keys of the rear row of letters; said figure-keys arranged at an elevation above the rear row of letter-keys appreciably greater than the elevation of one row of letter-keys above the one next in front of it.

15. In combination with type-writer keys bearing the letters of the alphabet, arranged in cross rows or banks, which rise toward the rear, like the steps of a stair; a row of keys bearing figures, arranged at an elevation above the rear row of letter-keys appreciably greater than the elevation of one row of letter-keys above the one next in front of it; said figure-keys spaced appreciably wider apart from center to center than is the case with the letter-keys in one and the same cross-row within the left half or the right half of the keyboard; said figure-keys being arranged in a left-hand group and a right-hand group of four keys each, each group arranged in arc form, each key being located at a distance back of the letter-keys corresponding to the length of the respective finger assigned to its operation, the key bearing 2 being adapted for operation by the little finger, 3 by the third finger, 4 by the second finger, and 5 by the first finger, of the left hand; the key bearing 6 by the first finger, 7 by the second finger, 8 by the third finger, and 9 by the fourth finger, of the right hand; substantially a described.

16. In a type-writer keyboard, with the letters of the alphabet arranged in three rows or banks, keys in the rear and front rows having their striking-surface appreciably longer or more extended from front to rear than it is broad, having a hollow receptacle for the tip of the finger in the part of the surface of the key next to the middle row or bank of keys.

17. In a type-writer keyboard, the arrangement of the letters of the alphabet in three rows or banks, the keys in the rear row of letters having a hollow receptacle for the tip of the finger in their striking-surface at the forward side, or the side next to the middle row of keys, and an extension of the striking-surface rearward.

18. In a type-writer keyboard, the arrangement of the letters of the alphabet in three rows or banks, the keys in the front row of letters having a hollow receptacle for the tip of the finger in their striking-surface at the rearward side, or side next to the middle row of keys, and an extension of the striking-surface forward.

19. In a type-writer keyboard, the arrangement of the letters of the alphabet in three rows or banks; keys to the extreme right and left of the keyboard, having a hollow receptacle for the tip of the finger in their striking-surface on the side nearest the middle of the keyboard, and an extension of their striking-surface outward in the opposite direction.

20. In a type-writer keyboard, the arrangement of the letters of the alphabet in three rows or banks, and divided into a right-hand section and a left-hand section; the keys on the right-hand boundary of the left section and the keys on the left boundary of the right-hand section having a hollow receptacle for the tip of the finger in their striking-surface at the side next to the center of the section, and an extension of their striking-surface in the opposite direction.

21. In a type-writer keyboard, the arrangement of the letters of the alphabet in three rows or banks, the keys in the middle row having a hollow receptacle in their upper surface for the tip of the finger; keys in the rear row of letter-keys with their striking-surface extended rearward, and keys in the front row with their striking-surface extended forward, so that the said keys in the rear and front rows have their striking-surface appreciably longer or more extended from front to rear than the keys of the middle row, and having in the part of their striking-surface next to the middle row of keys a hollow receptacle of substantially the same character as the hollow receptacle in the surface of the middle row of keys, for the tip of the finger.

22. In a type-writer keyboard, the arrangement of the letters of the alphabet in three cross rows or banks; keys in the front and rear rows, with a hollow receptacle in their striking-surface for the tip of the finger; the upper surface of the keys in said front and rear rows, outside of the depression or hollow receptacle, being substantially level; the striking-surface of such keys in the front and rear rows of letter-keys being appreciably longer from front to rear than the striking-surface of the keys of the middle row.

23. In a type-writer keyboard, the arrangement of the letters of the alphabet in three cross rows or banks, and divided into a right and a left hand section; the right and left hand boundary-keys of each section having a hollow receptacle in their striking-surface for the tip of the finger; the upper surface of the said boundary-keys, outside of the hollow receptacle, being substantially level; the striking-surface of such boundary-keys of the said sections being appreciably broader from side to side, or laterally, than the striking-surface of the interior keys of the section.

24. In a type-writer keyboard, the arrangement of the letters of the alphabet in three cross rows or banks, keys in the rear row of letter-keys having their striking-surface extended toward the rear, in a substantially horizontal direction, and keys in the front row having their striking-surface extended toward the front, in a substantially horizontal direction, so that the striking-surface of the keys in the front and rear rows of letter-keys is appreciably longer from front to rear than the striking-surface of the keys of the middle row.

25. In a type-writer keyboard, the arrangement of the letters of the alphabet in three cross rows or banks, all of the keys in the rear row of letter-keys having their striking-surface extended toward the rear, in a substantially horizontal direction, and all of the keys in the front row having their striking-surface extended toward the front, in a substantially horizontal direction, so that the striking-surface of the keys in the front and rear rows of letter-keys is appreciably longer from front to rear than the striking-surface of the keys of the middle row.

26. A guide between the left and right groups of figure-keys, having an incline downward to the left, for the purpose of guiding the left index-finger onto its respective key, and having an incline downward to the right for the purpose of guiding the right index-finger onto its respective figure-key; substantially as shown.

807,557. LOCK FOR THE ADJUSTABLE BACKS OF LOOSE-LEAFED LEDGERS, ACCOUNT-BOOKS, RECORD-BOOKS, FILES, &c.

ANDREW D. HULQUIST, Chicago, Ill., assignor to J. S. McDonald, Chicago, Ill. Filed Jan. 25, 1904. Serial No. 190,294.



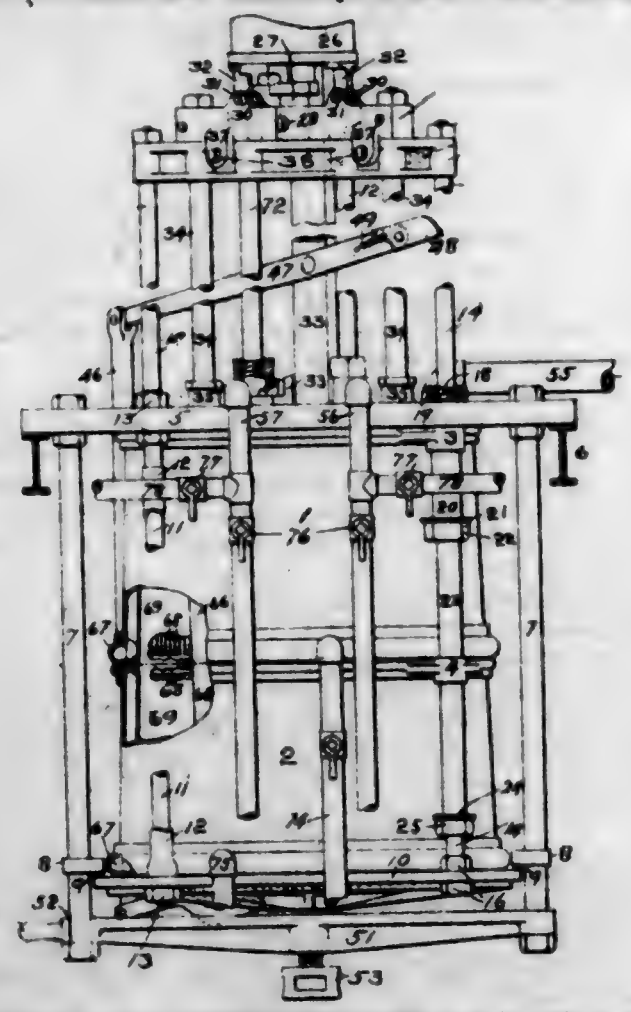
Claim.—1. In a loose-leaf binder comprising clamping-plates, a rotatable bolt secured to and projecting from one of said plates, a tube secured to the other plate into which said bolt enters which has transverse spiral corrugations on its inner surface, and a gravity-controlled pawl pivoted at its end nearest the extremity of said bolt and having two engaging points at its opposite end one on one side and the other on the other side of the axis of said bolt which are adapted to engage the corrugations of the tube on one side or the other of the bolt.

2. In a loose-leaf binder comprising clamping-plates, a rotatable bolt secured to and projecting from one of said clamping-plates having an enlarged head at the unsecured end thereof, a tube secured to the other plate having the diameter of the opening in its unsecured end into which said bolt enters restricted and having transverse spiral corrugations on its inner surface, and a pawl pivoted at

its end nearest the extremity of said bolt and having two engaging points at its opposite end one on one side and the other on the other side of the axis of said bolt which are adapted to engage the corrugations of the tube on one side or the other of the bolt.

3. In a loose-leaf binder comprising clamping-plates, a rotatable bolt secured to and projecting from one of said clamping-plates having a head on its unsecured end which is provided with a longitudinal slit therein, a tube secured to the other plate having the diameter of the opening in its unsecured end into which said bolt enters restricted and having transverse spiral corrugations on its inner circumference, and a gravity-controlled pawl pivoted at its end nearest the extremity of said bolt within said slot and having two engaging points at its opposite end one on one side and the other on the other side of the axis of said bolt which are adapted to engage the corrugations of the tube on one side or the other of the bolt.

807,558. **FILTER APPARATUS.** PHILIPP J. JABSEN, Santa Paula, Cal., assignor of one-half to John B. McCloskey, Santa Paula, Cal. Filed June 3, 1903. Renewed Apr. 17, 1905. Serial No. 256,186.



Claim.—1. An apparatus provided with an independent exterior and interior cylindrical filter, means for introducing material between said filters so that it will filter out through the exterior filter and in through the interior filter and separate connections for withdrawing the filtered material from the outside of the former and the inside of the latter filter.

2. An apparatus provided with sectional interior and exterior filters, devices for supporting the sections and means for introducing material between the interior and exterior portions of each section and separate connections for withdrawing the material filtered from the outside of the exterior portion and the inside of the interior portion.

3. An apparatus provided with a filter embodying an upper and lower section constructed with an exterior and interior filter portion, means for supporting said sections in contact and at a distance from each other, a device for introducing the material between the inner and outer filter portions and means for withdrawing the filtered material from the outside of the outer portion and from the inside of the inner portion.

4. An apparatus provided with interior and exterior sectional filter-cylinders, means for supporting the same one above the other in operative and disconnected positions and connections for supplying the material to be filtered and withdrawing the filtered material.

5. An apparatus provided with sectional filter-cylinders, supported one above the other, a head or cover supporting the same, a ring below the cylinders and bolt-rods constructed to engage the head and ring to support the sections in operative and separated positions and connections for supplying and withdrawing the material.

6. An apparatus provided with sectional cylinders, a head or cover supporting the same, a ring below the cylinders bolt-rods constructed to engage the head and ring to support the section in operative and separated positions and means connected to said rods and with a source of power to cause the discharge of the substance within the cylinders.

7. An apparatus provided with a body portion, a bottom a lever having a section movable in one direction, connection between said lever and bottom and a source of power carrying a device constructed to engage said lever-section in the immovable direction to close said bottom.

8. An apparatus provided with a body portion, a cross-head connected with the source of power, a ring-plunger in said body portion and connection between the same and said cross-head to discharge the substance in said body portion.

9. An apparatus provided with independent exterior and interior filters, means for introducing the material between said filters, space-bars inside of the exterior filter and outside of the interior filter, filtering fabrics over said bars and means for withdrawing the filtered material from beyond said bars of each filter.

10. An apparatus provided with an exterior filter having internal space-bars covered by filtering fabrics and having an annular exterior receiving-chamber for the filtered material, an interior filter having external space-bars covered by filtering fabrics and an internal receiving-chamber for the filtered material, connections for withdrawing the filtered material from said chambers and inlet connections.

11. An apparatus provided with a cylindrical sectional exterior filter, means for supporting said section in operative and separated positions, each of said sections having space-bars covered by a filtering material and an annular external chamber for the filtered material, cylindrical sectional internal filters having space-bars covered with filtering material and having an internal receiving-chamber for the filtered material, means for supporting said internal section in operative and separated positions, connections with said receiving-chambers for withdrawing the filtered material therefrom and connection for introducing the material to be filtered between said external and internal filters.

12. An apparatus provided with a cylindrical external filter having space-bars covered by filtering material and having an annular external chamber for the filtered material, an internal cylindrical filter having space-bars covered by filtering material and having an annular internal chamber for the filtered material, connections with said chambers for withdrawing the filtered material therefrom, a connection for introducing the material to be filtered between said filters, an annular plunger to remove the foreign material from between said filters and mechanism for operating said plunger.

13. An apparatus provided with an external sectional filter having space-bars covered by filtering material and a receiving-chamber beyond said bars, connections for withdrawing from said chambers the filtered material, a connection for introducing the material to be filtered, internal sectional filters each having space-bars covered by filtering material and having receiving-chamber for the filtered material, a head or cover for said apparatus provided with extensible rods to support said external and internal sections in operative and separated positions, an annular plunger between said external and internal filters and mechanism for operating said plunger.

14. An apparatus provided with sectional exterior and interior filters provided with filtering means and having receiving-chambers for the filtered material, means for withdrawing material therefrom, a connection for introducing the material to be filtered, a top or cover provided with extensible rods to support said sections in different positions, an annular plunger between said filters, mechanism for operating the plunger and for supporting the same in inoperative position, a bottom for the filter and devices for closing said bottom and retaining the same in closed position.

15. An apparatus provided with sectional filters having filtering means and receiving-chambers, means for withdrawing the filtered material from said chambers, a connection for introducing the material to be filtered, a top or cover provided with extensible rods to support said sections in different positions, an annular plunger between said filters, mechanism for operating the plunger and for supporting the same in inoperative position, a bottom for the filter, devices operated by the elevation of the plunger to close said bottom, a supporting-bar for said bottom, and means for washing the filtering material.

16. An apparatus provided with sectional filters having filter-

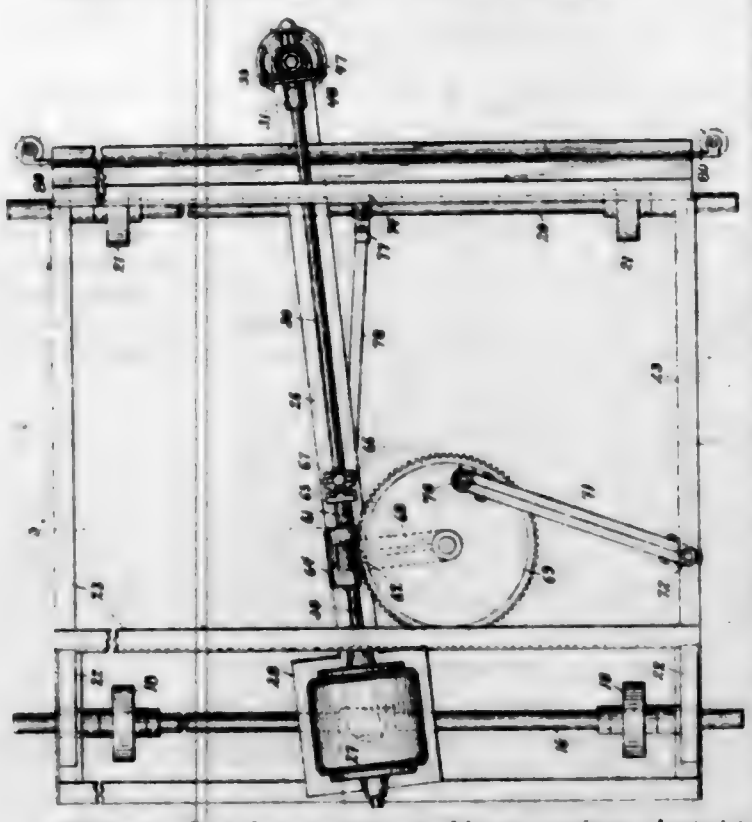
ing means and receiving-chambers, means for withdrawing the filtered material from said chambers, a connection for introducing the material to be filtered, a top or cover provided with extensible rods to support said sections in different positions, means for removing the solid matter from the apparatus and connections for washing the filtering material.

807,559. SET-SCREW COVERING. HENRY F. KOHLHAGEN, Sheboygan, Wis. Filed Mar. 30, 1905. Serial No. 253,307.



Claim.—A set-screw covering consisting of a split band, pins set fast in the meeting edges of one part of the band to project into corresponding grooves provided in the meeting edges of the other part of said band, and one of said parts provided with an inner edge groove having side extensions at one end, the latter groove being for the engagement of the head of a set-screw projecting from a shaft or spindle encircled by the covering, and screws uniting the aforesaid parts of the covering.

807,560. FLOOR-DRESSING MACHINE. HENRY KRATSCH, Madison, Wis. Filed July 13, 1905. Serial No. 269,456.



Claim.—1. In a floor-dressing machine, a carriage adapted to travel over the surface to be dressed, a cutter-arm mounted on the carriage, parallel guides above and below the cutter-arm, and a suitably-driven rotary cutting-tool carried by the cutter-arm, said cutter-arm being adapted to be swung from side to side on its mounting and guided between the parallel guides to carry the cutting-tool across the said surface.

2. In a floor-dressing machine, a carriage adapted to travel over the surface to be dressed, a cutter-arm pivotally mounted on the carriage, parallel guides above and below the cutter-arm, a suitably-driven rotary cutting-tool carried by the cutter-arm, said cutter-arm being adapted to be swung from side to side on its pivotal mounting and guided between the parallel guides to carry the cutting-tool across the said surface, and a ratchet mechanism having connection with the cutter-arm for driving the carriage over the said surface.

3. In a floor-dressing machine, a carriage adapted to travel over the surface to be dressed, a cutter-arm pivotally mounted on the carriage, parallel guides above and below the cutter-arm, a suitably-driven rotary cutting-tool carried by the cutter-arm, means for automatically swinging the cutter-arm from side to side on its pivotal mounting and between the guides to carry the cutting-tool across said surface, and a ratchet mechanism having connection with the cutter-arm for driving the carriage over the said surface.

4. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a cutter-arm pivotally mounted on the carriage, a rotary cutting-tool carried by the cutter-arm, means on the cutter-arm for driving the cutting-tool, and a crank driven by said driving means and having connection with the carriage for automatically swinging the cutter-arm from side to side.

5. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a cutter-arm pivotally mounted thereon, a rotary cutting-tool carried by the cutter-arm, means for driving the cutting-tool, a worm driven by the said driving means, a worm-wheel carried by the cutter-arm and meshing with the worm, a crank carried by the worm-wheel, and a connecting-rod connecting the crank with the carriage, whereby the cutter-arm is automatically swung from side to side.

6. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a cutter-arm pivotally mounted thereon, a suitably-driven rotary cutting-tool carried by the cutter-arm, said carriage having a driving-shaft, a ratchet-wheel fixed thereon, a frame pivotally mounted on the driving-shaft provided with a pawl to engage the ratchet-wheel, and a rod having a universal connection with the frame and connected to the cutter-arm at a point which will pass the plane of the pivotal axis of the cutter-arm and the universal connection of the rod in an intermediate position of the cutter-arm, whereby each movement of the cutter-arm from side to side on its pivotal mounting will cause the frame to rock and turn the driving-shaft through the ratchet connection and drive the carriage over the said surface.

7. In a floor-dressing machine, a carriage having a driving-shaft and adapted to be moved over the surface to be dressed, a cutter-arm pivotally mounted on the carriage, a rotary cutter carried by the cutter-arm, a ratchet-wheel fixed on the driving-shaft of the carriage, a U-shaped frame embracing the ratchet-wheel and pivotally mounted on the driving-shaft, a pawl pivoted to the frame and engaging the ratchet-wheel, a connecting-rod having a universal connection with the frame and a pivotal connection with the cutter-arm, and means for automatically swinging the cutter-arm from side to side and thereby causing the frame to swing and turn the driving-shaft by means of the ratchet mechanism to drive the carriage over the said surface.

8. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a cutter-arm pivotally mounted on the carriage, a rotary cutting-tool carried by the cutter-arm, driving means for the cutting-tool having an operating-shaft, a worm-sleeve loosely mounted on said shaft, a bracket carried by the cutter-arm for housing the worm and forming a thrust-bearing therefor, a clutch on the said shaft engaging the worm-sleeve, a worm-wheel mounted on said bracket and meshing with the worm through an open side of the housing, a crank carried by the worm-wheel, and a connecting-rod connecting the crank with the carriage.

9. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a cutter-arm pivotally mounted on the carriage, a rotary cutting-tool carried by the cutter-arm, means for driving the cutting-tool having a driving-shaft, a worm-sleeve on said shaft, a bracket carried by the cutter-arm forming a housing for the worm of the worm-sleeve with thrust-bearings therefor, a worm-wheel mounted on the bracket and meshing with the worm, a crank carried by the worm-wheel, and a connecting-rod connecting the crank with the carriage, said housing for the worm forming an oil-receptacle beneath the worm into which the worm turns to be lubricated.

10. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a guide carried thereby a cutter-arm movably mounted on the carriage and bearing on the guide, a vertical sleeve adjustably mounted in the cutter-arm, a spindle turning in the sleeve, a rotary cutting-tool carried by the spindle, and means for driving the spindle.

11. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a guide carried thereby, a cutter-arm movably mounted on the carriage and bearing against the guide, a divided cutter-head on the cutter-arm, a vertical sleeve threaded therein, a collar confined in the slot dividing the cutter-head and splined on the sleeve, means for locking the collar against accidental turning, a spindle turning in the sleeve, a cutting-tool on the spindle, and means for driving the spindle.

12. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a guide carried thereby, a cutter-arm movably mounted on the carriage and bearing on the guide, a divided cutter-head on the cutter-arm, a vertical sleeve threaded through the cutter-head, a collar located in the slot dividing the cutter-head and splined on the sleeve by which the sleeve may be turned and adjusted vertically, a spring-pressed bolt slidable in the cutter-arm and

engaging the collar to prevent accidental turning thereof, a spindle journaled through the sleeve, a cutting-tool carried by the spindle, and means for driving the spindle.

13. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a guide carried thereby, a cutter-arm movably mounted on the carriage and bearing on the guide, a split divided cutter-head on the cutter-arm, a vertical sleeve threaded therethrough, a collar located in the slot forming the division of the cutter-head and splined on the sleeve for turning and adjusting the sleeve vertically, ears on the sides of the split of the cutter-head, bolts connecting said ears to clamp the sleeve in its adjustments, a spindle rotatably mounted in the sleeve, a cutting-tool on the spindle, and means for driving the spindle.

14. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a guide carried thereby, a cutter-arm movably mounted on the carriage and bearing on the guide, a split divided cutter-head on the cutter-arm, a vertical sleeve threaded therethrough, a collar located in the slot forming the division of the cutter-head and splined on the sleeve for turning and adjusting the sleeve vertically, ears on the sides of the split of the cutter-head, bolts connecting said ears to clamp the sleeve in its adjustments, a handle connected by said bolts, a shouldered spindle rotatably mounted in the sleeve, a cutting-tool carried by the sleeve, a washer on the spindle between the shoulder and the lower end of the sleeve, a pair of jam-nuts threaded on the spindle, a washer between the pair of jam-nuts and the upper end of the sleeve, a bracket on the cutter-head through which the spindle passes, a beveled pinion bearing thereon and splined on the spindle, and means for driving the beveled pinion.

15. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a guide carried thereby, a cutter-arm movably mounted on the carriage and bearing on the guide, a cutter-head on the cutter-arm, a sleeve adjustable therethrough, a spindle loosely mounted in the sleeve, a cutting-tool carried by the spindle, and means for driving the spindle, said spindle having a central bore forming an oil-recess with radial passages leading therefrom to the surface of the spindle within the sleeve.

16. In a floor-dressing machine, a carriage adapted to be moved over the surface to be dressed, a cutter-arm pivotally mounted thereon, a cutting-tool carried by the cutter-arm, said carriage having a driving-shaft, a ratchet connection for the driving-shaft, and means connecting the ratchet connection with the cutter-arm at a point which will pass the plane of the pivotal axis of the cutter-arm and the ratchet connection in an intermediate position of the cutter-arm, whereby each movement of the cutter-arm from side to side will cause the ratchet connection to turn the driving-shaft during one portion of the movement of the cutter-arm only.

807,561. RECOIL-GUN. JOHANNES KRÖNE, Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Mar. 7, 1905. Serial No. 248,868.

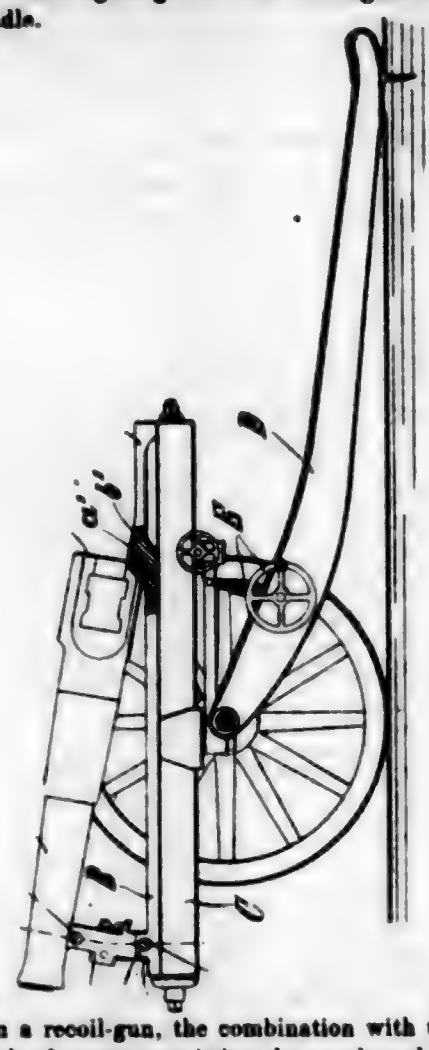
Claim.—1. In a recoil-gun, the combination with a cradle, and a gun-barrel, of means permitting the gun-barrel to be elevated relatively to the cradle about an axis located in proximity to the breech of the gun-barrel without having any part of the barrel swing through the cradle.

2. In a recoil-gun, the combination with a cradle, and a gun-barrel, of means permitting the gun-barrel to be elevated relatively to the cradle about an axis located in proximity to the breech of the gun-barrel, and means for securing the gun-barrel in an elevated position relatively to the cradle said means being located between the muzzle of the barrel and the said axis about which the barrel swings.

3. In a recoil-gun, the combination with a cradle, and a gun-barrel, of means permitting the gun-barrel to be elevated relatively to the cradle about an axis located in proximity to the breech of the gun-barrel, and means for securing the gun-barrel in different elevated positions relatively to the cradle said means being located between the muzzle of the barrel and the said axis about which the barrel swings.

4. In a recoil-gun, the combination with the cradle, and the gun-barrel, of means permitting the gun-barrel to be elevated relatively to the cradle about an axis located in proximity to the breech of the gun-barrel, means for securing the gun-barrel in an elevated position relatively to the cradle said means being located between the muzzle of the barrel and the said axis about which the barrel swings and means for elevating the gun-barrel with the cradle.

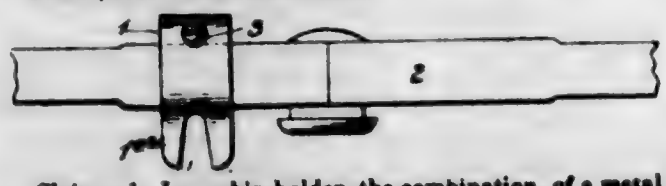
5. In a recoil-gun, the combination with the cradle, and the gun-barrel, of means permitting the gun-barrel to be elevated relatively to the cradle, means for securing the gun-barrel in normal relation to the cradle, and means adapted to be inserted in said securing means for fixing the gun-barrel at an angle of elevation relatively to the cradle.



6. In a recoil-gun, the combination with the cradle, and the gun-barrel, of means permitting the gun-barrel to be elevated relatively to the cradle, means for securing the gun-barrel in normal relation to the cradle, said means being located in proximity to the muzzle of the gun-barrel, and a support adapted to be interposed in said securing means for fixing the gun-barrel in an elevated position relatively to the cradle.

7. In a recoil-gun, the combination with the cradle, and the gun-barrel, of means permitting the gun-barrel to be elevated relatively to the cradle, means for securing the gun-barrel in position parallel to the cradle, means adapted to be interposed in different positions between said securing means and the cradle for fixing the gun-barrel at different angles of elevation relatively to the cradle, and means for elevating the cradle while maintaining the angular relation of the gun-barrel and cradle.

807,562. WHIP-HOLDER. ALONZO LAWREY, Jr., Cherokee, Iowa, assignor to Lawrey and Banister, Cherokee, Iowa, a Firm. Filed Dec. 31, 1904. Serial No. 287,812.



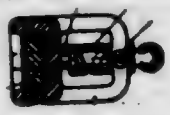
Claim.—1. In a whip-holder, the combination, of a metal piece having a keeper formation effective for application to a buggy-top-locking lever and having an upper rebent portion deflected or inclined upward and outward and provided with a practically V-form slot, and means for its retention upon said lever.

2. A whip-holder, consisting of a metal piece having a keeper or stirrup-like formation, returned or bent upon itself, said returned or rebent portion extended into an upward and outward inclined terminal provided with a notch or bifurcation of V form.

807,563. PUMP-ROD COUPLING. JOHN E. LAWTON, Omaha, Nebr. Filed Jan. 23, 1905. Serial No. 242,388.

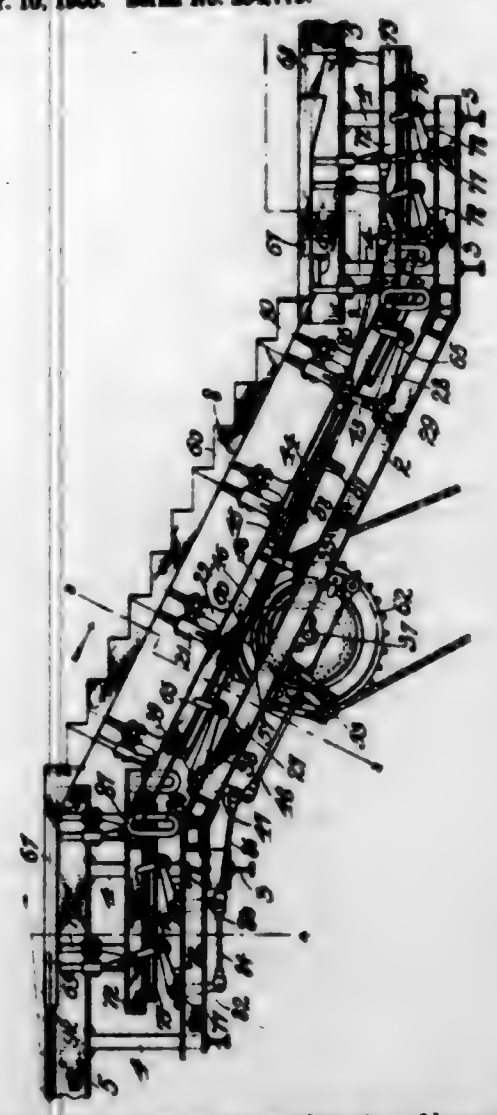
Claim.—1. In a coupler of the class described and in combination with the pump-rod and channel-bar, a bracket carried by the channel-bar, a pin passing through said bracket and adapted to pass through the channel-bar and pump-rod to operatively connect the same, means preventing the removal of the pin from the bracket, there being in the pin a helical element of which the pitch is greater

than the thickness of the pump-rod, mating means on the bracket engaging said helical element in the pin whereby rotation of the pin will cause longitudinal movement thereof to engage the same with the pump-rod or disengage the same therefrom, and means tending to retain the pin either in engaged or disengaged position.



2. In a coupler of the class described and in combination with the pump-rod and channel-bar, a bracket carried by the channel-bar, a pin passing through the said bracket and adapted to pass through the channel-bar and pump-rod to operatively connect the same, there being in the pin a helical groove of which the ends are closed, a mating element on the bracket entering said groove by which rotation of the pin will cause longitudinal movement of the same, said mating element by engaging the closed ends of the groove preventing removal of the pin from the bracket, and means tending to retain the pin in position when turned to either limit of its movement.

807,584. CONVEYER. PIERRE LORILLARD, Tuxedo Park, N. Y. Filed Apr. 10, 1905. Serial No. 254,779.



Claim.—1. In a conveyer, the combination of laterally-adjacent conveyer-sections and means for moving the same in closed paths each having a flat portion along which the effective movement of the corresponding section takes place, the movements of alternate sections along their respective paths being similar in direction but opposite in phase.

2. In a conveyer, the combination of laterally-adjacent conveyer-sections and means for moving the same in like direction in closed paths each having a flat portion along which the effective movement of the corresponding section takes place, the operation of said means being so timed that the movements of alternate sections along their respective paths are opposite in phase and the effective movements of all the sections being uniform in velocity

3. In a conveyer, the combination of laterally-adjacent conveyer-sections and means for moving the same in closed paths each having a flat portion along which the effective movement of the corresponding section takes place, the movements of alternate sections along their respective paths being similar in direction but opposite in phase and the movements of all the sections being coincident in direction and velocity at the beginning and end of the flat portions of said paths.

4. In a conveyer, the combination of two sets of conveyer-sections having supporting-surfaces at their upper edges, the sections of each set being arranged side by side with those of the other set and alternating therewith, and means for moving each of said sets in a closed path having a flat upper portion and a depressed return portion, the flat portions of the paths of the supporting-surfaces being in the same plane, and said means being timed to impart to each of said sets in alternation a forward movement along the flat portion of its path while the other set is performing its return movement.

5. In a conveyer, the combination of two sets of interleaved conveyer-sections extending from one elevation to another, and means for moving the same in closed paths each having a flat upper portion extending in the direction of conveyance, the movements of alternate sections along their respective paths being similar in direction but opposite in phase.

6. In a conveyer, the combination of two sets of interleaved conveyer-sections extending from one elevation to another and provided with supporting-surfaces forming steps, and means for imparting to said sets of sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

7. In a conveyer, the combination of laterally-adjacent conveyer-sections extending from one elevation to another and provided with supporting-surfaces forming steps, and means for moving said sections in like direction in closed paths along the upper portions of which the effective movement of the corresponding sections takes place, the operation of said means being so timed that the movements of alternate sections along their respective paths are opposite in phase.

8. In a conveyer, the combination of two sets of conveyer-sections extending from one elevation to another and provided with a series of supporting-surfaces forming steps, the sections of each set being arranged side by side with those of the other set and alternating therewith, and means for exposing the supporting-surfaces of each set in alternation above the corresponding surfaces of the other set, and for imparting a forward movement to each set while its supporting-surfaces are exposed and a return movement along a depressed path.

9. In a conveyer, the combination of two sets of conveyer-sections extending from one elevation to another and provided with a series of supporting-surfaces forming steps, the sections of each set being arranged side by side with those of the other set and alternating therewith, and means for moving each of said sets from a position of coincidence of the supporting-surfaces along a closed path having a flat upper portion and a depressed return portion, said means being timed to impart to each of said sets in alternation a forward movement at a uniform speed along the flat portion of its path while the other set is performing its return movement.

10. In a conveyer, the combination of two sets of conveyer-sections having supporting-surfaces at their upper edges, the sections of each set being arranged side by side with those of the other set and alternating therewith, means for exposing the supporting-surfaces of each set in alternation above the corresponding surfaces of the other set, and for imparting a forward movement to each set while its supporting-surfaces are exposed and a return movement along a depressed path, and means movable with said sections for a limited distance for transferring a passenger to or from the same.

11. In a conveyer, the combination of laterally-adjacent conveyer-sections having supporting-surfaces at their upper edges, means for moving the same in like direction in closed paths along the upper portions of which the effective movement of the corresponding sections takes place, the movements of alternate sections along their respective paths being opposite in phase, and a relatively fixed grating having its bars located in position to interleave with said conveyer-sections and having their upper surfaces not higher than the path of forward movement of the supporting-surfaces of said sections.

12. In a conveyer, the combination of laterally-adjacent conveyer-sections extending from one elevation to another, supplementary conveyer-sections each extending horizontally from one end of one of the inclined conveyer-sections, and means for imparting to said inclined and horizontal sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

13. In a conveyer, the combination of laterally-adjacent conveyer-sections extending from one elevation to another, supplementary conveyer-sections each extending horizontally from one end of one of the inclined conveyer-sections, means for imparting to said inclined and horizontal sections cyclical movements, the forward portions of which are conjointly effective to propel a passenger in the di-

section of conveyance, and a grating interleaved with the free ends of the horizontal conveyer-sections.

14. In a conveyer, the combination of two sets of interleaved conveyer-sections extending from one elevation to another and provided with supporting-surfaces forming steps, two corresponding sets of supplementary conveyer-sections each extending horizontally from one end of one of the inclined sections, and means for imparting to said sets of inclined and horizontal sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

15. In a conveyer, the combination of two sets of interleaved conveyer-sections extending from one elevation to another and provided with supporting-surfaces forming steps, two corresponding sets of supplementary conveyer-sections each extending horizontally from one end of one of the inclined sections, means for imparting to said sets of inclined and horizontal sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance, and a grating interleaved with the free ends of the horizontal conveyer-sections.

16. In a conveyer, the combination of two sets of conveyer-sections having supporting-surfaces at their upper edges, the sections of each set being arranged side by side with those of the other set and alternating therewith, devices for supporting said sets of sections and permitting longitudinal movements thereof, means for elevating and depressing the supporting devices of each set in alternation, and means for imparting simultaneous longitudinal movements to alternate sections in opposite directions.

17. In a conveyer, the combination of two sets of conveyer-sections extending from one elevation to another and provided with a series of supporting-surfaces forming steps, the sections of each set being arranged side by side with those of the other set and alternating therewith, devices for supporting said sets of sections and permitting longitudinal movements thereof, means for elevating and depressing the supporting devices of each set in alternation, and means for imparting simultaneous longitudinal movements to alternate sections in opposite directions.

18. In a conveyer, the combination of laterally-adjacent conveyer-sections extending from one elevation to another and provided with a series of supporting-surfaces forming steps, means for moving said sections in closed paths along the upper portions of which the effective movement of the corresponding sections takes place, the movements of alternate sections along their respective paths being similar in direction but opposite in phase, supplementary conveyer-sections each extending horizontally from one end of one of the inclined conveyer-sections, in alinement therewith, and means for imparting to said supplementary sections cyclical movements which are similar to and synchronous with the corresponding movements of the respective alined inclined conveyer-sections.

19. In a conveyer, the combination of laterally-adjacent conveyer-sections extending from one elevation to another and provided with a series of supporting-surfaces forming steps, means for moving said sections in closed paths along the upper portions of which the effective movement of the corresponding sections takes place, the movements of alternate sections along their respective paths being similar in direction but opposite in phase, supplementary conveyer-sections each extending horizontally from one end of one of the inclined conveyer-sections, in alinement therewith, means for imparting to said supplementary sections cyclical movements which are similar to and synchronous with the corresponding movements of the respective alined inclined conveyer-sections, and a relatively fixed grating the bars of which are adapted to interleave with said supplementary sections and have their upper surfaces not higher than the path of forward movement of the supporting-surfaces of said sections.

20. In a conveyer, the combination of two sets of conveyer-sections extending from one elevation to another and provided with a series of supporting-surfaces forming steps, the sections of each set being arranged side by side with those of the other set and alternating therewith, supplementary conveyer-sections each extending horizontally from one end of one of the inclined conveyer-sections in alinement therewith, devices for supporting the inclined and horizontal sections and permitting longitudinal movements thereof, means for elevating and depressing the supporting devices of each set of inclined and horizontal sections in alternation, and means for reciprocating each set of inclined and horizontal sections on said supporting devices, the forward movements of each set alternating with those of the other set.

21. In a conveyer, a conveyer-section comprising downwardly-extending supporting-posts, a strip-iron framework carried thereby and providing a supporting-surface, and plates covering the sides of said framework.

22. In a conveyer, a set of conveyer-sections each provided with downwardly-extending supporting-posts, and means for uniting the sections into a unitary element comprising cross-plates, means for clamping the posts between them, and means for spacing said posts.

23. In a conveyer, a set of laterally-spaced conveyer-sections adapted to extend from one elevation to another and provided with a series of supporting-surfaces forming steps, and means for rigidly uniting said sections into a unitary element.

24. In a conveyer, the combination of a set of conveyer-sections and means for uniting the same into a unitary element, comprising downwardly-extending posts secured to each section, a pair of cross-plates corresponding to each series of posts, means for clamping said posts in spaced relation between the cross-plates, and longitudinal beams to which said cross-plates are secured.

25. In a conveyer, the combination of two sets of laterally-adjacent conveyer-sections, the sections of each set alternating with those of the other set, means for uniting the sections of each set into a unitary element, tracks secured to each of said elements, rollers supporting said tracks, means for elevating and depressing said rollers, and means for imparting longitudinal movements to said sections on the corresponding rollers.

26. In a conveyer, the combination of two sets of laterally-adjacent conveyer-sections, the sections of each set alternating with those of the other set, means for uniting the sections of each set into a unitary element, tracks secured to each of said elements, rollers supporting said tracks, a driving-shaft provided with cams, levers arranged to be operated by said cams, connections between a portion of said levers and the respective sets of conveyer-sections for reciprocating the latter, and connections between the remaining levers and the rollers for elevating and depressing said rollers.

27. In a conveyer, the combination of two sets of laterally-adjacent conveyer-sections extending from one elevation to another, the sections of each set alternating with those of the other set, two sets of supplementary conveyer-sections each extending horizontally from one end of one of the inclined sections, in alinement therewith, and having a sliding engagement with the same at their adjacent ends, devices for supporting the inclined and horizontal sections and permitting longitudinal movements thereof, means for elevating and depressing the supporting devices of each set of inclined and horizontal sections in alternation, means for reciprocating each set of inclined conveyer-sections, the forward movements of each set alternating with those of the other set, and means for imparting corresponding reciprocating movements to the horizontal sections, comprising vertically-slotted plates secured respectively to the sets of horizontal sections, and rollers secured to the corresponding sets of inclined sections and arranged to travel respectively in the slots in said plates.

807,565. CONVEYER. PIERRE LORILLARD, Tuxedo Park, N. Y. Filed Apr. 10, 1905. Serial No. 254,789.

Claim.—1. In a conveyer, the combination of laterally-adjacent conveyer-sections extending spirally from one elevation to another, and means for operating the same to impart a continuous forward movement to a passenger supported thereby.

2. In a conveyer, the combination of laterally-adjacent conveyer-sections extending spirally from one elevation to another and provided with supporting-surfaces forming steps, and means for operating said sections to impart a continuous forward movement to a passenger supported thereby.

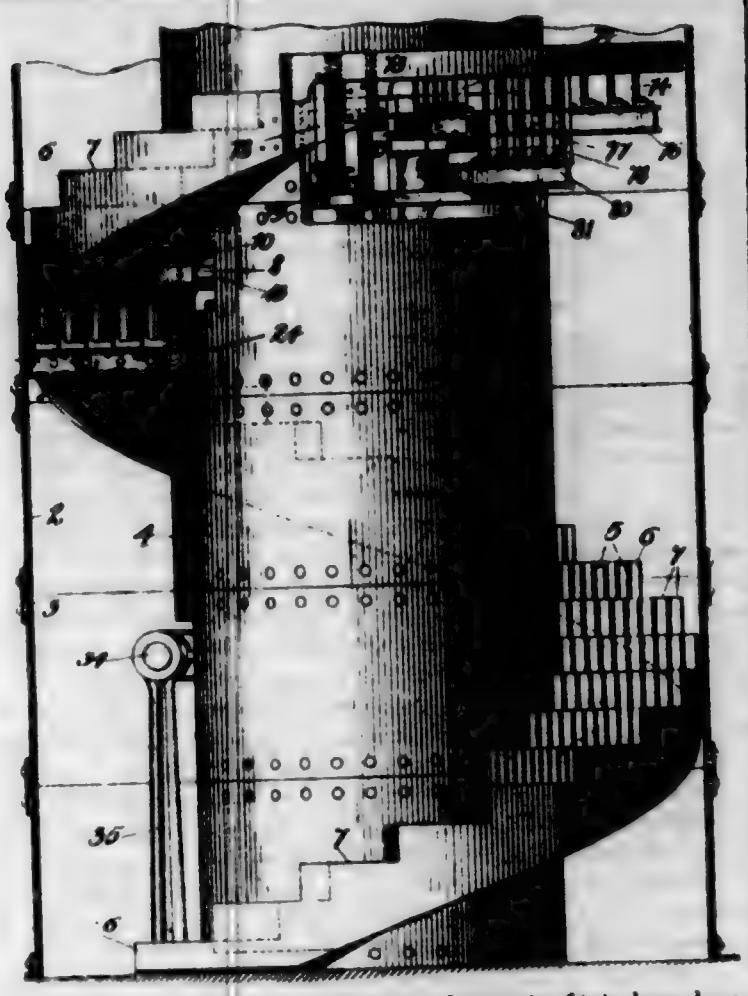
3. In a conveyer, the combination of two sets of interleaved conveyer-sections curved laterally about a common axis, and means for imparting thereto cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

4. In a conveyer, the combination of two sets of interleaved conveyer-sections extending spirally from one elevation to another, and means for imparting thereto cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

5. In a conveyer, the combination of two sets of interleaved conveyer-sections extending spirally from one elevation to another and provided with supporting-surfaces forming steps, and means for imparting to said sets of sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

6. In a conveyer, the combination of two sets of interleaved conveyer-sections curved laterally about a common axis, and means for

exposing the supporting-surfaces of each set in alternation above those of the other set, and for imparting a forward movement to each set while its supporting-surfaces are exposed and a return movement along a depressed path.



7. In a conveyer, the combination of two sets of interleaved conveyer-sections extending spirally from one elevation to another, and means for exposing the supporting-surfaces of each set in alternation above those of the other set, and for imparting a forward movement to each set while its supporting-surfaces are exposed and a return movement along a depressed path.

8. In a conveyer, the combination of two sets of conveyer-sections each having a spiral series of supporting-surfaces forming steps, the sections of each set alternating in lateral arrangement with those of the other set, and means for exposing the supporting-surfaces of each set in alternation above the corresponding surfaces of the other set, and for imparting a forward movement to each series of supporting-surfaces while exposed and a return movement along a depressed path.

9. In a conveyer, the combination of interleaved and laterally-adjacent conveyer-sections extending spirally from one elevation to another, and means for moving the same in closed paths each having a flat upper portion extending in the spiral direction of conveyance, the movements of alternate sections along their respective paths being similar in direction but opposite in phase.

10. In a conveyer, the combination of two sets of conveyer-sections each having a spiral series of supporting-surfaces forming steps, the sections of each set alternating in lateral arrangement with those of the other set, and means for moving each of said sets in a closed path having a flat upper portion extending in the spiral direction of conveyance, said means being timed to impart to each of said sets in alternation a forward movement along the flat portion of its path while the other set is performing its return movement.

11. In a conveyer, the combination of laterally-adjacent conveyer-sections extending spirally from one elevation to another, supplementary conveyer-sections each extending horizontally from one end of one of the spiral conveyer-sections, and means for imparting to said spiral and horizontal sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

12. In a conveyer, the combination of laterally-adjacent conveyer-sections extending spirally from one elevation to another, supplementary conveyer-sections each extending horizontally from one end of one of the spiral conveyer-sections, means for imparting to said spiral and horizontal sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance, and a grating interleaved with the free ends of the horizontal conveyer-sections.

13. In a conveyer, the combination of two sets of interleaved conveyer-sections extending spirally from one elevation to another and provided with supporting-surfaces forming steps, two corresponding sets of supplementary conveyer-sections each extending horizontally from one end of one of the spiral sections, and means for imparting to said sets of spiral and horizontal sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

14. In a conveyer, the combination of two sets of interleaved conveyer-sections extending spirally from one elevation to another and provided with supporting-surfaces forming steps, two corresponding sets of supplementary conveyer-sections each extending horizontally from one end of one of the spiral sections, means for imparting to said sets of spiral and horizontal sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance, and a grating interleaved with the free ends of the horizontal conveyer-sections.

15. In a conveyer, the combination of laterally-adjacent conveyer-sections extending spirally from one elevation to another, supplementary conveyer-sections each extending horizontally from one end of one of the spiral sections and curved laterally on an arc concentric with the axis of the latter, the adjacent ends of each pair of spiral and horizontal sections having a sliding engagement with each other in a vertical direction, and means for imparting to said spiral and horizontal sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

16. In a conveyer, the combination of laterally-adjacent conveyer-sections extending spirally from one elevation to another, supplementary conveyer-sections each extending horizontally from one end of one of the spiral sections and curved laterally on an arc concentric with the axis of the latter, the adjacent ends of each pair of spiral and horizontal sections having a sliding engagement with each other in a vertical direction, means for imparting to said spiral and horizontal sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance, and a grating the bars of which have a lateral curvature concentric with said supplementary sections and interleave therewith, said bars having their upper surfaces not higher than the path of forward movement of the supporting-surfaces of the supplementary sections.

17. In a conveyer, the combination of two sets of conveyer-sections each having a spiral series of supporting-surfaces forming steps, the sections of each set alternating in lateral arrangement with those of the other set, means for exposing the supporting-surfaces of each set in alternation above the corresponding surfaces of the other set, and for imparting a forward movement to each series of supporting-surfaces while exposed and a return movement along a depressed path, two corresponding sets of supplementary conveyer-sections each extending horizontally from one end of one of the spiral sections and curved laterally on an arc concentric with the axis of the latter, and means for imparting to said supplementary conveyer-sections cyclical movements which are similar to and synchronous with the corresponding movements of the alined spiral conveyer-sections.

18. In a conveyer, the combination of two sets of conveyer-sections each having a spiral series of supporting-surfaces forming steps, the sections of each set alternating in lateral arrangement with those of the other set, means for exposing the supporting-surfaces of each set in alternation above the corresponding surfaces of the other set, and for imparting a forward movement to each series of supporting-surfaces while exposed and a return movement along a depressed path, two corresponding sets of supplementary sections each extending horizontally from one end of one of the spiral sections and curved laterally on an arc concentric with the axis of the latter, means for imparting to said supplementary conveyer-sections cyclical movements which are similar to and synchronous with the corresponding movements of the alined spiral conveyer-sections, and a relatively fixed grating the bars of which are laterally curved concentrically with said supplementary sections and interleave therewith, said bars having their upper surfaces not higher than the path of forward movement of the supporting-surfaces of the supplementary sections.

19. In a conveyer, the combination of two sets of interleaved conveyer-sections curved laterally about a common axis, means for raising and lowering said sets of sections independently of each other, and means for independently oscillating said sets about said axis as a center.

20. In a conveyer, the combination of two sets of interleaved conveyer-sections extending spirally from one elevation to another, means for raising and lowering said sets of sections independently

of each other, and means for independently oscillating said sets about the axis of the spiral as a center.

21. In a conveyer, the combination of two sets of interleaved conveyer-sections extending spirally from one elevation to another, means for raising and lowering said sets of sections independently of each other, means for independently oscillating said sets about the axis of the spiral as a center, two corresponding sets of supplementary conveyer-sections, each extending horizontally from one end of one of the spiral sections, means for raising and lowering said sets of horizontal sections independently of each other and of the spiral sections, and means for moving each set of horizontal sections longitudinally in correspondence with the alined spiral sections.

22. In a conveyer, the combination of guided frames mounted to slide vertically and to oscillate laterally, independently of each other, means for raising and lowering said frames and for oscillating the same, and two sets of interleaved conveyer-sections carried by said frames respectively.

23. In a conveyer, the combination of a vertical column, frames mounted to slide vertically and to oscillate laterally thereon, independently of each other, two sets of interleaved conveyer-sections carried by said frames respectively, means for oscillating said frames, and means for raising and lowering the same comprising a driving-shaft, cams carried thereby, arms provided with rollers and resting upon said cams, and tracks carried by said frames and adapted to run on said rollers respectively.

24. In a conveyer, the combination of a vertical column, frames mounted to slide vertically and to oscillate laterally thereon, independently of each other, two sets of interleaved conveyer-sections carried by said frames respectively, means for raising and lowering said frames, and means for oscillating said frames comprising vertically-slotted plates rigidly connected thereto, respectively, pivoted arms having rollers adapted to travel in said slots, and devices for oscillating said arms.

25. In a conveyer, the combination of a vertical column, two sets of frames mounted to slide vertically and to oscillate laterally thereon, two sets of interleaved conveyer-sections carried respectively by one set of frames and extending spirally around said column, two corresponding sets of supplementary conveyer-sections each extending horizontally from one end of one of the inclined sections and curved laterally about the axis of the spiral as a center, said horizontal sections being carried by the other set of frames respectively, connections between each frame which carries the spiral sections and the frame which carries the corresponding horizontal sections, permitting relative vertical movements of the same, means for independently oscillating the frames of one set, and means for raising and lowering the frames of both sets independently of one another.

26. In a conveyer, the combination of a vertical column, two sets of frames mounted to slide vertically and to oscillate laterally thereon, one of the frames of each set having a vertically-sliding connection with one of the frames of the other set and each of said frames being provided with a track, supporting devices for said frames having rollers on which said tracks are respectively adapted to run, means for raising and lowering said supporting devices, means for laterally oscillating the frames comprising one set, two sets of interleaved conveyer-sections independently supported by one set of frames and extending spirally about said column, and two corresponding sets of supplementary conveyer-sections each extending horizontally from one end of one of the spiral sections and having a lateral curvature about the axis of the spiral as a center.

27. In a conveyer, the combination of a vertical column, frames mounted to slide vertically and to oscillate laterally thereon, independently of each other, two sets of interleaved conveyer-sections carried by said frames respectively and curved laterally about a common axis, a main driving-shaft, cams carried thereby, pivoted arms resting upon said cams and supporting said frames respectively, and means for oscillating said frames comprising vertical counter-shafts geared to rotate in unison and provided respectively with cams, driving connections between said counter-shafts and the main driving-shaft, pivoted arms provided with rollers engaging said cams respectively, and laterally-rigid connections between said arms and the respective frames, permitting vertical movements of the latter.

28. In a conveyer, the combination of a vertical shell, two sets of interleaved conveyer-sections extending spirally around the same, in proximity thereto, and means contained within said shell for supporting said sections and imparting thereto cyclical movements, the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

29. In a conveyer, the combination of a vertical shell provided with lateral openings, guided supporting devices contained within the shell and provided with arms extending outward through said openings, two sets of interleaved conveyer-sections extending spirally about said shell, in proximity thereto, and supported upon said outwardly-extending arms, and means contained within the shell for operating said supporting devices to impart to the corresponding sections cyclical movements, the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

30. In a conveyer, the combination of a vertical shell, two sets of interleaved conveyer-sections extending spirally around the same, two sets of supplementary sections each extending circumferentially around a portion of said shell from one end of one of the spiral sections, and means contained within said shell for supporting said sections and imparting thereto cyclical movements, the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

31. In a conveyer, the combination of vertical shells providing an annular space between them and forming lateral walls therefor, two sets of interleaved conveyer-sections extending circumferentially between said shells, and means for imparting to said sets of sections cyclical movements, the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

32. In a conveyer, the combination of vertical shells providing an annular space between them and forming lateral walls therefor, conveyer-sections extending spirally from one elevation to another between said shells, supplementary conveyer-sections each extending circumferentially in a horizontal plane from one end of one of the spiral sections, and means for operating said sections to impart a continuous forward movement to a passenger supported thereby.

33. In a conveyer, the combination of vertical shells providing an annular space between them and forming lateral walls therefor, conveyer-sections extending spirally from one elevation to another between said shells, supplementary conveyer-sections each extending circumferentially in a horizontal plane from one end of one of the spiral sections, means for operating said sections to impart a continuous forward movement to a passenger supported thereby, and a grating located between said shells and having its bars adapted to interleave with the adjacent ends of the horizontal conveyer-sections.

34. In a conveyer, the combination of vertical shells providing an annular space between them and forming lateral walls therefor, the outer shell being provided with openings to permit the entrance and exit of passengers, conveyer-sections extending spirally from one elevation to another between said shells, means contained within the inner shell for operating said sections to impart a continuous forward movement to a passenger supported thereby, a conveying-landing extending horizontally from one end of the spiral conveyer, means for operating said landing, and a grating coöperating with said landing to transfer passengers to or from the same.

35. In a conveyer, the combination of vertical shells providing an annular space between them and forming lateral walls therefor, the outer shell having openings to permit the entrance and exit of passengers, two sets of interleaved conveyer-sections extending spirally from one elevation to another between said shells, two sets of supplementary conveyer-sections each extending circumferentially in a horizontal plane from one end of one of the spiral sections, and means contained within the inner shell for imparting to said sets of sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance.

36. In a conveyer, the combination of vertical shells providing an annular space between them and forming lateral walls therefor, the outer shell having openings to permit the entrance and exit of passengers, two sets of interleaved conveyer-sections extending spirally from one elevation to another between said shells, two sets of supplementary conveyer-sections each extending circumferentially in a horizontal plane from one end of one of the spiral sections, means contained within the inner shell for imparting to said sets of sections cyclical movements the forward portions of which are conjointly effective to propel a passenger in the direction of conveyance, and a grating located between said shells and having its bars adapted to interleave with the adjacent ends of the horizontal conveyer-sections.

37. In a conveyer, the combination of vertical shells providing an annular space between them, the outer shell having openings to permit the entrance and exit of passengers, two sets of interleaved conveyer-sections extending spirally from one elevation to another between said shells and forming a conveyer having substantially the same width as said annular space, two corresponding sets of supplementary conveyer-sections each extending horizontally from one end of one of the spiral sections, said supplementary sections forming a conveying-landing extending circumferentially between said shells, means contained within the inner shell for operating said sets of sections to impart a continuous forward movement to a passenger supported thereby, a stationary platform also extending circumfer-

entially between said shells and leading from said conveying-landing to one of the openings in the outer shell, said platform being provided with bars forming a grating and adapted to interleave with the adjacent ends of the horizontal conveyer-sections, and vertical partitions extending radially between the outer and the inner shells at one side of the adjacent openings.

38. In a conveyer, a set of laterally-spaced conveyer-sections curved laterally about a common axis and rigidly connected to form a unitary element.

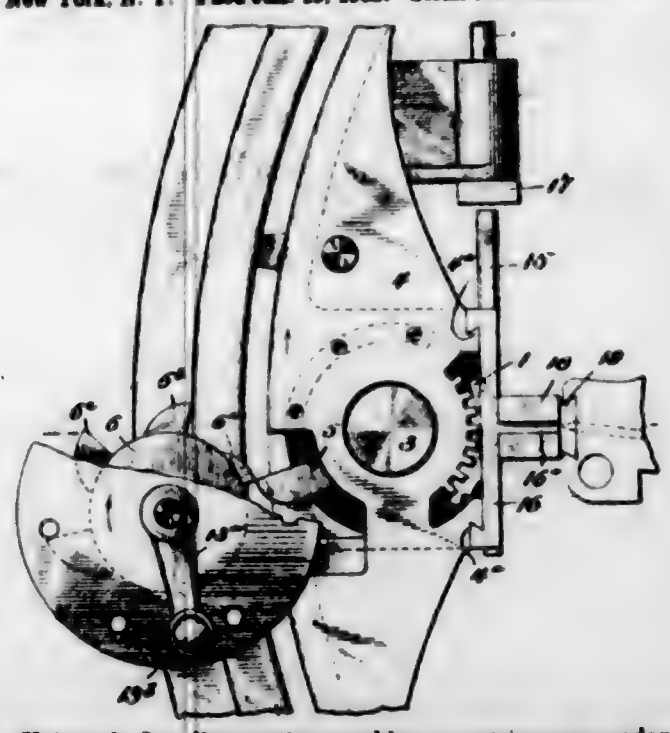
39. In a conveyer, a set of laterally-spaced conveyer-sections extending spirally from one elevation to another and rigidly connected to form a unitary element.

40. In a conveyer, a set of laterally-spaced spiral conveyer-sections providing collectively a series of supporting-surfaces forming steps, said sections being rigidly connected to form a unitary element.

41. In a conveyer, a set of laterally-spaced conveyer-sections curved laterally about a common axis, said sections being provided beneath their supporting-surfaces with recesses and rigidly secured to downwardly-extending supporting-posts located therein, and beams extending transversely beneath said sections and carrying said posts, thereby uniting said sections to form a unitary element.

42. In a conveyer, a set of laterally-spaced spiral conveyer-sections providing collectively a series of supporting-surfaces forming steps, each of said sections being laterally recessed beneath its upper edge and rigidly secured to downwardly-extending posts located in said recesses, and transversely-extending beams located beneath said sections and rigidly secured to said posts, thereby uniting said sections to form a unitary element.

807,566. **LINE-CASTING MACHINE.** PETER C. LOCKE D'AIX, New York, N. Y. Filed Jan. 19, 1905. Serial No. 241,778.



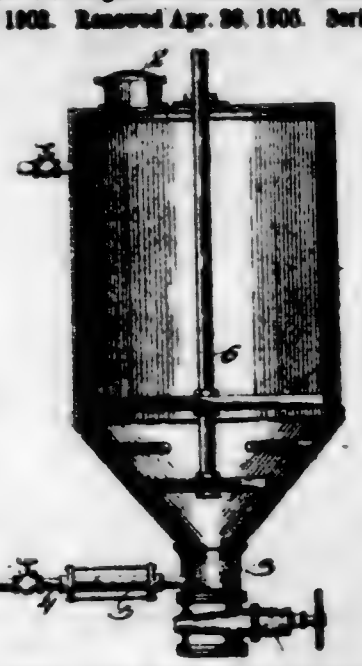
Claim.—1. In a line-casting machine, a matrix-carrier adapted to receive a line of matrices provided each with a plurality of type-faces, and movable to bring the desired line of type-faces into casting position, in combination with an independent space-band carrier, which receives and holds the space-bands which enter and form part of the composed line, whereby the matrices in the composed line may be shifted to bring any desired line of type-faces into casting position, without deranging the space-bands and while the latter remain at rest, substantially as hereinbefore set forth.

2. In a line-casting machine a matrix-carrying cylinder adapted to receive a line of matrices having a plurality of type-faces and rotatable to bring any desired line of type-faces into casting position, in combination with a separate and independent space-band-carrying frame arranged to support the space-bands in position substantially tangential to the matrix-carrying cylinder, substantially as and for the purposes hereinbefore set forth.

3. In a line-casting machine a rotatable matrix-carrying cylinder adapted to receive a line of matrices having a plurality of type-faces, a revoluble frame in which said cylinder is mounted and by which it is conveyed successively to the assembling, casting and distributing points and means whereby the cylinder, during its travel between the assembling and casting points is automatically rotated to bring the selected line of type-faces into position for casting, and then locked in its adjusted position, substantially as and for the purposes hereinbefore set forth.

4. In a line-casting machine, a rotatable matrix-carrying cylinder adapted to receive a line of matrices having a plurality of type-faces, a revoluble frame in which said cylinder is mounted and by which it is conveyed to the assembling, casting and distributing points successively, and means whereby the matrix-cylinder, while the revoluble frame remains at the casting-point, may be shifted at will to bring another line of type-faces in position for casting, and be locked in this new position, substantially as hereinbefore set forth.

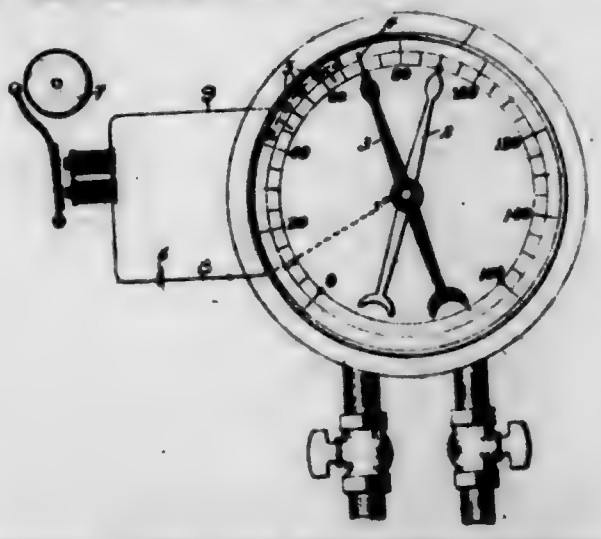
807,567. **PROCESS OF EXTRACTING OIL, GREASE, AND THE LIKE FROM OIL-BEARING MATERIAL.** FREDERICK J. MAYWALD, New York, N. Y., assignor to Edward H. Fallows, New York, N. Y. Filed Oct. 6, 1902. Renewed Apr. 26, 1905. Serial No. 257,426.



Claim.—1. The herein-described process of separating and extracting oil, grease, and the like from water or similar liquid and from material floating in, or in suspension in, water or similar liquid, which consists in adding carbon tetrachlorid to the mass and permitting the same to descend therethrough and separate therefrom by difference in specific gravity.

2. The herein-described process of separating and extracting oil, grease, and the like from water or similar liquid and from material floating in, or in suspension in, water or similar liquid, which consists in adding carbon tetrachlorid to the mass and permitting the same to descend therethrough and separate therefrom by difference in specific gravity, drawing off the carbon tetrachlorid, and then separating the same from the oil, grease and the like in solution therein by distillation.

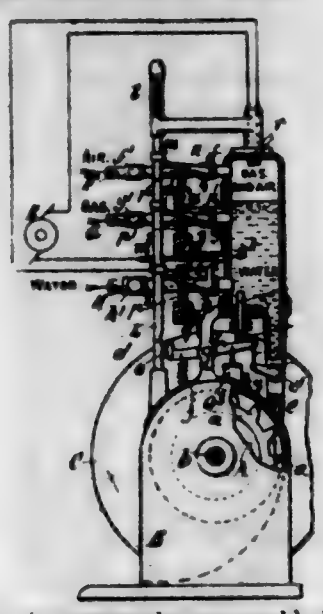
807,568. **PRESSURE-GAGE.** WILLIAM H. MITCHELL, Chicago, Ill. Filed Dec. 3, 1904. Serial No. 235,205.



Claim.—1. A device of the kind described, comprising a pressure-gage provided with a movable indicator, one or more fixed pins positioned in the path of a part of said indicator, means for preventing electrical contact between said pins and said indicator when the indicator is moving in one direction, in combination with an electric circuit one pole of which is connected to said pins and the opposite pole to said indicator, and a signal adapted to operate when said circuit is completed.

2. A device of the kind described, comprising a pressure-gage provided with a movable indicator, one or more fixed pins positioned in the path of a part of said indicator, and insulating material partly inclosing one or more of said pins at their point of contact with said indicator, in combination with an electric circuit one pole of which is connected to said pins and the opposite pole to said indicator, and a signal adapted to operate when said circuit is completed.

807,569. EXPLOSION-MOTOR. BARTON S. MOLYNEUX, Buffalo, N. Y. Filed Mar. 5, 1904. Serial No. 196,857.



Claim.—1. A motor comprising a movable impulse member, a pressure-chamber having an outlet whereby the contents of the chamber are directed against said impulse member, a valve controlling said outlet, and a piston arranged to be acted upon by the pressure in the chamber and operatively connected with said valve, substantially as set forth.

2. A motor comprising a movable impulse member, a pressure-chamber having an outlet whereby the contents of the chamber are directed against said impulse member, a valve controlling said outlet, a piston exposed to the pressure in said chamber and operatively connected with said valve for opening the same, and a spring for closing said valve, substantially as set forth.

3. A motor comprising a movable impulse member, a pressure-chamber having an outlet whereby the contents of the chamber are directed against said impulse member, a valve controlling said outlet, a piston exposed to the pressure in said chamber and operatively connected with said valve for opening the same, a spring for closing said valve, and a retarding device for checking the closing movement of the valve, substantially as set forth.

4. A motor comprising a movable impulse member, a pressure-chamber having an outlet whereby the contents of the chamber are directed against said impulse member, a valve for controlling said outlet having a rotary plug and a rock-arm on its plug, a rock-lever connected with said arm, a piston operatively engaging its outer end with said lever and exposed at its inner end to the pressure in said chamber for opening the valve, a spring for closing said valve, and a dash-pot for retarding the closing movement of said valve, substantially as set forth.

5. A motor comprising an impulse member, a pressure-chamber having an outlet whereby the contents of the chamber are directed against said member, a supply-pipe connected with the chamber, a valve controlling said pipe, a piston acted on by the pressure in the chamber, and a trip device actuated by the piston and operating said valve, substantially as set forth.

6. A motor comprising an impulse member, a pressure-chamber having an outlet whereby the contents of the chamber is directed against said impulse member, a valve controlling said outlet, pipes for supplying an impact liquid and an explosive fuel to said chamber, valves controlling said supply-pipes, and a piston acted on by the pressure in the chamber and operatively connected with the valves in said outlet and said supply-pipes, substantially as set forth.

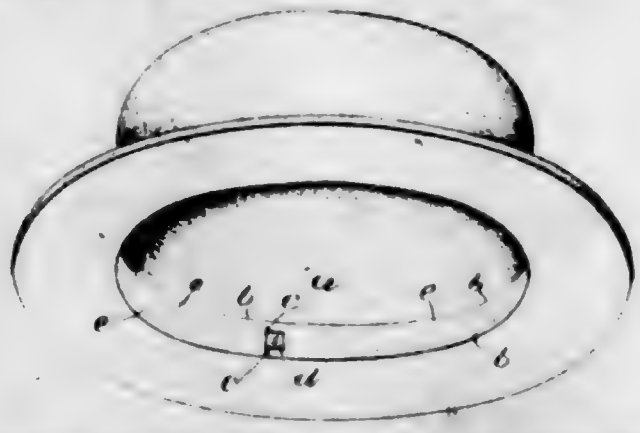
7. A motor comprising an impulse member, a pressure-chamber having an outlet whereby the contents of the chamber is directed against said impulse member, a valve controlling said outlet, pipes for supplying an impact liquid and an explosive fuel to said chamber, valves controlling said supply-pipes, a shifting-bar having tappets operating to open the valves in said supply-pipes, a rock-lever having one arm connected with said outlet-valve and its other arm provided with a pawl operating to couple said lever and bar, and a piston acted on by the pressure in the chamber and operatively engaging said lever, substantially as set forth.

8. A motor comprising an impulse member, a pressure-chamber having its lower part provided with an outlet-nozzle whereby the contents of the chamber is directed against the impulse member, a valve for controlling said outlet having a rotary plug provided with an arm, a water-supply pipe opening into the lower part of the chamber, gas and air supply pipes opening into the upper part of said chamber, valves controlling said supply-pipes and having rotary plugs provided with arms, a reciprocating shifting-bar provided with tappets arranged to turn the arms of said supply-valves and open the same during the forward movement of the bar, a rock-lever having one arm connected with the arm of said outlet-valve while its opposite arm is provided with a pawl arranged to engage a shoulder on the shifting-bar for moving the same forwardly, springs for closing said valves, dash-pots for retarding the closing movement of the valves, and a piston acted on by the pressure in the chamber and operatively engaging said rock-lever, substantially as set forth.

9. A motor comprising an impulse member, a pressure-chamber having its outlet arranged to direct the contents of said chamber against said member, means for supplying an impact liquid to said chamber containing a valve, means for supplying an explosive medium to said chamber, an electric igniter arranged in the firing-space of the chamber and a switch for said igniter which is arranged to be closed by the valve of the impact-liquid supply during the closing movement of the same, substantially as set forth.

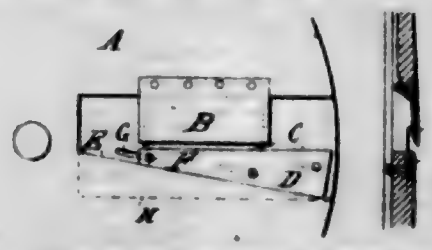
10. A motor comprising an impulse member, a pressure-chamber having its outlet arranged to direct the contents of said chamber against said member, means for supplying an impact liquid to said chamber containing a valve, means for supplying an explosive medium to said chamber, a pair of jump-spark terminals arranged in the firing-space of the chamber, an electric generator, and a switch included in the circuit of said terminals and the generator and composed of a stationary contact and a movable contact mounted on the movable member of the valve controlling the supply of impact liquid, substantially as set forth.

807,570. TICKET-HOLDER FOR HATS. HARRY B. MORRIS, New York, N. Y. Filed Dec. 9, 1904. Serial No. 236,106.



Claim.—A hat having a sweat-band, the sweat-band having a vertical slit, an annular U-shaped ticket-holder, having a clip, the ticket-holder being placed between the body of the hat and the sweat-band, and the clip engaging one edge of the vertical slit, substantially as shown and described.

807,571. MACHINE FOR CUTTING CHIPS. EINAR MORTRUD, Christiania, Norway. Filed July 14, 1905. Serial No. 269,734.



Claim.—1. In a cutting-machine for making chips for cellulose-digesters the combination with a cutting-disk having one or more apertures, a cutter placed with its edge in front of said aperture and means to regulate the distance between the cutting edge and the adjacent edge of the aperture, said disk having a sloping surface between each cutter and the next aperture.

2. In a cutting-machine for making chips for cellulose-digesters a cutting-disk, apertures in the disk, a sunk portion adjacent to

the aperture and a cutter and a regulating or filling piece placed in the sunk portion.

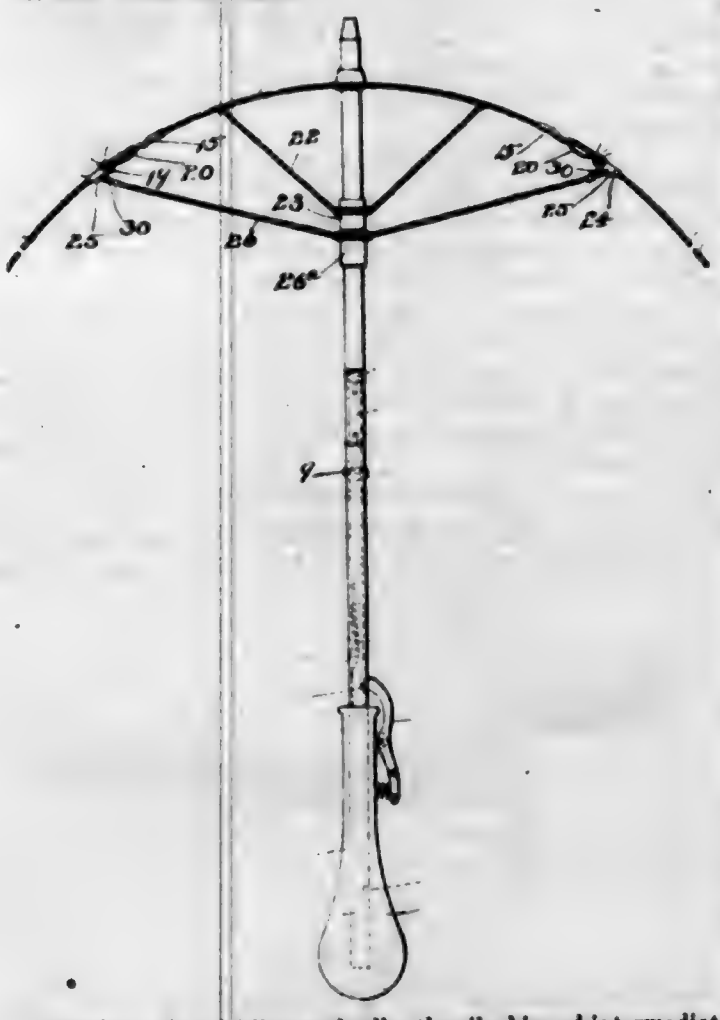
3. In a cutting-machine, the combination of a carrying element having a plurality of apertures therein, and a cutter mounted on said carrying element protruding into each aperture, the top faces of the cutter and carrying element forming a sloping surface between two apertures.

4. In a cutting-machine of the kind specified, the combination of an apertured cutter-disk, having a recess adjacent to each aperture, a cutter mounted in each recess, and means coöperating with the cutter to regulate the size of the aperture.

5. In a cutting-machine of the kind specified, the combination of an apertured cutter-disk, having a recess formed therein adjacent to each aperture, a cutter and a regulating device mounted in each recess.

6. In a cutting-machine of the kind specified, the combination of an apertured cutter-disk, having a recess formed therein adjacent to each aperture, a stationary cutter mounted in each recess and a regulating member in each recess movable parallel to the edge of the cutter.

807,572. FOLDING UMBRELLA. JAMES A. MUSSIO, Clyde, Ohio, assignor of one-half to Angelo Mastiello, Cleveland, Ohio. Filed May 25, 1905. Serial No. 262,197.



Claim.—1. In a folding umbrella, the ribs hinged intermediate of their ends, a casing on each part secured to the stock having a slot therein, a sleeve slidably mounted on the other part of each rib, spreader-bars pivotally secured to said sleeves, and a tongue on each sleeve adapted to enter the slotted casing on the other parts, substantially as shown and described.

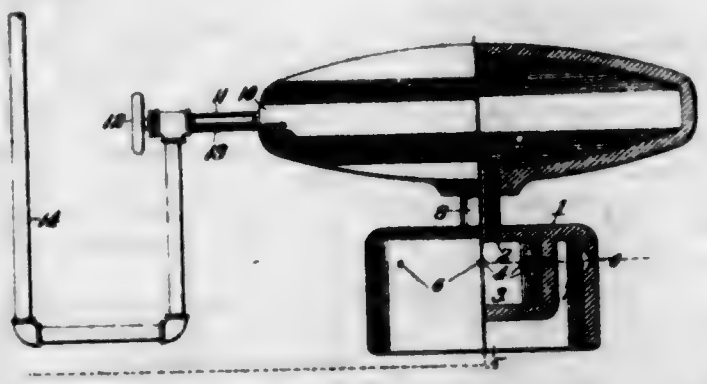
2. In a folding umbrella, the ribs hinged intermediate of their ends, a casing on each part secured to the stock having a slot therein, shoulders on the hinged portions of the outer ends of the ribs, a spring on each casing adapted to engage one of said shoulders, a spreader-bar secured to the outer end of each rib, and a hook on each spreader-bar to engage the other shoulder, substantially as shown and described.

3. In a folding umbrella, the ribs hinged intermediate of their ends, a casing on each part secured to the stock and having a slot therein, a sleeve slidably mounted on the outer part of each rib, a tongue integral with said sleeve having a head to enter said casing and shoulders to ride on its surface, and a spreader-bar pivotally secured to each sleeve, substantially as shown and described.

4. In a folding umbrella, the ribs hinged intermediate of their ends, a casing on the end of each part secured to the stock and having a slot therein, a spring secured to each casing, the outer ends of the ribs formed with two shoulders adjacent to the hinged portions, one of said shoulders being adapted to be engaged by the said spring on the casing, a sleeve slidably mounted on the outer portion of each rib, a tongue integral with said sleeve, having a head adapted to enter said slotted casing and shoulders to ride on its surface, a spreader-bar pivotally secured to each sleeve, and a hook secured to each spreader-bar to engage the other shoulder on the pivoted portion of the outer end of the rib, substantially as shown and described.

5. A folding umbrella comprising a tubular stock formed in two pieces, a rod secured in one end of the stock and slidably mounted on the other end thereof, a spring-catch on said rod to secure the two parts of the stock in alinement, a hinge-joint on said rod, the handle slidably mounted on the end of the stock, the ribs pivotally secured to the stock, each rib being formed of two parts, the part pivotally secured having a spreader-bar secured thereto and secured to a sleeve slidably mounted on the stock, a slotted casing on the end of said part, the other portion of the rib pivotally secured to said casing, two shoulders on said outer part adjacent to its pivoted end, a spring secured to the casing and adapted to engage one of said shoulders, a sleeve slidably mounted on the outer portion of each rib, a tongue integral with said sleeve having a head adapted to enter said slotted casing and shoulders to ride on its surface, a spreader-bar pivotally secured to each sleeve and to a sleeve slidably mounted on the stock, and a hook on each bar to engage the second shoulder on outer portion of the rib, substantially as shown and described.

807,573. HYDROCARBON-BURNER. WILLIAM E. MCCONNELL, Kansas City, Kans., assignor, by mesne assignments, of one-half to Fred J. Close, Kansas City, Kans. Filed Mar. 23, 1905. Serial No. 251,558.



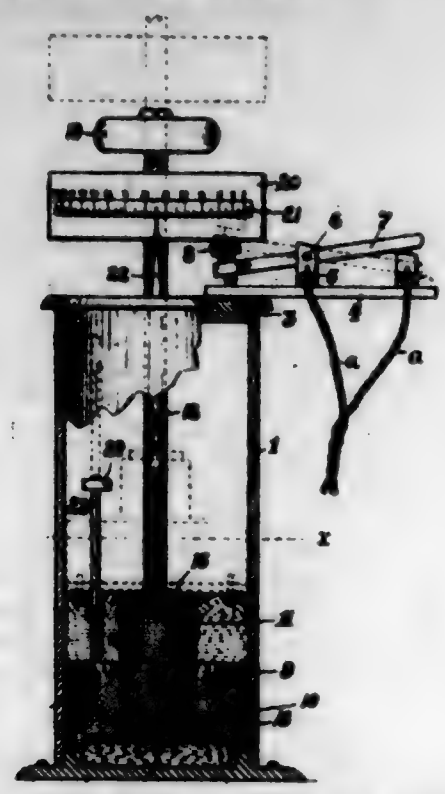
Claim.—1. A hydrocarbon-burner, comprising a burner having a box or chamber provided with orifices, and a flange surrounding said box or chamber and provided with jet-orifices in radial alinement with the box or chamber orifices, and disposed some distance outward from said box or chamber to provide a mixing chamber or space between them, in combination with a mixing-tank for vapor and steam, disposed above the burner and communicating with the box or chamber thereof.

2. A hydrocarbon-burner, comprising a burner having a box or chamber provided with orifices, and a flange surrounding said box or chamber and provided with jet-orifices in radial alinement with the box or chamber orifices, and disposed some distance outward from said box or chamber to provide a mixing chamber or space between them, in combination with a tube communicating with the box or chamber, a mixing-tank communicating with the tube vertically above the burner, and means for supplying oil and water to said mixing-tank.

3. A hydrocarbon-burner, comprising a burner having a box or chamber provided with orifices, and a flange surrounding said box or chamber and depending below the same and provided with jet-orifices in radial alinement with the box or chamber orifices; said flange being disposed outward of the box or chamber to provide between them a mixing-chamber for air and the vapor and steam discharged from said box or chamber and means for supplying mixed steam and oil-vapor to said box.

4. A hydrocarbon-burner consisting of a mixing-chamber, means for supplying oil and water to said chamber, an outlet-tube depending centrally from the mixing-chamber, and a cylindrical cap secured centrally on the lower end of the outlet-tube and having an annular depending flange provided with radial jet-orifices and a central box or chamber surrounding the end of the outlet-tube arranged concentric with the depending flange and provided with jet-orifices in alinement with the orifices in the flange, the annular space between the box and the flange constituting an air-and-vapor-mixing chamber.

807,574. TIMING DEVICE. HARVEY H. MCINTIRE, South Bend, Ind. Filed Aug. 3, 1905. Serial No. 272,854.



Claim.—1. In a device of the class described, the combination with a casing having a fluid therein, a plunger reciprocal within the casing, and means for varying the retarding action of the fluid on the plunger, of an indicator, and a scale operated through said last-named means for predetermining the period of the descent of the plunger.

2. In a device of the class described, the combination with a casing having a fluid therein, a plunger reciprocal within the casing, and means for varying the retarding action of the fluid on the plunger, of an indicator, and a weight having a scale operated with said last-named means for predetermining the period of the descent of the plunger.

3. In a device of the class described, the combination with a casing having a fluid therein, a plunger reciprocal within the casing, and means for varying the retarding action of the fluid on the plunger, of an indicator for predetermining the period of the descent of the plunger, means accessible from the exterior of the casing for setting the means for varying the retarding action of the fluid on the plunger, and an electric switch having an extension disposed within the path of said setting mechanism and operated thereby.

4. In a device of the class described, a casing having a fluid therein, a plunger reciprocal within the casing, a valve engaged with the plunger and having a rotary movement relative thereto, means formed in the valve to graduate the flow of the fluid from one side to the other of the plunger, and means within the casing to lock the plunger against rotation.

5. In a device of the class described, a casing having a fluid therein, a plunger adapted to reciprocate within the casing and having a central hollow boss provided with an opening, a rotary valve engaged within the hollow boss and having an opening provided with divergent border-lines, whereby the flow of fluid through the openings may be graduated, and means to lock the plunger against rotation.

6. In a device of the class described, a casing having a fluid therein, a plunger adapted to reciprocate in the casing and provided with openings, a rotary valve engaged with the plunger having an opening therein which registers with the opening in the plunger and formed with divergent border-lines to graduate the flow of the fluid to the upper side of the plunger, a guide-rod carried by the plunger, a guide on the casing engaged by the rod, and a weight on the valve to operate the plunger.

7. In a device of the class described, a casing having a fluid therein, a plunger adapted to reciprocate within the casing and having a plurality of apertures therein, a washer carried by the plunger and movable independently thereof to close the apertures upon the downward movement of the plunger, a rotary valve engaged by the plunger and constructed to graduate the flow of fluid therethrough, and means carried by the plunger to hold it against rotation.

8. In a device of the class described, the combination with a casing having a fluid therein, a plunger adapted to reciprocate within the casing, of a graduated rotary valve engaged with the plunger, a valve-stem extending through the casing and having a scale thereon which coöperates with the rotary valve to regulate the time required for the flow of fluid therethrough, and an electric switch having an arm arranged in the path of the scale and operated thereby.

9. In a timing device, the combination of a casing having a fluid therein, a plunger in the casing, said plunger having a hollow boss provided with an opening, a rotary valve engaged within the boss and formed with an opening which coöperates with the opening in the boss to graduate the flow of fluid therethrough, a valve-stem extending through the top of the casing, a weight on the valve stem, a scale on the weight arranged to indicate the units of time required for the descent of the plunger, a switch-blade having an arm disposed in the path of the weight and operated thereby and means to adjust the trip of the switch-blade.

10. In a device of the class described, the combination with a casing having a fluid therein, and a plunger reciprocal within the casing, of an adjustable valve engaging the plunger, and a valve-stem projecting outside the casing to operate the valve and elevate the plunger.

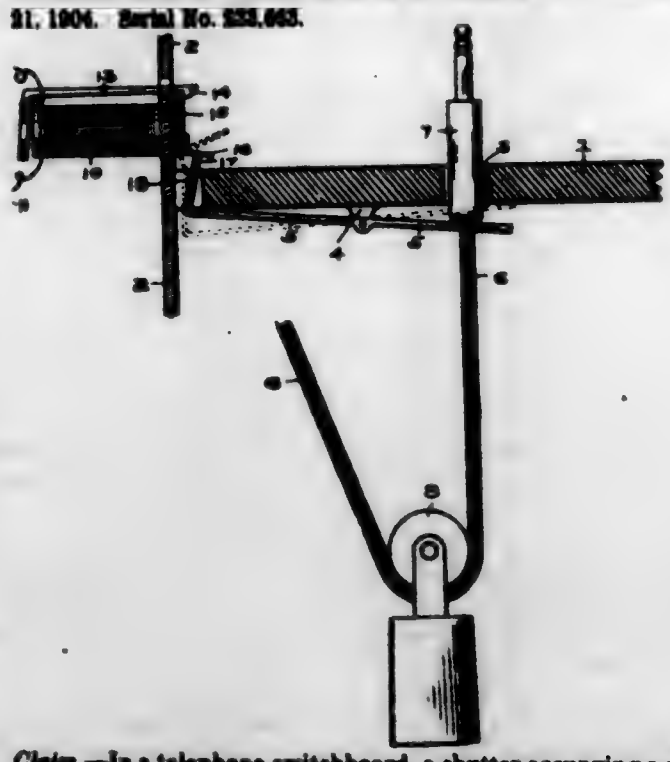
11. In a device of the class described, the combination with a casing having a fluid therein, and a plunger reciprocal within the casing, of a rotary adjustable valve engaging the plunger, and provided with a valve-stem projecting outside the casing to operate the valve.

12. In a device of the class described, the combination with a casing having a fluid therein, and a plunger reciprocal within the casing, of an adjustable valve engaging the plunger, a valve-stem extending outside the casing, a scale carried by the valve-stem, and a pointer on the casing.

13. In a device of the class described, the combination with a casing having a fluid therein, a plunger reciprocal within the casing, and an adjustable valve engaging the plunger, of means carried by the valve and accessible from the exterior of the casing to adjust the valve and predetermine the adjustment thereof.

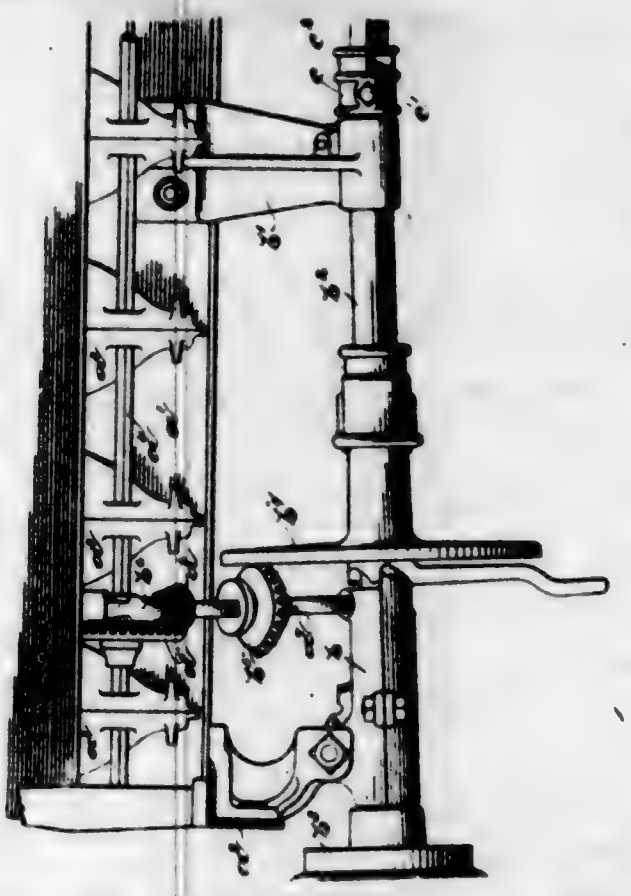
14. In a device of the class described, a casing having a fluid therein, a plunger reciprocal within the casing and having a boss provided with an opening, a rotary valve engaging the boss and having an opening provided with divergent border-lines to graduate the flow of the liquid through the opening in the boss, and a guide for said plunger.

807,575. MEANS FOR RESTORING RING-OFF DROPS FOR SWITCHBOARDS. EWING MCLEAN, Greencastle, Ind. Filed Nov. 21, 1904. Serial No. 233,663.



Claim.—In a telephone-switchboard, a shutter occupying a normal vertical position, said shutter being hinged at its lower end and adapted to swing down on its hinge as a signal to the operator, said shutter having an outwardly-projected extension at its hinge end, a magnet having windings connected with the telephone line-wires, an armature pivotally supported upon said magnet, an arm carried by said armature having a terminal hook to secure the shutter in its normal vertical position, a connecting-plug, a cord attached to an end of said plug, a weighted pulley supported on said cord, a pivoted lever having one arm contacting with the shutter extension, and having the other arm forming a support for said plug when the latter is in its socket.

807,576. **AXLE FOR GRAIN-DRILLS.** FRANK R. PACKMAN and GEORGE P. OATES, Springfield, Ohio, assignors to American Seeding Machine Company, Jersey City, N. J., a Corporation of New Jersey. Filed Nov. 6, 1905. Serial No. 285,958.



Claim.—1. In a grain-drill, the combination, with a supporting-frame, seedbox and carrying-wheels, of independent revoluble axles for said carrying-wheels inclined forwardly and downwardly, an intermediate shaft between said revoluble axles, and universal connections between said intermediate shaft and each of said revoluble axles, substantially as specified.

2. In a grain-drill, the combination, with a supporting-frame, seedbox and carrying-wheels, of seed-feeding devices, a common shaft for said seed-feeding devices, independent axles for said carrying-wheels inclined forwardly and downwardly, a gear-disk carried on one of said inclined axles, a counter-shaft arranged at right angles to said inclined shaft, a pinion on said counter-shaft engaging said gear-disk, and driving connections between said counter-shaft and the common shaft of said seed-feeding devices, substantially as specified.

3. In a grain-drill, the combination, with a supporting-frame, seedbox, seed-feeding devices and carrying-wheels, of an arched revoluble axle comprising an intermediate horizontal portion, and portions inclined downwardly and forwardly, and universal couplings between said intermediate portions and end portions, substantially as specified.

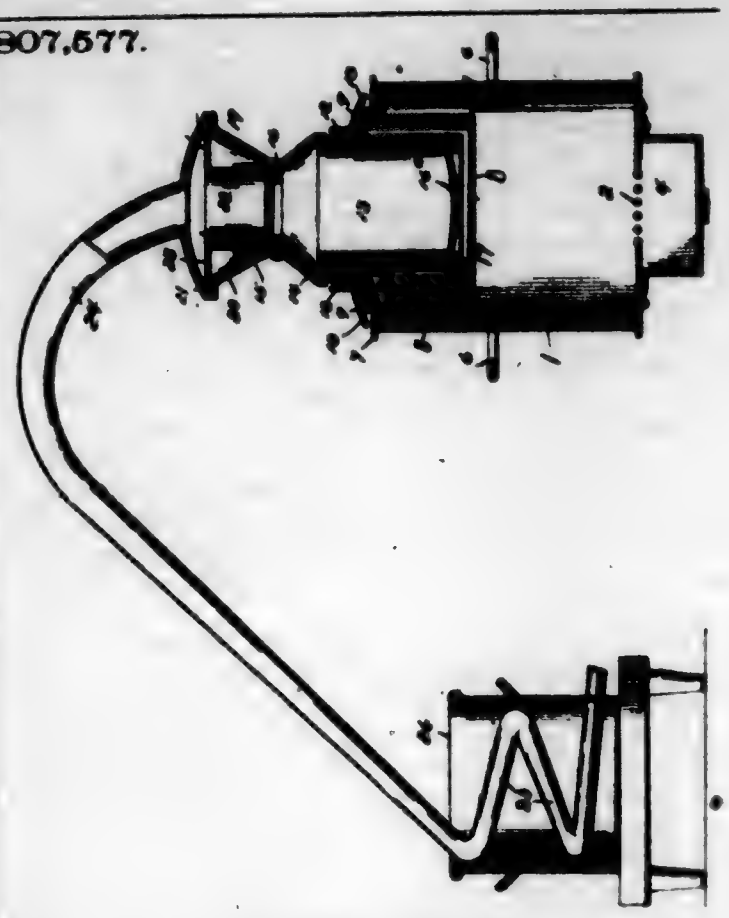
807,577. **DISTILLING APPARATUS.** JOHAN PERMAT, Cleveland, Ohio. Filed May 3, 1905. Serial No. 258,602.

Claim.—1. In a distilling apparatus, the combination with a furnace and a condensing-tank, of a water-tank disposed in the furnace, a kettle of less diameter than the water-tank disposed therein and formed with oppositely-placed handles adapted to rest on the edge of the said tank, said kettle being provided with a vertical neck-piece, a hood having an inverted conical body, a diaphragm secured under the hood and provided with an aperture, and a downwardly-extending pipe opening through the diaphragm and adapted to telescope with the neck-piece of the kettle, and a still-pipe leading from the hood into the condenser.

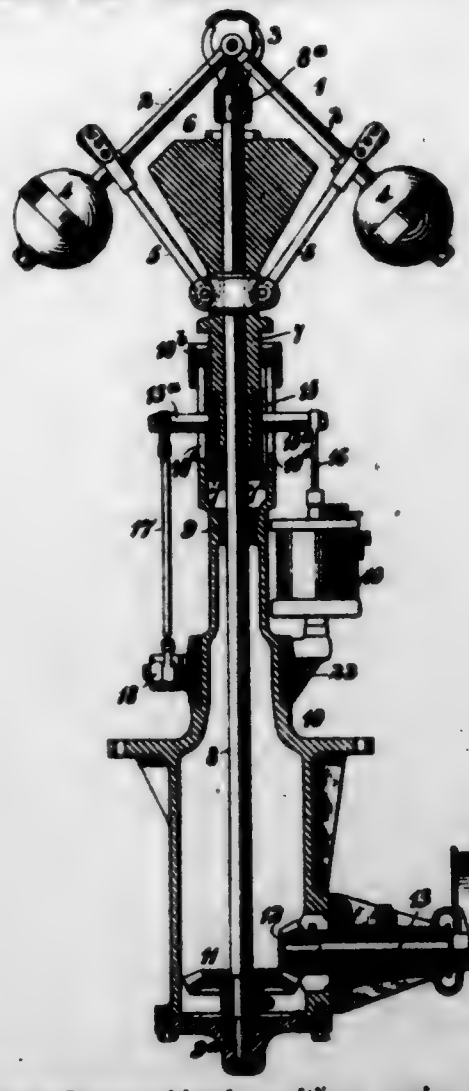
2. In a distilling apparatus, an evaporating-kettle having a vertical neck-piece, and an annular head at its base, a hood having an inverted conical body adapted to engage over said neck-piece and rest on said head with its lower edge, a diaphragm secured across the interior of the hood and provided with a vapor-aperture, and a pipe opening through the diaphragm and into the kettle and fitting within the neck-piece of the kettle.

3. A hood for an evaporating-kettle comprising an inverted conical body and an arched roof, a diaphragm secured across the interior of the hood and provided with a vapor-aperture, and a vertical depending pipe secured to the diaphragm and opening therethrough.

807,577.



807,578. **SPEED-ADJUSTING DEVICE FOR FLUID-PRESSURE ENGINES.** CYRUS ROBINSON, Edgewood Park, Pa., assignor to Westinghouse Machine Company, a Corporation of Pennsylvania. Filed June 28, 1900. Serial No. 22,094.



Claim.—1. The combination with an engine-governor and valve-motion lever connected thereto, of a motor, starting, stopping and reversing means therefor and gearing between said motor and the valve-motion lever whereby the position of the latter may be adjusted in accordance with the engine speed desired and regulation curves substantially alike in character maintained at the different speeds.

2. The combination with an engine-governor and a valve-motion lever connected thereto, of a motor, starting, stopping and reversing means therefor, gearing operated by said motor and a flexi-

ble connection between said gearing and said valve-motion lever whereby the latter may be adjusted in accordance with the engine speed desired and regulation curves of substantially the same characteristics maintained.

3. The combination with an engine-governor and a valve-motion lever connected thereto, of a motor, starting, stopping and reversing means therefor, gearing operated by said motor, a spring having one end connected to the valve-motion lever and an adjusting connection between the other end of the spring and the gearing whereby the position of the valve-motion lever may be adjusted in accordance with the engine speed desired and regulation curves maintained of substantially the same characteristics.

4. The combination with an engine-governor and a valve-motion lever connected thereto, of a motor, starting, stopping and reversing means therefor, gearing operated by said motor, a screw operated by said gearing and a spring interposed between one end of the screw and the valve-motion lever whereby the position of the latter may be adjusted in accordance with the engine speed desired and regulation curves maintained of substantially the same characteristics.

5. The combination with an engine-governor and a valve-motion lever connected thereto, of an electric motor, a starting, stopping and reversing switch therefor, worm-gearing operated by said motor, a spring having one end connected to the valve-motion lever and having its other end connected to a device actuated by said worm-gearing whereby the valve-motion lever may be adjusted in accordance with the engine speed desired and regulation curves of substantially the same characteristics maintained.

6. The combination with an engine-governor and a pivoted valve-motion lever having one end connected thereto, of an electric motor, a starting, stopping and reversing switch therefor, gearing operated by said motor and a yielding or flexible connection between the gearing and the valve-motion lever, the effective length of which is varied by said gearing, whereby the position of the valve-motion lever is adjusted in accordance with the engine speed desired and regulation curves of substantially the same characteristics maintained.

7. The combination with an engine-governor and a valve-motion lever having one end connected thereto, of a motor, starting, stopping and reversing means therefor and adjusting mechanism interposed between the motor and the valve-motion lever, said mechanism being connected to the lever at such a point as to maintain regulation curves at different speeds of substantially the same characteristics.

8. In a governor mechanism for engines, a wheel threaded upon a screw-rod, means for holding one of said parts against longitudinal movement whereby the rotation of the wheel will cause the other of said parts to move longitudinally in one or the other direction, means whereby the to-and-fro motion of the moving part is caused to vary the resistance of the governor mechanism, means for rotating said wheel comprising an electric motor and gearing between the shaft of said motor and said wheel.

9. The combination with an engine and its valve-gear-operating lever, of a governor device operatively connected to said lever, and instrumentalities, including an electric motor, whereby said governor device may be subjected to different loads for modifying its operation to vary the normal speed of the engine.

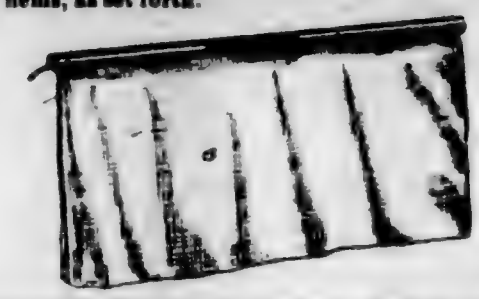
10. The combination with an engine and its valve-gear-operating lever, of a governor device operatively connected to said lever, and instrumentalities, including an electrically-operated agent, whereby said governor device may be subjected to different loads for modifying its operation to vary the normal speed of the engine.

11. The combination with an engine and its valve-gear-operating lever, of a governor device operatively connected to said lever, and instrumentalities, including an electrically-operated agent, whereby the operation of said governor device may be modified to vary the normal speed of the engine, and means whereby the engine, due to the tendency of said instrumentalities to overrun, is prevented from hunting.

12. The combination with an engine and its valve-gear-operating lever, of a governor device operatively connected to said lever, and instrumentalities, including an electrically-operated agent, whereby the operation of said governor device may be yieldingly modified to vary the normal speed of the engine, and means whereby the engine, due to the tendency of said instrumentalities to overrun, is prevented from hunting.

807,579. BAG-CLOSURE. JOHN ROGERS, Cleveland, Ohio. Filed Mar. 15, 1905. Serial No. 250,000.

Claim.—1. The combination of a bag having a straight top with marginal hems, and a straight rigid holder having a passage to receive said hems and spaced edges to clamp the sides of the bag beneath said hems, as set forth.



2. The combination of a bag having a straight top with marginal hems, and a holder consisting of a straight, rigid tube having a longitudinal open-ended slot in its side to receive said hems, as set forth.

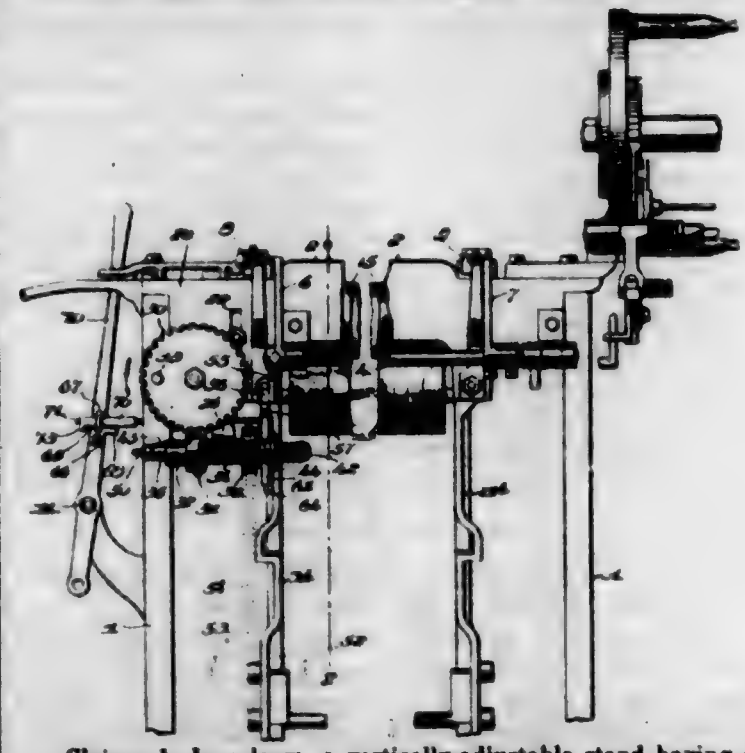
3. The combination of a bag having a straight top with marginal hems, and a holder consisting of a straight, rigid tube having a longitudinal slot in its side to receive said hems, one end of said slot being open and the other end being closed, as set forth.

4. The combination with a bag having a straight top with marginal hems and a side seam, of a holder consisting of a tube having a longitudinal open-ended slot in its side to receive said hems, and a notch in one edge of said slot near its open end, as set forth.

5. The combination with a bag having a straight top with marginal hems and a side seam having a cord projecting from its upper end, of a holder consisting of a tube having a longitudinal open-ended slot in its side to receive said hems, and a notch in one edge of said slot near its open end, as set forth.

6. A bag-closing device, consisting of a tube having a longitudinal open-ended slot in its side, and a notch in one edge of said slot near its open end, as set forth.

807,580. TAKE-UP MECHANISM FOR LOOMS. CHARLES F. ROPER, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 8, 1905. Serial No. 259,969.



Claim.—1. In a loom, a vertically-adjustable stand having a bearing for the take-up roll, said roll, a rotating driving member, positive and self-locking transmitting means, including a clutch, interposed between the driving member and said roll, all carried by the stand, whereby simultaneous adjustment of said parts and the take-up roll can be effected, and a flexible actuating connection between the driving member and a rotating part of the loom.

2. In a loom, a take-up roll, driving means therefor, including a continuously-rotating driving member, said roll and driving means being vertically adjustable as a unit, and a flexible actuating connection between the driving member and a rotating part of the loom.

3. In a loom, take-up mechanism, including a take-up roll, a continuously-rotating driving member for and operatively connected with said roll to normally rotate the roll, and an actuating sprocket-chain between and connecting said driving member and a rotating part of the loom.

4. In a loom, take-up mechanism including a vertically-adjust-

able take-up roll, and a rotating driving member for and vertically adjustable with the roll, said member having sprocket-teeth, combined with a sprocket-chain in engagement with said member and operated by a rotating part of the loom.

5. In a loom, a take-up roll having an attached worm-gear, a vertically-adjustable stand having a bearing for said roll and having two attached shaft-bearings, a shaft rotatably mounted in one of such bearings and provided with a worm and a worm-gear, the former meshing with the gear on the roll, a second shaft mounted in the other shaft-bearing, a worm thereon adapted to cooperate with the second worm-gear, a clutch on and rotatable with the second shaft, and a continuously-rotating driving member loosely mounted on the said second shaft and adapted to be connected therewith by the clutch, a double worm and worm-gear connection being thereby interposed between the driving member and the take-up roll and all adjustable simultaneously therewith.

6. In a loom, a rotating shaft having a sprocket thereon, take-up mechanism, including a vertically-adjustable take-up roll and a sprocket driving member operatively connected with said roll and adjustable in unison therewith, and a sprocket-chain connecting the sprocket on the rotating shaft and the said driving member, to continuously rotate the latter.

7. In a loom, a filling-detector, a rotating shaft having a sprocket thereon, take-up mechanism, including a take-up roll, a sprocket driving member, and a clutch between it and the roll, a chain connecting said member and the sprocket on the rotating shaft, to positively and continuously rotate the driving member, and means operative by or through detection of filling failure by the detector to render the clutch inoperative.

8. In a loom provided with automatic filling-replenishing mechanism, and a filling-fork to effect the operation of said mechanism upon filling failure, in combination, take-up mechanism, including a continuously-rotating driving member, a take-up roll, and a clutch between it and said driving member, a sprocket and sprocket-chain to rotate said member, and means operative upon detection of filling failure to render the clutch inoperative and arrest take-up until replenishment of filling has been effected.

9. In a loom, two filling-forks to detect on alternate picks, take-up mechanism, including a take-up roll, a chain-and-sprocket actuating device therefor, a clutch intermediate the said device and the roll, and means to render the clutch inoperative and arrest take-up upon detection of absence of filling by either fork.

10. In a loom, two filling-forks to detect on alternate picks, a vertically-adjustable take-up mechanism, including a take-up roll, a continuously-rotated driving member, and a clutch between it and the roll, a chain-and-sprocket actuating device for said member, and means operative upon detection of absence of filling by either fork to render the clutch inoperative and arrest take-up.

11. In take-up mechanism for looms, a take-up roll, a rotatable shaft, a continuously-rotating driving member loose thereon, a clutch to connect said member and the shaft, a worm on the shaft, a locking device to normally connect the worm and shaft and adapted to be manually released when the shaft is at rest, to permit let-back, and transmitting-gearing between the take-up roll and the worm, including a worm-gear in mesh with the latter.

12. In take-up mechanism for looms, a take-up roll, a normally rotating driving-shaft, a worm loosely mounted thereon, a normally operative locking device to connect the worm and shaft and adapted to be manually released and transmitting-gearing intermediate the take-up roll and the worm, including a worm-gear in mesh with the latter.

13. In take-up mechanism for looms, a take-up roll, a normally rotating driving-shaft, a worm loosely mounted thereon, a normally operative locking device to connect the worm and shaft and capable of manual release only when the shaft is at rest, to permit let-back, and speed-reducing gearing intermediate the take-up roll and the worm, including a worm-gear in mesh with the worm.

14. In take-up mechanism for looms, a take-up roll, a normally rotating shaft, a worm rotatable and also longitudinally movable thereon, a spring-latch to normally connect the worm and shaft, a finger-piece on the latch to permit release of the worm only when the shaft is at rest, to permit retrograde motion of the take-up roll, and positive transmitting-gearing between said roll and the worm, including a worm-gear in mesh with the latter.

15. In take-up mechanism for looms, a take-up roll, actuating-gearing therefor, including a worm-gear, a worm in mesh therewith, a driving-shaft on which the worm is mounted and with which it normally rotates, and a device manually operative only when the shaft is at rest to effect disconnection of the shaft and worm.

16. In take-up mechanism for looms, a take-up roll, actuating-gearing therefor, including a worm-gear, a worm in mesh therewith, a driving-shaft on which the worm is mounted and with which it normally rotates, a normally operating device to connect the shaft and worm and rendered inoperative manually only when the shaft is at rest, a positively-actuated driving member rotatably mounted on the shaft, and a clutch to normally connect said member and shaft to rotate the latter.

17. In take-up mechanism for looms, a take-up roll, a rotatable shaft, speed-reducing gearing operatively connecting it and said roll, a continuously-rotating driving member loose on the shaft, a clutch to normally connect said member and shaft, a spring to render the clutch operative, and a clutch-releasing device adapted to be operated upon absence of filling and also upon the actuation of a loom-stopping instrumentality.

18. In a loom, a shipper, take-up mechanism, means to arrest the operation thereof for one pick by or through release of the shipper, and means to thereafter restore the operation of the take-up mechanism.

19. In a loom, a shipper, take-up mechanism, including a take-up roll, a continuously-rotating driving member, and a clutch between it and the roll, combined with a clutch-releasing device to render the clutch inoperative for one pick by or through movement of the shipper into stopping position, and means to thereafter restore automatically the clutch to operative condition.

20. In a loom, a shipper, take-up mechanism, including a take-up roll, a continuously-rotating driving member, a shaft on which it is loosely mounted and operatively connected with the take-up roll, a clutch to normally connect said driving member and shaft, a disk forming a part of the clutch, and means operated by movement of the shipper to stopping position to act upon the disk and render the clutch inoperative for one pick.

21. In a loom, a shipper, take-up mechanism, including a take-up roll, a continuously-rotating driving member, having a notch, a shaft on which said member is loosely mounted and operatively connected with the take-up roll, a clutch device rotatable with the shaft and having a lug to enter the notch of and connect the driving member and the shaft, and means operative upon release of the shipper to withdraw the lug from the notch and thereby release the shaft until the driving member has made one revolution thereon.

22. In a loom, a shipper, take-up mechanism, including a clutch, a releasing device therefor operated by movement of the shipper to stopping position, and means to automatically disconnect the shipper and releasing device after release of the clutch.

23. In a loom, a shipper, take-up mechanism, including a take-up roll, a continuously-rotating driving member, and a clutch between it and the roll, combined with a clutch-releasing device operated by movement of the shipper to stopping position, and means to automatically disconnect the shipper and releasing device after release of the clutch, whereby the clutch can again become operative after temporary arrest of take-up.

24. In a loom, a shipper, take-up mechanism, including a take-up roll, a continuously-rotating driving member, making one revolution for each pick, and a clutch between said member and the take-up roll, combined with a clutch-releasing device operated by movement of the shipper to stopping position to release the clutch, and means to render said device inoperative after clutch release, whereby the clutch again becomes operative after one revolution of the driving member.

807,581. VALVE-GEAR FOR REGULATING DESCENDING AUTOMOBILES. HIPPOLYT SAURER, Arbon, Switzerland, assignor to The Firm of Adolph Saurer, Arbon, Switzerland. Filed Nov. 25, 1904. Serial No. 233,570

Claim.—1. In an automobile having a four-stroke-cycle explosion-motor, the combination with an outlet-cam shaft, of a plurality of outlet-cams on said outlet-cam shaft for actuating the respective outlet-valves, a sleeve longitudinally movable on said outlet-cam shaft while prevented from turning thereon and provided on the outside with a steep screw-thread, a gear-wheel driven from the crank-shaft at the rate of one revolution to two revolutions of the latter and having in its nave a female screw-thread engaging the steep screw-thread of said sleeve, means for preventing said gear-wheel from longitudinal motion, an adjustable hand-lever controlled from the driver's seat, a bell-crank lever, a rod pivotally connecting said adjustable hand-lever with the one arm of said bell-crank lever, a shaft connected with said sleeve and mounted to turn in the axis of said outlet-cam shaft, and means pivotally connecting the other arm of said bell-crank lever with said shaft while allowing the latter to turn.

3. In an automobile having a four-stroke-cycle explosion-motor, the combination with a hollow outlet-cam shaft, of a plurality of outlet-cams on said hollow outlet-cam shaft for actuating the respective outlet-valves, a sleeve longitudinally movable on said hollow outlet-cam shaft while prevented from turning thereon and provided on the outside with a steep screw-thread, a gear-wheel driven from the crank-shaft at the rate of one revolution to two revolutions of the latter and having in its nave a female screw-thread engaging the steep screw-thread of said sleeve, means for preventing said gear-wheel from longitudinal motion, an adjustable hand-lever controlled from the driver's seat, a bell-crank lever, a rod pivotally connecting said adjustable hand-lever with the one arm of said bell-crank lever, a shaft mounted to turn in the cavity of said hollow outlet-cam shaft and connected with said sleeve, and means pivotally connecting the other arm of said bell-crank lever with said shaft while allowing the latter to turn.



807,582. CAR-COUPLING. WILLIAM S. SCHROEDER and ANDREW P. LINDBLAD, Chicago, Ill., assignors to Charles H. Perry, Chicago, Ill. Filed Apr. 6, 1905. Serial No. 254,181.



Claim.—1. In a car-coupler, the combination with a pivoted knuckle, a forked draw-head, and a draw-bar having a chamber to receive a longitudinal pivotal locking-bar, of a pivotal and longitudinally-movable locking-bar lying lengthwise in the chamber of the draw-bar, and provided near its front end on one side thereof with a lock-set lug or projection, a coupling or lifting pin connected with the front or free end of the locking-bar, said draw-bar having a lock-set lug or projection to engage the lock-set lug or projection on the side of the locking-bar when the same is raised and moved longitudinally forward by the lifting-pin, substantially as specified

2. In a car-coupler, the combination with a pivoted knuckle, a forked draw-head, and a draw-bar having a chamber to receive a longitudinal pivotal locking-bar, of a pivotal and longitudinally-movable locking-bar lying lengthwise in the chamber of the draw-bar, and provided near its front end on one side thereof with a lock-set lug or projection, a coupling or lifting pin connected with the front or free end of the locking-bar, said draw-bar having a lock-set lug or projection to engage the lock-set lug or projection on the side of the locking-bar when the same is raised and moved longitudinally forward by the lifting-pin, said lock-set lug or projection on the side of the locking-bar having an inclined face, substantially as specified.

3. In a car-coupler, the combination with a pivoted knuckle, a forked draw-head, and a draw-bar having a chamber to receive a longitudinal pivotal locking-bar, of a pivotal and longitudinally-movable locking-bar lying lengthwise in the chamber of the draw-bar, and provided near its front end on one side thereof with a lock-set lug or projection, a coupling or lifting pin connected with the front or free end of the locking-bar, said draw-bar having a lock-set lug or projection to engage the lock-set lug or projection on the side of the locking-bar when the same is raised and moved longitudinally forward by the lifting-pin, said lock-set lug or projection on the side of the locking-bar having an inclined face, and said lock-set lug or projection on the locking-bar having a notch or recess in its lower edge, substantially as specified

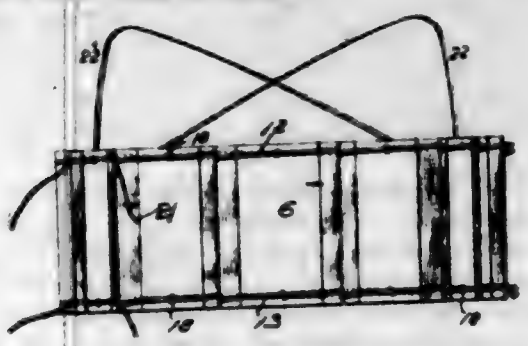
4. In a car-coupler, the combination with a pivoted knuckle, a forked draw-head, and a draw-bar having a chamber to receive a longitudinal pivotal locking-bar, of a pivotal and longitudinally-movable locking-bar lying lengthwise in the chamber of the draw-bar, and provided near its front end on one side thereof with a lock-set lug or projection, a coupling or lifting pin connected with the front or free end of the locking-bar, said draw-bar having a lock-set lug or projection to engage the lock-set lug or projection on the side of the locking-bar when the same is raised and moved longitudinally forward by the lifting-pin, said locking-bar being provided with a lug or projection on its under side, having an inclined face, and said draw-bar having a recess to receive said lug or projection on the lower side of the draw-bar, substantially as specified.

5. In a car-coupler, the combination with a pivoted knuckle, a forked draw-head, and a draw-bar having a chamber to receive a longitudinal pivotal locking-bar, of a pivotal and longitudinally-movable locking-bar lying lengthwise in the chamber of the draw-bar, and provided near its front end on one side thereof with a lock-set lug or projection, a coupling or lifting pin connected with the front or free end of the locking-bar, said draw-bar having a lock-set lug or projection to engage the lock-set lug or projection on the side of the locking-bar when the same is raised and moved longitudinally forward by the lifting-pin, said lock-set lug or projection on the side of the locking-bar having an inclined face, and said locking-bar being provided with a lug or projection on its under side having an inclined face, and said draw-bar having a recess to receive said lug or projection on the lower side of the draw-bar, substantially as specified.

6. In a car-coupler, the combination with a pivoted knuckle, a forked draw-head, and a draw-bar having a chamber to receive a longitudinal pivotal locking-bar, of a pivotal and longitudinally-movable locking-bar lying lengthwise in the chamber of the draw-bar, and provided near its front end on one side thereof with a lock-set lug or projection, a coupling or lifting pin connected with the front or free end of the locking-bar, said draw-bar having a lock-set lug or projection to engage the lock-set lug or projection on the side of the locking-bar when the same is raised and moved longitudinally forward by the lifting-pin, said lock-set lug or projection on the side of the locking-bar having an inclined face, and said lock-set lug or projection on the locking-bar having a notch or recess in its lower edge, said locking-bar being provided with a lug or projection on its under side having an inclined face, and said draw-bar having a recess to receive said lug or projection on the lower side of the draw-bar, substantially as specified.

7. In a car-coupler, the combination with a pivoted knuckle, a forked draw-head, and a draw-bar having a chamber to receive a longitudinal pivotal locking-bar, of a pivotal and longitudinally-movable locking-bar lying lengthwise in the chamber of the draw-bar, and provided near its front end on one side thereof with a lock-set lug or projection, a coupling or lifting pin connected with the front or free end of the locking-bar, said draw-bar having a lock-set lug or projection to engage the lock-set lug or projection on the side of the locking-bar when the same is raised and moved longitudinally forward by the lifting-pin, said locking-bar being provided with a lug or projection on its under side, having an inclined face, and said draw-bar having a recess to receive said lug or projection on the lower side of the draw-bar, and said recess in said draw-bar having an inclined face to further aid in moving said locking-bar longitudinally forward, substantially as specified.

807,583. **LIFE-PRESERVER.** LOUIS L. SMITH, New York, N. Y. Filed Nov. 4, 1904. Serial No. 231,578.



Claim.—1. A life-preserver comprising a plurality of hollow metal compartments having inclined edges, and flexible bands connecting the said compartments, said bands being passed afound the several compartments in a zigzag manner alternating to the opposite side of each succeeding compartment, as and for the purpose set forth.

2. A metal life-preserver comprising a plurality of water-tight compartments having beveled edges, said compartments having grooves formed in the sides thereof, metal bands mounted in said grooves alternating to the opposite sides of each succeeding compartment whereby the compartments can be folded together in either direction, a metal clamp at one end of said bands and straps adapted to engage said clamps at the opposite ends, substantially as and for the purpose set forth.

3. A metal life-preserver comprising a plurality of water-tight compartments having beveled edges, said compartments having grooves formed in the sides thereof, metal bands mounted in said grooves alternating to the opposite sides of each succeeding compartment whereby the compartments may be folded together in either direction, a metal clamp at one end of said bands and straps adapted to engage said clamps at the opposite ends, and secondary straps intermediate of the ends of said bands whereby the life-preserver may be adjusted to persons of different sizes, substantially as and for the purpose set forth.

4. A life-preserver having clamping means at one end of the several folds, means to engage said clamp at the opposite end of said fold, and means intermediate of the ends of said folds adapted to engage said clamps, for the purpose set forth.

5. A life-preserver comprising a plurality of hollow compartments, flexible bands connecting the same in a foldable manner, said compartments having grooves formed therein in which said bands are mounted and adhesive material intermediate of the sides of said compartments securing said bands in position, for the purpose set forth.

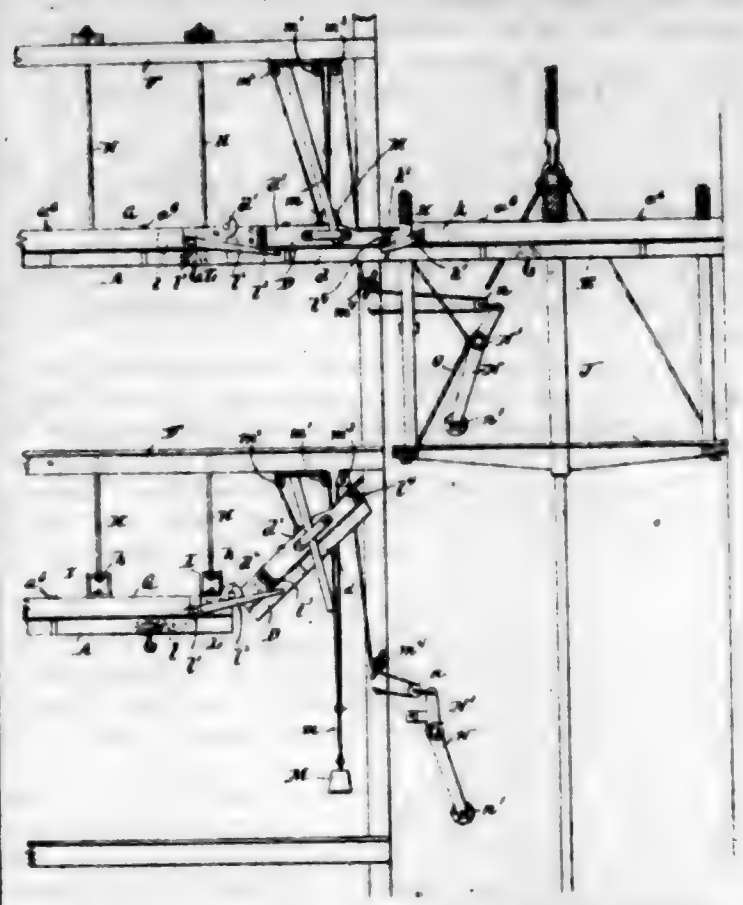
6. The herein-described life-preserver comprising a plurality of hollow compartments having flat sides and inclined edges, each compartment having inclined grooves therein adjacent to the top and bottom thereof, metal bands mounted in said grooves and passing on the opposite sides of each succeeding compartment, and alternating in a zigzag manner in their passage between the several compartments, adhesive material central of the compartments for securing the said bands in position, clamping means on one end of the series of compartments, a strap on the opposite end of said compartments adapted to engage said clamping means, and straps intermediate of the ends of said compartments adapted to engage said clamps, substantially as and for the purpose set forth.

807,584. **TRANSFER SYSTEM.** WILLIAM H. SPRINGER, Peoria, Ill., assignor to Avery Manufacturing Company, Peoria, Ill., a Corporation of Illinois. Filed May 20, 1903. Serial No. 157,606.

Claim.—1. In an overhead-trolley system, the combination of horizontally-arranged trolley-tracks, as at A, one in one horizontal plane and another in another horizontal plane, the swinging track-sections adapted to swing to and from the lines of the aforesaid track-sections respectively, the bodily rising and falling track-section E, devices for moving the swinging track-sections and means moving with the bodily-movable section for automatically actuating the said devices, substantially as set forth.

2. In an overhead-trolley system, the combination of a series of stationary horizontally-arranged trolley-tracks in different horizontal planes, a swinging track-section at the terminus of each of the said horizontal sections and a supplemental track-section movable bodily from one of said horizontal tracks to another, and means actuated by the bodily-movable section for moving the swinging section, substantially as set forth.

3. In an overhead-trolley system, the combination of a series of stationary horizontally-arranged trolley-tracks, the locks or closing devices for the said tracks, the swinging track-sections respectively connected to the ends of the stationary sections and adapted to move the said locking or closing devices, substantially as set forth.



4. In an overhead-trolley system, the combination of the trolley-track, the lock or closing device therefor, the vertically-movable track-section at the end of the stationary section and means interposed between the said lock or closing device and the movable track-section, for actuating the lock or closing device, substantially as set forth.

5. In an overhead-trolley system, the combination of a stationary frame, a stationary trolley-track supported on said frame, a movable track-section, a gravity device normally holding the movable section in inoperative position, a second vertically-movable track-section adapted to be brought into alinement with the aforesaid track-section and means actuated by the second said movable track-section for overcoming the effect of said gravity-acting devices, substantially as set forth.

6. In an overhead-trolley system, the combination with a main-track section and the branch-track sections adapted to be connected thereto, of the intermediate switch mechanism having a central track-section; a flaring frame extending forward from the track-section, and short track-sections carried at the wider end of said frame, and an intermediate swinging track-section adapted to aline at its pivoted end with the stationary track-section and to have its movable end alined with either of the short sections, substantially as set forth.

7. In an overhead-trolley system, the combination with the two separated main-track sections, of an interposed section having a guide part fixed in alinement with the two main sections, and a laterally-adjustable part hinged to the fixed section and adapted to be adjusted into and out of alinement with the main sections and to be locked after adjustment, substantially as set forth.

8. In an overhead-trolley system, the combination with the two main-track sections side by side, and a third main-track section separated from those aforesaid and adapted to be brought into communication with the others, of an intermediate section having fixed guide parts secured in alinement with each of the main-track sections respectively, and a laterally-adjustable part hinged to the fixed part and adapted to be adjusted to aline with either of those which are side by side, substantially as set forth.

9. In an overhead-trolley system, the combination with the two separated main-line track-sections and a branch-track section, of an intermediate track-section having a fixed part, having guides fixed in alinement with the adjacent main and branch track sections respectively and a part hinged to the fixed part and adapted to be adjusted laterally to aline either with the main section or with the branch section, substantially as set forth.

9. In an overhead-trolley system, the combination with the separated main-track sections, and the branch-track section having its terminal adjacent to the terminal of one of the main-line sections, and an intermediate connecting mechanism having a fixed track-section aligning with one of the main-track sections, and two short fixed sections respectively aligning with the other main-track sections, and with the branch-track section, and a track-section hinged to the fixed intermediate section and adjustable laterally from one of said short track-sections to the other, substantially as set forth.

11. In an overhead-trolley system, the combination with the separated main-track sections and the branch-track section, of an intermediate connecting mechanism having a track-section and an expanding frame integral with each other, and a movable track-section hinged to the fixed part of the intermediate mechanism and formed with laterally-extending arms resting upon said expanded frame, substantially as set forth.

12. In an overhead-trolley system having main-line parts on each of several floors in different horizontal planes, the combination of the trolley-track section B transferable bodily from one floor to another, the line track-sections A A fixed respectively on said different floors and movable track-sections D D on the different floors respectively and adapted to be brought into alinement with the fixed track-sections A and the said track-section B, substantially as set forth.

13. In an overhead-trolley system, the combination with the fixed track-section A and the vertically-movable track-section B, of a movable track-section D, and means interposed between the track-section B and the movable track-section D for imparting movement thereto corresponding to the movement of the track-section B, substantially as set forth.

14. In an overhead-trolley system, the combination of a fixed track-section A, the movable track-section B, means for guiding the trolleys from the track-section B to the track-section A, and a look for closing the guideway in the section A, substantially as set forth.

15. In an overhead-trolley system, the combination with a stationary track-section A, the movable track-section, the look for preventing escape from the track-section A, and means interposed between said look and the movable section B whereby the look is opened and closed in correspondence with the movement of said movable section, substantially as set forth.

16. In an overhead-trolley system, the combination with a vertically-movable track-section B and the track on a stationary support with which the section can aline, of a lock or closing device for the track-section B to prevent escape of the trolley therefrom, substantially as set forth.

17. In an overhead-trolley system, the combination with a stationary track-section and a vertically-movable track-section adapted to aline therewith, of a closing device for the latter adapted to prevent the escape of the trolley therefrom and means for actuating said closing device as the said track-section comes into alinement with the said stationary section.

18. In an overhead-trolley system, the combination with a stationary track-section and a vertically-movable track-section adapted to aline therewith, of a movable section interposed between the aforesaid track-sections and adapted to establish communication between them when they are in alinement with each other, and the closing device for the vertically-movable section arranged to be operated by said intermediate section.

19. In an overhead-trolley system, the combination of a series of stationary horizontally-arranged trolley-tracks in different horizontal planes, the swinging track-sections adapted to swing to and from the lines of the aforesaid track-sections respectively, a supplemental track-section movable bodily from one of said horizontal tracks to another and means actuated by said bodily-movable section for moving said swinging sections.

20. In an overhead-trolley system, the combination of a horizontally-arranged trolley-track, the swinging track-section associated therewith and the closing devices for the stationary track arranged adjacent to the axis of rotation of the swinging section and arranged to be operated by the movement of said section.

21. In an overhead-trolley system, the combination of the trolley-track, the closing devices therefor, the movable track-section arranged to be alined with said stationary section, and means interposed between the said closing devices and the movable section for actuating the closing devices.

22. In an overhead-trolley system, the combination of a stationary frame, a stationary trolley-track supported thereon, a vertically-movable track-section adapted to be brought into alinement with the aforesaid track-section, a movable track-section between the aforesaid track-sections and adapted to join them together, a gravity device normally holding the intermediate section in inoperative position, and means actuated by the vertically-movable section for overcoming the effect of said gravity-acting device and causing the said intermediate section to be moved into operative position, as the said vertically-movable section comes into alinement with the stationary track.

23. In an overhead-trolley system, the combination with a main-track section and a branch-track section adapted to be connected thereto, of the intermediate switch-section having a frame provided with short stationary track-sections arranged in alinement with the branch-track sections respectively, and a swinging track-section arranged to connect the main-track section with either of said short track-sections.

24. The combination of the stationary frame structure, the overhead-trolley track supported thereon, the lock or stop for preventing the escape of trolleys from said track, the bodily-movable trolley-track section adapted to be alined with the stationary track-section, and the stop or lock for preventing the escape of trolleys from the bodily-movable track-section, substantially as set forth.

25. The combination of the stationary frame, the overhead-trolley section supported thereon, the lock or stop for preventing the escape of trolleys from the stationary track-section, the trolley-track section bodily movable vertically, the lock or stop for preventing the escape of trolleys from the movable trolley-track section and the automatically-acting devices for opening the lock or stop for the stationary track-section.

26. The combination of the stationary frame, the overhead-trolley section supported thereon, the lock or stop for preventing the escape of trolleys from the stationary track-section, the trolley-track section bodily movable vertically, the lock or stop for preventing the escape of trolleys from the movable trolley-track section and the automatically-acting devices for opening the lock or stop for the movable track-section, substantially as set forth.

27. In an overhead-trolley system, the combination of a main stationary trolley-track section, two vertically-movable trolley-track sections adapted to aline with the stationary section, and means for causing both the vertically-movable track-sections to move simultaneously toward and from the line of operation.

28. The combination of the stationary frame, the vertically-movable track-section supported thereon, the trolley-track section vertically movable bodily, the vertically-moving support therefor, and means for causing both the vertically-movable track-sections to move simultaneously toward and from the line of operation, substantially as set forth.

29. In an overhead-trolley system, a series of track-sections adapted to be brought into operative alinement for the travel of trolleys, two of the said sections being movable to and out of a common line of operation, and means interposed between the said two movable sections for causing them to move simultaneously, substantially as set forth.

30. The combination of the main trolley-track, a track-section movable into and out of alinement therewith, means for automatically moving it out of alinement, a second movable track-section movable into and out of alinement with the first said movable section, and means interposed between the two movable track-sections for causing both the vertically-movable track-sections to move simultaneously toward and from the line of operation, substantially as set forth.

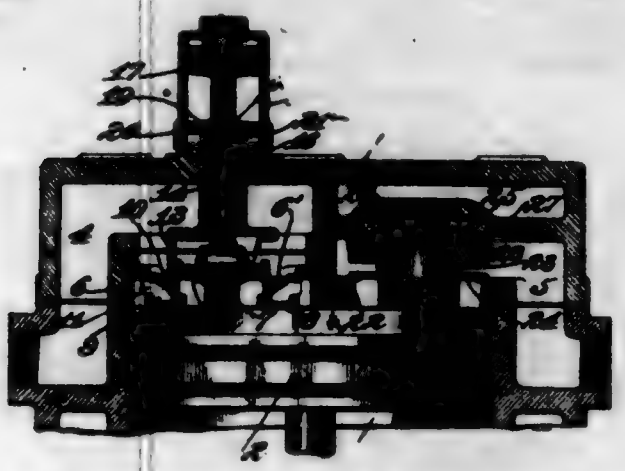
31. The combination of the track-section A, the track-section D adjustable in relation to section A, means for sustaining the section D out of alinement with the section A and means for adjustably supporting the section A, substantially as set forth.

32. The combination of the trolley-track section A, the track-section D movable into and out of alinement with the section A, the counterweight connected to the said section D, means for counteracting the weight and permitting the section D to move relative to the section A, substantially as set forth.

33. The combination of the trolley-track section A, the track-section D movable into and out of alinement with the section A, the track-section E movable into and out of alinement with the section D, the counterweight connected to the track-section D and means for counteracting the counterweight when the section E is in motion, substantially as set forth.

807,585. VALVE FOR AIR-COMPRESSORS. EDWIN H. STRUBMAN, St. Louis, Mo. Filed Nov. 2, 1903. Serial No. 179,396.

Claim.—1. In a suction-valve mechanism for air-compressors, the combination with a flat annular valve formed from thin sheet material, of a valve-casing consisting of two parts, one having a seat for the valve, and being of skeleton form, and the other having a plurality of guides for supporting the valve at its inner and outer marginal edges in its open position, and a valve-holding spring interposed between the valve and the supporting part; substantially as described.



2. In a suction-valve mechanism for air-compressors, the combination with a flat annular valve formed from thin sheet material, of a valve-casing consisting of two parts, one having a seat for the valve and being of skeleton form, and the other forming a support and guiding means for the inner and outer edges of the valve in its open position, and means for holding said two parts of the valve-casing together, the part which is of skeleton form being supported at its outer edge by the other part when said parts are in operative position; substantially as described.

3. In a suction-valve mechanism for air-compressors, the combination of a valve, a valve-casing consisting of two parts, one having a seat for the valve and being of skeleton form, and the other forming a cage for supporting the valve in its open position at its inner and outer edges, said cage part of the valve-casing having a threaded periphery for engagement with the cylinder-head, means for guiding the valve, and a valve-holding spring interposed between the valve and the cage; substantially as described.

4. In a suction-valve mechanism for air-compressors, the combination with a valve, of a valve-casing consisting of two parts, one having a seat for the valve and being of skeleton form, and the other serving as a support for the valve in its open position, said last-mentioned part being of slightly greater diameter than the seat portion for engagement with the cylinder-head, and a cylinder-head formed with a flanged opening against which the seat portion of the valve-casing is clamped; substantially as described.

5. In a suction-valve mechanism for air-compressors, the combination with a cylinder-head having a threaded opening provided with an inturned flange at one end, a valve-casing consisting of two parts, one having a seat for the valve and being of skeleton form, said seat portion resting against the flange in the opening, and the other portion of the valve-casing being connected to said seat portion at its center and being of slightly larger diameter than said seat portion and threaded into said opening so as to form a support for the valve in its open position and also act as a cage; substantially as described.

6. In a discharge-valve for air-compressors, the combination with a valve-seat, of a valve cooperating therewith, upstanding lugs carried by the valve-seat, a spring for holding said valve to its seat, and means having a surface for supporting the valve in its open position and provided with openings above the supporting-surface in communication with discharge-passages; substantially as described.

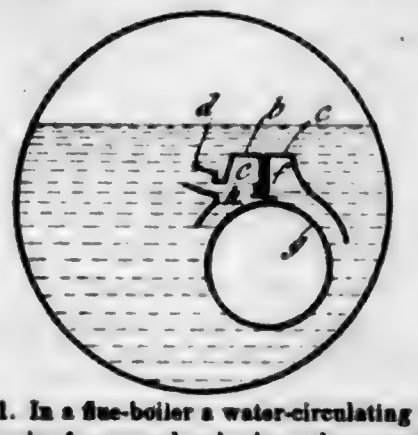
7. In a discharge-valve for air-compressors, the combination with a seat-valve, of a flat disk valve cooperating therewith, spaced guiding-lugs for guiding said valve in its movement, a spring for holding said valve to its seat, and a cylinder-head having a recess for receiving said spring and provided with a surface for supporting the valve in its open position and having openings above the supporting-surface communicating with the discharge-passage; substantially as described.

8. In a suction-valve for air-compressors, the combination with a valve-seat having a hub portion, an annular boss on said hub portion forming an inner part to the valve-seat, a flat disk valve cooperating with said seat, a spring for holding said valve to its seat, and a housing-support for said spring; substantially as described.

9. In a valve for air-compressors, the combination with a hollow cylinder-head, of a valve-seat secured in the inner wall of said cylinder-head, guiding-lugs arranged on said valve-seat, a flat disk valve supported at its center and marginal edges by said valve-seat and guided in its movement by said lugs, and a spring seated in a recess in the outer wall of the hollow cylinder-head, the end faces of the walls around said recess forming a support for the valve in its open position; substantially as described.

10. In a valve for air-compressors, the combination with a hollow cylinder-head, of a valve-seat in its inner wall, guiding-lugs arranged on said valve-seat, a flat disk valve supported at its center and marginal edges by said valve seat and guided in its movement by said lugs, a recess in the outer wall of the cylinder-head, openings in the wall of said recess communicating with the discharge-chamber, the ends of said wall forming a limiting-stop for the valve, and a spring seated in said recess for holding said valve to its seat; substantially as described.

807,586. **WATER-CIRCULATING DEVICE.** MARTIN H. VOIGT, Kleefeld, near Hanover, Germany. Filed Jan. 23, 1905. Serial No. 242,434.



Claim.—1. In a flue-boiler a water-circulating device comprising a parallel pair of concave hoods above the upper heating-surface of the flue, said hoods open below for the inlet of a water-current and divided from one another by a longitudinal downwardly-dependent partition-wall, a lateral throat serving as outlet for the mingled current of water and steam from one of said hoods, said throat being below the level of the summits of the hoods but at a higher level than the lower edge of the partition-wall and the outer edges of the hoods.

2. In a flue-boiler a water-circulating device comprising a parallel pair of concave hoods above the upper heating-surface of the flue, said hoods open below for the inlet of a water-current and divided from one another by a longitudinal downwardly-dependent partition-wall, a lateral throat serving as outlet for the mingled current of water and steam from one of said hoods, said throat being below the level of the summits of the hoods but at a higher level than the lower edge of the partition-wall and the outer edges of the hoods a longitudinal strip of metal in the passage between the upper surface of the flue and the lower edge of the partition-wall said strip of metal being of double-curved cross-section.

807,587. **CHAIR.** CASPAR M. WAGNER, Chicago, Ill. Filed Mar. 1, 1904. Serial No. 196,107.



Claim.—In a folding chair including a back-frame having side bars provided with an intermediate offset, a seat-frame having its rear end pivotally connected to the side bars and arranged between the latter and below the offset, a pair of short legs pivotally connected to the side edges of the seat-frame in rear of the front edge of the latter, and a pair of long legs pivotally connected to the side bars of the back-frame at the offset, and to the short legs, the long legs being outside the short legs, seat-frame and side bars of the back-frame, and the short legs, seat-frame and long legs when folded being in longitudinal parallelism with the back-frame, said short legs

contacting with one end of the back-frame for holding the chair in an open position.

807,588. **STRETCHING DEVICE.** CHARLES S. WEAVER and OSCAR H. LOCKWOOD, Duluth, Minn. Filed Mar. 20, 1905. Serial No. 250,991.



Claim.—1. A stretching device comprising a lever, a hand member adjustably secured thereto and provided at its free end with a series of fingers, said hand member being open through the center to permit of the passage therethrough of nails and hammer for securing the material being stretched to its permanent foundation or support.

2. A stretching device comprising a lever, a hand adjustably pivoted thereto, said hand including a transversely-directed bar at its free end, a series of pairs of fingers carried by said bar, flexible means adjustably secured at one end to said lever and provided with attaching means at its free end.

807,589. **FENCE-TIGHTENER.** EDMOND B. WEBSTER, Clifton, Kans. Filed Mar. 3, 1905. Serial No. 248,368.

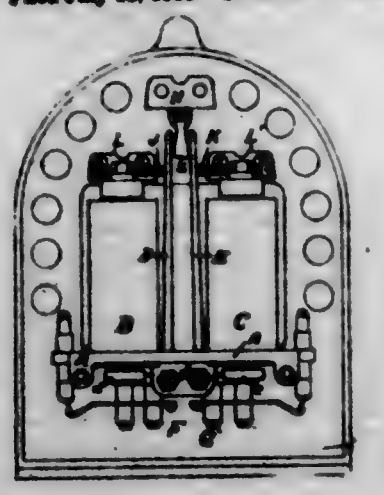


Claim.—1. In a tool of the character described, a handle to bear pivotally at one end against a post, toothed arms pivotally supported from said handle and projecting beyond its front end, and a lever-brace pivotally supported from the handle and capable of supporting the toothed arms in an elevated position.

2. In a tool of the character described, a handle to bear pivotally at one end against a post, toothed arms pivotally supported from said handle and projecting beyond its front end, and a lever-brace pivotally supported from said handle and provided at one end with laterally-projecting shoulders to support the toothed arms elevated and at the opposite end adapted to engage the post and brace the handle.

3. In a tool of the character described, a handle to bear pivotally at one end against a post, toothed arms pivotally supported from said handle and projecting beyond its front end, and a lever-brace pivotally supported from the handle, and consisting of two similar bars bent outwardly at their front ends to provide shoulders, and converging toward their opposite ends and riveted together, and having the ends of the converging portions pointed or sharpened.

807,590. **RAILWAY SIGNAL-REPEATER.** FREDERICK B. WENGARD and WILLIAM V. MOAR, Utica, and FRANCIS B. HARRINGTON, Hoosick, N. Y. Filed July 15, 1905. Serial No. 269,891.



Claim.—In a railway signal-repeater, the combination of two or more magnets; a contact-plate; signal-arm; a rod carrying said contact-plate and signal-arm; a means for moving said contact-plate and therefore said signal-arm to indicate either of two positions, determined upon the action of said magnets; a third position of said signal-arm being indicated when said magnets are not energized.

807,591. **FENCE-GATE.** GEORGE J. BATELER, Center township, Outagamie county, Wis. Filed Mar. 24, 1905. Serial No. 251,918.



Claim.—1. A fence-gate, comprising a rear upright provided with hinge members at a distance apart, a front upright, a plurality of intermediate rail-wires secured at their respective ends to the front and the rear uprights, an upright winding-shaft in front of the front upright, and flexible devices secured to and winding on said shaft and adapted to engage releasably the front upright substantially opposite the hinge members on the rear upright.

2. A fence-gate, comprising a rear upright provided with hinge members, a front upright, a plurality of intermediate rail-wires secured at their respective ends to the uprights, a winding-shaft adapted to be mounted in fixed bearings in front of the front upright, short chains secured to and adapted to wind on the shaft, and means on the chains to engage the front upright.

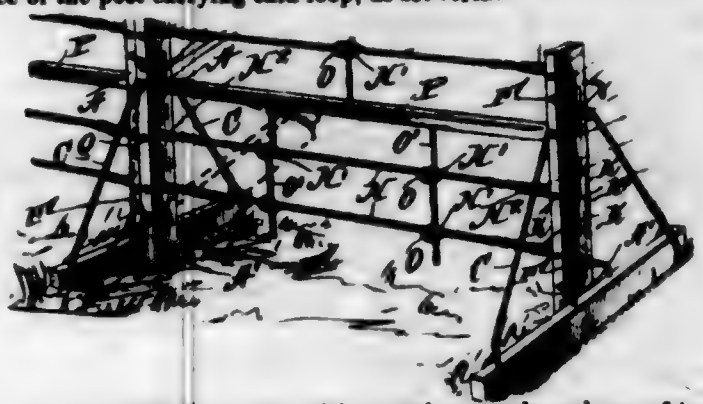
3. In a fence-gate, a gate-post, bracket-bearings on the post, a shaft supported and rotatable in the bracket-bearings, means secured to the shaft adapted to take hold of a gate-upright and to be wound up by the rotation of the shaft, a rack-toothed wheel on the shaft, and a locking device adapted to engage the wheel and a bracket to prevent the rotation of the shaft to unwind the wound-up device.

4. In combination, a gate-post, pintle hinge members thereon, a gate-upright, socketed hinge members thereon complementary to the pintle hinge members, a front upright, a plurality of wires secured to and stretched from one upright to the other upright, another gate-post, brackets on this gate-post having bearings therein, a winding-shaft mounted in said bracket-bearings, chains secured to and winding on the shaft, hooks on the chains adapted to engage the front gate-upright, means for rotating the shaft, and means for locking the shaft against rotation.

807,592. **PORTABLE FENCE.** JOHN BECKER, Mount Olivet, Cal. Filed Oct. 4, 1905. Serial No. 281,206.

Claim.—1. A portable fence comprising sections, each made up of two posts, line-wires and a rail connecting said posts, each post being recessed upon its outer face and apertured, a cross-piece adapted to fit in registering recesses in two posts which are placed in contact with each other, a pin adapted to pass through registering apertures in posts which are held in contact with each other and through said cross-piece, guy-wires connecting the ends of said cross-piece to the opposite edges of the posts, said cross-piece adapted to be moved longitudinally, and means for fastening two sections of the fence together, as set forth.

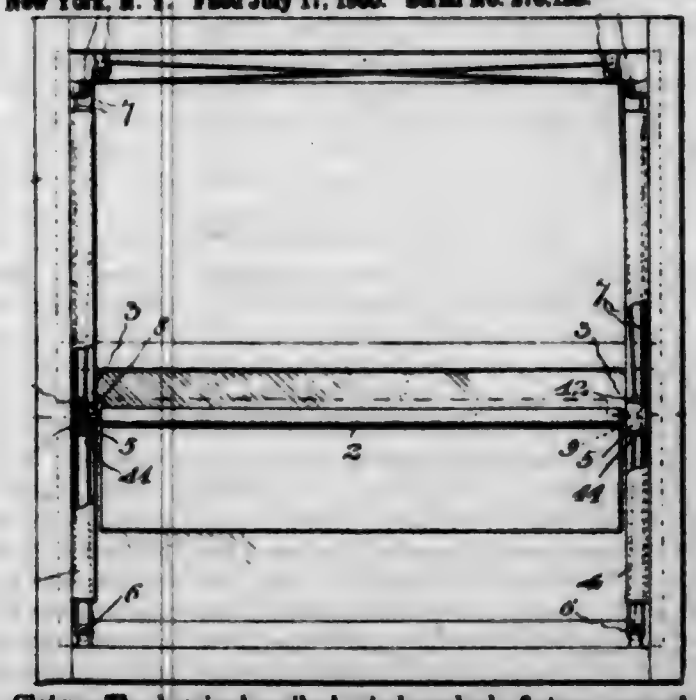
2. A portable fence comprising sections, each made up of two posts, line-wires and a rail connecting said posts, each post being recessed upon its outer face and apertured, a cross-piece adapted to fit in registering recesses in two posts which are placed in contact with each other, a pin adapted to pass through registering apertures in posts which are held in contact with each other and through said cross-piece, guy-wires connecting the ends of said cross-piece to the opposite edges of the posts, said cross-piece adapted to be moved longitudinally, tightening-loops carried by one post of each section and connected to a line-wire, and means for holding the post of an adjacent section against the end of said tightening-loop and against the face of the post carrying said loop, as set forth.



3. A portable fence comprising sections, each made up of two posts, line-wires and a rail connecting said posts, each post being recessed upon its outer face and apertured, a cross-piece adapted to fit in registering recesses in two posts which are placed in contact with each other, a pin adapted to pass through registering apertures in posts which are held in contact with each other and through said cross-piece, guy-wires connecting the ends of said cross-piece to the opposite edges of the posts, said cross-piece adapted to be moved longitudinally, tightening-loops carried by one post of each section and connected to a line-wire, double-ended hooks having a shank portion journaled in apertures in one end post of a section, eyes mounted upon the post of an adjacent section and adapted to be engaged by said hooks, whereby the two end posts of adjacent sections may be held in contact with each other and against the outer ends of said loops, as set forth.

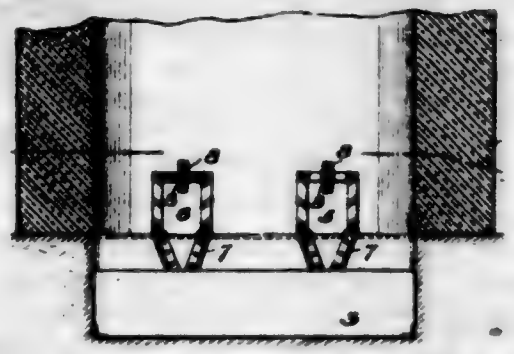
4. A portable fence made up of sections, each comprising a post which is recessed upon its outer face and apertured to receive line-wires and a pin, line-wires having loops formed at corresponding ends, pins passed through apertures in each post and adapted to engage said loops, tightening-loops mounted in the opposite end post of each section, each tightening-loop made of a piece of wire, the ends of which are twisted, and pins passing through the post and engaging said tightening-loops, double-ended hooks, the shank portions of which are journaled in an end post of a section, eyes carried by the post of an adjacent section and adapted to be engaged by said hooks, whereby the twisted ends of said adjusting-loops may be held between the contact-faces of two posts, as set forth.

807,593. WINDOW-SHADE BRACKET. ALFRED P. BRADLEY, New York, N. Y. Filed July 17, 1905. Serial No. 270,128.



Claim.—The herein-described window-shade fixture, comprising the channeled guides 4, U-shaped in cross-section, for attachment to the inner faces of the sides of a window-casing, the blocks 5 to travel in said channeled guides, having the recesses in their inner sides for the journals of the shade-roller and the longitudinal recesses 10 in their outer sides opposed to the channeled guides, the direction-pulleys above and below the channeled guides and the cords each passed over two of the upper direction-pulleys, under one of the lower direction-pulleys and having its ends attached to one of the blocks, said cords passing between the bottoms of the channeled guides and the recessed sides 10 of the block.

807,594. GAS-PRODUCER. WILLIAM H. BRADLEY, Bellevue, Pa., assignor of one-fourth to Alexander Gilliland and one-fourth to William C. Bradley, Bellevue, Pa., and one-eighth to Sara L. Bradley and one-eighth to Mrs. M. R. Webster, St. Louis, Mo. Filed July 31, 1904. Serial No. 217,571.



Claim.—1. A gas-producer having a water-trough, a cross-inclined wall and a wind-pipe above said wall and transverse thereto, said wind-pipe having clearance-spaces on both sides thereof for the removal of ashes; substantially as described.

2. A gas-producer having a water-trough and a wind-pipe extending along the producer in the direction of said trough, said pipe having clearance-spaces on both sides thereof, substantially throughout its length, for the removal of ashes; substantially as described.

3. A gas-producer having a water-trough and a plurality of parallel wind-pipes extending along the producer in the direction of said trough, each pipe having clearance-spaces on both sides thereof for the removal of ashes; substantially as described.

4. In a gas-producer, a wind-pipe composed of cast-metal sections having a substantially horizontal top and both external and internal strengthening-flanges; substantially as described.

807,595. HOSE-COUPLING. WILLIAM H. BREWER, Rolling Prairie, Ind. Filed Oct. 10, 1904. Serial No. 227,963.

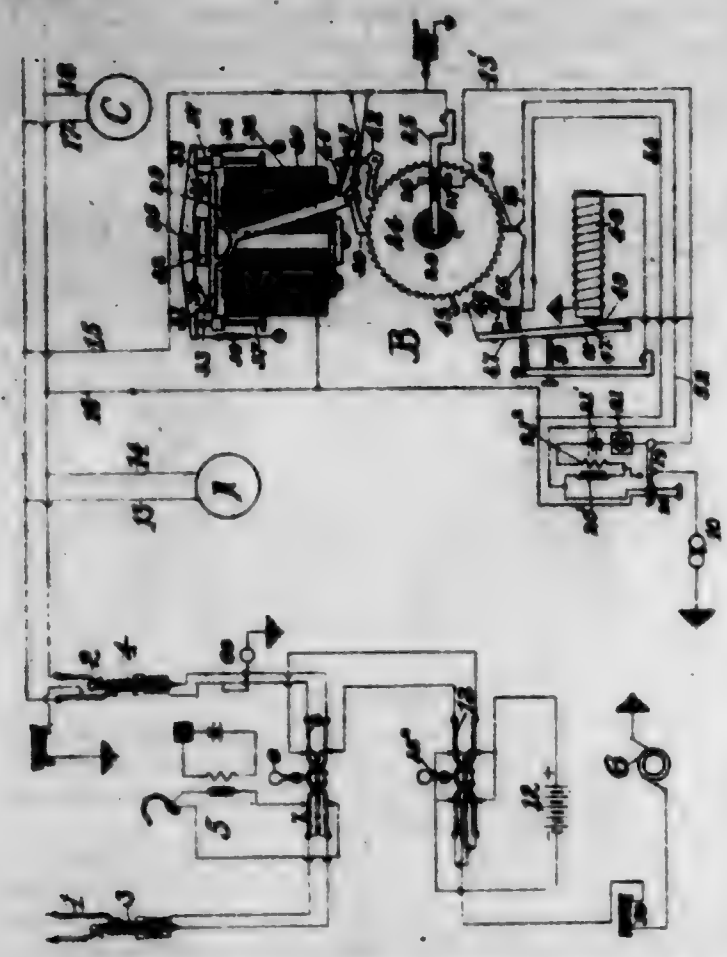


Claim.—A hose-coupling comprising an open-ended tubular shell having a central cylindrical portion with parallel slits extending from said central portion to the tapering ends of said shell, an open-ended threaded tube passing centrally through said shell, a nut having a central threaded aperture to receive said tube, said nut bearing against the inner circumference of the solid portion of the shell, nuts having tapering walled apertures which are threaded and fitted upon the tapering ends of said shell, whereby the portions of said shell intermediate the slits may clamp a flexible pipe against the threads of said tube, as set forth.

807,596. TELEPHONY. EDWARD A. BUELL, DeKalb, Ill., assignor to Selective Signal & Telephone Manufacturing Co., Sycamore, Ill., a Corporation of Illinois. Filed Oct. 6, 1904. Serial No. 227,468.

Claim.—1. The combination with a party-line extending from a plurality of substations to an exchange, of a switching appliances at each of the substations controlled by the subscriber thereat, a switching appliance at each of the substations selectively controlled by the operator, an electromagnet at each substation for operating the latter appliance and connected with the line to receive current passing thereover, a conductor at each substation whose continuity is governed by these switching appliances and which is adapted for connection with the party-line thereby, a line-jack at the exchange, a cord connector at the exchange, a signal device at the exchange connected with the cord connector and having one terminal of its circuit at the exchange, complemental terminals being provided by the aforesaid conductors adapted for connection to the party-line by said switching appliances, and a source of current adapted for inclusion

an circuit with said signal, the cord connector, the line-jack, the telephone-line, and the conductor connected with the telephone-line at a subscriber's station by said switching appliances, substantially as described.



2. The combination with a party telephone-line extending from a plurality of substations to an exchange, of step-by-step operating selective signaling apparatus at each of the substations, switching mechanism at the exchange for effecting operation of said selective signaling apparatus, locking mechanism at each of the substations for locking the selective apparatus thereat when properly set, a source of signaling-current, switching mechanism at the exchange, and circuit connections whereby the source of signaling-current may not only operate the signal-receiver of a selected station, but will also operate the locking mechanism at the selected station to maintain the selective apparatus in the position to which it has been set, substantially as described.

3. The combination with a party telephone-line extending from a plurality of substations to an exchange, of step-by-step operating selective signaling apparatus at each of the substations, switching mechanism at the exchange for effecting operation of said selective signaling apparatus, locking mechanism including a locking-magnet at each of the substations for locking the selective apparatus thereat when properly set, a source of signaling-current, switching mechanism at the exchange, circuit connections whereby the source of signaling-current may not only operate the signal-receiver of a selected station, but will also operate the locking mechanism at the selected station to maintain the selective apparatus in the position to which it has been set, interlocking catches between and forming part of the selective apparatus and locking mechanism, and a switching device controlled by the locking mechanism serving to exclude the locking-magnet from circuit when said catches are interlocked, substantially as described.

4. The combination with a party telephone-line extending from a plurality of substations to an exchange, of step-by-step-operating selective signaling apparatus at each of the substations, switching mechanism at the exchange for effecting operation of said selective signaling apparatus, locking mechanism including a locking-magnet at each of the substations for locking the selective apparatus thereat when properly set, a source of current, switching mechanism at the exchange, circuit connections, interlocking catches between and forming part of the selective apparatus and locking mechanism, and a switching device controlled by the locking mechanism serving to exclude the locking-magnet from circuit when said catches are interlocked, substantially as described.

5. The combination with a party telephone-line extending from a plurality of substations to an exchange, of step-by-step-operating selective signaling apparatus at each of the substations, switching mechanism at the exchange for effecting operation of said selective signaling apparatus, locking mechanism at each of the substations controlled from the exchange for locking the selective apparatus thereat when properly set, a circuit at each station controlling the connection of the telephone with the line, and two switches included in said circuit, one switch under the control of the selective apparatus and normally placed in condition by said selective apparatus to enable the use of the telephone, and the other switch controlled by the locking mechanism and maintained at a selected station by the locking mechanism thereat in a position to permit the use of the telephone, substantially as described.

6. The combination with a party telephone-line extending from a plurality of substations to an exchange, of step-by-step-operating selective signaling apparatus at each of the substations, switching mechanism at the exchange for effecting operation of said selective signaling apparatus, locking mechanism at each of the substations controlled from the exchange for locking the selective apparatus thereat when properly set, a shunt-circuit about the telephone at each substation, and two switches in said shunt-circuit, one switch under the control of the selective apparatus and normally placed in condition by said selective apparatus to open the shunt, and the other switch, normally closed, controlled by the locking mechanism and maintained open at a selected station by the locking mechanism thereat, substantially as described.

807,597. **RESPIRATOR.** GEORGE T. CARPENTER, Chicago, Ill. Filed Jan. 10, 1905. Serial No. 240,455.



Claim.—1. In a respirator, the combination with a flexible valved inhalation and a flexible valved exhalation tube, said tubes being held together by a netting, of a face-mask connected to the free end of said tubes, and a collar or band whereby the opposite end of said tubes are connected to an inlet-tube which opens to the outside atmosphere, substantially as described.

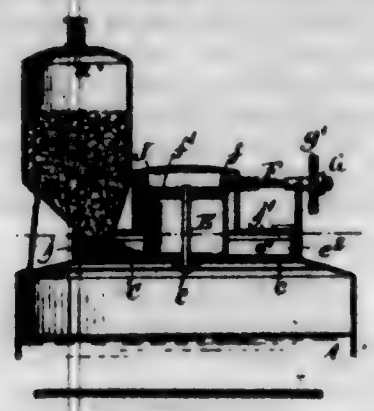
2. In a respirator, the combination with a flexible valved inhalation and a flexible valved exhalation tube, said tubes being held together by a flexible binding, of a face-mask connected to the free end of said tubes, an inlet-tube connected to the opposite end of said tubes, and arranged to communicate with the outside atmosphere, a slip-joint connection between the ends of said flexible tubes and said inlet-tube, and means whereby said tubes are connected to the outside atmosphere, substantially as described.

3. In a respirator, the combination with a flexible valved inhalation and a flexible valved exhalation tube, of a face-mask connected to one end of said tube, a net-cap adapted to hold said mask in place on the face of the user, a swiveled connection between the inner ends of said flexible tubes and said mask, an inlet-tube arranged to communicate with the outside air and means whereby said flexible tubes are removably connected with said inlet-tube, substantially as described.

807,598. **ACETYLENE-GENERATOR.** RICHARD F. CARTER, Niagara Falls, Canada. Filed Apr. 13, 1904. Serial No. 202,910.

Claim.—An acetylene-generator comprising a water-chamber, a contracted cylindrical feed-chamber above the water-chamber and a cylindrical hood of still smaller diameter above the feed-chamber, a horizontal shelf extending across the lower part of said feed-chamber and leaving clear spaces on opposite sides of said shelf whereby communication is established between the water-chamber and feed-chamber, a rotary carbid-feeder having a hub which is pivoted on said shelf and extends upwardly into said hood, a plurality of radial arms which sweep over said shelf, and a rim arranged close to the inner side of said feed-chamber and connecting the outer ends of said arms, an actuating-shaft extending horizontally through the upper part of said hood, gearing connecting the inner end of the shaft with the upper end of said hub, means for actuating said shaft operatively connected with the outer end thereof, and a carbid-supply hop-

per having its outlet opening into said feed-chamber above said arms and shelf, substantially as set forth.

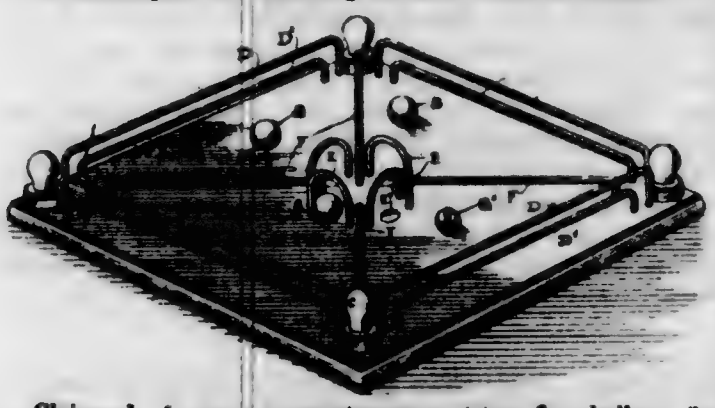


807,599. URINARY RECEPTACLE. SALLIE B. CAVE, St. Louis, Mo., assignor of one-half to Singleton D. Cave, St. Louis, Mo. Filed Oct. 15, 1904. Serial No. 228,622.



Claim.—A urinary receptacle comprising an integral bottom portion and side walls integral with said bottom portion, adjacent edges of said side walls being secured together and said edges being convexly curved, whereby said receptacle is provided with a wide body portion and a narrow neck.

807,600. GAME APPARATUS OR PUZZLE. JOSEPH K. CLOUSER, Jr., Philadelphia, Pa. Filed Aug. 20, 1904. Serial No. 221,502.



Claim.—1. A game apparatus comprising five balls, a flat square field, a surrounding open railing, corner-posts, four wickets surrounding a central goal and disposed so close to each other that no ball can pass between them, and four radial guide-bars extending from points between two wickets outward toward the posts but spaced from the latter sufficiently to permit the passage of the balls between the guide-bars and posts.

2. A game apparatus comprising five balls, a flat square field, a surrounding railing, corner-posts, four wickets surrounding a central goal and disposed so close to each other that no ball can pass between them, a depression beneath each wicket, and four radial guide-bars extending from points between two wickets outward toward the posts but spaced from the latter sufficiently to permit the passage of the balls between the guide-bars and posts.

807,601. SPINNING-RING. JAMES E. DOE, Ansonia, Conn. Filed Feb. 28, 1905. Serial No. 247,577.

Claim.—1. A spinning-ring formed of sheet metal, consisting of two identical rings arranged concentrically, each having a web portion and a horizontal flange.

2. A spinning-ring formed of sheet metal, consisting of two identical rings arranged concentrically, each having a web and an outwardly and inwardly projecting flange.

3. A spinning-ring formed of sheet metal, consisting of two identical rings arranged concentrically, each having a web with an outwardly and inwardly projecting flange at one end of the web.

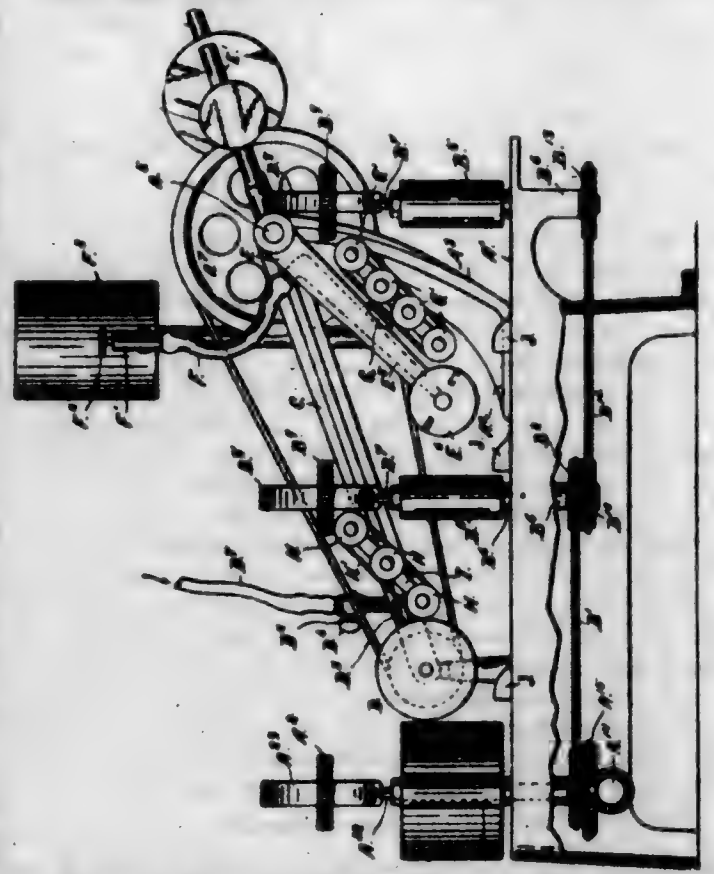


4. A spinning-ring formed of sheet metal, consisting of two identical rings arranged concentrically, each having a web formed by bending the metal of the web upon itself, and an outwardly and inwardly projecting flange formed by bending the metal at an angle outwardly and inwardly to the web.

5. A spinning-ring formed of sheet metal, consisting of two identical rings, one located within the other, each having a web portion and an outwardly and inwardly projecting flange with the respective flanges located at the top and bottom of the spinning-ring.

6. A spinning-ring formed of sheet metal, consisting of two identical parts, one located within the other, and each part comprising a vertical web with a horizontal flange projecting without and within the periphery of the web, whereby a ring is formed having a concentric groove on its outer and inner surfaces.

807,602. EDGE IRONING AND SHAPING MACHINE. WALTER C. CUNNINGHAM and WALTER A. STERRING, Denver, Colo., assignors to The American Specialty Company, Denver, Colo. Filed Mar. 14, 1904. Serial No. 198,125.



Claim.—1. The combination with a suitable relatively stationary table provided with an upwardly-projecting bracket, a shaft journaled in suitable bearings formed in the said bracket, an arm movably mounted on said shaft, provided with a counterbalance-weight in front, and a moistening-wheel at its rear and lower extremity, the said arm having a passage leading to the moistening-wheel, means for delivering water to the passage of the said arm, a yoke also movably mounted on the said shaft and provided with a counterbalance-weight at its upper and forward extremity, and an edge-ironing wheel at its lower and rear extremity, the operating portion of the edge-ironing wheel and of the moistening-wheel being located in the same vertical plane, suitable means for imparting the necessary rotary movement to the edge-ironing wheel, and suitable means for causing the article to be ironed to travel along upon the table in the vertical plane of the said wheels, the moistening-wheel being located forward of the edge-ironing wheel whereby the edge of the article to be ironed is first moistened.

2. The combination with a suitable table, of an upright bracket mounted thereon, a shaft mounted in said bracket, a yoke fulcrumed on the said shaft and having a forwardly-extending counterbalance-weight, an edge-ironing wheel revolubly connected with the lower and rear extremity of the yoke, means for delivering combustible fluid to the edge-ironing wheel for heating purposes, an arm ful-

crumed on the said shaft and having a forwardly-extending counterbalance-weight, the rear and lower extremity of the said arm being provided with a moistening-wheel, means for delivering the necessary water to the said wheel through a passage-way formed in the arm, the moistening-wheel and the edge-ironing wheel being located in the same vertical plane, and suitable means for feeding the article to be ironed across the table, whereby its upper edge is first brought into engagement with the moistening-wheel, substantially as described.

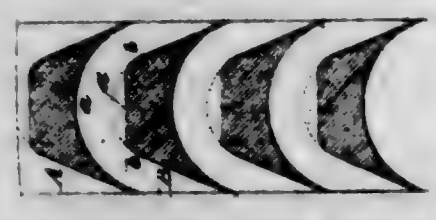
3. The combination with a suitable table, of a bracket mounted thereon and projecting upwardly therefrom, a shaft mounted on said bracket, a yoke fulcrumed on the shaft and having a counterbalance-weight located in front of the shaft, an edge-ironing-wheel shaft journaled in the lower and rear extremity of the yoke, an edge-ironing wheel fast on said shaft, a number of rollers mounted on the yoke in the plane of the edge-ironing portion of the edge-ironing wheel, an endless belt mounted on said rollers, and suitable means for feeding the article to be ironed whereby it comes in contact with the belt as it approaches the edge-ironing wheel.

4. The combination with a suitable support, of a shaft mounted on said support, an arm fulcrumed on the shaft and provided with a counterbalance-weight in front, a moistening-wheel mounted on the lower extremity of the said arm, means for supplying the moistening-wheel with water, a number of rollers mounted on the said arm, an endless belt engaging said rollers in the plane of the moistening-wheel, and suitable means for causing the article to be ironed to travel on the support in the plane of the moistening-wheel.

5. The combination with a suitable support, of a shaft mounted thereon, means for transmitting motion to said shaft, a yoke movably mounted on the shaft and extending downwardly and rearwardly therefrom, a shaft journaled in the rear extremity of the yoke, an edge-ironing wheel mounted on the said shaft and provided with a V-shaped portion and a hollow drum portion, means for delivering combustible fluid to the hollow drum portion, means for transmitting motion from the first-named shaft to the edge-ironing-wheel shaft, a number of rollers mounted on the said yoke forward of the edge-ironing wheel and in the plane of the V-shaped groove of the said wheel, and an endless belt mounted on the said rollers, the peripheries of the rollers being grooved and the belt being made to fit the grooves of the rollers.

6. The combination with a suitable support, of a shaft mounted thereon, a yoke movably mounted on the shaft and extending downwardly and rearwardly therefrom, a shaft journaled in the rear extremity of the yoke, an edge-ironing wheel made fast to the said shaft, the said wheel having an edge-ironing portion and a hollow drum portion adapted to receive combustible fluid for heating purposes, means for transmitting motion to the first-named shaft and from it to the edge-ironing-wheel shaft, a hollow arm movably mounted on the first-named shaft and extending downwardly and rearwardly from the said shaft, a moistening-wheel mounted on the rear extremity of the said arm and in communication with its hollow portion, and means for delivering the necessary water to said wheel through the hollow arm, the grooved portion of the edge-ironing wheel and the periphery of the moistening-wheel lying in the same plane.

807,603. **ELASTIC-FLUID TURBINE.** CHARLES G. CURTIS, New York, N. Y., assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed June 3, 1903. Serial No. 159,357.

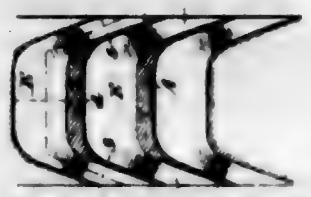


Claim.—1. An elastic-fluid turbine having a movable vane-space, the said vane-space having a curved forward wall against which the column of elastic fluid undergoes centrifugal compression as it passes through the vane-space, and a rearward wall which is separated from the forward wall by a greater distance at the center than at the ends of the opposing portions of the two walls, substantially as set forth.

2. An elastic-fluid turbine having a movable vane-space, the said vane-space having a curved forward wall against which the column of elastic fluid undergoes centrifugal compression in its passage through the vane-space, and a rearward wall which is separated from the forward wall at its center and for a portion only of its length on either side of the center by a greater distance than the distance between the remaining opposing portions of the two walls, substantially as set forth.

3. An elastic-fluid turbine having a movable vane-space, the said vane-space having a curved forward wall against which the column of elastic fluid undergoes centrifugal compression as it passes through the vane-space, and a rearward wall which is parallel with the forward wall at the receiving and discharging ends of the opposing portions of the walls and is separated from the forward wall by a greater distance in its central portion, substantially as set forth.

807,604. **ELASTIC-FLUID TURBINE.** CHARLES G. CURTIS, New York, N. Y., assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed June 18, 1903. Serial No. 161,014.



Claim.—1. An elastic-fluid turbine having a movable vane-space, the said vane-space having a greater cross-sectional area at its center than at either end, and a non-convergent anterior receiving portion, substantially as set forth.

2. An elastic-fluid turbine having a movable vane-space, the said vane-space having a greater cross-sectional area at its center than at either end, and a non-divergent posterior discharging portion, substantially as set forth.

3. An elastic-fluid turbine having a movable vane-space, the said vane-space having a greater cross-sectional area at its center than at either end, and provided with a non-convergent anterior receiving portion and a non-divergent posterior discharging portion, substantially as set forth.

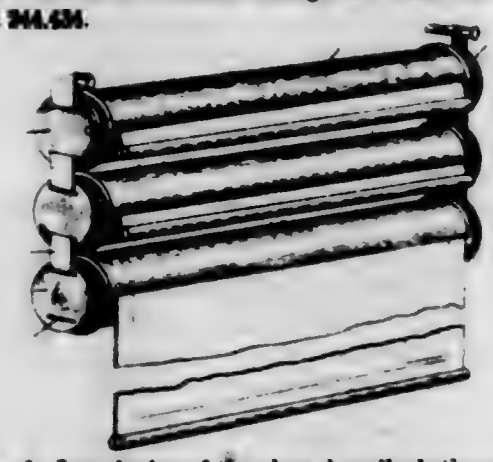
4. An elastic-fluid turbine having a movable vane-space, the said vane-space having a greater cross-sectional area at its center than at its end, and an anterior receiving portion having parallel opposing walls, substantially as set forth.

5. An elastic-fluid turbine having a movable vane-space, the said vane-space having a greater cross-sectional area at its center than at either end, and a posterior discharging portion having parallel opposing walls, substantially as set forth.

6. An elastic-fluid turbine having a movable vane-space, the said vane-space having a greater cross-sectional area at its center than at either end, and provided with an anterior receiving portion having parallel opposing walls and a posterior discharging portion having parallel opposing walls, substantially as set forth.

7. An elastic-fluid turbine having a movable vane-space, the said vane-space having a greater cross-sectional area at its center than at either end and of rectangular cross-section throughout its length, substantially as set forth.

807,605. **MAP-CASE.** BENNET G. DAWE, Chicago, Ill., assignor of one-half to Ernest W. A. Rowles, Chicago, Ill. Filed Feb. 6, 1905. Serial No. 244,434.



Claim.—1. In a device of the class described, the combination with a casing, of a pair of disks mounted therein, and a separable cap mounted upon each end of said casing and arranged to clamp said disks in position.

2. In a device of the class described, the combination with a casing provided with a longitudinal slot, of supporting-pieces mounted within grooves in said casing and adjacent to the opposite ends thereof, one of said pieces projecting into said slot so as to prevent the rotation thereof within said casing, and a spring-roller mounted between said supporting-pieces.

3. In a device of the class described, the combination with a sheet of metal bent to form a casing, of means for spreading the opposite edges of said sheet of metal apart, so as to form a longitudinal slot, said casing having means for securing said spreading means in position within said casing said means comprising grooves in said casing, within which said spreading means are seated, and means for clamping the same within said grooves.

4. In a device of the class described, the combination with a sheet of metal bent to form a casing, of a pair of spreaders mounted within grooves in said casing so as to hold the opposite edges thereof apart to form a longitudinal slot, and means for clamping said sheet of metal around said spreaders.

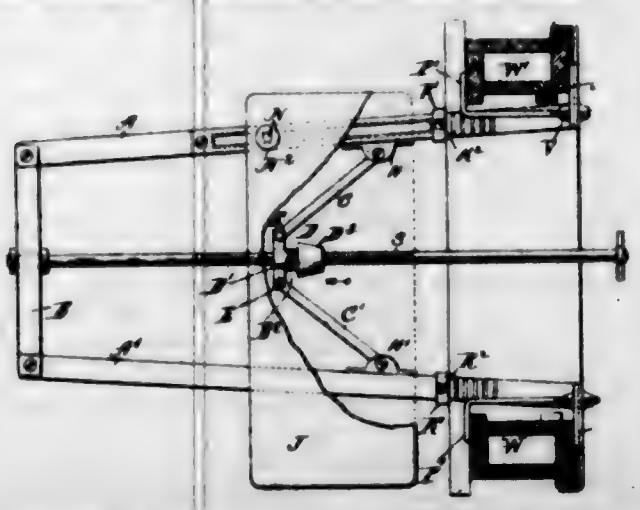
5. The combination with a suitable support, of a casing mounted thereon, a spring-roller mounted therein, a second casing supported by the first casing, a spring-roller mounted in said second casing, and means arranged to secure said casings in rigid relation to each other.

6. In a device of the class described, the combination with a sheet of metal bent to form a casing, of a pair of metallic disks mounted within the casing so formed and arranged to hold the opposite edges of said sheet of metal apart so as to form a longitudinal slot, caps removably attached to opposite ends of said casing so as to clamp said disks in position, means for preventing the rotation of one of said disks within said casing, a spring-roller mounted upon and between said disks, and a map or the like mounted upon said roller and extending through the slot in said casing.

7. In a device of the class described, the combination with a pair of cases, of spring-clips arranged at both ends of each of said cases, each of said clips engaging both of said cases so as to clamp said cases together, substantially as described.

8. In a device of the class described, the combination with a pair of cases arranged side by side, of a wide and thin clip provided with spring-arms, one of said spring-arms engaging a transverse slot in the end of one of said cases, the other of said spring-arms engaging a similar slot in the end of the other of said cases, and a like spring-clip similarly engaging the opposite ends of said cases, substantially as described.

807,606. **PORTABLE WINDOW-STAGE.** WILLIAM H. DAVIDSON, Boston, Mass. Filed Sept. 25, 1905. Serial No. 280,086.



Claim.—1. A window-stage, comprising a framework consisting of two longitudinal bars pivotally connected to a cross-bar at the outer ends, and having at their inner ends rigidly-attached plates adapted to engage with the inner faces of the window-casing; bolster-pieces attached to the under side of said longitudinal bars and adapted to rest upon the window-sill; a toggle-lever device, connected to the said longitudinal bars and having an operating-screw, by means of which the said bars may be forced outward and made to press against the window-casing; substantially as and for the purpose set forth.

2. A window-stage, comprising an adjustable frame; a platform attached thereto; toggle-arms attached to the said frame and adapted to expand the same; a cross-head connecting the two arms of the toggle and having a screw-threaded collar centrally attached; a screw-shaft passing loosely through the said collar and having double-threaded thimble adapted to engage with the said collar and the screw-shaft; and means for rotating said shaft, substantially as and for the purpose set forth.

3. A window-stage, comprising a framework consisting of two longitudinal bars pivotally connected to a cross-bar at the outer ends, and having at their inner ends rigidly-attached plates adapted to engage with the inner faces of the window-casing; and bent screw-bolts, P P, adapted to bind said attached plates firmly to the casing; a toggle-lever device connected to the said longitudinal bars and having an operating-screw, by means of which the said bars may be forced outward and made to press against the window-casing; substantially as and for the purpose set forth.

807,607. **CHILD'S CARRIAGE.** WILLIAM DIEHER, Toledo, Ohio, assignor to Gendron Wheel Company, Toledo, Ohio, a Corporation of Ohio. Filed Aug. 8, 1904. Serial No. 219,906.



Claim.—1. In a folding child's carriage, a rigid wheeled frame comprising two side bars, an adjustable back therebetween, arms rigidly secured to said side bars, and a wheeled seat-frame pivoted to fold between the arms.

2. In a folding child's carriage, the push-frame, wheels secured thereto, arms also rigidly secured to said frame, an adjustable back attached to said frame, and a wheeled seat-frame pivoted to fold between the arms.

3. In a folding child's carriage, the push-frame comprising the handles, and a forward and downward extension thereof, an adjustable back therebetween, wheels at the lower ends of the frame, brackets extending upwardly from said extension of the push-frame, sides rigidly secured at their forward ends to said brackets and at the rear ends to the push-frame, a seat-frame, rear wheels attached thereto and an independently-adjustable foot-support hinged to said seat-frame.

4. In a folding child's carriage, the combination of a rigid frame, the forward wheels secured thereto, the sides or arms rigidly secured thereto, and a seat-frame, an adjustable back attached to the rigid frame, the rear wheels secured thereto the seat being hinged to the rigid frame to fold up between the sides or arms.

5. In a folding child's carriage, a rigid frame, the forward wheels secured thereto, the sides or arms secured thereto, the seat-frame, the rear wheels secured at the lower end thereof, the seat secured to the upper end thereof and hinged to the rigid frame, adapted to fold up between the arms, and a sliding connection between the seat and the seat-frame.

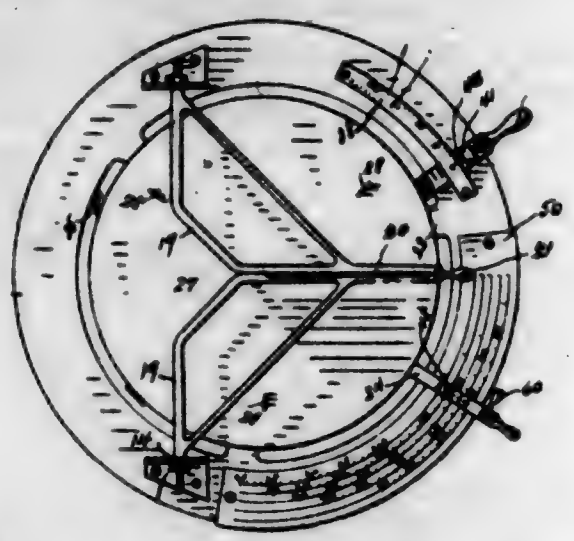
6. In a child's folding carriage, the combination with a rigid wheeled frame, of brackets rigidly secured to said frame, arms each having one end inserted in one of said brackets and the other end secured to said frame, and a wheeled seat-frame pivoted to fold between the arms, for the purpose described

7. In a child's folding carriage, the combination with a rigid wheeled frame comprising two side bars and arms rigidly secured thereto, of a seat-frame pivoted to fold between the arms and having flexible attachment to the rear wheels and an independently-adjustable foot-support hinged to said seat-frame.

8. In a child's folding carriage, the combination with a rigid wheeled frame comprising two side bars, arms rigidly secured thereto, a seat-frame pivoted to fold between the arms, and attached to springs on the rear wheels, of an adjustable back pivoted in the rigid frame and bringing the weight of the occupant upon said springs.

807,608. **CHEESE-CUTTER.** HENRY F. DUNN, Anderson, Ind., assignor of one-half to The Computing Scale Company, Dayton, Ohio, a Corporation of Ohio, and one-half to Dunn Manufacturing Company, Anderson, Ind., a Corporation of Indiana. Filed Feb. 27, 1905. Serial No. 247,884.

Claim.—1. In a device for cutting cheese and the like into portions, a knife, a cheese-support, a lever for moving the cheese-support, and a value-scale-controlled means for varying the influence of uniform movements of said lever upon said cheese-support so as to cut portions of a certain unit of value.



2. In a device for cutting cheese and the like into portions, a knife, a cheese-support, a lever for moving one of said parts toward the other and a scale-controlled means for adjusting the fulcrum of said lever to modify the feeding action thereof so as to cut portions of a certain unit of value.

3. In a device for cutting cheese and the like into portions, a knife, a cheese-support, a lever for feeding the cheese to the knife, a variable fulcrum for said lever, and a value-scale for indicating the adjustment of said fulcrum so that the device will cut portions of a uniform value from cheese of varying values.

4. In a device for cutting cheese and the like into portions, a knife, a cheese-support, a lever for feeding the cheese to the knife, a variable fulcrum for said lever, and a plurality of scales for indicating the desired adjustment of said lever.

5. In a device for cutting cheese and the like into portions, a knife, a cheese-support, a lever for feeding the cheese to the knife, a variable fulcrum therefor, two scales, one a price-per-pound scale and the other a scale for indicating the various weights of cheeses for controlling the position of said fulcrum so that the cheeses of varying weights and prices per pound may be cut into portions of uniform value.

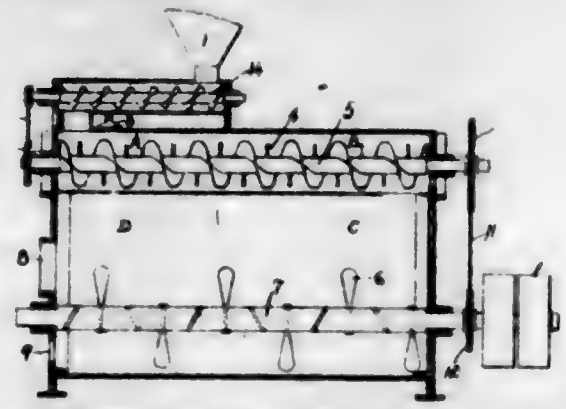
6. In a device for cutting cheese and the like into portions, a knife, a cheese-support, a lever for feeding the cheese to the knife, an adjustable bar crossing said lever, a fulcrum on said bar for said lever that is movable with reference to said lever, and a price-scale for indicating the position of said bar for cheeses of varying prices.

7. In a device for cutting cheese and the like into portions, a knife, a cheese-support, a lever for feeding the cheese to the knife, a bar extending across said lever that is pivoted at one end to the frame of the machine, a fulcrum on said bar for said lever and movable longitudinally of said lever, a setting-bar pivoted at one end to the frame of the machine, a connection between said two bars whereby the fulcrum-bar will be moved by the setting-bar, a price-per-pound scale on the setting-bar, and a scale for adjusting the price-per-pound scale indicating the weights of various cheeses whereby the fulcrum of the actuating-lever may be adjusted to cut cheeses of varying weights and prices into portions of certain values.

8. In a device for cutting cheese and the like into portions, a knife, a cheese-support, a lever for feeding the cheese to the knife, a bar extending across said lever that is pivoted at one end to the frame of the machine, a fulcrum on said bar for said lever and movable longitudinally of said lever, a setting-bar pivoted at one end to the frame of the machine, a connection between said two bars whereby the fulcrum-bar will be moved by the setting-bar, a price-per-pound scale on the setting-bar, a scale for adjusting the price-per pound scale indicating the weights of various cheeses whereby the fulcrum of the actuating-lever may be adjusted to cut cheeses of varying weights and prices into portions of certain values, and means for holding said setting-bar in position.

9. In a device for cutting cheese and the like into portions, a knife, a cheese-support, a lever for feeding the cheese to the knife with a handle on its outer end, a variable fulcrum so that the uniform movement of the outer end thereof will cause the variable movement of the cheese to the knife, and a scale for adjusting the outer end of said lever indicating the values of portions of cheese as they are severed.

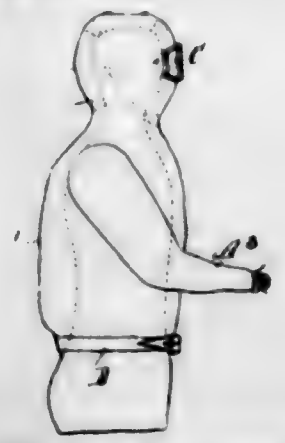
807,809. PROCESS FOR HYDRATING LIME. CARLETON ELLIS, Boston, Mass. Filed Dec. 26, 1903. Serial No. 186,671.



Claim.—1. Process for the continuous production of dry, pulverulent hydrate of lime which consists in continuously mingling a stream of quicklime with a stream of water in suitable proportions and in subjecting the resulting stream of lime putty to continuous agitation and to the reaction-accelerating action of heat from a progressively-advancing, adjacent, heat-imparting mass of lime in an advanced state of hydration, until the absorption of water has largely taken place, then causing the progressing stream in turn to become the heat-imparting agent and simultaneously rapidly agitating the same until converted into dry hydrate of lime.

2. Process for the continuous production of dry, pulverulent hydrate of lime which consists in continuously mingling a stream of quicklime with a stream of water in suitable proportions and in subjecting the resulting stream of lime putty to continuous agitation and to the reaction-accelerating action of indirectly-applied heat from a progressively-advancing, adjacent, heat-imparting mass of lime in an advanced stage of hydration until water absorption is substantially completed and the expansion due to incipient hydration has begun, then causing the progressing stream in turn to become the heat-imparting agent and simultaneously rapidly agitating the same until converted into dry hydrate of lime.

807,810. GARMENT. HUGH J. ELLIS, Chicago, Ill. Filed Mar. 20, 1903. Serial No. 148,774.



Claim.—The combination with a pneumatic tool adapted to be held in the hand and providing an exhaust-aperture adjacent thereto, of a garment inclosing the body and head of the operator and having one sleeve elongated so as to extend beyond the hand and engage said tool whereby the exhaust from said tool travels up said sleeve and through the garment.

807,811. NON-SKIDDING COVER FOR TIRES. EDWARD FAIRBURN, Brighouse, England. Filed July 24, 1905. Serial No. 271,096.



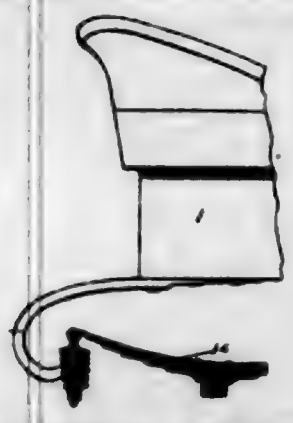
Claim.—1. In a tire-armor, the combination, with a channel-shaped ring of leather, of a series of leather rings, a series of rings formed of metallic links, both series of rings being arranged in the said channel-shaped ring, and pins pivoting the said links together and passing through the said leather rings and the flanges of the said channel-shaped ring.

2. In a tire-armor, the combination, with a series of leather

rings arranged in pairs, of rings formed of metallic links and arranged between each pair of the leather rings, and pins pivoting the said links together and passing through the said leather rings.

3. In a tire-armor, the combination, with a series of leather rings provided with notches in their peripheries, of rings formed of metallic links and arranged between the said leather rings with the spaces between the links in line with each other and out of line with the said notches, and pins pivoting the said links together and passing through the said leather rings.

807,612. VEHICLE-SPRING. SAMUEL PUMMINGS, St. Louis, Mo., assignor to Supplementary Spiral Spring Company, St. Louis, Mo., a Corporation of Missouri. Filed Nov. 18, 1904. Serial No. 233,934.



Claim.—1. In an auxiliary or supplementary vehicle-spring, the combination of a means for connecting same with the vehicle-supporting spring, a separate means for connecting same with the leaf-spring, a pair of helical springs connected to said first-mentioned means, members rigidly connected to said helical springs connected also with said second-mentioned means, said helical springs being wide enough across the top to accommodate all lateral play of the parts in rigid connection therewith which connect same with the leaf-spring, substantially as described.

2. In a device of the character described, the combination with a vehicle-body of leaf-springs supporting same, semi-elliptic springs resting upon the axle, said leaf-springs and said semi-elliptic springs being connected by auxiliary springs, each of said auxiliary springs comprising a pair of helical springs, same being tied together at the top by the member to which is attached the end of the leaf-spring, a pair of bolts running through said helical springs and attached respectively to their lower ends, said bolts being connected at the top by the member to which the semi-elliptic spring is attached, said helical springs being of such circumference as to permit lateral play of said pair of bolts without abrasion, substantially as described.

3. In a device of the character described, the combination with the supporting and semi-elliptic springs of a vehicle of supplementary springs, each of said supplementary springs being characterized by the following parts; a member like a yoke to which the semi-elliptic spring is attached, a pair of helical springs in connection therewith, said member being actuated by said helical springs to return to its first position, and a separate member connected with said helical springs and to which the leaf-spring is attached, substantially as described.

4. In a device of the character described, the combination of a pair of helical springs, a bolt connecting same at the top, to which is attached the leaf-spring, a pair of bolts running vertically through said springs and tied at the bottom to each other and in rigid connection respectively with the pair of helical springs, said pair of vertical bolts inclining inwardly at their upper portion and holding the bolt to which is attached the end of another leaf-spring, said helical springs opening wider at the top than at the bottom, substantially as described.

5. In an auxiliary or supplementary vehicle-spring, the combination of means for connecting same with the vehicle-supporting spring, a separate means for connecting same with a leaf-spring, a pair of uninclosed helical springs connected to said first-mentioned means, members rigidly connected to said helical springs and connected also with said second-mentioned means in such manner as to avoid abrasion of said helical springs.

6. In a device of the character described, the combination with a vehicle-body of leaf-springs supporting same, semi-elliptic springs resting upon the axle, said leaf-springs and said semi-elliptic springs being connected by auxiliary springs, each of said auxiliary springs comprising a pair of helical springs, same being tied together at the top by the member to which is attached the end of the leaf-spring, a plurality of means connected to the lower ends of said helical springs, but sufficiently disjoined elsewhere therefrom to avoid abrasion thereof, said means being tied together at the top by a member to which is attached the end of the semi-elliptic spring.

7. In a device of the character described, the combination of an uninclosed helical spring or uninclosed helical springs, means for attaching same to the vehicle-body, means in rigid connection with the helical spring at one end thereof, but disjoined therefrom at the other, so as to prevent abrasion, and extending from one end to the other, by which same is attached to the leaf-spring.

8. A device of the character described, comprising a helical spring dissociated from parts liable to abrasion, means for attaching same to the vehicle, and means by which the device is connected to the leaf-spring, said means being in rigid connection with one end of said helical spring and extending to the other, and so disjoined from said helical spring and parts touching same as to avoid abrasion thereof and of said parts.

9. In a device of the character described, the combination of a pair of helical springs, a bolt connecting same at the top to which is attached a vehicle-supporting spring, a pair of bolts running vertically through said springs and tied at the bottom to each other and in close connection respectively with the pair of helical springs, said pair of vertical bolts extending above the bolt which connects the top of the pair of helical springs, and being connected by the bolt to which is attached one end of a semi-elliptic spring.

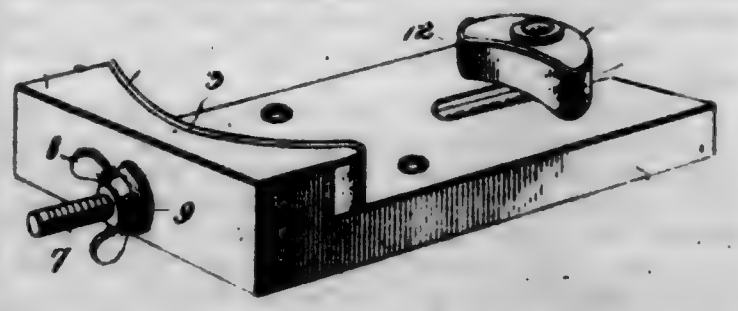
10. In a device of the character described, the combination of a pair of helical springs, a bolt connecting same at the top to which is attached a vehicle-supporting spring, a pair of bolts running vertically through said springs and tied at the bottom to each other and in close connection respectively with the pair of helical springs, said pair of vertical bolts extending above the bolt which connects the top of the pair of helical springs, and being connected by the bolt to which is attached one end of a semi-elliptic spring, said vertical bolts inclining inwardly at their upper portion, beginning adjacent said bolt which cross-connects the tops of said helical springs.

11. A device of the character described comprising a helical spring dissociated from parts liable to abrasion, having an eye turned on each end, means for attaching said helical spring to the vehicle, said means being connected to one of said eyes, and means in rigid connection with the other of said eyes by which the device is connected to the leaf-spring of the vehicle, said means extending from said point of rigid connection with said eye to the other end of the helical spring, and so disjoined from said helical spring and parts touching same as to avoid abrasion thereof and of said parts.

12. A device of the character described comprising a helical spring dissociated from parts liable to abrasion, having an eye turned on its upper end and another eye turned on its lower end, said eyes being disposed substantially at right angles to each other, means for attaching same to the vehicle connected to one of said eyes, and means in rigid connection with the other of said eyes by which the device is connected to the leaf-spring of the vehicle, said means extending from said point of rigid connection with said eye to the other end of the helical spring, and so disjoined from said helical spring and parts touching same as to avoid abrasion thereof and of said parts.

13. A device of the character described comprising a helical spring dissociated from parts liable to abrasion, having an eye turned on each end, a bolt fitting in one of said eyes, means pivotally connected with said bolt for attaching the device to the vehicle-body, a bolt in rigid connection at one end with the other of said eyes, and having an eye formed in its opposite end, means fitted into said last-mentioned eye for attaching the device to the leaf-spring of the vehicle, and a leaf-spring having means for pivotal connection with said last-mentioned means.

807,613. JAR-CLAMP. SAMUEL R. GRAVES, Seville, Ohio. Filed Apr. 3, 1905. Serial No. 253,667.



Claim.—A clamp of the class described, comprising a base having a fixed jaw, an adjusting-screw movable longitudinally in the base and having its inner end upturned and projecting above the

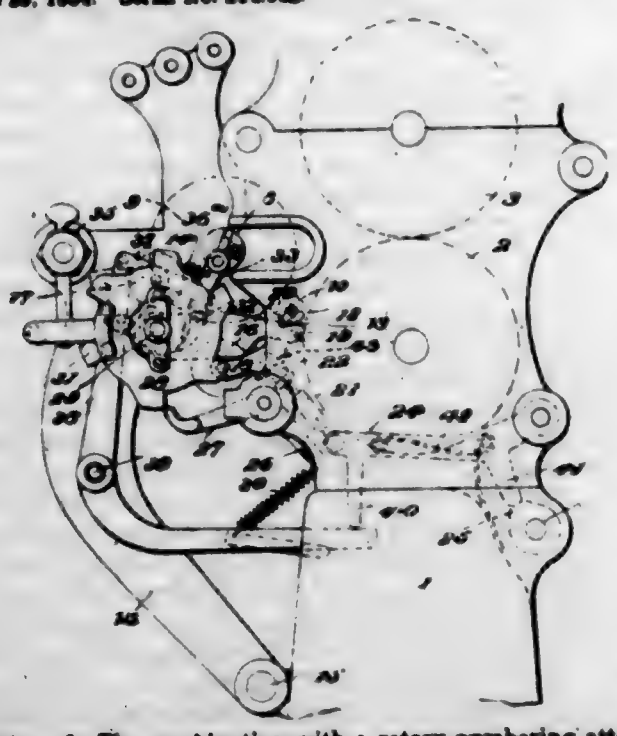
base, a shoe or jaw pivoted on the upturned end of the screw, and a nut on the latter coacting with the base to adjust the screw and the jaw carried thereby.

807,614. BERRY-BOX. JAMES B. HARDMAN, Grand Rapids, Mich. Filed Dec. 11, 1903. Serial No. 184,230.



Claim.—In a fiber berry-box, an oblong board folded to form the four side walls, having a horizontal slot *b* through each side section, and a second horizontal slot *b'* directly above it and having a vertical slot extending upward from each end, the stock below the slot *b* being offset inward to support the bottom and the stock above the slot *b'* offset inward to form a temporary stop to prevent the bottom from raising, and a square thin bottom supported between them and fitting closely between the side sections, substantially as and for the purpose set forth.

807,615. NUMBERING ATTACHMENT FOR PRINTING-PRESSES. CHARLES G. HARRIS, Niles, Ohio, assignor to The Harris Automatic Press Company, Niles, Ohio, a Corporation of Ohio. Filed June 29, 1904. Serial No. 214,062.



Claim.—1. The combination with a rotary numbering attachment having actuating means for the numbering head or heads, of a device for operating said actuating means having an element designed to be intermittently thrown into line to be engaged by, and effect the operation of, such means, means for controlling the position of such element and timing its engagement by such actuating means, and means for throwing such element out of operative position in the event of any interruption in the feed-supply.

2. The combination with a rotary numbering attachment having actuating means for the numbering head or heads, of a device for operating said actuating means having an element designed to be intermittently thrown into line to be engaged by, and effect the operation of, such means, means for controlling the position of such element and timing its engagement by such actuating means, means for actuating this latter means, and means for throwing such element out of operative position and disengaging the actuating means of the controlling means in the event of any interruption in the feed-supply.

3. The combination with a rotary numbering attachment having actuating means for the numbering head or heads, of a device for operating said actuating means having an element designed to be intermittently thrown into line to be engaged by, and effect the operation of, such actuating means, means for controlling the position of such element and timing its engagement by such actuating means, means operated by the numbering attachment for actuating this latter means, and means for throwing such element out of operative position and throwing out the operation of the controlling means in the event of any interruption in the feed-supply.

4. The combination with a rotary numbering attachment having a numbering head or heads, means for actuating the latter comprising an intermittently-movable device, means for so moving such device, and means for automatically throwing such latter means out of operation in the event of any interruption in the feed-supply.

5. The combination with a rotary numbering attachment having actuating means for the numbering head or heads, of a device for operating said actuating means, comprising an element designed to be intermittently thrown into line to be engaged by, and effect the operation of, such means, a lever for moving such element into and out of position, a cam having a plurality of proud portions designed to intermittently engage said lever, a ratchet movable with said cam, and a pawl actuated by said numbering attachment for rotating said ratchet.

6. The combination with a press having throw-off mechanism, of a numbering attachment having a numbering head or heads, means for actuating the latter comprising an intermittently-movable device, means for actuating such device, and means controlled by the position of the throw-off mechanism for throwing out such actuating means in the event of the actuation of said throw-off mechanism.

7. The combination with a rotary numbering attachment having an actuating-rod for the numbering head or heads, of a wheel designed to be intermittently thrown into line to be engaged by, and effect the partial rotation of, such rod, a support for such wheel, a lever connected to said support, a spring secured to said lever for normally holding said wheel out of such line, and a rotary element for intermittently engaging said lever for moving said wheel into line to be engaged by said rod.

8. The combination with a rotary numbering attachment having an actuating-rod for the numbering head or heads, of a wheel designed to be intermittently thrown into line to be engaged by, and effect the partial rotation of, such rod, a support for such wheel, a toggle-lever engaging said support, a spring-held lever connected to said toggle-lever, and a rotary element for intermittently engaging said spring-held lever for moving said wheel into line to be engaged by said rod.

9. The combination with a rotary numbering attachment having an actuating-rod for the numbering head or heads, of an element designed to be intermittently thrown into line to be engaged by, and effect the partial rotation of, such rod, a rotary cam having a plurality of proud portions, and a device connected to said element and designed to be intermittently actuated by the said proud portions.

10. The combination with a rotary numbering attachment having an actuating-rod for the numbering head or heads, of an element designed to be intermittently thrown into line to be engaged by, and effect the partial rotation of, such rod, a rotary cam having a series of teeth, a ratchet movable with said cam having a greater number of teeth, a pawl actuated by the numbering attachment for engaging said ratchet, and a device connected to said element and designed to be intermittently actuated by the teeth of said cam, the ratio of said teeth to the teeth of the ratchet controlling the time of actuation of said actuating-rod.

11. The combination with a rotary numbering attachment having an actuating-rod for the numbering head or heads, of an element designed to be intermittently thrown into line to be engaged by, and effect the partial rotation of, such rod, a rotary cam having a series of teeth, a ratchet movable with said cam having a greater number of teeth, a pawl actuated by the numbering attachment for engaging said ratchet, a spring-held lever designed to be engaged by the teeth of said cam, a bearing for said element, and a connection between said bearing and said spring-held lever, as set forth.

12. The combination with a press having throw-off mechanism, of a numbering attachment having a numbering head or heads, and an actuating-rod therefor, of a wheel designed to be intermittently thrown into line to be engaged by, and effect the partial rotation of, such rod, a movable bearing for said wheel, a cam having a series of teeth, a ratchet movable with said cam, a pawl, actuated by the numbering attachment, engaging said ratchet, a device designed to be engaged by said cam, toggle-levers supporting said bearing and to which said device is connected, a lever to which said toggle-levers are connected, said lever being actuated by the actuation of the throw-off mechanism, and means controlled thereby for throwing said pawl out of engagement with said ratchet.

13. The combination with the numbering attachment having an actuating-rod for the numbering head or heads, of the pivoted bracket, the wheel mounted thereon designed to be engaged by said rod, the toggle-levers supporting said bracket, the spring-held lever connected to said toggle-levers, a cam having a series of teeth designed to engage said spring-held lever, a ratchet carried by said cam, a pawl actuated

by the numbering attachment normally in engagement with said ratchet, a lever connected to said pawl, and means for actuating said lever for throwing said pawl out of engagement with the ratchet, as set forth.

14. The combination with the numbering attachment and the pawl actuated thereby, of the ratchet engaged by said pawl, the cam having a series of teeth, a lever having a link connected to said pawl, a second lever engaging said former lever for normally allowing said pawl to engage said ratchet, a spring-held lever designed to be actuated by said cam, a wheel, a bearing therefor, a connection between said bearing and said spring-held lever, said bearing being also connected to said second lever, means for automatically shifting the latter, and numbering-heads having actuating means designed to be engaged by said wheel, as set forth.

15. A rotary numbering attachment having an actuating-rod for the numbering head or heads, a crank on such rod, two wheels designed to intersect the line of movement of said crank for moving the rod in opposite directions, one of said wheels being normally held out of such line, and means for intermittently moving such wheel into line to be engaged by said rod, as set forth.

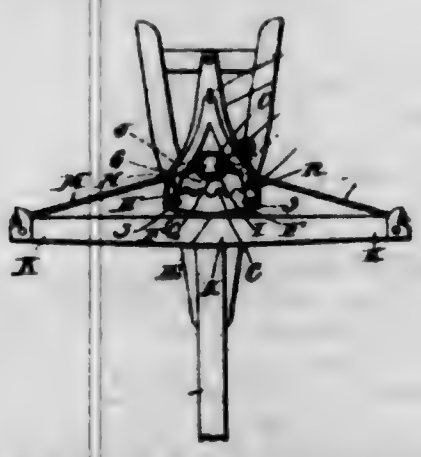
16. A rotary numbering attachment having an actuating-rod for the numbering head or heads, a crank on such rod, two wheels designed to intersect the line of movement of such crank for moving the rod in opposite directions, a movable bearing for one of said wheels, a spring-held lever connected to said bearing by which such wheel is normally held out of the line of movement of the crank, a cam having a series of teeth for actuating said lever for moving said wheel into such line, and means for actuating such cam.

17. The combination with a printing-press, and means for feeding stock thereto, of a rotary numbering attachment having a numbering head or heads, means for automatically actuating such head or heads after a predetermined number of sheets has been passed through the press, and means for preventing the actuation of the numbering head or heads in the event of any interruption in the feed-supply.

18. The combination with a printing-press, and means for feeding stock thereto, of a rotary numbering attachment having a numbering head or heads, means for automatically actuating such head or heads after a predetermined number of sheets has been passed through the press, such means being controlled by the attachment, and means for automatically throwing off such actuating means in the event of any interruption in the feed of the stock.

19. The combination with a printing-press, and means for feeding stock thereto, of a rotary numbering attachment having a numbering head or heads, means for automatically actuating such head or heads but not in each revolution of the attachment, means constantly actuated for periodically acting on the last-mentioned means to effect the actuation of said head or heads, and means for automatically throwing off such constantly-actuated means in the event of any interruption in the feed of the stock.

807,616. DRAFT-EQUALIZER. PAUL HELD, St. Cloud, Minn. Filed June 24, 1905. Serial No. 266,806.

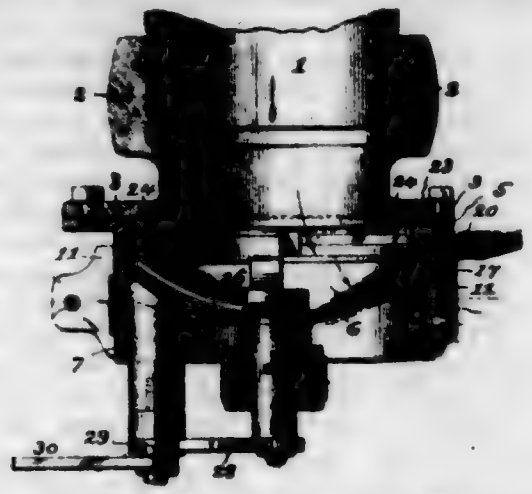


Claim.—1. A draft-equalizer comprising a segmental rack secured to the vehicle-pole, a segmental rack meshing therewith, a doubletree, and means to connect the last-mentioned rack with the ends of the doubletree, substantially as shown and described.

2. A draft-equalizer comprising a rack secured to the vehicle-pole, a casting provided with a rack meshing with the rack aforesaid, said casting forming a semicircular depression, a doubletree, a ring adapted to seat in said semicircular depression, and rods secured to the ends of the doubletree and to said ring, substantially as shown and described.

3. A draft-equalizer comprising a segmental rack secured to the vehicle-pole, a casting provided with a rack meshing with the rack aforesaid, a semicircular depression and other depressions connecting the semicircular depression and the sides of the casting, a doubletree, a ring adapted to seat in said semicircular depression, and rods secured to the ends of the doubletree and having loops to receive said ring, the sides of said loops being adapted to seat in the depressions connecting the semicircular depression and the sides of the casting, substantially as shown and described.

807,617. SPRINKLER HEAD OR NOZZLE. FREDERICK W. HEIDKAMP, St. Louis, Mo. Filed Mar. 12, 1902. Serial No. 97,822.



Claim.—1. In a sprinkler-head, the combination of a stationary casing having a vertical circular wall and a horizontal exit-slit extending one-half the circumference of said wall, an inlet-neck at the upper end of said casing, a closure-head for the lower end of said casing formed with a central shaft-bearing, an oscillating gate arranged within the interior of said casing and controlling the exit-slit of the casing, a shaft passing through the central bearing of the closure-head and carrying said gate, and means for imparting a turning adjustment to said shaft and gate to fully close the exit-slit or to partly close one side or the other of said slit.

2. In a sprinkler-head, the combination of a stationary casing having a vertical circular wall and a horizontal exit-slit extending one-half the circumference of said wall, an inlet-neck at the upper end of said casing, a closure-head for the lower end of said casing formed with a central shaft-bearing, an oscillating gate arranged within the interior of said casing and controlling the exit-slit of the casing, a shaft passing through the central bearing of the closure-head and carrying said gate, and means for imparting a turning adjustment to said shaft and gate to fully close the exit-slit or to partly close one side or the other of said slit, the same comprising a pinion carried on the lower end of said shaft, a sector pivoted to the casing and operatively engaging said pinion, and an operating-link connected to said sector.

3. In a sprinkler head or nozzle, the combination of a circular bottom cap or casing having a horizontal discharge slit or opening extending half-way around the casing, an oscillating gate arranged within the interior of such casing and having a semicircular body and annular top extension, said gate controlling said opening and having movement to wholly close said opening as well as to close one side or the other of the same, and means for adjusting said gate in one direction or the other, substantially as set forth.

4. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface for said slit or opening, and means for imparting vertical movement to said annulus the same comprising a series of cam-pins and cam-slots on the respective parts, substantially as set forth.

5. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface for said opening or slit, and an upturned deflecting-lip projecting outwardly from said deck, substantially as set forth.

6. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface

for said opening or slit, an upturned deflecting-lip projecting outwardly from said deck, and means for imparting vertical movement to said annulus, the same comprising a series of cam-pins and cam-slots on the respective parts, substantially as set forth.

7. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface of said opening or slit, an upturned deflecting-lip projecting outwardly from said deck, means for imparting vertical movement to said members, the same comprising a series of cam-pins and cam-slots on the respective parts, and means for regulating the fit of said annulus upon the periphery of the casing, the same comprising a vertical slit in said annulus, lugs at the respective sides of the slit and a clamping-bolt passing through said lugs, substantially as set forth.

8. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface for said slit or opening, and means for imparting vertical movement to said annulus the same comprising a series of cam-pins and cam-slots on the respective parts, the cam-slots having vertical entrance-passages to permit of the assemblage of parts, substantially as set forth.

9. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface for said opening or slit, an upturned deflecting-lip projecting outwardly from said deck and means for imparting vertical movement to said annulus, the same comprising a series of cam-pins and cam-slots on the respective parts and a lateral arm on the annulus, substantially as set forth.

10. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface for said slit or opening, an oscillating gate adapted to close one side or the other of said opening, means for operating said gate, and means for imparting vertical movement to said annulus, the same comprising a series of cam-pins and cam-slots, on the respective parts, substantially as set forth.

11. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface for said slit or opening, an oscillating gate arranged within the interior of said casing and adapted to close one side or the other of said opening, means for operating said gate, and means for imparting vertical movement to said annulus, the same comprising a series of cam-pins and cam-slots on the respective parts, substantially as set forth.

12. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface of said slit or opening, an oscillating gate arranged within the interior of said casing and adapted to close one side or the other of said opening, means for adjusting said gate in one direction or the other, the same comprising a carrying-spider, a carrying-shaft passing axially through the bottom of said casing and an operating means connected to the lower end of said shaft, substantially as set forth.

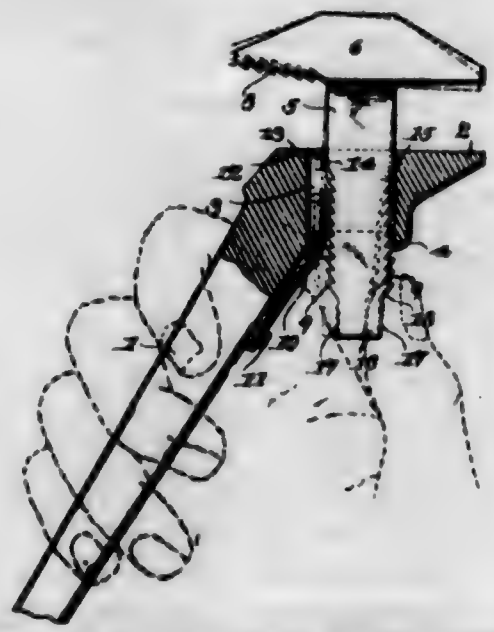
13. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface for said slit or opening, an upturned deflecting-lip projecting outwardly from said deck, an oscillating gate adapted to close one side or the other of said opening and means for adjusting said gate in one direction or the other, substantially as set forth.

14. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface for said slit or opening, an upturned deflecting-lip projecting outwardly from said deck, an oscillating gate arranged within the interior of said casing and adapted to close one side or the other of said opening, and means for adjusting said gate in one direction or the other, substantially as set forth.

15. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface for said slit or opening, an upturned deflecting-lip projecting outwardly from said deck, an oscillating gate arranged within the interior of said casing and adapted to close one side or the other of said opening, and means for adjusting said gate in one direction or the other, the same comprising a carrying-spider, a carrying-shaft passing axially through the bottom of said casing, and an operating means connected to the lower end of said shaft, substantially as set forth.

16. In a sprinkler head or nozzle, the combination of a bottom cap or casing having a horizontal discharge slit or opening, an overhanging flange forming an extended top surface for said slit or opening, a vertically-adjustable annulus surrounding said casing and provided with a horizontal deck forming an extended bottom surface of said slit or opening, an oscillating gate arranged within the interior of said casing and having a semicircular body and an annular top extension, said gate being adapted to close one side or the other of said slit or opening, and means for adjusting said gate in one direction or the other, substantially as set forth.

807,618. **WRENCH.** JOHN H. HOBSON, Mattoon, Ill. Filed Apr. 11, 1905. Serial No. 254,888.



Claim.—1. A wrench comprising a handle, a rigid jaw carried by the handle and provided with a passage extending entirely through the jaw perpendicular to the work-engaging face, a tooth rigid with the handle, a coöperating jaw having a shank mounted and longitudinally slidable within the passage and provided with a series of notches arranged for engagement with the rigid tooth, a spring bearing against and arranged to hold the shank in constant contact with one side of the passage, and a spring bearing against and arranged to hold the shank in yieldable engagement with the tooth.

2. A wrench comprising a handle, carrying an angularly-disposed rigid jaw and provided with a passage extending entirely through the jaw perpendicular to the work-engaging face, a tooth rigid with the handle and within the passage, a coöperating jaw having a shank mounted and longitudinally slidable within the passage and provided with a series of notches arranged for engagement with the tooth, a spring secured to the handle and bearing against and arranged to hold the shank in constant contact with one side of the passage, and a spring secured to the handle and bearing against the shank within the passage and arranged to hold the shank in yieldable engagement with the tooth.

3. A wrench comprising a handle having a fixed jaw projected at one side thereof and provided with a passage intersecting the front and back of the jaw, a movable jaw having a stem adjustable endwise through the passage, a spring carried by the back of the handle and projected into the passage to bear against the stem and yieldably maintain the same in engagement with the outer wall of the passage,

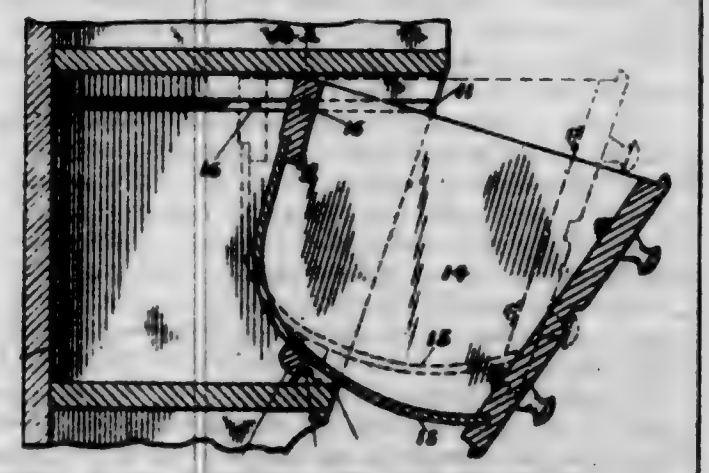
and another spring carried by the front of the fixed jaw and closing the front open end of the passage between the inner wall thereof and the stem with the free end of said spring bearing against the stem.

4. A wrench comprising a handle having a fixed jaw projected at one side thereof and provided with a passage intersecting the front and rear of the jaw, the front face of the jaw being provided with a groove intersecting the inner end of the jaw and the adjacent wall of the passage, a movable jaw having a stem adjustable endwise through the passage, a spring carried by the back of the handle with its free end projected into the passage and bearing against the stem to hold the same in yieldable engagement with the outer wall of the passage, and another spring fitted in the groove of the front of the fixed jaw with its inner free end closing the front end of the passage between the inner wall thereof and the stem and also bearing against the stem to supplement the first-mentioned spring.

5. A wrench comprising a handle having a fixed jaw projected at one side thereof and provided with a passage intersecting the front and rear of the jaw, the rear open end of the passage being provided with a transverse tooth at the front wall thereof, the front face of the jaw being provided with a groove intersecting the inner end thereof and the inner wall of the passage, a movable jaw having a stem adjustable endwise through the passage and provided with a series of teeth for engagement with the teeth of the fixed jaw, a leaf-spring secured to the back of the handle with its free end projected into the passage and bearing against the adjacent edge of the stem to yieldably maintain the teeth thereof in engagement with the teeth of the fixed jaw, and a spring fitted in the groove in the front of the fixed jaw with its inner free end closing the front end of the passage between the inner wall thereof and the stem and bearing against the latter, the stem capable of being tilted upon the front end of the outer wall of the passage against the pressure of the springs to disengage the teeth of the stem from the teeth of the fixed jaw to permit endwise adjustment of the stem.

6. A wrench comprising a handle having a fixed jaw projected at one side thereof and provided with a passage intersecting the front and rear of the jaw, the front face of the jaw being provided with a recess intersecting the passage, a movable jaw having a stem adjustable endwise through the passage, a spring seated in the recess with its free end projected across the passage into frictional engagement with the adjacent side of the stem to hold the latter in engagement with the opposite wall of the passage and closing the front end portion of the passage between the stem and the adjacent wall of the passage, and another spring carried by the back of the handle and projecting inwardly through the rear open end of the passage into engagement with the adjacent side of the stem to yieldably force the latter into engagement with the opposite wall of the passage.

807,619. SLIDING BIN. WILLIAM C. HOSIER, Indianapolis, Ind., assignor to Charles F. McDougall, Indianapolis, Ind. Filed Oct. 7, 1905. Serial No. 281,851.



Claim.—1. The combination, with a suitable inclosing casing, of a sliding bin mounted therein and provided at its upper rear corners with a sliding connection with the casing, and having an upwardly and rearwardly inclined bottom adapted to rest upon a portion of the casing, and a stop member normally serving to limit the outward movement from the bin.

2. The combination, with a suitable inclosing casing having a longitudinal groove formed near the upper end of each side wall, of a sliding bin mounted in said casing and having an upwardly and rearwardly inclined bottom adapted to rest upon a portion of the casing, a pair of pins carried by the bin and each projecting into the adjacent groove of the casing-wall, and a stop member carried by the inclined bin-bottom to engage a portion of the casing to limit the normal outward movement of the bin, said stop member bearing such relation to the supporting-pins that it may be caused to miss the casing by an abnormal outward movement of the bin.

3. The combination, with a suitable inclosing casing having the grooves 11, of a sliding bin having an upwardly and rearwardly inclined bottom, parts 16 carried by the bin near the upper inner corner and projecting into the adjacent grooves 11, and stop members 17 carried by the bin-bottom, substantially as and for the purpose set forth.

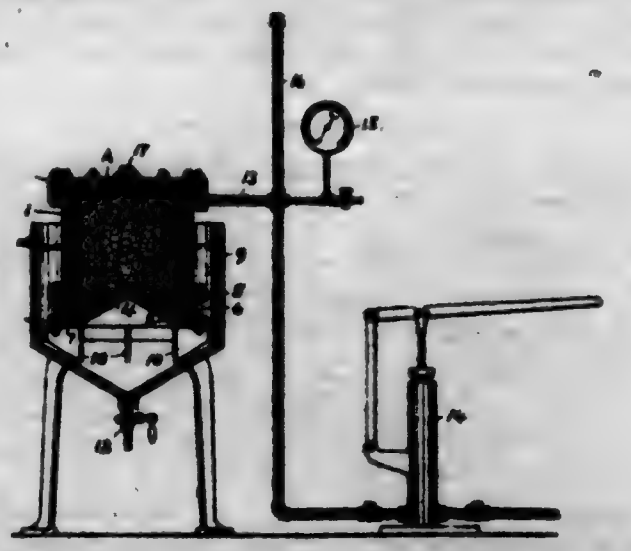
4. The combination, with a suitable inclosing casing having the grooves 11, of a sliding bin having an upwardly and rearwardly inclined bottom, parts 16 carried by the bin in the upper inner corner and projecting into the adjacent grooves 11, stop member 17 carried by the bin-bottom, and the member 13 carried by the casing and adapted to cooperate with said stop member.

5. The combination, with a suitable inclosing casing, of a sliding bin mounted therein and provided at its upper rear corners with a sliding connection with the casing, and having a bottom inclined upwardly toward the front and rear from an intermediate portion, said bottom being adapted to rest upon a support carried by the casing, which, when the bin is closed, engages the forwardly and upwardly inclined portion of the bin-bottom, and a stop member normally serving to limit the outward movement of the bin.

6. The combination, with a suitable inclosing casing having a longitudinal groove formed near the upper end of each side wall, of a sliding bin mounted in said casing and having a bottom inclined upwardly toward the front and rear from an intermediate portion, a support carried by the casing and adapted to be engaged by the bin-bottom, said support being so arranged that, when the bin is closed, it will be engaged by the forward upwardly-inclined portion of the bin-bottom, a pair of pins carried by the bin and each projecting into the adjacent groove of the casing-wall, and a stop member carried by the inclined bin-bottom to engage a portion carried by the casing to limit the normal outward movement of the bin, said stop member bearing such relation to the supporting-pins that it may be caused to miss the said portion carried by the abnormal outward movement of the bin.

7. The combination, with a suitable inclosing casing having the grooves 11, of a sliding bin having a bottom inclined upwardly toward the front and rear from an intermediate portion, rollers 16 carried by the bin near the upper inner corner and projecting into the adjacent grooves 11, the roller 13 arranged within the casing to be engaged by the bin-bottom and in such position that, when the bin is closed, it will be engaged by the forward upwardly-inclined portion of the bin-bottom, and a stop member 17 carried by the bin-bottom and adapted to engage the roller 13 to limit normal outward movement of the bin.

807,620. MERCURY AND AMALGAM SEPARATOR. HENRY J. HOSTMANN, Fort Wayne, Ind. Filed Sept. 23, 1903. Serial No. 174,372.



Claim.—1. In a device of the class described, a receptacle adapted to contain water; a cylinder having heads attached to its ends forming an inclosed chamber, and having also a closely-fitted joint at its bottom affording a passage-way for mercury from said chamber into said receptacle, the said joint ranging beneath the level of water in said receptacle; and means to produce hydraulic pressure within said chamber to thereby drive mercury from within said chamber through said joint.

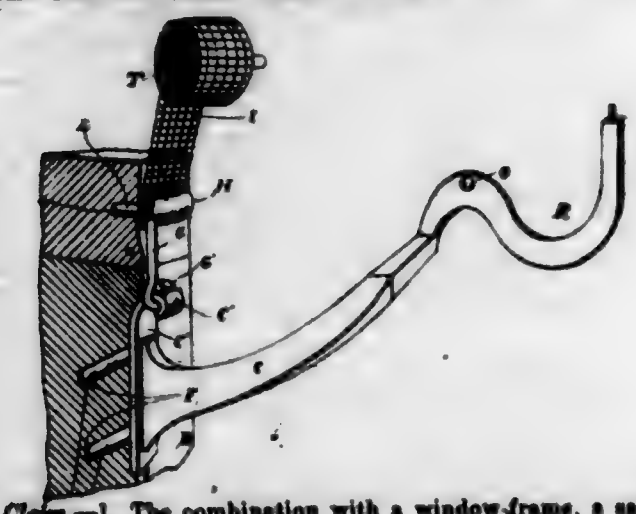
2. In a device of the class described, a stationary receptacle; a stationary inclosed chamber mounted in said receptacle, and having

a closely-fitted joint at its bottom affording a passage-way for mercury therefrom, the said joint ranging beneath the level of water in said receptacle; and means having a connection with said chamber for producing hydraulic pressure therein to drive mercury from within said chamber through said joint.

3. In a device of the class described, a cylinder having heads at its ends forming an inclosed chamber, the lowermost of said heads being fitted closely with the cylinder and thus providing a passage-way, through the joint thus formed, for mercury; a cone extending centrally within the bottom of the chamber and ranging upward from the marginal line adjacent said joint; and means to produce hydraulic pressure within said chamber to thereby drive mercury therefrom through said joint.

4. In a device of the class described, a receptacle adapted to contain water; and an inclosed chamber adapted to contain water under pressure, arranged in said receptacle, and having a closely-fitted joint at its lower part for the purpose specified, the said joint being located below the level of water in said receptacle.

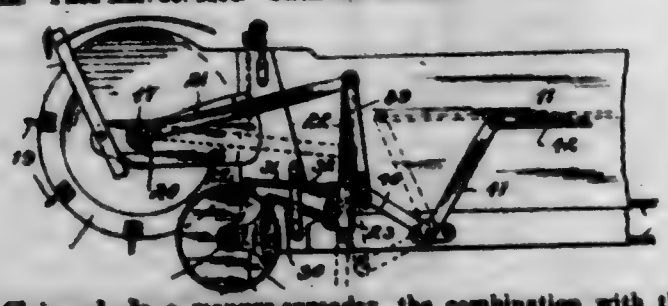
807,621. CURTAIN-FIXTURE. GEORGE W. KEYT, Santa Monica, Cal. Filed Dec. 2, 1903. Serial No. 183,534.



Claim.—1. The combination with a window-frame, a sash, a spring-roller supported by the frame, a netting wound on the roller, and a strip secured to the free edge of the netting, of curtain-fixtures secured to the sash, and having hooks thereon, and means extending from said hooks to the strip for connecting the netting to the sash, the fixtures constructed and adapted to support a curtain.

2. The combination of a window-bracket having a plurality of attaching-pins secured to the base thereof, and a hook on the upper part of said base; a window-sash having a plurality of sockets near the top thereof adapted to receive the attaching-pins of the bracket, said window-sash also having a plurality of sockets in the top rail thereof; a window-casing; a spring-operated screen mounted in said window-casing having an attaching-strip at the bottom thereof provided with a plurality of attaching-pins adapted to be inserted in the sockets of the top rail of the window-sash; a hook secured to said attaching-strip and said bracket.

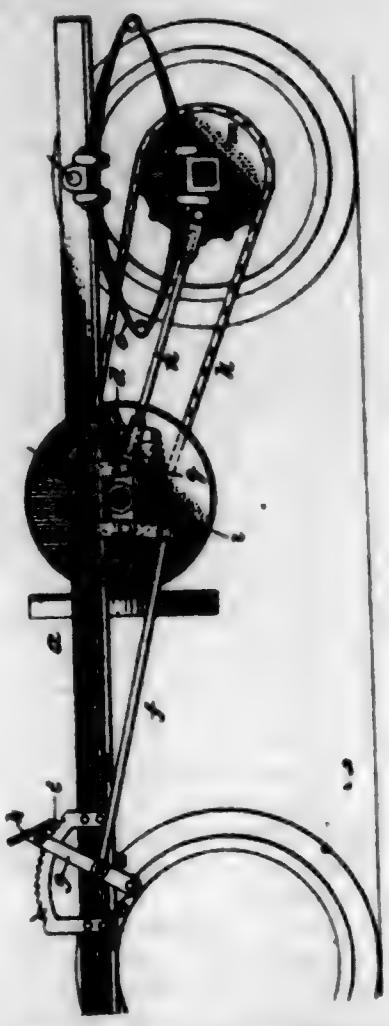
807,622. MANURE-SPREADER. LE GRAND KNIPPEN, Chicago, Ill. Filed Mar. 30, 1904. Serial No. 200,701.



Claim.—1. In a manure-spreader, the combination with the body, of disintegrating and distributing mechanism located at the rear end thereof, a rearwardly-movable conveyer located at the bottom of the body, a spring-actuated retarder transversely mounted on the rear portion of the body, and a curved shield pivotally mounted on the rear portion of the body and having on its rear part downwardly-projecting teeth, substantially as described.

2. In a manure-spreader, the combination with the body, of distributing means located at its rear end, a curved shield provided with supporting-arms pivoted on the rear portion of the body and having on its rear part downwardly-projecting teeth, substantially as described.

807,623. MOTOR-VEHICLE. JOHN W. LAMBERT, Anderson, Ind. Filed Apr. 3, 1905. Serial No. 253,468.



Claim.—1. In a motor-vehicle the combination of a driving-disk, a driven disk and a shaft carrying this latter disk, movable bearings on this shaft, means for shifting these bearings to engage and disengage the driven disk, springs pivotally depending from the frame of the vehicle and supporting the rear axle thereof, so that said axle may move bodily forward and backward, sprocket-wheels connected to the rear wheels, sprocket-wheels on the driven shaft and chains connecting said sprocket-wheels, and adjustable rod connections between the rear axle and said movable bearings, for the purpose set forth.

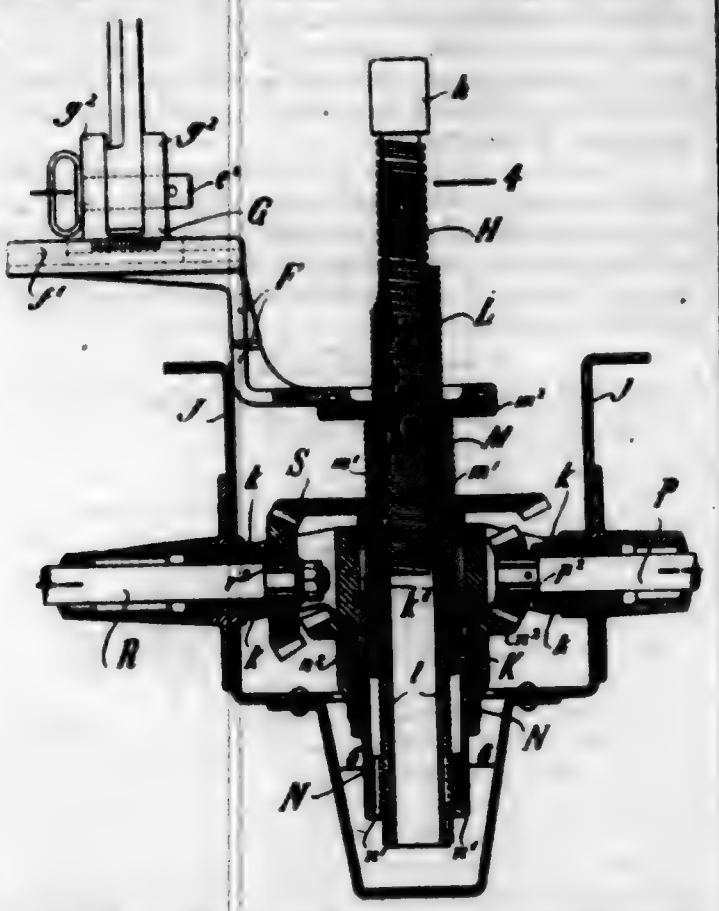
2. In a motor-vehicle the combination of a frame, a rear axle and means for connecting it to said frame in such manner as to permit it to have a bodily movement forward and backward, a driving-disk, a driven disk mounted on a shaft, bodily-movable bearings for said shaft and means for shifting these bearings to engage and disengage the driven disk, sprocket-chain connections between said driven shaft and the rear wheels, and stiff adjustable connections between the rear axle and said movable bearings.

3. In a motor-vehicle, the combination of a frame mounted on front and rear axles and wheels, the rear axle being bodily movable forward and backward, a driving-disk, a driven disk supported in movable bearings, means for shifting these bearings to engage and disengage the friction-wheels, pivotal rigid adjustable connections between said movable bearings and the rear axle, whereby said rear axle will move bodily to and fro with the driven shaft, and driving connections between said driven shaft and the rear wheels, substantially as set forth

4. In a motor-vehicle, the combination of a frame mounted on front and rear axles and wheels, the rear axle being bodily movable forward and backward, a driving-disk, a driven disk supported in movable bearings, means for shifting these bearings to engage and disengage the friction-wheels, pivotal rigid adjustable connections between said movable bearings and the rear axle, whereby said rear axle will move bodily to and fro with the driven shaft, driving connections between said driven shaft and the rear wheels, and spring connections between said shifting means and said rigid adjustable connections for the purposes set forth.

807,624. GUN WITH INDEPENDENT SIGHTING-LINE. OTTO LAUDEN and FRIEDRICH STOCK, Essen-on-the-Ruhr, Germany, assignors to Fried. Krupp, Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Aug. 30, 1904. Serial No. 222,742.

Claim.—1. An elevating mechanism for guns embodying a screw adapted to support the gun-barrel, a screw having means adapting it for connection with sight-post, means for mounting the latter screw on the gun-mount, a screw connecting both the first-named screws, means for rotating the connecting-screw to move the gun independently of the sight, and means for elevating the sight-post-connecting screw to move the gun-barrel and the sight-post together.



2. In a gun-elevating mechanism, the combination of three telescoping screws, means adapting one of the screws for supporting a gun-barrel, means adapting another of the screws for connection with the gun-sight, means for elevating this latter screw, and means for rotating the intermediate or other screw.

3. The combination of a carrier adapted for swinging movement on the mount, a pair of bevel-gears journaled in the carrier, a pair of telescoping screws one of which is rotated by, but has axial movement relative to one of said bevel-gears, and the other of which is elevated by the other bevel-gear, means adapting the latter of said screws for connection with a gun-sight post, and a third screw adapted to support a gun-barrel and adapted to telescope within the other screws.

4. In a gun, the combination with the mount, a part to be elevated pivoted on the mount and a sighting-post, of a screw having a pivotal connection with the part to be elevated, a screw having a pivotal connection with the mount and connection with the sighting-post, a screw connecting the two first-named screws, means for elevating the screw connected to the sight-post to move the gun barrel and sight together and means for rotating the connecting-screw to move the gun-barrel independently of the sight.

5. In a gun, the combination with the part to be elevated, its mount and a sight-post, of an elevating mechanism having a pivotal connection with the part to be elevated, a pivotal connection with the mount, and a loose sliding connection with the sight-post.

6. In a gun, the combination with the part to be elevated, its mount, and a sight-post, of an elevating mechanism embodying three telescoping parts, the upper of which has pivotal connection with the part to be elevated and the lower having a pivotal connection with the gun-mount and a loose sliding connection with the sight-post.

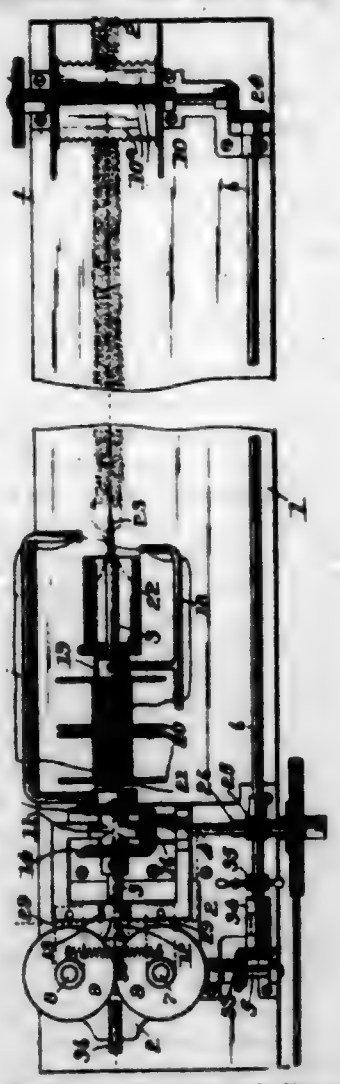
7. In a gun, the combination with the gun-barrel, and the sight-post, capable of relative vertical adjustment, of a pair of elevating mechanisms having screw members arranged coaxially to one another; one of said mechanisms being adapted to move the gun-barrel, and the other of said mechanisms adapted to move the gun-barrel and the sight-post.

8. In a gun having vertical and horizontal movement relative to the gun-mount, the combination with the gun-barrel, and the sight-post capable of relative vertical adjustment, of a pair of elevating mechanisms, one of said mechanisms being adapted to move the gun-barrel, and the other of said mechanisms being adapted to move the gun-barrel and the sight-post, means permitting swinging movement of said mechanisms relative to the sight-post, and means permitting horizontal training of the sight-post relative to said mechanisms.

9. In a gun having vertical and horizontal movement relative to the gun-mount, the combination with the gun-barrel, and the sight-post capable of relative vertical adjustment, of a pair of elevating mechanisms having screw members arranged coaxially to one another, one of said mechanisms being adapted to move the gun-barrel, and the other of said mechanisms being adapted to move the gun-barrel and the sight-post, means permitting swinging movement of said mechanisms relatively to the sight-post, and means permitting horizontal training of the sight-post relatively to said mechanism.

10. The combination with the gun-mount, the sight-post and the part to be elevated adjustable relatively to the sight-post, of a pair of elevating mechanisms embodying a plurality of coaxial screws, means rotating one of the screws and causing the elevation of the gun relatively to the sight-post and means moving another of the screws and causing the elevation of the sight-post and the gun together.

807,625. MACHINE FOR MAKING DECORATIVE ROPE. JOHN A. LYNN Charlevoix, Mich. Filed Nov. 11, 1903. Serial No. 180,711.



Claim.—1. A binding mechanism including an operating-shaft having an axial bore throughout its length and carrying a loosely-mounted bevel-gear and a fixedly-mounted bevel-gear, a driving-gear in mesh with said loosely and fixedly mounted gears to effect the operation of the same in opposite directions, a binding-arm mounted on said shaft to rotate therewith, a binding-arm secured to said loosely-mounted gear to rotate therewith in an opposite direction to the rotation of the coöperating arm, a bobbin for each arm loosely mounted on said operating-shaft to supply binder cord or wire to said arm, means for checking the unwinding action of said bobbins to effect a tension on the binding cord or wire, a mandrel located at the axis of rotation of said arms and removably secured to said operating-shaft, said mandrel constituting a form around which the decorative material is placed and bound together by the wire issuing from the adjacent ends of the binder-arms, a guard mounted on said operating-shaft to contain the free ends of the decorative material during the process of forming the product, a take-off mechanism or windlass adapted to coöperate with said binder to effect the progressive withdrawal of the product from the binder as the same is finished, a feed mechanism adapted to feed reeds or like material to the bore of said operating-shaft to effect the incorporation of said reed in the production of certain of the products of the mechanism,

and a clutch mechanism adapted to throw said feed mechanism into and out of gear with the binder mechanism, substantially as described.

2. A binding mechanism including an operating-shaft thereof, having a fixedly-mounted gear and a loosely-mounted gear, a driving-gear in mesh with said fixedly-mounted and loosely-mounted gears to effect the rotation of the same in opposite directions, cooperating binding-arms, one of said arms being mounted on said operating-shaft to rotate therewith, the other of said binding-arms being secured to said loosely-mounted gear to effect the operation of said arms in opposite directions, a bobbin for each arm mounted on said operating-shaft adapted to supply said arm with binder cord or wire, means for checking the unwinding action of said bobbins to effect a tension on the binding cord or wire, a mandrel located at the axis of rotation of said arms and removably secured to said operating-shaft, said mandrel constituting a form around which the product is set up and adapted to be bound by the wire or cord issuing from adjacent ends of the binder-arms, and a take-off mechanism adapted to cooperate with said binder to effect the withdrawal of the product from the mandrel as said product is finished, substantially as described.

3. A binding mechanism including an operating-shaft driven in a given direction, a pair of cooperating binding-arms rotated in opposite directions, means for supplying said arms with binder cord or wire, a tension device to check the speed of the wire to the binding-arms, a mandrel about which the binding-arms rotate, said mandrel constituting a form about which the product is set up, a hollow cylindric guard secured to said operating-shaft surrounding the same and adapted to project toward the path of rotation of the binding-arms to contain the free ends of the decorative material during the operation of forming the product, substantially as described.

4. A binding mechanism including an operating-shaft driven in a given direction, a pair of cooperating binding-arms rotated in opposite directions, means for supplying said arms with binder cord or wire, a tension device to check the speed of said wire to the binding-arms, said arms and cord or wire effecting the unity of the decorative material into a finished product, and a hollow cylindric guard mounted upon said operating-shaft, surrounding the same and adapted to project toward the path of rotation of the binding-arms to contain the free ends of the decorative material during the operation of forming the product, substantially as described.

5. A binding mechanism including an operating-shaft driven in a given direction, a pair of cooperating binding-arms rotated in opposite directions, means for supplying said arms with binder cord or wire, a tension device to check the speed of the wire to the binding-arms, a mandrel about which the binding-arms rotate, said mandrel constituting a form about which the product is set up, a hollow cylindric guard secured to said operating-shaft surrounding the same and projecting toward the path of the ends of the binding-arms to contain the free ends of the decorative material during the operation of forming the product, substantially as described.

6. A binding mechanism including an operating-shaft driven in a given direction, a pair of cooperating binding-arms rotated in opposite directions, means for supplying said arms with binder cord or wire, a tension device to check the speed of said wire to the binding-arms, said arms and cord or wire effecting the unity of the decorative material into a finished product, and a hollow cylindric guard mounted upon said operating-shaft, surrounding the same and projecting toward the path of the ends of the binding-arms to contain the free ends of the decorative material during the operation of forming the product, substantially as described.

7. A binding mechanism including an operating-shaft therefor, binding-arms adapted to rotate about said shaft, means for supplying said arms with binder cord or wire, means for checking the speed of the wire to said arms, a mandrel constituting a form around which the product is set up and bound together by the binder cord or wire issuing from the binder-arms, and a guard adapted to contain the free ends of the decorative material during the operation of forming the product, substantially as described.

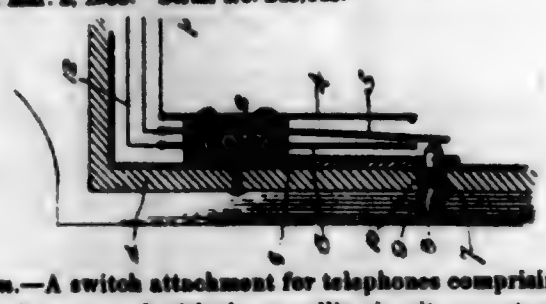
8. A binding mechanism including an operating-shaft therefor, binding-arms adapted to rotate about said shaft, means for supplying said arms with binder cord or wire, said arms and cord or wire effecting the unity of the decorative material into a finished product, and a guard adapted to contain the free ends of the decorative material during the operation of forming the product, substantially as described.

9. A binding mechanism including a single operating-shaft, a binding-arm fixed on said shaft to rotate therewith, a binding-arm loosely mounted on said shaft, means for rotating said arms in opposite directions, bobbins mounted on said shaft supplying said binder-arms with binding-cord, mechanism whereby said bobbins effect a tension on said binding-arm, and a guard mounted on said operating-shaft containing the free ends of the decorative material during the operation of forming the same into a product, substantially as described

10. A binding mechanism including a single operating-shaft, a binding-arm fixed on said shaft to rotate therewith, a binding-arm loosely mounted on said shaft, means for rotating said arms in opposite directions, a mandrel constituting a form about which the product is set up, and a guard containing the free ends of the decorative material during the operation of forming the same into a product, substantially as described.

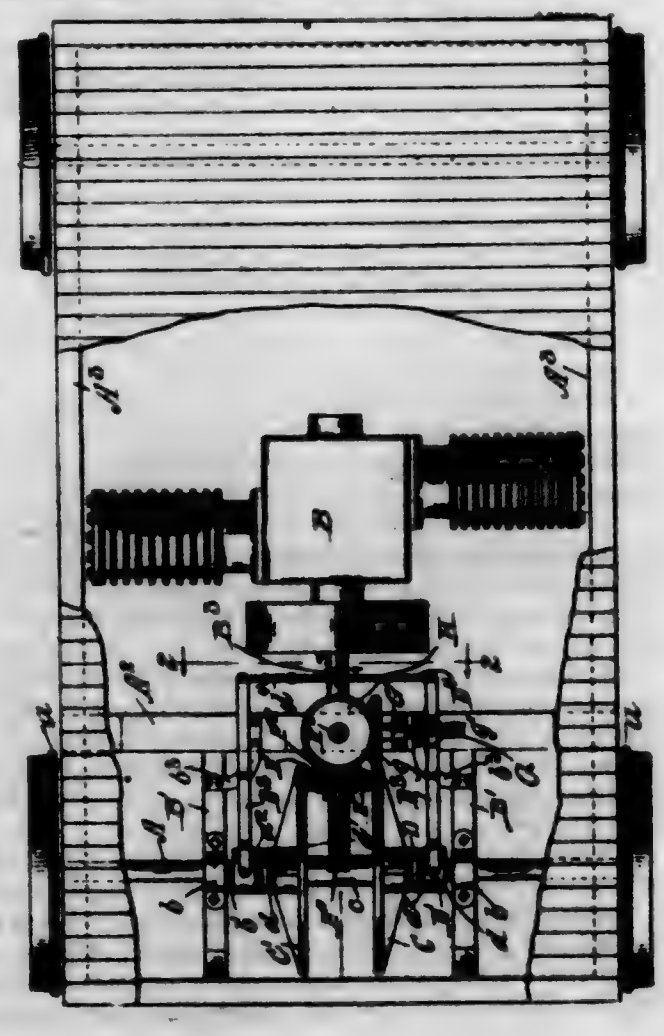
11. A binding mechanism including a single operating-shaft, a binding-arm fixed on said shaft to rotate therewith, a binding-arm loosely mounted on said shaft, means for rotating said arms in opposite directions, and a guard containing the free ends of the decorative material during the operation of forming the same into a product, substantially as described.

807,626. **SIGNAL-SWITCH.** GEORGE H. MARTENS, Murray, Nebr. Filed Mar. 2, 1905. Serial No. 248,140.



Claim.—A switch attachment for telephones comprising a contact-blade 3 connected with the metallic circuit, a contact-blade 4 connected with the ground-circuit, an interposing switch-blade 5 projecting beyond the contact-blades and connected to the metallic circuit of the telephone and normally in engagement with the contact-blade of the metallic circuit, thereby completing the same, said blades being suspended from an insulated support, a plate 6 having on its lower end a sleeve, a push-button 8 mounted in the sleeve, having an annular groove 9, a pin 10 in said sleeve serving to contact with the groove so as to regulate the movement of the switch-blade when contacting with the contact-blade, substantially as described.

807,627. **POWER-TRANSMISSION DEVICE.** GEORGE W. MARSH, Chicago, Ill. Filed Dec. 7, 1904. Serial No. 235,867.



Claim.—1. The combination with a friction-wheel of a friction-disk on each side thereof, means for adjusting said friction-wheel radially of said disks, adjustably-connected levers engaging the outer sides of said disks and means engaging the same acting to move said disks simultaneously one into and the other out of engagement with said friction-wheel.

2. In a device of the class described the combination with a shaft or axle of a pair of friction-disks slidably engaged thereon, a rotative shaft intermediate said disks, a driving friction-wheel slidably engaged thereon, means adapted to adjust said driving friction-wheel longitudinally of its shaft, means holding said disks in unvarying relation and a pair of adjustably-connected levers acting to shift said disks simultaneously, the one into and the other out of engagement with the driving friction-wheel.

3. In a vehicle the combination with an axle, a motor-shaft, a friction-wheel actuated thereby, a pair of inwardly-facing friction-disks slidably engaged on the axle either adapted to engage said driving friction-wheel, adjustably-connected levers adapted to shift said disks simultaneously and rotative means acting to adjust said driving friction-wheel radially of the disks.

4. The combination with a vehicle-frame and one of its axles, of a pair of unvaryingly-distanced friction-disks slidably engaged thereon and rotative therewith, a pair of adjustably-connected levers for simultaneously shifting said disks longitudinally of the axle, a driving-shaft carried on said frame and extending between said disks, a friction-wheel slidable thereon adapted to be engaged by either disk and a screw-shaft engaging one of said levers for adjusting either of said disks into engagement with said friction-wheel.

5. The combination with a shaft or axle, of a pair of permanently-spaced friction-disks slidably engaged thereon, a driving-shaft extending between the same, a friction-wheel slidable thereon, a yoke adapted to travel longitudinally of the driving-shaft and shift the friction-wheel radially of the disks and adjustably-connected levers acting to shift the disks relatively to the driving friction-wheel.

6. In a device of the class described the combination with a vehicle-frame, of a motor-shaft thereon, a longitudinally-movable driving friction-wheel on said shaft, an axle journaled in said frame, a friction-disk on said axle at each side the driving friction-wheel, a lever pivoted at the outer side of each disk, antifriction-bearings connected therewith adapted to engage said disks, means for varying the contact of said bearings and means acting to shift said disks relatively the driving friction-wheel.

7. In a device of the class described the combination with an axle of a pair of inwardly-facing friction-disks slidably engaged thereon, antifriction-bearings at the outer sides of said disks, adjustable means adapted to grip said bearings and disks between the same and to move said disks longitudinally of the axle, a positively-driven friction-wheel intermediate said disks adapted to be engaged by either to rotate said axle and rotative means for shifting said disks.

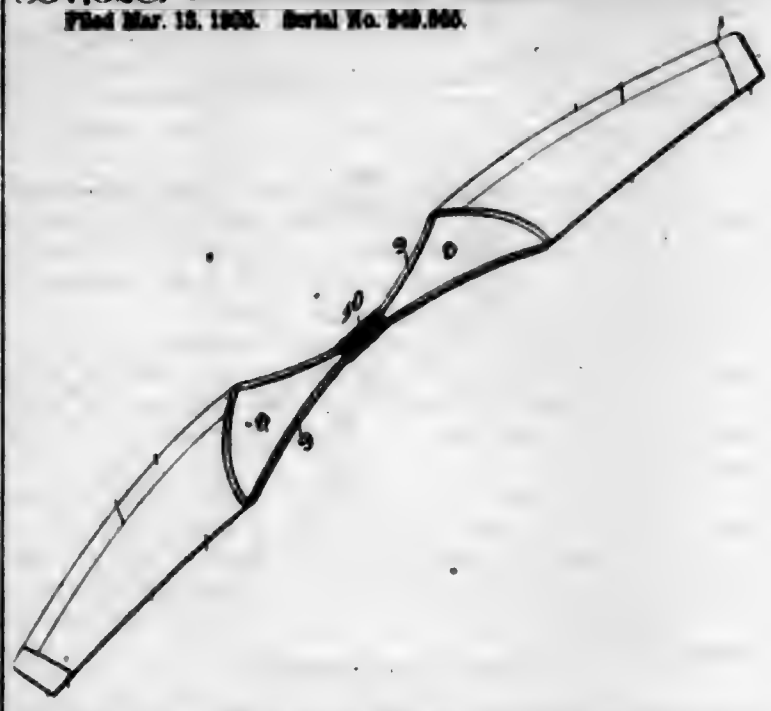
8. In a device of the class described the combination with a vehicle-frame of an axle journaled therein, a pair of rigidly-connected friction-disks slidably engaged thereon and antifriction-bearings at the outer sides of said disks, adjustable means adapted to hold said bearings into positive engagement with said disks, a screw-shaft engaged therewith adapted to shift the disks longitudinally of the axle, a motor-shaft, a driving friction-roller driven thereby and radially adjustable between the disks and adapted to drive either.

9. In a device of the class described the combination with a vehicle-frame, and one of its axles of longitudinally-movable connected friction-disks on said axle, a driving-shaft extending between said disks, a driving friction-wheel slidable on said shaft, a yoke adapted to move said friction-wheel longitudinally of the shaft, a screw-shaft engaged in said yoke, means for rotating the same and adjustable means adapted to move either of said disks into or out of contact with said driving friction-wheel.

10. In a device of the class described the combination with a vehicle-axle, of a pair of connected friction-disks slidably engaged on said axle and rotative therewith, a motor-shaft carried on said vehicle, and extending between said disks, a driving friction-wheel slidably engaged on said shaft, adjustably-connected, pivotally-supported levers engaging said disks, a screw-shaft operatively engaged with one of said levers and held from longitudinal movement, means for operating said screw-shaft, a yoke engaging said driving friction-wheel and means adapted to operate said yoke and adjust said friction-wheel radially of the disks.

11. In a device of the class described the combination with a vehicle-axle, of a pair of inwardly-facing, integrally-connected disks slidably engaged thereon, an antifriction-bearing at the outer sides of said disks, a lever pivotally engaged on each bearing, means adjustably connecting said levers, a drive-shaft projecting between said disks, a friction-wheel slidably engaged on said shaft between the disks, a screw-shaft journaled above the drive-shaft, a yoke movable longitudinally thereof and adapted to adjust the friction-wheel radially of the disks, means for operating said screw-shaft and means for operating said levers and adjusting the disks relative to said friction-wheel.

807,628. **SLEEVE-PROTECTOR.** MARCUS MARKS, St. Louis, Mo. Filed Mar. 13, 1905. Serial No. 249,865.



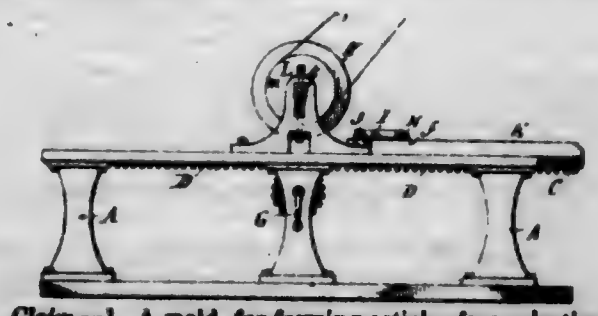
Claim.—A sleeve-protector, comprising sleeve portions adapted to cover the sleeves; shoulder portions tapered from end to end and attached to said sleeve portions adapted to cover the shoulders; and an elastic band secured to the adjacent reduced inner ends of said shoulder portions; substantially as specified.

807,629. **ARTIFICIAL FUEL.** EUGENE C. MAY, Chicago, Ill., assignor to National Garbage Fuel Company, Chicago, Ill. Filed Feb. 17, 1905. Serial No. 246,159.

Claim.—1. In artificial fuel, the combination with the stock made from garbage, of an agent consisting of oil and hydrochloric acid intermingled with said stock and which promotes combustion when exposed to the heat of the furnace.

2. In artificial fuel, the combination with the stock made from prepared garbage, of an agent consisting of oil and hydrochloric acid combined in proportions of about three per cent. oil and one-half per cent. acid and commingled with said stock, for the purpose set forth.

807,680. **APPARATUS FOR MAKING ARTICLES FROM PLASTIC MATERIAL.** WILLIAM P. MERKEL, Newark, N. J. Filed Apr. 25, 1904. Serial No. 204,747.



Claim.—1. A mold, for forming articles from plastic material, made in one piece, and provided with a depressed recess therein, and with a preliminary receiving-table, elevated above the bottom of the recess, at the forward end of such mold and integral therewith.

2. A mold, for forming articles from plastic material, provided with an acute-angled upper edge, entirely surrounding such mold, and with a preliminary receiving-table at one end thereof.

3. A mold, for forming articles from plastic material, provided with an acute-angled upper edge and with a preliminary receiving-table at one end thereof.

4. A mold, for forming articles from plastic material, provided with an acute-angled upper edge, and with a preliminary receiving-table at one end thereof, and having a groove or depression between such table and the edge of the mold.

5. The combination, in an apparatus for forming articles from plastic material, of a frame, provided with a support or bed, and with a pressure-roller, and a detached mold provided with a preliminary receiving-table carried upon said support or bed beneath said pressure-roller.

6. The combination, in an apparatus for forming articles from plastic material, of a frame, provided with a sliding bed and with a pressure-roller, mass-guides, and a detached mold having a preliminary receiving-table at the forward end thereof and adapted to be carried by said sliding bed beneath said mass-guides and roller.

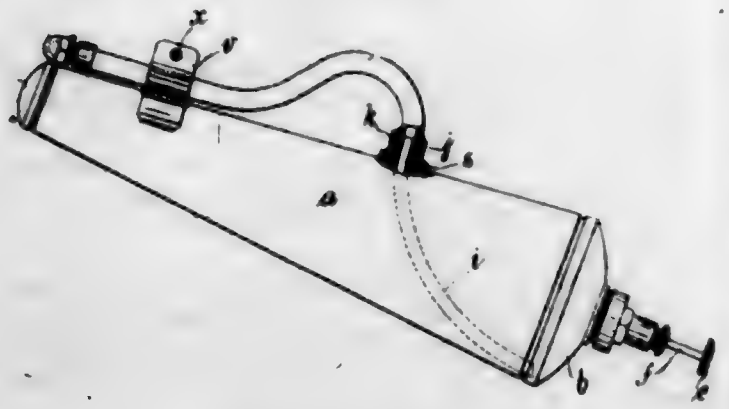
7. The combination, in an apparatus for forming articles from plastic material, of a frame, provided with a sliding bed and with a pressure-roller, and a detached mold, having a preliminary receiving-table at the forward end thereof, passing beneath and against said roller.

8. The combination, in an apparatus for forming articles from plastic material, of a frame, provided with a sliding bed and with a pressure-roller, and a detached mold, provided with a preliminary receiving-table at the forward end thereof and with acute-angled upper edges, passing beneath and against said roller.

9. The combination, in an apparatus for forming articles from plastic material, of a frame, provided with a sliding bed and a pressure-roller, adjustable mass-guides, and a detached mold, having a preliminary receiving-table at its forward end, carried by said bed beneath said pressure-roller.

10. The combination, in an apparatus for forming articles from plastic material, of a frame, provided with a sliding bed and a pressure-roller, adjustable mass-guides with inclined ends, and a detached mold, having a preliminary receiving-table at its forward end, and carried by said bed beneath and against said mass-guides and pressure-roller.

807,631. **CHEMICAL FIRE-EXTINGUISHER.** HANS MIXOREY, Schlesberg, near Berlin, Germany, assignor to The Firm of W. Graff & Company Gesellschaft mit Beschränkter Haftung, Berlin, Germany. Filed Nov. 17, 1904. Serial No. 233,236.



Claim.—1. A fire-extinguisher comprising a receptacle having an opening in its side, an internal tube projecting through said opening and loosely attached to the side of the receptacle, and an external tube detachably engaging the projecting end of said internal tube and provided with a nozzle on its free end, substantially as described.

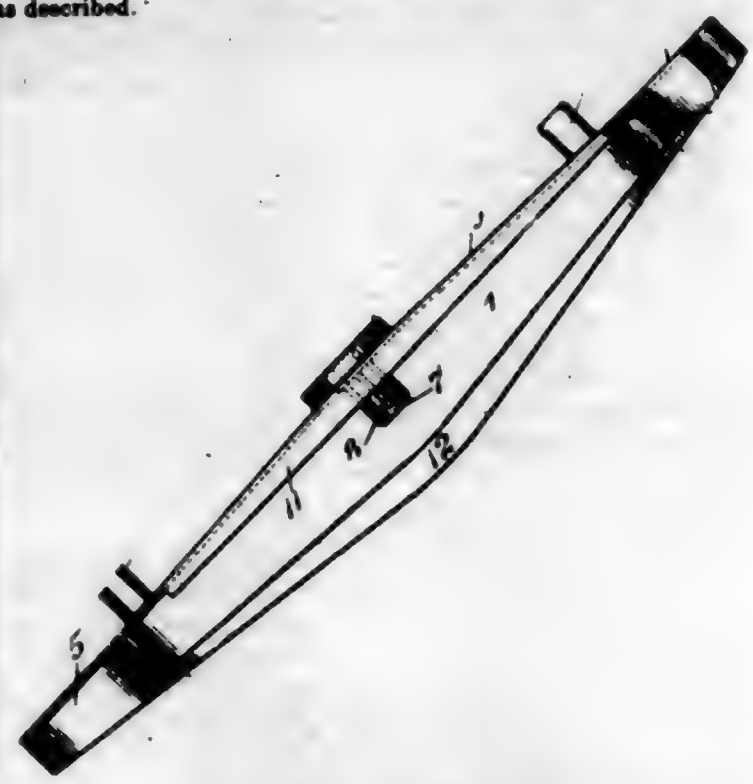
2. A fire-extinguisher comprising a receptacle having an opening in its side, an internal tube projecting through said opening and loosely attached to the side of the receptacle, a tubular handle provided with a nozzle on one of its ends and having its other end detachably engaging the projecting end of the internal tube, substantially as described.

3. A fire-extinguisher comprising a receptacle having an opening in its side, an internal tube projecting through said opening and loosely attached to the side of the receptacle for removal from the receptacle, a tubular handle having one of its ends detachably engaging the projecting end of the internal tube, a nozzle on the free end of said handle, and detachable means for securing the free end of the handle to the receptacle, substantially as described

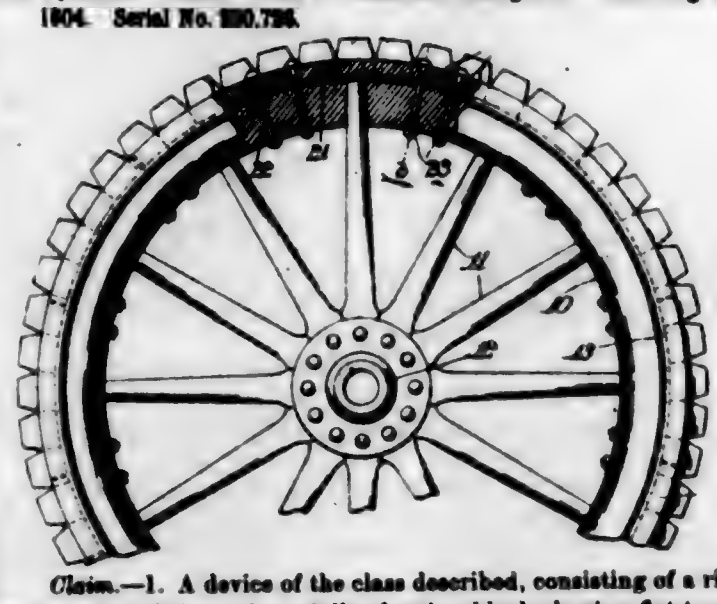
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807,632. **CAR-TRUCK BOLSTER.** WILLIAM C. MILLER, Granite City, Ill. Filed Feb. 24, 1904. Serial No. 194,968.

Claim.—A bolster having spring-seats and a single longitudinally-disposed web provided with a king-bolt-receiving recess terminating intermediate the top and bottom of the web and provided with a transverse opening for the reception of the fastening device to secure the king-bolt in position, a top plate carried by the web and having depending flanges extending from spring-seat to spring-seat, and a tapered flange carried at the bottom of the web; substantially as described.



807,633. **TIRE.** JOHN F. MCCANNA, Chicago, Ill. Filed Aug. 15, 1904. Serial No. 220,726.



Claim.—1. A device of the class described, consisting of a rim, and a series of circumferentially-abutting blocks having flat tread-surfaces and inclined sides and ends and radial abutting portions.

2. In a device of the class described, the combination with a rim having a circumferential groove provided with inclined faces, rows of blocks seated in the groove, and independent wedge strips between the rows for securing the blocks in place.

3. In a device of the class described, the combination with a wheel provided with a felly, a rim on the felly and having a circumferential dovetail groove, rows of tapering blocks seated in the groove, wedge strips located between the rows of blocks, and bolts passing through the wedge strips, the rim and felly for securing the wedge strips independently of each other.

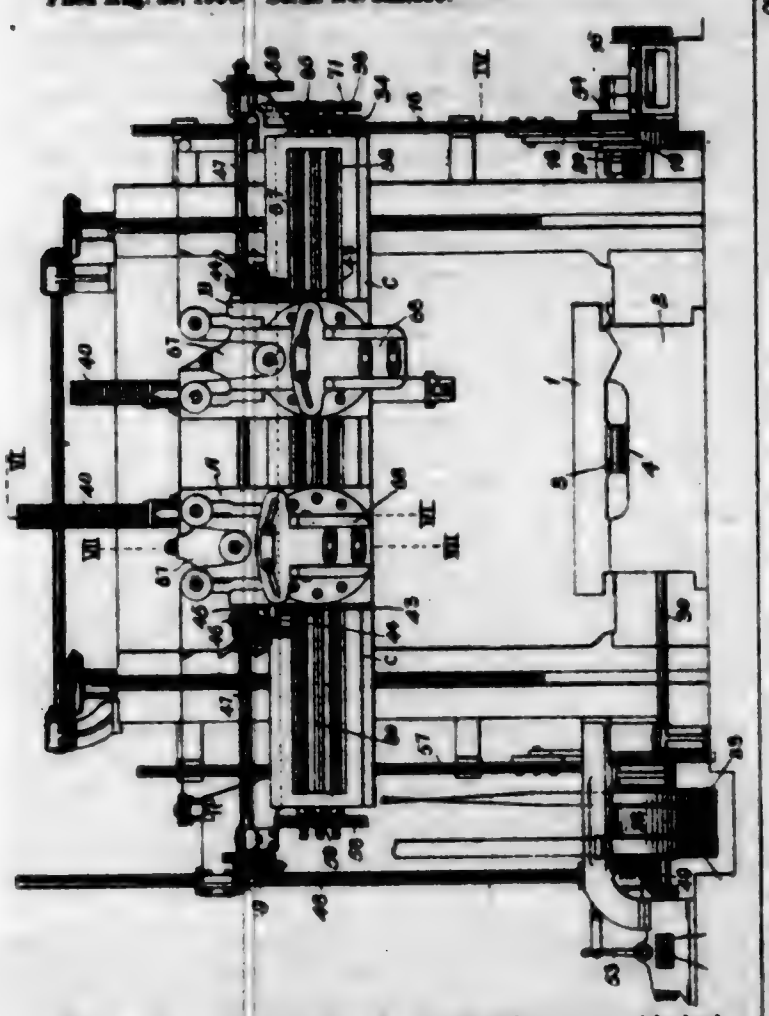
4. In a device of the class described, the combination with a rim having a circumferential dovetail groove, a pair of treads seated in the groove and adapted to the inclined sides of the groove and consisting of independent blocks, a series of wedge strips located between the treads and clamping the latter in place, and bolts for securing the wedge strips independently of each other.

5. In a device of the class described, the combination with a wheel-felly, a rim having a circumferential dovetail groove, a plurality of circumferential rows of independent blocks adapted to the groove and having inclined sides and ends and flat tread-surfaces, a series of wedge strips located between the rows of blocks, and bolts passing through the strips, rim and felly for securing each strip independently of the others and the tire and rim to the felly.

6. In a device of the class described, the combination with a rim having a circumferential dovetail groove, a plurality of treads seated in the groove and having inclined outer sides cooperating with the inclined sides of the groove, circumferential wedge strips located between the treads the inner sides of which are inclined to

correspond with the inclined faces of the wedge strips, and bolts for wedging the strips between the treads and for securing such strips independently of each other to the rim.

807,634. PLANER. SAMUEL McELHANE, Pittsburg, Pa., assignor to Mackintosh Hemphill & Company, Pittsburg, Pa., a Corporation. Filed Aug. 28, 1904. Serial No. 222,500.



Claim.—1. A planer having in combination a movable bed, a vertically-movable rail, a saddle provided with tool-holding means and adjustable along the rail, a slotter-bar mounted in the saddle, a power mechanism and connections therefrom for reciprocating the bed and slotter-bar and shifting the saddle, substantially as set forth.

2. A planer having in combination a movable bed, a vertically-movable rail, a saddle provided with tool-holding means and adjustable along the rail, a slotter-bar mounted in the saddle, two power mechanisms, connections from one mechanism for reciprocating the bed and slotter-bar and adjusting the saddle, connections from the other power mechanism for reciprocating the bed and adjusting the saddle and means for disconnecting said parts or elements from the power mechanisms, substantially as set forth.

3. A planer having in combination a movable bed, a vertically-movable rail, a saddle adjustable along the rail, tool-holding means adjustably mounted on the saddle, a slotter-bar mounted on the saddle, two power mechanisms, connections from one power mechanism for reciprocating the bed and slotter-bar and adjusting the saddle, connections from the other power mechanism for reciprocating the bed, adjusting the saddle along the rail and the tool-holder in the saddle, and means for disconnecting said parts or elements from the power mechanisms, substantially as set forth.

4. A planer having in combination a movable bed, a rail, a saddle movable along the rail, a slotter-bar mounted in the saddle, a toothed bar or rack, means for reciprocating the rack and connections from the rack to bed and saddle for shifting said parts, substantially as set forth.

5. A planer having in combination a movable bed, a rail, a saddle movable along the rail, a slotter-bar mounted in the saddle, a power mechanism and independent lines of connections therefrom to the bed, slotter-bar and saddle for shifting said parts, substantially as set forth.

6. A planer having in combination a movable bed, a rail, a saddle movable along the rail, a tool-holder adjustably mounted on the saddle, a slotter-bar mounted in the saddle, two power mechanisms one for operating the bed, slotter-bar and the saddle, and the other for operating the bed, saddle and tool-holder substantially as set forth.

7. A planer having in combination a movable bed, a rail, a saddle movable along the rail, a tool-holder adjustably mounted on the saddle, a power mechanism, connections therefrom for reciprocating the bed and adjusting the saddle, a power mechanism and connections therefrom for effecting a quick movement of the saddle, substantially as set forth.

807,685. ADVERTISING DEVICE. CHARLES H. NEAL, Baltimore, Md. Filed Oct. 21, 1903. Serial No. 177,985.



Claim.—1. An advertising medium embodying in combination with a picture or other attractive feature, an inscription suggested thereby and associated therewith, a normally concealed advertising inscription in explanation or in continuation of the first-mentioned inscription, and means for exposing and for automatically concealing said advertising inscription, said means and inscriptions being outside of the boundary or limits of the picture or other attractive feature, for the purpose specified.

2. An advertising medium embodying a support for an attractive feature, such as a fine picture, and affording a foundation or support for an advertising inscription, a cover for said inscription adapted to receive an inscription to excite curiosity and adapted also to be moved by hand for disclosing the advertising inscription and when released to automatically close and again cover said advertising inscription, the latter together with said cover being located outside of the field occupied by said picture or other attractive feature.

3. An advertising medium embodying in combination with a picture or other attractive feature, a backing or support therefor, a flap hinged at its upper edge to said backing or support outside of the field occupied by said picture or other attractive feature, an inscription on said flap and an advertising inscription beneath said flap and normally concealed thereby, said advertising inscription being in continuation or in explanation of the first-mentioned inscription.

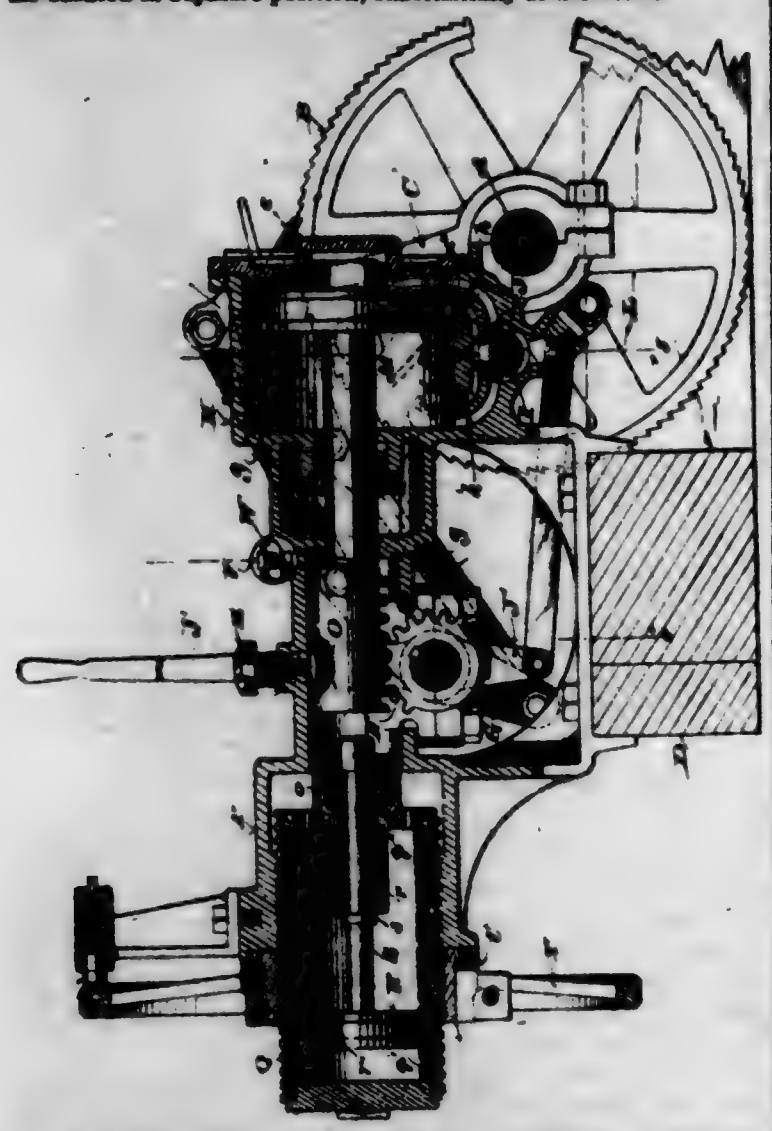
807,686. SAWMILL SET-WORKS. ARTHUR NIEDENFUHR, Milwaukee, Wis., assignor to The Filer & Stowell Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed Jan. 19, 1901. Serial No. 43,556.

Claim.—1. In sawmill set-works, the combination with the set-shaft, of a cylinder having valve-controlled fluid supply and exhaust connections, a piston fitted to work in said cylinder and having an operating connection with said set-shaft, and an air-cushion adjustable axially toward and from said piston and adapted to limit its movement at different points, substantially as described.

2. In sawmill set-works, the combination with the set-shaft, of a cylinder having valve-controlled fluid supply and exhaust connections, a piston fitted to work in said cylinder and operatively connected with said set-shaft, and an air-cushion for limiting the movement of said piston in one direction, consisting of a cylinder adjustable axially toward and from said piston, a plunger fitted in said cylinder and a spring tending to return said plunger to its initial position toward said piston, substantially as described.

3. In sawmill set-works, the combination with the set-shaft, of a cylinder having valve-controlled fluid supply and exhaust connections, a piston fitted to work in said cylinder and operatively con-

nected with said set-shaft, an air-cushion for limiting the movement of said piston in one direction, consisting of a cylinder and a plunger fitted to work therein in line with said piston, a hand-wheel for adjusting said air-cushion revolubly connected with the housing of the plunger-cylinder, which has an external screw-thread engaging a screw-thread in one part and a longitudinal groove engaged by a key in the other part, and a detent for holding said hand-wheel and air-cushion in adjusted position, substantially as described.



4. In sawmill set-works, the combination with the set-shaft, of a cylinder having two valve-controlled fluid supply and exhaust ports arranged to produce a fluid-cushion in one end of the cylinder for retarding the movement of its piston in one direction, a piston fitted to work in said cylinder and operatively connected with said set-shaft, and an air-cushion for limiting the movement of said piston in the other direction, consisting of an axially-adjustable cylinder provided with a plunger in line with said piston, substantially as described.

5. In sawmill set-works, the combination with the set-shaft provided with a ratchet-wheel and oscillatory pawl-carriers having pawls adapted to engage with and turn said ratchet-wheel, a rock-shaft provided with a gear and with arms which are connected by links with said pawl-carriers, a cylinder arranged transversely to said rock-shaft and having valve-controlled fluid supply and exhaust connections with its ends, a piston fitted to work in said cylinder and attached to a rack which engages with the gear on said rock-shaft, a cylindrical housing arranged in line with said cylinder on the opposite side of said rock-shaft, a cylinder adjustable endwise in said housing and provided with a plunger forming therewith a yielding stop for limiting the movement of said piston, and means for adjusting the plunger-cylinder toward and from the piston-cylinder, substantially as described.

6. In sawmill set-works, the combination with the set-shaft of a cylinder having valve-controlled fluid supply and exhaust connections, a piston fitted to work in said cylinder and operatively connected with said set-shaft, an adjustable cushion-stop for limiting the movement of said piston in one direction, a movable auxiliary stop for limiting the movement of said piston in the opposite direction short of its initial position, and means for automatically withdrawing said auxiliary stop from operative position on every alternate double stroke of said piston, substantially as described.

7. In sawmill set-works, the combination with the set-shaft, of a fluid-motor having a pawl and ratchet-wheel connection with said set-shaft and consisting of a cylinder having valve-controlled supply and exhaust connections and a piston fitted to work in said cylinder, a cushion-stop consisting of a cylinder and plunger arranged in line with and adjustable toward and from said piston, an auxiliary stop for limiting the return movement of said piston short of its initial position, and a cam operated by the movement of said piston for withdrawing said auxiliary stop from operative position on every alternate return stroke of said piston, substantially as described.

8. In sawmill set-works, the combination with the set-shaft, of a cylinder having valve-controlled fluid supply and exhaust connections, a piston fitted to work in said cylinder and operatively connected with the set-shaft, a removable stop-block for limiting the movement of said piston in one direction short of the extreme limit of its movement in that direction, and mechanism for automatically moving said block alternately into and out of operative position, substantially as described.

9. In a sawmill set-works, the combination with the set-shaft, of a cylinder having valve-controlled fluid supply and exhaust connections, a piston fitted to work in said cylinder and operatively connected with said set-shaft, a movable stop-block for limiting the return movement of said piston toward its initial position, a cam for alternately raising and lowering said stop-block, a ratchet-wheel on the cam-shaft, a forked arm revolubly mounted on the cam-shaft and provided with a yielding dog in engagement with said ratchet-wheel and a part connected with said piston and adapted by engagement with said forked arm to turn the same back and forth through a part of a revolution, substantially as described.

10. In sawmill set-works, the combination with the set-shaft, of a cylinder having valve-controlled fluid supply and exhaust connections, a piston fitted to work in said cylinder, a rock-shaft connected with the set-shaft and with said piston and provided with a crank-arm, a movable stop-block adapted by engagement with a shoulder on the piston-rod to limit the movement of said piston toward its initial position, a cam for alternately raising and lowering said stop-block, a ratchet-wheel on the cam-shaft, and a forked arm revolubly mounted upon said cam-shaft with its fork in the path of the crank-pin on said arm, and provided with a dog held by a spring in yielding engagement with said ratchet-wheel, substantially as described.

11. In sawmill set-works, the combination with the set-shaft and a parallel rock-shaft having a pawl and ratchet-wheel connection therewith, of a cylinder and cylindrical housing mounted in line with each other on opposite sides of and transversely to said rock-shaft, a piston fitted to work in said cylinder and connected with said rock-shaft by a rack and gear, a cylinder having an external screw-thread engaging a screw-thread in said housing, a hand-wheel revolubly connected with said housing around said threaded cylinder and provided with a key in engagement with a longitudinal groove in said threaded cylinder, a plunger fitted in said threaded cylinder and having a rod guided in the head of said cylinder toward and in line with the piston-rod, and a spring normally holding the plunger-rod projecting from the head of the plunger-cylinder toward the piston-cylinder, substantially as described.

12. In sawmill set-works, the combination with the set-shaft, of a cylinder having valve-controlled fluid supply and exhaust connections, a piston fitted to work in said cylinder and having an operating connection with said set-shaft, and yielding and positive stops adjustable together axially toward and from said piston and adapted to check and limit its movement at different points, substantially as described.

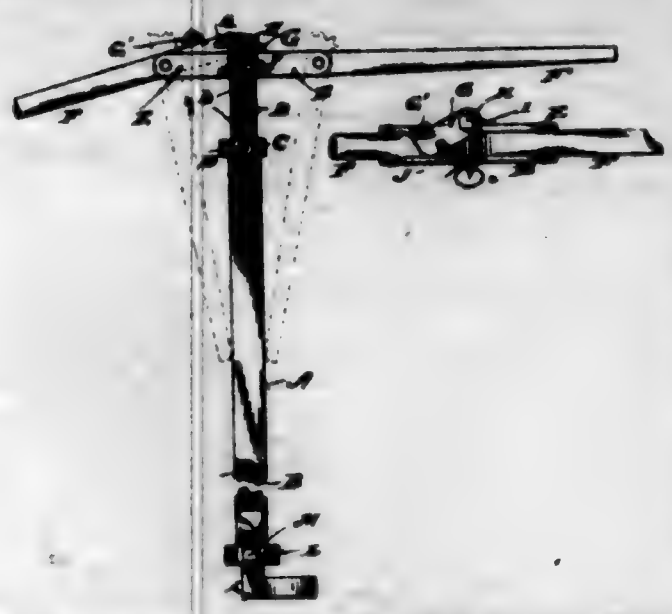
13. In sawmill set-works, the combination with the set-shaft, of a motor-cylinder, a piston fitted therein and having an operating connection with said shaft, and an air-cushion and positive stop both adjustable toward and from said piston to check and limit its movement at different points, substantially as described.

807,687. EXPENSIBLE WRENCH. JESSE P. PAYNE, Peoria, Ill., assignor of one-half to AXEL E. LUNDBERG, Peoria, Ill. Filed Aug. 15, 1904. Serial No. 220,774.

Claim.—1. In a wrench of the character described, an extensible stem or body, collapsible handles at right angles thereto situated at one end, means for locking the handles in immovable rigid relation only when raised and a device at the other end for receiving and turning a nut.

2. In a wrench of the character described, an extensible stem or body, means for adjusting said extensible stem and securing the same against movement, collapsible handles at one end of the stem at right angles thereto, means for locking the handles in immovable rigid relation only when raised and a device at the opposite end of the stem for receiving and turning a nut.

3. In a wrench of the character described, an extensible stem or body, arms at one end of the stem and adapted to collapse for the purpose set forth, means for locking the handles in immovable rigid relation only when raised and detachable means at the opposite end of the stem for turning a nut or bolt.



4. In a wrench of the charater described, the stem or body of the wrench, the same being extensible for the purposes described, collapsible handles at one end for turning the wrench, means for locking the handles in immovable rigid relation only when raised and detachable means at the opposite end of the stem for turning a nut or bolt.

5. In a wrench of the character described, the stem or body comprising telescopic members adjustable within each other, means for adjustably securing them together, foldable arms at one end of the stem for the purposes set forth, means for locking the arms at right angles to the stem in an operative position, and detachable means at the opposite end of the stem for turning a nut.

6. In a wrench of the character described, a stem or body for the wrench, the same composed of telescopic portions, means for securing them in fixed relation when adjusted to the desired length, handles at one end of the stem at right angles thereto for turning the wrench the same being collapsible when not in use, means for locking the handles in immovable rigid relation only when raised for work and a detachable device at the lower end of the stem for turning a nut.

7. In a wrench of the character described, a stem or body for the wrench, the same composed of a plurality of parts adjustable for length, collapsible pivoted handles at one end for turning the wrench, a latch for locking the handles immovably in line with one another, only when raised and a ratchet device at the opposite end of the stem, for turning a nut by a ratchet movement in either direction for the purposes set forth.

8. In a wrench of the character described, a stem or body for the wrench composed of telescopic sections, means for adjustably securing them together, a pair of collapsible arms at one end of the stem for turning the wrench, means for securing the arms in fixed position at right angles to the stem, means at the lower end of the stem for securing a nut-turning device therein, and a detachable nut-turning device for said stem arranged substantially as set forth.

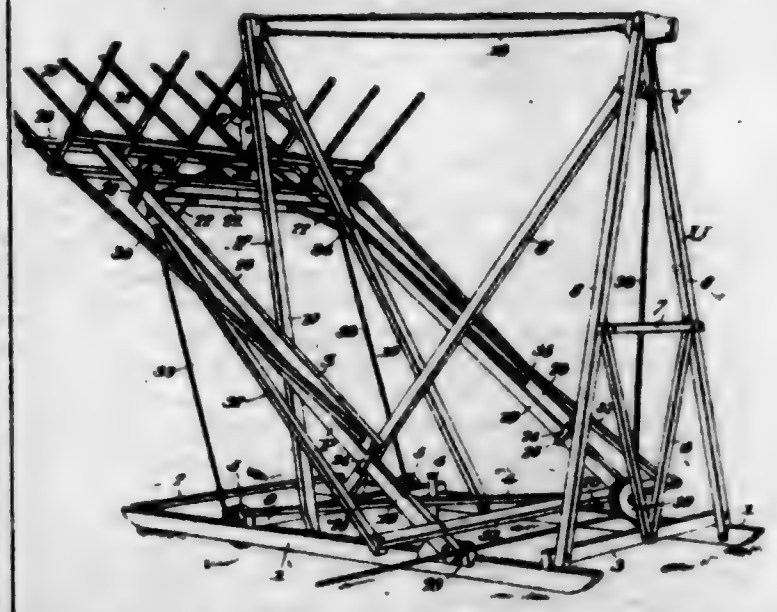
9. A wrench comprising a stem of telescopic members, means for adjustably securing said members together, arms pivoted to the end of one of the members, a pivoted member for securing said arms at right angles to the member on which they are pivoted, said means when swung on its pivot permitting the handles to collapse and lie close to the member supporting them and a nut-turning member at the opposite end from the handles for the purposes set forth.

10. A wrench comprising a stem of telescopic members, means for adjustably securing them together, two arms pivoted to one end of one of the members, and adapted to occupy a position at right angles to the members carrying them, the pivots of the arms being removed from the adjacent ends thereof, a latch member mounted on the carrying member to swing horizontally above the adjacent ends of the arms, means under which the latch is thrust when locking the arms against movement, the arms arranged to collapse substantially as described, and a nut-turning member at the opposite end of the telescopic members.

11. In a wrench of the character described, the combination of the tubular telescopic members A, B, transverse extensions E on the top of the latter, arms F pivoted between the arms E, the latch G pivoted at the top of the said member B, the overhanging member K beneath which the latch is adapted to pass for locking the arm immovably in a horizontal position, means for adjusting the said members A and B in fixed relation to one another, and a nut-turning member for removable attachment to the free end of the member A.

12. The combination of the slotted member S and its carrying-stem N, a horizontally-pivoted dog U within the slot, the same having a pawl end thereon at each side of its pivot forward thereof, a spring-plunger W in the member S, the same having a downward pressure due to the spring, there being depressions in the dog rearward of the pivot for receiving the plunger as described, a ratchet member 2 within the member S and adapted to turn therein by means of the dog, the dog being adjustable for reversing the direction of movement imparted to the said member S, and a nut-turning member 3 carried by the ratchet member substantially as set forth.

807,688. **HAY-STACKER.** DAVID PLATTNER, Denver, Colo., assignor to Plattner Implement Co., Denver, Colo. Filed Jan. 11, 1905. Serial No. 240,639.



Claim.—1. In a stacker, an upright frame, a movable fulcrum-frame, a pivoted load-carrying frame having an extensible load-carrying member, and means for swinging the load-carrying frame against the movable fulcrum-frame and the latter against the upright frame and for elevating the extensible load-carrying member to a load-discharging position, from which the several parts are restored to normal position by the descent, by gravity, of the load-carrying member.

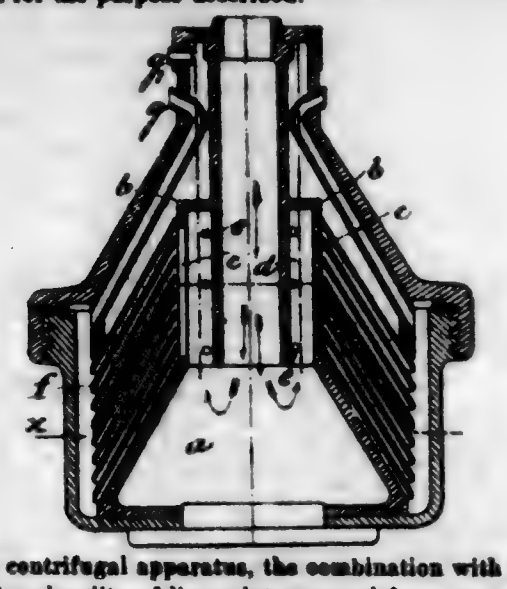
2. In a stacker, a relatively stationary upright, a movably-supported guide, a pivoted load-carrying frame, an extension member connected slidingly with said frame and having a load-receiving head, guides upon the side members of the pivoted frame, flexible members connected with the side members of the extension-frame and guided over the guide members upon the pivoted frame to fixed points of attachment below said frame, and means guided over the movably-supported guide for applying draft to the load-supporting frame in the direction of the movable guide and to the latter in the direction of the stationary upright.

3. A base-frame, a load-supporting frame pivotally connected therewith, guides near the free end of said frame, an extension-frame slidingly connected with the load-carrying frame, flexible elements connected with the side members of the slidable extension near their inner ends and guided over the guides upon the load-carrying frame to fixed points of attachment upon the base-frame, a movably-supported guide, draft means applied to the load-carrying frame and guided over the movably-supported guide, and a relatively stationary member having rope-guiding means; said stationary member being disposed in the path of the supporting means of the movable guide.

4. In a stacker, a base-frame, a relatively stationary upright frame, a tilting frame, guides carried by said tilting and upright frames, a pivoted load-carrying frame, a yoke connected with said frame, a guide supported by said yoke, and a draft element connected with the tilting frame and guided successively over the guides supported by the yoke of the load-carrying frame, by the tilting frame, and by the stationary frame.

807,689. **CENTRIFUGAL MILK-SEPARATOR.** BERNHARD A. O. PRELLWITZ, Copenhagen, Denmark, assignor to Aktieselskabet Burmeister & Wains Maskin-og Skibsbygger-i, Copenhagen, Denmark. Filed July 20, 1904. Serial No. 218,004.

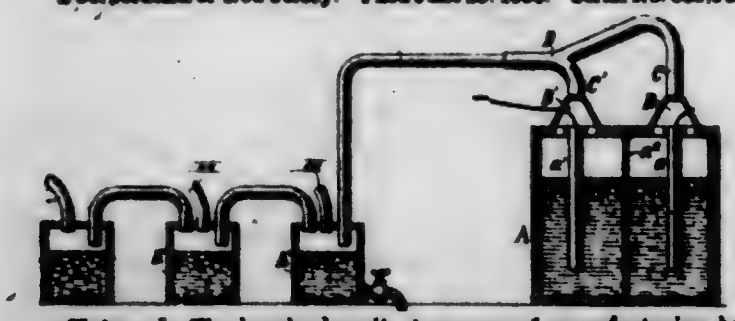
Claim.—1. In a centrifugal apparatus, the combination with the inlet-chamber, of a plurality of liner-plates spaced from one another, a plurality of vertical feed-tubes communicating with the inlet-chamber and having holes opening into the spaces between the liner-plates, said tubes being arranged concentric relatively to the axis of the apparatus and having the inner portion of their hollow space out of the path of the liquid to be separated, substantially as set forth and for the purpose described.



2. In a centrifugal apparatus, the combination with the inlet-chamber, of a plurality of liner-plates spaced from one another, a plurality of vertical feed-tubes spaced apart and communicating with the inlet-chamber and having holes opening into the spaces between the liner-plates, said tubes being arranged concentric relatively to the axis of the apparatus and having the inner portion of their hollow space out of the path of the liquid to be separated, the walls of said inner portions having openings providing communication between the tubes and their intermediate spaces, substantially as set forth and for the purpose described.

3. In a centrifugal milk-separator, the combination with the inlet-chamber, of a plurality of liner-plates spaced from one another, a plurality of vertical feed-tubes spaced apart and communicating with the inlet-chamber and having holes opening into the spaces between the liner-plates, said tubes being arranged concentric relatively to the axis of the separator and having the inner portion of their hollow space out of the path of the milk to be separated, the inner portion of the spaces between the feed-tubes being positioned interior of the cream zone of the separator and the walls of the feed-tubes having openings providing communication between the inner portion of the feed-tubes and their intermediate spaces, substantially as set forth and for the purpose described.

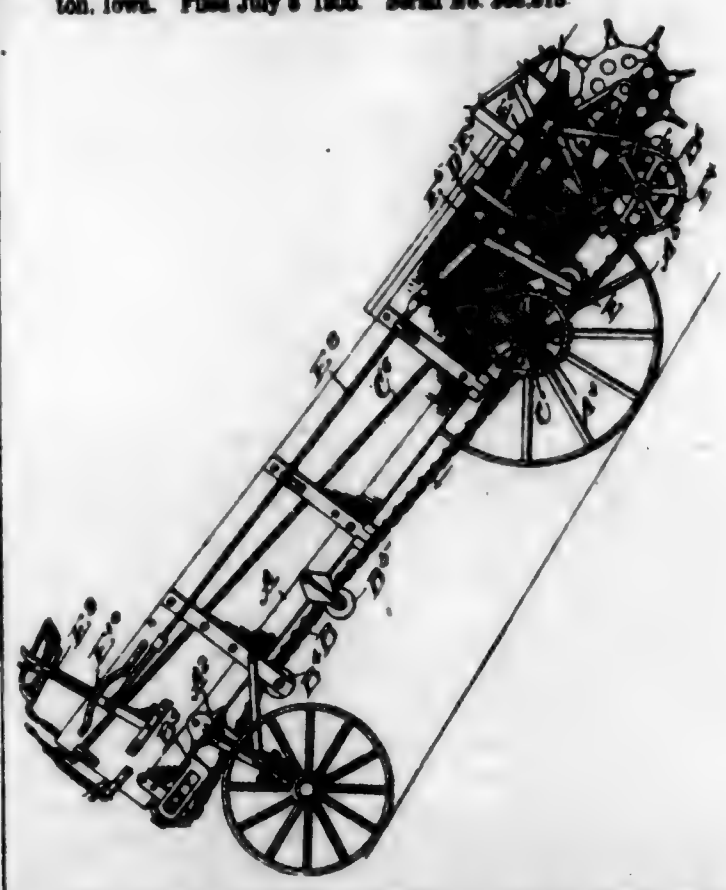
807,640. **MANUFACTURE OF HYDROCHLORIC ACID.** ISAIAH L. ROBERTS, Brooklyn, N. Y., assignor to Roberts Chemical Company, a Corporation of New Jersey. Filed June 26, 1896. Serial No. 553,948.



Claim.—1. The herein-described process of manufacturing hydrochloric acid, which consists in producing hydrogen and chlorin, conducting the two gases in separate streams to a common point, causing the streams to impinge directly upon each other at such point, burning the two gases at the point of impingement, one supporting the combustion of the other without the presence of any other gas, and conducting off and recovering the hydrochloric acid resulting from such combustion, as set forth.

2. The herein-described process of manufacturing hydrochloric acid, which consists in continuously producing regulated amounts of hydrogen and chlorin, in the relative proportions in which they combine to form said acid, conducting the two gases in separate streams to a common point, causing the streams to impinge directly upon each other at such point, burning the two gases at the point of impingement, one supporting the combustion of the other without the presence of any other gas, and conducting off and recovering the hydrochloric acid resulting from such combustion, as set forth.

807,641. **FERTILIZER-DISTRIBUTER.** STINSON ROBINSON, Vinton, Iowa. Filed July 6, 1905. Serial No. 268,513.



Claim.—1. In a fertilizing-distributer, a body portion, an endless belt mounted therein, a driving-shaft provided with a ratchet-wheel at one end of said belt, an operating-lever, pawls pivoted at one end thereof and extending from said operating-lever to opposite sides of said wheel, and means for shifting said lever longitudinally to adjust the throw of said pawls by moving the pivot of the lever relative to said ratchet.

2. In a fertilizer-distributer, a body portion, an endless belt mounted therein, a driving-shaft provided with a ratchet-wheel at one end of said belt, an operating-lever, pawls pivoted at one end thereof and extending from said operating-lever to said wheel, means for shifting said lever and pivoted pawls relative to the ratchet to adjust the throw of said pawls, a counter-shaft, means for driving the same, a crank-pin carried by said counter-shaft, and a pitman extending from said crank-pin to said lever.

3. In a fertilizer-distributer, a body portion, an endless belt mounted therein, a driving-shaft provided with a ratchet-wheel at one end of said belt, an operating-lever, pawls extending from said operating-lever to said wheel, means for shifting said lever transversely of its pivot to adjust the throw of said pawls, a counter-shaft, means for driving the same, a hub carried by said counter-shaft and provided with a crank-pin, a pitman extending from said crank-pin to said lever, a driving-gear slidingly mounted upon said counter-shaft to clutch with the hub of said crank-pin, and a gear carried by the shaft of the traction-wheels of said body.

4. In a fertilizer-distributer, a body portion, an endless belt mounted therein, a driving-shaft provided with a ratchet-wheel at one end of said belt, an operating-lever, pawls extending from said operating-lever to said wheel, means for shifting said lever transversely of its pivot to adjust the throw of said pawls, a counter-shaft, means for driving the same, a hub carried by said counter-shaft and provided with a crank-pin, a pitman extending from said crank-pin to said lever, a driving-gear slidingly mounted upon said counter-shaft to clutch with the hub of said crank-pin, a gear carried by the shaft of the traction-wheels of said body, a shaft extending longitudinally of the body and provided with an operating-handle at its forward portion, a shipper-rod carrying at its lower end the gear upon the counter-shaft, and a crank-arm upon said shaft adapted to actuate said shipper-rod.

5. In a fertilizer-distributer, a body portion, an endless belt mounted therein, a driving-shaft provided with a ratchet-wheel at one end of said belt, an operating-lever, pawls extending from said operating-lever to said wheel, a link for shifting said lever transversely of its pivot to adjust the throw of said pawls, a counter-shaft, means for driving the same, a hub carried by said counter-shaft and provided with a crank-pin, a pitman extending from said crank-pin to said lever, a driving-gear slidingly mounted upon said counter-shaft to clutch with the hub of said crank-pin, a gear carried by the shaft of the traction-wheels of said body, a shaft extending longitudinally of the body and provided with an operating-handle at its forward portion, a shipper-rod carrying at its lower end the gear upon the counter-shaft, a crank-arm upon said shaft adapted to actuate said shipper-rod, and a rod extending to the forward portion of the machine for the purpose of adjusting the relative position of said link.

6. In a fertilizer-distributer, a body portion, an endless belt mounted therein, a driving-shaft provided with a ratchet-wheel at one end of said belt, an operating-lever, pawls extending from said operating-lever to said wheel, a counter-shaft, means for driving the same, a hub carried by said counter-shaft and provided with a crank-pin, a pitman extending from said crank-pin to said lever, a driving-gear slidingly mounted upon said counter-shaft to clutch with the hub of said crank-pin, a gear carried by the shaft of the traction-wheels of said body, a shaft extending longitudinally of the body and provided with an operating-handle at its forward portion, a shipper-rod carrying at its lower end the gear upon the counter-shaft, a crank-arm upon said shaft adapted to actuate said shipper-rod, a link pivotally connected to the operating-lever of the pawls and disposed at an angle thereto, a rod extending to the forward portion of the machine for the purpose of adjusting the relative position of said link, a spreader-drum, a sprocket-wheel upon said counter-shaft at the opposite side of the machine from the gear thereon, and a chain extending from said sprocket-wheel to the spreader-drum.

7. In a fertilizer-distributer, a body portion, an endless belt mounted therein, a driving-shaft provided with a ratchet-wheel at one end of said belt, an operating-lever, pawls extending from said operating-lever to said wheel, a counter-shaft extending transversely of the body, means for driving the same, a hub carried by said counter-shaft and provided with a crank-pin, a pitman extending from said crank-pin to said lever, a driving-gear slidingly mounted upon said counter-shaft to clutch with the hub of said crank-pin, a gear carried by the shaft of the traction-wheels of said body, a shaft extending longitudinally of the body and provided with an operating-handle at its forward portion, a shipper-rod carrying at its lower end the gear upon the counter-shaft, a crank-arm upon said shaft adapted to actuate said shipper-rod, a link pivotally connected to the operating-lever of the pawls and disposed at an angle thereto, a rod extending to the forward portion of the machine for the purpose of adjusting the relative position of said link, a spreader-drum, a sprocket-wheel upon said counter-shaft at the opposite side of the machine from the gear thereon, a chain extending from said sprocket-wheel to the spreader-drum, and a guard-plate disposed above said drum and normally held in its lowered position by spring tension.

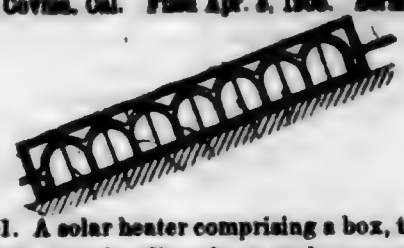
8. In a fertilizer-distributer, a body portion provided with an endless belt, a driving-roll for said belt having a ratchet-wheel thereon, an operating-lever provided with an elongated pivoting-aperture, pawls pivotally connected to one end of said lever and disposed at opposite sides of said ratchet-wheel, means for oscillating the opposite end of said lever and means for shifting the lever laterally of its pivot.

9. In a fertilizer-distributer, a body portion provided with an endless belt, a driving-roll for said belt having a ratchet-wheel thereon, an operating-lever provided with an elongated pivoting-aperture, pawls pivotally connected to one end of said lever and disposed at opposite sides of said ratchet-wheel, means for oscillating the opposite end of said lever, and a connection to the end of said lever opposite said pawls for shifting the lever laterally of its pivot.

10. In a fertilizer-distributer, a body portion, a delivery mechanism mounted thereon, traction-wheels having their axle mounted upon said body portion, a driving-gear carried by said axle, a counter-shaft provided with a gear loosely mounted thereon and having a clutch connection upon one face thereof, a cooperating clutch member secured to said counter-shaft and provided with a crank-pin, a pitman extending from said crank-pin, a lever actuated by said pitman and provided with pawls for operating the delivery mechanism and a cooperating ratchet carried by said mechanism.

11. In a fertilizer-distributer, a body portion, a delivery mechanism mounted thereon, traction-wheels having their axle mounted upon said body portion, a driving-gear carried by said axle, a counter-shaft provided with a gear loosely mounted thereon and having a clutch connection upon one face thereof, a cooperating clutch member secured to said counter-shaft and provided with a crank-pin, a pitman extending from said crank-pin, means actuated by said pitman for operating the delivery mechanism, a shipper-rod connected at its free end to said gear upon the counter-shaft, and an operating-shaft for said shipper-rod provided with a crank portion connected thereto.

807,642. SOLAR HEATER. WILLIAM S. SIMMS and JOHN P. KLEINCE, Covina, Cal. Filed Apr. 3, 1905. Serial No. 253,441.



Claim.—1. A solar heater comprising a box, the top of which is corrugated to form a plurality of external convex faces, portions of the top being folded between the convex faces to form partitions which extend to the bottom of the box, and bolts connected to the bottom and to the convex portions of the top for holding the top in place with the folded edges of the partitions against the bottom of the box.

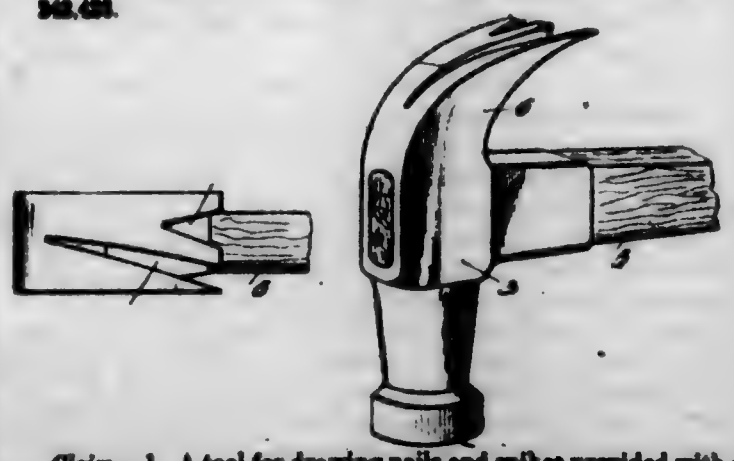
2. A solar heater comprising a box, the top of which is corrugated to form a plurality of external convex faces, portions of the op, being folded between the convex faces to form partitions, the partitions extending to the bottom of the box, and fastening means adapted to hold the bases of the partitions against the bottom of said box.

3. A solar heater comprising a box, the top of which is corrugated to form a plurality of external convex faces, portions of the top being folded between the convex faces to form partitions extending to the bottom of the box, each partition having a notch forming a passage for water from one side of the partition to the other.

4. A solar heater comprising a box, the top of which is corrugated to form a plurality of external convex faces, portions of the top being folded between the convex faces to form partitions extending to the bottom of the box, each partition having a notch forming a passage for the water from one side of the partition to the other, the notches in alternate partitions being at one side of the box, and the notches in the other partitions being at the other side of the box.

5. A solar heater comprising a box, the top of which is corrugated to form a plurality of external convex faces, portions of the top being folded between the convex faces to form partitions extending to the bottom of the box, each partition having a notch forming a passage for the water from one side of the partition to the other, the notches in alternate partitions being at one side of the box, and the notches in the other partitions being at the other side of the box, a suitable inlet-pipe for one extreme chamber in the box, and an outlet-pipe for the opposite extreme chamber, the said pipes being located substantially diagonally opposite each other.

807,643. CLAW OF TOOLS FOR DRAWING NAILS OR SPIKES. GEORGE E. ELY, San Diego, Cal., assignor of two-thirds to John Johnston, Jr., Escondido, Cal. Filed Jan. 28, 1905. Serial No. 243,423.



Claim.—1. A tool for drawing nails and spikes provided with a plurality of claw-slots of different depths, the deeper of said claw-slots commencing at one side of the shallower of the claw-slots and running toward and terminating near the central longitudinal line of the claw-drawing portion of the tool, the shallower of said claw-slots terminating within a short distance of the end of the claw and being adapted to receive nails or spikes therein.

2. As an article of manufacture a tool for drawing nails and

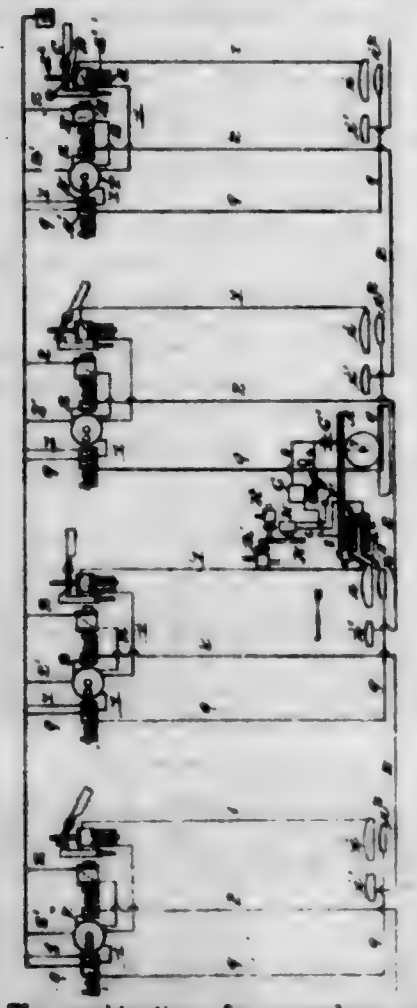
spikes provided with a claw having two claw-slots therein starting from the end of the claw, one of said claw-slots being deeper than the other and starting at one side of the claw and running toward and terminating near the central longitudinal line of the claw, the other claw-slot terminating near the end of the claw, and both of said claw-slots being adapted to receive nails and spikes.

807,844. ORNAMENTAL BUTTON. FREDERICK E. STANLEY, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a Corporation of Connecticut. Filed July 22, 1905. Serial No. 270,241.



Claim.—An ornamental button, comprising a cap and a plate attached thereto and provided with prongs cut diagonally from the plate, said prongs bent at substantially right angles to the plate and also bent laterally to bring their vertical axes into a plane perpendicular to the plate and to said prongs, in order that the prongs may be clenched or rolled straight back upon themselves by suitable means in attaching the button to a garment.

807,845. RAILWAY SIGNALING. SAMUEL D. STROBEL, Philadelphia, Pa. Filed Aug. 26, 1901. Serial No. 404,149.



Claim.—1. The combination of a semaphore, an annunciator and actuating mechanism controlled by a leading train to set the semaphore to danger position and lock it in said position, and for separately actuating the annunciator by following trains, and means whereby said semaphore and annunciator are restored to normal position when the last train of the following trains passes off the block controlled by said devices, substantially as set forth.

2. The combination of a semaphore and its actuating mechanism, an annunciator and its actuating mechanism, said actuating mechanisms being arranged to operate together when the semaphore is set to danger and safety positions, the semaphore-actuating mechanism being idle or inoperative while in danger position, and its annunciator mechanism operative at all times by a passing train in either its forward or backward motion, substantially as set forth.

3. The combination of a semaphore, electromagnetic devices including a circuit-breaker, an annunciator controlled by said devices and operating when said circuit-breaker is opened, substantially as set forth.

4. The combination of a semaphore, electrically-controlled actuating devices for said semaphore, an annunciator, electromagnetic devices for the annunciator separate from the semaphore-actuating devices, circuit connections and contact-plates therefor controlled by a passing train, substantially as set forth.

5. The combination of a station-semaphore electromagnetic actuating devices, two separate series of contact-plates and circuit connections, an engine or motor-car having shifting or movable contact devices for contact with plates and automatically controlled by the forward and backward motions of the engine or car, substantially as set forth.

6. The combination of a semaphore *c*, solenoid-actuating core *a*, for setting the semaphore to danger position, a locking armature-lever *e* for holding the semaphore in danger position, an electromagnet for said locking armature-lever, and circuit connections, substantially as set forth.

7. An engine having a closed circuit including magnetic appurtenances and a ground connection and contact-brush, and an open shunt-circuit including magnetic devices, a contact-brush and ground connections, substantially as set forth.

8. An engine or car having a normally closed circuit including ground connections and a contact-brush for opening such closed circuit, and an open shunt therefrom including a contact-brush and ground connections, substantially as set forth.

9. An engine or motor-car having a closed circuit including electromagnetic devices, a contact-brush and a contact-stop for said brush, an open shunt-circuit including electromagnetic devices, a contact-brush and a contact-stop for said brush in combination with contact-plates along the line of way for vibrating or raising said brushes from said contact-stops, substantially as set forth.

10. An engine or motor-car having a normally closed circuit including electromagnetic devices, a vibrating contact-brush and a ground connection, an open shunt-circuit including electromagnetic devices controlling the power-controlling devices for the engine or motor-car, and a vibrating contact-brush and a ground connection, substantially as set forth.

11. An engine or motor-car having a normally closed circuit including an electromagnet and a source of electric supply, a shunt-circuit, a vibrating contact-brush, contact point or points for said brush for opening and closing said closed circuit, substantially as set forth.

12. An engine or motor-car having a normally closed circuit including an electromagnet, a source of electric supply, a shunt-circuit having contact point or points, a vibrating brush for contact with said point or points for opening and closing said closed circuit, and power-controlling devices for the engine or motor-car controlled by said magnet, substantially as set forth.

13. A railway having station electromagnetic devices, circuit connections and contact-plates, an engine or motor-car having a closed circuit including a source of electric supply, an electromagnet and contact point or points, a vibrating contact-brush for opening said closed circuit as the brush contacts with the plates at the stations and power-controlling devices under the control of said magnet, substantially as set forth.

14. An engine or motor-car having a closed battery or electric circuit, a power-controlling device with magnetic appurtenances, a resistance in said battery or electric circuit controlling the switch of a separate or shunt circuit, including the power-controlling magnetic appurtenances for stopping the engine or train when said battery or generator circuit is in a non-working condition, substantially as set forth.

15. A railway-station-signal circuit-breaker having a shaft *s'*, a non-conductor cylinder or disk having a conductor-strip *k* mounted on said shaft, contact-brushes *k'*, k^2 for said cylinder or disk, ratchet-wheels on said shaft engaging with armatures of electromagnets M, N, for alternately rotating step by step the shaft *s*, and circuit connections for said magnets and contact-brushes, substantially as set forth.

16. A railway having station electromagnetic appurtenances in partial circuits, track-contacts therefor, an engine or car, power-controlling devices thereon, a normally closed electric circuit on said car, an electromagnet included in said circuit, an armature for said magnet, connections between said armature and the power-controlling devices, and a contact device included in said circuit and adapted to enact with the track-contacts.

17. A railway having station electromagnetic appurtenances in partial circuits, track-contacts at the respective stations included in circuits for predetermined forward and rearward stations, an engine or car, power-controlling devices thereon, a normally closed electric circuit on said car, an electromagnet included in said circuit, an armature for said magnet, connections between said armature and

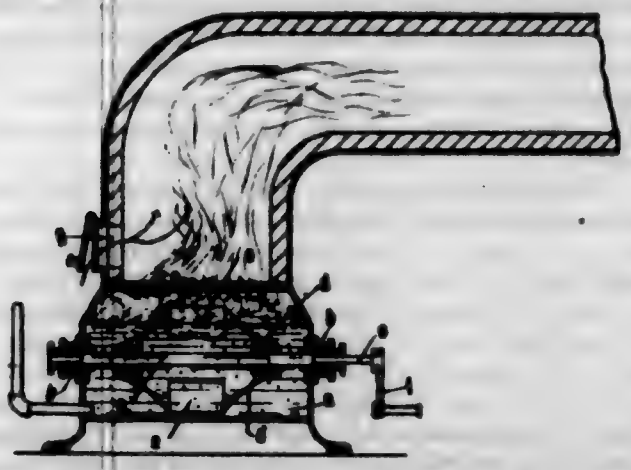
the power-controlling devices, and a contact device included in said circuit and adapted to coact with the track-contacts.

18. An engine or car having a normally closed electric circuit, means for opening such closed circuit, an open shunt-circuit therefrom, and means for closing said shunt-circuit, in combination with power-controlling devices on the engine or car, and electromagnetic appurtenances controlled by said circuits to operate said power-controlling devices, substantially as described.

19. An engine or motor-car having a closed electric circuit including an electromagnetic device, means for opening said circuit, an open shunt-circuit including an electromagnetic device, and means for closing said shunt-circuit, in combination with devices along the line of way for operating the said opening and closing means for the respective circuits substantially as described.

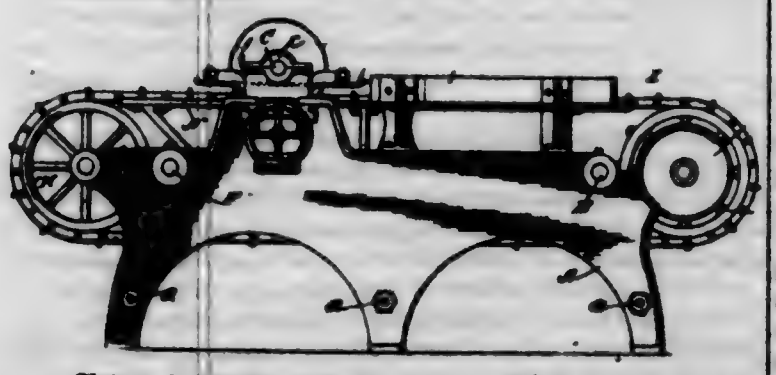
20. In an engine or motor-car, having a normally closed electric circuit including an electromagnetic device, means for opening said circuit, an open shunt-circuit including an electromagnetic device, power-controlling devices on the engine or car under the influence of said electromagnetic device, and means for closing said shunt-circuit, substantially as described.

807,646. APPARATUS FOR MAKING LAMPBLACK. GOTTFRIED WIESELER, Kalscheuren, Germany. Filed Aug. 19, 1903. Serial No. 170,225.



Claim.—In an apparatus for making lampblack, the combination of a stationary hydrocarbon-liquid-containing vessel open at the top and closed at the sides and at the bottom, a combustion-chamber communicating with the top of said vessel and provided with an air-inlet, and a mechanical stirrer within the vessel; said stirrer being journaled in the side walls of the vessel, and having a part projecting outside of the vessel.

807,647. STEP-MITERING MACHINE. JOHN B. WEBB, Chicago, Ill., assignor to William P. Healy, Chicago, Ill. Filed Mar. 31, 1900. Serial No. 11,827.



Claim.—1. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a rotary cutter-head, a laterally-movable cutter-head, a laterally-movable inner frame member, an endless traveling work-holder provided with means for presenting the cleats to said cutter-heads and passing the same below the latter, said work-holder being laterally adjustable and entirely below the axis of the two cutter-heads, means for moving the cutter-heads up and down, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the simultaneous raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of said cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

2. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads provided with step-mitering knives, and having circular saws for cutting off the ends of the cleats, one cutter-head being laterally movable, a traveling work-holder adapted to receive and bodily carry the cleats in the direction necessary for passing the same beneath the said cutter-heads, said work-holder being laterally adjustable and entirely below the axis of the two cutter-heads, an inner and laterally-movable frame member, means for moving the cutter-heads up and down, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the simultaneous raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of said cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

3. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, one cutter-head being laterally movable, a shaft carrying said cutter-heads, a pair of endless link belts constituting an endless work-holder for carrying the cleats in the direction necessary for passing the same beneath the cutter-heads, means for varying the distance between said belts in accordance with the distance between said cutter-heads, the two endless chains or belts being entirely below the axis of the two cutter-heads, an inner and laterally-movable frame member, means for moving the cutter-heads up and down, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the simultaneous raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of said cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

4. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a horizontal shaft mounted for up-and-down movement, a pair of rotary cutter-heads mounted on said shaft and adapted for step-mitering the ends of the cleats, means for varying the distance between said cutter-heads according to the length of the cleats, a pair of traveling parallel members adapted to carry the said cleats in the direction necessary for passing the same beneath the cutter-heads, hand-operated means for varying the distance between said traveling members in accordance with the distance between the two cutter-heads, the two traveling members being entirely below the axis of the two cutter-heads, an inner and laterally-movable frame member, and a sliding connection between the inner or laterally-movable frame member and one cutter-head, permitting the simultaneous raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of said cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

5. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, means for moving the cutter-heads up and down, an endless and laterally adjustable and traveling work-holder provided with means for presenting the cleats to said cutter-heads and passing the same below the latter, a shaft on which the cutter-heads are mounted, suitable means whereby one of the two cutter-heads is adjustable toward and away from the other on the said shaft on which they are both mounted and rotated in unison, an inner frame member mounted for lateral movement, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of said cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

6. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads provided with step-mitering knives, and provided also with circular saws for cutting off the ends of the cleats, a laterally adjustable and traveling work-holder adapted to receive and bodily carry the cleats in the direction necessary for passing the same beneath the said cutter-heads, means for moving the cutter-heads up and down, a shaft on which the cutter-heads are mounted, suitable means whereby one of the two cutter-heads is adjustable toward and away from the other on the said shaft on which they are both mounted and rotated in unison, an inner and laterally-movable frame member, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, per-

mitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of said cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

7. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, a shaft carrying said cutter-heads, means for varying the distance between the two cutter-heads, means for moving the shaft and cutter-heads up and down, a pair of endless link belts constituting an endless work-holder for carrying the cleats in the direction necessary for passing the same beneath the cutter-heads, means for varying the distance between said chains in accordance with the distance between said cutter-heads, an inner and laterally-movable frame member, and a sliding connection between the inner or laterally-movable frame member and one cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of said cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

8. Means for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a rotary shaft mounted for up-and-down adjustment, a pair of cutter-heads mounted on said shaft and adapted for step-mitering the ends of the cleats, a pair of traveling parallel members adapted to carry the said cleats in the direction necessary for passing the same beneath the cutter-heads, means for varying the distance between said traveling members in accordance with the distance between the two cutter-heads, suitable means whereby one of the two cutter-heads is movable toward and away from the other on the said shaft on which they are both mounted and rotated in unison, means for moving the cutter-heads up and down, an inner and laterally-movable frame member, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

9. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of vertically-movable rotary cutter-heads, a shaft carrying the cutter-heads, an endless traveling work-holder provided with means for presenting the cleats to said cutter-heads and passing the same below the latter, one cutter-head being laterally movable, suitable means whereby the two cutter-heads and the said shaft on which they are mounted are simultaneously adjustable up and down, an inner and laterally-movable frame member, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

10. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads provided with step-mitering knives, and provided also with circular saws for cutting off the ends of the cleats, one cutter-head being movable sidewise, a shaft carrying the cutter-heads, a traveling work-holder adapted to receive and bodily carry the cleats in the direction necessary for passing the same beneath the said cutter-heads, suitable means whereby the two cutter-heads and the said shaft on which they are mounted are simultaneously adjustable up and down, an inner and laterally-movable frame member, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

11. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, a shaft carrying said cutter-heads, a pair of endless link belts constituting an endless work-holder for carrying the cleats in the direction necessary for passing the same beneath the cutter-heads, means for moving one cutter-head toward and away from the other, for varying the distance between said link belts in accordance with the distance between said cutter-heads, an inner and laterally-movable frame member, suitable means whereby the two cutter-heads and the said shaft on which they are mounted are simultaneously adjustable up and down, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

12. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a rotary shaft mounted for up-and-down adjustment, a pair of rotary cutter-heads mounted on said shaft and adapted for step-mitering the ends of the desired cleats, means for varying the distance between said cutter-heads according to the length of the said cleats, a pair of traveling parallel members adapted to carry the said cleats in the direction necessary for passing the same beneath the cutter-heads, an inner and laterally-movable frame member, hand-operated means for varying the distance between said traveling members in accordance with the distance between the two cutter-heads, means whereby the two cutter-heads and the said shaft on which they are mounted are simultaneously adjustable up and down, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

13. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, one cutter-head being laterally movable, an endless traveling work-holder provided with means for presenting the cleats to said cutter-heads and passing the same below the latter, an inner and laterally-movable frame member, a pair of transversely-arranged adjusting-screws, suitable means whereby one of the two cutter-heads is adjustable toward and away from the other by a simultaneous rotation of the two transversely-arranged adjusting-screws, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

14. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads provided with step-mitering knives, and provided also with circular saws for cutting off the ends of the cleats, one cutter-head being laterally movable, a traveling work-holder adapted to receive and bodily carry the cleats in the direction necessary for passing the same beneath the said cutter-heads, an inner and laterally-movable frame member, a pair of transversely-arranged adjusting-screws, suitable means whereby one of the two cutter-heads is adjustable toward and away from the other by a simultaneous rotation of the two transversely-arranged adjusting-screws, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

15. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, a shaft carrying said cutter-heads, a pair of endless link belts constituting an endless work-holder for carrying the cleats in the direction necessary for passing the same beneath the cutter-heads, means for varying the distance between said chains in accordance with the distance between said cutter-heads, an inner and laterally-movable frame member, a pair of transversely-arranged adjusting-screws, suitable means whereby one of the cutter-heads is adjustable toward and away from the other by a simultaneous rotation of the two transversely-arranged adjusting-screws, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering

with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

16. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a rotary shaft mounted for up-and-down adjustment, a pair of rotary cutter-heads mounted on said shaft and adapted for step-mitering the ends of the cleats, a pair of traveling parallel members adapted to carry the cleats in the direction necessary for passing the same beneath the cutter-heads, hand-operated means for varying the distance between said traveling members in accordance with the distance between the two cutter-heads, an inner and laterally-movable frame member, a pair of transversely-arranged adjusting-screws, suitable means whereby one of the two cutter-heads is adjustable toward and away from the other by a simultaneous rotation of the two transversely-arranged adjusting-screws, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of said cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

17. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, one cutter-head being laterally movable, an endless traveling work-holder provided with means for presenting the cleats to said cutter-heads, and passing the same below the latter, transversely-arranged adjusting-screws, an inner and laterally-movable frame member supported on the transversely-arranged and simultaneously-rotatable adjusting-screws, and a sliding connection provided between the inner and laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

18. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads provided with step-mitering knives, and provided also with circular saws for cutting off the ends of the articles to be step-mitered, one cutter-head being laterally movable, a traveling work-holder adapted to receive and bodily carry the cleats in the direction necessary for passing the same beneath the said cutter-heads, transversely-arranged adjusting-screws, an inner and laterally-movable frame member supported on the transversely-arranged and simultaneously-rotatable adjusting-screws, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

19. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, a shaft carrying said cutter-heads, one cutter-head being laterally movable, a pair of endless link belts constituting an endless work-holder for carrying the cleats in the direction necessary for passing the same beneath the cutter-heads, means for varying the distance between said chains in accordance with the distance between said cutter-heads, transversely-arranged adjusting-screws, an inner and laterally-movable frame member supported on the transversely-arranged and simultaneously-rotatable adjusting-screws, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

20. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a rotary shaft mounted for up-and-down adjustment, a pair of rotary cutter-heads mounted on said shaft and adapted for step-mitering the ends of the cleats, the distance between said cutter-heads being according to the length of the cleats, a pair of traveling parallel members adapted to carry the said cleats in the direction necessary for passing the same beneath the cutter-heads, hand-operated means for varying the distance between said traveling members in accordance with the distance between the two cutter-heads, transversely-arranged adjusting-screws, an inner and laterally-movable frame member supported on the two transversely-arranged and simultaneously-rotatable adjusting-screws, and a sliding connection between the inner or laterally-movable frame member and one cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

21. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a shaft, a pair of rotary cutter-heads, one cutter-head being splined on the shaft, an endless traveling work-holder provided with means for presenting the cleats to said cutter-heads, and passing the same below the latter, an inner and laterally-movable frame member supporting one side of the work-holder, means whereby the cutter-head which is splined on the shaft is supported in a bearing having a sliding connection with the laterally-movable frame member, the sliding connection provided between the inner or laterally-movable frame member and the laterally-movable cutter-head permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

22. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads provided with step-mitering knives, and provided also with circular saws for cutting off the ends of the article to be step-mitered, a shaft, one cutter-head being splined on the shaft, a traveling work-holder adapted to receive and bodily carry the cleats in the direction necessary for passing the same beneath the said cutter-heads, an inner and laterally-movable frame member carrying one side of the work-holder, means whereby the cutter-head which is splined on the shaft is supported in a bearing having a sliding connection with the laterally-movable frame member, the sliding connection provided between the inner or laterally-movable frame member and the laterally-movable cutter-head permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

23. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, a shaft carrying said cutter-heads, one cutter-head being splined on the shaft, a pair of endless link belts constituting an endless work-holder for carrying the cleats in the direction necessary for passing the same beneath the cutter-heads, an inner and laterally-movable frame member carrying one of said link belts, means whereby the cutter-head which is splined on the shaft is supported in a bearing having a sliding connection with the laterally-movable frame member, the sliding connection provided between the inner or laterally-movable frame member and the laterally-movable cutter-head permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

24. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a rotary shaft mounted for up-and-down adjustment, a pair of rotary cutter-heads mounted on said shaft and adapted for step-mitering the ends of the cleats, one cutter-head being splined on the shaft, a pair of traveling parallel members adapted to carry the said cleats in the direction necessary for passing the same beneath the cutter-heads, hand-operated means including an inner and laterally-movable frame member for varying the distance between said traveling members in accordance with the distance between the two cutter-heads, the frame member carrying one of said parallel members, suitable means whereby the cutter-head which is splined on the vertically-adjustable shaft is supported in a bearing having a sliding connection with the laterally-movable frame member, the sliding connection provided between the inner or laterally-movable frame member and the laterally-movable cutter-head permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with th simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

28. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads, an endless traveling work-holder provided with means for presenting the cleats to said cutter-heads, and passing the same below the latter, means whereby a portion of said work-holder and one of the cutter-heads are splined upon separate shafts and simultaneously adjustable thereon, an inner and laterally-movable frame member, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

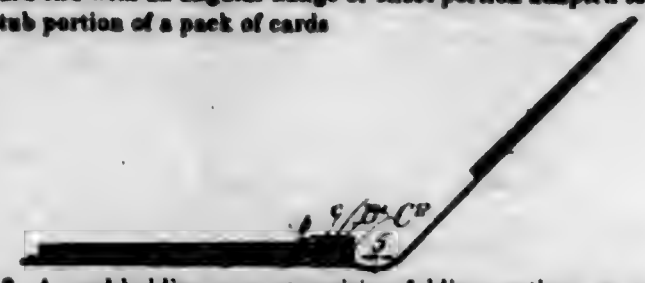
29. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of rotary cutter-heads provided with step-mitering knives, and provided also with circular saws for cutting off the ends of the cleats, a traveling work-holder adapted to receive and bodily carry the cleats in the direction necessary for passing the same beneath the said cutter-heads, means whereby a portion of the work-holder and one of the cutter-heads are splined upon separate shafts and simultaneously adjustable thereon, an inner and laterally-movable frame member, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

30. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a rotary shaft mounted for up-and-down adjustment, a pair of rotary cutter-heads mounted on said shaft and adapted for step-mitering the ends of the cleats, a pair of traveling parallel members adapted to carry the said cleats in the direction necessary for passing the same beneath the cutter-heads, hand-operated means including an inner and laterally-movable frame member for varying the distance between said traveling members in accordance with the distance between the two cutter-heads, means whereby one of the parallel members and one of the cutter-heads are splined upon separate shafts and simultaneously adjustable thereon, and a sliding connection between the inner or laterally-movable frame member and the laterally-movable cutter-head, permitting the raising and lowering of the two cutter-heads, which are supported independently of said movable frame member, without interfering with the simultaneous lateral adjustment of both the cleat-holding and cleat-cutting means, all in combination, substantially as shown and described.

31. Machinery for step-mitering the ends of cleats before the same are secured to the edges of wire-bound box-blanks, comprising a pair of cutter-heads, a pair of parallel link belts supporting the cleats in position to be acted on by the cutter-heads, a frame, an inner and laterally-movable frame member supporting one of said link belts, a sliding connection between said frame member and one of said cutter-heads, permitting the two cutter-heads to be raised and lowered without interfering with the simultaneous lateral adjustment of the cleat-holding and cleat-cutting means, substantially as set forth.

807,848. CARD-HOLDING CASE. JOHN B. WHEELER, Chicago, Ill. Filed Oct. 11, 1905. Serial No. 282,591.

Claim.—1. A card-holding case comprising a cover or case formed of folding sections, one of said sections being provided with a holder comprising a bottom plate having lugs for attachment to the case and having a back and end walls, and a cover provided at its forward end with an angular flange or offset portion adapted to grip the stub portion of a pack of cards



2. A card-holding case comprising folding sections or covers, said covers having linings secured thereto at their side and outer end edges to form pockets and a metal holder secured to the inner edge of one of said pockets comprising a bottom plate, back and end walls and a grip-plate or cover pivoted at its forward end between said walls and provided at its forward end with an angular flange or offset portion adapted to grip the stub portion to a pack of cards, substantially as described.

807,849. COMPOSITION OF MATTER FOR CLEANING AND POLISHING FLAT-IRONS. WILLIAM B. WILKINSON, Chicago, Ill. Filed Aug. 5, 1904. Serial No. 219,691.



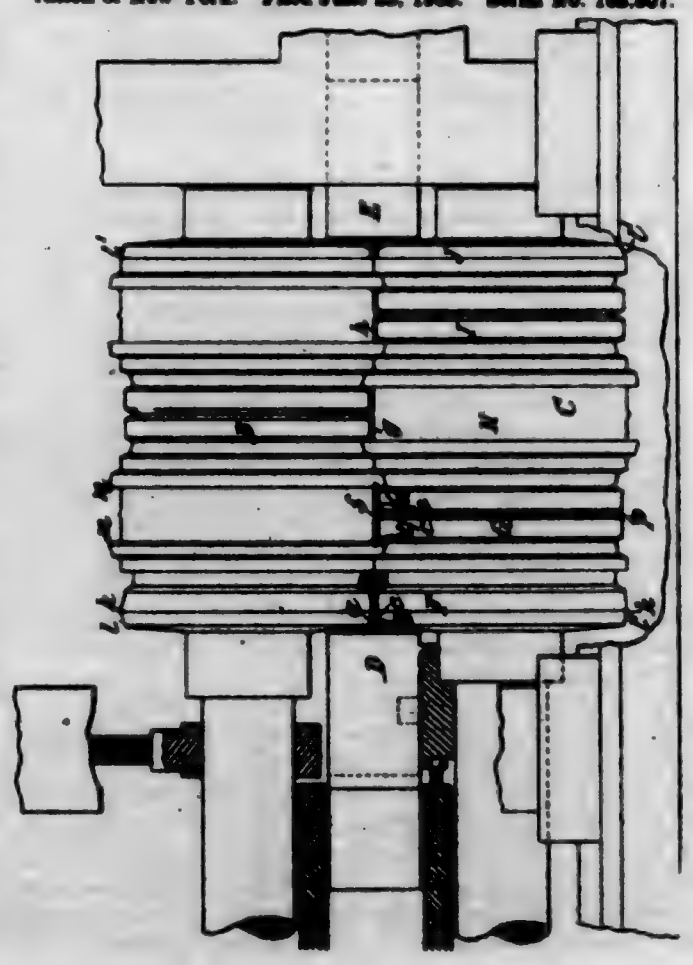
Claim.—1. The herein-described composition of matter composed of an abrasive substance, an alkaline soap, and a wax; substantially as and for the purpose described.

2. The herein-described composition of matter composed of an abrasive substance, an alkaline soap, a wax, and soda-ash; substantially as and for the purpose described.

3. The herein-described composition of matter, composed of an abrasive substance, an alkaline soap, a wax, soda-ash and resin; substantially as and for the purpose described.

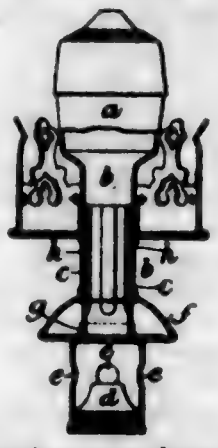
4. The herein-described composition of matter composed of an abrasive substance, an alkaline soap, a wax, soda-ash, mineral oil and resin; substantially as described.

807,850. MANUFACTURE OF TIE-PLATES. JAMES B. YORK, New York, N. Y., assignor to York Rolling Process Company, a Corporation of New York. Filed June 23, 1903. Serial No. 162,307.



Claim.—In the manufacture of tie-plates from old rails, beams, &c., the process which consists in cutting off the base with a portion of the web by rolling said portion of the web to a tapered edge to form a T with a wedge-shaped rib while supporting the outer face of the base at the central point opposite the web by a vertical roll to prevent bulging of the base and to lengthen the base simultaneously with the lengthening of said rib.

807,651. INCANDESCENT GAS-BURNER. CHARLES J. ALEXANDER, Pinsbury, England. Filed Nov. 10, 1904. Serial No. 232,120.



Claim.—1. In an incandescent gas-burner, an air and gas supply tube, a primary mixing-chamber above said tube and into which said tube opens, a tubular casing surrounding said supply-tube, and enlarged near its base to form an auxiliary mixing-chamber, said tube being corrugated to provide open passages between said mixing-chambers.

2. In an incandescent gas-burner, an air and gas supply tube, a primary mixing-chamber above said tube and into which said tube opens, a tubular casing surrounding said supply-tube, and enlarged near its base to form an auxiliary mixing-chamber, said tube and casing being shaped to provide open passages between said mixing-chambers.

3. In an incandescent gas-burner, an air and gas supply tube, a primary mixing-chamber above said tube and into which said tube opens, a closed auxiliary mixing-chamber outside of said tube and below said primary mixing-chamber, and comparatively small passages opening at one end into said primary chamber and at the other end into said auxiliary chamber to establish communication between the interiors of said chambers.

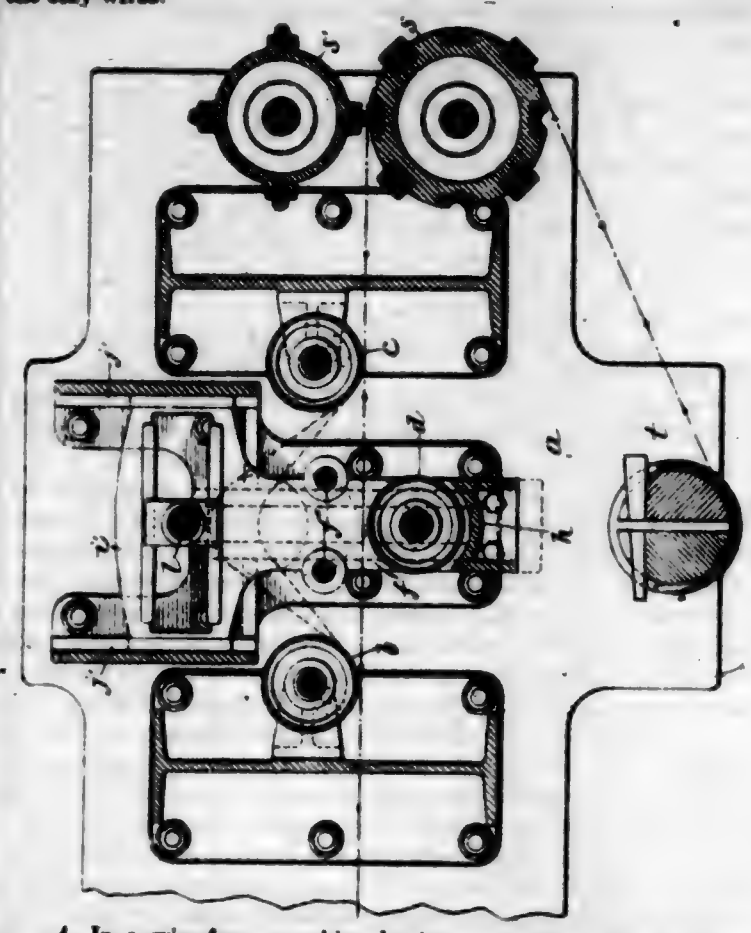
4. In an incandescent gas-burner, an air and gas tube, a primary mixing-chamber above said tube and into which said tube opens, an auxiliary mixing-chamber outside of said tube and below said primary mixing-chamber, and comparatively small passages opening at one end into said primary chamber and at the other end into said auxiliary chamber to establish communication between the interiors of said chambers.

807,652. TAKE-UP DEVICE FOR WIRE-FENCE MACHINES. AXEL F. BACKLIN and IDOW ERLUND, Worcester, Mass., assignors to The American Steel & Wire Company of New Jersey, Worcester, Mass., a Corporation of New Jersey. Filed Aug. 21, 1905. Serial No. 275,026.

Claim.—1. In a wire-fence machine having a continuously-operating feed-roll and intermittently-operating coilers, a take-up located between the coilers and the feed-roll, comprising a rotatory shaft connected with the main drive-shaft of the machine, slides operatively connected with said crank-shaft and receiving rectilinear motion therefrom, and a roll mounted in said slides and moving therewith transversely of the direction of the fence fabric.

2. In a wire-fence machine having a continuously-operating feed-roll and intermittently-operating coilers, a take-up located between the coilers and the feed-roll, comprising a rotary shaft connected with the main drive-shaft of the machine, slides operatively connected with said crank-shaft and receiving rectilinear motion therefrom, a roll mounted in said slides and moving therewith transversely of the direction of the fence fabric, and means for adjusting the connections between said slides and the shaft to vary the extent of movement of the slides and roll to compensate for different distances between stay-wires.

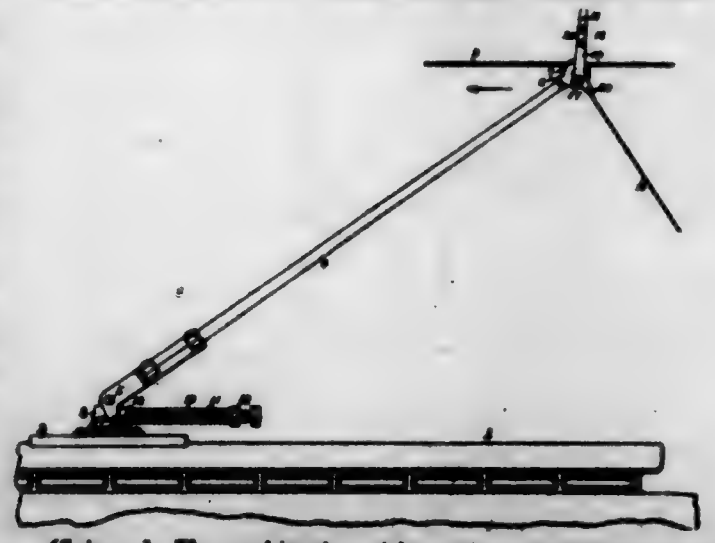
3. In a wire-fence machine having a continuously-operating feed-roll and intermittently-operating coilers, a take-up located between the coilers and the feed-roll, comprising a rotatory crank-shaft driven from the main shaft of the machine, slides operatively connected with said crank-shaft and receiving rectilinear motion therefrom, a roll mounted in said slides and moving therewith transversely to the direction of the fence fabric, and means for adjusting the throw of the crank to compensate for different distances between the stay-wires.



4. In a wire-fence machine having a continuously-operating feed-roll and intermittently-operating coilers, a take-up located between the coilers and the feed-roll, comprising a rotatory crank-shaft driven from the main shaft of the machine, slides operatively connected with said crank-shaft and receiving rectilinear motion therefrom, a roll mounted in said slides and moving therewith transversely to the direction of the fence fabric, and crank-pins adjustably mounted in said crank-shaft to vary the rectilinear movement of the roll to compensate for different distances between stay-wires.

5. In a wire-fence machine having a continuously-operating feed-roll and intermittently-operating coilers, a take-up located between the coilers and the feed-roll, comprising a rotatory shaft having crank-pins adjustably mounted therein, slides mounted in guides on the machine-frame and operatively connected with the cranks of said shaft and receiving rectilinear motion therefrom, and a take-up roll mounted in said slides and moving therewith transversely to the direction of the fence fabric, through distances regulable by the throw of the adjustable crank-pins.

807,653. TROLLEY FOR ELECTRIC RAILWAYS. WALTER J. BARRON, Brooklyn, N. Y. Filed June 6, 1900. Serial No. 18,219.



Claim.—1. The combination with a spring-pressed pivoted trolley-pole having a forked head, a flanged trolley-wheel arranged within said head, a pivot 8 therefor, a V-shaped frame having depending parallel arms 19, pivots 17 17 out of alinement with the pivot 8 and engaging holes in the cheek-plates of said fork, and means for swinging said arms and said frame about said pivots 17 17.

2. The combination with a trolley-pole, of a guide carried thereby and normally arranged out of working position, means for moving said guide upon said pole, and means that are brought into action when the guide is moved to the working position for frictionally holding said guide in working position.

3. The combination with a trolley-pole having a flanged wheel to engage the street-wire, of a V-frame pivoted upon said pole, and a rope for controlling said V-frame, the latter being arranged normally out of working position and being adapted to swing upwardly upon said pivot so as to engage the street-wire and guide the pole toward said wire, said frame being so constructed and pivoted that when moved to working position the point of the V engages and binds between the flanges of the trolley-wheel, whereby said frame is temporarily held in working position.

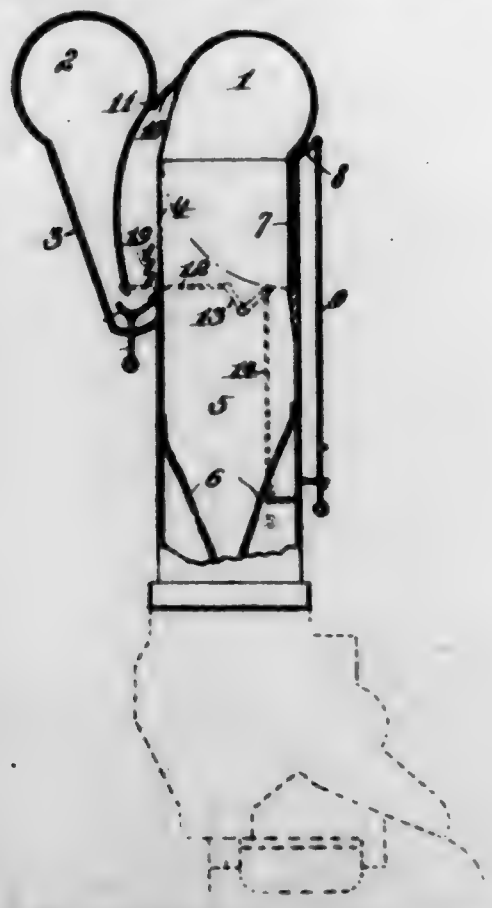
4. The combination with a trolley-pole, of a guide carried thereby and normally arranged out of working position and provided with gear-teeth, a driving-gear meshing therewith, a rope for actuating said driving-gear, and means for frictionally holding said guide in working position.

5. The combination with a trolley-pole having a flanged wheel to engage a trolley-wire, of a V-shaped frame pivoted upon said pole and provided with gear-teeth, a driving-gear meshing therewith, a rope for actuating said driving-gear to control said V-shaped frame, the latter being arranged normally out of the working position and being adapted to swing upwardly upon said pivots so as to engage the trolley-wire and guide the pole toward said wire, and frictional means for holding the said frame in the working position.

6. The combination with a trolley-pole having a trolley-wheel, a guiding-frame movably connected to said trolley-pole and normally out of working position and adapted to contact with the trolley wire and wheel when in the working position and when the wire and trolley-wheel are in contact, so that the guiding-frame may, by a direct frictional engagement between the guiding-frame and trolley-wire, be automatically moved out of the working position and out of contact with the trolley-wheel when the car advances, and means connected to the guiding-frame for moving it to the working position.

7. The combination with a trolley-pole, a trolley-wheel journaled therein having a grooved tread that is substantially V-shaped in cross-section, a substantially V-shaped guiding-frame pivoted to said trolley-pole eccentrically of the journal or pivot of the trolley-wheel, and means for swinging said substantially V-shaped frame and causing the apex of the same to bind in the grooved tread of the trolley-wheel.

807,654. MACHINE FOR ELEVATING AND FEEDING SEED-COTTON. CHAUNCEY R. BENEFIELD, Dallas, Tex. Filed Mar. 30, 1905. Serial No. 252,847.



Claim.—1. In a pneumatic cotton-feeding organization of the class set forth, the combination of a cotton-pipe, a chute communicating with said pipe, an air-conduit applied adjacent to a portion of the chute and cotton-pipe, an elongated screen interposed between a part of the air-pipe, cotton-pipe, and chute, and an imperforate partition in a part of the air-pipe and serving as a shield means for the screen.

2. In a cotton elevating and feeding organization of the class set forth, the combination of a cotton-pipe, a chute communicating with said pipe, an air-conduit applied adjacent to a portion of the chute and cotton-pipe, an elongated screen interposed between a part of the air-pipe, cotton-pipe and chute, and an adjustable imperforate partition in a part of the air-pipe.

3. In a cotton elevating and feeding mechanism of the class set forth, the combination of a cotton-pipe having a feeding-chute communicating therewith, an air-pipe applied adjacent to the cotton-pipe and a portion of the chute, a screen interposed between a part of the cotton-pipe, air-pipe and the upper portion of the chute, and an intercepting means disposed in a part of the air-pipe and forcing the air from the cotton-pipe to pass downwardly below the lower terminal of the screen in its passage to the air-pipe.

4. In a cotton elevating and feeding means of the class set forth, the combination of a cotton-pipe communicating with a feeding-chute, an air-pipe located adjacent to the cotton-pipe at the upper part of the chute, and communicating with the latter, and an imperforate depending intercepting means in the air-pipe for causing the air drawn into the air-pipe from the cotton-pipe to escape solely at a point below the termination of the communicating opening between the cotton-pipe and chute and the air-pipe means.

5. In a cotton elevating and feeding mechanism of the class set forth, the combination of a cotton-pipe communicating with a feeding-chute, a valve means operative to cut off communication between the cotton-pipe and chute, an air-pipe having a depending body arranged adjacent to the cotton-pipe and the upper part of the chute, an elongated screen forming the means of communication between the cotton-pipe and upper part of the chute and air-pipe and its body, and a deflecting-partition depending through a part of the air-pipe and the body to shield the screen and terminating below the lower end of the latter.

6. In a cotton elevating and feeding mechanism of the class set forth, the combination of a cotton-pipe having a depending chute, an air-pipe having a depending body arranged over a portion of the cotton-pipe and upper part of the chute, an elongated screen forming the means of communication between the cotton-pipe and upper part of the chute and the air-pipe and its body, a deflecting-partition depending through a part of the air-pipe and its body to shield the screen, and a valve means in the lower part of the body to coöperate with the lower end of the deflecting-partition.

7. In a cotton elevating and feeding mechanism of the class set forth, the combination of a cotton-pipe communicating with a feeding-chute, a valve means operative to cut off communication between the cotton-pipe and chute, an air-pipe having a depending body arranged adjacent to the cotton-pipe and the upper part of the chute, an elongated screen forming the means of communication between the cotton-pipe and upper part of the chute and air-pipe and its body, a deflecting-partition depending through a part of the air-pipe and the body to shield the screen and terminating below the lower end of the latter, and a valve means in the lower part of the body coöperating with the lower end of the partition.

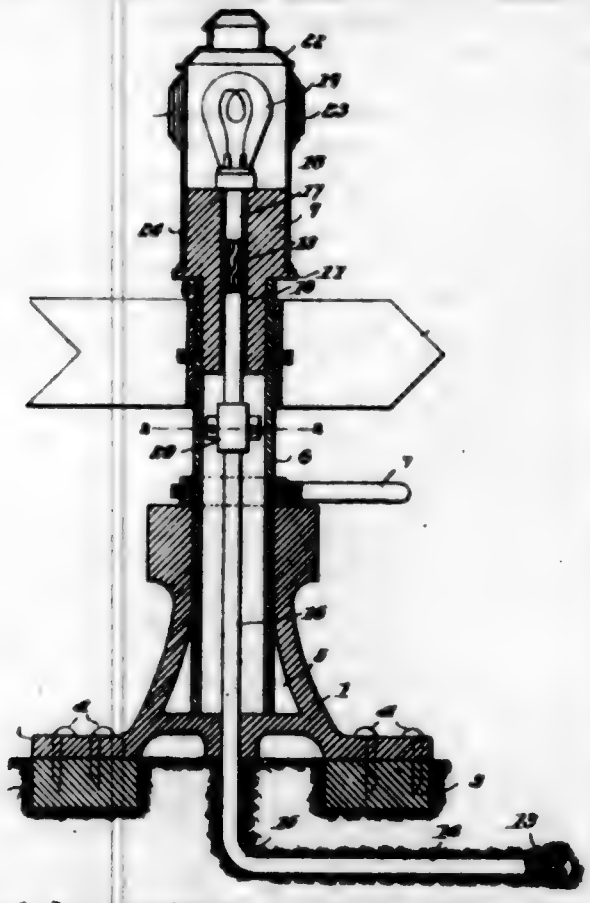
8. In a mechanism of the class set forth, the combination with a cotton-conveying conduit and a depending feeding-chute, of a pneumatic conduit communicating with the cotton-conduit and upper part of the chute, an elongated screen over the point of communication between the conduits, and a depending adjustable means in the pneumatic conduit to shield the screen, the said deflecting means being curved outwardly with respect to the screen to increase the space between the latter and the said means.

9. In a device of the class set forth, a cotton conveying and feeding conduit, a pneumatic conduit communicating with the former conduit, a screen disposed over the communicating opening between the conduits, and an intercepting device depending downwardly through the pneumatic means at a distance from the screen and forming an air-shield for the latter.

10. In a mechanism of the class set forth, the combination with an elevating and feeding conduit having a chute connected therewith, of a pneumatic conduit communicating with the said elevating and feeding conduit and a part of the chute, a screen extending over the communicating opening between the conduits and chute, a deflector within the pneumatic conduit and projecting below the lower terminal of the screen and forming an air-shield for the latter, and overlapped blades or slats arranged adjacent to the lower end of the

screen within a portion of the pneumatic conduit between the said screen and lower extremity of the deflector.

807,655. RAILROAD-SWITCH. ROY S. BRUBAKER and EDWARD B. SMITH, Wellston, Ohio. Filed June 20, 1905. Serial No. 266,145.



Claim.—1. In a switch-light, a rotatable switch-standard, a light mounted and supported upon the top of the standard and means whereby the light remains stationary while the standard rotates.

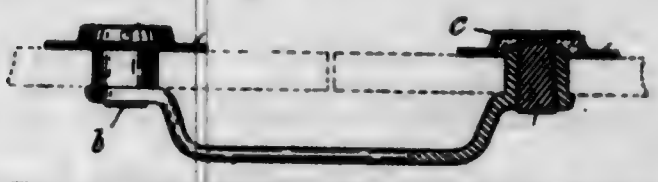
2. In a switch-light, a switch-standard, a light mounted and supported upon the top of the standard, a glazed casing covering the light and means whereby the casing may be removed without removing the light.

3. In a switch-light, a rotatable switch-standard, a light mounted and supported upon the top of the standard, a glazed casing disposed upon and rotating with the standard and covering the light, means whereby the standard may rotate without rotating the light and means whereby the casing may be removed without removing the light.

4. In a switch-light, a switch-stand, a tubular rotatable standard mounted upon the stand, a rigid conductor passing upwardly through and supported by the standard and with a bearing upon the top of the standard whereby the standard may rotate without twisting the conductor.

5. A switch comprising, a stand, a tubular rotatable standard mounted upon the stand, a rigid conductor passing upwardly through the standard, a bearing-plate upon the top of the standard whereby the standard may rotate without twisting the conductor, a light mounted upon the bearing-plate and connected with the conductor, a glazed casing mounted on and rotating with the standard and covering the light, the said casing having a sleeve of a diameter larger than the light-body, a target carried rigidly upon the standard and means for rotating the standard.

807,656. RAIL-BOND. LEONARD B. BUCHANAN, Woburn, Mass. Filed Nov. 30, 1904. Serial No. 234,847.



Claim.—1. The combination with a rail-bond, the attaching device of which passes through a hole in the rail, of an auxiliary bond for electrically connecting the attaching device of the rail-bond to the rail, comprising current-conducting material attached by solder to the rail and to the exposed end of the attaching device of the rail-bond, substantially as described.

2. The combination with a rail-bond, the attaching device of which passes through a hole in the rail, of an auxiliary bond of conducting material attached to the rail and to the attaching device of the rail-bond, composed of a metallic containing portion and an inclosed body of solder, substantially as described.

3. The combination with a rail-bond, the attaching device of which passes through a hole in the rail, of an auxiliary bond of conducting material attached to the rail and to the attaching device of the rail-bond, composed of a flanged metallic casing and an inclosed body of solder, substantially as described.

4. An auxiliary bond for electrically connecting the attaching device of the rail-bond with the rail consisting of a casing of conducting material having a rail-engaging flange, and adapted to be soldered to the rail and to the exposed end of the attaching device of the rail-bond, substantially as described.

5. An auxiliary rail-bond for electrically connecting a rail-bond with the rail consisting of an exterior portion of conducting material having a rail-engaging flange, and a solder-receiving body, substantially as described.

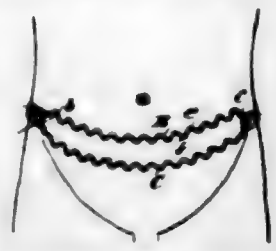
6. A flanged metallic cap filled with solder and adapted to be attached by the said solder to the exposed end of a plug rail-bond and the adjacent rail, to connect said bond electrically with the rail, substantially as described.

7. An auxiliary bond for electrically connecting a rail-bond with the rail consisting of an exterior portion of conducting material having a hole at one side and having a rail-engaging flange, and a solder-receiving body, substantially as described.

8. The combination with a rail-bond, the attaching device of which passes through a hole in the rail, of an auxiliary bond of conducting material attached to the rail and to the attaching device of the rail-bond, which incloses the exposed end of said attaching device and electrically connects said attaching device with the rail, substantially as described.

9. The combination of a rail-bond having attaching devices by which it is attached to and electrically connected with the rails and supplemental means engaging the exposed and accessible portions for additionally attaching and electrically connecting said rail-bond with the rails, substantially as described.

807,657. ABDOMINAL APPLIANCE. SIDNEY H. BURNS, New York, N. Y. Filed July 11, 1904. Serial No. 215,972.



Claim.—1. An automatic massage device having a mechanical member constructed and formed to coact with the muscles upon which it is secured to produce a massaging effect of the kind described by the bodily movements of the wearer, and means for securing said device in fixed position upon the body of said wearer.

2. In an automatic massage device, a continuous flesh-manipulating member and means for holding the same in fixed position upon the body of the wearer: the said member having a plurality of projections constructed and disposed to indent the flesh, and recesses between said projections into which the flesh is free to expand.

3. In an automatic massage device; a flesh-manipulating member in continuous helical form, and means for holding the same in fixed position upon the body of the wearer.

4. In an automatic massage device, a continuous elongated flesh-manipulating member and means connected to the extremities of said member for holding the same in fixed position upon the body of the wearer: the said member having a plurality of projections constructed and disposed to indent the flesh, and recesses between said projections into which the flesh is free to expand.

5. In an automatic massage-belt, a continuous flesh-manipulating member having a plurality of projections constructed to indent the flesh and recesses between said projections into which the flesh is free to expand, and a flexible band detachably connected to the extremities of said member.

6. In an automatic massage device, two continuous elongated flesh-manipulating members united at their corresponding ends and separated at their intermediate portions, and means for holding the same in fixed position upon the body of the wearer.

7. In an automatic massage device, two continuous elongated flesh-manipulating members flexibly united at their corresponding

ends and separated at their intermediate portions, and means for holding the same in fixed position upon the body of the wearer.

3. In an automatic massage device, two continuous elongated resilient flesh-manipulating members united at their corresponding ends and separated at their intermediate portions, and means for holding the same in fixed position upon the body of the wearer.

9. In an automatic massage device, two continuous elongated flesh-manipulating members flexibly connected at their corresponding ends and separated at their intermediate portions, each of said members having a plurality of projections constructed to indent the flesh and recesses between said projections into which the flesh is free to expand, and means for holding said members in fixed position upon the body of the wearer.

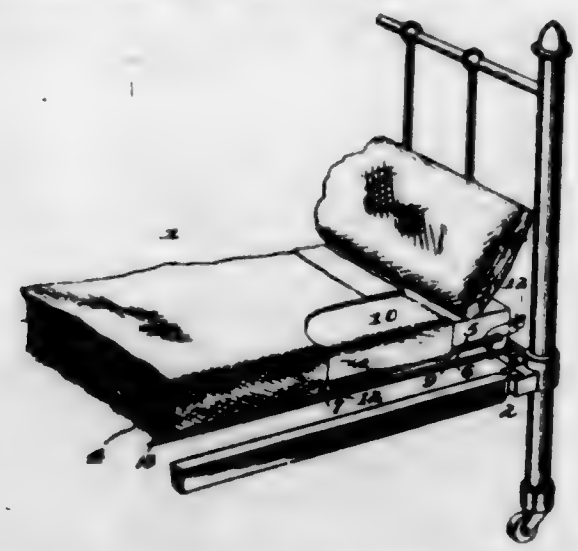
10. In an automatic massage device, two flesh-manipulating members formed of wire helices, connected at their corresponding ends and separated at their intermediate portions, and a flexible band for attaching said members to the body of the wearer secured to said ends.

11. In an automatic massage device, two flesh-manipulating members formed of wire helices connected at their corresponding ends and separated at their intermediate portions, a flexible band for attaching said members to the body of the wearer, secured to said ends and means for adjusting the length of said band.

12. In an automatic massage device, two flesh-manipulating members formed of wire helices, cross-bars connecting said members at their corresponding ends, a flexible band for attaching said members to the body of the wearer secured at one extremity to one of said cross-bars, and means for detachably securing the other extremity of said band to the other cross-bar.

13. In an automatic massage device two flesh-manipulating members connected at their corresponding ends and separated at their intermediate portions, and means for holding said members in fixed position upon the body of the wearer; one of said members being a wire helix.

807,658. **RETAINER FOR BEDCLOTHES.** ANNIE R. CAMPBELL, Avalon, Pa. Filed May 22, 1905. Serial No. 261,877.



Claim.—1. A bedclothes-clamp comprising a pair of rods arranged side by side and disposed at an angle with relation to each other, the ends of said rods being bound together, and means for attaching said clamp to a portion of the bed.

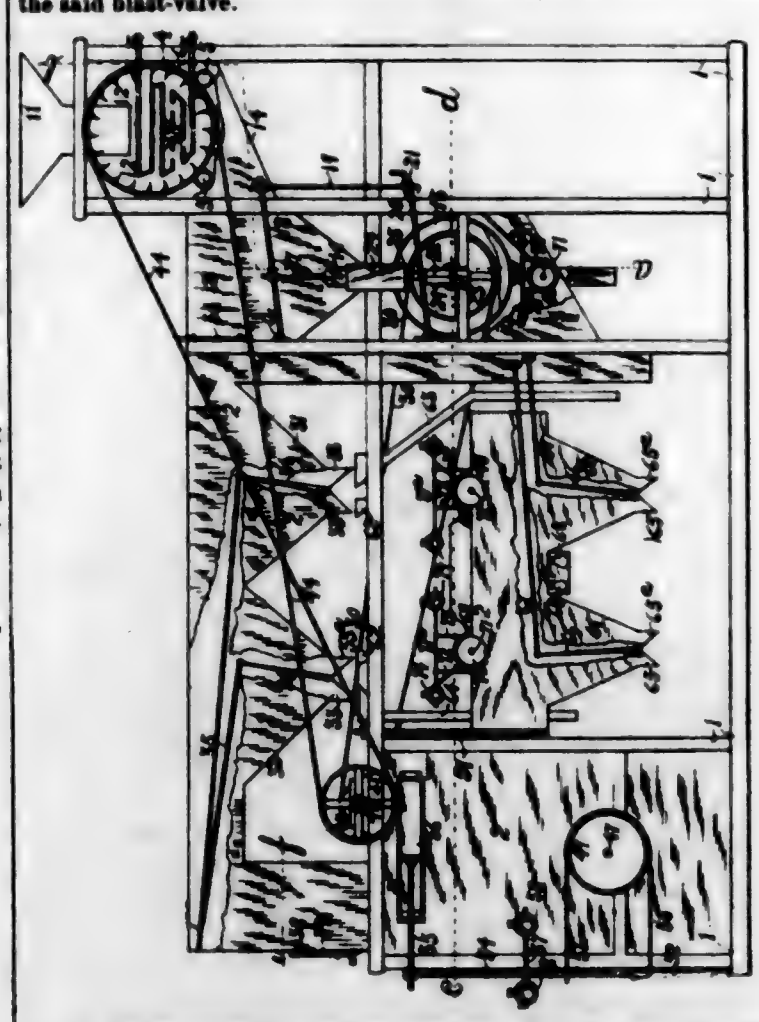
2. A bedclothes-clamp comprising a pair of rods having their ends bound together and hooks adapted to engage the said clamp and a portion of the bed proper.

3. A bedclothes-clamp comprising a pair of rods disposed at an angle with relation to each other and having their ends bound together and hooks adapted to engage said clamp and a portion of the bed proper.

4. A bedclothes-clamp comprising a pair of rods arranged side by side and attached to each other in such manner as to turn together and hooks adapted to engage said clamp and a portion of the bed proper.

807,659. **ORE SEPARATING AND CONCENTRATING MACHINE.** WILLIAM P. CLIFFORD, Lenaham, Iowa, assignor of one-half to W. W. Rankin, Ottumwa, Iowa, and one-sixth to Albert B. Clinton and one-sixth to John C. Cook, Russell, Iowa. Filed Nov. 21, 1904. Serial No. 233,031.

Claim.—1. An ore separating and concentrating machine, consisting of a suitable frame provided with side and end walls, a series of partition or division walls extending lengthwise of the machine and dividing the same into divisions or sections, a revoluble drum, provided with lifters about its inner periphery, mounted at the front of the machine, a series of steam-pipes mounted within said drum, an inclined revoluble sizing reel or screen mounted beneath said revoluble drum, a hopper mounted at one end of said drum and sizing reel or screen, a spouting secured over the feed-opening of said hopper and provided with an inwardly and downwardly extending chute extending into one end of said sizing reel or screen, a chute mounted beneath said sizing-reel, a series of trunks formed in said divisions or sections of the machine, a series of valves mounted in said trunks and said divisions or sections, suction-fans mounted in the ends of said divisions or sections, a depending blast-valve mounted in front of said suction-fans, and sliding valves mounted in the side walls of said divisions or sections and adapted to be operated by the said blast-valve.



2. An ore separating and concentrating machine, consisting of suitable side and end walls forming divisions or sections, a suitable drum mounted at the front end thereof and containing a series of steam-pipes, an inclined revoluble sizing-reel mounted beneath said revoluble drum, means for conveying and feeding the material from said drum to said sizing-reel, means for conveying the material discharged from said sizing-reel to said divisions or sections, a series of trunks formed with said divisions or sections, valves mounted in said trunks and sections, suction-fans mounted in the ends of said sections, and means for operating said valves mounted in said trunks or sections.

3. An ore separating and concentrating machine, consisting of a series of divisions or sections extending longitudinally thereof, a series of suction-fans mounted in the rear ends of said divisions or sections, a series of trunks formed therein, valves mounted in said trunks and sections, a sizing-reel mounted at the front ends of said divisions or sections and adapted to discharge material therein, a revoluble drum mounted above said sizing-reel and provided with a series of lifters about its inner periphery, means for conveying and feeding the material from said revoluble drum to said sizing-reel, a series of steam-pipes mounted within said revoluble drum, and a hopper mounted at one side thereof, and adapted to convey the material therein.

4. In an ore separating and concentrating machine, the combination with a series of divisions or sections extending longitudinally thereof, a sizing-reel mounted at the front ends thereof and a series of trunks formed therein; of a series of suction-fans mounted in the ends of said divisions or sections, valves mounted in said trunks and sections, dividing-boards mounted in said trunks and sections and pivotally mounted intermediate the valves of said trunks, and means for controlling and operating said valves and dividing-boards.

5. In an ore separating and concentrating machine, the combination with a series of divisions or sections extending longitudinally thereof, a series of trunks formed therein, dividing-boards pivotally mounted transversely in said trunks, means for operating and adjusting said dividing-boards, suction-fans mounted in the ends of said divisions or sections and valves mounted in said trunks and sections; of a sizing-reel mounted at the front ends of said divisions or sections and adapted to discharge the material therein, a revoluble drum mounted above said sizing-reel, a series of steam-pipes mounted within said drum, means for conveying and feeding the material from said revoluble drum to said sizing-reel, and a hopper suitable mounted and adapted to convey the material within said revolubly drum.

6. In an ore separating and concentrating machine, the combination with a series of divisions or sections extending longitudinally thereof, a sizing-reel mounted at the front ends thereof with a series of trunks formed therein, and valves mounted in said divisions or sections, dividing-boards mounted in said trunks and sections and means for operating and controlling said valves and dividing-boards.

7. An ore separating and concentrating machine, consisting of a suitable drum mounted at the front end thereof, a series of steam-pipes mounted therein; an inclined revoluble sizing-reel mounted beneath said revoluble drum, means for conveying and feeding the material from said drum to said sizing-reel, a series of divisions or sections, provided with suction-fans, adapted to carry and grade the material as discharged from said sizing-reel, trunks formed in said divisions or sections, valves mounted at the bottom of said trunks, dividing-boards mounted in said trunks, and means for operating said valves.

8. In an ore separating and concentrating machine, the combination with a suitable drum mounted at the front end thereof, and a sizing-reel mounted beneath said revoluble drum; of a hopper mounted at one end of said drum and sizing-reel, a spouting secured over the feed-opening of said hopper, an inwardly and downwardly extending chute formed with said spouting and extending into one end of said sizing-reel, a vertically-mounted gate in said feed-opening, a pivotally-mounted lever suitably secured to said gate, and means for operating and adjusting said lever to said gate whereby to regulate the feeding of the material through said feed-opening.

9. In an ore separating and concentrating machine, the combination with an inclined revoluble drum suitably mounted, and an inclined revoluble sizing-reel mounted beneath said drum; of a hopper mounted at one end of said drum and sizing-reel, a feed-opening therein, a vertically-mounted gate in said feed-opening, a lever secured to said gate, a second lever secured thereto by means of an adjustable rod, a cam secured to the shaft of said sizing-reel whereby said levers are oscillated, and an inwardly and downwardly extending chute formed with said hopper and adapted to convey the material within one end of said sizing-reel.

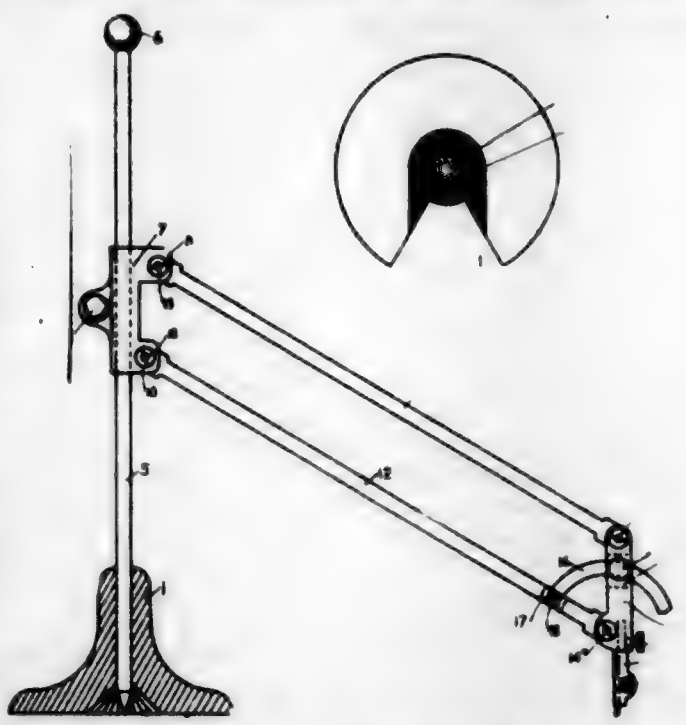
10. In an ore separating and concentrating machine, the combination with a series of divisions or sections extending longitudinally thereof, a series of suction-fans mounted in the rear ends of said divisions or sections, and a series of trunks formed in said divisions or sections; of valves formed at the lower ends of said trunks, dividing boards or partitions mounted transversely in said trunks and pivotally attached at their lower ends intermediate said valves, and means for operating and adjusting said dividing boards or partitions.

11. In an ore separating and concentrating machine, the combination with a series of divisions or sections extending lengthwise of the machine, a series of trunks formed therein valves formed in said divisions or sections, and valves mounted at the bottom of said trunks; of a series of horizontally-arranged depending swinging valves mounted in the rear of said divisions or sections, and suction-fans mounted in said divisions or sections at the rear of the machine and beneath said swinging valves.

12. In an ore separating and concentrating machine, the combination with a series of divisions or sections extending lengthwise of the machine, a series of trunks formed therein, valves mounted in said trunks and sections and suction-fans mounted in the rear of said divisions or sections; of air-exit openings formed at the rear of said suction-fans, a depending blast-valve suspended in front of the blast or air-exit openings, a series of sliding valves mounted in the sides of said divisions or sections, and means adjustably connecting said sliding valves with said depending blast-valve.

13. In an ore separating and concentrating machine, the combination with a series of divisions or sections extending longitudinally thereof, trunks formed therein, valves mounted at the bottom of said trunks, and a series of suction-fans mounted at the rear of said sections; of an air-exit opening formed in the rear of the machine to the rear of said suction-fans, a shaft mounted in suitable bearings attached to the rear end of the machine, a depending blast-valve attached to said shaft and suspended in front of said air-exit opening, a series of upwardly-extending arms mounted upon said shaft, a series of sliding valves mounted in the sides of said divisions or sections, and a series of horizontally-arranged bars secured at one end to said sliding valves and at the other adjustably secured to said upwardly-extending arms.

807,660. **COMBINED DIVIDERS AND COMPASSES.** JOSEPH F. CLUTTER, Omaha, Nebr. Filed Mar. 15, 1906. Serial No. 306,301.



Claim.—1. An instrument of the character described, comprising a post; a clamping-block mounted for sliding movement upon the post; a pair of arms mounted one above the other and connected to the said block, an equalizing-bar connected to the outer ends of the said arms; and a point connected to the equalizing-bar.

2. An instrument of the character described, comprising a post; a clamping-block mounted for sliding movement upon the post; a pair of arms mounted one above the other and connected to the said block; an equalizing-bar connected to the outer ends of the said arms; an arcuate arm adjustably associated with the equalizing-bar and one of said arms; and a point carried by the equalizing-bar.

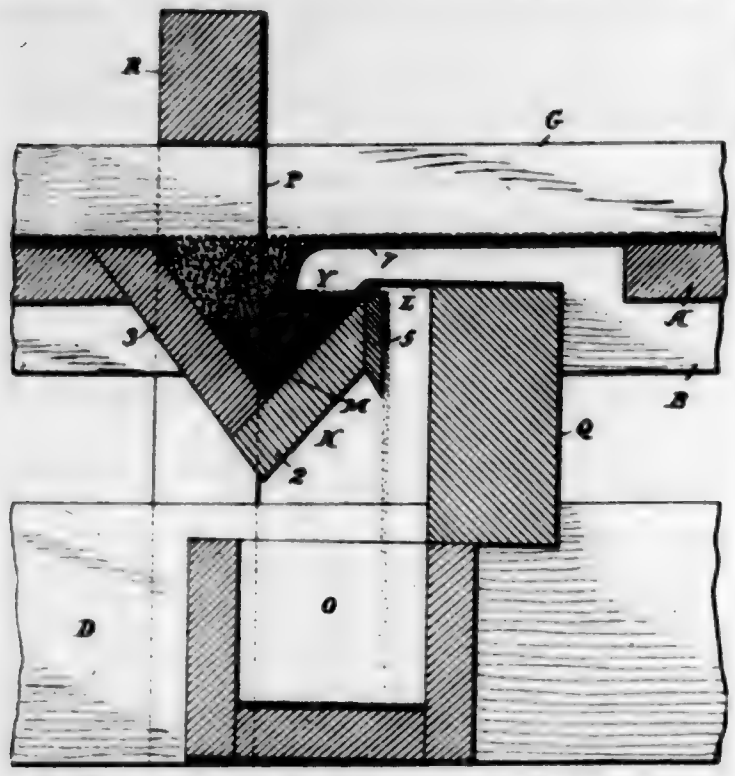
3. An instrument of the character described, comprising a post; a clamping-block mounted for sliding movement upon the post, the clamping-block having laterally-projecting upper and lower pairs of ears; upper and lower arms pivotally mounted within corresponding pairs of said ears; an equalizing-bar pivotally connected to the outer ends of said arms; an arcuate arm arranged between the lower arm and the equalizing-bar; and a point carried by the latter.

4. An instrument of the character described, comprising a base having its bottom cut out and an opening leading from the side thereof into said opening; a post mounted within the base and provided with a pointed end extending into the hollow of the latter; a clamping-block mounted for sliding movement upon the post, the clamping-block being provided with upper and lower pairs of laterally-projecting ears; upper and lower arms pivotally mounted within corresponding pairs of ears; an equalizing-bar pivotally connected to the outer ends of said arms, the equalizing-bar being provided with an eye between the connections of the arms therewith; an arcuate arm connected with the lower one of said arms and projecting through the said eye of the equalizing-bar; a thumb-screw piercing the equalizing-bar and engaging the said arcuate arm; and a point adjustably connected to the lower end of the equalizing-bar.

807,661. **ORE-CONCENTRATOR.** WALTER S. CRAVEN and GEORGE W. CRAVEN, Butte, Mont. Filed Mar. 28, 1904. Serial No. 200,345.

Claim.—1. An ore-concentrator having an inclined feed-table, means whereby water is supplied thereto in only sufficient quantity to insure the flow of ore and to flow with the latter, a trough at and extending beyond the lower end of the table, the edge of the trough farthest from the table on the same plane as the table, and the edge of the other side under and separate from the lower edge of the table, a partition extending from the table to near the bottom of the trough,

and means for agitating the material in the trough substantially as set forth.

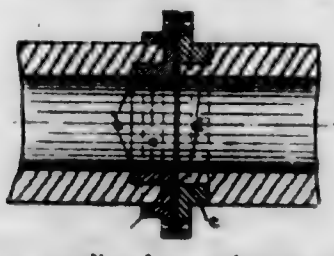


2. The combination in an ore-concentrator, of an inclined table, means whereby water is supplied thereto in only sufficient quantity to feed the ore, a trough at the lower end of the table with a partition extending from the lower edge of the table nearly to the bottom, one side of the trough extending upward to the plane of the table to afford an overflow for the lighter material filling the space between the said side and partition, and the other side of the trough terminating on a plane below that of the table for the overflow of the heavier material, and means to maintain the contents of the trough agitated, substantially as set forth.

3. An ore-concentrator provided with a series of separated inclined platforms or tables on the same plane, a trough between each two tables with one side extending to the lower table and the other extending beneath but separate from the lower edge of the higher table, a partition extending from the higher table to near the bottom of the trough, and means for supplying a viscous mixture to and agitating the same in the troughs, substantially as set forth.

4. The combination in an ore-separator, of a series of inclined separated tables and intermediate troughs, a partition extending from the lower edge of each table nearly to the bottom of the adjacent trough, one side of each trough extending to the next lower table and the other side below and distant from the adjacent higher table, stationary blades extending into the troughs, and means for imparting a reciprocating lateral movement to the troughs, substantially as set forth.

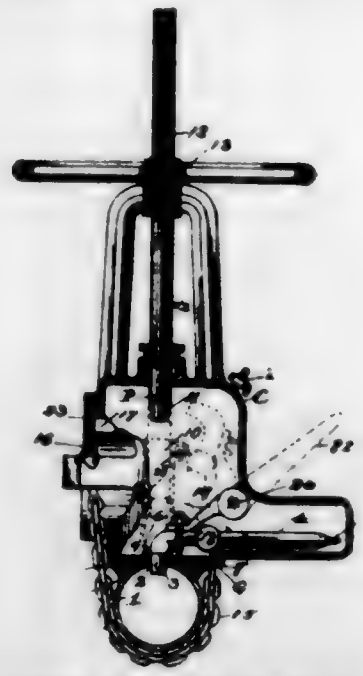
807,662. COUPLING FOR WOODEN PIPES. MATTHIAS CROWTHER, Pittston, Pa. Filed Apr. 20, 1905. Serial No. 256,006.



Claim.—1. In a coupling for wooden pipe-sections, the combination of two adjoining sections, one of which is provided with an internal socket in its end, and the other of which is provided with an annular flange or projection, a pair of metallic members abutting together, one member consisting of a ring fitted onto said annular projection and provided with an annular flange extending outwardly, and the other member consisting of a ring fitted into the socket of the other pipe-section and provided with an outward-extending annular flange abutting against the end of the section and provided with a supplemental flange embracing the exterior surface of the pipe, the adjacent faces of the two members abutting together and the inner edge of the member on the socketed pipe-section covering the end of the annular projection on the other section, and means for fastening the two members together through the medium of their outward-extending flanges.

2. In a coupling for wooden pipe-sections, the combination of two adjoining sections one of which is provided with an internal annular socket in its end, a pair of metallic members fitted tightly to the adjoining ends of the respective sections and one member consisting of a ring fitting tightly in said socket and provided with an outward extending flange abutting against the end of the section, this flange being provided with a supplemental flange embracing and engaging the exterior surface of the pipe, the adjacent faces of said two members abutting together and being without obstructions, and means for fastening the two members together through the medium of their outward-projecting flanges.

807,663. DEVICE FOR REMOVING FERRULES AND FOR INSERTING PLUGS IN WATER-MAINS UNDER PRESSURE. WILLIAM B. DALEY and WINDSOR B. RICHARDS, Cleveland, Ohio. Filed June 10, 1905. Serial No. 264,584.



Claim.—1. In a device adapted to operate as set forth upon a water-main having an opening, and a pipe connection secured therein, in combination instrumentalities for withdrawing said connection and for inserting a plug in said opening, and a water-tight casing inclosing the inner parts of said instrumentalities, substantially as described.

2. In a device adapted to operate in the manner set forth upon a main provided with an opening, and the ferrule connection of a pipe inserted therein, in combination a water-tight casing provided with an opening adapted to register with the opening in the main, and through which the ferrule projects, and with a hand-hole and cover, means for securing said casing to the said main, a lever device operatable from the exterior of the casing, and provided with a device for engaging the said ferrule and by means of which it is detached, a plug and pressure-screw in the casing, a nut upon said screw arranged to lower the same and to insert said plug into said opening in the main, and a centering device for said screw and plug, substantially as described.

3. In a device adapted to operate as described upon a water-main provided with an opening, and a water-pipe ferrule inserted therein, in combination a water-tight casing rigidly secured over said opening and having an opening in its bottom over the opening in the pipe, and a hand-hole opening in its side, a pivot-shaft in the casing and interior and exterior levers thereon, a clamping-hook upon the interior lever adapted to engage the water-pipe and ferrule, a screw passing through the top of the casing and a plug detachably secured thereto, means for raising and lowering said screw accessible from the exterior of said casing, and for alining said screw with the opening in the main, substantially as set forth.

4. A device adapted to operate in the manner set forth upon a main having an opening and the ferrule of a lead pipe inserted therein, comprising in combination a casing upon the main, detachably secured thereto and provided with an opening through which said nozzle projects, a gasket and saddle between said casing and main, a lever pivoted in the casing provided with a device for engaging the ferrule, a pivot-shaft therefor and external lever attached to said shaft, a screw passing through the casing and a plug detachably secured thereto, means for lowering said screw to insert said plug in the opening in the main when the ferrule has been removed therefrom, substantially as described.

5. A device adapted to operate in the manner set forth upon a main having an opening, and the ferrule of a branch pipe inserted therein, comprising in combination a water-tight casing, having an opening through which said ferrule projects, a device for lifting out the ferrule, said device being operatable from outside of the casing, a screw-spindle having a plug detachably secured to its inner extremity and longitudinally and vertically adjustable in the wall of said casing, and a device for centering said screw and plug relatively with the opening in the main, consisting of a longitudinally-divided sleeve, the extremities of which are adapted to grasp the said spindle and nozzle respectively, and means for detachably securing said sleeve in place, substantially as described.

6. A device adapted to operate in the manner described upon a water-main having an opening, and the ferrule of a side connection therein, comprising in combination a water-tight casing upon the main, and having an opening over the ferrule, instrumentalities for raising said ferrule from the opening in the main, said instrumentalities being operatable from the outside of the casing, a vertically-movable spindle in the wall of the casing, and a plug detachably secured to the inner end thereof, the said casing being provided with an opening through which the ferrule can be primarily loosened, and a removable cover therefor.

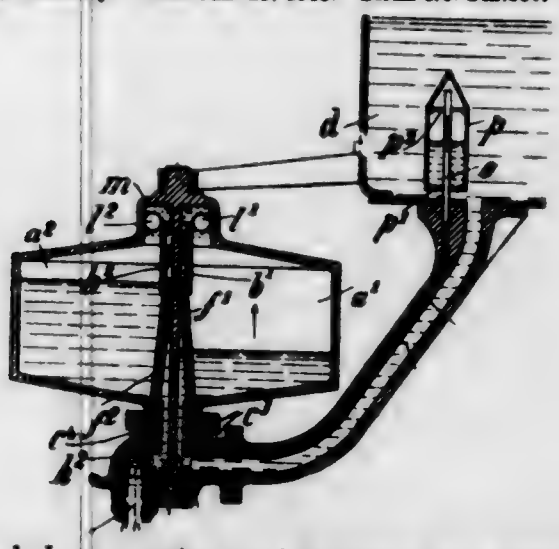
807,664. **BALL-AND-SOCKET JOINT FOR DOLLS AND THE LIKE.** EDUARD DEHN, Blankenese, near Hamburg, Germany. Filed June 21, 1904. Serial No. 213,471.



Claim.—1. A joint for dolls and similar articles, composed of a hollow elastic perforated ball, a pin extending thereinto, and a non-elastic socket engaging the ball, substantially as specified.

2. A joint for dolls and similar articles, composed of a hollow elastic perforated ball having a recess, a grooved pin extending thereinto and engaging the recess, and a non-elastic socket engaging the ball, substantially as specified.

807,665. **MEASURING VESSEL FOR LIQUIDS.** HUGO C. DEHN, Hamburg, Germany. Filed Jan. 23, 1906. Serial No. 242,307.



Claim.—1. In a measuring vessel for liquids, the combination with a supply-reservoir, of a discharge-conduit, a measuring vessel having a chamber adapted to communicate with the reservoir through said conduit and a chamber adapted to simultaneously communicate with the discharge end of the conduit, and a cock in said conduit operable by the vessel.

2. In a measuring vessel for liquids, the combination with a supply-reservoir, of a liquid and an air conduit communicating therewith, a measuring vessel having non-communicating chambers, and a cock for the conduits fixed to said vessel and having passages communicating with each of said chambers, and with said conduits.

3. In a measuring vessel for liquids, the combination with a supply-reservoir and a conduit communicating therewith, of a vessel having non-communicating chambers, a cock formed on said vessel working in said conduit and having passages leading to different chambers of the vessel and to the conduit, and means to rotate the vessel.

4. In a measuring vessel, the combination with a reservoir, and a liquid and air conduit communicating therewith, of a rotatable chambered vessel, a cock thereon having passages connecting each of said chambers with said conduits and an air-conduit in each of said chambers communicating with the aforesaid air-conduit.

5. In a measuring vessel, the combination with a reservoir, and a conduit having a liquid-channel and an air-channel therein, of a measuring vessel having a plurality of non-communicating chambers, a cock fixed to said vessel rotatably mounted in said conduit and having a passage for each chamber adapted to communicate with the liquid and air-channels, and an air-conduit in each chamber adapted to communicate with said air-channel.

6. In an apparatus of the character described, a vessel having independent chambers and a liquid-passage and an air-passage in each chamber, and an overflow-conduit communicating with said air-passage, substantially as and for the purpose specified.

7. In an apparatus of the character specified, a measuring vessel having a plurality of independent chambers each provided with a liquid-passage, an air-conduit in each chamber, an overflow-conduit above said conduit, and means in the vessel for inspecting the overflow-conduit.

8. In an apparatus of the character specified, a measuring vessel, a dome formed thereon, an overflow mounted in the latter, an air-conduit communicating with said overflow, a supply-conduit communicating with said vessel and having an air-passage communicating with said air-conduit and means in the dome for inspecting the overflow.

9. In a measuring vessel for liquids, the combination with a reservoir and a conduit communicating therewith, of a chambered vessel, means to simultaneously fill and empty different chambers of said vessel and means separate from the filling means to vent, from the vessel being filled, into the reservoir.

10. In a measuring vessel for liquids, the combination with a reservoir and a conduit communicating therewith, of a rotatable chambered vessel, means to simultaneously fill and empty different chambers of said vessel, and means separate from the filling means to vent, from the vessel being filled, into the reservoir.

11. In a measuring vessel for liquids, the combination with a reservoir and a conduit communicating therewith, of a rotatable chambered vessel, means to simultaneously fill and empty different chambers of said vessel, and means separate from the filling means to vent from the top of the chamber being filled through the bottom of the reservoir.

12. In combination with a reservoir and a rotatable measuring vessel having non-communicating chambers, a liquid-conduit connecting the reservoir and one of said chambers, a conduit to return the air from the connected chamber to the reservoir and means in the reservoir to prevent the liquid therein from flowing into the air-conduit.

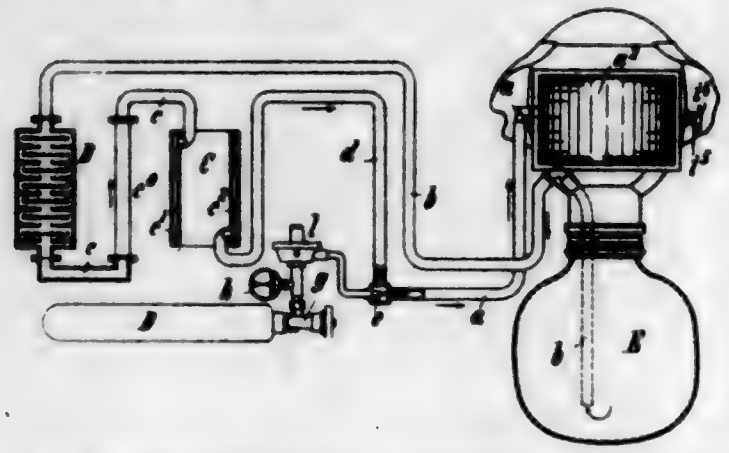
13. In combination with a reservoir and a rotatable measuring vessel having non-communicating chambers, a liquid-conduit communicating with the reservoir and with said chambers and adapted to simultaneously fill one chamber and empty another, an air-conduit connecting the chamber being emptied with the atmosphere, and an air-conduit connecting the other chamber with the reservoir.

14. In combination with a reservoir and a rotatable measuring vessel having non-communicating chambers, a conduit communicating with the reservoir and with said chambers and adapted to simultaneously fill one chamber and empty another, an air-conduit in the chamber being filled extending into the reservoir and a hood in the reservoir mounted over said air-conduit, for the purpose specified.

807,666. **APPARATUS FOR RESPIRING WITHIN SPACES FULL OF SMOKE OR NOXIOUS GASES.** JOHANN H. DRÄGER, Lübeck, Germany. Filed May 23, 1904. Serial No. 209,321.

Claim.—1. In a respiratory apparatus, a mask having a face and a head portion, a pneumatic packing surrounding the face portion, and a pneumatic packing in the head portion coöperating with the packing of the face portion.

2. In a respiratory apparatus, a mask having rigid head and face portions, an inflatable packing-ring within the latter portion, and a like ring mounted in the head portion and communicating with the aforesaid ring, whereby the pressure of the mask on the head-ring will cause the face-ring to become further inflated, substantially as and for the purpose specified.



3. In a respiratory apparatus, a mask having a head and a face portion, an inflatable packing-ring within the latter portion, a like ring mounted within the head portion and communicating with the aforesaid ring, and means for simultaneously expanding and contracting said rings at will.

4. In combination, a helmet or hood hermetically shutting off the space within the interior of the helmet for the respiratory organs of the operator, and a supplementary air-bag detachably connected to the helmet, by means of a toggle, substantially as set forth.

5. In combination, a respiratory apparatus of the herein-described character, and a support or frame provided with suitable fastening devices for holding the parts and fittings of the said respiratory apparatus, and with yielding boards or plates *f f'* devised to bear upon the back of the operator, substantially as set forth.

6. In an apparatus of the character described, the combination with a mask having an air-tight face portion and a supplementary air-receptacle connected to the lower part thereof, of an air-supply duct leading into the face portion, a regenerator, a duct leading from the supplementary receptacle to the regenerator, a cooler, a duct connecting the cooler and regenerator, a duct connecting the cooler and said air-supply duct, an injector in the latter duct, and a pressure device connected with the injector, substantially as and for the purpose specified.

7. In a respiratory apparatus, a mask having a face portion, means for rendering said portion air-tight when in operative position, an air-purifying apparatus, containing means for absorbing the carbonic acid from exhaled air passing by way of the mask into the purifying apparatus and a cooler for cooling the purified air before it enters together with a new charge of oxygen into the mask.

8. In a respiratory apparatus, a mask having a face portion, means for rendering said portion air-tight when in operative position and an air-purifying apparatus consisting of a closed casing, a series of flat shelves therein carrying granules of air-purifying material, said shelves superposed in such manner that the circulating air is forced to pass in a zigzag course over them.

9. In combination, a respiratory apparatus, an air-purifying apparatus comprising a closed casing having a series of interchangeable flat shelves of smaller diameter than the casing each provided with depressions in the bottom and indentations at their outer edges, and alternately-interposed shelves of larger diameter than the aforesaid shelves contacting with the wall of the casing and provided with a central funnel-like opening, for the purpose specified.

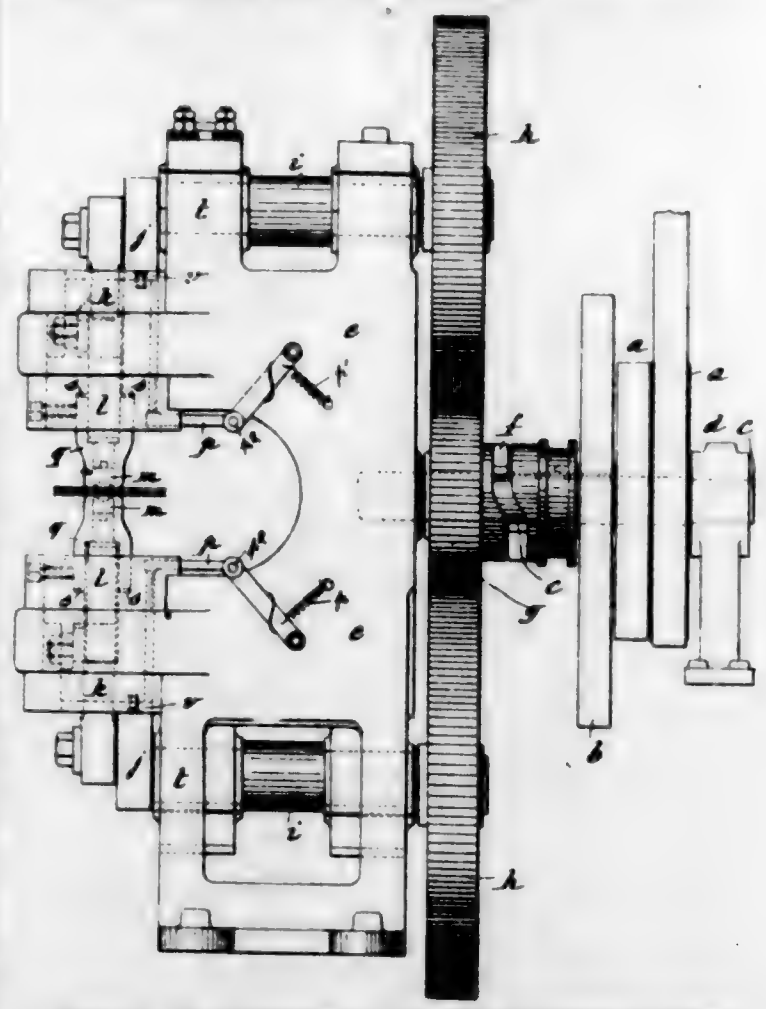
10. In combination, a respiratory apparatus, an air-purifying apparatus consisting of a closed casing, a series of interchangeable shelves therein each provided with depressions in the bottom, a sieve or wire-web screen on the top of each shelf, said shelves being superposed in such manner that the circulating air is forced to pass in a zigzag course over all shelves.

807,667. METHOD OF BIOLOGICAL PURIFICATION OF LIQUIDS. WILLIAM P. DUNBAR, Hamburg, Germany. Filed June 9, 1904. Serial No. 211,794.

Claim.—Purifying sewage by biological action, which consists in placing the material on a percolating-bed increasing in coarseness from the surface downward, distributing the liquid portions over the bed by the action of the topmost layer, and producing a dripping of the liquid portions between the large pieces of the lowermost layer, the sides of the layers of filtering materials of the bed being directly exposed to the atmosphere and causing a natural circulation of air from the sides of the bed to the interior and out again by the heat set up by the oxidation in the bed, whereby the liquid dropping between the coarse pieces is surrounded by air and the use of conduits and forcing apparatus is avoided.



807,668. RIVETING-MACHINE. GEORGES HERBEL, Liege, Belgium. Filed Aug. 25, 1904. Serial No. 223,096.

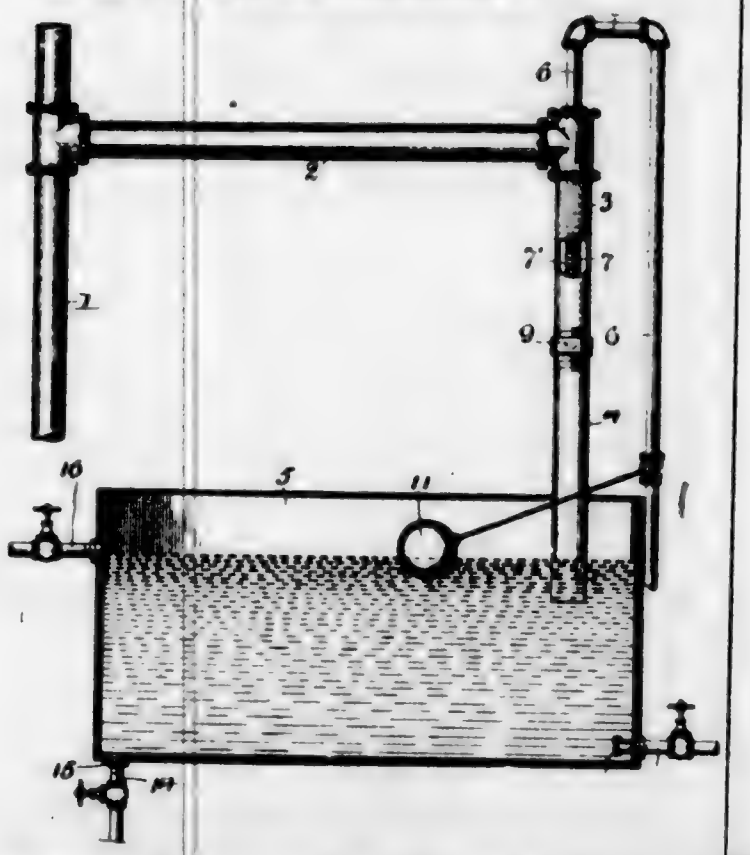


Claim.—1. In combination, in a machine for riveting structures by means of rod-shaped blanks, a horseshoe-shaped frame with oppositely-arranged hollow heads, two hollow cylinders sliding into said heads and provided at their inner ends with adjustable cylindrical jaws for gripping the structure to be riveted, two plungers sliding into said cylinders and jaws and provided at their inner ends with adjustable dies for forming the heads of the rivet, two revolving shafts, two toothed wheels keyed at the rear ends of said shafts, two cams keyed at the forward ends of said shafts for actuating said cylinders, spring-actuated bell-crank levers for constantly pressing said cylinders against said cams, two cranks pivoted to said cams and to said plungers respectively for actuating the latter, and a driving-pinion meshing with said toothed wheels to impart to said jaws and plungers reciprocating motions which are respectively depending upon one another, simultaneous, of equal extent and power and of contrary directions, substantially as described.

2. In combination, in a machine for riveting structures by means of rod-shaped blanks, a horseshoe-shaped frame with oppositely-arranged hollow heads, two hollow cylinders sliding into said heads and provided at their inner ends with adjustable cylindrical jaws for gripping the structures to be riveted, two plungers sliding into said cylinders and jaws and provided at their inner ends with adjustable dies for forming the heads of the rivets, two parallel shafts, symmetrically-arranged cams keyed on the forward ends of said shafts and having respectively a part of their edges which is concentric to the centers of said shafts, said cams being adapted to actuate said cylinders and said plungers respectively by means of their edges and by means of cranks pivoted to said cams and said plungers, spring-actuated bell-crank levers for constantly pressing said cylinders against said cams, two toothed wheels keyed respectively on the rear ends of said shafts, a single driving-pinion for actuating said wheels and consequently said shafts, said jaws and dies thus re-

receiving respectively reciprocating motions which are depending upon one another, simultaneous, of equal extent and power and of contrary directions, substantially as described.

807,669. **FEED-WATER HEATER.** CHARLES H. GATES, Carbondale, Pa. Filed July 1, 1905. Serial No. 267,874.



Claim.—1. In a feed-water heater, the combination of an open tank, a water-heating pipe or chamber, the lower end of which is at all times sealed by the water in the said tank, means for maintaining a constant level of water in the tank, means for supplying steam to said water-heating pipe or chamber, and a cold-water pipe provided with a sprayer located within said pipe or chamber.

2. In a feed-water heater, an open tank, a cold-water pipe provided with a sprayer, means whereby the level of the water in the tank is used to regulate the supply of cold water, a steam-pipe surrounding said supply and having its lower end sealed at all times by the water in the tank and forming a water-heating chamber, and means for supplying steam to said water-heating chamber.

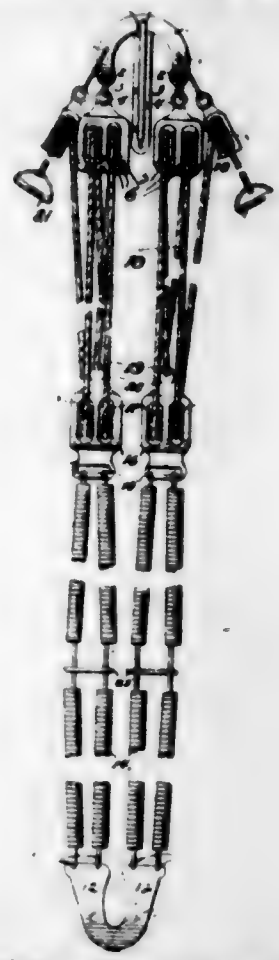
3. In a feed-water heater, the combination of an open tank, the water-heating pipe or chamber having its lower end sealed at all times by the water in the tank, means for supplying steam to said water-heating chamber, means for discharging cold water within said chamber, and means controlled by the level of the water in the tank for regulating the supply of cold water to the chamber.

4. In a feed-water heater, the combination with an exhaust-steam pipe, of an open tank, the water-heating chamber having its lower end sealed at all times by the water in the tank, means for maintaining the constant level of water in the tank, the branch pipe leading from the said exhaust-pipe to the said water-heating pipe or chamber and a cold-water pipe provided with a sprayer, the perforations of which are all arranged to discharge the water delivered to the chamber substantially lengthwise of the water-heating chamber whereby the water entering the chamber tends to draw steam from the exhaust-pipe into the said water-heating chamber.

5. In a feed-water heater, the combination of an exhaust-steam pipe 1, of a water-heating pipe or chamber 3, provided with the extension 4, connected to the said exhaust-steam pipe 1, and having its lower end at all times sealed by the water in the tank, of a cold-water pipe 6 provided with the sprayer 7, located within the said pipe or chamber 3, the tank 5 and the valve 10 controlled by the float 11 in the tank 5.

6. In a feed-water heater, the combination with an exhaust-steam pipe, of an open tank, a water-heating pipe or chamber extending below the surface of the water in said tank, and means for discharging cold water within said pipe or chamber said means consisting of a downwardly-extending cylindrical nozzle, the vertical side walls of which are provided with downwardly-extending perforations whereby all the water passing through said nozzle, is discharged lengthwise of the heating-chamber to draw steam from said exhaust-steam pipe into the said water-heating chamber.

807,670. **EXERCISING APPARATUS.** CHARLES A. GRABNER, Warsaw, Ind. Filed Sept. 10, 1904. Serial No. 224,023.



Claim.—1. An exercising device comprising yokes, springs connected with one of said yokes, ropes connecting said springs with the other yoke and means connected with the upper yoke and receiving said ropes, and means disposed near their mid-length for holding said springs at a fixed distance apart.

2. An exercising device comprising yokes, springs connected with one of said yokes, a spreader-bar connecting adjacent springs near their mid-length ropes connecting the springs with the other yoke, a block pivotally connected with the upper yoke and having pulleys over which said ropes pass.

3. An exercising device comprising yokes, springs connected with one of said yokes, a spreader-bar connecting adjacent springs near their mid-length ropes connecting the springs with the other yoke, a block pivotally connected with the upper yoke and having pulleys over which said ropes pass the connections of said blocks being disposed so that the pulley thereon is in line with the support of the upper yoke.

4. In an exercising device upper and lower yokes, springs connected with the lower yoke, blocks pivotally connected with the upper yoke, a spreader-bar connecting the springs with their mid-length blocks pivotally connected with the springs, pulleys carried by said blocks, blocks pivotally connected with the upper yoke independent of the first-mentioned blocks, and ropes connected with the lowermost blocks and passed over the pulleys of the upper and lower blocks and through those of the pivoted blocks.

5. In an exercising device, upper and lower yokes, springs connected with the lower yoke, blocks pivotally connected with the upper yoke, a spreader-bar connecting adjacent springs near their mid-length blocks pivotally connected with the springs, pulleys carried by said blocks, blocks pivotally connected with the upper yoke independent of the first-mentioned blocks, and ropes connected with the lowermost blocks and passed over the pulleys of the upper and lower blocks and through those of the pivoted blocks the points of connection of the pivoted blocks being disposed so that the pulley is in line with the support of the upper yoke.

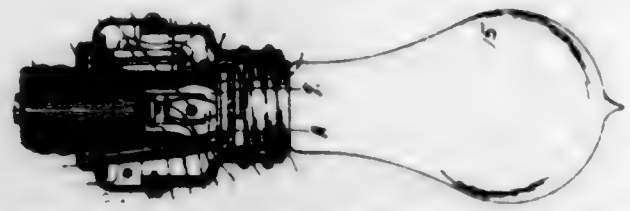
6. In an exercising device, upper and lower yokes, springs connected with the lower yoke, blocks pivotally connected with the upper yoke, blocks pivotally connected with the springs, pulleys carried by said blocks, blocks pivotally connected with the upper yoke independent of the first-mentioned blocks, and ropes connected with the lowermost blocks and passed over the pulleys of the upper and lower blocks and through those of the pivoted blocks and spacing-bars holding said springs near their mid-length at a predetermined distance apart.

7. In an exercising device upper and lower yokes, springs connected with the lower yoke, a spreader-bar connecting adjacent

springs near their mid-length ropes connecting said upper yoke with said springs, blocks in the said connection, said blocks having elongated transverse slots with separating means between their ends and receiving the eyes of the spring, and means pivotally connected with the upper yoke and receiving the ends of the ropes.

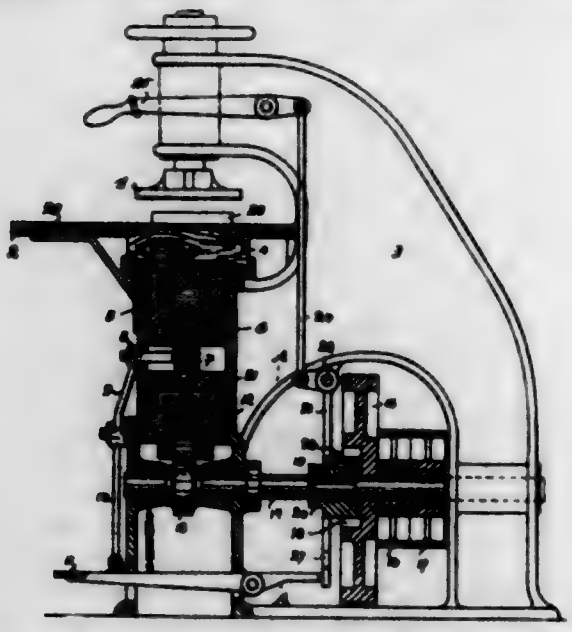
8. In an exercising device, upper and lower yokes, springs connected with the lower yoke, ropes connecting upper yoke with said springs, blocks in the said connection, said blocks having elongated transverse slots with separating means between their ends and receiving the eyes of the springs, and means pivotally connected with the upper yoke and receiving the ends of the ropes and spacing means disposed near the mid-length of said springs for holding the springs a predetermined distance apart.

807,671. **COMBINED SOCKET AND PLUG FOR INCANDESCENT LAMPS.** HENRY W. GREENELS, Denver, Colo., assignor of one-half to Martin J. Jackson, Denver, Colo. Filed Jan. 3, 1906. Serial No. 239,547.



Claim.—A combined socket and plug for incandescent lamps comprising an insulating-body bifurcated at one extremity and surrounded by a metal sleeve at the opposite extremity, a lamp-socket, a bolt connecting the socket with the plug, a U-shaped contact mounted between the arms of the bifurcated part, a bolt passing centrally through the insulating-body and connecting the U-shaped contact with the body and with one pole of the current source, a switch-spindle located between the arms of the bifurcated part and journaled in the U-shaped contact, a contact mounted on the spindle and adapted when properly adjusted to form an electrical connection between the U shaped contact and the lamp-socket, whereby the current passes from one pole of the source to the lamp, and a suitable connection between the lamp and the other pole of the source comprising an angle-shaped contact and a bolt connecting the last-named contact with the metal sleeve surrounding the insulating-body.

807,672. **MACHINE AND APPARATUS FOR DYING OUT LEATHER AND OTHER FIBROUS MATERIAL.** HERMANN C. GROS, Leipsic-Leutzsch, Germany. Filed Mar. 18, 1903. Serial No. 148,403.



Claim.—1. In a dying-out press or machine, the combination with a die-block and a counter-plate, of clamping means for clamping the die-block and counter-plate together, driving means for causing the block and counter-plate to die out interposed material, and coupling means for the driving means, said clamping means being extended into the path of the coupling means to lock the latter until the block and counter-plate have been clamped.

2. A dying-out press or machine comprising a counter-plate and die-block, a clamping-screw for moving or clamping the block to the plate, a gear and a rack for actuating the screw, means for actuating the rack, and a cam-shaft actuating the block.

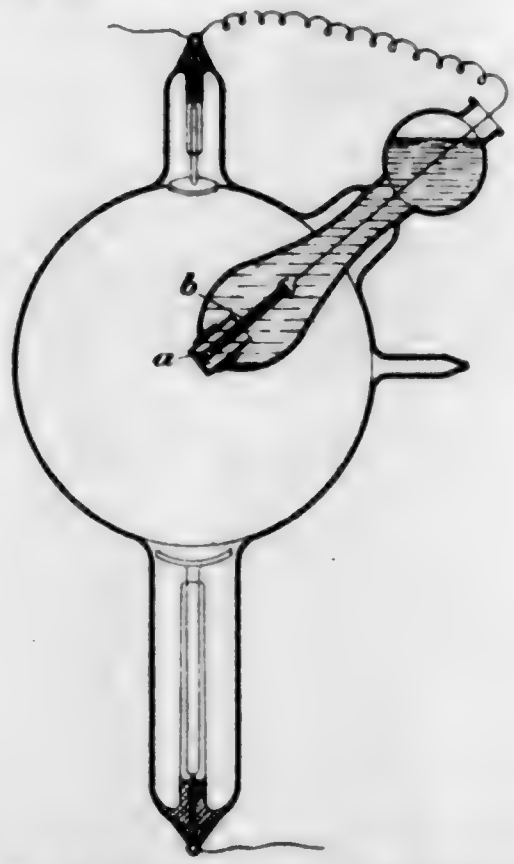
3. A dying-out press comprising a die-block with clamping-screw therefor, an actuating gear and rack for actuating the screw to clamp and unclamp, a lever and a treadle for actuating the rack, a driving-shaft for the block, a coupling for the driving-shaft, and a lever or shifter for actuating the coupling.

4. A press having a die-block made in sections, a clamping-screw between the sections for spreading the same to clamping position, a rack for actuating the spreading-screw, a lever and a pedal for actuating the rack, a cam for actuating the sections to give a cutting or dying stroke, and a coupling or release for the cam.

5. A press having a die-block and a counter-plate provided with a loose plate extended underneath and about the same, bolts for loosely suspending the loose plate from the counter-plate, springs between the plates to press the same apart, a clamping-screw with gear and rack for clamping the block to the plate, a treadle for operating the rack and a cam and shaft for driving the block to give a dying stroke.

6. In a dying-out press or machine, the combination with a die-block and a counter-plate, of clamping means for clamping the die-block and counter-plate together, driving means for causing the block and counter-plate to die out interposed material, and coupling means for the driving means, said clamping means being extended into the path of the coupling means so that the starting of the latter cannot take place before block, die and counter-plate have been clamped.

807,673. **X-RAY TUBE.** EMIL GUNDELACH, Gehlberg, Germany. Filed Dec. 16, 1904. Serial No. 237,174.



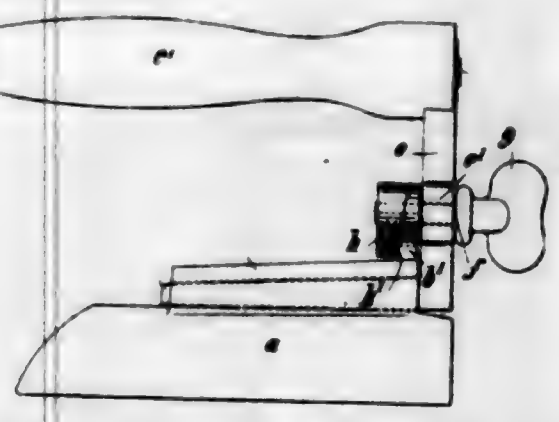
Claim.—In a Roentgen tube, a water-cooled hollow platinum body forming an anticathode and having a solid metal rod united to its front face and projecting into the cooling liquid, said rod being spaced from the inner wall of the hollow platinum body and of a size to permit free circulation of water between it and said wall.

807,674. **SMOOTHING-IRON WITH DETACHABLE HANDLE.** REIL H. HENNIGER, Frankfort-on-the-Main, Germany, assignor to The Firm of Gas-Bugeleofen-Gesellschaft mit Beschränkter Haftung, Hamburg, Germany. Filed Dec. 27, 1904. Serial No. 238,466.

Claim.—1. A smoothing-iron provided on its upper face with a central longitudinal hollow rib or projection, and a handle comprising a handle-bar having parallel arms one of which is adapted to be inserted into the aforesaid rib and the other carrying the handle proper, in combination with a cam revolubly mounted on the handle-bar and adapted to engage the upper face of the aforesaid rib.

2. In combination with a sad-iron having a longitudinally-disposed socket formed therein, a handle comprising a stem portion, an arm on the latter adapted to fit said socket, an abutment near the mouth of the socket having a cam-face, a rotatable shaft mounted in the arm, a cam on said shaft having a cam-face adapted to engage

the aforesaid face on the abutment and an arm mounted on the stem parallel to the aforesaid arm.



3. A smoothing-iron provided on its upper face with a central longitudinal rib or projection having a bore of polygonal form in cross-section, and a handle comprising a handle-bar provided with parallel arms one of which carries the handle proper and the other of polygonal form in cross-section to fit the bore in the aforesaid rib; in combination with a cam revolubly mounted in the handle-bar and adapted to impinge on the upper face of the aforesaid rib.

807,675. **CIGARETTE-MAKING MACHINE.** EDOUARD HOCQ, New York, N. Y., assignor of one-half to August Caplan, New York, N. Y. Filed Oct. 22, 1904. Renewed Nov. 14, 1905. Serial No. 287,396.



Claim.—1. In a cigarette-making machine, the combination of a casing or inclosure and a tubular mold divided longitudinally into sections, which sections are adapted to slide within the casing independent of each other.

2. In a cigarette-making machine, the combination of a casing or inclosure and a longitudinally-divided sectional tubular mold sliding therein; the said sections being provided with abutments engaging each other.

3. In a cigarette-making machine, the combination of a casing or inclosure comprised, in part, by a plurality of sections hinged together by their longitudinal edges and a longitudinally-divisible sectional mold, sections of the said mold being carried by the respective sections of the casing.

807,676. **THREAD-CUTTING MECHANISM FOR SEWING-MACHINES.** CHARLES M. HORTON, Portsmouth, N. H., assignor, by direct and mesne assignments, to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Jan. 12, 1904. Serial No. 188,693.



Claim.—1. In a sewing-machine, the combination with a thread-cutting device located beneath the work-plate of the machine and adjacent to the point of descent of the needle, of a sector-gear by which the said thread-cutting device is carried, a rack meshing with said sector-gear, a stop-motion device, and means for positively connecting said rack with said stop-motion device to actuate the said thread-cutting device.

2. In a two-thread sewing-machine, the combination with a thread-cutting device located beneath the work-plate of the machine, and comprising two cutting parts or knives, of a sector-gear by which the said thread-cutting device is carried, a rack meshing with said sector-gear, a stop-motion device, and means for positively connecting said rack with said stop-motion device to actuate said thread-cutting device.

3. In a two-thread sewing-machine, the combination with a thread-cutting device located beneath the work-plate of the machine, and comprising two cutting parts or knives, of a sector-gear by which the said thread-cutting device is carried, a rack meshing with said sector-gear, a sliding bar by which said rack is carried, a stop-motion device, and means for positively connecting said sliding bar with said stop-motion device.

4. In a two-thread sewing-machine, the combination with a thread-cutting device located beneath the work-plate of the machine, and comprising two cutting parts or knives, of a sector-gear by which the said thread-cutting device is carried, a rack meshing with said sector-gear, a sliding bar by which said rack is carried, a stop-motion device, and means for positively connecting said sliding bar with said stop-motion device, said means comprising a cam, a lever 70 operated by said cam and operatively connected to said sliding bar, a stop-motion lever having a depending arm and an intermediate lever having a spring-pressed pin and by which intermediate lever and pin said arm may be coupled with said sliding bar.

5. In a two-thread sewing-machine, the combination with a two-stage movement thread-cutting device located beneath the work-plate of the machine, and comprising two cutting parts or knives, of a sector-gear by which the said thread-cutting device is carried, a rack meshing with said sector-gear, a stop-motion device, and means for operating said rack to actuate said thread-cutting device, said means comprising a cam and connections to said rack whereby a two-step thread-engaging movement will be imparted to the said thread-cutting device, and a stop-motion device and positive connections between said stop-motion device and said rack, whereby a final or thread-severing movement will be imparted to the said thread-cutting device.

6. In a sewing-machine, the combination with a thread-cutting device located beneath the work-plate of the machine and adjacent to the point of descent of the needle, of a thread-nipping device one element of which is movable with said thread-cutting device and adapted to engage and nip the needle-thread, the movable element of said thread-nipping device comprising a curved spring-plate bearing against the under side of said work-plate and provided with a hook for drawing the severed end of needle-thread away from the path of the needle and into thread-nipping position when the thread-cutting device is retracted, and means for operating said thread-cutting and thread-nipping devices.

7. In a sewing-machine, the combination with a thread-cutting device located beneath the work-plate of the machine and adjacent to the point of descent of the needle, of a thread-nipping device comprising a spring-plate bearing against the under side of said work-plate, and operating means whereby the said thread-nipping plate is caused to engage said needle-thread and nip the same beneath the work-plate during the formation of the first stitch made subsequent to the thread-severing operation.

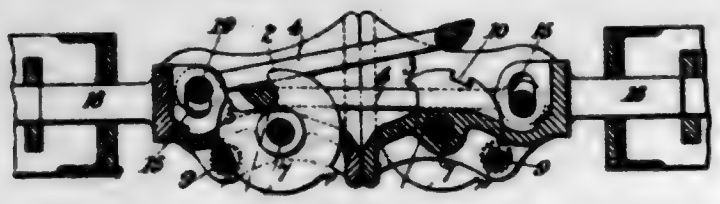
8. In a sewing-machine, the combination with a thread-cutting device located beneath the work-plate of the machine and adjacent to the point of descent of the needle, of a thread-nipping device comprising a spring-plate bearing against the under side of the said work-plate, and operating means whereby the said thread-nipping plate is caused to engage said needle-thread and nip the same beneath the work-plate during the formation of the first stitch made subsequent to the thread-severing operation, a portion of the said thread-nipping plate being arranged to intersect the vertical path of the needle in its movements and said plate being operated so as to hold said thread for two or three stitches and then release it.

9. In a sewing-machine, the combination with a thread-cutting device located beneath the work-plate of the machine, and comprising two knives or cutters one of which is arranged forward of the other, and each having a thread-engaging finger, the finger of the rear knife or cutter extending beyond the outer edge of the finger of the forward knife or cutter, of a two-stage operating mechanism for the said cutters comprising means for imparting a two-step movement during the first stage, so as first to bring a finger of one of the cutters into engagement with one thread to be severed at one stitch, and subsequently to bring a finger of the other cutter into engagement with the other thread to be severed at the next stitch, and means for imparting the second stage or thread-severing movement to the said cutters.

10. In a sewing-machine, the combination with a thread-cutting device located beneath the work-plate of the machine, and comprising two knives or cutters one of which is arranged forward of the other, and each having a thread-engaging finger, the finger of the rear knife or cutter extending beyond the outer edge of the finger of the forward knife or cutter, of a two-stage operating mechanism for the said cutters comprising a cam and connections for imparting a two-step movement during the first stage, so as to first bring a finger of one of the cutters into engagement with one thread to be severed at one stitch, and subsequently to bring a finger of the other cutter into engagement with the other thread to be severed at the next

stitch, and a stop-motion device and connections for imparting the second stage or thread-severing movement to the said cutters.

807,677. BUFFER-COUPLING FOR RAILWAY AND OTHER ROLLING-STOCK. JAMES T. JEPSON, London, England. Filed Mar. 27, 1905. Serial No. 252,370.



Claim.—1. In buffer-couplers and in combination, a buffer-head, a shackle attached thereto, a rotatable coupling-hook, a recess to receive an opposing shackle, and a locking device for holding the hook in its closed position.

2. In buffer-couplers and in combination, a buffer-head, a coupling-shackle attached thereto, a rotatable coupling-hook and a locking device adapted to engage with the hook and hold it against rotation.

3. In buffer-couplers and in combination, a buffer-head, a coupling-shackle, a rotatable coupling-hook so weighted and formed as to normally assume an open position and when closed that the weight of the engaging and overlying shackles tend to hold it in its closed position, and a locking device adapted to engage with the hook and hold it against rotation.

4. In buffer-couplers and in combination, a buffer-head, a rotatable coupling-hook, a recess in such hook, a spring-actuated locking-bar adapted to fit in the recess in the hook, recesses in said bar which when opposite to the hook will permit the latter to rotate, the walls of the recess acting as a friction-brake against the hook.

5. In buffer-couplers and in combination, a buffer-head, a rotatable coupling-hook, a recess in said hook adapted to receive a locking-bar, a locking-bar, recesses therein, the walls thereof being inclined to form leads to assist in securing the engagement and locking of the hook in its closed position.

6. In buffer-couplers and in combination, a buffer-head having a recess therein, a shackle attached to the head, a rotatable hook adapted to fit therein and to be readily removable therefrom, and a locking-bar adapted to engage with the hook and hold it in its locked position.

807,678. PILE FABRIC. FRANZ KLEUTGEN, Sunk, near Cologne, Germany. Filed July 1, 1904. Serial No. 214,965.



Claim.—1. A pile fabric consisting of a ground fabric, rows of pile-threads bound in the ground fabric, and sewing or stitching between the rows of pile-threads.

2. A pile fabric consisting of a ground fabric, rows of pile-loops bound in the ground fabric and sewing or stitching between the rows of pile-threads and across the parts of the said pile-threads which are bound in with the ground fabric.

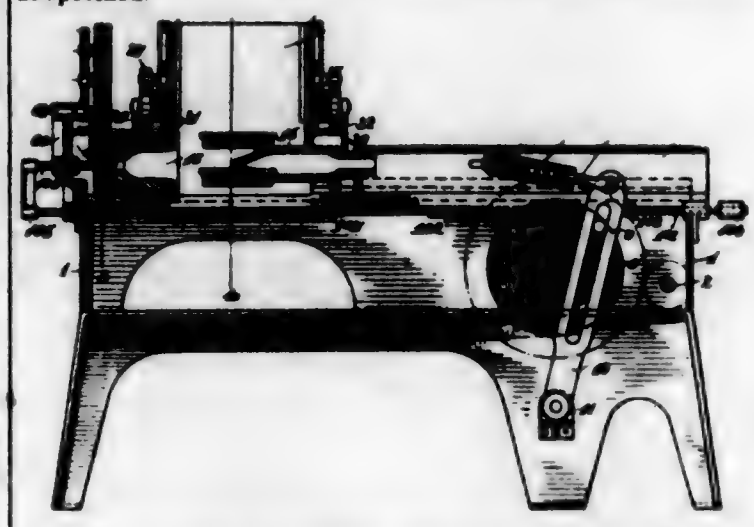
3. A pile fabric consisting of a ground fabric, rows of pile-loops on the ground fabric, a lining on the back of the ground fabric and sewing or stitching between the rows of pile-threads which sewing or stitching connects the lining and ground fabric together.

4. A pile fabric consisting of a ground fabric, rows of pile-loops on the ground fabric, a lining on the back of the ground fabric and sewing or stitching between the rows of pile-threads, which sewing or stitching connects the lining, pile-threads and ground fabric together.

807,679. MACHINE FOR MAKING BOTTLE-WRAPPERS. HERMANN KRUSE, Hemelingen, near Bremen, Germany. Filed Apr. 26, 1904. Serial No. 205,084.

Claim.—1. In a machine for shaping bottle-wrappers from hollow paper cylinders, &c., means for feeding the cylinder, combined with means for forming a neck on one end of the cylinder, and means for tying a wire around such neck, substantially as specified.

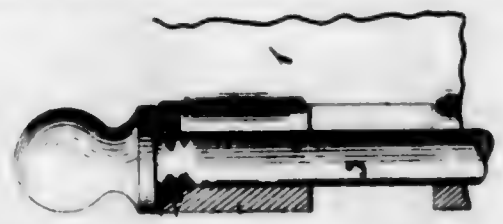
2. In a machine for shaping bottle-wrappers from hollow paper cylinders, &c., a pair of reciprocating slides having retaining-arms, combined with a die and stamp for forming a neck on one end of the cylinder, and means for tying a wire around such neck, substantially as specified.



3. In a machine for shaping bottle-wrappers from hollow paper cylinders, &c., means for feeding the cylinder, combined with means for forming a neck on one end of the cylinder, means for cutting a wire, and means for tying the cut wire around the neck of the cylinder, substantially as specified.

4. In a machine for shaping bottle-wrappers from hollow paper cylinders, &c., means for feeding the cylinder, combined with a die and stamp for forming a neck on one end of the cylinder, means for tying a wire around such neck, and means for ejecting the tied cylinder from the die, substantially as specified.

807,680. PINTLE-RETAINER FOR HINGES. BURTON W. LEWIS, Plainville, Conn., assignor to The Stanley Works, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 6, 1904. Serial No. 227,444.



Claim.—1. In a hinge, a knuckle recessed at one end, a yielding pintle-retaining device located therein, means for preventing the accidental detachment of said retaining device, a pintle having a lateral projection thereon extending beyond the surface of the pintle and arranged to coact with said retaining device.

2. In a hinge, a knuckle having an annular recess in the end thereof, an annular yielding pintle-retaining device arranged therein, means to prevent the accidental detachment of said retaining device, a pintle having a lateral projection thereon arranged to coact with said yielding retaining device, the entrance to the knuckle being enlarged to form a clearance-passage for said lateral projection on the pintle, substantially as described.

3. In a hinge, a knuckle having an annular recess in the outer end thereof, a split ring located therein, means for holding said split ring in place but leaving it free to expand and contract, a pintle having a lateral projection thereon extending beyond the bearing-surface of said pintle and arranged to coact with said split ring and a clearance-passage at the entrance to said knuckle to admit of the free passage of said projection.

4. In a hinge, a knuckle having an annular recess in the outer end thereof, a split ring located therein, means for holding said split ring in place but leaving it free to expand and contract, a pintle having an annular lateral projection thereon extending beyond the surface of said pintle and arranged to coact with said split ring and a clearance-passage at the entrance to said knuckle to admit of the free passage of said annular projection.

807,681. SECTIONAL WINDOW. EDMUND H. LUNKEN, Cincinnati, Ohio. Filed Dec. 6, 1904. Serial No. 235,760.

Claim.—1. A window composed of interchangeable units, each comprising a frame fitting against a like frame of another unit or units, and means for connecting said contacting frames directly together, substantially as described.

2. A window composed of a plurality of interchangeable units having overlapping portions with means for securing the same together, substantially as described.

3. A window composed of a plurality of interchangeable units provided with flanges, those of one unit overlapping those of another, and means for securing the flanges together, substantially as described.



4. A window composed of units, each of which has flanges arranged with their front faces in different vertical planes, the flanges of one unit being adapted to fit against the flanges of the adjacent unit and means for securing the units together, substantially as described.

5. A window composed of a plurality of interchangeable units, each having flanges, and with the flanges of one unit fitting against the flanges of an adjacent unit inclosing the space between the said units with bolts passing through the flanges to hold the units together, substantially as described.

6. A window composed of interchangeable units, each having flanges with their front faces in different vertical planes and with the flanges of one unit fitting against the faces of one set of flanges of the adjacent unit and with the edges of the said flanges fitting against the edges of the other set of flanges on the said adjacent unit whereby flush surfaces are provided closing the space between the units and bolts for holding the flanges together, substantially as described.

7. A window composed of a plurality of units, each of which has two sets of flanges, the flanges of one set being out of the vertical plane of the flanges of the other set and having beveled ends and corners, the flanges of one unit fitting against those of the adjacent unit, and means for securing the flanges together, substantially as described.

8. A window composed of interchangeable units, each unit having a plurality of flanges, each set having its corners beveled off and its ends provided with a double bevel, the flanges of adjacent units fitting against each other with means for holding the units together, substantially as described.

9. In combination in a window, a plurality of units secured together, each unit being composed of a main-frame portion and a swinging portion, substantially as described.

10. A window composed of a plurality of interchangeable units, each unit comprising a main-frame portion having flanges adapted to fit against and secured to flanges of adjacent units and a supplemental frame hinged within the main frame, substantially as described.

11. A window composed of interchangeable units, each comprising a frame fitting against a like frame of another unit or units, means for connecting said contacting frames directly together and a swinging sash carried by each unit, substantially as described.

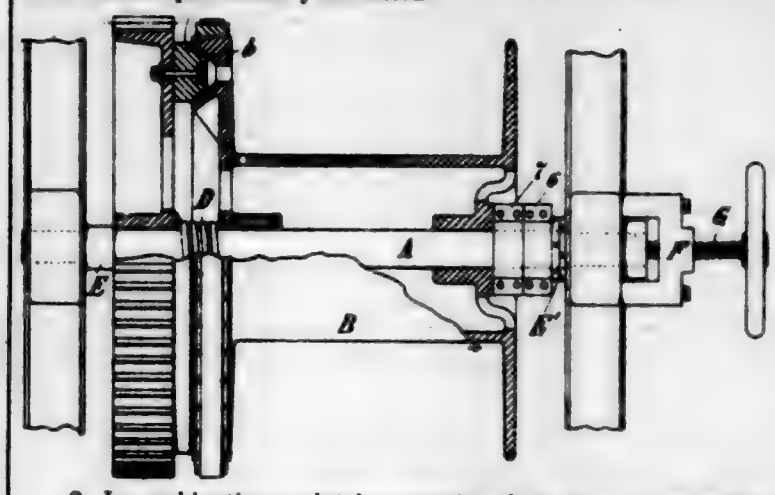
12. A window composed of a plurality of units which are interchangeable with each other as to position and each of which will fit against any side of any other unit, directly, with means for securing said units together substantially as described.

13. A window composed of a plurality of units each of which comprises a frame having a flange on each side, the said frames constituting the frame of the window, and means for securing the frames together, substantially as described.

14. In combination in a window, a plurality of units secured together each of said units including a main-frame portion and a swinging portion carried thereby, said main-frame portions being interchangeable in position by being adapted to fit directly against any side of another unit, and means for securing them together, substantially as described.

807,682. ROPE-DRUM. THOMAS S. MILLER, South Orange, N. J. Filed Oct. 30, 1903. Serial No. 179,121.

Claim.—1. A clutch set by its longitudinal movement, in combination, with an operating member, a non-rotating support therefor and a rotating clutch-setting mechanism containing a power-multiplying device operated by the sliding engagement of an incline which is disposed within the angle of repose and extends beyond the normal limit of throw permitted by the clutch.



2. In combination, a clutch, a rotating shaft, an actuator at the end of the shaft, a non-rotating support therefor, and the following mechanism rotating with the shaft, viz: an abutment outside the shaft, a power device bearing directly against said abutment whereby the clutch is set, and a spreader extending across the line of said shaft and radially operating said power device.

3. In combination, a clutch, a rotating shaft, an actuator at the end of the shaft, a non-rotating support therefor, and the following mechanism rotating with the shaft, viz: an abutment outside the shaft, a power device bearing directly against said abutment whereby the clutch is set, a spreader extending across the line of said shaft and radially operating said power device and a thrust-pin extending into said shaft past one of the bearings thereof.

4. A clutch set by its longitudinal movement, in combination with a relatively non-rotating operating member and a rotating clutch-setting mechanism containing a power-multiplying device operated by an incline so disposed that the maximum locking of said clutch in normal running is produced by friction with said incline.

5. A clutch set by its longitudinal movement, in combination with a clutch-setting mechanism containing a toggle operated by the sliding engagement of an incline.

6. A clutch set by longitudinal movement, in combination with a clutch-setting mechanism containing a toggle operated by a reciprocating wedge.

7. A clutch, in combination with a relatively non-rotating operating member and a rotating clutch-setting mechanism containing an inclined member mounted to reciprocate and a power-multiplying device forming a friction locking engagement with said incline at a point between its extremes when said clutch is in normally set position.

8. In combination, a rotating shaft, a clutch, a relatively non-rotating operating member and a rotating clutch-setting mechanism containing an inclined member mounted to reciprocate parallel with the shaft and a power-multiplying device forming a friction locking engagement with said incline at a point between its extremes when said clutch is in normally set position.

9. A rotating shaft and a clutch set by longitudinal movement thereon, in combination with a clutch-setting mechanism containing a friction locking device carried within a recess of the shaft.

10. In combination, a revolving shaft, a clutch member longitudinally movable thereon, an abutment thereon, a thrust device interposed between said abutment and clutch member and a friction locking member rotating with said shaft.

11. In combination, a revolving shaft, a clutch member longitudinally movable thereon, an abutment, a thrust device interposed between said abutment and clutch member, a friction locking member rotating with said shaft, a connecting member extending from said locking member through and beyond said abutment and an operating member having stationary bearings.

12. A rotating shaft and a clutch thereon, in combination with a relatively non-rotating operating member and a clutch-setting mechanism containing a friction locking device carried within a recess of the shaft.

13. A rotating shaft and a clutch thereon, in combination with a relatively non-rotating operating member, an inclined member carried within a recess of the shaft and a power-multiplying device forming a friction locking engagement with said inclined member.

14. A rotating shaft and a clutch thereon, in combination with a relatively non-rotating operating member, a pin extending from the

end of said shaft to a recess therein a friction locking member operated by said pin within said recess and a power-multiplying device forming a friction-lock with said friction locking member.

15. A rotating shaft, a clutch thereon, in combination with a relatively non-rotating operating member, a collar fixed to the shaft, a power-multiplying device bearing upon said collar and a device carried within a recess of the shaft and forming a friction locking engagement with said power-multiplying device.

16. A clutch set by its longitudinal movement, in combination with a non-rotating operating member and a clutch-setting mechanism containing a toggle operated by the sliding engagement of an incline, which incline is in turn operated by a pin concentric with the shaft.

17. A rotating shaft, its bearings, a clutch set by longitudinal movement thereon, and a relatively non-rotating actuator in combination with the following parts extending within the shaft, viz: a pin whereby the thrust is transmitted through one of the shaft-bearings to a power-multiplying mechanism consisting of a pair of toggles normally disposed with the knuckles nearer the axis of the shaft than their extremities, and means whereby the knuckle of each toggle is thrust radially outward.

18. A rotating shaft, a clutch thereon, an operating member and a non-rotating support therefor, in combination with a clutch-setting mechanism containing power-multiplying mechanism extending within the line of said shaft, and an abutment therefor adjustably secured to said shaft by a screw-threaded connection on the periphery thereof.

19. In combination, a rotating shaft, its bearings, a gear fixed on said shaft, a rope-drum movable thereon, a friction-clutch between said gear and drum, two collars, one longitudinally fixed and the other movable on the shaft at the opposite end of said drum, a power-multiplying spreader between said collars and a pin for operating said spreader extending into said shaft through one of the shaft-bearings.

20. In combination, a rotating shaft, its bearings, a gear fixed on said shaft, a rope-drum movable thereon, a friction-clutch between said gear and drum, two collars, one longitudinally fixed and the other movable on the shaft at the opposite end of said drum, a wedging-spreader between said collars and a pin for operating said spreader extending within said shaft through one of the shaft-bearings.

21. In combination, a rotating shaft, its bearings, a gear fixed on said shaft, a rope-drum movable thereon, a friction-clutch between said gear and drum, two collars, one longitudinally fixed and the other movable on the shaft at the opposite end of said drum, a power-multiplying spreader between said collars, a wedge for operating said spreader and a member for operating the wedge extending through one of said collars.

22. In combination, a rotating shaft, a clutch member secured thereto, a rope-drum loosely mounted thereon, friction-surfaces between said clutch member and said drum, a collar adjacent to said drum free to move longitudinally on said shaft, an abutment on said shaft, power-multiplying mechanism partially or wholly contained in a slot in said shaft between said abutment and said collar, a pin for operating said power-multiplying mechanism having a longitudinal movement in said shaft, and means for thrusting said pin whereby the rope-drum may be forced against said clutch member.

23. In combination, a thrusting mechanism for operating a clutch by longitudinal movement of one of the members consisting of a pair of toggles; the ends of said toggles being at the same distance from the center of a shaft, and means for forcing said toggles outwardly and engaging with the knuckles of said toggles.

24. In combination a rotating shaft, clutch members mounted thereon, a slot in said shaft, a pair of toggles whose knuckles extend within said slot, a pin for thrusting said toggles apart acting upon the knuckles of said toggles whereby by the thrusting of said pin in one direction the knuckles are forced apart and the clutch members pushed together.

25. In combination a rotating shaft, clutch members mounted thereon, a toggle whose knuckle extends toward the center of said shaft, a pusher-bar sliding along said shaft in contact with said knuckle whereby said toggle is straightened and the force of said toggle is transmitted to said clutch member.

26. In combination, a clutch set by longitudinal movement, a toggle for setting the same and means adjacent to the knuckle of said toggle for operating the same, one of the toggle-links containing a projection covering said knuckle.

27. In combination with a clutch, a shaft and a relatively non-rotating actuator, a rotating clutch-setting mechanism containing a pivotal member, a reciprocating member forming a friction-lock therewith and means of adjustment independent of said actuator; said friction-lock extending beyond the normally set position of the clutch and being disposed within the angle of repose.

28. In combination, a rotary shaft, a rope-drum revoluble thereon, clutch members secured respectively to said shaft and said drum, an actuator located at the end of the shaft and the following mechanism mounted upon the shaft between the actuator and drum and rotating with the shaft, viz: an abutment, a power device bearing against said abutment whereby the clutch is set, a spreader extending across the line of said shaft and radially operating said power device and an operative connection extending inside said abutment.

29. In combination, a rotating shaft, its bearings, a rope-drum revoluble on said shaft, clutch members secured respectively to said shaft and said drum, an actuator located at the end of said shaft, a non-rotating support therefor, a thrust-pin extending from said actuator through one bearing of the shaft and the following mechanism mounted upon the shaft between its bearing and said rope-drum, viz: an abutment, a power device bearing against said abutment whereby the clutch is set and a spreader extending across the line of said shaft and radially operating said power device.

30. In combination, a clutch, a shaft, power-multiplying clutch-setting mechanism, a holder surrounding the same, an actuator and a connection extending within the shaft from said actuator to said clutch-setting mechanism.

31. In combination, a clutch, a shaft, two oppositely-disposed power mechanisms rotating with the shaft for setting said clutch, a circumferential holder connecting opposite members of said mechanisms, an actuator located at the end of the shaft, a non-rotating support therefor, a spreading mechanism located in a recess of said shaft and a connection between said spreading mechanism and said actuator extending within said shaft from the end thereof to said recess.

32. In combination, a clutch, a shaft, two oppositely-disposed power mechanisms, rotating with the shaft for setting said clutch, a holder therefor mounted on said shaft, an actuator, a non-rotating support therefor and a spreading mechanism located within said holder and in the line of said shaft through which said actuator operates said power mechanisms.

33. In combination, a clutch, a shaft, a power-multiplying clutch-setting mechanism rotating with the shaft, a holder and an abutment for the same, a member extending within the line of said shaft whereby said mechanism is operated, an actuator, a non-rotating support therefor and a connection whereby the power is transmitted past said abutment.

34. In combination, a clutch, a shaft, an abutment, a power-multiplying mechanism located between the abutment and clutch, an actuator and a non-rotating support therefor located on the opposite side of the abutment, an operative connection extending within said abutment and a device extending within the line of the shaft whereby said mechanism is operated.

35. In combination, a clutch, a shaft provided with a transverse slot and longitudinal hole, a pin in said hole, a spreader in said slot and a toggle coöperating therewith said spreader operating radially upon the knuckle of said toggle.

36. In combination, a clutch, a shaft provided with a transverse slot, and longitudinal hole, a pin in said hole, a spreader in said slot and a toggle the extremities of which are outside the shaft but the knuckle of which moves within said slot said spreader operating radially upon the knuckle of said toggle.

37. In combination, a clutch, a shaft provided with a transverse slot and longitudinal hole, a pin in said hole, a spreader in said slot, two toggles coöperating with said spreader and a holder extending around both of said toggles.

38. In combination, a friction rope-drum, shaft-bearings, a shaft having having a transverse slot between the drum and one bearing and a longitudinal hole extending past said bearing, a pin in said hole, an abutment on the shaft between said drum and bearing and a power-multiplying mechanism extending from said pin through said slot to the drum.

39. In combination, a shaft, a two-part holder mounted upon the shaft, means whereby one part thereof is stayed from longitudinal movement on the shaft, a clutch member set by the longitudinal movment of said other part, a mechanism mounted in said holder and operating to separate the two parts thereof, an actuator at the end of the shaft and a connection extending from the actuator within the shaft to said mechanism.

40. In combination, a clutch, a shaft, two collars by the separation of which the clutch is set, a shaft extending through said collars and having a transverse hole between them and a longitudinal

hole thence to its end, and mechanism extending through said holes whereby said collars are separated.

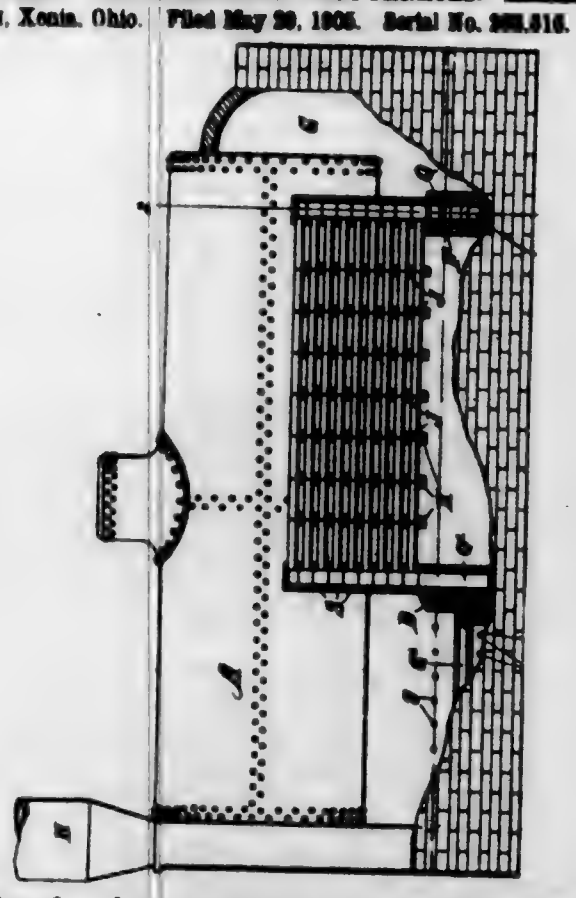
41. In combination, a friction rope-drum, its shaft, a rotating holder secured to the shaft outside the drum, a clutch-setting mechanism held by said holder, a spreader within said holder whereby said mechanism is operated, an actuator, and a non-rotating support therefor.

42. In combination, a friction-drum, its shaft, a rotating holder secured to the shaft outside the drum, a clutch-setting mechanism held by said holder, a spreader within said holder whereby said mechanism is operated, a thrust-pin and an actuator.

43. In combination, a clutch, a shaft, an actuator, a thrust-pin in the shaft, two oppositely-disposed clutch-setting mechanisms, a holder therefor and a spreader in the line of the shaft between the same.

44. In combination, a clutch, a shaft, a longitudinally-moving thrust-pin and an actuator-pin carried respectively by the shaft and by a stationary support and a power-multiplying clutch-setting mechanism rotating with the shaft.

807,683. AIR-PREHEATER FOR FURNACES. ABRAHAM NEWTON, Xenia, Ohio. Filed May 20, 1905. Serial No. 261,516.



Claim.—1. A furnace air-preheater comprising in combination within the furnace combustion-chamber, hollow members of refractory material arranged to provide through passage between them for the burning gases, and connected to provide uninterrupted air-passages through them, and air-feeds to and from said members to deliver and distribute air to and from the same

2. A furnace air-preheater comprising in combination within the furnace combustion-chamber, hollow members of refractory material arranged in checker-work fashion, to provide passage between them for the burning gases, and connected to provide uninterrupted air-passages through them, and air-feeds to and from said members to deliver and distribute air to and from the same

3. A furnace air-preheater comprising in combination within the furnace, bridge-walls, hollow members of refractory material within the combustion-chamber, mounted upon the bridge-walls and arranged to provide passage between them for the burning gases, and connected to provide uninterrupted air-passages through them, and air-feeds to and from said members to deliver and distribute air to and from the same

4. A furnace air-preheater comprising in combination within the furnace, hollow bridge-walls, hollow members of refractory material within the combustion-chamber, mounted upon the bridge-walls and arranged to provide passage between them for the burning gases, and to provide uninterrupted air-passages through them, and air-feeds to and from said members to air-chambers within the bridge-walls to deliver and distribute air to and from the preheater.

5. A furnace air-preheater comprising in combination within the furnace combustion-chamber, hollow members of refractory material arranged in checker-work fashion to provide passage between them for the burning gases, and connected to provide uninterrupted air-passages through them, hollow bridge-walls, and air-feeds to and from said refractory members to air-chambers within the bridge-walls to deliver and distribute air to and from the preheater.

6. A furnace air-preheater comprising in combination within the furnace combustion-chamber, hollow members of refractory material arranged to provide passage between them for the burning gases, and connected to provide continuous closed air-passages through them, an air-feed to said members from the outer air, and air-feeds from said members to the fire-box and ash-pit.

7. A furnace air-preheater comprising in combination within the furnace combustion-chamber, hollow members of refractory material arranged to provide through passage between them for the burning gases, and connected to provide uninterrupted air-passages through them, hollow blocks in communication with said refractory members at either end of said passage, and air-feeds to and from said blocks.

8. A furnace air-preheater comprising in combination within the furnace combustion-chamber, hollow members of refractory material arranged to provide passage between them for the burning gases, and connected to provide continuous closed air-passages through them, hollow blocks at either end of said passages in communication with each other to form other uninterrupted passages and in communication with the passages in the refractory members, and air-feeds to and from said blocks.

9. A furnace air-preheater comprising in combination within the furnace combustion-chamber, hollow members of refractory material arranged to provide passage in several directions between them for the burning gases, and connected to provide uninterrupted passages through them, columns of intercommunicating blocks at either end of said passages to form other passages in communication with the passages in the members aforesaid.

10. A furnace air-preheater comprising in combination within the furnace combustion-chamber, hollow members of refractory material arranged to provide passage between them for the burning gases, and connected to provide uninterrupted air-passages through them, hollow blocks in communication with said refractory members at either end of said passages, hollow bridge-walls supporting said hollow blocks and in interior communication therewith, air-feeds to and from said hollow walls.

11. In a furnace air-preheating equipment, hollow bridge-walls, hollow blocks of refractory material supported upon the bridge-walls and upon each other, and arranged to form inclosed passages communicating with the interior of the bridge-walls, a checker-work of hollow members supported within the combustion-chamber, certain of said members fitted into the hollow blocks aforesaid, and all of said members so arranged as to provide passages for air from the interior of one bridge-wall to the interior of the other, an air-inlet to one bridge-wall, and air-outlets from the other of said walls to the fire.

12. In a furnace air-preheating equipment, hollow bridge-walls, hollow blocks of refractory materials supported upon the bridge-walls and upon each other, and arranged to form inclosed passages communicating with the interior of the bridge-walls, a checker-work of hollow members supported within the combustion-chamber, certain of said members in engagement with hollow blocks aforesaid, and all of said members so arranged as to provide passages for air from the interior of one bridge-wall to the interior of the other, an air-inlet to one bridge-wall, and air-outlets from the other of said walls to the fire.

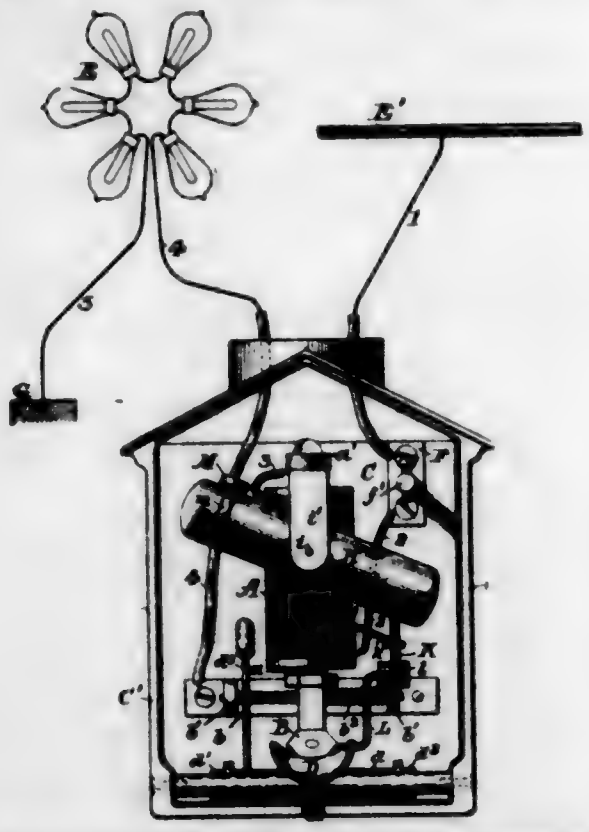
807,684. CIRCUIT-CONTROLLING DEVICE. OWYNNE E. PAINTER, Baltimore, Md. Filed July 15, 1903. Serial No. 166,096.

Claim.—1. In a circuit-controlling device the combination of a circuit-closing switch, an electromagnet within the circuit controlled thereby and adapted when energized to hold the movable member of said switch in its closed-circuit position, and timing mechanism adapted to automatically short-circuit said magnet at the expiration of a predetermined interval of time after the circuit has been closed by said switch, substantially as described.

2. In a circuit-controlling device, the combination of an electromagnet, a normally retracted armature adapted to close a circuit through the coil of said magnet when moved in contact therewith, and a timing mechanism adapted to automatically short-circuit said magnet at the expiration of a predetermined interval of time after the circuit has been closed, substantially as described.

3. In a circuit-controlling device, the combination of an electromagnet, a normally retracted armature adapted to close a circuit

through the coil of said magnet when moved in contact therewith, and a timing mechanism adapted to be set for operation by the closing movement of said armature and to short-circuit said magnet at the expiration of a predetermined interval of time after said circuit has been closed, substantially as described.



4. In a circuit-controlling device, the combination of an electromagnet, a normally retracted armature, terminal connections for the device connected respectively to said armature and to one terminal of the magnet-coil, the other terminal of said coil being connected to the magnet-core, a timing mechanism adapted to be set for operation by said armature when the latter is moved in contact with said magnet and to short-circuit said magnet at the expiration of a predetermined interval of time thereafter, substantially as described.

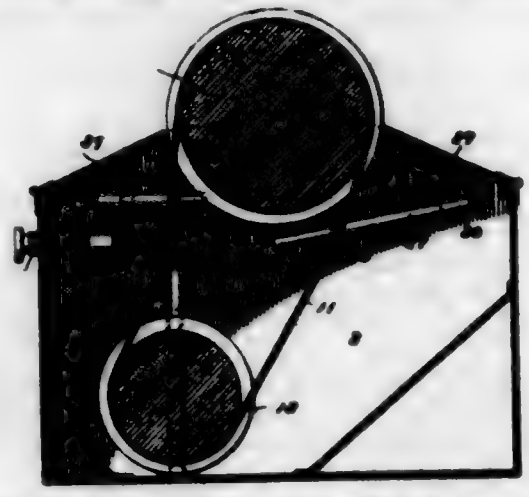
5. In a circuit-controlling device, the combination of an electromagnet, a normally retracted armature adapted to close a circuit through the coil of said magnet when moved in contact therewith, a timing mechanism consisting of a pivotally-supported receptacle divided into two communicating chambers located on opposite sides of the pivotal support and containing a free-flowing agent adapted by proper movements of the receptacle to gravitate from one chamber to the other and cause said receptacle to tilt on its pivotal support, means operated by the closing movement of said armature for giving the proper initial movement to said receptacle, and a contact adapted to be engaged by said receptacle when the latter is tilted by said free-flowing agent for shunting the coil of said magnet, substantially as described.

6. In a circuit-controlling device, the combination of an electromagnet, a normally retracted armature adapted to close a circuit through the coil of said magnet when moved in contact therewith, a timing mechanism consisting of a pivotally-supported receptacle divided into two communicating chambers located on opposite sides of the pivotal support and containing a free-flowing agent adapted by proper movements of the receptacle to gravitate from one chamber to the other and cause said receptacle to tilt on its pivotal support, means operated by the closing movement of said armature for giving the proper initial movement to said receptacle, a contact adapted to be engaged by said receptacle when the latter is tilted by said free-flowing agent for shunting the magnet-coil, and means for returning the receptacle to its original or normal position, substantially as described.

807,685. PASTING APPARATUS. ROBERT A. PELHAM, Detroit, Mich. Filed Sept. 14, 1905. Serial No. 278,448.

Claim.—1. In an apparatus of the class described, a suitable paste box or receptacle, a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, and a vertically-movable idler-roll within the bight of said web.

2. In an apparatus of the class described, the combination with a suitable paste box or receptacle, a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, an idler-roll within the bight of said web, and vertical guides in which said idler-roll is mounted.



3. In an apparatus of the class described, the combination with a suitable paste box or receptacle, of a supporting-roller journaled thereon, an endless web carried by said supporting-roller and depending within said paste box or receptacle, a vertically-movable idler-roll in the bight of said web, and an adjustable scraping and tensioning blade bearing against said web between said roller and said idler.

4. In an apparatus of the class described, the combination with a suitable paste box or receptacle, of a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, an idler-roll within the bight of said web, an adjustable scraping and tensioning blade bearing against the outside of said web between the said roller and said idler, and an adjustable stretcher-rod bearing against the inner surface of said web adjacent said scraper.

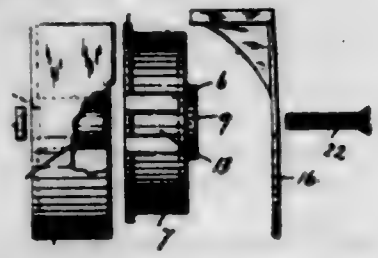
5. In an apparatus of the class described, the combination with a suitable paste box or receptacle, of a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, an idler-roll within the bight of said web, an adjustable scraper bearing against the outer surface of said web between said roller and said idler, an adjustable stretcher-rod bearing against the inner surface of said web adjacent said scraper, and an adjustable stretcher-rod bearing against the inner surface of opposite run of said web.

6. In an apparatus of the class described, the combination with a suitable paste box or receptacle, of a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, and stretcher-rods bearing against the inner surfaces of the two runs of said endless web to keep the same from adhering to and winding about the roller.

7. In an apparatus of the class described, the combination with a paste-supplying web, of a web-scraping instrumentality comprising a plurality of superposed scraping-blades, and means for locking said blades together with any one of the series in operative position.

8. In an apparatus of the class described, the combination with a paste-supplying web, of a scraping-blade mounted in suitable supports, means for adjusting said blade toward and from said web, and a plurality of scraper-blades adjustably mounted on said first-named scraping-blade.

807,686. SASH-BALANCE. WILLIAM H. POTTER, Syracuse, N. Y., assignor to B. C. Stearns & Co., Syracuse, N. Y. Filed Oct. 9, 1903. Serial No. 176,049.



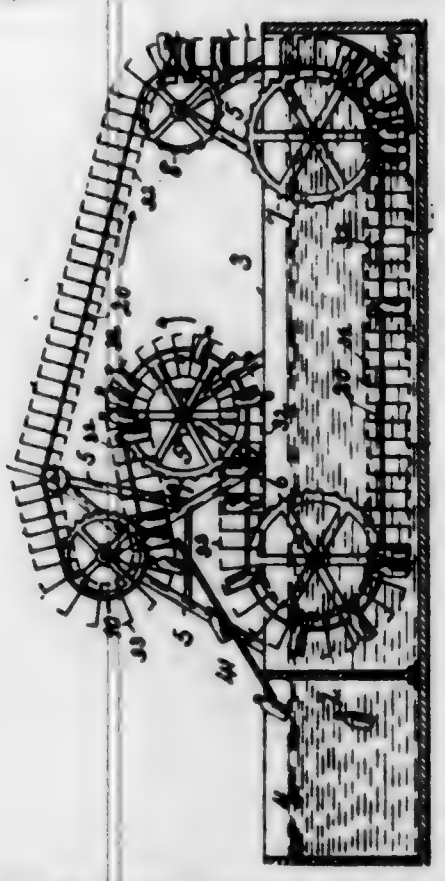
Claim.—1. In a three-part cast-metal sash-balance, the combination of a substantially semicircular main shell having an exterior centrally-arranged recess to receive the nut, an interior integral, centrally-arranged shaft in the shell slotted at one side to receive one end of the spring, a coil-spring arranged around said shaft and having its outer end secured to the barrel, the cylindrical barrel having an inner flange adapted to engage with the inner surface of the main shell, an integral outer flange surrounding an opening fitted to the

shaft and downwardly extending beyond said shaft, a cast-metal face-plate having an opening for the strap, a cover integral with the face-plate, said cover being slightly crowned and slightly resilient to engage with an outer flange on the barrel and regulate the tension of the spring, and a single screw and nut to attach the cover to the main shell, retaining all the parts in position and to regulate the pressure of the cover on the flange.

2. In a three-part cast-metal sash-balance, the combination of a substantially semicircular main shell having an exterior centrally-arranged recess to receive the nut, an interior integral, centrally-arranged shaft in the shell slotted at one side to receive one end of the spring, a coil-spring arranged around said shaft and having its outer end secured to the barrel, the cylindrical barrel having an inner flange adapted to engage with the inner surface of the main shell, an integral outer flange surrounding an opening fitted to the shaft and downwardly extending beyond said shaft, a cast-metal face-plate having an opening for the strap, a cover integral with the face-plate, and a single screw and nut to attach the cover to the main shell, retaining all the parts in position and to regulate the pressure of the cover on the flange.

3. In a three-part cast-metal sash-balance, the combination with the main shell, an integral tubular shaft, of a spring-barrel provided with an inner and outer flange adapted to engage with the main shell and the cover, a spring coiled on the shaft within the barrel and having its end connected respectively to the shaft and the barrel, a resilient cover-plate adapted to engage with said outer flange, and a bolt to secure the parts together and to regulate the pressure of the cover against the outer flange on the barrel and the inner flange against the shell.

807,687. **BOTTLE-WASHING MACHINE.** BALDWIN F. SCHREIER, Cleveland, Ohio. Filed Dec. 8, 1903. Renewed Sept. 16, 1905. Serial No. 278,780.



Claim.—1. In a machine of the class described, a bottle-holder comprising a plurality of jaws arranged in succession along an endless flexible carrier, to which they are rigidly secured, each jaw adapted to receive a bottle and carry it with its longitudinal axis substantially at right angles to the line of travel of the carrier and provided with means for preventing the lateral displacement of the bottles and for preventing the longitudinal displacement of the bottles except at predetermined times.

2. In a machine of the class described, a bottle-holder comprising a plurality of jaws arranged in succession along an endless flexible carrier, each jaw adapted to receive a bottle and carry it with its longitudinal axis substantially at right angles to the line of travel of the carrier and provided with means for preventing the lateral displacement of the bottles and for preventing the longitudinal displacement of the bottles except at predetermined times, the means for the last-mentioned purpose consisting of a flange projecting from the next jaw toward the bottle.

3. In a machine of the class described, an endless flexible bottle-carrier comprising chains, a plurality of jaws arranged in succession along the chains and secured to the links thereof, at a point intermediate the extremities of the jaws and substantially at a right angle to the link to which each jaw is firmly attached, whereby, when the direction of movement of the carrier is varied, the adjacent jaws are caused of change their angles with respect to each other.

807,688. **PROCESS OF TREATING RAW PEAT.** CARL SCHLICKEYSEN, Steglitz, near Berlin, Germany. Filed Mar. 18, 1904. Serial No. 198,809.

Claim.—1. The method of converting raw peat into solid peat fuel, which consists in kneading the raw peat, forming into bars and heating the same superficially while maintaining the interior in its cold state, and permitting to dry.

2. The method of converting raw peat into solid peat fuel, which consists in kneading the raw peat, forcing the plastic mass through a heated mouthpiece to form the same into bars and heat the same superficially while maintaining the interior in its cold state, and permitting to dry.

3. The method of converting raw peat into solid peat fuel, which consists in kneading the raw peat, heating the same superficially as it leaves the kneading-machine in the form of bars while maintaining the interior in a cold state, and permitting to dry.

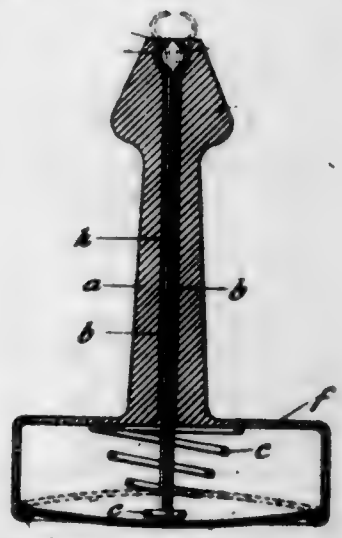
4. The method of converting raw peat into solid peat fuel, which consists in kneading the raw peat, forming into bars and heating the same superficially while maintaining the interior in its cold state, impregnating the surface with foreign matter, and permitting to dry.

5. The method of converting raw peat into solid peat fuel, which consists in kneading the raw peat, heating the same superficially as it leaves the kneading-machine in the form of bars while maintaining the interior in a cold state, impressing granular matter upon the heated surface of the bars, and exposing to the air to dry.

6. The method of converting raw peat into solid peat fuel, which consists in mixing the raw peat with solid combustible granular matter, kneading the mixture, heating the same superficially to a temperature of approximately 100° centigrade while maintaining the interior in its cold state as it leaves the kneading-machine in the form of bars, impressing granular combustible material upon the heated surface of the bars, and permitting to dry.

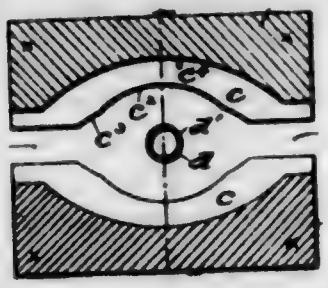
7. The method of converting raw peat into solid peat fuel, which consists in mixing the raw peat with hard combustible granular matter, kneading the mixture, and forming the same into bars by forcing the material through a mouthpiece heated sufficiently to raise the outer surface of the peat to a temperature of approximately 100° centigrade, while permitting the interior to remain cold, strewing the outer heated surface of the bars with granular combustible matter and impressing the same thereon, and then permitting to dry.

807,689. **COLLAR-BUTTON.** ADOLF SCHWIMMER, Hanover, Germany, assignor to August Baurose, Godesberg, Prussia, Germany. Filed Jan. 12, 1905. Serial No. 240,837.



Claim.—In a button, the combination of a headed stem having an axial bore, laterally enlarged within the head, with a looped needle terminating in a pair of self-separating claws adapted to be compressed within the enlarged bore, a spring for drawing the needle inward into the bore and means for counteracting the spring-pressure and projecting the needle-claws at will.

807,690. SAD-IRON. William B. Sherman, Providence, R. I. Filed July 13, 1904. Serial No. 216,281.



Claim.—1. In a reversible self-heating sad-iron, having a hollow or chambered body provided with end trunnions, a plurality of transversely-arranged interior ribs and grooves and open side passages communicating with said chamber, the upper and lower walls of said body being considerably thicker along the outer edges than at the center, the combination therewith of a burner-tube removably mounted in said body, a swinging handle mounted on said trunnions and means coacting with said handle and body members for locking them together in the normal operative position.

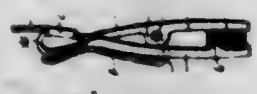
2. A self-heating sad-iron having its body portion hollow and provided interiorly along its upper and lower sides or walls with a plurality of oppositely-disposed transverse ribs and grooves, *c*, *c'*, respectively, alternating with one another, the form of said ribs being curved thereby producing an enlarged central combustion-chamber longitudinally of the body, the disposition of the metal serving to materially increase the weight along the four corners or edges, and provided with open side passages *s* in direct communication with said combustion-chamber.

3. In a self-heating reversible sad-iron, the combination of the body B provided with a combustion-chamber therein having an ellipsoidal form cross-sectionally, its major axis lying transversely of the sad-iron thereby making the metal of the working or smoothing members of the body thickest along the outer portions and materially thinner at the longitudinal center thereof, a series of interior integral ribs and alternating grooves extending transversely across said chamber and formed perpendicularly to and following the contour of the walls of the chamber, continuously-open air-passages communicating with the chamber, and a removably-secured burner-tube mounted in said body and passing through the longitudinal axis thereof, substantially as described.

4. In a reversible self-heating sad-iron, a hollow body or heating member having an end thereof provided with oppositely-disposed upper and lower outer transverse beveled flanges, a swinging handle member connected with and adapted to support said heating member, and a locking-lever pivoted to and movable with said handle having its lower portion in frictional engagement with the lower one of said flanges, substantially as described.

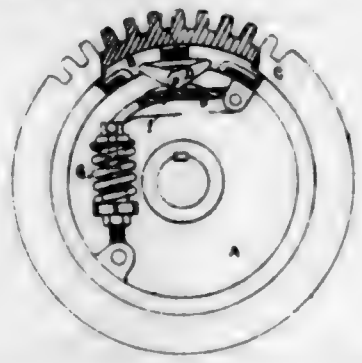
5. In a self-heating reversible sad-iron, the body portion B provided with side openings and having therein a combustion-chamber communicating with said openings, the walls of the chamber transversely or cross-sectionally being curved or convex and provided with correspondingly-curved integral ribs and alternating grooves, combined with a burner-tube movably mounted in and removably secured to said body, whereby when in normal use the flame from the tube is directed to the upper part of the main or body member, and means for turning said burner axially ninety degrees from its normal position and resecuring it in place, whereby the heat from the flame is then directed upwardly through the then upper side opening, substantially as hereinbefore described and for the purpose set forth.

807,691. GARMENT-SUPPORTER CLASP. Dwight L. Smith and John J. Buchanan, Waterbury, Conn., assignors to The Waterbury Buckle Company, Waterbury, Conn., a Corporation. Filed June 26, 1905. Serial No. 267,019.



Claim.—In a garment-supporter clasp, the combination with an inner jaw having side flanges formed with perforated ears, of an outer jaw wider than the said inner jaw and having side flanges projecting beyond the side flanges of the inner jaw and formed with a transverse lever-opening; in combination with an operating-lever having pintles entering the said ears and a cam-like elbow coacting with the outer edge of the said opening to hold the jaws in their closed or gripping positions, and a pad applied to the end of one of the jaws.

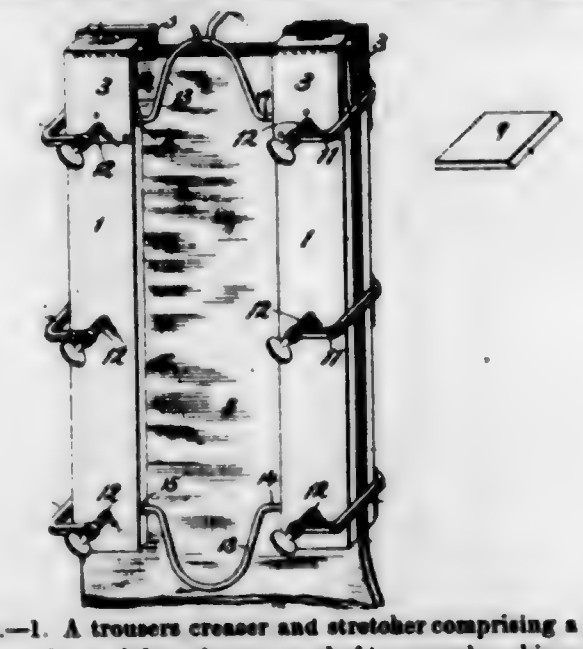
807,692. YIELDABLE GEAR. Harry B. Style, Philadelphia, Pa. Filed Jan. 14, 1905. Serial No. 241,089.



Claim.—1. The combination of a shaft, a wheel secured to the shaft, a gear concentric with and rotatable relative to the shaft and having a friction-surface, a split band loosely fitted around the circumference of the wheel, a key secured to the wheel in a position to react upon the thrust end of the band, and a mechanism by which a force is applied to the slack end of said band for actuating the band upon the said friction-surface.

2. The combination with a shaft, a wheel secured to the shaft, a gear mounted upon and rotatable relative to the wheel, said wheel and gear having annular slots, of a split band fitted in the slot around the circumference of the wheel expansible into the slot in the body of the gear, a connection between said band and said wheel, and a mechanism by which the band is actuated against the gear.

807,693. TROUSERS CREASER AND STRETCHER. Leonard J. Stockwell, St. Louis, Mo. Filed Apr. 20, 1905. Serial No. 256,057.



Claim.—1. A trousers creaser and stretcher comprising a pair of creasers, each set of the pair composed of two members hinged together at one end and an intermediate leaf hinged at the folding joint of the two members, means for clamping the members to the trousers-legs, and spreaders consisting of springs interposed between and engaging the oppositely-disposed sets of the pair to spread the same apart, substantially as described

2. In a trousers-creaser, two members hinged together at one end and provided with an intermediate leaf hinged at the joint between the members, said members being provided with depressions at their hinged ends to receive the folds in the trousers-legs, substantially as described.

3. In a trousers-creaser, two members hinged together at one end and provided at one end with removable filling-blocks to form depressions for folds in the trousers-legs on removal of the blocks, substantially as described.

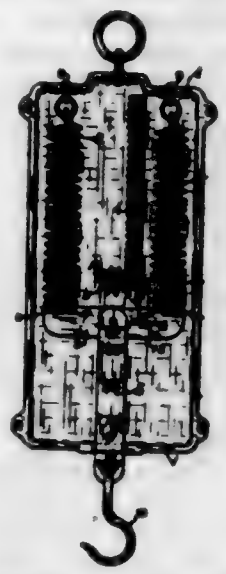
4. In a trousers-creaser, two creasing members between which the trousers-legs will lie when being creased, said members being formed with transverse recesses at one end to receive transverse folds in the ends of the trousers-legs, substantially as described.

5. In a trousers-creaser, two members between which the trousers-legs will lie when being creased, and filling-blocks applied to said members and capable of being removed to form recesses for folds in the trousers-legs, substantially as described.

6. A trousers-creaser comprising two members hinged together at one end so as to fold one upon the other in the direction of their length, and an intermediate leaf hinged at the hinged ends of said members, said members and leaf being free from connection one

with the other from their hinged ends to their opposite ends throughout their length, substantially as described.

807,694. COMPENSATING DEVICE FOR SCALES. JOHN H. SWIHART, Elyria, Ohio. Filed Apr. 14, 1902. Serial No. 102,737.



Claim.—1. In a weighing device, a pinion, and a thermo-expansion rack for moving the pinion, the pitch-line of said rack varying with the changes in its temperature, substantially as described.

2. In a thermo-expansion regulator, a pinion, a rack for turning said pinion, said rack being composed of a plurality of pieces of different metals that are so associated together as to cause the pitch-line to be a straight line at one temperature, a convex line at a higher temperature, and a concave line at a lower temperature,

3. In a spring-scale, a pinion, a rack engaging with said pinion and being composed of two layers of metal, the metal of each layer having a coefficient of thermo-expansion different from that of the other metal, and having the teeth cut in one of the layers only.

4. In a spring-scale, a pinion, a rack engaging with said pinion and being composed of two layers of metal of different coefficients of expansion secured together to form a thermo-expansion bar, and having its teeth cut in the less expansible metal.

5. In a spring-scale, the combination with the springs, the runner connecting the same, and means for suspending substances for weighing from the runner, a pinion, and a rack-bar attached to the runner for turning the pinion, said rack-bar being composed of two layers of metal of different coefficients of expansion, the layers being secured together to form a thermo-expansion bar, and having the teeth cut in one of the layers only.

6. In a spring-scale, a pinion, a rack engaging with said pinion and having the elongation or contraction of the pitch-line abnormally increased by forming the rack of two layers of metal of different coefficients of expansion secured together and having the teeth cut in one of the metals only.

7. In a spring-scale, a pinion, a rack having the back and teeth composed of a metal having a low coefficient of thermo-expansion, and strips of zinc secured to the back on opposite sides of the teeth.

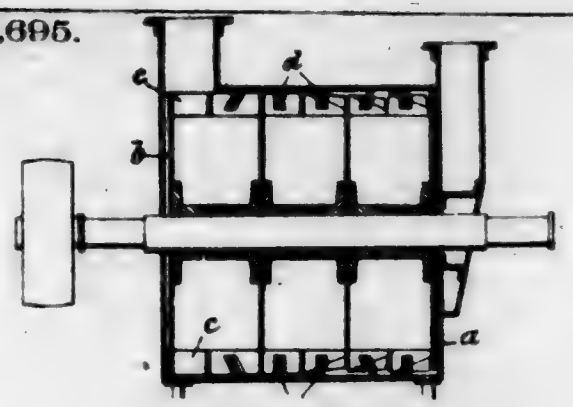
8. In a spring-scale, the combination with the springs, the runner connecting the same, and means for suspending substances for weighing from the runner, a pinion, and a rack-bar attached to the runner for turning the pinion, said rack-bar having the back and teeth composed of a metal having a low coefficient of thermo-expansion and strips of zinc secured to the back on opposite sides of the teeth.

9. In a weighing device, a pinion, and a rack for turning the pinion, said rack having the back and teeth composed of a metal having a low coefficient of thermo-expansion, and strips of zinc secured to the back on opposite sides of the teeth, for the purpose specified.

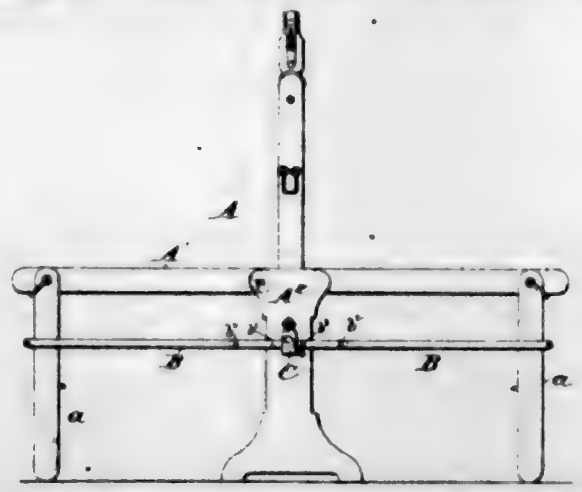
807,695. CENTRIFUGAL APPARATUS FOR TREATING GASES. EDUARD THEISEN, Baden, Germany. Filed May 11, 1903. Serial No. 156,526.

Claim.—A centrifugal apparatus comprising a stationary casing having an inlet for a liquid at one end and an outlet therefor at the other end, and also having a gas-inlet and a gas-outlet at opposite ends, and a rotary drum contained within said casing and provided with vanes to agitate the fluid within the apparatus, said vanes having projections upon their rear sides at their outer portions to obstruct the flow of the gas at the rear of the vanes.

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807,696. FOLDING WASHBENCH AND CLAMP. WILLIAM THORNTON, Chattanooga, Tenn. Filed Aug. 29, 1904. Serial No. 222,666.

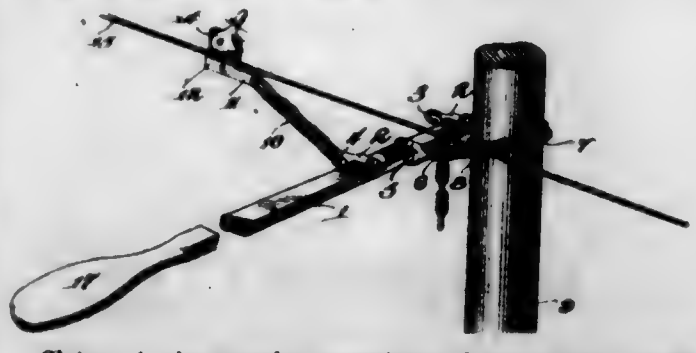


Claim.—1. In a washbench, the combination with a stationary central portion folding sections pivoted at their inner ends thereto, and legs pivotally attached to said folding sections, of fixed arms projecting laterally in opposite directions from said stationary central portion, braces pivotally connected with the legs and also pivotally attached to the laterally-projecting arms fixed to the stationary central portion and locking means to engage the inner ends of said braces and hold the entire bench rigid in operative position.

2. In a washbench, the combination with a stationary central portion, folding sections pivoted at their inner ends thereto, and legs pivoted to said folding sections, of fixed arms projecting in opposite directions from said stationary central portion, braces pivotally connected with the legs and having pivotal connection at points removed outwardly from their inner ends, with said fixed arms, and a locking device on the stationary central portion in position to receive and lock the inner ends of said braces.

3. In a washbench, the combination with the leg-braces, of the locking device having one part fixed to said bench and its lower end provided with an outward projection, a second part pivoted to said fixed part and provided with an inward projection at its lower end, and a cam-lever hung in said pivoted part and having its cam portion adapted to bear on the projection of the first-named part, said fixed and pivoted parts having at their lower ends oppositely-extending projections adapted to receive the inner ends of said braces between them, substantially as specified.

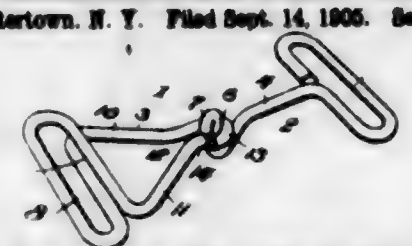
807,697. WIRE-STRETCHER. ERVIN D. TOWNSEND, Turtlepoint, Pa., assignor of one-half to Daniel S. Heiner, Port Allegheny, Pa. Filed June 14, 1905. Serial No. 265,263.



Claim.—A wire-stretcher comprising a lever having a handle at one end and adapted to assume a horizontal position during the stretching operation, a yoke straddling the lever and extending from one face thereof, said yoke having an integral hook disposed in the same plane with the lever, flexible means detachably connected to

said hook and adapted to extend around a support and to fasten the lever thereto, a wire-gripping device, yokes straddling the lever at opposite sides of the first-mentioned yoke and immovably secured thereto, each yoke having an integral hook, said hooks being parallel and extending downwardly and disposed at right angles to the longitudinal center of the lever, a flexible connection between the gripping device and one of the parallel hooks whereby said lever is caused to assume a position between the support and the gripping device prior to the stretching operation, said lever adapted to swing into alinement with a wire engaged by the gripping device and cause the other one of the parallel hooks to automatically contact with, ride upon and engage the flexible connection immediately subsequent to the stretching operation to hold the lever and gripping device against movement.

807,698. **FASTENING DEVICE.** JOSEPH B. TRABAN and JAMES A. GRANT, Watertown, N. Y. Filed Sept. 14, 1905. Serial No. 278,504.



Claim.—1. In a fastening, the combination of a hook member comprising a body, a hook at one end thereof provided with an enlarged bill, and a coacting eye member comprising a body, a rearwardly-turned hook at one end thereof having an open mouth, and a stop-tongue to close said open mouth.

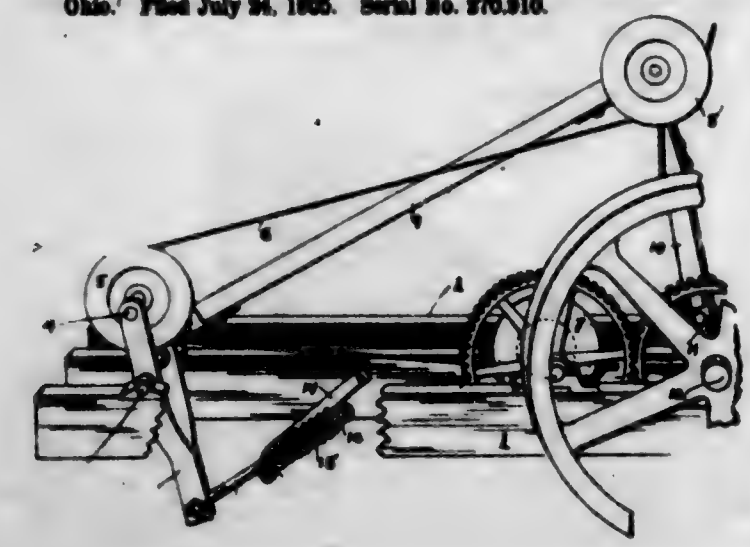
2. In a fastening, the combination of a hook member comprising a body, a hook at one end thereof provided with an enlarged bill, and a coacting eye member comprising a body, a rearwardly-turned hook at one end thereof having an open mouth, and a resilient stop-tongue movable laterally and in planes at right angles to the longitudinal axis of the eye member and adapted to close the open mouth of said eye.

3. In a fastening, the combination of a hook member comprising a body having a laterally-offset hook at one end provided with an enlarged bill or head, and a coacting eye member comprising a body having at one end a substantially U-shaped eye with its open end or mouth turned rearwardly, and a resilient stop-tongue adapted to close the open mouth of said eye to retain said hook therein.

4. In a fastening, the combination of a hook member comprising a body, a laterally-offset hook formed by bending one end of said body and a head or bill at the end of said hook formed by doubling the end of the latter upon itself, and a coacting eye member comprising a body having at one of its ends converging arms, one being bent to form a substantially U-shaped eye having its open mouth turned rearwardly, and the other being adapted to form a spring stop-tongue to close the open mouth of said eye, substantially as described.

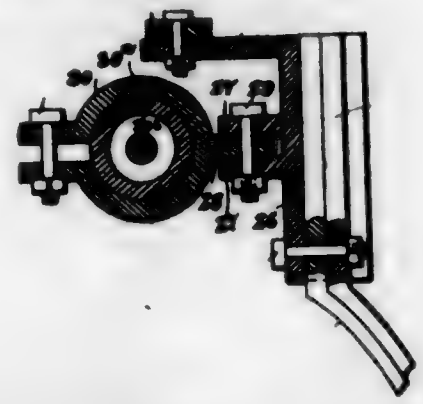
5. In a fastening, the combination of an eye member formed by bending a piece of metal to form the loop 5, the straight body 4, the offset hook 6, and the enlarged bill or head 7, and a coacting eye member formed by bending a piece of metal to form the loop 8, the crossed portions 9, the ends of arms 10, 11, the eye 13, and the spring stop-tongue 14, substantially as shown and described.

807,699. **WIRE LINE ATTACHMENT FOR WELL-DRILLING MACHINES.** WILLIAM H. TSCHANTZ, Orrville, Ohio, assignor to The Cyclone Drilling Machine Company, Orrville, Ohio, a Corporation of Ohio. Filed July 24, 1905. Serial No. 270,910.



Claim.—In a wire or metal cable attachment for well-drilling machines, the combination of a drill-tool-actuating wire or cable, a let-out drum for said cable, a rocking bar provided at its free end with a wheel adapted to engage the wire or cable, and means for actuating the rocking bar, a yoke pivoted intermediate its ends, one end of said yoke carrying a grooved wheel adapted for contact with the cable, said grooved wheel located at a point between the let-out drum and the tool end of the cable, and a spring-actuated bar secured to the yoke opposite its pivotal point from that of the grooved wheel carried thereby, substantially as and for the purpose specified.

807,700. **HARROW.** JAMES M. ULSH, Lancaster, Pa. Filed Dec. 6, 1904. Serial No. 235,681.



Claim.—1. A harrow, comprising a supporting structure and adjustable teeth arranged for presentation across the line of draft or edgewise thereto.

2. A harrow, including a supporting structure, a plurality of teeth, and means for simultaneously adjusting said teeth to present them across the line of draft or edgewise thereto.

3. A harrow, including a supporting structure, a plurality of harrow-teeth adjustable for presentation across the line of draft or edgewise thereto, means for effecting such adjustment, and means for effecting the simultaneous vertical adjustment of the teeth.

4. A harrow, including a supporting structure, a plurality of teeth mounted to swing from horizontal and vertical axes, means common to a plurality of teeth for effecting their horizontal adjustment, and separate means common to said teeth for effecting the vertical adjustment thereof.

5. A harrow, including a supporting structure, a plurality of adjustable tooth-bars, a plurality of vertically-disposed teeth mounted on each bar, adjusting means common to the teeth carried by each bar for shifting said teeth around substantially vertical axes, and separate adjusting means common to the several bars.

6. A harrow, including a plurality of rotary tooth-bars, adjusting means common thereto, and a plurality of teeth pivotally connected to each bar and shiftable around axes disposed substantially parallel with the shanks of said teeth.

7. A harrow, including a plurality of rotary tooth-bars, adjusting means common thereto, a plurality of teeth pivotally connected to each bar, and means for simultaneously swinging a plurality of teeth independently of the bars and around axes extending in substantially the same longitudinal direction as the teeth.

8. A harrow, including a plurality of horizontal rotary tooth-bars, a plurality of substantially vertical teeth carried by each bar and mounted to swing from vertical axes, an arm associated with each tooth, a shifting bar connected to the several arms, means carried by each tooth-bar for retaining the shifting bar associated therewith in its adjusted positions, and means common to the several tooth-bars for rotating the same to raise and lower the teeth.

9. A harrow, including a supporting structure, a tooth-bar, a bracket secured to the tooth-bar, a tooth-holder pivoted to the bracket, and means for swinging the holder to adjust the tooth.

10. A harrow, including a supporting structure, a tooth-bar, a bracket carried by the tooth-bar and having a bearing-lug, a tooth-holder having a pair of bearing-ears pivoted to the bearing-lug, means for securing a tooth in the holder, and an arm extending from the holder to facilitate the adjustment thereof.

11. A harrow, including a supporting structure, and a tooth mounted to swing from an axis extending in the same general longitudinal direction as the tooth to permit the presentation of the latter directly across the line of draft or at an angle thereto.

12. A harrow, including a supporting structure, a tooth mounted to swing from a horizontal axis to effect its elevation and depression, said tooth being also mounted to swing from another axis dis-

posed substantially perpendicular to the ground when the tooth is in its fully-depressed position.

13. A harrow, including a supporting structure, vertically-disposed teeth mounted to turn on vertical axes, horizontal arms associated with the teeth, and shifting means common to a plurality of said arms.

14. A harrow, including a supporting structure, a plurality of harrow-teeth arranged for presentation across the line of draft or edgewise thereto, and means for simultaneously raising or lowering said teeth.

15. A harrow, including a plurality of teeth mounted to turn on axes disposed in the same general longitudinal direction as the teeth, and means for raising or lowering said teeth.

16. A harrow, including a supporting structure, a tooth-bar mounted to turn on a horizontal axis, and a plurality of teeth adjustable with the bar and each mounted to turn on an axis disposed transverse to the tooth-bar and in the general longitudinal direction of the tooth.

17. A harrow, including a supporting structure, a horizontal rotary tooth-bar, a plurality of teeth carried by the bar and arranged to swing from axes disposed in the same general longitudinal direction as the teeth, and shifting means common to said teeth.

18. A harrow, including a plurality of rotary tooth-bars, adjusting means common to the several bars, a plurality of teeth connected to each bar and mounted to swing from axes disposed in the general longitudinal direction of the teeth, and means common to the teeth of each bar for swinging them relative to the bar.

19. A harrow, including a supporting structure, and a tooth carried thereby and mounted to swing from an axis parallel with the shank of the tooth.

20. A harrow, including a horizontal tooth-bar, a vertically-disposed tooth-holder having the form of a boxing at one side of the bar, two substantially semicircular yielding members encircling the tooth-bar and having connection with the front of the tooth-holder intermediate of the ends thereof, a bolt connecting the ends of the two yielding members and located at the opposite side of the tooth-bar from the tooth-holder, and a projection extending into engagement with the tooth-bar from one of the members and adapted to be withdrawn from engagement with the bar by the outward spring of said member when the bolt is loosened.

21. A harrow, including a tooth-bar, and a holder adapted to receive the shank of a tooth, and connected to the tooth-bar by means permitting the swinging of the tooth-holder from an axis disposed longitudinally of the holder and transversely of the tooth-bar.

22. A harrow, including a tooth-bar, a tooth-holder, a tooth having its shank secured in the holder, and a pivotal connection between the tooth-holder and the bar, the axis of said connection being disposed substantially parallel with the tooth-shank.

23. A harrow, including a tooth-bar, a series of pivoted teeth carried by the bar, a shifting rod common to said teeth, and a retaining device for the shifting rod, said retaining device including a split collar attached to the tooth-bar and means for connecting the rod and collar.

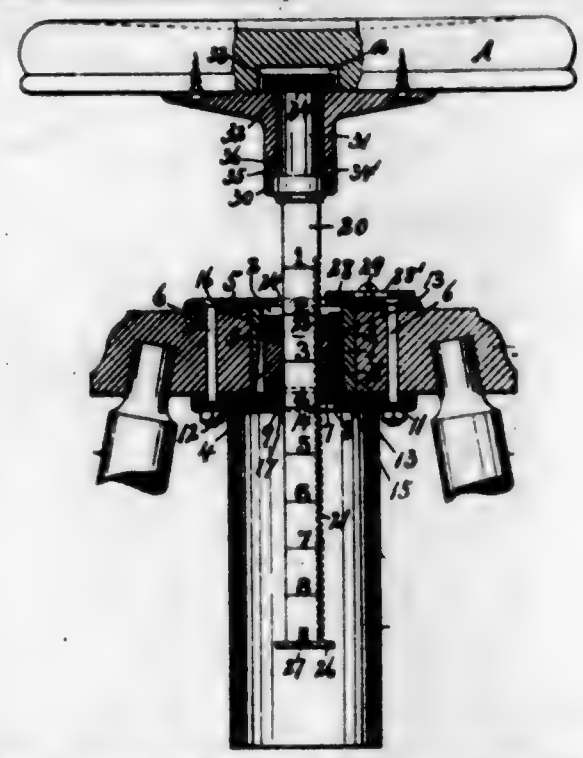
24. A harrow, including a tooth-holder having the form of a boxing, a spring-tooth having a straight shank retained in the boxing, a reinforcing-strip opposed to the rear side of the tooth and its shank and likewise retained in the boxing, and a bolt passed through the boxing, the tooth-shank and the reinforcing-strip to retain said elements in proper relation.

25. A harrow, including a support and a tooth movable to present its flat front face directly across the line of draft, or at an angle thereto, with one side edge of the tooth disposed farther forward than the other.

26. A harrow, including a tooth-bar mounted to rock, a tooth pivotally connected to the bar, the active portion of said tooth having the form of a longitudinally-curved flat spring with its lower extremity normally directed forwardly and its flat front face disposed across or transverse to the line of movement of the tooth through the ground, said tooth being movable on its pivot to present its front flat face at an angle to the line of draft or movement, with one side edge of said active portion of the tooth farther advanced than the other.

807,701. ADJUSTABLE CHAIR-SEAT. CLARENCE H. VADEN, Syracuse, N. Y. Filed Apr. 10, 1905. Serial No. 254,819.

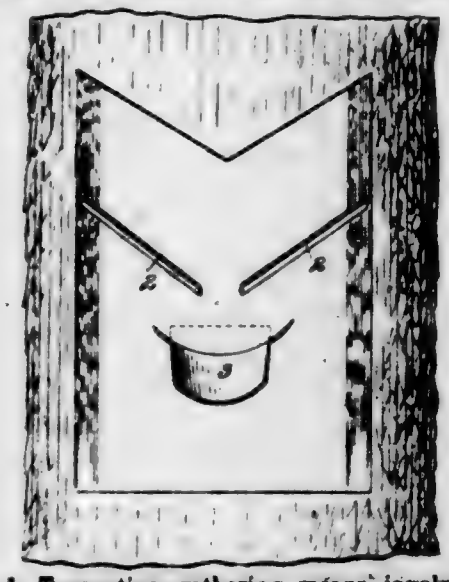
Claim.—1. An adjustable chair-seat having a depending shank, and a toothed rack on one of the vertical faces of the shank, a toothed jaw engaging the toothed rack, and a second jaw engaging the opposite face of the shank, said jaws being movable vertically a limited distance and the shank being tiltable laterally between the jaws to disengage the teeth of the rack from the toothed jaw and means operating to engage and force the movable jaw toward the fixed jaw when both jaws are moved downwardly.



2. In a chair of the class described, the combination with a base and seat, of two jaws slidable a limited distance vertically within the base and means to force the jaws toward each other when they are moved downwardly, a shank on the seat slidable between said jaws, a toothed rack on the shank and a tooth on one of the jaws intermeshing with the teeth of the rack, said shank being slidable laterally to disengage the teeth of the rack from the toothed jaw, whereby the shank and seat may be adjusted independently of the jaws.

3. In a chair of the class described, the combination with a base and seat, of a slidable head in the base, a fixed jaw and a movable jaw both mounted on said head, the fixed jaw being provided with a tooth, a shank on the seat movable endwise between the jaws, a rack on the shank engaging the teeth of the fixed jaw, said shank being tiltable laterally to disengage the teeth of the rack from the toothed jaw to allow said shank to be adjusted endwise irrespective of the jaws and means for forcing said jaws against opposite faces of the shank when the seat is depressed.

807,702. TURPENTINE-GATHERING MEANS. ELIAS L. VICKERS, Tifton, Ga. Filed Aug. 4, 1905. Serial No. 272,743.

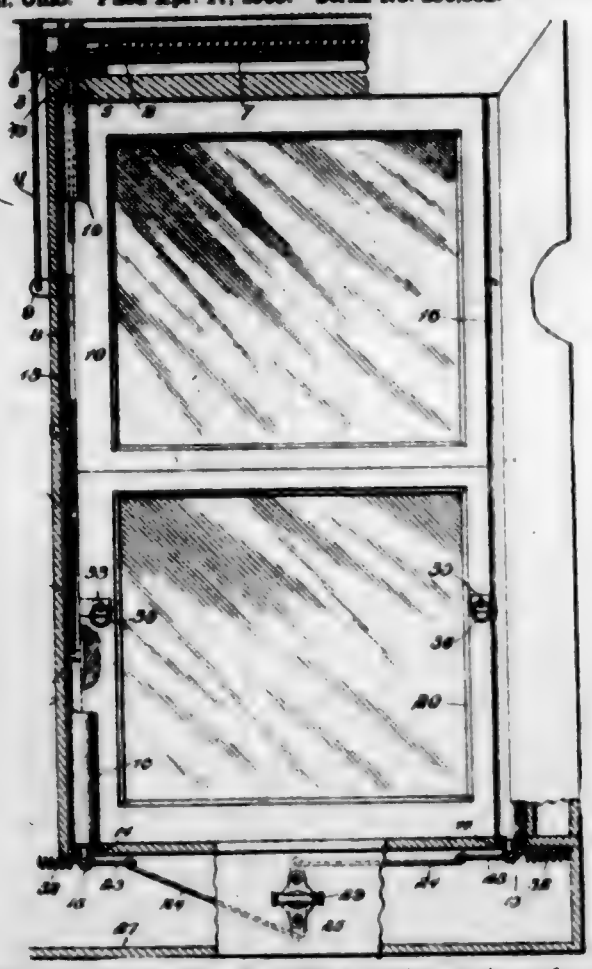


Claim.—1. Turpentine-gathering means involving two flat plates arranged at angles to each other and to fit in incisions in a tree, said incisions being formed in the tree upon a downward and inward slant to bring the plates at an upward and outward slant with respect to the tree and with the lower ends of the plates extending to a substantially common horizontal plane and separated to provide a space or mouth for the flow of the turpentine.

2. Turpentine-gathering means involving two flat plates arranged at angles to each other and to fit in incisions in a tree, said incisions being upon a downward and inward slant to bring the plates at an upward and outward slant with respect to the tree and with the lower ends of the plates extending to a substantially common hori-

zontal plane and separated to provide a space or mouth for the flow of the turpentine, and a lip of trough form located below the mouth or space between the plates, standing at an inclination with respect to the tree, the latter having an incision to receive said lip and to hold it in place at a downward inclination.

807,703. **WINDOW CONSTRUCTION.** CARL J. WALLEN, Youngstown, Ohio. Filed Apr. 17, 1905. Serial No. 256,032.



Claim.—1. The combination with a window-casing, of a rotatable sash-cord-receiving strip arranged longitudinally within the casing and adapted to be overlapped and engaged by a sash, and means for moving the strip into position upon one face of and out of engagement with the sash.

2. The combination with a window-casing, of sash-cord-receiving locking-strips rotatably mounted on opposite sides of the casing, and means for simultaneously projecting the strips from the casing.

3. The combination of a window-casing having grooves therein, of slotted sash-cord-receiving locking-strips within the grooves and extending longitudinally of the casing, and means for simultaneously projecting the strips from the grooves.

4. The combination with a window-casing having sashes therein one upon the other; of sash-cord-receiving locking-strips movably connected to the casing, and means for simultaneously projecting the strips from the casing to overlap the sashes.

5. The combination with a window-casing having a sash therein, and longitudinally-extending grooves within the casing, of a slotted locking-strip within each of the grooves and normally engaged by the sash, and means for simultaneously projecting said strips from the grooves to overlap opposite edges of the sash, said strips being adapted to receive the cords of the sash.

6. The combination with a window-casing having a sash therein, and longitudinally-extending grooves within the casing; of slotted rotatable locking-strips within the grooves and normally engaged by the sash, and means for simultaneously rotating and projecting said strips from the grooves to overlap the sash, said strips being adapted to receive the cords of the sash.

7. The combination with a window-casing having a sash therein, and longitudinally-extending grooves within the casing; of slotted locking-strips rotatably mounted within the grooves and having faces alining with the adjoining faces of the casing, said strips being normally engaged by the sash and adapted to receive cords of the sash, and means for simultaneously rotating the strips to project the same from the grooves.

8. The combination with a window-casing having a sash therein; of longitudinally-extending slotted strips movably mounted within the casing, and means upon the sash adapted to travel within the slots.

9. The combination with a window-casing having a sash therein; of longitudinally-extending slotted strips movably mounted within the casing, means upon the sash adapted to travel within the slots, and mechanism for simultaneously projecting the strips from the casing.

10. The combination with a window-casing, of an inwardly and upwardly movable sash therein, and combined sash-guide, sash-cord receiving and locking strips within the casing.

11. The combination with a casing, of an inwardly and upwardly movable sash therein, and combined sash-guide, sash-cord receiving and locking strips rotatably mounted within the casing.

12. The combination with a window-casing, of an inwardly and upwardly movable sash therein, combined sash-guide, sash-cord receiving and locking strips movably connected to the casing, and means for simultaneously operating said strips to lock or unlock the sash.

13. The combination with a window-casing having longitudinally-extending grooves therein, of combined guide and locking strips movably mounted within the grooves, an inwardly and upwardly movable sash mounted within said strips, and means for simultaneously operating the strips to lock or unlock the sash.

14. The combination with a window-casing having longitudinally-extending grooves therein, of combined guide and locking strips within the grooves each of said strips having an angular slot therein, an inwardly and upwardly movable sash within the casing and projections upon the sash and movable within the slots.

15. The combination with a casing having an upper sash and a lower sash adapted to be located in alinement with the upper sash; of combined guide and locking strips movably connected to the casing and having angular slots therein, and projections upon the lower sash adapted to travel within the slots.

16. The combination with a casing having an upper sash and longitudinally-extending grooves in the casing, of combined guide and locking strips mounted within the grooves, an inwardly and upwardly movable sash within the casing and adapted to assume a position in alinement with the upper sash and projections upon said lower sash and movably engaging the strips.

17. The combination with a window-casing having a longitudinally-movable upper sash therein and longitudinally-extending grooves partly overlapped by said sash; of combined guide and locking strips movably mounted within the grooves, an inwardly and upwardly movable lower sash adapted to aline with the upper sash, projections from the lower sash movably engaging the strips, and means for simultaneously projecting the strips from the casing to overlap the sashes.

18. The combination with a casing having a spring-supported longitudinally-movable upper sash, and longitudinally-extending grooves within the casing; of tubular guide and locking strips rotatably mounted within the grooves and having angular slots therein, an inwardly and upwardly movable lower sash adapted to aline with the upper sash, projections thereon movably mounted within the slot in the strips, and means for simultaneously rotating the strips.

19. The combination with a casing having a spring-supported longitudinally-movable upper sash, and longitudinally-extending grooves within the casing; of tubular guide and locking strips rotatably mounted within the grooves and having angular slots therein, an inwardly and upwardly movable lower sash adapted to aline with the upper sash, projections thereon movably mounted within the slots in the strips, and means for locking the strips against movement.

20. The combination with a casing having a spring-supported longitudinally-movable upper sash and longitudinally-extending grooves in the casing, of rotatable guide and locking strips within the grooves and having angular slots therein, an inwardly and upwardly movable spring-supported lower sash adapted to aline with the upper sash, projections thereon movably mounted in the slots in the guide-strips, means for simultaneously rotating the guide-strips, and a lock for said means.

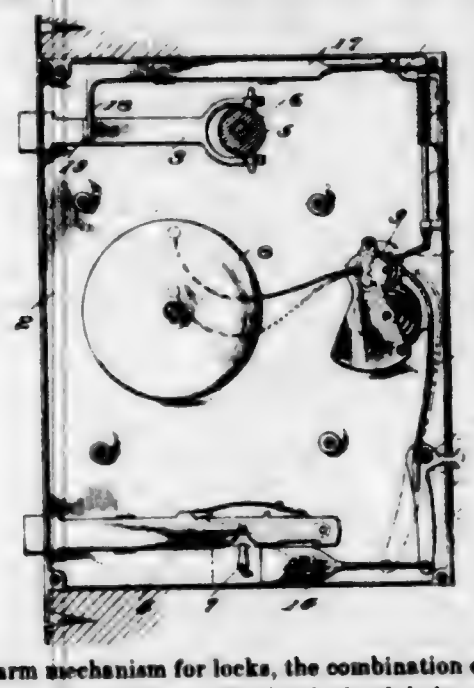
21. The combination with a window-casing; of a rotatable sash-cord-receiving locking-strip mounted within the casing.

22. The combination with a window-casing having a sash therein; of sash-cord-receiving locking-strips movably mounted within the casing, and means for simultaneously placing said strips in engagement with the sash.

807,704. **ALARM MECHANISM FOR LOCKS.** JIM R. WELLSTS, Assumption, Ill. Filed Aug. 29, 1904. Serial No. 223,042.

Claim.—1. In an alarm of the class described, the combination

of a lock embodying a casing having a key-opening therein, a guard for the key-opening, a bolt operating in the casing, an alarm device adapted to be set off by the bolt, an actuating member mounted in the casing and projecting out of the same, and an engaging member carried by the actuating member aforesaid and adapted to engage the alarm device to prevent setting off thereof under certain conditions of service.



2. In alarm mechanism for locks, the combination of a suitable casing, a latch-bolt, a slide operable by the latch-bolt, an alarm device, a ratchet-wheel governing the action of said alarm device, a shaft mounted in said casing, a crank extending from said shaft and connected with the slide, a detent projecting from said shaft and engaging the ratchet-wheel, and a spring normally holding the detent in engagement with the ratchet-wheel.

3. In alarm mechanism for locks, the combination of a suitable casing, a latch-bolt, a lock-bolt, said casing being provided with a key-opening, a guard-plate for said key-opening, an alarm device, a ratchet-wheel governing the action of said alarm device, a pawl engaging said ratchet-wheel and connected with the guard-plate aforesaid, a detent also engaging the ratchet-wheel, and operable connections between the detent and the latch-bolt.

4. In alarm mechanism for locks, the combination of a suitable casing, a latch-bolt, a lock-bolt, said casing being provided with a key-opening, a guard-plate for said key-opening, an alarm device, a ratchet-wheel governing the action of said alarm device, a pawl engaging said ratchet-wheel and connected with the guard-plate aforesaid, a detent also engaging the ratchet-wheel, a shaft mounted in the casing and actuating the detent, a slide operable by the latch-bolt and connected with the shaft aforesaid, and a spring coöperating with said shaft to hold the detent in engagement with the ratchet-wheel.

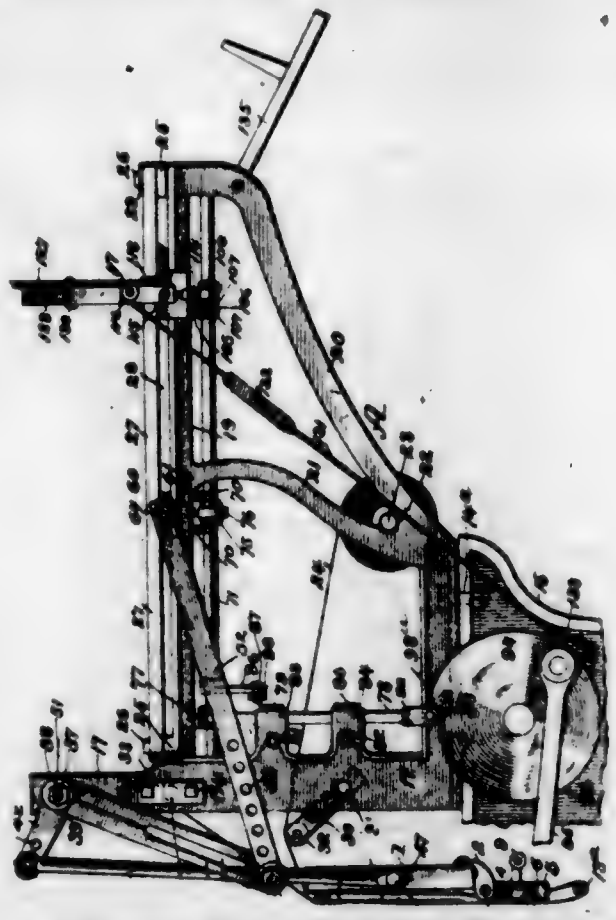
5. In alarm mechanism for locks, the combination of a suitable casing, a latch-bolt, a lock-bolt, said casing being provided with a key-opening, an alarm device, a ratchet-wheel governing the action of said alarm device, a slidable guard-plate for the key-opening, an elbow-lever connected with said guard-plate, a pawl carried by said lever and engaging the ratchet-wheel, a slide mounted in the casing and operable by the latch-bolt, a shaft, a crank-arm extended from said shaft and connected with the slide, a detent projected from the shaft and engaging the ratchet-wheel, and a spring mounted upon the shaft and normally holding the detent in engagement with said ratchet-wheel.

807,705. **AUTOMATIC FEED MECHANISM FOR PRINTING-PRESSES.** GIBSON G. WILLIAMS, Shreveport, La., assignor, by direct and mesne assignments, to The Williams Webb Company, Shreveport, La., a Corporation of Louisiana. Filed Jan. 14, 1905. Serial No. 240,963.

Claim.—1. An automatic feed mechanism for printing-presses comprising a movable gripper for the web, a stationary gripper for the web arranged for adjustment to different positions toward and from the movable gripper and means for securing said stationary gripper in its different positions.

2. An automatic feed mechanism adapted for attachment to and coöperation with a hand-fed printing-press and comprising a reciprocatory gripper for an impression-receiving web, a cutter for the web and a stationary gripper for the web arranged between the cutter and the other gripper.

3. An automatic feed mechanism adapted for attachment to and coöperation with a hand-fed printing-press, and comprising a horizontally-reciprocatory gripper for an impression-receiving web, a cutter for the web and a horizontally-mounted stationary gripper arranged between the other gripper and the cutter.



4. An automatic feed mechanism adapted for attachment to and coöperation with a hand-fed printing-press, and comprising a reciprocatory gripper for an impression-receiving web, a stationary gripper for the web, and a spring-retracted cutter for the web, the stationary gripper being arranged between the cutter and the other gripper.

5. An automatic feed mechanism adapted for attachment to and coöperation with a hand-fed printing-press, and comprising a horizontally-reciprocatory gripper for an impression-receiving web, a horizontally-mounted stationary gripper for the web, and a vertically-operating cutter for the web effecting its operative stroke downwardly, the stationary gripper being arranged between the cutter and the other gripper.

6. An automatic feed mechanism adapted for attachment to and coöperation with a hand-fed printing-press, and also adapted to be actuated from movable parts of the press, said mechanism comprising a reciprocatory gripper for an impression-receiving web, a stationary gripper for the web, having means for adjusting the same, and a cutter for the web mounted on said stationary gripper.

7. An automatic feed mechanism for printing-presses comprising a movable gripper, adapted to close and grip the web and to open or spread and release the same, a gripper in rear of the movable gripper and to which the web is delivered by the movable gripper, means for opening said rear gripper during the advancing or feeding movement of the movable gripper and for closing the rear gripper during the return movement of the movable gripper and means for operating the movable gripper.

8. An automatic feed mechanism adapted for attachment to and coöperation with a hand-fed printing-press, and comprising a reciprocatory gripper for an impression-receiving web, a stationary gripper for the web, each of said grippers including two parts, one having openings therein and the other having headed pins extending through said openings and provided with springs exerting their tension between the under side of the one member and the heads of the pins.

9. An automatic feed mechanism for attachment to and coöperation with a hand-fed printing-press, comprising a reciprocatory gripper for an impression-receiving web, a stationary gripper for the web, said stationary gripper having means therefrom for guiding the reciprocatory gripper

10. An automatic feed mechanism for attachment to and coöperation with a hand-fed printing-press, comprising a reciprocatory gripper for an impression-receiving web, a stationary gripper for the web, the stationary gripper having a plurality of bars extending

therefrom, and the reciprocatory gripper being provided with grooves receiving said bars.

11. An automatic feed mechanism for attachment to and coöperation with a hand-fed printing-press, comprising a reciprocatory gripper for an impression-receiving web, a stationary gripper for the web, means for adjusting the throw of the reciprocatory gripper, means for adjusting the position of the stationary gripper with respect to the reciprocatory gripper, and means for alternately opening and closing the grippers at proper intervals to grip and release the web.

12. An automatic feed mechanism for printing-presses comprising two grippers movable relatively and means connected with and supported by one of the grippers and extending between said grippers and entering grooves in the other gripper whereby to guide the movable gripper.

13. A feed mechanism for printing-presses, comprising a reciprocatory gripper for an impression-receiving web, a stationary adjustable gripper for the web, means for actuating said reciprocatory gripper, and means for alternately opening and closing the grippers at proper intervals to grip and release the web.

14. A feed mechanism for printing-presses, comprising a frame having parallel guides, a reciprocatory gripper for an impression-receiving web, working in said guides, a stationary adjustable gripper for the web, supported in the guides, means for actuating the reciprocatory gripper, and means for alternately opening one gripper and closing the other at proper intervals to grip and release the web.

15. A feed mechanism for printing-presses, comprising a frame having parallel members each supporting a top plate spaced therefrom, a reciprocatory gripper for an impression-receiving web, working between said members and top-plates, a stationary adjustable gripper for the web, supported between said members and top plates, means for actuating the reciprocatory gripper, and means for alternately opening one gripper and closing the other at intervals to grip and release the web.

16. An automatic feed mechanism for attachment to a platen-and-bed printing-press, comprising a reciprocatory gripper for an impression-receiving web, having operative connections adapted to be actuated from a movable part of the press, a stationary adjustable gripper for the web, a pivoted and normally elevated spring-retracted cutter for the web, having means also adapted to be actuated from another movable part of the press, and means for operating said stationary adjustable gripper, adapted to be actuated from the same part of the press from which the operative means for the cutter are actuated.

17. A feed mechanism for printing-presses, comprising a frame having parallel guides, a reciprocatory gripper for an impression-receiving web, working in said guides, a stationary adjustable gripper for the web, supported in the guides, and means for operating said reciprocatory gripper, the latter and the stationary adjustable gripper each being constructed of two parts, one liftable from the other and provided with retracting devices therefor, parallel rock-shafts, a set of cams thereon, movable beneath and with the reciprocatory gripper, another set of cams thereon, beneath the stationary adjustable gripper, the operative portions of the cams of one set being reversely disposed to the operative portions of those of the other set, and means for rocking said shafts at intervals to cause the cams of the two sets to alternately engage and release the retracting devices of the liftable parts of the two said grippers to alternately lift and lower said parts.

18. A feed mechanism for printing-presses, comprising a frame having parallel guides, a reciprocatory gripper for an impression-receiving web, working in said guides, a stationary adjustable gripper for the web, supported in the guides, and means for operating said reciprocatory gripper, the latter and the stationary adjustable gripper each being constructed of two parts, one liftable from the other and provided with retracting devices therefor, parallel rock-shafts, a set of cams thereon, movable beneath and with the reciprocatory gripper, another set of cams thereon, beneath the stationary adjustable gripper, the operative portions of the cams of one set being reversely disposed to the operative portions of those of the other set, and means for rocking said shafts at intervals to cause the cams of the two sets to alternately engage and release the retracting devices of the liftable parts of the two said grippers to alternately lift and lower said parts, said rock-shafts being formed with longitudinal grooves, and said cams having splines fitting in said grooves.

19. A feed mechanism for printing-presses, comprising a frame having parallel guides, a reciprocatory gripper for an impression-receiving web, working in said guides, a stationary adjustable gripper for the web, supported in the guides, and means for operating said reciprocatory gripper, the latter and the stationary adjustable gripper each being constructed of two parts, one liftable from the other and provided with retracting devices therefor, parallel rock-shafts, a set of cams thereon, movable beneath and with the reciprocatory gripper, another set of cams thereon, beneath the stationary adjustable gripper, the operative portions of the cams of one set being reversely disposed to the operative portions of those of the other set, and means for rocking said shafts at intervals to cause the cams of the two sets to alternately engage and release the retracting devices of the liftable parts of the two said grippers to alternately lift and lower said parts, the reciprocatory gripper having pairs of pendent riders moving on the rock-shafts on either side of the cams of one set, and said stationary adjustable gripper having similar riders fitting in grooves of the cams of the other set.

20. A feed mechanism for printing-presses, comprising a frame having parallel guides, a reciprocatory gripper for an impression-receiving web, working in said guides, a stationary adjustable gripper for the web, supported in the guides, and means for operating said reciprocatory gripper, the latter and the stationary adjustable gripper each being constructed of two parts, one liftable from the other and provided with retracting devices therefor, parallel rock-shafts, a set of cams thereon, movable beneath and with the reciprocatory gripper, another set of cams thereon, beneath the stationary adjustable gripper, the operative portions of the cams of one set being reversely disposed to the operative portions of those of the other set, and means for rocking said shafts at intervals to cause the cams of the two sets to alternately engage and release the retracting devices of the liftable parts of the two said grippers to alternately lift and lower said parts, the reciprocatory gripper having pairs of pendent riders moving on the rock-shafts on either side of the cams of one set, and said stationary adjustable gripper having similar riders fitting in grooves of the cams of the other set.

21. An automatic feed mechanism for platen-and-bed printing-presses, comprising a frame having parallel upright members and parallel horizontal guides, a reciprocatory gripper for an impression-receiving web, working in the guides, said web being supported by the frame in a roll, a stationary adjustable gripper for the web, supported in the guides, a rock-shaft supported by said upright members, angle-levers on the rock-shaft, adjustable connections between these levers and the reciprocatory gripper, rods from said levers adapted for connection with the platen of the press, and means for alternately opening one gripper and closing the other at proper intervals to grip and release the web.

22. An automatic feed mechanism for platen-and-bed printing-presses, comprising a frame having parallel upright members and parallel horizontal guides, a reciprocatory gripper for an impression-receiving web, working in the guides, said web being supported by the frame in a roll, a stationary adjustable gripper for the web, supported in the guides, a rock-shaft supported by said upright members, angle-levers on the rock-shaft, adjustable connections between one arm of each of these levers and the reciprocatory gripper, said arm having a longitudinal slot therein, rods from the other arms of said levers, adapted for connection with the platen of the press, and means for alternately opening one gripper and closing the other, to alternately release and grip the web.

23. A printing-press of the platen-and-bed type, provided with an automatic feed mechanism comprising a reciprocatory gripper for an impression-receiving web, a stationary adjustable gripper for the web, connections between a movable part of the press and said reciprocatory gripper for actuating the latter, and means operated from another movable part of the press for opening and closing the grippers at proper intervals to grip and release the web.

24. A printing-press of the platen-and-bed type, provided with a feed mechanism comprising a frame for supporting an impression-receiving web in roll form, a reciprocatory gripper for the web, and a stationary gripper for the web, means for actuating the reciprocatory gripper, a lower and upper guide-roll for the web, each supported by the frame, and another frame hanging from the platen, also supporting a guide-roll for the web, said last-named frame being provided with members standing before the platen, and connected by a cord suspended from which is a sheet of cardboard.

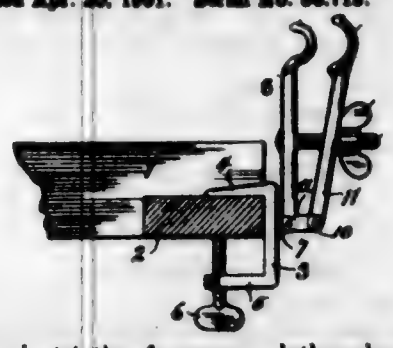
25. An automatic feed mechanism for attachment to a platen-and-bed printing-press, and comprising a reciprocatory gripper for an impression-receiving web, means for actuating the same, a stationary gripper for the web, and a cutter for the web, carrying a yoke, clamps securing the last-named gripper in place, a block supported by one of the clamps, and a curved spring secured to the block and exerting upward pressure against said yoke, to normally maintain the cutter in an elevated position.

26. An automatic feed mechanism for presses comprising mov-

able and stationary grippers having sections movable relatively to grip and release a web passed between them, a rock shaft or shafts having cams arranged to operate the movable sections of their respective grippers and means for operating the rock-shafts.

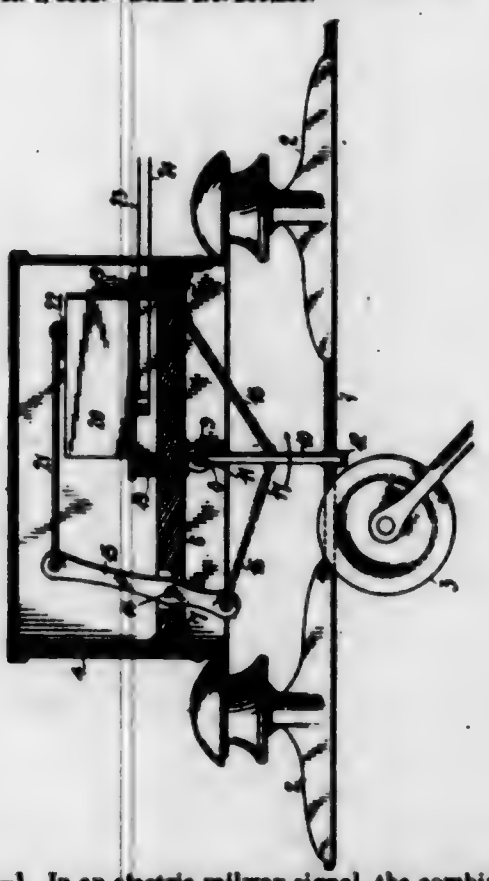
27. A gripper for automatic feed mechanism substantially as described comprising two sections one overlying the other and movable relatively toward and from each other, bolts projecting from one of the sections through and beyond the other section and having heads, springs bearing between said heads and the latter section to actuate the sections toward each other to grip a web and means operating to compress the springs and spread the sections to release a web.

807,706. BEDCLOTHES-FASTENER. GEORGE A. ALLEN, Sterling, Ill. Filed Apr. 20, 1901. Serial No. 56,719.



Claim.—In a bedclothes-fastener, a clothes-clamp comprising a pair of jaw members suitably pivoted together and provided with means for drawing them together, one of said members being of an angular shape, and a U-shaped screw-clamp having an ear on its back midway between its bends, said ear constituting a pivotal support for the clothes-clamp by having the angular member pivoted thereto at its angle, whereby the clothes-clamp may extend upwardly whether the screw-clamp is secured in an upright position or in a horizontal position and the engagement of the angular member with the screw-clamp in the former position prevents the clothes-clamp swinging inwardly beyond its upright position.

807,707. ELECTRIC RAILWAY-SIGNAL. HENRY A. ANNAHN and ALBERT D. CAMPBELL, Spokane, Wash. Filed Oct. 1, 1904. Renewed Oct. 4, 1905. Serial No. 281,255.

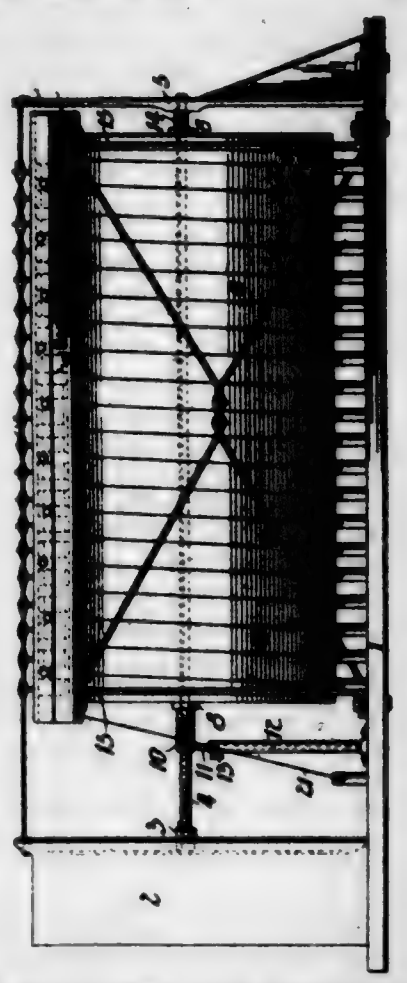


Claim.—1. In an electric railway-signal, the combination with signaling mechanism, of a swing-plate or pendulum having means for normally positioning it in the path of a trolley-wheel, and an opening in the lower end of the swing-plate or pendulum through which the trolley-wire extends, and a removable wear-plate on the lower end of said swing-plate or pendulum.

2. In an electric railway-signal, the combination of a trolley-wire, a casing supported above said wire, electric signal-controlling means in said box, a swing-plate or pendulum pivoted to extend into the path of a trolley-wheel to be engaged and moved thereby, a lever, a connection between said lever and means, and a connection between the lever and swing-plate or pendulum including a spring.

3. In an electric railway-signal, the combination of a trolley-wire, a casing supported above said wire, electric signal-controlling means in said box, a swing-plate or pendulum pivoted to extend into the path of a trolley-wheel to be engaged and moved thereby, a lever, a connection between said lever and means, a connection between the lever and swing-plate or pendulum including a spring, and a spring coöperating with the aforesaid spring for positioning the swing-plate or pendulum.

807,708. ELECTROMAGNET RECORDING APPLIANCE. HENRY A. ANNAHN and ALBERT D. CAMPBELL, Spokane, Wash. Filed Feb. 17, 1905. Serial No. 246,171.



Claim.—1. In an appliance of the character described, the combination of a rotatable shaft, a record-receiving cylinder slidable thereon but keyed to rotate therewith, means for rotating said shaft, a screw-threaded sleeve encircling the shaft and fixed to one end of the cylinder, a tooth adjustable into and out of engagement with the threads of said sleeve, a support adjacent to and parallel with the cylinder, a plurality of pairs of electromagnets on said support, and a plurality of cylinder-impressing elements each consisting of a spring-retracting swinging arm connected at one end with the support and having at its free end an impressing device, and having intermediately an armature at a pair of magnets.

2. In an appliance of the character described, the combination of a rotatable shaft, a record-receiving cylinder slidable thereon but keyed to rotate therewith, means for rotating said shaft, a screw-threaded sleeve encircling the shaft and fixed to one end of the cylinder, a tooth adjustable into and out of engagement with the threads of said sleeve, a buffer at the other end of the cylinder, a support adjacent to and parallel with the cylinder, a plurality of pairs of electromagnets on said support, and a plurality of cylinder-impressing elements each consisting of a spring-retracting swinging arm connected at one end with the support and having at its free end an impressing device, and having intermediately an armature at a pair of magnets.

3. In an appliance of the character described, the combination of a rotatable shaft, a record-receiving cylinder slidable thereon but keyed to rotate therewith, means for rotating said shaft, a screw-threaded sleeve encircling the shaft and fixed to one end of the cylinder, a tooth adjustable into and out of engagement with the threads of said sleeve, a support adjacent to and parallel with the cylinder, a plurality of pairs of electromagnets on said support, and a plurality of cylinder-impressing elements each consisting of a spring-retracting swinging arm connected at one end with the support and having at its free end an impressing device, and having intermediately an

armature at a pair of magnets, a shaft parallel to the aforesaid shaft, inking-plates each pivoted intermediately on the second-named shaft and having one end weighted and the other end in contact with one of said impressing devices.

807,709. PNEUMATIC SAND-SHAKER. ALBERT H. BARBER, Watertown, N. Y., assignor to Elmer Ellsworth Hanna, Chicago, Ill. Filed Dec. 4, 1902. Serial No. 134,604.



Claim.—1. In a pneumatic sand-shaker, the combination of a spring-mounted riddle-holder for moving the parts in one direction, and a fluid-pressure cylinder provided with a reciprocating piston projecting out of one end thereof separate from and resting against the screen-holder to operate the parts in the other direction, substantially as described.

2. In a pneumatic sand-shaker, the combination of a riddle-holder, spring mechanism upon which it is yieldingly supported for moving it and other parts in one direction, a fluid-pressure cylinder, and a reciprocating piston in such cylinder contacting the riddle-holder and arranged to be moved and move the riddle-holder in one direction only by the fluid under pressure and in the other direction by the riddle-supporting spring mechanism, substantially as described.

3. In a pneumatic sand-shaker, the combination of a riddle-holder, spring mechanism upon which such riddle-holder is yieldingly supported and by which it is moved in one direction, a fluid-pressure cylinder, a reciprocating piston in such cylinder extending out of one end thereof separate from but contacting the riddle-holder to move it in the direction opposite to the spring movements only and in turn to be moved in the opposite direction by the supporting spring mechanism of the riddle-holder, and a valve for such piston to cut off and supply motive fluid thereto to move such piston in one direction only, substantially as described.

4. In a pneumatic sand-shaker, the combination of a riddle-holder, spring mechanism upon which it is supported and by which it is moved in an inward direction only, a fluid-pressure cylinder, a reciprocating piston separate from but contacting said holder to move it in an outward direction only and in turn be moved inwardly by the riddle-supporting spring mechanism, and a valve slidingly mounted in said piston to cut off and supply motive fluid to said cylinder to operate the piston outwardly only, substantially as described.

5. In a pneumatic sand-shaker, the combination of a riddle-holder, a fluid-pressure cylinder provided with inlet and exhaust openings, a piston projecting therefrom to contact and operate the riddle-holder in one direction only provided with a perforated shoulder on its rear inner end, a longitudinally-perforated ring-valve slidingly mounted on the piston to alternately open and close the exhaust and inlet openings to exhaust motive fluid from and admit it to the rear of the piston to operate it in one direction only, and means for moving the riddle-holder and thereby the piston in the opposite direction, substantially as described.

6. In a pneumatic sand-shaker, the combination of a riddle-holder, a fluid-pressure cylinder provided with inlet and exhaust passages, a reciprocating piston in such cylinder extending out of one end thereof to move such riddle-holder in an outward direction only, a perforated shoulder secured to the rear inner end of the piston forming the piston-head and a part of the passage-ways for the inlet and exhaust of motive fluid to and from the rear of the piston, a perforated ring-valve loosely and slidingly mounted on the piston between the head and body portion to alternately open and close the exhaust and inlet openings and form a part of the passage-ways for the inlet of motive fluid to operate the piston in an outward direction only, and means for moving the riddle and thereby the piston in an inward direction only, substantially as described.

7. In a pneumatic sand-shaker, the combination of a screen movably mounted, spring mechanism connected with such screen for moving it in one direction, a fluid-pressure cylinder, and a piston mounted in such cylinder movable by means of fluid under pressure in one direction only and in the opposite direction by means of the screen-operating spring mechanism and operatively connected with the screen for moving it in the opposite direction to that in which it is moved by means of the spring mechanism.

8. In a pneumatic sand-shaker, the combination of a riddle-holder, spring-standards supporting the riddle-holder, a fluid-pressure cylinder, a piston in the cylinder contacting at its outer end with the riddle-holder, and fluid-pressure means for moving the piston in an outward direction only, the piston being returned by the pressure of the spring-standards.

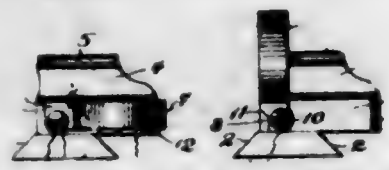
807,710. SIGHT-PIECE. JOHN Y. BASSELL and FRED C. BLENKNER, Columbus, Ohio. Filed May 13, 1904. Serial No. 207,779.



Claim.—1. A sight-piece adapted for use in conjunction with a globe-sight comprising a ring adapted to be disposed concentric with the globe-center, but having a smaller diameter than the globe so as to provide a substantial space therebetween, and a sight-center supported from the ring.

2. A sight-piece adapted for use in conjunction with a sight-cylinder comprising a ring adapted to be disposed within and concentric with the cylinder so as to provide an annular interspace therebetween, and a sight-center supported within the ring.

807,711. COMBINED GLOBE AND OPEN GUN-SIGHT. JOHN Y. BASSELL and FRED C. BLENKNER, Columbus, Ohio. Filed Oct. 12, 1904. Serial No. 228,100.



Claim.—1. In a gun-sight, the combination with a base and a stock projecting laterally beyond the base supporting a sight-center, of a hinged ring arranged to frictionally engage the projecting end of the stock to fasten itself in its lowered position.

2. In a gun-sight, a base, a sight-center supported upon the base, a hinged ring adapted to occupy a position concentric with the sight-center when raised, and means engaging with the inner peripheral surface of the ring for frictionally fastening the same against lateral and vertical displacement when lowered.

3. In a gun-sight, the combination with a base, a sight-center supported thereon and a hinged ring, of a lateral projection from the base adapted to be frictionally engaged at its outer vertical end by the ring when the latter is swung downward.

4. In a gun-sight, a base, a stock arranged on the base having a fastening-face at one end and projecting laterally beyond the base, a sight-web projecting upwardly from the stock, a sight-center supported upon the web, and a ring pivoted upon the stock at such a point as to cause the inner periphery of its upper or outer portion to engage with the fastening-face when the ring is swung to a horizontal position.

5. In a gun-sight, the combination with a base, the sight-center and a hinged ring, of means arranged on the base adapted to extend through the open portion of the ring when the latter is lowered and hold the same against lateral displacement and deformation.

807,712. PEEP-SIGHT FOR FIREARMS. JOHN Y. BASSELL and FRED C. BLENKNER, Columbus, Ohio. Filed Feb. 24, 1905. Serial No. 247,870.



Claim.—1. In a peep-sight for guns, the combination with a front sight and a support, of a casing formed with a peep-opening, and means associated with the opening for contracting or enlarging the same.

2. In a peep-sight for guns, the combination with a front sight and a support, of a plurality of movable parts adapted to form a sight-opening, and means for moving the parts to vary the size of the opening.

3. In a peep-sight for guns, the combination with a front sight and a support, of a plurality of movable parts adapted to form a sight-opening, means for moving the parts to vary the size of the opening, and means for locking the parts in position.

4. In a peep-sight for guns, the combination with a front sight and a support, of a plurality of pivoted parts adapted to form a sight-opening, and means for swinging the parts to increase or diminish the size of the opening.

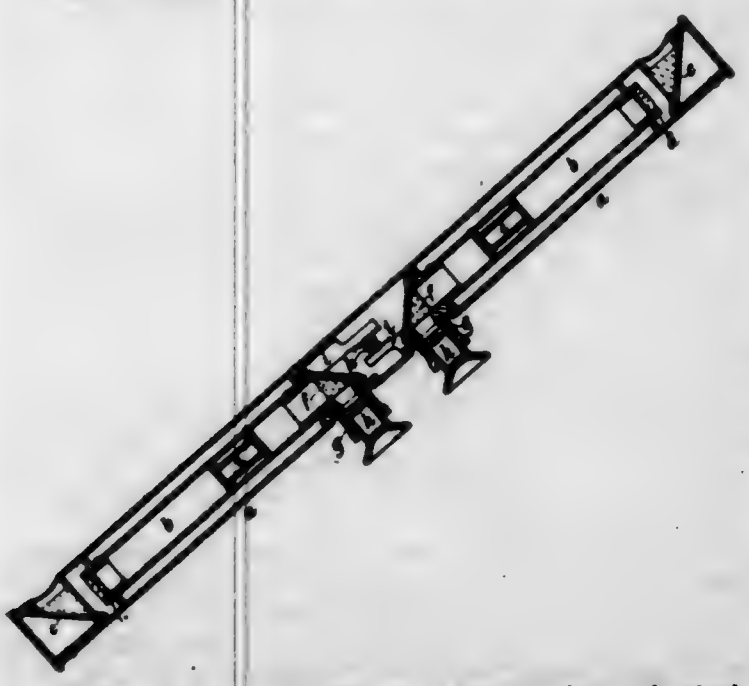
5. In a peep-sight for guns, the combination with a front sight and a support, of a plurality of pivoted parts adapted to form a sight-opening, means for swinging the parts to increase or diminish the size of the opening, and a locking means associated with the swinging means for locking the parts in position.

6. In a peep-sight for guns, the combination with a front sight and a support, of a plurality of pivoted parts adapted to form a sight-opening, means for swinging the parts to increase or diminish the size of the opening, locking means associated with the swinging means for locking the parts in position, and means for indicating the size of the opening formed by the pivoted parts.

7. In a peep-sight for guns, the combination with a front sight and a support, of a plurality of parts pivotally supported at one end and adapted to form a sight-opening, movable means engaged with the free ends of the parts and adapted when moved to swing the movable parts to vary the size of the opening formed thereby.

8. In a peep-sight for guns, the combination with a front sight and a support, of a plurality of parts pivotally supported at one end and adapted to form a sight-opening, movable means engaged with the free ends of the parts and adapted when moved to swing the movable parts to vary the size of the opening formed thereby, and means for locking the movable means in position to fix the size of the opening.

807,713. **DOUBLE TELESCOPE.** MAX BRAUER, Jena, Germany, assignor to Firm Carl Zeiss, Jena, Germany. Filed May 20, 1905. Serial No. 261,257.

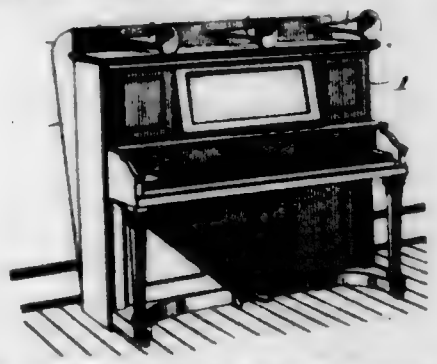


Claim.—1. In a double telescope, a jacket inclosing the single telescopes and fitted with openings for the entrance of the rays and for the ocular-tubes and with guiding-surfaces for producing a sliding movement of the single telescopes relatively to each other and transversely to the direction of sight.

2. In a double telescope, the combination with a jacket inclosing the single telescopes and fitted with openings for the entrance of the rays and for the ocular-tubes and with guiding-surfaces for producing sliding movement of the single telescopes relatively to each other and transversely to the direction of sight, of reflecting-prisms being tightly mounted into the openings of the jacket for the entrance of the rays.

3. In a double telescope a tubular jacket having two openings for the ocular-tubes at one side and two openings for the entrance of the rays at the other side, two reflecting-prisms tightly mounted into the latter openings, a right-angled telescope fastened in the jacket and another right angled telescope slidably fitted in the jacket.

807,714. **PIANO ATTACHMENT.** STEPHEN D. REUM, Troy, Ohio. Filed May 6, 1905. Serial No. 259,235.

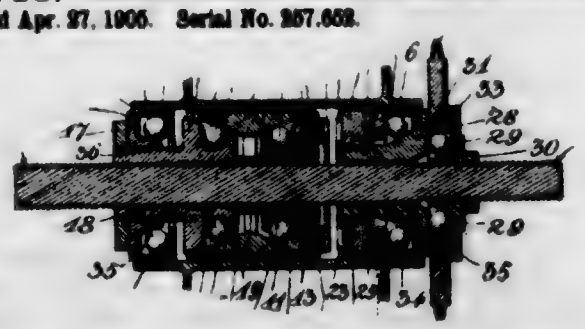


Claim.—1. A piano attachment of the character described comprising a tone-collecting chamber adapted for application to the back of an upright piano and of a height to project above the top thereof, the top portion of the front of the chamber being closed and the remaining front portion being open to receive the tones from the back of the piano, and a discharge-horn piercing the closed top portion of the front of the chamber with its bell portion directed forwardly therefrom.

2. A piano attachment of the character described comprising a tone-collecting chamber adapted for application to the back of an upright piano and of a height to project above the top thereof, the top portion of the front of the chamber being closed and the remaining front portion being open to receive the tones from the back of the piano, and a discharge-horn piercing the top portion of the chamber and projected laterally therefrom with the bell of the horn at the outer end thereof.

3. The combination with an upright piano, of a sound-collecting chamber applied to the back of the piano, and a sound-discharging horn leading from the chamber forwardly across the top of the piano with the bell of the horn at the outer end thereof.

807,715. **COASTER-BRAKE.** CLAUD D. BEVERLY, Evansville, Ind. Filed Apr. 27, 1905. Serial No. 257,662.



Claim.—1. A coaster-brake comprising an axle, a barrel rotatably mounted thereon, a slitted brake-sleeve between said barrel and said axle, a longitudinally-movable slidably-mounted wedge-shaped element between said sleeve and said axle on the latter, and means for sliding said wedge-shaped element to expand said sleeve and cause the latter to frictionally engage said barrel.

2. A coaster-brake comprising an axle, a barrel rotatably mounted thereon, a slitted brake-sleeve between said barrel and said axle, a slidably-mounted wedge-shaped element to coact with said sleeve and expand the latter to cause it to frictionally engage said barrel, a driving element and a clutch actuated by said driving element to lock either said barrel to said driving element or said barrel to said axle.

3. A coaster-brake comprising an axle, a barrel rotatably mounted thereon, a slitted brake-sleeve between said barrel and said axle, a slidably-mounted wedge-shaped element to coact with said sleeve and expand the latter to cause it to frictionally engage said barrel, a rotary driving element upon said shaft and formed with a screw-threaded portion, and a clutch-head upon the threaded portion of said driving element and adapted to be actuated thereby to cause it to frictionally engage either a portion of said barrel or said wedge-shaped expanding element.

4. A coaster-brake comprising an axle, a barrel rotatably mounted thereon, a slitted brake-sleeve between said barrel and said axle, a slidably-mounted wedge-shaped element to coact with said sleeve and expand the latter to cause it to frictionally engage said barrel, a rotary driving element upon said shaft and formed with a

screw-threaded portion, a clutch-head upon the threaded portion of said driving element, and coacting teeth or projections upon the opposite faces of said clutch-head, said wedge-shaped expanding element and one end of said barrel.

5. A coaster-brake comprising an axle, a barrel thereon, a removable cap at one end of said barrel, a slitted brake-sleeve between said barrel and said axle, said sleeve being formed on its inner faces with oppositely-inclined portions and at its ends with notches, a stationary ball-retaining and sleeve-expanding cone secured upon said axle and engaged with one end of said sleeve, a slidable ball-retaining and sleeve-expanding cone engaged with the other end of said sleeve, projections upon said cones engaged with the notches in the ends of said sleeve, bearing-balls between said cones and said sleeve, a driver upon said axle having a screw-threaded inner end, a clutch-head upon the threaded end of said driver, and coacting teeth or projections upon the opposite faces of said clutch-head, said sliding cone and said cap.

6. A coaster-brake comprising an axle, a barrel thereon, ball-retaining caps or cups removably secured in the ends of said barrel, a slitted brake-sleeve within said barrel formed at its ends with notches and upon its inner faces with oppositely-inclined portions, a stationary ball-receiving and sleeve-expanding cone secured upon said axle and engaged with one end of said sleeve, a sliding ball-receiving and sleeve-expanding cone engaged with the opposite end of said sleeve, bearing-balls between said cones and said sleeve, projections upon said cones in engagement with the notches in said sleeve, a driver having a screw-threaded inner end, antifriction bearing-balls between said axle and said driver, a sprocket-wheel upon said driver, bearing-balls between one of said caps and said driver, an adjustable cone upon said stationary ball-receiving and sleeve-expanding cone, bearing-balls between said adjustable cone and the other of said caps or cups, a clutch-head upon the threaded end of said driver and coacting teeth upon the opposite faces of said clutch-head, said sliding cone and one of said caps or cups, substantially as described.

7. A coaster-brake comprising an axle, a barrel thereon, a removable cap at one end of said barrel, a slitted brake-sleeve between said barrel and said axle, said sleeve being formed on its inner faces with oppositely-inclined portions and at its ends with notches, a stationary ball-retaining and sleeve-expanding cone secured upon said axle and engaged with one end of said sleeve and having a tubular portion surrounding said axle, a ball-retaining and sleeve-expanding cone slidably mounted upon said tubular portion and engaged with the other end of said sleeve, projections upon said cone engaged with the notches in the ends of said sleeve, bearing-balls between said cones and said sleeve, a driver upon said axle having a screw-threaded inner end, a clutch-head upon the threaded end of said driver and coacting teeth or projections upon the opposite faces of said clutch-head, said sliding head and said cap.

807,716. CANCELING AND COUNTING APPARATUS. THOMAS A. BRADBERRY, Portsmouth, Va., assignor of one-third to Charles P. Denby, Norfolk, Va. Filed Nov. 18, 1904. Serial No. 233,205.

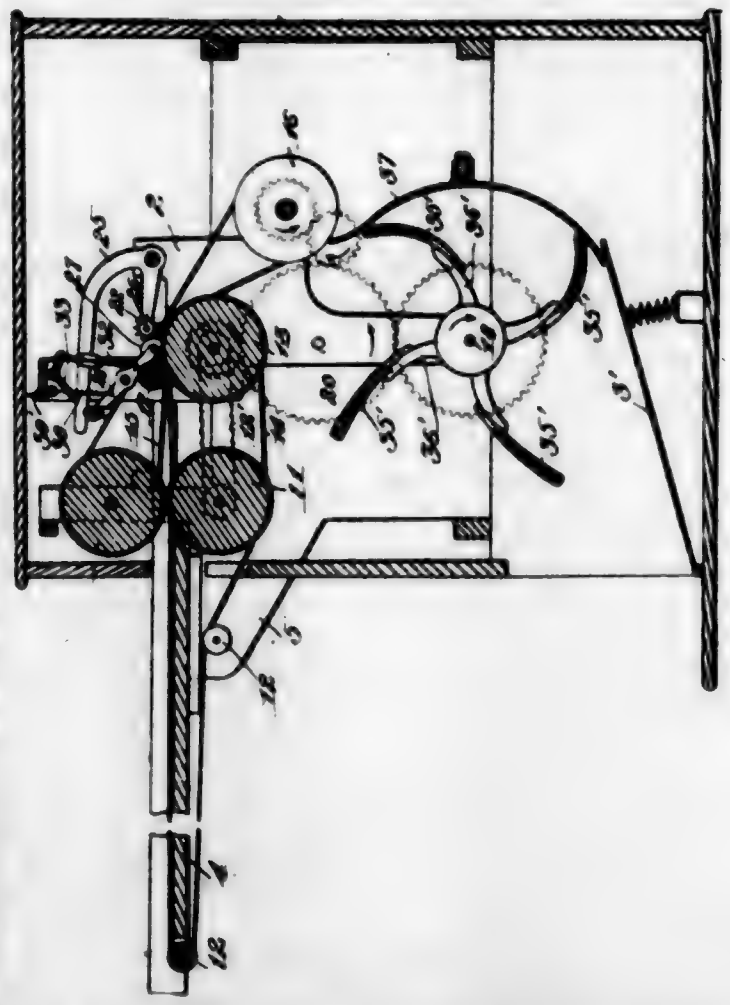
Claim.—1. An apparatus of the class described involving canceling mechanism consisting of a movably-mounted, perforated band and a rotative, toothed member, the latter arranged for movement by its teeth entering the perforations of the band on the movement of the latter.

2. In an apparatus of the class described, the combination of canceling mechanism comprising a movably-mounted, perforated band and a rotative toothed member arranged for movement by the entrance of its teeth into the perforations of the band on the movement of the latter to cancel an object, and means for normally holding the toothed member out of working relation with the band and arranged for engagement by the object to be perforated to put said toothed member into working relation with the band.

3. In an apparatus of the class described, canceling mechanism involving a rotative roller provided, on its periphery, with a perforated band, and a rotative toothed wheel arranged to be rotated by the roller when the teeth thereof enter the perforations, said teeth and band coöperating to cancel an article, a housing for inclosing the canceling mechanism, a shaft carrying said rotative wheel and extending outside of the housing, and a register connected with the shaft, outside of the housing.

4. An apparatus involving two parts coöperative to cancel an object, one perforated and the other toothed, the teeth of the toothed member being adapted to engage in the perforations of the perforated member to secure such cancellation, and by said engagement to operate the toothed member, and means for positively operating the perforated member.

5. An apparatus involving two parts coöperative to cancel an object, one perforated and the other toothed, the teeth of the toothed member being adapted to engage in the perforations of the perforated member to secure such cancellation, and by such engagement to operate said toothed member, means for positively operating the perforated member, and means for positively presenting articles to the canceling mechanism for cancellation thereby.



6. In an apparatus of the class described, canceling mechanism involving a toothed wheel and a perforated band, the perforations of which the teeth of the wheel are adapted to enter to cancel an article, and counting mechanism coöperative with the canceling mechanism.

7. An apparatus of the class described having canceling mechanism involving a toothed wheel and a perforated band, into the perforations of which the teeth of the wheel are adapted to enter to cancel an article.

8. In an apparatus of the class described, canceling mechanism involving a rotative roller provided on its periphery with a perforated band, and a rotative wheel arranged to be rotated by the roller when the teeth thereof enter the perforations, and said teeth and band coöperating to cancel an article.

9. In an apparatus of the class described, canceling mechanism involving a toothed wheel and a perforated band, into the perforations of which the teeth of the wheel are adapted to enter and cancel an article, a counting device connected directly with the toothed wheel, and means for normally holding the toothed wheel out of engagement with the band.

10. In an apparatus of the class described, canceling mechanism involving a toothed wheel and a perforated band, into the perforations of which the teeth of the wheel are adapted to enter to cancel an article, the wheel being normally out of working relation with the band, and means arranged for engagement by an article to be perforated, to put the wheel into working relation with the band.

11. In an apparatus of the class described, canceling mechanism involving a rotative roller provided, on its periphery, with a perforated band, and a rotative wheel arranged to be rotated by the roller when the teeth thereof enter the perforations of the band, said teeth and band coöperating to cancel an article, and the wheel being normally out of working relation with the band, a yieldingly-mounted member arranged to be operated by an advancing article, and a frame carrying said rotative wheel, the frame being adapted to be actuated by said yieldingly-mounted member when the latter is shifted by the object to be canceled, to put the wheel into operative relation with the band.

12. In a machine of the class described, a peripherally-grooved roller provided with a perforated band on its periphery, a toothed

wheel, the teeth of which are adapted to enter the perforations of the band to perforate an article, means for presenting such article to the band and wheel, a roller and its carrier, the roller normally fitting the groove in said first-mentioned roller and adapted to be moved out of the groove by said article, and means adapted, on the movement of the roller by the article, to put the toothed wheel into working relation with said band.

13. In an apparatus of the class described, a housing, means in the housing for canceling coupons connected together in the form of a slip, counting means for the coupons associated with the canceling means, a curved plate located below the canceling mechanism, in the housing, and means independent of said canceling means, for sweeping the canceled coupons along the curved surface of said plate to prevent curling thereof.

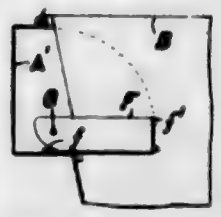
14. In an apparatus of the class described, means for canceling coupons connected together in slip form, counting means for the coupons, associated with the canceling means, a plate arranged in working relation with the canceling means, and a spider provided with pads of suitable material arranged to sweep the slip against said plate.

15. In an apparatus of the class described, canceling mechanism involving a rotative roller provided, on its periphery, with a perforated band, and a rotative wheel arranged to be rotated by the roller when the teeth thereof enter the perforations of the band, said teeth and band coöperating to cancel an article, an oscillatory frame carrying the wheel, a spring-actuated member having an antifriction-wheel arranged for operation by the article to be canceled, and means between the spring-actuated member and rocking frame for operating the latter to carry the toothed wheel into working relation with the perforated band when the spring-actuated member is shifted by said article.

16. In an apparatus of the class described, the combination of two peripherally-grooved rollers, one in advance of the other, tapes passing around and fitted in the grooves of said rollers, two other peripherally-grooved rollers, tapes passing around and fitted in the grooves of the two other rollers, means for pressing the second series of tapes into the peripheral grooves of the said advanced roller to grip a strip of coupons between the second series of tapes and advanced roller, and means for canceling the coupons thus gripped.

17. In an apparatus of the class described, the combination of two peripherally-grooved rollers, one in advance of the other, tapes passing around and fitted in the grooves of said rollers, two other peripherally-grooved rollers arranged in different horizontal planes, tapes passing around and fitted in the grooves of the two other rollers, a roller for pressing the second series of tapes into the peripheral grooves of the advanced roller to grip a strip of coupons therebetween, and means for canceling the coupons thus gripped.

807,717. **SOAP-HOLDER FOR VESSELS AND UTENSILS.** RICHARD S. BRANFOOT and WILLIAM B. DAVIS, Rock Ferry, England. Filed Mar. 16, 1904. Serial No. 198,477.



Claim.—1. A soap-holder for vessels comprising a pocket formed upon the side walls of the vessel and opening into said vessel, and a movable soap-retaining means mounted in the mouth of the pocket for retaining the soap in the pocket.

2. A soap-holder for vessels comprising walls forming a pocket in the side of the vessel, a pivoted tray mounted in the mouth of the pocket, the said tray when folded being flush with the surface of the surrounding walls of the vessel.

3. A soap-holder for vessels comprising a pocket in the side of the vessel and opening into the same, the said pocket having a floor and side and top walls, a pivoted tray mounted in the edge of the pocket and formed with a floor and side walls, one edge of the floor being left free and having a spring action upon the floor of the pocket, the said tray assuming a position with its bottom flush with the walls of the vessel when the pocket is folded.

807,718. **THERMOSTAT.** PEABODY A. BROWN, Denver, Colo. Filed Mar. 20, 1905. Serial No. 251,014.

Claim.—1. In a thermostat, the combination with a suitable casing, of a vibrating member composed of two substances possessing the property of expansion and contraction in unequal degrees, one extremity of the said member being fixed and the other extremity movable, two contacts adjustably mounted on opposite sides of the movable extremity of the member, suitable electrical connections with the contacts and with the vibrating member, a pin adjustably mounted in the casing, a pointer pivotally mounted on the pin intermediate its extremities, the movable extremity of the expansible member being connected with the pointer on one side of its pivot, the casing being provided with a graduated segment located on the opposite side of the pivot, over which the pointer moves as the expansible member is actuated.



2. In a thermostat, the combination of a member composed of a number of substances possessing the property of expansion and contraction in unequal degrees, a suitable casing in which the said member is mounted, one extremity of the said member being made fast while the other extremity is movable, adjustable contacts mounted on opposite sides of the movable extremity of the member, a pointer pivotally mounted on the casing, the latter being provided with a graduated dial or segment marked to indicate degrees, the movable extremity of the said member entering a slotted opening formed in the pointer on the side of its pivot opposite the graduated segment, and suitable electrical connections whereby as the said member engages either contact a circuit is closed.

3. In a thermostat, the combination of a suitable casing, adjustable contacts mounted on opposite sides thereof, a pointer pivotally mounted on the casing, the latter being provided with a graduated segment over which one extremity of the pointer travels when actuated, the opposite extremity of the pointer having a slotted opening, a member having one extremity secured to the casing while the other extremity projects between the adjustable contacts, the last-named extremity being provided with a pin which enters the slotted extremity of the pointer, the said member being composed of substances possessing the property of expansion and contraction in unequal degrees, and suitable electrical connections with the contacts and the said member, substantially as described.

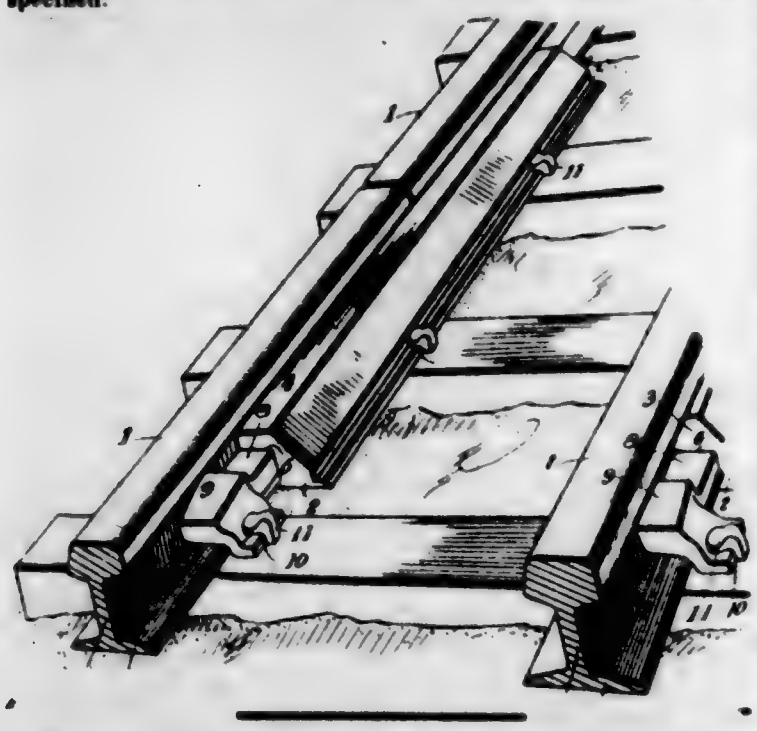
807,719. **POSTAL-CARD CASE.** LOUIS BUSSY, St. Imier, Switzerland. Filed Apr. 12, 1904. Serial No. 202,855.



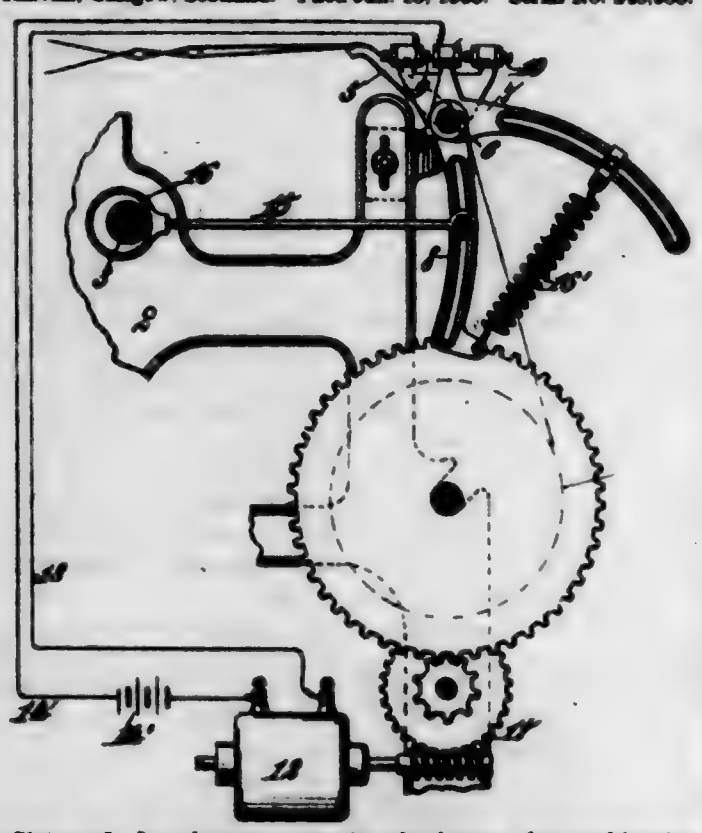
Claim.—A pocket-case for post-cards formed of a sheet of cardboard or the like having a recessed part for receiving a series of illustrated post-cards, a cover, recessed on the inside, and flexibly connected at one edge with the said sheet of cardboard or the like, means for securing the cover over the recess, and a folded band bearing a series of views and of advertisements of any kind attached to the inside of the cover and arranged to fold in the recess in the cover.

807,720. **RAIL-JOINT.** ADLEY H. CALHOUN, Wellsville, Ohio, assignor of one-third to John A. Calhoun and one-third to George Calhoun, Uhrichsville, Ohio. Filed June 27, 1905. Serial No. 267,297.

Claim.—In a rail-joint, the combination of a rail-chair provided with undercut recesses, flanges spaced from each other and of different heights, railway-rails having their webs located between the spaced flanges of the chair, and keys located between the upper faces of the spaced flanges of the railway-rails, and under the faces of the spaced flanges of the chair, said keys provided with heads having downward-extended flanges, substantially as and for the purpose specified.



807,721. LET-OFF MECHANISM FOR LOOMS. THOMAS A. B. CARVIN, Glasgow, Scotland. Filed Jan. 13, 1905. Serial No. 240,835.



Claim.—1. In a let-off mechanism for looms, the combination of a warp-beam, a whip-roll, an electric circuit including a feed-controlling device for said warp-beam, and means for controlling the circuit and automatically operable, when the pressure on the warp exceeds a certain point.

2. In a let-off mechanism for looms, the combination of a warp-beam, a whip-roll, an electric circuit including a feed-controlling device for said warp-beam, and circuit-controlling means operative with the whip-roll.

3. In a let-off mechanism for looms the combination of a warp-beam, a whip-roll, an electric circuit, including a motor, operatively connected with the warp-beam, and circuit-controlling means operative with the whip-roll.

4. In a let-off mechanism for looms, the combination of a warp-beam, a whip-roll, an electric circuit, including a feed-controlling device, for said warp-beam, circuit-controlling means, automatically operable when the tension of the warp exceeds a certain point, and tensioning means acting against the whip-roll in opposition to the tension of the warp applied to said roll.

5. In a let-off mechanism for looms, the combination of a warp-beam, a whip-roll, an electric circuit, including a feed-controlling device, for said warp-beam, means for closing the circuit when the tension of the warp exceeds a certain point, and a spring, operatively associated with the whip-roll and serving to apply a tension to said roll in opposition to that of the warp.

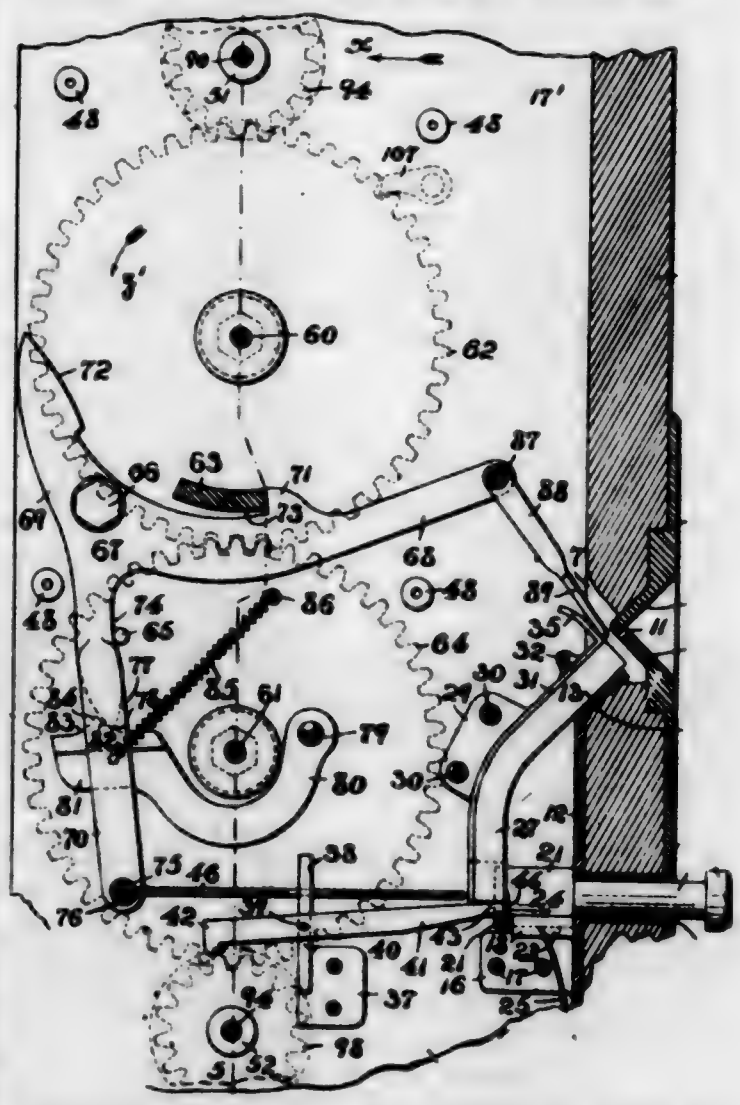
6. In a let-off mechanism for looms, the combination of a warp-beam, a whip-roll, an electric circuit, including a feed-controlling device, for said warp-beam, a lever rigidly associated with and movable with the whip-roll, said lever having a circuit-closing device, and a spring connected with the lever and arranged to apply its tension to the whip-roll in opposition to that of the warp.

7. In a let-off mechanism for looms, the combination of a warp-beam, a whip-roll, an electric circuit, including a feed-controlling device, for said warp-beam, a lever rigidly associated with the whip-roll and having a circuit-closing device, a second lever movable independently of the first lever and having a part of said circuit arranged for contact by said circuit-closer, means for vibrating the second lever from the main shaft of the loom, and tensioning means acting against the first lever, and thereby the whip-roll, in opposition to the tension of the warp

8. In a let-off mechanism for looms, the combination of a warp-beam, a whip-roll, an electric circuit, including a feed-controlling device, for said warp-beam, a lever rigidly associated with the whip-roll and having a circuit-closing device, a second lever provided with screws, between which said circuit-closing device is arranged to operate, one of the screws constituting part of said circuit, and said second lever being movable independently of the first lever, a spring connecting the two levers and serving to apply a tension to the whip-roll in opposition to that of the warp thereon, and mechanism operable from the main shaft of the loom, for imparting a vibratory motion to the second lever.

9. In a let-off mechanism for looms, the combination of a warp-beam, a whip-roll, an electric circuit having a motor, means for closing the circuit when the tension of the warp exceeds a certain point, and driving connections between the motor and the warp-beam.

807,722. COIN-CONTROLLED APPARATUS. CLEMENT C. CLAWSON, Flagtown, N. J. Filed May 29, 1905. Serial No. 263,730.



Claim.—1. In a coin-controlled apparatus, the combination, with a cabinet provided with a mechanism to be operated, of a coin-chute, a plunger and push-piece, said push-piece being located di-

rectly in front of the coin-outlet of the chute and being adapted to be moved across said outlet, said push-piece being formed with shoulders, a bracket and support and an oscillatory coin-receiving cradle, said cradle comprising a pair of side bars pivoted upon said support, and a connecting-piece between said side bars, the free ends of said side bars being in removable holding engagement with the shoulders of said push-piece, substantially as and for the purposes set forth.

2. In a coin-controlled apparatus, the combination, with a cabinet provided with a mechanism to be operated, of a coin-chute, a plunger and push-piece, said push-piece being located directly in front of the coin-outlet of the chute and being adapted to be moved across said outlet, said push-piece being formed with shoulders, a bracket and support and an oscillatory coin-receiving cradle, said cradle comprising a pair of side bars pivoted upon said support, and a connecting-piece between said side bars, the free ends of said side bars being in removable holding engagement with the shoulders of said push-piece, and means adapted to be actuated by a deposited coin, for releasing a gear mechanism of the apparatus, comprising a rod movable horizontally in a perforation in said support of the bracket and above said cradle, and an oscillatory holding device with which said rod is connected for actuating said holding device and releasing the gear mechanism, substantially as and for the purposes set forth.

3. In a coin-controlled apparatus, the combination, with a cabinet provided with a mechanism to be operated, of a coin-chute, a plunger and push-piece, said push-piece being located directly in front of the coin-outlet of the chute and being adapted to be moved across said outlet, said push-piece being formed with shoulders, a bracket and support and an oscillatory coin-receiving cradle, said cradle comprising a pair of side bars pivoted upon said support, and a connecting-piece between said side bars, the free ends of said side bars being in removable holding engagement with the shoulders of said push-piece, and means adapted to be actuated by a deposited coin, for releasing a gear mechanism of the apparatus, comprising a rod movable horizontally in a perforation in said support of the bracket and above said cradle, and an oscillatory holding device with which said rod is connected for actuating said holding device and releasing the gear mechanism, said holding device consisting of an arrangement of three arms 68, 69 and 70, a holding-stop on said arm 68, and means on said gear mechanism with which said holding-stop is adapted to engage, substantially as and for the purposes set forth.

4. In a coin-controlled apparatus, the combination, with a cabinet provided with a mechanism to be operated, of a coin-chute, a plunger and push-piece, said push-piece being located directly in front of the coin-outlet of the chute and being adapted to be moved across said outlet, said push-piece being formed with shoulders, a bracket and support and an oscillatory coin-receiving cradle, said cradle comprising a pair of side bars pivoted upon said support, and a connecting-piece between said side bars, the free ends of said side bars being in removable holding engagement with the shoulders of said push-piece, and means adapted to be actuated by a deposited coin, for releasing a gear mechanism of the apparatus, comprising a rod movable horizontally in a perforation in said support of the bracket and above said cradle, and an oscillatory holding device with which said rod is connected for actuating said holding device and releasing the gear mechanism, said holding device consisting of an arrangement of three arms 68, 69 and 70, a holding-stop on said arm 68, and a coin-slot-closing device also connected with said arm 68, substantially as and for the purposes set forth.

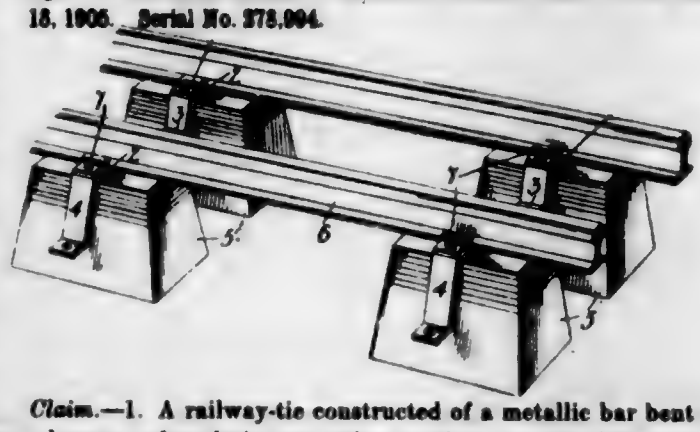
5. In a coin-controlled apparatus, the combination, with a normally locked gear mechanism, of a holding device comprising an arrangement of three arms, one of said arms being provided with a stop normally in holding engagement with said gear mechanism, a coin-actuated means connected with another of said arms for releasing said stop on the other arm from its holding engagement with the gear mechanism, and means on said third arm for again forcing said stop in its holding engagement with the said gear mechanism, substantially as and for the purposes set forth.

6. In a coin-controlled apparatus, the combination, with a normally locked gear mechanism, of a holding device comprising an arrangement of three arms, one of said arms being provided with a stop normally in holding engagement with said gear mechanism, a coin-actuated means connected with another of said arms for releasing said stop on the other arm from its holding engagement with the gear mechanism, and means on said third arm for again forcing said stop on its holding engagement with the said gear mechanism, and a spring-controlled positive stop device in engagement with one of said arms, substantially as and for the purposes set forth.

7. In a coin-controlled apparatus, the combination, with a gear mechanism, one of the gears thereof being provided with a projection 63, of a holding device comprising an arrangement of three arms 68, 69 and 70, said arm 68 having a stop 71 normally in engagement with the projection of said gear, means connected with said arm 70 for the disengagement of said stop from the said projection, and a cam-shaped member 72 on said arm 69 with which said projection on the gear can be brought in slidable engagement and thereby bring said stop 71 on the arm 68 again in its holding engagement with the projection of said gear, substantially as and for the purposes set forth.

8. In a coin-controlled apparatus, the combination, with a gear mechanism, one of the gears thereof being provided with a projection 63, of a holding device comprising an arrangement of three arms 68, 69 and 70, said arm 68 having a stop 71 normally in engagement with the projection of said gear, means connected with said arm 70 for the disengagement of said stop from the said projection, and a cam-shaped member 72 on said arm 69 with which said projection on the gear can be brought in slidable engagement and thereby bring said stop 71 on the arm 68 again in its holding engagement with the projection of said gear, a projection 77 upon the side of said arm 70, said projection having a pointed portion 78, and a spring-controlled positive stop device provided with a pair of curved portions 82 and 83 with which the pointed end portion 78 of said projection 77 is in slidable engagement, substantially as and for the purposes set forth.

807,723. **RAILWAY-TIE.** WILLIAM M. COLBY, Parma, Mich., assignor of one-half to Josiah T. Hammond, Jackson, Mich. Filed Sept. 18, 1905. Serial No. 278,994.



Claim.—1. A railway-tie constructed of a metallic bar bent to form sleeper or foundation engaging portions, a central depressed portion, downwardly-projecting end portions, clamping-plates secured to said ties to hold the rails in place thereon, longitudinally-disposed brace-bars connecting the lower outer ends of said ties, and cushioned sleeper or foundation blocks adapted to receive and support said ties, substantially as described.

2. A railway-tie constructed of a metallic bar bent to form sleeper or foundation engaging portions, a central depressed portion, downwardly-projecting end portions, clamping-plates secured to said ties to hold the rails in place thereon, longitudinally-disposed brace-bars connecting the lower outer ends of said ties, pyramidal-shaped sleeper or foundation blocks to support said ties and elastic cushions arranged on said blocks to receive the ties, substantially as described.

807,724. **CASH-REGISTER.** SAMUEL G. COOK, East St. Louis, Ill., assignor to Jacob J. Wiseman, trustee, and Edward J. Vaughn and George D. Locke, successors in trust, Jerseyville, Ill. Filed Feb. 2, 1903. Serial No. 141,491.

Claim.—1. In a cash-register, the combination of a series of separate receivers, one for each denomination, and a series of mechanical cash-inserters, one for each receiver, to positively insert the coin at the bottom of the stack of coins.

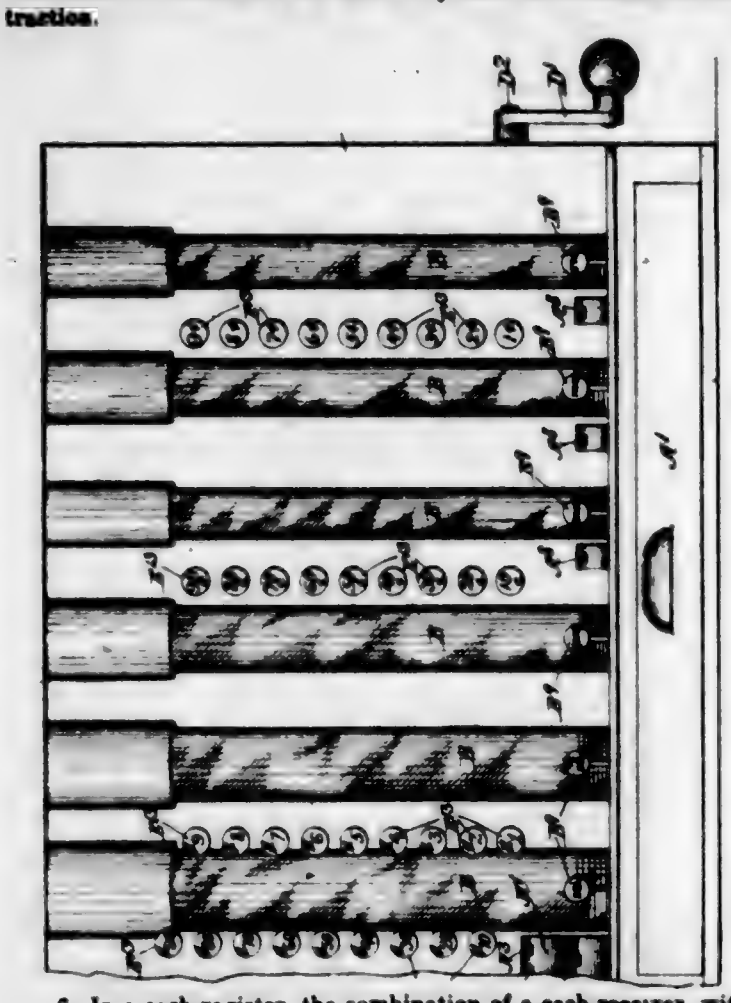
2. In a cash-register, the combination of a series of coin and bill receivers, such coin-receivers being adapted to contain the coins in a stack, with a mechanical cash-inserter for each receiver, such cash-inserter adapted to insert the coin at the bottom of the stack of coins.

3. In a cash-register, the combination of a series of bill-receivers, such bill-receivers adapted to hold the bills removably in a roll, with a mechanical cash-inserter for each receiver, such cash-inserter adapted to insert the bill on the outside of the roll of bills.

4. In a cash-register, the combination of a series of coin and bill receivers, with a mechanical cash-inserter for each receiver, and a totalizer for each receiver, adapted to produce the totals resulting from addition or subtraction.

5. In a cash-register, the combination of a series of coin and bill receivers, with a cash-inserter for each receiver and a totalizer for each receiver, adapted to produce the result from addition or subtrac-

tion, and two driving devices for said totalizers, one to operate the totalizers for addition and the other to operate the totalizers for subtraction.



6. In a cash-register, the combination of a cash-receiver, with an aperture which serves both to receive and discharge the cash, and a cash-inserter associated with said aperture to positively introduce the cash into the receiver.

7. In a cash-register, the combination of a cash-receiver, with an aperture which serves both to receive and discharge the cash, and a cash-inserter associated with said aperture and adapted to move with reference to the aperture to positively introduce the cash into the receiver.

8. In a cash-register, the combination of a cash-receiver, having a single discharge and receiving aperture, with a cash-inserter normally at one side of the aperture to permit the discharge of the cash and adapted to be brought in front of the aperture to positively insert the cash therein.

9. In a cash-register, the combination of a cash-receiver, having a single discharge and receiving aperture, with a cash-inserter normally at one side of the aperture to permit the discharge of the cash and adapted to be brought in front of the aperture to insert the cash, and a lock which prevents the motion of such cash-inserter toward the receiver when it is in the discharging position.

10. In a cash-register, the combination of a bill-receiver, comprising a roll on which the bills are wound when received and from which they are unwound when discharged.

11. In a cash-register, the combination of a bills-receiver, comprising a roll, with a bills-inserter, comprising a tape which removably holds and leads the bill toward the roll.

12. In a cash-register, the combination of a bills-receiver, comprising a roll, and a tape-feeder to carry and removably retain the bills upon the roll.

13. In a cash-register, the combination of a bills receiving and discharging device, comprising a roll on which the bills are wound, and means for rotating the roll in either direction.

14. In a cash-register, the combination of a bills receiving and discharging device, comprising a roll on which the bills are wound, and means for rotating the roll in either direction, and a tape device for winding and unwinding the tapes on the roll.

15. In a cash-register, a bills-receiving device, comprising a bills-roll and a tape-roll, a tape adapted to removably hold the bills and means for alternately winding and unwinding the tape on both rolls.

16. In a cash-register, a bills-receiving device, comprising a bills-roll and a tape-roll, a tape adapted to removably hold the bills, and means for alternately winding and unwinding the tape on both rolls, and a table over which the tape travels as it approaches the roll.

17. In a cash-register, the combination of a cash-receiver with a deficiency-indicator brought into operation subsequent to such deficiency.

18. In a cash-register, the combination of a cash-receiver with a deficiency-indicator therefor, brought into operation subsequent to such deficiency, and a change-drawer to receive the discharged change.

19. In a cash-register, the combination of a cash-receiver with a deficiency-indicator therefor and a change-drawer to receive the discharged change, and means for reminding the operator when there is a deficiency in change.

20. In a cash-register, the combination of a cash-receiver with a deficiency-indicator therefor and a change-drawer to receive the discharged change, and means for reminding the operator when there is a deficiency in change, said means consisting of a device for locking the drawer open.

21. In a cash-register, the combination of a cash-receiver with a cash-inserter associated with the receiver and adapted to insert cash therein and a selector operative therewith.

22. In a cash-register, the combination of a cash-receiver with a cash-inserter and a selector driven by such cash-inserter.

23. In a cash-register, the combination of a cash-receiver, with a cash-inserter associated with the receiver and adapted to insert cash therein, a change-selector, means for setting the change-selector to correspond to the amount received, and means for setting back the change-selector corresponding to the value of the purchase.

24. In a cash-register, the combination of a cash-receiver, with a cash-inserter, a change-selector, means for setting the change-selector to correspond to the amount received, driven by such cash-inserter, and means for setting back the change-selector corresponding to the value of the purchase.

25. In a cash-register, the combination of a cash-receiver, with a cash-inserter associated therewith to insert cash therein, a change-selector, means for setting the change-selector to correspond to the amount received, driven by such cash-inserter, means for setting back the change-selector corresponding to the value of the purchase, and purchase-keys for operating such latter means.

26. In a cash-register, the combination of a cash-inserter and a cash-receiver with a change-selector so connected with the cash-inserter as to set the change-selector to correspond to the amount received when the coin is inserted.

27. In a cash-register, the combination of a cash-receiver, with a cash-inserter associated therewith to insert cash therein, a change-selector, and means for setting the change-selector to correspond to the amount received.

28. In a cash-register, the combination of a cash-receiver with a cash-inserter, a change-selector, and means for setting the change-selector to correspond to the amount received, driven by such cash-inserter.

29. In a cash-register, the combination of a cash-inserter and a cash-receiver, with a change-selector so connected with the cash-inserter as to set the change-selector to correspond to the amount received when the coin is inserted, and means for setting back the change-selector corresponding to the value of the purchase.

30. In a cash-register, the combination of a cash-receiver, with a change-selector, purchase-keys and cash-inserter said change-selector operated by the joint action of the cash-inserter and purchase-keys.

31. In a cash-register, the combination of a series of cash-inserters and cash-receivers, with a change-selector so connected with the cash-inserter as to set the change-selector to correspond to the amount received when the coin is inserted.

32. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters associated therewith to insert cash therein, a change-selector, and means for setting the change-selector to correspond to the amount received.

33. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters, a change-selector, and means for setting the change-selector to correspond to the amount received, driven by such cash-inserters.

34. In a cash-register, the combination of a series of cash-inserters and cash-receivers, with a change-selector so connected with the cash-inserter as to set the change-selector to correspond to the amount received when the coin is inserted, and means for setting back the chage-selector corresponding to the value of the purchase.

35. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters associated therewith to insert cash therein, a change-selector, means for setting the change-selector to correspond to the amount received, and means for setting back the change-selector corresponding to the value of the purchase.

36. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters, a change-selector, means for setting the change-selector to correspond to the amount received, driven by such cash-inserters, and means for setting back the change-selector corresponding to the value of the purchase.

37. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters associated therewith to insert cash therein, a change-selector, means for setting the change-selector to correspond to the amount received, means for setting back the change-selector corresponding to the value of the purchase, and a series of purchase-keys for operating such latter means.

38. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters, a change-selector, means for setting the change-selector to correspond to the amount received, driven by such cash-inserters, means for setting back the change-selector corresponding to the value of the purchase, and purchase-keys for operating such latter means.

39. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters, and a change-selector driven by such cash-inserters.

40. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters, a change-selector driven by such cash-inserters, and means for setting the change-selector to correspond to the amount received.

41. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters, a change-selector driven by such cash-inserters, and means for setting the change-selector to correspond to the amount received driven by said cash-inserters.

42. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters, a change-selector driven by such cash-inserters, and means for setting back the change-selector corresponding to the value of the purchase.

43. In a cash-register, the combination of a series of cash-receivers, with a change-selector, a series of cash-inserters and a series of purchase-keys, such change-selector driven by such purchase-keys and the cash-inserters.

44. In a cash-register, a cash-inserter, a purchase-key in combination with a change-selector responsive to the cash-inserter and responsive to a purchase-key, so as to assume a position appropriate for the discharge of the proper amount of change.

45. In a cash-register, the combination of a cash-inserter and purchase-key with a cash-receiver, a cash-inserter, and a change-selector responsive to the cash-inserter and responsive to a purchase-key, so as to assume a position appropriate for the discharge of the proper amount of change.

46. In a cash-register, the combination of a cash-inserter a purchase-key with a series of cash-receivers, a series of cash-inserters and a change-selector responsive to the cash-inserters and responsive to a purchase-key, so as to assume a position appropriate for the discharge of the proper amount of change.

47. In a cash-register, the combination of a cash-receiver, with a cash-inserter, purchase-keys, and a change-selector operated by such cash-inserter and purchase-keys.

48. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters, a series of purchase-keys, and a change-selector operated by such cash-inserters and purchase-keys.

49. In a cash-register, the combination of a cash-receiver, with a cash-inserter, and a change-selector driven in part by such cash-inserter.

50. In a cash-register, the combination of a series of cash-receivers, with a series of cash-inserters, and a change-selector driven in part by such cash-inserters.

51. A change-selector, consisting of a movable device in combination with the inserting mechanism such mechanism being adapted to move it in one direction when the money is introduced and means for moving it in the opposite direction when the amount of the purchase is determined and in proportion to such amount.

52. A change-selector, consisting of a movable device in combination with the inserting mechanism such mechanism being adapted to move it in one direction when the money is introduced and means for moving it in the opposite direction when the amount of the purchase is determined and in proportion to such amount, and means whereby such change-selector can then be operated to aid in discharging the proper change.

53. In a cash-register, the combination of a cash-inserter, a purchase-key with a calculator containing a change-selector driven by the cash-inserter and purchase-key.

54. In a cash-register, the combination of a series of cash-receivers of different denominations with a change-selector and a change-substituter associated with such receivers and operative upon the cash therein.

55. In a cash-register, the combination of a series of cash-receivers for different denominations with a change-selector and a change-substituter and a change-discharger associated with such receivers and operative upon the cash therein.

56. In a cash-register, the combination of a series of cash-receivers, each for a given denomination, with a series of change-dischargers operating in connection with such cash-receivers, and a change-substituter associated with the dischargers.

57. In a cash-register, the combination of a series of cash-receivers for currency of the same denomination but different form, and a substituter to substitute one for the other.

58. In a cash-register, the combination of a series of cash-receivers for cash of different denominations with a substituting mechanism and coin-dischargers.

59. In a cash-register, the combination of a series of cash-receivers for receiving currency in the form of bills, with a cash-receiver for receiving currency in the form of coin, and means for substituting one for the other in making change.

60. In a cash-register, the combination of a series of cash-receivers, means for delivering change and a drawer with devices to automatically lock it open when there is a deficiency in the change delivered.

61. In a cash-register, a bill-receiving roll and registering devices to indicate the number of bills received on the roll or the number of bills retained on the roll.

62. In a cash-register, a bill-receiving roll in combination with means for inserting the bill and removably securing it about such roll.

63. In a cash-register, the combination of a roll, with means for winding and holding the bills on the same as they are inserted, and means for unwinding and discharging the bills from the same as they are required for change.

64. In a cash-register, a bill-receiving roll in combination with a tape which travels on the roll and a receiving-aperture through which the bill can be inserted so as to be removably held between the tape and the roll.

65. In a cash-register, a bill-receiving roll in combination with a tape which travels on the roll and a receiving-aperture through which the bill can be inserted so as to be removably held between the tape and the roll, and means for turning the roll so as to secure the bills on the roll by means of the tape.

66. In a cash-register, a bill-receiving roll in combination with a tape which travels on the roll and a receiving-aperture through which the bill can be inserted between the tape and the roll, means for turning the roll so as to secure the bills on the roll by means of the tape, and means for reversing the roll to unwind the tape and discharge the bills.

67. In a cash-register, the combination of a series of cash-receivers for different denominations, with a series of cash-inserters associated with the receivers and adapted to insert cash therein, a series of purchase-keys, a selector to select the change in relation to the receipt and purchase amounts, and change-discharging devices.

68. In a cash-register, a change-selector having a device for limiting the amount of money that can be inserted at a single operation of the machine to the amount of change that can be made, in combination with devices for making change.

69. In a cash-register, a change-selector adapted to discharge a certain amount of change, with receiving devices adapted to receive money, the two related so that the aggregate amount of change either in amounts of higher or lower denominations dischargeable subsequent to the receipt of money in the receiving devices cannot exceed the value of the money last received in such devices.

70. In a cash-register, a change-discharger having a wheel, a cam, a driving-dog to rotate the cam, and a part to trip the driving-dog so as to throw it out of action when the proper number of coins have been discharged.

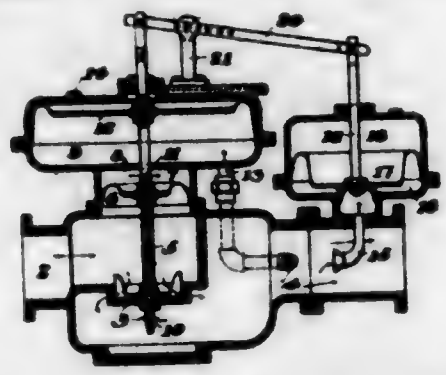
71. In a cash-register, the combination of a change-discharger and a change-substituter to substitute one denomination of currency for another.

72. In a cash-register, a change-discharger and a change-substituter to substitute one denomination of currency for another, in combination with a limiting device to limit the substitution which can take place.

73. In a machine of the character described, the combination of receptacles for containing pieces of money in separate denominations in piles or stacks, means for inserting pieces of money in the lower

part of the stack and means for ejecting a piece or pieces of money from the stack or stacks, substantially as described.

807,725. AUTOMATIC VOLUMETRIC GOVERNOR FOR GAS-LINES. SAMUEL B. CRAWFORD, Avalon, Pa. Filed Apr. 27, 1903. Serial No. 154,333.



Claim.—1. In combination with a static governor for gas-mains, a branch conduit in the outlet from said governor and an auxiliary governor actuated by the dynamic effect of the current in the branch conduit and connected to the static governor; substantially as described.

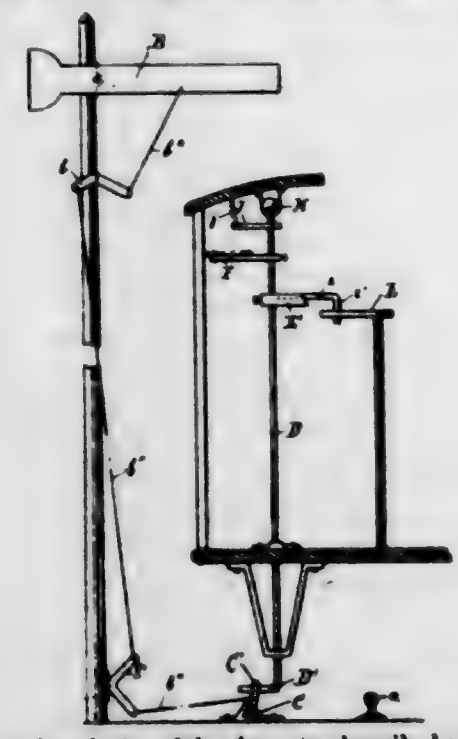
2. The combination with a static governor for gas-mains, of an inlet-tube opposite to the line of flow of the gaseous current, and a pressure device actuated dynamically by the said flow and connected to the static governor; substantially as described.

3. The combination with a static governor for gas-mains having a valve connected to a diaphragm under a static pressure of the gaseous current, of an auxiliary diaphragm having a supply-channel arranged to receive the dynamic action of the flowing current of gas, said auxiliary diaphragm being connected to the main valve-stem and arranged to oppose the static pressure on such diaphragm; substantially as described.

4. In combination with a static governor for gas-mains, a dynamic governor mechanically connected thereto and means for varying the leverage of said connection; substantially as described.

5. The combination with a static governor of the diaphragm type, of a dynamic governor having a diaphragm arranged to be actuated by the dynamic effect of the gaseous current, and a lever connection between the main and auxiliary diaphragms, arranged to oppose the static pressure on the main diaphragm by the dynamic pressure on the auxiliary diaphragm; substantially as described.

807,726. SAFE BLOCK-SIGNAL SYSTEM. CHARLES J. CRONIN, Utica, N. Y. Filed Dec. 12, 1904. Serial No. 236,444.



Claim.—1. In a device of the character described comprising an arm mounted adjacent to the track and adapted to be raised, the combination of means mounted on the locomotive adapted to engage the said arm, the said means comprising a vertical shaft and a lever-arm mounted thereon to engage the whistle mechanism to blow the whistle of the engine when the shaft is turned, substantially as described.

2. In a railway construction, the combination with a semaphore and the rolling-stock, of means mounted to be operated by the semaphore to engage means mounted on the rolling-stock, the said means comprising a vertical shaft with an arm projecting to be engaged by the semaphore-operative means and having a lever-arm mounted thereon to engage directly the air-throttle of the engine when the shaft is turned, substantially as described.

3. In a device of the character described comprising an arm mounted adjacent to the track and adapted to be raised, the combination of means mounted on the locomotive adapted to engage the said arm, the said means comprising a vertical shaft and a lever-arm secured thereon having a clip at its outer end engaging the throttle-valve and automatically operating on the swinging of the shaft to unlock the throttle and shut off the steam, substantially as described.

4. In a device of the character described having a danger-arm adjacent to the track, the combination of means mounted on the locomotive, said means comprising a vertical shaft with a projection adapted to engage the track-arm when in danger position, the said shaft having levers fixed thereon one adapted upon the turning of the shaft to engage directly the air-valve to apply the brakes and the other having a clip thereon adapted at the same time to unlock the throttle-valve and shut off the steam, substantially as described.

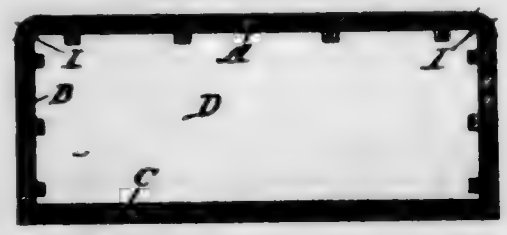
5. In a railway construction, the combination with a danger-arm adapted to be projected adjacent to the railway-track, of means mounted on the locomotive to engage said arm when in danger position, the said means comprising a vertical shaft having lever-arms fixed thereon with connections therefrom to the air-valve, the whistle and the throttle-valve, the last of said connections being adapted to unlock the throttle-valve and shut off the steam, the said several connections being operative on the turning of the shaft, substantially as described.

6. In a device of the character described comprising a danger-arm adjacent to the track, the combination of means mounted on the locomotive, said means comprising a vertical shaft with a projection adapted to engage the arm when in its danger position, and the said shaft having levers fixed thereon adapted on the turning of the shaft to operate the throttle-valve to shut off the steam and the whistle-valve to blow the whistle, substantially as described.

7. In a device of the character described having a danger-arm adjacent to the track, the combination of means mounted on the locomotive, the said means comprising a vertical shaft with a projection adapted to engage the arm when in its danger position, the said shaft having levers fixed thereon adapted upon the turning of the shaft to engage the air-throttle to apply the brakes and to engage the whistle to blow the same, substantially as described.

8. In a device of the character described comprising an arm mounted adjacent to the rail, and means for manually raising and lowering the said arm, the combination of means mounted on the locomotive comprising a vertical shaft with an offset adjacent to the rail and adapted to engage the said arm and operative by contact with the arm to engage danger-warning means on the locomotive, substantially as described.

807,727. CASING FOR WATER-CLOSET TANKS AND THE METHOD OF MAKING IT. JOSEPH G. CROSBY, Port Huron, Mich., assignor to Elizabeth Crosby, Rahway, N. J. Filed Nov. 23, 1904. Serial No. 234,031.



Claim.—1. As a new article of manufacture, a structure having adjacent angularly-related walls, the contiguous portions of which are made of a continuous board having a transverse groove reducing it at the corner to a veneer, a corner-strip disposed in the groove and around which the veener is bent, a strip of textile fabric interposed between the corner-strip and veneer, and glue permeating the fabric and uniting it to the veneer and corner-strip, substantially as described.

2. As a new article of manufacture, a structure having adjacent angularly-related walls, the contiguous portions of which are made of a continuous board having a transverse groove reducing it at the corner to a veneer, a corner-strip disposed in the groove and around which the veneer is bent, a strip of textile fabric interposed between the corner-strip and the bottom and sides of the groove and spanning

the angles of the groove, and glue permeating the fabric and uniting it to the corner-strip and to the bottom and sides of the groove, substantially as described.

3. As a new article of manufacture, a structure having adjacent angularly-related walls, the contiguous portions of which are made of a continuous board having a transverse groove extending from side to side and reducing it at the corner to a veneer, a corner-strip disposed in the groove and having an outer curved face around which the veneer is bent, and having sides conforming to the sides of the groove, a strip of textile fabric interposed between the corner-strip and the bottom and sides of the groove, and glue permeating the fabric and uniting it to the corner-strip and to the bottom and sides of the groove, substantially as described.

4. As a new article of manufacture, a structure having adjacent angularly-related walls, the contiguous portions of which are made of a continuous board having a transverse groove reducing it at the corner to a veneer, a corner-strip disposed in the groove and around which the veneer is bent, the cross-sectional areas of the groove and corner-strip being nearly equal, a compressed strip of textile fabric interposed between the corner-strip and the walls of the groove, and glue permeating the fabric and uniting the corner-strip to the walls of the groove, substantially as described.

807,728. **OPTICAL INSTRUMENT.** SIEGFRIED CZAPSKI, Jena, Germany, assignor to The Firm of Carl Zeiss, Jena, Germany. Filed Aug. 1, 1905. Serial No. 272,196.



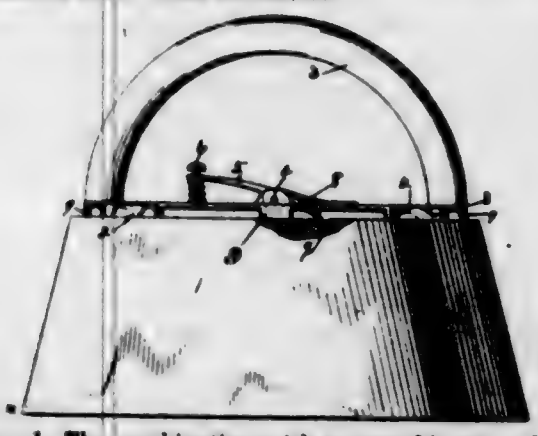
Claim.—1. The combination, with two collective lenses arranged at an average interocular distance and having the axes parallel and the fields separate, of a frame connecting both lenses and provided with two marks in the focal plane behind the lenses and also at interocular distance.

2. The combination, with two collective lenses arranged at an average interocular distance and having the axes parallel and the fields separate, of a frame connecting both lenses and carrying two shutters, one for each lens, and provided with two marks in the focal plane behind the lenses and also at interocular distance.

3. The combination, with two collective lenses arranged at an average interocular distance and having the axes parallel and the fields separate, of a frame connecting both lenses and carrying two shutters, one for each lens, and provided with two marks at interocular distance in the focal plane behind the lenses, and with two measuring-scales for the eyes to be examined, arranged before the lenses.

4. The combination, with two collective lenses arranged at an average interocular distance and having the axes parallel and the fields separate, of a frame connecting both lenses and carrying two shutters, one for each lens, and provided with two marks behind the lenses in their focal plane and also at interocular distance, and with a measuring-scale made in two parts and arranged in front of the lenses, the division of the scale being too large, so that the false measure read off for the interocular distance is the correct measure for the distance between the lenses of reading-spectacles.

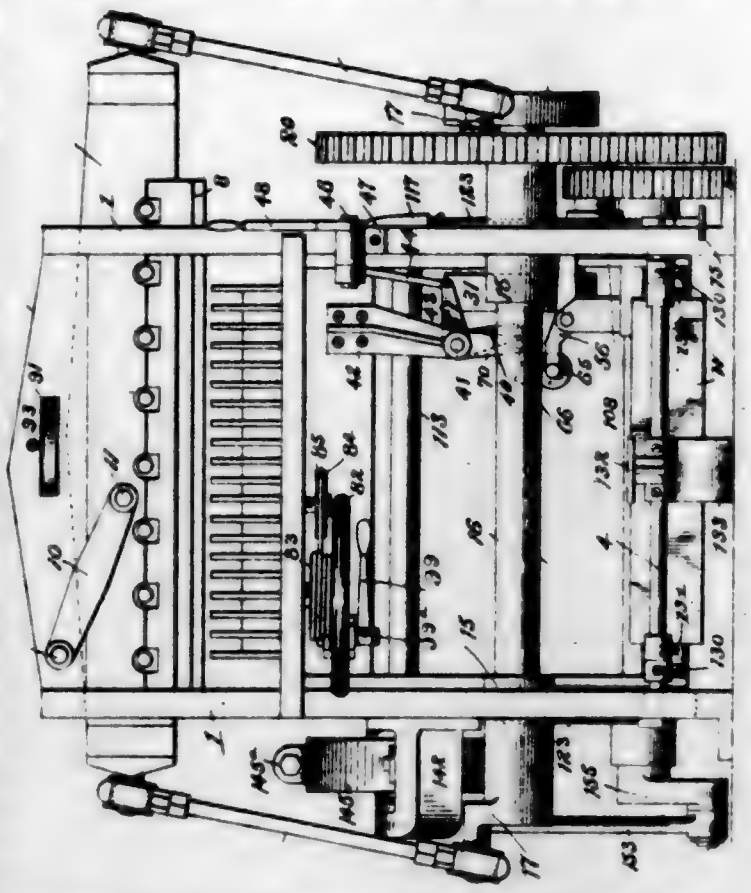
807,729. **SMOOTHING-IRON.** JOHN W. DAVIS, Pittsburg, Pa. Filed Oct. 10, 1904. Serial No. 227,963.



Claim.—1. The combination with a smoothing-iron having a removable handle portion, of securing-lugs formed on the top of the body portion, said lugs having their proximate faces undercut, projections depending from the handle portion and having their opposite faces inclined to engage the undercut portions of the lugs, additional projections depending from the handle portion to bear on the body portion, a locking-pawl pivotally secured to the handle portion and arranged to engage teeth formed in the top of the body portion, and a spring bearing against the locking-pawl to insure normal engagement of said pawl and teeth.

2. The combination with a smoothing-iron having a removable handle portion including a base, of securing-lugs formed on the top of the body portion, said lugs having their proximate faces undercut, projections depending from the handle portion and having their opposite faces inclined to engage the undercut portions of the lugs, additional projections depending from the handle portion to bear on the body portion, a locking-pawl pivotally secured to the handle portion and arranged to engage teeth formed in the top of the body portion, and a spring bearing against the locking-pawl to insure normal engagement of said pawl and teeth, the base of the handle portion being longitudinally tapered and the securing-lugs being positioned on the body portion in relative relation to receive the tapered base of the handle portion and maintain it in predetermined position relative to the body portion.

807,780. **PAPER-CUTTING MACHINE.** TALBOT C. DEXTER, Pearl River, N. Y. Filed Feb. 17, 1905. Serial No. 246,139.



Claim.—1. In a paper-cutting machine, the combination of a paper-cutting knife, suitable knife-operating mechanism, a paper-holding clamp, a shaft suitably geared to the clamp for raising and lowering it, a friction-wheel secured to said shaft, a frictional driving member freely journaled upon said shaft and formed of a plurality of relatively adjustable complementary segments encircling said friction-wheel, means for relatively adjusting the segments of the driving member to regulate the frictional engagement with the friction-wheel, and operating means connected with the segmental driving member for oscillating it.

2. In a paper-cutting machine, the combination of a paper-cutting knife, suitable knife-operating mechanism, a paper-holding clamp, a clamp-operating shaft suitably geared to the clamp, a frictional slip-clutch mounted upon the said shaft and comprising a friction-wheel secured to the shaft, and a frictional driving member encircling the friction-wheel and formed of a plurality of adjustably-connected segments, means for relatively adjusting said segments, an arm journaled upon said shaft and rigidly secured to one of said segments, and means connected with said arm for oscillating said driving member, substantially as set forth.

3. In a paper-cutting machine, the combination of a paper-cutting knife, suitable knife-operating mechanism, a paper-holding clamp, a clamp-operating shaft suitably geared to the clamp, a frictional slip-clutch mounted upon the said shaft and comprising a friction-wheel secured to the shaft, and a driving member encircling the friction-wheel and formed of a plurality of segments, screws or bolts adjustably connecting said segments, an arm journaled upon said

clamp-operating shaft and rigidly secured to one of said segments, a crank-shaft carrying a crank, a pitman connecting the crank with said arm, substantially as set forth.

4. In a paper-cutting machine, the combination of the knife, and the knife-operating mechanism, with a pile-holding clamp, a clamp-operating shaft, rack-bars driven by said shaft, latches carried by the clamp and detachably engaging the rack-bars, and means for operating said latches and for lowering the clamp independently of the rack-bars and operating-shaft, substantially as set forth.

5. In a paper-cutting machine, the combination of the knife, and the knife-operating mechanism, with a pile-holding clamp, a clamp-operating shaft, rack-bars detachably connected with the clamp, gears upon said shaft meshing with said rack-bars, latches carried by the clamp and detachably engaging the rack-bars, and manually-actuated means for simultaneously releasing said latches and lowering the clamp independently of the rack-bars and operating-shaft, substantially as set forth.

6. In a paper-cutting machine, the combination of the knife, and the knife-operating mechanism, with a pile-holding clamp, guide-bars secured to the clamp and provided with shoulders, a clamp-operating shaft, rack-bars recessed to fit over said guide-bars and engage said shoulders, gears upon said shaft meshing with said rack-bars, latches carried by the guide-bars and detachably engaging the rack-bars, and means for operating said latches and lowering the clamp independently of the rack-bars and operating-shaft, substantially as set forth.

7. In a paper-cutting machine, the combination of a cutting-knife, and knife-operating means, with a paper-holding clamp, a weight balancing the clamp, power mechanism for raising and lowering the clamp, said power mechanism including a shaft, gears upon said shaft, rack-bars meshing with said gears, latches carried by the clamp detachably engaging the rack-bars, and means for manually actuating the latches and lowering the clamp independently of the power mechanism, substantially as set forth.

8. In a paper-cutting machine, the combination of the cutting-knife, and knife-operating mechanism, with a paper-holding clamp having depending guide-bars, shoulder-blocks secured to the lower ends of said guide-bars, rack-bar blocks engaging said shoulder-blocks, latches supported upon said shoulder-blocks, and engaging said rack-bar blocks, and manually-operated means for releasing said latches and lowering the clamp independently of the rack-bars, substantially as set forth.

9. In a paper-cutting machine, the combination of the cutting-knife, and knife-operating mechanism, with a paper-holding clamp having depending guide-bars, shoulder-blocks secured to the lower ends of said guide-bars, rack-bar blocks recessed to fit over said guide-bars and engaging said shoulder-blocks, latches supported upon said shoulder-blocks, shoulders formed on said rack-bar blocks with which said latches engage, and manually-operated means for releasing said latches and lowering the clamp independently of the rack-bars, substantially as set forth.

10. In a paper-cutting machine, the combination of the cutting-knife, and knife-operating mechanism, with a paper-holding clamp having depending guide-bars, shoulder-blocks secured to the lower ends of said guide-bars, a balancing-weight connected with said guide-bars, rack-bar blocks engaging said shoulder-blocks, latches supported upon said shoulder-blocks, and engaging said rack-bar blocks, and treadle mechanism adapted to release said latches, engage and raise said weight, and lower the clamp independently of the rack-bars, substantially as set forth.

11. In a paper-cutting machine, the combination of a cutting-knife and its operating mechanism, with a paper-holding clamp having guide-bars, an operating-shaft carrying gears, rack-bar blocks meshing with said gears and engaging said guide-bars, latches supported upon said guide-bars and engaging the rack-bar blocks, ears or lugs projecting from said latches, latch-operating rods engaging said lugs, and means for actuating said rods and for lowering the clamp, substantially as set forth.

12. In a paper-cutting machine, the combination of a cutting-knife and its operating mechanism, with a paper-holding clamp having guide-bars, an operating-shaft carrying gears, rack-bar blocks meshing with said gears and detachably engaging said guide-bars, latches supported upon said guide-bars and engaging the rack-bar blocks, ears or lugs projecting from said latches and formed with vertical openings through them, headed latch-operating rods passing freely through the openings in said lugs, and means for simultaneously actuating said rods and for lowering the clamp, substantially as set forth.

13. In a paper-cutting machine, the combination of the holding-clamp having the guide-bars, the rack-bar blocks engaging the guide-bars, the angular latches pivotally mounted upon the guide-bars and engaging shoulders upon the rack-bar blocks, springs sustaining the latches in engaged position, a perforated ear or lug projecting laterally from each of the latches, a headed rod passing through the opening in each of said lugs, a lever connected with the lower end of each of said rods, a cam-lever for actuating each of said levers, and means for lowering the clamp, substantially as set forth.

14. In a paper-cutting machine, the combination of the holding-clamp having the guide-bars, the rack-bar blocks engaging the guide-bars, the angular latches pivotally mounted upon the guide-bars and engaging shoulders upon the rack-bar blocks, springs sustaining the latches in engaged position, a perforated ear or lug projecting laterally from each of the latches and formed with an angular upper face, a headed rod passing through the opening in each of said lugs, the heads of said rods having squared lower faces or shoulders, a lever connected with the lower end of each of said rods, a cam-lever for actuating each of said levers, and means for lowering the clamp, substantially as set forth.

15. In a paper-cutting machine, the combination of the holding-clamp having the guide-bars, the rack-bar blocks engaging the guide-bars, the angular latches pivotally mounted upon the guide-bars and engaging shoulders upon the rack-bar blocks, springs sustaining the latches in engaged position, a perforated ear or lug projecting laterally from each of the latches, a headed rod passing through the opening in each of said lugs, a lever connected with the lower end of each of said rods, and carrying an antifriction-roller, a cam-lever arranged to engage each of said rollers for actuating said levers, a treadle-shaft upon which said cam-levers are mounted, and means actuated from said shaft for lowering the clamp, substantially as set forth.

16. In a paper-cutting machine, the combination of a clamp, power mechanism for operating said clamp, detachable means connecting the clamp with its power mechanism, a rock-shaft, means on said rock-shaft for actuating said power-detaching means, a weight suitably connected with the clamp for balancing it, a lever for operating said rock-shaft, an arm extending from said lever beneath the counterweight for raising it, substantially as set forth.

17. In a paper-cutting machine, the combination of a clamp, power mechanism for operating said clamp, detachable means connecting the clamp with its power mechanism, a rock-shaft, means on said rock-shaft for actuating said power-detaching means, a weight suitably connected with the clamp for balancing it, levers journaled upon said shaft and connected with said weight for guiding it, a foot-lever for operating said rock-shaft, an arm extending from said lever beneath the counterweight for raising it, substantially as set forth.

18. In a paper-cutting machine, the combination of a cutting-knife, and operating mechanism therefor, a pile-holding clamp, and operating mechanism therefor, a power-shaft, a clutch upon the power-shaft through which motion is communicated to the operating mechanisms of the knife and clamp, a rock-shaft adapted to throw said clutch into and out of action, a thrust-bar operatively connected with said rock-shaft, a cam mounted upon a rotating part of the machine, and adapted to actuate said thrust-bar for throwing out said clutch, and a manually-operated device adapted to engage said thrust-bar and disengage it from said cam, substantially as set forth.

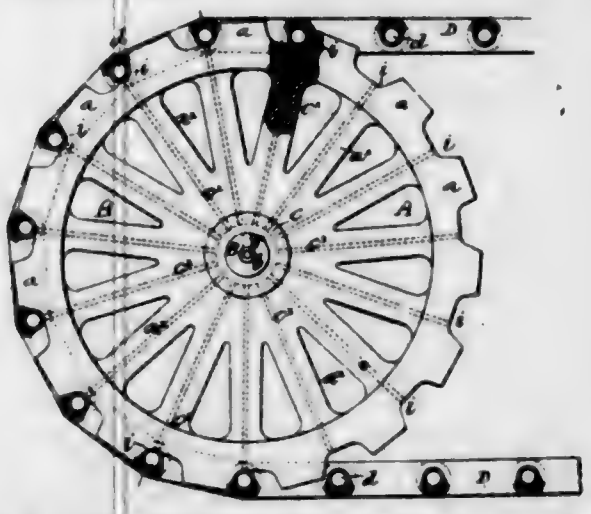
19. In a paper-cutting machine, the combination of a cutting-knife, and operating mechanism therefor, a pile-holding clamp, and operating mechanism therefor, a power-shaft, a clutch upon the power-shaft through which motion is communicated to the operating mechanisms of the knife and clamp, a rock-shaft adapted to throw said clutch into and out of action, a rock-arm on said rock-shaft, a thrust-bar pivotally connected with said arm, a cam mounted upon a rotating part of the machine, and adapted to actuate said thrust-bar for throwing out said clutch, and a manually-operated device adapted to engage said thrust-bar and move it on its pivot to disengage it from said cam, substantially as set forth.

20. In a paper-cutting machine, the combination of a cutting-knife, and operating mechanism therefor, a pile-holding clamp, and operating mechanism therefor, a power-shaft, a clutch upon the power-shaft through which motion is communicated to the operating mechanisms of the knife and clamp, a rock-shaft adapted to throw said clutch into and out of action, a rock-arm on said rock-shaft, a thrust-bar pivotally connected with said arm and movable laterally upon its pivot, a guide supporting the thrust-bar, a cam mounted upon a rotating part of the machine, and adapted to actuate said thrust-bar for throwing out said clutch, and a manually-operated lever adapted to engage said thrust-bar and disengage it from said cam, substantially as set forth.

21. In a paper-cutting machine, the combination of the knife, and its operating mechanism, with the clamp and its operating mechanism, a power-shaft having a clutch, a clutch-actuating rock-shaft, a brake-band encircling one member of said clutch, a lever to which one end of said brake-band is connected, a spring acting upon one end of said lever for applying the brake, and a cam-shoe supported from said rock-shaft in position to engage the opposite end of said lever for releasing the brake, substantially as set forth.

22. In a paper-cutting machine, the combination of the knife, and its operating mechanism, with the clamp, and its operating mechanism, a power-shaft having a clutch, a clutch-actuating rock-shaft, a brake-band encircling one member of said clutch, a lever to which one end of said brake-band is connected, an adjustable device to which the opposite end of said brake-band is connected, a spring acting upon one end of said lever for applying the brake, a cam-shoe supported from said rock-shaft in position to engage the opposite end of said lever for releasing the brake, and means for actuating said rock-shaft, substantially as set forth.

807,731. **LUBRICATOR FOR SPROCKET-WHEELS.** JAMES M. DODGE, Philadelphia, Pa., assignor to The Link Belt Engineering Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 17, 1904. Serial No. 208,490.



Claim.—1. A sprocket-wheel having a series of recesses in its periphery forming teeth, a passage leading to the bearing-surface of each recess, with means for forcing a lubricant through the several passages to the periphery of the wheel whereby the joint of a chain passing around the wheel will be lubricated, substantially as described.

2. A sprocket-wheel having recesses in its periphery forming teeth, a passage leading from the hub of the wheel to the bearing-surface of each recess, with means for forcing a lubricant through the several passages to the periphery of the wheel whereby the joints of a chain passing around the sprocket-wheel will be lubricated, substantially as described.

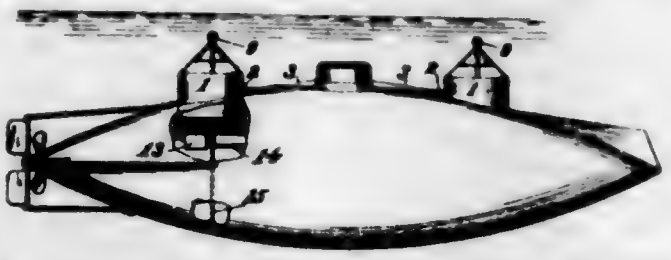
3. The combination of a sprocket-wheel having bearing-surfaces at the periphery thereof, passages leading from the center of the wheel to the bearing-surfaces of the periphery, a shaft having a passage therein communicating with the passages in the wheel, and means for feeding lubricant through the passages to the bearings at the periphery of the wheel, substantially as described.

4. The combination of a sprocket-wheel having a series of bearings at its periphery for a drive-chain and having a passage leading from the center of the wheel to each of the bearing-surfaces of the periphery, a shaft on which the wheel is mounted, said shaft having a central passage communicating with the passages in the wheel, a grease-cup communicating with the passages, and means for forcing grease from the grease-cup through the passages to the periphery of the wheel, substantially as described.

807,732. **SALVAGE MEANS FOR SUBMARINE BOATS.** EDMUND P. DOUSMERY, Washington, D. C. Filed Mar. 21, 1904. Serial No. 199,264.

Claim.—1. A submarine boat having, in combination, an open pocket or recess in its deck, a float loosely fitted therein and projecting above the deck and subjected to the force of buoyancy when the boat is submerged, means retaining said float in said open pocket and operated from within the boat for releasing said float, and a flexible air-tube connected to said float and the air-receiver of the boat adapted to supply air to the vessel when the float rises to the surface of the water.

2. A submarine boat having, in combination, an open pocket or recess in its deck, a float loosely fitted therein adapted when released to rise by buoyancy, a catch for retaining said float in said pocket, and means operated from within the boat for actuating said catch to release said float, and a lengthy flexible connection between said float and the boat.



3. A submarine boat having, in combination an open-topped cylindrical pocket or recess in its deck, a float loosely fitting therein and projecting above the deck and subjected to the force of buoyancy when the boat is submerged, means retaining said float in said open pocket and operated from within the boat for releasing said float, and a flexible air-tube connected to said float and the air-receiver of the vessel and coiled compactly in the bottom of said pocket under the float, said tube being adapted to uncoil and supply air to the vessel when the float rises to the surface of the water.

4. A submarine boat having, in combination, an open pocket in its deck, a float mounted therein subjected to the force of buoyancy when the boat is submerged, an air-tube connected thereto and to the air-receiver of the vessel, a hoisting-cable associated with said air-tube connecting the float with the keel of the boat, a catch for retaining said float in said open pocket, and means operated from within the vessel for releasing said catch to allow the float to rise to the surface of the water, said float adapted to hold the inlet of the air-tube above the surface of the water.

5. A submarine boat having, in combination, an open-topped pocket or recess in its upper part, a float held therein adapted when released to rise by buoyancy, an air-tube connected thereto and to the air-receiver of the vessel, a hoisting-cable associated with said air-tube connecting the float with the keel of the boat, said tube and cable being normally coiled in the bottom of said pocket under said float, means operated from within the vessel for releasing said float to allow it to rise to the surface of the water, said float when risen adapted to hold the inlet of the air-tube above the surface of the water, an electric signal or signals carried by the float, and electric wires therefor inclosed within said air-tube.

6. A submarine boat having, in combination, a medial conning-tower, open-topped recesses or pockets in the deck at substantially equal distances therefrom, buoyant floats mounted in said open pockets and subject to the force of buoyancy when the boat is submerged, catches for retaining the said floats in said open pockets, means operated from the conning-tower for withdrawing said catches to release the floats, and flexible connections between said floats and the boat normally coiled in the pockets under the floats and of sufficient length to allow the floats to rise to the surface when the vessel is sunken.

7. A submarine boat having, in combination, a medial conning-tower, open-topped recesses or pockets in the deck at opposite sides thereof, buoyant floats held in said open pockets, retaining devices therefor, means for operating said devices from the conning-tower to release the floats, and flexible connections between said floats and the boat normally coiled in the pockets under the floats and of sufficient length to allow the floats to rise to the surface when the vessel is sunken, said connections each comprising a combined air-tube and hoisting-cable, the air-tube being adapted to supply air to the boat when its float rises to the surface.

8. A submarine boat having, in combination, open-topped recesses fore and aft in its deck, buoyant floats therein, air-tubes connected with said floats and with the air-receiver of the vessel, catches retaining said floats in their pockets, and means for operating said catches from within the boat to release the floats.

9. A submarine boat having, in combination, a recess or pocket in its deck, a buoyant float held therein, said float consisting of an air-tight hollow tank with a central tube therethrough and with a shield or covering over the upper end thereof, a flexible connection between the float and boat normally coiled under the float on the bottom of said pocket, said connection comprising an air-tube and hoisting-cable, the former being joined to the central tube of said float, electrical signals carried by the float, wires therefor contained in the air-tube, means for releasing said float from its pocket to allow it to rise to the surface and lengthen out said connections, and a distress-whistle carried by the float.

10. A submarine boat having, in combination, an open pocket or recess in its deck, a float held therein adapted when released to rise by buoyancy, means for releasing the float, a signal carried by said float, and a lengthy flexible air-tube connecting the float and boat, said tube having wires therein adapted to operate said signal, and a hoisting-cable associated therewith.

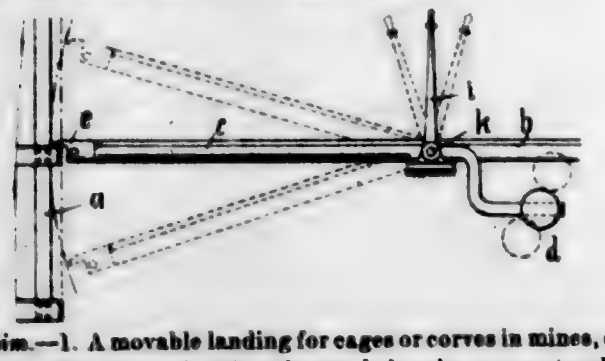
11. A submarine boat having, in combination, two pockets or recesses in its upper part equal distances fore and aft from the center, floats held therein adapted when released to rise by buoyancy, retaining devices therefor, releasing means operated from within the boat, said floats connected to said boat by substantial hoisting-cables having air-tubes associated therewith connecting said floats with the air-receiver of the vessel.

12. In a submarine boat, a float carried by the boat consisting of an air-tight hollow tank having an air-tube extending vertically therethrough and connected to the air-receiver of the boat, the inlet to said air-tube being protected by a conical cap placed over the same, an electric signal carried by the float, and said air-tube having wires associated therewith adapted to operate electric signal.

13. A submarine boat having, in combination, a normally open pocket or recess in its deck, a float loosely fitted therein subjected to the force of buoyancy when the boat is submerged, and a catch for retaining said float in said pocket comprising a bolt engaging a socket in the side of the float, and means operated from within the boat for withdrawing said bolt to release the float and allow it to rise, and a lengthy flexible connection between said float and the boat.

14. A submarine boat having, in combination, a medial conning-tower, normally open pockets or recesses in its deck fore and aft, floats loosely fitted in said pockets and subjected to the force of buoyancy when the boat is submerged, latches retaining said floats in said pockets, and pull-cords connected to said latches and leading to the conning-tower for operating the same to release the floats.

807,733. MOVABLE LANDING FOR THE CAGES OR CORVES IN MINE-SHAFTS. CARL A. EICKELBERG, Werne, near Münster, Germany. Filed Aug. 23, 1905. Serial No. 275,366.



Claim.—1. A movable landing for cages or corves in mines, comprising a landing-frame bearing the track for the corves, trucks or the like, a pivotal axis at one end of said landing-frame, means for supporting said axis, and a counterweight and a lever connected to said frame.

2. A movable landing for cages or corves in mines, comprising a landing-frame, rails on said landing-frame, a pivotal axis at one end of said landing-frame, means for supporting said axis, pivotal pawl-like joint-pieces on the outer or free ends of said rails, and a counterweight and a lever connected to said frame.

3. A movable landing for mine-lifts, comprising a landing, a shaft to which the landing is secured, a counterweight secured to said shaft, and means at the outer end of said platform for engaging the lifts.

4. A movable landing for mine-lifts, comprising a landing, a shaft to which the landing is secured, a counterweight secured to said shaft, means at the outer end of said platform for engaging the lifts, and means whereby the aforesaid means may be turned to permit the free vertical movements of the lifts.

5. A movable landing for mine-lifts comprising a landing, a shaft to which the landing is secured, a counterweight secured to said shaft, and pivotally-mounted end pieces on the outer extremity of said platform adapted to engage the lifts and also to be turned by contact to permit the free descent of the lifts.

807,734. BINDER FOR MUSIC, &c. EDWARD F. FLANAGAN, Washington, D. C. Filed May 4, 1904. Serial No. 206,406.

Claim.—1. A binder for sheet-music and the like comprising a cover, a plurality of binding-stubs bound in said cover, each stub consisting of a strip folded longitudinally to form portions of unequal width, a plurality of fasteners carried by each stub for detachably connecting the music or other matter thereto, and filler or spacing stubs arranged between the binding-stubs.



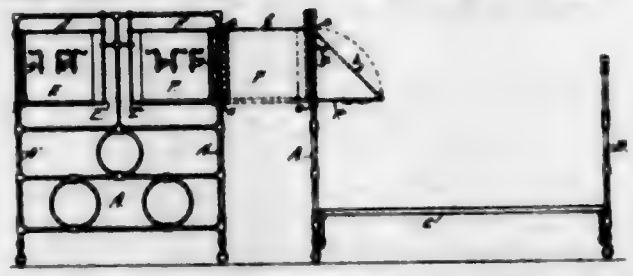
2. A binder-stub for sheet-music and the like comprising a reinforced strip folded longitudinally to provide portions of different widths and notched at the fold for the binding-cord, and a plurality of fasteners carried by the wider portion of the strip for detachably connecting the music or other matter to the stub.

3. A binder for sheet-music and the like comprising a stub formed of a strip folded longitudinally with the portions formed by folding united by pasting or gluing, flexible fasteners inserted in said strip before the uniting of the portions thereof formed by folding and projecting through the fold thereof for detachably connecting the music or other matter to the stub, said strip after folding and pasting being folded longitudinally at the edge opposite to the fasteners, and formed with notches at said fold for binding.

4. A binder for magazines, sheet-music, and the like, comprising a plurality of stubs, each consisting of a reinforced strip folded longitudinally with the portions formed by said fold united by gluing or otherwise, flexible fasteners having prongs or legs inserted in said strip before the uniting of the portions formed by folding and projecting through the fold thereof for detachably connecting the music or other matter to the stub, said stubs being formed with a plurality of notches to receive the binding-cord, fillers or spacing-stubs arranged between the binding-stubs, and a cover in which the binding and filler stubs are bound.

5. A binder for magazines, sheet-music and the like, comprising a cover, a plurality of binding-stubs bound in said cover, each stub consisting of a reinforced strip formed with notches for the binding-cord, a plurality of fasteners carried by each stub for detachably connecting the music or other matter thereto, and fillers or spacing-stubs arranged between the binding-stubs.

807,735. BED. GEORGE F. FLECKENSTEIN and CHARLES S. DOW, Sioux City, Iowa. Filed July 17, 1905. Serial No. 270,046.



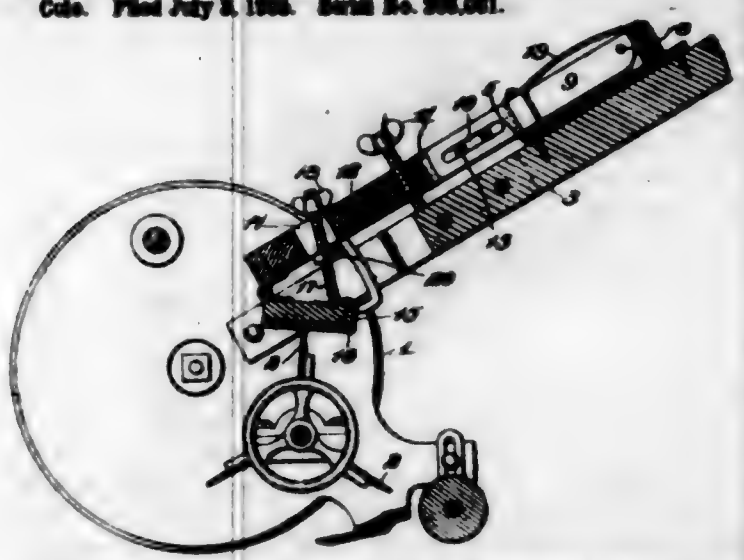
Claim.—The combination with a bed-frame, of frames pivotally secured to the posts of the bed and adapted to swing outwardly from the bed, shelves pivotally secured to the lower edges of said frames, hooks secured to said shelves, springs for securing said shelves in an upright position and chains secured to the pivoted frames of the bed and the shelves and adapted to hold the latter in a horizontal position, substantially as described.

807,736. GOLF-CLUB. JAMES FOULIS and DAVID FOULIS, Wheaton, Ill. Filed June 24, 1904. Serial No. 214,081.



Claim.—As a new article of manufacture, a golf-club provided with a metal head substantially triangular in cross-section having a concaved face, an upper edge curved upward from each end toward the center, and a lower edge substantially straight from the center of the bottom to its point of connection with the stem or socket portion and forming an abrupt angle at this point of connection.

807,737. LAWN-MOWER. FRANK H. FRANKENBERG, Dublin, Colo. Filed July 3, 1905. Serial No. 268,081.



Claim.—1. A sharpening attachment for mowers comprising a longitudinally-adjustable pivoted arm, a sharpening member hinged to said arm, means for locking said member to any desired angle to the arm and adjustable supporting means extending from the arm.

2. A sharpening attachment for mowers comprising a base, a longitudinally-adjustable arm pivoted thereto, a sharpening member hinged to the arm, means for securing said member at any desired angle to the arm and adjustable supporting means extending from the arm.

3. A sharpening attachment for mowers comprising a base, a longitudinally-adjustable arm pivoted therein, a sharpening member hinged to the arm, adjustable means for locking said member at any desired angle to the arm, and resilient means secured to the arm and bearing upon the base for holding said arm in a predetermined position.

4. The combination with a mower having rotary blades; of a sharpening attachment secured to a portion of the mower and comprising a pivoted arm, a sharpening member hinged to the arm and adapted to rest in the path of the blades, and adjustable means upon the arm and contacting with the mower for normally supporting the sharpening member in desired relation to the blades.

5. The combination with a mower having rotary blades; of a sharpening attachment secured to the mower and comprising a pivoted arm, means for securing said member at a desired angle to the arm, and an adjusting device extending through the arm and into contact with the mower.

6. The combination with a mower having rotary blades and a handle; of a grinding attachment comprising an arm pivoted to the handle, a grinding member hinged to the arm and adapted to rest by gravity in the path of the blades, and an adjusting device extending through the arm into contact with the handle.

7. The combination with a mower having rotatable blades and a handle; of a longitudinally-adjustable arm pivoted upon the handle, an adjusting device extending therethrough into contact with the handle, a sharpening member hinged to the arm and adapted to assume by gravity a position in the path of the blades, and means for locking said member at a desired angle to the arm.

807,738. MACHINE FOR INSERTING COUPLINGS AND NIPPLES INTO HOSE. DAVID K. FULLERTON, ADOLPH OUDDART, and ERICK ERICKSON, Brainerd, Minn. Filed June 29, 1905. Serial No. 267,530.

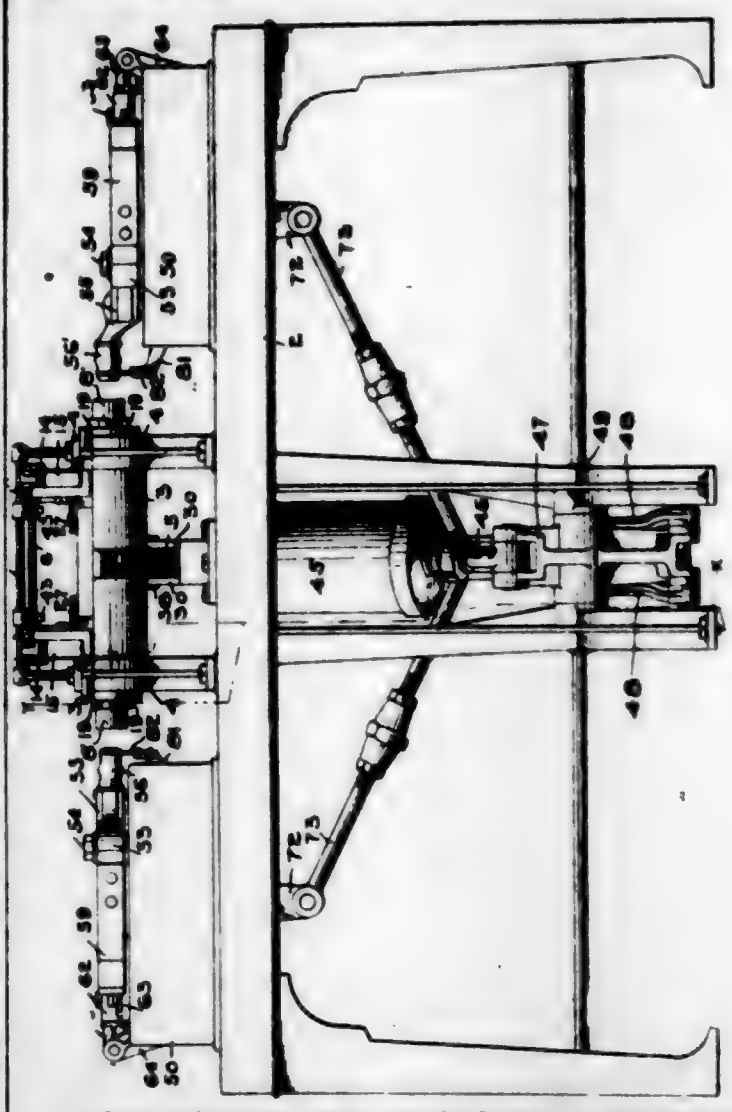
Claim.—1. The combination, with means for clamping and rotating a section of hose, of means for simultaneously inserting a nipple and coupling into the ends of said hose during its rotary movement.

2. The combination, with means for clamping a hose and imparting a rotary movement thereto, of means for inserting a nipple into the end of said hose during such movement.

3. The combination, with a cylinder, of means for clamping a section of hose therein, means for imparting a rotary movement to said cylinder, and means for simultaneously inserting a coupling and nipple into the ends of said hose during its rotary movement.

4. The combination, with a cylinder adapted to receive a section of hose and provided with clamping-jaws, of means for locking said jaws in engagement with said hose, means for imparting a rotary movement to said cylinder and hose, means for inserting a nipple into the end of said hose during its rotary movement, substantially as described.

5. The combination, with a cylinder adapted to receive a section of rubber hose, of jaws mounted in said cylinder, said jaws being provided with spring-pressed extensions to inclose the end of the hose and allow the same to be expanded.



6. The combination, with a cylinder having a socket to receive a section of hose, of a removable yoke provided with jaws adapted to fit into said socket and clamp said hose therein, pivoted arms arranged to engage said yoke and lock said jaws in their clamped position, and means for inserting a nipple and coupling into the ends of said hose, substantially as described.

7. The combination, with a cylinder provided with a gear and adapted to receive a section of hose, of clamping-jaws, arms arranged to lock the same in engagement with said hose, vertically-movable bars, mechanism operated by the initial upward movement of said bars for operating said arms to lock said jaws, a vertically-movable rack-bar arranged to engage said gear and actuated by the final movement of said bars for imparting a partial rotary movement to said cylinder, and mechanism for inserting a nipple and coupling into the ends of the hose during such movement, substantially as described.

8. The combination, with a cylinder provided with a gear and adapted to receive a section of hose, of clamping-jaws, arms arranged to lock said jaws in engagement with said hose, reciprocating bars, mechanism arranged to actuate said arms and lock said jaws during the final movement of said bars, a rack-bar arranged to be operated during the final movement of said bars to engage said gear and impart a partial rotary movement to said cylinder, means for inserting a nipple into the end of said hose during its rotary movement, and mechanism for unlocking said arms and releasing said jaws during the return movement of said cylinder, substantially as described.

9. The combination, with a cylinder adapted to receive a section of hose, of jaws arranged to clamp the hose in said cylinder, mechanism for locking said jaws in their clamping position, reciprocating bars arranged to actuate said locking mechanism, a fluid-pressure cylinder having its piston connected with said bars, and means for inserting a nipple and coupling into the ends of said hose, substantially as described.

10. The combination, with means for clamping and rotating a section of hose, of reciprocating carriages provided at each end of said clamping means, jaws mounted on said carriages and adapted to clamp a coupling and a nipple, and mechanism for moving said carriages toward said hose-clamping means to insert said coupling

and nipple into the ends of the hose during its rotary movement, substantially as described.

11. The combination, with means for supporting and clamping a section of hose, of reciprocating carriages, jaws mounted thereon and adapted to clamp a coupling and a nipple, a toggle mechanism for locking said jaws in their clamped position, means for moving said carriages toward said hose-clamping means and inserting the coupling and nipple into the ends of said hose, and means for releasing said toggle mechanism to unlock said coupling and nipple-clamping jaws during the final movement of said carriages.

12. The combination, with means for clamping and rotating a section of rubber hose, of reciprocating carriages provided at each end of said clamping means, jaws mounted on said carriages, means actuated by the operation of said hose-clamping means for operating said jaws, and mechanism operated by said hose-rotating means for moving said carriages toward each other to insert the coupling and nipple into the ends of the hose, substantially as described.

13. The combination, with a cylinder, of means for clamping a section of hose therein, means for imparting a rotary movement to said cylinder and means for inserting a coupling into the end of said hose during its rotary movement.

14. The combination, with jaws having yielding extensions adapted to inclose the end of a hose and allow same to be expanded, and means for inserting a coupling into said end, substantially as described.

15. The combination, with means for clamping a section of flexible hose and imparting a rotary movement thereto, of yielding extensions provided on said clamping means, and means for inserting a coupling into the end of the hose inclosed by said extensions, substantially as described.

16. The combination, with a cylinder provided with a gear and adapted to receive a section of hose, of means for locking the hose in said cylinder, a rack-bar arranged to engage said gear and impart a rotary movement to said cylinder, and mechanism for inserting a coupling into the end of the hose during said movement, substantially as described.

17. The combination, with a cylinder provided with a gear and adapted to receive a section of hose, of means for locking the hose in said cylinder, a rack-bar arranged to engage said gear and impart a rotary movement to said cylinder, mechanism for inserting a coupling into the end of the hose during the rotary movement of said cylinder, and means for unlocking or releasing the hose during its return movement, substantially as described.

18. The combination, with a cylinder having a socket to receive a section of hose, of a removable yoke having means to enter said socket and clamp the hose therein, means for imparting a partial rotary movement to said cylinder, and means for inserting a coupling into the end of said hose during such rotary movement, substantially as described.

19. The combination, with a support adapted to receive a section of hose and provided with a gear, of a hose-clamping means, movable bars, mechanism operated by the initial movement of said bars to actuate said clamping means and lock said hose, a rack-bar actuated by the final movement of said first-named bars to engage said gear and impart a partial rotary movement to said support, and mechanism for inserting a coupling into the end of the hose during such movement, substantially as described.

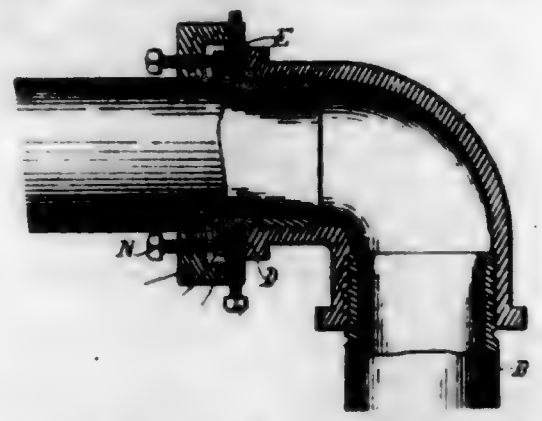
20. The combination, with jaws arranged to clamp a section of hose, of mechanism for locking said jaws in their clamping position, means for actuating said locking mechanism, an air-cylinder connected with said actuating means, means operated by the final movement of said actuating means for imparting a partial rotary movement to said jaws, and means for inserting a coupling into the end of the hose during such movement, substantially as described.

21. The combination, with means for clamping and rotating a section of hose, of a reciprocating carriage, a coupling-clamping means mounted on said carriage, and mechanism for moving said carriage toward said hose-clamping means to insert said coupling into the end of the hose, substantially as described.

22. The combination, with a hose-support and a coupling-support, of means for rotating one of said supports, and means for moving one of said supports toward the other one to insert the coupling into the hose and a fluid-pressure-actuated mechanism for operating said supports successively, substantially as described.

23. The combination, with a hose-support, and nipple and coupling supports provided upon opposite sides thereof, of means for rotating said hose-support, and means for moving said nipple and coupling supports toward said hose-support to insert the nipple and coupling into the ends of the hose, substantially as described.

807,739. **LEAK-STOPPING GLAND.** JACOB P. HANSON, New York, N. Y. Filed Aug. 17, 1905. Serial No. 274,531.



Claim.—1. In a leak-stopping gland, the combination with a divided pipe-clamping ring-frame, of the spring-ring members E and F, a divided flat ring, and screws borne by said ring-frame whereby said spring-ring members and flat ring are pressed upon, substantially as described.

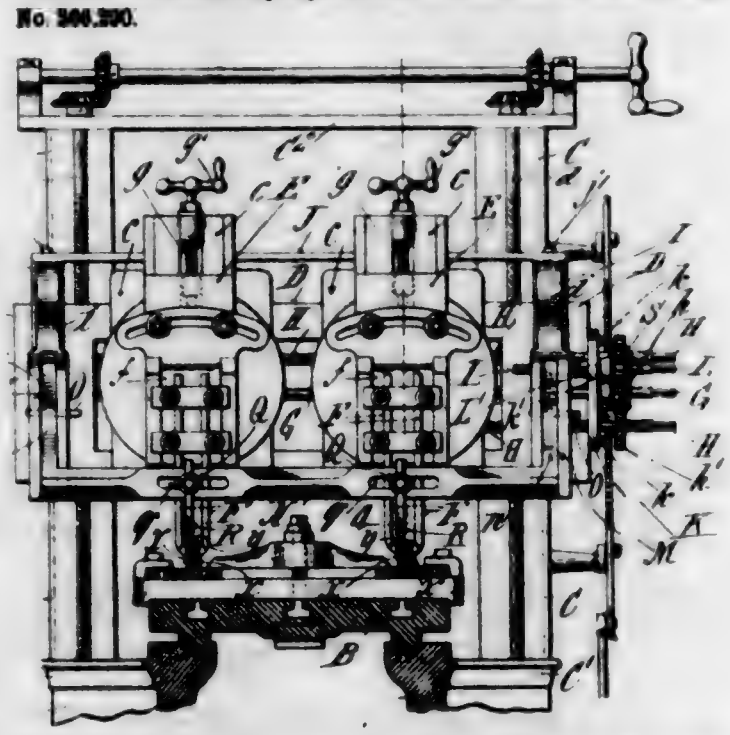
2. In a leak-stopping gland, the combination with a divided pipe-clamping ring-frame, of spring-ring members, and means for removably connecting the ring-frame divisions and spring-ring members, substantially as described.

3. In a leak-stopping gland, the combination with a divided pipe-clamping ring-frame, of spring-ring members, the said ring-frame being provided with slots R, and the spring-ring members having the turn-keys O adapted to be passed through said slots whereby the divisions of the ring-frame and said spring-ring members are separably connected, substantially as described.

4. In a leak-stopping gland, the combination with pipe-clamping-frame divisions, of a substitute complementary clamping member constructed and arranged substantially as described.

5. In a leak-stopping gland, the combination with pipe-clamping ring-frame divisions, of a divided spring-ring and a divided flat ring coextensive with the ring-frame divisions, and screws borne by said divisions arranged to press upon the said spring-ring and flat ring, substantially as described.

807,740. **METAL-PLANING MACHINE.** LEON J. HARLEY and CORNELIUS O. HARLEY, Springfield, Mass. Filed June 21, 1905. Serial No. 266,220.



Claim.—1. In a metal-planing machine, the combination with the carriage and the stationary elevated cross-bar D, of a vertically-feeding tool-carrier supported intermediately on said cross-bar and a structure comprising side frames or brackets slidably engaged with the end portions of said cross-bar, the transversely-arranged tool-carrying bar or head N having at the ends thereof the angular members n n pivotally engaged with said bracket-frames, of a mechanism in common to, and having motion-imparting connection with, both the vertically-feeding tool-carrier and said horizontally-slidable structure.

2. In a metal-planing machine, in combination, the carriage

and the cross-bar D normally stationary and vertically adjustable, a saddle or slide *c* movable horizontally on said cross-bar, a tool-carrying head vertically slidable on said saddle, and a vertical feed-screw in engagement therewith, the side bracket-frames I I slidable on the end portions of said cross-bar and having the members a a pivotally jointed thereto and carrying the uniting tool-carrying head-bar N, the horizontally-arranged shaft G having the gear-wheel A affixed thereon, shaft and bevel-gear connections between said horizontal shaft and the vertical feed-screw shaft, a horizontally-arranged screw-shaft L, in feeding engagement with one of said side bracket-frames, the gear-wheel S affixed on said feed-shaft L, and in mesh with the said gear-wheel A and means for imparting rotary movements to said intermeshing gears.

3. In a metal-planing machine, in combination, the carriage and the elevated cross-bar D normally stationary and vertically adjustable, and means for vertically adjusting it, a plurality of saddles or slides *c* movable horizontally on said cross-bar, and adjusting screw-shafts H H therefor, tool-carrying heads vertically slidable on each of said saddles, and screw-shafts *g* in engagement therewith, vertically arranged and for imparting a vertical feed movement to said tool-carrying heads, the side bracket-frames I I slidable on the end portions of said cross-bar having the transverse uniting-bar J, and having the members a a pivotally jointed thereto and carrying the horizontal and transversely uniting tool-carrying head-bar N, the spline-shaft G having the gear-wheel A affixed on the outer end thereof and shaft and bevel-gear between, and spline engaged with said shaft G and each vertical feed-screw shaft *g*, a horizontally-arranged feed-screw shaft L, in feeding engagement with one of said side bracket-frames I, the gear-wheel S affixed on said feed-shaft L, and in mesh with the said gear-wheel A, and means for imparting rotary movements to said intermeshing gear-wheels A and S.

807,741. **SAFETY-POCKET.** ROBERT D. HAY and JOHN F. REBER, Washington, D. C. Filed June 20, 1905. Serial No. 266,178.



Claim.—1. In combination, a garment, a safety-pocket applied thereto and having a tab on its free side at the mouth thereof, and an elastic strip at the mouth of the pocket overlapping the tab and normally exerting a positive pressure to confine the same against the inner wall of said pocket.

2. In combination, a garment, a safety-pocket applied thereto and provided on its free side with a tab adjacent the mouth thereof, and an elastic strip stitched at its ends and at its upper longitudinal edge to the garment above the mouth of the pocket and arranged to overlap the tab and normally exert a positive pressure to confine the same against the inner wall of said pocket.

3. In combination, a garment, a safety-pocket applied thereto and having a tab on its free side at the mouth thereof, said tab being unconfined at its ends whereby it is freely movable outwardly from the pocket to admit of free access thereto, and an elastic strip applied to the garment above the mouth of the pocket and overlapping the tab to normally exert a positive pressure thereagainst and confine the same to the inner wall of said pocket.

4. A safety-pocket provided with a tab at the open end thereof, a strip at the mouth of the pocket beneath which the tab may be disposed, and means applied adjacent the mouth of the pocket and normally tending to throw the tab outwardly from the strip.

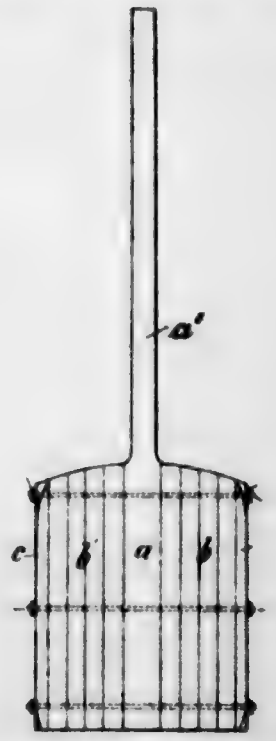
5. A safety-pocket provided with a tab at the open end thereof, a strip at the mouth of the pocket beneath which the tab may be disposed, and a flexible member applied adjacent the mouth of the pocket and normally tending to throw the tab outwardly from the strip aforesaid.

6. A safety-pocket provided with a tab at the open end thereof, a strip at the mouth of the pocket beneath which the tab may be disposed, and a flexible stiffener member beneath the strip and normally tending to throw the tab outwardly therefrom.

7. A safety-pocket having a transverse elastic strip at the mouth thereof, a stiffener-frame applied to the pocket and connected with said elastic strip, and a tab applied to the pocket at the mouth thereof and adapted to be arranged beneath the elastic strip aforesaid, an element of the stiffener-frame aforesaid normally tending to force the tab outwardly from the elastic strip.

8. A safety-pocket having a transverse strip at the mouth thereof adapted to form a closure therefor, a tab at the mouth of the pocket adapted to be inserted beneath the strip aforesaid, and a normally curved flexible stiffener member beneath the strip and tending to force the tab outwardly.

807,742. **WOODEN SPADE.** HERMANN F. E. HOFMANN, Schloss Faculsberg, near Gratz, Austria-Hungary. Filed Aug. 1, 1905. Serial No. 272,313.



Claim.—1. A spade comprising a plurality of stripe held together by means of a rod passed transversely through them.

2. A spade comprising a plurality of longitudinally-bent strips held together by means of a rod passed transversely through them.

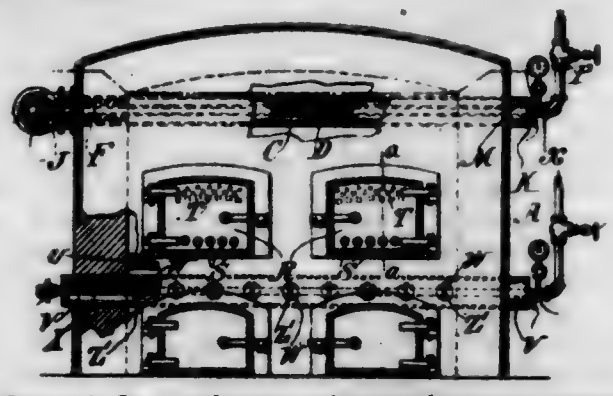
3. A spade comprising a shaft, a plurality of strips on each side thereof and tie-rods passed transversely through the strips and shaft, and binding means on the rods.

4. A spade comprising a central shaft, a plurality of longitudinally-bent strips, and a straight strip on each side of said shaft and tie-rods passing transversely through the strips, and means for clamping the rods to the strips.

5. A spade comprising a central shaft, a plurality of shorter longitudinally-bent strips and one straight strip on each side of the central shaft, said straight strips having a flange formed on the outer edges, and tie-rods running transversely through the strips and shaft, and means for clamping the ends of the rods to the straight strips.

6. An improved wooden spade composed of a number of separate laths or staves the middle stave carrying the shaft, and of two edge strips, the said staves and strips being shaped to form the blade and held together by means of anchor-wires, substantially as and for the purpose set forth.

807,743. **SMOKE-CONSUMING ATTACHMENT TO FURNACES.** SAMUEL P. HUTCHINSON, Philadelphia, Pa. Filed Aug. 26, 1904. Serial No. 222,213.



Claim.—1. In a smoke-consuming attachment to a furnace, an air-receiving pipe located within the combustion-chamber of the furnace near the bottom thereof, a steam-receiving pipe located within said air-receiving pipe, an air-distributing pipe connected with said air-receiving pipe, an auxiliary steam-pipe connected with said

steam-receiving pipe, a nipple extending from the side of said auxiliary steam-pipe and a mixing-chamber extending from the side of said air-distributing pipe and bridging the space between the same and the wall of the furnace, said nipple projecting into said chamber and the latter being adapted to lead into said combustion-chamber, said air-distributing pipe being on the exterior of the furnace.

2. In a smoke-consuming attachment to a furnace, an air-distributing pipe, a steam-distributing pipe within said air-distributing pipe, a nipple extending from the side of said steam-pipe, and a mixing-chamber extending from the side of said air-distributing pipe, said nipple entering said chamber forming an injector and said chamber being adapted to lead into the combustion-chamber of said furnace, said air-distributing pipe with its appurtenances being on the exterior of said furnace, in combination with an air-receiving pipe and a steam-receiving pipe therein, said pipes being located wholly within and near the bottom of the combustion-chamber of the furnace and being connected with said air-distributing and steam-distributing pipes respectively.

3. In a smoke-consuming attachment to a furnace, an air-distributing pipe, a steam-distributing pipe disposed eccentrically within said air-distributing pipe, a nipple extending from the side of said steam-pipe, and a mixing-chamber extending from the side of said air-distributing pipe, said nipple entering said chamber forming an injector and said chamber being adapted to lead into the combustion-chamber of said furnace, said air-distributing pipe with its appurtenances being removably supported on the exterior of the furnace, in combination with an air-receiving pipe within the furnace and a steam-receiving pipe within said air-receiving pipe, said pipes being connected respectively with said exterior air and steam distributing pipes.

4. In a smoke-consuming attachment to a furnace, an air-distributing pipe arranged exteriorly of the furnace, a steam-distributing pipe disposed eccentrically within said air-distributing pipe, a nipple extending from the side of said steam-pipe, a mixing-chamber outside of the furnace extending from the side of said air-distributing pipe, said nipple entering said chamber forming an injector and said chamber being adapted to lead into the combustion-chamber of said furnace, said air-distributing pipe with its appurtenances being removably supported on the exterior of the furnace, in combination with an air-intake pipe located within the furnace as a heater for the air, and a steam-pipe within said air-intake pipe, said steam-pipe and air-intake pipe being connected respectively with said air and steam distributing pipes.

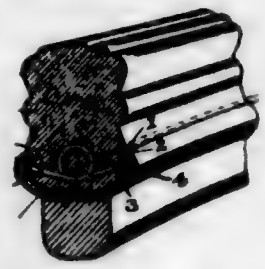
5. In a smoke-consuming attachment to a furnace, an air-intake pipe, a steam-receiving pipe, in said air-intake pipe, a plate closing the inlet end of said air-intake pipe, a port in said plate, a segmental damper mounted on said plate and provided with an opening adapted to be placed into and out of register with said port, said steam-receiving pipe being passed eccentrically through said plate, combined with an exterior air-receiving pipe connected with said air-intake pipe, and a steam-receiving pipe eccentrically disposed within said air-receiving pipe and connected with the combustion-chamber.

6. In a smoke-consuming attachment to a furnace, an exterior air-intake pipe, a steam-receiving pipe eccentrically disposed therein, a nozzle extending from said air-intake pipe into the furnace above the grate thereof, a nozzle extending from the steam-receiving pipe through the nozzle of the air-intake pipe, in combination with an air-intake pipe, a steam-receiving pipe eccentrically disposed therein and a nozzle extending from the air-intake pipe, a nozzle extending from said steam-receiving pipe through the nozzle of the air-intake pipe into the furnace below the grate, said air-intake pipe being within the furnace.

7. In a smoke-consuming attachment to a furnace, an air-intake pipe, a steam-receiving pipe eccentrically disposed therein, a nozzle extending from said air-intake pipe into the furnace above the grate thereof, and a nozzle extending from said steam-receiving pipe through the nozzle of the air-intake pipe, in combination with an air-intake pipe, a steam-receiving pipe eccentrically disposed therein and a nozzle extending from the air-intake pipe, a nozzle extending from said steam-receiving pipe through the nozzle of the air-intake pipe into the furnace below the grate, said air-intake pipe being within the furnace, and an air-distributing pipe on the exterior of the furnace, a steam-distributing pipe within said air-distributing pipe, a nipple extending from the side of said steam-pipe and a mixing-chamber extending from the side of said air-distributing pipe, said nipple entering said chamber and said chamber being adapted to lead into the combustion-chamber of the furnace, said exterior air-distributing pipe and its contained steam-distributing pipe being connected respectively with the air-receiving pipes which are located within the combustion-chamber of the furnace.

8. In a smoke-consuming attachment to a furnace, an air-intake pipe, a steam-receiving pipe extended through the first-named pipe to heat the air, means for discharging the air and steam from said pipes into the furnace above the grate thereof, in combination with an air-intake pipe, a steam-receiving pipe extended through the first-named pipe to heat the air, and means for discharging the air and steam from said pipes into the furnace below the grate thereof, said air-intake pipes being respectively within the combustion-chamber of the furnace.

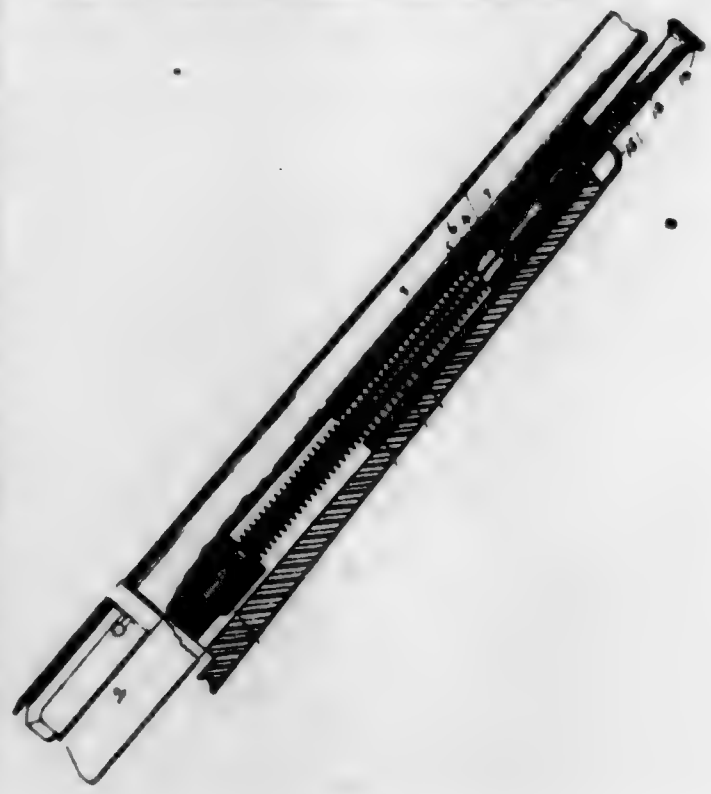
807,744. **VEHICLE-TIRE.** CHARLES A. IHMLER, Akron, Ohio. Filed Jan. 26, 1905. Serial No. 243,790.



Claim.—1. The combination with a clencher-rim having inturned flanges forming channels, of a solid-rubber tire to fit said channel, having a longitudinal convex or oval bead at the center of the side of said tire Fig. 2, having at intervals loop-springs containing one or more convolutions at their center Fig. 5, and embedded transversely across said tire and near the base of said tire with their ends extending outward and slightly upward to the outer edge of the said tire and contained within the inturned flanges of the clencher-rim, with key C Fig. 4, made with a washer at end to be inserted in the base of said tire, said key to have a hole or opening through its end near the washer for the purpose of permitting the ends of the longitudinal wire to pass through, said key to have a square end to pass through an opening in the clencher-rim and felly and to be held in place by the felly-plate G Fig. 3, which has a square opening in its center and which plate is made to fit over the felly all as substantially shown and described.

2. The combination with a clencher-channel of a solid-rubber tire with oval longitudinal stiffening-beads at the center of the sides of the said tire, wires with one or more convolutions at their center embedded in said tire, a longitudinal wire passing through said wire loops embedded near the base of the said tire having its ends lapping each other for a short indefinite length, a key and felly-plate to tighten and to hold the said tire firmly in the said clencher-rim, thus securing a direct and straight pull on said longitudinal wire and a binding effect both at the center and the ends of the said transverse wires substantially as shown and described.

807,745. **FIREARM.** THOMAS C. JOHNSON, New Haven, Conn., assignor to Winchester Repeating Arms Co., New Haven, Conn., a Corporation. Filed Nov. 13, 1903. Serial No. 181,033.



Claim.—1. In an automatic firearm, the combination with a non-recoiling barrel, of a balanced breech-block having a forwardly-projecting extension formed with a spring-chamber and with a brake-chamber, a forwardly-projecting stationary rod extending into the said spring and brake-chambers, a breech-block-closing spring located in the said spring-chamber and encircling the said rod, and a friction-brake applied to the said rod and located in the said brake-chamber the walls of which engage with it and cause it to coact with the rod in retarding the opening movement of the breech-block at the time of recoil.

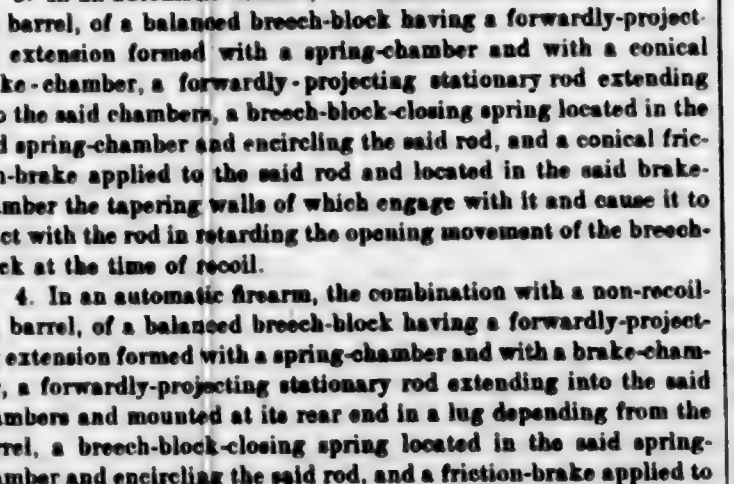
2. In an automatic firearm, the combination with a non-recoiling barrel, of a balanced breech-block having a forwardly-projecting extension formed with a spring-chamber and with a brake-chamber located at the forward end of the said spring-chamber, a forwardly-projecting stationary rod extending into the said chambers, a breech-block-closing spring located in the said spring-chamber and encircling the said rod, and a friction-brake applied to the said rod and located in the said brake-chamber the walls of which engage with it and cause it to coact with the rod in retarding the opening movement of the breech-block at the time of recoil.

3. In an automatic firearm, the combination with a non-recoiling barrel, of a balanced breech-block having a forwardly-projecting extension formed with a spring-chamber and with a conical brake-chamber, a forwardly-projecting stationary rod extending into the said chambers, a breech-block-closing spring located in the said spring-chamber and encircling the said rod, and a conical friction-brake applied to the said rod and located in the said brake-chamber the tapering walls of which engage with it and cause it to coact with the rod in retarding the opening movement of the breech-block at the time of recoil.

4. In an automatic firearm, the combination with a non-recoiling barrel, of a balanced breech-block having a forwardly-projecting extension formed with a spring-chamber and with a brake-chamber, a forwardly-projecting stationary rod extending into the said chambers and mounted at its rear end in a lug depending from the barrel, a breech-block-closing spring located in the said spring-chamber and encircling the said rod, and a friction-brake applied to the said rod and located in the said brake-chamber the walls of which engage with it and cause it to coact with the said rod in retarding the opening movement of the breech-block at the time of recoil.

5. In an automatic firearm, the combination with a non-recoiling barrel having a depending recoil-taking lug, of a balanced breech-block having a forward extension, a stationary rod mounted in the said lug and extending forward into the said extension, a breech-block-closing spring located in the said extension and encircling the said rod, and a friction-brake mounted upon the said rod and operated by the said breech-block to retard the opening movement of the breech-block and thus reduce the shock of recoil.

807,746. **POINTER ATTACHMENT FOR TYPE-WRITERS.** CHARLES B. KELLEY, Oklahoma, Okla., assignor of one-half to A. J. Johnson and Wm. Rand, Oklahoma, Okla. Filed Mar. 3, 1905. Serial No. 248,326.

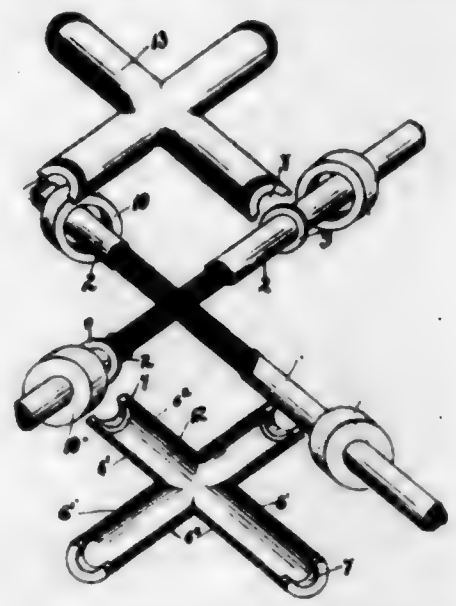


Claim.—1. In a type-writer, and in combination therewith, a pointer attachment, comprising a base-plate, having parallel legs, with slotted feet, head projections, adjusting-screws, a cross-bar and rocker-shaft, and a curved guide-tube, a guide-rod having a cross-head, a curved pointer-finger, and a spiral spring connecting the guide-tube and cross-head, substantially as described.

2. In a pointer attachment for type-writers, the combination with the pointer-finger of a curved guide-tube and guide-rod and means for operating the same, substantially as described.

3. In a pointer attachment for type-writers the combination with the base-plate having parallel legs with slotted feet, and a rocker-shaft with adjusting-screws, of a curved tube, a curved rod moving therein and a curved pointer-finger, substantially as described.

807,747. **INSULATING-CASING FOR WIRE CONNECTIONS.** LOUIS A. KLING, Elizabeth, N. J. Filed May 27, 1904. Serial No. 210,065.



Claim.—1. An insulating-casing for wire connections comprising semicircular halves formed with rabbet-joints and with externally-screw-threaded extremities, screw-threaded caps, adjustable upon the extremities of the halves and gaskets fitting within the caps and seating against the extremities of the halves.

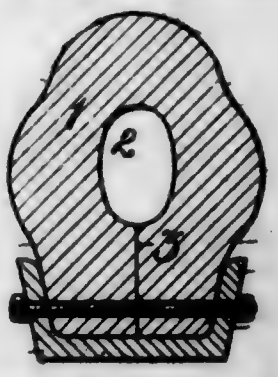
2. An insulating-casing for wire connections comprising semicircular halves formed with rabbet-joints, with externally-screw-threaded extremities, and with collars within the extremities, screw-threaded caps, adjustable upon the extremities of the halves and gaskets fitting within the caps and seating against the extremities and collars of the halves.

3. An insulating-casing for wire connections comprising semicircular halves formed with semicircular branches, with rabbet-joints and with externally-screw-threaded extremities, screw-threaded-caps, adjustable upon the extremities of the halves and gaskets fitting within the caps and seating against the extremities of the halves.

4. An insulating-casing for wire connections comprising semicircular halves formed with semicircular branches, with rabbet-joints, with externally-screw-threaded extremities, and with collars within the extremities, screw-threaded caps, adjustable upon the extremities of the halves and gaskets fitting within the caps and seating against the extremities and collars of the halves.

5. An insulating-casing for wire connections comprising a connecting conductor-sleeve, binding-screws passing through the sleeve, semicircular halves formed with rabbet-joints and with externally-screw-threaded extremities, and with a recessed top upon one of the halves to receive the projecting parts of the screws, screw-threaded caps, adjustable upon the extremities of the halves, and gaskets fitting within the caps and seating against the extremities of the halves.

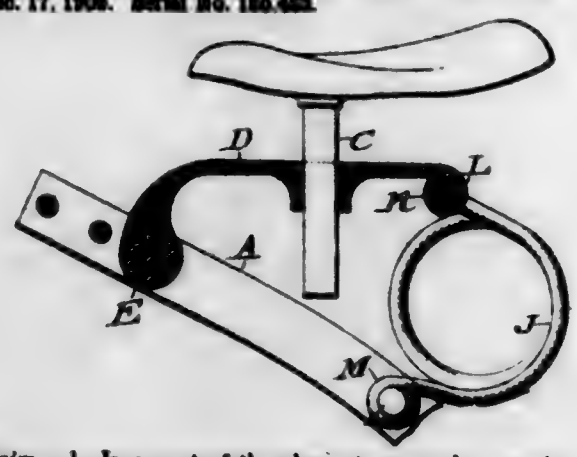
807,748. **ELASTIC VEHICLE-TIRE.** GODFREY KNADLER, Akron, Ohio. Filed July 31, 1905. Serial No. 272,069.



Claim.—An improved tire for a vehicle-wheel consisting of an endless body of elastic material, provided throughout with an approximately centrally-disposed annular opening elliptical in cross-

section, the major axis of which is radial with the wheel on which the tire is mounted, and further provided with a cut extending from said opening to the base portion of the tire circumferentially throughout the entire tire-body, the base portion of said tire being so formed as to fill and be compressed by the rim in which said tire is mounted whereby the edges of the base portion along said cut are maintained in constant contact excepting under the influence of excessive pressure applied to said tire, said tire-body being further provided with a convex tread and side portions united by concave lines and concave portions extending from the lateral convex portions to the base portion of the tire.

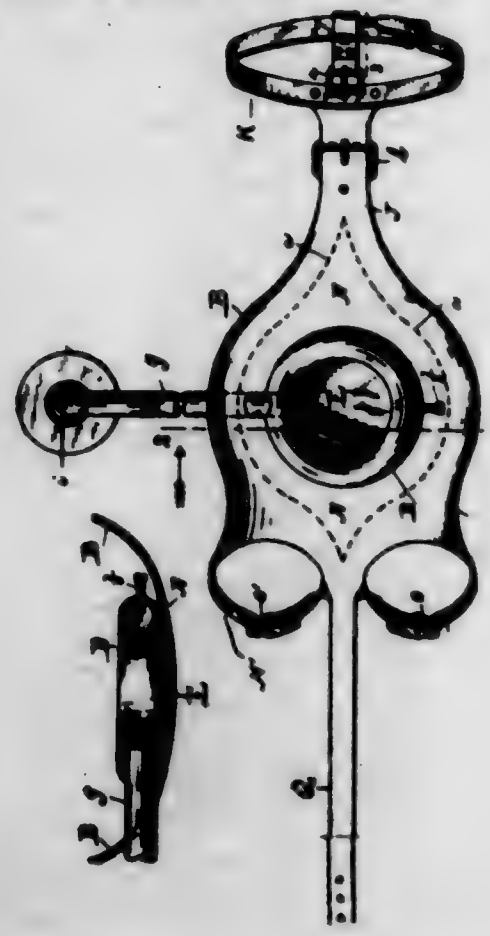
807,749. SEAT FOR VELOCIPEDES, &c. RICHARD G. LEDIS, Philadelphia, Pa., assignor to August Mecky, Philadelphia, Pa. Filed Dec. 17, 1903. Serial No. 185,462.



Claim.—1. In a seat of the character stated, a reach, a spring adapted to be connected with said reach and provided with a cross-bar, a radial arm formed of a single bar having means for pivotal connection with said reach, means for vertically adjusting a saddle thereon and a sleeve formed of the material of said arm bent on itself and embracing said cross-bar.

2. In a seat of the character stated, a reach, a saddle having a depending post and a radial arm and a spring, the latter being provided with a cross-bar and adapted to be connected with said reach, said arm being pivotally mounted at one end on said reach and supported on the other end on said spring, said bar having a vertical opening through which said depending post is adjustably passed, a horizontal opening, a screw in the latter-named opening adapted to engage said post and a horizontally-arranged sleeve at the other end of the arm formed of the material of the same bent on itself and embracing said cross-bar.

807,750. BED-PROTECTOR. MARIE B. LE LANDE, San Francisco, Cal. Filed May 27, 1904. Serial No. 210,110.



Claim.—1. A bed-protector comprising a body portion contracted at one end, a strip formed at the opposite end, a waist-strap secured to the contracted portion of the body a loop carried by the waist-strap to which the strip of the body is adapted to be secured, hip-straps arranged on each side of the strip and a receptacle having an outlet carried by the body.

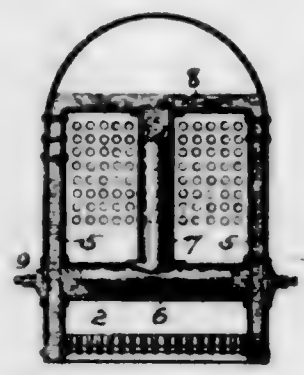
2. A bed-protector comprising a body a receptacle carried by the body, said body having an aperture to one side of the receptacle and a discharge-pipe communicating with the receptacle and passing through the aperture of the body.

807,751. DUST-GUARD FOR VEHICLES. JOSEPH B. LEVERKOUT and GUY A. REED, Tody, Neb. Filed Sept. 17, 1904. Renewed June 8, 1905. Serial No. 264,522.



Claim.—In a dust-guard for vehicles, the combination of a split casing made of flexible material and open at one end, semicircular end pieces of resilient material closing the other end of the casing and having their straight edges notched or recessed to receive an axle, end plates of substantially the same form as the end pieces, flanges projected from the end plates and overlapping the adjacent end of the casing, fastenings securing the flanges to the casing, and other fastenings securing the end pieces to the plates, a loop carried by the flange of one of the end plates, and a pivoted catch carried by the other end plate and adapted to be passed through the loop aforesaid to secure the casing in position.

807,752. CIRCULATING DEVICE FOR WATER FIRE-BOXES. SAMUEL B. LINSLEY, Winthrop, Minn. Filed Feb. 4, 1905. Serial No. 244,110.



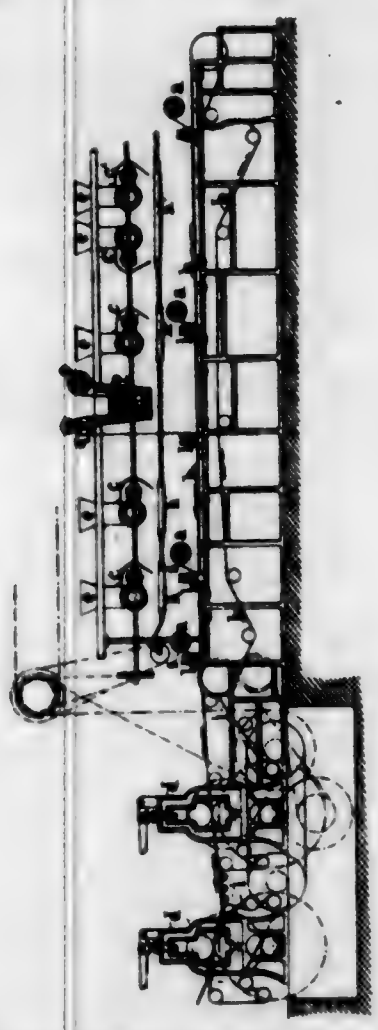
Claim.—1. The combination with a boiler, a fire-box inclosed by the water-space in the boiler and boiler-tubes in said water-space and communicating with the fire-box, of a horizontal pipe extending across the fire-box in proximity to the grate and communicating at both ends with the water-space of the boiler, and an upright pipe within the fire-box communicating with the water-space of the boiler in a plane higher than the communication of the horizontal pipe therewith, said upright pipe communicating at its lower end with the horizontal pipe within the fire-box.

2. The combination with a boiler, a fire-box therein, and boiler-tubes communicating with the fire-box, of a horizontal pipe extending across the fire-box between the boiler-tubes and the grate and communicating at its ends with the boiler and a vertical pipe communicating at its lower end with the horizontal pipe and at its upper end with the boiler over the crown-sheet.

807,753. METHOD AND APPARATUS FOR THE MANUFACTURE OF CARD OR PULP BOARD. HOWARD D. LOMIA, Owhemmo, Fremen. Filed Feb. 20, 1905. Serial No. 246,283.

Claim.—1. In an apparatus for the manufacture of pulp-board in continuous sheets, the combination of an endless belt having the whole part of its working face substantially flat and supports arranged at intervals for supporting a plurality of rolled webs of pulp transversely over the said flat part of the belt, said webs being suffi-

ciently dry to be unrolled onto said belt; and hoppers arranged between said rolls of pulp, each of said hoppers being adapted to hold an adhesive material and gradually drop the same onto the web that passes under it.



2. In an apparatus for the manufacture of pulp-board in continuous sheets, the combination of an endless belt having the whole part of its working face substantially flat and supports arranged at intervals for yieldingly holding a plurality of pressure-rolls over the said flat part of the belt, and other supports for supporting the same number of rolled webs of pulp, said webs being sufficiently dry to be unrolled onto the said belt by the said pressure-rolls, and hoppers arranged between said pressure-rolls, each of said hoppers being adapted to hold an adhesive material and gradually drop the same onto the web that passes under it.

3. In an apparatus for the manufacture of pulp-board in continuous sheets, the combination of an endless belt having the whole part of its working face substantially flat and supports arranged at intervals for supporting a plurality of rolled webs of pulp transversely over the said flat part of the belt, said webs being sufficiently dry to be unrolled onto said belt; and hoppers arranged between said rolls of pulp, each of said hoppers being adapted to hold an adhesive material and gradually drop the same onto the web that passes under it; and a continuously-acting press arranged opposite the delivery end of said belt.

4. In an apparatus for the manufacture of pulp-board in continuous sheets, the combination of an endless belt having the whole part of its working face substantially flat and supports arranged at intervals for yieldingly holding a plurality of pressure-rolls over the said flat part of the belt, and other supports for supporting the same number of rolled webs of pulp, said webs being sufficiently dry to be unrolled onto the said belt by the said pressure-rolls, and hoppers arranged between said pressure-rolls, each of said hoppers being adapted to hold an adhesive material and gradually drop the same onto the web that passes under it; and a continuously-acting press arranged opposite the delivery end of said belt.

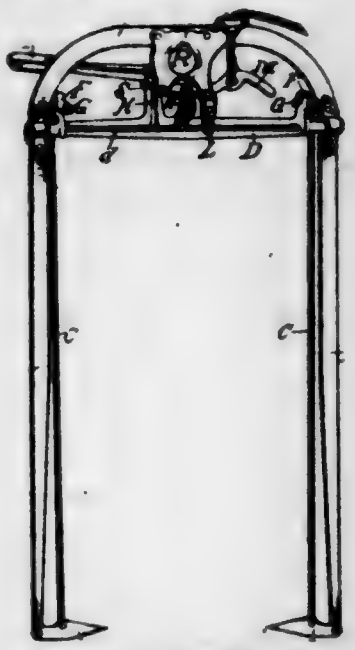
5. In an apparatus for the manufacture of pulp-board in continuous sheets, the combination of an endless belt having the whole extent of its working face substantially flat, and supports arranged at intervals over said flat part for yieldingly holding a plurality of pressure-rolls over said belt, and other supports for supporting the same number of rolled webs of pulp, said webs being sufficiently dry to be unrolled onto said belt by the said pressure-rolls, and hoppers arranged between said pressure-rolls, each of said hoppers being adapted to hold a powdered substance and to gradually drop the same onto the web of pulp that passes under it.

6. In an apparatus for the manufacture of pulp-board in continuous sheets, the combination of an endless belt and supports arranged at intervals for supporting a plurality of rolled webs of pulp transversely over said belt, said webs being sufficiently dry to be unrolled onto said belt; and hoppers arranged between said rolls of pulp, each of said hoppers being closed at the bottom by a rotary brush; and vibrating sieves under said hoppers.

7. In an apparatus for the manufacture of pulp-board in continuous sheets, the combination of an endless belt and supports arranged at intervals for supporting a plurality of rolled webs of pulp transversely over said belt, said webs being sufficiently dry to be unrolled onto said belt; and hoppers arranged between said rolls of pulp, each of said hoppers being adapted to hold an adhesive material, and one or more other hoppers arranged next to the first and adapted to hold a loading material, a rotary brush closing each of the hoppers, and a sieve under each hopper or pair of hoppers adapted to catch and distribute the material dropped thereon from the hoppers.

8. The method of manufacturing pulp-board in continuous sheets, consisting in forming rolls of damp pulp-web sufficiently dry to prevent adhesion and to secure sufficient cohesion for unrolling them by traction; superposing such webs in succession by applying pressure to each separate web before the next web is applied to form a gradually-growing thickness of pulp-board; and coating every applied layer except the last with a dry adhesive; finally applying pressure to the completed pile of webs.

807,754. HAY-FORK. WILLIAM LOUDEN, Fairfield, Iowa. Filed Apr. 29, 1905. Serial No. 258,090.



Claim.—1. In hay-forks, a pair of tines connected together at the top, points pivoted to the lower ends of the tines, lift-rods connected to the central portions of the pivoted points, a rocker-bar having its body set out of line with its ends and pivoted by said ends to the upper portions of the tines, elbows on said bar near the ends thereof connected to the upper ends of the lift-rods, and a lever to operate the rocker-bar, said lever and elbows being set substantially at right angles laterally to the body of the rocker-bar, so that when its body is below its pivots, the lever and elbows will stand laterally at an angle thereto.

2. In hay-forks, a pair of tines connected together at the top, points pivoted to the lower ends of the tines, lift-rods connected to the central portions of the pivoted points, a rocker-bar pivoted on the upper portions of the tines, and connected to the upper ends of the lift-rods, the body of the rocker-bar being made T-shaped in cross-section, and set out of line with its pivots so it will drop substantially below them, as and for the purpose set forth.

3. In a fork of the character described, a rocker-bar journaled at its ends in bearings on the main parts of the fork and adapted to connect with lift-rods, a segment with a face formed on the line of a circle having its center approximately coincident with the line of the pivots of the rocker-bar and set on a central portion of the rocker-bar, a latch to engage the segment, and means to rotate the rocker-bar.

4. In a fork of the character described, a rocker-bar journaled at its ends in bearings on the main parts of the fork and adapted to connect with lift-rods, a segment on a central portion of the rocker-bar, a latch to engage the segment, at both of its ends, and means to rotate the rocker-bar.

5. In a fork of the character described, a rocker-bar having its

body in cross-section, made in the shape of an inverted T, journals on its opposite ends set substantially on a line with the upper edge of its web and adapted to rotate in bearings, arms adjacent to said journals set at substantially right angles to the web of its body, and adapted to connect with lift-rods, a segment on a central portion of the body of the rocker-bar, a latch to engage the segment and means to rotate the rocker-bar.

6. In a fork of the character described, a pair of tines connected at the top by a bow, a rocker-bar pivoted below the bow, a head-piece secured to a central portion of the bow, said head-piece having a jointed connection with a central portion of the rocker-bar.

7. In a fork of the character described, a pair of tines connected at the top by a bow, a rocker-bar pivoted below the bow and having a segment affixed thereto, a head-piece secured to a central part of the bow and having at its lower end a jointed connection with a central portion of the rocker-bar, a latch mounted in said head-piece and adapted to engage the segment and means to rotate the rocker-bar.

8. In a fork of the character described, a pair of tines connected at the top by a bow, a rocker-bar pivoted below the bow, head-pieces secured to opposite sides of the bow, and at their lower ends having inwardly-curved fingers adapted to catch into an eye in a central portion of the rocker-bar and to turn therein.

9. In a fork of the character described, a pair of tines connected at the top by a bow, a rocker-bar pivoted below the bow, and having a segment affixed thereto, a head-piece secured to a central part of the bow, the lower end of said head-piece being made forked, a latch-lever pivoted in one of the forked ends and adapted to engage the segment, and the other end having a jointed connection with a central portion of the rocker-bar, and means to rotate the rocker-bar.

10. In a fork of the character described, a pair of tines connected by a bow at the top, a rocker-bar pivoted to one side of the tines below the bow, a pair of plates secured to the central part of the bow, one on each side, and their lower ends offset laterally and jointedly connected to the central portion of the rocker-bar on a line with its pivots.

11. In a fork of the character described, a pair of tines connected by a bow at the top, a pair of plates secured to the central part of the bow, one on each side and coinciding openings in the plates immediately below the bow.

12. In a fork of the character described, a pair of tines, a rocker-bar having journals on its ends, caps secured to the tines and adapted to hold said journals, said caps being narrower than the width of the tines and a flange on each side of the caps extended half-way around the journal, so that the journals will rest against the tines on one side, and the flanges will not necessarily extend beyond the edges of the tines.

13. In a fork of the character described, a circular-shaped guide-loop having convex faces on its upper side and a concave face on its lower side and a trip-rope adapted to pass up through said guide-loop and bear upon said convex faces.

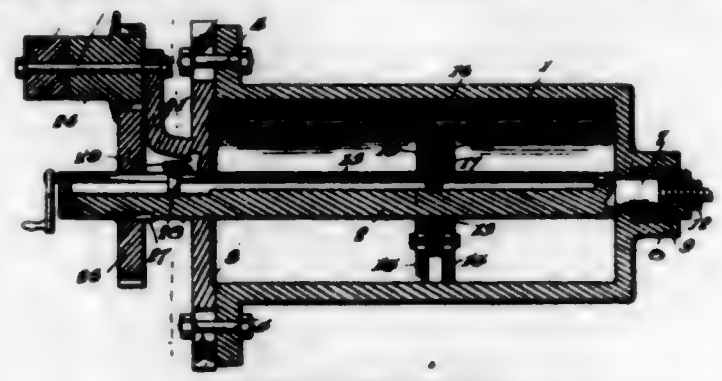
14. In hay-forks, a pair of tines connected by a bow at the top, points pivoted to the lower ends of the tines, lift-rods connected to said points, a rocker-bar pivoted to the upper portion of the tines, a latch to hold and release the rocker-bar, a circular-shaped guide-loop mounted horizontally above the bow having convex faces on its upper side and concave faces on its lower side, and a trip-rope connected to the latch and passed through the guide-loop.

15. In a fork of the character described, a movable point adapted to be pivoted to the lower end of a tine and to be raised and lowered by a lift-rod, said point having its hay-supporting face made solid while its center and lower face is hollowed out and cut away, and a connecting-bar to hold its sides together between its connections to the tine and the lift-rod.

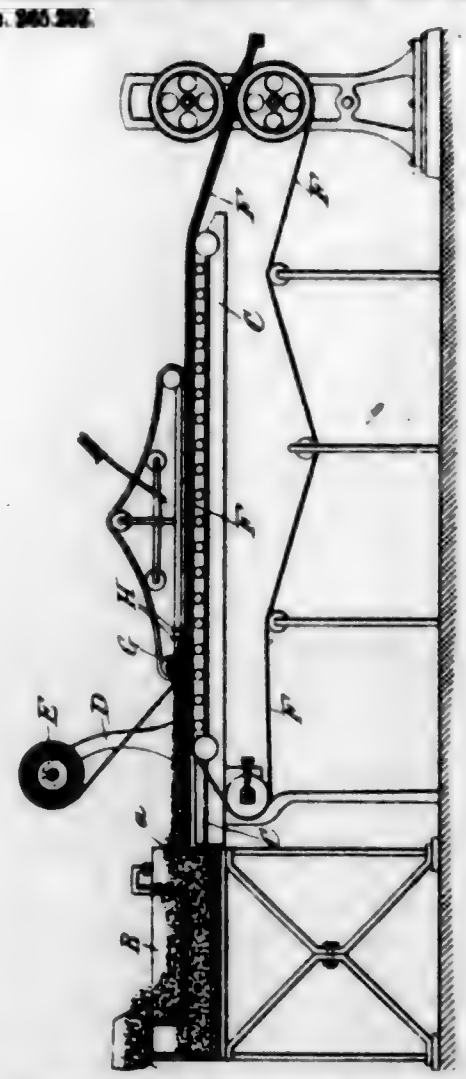
16. In a fork of the character described, a pair of tines, a rocker-bar having its body set out of line with its ends, and pivoted at its ends to the tines, and a lever projecting laterally from the body of the rocker-bar, so that when the body of the rocker-bar is below its pivots and in line with the tines, the lever will project laterally therefrom.

807,755. **BORING-BAR.** CHARLES M. LOYD, Anthony, W. Va. Filed Dec. 31, 1904. Serial No. 238,351.

Claim.—In combination, a support, a feed-screw arranged upon the support, a head carried by the support movable longitudinally thereof and provided with an opening extending from an end thereof, an adjusting element mounted in the opening aforesaid and provided with a transverse elongated opening receiving the feed-screw, a portion of said elongated opening being threaded, an adjusting-stem threaded into the opening formed in the head and having swivel connection with the adjusting element above mentioned to admit of adjustment of said element relative to the feed-screw for the purposes specified.

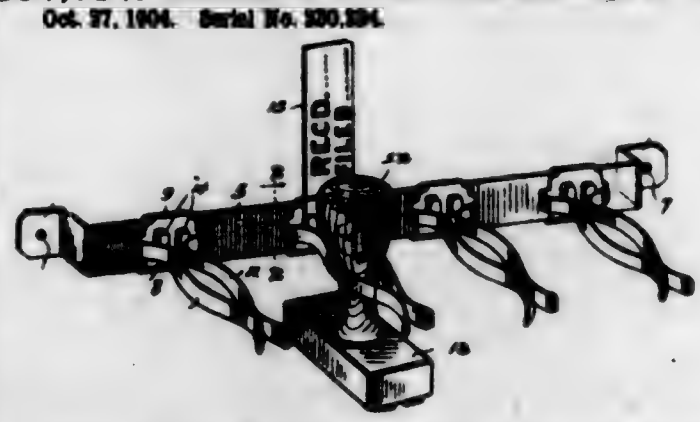


807,756. **MACHINE FOR MAKING REINFORCED PAPER FABRIC.** SAMUEL B. MAAS, Billancourt, France. Filed June 14, 1905. Serial No. 265,292.



Claim.—A machine for the purpose specified, having an endless moving apron to carry the pulp, means for supplying the pulp to said apron, a separating-roller extending across and over said apron near its surface and near its receiving end, to separate the pulp into an upper and an under layer, means for supplying wire-netting continuously to the pulp under the said separating-roller, and means, situated beyond said roller for regularizing the thickness of the fabric.

807,757. **STAMP-RACK.** CHARLES W. MARTIN, Chicago, Ill. Filed Oct. 27, 1904. Serial No. 230,194.

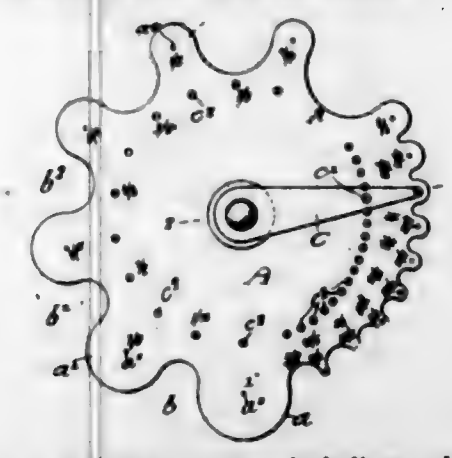


Claim.—1. In a device for supporting stamps and similar articles, the combination with a supporting-bar, of a stamp-holder com-

prising a base-plate having an upper hook adapted to engage the upper edge of said bar, a lower spring-hook provided with an inwardly-projecting lip whereby it is adapted to be sprung into engagement with the lower edge of the bar by pressing said base-plate against the face of the bar, and jaws adapted to receive and support the handle of the stamp or other article, substantially as described.

2. A stamp-rack comprising, in combination, a supporting-bar and one or more stamp-holders adjustably mounted thereon, each of said stamp-holders comprising a base-plate having an upper hook adapted to engage the upper edge of said bar, a lower spring-hook provided with an inwardly-projecting lip, a spring-tongue to support an indicating slip or card, and spring-jaws extending forwardly from the sides of said base-plate adapted to grip the handle of the stamp or other article, substantially as described.

807,758. DRAFTING INSTRUMENT. RICHARD MARX, Philadelphia, Pa. Filed Dec. 3, 1904. Serial No. 235,235.



Claim.—1. A drafting instrument including a plate having a series of projections of curved outlines, with a device movably mounted on the plate for marking the centers of the curves defining said outlines, said device having guiding means whereby it is compelled to move in a path predetermined relatively to said projections, substantially as described.

2. A drafting instrument including a plate having a series of projections of curved outlines, there being a recess also of curved outline between each pair of adjacent projections, a device movably mounted on the plate for marking the centers of the curves defining said outlines, and guiding means for said device whereby it is maintained in proper position relatively to the line connecting said centers, substantially as described.

3. A drafting instrument including a plate having a series of substantially semicircular lobes, and openings coincident with the centers of the curves defining said lobes, with a device adjustably connected to the plate operative through said openings for marking said centers of the curves, substantially as described.

4. A drafting instrument including a plate having a series of circularly-curved lobes of different radii, there being openings in the plate coincident with the centers of the arcs defining said lobes, and means guided on the plate for marking the positions of said openings, substantially as described.

5. A drafting instrument including a plate having a series of substantially circularly-curved lobes, there being openings in the plate coincident with the centers of the curves of said lobes, and an arm movably connected to the plate having means for marking upon any desired surface the center of any of said lobes, said arm having guiding means for directing its motion relatively to the line of said openings, substantially as described.

6. The combination in a drafting instrument of a plate, and an arm movably mounted thereon, a series of projections of curved outlines extending from the edges of the plate, and a point carried by the arm for marking the centers of the curves defining said projections, said arm having means for guiding it relatively to the line of said centers, substantially as described.

7. The combination of a plate having its edge formed as a series of projections of substantially semicircular outline, there being openings in the plate substantially coincident with the centers of the various lobes, and an arm carrying a marking-point movable upon the plate, and means for retaining the arm in position with its point over any of the center openings of the projections, substantially as described.

8. A plate having a series of projecting lobes of substantially semicircular form and each provided with a central opening, an arm having a point for marking the centers of the various lobes, said arm being movable so as to maintain said point in a line connecting said centers, with a pin on the arm, the same coacting with a series of openings in the plate so placed as to hold the arm immovable whenever its point is over the center opening of one of the lobes, substantially as described.

9. In a drafting instrument the combination of a plate having a series of projecting lobes curved to have circular outline, each provided with a central opening, with a spring-arm carried by the plate and provided with a marking-point constructed to pass through the central openings of the various lobes, said arm being guided so as to maintain the marking-point in the line of said opening, substantially as described.

10. The combination of a plate having a series of circularly-curved lobes and recesses between adjacent lobes, also curved on circular arcs, with an arm carrying a marking-point, and means for mounting the arm upon the plate so that as it is moved, its marking-point travels in a line connecting the centers of the various lobes and recesses, substantially as described.

11. A drafting instrument including a plate having a series of lobes curved on circular arcs and openings coincident with the centers of the curves of said lobes, with a spring-arm pivoted to said plate and provided with a marking-point so placed as to pass through the central openings of the lobes, substantially as described.

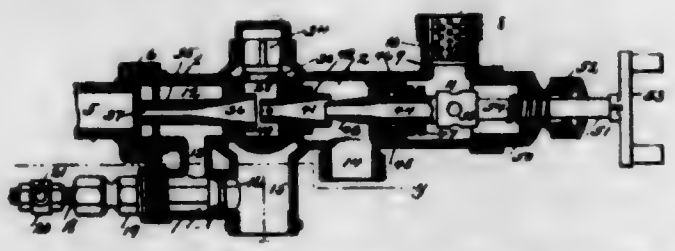
12. A drafting instrument including a plate having a series of lobes curved on circular arcs and openings coincident with the centers of the curves of said lobes, with a spring-arm pivoted to said plate and provided with a marking-point so placed as to pass through the central openings of the lobes, there being means for retaining said pivoted arm in such position that its marking-point will be over the central openings of the lobes, substantially as described.

13. A drafting instrument including a plate having a series of circularly-curved portions, the centers from which said curved portions are described being the same distance from a given point, substantially as described.

14. A drafting instrument including a plate having a series of circularly-curved portions, the centers from which said curved portions are described being the same distance from a given point, with a movable arm having means for marking said centers, substantially as described.

15. A drafting instrument including a plate having a series of circularly-curved portions, the curves of said portions being described from different radii, with an arm provided with a center marking device and mounted on the plate so that said device may be moved in a line connecting the centers of said curves, substantially as described.

807,759. INJECTOR. GEORGE W. MASON, Sharon, Pa. Filed May 10, 1900. Serial No. 259,673.



Claim.—1. An injector comprising a shell provided with water and steam inlets, exit and overflow passages, said shell having arranged therein a combined stationary lifting and forcing tube, an adjustable steam-forcing tube at one end and in line therewith, and a self-adjusting forcing-tube having separate overflow-passages leading from either end thereof, also in line with and at the other end of said stationary tube.

2. An injector comprising a shell provided with water and steam inlets, exit and overflow passages, said shell having arranged therein, a combined stationary lifting and forcing tube, an adjustable steam-forcing tube at one end and in line therewith, said tube operating through an interior-arranged stuffing-box, whereby steam-tight compartments are formed, and a self-adjusting forcing-tube having separate overflow-passages leading from either end thereof, also in line with and at the other end of said stationary tube.

3. In an injector, the combination comprising the shell having water and steam inlets, exit and overflow passages, said shell having arranged therein a stationary lifting-tube 42 an adjustable steam-forcing tube 44 operating through a stuffing-box, and means for moving the same toward or away from said stationary tube to open or close the entrance, a chamber 28 at the forward end of the stationary tube, an opening from said chamber to the overflow, a check-valve 34 operating to open or close said opening, a self-adjusting forcing-tube communicating with the chamber 28 and exit-pipe 5, and a sepa-

rate overflow-passage 13 with valve 17, to open or close said passage, as and for the purpose described.
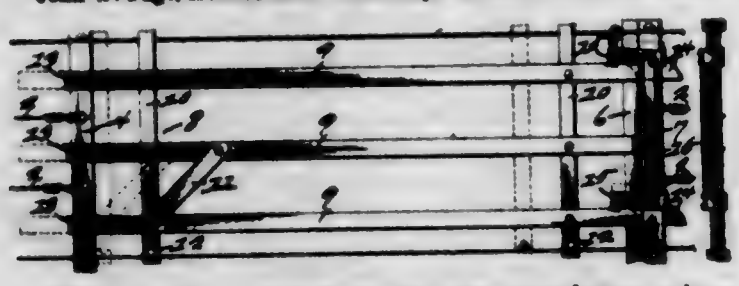
4. In an injector, a self-adjusting forcing-tube having separate overflow-passages leading from either end of said tube.

5. In an injector, a self-adjusting forcing-tube having separate overflow-passages leading from each end thereof, and suitable valves for opening and closing said passages.

6. In an injector, a self-adjusting forcing-tube having separate overflow-passages leading from either end thereof, a check-valve for automatically closing one of said passages and a valve under the control of the operator for closing the second passage.

7. In an injector, a self-adjusting forcing-tube having separate overflow-passages leading from either end thereof, said tube comprising a cylindrical body portion having an enlarged entrance, a reduced exit and peripheral flanges, one of which is perforated to permit the water to return to one of the overflow-passages.

807,760. **FENCE-GATE.** PETER MAST, Adrian, Mich., assignor to John W. Page, Adrian, Mich. Filed Sept. 8, 1904. Serial No. 223,671.

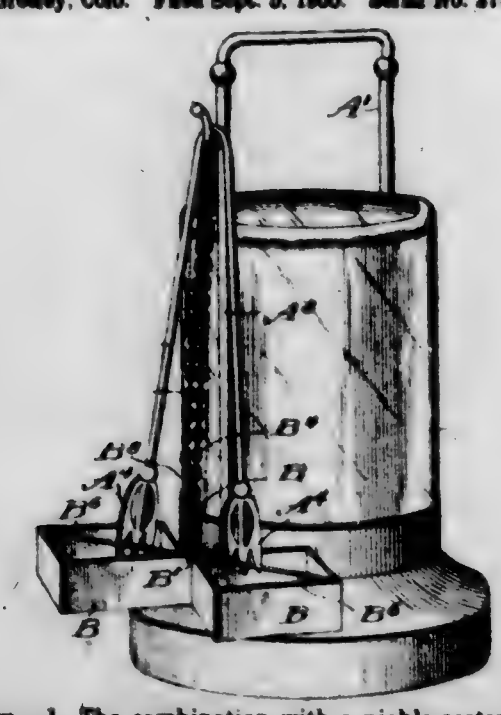


Claim.—1. A fence structure having runners and stays and provided with an interior opening, bars secured to the fence structure at the sides of the opening, and a gate-section pivoted to the runner bordering said opening adapted when closed to contact with and engage said bars, substantially as described.

2. A fence structure having runners and stays and provided with an interior opening, bars at the sides of the opening secured to the runners, and a gate-section pivotally and slidably mounted upon the runner bordering said opening adapted to engage said bars, substantially as described.

3. A fence structure having runners and stays and provided with an interior opening formed by cutting out intermediate portions of the runners and stays, bars at the sides of the opening having the ends of the severed runners secured thereto the bar at one side of the opening comprising a striking-plate and a plate spaced apart therefrom, fasteners slidably mounted upon the last-named bar, and a gate-section formed of horizontal and vertical bars, the horizontal bars at one end being bent upon themselves to engage one of said bars and having the opposite ends adapted for engagement of the aforesaid fasteners, said vertical bars being at one end pivotally and slidably mounted upon the runner bordering the opening in the fence structure, substantially as described.

807,761. **ATTACHMENT FOR PICKLE-CASTERS.** KATE MERCER. Greeley, Colo. Filed Sept. 5, 1905. Serial No. 277,074.



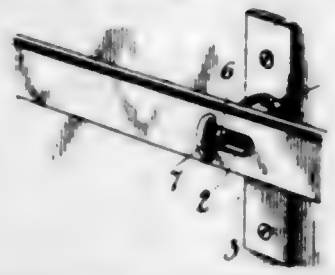
Claim.—1. The combination with a pickle-caster having supporting means for a fork or tongs, of a drip-cup, and means carried by said cup for supporting it beneath said supporting means adjacent to the lower end of said fork.

2. The combination with a table-caster having a supporting-hook for a fork or tongs, of a drip-cup, means for supporting said cup beneath said hook adjacent to the lower end of said fork, and means for adjusting the length of said support relative to said fork.

3. An attachment for table-casters comprising a plurality of drip-cups, flexible supporting means extending therefrom, and means carried by said cups for adjusting the length of said supporting means.

4. An attachment for table-casters comprising a plurality of drip-cups, flexible supporting means extending therefrom, a retaining-hook carried by said cups for adjusting the length of said supporting means, and a cross-rod extending across said cups.

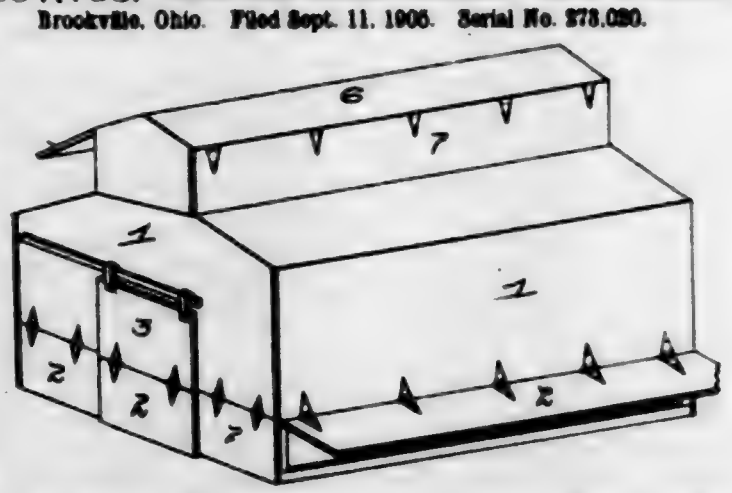
807,762. **BRACKET OR TRACK-SUPPORT.** D. D. MILLER, Wooster, Ohio. Filed Feb. 23, 1905. Serial No. 246,955.



Claim.—1. A door-hanger track-rail having a longitudinal slot, in combination with a supporting-bracket having a fixed stud to enter said slot and provided with a fixed locking-head adapted to pass through and clear the slot and to be disposed at an angle with reference thereto, to prevent the rail from becoming casually displaced from the bracket, substantially as described.

2. In combination with a door-hanger rail having a longitudinal slot, a supporting-bracket comprising a base, an arm extending laterally from the base and having a reduced portion at its outer end forming a fixed stud and a shoulder, said stud being adapted to enter the slot of the rail and having a fixed locking-head adapted to clear the said slot and to be turned at an angle thereto, to dispose the said locking-head on one side of the rail and the shoulder of the arm on the other side thereof.

807,763. **BARN FOR CURING TOBACCO.** DAVID W. MIELER, Brookville, Ohio. Filed Sept. 11, 1905. Serial No. 278,020.

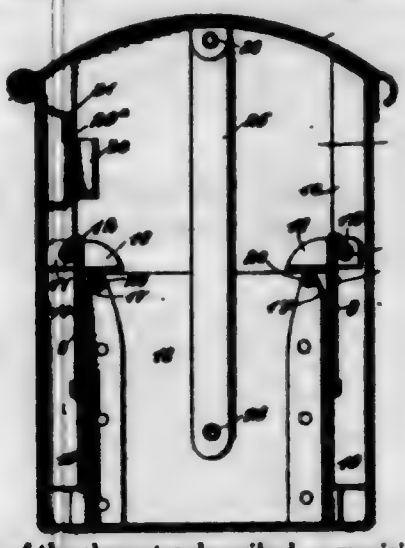


Claim.—1. In a tobacco-curing barn, a barn having a ventilator on each side at the bottom, said ventilators being approximately the length of the barn and adapted to be opened upwardly from the ground, a ventilator at the top of said barn extending approximately the length thereof, said ventilator having doors on opposite sides the entire length thereof, as herein shown and described.

2. A tobacco-curing barn provided with a longitudinal driveway, and having arranged on each side thereof a ventilating-door through which air is admitted throughout the length of the barn, the end of said barn through which entrance to the driveway is had, being provided with ventilating-doors on either side of the driveway-door, said driveway-door having its lower portion provided with a ventilating-door, the top of the barn having a ventilator extending throughout the length thereof and provided with a door on each side, substantially as shown and described.

807,764. **MAIL-BOX.** HENRY H. MOWERS, CHARLES W. BUSICK, and JAMES C. STRATTON, Groverhill, Ohio. Filed Apr. 6, 1905. Serial No. 254,190.

Claim.—1. A device of the character described comprising a box or receptacle, a movable cover therefor, a swinging false bottom in said receptacle, a slide within said receptacle having a cam for operating said bottom and a link connection between said slide and said cover.



2. A device of the character described, comprising a box or receptacle, a movable cover therefor, a false bottom in said receptacle, consisting of swinging sections, a slide within said receptacle, cams upon said slide to engage and operate said swinging false-bottom sections, and a link connecting said slide and said cover, whereby said bottom sections will be swung upwardly to their closed position when said cover is opened.

3. A device of the character described, comprising a box or receptacle having a swinging cover upon the same, pivoted false-bottom sections in said receptacle, locking-plates upon said bottom sections, guides within said receptacle, a slide in said guides, cams upon said slide to coact with said locking-plates, and a link connecting said slide and said cover.

807,765. SPRING-SEAT. JOSEPH G. MYERS, New York, N. Y. Filed May 18, 1905. Serial No. 260,949.



Claim.—1. In a spring-seat, the combination with a suitable frame having orifices for the reception of spring members, of a plurality of U-shaped spring members, each having downwardly-bent end portions arranged to be received within said orifices, said end pieces being of substantially less diameter than the orifices to tilt therein, and means supporting said springs above the frame at points in proximity to the orifices in which their ends are received.

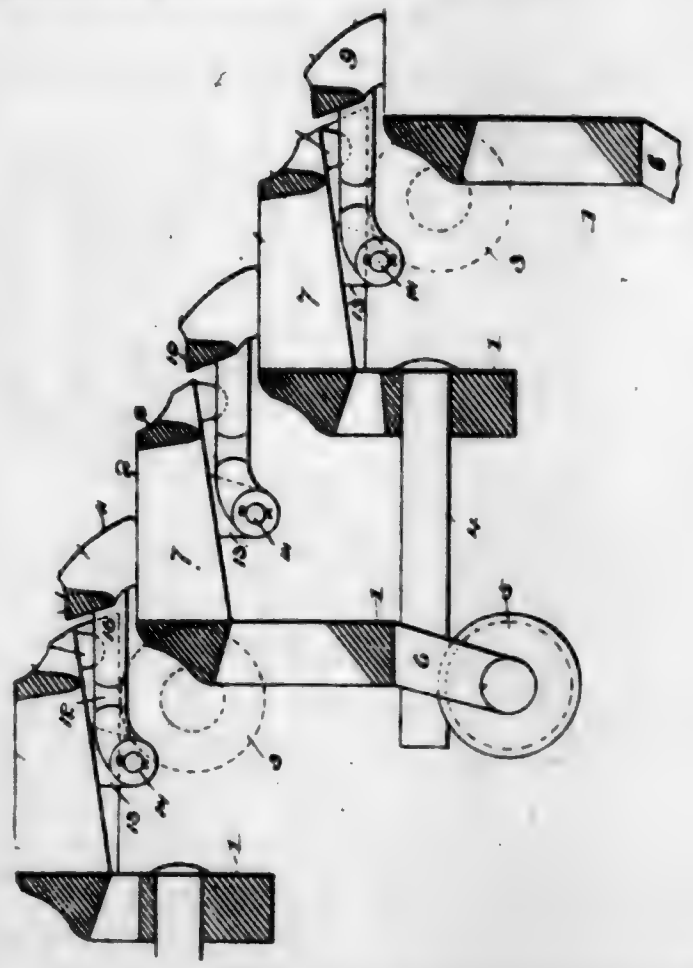
2. In a spring-seat, the combination with a suitable frame including opposite bars having orifices for the reception of spring members, and provided with raised portions in proximity to the said orifices, of a plurality of U-shaped springs, each having downwardly-bent end portions arranged to be received within said orifices, and being of substantially less diameter than said orifices to tilt therein, the body portions of said springs being fulcrumed adjacent to said bent ends on the raised portions of the frame and arranged with the bases of opposite springs in close proximity to each other, but wholly unconnected and out of actual engagement; a covering for said springs, and a padded seat above said covering.

3. In a spring-seat, the combination with a suitable frame having orifices for the reception of spring members, and raised portions in proximity to the said orifices, of a plurality of U-shaped spring members, each having body portions arranged substantially horizontally, and supported upon said raised portions, downwardly-bent end portions arranged to be received within said orifices, and projecting portions at the extreme ends of said end portions for retaining the springs in position, substantially as set forth.

4. A seat-spring comprising a substantially U-shaped body portion having its free ends bent at an angle to the main part thereof, said free ends provided at their extremities with lateral projections, substantially as set forth.

807,766. GRATE-BAR. WILLIAM MCCLAVE, Scranton, Pa., assignor to McClave-Brooks Company, a Corporation of Pennsylvania. Filed May 26, 1904. Serial No. 209,943.

Claim.—1. A grate mechanism comprising grate-bars arranged in stepped series and rearwardly-extending noses each of said grate-bars being provided with fuel-supporting caps and each of said noses pivotally attached to one of said caps and adapted to rest upon the adjacent lower cap and to engage material thereon.



2. A grate mechanism comprising fixed bars arranged on different levels and reciprocating bars adapted to move therebetween, the said bars having fuel-supporting caps and pivoted noses carried by the caps and having a movable engagement with the upper surface of the grate-bar below.

3. A grate-bar comprising a bar proper, a cap projecting therefrom and a pivoted fuel-engaging nose carried by the said cap.

4. A grate-bar for agrate having lapped fuel-engaging portions, the said bar having a laterally-projecting cap, a fixed fuel abutment or shoulder being formed upon the cap, and a movable member carried by the cap forming another abutment or fuel-engaging shoulder, an ash-retaining space being formed between said abutments or shoulders.

5. A grate-bar for stepped grates comprising a body portion, a cap adapted to extend between adjacent grate-bars, pivoted noses carried by the projecting cap and resting loosely upon the adjacent bar, the said noses extending upwardly in the rear of the edge of the bar to retain accumulating ashes for protecting the said grate-bar from heat.

6. A grate-bar for stepped grates, comprising a body portion having laterally-projecting caps secured thereon, and noses pivotally secured to said caps, the said noses projecting from beneath the caps.

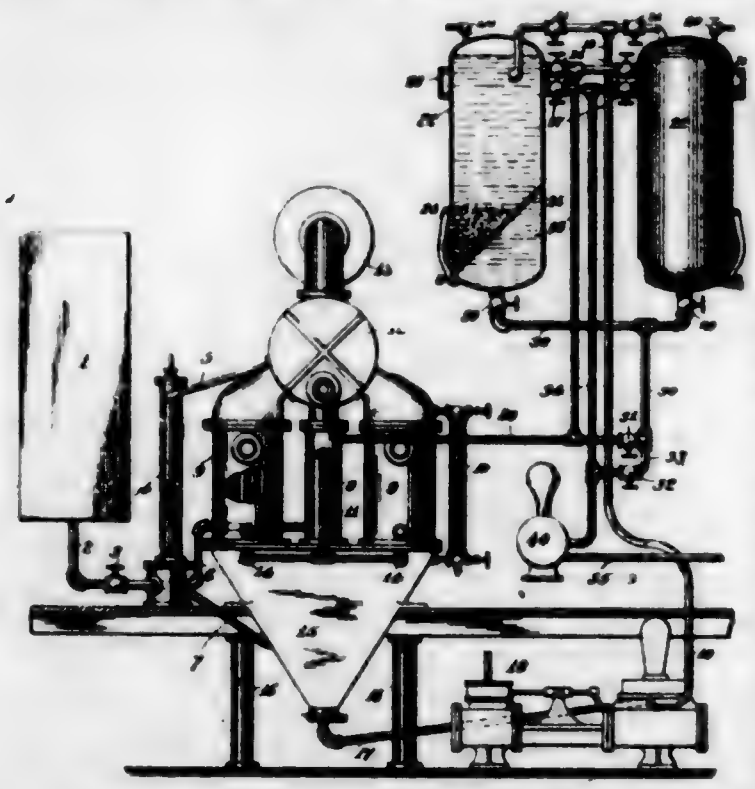
7. A grate-bar for stepped grates comprising a body portion, a fuel-engaging cap projecting laterally from the upper portion of said bar and having a curved abutment-surface at its fuel-engaging end, a fuel-engaging abutment-nose pivotally secured to said cap, a recess being formed parallel with the bar between the abutment-surfaces of the cap and the nose for holding accumulating ashes.

8. A grate-bar comprising a body portion, having laterally-projecting fingers, fuel-engaging caps removably secured upon said body portions and fingers and having downwardly-extending lugs upon their under surfaces, ash-retaining noses pivotally secured to said lugs and having recesses in their under surfaces, and guiding means projecting from the edge of the cap and engaging the recesses in the said noses for holding the same in proper alinement.

9. A grate-bar for stepped grates comprising a body portion, a series of removable caps secured to the upper edge of said body portion and projecting laterally therefrom, noses pivotally secured to the said caps and formed with curved recesses in their upper edges, the said recesses forming with the adjacent surfaces of the caps a continuous ash-retaining groove or trough extending parallel with the bar, shanks projecting forwardly from said noses beneath the caps and having bifurcated ends, lugs projecting from the caps and engaging the said bifurcated ends, pivot-pins for holding the shanks

in place, the said shanks being also formed with guiding-slots the caps having guide-lugs depending therefrom and engaging the said slots for holding the rear ends of the noses in proper alinement.

807,767. VACUUM EVAPORATING APPARATUS. CHARLES ORDWAY, New York, N. Y. Filed Jan. 23, 1905. Serial No. 242,296.



Claim.—1. In vacuum evaporating apparatus, an effect comprising a vapor-chamber, a liquor-chamber, uptakes and a jacketed downtake, means to supply thin liquor to said effect, a plurality of separating-chambers having screens therein, a circulating-pipe and pump to supply concentrated liquor from said effect to either one of said chambers through a guarded inlet adjacent the top of said chamber, a return-pipe having a valved outlet adjacent the top of said chamber and a valved drain-pipe in the bottom of said chamber, a valved discharge-pipe and pump to discharge liquor from said chamber into a succeeding effect and valved connections between said drain-pipe and said return and discharge pipes.

2. In vacuum evaporating apparatus, an effect, means to supply liquor to said effect, a plurality of separating-chambers, circulating means to supply concentrated liquor from said effect to either one of said chambers to produce a substantially quiescent body of liquor in the same, an outlet-duct adjacent to the top of said chamber and pipes connecting with said outlet and leading to said effect or to a succeeding treating apparatus.

3. In vacuum evaporating apparatus, an effect, means to supply liquor to said effect, a separating-chamber adjacent to said effect, a circulating-pipe to supply concentrated liquor from said effect to said separating-chamber to form a substantially quiescent body of liquor therein, a valved outlet-duct adjacent to the top of said chamber and communicating with a return-pipe leading to said effect, and a discharge-pump connecting with a succeeding treating apparatus and receiving liquor from the upper part of said separating-chamber.

4. In vacuum evaporating apparatus, an effect, means to supply liquor to said effect, a closed separating-chamber having a screen, means to supply concentrated liquor from said effect to said separating-chamber, an outlet-duct in the upper part of said chamber connecting with a return-pipe leading to said effect and with a discharge-pipe leading to a succeeding treating apparatus, a vacuum-break and a valved drain-pipe on said separating-chamber.

5. In vacuum evaporating apparatus, a separating-chamber, an outlet-duct taking liquor from the upper part of said chamber, a circulating-pipe to supply concentrated liquor from an evaporating apparatus to the upper part of said separating-chamber to form a substantially quiescent body of liquor therein to effect the precipitation of material from said liquor.

807,768. PIPE-JOINT. SYLVESTER ORR, Chicago, Ill. Filed Apr. 20, 1904. Serial No. 204,497.

Claim.—1. In a joint of the class described, the combination of a shell forming a socket, a movable sleeve extending into such socket, an annular shoulder upon such sleeve, and ring mechanism mounted in the socket encircling the sleeve and movable with relation to both of the sleeve and socket and having one side in engagement with such collar and an outer surface portion in engagement with the wall of the socket on the side of the ring opposite that which engages the annular shoulder of the sleeve, and means for yieldingly holding such ring mechanism and sleeve in position with relation to each other, substantially as described.



2. In a joint of the class described, the combination of a shell forming a socket, a movable sleeve extending into such socket an annular shoulder upon such sleeve, and ring mechanism mounted in engagement with such annular shoulder and having an outer surface portion in sliding engagement with the socket on the side of the ring opposite that which is in engagement with the annular shoulder of the sleeve, substantially as described.

3. In a joint of the class described, the combination of a shell forming a socket having a concave inner surface, a ring having a convex outer peripheral surface mounted in sliding engagement with the concave surface of the socket and having beveled side surfaces, a sleeve extending through such ring, and ring mechanism mounted upon such sleeve in yielding engagement with the beveled side surface of such first-mentioned ring and yieldingly connected with the sleeve, substantially as described.

4. In a joint of the class described, the combination of a shell forming a socket having an inner concave parti-spherical surface, a ring movably mounted in such socket having a convex peripheral surface in sliding engagement with the inner concave surface of the socket portion and having beveled side surfaces, a sleeve extending through such ring, ring mechanism slidably mounted upon such sleeve in engagement with the beveled side surface portion of such ring, and means for holding such rings in yielding engagement with each other, substantially as described.

5. In a joint of the class described, the combination of a shell forming a socket having an inner concave surface, a ring movably mounted in such socket having a convex surface in sliding engagement with the inner concave surface of the socket portion and having beveled side surfaces, a sleeve extending through such ring, ring mechanism slidably mounted upon such sleeve in engagement with the beveled side surface portion of such ring, and spring mechanism yieldingly connecting such ring mechanism and sleeve, substantially as described.

6. In a joint of the class described, the combination of a shell forming a socket having an inner concave surface portion, a ring movably mounted in such socket having a convex outer peripheral surface in sliding engagement with the inner concave surface of the socket portion and having beveled side surfaces, a sleeve extending through such ring, an annular shoulder upon such sleeve in engagement with one side of such ring, and a ring mounted upon such sleeve in engagement with the opposite side of such beveled ring, substantially as described.

7. In a joint of the class described, the combination of a shell forming a socket having an inner concave surface portion, a ring movably mounted in such socket having a convex outer peripheral surface in sliding engagement with the inner concave surface of the socket portion and having beveled side surfaces, a sleeve extending through such ring, an annular shoulder upon such sleeve in engagement with one side of such ring, a ring mounted upon such sleeve in engagement with the opposite side of such beveled ring having a convex surface in engagement with the adjacent beveled side surface of such ring, and spring mechanism mounted upon such sleeve and in engagement with such beveled ring, substantially as described.

8. In a joint of the class described, the combination of a shell forming a socket adapted to contain fluid under pressure, a sleeve extending into such socket provided with an annular shoulder on its inner end, and a ring having a convex outer peripheral surface in engagement with the inner wall of the socket and having a side surface on its opposite side in engagement with the annular shoulder of the sleeve, such annular shoulder and ring being exposed to the action of the fluid under pressure contained in the socket portion whereby such ring is held in air-tight engagement with the socket portion by means of the pressure of the fluid, substantially as described.

9. In a joint of the class described, the combination of a shell

forming a socket adapted to contain fluid under pressure, a sleeve extending into such socket provided with an annular shoulder on its inner end, a ring having a convex outer peripheral surface in engagement with the inner wall of the socket and having a side surface on its opposite side in engagement with the annular shoulder of the sleeve, such annular shoulder and ring being exposed to the action of the fluid under pressure contained in the socket portion whereby such ring is held in air-tight engagement with the socket portion by means of the pressure of the fluid, and spring mechanism for holding such ring in engagement with the annular shoulder on the sleeve for forming an air-tight connection between such ring and sleeve, substantially as described.

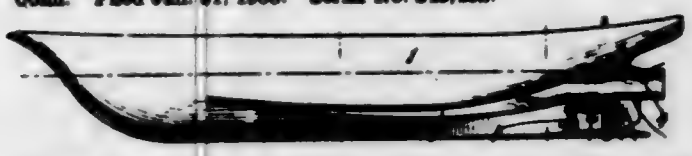
10. In a joint of the class described, the combination of a shell forming a socket, a sleeve extending into such socket provided with an annular shoulder on its inner end, a ring mounted upon such sleeve in engagement with such annular shoulder and having a convex outer peripheral surface in engagement with the wall of the socket on the side opposite that which engages the shoulder of the sleeve, and means for holding such ring in engagement with the annular shoulder of the sleeve, substantially as described.

11. In a joint of the class described, the combination of a shell forming a socket, a sleeve extending into such socket provided with an annular shoulder on its inner end, a ring mounted upon such sleeve in engagement with such annular shoulder and having a convex outer peripheral surface in engagement with the wall of the socket, and spring mechanism mounted on such sleeve forming a yielding connection between the ring and sleeve, substantially as described.

12. In a joint of the class described, the combination of a shell formed of spun wrought metal, a ring of soft metal having a convex outer peripheral surface in sliding engagement with the inner surface of such socket, and a movable sleeve extending into such socket and provided with an annular shoulder in engagement with such ring, substantially as described.

13. In a joint of the class described, the combination of a shell formed of spun wrought metal, a ring of Babbitt metal having a convex outer peripheral surface in sliding engagement with the inner surface of such socket, a movable sleeve extending into such socket and provided with an annular shoulder in engagement with such ring, and means for holding such ring in engagement with the sleeve, substantially as described.

807,769. HULL OF VESSELS. ISAAC B. PALMER, Middletown, Conn. Filed Jan. 31, 1905. Serial No. 243,402.



Claim.—1. A hull of a vessel provided with a propeller, a horizontal wall extending rearwardly over the propeller, and bilge-keels merging into the opposite edges of said horizontal wall.

2. A hull of a vessel provided with a propeller, a horizontal wall projecting rearwardly over the propeller, side walls projecting from the opposite edges of said horizontal wall and bilge-keels forming an extension of said side walls.

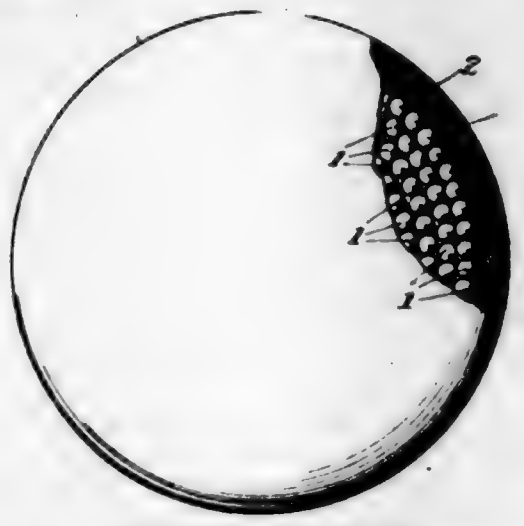
3. A hull of a vessel provided with a propeller, a hood-like extension projecting rearwardly over the propeller, and bilge-keels arranged to coact with the said hood-like extension to direct the water to the propeller.

4. A hull of a vessel provided with a propeller, a hood-like extension projecting rearwardly over the propeller, wings projecting laterally from the keel below the propeller, the outer edges of the wings being spaced from the edges of the said hood-like extension and bilge-keels arranged to coact with the said hood-like extension and keel-wings to direct the water to the propeller.

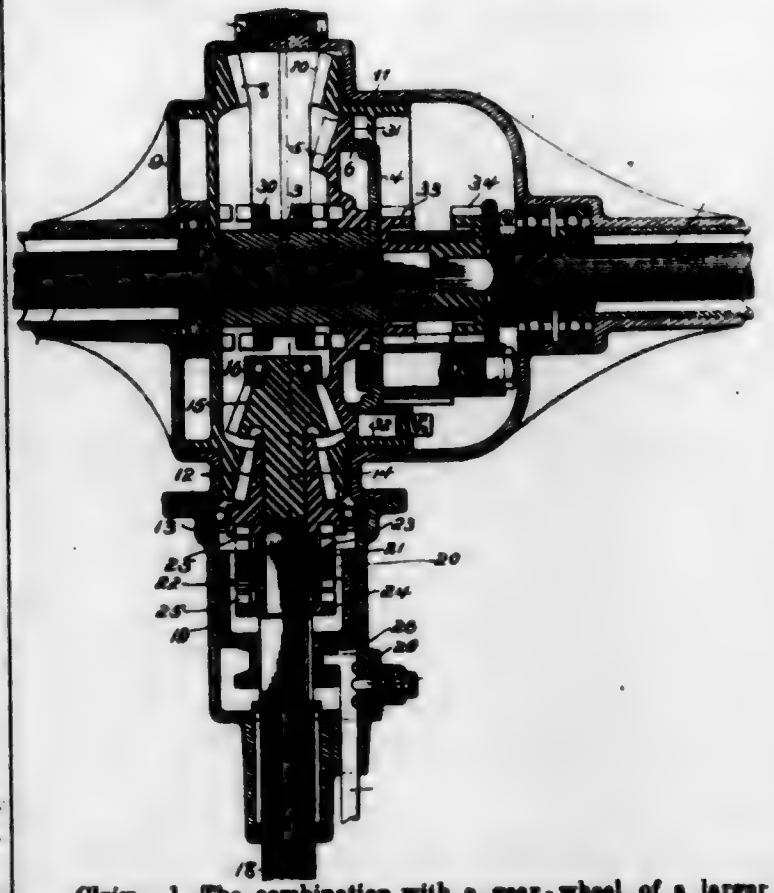
807,770. SHOT FOR ATHLETIC USES. GEORGE L. PIERCE, New York, N. Y. Filed Apr. 13, 1905. Serial No. 255,573.

Claim.—1. A shot for athletic uses, having leaden shot in its interior to provide weight, a bag of woven fabric inclosing said leaden shot in spherical form, and a seamless, vulcanized-rubber covering for said bag, said rubber covering having an internal reinforce of woven fabric.

2. A shot for athletic uses, consisting of a loose mass of leaden shot 1, of substantially spherical form, a bag 2, of woven fabric inclosing said leaden shot, a reinforce 3 of stripe of woven fabric containing rubber, and an outer covering 4 of rubber, the rubber of the covering 4 being united integrally with the rubber of the reinforce 3 by vulcanization.



807,771. SPEED CHANGING AND TRANSMISSION GEARING. IRVIN H. PLEUKHARP, Columbus, Ohio. Filed May 10, 1905. Serial No. 259,804.



Claim.—1. The combination with a gear-wheel, of a larger gear around the same, ratchet means connecting said gears, pinions in mesh with the respective gears, and means for turning either of said pinions.

2. The combination with a gear-wheel, of a larger gear around the same, ratchet means connecting said gears, a reversing-gear facing the larger gear, a pinion in mesh with the smaller gear, another pinion in mesh with both of said larger gears, and means for throwing either of said pinions into operation.

3. The combination with a gear, of a larger gear around the same, an annular series of ratchet-teeth on the back of the smaller gear, spring-pressed pawls carried by the larger gear and engaging said annular series of ratchet-teeth and means for driving either of said gears.

4. The combination with a high-speed gear, of a low-speed gear around the same, a reversing-gear facing the low-speed gear, a driving-pinion in mesh with the high-speed gear, a driving-pinion meshing with the low-speed gear and the reversing-gear, ratchet mechanism connecting the high and low speed gears, and means for connecting either of said pinions with the driving means.

5. The combination with a high-speed gear, of a low-speed gear around the same, ratchet means connecting the gears, a reversing-gear facing the low-speed gear, a driving-pinion meshing with the high-speed gear, a shaft to turn the pinion, a low-speed pinion mounted to turn on the said shaft and meshing with the low-speed and reversing gears, a drive-shaft and clutch mechanism connecting either of the pinions with the drive-shaft.

6. The combination of high and low speed gears, driving-pinions meshing therewith, a shaft fixed to the high-speed pinion and on which the low-speed pinion freely turns, a sleeve keyed to the pinion-shaft, a sliding clutch on said sleeve, a drive-shaft, and means connecting the drive-shaft and clutch and constructed to be moved to lock the clutch with either the low-speed pinion or the sleeve keyed to the high-speed-pinion shaft.

7. The combination of high and low speed gears, driving-pinions meshing therewith, a shaft fixed to the high-speed pinion and on which the low-speed pinion freely turns, a sleeve keyed to the high-speed-pinion shaft, a sliding clutch on said sleeve constructed to lock with either the low-speed pinion or the sleeve on the high-speed-pinion shaft, a drive-shaft, a sliding member keyed to the drive-shaft and connected with the clutch, means for moving the sliding member, and means for holding the sliding member against accidental movement.

8. The combination with two shaft or axle sections and differential gearing connecting them, of a sleeve on one axle-section, a disk at one end thereof constituting a portion of the differential gearing and transmitting driving motion thereto, forward and reverse gears, means for transmitting motion to either of said gears, and a clutch on said sleeve to lock either of said gears thereto.

807,772. SUCTION-BOX FOR PAPER-MACHINES. CHARLES POTTER, Holyoke, Mass. Filed June 7, 1905. Serial No. 264,181.



Claim.—1. For a Fourdrinier paper-machine, a suction-box, having a roll located and rotatable at the upper portion thereof, and having horizontal top plates arranged with their upper surfaces tangential to the top surface of the roll, and extending from the opposite box sides inwardly toward the roll beyond vertical planes coincident with the sides of th roll, but terminating in separation from the upper portion of the roll, and the wire-cloth apron having a running-bearing and supporting contact on the top plates and upper portion of said roll.

2. For a Fourdrinier paper-machine, a suction-box, having a rotatable roll located within the upper portion thereof, and said box having the top horizontal plates arranged with their upper surfaces substantially level with the upper peripheral portion of the roll extending from the opposite sides of the box into proximity, but edgewise separated from the roll, and formed with their under portions inwardly and upwardly beveled, substantially as and for the purposes set forth.

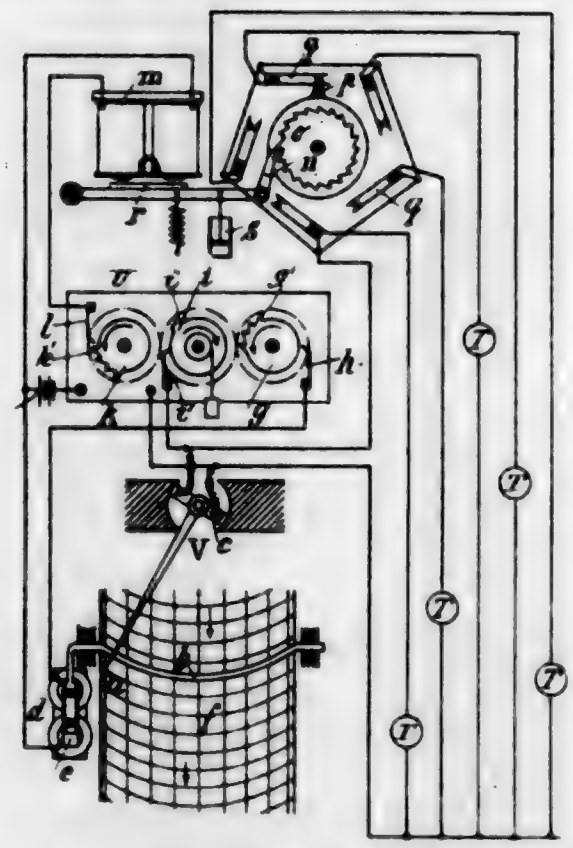
3. A suction-box, comprising an upwardly-open, trough-shaped, body, having a roll journaled for rotation at the central upper portion thereof, and top members supported by the opposite edges of said body, adjustable toward and from the roll located between them, having their upper surfaces in a plane substantially coincident with the upper surface of the roll, projecting to overhang, but edgewise separated from, the side portions of the roll, and having their under surfaces upwardly and inwardly beveled.

807,773. SNAP-HOOK. JOHN H. PUTNAM, Winthrop, Mass. Filed Oct. 26, 1904. Serial No. 230,080.



Claim.—A snap-hook comprising a shank, spring-actuated jaws attached thereto, the free ends of which project inwardly toward each other and are provided with opposing faces, said faces having thereon a corresponding projection and recess, the projection being inclined to facilitate the passing of a ring between the jaws of the hook.

807,774. AUTOMATIC ELECTRICAL MEASURING AND RECORDING INSTRUMENT. PAUL RASSBACH, Friedenau, Berlin, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany. Filed Nov. 22, 1904. Serial No. 233,909.



Claim.—1. An apparatus for automatically and continuously measuring and recording the value of a plurality of electrical quantities, said apparatus comprising a single measuring instrument, means to connect the same at regular time intervals with the circuits of the electrical quantities to be measured, and means for recording the measurements in time instants which bear a fixed relation to those in which the instrument is connected.

2. An apparatus for the continuous and automatic measuring and recording of the value of a plurality of electrical quantities, said apparatus comprising a single measuring instrument, means for connecting the same at regular intervals of time with the circuits of the electrical quantities to be measured, means for recording said measurements at instants of time bearing a fixed relation to the intervals in which the instrument is connected, and a clockwork mechanism controlling the connecting and recording means.

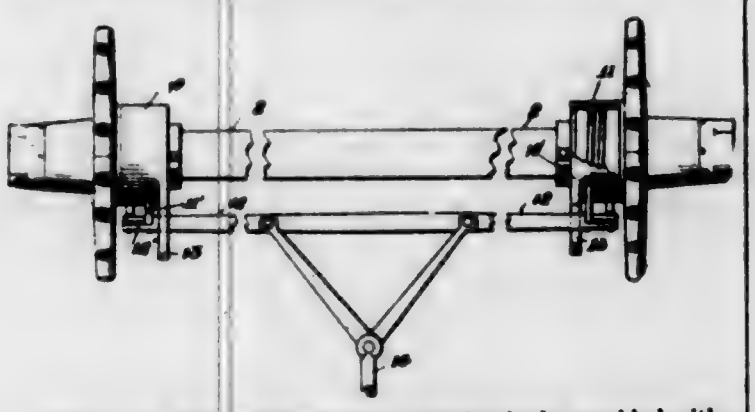
3. An apparatus for automatically and continuously measuring and recording a plurality of electrical quantities, said apparatus comprising a single measuring instrument, means for switching the same at regular intervals of time in the circuits in which the electrical quantities are to be measured, a recording device, and means for operating the same at instants of time bearing a fixed relation to the intervals in which the instrument is connected to said circuits, a clockwork mechanism controlling the switching and recording means, and means for automatically short-circuiting the measuring and recording mechanism when the instrument is switched from one circuit to another.

4. An apparatus for automatically and continuously measuring a plurality of electrical quantities, said apparatus comprising a single measuring instrument, a recording device, a switch device for connecting the apparatus at regular intervals of time with the circuits of the electrical quantities to be measured, a clockwork mechanism, and means operated thereby to actuate the recording mechanism at regular instants of time, said means controlling the recording mechanism, also controlling said switch mechanism whereby the instants of time at which the recording device is operated bears a fixed relation with the intervals of time in which the several circuits of the quantities to be measured are connected with the instrument.

5. An apparatus for automatically and continuously measuring and recording a plurality of electrical quantities, said apparatus comprising a single measuring instrument, automatically-operated means for switching the same at regular intervals of time in the circuits of the electrical quantities to be measured, means for recording at instants of time bearing a fixed relation with said intervals the value of

said quantities, a common clockwork mechanism controlling said connecting and recording means, means for short-circuiting the recording instrument when leaving one circuit and passing to the next without being disconnected from one circuit and connecting with the next, and a retarding device for preventing the operation of the switching device by momentary reversals of the clockwork mechanism.

807,775. **VEHICLE-BRAKE.** GEORGE REMDORF, Cornopolis, Pa. Filed June 14, 1905. Serial No. 265,126.



Claim.—1. The combination of a rotating body provided with a brake-drum, a casing within which the drum rotates, a brake-band extending around the drum, means for operating the band, and a part rotatable with the body and lying close to the casing for the purpose of closing the same.

2. The combination of a rotating body provided with a brake-drum and with a part at the inner end of and projecting beyond the drum, a casing extending around the drum with its open side in close proximity to said extending part, thereby closing the casing, a brake-band extending around the drum within the casing, and means for operating the band.

3. The combination of a vehicle wheel-hub, a metallic sleeve secured to the inner end thereof, the inner end of the sleeve having a continuous outwardly-extending flange, a brake-sleeve removably secured to the metallic sleeve, a fixed casing extending over the brake-sleeve and reaching to the said continuous flange, a brake-band extending around the brake-sleeve, and means for operating the band.

4. The combination of a vehicle-axle, a wheel-hub, a casing carried by the axle and enveloping the inner portion of the hub, a brake-band extending around the hub within the casing and outward through the latter, and band-actuating means at the exterior of the casing.

5. The combination of a vehicle-axle, a wheel-hub, a casing carried by the axle and enveloping the inner portion of the hub, a brake-band extending through the casing and around the hub, a guide projecting from the casing, and a band-actuating device movable in the guide.

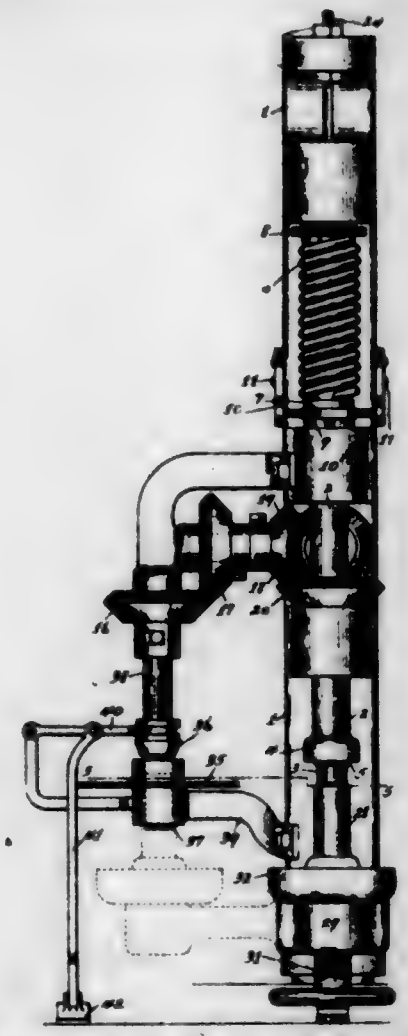
6. The combination of a vehicle-axle, wheel-hubs at opposite ends thereof, casings carried by the axle for inclosing the inner ends of the hubs, brake-bands for the hubs extending around the latter and through the casings, supports or guides projected from the casings, and an operating-bar movable in said supports and to which the brake-bands are secured.

7. The combination of a vehicle-axle, a wheel-hub, a metallic sleeve secured to the hub, a continuous flange projecting laterally from the inner end of the sleeve, a brake-sleeve secured to the metallic sleeve, a casing projecting from the axle over the brake-sleeve and in close proximity to said flange, a brake-band extending around the brake-sleeve and outwardly through the casing, and band-actuating means.

807,776. **BUTTON-SAWING MACHINE.** PHILIP A. RESSLER, Amsterdam, N. Y., assignor of two-thirds to Horace M. Hicks and William H. Terwilliger, Amsterdam, N. Y. Filed Oct. 27, 1904. Serial No. 230,170.

Claim.—1. In a machine of the class described, and in combination, a cylindrical saw; means for rotating the same; a work-support; a rod located within the saw having a head of approximately the size of the interior of the saw-cylinder and of substantially the size of the button-blanks desired; and means for producing a relative endwise movement between said saw and head whereby said head may be brought into engagement with inwardly-displaced teeth of the saw to spread the same.

2. In a machine of the class described, and in combination, a cylindrical saw; a transversely-cutting saw at one side of the axis of the cylindrical saw operating in a plane perpendicular thereto; means for operating the respective saws; a work-supporting block; and a block-supporting bracket movable toward and from said transversely-cutting saw whereby said block can be brought into engagement therewith.



3. In a machine of the class described, and in combination, a cylindrical saw; a transversely-cutting saw at one side of the axis of the cylindrical saw operating in a plane perpendicular thereto; means for operating the respective saws; a work-supporting block; a block-supporting bracket movable toward and from said transversely-cutting saw whereby said block can be brought into line therewith; and means for producing an endwise movement of adjustment of said block upon said bracket.

807,777. **CAR-BRAKE.** CHARLES RIEMELIUS, Newark, N. J., assignor to Columbia Machine Works and Malleable Iron Company, Brooklyn, N. Y., a Corporation of New York. Filed June 10, 1905. Serial No. 264,573.

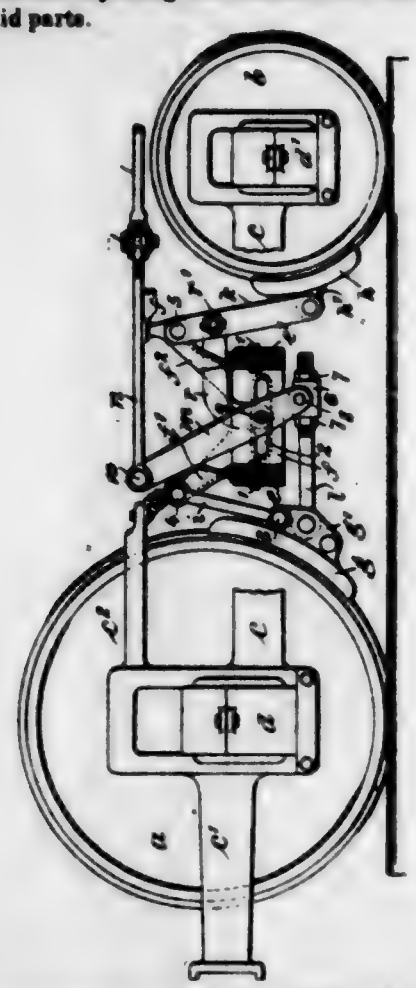
Claim.—1. In a car-brake device and in combination with a supporting-frame, a frame adapted to fit into and be supported by said frame and bracket-arms formed with and rising from the latter frame and having bearings at their upper ends, brake-shoes, and means for pivotally hanging the same from the said bracket-arms, a brake-rod, and a series of devices operated thereby and supported by said frames for actuating the brake-shoes.

2. In a car-brake device and in combination with a supporting-frame, a frame adapted to fit into and be supported by said frame and bracket-arms formed with and rising from the latter frame and having bearings at their upper ends, brake-shoes and means for pivotally hanging the same from the said bracket-arms, a brake-rod, a series of devices operated thereby and supported by said frames for actuating the brake-shoes, and means for adjusting the relation and extent of movement imparted to said parts.

3. In a car-brake device and in combination with supporting-frames, frames adapted to fit into and be supported by said frames, and bracket-arms formed with and rising from the latter frames and having bearings at their upper ends, a pair of oppositely-movable brake-shoes at opposite sides of the car-truck pivotally hung from said bracket-arms, series of similar devices extending between the brake-shoes and connected thereto, devices connecting both of said series for simultaneous movement, and a brake-rod connected to the latter devices and extending to the end of the car to be actuated by the motorman.

4. In a car-brake device and in combination with supporting-frames, frames adapted to fit into and be supported by said frames, and bracket-arms formed with and rising from the latter frames and

having bearings at their upper ends, a pair of oppositely-movable brake-shoes at opposite sides of the car-truck pivotally hung from said bracket-arms, series of similar devices extending between the brake-shoes and connected thereto, devices connecting both of said series for simultaneous movement, a brake-rod connected to the latter devices and extending to the end of the car to be actuated by the motorman, and means for adjusting the relation and extent of movement imparted to said parts.



5. In a car-brake device and in combination, a pair of oppositely-movable brake-shoes, devices for pivotally hanging and supporting the said shoes, a bar pivotally mounted with one of said shoes, a link pivotally connected to the hanger of the other shoe, a lever and connections therefrom respectively to said bar and link, and means for actuating said lever for oppositely moving the said parts and simultaneously applying both brake-shoes to the wheels.

6. In a car-brake device and in combination with a supporting-frame, a frame *f* adapted to fit into and be supported by said frame and bracket-arms formed with and rising from the said frame and having bearings at their upper ends, brake-shoes and means for pivotally hanging the same from said bracket-arms, a lever in a vertical plane passing through the latter frame, a pivotal connection for said lever in said frame, a push-bar extending from one end of the said lever to one brake-shoe, and a bent link extending from the pivotal connection of the lever in the frame to the hanger of the other brake-shoe, and means for actuating the lever.

7. In a car-brake device and in combination with a supporting-frame, a frame *f* adapted to fit into and be supported by said frame and bracket-arms formed with and rising from the said frame and having bearings at their upper ends, brake-shoes and means for pivotally hanging the same from said bracket-arms, a lever in a vertical plane passing through the latter frame, a pivotal connection for said lever in said frame, a push-bar extending from one end of the said lever to one brake-shoe, a bent link extending from the pivotal connection of the lever in the frame to the hanger of the other brake-shoe, means for actuating the lever, and means for adjusting the connection and relation between the lever and the push-bar and between the link and its pivotal connection to the hanger of one brake-shoe.

8. The combination with the main frame, the driving-wheels and idler-wheels of a car-truck, of an auxiliary frame extending across between said wheels and their axles and at each side forming a box or receptacle, a frame *f* hollow and of rectangular form adapted to fit into said box and provided with bracket-arms f', f^3 rising therefrom and diverging, their upper ends having bearings, brake-shoes for the driving and idler wheels, hanger-rods from the bracket-arm f' to the brake-shoe of the driving-wheel, a link-hanger *k* from the bearings of the bracket-arm f^3 to the brake-shoe of the idler-wheel, a lever *m* in a vertical plane passing through the frame *f*, a pivot-pin 9 connecting the same for movement in slots 2 of said frame *f*, a push-bar *l* pivotally connected to the brake-shoe of the driver-wheel, a pivotal connection between said push-bar and the lower end of the lever *m*, a bent link *r* at one end pivotally connected to the pivot 9 of the lever *m* and at its other end pivotally connected to the link *k*, and means for actuating the lever *m* by the motorman.

9. The combination with the main frame, the driving-wheels and idler-wheels of a car-truck, of an auxiliary frame extending across between said wheels and their axles and at each side forming a box or receptacle, a frame *f* hollow and of rectangular form adapted to fit into said box and provided with bracket-arms f', f^3 rising therefrom and diverging, their upper ends having bearings, brake-shoes for the driving and idler wheels, hanger-rods from the bracket-arm f' to the brake-shoe of the driving-wheel, a link-hanger *k* from the bearing of the bracket-arm f^3 to the brake-shoe of the idler-wheel, a lever *m* in a vertical plane passing through the frame *f*, a pivot-pin 9 connecting the same for movement in slots 2 of said frame *f*, a push-bar *l* pivotally connected to the brake-shoe of the driver-wheel, a pivotal connection between said push-bar and the lower end of the lever *m*, a bent link *r* at one end pivotally connected to the pivot 9 of the lever *m* and at its other end pivotally connected to the link *k*, pull-bars *n*, a draw-bar *o* and a brake-rod *o'* for actuating said parts by the motorman.

10. The combination with the main frame, the driving-wheels and idler-wheels of a car-truck, of an auxiliary frame extending across between said wheels and their axles and at each side forming a box or receptacle, a frame *f* hollow and of rectangular form adapted to fit into said box and provided with bracket-arms f' f^3 rising therefrom and diverging, their upper ends having bearings, brake-shoes for the driving and idler wheels, hanger-rods from the bracket-arm f' to the brake-shoe of the driving-wheel, a link-hanger *k* from the bearings of the bracket-arm f^3 to the brake-shoe of the idler-wheel, a lever *m* in a vertical plane passing through the frame *f*, a pivot-pin 9 connecting the same for movement in slots 2 of said frame *f*, a push-bar *l* pivotally connected to the brake-shoe of the driver-wheel, a pivotal connection between said push-bar and the lower end of the lever *m*, a bent link *r* at one end pivotally connected to the pivot 9 of the lever *m* and at its other end pivotally connected to the link *k*, and means for adjusting the pivotal relation of the lever *m* and push-bar *l* and the link *r* and link-hanger *k* for changing the operative relation of said parts.

11. The combination with the main frame, the driving-wheels and idler-wheels of a car-truck, of an auxiliary frame extending across between said wheels and their axles and at each side forming a box or receptacle, a frame *f* hollow and of rectangular form adapted to fit into said box and provided with bracket-arms f', f^3 rising therefrom and diverging, their upper ends having bearings, brake-shoes for the driving and idler wheels, hanger-rods from the bracket-arm f' to the brake-shoe of the driving-wheel, a link-hanger *k* from the bearing of the bracket-arm f^3 to the brake-shoe of the idler-wheel, a lever *m* in a vertical plane passing through the frame *f*, a pivot-pin 9 connecting the same for movement in slots 2 of said frame *f*, a push-bar *l* pivotally connected to the brake-shoe of the driver-wheel, a pivotal connection between said push-bar and the lower end of the lever *m*, a bent link *r* at one end pivotally connected to the pivot 9 of the lever *m* and at its other end pivotally connected to the link *k*, a sleeve 6 on the free exteriorly-threaded end of the push-bar *l* and having trunnions to which the lower forked ends of the lever *m* are connected, and nuts 7 for fixing the position of the sleeve 6 on the push-bar *l*, and means for adjusting and fixing the relation of the pivot-pin *r'* of the link *r* in slots of the link-hanger *k*.

12. The combination with the main frame, the driving-wheels and idler-wheels of a car-truck, of an auxiliary frame extending across between said wheels, and their axles and at each side forming a box or receptacle, a frame *f* hollow and of rectangular form adapted to fit into said box and provided with bracket-arms f', f^3 rising therefrom and diverging, their upper ends having bearings, brake-shoes for the driving and idler wheels, hanger-rods from the bracket-arm f' to the brake-shoe of the driving-wheel, a link-hanger *k* from the bearing of the bracket-arm f^3 to the brake-shoe of the idler-wheel, a lever *m* in a vertical plane passing through the frame *f*, a pivot-pin 9 connecting the same for movement in slots 2 of said frame *f*, a push-bar *l* pivotally connected to the brake-shoe of the driver-wheel, a pivotal connection between said push-bar and the lower end of the lever *m*, a bent link *r* at one end pivotally connected to the pivot 9 of the lever *m* and at its other end pivotally connected to the link *k*, a sleeve 6 on the free exteriorly-threaded end of the push-bar *l* and having trunnions to which the lower forked ends of the lever *m* are connected and nuts 7 for fixing the position of the sleeve 6 on the

push-bar *l*, a means for adjusting and fixing the relation of the pivot-pin *r'* of the link *r* in slots of the link-hanger *k*, and pull-bars *n* pivotally connected at the upper ends of the levers *m*, a draw-bar *o* connected to the pull-bars *n*, and a brake-rod *o'* extending to devices actuated by the motorman for operating said parts.

13. In a car-brake device and in combination with a supporting-frame, a frame adapted to fit into and be supported by said frame and having slots in opposite sides, and bracket-arms formed with and rising from the latter frame and having bearings at their upper ends, brake-shoes, and means for pivotally hanging the same from the said bracket-arms, a brake-rod, a lever and pivot-pin slidable in said slots of the latter frame, a connection from said pivot-pin and lever to the pivotal support of one brake-shoe, and a connection from the short arm of said lever to the other brake-shoe.

14. In a car-brake device and in combination, a pair of oppositely-movable brake-shoes, devices for pivotally hanging and supporting said shoes, a lever device in a vertical plane and a pivotal support therefor, devices actuated by the motorman for moving said lever at one end, a connection from the lower short-arm end of said lever to one of said brake-shoes, and a connection from the pivotal support of said lever to the support of the other brake-shoe.

15. In a car-brake device, and in combination, a pair of oppositely-movable brake-shoes, devices for pivotally hanging and supporting said shoes, a lever device in a vertical plane and a pivotal support therefor, devices actuated by the motorman for moving said lever at one end, a device connected to one of said brake-shoes and having an adjustable pivotal relation with the lower or short-arm end of said lever, and a device extending from the pivotal support of said lever to the pivotal support of the other brake-shoe in such a position that said device is connected to said support nearer to its pivot than to the brake-shoe, so that the function of a lever is imparted to the pivotal support of said brake-shoe.

16. In a car-brake device, and in combination with a brake-rod, a lever in a vertical plane, a pivotal support therefor, brake-shoes of varying size and weight for driver and idler wheels, a pivotal hanger for the brake-shoe of greater weight, an adjustable connection therefrom to one end of said lever, a link-hanger forming a pivotal support for the lighter brake-shoe, and a link device having an adjustable pivotal relation at one end with said hanger nearer to its pivotal support than to the brake-shoe and at the other end pivotally connected to the pivotal support of said lever.

17. In a car-brake device and in combination with a supporting-frame, a frame adapted to fit into and be supported by said frame and having slots in opposite sides and bracket-arms formed with and rising from the latter frame and having bearings at their upper ends, brake-shoes and means for pivotally hanging the same from the said bracket-arms, a brake-rod, a lever and pivot-pin slidable in said slots of the latter frame, a connection from said pivot-pin and lever to the pivotal support of one brake-shoe, a connection from the short arm of said lever to the other brake-shoe, and means for adjusting the relation and extent of movement imparted to said parts.

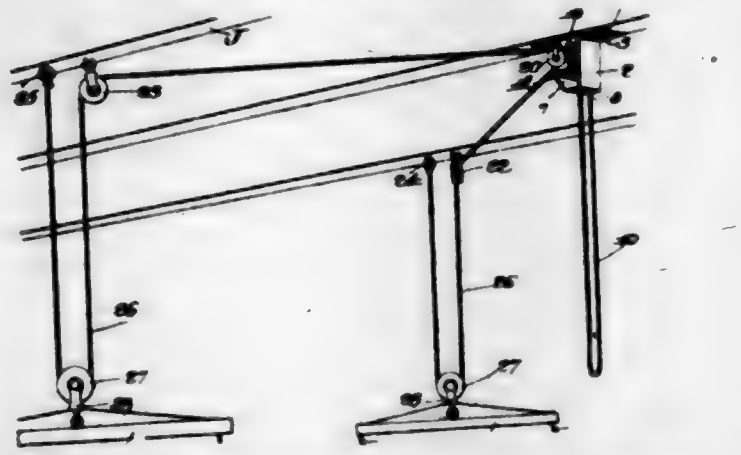
18. In a car-brake device, the combination with a brake-rod, a draw-bar connected thereto and extending across the truck, and pull-bars connected to the ends of the draw-bar, of independent frames and supports therefor at each side of the truck, brake-shoes pivotally hung from said frames, levers pivotally mounted in said frames and at one end pivoted to the pull-bars, and devices connected to said levers and actuated thereby in opposite directions for applying the brake-shoes against the wheels.

19. In a car-brake device, the combination with a brake-rod, a draw-bar connected thereto and extending across the truck and pull-bars connected to the ends of the draw-bar, of independent frames and supports therefor at each side of the truck, brake-shoes pivotally hung from said frames, levers pivoted in slots in said frames and at their long arms pivoted to the pull-bars, and devices connected to said levers and actuated thereby simultaneously in opposite directions for applying the brake-shoes against the wheels.

20. In a car-brake device, the combination with a brake-rod, a draw-bar connected thereto and extending across the truck, and pull-bars connected to the ends of the draw-bar, of independent frames and supports therefor at each side of the truck, brake-shoes pivotally hung from said frames, levers pivotally mounted in said frames and at one end pivoted to the pull-bars, devices pivoted to the short arms of said levers and extending to one brake-shoe, and other devices connected to the movable pivots of said levers and extending to the swinging supports of the other brake-shoes and actuated by said levers in opposite directions for applying the brake-shoes against the wheels.

21. In a car-brake device, the combination with a brake-rod, a draw-bar connected thereto and extending across the truck, and pull-bars connected to the ends of the draw-bar, of independent frames and supports therefor at each side of the truck, brake-shoes pivotally hung from said frames, levers pivoted in slots in said frames and at their long arms pivoted to the pull-bars, devices pivoted to the short arms of said levers and extending to one brake-shoe, and other devices connected to the movable pivots of said levers and extending to the swinging supports of the other brake-shoes and actuated by said levers simultaneously in opposite directions for applying the brake-shoes against the wheels.

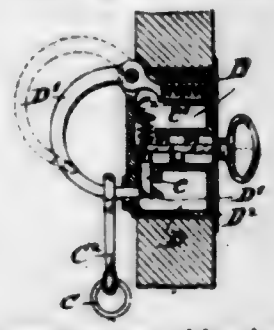
807,778. **WAGON-BODY RAISER.** JAMES L. RENICK, Hardyville, Ky. Filed May 2, 1905. Serial No. 258,494.



Claim.—1. A wagon-body raiser comprising a rope, a pair of bars combined therewith and having wagon-body-engaging means associated therewith, and means for locking the rope against movement embodying a hanger carrying resilient tension devices, a head-block, and locking-dogs coacting with the head-block to hold the rope in its adjusted position.

2. A wagon-body raiser comprising a hanger provided with a pair of swiveled sheaves and with pivoted dogs below the sheaves, a head-block carried by the hanger and including a keeper, resilient tension devices having their free ends in engagement with the keeper, a hoisting-rope having its terminals passed through the keeper and over the sheaves and secured to a suitable overhead support, bars carrying wagon-body-engaging devices, and sheaves carried by the bars and engaging loops in the rope.

807,779. **SAFETY-CHAIN FOR DOORS.** CLEMENT D. RINALD, Philadelphia, Pa. Filed Aug. 8, 1905. Serial No. 273,274.



Claim.—1. The combination, with a door and door-frame, of a safety-chain attached at one end to the latter, and an exteriorly-operable lock embodying an interiorly-disposed shackle over which the opposite end of said chain is fitted.

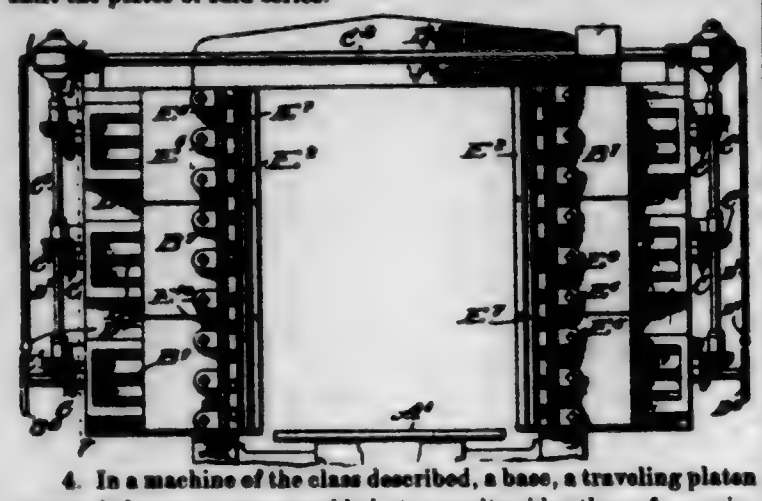
2. In a device such as described, the combination, with a safety-chain attached to the door-frame, of an exteriorly-operable lock mortised in the door and embodying an interiorly-disposed downwardly-pivoted shackle over which said chain is fitted, said lock also embodying self-acting means for raising said shackle when the same is released.

807,780. **STONE-PLANER.** CORNELL G. ROSS, Rutland, Vt., assignor to The Lincoln Iron Works, Rutland, Vt., a Corporation of Vermont. Filed Aug. 5, 1905. Serial No. 272,924.

Claim.—1. In a machine of the class described, a base, a platen traveling thereon, and a post inclined diagonally to the plane of said platen and adapted to support a tool at a similar inclination to that of the post.

2. In a machine of the class described, a base, a platen traveling thereon, a vertically-disposed post inclined diagonally to the plane of said platen, a tool-holder upon said post, and means for adjusting said tool-holder laterally on said post.

3. In a machine of the class described, a base, a traveling platen mounted thereon a post provided with a ribbed support, a series of plates slidably mounted upon said ribs, a tool-holder carried by said series of plates, and adjusting-screws connected to simultaneously shift the plates of said series.



4. In a machine of the class described, a base, a traveling platen mounted thereon, posts provided at opposite sides thereof, a series of plates slidably mounted upon each of said posts, tool-holders carried by each of said plates, adjusting-screws connected to simultaneously shift the plates of each series, and means for simultaneously shifting both series of holders toward and from each other.

5. In a machine of the class described, a base, a traveling platen disposed thereon, a vertically-disposed post at one side of said platen and having a face inclined outwardly forward from the plane of the platen, and a tool-holder mounted upon said face.

6. In a machine of the class described, a base, a traveling platen mounted thereon, a post provided with a ribbed support, plates slidingly mounted upon said ribs, a tool-holder carried by said plates, adjusting-screws for said plates, a driving-shaft geared to each of said adjusting-screws, and a power-shaft geared to said driving-shaft.

7. In a machine of the class described, a base, a traveling platen mounted thereon, a post provided with a ribbed support, plates slidingly mounted upon said ribs, a tool-holder carried by said plates, adjusting-screws for said plates, a driving-shaft geared to each of said adjusting-screws, a power-shaft geared to said driving-shaft, and a reversing mechanism disposed between said power-shaft and driving-shaft.

8. In a machine of the class described, a base, a traveling platen mounted thereon, a post provided with a ribbed support, plates slidingly mounted upon said ribs, a tool-holder carried by said plates, adjusting-screws for said plates, a driving-shaft geared to each of said adjusting-screws, a power-shaft geared to said driving-shaft, gears loosely mounted upon the upper end of the driving-shaft and meshing with a gear upon the power-shaft, and a reversing-clutch secured to said driving-shaft and adapted to engage either of said gears.

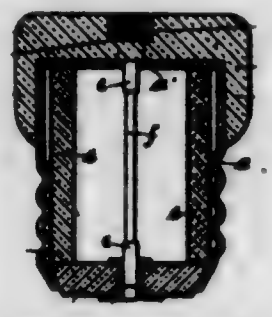
9. In a machine of the class described, a post, a tool-holder mounted thereon comprising a base-plate, a series of abutting cutter-blades resting upon an inclined face of said base-plate, a plurality of clamping-plates disposed upon said cutters with their meeting-joint intermediate of the ends of a blade, and securing-bolts extending through said clamping-plates and threaded into the base-plate at the rear of said blades.

10. In a machine of the class described, a base, a platen mounted to travel thereon, posts disposed at opposite sides of the base and provided with forwardly-inclined faces extending diagonally to the plane of the platen, adjustable plates mounted upon each of said posts to extend inwardly therefrom, means for independently operating said plates in either direction, and tool-holders carried by each of said plates.

807,781. **FUSE-PLUG.** JOSEPH SACHS, Hartford, Conn., assignor to The Johns-Pratt Company, Hartford, Conn., a Corporation of Connecticut. Filed Dec. 19, 1903. Serial No. 185,791.

Claim.—1. A fuse-plug, comprising a casing having a portion thereof provided with screw-threads, a disk of insulating material secured in the screw-threaded end of the casing, an electrical contact secured centrally in said disk, a yoke integral with and extending across the opposite end of the casing, a cap of insulating material fitting over this end of the casing, means for securing together the said casing and cap in their relation to one another, a fuse-strip within the casing and extending between said yoke and electrical contact, and electrical and mechanical connections between the said fuse and yoke and electrical contact.

2. A fuse-plug comprising a casing having a portion thereof provided with screw-threads, a disk of insulating material secured in the screw-threaded end of the casing, an electrical contact secured centrally in said disk, a yoke in electrical contact with and extending across the opposite end of the casing, a cap of insulating material fitting over this end of the casing and having holes therein, fingers integral with said casing and adapted to extend through the holes in the cap to be turned down thereon to secure the said parts together in relation to one another, a fuse within the casing, and electrical and mechanical connections between the said fuse and yoke and electrical contact.



3. A fuse-plug, comprising a casing having a portion thereof provided with screw-threads, a disk of insulating material secured in the screw-threaded end of the casing, an electrical contact secured centrally in said disk, a yoke in electrical contact with and extending across the opposite end of the casing, a cap of insulating material fitting over this end of the casing, and having holes therein, fingers integral with said casing and adapted to extend through the holes in the cap to be turned down thereon to secure the said parts together in relation to one another, a fuse within the casing, an insulating filling material within said casing and surrounding the said fuse, and electrical and mechanical connections between the said fuse and the said yoke and electrical contact.

4. A fuse-plug, comprising a casing having a portion thereof provided with screw-threads, a disk of insulating material secured in the screw-threaded end of the casing, an electrical contact secured centrally in said disk, a yoke in electrical contact with and extending across the opposite end of the casing, a cap of insulating material fitting over this end of the casing, and having holes therein, fingers integral with said casing and adapted to extend through the holes in the cap to be turned down thereon to secure the said parts together in relation to one another, a cylinder of insulating material fitting closely within said casing, a fuse within the cylinder, and electrical and mechanical connections between the said fuse and electrical contact.

5. A fuse-plug, comprising a casing having a portion thereof provided with screw-threads, a disk of insulating material secured in the screw-threaded end of the casing, an electrical contact secured centrally in said disk, a yoke in electrical contact with and extending across the opposite end of the casing, a cap of insulating material fitting over this end of the casing, and having holes therein, fingers integral with said casing and adapted to extend through the holes in the cap to be turned down thereon to secure the said parts together in relation to one another, a cylinder of insulating material fitting closely within said casing, a fuse within the cylinder, an insulating filling material within said cylinder and surrounding the said fuse, and electrical and mechanical connections between the said fuse and the said yoke and electrical contact.

807,782. **PROCESS OF BROMINATING INDIGO.** ALBRECHT BERNTHSEN, Höchst-on-the-Main, Germany, assignor to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Oct. 17, 1903. Serial No. 177,722.

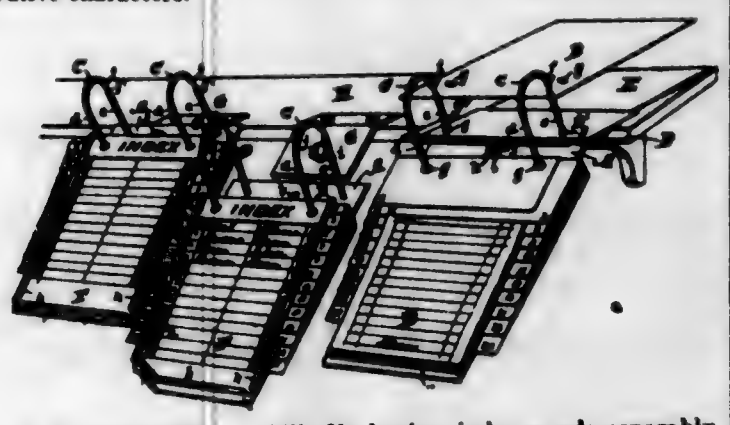
Claim.—1. The herein-described process of brominating indigo, which consists in treating indigo with bromin in the presence of an aqueous halogen acid of such concentration as to permit of the least possible formation of bromoisatin.

2. The herein-described process of brominating indigo, which consists in subjecting a mixture of indigo and about twenty to fifty per cent. of water, to the action of bromin, whereby aqueous hydrobromic acid is formed, and subjecting said indigo to the action of said hydrobromic acid.

807,783. **BILL-FILE.** EDWARD H. SIMMONS, Canton, Ohio. Filed Jan. 9, 1905. Serial No. 240,157.

Claim.—1. In a bill-file, the combination of a body-plate having binding-arches thereon and a series of index-cards separably

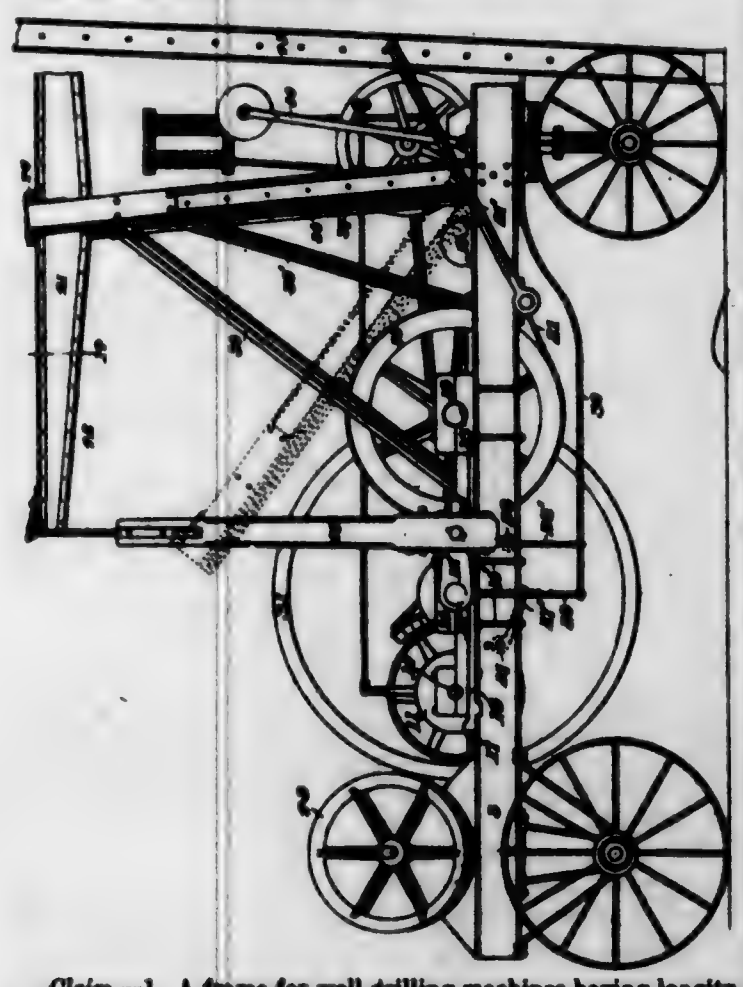
mounted on the arches, the index-cards being made in pairs of equal length, each pair being a little longer than the next pair above and the sides of the several cards being projected on alternate sides a short distance beyond the sides of the bills and adjacent cards, the alternately-exposed lower corners of the cards being marked by consecutive characters.



2. In combination, a bill-file having index-cards separably mounted thereon, the index-cards having parts successively exposed on alternate sides and marked by successive characters, and a cover having an index-sheet thereon marked along the side edges by successive characters in the same relative position as the card characters, with spaces on the sheet for entering the names of accounts opposite the several characters.

3. In combination, a shelf or the like having a connecting-plate attached thereon and extended diagonally downward therefrom, there being a post having a head on the connecting-plate, and a bill-file including a base-plate having an aperture near the upper end thereof adapted to freely pass the post-head and a slot extended upward from the aperture adapted to neatly receive the post-shank, there being shoulders on the base-plate adapted to abut against the side edges of the connecting-plate.

807,784. **WELL-DRILLING APPARATUS.** LEONARD D. SHEYOCK, Marietta, Ohio. Filed May 3, 1905. Serial No. 258,694.



Claim.—1. A frame for well-drilling machines having longitudinal side members and transverse side connecting members, the longitudinal members being formed each of a channel-section arranged on edge with the channels disposed outwardly, and shorter channel members at the inner sides of and arranged back to back with the main channel members.

2. In a well-drilling machine, the combination of a frame, shaft-bearings, channel-supports resting flatly on the frame with their channels uppermost and with the bearings positioned therein.

3. In a well-drilling machine, the combination of a frame having flanged side members, shaft-bearings, channel-shaped supports resting flatly on the frame sides with their channels uppermost and with the bearings positioned therein, securing-bolts extending through the bearings and through the flanges of the frame side members, and means for adjusting the channel-shaped supports.

4. A frame for well-drilling machines comprising relatively narrow side beams, connecting cross-bars, shaft-bearings supported by the frame sides, and lateral extensions for the frame sides to provide supporting-surfaces of sufficient width for the bearings.

5. In a well-drilling machine, the combination of a frame, a short frame extension secured to the inner side of the frame, bearings on opposite sides of the frame—one of said bearings being supported by said frame extension, a shaft journaled in the bearings, and a wheel secured to the shaft having its rim projected into the plane of said frame extension and in close proximity to the frame side to which said extension is secured.

6. In a well-drilling machine, the combination of a frame, a main crank-shaft journaled therein, a cable-spool loosely mounted on the crank-shaft, a drilling-cable reel journaled in the frame in front of the crank-shaft, a bailing-line spool journaled in the frame at the rear of said crank-shaft, gearing connecting the crank-shaft and the drilling-cable reel, clutch mechanism for rendering the gearing either operative or inoperative, and clutch mechanism for engaging and disengaging the main crank-shaft with the cable-spool mounted thereon.

7. In a well-drilling machine, the combination of a frame, a main crank-shaft journaled therein, a band-wheel on said crank-shaft, a drilling-cable reel journaled in the frame in front of the crank-shaft, gearing connecting the crank-shaft and the drilling-cable reel, clutch mechanism for rendering the gearing either operative or inoperative, a cable-spool loosely mounted on the main crank-shaft, means for connecting said spool and shaft, a bailing-line spool journaled in the frame at the rear of the crank-shaft, and a friction drive for the bailing-line spool actuated by the said band-wheel.

8. In a well-drilling machine the combination of a frame, the main crank-shaft journaled therein, a gear-wheel loose on the shaft, a cable-spool also loose on the shaft, a double clutch interposed between the wheel and spool for engaging said parts with the shaft, and a drilling-cable reel adapted to be driven by said gear-wheel.

9. In a well-drilling machine the combination of a frame having separated side members, a shaft journaled transversely in the frame, rotatable parts mounted on the shaft, a clutch slidable on the shaft for engaging said parts, a clutch-throwing lever depending from the clutch, supports extending transversely between the side members, a fulcrum for the clutch-lever carried by one of the supports, an operating-lever connected to the clutch-throwing lever, and a fulcrum from the operating-lever carried by the other of said transverse supports.

10. In a well-drilling machine the combination of a frame, and a backwardly-leaning samson-post mounted on the front portion of the frame.

11. In a well-drilling machine, the combination of a frame, a backwardly-leaning samson-post mounted on the front portion of the frame, and a backwardly-extending brace between the post and frame.

12. In a well-drilling machine the combination of a frame, a downwardly-turning samson-post mounted on one side thereof, and means for moving the post inward from the frame side before it is turned downward.

13. In a well-drilling machine the combination of a frame, a hinge-rod therein, a samson-post slidably mounted on the rod and adapted to turn downward thereon over the machine-frame, and means for securing the post to the frame when in upright position.

14. A samson-post for well-drilling machines comprising separated metallic side members formed with bearings at their upper ends, and a timber center between the side members stopping short of the upper ends of the latter to form a walking-beam space.

807,785. **PADLOCK.** FRANK SOLET, Philadelphia, Pa., assignor to Miller Lock Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 13, 1905. Serial No. 255,321.

Claim.—1. The combination, in a padlock, of a casing, a pivoted shackle, one or more tumblers and a pivoted locking-plate having connection with one of said tumblers whereby it is moved, substantially as specified.

2. The combination, in a padlock, of a casing, a pivoted shackle having a notched nose and a projecting heel, one or more tumblers

engaging said heel and a pivoted locking-plate having connection with one of the tumblers whereby it is moved and also serving to lock the shackle in the closed position, substantially as specified.

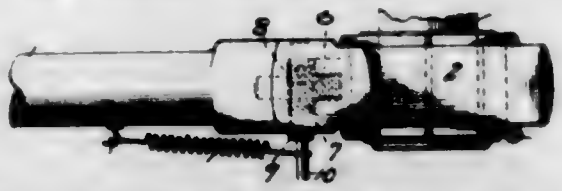


3. The combination, in a padlock, of a casing, a pivoted shackle having a notched nose and a projecting heel, one or more tumblers engaging said heel, a locking-plate separate from the tumblers, and connection between said plate and one of the tumblers, said locking-plate serving to lock the shackle in the closed position, by engagement both with the notched nose and projecting heel of the same, substantially as specified.

4. The combination, in a padlock, of a casing, a pivoted shackle having a notched nose and a projecting heel, one or more tumblers engaging said heel and a pivoted locking-plate having connection with one of the tumblers and also serving to lock the shackle in the closed position by engagement both with the notched nose and projecting heel of the same, substantially as specified.

5. The combination, in a padlock, of a casing, a pivoted shackle having a notched nose and a projecting heel, one or more pivoted tumblers engaging said heel, one or more fixed wards alternating with said tumbler or tumblers, and a pivoted locking-plate having connection with one of the tumblers whereby it is moved and constructed to engage and lock the shackle when the latter is in the closed position, substantially as specified.

807,786. BEARING-ADJUSTER. GEORGE C. SPANGLER, Lagrange, Ind. Filed Apr. 7, 1905. Serial No. 254,316.



Claim.—1. In a bearing-adjuster the combination with a sectional bearing-block, of a screw-threaded shaft adapted to move one of the sections of the said bearing-block toward the other and means for rotating the said shaft, said means comprising a crank-arm and an anchored spring connected with the said crank-arm.

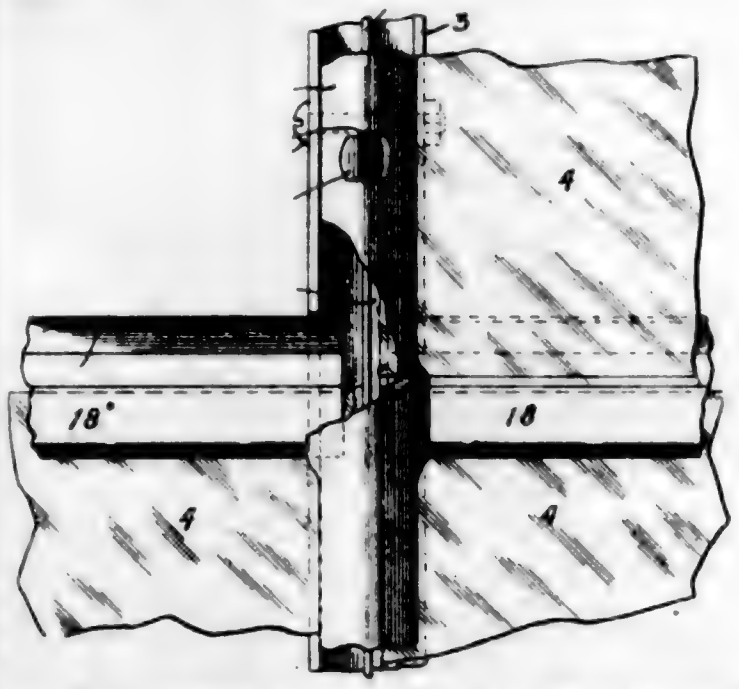
2. In a bearing-adjuster the combination with a sectional bearing-block, of a screw-threaded shaft adapted to move one of the sections of the said bearing-block toward the other and means for rotating the said shaft, said means comprising a shaft carrying a crank-arm, a spring connected with said crank-arm and means for anchoring the said spring at opposite sides of the shaft carrying the said crank-arm.

3. In a bearing-adjuster the combination with a sectional bearing-block, of a shaft having a threaded end engaging one of the sections thereof, a worm-wheel secured to said shaft, and a spring-rotated screw engaging said worm-wheel and adapted to impart motion thereto.

807,787. SKYLIGHT. ALLEN N. STAPLES, St. Paul, Minn. Filed Jan. 16, 1905. Serial No. 241,186.

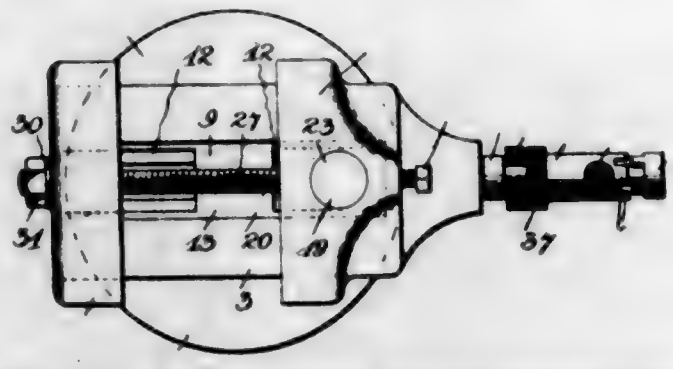
Claim.—1. In a skylight, the combination, with a channel-bar, of a plate centrally arranged on edge therein, bolts passing through the flanges of said bar and plate and having lock-nuts upon each side of said plate the upper edge of said plate extending above said bar, glass lights resting upon the flanges of said bar and contacting with said plate and having a plastic material in the joints between them, and a cap covering said joints and clamped on said plate, substantially as described.

2. In a skylight, the combination, with a channel-bar, of a plate centrally arranged on edge therein, bolts passing through the flanges of said bar and through said plate and having means for holding said plate centrally between said flanges, the upper edge of said plate extending above said bar, glass lights resting upon the flanges of said bar and contacting with said plate and having a plastic material in the joints between them, and a cap concealing the joint between said lights and secured on said plate, substantially as described.



3. In a skylight, the combination, with a side wall 2, of bars 3 resting thereon and having slots or openings in one side, of gutters having their ends projecting through said slots and provided with seats, glass plates resting upon said seats above said gutters, and a flange 19 forming a depending continuation of said seat and bearing upon the wall 2, substantially as described.

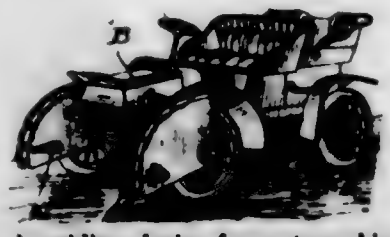
807,788. VISE. DANIEL E. STETLER, Medford, Okla. Filed May 9, 1905. Serial No. 259,495.



Claim.—1. A vise of the character described comprising a base having a guide thereon, a head slidably mounted upon said guide and carrying a fixed jaw, a slidably-mounted block, a jaw upon said block to coact with said fixed jaw, a screw for adjusting said head upon said base, a screw for adjusting said block to move its jaw toward and from said fixed jaw, and a device shiftable on and carried by the block-moving screw for operating said screws alternately.

2. A vise of the character described comprising a base having a guide thereon, a head slidably mounted upon said guide and carrying a fixed jaw, a slidably-mounted block, a jaw upon said block to coact with said fixed jaw, a screw for adjusting said head upon said base, a screw for adjusting said block to move its jaw toward and from said fixed jaw, a gear upon one end of the first-mentioned screw, a clutch member upon the adjacent end of the second-mentioned screw, a sliding and rotating handle upon the latter, a clutch member upon one end of said handle to engage said clutch member upon said screw, and a gear upon the other end of said handle to mesh with said gear upon said screw.

807,789. GUIDING DEVICE FOR MOTOR-VEHICLES. ZACHARY T. SWEENEY, Columbus, Ind. Filed June 23, 1905. Serial No. 266,452.



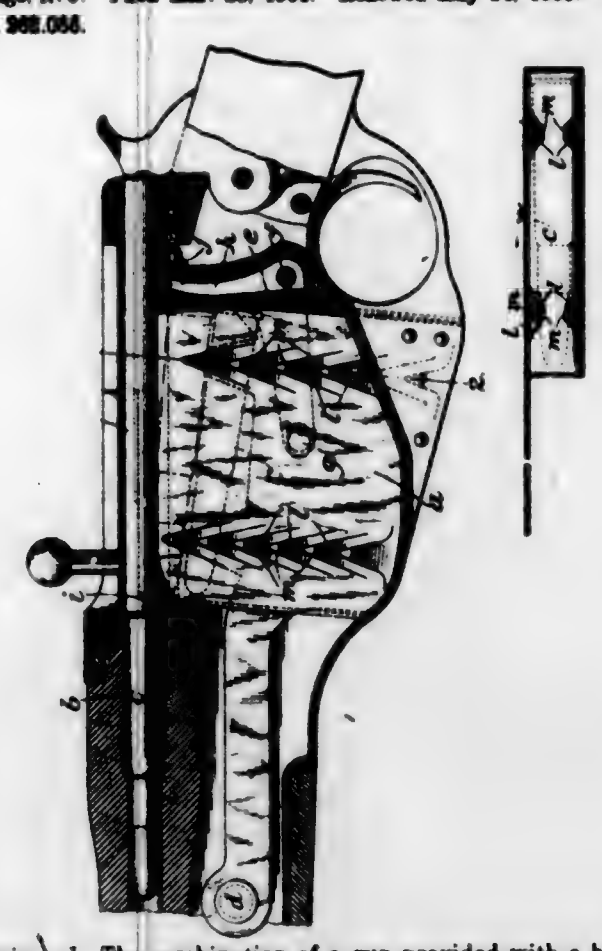
Claim.—1. A guiding device for motor-vehicles comprising a hood carried by a steering-wheel of the vehicle and extending for-

ward therefrom, adapted to contact with an obstruction and to deflect the steering-wheel to guide the vehicle past the obstruction.

2. A guiding device for motor-vehicles comprising a hood carried by a steering-wheel of the vehicle extending forward therefrom and carrying at its forward end, on a vertical axis, a wheel adapted to contact with an obstruction and to deflect the hood and with it the steering-wheel, to guide the vehicle past the obstruction.

3. A guiding device for motor-vehicles comprising a hood carried by a steering-wheel of the vehicle extending forward therefrom and carrying at its forward end, on a vertical axis, a wheel of a diameter greater than the width of the steering-wheel tire.

807,790. MAGAZINE FOR FIREARMS. CECIL H. TAYLOR, Philadelphia, Pa., assignor, by mesne assignments, to Knox Taylor, Highbridge, N. J. Filed Mar. 20, 1901. Renewed May 24, 1905. Serial No. 262,056.



Claim.—1. The combination of a gun provided with a bolt, a magazine in which the cartridges lie side by side, arranged below and communicating with the cartridge-chamber of said gun and comprising two parts, one of said parts being pivoted to move in relation to the other, clips formed integral with each of said parts to engage with the cartridges, a bell-crank lever secured to the movable part, and means on the bolt engaging with said bell-crank lever to actuate said movable part of the magazine, substantially as described.

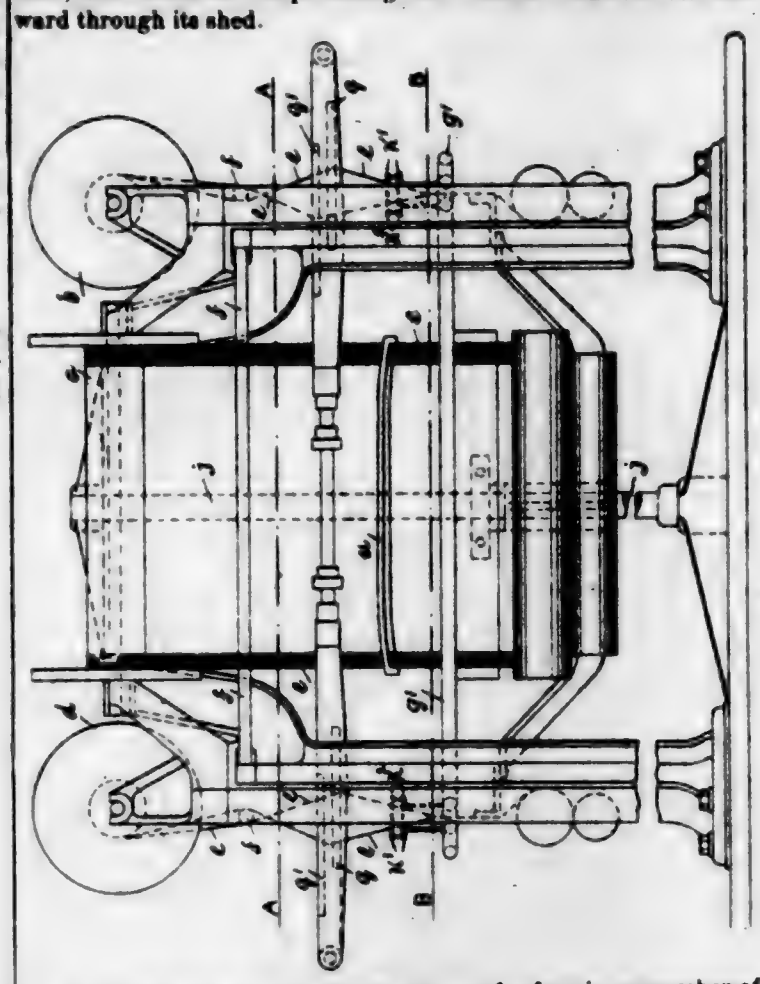
2. The combination with a gun, of a magazine comprising two parts one of which is movable with relation to the other, both of said parts having clips to engage the cartridges, and one of said parts having an opening for a cartridge-belt, means to disengage the cartridges from the belt when the belt is moved through the magazine, and means for actuating the movable part of the magazine to feed the cartridges, substantially as described.

3. The combination with a gun, of a magazine communicating directly with the cartridge-chamber thereof comprising two parts movable with relation to each other, clips formed integral with each of said parts to engage with the cartridges, the stationary part being provided with an opening to receive a belt provided with cartridges, means on said part to disengage the cartridges from the belt, when the belt is moved through the magazine, means to receive and hold said cartridges, and means for actuating said movable part to feed the cartridges toward the cartridge-chamber, substantially as described.

807,791. LOOM FOR WEAVING. ABRAHAM TCHERNIACK, Moscow, Russia. Filed Nov. 28, 1903. Serial No. 183,013.

Claim.—1. A loom for weaving having means for forming a number of separate vertical sheds, each on the arc of a circle, and grouped around a common vertical center, and a reciprocating operating mechanism for inserting separate weft-threads in the separate sheds.

2. A loom for weaving, having means for forming a number of separate sheds about a common center, separate shuttle for each shed, and means for reciprocating each shuttle backward and forward through its shed.



3. A loom for weaving, having means for forming a number of separate sheds, each on the arc of a circle, and grouped around a common center, a separate shuttle for each shed, and means for reciprocating each shuttle backward and forward through each shed.

4. A loom for weaving, having means for forming a number of separate sheds each on the arc of a circle and grouped around a common center, and a separate shuttle for each shed, and means for carrying each shuttle through its shed at a substantially constant speed and then reversing the direction of its carriages.

5. A loom for weaving a number of fabrics, comprising a circular trackway, and means for forming sheds perpendicular thereto, shuttles resting on said trackway, and means for passing said shuttles through the sheds by the movement of the trackway without displacing the shuttles horizontally upon the trackway.

6. A loom, comprising a trackway formed of concentric rings, between which warp-threads pass, means to form a shed, a shuttle held against horizontal motion upon said trackway, and means to operate said trackway, whereby, upon such operation the shuttle will be carried through the shed, one side of which will pass between one side of the shuttle and one ring and the other side of which shed will pass between the other side of the shuttle and another ring.

7. A loom, comprising a trackway composed of a number of circular rings, means thereon for holding a shuttle against horizontal motion in the trackway, means for producing a shed passing between two of such rings, a shaft and arms therefrom carrying said rings and means for operating said rings to move them through the shed.

8. A loom, comprising a trackway composed of a number of circular rings, means for holding a shuttle against horizontal motion in the trackway, means for producing a shed passing between two of such rings, a shaft and arms therefrom carrying said rings and means for reciprocating said trackway through the shed.

9. A loom, having a trackway composed of a number of rings, a holder for a shuttle-carrier mounted on adjacent rings, said holder being so formed as to prevent horizontal displacement of the carrier and having its inner edges adapted to permit the carrier and holder to be traversed with the shed between them.

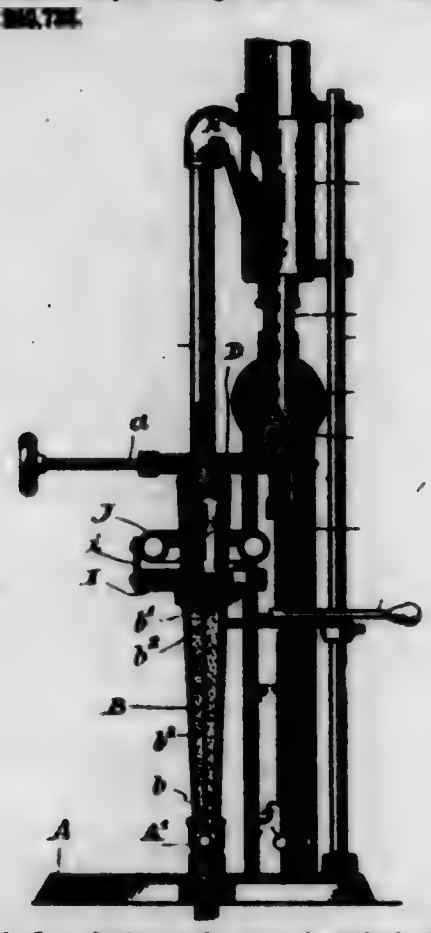
10. A loom for weaving, comprising a trackway composed of a number of rings, a holder for a shuttle in two vertical parts, attached to adjacent rings, the two parts forming a contracted opening at each end of said holder, and a shuttle held by gravity therein.

11. In combination with a circular trackway for looms, a shuttle-holder composed of plates, with a free passage between them, each plate having enlarged ends and a boat-shaped shuttle resting in the mid-portion of said holder.

12. A loom, having a plurality of separate sheds and a slay for each shed, said slays being hinged to a common center at one end and operating-arms adapted to move them on their hinges to beat up the weft-threads.

13. A loom for weaving a number of pieces of fabric at once, comprising a common central axis, a trackway composed of a number of rings and means to reciprocate said trackway on said common axis, gravity-held shuttles carried by said trackway, means to prevent their horizontal motion on said trackway, frames carrying the healds arranged about said common center and means for operating them to form the shed, and slays for beating up the weft, likewise arranged about said common center and hinged thereto on their inner ends, and means for moving said slays on their hinged ends.

807,793. GENERATOR. WILLIAM H. THAYER, Chicago, Ill., assignor to Bolte & Weyer, Chicago, Ill., a Firm. Filed Apr. 15, 1905. Serial No. 255,725.



Claim.—1. In a device of the class described, the combination with a generating-chamber, of a heating-pan secured thereto, an annular burner surrounding the heating-chamber, struts extending upward from the heating-pan and supporting the burner, and means for supplying vapor to the burner.

2. In a device of the class described, the combination with a generating-chamber, of a heating-pan adjustably secured thereto, an annular burner surrounding the heating-chamber, struts extending upward from the heating-pan and supporting a burner, and means for supplying vapor to the burner.

807,798. STIRRUP. GEORGE J. THURGOOD, Weir, Kans. Filed July 5, 1904. Serial No. 215,851.

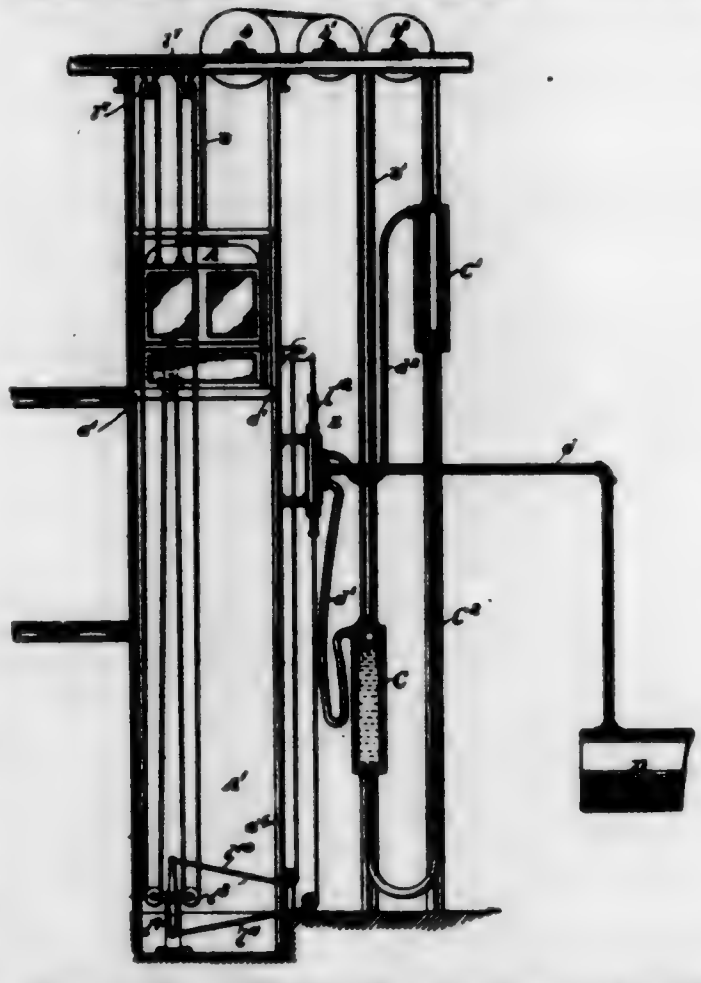
Claim.—1. A stirrup comprising a hanger formed of a single piece of material and provided with an attaching-eye at one end, the opposite ends of the material being spaced apart and arranged in horizontal planes, a tread-plate having a downwardly-bent perforated portion at its inner end through which the horizontal portions of the hanger are passed, the opposite end of the plate having downwardly-directed perforated ears for the reception of respective ends of the said horizontal portions of the material and also an upwardly-directed lug intermediate the ears, and a guard-plate arranged between the outer end of the tread-plate and the said lug, the longitudinal edges of the guard-plate being bent upwardly and serrated.

2. A stirrup comprising a hanger, a tread-plate provided with a downwardly-directed portion at each end for engagement with the hanger, the outer end of the plate having an upwardly-directed lug, a guard-plate arranged between the outer end of the tread-plate and said lug, the longitudinal edges of the tread-plate being directed upwardly and serrated, and a pad arranged upon the upper surface of the tread-plate.

807,798.



807,794. ELEVATOR. ISAAC H. VEEDER, Yonkers, N. Y., assignor to Otis Elevator Company, East Orange, N. J., a Corporation of New Jersey. Filed Jan. 30, 1904. Serial No. 191,312.



Claim.—1. The combination with an elevator-car, of a plurality of receptacles flexibly connected therewith and to each other and each adapted to contain a liquid and to serve as a counterbalance for the car, a source of gaseous pressure, means for controlling the supply of gaseous pressure to each of said receptacles, and means operable from the car for actuating said controlling means.

2. The combination with an elevator-car, of a plurality of receptacles connected therewith and each adapted to contain a liquid and to serve as a counterbalance for the car, a flexible connection between said receptacles, a source of gaseous pressure, means for controlling the supply of gaseous pressure to each of said receptacles, and a device operated from the car for controlling said means.

3. The combination with an elevator-car, of a plurality of receptacles connected therewith and each adapted to act as a counterweight when supplied with a liquid, a lever carried by said car for controlling the supply of liquid to each of the receptacles, and brakes carried by the car for stopping it in any position of its travel and operated by said lever.

4. The combination with an elevator-car, of a plurality of counterweights adapted to be successively used, brakes carried by the

car for stopping it in any position of its travel, and a lever for operating said brakes and for controlling the use of said counterweights.

5. The combination with an elevator-car, of a plurality of counterweights adapted to be successively used, brakes carried by the car for stopping it in any position of its travel, and a lever for operating said brakes and for controlling the use of said counterweights, said lever adapted to move in one direction to control the brakes and in another direction to control the counterweights.

6. The combination with an elevator-car, of two receptacles each adapted when containing liquid to act as a counterweight for the car, a flexible connection between the said receptacles through which the liquid passes from one receptacle to the other, gaseous-pressure mechanism for forcing the liquid from one receptacle to the other, means for controlling the supply of gaseous pressure to the receptacles and a controlling mechanism operated from the elevator-car for operating said means.

7. The combination with an elevator-car, of two receptacles each adapted when containing a liquid to act as a counterweight for the car, a flexible connection between the two receptacles through which the liquid passes from one receptacle to the other, gaseous-pressure mechanism and means controlling the same for forcing the liquid from one receptacle to the other, and a controller-lever carried by the car for operating said means.

8. The combination with an elevator-car, of two receptacles each adapted when containing a liquid to act as a counterweight for the car, a flexible connection between the two receptacles through which the liquid passes from one receptacle to the other, a fluid-pressure mechanism and means controlling the same for forcing the liquid from one receptacle to the other, brakes carried by the car, and a controller-lever carried by the car for operating the said means and the brakes.

9. The combination with an elevator-car, of a plurality of receptacles each adapted when containing a liquid to act as a counterweight for the car, a connection between said receptacles for the passage of liquid from one receptacle to the other, and gaseous-pressure mechanism and means for controlling the same for forcing the liquid from one receptacle to the other.

10. The combination with an elevator-car, of a plurality of receptacles each adapted when containing a liquid to act as a counterweight for the elevator-car, guides for each of said receptacles, a cable between the elevator-car and one receptacle and a cable between the two receptacles, a flexible connection between the two said receptacles through which the liquid passes from one receptacle to the other, a fluid-pressure mechanism and means for controlling the same for forcing the liquid from one receptacle to the other, and a controller mechanism operated from the car for operating the said means controlling the fluid-pressure mechanism.

11. The combination with an elevator-car, means for controlling the movement of the car, brakes carried by the car, a lever also carried by the car, and adapted when moved in one direction to operate the brakes, and when moved in another direction to operate the controlling means.

12. The combination with an elevator-car, of means for controlling the movement of said car, brakes carried by the car, and a single device for operating said controlling means and said brakes.

13. The combination with an elevator-car, of means for moving the same, means for controlling said moving means, brakes carried by the car, and a lever carried by the car for simultaneously actuating said brakes and operating said controlling means.

14. The combination with an elevator-car, of means for controlling the movement of said car, brakes carried by the car, a lever for operating said controlling means, and means engaged by said lever to actuate said brakes.

15. The combination with an elevator-car, of means for controlling the movement of said car, brakes carried by the car, a lever for operating said controlling means, and means movable at right angles to the movement of said lever and coacting therewith for actuating said brakes.

16. The combination with an elevator-car, of means for controlling the movement of said car, a lever for operating said controlling means, brakes carried by the car, and an additional lever coacting with said first-named lever for actuating said brakes.

17. The combination with an elevator-car, of means for controlling the movement thereof, brakes carried by the car, brake-applying means, a trunnioned lever operatively connected to said brake-applying means, and an additional lever for operating said controlling means, said additional lever being pivoted to said first-named lever to have a movement at right angles to its movement in a guiding-slot therein.

18. The combination with an elevator-car, of two receptacles each adapted when containing liquids to act as a counterweight for the car, a flexible connection between the said receptacles through which the liquid passes from one receptacle directly to the other, fluid-pressure mechanism for forcing the liquid from one receptacle to the other, means for controlling the supply of fluid-pressure to the receptacles, and the controlling mechanism operated from the elevator-car for operating said means.

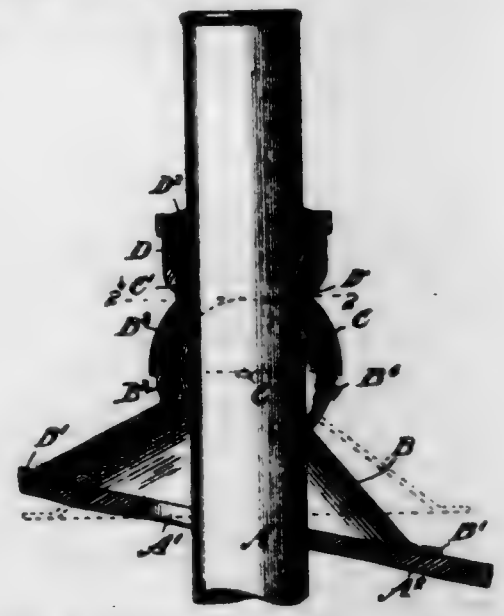
19. The combination with an elevator-car, of two receptacles, each adapted when containing a liquid to act as a counterweight for the car, a flexible connection between the two receptacles through which the liquid passes from one receptacle directly to the other, fluid-pressure mechanism and means controlling the same for forcing the liquid from one receptacle to the other, and a controlling-lever carried by the car for operating said means.

20. The combination with the elevator-car, of a plurality of receptacles, each adapted when containing a liquid, to act as a counterweight for the car, a connection between said receptacles for the passage of liquid from one receptacle directly to the other, and fluid-pressure mechanism and means for controlling the same for forcing the liquid from one receptacle to the other.

21. The combination with a car or platform, of a plurality of receptacles connected therewith and each adapted to contain a liquid and to serve as a counterbalance for the car, a flexible connection between said receptacles, a source of fluid-pressure separate from said flexible connection, and means for controlling the supply of fluid-pressure to each of said receptacles, and a device operated from the car for controlling said means.

22. The combination with an elevator-car, of a plurality of receptacles connected therewith and each adapted to contain a liquid and to serve as a counterbalance for the car, a flexible connection affording direct communication between said receptacles, a source of fluid-pressure, means for controlling the supply of fluid-pressure to each of said receptacles, and means for actuating said controlling means.

807,795. **ROOF-FLASHING.** LEWIS WATSON, Nashua, N. H. Filed Mar. 11, 1905. Serial No. 249,608.



Claim.—1. In a roof-flashing, an elongated upwardly-tapering base provided with a laterally-extending roof-plate at the lower portion thereof, a substantially spherical member at the upper portion of said base, the top and one side wall of said member being cut away, a substantially spherical cap secured to a stand-pipe and disposed to cover said cut-away portion, and means for clamping said member and cap against relative movement.

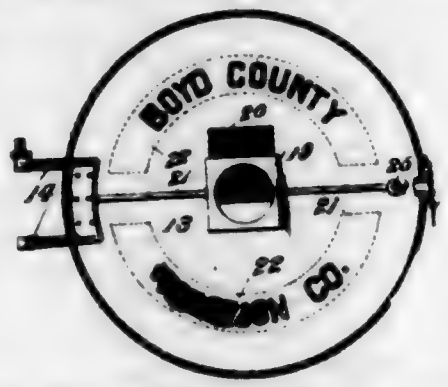
2. In a roof-flashing, an elongated upwardly-tapering base provided with a laterally-extending roof-plate at the lower portion thereof, a substantially spherical member at the upper portion of said base, the top and one side wall of said member being cut away, a substantially spherical cap secured to a stand-pipe and disposed to cover said cut-away portion, a pivotal connection between said cap and spherical member, roughened contact-faces upon the cap and spherical member at their pivotal point, and a stop-lug carried by said member at one side to engage said cap.

3. In a roof-flashing, a base provided with a laterally-extending roof-plate at the lower portion thereof, a substantially spherical member at the upper portion of said base, the upper portion of said member being cut away, a substantially spherical cap having a flange engaging a stand-pipe and disposed to cover said cut-away

portion, a pivotal connection between said cap and spherical member, a packing-ring surrounding said stand-pipe and embracing said flange, and means for securing said ring upon said pipe.

4. In a roof-flashing, a base provided at its upper portion with a substantially spherical member having a segmentally-disposed slot in its upper portion, a roughened face having a pivoting-aperture disposed at the equator of said member, a substantially spherical cap disposed upon said member and extending to the pivotal point thereof, a depending lug carried by said cap and provided with a roughened inner face, and a clamping-bolt extending through said lug and spherical member.

807,796. HEADLIGHT-LAMP. HARLAN P. WELLMAN, Ashland, Ky. Filed Jan. 28, 1905. Serial No. 242,779.



Claim.—1. An electric headlight-lamp having two handles extended along the opposite sides of the casing to which they are secured at their ends, the longitudinal portions of such handles being spaced away from the casing so as to provide separate handholds, and a bail extended transversely of the casing at the center of gravity thereof and secured at its ends to the centers of said handles.

2. An electric headlight-lamp having, in combination, a casing, a door-frame hinged to said casing at one side thereof, transparent glass in such door-frame, a second door-frame hinged coaxially with the first-mentioned door-frame and designed to extend over the latter, non-transparent material carried by said second door-frame having words or letters formed therein, translucent material in rear of such words or letters, and means for holding the second door-frame in each of its extreme positions.

3. An electric headlight-lamp having, in combination, a casing, a door-frame hinged to said casing at one side thereof, transparent glass in such door-frame, a second door-frame hinged coaxially with the first-mentioned door-frame and designed to extend over the latter, non-transparent material carried by said second door-frame, an opening at the center of said second door-frame, a removable glass section designed to fit over said opening, and means for holding said second door-frame in each of its extreme positions.

4. An electric headlight-lamp having, in combination, a casing, a door-frame hinged thereto at one side thereof and carrying transparent glass therein, a second door-frame hinged coaxially with said first-mentioned door-frame over which latter it is designed to extend, said second door-frame carrying non-transparent material therein, means for removably hinging said first-mentioned door-frame to said casing, and separate means for removably hinging said second door-frame coaxially with said first-mentioned door-frame, and a plate-spring secured to said casing for engaging said second door-frame for holding it in each of its extreme positions.

5. An electric headlight-lamp having, in combination, a casing having hinging arms at one side, a door-frame also having hinging arms, both sets of hinging arms having openings, a hollow pintle passed through the coincident openings of both sets of hinging arms, transparent glass carried by said door-frame, a second door-frame having hinging arms formed with openings designed to coincide with the openings of the aforementioned sets of hinging arms, a removable bolt passed through said pintle for securing the hinging arms of the second door-frame, non-transparent material carried by said second door-frame, and a spring-plate secured to said casing for engaging one of the arms of said second door-frame for holding the latter in each of its two extreme positions.

6. An electric headlight-lamp having, in combination, a casing having hinging arms at one side, a door-frame also having hinging arms, both sets of hinging arms having openings, a hollow pintle passed through the coincident openings of both sets of hinging arms, transparent glass carried by said door-frame, a second door-frame having hinging arms formed with openings designed to coincide with the openings of the aforementioned sets of hinging arms, one of the arms of said second door-frame having opposite flat sides, a removable bolt passed through said pintle for securing the hinging arms of the second door-frame, non-transparent material carried by said second door-frame, and a spring-plate secured to said casing for engaging said flat sides of one of the arms of the second door-frame for holding the latter in each of its two extreme positions.

7. The combination with the lamp-casing and the reflector, of the door-frame having transparent glass therein, a second door-frame designed to extend over the first door-frame, non-transparent material in said second door-frame having an opening at its center in line with the focal point of the reflector, and a glass section removably secured in said second door-frame over said opening in front of the non-transparent material.

8. The combination with the lamp-casing and the reflector, of the door-frame, transparent glass therein, a second door-frame designed to extend over the first door-frame, non-transparent material in said second door-frame having an opening at its center in line with the focal point of the reflector, an open top pocket or receptacle surrounding such opening, ribs connecting such pocket to said second door-frame, and a removable glass section designed to fit in said pocket.

807,797. HAMMOCK. GEORGE H. WINANS, Kalamazoo, Mich. Filed Feb. 12, 1904. Serial No. 193,242.



Claim.—1. In a hammock, the combination of a body consisting of a bottom portion B of canvas or the like; end flaps or portions B'; side flaps or portions *b*, said end and side flaps or portions being integral with said bottom portion; gromets *c'* in said side and end flaps; lacing-cords for securing said side flaps to said end flaps; folds or loops *b''* in the outer ends of said end flaps; rods *e* arranged in said loops; gromets in said end flaps arranged below said rods *e*; supporting-cords D arranged through said gromets and formed into a supporting loop or eye *d*; a bed-bottom consisting of a rectangular frame A adapted to fit within said body; stripe of canvas C secured at their ends and outer edges to said frame; and a suitable lacing for connecting the inner edges of said stripe C, all coacting for the purpose specified.

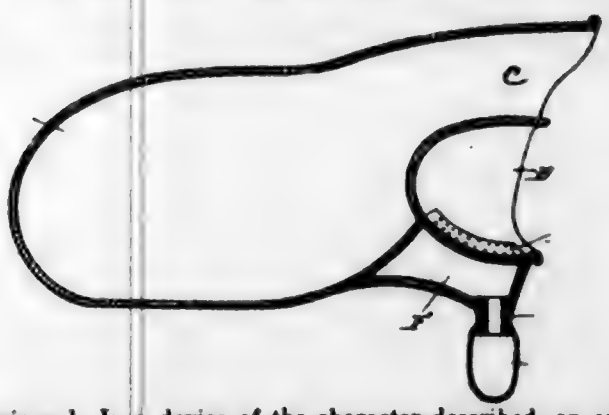
2. In a hammock, the combination of a body consisting of a bottom portion B of canvas or the like; end flaps or portions B'; side flaps or portions *b*, said end and side flaps or portions being integral with said bottom portion; gromets *c'* in said side and end flaps; lacing-cords for securing said side flaps to said end flaps; folds or loops *b''* in the outer end of said end flaps; rods *e* arranged in said loops; gromets in said end flaps arranged below said rods *e*; supporting-cords arranged through said gromets and formed into a supporting loop or eye *d*; a bed-bottom consisting of a rectangular frame adapted to fit within said body; and a canvas cover secured thereto, all coacting for the purpose specified.

3. In a hammock, the combination of a body consisting of a bottom portion B of canvas or the like; end flaps or portions B'; side

flaps or portions *b*, said end and side flaps or portions being integral with said bottom portion; folds or loops *b''* in the outer end of said end flaps; rods *c* arranged in said loops; supporting-cords arranged about said rods and formed into a supporting loop or eye; a bed-bottom consisting of a rectangular frame adapted to fit within said body; strips of canvas C secured at their ends and outer edges to said frame; and a suitable lacing for connecting the inner edges of said strips C, for the purpose specified.

4. In a hammock, the combination of a body consisting of a bottom portion B of canvas or the like; end flaps or portions B'; side flaps or portions *b*, said end and side flaps or portions being integral with said bottom portion; folds or loops *b''* in the outer end of said end flaps; rods *c* arranged in said loops; supporting-cords arranged about said rods and formed into a supporting loop or eye; and a suitable bed-bottom adapted to fit within said canvas body, for the purpose specified.

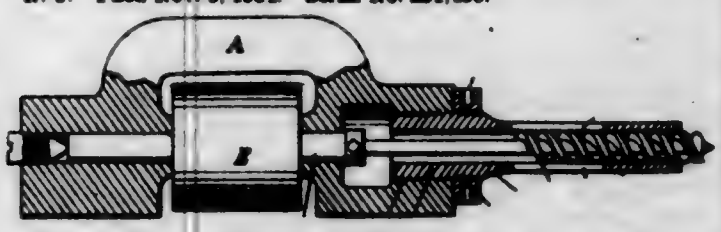
807,798. **TOILET ARTICLE.** ELIZABETH M. WOOD, Philadelphia, Pa. Filed Mar. 2, 1905. Serial No. 248,031.



Claim.—1. In a device of the character described, an article adapted to be attached to a male person and extend downward between the legs of said person, and said article provided with a passage in which the penis is adapted to rest and a reservoir included within the article communicating with said passage, a cavity formed in the article in which the scrotum is adapted to rest, the lower wall of said cavity being perforated, a chamber arranged within the article below the cavity and with which the perforations communicate, and a flexible bag extending from the lowest point of said chamber, as and for the purpose specified.

2. As a new article of manufacture, a toilet article adapted to be attached to a male person between the legs of the same, said article provided with a passage in which the penis is adapted to lie, a reservoir formed in said article, communicating with said passage, the lower wall of said passage being much lower than the passage a cavity formed in the article below the passage adapted to receive the scrotum, the lower wall of the cavity provided with an opening, a removable perforated plate fitted in said opening, and a chamber formed in the article below the cavity with which the perforations of the plate communicate, and the reservoir before mentioned having no communication with the cavity or the chamber, and a perforated screw-plug threaded through the lower wall of the article and communicating with the chamber at its lowest point, and a removable flexible bag secured to said screw-plug, as and for the purpose specified.

807,799. **MORTISING-TOOL.** OLLENDO C. WYSONG, Greensboro, N. C. Filed Nov. 5, 1904. Serial No. 231,490.

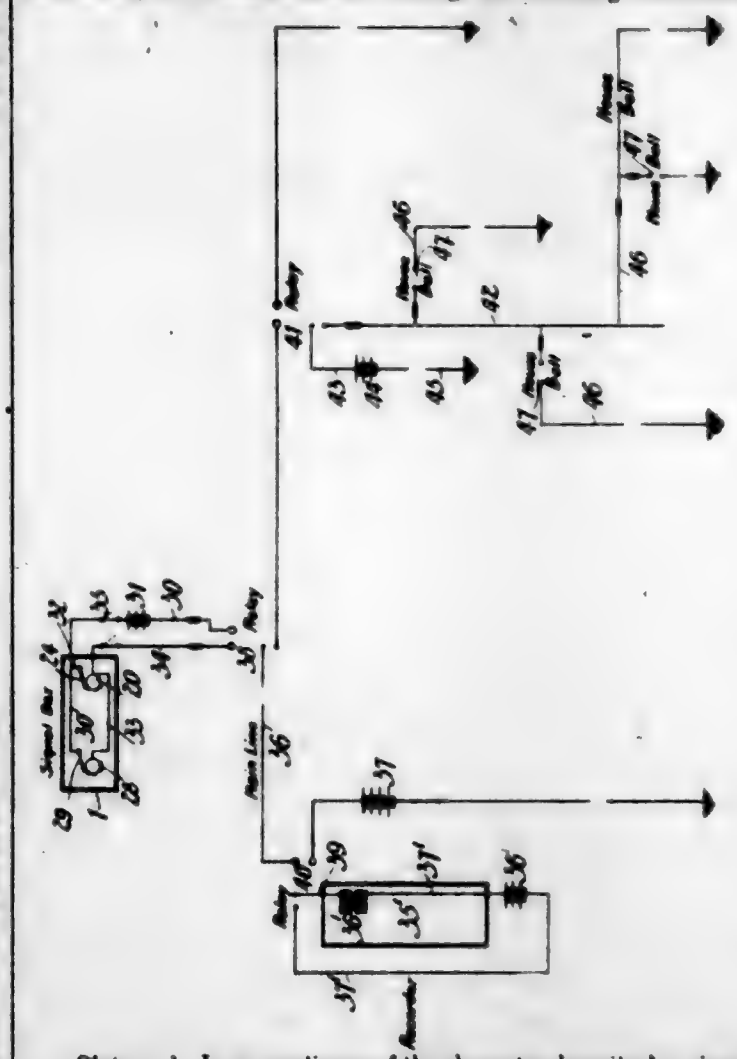


Claim.—1. In combination with the yoke of a reciprocating chisel and auger mortising machine, a rotary bit, a hollow chisel having an enlarged threaded portion engaging with a socket in said yoke to permit endwise adjustment of said chisel relative to said yoke, and a screw-threaded collar on said threaded portion acting both as an adjustable shoulder to transmit the pressure of the yoke to the chisel and to lock the chisel to the yoke.

2. A hollow mortising-chisel for use in reciprocating chisel and auger mortising machines, consisting of a blade of the cross-sectional pattern to be cut, a cutting edge formed at the forward end of the blade, a central axial recess to receive a rotary bit, an enlarged integral screw-threaded shank to engage a threaded recess in the mortising-machine yoke, and a collar threaded to said shank to form an adjustable shoulder to sustain the thrust of the yoke, and to lock the chisel to the yoke.

807,800. **ELECTRIC RAILWAY SIGNALING APPLIANCE.** HENRY A. ARMANN and ALBERT D. CAMPBELL, Spokane, Wash. Filed Apr. 6, 1905. Serial No. 254,140.

Claim.—1. In an appliance of the character described, a signal-box having two electric-circuit making and breaking mechanisms



Claim.—1. In an appliance of the character described, a signal-box having two electric-circuit making and breaking mechanisms including make-and-break wheels of different form, a lever operatively connected to each mechanism, and a swing-plate or pendulum in the path of a car-trolley arranged to move said levers successively in opposite direction.

2. In a signal-box, means for making and breaking an electric circuit, including a shaft, an arm on said shaft, a lever, and a connection between the lever and arm consisting of two lapped rods respectively connected at one end with the lever and arm, and a spring connecting the opposite ends of said rods.

3. In an appliance of the character described, a main-line circuit, relays in said circuit, a recording device having a local circuit connected with one of said relays, a house signal-bell having a local circuit connected with another of said relays, and a circuit making and breaking device operated by movement of a car and having a local circuit connected with another of said relays.

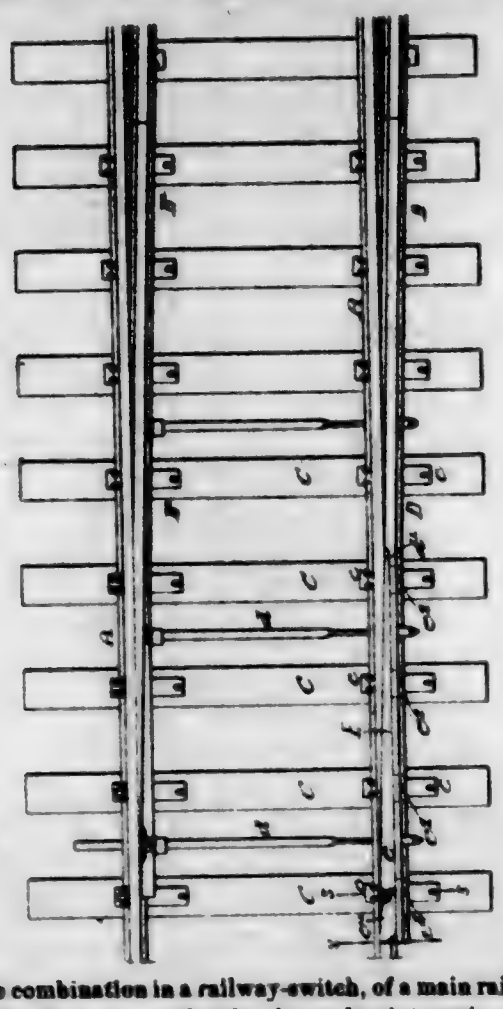
4. In an appliance of the character described, a main-line circuit, a circuit making and breaking device operated by movement of a car and having a local circuit connected with and controlling the main-line circuit, a recording device and a house signal-bell each having a local circuit connected with and controlled by the main-line circuit.

807,801. **RAILWAY-SWITCH.** VICTOR ARMBRUSTER, Ridley Park, Pa., assignor to William Wharton, Jr., & Company, Incorporated, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 13, 1905. Serial No. 278,264.

Claim.—1. The combination in a railway-switch, of a main rail, a switch-rail, a point-section secured to one side of the switch-rail at the outer end thereof, said point-section having a flange extending from its upper edge and arranged to lap over the main rail when the switch-rail is moved against said main rail.

2. The combination in a railway-switch, of a main rail, a switch-rail, a hard-metal point-section secured to one side of the switch-

rail at the outer end thereof, said point-section having a flange at its upper edge, and a foot extending under the switch-rail.



3. The combination in a railway-switch, of a main rail, a switch-rail notched at its outer end, a hard-metal point-section secured to the notched portion of the switch-rail and having a flange extending from its upper edge and arranged to lap over the main rail and having a laterally-extending foot-section, substantially as described.

4. The combination in a railway-switch, of a main rail, a switch-rail notched at one side, a point-section secured to the notched portion of the switch-rail and having a lateral flange at its upper edge in line with the head of the switch-rail and arranged to lap over the main rail and tapered at the point end and having a series of feet extending under the switch-rail and forming supports, substantially as described.

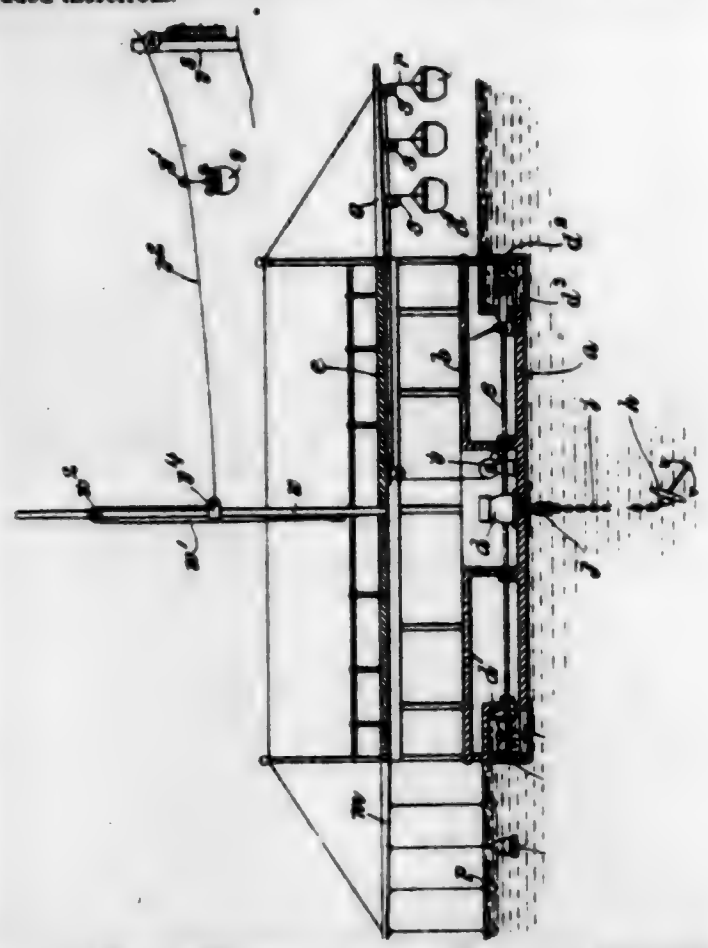
5. The combination in a railway-switch, of a main rail, a switch-rail, a hard-metal point-section secured to that side of the switch-rail adjoining the main rail, said point-section having a flange extending from the upper edge at one side, and having a foot at the opposite side extending under the switch-rail.

807,802. **BATHING APPARATUS.** HUGH R. AULD, Boston, Mass., assignor of one-half to John Caldwell, New York, N. Y. Filed Feb. 13, 1905. Serial No. 245,262.

Claim.—1. A bathing apparatus comprising a float, an anchor having a central swivel connection with the bottom of the float, a transverse shaft, mechanism for rotating the same, propellers adjacent the opposite ends of the shaft, and arranged to exert their thrust tangentially of the float, and driving connections between said transverse shaft and the propeller-shafts, one of such connections comprising a sleeve slidingly mounted on the transverse shaft and engaged to rotate therewith, bevel-gears mounted on said sleeve with their toothed portions facing each other, a bevel-gear on the propeller-shaft located between said first-named gears, and means for shifting the sleeve to bring one or the other of said gears into mesh with the propeller-shaft gear, whereby the apparatus may be caused to rotate about a substantially stationary axis or to shift its position.

2. A bathing apparatus comprising a float, an anchor having a central swivel connection with the bottom of the float, a transverse shaft, a propeller-shaft, a bevel-gear on the propeller-shaft, a pair of bevel-gears mounted on the transverse shaft with their acting portions facing each other, and means for shifting said gears so as to cause the propeller-shaft gear to be in mesh exclusively with one or the other of the transverse shaft-gears.

3. A bathing apparatus comprising a float, an anchor having a central swivel connection with the bottom of the float, the float having a surrounding annular circumferential passage, propellers located tangentially of the float at opposite sides thereof in said passage, a single transverse shaft for driving the propellers and a foraminous covering for the outer and lower sides of said passage whereby water may be freely admitted thereto and solid bodies excluded therefrom.



4. A bathing apparatus comprising a float, means for rotating the float, an arm projecting laterally from the float over the water, a swinging basket capable of containing a person suspended from the arm away from the side of the float, and means for raising and lowering said basket.

5. A bathing apparatus comprising a float, means for rotating the float, an arm projecting laterally from the float over the water, pulleys located at intervals on said arm, baskets capable each of containing a person, suspended from lines passing over said pulleys and extending inboard, a windlass having a drum to which the said lines are connected, means for rotating the drum to elevate the baskets, and a brake engaged with the drum.

6. A bathing apparatus comprising a float, means for rotating the float, an arm projecting laterally from the float over the water, a swinging basket capable of containing a person suspended from the arm, means for raising and lowering said basket, a second arm, lines suspended therefrom, and loops hung at the ends of said lines adapted to surround the body of swimmer.

7. A bathing apparatus comprising a float, means contained in the float for rotating the float, an arm projecting laterally from the float over the water, and a pneumatic, inflatable body representing a marine animal suspended from said arm and submerged in the water.

8. A bathing apparatus comprising a float, means contained in the float for rotating the float, an arm projecting laterally from the float over the water, and a body representing a marine animal suspended from said arm and submerged in the water, such body being inflatable and ballasted to cause it to occupy an upright position in the water.

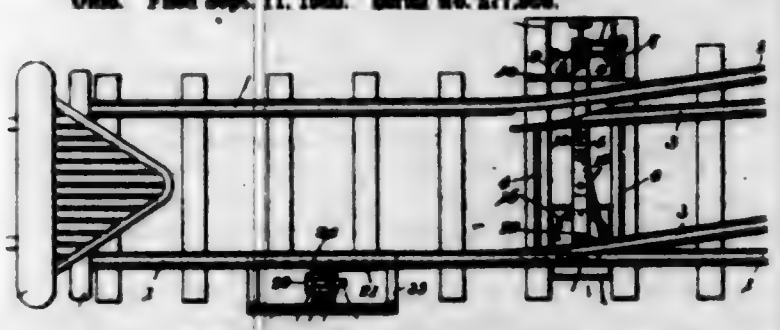
9. In a bathing apparatus, the combination of a float, an anchor having a central swivel connection with the bottom of the float, driving mechanism for rotating the float, a central mast, a traveler on the mast adapted to be raised and lowered, a stationary abutment on shore, a line connected to said traveler and extending over a pulley on said abutment, and a weight attached to the end of the line and having an adjustable connection with the end of the line, whereby the length of the latter between its point of attachment to the traveler and the weight, may be varied.

10. In a bathing apparatus, the combination of a float, an anchor having a central swivel connection with the bottom of the float, driving mechanism for rotating the float, a central mast, a traveler on the mast adapted to be raised and lowered, a stationary abutment on shore, a line connected to said traveler and extending over a pulley on said abutment, and a weight comprising a frame, removable weight-blocks, and a drum rotatably mounted on said weight-frame,

the drum being connected to the end of said line, and constructed to wind up the line by its rotation.

11. A bathing apparatus comprising a cylindrical float having an external annular passage in its lower portion, posts connected to the float extending downward on the outside of the passage, a shaft diametrically arranged on the float journaled at its ends in opposite posts, propellers located at opposite points in the passage engaged by a driving connection with the shaft and arranged to exert their thrusts tangentially of the float, and a motor connected to drive the shaft.

807,803. RAILWAY-SWITCH. JOHN F. BARKLEY, Springfield, Ohio. Filed Sept. 11, 1905. Serial No. 277,926.



Claim.—1. In a railway-switch, the combination, with main-line and siding rails, and switch-rails moving in unison, of a track-lever actuated in one direction only by the train, a member oscillating around a vertical axis, a rod connecting the track-lever and oscillating member, a rod connecting the oscillating member and switch-rails, and means for locking the switch-rails against movement from main-line position, said locking means yielding to form the switch-rails to move in the opposite direction when the track-lever is actuated, substantially as described.

2. In a railway-switch, the combination, with main-line and siding rails, and switch-rails moving in unison, of a switch-bar connected with said switch-rails, said switch-bar being provided with notches having inclined and vertical walls, a gravity locking-bolt normally engaging said notches, means for disengaging said locking-bolt, a hand switch-lever connected with said switch-bar to manually operate the same, a track-lever actuated by the train in one direction only, an oscillating member, and rods connecting said oscillating member with the track-lever and switch-bar, substantially as described.

3. In a railway-switch, the combination, with main-line and siding rails, and switch-rails moving in unison, of an oscillating member connected with said switch-rails to actuate the same, and a track-lever operatively connected with said oscillating member, said track-lever being pivotally mounted on a horizontal axis adjacent to the track and having a slot provided with a step at one side thereof, and a tripping latch or dog pivoted to said track-lever between its ends, having its lower end located in said slot, and its upper end located in the path of a train projection, substantially as described.

4. In a railway-switch, the combination, with main-line and siding rails, and switch-rails moving in unison, of a track-lever actuated by the train, a housing located at the switch-points, below the rails, and provided with a bearing, a horizontal disk supported by said bearing in said housing, a rod connecting the track-lever and disk, a switch-bar connecting the switch-rails, and a rod connecting said switch-bar and disk, substantially as described.

5. In a railway-switch, the combination, with main-line and siding rails, switch-rails moving in unison, and means for automatically operating said switch-rails from siding to main-line position, of a switch-bar connected with the switch-rails, the end of said switch-bar being provided with locking-notches and an operating pin or projection, a housing inclosing said end of the switch-bar and provided with guideways, a locking-bolt sliding by gravity in said guideways, a lever connected with said locking-bolt to actuate the same, and a lever connected with the switch-bar projection to actuate the switch-bar, substantially as described.

807,804. GLASS-MELTING POT. CHARLES L. BETZ, Rochester, Pa. Filed May 27, 1905. Serial No. 262,572.

Claim.—1. A glass-melting clay pot having a rough or irregular outer surface, for the purpose described.

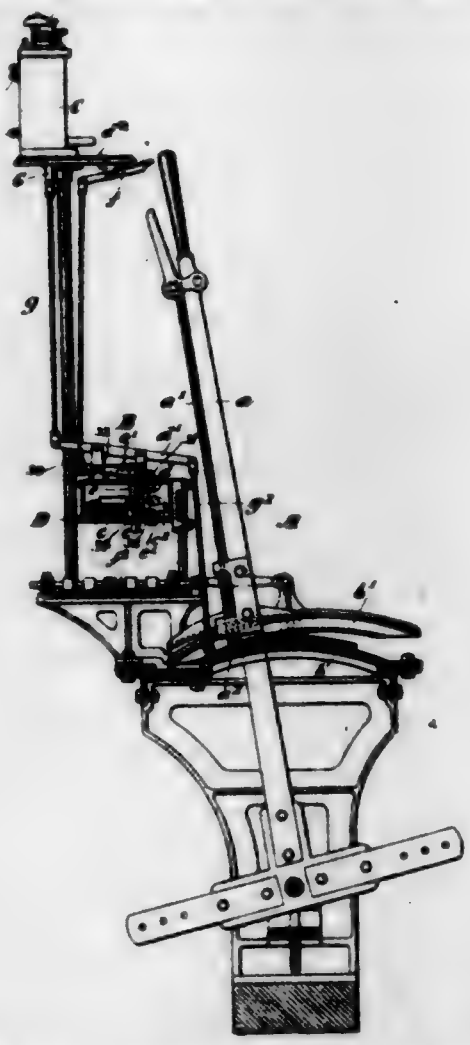
2. A melting-pot or crucible having its inner surface rough or irregular above the level of its contents, for the purpose described.

3. A glass-melting clay pot having its outer surface rough or irregular, and its inner surface rough or irregular above the glass-level and smooth below the same.

807,804.



807,805. RAILWAY SIGNALING SYSTEM. HENRY ESSIG, New Rochelle, N. Y. Filed May 25, 1905. Serial No. 261,423.



Claim.—1. In an electric block-signaling system, the combination of a signal and lock therefor, a local battery for energizing the lock, means including a line-circuit for operating the lock through the local battery when the signal is at danger under the joint control of the signalmen at both ends of the block, and means for operating the lock through the local battery when the signal is at safety under the control of a train, substantially as set forth.

2. In an electric block-signaling system, the combination of a signal and lock therefor, a local battery for energizing the lock, means including a line-circuit for operating the lock through the local battery when the signal is at danger under the joint control of the signalmen at both ends of the block, said line-circuit being normally open and requiring to be made and then broken before the lock can be operated, and means for operating the lock through the local battery when the signal is at safety under the control of train, substantially as set forth.

3. In a block-signaling system, the combination of a series of blocks, signals and their operating means for the blocks, a line-circuit for each block, circuit-controllers in each line-circuit at the ends of its block, a call-transmitting instrument at the entering end of a block and a call-receiving instrument at the exit end of the block for the line-circuit of the block, means for operating the circuit-controllers so connected with the signal-operating means that the receiver can only be operated by the transmitter when the signals at the ends of the block are at their normal danger positions, the line-circuit that extends to the advance from an intermediate station and the line-circuit that extends to the rear from said intermediate station being so connected through their circuit-controllers at the inter-

mediate station, that the transmitter at the intermediate station cannot operate the receiver at the station in advance till the circuit-controller at the immediate station for the line-circuit to the rear has been operated to permit the signalman at the rear station to unlock his signal, substantially as set forth.

4. In a block-signaling system, the combination of a series of blocks, signals and their operating means for the blocks, a line-circuit for each block, circuit-controllers in each line-circuit at the ends of its block, a call-transmitting instrument at the entering end of a block and a call-receiving instrument at the exit end of the block for the line-circuit of the block, means for operating the circuit-controllers so connected with the signal-operating means that the receiver can only be operated by the transmitter when the signals at the ends of the block are at their normal danger positions, the line-circuit that extends to the advance from an intermediate station and the line-circuit that extends to the rear from said intermediate station being so connected through their circuit-controllers at the intermediate station, that the transmitter at the intermediate cannot operate the receiver at the station in advance till the circuit-controller at the intermediate station for the line-circuit to the rear has been operated to permit the signalman at the rear station to unlock his signal, an indicator at the intermediate station connected with the line-circuit to the advance station and arranged to signify when the receiver at the advance station is in condition to be operated, substantially as set forth.

5. In an electric block-signaling system, the combination of a signal, an electric lock therefor, a source of electric energy for the lock included in a circuit, a circuit-controller therefor, a permanently-closed circuit including controlling-magnets for the circuit-controller, said permanently-closed circuit provided with normally open shunts around the controlling-magnets and a circuit controlled by signalmen at the ends of the block for closing one of the said shunts, and a circuit for closing the other of said shunts controlled by a train, substantially as set forth.

6. In an electric block-signaling system, the combination of signals and levers at the ends of the blocks, a catch-rod on each lever, a latch connected with each catch-rod, a locking-piece for each latch, a controlling-circuit for each locking-piece, a circuit-controller for each circuit located near the advance signal, and means connecting said circuit-controller and the latch for the locking-piece there located, said circuit-controller, latch and locking-piece being so arranged that the locking-piece must engage the latch before the circuit-controller can be operated, substantially as set forth.

7. In an electric-circuit-controlling instrument, the combination of a contact-spring, a reciprocating rod provided with an independently-movable projection engaging the spring and adapted to operate it when moved independent of the rod, and to further operate the spring when moved with the rod, a plunger for moving the projection independent of the rod out of engagement with the spring and means for moving the projection into engagement with the spring when the rod is moved, substantially as set forth.

8. In an electric-circuit-controlling instrument, the combination of a contact-spring, having front and back contacts, a reciprocating rod provided with an independently-movable projection normally engaging the spring and holding it out of engagement with its contacts, a plunger for disengaging the projection from the spring, thereby permitting the spring to engage its back contact, and means for moving the projection into engagement with the spring and forcing it upon its front contact when the rod is moved, substantially as set forth.

9. In an electric-circuit-controlling instrument, the combination of a contact-spring provided upon one side with a shouldered strip insulated from the spring, mechanism for actuating the spring comprising a reciprocating rod provided with an independently-movable projection engaging the insulated strip above its shoulder, means for disengaging the projection from the insulated strip independent of the reciprocating rod to actuate the spring, and means for moving the projection into engagement with the insulated strip below its shoulder when the rod is moved to further actuate the spring, substantially as set forth.

10. In an electric-circuit-controlling instrument, the combination of a contact-spring provided upon one side with a shouldered strip held in place by a fastening device and guiding-stud and insulated from the spring, mechanism for actuating the spring comprising a reciprocating rod provided with an independently-movable projection engaging the insulated strip above its shoulder, means for disengaging the projection from the insulated strip independent of the reciprocating rod to actuate the spring, and means for moving the projection into engagement with the insulated strip below its shoulder when the rod is moved to further actuate the spring, substantially as set forth.

11. In an electric-circuit-controlling instrument, the combination of a contact-spring having front and back contacts and provided on one side with a shouldered strip, a reciprocating rod provided with a shaft journaled therein having a projection bearing normally against the strip above its shoulder and holding the spring out of engagement with its contacts, a plunger for rotating the shaft and withdrawing the projection from the shouldered strip, means for rotating the shaft when the reciprocating rod is moved in one direction so as to throw the projections on the shaft against the strip on the spring below its shoulder, whereby the operation of the plunger throws the spring upon its back contact, the movement of the reciprocating rod in one direction throws the spring upon its front contact and the movement of the reciprocating rod in the other direction puts the springs between the contacts in normal position, substantially as set forth.

12. In an electric-circuit-controlling instrument, the combination of a contact-spring, a reciprocating rod provided with an independently-movable projection engaging the spring and adapted to operate it when moved independent of the rod, and to further operate the spring when moved with the rod, a plunger for moving the projection independent of the rod out of engagement with the spring, means for moving the projection into engagement with the spring when the rod is moved, and an indicating-plate supported by the reciprocating rod and movable with the movable projection, substantially as set forth.

13. In an electric block-signaling system, the combination of a signal located at the entering end of a block, a signal-lever provided with a latch located at the exit end of the block, a lock for said latch, a circuit controlling the operation of the said signal and provided with controlling means therefor located at the exit end of the block, said controlling means for the said circuit being so connected with the said lock for the latch that said means cannot be operated until the lock has engaged the said latch of the lever, substantially as set forth.

14. In an electric block-signaling system, the combination of a track divided into blocks, a signal for each block, an electromagnet for controlling the movement of a signal, a controlling-circuit for each electromagnet extending from one signal-station to the next signal-station in advance, said circuit having a normally closed circuit-controller at the advance signal-station and a normally open circuit-controller at the other signal-station operated by plungers, a call-receiver connected with said circuit at the advance station and a call-transmitter connected with said circuit at the other station, substantially as set forth.

15. In a circuit-controller, the combination of a vibrating spring and a thrust-block, one portion of said block being tangent to the spring and secured thereto, while the other portion is free from contact with the spring, a guiding-piece projecting from one of said parts and engaging the other part and constructed so as to permit the respective portions of the parts not in contact to be moved toward and from each other, a thrust device constructed to actuate the spring by contact with the block, and contacts and circuit-completing means coöperating with such spring, substantially as set forth.

16. In a circuit-controller, the combination of a vibrating spring, and a stepped metallic strip attached thereto, an insulated fastening device holding the spring and strip together at one point and an insulated guiding-piece projecting from one of said parts and engaging the other part, guiding thereby the portion of the latter part not held together by the insulated fastening device with the former part so that the said portion of the latter part will be substantially in contact with the other part, a thrust device constructed to come in contact with the face of the metallic strip at different steps thereof, and contacts and circuit-completing means coöperating with such spring, substantially as set forth.

17. In a circuit-controller, the combination of a flat vibrating spring, a strip of insulation p, a block of insulation, said strip and block of insulation o attached to the spring by means of a rivet p^3 and stud p', and a metallic strip r attached to said block, substantially as set forth.

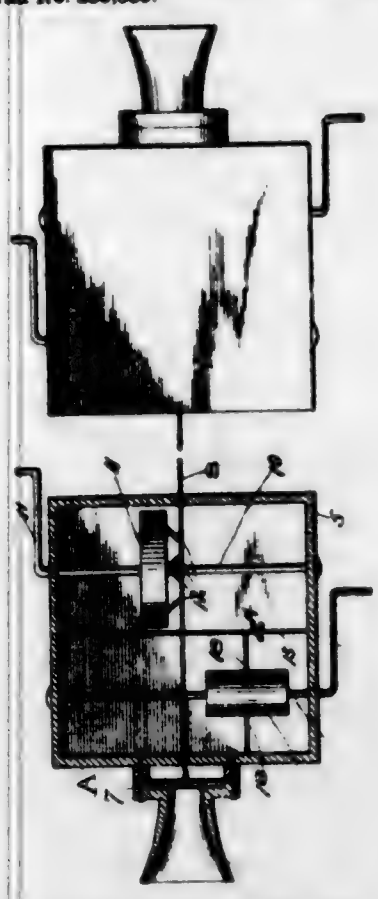
18. In a block-signaling system, the combination of a signal, a normally open line-circuit for controlling the said signal, means conspiring to operate the signal when the said line-circuit is closed and supplemental means conspiring to operate the signal when the said line-circuit is thereafter opened, whereby the line-circuit must be closed and opened before the signal can be operated, substantially as set forth.

19. In a block-signaling system, the combination of an indicator at the entering end of a block, a line-circuit connecting the block

instruments at the ends of the block, a circuit for the indicator separate from the line-circuit and with which the indicator-circuit is operatively connected, an additional circuit for the block controlled by a train with which the indicator-circuit is also operatively connected whereby information is given by the indicator of the condition of the block, substantially as set forth.

20. In a block-signaling system, the combination of a signal, a normally open line-circuit for controlling said signal, means conspiring to operate the signal by the closing of said line-circuit and means controlled by the condition of the block in advance for completing the operation of said signal for the safety indication, substantially as set forth.

807,806. **TELEPHONE.** JOHN H. BOYD, Valden, Miss. Filed Dec. 28, 1904. Serial No. 238,589.



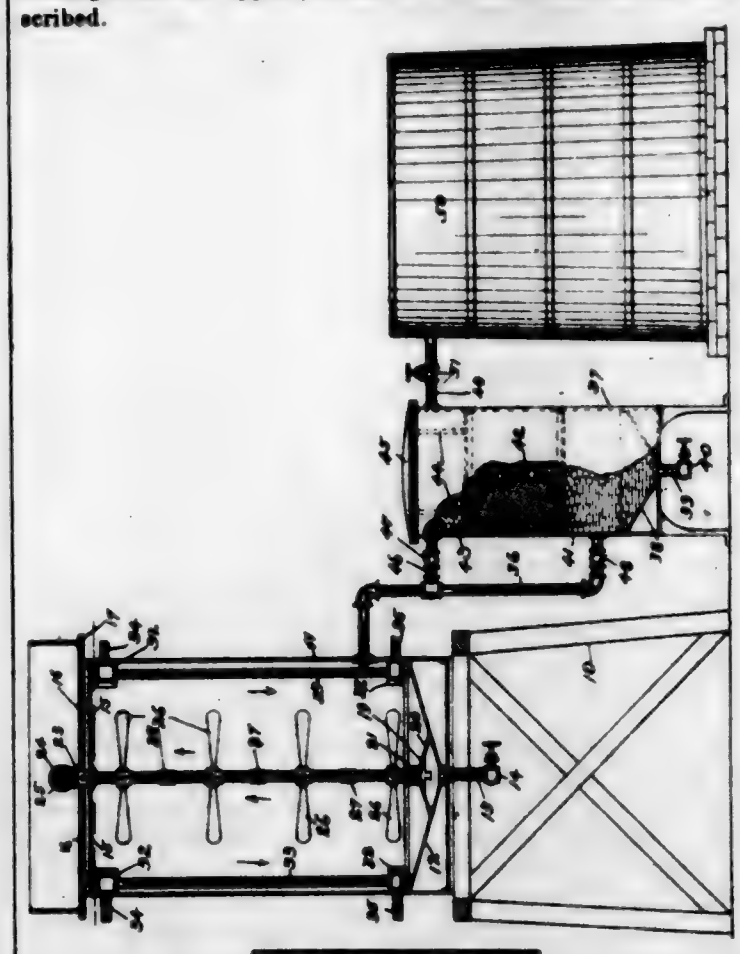
Claim.—1. In a telephone, the combination with a box, of a transmitter mounted exterior to the box and including a diaphragm, a wire passed through the box and attached to the diaphragm, a shaft rotatably mounted in said box, a disk carried by the shaft, fingers carried by the disk and projecting at an acute angle therefrom and rearwardly from the direction of rotation of said disk, and arranged to engage said wire to vibrate the same when the said shaft is rotated.

2. A telephone, comprising a box, a transmitter carried by the box and including a diaphragm, a wire passed through the box and attached to the diaphragm, a spring-arm disposed transversely of the wire and normally out of contact therewith, and adapted when vibrated to strike the said wire, a shaft mounted for rotation in said box, a hub carried by said shaft, fingers carried by said hub, said fingers having their end portions bent to extend rearwardly from the direction of rotation of the said hub and guides associated with said box and with said spring-arm.

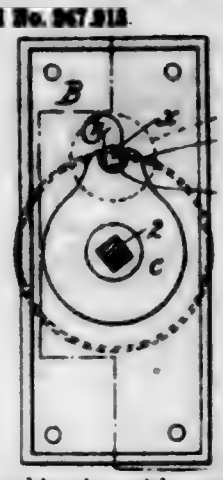
807,807. **WATER-PURIFIER.** JOHN G. BROMAN, Chicago, Ill. Filed June 9, 1906. Serial No. 264,490.

Claim.—1. In an apparatus for purifying water, the combination with a reservoir adapted to receive water and precipitating material, of a rotary shaft journaled therein, a series of oppositely-extending blades arranged in pairs on said shaft, means to adjust the inclination of said blades, a series of hollow headers located within the reservoir near its top and bottom, a series of steam-pipes located vertically within and near the walls of the reservoir and communicating with said headers, a steam-pipe communicating with each of the headers in the upper portion of the reservoir and a discharging-pipe communicating with each of the headers in the lower portion of the reservoir, substantially as described.

2. In an apparatus for purifying water, the combination with a reservoir adapted to receive water and precipitating material, and having in its lower portion a funnel-shaped bottom, a discharge-pipe in said bottom, a shut-off valve in said pipe, a conical-shaped socketed support located on said bottom, a shaft vertically journaled in the reservoir and having its lower end located in the socket of said support, means to rotate the shaft, a series of oppositely-extending blades arranged in pairs alternately disposed at right angles to one another, means to adjustably secure the blades on the shaft and to adjust their inclination, a series of steam-pipes located vertically in groups within the reservoir and near the walls thereof, means to convey steam into the upper portion of each of said groups of pipes, a discharging-pipe communicating with the lower portion of each of said groups of pipes, a filter located near the reservoir, a pipe communicating at one of its ends with the lower portion of the reservoir and having communication with the filter, and a discharge-pipe leading from the upper portion of the filter, substantially as described.



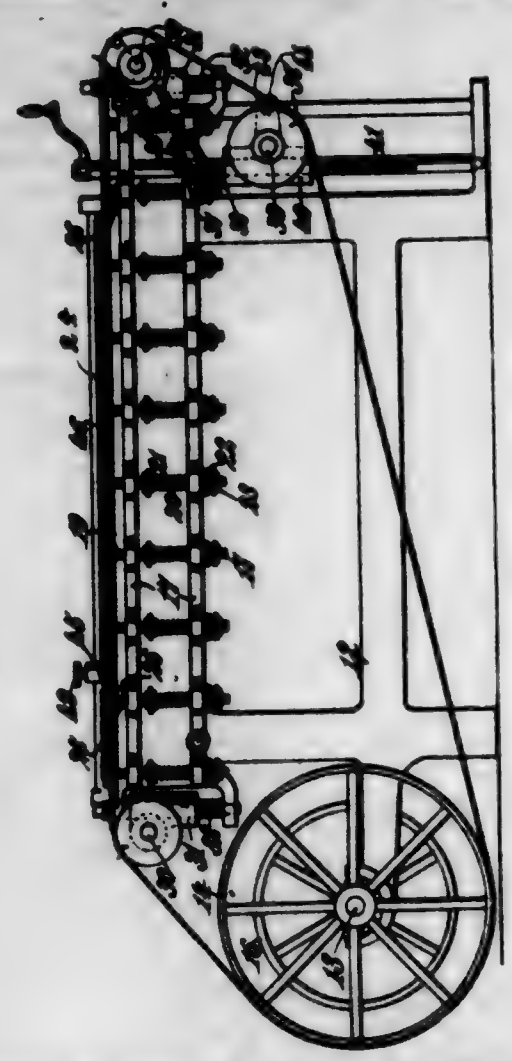
807,808. **KNOB-LOCK.** OLIVER C. GALL, Springfield, Mass. Filed Mar. 1, 1905. Serial No. 247,918.



Claim.—1. The combination with a spindle of a door-latch and an escutcheon-plate therefor, of a locking-plate fixed on the spindle to rotate between the escutcheon-plate and the door, having a recess in its periphery, there being a hooked-shaped slot in the escutcheon-plate, one end of which slot is normally vertically disposed relative to said recess, a stud playing freely in said slot, and a head on said stud whereby it may be moved into and out of a position of engagement with the recess in said locking-plate.

2. The combination with the spindle of a door-latch and an escutcheon-plate therefor, of a locking-plate fixed on the spindle to rotate between the escutcheon-plate and the door and having a recess in its periphery, the edge of said locking-plate each side of said recess being cam-shaped, the escutcheon-plate being provided with a hooked-shaped slot, one end of which is vertically disposed above said recess when the parts are in normal position, a stud playing freely in said slot, and a head on the stud whereby it may be moved into and out of a position of engagement with the recess in said locking-plate.

807,809. HAND SANDING-MACHINE. DE LASKI T. CLEMONS, Hornellsville, N. Y. Filed Sept. 19, 1904. Serial No. 225,156.



Claim.—1. In a hand sanding-machine, the combination with a suitable supporting-frame, of an endless belt having an open upper run or surface for the work, belt supporting and driving instrumentalities, a flexible pressure-plate beneath the upper run of said belt, and longitudinally and transversely yielding supports beneath said pressure-plate which exert an upward pressure thereon.

2. In a hand sanding-machine, the combination with a suitable supporting-frame, of belt-supporting rollers at each end of said frame, an endless sand-belt having an open upper run or surface for the work mounted on said rollers, means for driving said belt, a flexible pressure-plate supporting the upper run of said belt between said rollers, and longitudinally and transversely yieldable supports for said pressure-plate which exert an upward pressure thereon.

3. In a hand sanding-machine, the combination with a suitable supporting-frame, of guide-rollers at each end of said frame, an endless sand-belt having an open upper run or surface for the work supported by said rollers, means for driving said belt, a pressure-plate beneath the upper run of said belt, and spring-pressed supporting-rods mounted on the machine-frame to uphold said pressure-plate and exert an upward pressure thereon.

4. In a hand sanding-machine, the combination with a suitable supporting-frame, of belt-supporting rollers on said frame, an endless sand-belt carried by said rollers, driving means for said belt, a pressure-plate beneath said belt, pairs of spring-pressed rods mounted on the machine-frame, and transverse supporting-bars pivoted to said rods to support said pressure-plate.

5. In a hand sanding-machine, the combination with a suitable supporting-frame, of angularly-adjustable belt-supporting rollers at each end of the frame, an endless sand-belt carried by said rollers, means for driving said belt, a flexible pressure-plate beneath said belt, adjustable spring-pressed supporting-rods mounted beneath said pressure-plate on the machine-frame, transverse bars pivotally connected to the ends of said rods, and means for securing said pressure-plate to said transverse bars.

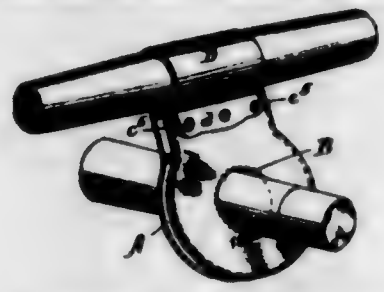
6. In a hand sanding-machine, the combination with a suitable supporting-frame, of belt-supporting rollers at each end of the frame mounted at their inner ends on vertically-adjustable blocks, angularly-adjustable supporting-yokes for the outer ends of said rollers, an endless belt carried by said rollers, means for driving said belt, and a longitudinally and transversely yielding pressure-plate beneath said belt.

7. In a hand sanding-machine, the combination with a suitable supporting-frame, belt-supporting rollers at each end of the frame, vertically-adjustable bearing-blocks in which said rollers are mounted at their inner ends, angularly and longitudinally adjustable yokes in which said rollers are mounted at their outer ends, an endless driving-belt carried by said rollers, a drive-pulley at one end of the machine within said endless belt, a belt-tightening roller at the other end of the machine within said belt, means for adjusting said belt-tightening roller vertically, means for angularly adjusting said tightening-roller to aline the same, and a longitudinally and transversely yieldable pressure-plate beneath the upper rod of said sand-belt.

8. In a sanding-machine, the combination with a traveling sand-belt, of a work-guide extending transversely of said sand-belt, a supporting-rod running longitudinally of the machine-frame on which said work-guide is adjustably mounted, and a regulating-screw carried by said work-guide and by means of which the said guide may be adjusted vertically relative to the surface of the belt.

9. In a hand sanding-machine, the combination with a suitable supporting-frame, of a pair of horizontal plates or webs on said frame, a series of vertically-movable rods mounted in said webs, springs for upholding said rods, means for adjusting said springs, horizontal bars pivotally connected with each pair of rods, a flexible pressure-plate carried by said bars, belt-supporting rollers at each end of said pressure-plate, and an endless sanding-belt supported by said rollers and pressure-plate, and belt-driving instrumentalities.

807,810. NECK-YOKE CENTER. ANDREW H. CONN, Cedar Rapids, Iowa. Filed Mar. 21, 1905. Serial No. 251,196.



Claim.—1. A center for neck-yokes comprising exterior layers of leather, an intermediate layer of leather composed of two concentric annular sections, one section extending laterally and being formed with a recess therein, a metallic ring arranged between the annular sections of the intermediate layer, said ring being formed with a straight portion at the top seating in said recess, links engaging the straight portion of the ring and clips engaging said rings and secured to the leather portion of the yoke.

2. A center for neck-yokes comprising a series of successive layers stitched together having a metallic reinforcing member loosely mounted therebetween, said member being held in place by a plurality of toggle-links.

3. A center for neck-yokes comprising a series of successive layers stitched together having a metallic reinforcing member loosely mounted therebetween, said member being held in place by a plurality of toggle-links secured in the casing by rigidly-mounted clips.

4. A center for neck-yokes comprising a series of successive layers stitched together having a metallic reinforcing member loosely mounted therebetween, one of said layers being formed with a recess, said member being seated in an annular space between the concentrically-arranged sections of one of the layers and having a laterally-extending portion seating in said recess and links loosely engaging said laterally-extending portion of the ring, said links being attached to the said series of layers, substantially as described.

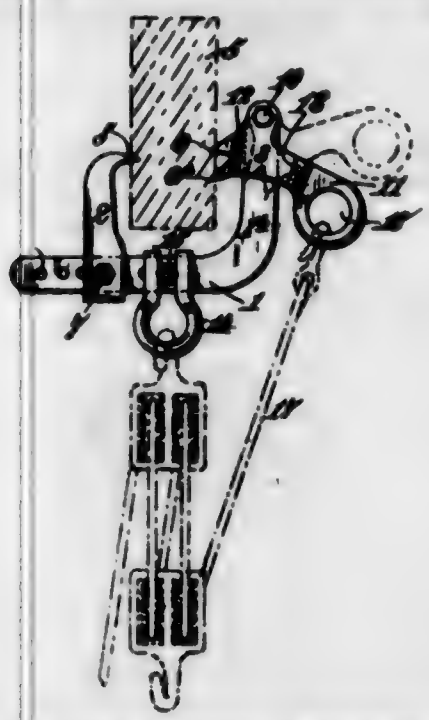
5. In combination with a neck-yoke clip, a neck-yoke center embodying a series of leather layers bolted at their upper end to the clip, and a metallic reinforcing-ring embedded in the layers and connected by links to the bolts that secure the leather layers to the clip.

6. A neck-yoke center comprising a pliable body, a metallic reinforcing-ring, embedded therein, a yoke-clip to which the body is secured, and links loosely connecting the ring to the clip.

7. A neck-yoke center comprising a pliable body having a central aperture, a metallic reinforcing member embedded in the body and entirely surrounding the aperture, a yoke-clip to which the body is connected, a clip embedded in the body and fixedly connected to said body and yoke-clip, and means loosely connecting the said clip and the reinforcing member.

8. A neck-yoke center comprising a pliable body, a yoke-clip to which the body is connected, a rigid reinforcing member embedded within the pliable body, and means inclosed within the pliable body and independent of the reinforcing member connecting the latter to the yoke-clip and so arranged as to permit the free bending of the body adjacent the connection thereof with the yoke-clip.

807,811. AUTOMATIC SUPPORTING-GRAPPLE. ALPHA T. DUDLEY, Brockton, Mass. Filed Apr. 20, 1905. Serial No. 256,623.



Claim.—1. A grapple comprising an angle-bar, a relatively fixed, toothed jaw arranged on one arm thereof, and a pivoted, toothed jaw hung on the other arm thereof.

2. A grapple comprising an angle-bar, a relatively fixed, adjustable, toothed jaw arranged on one arm thereof, and a pivoted, toothed jaw hung on the other arm thereof.

3. A grapple comprising an angle-bar, a relatively fixed, toothed jaw arranged on one arm thereof, and a pivoted, counterweighted, toothed jaw hung on the other arm thereof.

4. A grapple comprising an angle-bar, a relatively fixed, adjustable, toothed jaw arranged on one arm thereof, and a pivoted, counterweighted, toothed jaw hung on the other arm thereof.

5. A grapple comprising an angle-bar, a relatively fixed, toothed jaw arranged on one arm thereof, and a pivoted, counterweighted toothed jaw hung on the other arm thereof, the teeth of said jaws being opposed to each other but not in a common line.

6. A grapple comprising an angle-bar, a relatively fixed, adjustable, toothed jaw arranged on one arm thereof, and a pivoted, counterweighted, toothed jaw hung on the other arm thereof, the teeth of said jaws being opposed to each other but not in a common line.

7. A grapple comprising an angle-bar, a relatively fixed, toothed jaw arranged on one arm thereof, and a pivoted, toothed jaw hung on the other arm thereof, the teeth of said jaws being opposed to each other but not in a common line.

8. A grapple comprising an angle-bar, a relatively fixed, toothed, jaw arranged and adjustable on one arm thereof, and a pivoted, toothed jaw hung on the other arm thereof, the teeth of said jaws opposing each other but not in a common line.

9. A grapple comprising an angle-bar, a relatively fixed, toothed jaw arranged on one arm thereof, and a pivoted, toothed jaw hung on the other arm thereof and having a counterweight tailpiece.

10. A grapple comprising an angle-bar, a relatively fixed, adjustable, toothed jaw arranged on one arm thereof, and a pivoted, toothed jaw hung on the other arm thereof and having a counterweight tailpiece.

11. A grapple comprising an angle-bar, a relatively fixed, adjustable, toothed jaw arranged on one arm thereof, and a pivoted, toothed jaw hung on the other arm thereof and having a counterweight tailpiece provided with an eye.

12. A grapple comprising an angle-bar, a relatively fixed, adjustable, toothed jaw arranged on one arm thereof, a pivoted, counterweighted, toothed jaw hung on the other arm thereof, and means for limiting the penetrating movement of the pivoted jaw.

13. A grapple, comprising an angle-bar, a relatively fixed, adjustable, toothed jaw arranged on one arm thereof, and a pivoted jaw hung on the other arm thereof and provided with teeth, said jaw being forked and the crotch of the fork constituting a stop to limit the grappling movement of said jaw.

14. A grapple comprising an angle-bar, a relatively fixed, toothed jaw arranged on one arm thereof, a pivoted, counterweighted, toothed jaw hung on the other arm thereof, and means for limiting the grappling movement of said jaw.

15. A grapple, comprising an angle-bar, a relatively fixed, toothed jaw arranged on one arm thereof, and a pivoted jaw hung on the other arm thereof and provided with teeth, said jaw being forked and the crotch of the fork constituting a stop to limit the grappling movement of said jaw.

16. A grapple comprising an angle-bar, a relatively fixed, toothed jaw arranged on one arm thereof, and a pivoted, toothed jaw hung on the other arm thereof and provided with means for attachment of a rope thereto.

17. A grapple comprising an angle-bar, a relatively fixed, toothed jaw arranged on one arm thereof, a pivoted, toothed jaw hung on the other arm thereof, and means for suspending a load from said grapple.

18. A grapple comprising an angle-bar, a relatively fixed, adjustable, toothed jaw arranged on one arm thereof, a pivoted, toothed jaw hung on the other arm thereof, and means whereby a load may be suspended from said grapple.

19. A grapple comprising an angle-bar, a relatively fixed toothed jaw arranged and adjustable on one arm thereof, a pivoted, counterweighted, toothed jaw hung on the other arm thereof, and a yoke connected to the angle-bar.

20. A grapple comprising an angle-bar, a relatively fixed, toothed, jaw arranged and adjustable on one arm thereof, a pivoted, counterweighted, toothed jaw hung on the other arm thereof, and an adjustable yoke connected to the angle-bar.

807,812. REAR-SIGHT SHIELD. PAUL O. BLITZRICH, New York, N. Y. Filed Mar. 20, 1905. Serial No. 250,961.



Claim.—1. A rear-sight attachment for rifles or the like comprising a plate, a sight-opening in said plate and means on the plate for detachably securing the same to the back of the wind-gage on the rear sight of a rifle and have the sight-notch of the wind-gage register with the sight-opening of the plate.

2. A rear-sight attachment for rifles or the like comprising a plate, a sight-opening in said plate and means on the plate for detachably securing the same to the back of the wind-gage on the rear sight of a rifle and have the peep-sight of the wind-gage register with the sight-opening of the plate.

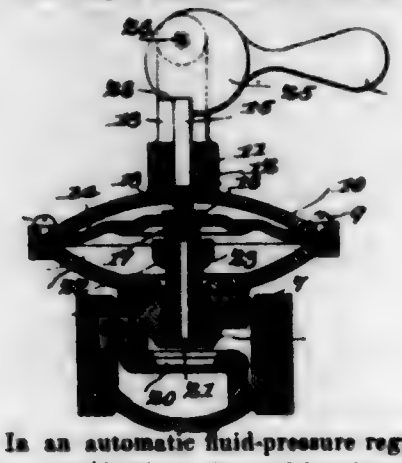
3. A rear-sight attachment for rifles or the like comprising a plate, a sight-opening in said plate, means on the plate for detachably securing the same to the back of the wind-gage on the rear sight of a rifle and have the peep-sight of the wind-gage register with the sight-opening of the plate, and means connected with the plate for engaging the upper and lower edges of the wind-gage to prevent displacement or disengagement of the attachment.

4. A rear-sight attachment for rifles or the like comprising a flat plate, a sight-opening in said plate, means on the plate for detachably securing the same to the back of the wind-gage on the rear sight of a rifle and have the peep-sight of the wind-gage register with the sight-opening of the plate, an inverted-U-shaped opening in the lower edge of the plate to engage a pin or screw on the back of the wind-gage, and a turned-over section on the lower edge of the plate to engage the lower shoulder on the back of the wind-gage.

5. A rear-sight attachment for rifles or the like comprising a flat plate, a sight-opening in said plate, means attached to the plate for detachably securing the same to the back of the wind-gage on the rear sight of a rifle and have the peep-sight and notch of the wind-gage register with the sight-opening of the plate, an inverted-U-shaped opening in the lower edge of the plate to engage a screw on the back of the wind-gage, a turned-over section on the lower edge of the plate to engage the lower shoulder at the back of the wind-gage, and a pin attached to the plate adapted to engage the upper shoulder of the wind-gage.

6. As a new article of manufacture for attachment to the rear sight of a rifle consisting of a flat plate of substantially U shape in outline, a small opening near the center of the plate, a rectangular strip fastened over the small opening and arranged parallel to the straight side of the plate which is opposite to that of the curved side, said strip being so bent as to form an open pocket with the plate at the section corresponding to the small opening, an opening in the bent-up portion of the strip registering with the opening in the plate, a U-shaped opening at the edge and near one end of the said straight side of the plate, a small turned-over edge of the plate at the other end of the straight side, an inclined slot in the plate between the turned-over edge and the rectangular strip, and a stop-pin attached to the plate on the same side as the strip and near its opening.

807,813. AUTOMATIC GAS-REGULATOR. HOMER W. FISER. Milan, Ohio. Filed July 6, 1905. Serial No. 268,459.



Claim.—1. In an automatic fluid-pressure regulator, a valve-casing, a housing carried by the casing and forming a fluid-chamber, a valve within the casing and having its stem passing through the fluid-chamber, a diaphragm extending across said chamber and connected to the valve-stem, means for permitting the flow of fluid from the casing through the valve-stem to the fluid-chamber for actuating the valve, and means for locking the valve in closed position.

2. In an automatic fluid-pressure regulator, a valve-casing, a housing detachably secured to the casing and forming a fluid-chamber, a diaphragm extending across said chamber, a valve seated within the casing and having its stem passing through the fluid-chamber and provided with a longitudinal passage to permit the flow of fluid from the casing to said chamber for actuating the valve, and means for locking the valve in closed position.

3. In an automatic fluid-pressure regulator, a valve-casing, a housing carried by the casing and forming a fluid-chamber, a valve-stem extending through said chamber and provided with main and auxiliary valves seated within the valve-casing and housing, respectively, a diaphragm extending across the fluid-chamber and secured to the valve-stem, said valve-stem being provided with a longitudinal passage to permit the flow of fluid from the valve-casing to the chamber for actuating said valves, and means engaging said valve-stem for automatically locking the valves in closed position.

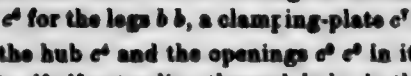
4. In an automatic fluid-pressure regulator, a valve-casing, a housing detachably secured thereto and forming a fluid-chamber, a valve-stem extending through said chamber and provided with an annular shoulder, a diaphragm extending across the fluid-chamber and engaging said annular shoulder, a clamping collar bearing upon the diaphragm above said shoulder, main and auxiliary valves carried by the valve-stem and seated in the casing and housing, respectively, said valve-stem being provided with a longitudinal passage to permit the flow of liquid from the valve-casing to said chamber for actuating the valves, and a locking-lever pivoted to the housing and adapted to engage the valve-stem for locking the valves in closed positions.

5. In an automatic fluid-pressure regulator, a valve-casing, a housing detachably secured thereto and forming a fluid-chamber, spaced uprights secured to the housing, a valve-stem guided between said uprights and provided with main and auxiliary valves seated in the valve-casing and housing, respectively, said valve-stem being formed with a longitudinal passage forming a source of communication between the valve-casing and fluid-chamber, a diaphragm extending across the fluid-chamber and secured to the valve-stem, and a locking-lever eccentrically pivoted between the uprights and provided with a notch for engaging the valve-stem, said lever being adapted to automatically lock the valves in closed position.

6. In an automatic fluid-pressure regulator, a valve-casing, a sectional housing forming a fluid-chamber and provided with oppositely-disposed reduced threaded extensions one of which detachably engages the valve-casing, a collar engaging the opposite extension and provided with a pair of spaced uprights, a valve-stem guided between said uprights and provided with a main and an auxiliary valve seated in the valve-casing and housing, respectively, said valve being provided with a longitudinal passage forming a source of communication between the valve-casing and fluid-chamber, a diaphragm extending across the fluid-chamber and secured to the valve-stem for actuating the valve, and a locking-lever eccentrically pivoted between the spaced uprights and adapted to engage the valve-stem for locking the valves in closed position.

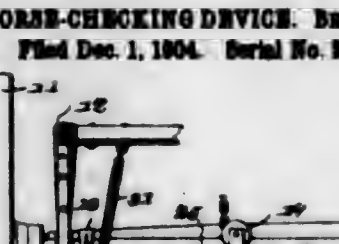
807,814. ASBESTOS THREAD AND METHOD OF MAKING SAME. ALFRED J. FOULDS and HENRY A. FOULDS, Lansdowne, Pa. Filed Apr. 20, 1905. Serial No. 256,550.

Claim.—1. The herein-described method of producing asbestos-covered wire which consists in simultaneously twisting together a straight wire and a soft untwisted fiber slubbing, substantially as described.



2. As a new article of manufacture, a wire strand having a covering of pure asbestos slubbing, substantially as described.

807,815. CHAIR. ALLAN FRASER, Providence, R. I. Filed June 3, 1905. Serial No. 263,562.



Claim.—1. In a chair, the combination of a seat *a*, a plurality of legs *b b*, a fitting *c* consisting of a hollow truncated-cone-shaped shell *c'* having the closed top c^2 in which is the depression c^3, the downwardly-extending central hub c^4 which is internally screw-threaded and the outwardly-flaring circular side wall c^5 having on its inner face the vertical grooves c^6 c^6 for the legs *b b*, a clamping-plate c^7 having the central hole c^8 for the hub c^4 and the openings c^9 c^9 in its periphery for the legs *b b*, bolts c^{10} c^{10} extending through holes in the top c^2 and the clamping-plate c^7, nuts c^{11} c^{11} on the bolts c^{10} c^{10} bearing on the under face of the clamping-plate whereby on the tightening of the nuts c^{11} c^{11} the legs *b b* are rigidly secured in the fitting *c*, and means for pivotally securing the seat *a* to the fitting *c* consisting of a screw-threaded spindle *e'* adapted to engage with the screw-threaded hub c^4 and secured to the disk a^3 which is secured to the under side of the seat *a* by screws or other means, as described.

2. In a chair, the combination of a seat *a*, a plurality of legs *b b*, a fitting *c* consisting of a hollow truncated-cone-shaped shell *c'* having the closed top c^2 in which is the depression c^3, the downwardly-extending central hub c^4 having a vertical central hole, and the outwardly-flaring circular side wall c^5 having on its inner face the vertical grooves c^6 c^6 for the legs *b b*, a clamping-plate c^7 having the central hole c^8 for the hub c^4 and the openings c^9 c^9 in its periphery for the legs *b b*, bolts c^{10} c^{10} extending through holes in the top c^2 and the clamping-plate c^7, and nuts c^{11} c^{11} on the bolts c^{10} c^{10} bearing on the under face of the clamping-plate, whereby on tightening the nuts c^{11} c^{11} the legs *b b* are rigidly secured in the fitting *c*, as described.

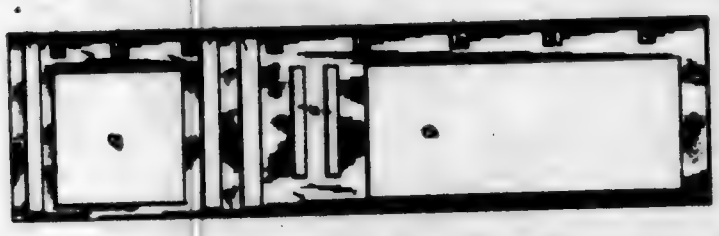
807,816. HORSE-CHECKING DEVICE. BENJAMIN GIBSON, Grand Rapids, Mich. Filed Dec. 1, 1904. Serial No. 235,153.

Claim.—1. The combination with a vehicle-axle provided with bearing-wheels and with the thills connected thereto, of a rod mounted for rotative and longitudinal movement upon said axle and having a laterally-extending arm terminating in a trip member for extension into the path of the spokes of one of said bearing-wheels, yieldable supporting means between said lateral arm and said thills, means operative by the driver for moving said rod longitudinally, and a flexible member for connection with said lateral arm and the bridle portion of the harness of the draft-animal.

2. The combination with a vehicle-axle provided with bearing-wheels, of a rod mounted for rotative and longitudinal movement upon said axle and having a laterally-extending arm terminating in a head having a trip-arm pivoted therein for projection into the path of the spokes of one of said bearing-wheels and yieldable when moved in one direction, yieldable means for supporting said rod in with-

drawn position, and means under the control of the driver for moving said rod longitudinally and locking it in projected position.

807,817. RULER. FRANK H. GILBERT, Binghamton, N. Y. Filed Apr. 21, 1905. Serial No. 256,782.

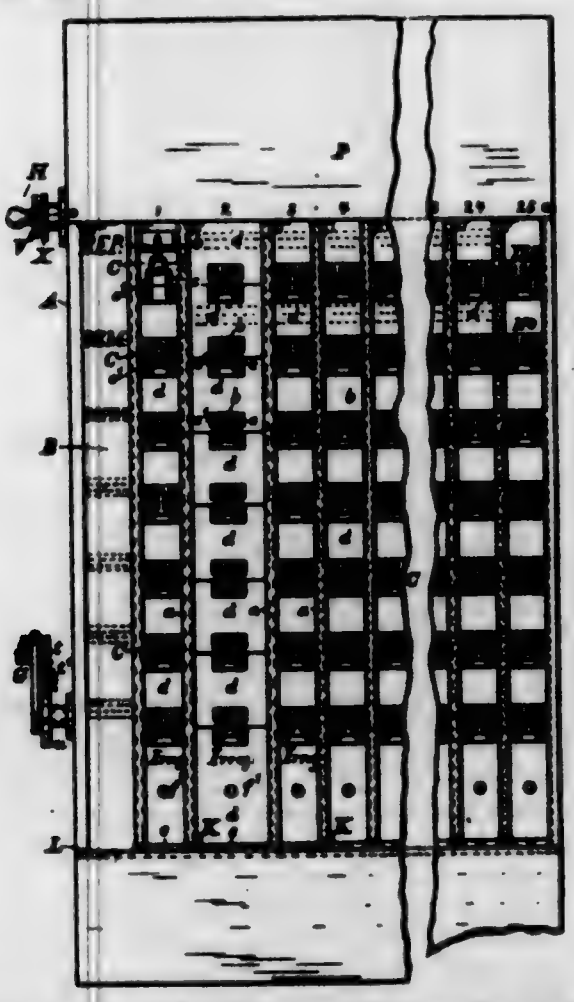


Claim.—1. A ruler composed of a casing formed with slots of various lengths and having grooved edges, a slotted filler-piece held in said grooves, the edges of the slots in the casing projecting beyond the edges of the slots in the filler-piece, and markings on the ruler for gaging the distance between type-written lines, said gage-marks being indicated by the words folio and half-folio.

2. In a ruler the combination with a slotted metallic casing having grooved edges, of a slotted filler-piece therein, said members arranged so that the slots in the casing have their edges projecting over the edges of the slots in the filler-piece, and marks on the ruler to gage the distance estimated to be occupied by one hundred words of type-written matter.

3. In a ruler the combination with a slotted metallic casing having its edges turned over to form grooves of a slotted filler-piece fitted in said casing, the edges of the slots in the casing projecting beyond the edges of the filler-piece slots, marks on the ruler to gage the distance estimated to be occupied by one hundred words of type-written matter, and designations on said ruler indicating a folio and a half-folio.

807,818. VOTING-MACHINE. ANGUS C. GORDON, Rochester, N. Y., assignor of one-half to Samuel W. Puffer, Rochester, N. Y. Filed Sept. 13, 1902. Renewed Oct. 25, 1905. Serial No. 284,576.



Claim.—1. The combination in a voting-machine, of the upright perforated plate, means for supporting a ball on one side of the plate comprising a series of interlocking ball-holders projecting in front of the plate, a counter on the other side, and mechanism adapted to deliver the ball through the plate to operate the counter, as and for the purposes described.

2. The combination in a voting-machine, of the upright perforated plate, means for supporting the ball on the front side of the plate, comprising a series of interlocking ball-holders projecting from the front of the plate for a distance less than the diameter but greater than the semidiameter of the ball, a counter on the rear side of the plate, and mechanism adapted to deliver the ball through the plate to operate the counter, as and for the purposes set forth.

3. The combination in a voting-machine, of the upright perforated plate, two or more rows of series of interlocking ball-supporting devices on the front side of the plate, said devices being adapted to support a voted ball by pressure toward the plate, corresponding rows of counters on the rear side of the plate, and mechanism arranged to deliver a voted ball in each row through the plate to operate one of the counters, as and for the purposes set forth.

4. The combination in a voting-machine, of the upright perforated plate, the movable perforated gate adapted to close the perforations in the plate, the interlocking slides carrying the projecting ball-holders on the front side of the plate adapted to support a voted ball against the gate, the counter on the rear side of the plate, and the channel for the ball, as and for the purposes described.

5. The combination in a voting-machine, of the upright perforated plate, a series of interlocking slides carrying the projecting ball-holders on the front of the plate, and adapted to support a voted ball by pressure toward the plate, the movable perforated gate between the slides and the plate, a corresponding series of counters on the opposite side of the plate, the channel for the ball, and means between each of the counters for diverting the ball out of the channel, as and for the purposes described.

6. The combination in a voting-machine, of the upright perforated plate, a series of interlocking slides carrying the projecting ball-holders on the front of the plate, and adapted to support a voted ball by pressure toward the plate, the movable perforated gate between the slides and the plate, a corresponding series of counters on the opposite side of the plate, the channel for the ball, means between each of the counters for diverting the ball out of the channel, and means for restoring the balls to the front of the plate, as and for the purposes set forth.

7. The combination with the movable slides of the central ball-holding jaw depending at an angle from the upper slide and the two ball-supports attached to the lower slide, and projecting upward on each side of the jaw, as and for the purposes described.

8. The combination with the movable slides of the central ball-holding jaw depending at an angle from the upper slides and the two ball-supports attached to the lower slide and projecting upward on each side of the jaw, the upright perforated plate, the movable perforated gate, and the counter, as and for the purposes described.

9. The combination of the series of slides having a limited range of movement, each slide being provided at its lower end with the ball-holding jaw, and at its upper end with the two ball-supports, the upright perforated plate, the movable perforated gate, and the corresponding series of counters as and for the purposes described.

10. The combination with the series of slides having a limited range of movement, each slide being provided at its lower end with the ball-holding jaw, and at its upper end with the two ball-supports, the upright perforated and slotted plate, the movable perforated gate having the slot in its lower portion, the stop for the irregular-voting member, and the series of counters, as and for the purposes described.

11. The combination with the series of slides having relative movement, each slide being provided at its lower end with the ball-holding jaw, and at its upper end with the two ball-supports, and the uppermost slide having a rearwardly-projecting pin, the upright perforated plate, the movable perforated gate having a slot in its upper portion to receive the pin, and the corresponding series of counters, as and for the purposes described.

12. The combination of the series of slides having a limited range of movement, each slide being provided with the upper and lower ball-holding devices, and the uppermost slide having a rearwardly-projecting pin, the upright perforated plate, the movable perforated gate having a slot in its upper portion to receive the pin, and a slot in its lower portion for the irregular-balloting member, and the corresponding series of counters, as and for the purposes described.

13. The combination with the upright perforated plate, of the slotted channel, the counters arranged along the channel, and having the star-wheels projecting into the slot, the partitions in the channel between the counters, the supplementary channel, and the passage leading to the opposite side of the plate, as and for the purposes set forth.

14. The combination with the upright slotted perforated plate of two or more rows of series of interlocked slides carrying the upper and lower ball-holding devices, the uppermost slides in each series

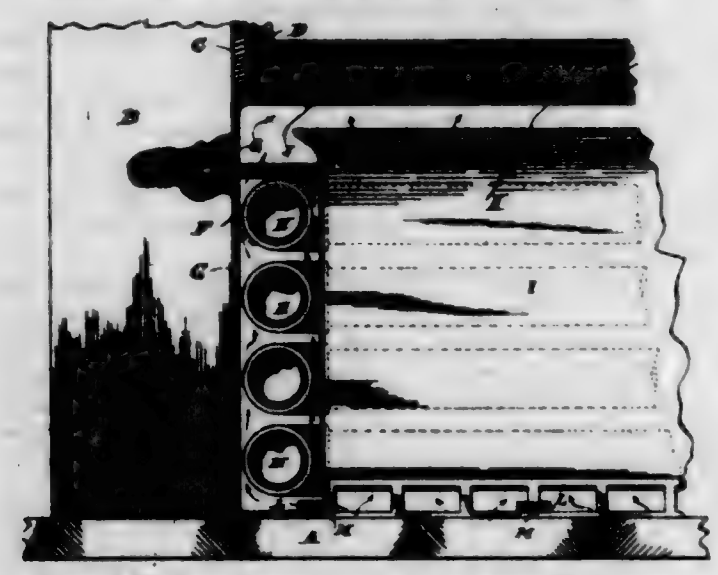
being provided with pins projecting into the slots, corresponding rows of series of counters, the rock-shaft having removable lugs adapted to engage with the pins, and means for locking the rock-shaft in the required positions, as and for the purposes set forth.

15. The combination, in a voting-machine, of the upright perforated slotted plate, the straight-ticket row of interlocked slides carrying ball-holders and two or more rows of interlocked slides carrying ball-holders adapted for selective voting on the front of the plate, the uppermost slide in each row being provided with a pin projecting into the slots in the plate, the corresponding series of counters on the rear side of the plate, means for delivering the balls through the plate to operate the counters, and the laterally-movable interlocking plate, having slots with oppositely-inclined sides adapted to engage the pins, as and for the purposes set forth.

16. The combination of the upper central ball-holding jaw with the lower ball-supports having their upper inner corners separated by a distance less than the diameter of the ball, as and for the purposes described.

17. The combination of two or more relatively movable slides, having the central ball-holding jaw on one end, and the ball-supports on the other, as and for the purposes described.

807,819. **HEATING SYSTEM FOR BUILDINGS.** HENRY J. GREENE, Peoria, Ill. Filed Sept. 22, 1902. Serial No. 124,273.



Claim.—1. The combination with a wall having a projection along the line usually occupied by the upper side of a base-board, of heating-pipes located near said wall below said projection, and a plate secured in front of said pipes below said projection and adapted to permit air to pass to and from the pipes near the lower and upper sides of the recess in which they lie.

2. The combination with a wall having a projection along the line usually occupied by the upper side of a base-board, of heating-pipes located near said wall below said projection, and a plate fixed below said projection at a short distance in front of said pipes and adapted to allow air to pass to and from the pipes near the lower and upper sides of the recess in which they lie.

3. The combination with a wall having a projection along the line usually occupied by the upper side of a base-board, of heating-pipes located near the wall below said projection, and a removable plate located below said projection a little in front of the pipes, having its upper portion bent inward, and adapted to permit air to pass to and from the pipes near the lower and upper sides of the recess in which they lie, and a series of plate-supports located in said recess.

4. In heating devices, the combination with a wall having a recess in the place of the usual base-board, of a non-conducting lining for the top, bottom and rear walls of the recess, a metal lining protecting the non-conducting lining, a molding extending along the wall just above the recess, heating-pipes supported in the recess out of contact with its walls and with each other, a metal plate forming the front wall of the recess, having its upper edge bent rearward below said molding, and closing the recess except near its top and bottom, and screws detachably fixing the plate in position.

5. In apparatus for heating a room, the combination with side walls having along the floor a recess having the height of an ordinary base-board and extending inward to the studding of the wall, of a thin lining for the recess, a thin vertical plate lying in the plane usually occupied by the face of the base-board and arranged for the entrance of air below and its exit above, and a series of heating-pipes in the same vertical plane, of a diameter less than the distance between the plate and lining, and fixed midway between said plate and lining.

807,820. **SWITCH-OPERATING DEVICE.** JAMES C. HALLETT, Bloomington, Ill. Filed Apr. 13, 1903. Serial No. 152,260.



Claim.—1. A device of the kind described comprising a pivot-plate arranged upon one side of the switch, of a movable plate arranged adjacent the rail upon the opposite side of the switch, a depressible shoe carried by a car adapted to actuate the first-mentioned plate, a trigger adapted to lock said plate after movement by engagement with the shoe and means connecting said trigger with the movable plate and adapted to unlock the first-mentioned plate upon engagement by a wheel-flange with the movable plate.

2. A device of the kind described comprising a movable pivoted plate, means connecting said plate to a switch-frog, a depressible shoe carried by a car adapted to swing the said plate, a trigger pivoted adjacent the plate and adapted to engage the same when swung by the shoe, a spring-pressed plate movable to and from a rail and adapted to be engaged by a wheel-flange and means connecting said last-mentioned plate with the trigger and adapted to withdraw the same from engagement with the pivot-plate upon movement of the spring-pressed plate toward the track-rail.

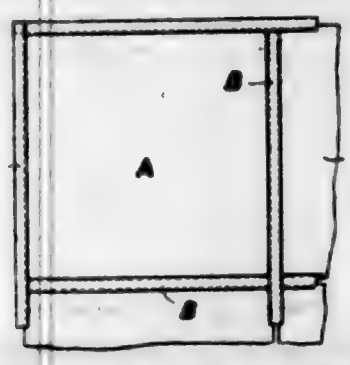
3. A device of the kind described comprising an upwardly-open trough having an inclosed side extension, a triangular-shaped plate pivoted within said extension and adapted to swing obliquely across the trough, a trigger arranged in the extension and adapted to engage the plate when moving into the extension, a depressible shoe carried by a car, adapted to enter the trough and move the pivot-plate into engagement with the trigger, connecting means between the plate and the switch-frog adapted to actuate the frog upon movement of the plate, and means for automatically releasing the trigger from engagement with the plate.

4. In combination with a switch-actuating device, a plate arranged adjacent and normally at an angle to a track-rail, a spring adapted to move one end of said plate into engagement with the rail, the opposite end of the plate being adapted to be moved into engagement with the rail by the flange of a wheel traveling from the spring-pressed end toward the opposite end and means connected with said end adapted to restore the switch-actuating devices to their normal position.

807,821. **PAPER BLANKET OR RUG.** JOHN HAWORTH, Leeds, England. Filed Dec. 13, 1904. Serial No. 236,045.

Claim.—1. As a new article of manufacture, a covering-blanket

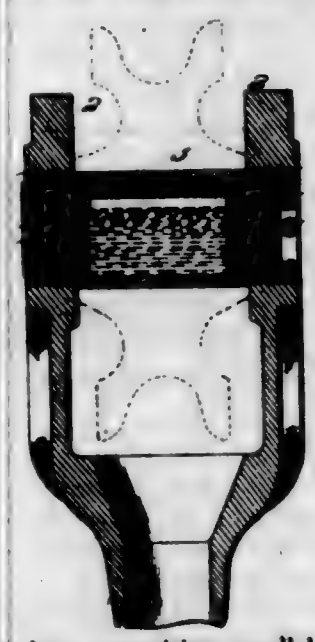
formed of a plurality of paper segments, each segment having two of its edges connected by flexible stripe with the edges of two adjoining segments, and all united in a single sheet foldable to the size of one segment.



2. In a paper blanket, the combination with a plurality of paper segments arranged in a common plane, with their edges folded and in proximity, of flexible connecting-tapes having their edges inserted and secured in the folds of the segments.

3. As a new article of manufacture, a covering-blanket formed of a plurality of tough fibrous paper segments arranged symmetrically in the form of a rectangle, each segment having two of its edges in proximity to the edges of two adjoining segments, and said proximate edges of the segments being united by a series of flexible tapes connected with the edges of the segments and joining the same in a single sheet foldable to the size of one segment, and a binding-tape folded over and secured to the exposed edges of the several segments.

807,822. TROLLEY-HARP. CHARLES L. HOOPER, Rochester, N. Y. Original application filed Dec. 15, 1903, Serial No. 185,264. Divided and this application filed Apr. 16, 1904. Serial No. 203,493.



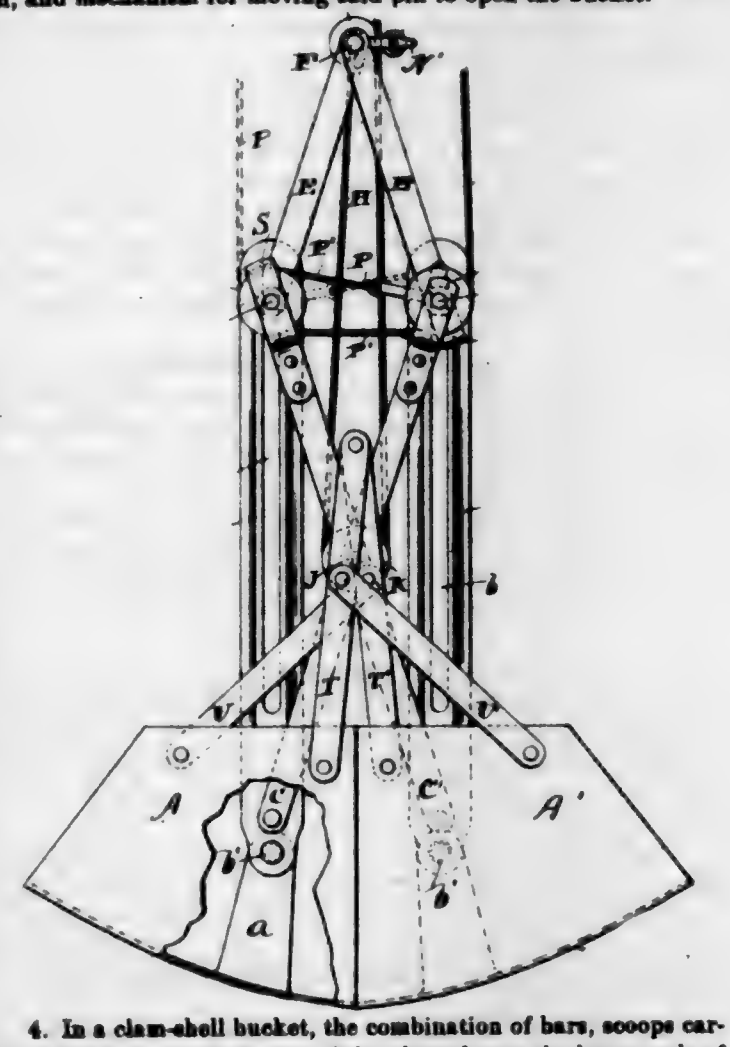
Claim.—A trolley-harp comprising parallel arms having oppositely-arranged openings, a hollow shaft passing through said openings and having open ends, said shaft having an elongated longitudinal opening intermediate its ends, cork plugs compressibly forced within the ends of said shaft, a transverse pin passing through one arm of the harp and through the shaft and cork plug, the opposite arm of the harp having recesses in its outer face communicating with the opening, and a pin passing through said shaft on the outside of the plug and having its ends extended beyond the shaft and resting in the recess in the outer face of the arm.

807,823. CLAM-SHELL BUCKET. HENRY P. HORN, Cleveland, Ohio. Filed Aug. 7, 1905. Serial No. 272,946.

Claim.—1. In a clam-shell bucket, the combination of a pair of scoops, closing means therefor to which the scoops are connected, said closing means comprising a pair of bars, and mechanism for causing the same to approach or recede from each other while remaining parallel.

2. In a clam-shell bucket, the combination with scoops of a closing and supporting mechanism therefor, consisting of a pair of slotted bars, links crossing each other and pivoted at their lower ends near the lower ends of said bars, and having their upper ends connected to pins slidable in such slots.

3. In a clam-shell bucket, the combination of a pair of slotted bars, scoops pivoted to the lower ends of said bars, pivotal means connecting the scoops, crossing-links pivoted near the lower ends of the bars and at their upper ends carrying pins engaging slots in the bars, a pin connecting said links where they cross, a sheave on said pin, and mechanism for moving said pin to open the bucket.



4. In a clam-shell bucket, the combination of bars, scoops carried at the lower ends thereof, links pivoted near the lower ends of the bars and at their upper ends slidably connected with the opposite bars, additional links connected with the links first mentioned and themselves connected together, a pivot-pin connecting the links first mentioned where they cross, and means for causing such pin and the pivot connecting the upper links to approach each other.

5. The combination of a pair of slotted bars, links pivoted near the lower ends of said bars and crossing each other and pivoted together at the crossing, pins carried by said links extending through the slots in said bars, a pair of upper links connected to said pins at their lower ends and pivoted together at their upper ends, a sheave on the pivot-pin where the lower links cross, and a cable secured to the pivot of the upper links and extending downward beneath said sheave and then upward.

6. In a clam-shell bucket, the combination of a pair of bars, scoops secured thereto, links pivoted near the lower ends of said bars and crossing each other and carrying near their upper ends, pins occupying slots in the opposite bars, sheaves mounted on said pins, and closing-cables extending around the sheaves.

7. The combination of a pair of slotted bars, a pair of links pivoted on opposite sides of one of the bars near its lower end, a pair of links pivoted on the opposite sides of the other bar near its lower end, said pairs of links crossing each other and being connected by a pivot-pin, pins occupying slots in said bars, said pairs of links being connected at their upper ends to said pins on opposite sides of said slots, four sheaves mounted on the projecting portions of said pins, and two cables each of which is secured at its end near one of said pins and then pass around the sheave on the opposite pin and then around the sheave on the pin near which the end is secured.

8. In a clam-shell bucket, the combination of a pair of scoops, supporting and closing mechanism pivoted thereto in the central plane of the scoops, and links governing the spreading of the scoops and connected to the sides thereof.

9. In a clam-shell bucket, the combination of a pair of scoops, arms rising from the base of the scoops between the sides thereof, and supporting and closing mechanism pivoted in the central plane of the scoops to said arms.

10. In a clam-shell bucket, the combination with the pair of pivoted scoops, a pair of links pivoted at their lower ends to said scoops and pivoted together at their upper ends, and a pair of additional links pivoted at their upper ends to the links first mentioned and pivoted at their lower ends to said scoops.

11. In a clam-shell bucket, the combination of a pair of scoops, a pair of links pivoted at their lower ends to the upper inner corners of the scoops and pivoted together at their upper ends, and another pair of links pivoted at their lower ends to the rear of the scoops and pivoted at its upper end to that one of the links first mentioned which is pivoted to the opposite scoop.

12. In a clam-shell bucket, the combination of a pair of scoops, a pair of links pivoted at their lower ends to the upper inner corners of the scoops and pivoted together at their upper ends, another pair of links pivoted at their lower ends to the rear of the scoops and pivoted each at its upper end to that one of the links first mentioned which is pivoted to the opposite scoop, such link construction being duplicated on the opposite edges of the scoops, and a closing and supporting mechanism for the scoops connected therewith between their sides.

13. In a clam-shell bucket, the combination of a pair of scoops, a system of toggle members connected therewith for opening the scoops, and a pawl carried by one of said members and adapted to come into engagement with a shoulder when the scoops are spread and prevent their return.

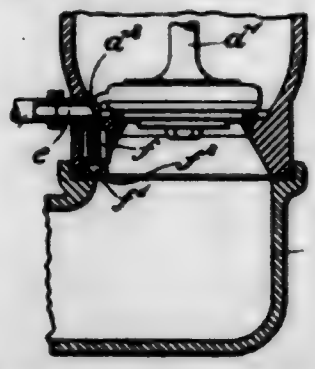
14. In a clam-shell bucket, the combination, with the scoops and their operating mechanism, of a closing and raising cable, an opening-cable mounted on the bucket and terminating with it, and means independent of said opening-cable for holding the bucket open.

15. A clam-shell bucket, comprising scoops, toggle-links therefor, a closing and raising cable, and an opening-cable connected with said links and terminating in an eye movable with the bucket, combined with a support having a hook adapted to engage the eye of the opening-cable, and mechanism for holding said hook in engaging position and for releasing it.

16. In a clam-shell bucket, the combination of a pair of links crossing each other and pivoted together at their crossing, a pair of additional links pivoted to the upper ends of the links first mentioned and themselves pivoted together, means for forcing toward each other the two pivots mentioned, and scoops carried near the lower ends of the links first mentioned.

17. In a clam-shell bucket, the combination of a pair of lower links crossing each other and pivoted together at their crossing, a pair of upper links pivoted to the upper ends of the lower links and extending upwardly therefrom toward each other and themselves pivoted together, means for moving toward each other the pivot at the crossing and the pivot of the upper links, means for moving toward each other the two pivots connecting the upper and lower links, and scoops supported by the lower links.

807,824. **HYDRANT.** CLAUDE L. HOWES, Boston, Mass. Filed Apr. 7, 1904. Serial No. 201,965.



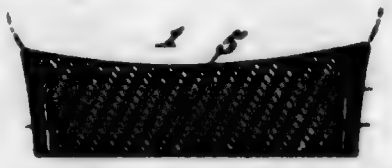
Claim.—1. In a street-hydrant comprising a casing with an internal valve-seat and main valve, a waste-port communicating with said casing, a waste-valve bodily movable in a direction parallel with the movement of said main valve and across said port and adapted to be normally moved by the pressure of the water to close said waste-port, and means on said main valve for moving said waste-valve to open position when said main valve is closed.

2. In a street-hydrant comprising a casing with an internal valve-seat and main valve, a waste-port communicating with the discharge-chamber of said casing, a waste-valve extending from the discharge-chamber to the supply-chamber of said casing, said waste-valve extending normally across said waste-port and closed by the water-pressure in the supply-chamber, and means on said main valve for moving said waste-valve to open said waste-port when said main valve is closed upon its seat.

3. In a street-hydrant comprising a casing with an internal valve-seat and main valve, a waste-port communicating with the discharge-chamber of said casing, a waste-valve bodily movable in a direction transverse to the flow through said waste-port, said waste-valve being normally closed over said waste-port by the water-pressure, and means on said main valve for moving said waste-valve to open said waste-port when said main valve is closed upon its seat.

4. In a street-hydrant comprising a casing with an internal valve-seat and main valve, a waste-port communicating with the interior of the casing above the main-valve seat, and a plunger-valve bodily movable in a chamber communicating with the casing below said valve-seat, and adapted to be bodily moved across said port by the pressure of water below said valve-seat to close said waste-port when said main valve is unseated, and means on said main valve for moving said plunger-valve to open said waste-port upon the closing of said main valve against its seat.

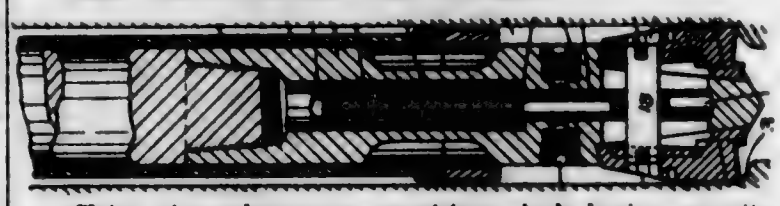
807,825. **COMPOSITE HEEL FOR BOOTS AND SHOES.** FRANK W. HUNT, Boston, Mass. Filed Apr. 6, 1905. Serial No. 254,128.



Claim.—1. A composite heel for boots and shoes comprising a body portion made up of a series of strips of rubber and a series of strips of fabric alternately arranged in substantial parallelism, standing on edge and slantingly disposed with relation to the tread-surface and inclining in the same direction, substantially as described.

2. A composite heel for boots and shoes consisting of a body portion made up of a series of strips of rubber and a series of strips of fabric, alternately arranged in substantial parallelism, standing on edge and slantingly disposed with relation to the tread-surface and inclining in the same direction, and a marginal binder of rubber surrounding said body portion, and all united into one integral composite mass, substantially as described.

807,826. **UNDERREAMER.** FREDERICK G. IRVINE, Marietta, Ohio. Filed Feb. 11, 1904. Serial No. 193,061.



Claim.—An underreamer comprising a body having opposite inset faces extending upwardly from the lower extremity thereof, opposite slips slidable on said faces and having cutting edges at their outer lower extremities, the lower portions of the inner faces of the slips having lateral extensions in the plane of the cutting edges which bear against the lower portions of the opposite faces when the slips are in elevated position and operate to hold the slips with their cutting edges laterally projected, said slip enlargements underlapping the lower extremity of the reamer-body when the slips are in lowered and contracted position, and slip-actuating means.

807,827. **WAGON-UNLOADER.** GEORGE E. JACKSON, Sigourney, Iowa. Filed Feb. 8, 1905. Serial No. 244,806.

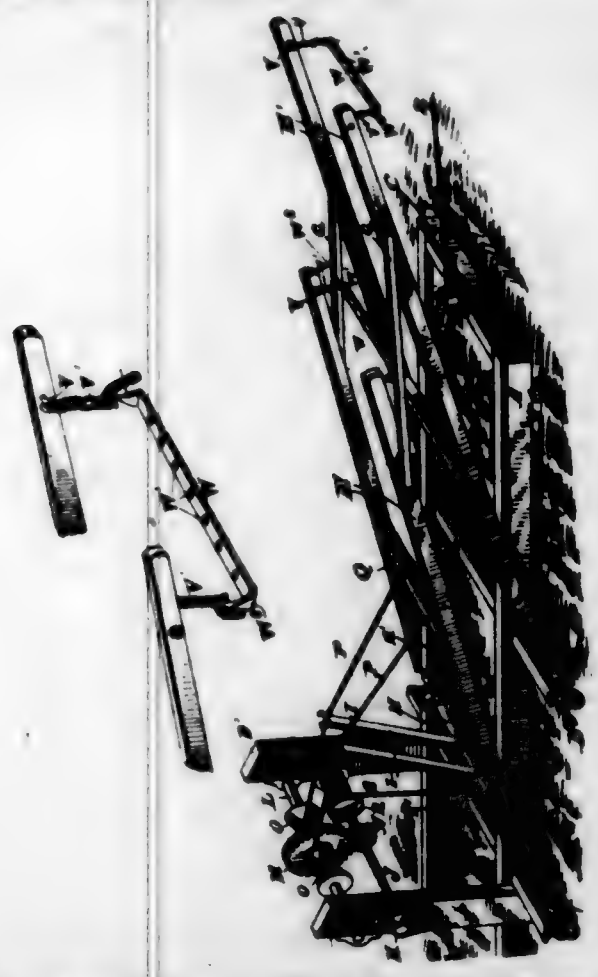
Claim.—1. The combination in a lifting device, of a base, two sets of masts with the masts in both sets thereof spacedly arranged and having hinged support on the base, slings at the upper ends of the masts, means connecting the sets of masts, and power connecting means for operating the masts, substantially as described.

2. The combination in a lifting device, of a base supported on runners, two sets of masts operatively connected, the masts of both sets being spacedly arranged and having hinged support on the base, slings at the upper ends of the masts, means connecting the two sets of masts, and power connecting means for operating the masts, substantially as described.

3. The combination in a lifting device, of a base, two sets of masts, with the masts in both sets thereof spacedly arranged and having hinged support on the base, detachable slings at the upper ends of the masts, means operatively connecting both sets of masts, a suitably-supported windlass or drum and means operatively connecting the masts therewith, and power connecting means for operating the masts, substantially as described.

4. The combination in a lifting device, of a base, two sets of masts, with the masts in both sets thereof spacedly arranged and hav-

ing hinged support on the base, adjustable slings connecting the upper ends of the masts of each set thereof, means operatively connecting both sets of masts, a suitably-supported windlass or drum having rope connection with the masts, a free prop whereby in operation, to support the rope above direct line between connection of the ropes' ends, and means wherethrough power may be applied for operating the masts, substantially as described.



5. The combination in a lifting device, of a base, two sets of masts having operative connection, the sets of masts being hinged at their lower ends to the base and spacedly-located, slings at the upper ends of the masts, a suitably-supported windlass or drum having rope connection with the masts, a counter-shaft having a rope-drum thereon, gearing for rotatably connecting the two shafts, and a rope extending from the counter-shaft drum to a suitable location adapted for application thereto of power, substantially as described.

6. The combination with a lifting device employing two sets of hinged and spacedly-arranged and connected masts, and means for operating, and the application of power to the masts, of slings at the upper ends of the masts of each set thereof, the slings consisting of a bar and attachable means therefor, depending from the masts' upper ends, substantially as described.

7. The combination with a lifting device employing two sets of hinged and spacedly-arranged and connected masts, and means for operating, and the application of power to the masts, of a bar having bent hooked ends, and suitable lengths of chain secured to the upper end of the masts, adapted for holding engagement of the bar's hooked ends, substantially as described.

807,828. TOBACCO-PIPE. GEORGE W. JUSTUS, Somerville, Mass. Filed Dec. 8, 1903. Serial No. 134,220.



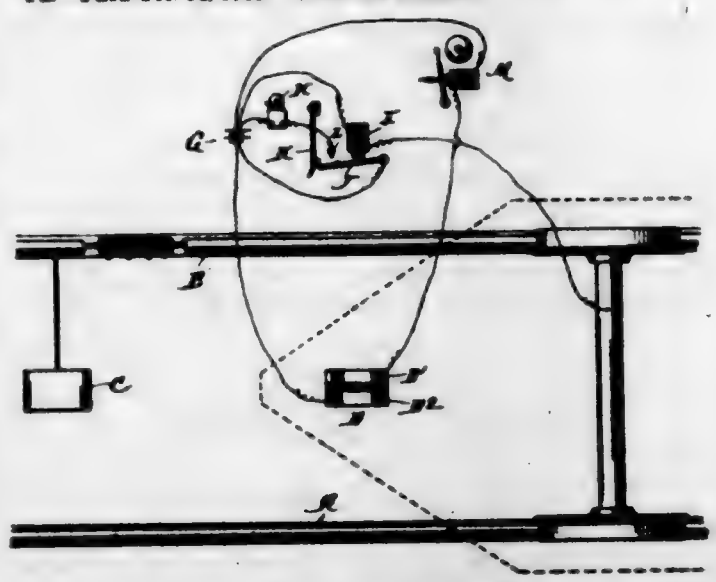
Claim.—1. In an article of the class described, the combination of tobacco-holding means; a stem therefor composed exteriorly of frangible material; a core in the stem composed of less-frangible material; a mouthpiece composed exteriorly of frangible material; a core in the mouthpiece composed of less-frangible material; there being a smoke-passage through said stem and mouthpiece; and means to join the said stem and mouthpiece together, as and for the purpose set forth.

2. In an article of the class described, the combination of tobacco-holding means; a stem therefor composed exteriorly of frangible material; a core in the stem composed of less-frangible material; a mouthpiece composed exteriorly of frangible material; a core in the mouthpiece composed of less-frangible material; there being a smoke-passage through said stem and mouthpiece; said cores being shaped and adapted to be joined together, thus uniting the mouthpiece and the stem, as and for the purpose set forth.

3. In an article of the class described, the combination of a tobacco-holding means, and a stem therefor composed exteriorly of a frangible material colorable by tobacco, there being a core in the stem composed of less-frangible material and provided with a smoke-passage and with a multiplicity of perforations leading from the smoke-passage to the material surrounding the core, as and for the purpose set forth.

4. In an article of the class described, the combination of a tobacco-holding means, and a stem therefor, composed interiorly of a core of material relatively impervious to the effect of tobacco and exteriorly of material colorable by tobacco; there being a smoke-passage through the core and a multiplicity of perforations leading from the smoke-passage to the colorable material, said perforations being located and arranged in the core at some distance one from another thereby to produce a mottled color in said colorable material, as and for the purpose set forth.

807,829. RAILROAD SIGNALING. ISIDOR KITSEE, Philadelphia, Pa. Filed Oct. 14, 1905. Serial No. 282,831.



Claim.—1. In railroading, means to notify the person in charge of the traveling vehicle if a section is clear or occupied, said means embracing means to divide electrically one of the rails of travel, conductors adapted to be used as contacting means connected each to one of the sections of said divided rail, contacting means carried by the train or vehicle in advance of the wheels of said vehicle, said contacting means in electrical connection with a source of current, and electromagnetic means adapted to close a circuit containing annunciating means and adapted to keep said circuit closed, the coil of the electromagnetic means connected electrically to the wheels of said vehicle.

2. In railroading, signaling means and means to automatically operate said signaling means, embracing on the road of travel means to electrically divide one of the rails into sections of predetermined length, contacting means for each of said sections, and embracing on the moving vehicle two contacts substantially in alinement with each other but insulated from each other, said two contacts carried in advance of the wheels of said vehicle, and forming the terminals of an electric circuit embracing annunciating means, such as an alarm, said two contacting means adapted to be connected electrically through the contacting means stationed on the road of travel.

3. In railroading, means to annunciate the condition of a section of the road of travel, said means embracing for said section a stationary contact connected to one rail of said section and embracing a pair of contacts carried by the moving vehicle in advance of the wheels of said vehicle, said two contacts forming the terminals of a current-carrying circuit including annunciating means, one of said contacts serving also as the terminal of a second circuit including an electromagnet, the second terminal of said circuit connected to the wheels of said vehicle, the electromagnet provided with means to close an additional circuit including annunciating means and to keep said circuit closed, the first and second annunciating means differing from each other in their action.

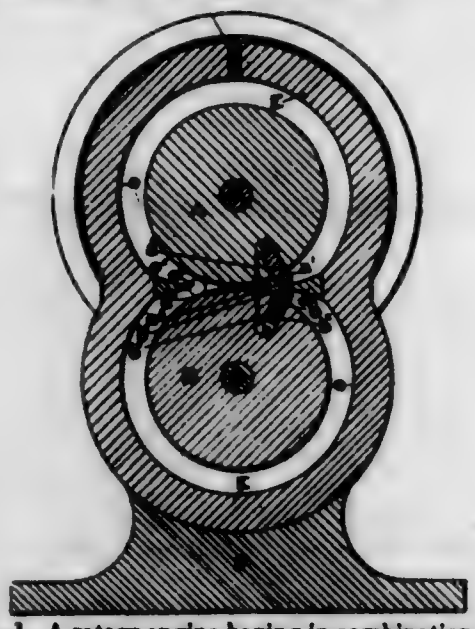
4. In railroading, means to annunciate the condition of a section of the road of travel, said means embracing on said road of travel insulating means to divide electrically one of the two rails of travel into independent sections, and contacting means at or near each end of each of said sections, said contacting means in electrical connection with one of the rails of said sections, and embracing on the traveling vehicle contacting means carried in advance of the wheels of said vehicle, an electric circuit, an annunciating device, electromagnetic means adapted to be actuated through the electrical connection of one rail of said section to the second rail and thereby closing and keeping closed a circuit containing annunciating means.

5. In a system of railroad signaling, rails of travel, one of said rails divided electrically into independent sections, the second of said rails retaining normal conductivity throughout its length, each of said sections of the first-named rail provided with two stationary contacts, contacting means carried by the moving vehicle in advance of any of its wheel pairs, and means dependent on the contacting between the stationary and traveling contacts to annunciate that said vehicle has entered a new section and also to annunciate if said new section is occupied by a second vehicle.

6. In a system of railroad signaling, one rail of travel electrically in its normal state, the other rail of travel electrically divided into sections, means, in part stationed at or near each end of each of said sections, and in part carried by the traveling vehicle in advance of any of its wheel pairs, to annunciate in said vehicle, first, the entering of a new section, and second, the status of said section as to the presence of a second vehicle therein.

7. In railroad signaling, means to annunciate the entrance on a new section of a traveling vehicle and the status of said section as to a second vehicle, said means embracing two stationary contacts connected to one rail of travel in each section and two contacts, in alinement but insulated from each other, carried by a traveling vehicle in advance of any of its wheel pairs, and means in said vehicle, electromagnetic in their action, to actuate annunciating devices placed in said first vehicle.

807,830. **ROTARY ENGINE.** GEORGE F. LEIGHTON, Cincinnati, Ohio. Filed Sept. 11, 1905. Serial No. 277,857.

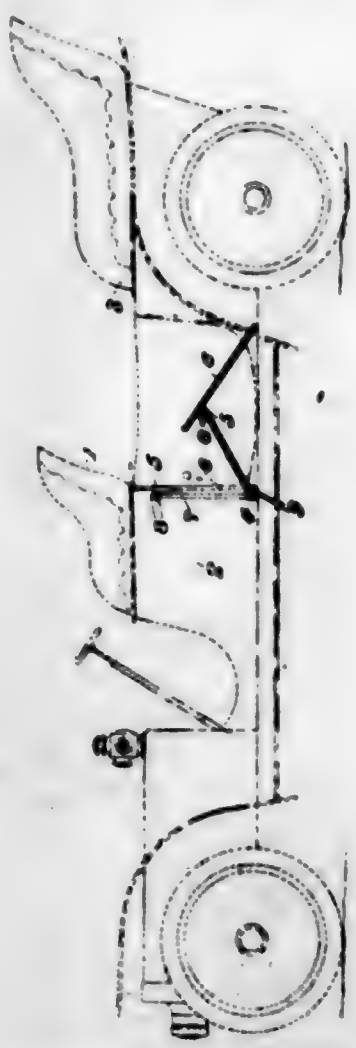


Claim.—1. A rotary engine having in combination a fluid-tight chamber, cylinders rotatable within said chamber in opposite directions, said cylinders tangent and made steam-tight at the line of tangency, and having longitudinally-extending slots, fins slidable in said slots and arranged to so contact at each revolution as to depress each other simultaneously, said cylinders having fluid-passages connecting the fin-slots with the surface of the cylinders at points near the fins on the same side pressure is applied whereby the fins are simultaneously expanded after they pass each other.

2. In a rotary engine, the combination with tangent rotating cylinders, steam-tight at the line of tangency, of fins having limited radial motion in slots in said cylinders; said fins having their outer edges rounded on the side opposite that on which steam is applied, and said fins adapted to so contact at each revolution as to depress each other simultaneously.

3. A rotary fluid-pressure engine, consisting of a fluid-tight chamber, within which are two tangent cylinders whose tangency is fluid-tight, said cylinders containing fins suitably set in slots in the circumferential surface of the cylinders, passages connecting said fin-slots with the surface of said cylinders at points near said fins on the same side pressure is applied; and said cylinders rotatively attached to shafts, which are suitably journaled in the sides of said fluid-chamber; one or more fly-wheels outside the chamber on one of said cylinder-shafts, equal and similar meshing gears on said cylinder-shafts; a cut-off valve without said chamber; means for operating same and suitable inlet and exhaust ports.

807,831. **FOLDING FOOT-REST FOR AUTOMOBILE-TONNEAUS.** RALPH A. LESLIE, Cleveland, Ohio, assignor to The Winton Motor Carriage Company, Cleveland, Ohio. Filed July 15, 1905. Serial No. 269,536.



Claim.—1. The combination with a vehicle having a front and a rear seat, of a folding foot-rest located between the seats and adapted to be supported in a rearwardly-inclined position in front of the rear seat to form a foot-rest for the passengers of the rear seat.

2. The combination with a vehicle having a front and a rear seat, of a folding foot-rest located between the two seats consisting of a swinging board, a link connection between the board and the floor of the vehicle, the link connection constructed to support the board in a rearwardly-inclined position and adapted to permit it to be folded in a substantially vertical position when not in use.

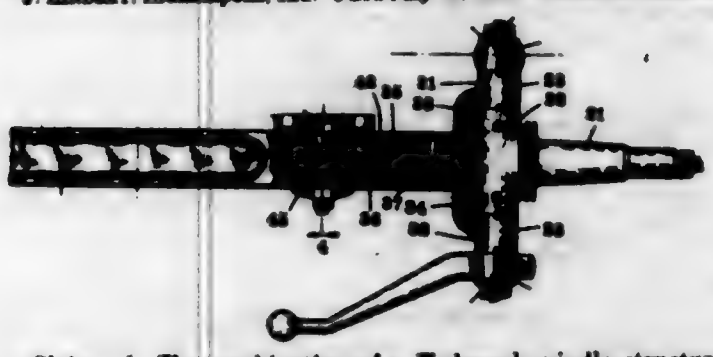
3. The combination with a vehicle having a front and a rear seat, of a foot-rest consisting of a board, a link having one end hinged to the bottom of the floor at about the rear portion of the front-seat base and having its opposite end hinged to the board between its ends, the board adapted to swing upward into a closed position at the rear of the front seat and adapted to swing backward and rearward into a rearwardly-inclined position, and means for supporting the board in its inclined position.

4. The combination with a vehicle having a front and a rear seat, of a folding foot-rest located between the two seats consisting of a board, hinge-brackets connected to the vehicle at about the lower rear corners of the front-seat base, hinge-brackets connected to the board between its ends links having their forward ends pivotally connected to the first-mentioned brackets and their upper and rear ends pivotally connected to the board-brackets, whereby the board is adapted to be folded in a position at the back of the front-seat base and also in a rearwardly-inclined position, and means for supporting the board in said inclined position.

5. The combination with a vehicle having a front and a rear seat, the front seat having a base portion, a movable vertically-arranged rear portion for the said base, the said rear portion having a link connection with the car adapting it to be swung rearwardly in an inclined position and forwardly to form the back of the said front-

seat base, and means for supporting the said back in its rearwardly-inclined position.

807,832. STEERING-AXLE FOR MOTOR-VEHICLES. THOMAS J. LINDSAY, Indianapolis, Ind. Filed July 14, 1905. Serial No. 269,677.



Claim.—1. The combination of a T-shaped spindle structure embodying bearing portions and ends beyond the bearings to receive a steering-arm, a steering-arm adapted to be removably secured to one of said ends, a two-part bearing structure in which said spindle structure is mounted, an axle, and means whereby said two-part bearing structure is securely united to said axle.

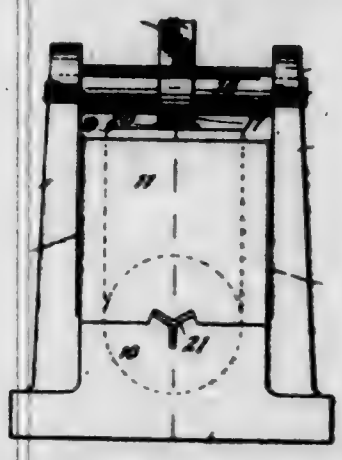
2. The combination of a T-shaped spindle structure, a two-part bearing structure therefor embodying horizontal portions, and an axle having a sleeve-like end adapted to slip over and surround said horizontal portions.

3. The combination of a T-shaped spindle structure having bearing portions formed rigidly therewith, a two-part bearing structure in which the bearing portions on the spindle are mounted having members extending horizontally in line with the axle proper, said axle, having its ends formed to embrace said horizontal members, and means for clamping said members and said axle ends firmly and rigidly together.

4. The combination of a T-shaped spindle structure, a two-part bearing structure in which it is mounted and having horizontal portions meeting centrally, a sleeve carried by the axle extending over said horizontal portions, a bolt passing through the sleeve and said horizontal portions, and a spring-seat embracing the bolt and preventing the same from turning.

5. The combination of a spindle structure, a two-part bearing structure in which the same is pivotally mounted and having horizontal portions which meet centrally, a pin passing through said horizontal portions and holding them from relative lateral displacement, a sleeve connected with the axle and extending over said horizontal portions and said pin, and means whereby said sleeve is firmly secured thereon.

807,833. MACHINE FOR MOLDING BASES ON FENCE-POSTS. CHARLES S. LOSH, Aurora, Ill. Filed Sept. 6, 1904. Serial No. 223,227.



Claim.—1. The machine for molding bases on fence-posts, having a lower stationary half-mold with closed ends, an upper movable half-mold with open ends, a frame closing the ends of the upper half-mold, and also serving to guide the upper mold, and means for forcing the upper mold down on the plastic material an opening being formed in the end of the lower mold and the frame at the meeting line of the same for the insertion and support of the fence-post.

2. The machine for molding bases on fence-posts, having a lower stationary half-mold with closed ends, an upper movable half-mold with open ends, a frame surrounding the upper mold and resting on the lower one, and serving both to close the ends of, and to guide the upper mold, and means for forcing the upper mold down on the plastic material.

3. The machine for molding bases on fence-posts, having a lower stationary half-mold, an upper movable half-mold, a guide-frame fitted to and resting on the top of the lower mold and serving to guide the upper mold, and means for forcing the upper mold down upon the material.

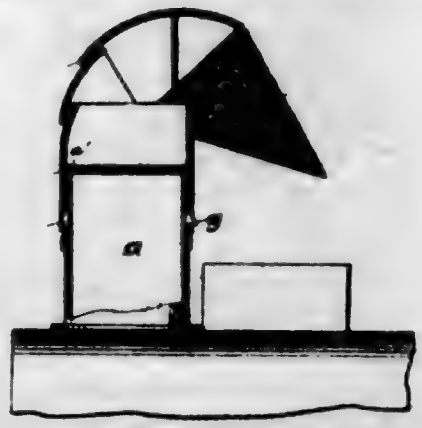
4. The machine for molding bases on fence-posts, consisting of a lower stationary half-mold, an upper movable half-mold, a guide-frame, manually-operated eccentrics for forcing the upper mold down upon the lower one, and rollers in said upper mold engaged by the eccentrics.

5. The machine for molding bases on fence-posts, consisting of a lower stationary half-mold, an upper movable half-mold, a guide-frame, manually-operated shafts carrying eccentrics for forcing the upper mold down upon the lower one, and loose rollers in said upper mold engaged by the eccentrics.

6. The machine for molding bases on fence-posts, consisting of a lower stationary half-mold, an upper movable half-mold, a guide-frame, manually-operated shafts carrying eccentrics for forcing the upper mold down upon the lower one, and loose rollers located in a slot formed in the top of the upper mold and engaged by the eccentrics.

7. The machine for molding bases on fence-posts, consisting of a lower stationary half-mold, an upper movable half-mold, a guide-frame, hooked uprights mounted on the lower mold, shafts supported in said uprights and carrying eccentrics, changeable rollers supported in the upper mold and engaged by the eccentrics.

807,834. SPARK-ARRESTER. BRUNO LUXENBURG, Cassel, Germany. Filed Apr. 7, 1905. Serial No. 254,206.



Claim.—1. The combination with a smoke-stack, of a spark-arrester comprising a section telescoping the upper end of said stack, a series of extensible slat-sections pivoted to said telescoping section, and a screen carried by the outermost slat-section.

2. The combination with a smoke-stack, of a spark-arrester comprising a telescoping section, means for securing said section to the smoke-stack, a plurality of slat-sections pivoted to the telescoping section, and a hooded screen carried by the outermost slat-section, substantially as described.

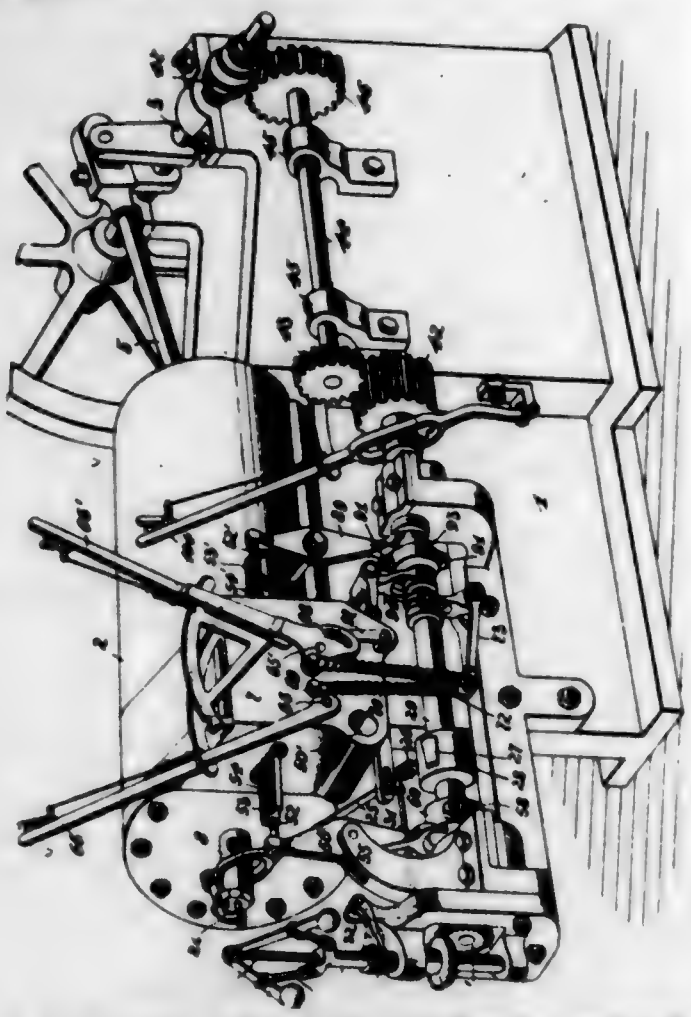
807,835. CRUDE-OIL ENGINE. DAVID W. LYON, Buttercreek, Cal. Filed Dec. 5, 1904. Serial No. 235,566.

Claim.—1. In an engine of the character described, the combination with a cylinder, of a reciprocating piston mounted therein, a fuel-valve arranged in one end of said cylinder, said valve having a flaring end to serve as a deflecter for the fuel, a valve-seat for said valve provided with a series of radially-arranged jets or apertures for injecting the fuel in a spray into the cylinder when the valve is opened, and means whereby said engine may be changed from an oil-engine to an air-compressor, or to a steam or compressed-air engine, substantially as described.

2. In an engine of the character described, the combination with a cylinder, a reciprocating piston mounted therein, a fuel-valve arranged in one end of said cylinder, said valve having a flaring inner end, a valve-seat for said valve having an annular series of fuel-jets, a valve-chest arranged on one side of said cylinder, air inlet and exhaust valves arranged in said chest, and means whereby said engine may be changed from a crude-oil engine to an air-compressor, or to a steam or compressed-air engine, substantially as described.

3. In an engine of the character described, the combination with a cylinder, of a reciprocating piston mounted therein, a fuel-valve arranged in one end of said cylinder, said valve provided with a fuel-deflecter on the inner end thereof, a valve-seat having an annular series of jets or openings, a valve-chest arranged on one side of

said cylinder, air inlet and exhaust valves arranged in said chest, a revolubly-mounted valve-gear shaft, mechanism actuated by said shaft for controlling said valves, means to primarily adjust said valves whereby said engine may be transformed from a crude-oil engine to an air-compressor, or to a steam or compressed-air engine, and means whereby the valve-controlling mechanism actuated by said shaft may be arranged to drive said engine in either direction when running as an oil, a steam or a compressed-air engine, substantially as described.



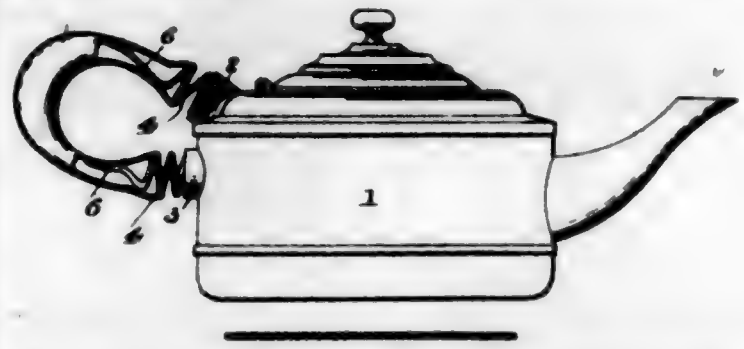
4. In an engine of the character described, the combination with a cylinder, of a reciprocating piston mounted therein, a fuel-valve arranged in one end of said cylinder, said valve being provided with a deflector-flange, a valve-seat for said valve, said valve-seat being provided with an annular series of fuel jets or openings, means whereby said valve is operated at the proper time with respect to the direction in which said engine is running, an air-inlet valve, an exhaust-valve, and means for operating said valve, substantially as described.

5. In an engine of the character described, the combination with a cylinder, of a reciprocating piston mounted therein, a governor-controlled fuel-valve arranged in one end of said cylinder, a deflector-flange on said valve, a valve-seat provided with a series of fuel-jets, a revolubly-mounted valve-gear shaft, means carried by said shaft whereby said valve is operated, an air-valve adapted to be opened by the suction-stroke of said piston, an exhaust-valve, and means carried by said valve-gear shaft whereby said exhaust-valve is operated, substantially as described.

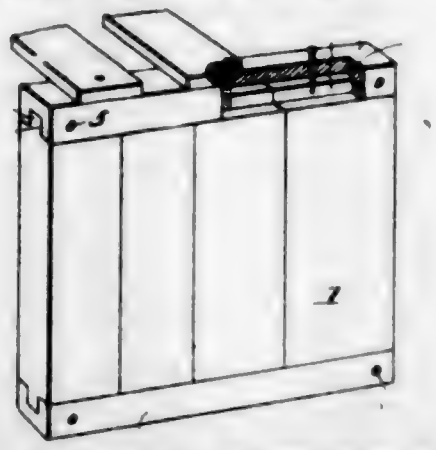
6. An engine provided with a piston-cylinder and piston therein, a valve to admit fuel to said cylinder, said valve having a deflector-flange, a valve-seat provided with an annular series of fuel-jets, means for throwing said valve into and out of operation, an inlet-valve, a duct leading to the cylinder and controlled by the inlet-valve, an air-duct and a duct for compressed fluid leading to the first-mentioned duct, means to establish communication between either the air-duct or the fluid-duct and the first-mentioned duct, an exhaust-valve, an exhaust-duct controlled thereby, said exhaust-duct having a plurality of discharge-ports, a valve in one of said ports, and means to establish communication between said exhaust-duct and either of said ports, whereby said engine may be used either as an internal-combustion engine, a steam or compressed-fluid engine, or a fluid-compressor at will, substantially as described.

807,836. **DOMESTIC BOILER.** CHARLES MADEIRA, Meriden, Conn., assignor of one-half to J. H. Baldwin, Southington, Conn. Filed Jan. 27, 1905. Serial No. 243,845.

Claim.—In combination, a receptacle, hollow bosses on the receptacle, a hollow handle, and coils interposed between the ends of the handle and the bosses, the ends of the coils fitting within the ends of the handle, and the bosses and held thereby, each of the ends of the coils within the handle being provided with an extension bearing on opposite walls of the handle, said extension projecting at angles to the axes of the coils.



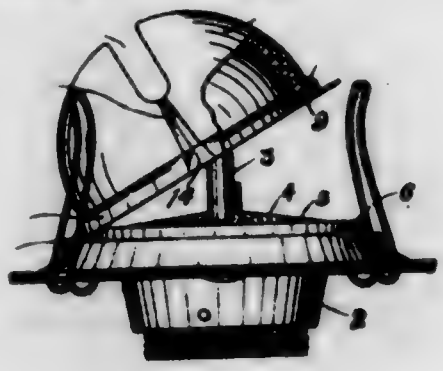
807,837. **BOX OR CRATE HEAD.** AUSTIN S. MANN, Jacksonville, Fla. Filed July 20, 1903. Serial No. 166,378.



Claim.—1. As a new article of manufacture, a crate head or panel for use in the construction of crates and adapted to have the crate sides or slats nailed thereto, said head or panel comprising a pair of frame-strips and a plurality of connecting cross-strips temporarily secured thereto, the frame-strips each having an approximately central groove formed in its inner edge and the cross-strips having tongues extending into said grooves to such a depth as to be reached and engaged by the nails employed for securing the crate sides or slats to said head or panel, whereby permanent fastening of the frame-strips to the cross-strips of the head or panel is effected by the nails which attach the crate sides or slats to the head or panel.

2. As a new article of manufacture, a crate head or panel for use in the construction of crates and adapted to have the crate sides or slats nailed thereto, said head or panel comprising a plurality of strips of uniform thickness each of which is provided with a beveled edge extending from end to end thereof, two of the marginal strips being provided with grooves or recesses and the two remaining marginal strips being provided with tongues fitting into said grooves or recesses and temporarily secured thereto, the intermediate strips forming the body of the head being arranged in parallel relation with the tongued strips and being also provided with tongues fitting within the grooved or recessed marginal strips, the tongues of all of the strips provided therewith being extended into the grooves or recesses to a sufficient depth to be reached and engaged by the nails employed in securing the crate sides to the head or panel, whereby the terminal fastening of the strips comprising the head is effected by the nails which attach the crate sides or slats thereto.

807,838. **LAMP-BURNER.** ROY H. MAPLE, Minneapolis, Minn. Filed Oct. 22, 1904. Serial No. 229,567.



Claim.—1. The combination, with a burner having a wick-tube, of a ring having means for attachment to said burner, and an inwardly-turned lip at its upper edge, and a glass cone inserted into said ring from the under side and having a flame-opening to coincide with said tube, and an annular groove near its lower edge to receive said lip, substantially as described.

2. The combination, with a lamp-burner having a wick-tube, an air-inlet plate and a vertical flange inclosing the same, of a clamping-ring fitting down around said flange and provided at its upper edge with an inwardly-turned lip projecting above said flange, a glass cone inserted into said ring from the under side and having a peripheral flange that rests upon said burner and is clamped between it and said lip, substantially as described.

3. The combination, with a burner having a wick-tube, of a ring having means for attachment to said burner and provided with offsets or recesses and having a cone-retaining means, a glass cone inserted into said ring from the under side and having a flame-opening to coincide with said tube and prevented from passing through said ring by said retaining means, and ribs provided on said cone to enter said recesses and thereby prevent accidental rotation of said cone.

4. The combination, with a burner having a wick-tube, of a ring having means for attachment to said burner and provided with offsets or recesses, and a cone-retaining means, a glass cone inserted into said ring from the under side and held therein by said retaining means and provided with ribs tapering from the bottom toward the top to enter the recesses in said ring, substantially as described.

5. The combination of a burner having a wick-tube, and a ring having means for attachment to said burner, and a glass cone fitting in said ring and having a flame-opening to coincide with said tube, the lower diameter of the cone being greater than the diameter of the opening in the upper portion of the ring, and the upper portion of the ring grasping the cone and constituting a seat and holder therefor, whereby the cone may be inserted through the ring and brought to position on its seat from beneath the ring and be held by the seat against accidental displacement therefrom, substantially as described.

6. The combination, with a burner having a wick-tube, of a ring or collar, a glass cone inserted into said ring from the under side and having a flame-opening to coincide with said tube, and said ring having means for attachment to said burner, and a retaining means for said cone, and said ring being also provided with means to prevent the accidental rotation of said cone therein, substantially as described.

7. The combination, with a burner having a wick-tube, of a clamping-ring hinged on one side to said burner between said tube and the outer portion of the burner that supports the chimney, said ring being provided with an inwardly-turned upper edge, and a glass cone inserted into said ring from the under side and having a lower edge adapted to rest upon said burner, and a flame-opening to coincide with said tube, and said cone being also provided with a peripheral flange that is clamped between the upper edge of said ring and burner when the device is in use.

8. The combination, with a burner having a wick-tube, of a ring having means for attachment to said burner, and a glass cone composed of two sections fitting in said ring and having a flame-opening to coincide with said tube, the lower diameter of the cone being greater than the diameter of the opening in the upper portion of the ring, and the upper portion of the ring grasping the cone and constituting a seat and holder therefor, whereby the cone may be inserted through the ring and brought to its seat from beneath the ring and be held by the seat against accidental displacement therefrom, substantially as described.

807,839. FLEXIBLE RIM FOR VEHICLE-WHEELS. WILLIAM G. MARR, Springfield, Mass., assignor of one-third to James P. Hillard and one-third to Richard J. Talbot, Springfield, Mass. Filed Mar. 1, 1905. Serial No. 247,908.

Claim.—1. In combination with a wheel for vehicles, sections, each having a spiral spring, a metal rod, a socket for said rod and a cover, fitted to the spokes or on the rim of a wheel, a flat spring between each spring-section curving in the center toward the hub of said wheel, a sectional tire, each tire-section bearing on two spring-sections and on the spring between each of said spring-sections, substantially as specified.

2. In a vehicle-wheel having spring-sections, a curved spring between the spring-sections supporting the rubber, cloth or leather surface of the lower part of the tire in the chamber formed by its curvature, substantially as specified.

807,839.



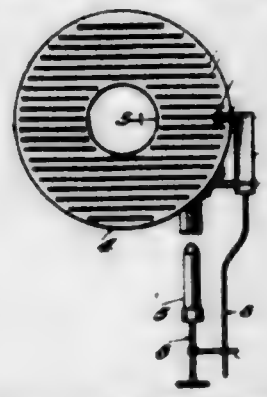
807,840. HOLDER. ALONSO E. MARTIN, Toledo, and ROY W. KENNARD, Fernhill, Wash. Filed Mar. 2, 1905. Serial No. 248,024.



Claim.—1. A holder comprising a clip adapted to engage a vessel, a carrier-arm extending outwardly from the clip and then inwardly, engaging means rising from the inner extremity of the arm, and a finger-piece extending from the clip adjacent to the carrier-arm.

2. A holder comprising a clip member projecting upwardly and outwardly to furnish a carrier-arm, a second clip member extending from the carrier-arm, and a finger-piece carried by the first-named clip member and extending adjacent to the carrier-arm.

807,841. VAPOR AND GAS BURNER. JOHN A. MATHER, San Diego, Cal. Filed June 8, 1905. Serial No. 264,355.



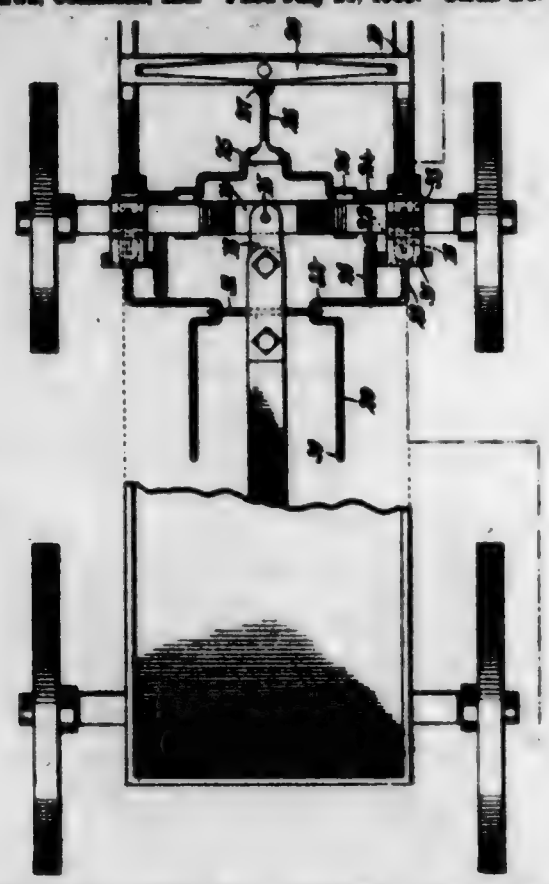
Claim.—1. A vapor or gas burner having a port in that part of the burner from which the gas or vapor issues of a sufficient size when open to cause back firing and a mixing-chamber adjacent thereto; a removable closure for said port; and means to operate said closure upon turning off the fuel-supply to the burner.

2. A vapor or gas burner having a surface upon which the gas or vapor burns with a mixing-chamber under said surface and having a port in said surface of sufficient size when open to produce back firing; a pivoted weight having an arm adapted to close said port to prevent back firing; and means to withdraw said arm from said port when the fuel-supply is being turned off.

3. A vapor-burner having a distributing-chamber provided with a perforated top, said top having a port therein of sufficient size when open to cause back firing; a pivoted lever secured to the distributing-chamber, said lever having the shorter end thereof heavier than the longer end; an arm secured to the outer end of the heavy end of said lever, said arm being adapted to close the port in the top of the distributing-chamber to prevent back firing into the chamber; a valve adapted to control the supply of fuel to the burner; an arm secured upon the stem of the valve and adapted to engage the light end

of the pivoted lever and cause it to withdraw the arm on the heavy end from the port in the burner when the fuel-supply is being turned off.

807,842. DEVICE FOR PREVENTING ACCIDENTS. CAMIL MATHEWS, Coalmont, Ind. Filed July 21, 1905. Serial No. 270,704.



Claim.—1. In a vehicle, the combination of a front axle having passages therethrough, bars extending through said passages and provided with perforations upon the rear side of the axle, and tongues passing through said perforations for holding the bars upon the axle.

2. In a vehicle, the combination of a front axle having a passage therethrough, a bar extending through said passage provided with a perforation upon the rear side of the axle, a tongue passing through said perforation for holding the bar on the axle, and means for moving the tongue to release the bar from the axle.

3. In a vehicle, the combination of an axle having a passage, a bar extending through the passage and provided with a perforation upon the rear side of the axle, a frame movably mounted upon the axle and having a tongue adapted to pass through the perforation for holding the bar on the axle, and means for moving the frame to release the bar from the axle.

4. In a vehicle, the combination of a front axle having passages therethrough, bars extending through said passages and provided with perforations upon the rear side of the axle, a frame pivotally mounted on said bars upon the front of the axle, a second frame movably mounted upon the axle and having tongues passing through said perforations for holding said bars and the axle, and means for moving said last-mentioned frame to release the bars from the axle.

5. In a vehicle, the combination of an axle having perforations, bars extending through said perforations and having perforations in their ends upon the rear side of the axle, a frame movably mounted upon said bars, a second frame movably mounted on the axle, tongues on the second frame for engaging the last-mentioned perforations and locking the bars and the axle, resilient means for holding said second frame in position for locking said bars, and means for moving the second frame out of locking position.

6. In a vehicle, the combination of a front axle having passages therethrough, bars extending through said passages and provided with perforations upon the rear side of the axle, a frame pivotally mounted on said bars upon the front of the axle, a second frame movably mounted upon the axle and having tongues passing through said perforations for holding said bars and the axle, and means for moving said last-mentioned frame to release the bars from the axle, said second frame having a brake thereon consisting of bars adapted to be moved into contact with the ground when the frame is moved into unlocking position.

7. The combination with an axle, of a bar engaging said axle, a frame supported by the bar, a second frame pivotally mounted on the front side of the axle, said frame having an offset extending to the front of the pivotal point of the frame, a handle connecting the said offset for swinging the frame about its pivot, a tongue pivotally mounted on the frame and engaging said bar, a spring connecting the rear side of the axle with a portion of the second frame which extends to the rear of the axle for holding said tongue in elevated position, and an extension on the second frame adapted to engage the ground when the frame is moved to release the tongue from said bar.

8. The combination with an axle, of a bar engaging said axle, a frame supported by the bar, a second frame pivotally mounted on the front side of the axle, said frame having an offset extending to the front of the pivotal point of the frame, a handle connecting the said offset for swinging the frame about its pivot, a tongue pivotally mounted on the second frame and engaging said bar, a spring connecting the rear side of the axle with a portion of the second frame which extends to the rear of the axle for holding said tongue in elevated position, and an extension on the second frame adapted to engage the ground when the frame is moved to release the tongue from said bar, said axle having a perforation therethrough at its center and a center-piece connected with the rear axle and having two perforated tongues, one adapted to enter said perforation and the other adapted to engage the top of the axle directly above it, and a centering-pin for connecting said center-piece and the front axle together.

9. The combination with an axle, of a bar engaging it, a frame supported by the bar, a second frame mounted on the front side of the axle and having an offset extending to the front thereof, a handle connected with the offset, a tongue mounted on the second frame and engaging said bar and an extension on the second frame adapted to engage the ground when the frame is moved to release the tongue from said bar, said axle having a perforation therethrough and a center-piece connected with the rear axle and having two perforated tongues, one adapted to enter said perforation and the other to engage the top of the axle above the perforation, and a pin for connecting said center-piece and the front axle.

10. The combination with an axle, of a bar engaging the axle, a frame supported by the bar, a second frame mounted on the front side of the axle and having an offset, a handle connected with said offset, a tongue mounted on the frame and engaging said bar, and an extension on the second frame adapted to engage the ground when the frame is moved to release the tongue from the bar.

807,843. FURNITURE-NAIL. SAMUEL M. MERRILL, Newton, Mass., assignor to Morley Button Manufacturing Company, Boston, Mass., a Corporation of Maine. Filed Feb. 2, 1905. Serial No. 243,810.



Claim.—1. A furniture-nail, having a head of fibrous-felted material in the exposed surface whereof is impressed an irregular network of fissures.

2. A furniture-nail, having a head of fibrous-felted material in the exposed surface whereof is impressed an irregular network of fissures, said fissures convergently collected at and near the center of the nail-head.

807,844. EYE-PROTECTOR. ELIE MINOVITCH, Paris, France. Filed Feb. 11, 1905. Serial No. 245,346.



Claim.—1. In eye-protectors and goggles for automobilists and others, the combination with a pair of lens-frames connected together, each of a depth to form a chamber to inclose one of the eyes of the wearer, and each provided with elastic cushions, of glass mounted in bezels detachably secured to the frame, and pairs of inlet and outlet air-tubes communicating with openings at the outer end and the upper side of the frames, respectively, to enable a current of air to circulate through the eye-chamber, substantially as described.

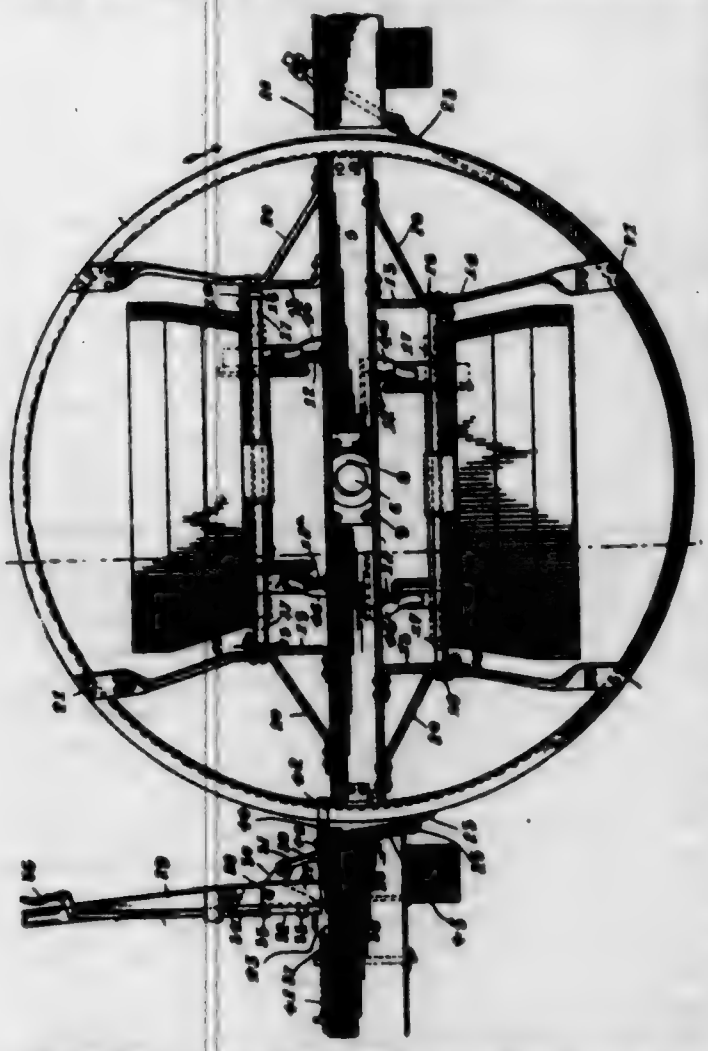
2. The combination with eye-protectors and goggles for automobilists and others, consisting of a pair of lens-frames adjustably connected together, and each of a depth to form a chamber to inclose one of the eyes of the wearer, and each provided with elastic cush-

lens, of pairs of flexible ventilating-tubes opening into the outer end and upper side of the chamber and constituting air inlets and outlets, respectively.

3. The combination with eye-protectors or goggles for automobilists and others consisting of a pair of lens-frames connected together and each of a depth to form a chamber to inclose one of the eyes of the wearer and pairs of flexible ventilating-tubes opening into the chamber and constituting air inlets and outlets, of an extensible bridge having a screw-stop and connected to the eye-cups by ball-and-socket joints to permit of the frames being folded on one another, substantially as specified.

4. In goggles, the combination with the connected lens-frames, of elastic cushions on the rear face of the frames, detachable rims on the front of the frames and provided with bezels, lenses mounted in the bezels of the rims, inlet-tubes communicating with the interior of the frames at the outer ends thereof, and outlet-tubes communicating with the interior of the frames at the upper side thereof.

807,845. AUTOMATIC REVOLVING CAR-DUMP. ARTHUR MOORE, War Eagle, W. Va. Filed Apr. 18, 1904. Serial No. 203,755.



Claim.—1. A device for unloading cars, provided with means whereby two cars, with their tops oppositely disposed, and the wheels of each car disposed upon opposite sides of a common axis may be simultaneously rotated entirely by the force of gravity.

2. A device for unloading cars, provided with means whereby two cars, with their tops oppositely disposed, and the wheels of each car disposed upon opposite sides of a common axis disposed between the cars may be simultaneously rotated entirely by the force of gravity, and turned entirely over.

3. A device for unloading cars, provided with means whereby two cars, with their tops oppositely disposed, may be supported from opposite faces of a platform and simultaneously rotated, entirely by the force of gravity, about an axis disposed within such platform, between the wheels of each of the cars and parallel with their lengths.

4. A device for unloading cars, provided with means whereby two cars, with their tops oppositely disposed, may be supported from opposite faces of a platform, with the wheels of each car upon opposite sides of a common axis disposed within said platform simultaneously rotated, entirely by the force of gravity, and turned entirely over.

5. A device for unloading cars, provided with means whereby two cars, with their tops oppositely disposed, may be supported from opposite faces of a platform and simultaneously rotated entirely by the force of gravity about an axis within such platform, between the wheels of each car and parallel with their lengths and turned entirely over.

6. A device for unloading cars, provided with means whereby two cars, with their tops oppositely disposed, may be supported from opposite faces of a rotatable platform, rigidly secured within a circular member, and rotatable entirely by the force of gravity upon a common axis disposed between the wheels of each car.

7. A device for unloading cars, provided with means whereby two cars, with their tops oppositely disposed, may be supported from opposite faces of a platform secured within a circular member and simultaneously rotated entirely by the force of gravity upon a shaft disposed axially to such circular member within the platform, between the wheels of each car and parallel with their lengths.

8. A device for unloading cars, provided with means whereby two cars, with their tops oppositely disposed, may be supported from opposite faces of a platform, rigidly secured within a circular member and simultaneously rotated entirely, by the force of gravity, on a shaft disposed axially to such circular member, between the wheels of each car and parallel with their lengths and turned entirely over.

9. In a device for unloading cars, a platform rigidly secured within a circular member, and adapted to support two cars, upon opposite faces thereof, an axis for such circle, within and parallel with the plane of such platform, and between the wheels of each car and all adapted to be rotated upon such axis and turned entirely over by the force of gravity alone.

10. In a device for unloading cars, a rotatable platform rigidly secured within, and with its plane arranged diametrical to a circular member, said platform being adapted to support two cars upon opposite faces thereof, an axis disposed within said platform, means for retaining said cars in position upon said platform with the wheels of each car upon opposite sides of the axis and means for turning the platform and cars entirely over by the force of gravity alone.

11. In a device for unloading cars, a platform rigidly secured within, with its plane arranged diametrical to a circular member, and adapted to be rotated upon the axis of such circular member, said axis being disposed within, and parallel with the plane of such platform, the platform being adapted to support two cars, upon opposite faces thereof, with their tops oppositely disposed and the wheels of each upon opposite sides of the axis, means for retaining said cars in position upon said platform and means for turning the platform and cars entirely over upon said axis by the force of gravity alone.

12. In a device of the character described, the combination of a circular member, a platform rigidly secured therein and diametrical thereto, a shaft mounted axially within said circular member and within said platform and parallel with its opposite faces, a pair of rails, each parallel with, but upon opposite sides of and unequally distant from said axis, and mounted upon each of the opposite faces of such platform.

13. In a device of the character described, the combination of a circular member, a platform rigidly secured therein and diametrical thereto, a shaft mounted axially within said circular member, and within said platform, and parallel with its opposite faces, a pair of rails, each parallel with, but upon opposite sides and unequally distant from said axis, mounted upon each of the opposite faces of said platform and all adapted to be turned entirely over upon said axis by the force of gravity alone.

14. In a device of the character described, the combination of a circular member, a platform rigidly secured therein, and arranged diametrical thereto, a shaft mounted axially to said circular member, within said platform and parallel with its opposite faces, a pair of rails, each parallel with, but upon opposite sides of and unequally distant from, said axis, mounted upon each of the opposite faces of said platform, and means for turning said platform entirely over upon such axis.

15. In a device of the character described, the combination of a circular member mounted axially upon a shaft, a platform rigidly secured within and diametrical to said circular member, the opposite faces of said platform being upon opposite sides of and parallel with the axis, a pair of rails, each parallel with, but upon opposite sides of and unequally distant from said axis, mounted upon each of the opposite faces of said platform, and means adapted to secure a car upon each pair of rails.

16. In a device of the character described, the combination of a circular member mounted upon a shaft, a platform rigidly secured within and arranged diametrical to said circular member, its opposite faces being located upon opposite sides of and parallel with the axis, a pair of rails, each parallel with, but upon opposite sides of and unequally distant from said axis and mounted upon each of the

opposite faces of said platform, means adapted to secure a car upon each of said pair of rails and means for turning said platform and cars entirely over without displacing said cars, relative to the platform.

17. In a device of the character described, the combination of a circular member mounted upon a shaft, a platform rigidly secured within and arranged diametrical to said circular member, its opposite faces being located on opposite sides of and parallel with the axis, a pair of rails, each parallel with, but upon opposite sides of and unequally distant from said axis, mounted upon each of the opposite faces of said platform, means adapted to secure a car upon each of said pairs of rails and means for utilizing the force of gravity to turn said platform and cars entirely over without displacing said cars, relative to the platform.

18. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured therein, with its plane diametrical thereto, a pair of rails upon its upper face, one on either side of, and parallel with, but unequally distant from the axis, means for securing a loaded car upon the rails, a pair of rails secured to the under face of such platform, one on either side of, and parallel with, but unequally distant from the axis, means for suspending an empty car from the under side of such platform, and all so disposed that the excess weight of the loaded car upon the upper face of the platform, will rotate such platform upon the axis in one direction intermittently through one-half a complete revolution to bring the empty car to the upper side of such platform.

19 In a device of the character described, a rotatable dumping member, a slidable, hinged and spring-pressed pawl adapted to engage and lock the revolving member, a band rigidly secured at one end, passed part way around such revolving member, means connecting the pawl and the free end of the band, adapted to automatically tighten such band and stop the motion of the said revolving member.

20. In a device of the character described, a rotatable dumping-platform, and a circular member rigidly secured thereto, adapted to rotate on a common axis, a slidable, hinged and spring-pressed pawl, adapted to engage and lock such circular member, a band rigidly secured at one end passed part way around such circular member, means connecting the pawl and the free end of the band, adapted to automatically tighten such band and stop the motion of said rotating member.

21. In a device of the character described, a revolving dumping member, a slidable, hinged and spring-pressed pawl adapted to engage and lock the revolving member, a band rigidly secured at one end passed part way around such revolving member, springs connecting the pawl and the free end of the band, adapted to automatically tighten such band and stop the motion of said rotating member.

22. In a device of the character described, a rotatable dumping-platform and a circular member rigidly secured thereto adapted to rotate on a common axis, a slidable, hinged and spring-pressed pawl, adapted to engage and lock such circular member, a band rigidly secured at one end, passed part way around such circular member, springs connecting the pawl and the free end of the band, adapted to automatically tighten such band and stop the motion of said rotating member.

23. In a device of the character described, a revolving dumping member, a slidable, hinged and spring-pressed pawl, adapted to engage and lock the revolving member, a band rigidly secured at one end, passed part way around such revolving member, springs connecting the pawl and the free end of the band, adapted to automatically tighten such band and stop the motion of the said rotating member, and means adapted to release the tension upon such band, permitting the springs to rotatorily retract such circular member.

24. In a device of the character described, a rotatable dumping-platform and a circular member rigidly secured thereto adapted to rotate on a common axis, a slidable, hinged and spring-pressed pawl, adapted to engage and lock such circular member, a band rigidly secured at one end, passed part way around such circular member, springs connecting the pawl and the free end of the band, adapted to automatically tighten such band and stop the motion of said rotating member, and means adapted to release the tension upon such band, permitting the springs to rotatorily retract such circular member.

25. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured therein, with its plane diametrical thereto, a pair of rails upon its upper face, one on either side of and parallel with, but unequally distant from the axis, means for securing a loaded car upon the rails, a pair of rails secured to the under face of such platform, one on either side of and parallel with, but unequally distant from the axis, means for suspending an empty car from the under side of such platform engaging the under pair of rails and all so disposed that the excess weight of the loaded car upon the upper face of the platform will rotate such platform upon the axis in one direction intermittently through one-half a complete revolution to bring the empty car to the upper side of such platform, a band rigidly secured at one end, passing part way around such circular member and secured at its other end to means for tightening such band upon such circular member, said band being adapted to act as a brake to control the rotation of the dumping device.

26. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured within and adapted to support a loaded car upon its upper face and an empty car from its under face, one above the other and having their tops opposite and parallel, said circular member being adapted to be rotated upon said axis entirely by the force of gravity in one direction intermittently through one-half a revolution, a band rigidly secured at one end, passing part way around said circular member and secured at its other end to means for tightening said band upon said circular member, said band being adapted to act as a brake to control the rotation of the dumping device.

27. In a device of the character described, a circular member axially journaled, a platform rigidly secured within, adapted to support a loaded car upon its upper face and an empty car from its under face one above the other with their tops opposite and parallel and adapted to be rotated upon its axis entirely by the force of gravity in one direction intermittently through one-half a revolution, a band rigidly secured at one end, passing part way around said circular member, and secured at its other end to a lever adapted to tighten said band upon said circular member and adapt it to act as a brake to control the rotation of the dumping device.

28. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured therein, and adapted to support a loaded car upon its upper face and an empty car from its under face, one above the other with their tops opposite and parallel and be rotated in one direction intermittently, through one-half a revolution entirely by the weight of the loaded car, a band rigidly secured at one end, passing part way around said circular member and adapted to act as a brake to control the rotation of the dumping device.

29. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured therein, a pair of rails upon its upper face, one on either side of, parallel with, but unequally distant from the axis, means for securing a loaded car upon the rails, a pair of rails secured to the under face of such platform and similarly disposed, means for suspending an empty car from the under side of such platform, and all so disposed that the excess of weight of a loaded car upon the upper face of the platform will rotate such platform upon the axis in one direction intermittently through one-half a revolution and bring the empty car to the upper side of such platform, a band rigidly secured at one end, passing part way around such circular member and secured at its other end to a lever adapted to tighten such band upon such circular member and adapt it to act as a brake to control the rotation of the dumping device.

30. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured therein and adapted to support a loaded car upon its upper face and an empty car from its under face, and adapted to be rotated upon such axis in one direction intermittently through one-half a revolution, a band rigidly secured at one end, passing part way around such circular member, and secured at its other end to a lever adapted to tighten such band upon the circular member and adapt it to act as a brake to control the rotation of the dumping device, openings in such circular member at diametrically opposite points, a spring-pressed, hinged pawl slidably mounted and adapted to engage such openings in turn and to lock the dumping device and to be engaged by a plunger upon the brake-operating lever, and all so disposed that a movement of the lever to remove the tension of the brake, withdraws the pawl, leaving the dumping device free to rotate.

31. In a device of the character described, a circular member axially journaled, a platform rigidly secured within, adapted to support a loaded car upon its upper face and an empty car from its under face, said circular member being adapted to be rotated about its axis by the force of gravity, in one direction intermittently through one-half a revolution, a band rigidly secured at one end, passing part way around such circular member and secured at its other end to a lever adapted to tighten such band upon the circular member and adapt it to act as a brake to control the rotation of the dumping device, openings in such circular member at diametrically opposite

points, a spring-pressed, hinged pawl, slidably mounted and adapted to engage such openings in turn to lock the dumping device, and also adapted to be engaged by a plunger upon the brake-operating lever, and all so disposed that a movement of the lever to remove the tension of the brake, withdraws the pawl, leaving the dumping device free to rotate.

33. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured therein, adapted to support a loaded car upon its upper face and an empty car from its under face and be rotated in one direction intermittently through one-half a revolution by the weight of the loaded car, a band rigidly secured at one end, passing part way around such circular member and adapted to act as a brake to control the rotation of the dumping device, openings in such circular member at diametrically opposite points, a spring-pressed pawl, slidably mounted and adapted to engage said openings in turn to lock the dumping device and also to be engaged by a plunger upon the brake-operating lever, all so disposed that a movement of the lever to remove the tension of the brake, withdraws the pawl, leaving the dumping device free to rotate.

33. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured therein, a pair of rails upon its upper face, one on either side of, and parallel with, but unequally distant from the axis, means for securing a loaded car upon the rails, a pair of rails similarly disposed on the under face of such platform, means for suspending an empty car from the under side of such platform, and all so disposed that the excess of weight of the loaded car upon the upper face of the platform will rotate such platform upon its axis, in one direction intermittently through one-half a revolution and bring the empty car to the upper side of the platform, a band rigidly secured at one end, passing part way around such circular member and secured at its other end to a lever adapted to tighten such band upon the circular member, to adapt it to act as a brake to control the rotation of the dumping device, openings in such circular member at diametrically opposite points, a spring-pressed, hinged pawl, slidably mounted and adapted to engage said openings in turn to lock the dumping device and to be engaged by a plunger upon the brake-operating lever, all so disposed that a movement of the lever to remove the tension of the brake, withdraws the pawl, leaving the dumping device free to rotate.

34. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured within, adapted to support a loaded car upon its upper face and an empty car from its under face and adapted to be rotated upon its axis in one direction intermittently through one-half a revolution, a band rigidly secured at one end, passing part way around such circular member, and secured at its other end to a lever adapted to tighten such band upon the circular member, openings in such circular member at diametrically opposite points, a hinged pawl slidably mounted, adapted to engage said openings in turn to lock the dumping device and also to be engaged by a plunger upon the brake-operating lever, all so disposed that a movement of the lever to remove the tension of the brake, withdraws the pawl, leaving the dumping device free to rotate, springs connecting the ends of brake-band with the locking-pawl, so disposed that the displacement of the hinged portion of such pawl, automatically tightens the brake-band, preventing further rotary movement.

35. In a device of the character described, a circular member axially journaled, a platform rigidly secured therein, adapted to support a loaded car upon its upper face and an empty car from its under face and adapted to be rotated upon such axis by the force of gravity in one direction intermittently through one-half a revolution, a band rigidly secured at one end, passing part way around such circular member and secured at its other end to a lever adapted to tighten such band upon the circular member, openings in such circular member at diametrically opposite points, a hinged pawl, slidably mounted, adapted to engage said openings in turn to lock the dumping device, and also adapted to be engaged by a plunger upon the brake-operating lever, all so disposed that a movement of the lever to remove the tension of the brake, withdraws the pawl, leaving the dumping device free to rotate, springs connecting the end of the brake-band with the locking-pawl, so disposed that the displacement of the hinged portion of such pawl automatically tightens the brake-band, preventing further rotary movement.

36. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured therein, adapted to support a loaded car upon its upper face and an empty car from its under face and be rotated in one direction intermittently through one-half a revolution by the weight of the loaded car, a band rigidly secured at one end, passing part way around such circular member, and secured at its other end to a lever to control the rotation of the dumping device, openings in such circular member at diametrically opposite points, a slidably-mounted pawl adapted to engage said openings in turn to lock the dumping device and also to be engaged by a plunger upon the brake-operating lever, all so disposed that a movement of the lever, to remove the tension of the brake, withdraws the pawl, leaving the dumping device free to rotate, springs connecting the free end of the brake-band with the locking-pawl so disposed that the displacement of the hinged portion of such pawl, automatically tightens the brake-band, thereby preventing further rotary movement.

37. In a device of the character described, the combination of a circular member, a platform rigidly secured therein, a pair of rails upon its upper face, one on either side of, and parallel with, but unequally distant from the axis, means for securing a loaded car upon the rails, a pair of rails similarly disposed on the under face of the platform, means for suspending an empty car from the under side of such platform, all so disposed that the weight of the loaded car upon the upper face of the platform will rotate such platform upon the axis in one direction intermittently through one-half a revolution, to bring the empty car to the upper side of the platform, a band rigidly secured at one end, passing part way around such circular member and secured at its other end to a lever adapted to tighten such band upon the circular member to control the rotation of the dumping device, openings in such circular member at diametrically opposite points, a slidably-mounted, hinged pawl adapted to engage said openings in turn to lock the dumping device and also to be engaged by a plunger upon the brake-operating lever, all so disposed that a movement of the lever to remove the tension of the brake withdraws the pawl, leaving the dumping device free to rotate, springs connecting the end of the brake-band with the locking-pawl, so disposed that the displacement of the hinged portion of such pawl, automatically tightens the brake-band, preventing further rotary movement.

38. In a device of the character described, mechanism adapted to stop a car and prevent longitudinal displacement, consisting of a member horizontally and pivotally secured beneath the rail, an upstanding horn disposed by the side of and so curved above the rail as to engage the periphery of a wheel, a plunger slidably mounted parallel with the rails, a rod connecting said plunger and the pivotally-secured horizontal member, a spring adapted to hold the plunger in normal position and the upstanding horn in contact with the rail, a thrust-rod slidably mounted parallel with the rails, and adapted to engage the end of the plunger, a lever mounted between and capable of rotary displacement in a plane parallel with the rails, means for holding such lever normally vertical, a rod connecting such lever and the thrust-bar and all so disposed that an oncoming car, by contact with such lever, will longitudinally displace the thrust-bar and plunger and displace the horizontally-pivoted member and the said horn, to permit forward movement of the car.

39. In a device of the character described, a dumping member capable of being rotated entirely over, a railway-track thereupon, a frame pivotally and horizontally secured beneath the rail, an upstanding horn integral therewith, disposed by the side of and curved above one of the rails of said track, adapted to engage the periphery of a wheel to stop and hold a car from longitudinal displacement, means for displacing said horizontal frame and horn to permit forward movement of the car.

40. In a device of the character described, a dumping member capable of being rotated entirely over, a railway-track thereupon, a frame pivotally and horizontally secured beneath the rail, an upstanding horn disposed by the side of and curved above one of the rails of said track, adapted to engage the periphery of a wheel to stop and hold a car against longitudinal displacement, and means whereby an oncoming car disposes such horizontal frame and horn, to permit forward movement of the car.

41. In a device of the character described, a rotatable dumping member, a railway-track thereupon, a frame pivotally and horizontally secured beneath the rail, an upstanding horn, integral therewith, disposed by the side of and curved above one of the rails of said track, adapted to engage the periphery of a wheel to stop and hold a car against longitudinal displacement, a plunger slidably mounted midway between the rails and extending adjacent to the end of such dumping member, a rod connecting such plunger and horizontally-pivoted frame, a spring adapted to retract such plunger and hold the upstanding horn adjacent to the rail, a thrust-bar slidably mounted midway between the rails of a stationary abutment, adapted to engage the end of the plunger, a lever fulcrumed between the rails, means for keeping such lever normally vertically disposed, a rod connecting such lever and thrust-bar, all so disposed that an oncom-

ing car throws the lever, longitudinally displacing the thrust-bar and plunger, and displacing the horizontal frame and horn, to permit forward movement of the car.

42. In a device of the character described, a circular member, a platform rigidly secured therein, a shaft mounted axially to such circular member, within such platform and parallel with its opposite faces, a pair of rails, each parallel with, but at unequal distance from such axis, mounted upon each of the opposite faces of such platform, horns disposed above such rails, adapted to contact with and hold a car against longitudinal displacement, and means whereby another car approaching will displace such horns allowing the car to be pushed off such dumping-platform.

43. In a device of the character described, a circular member axially mounted upon a shaft, a platform rigidly secured within such circular member, its opposite faces upon opposite sides of and parallel with the axis, a pair of rails, each parallel with, but at unequal distance from such axis mounted upon each of the opposite faces of such platform, means adapted to secure a car upon each pair of rails, horns disposed above such rails adapted to contact with and hold a car against longitudinal displacement, and means whereby another car approaching will displace such horns, allowing the car to be pushed off such dumping-platform.

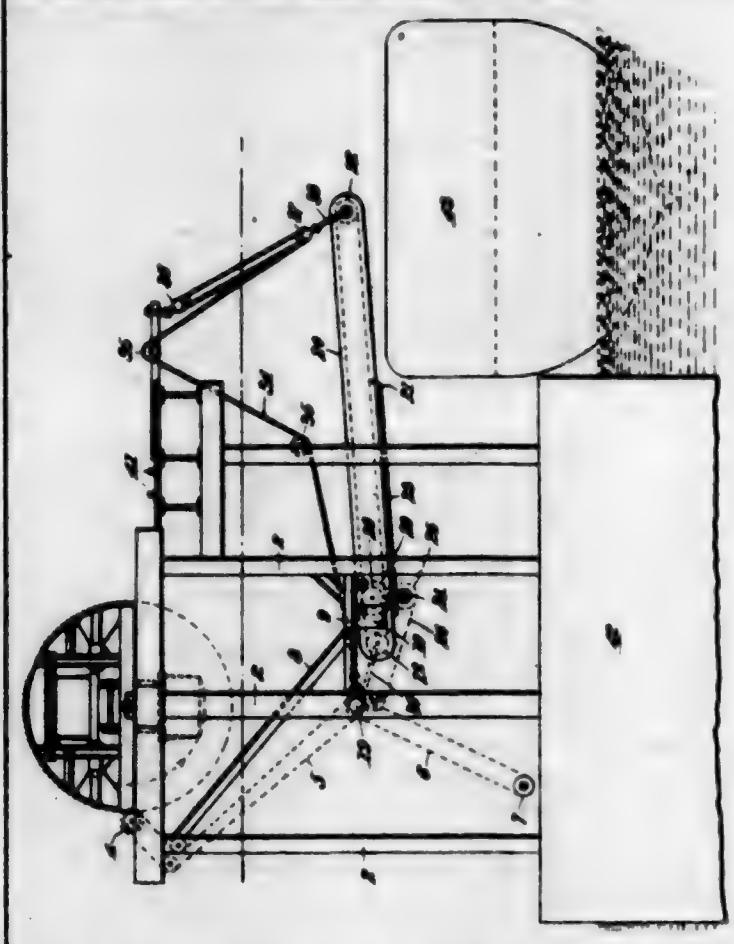
44. In a device of the character described, the combination of a circular member axially journaled, a platform rigidly secured therein, a pair of rails upon its upper face, each parallel with, but unequally distant from the axis, means for securing a loaded car upon the rails, a pair of rails similarly disposed on the under face of such platform, means for suspending an empty car from the under side of such platform, all so disposed that the excess of weight of the loaded car upon the upper face of the platform, will rotate such platform upon the axis in one direction intermittently through one-half a revolution and bring the empty car to the upper side of such platform, horns disposed above such rails adapted to contact with and hold a car against longitudinal displacement, and means whereby another car approaching will displace such horns, allowing the car to be pushed off such dumping-platform.

45. In a device of the character described, a circular member, a platform rigidly secured therein, a shaft mounted axially with such circular member within such platform and parallel with its opposite faces, a pair of rails each parallel with, but at unequal distance from such axis, mounted upon each of the opposite faces of such platform, a frame pivotally secured beneath each of the rails, an upstanding horn integral with such frame and normally disposed above the rail and adapted to contact with and hold a car against longitudinal displacement, a plunger slidably mounted between the rails, and extending to the end of the dumping member, a rod connecting such plunger and the frame, a thrust-bar slidably mounted between the rails on a stationary abutment and adapted to engage the end of the plunger, a lever disposed adjacent to such thrust-bar, a rod connecting such lever and the thrust-bar, a weight secured to the lower end of such lever adapted to hold it normally vertical and all so disposed that an approaching car will throw such lever causing the thrust-bar to contact with the end, and cause a longitudinal displacement of the plunger, which, through the medium of the connecting-rod, causes a displacement of the frame and the horn integral therewith, allowing the car to be pushed off said dumping member.

46. In a device of the character described, a circular member mounted axially upon a shaft, a platform rigidly secured therein, its opposite faces upon opposite sides of and parallel with the axis, a pair of rails, each parallel with, but at unequal distance from such axis, mounted upon each of the opposite faces of such platform, means adapted to secure a car upon each pair of rails, a frame pivotally secured beneath each of the rails, an upstanding horn integral with such frame and normally disposed above the rail and adapted to contact with and hold a car against longitudinal displacement, a plunger slidably mounted between the rails and extending to the end of the dumping member, a rod connecting such plunger and the frame, a thrust-bar slidably mounted between the rails on a stationary abutment and adapted to engage the end of the plunger, a lever disposed adjacent to such thrust-bar, a rod connecting such lever and the thrust-bar, a weight secured to the lower end of such lever, adapted to hold it normally vertical, and all so disposed that an approaching car will throw such lever, causing the thrust-bar to contact with the end, and causes a longitudinal displacement of the plunger, which, through the medium of the connecting-rod, causes a rotary displacement of the frame and the horn integral therewith, allowing the car to be pushed off such dumping member.

807,846. CAR-DUMP AND CONVEYER. ARTHUR MOORE, Wise Branch, W. Va. Filed Nov. 28, 1904. Serial No. 234,257.

Claim.—1. A device of the character described, comprising a dump adapted to turn a car entirely over, a bin adapted to receive the contents of the car, a conveyer disposed to receive material from the bin, means for positively feeding material from the bin to the conveyer and means for manipulating the conveyer to deliver material at varying distances and heights relative to the bin.



2. A device of the character described, comprising a dump adapted to turn a car entirely over, a bin disposed below and adapted to receive material from the car, a conveyer disposed to convey material from the bin and deliver it at varying distances and heights relative to the bin, reciprocating feeders disposed to positively feed material from the bin to the conveyer and means for mechanically operating the dump conveyer and feeders.

3. A device of the character described, comprising a dump adapted to unload material from a car, a longitudinally-movable conveyer adapted to receive the dumped material, a rack secured to the conveyer-trough, a pinion adapted to engage the rack and means for rotating the pinion in either direction to move the conveyer to deposit the material at varying distances from the dump.

4. A device of the character described, comprising a dump adapted to unload material from a car, a longitudinally-movable conveyer adapted to receive the dumped material, a rack secured to the conveyer-trough, a pinion adapted to engage the rack, means for rotating the pinion in either direction to move the conveyer to deposit the material at varying distances from the dump and means for raising and lowering the outer end of the conveyer-trough to deposit the material at various heights relative to the dump.

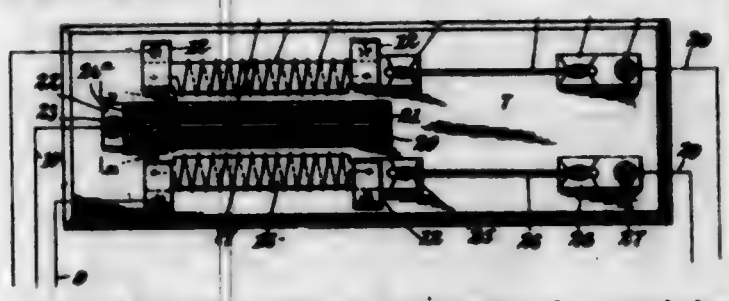
5. A combined dump and conveyer comprising a dump adapted to turn a car entirely over, a bin disposed to receive the dumped material, a longitudinally and angularly movable conveyer disposed to receive material from the bin, reciprocating feeders adapted to positively feed material from the bin to the conveyer, means for rotating the dump, reciprocating the feeders, operating the conveyer, moving the conveyer longitudinally in either direction and for raising and lowering the outer end of the conveyer all from the same source of power.

807,847. LIGHTNING-ARRESTER. ERNEST S. MOORE, Anderson, S. C. Filed May 9, 1905. Serial No. 259,497.

Claim.—1. In a lightning-arrester, the combination of a ground-plate provided with teeth, and a discharge-strip disposed adjacent to said ground-plate, said discharge-strip consisting of a metallic plate, insulating material encircling the same, a bare wire mounted upon said insulating material, surrounding definite portions of said wire being in juxtaposition with said teeth of said ground-plate, and electrical connections for said ground-plate and for said discharge-strip.

2. In a lightning-arrester, the combination of a ground-plate provided with teeth, metallic brackets provided with contact por-

tions, electrical connections for said brackets, and a discharge-strip provided with contact members engaging said brackets and with a bare wire having portions disposed in close proximity to the teeth of said ground-plate.



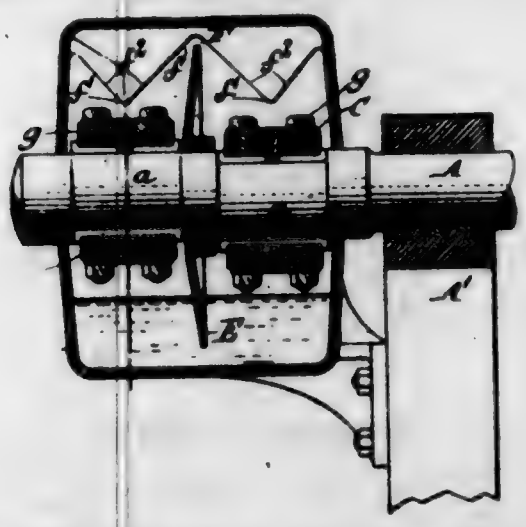
3. In a lightning-arrester, the combination of a ground-plate provided with teeth, a member disposed adjacent to said ground-plate and provided with a bare wire wound spirally thereupon, the different convolutions of said wire corresponding to the teeth, and electrical connections for said discharge-strip and for said ground-plate.

4. In a lightning-arrester, the combination of a discharge-strip provided with metallic terminals, metallic brackets for detachably engaging said metallic terminals, and a ground-plate provided with teeth and disposed adjacent to said discharge-strip.

5. In a lightning-arrester, the combination of a ground-plate provided with teeth, metallic brackets mounted adjacent to said ground-plate and provided with a portion inclined obliquely to said teeth, said brackets being provided with slots, and a discharge-strip provided with contact-terminals to be detachably placed within said slots.

6. In a lightning-arrester, the combination of a comparatively wide and thin iron plate, a jacket of insulating material enveloping said plate, metallic caps mounted upon said jacket of insulating material and encircling the ends of said plate, a bare wire connecting said caps together, metallic brackets provided with slots and adapted to detachably support said caps, and a ground-plate disposed adjacent to said wire and provided with teeth.

807,848. **LUBRICATOR.** THEODORE F. MORAN, Silvercreek, N. Y., assignor to Huntley Manufacturing Company, Silvercreek, N. Y., a Corporation of New York. Filed Apr. 6, 1905. Serial No. 254,134.

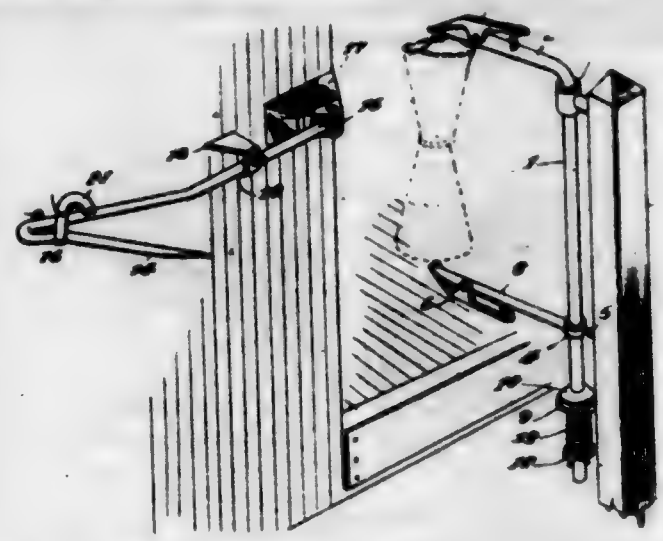


Claim.—The combination of a shaft having a pair of eccentrics, pitmen-heads embracing the eccentrics and having oil-holes, a centrifugal transfer member mounted on the shaft between said heads, and a transverse feed-plate depending from the upper side of the reservoir and provided in its lower edge with a central recess which receives the periphery of said member and on opposite sides of the member with V-shaped portions having their apexes arranged directly over the oil-holes of the pitmen-heads, the opposing inner edges of said V-shaped portions forming the sides of said recess, substantially as set forth.

807,849. **MAIL-CRANE.** BENJAMIN F. MYERS, West Senora, Ohio. Filed Apr. 25, 1905. Serial No. 257,207.

Claim.—1. In a mail-bag catcher the combination of a hook pivotally mounted upon a rod swiveled in the side of a car, and a seat for holding said hook in an operative position formed by a hook-shaped member which projects from the side of the car and is bent downward and inward.

2. In a mail-bag catcher, the combination of a hook which is pivotally mounted upon a member swiveled in the side of a car, and means for holding said hook in operative position.



3. In a mail-bag catcher, the combination of a hook, and a locking-lever having two arms arranged at angles to each other, one of said arms being curved so as to form a hook which prevents the mail-bag from forcing the locking-lever around after the bag has been caught.

4. In a mail-bag crane, the combination of a rod, one of whose ends is bent so as to form an arm for the support of the mail-bag, a second arm connected to said rod and longitudinally adjustable thereon, means at the end of the arms for engaging the mail-bag, and means for supporting the rod in an upright position.

5. In a mail-bag crane the combination of a rod having arms secured thereto for supporting the mail-bag, said rod being provided with a collar having a lug on one side thereof and a standard having eyes for the reception of said rod, one of the eyes being formed with a recess into which the lug fits when the arms are extended toward the track, said lug being so placed as to permit the free movement of the rod, when the arms are not extended toward the track.

6. In a mail-bag crane the combination of a rod having arms secured thereto for supporting the mail-bag, said rod being provided with a collar having a lug on one side thereof, and a standard having eyes for the reception of said rod, one of the eyes being formed with a V-shaped recess into which the lug fits when the arms are extended toward the track, the arms being adapted to be readily turned away from the track owing to the fact that the sides of the recess are inclined.

7. In a mail-bag crane the combination of a rod having arms secured thereto for supporting the mail-bag, said rod being provided with a collar having a lug on one side thereof, a standard having eyes for the reception of said rod, one of the eyes being formed with a recess adapted to engage with the above-mentioned lug to hold the arms extending toward the track, and a spring holding the collar and eye in close engagement.

8. In a mail-bag crane the combination of a rod having one end bent around to form an arm for the support of the mail-bag and having a collar with a lug thereon and also having its lower end threaded for the reception of a nut, a second arm adjustably mounted upon said rod means at the end of said arms for engaging the mail-bag, a standard having eyes through which the rod passes, one of said eyes having a recess to engage with the above-mentioned lug, and a spring interposed between said eye and the above-mentioned nut on the end of the rod.

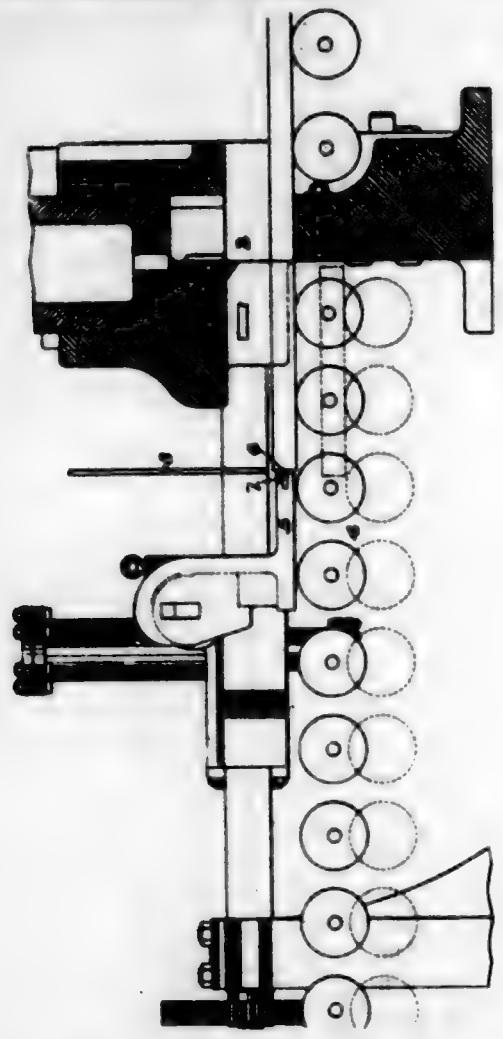
807,850. **APPARATUS FOR MARKING METAL BLOOMS, BILLETS, OR SLABS.** GEORGE B. MCCAFFREY, Steubenville, Ohio. Filed July 18, 1905. Serial No. 270,220.

Claim.—1. Apparatus for marking metal bars, &c., comprising means for moving the metal bar forward, and a stationary support having types set in the path of the bar and adapted to make an impression on the metal under the momentum imparted to the bar by said moving means; substantially as described.

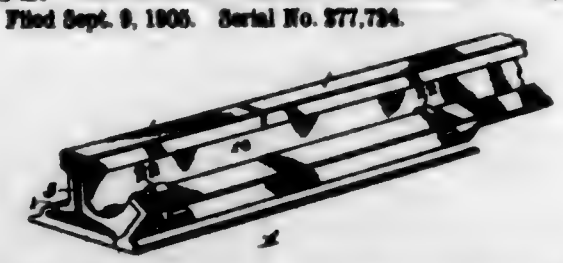
2. Apparatus for marking metal bars, &c., comprising a roller feed-table for moving the metal bar forward, and a stationary support having types set in the path of the bar and adapted to make an impression on the metal under the momentum imparted to the bar by said feed-roller table; substantially as described.

3. Apparatus for marking metal bars, &c., comprising a shear having a stop, types on the stop, and means by which the bars are fed forward into engagement with the types to mark the bars; substantially as described.

4. Apparatus for marking metal bars, &c., comprising a shear having a stop, removable types located on the stop, and means by which the bars are fed forward into engagement with the types to mark the bars; substantially as described.



807,851. RAIL-JOINT. ANGUS T. MCELHANEY, Brady's Bend, Pa. Filed Sept. 9, 1905. Serial No. 277,734.



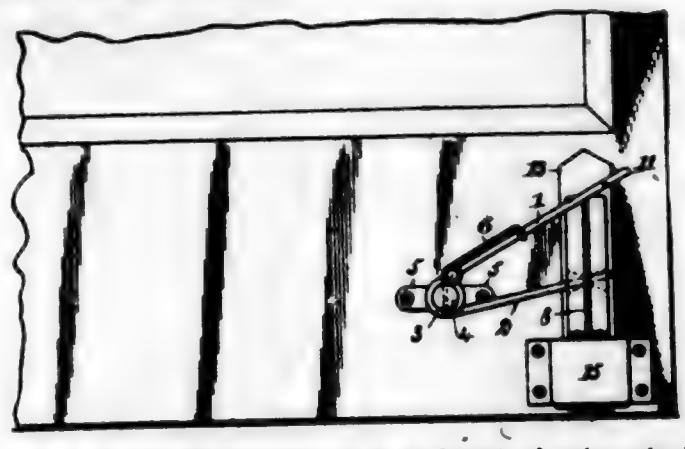
Claim.—1. In a rail-joint, the combination with two sections of rails, of a chair adapted to support said rails, a fish-bar carried by one side of said chair, lugs carried adjacent to said fish-bar and adapted to engage said rails, a side wall carried by the opposite side of said chair, said side wall having openings formed therein, said chair having a groove formed therein, a wedge-shaped fish-bar adapted to engage said side wall and said rails, a rib carried by said fish-bar and adapted to engage in the groove of said chair, keys passing through said side wall and engaging said fish-bar, means to lock said keys in said side wall, substantially as described.

2. In a rail-joint, a chair comprising a base-plate having at one side edge an integral fish-plate adapted to engage rails seated on the base-plate, and at its other side edge having a fish-plate of integral form in cross-section embodying an outwardly-inclined side wall and an inwardly-inclined side wall, a base-plate having a groove adjacent the base of said outwardly-inclined side wall, a fish-plate adapted to fit between rails seated on the base-plate and said side walls, and having a rib extending the length of said plate and seated in the groove, said rib engaging the edge of the rail-base, and means for securing said fish-plate to the said angular walls.

807,852. DOOR-CHECK. CHARLES MCGUIRK, El Paso, Tex. Filed Apr. 25, 1905. Serial No. 257,206.

Claim.—1. A door-check comprising upper and lower connected members, a stud on which the two members are mounted to turn, a part operated by the lower member for engaging with a floor, and a locking device for engaging with the upper member.

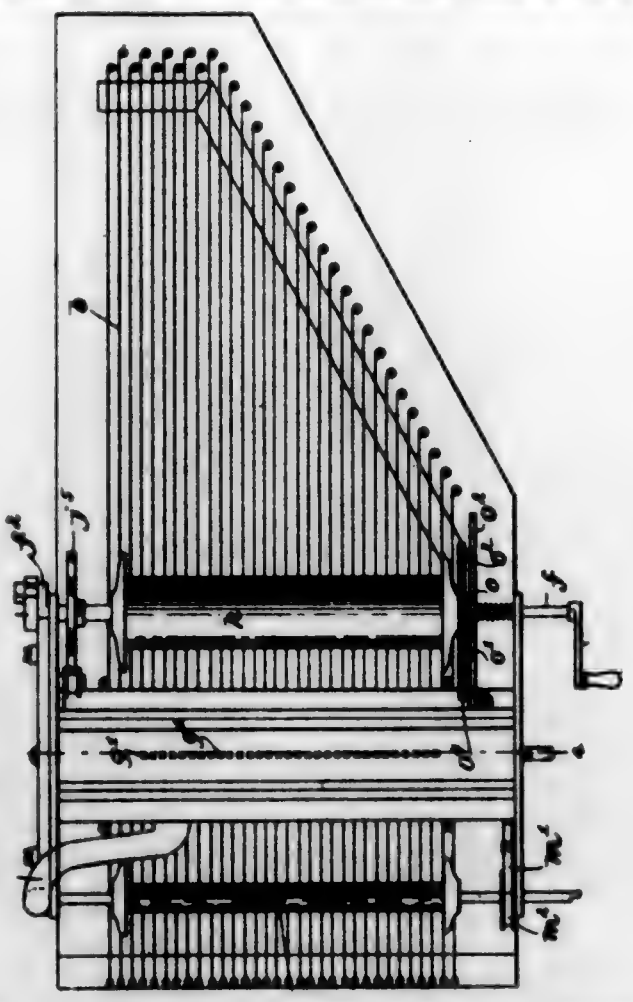
2. A door-check comprising upper and lower connected members, a stud on which the two members are mounted to turn, a spring on the stud engaging with one of the members for moving the parts to normal position, the said lower member having connection with a device for engaging with a floor or the like, and a rack for engaging with the upper member.



3. A door-check comprising a single length of spring-wire bent to form upper and lower members having a coil connection, a stud for engaging in said coil connection, a sliding device with which the lower member connects, an enlarged block at the lower end of the sliding device, a boxing in which said block is movable, and a locking device.

4. A door-check comprising a single length of spring-wire forming upper and lower members having coil connections, a stud around which the coil may turn, a spring extended from said stud and having portions passing along opposite sides of said upper member, a floor-engaging device operated by said lower member, a rack with which the upper member is designed to engage, and a foot-plate at the end of said upper member.

807,853. MECHANICALLY-CONTROLLED MUSICAL INSTRUMENT. JOHN MCTAMMANY, Providence, R. I., assignor to F. A. McTammany, New York, N. Y. Filed Feb. 8, 1902. Serial No. 93,274.



Claim.—1. A mechanical instrument comprising a selector, means for actuating it, a plurality of sounding devices, a vibratory support carrying a plurality of pickers, means for vibrating said support, and means controlled by said selector for effecting the engagement of said pickers with said sounding devices, the means for vibrating the support and the means for actuating the selector being connected to operate in unison.

2. A mechanical musical instrument comprising a selector, means for actuating it, a plurality of sounding devices, a plurality of pickers, means for continuously imparting a picking movement to

said pickers, and means under the control of said selector for shifting the position of said pickers to enable them to engage said sounding devices, whereby relative movements of the parts will cause the pickers to effect a sustained tone.

3. A mechanical musical instrument comprising a selector, a plurality of sounding devices, a plurality of pickers, mechanical means for continuously imparting a picking movement to said pickers, and pneumatic mechanism for effecting the engagement of said pickers with said sounding devices.

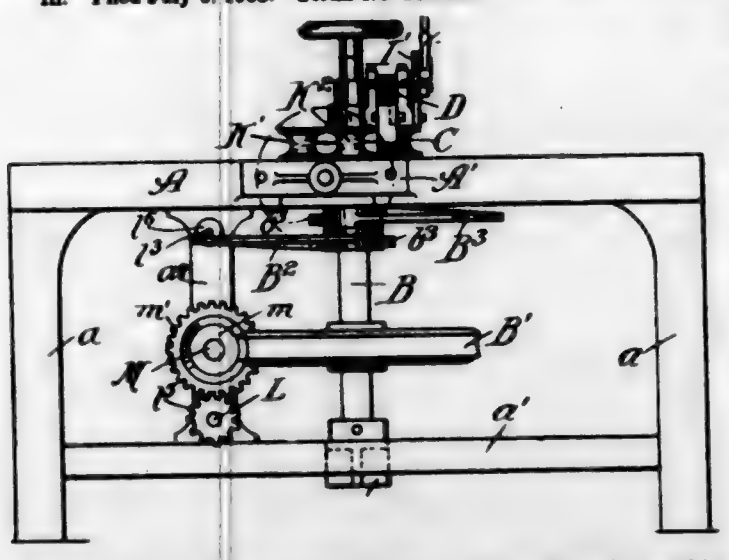
4. A mechanical musical instrument comprising a selector, means for actuating it, a plurality of sounding devices, a plurality of pickers, means for imparting a vibratory movement to said plurality of pickers simultaneously and means controlled by said selector for varying the positions of said pickers relatively to said sounding devices, whereby relative movements of the parts will cause the pickers to effect a sustained tone.

5. A mechanical musical instrument comprising a selector, a plurality of sounding devices, a plurality of pickers, means for imparting a continuous vibratory movement to said pickers, and selector-governed actuators operatively connected to said pickers to effect the engagement of said pickers with said sounding devices.

6. A mechanical musical instrument comprising a selector, a plurality of sounding devices, a plurality of pickers, a plurality of actuators and arranged above said sounding devices, said actuators carrying said pickers, means governed by said selector for shifting said actuators and pickers to operating position, and means for constantly imparting a picking action to said pickers.

7. A mechanical musical instrument comprising a selector, a plurality of sounding devices, a plurality of pickers, a movable support carrying said pickers, means for vibrating said support, and a plurality of selector-governed actuators on said support in operative relation to said pickers to move said pickers into operative relation to said sounding devices, whereby relative movements of the parts will cause the pickers to effect a sustained tone.

807,854. **PIPE-BENDING MACHINE.** JACOB NEUERT, Chicago, Ill. Filed July 6, 1905. Serial No. 268,553.



Claim.—1. A pipe-bending machine comprising, in combination, a rotatable former, means for actuating said former, an abutment device for the free end of a pipe to be bent, and pipe-clamping mechanism on said former comprising a pair of coöperating jaw-equipped rack-bars and lever-operated pinions engaging the racks for opening and closing the jaws.

2. A pipe-bending machine comprising, in combination, a rotatable former provided with a guide-slot, means for actuating said former, an abutment device for the free end of the pipe to be bent, and pipe-clamping mechanism comprising a pair of coöperating rack-bars reciprocably confined in said slot to move in relatively contrary directions, each provided with a jaw, a pair of pinions meshing with each other and with the racks on said bars, and a lever connected with one of said pinions for actuating them to open and close the jaws.

3. In a pipe-bending machine, the combination with a vertical rotary shaft containing an internally-threaded opening in its upper end, of a former consisting of a peripherally-grooved pulley composed of a lower section secured to said shaft and an upper section seating on said lower section about the shaft to rotate therewith but vertically movable thereon and provided with a hollow vertical extension into which the shaft extends, and a hand-screw device on said extension and working in said opening, for the purpose set forth.

4. In a pipe-bending machine, the combination with a vertical rotary shaft, of a peripherally-grooved pulley on said shaft forming the former, and pipe-clamping means comprising jaw-equipped rack-bars reciprocably confined on said former and intermeshing pinions engaging the racks to actuate said bars in relatively contrary directions.

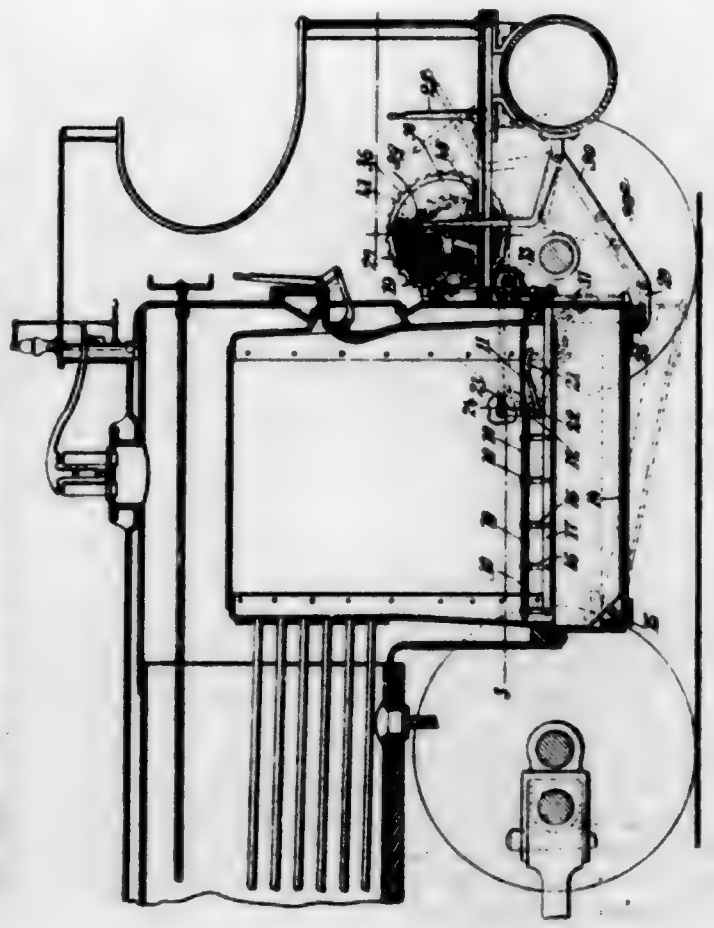
5. In a pipe-bending machine, the combination with a vertical rotary shaft, of a peripherally-grooved pulley on said shaft forming the former provided with a guide-slot in its upper portion, and pipe-clamping means comprising a pair of jaw-equipped rack-bars reciprocably confined in said slot and intermeshing pinions engaging the racks to actuate the bars in relatively contrary directions, with a lever for turning said pinions carrying a spring-pawl and a toothed quadrant to be engaged by said pawl.

6. A pipe-bending machine comprising, in combination, a vertical rotary shaft threaded internally at its outer end, a peripherally-grooved former on said shaft comprising a lower section and an upper vertically-movable section provided with a shoulder, means for raising and lowering said upper section comprising a stem rotatably supported on said upper section provided at one end with a handle and having its opposite end screw-threaded and engaging the threaded end of said shaft and provided with a collar engaging said shoulder, means for actuating said shaft, clamping mechanism on said former for gripping the portion of the pipe to be bent, and an abutment device for the free end of the pipe coöperating with said former.

7. In a pipe-bending machine, the combination with a frame having journaled therein a shaft carrying a former, and pipe-clamping and abutment mechanism coöperating with said former, of clutch-controlled driving means for said shaft, a shifting rod connected with the clutch for shipping it and carrying a stop, tapping-arms to engage said stop provided with sleeves surrounding said shaft and horizontally adjustable thereon, for the purpose set forth.

8. In a pipe-bending machine, the combination with a frame, of a vertical shaft journaled therein and carrying a worm-wheel, tapping-arms adjustably supported on the shaft, a former secured on said shaft, pipe-clamping and abutment mechanisms coöperating with said former, a horizontal shaft journaled in said frame and carrying a worm meshing with the worm-wheel on said vertical shaft, a drive-shaft geared to said worm-shaft and carrying a pair of belt-pulleys, a clutch on said drive-shaft between said pulleys, a lever engaging said clutch at one end, and a shifting rod supported on the frame and connected with the opposite end of said lever, and carrying a collar in the path of said tapping-arms to be engaged thereby.

807,855. **LOCOMOTIVE FIRE-BOX.** JONAS NILSSON, Fremont, Nebr. Filed Aug. 25, 1904. Serial No. 222,105.



Claim.—1. The combination of an ash-pan mounted to swing, a swinging sling arranged to engage under the free portion of the ash-pan to support the same in active position, an arm connected with the bottom portion of the sling, a link pivoted to said arm, and a lever pivotally connected with said link.

2. The combination of an ash-pan mounted at one end to swing in an arc, a U-shaped sling located at the free end of the ash-pan and adapted to inclose the same to hold it in active position, means for mounting the sling to swing, and means for operating the sling to disengage it from the ash-pan, said means comprising a lever and a link pivoted thereto and to the sling.

3. The combination of an ash-pan mounted at one end to swing in an arc, a sling mounted at its upper end to swing in an arc, said sling being adapted to embrace the free end of the ash-pan to sustain the same, means for moving the sling to disengage it from the ash-pan, and means for raising the ash-pan into position to be engaged by the sling, said means for moving the sling comprising a lever and a link pivoted to the lever and having pivotal connection with the sling.

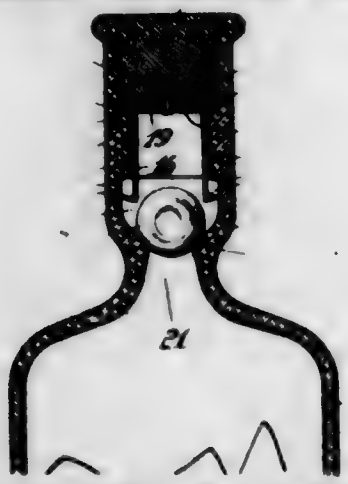
4. The combination of an ash-pan mounted at one end to swing, a sling pivotally mounted at its upper end and arranged to swing under the free end of the ash-pan when the latter is raised, and means for moving the sling to disengage the ash-pan, the said means comprising a rearwardly-extending arm connected to the lower end of the sling at the middle portion thereof, a link pivotally connected at one end with said arm, and a lever pivoted to the other end of said link.

5. The combination of an ash-pan mounted at one end to swing, a U-shaped sling having its side arms pivotally mounted, the sling being arranged to swing under the free end of the ash-pan when the latter is raised, means for raising the ash-pan into position to be engaged by the sling, and means for moving the sling to disengage it from the ash-pan, said means comprising an arm connected to the middle portion of the sling, a link pivotally connected at one end with said arm, and a lever pivotally connected with the other end of said link, and a foot-dog for engaging the lever.

6. The combination of an ash-pan mounted to swing, a swinging sling arranged normally to engage under the free portion of the ash-pan to support the same in active position, means for moving the sling to disengage it from the ash-pan, said means comprising a lever and a link pivoted at one end to the lever and at the other end to the sling, means for raising the ash-pan into position to be engaged by the sling, and means for holding the lever in position to keep the sling engaged with the ash-pan.

7. The combination of an ash-pan mounted to swing, a U-shaped sling adapted to engage under the free end of the ash-pan to support the same, adjustable brackets on which the side arms of the sling are pivotally mounted, and means for swinging said sling to disengage the same from the ash-pan.

807,856. **NON-REFILLABLE BOTTLE.** PATRICK J. O'BRIEN, Hobbs, Newfoundland. Filed May 3, 1905. Serial No. 258,627.



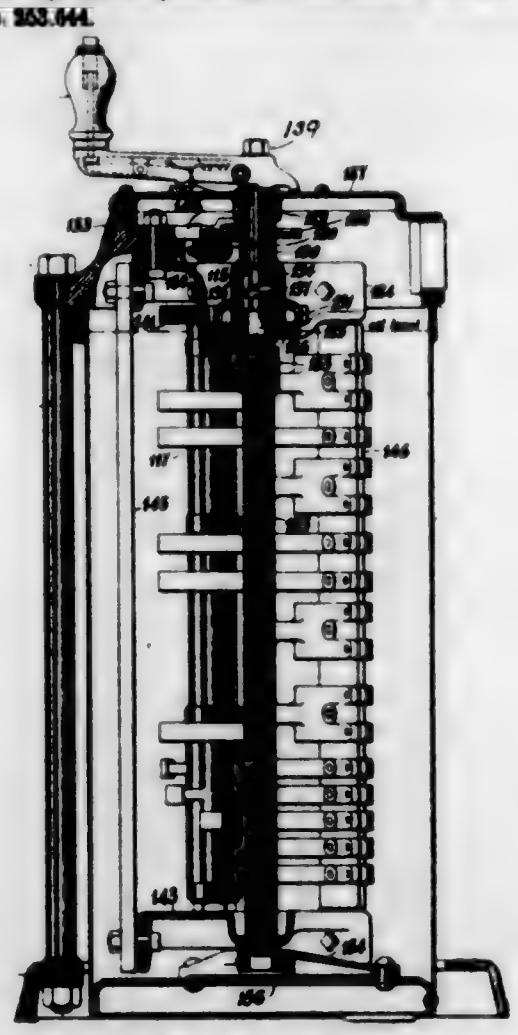
Claim.—In a non-refillable bottle, a neck portion of substantially uniform external diameter for the major portion of its length, with a thickened intermediate portion and a valve-seat between said thicker portion and the bottle, in combination with a gravity ball-valve and a closure, said closure comprising a perforated cap-plate in combination with spring-locking arms provided with angular offset portions adapted to engage said thickened intermediate portion of the neck when the bottle is inverted and a packing on the side of said cap adjacent to said thickened intermediate portion of the neck, and a rivet passing through the perforation in said cap-plate to secure said cap and spring-arms.

807,857. **DISPLAY-FIXTURE.** EMIL T. PALMBERG, New York, N. Y. Filed July 6, 1905. Serial No. 268,269.



Claim.—A display-fixture comprising a casing having one end reduced and the other end interiorly threaded, an arm having a ball within the said casing and seated with its outer portion on the said reduced portion, a seat movable in the casing and on which the inner portion of the said ball is seated, a spring comprising a pair of oppositely-arranged dished disks pressing the said seat, a disk screwing on the said threaded portion of the casing and abutting against the said disk-spring, a clamping member, and a screw-rod on the said disk screwing in the said clamping member.

807,858. **CONTROLLER FOR ELECTRIC MOTORS.** WILLIAM A. PARM, Edgewood Park, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Apr. 3, 1905. Serial No. 253,644.



Claim.—1. In a controller, the combination with an inclosing casing and a contact-carrying member, of a handle for operating said member and means for disconnecting said handle and member and for operatively connecting the handle to the casing to lower and raise the same.

2. In a controller, the combination with an inclosing casing and a rotatable, contact-carrying member, of a two-part actuating-shaft and an operating-handle therefor, said handle engaging one part of said shaft to actuate either said contact-carrying member or said inclosing casing.

3. In a controller, the combination with an inclosing casing and one or more rotatable, contact-carrying members, of a two-part actuating-shaft comprising an actuating portion and an operating-

handle therefor, and a screw-threaded portion that may be engaged by said actuating portion to lower said inclosing casing

4. In a controller, the combination with an inclosing casing and one or more rotatable, contact-carrying members, of a two-part actuating-shaft comprising an actuating portion and an operating-handle therefor, and a screw-threaded portion that may be engaged by said actuating portion to lower said inclosing casing, and a gear-carrying sleeve that may be driven by said actuating portion to drive said contact-carrying members.

5. In a controller, the combination with an inclosing casing and one or more rotatable contact-carrying members, of a two-part shaft comprising an actuating portion, and an operating-handle therefor, a collar on said portion that may engage either a screw-threaded portion of said shaft to lower said inclosing casing or a gear-carrying sleeve to actuate said rotatable contact-carrying member.

6. In a controller, the combination with an inclosing casing and a rotatable contact-carrying member, of a subdivided actuating-shaft, comprising a driving portion and a threaded driven portion, an operating-handle fixed to said driving portion, a sleeve and threaded bushing rigidly attached to and actuated to raise and lower said inclosing casing by said threaded driven shaft, and said driving portion being arranged to engage either said contact-carrying member or said threaded shaft when disengaged from said contact-carrying member.

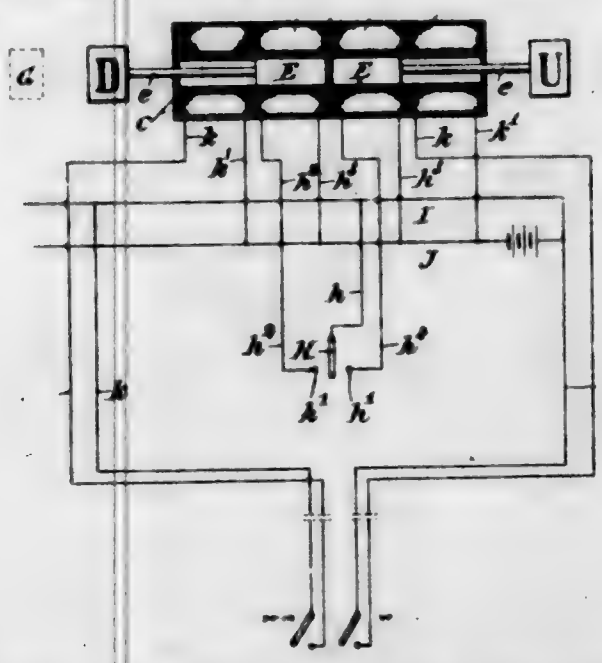
7. In a controller, the combination with an inclosing casing and a contact-carrying drum, of an operating-handle, a sleeve operatively connected to said drum, a screw-shaft operatively connected to said casing and a clutch device for connecting either the sleeve or the shaft to the operating-handle.

8. In a controller, the combination with an inclosing casing and a plurality of contact-carrying drums, of an operating-handle, a sleeve geared to said drums, a screw-shaft that engages a nut on said casing and a clutch device for connecting the sleeve to the operating-handle and disconnecting the shaft therefrom or vice versa.

9. In a controller, the combination with one or more contact-carrying drums and a casing therefor having a centrally-located nut, of a screw-shaft that engages said nut, a rotatable member that is operatively connected to said drum or drums, an operating-handle and a clutch device for operatively connecting said handle to either the screw-shaft or the drum-operating member and at the same time disconnecting the other part.

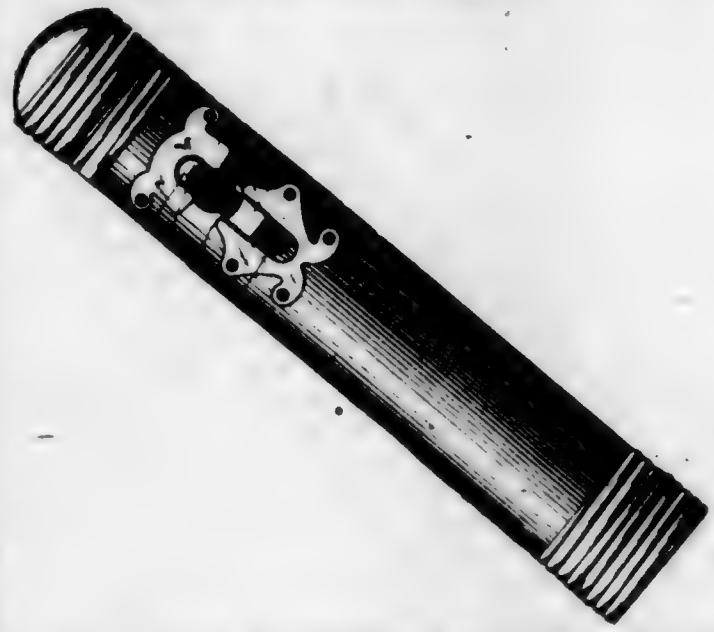
10. In a controller, the combination with one or more contact-carrying drums, an inclosing casing, a rotatable member geared to said drum or drums and a raising and lowering member for said casing, of a single operating-handle and a clutch device for connecting said handle to the drum-actuating member and disconnecting it from the casing-actuating member or vice versa.

807,859. **ANNUNCIATOR.** JAMES PATTEN and WILLIAM PATTEN, New York, N. Y. Filed Apr. 5, 1905. Serial No. 254,055.



Claim.—An annunciator, having a double solenoid-magnet, a core movable in the same, an indicating device in connection with the core, a means for closing the circuit of either coil of the magnet and means for simultaneously closing the circuits of both coils, whereby to cause the core to take either of three distinct positions under the positive action of the magnet.

807,860. **ELECTRIC-HAND-LAMP CONTACT.** GEORGE L. PATTERSON, New York, N. Y., assignor to Alice C. Patterson, New York, N. Y. Filed Dec. 30, 1904. Serial No. 238,908.



Claim.—1. In an electric hand-lamp the combination of a casing, a stationary contact member having a projecting lip and a lug, and a longitudinally-movable spring-pressed arm adapted to make a momentary contact with said lug by a downward motion, and to make a prolonged locked contact beneath said lip by sliding forward and under.

2. In an electric hand-lamp the combination of a casing, a stationary contact member having a projecting lip and a lug, and a longitudinally and vertically movable arm adapted to make a momentary contact with said lug by a downward motion, and a prolonged contact by sliding forward and under said lip and a projecting button carried by said arm.

3. In an electric hand-lamp the combination of a casing, a stationary contact member having a projecting lip and a lug, and a longitudinally and vertically movable arm adapted to make a momentary contact with said lug by a downward motion and to make a prolonged locked contact by sliding forward and under said lip, and a spring engaging beneath said movable contact for pressing it outward, substantially as described.

4. In an electric hand-lamp the combination of a casing, a battery, a lamp and a stationary contact member having a projecting lip and a longitudinally-movable spring-actuated arm adapted to engage beneath said lip, substantially as described and for the purpose specified.

5. In an electric hand-lamp the combination of a casing, a battery, a lamp, a stationary contact having a projecting lip and a longitudinally-movable spring-pressed arm adapted to engage beneath said lip and a button carried by said arm for digital engagement.

6. In an electric hand-lamp the combination of a casing, a battery, a lamp, a stationary contact having a projecting lip, a longitudinally-movable contact adapted for engagement beneath said lip and a spring engaging beneath said movable contact for pressing it outward, substantially as described.

7. In an electric hand-lamp, the combination of a battery, a lamp, a stationary contact having a projecting lip, a longitudinally-movable spring-pressed contact member having means for digital engagement and adapted to engage said lug, and a housing for a part of said spring-pressed contact member.

8. A hand-operable contact device of the character described comprising a stationary contact member having a projecting lug, a longitudinally-movable spring-actuated arm adapted to engage beneath said lug, and a stationary plate providing a guide and permanent contact for said arm.

807,861. **RIG FOR OIL-WELLS.** FRANK W. PENNELL, Lima, Ohio, assignor of two-thirds to Roderick Morrison, Gibsonburg, Ohio, and Thomas C. Pennell, Lima, Ohio. Filed Oct. 26, 1904. Serial No. 230,139.

Claim.—1. In a device of the class set forth, the combination of a rig or derrick-frame consisting of members converging toward one end, a drum disposed in the diverged extremity of the rig or derrick-frame, a pulley carried in the converged extremity of said frame, a hoisting and lowering cable coöperating with the drum and passing over the pulley, and a kinker device disposed above the drum and

having the hoisting and lowering cable passed therethrough, the kinker device being automatically slidable in a transverse direction with respect to the rig or derrick-frame and longitudinally over the drum.

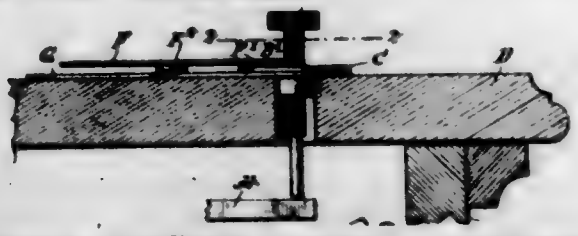


2. In a device of the class set forth, the combination of a rig or derrick-frame, a drum disposed in one extremity of the frame and having a reduced extremity provided with means for manually operating the drum and also with winding-surfaces of different diameters, an actuating-cable engaging one end of the drum and operative by power other than manual, an elevating and lowering cable engaging the winding-surfaces of the drum having different diameters and movable over the end of the frame opposite that in which the drum is located, and a kinker device having the elevating and lowering cable passed therethrough and located above the drum for imparting to said cable an elevating movement without operating the drum, the kinker device being automatically adjustable over the drum to compensate for the position of the cable with respect to the latter.

3. In a device of the class set forth, the combination of a rig or derrick-frame converged toward one extremity of the frame, an elevating and lowering cable over the reduced extremity of the frame and operating with the drum, and a kinker automatically slidable with relation to the longitudinal extent of the drum and having means engaging separate portions of the cable for causing the latter, when pressure is applied in the proper direction, to have an elevating movement independent of the operation of the drum.

4. In a device of the class set forth, the combination of a rig or derrick-frame, a drum disposed in one extremity of the frame, an elevating and lowering cable movable over the opposite extremity of the frame and operating with the drum, and a kinker attachment adjacent to the drum comprising an angular shaft having a handle, and a carrier slidably mounted on the shaft having roller devices in the extremities thereof for engagement with the cable.

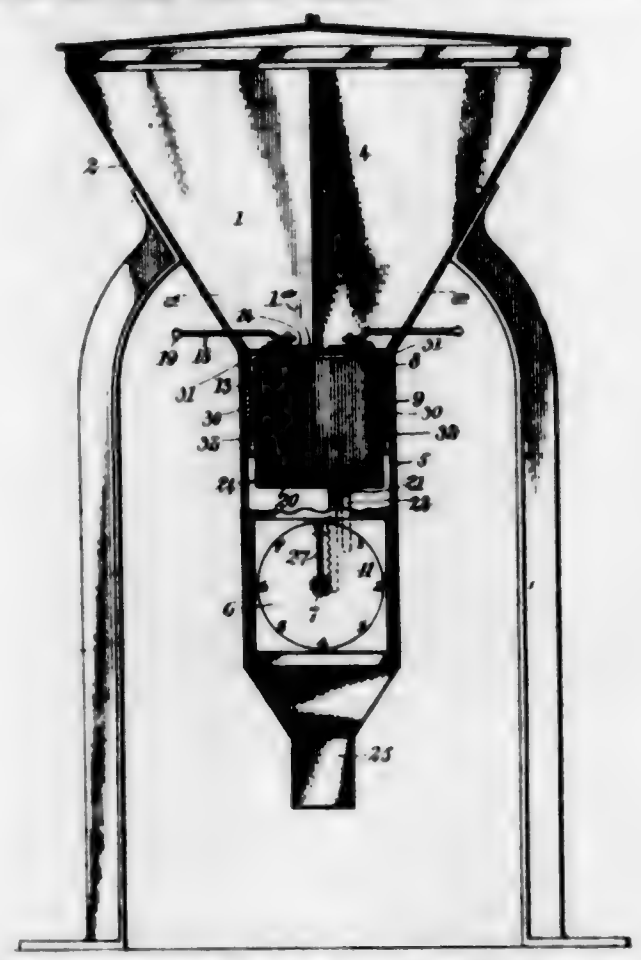
807,882. INDICATOR. FRANK P. PFLEGER, El Paso, Tex. Filed July 12, 1905. Serial No. 269,294.



Claim.—1. An indicator comprising a screw-rod having gear-teeth formed directly on the threaded portion thereof, a pointer mounted to swing and having segmental gear in mesh with the said screw-rod gear-teeth, and a dial on which indicates the pointer.

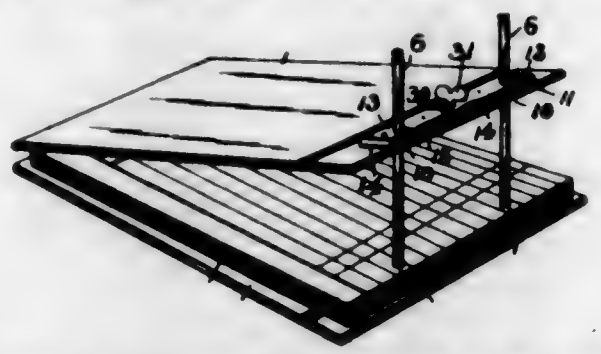
2. In an indicator of the character described, a screw-rod for operating the speed-regulating device of a phonograph or like instrument, said screw-rod having gear-teeth formed directly on the threaded portion thereof, a nut in which the screw-rod works, a dial formed integrally with the nut, and a pointer mounted on the dial and having a segmental gear meshing with the teeth of the screw-rod.

807,863. COFFEE-HOPPER. GEORGE W. PHILLIPS, Mianus, Conn. Filed June 3, 1905. Serial No. 263,658.



Claim.—A hopper for coffee comprising a body, and a trunk therebelow, a cup mounted in said trunk, a scale actuated by said cup, said cup having a dumping-bottom, and a stem projecting from said bottom and adapted to dump the same, said trunk having a slot through which said stem passes.

807,864. LOOSE-LEAF BINDER. GEORGE E. POST, New York, N. Y. Filed Apr. 19, 1905. Serial No. 256,356.



Claim.—1. In a loose-leaf binder, a lower binder plate adapted to be secured to a bottom cover-section, and an upper binder-plate adapted to be secured to an upper cover-section, said upper binder-plate being provided with laterally-extending openings, and a chambered receiving means and locking device or compressor in said chambered receiving means, said chambered receiving means being provided with laterally-extending openings in alinement with the openings in said upper binder-plate, posts on said lower binder-plate, said posts extending upwardly through the openings in said upper binder-plate and the openings in said chambered locking-device-containing means, said posts and said openings at all times being in alinement, and means for bringing said locking device or compressor in positive clamping or binding relation with the same sides of said posts and with an inner portion of said chambered receiving means, said means being also arranged to withdraw said locking device or compressor clear of said posts to permit of the withdrawal of said posts laterally through the openings in the upper binder-

plate and said chambered receiving means, substantially as and for the purposes set forth.

2. A binder, comprising a lower and an upper binder-plate, each plate being connected with a cover-section, upwardly-extending posts on said lower binder-plate, a compressor-box on said upper binder-plate, said compressor-box and upper binder-plate having laterally-extending openings in alinement with each other, and said posts extending through said openings and at all times being in alinement with said openings to permit of the withdrawal of the said compressor-box and the said upper binder-plate laterally from said posts without producing any movement longitudinally of either said box or upper binder-plate, and a pair of oppositely-sliding locking devices in said compressor-box, said locking devices having wedge-shaped members which lie and move upon the same sides of said posts and have their longitudinally-extending marginal edges, respectively, adapted to be brought in binding engagement with the same sides of said posts and with one of the inner faces of said compressor-box, substantially as and for the purposes set forth.

3. A binder, comprising a pair of plates, each plate being connected with a cover-section, one of said plates having an elongated opening, and posts on the other of said plates, a self-centering compensating binding mechanism connected with the other plate, and means rotatably arranged in said opening for causing the engagement or disengagement of said mechanism with said posts, said means also having a compensating sliding movement in said opening, substantially as and for the purposes set forth.

4. A binder, comprising a pair of plates, each plate being connected with a cover-section, one of said plates having an elongated opening, and posts on the other of said plates, a self-centering compensating binding mechanism connected with the other plate, means rotatably arranged in said opening for causing the engagement or disengagement of said mechanism with said posts, said means also having a compensating sliding movement in said opening, and means for permitting the withdrawal of said binding mechanism and the plate with which it is connected from the side of said posts, substantially as and for the purposes set forth.

5. A binder, comprising a pair of plates, each plate being connected with a cover-section, posts on one of said plates, a box connected with the other plate, a pair of oppositely-movable racks in said box, a wedge-shaped binding member upon each rack, and a pinion between and in mesh with said racks for the engagement and disengagement of said wedge-shaped binding members with said posts, and means connected with said box and the plate with which it is connected permitting the withdrawal of said box and the plate from the side of said posts, substantially as and for the purposes set forth.

6. A binder, comprising a pair of plates, each plate being connected with a cover-section, posts on one of said plates, a box connected with the other plate, said box being provided in its top with an elongated opening, a pair of oppositely-movable racks in said box, a wedge-shaped binding member upon each rack, and a self-centering pinion between and in mesh with said racks for engagement and disengagement of said wedge-shaped binding member with said posts, said pinion having a portion movable longitudinally in the elongated opening of the top of said box, substantially as and for the purposes set forth.

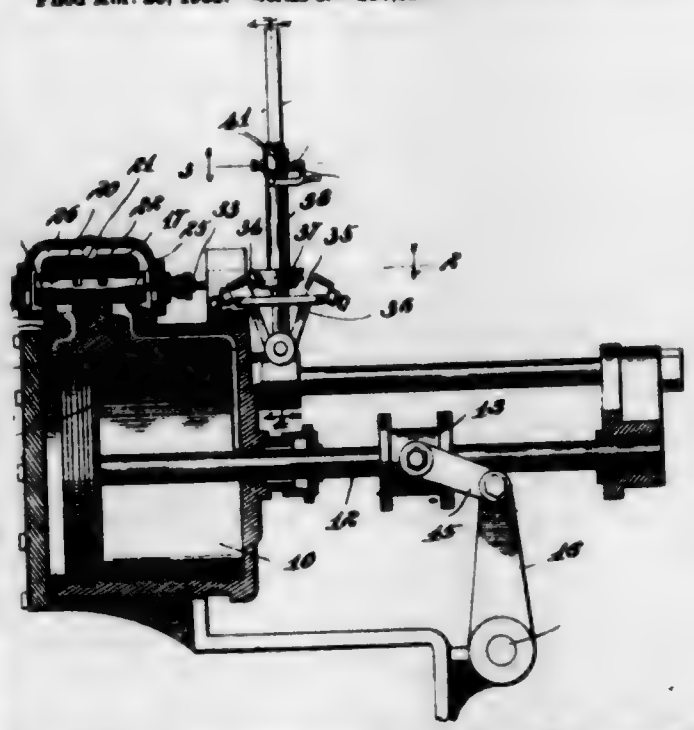
7. A binder, comprising a pair of plates, each plate being connected with a cover-section, posts on one of said plates, a box connected with the other plate, said box being provided in its top with an elongated opening, a pair of oppositely-movable racks in said box, a wedge-shaped binding member upon each rack, and a self-centering pinion between and in mesh with said racks for engagement and disengagement of said wedge-shaped binding members with said posts, said pinion having a portion movable longitudinally in the elongated opening of the top of said box, and means connected with said box and the plate with which it is connected permitting the withdrawal of said box and the plate from the side of said posts, substantially as and for the purposes set forth.

8. A binder, comprising a pair of plates, each plate being connected with a cover-section, posts on one of said plates, a box connected with the other plate, a pair of oppositely-movable racks in said box, a pinion between and in mesh with said racks, a wedge-shaped binding member upon each rack, said binding members engaging the same sides of the respective posts, and means for actuating said pinion, said box and the plate with which it is connected having elongated openings permitting the withdrawal of said box and plate from the side of said posts, substantially as and for the purposes set forth.

9. A binder, comprising a pair of plates, each plate being connected with a cover-section, posts on one of said plates, a box connected with the other plate, said box being provided in its top with an elongated opening, a pair of oppositely-movable racks in said box, a pinion between and in mesh with said racks, said pinion having an upwardly-extending portion movable longitudinally in the elongated opening of said box, a wedge-shaped binding member upon each rack, said binding members engaging the same sides of the respective posts, and a finger-piece connected with said upwardly-extending portion of the pinion for actuating the same, substantially as and for the purposes set forth.

10. A binder, comprising a pair of plates, each plate being connected with a cover-section, posts on one of said plates, a box connected with the other plate, said box being provided in its top with an elongated opening, a pair of oppositely-movable racks in said box, a pinion between and in mesh with said racks, said pinion having an upwardly-extending portion movable longitudinally in the elongated opening of said box, a wedge-shaped binding member upon each rack, said binding members engaging the same sides of the respective posts, and a finger-piece connected with said upwardly-extending portion of the pinion for actuating the same, said box and the plate with which it is connected having elongated openings permitting the withdrawal of said box and plate from the side of said posts, substantially as and for the purposes set forth.

807,865. **ENGINE-VALVE.** DE WITT C. PRESCOTT, Chicago, Ill. Filed Apr. 20, 1905. Serial No. 256,527.



Claim.—1. The combination with a reciprocating steam-engine having the faces of its piston differentiated in area, of a valve for controlling the admission and exhaust of steam to and from the cylinder, such valve having restricted exhaust-ports differentiated in area proportionate with the difference in area of the two faces of the piston.

2. In combination, a reciprocating steam-engine the piston of which has unequal faces; and a valve for controlling the admission and exhaust of steam to the engine, the exhaust-ports of such valve being arranged to open more gradually than its induction-ports, and being relatively differentiated to correspond with the relative difference in the piston-faces.

3. In combination, a reciprocating steam-engine the piston of which has unequal faces; a valve for controlling the admission and exhaust of steam to the engine, the exhaust-ports of such valves being arranged to open more gradually than its induction-ports, and being relatively differentiated to correspond with the relative difference in the piston-faces, and a lever for controlling the valve and having a variable range of travel.

4. In combination, an engine-valve having its exhaust-ports arranged to open gradually; a valve-lever for controlling the valve; stops for limiting the movement of the lever; a double-swell cam mounted on the lever in line with the stops; and means for oscillating the cam about the lever.

5. In combination, an engine-valve having its exhaust-ports arranged to open gradually; a valve-lever for controlling the valve; stops for limiting the movement of the lever; a double-swell cam mounted on the lever in line with the stops and being movable about the lever; and a lever for actuating the cam.

6. In combination, an engine-valve having its exhaust-ports arranged to open gradually; a valve-lever for controlling the valve;

stops for limiting the movement of the lever; a double-swell cam mounted on the lever in line with the stops and being movable about the lever; a lever for actuating the cam; a notched quadrant carried by the valve-lever; and a latch carried by the cam-actuating lever and coöperating with the quadrant.

7. In combination, an engine-valve having its exhaust-ports arranged to open gradually, a valve-lever; fixed stops in the path of the lever; a double-convolute cam sleeved and revoluble on the lever; a notched quadrant fixed on the lever; and a lever pivoted to the sleeve of the cam and having a finger coöperating with the quadrant.

807,866. **TICKET-FILING CASE.** ALBERT H. REINHARDT, Chicago, Ill., assignor to Poole Bros., Chicago, Ill., a Corporation of Illinois. Filed May 3, 1905. Serial No. 258,674.



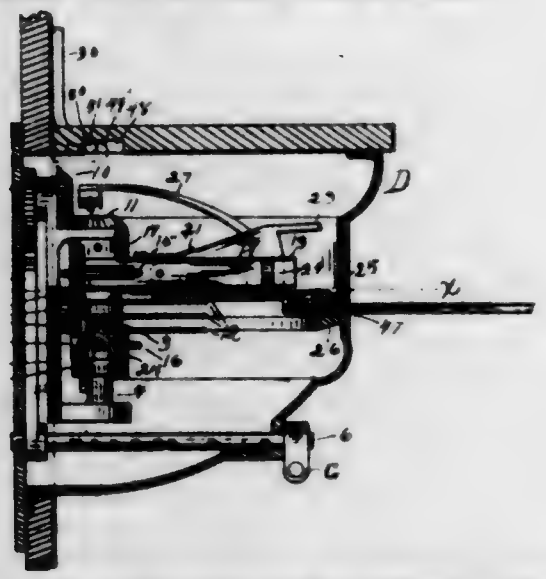
Claim.—1. In a ticket-case, a sliding drawer, a compartment therein provided at its front end with an upwardly and forwardly sloping end wall, and a guard extending across the compartment adjacent to said inclined front wall and forming in conjunction with the latter a delivery-slot.

2. A ticket-case provided with a sliding drawer interiorly divided into fore and aft extending compartments, the front end walls of said compartments being interiorly upwardly and forwardly inclined, guard-stripe arranged to overlie said compartments adjacent to said inclined front end walls, and followers adjustably secured in the several compartments.

3. In combination with a ticket-drawer, a follower consisting of a plate provided with a base portion slidably resting upon, and adjustably secured to the bottom wall of the drawer and extending thence at an incline upwardly and forwardly throughout the principal depth of the drawer and terminating at its upper edge in a horizontally-exteading overhanging ledge.

4. In combination with the drawer of a ticket-case provided with a slot extending from front to rear, a follower consisting of a sheet-metal plate having a slide portion resting upon the bottom of the drawer, an upwardly and forwardly inclined confining portion and an overhanging ledge portion, and means for adjustably securing said follower comprising a clamping-screw extending through the slide portion of the follower and engaging the slot of the drawer and a thumb-nut upon said screw.

807,867. **MUSIC-LEAF TURNER.** KASSEN R. RICHARDSON, Battlecreek, Mich. Filed Jan. 8, 1904. Serial No. 188,306.



Claim.—1. In a music-leaf turner in combination a backboard, a ledge near the lower edge thereof, a cup-shaped bracket supporting said ledge, a horizontal groove beneath said ledge, a shaft operative within said groove and supported near either end of its horizontal portion by curved springs, said shaft having curved extremities extending beyond said groove and a horizontal arm protruding beneath said ledge, a spring secured beneath said ledge and adapted to bear up said arm, substantially as and for the purpose set forth.

2. A music-leaf turner, the combination with a backboard and a music-holding ledge, of flat springs having cut-out portions secured beneath said ledge near either end thereof to said backboard, a shaft supported within said cut-out portions, a horizontal arm extending from said shaft, a spring secured to said ledge and bearing up said arm, said shaft having curved extremities extending beyond said ledge and adapted to engage the extended covers of the book and hold the same against said backboard, substantially as and for the purpose set forth.

3. The combination in a music-leaf turner of a backboard, a ledge near the bottom thereof, a cup-shaped bracket supporting said ledge, a shaft entering said bracket, an operating-lever on the outer end of said shaft, a segment secured to the opposite end of said shaft, a spur-gear meshing with said segment, a bevel-gear operative from said spur-gear, a vertical shaft, a miter-gear mounted on said shaft and meshing with said bevel-gear, arms loosely supported from said vertical shaft and protruding through an elongated slot in said bracket, and dogs secured to said shaft and adapted to actuate said arms.

4. The combination in a music-leaf turner of a bracket, an actuating-shaft entering said bracket, a vertical shaft, dogs fixed near both ends of said shaft, levers loosely mounted on said shaft and adapted to engage said dogs, springs fixed to said shaft and bearing said levers against said dogs, latches operative within said levers, arms loosely mounted upon said shaft and between said levers, said dogs being diametrically opposed, the one operative to the right, the other to the left, substantially as and for the purpose set forth and described.

5. The combination in a music-leaf turner of a cup-shaped bracket, a bracket within said bracket, arms extending from said inner bracket, metallic plates protruding from said inner bracket between said arms, a vertical shaft supported between said arms and passing through said plates, means for oscillating said shaft, arms loosely mounted on said shaft between said plates and extending through a horizontal aperture in said cup-shaped bracket, diametrically-opposed dogs secured near either end of said shaft, levers loosely mounted on said shaft and adapted to engage said dogs, springs secured to said shaft and bearing said levers against said dogs, latches pivoted within said levers and adapted to engage said arms, said dogs being opposed, the one operative to the right, the other to the left, substantially in the manner and for the purpose set forth.

6. The combination in a music-leaf turner of a cup-shaped bracket, a vertical oscillating shaft mounted within said bracket, means for actuating said shaft, arms loosely mounted on said shaft and protruding through a transverse slot in said bracket, races either side of said transverse slot, diametrically-opposed dogs mounted on said shaft near either end thereof, levers mounted on said shaft, springs secured to said shaft and bearing said levers against said dogs, latches pivotally mounted in said levers and adapted to engage said arms, fingers on the extremities of said latches adapted to engage a race either side of said transverse slot, springs secured to said bracket and bearing against said races, said fingers adapted to lift said springs in their movements in actuating an arm and to ride said springs in receding to a normal position, substantially in the manner and for the purpose set forth and described.

7. In a music-leaf turner, the combination of a backboard, a mechanism-supporting bracket, a post vertically supported within said bracket, leaf-turning arms loosely pivoted and supported from said post, arc-shaped cam extremities at the inner end of said arms, a spring secured within said bracket having multiple tongues adapted to bear against the individual cams respectively, dogs adapted to engage said arms both from below and above, the one to actuate the arms to the right, the other to actuate the arms to the left, and means to actuate said dogs, all adapted to coact, substantially as, and for the purpose set forth.

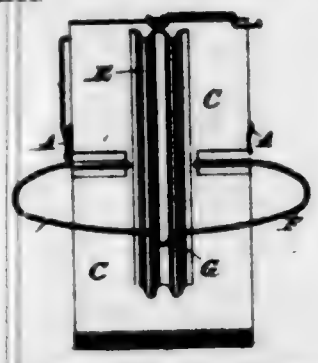
8. The combination with leaf-turning arms pivotally mounted on a vertical post, of actuating-arms pivotally mounted on said post, latches pivoted and disposed longitudinally with relation to said arms, fingers on the extremities of said latches, springs circumferentially disposed about said post, said fingers adapted to ride said springs in their return movement to raise said latches above said leaf-turning arms, means for releasing said latches to engage leaf-turning arms when in a normal position, curved stops projecting from the face side of said latches adapted to prevent their acting on more than one leaf-turning arm at the same time, and means for operating said actuating-arms, substantially as, and for the purpose set forth.

9. The combination with a bracket having a horizontal slot, of a vertical oscillatory shaft mounted therein, leaf-turning arms pivotally mounted on said shaft, said arms having their pivoted ends banked, one of said arms being straight and adapted to pass horizontally through said slot, the arms lying both above and below said straight arm having offsets, the former being curved downward and

to one side, the latter being curved upward and to an opposite side, their extremities lying in horizontal arrangement, substantially as and for the purpose set forth.

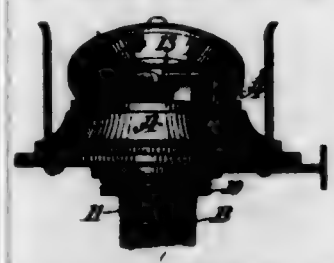
10. The combination with a bracket having a horizontal slot, of a vertical oscillatory shaft mounted therein, leaf-turning arms pivotally mounted on said shaft, said arms having their pivoted ends banked, one of said arms being straight and adapted to pass horizontally through said slot, the arms lying both above and below said straight arm having offsets, the former being curved downward and to the left, the latter being curved upward and to the right, their extremities lying in horizontal arrangement, substantially as, and for the purpose set forth.

807,868. LAMP AND LANTERN HOLDER. WILLIAM H. ROBERTS and HENRY B. MATHEWS, Ansonia, Ohio. Filed May 13, 1905. Serial No. 260,544.



Claim.—A lantern-holder comprising a rectangular plate bent out at the bottom and finished in a roll, a W-shaped strip fastened to said plate lengthwise thereof to receive a lantern-tube, a hoop-like ring attached to said plate and bent at the middle to fit around the opposite lantern-tube, a clamp formed of wire and rotatably attached to the top of said plate having a semicircular hook near its middle to fit around the top of the lantern-tube and a lever at its end, and a second clamp formed of wire rotatably fastened to said plate and having two semicircular hooks which clamp around the buggy-brace and a lever formed by bending one end of the wire at right angles to the clamping portion, said lever forming the actuating and retaining means of the clamp.

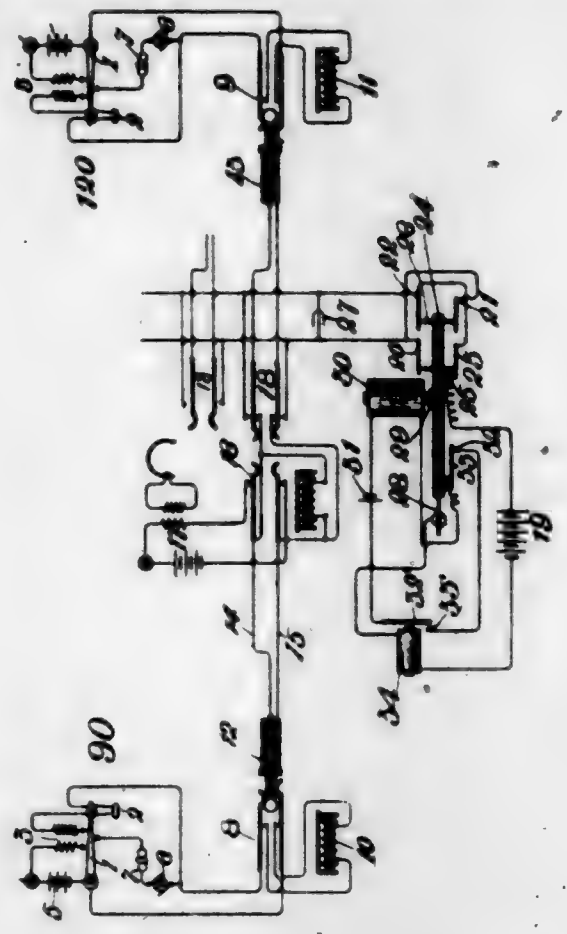
807,869. LAMP-BURNER. ELLSWORTH ROSS and JOEL A. BOYLES, Lynch, Nebr. Filed Nov. 29, 1904. Serial No. 234,033.



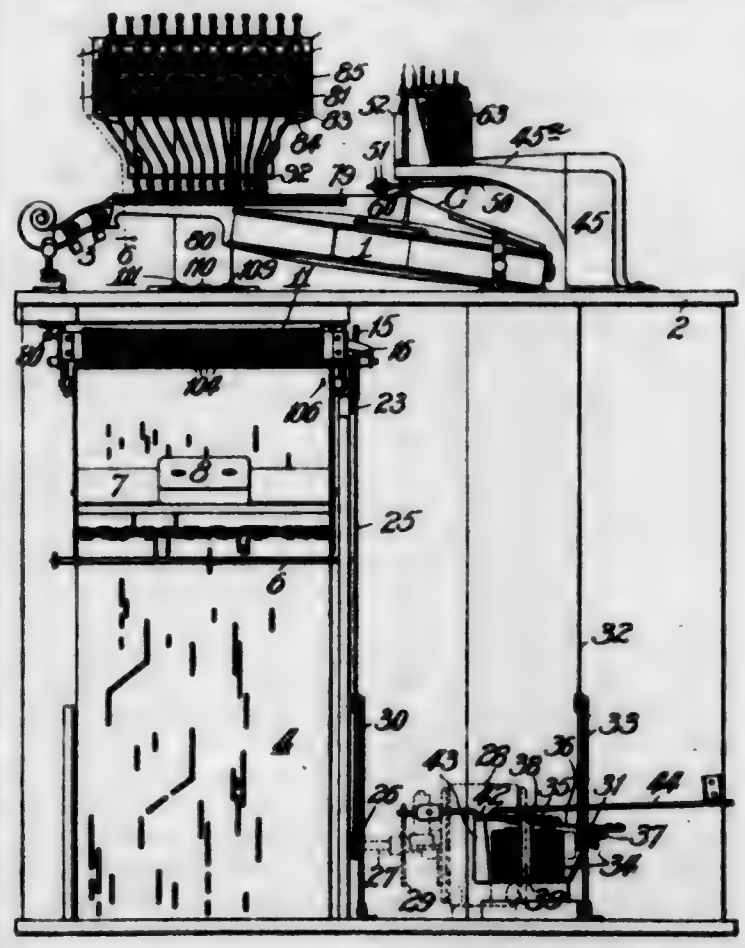
Claim.—A lamp-burner provided with a relief-tube, comprising a body-section open at its lower end and having its upper end closed and formed into a loop fitting snugly around the wick-tube near the top thereof, the loop having its upper face apertured, the body-section extending down alongside of the wick-tube and through the bottom of the burner to open into the font to which the burner is attached.

807,870. POLE-CHANGING DEVICE. HARRY O. RUGH, Chicago, Ill., assignor, by mesne assignments, to Edward C. Hennis, Sandwich, Ill. Filed June 2, 1902. Serial No. 109,841.

Claim.—In a pole-changing device, the combination with a main electromagnet 30, of an armature therefor, contacts 25 and 26 carried by said armature, pole-changing contacts 20, 22 and 21, 23 adapted to be alternately engaged by said armature-contacts, a switch-arm 33 carried by said armature, a contact 33 normally engaged by said switch-arm, a local circuit including said switch-arm and contact and said main relay, a source of current 31 in said local circuit, an armature 32′ and a contact 33′ adapted for inclusion in said local circuit, a main source of current 19, an electromagnet 34 controlling the armature 32′, said main source of current and said electromagnet 34 being adapted for inclusion in the circuit including the armature-contacts 25 and 26, and normally open switches 16, actuation of said switches causing closure of the circuit containing one set of pole-changing contacts, said main source of current and said electromagnet 34 whereby said electromagnet is energized to close the local circuit containing the main relay 30 and whereby said armature is vibrated to continually change the direction of current-flow through the main circuit.



807,871. ELECTRIC SELF-PLAYING VIOLIN. HENRY K. SANDELL, Chicago, Ill., assignor to Mills Novelty Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 27, 1905. Serial No. 252,228.



Claim.—1. In a stringed instrument, the combination with a string, of a part provided with a dished disk, the periphery of which is adapted for frictional contact with the string when said part is moved toward the same, means for rotating said disk, and means for moving the same toward and from the string.

2. In a stringed instrument, the combination with a string, of a part provided with a dished disk, the periphery of which is adapted for frictional contact with the string when said part is moved toward the same, means for rotating said disk, means for moving the same

toward and from the string, and means for cushioning the movement of said disk.

3. In combination with a stringed instrument, a rotatable sounding device supported relative to a string of the instrument and comprising a dished disk presenting its edge to the string against which it is rotated.

4. In combination with a stringed instrument, a rotatable sounding device supported relative to a string of the instrument and comprising a body composed of a plurality of dished disk members nested together and presenting their edges to the string against which said body is rotated.

5. In combination with a stringed instrument, a rotatable sounding device supported relative to a string of the instrument and comprising a body composed of a plurality of dished disk members nested together and presenting their edges to the string against which said body is rotated, means for rotating said body and means for moving it toward and from the string.

6. In a self-playing stringed instrument, the combination with a string, of a sounding device including an electromagnet, a fingering device including an electromagnet, an electric circuit including said magnets in series, and a shunt across the fingering-device magnet, whereby the sounding-device magnet may be energized without energizing the fingering-device magnet.

7. In a self-playing stringed instrument, the combination with a string, of a sounding device including an electromagnet and adapted to sound said string, a plurality of fingering devices each provided with an electromagnet and adapted to finger said string when its magnet is energized, and an electric circuit having branches, each branch including one only of said fingering-device magnets and the common part including the sounding-device magnet, whereby each of said fingering-device magnets is included in series with said sounding-device magnet.

8. In a self-playing stringed instrument, the combination with a string and a source of electrical supply, of a sounding device including an electromagnet and a dished disk adapted to sound said string, a plurality of fingering devices each provided with an electromagnet and adapted to finger said string when its magnet is energized, and a circuit extended from said source and having branches, each branch including one only of the fingering-device magnets and the common part including the magnet of said sounding device, whereby each of said fingering-device magnets is included in series with said sounding-device magnet.

9. In combination with a string of a stringed instrument, a fingering device therefor consisting of a notched bar supported to extend transversely of the string and reciprocate at right angles thereto, and means for depressing said bar to straddle at its notch said string and hold it against lateral vibration.

10. In combination with a string of a stringed instrument, a plurality of fingering devices therefor consisting of notched bars supported at intervals transversely of the string and a link flexibly connecting said bars, having a bar arched across said string, and means for depressing said bars to straddle the string and hold it against lateral vibration.

11. In combination with a string of a stringed instrument, a cushion-equipped fingering device therefor having a notched bar supported to extend transversely of the string and reciprocate at right angles thereto, and means for depressing said bar to straddle at its notch said string and hold it against lateral vibration.

12. In combination, a stringed instrument having its finger-board provided with a longitudnial ridge below a string, and a fingering device consisting of a notched bar supported to extend transversely of the string, and means for depressing said bar to straddle at its notch said ridge and said string to hold the string against lateral vibration.

13. In combination, a stringed instrument having its finger-board provided with a longitudinal ridge below a string, and a plurality of fingering devices consisting of notched bars supported at intervals transversely of the string and a link flexibly connecting said bars, having a bar arched across said string, and means for depressing said bars to straddle said ridge and said string to hold the string against lateral vibration.

14. In combination, a stringed instrument having its finger-board provided with longitudinal ridges, one for each string, a row of fingering devices extending along each string, each device provided with an electromagnet and with a notched bar extending across a string to be depressed by energizing its controlling-magnet to straddle a ridge and the string above it and hold the string against lateral vibration, a sounding device for each string provided with an electromagnet, and an electric circuit having branches, each branch including one only of said fingering-device magnets, the branches for each row having a common part including one of said sounding-device magnets, whereby each of said fingering-device magnets is included in series with a sounding-device magnet.

15. In combination, a stringed instrument, rows of cushion-equipped fingering devices for the strings, each device provided with an electromagnet and with a notched bar extending across a string to be depressed by energizing its controlling-magnet to straddle the string and hold it against lateral vibration, sounding devices for the strings, each provided with an electromagnet, and an electric circuit having branches, each branch including one only of said fingering-device magnets, the branches for each row having a common part including one of said sounding-device magnets, whereby each of said fingering-device magnets is included in series with a sounding-device magnet.

16. In combination, a stringed instrument, rows of fingering devices for the strings, each device provided with an electromagnet, sounding devices for the strings, each provided with an electromagnet, an electric circuit having branches, each branch including one only of said fingering-device magnets, the branches for each row having a common part including one of said sounding-device magnets, whereby each fingering-device magnet is included in series with a sounding-device magnet, and means for regulating the depression of said sounding devices including electromagnets contained in other branches of said circuit.

17. In combination, a stringed instrument, rows of fingering devices for the strings, each provided with an electromagnet, sounding devices for the strings, each provided with an electromagnet, an electric circuit having branches, each branch including one only of said fingering-device magnets, the branches for each row having a common part including one of said sounding-device magnets, whereby each fingering-device magnet is included in series with a sounding-device magnet, and an electric tuning attachemnt comprising other branches of said circuit connected with different magnets of the several rows of fingering devices and operating, by their closure, to actuate the fingering devices of different strings simultaneously.

18. In combination with a string of a stringed instrument, a fingering device comprising an electromagnet provided with an armature, a rod depending from said armature to be reciprocated by its movements, and a notched bar yieldingly supported on the lower end of said rod to extend across the string.

19. In combination with a string of a stringed instrument, fingering devices comprising a series of electromagnets, each provided with an armature carrying a depending rod, spring-supported heads on the lower ends of the rods terminating in notched bars extending transversely of the string, and links connecting said bars from rod to rod and each provided with an arched bar extending transversely of the string between a pair of said notched bars.

20. In combination with a string of a stringed instrument having a longitudinal ridge on its finger-board registering with said string, fingering devices comprising a series of electromagnets each provided with an armature carrying a depending rod, spring-supported heads on the lower ends of the rods terminating in notched bars extending transversely of the string, and yokes linking said bars from one to another, terminating in perforated ears at which they are fulcrumed on said bars and each having an arched bar extending transversely of the string between a pair of said notched bars.

21. In an electric violin-playing machine, the combination with a supporting-frame for the parts, of a generator-circuit and a motor therein, said circuit having branches, an electrical contact-roller in said circuit and a feed-roller for a perforated music-sheet coöperating with said contact-roller and geared to the motor, rotary shafts driven by said motor and carrying sounders for the violin-strings, electromagnet-controlled supports for said shafts for moving the sounders relative to said strings, electromagnet-controlled fingering devices supported to engage the strings on the finger-board of the violin, and electrical contacts coöperating with the contact-roller through perforations in said sheet, each of said branches connecting one fingering-device magnet with one of said contacts and the branches for the fingering devices of each string having a common part including a sounding-device magnet.

22. In an electric violin-playing machine, the combination with a supporting-frame for the parts, of a generator-circuit and a motor therein, said circuit having branches, an electrical contact-roller in said circuit and a feed-roller for a perforated music-sheet coöperating with and adjustable relative to said contact-roller and geared to the motor, rotary shafts driven by said motor and carrying sounders for the violin-strings, electromagnet-controlled supports for said

shafts for moving the sounders relative to the strings, electromagnet-controlled fingering devices supported to engage the strings on the finger-board of the violin, and electrical contacts coöperating with the contact-roller through perforations in said sheet, each of said branches connecting one fingering-device magnet with one of said contacts and the branches for the fingering devices of each string having a common part including a sounding-device magnet.

23. In an electric violin-playing machine, the combination with a supporting-frame for the parts, of a generator-circuit and a motor therein, said circuit having branches, an electrical contact-roller in said circuit and motor-driven means coöperating with said roller for moving across it a perforated music-sheet, rotary shafts driven by said motor and carrying sounders for the violin-strings, electromagnet-controlled supports for said shafts for moving the sounders relative to said strings, electromagnet-controlled fingering devices supported to engage the strings on the finger-board of the violin, electrical contacts coöperating with said contact-roller through perforations in said sheet, and an electromagnet-actuated regulator for the movements of the sounders, said fingering-device magnets being each connected by one of said branches with one of said contacts and the branches for the fingering devices of each string having a common part including a sounding-device magnet, and others of said contacts being each connected by a branch with one of the magnets of said regulator.

24. In an electric violin-playing machine, the combination with a supporting-frame for the parts, of a generator-circuit and a motor therein, said circuit having branches, an electrical contact-roller in said circuit and motor-driven means coöperating with said roller for moving across it a perforated music-sheet, rotary shafts driven by said motor and carrying sounders for the violin-strings, electromagnet-controlled supports for said shafts for moving the sounders relative to said strings, electromagnet-controlled fingering devices supported to engage the strings on the finger-board of the violin, electrical contacts coöperating with said roller through perforations in said sheet, stop-fingers on the armatures of the sounding-device magnets and a spring-controlled rocker-bar engaged by said fingers, and a regulator comprising electromagnets supported at varying distances relative to said sounding-device magnets and arms fulcrumed on said rock-bar and each extending therefrom to a different regulator-magnet and carrying the armature thereof, said fingering-device magnets being each connected by one of said branches with one of said contacts and the branches for the fingering devices of each string having a common part including a sounding-device magnet, and others of said contacts being each connected by a branch with one of the magnets of said regulator.

25. In an electric violin-playing machine, the combination with a supporting-frame for the parts, of a generator-circuit and a motor therein, said circuit having branches, an electrical contact-roller in said circuit and motor-driven means coöperating with said roller for moving across it a perforated music-sheet, rotary shafts driven by said motor and carrying sounders for the violin-strings, electromagnet-controlled supports for said shafts for moving the sounders relative to said strings, electromagnet-controlled fingering devices supported to engage the strings on the finger-board of the violin, electrical contacts coöperating with said roller through the perforations in said sheet, an electromagnet-actuated regulator for the movements of the sounders by their controlling-magnets, and a tremolo attachment on said roller, said fingering-device magnets being each connected by one of said branches with one of said contacts and the branches for the fingering devices of each string having a common part including a sounding-device magnet, and others of said contacts being each connected by a branch with one of the magnets of said regulator, one of said last-named branches having connected with it a contact which registers with said tremolo attachment.

26. In an electric violin-playing machine, the combination with a supporting-frame for the parts, of a generator-circuit and a motor therein, said circuit having branches, an electrical contact-roller in said circuit and motor-driven means coöperating with said roller for moving across it a perforated music-sheet, rotary shafts driven by said motor and carrying sounders for the violin-strings, electromagnet-controlled supports for said shafts for moving the sounders relative to the strings, electromagnet-controlled fingering devices supported to engage the strings on the finger-board of the violin, electrical contacts coöperating with said roller through perforations in said sheet, an electromagnet-actuated regulator for the movements of the sounders by their controlling-magnets, and a circumferential series of spaced insulating-points about said roller and with which one of said contacts registers, said fingering-device magnets being each connected by one of said branches with one of said contacts and the branches for the fingering devices of each string having a common part including a sounding-device magnet, and others of said contacts being each connected by a branch with one of the magnets of said regulator and with one of which last-named branches said registering contact is connected.

27. In an electric violin-playing machine, the combination with a supporting-frame for the parts, of a generator-circuit and a motor therein, said circuit having branches, an electrical contact-roller in said circuit and motor-driven means coöperating with said roller for moving across it a perforated music-sheet, rotary shafts driven by said motor and carrying sounders for the violin-strings, electromagnet-controlled supports for said shafts for moving the sounders relative to said strings, a row of electromagnet-controlled fingering devices for each string to engage it at intervals on finger-board of the violin, electrical contacts coöperating with said roller through perforations in said sheet, each of said branches including one only of said fingering-device magnets, the branches for each row having a common part including one of said sounding-device magnets, whereby each of said fingering-device magnets is included in series with a sounding-device magnet, and shunts across certain of the fingering-device magnets, whereby each sounding-device magnet may be energized without energizing any fingering-device magnet connected therewith.

28. In an electric violin-playing machine, the combination with a supporting-frame for the parts, of a generator-circuit and a motor therein, said circuits having branches, an electrical contact-roller in said circuit and motor-driven means adjustable relative to said roller and coöperating therewith for moving across it a perforated music-sheet, rotary shafts driven by said motor and carrying sounders for the violin-strings, electromagnet-controlled supports for said shafts for moving the sounders relative to the strings, a row of electromagnet-controlled fingering devices for each string to engage it at intervals on the finger-board of the violin, electrical contacts coöperating with said roller through perforations in said sheet, each of said branches including one of said contacts and one only of said fingering-device magnets, the branches for each row of said fingering-device magnets having a common part including one of said sounding-device magnets, whereby each of said fingering-device magnets is included in series with a sounding-device magnet, and an attachment for simultaneously actuating two fingering devices, one in each of two rows thereof.

29. In an electric violin-playing machine, the combination with a supporting-frame for the parts, of a generator-circuit and a motor therein, said circuit having branches, an electrical contact-roller in said circuit and motor-driven means adjustable relative to said roller and coöperating therewith for moving across it a perforated music-sheet, rotary shafts driven by said motor and carrying sounders for the violin-strings, electromagnet-controlled supports for said shafts for moving the sounders relative to said strings, a row of electromagnet-controlled fingering devices for each string to engage it at intervals on the finger-board of the violin, electrical contacts coöperating with said roller through perforations in said sheet, each of said branches including one only of said fingering-device magnets, the branches for each row of said fingering-device magnets having a common part including one of said sounding-device magnets, whereby each of said fingering-device magnets in included in series with a sounding-device magnet, and a set of push-buttons each controlling two of said branches and connected therewith beyond their respective contacts.

807,872. MACHINE FOR MAKING AND FINISHING FIRE-CRACKERS, &c. LOUIS SCHULMAN, Williamsburg, and JOSEPH SCHULMAN, New York, N. Y., assignors to American Firecracker Manufacturing Company, a Corporation of New York. Filed July 18, 1903. Serial No. 166,200.

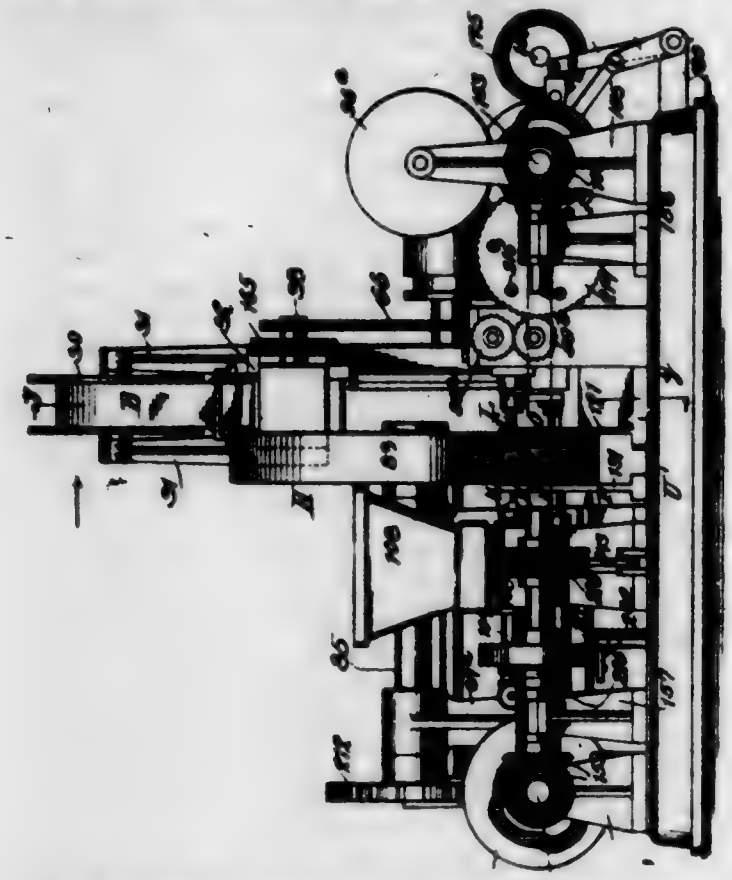
Claim.—1. A machine of the character described, comprising means for supplying tubular bodies, means for supplying lengths of fuse to the tubular bodies, means for charging the tubular bodies, and means for closing the ends of the tubular bodies.

2. In a machine of the character described, means for supplying blanks, means for forming the blanks into tubular bodies, means for supplying lengths of fuse to the tubular bodies, means for charging the tubular bodies, and means for closing the ends of the tubular bodies.

3. In a machine of the character described, means for supplying blanks, means for applying adhesive material to the blanks, means for forming the blanks into tubular bodies, means for supplying lengths of fuse to the tubular bodies, means for charging the tubular bodies, and means for closing the ends of the tubular bodies.

4. In a machine of the character described, a carrier, means for

supplying tubular bodies to the carrier, means for supplying lengths of fuse to the tubular bodies, means for charging the tubular bodies, means for closing the ends of the tubular bodies, and means for moving the carrier to advance the tubular bodies.

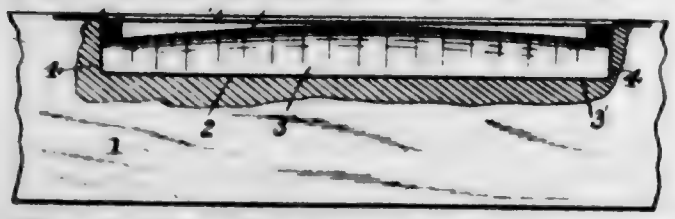


5. In a machine of the character described, a carrier, means for supplying tubular bodies to the carrier, means for supplying lengths of fuse to the tubular bodies, means for charging the tubular bodies, means for closing the ends of the tubular bodies, means for discharging the tubular bodies from the carrier, and means for moving the carrier to advance the tubular bodies.

6. In a machine of the character described, means for supplying tubular bodies of superposed layers, initial tamping means for initially closing said tubes at one end, and final tamping means for finally closing said tubes at one end; each of said tamping means embodying a head formed to engage and compress one or more of the inner layers of said tubes.

7. In a machine of the character described, fuse-supplying means, comprising a tubular head, a perforated cutter-head, means for intermittently feeding the fuse through said heads, a cutter-blade movably mounted upon said cutter-head, and means for intermittently operating said cutter-blade to form separate lengths of fuse.

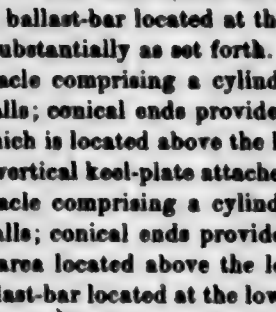
807,873. SPIRIT-LEVEL. THOMAS O. SHARP, Roxboro, N. C., assignor to Sharp and Tucker, Roxboro, N. C., a Copartnership. Filed Apr. 6, 1905. Serial No. 254,182.



Claim.—In a device of the character described, a stock having a longitudinal recess, the bottom thereof being on a horizontal plane, a tube within the recess, the under surface of the tube being flattened and adapted to contact with the bottom surface of the recess, the upper surface of said tube being curved, said tube being provided with graduations, a strip arranged above the recess, said strip having graduations coinciding with the graduations of the tube, and means arranged at each end of the longitudinal recess of the stock to hold the tube within said recess.

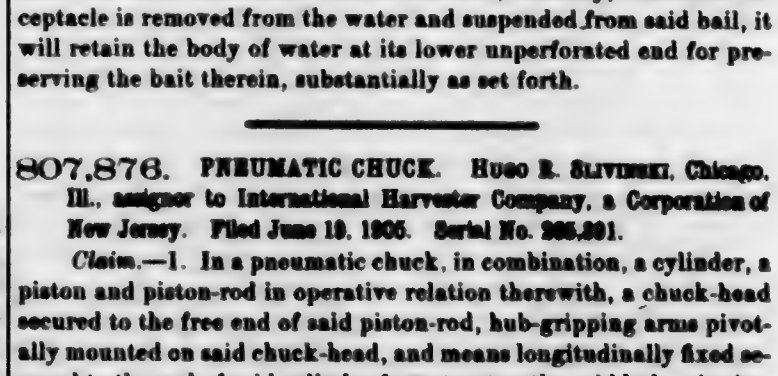
807,874. COLLAR FOR SHAFTS. JOHN SHERMAN, North Braddock, Pa. Filed Mar. 1, 1905. Serial No. 247,945.

Claim.—1. In a collar for shafts, the combination with a shaft having an aperture formed therein, of a collar having an elliptical recess formed in its one face, said collar having diametrically opposite apertures formed therein, and a pin adapted to engage in the aperture of said shaft and impinge in said recess, substantially as described.



2. In a collar for shafts, the combination with a shaft having an aperture in its end, of a collar, said collar having an elliptical recess in one face and an aperture leading into said recess, a headed pin mounted in the aperture of the shaft, the head of said pin being adapted to engage the wall of said recess, substantially as described.

807,875. BAIT-RECEPTACLE. WILLIAM SHERMER, Hartford, Wis. Filed July 26, 1905. Serial No. 271,270.



Claim.—1. A bait-receptacle comprising a central portion having perforated walls; and conical ends provided with air-chambers; the largest portion of which is located above the longitudinal center of the receptacle.

2. A bait-receptacle comprising a cylindrical central portion having perforated walls; conical ends; and a ballast-bar located at the lower extremity of the central portion.

3. A bait-receptacle comprising a cylindrical central portion having perforated walls; conical ends provided with air-chambers; the largest area of which is located above the longitudinal center of the receptacle and a ballast-bar located at the lowest extremity of the central portion, substantially as set forth.

4. A bait-receptacle comprising a cylindrical central portion having perforated walls; conical ends provided with air-chambers, the largest area of which is located above the longitudinal center of the receptacle; and a vertical keel-plate attached to one of said ends.

5. A bait-receptacle comprising a cylindrical central portion having perforated walls; conical ends provided with air-chambers having their largest area located above the longitudinal center of said receptacle; a ballast-bar located at the lower side of said receptacle; a keel-plate connected with one of said conical ends; a doorway formed through the upper side of said receptacle; and a door for closing said doorway, all substantially as and for the purpose specified.

6. A bait-receptacle comprising a cylindrical central portion, the walls of which are perforated near its rear end, and unperforated near its front end; a bail for carrying said receptacle when removed from the water connected with its rear end, whereby, when said receptacle is removed from the water and suspended from said bail, it will retain the body of water at its lower unperforated end for preserving the bait therein, substantially as set forth.

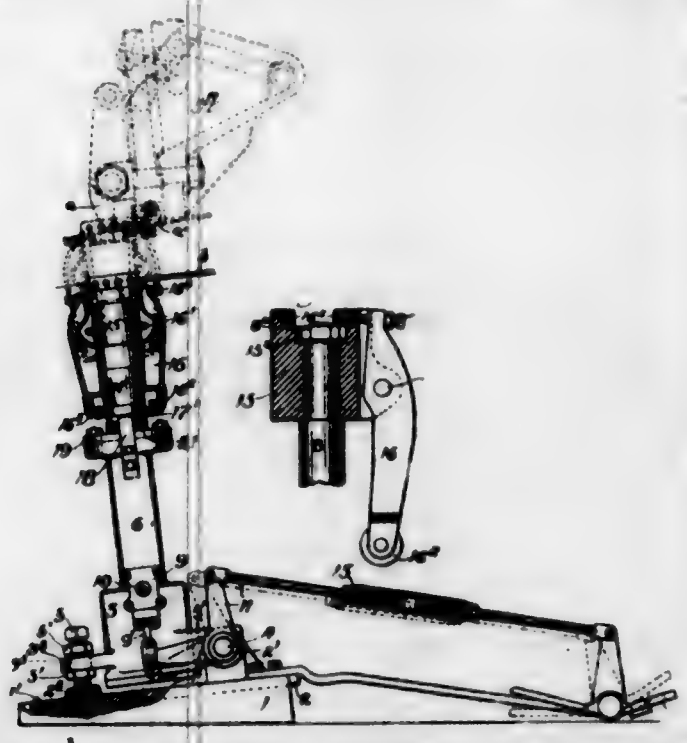
807,876. PNEUMATIC CHUCK. HUGO R. SLIVINSKI, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed June 19, 1905. Serial No. 265,891.

Claim.—1. In a pneumatic chuck, in combination, a cylinder, a piston and piston-rod in operative relation therewith, a chuck-head secured to the free end of said piston-rod, hub-gripping arms pivotally mounted on said chuck-head, and means longitudinally fixed secured to the end of said cylinder for actuating the said hub-gripping arms.

2. In a pneumatic chuck, in combination, a cylinder, a piston and piston-rod in operative relation therewith, a chuck-head secured to the free end of said piston-rod, hub-gripping arms pivotally mounted on said chuck-head, and a conical sleeve for actuating the said hub-gripping arms, said sleeve being fixed with respect to longitudinal movement in relation to said cylinder.

3. In a pneumatic chuck, in combination, a cylinder, a piston and piston-rod in operative relation therewith, a chuck-head secured to the free end of said piston-rod, hub-gripping arms pivotally mounted on said chuck-head, the hub-engaging devices on the ends

of said arms adjustable radially with respect to the hub, and a conical sleeve for actuating the said hub-gripping arms, said sleeve being fixed with respect to longitudinal movement in relation to said cylinder.



4. In a pneumatic chuck, in combination, a cylinder, a piston and piston-rod in operative relation therewith, a chuck-head secured to the free end of said piston-rod, hub-gripping arms pivotally mounted on said chuck-head, and a conical sleeve for actuating the said hub-gripping arms, said sleeve being rotatably mounted on the piston-rod and fixed with respect to longitudinal movement in relation to said cylinder.

5. In a pneumatic chuck, in combination, a cylinder, a piston and piston-rod in operative relation therewith, a chuck-head secured to the free end of said piston-rod, hub-gripping arms pivotally mounted on said chuck-head, and a sleeve rotatably mounted on said piston-rod for actuating the hub-gripping arms, said sleeve being fixed with respect to longitudinal movement in relation to said cylinder, and constructed with its lower end conical and its upper end cylindrical in form.

6. In a pneumatic chuck, in combination, a piston and piston-rod in operative relation therewith, a chuck-head secured to the free end of said piston-rod, three equiangularly-disposed hub-gripping arms pivotally mounted on said chuck-head, said arms being provided with hub-engaging set-screws at their upper ends and with sleeve-engaging rollers on their lower ends, and a conical sleeve for actuating said hub-gripping arms, said sleeve being rotatably mounted on said piston-rod and fixed with respect to longitudinal movement in relation to said cylinder.

7. In a pneumatic chuck, in combination, a cylinder pivotally mounted at its base, means for adjusting the inclination of the vertical axis of the cylinder, a piston and piston-rod in operative relation with said cylinder, a chuck-head secured to the free end of said piston-rod, hub-gripping arms pivotally mounted on said chuck-head, and means for actuating the said hub-gripping arms.

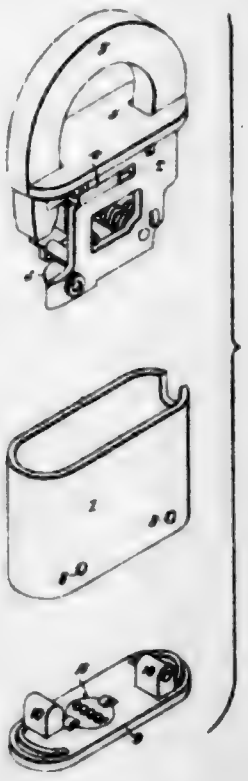
807,877. **PADLOCK.** FRANK SOLBY, Philadelphia, Pa., assignor to Miller Lock Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Dec. 16, 1904. Serial No. 237,126.

Claim.—1. The combination, in a padlock, of a seamless sheet-metal casing, a body structure contained therein and having one or more partly-bored studs thereon, and a securing-pin for each of said studs, which pin passes into the bore of the stud and through one of the sides of the casing only, substantially as specified.

2. The combination, in a padlock, of a seamless sheet-metal casing, a body structure contained therein and having studs located at diagonally opposite corners thereof and securing-pins each passing through one side only of the casing and into one of said securing-studs of the body structure, substantially as specified.

3. The combination, in a padlock, of a seamless sheet-metal casing, a body structure contained therein and having partly-bored studs located at diagonally opposite corners and securing-pins each passing through one side only of the casing and engaging one of said partly-bored studs, substantially as specified.

4. The combination, in a padlock, of a seamless sheet-metal casing, a cap or cover plate adapted to close one end of said casing and having one or more inwardly-projecting studs abutting at the inner end against another member of the lock, and a transverse securing-pin for each of said studs, said pin entering the stud and passing through an opening in one side only of the casing, substantially as specified.



5. The combination, in a padlock, of a seamless sheet-metal casing, a cover-plate closing one end of the same and having one or more inwardly-projecting and partly-bored studs, and a securing-pin for each of said partly-bored studs, said pin passing through one side only of the casing, substantially as specified.

6. The combination, in a padlock, of a seamless sheet-metal casing, a cap or cover plate closing one end of the same and having inwardly-projecting studs located at diagonally opposite corners of the plate and abutting at the inner ends against other members of the lock, and transverse pins engaging said studs and each passing through one side only of the casing, substantially as specified.

7. The combination, in a padlock, of a seamless sheet-metal casing, a cap or cover plate closing one end of the same and having inwardly-projecting and partly-bored studs located at diagonally opposite corners of the plate, and transverse pins engaging said partly-bored studs, and each extending through one side only of the casing, substantially as specified.

8. The combination, in a padlock, of a seamless sheet-metal casing, a body structure adapted thereto and having one or more securing-studs thereon, a cap-plate closing one end of the casing and having one or more inwardly-projecting studs which abut against those of the body structure, and transverse pins each engaging one of the said studs and passing through one side only of the casing, substantially as specified.

9. The combination, in a padlock, of a seamless sheet-metal casing, a body structure adapted thereto and having securing-studs at one end and at diagonally opposite corners, a cover-plate closing one end of the casing and having inwardly-projecting studs at diagonally opposite corners, which studs abut against those of the body structure, and transverse pins each engaging one of the said studs and passing through one side only of the casing, substantially as specified.

10. The combination, in a padlock, of a seamless sheet-metal casing, a body structure adapted thereto and having one or more partly-bored securing-studs at one end, a cap or cover plate closing one end of said casing and having one or more inwardly-projecting and partly-bored studs abutting against the stud or studs of the body structure, and transverse pins each engaging one of said studs and passing through one side only of the casing, substantially as specified.

11. The combination, in a padlock, of a seamless sheet-metal casing, a body structure adapted thereto, and having securing-studs at one end, partly bored and disposed at diagonally opposite corners of the structure, a cap-plate closing one end of the casing, and having inwardly-projecting studs likewise partly bored and located at diagonally opposite corners of the plate, said studs abutting against those of the body structure, and transverse pins each engaging one of said studs and extending through one side only of the casing, substantially as specified.

12. The combination, in a padlock, of a seamless sheet-metal casing open at both ends, a body structure adapted thereto and having at one end a plate overlapping the upper end of the casing and at the other end one or more studs, a cap or cover plate closing the lower end of the casing and having one or more inwardly-projecting studs, and securing-pins, each engaging one of said studs and passing through one side only of the casing, substantially as specified.

13. The combination, in a padlock, of a seamless sheet-metal casing open at both ends, a body structure adapted thereto and having at one end a plate overlapping the upper end of the casing and at the other end one or more studs, a cap or cover plate closing the lower end of the casing and having one or more inwardly-projecting studs, which abut against those of the body structure, and securing-pins, each engaging one of said studs and passing through one side only of the casing, substantially as specified.

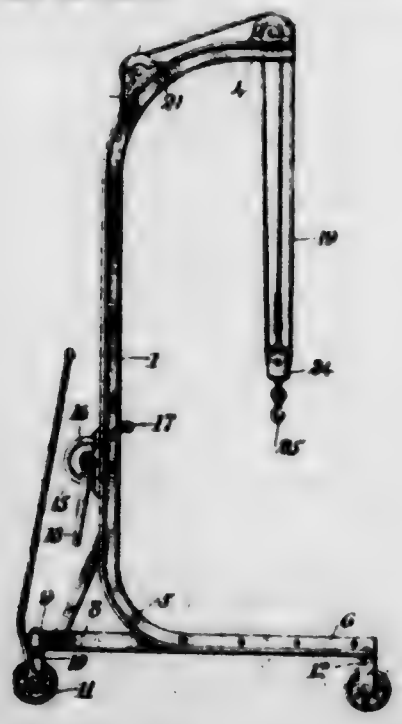
14. The combination, in a padlock, of a seamless sheet-metal casing open at both ends, a body structure adapted thereto and having at one end a plate overlapping the upper end of the casing and at the other end a pair of studs disposed at diagonally opposite corners, a cap or cover plate closing the lower end of the casing and having a pair of inwardly-projecting studs, likewise at diagonally opposite corners and abutting against the studs of the body structure, and securing-pins, each engaging one of said studs and passing through one side only of the casing, substantially as specified.

15. The combination, in a padlock, of a seamless sheet-metal casing open at both ends, a body structure adapted thereto and having at one end a plate overlapping the top of the casing and at the other end one or more partly-bored studs, a cap or cover plate closing the lower end of the casing and having one or more inwardly-projecting and partly-bored studs, and securing-pins each engaging one of said studs and passing through one side only of the casing, substantially as specified.

16. The combination, in a padlock, of a seamless sheet-metal casing open at both ends, a body structure adapted thereto and having at one end a plate overlapping the top of the casing and at the other end one or more partly-bored studs, a cap or cover plate closing the lower end of the casing and having one or more inwardly-projecting and partly-bored studs which abut against those of the body structure, and securing-pins each engaging one of said studs and passing through one side only of the casing, substantially as specified.

17. The combination, in a padlock, of a seamless sheet-metal casing open at both ends, a body structure adapted thereto and having at one end a plate overlapping the top of the casing and at the other end a pair of partly-bored studs disposed at diagonally opposite corners of the body structure, a cap or cover plate closing the lower end of the casing and having a pair of inwardly-projecting and partly-bored studs likewise at diagonally opposite corners and abutting against the studs of the body structure and securing-pins each engaging one of said studs and passing through one side only of the casing, substantially as specified.

807,878. CRANE. George E. Sopp, Kankakee, Ill. Filed Sept. 16, 1905. Serial No. 278,712.

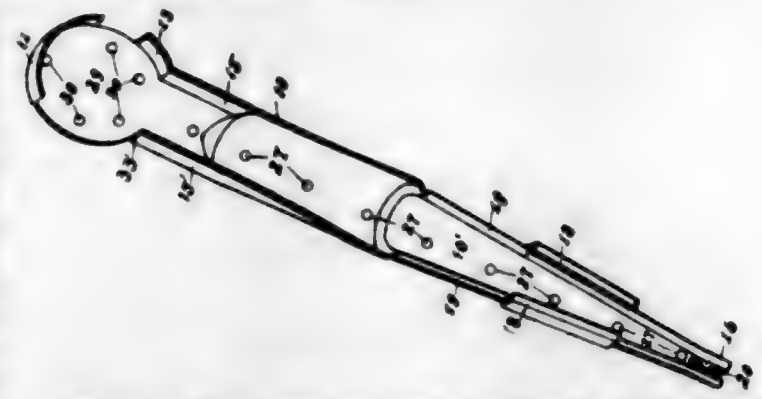


Claim.—1. A crane having a mast bent at its lower extremity to present substantially horizontal foot extensions, and a yoke rigidly attached to said foot extensions and constituting therewith a base for said mast.

2. A crane having a mast, comprising a pair of upwardly-converging frame members bent at their lower extremities to form diverging foot extensions, and a yoke rigidly attached to said foot extensions and constituting therewith a base for said crane.

3. A crane having a mast formed of a pair of upwardly-converging frame members bent at their lower extremities and presenting forwardly-diverging foot extensions, a yoke rigidly attached to said foot extensions and presenting a bow at the rear thereof, and braces connecting said bow with said frame members adjacent to said foot extensions.

807,879. TOOL CONSTRUCTION. James M. Sullivan, Chicago, Ill. Filed Apr. 12, 1905. Serial No. 255,249.



Claim.—1. The combination, with a tool-head, of a shank projecting from said head, a tubular helve stamped out of sheet metal and constructed with a forked portion which embraces said head, the tubular portion of said helve being arranged to receive said shank and assist said forked portion in supporting said head upon said helve.

2. The combination with a tool-head, of a shank, a tubular helve having a fork thereon which embraces the sides of said head, said shank arranged to project into the tubular portion of said helve.

3. In combination, a tool-head provided with a projecting shank; a sheet-metal head constructed to provide a fork, a socket and a reduced portion 17; said fork arranged to embrace said head and said socket arranged to receive said shank; a bracing wall or rib 25 arranged to stiffen the tubular portion of said helve, and a hand-grip portion 23 mounted upon the reduced portion 17.

4. The combination with a tool-head, of a shank, a tubular helve stamped out of sheet metal and having a forked portion embracing said head, said shank rigidly secured within the tubular portion of said helve, said forked portion engaging two opposite sides of said head and having flanges which engage two other opposite sides or edges of said head.

5. The combination with a hatchet head or blade 2, having relatively inclined edges 33, 34 and 35, 36, of a sheet-metal helve or handle constructed to embrace the opposite sides of said head and to bear against said inclined edges.

6. The combination with a tool head or blade, of a helve stamped out of sheet metal and of tubular form, said helve consisting of two parts having a reduced portion 17 comprising parts 10′, 10′ whose edges are interlocked and a sleeve 23 concealing said inte locking edges, said head provided with a transverse opening or eye 37 for the tool-head.

7. The combination with a tool-head of a handle comprising a pair of sheet-metal sections 10 stamped curvate in cross-section, said sections having reduced portions 10′ provided with joints securing the meeting edges of said sections together and a hand-grip portion or sleeve 23 arranged upon said handle to conceal or cover said joints.

8. In combination, a tool-head having a shank or tang portion 4 arranged at right angles to the body of said head, a sheet-metal helve having a socket 38 for said portion and an opening 37 for the body of said head, said socket arranged longitudinally and said opening arranged transversely of said head, and means for securing said head and helve together rigidly.

9. In combination, a tool-head having a shank 4 for the handle and shank 3 for the poll, said shanks arranged at right angles to each other, the recessed pole 7 riveted to the shank 3, the tubular sheet-metal helve or handle having the opening 37 for the body of said head and the socket 38 for said shank, said opening and socket arranged at right angles to each other.

10. The combination of a tool-head having a handle-shank 4 and a poll-shank 3 arranged at right angles to each other, the poll 7 mortised onto said shank 3, means for securing said poll and poll-

shank together, a tubular helve or handle having an opening 37 for the body of the tool-head and a socket 38 for said handle-shank, said opening extending transversely through the handle and said socket extending longitudinally of the handle, and the sleeve or covering 23 providing a hand-grip surface for a portion of said handle

11. The combination with a tool-head, of a tubular sheet-metal handle having the cheeks or jaw members 29 embracing opposite sides of said head, said handle consisting of a pair of sections 10 formed to provide the reduced portion 17 comprising parts 10', 10' which have interlocking edges and the sleeve or covering 23 concealing said interlocking edges.

12. The combination with a tool-head, of a hollow handle consisting of sections 10 having end flanges 11, 13 and side flanges 15 and 15' and jaw members 29, said flanges 15 and 15' having channels 18 and flanges 19 which interlock substantially as described, the sleeve or hand-grip portion 23 arranged upon said handle to cover the joints formed by said channels and flanges and the wall 25 having rivet-lugs 26 secured in openings 27, for the purpose set forth.

13. The combination with a tool-head. of a hollow sheet-metal handle consisting of sections 10 having interlocking edges, the sleeve 23 covering a portion of said handle and said interlocking joints, the wall 26 secured within and binding together said sections, for increasing the rigidity of said handle, said handle having the threaded tip 16, the washer 22 and screw 21 securing said sleeve to said handle, said handle having also the jaw members 29 which grip the sides and edges of the tool-head, and means for securing said jaw members and tool-head together rigidly.

14. The combination with a tool-head, of a handle, said handle consisting of sheet-metal members stamped curvate in cross-section, said handle having an "eye" 37 and a socket 38 arranged at right angles to each other, said head having a shank 4 adapted to enter said socket, means for interlocking the edges of said sheet-metal members, means for concealing the joints formed by the interlocking edges, means for clamping said handle to opposite sides of said head, and means integral with said sheet-metal members and said head for interlocking same against relative movement

15. The combination with a tool-head 2 having the curved edges 12 and 14, of a hollow sheet-metal handle having a shoulder 33 and jaws 29, the latter adapted to engage opposite sides of said head, said jaws having flanges 11 and 13 thereon which engage said edges 12 and 14 and coöperate with said shoulder 33 hold the head 2, and means for securing said jaws against the opposite sides of said head.

807,880. **HEATING-STOVE.** WILLIAM G. TAYLOR, Pittsburg, Pa., assignor to Taylor Burner & Electroplating Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 22, 1904. Serial No. 204,372.

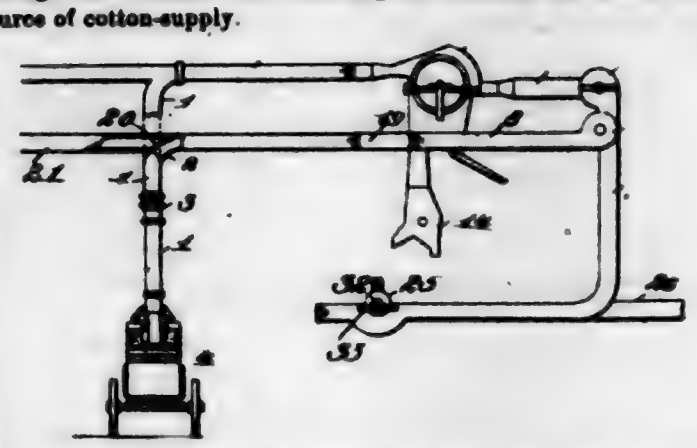


Claim.—A gas heating-stove having a vertical gas-box with a perforated front fireboard, a stove-casing having a back spaced apart from the gas-box to form an air-chamber, an imperforate partition forming the top of the rear air-chamber, said partition being below the level of the smoke-flue, the casing-back plate having air-exit openings below said partition, said air-chamber having front air-inlet openings below the fireboard, the casing having a top arranged to allow the products of combustion to pass over the top of the fireboard to the smoke-flue; substantially as described.

807,881. **COTTON-HANDLING APPARATUS.** ALBERT F. TIDWELL, Celina, Tex. Filed June 8, 1905. Serial No. 264,237.

Claim.—1. Cotton-handling apparatus comprising a cotton-passage having an inlet and an outlet approximately at a common place, pneumatic means for causing cotton to traverse the passage from the inlet, a cotton-receiver, and means for diverting cotton from the passage to the receiver.

2. Cotton-handling apparatus comprising a cotton-receiver, and means for continuously and pneumatically passing cotton to and through said receiver and returning the overflow therefrom to a source of cotton-supply.



3. Cotton-handling apparatus comprising separating and distributing devices, and means for continuously and pneumatically passing cotton to and through said devices and returning the overflow therefrom to a source of cotton-supply.

4. Cotton-handling apparatus comprising a cotton-passage beginning and ending at the source of cotton-supply, a cotton-receiver interposed in said passage, and pneumatic means for causing a continuous movement of cotton through said passage.

5. Cotton-handling apparatus affording a continuous circuit for the passage of cotton, said circuit beginning and ending at the source of cotton-supply, cotton separating and distributing devices interposed in said circuit, and pneumatic means for causing a continuous movement of cotton through said circuit.

6. Cotton-handling apparatus comprising suction and overflow pipes forming parts of a continuous cotton-passage, an exhaust-pipe communicating with said overflow-pipe, a screen interposed between said exhaust and overflow pipes, a cotton-receiver interposed in said passage, and pneumatic means for causing the cotton to traverse said passage.

7. Cotton-handling apparatus comprising suction and overflow pipes forming parts of a continuous passage, an exhaust-pipe connected to said overflow-pipe, a screen interposed between said exhaust and overflow pipes, cotton-distributing means interposed in said passage, pneumatic means for causing the cotton to traverse said passage, and means for diverting cotton from the passage into said distributing devices.

8. Cotton-handling apparatus comprising a cotton-passage having an inlet and an outlet approximately at a common place, pneumatic means for causing the cotton to traverse the passage from the inlet, cotton-distributing devices interposed in said passage, and means for diverting cotton from said passage to said distributing devices.

9. In an apparatus of the class described, a seed-pipe, means for maintaining a blast of air therein, a rotary seed-dropper in air-tight connection with said pipe, and projecting into the line of air-draft therein, whereby to be rotated from said air-draft, and means for delivering seed to said dropper.

10. In cotton-handling apparatus, a seed-pipe provided with a casing, a seed-dropper comprising disks rotatably mounted in said casing and projecting into said pipe and provided with wings or paddles, flexible strips mounted on the ends of said wings for engaging the wall of said casing, means for delivering the seed to said dropper, and means for maintaining a current of air in said pipe.

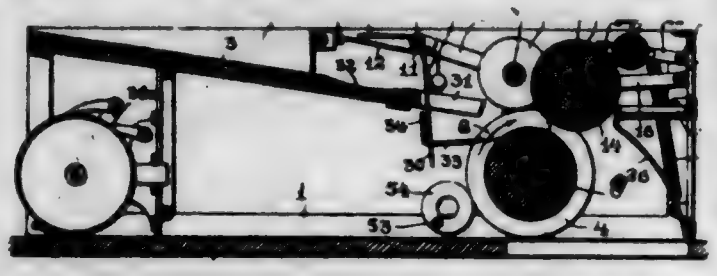
11. In cotton-handling apparatus, a seed-pipe affording a casing, a seed-dropper interposed in said pipe and comprising disks mounted to rotate in apertures in the said walls of said casing, flexible strips secured about the edges of said apertures and overlapping the edges of said disks on the inner side of the casing, wings connecting said disks and projecting into said pipe and adapted to rotate in air-tight connection with the upper part of said casing, means for delivering seed through the upper part of said casing to said dropper, and means for forcing a current of air through said pipe.

807,882. **REGISTERING AND CANCELING BALLOT-BOX.** EDWARD K. TOLMAN, Worcester, Mass. Filed Apr. 24, 1905. Serial No. 257,083.

Claim.—1. The combination with a feed-board on which a ballot is presented to the machine, said feed-board having a depression in its upper surface, of means for depressing the ballot as it passes over the depressed surface of the feed-table.

2. The combination with a feed-board on which a ballot is presented to the machine, said feed-board having a depression in its upper surface, of a tilting guard-wire arranged to depress a ballot as it

passes over said depression, and means for actuating said guard-wire determined by the passage of a ballot through the machine.



3. The combination with a feed-board, on which a ballot is presented to the machine, said feed-board having a depression in its upper surface, of a tilting guard-wire pivotally supported above said feed-board, and having an arm extending over said depressed surface, and an arm extending into the path of the ballot as it moves over said feed-board, whereby said guard-wire is actuated.

4. The combination with a feed-board on which a ballot is presented to the machine, said feed-board having a depression in its upper surface, a pair of rolls by which a ballot is drawn over said feed-board, a tilting guard-wire pivoted above said feed-board and having an arm for depressing a ballot into the depression of the feed-board, and a second arm interposed into the path of a ballot as it is drawn from the feed-board.

5. The combination with a feed-board on which a ballot is presented to the machine, said feed-board having a depression in its upper surface, of a pair of rolls for drawing the ballot from the feed-board, of a tilting guard-wire pivoted above said feed-board having one arm extending over the upper surface of the feed-board, and a second arm extending downward into the path of the ballot as it is moved from the feed-board, and a pair of weighted ratchet-plates pivotally supported above the feed-board and arranged to bear on a ballot adjacent to the depressed surface of said feed-board.

6. The combination with a feed-board on which a ballot is presented to the machine, said feed-board having a depression in its upper surface, of means for depressing a ballot as it passes over said depressed surface and means for holding the ballot in contact with the feed-board adjacent to said depressed surface.

7. The combination with a feed-board on which a ballot is presented to the machine, said feed-board having a depression in its upper surface, of means for depressing a ballot as it passes over said depressed surface, means for pressing the ballot against the feed-board behind said depressed surface and intermediate means for lifting the ballot from the feed-board.

8. The combination with a feed-board on which a ballot is presented to the machine, of a pair of rolls for engaging the ballot to draw it from said feed-board, the rolls of said pair having corresponding grooves, and a series of rolls entering the grooves of said pair of rolls, a common shaft supporting said series of rolls and a swinging frame supporting said shaft, whereby said series of rolls are capable of a rising and falling motion.

9. The combination with a pair of grooved rolls for feeding a ballot into the machine, of a series of rolls normally entering the grooves in said feed-rolls, whereby they are raised by the passage of a ballot, a swinging frame carrying said series of rolls, a registering device and intermediate mechanism operatively connecting said registering mechanism and said swinging frame.

10. The combination with a pair of grooved feed-rolls, of a series of rolls entering the grooves of said feed-rolls, and capable of being lifted by the passage of a ballot, canceling characters carried by one of the rolls in said series and an ink-roll running in contact with said characters.

11. The combination with a feed-board having an opening and a grooved roll forming one of a pair of ballot-feeding rolls, of a series of rolls entering the grooves of said feed-roll and arranged to be lifted out of said grooves by the passage of a ballot, a swinging frame carrying said series of rolls, and a bent guard-wire carried by said swinging frame and adapted to be raised through the opening in said feed-board

12. The combination with a pair of feed-rolls, of a series of rolls adapted to be raised by the passage of a ballot, a common shaft carrying said rolls, a swinging frame carrying said shaft, means for limiting the downward movement of said frame, and a bent guard-wire carried by said swinging frame and arranged to be raised in front of said feed-rolls to prevent the passage of a second ballot while said rolls are in a raised position.

13. The combination of a pair of feed-rolls provided with corresponding grooves and a roll entering said grooves but capable of being moved out of said grooves by the passage of a ballot, canceling characters on said roll and an ink-roll running in contact with said characters.

14. The combination with a main rotating shaft and a pinion carried on said shaft, of a registering device, a swinging pawl-lever for actuating said registering device, and means for operatively connecting said pawl-lever with said pinion as determined by the passage of a ballot through the machine and consisting of a link pivoted to said pawl-lever, a rack carried by said link, a lever pivoted to the framework, a pin carried by said lever and extending beneath said rack, a swinging frame arranged to be raised by a passing ballot, and a link connecting said swinging frame and said pivoted lever.

15. The combination with a pair of grooved feed-rolls, of a swinging frame, a roll carried by said swinging frame and normally entering one of the grooved feed-rolls, and arranged to be raised by a passing ballot, a rotating pinion, a swinging rack, a pivoted lever, a pin carried by said pivoted lever and extending beneath said rack, a link connecting said pivoted lever and said swinging frame, a registering device, and means for operatively connecting said rack and said registering device.

16. The combination with a pair of feed-rolls, of a pinion carried on the shaft of one of the feed-rolls, a registering device comprising a swinging pawl-lever, a link pivoted to said pawl-lever, a rack carried by the end of said link and provided with a notch on its under side, a lever pivoted to the frame, a pin carried by said lever and arranged to support said rack, and means for rocking said lever to carry the rack into engagement with said pinion as determined by the passage of a ballot between said feed-rolls.

17. The combination with a rotatable pinion and a registering device, of a swinging rack operatively connected with said registering device and normally out of engagement with said pinion, a lever pivoted at one end to a supporting-framework, a pin projecting from said lever and supporting said rack, and means determined by the passage of a ballot through the machine for raising the free end of said lever to carry the rack into engagement with the pinion.

18. The combination with a rotatable pinion, and a registering device, of a swinging rack operatively connected with said registering device and normally out of engagement with said pinion, a lever pivoted at one end to a supporting-framework, a pin projecting from said lever and supporting said rack, means for raising the free end of said lever, determined by the passage of a ballot through the machine, to carry the rack into engagement with said pinion, a shoulder on said rack arranged to allow the rack to fall out of engagement with said pinion and engage said supporting-pin to hold said rack from longitudinal movement.

19. The combination with a rotatable pinion and a registering device, of a swinging rack operatively connected with said registering device and normally held out of engagement with said pinion, a lever pivoted at one end to a supporting-framework, a pin projecting from said lever and supporting said rack, means for raising the free end of said lever to carry the rack into engagement with said pinion, means for raising and lowering the free end of said lever determined by the passage of a ballot through the machine, a shoulder on said rack to engage the rack-supporting pin, and means for lifting the rack out of engagement with said pin.

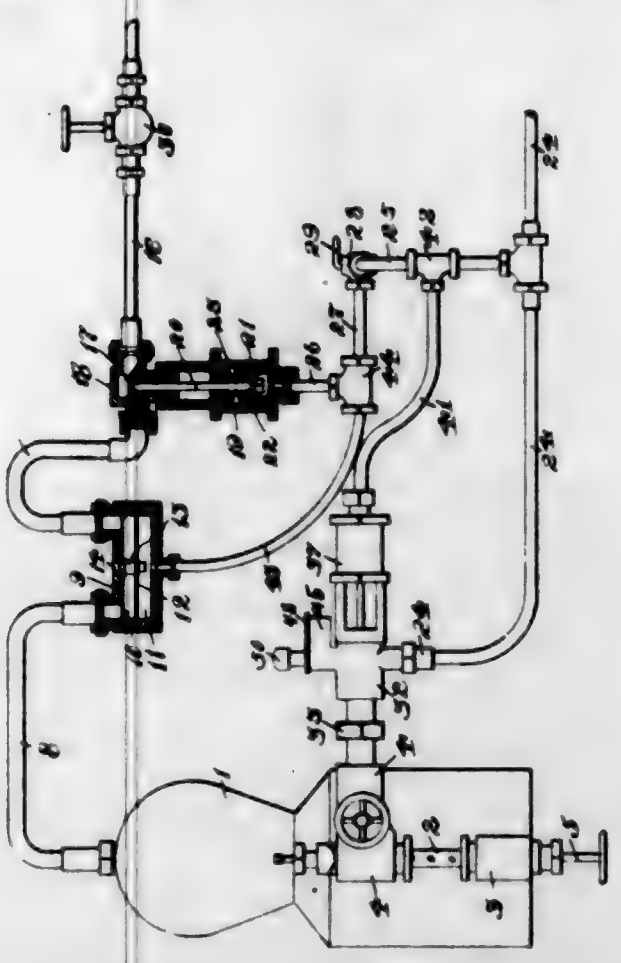
20. In an apparatus of the class described, the combination of a pair of grooved feed-rolls, a canceling-roll engaging a groove in said feed-rolls, a yielding inking-roll normally out of engagement with said canceling-roll, a shaft carrying said canceling-roll, movable bearings for said shaft, whereby said canceling-roll is capable of being moved into contact with said inking-roll.

807,883. LUBRICATOR. JAMES TROTTER, Sycamore, Ill., assignor of one-half to Albert J. Hopkins, Aurora, Ill., and James Brenan, Sycamore, Ill. Filed July 22, 1903. Serial No. 166,581.

Claim.—1. In a lubricator the combination with means for containing a supply of lubricant, a chamber containing fluid under pressure to be lubricated and a source of fluid-pressure, of a fluid-pressure regulator comprising two compartments having a movable abutment as a separator, a vent leading from one of said compartments and a valve for closing said vent operatively related to said abutment, means connecting said vented compartment with the said means for containing the supply of lubricant and also with said source of fluid-pressure, means connecting the other of said compartments with the chamber to be lubricated, and a lubricant feed or delivery passage leading from said lubricant-supply to the chamber to be lubricated.

2. In a lubricator the combination with a receptacle for lubricant, a chamber containing a fluid under pressure to be lubricated, and a source of fluid under pressure, of a fluid-pressure regulator

connected to both said source and receptacle and comprising means for reducing the pressure from said source in said receptacle, a valve interposed between said regulator and source, means for opening said valve by the pressure in the chamber to be lubricated and means for feeding the lubricant from said receptacle to the chamber to be lubricated.



3. In a lubricator the combination with a receptacle for lubricant, a chamber to be lubricated containing a fluid under pressure and a source of fluid-pressure, of a fluid-pressure regulator connected with said receptacle and source and comprising means for regulating the pressure in said receptacle coming from said source, a valve interposed between said pressure-regulator and source, means for opening said valve having connection with both said regulator and the chamber to be lubricated whereby the pressure in the chamber to be lubricated will open said valve and oppose the pressure from said source in said pressure-regulator, and means for conducting the lubricant from said receptacle to the chamber to be lubricated.

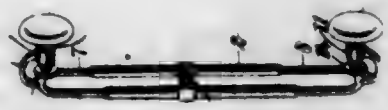
4. In a lubricator the combination with a receptacle for lubricant, a chamber to be lubricated containing fluid under pressure and a source of fluid under pressure, of a fluid-pressure regulator connected with said source and receptacle and comprising means for regulating the pressure in said receptacle coming from said source, a valve interposed between said regulator and source, a piston connected to said valve, a spring for holding said valve against its seat, a cylinder inclosing said piston and connected with said regulator and the chamber to be lubricated whereby the pressure from the chamber to be lubricated will act upon said piston and unseat said valve and will also operate said regulator, and means for conducting the lubricant from said receptacle to the chamber to be lubricated.

5. In a lubricator the combination with a receptacle for lubricant, a chamber to be lubricated containing fluid under pressure and a source of fluid under pressure, a connection between said source and receptacle, a pressure-regulator for controlling the pressure in said receptacle coming from said source, a feed-outlet for the lubricant from said receptacle, a valve for opposing the flow of the lubricant therefrom, a fluid-pressure abutment connected with said valve for opening it and exposed to the pressure in the chamber to be lubricated for opening said valve thereby and means for conducting the lubricant to the chamber to be lubricated when said valve is opened.

6. In a lubricator the combination with a receptacle for lubricant having a feed-outlet, a chamber to be lubricated containing fluid under pressure and a source of fluid under pressure, of means connecting said receptacle and source, a fluid-pressure regulator interposed in said connection for regulating the pressure in said receptacle coming from said source, a valve for opposing the discharge of lubricant from said feed-outlet, a fluid-pressure abutment connected with said valve for opening it, means for exposing said abutment to the pressure in the chamber to be lubricated, means connecting said fluid-pressure regulator with the chamber to be lubricated for opposing the pressure in said regulator coming from said source and means for delivering the lubricant which passes said valve to the chamber to be lubricated.

7. In a lubricator the combination with a receptacle for lubricant having a feed-outlet, a chamber to be lubricated containing fluid under pressure, and a source of fluid under pressure, of a connection between said lubricant-receptacle and said source, a fluid-pressure regulator interposed in said connection for regulating the pressure in said receptacle coming from said source, a valve interposed in said connection between said source and said regulator, a fluid-pressure abutment for opening said valve, exposed to the pressure of the chamber to be lubricated, a lubricant-delivery passage between said outlet and chamber to be lubricated, a valve for closing said passage, a fluid-pressure abutment exposed to the pressure in the chamber to be lubricated for opening said second valve and a connection between said regulator and the chamber to be lubricated for opposing the pressure in the lubricator coming from said source by the pressure in the chamber to be lubricated.

807,884. **STOCK-COLLAR DISTENDER.** GEORGE V. TUCKER and EDWARD B. AIGUIER, Newark, N. J., assignors to Richardson Manufacturing Company, Newark, N. J. Filed Oct. 2, 1905. Serial No. 281,012.



Claim.—1. A device for the purpose specified, comprising two tubular body portions, collar-engaging devices having sliding connection with said body portions, curved loops on the ends of said collar-engaging devices, and clamping-screws for operating in said loops.

2. A device for the purpose specified, comprising two tubular body portions, one of said body portions having right and left interior screw-threads, collar-engaging devices at the ends of the body members, each consisting of two connected sections, a section of each being screw-threaded for engaging with the thread in the tubular body member, the other member of one of the engaging devices being slidable in the other tubular body member, curved loops on the ends of said sliding devices, the said loops having tapped socket members, and clamping-screws engaging in said socket members and having enlarged inner ends.

3. A device for the purpose specified, comprising two tubular body members, a cross-bar rigidly connected to one of the body members and through which the other body member is slidable, the said slidable member being interiorly screw-threaded, substantially U-shaped collar-engaging devices, one member of each collar-engaging device being threaded to engage the thread within said slidable body member, loops on the ends of said sliding collar-engaging devices, and clamping-screws operating in said loops.

4. A device for the purpose specified, comprising members for engaging over the upper and lower edges of a stock, means for clamping said portions to the stock, and means for moving said portions toward and from each other.

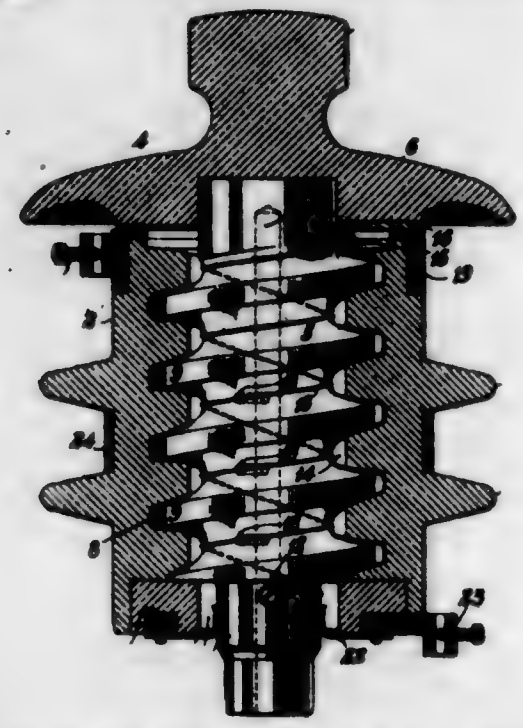
807,885. **THERMAL CUT-OUT.** THEODORE VARNEY, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Jan. 3, 1905. Serial No. 239,518.

Claim.—1. The combination with a cylinder having an internal screw-thread that extends substantially throughout its length, and end contact-terminals, of a screw-shaped member provided with a helical, fusible conductor and with end contact-terminals therefor which are adapted to engage the corresponding terminals of the cylinder when said member is in operating position.

2. The combination with a shell having an interior, helical groove and provided with contact-terminals adjacent to the ends of said groove, of a screw the threads of which are adapted to engage in the said helical groove and having end contact-terminals adapted to make frictional engagement with the shell contact-terminals.

3. A cut-out for electric circuits comprising a shell having an interior, helical groove and provided with contact-terminals adjacent to the ends of said groove, a fuse-supporting member having a screw adapted to engage the helical groove in said shell and provided with a cap at one end and with contact-terminals at or adjacent to its respective ends that make frictional engagement with the

shell contact-terminals when the fuse-supporting member is screwed into the shell.



4. A cut-out for electric circuits comprising a screw-shaped member having contact-terminals at or adjacent to its respective ends, a fusible conductor coiled around said member between the threads and having its ends attached to said contact-terminals, and a shell having an internal, helical groove with which the screw engages and provided with end contact-terminals.

5. A hollow, screw-shaped member having one or more lateral passages between its interior and exterior surfaces and provided with contact-terminals at or adjacent to its respective ends, a fusible conductor coiled around said member between the screw-threads and connected at its respective ends with said contact-terminals, and a shell having an interior, helical groove to receive the screw-threads of the fuse-supporting member and provided with end contact-terminals.

6. A cut-out for electrical circuits comprising a tubular, fuse-supporting member having an external screw-thread and one or more lateral passages between its interior and exterior and provided with contact-terminals at or adjacent to its respective ends, and an internally-screw-threaded shell having end contact-terminals and binding-posts.

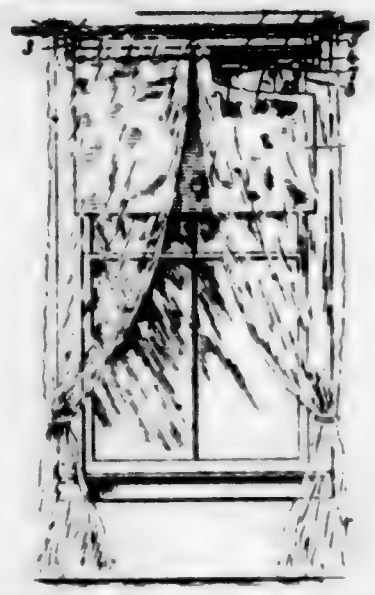
7. A cut-out for electrical circuits comprising a tubular, fuse-supporting member having an external screw-thread and a cap and provided with contact-terminals at or adjacent to its respective ends, in combination with a fusible conductor helically disposed between the screw-threads and attached at its ends to the contact-terminals, and a shell having an internal, helical groove to receive the screw-thread of the fuse-supporting member and provided with end contact-terminals.

8. In a cut-out for electrical circuits, the combination with an insulating-shell having an interior, helical groove and provided with end contact-terminals, of a tubular, fuse-supporting member having an exterior screw-thread adapted to engage the helical groove of the shell and provided with a cap that projects over and beyond the top of the shell, and a fusible conductor disposed in the form of a helix between the screw-threads and having its ends connected to contact-terminals located at or adjacent to the respective ends of the supporting member.

9. In a cut-out for electrical circuits, the combination with an insulating-shell having an internal screw-thread and provided externally with contact-terminals and with supporting means, of a tubular, fuse-supporting member of screw form to engage the internal screw-thread of the shell and having one or more lateral passages between its interior and exterior and provided with contact-terminals at or adjacent to its respective ends, and a fusible conductor helically coiled between the screw-threads and connected at its ends with the respective contact-terminals.

807,886. **WINDOW-SHADE FIXTURE.** GEORGE C. VERMASON, Binghamton, N. Y. Filed May 23, 1905. Serial No. 261,822.

Claim.—1. A window-shade fixture comprising duplicate hangers, duplicate brackets supported thereby, an extensible device connecting the brackets constructed of telescoping members, a sleeve and a set-screw for securing the same to one of the members, an operating-lever pivoted to the sleeve, and a link movably connecting the lever with the other of said members.

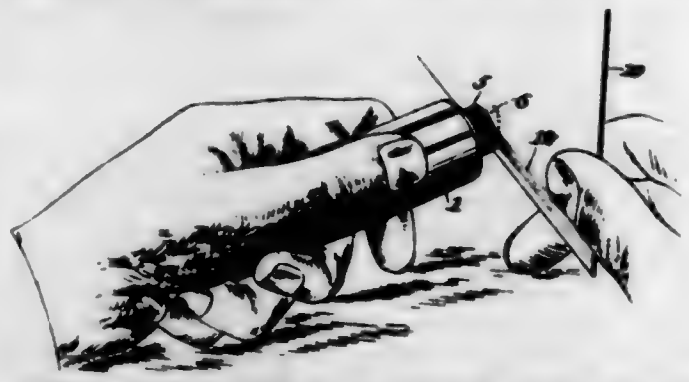


2. A window-shade fixture comprising duplicate hangers, duplicate brackets supported thereby, an extensible device connecting the brackets constructed of telescoping members, a sleeve and a set-screw for securing the same to one of the members, an operating-lever pivoted to the sleeve, and a link movably connecting the lever with the other of said members, the free end of said lever being bent to be carried beneath one of the telescoping members in the locked position of the latter.

3. A window-shade fixture comprising duplicate hangers having inwardly-extending portions, duplicate slides on said portions having set-screws, duplicate brackets rigid with the slides, an extensible device between the brackets constructed of telescoping members, a sleeve, and a set-screw for securing the same to one of said members, and means for locking the members of this device in the desired adjusted relations thereof to each other, embodying a swinging lever pivoted to the sleeve, and a link movably connecting the lever with the other of said members, the free end of said lever being bent to be carried beneath one of the telescoping members in the locked position of the latter.

4. A window-shade fixture comprising duplicate hangers having inwardly-extending portions, duplicate slides on said portions having set-screws, duplicate brackets rigid with the slides, an extensible device between the brackets constructed of telescoping members, a sleeve, and a set-screw for securing the same to one of said members, and means for locking the members of this device in the desired adjusted relations thereof to each other, embodying a swinging lever pivoted to the sleeve, and a link movably connecting the lever with the other of said members, the free end of said lever being bent to be carried beneath one of the telescoping members in the locked position of the latter, said hangers being provided with means for the support of a shade-roller.

807,887. **PASTING DEVICE.** HARRY H. WALKER, Ponca, Okla., assignor of one-half to Nathaniel M. Bankett, Ponca, Okla. Filed June 24, 1905. Serial No. 266,196.



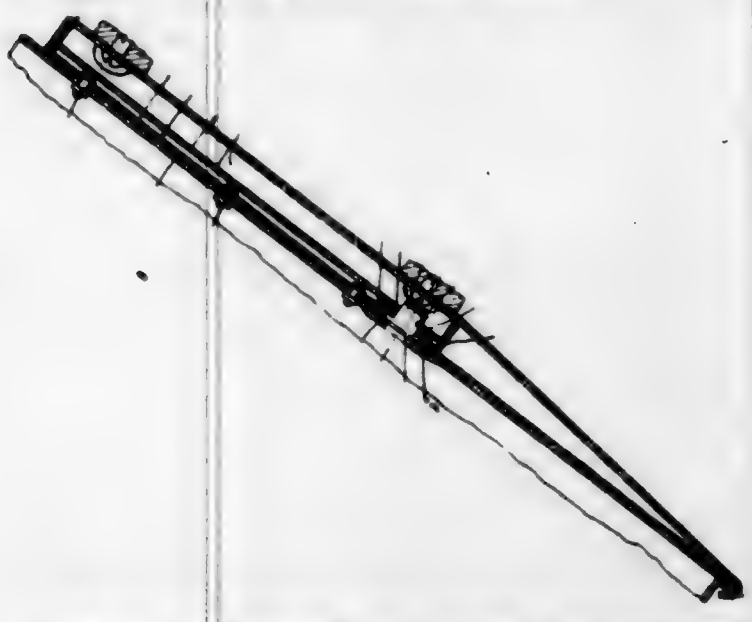
Claim.—1. A receptacle for an adhesive substance presenting an outlet-nipple, and a ring adjustably attached thereto, said ring having a tongue projecting across said nipple.

2. A receptacle for an adhesive substance having an opening, and a tongue projecting transversely of said opening, removed therefrom and constituting a guide, said tongue having an opening alining with said first opening and adapted to receive a stopper seating in said first opening.

3. A receptacle for an adhesive substance having a threaded nipple, and a threaded ring mounted on said nipple, said ring having

an integral tongue projecting across said nipple, said tongue having an opening alining with said nipple and adapted to receive a stopper seating in said nipple.

807,888. MAIL-BOX FASTENER. EMILUS F. WALLACE, Syracuse, N. Y. Filed Jan. 16, 1905. Serial No. 241,326.



Claim.—1. In combination with a mail-box having an opening in one side, a supporting-plate having sliding interlocking connection with the mail-box and provided with an opening registered with the former opening, a locking member hinged to one of the parts and movable into and out of said openings and a shoulder on the plate engaging and holding the mail-box separate from the locking member.

2. In combination with a mail-box and a supporting-plate having a shoulder on which the box rests, said box and plate having registered openings, and a locking member movable into and out of the openings and locking the box and plate against separate vertical movement.

3. In combination with a mail-box and a supporting-plate, one part having a dovetail groove and the other part having a dovetail rib fitting in the groove, said box and plate each having an opening registered with the other, a locking member pivoted to the box and swinging into and out of said openings and a shoulder on the plate on which the box rests to relieve the locking member from the weight of the box.

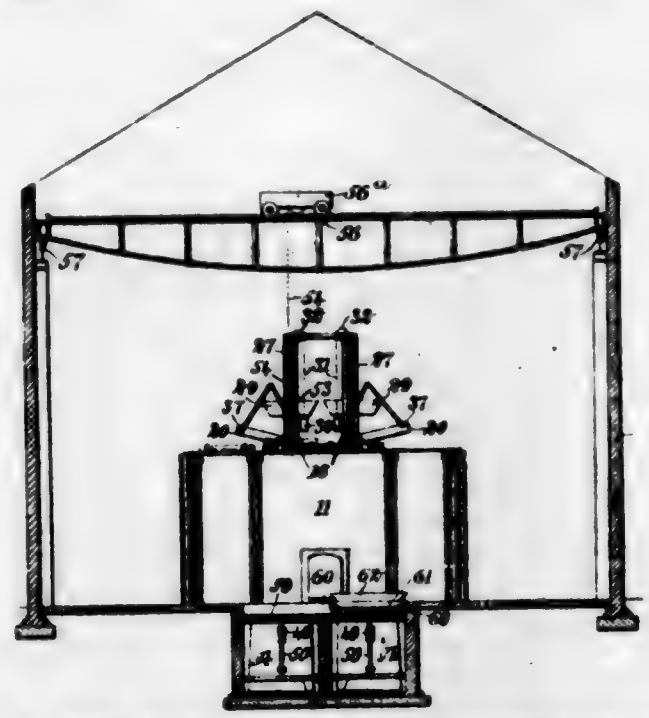
4. In combination with a mail-box and a supporting-plate, one part having a dovetail groove and the other part having a dovetail rib fitting in the groove, said box and plate each having an opening registered with the other, a locking member pivoted to the box and swinging into and out of said openings and a shoulder on the plate on which the box rests to relieve the locking member from the weight of the box, and ribs on the plate at opposite sides of the opening and projecting toward the box to conceal the locking member.

5. In combination with a mail-box and a supporting-plate, one part having a dovetail groove, and the other part having a dovetail rib fitting in the groove, said box and plate each having an opening registered with the other, a locking member pivoted to the box and swinging into and out of said openings and a shoulder on the plate on which the box rests to relieve the locking member from the weight of the box, and a hood projecting from the box over the top of the groove and rib.

6. In combination with a mail-box and a supporting-plate, one part having a dovetail groove, and the other part having a dovetail rib fitting in the groove, said box and plate each having an opening registered with the other, a locking member pivoted to the box and swinging into and out of said openings and a shoulder on the plate on which the box rests to relieve the locking member from the weight of the box and ribs on the plate at opposite sides of the opening and projecting toward the box to conceal the locking member, and a hood projecting from the box over the top of the groove and rib.

807,889. SYSTEM FOR THE DESTRUCTION OF REFUSE. GEORGE WATSON, Pool, near Leeds, and HENRY W. MASON, Wakefield, England, assignors to Horsfall Destructor Co., Limited, Leeds, England. Filed June 27, 1905. Serial No. 267,314.

Claim.—1. A system for the destruction of refuse, comprising a container, a furnace provided with a feed-opening, a door for closing the opening, a vertically-movable hopper above the opening for supporting the container, and connections between the hopper and the door whereby the movement of the hopper toward the door may first lift the same perpendicularly, and afterward move the same to one side.



2. A system for the destruction of refuse, comprising a furnace provided with a feed-opening, a door for closing the opening, a vertically-movable hopper above the opening, and connections between the hopper and the door, whereby the movement of the hopper toward the door may first lift the same perpendicularly and afterward move the same to one side.

3. A system for the destruction of refuse comprising a container having discharge-doors, a support for a plurality of containers coöperating with the doors to hold them closed for filling, a hopper movable over both of the containers, and a furnace to which the containers are transferred from the support and to which they deliver.

4. A system for the destruction of refuse, comprising a container, a furnace provided with feed-openings, a door for closing the opening, a carriage for supporting the door, a vertically-movable hopper above the opening for supporting the container, and connections between the hopper and the door, whereby the movement of the hopper toward the door may lift the same perpendicularly, and connections between the door and the carriage whereby the continued movement of the hopper may move the carriage to one side of the opening.

5. A system for the destruction of refuse comprising a container, a furnace provided with a feed-opening, a closure for the opening, a hopper situated above the opening and adapted to support the container, connections between the hopper and closure, and means for temporarily securing the container and hopper together.

6. A system for the destruction of refuse comprising a container, a furnace provided with a feed-opening, a closure for the opening, a hopper situated above the opening and adapted to support the container, connections between the hopper and closure, and a latch mounted upon the hopper and movable into engagement with the container.

7. A system for the destruction of refuse comprising a container, a furnace provided with a feed-opening, a closure for the opening, a hopper situated above the opening and adapted to support the container, connections between the hopper and closure, a latch mounted upon the hopper and movable into engagement with the container, and a stop situated in the path of the latch.

8. A system for the destruction of refuse comprising a container, a furnace provided with a feed-opening, a closure for the opening, a hopper situated above the opening and adapted to support the container, connections between the hopper and closure, a latch mounted upon the hopper and movable into engagement with the container, and stops situated at the opposite extremities of the path of the latch.

9. The combination with a furnace provided with an opening, of a carriage, a lever fulcrumed upon the carriage, and a door pivoted upon the lever.

10. The combination with a furnace provided with an opening, of a carriage, a lever fulcrumed upon the carriage, a support for the lever independent of the carriage, and a door pivoted upon the lever.

11. The combination with a furnace provided with an opening, of a member mounted above the opening and being movable toward and from said opening, a carriage, a door movable upon the carriage, and connections between the member and door.

12. The combination with a furnace provided with an opening, of a member mounted above the opening and being movable toward and from said opening, a container supported by said member, a carriage, a door movable upon the carriage, connections between the member and door, and a latch on said member coöperating with the container.

13. The combination with a furnace provided with an opening, of a member mounted above the opening and being movable toward and from said opening, a container supported by said member, a carriage, a door movable upon the carriage, connections between the member and door, a latch coöperating with the member, and relatively fixed stops for contact with the latch on said member.

14. The combination with a furnace provided with an opening, of a member mounted above the opening and being movable toward and from said opening, a carriage, a door movable upon the carriage, a guide pivoted upon the member, and a link movable through the guide, said link being connected with the door and with a relatively fixed point.

15. The combination with a furnace provided with an opening, of a member mounted above the opening and being movable toward and from said opening, a carriage, a lever fulcrumed upon the carriage, a door pivoted to the lever, a guide pivoted upon the member, and a link movable through the guide, said link being connected with the lever and with a relatively fixed point.

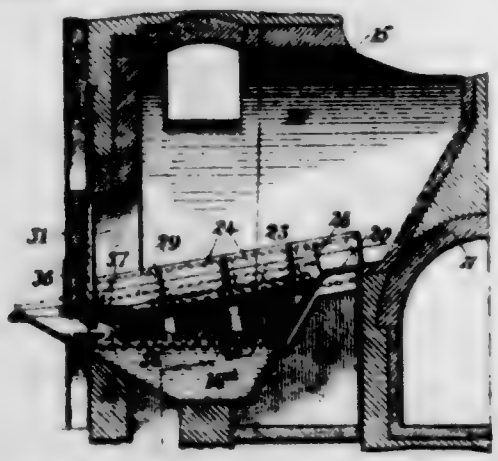
16. The combination with a furnace provided with an opening, of a member mounted above the opening and being movable toward and from said opening, rails situated adjacent to the opening, a wheeled carriage operating upon the rails, a door movable upon the carriage, and connections between the member and door.

17. The combination with a furnace provided with an opening, of a carriage, a lever fulcrumed upon the carriage and having a roll, a track over which said roll operates, and a door pivoted upon the lever.

18. The combination with a furnace provided with an opening, of a carriage, a lever fulcrumed upon the carriage and having a roll, a track having a depression over which said roll operates, and a door pivoted upon the lever.

19. A container comprising side walls, doors hinged upon the bottom of the walls at opposite sides, guide-rods fixed to the walls, attaching devices movable upon the guide-rods, and flexible members connecting the attaching devices and doors.

807,890. **FURNACE.** GEORGE WATSON, Pool, near Leeds, and HENRY W. MASON, Wakefield, England, assignors to Horsfall Destructor Co., Limited, Leeds, England. Filed June 27, 1905. Serial No. 267,315.



Claim.—1. A furnace provided with draft-boxes located in the side walls of the furnace and having portions extending below the grate, the portions below the grate being adapted to contain water and provided with openings in communication with the ash-pit, and a conduit connected with the said boxes.

2. A furnace provided with draft-boxes located in its side walls and having portions projecting below the grate, the portions below the grate being adapted to contain water and provided with openings in communication with the ash-pit, a conduit connected with the boxes, and a valve controlling the communication between the conduit and each box.

3. A furnace having an arch and provided with draft-boxes having upper and lower communicating sections and located in the side walls below the base of the arch with the lower section projecting below the grate, said lower section being adapted to contain water and provided with openings in communication with the ash pit, a conduit connected with the upper sections of the boxes, and a valve for controlling the communication between the conduit and the upper section of each box.

4. A furnace having an arch and provided with inclined draft-boxes having upper and lower communicating sections and located in the side walls below the base of the arch, the upper sections having inclined inner walls and the lower sections projecting below the grate and provided with openings in communication with the ash-pit, said lower section being adapted to contain water, a conduit connected with the upper sections of the boxes, and valves for controlling communication between the conduit and the upper sections of the boxes.

5. A furnace comprising a grate, a draft-box, and an ash-pit situated below the grate and into which the draft-box opens, said draft-box and ash-pit being adapted to contain liquid.

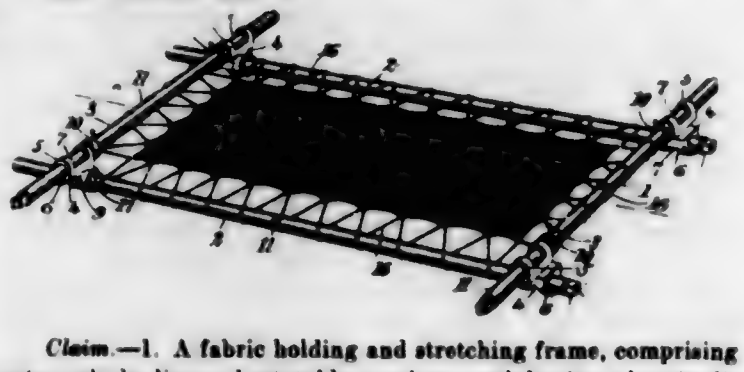
6. A furnace comprising a grate, a draft-box situated adjacent thereto and projecting below the same, and an ash-pit into which the draft-box opens, said ash-pit and draft-box being adapted to contain liquid.

7. A furnace comprising a grate, a draft-box projecting below the grate, an ash-pit situated below the grate and into which the draft-box opens, said ash-pit and draft-box being adapted to contain liquid, the ash-pit having an opening above the liquid-level, and a member extending below the liquid-level between the grate and the opening from the ash-pit.

8. A furnace having an arch and provided with draft-boxes having upper and lower communicating sections and located in the side walls below the base of the arch with the lower sections projecting below the grate and in communication with the ash-pit, the upper section having inclined inner upper walls, removable plates on the inclined walls of the upper section and connecting the base of the arch with the grate, and a conduit in communication with the said boxes.

9. A furnace provided in its side walls with draft-boxes, each box having an overhanging portion at its inner end and divided into upper and lower sections by a partition extending from the overhanging portion and terminating short of the outer end of the box, a valve hinged to one side of the upper section adjacent to the overhanging portion of each box, rods secured to the valves and extending out through the front of the furnace, and a conduit communicating with the overhanging portions of said boxes.

807,891. **FRAME FOR HOLDING AND STRETCHING FABRICS.** MURDOCK A. WEATHERS, Manchester, N. H. Filed June 20, 1905. Serial No. 266,119.



Claim.—1. A fabric holding and stretching frame, comprising rectangularly-disposed rotatable members, each having a longitudinal groove therein, and formed at intervals of its length with openings leading to said groove, bearing-blocks at the intersections of the members, each having on each inner face thereof a projection, sleeves on the members, each having teeth for engaging with one of said projections, and each also having a rib working in the groove of the member with which the sleeve is associated, and pins adapted to said openings for holding the sleeves of each member in place.

2. A fabric holding and stretching frame, comprising rectangularly-disposed members, each having a longitudinal groove therein, bearing-blocks at the intersections of the members, each having bearings disposed at right angles to each other, and each of said bearings having at its inner end a shoulder, sleeves on the members, having ribs working in the grooves thereof, means on each sleeve for engaging with the shoulder adjacent thereto, means for holding each sleeve in place, and means whereby the edges of a fabric may be fastened to said members.

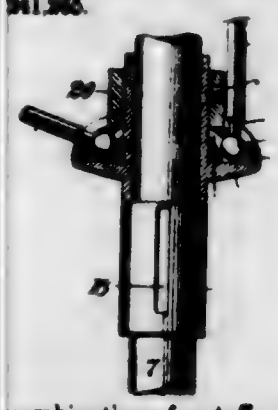
3. A fabric holding and stretching frame, comprising rectangularly-disposed members, each having a longitudinal groove therein,

and one or more tubular sections fitting upon each member, having at one of the longitudinal edges thereof a lip extending within the groove of the member, its other longitudinal edge overlapping the first and formed with hooks.

4. A fabric holding and stretching frame, comprising rectangularly-disposed rotatable members, each having a longitudinal groove therein, and formed at intervals of its length with openings leading to said groove, bearing-blocks at the intersections of the members, each having on each inner face thereof a projection, sleeves on the members, each having teeth for engaging one of said projections, and each also having a rib working in the groove of the member with which the sleeve is associated, pins adapted to said openings for holding the sleeves of each member in place, and means for attaching a fabric to said members.

5. A fabric holding and stretching frame, comprising rectangularly-disposed members, each having a longitudinal groove therein, bearing-blocks at the intersections of the members, each having bearings disposed at right angles to each other, and each of said bearings having at its inner end a shoulder, sleeves on the members, having ribs working in the grooves thereof, means on each sleeve for engaging with the shoulder adjacent thereto, means for holding each sleeve in place, and lacings for fastening the edges of a fabric to said members.

807,892. **UMBRELLA.** JOSEPH C. WESTERFIELD, Belleville, N. J., assignor of one-half to James Nicholson, Belleville, N. J. Filed Jan. 16, 1905. Serial No. 241,265.



Claim.—1. The combination of a staff, a notch mounted thereupon, a rib pivotally connected with said notch and adapted to swing radially outward therefrom, a fastening mounted upon said rib and provided with flat semicircular lobes of spring metal, said lobes terminating in arcuate flanges forming abrupt angles with said lobes, and a stretcher provided with a ball-head disposed intermediate of said semicircular lobes.

2. The combination of a rib, a stretcher provided with a ball-head to be connected with said rib, and a fastening mounted upon said rib and provided with flat lobes of spring metal disposed parallel with each other and adapted to spring apart when said ball-head is forced into a position intermediate of said lobes, each of said lobes being provided with a semicircular flange disposed at an abrupt angle relatively thereto, said flanges being adapted to spring apart.

3. The combination of a rib, a stretcher provided with a ball-head to be connected with said rib, and a fastening connected with said rib and provided with flat spring-lobes of sheet metal having oppositely-disposed inwardly-projecting flanges of semicircular form for preventing the removal of said ball-head from said fastening.

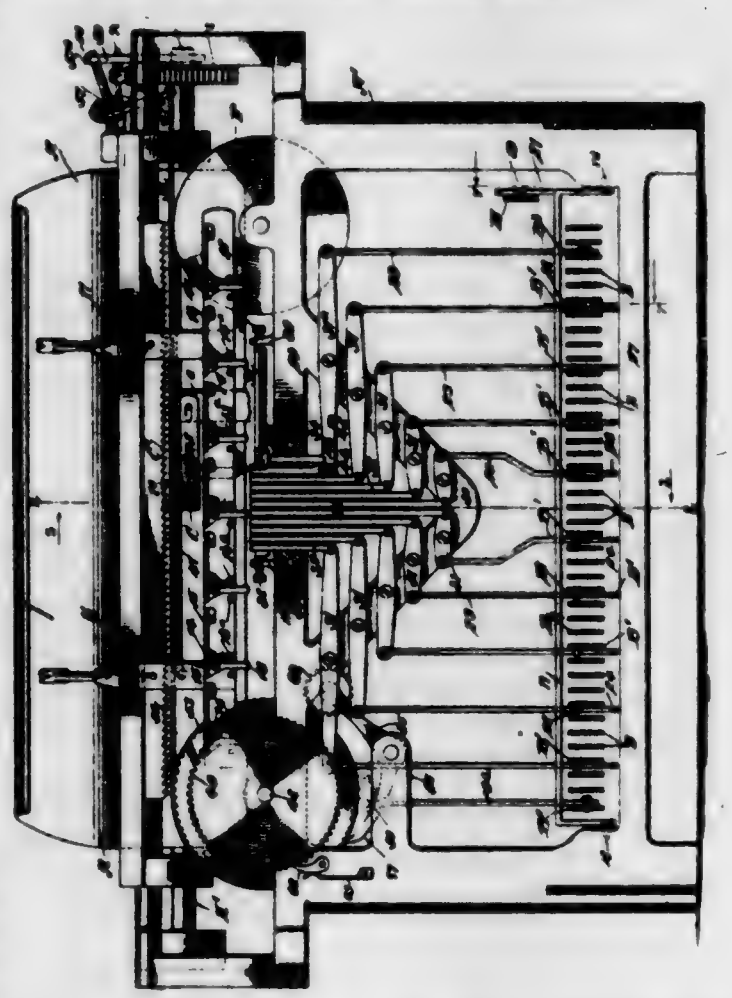
4. The combination of a rib, a stretcher provided with a ball-head to be connected with said rib, and a fastening mounted upon said rib and provided with flat semicircular lobes of spring metal each having a semicircular flange integral therewith, said semicircular flanges being disposed oppositely to each other so as to partially encircle said ball-head.

5. The combination of a runner-sleeve provided with an annular flange, a spider slidably mounted upon said runner-sleeve and provided with a collar encircling the same, means for rendering said collar rigid relatively to said sleeve, and a stretcher provided with a ball-head, said ball-head being disposed intermediate of said annular flange and said runner-sleeve.

6. The combination of a rib, a flat member of spring metal bent upon itself so as to form two lobes parallel with each other, said lobes terminating in semicircular edges bent inwardly at a sharp angle and adapted to spring apart to admit a ball-head therebetween, and a longitudinal member provided with a ball to be inserted intermediate of said lobes and with a neck to be inserted intermediate of said semicircular edges.

7. The combination of a rib, a flat member of sheet metal bent upon itself so as to form two semicircular lobes disposed parallel to each other, said lobes terminating in semicircular edges bent abruptly inward at a right angle relatively thereto, and adapted to spring apart to admit a ball-head therebetween, and a stretcher provided with a ball intermediate of said lobes and with a neck to be inserted intermediate of said semicircular edges.

807,893. **TABULATING ATTACHMENT FOR TYPE-WRITERS.** JACOB C. WOLFE, New York, and EDWIN W. MORTON, Whiteplains, N. Y.; said Morton assignor of forty-five one-hundredths of his right to said Wolfe. Filed Oct. 28, 1899. Serial No. 735,096.



Claim.—1. A stop device for the carriage of a type-writing machine, and character or printing keys controlling the movement of the said carriage relative to said stop device, and means for temporarily preventing said keys from printing.

2. A pivoted stop device for the carriage of a type-writing machine, and means for limiting the lateral or sidewise movement of the said stop device, character or printing keys, and gage-bars controlled by the said character or printing keys, and adapted to extend in the path of the stop when the carriage is in action.

3. A series of gage members, a carriage, a series of stops mounted thereon, means for limiting the movement of the stops in opposite directions, said stops having sufficient lateral and sidewise movement to cause the carriage to pause at the same point when a certain stop engages with a certain gage member and means for bringing said stops into coöperative action with said gage members.

4. A series of gage members, a carriage, a series of stops having lateral or sidewise movement, mounted on the carriage and having such relation to the gage members that when the carriage is in action it is caused to pause at the same point when a certain stop engages with a certain gage member and means for actuating said gage members.

5. A series of gage members, a carriage, a series of stops, and means for causing a lateral or sidewise coöperation between the said parts, causing the carriage to pause at the same point when a certain stop engages a certain gage member, either at the advance or at the return movement of the carriage.

6. The carriage of a type-writing machine provided with stop devices, and the numeral-keys of the machine connected to operate the stop devices and means for preventing said keys from printing.

7. A carriage for type-writing machines, stops located upon the carriage, gage-bars capable of extending in the path of the stops and arranged to limit the movements of the stops and carriage, and character producing or printing keys arranged to operate the gage-bars, as set forth.

8. A carriage for a type-writing machine, an escapement for the

carriage, a character-printing key-lever, a gage member operated by said lever, a horizontal projection from the gage member, and a trip for the escapement, operated by the projection from the gage member.

9. A carriage for type-writing machines, a series of stops upon the carriage, having points which extend in the same vertical plane as the gage-marks upon the scale of the carriage, numeral-printing keys, a series of gage members operated by the said numeral-printing keys, and a trip device for the escapement of the carriage influenced by the said gage members.

10. A carriage for type-writing machines, a series of pivoted stops upon the carriage, the center of the pivots of the said stops being in the same vertical plane with the gage-marks upon the scale of the carriage, numeral-keys, and a series of gage members operated by the said keys, adapted to be carried into or away from the path of the said stops, a line drawn longitudinally through the gage members being in the same vertical plane with the center of the pivot of a stop when carried over a gage member, as described.

11. A carriage for type-writing machines, a series of pivoted stops upon the carriage, the center of the pivots of the said stops being in the same vertical plane with the gage-marks upon the scale of the carriage, numeral-keys, a series of gage members operated by the said keys, adapted to be carried into or away from the path of the said stops, a line drawn longitudinally through the gage members being in the same vertical plane with the center of the pivot of a stop when carried over a gage member, and a trip device for the escapement of the carriage, operated by the movement of said gage members, as set forth.

12. A carriage for type-writing machines, a series of pivoted stops upon the carriage, numeral or printing keys, and a series of gage members operated by said keys, adapted to be carried into or away from the path of the said stops, a line drawn longitudinally through a gage member being in the same vertical plane with the center of the pivot of a stop carried over the gage member, as described.

13. A carriage for type-writing machines, a series of stops pivoted upon the carriage, pins located at each side of each stop, limiting the lateral or sidewise movement of the same, each stop being provided with a tension device and having a point which extends in the same vertical plane with the gage-marks on the carriage-scale, the distance between the said points of opposing stops corresponding to the distance between the initial and final gage-marks of a division of a scale, gage members arranged to move in the path of the stops, and a trip for the escapement of the carriage, operated by the gage-bars.

14. A carriage for type-writing machines, a series of stops upon the carriage, having points which stand in the same vertical plane with the gage-marks on the carriage-scale bar, the distance between the said points or opposing stops corresponding to the distance between the initial and final gage-marks of a division of a scale, gage members arranged to move in the path of the stops, a trip for the escapement of the carriage, key-levers, actuating mechanism connected with the gage members, each mechanism including shifting-bars, a projection from the key-levers, adapted for engagement with the said shifting-bars, and a shifting frame arranged to carry the shifting-bars to or from the path of the projections from the said key-levers, as specified.

15. A carriage for type-writing machines, a series of stops pivoted upon the said carriage, the pivot-points of the stops being in vertical alinement with the gage-marks on the scale-bar of the carriage, limiting-pins located at each side of the said stops, tension devices normally holding the stops centrally between the said limiting-pins, gage-bars, key-levers from which the said gage-bars are operated, the gage-bars being adapted to be carried into or away from the path of the stops, as the carriage moves, shifting devices for disconnecting the key-levers from the said gage-bars when necessary, and a release for the carriage operated from the said gage-bars, as set forth.

16. A carriage for type-writing machines, a series of stops pivoted upon the carriage, tension devices normally holding the stops in a vertical position, limiting projections located equidistant from the sides of the stops when the stops are in their normal position, a series of gage-bars arranged to have vertical movement to and from the said carriage and to be brought in the path of the stops as the carriage moves, each of the gage-bars being independent of the other, key-levers, lever connections between the key-levers and the gage-bars, and a releasing device for the carriage, arranged to be operated by the movement of either of the gage-bars.

17. A carriage for type-writing machines, a series of stops pivoted upon the carriage, tension devices normally holding the stops in a vertical position, limiting projections located equidistant from the sides of the stops when the stops are in their normal position, a series of gage-bars arranged to have vertical movement to and from the said carriage and to be brought in the path of the stops as the carriage moves, each of the gage-bars being independent of the other, key-levers, lever connections between the key-levers and the gage-bars, a releasing device for the carriage, arranged to be operated by the movement of either of the gage-bars, and a shifting mechanism arranged to bring any of the gage-bars in position to be operated upon by a key-lever, the said shifting mechanism in its normal position maintaining the said gage-bars from being acted upon by the said levers, as described.

18. In a tabulating attachment for type-writing machines, a carriage, means for moving the said carriage upon a suitable frame, stops pivoted upon the carriage at its rear, the center of the pivot-points of the stops being in vertical alinement with the gage-marks on the scale of the carriage, limiting-pins at each side of each stop and tension devices arranged to normally hold the stops centrally between the limiting-pins, a series of gage-bars grouped together at the central portion of the frame beneath the said stops, each gage-bar being capable of independent movement to and from the path of the stops, the vertical center of each gage-bar when beneath a stop being in vertical alinement with the center of the pivot of the stop, key-levers, actuating-levers connected with the said gage-bars, shifting-bars connected with the said levers, and a key-operated shifting mechanism arranged to bring the shifting-bars in a position to be acted upon by the key-levers or to hold the said shifting-bars out of operative range of the said key-levers, as specified.

19. In a tabulating attachment for type-writing machines, the combination, with a carriage, stops pivoted upon the said carriage limiting-pins located at each side of each stop, tension devices arranged to hold the stops centrally between their limiting-pins, an escapement for the carriage, a rock-shaft, and a connection between the rock-shaft and the escapement, of means for actuating the carriage, a series of gage-bars grouped centrally in the frame of the machine beneath the said stops, each gage-bar having independent vertical movement, projections from the gage-bars, adapted for actuating engagement with the rock-shaft, actuating-levers connected with the said gage-bars, key-levers having projections therefrom, shifting-bars pivoted to the actuating-levers, each shifting-bar being provided with a head arranged for engagement with a projection from a key-lever, and a key-operated shifting mechanism controlling the movement of the shifting-bars to and from the projections of the key-levers.

20. In a type-writing machine, a carriage, stops mounted for lateral or sidewise movement upon the carriage, a check mechanism arranged to act in conjunction with the stops to limit the movement of the carriage within desired points, and numeral or printing levers arranged for actuating the check mechanism.

21. In a type-writing machine, a carriage, a spring-controlled drum in connection with the carriage and adapted to automatically move the carriage to the left, a second drum arranged to move the carriage to the right, the latter drum being of greater power than the former, means for bringing the right-hand drum into action and normally maintaining it out of action, stops mounted upon the carriage, and a check mechanism arranged to limit the movement of the carriage within desired bounds.

22. In a type-writing machine, a carriage, a spring-controlled drum in connection with the carriage, adapted to automatically move the carriage to the left, a second drum arranged to move the carriage to the right, the latter drum being of greater power than the former, means for bringing the right-hand carriage-shifting device into action and for normally maintaining it out of action, and mechanism substantially as described, for turning the paper-roll the distance of the space between lines when the right-hand shifting device is in action, stops mounted upon the carriage, and a check mechanism arranged to limit the movement of the carriage within desired bounds.

23. In a type-writing machine, the combination, with the frame, a carriage mounted upon the frame, and a drum arranged to move the carriage to the left, of a stronger spring-drum connected with the carriage and adapted to move the same to the right, a check for the spring-drum, a key-lever operatively connected with the check, stops mounted upon the carriage, and a check mechanism arranged to limit the movement of the carriage within desired bounds.

24. In a type-writing machine, the combination, with the frame, a carriage mounted upon the frame, and a drum arranged to operate the carriage to the left, of a device for returning the carriage to the right, which device comprises a spring-drum provided with periph-

eral teeth, and an auxiliary peripherally-toothed drum independent of the main drum, a cord wound around the auxiliary drum and connected with the carriage, an angle-lever mounted upon a fixed support, provided with a pinion at one end adapted to engage with the teeth of both of the said drums, the pinion being normally out of engagement with the said teeth, the said angle-lever having a pawl at its opposite end normally in engagement with the teeth of the spring-drum, and means for operating the said lever, whereby when the pawl is out of engagement with the spring-drum the ratchet-wheel is carried in engagement therewith and also with the auxiliary drum.

25. In a type-writing machine, a carriage, stops on the carriage, having lateral or sidewise movement, checks adapted to extend in the path of the stops, the checks and stops being so arranged that the carriage can be stopped at the same point relative to the scale, and with the same stop, whether moved to the right or to the left and means for actuating said checks.

26. The combination of means for producing or printing characters, a set of character-keys for operating the said means, said characters and the platen or part against which they act to produce or print the respective characters having relative lateral movement, a set of stops arranged at certain intervals along the range of the said relative lateral movement, a set of gage members connected with and operated by certain of said character-keys and adapted to coöperate with any selected stop at will, and means for preventing the production or printing of the character controlled by each of the said gage-controlling keys while actuating or setting its gage, substantially as described.

27. The combination of means for producing or printing characters, a set of character-keys for operating said means, the said characters and the platen or part against which they act to produce or print the respective characters having relative lateral movement, a movable gage connected with and operated by each of the numeral-keys of said set and adapted to coöperate with any selected stop at will, and means for preventing the production or printing of the character controlled by each of said gage-controlling keys while actuating or setting its gage, substantially as described.

28. The combination of means for printing or producing characters, a platen or part against which said means act to produce said characters, said characters and said platen or part having a relative lateral movement, operating-keys for actuating the numeral characters, a gage or positioning device actuated by each of said numeral-keys for positioning said characters and platen or part in their relative lateral movement in accordance with the ordinal value of said numeral-keys respectively, substantially as described.

29. The combination of means for printing or producing characters, a platen or part against which said means act to produce said characters, said characters and said platen or part having a relative lateral movement, operating-keys for actuating the numeral characters, a gage or positioning device actuated by each of said numeral-keys for positioning said characters and platen or part in their relative lateral movement in accordance with the ordinal value of said numeral-keys respectively, and means for preventing the production or printing of the character controlled by each of said gage-controlling keys while actuating or setting its gage, substantially as described.

30. The combination of a type-writing machine provided with operating-keys including the usual numeral-keys, a platen or part against which the printing characters act, said characters and platen or part having a relative lateral movement, a gage or positioning device actuated by each of said numeral-keys for positioning said characters and platen or part in their relative lateral movement in accordance with the ordinal value of said numeral-keys respectively, substantially as described.

31. The combination of a type-writing machine provided with operating-keys including the usual numeral-keys, a platen or part against which the printing characters act, said characters and platen or part having a relative lateral movement, a gage or positioning device actuated by each of said numeral-keys for positioning said characters and platen or part in their relative lateral movement in accordance with the ordinal value of said numeral-keys, and means for preventing the production or printing of the character controlled by each of said gage-controlling keys while actuating or setting its gage, substantially as described.

32. The combination of a type-writing machine provided with operating-keys, a platen or part against which the writing characters act, said characters and platen or part having a relative lateral movement, a set of non-adjustable stops arranged at intervals over the range of said lateral movement, a gage or positioning device actuated by each of said numeral-keys for positioning said characters and platen or part relative to any selected one of said stops in accordance with the ordinal value of said numeral-keys respectively, substantially as described.

33. The combination of a type-writing machine provided with operating-keys including the usual numeral-keys, a platen or paper-carriage having an advance lateral movement to effect the printing of a line, and a return lateral movement, one or more stops or positioning devices for stopping said platen or carriage at a certain point or points in either direction of its traverse, a gage or positioning device actuated by each of said numeral-keys and adapted to coöperate with each and any one of said stops and serving to position said platen or carriage in its advance movement relatively to the selected stop in accordance with the ordinal value of said numeral-keys respectively, substantially as described.

34. The combination with means for producing or printing characters, a set of character-keys for operating said means, said characters and the platen or part against which they act to produce or print the respective characters having relative lateral movement, one or more intermediate stops, each one of certain of said character producing or printing keys having a gage controlled thereby and each gage adapted to coöperate with any one of said selected stops, the said gage-controlling character-keys each acting in setting their respective gages to relatively shift said platen and characters independently of the ordinary shifting of said parts effected in producing or printing and spacing said characters, substantially as described.

35. The combination with a type-writing machine provided with type and a platen and means for relatively moving the same for character-spacing, a set of character-keys for actuating said type to print, tabulating mechanism controlling said character-spacing means and rendering it inoperative when said mechanism is actuated, said tabulating mechanism serving to relatively move said type and platen and bring the same to rest at various different points of their range of relative movement, the said different points of rest being each controlled by a character-key, and means for preventing the character-key from causing its type to print whenever such character-key is actuated to control the spacing, substantially as and for the purpose set forth.

36. The combination with a type-writing machine provided with type and a platen, a set of character-keys for actuating said type to print, a device for relatively shifting said type and platen for character-spacing and the same controlled by each of said character-keys, tabulating mechanism also connected with and controlling said device for character-spacing and comprising means for effecting a movement of one or more character-spaces, according to the character-key operated, certain of said character-keys being connected with and controlling the tabulating mechanism and each causing the same to produce a different number of character-spaces, substantially as and for the purpose set forth.

37. The combination with a type-writing machine provided with type and a platen and means for relatively moving the same for character-spacing, a variable-spacing tabulating mechanism, a set of character-keys for actuating said type to print and certain keys thereof being adapted to both control the said tabulating mechanism to set the same and to subsequently print its character, substantially as and for the purpose set forth.

38. In a type-writing machine, the combination of printing mechanism, a series of keys therefor, tabulating mechanism normally disconnected from said keys, and means for operatively connecting the tabulating mechanism with said keys.

39. In a type-writing machine, the combination of printing mechanism, a series of keys for operating said printing mechanism, tabulating mechanism adapted also to be operated by said printing-keys, and means for preventing the printing operation of said keys when they are employed to operate the tabulating mechanism.

40. In a type-writing machine, the combination of printing mechanism, a series of keys for actuating said printing mechanism, tabulating mechanism, and means for shifting said tabulating mechanism into and out of operative relation with said printing-keys.

41. In a type-writing machine, the combination of a carriage, printing mechanism, printing-keys for said printing mechanism, tabulating mechanism, means for releasing said carriage, said tabulating and releasing mechanisms being controlled by the printing-keys, the construction and arrangement being such that the printing-keys may be employed either to effect the printing operations or merely to effect the tabulating operations.

42. In a type-writing machine, the combination of printing mechanism, printing-keys therefor, and denominational tabulating mechanism controlled by said printing-keys, the construction and arrangement being such that the printing-keys may be employed either to effect the printing operations or merely to effect the tabulating operations.

43. In a type-writing machine and tabulating mechanism, the combination of a carriage, printing instrumentalities, printing-keys therefor, and means for arresting the carriage at a predetermined point, said arresting means being controlled by the said printing-keys, the construction and arrangement being such that the printing-keys may be employed to effect the printing operations or may be employed merely for the purpose of causing the arrest of the carriage at predetermined points.

44. In a type-writing machine and tabulating mechanism, the combination of a carriage, printing instrumentalities, printing-keys therefor, means for releasing the carriage, and means for arresting the carriage at a predetermined point, said releasing and arresting means being controlled by said printing-keys, the construction and arrangement being such that the printing-keys may be employed to effect the printing operations, or may be employed merely for the purpose of releasing the carriage and causing the same to be arrested at predetermined points.

45. In a type-writing machine and tabulating mechanism, the combination of a carriage, printing instrumentalities, printing-keys therefor, means for arresting the carriage at a predetermined point, said arresting means being controlled by the said printing-keys, and means for rendering said finger-keys ineffective to actuate said arresting means.

46. In a type-writing machine and tabulating mechanism, the combination of a carriage, printing instrumentalities, printing-keys therefor, means for releasing the carriage, means for arresting the carriage at a predetermined point, said releasing and arresting means being controlled by the said printing-keys, and means for rendering said printing-keys ineffective to actuate said arresting and releasing means.

47. In a type-writing machine and tabulating mechanism, the combination of a carriage, printing instrumentalities, printing-keys therefor, denominational stops, a column-stop, and means for moving said denominational and column stops one in the path of the other, the moving means being controlled by the said printing-keys.

48. In a type-writing machine and tabulating mechanism, the combination of a carriage, printing instrumentalities, printing-keys therefor, denominational stops, a column-stop, means for moving said denominational and column stops one in the path of the other, the moving means being controlled by the said printing-keys, and means for automatically effecting the release of the carriage through an actuation of said printing-keys.

49. In a type-writing machine and tabulating mechanism, the combination of a carriage, printing instrumentalities, printing-keys therefor, denominational stops, a column-stop, means for projecting said denominational and column stops one in the path of the other, the moving means being controlled by the said printing-keys, means for automatically effecting the release of the carriage through an actuation of said printing-keys, and means for rendering said printing-keys ineffective to actuate the projectable stop or stops and to release the carriage.

50. The combination in a type-writer, of a mechanism arranged beneath the type-writer keys and adapted to be actuated by the said type-writer keys, and an operative connection between the said mechanism and the type-writer carriage to arrest said carriage at a predetermined point and without effecting a printing operation.

51. In a type-writing machine, the combination of a carriage, carriage-feed mechanism, printing mechanism, printing-keys for said mechanism, tabulating mechanism independent of said carriage-feed mechanism, and means for releasing said carriage, said tabulating and releasing mechanisms being controlled by the printing-keys.

52. In a type-writing machine, the combination of printing mechanism, printing-keys therefor, letter-spacing mechanism, and denominational tabulating mechanism independent of the letter-spacing mechanism and controlled by said printing-keys.

53. In a type-writing machine and tabulating mechanism, the combination of a carriage, feed mechanism therefor, printing instrumentalities, printing-keys therefor, and means independent of the carriage-feed mechanism for arresting the carriage at a predetermined point, said arresting means being controlled by said printing-keys.

54. In a type-writing machine and tabulating mechanism, the combination of a carriage, carriage-feed mechanism, printing instrumentalities, printing-keys therefor, means for releasing the carriage, and means independent of the carriage-feed mechanism for arresting the carriage at a predetermined point, said releasing and arresting means being controlled by said printing-keys.

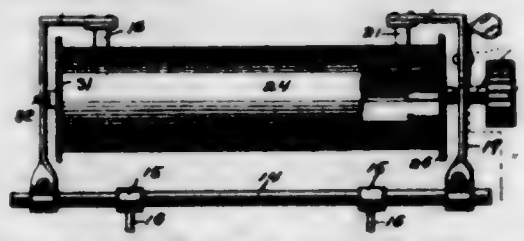
55. The combination with a type-writer, of a tabulator having an adjustable column-stop and mechanism arranged beneath the printing-keys of the type-writer to effect an actuation of the column-stop by a depression of said keys and to arrest the carriage at a predetermined columnar position determined by the adjustment of said tabulating-stop.

56. The combination with the keys and printing mechanism of a type-writer and a plurality of tabulating-stops for intercepting the movements of the carriage, and connections for operating said stops from the character-keys of the type-writer.

57. The combination with a type-writer, of a plurality of tabulating stops and connections for coupling the same to certain of the type-writer character-keys, and means for throwing the carriage-escapement out of action when any one of the said stops is rendered operative by a depression of one of the coupled keys.

58. The combination with a type-writer of a plurality of carriage-intercepting tabulating stops, stop-actuating connections involving coupling-heads for coupling the said stops to certain of the keys of the keyboard, and means for simultaneously moving said coupling-heads to and from coupling positions.

807,894. PAPER-HOLDER FOR TYPE-WRITERS. BENJAMIN D. WOOD and ROBERT M. MCCABE, Fort Dodge, Iowa. Filed Jan. 16, 1905. Serial No. 241,230.

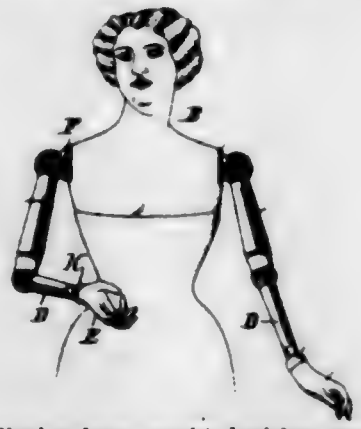


Claim.—1. A paper-roll holder for type-writers, comprising a frame designed for detachable connection with a type-writer carriage, a disk formed with a shaft on one side and with a series of spring-arms on its other side, a second disk formed with a shaft on one side, a hand-wheel on the shaft, and a series of spring-arms on the other side, said shafts detachably and rotatably connected with said frame, and spring-arms carried by the frame to engage a roll of paper supported by said disks.

2. A paper-roll holder for type-writers, comprising a frame designed for detachable connection with a type-writer carriage, a disk formed with a shaft on one side and with a series of spring-arms on its other side, a second disk formed with a shaft on one side, a hand-wheel on the shaft, and a series of spring-arms on the other side, said shafts detachably and rotatably connected with said frame, spring-arms carried by the frame to engage a roll of paper supported by said disks, and a keeper pivoted to the frame to secure one of the shafts to the frame.

3. An improved paper-roll holder for type-writers, comprising a rod, two projections fixed to the rod, two uprights fixed to the rod, flat springs fixed to said uprights, one of said uprights formed with a slot, a keeper pivoted to the upright adjacent to the slot and two disks each formed with a number of spring-arms on one face arranged in a circle with their ends inclined toward each other, one of the disks provided with a shaft on its face opposite from the spring-arms, and the other disk formed with a shaft on its face opposite from the spring-arms, and a hand-wheel on said shaft, for the purposes stated.

807,895. DISPLAY-FORM. WALDEMAR F. ALLERT, New York, N. Y. Filed June 29, 1905. Serial No. 267,517.



Claim.—1. A display-form provided with a support, a member comprising a plurality of parts, one of the parts being adjustably connected with the said support, the parts being flexibly connected

one with the other, and means acting in the longitudinal direction of the parts, whereby to loosen the parts or to draw the same tight.

2. A display-form provided with a support and a member comprising a plurality of parts, one of the parts being adjustably connected with the said support, the parts being flexibly jointed one with the other, and means for loosening the joints or drawing the same tight, the said means being manually controlled from the terminal member.

3. An adjustable member for a display-form, consisting of joined parts, and means for tightening or loosening the parts from the terminal of the member.

4. An adjustable member for a display-form, consisting of joined parts, a flexible connection for connecting the parts with each other, and means for tightening or loosening the said flexible connection.

5. An adjustable member for a display-form, consisting of joined parts, a flexible connection for connecting the parts with each other, and means for tightening or loosening the said flexible connection from one end of the said member.

6. An adjustable member for a display-form, comprising a plurality of joined hollow parts, a rope fixed at one end and extending through adjacent parts, and a tightening device connected with the loose end of the rope and controlled by the terminal part.

7. An adjustable member for a display-form, comprising a plurality of joined hollow parts, a rope fixed at one end and extending through adjacent parts, a tightening device connected with the loose end of the rope and controlled by the terminal part, and transverse pins on the joined ends of the parts.

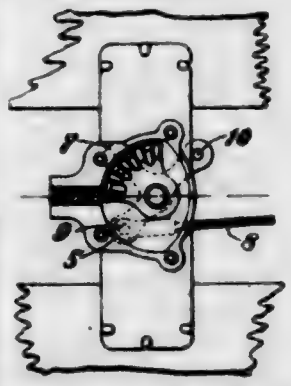
8. An adjustable member for a display-form, comprising a plurality of joined hollow parts, a rope fixed at one end and extending through adjacent parts, a tightening device connected with the lower end of the rope and controlled by the terminal part, and rubber sockets at the joints of the parts.

9. An adjustable member for a display-form, comprising a plurality of joined hollow parts, a rope fixed at one end and extending through adjacent parts, a nut secured on the loose end of the said rope, a screw-rod screwing in the said nut, and a handle pivoted on the said screw-rod for turning the latter.

10. An adjustable member for a display-form, comprising a plurality of joined hollow parts, a rope fixed at one end and extending through adjacent parts, a nut secured on the loose end of the said rope, a screw-rod screwing in the said nut, and a handle pivoted on the said screw-rod for turning the latter, the said handle having means for supporting the terminal part of the member

11. An adjustable member for a display-form, comprising a plurality of joined hollow parts, a rope fixed at one end and extending through adjacent parts, a nut secured on the loose end of the said rope, a screw-rod screwing in the said nut, and a handle pivoted on the said screw-rod for turning the latter, the said handle carrying the terminal part of the member and having a ball-and-socket connection with the adjacent part.

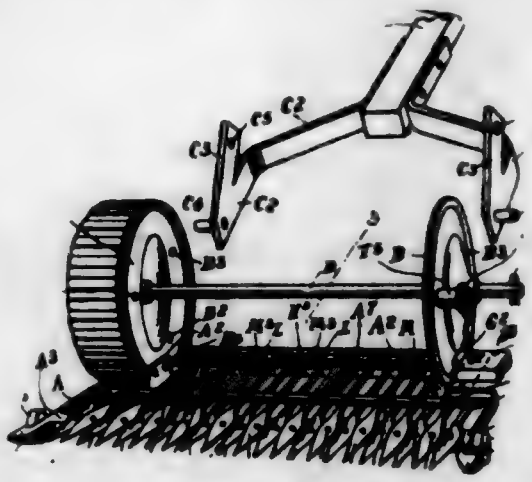
807,896. **SWITCH-OPERATING MECHANISM.** FRANK C. ANDERSON, Cincinnati, Ohio, assignor of one-half to The American Valve & Meter Company, Cincinnati, Ohio, a Corporation of West Virginia. Filed Apr. 13, 1905. Serial No. 255,273.



Claim.—In switch-operating mechanism, a crank comprising a plurality of arms each having means formed at a different distance from the center of the crank for connecting the crank and the switch-connecting rod, and means for operating said crank.

807,897. **LAWN-MOWER.** JAMES H. AUBLE, Cincinnati, Ohio, assignor of two-thirds to Jacob H. Bromwell, Wyoming, Ohio, and James J. McDonald, Cincinnati, Ohio. Filed Dec. 28, 1903. Serial No. 186,803.

Claim.—1. In a mowing-machine, a knife and its shank made of sheet metal, the knife and the shank being concave at their mid-portion, and the edges of the shank being further bent down and then inward toward each other, substantially as and for the purposes specified.



2. In a mowing-machine, a knife and its shank made of sheet metal, the knife being concave at its mid-portion, and the shank being at the edges bent over and around, forming a slotted tube, substantially as and for the purposes specified.

3. In a mowing-machine, a knife and its shank made of sheet metal, the metal at the shank bent around to form a tubular structure, having a slot left therein at the back, in combination with a spring, having an enlarged base located within the shank, and an elastic free portion, whose shank passes through said slot, substantially as and for the purposes specified.

4. In a mowing-machine, a frame, upper and lower tiers of knives, pivots K^4, pivoting the knives to the frame, a channel-bar M^3 having lugs M^5, a channel-bar N^3 having lugs N^5, the channel-bar M^3 being higher than channel-bar N^3, the shanks of the upper tier of knives located on channel-bar M^3 between the lugs M^5, and the shanks of the lower tier of knives located on the channel-bar N^3, between the lugs N^5, and means for elastically keeping the upper knives in contact with the lower ones, substantially as and for the purposes specified.

5. In a mowing-machine, a frame, upper and lower tiers of knives, pivots K^4, pivoting the knives to the frame, a channel-bar M^3 having lugs M^5, a channel-bar N^3 having lugs N^5, the channel-bar M^3 being higher than channel-bar N^3, the shanks of the upper tier of knives located on the channel-bar M^3 between the lugs M^5, and the shanks of the lower tier of knives located on the channel-bar N^3, between the lugs N^5, and springs respectively fastened to the upper tier of knives, and pressing on the channel-bar N^3 and pushing the shanks upward, and the knives downward against the lower knives, substantially as and for the purposes specified.

6. In a mowing-machine, bar A^7, bar A^8, the upper and lower tiers of knives provided with shanks, the knives themselves pivoted to the frame, the outlying or end knives having short shanks, all of the shanks being pivoted, the upper tier to the bar A^7 and the lower tier to the bar A^8, and mechanism for imparting to the long shanks a vibratory movement, for operating all the knives, substantially as and for the purposes specified.

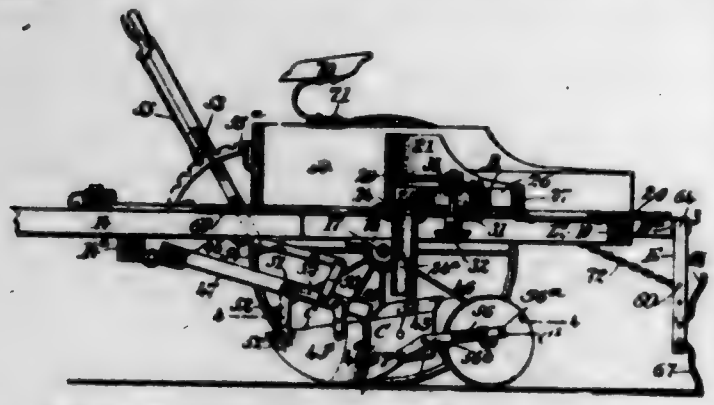
7. In a mowing-machine, a cross-bar A^2 the upper and lower tiers of knives, having shanks, each knife being pivoted to the cross-bar A^2, and the channel-bars M^3 and N^3, each respectively oscillating the shanks of the knives of its respective tier, and the rods M and N, and means for respectively reciprocating the rods M and N, and means for securing, at will, the rod M to the channel-bar M^3 and the rod N to the channel-bar N^3, substantially as and for the purposes specified.

8. In a mowing-machine, a cross-bar A^2 the upper and lower tiers of knives, having shanks, each knife being pivoted to the cross-bar A^2, and the channel-bars M^3 and N^3, each respectively oscillating the shanks of the knives of its respective tier, and the rods M and N, and the set-screws M^4 and N^4, respectively securing the rods M and N to their respective channel-bars M^3 and N^3, substantially as and for the purposes specified.

807,898. **POTATO-PLANTER.** WINFRED E. BAKEMAN, Snohomish, Wash. Filed July 23, 1905. Serial No. 271,642.

Claim.—1. In potato-planters, a wheel-supported box-body adapted to contain the seed to be planted, a casing secured to the bottom of the body, the said body having an opening therein within said casing, a seed-drop wheel mounted to revolve within the said

casing, having horizontal pockets open at top and bottom, which pockets are fed by hand, said pockets being arranged to successively pass over said opening, a shaft passed loosely through said wheel, a ratchet-and-pawl connection between the wheel and the shaft, and means for driving the shaft from the supporting-wheels of the machine.



2. In potato-planters, the combination with a wheel-supported body having a central opening in its bottom and a guarded opening at the rear of the said bottom, a seat slidably mounted at the rear opening and a casing located at the bottom of the body around the opening therein, a seed-drop wheel mounted to turn in the said casing, said wheel consisting of a flat hub, wide spokes radiating therefrom and a rim connected with the spokes, forming a series of pockets, which pockets as the wheel revolves are brought successively over the opening in the said body, a chute secured to the said body at the opening therein, a shaft mounted to turn in the body, being loosely passed through the hub of the said wheel, a ratchet-wheel secured on the upper portion of the shaft, a spring-controlled dog pivoted on the hub of the wheel for engagement with the ratchet-wheel, a latch for the said dog likewise carried by the said wheel, and a furrow-opener of box-like construction open at the front and bottom, which furrow-opener is below said chute, and means for driving the shaft from the axle of the machine.

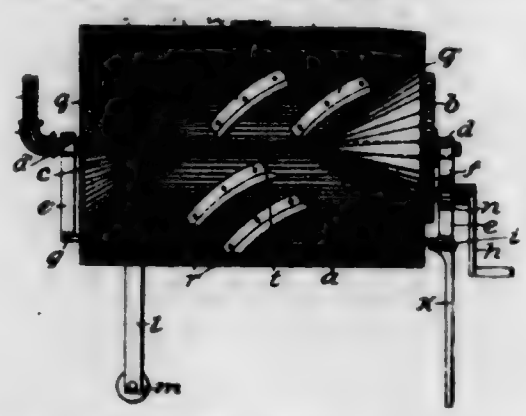
3. In potato-planters, the combination with a wheel-supported body having a central opening in its bottom and a guarded opening at the rear of said bottom, a seat slidably mounted at the rear opening, and a casing located at the bottom of the body around the opening therein, of a seed-drop wheel mounted to turn in the said casing, said wheel consisting of a flat hub, wide spokes radiating therefrom and a rim connected with the spokes, forming a series of pockets, which pockets as the wheel revolves are brought successively over the opening in the said body, a chute secured to the said body at the opening therein, a shaft mounted to turn in the body, being loosely passed through the hub of the said wheel, a ratchet-wheel secured on the upper portion of the shaft, a spring-controlled dog pivoted on the hub of the wheel for engagement with the ratchet-wheel, a latch for the said dog likewise carried by the said wheel, a furrow-opener of box-like construction open at the front and bottom, which furrow-opener is below the said chute, means for raising and lowering the said furrow-opener, a frame carried by the rear portion of the opener, and adjustable disk coverers carried by the said frame.

4. In potato-planters, a wheel-supported frame, a seed-delivery mechanism carried by the frame, a furrow-opener of box-like construction which receives the seed from the seed-delivering mechanism, the said furrow-opener having an angular front, the members whereof are concaved and downwardly and forwardly inclined, a flat nose extending from the forward central portion of the said furrow-opener, a supporting-beam hinged to the said frame, suspension-bars connected with the frame and with the nose of the said furrow-opener, having its lower edge convexed from the point of its nose to a point to the rear of the forward portion of the body, the remaining lower portion of the furrow-opener being straight, a lift-lever, a locking device therefor, and link-and-shaft connections between the said lift-lever and the suspension-bar attached to the said furrow-opener.

5. In potato-planters, a wheel-supported frame, a seed-delivery mechanism carried by the frame, a furrow-opener of box-like construction which receives the seed from the seed-delivering mechanism, the said furrow-opener having an angular front, the members whereof are concaved and downwardly and forwardly inclined, a flat nose extending from the forward central portion of the said furrow-opener, a supporting-beam hinged to the said frame, suspension-bars connected with the frame and with the nose of the said furrow-opener, said furrow-opener having its lower edge convexed from the point of its nose to a point to the rear of the forward portion of the body, the remaining lower portion of the said furrow-opener being straight, a lift-lever, a locking device therefor, link-and-shaft connections between the said lift-lever and the suspension-bar attached to the said furrow-opener, a frame pivotally attached to the rear side portions of the furrow-opener, the forward ends of the frame being downwardly inclined, stop-pins located on the furrow-opener above the forward ends of the frame, brackets carried by the said frame, bearings pivotally mounted on the said brackets, and disk coverers carried by the said bearings, whereby the furrow-opener and the covering-disks may be raised or lowered together.

6. In a potato-planter, the combination with a wheel-supported body and a seed-distributing mechanism therefor, of a box-like furrow-opener receiving seed from the said mechanism, having its forward lower portion convexed, its rear lower portion straight and the body of said furrow-opener having a triangular forward working surface, the members whereof are concaved and inclined downwardly and forwardly, the said body being also provided with a straight nose extending forwardly from its central portion, a V supporting-beam pivoted to the said frame, tie-bars passed through the members of said beam, a suspension-bar carried by the tie-bars and secured to the nose portion of the furrow-opener, a lift-lever, a shaft on which the lift-lever is attached, the shaft being provided with a crank-arm, and link connections between said crank-arm and the suspension-bar, whereby the furrow-opener may be raised and lowered and is held in line with the bottom portion of the supporting-wheels of the machine.

807,899. CEMENT-MIXER. CHARLES L. BALDWIN, Waterloo, Iowa. Filed July 12, 1905. Serial No. 269,340.



Claim.—1. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon, having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, substantially as described.

2. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon, having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, and a removable cover for said drum, substantially as described.

3. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon, having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, and means for rotating said drum, substantially as described.

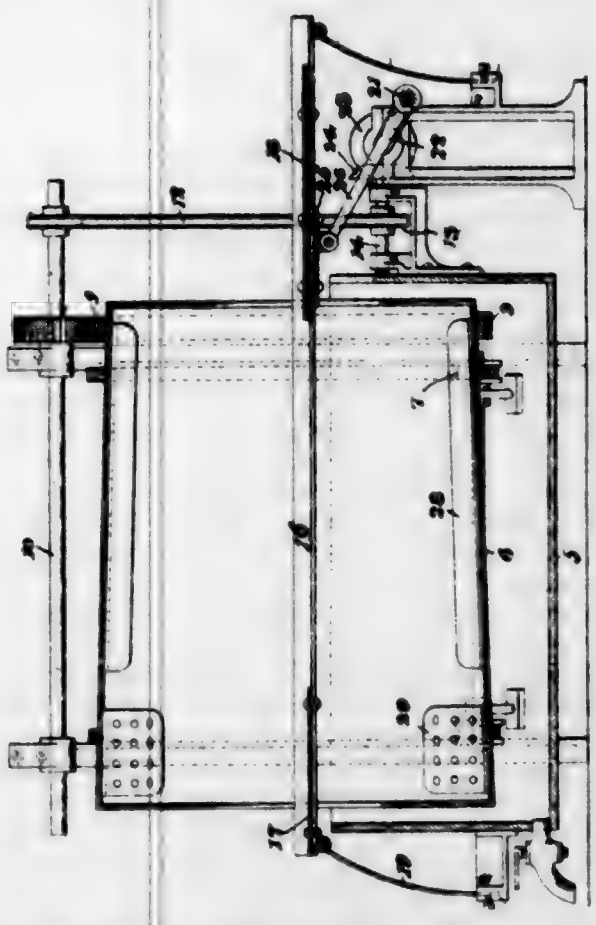
4. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, and suitable supports for said pipe and drum, substantially as described.

5. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, a removable cover for said drum, means for rotating said drum, and suitable connections and supports, substantially as described.

6. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon, suitable means for supporting said drum and said pipe, a gear-wheel fixed to one end of said drum, a pinion intermeshing with said gear-wheel, means for rotating said pinion, inwardly-projecting cones fixed to the inner heads of said drum, inwardly-projecting obliquely-set flanges fixed to the inner side of the shell of said drum, a removable cover for said drum, and a movable truck for said drum, substantially as shown and described.

807,900. WASHING-MACHINE. ERNEST L. BATLEY, Newark, N. J. Filed June 17, 1905. Serial No. 265,736.

Claim.—1. The improved washing-machine, comprising a rotary washing-cylinder, having open ends, tables supported on springs and connected by angle-irons arranged parallel to one another, said angle-irons rigidly joining said tables to cause them to operate together, said tables being open between and the opening coinciding with the interior of the said cylinder, means for reciprocating said tables and means for rotating said cylinder, substantially as set forth.

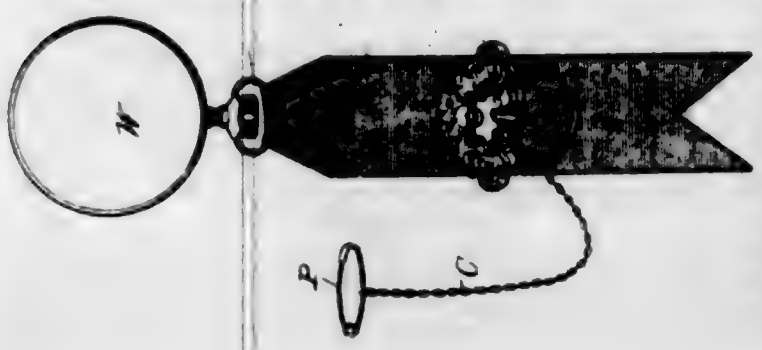


2. The improved washing-machine, comprising a rotary washing-cylinder having its opposite ends open and having lags on its interior walls, two separate tables disposed at the opposite open ends of said washing-cylinder one of said tables being perforated, said tables being connected to one another and being supported on springs, means for reciprocating said tables and means for rotating said washing-cylinder.

3. The improved washing-machine, comprising a rotary washing-cylinder having its opposite ends open, one end being larger than the other, and having lags on its interior walls, and bent arms at its larger end, two separate tables disposed at the opposite open ends of said washing-cylinder, one of said tables being perforated, said tables being connected to one another and being supported on springs, means for reciprocating said tables and means for rotating said washing-cylinder.

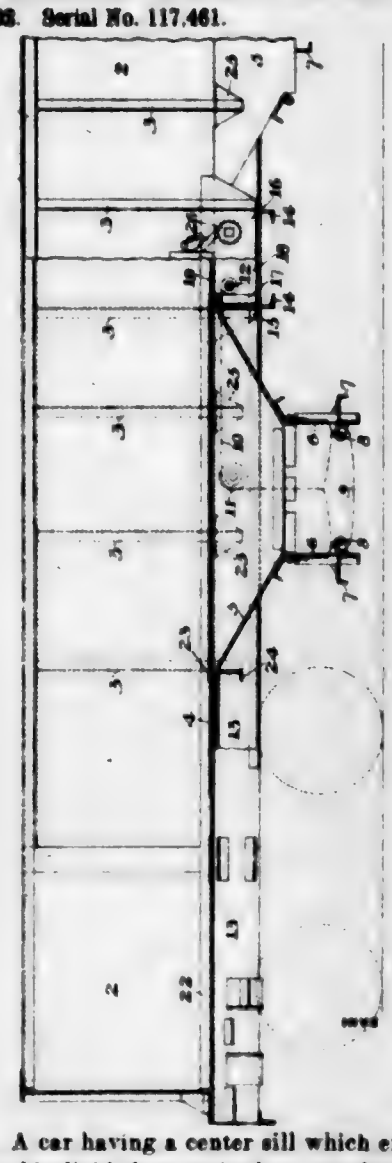
4. The improved washing-machine, comprising a rotary washing-cylinder having its opposite ends open, one end being larger than the other and having interior lags and at its larger end having bent arms of greater inward projection than the lags, two separate tables disposed in the opposite ends of said washing-cylinder and connected one to the other to move together, the table at the larger end having draining-perforations, table-supporting springs at opposite ends of the connected tables, a crank and a rod connecting said crank to one of the tables, means for operating the crank and means for rotating the washing-cylinder, substantially as set forth.

807,901. **WATCH-FOB.** ALBERT C. BECKER and RICHARD J. TRUMBULL, Chicago, Ill. Filed Apr. 18, 1904. Serial No. 203,613.



Claim.—In a watch-fob adapted for attachment to a watch-bow and to a garment, the combination with the watch-bow, of a fob-ribbon doubled and having its doubled end engaged directly with the watch-bow, an ornament having a rear cross-bar between which and the ornament-body the two plies of the fob-ribbon are passed, a downwardly-projecting spur carried by the ornament and passed through both plies of the fob-ribbon, a connecting member having one end attached to the ornament, and a fastening member on the other end of said connecting member for securing the fob to a garment, substantially as described.

807,902. **STEEL CAR.** ARTHUR B. BELLOWS, Pittsburg, Pa. Filed July 29, 1903. Serial No. 117,461.



Claim.—1. A car having a center sill which extends from bolster to bolster and is divided at a point between the bolsters, connections between the inner ends of the divided sill members and the sides of the car, said connections being at the same level as the sill, and a sill-section extending longitudinally between said connections; substantially as described.

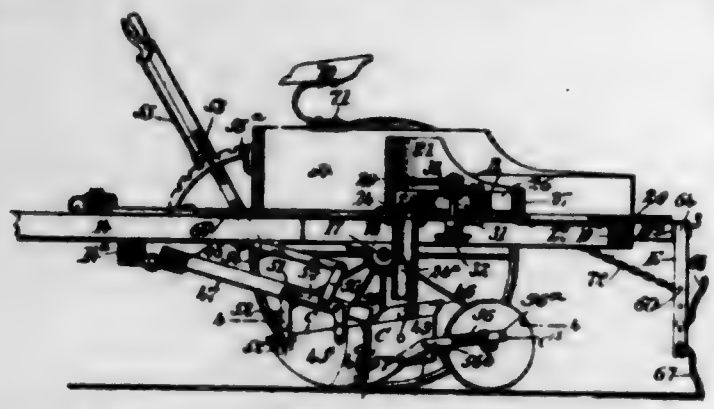
2. A car having a cross-sill between the bolsters, and longitudinal center-sill members at the same level as the cross-sill and extending from bolster to bolster and having their ends secured to said cross-sill and a center-sill section between the members of the cross-sill; substantially as described.

3. A steel car having plate-girder sides, an intermediate longitudinal sill which is transversely divided between the bolsters, connections between the inner ends of the longitudinal-sill members and the plate-girder sides, said connections being at the same level as the longitudinal sills and a longitudinal-sill section located between the connections; substantially as described.

4. A steel car having a cross-sill between the bolsters, said cross-sill consisting of separate flanged members, a transversely-divided center sill having its inner ends connected to the cross-sill which extends between them, a center-sill section between the separate members of the cross-sill and car sides connected to the cross-sill; substantially as described.

5. A steel car having plate-girder sides and a longitudinal center sill composed of two separated flanged members, each member being transversely divided between the bolster-points, an intermediate center-sill section and supporting connections between the inner ends of the sill members and the sides of the car, said connections extending between the inner ends of the longitudinal-sill member; substantially as described.

casing, having horizontal pockets open at top and bottom, which pockets are fed by hand, said pockets being arranged to successively pass over said opening, a shaft passed loosely through said wheel, a ratchet-and-pawl connection between the wheel and the shaft, and means for driving the shaft from the supporting-wheels of the machine.



2. In potato-planters, the combination with a wheel-supported body having a central opening in its bottom and a guarded opening at the rear of the said bottom, a seat slidably mounted at the rear opening and a casing located at the bottom of the body around the opening therein, a seed-drop wheel mounted to turn in the said casing, said wheel consisting of a flat hub, wide spokes radiating therefrom and a rim connected with the spokes, forming a series of pockets, which pockets as the wheel revolves are brought successively over the opening in the said body, a chute secured to the said body at the opening therein, a shaft mounted to turn in the body, being loosely passed through the hub of the said wheel, a ratchet-wheel secured on the upper portion of the shaft, a spring-controlled dog pivoted on the hub of the wheel for engagement with the ratchet-wheel, a latch for the said dog likewise carried by the said wheel, and a furrow-opener of box-like construction open at the front and bottom, which furrow-opener is below said chute, and means for driving the shaft from the axle of the machine.

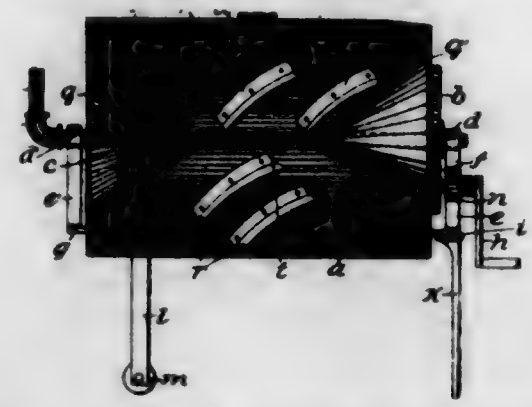
3. In potato-planters, the combination with a wheel-supported body having a central opening in its bottom and a guarded opening at the rear of said bottom, a seat slidably mounted at the rear opening, and a casing located at the bottom of the body around the opening therein, of a seed-drop wheel mounted to turn in the said casing, said wheel consisting of a flat hub, wide spokes radiating therefrom and a rim connected with the spokes, forming a series of pockets, which pockets as the wheel revolves are brought successively over the opening in the said body, a chute secured to the said body at the opening therein, a shaft mounted to turn in the body, being loosely passed through the hub of the said wheel, a ratchet-wheel secured on the upper portion of the shaft, a spring-controlled dog pivoted on the hub of the wheel for engagement with the ratchet-wheel, a latch for the said dog likewise carried by the said wheel, a furrow-opener of box-like construction open at the front and bottom, which furrow-opener is below the said chute, means for raising and lowering the said furrow-opener, a frame carried by the rear portion of the opener, and adjustable disk coverers carried by the said frame.

4. In potato-planters, a wheel-supported frame, a seed-delivery mechanism carried by the frame, a furrow-opener of box-like construction which receives the seed from the seed-delivering mechanism, the said furrow-opener having an angular front, the members whereof are concaved and downwardly and forwardly inclined, a flat nose extending from the forward central portion of the said furrow-opener, a supporting-beam hinged to the said frame, suspension-bars connected with the frame and with the nose of the said furrow-opener, having its lower edge convexed from the point of its nose to a point to the rear of the forward portion of the body, the remaining lower portion of the furrow-opener being straight, a lift-lever, a locking device therefor, and link-and-shaft connections between the said lift-lever and the suspension-bar attached to the said furrow-opener.

5. In potato-planters, a wheel-supported frame, a seed-delivery mechanism carried by the frame, a furrow-opener of box-like construction which receives the seed from the seed-delivering mechanism, the said furrow-opener having an angular front, the members whereof are concaved and downwardly and forwardly inclined, a flat nose extending from the forward central portion of the said furrow-opener, a supporting-beam hinged to the said frame, suspension-bars connected with the frame and with the nose of the said furrow-opener, said furrow-opener having its lower edge convexed from the point of its nose to a point to the rear of the forward portion of the body, the remaining lower portion of the said furrow-opener being straight, a lift-lever, a locking device therefor, link-and-shaft connections between the said lift-lever and the suspension-bar attached to the said furrow-opener, a frame pivotally attached to the rear side portions of the furrow-opener, the forward ends of the frame being downwardly inclined, stop-pins located on the furrow-opener above the forward ends of the frame, brackets carried by the said frame, bearings pivotally mounted on the said brackets, and disk coverers carried by the said bearings, whereby the furrow-opener and the covering-disks may be raised or lowered together.

6. In a potato-planter, the combination with a wheel-supported body and a seed-distributing mechanism therefor, of a box-like furrow-opener receiving seed from the said mechanism, having its forward lower portion convexed, its rear lower portion straight and the body of said furrow-opener having a triangular forward working surface, the members whereof are concaved and inclined downwardly and forwardly, the said body being also provided with a straight nose extending forwardly from its central portion, a V supporting-beam pivoted to the said frame, tie-bars passed through the members of said beam, a suspension-bar carried by the tie-bars and secured to the nose portion of the furrow-opener, a lift-lever, a shaft on which the lift-lever is attached, the shaft being provided with a crank-arm, and link connections between said crank-arm and the suspension-bar, whereby the furrow-opener may be raised and lowered and is held in line with the bottom portion of the supporting-wheels of the machine.

807,899. **CEMENT-MIXER.** CHARLES L. BALDWIN, Waterloo, Iowa. Filed July 13, 1905. Serial No. 269,340.



Claim.—1. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon, having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, substantially as described.

2. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon, having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, and a removable cover for said drum, substantially as described.

3. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon, having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, and means for rotating said drum, substantially as described.

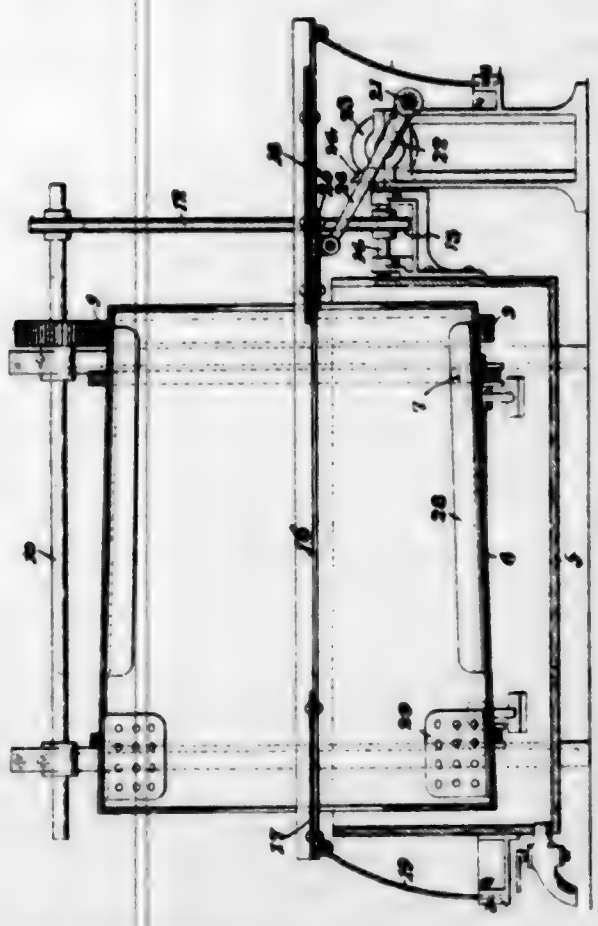
4. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, and suitable supports for said pipe and drum, substantially as described.

5. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon having inwardly-projecting cones on its inner heads, and inwardly-projecting obliquely-set flanges fixed to the inner side of its cylindrical shell, a removable cover for said drum, means for rotating said drum, and suitable connections and supports, substantially as described.

6. A cement-mixer, comprising a fixed perforated pipe, a rotatable drum thereon, suitable means for supporting said drum and said pipe, a gear-wheel fixed to one end of said drum, a pinion intermeshing with said gear-wheel, means for rotating said pinion, inwardly-projecting cones fixed to the inner heads of said drum, inwardly-projecting obliquely-set flanges fixed to the inner side of the shell of said drum, a removable cover for said drum, and a movable truck for said drum, substantially as shown and described.

807,900. **WASHING-MACHINE.** ERNEST L. BAILEY, Newark, N. J. Filed June 17, 1905. Serial No. 265,798.

Claim.—1. The improved washing-machine, comprising a rotary washing-cylinder, having open ends, tables supported on springs and connected by angle-irons arranged parallel to one another, said angle-irons rigidly joining said tables to cause them to operate together, said tables being open between and the opening coinciding with the interior of the said cylinder, means for reciprocating said tables and means for rotating said cylinder, substantially as set forth.

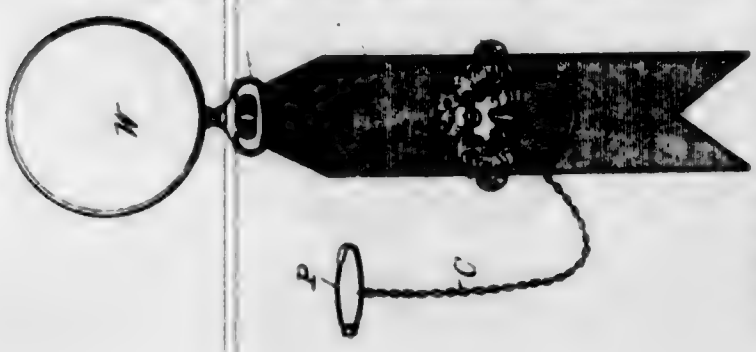


2. The improved washing-machine, comprising a rotary washing-cylinder having its opposite ends open and having lags on its interior walls, two separate tables disposed at the opposite open ends of said washing-cylinder one of said tables being perforated, said tables being connected to one another and being supported on springs, means for reciprocating said tables and means for rotating said washing-cylinder.

3. The improved washing-machine, comprising a rotary washing-cylinder having its opposite ends open, one end being larger than the other, and having lags on its interior walls, and bent arms at its larger end, two separate tables disposed at the opposite open ends of said washing-cylinder, one of said tables being perforated, said tables being connected to one another and being supported on springs, means for reciprocating said tables and means for rotating said washing-cylinder.

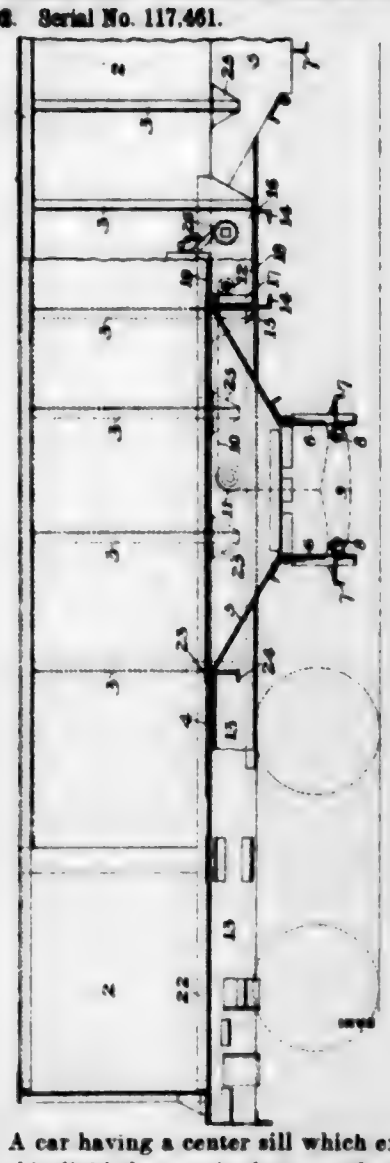
4. The improved washing-machine, comprising a rotary washing-cylinder having its opposite ends open, one end being larger than the other and having interior lags and at its larger end having bent arms of greater inward projection than the lags, two separate tables disposed in the opposite ends of said washing-cylinder and connected one to the other to move together, the table at the larger end having draining-perforations, table-supporting springs at opposite ends of the connected tables, a crank and a rod connecting said crank to one of the tables, means for operating the crank and means for rotating the washing-cylinder, substantially as set forth.

807,901. WATCH-FOB. ALBERT C. BECKER and RICHARD J. TRUMBULL, Chicago, Ill. Filed Apr. 18, 1904. Serial No. 203,613.



Claim.—In a watch-fob adapted for attachment to a watch-bow and to a garment, the combination with the watch-bow, of a fob-ribbon doubled and having its doubled end engaged directly with the watch-bow, an ornament having a rear cross-bar between which and the ornament-body the two plies of the fob-ribbon are passed, a downwardly-projecting spur carried by the ornament and passed through both plies of the fob-ribbon, a connecting member having one end attached to the ornament, and a fastening member on the other end of said connecting member for securing the fob to a garment, substantially as described.

807,902. STEEL CAR. ARTHUR B. BELLOWS, Pittsburg, Pa. Filed July 29, 1903. Serial No. 117,461.



Claim.—1. A car having a center sill which extends from bolster to bolster and is divided at a point between the bolsters, connections between the inner ends of the divided sill members and the sides of the car, said connections being at the same level as the sill, and a sill-section extending longitudinally between said connections; substantially as described.

2. A car having a cross-sill between the bolsters, and longitudinal center-sill members at the same level as the cross-sill and extending from bolster to bolster and having their ends secured to said cross-sill and a center-sill section between the members of the cross-sill; substantially as described.

3. A steel car having plate-girder sides, an intermediate longitudinal sill which is transversely divided between the bolsters, connections between the inner ends of the longitudinal-sill members and the plate-girder sides, said connections being at the same level as the longitudinal sills and a longitudinal-sill section located between the connections; substantially as described.

4. A steel car having a cross-sill between the bolsters, said cross-sill consisting of separate flanged members, a transversely-divided center sill having its inner ends connected to the cross-sill which extends between them, a center-sill section between the separate members of the cross-sill and car sides connected to the cross-sill; substantially as described.

5. A steel car having plate-girder sides and a longitudinal center sill composed of two separated flanged members, each member being transversely divided between the bolster-points, an intermediate center-sill section and supporting connections between the inner ends of the sill members and the sides of the car, said connections extending between the inner ends of the longitudinal-sill member; substantially as described.

6. A car having a cross-sill composed of two separate flanged members, a cover-plate extending over said members, and a transversely-divided center sill having its inner ends secured to the cross-sill, said cross-sill being supported at its outer ends on the car sides; substantially as described.

7. A steel car having a plate-girder side with two strengthening members extending along its lower part, one of said members being flanged and extending throughout the car, and the other extending through the intermediate portion of the car and terminating adjacent to the bolsters; substantially as described.

8. A steel car having a plate-girder side, said side having a plurality of strengthening members secured along its lower portion, one of said members extending between and terminating adjacent to the bolsters, and the other extending throughout the car-body; substantially as described.

9. A steel car having a plate-girder side extending beyond the bolsters, and a plurality of strengthening members secured to and extending along the top of said side, one of said members being shorter than the length of the side and terminating at its ends adjacent to the bolsters, and both of said members extending in parallelism throughout their length; substantially as described.

10. A steel car having a plate-girder side, extending beyond the bolsters, and a strengthening member secured to and extending along the top portion of the said side, said member being shorter than the side and terminating adjacent to the bolsters and extending parallel with the floor-frame throughout its length; substantially as described.

11. A steel car having a plate-girder side, extending beyond the bolsters, with strengthening members extending along both the upper and lower portions of said side, at least one of said strengthening members being shorter than the side and terminating adjacent to the bolsters and extending parallel with the floor-frame throughout its length: substantially as described.

12. A steel car having a plate-girder side extending beyond the bolsters and provided with a flanged strengthening member which extends between the bolsters and terminates at points adjacent thereto, said member being parallel with the floor-frame throughout its length; substantially as described.

13. A steel gondola car having a horizontal main floor formed of steel plates, depending hoppers in the floor with inclined sides sloping endwise of the car, plate-girder sides which terminate substantially at the floor-level, and marginal flanges at the edge of the floor riveted directly to the lower edges of the plate-girder sides; substantially as described.

14. A steel gondola car having a horizontal main floor formed of steel plates and containing a plurality of depending hoppers with inclined sides sloping endwise of the car, and plate-girder sides terminating substantially at the floor-level, said sides having upper and lower marginal flanges, the steel floor-plates being secured directly to the flanges along the lower edges of the sides; substantially as described.

15. A steel gondola car having a horizontal main floor formed of steel plates and containing a plurality of depending hoppers with inclined sides sloping endwise of the car, plate-girder sides terminating substantially at the floor-level, and upper and lower flanged sections secured along the upper and lower edges of the sides, the floor-plates being secured directly to the lower flanged sections; substantially as described.

16. A steel gondola car having a flanged shape secured along the lower portion of the side with an inwardly-projecting flange, and a hopper-plate having a horizontal flange secured to said shape; substantially as described.

17. A steel gondola car having a flanged shape secured along the lower portion of the side with an inwardly-projecting flange, and a hopper-plate having a flange secured to the inwardly-projecting flange of said shape; substantially as described.

18. A hopper-bottom gondola car having plate-girder sides with strengthening members, the lower ends of some of said members being secured to side flanged plates connected to the car-floor; substantially as described.

19. A car having a continuous cross floor beam or sill between the bolsters, and consisting of a plurality of flanged shapes and separate longitudinal reinforcing members secured to said shapes; substantially as described.

20. A steel car having a cross-sill between the bolsters and consisting of a plurality of flanged shapes, a transverse cover-plate extending over the shapes, and a separate strengthening member secured to the lower portion of said sill; substantially as described.

21. A steel car having a transversely-divided intermediate longitudinal sill, a cross-sill supporting the inner ends of the longitudinal sill, and longitudinal strengthening members secured to the longitudinal sill, and extending from near the bolsters to near the car center; substantially as described.

22. A steel car having an intermediate longitudinal sill at all parts on the same level extending horizontally from bolster to bolster and transversely divided at the car center, the divided ends being supported from the side structure; substantially as described.

23. In a car, the combination of sides, an intermediate cross-beam connected to the sides, and an intermediate longitudinal beam or sill extending from bolster to bolster and transversely divided, the divided ends being separated longitudinally and supported by the cross-beam; substantially as described.

24. A car having an intermediate longitudinal beam or sill extending from bolster to bolster and transversely divided at an intermediate portion thereof, the divided ends of the beam being separated longitudinally and supported from the side structure; substantially as described.

25. A steel car, having a plate-girder side extending beyond the bolster, and two strengthening members secured to and extending along the top of said side, one of said members being shorter than the length of the side and terminating at its ends adjacent to the bolsters, and the other of said members extending substantially the full length of the side, both of said members extending in parallelism throughout their length, substantially as described.

26. A steel car having a plate-girder side, extending beyond the bolsters, a strengthening member secured to and extending along the top portion of the said side, said member being shorter than the side and terminating adjacent to the bolsters, and a second strengthening member also secured to the top portion of said side and extending substantially the full length of the side, said strengthening members being parallel with the floor-frame throughout their length; substantially as described.

27. A car having an intermediate longitudinal beam or sill extending from bolster to bolster and transversely divided at the center of the car, the divided ends of the beam being supported from the side structure; substantially as described.

807,903. RAILWAY-CAR. ARTHUR B. BELLOWS, Pittsburg, Pa. Filed Oct. 7, 1902. Serial No. 126,319.



Claim.—1. A car having doors opening in opposite directions, a chain connected to said doors and arranged to open and close both of them, and a sheave engaging the chain and arranged to pay out one

portion of said chain as it takes in another portion; substantially as described.

2. A car having doors opening in opposite directions, a chain fastened to said doors at two points in its length and arranged to open and close both of said doors, and sheaves engaging the chain and arranged to pay out one portion thereof as they take in another portion of said chain; substantially as described.

3. A car having transversely-extending doors arranged to move toward each other in opening, each door having a hinge member mounted in fixed bearings, and a chain having connections arranged to positively draw said doors into open position: substantially as described.

4. A car having oppositely-opening doors, a chain fastened to said doors at two points in its length and extending from the fixed point on one door around a sheave to the other door, the sheaves being located on opposite sides of the middle of the car, and arranged to pay out one portion of the chain as another portion is taken in; substantially as described.

5. A car having a plate structure forming at least a part of its side and extending longitudinally from end to end thereof, said structure having at its upper edge two rolled right-angled angles secured to its opposite faces, said angles extending horizontally and parallel throughout their entire lengths, the vertical legs of the angle being parallel with the plate side and their flanges being free and parallel with each other throughout, at least one of said flanges covering the upper edge of the side, the securing-rivets for the angles extending through three thicknesses only of metal; substantially as described.

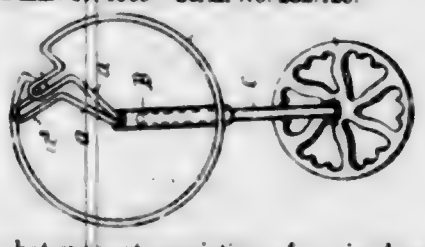
6. A hopper-car having plate-girder sides, a cross-transom and hoppers whose openings face each other on opposite sides of the center of the car, a divided center sill, and a cross floor-beam fastened between the end portions of the center sill and secured at the ends to the plate-girder sides of the car the divided sections of the center sill being separated longitudinally by the cross-beam; substantially as described.

7. A car having doors, chains connected with the doors and having crossing strands, and a chafing-plate interposed between said strands; substantially as described.

8. A car having a plate end with two rolled right-angled angles secured thereto by the same rivets extending through their vertical legs and the plate end only, the flanges of the angles being parallel and horizontal throughout their entire lengths, at least one of the angle-flanges covering the upper edge of the plate end; substantially as described.

9. A car having a plate side extending from end to end of the load inclosing structure, and two rolled right-angled angles secured to the top edge of the plate side by the same rivets extending only through their vertical legs and the plate side, said angles extending horizontally and parallel throughout their entire lengths, with their vertical legs on opposite sides of the plate structure, one of the angle-flanges covering the upper edge of the plate structure; substantially as described.

807,804. DISPLAY-RACK. WILLIAM H. BILLINGS, Cincinnati, Ohio. Filed Mar. 27, 1905. Serial No. 252,120.



Claim.—A hat-support consisting of a wire bent into a circle, turned inward forming radial arms, the arms being bent into outwardly-projecting U-shaped studs, a hub engaging the inner ends of the arms at the center of the rim standing at an acute angle to the plane of the rim, and having in its lower end a socket, and a stand having a vertical stud to fit into the socket.

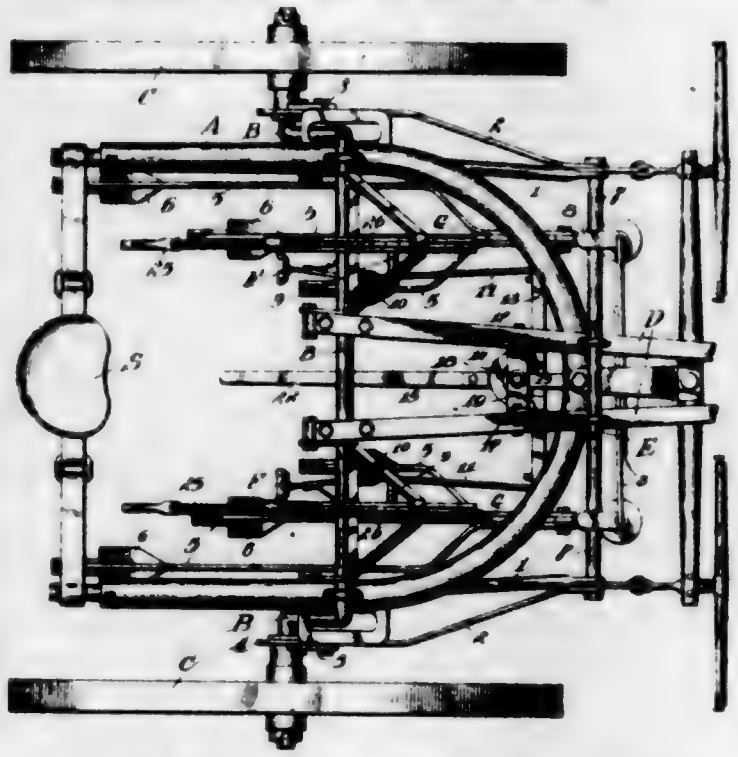
807,905. SYRINGE. JOHN C. BLAIR, Louisville, Ky., assignor of one-half to The Blair Dental Manufacturing Co., Louisville, Ky., a Corporation of Kentucky. Filed Dec. 8, 1904. Serial No. 235,944.

Claim.—1. An improved dental syringe comprising a tube, an electric bulb attached thereto, two concavo-convex plates arranged within the bulb, and a conical or helical spring arranged with its larger end contiguous to the tube, and its several coils decreasing in diameter from the base outward in such degree that they are adapted to lie one within the other when the bulb is fully compressed

2. In a dental syringe of the class indicated, the combination, with the discharge-tube 2, having a screw-threaded socket in its base end, of two concavo-convex plates, one of which is affixed to the base of the tube, and the other arranged parallel therewith and having a screw-threaded tenon adapted to enter the socket of the tube, and an expansion-bulb which is clamped between the plates, substantially as described.



807,906. CULTIVATOR. DENNIS S. BLUE and OTIS SHEPARDSON, Fremont, Ohio. Filed Feb. 28, 1905. Serial No. 247,730.



Claim.—1. In a cultivator, the combination with a frame, and laterally-movable gangs, of a hand-lever pivotally secured at a point intermediate its ends, to the frame, an arch rigidly secured to the hand-lever at a point intermediate its ends, foot-levers pivotally carried by each of the gangs, means connecting the foot-levers and arch, and a yoke to which the gangs are secured, one end of the hand-lever secured to the yoke, the movement of one foot-lever operating the gangs simultaneously.

2. In a cultivator, the combination with a frame, and gangs, of a laterally-movable yoke to which the gangs are secured, a pivotally-mounted arch, means connecting the arch and yoke, foot-levers pivotally supported on each gang and means connecting the foot-levers and arch, a movement of either foot-lever adapted to simultaneously operate the gangs.

3. In a cultivator, the combination with a suitable frame, laterally-movable yoke and gangs connected to the yoke, of a hanger depending from the frame, a lever pivotally secured intermediate its ends to the hanger, one end of the lever engaging and supporting the yoke and adapted to move it laterally, an arch secured to the lever intermediate its ends, foot-levers pivotally supported on the gangs and means connecting the foot-levers and arch whereby the actuation of either foot-lever will operate both gangs.

4. In a cultivator, the combination with a suitable frame, a laterally-movable yoke, and gangs connected to the yoke, of a pivotally-supported arch, means connecting the arch and yoke, bell-crank levers pivotally mounted on each of the gangs, and means connecting the bell-cranks and arch whereby the actuation of either bell-crank will simultaneously operate both gangs.

5. In a cultivator, the combination with a suitable frame, laterally-movable yoke and gangs secured to and connected by the yoke, of a lever pivotally secured intermediate its ends to the frame, one end of the lever engaging and supporting the yoke, an arch secured to the lever, and foot-levers carried by each of the gangs and connected with the arch, the operation of one of the foot-levers adapted to move the arch and simultaneously operate the gangs.

6. In a cultivator, the combination with a frame, a laterally-moving yoke and gangs secured to and connected by the yoke, of a

lever pivotally secured intermediate its ends to the frame, one end of the lever loosely secured to the yoke, an arch carried by the lever, foot-levers pivotally mounted on each gang and connected with the arch and a hand-lever secured to the lever which extends to the yoke, the gangs being movable simultaneously by means of the hand-lever or either foot-lever.

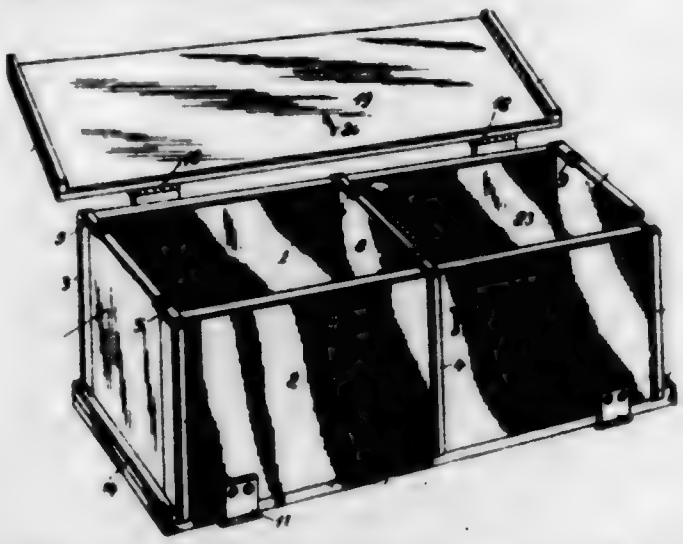
7. In a cultivator, the combination with a frame, a laterally-movable inverted-U-shaped yoke and gangs connected to the yoke, of a lever pivotally supported on the frame and connected to the yoke to shift the latter laterally, an inverted-U-shaped arch carried by and moving with the lever, and means carried by the gangs and connected with the yoke for simultaneously moving the gangs.

8. In a cultivator, the combination with a frame, a U-shaped bracket vertically adjustable with respect to the frame, a lever pivoted to the bracket, an arch secured to the lever and a segment secured to the arch and lever for bracing the two with respect to each other, of cultivator-gangs, a yoke connecting their forward ends to which the lever is pivotally connected, foot-levers or treadles pivoted to the gangs, and having upwardly-projecting arms, and rods extending from these arms to the arch on opposite sides of its pivot.

9. In a cultivator, the combination with a frame, a U-shaped bracket vertically adjustable with respect to the frame, a lever pivoted to the bracket, an arch secured to the lever and a segment secured to the arch and lever for bracing the two with respect to each other, of cultivator-gangs, a yoke connecting their forward ends to which the lever is pivotally connected, foot-levers or treadles pivoted to the gangs, and having upwardly-projecting arms, rods extending from these arms to the arch on opposite sides of its pivot, and a hand-lever extending rearward from said lever.

10. In a cultivator, the combination with a frame, a laterally movable yoke, and gangs connected to and by the yoke, of vertically-oscillating means pivotally supported on each gang and means connecting the oscillating means and the yoke for simultaneously moving the gangs.

807,907. **FOLDING BOX.** BURTON A. BOORE, McKeesport, Pa. Filed Mar. 30, 1905. Serial No. 253,859.



Claim.—A folding box comprising side walls, end walls having the ends thereof cut away at each corner, straps embracing the side walls and having inturned ends pivoted in said cut-away corners of the end walls, a partition, having the ends cut away at each corner, intermediate straps embracing the side walls and having their inturned ends pivoted in said cut-away portions of the partition, the ends of said partition and the end walls being beveled intermediate the cut-away portions thereof, a lid hinged to one side wall, a separate lid hinged to the other side wall a two-part hinged hasp attached to one of said lids and adapted in the open position of the box to engage a staple carried by one of said side walls and in the closed position of the box to engage a staple carried by the other of said lids and means for securing said lids in the closed position.

807,908. **EXERCISING DEVICE.** HOBART J. BRADSTREET, Buffalo, N. Y., assignor to Auto Physical Trainer Company, Buffalo, N. Y., a Corporation of New York. Filed June 30, 1904. Serial No. 214,781.

Claim.—1. An exercising device for the human frame consisting of vertical elastic straps extending from the feet upward and branching forward and rearward to pass over the shoulders, and elastic straps extending across the chest and back and connected with the vertical straps at their points of crossing.

2. An exercising device for the human frame consisting of a belt, elastic straps extending from the belt upward over the shoulders, straps extending across the chest and back, and elastic straps extending along the arms on opposite sides thereof to wristbands and being connected to the latter.



3. An exercising device for the human frame consisting of elastic straps extending from the feet upward over the shoulders, wristbands, and elastic straps extending thence inward across the chest and back and connected with the vertical straps at their points of crossing.

4. In an exercising device, the combination with the side leg-straps leading from the feet upward along the sides of the legs, and front and rear leg-straps along the thighs, of branches consisting of oblique straps leading from the lower ends of said front and rear straps into the upper ends of said side straps whereby the movements of the knees are not impeded, and means for supporting the upper ends of said front and rear straps.

5. In an exercising device, the combination with a belt, knee-bands and ankle-bands, of elastic straps leading from the belt down the rear of the legs, branched above the knee-pits, connecting with the knee-bands at the sides of the latter, thence leading downward along the sides of the limbs, and secured to said ankle-bands.

6. In an exercising device, the combination with a belt, knee-bands and ankle-bands; of elastic straps leading from the belt down the rear of the legs, branched above the knee-pits, connecting with the knee-bands at the sides of the latter, thence leading downward along the sides of the limbs, and secured to said ankle-bands, and a transverse rump-strap connecting the rear leg-straps.

7. In an exercising device, the combination with a belt, and two elastic straps leading from points in the front of the belt over the shoulders to points in the rear of the belt; of transverse straps at the front and rear of the body, straps leading under the armpits across the upright straps and connected with the transverse straps, and shoulder-piece straps leading from the transverse straps obliquely upward to the shoulder-straps and forming triangles with said arm-pit-straps.

8. In an exercising device, the combination with a belt, upright straps leading from it over the shoulders, transverse straps on the chest and back, and oblique straps extending from the transverse straps to the vertical straps and forming triangles; of wristbands and elbow-bands, and straps leading from the former attached to the latter, and extending along the front and rear of the arms, their inner ends being connected with said triangles in front and rear.

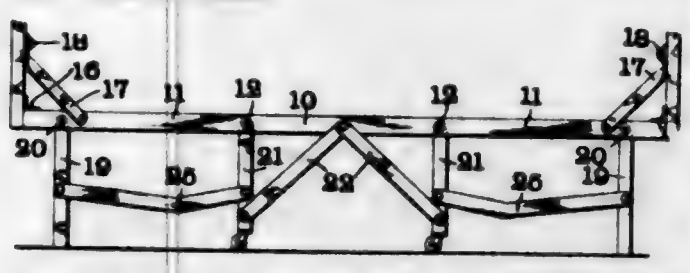
9. In an exercising device, the combination with a belt, upright straps leading from it over the shoulders, transverse straps on the chest and back, and oblique straps extending from the transverse straps to the vertical straps and forming triangles; of wristbands and elbow-bands, and straps leading from the former attached to the latter, and extending along the front and rear of the arms, their inner ends being connected with the lower ends of said front triangles and with the outer arms of said rear triangles.

10. In an exercising device, the combination with a belt, straps leading thence over the shoulders, and straps leading from these straps outward along the arms; of a cross on the back consisting of two oblique straps connected where they cross each other, attached at their lower ends to the points of union between the upright back straps and the belt, and connected at their upper ends adjacent the points of union between the upright back straps and the arm-straps.

11. In an exercising device, the combination with a belt, straps leading thence over the shoulders, and straps leading from these straps outward along the arms; of a cross on the back consisting of two oblique straps connected where they cross each other, attached

at their lower ends to the points of union between the upright back straps and the belt, and connected at their upper ends adjacent the points of union between the upright back straps and the arm-straps, transverse chest-straps connecting the upright straps, and armpit-straps leading from these transverse straps under the arms and united to the upright back straps at the points where the upper arms of the cross are attached

807,909. BED. JOHN J. BRASHELL, St. Louis, Mo. Filed Apr. 13, 1905. Serial No. 255,330.



Claim.—1. The combination with a bed-bottom frame comprising a main portion and a portion folding upwardly relative to said main portion, of a folding leg secured to said main portion, a second folding leg carried by the folding portion, and a link pivotally connected with said legs.

2. The combination with a bed-bottom frame comprising a stationary main portion and a portion folding upwardly relative to said main portion, of a folding leg secured to said main portion, a second folding leg secured to the folding portion, and a link pivotally connecting said legs.

3. The combination with a bed-bottom frame comprising a stationary main portion and a portion folding upwardly relative to said main portion, of a folding leg secured to the folding portion, a second folding leg carried by said main portion, a link unconnected with said frame and pivotally connected with said legs, and means for fastening one of said legs in position.

4. The combination with a bed-bottom frame comprising a main portion and a portion folding upwardly relative to said main portion, of a folding leg secured to said main portion, a second folding leg carried by the folding portion, a link pivotally connected with said legs, and means connected with said frame for fastening one of said legs in position.

5. The combination with a bed-bottom frame comprising a main portion and a folding portion, of a folding leg secured to said main portion, a second folding leg carried by said folding portion, a link pivotally connected with said legs, and means connected with said main portion for fastening one of said legs in position.

6. The combination with a bed-bottom frame comprising a stationary main portion and two movable portions folding upwardly relative to said main portion, of a pair of inwardly-folding legs, one of which is secured to said main portion and the other to one of said movable portions, a link unconnected with said frame and pivotally connecting said legs together, a second pair of inwardly-folding legs, one of which is secured to said main portion and the other to the other of said movable portions, a second link also unconnected with said frame and connecting said second pair of legs together, and means for securing one leg of each pair in position.

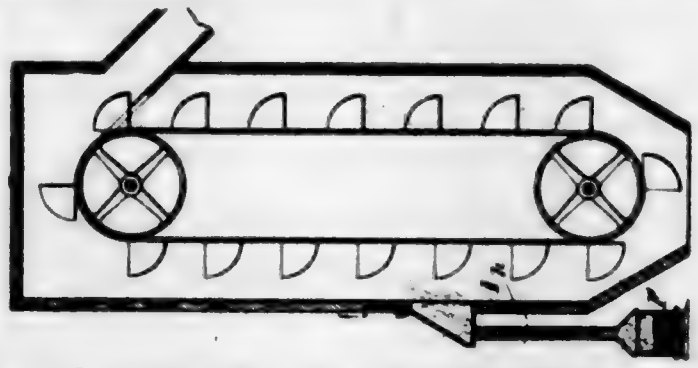
7. The combination with a bed-bottom frame comprising a main portion and a portion folding upwardly relative to said main portion, of a folding leg secured to said main portion, a second folding leg carried by the folding portion, a link pivotally connected with said legs, and a folding headboard carried by said folding portion.

807,910. FUMIGATING ATTACHMENT. JOHN BROWN, Niagara Falls, N. Y., assignor of one-half to William McLean, Lockport, N. Y. Filed July 13, 1905. Serial No. 269,513.

Claim.—1. A fumigating attachment, comprising a door adapted to be applied to an elevator-leg or similar chamber and provided with movable end and side extensions, and a fumigating spout or conduit connected with said door and adapted to communicate with the interior of the elevator-leg, substantially as set forth.

2. In a fumigating apparatus, the combination of an elevator-leg or similar chamber provided with an opening having one of its horizontal edges undercut, a door provided at one end with a movable extension and at its opposite end with a tenon adapted to engage with said undercut edge and on opposite sides of said tenon with horizontally-swinging extensions, and a fumigating spout or conduit connected with said door and communicating with the interior of the elevator-leg, substantially as set forth.

3. A fumigating attachment, comprising a door adapted to be applied to an elevator-leg or similar chamber and provided at one end with a vertically-swinging extension and at its opposite end with a tenon and horizontally-swinging extensions arranged on opposite sides of the tenon, and a fumigating spout or conduit connected with the door and adapted to communicate with the interior of the elevator-leg, substantially as set forth.



4. In a fumigating apparatus, the combination of an elevator-leg or similar chamber having an opening provided with a beveled upper edge and a beveled undercut lower edge, a door applied to said opening and provided at its upper edge with a beveled extension, a vertically-swinging bail connecting said extension with the body of the door, the door being provided at its lower edge with a beveled tenon adapted to interlock with said undercut edge and on opposite sides of said tenon with horizontally-swinging extensions having beveled lower edges, and a fumigating spout or conduit connected with the door and adapted to communicate with the interior of the elevator-leg, substantially as set forth.

807,911. HAY-PRESS. JOSEPH DAIN, Ottumwa, Iowa. Filed Nov. 1, 1903. Serial No. 129,680.



Claim.—1. In a baling-press, the combination with a baling-case provided with a longitudinal slot in its bottom, which extends under the baling-chamber of a head or follower movable in said case, a pull-bar, and a connection between said pull-bar and head or follower, said connection extending through said slot, substantially as described.

2. In a baling-press, the combination of a baling-case provided with a longitudinal slot in its bottom which extends under the baling-chamber, a follower movable in said case, a pull-bar, means connecting said pull-bar with said follower, said connecting means projecting through said slot and having means extending therein in advance of said follower.

3. In a baling-press, the combination with a baling-case provided with a longitudinal slot which extends under the baling-chamber, of a head or follower movable in said case, a web extending rearwardly from said head or follower, a slide carried by said web and extending through said slot, said slide being extended forward of said head or follower, and a pull-bar adapted to be attached to said slide, substantially as described.

4. In a baling-press, the combination of a baling-case provided with a longitudinal slot, a head or follower movable in said slot, a slide connected with said head or follower and projecting through said slot, a pull-bar connected with said slide and extending forwardly of the face of the plunger, and antifriction devices carried by said slide.

5. In a baling-press, the combination with a baling-case provided with a longitudinal slot, of a head or follower movable in said case, a slide located outside of the baling-case and having one end turned up to pass through said slot and engage the rear side of the head or follower, a roller at the forward end of said slide adapted to bear against the outside of the baling-case, another roller in rear of the head or follower adapted to bear against the inside of the baling-case, and a pull-bar connected with said slide, substantially as described.

6. In a baling-press, the combination of a case having a longitudinal slot in its bottom which extends under the baling-chamber, a follower movable in said case, a connecting device lying under said case and having a portion projecting through said slot and connected with said follower adjacent to the operative face thereof, and a pull-bar connected with the forward end of said connecting device.

7. In a baling-press, the combination with a case having a longitudinal slot in its bottom, which extends under the baling-chamber of a head or follower movable within said case, and a slide projecting through said slot and engaging said head adjacent to the operative face thereof, said slide extending forward of the head and having a central portion lying in said slot, substantially as described.

8. A baling-press comprising a baling-case provided with a longitudinal slot in its bottom which extends under the baling-chamber, a follower movable in said case, and connecting means extending through said slot and connected to the follower adjacent to the operative face thereof.

9. In a baling-press, the combination with a baling-case provided with a longitudinal slot in its bottom, which extends under the baling-chamber of a head or follower movable in said case, a web extended rearwardly from said head or follower, a pull-bar located below said slotted bottom of the case, and means extending through said slot and connecting said pull-bar with said web, substantially as described.

10. In a baling-press, the combination with a baling-case provided with a longitudinal slot in its bottom, which extends under the baling-chamber of a head or follower movable in said case, antifriction-roller-supporting means connected with said head or follower so as to move therewith, and means extending though said slot for operating said head or follower, substantially as described.

11. In a baling-press, the combination with a baling-case provided with a longitudinal slot in its bottom, which extends under the baling-chamber of a head or follower movable in said case, antifriction-rollers above and below the bottom of the baling-case, means connecting both of said antifriction-rollers with said head or follower, and means extending through said slot for operating said head or follower, substantially as described.

12. In a baling-press, the combination of a baling-case provided with a longitudinal slot in its bottom which extends under the baling-chamber, a follower movable in said case, a connecting-bar connected to the follower and extending through the slot in the baling-case, an antifriction-roller connected with said bar in advance of said follower, and another antifriction-roller connected with said bar at the rear of said follower.

13. In a baling-press, the combination of a baling-case provided with a longitudinal slot in its bottom which extends under the baling-chamber, a follower movable in said case, a pull-bar, connecting means projecting at the rear through said slot and connected with said follower, and at its forward end connected with said pull-bar in advance of the follower.

14. A follower for baling-presses, having a rearwardly-extending web adapted to be connected with pulling mechanism, and one or more supporting-rollers connected with said web back of the operating-face of the follower.

15. A follower for baling-presses, having a rearwardly-extending web, a member connected with said web and extending forward of the operating-face of the follower, and one or more rollers carried by said member.

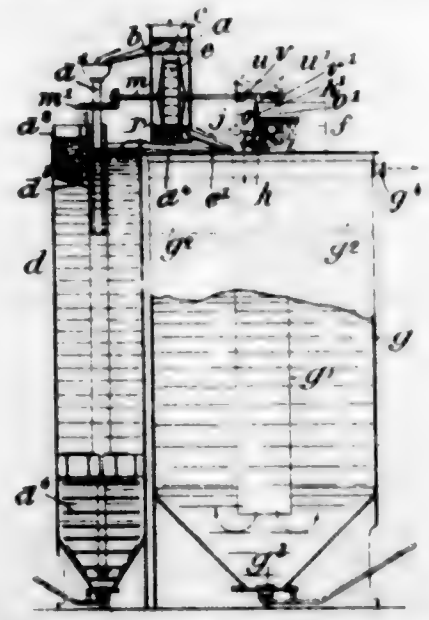
16. A follower for baling-presses, having a rearwardly-extending web, a member connected with said web and extending forward of the operating-face of the follower, one or more rollers carried by said member, and one or more rollers carried by said web back of the operating-face of the follower.

807,912. APPARATUS FOR PURIFYING FOUL WATER.

HENRI DEBRUMAUX, Paris, France. Filed Feb. 3, 1905. Serial No. 244,004.

Claim.—1. In an apparatus for purifying foul water, the combination of a reservoir for the water to be purified having openings located at the same level and having the same height, a mixing-tank, a device for saturating water with lime located in position to receive water from one of said openings and to feed the mixing-tank, a wheel adapted to operate proportionally to the outflow of water from another of said openings, means for conducting water from the latter opening to the mixing-tank, a reagent-reservoir, a portioning-compartment connected with said reagent-reservoir, and means operable by said wheel for controlling the discharge of material from the reagent-reservoir.

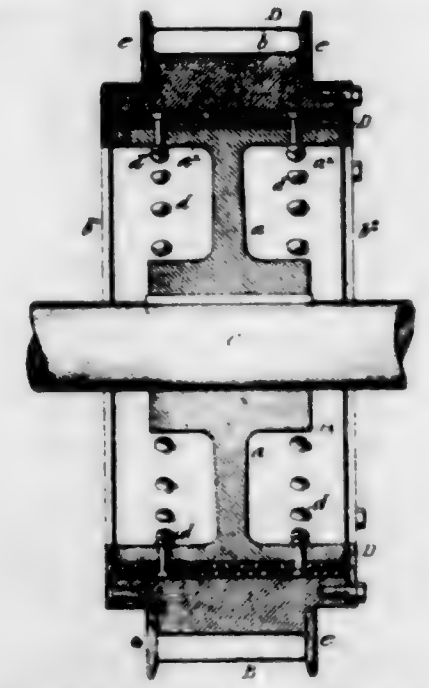
2. In apparatus for purifying foul water, the combination of a reagent-reservoir, a compartment at the bottom of the said reservoir, an inlet and an outlet valve on the said compartment, a revolving shaft, two worms threaded in opposite directions on the said shaft, two worm-wheels meshing with the said worms, two crank-plates on the said wheels, and chains attached to the said plates to actuate the said valves respectively.



3. In an apparatus for purifying foul water the combination of a reservoir for the water to be purified, having two openings adapted to discharge the same amount of water, a mixing-tank, a device for saturating water with lime adapted to receive water from one of said openings and to feed the mixing-tank, a movable element operating proportionately to the outflow of water from the other of said openings, means for conducting water from said movable element to the mixing-tank, a reagent-reservoir, a compartment connected with said reagent-reservoir having inlet and outlet valves, a shaft connected with said movable element, and means on said shaft for operating said valves alternately, whereby liquid will pass through said compartment in proportion to the movement of said moving element.

807,913. SLIP SPROCKET-WHEEL.

JAMES M. DODGE, Philadelphia, Pa., assignor to The Link Belt Engineering Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed June 28, 1905. Serial No. 267,425.



Claim.—1. The combination in a sprocket-wheel, of an unyielding hub-section, a rim-section having teeth thereon, with a ring of friction material mounted between the hub-section and the rim-section and secured to one section and fitting snugly on the other section, substantially as described.

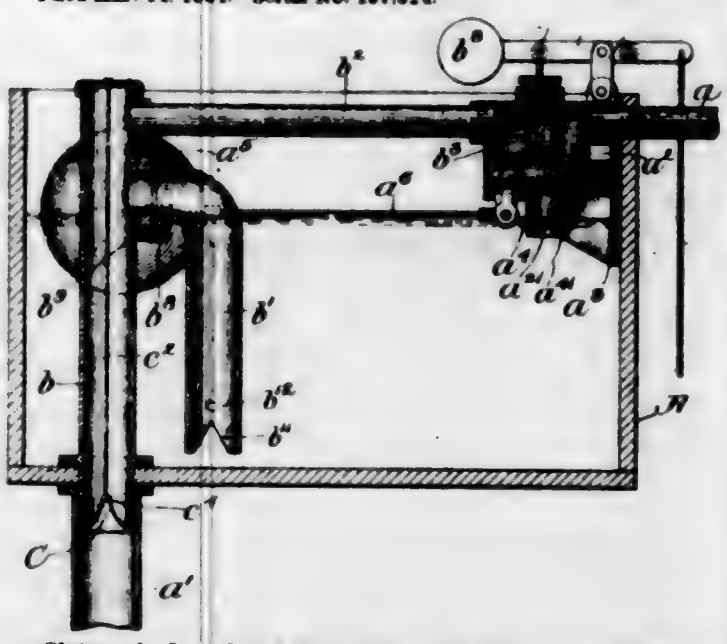
2. The combination of a hub-section, a rim-section having sprocket-teeth thereon, a leather friction-ring secured to the hub-section and fitting snugly into the rim-section, and side plates on the rim-section acting to retain the rim in line with the hub-section, substantially as described.

3. The combination of a hub-section having central web and

side flanges, a friction-ring secured to the periphery of the hub-section by two lines of rivets passing through the flanges of the hub-section, with a rim-section fitting over the friction-ring and having teeth on its periphery, substantially as described.

4. The combination of a hub-section, a ring of friction material secured to the hub-section, a rim-section having teeth said ring being in frictional contact with the friction-ring and having a fixed ring on one side and a detachable ring on the opposite side to keep the rim-section in line with the hub-section, substantially as described.

807,914. **FLUSHING APPARATUS.** TREVELLYAN DUCHORR, Medford, Mass., assignor to Walter Esmond Barnes, Malden, Mass. Filed Mar. 14, 1904. Serial No. 197,914.



Claim.—1. In a flushing apparatus of the character described, a siphon, and a yielding obstruction in the longer member of the siphon for temporarily retarding the descent of the water until sufficient water has collected in said member to start the siphon.

2. A flushing apparatus comprising a tank; a siphon for discharging water from the tank having its shorter member communicating with the interior of the tank; a main water-supply conduit discharging into the tank; a valve controlling said conduit; a float for operating said valve; a supplemental water-supply conduit discharging into the longer member of the siphon; a valve controlling the supplemental conduit; and a yielding obstruction in the longer member of the siphon for temporarily retarding the descent of the water admitted to said member from the supplemental conduit until sufficient water has collected in said member to start the siphon.

3. A flushing apparatus comprising a tank; a siphon for discharging water from the tank having its shorter member communicating with the interior of the tank; a main water-supply conduit discharging into the tank; a valve controlling said conduit; a float for operating said valve; a supplemental water-supply conduit discharging into the longer member of the siphon; a valve controlling the supplemental conduit; and a diaphragm in the longer member of the siphon comprising a pair of resilient folding wings for temporarily retarding the descent of the water admitted to said member from the supplemental conduit until sufficient water has collected in said member to start the siphon.

4. A flushing apparatus comprising a tank; a siphon for discharging water from the tank having its shorter member communicating with the interior of the tank; a main water-supply conduit discharging into the tank; a valve controlling said conduit; a float for operating said valve; a supplemental water-supply conduit discharging into the longer member of the siphon; a valve controlling the supplemental conduit; a diaphragm in the longer member of the siphon comprising a pair of resilient folding wings for temporarily retarding the descent of the water admitted to said member from the supplemental conduit until sufficient water has collected in said member to start the siphon; a removable cap fixed to the upper end of the longer member of the siphon, and a hanger for supporting the diaphragm connected at its upper end to said cap.

807,915. **DEVICE FOR LOCATING SHIPWRECKS.** CLARENCE J. DURHAM, Muskegon, Mich. Filed June 6, 1904. Serial No. 211,337.

Claim.—1. In a device for locating shipwrecks the combination of an annular buoy member detachably secured to any convenient portion of vessel, means for the reception of a cable or rope wound upon the exterior portion of said buoy member, with one extremity of said cable fastened to vessel, and means whereby the other extremity is retained to buoy member, substantially as described.

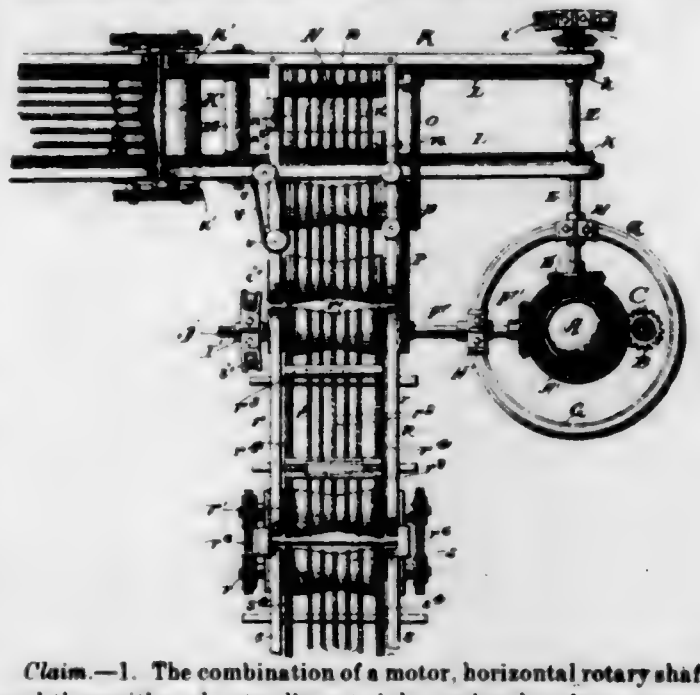


2. In a device for locating shipwrecks the combination of an annular buoy member detachably secured to vessel means for the reception of a cable wound upon the exterior, retaining said buoy to vessel; said buoy member provided with an inward-extending compression-chamber whereby the action of waves compresses air in said chamber, substantially as described.

3. The combination in a device for locating shipwrecks, of an annular buoy member provided with an inward-extending compression-chamber means whereby said buoy member is removably secured to vessel by the escape of the trunnions from the standards, and provided with means for the reception of a cable wound upon the exterior of said buoy and a whistle actuated by air compressed within said compression-chamber substantially as described.

4. The combination in a device for locating shipwrecks of an annular buoy member, secured to vessel by a cable wound upon the exterior portion in normal position; and provided with an inward compression-chamber having the submerged end open, and means whereby the air compressed by the action of waves, passes through a whistle adapted to produce a reverberation of sound whereby the location of said buoy may be ascertained, substantially as described.

807,916. **ELEVATOR AND CONVEYER.** AUGUST G. EDMUND, Vicksburg, Miss. Filed Mar. 28, 1905. Serial No. 252,491.



Claim.—1. The combination of a motor, horizontal rotary shafts geared therewith and extending at right angles therefrom, conveyers connected with and operated by said shafts, and extending in different directions, the conveyers being formed of a series of sections which are flexibly connected and each section comprising a frame having parallel side bars, and means arranged within the same for carrying and conveying freight the several sections being provided with means for operatively connecting the movable carriers of said sections, substantially as described.

2. In an elevator and conveyer for the purpose specified, the combination with a motor, of rotary shafts geared therewith and extending at right angles, two main conveyers operatively connected with the respective shafts, and a conveyer-section N applied to one of such main conveyers, and provided with a carrier operating at right angles therewith but in line with the other conveyer, substantially as described.

3. In an elevator and conveyer for the purpose specified, the combination with a motor, of rotary shafts geared therewith and extending at right angles, two main conveyers operatively connected with the respective shafts, a conveyer-section N applied to one of such main conveyers, and provided with a carrier operating at right angles therewith but in line with the other conveyer, and a belt arranged at the junction of the main conveyers and adapted to serve as

a guard for freight passing from one to the other, substantially as described.

4. The combination with a motor-shaft and auxiliary shafts extending therefrom at right angles to each other, of two main conveyers operatively connected with the respective shafts, and a shifting carrier N arranged upon one of the conveyers and in line with the other conveyer, and means connecting the latter with such shifting carrier for driving it in the manner described.

5. The combination with a motor-shaft and a track arranged concentric therewith, of an auxiliary shaft geared with the first-named shaft and having a bearing adapted for adjustment on the track, and means for clamping it thereto, substantially as described.

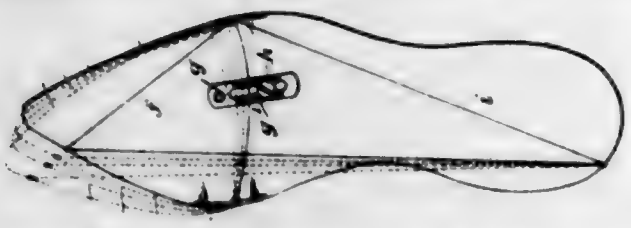
6. The combination with a motor-shaft, and an auxiliary shaft geared therewith, and extended horizontally, and two arc-shaped tracks arranged concentrically with the motor-shaft and spaced apart, and bearings for the auxiliary shaft which are applied to the respective tracks, and adapted for adjustment thereon, and means for clamping them in any required position, substantially as described.

7. The combination with a motor-shaft, two arc-shaped tracks arranged concentrically therewith and spaced therefrom, and bearings for the auxiliary shaft which are adapted for adjustment on the tracks, and rollers forming part of such bearings and adapted to run on the tracks, and means for securing the bearings in any selected position, substantially as described.

8. The combination with a conveyer-section, comprising a rigid frame having side bars whose ends are semicircular, as described, double-cone rollers journaled in the ends of the frame, a series of ropes running on said rollers, and cross-bars applied to the ropes and their inner sides shaped to the contour of the rollers, such bars having end portions and rollers journaled thereon and traveling on the side bars of the frame, substantially as described.

9. A conveyer-section comprising a rigid frame having side bars with semicircular ends, and a carrier arranged therein, the said frame having downward extensions or legs provided with rollers which are adapted to run on the said bars of another section, whereby several sections may be arranged one upon another for convenience of storage or transportation, substantially as described.

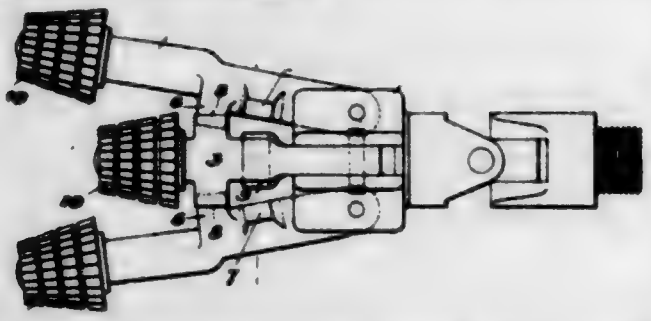
807,917. **LAST.** GEORG ENGELHARDT, Cassel, and CARL F. FÖLSCH, Wernigerode-on-the-Harz, Germany. Filed Feb. 18, 1905. Serial No. 245,858.



Claim.—1. A shoe-last, comprising a main portion, and a toe portion hinged to the main portion on the inner side, at a point opposite which the base of the great toe comes.

2. A shoe-last, comprising a main portion, a toe portion hinged to the main portion on the inner side at a point opposite which the base of the great toe comes, and means for locking the toe portion to the main portion.

807,918. **TUBE-CLEANER.** FRANK M. FABER, Pittsburg, Pa., assignor to William S. Elliott, Pittsburg, Pa. Original application filed Mar. 10, 1903, Serial No. 147,068. Divided and this application filed July 20, 1903. Serial No. 166,235.



Claim.—1. A tube-cleaner having swinging arms each provided with a square-sided stop arranged to contact with the inner side of an adjacent arm to positively limit the inward movement of said arms; substantially as described.

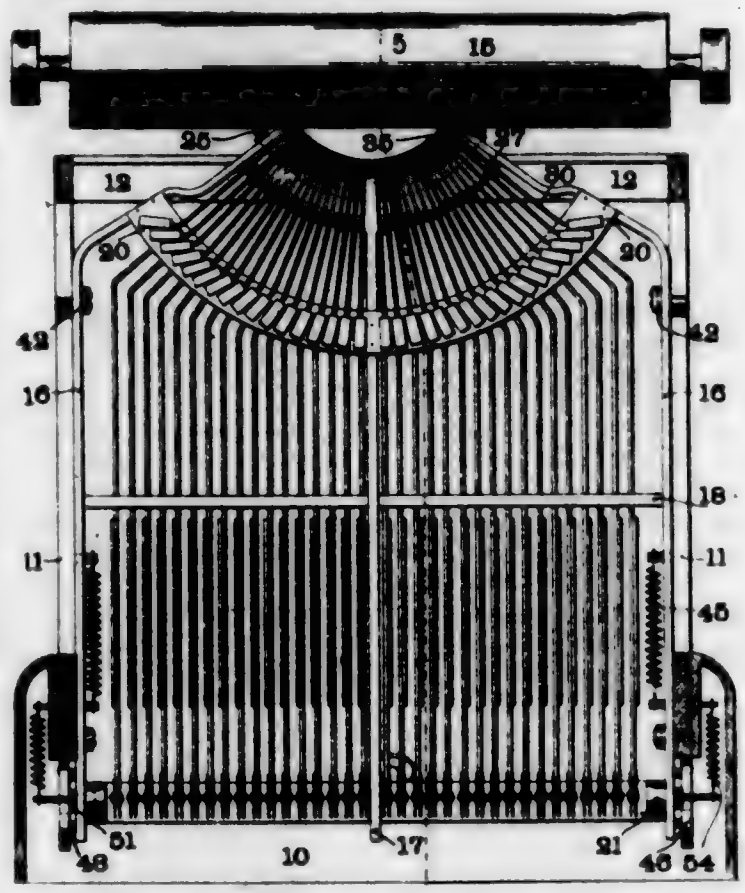
2. A tube-cleaner having swinging arms, at least one arm having an inwardly-projecting guide, the adjacent arm having a side wing arranged to engage the side face of said projection; substantially as described.

3. A tube-cleaner having swinging arms, each arm having an inwardly-projecting guide, and a side wing, the side wing of each arm being arranged to engage the side face of the inwardly-projecting guide of the adjacent arm; substantially as described.

4. A tube-cleaner having swinging arms arranged in pairs, each pair having inwardly-projecting lugs at one level and side wings at another level, the wings of one pair engaging the side faces of the lugs on the other pair; substantially as described.

5. A tube-cleaner having swinging arms, cutters at the free ends of said arms and coacting stops and wings on said arms to prevent contact of the cutters with each other or with adjacent arms; substantially as described.

807,919. **TYPE-WRITING MACHINE.** EUGENE FAHL, St. Louis, Mo. Filed Oct. 5, 1904. Serial No. 227,194.



Claim.—1. In a type-writing machine, the combination with a platen, of a frame movable toward and away from said platen, type-bars connected with said frame, key-bars for actuating said type-bars and carried by and movable with said frame, a spring for normally holding said frame in its position nearest said platen, and means for moving said frame away from said platen.

2. In a type-writing machine, the combination with a platen, of a frame movable toward and away from said platen, type-bars connected with said frame, key-bars for actuating said type-bars, a spring for normally holding said frame in its position nearest said platen, a lock for said frame, and means for moving said frame away from said platen.

3. In a type-writing machine, the combination with a platen, of a frame movable toward and away from said platen, type-bars connected with said frame, key-bars for actuating said type-bars and carried by and movable with said frame, a spring for normally holding said frame in its position nearest said platen, a lock for said frame, and means for moving said frame away from said platen.

4. In a type-writing machine, the combination with a platen, of a frame movable toward and away from said platen and normally in its position nearest said platen, type-bars carried by said frame and coöperating with said platen, key-bars also carried by said frame and actuating said type-bars, a lock for said frame, and means for releasing said lock, said means being also adapted to move said frame from said platen.

5. In a type-writing machine, the combination with a platen, of a frame movable toward and away from said platen, type-bars carried by said frame and coöperating with said platen, key-bars for operating said type-bars, a spring normally holding said frame in its position nearest said platen, means for locking said frame in its position nearest said platen, and means for releasing said lock and for moving said frame away from said platen.

6. In a type-writing machine, the combination with a support, of washers non-rotatively mounted thereon and provided with bosses, type-bars pivotally mounted on said bosses, and means for actuating said bars.

7. In a type-writing machine, the combination with a curved support, of wedge-shaped washers non-rotatively mounted on said support and provided with bosses, type-bars pivotally mounted on said bosses, and means for actuating the said bars.

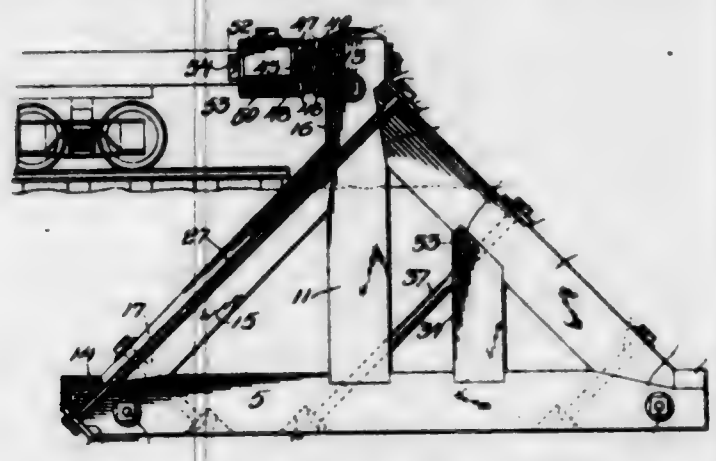
8. In a type-writing machine, the combination with a support, of type-bars surrounding said support and provided with a key, racks engaging with the teeth of said bars, and washers between said bars, said washers acting as guides for said racks.

9. In a type-writing machine, the combination with a curved support, of wedge-shaped washers non-rotatively mounted on said support and provided with bosses, type-bars mounted on said bosses, and provided with teeth, and racks engaging with the teeth of said bar and sliding between said washers.

10. In a type-writing machine, the combination with a platen, of a movable frame, type-bars carried by said frame and coöperating with said platen, key-bars also carried by said frame and actuating said type-bars, means normally locking said frame against movement from said platen, and means for releasing said frame and moving it away from said platen to shift said type-bars from one case to another.

11. In a type-writing machine, the combination with a platen, of a frame movable toward and away from said platen and normally in its position nearest said platen, a spring to move said frame toward said platen, a lock for retaining said frame in its position nearest said platen, a shift-key, and means operated through said shirt key to release said lock and move said frame away from said platen.

807,920. **CAR-BUMPER.** RICHARD H. FLETCHER, Alexandria, Va. Filed Apr. 4, 1905. Serial No. 253,867.



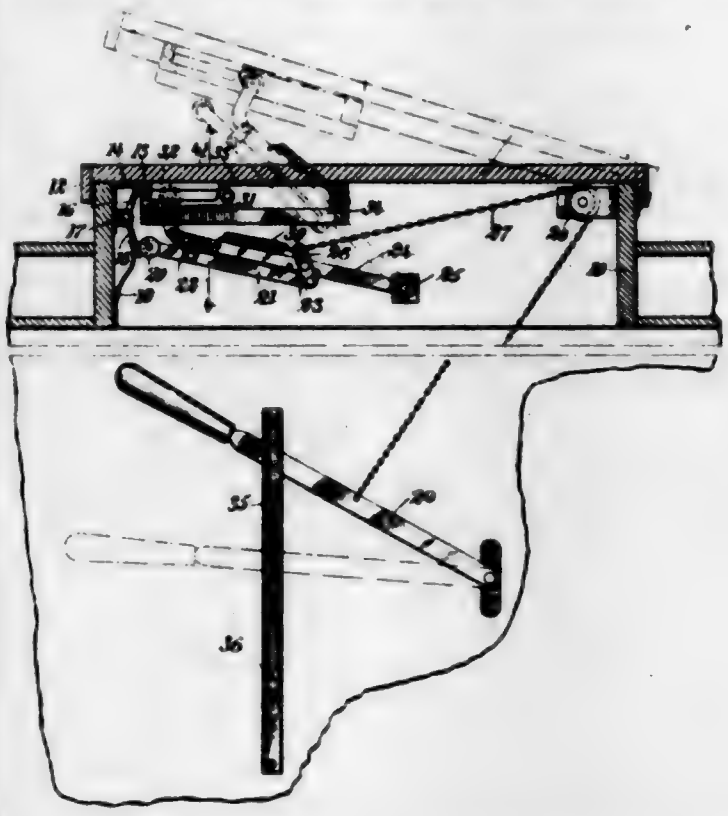
Claim.—1. A device of the class described comprising sills uprights mounted upon the sills, forwardly and rearwardly extending diagonal braces secured at their lower ends to the sills and at their upper ends to the uprights, the rearward braces lying with their upper extremities above the upper extremities of the forward braces, a plate carried by the forward ends of the sills, a plate disposed against the rearward faces of the rearward braces adjacent to the upper ends of the latter, tie-bolts engaged in the two plates, and a compressible buffer carried by the upper ends of the uprights and extending forwardly therefrom.

2. A device of the class described comprising parallel sills having their lower forward corners beveled, uprights secured to the sills between the ends of the latter, braces for the uprights, a plate disposed against the beveled portions of the sills, a plate disposed against the rearward faces of the uprights at the upper portions thereof, and tie-rods engaged in the second plates, the upper portions of said uprights being arranged to receive the impact of a moving body against their forward faces.

3. In a bumper for cars the combination with supporting-uprights having horizontal passages therein at their upper ends, of bolts slidably engaged in the passages and extending forwardly of the uprights, a transverse beam having passages therein in which the forward portions of the bolts are engaged, a face-plate secured against the forward faces of the beam and covering the forward ends of the passages to prevent rearward movement of the beam upon the bolts, springs disposed between the uprights and beam to hold the latter yieldably against rearward movement, and means for varying the tension of the springs.

4. A bumper for cars comprising spaced parallel sills spaced uprights carried by the sills between the ends of the latter, spacing-blocks engaged between the sills, bolts engaged in the sills and in the spacing-blocks, said sills having notches adjacent to their forward and rearward ends, braces engaged at their lower ends in the notches, said uprights having notches in their forward and rearward faces in which the upper ends of the braces are engaged, fastening-bolts engaged in the braces and in the sills, supplemental uprights received at their lower ends to the sills and at their upper ends in the rearward braces, bolts engaged in the sills the uprights and the rearward braces, coinciding plates carried by the forward ends of the sills and by the upper ends of the rearward braces, tie-rods engaged in the coinciding plates and lying at the sides of the sills and braces and a compressible buffer carried by the upper ends of the first-named uprights and extending forwardly therefrom.

807,921. **SCUTTLE-HOLE PROTECTOR.** ADOLF GANZENMÜLLER, New York, N. Y. Filed Mar. 31, 1905. Serial No. 253,177.



Claim.—1. The combination of a swinging closure for an opening, a latch therefor, means for swinging the closure comprising an arm, means for rendering the latch inoperative comprising a bar mounted on the arm, and a pair of links mounted in parallel position with respect to each other and pivoted to the arm and the bar, one of said links extending beyond the arm and constituting a lever for moving the bar.

2. The combination with a swinging closure for an opening, of a latch thereon, a stationary plate adapted to engage the latch, a swinging arm adapted to force the latch into inoperative position, a rod upon which said arm is mounted, said rod having a projection, means for moving said projection, comprising a movable bar, a swinging arm upon which the bar is mounted, and means for moving the bar with respect to the arm and forcing the bar into engagement with said projection.

3. The combination with a scuttle-hole protector having a track thereon and a latch, of a plate adapted to engage said latch and provided with a slot adjacent to the latch, an oscillatable rod having an arm entering said slot and adapted to engage the latch, said rod also having a projection, a spring for normally forcing said arm away from the latch, a bar having a roller adapted to engage the projection to force the arm toward the latch, a swinging arm upon which said bar is mounted in parallelism, said arm having a roller engaging said track, a lever pivoted on the last-mentioned arm for operating the bar thereon, a spring on the last-mentioned arm for normally keeping the bar in inoperative position, a flexible connection having one end fixed in such position as to counteract the action of said spring, and means for operating said flexible connection.

4. The combination of an upwardly-opening closure, a latch, a plate adapted to engage the latch and provided with a slot adjacent to the latch, an arm entering said slot and adapted to engage the latch, a projection connected with said arm, means for normally forcing the arm away from the latch, a bar adapted to engage the projection to force the arm toward the latch, an arm upon which the bar is mounted, a lever pivoted on the last-mentioned arm for oper-

ating the bar thereon, and a spring on the last-mentioned arm for normally keeping the bar in inoperative position.

5. The combination of an upwardly-opening closure, a latch, a plate adapted to engage the latch and provided with a slot adjacent to the latch, an arm entering said slot and adapted to engage the latch, a projection connected with said arm, means for normally forcing the arm away from the latch, a bar adapted to engage the projection to force the arm toward the latch, an arm upon which the bar is mounted, a lever pivoted on the last-mentioned arm for operating the bar thereon, a spring on the last-mentioned arm for normally keeping the bar in inoperative position, a flexible connection having one end fixed in such position as to counteract the action of said means for forcing the arm away from the latch, and means for operating said flexible connection.

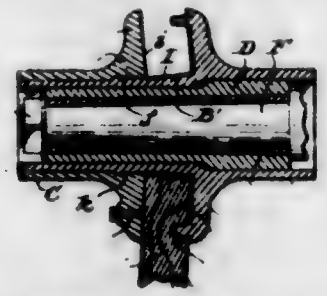
6. The combination of an upwardly-opening closure, a spring-latch, a plate adapted to engage the spring-latch, an arm adapted to engage the latch, said plate and arm being mounted on a fixed frame surrounding the opening to be protected, a projection connected with said arm, a spring located outside the latch for normally forcing the arm away from the latch, a bar adapted to engage the projection, an arm upon which the bar is mounted, a lever pivoted on the last-mentioned arm for operating the bar thereon, a spring connected with the last-mentioned arm for normally keeping the bar in inoperative position, a flexible member connected with the bar, and means for moving the flexible member to counteract the action of said means for forcing the arm away from the latch.

7. The combination of an upwardly-opening closure, a spring-latch, a plate adapted to engage the spring-latch, an arm also adapted to engage the latch, the said plate and arm being mounted on a fixed frame surrounding the opening to be protected, a spring located outside the latch for normally forcing the arm away from the latch, a bar adapted to force the arm toward the latch, an arm upon which the bar is mounted, a lever pivoted to the last-mentioned arm for operating the bar thereon, resilient means on the last-mentioned arm for normally keeping the bar in inoperative position, and means for counteracting the action of said means for forcing the arm away from the latch.

8. The combination of an upwardly-opening closure, a spring-latch, a plate adapted to engage the spring-latch, an arm adjacent to said plate also adapted to engage the latch, the said plate and arm being mounted on a fixed frame surrounding the opening to be protected, a bar for forcing the arm toward the latch, an arm upon which the bar is mounted, and a lever pivoted to the last-mentioned arm for operating the bar thereon.

9. The combination of an upwardly-opening closure, a latch, a plate for engaging the latch and provided with a slot adjacent to the latch, an arm entering said slot and adapted to engage the latch, the said plate and arm being mounted on a fixed frame surrounding the opening to be protected, a projection connected with the arm, a bar adapted to engage the projection to force the arm toward the latch, an arm upon which the bar is mounted, and a lever mounted on the last-mentioned arm for operating the bar thereon.

807,922. **ADJUSTABLE VEHICLE-WHEEL.** BERT D. GILSON, Indianapolis, Ind., assignor of one-half to Leon Maymon, Indianapolis, Ind. Filed Mar. 18, 1905. Serial No. 250,766.



Claim.—1. In a wheel-hub, the combination of a foundation part having facets formed on the exterior of the rear end portion thereof, the exterior of the front end portion of the foundation part being straight with screw-threads thereon remote from the end thereof, there being a spoke-seat adjacent to the screw-threads, a flange attached integrally to the foundation part between the facets and the spoke-seat, a front part extending over the straight portion of the foundation part from the end thereof to the spoke-seat, there being screw-threads in the front part engaging the screw-threads of the foundation part, the front part having facets on the exterior thereof, a flange attached integrally to the front part, and a packing in the foundation part.

2. In a wheel-hub, the combination of an axle-box, a packing extending about the axle-box and from end to end thereof, a foundation part extending about the packing and beyond the ends thereof and having facets formed on the exterior thereof, the exterior of the front end portion of the foundation part being straight with screw-threads thereon remote from the end thereof, there being a spoke-seat adjacent to the screw-threads, a flange attached integrally to the foundation part between the spoke-seat and the facets thereof, studs attached to the flange, a front part extending over the straight portion of the foundation part from the end thereof to the spoke-seat, there being screw-threads in the front part engaging the screw-threads of the foundation part, the front part having facets on the exterior thereof, a flange attached integrally to the front part, and a set-screw extending through the flange of the front part.

3. In a wheel-hub, the combination of an axle-box, a packing extending about the axle-box and from end to end thereof, a foundation part extending about the packing and beyond the ends thereof and having facets formed on the exterior thereof, the exterior of the front end portion of the foundation part being straight with screw-threads thereon remote from the end thereof, there being a spoke-seat adjacent to the screw-threads, a flange attached integrally to the foundation part between the spoke-seat and the facets thereof, a front part extending over the straight portion of the foundation part from the end thereof to the spoke-seat, there being screw-threads in the front part engaging the screw-threads of the foundation part, the front part having facets on the exterior thereof, a flange attached integrally to the front part, and a set-screw extending through the flange of the front part.

4. In a wheel-hub, the combination of an axle-box, a packing extending about the axle-box and from end to end thereof, a foundation part extending about the packing and beyond the ends thereof and having facets formed on the exterior thereof, the exterior of the front end portion of the foundation part being straight with screw-threads thereon remote from the end thereof, there being a spoke-seat adjacent to the screw-threads, a flange attached integrally to the foundation part between the spoke-seat and the facets thereof, studs attached to the flange, a front part extending over the straight portion of the foundation part from the end thereof to the spoke-seat, there being screw-threads in the front part engaging the screw-threads of the foundation part, the front part having facets on the exterior thereof, and a flange attached integrally to the front part.

807,923. **CATAMENIAL SACK.** JOSEPH GRIFFITH, Springfield, Ohio. Filed Oct. 27, 1904. Serial No. 230,195.



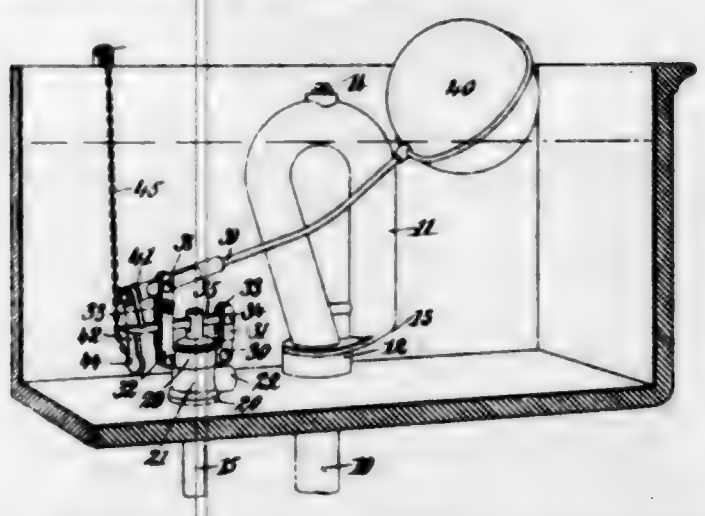
Claim.—The herein-described catamenial sack made up of a sack-like body, of soft material, having oppositely-disposed folds D at its end extending throughout the height of said ends; said folds adapting the sack when opened or distended to form a receptacle and when not in use to be compactly folded, tabs arranged at the outer sides of the folds and extending upwardly beyond the upper ends of the same, and means extending through and connecting the tabs, the several thicknesses of material afforded by the folds and the main portion of the body.

807,924. **FLUSHING DEVICE.** PEYTON L. GUEST, Columbus, Ga. Filed Jan. 14, 1905. Serial No. 241,013.

Claim.—1. The combination of a valve-casing, a valve therefor, a standard on the casing, a float pivotally mounted, a valve-lever pivoted to the standard, and a detent connected with the float for engaging said lever.

2. The combination of a valve-casing, a valve therefor, a standard rigidly mounted with respect to the casing, a rod pivotally mounted on the standard, a float on the rod, a valve-lever pivotally mounted, and a detent mounted on said rod and adapted to engage said lever for holding the valve in closed position.

3. The combination of a valve-casing, a valve therefor, a standard on the casing comprising two upwardly-extending portions on opposite sides of the casing, one of said portions terminating at a point near the top of the valve, a lever pivoted to the upper part of the last-named portion and connected with the valve, said lever extending through and beyond the other portion, said other portion extending to a height above that of the first-named portion, a float, a rod pivoted to the highest portion of the standard, and a detent mounted on said rod for engaging said lever.



4. The combination of a valve-casing, a valve therefor, a standard rigidly mounted with respect to the casing, a rod pivotally mounted on the standard, a float on the rod, a valve-lever pivotally mounted, a detent mounted on said rod and adapted to engage said lever for holding the valve in closed position; said detent being pivoted on a line coincident with the axis of said rod, and said rod being pivoted on a line transverse thereto, whereby the motion of the rod will move the detent into engaging position with respect to the lever; and means for disengaging the detent from the lever.

5. The combination with a valve-casing, a plunger therein constituting a valve, a standard connected with said casing and having a pair of projections extending upwardly therefrom, a lever pivoted to one of said projections and connected with the plunger, a float pivotally mounted upon the other of said projections, and a detent connected with said float and adapted to engage said lever.

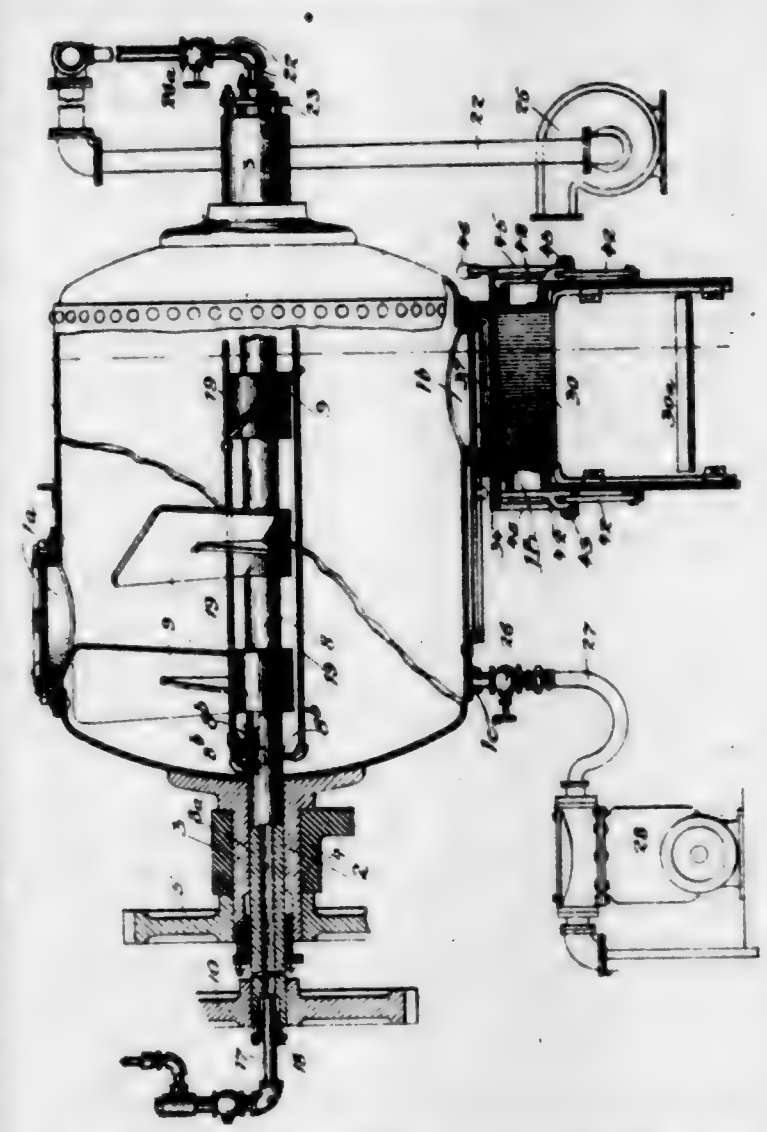
6. The combination with a valve-casing having a valve-seat therein, a plunger in the casing constituting a valve for said seat, a pair of standards mounted on the exterior of said casing and each provided with a pair of projections, the projections of one standard registering with those of the other and having spaces between them, a lever pivotally connected with one of said projections on each standard and passing through the spaces between the other two projections, said lever being connected with the plunger for operating it, and means for forcing said lever toward the plunger to seat the valve, said means comprising a detent adapted to engage the lever.

807,925. **WOOD-FIBER DIGESTER.** ARTHUR W. HANDFORD, Evanston, Ill., assignor to Wood Distillates and Fibre Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 27, 1904. Serial No. 238,307.

Claim.—1. An apparatus for the purpose indicated consisting of a shell mounted for rotation about its axis, a shaft extending axially through such shell and also mounted for rotation about its axis and having arms or paddles arranged for advancing the material through the shell longitudinally by the rotation of the shaft; means for rotating the shaft; means for rotating the shell independently of the shaft and means for disconnecting either the shaft or the shell at will from the driving power.

2. An apparatus for the purpose indicated consisting of a shell mounted for rotation about its axis; a shaft extending axially through such shell and also mounted for rotation about its axis and having means within the shell for advancing the contents of the latter longitudinally therethrough by the rotation of the shaft while the shell is at rest; means for rotating the shaft; means engageable and disengageable at will for rotating the shell, the shaft having an axial bore from one end opening within the shell and a steam-supply pipe telescoping with such axial bore of the shaft for supplying steam to the shell.

3. An apparatus for the purpose indicated consisting of a shell mounted for rotation about its axis, a shaft extending axially through such shell, such shaft being axially bored from both ends inward, such bores opening for communication with the interior of the shell; a steam-supply pipe telescoping with one of said bores and a vapor-exhaust pipe telescoping with the other.



4. An apparatus for the purpose indicated consisting of a shell, a shaft extending axially therethrough and mounted for rotation about its axis and means for rotating it, said shaft being axially bored from both ends, such bores being opened within the shell for communication with the cavity thereof; a steam-supply pipe telescoping with one of said bores and a vapor-exhaust pipe telescoping with the other.

5. An apparatus for the purpose indicated consisting of a shell mounted for rotation about its axis; a shaft extending axially through the shell also mounted for rotation and means for rotating the shaft and the shell independently of each other, the shaft having axial cavities extending in from the two ends and opening within the shell for communication with the cavity thereof; a steam-supply pipe communicating with one of said cavities and a stuffing-box through which it protrudes for such communication, and a vapor-exhaust pipe communicating with the other cavity and a stuffing-box protecting such communication.

6. An apparatus for the purpose indicated consisting of a shell mounted for rotation about its axis and disengageable means for rotating it; a shaft extending axially through such shell also mounted for rotation about its axis and disengageable means for rotating it independently of the shell; a shaft having arms or wings arranged for advancing the material through the shell longitudinally by rotation of the shaft and having an axial cavity leading in from one end and communicating with the interior cavity of the shell; a steam-pipe communicating with said cavity of the shaft and a stuffing-box which protects such communication.

7. In an apparatus for the purpose indicated, in combination with a shell mounted for rotation about its axis, a shaft extending axially therethrough journaled in the heads of the shell and also mounted for rotation independently of the shell, said shaft having an axial cavity leading in from one end and pipes connected with said axial cavity within the shell and extending longitudinally thereof; an aperture for discharge within the shell and a steam-supply pipe connected with the axial cavity of the shaft outside the shell for delivering steam into the latter through said axial cavity and interior pipe.

8. In an apparatus for the purpose indicated, in combination with the shell, a shaft extending axially therethrough having an axial cavity leading in from one end for supplying steam to the shell;

a plurality of pipes connected with said axial cavity within the shell extending longitudinally thereof, said pipes being severally opened at different points in the length of the shell for distributing steam therethrough, and a steam-supply pipe connected with said axial cavity of the shaft outside the shell.

9. In an apparatus for the purpose indicated, in combination with a shell, a shaft extending axially therethrough mounted for rotation in the heads of the shell and having within the latter arms or paddles for advancing material through the shell by the rotation of the shaft, said shaft having an axial cavity leading in from the end, and a plurality of pipes connected with said cavity within the shell and extending longitudinally thereof, said pipes being perforated respectively at different portions of the length of the shell for distributing the discharge of the pipe through the shell, and a pipe for supplying the heating medium connected with the axial cavity of the shaft outside the shell and a stuffing-box guarding such connection.

10. In an apparatus for the purpose indicated, in combination with a shell, a shaft extending axially therethrough mounted for rotation in the heads of the shell and means for rotating it, said shaft having an axial aperture leading in from each end; a plurality of pipes connected with each of said axial cavities within the shell and extending longitudinally thereof, the several pipes leading from each of said cavities being open for discharge within the shell at different points in the length thereof; a pipe for supplying the heating medium connected with one of said axial cavities of the shaft outside the shell and an exhaust-pipe connected with the outer of said cavities outside the shell.

11. In an apparatus for the purpose indicated, in combination with a shell mounted for rotation about its axis, a shaft extending axially therethrough, said shaft having an axial cavity leading in from one end and communicating with the cavity of the shell; a pipe for supplying the heating medium connected with said cavity of the shaft outside the shell, said shaft having also an axial cavity extending in from the other end communicating with the cavity of the shell, and an exhaust-pipe connected with said axial cavity of the shaft outside the shell.

12. In an apparatus for the purpose indicated, in combination with the shell mounted for rotation about its axis and means for rotating it; a steam-pipe communicating axially with said shell at one end; an exhaust-pipe communicating axially with the shell at the other end, said shell having at one side a valve connection for a drain-pipe; a drain-pipe mounted in position to be connected therewith at one position of the shell; a pump connected with said drain-pipe for exhausting liquid from the shell and an exhauster connected with the axial exhaust-pipe for exhausting vapors therefrom.

13. In an apparatus for the purpose indicated, in combination with a shell having a discharge-manhole, a manhole-fitting having parallel flanged guideways for a manhole-cover and a flange encompassing the manhole projecting away from the shell outside the manhole-cover guideways.

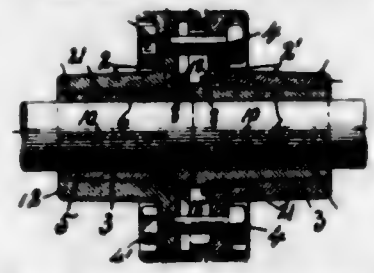
14. In an apparatus for the purpose indicated in combination with a cylindrical shell having, a manhole, a manhole-fitting having a plain seat for the manhole-cover and parallel flanged guideways projecting from said seat for the cover, said fitting having also a flange projecting off from the cylinder encompassing the manhole-opening and standing outside the cover-guideways.

15. In an apparatus for the purpose indicated, in combination with a cylindrical shell having a discharge-manhole, a manhole-fitting mounted on the shell having parallel flanged guideways for the manhole-cover; a flange encompassing the manhole projecting off from the cylinder outside the manhole-guideways, and a ledge or shoulder at the inner side of said manhole-encompassing flange having an outwardly-facing shoulder

16. An apparatus for the purpose indicated, consisting of a shell mounted for rotation about its axis; a shaft extending axially through such shell also mounted for rotation about its axis; means operated by the shaft for advancing material longitudinally through the shell as the shaft rotates; means for rotating the shaft; means for rotating the shell, and means for disconnecting either the shaft or the shell at will from their respective rotating means.

17. An apparatus for the purpose indicated, consisting of a shell mounted for rotation about its axis; disengageable means for rotating it; a shaft extending axially through such shell also mounted for rotation about its axis and disengageable means for rotating it independently of the shell; means operated by the shaft within the shell for advancing material through the shell longitudinally by the rotation of the shaft, the shaft having an axial cavity extending from one end part way through its length and communicating with the interior cavity of the shoulder; a fixed steam-pipe communicating with said cavity of the shaft, and a stuffing-box which protects such communication.

807,926. SHAFT-COUPLING. DANIEL H. HENDERSHOT, Baldwinsville, N. Y. Filed July 31, 1905. Serial No. 271,977.



Claim.—1. In a shaft-coupling, two opposed tapering sleeves, one for each shaft-section, in combination with two opposed casing-sections having conical inner bearings fitting upon their respective tapering sleeves, said sleeves and casing-sections having shoulders interlocking with each other, and the casing-sections having additional shoulders on their adjacent end faces interlocking with each other, and clamping-bolts for drawing said casing-sections toward each other.

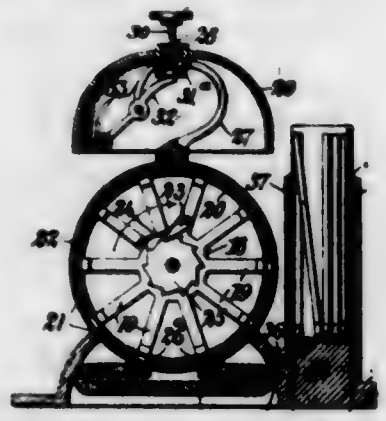
2. In a shaft-coupling, two tapering sleeves split longitudinally through one side from end to end, and each having a radial boss near its meeting end, in combination with opposed casing-sections, each fitted upon one of the sleeves and movable endwise thereon, the meeting end of each casing-section having a recess receiving said boss, and means to draw the casing-sections toward each other.

3. In a shaft-coupling, two split tapering sleeves, in combination with opposed casing-sections, each fitted upon and movable lengthwise of one of the sleeves, said casing-sections having interlocking shoulders engaging each other as the casing-sections are drawn together, and clamping-bolts for drawing said sections toward each other.

4. In a shaft-coupling, the combination of two tapering sleeve-sections split through one side, separate casing-sections each fitted upon and movable endwise of one of the sleeves, said casing-sections having their meeting ends provided with annular flanges, one fitting within the other, clamping-bolts for drawing said casing-sections together, said casing-sections having radial lugs on their meeting ends for locking the casing-sections together against independent rotary movement.

5. In a shaft-coupling, the combination of two separate tapering sleeves, each split longitudinally through one side and having a radial boss, separate casing-sections each fitted upon and movable endwise of one of the sleeves, and provided with a recess receiving said boss, said casing-sections having interlocking shoulders on their meeting ends and also formed with annular flanges on said meeting ends, one flange fitting within the other and provided with openings therethrough, for the purpose described.

807,927. GAME APPARATUS. HORACE E. HERWOOD, New York, N. Y. Filed Mar. 3, 1905. Serial No. 248,248.



Claim.—1. In a game apparatus, the combination with a plurality of independently-movable members each having a series of successive designs and also having magnetic portions similar to the designs in number and position, of operating means for the members, and a magnet having its poles situated adjacent to the magnetic portions of the members, said poles being separated by a space equal to the distance between two of the magnetic portions.

2. In a game apparatus, the combination with a movable member having a series of designs, and a series of magnetizable portions equal in number to the number of designs, of means for operating said member, and a magnet having its poles situated adjacent to the

path of movement of the magnetizable portions of the members and separated from each other by a space equal to the distance between two of said magnetizable portions.

3. In a game apparatus, the combination with a magnetized casing provided with an opening, of a movable magnetizable member having designs visible through the opening, and means for operating the member.

4. In a game apparatus, the combination with a magnetized casing provided with an opening at each side of which the magnetic poles are situated, of a movable member having designs visible through the opening, and also having magnetizable portions separated by a space equal to the distance between the poles of the casing, and means for operating the members.

5. In a game apparatus, the combination with a magnetic casing provided with an opening, of a plurality of independently-movable magnetic members having designs visible through the casing-opening, and operating means for the members.

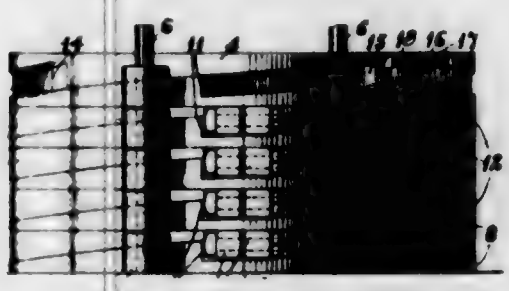
6. In a game apparatus, the combination with a magnetic casing provided with an opening, at each side of which the magnet-poles are situated, of a plurality of independently-movable members having designs visible through the casing-opening and also having magnetic portions separated by a space equal to the distance between the poles of the casing, and operating means for the members.

7. The combination with a casing provided with an opening, of movable members each having designs visible through the opening, a bell associated with the casing and being provided with striking mechanism, and an actuating member connected with the movable members and with the striking mechanism.

8. In a game apparatus, the combination of a series of movable members having designs, a bell, and means for moving the members, said means having a bell-striking device thereon.

9. In a game apparatus, the combination of a series of movable members having designs thereon, a shaft connected with said members for moving them, said shaft having a square portion, an operating member having a square socket for receiving the square portion of said shaft, said operating member being reciprocably and rotatably mounted, and a pivoted bell-tongue located with a portion in the path of said operating member.

807,928. **MOLDING-FLASK.** FRANK J. HEPP and GEORGE J. BORN, Pittsburg, Pa., assignors to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 15, 1905. Serial No. 245,630.



Claim.—1. A molder's flask comprising two concentric rings having coöperating, inclined surfaces and means for clamping said rings together.

2. A molder's flask comprising two concentric rings having inclined surfaces that engage each other and one of which has an annular groove and the other an annular projection located in said groove, and means for clamping said rings together in any position to which they may be relatively adjusted.

3. A molder's flask comprising an annularly-grooved ring having one or more inclined surfaces outside the groove, a ring having an annular projection to engage said groove and one or more inclined surfaces outside the same to engage the inclined surface or surfaces of the grooved ring, and means for clamping said rings together in any position to which they may be adjusted.

4. A molder's flask comprising two concentric rings that are relatively adjustable both circumferentially and in the direction of their axis and means for clamping them together in adjusted position.

5. A molder's flask comprising two concentric rings having engaging surfaces that force them apart when the one is given a clockwise rotative movement or the other is given a counter-clockwise rotative movement, and means for clamping said rings together in any position to which they may be adjusted.

6. A compound flask comprising a plurality of pairs of concentric rings, the rings of each pair having engaging surfaces that force them apart when the one is given a clockwise rotative movement or the other is given a counter-clockwise rotative movement, means for locking the inner rings together and means for clamping each outer ring to the corresponding inner ring.

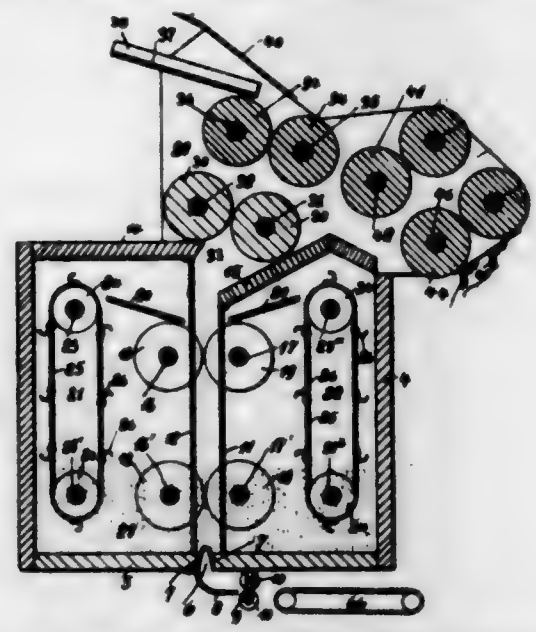
7. A molder's flask comprising a plurality of annular members each of which consists of two concentric rings having engaging surfaces that force them apart when the one is given a clockwise rotative movement of the other is given a counter-clockwise rotative movement, means for locking all rings of one kind together against independent rotative movement and means for clamping each pair of rings together.

8. A molder's flask comprising a plurality of annular members each of which consists of two concentric rings having inclined engaging surfaces that force them apart when the one is given a clockwise rotative movement or the other is given a counter-clockwise rotative movement, means for locking the inside rings together against independent rotative movement and means for clamping each outside ring to the corresponding inside ring.

9. A molder's flask comprising a plurality of annular members each of which consists of two telescoping rings having mutually-engaging inclined surfaces, means for locking the inner rings against independent circumferential movement and means for clamping each outer ring to the corresponding inner ring.

10. A molder's flask comprising two concentric rings having coöperating, inclined surfaces by means of which clockwise rotative movement of the one ring will increase the depth of the flask and clockwise rotative movement of the other ring will decrease the depth.

807,929. **MACHINE FOR CLEANING PLATES.** LOUIS G. HILL, Monessen, Pa. Filed Apr. 22, 1905. Serial No. 256,933.



Claim.—1. In a machine of the type described, the combination with a casing, upwardly-extending portions carried by the sides of said casing, outwardly-extending wings carried by said upwardly-extending portions, the bottom of said casing having an opening formed therein, vertically-disposed guide-strips mounted in said casing, revoluble wheels mounted adjacent to said strips, conveyers mounted in each end of said casing, guide-rolls journaled between said upwardly-extending portions, a shifting plate mounted above said guide-rolls, polishing-rolls journaled between said outwardly-extending wings, and means to simultaneously operate said conveyers, said wheels and said rolls, substantially as described.

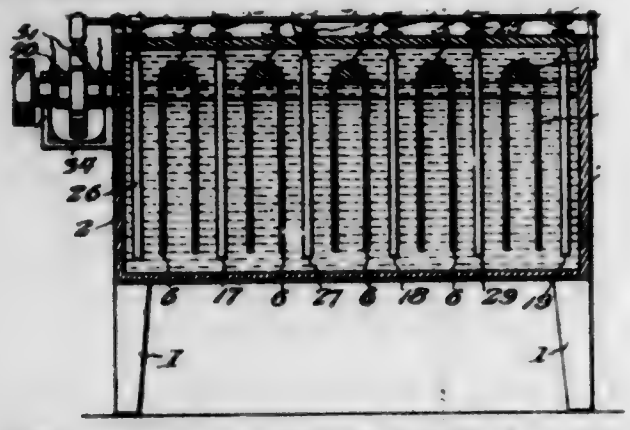
2. In a machine of the type described, the combination of a casing, the bottom of said casing having an opening formed therein, vertically-disposed wheels mounted above said opening, conveyers mounted in each end of said casing, and adapted to convey a suitable abrading material, guide-rolls mounted above said wheels, a shifting plate mounted above said rolls, polishing-rolls mounted above said casing, and means to simultaneously operate said conveyers and revolve said wheels and said rolls, substantially as described.

3. In a machine for cleansing and polishing tin plates, the combination with a casing adapted to contain abrading material, of wheels mounted within said casing and adapted to move a plate through said machine, means to elevate said abrading material and project said abrading material against plates passing through said machine, and means to polish said plates, substantially as described.

4. In a machine for cleansing and polishing tin plates, the combination with a suitable casing having an opening formed therein,

of means to feed plates into said casing, means to carry plates through said casing, means to project a suitable abrading material against the sides of said plates during their passage through said casing and means to polish said plates prior to their ejection from said machine, substantially as described.

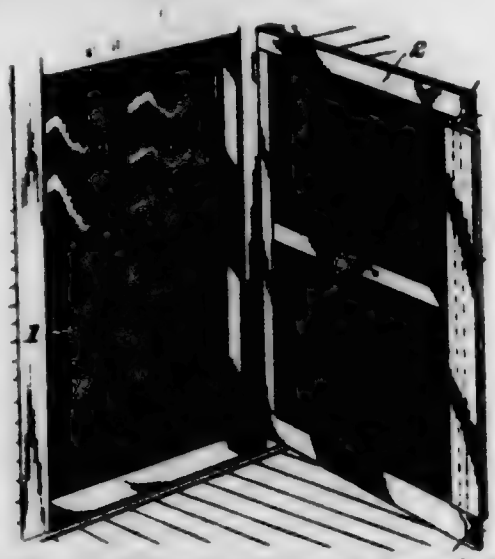
807,930. APPARATUS FOR TREATING HIDES. FRANK B. HINMON, Newcastle, Pa., assignor of two-thirds to Joseph M. Flannery and James J. Flannery, Pittsburg, Pa. Filed Dec. 27, 1904. Serial No. 238,566.



Claim.—1. An apparatus for treating hides having a tank, hide-supporting means therein, a plurality of pairs of electrodes arranged in the tank, the electrodes of the same polarity being connected in multiple, and means for reversing the direction of the electric current passing through said electrodes.

2. An apparatus for treating hides having a tank, a plurality of hide-supporting bars in said tank, a plurality of pairs of electrodes arranged in parallel relation with the hide-supporting bars, the electrodes of the same polarity being connected in multiple, and means for reversing the direction of the electric current passing through said electrodes.

807,931. DOOR-CHECK. OSCAR HULL, Kaylor, Pa. Filed June 10, 1905. Serial No. 264,720.



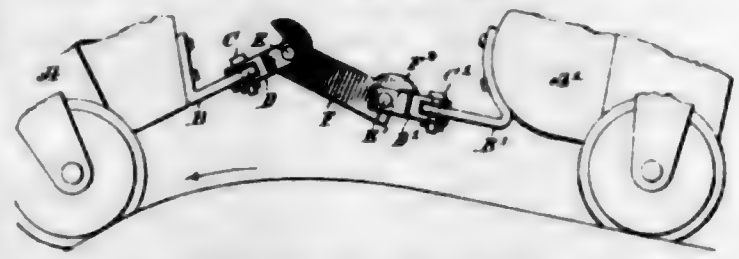
Claim.—The combination with a screen-door, of a buffer comprising an elongated strip of yielding material engaging the inner face of the outer stile of said door and extending the length thereof, a metallic strip extending through said yielding strip from end to end thereof and having its ends bent or offset to bring one face of said ends in the same plane as the inner face of the yielding strip, and means for securing said bent ends to the door-frame, substantially as described.

807,932. PROCESS OF COLORING PHOTOGRAPHIC PRINTS. RUDOLF LIEBMANN, Newark, N. J. Filed Feb. 18, 1905. Serial No. 246,358.

Claim.—1. The herein-described process of coloring photographic prints, consisting in darkening a printed paper or print by exposure, washing said paper or print, treating it with a solution of lemon-juice and ferricyanid of potassium, washing, treating with a solution of ferrous sulfate, and again washing.

2. In a process of coloring photographic prints, the treatment of a print with a solution of lemon-juice and ferricyanid of potassium, and subsequently with a solution of ferrous sulfate, said steps being accompanied by suitable washings.

807,933. CAR-COUPLING. STEPHEN B. JACKMAN, New York, N. Y. Filed June 13, 1905. Serial No. 265,023.

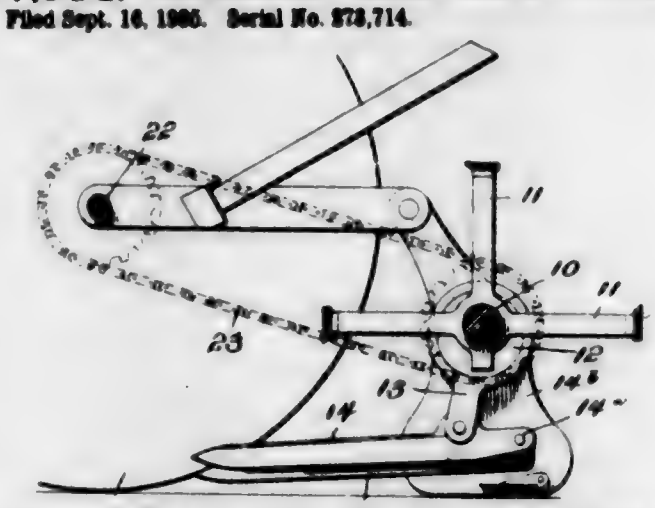


Claim.—1. The combination with a plurality of cars and a coupler for the same having a universal motion relative to the cars, and means to hold the cars down to prevent a car from leaving the track when the cars pass over a steep incline in the track.

2. A car-coupler comprising coupling-links mounted to swing laterally on adjacent cars, and a connecting-link pivotally connecting the coupling-links with each other and mounted to swing up and down, the said connecting-link having stops adapted to engage the coupling-links.

3. The combination with cars having fixed draw-bars, of a car-coupler comprising coupling-links pivotally connected with the draw-bars to swing in a lateral direction, a connecting-link pivotally connected with the said coupling-links and adapted to swing up and down, and integral stops on the said connecting-link and adapted to abut on the top of the said coupling-links.

807,934. LAWN-MOWER. ANDREW JACKSON, Winnetka, Ill. Filed Sept. 16, 1905. Serial No. 278,714.



Claim.—1. The combination with a lawn-mower having a rotary cutter-shaft, of an edge-trimmer, comprising a pair of shears carried by the mower, one blade of the shears being fixed to the mower-frame and the other being pivoted thereto and operatively connected to the said cutter-shaft.

2. The combination with a lawn-mower having a rotary cutter-shaft, of an edge-trimmer comprising a pair of shears the lower blade of which is fixed to the side frame of the mower and the upper blade is pivoted thereto, and an eccentric on the cutter-shaft of the mower having a strap connected directly to said movable blade.

807,935. MOLD-SUPPORT. WILLIAM S. JACKSON, Veedersburg, Ind. Filed Feb. 18, 1905. Serial No. 246,300.

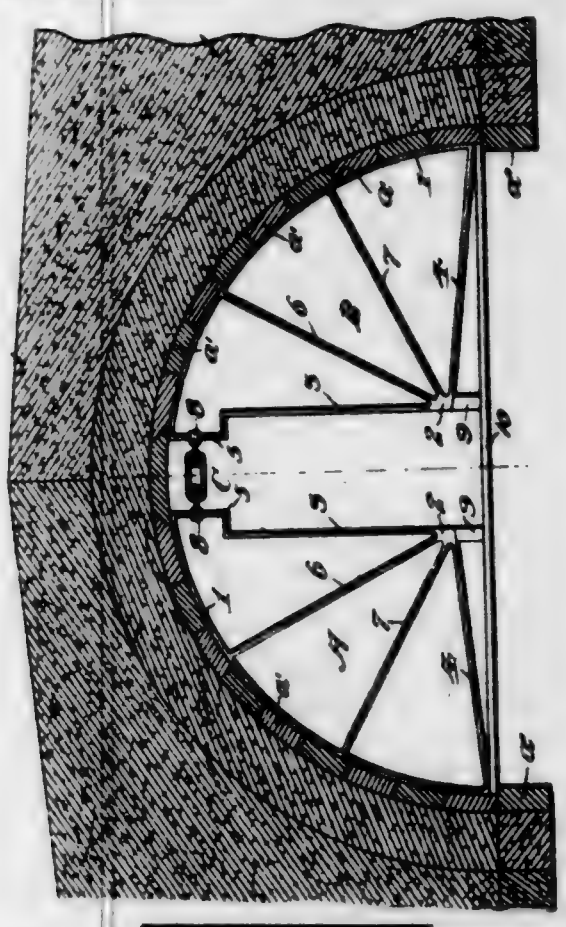
Claim.—1. A mold-support comprising a bracket having a mold-supporting member shaped on a quarter of a circle, a common member, a pair of arms diverging from said common member to said supporting member on an angle slightly greater than a right angle, one of said arms having a laterally-offset portion adjacent to the mold-supporting member, and intermediate arms diverging from the common member to the mold-supporting member.

2. A mold-support comprising a pair of brackets each having a mold-supporting member, a common member and a pair of arms diverging from said common member to said mold-supporting member, and adjustable separating means disposed between said brackets.

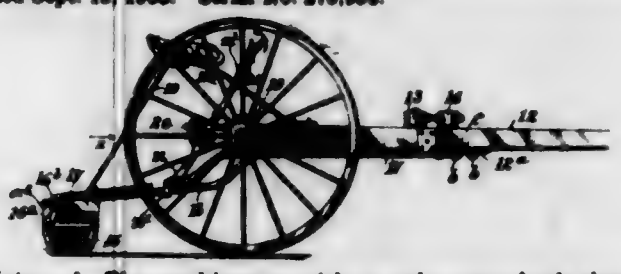
3. A mold-support comprising a pair of brackets each having a mold-supporting member, a common member, a pair of arms diverging from said common member to said mold-supporting member, one of said arms having a laterally-offset portion adjacent to the mold-supporting member and a separating device contacting with the laterally-offset portions of the two brackets.

4. A mold-support comprising a pair of brackets each having a mold-supporting member shaped on a quarter of a circle, a common member, a pair of arms diverging from said common member to said

mold-supporting member on an angle slightly greater than a right angle, one of said arms having a laterally-offset portion adjacent to the mold-supporting member, and intermediate arms diverging from the common member to the mold-supporting member, and a turnbuckle having saddled members contacting with the laterally-offset portions of the two brackets.



807,936. ROAD-SCRAPER. VINCENT M. JACKSON, Laurel Hill, La. Filed Sept. 18, 1905. Serial No. 278,936.



Claim.—1. The combination with an axle, two wheels thereon, and a draft-pole, of a scraper, a carrier-bar extended rearward from the axle and supporting one end of the scraper, a rock-arm pivoted by one end on the draft-pole, and upon the scraper at the other end thereof, and means for controlling the rocking movement of said rock-arm.

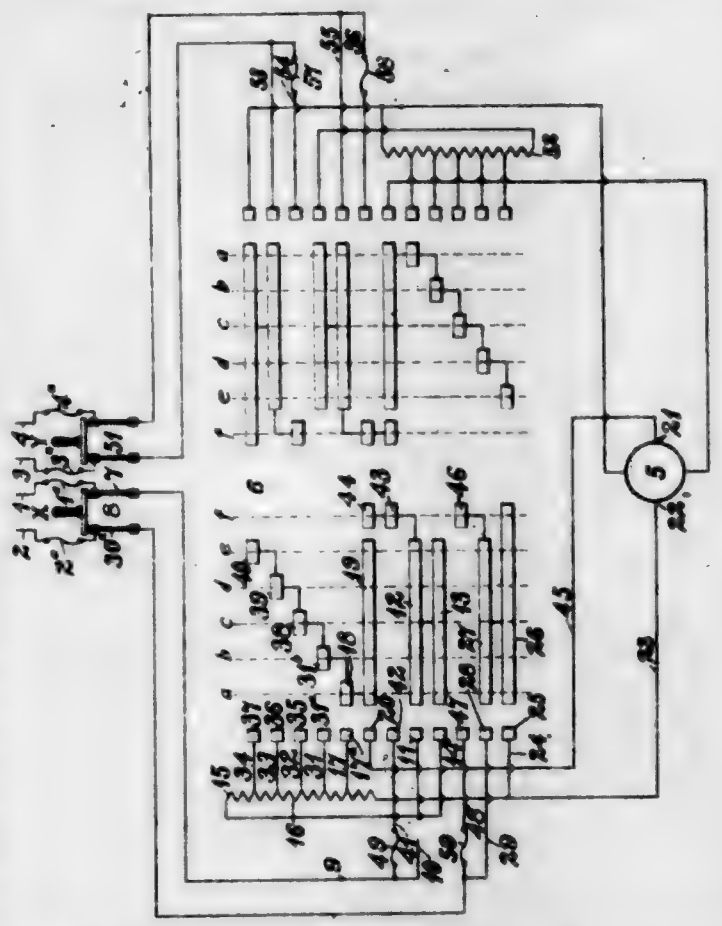
2. The combination with an axle, two wheels thereon, and a draft-pole, of an elongated scraper, a carrier-bar secured upon the draft-pole and axle, and at its rear end journaled on the scraper near one end so as to permit said scraper to rock toward and from the axle at its opposite end, a rock-arm having a lateral journal on one end adapted for changeable engagement with either one of a series of boxes on the draft-pole, and thence extended below the axle rearwardly, having its rear end pivoted on the scraper so as to permit the lateral and vertical adjustment of the scraper, and means for controlling said adjustments for the scraper.

3. The combination with an axle, two wheels rotatable on ends of the axle and a draft-pole extended forwardly from the axle, of an elongated scraper, a carrier-bar secured by one end on the draft-pole, and thence extended outward and rearward, passing below the axle and secured thereto, the rear end of said carrier-bar, having pivoted engagement with one end of said scraper, permitting it to rock toward and from the axle, a rock-arm having a lateral journal on its forward end, a bracket-plate having a series of spaced boxes thereon and secured on the draft-pole, for engagement of the lateral journal in either box, said rock-arm extending laterally and rearwardly from the draft-pole passing below the axle, a ball-and-socket connection between the rear end of the rock-arm and the remaining end portion of the scraper, and a pivoted pressure-lever engaging one end with the rock-arm, and adapted by rocked adjustment for controlling the vertical adjustment of the end of the scraper that the rock-arm engages.

4. The combination with an axle, two wheels rotatable on ends of the axle, a draft-pole extended forwardly therefrom, and a seat on the pole, of a scraper-blade held clamped between a head-block and a clamping-plate, a carrier-bar extended rearward from the axle near one wheel, and having a depending pivot at its rear end which engages one end portion of the scraper between its head-block and clamping-plate, permitting the scraper to rock toward and from the axle, a rock-arm longitudinally adjustable by journaled engagement of its forward end with one of a series of boxes on the draft-pole and pivoted at its rear end on the scraper near its remaining end, a pressure-lever pivoted to rock on the axle, and having a loose engagement with the rock-arm, and means for holding the lever rocked for pressure on or elevation of the rock-arm and engaged end of the scraper-blade.

5. The combination with an axle, wheels thereon, and a draft-pole, of a scraper, a carrier-bar extended from the axle and loosely connected at its rear end with one end portion of the scraper, a rock-arm pivoted by one end on the draft-pole and at its other end on the remaining end of the scraper, a hanger-bar inclined rearward and downward from a seat on the draft-pole, and means for loosely coupling the scraper upon the hanger-bar between the ends of said scraper.

807,937. ELECTRIC-MOTOR CONTROLLER. HENRY D. JAMES, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Apr. 3, 1905. Serial No. 253,633.



Claim.—1. In a controller, the combination with a rotatable, contact-carrying member and an operating-handle therefor, of a notched wheel attached to said rotatable member, the notches of which correspond to a series of controller positions, a pawl held in engagement with said notches by a spring, certain of said notches being constructed to limit the motion of said contact-carrying member to one direction of rotation, and a separate means for stopping and holding a rotatable member in certain positions.

2. In a controller, the combination with a rotatable, contact-carrying member, and an operating-handle therefor, of an interlocking device for permitting the progressive rotation of said contact-carrying member in one direction and for preventing rotation in the opposite direction when said member occupies certain predetermined positions, comprising a notched wheel rigidly fixed upon the shaft of said contact-carrying member and a pawl held in engagement with the wheel-notches, and a separate latching device for positively stopping and holding said rotatable member in one or more predetermined positions.

3. The combination with a translating device and a controller therefor, of an interlocking device and separate protective device that is operative only when said controller occupies a predetermined running position from which said controller is limited by said inter-

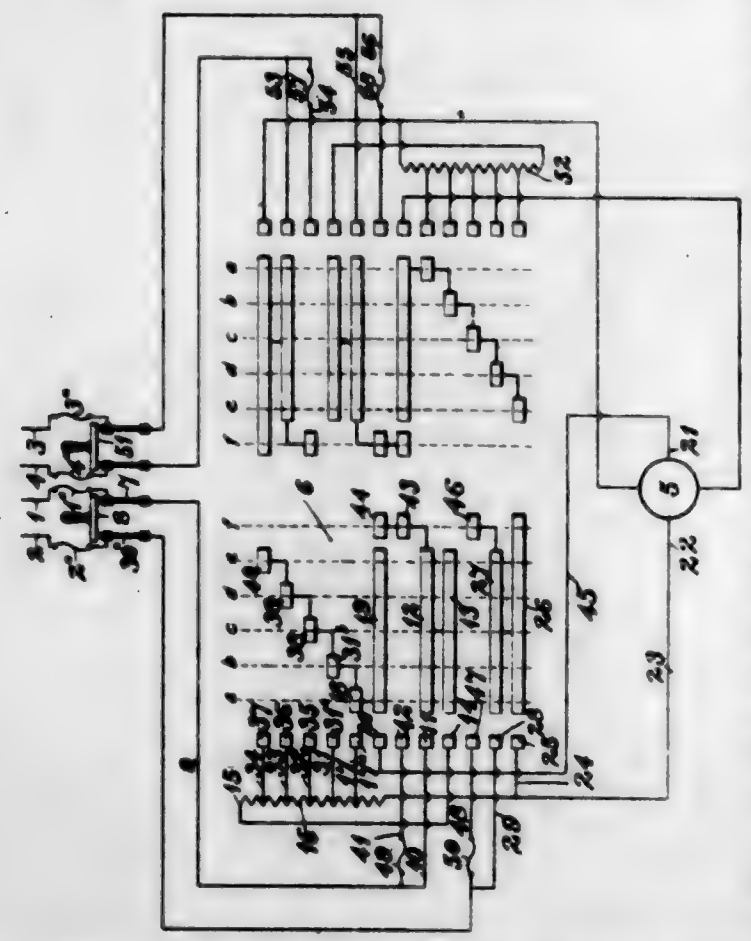
locking device to a single direction of motion but is permitted an indefinitely progressive motion in said direction.

4. The combination with an electric motor and a controller therefor, of an interlocking device and protective means that are operative at certain predetermined current values when said controller occupies a plurality of starting positions and that are operative at certain other predetermined current values when said controller occupies a predetermined running position from which said controller is limited by said interlocking device to a single direction of motion and is permitted an indefinitely progressive motion in said direction.

5. The combination with an electric motor and a controller therefor, of an interlocking device and protective means that are operative at certain predetermined current values when said controller occupies a plurality of starting positions from which said controller is free to move in either direction and that are operative at certain other predetermined current values when said controller occupies a predetermined running position from which said controller is limited by said interlocking device to a single direction of motion and is permitted an indefinitely progressive motion in said direction.

6. In a controller, the combination with a rotatable, contact-carrying member, and an operating-handle therefor, of two independent interlocking devices of which one comprises a cam-wheel attached to said member and engaged by a pawl to limit the motion of said member to a single direction of rotation from certain predetermined positions, and the other comprises a manually-released ratchet attached to said operating-handle to lock said contact-carrying member in certain predetermined positions, which may or may not correspond to the aforesaid positions.

807,938. CONTROL SYSTEM FOR ELECTRIC MOTORS. HENRY D. JAMES, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Apr. 3, 1905. Serial No. 253,636



Claim.—1. The combination with a dynamo-electric machine and means for varying the voltage applied thereto, of mutually-independent protective means, one of which is operative only when full voltage is applied to said machine.

2. The combination with a translating device and a controller therefor, of a plurality of protective devices, arranged to independently protect said translating device when said controller occupies different predetermined positions.

3. The combination with a translating device and a controller therefor, of two sets of protective devices, one of said sets being in service while said controller occupies certain predetermined positions and the other set being in service when said controller occupies certain other predetermined positions.

4. The combination with a translating device and a controller therefor, of protective means that are operative under predetermined values of energy supplied to said translating device when said controller occupies certain positions and that are operative under different values of energy supplied thereto when said controller occupies certain other predetermined positions.

5. The combination with a translating device and a controller for varying the voltage applied thereto, of a protective device that is operative only while said controller is maintained in position to supply full voltage to the translating device.

6. The combination with an electric motor and a controller therefor, of a set of protective devices that are operatively included in the supply-circuit of said motor only while said controller is maintained in a predetermined position.

7. The combination with a dynamo-electric machine and a controller therefor, of cut-out devices that are operatively connected in service only while said controller is maintained in a certain predetermined position corresponding to normal operation of said machine.

8. The combination with an electric motor and a controller therefor, of two sets of cut-out devices that are arranged to independently and properly protect said motor under starting conditions and under running conditions, as determined by the position of said controller.

9. The combination with an electric motor and means for varying the voltage applied thereto, of a plurality of cut-out devices that are included in the circuit of said motor only when full voltage is applied thereto.

10. The combination with an electric motor and means for varying the voltage applied thereto, of two sets of cut-out devices, one of which is included in the circuit of said motor only when full voltage is applied thereto and one of which is continuously in the circuit of said motor.

11. The combination with an electric motor and a controller therefor, of a plurality of cut-out devices that are arranged to properly protect said motor when said controller occupies a predetermined running position and that are excluded from the circuit of said motor when the said controller occupies one or more predetermined starting positions.

12. The combination with a dynamo-electric machine and a controller therefor, of a circuit-breaker in the supply-circuit of said motor, and a subdivided tripping-coil therefor all the turns of which are energized when said controller occupies certain predetermined positions and a part only of which are energized when said controller occupies certain other positions.

13. The combination of an electric motor and a controller therefor, of a circuit-breaker and means for tripping the same that are operative at one current value when said controller occupies predetermined "starting" positions and that are operative at another predetermined current value when said controller occupies a "running" position.

14. The combination with a dynamo-electric machine and means for varying the voltage applied thereto, of a circuit-breaker and tripping means therefor that are operative at different current values when full voltage is applied to said motor and when other than full voltage is applied thereto.

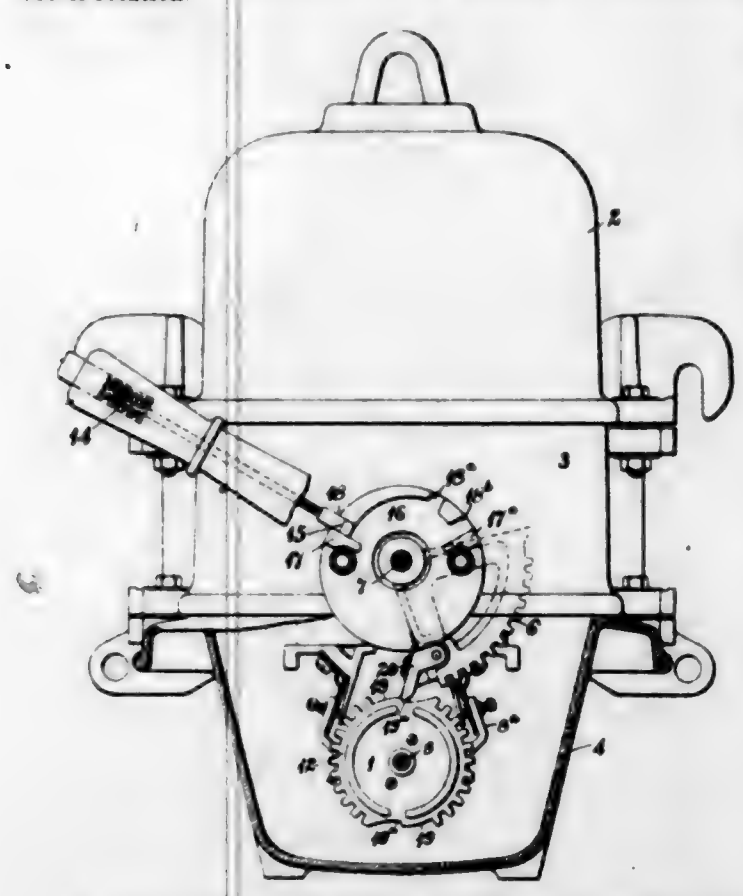
15. The combination of an electric motor and a controller therefor, of a circuit-breaker and a magnetizing-winding comprising a subdivided tripping-coil all the turns of which are connected in the circuit of said motor when said controller occupies a predetermined running position and a part only of which are connected in said motor-circuit when the controller occupies any one of a plurality of predetermined starting positions.

807,939. CONTROLLER FOR ELECTRIC MOTORS. HENRY D. JAMES, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Apr. 3, 1905. Serial No. 253,637.

Claim.—1. In a controller, the combination with a rotatable, contact-carrying member, and an operating-handle therefor, of an interlocking device that permits movement of said rotatable member progressively in only one direction from the "off" position and from the "running" position and limits the motion of said operating-handle to a certain predetermined arc of rotation.

2. In a controller, the combination with a rotatable, contact-carrying member, and an operating-handle therefor, of an interlocking device that permits progressive rotation of said contact-carrying member in one direction, prevents rotation in the opposite direction when said member occupies one or more predetermined positions and limits the motion of said operating-handle to a predetermined portion of a revolution.

3. In a controller, the combination with a contact-carrying drum, and an operating-handle therefor, of an interlocking cam mounted on the shaft with said drum that permits progressive rotation of said drum in one direction and prevents rotation in the opposite direction when said drum occupies one or more predetermined positions, said operating-handle being limited to a predetermined arc of rotation.



4. In a controller, the combination with a rotatable, contact-carrying member and an operating-handle therefor, of a plurality of interlocking devices that limit the motion of said operating-handle to a predetermined arc of rotation, accentuate the position of said contact-carrying member and limit the motion of said member to a single direction of rotation from certain of said accentuated positions.

5. In a controller, the combination with a rotatable, contact-carrying member and an operating-handle therefor, of means for actuating said member in either direction except when it attains certain predetermined positions and then only in one direction and means for limiting the motion of said handle to a predetermined arc of rotation.

6. In a controller, the combination with a rotatable, contact-carrying member and an operating-handle therefor, of means for accentuating a plurality of predetermined positions of said member and for limiting the motion of said member to a single direction of rotation from predetermined "off" and "running" positions and means for limiting the motion of said operating-handle to a predetermined arc of rotation.

7. In a controller, the combination with a rotatable, contact-carrying member and an operating-handle therefor, of means for rotating said member in either direction between certain positions but only in one direction from such positions, said operating-handle being limited to a predetermined arc of rotation.

8. In a controller, the combination with a rotatable, contact-carrying member and an operating-handle therefor, of means for accentuating a plurality of positions of said rotatable member, and for limiting the motion of said member to one direction of rotation from certain of said positions and means for accentuating certain corresponding positions of said operating-handle and for limiting the motion of said handle to a predetermined arc of rotation.

9. In a controller, the combination with a rotatable, contact-carrying member and an operating-handle therefor, of means that permits the progressive rotation of said member in one direction and prevents motion in the opposite direction when said member occupies one or more predetermined positions, and means that limit the motion of said operating-handle to a predetermined arc of rotation.

10. In a controller, the combination with a rotatable, contact-carrying drum, a driving gear-wheel attached thereto and an operating-handle therefor, of means for actuating said drum progressively in one direction by said attached gear-wheel, that comprises a segmental gear-wheel attached to said handle, and means for limiting the motion of said handle to a predetermined arc of rotation.

11. In a controller, the combination with a rotatable, contact-carrying drum, a driving gear-wheel and a cam attached thereto that is engaged by a pawl to accentuate a plurality of predetermined positions occupied by said drum, and an operating-handle therefor, of means for actuating said drum progressively in one direction, that comprises a segmental gear-wheel which meshes with said driving gear-wheel and is attached to said handle, means for interlocking said actuating-cam to prevent rotation of said drum in an opposite direction when it occupies certain predetermined positions, and means for limiting the motion of said operating-handle to a predetermined arc of rotation.

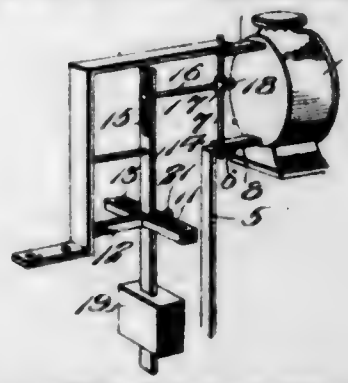
12. In a controller, the combination with a rotatable, contact-carrying drum, a driving gear-wheel attached thereto, an operating-handle therefor and a cam which is engaged by a pawl to accentuate a plurality of predetermined positions of said drum and to limit the motion of said drum to a single direction of rotation from certain of said positions, of means for actuating said drum progressively in one direction and for limiting the said operating-handle to a predetermined arc of rotation.

13. In a controller, the combination with a rotatable, contact-carrying drum, a driving gear-wheel attached thereto, an operating-handle therefor, and a cam which is engaged by a pawl to accentuate a plurality of predetermined positions of said drum and to limit the motion of said drum to a single direction of rotation from certain of said positions, of means for actuating said drum progressively in one direction, that comprises a gear-wheel segment which is attached to or is a part of said operating-handle and which meshes with said driving gear-wheel, and means for limiting said operating-handle to a predetermined arc of rotation.

14. In a controller, the combination with a rotatable, contact-carrying drum having a gear-wheel, and an operating-handle therefor that is limited to a predetermined arc of rotation, of means for operating said drum progressively in one direction that comprises a gear-segment which meshes with said gear-wheel to drive the drum through an arc of substantially one hundred and eighty degrees as the handle moves through said predetermined limited arc of rotation, and is disengaged from said gear-wheel while said handle is returned through said limited arc to reëngage another portion of said gear-wheel and drive the drum through an additional arc of substantially one hundred and eighty degrees.

15. In a controller, the combination with a contact-carrying drum having a gear-wheel comprising two toothed rim-sections and intervening blank spaces, each of which has a notch, of an actuating gear-segment having an operating-handle and a pawl that engages one of said notches when the operating-handle is moved from its "off" position.

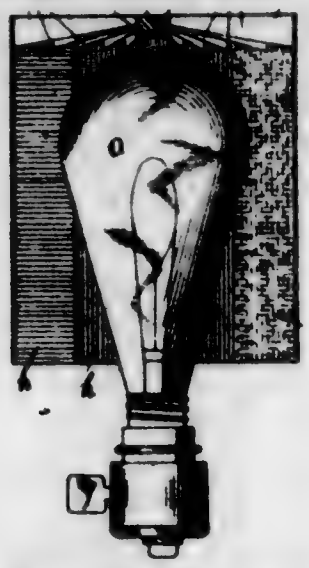
807,940. **LOCOMOTIVE-HEADLIGHT.** McCREYNE JOHNSON, Drain, Oreg. Filed Mar. 7, 1905. Serial No. 248,641.



Claim.—1. A headlight-support comprising a fixed element to which the headlight is pivotally connected, a lever pivotally connected to said element and carrying a weight at its lower end, a connection between the upper end of said lever and the headlight, a slotted member embracing the lever and adapted to limit its swing, and means carried by said member for securing the lever against movement.

2. A headlight-support comprising arms projecting from a vehicle, a headlight, arms projecting rearwardly therefrom, a pivot-rod connecting the respective arms from the vehicle and from the headlight, a lever carrying a weight at its lower end and pivotally supported by one of the arms projecting from the vehicle, the upper end of the lever being formed with a longitudinally-arranged slot, a rod loosely mounted in said slot and connected to the pivot-rod, an arm projecting from one of the arms secured to the vehicle and formed at its outer end with a transversely-arranged slot adapted to receive the lever, and a set-screw carried by said latter arm and adapted to engage the lever and lock the same against movement.

807,941. **ELECTRIC NOVELTY.** PHILIP H. KOBST, Janesville, Wis. Filed Mar. 7, 1905. Serial No. 248,809.



Claim.—1. In a device of the class described, the combination of an electric-light bulb provided at its apex with a point, an air turbine-wheel consisting of a hub pivotally mounted on the point, and a series of angularly-disposed blades radiating therefrom, and a screen of translucent material depending from the air turbine-wheel and surrounding the electric-light bulb, said screen being colored to transmit successive colors from the electric-light bulb when the air turbine-wheel is revolved, substantially as described.

2. The combination with a bulb having a projection at one end of a wheel bearing at the center upon said projection and having inclined blades radiating therefrom, and a light-transmitting device depending from the wheel and surrounding the bulb.

3. The combination with an incandescent-light bulb having a projection thereon, of a wheel bearing at its center upon the projection and having inclined blades radiating from the center thereof, and a light-transmitting cylinder depending from the wheel and surrounding the bulb, said cylinder being of different colors.

4. In combination with a bulb, having a nipple or tip at one end thereof, of means surrounding the bulb and supported by the tip or nipple so as to be rotated by the heat generated by the bulb.

5. In combination with a bulb provided with a nipple or tip upon one end thereof, of a hollow body surrounding the bulb, and means for supporting the hollow body by contact with the nipple or tip of the bulb adapted to rotate the hollow body by the heat generated from the bulb.

6. In combination with a bulb having a tip or nipple, of a hollow body surrounding the same and a wheel having a series of paddles or spokes carried by the hollow body and having the center thereof in engagement with the bulb so as to support the hollow body thereby.

7. In combination with a bulb having a tip or nipple, of a cylinder surrounding the same, and a wheel having a series of paddles or spokes carried by the cylinder and having the center thereof in engagement with the tip or nipple of the bulb so as to support the cylinder thereby.

8. In combination with a bulb provided with a nipple or tip upon one end thereof, of a cylinder surrounding the bulb, and means for supporting the cylinder by contact with the nipple or tip of the bulb adapted to rotate the hollow body by the heat generated from the bulb.

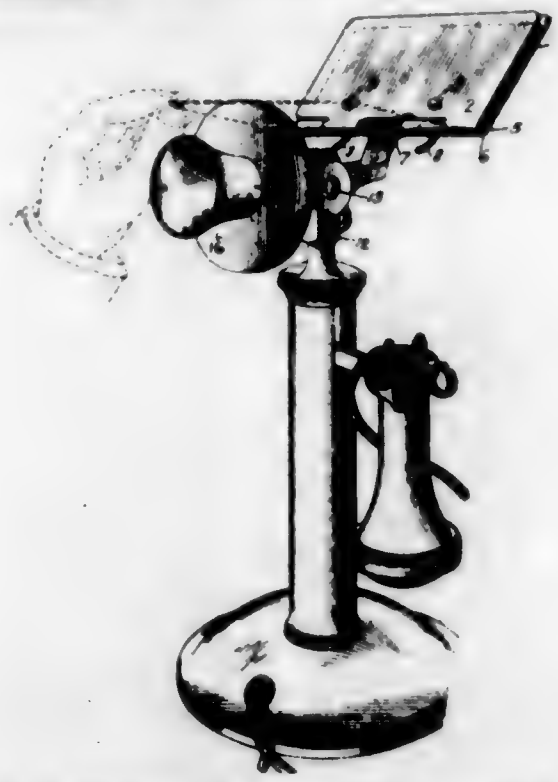
9. In combination with a bulb, having a nipple or tip at one end thereof, of a cylinder surrounding the bulb and supported by the tip or nipple so as to be rotated by the heat generated by the bulb.

10. In combination with a bulb provided with a nipple or tip upon one end thereof, of a hollow body forming a light-transmitting device and surrounding the bulb, and means for supporting the hollow body by contact with the nipple or tip of the bulb adapted to rotate the hollow body by the heat generated from the bulb, substantially as described.

807,942. **TELEPHONE-DIRECTORY.** EDWARD N. LAKE, Chicago, Ill. Filed Aug. 22, 1904. Serial No. 221,657.

Claim.—1. In combination in a telephone-directory, a supporting-bracket, a base-plate supported by said bracket, means for attaching said bracket to a telephone or other support, a cover hinged with relation to said base-plate, perforated index-cards between said base-plate and cover, and pins carried by said cover adapted to engage the said index-cards by passing through the perforations and said base-plate, substantially as described.

2. In an attachment for telephones, a supporting-bracket adapted to be clamped to the telephone structure, a base-plate supported by said bracket, a cover hinged to said base-plate, and index-cards arranged radially between said base-plate and cover, substantially as described.



3. In an attachment for telephones, a supporting-bracket 3 adapted to be clamped to the telephone structure, a base-plate 1, a cover-plate 2 hinged to said base-plate and carrying one or more pins 8, a spring 7 adapted to draw said base-plate and said cover together, and index-cards 11 arranged radially between said base-plate and cover, substantially as described.

4. In a telephone-directory, a base-plate 1, and a cover-plate 2 hinged to each other, a plurality of curved pins 8 carried by said cover, perforated index-cards 11, said curved plungers being of such length as normally to engage said perforated cards and still to project through perforations in the base-plate 1, when said cover and base plate are swung apart sufficiently to disclose said index-cards, and a bracket 3 supporting said base-plate, and adapted by the slots 17 to be engaged by the bolt of the head of a telephone-stand, substantially as described.

807,943. **REGULATING MEANS FOR SYSTEMS OF ELECTRICAL DISTRIBUTION.** BENJAMIN G. LAMME and CHARLES F. SCOTT, Pittsburg, and FRANK CONRAD, Edgewood Park, Pa., assignors to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 1, 1905. Serial No. 243,710.

Claim.—1. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of a regulator located between the alternating-current-supply system and the rotary converter by means of which the alternating-current electromotive force supplied to the rotary converter may be automatically decreased as the load upon the direct-current system increases.

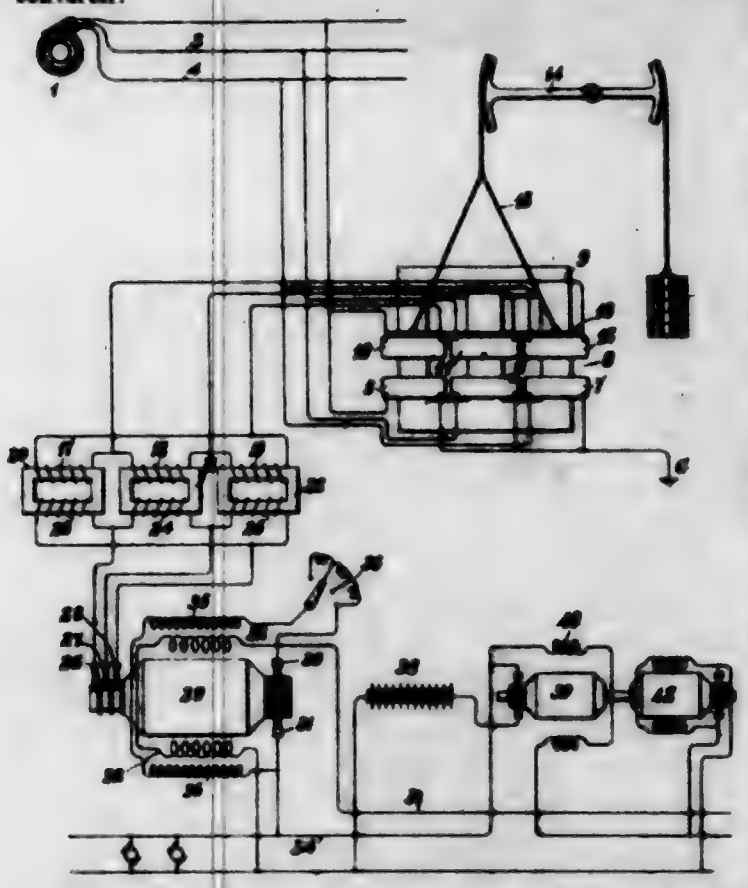
2. The combination with an alternating-current-distributing system, a rotary converter and a direct-current-supply system, of means for causing the alternating electromotive force supplied to the rotary converter to decrease automatically as the load upon the direct-current system increases.

3. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of means for automatically causing the voltage supplied to the direct-current system by the rotary converter to vary approximately inversely as the load upon the direct-current system varies.

4. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of a regulator located between the alternating-current-supply system and the rotary converter by means of which the load upon the rotary converter may be automatically maintained approximately constant.

5. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of means for automatically insuring an approximately constant load upon the rotary converter notwithstanding variations of load upon the direct-current system.

6. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of means for automatically maintaining the load upon the rotary converter approximately constant regardless of variations in the load upon the direct-current system, and a storage battery which supplies the current demand in excess of that to be derived from the rotary converter.



7. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of a regulator located between the alternating-current-supply system and the rotary converter by means of which the voltage of the current supplied to the direct-current system may be caused automatically to vary approximately inversely as the load upon the system varies, and a storage battery which supplies current to the direct-current system when the direct-current voltage falls below a predetermined value.

8. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of a regulator located between the alternating-current-supply system and the rotary converter by means of which the voltage of the current supplied to the direct-current system may be caused automatically to vary approximately inversely as the load upon the system varies, and a storage battery which supplies the current to the direct-current system when the direct-current voltage falls below a predetermined value and which is charged when the direct-current voltage exceeds this predetermined value.

9. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of a regulator located between the alternating-current-supply system and the rotary converter by means of which the alternating-current voltages applied to the rotary converter may be varied automatically between predetermined limits.

10. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of a regulator located between the alternating-current-supply system and the rotary converter by means of which alternating-current voltages applied to the rotary converter may be varied automatically between predetermined limits, and a storage battery which supplies current to the direct-current system when the direct-current voltage falls below a predetermined value.

11. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of a constant-current regulator located between the alternating-current-supply system and the rotary converter, and a source of energy which supplies current to the direct-current system when the direct-current voltage falls below a predetermined value.

12. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of a voltage-regulator by means of which the alternating-current electromotive force applied to the rotary converter is varied automatically between predetermined limits and the load upon the rotary converter is maintained approximately constant between those voltage limits, and a storage battery which supplies energy to the direct-current system when the direct-current voltage falls below a predetermined value, but which ceases to deliver current after a maximum, allowable limit is reached, at which point the rotary converter then operates at a constant voltage and carries the load as an overload.

13. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of means whereby the voltage of the direct-current system is varied automatically between limits approximately inversely as the load upon that system, a storage battery which supplies energy to the direct-current system when the voltage of that system falls below a predetermined value, and a booster for raising the voltage delivered by the storage battery to the direct-current system.

14. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of means for automatically varying the voltage of the direct-current system between limits approximately inversely as the load upon that system varies, a storage battery which supplies energy to the direct-current system when the voltage of that system falls below a predetermined limit, and a booster which varies the electromotive force of the current delivered by the battery to the direct-current system approximately inversely as the load upon that system varies.

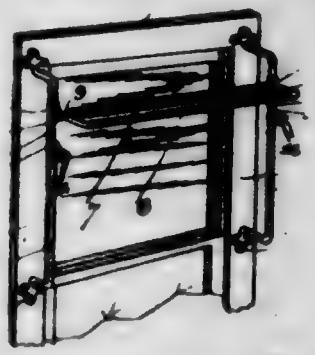
15. The combination with an alternating-current-supply system, a rotary converter and a direct-current-distributing system, of a constant-current regulator located between the alternating-current system and the rotary converter.

16. The combination with an alternating-current-supply system, a rotary converter, a storage battery and a direct-current-distributing system, of a constant-current regulator located between the alternating-current system and the rotary converter.

17. The combination with an alternating-current-supply system, a rotary converter, a storage battery and a direct-current-distributing system, of a regulator located between the alternating-current-supply system and the rotary converter by means of which the load upon the rotary converter may be caused automatically to vary in accordance with a stated law as the current demand upon the direct-current system varies.

18. The combination with an alternating-current-supply system, a rotary converter, a storage battery, and a direct-current-distributing system, of a regulator located between the alternating-current-supply system and the rotary converter by means of which the load upon the rotary converter may be caused automatically to increase only slightly as the demand for current upon the direct-current system increases.

807,944. WINDOW-FIXTURE. FELIX M. LAMBE, McKees Rocks, Pa. Filed July 17, 1905. Serial No. 269,894.

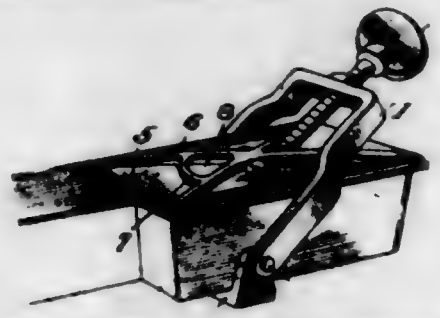


Claim.—In a window-fixture, the combination with vertical supporting-rods attached to a window-frame, of sleeves slidably engaging said rods, a U-shaped shade-roller-supporting bracket having its ends connected to said sleeve, a depending arm carried by each of said sleeves, each of said arms having their lower ends flared outwardly, a pair of lugs carried by opposite sides of said outwardly-flared ends, clamping-arms pivoted between said lugs and adapted to have their inner ends embrace the supporting-rods, and a spring secured to said flared ends of the arms and lying between the outwardly-projecting ends of the clamping-arms to hold the inner ends of said arms normally in clamping engagement with the supporting-rods.

807,945. CLAMP. CARL H. LARS, Chicago, Ill. Filed Apr. 4, 1905. Serial No. 253,217.

Claim.—1. In a clamp, the combination of a frame composed of approximately U-shaped sections, having the sides thereof pivotally connected, and a clamp member carried by one of said sections.

3. In a clamp, the combination of a frame composed of a section comprising spaced sides, a second section comprising spaced sides having pivotal connection with the sides of the first-mentioned section, and a clamp-screw carried by the last-mentioned section, the sides of the first-mentioned section being less distance apart than those of the second-mentioned section, whereby those of the first-mentioned section may be turned so as to occupy space between the sides of the second-mentioned section.



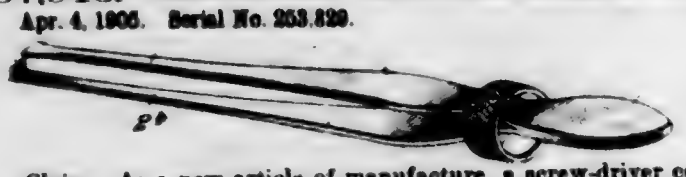
3. In a clamp, the combination of a frame composed of angularly-adjustable sections of approximately U form, the sides of said sections being connected, and a clamp-screw carried by one of the sections.

4. In a clamp, the combination of a frame, a clamp-screw carried by the frame, a clamp-plate provided upon a side thereof with angularly-arranged ribs, and a transverse rib connecting spaced portions of the angularly-arranged ribs aforesaid.

5. In a clamp, the combination of a frame, a clamp-screw carried by the frame, a clamp-plate, diagonally-arranged ribs upon one side of the clamp-plate, a transverse arc-shaped rib connecting spaced portions of the diagonally-extending ribs and forming a seat for the clamp-screw, and a transverse rib or tongue upon the side of the plate opposite that having the ribs aforesaid.

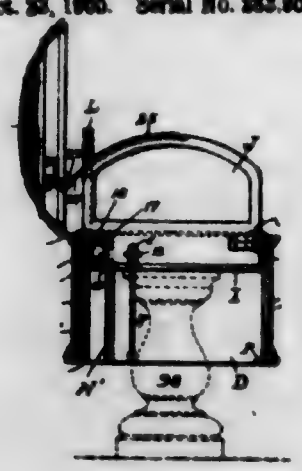
6. In a clamp, the combination of a frame composed of sections of approximately U form, the sides of the sections having pivotal connection, a clamp-screw carried by one of the sections, and an extension or projection projected from the transverse bar of the other section between the sides thereof.

807,946. SCREW-DRIVER. CARL H. LANG, Chicago, Ill. Filed Apr. 4, 1905. Serial No. 253,829.



Claim.—As a new article of manufacture, a screw-driver consisting of a shank composed of spring members normally tending to separate and brought together at one end to form an integral handle, the central portions of the spring members being transversely widened and those portions between a central point and the handle being narrowed, a ring mounted upon the narrowed portions of the spring members and limited in movement in one direction by the handle and in the other direction by the widened central portions of said members, the said ring being adapted for slidable movement toward the widened central portions of the spring members to force the spring members together, such widened portions frictionally binding against the interior of the ring when the latter is forced toward the same, an extremity of one of the spring members having a screw-driving point, and a lateral projection extended from the other spring member and adapted to coöperate therewith in holding a screw.

807,947. BURIAL-CASKET. WALTER H. LAWSON, Richmond Ind. Filed Oct. 23, 1905. Serial No. 283,952.



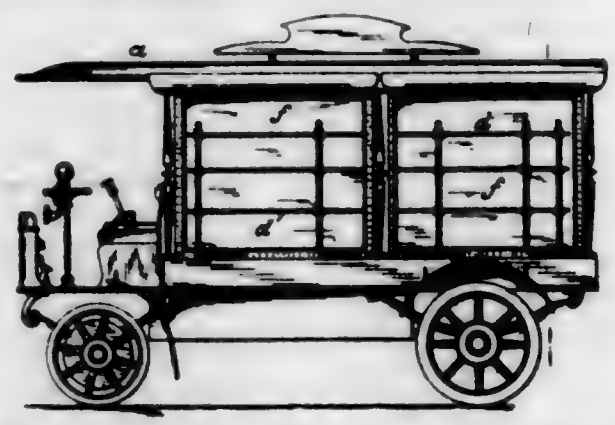
Claim.—1. A burial-casket having in combination, an outer shell, a cover hinged to the shell, a relatively stationary couch located within the shell, a vertically-disposed drum carried centrally of the base of the couch, a pair of oppositely-disposed springs secured longitudinally in the base, a cord or the like extending from the free ends of the said springs and secured to the face of the drum to wind thereon in opposite directions, a pair of cords or the like secured to the face of the drum to wind thereon in opposite directions and having their ends extending out to the inner faces of their respective ends of the shell and then extending downward and being secured near the lower edges of the ends of the shell, means for guiding the shell vertically and frictionlessly over the couch, and means for moving the shell vertically by opening and closing the cover, all substantially as shown and described.

2. A burial-casket having in combination, an outer shell, a cover hinged to the shell, a relatively stationary couch located within the shell, a pair of guides spaced apart and secured to the inner faces and near the rear of the ends of the shell and at either end thereof, guide-blocks secured to the ends of the couch opposite and between each pair of guides, two pairs of disks revoluble loosely in each of said guide-blocks and adapted to travel on the opposing faces of the guides, means for counterbalancing the shell in connection with the couch, and means for operating the shell vertically by opening and closing the cover, all substantially as shown and described.

3. A burial-casket having in combination, an outer shell, a cover hinged to the shell, a relatively stationary couch located within the shell, means for guiding the shell vertically, means for counterbalancing the shell in connection with the couch, a tube secured in the upper edge of the upwardly-projecting ends of the couch, a hanger secured inside the cover and alined with its respective tube, an arm telescopically mounted in each of said tubes with their outer ends pivoted in the respective hangers on the cover whereby as the cover is opened and closed the shell and the lid will be lowered and raised respectively, all substantially as shown and described.

4. A burial-casket having a movable outer shell, a cover hinged to the shell, a couch located within the shell, the counterbalancing means for connecting interiorly the shell and the couch, guides secured on the inner faces of the ends of the shell, guide-blocks secured to the outer ends of the couch and carrying roller-disks therein, the roller-disks mounted in said guide-blocks and adapted to travel in guideways formed by said guides, means for automatically actuating the vertical movements of the shell by the operation of opening and closing the lid, said means consisting of curved arms attached to the lid and operative in tubes secured on the upper segmental edges of the ends of the couch, the tubes in which said arms operate with means for their attachment to the couch, and means for supporting the couch by and entirely within the shell when the casket is lifted from its supports, all substantially as shown and described.

807,948. VEHICLE FOR EXHIBITING GOODS. EMIL LEFÈVRE, Berlin, Germany. Filed Apr. 13, 1905. Serial No. 255,294.

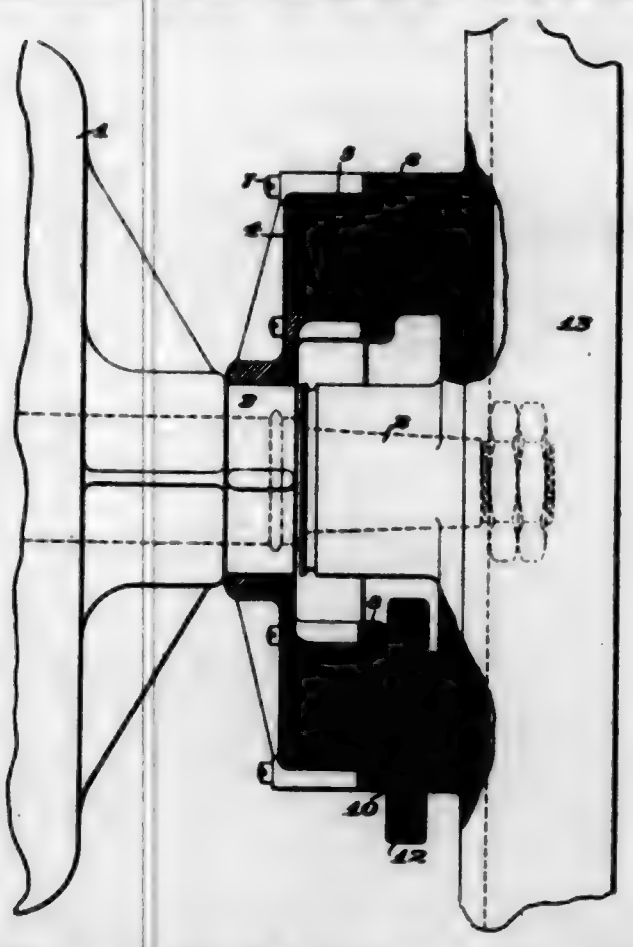


Claim.—1. A vehicle which is divided into longitudinal compartments by means of partitions running parallel to its transparent longitudinal walls, of which the two exterior compartments are dressed with exhibits, characterized by the partitions which run parallel to the longitudinal axis of the vehicle being displaceable and so allowing the breadth of the separate compartments of the vehicle to be varied as required.

2. A vehicle provided with transparent outer walls, and a plurality of partitions running longitudinally of the vehicle and parallel with the walls, the partitions being transversely displaceable whereby the breadth of the compartments formed in the partitions may be varied, and awnings attached to the sides of the vehicle.

.3. A vehicle, characterized by the partitions which run parallel to the longitudinal axis of the vehicle being displaceable and so allowing the breadth of the separate compartments of the vehicle to be varied as required.

807,949. MAGNETO-ALTERNATOR. LEON J. LE PONTON, New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company, a Corporation of New York. Filed Oct. 20, 1904. Serial No. 229,310.



Claim.—1. An alternating-current generator having a field-magnet consisting of a permanently-magnetized ring formed of a continuous steel ribbon, pole-pieces located at opposite ends of the same diameter and coils supported thereon, and an inductor mounted to rotate in close proximity to said pole-pieces.

2. A field-magnet consisting of a permanently-magnetized ring formed of a continuous steel ribbon.

3. A field-magnet consisting of a permanently-magnetized ring formed of a continuous steel ribbon with insulating material interposed between adjacent convolutions.

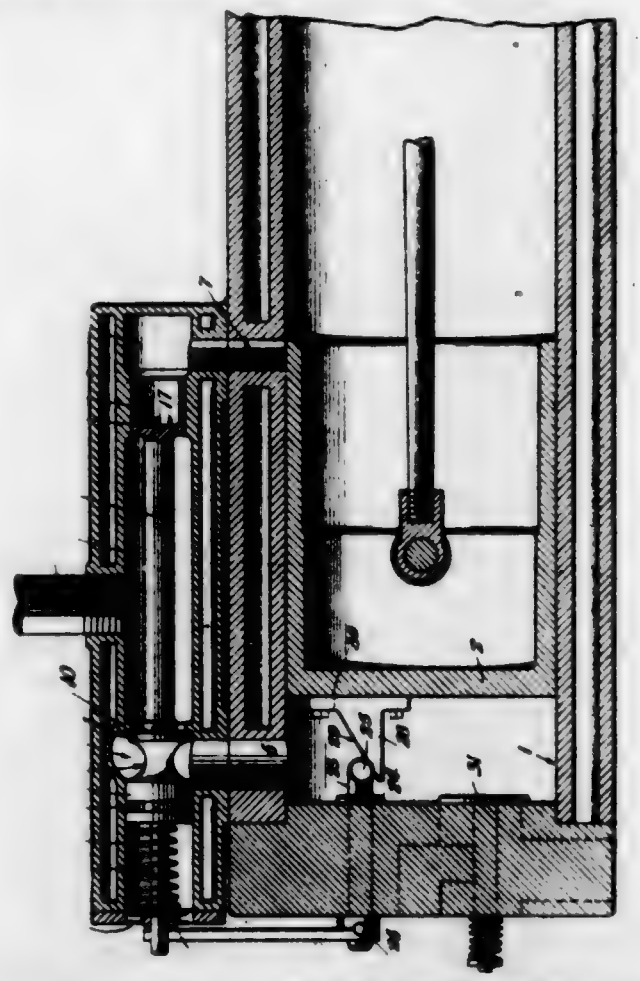
4. An alternating-current generator having a field-magnet consisting of a permanently-magnetized ring formed of a continuous steel ribbon, pole-pieces located at opposite ends of the same diameter, a plurality of projections on one of said pole-pieces, coils surrounding said projections, and an inductor mounted to rotate in close proximity to said pole-pieces.

807,950. GAS-ENGINE. ROBERT LONGTIN and EDWARD DOUBLE, Los Angeles, Cal. Filed Aug. 17, 1904. Serial No. 221,062.

Claim.—1. In a gas-engine, in combination with the cylinder and piston, an exhaust-valve, means for opening the exhaust-valve by the pressure of the exhaust-gas, a rod carried by the exhaust-valve having a notch, a pivoted locking-bar for engaging the notch, and means cooperating with the piston for actuating the locking-bar.

2. In a gas-engine, in combination with the cylinder and piston, an exhaust-valve, means for operating the exhaust-valve by the pressure of the exhaust-gas, an extension on the valve, a locking-arm for detachably engaging the extension, a rock-shaft mounted in the cylinder and carrying the locking-arm, an operating-arm inside the cylinder carried by the rock-shaft, and a device carried by the piston for tilting the operating-arm and thereby controlling the locking-arm.

3. In a gas-engine, in combination with the cylinder and piston, a valve-chest forming a valve-chamber and a piston-chamber, with an intermediate exhaust-chamber, a valve in the valve-chamber, and a piston in the piston-chamber connected with the valve, said valve-chamber communicating with the exhaust-chamber and main cylinder, and said piston-chamber communicating with the exhaust-chamber and with the main cylinder at a point which is near the head of the piston when it is at or near the end of its outstroke, and means for normally holding the valve closed, whereby when the piston moves far enough to uncover the passage leading to the piston-chamber exhaust-gas is admitted to the piston-chamber and operates the valve-piston and opens the valve, thus allowing the exhaust-gas to pass into the exhaust-chamber.



4. In a gas-engine, in combination with the cylinder and piston, a valve-chest forming a valve-chamber and a piston-chamber, with an intermediate exhaust-chamber, a valve in the valve-chamber and a piston in the piston-chamber connected with the valve, said valve-chamber communicating with the exhaust-chamber and main cylinder and said piston-chamber communicating with the exhaust-chamber and with the main cylinder at a point which is near the head of the piston when it is at or near the end of its outstroke, means for normally holding the valve closed, whereby when the piston moves far enough to uncover the passage leading to the piston-chamber exhaust-gas is admitted to the piston-chamber and operates the valve-piston and opens the valve, thus allowing the exhaust-gas to pass into the exhaust-chamber and means for locking the valve in open position.

5. In a gas-engine, in combination with the cylinder and piston, a valve-chest forming a valve-chamber and a piston-chamber, with an intermediate exhaust-chamber, a valve in the valve-chamber and a piston in the piston-chamber connected with the valve, said valve-chamber communicating with the exhaust-chamber and main cylinder, and said piston-chamber communicating with the exhaust-chamber and with the main cylinder at a point which is near the head of the piston when it is at or near the end of its outstroke, means for normally holding the valve closed, whereby when the piston moves far enough to uncover the passage leading to the piston-chamber exhaust-gas is admitted to the piston-chamber and operates the valve-piston and opens the valve, thus allowing the exhaust-gas to pass into the exhaust-chamber, means for holding the valve open during the exhaust stroke, and means for restoring the valve at the end of the exhaust stroke.

6. In a gas-engine, in combination with the cylinder and piston, an exhaust-valve, means for operating the exhaust-valve by the pressure of the exhaust-gas, an extension on the valve, a locking-arm for detachably engaging the extension, a rock-shaft mounted in the cylinder and carrying the locking-arm, an operating-arm inside the cylinder carried by the rock-shaft, a device carried by the piston for tilting the operating-arm and thereby controlling the locking-arm, and a stop for limiting the movement of the operating-arm.

7. In a gas-engine, in combination with the cylinder and piston, an exhaust-valve, means for operating the exhaust-valve by the pressure of the exhaust-gas, an extension on the valve, a locking-arm for

detachably engaging the extension, a rock-shaft mounted in the cylinder and carrying the locking-arm, an operating-arm inside the cylinder carried by the rock-shaft, and a device carried by the piston for tilting the operating-arm and thereby controlling the locking-arm, said locking-arm being adjustably attached to the rock-shaft.

8. In a gas-engine, in combination with the cylinder and piston, an exhaust-valve, means for operating the exhaust-valve by the pressure of the exhaust-gas, an extension on the valve, a locking-arm for detachably engaging the extension, a rock-shaft mounted in the cylinder and carrying the locking-arm, an operating-arm inside the cylinder carried by the rock-shaft, and a lifting-plate having an inclined edge carried by the piston for tilting the operating-arm.

9. In a gas-engine, in combination with the cylinder and working piston, a valve-chest on the cylinder having an exhaust-chamber and a piston-chamber communicating therewith and a valve-chamber communicating therewith, an exhaust-valve in the valve-chamber normally closing communication between the exhaust-chamber and valve-chamber, a piston in the piston-chamber connected with said valve and normally closing communication between the piston-chamber and exhaust-chamber, the piston-chamber communicating by a passage with the cylinder whereby when said passage is opened by the working piston exhaust-gas enters the piston-chamber and operates the piston therein thus operating the exhaust-valve and bringing communication between the valve chamber and exhaust-chamber.

10. In a gas-engine, in combination with the cylinder and working piston, a valve-chest on the cylinder having an exhaust-chamber and a piston-chamber communicating therewith and a valve-chamber communicating therewith, an exhaust-valve in the valve-chamber normally closing communication between the exhaust-chamber and valve-chamber, a piston in the piston-chamber connected with said valve and normally closing communication between the piston-chamber and exhaust-chamber, the piston-chamber communicating by a passage with the cylinder whereby when said passage is opened by the working piston exhaust-gas enters the piston-chamber and operates the piston therein thus operating the exhaust-valve and bringing communication between the valve-chamber and exhaust-chamber, and means for automatically locking the exhaust-valve in open position.

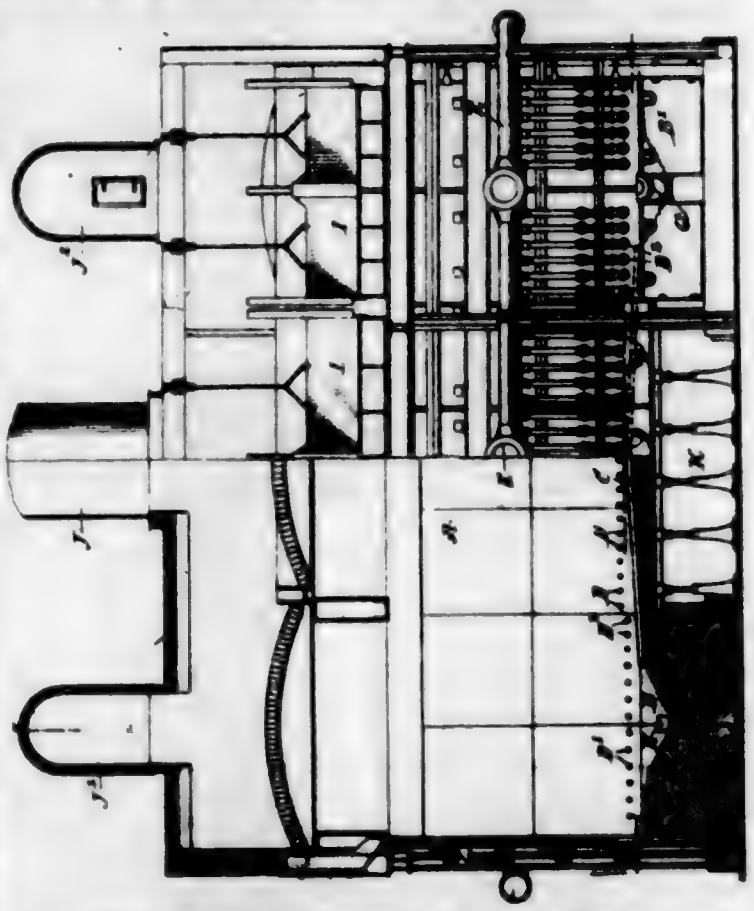
11. In a gas-engine, in combination with the cylinder and working piston, a valve-chest on the cylinder having an exhaust-chamber and a piston-chamber communicating therewith and a valve-chamber communicating therewith, an exhaust-valve in the valve-chamber normally closing communication between the exhaust-chamber and valve-chamber, a piston in the piston-chamber connected with said valve and normally closing communication between the piston-chamber and exhaust-chamber, the piston-chamber communicating by a passage with the cylinder whereby when said passage is opened by the working piston exhaust-gas enters the piston-chamber and operates the piston therein thus operating the exhaust-valve and bringing communication between the valve-chamber and exhaust-chamber, and means for automatically locking the exhaust-valve in open position, and means operated by the working piston for unlocking said exhaust-valve.

12. In a gas-engine, in combination with the cylinder and working piston, a valve-chest on the cylinder having an exhaust-chamber and a piston-chamber communicating therewith and a valve-chamber communicating therewith, an exhaust-valve in the valve-chamber normally closing communication between the exhaust-chamber and valve-chamber, a piston in the piston-chamber connected with said valve and normally closing communication between the piston-chamber and exhaust-chamber, the piston-chamber communicating by a passage with the cylinder whereby when said passage is opened by the working piston exhaust-gas enters the piston-chamber and operates the piston therein thus operating the exhaust-valve and bringing communication between the valve-chamber and exhaust-chamber, and means for allowing gas to escape from the piston-chamber into the exhaust-chamber when the exhaust-valve is open.

807,951. BLAST-FURNACE. EDWARD P. MATHEWSON, Anaconda, Mont. Filed May 19, 1905. Serial No. 261,202.

Claim.—1. A blast-furnace comprising a long and narrow shaft having its bottom provided with transverse ridges, a plurality of crucibles within the shaft between the ridges, and at a lower level than said ridges, the crest of the ridges and the edges of the crucible being connected by a sloping surface.

2. A blast-furnace comprising a shaft having its bottom provided with spaced transverse ridges, a plurality of crucibles intermediate the ridges and at a lower level, the edges of the crucibles and the crest of the ridges being connected by a sloping surface.



3. A blast-furnace comprising a shaft having its bottom provided with transverse ridges, a plurality of crucibles intermediate the ridges and depressed therebelow, the bottom of the shaft being inclined from the crest of the ridges to the edges of the crucibles.

4. A blast-furnace, comprising a long and narrow shaft, and a plurality of spaced crucibles arranged within and transversely of the shaft, the bottom of the shaft being inclined upwardly from the edges of the end crucibles to the ends of the shaft, and from the edges of adjacent crucibles to a line transversely of the shaft and intermediate the crucibles.

5. A blast-furnace comprising a shaft having its bottom provided with transverse ridges, a plurality of crucibles intermediate the ridges and depressed therebelow, the bottom of the shaft being inclined from the crest of the ridges to the edges of the crucibles, and twyers for the shaft, the twyer over the crucible, being on a lower plane than the twyer between the crucibles.

6. The combination with a blast-furnace having a long and narrow shaft, of a plurality of crucibles depressed transversely of the shaft, the bottom part of the shaft between the ends thereof and the end crucibles and between each of the adjacent crucibles slanting downwardly from a common point to the edges of the crucibles.

7. A blast-furnace comprising a shaft having its bottom provided with transverse ridges, a plurality of crucibles intermediate the ridges and depressed therebelow, the bottom of the shaft being inclined from the edges of the ridges to the edges of the crucibles, and a plurality of gas-outlets from the shaft, one of the gas-outlets being arranged intermediate the crucibles, and the other directly over the crucibles.

8. A blast-furnace comprising a shaft having its bottom provided with transverse ridges, a plurality of crucibles intermediate the ridges and depressed therebelow, the bottom of the shaft being inclined from the crest of the ridges to the edges of the crucibles, twyers discharging into the shaft, a plurality of charging-doors for the shaft, and a spout for each of the crucibles.

9. A blast-furnace comprising a shaft having its bottom provided with transverse ridges, a plurality of crucibles intermediate the ridges and depressed therebelow, the bottom of the shaft being inclined from the crest of the ridges and the edges of the crucibles and a tap-hole for each crucible directly opposite the spout.

807,952. HAT. ADOLPH MAYER, New York, N. Y. Filed June 17, 1905. Serial No. 265,644.

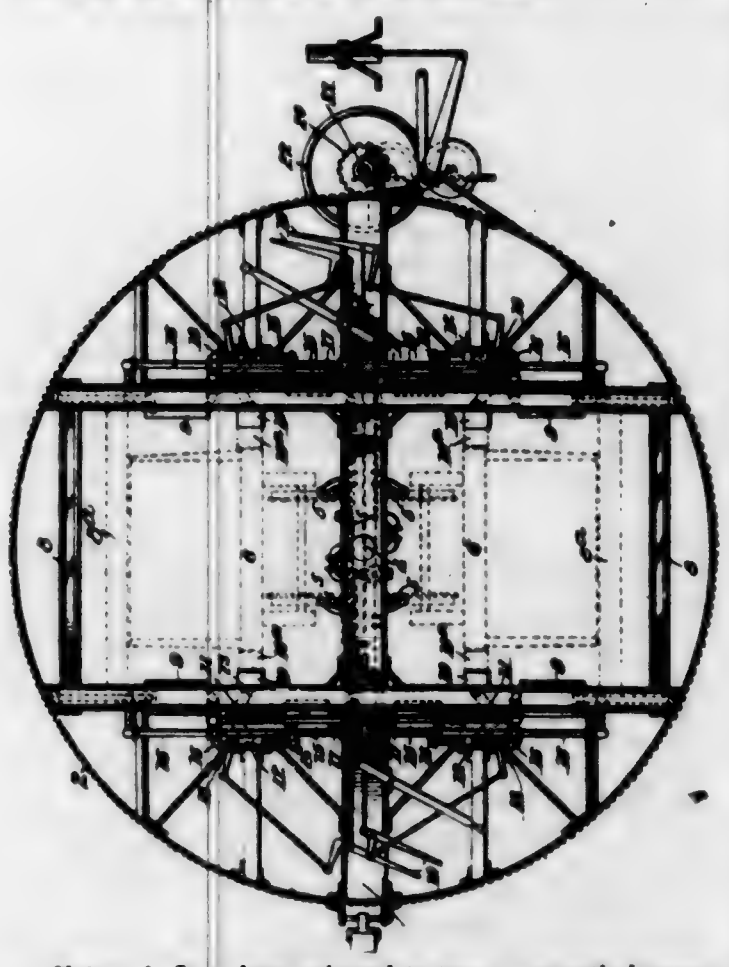
Claim.—1. A hat composed of a skeleton frame having a rigid crown and rim, an annular transversely-slitted pocket surrounding the rim, and a crown-covering having a flap that rests upon the pocket, substantially as specified.

2. A hat composed of a skeleton frame having a rigid crown and rim, a pocket which is open at its inner edge and surrounds the rim, a lining secured to the pocket and projecting into the crown, and means for removably securing the pocket to the frame, substantially as specified.



3. A hat composed of a skeleton frame having a rigid crown and rim, a removable pocket which is open at its inner edge and surrounds the rim, a removable covering adapted to surround the crown, and a stiffening-plate between crown and covering, substantially as specified.

807,953. REVOLVING CAR-DUMP. ARTHUR MOORE, War Eagle, W. Va. Filed Nov. 23, 1904. Serial No. 234,058.



Claim.—1. In a dump adapted to turn a car entirely over, a beam adapted to clamp a car, a toggle-joint mounted to operate the clamp-beam and a cylinder and piston for manipulating the toggle-joint to exert a clamping pressure on the car.

2. In a dump adapted to turn a car entirely over, a beam adapted to clamp a car, a toggle-joint mounted to operate the clamp-beam, a cylinder, a piston mounted to reciprocate within the cylinder, means connecting the piston and the toggle-joint and means for admitting fluid under pressure to the cylinder to manipulate the piston and exert a clamping pressure on the car.

3. In a dump adapted to turn a car entirely over, a circular member entirely surrounding the dump and provided with a circular series of gear-cogs, a pinion mounted to rotate without the circular member provided with gear-cogs adapted to engage the cogs of the circular member, a band-wheel rigidly secured to and rotating with the pinion and adapted to receive a band-brake of the usual construction, a friction-band rigidly secured to and rotating with the pinion, a pair of friction-wheels mounted one within and one without and either adapted to contact with the friction-band, means for positively rotating the friction-wheels and means for shifting said friction-wheels to bring either in frictional contact with the friction-band.

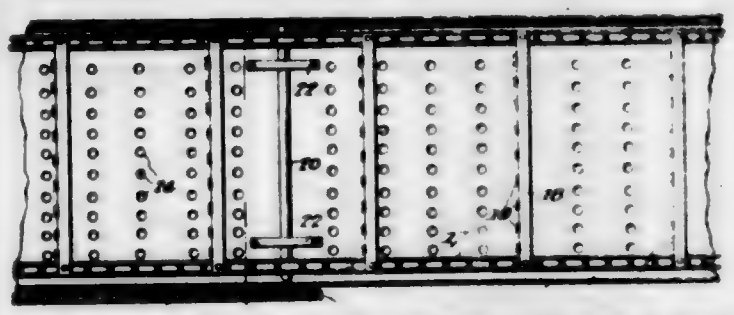
4. In a dump adapted to turn a car entirely over, a plurality of cylinders provided with pistons adapted to exert a clamping pressure on a car, a system of pipes adapted to admit a fluid under pressure to the cylinders to operate the pistons, valves to control the flow of fluid to the various cylinders and valves adapted to retain the pressure-exerting fluid within one cylinder independently of others.

5. In a dump adapted to turn a car entirely over, a circular member entirely surrounding the dump and provided with a circular series of gear-cogs, a pinion mounted to rotate without and adjacent to the circular member and provided with cogs adapted to engage the cogs of said circular member, a frictional clutch mechanism adapted to rotate the pinion and dump in either direction, a movable beam adapted to clamp a car, a toggle-joint adapted to operate the clamp-beam and a cylinder and piston adapted and arranged for manipulating the toggle-joint to clamp the car while being turned over by the pinion.

6. In a dump adapted to turn a car entirely over, a circular member entirely surrounding the dump and provided with a circular series of gear-cogs, a pinion mounted to rotate without and adjacent to the circular member and provided with cogs adapted to engage the cogs of the said circular member, a frictional clutch mechanism adapted to rotate the pinion and dump in either direction, a movable beam adapted to clamp a car, a toggle-joint adapted to operate the clamp-beam, a cylinder, a piston mounted to reciprocate within the cylinder, means connecting the piston and the toggle-joint, and means for controlling the admission of a fluid under pressure to said cylinders to clamp the car while being turned over by the pinion.

7. In a dump adapted to turn a car entirely over, a circular member entirely surrounding the dump and provided with a circular series of gear-cogs, a pinion rotatorily mounted without and adjacent to and provided with cogs adapted to engage with the cogged circular member, a frictional clutch mechanism adapted to rotate the pinion and dump in either direction, a movable beam adapted to clamp a car upon each side, toggle-joints adapted to operate the clamp-beams, a plurality of cylinders, pistons mounted to reciprocate within said cylinders, a system of pipes and valves adapted to admit a fluid under pressure to the cylinders simultaneously and valves adapted to prevent the flow of the pressure-exerting fluid from one side to the other of the car while being turned over by the pinion.

807,954. STRAW-STACKING ATTACHMENT FOR THRESHING-MACHINES. CHARLES B. MOORE, near Caldwell, Okla. Filed Mar. 6, 1905. Serial No. 248,703.



Claim.—1. In a grain-saving attachment for pneumatic stackers, a supporting member consisting of a plate having curved side members adapted to embrace a stacker-tube and laterally-extended side wings, and a carrier-trough secured to said plate between said side wings.

2. In a device of the class described, a supporting member consisting of a plate having oblique incisions forming side members which are curved upwardly to embrace a stacker-tube, and laterally-extended wings overhung by the points of the side members.

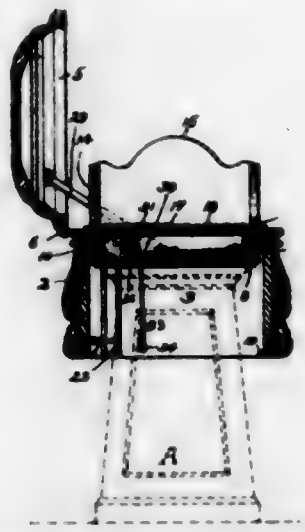
3. In a device of the class described, a supporting member having curved side members embracing a stacker-tube and laterally-extending side wings, a carrier-trough connected with said supporting member between the wings thereof, and an endless carrier supported by said trough; the supporting member being provided with a slot for the passage of said endless carrier, and a flexible apron extending over said slot and resting upon the carrier.

4. A supporting member, a carrier-trough connected therewith and having a perforated bottom, a chute connected with the under side of said bottom, an endless carrier supported for movement over the trough and through the chute, a transversely-disposed driven shaft supported for vertical movement in the sides of the trough below the upper lead of the carrier which is supported upon said shaft, and non-circular supporting members upon said shaft engaging the bottom of the trough.

807,955. CASKET. JOSEPH H. MILLS and WALTER H. LAWSON, Richmond, Ind., assignors to Richmond Casket Company, Richmond, Ind., a Corporation. Filed Oct. 11, 1905. Serial No. 282,230.

Claim.—1. In combination with a casket having an outer case, a lid hinged to the case, and an inner base-section over which the

case may operate vertically, of the vertical guideways secured to the inner faces of the ends of the case, and the guides secured to the outer faces of the ends of the base-section, a shaft extending longitudinally through the base-section, a pair of spools carried by each end portion of the case, ribbons adapted to be wound on said spools, a coil-spring connected to the outer end of each ribbon by a cord, and the pulleys mounted on the ends of said shaft carrying each a ribbon having their outer ends mounted to the inner face of the ends of the case, all substantially as shown and described and for the purposes set forth.



2. A burial-casket having in combination an outer movable case, a lid hinged to the case, a relatively stationary base contained in said case, means for supporting the base by cleats secured to the case, arms connecting the lid and the case, a bed-board located above the bottom of the base and forming a chamber therebelow, a bed located on the bed-board, a removable frame disposed around and extending above the bed, a shaft extending longitudinally through said chamber, two pairs of helical springs secured at one end to the base within said chamber with their other ends secured to cords, which latter are adapted to be wound on spools secured on said shaft, a pulley secured on each end of the shaft outside said chamber, and ribbons secured to the outside case and to said pulleys and adapted to be wound thereon, all substantially as shown and described.

3. A casket having an outer case, a lid hinged to the case, an inner base-section over which the case operates vertically, vertically-disposed guideways secured to the inner faces of the ends of the case and guides secured to the outer faces of the ends of the base-section, a shaft extending longitudinally through the base-section, spools carried by each end portion of the case, ribbons adapted to wind on said spools, a spring connected to the outer end of each ribbon by a cord or the like, a pulley mounted on each end of said shaft, ribbons adapted to wind on said spools and having their outer ends mounted to the inner face of the ends of the case, all substantially as shown and described and for the purposes set forth.

4. A casket having an outer case, a lid hinged to the rear edge of the case, a base-section located in the outer case, a shaft extending longitudinally from end to end of and through the base, counterbalancing-springs secured within the base, pulleys secured on the shaft, cords adapted to wind on said pulleys with their other ends attached to the free ends of said springs, a spool carried by each end of the shaft at points outside the base and inside the case, ribbons adapted to wind on each spool with their opposite ends attached near the lower edge of the case, and means for revolving said shaft by opening and closing the lid to move the case vertically, all substantially as shown and described.

807,956. **EXTENSION-BIT.** WILLIAM B. MCELREY, Meriden, Conn. Filed Mar. 18, 1905. Serial No. 250,868.



Claim.—In a device of the character described, a suitable bit having a transversely-disposed recess, the walls of which are in stepped relation, the said walls having a semicircular recess at the junction of the stepped walls, an extension-cutter slidable transversely of the bit and having a threaded recess in its inner surface corresponding with the recess of the bit, forming in conjunction with said recess of the bit a socket, the inner surface of the said extension-cutter being stepped to engage the stepped surface of the bit, the inner edge of the said extension-cutter being beveled, an adjusting-screw within the socket; a clamp having a beveled edge contacting and coacting with the beveled surface of the extension-cutter, a screw extending through the clamp and threaded into the bit for forcing the clamp into engagement with the extension-cutter, and a shoulder on the bit against which the extension-cutter is forced, as and for the purpose described.

807,957. **SHINGLE-GAGE.** HERMAN P. NEPTUNE, Boulder, Colo. Filed June 5, 1905. Serial No. 263,845.

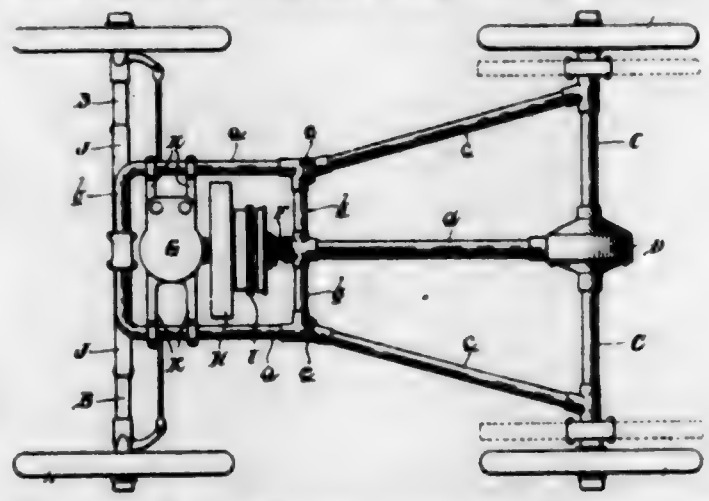


Claim.—1. In a shingle-gage, the combination, with a trough-shaped metallic guide-bar, and a back piece secured between its sides; of a rectangular bar slidable in the aforesaid bar, brackets secured to the outer end portions of the two said bars, and clamping devices for engaging the shingles carried by the said brackets.

2. In a shingle-gage, the combination, with a straight-edge, of angle-shaped brackets secured to the end portions of the said straight-edge, slidable extension-bars arranged under the main portions of the said brackets and provided with clamping devices for engaging the shingles, and means for securing the said bars to the said brackets.

3. In a shingle-gage, the combination, with a straight-edge, of bars connected with the end portions of the said straight-edge and provided with hooks having slots in their backs, spring-tongues secured to the backs of the said hooks, and cams pivoted in the said slots and pressing the said tongues into engagement with the shingles.

807,958. **MOTOR-VEHICLE RUNNING-GEAR.** RANSOM E. OLDS, Lansing, Mich. Filed Oct. 29, 1904. Serial No. 230,470.



Claim.—1. In a motor-vehicle running-gear, the combination with the front and rear axles, of a rigid underframe comprising front, rear and side members, the rear member forming the rear axle-sleeve and central gear-casing inclosing the transmitting-gear for the live-axles, and the side members composed of forward and rear portions the forward portions of which form the sides of a semi-independent forward portion of the frame and support the frame upon the forward axle and the rear portions of which are separably connected with the rear corners of the forward portion of the frame, one of said rear portions forming with part of the rear member and gear-casing an independent detachable part of said underframe.

2. In a motor-vehicle running-gear, the combination with the front and rear axles, of an underframe comprising a tubular rear member forming the rear axle-sleeve, tubular side members composed of forwardly-converging rear portions rigidly connected to the rear member and parallel forward portions integrally formed with a connecting front member yieldingly supporting the frame upon the front axle and a transverse member connecting the forward portions of the side members and forming therewith and with the front member a quadrilateral portion of the underframe upon which the motor and part of the drive mechanism are supported, the rear portions of the side members being separably connected to the rear corners of said frame portion.

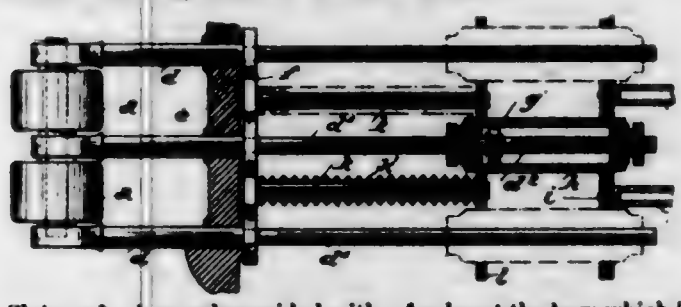
3. In a motor-vehicle running-gear, the combination with the

front and rear axles, of an underframe formed of tubular members and comprising a rear member forming the rear axle-sleeve and a two-part gear-casing separably connecting the sections, side members composed of forwardly-converging rear portions rigidly connected to the rear member and parallel forward portions integrally formed with a front member yieldingly supporting the frame upon the front axle, a transverse member connecting the forward portions of the side members and forming therewith and with the front member a quadrilateral frame to the rear corners of which the rear portions of the side members are detachably connected, and a central member connecting the transverse member with one part of the gear-casing.

4. In a motor-vehicle running-gear, the combination with the front and rear axles, of an underframe comprising a front member yieldingly supporting the frame upon the front axle, a rear member forming the rear axle-sleeve and gear-casing, side members having forwardly-converging rear portions and parallel front portions connected at their front end by the front member, and a transverse member forming in connection with the forward portions of the side members and with the front member a semi-independent portion of the underframe to the rear corners of which the rear portions of the side members are separably connected one of said side members forming with a portion of the rear member and gear-casing a segregate part of the underframe.

5. In a motor-vehicle running-gear, the combination with the front and rear axles, of an underframe forming a rigid forward extension of the rear axle-sleeve, a spring centrally supporting said frame at its forward end upon the front axle and forming the sole connection therewith, and motor mechanism rigidly mounted upon said frame, said frame composed of metal tubing including side and end members forming a quadrilateral forward portion within the area of which the motor and its adjacent parts are rigidly supported, side members connecting the rear axle-sleeve near its ends with the rear corners of the quadrilateral portion and having detachable connection therewith and a central member connecting the center of the rear member of the quadrilateral portion with the casing of the rear axle.

807,959. **DEVICE FOR LESSENING THE SHOCK OF COLLISIONS BETWEEN SHIPS.** MATHIEU PADOVANI, Bastia, Corsica, France. Filed July 21, 1904. Serial No. 217,563.

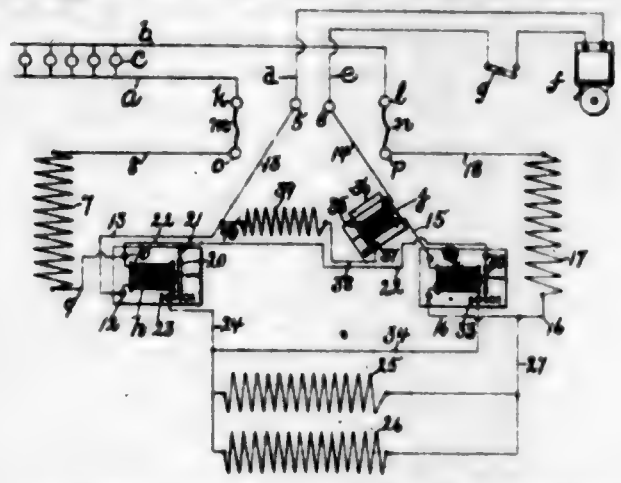


Claim.—1. A vessel provided with a fender at the bow which is composed of a plurality of sliding rods d, d', d^3 rigidly secured to a cross-bar f within the hull in the rear of the stem of the vessel, and to a shaft b outside of the hull, forming together a stout sliding frame, said shaft b carrying rollers and said rods d, d', d^3 being slidably mounted in the stem of the ship and in the heads of compression-cylinders h, well secured in the front part of the vessel and having a piston secured to the rods within said cylinders, substantially as described and for the purpose set forth.

2. A vessel provided with a fender at the bow which is composed of a plurality of sliding rods d, d', d^3 rigidly secured to a cross-bar f within the hull in the rear of the stem of the vessel, and to a shaft b outside of the hull, forming together a stout sliding frame, said shaft b carrying rollers and said rods d, d', d^3 being slidably mounted in the stem of the ship and in the heads of compression-cylinders h, well secured in the front part of the vessel and having a piston secured to the rods within said cylinders, with supplementary spring-supported sliding rods k, secured to the cross-bar f between the rods d, d', d^3, substantially as described and for the purpose set forth.

807,960. **SYSTEM OF ELECTRICAL DISTRIBUTION.** RODERICK M. PALMER, Cambridge, Mass., assignor of one-third to Lester R. Wiley, Bangor, Me., and one-third to Charles D. Shaw, Greenville, Me. Filed Dec. 22, 1904. Serial No. 237,972.

Claim.—1. In a system of the character described, in combination, a circuit of relatively high voltage, a second circuit containing a translating device responsive to a current of relatively low voltage and connected with said high-voltage circuit, a branch circuit normally disconnected from said high and low voltage circuits, a resistance in said branch circuit, an electromagnet included in said high and low voltage circuits, and an armature for said electromagnet cooperating with said branch circuit to connect the said branch circuit with the high and low voltage circuits, for the purpose specified.



2. In a system of the character described, in combination, a circuit of relatively high voltage, a second circuit containing a translating device responsive to a current of relatively low voltage, a resistance connected with both circuits, an electromagnet connected with both circuits, and a branch circuit normally disconnected from the high-voltage circuit and adapted to be connected therewith by said electromagnet, substantially as described.

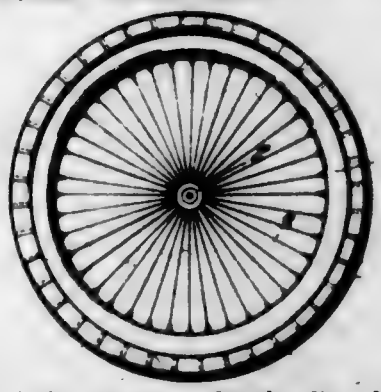
3. In a system of the character described, in combination, a circuit of relatively high voltage, a second circuit containing a translating device responsive to a current of relatively low voltage, a plurality of electromagnets connected with both circuits, and a plurality of branch circuits normally disconnected from the high-voltage circuit and adapted to be connected therewith by said electromagnets, substantially as described.

4. In a system of the class described, in combination, an incandescent-light circuit, a bell-circuit connected therewith, an electromagnet included in said circuits, and a branch circuit controlled by said electromagnet and adapted to be connected with said incandescent-light circuit in shunt relation to said bell-circuit, substantially as described.

5. In a system of the character described, in combination a circuit of relatively high voltage, a second circuit containing a translating device responsive to a current of relatively low voltage and connected with said circuit of high voltage, a second translating device included in said circuits, and a branch circuit controlled by said second translating device and adapted to be connected with said high-voltage circuit in shunt relation to said circuit of low voltage, substantially as described

6. In a system of the class described, in combination, a circuit of relatively high voltage, a second circuit containing a translating device responsive to a current of relatively low voltage, and means interposed between said circuits and responsive to the current of high voltage for enabling the current from the high-voltage circuit to be used with safety on the low-voltage circuit, substantially as described.

807,961. **METALLIC TIRE.** WALTER J. PATON, Galva, Kans. Filed June 14, 1905. Serial No. 265,251.

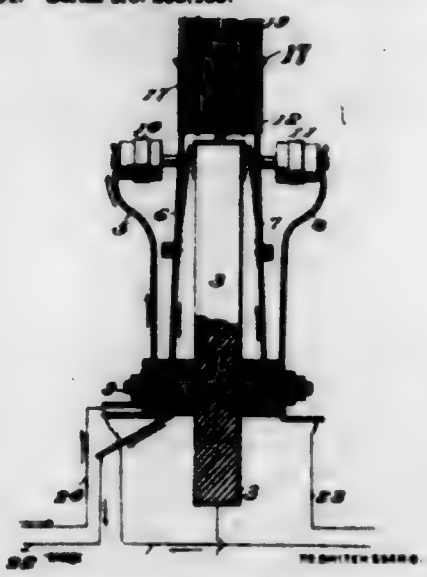


Claim.—1. A tire composed of a plurality of tubular sections, each section consisting of relatively movable members, means connecting said members, and a spring interposed between said members.

2. A tire composed of a plurality of tubular sections, each section composed of relatively movable members having a pin-and-slot connection, and a spring interposed between said members.

3. In combination, a wheel embodying a hub, a rim, a tire fitted about the rim and composed of a plurality of connected tubular sections, each section consisting of complemental relatively movable members of concave form, a spring between the members of each section, and spokes connecting the hub with the rim aforesaid and connected with the springs in the tubular sections.

807,962. CARBON PLATE FOR PROTECTIVE DEVICES. GREENLEAF W. PICKARD, Amesbury, Mass., assignor to American Telephone and Telegraph Company, a Corporation of New York. Filed Apr. 14, 1904. Serial No. 203,189.



Claim.—1. A terminal or electrode for electrical protective devices, consisting of a block of porous conducting material impregnated with a binding material.

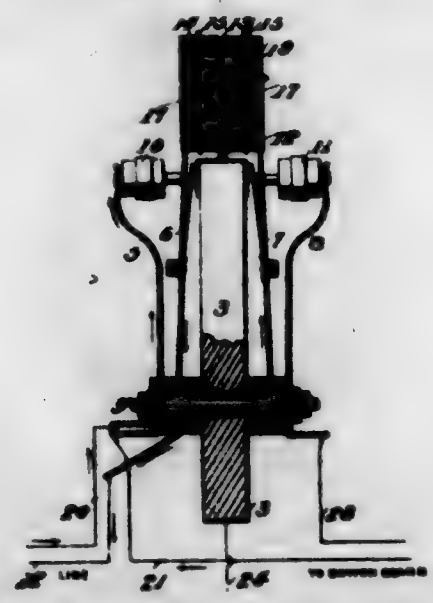
2. A terminal or electrode for electrical protective devices, consisting of a porous carbon block impregnated with a binding material.

3. The herein-described process of making a terminal or electrode for electrical protective devices, consisting in immersing a block of porous conducting material in a liquefied binding material, and then drying the block to harden or set said binding material.

4. The herein-described process of making a terminal or electrode for electrical protective devices, consisting in immersing a porous carbon block in a liquefied binding material, and then drying the block to harden or set said binding material.

5. The herein-described process of making a terminal or electrode for electrical protective devices, consisting in immersing a porous carbon block in a liquefied binding material, then drying the block to harden or set the binding material, and then removing the binding material from one face of the block to leave a rough carbon surface.

807,963. PROTECTIVE DEVICE. GREENLEAF W. PICKARD, Amesbury, Mass., assignor to American Telephone and Telegraph Company, a Corporation of New York. Original application filed Apr. 14, 1904, Serial No. 203,189. Divided and this application filed Dec. 31, 1904. Serial No. 239,861.



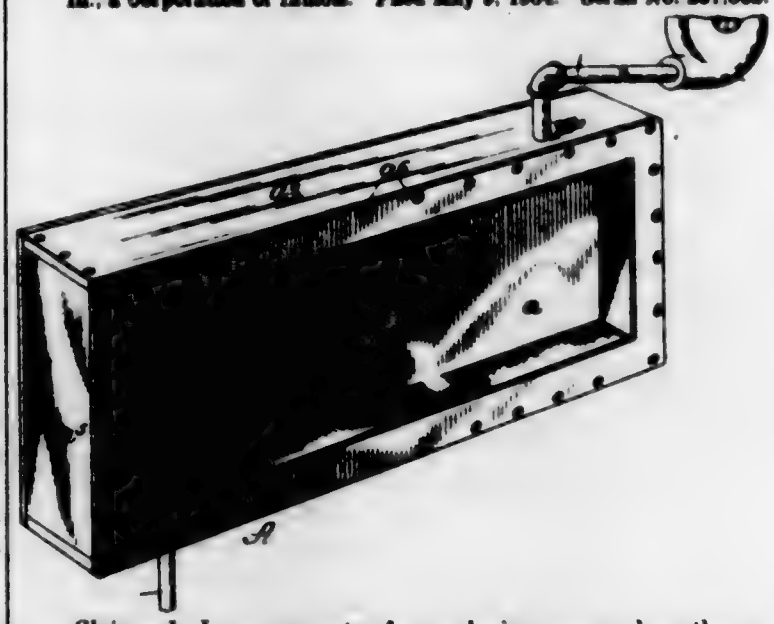
Claim.—1. In an electrical protective device, two terminals or electrodes separated by a narrow open space, one of said terminals consisting of a block of porous conducting material impregnated with a binding material.

2. In an electrical protective device, two terminals or electrodes separated by a narrow open space, one of said terminals consisting of a porous carbon block impregnated with a binding material.

3. In an electrical protective device, two terminals or electrodes separated by a narrow open space, said terminals consisting of porous carbon blocks impregnated with a binding material.

4. In an electrical protective device, two terminals or electrodes separated by a narrow open space, said terminals consisting of porous carbon blocks impregnated with a binding material, the adjacent faces of said blocks being exposed carbon surfaces.

807,964. APPARATUS FOR PRODUCING OZONE. WILLIAM P. RICE, Chicago, Ill., assignor to The National Ozone Company, Chicago, Ill., a Corporation of Illinois. Filed May 9, 1904. Serial No. 207,068.



Claim.—1. In an apparatus for producing ozone a box, the opposing walls of which are thin and constitute the electrodes, and joined at their margins by insulating-strips in a manner to provide air-tight joints and to resist internal pressure, the whole constituting a closed box and a dielectric between the two electrodes, the outer sides of said electrodes being freely exposed to the atmosphere.

2. In an ozone-producing apparatus two thin, parallel, flat, metal plates constituting electrodes which are insulated from each other and separated by a narrow air-gap, and a flat dielectric fitted to one of said plates and extending at its margins beyond the parallel parts of said plates, the outer side of at least one of said plates being freely exposed to the surrounding atmosphere.

3. An ozone-producing apparatus consisting of a closed box embracing two flat metal plates having smooth opposing faces and constituting the electrodes, said electrodes being separated by a narrow air-gap, the outer sides of the plates being freely exposed to the surrounding atmosphere, the other walls of the box embracing strips of insulating material which are inserted between the edges of the plates and attached thereto in a manner to form air-tight joints, said box being provided with air inlet and outlet passages.

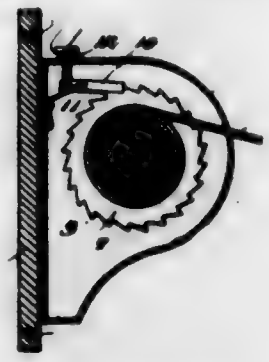
4. An ozone-producing apparatus comprising a closed box made to resist heavy internal pressure, and provided with an inlet and with an outlet, means for forcing air under pressure into and through said box, said box embracing two electrodes separated by a narrow air-gap, at least one of which is the outer wall of the box and freely exposed to the surrounding atmosphere.

5. An ozone-producing apparatus comprising a closed box made to resist heavy internal pressure, and provided with an inlet and with an outlet, means for forcing air under pressure into and through said box, said box comprising two electrodes separated by a narrow air-gap, at least one of which is the outer wall of the box and freely exposed to the surrounding atmosphere, and a dielectric interposed between said electrodes.

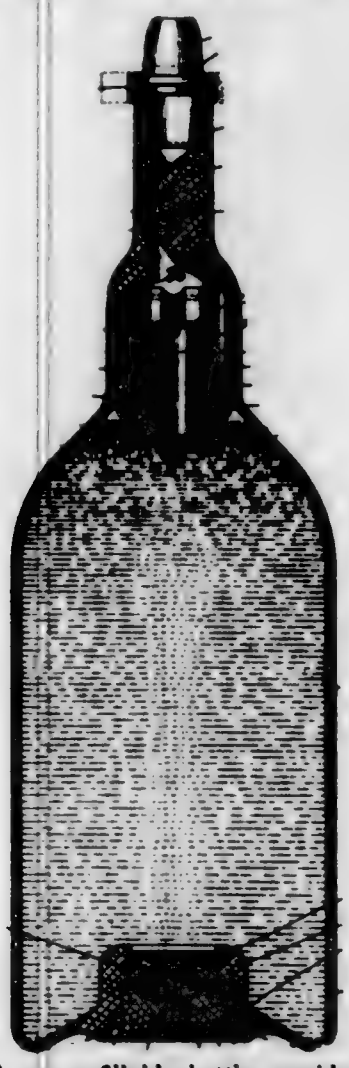
807,965. RAZOR-STROP. STEPHEN D. RICE, Watertown, N. Y. Filed Apr. 12, 1905. Serial No. 255,193.

Claim.—A razor-strop holder comprising a base, a casing comprising side walls, a metallic strip bent to engage said side walls and terminally secured to the base, a partition dividing the casing in two compartments, an arbor supported in the side walls of the casing and extending through an enlarged opening in the partition, a spring

mounted on the arbor on one side of the partition, a razor-strop fixed on the arbor on the opposite side of the partition, the casing being provided with an opening in horizontal alinement with the arbor through which said strop is adapted to pass, a ratchet-wheel fixed on the arbor immediately adjacent one of the side walls of the casing, means for engaging said ratchet-wheel to prevent revolution of the arbor, and means to actuate said engaging means, whereby to release the ratchet-wheel.



807,966. NON-REFILLABLE BOTTLE. LAWRENCE A. ROBERTSON, New York, N. Y. Filed Oct. 20, 1904. Serial No. 230,517.



Claim.—1. A non-refillable bottle provided with a chamber threaded internally, a plug threaded externally and fitted into said enlargement, valve mechanism connected with said plug, means for tensioning said valve mechanism, and mechanism for preventing accessibility to said valve mechanism.

2. A non-refillable bottle, comprising a neck provided with a chamber, a cylindrical member within said chamber, a cap having a cylindrical portion encircling said cylindrical member, said cylindrical portion being provided with passages, means for limiting the movement of said cap in one direction, and a spring for tensioning said cap in the opposite direction.

3. In a non-refillable bottle, the combination of a neck provided with a chamber and with a passage merging into said chamber, a cylindrical member within said chamber, a cap mounted loosely upon said cylindrical member and movable relatively thereto, means for limiting the play of said cap in one direction relatively to said cylindrical member, a spring for tensioning said cap, and means for adjusting the tension of said spring.

4. A non-refillable bottle, comprising a body portion provided with a chamber and with an exit-passage merging into said chamber, a cylindrical member mounted within said chamber, a cap loosely encircling said cylindrical member and adapted to move relatively thereto, lugs for limiting the movement of said cap in one direction, and spring mechanism connected with said cap and tending to draw the same in the opposite direction.

5. In a non-refillable bottle, the combination of a neck provided with a chamber and with a crooked passage-way communicating with said chamber, an annular screw-plug mounted within said neck and partially obstructing said chamber, a cap mounted upon said annular screw-plug and adapted to move relatively thereto, and means for limiting the movement of said cap relatively to said plug.

6. In a non-refillable bottle, the combination of a neck threaded internally, an annular screw-plug threaded externally and fitted into said neck, valve mechanism connected with said screw-plug for opening and closing the same, and means for limiting the play of said valve mechanism.

7. In a non-refillable bottle, the combination of a neck provided with a chamber and with a passage-way communicating with said chamber, an annular screw-plug mounted within said neck and inaccessible to persons manipulating the bottle, and valve mechanism connected with said screw-plug for opening and closing the same.

807,967. CULTIVATOR. EUGENE ROSENBAUM, Dallas, Tex. Filed Oct. 5, 1905. Serial No. 281,504.

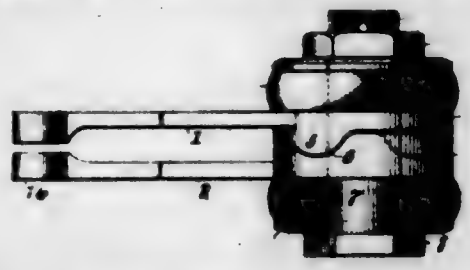


Claim.—1. A beam, pairs of parallel bars connected pivotally with and extending in opposite directions from the beam, earth-engaging members pivotally connecting the parallel bars and serving to keep them in parallel relation, a circular brace securely connected with the beam, and means for connecting one of each pair of parallel bars adjustably with the circular brace.

2. A beam, pairs of parallel bars connected pivotally with and extending in opposite directions from the beam, earth-engaging members connected pivotally with the parallel bars and serving to retain the latter in parallel relation, and means permanently connected with the beam and adapted for temporary engagement with one of each pair of parallel bars to maintain the latter in any of the positions to which they may be adjusted.

3. A beam, pairs of parallel bars connected pivotally with and extending in opposite directions from the beams, earth-engaging members connected pivotally with the parallel bars and serving to retain the latter in parallel relation, a brace connected securely with the beam and engaging the upper sides of the pivoted parallel bars in any of the positions to which the latter may be adjusted to prevent upward displacement of the free ends of said parallel bars, and means for adjustably connecting said bars and brace.

807,968. SUSPENSION DEVICE FOR VEHICLES. PETER H. SEERY, Newark, N. J. Filed July 14, 1905. Serial No. 269,804.



Claim.—1. A member having a cam projection on one face, a second member having a depression on its face constructed to receive said cam projection, means for holding said faces in resilient contact and means for rotating one of said members.

2. A member having a cam projection on one face, a second member having a depression on its face constructed to receive said cam projection, means for holding said faces in resilient contact and means for simultaneously rotating said members in relatively opposite directions.

3. A member having a cam projection on one face, a second member having a depression on its face constructed to receive said

cam projection, a pivot-bolt connecting said members, springs carried by said pivot-bolt and constructed to hold said opposing faces in resilient contact and means for rotating said members on said pivot-bolt.

4. A member having a cam projection on one face, a second member having a depression on its face constructed to receive said cam projection, a spring for holding said faces in resilient contact, means for rotating one of said members and means for varying the resiliency of said spring.

5. A member having a cam projection on one face, a second member having a depression on its face constructed to receive said cam projection, a pivot-bolt connecting said members, a spring carried by said bolt and constructed to hold said opposing faces in resilient contact, means for rotating one of said members on said pivot-bolt, and means carried by said bolt for varying the resiliency of said spring.

6. Two lever-arms, a pivot-bolt passing through the corresponding ends of both of said arms, a cam projection on the face of one arm and a depression on the opposing face of the other arm constructed to receive said projection and means carried by said bolt for holding said opposing faces in resilient contact.

7. Two lever-arms, a ring carried by one arm having a cam projection on its face, a ring carried by the other arm having a depression on its face constructed to receive said cam projection, a pivot-bolt passing through said rings and bodies of elastic material interposed between abutments on said bolt and the outer faces of said rings.

8. Two lever-arms, a ring carried by one arm having a cam projection on its face, a ring carried by the other arm having a depression on its face constructed to receive said cam projection, a pivot-bolt passing through said rings, and bodies of elastic material interposed between abutments on said bolt and the outer faces of said rings; the said arms when said cam projection is seated in said depression being disposed relatively at an angle.

9. Two lever-arms, a ring carried by one arm having a cam projection on its face, a ring carried by the other arm having a depression on its face constructed to receive said cam projection, a pivot-bolt passing through said rings, bodies of elastic material supported on said bolt and bearing against the outer faces of said rings, and means for varying the elastic pressure of said elastic bodies upon said rings.

10. Two lever-arms, a ring carried by one arm having a cam projection on its face, a ring carried by the other arm having a depression on its face constructed to receive said cam projection, a pivot-bolt headed at one end, threaded at the opposite end and passing through said rings, bodies of elastic material supported on said bolt and bearing against the outer faces of said rings, and a nut on said threaded portion of said bolt.

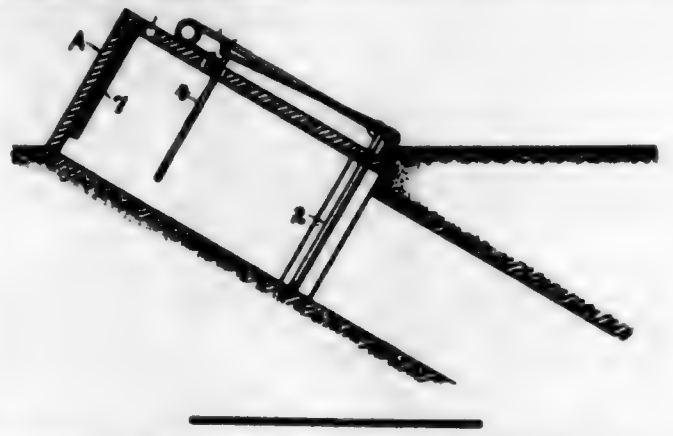
11. A vehicle-body, a lever-arm having one end pivoted to said body, a ring at the other end of said arm, an axle, a second arm having one end pivoted to said axle, a ring at the opposite end of said last-named arm, one of said rings having a cam projection on its face and the other of said rings having on its face a depression constructed to receive said cam projection, springs bearing upon the outer faces of said rings and means for holding said rings and springs in contact.

12. A vehicle-body, a lever-arm having one end pivoted to said body, a ring at the other end of said arm, an axle, a second arm having one end pivoted to said axle, a ring at the opposite end of said last-named arm, one of said rings having a cam projection on its face and the other of said rings having on its face a depression constructed to receive said cam projection springs bearing upon the outer faces of said rings, means for holding said rings and springs in contact, and means for adjusting the resilience of said springs.

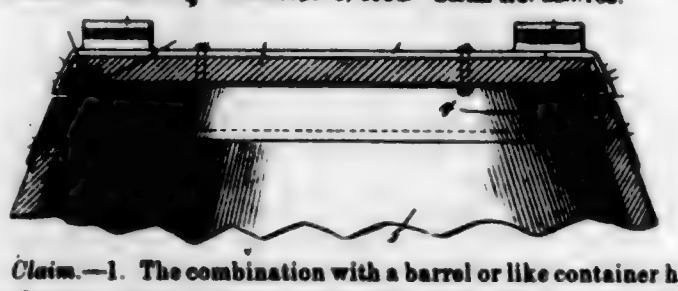
13. A vehicle-body, an axle, a supporting-spring for said body carried on said axle, a lever-arm having one end pivoted to said body, a ring at the other end of said arm, a second arm, a pivot-support for one end of said arm disposed on said vehicle-spring and over said axle, a ring at the opposite end of said last-named arm, one of said rings having a cam projection on its face and the other of said rings having on its face a depression constructed to receive said cam projection, springs bearing upon the outer faces of said rings and means for holding said rings and springs in contact.

807,969. **ANIMAL-TRAP.** SIVERT H. SHELLEY, San Jose, Cal. Filed June 15, 1905. Serial No. 265,349.

Claim.—A gopher-trap comprising a box-like structure having a closed top, sides and one end, and adapted when placed in position in the animal's burrow to inclose a darkened chamber, said structure having its opposite end open, and having, also, a limited light-aperture near its closed end, a mirror in the chamber of the box and supported relative to said aperture and arranged to reflect light into the darkened chamber, and suitable entrapping means between the open end of the box and the mirror.



807,970. **DETACHABLE CLOSURE FOR BARRELS.** SIMEON J. SIKES, Rhea, Fla. Filed Sept. 8, 1904. Serial No. 223,769.



Claim.—1. The combination with a barrel or like container having a flaring end and a chime-groove formed therein, of a ring adapted to fit within the flaring end and formed with a flange to engage the groove, the inner wall of said ring being flared to form a continuation of the flare of the wall of the barrel, a detachable closure for the ring, and means for securing said closure thereto, substantially as described.

2. A barrel-closure comprising a ring provided at its inner end with a flange to fit within and seal the chime-groove of the barrel, said ring being of greater depth than the distance between the groove and end of the barrel to project beyond the barrel, the projecting portion being provided with an outer seat-face and locking members, the latter being arranged to lie within the plane of the outer surface of the end of the barrel, a head closing the ring and resting upon said seat-support, and locking members upon the head, said locking members being adapted to engage the locking members on the ring beyond the end of the barrel and substantially in the plane of the outer surface thereof, substantially as described.

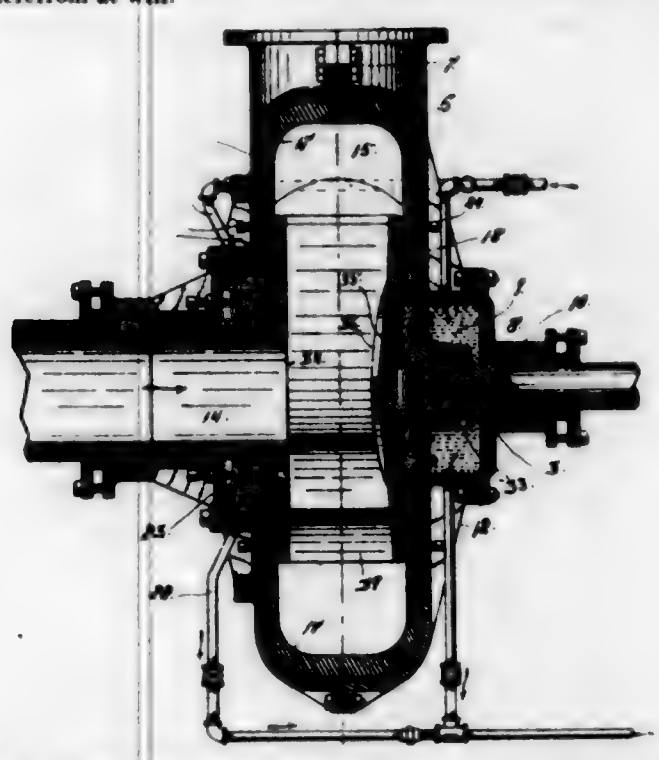
3. A closure for barrels comprising a ring adapted to fit partially within and project partially beyond the end of the barrel, said ring being provided at its inner end with a flange to fit within and seal the chime-groove of the barrel and at its outer end with a seat-face, the outer or projecting portion also being formed with peripheral lugs having beveled outer or side faces conforming to the flare of the outer surface of the end of the barrel and inclined or cam under surfaces lying in the plane of the barrel edge, a head closing the ring and resting upon said seat-support, hooked fastening elements upon the head to engage cam-faces of the lugs, the body portions of said fastening elements being obliquely arranged to engage the beveled side faces of the lugs and to lie substantially within and conform to the flare of the outer surface of the barrel end, and grips upon the head, whereby the latter may be turned to move the fastening elements into and out of engagement with the lugs, substantially as described.

4. A closure for barrels comprising a ring adapted to fit partially within and project partially beyond the end of a barrel, said ring being provided at its inner end with an integral flange to fit within and seal the chime-groove of the barrel and at its outer end with peripheral lugs having inclined or cam surfaces, a head supported by the ring, and a cross-bar connected to the head and provided with turning devices and hooked terminals said hooked terminals being adapted to engage said lugs to detachably secure the head to the ring, substantially as described.

807,971. **CENTRIFUGAL PUMP.** GEORGE W. SKINNER, Jr., Denver, Colo. Filed Apr. 19, 1905. Serial No. 256,503.

Claim.—1. A centrifugal pump provided with a removable lining, a shallow space being maintained between the lining and the

casing, and means for introducing water to this space and removing it therefrom at will.



2. A centrifugal pump having a lining arranged to maintain a space between it and the body of the pump-casing, inlet and outlet means for introducing liquid to and removing it from the space, a rotary piston mounted in the casing and provided with a water-containing chamber adjacent the piston-bearing, and means for introducing liquid to and removing it from said chamber.

3. A centrifugal pump provided with a casing having a removable lining, a shallow space being maintained between the lining and the casing, means for introducing water to this space and removing it therefrom, and a rotary piston mounted in the casing and having detachable wearing-shoes forming one wall of the outlets from the piston to the body of the pump.

4. A centrifugal pump provided with a removable lining, a shallow space bring maintained between the lining and the casing, and means for introducing water to this space and removing it therefrom at will, the casing being provided with a detachable angle-shaped wearing-plate located adjacent its outlet-opening and extending inwardly therefrom for the purpose set forth.

5. In apparatus of the class described, the combination of a number of centrifugal pumps, a common operating-shaft upon which the pump-pistons are mounted, one pump being provided with inlet and discharge conduits projecting respectively, in different directions from the inlet and discharge conduits of another pump for the purpose set forth.

807,972. PASTE-PRESS. CAESAR R. SPLIVALO, San Francisco, Cal. Filed Apr. 24, 1905. Serial No. 257,243.

Claim.—1. A paste-press having in combination a cylinder, a plunger to operate therein, means for operating the plunger, a perforated die in the cylinder, and a hinged member below the die upon which the formed tubes are received and held during a subsequent cutting operation.

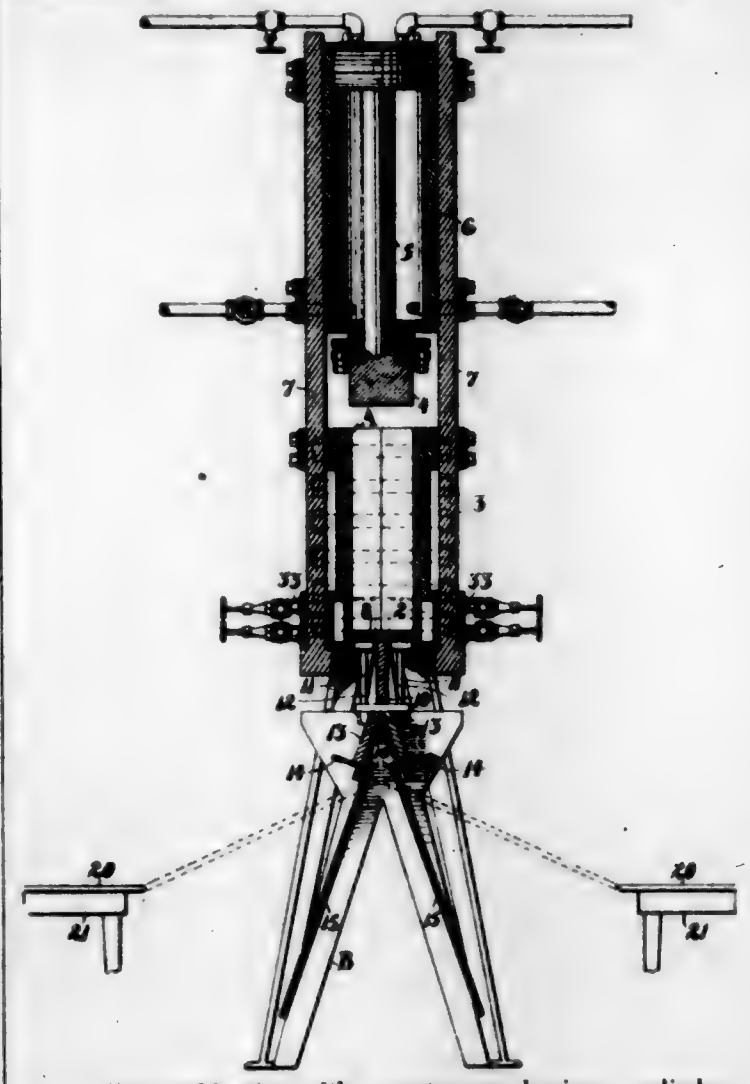
2. A paste-press having in combination a cylinder, a plunger operable therein, said cylinder having a diameter less than twice the effective penetrating distance of the heating medium applied to the cylinder, means for applying heat externally to the cylinder, a perforated die within the cylinder, means including a hinged member below the die upon which the formed tubes are received, and cutting appliances associated with said tube-receiving means.

3. In a paste-press, a cylinder having a bore of greater diameter in one direction than in the other, a plunger, a die in the cylinder, and a steam-jacket on the longer sides of said cylinder and means for varying the application of a heating medium to different parts of said cylinder.

4. In a paste-press, a cylinder, a plunger, a die in the cylinder and means for regulating the application of heat to different parts of said cylinder.

5. The combination with a paste-press, having a cylinder, a plunger and a perforated die, of means for receiving, spreading and cutting the formed tubes as they issue from the die, said receiving means including a hinged shelf.

6. The combination with a paste-press, having a cylinder, a plunger and a perforated die, of means for receiving, spreading and cutting the formed tubes as they issue from the die, said means including a hinged shelf and a knife operating coördinately with the movements of said shelf.



7. The combination with a paste-press having a cylinder, a plunger, and a perforated die, of a hinged tube spreader and cutter disposed beneath the die and in the path of the discharging-tubes, and having means to receive and sever the tubes.

8. The combination with a paste-press, having a perforated die member, a deflector arranged beneath said die, a hinged holder onto which the tubes are received from the said deflector and a knife.

9. The combination with a paste-press, having a perforated die member, a deflector arranged beneath said die, a hinged holder onto which the tubes are received from the said deflector and a knife, and means for operating said knife coördinately with the movements of said holder.

10. The combination with a paste-press having a perforated die member, of deflectors arranged beneath said die member and dividing the paste product issuing from said member to opposite sides of the machine, a knife relative to each deflector, means for operating said knives and means for holding the severed product.

11. The combination with a paste-press having a perforated die member, of a holder for the tubes arranged beneath said member, said holder being hinged at its upper end, a knife for severing the tubes and means for operating the knife coördinately with the movement of said holder.

12. The combination with a paste-press having a die member, of a hinged member to receive the product from said die member, a knife and means operated by said hinged member to actuate the knife.

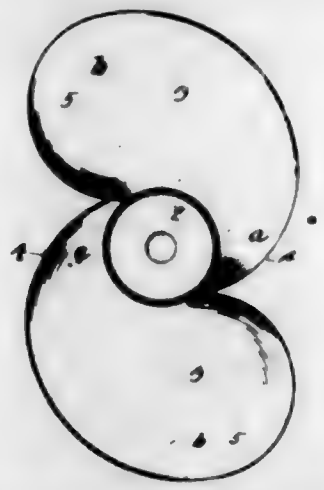
13. The combination with a paste-press having a die member, of a normally retracted knife operable across the path of the product issuing from said die member, a movable receiver or holder for the product of said die member, and means operable by said receiver to actuate the knife to sever said product.

14. The combination with a paste-press, of a spreader and cutter comprising a hinged receiver member, a spring-retracted knife, and means operated by said hinged member to actuate the knife and to release the knife.

807,973. PROCESS OF OBTAINING MARKETABLE ELECTROLYTIC DEPOSITS. PIERRE STERNLEY, Brussels, Belgium, assignor to Marcel Perrow Lloyd, Brussels, Belgium. Filed Nov. 7, 1903. Serial No. 180,155.

Claim.—The process of producing marketable metallic electrolytic deposits which consists in charging the diaphragm with an organic substance, treating said organic substance to render it insoluble, interposing the thus-charged diaphragm between a metallic anode and the cathode and the corresponding portions of an electrolyte containing a metal, and causing an electric current to flow from the anode to the cathode through the thus-charged diaphragm and form a metallic deposit on the cathode, substantially as described.

807,974. PROPELLER. EDWARD A. STICKLER, Portage, Wis. Filed July 10, 1905. Serial No. 269,055.



Claim.—The herein-described propeller having the hub and the spiral cam-shaped blades, the front sides of which project from the front portion of the hub, said blades being curved rearwardly over the rear portion of the hub, widened progressively from the hub rearwardly and terminating in rearwardly-projecting wings, the rear edges of which present convex curves that extend from the outer edges of the blades inwardly, and the inner edges of which are spaced from the sides of the hub and merge in the front portions of the blades attached to the hub.

807,975. ROTARY ENGINE. JOHN B. STUMPF, Kalamazoo, Mich. Filed May 17, 1905. Serial No. 260,825.



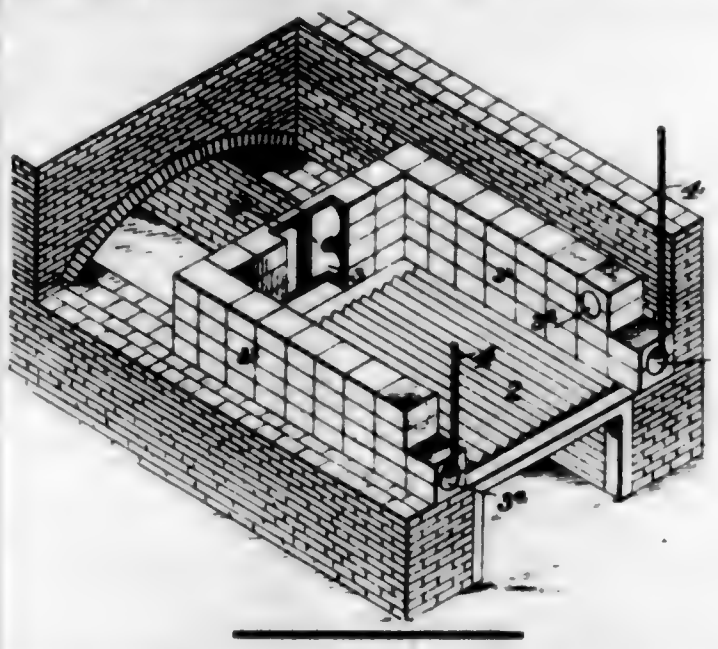
Claim.—1. In a rotary engine, in combination, a cylinder having circumferential inlet and outlet, a shaft extending across the cylinder, and a piston on the shaft comprising a plurality of blades mounted on the shaft at an acute angle to the axis thereof and staggered with respect to each other and in contact alternately with the heads of the cylinder.

2. In a rotary engine, the combination with the cylinder having a tangential inlet, and an exhaust, of a shaft therein, and a piston comprising a plurality of blades mounted on the shaft at alternately-opposite angles to each other, said blades being of less width than the space between the heads of the cylinder and staggered to alternately contact with said heads.

3. In a rotary engine, in combination, a shaft, a hub thereon having grooves at alternately-opposite angles to the axis of the shaft, and blades fixed in said grooves.

807,976. FURNACE. GEORGE THOMAS, Royersford, Pa. Filed May 17, 1904. Serial No. 208,435.

Claim.—A furnace of the character described, whose combustion-chamber has its walls comprising courses of bricks, each formed in hollow joined-together sections forming conduits or passages, means for feeding the air and superheated steam into said conduits, and said conduits delivering into the combustion-chamber, and each of the thus formed conduits having its intake end at the front or one end of the combustion-chamber and itself traversing one side and about one-half the rear wall thereof and extending upward in the latter wall and returning upon itself, and having its discharge end arranged above its intake end and delivering near the same end of said chamber and thereinto.



807,977. PARACHUTE. CHARLES W. VAN VLEET, New York, N. Y., assignor, by direct and mesne assignments, to National Game Manufacturing Co., a Corporation of New York. Filed Feb. 12, 1903. Serial No. 143,033.



Claim.—1. In a parachute the combination of a retarding member, a weight connected to the periphery of the retarding member and provided with a projecting portion, and a projectile having a socket, whereby when the energy of the projectile is spent the projectile, weight and retarding member will be detached from one another.

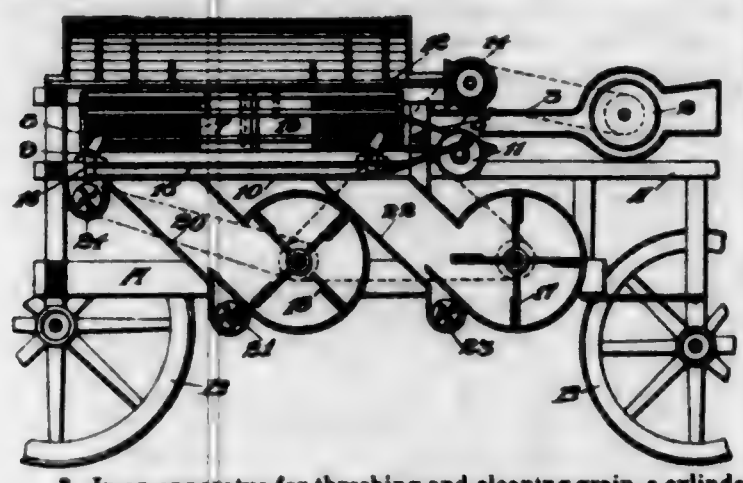
2. In a parachute the combination of a retarding member having a loop at its center, a disk having its periphery connected to the periphery of said retarding member, a weight connected to the said disk and having a pair of pins, a projectile having a socket, whereby the weight may be attached to the center of the said retarding member and to the said projectile and when the energy of the projectile is spent it will detach itself from the said weight and the weight will detach itself from the center of the said retarding member.

807,978. GRAIN-SEPARATOR. JACOB S. WALCH, Rosslawn, Cal. Filed June 26, 1905. Serial No. 266,950.

Claim.—1. In an apparatus for threshing and cleaning grain, a screen comprising a semicylindrical foraminous lower portion, a closed upper portion, a carrier attached to the receiving end comprising a closed bottom and an upwardly-inclined open slat frame located above the bottom, and a threshing-cylinder from which the grain and straw will deliver upon said frame and bottom.

2. In an apparatus for threshing and cleaning grain, a cylinder having an upper closed portion, a lower foraminous or screen portion, means positioned at the inlet end of the screen and including an inclined screen-surface forming a conductor for the threshed straw, and grain, for delivering threshed grain and straw into one end of the

cylinder, a longitudinal, central revoluble shaft having beater-arms within the screen-cylinder, and means for rotating said shaft.



3. In an apparatus for threshing and cleaning grain, a cylinder having a closed upper half and a foraminous or screen lower half, a preliminary grain and straw separating device, consisting of a substantially horizontal closed bottom and an upwardly-inclined open slat frame attached to the screen-cylinder, rocker-arms from which the structure is suspended and through which a longitudinal oscillation of the screen is effected, and a threshing-cylinder from which the grain and straw are delivered to the separator and cylinder.

4. In a grain threshing and cleaning apparatus, a cylinder having a closed upper half and a foraminous or screen bottom, rocker-arms upon which the cylinder is suspended, means for oscillating it in the direction of its length, a journaled revoluble shaft extending horizontally through the cylinder and having radially-disposed beater-arms, a threshing-cylinder and means for delivering the straw and grain into the screen-cylinder, said last-named means including a closed bottom and an inclined screen-surface forming separate conductors for the threshed straw and grain.

5. In an apparatus for cleaning grain, a cylinder having a closed upper half, a lower foraminous or screen segment, rocker-arms upon which the cylinder is suspended, means for producing a longitudinal reciprocation thereof, a revoluble longitudinally-journaled shaft with beater-arms located within the screen-cylinder, a second screen located below the cylindrical screen and connections by which said screen is oscillated longitudinally.

6. In an apparatus for cleaning grain, a cylinder having a closed upper half and a longitudinally-oscillating foraminous or screen bottom, means for delivering threshed straw and grain into one end of the cylinder, a revoluble central journaled shaft and beaters within the cylinder, a second screen located below the segmental screen, means by which it is longitudinally oscillated, fans by which blasts of air are delivered through the front and rear portions of the screens, and means for collecting and transferring the material passing through the screens.

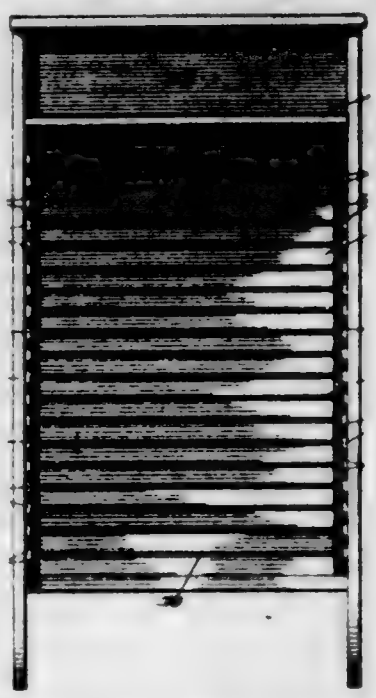
7. In an apparatus for cleaning grain, a cylinder having a closed upper half and a screen-bottom, a shaft with beater-arms revoluble within the cylinder, a second screen located below the first-named screen and receiving material therefrom, fulcrumed rocker-arms, means by which the upper screen is suspended from the upper ends of the arms and the lower screen below the fulcrums, and means by which the rocker-arms are oscillated.

8. In an apparatus for cleaning grain, a cylinder having a closed upper half and a screen-bottom, a second screen located below the first, rocker-arms upon which the two screens are suspended, means for oscillating the rocker-arms and the screens, a shaft with beaters revoluble within the cylindrical screen, fans with discharge-mouths delivering air through the front and rear portions of said screens, and closed bottom in the screen located above the rear fan-ouse.

9. In an apparatus for cleaning grain, a semicylindrical screen having a closed upper portion and a screen-bottom, a second screen located below the first-named screen, rocker-arms upon the upper ends of which the upper screen is suspended and from the lower ends of which the lower screen is suspended, means connected with said arms by which they are oscillated, fans with discharge-passages delivering air respectively through the front and rear ends of the screens, inclined chutes connecting with each of the screens, spouts into which the inclined chutes discharge and transmitting-auger revoluble in said spouts.

807,979. WASHBOARD. ASA H. WEST, Cedarbluff, Va. Filed Nov. 30, 1904. Serial No. 234,941.

Claim.—1. In a washboard, a body member having the portions of the surface next the side edges inclined and the intermediate portion of the surface flat and unbroken, and with spaced notches in said inclined edges, and a rubbing-surface formed of wire members strained tightly transversely of said flat surface and within said notches and spaced thereby and bearing upon the entire width of the flat surface and the inclined portions of the same.



2. In a washboard, a body member having the portions of the surface next the side edges inclined and the intermediate portion of the surface flat and unbroken, and with spaced notches in said edges, side members connected longitudinally of said body member and forming closures to said notches and projecting in advance of said flat surface, and wire members strained tightly transversely of said flat surface and within said notches being spaced thereby and bearing upon the entire width of the flat surface and the inclined portions of the same.

807,980. CHECKREIN-HOLDER. LEVI G. WESTFALL, Beardsley, Minn. Filed Apr. 13, 1901. Serial No. 55,758.



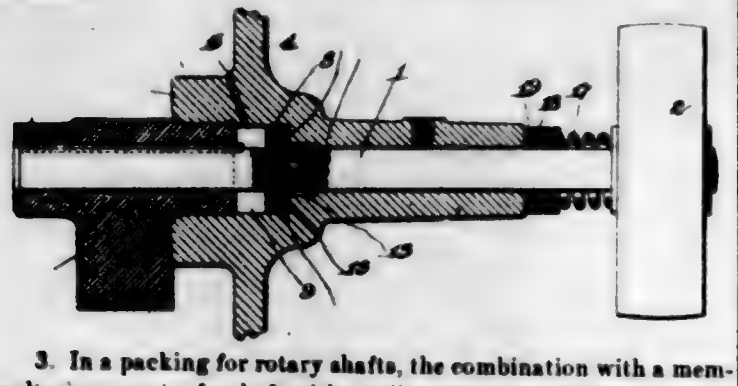
Claim.—In a device of the class described, a base-plate provided adjacent its ends with perforations for the reception of attaching devices and having adjacent to one of said perforations a serrated cam-surface, oppositely-disposed standards rising from the base-plate, a pivoting-pin extending between and adjacent the upper ends of the standards, a three-sided swinging clamp comprising a connecting plate or web and a pair of flanged side arms formed integral with the web, said arms being pivotally mounted at their upper ends upon the pivoting-pin and carrying at their lower ends a transverse supporting-pin, a serrated roller eccentrically mounted on said pin, the connecting web or plate of the frame terminating at its lower end above the lower ends of the arms to provide a space below for the outward projection and reception of a portion of the body of the roller and cut away at its upper end to form a finger-piece bent at a downward and rearward angle thereto, and a spring centrally coiled upon the pivoting-pin and having one of its arms projecting beneath and bearing upon the finger-piece and its other arm removably interlocked with one of the edges of one of the standards.

807,981. SHAFT-PACKING. RICHARD WHITAKER, New Brunswick, N. J., assignor of two-thirds to Robert W. Johnson and James W. Johnson, New Brunswick, N. J. Filed Dec. 2, 1904. Serial No. 235,310.

Claim.—1. In a packing for rotary shafts, the combination with a member having a seat, of a shaft with a collar engaging with the seat, the shaft being capable of longitudinal movement to engage the collar with the seat, the bearing-face of the collar having sharp-faced grooves.

2. In a packing for rotary shafts, the combination with a member having a seat, of a shaft with a collar engaging with the seat, the

shaft being capable of longitudinal movement to engage the collar with the seat, the bearing-face of the collar being concentrically grooved.



3. In a packing for rotary shafts, the combination with a member having a seat, of a shaft with a collar engaging with the seat, the shaft being capable of longitudinal movement to engage the collar with the seat, the bearing-face of the collar having sharp-faced grooves concentrically arranged.

4. The combination with a casing, a moving member therein, a shaft connected thereto and passing outside the casing, the shaft being connected to the moving member by means to allow of longitudinal movement, a collar upon the shaft, a seat upon the casing, the bearing-face of the collar being concentrically grooved, and a spring for forcing the collar against the seat.

5. The combination with a casing, a movable member therein, a shaft connected thereto and passing outside the casing, the shaft being connected to the moving member by means to allow of longitudinal movement, a collar upon the shaft, a seat upon the casing, the bearing-face of the collar being concentrically grooved, and a spring outside of the casing for forcing the collar against the seat.

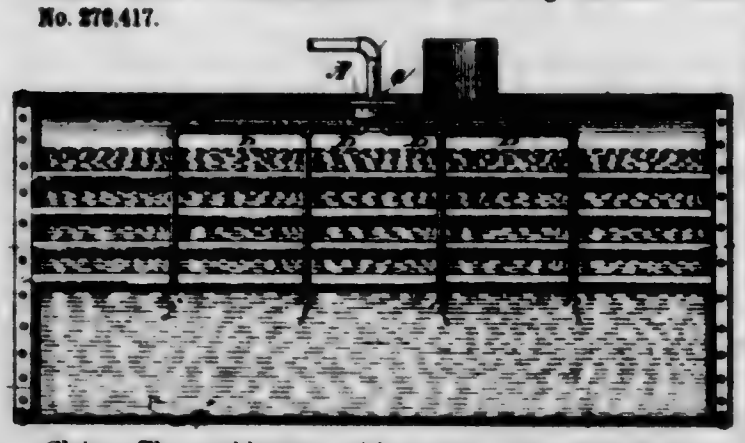
6. In a packing for rotary shafts, the combination with a member having a shoulder, of a shaft with a collar engaging with the shoulder, the shaft being capable of longitudinal movement to engage the collar with the shoulder, the face of the collar being grooved, and a washer of soft material between the collar and the shoulder, the said washer being capable of being forced partially into the grooves in the shoulder.

7. In a packing for rotary shafts, the combination with a member having a shoulder, of a shaft with a collar engaging with the shoulder, the shaft being capable of longitudinal movement to engage the collar with the shoulder, the face of the collar having sharp-faced grooves, and a washer of soft material between the collar and the shoulder, the said washer being capable of being forced partially into the grooves in the shoulder.

8. In a packing for rotary shafts, the combination with a member having a shoulder, of a shaft with a collar engaging with the shoulder, the shaft being capable of longitudinal movement to engage the collar with the shoulder, the face of the collar having concentric grooves, and a washer of soft material between the collar and the shoulder.

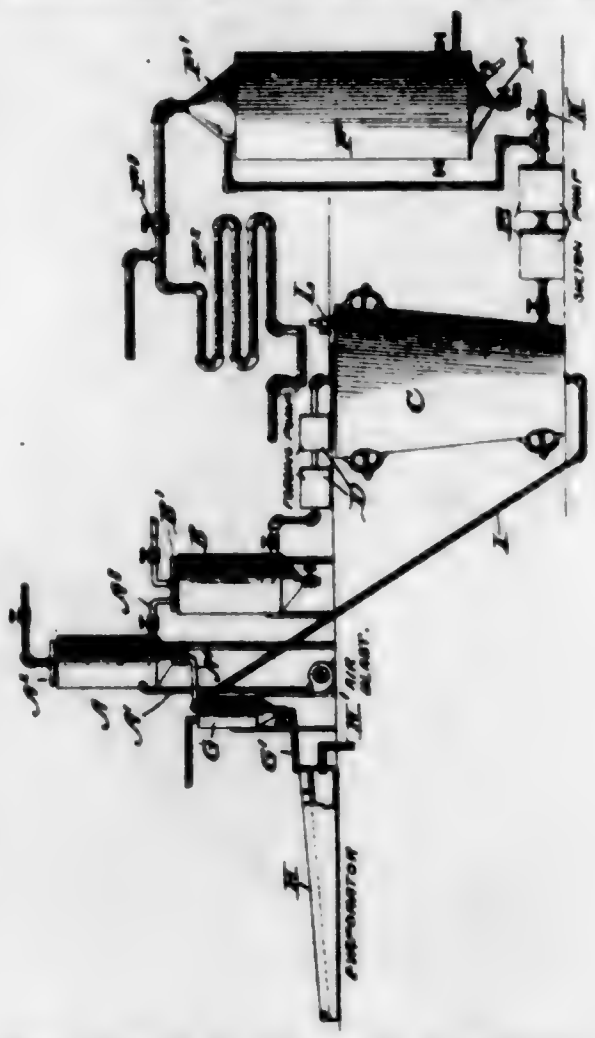
9. In a packing for rotary shafts, the combination with a member having a shoulder, of a shaft with a collar engaging with the shoulder, the shaft being capable of longitudinal movement to engage the collar with the shoulder, the face of the said collar having sharp-faced concentric grooves.

807,982. **HOT-WATER DISTRIBUTER FOR STEAM-GENERATORS.** ISAAC L. WILSON, Alberta, La. Filed Aug. 30, 1905. Serial No. 276,417.



Claim.—The combination, with a steam-generator having a series of horizontal flues, of a water-distributer comprising a tubular receptacle which is attached to the top portion of the boiler and adapted for connection with a feed-pipe, and a series of distributing-pipes extending horizontally from the receptacle and having pendent portions that extend below the third line of flues, the said receptacle and the horizontal portions of the distributing-pipes being thus arranged in the steam-space and the pendent portions serving to discharge the feed-water at so many different points in the body of water with which the generator is normally supplied, substantially as described.

807,983. **PROCESS FOR TREATING PETROLEUM-OILS.** JAS. P. WHITE, Sourlake, Tex. Filed June 15, 1901. Serial No. 64,702.



Claim.—A step in the process herein described which consists in separating asphaltum from crude petroleum-oil by means of gasolene and sulfuric acid, treating the separated asphaltum with gasolene, water and caustic soda and then passing the asphaltum so treated through an evaporator, substantially as described.

807,984. **ELECTRIC RAILWAY.** FRANK ADAMS, North Adams, Mass. Continuation of application Serial No. 119,563, filed Aug. 13, 1902. This application filed Jan. 30, 1904. Serial No. 191,336.

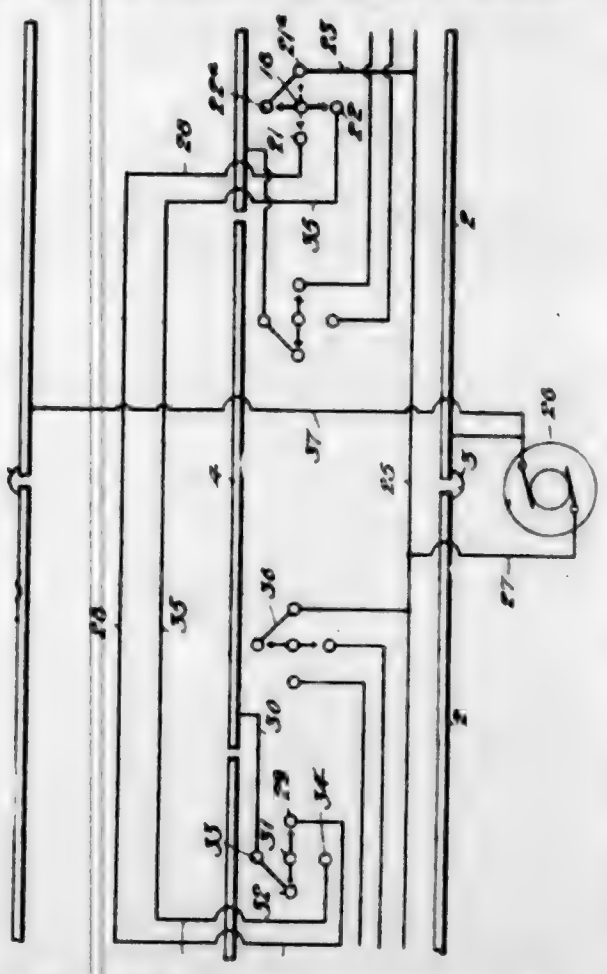
Claim.—1. In an electric-railway system, the combination with a sectional rail, of a feed-circuit, and means for controlling said circuit comprising a switch, a trip device adapted to be engaged and moved by a car-wheel, means actuated by said trip device for setting the switch for action when said trip device is engaged and moved by the car-wheel, and means set into action by the operation of said trip device for throwing the switch when said trip device is released by the car-wheel.

2. In an electric-railway system, the combination with a sectional rail, and a normally broken circuit, of a switch for closing the circuit comprising a shaft, a contact-disk on said shaft, a second disk mounted on said shaft and provided with a plurality of equidistant projections, a second shaft, a trip device connected to said second shaft, and means operated when said second shaft is rocked by said trip device to engage one of said projections on said second disk and turn said disk to impart motion through its shaft to the contact-disk.

3. In an electric-railway system, the combination with a sectional rail, and a feed-circuit, of means for controlling said circuit, comprising a switch, a trip device adapted to be engaged and moved by a car-wheel, means actuated by said trip device for setting the switch for action when said trip device is engaged and moved by the car-wheel, and a retracting-spring set into action by the operation of said trip and setting means for throwing the switch when said trip device is released by the car-wheel.

4. In an electric-railway system, the combination with a sectional rail, and a normally broken circuit, a switch for closing the

circuit comprising a shaft, a contact-disk on said shaft, a second disk on the shaft provided with equidistant projections, a lever loosely mounted on said shaft and adapted to coact with said projections to turn said shaft and disks, a rock-shaft, a lever connected thereto, a link connecting said lever with the first-named lever, a spring connected with the rock-shaft and operative to move the levers in one direction, and a trip device connected to the rock-shaft for operating the levers in the reverse direction, substantially as described.



5. In an electric-railway system, the combination with a sectional rail and a normally broken circuit, of a switch for closing the circuit comprising a shaft, a contact-disk on said shaft, a second disk mounted on said shaft that is provided with a plurality of equidistant laterally-projecting lugs having cam-surfaces, a lever depending from said shaft that is adapted to engage progressively with said lugs, a second shaft, a lever connected therewith that is designed to be engaged by a shoe from the car, and means for connecting said shaft to the first-mentioned lever, substantially as described.

6. In an electric-railway system, the combination with a sectional rail, and a feed-circuit, of means for controlling said circuit, comprising a switch, a trip device adapted to be engaged and moved by a car-wheel, setting mechanism including an actuating-shaft turned by the operation of the trip device for setting the switch for action, and a retracting-spring operatively controlled by said shaft for throwing the switch when said trip device is released by the car-wheel.

7. In an electric-railway system, the combination with a sectional rail, and a feed-circuit, of means for controlling said circuit, comprising a rotary switch, a trip device adapted to be engaged and moved by a car-wheel, means actuated by said trip device for setting the switch for action when said trip device is engaged and moved by the car-wheel, and a retracting-spring associated with said setting means for throwing the switch when said trip device is released by the car-wheel

8. In an electric-railway system, the combination with a sectional rail, and a feed-circuit, of means for controlling said circuit, comprising an intermittently-movable switch, a trip device adapted to be engaged and moved by a car-wheel, means actuated by said trip device for setting the switch for action when said trip device is engaged and moved by the car-wheel, and a retracting-spring associated with said setting means for throwing the switch when said trip device is released by the car-wheel.

9. In an electric-railway system, the combination with a sectional rail, and a feed-circuit, of means for controlling said circuit, comprising a switch including an intermittently-rotatable member and an oscillatory member for intermittently rotating the same, a trip device adapted to be engaged and moved by a car-wheel, means actuated by said trip device for moving said oscillatory member in one direction to set the switch for action when said trip device is engaged and moved by the car-wheel, and retracting means set into operation by the actuation of the trip device for moving said oscillatory element in the opposite direction to throw the switch when said trip device is released by the car-wheel.

10. In an electric-railway system, the combination with a sectional rail, and a feed-circuit, of means for controlling said circuit, comprising a switch including a rotary member provided with equidistant projections, and an oscillatory member coacting therewith, a trip device adapted to be engaged and moved by a car-wheel, means actuated by said trip device for moving said oscillatory member to set it for engaging a projection on the rotary member of the switch, and means set into action by the operation of the trip for reversing the movement of said oscillatory member to cause it to engage said projection and turn the rotary member to throw the switch when said trip device is released by the car-wheel.

807,985. OILER. RINALDO ALDEN, Waukegan, Ill. Filed Aug. 11, 1904. Serial No. 220,374.



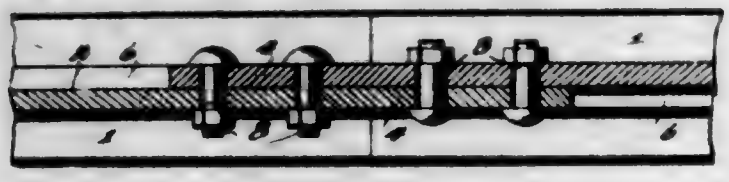
Claim.—1. An oiler, comprising a can, a lower tube adapted to be secured in said can by means of a collar, a pipe or tube rigidly secured to the bottom of the can, and adapted to receive the lower portion of the lower tube, a pin-valve secured in the lower end of said tube, an intermediate tube, the lower end of which operates in the lower tube, a pin-valve secured in the lower end of the intermediate tube, means for limiting the up-and-down motion of the intermediate tube, substantially as and for the purpose specified.

2. An oiler, comprising a can, a lower tube adapted to be secured in said can by means of a collar, a pipe or tube rigidly secured to the bottom of the can, and adapted to receive the lower portion of the lower tube, a pin-valve secured in the lower portion of said tube, an intermediate tube, the lower portion of which operates in the lower tube, a pin-valve secured in the lower end of the intermediate tube, means for limiting the up-and-down movement of the intermediate tube, an upper tube, one end of which is curved or hooked, a pin-valve secured in the end of the curved or hooked portion of the upper tube, a spiral spring normally holding said pin-valve in its closed position, substantially as and for the purpose specified.

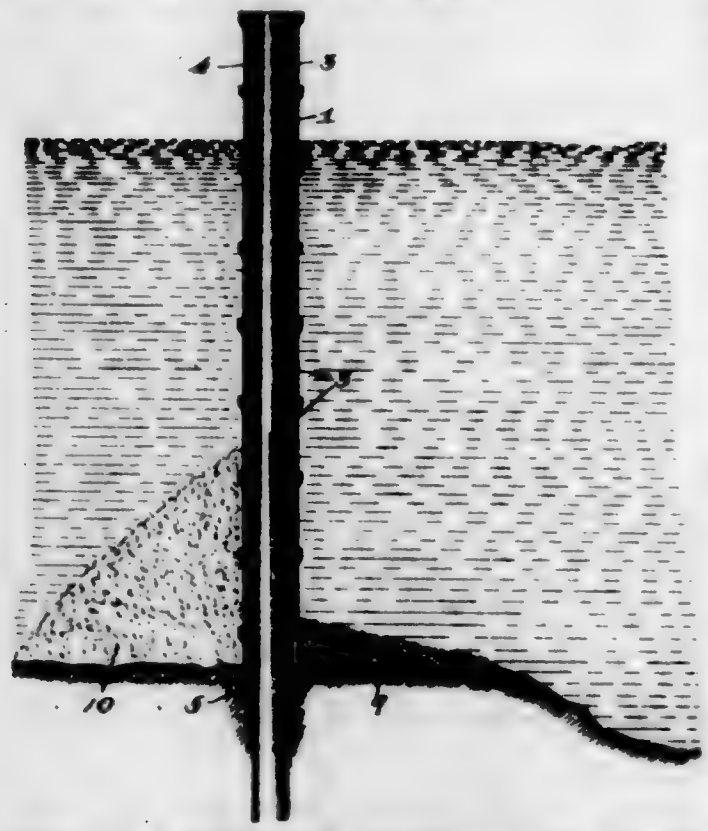
807,986. RAIL-JOINT. THADDEUS D. ALLEN, Youngstown, Ohio. Filed July 15, 1905. Serial No. 269,766.

Claim.—A rail-joint comprising rails having their base-flanges and treads terminating in vertical alinement, and extension-bars projecting from the webs of said rails, said bars being in parallel re-

lation to the webs but in offset planes to provide shoulders at the connection of the web and extension-bars to receive the extension-bar of the adjacent rail, the tread portion of one rail being squared adjacent its extension-bar to receive the upper edge of the extension-bar of the adjacent rail.



807,987. TRAINING-WALL. DANIEL G. ABELER, Jacksonville, Fla. Filed Dec. 17, 1904. Serial No. 237,319.



Claim.—1. A training-wall comprising a series of wooden piling having a covering of refractory material extending below the surface at the bottom of the stream, and a filling placed on the bottom against said piling to prevent scouring by the current.

2. A training-wall comprising a series of wooden piling covered by tile piping with concrete filling extending below the surface of the bottom of the stream, and a covering placed on the bottom against the piling, for the purpose specified.

3. The combination with a wooden pile, of a concrete covering for said pile, and projections arranged at intervals on the surface of said pile and terminating within the outer surface of the concrete.

4. The combination with a wooden pile, of a concrete covering for said pile, and headed projections arranged at intervals on the surface of said pile and terminating within the outer surface of the concrete.

5. The combination with a wooden pile having projections at intervals on its surface, a pipe arranged around said pile and a filling of concrete between said pile and pipe, said projections terminating within said concrete.

6. The combination with a wooden pile having projections at intervals on its surface, of pipe arranged around said pile, said pipe having interior depressions therein, and a filling of concrete between said pile and pipe.

7. The combination with a wooden pile, of a pipe arranged around said pile, said pipe having interior depressions therein, and a filling of concrete between said pile and pipe.

8. The combination with a wooden pile having headed projections arranged at intervals on its surface, of pipe arranged around said pile, and a filling of concrete between said pile and pipe, in which said projections are embeded.

9. The combination with a wooden pile, of pipe having dovetail-shaped depressions on its inner surface, and a filling of concrete between said pile and pipe.

10. The combination with a wooden pile, of pipe having dovetail-shaped grooves on its inner surface, and a filling of concrete between said pile and pipe.

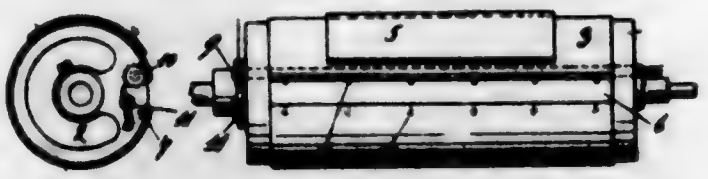
11. The combination with a wooden pile having headed projections arranged at intervals on its surface, of pipe arranged around said pile, said pipe having dovetail-shaped depressions in its inner surface and a filling of concrete between said pile and pipe.

12. The combination with a wooden pile having headed projections arranged at intervals on its surface, of pipe arranged around said pile, said pipe having dovetail-shaped grooves in its inner surface and a filling of concrete between said pile and pipe.

13. The combination with a wooden pile having projections on its surface, of pipe arranged around said pile, said pipe having interior depressions therein, and a filling of concrete between said pile and pipe, said depressions in said pipe and projections from said pile arranged alternately around said pile.

14. The combination with a wooden pile having headed projections arranged at intervals on its surface, of pipe arranged around said pile, said pipe having dovetail-shaped depressions in its inner surface, and a filling of concrete between said pile and pipe, said projections from the pile and depressions in the pipe arranged alternately around said pile.

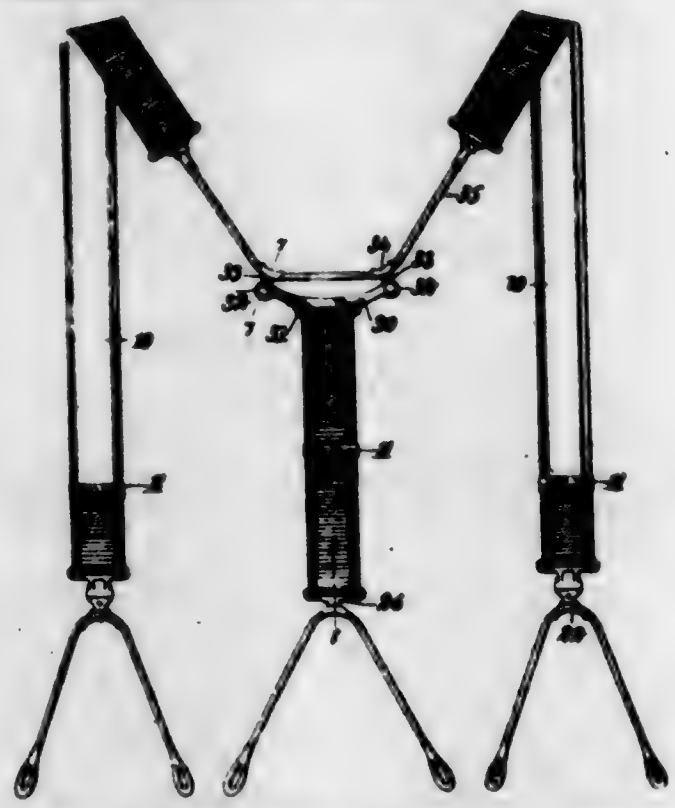
807,988. INKING-PAD AND HOLDER THEREFOR. JOHN F. ARMS, Portland, Oreg. Filed Feb. 17, 1905. Serial No. 246,034.



Claim.—1. The combination with an inking-roller having a longitudinal slit, a rod near one edge of the slit and provided with pins, a row of pins along the opposite edge of the slit, and a removable inking-pad having a row of permanent eyelets along opposite edges adapted to detachably engage the aforesaid pins.

2. The combination with a roller having a longitudinally-extending slit, a rod journaled in the roller and extending along one edge of the slit, and provided with pins, a row of inwardly-extending pins along the opposite edge of said slit, an inking-pad including a flexible sheet having a row of permanent eyelets along opposite edges, said sheet having an elastic ink-distributing composition upon its outer surface and said eyelets adapted to detachably engage said pins, and means whereby the rod may be rotated to stretch the sheet over the face of the roller.

807,989. SUSPENDERS. GEORGE D. ARMSMAN, Fargo, N. D. Filed Mar. 1, 1905. Serial No. 247,949.



Claim.—1. As a new article of manufacture, a garment-supporting device comprising a shoulder-strap and a cast-off therefor, said cast-off comprising a member having an eye for the strap, another member pivotally connected with the first-named member and having a hook, and means for resiliently holding the second member in fixed position with respect to the first member.

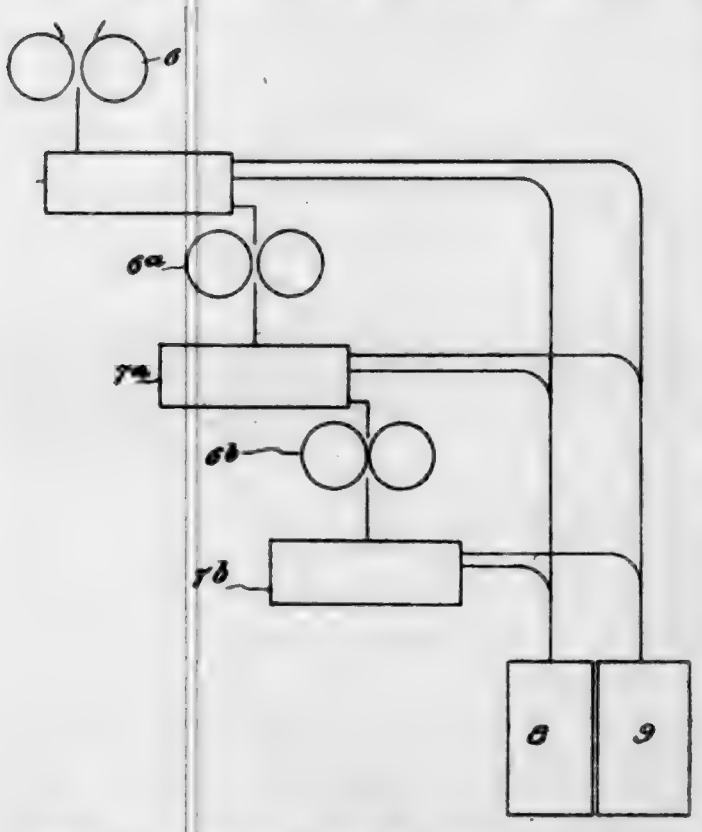
2. As a new article of manufacture, a cast-off for a garment-supporting device, comprising a member having a projecting end, and a second member movably connected with the first member and having a hook, the end of the hook being adapted to register with said projecting end and to form practically a continuation thereof.

3. As a new article of manufacture, a cast-off for a garment-supporting device comprising a member having a projecting end, a second member movably connected with the first member and having a hook, and means for causing the hook to register with said projecting end.

4. A cast-off comprising a member having a resilient tongue, a second member movably connected with the first member and having a projection engaging said tongue, and being provided with a hook.

5. A cast-off comprising a member having a resilient tongue, a second member having a projection engaging said tongue and being provided with a hook, and a third member secured to the first member, the second member being pivotally connected with the third member.

807,990. **PROCESS OF MILLING COTTON-SEED.** WILLIAM T. BALL, Charleston, S. C., assignor of one-fifth to Hampton K. Lee and one-fifth to George S. Legare, Charleston, S. C., one-fifth to Thomas R. Harney, Washington, D. C., and one-fifth to Charles Miner, Chester, S. C. Filed June 17, 1903. Serial No. 161,874. Substituted for abandoned application filed Nov. 5, 1902. Serial No. 130,130.



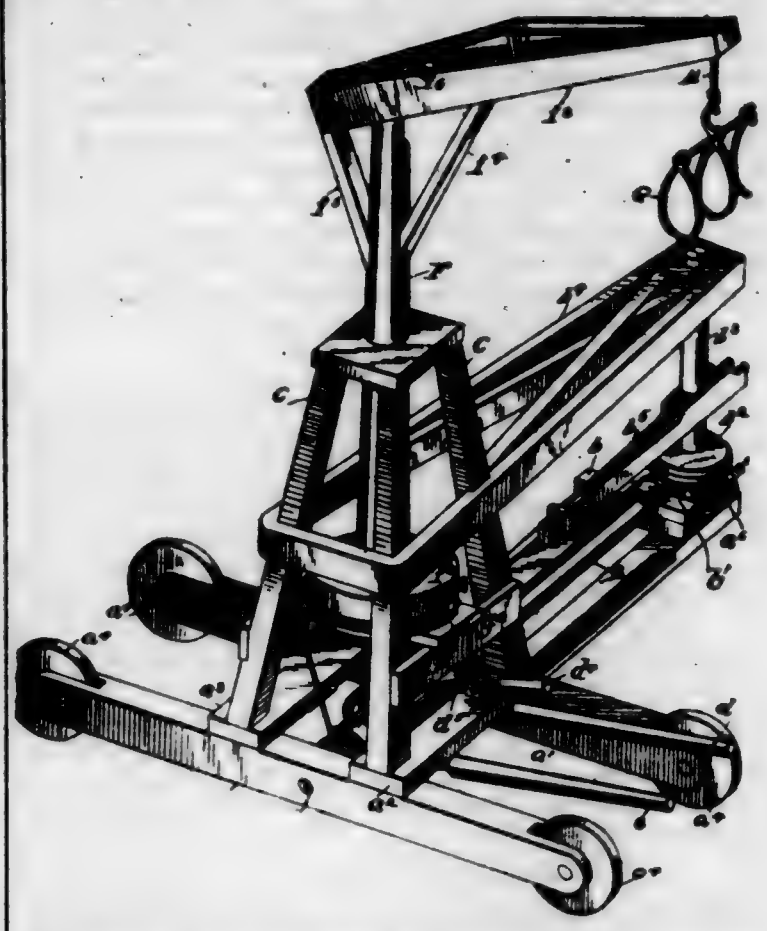
Claim.—1. The process of hulling cotton-seed of various sizes without disintegrating the meats; consisting, essentially, in passing the seed through a graduated series of pairs of hull-cutting rolls, set successively closer together and cutting and removing the hulls of seeds of successively smaller size without disintegrating the meats, and separating the hulls and meats from the uncut seed after each cut.

2. The process of hulling cotton-seed of various sizes without disintegrating the meats, consisting in extracting the whole meats from the hulls of successively smaller sizes of the seed at several successive cuts, and separating the meats and hulls from the uncut seed after each cut, substantially as described.

3. The process of hulling cotton-seed consisting in passing the seed through a succession of hulling devices of gradually-decreasing clearance, set to remove the hulls, and to extract the meats substantially without disintegration thereof, from the seed at the several successive passes, and separating the meats from the hulls and uncut seed after each pass.

4. The process of hulling cotton-seed of various sizes without substantial disintegration of meats, consisting, essentially, in passing the seed through a graduated series of hull-cutting devices set successively closer together and cutting and removing the hulls of seeds of successively smaller size without substantial disintegration of meats, and separating the meats from the uncut seed after each pass.

807,991. **HAY-STACKER.** MICHAEL BAGLEY, Cambridge, Neb. Filed May 23, 1905. Serial No. 261,316.



Claim.—1. In a hay-stacker, the combination of a base, provided with wheels, a drive-shaft journaled in the base, a bevel-gear on the drive-shaft, a sweep-shaft journaled in the base, a bevel-gear on the sweep-shaft for engaging the bevel-gear on the drive-shaft, a sleeve secured to the drive-shaft and provided with oppositely-disposed clutch-faces, a flanged winding-drum loosely mounted on the shaft, and provided with a clutching-face for coacting with the clutch-face of the sleeve, a collar secured to the drum, a lever pivoted on the base and provided with a yoke for engaging the collar to shift the drum, ratchet-teeth on a flange of the drum, a ratchet-lever pivoted on the base for engaging the ratchet-teeth, a second winding-drum loosely mounted on the shaft and provided with a clutch-face for engaging the sleeve, a collar secured to the second drum, a lever pivoted on the drum and provided with a yoke for engaging the collar, to shift the drum, a tower supported on the base above the drum, a hollow vertical shaft journaled in the tower, a laterally-extending arm secured to the upper end of the vertical shaft, pulleys journaled in the lateral arm, a horizontal drum on the lower end of the vertical shaft, a spring for normally maintaining the horizontal drum in one position, a rope partially encircling the horizontal drum, and connected to the second winding-drum, a pulley laterally arranged with respect to the horizontal drum for changing the direction of the rope, hay-engaging means, and a rope extending from the hay-engaging means over the pulleys in the lateral arm through the vertical shaft and to the first-named winding-drum.

2. In a hay-stacker, the combination of the base provided with wheels, a drive-shaft journaled in the base, means for actuating the drive-shaft, a sleeve secured to the drive-shaft and provided with oppositely-disposed clutch-faces, a winding-drum loosely mounted on the shaft and provided with a clutch-face for coacting with the clutch-face of the sleeve, means for shifting the winding-drum laterally of the drive-shaft, means for restraining the rotary movement of the drum, a second winding-drum loosely mounted on the drive-shaft and provided with a clutch-face for engaging the sleeve, means for shifting the second drum longitudinally of the drive-shaft, a tower supported on the base above the drums, a hollow vertical shaft journaled in the tower, a laterally-extending arm secured to the upper end of the vertical shaft, pulleys journaled in the lateral arm, a horizontal drum on the lower end of the vertical shaft, means connecting the horizontal drum with the second winding-drum whereby to partially rotate the horizontal drum, means for returning the horizontal drum to its normal position, hay-engaging means, and a rope extending from the hay-engaging means over the pulleys in the lateral arm, through the vertical shaft, and to the first-named winding-drum.

3. In a hay-stacker, the combination of the base, a drive-shaft

journaled in the base, means for actuating the drive-shaft, means for connecting the winding-drum to the drive-shaft, means for shifting the winding-drum longitudinally of the drive-shaft, means for restraining the rotary movement of the winding-drum, a second winding-drum loosely mounted on the drive-shaft adjacent to the first-named drum, means for connecting the second winding-drum to the drive-shaft, means for shifting the second winding-drum longitudinally of the drive-shaft, a tower mounted on the base, a hollow vertical shaft journaled in the tower, a laterally-extending arm on the upper end of the vertical shaft, pulleys on the arm, means connected with the second winding-drum for partially rotating the vertical shaft, yielding means for returning the shaft to its normal position, hay-engaging means, and a flexible connection extending from the hay-engaging means over the pulleys in the lateral arm, through the vertical shaft, and to the first-named winding-drum.

4. In a hay-stacker, the combination of the base, a drive-shaft journaled in the base, a winding-drum loosely mounted on the drive-shaft, means for connecting the winding-drum and the drive-shaft, means for shifting the drum longitudinally of the drive-shaft, means for restraining the rotary movement of the drum with respect to the drive-shaft, a second winding-drum loosely mounted on the drive-shaft adjacent to the first-named drum, means for connecting the second winding-drum and the drive-shaft, means for shifting the second winding-drum longitudinally of the drive-shaft, a hollow vertical shaft journaled above the winding-drum, a laterally-extending arm thereon, means connected with the second-named winding-drum for partially rotating the vertical shaft, elastic means for returning the vertical shaft to its original position, hay-engaging means, and a flexible connection extending from the hay-engaging means over the lateral arm, through the vertical shaft, and to the first-named winding-drum.

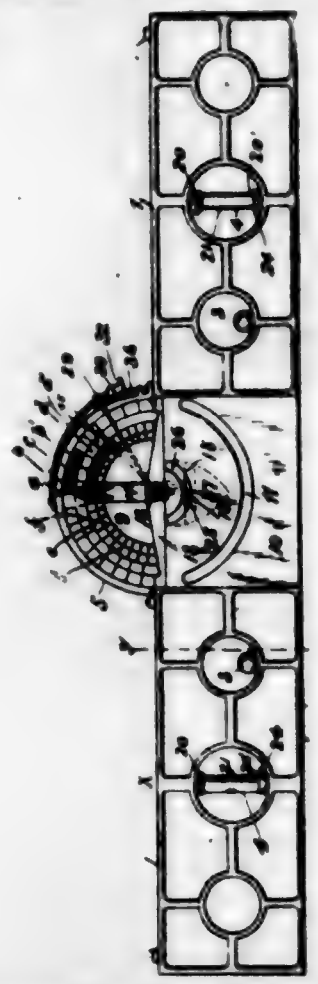
5. In a hay-stacker, the combination of the base, a drive-shaft journaled in the base, means for actuating the drive-shaft, a plurality of winding-drums mounted on the drive-shaft, means for connecting the individual drums and the drive-shaft, means for restraining the rotary movement of the winding-drums with respect to the drive-shaft, a hollow vertical shaft supported above the winding-drum, a lateral arm thereon, means connecting with one of the winding-drums to partially rotate the vertical shaft, elastic means for returning the vertical shaft to its normal position, hay-engaging means, and a flexible connection extending upward to the lateral arm and downward through the vertical shaft to the other winding-drum.

6. In a hay-stacker, the combination of the base, having wheels thereon, a drive-shaft journaled in the base, means for actuating the drive-shaft, a plurality of winding-drums loosely mounted on the drive-shaft, means for connecting the individual drums and the drive-shaft, a hollow vertical shaft supported above the winding-drums, means connecting the vertical shaft and one of the winding-drums to partially rotate the said shaft, elastic means for returning the shaft to its normal position, hay-engaging means supported by the vertical shaft, and a connection between the hay-engaging means and the other winding-drum for elevating the same.

7. In a hay-stacker, the combination of the base, a drive-shaft journaled in the base, means for actuating the same, a vertical shaft supported above the drive-shaft, hay-engaging means supported by the vertical shaft, means connected with the drive-shaft for elevating the hay-engaging means, means connected with the drive-shaft for partially rotating the vertical shaft, means whereby said elevating and rotating means may be operated in unison or independently, and elastic means for returning the vertical shaft to position.

807,992. COMBINED LEVEL, GRADE, DISTANCE, AND ELEVATION FINDER. CHARLES B. BARCLAY, Rockland, Tex. Filed June 2, 1905. Serial No. 263,502.

Claim.—1. The combination of the body 1, provided with perforations 2, through its lower wall, and in its center with a box 10, provided with circular slots 11 and 26; spirit-bulbs 3, secured transversely and horizontally in said body; spirit-bulbs 4, secured vertically in said body; sights 7, secured on the upper face of said body; compasses 8, secured in the upper wall of said body; a hood 6, secured in the center of, and to the upper face of said body; a half-circle dial-plate 9, secured in said hood and divided into radial lines; a perforated bearing 12, secured to the upper edge of the front wall of said box; a finger 14, pivoted in the perforation of said bearing; a weight 17, secured to the lower portion of said finger; a spirit-bulb 19, secured in the perforation 18, in said weight; a spring 21, secured to one end of said bulb, its free end adapted to elevate the other end of said bulb; a screw 24, adapted to depress the last-mentioned end of said bulb; similar springs 21 and screws 24, attached to bulbs 3 and 4, above mentioned; a locking device as described, adapted to lock said finger, substantially as shown and described and for the purposes set forth.



2. In a combined level, grade, distance and elevation finder, the combination of a body 1, having in its center a slotted box 10; horizontal spirit-bulbs 3, one situated on each side of said box; vertical bulbs 4, one situated near each end of said body; sights 7, situated on the upper face of said body; a dial-plate situated in the center of said body and divided by radial lines; a weighted finger pivoted in a position to indicate the degrees and fractions of a foot, into which the face of said dial is divided, substantially as shown and described and for the purposes set forth.

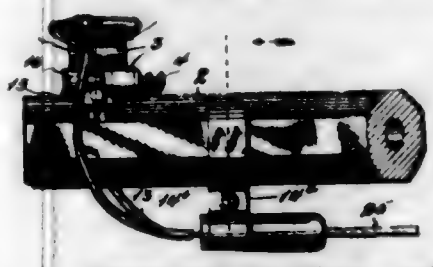
3. In a combined level, grade, distance and elevation finder, the combination of a body, provided with perforations in its lower edge; horizontal and vertical bulbs secured in said body; a dial situated at the center of said body; a hood protecting said dial; a finger pivoted in said body in a position to indicate the degrees and fractions of feet marked on said dial; a weight secured to the lower end of said finger, substantially as shown and described and for the purposes set forth.

4. In a combined level, grade, distance and elevation finder, consisting of a body 1, provided with perforations 2, through its lower wall, horizontal and vertical spirit-bulbs 3 and 4, situated in said body, box 10, situated in the center of said body, the combination with said parts of a bearing 12, situated in the center of said body; an axle 13, journaled in the center of said bearing; a half-circular dial 9, situated in the center of and rising from the upper face of said body; a hood 5, extending over and protecting said dial; a finger 14, rigidly secured on said axle in position to indicate the degrees and fractions of feet marked on said dial; a weight 17, secured to the lower end of said finger to keep it in a vertical position; a small wheel 27, rigidly secured on said axle 13; a spring 28, one end secured at the center and to the outer wall of said hood, its free end extending downwardly with the curve of said hood, nearly to the foot thereof, the free end provided with an under bevel 31; a perforated extension 35, extending from the outer face of said hood some distance below the free end of said spring; a locking-lug 33, provided with a bolt 34, passing through the perforation of said extension; a spring 36, coiled around said bolt adapted to push said locking-lug upwardly and under the free end of said spring 28 when said end is raised; a rod 29, secured in the free end of said spring, passing through said hood and extending nearly to the periphery of said wheel 27; a foot 30, secured to the inner end of said rod and adapted to rest against the periphery of said wheel, substantially as shown and described and for the purposes set forth.

5. In a combined level, grade, distance and elevation finder as substantially shown and described, in combination with said device,

spirit-bulbs 3, 4 and 19, horizontally and vertically secured therein; springs 21, having one end secured to one end of said bulbs, their other ends resting under the other ends of said bulbs, and bearing said ends upwardly; a screw 24, working against the last-mentioned ends of said bulbs and adapted to press said ends downwardly, substantially as shown and described, and for the purposes set forth.

807,993. GUN-SIGHT. JOHN Y. BASSELL and FRED C. BLENNER, Columbus, Ohio. Filed July 17, 1905. Serial No. 269,926.



Claim.—1. In an illuminated sight, a base, a sight-piece mounted on the base, a concealed lamp for illuminating the sight-piece, means for removably supporting the lamp on the base over the sight-piece, and a reflector arranged on the base.

2. In an illuminated sight, the combination with a base and a hood forming with the base a globe, and a sight-piece mounted on the base, of a lamp mounted on the hood for illuminating the sight-piece, and means arranged on the base for intercepting the rays from the lamp and reflecting the same upon the sight-piece.

3. In an illuminated sight, the combination with a base and a hood forming with the base a globe, and a sight-piece mounted on the base, of a lamp carried on the hood, and a reflector arranged on the base to receive the rays of light emanating from the lamp and to direct the said rays on the sight-piece for illuminating the same.

4. An illuminated sight comprising a sight-piece, a lamp supported above the sight-piece so as to project its rays downward, and means independent of the lamp-support and arranged below the same for receiving the rays of light and reflecting them on the sight-piece.

5. In an illuminated sight, the combination with a base and a sight-piece arranged thereon, of a hood removably mounted on the base, and a lamp mounted on the outside of the hood adapted to illuminate the sight-piece

6. In an illuminated sight, the combination with a base and a sight-piece arranged thereon, of a hood removably mounted on the base, a lamp mounted on the hood adapted to illuminate the sight-piece, and a reflector arranged below the lamp on the base to intercept the rays of light emanating from the lamp and reflect them on the sight-piece.

807,994. PULLEY. OTTO R. BECK, Quilcene, Wash. Filed Apr. 27, 1905. Serial No. 257,754.



Claim.—1. A pulley comprising a block having opposite cheek-plates, and a sheave mounted for rotation between said plates, said plates having their upper portion flared outwardly from said sheave to form a wide throat, and the side portions of said cheek-plates at the opposite ends of said throat being flared.

2. A pulley comprising a block having opposite cheek-plates, and a sheave mounted for rotation between said plates, the side portions of said plates being flared to provide enlarged end portions to the throat of said block.

3. A pulley comprising a block, and a sheave mounted for rotation therein, said block being provided with a throat whose end portions are flared outwardly.

807,995. CAR-UNDERFRAME CONSTRUCTION. ANTON BECKER, Chicago, Ill., assignor to Joseph S. Ralston, Chicago, Ill. Filed Aug. 9, 1905. Serial No. 273,412.



Claim.—1. In a car, an underframe composed of a plurality of sills extending lengthwise of the car, a central girder of greater height than the sills, having part of its height extending above the bottoms of the sills and part of its height extending below the bottoms of said sills, a plurality of cross-bearers composed of separate top and bottom plates with intermediate fillers extending crosswise of the car, the top plates of the cross-bearers being adjacent to the bottoms of the sills and extending across the car through slots cut in the central girder, the bottom plates of the cross-bearers extending across the bottom of the girder and the fillers being located at each side of the girder between the top and bottom plates; and means engaging the sills and the bottom plates of the cross-bearers for securing the whole together.

2. In a car an underframe composed of a plurality of sills extending lengthwise of the car, a central girder of greater height than the sills, having part of its height extending above the bottoms of the sills and part of its height extending below the bottoms of said sills, a plurality of cross-bearers composed of top and bottom plates extending from side to side of the car and triangular fillers between said top and bottom plates, the top plates of said cross-bearers being adjacent to the bottoms of the sills and extending across the car through slots cut in the central girder and the bottom plates of the cross-bearers extending across the bottom of the girders and a plurality of bolts extending through said sills, top and bottom plates and fillers of the cross-bearers to secure the whole together substantially as described.

3. In a car and underframe composed of a plurality of sills extending lengthwise of the car intermediate between two side sills of greater depth than said first-mentioned sills also extending lengthwise of the car; a central girder of greater height than said intermediate sills having part of its height extending above the bottoms of the sills and part of its height extending below the bottoms of said sills, a plurality of cross-bearers composed of; top plates extending across the car adjacent to the bottoms of the intermediate sills, triangular fillers below said top plate as described, and a bottom plate extending crosswise of the car across the bottom of said central girder and along the bottoms of said fillers; means upon the ends of said cross-bearers for securing them to the side sills and a plurality of bolts through said first-mentioned sills the top and bottom plates and fillers of said cross-bearers whereby the whole may be detachably secured together as described.

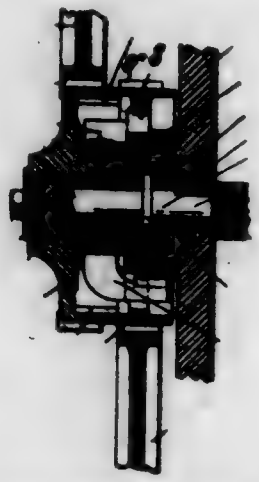
4. In a car the combination of a central plate-girder having an inverted-U-shaped notch 41 extending upward from the bottom of said girder said notch being of the same depth as the height of the bolster which is to be inserted therein, a reinforcing plate or plates 43 secured to said girder adjacent to said notch, a bolster inserted crosswise of the car in said U-shaped notch and unsecured to said girder; and a flat plate extending along the bottom of said girder secured to the girder proper and to said bolster.

5. In a car, the combination of a longitudinal girder made of metal plates or channel-irons, a shelf on the side of said girder formed by slitting down a portion of the plate and bending the slitted portion to a position at right angles to the plane of the main plate or channel and an end sill mounted crosswise of the girder on said shelf and secured thereto.

807,996. AUTOMATIC INTERMITTENT DRIVING MECHANISM. HERBERT O. BRIGGS, Pawtucket, R. I. Filed Nov. 14, 1904. Serial No. 232,551.

Claim.—1. In an automatic intermittent driving mechanism, the combination with a continuous running gear or pulley, and an intermittent running gear or pulley, of intermediate mechanism for communicating, from the continuous running gear or pulley, an intermittent rotary motion to the intermittent running gear or pulley.

said mechanism comprising a pawl pivotally mounted on a stud, secured on one side of the continuous running gear or pulley and extending in a plane parallel to the axis of said pulley, and said pawl adapted to engage the intermittent running gear or pulley at one side of said continuous-running gear or pulley, and also adapted to engage a peripheral cam on the opposite side of said continuous running gear or pulley, and said peripheral cam, adapted to move said pawl in one direction, and means for moving the pawl in the other direction.



2. In an automatic intermittent driving mechanism, a continuous running gear or pulley having on one side or face thereof an actuating-pawl, and said pawl having its actuating portion on the side of said gear on which it is supported, and having a projection thereon extending through to the opposite side of said gear or pulley, to extend into the path of a cam, and said cam for operating said pawl, substantially as shown and described.

3. In an automatic intermittent driving mechanism, a continuous running gear or pulley having on one side or face thereof two studs, a pawl pivotally mounted on one stud, and a spring-holder pivotally mounted on the other stud, said pawl and holder being interchangeable on said studs, and said pawl having its engaging and actuating end or portion on one side of said gear or pulley, and a projection thereon extending through to the other side of said gear or pulley, and into the path of a cam, and said cam positively moving the pawl in one direction, substantially as shown and described.

4. In an automatic intermittent driving mechanism comprising therein a pawl mechanism, a cam for positively moving the pawl in one direction, said cam made in two parts rotatably adjustable on each other, and each part having a peripheral cam portion thereon, the peripheries of both cam portions being in the same arc of a circle, and having the same radius from an axis common to both.

5. In an automatic intermittent driving mechanism, the combination with a continuous running gear or pulley, and an intermittent running gear or pulley, of intermediate connections for communicating from the continuous running gear or pulley an intermittent rotary motion to the intermittent running gear or pulley, said mechanism comprising a pawl carried on the continuous running gear or pulley, and a cam as 7^d adapted to engage and positively move said pawl in one direction, and adapted to have a rotary motion, independent of the rotary motion of said continuous running gear or pulley, and means for rotating said cam, substantially as shown and described.

807,997. **DRIER.** JOHN W. BELM, Louisville, Ky. Filed Mar. 1, 1905. Serial No. 247,946.

Claim.—1. The combination with a drying-chamber, of a heating-conduit extending into the chamber and comprising sections between which are spaces, and deflectors extending outside the sections and opening at each side of the spaces.

2. The combination with a drying-chamber, of a heating-conduit extending into the chamber and comprising separated sections having at their adjacent ends outward projections, and deflectors carried by the projections.

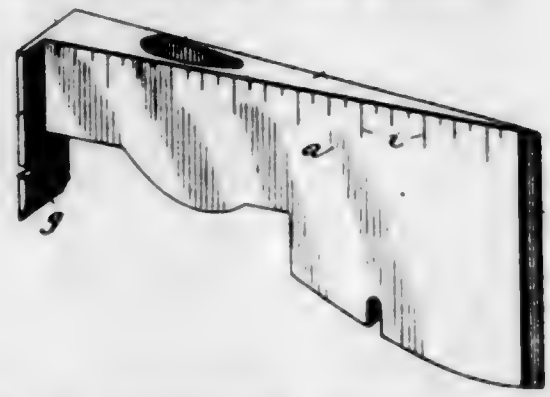
3. The combination with a drying-chamber, of a heating-conduit extending into the chamber and comprising sections having at their adjacent ends outward projections, and spacing members interposed between the projections.

4. The combination with a drying-chamber, of a heating-conduit extending into the chamber and comprising sections having at their adjacent ends outward projections, spacing members introduced between the projections, and deflecting-rings supported upon the projections.

807,997.



807,998. **COMBINATION-TOOL.** ROBERT H. BOWMAN, Canyon City, Colo. Filed July 31, 1905. Serial No. 272,014.



Claim.—1. A combination-tool, comprising a driving-head, a straight longitudinal side, and a lateral projection on the driving-face of the head forming with said straight side a try-square.

2. A combination-tool, comprising a driving-head, a straight longitudinal side normal to the driving-face, and a shoulder projecting laterally of and behind the driving-face to form with said straight side a try-square.

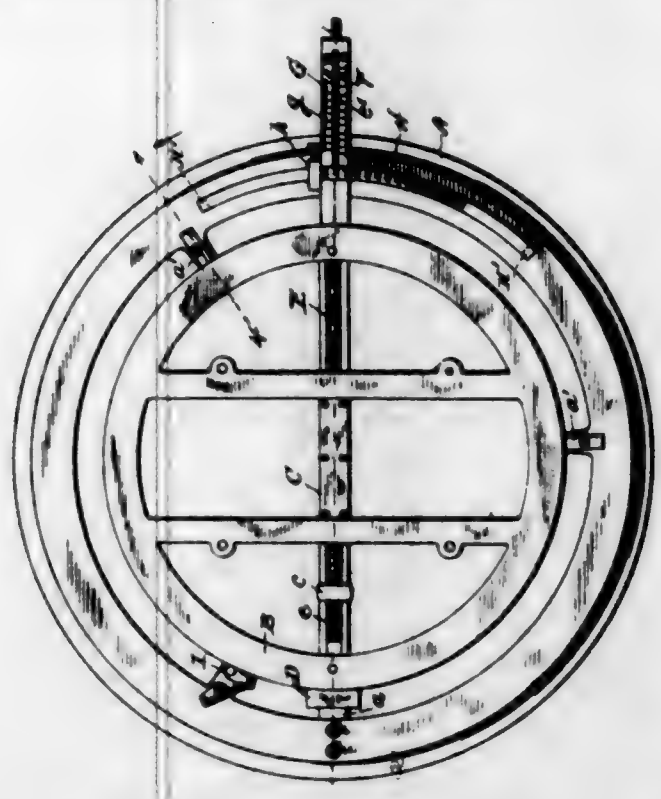
3. A combination-tool, comprising a head having a driving-face and a cutting edge at opposite ends thereof, a straight longitudinal side between said face and edge, and a lateral projection adjacent to the driving-face forming with the straight side a try-square.

807,999. **CHEESE-CUTTER.** THOMAS C. BRADBURY, Anderson, Ind., assignor to The Anderson Computing Scale Company, Anderson, Ind., a Firm. Filed Mar. 22, 1904. Serial No. 199,416.

Claim.—1. In a cheese-cutter, the combination of a rotary cheese-table, an operating-lever for the same having a scale, a movable fulcrum for said lever, an indicator, and means carried by said lever for changing the position of said fulcrum in accordance with the adjustment of said indicator, substantially as specified.

2. In a cheese-cutter, the combination of a rotary cheese-table, an operating-lever for the same having a cheese-weight scale upon said lever, an indicator for said scale, a movable fulcrum for said lever, and means for simultaneously adjusting said indicator and movable fulcrum, substantially as specified.

3. In a cheese-cutter, the combination of a rotary cheese-table, a horizontally-working operating-lever for the same, a price-per-unit scale-bar extending transversely of said lever and an adjustable stop upon said scale-bar, substantially as specified.



4. In a cheese-cutter, the combination of a rotary cheese-table, an operating-lever for the same having a longitudinal cheese-weight scale, a movable fulcrum for said lever, an indicator, means for simultaneously adjusting said indicator and fulcrum, a transverse price-per-unit scale, and an adjustable stop therefor, substantially as specified.

5. A cheese-cutter, having in combination a rotary cheese-table, an operating-lever for the same having a cheese-weight scale upon said lever, an indicator for said scale, a movable fulcrum for said lever, and a longitudinal adjusting-rod engaging said fulcrum and indicator, substantially as specified.

6. A cheese-cutter having in combination a rotary cheese-table, an operating-lever therefor having a scale, a clutch for engagement with said table at the rear end of said lever, an indicator for said scale, a movable fulcrum intermediate of the ends of the lever, and means for simultaneously adjusting said fulcrum and indicator, substantially as specified.

7. In a cheese-cutter, the combination of a rotary cheese-table, an operating-lever therefor having a cheese-weight scale at its forward end, an indicator therefor, a price-per-unit scale-bar at the forward end of said lever, an adjustable stop for said price-per-unit scale-bar, and means for varying the amount of movement imparted by said lever to the cheese-table upon adjustment of said cheese-weight indicator, substantially as specified.

8. In a cheese-cutter, the combination of a rotary cheese-plate, a lever for rotating the plate, a clutch between the plate and lever, an adjustable fulcrum, and means carried by the lever, for adjusting the fulcrum, substantially as specified.

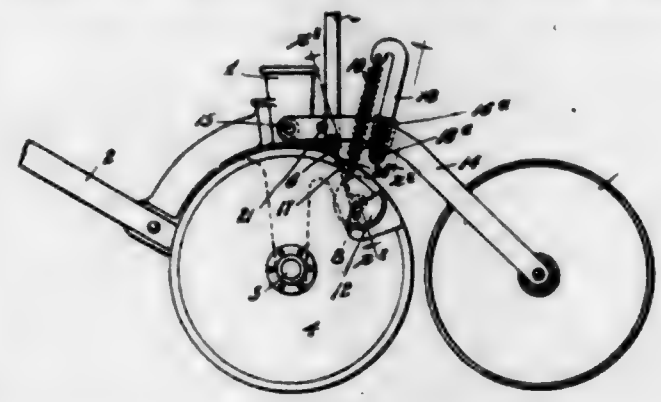
9. In a cheese-cutter, the combination of a base-frame and a rotary table mounted thereon, a vibrating lever and means actuated thereby for rotating the table varying measured distances, and means mounted on the vibrating lever for varying the distance the table may be thrown by the lever with a stroke of a given length.

10. In a cheese-cutter, the combination of a base-frame and a rotary table mounted thereon, a vibrating lever having a fixed maximum throw, means actuated thereby for rotating the table variable distances in accordance with the amount of cheese to be measured off, a total-weight scale on said lever, an indicator working in conjunction therewith, and means carried by the lever for moving the indicator simultaneously with the adjustment of the table-throwing devices.

11. In a cheese-cutter, the combination of a base-frame and a rotary table mounted thereon, a vibrating lever, a clutch operated thereby to throw the table variable distances, and means carried by the lever for varying the throw of the clutch.

12. In a cheese-cutter, the combination of a base-frame and a rotary table mounted thereon, a clutch adapted to rotate the table variable distances, a vibratable lever connected to the clutch and pivoted to the base and having a handle portion projecting beyond the table, a total-weight scale on the projecting end of the lever, a screw-rod carried by the lever, an indicator actuated by this rod and means whereby the turning of this rod varies the throw of the clutch-carrying arm, the variation in throw being indicated by the scale on the lever.

808,000. **DISK DRILL.** THOMAS BRENNAN, Jr., St. Louis Park, Minn., assignor to The Monitor Drill Company, St. Louis Park, Minn., a Corporation of Minnesota. Filed June 5, 1905. Serial No. 263,723.



Claim.—1. The combination with a seed-boot and a disk journaled thereto, of a rotary scraper working against one face of said disk, and a spring-pressed plunger affording a journal for said scraper, substantially as described.

2. The combination with a seed-boot and a disk journaled thereto, of a concavo-convex scraper working against one face of said disk, and a spring-pressed shouldered plunger mounted for straight-line movements on a part carried by said boot, and acting on said scraper, substantially as described.

3. The combination with a seed-boot and a pair of disks journaled thereto, of a pair of rotary scrapers working against the inner face of said disks, a pair of axially-alined plungers mounted on a part carried by said seed-boot and affording journals for said scrapers, and a spring compressed between and acting on said plungers, substantially as described.

4. The combination with a seed-boot and a pair of disks journaled thereto, said seed-boot having a rear projection 7 formed with bearing-lugs 8, of plungers 9 mounted in said lugs 8 and provided with collars 10, a coiled spring 11 surrounding the inner ends of said plungers, and pressing against the shoulders 10 thereof, a concavo-convex rotary scraper journaled on the reduced outer ends of said plungers, substantially as described.

5. The combination with a seed-boot and a furrow-opening device applied thereto, of a press-bar pivoted to said seed-boot, a press-wheel journaled in the rear end of said press-bar, an upright anchor-bar applied to the intermediate portion of said press-bar, and a coiled spring connecting the upper end of said anchor-bar to a part rigid on said seed-boot, substantially as described.

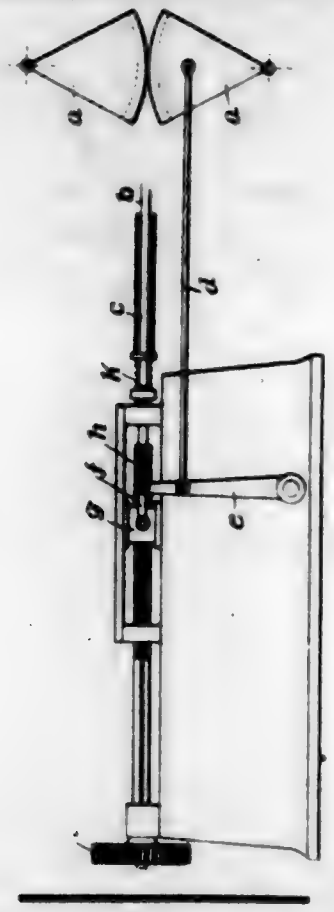
6. The combination with a seed-boot and a furrow-opening device, of a pair of laterally-spaced straps 14 pivoted to said seed-boot and affording a press-bar, a press-wheel journaled in the ends of said bars 14, a sleeve 16 interposed between said straps 14 and provided with a vertical perforated enlargement 16ª and having several perforations at its lower ends, a bolt 17 passed through said straps 14, sleeve 16 and bar 18, and a coiled spring 19 attached to the upper end of said bar 18 and to a part rigid on said seed-boot, substantially as described.

808,001. **MANUFACTURE OF TUBES.** OTTO BRIESE, Benrath, near Düsseldorf, Germany. Original application filed May 4, 1903, Serial No. 155,599. Divided and this application filed Aug. 20, 1904. Serial No. 222,650.

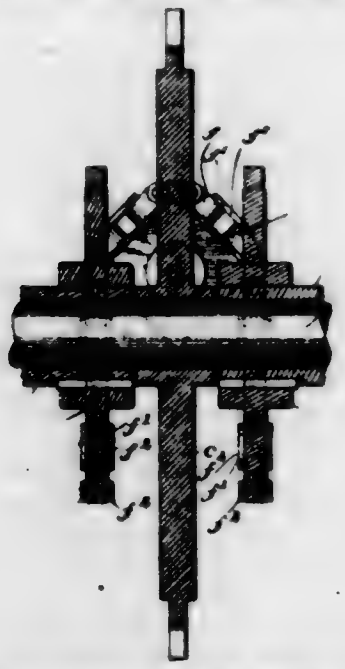
Claim.—1. As an improvement in the art of swaging billets, &c., the method herein described, which consists in causing the billet to move back and forth synchronously with oscillating swaging-dies, causing a forward feed movement of the billet independent of its reciprocation, and limiting such feed movement by the dies or swages substantially set forth.

2. As an improvement in the art of swaging billets, &c., the method herein described, which consists in causing the billet to move back and forth synchronously with and by oscillating dies or swages, causing a forward feed movement of the billet independent of the reciprocation of the latter and limiting such feed movement by the dies or swages substantially set forth.

808,001.



808,002. DIFFERENTIAL GEAR. ROBERT H. BROCKMAN, New York, N. Y. Filed July 27, 1904. Serial No. 218,360.



Claim.—1. The combination of two driven members, a belt connecting the two, a member engaged with the belt intermediate the driven members, and a gear-wheel adapted to receive a driving movement, the gear-wheel having an orifice therein in which the last-named member is loosely mounted.

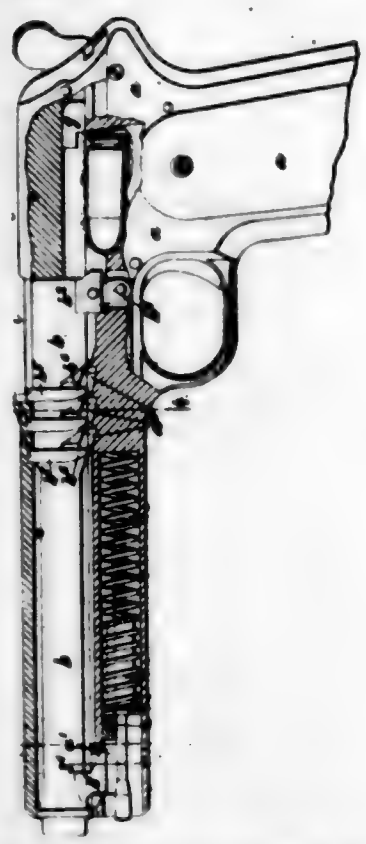
2. The combination of two driven members, an endless belt connecting the two, two members engaged with the endless belt intermediate the driven members, and a gear-wheel adapted to receive a driving movement, the gear-wheel having orifices therein in which the last-named members are loosely mounted.

3. The combination of two driven members, a belt connecting the two, a member engaged with the belt intermediate the driven members, and a driving member having an orifice therein in which the said member engaged with the belt is loosely mounted.

4. The combination of two driven members, a wheel attached to each, an endless chain engaged with said wheels, additional wheels engaged with the endless chain between the two wheels first named, and a driving-wheel having orifices therein in which said additional wheels are loosely mounted, said driving-wheel being located intermediate or between the two first-named wheels.

5. The combination of two driven members, a wheel attached to each member, said wheels being spaced apart, an endless belt engaged with the wheels, additional wheels engaged with the endless belt, and a driving-wheel located intermediate the two wheels first named and serving to support the second-named wheels.

808,003. FIREARM. JOHN M. BROWNING, Ogden, Utah. Filed May 25, 1905. Serial No. 262,205.



Claim.—1. In a firearm, the combination with the frame having a transverse recess, of a barrel connected at the breech end with said frame for a limited movement in the direction of its length and in the direction toward the frame, said barrel carrying near the breech end a stop-shoulder for entering the recess in said frame by the movement of said barrel toward the frame, whereby the movements of the barrel are arrested and the impact thereof transmitted to said frame at the strongest part of the barrel, substantially as specified.

2. In a firearm, the combination with a frame of a barrel, an inclined lug connection between said barrel and said frame, whereby said barrel may move lengthwise and toward and from said frame, a transverse recess in said frame and a stop-shoulder on said barrel for interlocking said barrel and said frame by the movement of said barrel toward said frame, substantially as shown and described.

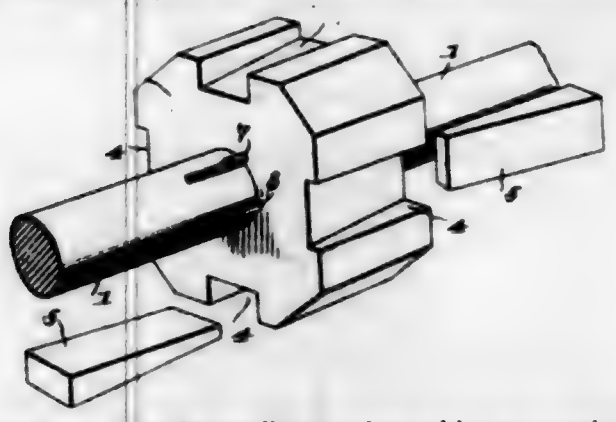
3. In a firearm, the combination with a frame having a transverse recess, of a barrel having an integral inclined lug connecting said barrel with said frame to have a lengthwise movement and a movement toward and from said frame, a stop-shoulder on said barrel for entering the recess in said frame by the movement of said barrel toward said frame, and means for limiting the movement of said barrel from said frame.

4. In a firearm, the combination with a frame having a transverse recess, and a breech-block mounted to slide upon said frame and having a locking-recess, of a barrel connected at the breech end with said frame for a limited movement thereon lengthwise and toward and from said frame, a locking-rib carried by said barrel and caused by the movement thereof toward and from said frame to release and to engage the locking-recess of said breech-block, and a stop-shoulder on said barrel near the breech end caused by the movement thereof lengthwise and toward said frame to enter the recess in said frame, substantially as and for the purpose specified.

5. In a firearm, the combination with a frame and a breech-block sliding on said frame, said frame having a transverse recess and said breech-block having a transverse groove, of a barrel, an inclined lug connection between said barrel and said frame, whereby said barrel may move lengthwise and toward and from said frame, transverse ribs projecting from opposite sides of said barrel, for interlocking said barrel with said breech-block by the movement of said barrel from said frame, and for interlocking said barrel with said frame by the movement of said barrel toward said frame.

6. In a firearm, the combination with a frame having a transverse recess, of a barrel attached at the breech end and near the muzzle to said frame for a limited movement thereon lengthwise and toward and from said frame, a step-shoulder on said barrel located between said attachments and unconnected therewith, for entering said recess in the frame by the movement of the barrel toward the frame, whereby the movements of said barrel are arrested and the impact thereof is transmitted to the frame at a distance from the muzzle of said barrel, substantially as shown and specified.

808,004. SHELL AND CORE FOR CRUSHING-ROLLS. WALTER G. BRYANT, Carterville, Mo. Filed Mar. 14, 1905. Serial No. 250,106.



Claim.—1. A crushing-roll core polygonal in cross-section and provided with longitudinal wedge-key seats, the bottoms of the successive seats converging to the roll-axis from opposite ends of the roll.

2. A crushing-roll polygonal in cross-section and provided with longitudinal wedge-key seats extending throughout its entire length, the bottoms of the successive seats converging to the roll-axis from opposite ends of the roll.

3. A crushing-roll core polygonal in cross-section and provided with longitudinal key-seats extending throughout its entire length, the bottoms of the successive key-seats converging to the roll-axis from opposite ends of the roll, in combination with a shell having a polygonal core-engaging bore provided with key-seats to register with those of the core, and keys engaging the seats.

808,005. PROCESS OF MAKING GAME-BALLS. ALONZO L. BURT, Milburn, N. J. Filed Dec. 5, 1901. Renewed Mar. 16, 1903. Serial No. 148,194.

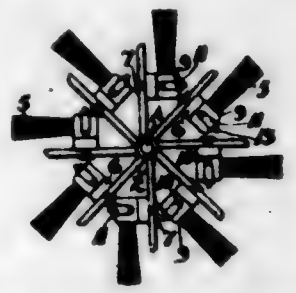


Claim.—The herein-described process of making game-balls having spots, which consists in separately forming the spots from loose plastic material by compression in the cold state, embedding said spots in a body of loose plastic material, comprising said loose material with the spots embedded therein into substantially spherical form in the cold state, and finally integrating the ball so formed by the application of pressure and heat.

808,006. ROTARY BRUSH FOR STREET-SWEEPERS AND THE LIKE. CHARLES H. BUTLER, Oakland, Cal. Filed Oct. 20, 1904. Serial No. 229,265.

Claim.—1. A rotary brush comprising a central support and bristle-supports adjustable radially thereof, said bristle-supports each including a pair of U-shaped clips relatively reversed and with the arms of one clip engaging with those of the other clip, said clips receiving the bristles between them, and means for forcing the clips together to grip the bristles.

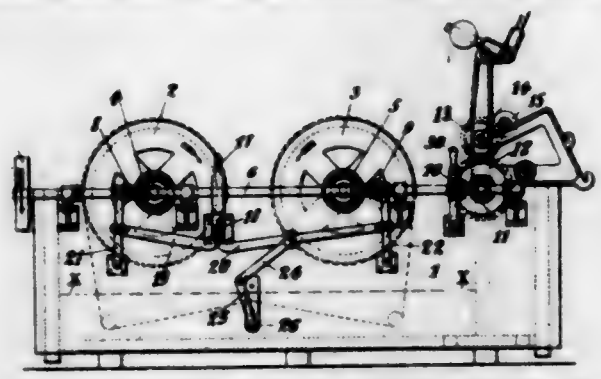
2. In a brush, the combination of a bunch of bristles and a pair of relatively reversed substantially U-shaped clips, one of said clips having its arms slotted and the other clip having its arms fitted within the slots of the first-named clip, and means for forcing the clips together to grip the bristles.



3. A rotary brush comprising a cylindrical series of suitably-supported radially-adjustable bars, bristle-supporting means on said bars, means for effecting the radial adjustment of the bars, said brush-supporting means including a substantially U-shaped clip having slotted arms and a member fitting within the clip and having arms fitting the slots in said clip and coöperating with the latter to grip the bristles.

4. In a brush, the combination with a suitable radially-adjustable support, of a bunch of bristles, and a bristle-support comprising a pair of relatively reversed, U-shaped clips, one of said clips having its arms slotted and the other clip having its arms fitted within the slots of the first-named clip, said clips having registering perforations, and a bolt passing through said perforations and provided with means for forcing the clips together to grip the bristles.

808,007. MACHINE FOR DYEING FABRICS. JACQUES CADOSNE, Zurich, Switzerland. Filed Oct. 24, 1904. Serial No. 229,704.



Claim.—1. In a machine for dyeing material in the piece, the combination of a dye-vat, revoluble cylinders arranged in the vat, a driving element, a controller, a means, controlled by said controller, for connecting and disconnecting each of said cylinders with said driving element and simultaneously braking the cylinder which is disconnected, substantially as described.

2. In a machine for dyeing material in the piece, the combination of a dye-vat, a controller, revoluble cylinders arranged in the vat, a driving element, separate brakes for said cylinder, and means, comprising a system of levers and controlled by said controller, for connecting either of said cylinders with the driving element and applying the brake on the other cylinder, interchangeably, substantially as described.

3. In a machine for dyeing material in the piece, the combination of a dye-vat, revoluble cylinders arranged in the dye-vat with their axes substantially parallel and standing in substantially a horizontal plane, said cylinders having together a horizontal dimension transverse of their axes which approximates the dimension of the vat from one end wall to the opposite end wall thereof, means for driving the cylinders alternately, and means for guiding the material through the vat below the surface-level of the bath in a substantially straight and horizontal line and for a relatively long distance, substantially as described.

4. In a machine for dyeing material in the piece, the combination of a dye-vat, revoluble cylinders arranged in the dye-vat with their axes substantially parallel and standing in substantially a horizontal plane approximating the top of said vat, said cylinders having together a horizontal dimension transverse of their axes which approximates the dimension of the vat from one end wall to the opposite end wall thereof, means for driving the cylinders alternately, and means for guiding the material through the vat below the surface-level of the bath in a substantially straight and horizontal line for a relatively long distance, substantially as described.

808,008. HOSE-COUPLING. JOHN S. CAGLE, Upward, N. C. Filed July 12, 1905. Serial No. 269,377.

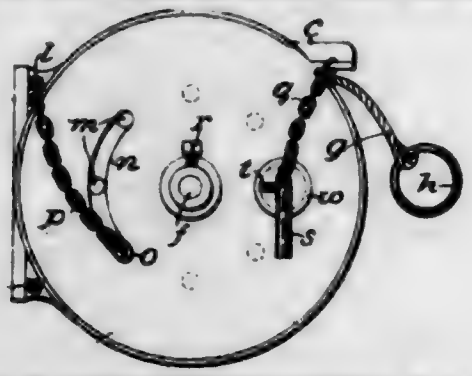
Claim.—1. A coupling of the character described, comprising the nozzle members, one equipped with a depressible spring dog or latch having a tapered forward end, and the other nozzle having a slot or notch opening out through its inner edge, said edge being slightly beveled adjacent to the initial or nearer edge of said slot or notch, and said dog or latch effective to engage said inner beveled edge and, after passing the same, to spring into said notch for the engagement of its tapered forward edge with the corresponding or initial edge of said notch or slot.



2. A coupling of the character described, comprising the nozzle members, one having an annular forwardly-facing shoulder and a reduction or extension forward of said shoulder, said nozzle member being equipped with a depressible spring latch or dog and a stud arranged upon said extension, the other nozzle member having a notch or recess of the outline described, and its inner edge, immediately adjacent to said stud, provided with a slightly-beveled surface for engagement with the forward end or point of said latch or dog, said notch or recess being adapted to receive said stud.

3. A coupling of the character described, comprising nozzle members, one having an annular forwardly-facing shoulder and forward of said shoulder a reduction or extension telescoping the opposed nozzle member, said nozzle member also being equipped with a depressible spring latch or dog and with studs adjacent to the forward end of said dog or latch, said latch or dog being countersunk in said nozzle member, and the other nozzle member having "bayonet-form" slots or notches effective to receive said studs and dog or latch also engaging one of said notched or slotted nozzles also having its forward edge provided with slightly-beveled surfaces adjacent to the initial walls or edges of said notches or slots, said initial walls being inclined outward and said dog or latch having an oppositely-tapered forward end effective for lateral engagement with said initial walls.

808,009. CLOTHES-LINE REEL. BERT J. CALDWELL and GEORGE L. HUNT, Waterloo, Iowa; said Caldwell assignor, by mesne assignments, to said Hunt. Filed Jan. 10, 1905. Serial No. 240,393.



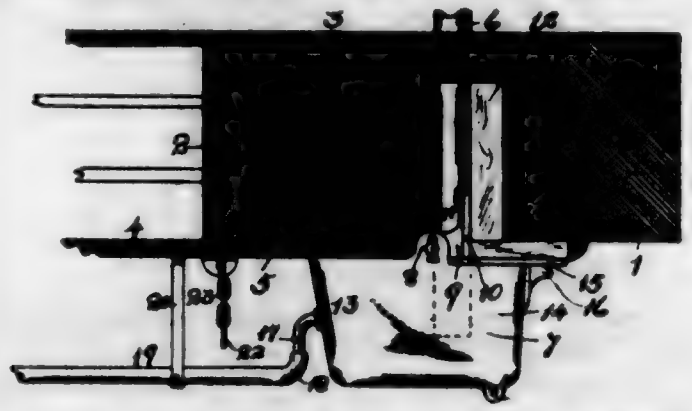
Claim.—1. In a device of the class described, the combination with the casing, of a winding-drum having a plurality of sockets, and an angular gravity-impelled key provided with a stud adapted to enter any one of said sockets to lock said drum in one position within the casing.

2. In a device of the class described, the combination with the perforated casing of a spring-impelled socket-bearing winding-drum rotatably mounted on a fixed shaft therein, a gravity-impelled key adapted to enter the sockets in said drum, and means for locking said key in said casing, and means for rotating said winding-drum through predetermined distances to take up the slack in the line.

3. A clothes-line reel comprising a casing, a spring-impelled winding-drum therein to receive the line, sockets in said drum and registering openings in said casing, means for rotating said drum through predetermined distances to take up the slack in the line, a recessed boss on said casing with an opening registering with any one of said sockets immediately thereunder, and a key adapted to engage the cavity in said boss and such socket to lock the drum in a desired position.

808,010. COMBINED CAR DRAIN AND TRAP. JOSEPH C. CAREY, Chicago, Ill. Filed Apr. 7, 1905. Serial No. 254,406.

Claim.—1. A combined drain and trap consisting of a drain-pipe, a drain-receptacle pivoted at such point that the portion of the drain-receptacle on one side of the pivotal point will be heavier than the portion on the other side of the pivotal point, an abutment adapted to be contacted by the lighter end of the receptacle and held in abutment by the heavier end of the receptacle, and a spout at one end of the receptacle above the end of the drain-pipe and below the top of the receptacle and adapted to keep the end of the drain-pipe immersed under normal conditions, substantially as described.



2. A combined drain and trap consisting of a drain-pipe and discharge-pipe, a drain-receptacle pivoted at such point that the portion of the receptacle at one side of the pivotal point will be heavier than the portion at the other side of the pivotal point, an abutment adapted to be contacted by the lighter end of the receptacle and held in abutment by the weight of the heavier end of the receptacle, a spout at one end of the receptacle having its mouth normally in line with the intake end of the discharge-pipe and having a vertical elevation above the end of the drain-pipe and below the top of the receptacle and adapted to keep the end of the drain-pipe immersed under normal conditions, an eye at the lighter end of the receptacle, and a hook adapted to coöperate therewith for holding the receptacle swung out of normal position for the purpose of exposing the end of the drain-pipe, substantially as described.

3. In combination with a car having a recess cut in its bottom, a drain-pipe passing through the recess near one side thereof, a discharge-pipe, a receptacle into which the drain-pipe normally projects, means for pivoting the receptacle at such point that the portion of the receptacle at one side of the pivotal point will be heavier than the portion at the other side of the pivotal point for causing the lower end of the receptacle to abut against the car structure at one side of the recess, and a discharge-spout at the heavier end of the receptacle normally in line with the discharge-pipe and adapted to be swung up into the recess in the bottom of the car for exposing the discharge end of the drain-pipe, substantially as described.

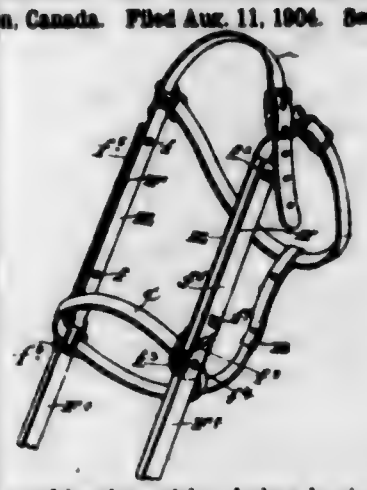
4. In combination with a car having a recess cut in its bottom, a drain-pipe passing through the recess near one side thereof, a receptacle into which the drain-pipe normally projects, means for pivoting the receptacle off center and allowing the lighter end thereof to abut against the car structure at one side of the recess, a discharge-spout at the heavier end of the receptacle adapted to be swung up into the recess in the bottom of the car for exposing the discharge end of the drain-pipe, an eye on the bottom of the receptacle at the lighter end thereof, and a hook adapted to coöperate therewith for holding the discharge end of the receptacle swung up into the recess provided therefor, substantially as described.

5. In combination with a car having a recess cut in its bottom, a drain-pipe passing through the recess near one side thereof, a receptacle into which the drain-pipe normally projects, means for pivoting the receptacle off center and allowing the lighter end thereof to abut against the car structure at one side of the recess, a discharge-spout at the heavier end of the receptacle adapted to be swung up into the recess in the bottom of the car for exposing the discharge end of the drain-pipe, an eye on the bottom of the receptacle at the lighter end thereof, a hook adapted to coöperate therewith for holding the discharge end of the receptacle swung up into the recess provided therefor, and a discharge-pipe leading to a suitable point of discharge and adapted to have the discharge-spout projected thereinto when the receptacle is in normal position, substantially as described.

6. In combination with a car having a double flooring with a recess formed therein, a drain-pipe passing through the recess near the outer side thereof, a receptacle provided with ears upwardly extending from its sides and off center with respect to the weight of the receptacle, fixed ears secured to the car structure, to which the first-mentioned ears are pivoted for allowing the intake end of the receptacle to abut against the car structure for normally holding the receptacle in level position and allowing the heavier discharge end of the receptacle to be swung up into the recess provided therefor, a spout on the discharge end of the receptacle having a vertical elevation

sufficient to keep the discharge end of the drain-pipe normally immersed, and means for holding the discharge end of the receptacle in raised position for the purpose of cleaning the drain-pipe, substantially as described.

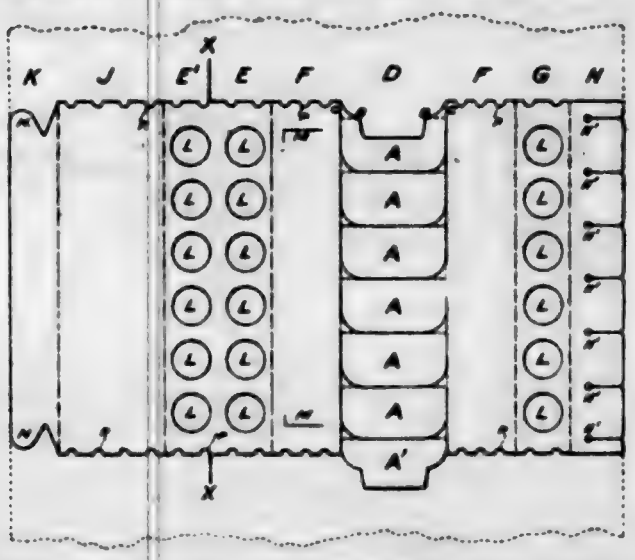
808,011. **DEVICE FOR CONTROLLING HORSES.** JOHN CHERRY, Nobleton, Canada. Filed Aug. 11, 1904. Serial No. 220,421.



Claim.—1. The combination with a halter having side straps, of the side bars attached to the side straps, and the extension-bars and means for connecting the extension-bars to the side bars, as and for the purpose specified.

2. The combination with the halter having side straps, of the side bars attached to the side straps and each provided with a narrowed lower end and a beveled portion at the junction of said narrowed portion with the bar and the extension-bars provided with a correspondingly-formed end and beveled portion and pins connecting the two bars as and for the purpose specified.

808,012. **EGG-TESTING COMPARTMENT-BOX.** JONAH R. COLE, New York, N. Y., assignor of one-fourth to August Mosbus, New Rochelle, N. Y. Filed Nov. 25, 1903. Serial No. 182,612.



Claim.—1. In a compartment-box of the class described, the combination of a series of inwardly-turned partition-flaps held at their free edges by the inwardly-turned slotted locking-flap, the inwardly-turned locking-flap holding the several free edges of the partition-flaps in slits or slots cut therein substantially as described, the side of the box from which the said locking-flaps extend, being provided with a series of finger-holes, through which holes the turning inward and adjustment of the locking-flap is accomplished.

2. In a compartment-box formed from a single body-blank having a portion of the blank cut or formed into a series of flaps forming partitions therein when the box is set up, the combination of the end flaps A and A′ in the form shown and described; one end flap being cut away along the greater part of the hinge side of the flap for the purpose described, and the end flap at the opposite extremity of the series of flaps being in part cut from the first-mentioned end flap as described and shown.

3. In a compartment-box the construction shown, embodying a series of inwardly-turnable partition-flaps, an opposed inwardly-turnable slotted locking-flap, the several slots in said locking-flap being adapted to hold the several free edges of the partition-flaps, the side of the box from which the locking-flap extends being provided with a series of holes or finger-openings through which holes or finger-openings the turning inward and adjustment of the locking-flap is accomplished.

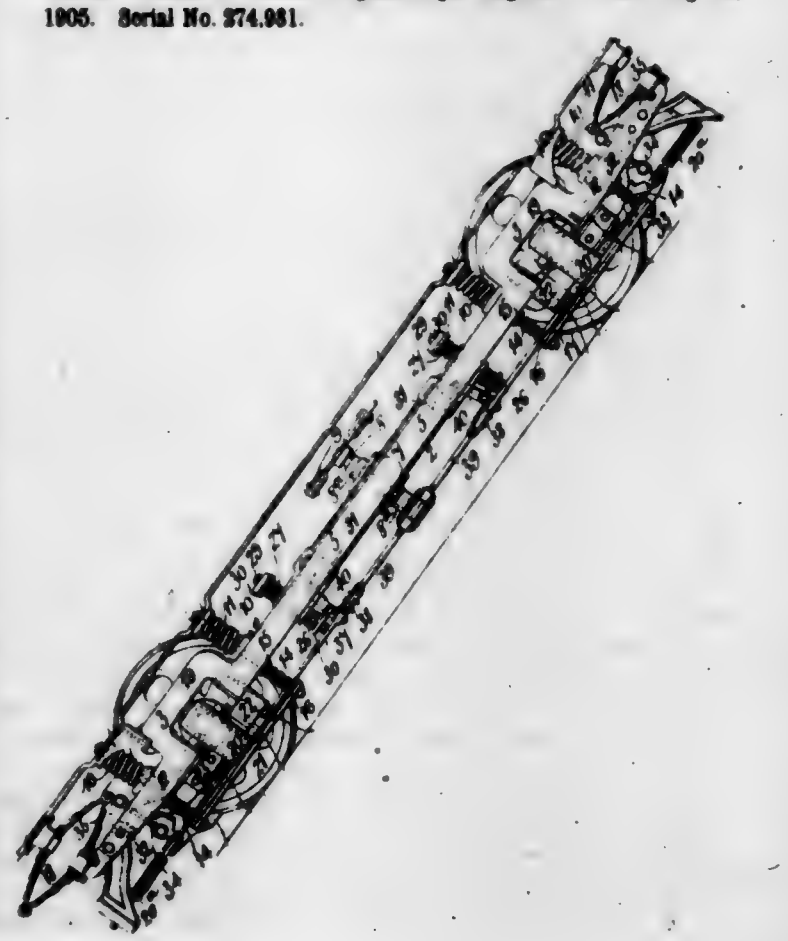
4. In a compartment-box the combination of the inwardly-turnable partition-flaps A A, the opposed inwardly-turnable slotted locking-flap H, the bottom of the box provided with the series of openings or finger-holes L L, and the integral auxiliary or secondary bottom J, covering the said finger-holes as shown, all arranged upon the body-blank as shown and described and having the independent functions and uses described.

5. In a compartment-box of the class described, having a series of inwardly-turnable partition-flaps, an inwardly-turnable locking-flap, said locking-flap holding the free edges of the partition-flaps in slots cut therein; the body proper of the box, in the bottom of which a series of finger holes or openings is cut, through which, the slotted locking-flap shown and described may be forced into position and adjusted, and a protecting or auxiliary bottom hinged to one of the outside bottom corners or edges of the box, for the purpose of protecting the articles contained in the box from breakage.

6. An egg-testing compartment-box, formed from a single body-blank, said blank having a plurality of parallel score-marks extending from one edge of the blank to the opposite edge of the blank, between two of which score-marks is formed a series of inwardly-turnable flaps; a single integral locking-flap formed on an edge of the blank and running parallel to the series of solid inwardly-turnable flaps as described and shown, said locking-flap having a series of slits or slots cut therein for the purpose described, the portions of the single blank which constitute the bottom of the box, when formed, being provided with a series of openings the material cut away to form such openings, being entirely severed from the blank, said openings being situated on either side of the series of solid inwardly-turnable flaps, said series of openings on either side of the solid flaps being parallel to the said series of solid flaps and the single locking-flap, two score-marks separating the series of openings from either side of the series of solid flaps, said openings being so made and placed for the purposes described and shown.

7. An egg-testing compartment-box formed from a single body-blank, said blank having a plurality of parallel score-marks extending from one edge of the blank or end of the box when formed to the opposite edge or end, between two of which score-marks is formed a series of inwardly-turnable transverse partition-flaps extending almost to the bottom of the box when formed, a single integral locking-flap formed upon one edge of the blank, and the bottom of the box provided with a series of openings severally central in each of the compartments of the finished box, said blank having also a series of well-defined recesses upon the two opposite sides of the blank which become the ends of the box when formed, said recesses serving as ventilation-openings.

808,013. **RADIAL TRUCK FOR TRAMWAY AND LIKE VEHICLES.** ELMER E. COOK, Loughborough, England. Filed Aug. 21, 1905. Serial No. 274,981.



Claim.—1. A radial truck comprising a frame, radially-movable axles and axle-boxes carried by said axles, said axle-boxes having lateral extensions which are longitudinal to the truck and by and on which said frame is supported and is adapted to slide.

2. A radial truck comprising a frame, radially-movable axles, and axle-boxes carried by said axles, said axle-boxes having lateral extensions which are longitudinal to the truck and by and on which said frame is supported and is adapted to slide and the portions of said frame and extensions that are in contact having interengaging parts adapted to guide their relative movements.

3. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link pivotally connected thereto at one side thereof, each of said axle-boxes having at the other side thereof an extension which is longitudinal to the truck and by and on which said frame is supported and is adapted to slide.

4. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link pivotally connected thereto at one side thereof, each of said axle-boxes having at the other side thereof an extension which is longitudinal to the truck and by and on which said frame is supported and is adapted to slide and the portions of said frame and extension that are in contact having interengaging parts adapted to guide their relative movements.

5. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link of which one end is pivotally connected to the corresponding axle-box and a vertical pin by means of which the other end of said link is pivoted to said frame, which rests on said link, each of said axle-boxes having at its side opposite to said link an extension which is longitudinal to the truck and by and on which said frame is supported and is adapted to slide.

6. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link of which one end is pivotally connected to the corresponding axle-box and a vertical pin by means of which the other end of said link is pivoted to said frame, which rests on said link, each of said axle-boxes having at its side opposite to said link an extension which is longitudinal to the truck and by and on which said frame is supported and is adapted to slide and the portions of said frame and said extension having interengaging parts adapted to guide their relative movements.

7. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link pivotally connected thereto at the side thereof toward the center of the truck, each of said axle-boxes having at the other side thereof an extension which is longitudinal to the truck and by and on which said frame is supported and is adapted to slide.

8. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link pivotally connected thereto at the side thereof toward the center of the truck and the portions of said frame and extension that are in contact having interengaging parts adapted to guide their relative movements.

9. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link of which one end is pivotally connected thereto at the side thereof toward the center of the truck and which extends inwardly from the axle-box toward the center of the truck and a vertical pin by means of which the other end of said pin is pivoted to said frame, which rests on said link, each of said axle-boxes having at its side opposite to said link an extension which is longitudinal to the truck and by and on which said frame is supported and is adapted to slide.

10. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link of which one end is pivotally connected thereto at the side thereof toward the center of the truck and which extends inwardly from the axle-box toward the center of the truck and a vertical pin by means of which the other end of said pin is pivoted to said frame, which rests on said link, each of said axle-boxes having at its side opposite to said link an extension which is longitudinal to the truck and by and on which said frame is supported and is adapted to slide and the portions of said frame and said extension having interengaging parts adapted to guide their relative movements.

11. A radial truck comprising a frame, radially-movable axles, axle-box bodies supported by said axles, brackets which are carried by said axle-box bodies and extend longitudinally of the truck and by and upon which said frame is supported and adapted to slide.

12. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link pivotally connected thereto at one side thereof, each of said axle-boxes having at the other side thereof an extension which is longitudinal to the truck and by and on which said frame is supported and is adapted to slide and the portions of said frame and extension that are in contact having interengaging parts adapted to guide their relative movements so as to cause them to be substantially circular.

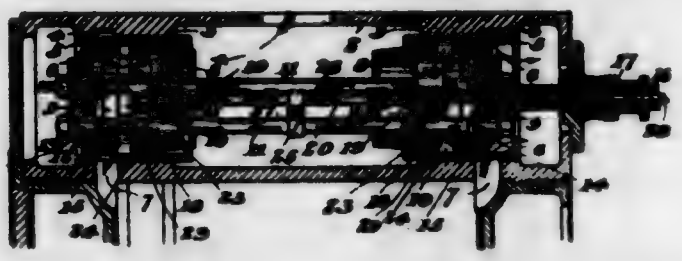
13. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link of which one end is pivotally connected thereto at the side thereof toward the center of the truck and which extends inwardly from the axle-box toward the center of the truck and a vertical pin by means of which the other end of said link is pivoted to said frame, which rests on said link.

14. A radial truck comprising a frame, radially-movable axles, axle-boxes carried by said axles, and for each of said axle-boxes a link of which one end is pivotally connected to the corresponding axle-box and a vertical pin by means of which the other end of said link is pivoted to said frame, which rests on said link.

15. A radial truck comprising a frame, radially-movable axles, axle-boxes supported by said axles, and for each pair of traveling wheels a pair of brake-blocks, and a carrier for said brake-blocks which is secured to the corresponding pair of axle-boxes so as to accompany the corresponding axle in its radial movement.

16. A radial truck comprising a frame, radially-movable axles, axle-boxes supported by said axles, and for each pair of traveling wheels a pair of brake-blocks, a carrier for said brake-blocks which is secured to the corresponding pair of axle-boxes so as to accompany the corresponding axle in its radial movement, an equalizing-brake-operating lever, transverse levers the inner ends of which are connected to said equalizing-lever, links connecting said transverse levers with said brake-blocks, and independent longitudinally-arranged rods jointed to the outer ends of said transverse levers and suspended from said frame.

808,014. STEAM-ENGINE VALVE. ENOS T. COPE, Salem, Ohio, assignor to Buckeye Engine Company, Salem, Ohio, a Corporation of Ohio. Filed July 7, 1904. Serial No. 215,574.



Claim.—1. A main steam-engine valve having hollow cylindrical ends with closed heads, stretcher-rods extending between and bolted to the heads, and a cut-off valve surrounding said rods and movable within the main valve; substantially as described.

2. A steam-engine valve having two cylindrical end portions with heads, packing-rings for the cylindrical portions held by cover-plates on the heads, stretcher-rods between the cylindrical end portions, and a cut-off valve surrounding said rods and movable within the main valve; substantially as described.

3. A main steam-engine valve having a cylindrical end with an annular row of ports and an integral closed head, a packing-ring near the outer end of the cylindrical portion, a clamping plate or ring on the head holding the packing in place, stretcher-rods having nuts arranged to hold the clamping ring or plate in place, and a cut-off valve movable within the main valve; substantially as described.

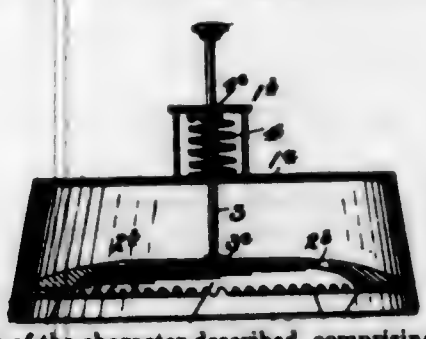
4. In a steam-engine valve, a main distribution-valve having cylindrical end portions, a cut-off valve having rings movable within the end portions, stretcher-rods between the end portions of the main valve, a stem between the rings of the cut-off valve, and an internal guide carried by the cut-off valve and slidingly engaging a stretcher-rod and preventing rotation of the cut-off valve; substantially as described.

5. A main distribution-valve, a cut-off valve movable therein, and a clamp on the cut-off valve engaging a stretcher-rod on the main valve to prevent rotation of the cut-off valve; substantially as described.

808,015. COMBINED PIE-DOUGH CUTTER AND CRIMPER. OTTO J. COPPUM, Hobart, Ind. Filed July 6, 1904. Serial No. 215,513.

Claim.—1. A device of the character described, comprising a combined pie crimper and sealer having a central upward-dished or

bridge portion thickened or flared outward or radially, with the downward facing or presented surface thereof produced in general horizontal lines and equipped with an annular arrangement of scallops or crimps effective for exerting both a crimping and a sealing action, and means effective for supporting said combined crimper and sealer in normal elevated position, and for the automatic return movement thereof after the removal of pressure therefrom, as set forth.



2. A device of the character described, comprising a combined pie crimper and sealer having a central upward-dished or bridge portion thickened or flared outward or radially, with the downward facing or presented surface thereof produced in general horizontal lines and equipped with an annular arrangement of crimps or scallops effective for exerting both a crimping and a sealing action, a cutter encompassing said crimper, a spring-pressed plunger-rod fixed to said bridge portion of the crimper and sealer and extending up through said cutter for actuation.

808,016. **ELECTRIC CLOCK.** LOREN C. COX, Quincy, Ill. Filed July 6, 1905. Serial No. 268,456.



Claim.—1. In a clock of the class described, a shaft or arbor, a pair of ratchet-wheels rigidly secured thereto, weighted levers pivotally mounted on said arbor, pawls carried by the levers and engaging the ratchet-wheels, a loose sleeve carried by the shaft and provided with a pair of projecting arms, pins carried by one of said arms and arranged to engage the lever, an electromagnet, the armature of which is operatively connected to the opposite arm, and an energizing-circuit for said magnet, including the contacts under the control of said levers.

2. In a clock of the class described, a shaft or arbor, a pair of ratchet-wheels rigidly secured thereto, weighted levers pivotally mounted on said shaft, pawls carried by the levers and engaging the ratchet-wheels, a loose sleeve carried by the shaft and provided with a pair of projecting arms, pins carried by one of said arms and arranged to engage the levers, an electromagnet having an armature connected to the opposite arm, a magnet-circuit including a stationary and a movable contact, and a retaining device for holding the movable contact in circuit-breaking position, said retaining device being under the control of the levers.

3. In a clock of the class described, a shaft or arbor, a pair of ratchet-wheels rigidly secured thereto, a pair of weighted levers mounted loosely on the shaft and provided with projecting arms, pawls carried by said levers and arranged to engage the ratchet-wheels, an electromagnet having an armature, means for transmitting movement from the armature to the levers to alternately elevate the same, a magnet-circuit including a fixed terminal and a pivotally-mounted block forming the second terminal, a pawl for engaging the block and holding the same in circuit-breaking position, said pawl being disposed in the path of movement of the lever-carried arms to permit release of the block when the weighted ends of the levers are depressed, the lower portion of the block being disposed in the path of movement of said arms, whereby the block may be restored to circuit-breaking position when the levers are elevated.

4. In a clock of the class described, the combination with a shaft or arbor, a pair of ratchet-wheels rigidly secured thereto, a pair of weighted levers pivotally mounted on the arbor and provided with projecting arms, pawls carried by said levers and engaging the ratchet-wheels, a sleeve loosely mounted on the arbor and provided with a pair of projecting arms, lever-engaging pins carried by one of said arms, an electromagnet, a pivoted armature arranged within the field of force of the electromagnet, and connected to the second arm, a fixed contact, a pivotally-mounted contact, a spring tending to force said pivotally-mounted contact toward the fixed contact, a pawl engaging said pivotally-mounted contact and normally holding the circuit open, said pawl being disposed in the path of movement of the lever-carried arms, and spaced arms carried by the pivotally-mounted contact and also arranged in the path of movement of said lever-carried arms.

808,017. **METAL SCREEN.** GEORGE F. CRAMER, East Rutherford, N. J. Filed Sept. 7, 1905. Serial No. 277,310.



Claim.—1. The improved window-screen herein described, comprising an inner frame consisting of clamping side parts and overlapping angular parts, netting clamped at its edges between said side parts, and a casing doubled over the inner frame and comprising side pieces and corner-pieces adjustable in relation to one another, substantially as set forth.

2. The improved window-screen herein described, comprising an inner frame consisting of grooved clamping side parts and coöperating clamping parts fitting into said grooved parts, means for separably fastening said parts together, corner connections for said side parts, and netting held at its edges between said clamping parts, and an outer frame doubled over the inner frame and the edges of the netting, substantially as set forth.

3. The improved screen herein described, comprising an inner frame consisting of clamping members, a netting clamped at its edges by said members and an outer casing inclosing said inner frame and having a slot through which the netting extends, said casing consisting of corner-pieces and side pieces extending into said corner-pieces.

4. The improved screen herein described, comprising a frame consisting of clamping members V-shaped in cross-section, and comprising angular corner-pieces and side parts overlapping said corner parts.

5. The improved screen herein described, comprising an inner frame having a grooved member and a member fitting into the groove, netting bent between said members and held in place thereby, and an outer casing inclosing said inner frames, substantially as set forth.

6. The improved screen herein described, comprising an inner frame having a member consisting of grooved angular parts and grooved side parts, and a member fitting the grooves of said parts and clamping-screws, a netting entered at its edges between said members and a casing doubled to cover the opposite sides of said frame, substantially as set forth.

808,018. **PAPER-FEEDING MACHINE.** FRANK L. CROSS, Mystic, Conn., assignor to Cross Paper Feeder Company, Boston, Mass., a Corporation of Maine. Filed Dec. 4, 1903. Serial No. 183,720.

Claim.—1. The combination with the combing devices, of devices for equalizing the combing action of the combing devices on the sheets during the advance of the sheets by said devices, substantially as described.

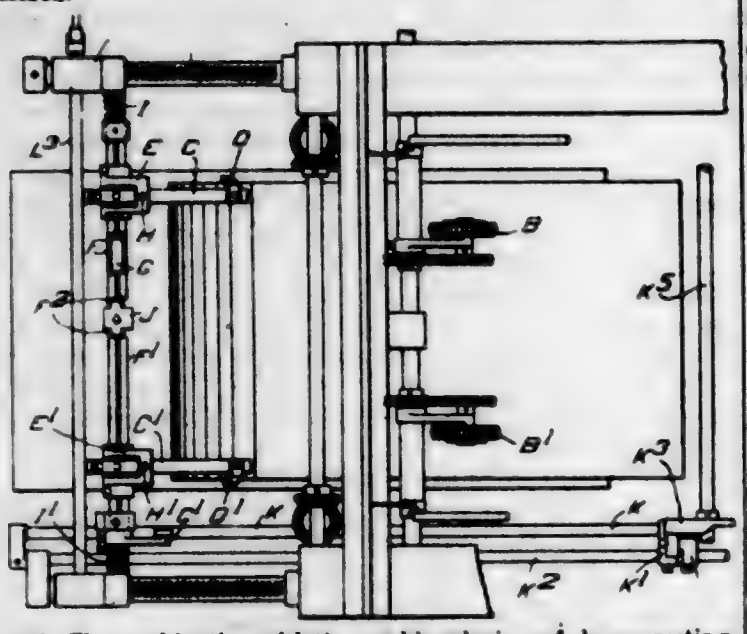
2. The combination with the combing devices for acting on the sheets, of equalizing devices for engaging the sheets in the rear of the combing devices and modifying the action of the combing devices, substantially as described.

3. The combination with the combing devices for acting on a pile of sheets, of an equalizer on each side of the pile against which the sheets crowd when displaced laterally by the combing devices, substantially as described.

4. The combination with the combing devices for acting on a pile of sheets, of equalizing-fingers engaging opposite edges of the pile in the rear of the combing devices, substantially as described.

5. The combination with the combing devices for acting on a pile of sheets, of clamps resting on the pile, and fingers on said

clamps extending over the edges of the pile, substantially as described.



6. The combination with the combing devices of clamps resting on the rear of the pile, a transverse shaft on which said clamps are mounted, spring-pressed arms mounted on said shaft for engaging said clamps, devices carried by said shaft for operating said arms, adjustable carriages in which said shaft is mounted, and means for rocking said shaft in its adjusted positions.

7. The combination with the clamps C, C′ for engaging the rear of a pile of sheets, a transverse shaft, adjustable carriages in which said shaft is mounted, sleeves mounted on said shaft provided with arms for engaging said clamps, springs for forcing said sleeves toward said clamps, devices on said shaft for moving the sleeves against the tension of the springs, and means for rocking said shaft in its adjusted positions.

8. The combination with the clamps resting on the rear of the pile, of a transverse shaft on which said clamps are loosely pivoted, sleeves mounted on said shaft and provided with arms for engaging said clamps, springs for forcing said arms against said clamps, devices on said shaft for operating said sleeves against the tension of the springs, adjustable carriages in which said shaft is mounted, an arm secured to said shaft, and a vertically-moving bar engaged by said arm and extending longitudinally of the sheets.

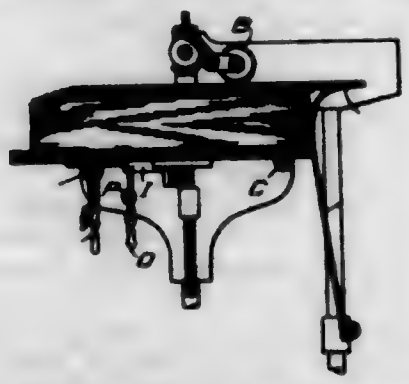
9. The combination with the clamps, of an operating rock-shaft adjustable therewith for sheets of varying length, an arm secured to said rock-shaft, and a vertically-moving bar engaged by said arm and extending longitudinally of the sheets, substantially as described.

10. The combination with the combing devices for acting on sheets, of transversely-inclined equalizing-fingers arranged on opposite sides of the pile in the rear of the combing devices, substantially as described.

11. The combination with the combing-rolls for acting on sheets, of equalizing devices for engaging the sheets in the rear of the combing-rolls and modifying the action of the combing-rolls, substantially as described.

12. The combination with the combing-rolls for acting on a pile of sheets, of transversely-inclined equalizers on each side of the pile against which the sheets crowd when displaced laterally by the combing-rolls, substantially as described.

808,019. PAPER-FEEDING MACHINE. FRANK L. CROSS, Mystic, Conn., assignor to Cross Paper Feeder Company, Boston, Mass., a Corporation of Maine. Filed Dec. 4, 1903. Serial No. 183,731.



Claim.—1. The combination with the sheet-supporting table of racks secured thereto, oppositely-acting pawls for engaging said racks and moving the table, an operating device, and connections between said device and said pawls for operating one pawl by moving the operating device from mid-position in one direction and for operating the other pawl by moving said device from mid-position in the other direction, substantially as described.

2. The combination with the sheet-supporting table, of a rack on each side of the table, oppositely-acting pawls mounted at opposite sides of the table, an operating-lever connected with the pawls to operate either pawl and adjust the table in either direction, substantially as described.

3. The combination with sheet-feeding devices of a sheet-supporting table for presenting a pile of sheets thereto, of a laterally-extending rack secured to said table, a pawl for engaging said rack and a manually-operated lever for operating said pawl to adjust the table laterally, substantially as described.

4. The combination with the sheet-supporting table, of a rack on each side of the table, oppositely-acting pawls mounted at opposite sides of the table, an operating-lever, a connection between one pawl and the lever for engaging the pawl with a rack when the lever is moved from the mid-position in one direction, and a connection for engaging the other pawl with a rack when the lever is moved from mid-position in the opposite direction, substantially as described.

5. The combination with the sheet-supporting table, of a rack on each side of the table, pawl-carrying arms mounted at opposite sides of the table, pawls pivoted on said arms and arranged to engage said racks, levers connected with said pawl-carrying arms, and a link connecting said levers, substantially as described.

6. The combination with the sheet-supporting table, of a supporting-shaft provided with gear-teeth, a rack on the table engaging said teeth and coöperating therewith to guide the table in its lateral movements, a manually-operated device for turning said shaft to adjust the table, and means for adjusting said table laterally, substantially as described.

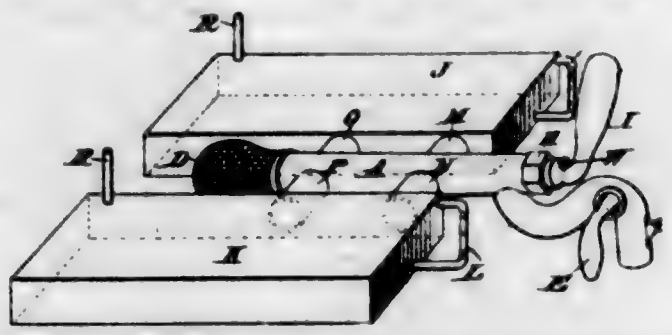
7. The combination with the sheet-supporting table, of a supporting-shaft provided with gear-teeth, a rack on the table engaging said teeth, a lever hung on the shaft, and a pawl normally held out of engagement with said gear-teeth carried by said lever, substantially as described.

8. The combination with the sheet-supporting table, a shaft on which said table rests provided with gear-teeth at each side of the table, racks on the table engaging said teeth, means for manually operating the shaft to adjust the table, and means for adjusting the table laterally, substantially as described.

9. The combination with the sheet-supporting table, of front guides mounted independently and resting against the front of the table or pile and mechanism for adjusting the table forward or back, substantially as described.

10. The combination with sheet-separating devices of a vertically-movable table for presenting a pile of sheets thereto, devices for adjusting said table laterally in one direction, devices for adjusting said table laterally in the opposite direction, and a single manually-operated device for operating said adjusting devices, substantially as described.

808,020. AUTOMATIC LIQUID-MEASURE. THOMAS A. DAVIS, Findlay, Ill., assignor of one-half to Charles Bevarley Davis, Todds Point township, Ill. Filed Sept. 21, 1905. Serial No. 279,558.

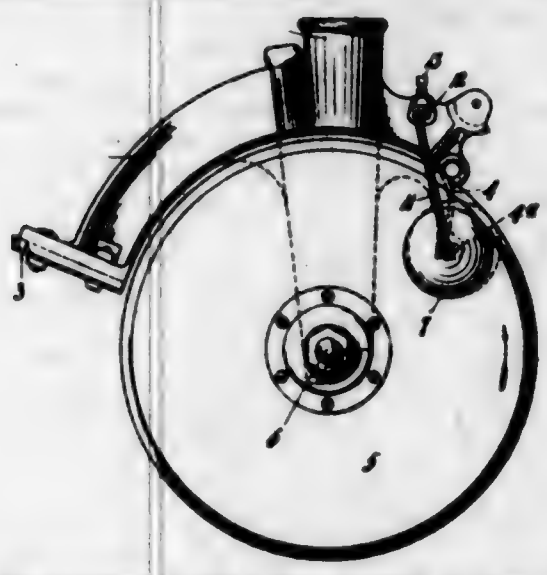


Claim.—The herein-described automatic liquid-measure consisting of the jacket-pipe A with the lateral pipes O, P N and M, the core B with its openings F, G and *g*, as combined with the lever I and with the key W, and the nut H; the measuring-pans J and K with the gages L L and the air-vents R all substantially as set forth, for the purpose specified.

808,021. SCRAPER FOR DISK DRILLS. SPENCER B. DAVIS, Minneapolis, Minn. Filed Sept. 2, 1905. Serial No. 276,908.

Claim.—1. The combination with a disk or wheel, of a segmen-

tal concavo-convex scraper placed with its concaved side toward the face of said disk or wheel and having its edge placed flatwise against the same, substantially as described.



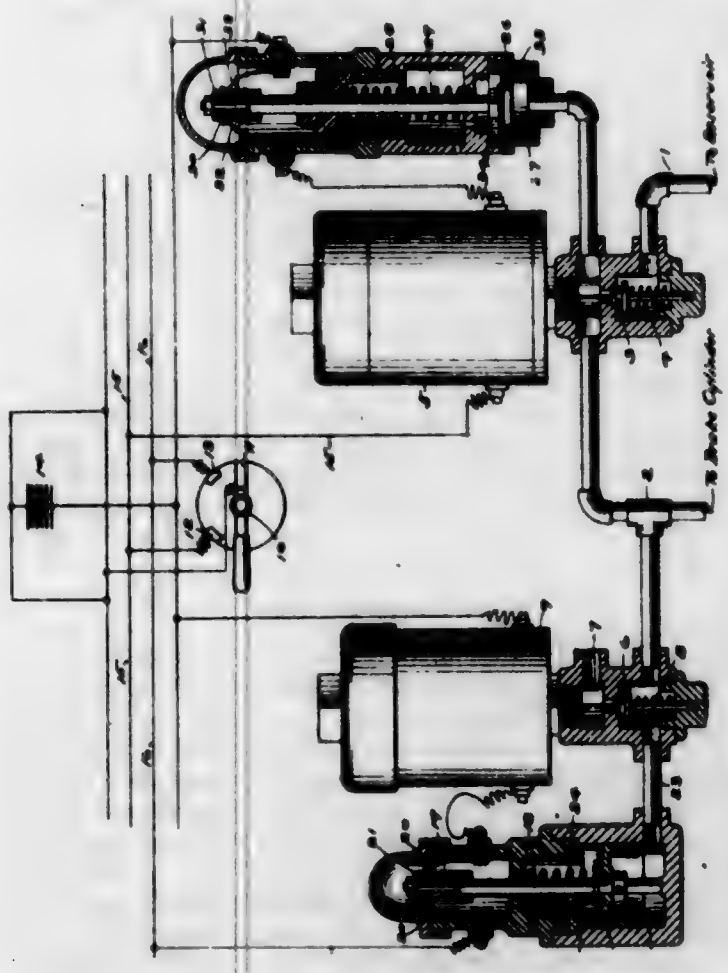
2. The combination with a disk or wheel, of a segmental concavo-convex scraper held against rotation, set with its concave side toward the face of said disk or wheel and with its edge engaged flatwise therewith, substantially as described.

3. The combination with a seed-boot, and a pair of disks journaled thereto, of a pair of spring-pressed plungers mounted between said disks and supported by said boot, and scrapers applied to the ends of said plungers and yieldingly pressed against the inner faces of said disks, substantially as described.

4. The combination with a seed-boot and a pair of disks journaled thereto, of a pair of spring-pressed plungers mounted between said disks and supported by said boot, and a pair of concavo-convex scrapers mounted on the ends of said plungers and yieldingly pressed against the inner faces of said disks, substantially as described.

5. The combination with a seed-boot and a pair of disks journaled thereto, of a pair of spring-pressed plungers located between said disks and supported by the said seed-boot with freedom for endwise movements, of concavo-convex rotary scrapers applied to the outer ends of said plungers, and yieldingly pressed thereby against the inner surfaces of said disks, substantially as described.

808,022. AUTOMATIC CUT-OUT FOR ELECTROPNEUMATIC BRAKES. EDWARD H. DEWSON, Edgewood Park, Pa., assignor to The Westinghouse Air Brake Co., Pittsburg, Pa. Filed Apr. 19, 1905. Serial No. 256,469.



Claim.—1. In a fluid-pressure brake, the combination with an electrically-operated brake-cylinder release-valve and a circuit for controlling said valve, of means operating automatically to prevent the flow of current in said circuit when the brakes are not in action.

2. In a fluid-pressure brake, the combination with an electric circuit and a brake-cylinder release-valve controlled thereby, of means operated by the depletion of brake-cylinder pressure for interrupting said circuit.

3. In a fluid-pressure brake, the combination with a normally closed valve for controlling the brake-cylinder exhaust, an electromagnet for opening said valve, and a circuit including said magnet, of an automatic cut-out switch for said circuit, and means governed by brake-cylinder pressure for operating said cut-out.

4. In a fluid-pressure brake, the combination with a normally closed valve for controlling the brake-cylinder exhaust, an electromagnet for opening said valve, and a circuit including said magnet, of means operated by the depletion of brake-cylinder pressure for interrupting said circuit.

5. In a fluid-pressure brake, the combination with a normally closed valve for controlling the brake-cylinder exhaust, an electromagnet for opening said valve, and an electric circuit and controlling switch for governing said magnet, of an automatic switch for said circuit, a piston operated by brake-cylinder pressure for closing said automatic switch, and means acting upon depletion of the brake-cylinder pressure to interrupt said circuit.

6. In a fluid-pressure brake, the combination with an electrically-operated brake-cylinder release-valve and a circuit for controlling said valve, of an automatic switch for said circuit, a piston operated by brake-cylinder pressure for closing said switch, and a spring for opening said switch upon depletion of brake-cylinder pressure.

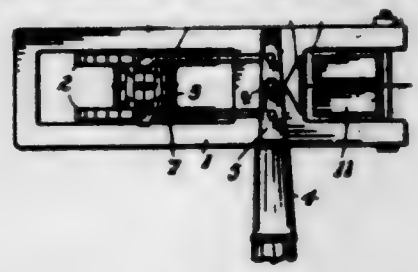
7. In a fluid-pressure brake, the combination with an electrically-operated application-valve for admitting air to the brake-cylinder, and a circuit for controlling said valve, of means operated by the rise in brake-cylinder pressure to a predetermined point for preventing further admission of air to the brake-cylinder.

8. In a fluid-pressure brake, the combination with an electrically-operated application-valve for admitting air to the brake-cylinder, and a circuit for controlling said valve, of means operated by the rise in brake-cylinder pressure to a predetermined point for interrupting said circuit.

9. In a fluid-pressure brake, the combination of a normally closed valve for controlling the supply of air to the brake-cylinder, an electromagnet for opening said valve, an electric circuit and controlling-switch for said magnet, an automatic cut-out switch in said circuit, and means operated by the rise in brake-cylinder pressure to a predetermined point for operating said cut-out.

10. In a fluid-pressure brake, the combination of a normally closed valve for controlling the supply of air to the brake-cylinder, an electromagnet for opening said valve, an electric circuit and controlling-switch for said magnet, an automatic cut-out switch in said circuit, and a piston subject to the opposing pressures of the brake-cylinder and an adjustable spring for operating said cut-out.

808,023. WIRE-FENCE STRETCHER. WASHINGTON M. DILLON, Sterling, Ill. Filed June 10, 1905. Serial No. 264,564.



Claim.—1. A device of the class named, comprising a frame, adapted to be attached to the clamp-bar of the fencing; a pair of similar ratchet-wheels, rotatably mounted in said frame; a chain-drum, fixed between said ratchet-wheels so as to rotate therewith; a chain, engaged at one end by said drum, and adapted to be secured to a fixture at the other end; a pair of ratchet-arms, engaging said pair of ratchet-wheels, and means for actuating said ratchet-arms to alternately rotate the wheels engaged thereby; substantially as shown and described.

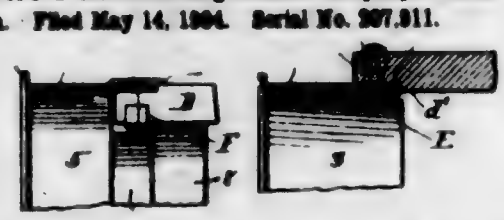
2. In a wire-fence stretcher, the combination of a frame, adapted to be attached to the clamp-bar of the fencing; a pair of similar ratchet-wheels, rotatably mounted in said frame; a chain-drum, fixed between said wheels, so as to rotate therewith; a chain, actuated by

said drum; a lever-head, pivoted on said frame centrally of such head; means for suitably oscillating such head, and means for imparting the movement thereof to said wheels, to alternately rotate the same, substantially as shown and set forth.

5. In a device of the class named the combination of the frame 1, provided with the recess 10, the pair of wheels 2 2, rotatably mounted in said frame; the chain-drum 3, fixed between the wheels 2; the chain 8, engaging the drum 3; the head 5, provided with the recess 6, and pivoted on the upper face of the frame 1; a pair of ratchet-arms 7 7, pivoted at one end in the recess 6, on opposite sides of the pivotal point of the head 5, and engaging the wheels 2 at their other ends; to rotate such wheels; and means for suitably oscillating the head 5, substantially as and for the purpose shown.

4. In a wire-fence stretcher, the combination of the frame 1, adapted to be attached to the clamp-bar of the wire fencing; a pair of ratchet-wheels 2, rotatably mounted in said frame; a chain-drum 3, located between the wheels 2, and rotating therewith; a chain 8, engaging the drum 3; the head 5, pivoted on the frame 1, and provided with the recess 6; a pair of ratchet-arms 7, pivoted in the recess 6, and provided at their free ends with flanges 14, engaging the wheels 2; a block 13, fixed on the frame 1, and limiting the movement of the head 5, and means for suitably oscillating such head; substantially as set forth.

808,024. STRAW-CARRIER. WILLIAM W. DINGEE, Racine, Wis., assignor to J. I. Case Threshing Machine Company, Racine, Wis., a Corporation. Filed May 14, 1904. Serial No. 207,811.



Claim.—1. In a straw-carrier, the combination with the supporting-pulleys; of belts having slat-attaching portions and having pulley-bearing portions extending beyond the slat-attaching portions of the belts, cross-slats and fastenings connecting the ends of said cross-slat to the slat-attaching portions of said belts.

2. A raddle consisting of carrier-belts each having a plane unobstructed pulley-bearing portion comprising the greater part of its width, cross-slats connecting said belts, and fastenings uniting the ends of said cross-slats to the inner portions of the belts.

3. A raddle comprising carrier-belts, connecting cross-slats overlapping the inner portions only of said belts and having cut-away spaces at their ends, within which spaces the edges of the belts set, and suitable fastenings for holding the belts within the cut-away spaces of the slats.

4. A raddle comprising carrier-belts, cross-slats for connecting said belts having cut-away spaces at their ends, within which spaces the edges of the belts set, rivets or bolts passing through the ends of the slats and through those portions of the belts within the cut-away spaces of the slats, and plates upon the inner faces of the belts through which said rivets or bolts also pass.

5. A raddle comprising carrier-belts, cross-slats for connecting said belts having cut-away spaces at their ends, within which spaces the edges of the belts set, and means for holding said slats in position upon the belts comprising metal plates on the inner faces of the belts, U-shaped metal plates upon the outer faces of the slats and rivets or through-bolts connecting said several parts.

6. A raddle comprising side belts and connecting cross-slats, the under face of said slats being cut away at the ends to form shoulders, said belts setting within said cut-away portions and having their edges abutting against said shoulders and said belts having pulley-bearing portions extending beyond the ends of said slats and rivets extending through said belts and the ends of said slats.

7. A raddle comprising side belts and cross-slats overlapping the inner edge portions only of said belts, the under faces of said slats being cut away at the ends to form shoulders against which the edges of said belts abut, metal plates engaging the faces of said belts and said shoulders and rivets extending through said plates, belts and the end of said slats.

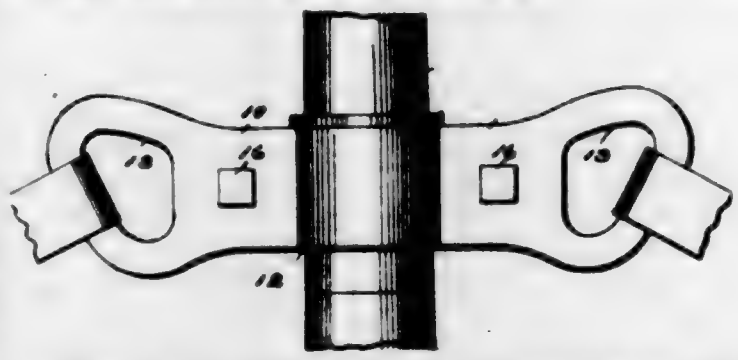
8. A raddle comprising side belts and connecting cross-slats overlapping the inner edge portions of said side belts, metal U-plates extending over the ends of said slats and rivets extending through said U-plates, the ends of said slats and said belts.

9. In a straw-carrier, the combination with the carrier-sections adjustably connected and arranged to extend at an angle to each other, supporting-pulleys at the ends of said sections, upper and lower idler guide-pulleys at the joint between said sections, a raddle extending over said pulleys and comprising side belts and connecting cross-slats fastened to said belts, said belts having pulley-bearing portions extending beyond the ends of said slats and outside of the fastening devices therefor.

10. In a straw-carrier, the combination with the carrier-sections adjustably connected and arranged to extend at an angle to each other, supporting-pulleys at the ends of said sections, upper and lower idler guide-pulleys at the joint between said sections, a raddle extending over said pulleys and comprising side belts and connecting cross-slats fastened to said belts, said belts having pulley-bearing portions extending beyond the ends of said slats and outside of the fastening devices therefor, and said under idler-pulley having a belt-bearing portion located entirely outside of the ends of said slats.

11. In a straw-carrier, the combination with the carrier-sections adjustably connected and arranged to extend at an angle to each other, supporting-pulleys at the ends of said sections, upper and lower idler guide-pulleys at the joint between said sections, a raddle extending over said pulleys and comprising side belts and connecting cross-slats fastened to said belts, said belts having pulley-bearing portions extending beyond the ends of said slats and outside of the fastening devices therefor, and said under idler-pulley having a belt-bearing portion located entirely outside of the ends of said slats, and also having a reduced portion for engaging said slats.

808,025. SAFETY-HOLDBACK. JOSHUA A. DOWNS, Glidden, Iowa. Filed June 17, 1905. Serial No. 265,810.



Claim.—1. In a holdback attachment for carriage-poles, a flat metal bar having a semicircular upward bend at its center and integral links at its ends, and a shorter flat bar having a downward circular bend, coinciding bolt-holes in the two bars and the bars adjustably connected by bolts and nuts.

2. In a holdback attachment for carriage-poles, a flat metal bar having a semicircular upward bend at its center and integral links at its ends and a shorter flat bar having a downward circular bend, coinciding bolt-holes in the two bars and the bars adjustably connected by bolts and nuts and a ferrule having a flange at its front end fitted and fixed on the front ends of a pole.

3. In a holdback attachment for carriage-poles, a flat metal bar having a semicircular upward bend at its center and integral links at its ends and a shorter flat bar having a downward circular bend at its center coinciding bolt-holes in the two bars and the bars adjustably connected by bolts and nuts and a ferrule having a flange fitted and fixed on the front end of the pole and the bars and leather straps connected with the links on the ends of the upper bar and adapted to be detachably connected with collars on horses.

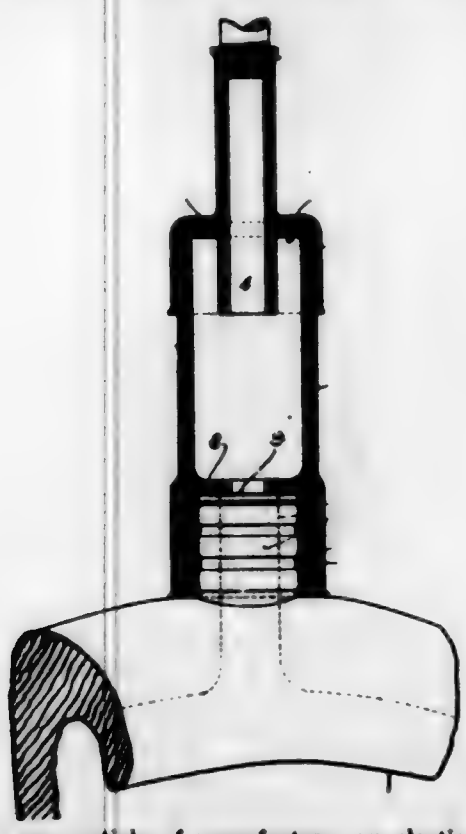
4. A holdback attachment for carriage-poles comprising a flat metal bar having a semicircular upward bend at its center and integral links at its ends and a shorter flat bar having a downward circular bend at its center coinciding bolt-holes in the two bars and the bars adjustably connected by bolts and nuts, a ferrule having a flange fitted and fixed on the front of the pole and leather straps connected with the links on the ends of the upper bar and adapted to be detachably connected with collars on horses, in combination with a carriage-pole, for the purposes stated.

808,026. FLEXIBLE PIPE-JOINT. WILLIAM P. DUNN, Boston, Mass., assignor to Jacob Alexander, Boston, Mass. Filed Mar. 6, 1905. Serial No. 248,422.

Claim.—1. The combination of a metallic water-supply-exit nozzle provided with an integral inclosing metallic flange; and a water-supply conduit of frangible material; with an intermediate elastic coupling fitting tightly within said flange and having an end wall perforated for passage of said metallic nozzle, and also having an interior perforated flange; below which the water-supply conduit fits tightly into the coupling.

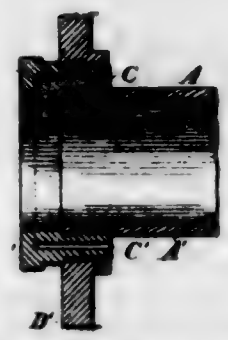
2. The combination of a supply-exit nozzle provided with an in-

tegral inclosing flange of a fluid-supply nozzle having a conduit portion exteriorly roughened; and an intermediate flexible coupling an end of which is exteriorly roughened and fitted within said flange; the coupling having an end wall perforated for passage of said exit-nozzle.



3. As a new article of manufacture, an elastic, lengthwise-chambered coupling having a perforated end wall; an exteriorly-roughened surface adjacent to said end wall; and an interior, elastic, centrally-perforated flange.

808,027. **BOILER-FLUE FASTENING.** LEE BAGBY, Arapaho, Okla., assignor to John Lamond, Arapaho, Okla. Filed Aug. 26, 1904. Serial No. 222,277.



Claim.—A device of the character described, comprising a tubular extension or guard integral with the flue-sheet and a sleeve or nut having screw-threaded connection with said extension or guard upon the interior of the latter and having corresponding connection with the flue upon its exterior.

808,028. **FASTENER FOR SHOE-UPPERS.** WARREN E. ELLIS, Haverhill, Mass., assignor to Ellis Lacer Company, a Corporation of Maine. Filed Dec. 10, 1903. Serial No. 184,600.



Claim.—1. A detachable shoe-fastener comprising two members each having hooked fingers adapted to engage the eyelets of a shoe, and a connecting member hinged at one end to one of said first-named members and between its ends to the other member, said connecting member being formed to provide means for retaining the parts of the fastener in their closed position.

2. A detachable shoe-fastener comprising two members each composed of a longitudinal portion and laterally-extending portions provided with hooked fingers adapted to engage the eyelets of a shoe, in combination with a connecting member hinged at one end to one of said longitudinal portions and between its ends to the other longitudinal portion, substantially as described.

3. A shoe-fastening device comprising two members, each having hooked fingers adapted to detachably engage the eyelets of a shoe and means connecting said members and constructed to positively draw them toward each other and retain them in their closed position, and to positively separate said members.

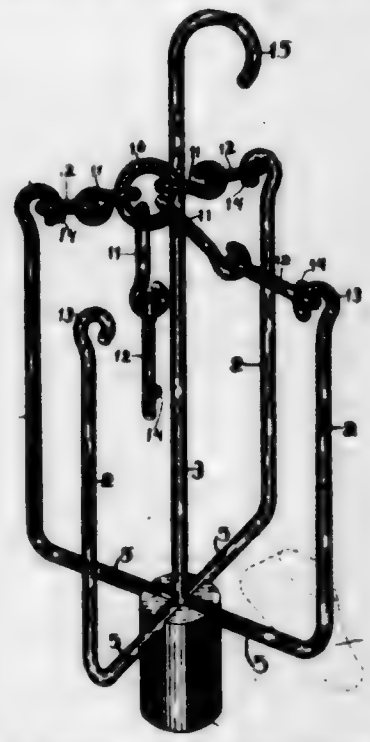
4. A shoe-fastener comprising two members, each having hooked fingers adapted to engage the eyelets of a shoe, and a locking member having pivotal connection with each of said members.

5. A shoe-fastener comprising two members, each having hooked fingers adapted to engage the eyelets of a shoe, and a locking member pivoted at its end to one of the members and intermediate its ends to the other member.

6. A shoe-fastening device comprising two members having hook-shaped arms adapted to engage the eyelets of a shoe, and a locking-lever having such a pivotal connection with each of said members that when the members are closed they are automatically locked.

7. A shoe-fastening device comprising two members each having hooked fingers adapted to engage the eyelets of a shoe, and an intermediate member having pivotal connection with each of said first-named members, said intermediate member being constructed to be manually operated and operating to positively draw said first-named members toward each other or to positively separate said members according to the direction in which the intermediate member is moved.

808,029. **HOLDER FOR SHOE-UPPERS.** WARREN E. ELLIS, Haverhill, Mass., assignor to Ellis Lacer Company, a Corporation of Maine. Filed May 26, 1904. Renewed July 22, 1905. Serial No. 270,596.



Claim.—1. A device of the character described, comprising a plurality of upright rods and a central rod, said rods being connected together at their lower ends, and means for detachably connecting the central rod with the upper portion of each of the other rods.

2. A device of the character described, comprising a base-piece, a central rod extending upward therefrom, a plurality of upright rods each having at its lower end an inwardly-extending portion connected to said base-piece, and means for detachably connecting the central rod with the upper portion of each of said upright rods.

3. A device of the character described, comprising a base-piece provided at its upper end with a plurality of radial grooves and with a downwardly-extending recess at the inner end of each groove, and a plurality of upright rods each provided at its lower end with an inwardly-extending portion located in one of said grooves and having a downwardly-turned free end held in the corresponding recess.

4. A device of the character described, comprising a base-piece having radial grooves in its upper end, a plurality of upright rods each having at its lower end an inwardly-extending portion held in one of said grooves, a central rod secured at its lower end to said base-piece, and means for detachably connecting said central rod with the upper portion of each of the upright rods.

5. A device of the character described, comprising a base-piece provided at its upper end with a plurality of radial grooves and

with a downwardly-extending recess at the inner end of each groove, a plurality of upright rods each having at its lower end an inwardly-extending portion held in one of said grooves and turned downward at its free end to enter the corresponding recess, a central rod having its lower end held between said downwardly-turned ends by a driving fit, and means for detachably connecting said central rod with the upper portion of each of the upright rods.

6. A device of the character described, comprising a base-piece, a central rod extending upward therefrom, a plurality of upright rods 2 carried by said base-piece and each having an eye at its free upper end, and means for detachably connecting said central rod with each of the rods 2, consisting of links each hinged at one end to the central rod and provided at its other end with an eye-engaging hook.

7. A device of the character described, comprising a base-piece, a central rod extending upward therefrom, a plurality of upright rods 2 carried by said base-piece and each having an eye at its free upper end, and means for detachably connecting said central rod with each of the rods 2, consisting of links each hinged at one end to the central rod and at its other end to an eye-engaging hook having a laterally-turned free end.

8. A device of the character described, comprising a base-piece, a central rod extending upward therefrom, said rod being provided at its upper end with a hook and below said hook with a loop, a plurality of upright rods 2 carried by said base-piece and each having an eye at its free upper end, and a corresponding number of links each hinged at one end to said loop and at its other end to an eye-engaging hook having a laterally-turned free end.

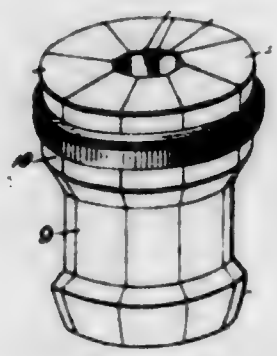
9. A device of the character described, comprising a base-piece, a plurality of rods extending upward therefrom, one of said rods being provided at its upper end with means for suspending the device, and links for detachably connecting the latter rod with the upper portion of each of the other rods, independently of one another.

10. A device of the character described, comprising a base-piece, a central rod and a plurality of other rods carried by the base-piece, said central rod being provided with means for suspending the device, and links carried by the central rod for detachably connecting the same with each of the other rods, independently of one another.

11. A device of the character described, comprising a base-piece and a plurality of rods extending upward therefrom, one of said rods being provided at its upper end with a hook and below said hook with a number of links each provided at its free end with means for detachably engaging one of the other rods.

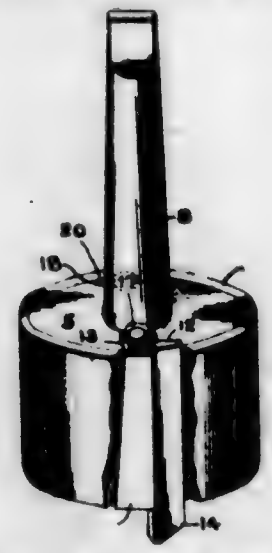
12. A device of the character described, comprising a base-piece, a plurality of rods extending upward therefrom, one of said rods being provided at its upper end with a hook and below said hook with a loop, and a number of links each carried at one end by said loop and formed at its free end to detachably engage one of the other rods.

808,030. **FLUE OR TUBE EXPANDER.** JOHN W. FARRELER, Moberly, Mo. Filed Mar. 3, 1904. Serial No. 196,444.



Claim.—In a flue-expander, the combination with a plurality of segmental jaws radially arranged to form a cylindrical body, there being coinciding notches formed in the outer face of each jaw so as to form a continuous groove in the cylindrical body, there being an abrupt shoulder formed in the outer face of the cylindrical body, and there being a rib formed on the outer face of the lower end of the cylindrical body, and there being inclined faces formed on the inner sides of each segmental jaw so as to form a tapered aperture through the cylindrical body, of a heavy rubber ring seated and embedded more than one-half its thickness in the continuous groove in the cylindrical body to yieldingly maintain the jaws together and form a stop to limit the entrance of the expander into the flue, and the tapered core adapted to be inserted in the cylinder, and being provided with corresponding flat faces to fit the flat faces on the interior of the tapered aperture in the cylindrical body; substantially as specified.

808,031. **CUTTER FOR FLUE-SHEETS AND THE LIKE.** JOHN W. FARRELER, Moberly, Mo. Filed Aug. 25, 1904. Serial No. 222,173.



Claim.—In a cutter for flue-sheets and the like, a cylindrical head, a shank integral with said head and projecting upwardly therefrom, and there being a centrally-arranged bore formed in said head and there being vertically-arranged key-seats and tool-seats formed in the periphery of said head on opposite sides thereof, tools arranged in said tool-seats, keys arranged in the key-seats, screw-threaded stems for said keys, a ring tightly fitted upon the head and the tools and keys, and nuts engaged upon the said screw-threaded stems, which nuts overlie the edges of said ring, substantially as specified.

808,032. **FLUE-EXPANDER.** JOHN W. FARRELER, Moberly, Mo. Filed Apr. 10, 1905. Serial No. 254,781.



Claim.—1. In a flue-expander, the combination with a handle, a slotted mandrel integral therewith, of jaws loosely arranged in the slot within the mandrel which jaws are formed with inclined inner faces and being provided with abrupt inclined shoulders on their outer faces, lugs integral with the outer ends of the outer faces of said jaws, and a wedge positioned between the jaws for moving them outwardly; substantially as specified.

2. In a flue-expander, a handle, through which is formed a longitudinally-extending aperture, a slotted mandrel integral with said handle, a pair of jaws arranged in said slotted mandrel, a heavy rubber ring encircling the rear end of the slotted mandrel and the rear ends of the jaws, a wedge positioned between said jaws, and a shank integral with said wedge and extending through the aperture in the handle; substantially as specified.

3. In a flue-expander, the combination with a handle through which is formed a longitudinally-extending aperture, a slotted mandrel integral with said handle, of a pair of jaws arranged in the slotted mandrel, a heavy rubber ring passing around the rear end of the mandrel and the rear ends of the jaws, there being abrupt inclined shoulders formed on the outer faces of the jaws, outwardly-projecting lugs formed integral with the ends of the jaws, a wedge positioned between said jaws, and a shank integral with said wedge and extending through the aperture in the handle; substantially as specified.

808,033. **FIRE-KINDLER.** ERASTUS M. FLYNN, Lebanon, Mo. Filed Sept. 11, 1905. Serial No. 278,001.

Claim.—1. A composition of matter for absorbent fire-kindlers consisting of asbestos cement, fire-clay, diamond-dust and black-lead.

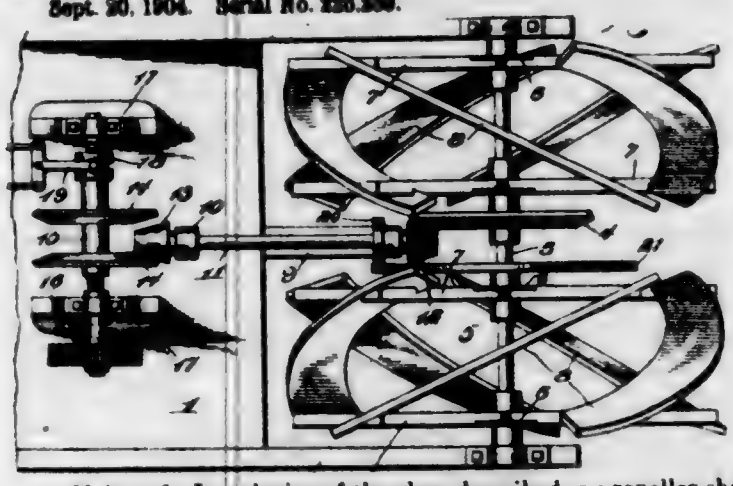
2. A composition of matter for absorbent fire-kindlers consist-

ing of equal parts of asbestos cement, fire-clay, diamond-dust and black-lead.



3. A perforated absorbent block for fire-kindlers formed of equal parts of asbestos cement, fire-clay, diamond-dust and black-lead, the same being mixed with water and subsequently molded into block form and dried or baked.

808,034. **PROPELLER.** JOHN C. FRANKLIN, Gallatin, Tenn. Filed Sept. 20, 1904. Serial No. 225,259.



Claim.—1. In a device of the class described, a propeller-shaft provided with blades, a gear carried by the shaft, a drive-shaft having a pinion in mesh with said gear, and coöperating bearing members fixed respectively on said shafts and acting to maintain the gear positively in mesh with pinion.

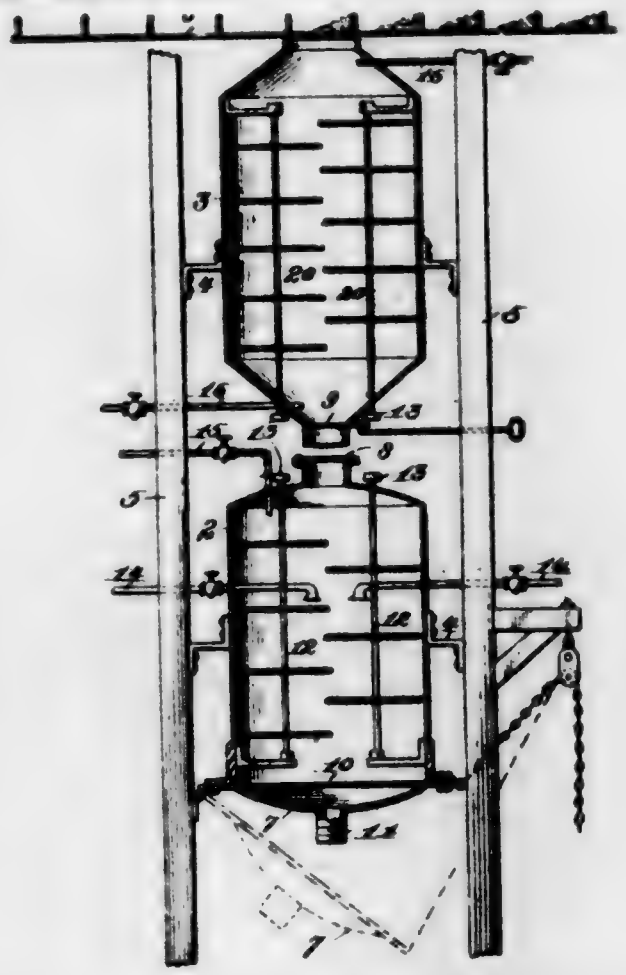
2. In a device of the class described, a propeller-shaft provided with blades, a gear carried by the shaft, a drive-shaft having a pinion in mesh with said gear, a bearing-disk fixed upon the propeller-shaft, and a bearing-head on the drive-shaft designed to coöperate with said disk for maintaining the pinion positively in mesh with the gear.

3. In a device of the class described, a driven shaft provided with a gear, a drive-shaft having a pinion in mesh with said gear, and coöperating bearing members disposed respectively on said shafts and acting to maintain the pinion positively in mesh with the gear.

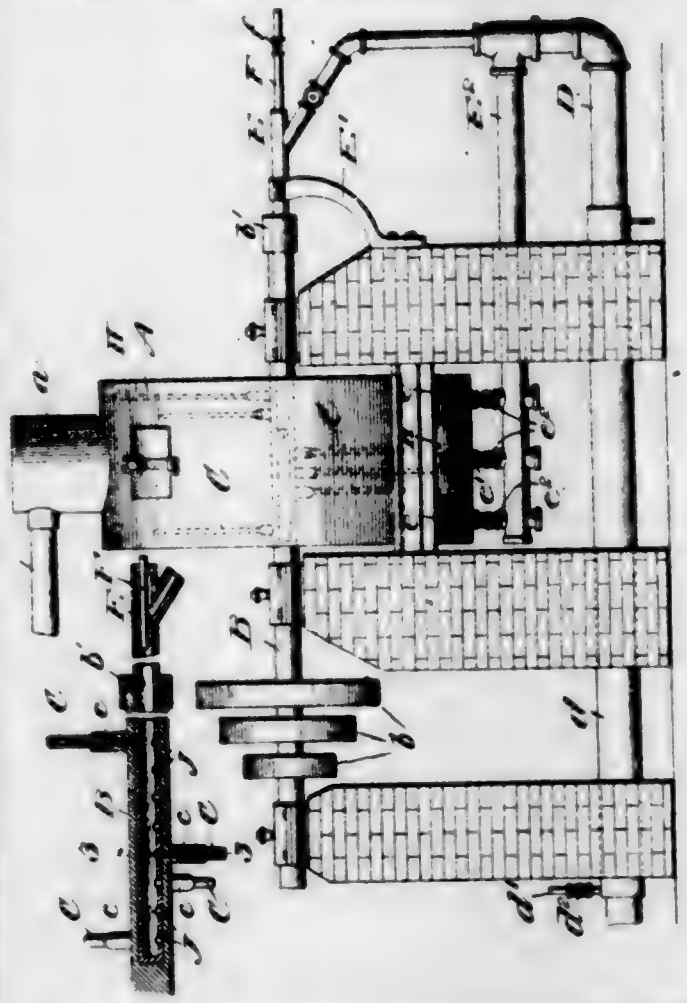
808,035. **APPARATUS FOR EXTRACTING TURPENTINE FROM WOOD.** JOSHUA G. GARDNER, Jacksonville, Fla., assignor to Pure White Turpentine Company, Jacksonville, Fla., a Corporation of Florida. Original application filed Mar. 11, 1905, Serial No. 249,648. Divided and this application filed Apr. 12, 1905. Serial No. 255,160.

Claim.—1. An apparatus of the class described involving a vertically-disposed vessel having a drop-down door provided with a perforated plate, the door and plate being separated to provide a steam-chamber, the door having an outlet for vapors and the plate serving to sustain a mass of sawdust or ground wood in the retort, means for directing steam in a downward direction through the retort, and means in the vessel for positively opening up paths for the steam.

2. An apparatus of the class described involving a vessel provided with an outlet for vapors and a perforated plate to support the sawdust or ground-wood mass in the vessel, the plate serving to prevent the passage of the sawdust or ground wood into the outlet, means for directing steam downwardly through the mass and through said plate into the outlet, and means in the vessel for opening up paths for the steam.



808,036. **APPARATUS FOR MAKING SMOKELESS POWDER.** GEORGE W. GENTIEU and ROBERT S. WADDELL, Peoria, Ill. Filed Aug. 14, 1905. Serial No. 274,195.



Claim.—1. In a machine for the manufacture of an explosive material, the combination with a receptacle, of a rotatable hollow

shaft extending therethrough and provided with a plurality of hollow radial arms communicating with the interior of said shaft, a stationary pipe extending within said shaft and provided on its lower side with ports adapted to communicate with said hollow arms, substantially as described.

2. In a machine for the manufacture of an explosive material, the combination with a receptacle, of rotating stirring devices located therein, means for introducing compressed air into said stirring devices and discharging it therefrom adjacent to the bottom of the receptacle, and means for introducing a liquid into said stirring devices, with the compressed air and discharging it therewith adjacent to the bottom of the receptacle, substantially as described.

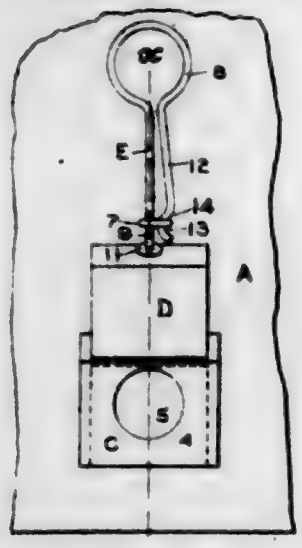
3. In a machine for the manufacture of an explosive material, the combination with a receptacle, of rotating stirring devices located therein, means for introducing compressed air into said stirring devices and discharging it therefrom adjacent to the bottom of the receptacle, means for introducing a liquid into said stirring devices with the compressed air and discharging it therewith adjacent to the bottom of the receptacle, a controlling-valve for said liquid, and a heating device for heating the compressed air before it enters said receptacle, whereby the supply of liquid may be cut off and heated air under pressure may be passed through the material to remove surplus liquid, substantially as described.

4. In an apparatus for the manufacture of an explosive, the combination with a receptacle or tank, a hollow rotatable shaft passing therethrough and provided within said receptacle with a plurality of hollow arms communicating with the interior of said shaft, a stationary compressed-air pipe fitting within said hollow shaft, and provided with ports on its lower side adapted to register with said hollow arms, a liquid-supply pipe extending into and discharging within the said air-pipe, and means for controlling the supply of liquid through said pipe, substantially as described.

5. In an apparatus for the manufacture of an explosive, the combination with a receptacle or tank, a hollow rotatable shaft passing therethrough and provided within said receptacle with a plurality of hollow arms communicating with the interior of said shaft, a stationary compressed-air pipe fitting within said hollow shaft, and provided with ports on its lower side adapted to register with said hollow arms, a liquid-supply pipe extending into and discharging within the said air-pipe, a valve for controlling said liquid-pipe and a heater for heating the compressed air, substantially as described.

6. In an apparatus for the manufacture of an explosive, the combination with a receptacle or tank, a hollow rotatable shaft passing therethrough and provided within said receptacle with a plurality of hollow arms communicating with the interior of said shaft, a stationary compressed-air pipe fitting within said hollow shaft, and provided with ports on its lower side, adapted to register with said hollow arms, a liquid-supply pipe extending into and discharging within said air-pipe, a valve for controlling said liquid-pipe, a series of nozzles discharging into the said receptacle adjacent to the bottom thereof, a pipe for supplying compressed air thereto, a supply-pipe for supplying compressed air to said hollow arms and to said nozzles, and a steam-jacket surrounding said supply-pipe for heating the compressed air, substantially as described.

808,037. **VALVE FOR OUTLET-PORTS.** HANS L. GILBERTSON, St Paul, Minn. Filed June 30, 1904. Serial No. 213,270.



Claim.—1. The combination, with a vessel having a lateral outlet-port, of a tubular wedge-shaped valve-seat having an opening in its rear wall registering with the port, a wedge-shaped plug seating therein, a guide arranged above the outlet-port, and a handle for the plug having sliding engagement with the guide and comprising two spring-connected portions, a plug-supporting portion, and a locking portion, the locking portion being bent near the bottom into position to engage and be intercepted by the guide, whereby the plug is held in lifted position.

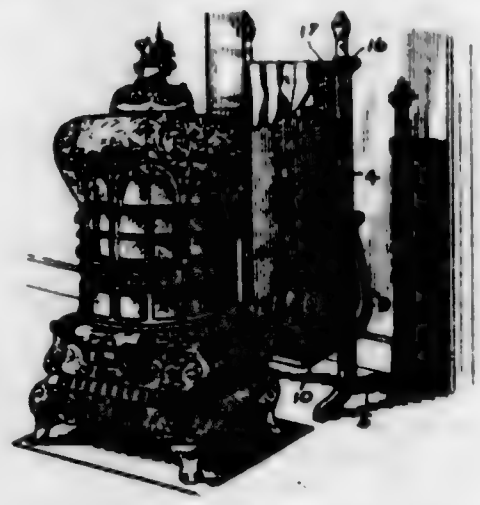
2. The combination, with a vessel having a lateral outlet-port, of a tubular wedge-shaped valve-seat and a plug seating therein, a guide-loop arranged above the port, and a handle for the plug having sliding engagement with the guide-loop and consisting of a piece of wire bent upon itself to form a spring-loop, one portion of the wire passing down and supporting the plug, and the other portion being bent at the end into position to engage and interlock with the guide-loop when the plug is raised.

3. The combination, with a vessel having a lateral outlet-port, of a tubular wedge-shaped valve-seat having an opening in its rear wall registering with the port, a wedge-shaped plug slidable therein, a guide carried by the vessel above the port, a handle for the plug having sliding engagement with the guide and having means for automatically interlocking with the guide when raised to hold the plug in lifted position.

4. The combination, with a vessel having a lateral outlet-port, of a tubular wedge-shaped valve-seat and a wedge-shaped plug seating therein, a guide-loop secured upon the vessel above the valve-seat, and a handle for the plug comprising two spring-connected portions, a plug-supporting portion and a locking portion, both of said portions passing through the guide-loop, the locking portion being held normally in outsprung position but being forced inwardly in passing through the loop, said locking portion having at the bottom an inwardly-bent hook in position to spring into locking engagement with the guide-loop when the plug is raised.

5. The combination, with a vessel having a lateral outlet-port, of a tubular wedge-shaped valve-seat and a plug seating therein, a guide-loop arranged above the port, and a handle for the plug consisting of a piece of wire bent upon itself to form a spring-loop at the top, one portion of the wire passing down and supporting the plug and the other portion being sprung divergently therefrom and being formed with a hook to interlock with the guide-loop, both portions of the wire passing through the guide-loop, for the purpose set forth.

808,038. **STOVE-SCREEN.** HARVEY J. GOBLE, Winamac, Ind. Filed Apr. 4, 1905. Serial No. 253,811.



Claim.—1. A stove-screen having a body portion terminating above the floor, arms hinged to the body at their upper ends, a shelf having arms which are hinged to the lower ends of said first arms whereby the shelf when moved into a horizontal position may be pushed under the screen into a forward position of the screen, and means for locking the shelf in this last position.

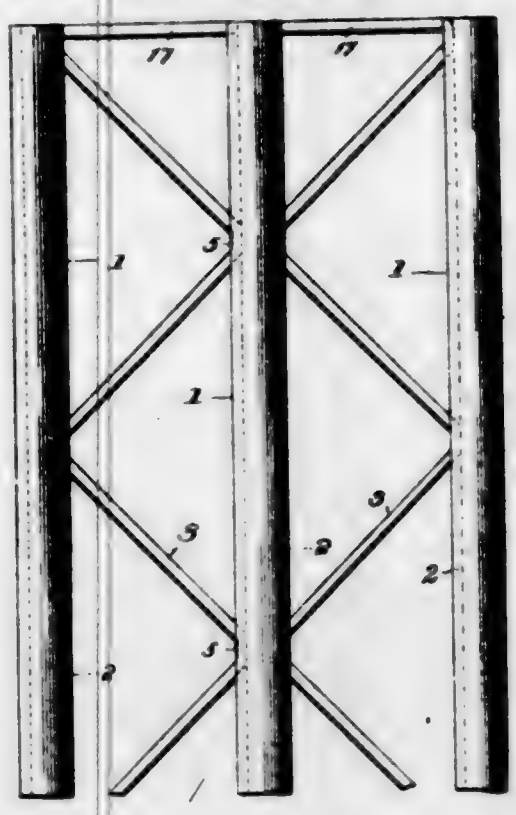
2. A stove-screen having a body covered with a suitable radiating material, arms hinged at their upper ends to the back of said body, a shelf having arms hinged to the lower ends of said first arms and adapted to be swung under the body so as to project in front of the latter, extensions on said shelf-arms and lugs on said first arms to engage the extensions of the shelf-arms to limit the swinging adjustment of the shelf with relation to said first arms, and a catch to lock the shelf in its horizontal position.

3. In a fire-screen, a pair of posts having feet extensions, a body connecting said posts and terminating at its lower end at a suitable distance above the floor, said body having a cover of metal on its front side, arms hinged at their upper ends to the back of the screen,

a shelf hinged to the arms and adapted to be folded into approximately a vertical closed position and opened to a horizontal position and then moved under the body of the screen so as to project in front of said body, said body having raised edges to form a catch-basin, and means for holding the shelf in its horizontal open position.

4. A stove-screen having parallel posts, a body portion connecting said posts, ears extending to the rear from the top of said posts, and a rod having cranked ends hinged in perforations of said ears whereby the body of the rod may be folded over the top of the screen so as to project in front of the latter.

808,039. METAL FABRIC FOR USE IN CONCRETE AND OTHER PURPOSES. JOHN F. GOLDING, Washington, D. C., assignor to Monolith Steel Company, Incorporated, a Corporation of Virginia. Filed Feb. 20, 1905. Serial No. 246,606.



Claim.—1. A metal, open-work fabric, which consists of strips or rods, and continuously-grooved bars arranged within and between the edges of the fabric, said rods being rigidly held at suitable points in said grooves by the metal of the grooved bars being upset or compressed onto the sides of the rods, substantially as set forth.

2. A metal, open-work fabric, which consists of continuously-grooved bars, and strips or rods extending between and connecting the grooved bars, said rods being continuous so as to extend back and forth between the bars from one end of the fabric toward the other, and the rods being held at suitable points in said grooves by the metal of the grooved bars being upset and compressed against the sides of the rods, substantially as and for the purposes set forth.

3. In a concrete or the like construction a strengthening, metal, open-work fabric which consists of continuously-grooved bars and strips or rods connecting said bars and held in the grooves, said rods being continuous so as to extend back and forth between the bars from one end of the fabric toward the other, and being held in said grooves by the metal of the grooved bars being upset and compressed against the sides of the rods, substantially as and for the purposes set forth.

4. A metal open-work fabric, which consists of continuously-grooved bars and a continuous bent rod or strip which engages both of said bars at various points of their length, entering the grooves and rigidly held therein by the compression of the metal of the bars onto the sides of the rod or strip, substantially as set forth.

5. A metal, open-work fabric, for use in concrete or other purposes, which consists of bars grooved on their opposite sides and connecting members or rods passing from one bar to another and entering said grooves, the metal of said bars being swaged, bent or pressed onto the entering portions of said rods to hold the same securely, substantially as set forth.

6. In an open metal-work fabric for use in concrete and other purposes, the combination of bars having relatively heavy main bodies and formed with opposing lips extending outward from and beyond said main bodies, and lighter rods or members connecting said bars and having portions inserted between said lips, the lips being pressed upon such portions of the lighter members and firmly holding and securing them.

7. A metal, open-work fabric, which consists of strips or rods, and continuously-grooved continuous bars, portions of the strips lying within the grooves of the bars, the metal of the bars being upset or compressed onto the strips and the edges of the bars being bent partially over or around the said portions of the strips, substantially as set forth.

8. A metal, open-work fabric, which consists of strips or rods, and continuously-grooved bars, said strips being bent and having portions which extend longitudinally in the grooves of the bars, the metal of the bars being upset or compressed onto the strips and the edges of the two being bent partially over or around the longitudinal portions of the strips, substantially as set forth.

9. A metal, open-work fabric, which consists of strips or rods, and continuously-grooved and twisted bars, said strips extending from one bar to another and entering the grooves at suitable points, and the metal of the bars being upset or compressed onto the strip.

10. A metal, open-work fabric which consists of alternating thick and thin members, the thick members having grooves, the thin members having portions inserted in said grooves, and the metal of the thick members being upset and compressed onto said portions of the said thin members, substantially as set forth.

11. A metal, open-work fabric for use in concrete and other purposes, which consists of strips or rods, and longitudinal continuously-grooved bars of greater tensile strength than said rods and adapted to serve as tension-bars, the said rods being secured in the grooves of the bars by causing the lips of said grooves to be forced closer together, as described.

12. A metal open-work fabric for use in concrete and other purposes, which consists of strips or rods, and intermediate continuously-grooved bars rigidly uniting such strips or rods by means of said grooves, substantially as set forth.

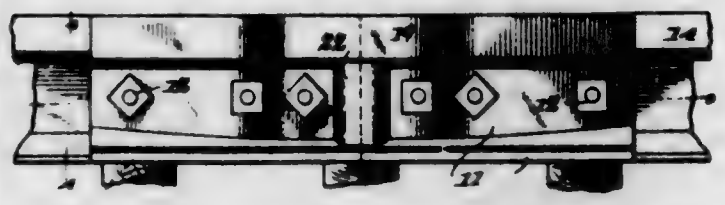
13. A metal open-work fabric for use in concrete and other purposes, which consists of continuously-grooved bars, and continuous rods which are bent and extend back and forth between and connect the bars, said rods being also bent laterally at 19 to enter the grooves of the bars, the metal of the bars being upset or compressed onto the sides of the rods, substantially as set forth.

14. A metal open-work fabric for use in concrete and other purposes, which consists of grooved bars, and rods extending from one bar to another and into the grooves of the bars, the webs 15 of the bars being permanently upset to cause the walls of the grooves to press strongly and securely on the sides of the rods, substantially as set forth.

15. A metal open-work fabric for use in concrete and other purposes, consisting of the rods, and continuously-grooved bars engaging the rods, wherein the web 15 of the bar, which connects the lips formed by the groove, has a holding strength, when said lips are applied to the sides of the rod as described, substantially equal to the elastic limit of the rod, as and for the purposes set forth.

16. The combination of the bars having relatively heavy main bodies and formed with opposing lips extending outward from and beyond said main bodies, lighter rods or members connecting said bars and having portions inserted between said lips, the lips being pressed upon such portions of the lighter members and firmly holding and securing them, and a body of concrete in which said bars are embedded, the concrete entering between said lips and being locked thereby against strains transverse to the bar, substantially as set forth.

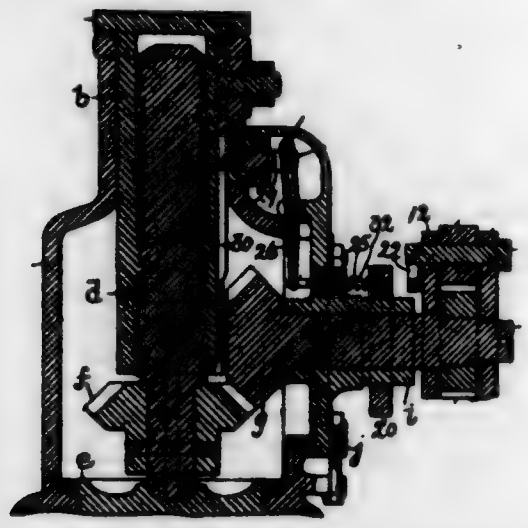
808,040. RAILWAY-RAIL JOINT. JAMES S. GOODWIN, Centralia, Wash. Filed May 19, 1904. Renewed Oct. 6, 1905. Serial No. 281,679.



Claim.—In a rail-joint, the combination with the rails, of combined clamping and supporting plates bolted to the opposite sides of the rails for securing them together and having enlarged central portions and tapering toward the ends, one of said plates having a laterally-extending head engaging the side faces of the rail-heads and in transverse alinement with the rail-treads in position to be engaged by the treads of the car-wheels, said plates having laterally-extended flanges their whole length for engagement with the tie-flanges of the

rails and the adjacent portions of the ties and with an integral central brace between the widened head and the adjacent laterally-extended tie-flange-engaging portion.

808,041. LIFTING-JACK. FRANK L. GORSLEY, Costicook, Canada, assignor to Arthur O. Norton, Costicook, Canada. Filed Apr. 24, 1905. Serial No. 257,103.



Claim.—1. In a lifting-jack, in combination, a hollow movable member provided with a longitudinally-extended slot on its exterior and with screw-threads on its interior, a threaded shaft coöperating therewith, a driving-shaft for said threaded shaft, gearing connecting said shafts, a ratchet-wheel fast on said driving-shaft, a pallet-bar provided with pawls coöperating with said ratchet-wheel, an arm extended from said pallet-bar, a cam-disk coöperating with said arm and normally out of the path of movement thereof, a rod attached to said cam-disk, a lever connected to said rod, and a sliding dog connected with said lever and extended into the longitudinal slot of said movable member, substantially as described.

2. In a lifting-jack, in combination, a movable member, mechanism for effecting movement of said member, said mechanism including a ratchet-wheel and a pawl coöperating therewith, a cam to effect disengagement of said pawl from said ratchet-wheel, and mechanism under control of the said movable member for operatively positioning said cam, substantially as described.

3. In a lifting-jack, in combination, a stationary member, a movable member, actuating mechanism to move said movable member with relation to said stationary member including a ratchet-wheel and a pawl coöperating therewith, and means rendered effective by said movable member for automatically disconnecting said pawl from said ratchet-wheel when said movable member has reached a predetermined position with relation to said stationary member, substantially as described.

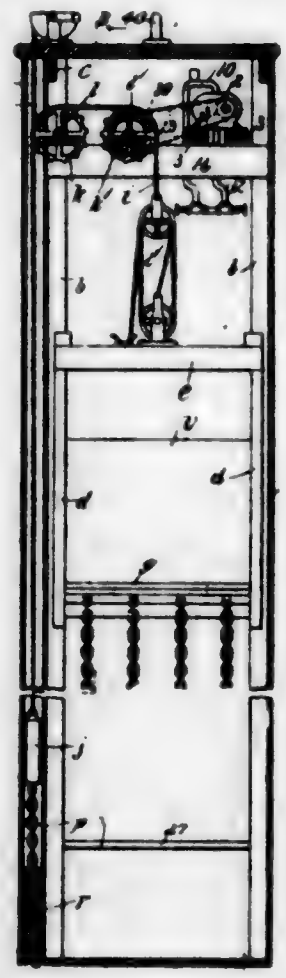
808,042. PACKAGE-CARRIER. OVID M. GOULD, Montreal, Canada. Filed Feb. 5, 1904. Serial No. 192,157.

Claim.—1. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise.

2. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

3. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for retarding the descent of the car.

4. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and adjustable means for controlling the speed of movement of the car.



5. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

6. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop, and means for retarding the descent of the car.

7. In a carrier comprising a portable frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

8. In a carrier comprising a portable frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise

reaches the end of its downward travel, and means for retarding the descent of the car.

9. In a carrier comprising a portable frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, adjustable means for retarding the descent of the car, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

10. In a carrier comprising a frame closed in to form a chute and having an intake-port at one side of its upper end, and outlet-port at the opposite side of its lower end, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel.

11. In a carrier comprising a frame closed in to form a chute and having an intake-port at one side of its upper end, and an outlet-port at the opposite side of its lower end, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

12. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a series of chains suspended from the under side of the car, a second series of chains suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said chains when said car or counterpoise reaches the end of its downward travel, and means for adjusting said supporting means to different levels for the purpose of varying the level at which the car will stop.

13. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other, the combination with said car and counterpoise, of a series of chains suspended from the under side of the car, and a second series of chains suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said chains when said car or counterpoise reaches the end of its downward travel, and means for retarding the descent of the car.

14. In a carrier comprising a frame, a car, and a counterpoise, said car and counterpoise being guided in said frame, and one being suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended upon the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise, a platform extending across the lower portion of the frame and in the paths of the flexible weights upon said car and counterpoise and adapted to receive and support said flexible weights when said car or counterpoise reaches the end of its downward travel, and means for adjusting said platform to different levels for the purpose of varying the level at which the car will stop.

15. In a carrier comprising a frame, a car, and a counterpoise, said car and counterpoise being guided in said frame, and one being suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended upon the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise, a platform extending across the lower portion of the frame and in the paths of the flexible weights upon said car and counterpoise and adapted to receive and support said flexible weights when said car or counterpoise reaches the end of its downward travel said platform having sides to constitute a receptacle and means for adjusting said platform to different levels for the purpose of varying the level at which the car will stop.

16. In a carrier comprising a frame, a car, and a counterpoise, said car and counterpoise being guided in said frame, and one being suspended upon the other, the combination with said car and counterpoise, of a flexible weight suspended upon the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise, a platform extending across the lower portion of the frame and in the paths of the flexible weights upon said car and counterpoise and adapted to receive and support said flexible weights when said car or counterpoise reaches the end of its downward travel, a windlass at the top of the chute and a series of ropes connecting said windlass to said receptacle for adjusting said platform to different levels for the purpose of varying the level at which the car will stop.

17. In a carrier comprising a frame, a car and a counterpoise guided in said frame and one suspended upon the other by means of a flexible connection variable in length the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise.

18. In a carrier comprising a frame closed in to form a chute and having an intake-port at one side of its upper end, and outlet-port at the opposite side of its lower end, a car and a counterpoise guided in said frame and one suspended upon the other by means of a flexible connection variable in length, the combination with said car and counterpoise, of a flexible weight suspended from the under side of the car, and a second flexible weight suspended from and constituting a portion of the counterpoise, means located in the paths of said car and counterpoise for receiving and supporting said flexible weights when said car or counterpoise reaches the end of its downward travel.

19. In a carrier comprising a frame, a car, and a counterpoise, said car and counterpoise being guided in said frame, and one being suspended upon the other by means of a flexible connection variable in length, the combination with said car and counterpoise, of a flexible weight suspended upon the under side of the car, a second flexible weight suspended from and constituting a portion of the counterpoise, a platform extending across the lower portion of the frame and in the paths of the flexible weights upon said car and counterpoise and adapted to receive and support said flexible weights when said car or counterpoise reaches the end of its downward travel, a windlass at the top of the chute and a series of ropes connecting said windlass to said platform for adjusting the latter to different levels for the purpose of varying the level at which the car will stop.

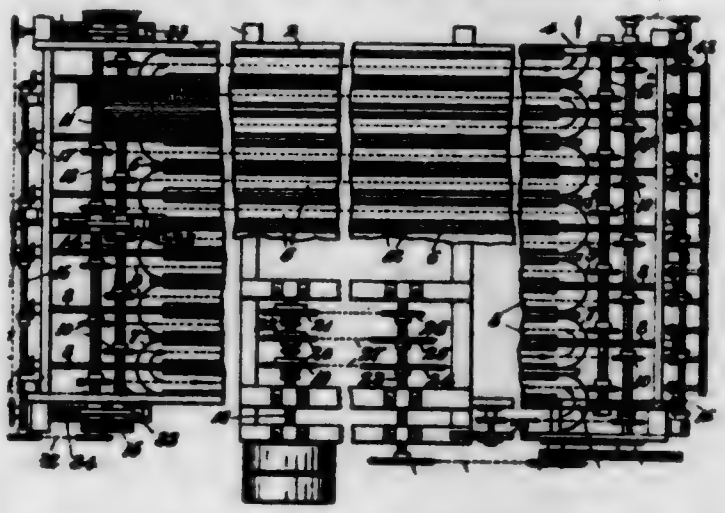
808,043. PRESSURE-FILTER. JOHN L. GRAY, Elizabeth, N. J. Filed June 19, 1905. Serial No. 266,076.



Claim.—1. A pressure-filter section comprising two plates, one of which has series of plain perforations and series of perforations surrounded on one face by burs.

2. In a pressure-filter, the combination of two abutting plates, with separating-burs formed about some of the perforations on one plate, spacing-rings and a series of pressure-resisting blocks between the edges of the plates.

808,044. CAN EXHAUSTER AND COOKER. MARSHALL W. GROOM, San Jose, Cal. Filed Mar. 24, 1905. Serial No. 251,915.



Claim.—1. In an apparatus of the class described, the combination of a retort having ingress and egress openings for the cans

and divided longitudinally into a plurality of runs having communication with each other at their ends, separate conveyers operating in said runs, and entirely housed and supported in the retort, means for operating alternate of said conveyers in one direction and means for operating the intermediate conveyers in an opposite direction, rollers at the ends of the runs between the conveyers and guides cooperating with said rollers to transfer the cans from one of said conveyers to a succeeding oppositely-moving one, and heating means within the retort.

2. In an apparatus of the class described, the combination of a retort having ingress and egress openings for the cans and divided longitudinally into a plurality of runs having communication with each other at their ends, separate conveyers operating in said runs, and entirely housed and supported in the retort, means for operating alternate of said conveyers in one direction and means for operating the intermediate conveyers in an opposite direction, rollers at the ends of the runs between the conveyers and guides cooperating with said rollers to transfer the cans from one of said conveyers to a succeeding oppositely-moving one, and separately-controlled heating means in each run.

3. In an apparatus of the class described, the combination of a retort having ingress and egress openings for the cans and divided longitudinally into a plurality of runs having communication with each other at their ends, separate conveyers operating in said runs and entirely housed and supported in the retort, means for operating alternate of said conveyers in one direction and means for operating the intermdeiate conveyers in an opposite direction, rollers at the ends of the runs between the conveyers and guides cooperating with said rollers to transfer the cans from one of said conveyers to a succeeding oppositely-moving one, and separately-controlled heating means in each run, the runs in said retort having arched roofs whereby the condensed moisture is directed to the sides of the runs.

4. In an apparatus of the class described, the combination of a retort having ingress and egress openings for the cans and divided into a plurality of longitudinal runs, conveyers in said runs, means for operating alternate of the conveyers in one direction, and means for operating the intermediate conveyers in an opposite direction, means for transferring the cans at the ends of the runs from one run to another progressively through the apparatus, means for heating the cans in the retort, and means for varying the heating period without changing the speed of said conveyers.

5. In an apparatus of the class described, the combination of a retort having ingress and egress openings for the cans and divided into a plurality of longitudinal runs, conveyers in said runs, means for operating alternate of the conveyers in one direction, and means for operating the intermediate conveyers in an opposite direction, means for transferring the cans at the ends of the runs from one run to another progressively through the apparatus, means for heating the cans in the retort, means for varying the heating period without changing the speed of said conveyers, and means for varying the speed of the conveyers without altering the heating period for the cans.

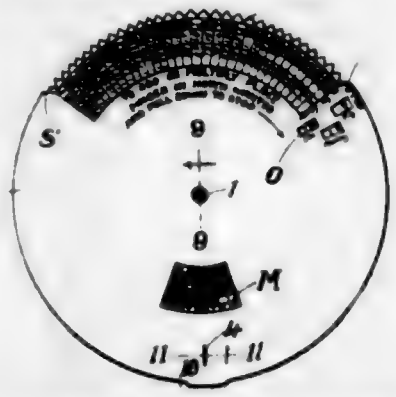
6. In an apparatus of the class described, the combination of a box divided longitudinally into a plurality of runs, conveyers in said runs, means for operating alternate of the conveyers in one direction, and means for operating the intermediate conveyers in the opposite direction, means for transferring cans from one conveyer to another, heating means in the apparatus, and means for varying the speed of said conveyers without changing the heating period of the cans in the apparatus.

7. In an apparatus of the class described, the combination of a closed box divided longitudinally into a plurality of compartments connected at the rims, conveyers operating in said compartments, said conveyers comprising chains passing over sprockets on horizontal axes, slats on the chains and guides on the sides of the compartments supporting said slats, means for operating alternate conveyers in one direction, means for operating the intermediate conveyers in the opposite direction, transfer means between the conveyers to shift the cans from one conveyer to a succeeding one, heating means in the compartments, and means for controlling the heat in each compartment independently of all the other compartments.

8. The combination of a box divided longitudinally into a plurality of compartments, heating means in the compartments, endless conveyers on horizontal axes traveling in said compartments, means for operating the conveyers in alternate compartments in one direction, means for operating the intermediate conveyers in an opposite direction, horizontally-disposed rollers arranged parallel with and between the conveyers and curved guides cooperating with said rollers to shift the cans from one conveyer to another at the turns, and means for operating said rollers.

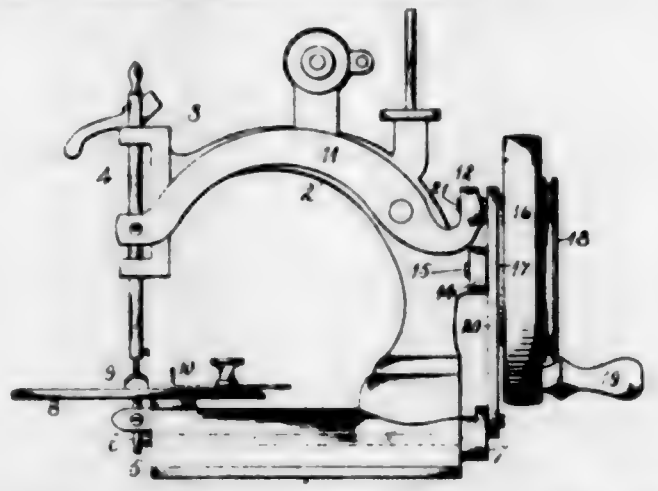
9. The combination of a box divided longitudinally into a plurality of compartments, conveyers on horizontal axes in said compartments, one set of shafts supporting alternate of said conveyers and another set of shafts supporting the intermediate conveyers, connections between said sets of shafts, said shafts at one end of the apparatus being mounted in boxes to move in unison, means for shifting said boxes to vary simultaneously the tension of all of said conveyers, heating means in the compartments and transfer means operating between successive conveyers to shift cans from one conveyer to a succeeding conveyer.

808,045. **POCKET-CALCULATOR.** CYRUS A. HAAS, St. Louis, Mo. Filed Sept. 23, 1903. Serial No. 174,292.



Claim.—In a pocket-calculator, two cover plates or disks, an intermediate rotatable result-disk, a tongue cut from the intermediate disk and deflected outwardly therefrom, and a slit formed in one of the cover-disks against one wall of which the free end of the tongue can impinge and intercept the rotation of the result-disk in one direction, substantially as set forth.

808,046. **SEWING-MACHINE.** HORACE W. HADLEY, Belvidere, Ill., assignor to America Company, Rockford, Ill., a Corporation of Illinois. Filed May 17, 1905. Serial No. 260,882.



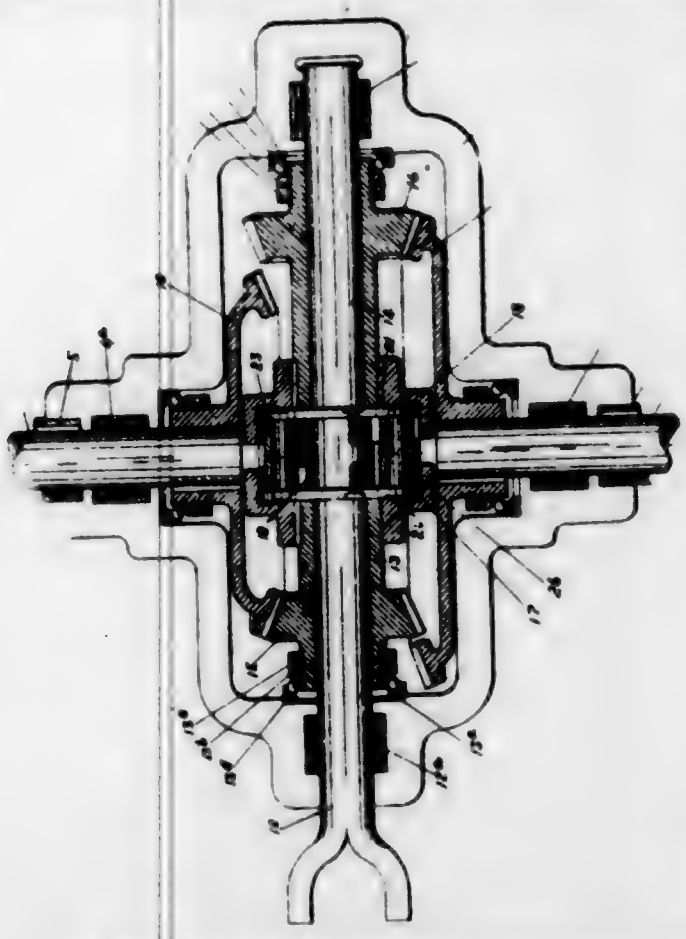
Claim.—In a hand-operated sewing-machine, the combination with the pivoted needle-arm, the needle-bar, and the oscillatory hook-shaft, of a wheel arranged at right angles to said arm and having an elliptical cam-groove in its inner face and a hand-crank, a stub-shaft on which said wheel is journaled, a pitman having a connection at one end with the needle-arm, and at its other end with a crank on the hook-shaft, and a friction-roller journaled on one side of the pitman and traveling in the said cam-groove, the construction and arrangement of the parts being such that a single revolution of said wheel will impart two complete up-and-down movements to the needle-bar and two complete oscillations to the hook-shaft.

808,047. **DIFFERENTIAL GEARING.** FRANK M. HALDEMAN and BLUFORD W. BROCKETT, Cleveland, Ohio. Filed Sept. 29, 1905. Serial No. 280,582.

Claim.—1. In a differential gear, the combination with the axle-sections, of driven gears upon said axle-sections, beveled driving-pinions diametrically opposed to each other with respect to said driven gears for driving the same, and spur-gear differential driving mechanism for said pinions wholly within the peripheries of said driven gears.

2. In a differential gear, the combination with the axle-sections, of driven gears upon the same, beveled pinions for driving said driven gears, a main driving-shaft supporting said pinions and cross-

ing said driven gears diametrically, and spur-gear differential driving mechanism operated by said shaft for driving said pinions and arranged wholly within the peripheries of said driven gears.



3. In a differential gear, the combination with the axle-sections, of driven gears upon the same, a shaft suitably mounted and crossing the faces of said gears diametrically, beveled driving-pinions upon said shaft for driving said driven gears, and spur-gear differential driving mechanism mounted upon said shaft for operating said pinions and arranged wholly within the peripheries of said driven gears.

4. In a differential gear, the combination with the axle-sections of driven gears upon the same, beveled pinions for driving said gears, a shaft supporting said pinions and crossing said driven gears diametrically, and spur-gear differential driving mechanism for operating said pinions.

5. In a differential gear, the combination with the axle-sections, of driven gears upon the same, a main driving-shaft suitably mounted and crossing the faces of said gears diametrically, a beveled driving-pinion loose upon said shaft for driving one of said driven gears, another beveled pinion loosely mounted upon said shaft for driving the other of said driven gears, and spur-gear differential driving mechanism for operating said pinions.

6. In a differential gear, the combination with the axle-sections, of driven gears upon the same, a main driving-shaft suitably mounted and crossing the faces of said gears diametrically, beveled driving-pinions loose upon said shaft, a spur-gear rigid with each of said pinions, planetaries meshing with said spur-gears, and means carried by said shaft for driving said planetaries.

7. In a differential gear, in combination, inclined axle-sections, driven gears for the same, beveled pinions operating upon said driven gears, a main driving-shaft supporting said pinions and crossing said driven gears diametrically, and spur-gear differential driving mechanism operated by said shaft for driving said pinions and arranged wholly within the peripheries of said driven gears.

8. In a differential gear, in combination, inclined axle-sections, driven gears upon said sections, a main driving-shaft suitably mounted and crossing the faces of said gears diametrically, beveled driving-pinions loose upon said shaft, a spur-gear rigid with each of said pinions, planetary pinions meshing with said spur-gears, and means carried by said shaft for driving said planetaries.

9. In a differential gear, in combination, inclined axle-sections, driven gears upon said sections, a main driving-shaft suitably mounted and crossing the faces of said gears diametrically, a beveled driving-pinion loose upon said shaft for each of said driven gears, an external spur-gear rigid with each of said pinions, planetary pinions meshing with said external spur-gears, and means carried by said shaft for driving said planetary pinions.

10. In a differential gear, the combination with the axle-sections, of driven gears upon said sections, a main driving-shaft suitably mounted and crossing the faces of said gears diametrically, beveled driving-pinions loosely mounted upon said shaft, spur-gears carried by said pinions for operating the same, a spider driven by said shaft, pin-supporting rings mounted upon said spider, pins carried by said rings and planetary pinions mounted upon said pins.

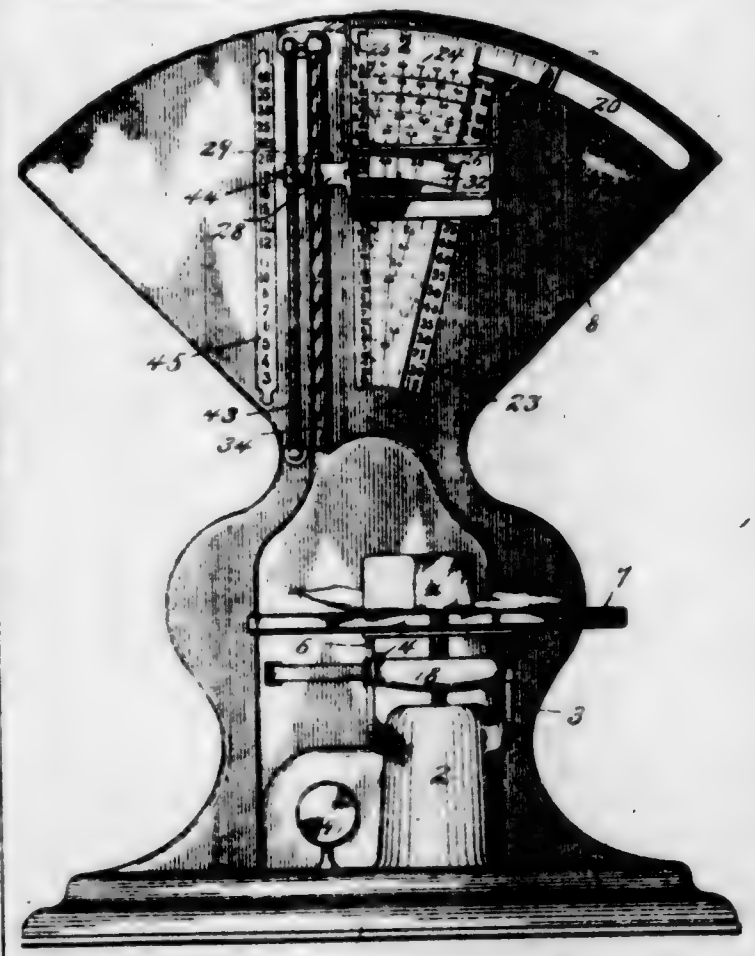
11. In a differential gear, the combination with the axle-sections, of driven gears upon said sections, a main driving-shaft suitably mounted, beveled driving-pinions for said driven gears and mounted loosely upon said shaft, a spur-gear rigid with each of said pinions, a spider keyed to said shaft, pin-supporting rings carried by said spider, pins mounted in said rings, and spur-toothed pinions upon said pins and meshing with said spur-gears.

12. In a differential gear, the combination with the inclined axle-sections, driven gears upon said sections, a main driving-shaft suitably mounted and crossing the faces of said gears diametrically, beveled driving-pinions loosely mounted upon said shaft, a spur-gear rigid with each of said pinions, a spider rigid with said shaft, and spur-toothed planetary pinions carried by said spider for operating upon said spur-gears.

13. In a differential gear, the combination with the casing, of inclined axle-sections, driven gears upon the same and mounted in said casing, a main driving-shaft crossing the faces of said gears and mounted in bearings arranged without the peripheries of said driven gears, beveled driving-pinions loosely mounted upon said shaft and adapted to drive said driven gears, spur-gears rigid with said pinions, a spider keyed to said shaft, pin-supporting rings secured to said spider, pins mounted therein, and planetary pinions carried by said pins and adapted to mesh with said spur-gears.

14. In a differential gear the combination with the casing, of inclined axle-sections and driven gears mounted thereon, a main driving-shaft crossing the faces of said gears diametrically and mounted in bearings arranged without the peripheries of said driven gears, beveled driving-pinions loosely mounted upon said shaft and adapted to drive said driven gears, a spur-gear rigid with each of said pinions, a spider keyed to said shaft between said pinions and their spur-gears, planetary supporting-rings carried by said spider, and planetary pinions mounted in said rings.

808,048. **PENDULUM COMPUTING-SCALE.** HENRY S. HALLWOOD, Columbus, Ohio. Filed Feb. 9, 1905. Serial No. 244,910.



Claim.—1. In a computing-scale, the combination of a casing having an opening therein, a chart in said casing having a series of value-indicating graduations thereon, a shutter constructed to limit the vision to graduations corresponding to a certain transaction only, and mechanism for operating said shutter, substantially as specified.

2. In a computing-scale, the combination of a graduated mem-

ber, a shutter constructed to limit the vision to a certain graduation or set of graduations corresponding to a certain transaction only, means for supporting said shutter out of operative relation to said member, and means for operating said shutter to place it in operative relation to a desired graduation or set of graduations, substantially as specified.

3. In a computing-scale, the combination of a chart having graduations thereon, a shutter constructed to limit the vision to a limited number of graduations corresponding to a certain transaction only, means for supporting said shutter out of operative relation to said chart, and mechanism for operating said shutter to place it in operative relation to said chart, substantially as specified.

4. In a computing-scale, the combination of a casing having an opening therein, a guide adjacent said opening, a chart within said casing and having a set of value-indicating graduations thereon, a shutter mounted on said guide and constructed to limit the vision to graduations corresponding to a certain transaction only, and mechanism for reciprocating said shutter on said guide, substantially as specified

5. In a computing-scale, the combination of a casing having an opening therein, a graduated rate-column parallel with an edge of said opening, a chart within said casing having series of value-indicating graduations thereon corresponding to the graduations on the said column, a shutter mounted adjacent said opening and constructed to limit the vision to graduations on said column and chart corresponding to a certain transaction only, and mechanism for operating said shutter, substantially as specified.

6. In a computing-scale, the combination of a casing having an opening therein, a graduated rate-column adjacent said opening, a second column parallel with said rate-column and having graduations corresponding to those on said rate-column, a chart within said casing having series of value-indicating graduations thereon corresponding to the graduations on said rate-column, a shutter mounted adjacent said opening and constructed to limit the vision to graduations corresponding to a certain transaction only, mechanism for operating said shutter, and an index coöperating with the graduations on said second column, substantially as specified.

7. In a computing-scale, the combination of a movable chart having series of value-indicating graduations thereon, a fixed rate-column adjacent said chart, a magnifying-glass mounted in operative relation to said chart and said rate-column, and mechanism for moving said magnifying-glass relatively to the graduations on said column and said chart, substantially as specified.

8. In a computing-scale, the combination of a casing having an opening therein, a chart within said casing having a series of value-indicating graduations thereon, a rate-column adjacent the edge of said opening, a magnifying-glass mounted in operative relation to said column and chart, mechanism for moving said magnifying-glass relatively to the graduations on said column and chart, and means for restricting the vision through the magnifying-glass to graduations on said column and chart corresponding to a particular transaction only, substantially as specified.

9. In a computing-scale, the combination of a chart having thereon series of value-indicating graduations, a graduated rate-column adjacent said chart, a combined magnifying-glass and shutter in operative relation to said chart and column, the shutter being constructed to confine the vision to graduations on said chart and column corresponding to a particular transaction only, and mechanism for moving such magnifying-glass and shutter relatively to such graduations, substantially as specified.

10. In a computing-scale, the combination of a graduated member, a magnifying-glass and shutter adapted to magnify the graduations and to limit the vision to a graduation or graduations corresponding to a certain transaction only, and mechanism for moving said glass and shutter with reference to the graduations on such member or to leave such glass and shutter out of operative relation to said member, substantially as specified

11. In a computing-scale, the combination of a casing having an opening therein, a graduated rate-column at an edge of said opening, a chart within said casing having series of value-indicating graduations thereon, a guide-rod adjacent and parallel to such edge of said opening, a shutter in close proximity to said casing and having an opening therein adapted to limit the vision to graduations on the column and chart corresponding to a particular transaction only, a magnifying-glass in operative relation to said shutter and chart, said glass and shutter being mounted on said guide, and mechanism for moving said glass and shutter along said guide, substantially as specified.

12. In a computing-scale, the combination of a graduated member, a geared worm-shaft adjacent said member, a magnifying-glass carried by said worm-shaft, a shaft having a gear meshing with the gear on the worm-shaft, and means for preventing the rotation of said glass by the rotation of the worm-shaft, substantially as specified.

13. In a computing-scale, the combination of a graduated member, a geared worm-shaft adjacent said member, a shutter carried by said worm-shaft, a shaft having a gear thereon meshing with the gear on the worm-shaft, and means for preventing the rotation of the shutter by the rotation of the worm-shaft, substantially as specified.

14. In a computing-scale, the combination of a graduated member, a geared worm-shaft adjacent said member, a magnifying-glass and a shutter carried by said worm-shaft, a shaft having a gear thereon meshing with the worm-shaft gear, and means for preventing the rotation of said glass and shutter by the rotation of said worm-shaft, substantially as specified.

15. In a computing-scale, the combination of a graduated member, a shutter having a slot therein for restricting the vision to graduations corresponding to a certain transaction only, mechanism for operating said shutter, and a magnifying-glass for observing the graduations through the shutter, substantially as specified.

16. In a computing-scale, the combination of a movable indicating member and a fixed indicating member coöperating to indicate the weight and value of commodities at different prices per pound, a rotary drum by which said movable member is carried, a pendulum carried by said drum, a scale-beam extending at right angles to the head of said drum, a flexible band or ribbon secured to said drum and supported on the outer surface thereof, a flexible band or ribbon connected to the scale-beam, and means, as links, connecting said bands or ribbons.

17. In a computing-scale, the combination of a casing, a rotary drum, a computing chart or table carried thereby, said chart or table being provided with series of concentrically-arranged graduations and numerals indicating different weights of commodities and the values of such weights at different prices, a pendulum carried by said drum, the said drum, chart, and pendulum being within said casing, a scale-beam projecting within said casing, the end of said scale-beam which projects within the casing being arc-shaped, a band or ribbon connected to such arc-shaped end of the scale-beam, a band or ribbon secured to said drum and supported on the outer surface thereof and connected to the former band or ribbon, said casing being provided with a slot for permitting the observation of the chart and with a rate-column at one edge of said slot having numerals thereon corresponding to the series of graduations and numerals on the chart or table, substantially as specified.

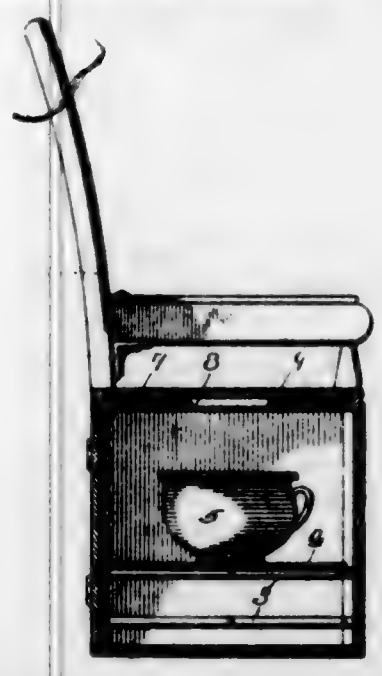
18. In a computing-scale, the combination of a casing, a rotary drum, a computing chart or table carried thereby, said chart or table being provided with series of concentrically-arranged graduations and numerals indicating different weights of commodities and the values of such weights at different prices, a pendulum carried by said drum, the said drum, chart, and pendulum being within said casing, a scale-beam projecting within said casing, the end of such scale-beam which projects within the casing being arc-shaped, a band or ribbon connected to the lower portion of such arc-shaped end of the scale-beam, a band or ribbon secured to said drum and supported on the outer surface thereof, means for connecting said bands or ribbons, said casing being provided with a slot or opening for permitting the observation of the chart therein, substantially as specified.

19. In a computing-scale, the combination of a casing, a rotary cam-shaped drum, a computing chart or table carried thereby, said chart or table being provided with series of concentrically-arranged graduations and numerals indicating different weights of commodities and the values of such weights at different prices, a pendulum carried by said drum, the said drum, chart, and pendulum being within said casing, a scale-beam projecting within said casing, the end of such scale-beam which projects within the casing being provided with an elongated arc-shaped surface, and a band or ribbon connected to the lower portion of such arc-shaped end of the scale or beam and extending over the cam-shaped surface of the drum and connected to said drum, said casing being provided with a slot or opening for permitting the observation of the chart therein, substantially as specified.

20. In a computing-scale, the combination of a casing, a rotary drum, a computing chart or table carried thereby, said chart or table being provided with series of graduations and numerals indicating different weights of commodities and the values of such weights at different prices, a pendulum carried by said drum, the said drum, chart, and pendulum being within said casing, a scale-beam projecting within said casing at one side of said drum and at right angles to the plane thereof, a band or ribbon connected to the end of the scale-beam which projects within the casing, a band or ribbon

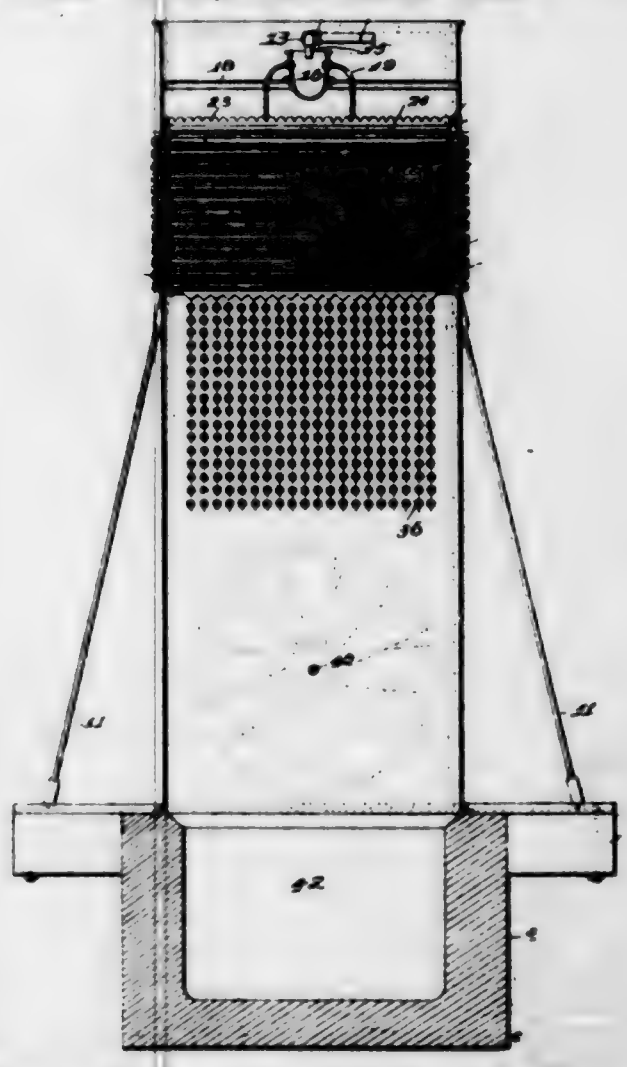
connected to the said drum and supported on the outer surface thereof, and means for connecting said bands or ribbons, said casing being provided with a slot or opening for permitting the observation of said chart therein, substantially as specified.

808,049. INVALID'S COMMODE. WILLIAM A. HARDY, Louisville, Ky. Filed Nov. 7, 1903. Serial No. 180,238.



Claim.—In a device of the nature indicated, a chair comprising a cabinet, arms supported above the cabinet provided with receptacles and pivoted covers therefor, one of said receptacles being provided with plates having bearing-apertures, a paper-roll supported in the apertures, and a key fitting in one of the plates for locking the roll in place, substantially as described.

808,050. WATER-COOLING TOWER. FREDERICK HAUSWIRTH, St. Louis, Mo. Filed Sept. 5, 1903. Serial No. 172,183.



Claim.—1. The improved water-cooling tower, comprising the vertical shell or casing; a fan arranged to force air into the base of said casing; a bank of pipes having their ends removably fixed in opposite walls of said casing and extending horizontally, with their ends projecting freely into the atmosphere exterior of the said shell, whereby natural atmospheric drafts of air may circulate through said pipes; and means for distributing water upon said bank of pipes, substantially as described.

2. The improved water-cooling tower, comprising the vertical shell or casing; a fan arranged to force air into the base of said casing; a bank of pipes having their ends removably fixed in opposite walls of said casing, and extending horizontally, with their ends projecting freely into the atmosphere exterior of the said shell, whereby natural atmospheric drafts of air may circulate through said pipes; an additional bank of pipes constructed like the bank just mentioned, but having their ends projecting in a direction at right angles to those of the said first-mentioned bank of pipes, whereby the natural atmospheric draft may circulate through at least one of said banks of pipes, regardless of the direction in which the wind is moving, and means for distributing water upon said banks of pipes, substantially as described.

808,051. ATTACHMENT FOR POOL-TABLES. NATHAN HEGE and CHARLES ROMINGER, Hope, Ind. Filed June 24, 1905. Serial No. 266,772.



Claim.—1. The combination with a pool-table, of a ball-receiving track extending around the same, and means for raising and lowering said track.

2. The combination with a pool-table, of a track extending around the same, and means for regulating the inclination of said track.

3. The combination with a pool-table, of a track extending around the same, hangers connected to the table, and track-rail-supporting brackets adjustable up and down upon the hangers.

4. The combination with a pool-table, of hangers secured thereto and comprising channeled arms, rail-supporting brackets having arms adjustable in the channeled arms of the hangers, and track-rails carried by said brackets.

5. The combination with a pool-table, of hangers secured thereto, track-rail-supporting brackets adjustable up and down on said hangers, track-rails supported by said brackets, racks for receiving the balls, a switch for diverting the balls from the track-rails to the racks, guides connected with the brackets, and a flexible cord or cable connected to the switch and passing through said guides, substantially as described.

6. The combination with a pool-table, of track-rails extending around the same, hangers connected to the table and forming supports for the track-rails, rack-supporting brackets connected to said hangers, and ball-receiving racks detachably supported on said brackets.

7. The combination with a pool-table, of hangers connected thereto, track-rails extending around the table, rail-supporting brackets adjustable on the hangers, rack-supporting brackets also adjustable on the hangers, and racks detachably mounted on said rack-supporting brackets, substantially as described.

8. The combination with a pool-table, of track-rails extending around the same and interrupted at a certain point to discharge the balls, racks located beneath the track-rails and adapted to receive the balls, a pivoted switch mounted adjacent to the opening formed by interrupting the track-rails, and means for reversing the inclination of said switch to cause the same to direct the balls to one rack or the other.

9. The combination with a pool-table, of a track extending around the same and interrupted or cut away at a certain point to release the balls and allow them to drop therethrough, ball-receiving racks arranged adjacent to the interrupted portion of the track, a switch located at the point of discharge of the balls and adapted to be adjusted to throw the balls to one rack or the other, and an operating cord or cable extending entirely around the table for operating said switch.

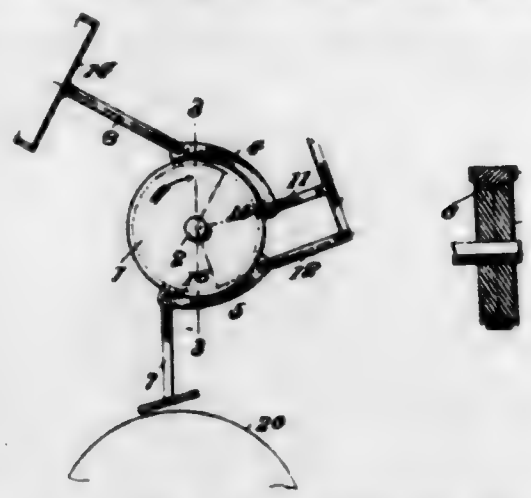
10. The combination with a pool-table, of track-rails extending around the same, hangers connected to the table and forming supports for the track-rails, rack-supporting brackets connected to said hangers, ball-receiving racks detachably supported on said brackets, and an indicator for said racks.

11. The combination with a pool-table, of track-rails extending around the same and interrupted at a certain point to discharge the

balls, racks located beneath the track-rails and adapted to receive the balls, a pivoted switch mounted adjacent to the opening formed by interrupting the track-rails, means for reversing the inclination of said switch to cause the same to direct the balls to one rack or the other, and an indicator operative in the movement of the switch.

12. The combination with a pool-table, of track-rails extending around the same and interrupted at a certain point to discharge the balls, racks located beneath the track-rails and adapted to receive the balls, a pivoted switch mounted adjacent to the opening formed by interrupting the track-rails, means for reversing the inclination of said switch to cause the same to direct the balls to one rack or the other, an indicator mounted on the table-rim, and means for operating said indicator in the movement of the switch.

808,052. **PHONIC APPARATUS.** DANIEL HIGHAM, Bridgeport, Conn., assignor to Highamophone Company, Jersey City, N. J., a Corporation of New Jersey. Filed June 5, 1905. Serial No. 263,863.



Claim.—1. In a phonic apparatus employing friction in the manner described, a friction-roller having inclined surfaces, a friction-shoe contacting with and guided by said surfaces, the tangent of the angle of inclination of said surfaces being approximately equal to the coefficient of friction between said shoe and roller when said coefficient is expressed in terms of the angle.

2. In a phonic apparatus employing friction in the manner described, a friction-roller having a peripheral V-shaped groove and a friction-shoe having bearing in said groove, the sides of the V-shaped groove having an angle of inclination whose tangent is approximately equal to the coefficient of friction when said friction is expressed in terms of the angle.

3. In a phonic apparatus employing friction in the manner described, a friction-roller having inclined surfaces, a friction-shoe contacting with said surfaces, the angle of inclination of each of said surfaces being equal to the acute angle at the base of a right-angle triangle whose altitude bears the same relation to its base that the coefficient of friction between the roller and shoe does to one.

4. In a phonic apparatus employing friction in the manner described, a friction-roller having a V-shaped groove in its periphery, a friction-shoe having bearing in said groove, the angle of inclination of the sides of said groove being equal to the acute angle at the base of a right-angle triangle whose altitude bears the same relation to its base that the coefficient of friction between the roller and shoe does to one.

5. In a phonic apparatus, the combination of a friction-roller having a peripheral groove, a friction-shoe bearing in said groove, a portion of said shoe being broader than said groove, and primary and secondary vibrating elements in operative relation with said shoe.

6. In a phonic apparatus, the combination of a friction-roll having a peripheral groove, a sectional friction-shoe bearing in said groove one of the sections of said shoe being broader than said groove and one narrower, and primary and secondary vibrating elements in operative relation with said shoe.

7. In a phonic apparatus, the combination of a friction-roller, a friction-shoe bearing thereon, said shoe having a cut-away space or dust-pocket formed in its friction-face and primary and secondary vibrating elements in operative relation with said shoe.

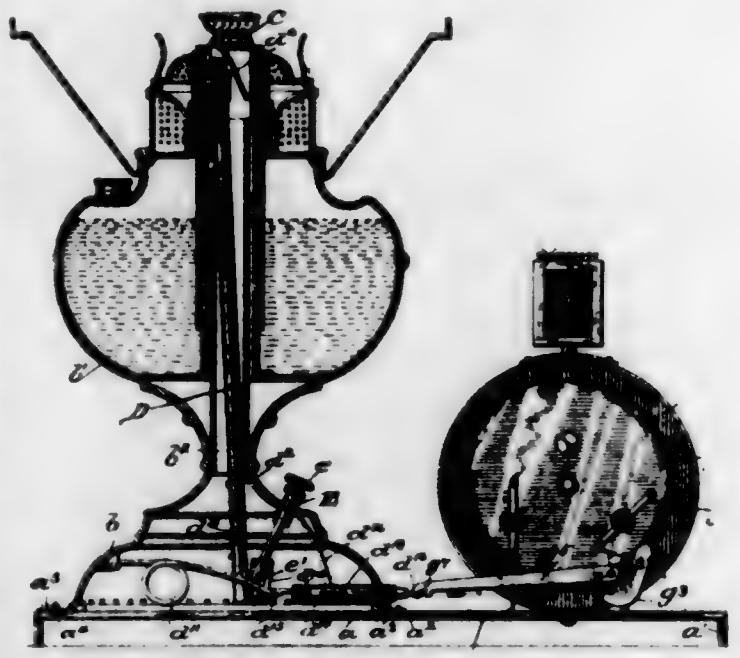
8. In a phonic apparatus, the combination of a friction-roller, a sectional friction-shoe bearing thereon, a flexible connection between the shoe-sections, said connection consisting of a suitably-fulcrumed lever with links pivotally connected thereto and to the shoe-sections, and primary and secondary vibrating elements in operative relation with said shoe.

9. In a phonic apparatus, the combination of primary and secondary vibrating elements, a friction-roller, a friction-shoe section bearing on said roller and having its rear end in operative relation with said primary vibrating element, a second friction-shoe section bearing on said roller and having its front end in operative relation with the secondary vibrating element, a lever fulcrumed in proximity to the adjacent ends of said shoe-sections, and link connections between said lever and the adjacent ends of said shoe-sections.

10. In a phonic apparatus, a friction-roller, a sectional friction-shoe bearing thereon, a primary vibrating element in operative relation with one end of said shoe, a secondary vibrating element and a flexible connection between said secondary element and the other end of said shoe, said connection extending approximately along a line tangent to the friction-roller at a point approximately midway of the length of the shoe-section to which it is connected.

11. In a phone apparatus, the combination of a primary and a secondary vibrating element, a friction-roller, a sectional friction-shoe bearing on said roller, a link connection between the front end of one shoe-section and said secondary vibrating element, said link connection extending along a line approximately tangent to said friction-roller at a point substantially midway between the ends of said shoe-section, a lever pivoted in proximity to the adjacent ends of the shoe-sections, links connecting said lever to said shoe-sections, the link connected to the rear shoe-section extending along a line approximately tangent to the roller at a point substantially midway between the ends of said section, and operative connections between the primary vibrating element and said last-named shoe-section.

808,053. **TIME-CONTROLLED LAMP.** THOMAS W. HUNT, Atlanta, Ga., assignor to The Hunt Automatic Time Lamp Co., Atlanta, Ga. Filed July 11, 1905. Serial No. 269,203.



Claim.—1. In an automatic time-lamp, the combination of a base, a lamp provided with a circular draft-opening and a burner surrounding the draft-opening, removably secured to the base, a tube arranged in the draft-opening and extending to a point adjacent to the burner, the central opening of the tube comprising a portion of relatively large diameter adapted to receive a match, a portion of relatively small diameter adapted to engage the head of the match, and a tapering portion connecting the two first-named portions, the lower end of the tube being provided with oppositely-disposed slots, and the upper end being provided with a single slot adjacent to the portion of relatively small diameter, an open ring encircling the tube below the slot, and provided with a tongue extending upwardly in front thereof, a plunger within the tube, a cross-pin on the lower end of the plunger and engaging the oppositely-disposed slots, a spring for actuating the plunger, a second plunger for depressing the spring, a slide for engaging the spring to retain it in its lowered position, a clock provided with an alarm secured to the base, connections between the alarm and the slide whereby the operation of the alarm may release the plunger to ignite the match, and a spreader above the draft-opening having a portion of its edge deflected inwardly above the upper end of the tube.

2. In a device of the character described, a burner, a match-holder, a spreader for the burner and time-controlled means for igniting a match, said spreader having therein a deflector for the purpose described.

3. In a device of the character described, the combination of a tube, a burner encircling the same, a match-holder, a spreader at the mouth of the tube, and a time-controlled means for igniting the match, said spreader having therein a deflector for the purpose described.

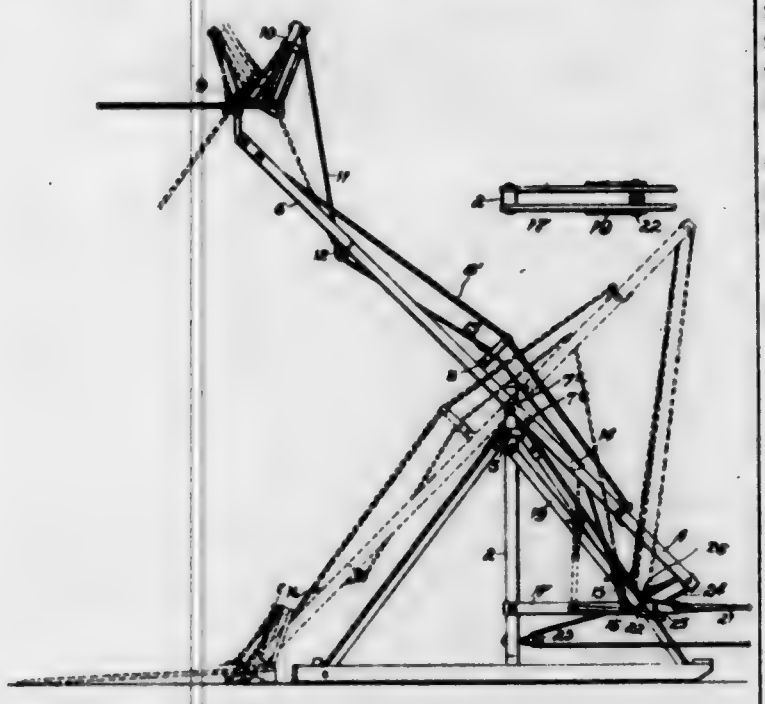
4. A lamp having a base portion, a liquid-holding portion, and a burner, a tube extending from the base portion to the burner, a match-holding device in the tube, time-controlled mechanism in the base portion for igniting a match, and a deflector for the purpose described.

5. In a device of the character described, the combination of a tube, a burner surrounding the same, a match-holder, a spreader at the mouth of the tube and provided with a deflector for the purpose described, means for igniting the match, a clock having an alarm, and means whereby the alarm may control the match-igniting means.

6. A lamp having a base portion, a liquid-holding portion and a burner, a tube extending from the base portion to the burner, a match-holding device in the tube, time-controlled mechanism in the base portion for igniting the match, means without the base portion whereby to set the igniting means, and a deflector for the purpose described.

7. In a device of the character described, a lamp comprising a base and a liquid-holding portion, a burner on the liquid-holding portion, the lamp having a draft-opening extending from the base to the burner, a tube arranged in the draft-opening and comprising a portion of relatively large diameter for receiving a match, and a portion of relatively small diameter for engaging the head of the match to ignite the same, a plunger in the tube, a spring within the base for actuating the plunger, means for normally retaining the spring in its inoperative position, and time-controlled means for releasing the retaining means.

808,054. **HAY-STACKER.** MAURICE KANE, Chicago, Ill., and ALBERT GRIEVES, Springfield, Ohio. Filed July 14, 1905. Serial No. 269,583.



Claim.—1. In a hay-stacker, the combination of a bed-frame, a standard rotatably mounted on said frame, a fork, a lever pivotally mounted near its middle portion at the upper end of said standard, said lever comprising parallel bars pivotally supported near their inner ends upon opposite sides of said standard, bars secured at their inner ends to said parallel bars near their pivotal connection with said standard and diverging outward and having said fork pivotally connected with their outer ends, and a bridge-piece connecting the inner ends of said parallel bars with said diverging bars.

2. In a hay-stacker, the combination of a bed-frame, a standard rotatably mounted on said frame, a fork, a lever pivotally mounted near its middle portion at the upper end of said standard, said lever comprising parallel bars pivotally supported near their inner ends upon opposite sides of said standard, bars secured at their inner ends to said parallel bars near their pivotal connection with said standard and diverging outward and having said fork pivotally connected with their outer ends, a bridge-piece connecting the inner ends of said parallel bars with said diverging bars, and truss-rods having their opposite ends secured near the outer ends of said diverging bars and said parallel bars, and their middle portion engaging with said bridge-piece.

3. In a hay-stacker, the combination of a bed-frame, a standard rotatably mounted on said frame, a lever pivotally mounted near its middle portion at the upper end of said standard, a fork pivotally mounted at one end of said lever, an arm secured at its inner end to said standard below the pivotal connection therewith of said lever, and flexible means connected at one end with said fork and adapted to control its pivotal movement and having its opposite end connected with said arm, said flexible means being guided by sheaves mounted upon said lever alone.

808,055. **POST AND CARLINE FOR RAILWAY-CAR FRAMES.** WILLIAM F. KIBBEL, Jr., Altoona, Pa. Filed Aug. 23, 1905. Serial No. 275,356.

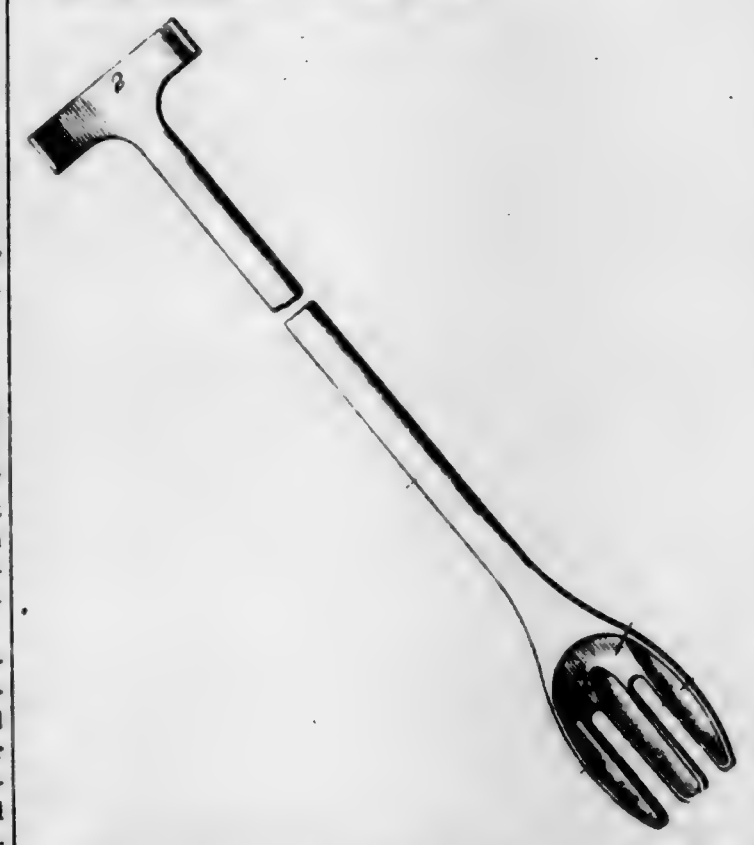


Claim.—1. In a car-frame, a post of I-shaped cross-section, in combination with a carline composed of reversed angle-bars riveted together and bent to conform with the shape of the roof-decks, the legs of the angles being spread apart and riveted to the post at each side of the web thereof.

2. In a car-frame, the combination, with an angle-bar side sill, of a post of I-shaped cross-section having its foot resting upon and fastened to the horizontal limb of the sill, and a carline bent to conform with the shape of the roof-decks and having one leg attached to the top of said post, the other leg being attached to a similar post on the opposite side of the car.

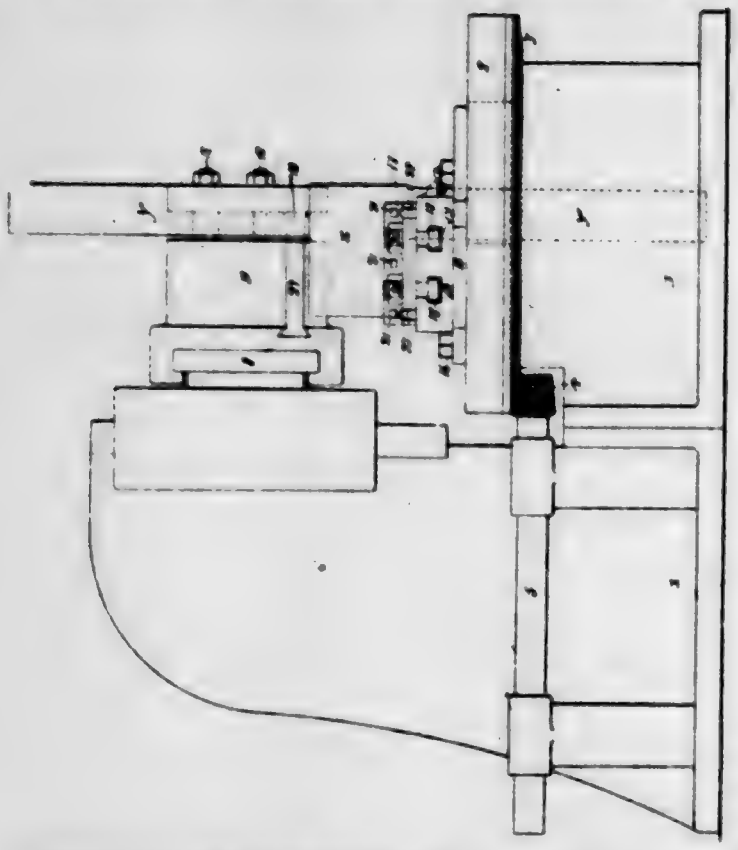
3. In a car-frame, the combination, with opposite side posts, of a carline of Z-shaped cross-section composed of reversed angle-bars having their vertical limbs riveted together and their legs attached to the upper ends of the posts.

808,056. **BATTER-SPOON.** JENNIE LEVAGOOD, Oklahoma, Okla. Filed Dec. 19, 1904. Serial No. 237,548.



Claim.—A batter-spoon having its bowl formed with a plurality of fingers substantially crescent-shaped in cross-section with the center one in a plane below that of the others.

808,057. **CRANK-SHAFT LATHE.** WILLIAM H. LUCAS, Philadelphia, Pa., assignor to himself, Fred F. Espen, and Jacob Espen, Jr., Philadelphia, Pa. Filed Dec. 17, 1904. Serial No. 237,269.



Claim.—1. A lathe comprising a frame, a horizontal work-support arranged to rotate about a vertical axis, said support having a slot adapted to admit a crank-shaft, clamping devices connected to the rotary support, and an adjustable tool-slide, substantially as described.

2. A lathe comprising a frame, a horizontal work-support arranged to rotate about a vertical axis, said support having a slot adapted to admit a crank-shaft, clamping devices connected to the rotary support and arranged to clamp the cranked portion of the shaft when the latter is in vertical position, and an adjustable tool-slide, substantially as described.

3. The combination, in a crank-shaft or crank-pin-turning lathe of a rotatable horizontal bed-plate having a slot for the reception and adjustment of the crank-shaft and clamping devices on said bed-plate for engaging the cranked portion of the shaft when said shaft is in a vertical position and also for engaging and imparting rotating movement to the shaft below the crank, substantially as specified.

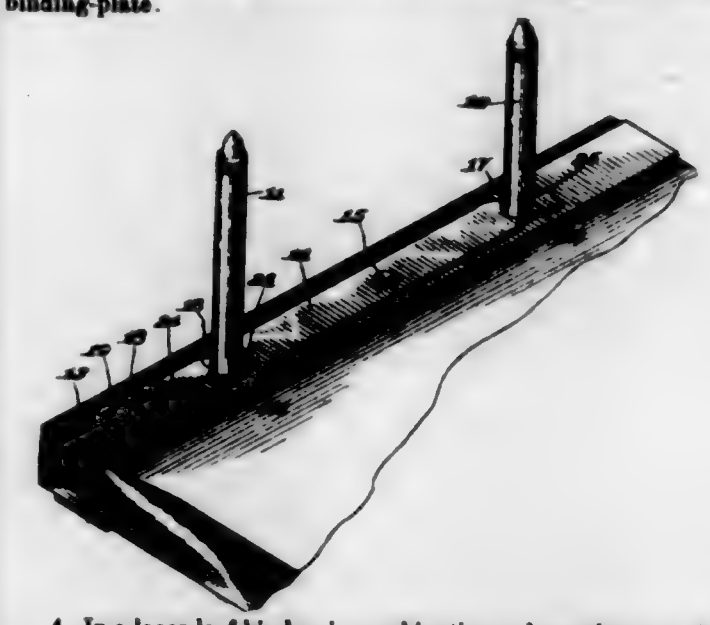
4. The combination, in a crank-shaft or crank-pin-turning lathe of a rotatable horizontal bed-plate having a slot for the reception and adjustment of the shaft, and clamping devices on said bed-plate, for engaging the crank-shaft when the latter is in a vertical position, said clamping devices comprising a transversely-adjustable block on the bed-plate, clamping-jaws adjustable transversely on said block, and radially-adjustable clamp-screws for engaging the shaft, substantially as specified.

808,058. **FILE-BINDER.** CHARLES R. NELSON, Chicago, Ill., assignor to Stober & Trumbull Manufacturing Company, a Corporation of Missouri. Original application filed Aug. 1, 1903. Serial No. 167,922. Divided and this application filed Mar. 2, 1905. Serial No. 248,194.

Claim.—1. In a loose-leaf binder, in combination, a base-plate, a pair of posts set therein, a pressure-plate running on the posts, a binding-plate apertured to fit upon the posts and being in slidable engagement with the pressure-plate and resiliently expansible at each of its apertures, and means for adjustably shifting the binding-plate.

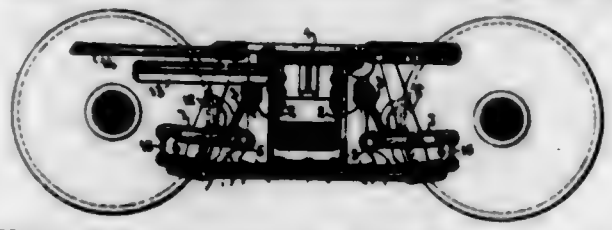
2. In a loose-leaf binder, in combination, a base-plate, a pair of posts set therein, a pressure-plate running on the posts, a binding-plate apertured to fit upon the posts and being in slidable engagement with the pressure-plate and resiliently expansible at each of its apertures, the apertures in the binding-plate being of less width at one end than the diameter of the posts, corresponding ends of the apertures being contracted, and means for adjustably shifting the binding-plate.

3. In a loose-leaf binder, in combination, a base-plate, a pair of posts rising therefrom, an apertured pressure-plate running on the posts, a binding-plate slidingly engaging the pressure-plate and apertured to fit loosely on the posts and having a slit extending longitudinally from each aperture and being of less width than the diameter of the posts, whereby it is rendered laterally expansible, a block secured to the pressure-plate and having a threaded aperture, and a screw engaging such aperture and in swiveled engagement with the binding-plate.



4. In a loose-leaf binder, in combination, a base-plate, a pair of posts set therein, a pressure-plate running on the posts, a binding-plate apertured to fit upon the posts and being in slidable engagement with the pressure-plate and resiliently expansible at each of its apertures, and a screw-bolt for shifting the binding-plate.

808,059. **SUSPENSION DEVICE FOR METAL BRAKE-BEAMS.** FRANCIS N. PARR, Altoona, Pa. Filed Oct. 5, 1905. Serial No. 281,426.

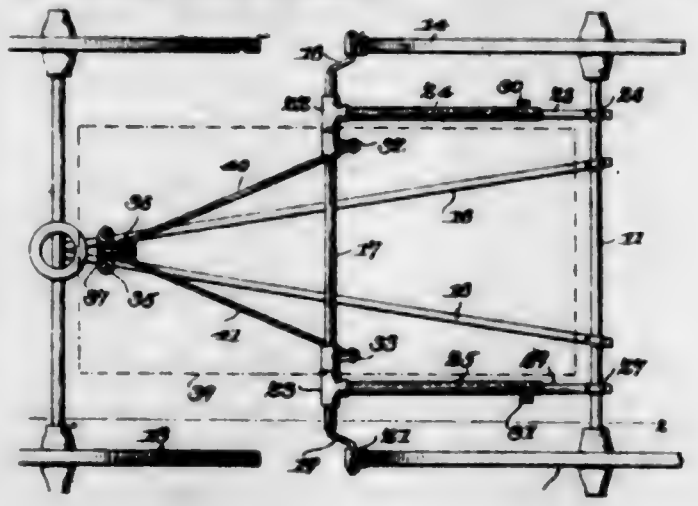


Claim.—1. In a car-truck, the combination, with the spring-plank and a brake-beam, of a suspension-spring attached to the spring-plank and projecting beneath the brake-beam, and a link coupling the end of said spring to the brake-beam.

2. In a car-truck, the combination, with the spring-plank and brake-beams at each side thereof, of a suspension-spring attached to the under side of the spring-plank and projecting out at each side thereof beneath the brake-beams, and links coupling the ends of said spring to the brake-beams.

3. In a car-truck, the combination, with the spring-plank and center strut brake-beams at each side thereof, of a suspension-spring comprising a flat plate provided with eyes at each end, a clamping-piece by which said spring is fastened to the under side of the spring-plank, and links coupling the ends of the spring to the outer ends of the center struts of the brake-beams.

808,060. **VEHICLE-BRAKE.** AMBROSE PATTON, Kirksville, Mo., assignor of one-half to Samuel S. McLaughlin, Kirksville, Mo. Filed Apr. 10, 1905. Serial No. 254,816.



Claim.—1. In a vehicle-brake mechanism, a transverse brake-beam provided with brake-shoes having a limited orbital movement concentric with the wheel to be engaged, longitudinally-adjustable rods connecting the brake beam and axle and forming bearings for said brake-beam, means for locking the rods in adjusted position, and means for actuating the brake-beam to move the shoes toward and from the wheel-rim.

2. In a vehicle-brake mechanism a longitudinal arm pivotally secured to and capable of a limited rotary movement about the rear axle, a transverse brake-beam rotatably mounted in the end of said arm and carrying brake-shoes arranged for contact with the rear wheels, and means for operating the brake.

3. A vehicle-brake comprising a longitudinal arm secured at one end to and capable of a limited rotary movement about the rear axle as a center, a brake-beam rotatably journaled in the arm and provided with upturned ends carrying brake-shoes for contact with the rear wheels, a downwardly-disposed lever rigidly secured to the brake-beam, a foot-lever, and a rod connecting the foot-lever and the brake-beam.

808,061. CAR RUNNING-GEAR. JOHN J. REXROTH, Chicago, Ill. Filed Dec. 23, 1902. Renewed Nov. 13, 1905. Serial No. 287,182.



Claim.—1. In a car running-gear, a truck head or casing having therein a horizontal partition and an intermediate vertical partition, the partitions furnishing two companion runways or passages within the truck head or casing, each runway or passage consisting of an upper and lower longitudinal and horizontal section and curved end sections uniting the upper and lower sections and having the lower sections opening through the bottom of the truck head or casing, a set of travelers for each runway or passage and moving continuously around therein and with the lower run arcing or projecting through the mouth or opening and furnishing a running support on each side of the vertical center of a bearing-rail for the truck head or casing, and means on the truck head or casing for fixedly attaching the truck head or casing to a frame or base, substantially as described.

2. In a car running-gear, a truck head or casing having therein a horizontal partition and an intermediate vertical partition, the partitions furnishing two companion runways or passages within the truck head or casing, each runway or passage consisting of an upper and lower longitudinal and horizontal section and curved end sections uniting the upper and lower sections and having the lower section opening through the bottom of the truck head or casing, balls for each runway or passage filling the runway or passage and moving continuously around therein and with the lower run arcing or projecting through the mouth or opening and furnishing a running support on each side of the vertical center of a bearing-rail for the truck head or casing, and means on the truck head or casing for fixedly attaching the truck head or casing to a frame or base, substantially as described.

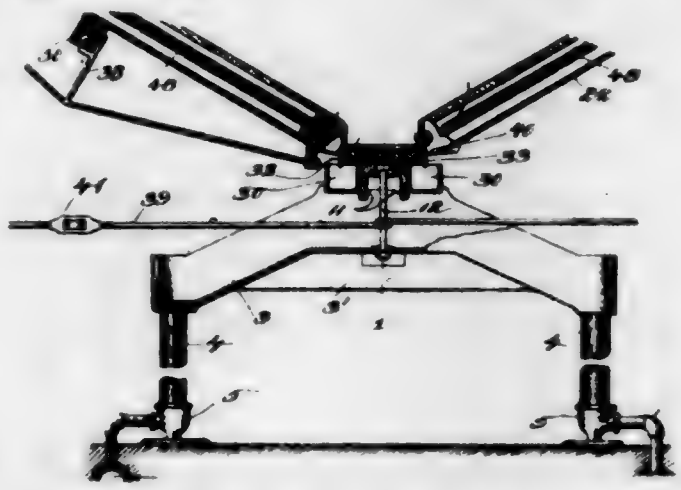
3. In a car running-gear, the combination of a frame or base having side rails or beams, a truck head or casing for each side rail or beam, each truck head or casing having an upwardly-extending plate for attachment to the rail or beam, and each truck head or casing having therein a horizontal partition and an intermediate vertical partition, the partitions furnishing two companion runways or passages, each runway or passage consisting of an upper and lower longitudinal and horizontal section and curved end sections uniting the upper and lower sections, and each runway or passage having its lower section opening through the bottom of the truck head or casing, balls for each runway or passage filling the runway or passage and moving continuously around therein, the lower run of balls arcing or projecting through the mouth or opening of the lower section of the runway or passage and furnishing a running support on each side of the vertical center of a bearing-rail for the truck head or casing, substantially as described.

4. In a car running-gear, the combination of a frame or base having side rails or beams, a truck head or casing at each end of each side rail or beam, each truck head or casing having an upwardly-extending plate for attachment to the rail or beam, and each truck head or casing having therein two companion runways or passages and balls filling each runway or passage and moving continuously around therein with the lower run arcing or projecting through the mouth or opening and furnishing a running support for the truck head or casing, substantially as described.

5. In a car running-gear, the combination of the frame or base having side rails or beams, a truck head or casing at each end of each side rail or beam, each truck head or casing having an upwardly-extending plate for attachment to the rail or beam, and each truck head or casing having therein two companion runways or passages and balls filling each runway or passage and moving continuously around therein, with the lower run arcing or projecting through the mouth or opening and furnishing a running support for the truck head or casing, and a guide and guard wheel or disk on the inside of each truck head or casing, substantially as described.

REISSUES.

12,425. BUILDING CONSTRUCTION. ROBT. W. KING, Toronto, Canada. Filed Jan. 23, 1903. Serial No. 140,316. Original No. 684,433, dated Oct. 15, 1901.



Claim.—1. In building construction, a roof, hollow supports therefor, and means located entirely inside of the building to conduct any moisture which gathers on the inside of the roof or may leak through the latter to said hollow supports.

2. In building construction, a roof, hollow supports therefor, a trough or gutter on the inside of the building and situated at the bottom of the slopes of the roof and constructed to drain directly into said support whereby moisture which collects on the inside of the roof may be conducted through said troughs to the hollow supports.

3. In building construction, a series of hollow arch-heads, roof-trusses supported thereon, and means for conducting the water of condensation which collects on the inside of the roof through the hollow arched heads and to a drain.

4. In building construction, a roof, a series of hollow arch-heads supporting the same, tubular standards for the arch-heads, said tubular standards being connected to a suitable drain, and a series of troughs situated at the bottom of the slopes of the roof, and emptying into said hollow arch-heads, whereby any moisture that collects on the inside of the roof is deposited into the troughs and conducted through the supports to the drain.

5. In building construction, a series of hollow supports, beams carried thereby, a roof supported on said beams, and means located inside of the building to conduct any moisture which gathers on the inside of the roof directly to said hollow supports.

6. In building construction for greenhouses, a series of hollow supports which are connected to a suitable drain, beams supported thereby, sash-bars connected at their lower ends to said beams, said sash-bars with the glass attached thereto forming a roof, and troughs underneath said beams and emptying into the hollow supports, whereby any moisture which collects on the inside of the roof is conducted through the troughs into the hollow supports.

7. In building construction, a series of arch-heads, U shape in cross-section, hollow standards supporting the same, beams carried by said arch-heads and supporting the roof, and troughs emptying into said arch-heads, said troughs being situated underneath said beams whereby the moisture which is collected on the inside of the

roof will be caught by said troughs and conducted through the arch-heads.

8. In building construction for greenhouses, a series of hollow arch-supports, which are connected to a suitable drain, beams carried thereby, brackets secured to said beams and adapted to support the lower ends of the sash-bars, each bracket having a drip-groove extending around it, and a trough carried by and emptying into said arch-supports and situated beneath said beam, whereby any moisture which collects on the inside of the roof will be caught in said trough, the moisture which runs down the sash-bars being directed by the drip-grooves in the brackets into the trough.

9. In building construction for greenhouses, a series of hollow arch-supports, which are connected to a suitable drain, beams carried thereby and supporting the meeting edges of adjacent roof-arches, brackets attached to both sides of said beams, each bracket having a drip-groove extending around it, and notched side flanges, a sash-bar supported at its lower end in each bracket and between the side flanges of the latter, each sash-bar having a drip-groove which registers with the notch in the side flanges of the corresponding bracket, whereby the water which runs down the drip-grooves in the sash-bars is caught by the drip-grooves in the brackets, and means to conduct said water discharged by said drip-grooves in the brackets to the hollow arch-supports.

10. In building construction for greenhouses, a series of hollow supports which are connected to a suitable drain, beams carried by said supports, brackets attached to the said beams, each bracket having a drip-groove surrounding it, a sash-bar supported at its lower end in each bracket, deflecting-plates secured between the brackets and the beam, and troughs supported on and emptying into said supports whereby any water that runs down the inside of the roof will be deflected by said plates into the troughs and emptied into the hollow supports.

11. In building construction for greenhouses, a series of hollow supports, beams carried thereby, brackets connected to said beams, each bracket having a drip-groove extending around it, a sash-bar supported at its lower end in each bracket, and troughs situated underneath said brackets and emptying into the said hollow supports, certain of said brackets each having a lug depending therefrom, and each of the corresponding sash-bars being trussed and having the truss-rod secured to one of said lugs.

12. In building construction, a series of hollow arch-supports, chairs supported thereon and extending across the same, beam ends secured to said chairs, beams secured to said beam ends and tying together the adjacent arch-supports, and a roof supported on said beams.

13. In building construction for greenhouses, a roof and supports therefor, said roof comprising a series of sash-bars serving as rafters and glass suitably supported on said sash-bars, and a separate bracket for supporting the lower end of each sash-bar, said brackets each having a drip-groove partially surrounding the same, and means to catch the water delivered from the drip-grooves.

14. A supporting-bracket for sash-bars in greenhouse-roofs, said bracket having an inclined base or body portion of a size to fit and adapted to support the end of a sash-bar, and a drip-groove extending around three sides of said base or body portion, whereby any moisture which runs down the sash-bar is collected by the drip-groove.

15. A supporting-bracket for sash-bars in greenhouse-roofs, said bracket having an inclined base or body portion adapted to support the end of a sash-bar, parallel side flanges either side of said base or body portion, each side flange being notched, and a drip-groove partially surrounding the base.

16. A supporting-bracket for sash-bars in greenhouse-roofs, said bracket having an inclined base or body portion, parallel side flanges either side thereof, each side flange being notched, a drip-groove partially surrounding the base or body portion, ears extending from said side flanges for attaching the bracket to a beam or other support, and a perforated lug at the base of the body portion adapted to receive a truss-rod.

17. In a greenhouse construction, a beam or plate shaped to present an outside gutter, said beam being no wider than the gutter, brackets on the outside of the beam projecting laterally therefrom, and sash-bars supported entirely by said brackets.

18. In greenhouse construction, a beam or plate constituting an outside gutter, said beam being no wider than the gutter, brackets projecting outwardly from each side of said beam, and sash-bars supported entirely by the brackets.

19. In a greenhouse construction, a beam or plate having brackets projecting from its sides, sash-bars supported in said brackets, and means to support said beam, said brackets each having a drip-groove partially surrounding the same, combined with means situated beneath the beam for catching the water delivered from the drip-groove.

DESIGNS.

37,735. STATUETTE. THEODORE METTENLEITER and FREDERICK DENIVELLE, New York, N. Y. Filed Apr. 15, 1905. Serial No. 255,853. Term of patent 7 years.



Claim.—The ornamental design for a statuette as shown.

37,736. CLOCK-CASE. WALTER EDWARD MCGRAW, Everett, Mass., assignor to Chelsea Clock Company, Boston, Mass., a Corporation of Massachusetts. Filed Nov. 15, 1905. Serial No. 287,545. Term of patent 14 years.



Claim.—The ornamental design for a clock-case as shown.

37,737. TOBACCO-PIPE. FRANK JOSEPH ROSENBERG, Los Angeles, Cal. Filed Aug. 22, 1905. Serial No. 275,230½. Term of patent 3½ years.



Claim.—The ornamental design for a tobacco-pipe as shown.

37,738. LABEL. ANDREW DICKSON, Norwood, Ohio, assignor to The United States Printing Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Nov. 8, 1905. Serial No. 286,434. Term of patent 14 years.



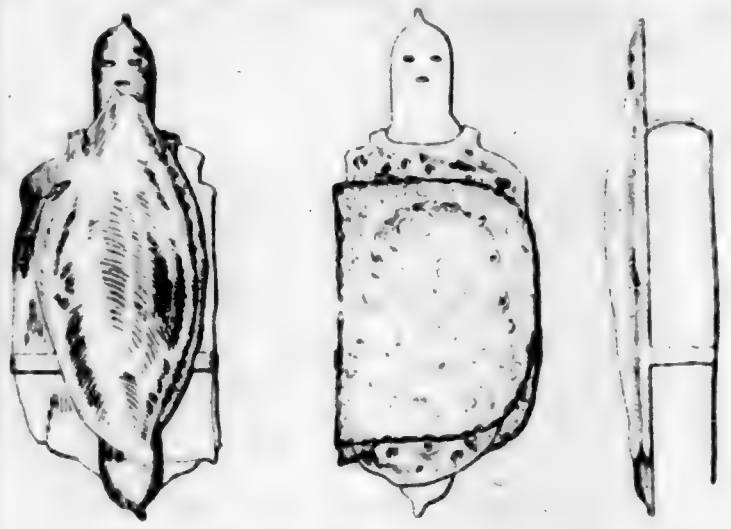
Claim.—The ornamental design for a label as shown.

37,739. LABEL. ANDREW DICKSON, Norwood, Ohio, assignor to The United States Printing Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Nov. 8, 1905. Serial No. 286,435. Term of patent 14 years.



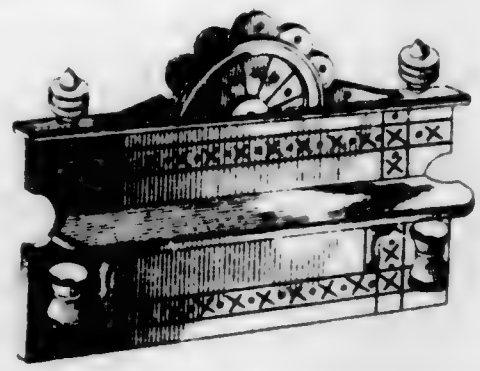
Claim.—The ornamental design for a label as shown.

37,740. SANDWICH-SIGN. JOHN J. MEYER, New York, N. Y. Filed Oct. 27, 1905. Serial No. 284,757. Term of patent 7 years.



Claim.—The ornamental design for a sandwich-sign as shown.

37,741. BASE OR BACK FOR CLOTHES-RACKS. JOB M. S. FRUIT, Gotham, Wis. Filed Aug. 24, 1905. Serial No. 275,676. Term of patent 7 years.



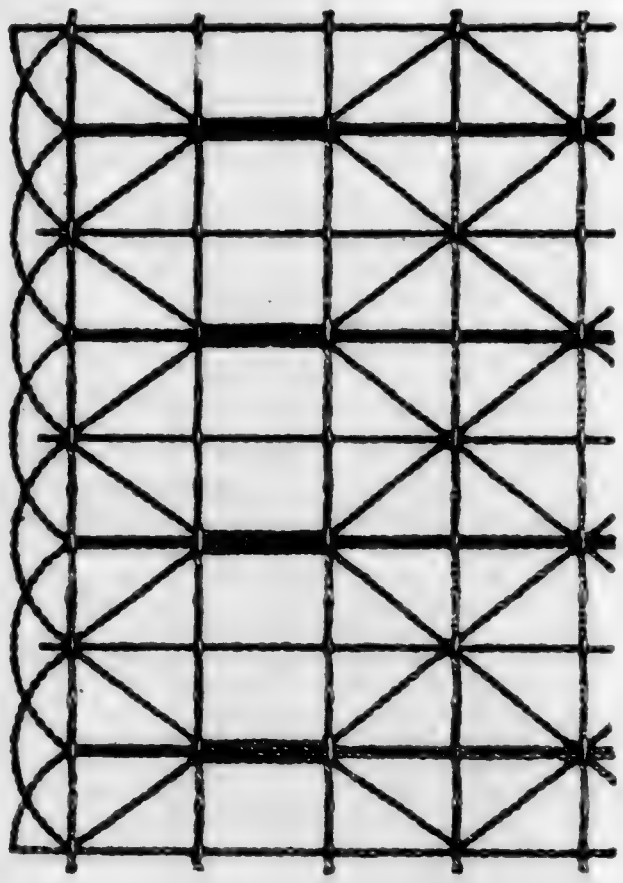
Claim.—The ornamental design for a base or back for a clothes-rack, as shown

37,742. LAMP-POST. JACOB E. DAVIS, Ironton, Ohio. Filed Nov. 10, 1905. Serial No. 286,764. Term of patent 14 years.



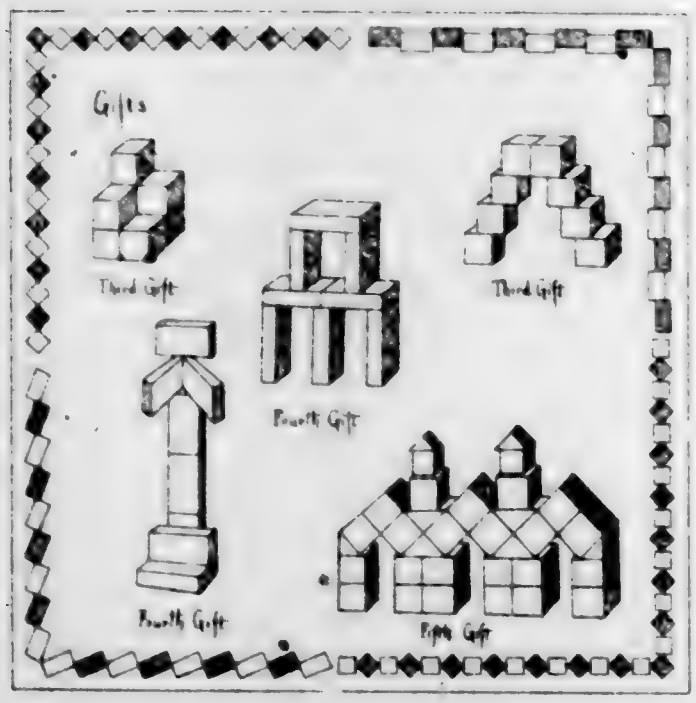
Claim.—The ornamental design for a lamp-post as shown.

37,743. WIRE FENCE. HARRY WARD, Petosky, Mich. Filed Apr. 22, 1905. Serial No. 257,091. Term of patent 14 years.



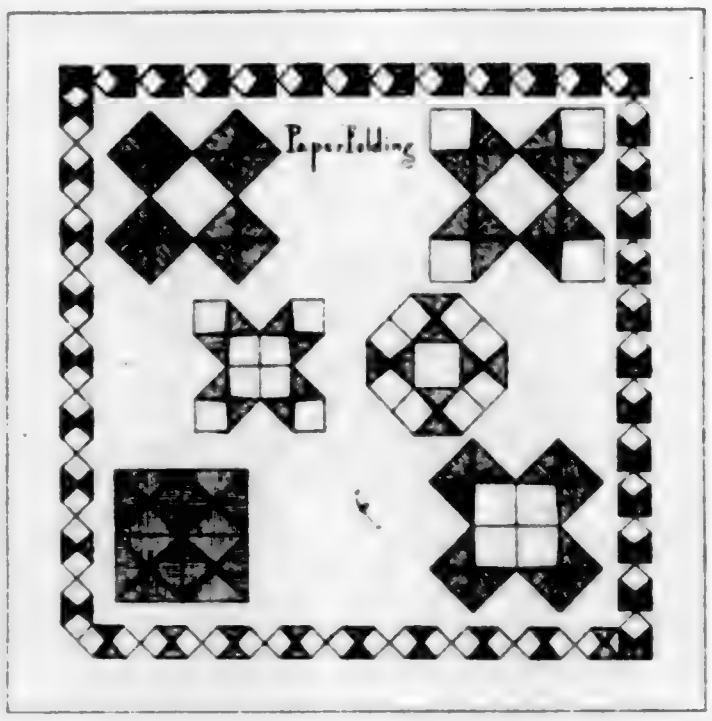
Claim.—The ornamental design for a wire fence, as shown.

37,744. TEXTILE FABRIC. THOMAS P. BLACK, Hoboken, N. J. Filed Sept. 6, 1905. Serial No. 277,176. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric as shown.

37,745. TEXTILE FABRIC. THOMAS P. BLACK, Hoboken, N. J. Filed Sept. 6, 1905. Serial No. 277,177. Term of patent 3½ years.



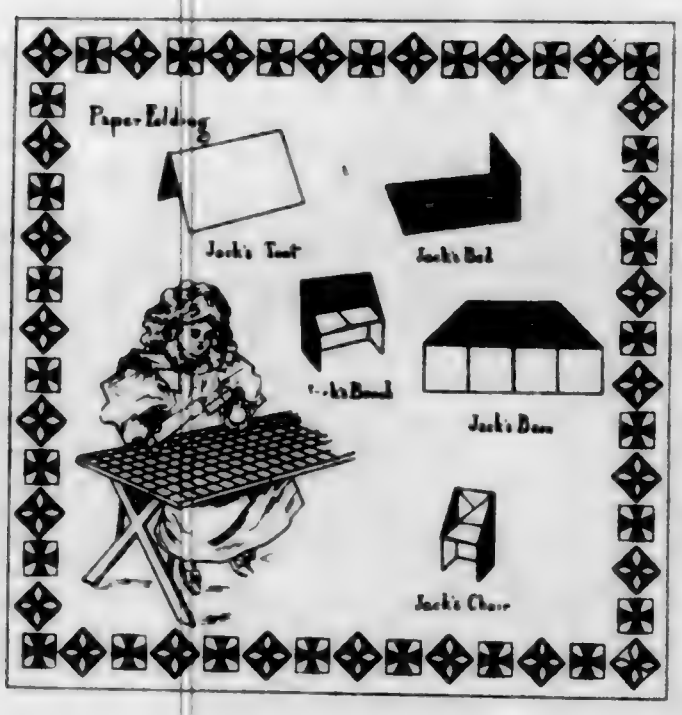
Claim.—The ornamental design for a textile fabric as shown.

37,746. TEXTILE FABRIC. THOMAS P. BLACK, Hoboken, N. J. Filed Sept. 6, 1905. Serial No. 277,178. Term of patent 3½ years.



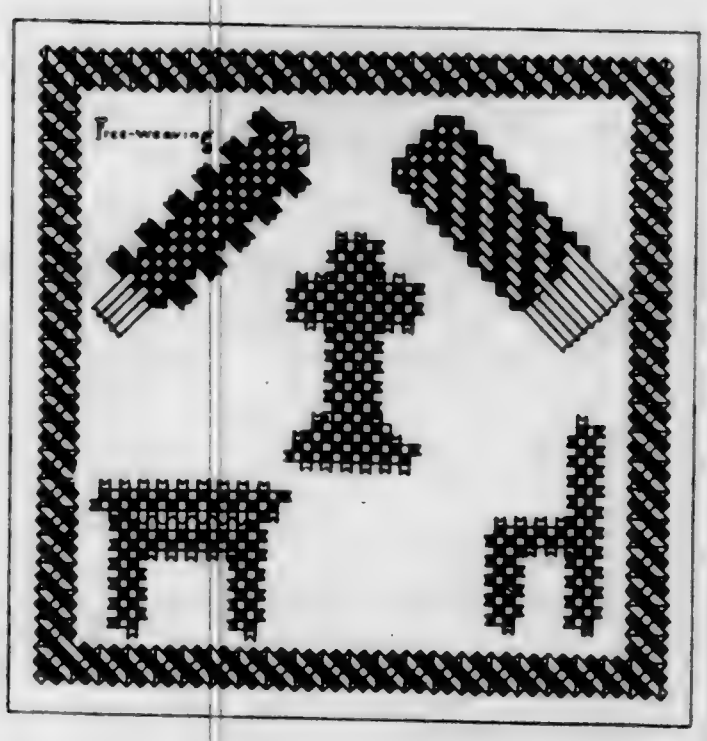
Claim.—The ornamental design for a textile fabric as shown.

37,747. TEXTILE FABRIC. THOMAS P. BLACK, Hoboken, N. J.
Filed Sept. 6, 1905. Serial No. 277,180. Term of patent 3½ years.



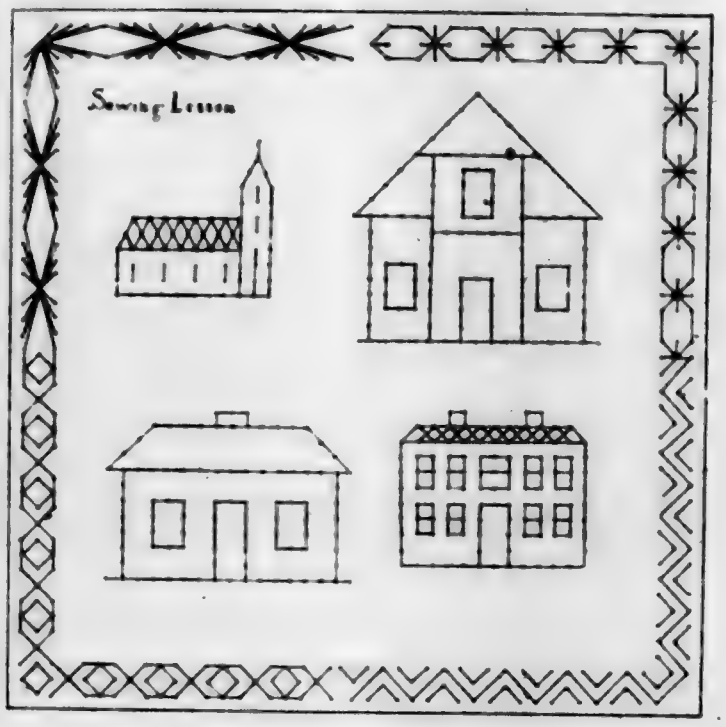
Claim.—The ornamental design for a textile fabric as shown.

37,748. TEXTILE FABRIC. THOMAS P. BLACK, Hoboken, N. J.
Filed Sept. 6, 1905. Serial No. 277,181. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric as shown.

37,749. TEXTILE FABRIC. THOMAS P. BLACK, Hoboken, N. J.
Filed Sept. 6, 1905. Serial No. 277,182. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric as shown.

37,750. TEXTILE FABRIC. THOMAS P. BLACK, Hoboken, N. J.
Filed Sept. 6, 1905. Serial No. 277,183. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric as shown.

37,751. TEXTILE FABRIC. THOMAS P. BLACK, Hoboken, N. J. Filed Sept. 6, 1905. Serial No. 277,184. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric as shown.

37,752. TEXTILE FABRIC. FREDERIC B. KIP, Montclair, N. J. Filed Nov. 17, 1905. Serial No. 287,902. Term of patent 7 years.



Claim.—The ornamental design for a textile fabric as shown.

37,753. PRINTED TEXTILE FABRIC. EDGAR H. RAHM, Montclair, N. J. Filed June 5, 1905. Serial No. 263,885. Term of patent 7 years.



Claim.—The ornamental design for a printed textile fabric as shown.

37,754. KNITTED FABRIC. MARTIN J. SHAUGHNESSY, Amsterdam, N. Y. Filed Oct. 14, 1905. Serial No. 282,857. Term of patent 7 years.



Claim.—The ornamental design for a knitted fabric, as shown.

TRADE-MARKS

PUBLISHED DECEMBER 19, 1905.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

SER. No. 330. DRESS, BOSOM, AND NEGLIGÉE SHIRTS. Howe & Howe, Boston, Mass. Filed Apr. 3, 1905.

HUB

The word "HUB."

SER. No. 354. CATTLE-FEED CONSISTING OF GROUND CORN AND OATS. Dock & Coal Co., Plattsburg, N. Y. Filed Apr. 4, 1905.

DANDY

The word "DANDY."

SER. No. 727. BREAD AND CRACKERS. GEORGE S. WARD, Pittsburg, Pa. Filed Apr. 7, 1905.

TIP TOP

The arbitrary words "TIP TOP."

SER. No. 931. WHISKY. LAZARUS AND NASSAUER, Cairo, Ill. Filed Apr. 10, 1905. Used ten years.

Josh Quincy

The words "JOSH QUINCY."

SER. No. 1,047. PREPARATION OF HYPOPHOSPHITES. THE FELLOWS MEDICAL M'F'G CO., LIMITED, New York, N. Y. Filed Apr. 10, 1905. Used ten years.

FELLOWS'
Compound Syrup
OF
HYPOPHOSPHITES.

The words "FELLOWS' COMPOUND SYRUP OF HYPOPHOSPHITES."

SER. No. 1,309. REGULATING-VALVES FOR FLUIDS. THOMAS P. FORD, New York, N. Y. Filed Apr. 12, 1905.



The letter and numeral "D 4," arranged in the form of a monogram.

SER. No. 1,340. BUTTERINE. BRAUN & PITTS, Inc., Chicago, Ill. Filed Apr. 13, 1905. Used ten years.



A red seal or disk having thereon the words "THE ONLY HIGH GRADE."

SER. No. 1,576. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

MODEL

The word "MODEL."

SER. No. 1,581. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

MOTOR

The word "MOTOR."

SER. No. 1,597. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

EXPERT

The word "EXPERT."

SER. No. 1,969. PACKING FOR VALVE-JOINTS. THE FAIRBANKS CO., New York, N. Y. Filed Apr. 17, 1905.



The letter "F," inclosed in a double broken triangle, with a star in each corner of the triangle, and with the words "TRIANGLE," "FAIRBANKS," and "PACKING," inclosed in the border of the representation of said triangle.

SER. No. 2,205. PRESERVED OLIVES. SEVILLE PACKING CO., New York, N. Y. Filed Apr. 18, 1905.

SER. No. 2,205.



The representation of three olives connected to a single stem and of the words "SELECTED KING OLIVES" and the words "SEVILLE PACKING CO., NEW YORK-SEVILLE, SPAIN," the entire wording being arranged in four lines of fancy script lettering.

SER. No. 2,879. CANNED PEACHES, PEARS, APRICOTS, TOMATOES, CORN, PEAS, AND BEANS. FRANK C. WEBER AND CO., Chicago, Ill. Filed Apr. 22, 1905.

JEWEL

The word "JEWEL."

SER. No. 2,880. CANNED PEACHES, PEARS, APRICOTS, TOMATOES, CORN, PEAS, AND BEANS. FRANK C. WEBER AND CO., Chicago, Ill. Filed Apr. 22, 1905.



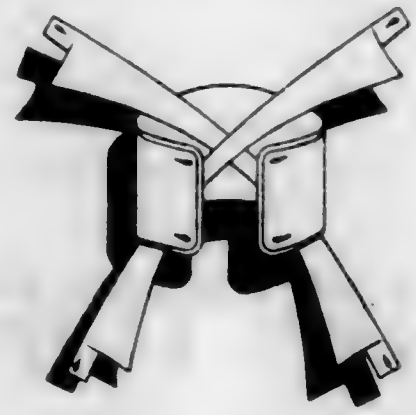
A cushion with a cut diamond resting thereon and rays radiating therefrom.

SER. No. 2,879. LAUNDRY STARCH. THE CELLULOID STARCH COMPANY, New York, N. Y. Filed Apr. 24, 1905.

CELLULOID

The word "CELLULOID."

SER. No. 2,880. LAUNDRY STARCH. THE CELLULOID STARCH COMPANY, New York, N. Y. Filed Apr. 24, 1905.



A representation of two crossed collars inclosed by a cuff.

SER. No. 3,005. BEEDING-MACHINES. THE MONITOR DRILL CO., St. Louis Park and Minneapolis, Minn. Filed Apr. 25, 1905.

MONITOR

The word "MONITOR."

SER. No. 3,463. ALE. ALONZO G. VAN HOUTRAND, Boston, Mass. Filed Apr. 28, 1905.



The hyphenated word "OWL-MUSTY," associated with the pictorial representation of an owl.

SER. No. 3,472. GLASS ELECTRIC GLOBES AND GLASS SHADES. THE PHOENIX GLASS CO., Pittsburg, Pa. Filed Apr. 28, 1905.



The word "PHOENIX" on a panel appearing across the representation of a phenix.

SER. No. 3,497. WHISKY. JETT BROS. DISTILLING CO., Carrollton, Ky. Filed Apr. 28, 1905. Used ten years.

RICHLAND.

The word "RICHLAND," inclosed in a diamond-shaped figure.

SER. No. 3,929. PROPRIETARY MEDICINE FOR WOMEN'S DISEASES. WILLIAM A. TALBOTT, Warren, Pa. Filed May 1, 1905.

Micajah & Co.

The facsimile signature of the firm, "MICAJAH & CO."

SER. No. 3,948. LEATHER-POLISH. WHITTEMORE BROS. AND CO., Cambridge, Mass. Filed May 1, 1905.

"SUPERB"

The word "SUPERB" in quotation-marks.

SER. No. 3,947. LEATHER-POLISH. WHITTEMORE BROS. AND CO., Cambridge, Mass. Filed May 1, 1905.

ROYAL GLOSS

The word "ROYAL," in connection with the word "GLOSS."

SER. No. 4,134. BITTERS. LOUIS E. JUNG, New Orleans, La. Filed May 3, 1905.

Columbo



The word "COLUMBO," above a fanciful picture of a winged cupid resting his right foot on a winged wheel and holding aloft in his left hand wires giving light radiations, his right hand at his side and producing like results. In the background appear clouds and a pole supporting the wires.

SER. No. 4,216. TOILET AND BATH SOAP. ALLEN CONKLING, South Chicago, Ill. Filed May 3, 1905.



The representation of an ornamental closed scroll of oval form having a pendent portion and inclosing a field of contrasting shade or color. On this appear the words "BITTER SWEET."

SER. No. 4,217. LAUNDRY SOAP. ALLEN CONKLING, South Chicago, Ill. Filed May 3, 1905.



The words "RED HEART BRAND" displayed upon the representation of a conventional heart pierced by an arrow.

SER. No. 4,252. LUBRICATING-GREASE. ADAM COOK'S SONS, New York, N. Y. Filed May 4, 1905.



The representation of a plank set on an incline and supported at its lower end by a barrel or cask lying on bilge and adjacent to another cask standing on its head or end and bearing a number indicating its weight, and pyramids of cans of varying sizes arranged one pyramid behind the other, the cans forming the front pyramid bearing numbers indicative of the weight of the material therein, with a man or boy sliding down the said plank, in one of his hands holding a can and in the other a shovel or dipping-stick, and at the side of the said plank the characters "O EZR IC" appear, together with a ribbon bearing the words "ALBANY LUBRICATING COMPOUND," all inclosed by a circle or border.

SER. No. 4,326. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 5, 1905. Used ten years.

TRITON

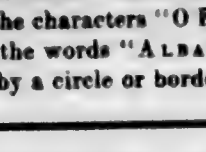
The word "TRITON."

SER. No. 4,349. FOUNTAIN-PENS. L. E. WATERMAN COMPANY, New York, N. Y. Filed May 5, 1905.

IDEAL

The word "IDEAL."

SER. No. 4,374. SUGAR-COATED PILLS. LEHMAN & KEHP, New York, N. Y. Filed May 5, 1905.



The bust portrait of Dr. C. C. Bristol, deceased, upon an ornamental medallion, which portrait and medallion appear upon a panel having a scroll ornamentation at its corners, and the words "BRISTOL'S PILLS" above the portrait and the words "SUGAR COATED" below said portrait, all of said words being produced upon the panel.

SER. No. 4,418. WHISKY. THE DONOGHUE IMPORTING COMPANY, Rochester, N. Y. Filed May 5, 1905.

GLENTEEK

The word "GLENTEEK," printed in partly-shaded type.

SER. No. 4,820. MEN'S, WOMEN'S, AND CHILDREN'S LEATHER BOOTS AND SHOES. THOMAS G. PLANT COMPANY, Boston, Mass. Filed May 8, 1905.



A full-length representation of Queen Louise descending a flight of steps.

SER. No. 4,622. MEN'S, WOMEN'S, AND CHILDREN'S LEATHER BOOTS AND SHOES. THOMAS G. PLANT COMPANY, Boston, Mass. Filed May 8, 1905.

Queen Quality

The words "QUEEN QUALITY," inclosed in a wreath.

SER. No. 4,829. CURE FOR HEADACHE, NEURALGIA, CATARRH, AND OTHER AFFECTIONS OF THE THROAT AND LUNGS. CUSHMAN DRUG CO., Vincennes, Ind. Filed May 9, 1905. Used ten years.



The words "CUSHMAN'S MENTHOL INHALER," associated with the pictorial representation of a woman holding a cylindrical pocket-inhaler, upon which is displayed the words "CUSHMAN'S MENTHOL INHALER."

SER. No. 4,837. LIGHTNING-RODS. DODD & STRUTHERS, Des Moines, Iowa. Filed May 9, 1905.

D&S.

The letters "D and S." with the character & between them.

SER. No. 4,920. WORM-SYRUP. DR. C. A. VOORHEES ESTATE, Philadelphia, Pa. Filed May 10, 1905. Used ten years.



The word "BUMSTEAD'S."

SER. No. 4,969. COTTON PIECE GOODS. TREMONT & SUFFOLK MILLS, Lowell, Mass. Filed May 10, 1905. Used ten years.



The word "SHAWMUT."

SER. No. 4,976. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 10, 1905. Used ten years.



The word "MEDFORD."

SER. No. 4,985. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 10, 1905. Used ten years.



The word "FALMOUTH."

SER. No. 4,986. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 10, 1905. Used ten years.



The word "BANGOR."

SER. No. 4,989. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 10, 1905. Used ten years.



The word "BUCKINGHAM."

SER. No. 5,142. WHISKY. THE HOFFHEIMER BROS. CO., Cincinnati, Ohio. Filed May 11, 1905. Used ten years.



The name "HOFFHEIMER BROS."

SER. No. 5,204. PASTE. THE PRESERVALINE MFG. CO., New York, N. Y. Filed May 11, 1905.



The representation of a bishop's crown and the word "CROWN," the latter extending across the representation of the crown.

SER. No. 5,297. WHISKY. STRAUS, GUNST & CO., Richmond, Va. Filed May 12, 1905.



The words "FULL DRESS" and the representation of a man clad in a full-dress suit and holding a glass in one hand, inclosed in an oval frame.

SER. No. 5,318. LIQUID FOR INTERNAL USE AS AN ANTISEPTIC, TONIC, DIGESTIVE, AND BLOOD-PURIFIER. POTTER DRUG & CHEMICAL CORPORATION, Boston, Mass. Filed May 12, 1905. Used ten years.

SER. No. 5,318.



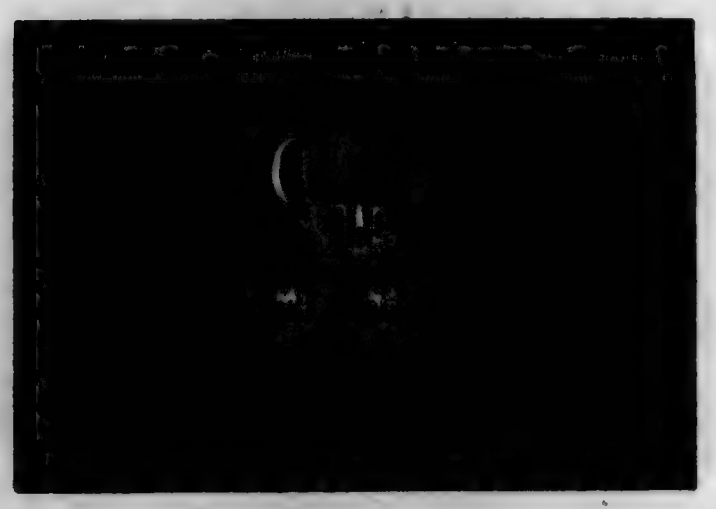
The words, character, abbreviation, and letters "CUTICURA RESOLVENT, PREPARED BY POTTER DRUG & CHEMICAL CORP., BOSTON, MASSACHUSETTS, U. S. A.," and the monogram of the letters "P D & C CORP," inclosed in the outline of a heart, the abbreviation "CORP" appearing in an elongated hexagonal figure placed across the letter "P" and the whole inclosed by a border-line and appearing in red upon a black rectangular background.

SER. No. 5,319. OINTMENT. POTTER DRUG & CHEMICAL CORPORATION, Boston, Mass. Filed May 12, 1905. Used ten years.



The words, character, abbreviation, and letters "THE GREAT SKIN CURE CUTICURA PREPARED BY POTTER DRUG & CHEMICAL CORP. BOSTON, MASSACHUSETTS, U. S. A.," and the monogram of the letters "P D & C CORP," inclosed in the outline of a heart, the abbreviation "CORP." appearing in an elongated hexagonal figure placed across the letter "P," ornamental scrolls appearing on either side of the heart, the whole inclosed by two concentric circles and appearing in red upon a black circular background.

SER. No. 5,320. MEDICATED AND PERFUMED SOAP. POTTER DRUG & CHEMICAL CORPORATION, Boston, Mass. Filed May 12, 1905. Used ten years.



The representation of three rectangular panels. The first contains the words "THIS SOAP CONTAINS IN A MODIFIED FORM THE MEDICINAL PROPERTIES OF CUTICURA, THE GREAT SKIN CURE," printer's ornamentation appearing before and after the word "CUTICURA." The second panel contains the words "CUTICURA SOAP, MEDICINAL AND TOILET, PRICE 25 CENTS," ornamentation appearing before and after the word "SOAP" and below the word "TOILET." The third panel contains the words "HEALING, SOOTHING & CLEANSING, FRAGRANT & REFRESHING, FOR ALL CUTANEOUS AFFECTIONS, THE TOILET, BATH AND NURSERY, FOR SHAVING AND SHAMPOOING." Above and below the middle panel and to the right of the third panel is placed the monogram composed of the letters "P D & C CORP" inclosed in the outline of a heart, the abbreviation "CORP" appearing in an elongated hexagon figure placed across the letter "P." At the right of the third panel and below the heart-shaped figure appear the words, character, and abbreviations "PREPARED BY POTTER DRUG & CHEMICAL CORP., BOSTON, MASSACHUSETTS, U. S. A.," the whole appearing in red upon a black rectangular background.

SER. No. 5,332. NON-ACID ANTISEPTIC LIQUID ADAPTED FOR BOTH INTERNAL AND EXTERNAL USE. HUDSON & CO. INC., New York, N. Y. Filed May 15, 1905.

LYTHOL

The word "LYTHOL."

SER. No. 5,712. WHEAT-FLOUR. THE MAYFLOWER MILLS, Fort Wayne, Ind. Filed May 15, 1905. Used ten years.

BOND'S
GLUTEN-GERM

The words "BOND'S GLUTEN-GERM."

SER. No. 5,804. LEATHER BOOTS AND SHOES. MARKS, ROTHENBERG & CO., Meridian, Miss. Filed May 16, 1905.

ARUNDELL

The word "ARUNDELL."

SER. No. 5,959. LAGER-BEER. JACOB RUPPERT, New York, N. Y. Filed May 18, 1905.

RUPPINER

The word "RUPPINER."

SER. No. 6,113. TACK AND NAIL PULLERS. THE GENERAL SPECIALTY COMPANY, Philadelphia, Pa. Filed May 19, 1905.

BI-PED

The compound word "BI-PED."

SER. No. 6,037. MINERAL WATERS. MARY A. FERRIS, Plainville, Ohio. Filed May 18, 1905.



The words "CRYSTAL FOUNTAIN SPRINGS" and the representation of a fountain-basin containng water and having curved walls. At the center of the basin appear rocks having a nozzle projecting therefrom and represented as discharging a spray of water, the entire fountain being surrounded by an ornamental border.

SER. No. 6,159. PREPARATION FOR THE TREATMENT OF FLATULENT COLIC, DIARRHEA, NAUSEA, COUGHS, CHOLERA INFANTUM, TEETHING, AND CHOLERA MORBUS. LAMAR & RANKIN DRUG CO., Atlanta, Ga. Filed May 20, 1905. Used ten years.



The words "PITTS CARMINATIVE" and the representation of an infant suspended from a flowering branch of a growing plant.

SER. No. 6,172. LEATHER BOOTS AND SHOES. A. H. BERRY SHOE COMPANY, Portland, Me. Filed May 20, 1905.



The words "CRUMBS OF COMFORT," associated with the representation of an old lady sitting in a chair knitting.

SER. No. 6,209. LAGER-BEER. ZELTNER BREWING CO., New York, N. Y. Filed May 16, 1905. Used ten years.

ZELTNER BREWING CO'S

OLD FASHIONED BEER

The words "ZELTNER BREWING CO'S OLD FASHIONED BEER."

SER. No. 6,301. WHISKY. LOUIS J. ADLER & CO., Pittsburg, Pa. Filed May 22, 1905.

HYROLER

The word "HYROLER."

SER. No. 6,303. WINE. WM. HOHLACHER AND CO., INC., San Francisco, Cal. Filed May 22, 1905.



The word "POMINO," inclosed in quotation-marks, and a circular design at either side of said word and bearing a monogram composed of the letters, character, and abbreviation "W H & Co.," all inclosed within a fanciful-shaped double-line border.

SER. No. 6,310. PREPARATION OF BROMIDS. PEACOCK CHEMICAL CO., St. Louis, Mo. Filed May 22, 1905.



The representation of a peacock standing upright upon a shield with its tail spread, the shield being surmounted by a scroll bearing the word "PURITY," and there being a scroll beneath the shield bearing the words "THE BEST IS THE CHEAPEST."

SER. No. 6,439. METAL-TURNING LATHES. THE LODGE & SHIPLEY MACHINE TOOL CO., Cincinnati, Ohio. Filed May 24, 1905.



A barred shield having a panel, at the upper portion of which appear the words "LATHES GOOD LATHES ONLY." Perched upon the upper edge of the shield is the representation of an eagle with outstretched wings.

SER. No. 6,454. WIRE NAILS. CHARLES F. BAKER & CO., Boston, Mass. Filed May 24, 1905. Used ten years.

HOLD

FAST.

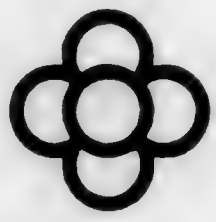
The words "HOLD FAST."

SER. No. 6,516. ANTISEPTIC LIQUID OR CREAM, A REMEDY FOR INFLAMMATION OF THE SKIN. THORWALD ANDA, Chicago, Ill. Filed May 24, 1905.

MARIGOLDINE

The word "MARIGOLDINE."

SER. No. 6,541. PLOWS, CULTIVATORS, ROLLERS, AND HARROWS. WIARD PLOW CO., Batavia, N. Y. Filed May 24, 1905.



The representation of a circle inclosed by four incomplete circles arranged about the circumference thereof.

SER. No. 6,603. WHISKY. LOUISA NELSON, Nashville, Tenn. Filed May 25, 1905. Used ten years.



The words "GREEN BRIER," inclosed in quotation-marks, associated with the words "TENNESSEE HAND MADE SOUR MASH WHISKEY" and the name and address "CHAS. NELSON, NASHVILLE." The word "TENNESSEE" appears on a panel-shaped figure enlarged at the beginning into a circular form and ornamented with a spray of green-brier vine, the whole inclosed in a rectangular outline.

SER. No. 6,624. LIQUID PURGATIVE COMPOUNDS. CALIFORNIA FIG SYRUP CO., San Francisco, Cal. Filed May 25, 1905.

CALIFIG

The word-symbol "CALIFIG."

SER. No. 6,665. DRESS-SHIRTS. RICHARDSON, ROBERTS DRY GOODS CO., St. Joseph, Mo. Filed May 25, 1905.

Hunter

The word "HUNTER."

SER. No. 6,781. STARCH AND DEXTRIN. NORDDEUTSCHE KARTOFFELMEHL-FABRIK MIT BESCHRÄNKTER HAFTUNG, Cüstrin, Brandenburg, Germany. Filed May 26, 1905.



UNICORN

The representation of a unicorn's head and the word "UNICORN."

SER. No. 6,818. LEATHER BOOTS, SHOES, AND SLIPPERS OF ALL KINDS AND UPPER AND SOLE LEATHER USED IN THEIR MANUFACTURE. FRED F. FIELD, Brockton, Mass. Filed May 27, 1905.

Walkabout

The word "WALKABOUT."

SER. No. 6,929. MINERAL WATER. THE BERRY HILL MINERAL SPRING CO. OF VA., Washington, D. C. Filed May 29, 1905.

Berry Hill

The words "BERRY HILL."

SER. No. 7,084. MEDICINE IN THE FORM OF PILLS FOR DISEASES OF THE KIDNEYS, BLADDER, AND URINARY ORGANS. THE BUKER PILL CO., Bangor, Me. Filed May 29, 1905.



The portrait of Dr. E. C. Buker, deceased, and a facsimile signature containing the words "DR. E. C. BUKER." Associated with the portrait and facsimile signature are the words "DR. BUKER'S KIDNEY PILLS."

SER. No. 7,044. LUBRICATING-GREASE. AUGUSTUS C. BUSBY, Philadelphia, Pa. Filed May 29, 1905.



The representation of a keystone, across which is printed the word "LUBRICANT."

SER. No. 7,074. REMEDY FOR COUGHS, COLDS, AND SIMILAR COMPLAINTS. THE PORTER MEDICINE COMPANY, Paris, Tenn. Filed May 31, 1905.

GRIP-IT

The compound word "GRIP-IT."

SER. No. 7,439. REFRIGERATORS. D. EDDY & SONS CO., Boston, Mass. Filed June 5, 1905. Used ten years.

GLOBE

The word "GLOBE."

SER. No. 7,461. PLIABLE LEATHER TANNED BY A SPECIAL PROCESS AND ADAPTED TO THE MANUFACTURE OF GLOVES, SHOES, AND OTHER ARTICLES OF WEARING-APPAREL, BELTING, AND VALVE-LEATHER. THE JOSEPH N. EISENDRATH COMPANY, Chicago, Ill. Filed June 5, 1905.

ASBESTOL

The word "ASBESTOL."

SER. No. 7,462. PLIABLE LEATHER TANNED BY A SPECIAL PROCESS AND ADAPTED TO THE MANUFACTURE OF GLOVES, SHOES, AND OTHER ARTICLES OF WEARING-APPAREL, BELTING, AND VALVE-LEATHER. THE JOSEPH N. EISENDRATH COMPANY, Chicago, Ill. Filed June 5, 1905.

ASBESTOL

The word "ASBESTOL," which is inclosed in a lozenge or diamond shaped frame.

SER. No. 7,466. BALL-BLUE AND WASH-BLUE. THE HELLER & MERZ CO., Newark, N. J. Filed June 5, 1905. Used ten years.

AMERICAN

The word "AMERICAN."

SER. No. 7,527. MINERAL PAINT IN DRY POWDERED FORM SOLD IN BULK. CHATTANOOGA PAINT CO., Chattanooga, Tenn. Filed June 6, 1905.

LOWE'S

The word "LOWE'S" and the representation of a Maltese cross printed in red.

SER. No. 7,611. PREPARATION CONTAINING COFFEE TO IMPROVE THE COLOR AND AROMA OF COFFEE PROPER. PFEIFFER & DILLER, Horchheim, near Worms, Germany. Filed June 7, 1905.



The representation of an elderly man with a spoon in one hand and a box in the other, a cup, and a coffee-pot, the two latter being evidently placed on a table, on which the elbows of the man are rested.

SER. No. 7,612. KNIT UNDERWEAR. THE DIRECT SUPPLY CO., Martinsburg, W. Va., and New York, N. Y. Filed June 7, 1905.



The representation of an Indian standing on the edge of a precipiece or rocky elevation having discharged an arrow from a bow held in the left hand, the arrow in front of the bow having its shaft extending lengthwise through the word "DIRECT."

SER. No. 7,659. RAILROAD LAMPS AND LANTERNS. ARMSPEAR MANUFACTURING COMPANY, New York, N. Y. Filed June 8, 1905.



The representation of an arm holding aloft a spear.

SER. No. 7,903. FILES AND RASPS. NICHOLSON FILE COMPANY, Providence, R. I. Filed June 12, 1905. Used ten years.

THE J. BARTON SMITH CO.

The words "THE J. BARTON SMITH CO.," together with a panel.

SER. No. 7,660. RAILROAD LAMPS AND LANTERNS. ARMSPEAR MANUFACTURING COMPANY, New York, N. Y. Filed June 8, 1905.



The representation of a human arm bent at the elbow and holding a spear clenched in the hand and the word "ARMSPEAR," the letters whereof are arranged on a curve in the angle of the arm and have scrollwork above and below them.

SER. No. 7,936. OILED CLOTHING OF ALL KINDS. A. J. TOWER COMPANY, Boston, Mass., and Portland, Me. Filed June 13, 1905.



The picture of a fisherman fishing from a boat and the words "LONE FISHERMAN" within a circle-bounded border about the picture.

SER. No. 8,089. COFFEE. THE PONCE R100 CO., San Francisco, Cal. Filed June 13, 1905.

Ponce de Leon

The name "PONCE DE LEON."

SER. No. 8,104. TOOTH-POWDER. THE AMERICAN PEROXIDE AND CHEMICAL COMPANY, New York, N. Y. Filed June 14, 1905.

Aseptikon

The word "ASEPTIKON."

SER. No. 8,206. HORSE-NAILS. STANDARD HORSE NAIL COMPANY, New Brighton, Pa. Filed June 15, 1905.

STABLE

The word "STABLE."

SER. No. 8,124. COFFEE. GUSTAV J. KELLER, Newark, N. J. Filed June 14, 1905.



The pictorial representation of head and shoulders of a typical Arab shepherd dressed, with the head turbaned and right hand grasping a shepherd's crook, in combination with the hyphenated word "AR-A-BA," arranged diagonally beneath the bust, the letters of said word being of a fancy block-letter type, the individual strokes of which mutually cross each other.

SER. No. 8,208. HORSE-NAILS. STANDARD HORSE NAIL COMPANY, New Brighton, Pa. Filed June 15, 1905.

Secure

The word "SECURE."

SER. No. 8,209. HORSE-NAILS. STANDARD HORSE NAIL COMPANY, New Brighton, Pa. Filed June 15, 1905.

STEADFAST

The word "STEADFAST."

SER. No. 8,210. HORSE-NAILS. STANDARD HORSE NAIL COMPANY, New Brighton, Pa. Filed June 15, 1905. Used ten years.



The representation of a circle, associated with the letter "S," bearing the word "FORGED," and the representation of a horse-nail bearing the word "STANDARD."

SER. No. 8,216. HORSE-NAILS. STANDARD HORSE NAIL COMPANY, New Brighton, Pa. Filed June 15, 1905.

"B"

The arbitrarily-selected character "B," inclosed in quotation-marks.

SER. No. 8,257. TONICS. SAMUEL ISSEMAN, Baltimore, Md. Filed June 15, 1905.



The word "TIPPLE" in a scroll and the illustration of a monkey mounted on a hobby-horse, the monkey holding in his right paw a bottle and grasping his tail with the left paw. On the head of the monkey is a cap.

SER. No. 8,295. RIFLES, SHOTGUNS, AND REVOLVERS. HENRY KENNEL, Baltimore, Md. Filed June 15, 1905. Used ten years.

COLUMBIA ARMS CO.

The designation "COLUMBIA ARMS CO."

SER. No. 8,314. WHISKY. MORRIS LAWER, Cincinnati, Ohio. Filed June 16, 1905.

Old Chatfield

The words "OLD CHATFIELD," printed in script above the representation of a shield, upon which is shown a monogram consisting of the abbreviation, letters, and character "M L & Co," the shield being surmounted by a helmet and surrounded by a fanciful scroll design.

SER. No. 8,413. MEDICAL COMPOUND USED AS A REMEDY FOR RHEUMATISM, NEURALGIA, KIDNEY DISEASES, AND DISEASES OF THE URINARY ORGANS. SARAH HOLDEN EVERETT HAYDEN, Bedford Springs, Bedford, Mass. Filed June 17, 1905.

HAYDEN'S
Uric
Solvent

The words "HAYDEN'S URIC SOLVENT."

SER. No. 8,424. ROCK-CRUSHERS. THE SAMSON MANUFACTURING COMPANY, Denver, Colo. Filed June 17, 1905.

SAMSON

The word "SAMSON."

SER. No. 8,477. HAMMERS. ARTHUR R. ROBERTSON, Boston, Mass. Filed June 19, 1905.



The representation of a horseshoe-magnet and its armature.

SER. No. 8,527. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn., and New York, N. Y. Filed June 19, 1905.

NITRO CLUB

The words "NITRO CLUB."

SER. No. 8,528. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn., and New York, N. Y. Filed June 19, 1905.

NEW
CLUB

The words "NEW CLUB."

SER. No. 8,558. CORDIALS. WILLIAM F. MITCHELL, Philadelphia, Pa. Filed June 19, 1905.

TEUTONIA

The word "TEUTONIA."

SER. No. 8,623. STOVES, RANGES, FURNACES, HEATERS, AND PARTS THEREOF. MACEE FURNACE CO., Boston, Mass. Filed June 20, 1905. Used ten years.

MACEE

The word "MACEE."

SER. No. 8,778. PEPPER-SAUCE. E. MCILHENNY'S SON, Avery's Island, La. Filed June 22, 1905.

TABASCO

The word "TABASCO."

SER. No. 8,849. TOILET AND LAUNDRY SOAP. HASKINS BROS. & CO., Sioux City, Iowa, and Omaha, Nebr. Filed June 23, 1905. Used ten years.

OMAHA FAMILY

The words "OMAHA FAMILY."

SER. No. 8,953. WHISKY. KAUFMANN BROS. & CO., Toledo, Ohio. Filed June 24, 1905.

FORT INDUSTRY

The words "FORT INDUSTRY."

SER. No. 8,964. WHISKY. ADOLPH LOEB, Cincinnati, Ohio. Filed June 24, 1905.

Justice

The word "JUSTICE" between two parallel lines.

SER. No. 9,139. TOILET POWDER. BYRON C. GOULD, INC., New York, N. Y. Filed June 27, 1905.



The representation of a feminine head surrounded by the petals of a flower, the supporting-stem, and leaves.

SER. No. 9,140. TOILET POWDER. BYRON C. GOULD, INC., New York, N. Y. Filed June 27, 1905.



The representation of a feminine head surrounded by the petals of a flower, the supporting-stem, and leaves and inclosed in a border, having silhouette representations of a feminine head and of a baby's head within the border.

SER. No. 9,194. CANNED FRUITS AND VEGETABLES. PORTLAND PACKING COMPANY, Portland, Me. Filed June 27, 1905. Used ten years.

Sunnyside

The word or word-symbol "SUNNYSIDE."

SER. No. 9,195. CANNED FRUITS AND VEGETABLES. PORTLAND PACKING COMPANY, Portland, Me. Filed June 27, 1905. Used ten years.

Buttercup

The word or word-symbol "BUTTERCUP."

SER. No. 9,196. CANNED FRUITS AND VEGETABLES. PORTLAND PACKING COMPANY, Portland, Me. Filed June 27, 1905. Used ten years.

QUEEN BEE

The words or word-symbol "QUEEN BEE."

SER. No. 9,198. CANNED FRUITS AND VEGETABLES. PORTLAND PACKING COMPANY, Portland, Me. Filed June 27, 1905.

TALLY-HO

The words or word-symbol "TALLY-HO."

SER. No. 9,245. CIGARS AND CHEROOTS. S. LICHTENSTEIN CO., New York, N. Y. Filed June 27, 1905. Used ten years.



The representation of the head of an elk, associated with the word "ELK."

SER. No. 9,255. PILLS. ALLCOCK MANUFACTURING CO., New York, N. Y. Filed June 27, 1905. Used ten years.



The representation of a band composed of a border of many fine lines symmetrically arranged printed on a background made up of the words "BENJAMIN BRANDRETH'S PILLS" in very fine type, at one end of which are two seals or devices composed of fine lines symmetrically arranged and the words "BRANDRETH'S V. U. PILLS."

SER. No. 9,332. TRADE-NEWSPAPER. DAVID WILLIAMS COMPANY, New York, N. Y. Filed June 26, 1905.

Carpentry and Building
WITH WHICH IS INCORPORATED
The Builders' Exchange

The words "CARPENTRY AND BUILDING WITH WHICH IS INCORPORATED THE BUILDERS' EXCHANGE."

SER. No. 9,505. WHISKY. THE F. CHEVALIER CO., San Francisco, Cal. Filed June 30, 1905.



The word "CASTLE," associated with a representation of an ancient castle surmounting a pile of rock.

SER. No. 9,603. ALTERATIVES. INLAND CHEMICAL CO., Indianapolis, Ind. Filed July 1, 1905.

Prima Purificans

The words "PRIMA PURIFICANS."

SER. No. 9,667. GUN-GREASE. WINCHESTER REPEATING ARMS CO., New Haven, Conn. Filed July 3, 1905. Used ten years.

WINCHESTER

The word "WINCHESTER."

SER. No. 9,895. REMEDY FOR RHEUMATISM, GOUT, SCIATICA, AND OTHER RHEUMATIC DISEASES. THEODORE P. VAN NESS, Newark, N. J. Filed July 7, 1905.



The representation of a hand holding in the palm a number of coins and bills.

SER. No. 9,909. FORGES. THE CHAMPION BLOWER & FORGE COMPANY, Lancaster, Pa. Filed July 8, 1905.

No 150

The symbol "No. 150."

SER. No. 9,910. TWYERS. THE CHAMPION BLOWER & FORGE COMPANY, Lancaster, Pa. Filed July 8, 1905.

WHIRLWIND

The word-symbol "WHIRLWIND."

SER. No. 9,934. SULFUR SOAP. ASCHENBACH & MILLER, Philadelphia, Pa. Filed July 8, 1905.

SER. No. 9,984.



A monogram of the letters "J M V D," the representation of a pitted field, on which said monogram appears, and the representation of oval-shaped medallions, one within the other, surrounding said field, the inner medallion being representations of beads.

SER. No. 10,192. LATHES. THE NATIONAL-ACME MANUFACTURING COMPANY, Cleveland, Ohio. Filed July 12, 1905.

ACME-AUTOMAT

The compound word "ACME-AUTOMAT."

SER. No. 10,259. OILED CLOTHING. A. J. TOWER COMPANY, Boston, Mass. Filed July 13, 1905.



The word "PELICAN" within a circular wreath. A small star is placed at the beginning and end of the word "PELICAN."

SER. No. 10,319. EXTERNAL REMEDY USED AS A VAGINAL WASH FOR LEUCORRHEA AND ALL UTERINE CATARRHS AND INFLAMMATIONS. CORA T. MACKENZIE, Baltimore, Md. Filed July 14, 1905.

FEMINOL

The word "FEMINOL."

SER. No. 10,412. LINIMENT FOR EXTERNAL APPLICATION FOR THE CURE OF PAINS, SPRAINS, AND BRUISES. WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. Filed July 6, 1905.



The hyphenated word "ELECTRO-MAGNETINE," having radiating therefrom in all directions zigzag lines representing electric sparks appearing upon a black oval background.

SER. No. 10,587. FASTENERS, SUCH AS USED ON GLOVES, SUSPENDERS, AND UMBRELLAS. THE PATENT BUTTON CO., Waterbury, Conn. Filed July 18, 1905.

SNAPFAST

The word "SNAPFAST."

SER. No. 10,590. LIQUID BLACKING. C. L. HAUTHAWAY & SONS, INCORPORATED, Portland, Me., and Boston, Mass. Filed July 20, 1905.

Crozine

The word "CROZINE."

SER. No. 10,591. FOLDING CEMENT FOR ALL KINDS OF CHROME-TANNED LEATHER. C. L. HAUTHAWAY & SONS, INCORPORATED, Portland, Me., and Boston, Mass. Filed July 20, 1905.

KROMEFOLD

The word "KROMEFOLD."

SER. No. 10,592. CHANNEL CEMENT FOR SOLES OF BOOTS AND SHOES. C. L. HAUTHAWAY & SONS, INCORPORATED, Portland, Me., and Boston, Mass. Filed July 20, 1905. Used ten years.

FLINTSTONE

The word "FLINTSTONE."

SER. No. 10,617. WHIPS. ARTHUR J. COOK, Westfield, Mass. Filed July 20, 1905.

EARLY BIRD

The words "EARLY BIRD."

SER. No. 10,682. TANNED SHEEPSKINS. RICHARD YOUNG COMPANY, New York, N. Y. Filed July 21, 1905.

NO SLIP

The words "NO SLIP."

SER. No. 10,803. CARTRIDGES AND BULLETS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

MUSHROOM

The word "MUSHROOM."

SER. No. 10,806. BULLETS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

SOFT NOSE

The words "SOFT NOSE."

SER. No. 10,807. CARTRIDGES AND METAL AND PAPER CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

CLUB

The word "CLUB."

SER. No. 10,809. GUN AND PISTOL CARTRIDGES AND PARTS THEREOF. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905.

NEW CENTURY

The words "NEW CENTURY."

SER. No. 10,810. GUN AND PISTOL CARTRIDGES AND PARTS THEREOF. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

U.M.C. CO.

The letters or characters and abbreviated word "U. M. C. Co."

SER. No. 10,812. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905.

ARROW

The word "ARROW."

SER. No. 10,813. CARTRIDGES. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

INSIDE LUBRICATED

The words "INSIDE LUBRICATED."

SER. No. 10,814. GUN AND PISTOL CARTRIDGES AND PARTS THEREOF. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

U. M. C.

The letters or characters "U. M. C."

SER. No. 10,815. GUN AND PISTOL CARTRIDGES AND PARTS THEREOF. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

SER. No. 10,815.



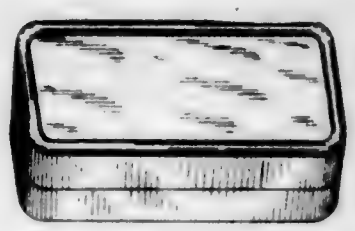
The letter "U," surrounded by a circle.

SER. No. 10,816. GUN AND PISTOL CARTRIDGES AND PARTS THEREOF. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

Union Metallic Cartridge Co.

The words and abbreviated word "UNION METALLIC CARTRIDGE CO."

SER. No. 10,817. GUN AND PISTOL CARTRIDGES AND PARTS THEREOF. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.



The representation of an angular box with rounded corners.

SER. No. 10,818. GUN AND PISTOL CARTRIDGES AND PARTS THEREOF. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.



The letters "U. M. C.," surrounded by an elliptical border.

SER. No. 10,819. CARTRIDGES AND METAL AND PAPER CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905.

NITRO

The word "NITRO."

SER. No. 10,820. CARTRIDGES AND METAL AND PAPER CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

SER. No. 10,820.

SMOKELESS

The word "SMOKELESS."

SER. No. 10,821. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905.

MAGIC

The word "MAGIC."

SER. No. 10,822. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905.

MONARCH

The word "MONARCH."

SER. No. 10,823. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

REINFORCED

The word "REINFORCED."

SER. No. 10,824. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905.

ACME

The word "ACME."

SER. No. 10,825. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905. Used ten years.

TRAP

The word "TRAP."

SER. No. 10,826. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905.

BATTERY CUP

The words "BATTERY CUP."

SER. No. 10,827. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905.

EXPERT

The word "EXPERT."

SER. No. 10,828. CARTRIDGES AND CARTRIDGE-SHELLS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed July 26, 1905

MAJESTIC

The word "MAJESTIC."

SER. No. 10,837. CANVAS, HOSE-DUCK, AWNING-STRIPES, AND SAIL-DUCK. MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed July 26, 1905.

VIGILANT

The word "VIGILANT."

SER. No. 10,882. STOGIES OR TOBIES. S. SWART & Co., Pittsburg, Pa. Filed July 27, 1905.

FATHER PITT

The words "FATHER PITT," surrounded by the ornamental scroll of interlooping curved lines.

SER. No. 10,883. STOGIES AND TOBIES. S. SWART & Co., Pittsburg, Pa. Filed July 27, 1905.

SER. No. 10,881.



The words "GOLD STANDARD," accompanied by the word "TOBIES" in uniform type, inclosed within a rectangular border with a background of light frosting.

SER. No. 10,955. WHISKY. SCHUCKMANN & SELIGMANN COMPANY, Milwaukee, Wis. Filed July 22, 1905. Used ten years.



The word "ERMITE," printed in script.

SER. No. 10,956. WHISKY. SCHUCKMANN & SELIGMANN COMPANY, Milwaukee, Wis. Filed July 22, 1905.





The words "PRINCE WILLIAM," the word "PRINCE" being printed in a curved line above the word "WILLIAM," which is printed in a straight line.

SER. No. 11,006. HATS AND CAPS. MOSES SCHREIBER, Wheeling, W. Va. Filed July 29, 1905.



The word "HUBHAT," mounted upon an irregular and fancifully-shaped panel, through which are extended diagonally-crossed lines, and which is partially inclosed by fanciful scrolls, a shield also partially inclosed by scrolls above said panel, and a ribbon or scroll below said panel.

SER. No. 11,013. SEALS FOR LOCKING OR SECURING THE DOORS OF RAILWAY FREIGHT-CARS AND FOR SEALING BAGGAGE, &c. B. J. BROOKS & COMPANY, New York, N. Y., and Newark, N. J. Filed July 29, 1905. Used ten years.

TIN BUTTON

The words "TIN BUTTON."

SER. No. 11,170. STEEL PENS. PERRY & COMPANY LIMITED, Birmingham, England. Filed Aug. 2, 1905.



The words "PERRY & CO'S UNIVERSAL SCHOOL PENS."

SER. No. 11,216. TOILET CREAM. J. M. CROSVENOR & Co., Roxton, Mass. Filed Aug. 3, 1905.

ZAZA

The word "ZAZA."

SER. No. 11,227. HOOKS AND EYES. THE STAR PIN COMPANY, Shelton, Conn. Filed Aug. 3, 1905.

CORONATION

The word "CORONATION."

SER. No. 11,332. SOAP FOR HOUSEHOLD AND GENERAL CLEANING PURPOSES. HOFFHEIMER SOAP CO., Chicago, Ill. Filed Aug. 7, 1905.



The words "20TH CENTURY."

SER. No. 11,388. PIANOS. EMIL E. GABLER, New York, N. Y. Filed Aug. 7, 1905.

GABLER
New York

The representation of a flying griffin, associated with the words "GABLER" and "NEW YORK."

SER. No. 11,463. HOOKS AND EYES. THE UNIQUE MANUFACTURING COMPANY, Shelton, Conn. Filed Aug. 9, 1905.

DAINTE

The word "DAINTE."

SER. No. 11,464. HOOKS AND EYES. THE UNIQUE MANUFACTURING COMPANY, Shelton, Conn. Filed Aug. 9, 1905. Used ten years.

UNIQUE

The word "UNIQUE."

SER. No. 11,930. KNIT UNDERWEAR. THE DIRECT SUPPLY CO., Martinsburg, W. Va., and New York, N. Y. Filed Aug. 23, 1905.

DIRECT

The representation of an arrow extending lengthwise through the word "DIRECT."

SER. No. 12,016. LEATHER BOOTS, SHOES, AND SLIPPERS. FRED F. FIELD COMPANY, Brockton, Mass. Filed Aug. 26, 1905.

Technique

The word "TECHNIQUE."

SER. No. 12,025. BOND-PAPER. MISSOURI PAPER HOUSE, Kansas City, Mo. Filed Aug. 26, 1905.

ARABIAN BOND

The water-mark "ARABIAN BOND."

SER. No. 12,094. STOCKINGS. COLUMBIA HOSIERY CO., New York, N. Y. Filed Aug. 30, 1905. Used ten years.

The words "WINONA MILLS," associated with the representation of a ram's head in a disk with the ends of a crescent projecting from behind the disk.

SER. No. 12,465. WHISKY. CHAS. SEELINGER SONS & CO., Louisville, Ky. Filed Sept. 11, 1905.

SYCAMORE SPRING

The words "SYCAMORE SPRING."

SER. No. 12,511. RUGS. THE READ CARPET COMPANY, Bridgeport, Conn. Filed Sept. 13, 1905.

ARDAHAN

The word "ARDAHAN."

SER. No. 12,649. WHISKY. DREYFUSS, WEIL & CO., Paducah, Ky. Filed Sept. 15, 1905. Used ten years.



The words "OLD COLD SPRING," associated with the words and address "OLD FASHION HAND MADE KENTUCKY WHISKEY, DREYFUSS, WEIL & CO., DISTILLERS, PADUCAH, KY.," and with the representation of a barrel, behind which is a spray of grain and at the right of which is a scroll. On the head of the barrel appear the words "HAND MADE OLD FASHION KENTUCKY WHISKEY, OLD COLD SPRING," the whole being surrounded by a rectangular outline, with ornamental scrollwork in each corner.

SER. No. 12,757. CORSETS. BIRDSEY & SOMERS, New York, N. Y. Filed Sept. 18, 1905.

VERYSMART

The word "VERYSMART."

SER. No. 12,758. CORSETS. BIRDSEY & SOMERS, New York, N. Y. Filed Sept. 18, 1905.

SER. No. 12,758.

VERONIQUE

The word "VERONIQUE."

SER. No. 12,903. PRESERVATIVE AND INSULATING PAINTS AND LIQUID INSULATING COMPOUNDS. THE STANDARD PAINT COMPANY, New York, N. Y. Filed Sept. 23, 1905.



The representation of a peacock with its tail spread out within a circle in which also appear the letters "S. P. C." This is surrounded by a black ring on which appear at the top the words "PEACOCK BRAND."

SER. No. 12,923. COTTON DUCK. MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed Sept. 22, 1905. Used ten years.

COLUMBIA

The word "COLUMBIA."

SER. No. 13,012. FARM-TRUCKS OR LOW-WHEEL WAGONS. DEERE & WEBBER CO., Minneapolis, Minn. Filed Sept. 25, 1905.

CYCLONE

The word "CYCLONE."

SER. No. 13,069. DYED AND PRINTED COTTON DRAPERY AND UPHOLSTERY GOODS. THE KEYSTONE MANUFACTURING COMPANY, Eddystone, and Phila. Pa. Filed Sept. 27, 1905.

Majestic  *Twills*

The word "MAJESTIC," associated with the representation of a crown and the word "TWILLS."

SER. No. 13,182. CARTRIDGES. WINCHESTER REPEATING ARMS CO., New Haven, Conn. Filed Oct. 2, 1905.

SELF LOADING

The words "SELF LOADING."

SER. No. 13,205. TOILET-PINS. THE STAR PIN COMPANY, Shelton, Conn. Filed Oct. 3, 1905.

HER MAJESTY

The words "HER MAJESTY."

SER. No. 13,399. WHISKY. BEARD BROS. & CO., Lynchburg, Va. Filed Oct. 7, 1905.



The representation of a bee surrounded by concentric circles.

SER. No. 13,473. CREAM OINTMENTS. NATIONAL TOILET COMPANY, Paris, Tenn. Filed Oct. 10, 1905.



A rectangular panel upon which appears the representation of the bust of a woman opening a box, rows of boxes being shown in the background.

SER. No. 13,483. PREPARED SPICES FOR BAKERS, CONFECTIONERS, AND GROCERS. JABUEZ BROS., New York, N. Y. Filed Oct. 11, 1905.

SPIMENTO

The word "SPIMENTO."

SER. No. 13,501. CANNED FRUITS AND VEGETABLES. MARY J. BOYER, Baltimore, Md. Filed Oct. 11, 1905. Used ten years.

BOYER'S BRAND

The words "BOYER'S BRAND."

SER. No. 13,605. SOAP IN WHICH IS INCLUDED SULFUR AS ONE OF ITS INGREDIENTS. THE CHARLES N. CRITTENTON COMPANY, New York, N. Y. Filed Oct. 14, 1905. Used ten years.

GLENN'S SULPHUR SOAP

The words "GLENN'S SULPHUR SOAP."

Ser. No. 13,601. OLIVES AND PICKLED OLIVES. LOS ANGELES OLIVE GROWERS' ASS'N, Los Angeles, Cal. Filed Oct. 14, 1905.

SYLMAR

The word "SYLMAR."

Ser. No. 13,639. BAKING-SODA, CREAM OF TARTAR, AND BAKING-POWDER. E. R. DURKEE & Co., New York, N. Y. Filed Oct. 16, 1905.

CHALLENGE

The word "CHALLENGE."

Ser. No. 13,640. BAKING-SODA, CREAM OF TARTAR, AND BAKING-POWDER. E. R. DURKEE & Co., New York, N. Y. Filed Oct. 16, 1905.

X

The letter "X."

Ser. No. 13,641. BAKING-SODA, CREAM OF TARTAR, AND BAKING-POWDER. E. R. DURKEE & Co., New York, N. Y. Filed Oct. 16, 1905.

XX

The letters "X X."

Ser. No. 13,642. BAKING-SODA, CREAM OF TARTAR, AND BAKING-POWDER. E. R. DURKEE & Co., New York, N. Y. Filed Oct. 16, 1905.

XXX

The letters "X X X."

Ser. No. 13,759. CHOCOLATE AND COCOA. KNICKERBOCKER CHOCOLATE COMPANY, New York, N. Y. Filed Oct. 19, 1905.

BLUE RIBBON BRAND

The words "BLUE RIBBON BRAND."

Ser. No. 13,682. LARD AND LARD COMPOUND. THE N. K. FAIRBANK COMPANY, Chicago, Ill. Filed Oct. 17, 1905. Used ten years.

Ser. No. 13,682.

Fairbank's

The word "FAIRBANK'S."

Ser. No. 13,793. SHARPENING-STONES, INCLUDING SCYTHE-STONES, OIL AND WATER STONES, WHETSTONES, AND HONES. THE PIKE MANUFACTURING COMPANY, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Filed Oct. 20, 1905.

QUICKCUT

The word "QUICKCUT."

Ser. No. 13,794. SHARPENING-STONES, INCLUDING OIL AND WATER STONES, WHETSTONES, AND HONES. THE PIKE MANUFACTURING COMPANY, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Filed Oct. 20, 1905.

FASTCUT

The word "FASTCUT."

Ser. No. 13,828. SHOVELS, SPADES, AND SCOOPS. SUPPLEE HARDWARE COMPANY, Philadelphia, Pa. Filed Oct. 21, 1905.



The fanciful title "CHARTER OAK" and a representation of an oak-tree.

Ser. No. 13,923. OSCILLATING, ROTATING, AND VIBRATING SHUTTLE OR LOOPER SEWING-MACHINES AND THEIR PARTS AND ATTACHMENTS. THE SINGER MANUFACTURING COMPANY, New York, N. Y. Filed Oct. 25, 1905. Used ten years.

SINGER

The word "SINGER."

SER. No. 13,892. KNITTED UNDERWEAR. GLASTONBURY KNITTING COMPANY, Addison, Conn. Filed Oct. 24, 1905. Used ten years.

GLASTENBURY

The word "GLASTENBURY."

SER. No. 13,924. SEWING-MACHINES CONTAINING SHUTTLES OR LOOPERS MOVING TRANSVERSE WITH THE PLANE OF THE BRACKET-ARM, AND THEIR PARTS AND ATTACHMENTS. THE SINGER MANUFACTURING COMPANY, New York, N. Y. Filed Oct. 25, 1905. Used ten years.

SINGER

The word "SINGER."

SER. No. 13,925. SEWING-MACHINE STANDS AND THEIR PARTS AND ATTACHMENTS. THE SINGER MANUFACTURING COMPANY, New York, N. Y. Filed Oct. 25, 1905. Used ten years.

SINGER

The word "SINGER."

SER. No. 13,926. MACHINES FOR SEWING CHAIN STITCH AND THEIR PARTS AND ATTACHMENTS. THE SINGER MANUFACTURING COMPANY, New York, N. Y. Filed Oct. 25, 1905. Used ten years.

SINGER

The word "SINGER."

SER. No. 13,930. SEWING-MACHINES AND THEIR PARTS AND ATTACHMENTS. THE SINGER MANUFACTURING COMPANY, New York, N. Y. Filed Oct. 25, 1905. Used ten years.

Singer Co.

The words "SINGER CO."

SER. No. 13,931. SEWING-MACHINES AND THEIR PARTS AND ATTACHMENTS. THE SINGER MANUFACTURING CO., New York, N. Y. Filed Oct. 25, 1905. Used ten years.

Singer Manufacturing Co.

The words "SINGER MANUFACTURING CO."

SER. No. 13,932. SEWING-MACHINES AND THEIR PARTS AND ATTACHMENTS. THE SINGER MANUFACTURING COMPANY, New York, N. Y. Filed Oct. 25, 1905. Used ten years.

Singer Sewing Machine Co.

The words "SINGER SEWING MACHINE CO."

SER. No. 14,033. LEATHER BOOTS AND SHOES. THE SMITH-KASSON CO., Cincinnati, Ohio. Filed Oct. 26, 1905.

KNICKERBOCKER

The word "KNICKERBOCKER."

SER. No. 14,037. WINE. CALIFORNIA WINE ASSOCIATION, San Francisco, Cal. Filed Oct. 30, 1905



The words "LA LOMA," associated with the monogram "C C Co" in a circular design and a design of grapevines with leaves and bunches of grapes ornamented with scrollwork.

SER. No. 14,039. WINE. CALIFORNIA WINE ASSOCIATION, San Francisco, Cal. Filed Oct. 30, 1905.



The words "CHATEAU HILLCREST," associated with a picture of the chateau Hillcrest and surrounding scenery, including trees, shrubbery, and mountains, all inclosed in a rectangular outline with curved corners.

SER. No. 14,052. CHAMPAGNE. THE GINTER GROCERY COMPANY, Boston, Mass. Filed Oct. 30, 1905

The Duchess

The words "THE DUCHESS."

SER. No. 14,077. CHOCOLATE CREAMS. CYPRIEN GOUDET, New York, N. Y. Filed Oct. 30, 1905.

X

The letter "X."

SER. No. 14,092. VINEGAR. SIEGEL, COOPER & Co., Chicago, Ill. Filed Oct. 30, 1905.



The word "HAZEL," associated with a design showing hazel leaves and nuts.

SER. No. 14,113. SAWS. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Oct. 31, 1905.

NOVO

The word "NOVO."

SER. No. 14,121. SAW-SWAGES. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Oct. 31, 1905.

CONQUEROR

The word "CONQUEROR."

SER. No. 14,157. POLISH FOR METALS. COMSTOCK, PEARCE & Co., Aspen, Colo. Filed Nov. 1, 1905.

VALVELINE

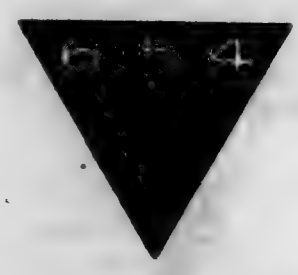
The word "VALVELINE."

SER. No. 14,166. SCYTHE-STONES, WHETSTONES, AX-STONES, OIL-STONES, OIL AND WATER STONES, AND HONES. PIKE MANUFACTURING COMPANY, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Filed Nov. 1, 1905. Used ten years.

Chocolate

The word "CHOCOLATE."

SER. No. 14,169. STOVE AND METAL POLISH, ENAMEL, LUSTER, PASTE, AND BLACKING. CROSBY & Co., Detroit, Mich. Filed Nov. 1, 1905.



The hyphenated numerals "6-5-4" and the representation of a triangle.

SER. No. 14,228. OILSTONES, WATER-STONES, WHETSTONES, AND GRINDSTONES. THE SCRANTON WHETSTONE AND ABRASIVE WHEEL CO., Scranton, Pa. Filed Nov. 3, 1905.



The words "QUICK CUT," associated with the representation of a keystone upon a circle and crossed swords appearing above the words "QUICK CUT."

SER. No. 14,315. CYLINDER-LUBRICANTS AND LUBRICANT STOCK. THE CONEWANGO REFINING CO., Warren, Pa. Filed Nov. 4, 1905.

L M

The letters "L M."

SER. No. 14,337. SILVER-PLATED HOLLOW WARE. INTERNATIONAL SILVER COMPANY, Meriden, Conn. Filed Nov. 4, 1905. Used ten years.



The words "FORBES SILVER CO. QUADRUPLE," disposed within a circular band surrounding the fanciful representation of the head of a bird.

SER. No. 14,358. TURPENTINE. THE BALL CHEMICAL CO., Allegheny, Pa. Filed Nov. 6, 1905.



The letter "N," inclosed in a triangular-shaped figure.

SER. No. 14,375. FILES. CARVER FILE COMPANY, Philadelphia, Pa. Filed Nov. 6, 1905.



A wreath containing the words "FILES OF QUALITY."

SER. No. 14,360. CIGARS AND CHEROOTS. DAVID H. LEVY, New York, N. Y. Filed Nov. 6, 1905. Used ten years.



The representation of a female figure floating in the air with flowing draperies, in the flowing hair of which figure is a star and in the right hand of said figure an electric incandescent bulb from which fall two wires leading to telegraph-poles, together with a landscape consisting of a representation of New York harbor, wheat-fields, two railroad-trains, a prairie scene with buffaloes and Indians, and in the central foreground a train of settlers. In the background are hills and mountains, together with the word "ONWARD."

SER. No. 14,377. LAMP-CHIMNEYS AND LAMP-GLOBES. LEO H. PELTASON, St. Louis, Mo. Filed Nov. 6, 1905.

Cracker Jack.



The words "CRACKER JACK" and the pictorial representation of a boy riding a donkey.

SER. No. 14,390. CLEANSING OR SCOURING COMPOUND. ENOCH MORGAN'S SONS COMPANY, New York, N. Y. Filed Nov. 7, 1905. Used ten years.

SAPOLIO

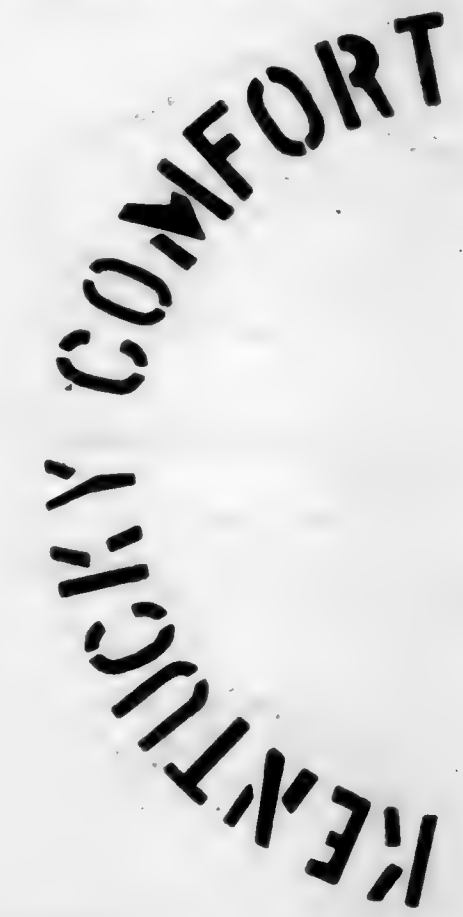
The coined word "SAPOLIO."

SER. No. 14,397. SCOURING-SOAP. BON AMI COMPANY, New York, N. Y. Filed Nov. 7, 1905.



The word "CAPITOL," associated with the representation of a dome rising from the center of a roof formed by the junction of two gables.

SER. No. 14,400. WHISKY. THE CASEY-SWASEY COMPANY, Fort Worth, Tex. Filed Nov. 8, 1905. Used ten years.



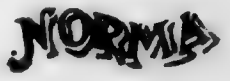
The words "KENTUCKY COMFORT."

SER. No. 14,416. WHITE LEAD. NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed Nov. 8, 1905. Used ten years.



The words and abbreviations "MARYLAND WHITE LEAD CO., BALTO."

SER. No. 14,507. BRACELETS. THE F. H. RADLER CO., Attleboro, Mass. Filed Nov. 11, 1905.



The word "NORMA."

SER. No. 14,513. HACK-SAWS AND HACK-SAW BLADES. G. W. GRIFFIN & Co., Franklin Falls, N. H. Filed Nov. 11, 1905. Used ten years.

GRIFFIN

The word "GRIFFIN."

SER. No. 14,590. WRENCHES. THE WHITMAN & BARNES MANUFACTURING COMPANY, Akron, Ohio. Filed Nov. 14, 1905.



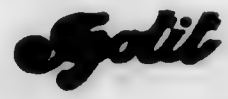
A diamond-shaped figure, with the initial letters and character "W. & B." inclosed therein.

SER. No. 14,610. COLLAR-BUTTONS. KREMENTZ & Co., Newark, N. J. Filed Nov. 14, 1905. Used ten years.



The word "KREMENTZ."

SER. No. 14,634. SELF-LIGHTING INCANDESCENT GAS-MANTLES. USONIA LIGHT Co., New York, N. Y. Filed Nov. 14, 1905.



The word "ISOLIT."

SER. No. 14,756. CLOCKS. THE ANSONIA CLOCK COMPANY, Ansonia, Conn., and New York, N. Y. Filed Nov. 17, 1905. Used ten years.

THE ANSONIA CLOCK COMPANY

The name "THE ANSONIA CLOCK COMPANY."

SER. No. 14,757. CLOCKS. THE ANSONIA CLOCK COMPANY, Ansonia, Conn., and New York, N. Y. Filed Nov. 17, 1905. Used ten years.

ANSONIA LEVER

The words "ANSONIA LEVER."

SER. No. 14,794. WASHING-MACHINES. SPOTLESS COMPANY, INCORPORATED, Richmond, Va. Filed Nov. 18, 1905.

SPOTLESS

The word "SPOTLESS."

SER. No. 14,799. WATCHES, WATCHCASES, AND WATCH-MOVEMENTS. PHILADELPHIA WATCH CASE Co., Riverside, N. J. Filed Nov. 18, 1905.

B&B

The letters and character "B & B."

SER. No. 14,842. PLAYING-CARDS. THE UNITED STATES PLAYING CARD Co., Cincinnati, Ohio. Filed Nov. 20, 1905.

No 88
BRIDGE

The abbreviation, numerals, and word "No. 88 BRIDGE."

SER. No. 14,850. PAINTS AND COLORS. C. A. WILLEY COMPANY, New York, N. Y. Filed Nov. 20, 1905. Used ten years.

WILLEY'S

The word "WILLEY'S."

SER. No. 14,922. BUTTER-CUTTERS. THE KUTTOWAIT BUTTER CUTTER COMPANY, Chicago, Ill. Filed Nov. 23, 1905.

KUTTOWAIT

The word "KUTTOWAIT."

SER. No. 14,955. RUSKS. HOLLAND RUSK Co., Holland, Mich. Filed Nov. 24, 1905. Used ten years.



The word "HOLLAND."

TRADE-MARKS

REGISTERED DECEMBER 19, 1905.

48,195. TWINE FOR BINDING GRAIN. PLINEY E. COOPER, Minneapolis, Minn.

The word "CRICKET" or the representation of a cricket, used singly or together.

Filed April 18, 1905. Serial No. 2,154. PUBLISHED OCTOBER 24, 1905.

48,196. MEDICINES FOR THE BLOOD. SAMUEL BRUBAKER HARTMAN, Columbus, Ohio.

The word-symbol "LA-CU-PI-A."

Filed April 14, 1905. Serial No. 1,434. PUBLISHED OCTOBER 24, 1905.

48,197. REMEDIES FOR DISEASES OF THE THROAT, LUNGS, AND NASAL ORGANS. LANMAN & KEMP, New York, N. Y.

The words "KEMP'S COMPOUND ANACAHUITA PECTORAL."

Filed May 8, 1905. Serial No. 4,736. PUBLISHED OCTOBER 24, 1905.

48,198. REMEDY FOR CERTAIN NAMED DISEASES. LEVI W. PERDUE, Wilmot, Ark.

The representation of a swamp scene with trees in the background and foreground, an owl being shown seated on a limb of one of the trees. The scene is arranged with eccentrically-disposed panels, and in the space between the panels is the representation of a number of mosquitoes.

Filed April 10, 1905. Serial No. 989. PUBLISHED OCTOBER 24, 1905.

48,199. HUMAN-HAIR GOODS. SIGMUND STEIN, New York, N. Y.

The representation of a belt formed in a circle, within which is a monogram composed of the letters and character "S & S," and on the outer edge at intervals foliage is represented.

Filed June 27, 1905. Serial No. 9,277. PUBLISHED OCTOBER 24, 1905.

48,200. CARPET-TACKS. THE H. C. TACK CO., Cleveland, Ohio.

The words "HONEST COUNT."

Filed May 5, 1905. Serial No. 4,377. PUBLISHED OCTOBER 24, 1905.

48,201. NUT AND PIPE WRENCHES. C. E. BONNER MANUFACTURING CO., Chrisman, Ill.

The word "VICTOR."

Filed May 19, 1905. Serial No. 6,108. PUBLISHED OCTOBER 24, 1905.

48,202. LINIMENT. JOSEPH HELF, New York, N. Y.

The letters "H L" printed in fancy double-line script and inclosed within a scroll, the whole being above two diagonal lines.

Filed May 19, 1905. Serial No. 6,080. PUBLISHED OCTOBER 24, 1905.

48,203. SALVE. LEOPOLDINE MINDER, Brooklyn, N. Y.

The words "KING OF ALL SALVES."

Filed June 27, 1905. Serial No. 9,200. PUBLISHED OCTOBER 24, 1905.

48,204. COUGH MEDICINE. JOSEPHUS PERRY, New York, N. Y.

A portrait of Dr. Benjamin Benoit, deceased, inclosed in an oval border having ornamental scrolls at the sides thereof, associated with the abbreviation and words "DR. BENOITS COUGH MEDICINE."

Filed June 28, 1905. Serial No. 9,323. PUBLISHED OCTOBER 24, 1905.

48,205. DRIERS AND PARTS THEREOF. THE PHILADELPHIA TEXTILE MACHINERY CO., Philadelphia, Pa.

The word "CYCLONE."

Filed April 7, 1905. Serial No. 717. PUBLISHED OCTOBER 24, 1905.

48,206. ROUP CURE AND LOUSE AND MITE DESTROYER. VAPORENE MFG. CO., Holdrege, Nebr.

The word "VAPORENE."

Filed May 15, 1905. Serial No. 5,729. PUBLISHED OCTOBER 24, 1905.

48,207. HAIR-REMOVER. DE MIRACLE CHEMICAL COMPANY, New York, N. Y.

The words "DE MIRACLE."

Filed June 22, 1905. Serial No. 9,002. PUBLISHED OCTOBER 24, 1905.

48,208. MACHINE-KNIVES. LORING COES & COMPANY, INC., Worcester, Mass.

The representation of a standing eagle with outstretched wings, associated with the hyphenated word "MICRO-GROUND."

Filed May 9, 1905. Serial No. 4,781. PUBLISHED OCTOBER 24, 1905.

48,209. SHOVELS, SPADES, AND SCOOPS. AMES SHOVEL AND TOOL COMPANY, Boston and North Easton, Mass.; Philadelphia, Cheltenham, and Beaverfalls, Pa.; Anderson and Elwood, Ind., and St. Louis, Mo.

The representation of a keystone with the numerals "1854" displayed upon the same.

Filed June 21, 1905. Serial No. 8,748. PUBLISHED OCTOBER 24, 1905.

48,210. WOODEN AX AND TOOL HANDLES. DUNHAM, CARRIGAN & HAYDEN CO., San Francisco, Cal.

The letter "Q."

Filed August 7, 1905. Serial No. 11,348. PUBLISHED OCTOBER 24, 1905.

48,211. BITS, SPURS, STIRRUPS, BUCKLES, RINGS, TERRETS, AND HAMES. F. EGLINGTON, Walsall, England.

The word "EGLENTINE."

Filed May 19, 1905. Serial No. 6,107. PUBLISHED OCTOBER 24, 1905.

48,212. LININGS OF INSULATING MATERIAL. KEYSTONE HAIR INSULATOR COMPANY, Allegheny, Pa.

The word "SALAMANDER."

Filed April 20, 1905. Serial No. 2,364. PUBLISHED OCTOBER 10, 1905.

48,213. SPEEDOMETERS. EDWARD S. LEA, Trenton, N. J., assignor to Motor Car Specialty Company, Trenton, N. J., a Corporation of New Jersey.

The word "SPEEDISTIMETER."

Filed May 4, 1905. Serial No. 4,257. PUBLISHED OCTOBER 24, 1905.

48,214. EYEGLASS-LENSES BENJAMIN MAYER, Baltimore, Md.

The word "BIGHT."

Filed August 19, 1905. Serial No. 11,795. PUBLISHED OCTOBER 24, 1905.

48,215. LEATHER BOOTS, SHOES, AND SLIPPERS AND UPPER AND SOLE LEATHER. PACKARD & FIELD, Brockton, Mass.

The representation of a human foot visible through the upper of the boot or shoe, within which it is inclosed.

Filed May 29, 1905. Serial No. 6,994. PUBLISHED OCTOBER 24, 1905.

48,216. SCALES AND SCALE-BEAMS. PECK, STOW & WILCOX COMPANY, Southington, Conn.

The words "KING COTTON," associated with the representation of the butt of a scale-beam, an arrow, and parentheses.

Filed April 10, 1905. Serial No. 1,020. PUBLISHED OCTOBER 24, 1905.

48,217. CARTRIDGES. SELBY SMELTING AND LEAD COMPANY, San Francisco, Cal.

The word "EXCELSIOR."

Filed April 20, 1905. Serial No. 2,383. PUBLISHED OCTOBER 24 1905.

48,218. ANTIFRICTION METAL. WILLIAM A. HARDY & SON'S CO., Fitchburg, Mass.

A monogram formed of the letters "W A H" within a circular border.

Filed May 23, 1905. Serial No. 6,418. PUBLISHED JULY 25, 1905.

48,219. GIN. A. BRESLAUER COMPANY, Milwaukee, Wis.

The word "TOPCLIFFE," below which is a monogram composed of the letters and abbreviation "A B Co."

Filed June 24, 1905. Serial No. 8,889. PUBLISHED OCTOBER 24, 1905.

48,220. WHISKY. BLUTHENTHAL & BICKART, Atlanta, Ga.

The words "GOOD VALUE," above which is a scroll, above which are the figures "1884," above which are the words "COPPER DISTILLED PURE RYE." Beneath the words "GOOD VALUE" are the letters and character "B & B" and beneath these the words "NELSON COUNTY, KENTUCKY," the whole being inclosed by an octagonal outline.

Filed April 28, 1905. Serialf No. 3,346. PUBLISHED OCTOBER 24, 1905.

48,221. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.

The word "KEYSTONE."

Filed May 13, 1905. Serial No. 5,511. PUBLISHED OCTOBER 24, 1905.

48,222. METAL IN CERTAIN NAMED FORMS. DILWORTH, GILBERT & TOWNE, INCORPORATED, New York, N. Y.

The word "SQUAREDRAL."

Filed April 20, 1905. Serial No. 2,415. PUBLISHED OCTOBER 24, 1905.

48,223. RHEUMATIC FOOT-POWDERS. FARR REMEDY COMPANY, Boston, Mass.

A portrait of Hiram G. Farr.

Filed June 6, 1905. Serial No. 7,557. PUBLISHED OCTOBER 24, 1905.

48,224. WHISKY. J. & A. FREIBERG, Cincinnati, Ohio.

The word "DEFIANCE" and the representation of a turkey.

Filed June 24, 1905. Serial No. 8,893. PUBLISHED OCTOBER 24, 1905.

48,225. KNIVES AND RAZORS. GRAY AND DUDLEY HARDWARE COMPANY, Nashville, Tenn.

The word "HERMITAGE," in connection with the representation of an equestrian statue of Andrew Jackson.

Filed April 12, 1905. Serial No. 1,194. PUBLISHED OCTOBER 24, 1905.

48,226. WHISKY. KAUFMANN BROS. & Co., Toledo, Ohio.

The word "CLAYMORE."

Filed June 24, 1905. Serial No. 8,954. PUBLISHED OCTOBER 24, 1905.

48,227. SHOES MADE FROM LEATHER OR A COMBINATION OF LEATHER AND CLOTH. WILLIAM M. KOBLENS, Rockford, Ill.

The representation of a dog standing on a shoe.

Filed April 28 1905. Serial No. 3 826. PUBLISHED JUNE 13, 1905.

48,228. WHISKY. MORRIS LANGE. Cincinnati, Ohio.

The words "HUNT'S MOUNTAIN."

Filed June 16, 1905. Serial No. 8,316. PUBLISHED OCTOBER 24, 1905.

48,229. UNDERSHIRTS, SWEATERS, AND DRAWERS. LEVI STRAUSS & Co., San Francisco, Cal.

The word "SUNSET," associated with a conventional representation of the setting sun.

Filed May 3, 1905. Serial No. 4,175. PUBLISHED OCTOBER 24, 1905.

48,230. FOUNTAIN-PENS. L. E. WATERMAN COMPANY, New York, N. Y.

The representation of a globe and a fountain-pen, in which the fountain-pen is shown as passing through the globe.

Filed July 10, 1905. Serial No. 9,990. PUBLISHED OCTOBER 24, 1905.

48,231. TRADE-JOURNAL PERIODICAL. MARINE ENGINEERING, INCORPORATED, New York, N. Y.

The words "MARINE ENGINEERING."

Filed June 26, 1905. Serial No. 9,073. PUBLISHED OCTOBER 24, 1905.

48,232. STEEL. PARK STEEL COMPANY, Pittsburg, Pa.

The words "BLACK DIAMOND."

Filed May 13, 1905. Serial No. 5,469. PUBLISHED OCTOBER 24, 1905.

48,233. TONIC. JOSEPHUS PERRY, New York, N. Y.

The portrait of Dr. Benjamin Benoit, deceased, inclosed in an oval border having ornamental scrolls at the sides thereof, associated with the words and abbreviation "DR. BENOITS FAVORITE TONIC."

Filed June 28, 1905. Serial No. 9,322. PUBLISHED OCTOBER 24, 1905.

48,234. WHISKY. JOHN RAUBER & COMPANY, Rochester, N. Y.

The words "ROCHESTER CLUB" and a monogram composed of the letters and character "R & C" inclosed in a circle.

Filed April 28, 1905. Serial No. 3,369. PUBLISHED OCTOBER 24, 1905.

48,235. CANDY. REYMER & BROTHERS, INCORPORATED, Pittsburg, Pa.

The word "COLONIAL."

Filed June 5, 1905. Serial No. 7,436. PUBLISHED OCTOBER 24, 1905.

48,236. CORN-SHELLERS. SANDWICH MANUFACTURING CO., Sandwich, Ill.

The word "SANDWICH.

Filed June 5, 1905. Serial No. 7,415. PUBLISHED OCTOBER 24, 1905.

48,237. MINERAL-SPRING WATER. THE MANITOU MINERAL SPRINGS COMPANY, Manitou, Colo.

The word "MANITOU."

Filed April 28, 1905. Serial No. 3,420. PUBLISHED OCTOBER 24, 1905.

48,238. WHISKY. THE STAR DISTILLERY COMPANY, Cincinnati, Ohio.

The word "CLARKSTOWN."

Filed May 22, 1905. Serial No. 6,288. PUBLISHED OCTOBER 24, 1905.

48,239. CHEWING-GUM. AMERICAN CHICLE CO., New York, N. Y.

A portrait of Mr. Edwin Eugene Beeman.

Filed June 15, 1905. Serial No. 8,157. PUBLISHED OCTOBER 24, 1905.

48,240. CIGARETTES. CARRERAS AND MARCIANUS CIGARETTES, LIMITED, London, England.

A representation of the bust of a man with a crown-shaped hat on a shield, the said shield being represented as having arrow-head-shaped points riveted thereon, with the representation of a continuous strap or band arranged in folds extending around the outer portion of said shield, the folds or ribbons being placed midway upon the arrow-head-shaped points.

Filed June 1, 1905. Serial No. 7,158. PUBLISHED OCTOBER 24, 1905.

48,241. WITHDRAWN.

48,242. DRIED FRUITS. FRANCIS H. LEGGETT & COMPANY, New York, N. Y.

The word "EMPRESS."

Filed June 27, 1905. Serial No. 9,175. PUBLISHED AUGUST 8, 1905.

48,243. OLIVES. FRANCIS H. LEGGETT & COMPANY, New York, N. Y.
The word "EMPRESS."
Filed June 27, 1905. Serial No. 9,177. PUBLISHED AUGUST 8, 1905.

48,244. PORTLAND CEMENT. GERMAN-AMERICAN PORTLAND CEMENT WORKS, Lasalle, Ill.
The representation of an owl perched upon a stone coping.
Filed April 20, 1905. Serial No. 2,385. PUBLISHED OCTOBER 24, 1905.

48,245. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.
The representation of a fouled anchor.
Filed July 20, 1905. Serial No. 10,622. PUBLISHED OCTOBER 24, 1905.

48,246. ROASTED COFFEE. MERCHANTS COFFEE CO., Baltimore, Md.
The word "MONUMENTAL."
Filed July 12, 1905. Serial No. 10,186. PUBLISHED OCTOBER 24, 1905.

48,247. WATCHES, WATCHCASES, AND WATCH-MOVEMENTS. NEW YORK STANDARD WATCH CO., Jersey City, N. J.
The representation of a panel comprising a compound-curved base and converging scalloped sides meeting at the top in an arc of a circle, with the words and abbreviation "NEW YORK STANDARD WATCH CO." within the panel and a fanciful figure in the arc.
Filed April 19, 1905. Serial No. 2,270. PUBLISHED OCTOBER 24, 1905.

48,248. WHISKY. ALFRED E. NORRIS, Philadelphia, Pa.
The words "GARRICK CLUB," associated with the representation of the head of a barrel, upon which appears a picture of the Scotch crown and a monogram composed of the letters, character, and abbreviation "A E N & Co," with scroll designs about the barrel-head and the words, abbreviations, and character "MARYLAND OLD RYE WHISKEY ALFRED E. NORRIS & Co. PHILADELPHIA."
Filed May 15, 1905. Serial No. 5,701. PUBLISHED OCTOBER 24, 1905.

48,249. INCANDESCENT MANTLES. GEORGE G. RAMSDELL, New York, N. Y.
The word "RICO."
Filed September 6, 1905. Serial No. 12,282. PUBLISHED OCTOBER 24, 1905.

48,250. SHEET AND PICTURE GLASS. SIMON BACHE & COMPANY, New York, N. Y.
The representation of a Maltese cross and the words "HIGH GRADE" arranged on a circular field of contrasting color.
Filed May 29, 1905. Serial No. 6,949. PUBLISHED OCTOBER 24, 1905.

48,251. JOCK-STRAP SUSPENSORIES. SHARP & SMITH, Chicago, Ill.
The words "THE BIKE," these words being contained within the circle described by the representation of a bicycle-wheel, with the word "THE" printed above and the word "BIKE" below the center of the wheel across its spokes.
Filed June 7, 1905. Serial No. 7,578. PUBLISHED OCTOBER 24, 1905.

48,252. PIANOS. F. G. SMITH, New York, Brooklyn, and Saratoga Springs, N. Y.; Newark and Jersey City, N. J.; Washington, D. C.; Chicago, Ill., and St. Louis and Kansas City, Mo.
The name "WHITTIER."
Filed May 13, 1905. Serial No. 5,395. PUBLISHED SEPTEMBER 5, 1905.

48,253. WASHBOARDS. THE AMERICAN WASHBOARD COMPANY, Cleveland, Ohio.
The words "LITTLE DAISY."
Filed May 8, 1905. Serial No. 4,650. PUBLISHED OCTOBER 24, 1905.

48,254. WASHBOARDS. THE AMERICAN WASHBOARD COMPANY, Cleveland, Ohio.
The words "LITTLE GEM."
Filed May 8, 1905. Serial No. 4,651. PUBLISHED OCTOBER 24, 1905.

48,255. WASHBOARDS. THE AMERICAN WASHBOARD COMPANY, Cleveland, Ohio.
The word "PEERLESS."
Filed May 10, 1905. Serial No. 4,664. PUBLISHED OCTOBER 24, 1905.

48,256. WASHBOARDS. THE AMERICAN WASHBOARD COMPANY, Cleveland, Ohio.
The word "COLUMBIA."
Filed May 10, 1905. Serial No. 4,666. PUBLISHED OCTOBER 24, 1905.

48,257. WASHBOARDS. THE AMERICAN WASHBOARD COMPANY, Cleveland, Ohio.
The word "DEXTER."
Filed May 10, 1905. Serial No. 4,668. PUBLISHED OCTOBER 24, 1905.

48,258. WASHBOARDS. THE AMERICAN WASHBOARD COMPANY, Cleveland, Ohio.
The word "DOMESTIC."
Filed May 10, 1905. Serial No. 4,672. PUBLISHED OCTOBER 24, 1905.

48,259. COFFEE. THE INDEPENDENCE COFFEE AND SPICE CO., Pueblo, Colo.
The word "SEÑORITA," associated with a fanciful representation of a señorita in an oval-shaped frame and representations of branches of the coffee-plant.
Filed July 6, 1905. Serial No. 9,836. PUBLISHED OCTOBER 24, 1905.

48,260. CARD GAMES. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.
The words "WHITE SQUADRON."
Filed May 3, 1905. Serial No. 4,199. PUBLISHED OCTOBER 3, 1905.

48,261. PIANO-ACTIONS. WESSELL, NICKEL & GROSS, New York, N. Y.
The representation of a globe surrounded by clouds, the lower part of which is broken away, with a band arranged across the body thereof, on which is the word "STANDARD." Below the globe are the words "WESSELL, NICKEL & GROSS, NEW YORK" and the representation of a piano-action, the whole being inclosed within an octagonal border.
Filed April 15, 1905. Serial No. 1,759. PUBLISHED OCTOBER 24, 1905.

48,262. OLIVES. CHARLES GULDEN, New York, N. Y.
The word "OLIVCHOW."
Filed August 24, 1905. Serial No. 11,957. PUBLISHED OCTOBER 24, 1905.

48,263. ORGANS. HAMILTON ORGAN COMPANY, Chicago Heights, Ill.
The word "MONARCH."
Filed April 27, 1905. Serial No. 3,238. PUBLISHED AUGUST 1, 1905.

48,264. WHEAT-FLOUR. JOHN F. MEYER & SONS MILLING CO., St. Louis and Springfield, Mo.
The word "KAMO."
Filed August 17, 1905. Serial No. 11,744. PUBLISHED OCTOBER 24, 1905.

48,265. WHEAT-FLOUR. C. B. SMITH & BROTHER, Boston, Mass.
The representation of a view in perspective of the Massachusetts State House, associated with the words "STATE HOUSE."
Filed June 6, 1905. Serial No. 7,539. PUBLISHED OCTOBER 24, 1905.

48,266. FLOUR. S. S. PIERCE CO., Boston, Mass.
The word "APOLLO."
Filed July 6, 1905. Serial No. 9,838. PUBLISHED SEPTEMBER 26, 1905.

48,267. MUSTARD AND SPICES. STICKNEY & POOR SPICE COMPANY, Boston, Mass.
The pictorial representation of a mustard-pot with a spoon-handle protruding from the top thereof and sprays of mustard-plant arranged on either side of said pot.
Filed May 1, 1905. Serial No. 3,818. PUBLISHED AUGUST 22, 1905.

48,268. MUSTARD. STICKNEY & POOR SPICE COMPANY, Boston, Mass.
The representation of a bull.

Filed May 1, 1905. Serial No. 3,820. PUBLISHED AUGUST 23, 1905.

48,269. SHOE DRESSING, BLACKING, POLISH, AND PRESERVATIVE. CHARLES W. SUTTON, Indianapolis, Ind.

The representation of a soft-metal tube, upon which is the word "PRESERVO" inclosed in quotation-marks near the top of the tube, and the words "TEATS' POLISH COMPANY, INDIANAPOLIS, INDIANA," and the letters "U. S. A." near the bottom of the tube, and between the word "PRESERVO" and the words "TEATS' POLISH COMPANY" is a portrait of Herman Teats.

Filed May 23, 1905. Serial No. 6,426. PUBLISHED OCTOBER 24, 1905.

48,270. FLAVORING EXTRACTS. THE CITIZENS' WHOLESALE SUPPLY CO., Columbus, Ohio.

The words "GOLDEN RULE" and the representation of a shield bearing a monogram composed of the letters and abbreviation "C W S Co," above which is a scroll bearing the words "GOLDEN RULE," and above the scroll, in the corners of the shield, two stars appear, while in the bottom angle of the shield a single star appears.

Filed August 15, 1905. Serial No. 11,653. PUBLISHED OCTOBER 24, 1905.

48,271. CIGARS. THE JUAN F. PORTUONDO CIGAR MFG. CO., Philadelphia, Pa.

The words "LA FLOR DE PORTUONDO."

Filed May 11, 1905. Serial No. 5,150. PUBLISHED OCTOBER 24, 1905.

48,272. CIGARS. THE JUAN F. PORTUONDO CIGAR MFG. CO., Philadelphia, Pa.

The representation of a plantation scene comprising a tobacco-field with negroes working therein and the representation of an overseer mounted upon a horse and directing the work, all in the foreground of a low building, and the name "JUAN F. PORTUONDO."

Filed May 11, 1905. Serial No. 5,152. PUBLISHED OCTOBER 24, 1905.

48,273. WOOLEN DRESS GOODS. BOTANY WORSTED MILLS, Passaic, N. J., and New York, N. Y.

The words "PURE BOTANY CONFINED" printed within an oval band.

Filed April 18, 1905. Serial No. 2,196. PUBLISHED OCTOBER 24, 1905.

48,274. SHOULDERS, BACKS, HAMS, AND BACON. CUDAHY BROTHERS CO., Cudahy, Wis.

The representation of a peacock and the word "PEACOCK."

Filed May 8, 1905. Serial No. 4,759. PUBLISHED OCTOBER 24, 1905.

48,275. PEARL BUTTONS. DAVENPORT PEARL BUTTON CO., Davenport, Iowa.

The word "UNIO."

Filed September 9, 1905. Serial No. 12,367. PUBLISHED OCTOBER 24, 1905.

48,276. SHIRTS, COLLARS, AND CUFFS. FELLOWS AND COMPANY, Troy, N. Y.

The letters and character "F & C."

Filed July 24, 1905. Serial No. 10,731. PUBLISHED OCTOBER 24, 1905.

48,277. COLLARS AND CUFFS. FELLOWS AND COMPANY, Troy, N. Y.

The words "TRUMPET BRAND" and the representation of a trumpet.

Filed July 24, 1905. Serial No. 10,733. PUBLISHED OCTOBER 24, 1905.

48,278. CANNED FISH. FRANCIS H. LEGGETT & COMPANY, New York, N. Y.

The word "EMPRESS."

Filed June 27, 1905. Serial No. 9,181. PUBLISHED SEPTEMBER 12, 1905.

48,279. BOYS' BLOUSES AND WAISTS. GREENEBAUM BROTHERS, Philadelphia, Pa.

The word "PURITAN"

Filed May 24, 1905. Serial No. 6,524. PUBLISHED OCTOBER 24, 1905.

48,280. BRANDY. SIGMUND HOCHSTADTER, New York, N. Y.

The representation of a shield-shaped device of irregular outline having a border composed of conventionalized foliage and scroll-work. The central portion of the device consists of a substantially circular field or panel bearing the inscription "HOCHSTADTER'S ECHTER ALTER NORDHAUSER KORNBRANNTWEIN," the top and sides of said field or panel being formed of conventionalized leaves or foliage and surmounted by a jug partially inclosed by flowers and foliage, the portions of the shield intermediate the central portion or field and its upper ends being ornamented with a variety of flowers, foliage, and grain.

Filed May 20, 1905. Serial No. 6,194. PUBLISHED OCTOBER 24, 1905.

48,281. PORTLAND CEMENT. HOUSTON BROTHERS COMPANY, Pittsburg, Pa., and Camden, N. J.

The words "REX-PORTLAND CEMENT."

Filed June 1, 1905. Serial No. 7,146. PUBLISHED OCTOBER 24, 1905.

48,282. WHISKY. J. A. BOKEL COMPANY OF BALTIMORE CITY, Baltimore, Md.

The words "OLD KING," associated with the representation of a crowned man with kingly robes.

Filed April 29, 1905. Serial No. 3,615. PUBLISHED JUNE 20, 1905.

48,283. CORSETS AND CORSET-WAISTS. KALAMAZOO CORSET CO., Kalamazoo, Mich.

The words "AMERICAN BEAUTY," associated with the representation of a rose.

Filed April 18, 1905. Serial No. 2,131. PUBLISHED JUNE 27, 1905.

48,284. OVERALLS, COATS, VESTS, AND TROUSERS. A. KORY & SONS, New Orleans, La.

The words "BATTLESHIP BRAND" and the representation of a battle-ship above two crossed standards, the battle-ship being arranged in an oval-shaped frame, and stars being disposed at the ends of the frame.

Filed May 9, 1905. Serial No. 4,813. PUBLISHED OCTOBER 24, 1905.

48,285. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass.

A representation of the head of a saddle-horse, a portion of the single saddle being also visible and the horse fully harnessed for riding.

Filed May 11, 1905. Serial No. 5,228. PUBLISHED OCTOBER 24, 1905.

48,286. FELT HATS. MORTIMER F. MASON, Cleveland, Ohio.

The representation of an eagle with outstretched wings and mounted on a crown, the crown being mounted upon a horizontal panel containing the words "MASON'S DANBURY HATS." Below this panel is an elliptical panel with the word "CLEVELAND." Extending outward from either side of the crown is a streamer.

Filed June 1, 1905. Serial No. 7,141. PUBLISHED OCTOBER 24, 1905.

48,287. WHISKY. RICHARD MONARCH, Louisville, Ky.

The words "KENTUCKY STANDARD," beneath which is an outline of a barrel, upon which are the letters "K. S."

Filed May 3, 1905. Serial No. 4,066. PUBLISHED OCTOBER 24, 1905.

48,288. CANNED SALMON. PACIFIC AMERICAN FISHERIES, Portland, Me.

A monogram of the letters and abbreviation "P A F Co" on the face of a shield.

Filed June 5, 1905. Serial No. 7,469. PUBLISHED OCTOBER 24, 1905.

48,289. MEN'S AND BOYS' HATS AND CAPS. J. SAMUELS & BRO., Providence, R. I.

The representation of an irregular shield with foliates upon the side and the representation of a crown upon its upper face. The center of the shield is dark and is traversed by a white curved strip bearing the word "MILLWOOD." In the dark area of the shield, below the word "MILLWOOD," is the word "HAT." The lower portion of the shield bears the legend "BEST IN THE WORLD," surmounting the words "STANDARD MAKE."

Filed June 9, 1905. Serial No. 7,720. PUBLISHED OCTOBER 24, 1905.

48,290. WHISKY. F. STRAUSS & Co., Cincinnati, Ohio.

The letters "S S S" within a circle.

Filed April 17, 1905. Serial No. 2,048. PUBLISHED MAY 23, 1905.

48,291. WHISKY. SUNSET DISTILLING CO., Chicago, Ill.

The word "SUNSET," below which is a picture representing a sunset behind mountain-peaks.

Filed May 13, 1905. Serial No 5,528. PUBLISHED AUGUST 15, 1905.

48,292. CARPETS. THE HARTFORD CARPET CORPORATION, Thompsonville, Conn.

The representation of two stars.

Filed May 29, 1905 Serial No. 6,939. PUBLISHED OCTOBER 24, 1905.

48,293. WHISKY. THE THEOBALD AND SON CO., Columbus, Ohio.

The words "THEOBALD GREEN LABEL," the first word in green letters on a white background and framed by straight lines and scrollwork in white on a green background, beneath which are the words "GREEN LABEL."

Filed June 24, 1905. Serial No. 8,921. PUBLISHED OCTOBER 24, 1905.

48,294. FLEECE-LINED COTTON UNDERSHIRTS AND DRAWERS. UNION MILLS, Boston, Mass., and Hudson, Mechanicsville, and New York, N. Y.

The representation of a shield bearing the letters "U. S. F."

Filed April 19, 1905. Serial No. 2,214. PUBLISHED MAY 30, 1905.

48,295. PREPARED GELATIN. WHITMAN GROCERY COMPANY, Orange, Mass.

A representation of the statue known as the "Minute Man."

Filed June 15, 1905. Serial No. 8,170. PUBLISHED OCTOBER 24, 1905

48,296. HOSIERY. ABRAHAM & STRAUS, New York, N. Y.

The word "GRIDIRON," appearing upon the representation of a football.

Filed April 18, 1905. Serial No. 2,190. PUBLISHED OCTOBER 24, 1905.

48,297. WHISKY. BAYER, SCHWARTZ & Co., Columbus, Ohio.

The words "GOLDEN HILL" and the representation of a group of hills with the sun rising behind them, the rays of the sun extending toward the words. On the representation of the sun is a monogram composed of the letters, character, and abbreviation "B S & Co."

Filed May 1, 1905. Serial No. 3,831. PUBLISHED AUGUST 22, 1905.

48,298. WHISKY. J. & A. FREIBERG, Cincinnati, Ohio.

The word "BRIDGEWATER."

Filed June 24, 1905. Serial No. 8,902. PUBLISHED OCTOBER 24, 1905.

48,299. WHISKY. THE THEOBALD AND SON CO., Columbus, Ohio.

The words "OLD LAND MARK."

Filed June 24, 1905. Serial No. 8,923. PUBLISHED OCTOBER 24, 1905.

48,300. WHISKY. MELVALE DISTILLERY CO., Baltimore, Md.

The word "MELVALE."

Filed April 8, 1905. Serial No. 808. PUBLISHED JUNE 20 1905.

LABELS

REGISTERED DECEMBER 19, 1905.

12,553.—*Title:* "COMPLIMENTS OF THE SEASON." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed November 21, 1905.

12,554.—*Title:* "LIBERTY TIE." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed November 21, 1905.

12,555.—*Title:* "OLD CUBANA." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed November 21, 1905.

12,556.—*Title:* "ROSA DONITA." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed November 21, 1905.

12,557.—*Title:* "SENIOR." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed November 21, 1905.

12,558.—*Title:* "JUNIOR." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed November 21, 1905.

12,559.—*Title:* "SENATOR." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed November 21, 1905.

12,560.—*Title:* "PRINCE REGAL." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed November 21, 1905.

12,561.—*Title:* "MAESTRO." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed November 21, 1905.

12,562.—*Title:* "JIM KEY." (For Cigars.) BERKSON BROS., Chicago, Ill. Filed November 21, 1905.

12,563.—*Title:* "WELL HOUSE CHOP." (For Tea.) UPHAM BROTHERS, New York, N. Y. Filed November 24, 1905.

12,564.—*Title:* "PROPRIÉTÉ PRIVEE, VICHY-CUSSET, AUTORISEE PAR L'ETAT." (For Vichy Water.) OVIDE ROBILLARD, Paris, France. Filed November 21, 1905.

12,565.—*Title:* "OLD HEIDELBERG BREW." (For Malt Liquors.) EMIL F. WAGNER, New York, N. Y. Filed October 11, 1905.

12,566.—*Title:* "ATHLONE A SCIENTIFIC COMBINATION HOME TREATMENT FOR ALL RECTAL DISEASES." (For Medicine.) HARRY G. MCLAUGHLIN, Kansas City, Mo. Filed November 21, 1905.

12,567.—*Title:* "RADIANT." (For Shoe-Polish.) SCHNEIDER & SANDS, St. Louis, Mo. Filed November 1, 1905.

12,568.—*Title:* "UNCLE SAM, U. S. ARMY STANDARD." (For Seamless Half-Hose.) WESLEY B. BEYER, Birdsboro, Pa. Filed November 23, 1905.

12,569.—*Title:* "U. S. ARMY STANDARD." (For Seamless Half-Hose.) WESLEY B. BEYER, Birdsboro, Pa. Filed November 23, 1905.

PRINTS

REGISTERED DECEMBER 19, 1905.

1,515.—*Title:* "A GOOD POINT." (For Beer.) THE MEEK COMPANY, Coshocton, Ohio. Filed November 7, 1905.

1,516.—*Title:* "MERRY WORLD." (For Chewing and Smoking Tobacco.) SEITER & KAPPES, New York, N. Y. Filed November 7, 1905.

1,517.—*Title:* "EGYPTIAN DEITIES." (For Cigarettes.) S. ANARGYROS, New York, N. Y. Filed November 24, 1905.

1,518.—*Title:* "THE SANITARY SQUAD." (For Hand-Sapolio.) W. F. POWERS & Co., New York, N. Y. Filed November 28, 1905.

1,519.—*Title:* "DOE-WAH-JACK." (For Stoves, Ranges, and Furnaces.) FRED E. LEE and WM. G. HOWARD, Dowagiac, Mich., executors of Philo D. Beckwith, deceased. Filed November 20, 1905.

1,520.—*Title:* "KANT-SWAG." (For Gates.) "KANT-SWAG" GATE M'F'G. Co., Indianapolis, Ind. Filed October 19, 1905.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

SCOTT v. EMMET AND HEWLETT.

Decided December 1, 1905.

1. INTERFERENCE—ADDITION OF COUNTS AFTER DISSOLUTION.

Where Scott after dissolution of the interference as to certain of the original counts and after a second dissolution as to certain additional counts which had been presented brings a petition for the addition of new counts to the issue and contends that E. and H. did not act in good faith in presenting upon the successive motions for dissolution new references of which, he claims, they must have known from the beginning of the proceedings, and alleges that the delays in the case also arose through the failure of the Patent Office to find in the first place all pertinent references, and charges that E. and H. wilfully delayed the case in view of knowledge obtained from access to affidavits in S.'s case improperly permitted by the Office, and S. has secured recommendation of the Examiners-in-Chief that the proposed counts be allowed, but E. and H. oppose the grant of the petition, pointing out that the proposed claims were found patentable only upon *ex parte* representations and that in the event of their admission another motion for dissolution is not improbable, with attendant delay and expense, and that it is not apparent why decision on the counts now forming the issue will not be controlling as to the recommended claim if made hereafter by either party, under *Phelps* v. *Wormley* v. *McCullough*, (118 O. G., 1069,) *Held* that no sufficient reason appears to justify further delay by the addition of the proposed counts.

2. SAME—SAME—NOT ADMITTED WHERE PROOFS AS TO SAME MAY BE PRESENTED IN CONNECTION WITH THE COUNTS REMAINING IN THE ISSUE.

Upon petition to include additional counts in the issue of interference after dissolution as to certain of the original counts, *Held* that the petitioner has no standing in his attempt to introduce new counts unless the proposed counts are drawn with additional limitations to the same invention as claimed with respect to which the interference was dissolved and that if the proposed counts fulfil these contentions they fall within the scope of the preliminary statements already made and the parties may present all their proofs in regard to the subject-matter of the issue and the Office may determine the question of priority of invention with respect to any claim thereto which may be hereafter presented without declaring another interference for that purpose.

ON PETITION.

AUTOMATIC MAGNETIC CIRCUIT-BREAKER.

Mr. Cornelius D. Ehret for Scott.

Mr. A. G. Davis and *Mr. A. D. Salinger* for Emmet and Hewlett. (*Mr. John C. Pennie* of counsel.)

ALLEN, *Commissioner:*

This is a petition by Scott seeking the admission of new claims as additional counts in the issue of this interference.

The interference was declared on March 1, 1904, upon twelve counts. It was dissolved on motion by Emmet and Hewlett as to eleven of the counts on the ground of non-patentability. Scott thereupon brought a motion for admission of new claims. This motion was transmitted and considered, and the interference was redeclared on November 1, 1904, with nine new counts. The Primary Examiner held, on February 3, 1905, upon motion by Emmet and Hewlett, that the interference should be dissolved as to seven of the counts on the ground of non-patentability. Scott then brought a motion to amend by the addition of two new counts. The decision of the Examiner of Interferences refusing to transmit this motion was affirmed in my decision of April 19, 1905. (116 O. G., 1184.) On June 12, 1905, the Examiners-in-Chief affirmed, except as to one count, the decision of the Primary Examiner holding that the interference should be dissolved as to seven of the counts for want of patentability. On June 29 the Examiners-in-Chief, having secured jurisdiction for that purpose, recommended the admission and allowance by the Primary Examiner of any or all of three new claims. The Examiner took no action upon this suggestion, but returned the case to the Examiner of Interferences, who fixed times for taking testimony. Scott brought a motion to suspend proceedings until October 20, 1905, which was granted, and filed the present petition.

In the petition Scott prays:

1. That an order be entered to return the case to the Primary Examiner with directions to him to consider and act upon the recommendation of the Examiners-in-Chief.
2. Or that this interference be suspended and a new interference declared incorporating the claims whose admission and allowance has been recommended by the Examiners-in-Chief.
3. That such additional relief be granted your petitioner as may preclude the necessity for a second interference and as justice and equity may require.

Scott contends that Emmet and Hewlett did not act in good faith in presenting upon the successive motions for dissolution new references of which he claims they must have known from the beginning of the proceeding. He also alleges that the delays in this case have arisen through improper action upon the part of the Patent Office failing to find and cite all of the pertinent references during the *ex parte* prosecution of his application. He charges that the delay has been wilfully occasioned by his opponents in view of knowledge said to have been obtained by them through alleged improper disclosures to them of *ex parte* affidavits filed in Scott's application. Scott contends that in view of these circumstances and the fact that the claims have been recommended by the Examiners-in-Chief as patentable the proposed claims should be received, notwithstanding the reasons given in my prior decision in this case for refusing to permit further amendment. Emmet and Hewlett strongly oppose the grant of this petition. They point out that the proposed claims have been found patentable only upon *ex parte* representations and that in the event of their admission another motion for dissolution is not improbable, with attendant delay and expense.

They also point out that it is not apparent why a decision on the four counts now forming the issue will not be controlling as to the recommended claims if these claims be made hereafter by one or the other of the parties.

I find nothing in the matters to which attention has been called to justify further delay in this case by the addition of new counts to the issue, and permission to amend to that end must be again refused, for reasons which were fully set forth in my prior decision in this case, already referred to, and in the decision in *Phelps* v. *Wormley* v. *McCullough*, (118 O. G., 1069.) Scott has no standing whatever in his attempt to introduce new claims at this time unless the proposed claims are drawn with additional limitations to the same invention as claims with respect to which the interference was dissolved. If the proposed claims fulfil these conditions, they fall within the scope of the preliminary statements already made, and, as pointed out in *Phelps* v. *Wormley* v. *McCullough*, no good reason is seen why the parties should not present all their proofs in regard to the subject-matter of the issue in this interference, so that the Office may determine the question of priority of invention as to any claim to such subject-matter which may be presented after the termination of this interference without declaring another interference for that purpose.

The petition is denied.

EX PARTE THE KINGAN PACKING ASSOCIATION.

Decided December 6, 1905.

1. TRADE-MARKS—DIVISION—APPEAL.

Refusal of registration on the ground that the application covers more than one trade-mark right is appealable and will not be reviewed on interlocutory petition.

2. SAME—PARTICULAR GOODS MUST BE SPECIFIED—DEFINITENESS REQUIRED.

The statement of the particular goods upon which the mark has been used must be made clear and definite, so that the public will be informed as to the rights claimed by registrants.

3. SAME—SAME—INDEFINITE STATEMENT.

The allegation that the mark has been used upon "meats" does not convey the clear and definite idea of the particular goods which the statute contemplates.

ON PETITION.

TRADE-MARK FOR MEATS.

Messrs. Bradford & Hood for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner of Trade-Marks holding that the term "meats" used in describing the goods to which the mark has been applied is indefinite and includes goods of different descriptive properties.

The ruling that the application covers goods of different properties is, in effect, a ruling that it covers more than one trade-mark right. The Examiner has required division between these rights, and therefore his action is reviewable on appeal and not on interlocutory petition.

Although this petition is irregular, it may be remarked that it is not apparent why the applicant objects to stating the particular goods upon which his trade-mark has been used. The term "meats" undoubtedly does not convey the clear and definite idea of the particular goods which the statute contemplates. It is the duty of this Office to require that trade-mark registration be made clear and definite, so that the public will be informed as to the rights claimed by registrants.

The petition is dismissed.

EX PARTE THE ELI LILLY COMPANY.

Decided December 6, 1905.

TRADE-MARKS—SUFFICIENCY OF DESCRIPTION—BACKGROUND.

Where the trade-mark consists of a word which is shown printed upon a background made up of vertical lines, it is not necessary to describe the background as a part of the mark.

ON PETITION.

TRADE-MARK FOR SUPPOSITORIES.

Messrs. Bradford & Hood for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner of Trade-Marks requiring the applicant to amend his description.

The applicant describes his trade-mark as consisting of the word "Glycones," and the drawing shows that word printed on a background made up of parallel vertical lines. The Examiner holds that the description should include the background as a part of the mark.

The specimens of the mark as actually used correspond with the drawing, and it clearly appears therefrom that the background constitutes no part of the applicant's trade-mark. If the word "Glycones" were removed from the drawing and the specimens, no possible trade-mark subject-matter would remain. The background constitutes simply the field upon which the mark is printed and is no more a part of the mark than would be white paper or any other paper upon which the mark might be printed.

The petition is granted.

WRIGHT & TAYLOR v. BLUTHENTHAL & BICKART v. MAYER, SONS & COMPANY v. CUSHMAN & COMPANY.

Decided December 6, 1905.

1. TRADE-MARKS—INTERFERENCE IN FACT—"CHARTER OAK," "OLD CHARTER," AND "ROYAL CHARTER."

There is an interference in fact between the words "Charter Oak," "Old Charter," and "Royal Charter," used as trade-marks upon the same class of goods.

2. TRADE-MARK INTERFERENCE—DISSOLUTION—CONSENT OF PARTIES.

An interference will not be dissolved merely because the parties are apparently willing where this Office regards the marks as substantially the same.

APPEAL on motion.

TRADE-MARK FOR WHISKY.

Mr. Arthur E. Wallace for Wright & Taylor.

Mr. Joseph L. Atkins for Bluthenthal & Bickart.

Messrs. Wiedersheim & Fairbanks for Mayer, Sons & Company.

Messrs. Ward & Cameron for Cushman & Company.

ALLEN, *Commissioner:*

This is an appeal by Mayer, Sons & Company from the decision of the Examiner of Interferences denying a motion for dissolution of the above-entitled interference.

The issue of the interference consists of the words "Charter Oak," "Old Charter," and "Royal Charter" as applied to whisky, and the question for determination is whether these words so nearly resemble each other as to mislead the public or deceive purchasers.

It is believed that the word "Charter" included in all of the marks is the most prominent feature and the one which would attract the attention of purchasers and serve as the means of identification. It must be held, therefore, that the marks so nearly resemble each other as to be

likely to cause confusion in the trade. This conclusion has been reached notwithstanding the apparent willingness of several of the parties involved in the interference to have the interference dissolved and all of the marks registered. In determining the question of identity this Office must exercise its own judgment, and it will not dissolve an interference and register to two or more parties marks which it regards as substantially identical.

The decision of the Examiner of Interferences is affirmed.

EX PARTE LJUNGSTROM.

Decided December 6, 1905.

1. DESCRIPTION—STATEMENTS RELATIVE TO PRIOR DEVICES.

Descriptive matter in a specification which consists merely in statements relative to the construction and operation of specific prior devices, made with the idea of pointing out the purpose and application of applicant's improvements, is not objectionable as being in derogation of the inventions of others.

2. FORMAL OBJECTIONS—AMENDMENT ATTEMPTING TO CURE INFORMALITIES.

Where an applicant in good faith by amendment attempts to cure formal objections, if the amendments are not satisfactory the Examiner should so state in specific language.

3. CLAIMS—OBJECTION TO THE WORD "OUTLET."

The use of the term "outlet" in a claim is not objectionable in all cases on the ground that it refers to something intangible.

4. DIVISION—EXAMINER'S ACTION SHOULD BE EXPLICIT.

On a requirement for division on the ground that the claims cover different species the particular claims alleged to be restricted to certain species should be specified, and if applicant is unable to understand the requirement the Examiner should specify the particular elements in the claims which read on one species and not on another.

ON PETITION.

CENTRIFUGAL MACHINES FOR SEPARATING SOLID MATTERS FROM LIQUIDS.

Messrs. Harding & Harding for the applicant.

ALLEN, *Commissioner:*

This is a petition from the decision of the Primary Examiner objecting to certain parts of the specification and claims and asking that the Examiner be directed to furnish his reasons for a requirement of division.

The Examiner has required that certain matter be canceled from the specification because it is a direct criticism of the invention of others. Upon examination of the matter in question it is found that it consists of statements of fact regarding the constructions shown in prior patents, whose numbers are recited. The language used states the construction of such prior devices and how they operate; but no comparisons are drawn between those devices and applicant's to the disadvantage of the former. The devices do not appear to be equivalents in the matter of function, applicant's device apparently performing the functions of such prior devices and an additional function by means of additional structure. The reference to such prior devices seems to have been made for the purpose of bringing out clearly the purpose or application of the improvement, and it is thought it should be permitted to remain.

The Examiner also in the first Office action objected to the use in a claim of the word "outlet" on the ground that it is an intangible element and should not be positively included. The applicant in the first amendment thereafter attempted to meet the objection by changing the language, and so far as appears from the Examiner's subsequent communications the objection was properly met, as it was not again referred to, unless it could be considered as included in the objection that previous formal requirements must be complied with; but where an applicant has in good faith attempted to cure objections if the attempt is not satisfactory he should be notified of this fact in specific language. While the use of this term might be objectionable in some instances, it is thought that no objection should have been made to it in this case, as the "outlet" is not formed in any particular element, so that it could not be clearly defined in the manner suggested by the Examiner.

The Examiner also required division between certain specified claims because they were drawn to different species. In reply to this requirement applicant pointed out why he thought the claims did not cover different species and asked that the Examiner make his position clearer as to this requirement. Applicant's request in this regard is a proper one, and it should be complied with. It was not sufficient simply to reiterate that the claims covered different species; but the reason for this holding should have been clearly stated. In the original requirement the Examiner stated that "the drawings show either one spiral scraper or a plurality of inclined scrapers, therefore claims 3, 6, 7 and 10 are considered drawn to different species." This statement does not seem to be clear, so that the Examiner's position is not well understood. Even if the statements of the Examiner regarding what is shown by the drawings are true the conclusions drawn therefrom do not necessarily follow. If the claims cover different species, it is because one or more of them will read only on a certain specified view or views, while another claim or claims read only on a different view or views, and on an original requirement for division at least this much information should be given. After a requirement has thus been made if the applicant should ask for further explanation, giving reasons why he cannot understand the requirement, and there seems to be any reasonable ground for failure to understand the same, it is the duty of the Examiner to point out the specific language in the respective claims which restrict them in the manner alleged in the original requirement.

In the requirement for division made in this case the Examiner states that "the drawings show either one spiral scraper or a plurality of inclined scrapers." By this it would appear that the Examiner intended to say that Figure 4 shows a single spiral scraper, which is believed to be incorrect. While it is immaterial to the question now presented whether Fig. 4 shows one or more spirals, it may be here stated that this figure does not show a single spiral flange, but two or more of what applicant terms "spiral" threads forming the "scraper." Technically considered, the term "spiral," as applied to a screw-thread, for example, refers to one or more complete turns; but the use of such term in this case to refer to a flange on the periphery of a perforated cylinder which is of spiral formation, but which does not extend entirely around the cylinder, is not objectionable, as its meaning seems perfectly clear. It is therefore directed that if the Examiner insists on the requirement for division he shall make his position as clear as possible by a complete explanation.

The petition is granted.

EX PARTE BLOOMINGTON CANNING CO.

Decided December 6, 1905.

TRADE-MARKS—CANCELLATION OF REGISTRATION.

Where in an interference case involving a registered trade-mark this Office adjudges that the registrant is not the owner of the mark and thereafter the attorney for the registrant files the certificate of registration with the request that it be canceled, *Held* that the registration will be canceled.

REQUEST for cancellation.

TRADE-MARK FOR CANNED FRUITS AND VEGETABLES.

Trade-mark registered August 15, 1905, No. 45,347.

Mr. Joseph L. Atkins for the registrant.

ALLEN, *Commissioner:*

A certificate of trade-mark registration, No. 45,347, relating to the word "Imperial" as a trade-mark for canned fruits and vegetables, has been presented to this Office by the attorney for the applicant for cancellation.

In the request for cancellation it is stated that the registrant is satisfied that Thomas Kensett & Company, of Baltimore, Md., are the owners of the trade-mark, and it appears from the records of this Office that an interference was conducted between this registrant and Thomas Kensett & Company in which judgment was rendered in favor of the latter.

The authority to cancel the certificate of registration of a trade-mark is found in section 13 of the act of February 20, 1905, and in view of the circumstances of the present case it is believed that the registrant's mark should be canceled.

It is ordered that the registration of the Bloomington Canning Co., of Bloomington, Ill., No. 45,347, be canceled by indorsement thereon and that proper entries of such cancellation be made in the Office records.

EX PARTE E. C. ATKINS & COMPANY.

Decided December 6, 1905.

TRADE-MARKS—DRAWING AND DESCRIPTION MUST AGREE.

There must be no inco sistency between the description and drawing in trade-mark cases, and this is true of immaterial as well as material features. Where the mark is shown as a hyphenated word, it must not be described as two words.

ON PETITION.

TRADE-MARK FOR SAWS.

Messrs. Bradford & Hood for the applicants.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner of Trade-Marks requiring an amendment of the description of the trade-mark to accord with the drawing and specimens filed.

The mark as shown consists of the word "Moss-Back," and in the description it is said:

The trade-mark consists of the words "Moss Back."

The controversy, therefore, relates to the hyphen, which appears in the drawings and specimens, but not in the description. It is of course clear that the presence or absence of the hyphen does not change the trade-mark materially. This, however, does not warrant an inconsistency between the drawing and description. It is not apparent why the applicants should wish to write the mark differently in their description and drawing. It is not necessary to emphasize the hyphen by stating that the word is hyphenated; but it should be written as it appears on the drawing. In other words, the drawing should not show the mark as one thing and the statement describe it as something else, although the two things may not be materially different.

The petition is denied.

EX PARTE THE F. B. Q. CLOTHING COMPANY.

Decided December 6, 1905.

TRADE-MARKS—DESCRIPTIVE MARK REFUSED—"JUST RIGHT."

The words "Just Right" refused registration as a trade-mark for overcoats on the ground that they are descriptive.

ON APPEAL.

TRADE-MARK FOR WEARING-APPAREL.

Messrs. Munn & Co. for the applicant.

ALLEN, *Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing to register as a trade-mark for overcoats, etc., the words "Just Right."

The ground of refusal is that the mark is descriptive. Section 5 of the Trade-Mark Act provides that no mark shall be registered which consists—

* * * merely in words or devices which are descriptive of the goods with which they are used, or of the character or quality of such goods.

To say that an overcoat is just right is undoubtedly to describe its characteristics, since the words clearly convey an idea of quality. Any one has the right to describe his overcoats as "just right," just as he may describe them as "good" or "excellent."

The Examiner was right in refusing registration, and his decision is affirmed.

DUNN v. HALLIDAY.

Decided December 8, 1905.

INTERFERENCE—TRANSMISSION OF MOTION TO DISSOLVE—APPEAL.

A decision of the Examiner of Interferences refusing to transmit to the Primary Examiner a motion to dissolve will not be disturbed unless it is shown that in making such decision there was an abuse of discretion or that the decision is clearly erroneous.

APPEAL on motion.

CHEESE-CUTTER.

Mr. V. H. Lockwood for Dunn.

Messrs. Parker & Burton for Halliday.

ALLEN, *Commissioner:*

This is an appeal by Dunn from a decision of the Examiner of Interferences refusing the transmission of his motion to dissolve.

The preliminary statements were approved July 18, and hence, according to Rule 122, the motion to dissolve should have been filed before August 8; but it was not filed until October 13, more than two months later. The only reason given for not bringing the motion earlier is that it did not occur to the moving party that the Examiner could have made a mistake in declaring the interference on such a simple invention as forms the subject-matter of this interference and that he did not discover the error until October 7, when he procured copies of the drawings of the opposing party for another purpose and then made the discovery that such drawings did not show one of the essential elements of the issue.

From the above statement of fact it is clear, in view of the well-settled practice of the Office announced in numerous decisions, that the Examiner of Interferences was compelled to refuse to transmit the motion. The appellant admittedly did not exercise diligence in bringing the motion, and there is no showing whatever that it was impossible for him to bring it sooner. In *Sturgis* v. *Hopewell* (109 O. G., 1067; 1904 C. D., 82) it was said:

The action of the Examiner of Interferences transmitting or refusing to transmit a motion brought after the twenty days allowed by the rule will not be disturbed except where there has been an abuse of discretion or his action is clearly erroneous.

This is believed to be good practice and should be observed. When it is sought to have reviewed the question

here under discussion, it is incumbent upon the appellant to first establish or show what appears to be an abuse of discretion or the existence of an obvious error before I shall feel disposed to look into the record. The practice of needlessly taking appeals is one that is to be discouraged, as it causes delay and injury to opposing parties and is an unnecessary burden upon the Office.

The decision of the Examiner of Interferences is affirmed.

EX PARTE KENNEY.

Decided December 12, 1905.

1. AMENDMENT AFTER FINAL REJECTION—SHOWING REQUIRED.
   Claims differing in scope from claims under final rejection will not be admitted under Rule 68 upon the mere allegation that there is another application pending, whose date and number are specified, containing such claims. They can be admitted only upon a duly-verified showing.
2. DESCRIPTION—STATING ADVANTAGES OF PRIOR ART.
   Descriptive matter in a specification which sets forth alleged advantages of the construction over the prior art in language broad enough to apply to a prior patent or patents, as well as to applicant's construction, is objectionable and should be canceled. Such statements amount merely to a comparison of two old classes of machines.
3. SAME—CANCELLATION OF MATTER INVOLVED IN APPEAL.
   Descriptive matter relating to constructions involved in claims on which appeal is to be taken should not be required to be canceled prior to appeal.

ON PETITION.

APPARATUS FOR REMOVING DUST.

Mr. Thomas Ewing, Jr., and *Mr. Vernon M. Dorsey* for the applicant.

ALLEN, *Commissioner:*

This is a petition from the decision of the Primary Examiner refusing to admit an amendment containing two claims submitted after the case was in condition for appeal to the Examiners-in-Chief and requiring the cancellation of certain descriptive matter from the specification.

Rule 68 provides that after a case is in condition for appeal amendments presenting rejected claims in better form for consideration on appeal may be admitted; but amendments touching the merits may be admitted only upon a duly-verified showing of good and sufficient reasons why they were not earlier presented. Upon reference to the amendment proposed by this petitioner it is found that he has not complied with the rule. It is obvious that the claims sought to be added are different in scope from the rejected claims. The fact that these claims are added to those already in the case and are not substituted for others is a substantial admission of this fact. But notwithstanding the fact that the amendment is clearly one touching the merits no attempt is made to comply with the rule by filing a verified showing. The amendment cannot therefore be admitted under the provisions of this rule, and if it is admitted at all must be because of special reasons.

The only reason given in support of the request to add the claims is that petitioner is informed and believes that there is an application of another party in the Office containing substantially the same claims, and the date and serial number of such application are given, as well as the name of the applicant. It is stated that these two applications belong to the same company; but nevertheless if the claims in question are patentable they should be allowed only to the first inventor thereof. It is therefore urged that if such claims are patentable an interference should be declared, and if they are not patentable this petitioner should have an opportunity to take them to the Examiners-in-Chief on appeal, together with other claims along the same line on which it is stated appeal is to be taken; but whether or not there is such an application pending is considered immaterial to the determination of this question. If there is not, petitioner has given no reason for reopening the case. If there is and such claims have been allowed, then the Examiner will undoubtedly suggest such claims to this party under Rule 96. If there is and the claims are *not* allowed and the two applications belong to the same company, as stated, appeal may be taken in the other application. The special reasons are therefore considered insufficient, and the admission of the claims was properly refused.

As to the Examiner's requirement to cancel the descriptive matter found in the last eight lines on page 15 and the first four lines on page 16 it is believed that the construction referred to therein is involved in claim 1, on which it is stated appeal is to be taken, and it is also involved in claim 2, which stands allowed. As to this requirement the Examiner is therefore reversed.

But the description found in lines 9 to 21, page 15, should be canceled or modified. This language apparently purports to set forth the advantages of petitioner's device over the prior art; but such language is just as applicable to the patent to Cummings of record. It amounts, therefore, to a comparison of two old methods or classes of machines, and as the purpose of the specification is to distinguish between what is old and what is new it is obviously improper. Petitioner's contention that this is a matter which is involved in the claims on which appeal is to be taken is not substantiated, for the reason, above stated, that the language might properly have been inserted in a prior patent. The Examiner's requirement with respect to this part of the description was therefore right, and his decision is affirmed.

To the extent above indicated the petition is granted.

TOWNSEND v. COREY.

Decided December 12, 1905.

1. INTERFERENCE—DISCLAIMER OF INVENTORSHIP—JUDGMENT RENDERED WITHOUT HEARING.
   Where the two parties to an interference file a stipulation in lieu of testimony and in that stipulation one of the parties states that he is not the inventor of the subject-matter in issue, *Held* that there is no reason for continuing the interference, and the Examiner of Interferences may render judgment of priority without setting a day for hearing.
2. SAME—SAME—NO APPEAL FROM JUDGMENT.
   There is no appeal from a judgment of priority rendered in view of the admission of a party that he is not the inventor, and no limit of appeal need be set from such a decision.

ON PETITION.

ELECTRIC RELAYS.

Mr. George H. Benjamin for Townsend.

Mr. Albert G. Davis for Corey.

ALLEN, *Commissioner:*

This is a petition by Corey requesting that the Examiner of Interferences be directed to withdraw his decision on the question of priority in favor of Townsend and to grant a final hearing on this question.

It appears from the record that after the declaration of the interference motions to dissolve were filed, which finally resulted in a dissolution of the interference as to one count,

and that times were set for taking testimony. No testimony was taken by either party; but in lieu thereof a stipulation was filed, signed by counsel for the respective parties, which provided, in substance as follows:

(1) That neither party to this interference shall take any testimony.

(2) Certain facts to which Fitzhugh Townsend and S. Marsh Young, if called, would testify, together with certain exhibits which, if produced, would satisfactorily establish a date of conception and reduction to practice on the part of Townsend, the junior party, prior to the record date of Corey's application.

(3) That F. B. Corey, one of the parties to this interference, does not claim to be the inventor of the subject-matter of the interference issue.

In view of this stipulation, in which one of the two parties to the interference stated that he did not claim to be the inventor of the issue, the Acting Examiner of Interferences rendered judgment of priority in favor of the other party, (Townsend.) In rendering this judgment the Examiner stated that the admission of the party Corey that he was not the inventor was a waiver of the right of appeal and that no time for appeal should be set. Petitioner therefore brings this petition, alleging that he did not waive his right to a hearing and that he did not waive his right of appeal from any judgment rendered on the question of priority. He therefore requests that the decision of the Acting Examiner of Interferences be set aside and that he be directed to set a time for hearing on the question presented for decision.

Interferences are instituted for the purpose of determining the question of priority of invention between parties claiming the same invention, and when one of the two parties to such an interference deliberately places upon the record the statement that he is not the inventor of the issue forming the subject-matter of the interference the proceeding should cease, as it would be not only useless, but a manifest injustice to the opposing party and to the Patent Office to carry it further. The situation here presented is similar to that of the parties in the case of *Oliver* v. *Felbel*, (100 O. G., 2384; 1902 C. D., p. 565,) decided by the Court of Appeals of the District of Columbia, in which the court stated that where one of the two parties to an interference deliberately admitted that he did not claim to be the inventor of the invention in issue such admission should be taken as conclusively settling the controversy; and I am of the opinion that in view of the peculiar situation presented by the record of this interference a further continuance of the proceeding would be utterly useless and an unnecessary tax upon the opposing party and the Office.

It seems, therefore, that there was no reason or necessity for the Acting Examiner of Interferences to set a day for a hearing before rendering his decision on the question of priority or that there was any reason for setting a limit of appeal from such decision, nor does there appear to be any reason for now doing so.

The petition is denied.

THE

OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 119—No. 8. TUESDAY DECEMBER 26, 1905. PRICE—$5 per year.

CONTENTS.

	Page.
ISSUE OF DECEMBER 26, 1905	2239
TRADE-MARKS	2239
COMPLETE APPLICATIONS	2239
APPLICATIONS UNDER EXAMINATION	2240
FOREIGN PATENTS	2240
PATENTS GRANTED	2241
REISSUES	2488
DESIGNS	2492
TRADE-MARKS—REGISTRATION APPLIED FOR	2495
TRADE-MARKS—REGISTERED	2511
LABELS	2517
PRINTS	2517
COMMISSIONER'S DECISIONS—	
Pohle v. McKnight	2519
Ex parte Marr	2521
Ex parte The William Connors Paint Mfg. Company	2522
Ex parte The Bryant Electric Company	2522
Ex parte Monarch Tobacco Works	2522
Townsend v. Copeland v. Robinson	2523
Blackmore v. Hall	2523

ISSUE OF DECEMBER 26, 1905.

Patents	556	No. 808,062 to No. 808,617, inclusive.
Designs	11	No. 37,755 to No. 37,765, inclusive.
Trade-Marks	145	No. 48,301 to No. 48,445, inclusive.
Labels	18	No. 12,570 to No. 12,587, inclusive
Prints	8	No. 1,521 to No. 1,528, inclusive.
Reissues	2	No. 12,426 to No. 12,427, inclusive.
Total issue	740	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	2	Nevada	.....	.....
Alaska Territory	.....	.....	New Hampshire	2	.....
Arizona Territory	1	.....	New Jersey	17	.....
Arkansas	2	1	New Mexico Ter't'y	.....	.....
California	22	5	New York	98	54
Colorado	6	.....	North Carolina	7	.....
Connecticut	14	3	North Dakota	2	.....
Delaware	3	1	Ohio	28	17
District of Columbia	4	2	Oklahoma Territ'y	4	.....
Florida	2	.....	Oregon	1	.....
Georgia	3	.....	Pennsylvania	46	22
Hawaii Territory	.....	.....	Porto Rico	.....	.....
Idaho	1	.....	Rhode Island	6	3
Illinois	52	13	South Carolina	.....	.....
Indian Territory	.....	.....	South Dakota	.....	.....
Indiana	11	2	Tennessee	2	2
Iowa	16	.....	Texas	10	.....
Kansas	6	.....	Utah	.....	.....
Kentucky	5	3	Vermont	1	.....
Louisiana	5	2	Virginia	3	3
Maine	2	.....	Washington	9	.....
Maryland	7	2	West Virginia	2	.....
Massachusetts	32	14	Wisconsin	15	3
Michigan	15	.....	Wyoming	1	.....
Minnesota	11	3	U. S. Army	.....	.....
Mississippi	4	.....	U. S. Navy	.....	.....
Missouri	21	9			
Montana	1	1	Total to citizens of the United States	506	167
Nebraska	4	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Netherlands	.....	.....
Austria-Hungary	1	.....	Newfoundland	.....	.....
Belgium	3	.....	New South Wales	.....	.....
Brazil	.....	.....	New Zealand	.....	.....
British West Indies	.....	.....	Norway	.....	.....
Canada	7	.....	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Roumania	.....	.....
China	.....	.....	Russia	1	.....
Costa Rica	.....	.....	San Salvador	.....	.....
Cuba	2	.....	Scotland	.....	.....
Denmark	.....	.....	South Africa	.....	.....
Egypt	2	.....	Spain	.....	.....
England	18	2	Sweden	2	1
France	5	.....	Switzerland	3	1
Germany	13	.....	Transvaal, South Africa	1	.....
India	1	.....	Victoria	.....	.....
Ireland	1	.....	Western Australia	.....	.....
Italy	1	.....			
Japan	.....	.....			
Mexico	.....	.....	Total to citizens of foreign countries	61	4
Natal	.....	.....			

Trade-Marks.

The publication of trade-marks under the act of February 20, 1905, in the OFFICIAL GAZETTE, commenced May 2, 1906, and will appear in each weekly number of the GAZETTE thereafter.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment therefor.

Complete Applications.

It is hereby ordered that applications shall not be given serial numbers as complete applications and forwarded to the examining divisions for examination (1) when the petition has not been signed by the inventor; (2) when the specification and claims have not been signed by the inventor and the signature attested by two witnesses; (sec. 4888, Rev. Stats.;) (3) when the drawing has not been signed by the inventor or his attorney in fact and the signature attested by two witnesses; (sec. 4889, Rev. Stats.;) and (4) when the oath to the application does not fill the requirements of sections 4887 and 4892, Revised Statutes.

The requirements of section 4896, Revised Statutes, respecting the right of executor or administrator to make application for a patent for the invention of a deceased person must also be observed before the application will be considered as complete and forwarded for examination.

* * * * * * *

This order, so far as applicable, relates to applications for the registration of trade-marks, labels, and prints, which must in all respects comply with the requirements of the statutes.

[Sections 4887, 4892, and 4896, Revised Statutes, above mentioned, were amended by the act of March 3, 1903.]

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business December 19, 1905.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
	In arrears—Under one month.			
XXI	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Dec. 7	Nov. 14	252
126	LI. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Dec. 7	Sept. 16	237
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Dec. 6	Oct. 17	384
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Dec. 5	Nov. 20	291
303	XVII. Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Dec. 5	Sept. 22	323
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Dec. 5	Sept. 13	497
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Dec. 4	Oct. 19	365
157	V. Fine Arts, Bookbinding, Harvesters, Jewelry, and Music.	Dec. 4	Oct. 9	366
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Dec. 4	Sept. 7	235
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Dec. 4	June 19	636
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Dec. 2	Nov. 3	381
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Dec. 1	Nov. 6	209
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Dec. 1	Sept. 20	424
332	X. Carriages and Wagons.....	Dec. 1	Sept. 5	703
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles. Store Furniture.	Dec. 1	Aug. 14	556
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents and Umbrellas.	Dec. 1	July 6	702
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Dec. 1	Apr. 11	679
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Nov. 27	Oct. 11	302
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Nov. 24	Nov. 9	221
344	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Nov. 24	Oct. 18	453
142	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Nov. 24	Aug. 4	602
282	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Nov. 21	Nov. 20	297

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufacturing, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Nov. 21	July 11	415
	Between one and two months.			
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Optics, Signals, Time Controlling Mechanism.	Nov. 18	Aug. 23	583
312	VII. Velocipedes, Clutches, Fire-Escapes, Games and Toys, Ladders, Mechanical Motors, and Paper Manufactures.	Nov. 18	July 7	492
147	XXIX. Coopering, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools.	Nov. 16	Sept. 6	341
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Nov. 16	June 8	577
109	XVI. Telegraphy and Telephony..	Nov. 15	Oct. 30	216
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Nov. 13	June 15	616
307	XIV. Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Metal Personal Wear, Making, Sheet-Metal Ware, Making, Tools, Wire-Working.	Nov. 10	Aug. 4	290
327	XVIII. Steam-Engineering, etc ...	Nov. 8	Sept. 18	298
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Nov. 1	May 8	585
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Oct. 23	July 3	407
	Between two and three months.			
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Oct. 16	July 13	539
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Oct. 10	May 26	789
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Oct. 4	Aug. 10	606
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, Sewerage, and Water Distribution.	Sept. 25	June 6	1052
	Between four and five months.			
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 26	July 20	529

Total number of applications awaiting action 17,450

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Between one and two months.			
	Trade-Marks.....	Oct. 30	Oct. 11	4450
	Under one month.			
	Designs.....	Dec. 18	Dec. 1	46
	Labels and Prints.....	Dec. 7	Dec. 9	21

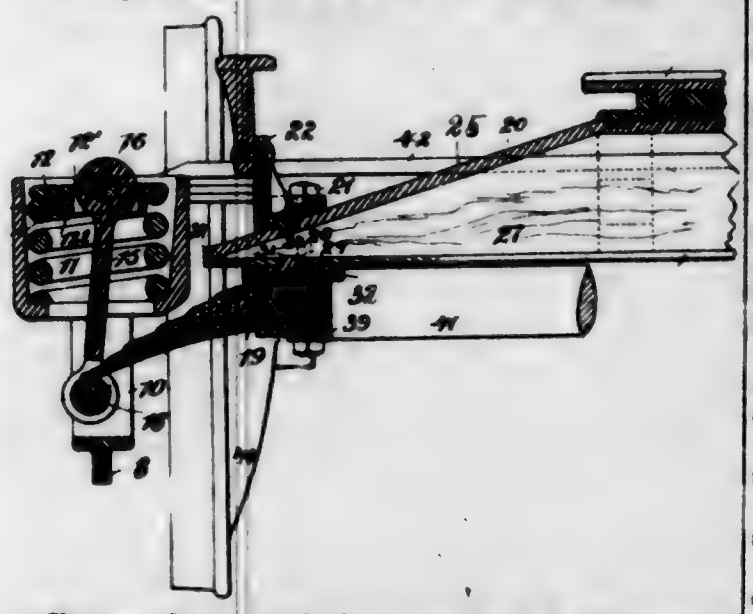
Foreign Patents.

RULE 29. The receipt of Letters Patent from a foreign government will not prevent the inventor from obtaining a patent in the United States, unless *the application on which the foreign patent was granted was filed more than twelve months prior to the filing of the application in this country, in which case no patent shall be granted in this country.*

PATENTS

GRANTED DECEMBER 26, 1905.

808,062. CAR-TRUCK FOR MOTOR PROPULSION AND THE LIKE. WALTER S. ADAMS, Philadelphia, Pa., assignor to John A. Brill, Philadelphia, Pa. Filed Nov. 20, 1902. Serial No. 132,213.



Claim.—1. In a car-truck, the combination with side frames, a cross-bolster, a resilient element extending longitudinally from said bolster at each end, springs supported by the side frames, and a lateral pivotal connection between said side-frame springs and said resilient elements.

2. In a car-truck, a side frame, a bolster, a quarter-elliptic spring rigidly attached to said bolster and spring-supported pivoted means for connecting said bolster and side frame.

3. In a car-truck, a side frame, a bolster, a quarter-elliptic spring rigidly secured to said bolster, and pivoted means for connecting said spring and side frame.

4. In a car-truck, the combination with side frames, a cross-bolster, a resilient element extending longitudinally from said bolster at each end, coiled springs supported upon the side frames in line with said bolster, and pendent links pivotally connecting said elements and coil-springs.

5. In a car-truck, a side frame, a bolster, a quarter-elliptic spring fixed to the said bolster, a coiled spring attached to said frame, and a link pivotally connecting said springs.

6. In a car-truck, a side frame, a bolster, a quarter-elliptic spring fixed to said bolster, a coiled spring resting in a cup in said frame, and a link connecting said springs.

7. In a car-truck, a side frame, a coiled spring, a bolster with a quarter-elliptic spring fixed thereto, a link with a stirrup pivoted to said quarter-elliptic spring and attached to said coiled spring.

8. In a car-truck, a side frame, a coil-spring with an annulus resting thereon, a bolster with a leaf-spring extending longitudinally thereof, and a link connecting said bolster and annulus.

9. In a car-truck, the combination with side frames and a cross-bolster, of upright coil-springs supported on the side frames in line with the ends of the said bolster, and links pivotally connected with the ends of said bolster pendent from the top of said spring, and supported thereon at one side of the vertical center of said spring.

10. In a car-truck, the combination with side frames and a cross-bolster, of upright coil-springs supported on the side frames, outwardly-splayed and pendent links pivotally supported on said springs on the inner side of their vertical centers, and a pivotal connection between the ends of the links and the bolster.

11. In a car-truck, the combination with side frames and a cross-bolster, of upright coil-springs supported on the side frames adjacent the ends of the bolster, outwardly-splayed and pendent links pivotally supported on said springs, on the inner side of their vertical centers, a leaf-spring extending from the end of the bolster, and a pivotal connection between the ends of said links and leaf-springs.

12. In a car-truck, a side frame, a coiled spring, an annulus resting on said coiled spring and provided with an eccentric opening, a bolster, and a pivoted means for connecting the bolster and annulus.

13. In a car-truck, a side frame, a coiled spring resting on said frame, an annulus with an eccentric opening on said spring forming a cap therefor, a bolster with a quarter-elliptic spring, and pivoted means for connecting said springs

14. In a car-truck, a side frame, a coiled spring resting in a cup integral with said frame, an annulus with an eccentric opening and resting on said spring, a bolster with a quarter-elliptic spring fixed thereto, a link with one end pivoted to said quarter-elliptic spring and the other end pivoted in said eccentric opening.

15. In a car-truck, a side frame, a bolster, and means for connecting said side frame and bolster, said means comprising in its construction a quarter-elliptic spring.

16. As an article of manufacture, a bolster with a quarter-elliptic spring fixed thereto.

17. As an article of manufacture, a bolster, a side bearing, and a quarter-elliptic spring all secured together by means of bolts.

18. As an article of manufacture, an annulus with an eccentric opening and recesses forming journal-supports connected with said opening.

19. As an article of manufacture, an annulus with an eccentric opening and a groove on its interior whereby the said annulus will fit a spring.

20. As an article of manufacture, a side frame for a truck having an upper chord, a centrally-located cup integral with said chord and an inturned flange at the lower portion of the cup.

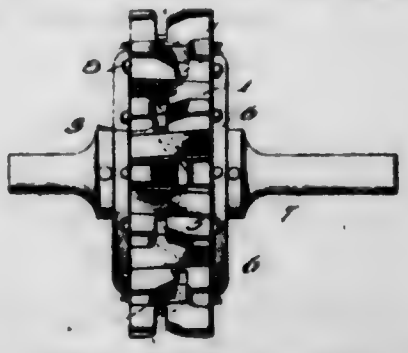
21. As an article of manufacture, a side frame for a truck having an upper chord, a cup integral with said chord and an internal flange at the lower portion of said cup, a lower chord and pendent supports uniting said cup and lower chord.

22. In a car-truck, a transom, a bolster, and rigid and adjustable means interposed between said transom and bolster for transmitting motion and extending above and below the plane of the transom.

23. In a car-truck, a transom, a bolster, and rigid and adjustable means for transmitting motion interposed between said transom and bolster and extending above and below the plane of the transom.

24. In a car-truck, a transom, with an adjustable bracket provided with a vertical wear-plate, and a bolster adapted to rest against said vertical wear-plate said wear-plate extending above and below the plane of the transom.

808,063. CABLE-TRACTION WHEEL. TONY ALEXANDER, Brookhaven, Miss. Filed Mar. 25, 1905. Serial No. 252,077.



Claim.—1. A cable-traction wheel provided with cogs having notches for reception of the cable, said notches being arranged out of alinement to deflect the cable and prevent slipping thereof.

2. A cable-traction driver provided with cogs having notches arranged out of line and having the outer portion of one wall of each

notch beveled, the beveled portions having an alternate arrangement.

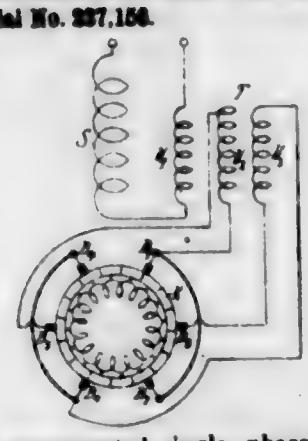
3. A cable-traction driver provided in its periphery with seats, and cogs fitted into said seats and provided with notches arranged out of line to deflect the cable and cause it to assume a tortuous position to prevent slipping.

4. A cable-traction driver provided in its periphery with wedge-shaped seats, and cogs of corresponding wedge form fitted into said seats and provided with notches arranged out of line to cause the cable to assume a tortuous position to obviate slipping.

5. A cable-traction driver provided with projections around its periphery, having their opposing faces outwardly and longitudinally converged to form longitudinally and transversely wedge-shaped seats, and cogs of corresponding wedge form fitted in said seats and provided with notches arranged out of alinement.

6. In a cable-traction driver, the combination of detachable cogs provided with notches arranged out of line, retainers at opposite sides of the driver, and pins fitted into said retainers and adapted to prevent casual displacement of the cogs.

808,064. COMMUTATOR-MOTOR. ERICHLEBET ARNOLD, Karlsruhe, Germany, and JENS L. LA COUR, Edinburgh, Scotland. Filed Dec. 16, 1904. Serial No. 237,156.



Claim.—1. A compensated single-phase alternating-current commutator-motor with three brushes, in a bipolar scheme, which are set relatively to each other at angles of one hundred and twenty degrees and of which three brushes two short-circuited brushes are used for introducing and the third brush for taking off the magnetizing-current, substantially as hereinbefore described.

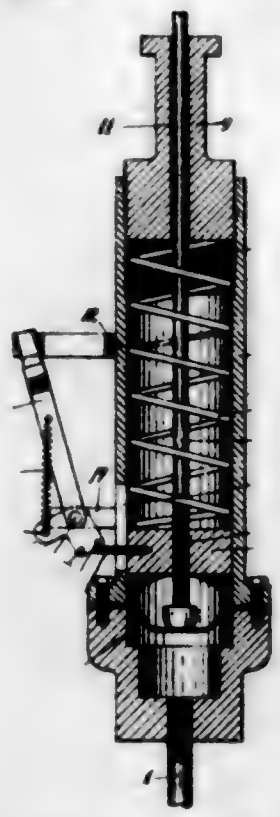
2. A compensated single-phase alternating-current commutator-motor with three brushes, in a bipolar scheme, which are set relatively to each other at angles that differ more or less from one hundred and twenty degrees and of which three brushes two short-circuited brushes are used for introducing and the third brush for taking off the magnetizing-current, substantially as hereinbefore described.

3. The combination with a compensated single-phase alternating-current commutator-motor comprising two groups of three brushes each, the three brushes of each group being set at angles of one hundred and twenty degrees to each other and two of the three brushes of each group being short-circuited, of connections for introducing the magnetizing-current, one terminal of said connections being connected to the two short-circuited brushes of a group while the other terminal of said connections is connected to the remaining brush of that group, the two groups of three brushes being unconnected exterior to the commutator and placed to short-circuit the armature-winding in approximately the same direction by the pair of short-circuited brushes of each group, substantially as described.

808,065. ELECTRIC SWITCH. SAMUEL H. BECK, New York, N. Y. Filed Apr. 23, 1903. Serial No. 153,431.

Claim.—1. In an electric switch: the combination with stationary electrodes, of a movable member pivoted at one end, a reciprocating, fluid-actuated member, a bell-crank for operating the movable member loosely pivoted, a spring connected at one end with the movable member and at its other end with the bell-crank at a point beyond the pivotal center of the movable member, pins on the bell-crank, and a pin carried by the fluid-actuated member adapted to contact with the pins on the bell-crank to move the same.

2. In an electric switch: the combination with stationary electrodes, of a movable member pivoted at one end, a reciprocating, fluid-actuated member, a bell-crank for operating the movable member loosely pivoted and having a portion extending to a point beyond the pivotal center of the movable member, a spring connected at one end with the movable member and at its other end with said portion of the bell-crank at a point beyond the pivotal center of the said movable member, pins on the bell-crank, and a pin carried by the fluid-actuated member adapted to contact with the said pins on the bell-crank for moving the same.



3. In an electric switch, the combination with stationary electrodes, of a cylinder, a fluid-actuated plunger reciprocating therein, a shaft mounted at the side of said cylinder, a movable member pivoted to said shaft and adapted to make and break contact with the electrodes, an actuating member mounted on said shaft, a spring connected at one end to the movable member and at the other end to the actuating member at a point beyond the pivotal center of the movable member, and means carried by the plunger adapted to move the actuating member to throw the spring over the pivotal center of the movable member.

4. In an electric switch, the combination with stationary electrodes, of a cylinder, a fluid-actuated plunger reciprocating therein, a shaft mounted at the side of the cylinder, a movable member pivoted on the shaft and adapted to make and break contact with the electrodes, a bell-crank mounted on said shaft, a spring connected at one end to the movable member and at its other end to the bell-crank at a point beyond the pivotal center of the movable member, and means carried by the plunger adapted to move the bell-crank to throw the spring over the pivotal center of the movable member at predetermined points in the reciprocation of the plunger.

5. In an electric switch, the combination with stationary electrodes, of a cylinder, a fluid-actuated plunger reciprocating therein, a shaft mounted at the side of the cylinder, a movable member pivoted on the shaft and adapted to make and break contact with the electrodes, a bell-crank mounted on said shaft, a spring connected at one end to the movable member and at the other end to the bell-crank at a point beyond the pivotal center of the movable member, and a pin carried by the plunger adapted to move the bell-crank at predetermined points in the reciprocation of the plunger to throw the spring over the pivotal center of the movable member.

6. In an electric switch, the combination with a pair of clips forming stationary electrodes, of a cylinder, a fluid-actuated plunger reciprocating therein, a shaft mounted at the side of the cylinder, a blade pivoted on said shaft and adapted to make and break contact with the electrodes, a bell-crank mounted on said shaft, a spring connected at one end to the blade and at the other end to the bell-crank at a point beyond the pivotal center of the blade, and a pin carried by the plunger adapted to move the bell-crank at predetermined points in the reciprocation of the plunger to throw the spring over the pivotal center of the blade.

7. In an electric switch, the combination with stationary electrodes, of a cylinder, a fluid-actuated plunger reciprocating therein, a shaft mounted at the side of said cylinder, a movable member pivoted on the shaft, a bell-crank mounted on said shaft for operating the movable member, a spring connected at one end with the movable member and at its other end with the bell-crank at a point beyond the pivotal center of the movable member, a pin on the bell-crank, and a pin carried by the plunger adapted to coact with said pin on the bell-crank to move the latter.

8. In an electric switch, the combination with a cylinder, of a

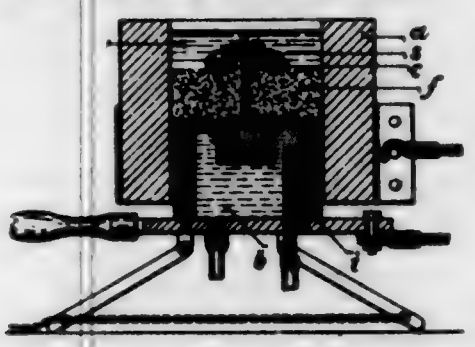
plunger having a collar through which it extends and with which it is in threaded engagement, said collar carrying means for operating the switch, a diaphragm adapted to move the plunger, a spring seated on the collar and adapted to press the plunger against the diaphragm, and means for regulating the tension of the spring.

9. In an electric switch, the combination with a cylinder, of a plunger operating therein and provided with a collar-carrying means adapted to operate the switch, a diaphragm adapted to move the plunger, a spring adapted to press the plunger against the diaphragm, a thumb-screw engaging with an interiorly-threaded portion of the cylinder and adapted to regulate the tension of the spring, and means adapted to adjust the plunger with relation to the diaphragm.

10. In an electric switch, the combination with a cylinder, of a plunger operating therein, having a collar-carrying means adapted to operate the switch, a diaphragm, a spring seated on the collar and adapted to press the plunger against the diaphragm, a thumb-screw engaging with an interiorly-threaded portion of the cylinder and adapted to regulate the tension of the spring, said thumb-screw being provided with a threaded passage for the stem of the plunger, and the latter having a threaded portion engaging with the threaded passage in the collar whereby the plunger is adjusted with relation to the diaphragm.

11. In an electric switch, the combination with a cylinder, of a plunger carrying a collar provided with means adapted to operate the switch and with which the plunger is in threaded engagement, a diaphragm adapted to move the plunger, a spring seated on the collar, a thumb-screw in engagement with an interiorly-threaded portion of the cylinder and adapted to regulate the tension of the spring, said plunger extending through the spring and thumb-screw whereby the said plunger can be adjusted with relation to the diaphragm independently of the thumb-screw.

808,066. PROCESS FOR THE PRODUCTION OF METALLIC CALCIUM. WILHELM BORCHERS and LORENZ STOCKEM, Aachen, Germany. Filed Oct. 24, 1902. Serial No. 128,657.



Claim.—1. A process for the production of metallic calcium consisting in the fusion of anhydrous calcium salts, electrolyzing said salts, and maintaining the small cathode cool enough to prevent the depositing calcium from melting and to cause the deposition thereof in a spongy state.

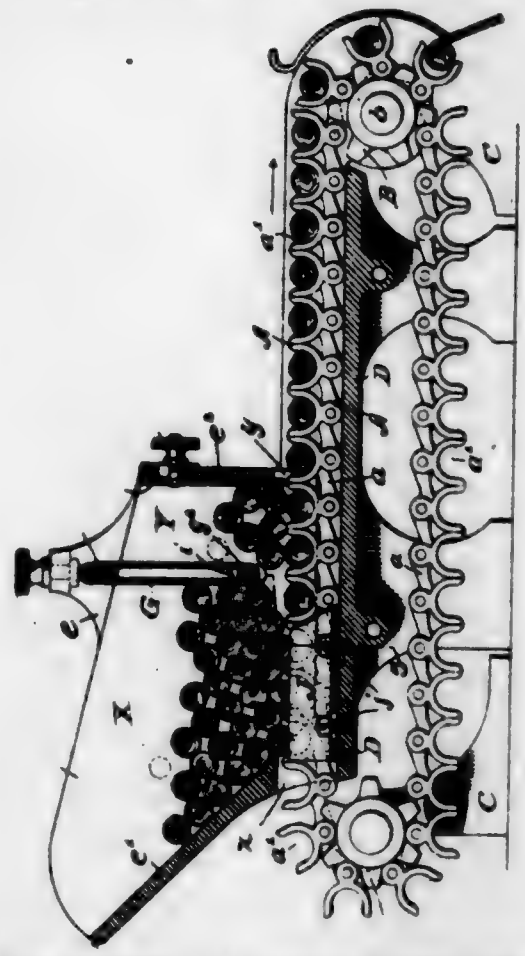
2. A process for the production of metallic calcium consisting in the fusion of anhydrous calcium salts, electrolyzing said salts, maintaining the small cathode cool enough to prevent the depositing calcium from melting and to cause the deposition thereof in a spongy state, pressing the deposited calcium sponge formed while in the molten calcium salt and withdrawing it compressed.

808,067. MECHANISM FOR FEEDING CIGARS TO BANDING MECHANISMS. WILLIAM C. BRIGGS, Winston Salem, N. C. Filed Apr. 18, 1904. Renewed Nov. 17, 1905. Serial No. 287,888.

Claim.—1. The combination with a conveyor provided with a series of pockets, of a hopper divided by a partition perpendicular to the conveyer into two compartments beneath both of which the conveyer moves and pauses to receive articles from either compartment, and which have a communication beneath the partition for the passage of only one article at a time from one compartment to the other immediately after a jam in one of the compartments has been broken.

2. The combination with a conveyer provided with a series of pockets, of a hopper divided by a vertically-adjustable partition into two compartments beneath both of which the conveyer moves and pauses to receive articles from either compartment and which have a communication beneath the partition for the passage of only one article at a time from one compartment to the other immediately after a jam in one of the compartments has been broken.

3. The combination of an endwise-moving endless conveyer provided with a series of pockets, of a hopper divided by a partition into two compartments beneath both of which the conveyer moves and pauses to expose simultaneously one or more pockets to both compartments, and which have a communication beneath the partition for the passage of only one article at a time from one compartment to the other immediately after a jam in one of the compartments has been broken, means for adjusting the partition vertically and devices for moving the conveyer step by step.



4. The combination of a conveyer provided with a series of pockets, means for moving the conveyer in one direction only, and a hopper divided into two compartments communicating at their lower ends for the passage of only one article at a time and beneath which the conveyer moves and pauses at regular intervals to simultaneously expose pockets to both compartments.

5. The combination with a conveyer having a series of pockets, of a hopper beneath which the conveyer moves and within which a plurality of pockets are exposed, and devices for holding the articles being conveyed part way out of some of the pockets in the hopper while fully exposing a pocket within the hopper to receive one of the articles being conveyed.

6. The combination with a conveyer having a series of pockets, of a hopper beneath which the conveyer moves and within which a plurality of pockets are exposed, and vertical plates engaging articles to be conveyed and holding them part way out of some of the pockets in the hopper while fully exposing another pocket therein to receive an article to be conveyed.

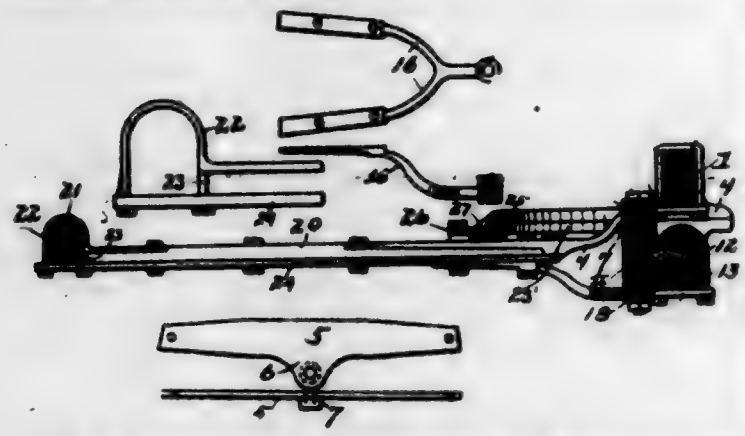
7. The combination with a conveyer having a series of pockets, of a hopper having an inclined end, a vertical partition dividing the hopper into two compartments which communicate below the partition and beneath which the conveyer moves, and devices within one of the compartments for holding the articles to be conveyed out of some of the pockets within this compartment while permitting them to come in contact with the conveyer as it moves through the hopper.

8. The combination with a conveyer, of a hopper having compartments the lower portions of which communicate for the passage of articles from one compartment to the other, one of which compartments has an inclined end and the other a vertically-adjustable gate and laterally-adjustable plates within the hopper and in both compartments on opposite sides of the conveyer.

808,068. RUNNING-GEAR FOR VEHICLES. STEPHEN H. BURDSALL, Dayton, Ohio. Filed Mar. 17, 1905. Serial No. 250,500.

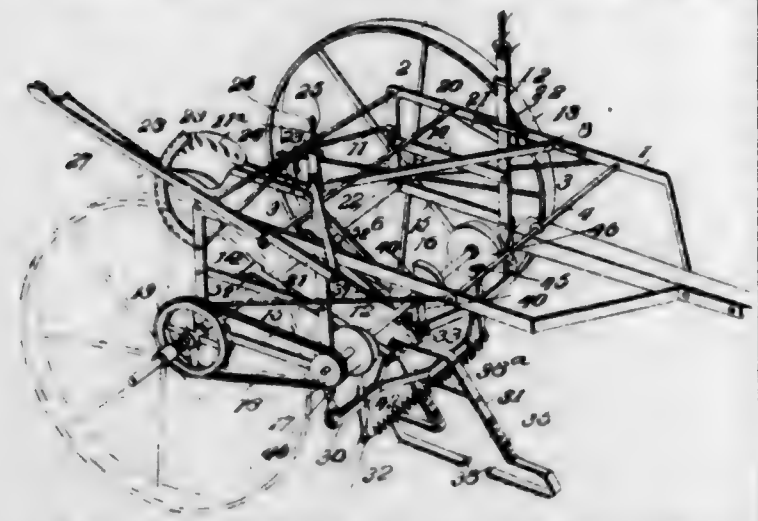
Claim.—1. In a running-gear for vehicles, the combination with a head-block, of upper reach-irons having an apertured boss, a head-block plate secured between the bottom of the head-block and the upper reach-irons, said head-block plate having a central rear-

wardly and downwardly apertured boss which enters the apertured boss on the upper reach-irons in the rear of the head-block, a centrally-disposed socket-clip secured to the axle and receiving in its upper end the apertured boss on the upper reach-irons, a bottom brace or reach-iron having an apertured boss which projects into the lower end of the socket on said clip, and a king-bolt passing through said sockets, substantially as specified.



2. In a running-gear for vehicles, the combination with an upper fifth-wheel member having lugs projecting rearwardly therefrom, a cross-brace uniting said fifth-wheel member with the reaches, and forming a brace for said reaches, said cross-brace having a forwardly-extended lug which lies below the lower member of the fifth-wheel and forms a bearing therefor, and whereby rattling is prevented.

808,089. COTTON-CHOPPER. JAMES T. BUTLER and WILLIAM G. PELKNER, Vineyard, Tex. Filed Mar. 20, 1905. Serial No. 252,760.



Claim.—1. In a cotton-chopper, the combination of the machine-frame, upright bars, chopping mechanism connected with said upright bars, a shaft having cranks, and yieldable connections between said cranks and upright bars for adjusting the latter vertically and admitting of the chopping mechanism yielding when meeting with an obstruction.

2. In a cotton-chopper, the combination of a frame, upright bars, a chopping mechanism connected therewith, a shaft provided with cranks, slides mounted upon said upright bars and connected with the cranks, and springs interposed between said slides and upright bars for transmitting movement to the latter.

3. In a cotton-chopper, the combination of the frame, upright bars having reduced portions, slides mounted upon said bars and the reduced parts thereof, springs mounted upon the reduced parts of said upright bars and confined thereon and adapted to transmit motion thereto from the slides, a shaft having cranks, and connecting means between said cranks and slides.

4. In a cotton-chopper, the combination of the machine-frame, upright bars, parallel bars connecting the upright bars with parts of the machine-frame to provide a parallelogrammatic movement of said upright bars in their adjustment, chopping mechanism connected with said upright bars, a shaft having cranks, and a yielding connection between said cranks and upright bars.

5. In a cotton-chopper, the combination of a pivoted frame, actuating means for oscillating the same, and chopping-blades carried by members of said pivoted frame, each consisting of a blade and a spaced arm, the ends of the blades being spaced apart.

6. In a cotton-chopper, the combination of a pivoted frame, actuating means for oscillating the same, and chopping-blades carried by members of said pivoted frame, each consisting of a blade and a spaced arm, the ends of the blades being spaced apart and upturned and projecting beyond the inner ends of the arms of the blades.

7. In a cotton-chopper, the combination of a pivoted frame provided with chopping mechanism, and a tappet-wheel for positively oscillating the pivoted frame in each direction, having notches in its periphery to admit of the coöperating part moving from one side to the other of the tappet-wheel in the operation of the machine.

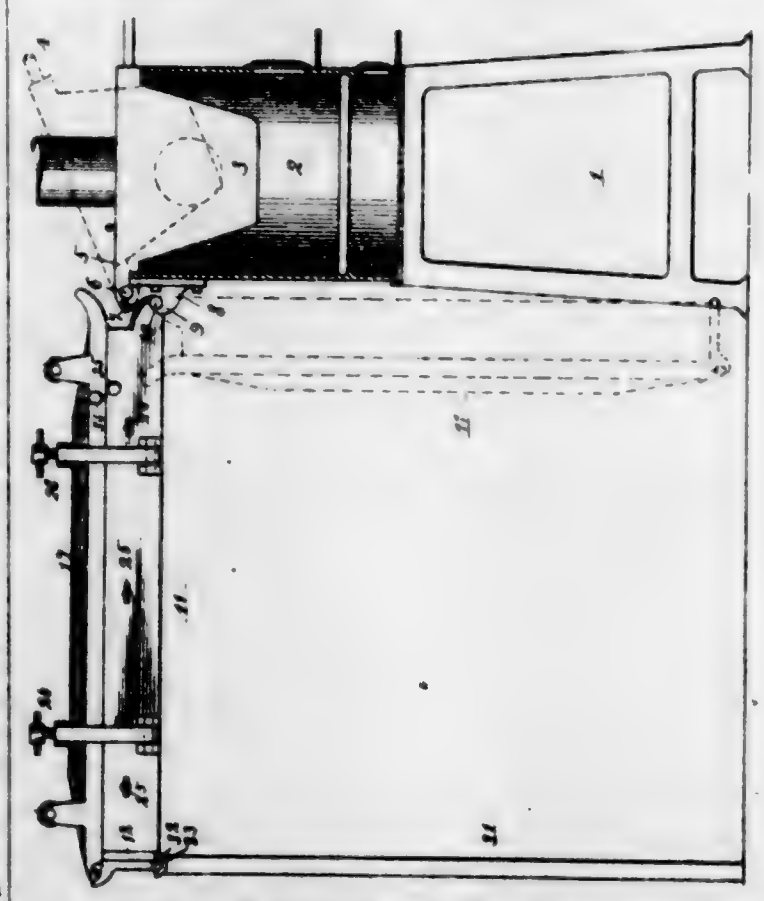
8. In a cotton-chopper, the combination of a pivoted frame provided with chopping mechanism, and a tappet-wheel for positively oscillating the pivoted frame in each direction, said tappet-wheel having notches in its periphery and having the side portion between adjacent notches inclined to form a cam, the cam portions having an alternate arrangement whereby the pivoted frame is positively moved in each direction.

9. In a cotton-chopper, the combination of a pivoted frame provided with chopping mechanism, a tappet-wheel for positively oscillating the pivoted frame in each direction, said tappet-wheel having notches in its periphery and having the side portion between adjacent notches inclined to form a cam, the cam portions having an alternate arrangement, whereby the pivoted frame is positively moved in each direction, and a setting mechanism coöperating with the pivoted frame for giving an initial movement thereto upon the return stroke to insure positive engagement of the succeeding cam portion of the tappet-wheel with the pivoted frame.

10. In a cotton-chopper, the combination of a pivoted frame provided with chopping mechanism, a tappet-wheel having oppositely-disposed cam portions for positively moving the pivot-frame in each direction, a pivoted arm, a spring connection between said pivoted arm and pivoted frame, and a cam for operating the pivoted arm for tensioning said spring to insure initial movement of the pivoted frame upon its return stroke, substantially as set forth.

11. In combination, a pivoted frame provided with chopping mechanism, pivoted arms at opposite sides of the pivoted frame, a spring connection between the pivoted arms and pivoted frame, a shaft, a tappet-wheel fast to said shaft for positively actuating the pivoted frame in each direction, and cams fast to said shaft for positively operating the pivoted arms to tension the springs coöperating therewith to insure positive initial movement of the pivoted frame upon its return stroke.

808,070. STEREOTYPE-PLATE-CASTING APPARATUS. JOHN E. CAPS, Kansas City, Mo., and GEORGE H. VINING, Vinington, Ark., assignors, by direct and mesne assignments, to Vining's News Bureau, Kansas City, Mo., a Corporation of Missouri. Filed Nov. 9, 1903. Serial No. 180,491.



Claim.—1. In an apparatus of the character described, a casting-box having a table elevated above the bottom thereof; combined with means on one side of said table for varying the width of its surface.

2. In an apparatus of the character described, a casting-box having a table elevated above the bottom thereof; combined with means on either side of said table for varying the width of its surface.

3. In an apparatus of the character described, a casting-box having a table elevated above the bottom thereof; combined with removable strips on either side of said table, and strips having their upper edges flush with the surface of the table.

4. In an apparatus of the character described, a casting-box having a table elevated above the bottom thereof; combined with an adjustable gage on one side of said table, said gage having its upper edge above the surface of the table.

5. In an apparatus of the character described, a casting-box having a table elevated above the bottom thereof; and an adjustable gage on one side of said table, said gage having its upper edge above the surface of the table; combined with means located between the table and gage for varying the width of the surface of the table.

6. In an apparatus of the character described, a casting-box having a table elevated above the bottom thereof, removable strips on either side of said table having their upper edges flush with the surface thereof; and adjustable gages outside said strips and having their upper edges above the surface of the table.

7. In an apparatus of the character described, a casting-box having side walls and a central longitudinal table elevated above the bottom of the box; combined with gages located between the table and side walls, and means for adjusting said gages.

8. In an apparatus of the character described, a casting-box having a hollow table elevated above the bottom of the box, water connections with the interior of the table, non-conducting gages on either side of said table, and a cover having non-conducting material on the under face thereof.

9. The combination of a furnace, a bracket secured to said furnace provided with upper and lower bearings, a ladle resting in the upper portion of said furnace provided with a spout at one side and a handle at its opposite side, trunnions formed integral with said spout journaled in the upper bearings of the bracket, a casting-box having an open end adjacent to the spout, and trunnions integral with the open end of said casting-box journaled in the lower bearings of the bracket.

808,071. **TONGUE-SUPPORT.** JOHN F. CELL, Chambersburg, Pa. Filed Mar. 24, 1905. Serial No. 251,226.



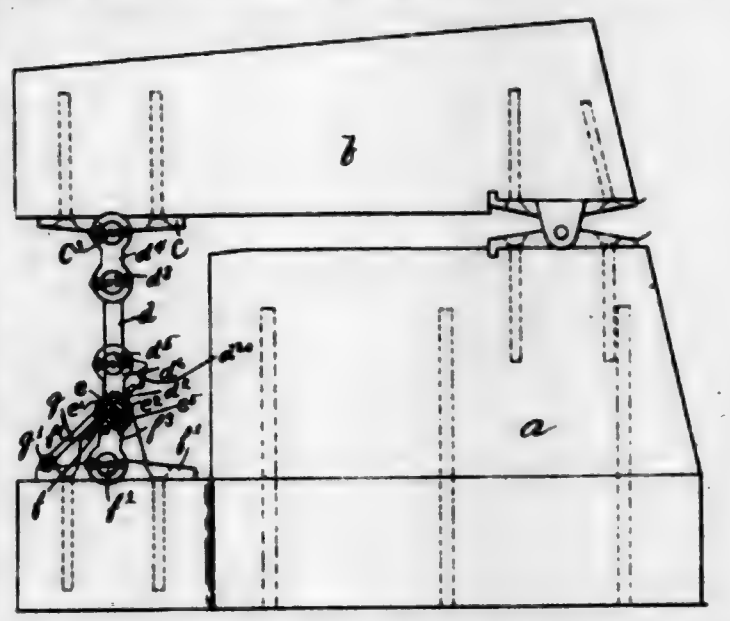
Claim.—1. A draft-tongue support comprising a base member having channels in its ends and spaced sockets in said channels, and a substantially U-shaped member having its arms fitted within said channels and provided with inwardly-turned ends for adjustably engaging said sockets, and means for suspending said U-shaped member from a draft-tongue.

2. A draft-tongue support comprising a base-block, a substantially U-shaped member connected by its ends adjustably to said block, means for suspending said U-shaped member beneath the draft-tongue, and a lock-link slidably engaging the U-shaped member and bearing upon the base-block.

3. A draft-tongue support having a block, a U-shaped member having downwardly-deflected arms removably engaging the block, means for connecting said member to a draft-tongue, and a gravity-link engaging the arms of the U-shaped member above the block.

808,072. **BILGE-BLOCK FOR DRY-DOCKS.** JAMES L. CRANDALL, Malden, Mass., assignor to H. I. Crandall & Son Co., Boston, Mass., a Corporation of Maine. Filed Oct. 16, 1905. Serial No. 283,096.

Claim.—1. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop, the upper end of which engages said bilge-engaging block, and a rotating actuating member for said prop which engages and supports its lower end, and a support for said member, substantially as described.



2. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop, the upper end of which engages said bilge-engaging block and a rotating actuating member for said prop which engages and supports its lower end, and a support for said member, substantially as described.

3. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop, the upper end of which engages said bilge-engaging block and the lower end of which is provided with several teeth, a toothed actuating member for said prop which engages and supports the lower toothed end thereof, and a support for said member, substantially as described.

4. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block, a rolling actuating and supporting member for said prop, and a support on which said member rolls, substantially as described.

5. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block having teeth at its lower end, a toothed actuating-roller for said prop which engages and supports the lower toothed end of the prop, and a support for said roller along which it travels while moving the block, substantially as described.

6. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop, the upper end of which engages said bilge-engaging block, an actuating member for said prop which engages and supports its lower end, and an inclined support for said member along which it travels while moving the prop, substantially as described.

7. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block, a rolling actuating and supporting member for said prop and an inclined support on which said member rolls, substantially as described.

8. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop, the upper end of which engages said bilge-engaging block, and the lower end of which is formed with teeth, a toothed actuating member which engages and supports the lower toothed end of the prop, and an inclined support for said member along which it travels while moving the prop, substantially as described.

9. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop, the upper end of which engages said bilge-engaging block, an actuating and supporting member for said prop provided with teeth, and a toothed support for said member along which it travels while moving the prop, substantially as described.

10. In bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop, the upper end of which engages said bilge-engaging block, an actuating and supporting member for said prop provided with teeth and an inclined toothed support for said member along which it travels while moving the prop, substantially as described.

11. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block having teeth at its lower end, a toothed actuating-roller for said prop which engages and supports the lower toothed end of the prop, and

a toothed support for said roller along which it travels while moving the block, substantially as described.

12. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block, a supporting-roll for said prop, and actuating means for the prop, substantially as described.

13. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block having a circularly-formed bearing at its upper end, a roller-support for said prop, a stationary support for said roller-support and actuating means for the prop, substantially as described.

14. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block, a roller-support for said prop, a stationary support having an inclined bearing for said roller-support and actuating means for the prop, substantially as described.

15. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block, a roller-support for said prop, a stationary support having a circularly-formed bearing for said roller-support, and actuating means for the prop, substantially as described.

16. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block, a roller-support for said prop, a stationary support having a circularly-formed inclined bearing for said roller-support, and actuating means for the prop, substantially as described.

17. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block having a circularly-formed bearing at its lower end, a roller-support for said prop, a stationary support having a circularly-formed bearing for said roller-support, and actuating means for said prop, substantially as described.

18. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block, an actuating roller-support for said prop having means for engaging and moving said prop, substantially as described.

19. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop, the upper end of which engages said bilge-engaging block, an actuating member for the prop, circularly-formed bearings on said prop and on said actuating member, which engage each other, substantially as described.

20. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop which engages the bilge-engaging block having a toothed lower end, a toothed actuating member engaging the lower toothed end of the prop, a support for said member, and circularly-formed bearings on said prop and said actuating member, which engage each other, substantially as described.

21. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block, a roller actuating member for said prop having a circularly-formed bearing on which the prop rests, and a support for said member having a circularly-formed bearing, substantially as described.

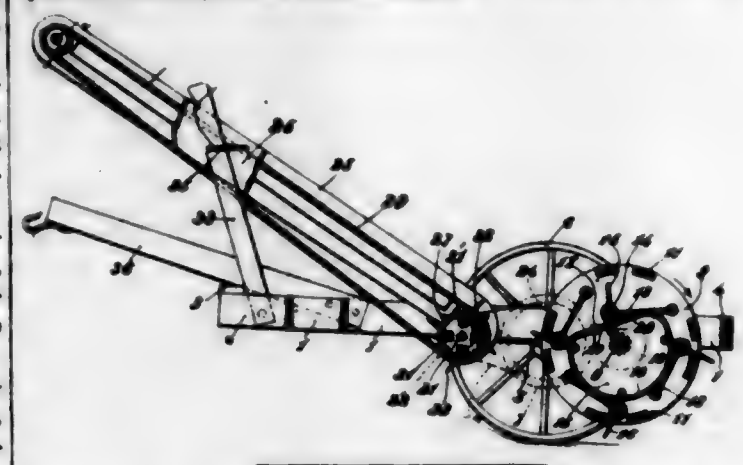
22. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for the bilge-engaging block, a rolling actuating member for said prop having a circularly-formed bearing on which the prop rests, and a support for said member having an inclined circularly-formed bearing, substantially as described.

23. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for said bilge-engaging block, a rolling actuating member engaging said prop, and circularly-formed bearing portions on said prop and said actuating member, which engage each other, and a support having a circularly-formed bearing which receives upon it said actuating member, substantially as described.

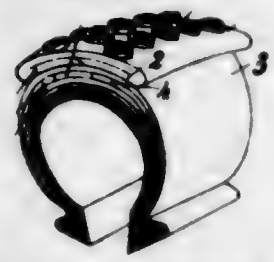
24. In a bilge-block, the combination of a base-block, a bilge-engaging block pivoted thereto, a prop for said bilge-engaging block, an actuating and supporting member for said prop having teeth, and a dog engaging any one of the teeth of said member, for locking it, substantially as described.

808,073. HAY-LOADER. HOSEA O. CULVER, Sandwich, Ill. Filed June 16, 1905. Serial No. 265,522.

Claim.—In a machine of the class described, a frame, carrying-wheels for said frame, a stationary shaft supported in the side members of the frame, a rake-cylinder including heads supported for rotation upon said shaft and pairs of bars connecting said heads, arms pivoted upon the inner sides of said heads, and toothed rake-bars connecting said arms; a cam member supported securely upon the shaft in engagement with the rake-bars; and means for transmitting motion from the carrier-wheels to the rake-cylinder to rotate the cylinder reversely to the carrier-wheels.



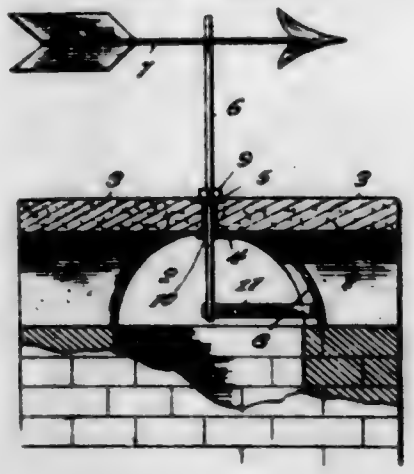
808,074. TIRE-COVER. JEAN C. DUFOUR, Charenton, France. Filed Apr. 3, 1905. Serial No. 253,513.



Claim.—1. In protective and non-skidding tire-covers for the wheels of automobile-carriages or other vehicles the combination of a double tread placed exteriorly on a leather cover which completely surrounds the air-tube; studs or rivets on the tread-band to produce an unpuncturable and non-skidding pneumatic tire; means for preventing the leather of the cover to be cut by the rivets, said means consisting in an intermediate leather band and washers; a leather crescent-shaped layer composed of two parts with a free space or gap between them; another similar continuous layer.

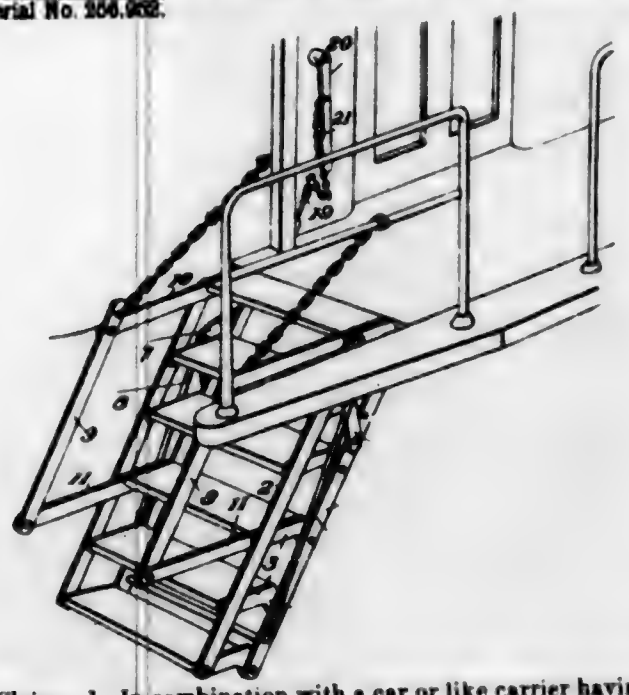
2. In protective and non-skidding tire-covers for the wheels of automobile-carriages or other vehicles the combination of a leather tread-band the edges of which are folded inward and joined so that a double tread-band is formed and placed on a leather cover which completely surrounds the air-tube; studs or rivets on the tread-band to produce an unpuncturable and non-skidding pneumatic tire, said studs composed of a rivet, a sleeve surrounding the rivet and having a central conical bore, so that when the rivet is clenched the bore is completely filled; means for preventing the leather of the cover to be cut by the rivets, said means consisting in an intermediate leather band adhesively attached to the interior of the leather cover over the whole length, so as to form a strengthening-band and in washers made of parchment &c. placed between the intermediate band above named and the rivet-shank; a leather crescent-shaped layer composed of two parts provided with a free space between them forming an annular chamber or passage intended to make the pneumatic cover supple and to enable the center row of studs on the tread, when pressed, to sink into the cover without cutting it; another similar continuous layer placed between the above-named crescent-shaped layer and the pneumatic tire.

808,075. CHIMNEY-CAP. CHARLES W. ECKHART, Shobola, Pa. Filed Apr. 18, 1905. Serial No. 256,213.



Claim.—A chimney-cap construction comprising a cap fitting over the chimney and provided on its lower face with intersected grooves forming exits for the smoke, a sleeve 5 embedded in said cap and extending through the same whereby to form a tubular bearing, a vertical shaft or rod 6 mounted in said bearing 5 and provided above the bearing with a collar 9 designed to rest upon the top of the bearing 5, the upper end of said rod carrying a vane, and the lower end of said rod extending into the cap to a point near the bottom thereof but free from connection therewith, a shield 8 mounted with its upper end on said rod just below the said bearing 5 and extending downwardly and outwardly therefrom, and a brace 11 consisting of a single strip or piece of metal bent at its middle portion around the lower part of the said rod or shaft and secured thereto, the ends of said brace diverging and attached to the base of the shield at opposite edges of the latter, as and for the purpose set forth.

808,076. **FOLDING STEP FOR PUBLIC CARRIERS.** WILLIAM G. FELKNER and JAMES T. BUTLER, Sebree, Tex. Filed Apr. 22, 1905. Serial No. 256,962.



Claim.—1. In combination with a car or like carrier having an end platform, steps to admit of egress and ingress to the car, the same comprising side portions and treads, each side portion consisting of companion bars and connecting-links, corresponding side bars having pivotal connection at one end with the car and the links having said treads attached thereto, means for raising and lowering the steps by a turning movement to occupy either a vertical or operative position, and means for turning the treads simultaneously with the turning of the steps to cause them to assume a horizontal position when the steps are lowered and to aline perpendicularly when the steps are raised or folded into a vertical position.

2. In combination with a car or like carrier having an end platform, folding steps comprising side portions and treads, each side portion consisting of companion bars, one of each is pivoted to the car and both bars having a relative movement toward and from each other as the steps are raised or lowered by a turning movement, upper and lower arms having pivotal connection with the respective bars, and rails having pivotal connection with the outer ends of said arms, the bars, arms, rails and treads having a movement simultaneous with the turning of the space, substantially as specified.

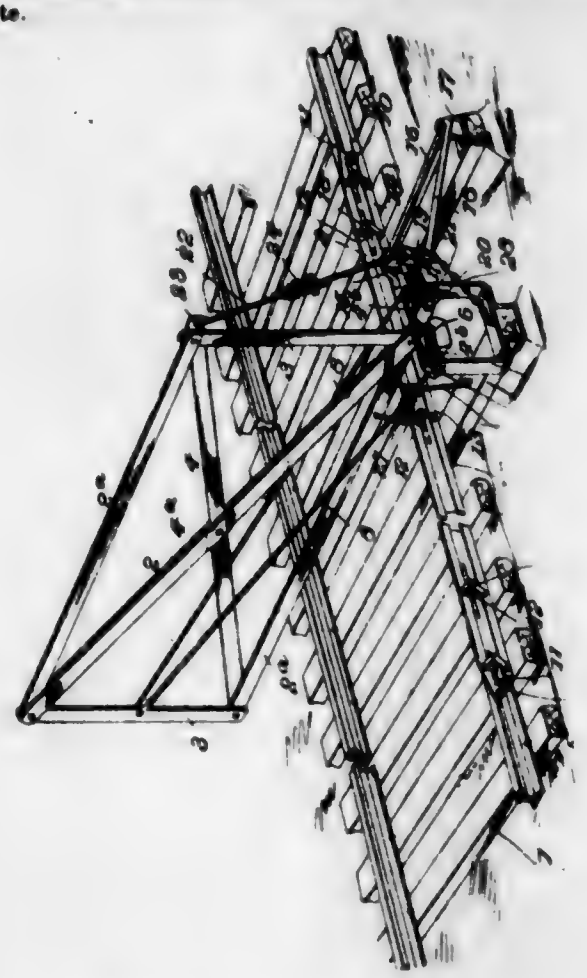
3. In folding steps of the character described, the combination of similar side pieces, each comprising parallel bars and pivotally-connecting links, each provided with a deflected terminal portion, and treads supported by means of said links.

4. Folding steps for cars and the like comprising similar side pieces, each consisting of parallel bars and connecting-links, the latter having integral tread-supports and deflected or bent terminals, and treads attached to corresponding tread-supports and connecting the side pieces.

5. Folding steps for cars and the like comprising similar side pieces, each comprising parallel bars and connecting-links, treads supported by said links, and rails connected with corresponding side bars and adapted to fold and unfold therewith.

808,077. **CATTLE GUARD AND GATE.** WILLIAM G. FELKNER and JAMES T. BUTLER, Sebree, Tex. Filed May 25, 1905. Serial No. 262,262.

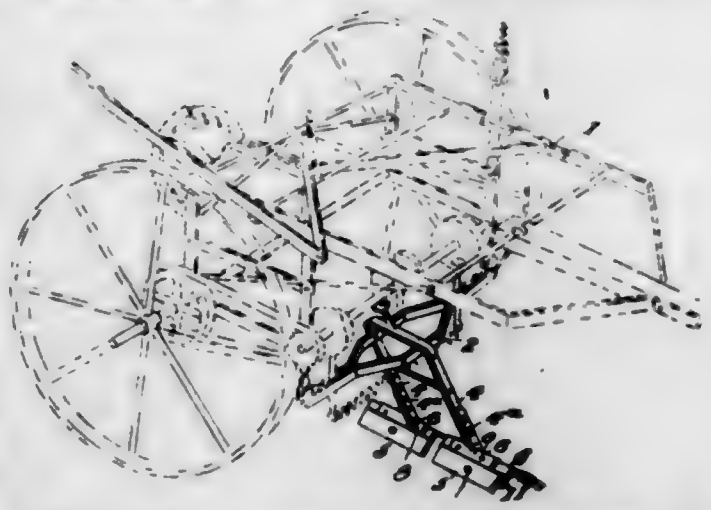
Claim.—1. In combination, a gate, a pressure-rail, a link connected with one part of the gate, an elastic connection connected with another part of the gate, a crank-shaft connected with the pressure-rail, and a crank-arm projected from said shaft and connected with the link and the elastic connection aforesaid for actuation of the gate.



2. In combination, a gate, a pressure member, to be actuated by the rolling-stock, a link connected with one part of the gate, an elastic connection connected with another part of the gate, a crank-shaft connected with the pressure member aforesaid, a crank-arm projected from said crank-shaft and connected with the link and the elastic connection for the actuation of the gate, a flexible connection for limiting the opening movement of the gate, and means connected with the crank-arm for limiting the closing movement of the gate.

3. In combination, a gate, operating means for the gate, a link connected with one part of the gate, an elastic connection connected with another part of the gate, the link and elastic connection being both connected with the operating means aforesaid, means connected with the link for limiting the closing movement of the gate, and a second elastic connection connected with the gate and coacting to limit its opening movement.

808,078. **COTTON-CHOPPER.** WILLIAM G. FELKNER and JAMES T. BUTLER, Sebree, Tex. Filed June 3, 1905. Serial No. 263,674.



Claim.—1. In a cotton-chopper, the combination of a hoe-frame embodying spaced supporting members, a blade-holder carried by each supporting member, and a blade having a pin-and-slot connection with each holder, the supporting members of the blade-

holders forming abutting shoulders engaging the blades to properly hold the same in position.

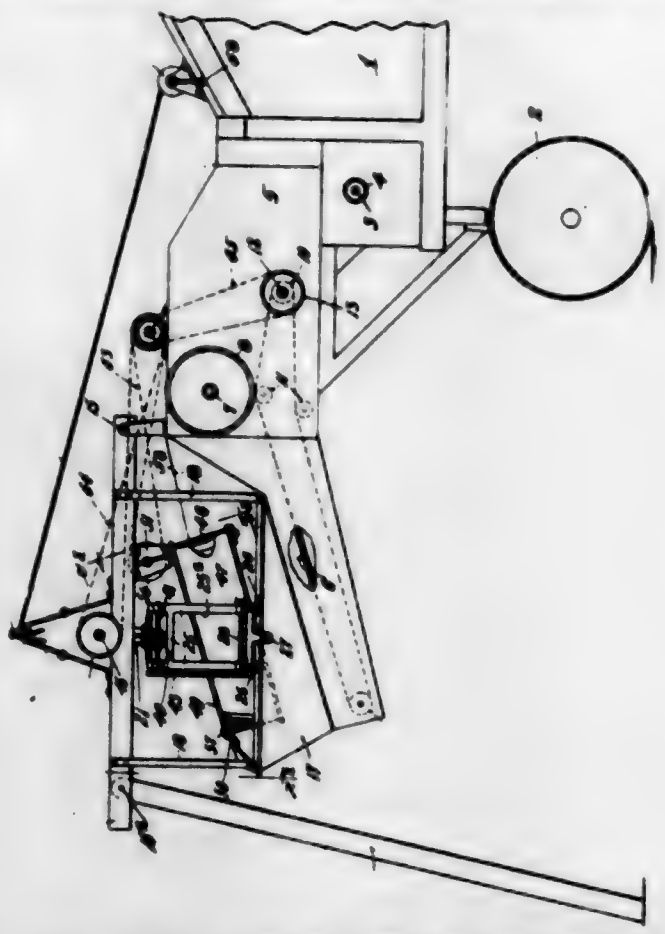
2. In a cotton-chopper, the combination of spaced supporting-standards, a V-shaped supporting member at an extremity of each standard, a V-shaped blade-holder secured to each supporting member aforesaid between the sides of the latter, and longitudinal adjustable blades attached to the sides of the blade-holders and having the upper portions thereof abutting with the sides of the supporting members of the blade-holders.

3. In a cotton-chopper, the combination of spaced supporting-standards provided at their lower ends with integral V-shaped supporting members in longitudinal alinement, V-shaped blade-holders having the upper portions thereof received between the sides of the V-shaped supporting members and attached thereto, the sides of the blade-holders being slotted longitudinally, blades upon the outer sides of each blade-holder abutting with the adjacent side of the supporting member thereof, fastenings passing through the slots of the blade-holders and the blades adjustably connecting the latter therewith.

808,079.

WITHDRAWN.

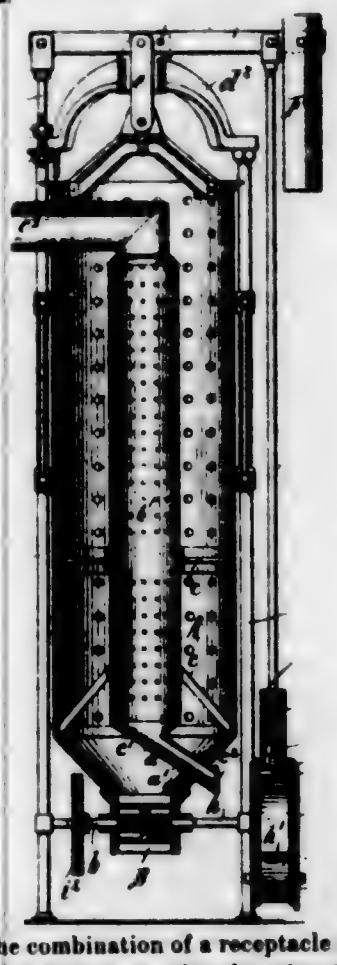
808,080. BUNDLE-CARRYING DEVICE. Evald Frantsich, Kensington, Minn. Filed Apr. 7, 1905. Serial No. 254,874.



Claim —1. The combination with a threshing-machine and a feeder therefor, of a hopper overlying said feeder, an endless conveyer projecting from said hopper and mounted for oscillatory movements in a horizontal plane, and an endless conveyer set edgewise in a vertical plane, and mounted to travel in a horizontal plane overlying the central portion of said hopper and mounted for oscillatory movements, substantially as described.

2. The combination with a threshing-machine and a feeder therefor, of a hopper overlying said feeder, the upper edge thereof affording an annular track, a pair of truck-frames pivoted at the axis of the hopper and mounted to travel on the track at the upper edge thereof, a pair of conveyer-frames connected at their inner ends to the outer ends of said pivoted truck-frames, and independently supported at their free ends with freedom for vertical adjustments, endless bundle-conveyers mounted on said conveyer-frames, and a pair of reversely-driven conveyers set edgewise in vertical planes and mounted to travel in horizontal planes, overlying the central portion of said hopper, substantially as described.

808,081. APPARATUS FOR COOLING AND DRYING OIL-CAKE. ALFRED W. FRENCH, Piqua, Ohio. Filed Nov. 14, 1904. Serial No. 233,578.



Claim.—1. The combination of a receptacle into which the material to be treated is fed, means for changing the physical condition of the material in the receptacle, a discharge device for positively removing the material from the receptacle, drive mechanism for said discharge device, and means controlled by the weight of the material in the receptacle for regulating the action of the drive mechanism for said discharge device to maintain a substantially constant weight of material in the receptacle, substantially as set forth.

2. The combination of a movably-supported receptacle into which the material to be treated is fed, means for changing the temperature of the material in the receptacle, a discharge device which operates to positively remove the material from the receptacle, and means controlled by the movements of said receptacle due to changes in weight of the material therein for operating said discharge device to maintain a substantially constant weight of material in the receptacle, substantially as set forth.

3. The combination of a receptacle into which the material to be treated is fed, means for changing the temperature of the material in the receptacle, a lever which carries the weight of the material in the receptacle, a discharge device, means for operating said discharge device to positively remove the material from the receptacle, and means controlled by said lever for regulating said operating means, whereby said discharge device maintains a substantially constant weight of material in the receptacle, substantially as set forth.

4. The combination of a receptacle into which the material to be treated is fed, means for changing the temperature of the material in the receptacle, a weighted lever carrying said receptacle, a rotary discharge-roller which positively removes the material from the receptacle, and means controlled by said weighted lever for driving said discharge-roller to maintain a substantially constant weight of material in the receptacle, substantially as set forth.

5. The combination of a receptacle into which the material to be treated is fed, means for changing the temperature of the material in the receptacle, a weighted lever supporting the receptacle, a rotary discharge device for the receptacle, mechanism for rotating said discharge device including a loose belt, and a belt-tightener connected to said lever and actuated thereby to control the operation of said discharge device, substantially as set forth.

6. The combination of a receptacle into which the material is fed, means for changing the physical condition of the material in the receptacle, and means for maintaining a substantially constant weight of material in the receptacle comprising a weighted lever supporting the receptacle, a rotary discharge device mounted on the receptacle, a shaft connected to said discharge device, a loose drive-belt for said shaft, and a belt-tightener connected to said weighted lever for tightening said drive-belt, substantially as set forth.

7. The combination of a receptacle into which the material is fed, a weighted lever supporting the receptacle, a rotary discharge device mounted on the receptacle, a shaft connected to said discharge device, a loose drive-belt for said shaft, a belt-tightener connected to said weighted lever for tightening said drive-belt, and a cushioning device between said weighted lever and belt-tightener for relieving the same and the belt from sudden strains, substantially as set forth.

808,082. METALLIC PACKING. EDWARD J. FULLER, Elyria, Ohio. Filed Dec. 17, 1904. Serial No. 237,270.



Claim.—1. In a metallic packing, the combination with the packing-rings, of a cage composed of separable members, means interposed between the meeting faces of said members and wholly inclosed within the edges of said meeting faces for insuring a true and perfect alinement of said members, and means for securing said members together.

2. In a metallic packing, the combination with the packing-rings, of a cage composed of separable members, centering devices projecting into the meeting faces of said members and wholly inclosed within the edges of said faces for insuring a true and perfect alinement of said members, and means for securing the members together.

3. In a metallic packing, the combination with the packing-rings, of a cage composed of separable members, centering-rings projecting into the meeting faces of said members and wholly inclosed within the edges of said faces for insuring a true and perfect alinement of said members, and means for securing the members together.

4. In a metallic packing, the combination with the packing-rings, of a cage composed of separable members provided with annular recesses in their meeting faces, centering-rings adapted to engage in said recesses for insuring a true and perfect alinement of said members, and means for securing said members together.

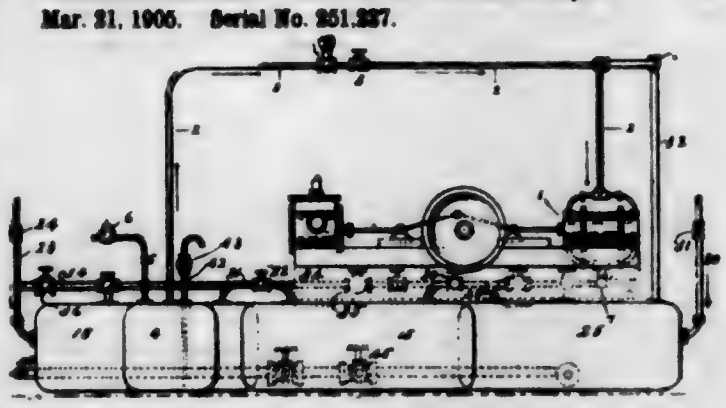
5. In a metallic packing, the combination with the packing-rings, of a cage composed of separable members, suitable bolts for securing said members together, and means surrounding said bolts for insuring a true and perfect alinement of said members.

6. In a metallic packing, the combination with the packing-rings, of a cage composed of separable members, suitable bolts for securing said members together, and centering-rings surrounding said bolts for insuring a true perfect alinement of said members.

7. In a metallic packing, the combination with the packing-rings, of a cage composed of separable members provided with suitable bolt-holes and with annular recesses independent of but surrounding said holes, centering-rings arranged in said recesses for insuring a true and perfect alinement of said members, and suitable bolts occupying said bolt-holes and adapted to hold said members together.

8. In a metallic packing, the combination with the packing-rings, of a cage composed of separable members provided with suitable bolt-holes and with annular recesses independent of but concentric with said bolt-holes, centering-rings arranged in said recesses and adapted to insure a true perfect alinement of said members, and bolts occupying said bolt-holes and adapted to hold said members together.

808,083. SYSTEM OF WATER-SUPPLY FOR URBAN AND OTHER BUILDINGS. WALLACE P. GROOM, Brooklyn, N. Y. Filed Mar. 21, 1905. Serial No. 251,237.



Claim.—1. An aerohydrostatic system of water-supply for a building or buildings, comprising the combination of an air-compressor stationed and installed at a distance more or less remote from said building or buildings, an air and water reservoir in said building or buildings for receiving and storing compressed air and water, a water-pipe 72 connected with said reservoir and provided with outlets 74, a compressed-air passage connecting the air-compressor with the compressed-air and water reservoir in said building or buildings for supply of compressed air to such reservoir, and a water-pipe connected with a water-main and the reservoir for supplying said compressed-air and water reservoir with water, substantially as and for purposes set forth.

2. As part of a system of aerohydrostatic water-supply for a building or group of buildings, the combination of an air-compressor, a storage compressed-air and water reservoir connected with the outlet of said compressor by a valve-controlled pipe or passage, a valve-controlled compressed-air-main pipe connected with said reservoir and also with the aerohydrostatic apparatus in said building or buildings, a valve-controlled return-air-main pipe, a passage for air from said aerohydrostatic apparatus to and into said return-air-main pipe, and a receiver 4 connected with such return-main pipe and having a valve-controlled pipe connected with the induction-pipe of said compressor, substantially as and for the purpose set forth.

3. In a system of apparatus for aerohydrostatic water-supply for a building or group of buildings, the combination of an air-compressor, a central-station compressed-air reservoir connected with said air-compressor by a valve-controlled pipe or passage, a valve-controlled compressed-air main connected with said air-reservoir, an aerohydrostatic reservoir in said building or buildings and connected with the compressed-air-main pipe by a valve-controlled compressed-air service-pipe, a valve-controlled water service-pipe connected with the aerohydrostatic reservoir, and with a water-main or other source of water-supply, a fire-extinguishing service-pipe connected with said aerohydrostatic reservoir and extending up through floors of said building or buildings, and provided with valve-controlled outlets for attachment of hose or other fire-extinguishing appliances, and a return-air-main pipe connected by a valve-controlled pipe with said aerohydrostatic reservoir and with said compressor by a valve-controlled return-air pipe substantially as and for purposes described.

4. In an aerohydrostatic system of water-supply for a building or buildings, the combination with an air and water storage reservoir placed in the cellar or basement of any of such building or buildings, and supplied with water and compressed air through a water-supply pipe and a compressed-air-main pipe, substantially as herein set forth, of a relay compressed-air and water storage reservoir placed at a higher level in said building and provided with valve-controlled air-vents, a valve-controlled water-pipe connecting the water-spaces in said reservoirs, a compressed-air pipe connected with the upper part of the relay-reservoir and with the compressed-air-main pipe, and a water-pipe connected with the lower part of said relay-reservoir and extending to floors above said relay-reservoir, all substantially as and for purposes set forth.

5. The combination of a central-station air-compressor, a central-station compressed-air and water storage reservoir, air-passage connecting said reservoir with said compressor, means for supplying water to said reservoir, a valve-controlled water-main pipe connected with said reservoir and extending out from the central station to a point near a building or buildings to be protected from fire, a hydrant placed near such building or buildings, pipe 53 connecting said water-main with said hydrant, riser-pipe 72 in the interior of said building or buildings and provided with outlets 74, pipe 54 connected with said water-main, and valve-controlled pipe 94 connecting pipes 54 and 72, substantially as described and for purposes set forth.

6. The combination with a central-station air-compressing plant, comprising an air-compressor and duplicate air and water storage reservoirs connected with the outlet of said compressor, means for supplying said reservoirs with water, means for separate or simultaneous operation, of a valve-controlled water-main pipe connected with each of said reservoirs, aerohydrostatic water-elevating apparatus in a building or buildings at a distance more or less remote from the central station, a hydrant 55, pipe connecting said water-main pipe with said hydrant, and means for operating the duplicate reservoirs in the central station, said hydrant, and said aerohydrostatic water-elevating apparatus simultaneously, substantially as and for purposes described.

7. The combination of a central-station air-compressor, a central-station compressed-air and water reservoir 18 connected by valve-controlled pipe connections to the outlet of said compressor, a separate central-station compressed-air and water reservoir 25 connected by valve-controlled pipe connections to said outlet, a valve-controlled water-main pipe 44 connected with reservoir 25 and also by separate valve-controlled pipe connection with reservoir 18, valve-controlled water-pipes 23 and 30 respectivaly connected with said reservoirs, an aerohydrostatic water-elevating apparatus placed in a building or buildings more or less remote from the central station, a valve-controlled compressed-air-main pipe and a return-air-main pipe, both of said main pipes connecting said central station and said aerohydrostatic apparatus, substantially as and for the purposes described.

8. The combination of a central-station air-compressor, duplicate central-station compressed-air and water reservoirs, each connected by valve-controlled compressed-air-pipe connection with the discharge-outlet of said compressor, water-main pipe connected with each of said reservoirs by valve-controlled pipe connection, a return-air receiver 4 connected by valve-controlled pipe connection with the inlet of said compressor, an aerohydrostatic water-elevating apparatus situated in a building or buildings more or less remote from said compressor and connected with said water-main, valve-controlled compressed-air-main pipe connected by valve-controlled pipe connections with said reservoirs and also with said aerohydrostatic apparatus, and a valve-controlled return-air-main pipe connected with said aerohydrostatic apparatus and with said receiver, substantially as and for purposes set forth.

9. The combination of a central-station air-compressor, a compressed-air reservoir 15 connected by valve-controlled pipe connection with the outlet of said compressor, a valve-controlled compressed-air-main pipe 34, means for connecting said compressed-air reservoir with and disconnecting it from said compressed-air-main pipe, an aerohydrostatic water-elevating apparatus situated in a building or buildings more or less remote from said central station and connected with said compressed-air-main pipe, a central-station return-air receiver 4, valve-controlled pipe connection connecting said receiver with the outlet of the air-compressor, and a valve-controlled return-air-main pipe connected with both said aerohydrostatic apparatus and said receiver, substantially as and for the purposes specified.

10. The combination of a central air-compressing station containing an air-compressor, and separate air-storage reservoirs, an aerohydrostatic water-elevating apparatus situated in a building or buildings more or less remote from said central station, means for passing compressed air separately or simultaneously from said reservoirs to said aerohydrostatic water-elevating apparatus, means for returning air discharged from said aerohydrostatic apparatus back to said central-station compressor and means for charging said reservoirs separately or simultaneously with compressed air from said compressor, substantially as and for the purposes set forth.

11. The combination of a central air-compressing, air and water storage station, containing an air-compressor and separate reservoirs for storage of compressed air and water, an aerohydrostatic water-elevating apparatus situated in a building or buildings more or less remote from said central station, means for passing compressed air separately or simultaneously from said reservoirs to said aerohydrostatic apparatus, means for passing water separately or simultaneously from said reservoirs to said aerohydrostatic apparatus, means for returning air discharged from said aerohydrostatic apparatus back to said central-station compressor, and means for charging separately or simultaneously said reservoirs with air returned from said aerohydrostatic apparatus, substantially as specified and for purposes described.

12. As part of an aerohydrostatic system for a building or buildings, comprising an air-compressor, air and water storage reservoirs 15, 18 and 25, air and water storage reservoirs 58 and 59, installed in a building or buildings more or less remote from said compressor, means of passing air from said compressor to reservoirs 58 and 59, and means for returning air from said reservoirs 58 and 59 back to said compressor, the combination with said compressor, reservoirs, and means for passing air from the compressor to reservoirs 58 and 59 and returning such air to the compressor, of a relay air and water storage tank placed at a higher level in said building or buildings, valve-controlled compressed-air pipe connecting compressed-air service-pipe 56 with said relay-reservoir, valve-controlled water-pipe 74 connected with either or both of the reservoirs 58 or 59 and a valve-controlled return-air pipe connected with the upper part of said relay-tank, and with the return-air service-pipe 57, substantially as described.

13. As part of a system of aerohydrostatic water-supply apparatus for a building or buildings, the combination with a compressed-air and water storage reservoir placed in the lower part of such build-

ing or buildings and means for supplying air from a central station more or less remote from such reservoir, of duplicate relay air and water storage reservoirs placed at a higher level, valve-controlled pipes connected with the air-spaces in said reservoirs, valve-controlled pipes connected with the water-spaces in said reservoirs and a water-supply pipe extended to floors above and connected with said relay-reservoirs, all being constructed to permit separate operation of either or simultaneous operation of both said relay-reservoirs, substantially as described and for purposes set forth.

14. As part of a system of aerohydrostatic apparatus for a building or group of buildings, the combination of duplicate air and water storage reservoirs placed in the lower part of said building or group of buildings, means for supplying air from a central air-compressing station and with water from a separate source, valve-controlled pipe connections constructed to permit separate operation of either or simultaneous operation of both said reservoirs, duplicate relay air and water setorage reservoirs, placed on a higher level than the said lower reservoirs, pipe connections connecting the air and water spaces in said reservoirs and so connected that either of them may operate separately or all may operate together, and a pipe connected with and extended to floors higher than said relay-reservoirs, substantially as and for purposes specified.

15. As part of a system of aerohydrostatic water-supply for a building or a group of buildings, the combination of a compressed-air and water storage reservoir placed in the lower part of such building or buildings, valve-controlled water service-pipes connected with said reservoir, compressed-air-main pipe, valve-controlled air service-pipe connected with said compressed-air-main pipe, and with said reservoir, a valve-controlled pipe connected with said reservoir for supply of water to any part or parts of said building or buildings, a valve-controlled blow-off or flushing pipe connected with the lower part of said reservoir, and a drainage-pipe connected with said blow-off or flushing pipe, substantially as and for purposes described.

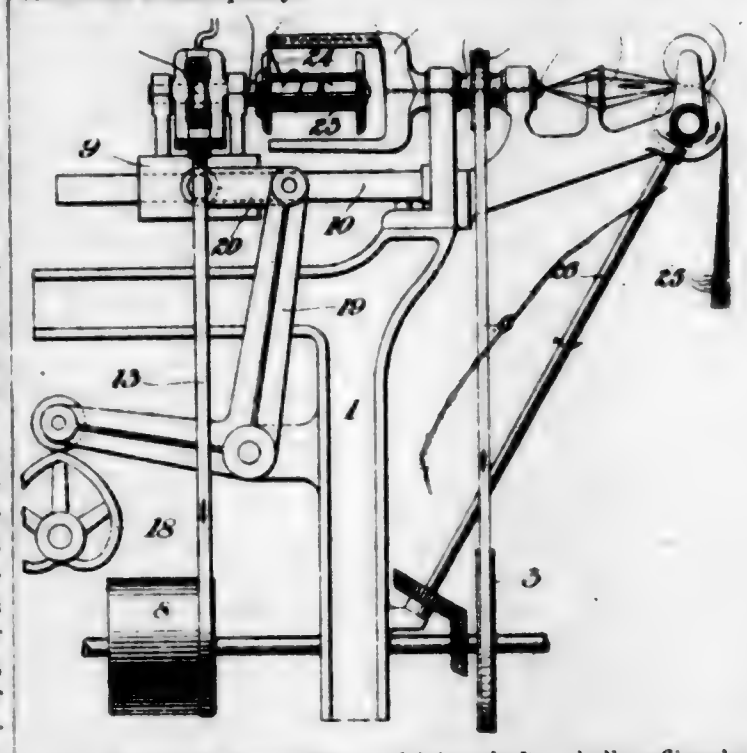
16. As part of an aerohydrostatic system of water-supply for a building or buildings, the combination with duplicate compressed-air and water storage reservoirs located in the lower part of such building or buildings, each having an independent valve-controlled water service-pipe and each connected with an independent valve-controlled compressed-air service-pipe and air-discharge pipe, and each having a valve-controlled water-pipe for supply of water to any part or parts of said building or buildings, of a valve-controlled blow-off or flushing pipe connected with each of said reservoirs and with a drainage-pipe, all constructed to permit the separate or simultaneous blowing off or flushing of said reservoirs, substantially as specified.

17. As part of an aerohydrostatic system of water-supply for a building or buildings, the combination with a compressed-air and water reservoir in the lower part of said building or buildings, having an independent water-supply pipe connected with and extending into the interior of such reservoir to a point near the middle of the bottom of the same, of a shield fast to supports attached to the bottom of the reservoir, said shield having a convex surface the middle of which is placed under the discharge-opening of said water-pipe, substantially as described and for purposes set forth.

18. As part of an aerohydrostatic system of water-supply for a building or buildings, the combination with a central-station air-compressing air-storage and water-storage plant, comprising an air-compressor, air and water storage reservoirs, means for separately or simultaneously charging such reservoirs with air from said compressor, independent valve-controlled water-supply pipes, and a valve-controlled water-main pipe extending from said central station to a point near to said building or buildings, of a riser water-supply pipe or pipes placed in such building or buildings and means for connecting said riser-pipe with, or disconnecting it from, said water-main pipe on and from any floor of said building or buildings, substantially as and for purposes set forth.

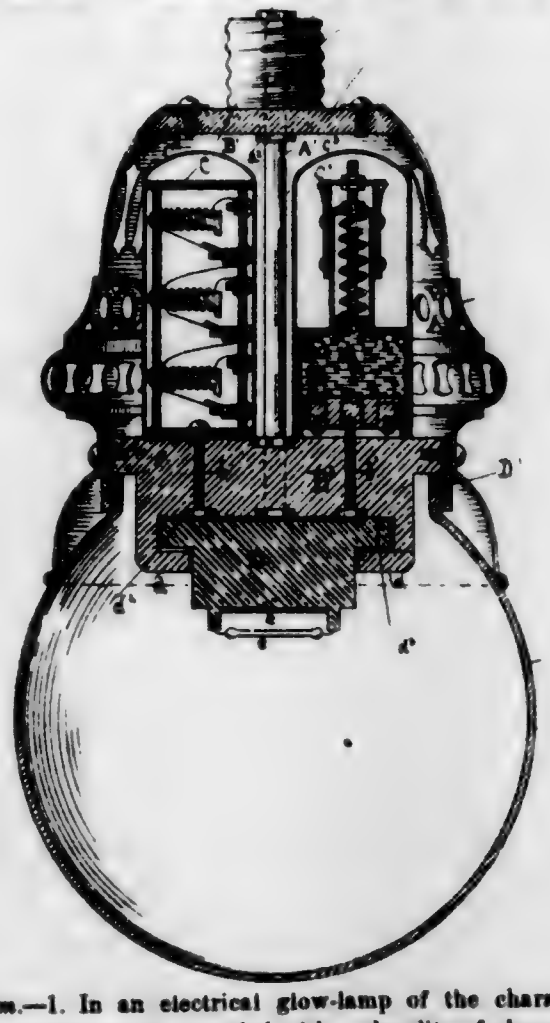
808,084. **TWISTING-MACHINE.** PETER HARDMAN, Willimantic, Conn., assignor to The American Thread Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 10, 1900. Serial No. 36,036.

Claim.—1. In a twisting-machine, in combination, a driving-shaft, two pulleys mounted to rotate therewith, one of said pulleys having a long cylindrical surface, a flier-shaft, a pulley thereon, an open-armed flier carried by said flier-shaft and driven from said pulley, power-driven means outside of said flier for controlling the feed of the strands to the flier, a longitudinally-movable carriage, a shaft rotatably mounted on said carriage and adapted to support a bobbin within the arms of said flier, a pulley mounted on said bobbin-shaft, a belt connecting said pulley with the pulley on said driving-shaft having a long cylindrical surface, and means for reciprocating said carriage and bobbin-shaft, the ratio between the pulleys on all three of the shafts being such that the bobbin-pulley when thread is not being wound is normally driven at a less speed than the angular speed of said bobbin when thread is being wound, whereby the energy necessary for maintaining constant tension in the thread being wound is consumed in friction at a point between the bobbin and the belt on the bobbin-pulley.



2. In a twisting-machine, a driving-shaft, a hollow flier-shaft driven therefrom, a flier carried by said flier-shaft, a bobbin-shaft rotatable with the bobbin, two rollers outside said flier for controlling the feed of strands through said hollow flier-shaft to said flier, means for driving one of said rollers from said driving-shaft, means for reciprocating said bobbin-shaft, moving means for retarding the bobbin and bobbin-shaft when thread is being wound, and means for adjusting the extent of retardation produced by said moving means.

808,085. **ELECTRIC GLOW-LAMP.** GUSTAVE K. HARTUNG, New York, N. Y. Filed Mar. 10, 1904. Serial No. 197,457.



Claim.—1. In an electrical glow-lamp of the character described, a glower-socket provided with a plurality of glowers and a

heater thereon, a receptacle for the said socket and terminal connections thereon, an electromagnetic controller for said glowers and a thermostatic cut-out for the heater; substantially as set forth.

2. An electrical glow-lamp having a plurality of light-giving elements of secondary conductivity and electrical circuits and controlling devices therefor, a common heater for said light-giving elements, and an electrical resistance for the light-giving elements, and the combination with the resistance and the heater, of an expansive-liquid thermostatic cut-out adapted to be actuated by energy dissipated from said resistance for cutting out said heater upon the maturity of a secondary conductor; substantially as described.

3. An electrical glow-lamp having a plurality of light-giving elements of secondary conductivity, and electrical circuits and electromagnetic controlling devices for automatically switching one of said conductors into circuit during its integrity and out of circuit upon a rupture thereof and a common heater for the secondary conductors, and a single electrical ballasting resistance for the secondary conductors, and the combination with the resistance and the heater of an expansive-liquid thermostatic cut-out adapted to be actuated by energy dissipated from said resistance for cutting out said heater upon the maturity of a secondary conductor; substantially as described.

4. An electrical glow-lamp having a plurality of light-giving elements of secondary conductivity and suitable electrical circuits therefor and a common heater for the secondary conductors, and a single electrical ballasting resistance for the said secondary conductors, and a suitable cut-out for the heater when the said conductors have attained their conductivity, of an electromagnetic controlling device for alternately switching said conductors into circuit during their integrity and out of circuit upon a rupture thereof; substantially as described.

5. An electrical glow-lamp having a plurality of light-giving elements of secondary conductivity supported in a holder, a heater therefor supported in the same holder, the said holder being held in the lamp in such manner as to be freely removable therefrom, electrical circuits for said heater and glowers and automatic controlling devices therefor, and a ballasting resistance for the glowers

6. An electrical glow-lamp comprising a casing, a plurality of magnets mounted therein and controlling a plurality of electrical circuits, glowers adapted to be energized by said circuits, and a common terminal for said circuits mounted on the top of the casing.

7. In an electrical glow-lamp having a plurality of light-giving elements of secondary conductivity having independent controlled circuits and suitable electrical circuits and controlling devices for the light-giving elements and a suitable ballasting resistance therefor, a common heater for said secondary light-giving element comprising a support and a sinuous metallic filament formed thereon and carried thereby, electrical circuits and terminal connections for the said heater and a thermostatic controller therefor actuated by the said ballasting resistance for throwing the heater into and out of circuit as the secondary conductors mature according to the maturity or relaxation thereof.

8. In an electrical glow-lamp of the character described, a socket provided with a plurality of glowers and a heater therefor, and terminal contacts for each of said glowers and heater, a receptacle for said socket, said receptacle being provided with coacting contacts to engage the terminal contacts of the glowers and heater, substantially as described.

9. In an electrical glow-lamp of the character described, a socket provided with a plurality of glowers and a heater therefor and terminal contacts for each of the same, a receptacle for said socket, said receptacle being provided with coacting engaging contacts, and means whereby when one of said glowers becomes ruptured, another glower may be automatically energized, substantially as described.

10. In a glow-lamp of the character described, a plurality of glowers, electrical circuits therefor, a single ballasting device to ballast each of the said glowers and means for connecting said glowers successively in circuit upon the disruption of the glower previously energized, substantially as described.

11. In a glow-lamp of the character described, a plurality of glowers, means for energizing said glowers a single ballasting resistance adapted to ballast said glowers, and means for connecting said glowers successively whereby when one of said glowers becomes disrupted, a single glower will be automatically energized, substantially as shown and described.

12. In a glow-lamp of the character described, a plurality of glowers, a common heater for all of said glowers, a common ballasting device for all of said glowers, a common junction for all of said glowers between said ballasting device and the glowers, substantially as shown and described.

13. In a glow-lamp of the character described, a plurality of glowers, separate electrical circuits therefor, means for controlling the circuit through the glowers, a heater common to all the glowers, adapted to be energized by a circuit separate from the glower-circuit and means for automatically energizing the said heater on the disruption of a glower-circuit and of deënergizing said heater when a circuit is reëstablished through a glower, and a lamp-casing inclosing all of said instrumentalities above enumerated, substantially as shown and described.

14. In a glow-lamp of the character described, a socket with a plurality of glowers therein and a heater therefor, electric conductors embedded in said socket connected with said glowers, a receptacle in which said socket is held, contact-pieces in said socket and receptacle and spring connections interposed between said contact-pieces substantially as described.

15. In a lamp of the character described, a plurality of glowers and electrical circuits therefor controlled by electromagnets, said magnets being mounted on a separate frame, substantially as described.

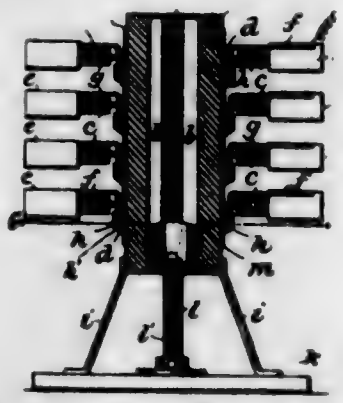
16. In a glow-lamp of the character described, a plurality of glowers, electric circuits therefor, a plurality of magnets, only one of which is energized at a time and thereby all the other circuits are opened, and a single ballasting device adapted to ballast each of said circuits, substantially as described.

17. In a lamp of the character described, a plurality of glowers, electrical circuits therefor, a plurality of magnets and their respective armatures mounted on a separate frame and adapted to control the said glower-circuits.

808,086. THERMO-ELECTRIC BATTERY.

ALBRECHT HEIL, Frankfort-on-the-Main, Germany, assignor to the The Firm of A. Wolf, Jr., & Co., Frankfort-on-the-Main, Germany.

Filed Oct. 31, 1904. Serial No. 230,792.



Claim.—1. In a thermo-electric battery, the combination with a flue provided externally with a layer of insulating material, of means for heating said flue internally, a plurality of heating-plates on the insulating layer of said flue and having each an end projecting outward, a plurality of radially-disposed thermo-electric couples, whose internal ends are united with the projecting ends of said plurality of heating-plates in narrow or small contact-faces, and a plurality of radial cooling metallic plates secured on the external ends of the positive components of said plurality of thermo-electric couples and united each with the bent external end of the negative component of a neighboring couple, so that the several couples are connected and the cooling-plate of the first couple may be connected with the one line and the negative component of the last couple with the other line of the circuit.

2. In a thermo-electric battery, the combination with a heating-plate arranged to be heated from the source of heat and having a projecting end, of a thermo-electric couple comprising a positive rod-shaped component and a negative wire-shaped component whose warm ends are united with the projecting end of said heating-plate in narrow or small contact-faces.

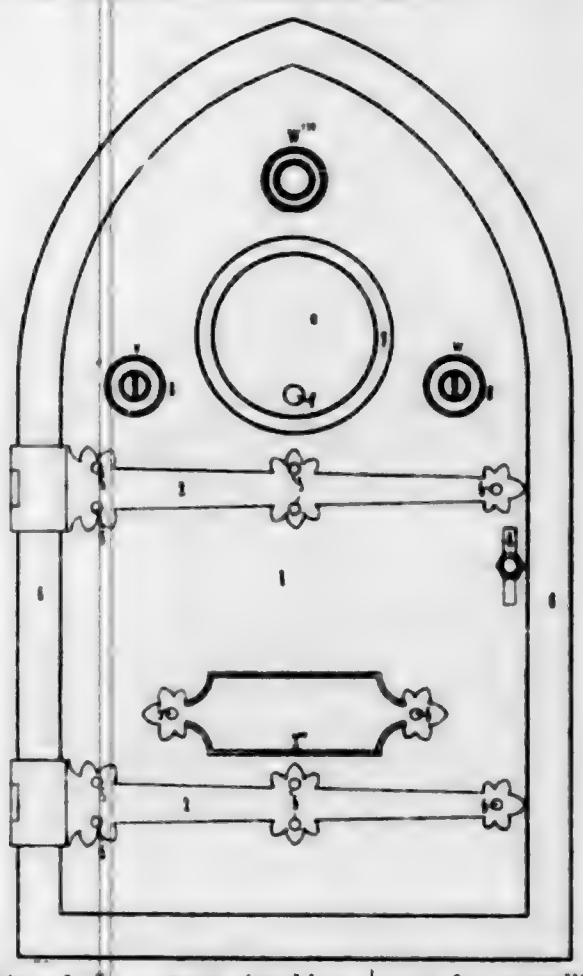
3. In a thermo-electric battery, the combination with a flue heated internally and provided externally with a layer of insulating material, of a heating-plate on the insulating layer of said flue and having an end projecting outward, and a radially-disposed thermo-electric couple comprising a positive rod-shaped component and a negative wire-shaped component whose warm ends are united with the projecting end of said heating-plate in narrow or small contact-faces.

4. In a thermo-electric battery, the combination with a vertical flue provided internally with a plurality of longitudinal radial heat-

ing-ribs and externally with a layer of insulating material, of means for heating said vertical flue internally, a plurality of heating-plates on their insulating layer or said vertical flue and having each an end projecting outward, a plurality of radially-disposed thermo-electric couples comprising each a positive rod-shaped component and a negative wire-shaped component whose warm ends are united with the projecting end of one of said plurality of heating-plates in narrow or small contact-faces, and a plurality of radial cooling metallic plates secured on the external ends of the positive components of said plurality of thermo-electric couples and united each with the bent external end of the negative component of a neighboring couple, so that the several couples are connected and the cooling-plate of the first couple may be connected with the one line and the negative component of the last couple with the other line of the circuit.

5. In a thermo-electric battery the combination with a flue provided externally with a layer of insulating material of means for heating said flue internally, a plurality of heating-plates on the insulating layer of said flue, having each an end projecting outward, and an insulated metal ring for securing said plates in position.

808,087. **ELECTRIC-SIGNALING-APPARATUS CIRCUIT.** FELIX B. HERSOG, EDWARD P. HOPKINS, and CHARLES HERRMANN, New York, N. Y.; said Herrmann and Hopkins assignors to said Hersog. Filed Aug. 8, 1888. Serial No. 283,235.



Claim.—1. In a street signal-box, means for controlling the main circuit to a receiving-station by an operator at the box; adjuncts at the box for also controlling the main circuit from a substation, together with one or more points of connection to the main circuit adapted and arranged to be used with the said adjuncts and for the substation-control only; and a substation-line entirely distinct from the main line.

2. In a street signal-box, means for controlling the main circuit to a receiving-station by an operator at the box; adjuncts at the box for also controlling the main circuit from a substation, the first-named controlling means being arranged so that the circuit-controller may be controlled from the outside of the box, when closed, by means of a key, without opening the box.

3. In a street signal-box, means for controlling the main circuit to a receiving-station by an operator at the box; adjuncts at the box for also controlling the main circuit from a substation; a substation-line entirely distinct from the main line and a circuit-controller at the box arranged to react upon the substation-line.

4. In a street signal-box, means for controlling the main circuit to a receiving-station by an operator at the box; adjuncts at the box for also controlling the main circuit from a substation; a substation-line entirely distinct from the main line; a circuit-controller arranged to react upon the substation-line; and devices set in operation by the actuation from the substation and operating to control the substation-circuit.

5. In a street signal-box, means for controlling the main circuit to a receiving-station by an operator at the box; adjuncts at the box for also controlling the main circuit from a substation; a substation-line entirely distinct from the main line; a circuit-controller for the substation-line; devices operating to control the substation-circuit; and means acting to continue this control until the conditions are restored; and a means normally preventing access to a restoring device together with a restoring device, arranged to restore the parts to their normal condition.

6. A street signal-box, combining means for controlling the main circuit to a receiving-station by an operator at the box; adjuncts at the box for also controlling the main circuit from a substation; and a substation-line entirely distinct from the main line; a circuit-breaker in the substation-line; adjustments whereby the control of the main circuit and the break of the subcircuit are produced through a magnet in the box; together with a restorer manually controlled and controlling both the resetting of the main-station controller and the reëstablishment of the broken substation-line at one operation.

7. In a street signal-box, a main-line controller, terminals to circuit connections from a substation and a substation-line entirely distinct from the main line; a magnet in circuit with such terminals and operating simultaneously to control the main circuit and break the substation-line and a restorer directly controlling the substation-terminal and the main-line controller.

8. In a street signal-box, normally open circuit-terminals to a main line leading to a distant station; an electromagnet-controlling means for controlling the same so as to affect receiving apparatus at said station; a substation-line entirely distinct from the main line which leads to the distant station; together with normally closed terminals to the substation-line and means for breaking these during the same operation that closes the main-line circuit.

9. In a street signal-box, a controller for a main circuit to a receiving-station; means for operating the same at the box; adjuncts at the box for controlling the main circuit from one of several substations; a substation-line entirely distinct from the main line; and, at the box, means for indicating which substation has operated.

10. In a street signal-box a controller for a main circuit to a receiving-station; means for operating same at the box; adjuncts at the box for controlling the main circuit from one of several substations; a substation-line entirely distinct from the main line; and at the box means for indicating which substation has operated and for indicating the special one of several variable signals set at the indicated substation.

11. In a signal-box system, means for controlling the main circuit to a receiving-station by an operator at a main box; means normally adapted and adjusted for also controlling this main circuit from a substation; and a substation-line entirely distinct from the main line, and means adapted and arranged to act, after operation from the substation, to change the normal circuit adjustments of the system to abnormal circuit adjustments; together with means adapted to cause these abnormal circuit adjustments to continue indefinitely until they are restored by the operation of devices which are not controllable from the substation.

12. In a signal-box system, means for controlling the main circuit to a receiving-station by an operator at a main box; means normally adapted and adjusted for also controlling this main circuit from a substation through an entirely-distinct substation-line; and means adapted and arranged to act, after operation from the substation, to change the normal circuit adjustments of the substation-line to abnormal circuit adjustments; together with means adapted to cause these abnormal adjustments to continue indefinitely until they are restored by the operation at the box of devices which are not controllable from the substation.

13. In a signal-box system, means for controlling the main circuit to a receiving-station by an operator at a main box; means including a magnet and its armature, normally adapted and adjusted for also controlling this main circuit from a substation through an entirely-distinct substation-line; and means, including circuit-controlling devices arranged to be actuated by the said magnet in the subline, adapted and arranged to act, after operation from the substation, to change the normal circuit adjustments of the substation-line to abnormal circuit adjustments; together with means adapted to cause these abnormal adjustments to continue indefinitely until they are restored by the operation of devices which are not controllable from the substation.

14. In a signal-box system, means for controlling the main circuit to a receiving-station by an operator at a main box; means

adapted and adjusted for also controlling this main circuit from a substation; a substation-line entirely distinct from the main circuit, and means adapted and arranged to act automatically, after operation from the substation, to produce an electrical effect perceptible at the substation, whereby the substation-operator is assured that his apparatus has operated; together with devices adapted to be actuated by an operator at the main box and arranged to restore the normal conditions, at the box, of the substation-line, and to produce an electrical effect perceptible at the substation, whereby the substation-operator is assured that his signal has received attention.

15. In a street signal-box, means for controlling the main circuit to a receiving-station by an operator at the box; a magnet and adjuncts at the box for also controlling the main circuit from a substation; a substation-line entirely distinct from the main circuit, a circuit-breaker at the box and in the substation-line; and devices set in operation by the actuation of the magnet from the substation and operating to cause the circuit-breaker to break the substation-circuit; said means being arranged and adapted to coöperate with a number of substations and when set in operation as the result of action from one of these, to prevent the further operation of the others.

16. In a street signal-box, means for controlling the main circuit to a receiving-station by an operator at the box; a magnet and adjuncts within the box for also controlling the main circuit from a substation; a substation-line entirely distinct from the main circuit; a circuit-breaker in the substation-line; devices set in operation through the magnet and operating to cause the circuit-breaker to break the substation-circuit; a restoring device arranged and adapted to be actuated by an operator at the box; and means acting to continue this break until restored by the restoring device; said devices being arranged and adapted to coöperate with a number of substations and when set in operation as the result of action from one of these, to prevent the further operation of the others.

808,088. **BELT-SHIFTER.** HANS J. HONOR, New York, N. Y. Filed Mar. 18, 1904. Serial No. 198,757.



Claim.—1. Two stepped cone-pulleys and their belt, means for positively shifting the belt downwardly on one pulley and yieldingly shifting the belt upwardly on the other pulley, and means for holding the belt-shifting means in its different adjustments.

2. Two stepped cone-pulleys and their belt and means for positively shifting the belt downwardly on one pulley and yieldingly shifting the belt upwardly on the other pulley comprising two rock-levers connected to swing simultaneously in the same direction and belt-shifting loops hinged to said levers.

3. Two stepped cone-pulleys and their belt and means for shifting the belt downwardly on one pulley and yieldingly shifting the belt upwardly on the other pulley comprising two rock-levers, belt-shifting loops hinged thereto being held against movement in one direction and arranged to yield against spring tension in the other direction.

4. Two stepped cone-pulleys and their belt and means for positively shifting the belt downwardly on one pulley and yieldingly shifting the belt upwardly on the other pulley comprising two rock-levers connected to swing simultaneously in the same direction, a handle for swinging the levers and belt-engaging loops hinged to the levers.

5. Two stepped cone-pulleys and their belt and means for positively shifting the belt downwardly on one pulley and yieldingly shifting the belt upwardly on the other pulley, comprising two rock-levers connected to swing simultaneously in the same direction, belt-engaging loops hinged to said levers, a handle for operating the levers and means engaging the handle for holding the device in its different positions.

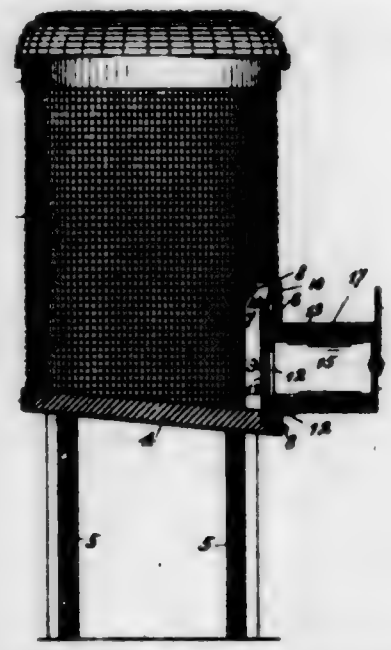
6. Two stepped pulleys and their belt and means for positively shifting the belt downwardly on one pulley and yieldingly shifting the belt upwardly on the other pulley, comprising a belt-shifting loop adjacent to each pulley and means for moving the loop in a plane parallel with the taper of the pulley.

7. Two stepped cone-pulleys and their belt and means for positively shifting the belt downwardly on one pulley and yieldingly shifting the belt upwardly on the other pulley, comprising a belt-shifting loop adjacent to each pulley arranged at an angle thereto and having one of its sides arranged at an angle to the belt.

8. In a belt-shifter, a loop embracing the belt having one side arranged at right angles to the belt for positively shifting the belt downwardly on its pulley and another side at an angle to the belt tending to force the belt outwardly as it is being shifted upwardly on the pulley.

9. Two stepped cone-pulleys and their belt and means for positively shifting the belt downwardly on one pulley and yieldingly shifting the belt upwardly on the other pulley, comprising a block adjacent to each pulley fitted to slide in a plane parallel with the taper of its pulley, belt-shifting loops carried by the blocks and a flexible connection between the blocks for moving them simultaneously in the same direction.

808,089. **BIN.** GEORGE W. HOPKINS and ALBERT B. CANFIELD, Guthrie, Okla.; said Canfield assignor to said Hopkins. Filed Mar. 13, 1905. Serial No. 249,737.



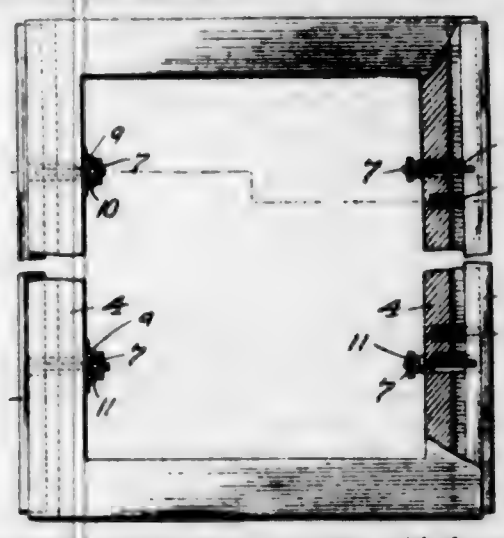
Claim.—1. A bin provided with an outlet-opening in its side portion, plates secured to said side portion having openings registering with the outlet-opening, a rotative drum having one end journaled in said plates provided with an inlet in its journaled end and an outlet in its cylindrical wall, a handle secured to said drum, and a shield for normally closing the outlet.

2. A bin provided with an outlet-opening in its side portion adjacent the bottom thereof, plates secured to said side portion having openings registering with said outlet-opening, a rotative drum having an enlarged end which is journaled between said plates, said drum having an open end which registers with the openings in said plates, means for supporting the outer end of the drum, a discharge-opening formed in the cylindrical wall of the drum, a handle secured to said drum and a shield for normally closing the discharge-opening

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808,090. **WINDOW-SCREEN.** ROBERT W. IRWIN and JOHN DUFFY, Grand Rapids, Mich., assignors to Grand Rapids Furniture Company, a Corporation of Michigan. Filed Feb. 10, 1905. Serial No. 245,109.

Claim.—1. In a window-screen, the combination with a screen-frame, having a thin metallic strip or fin on its edge, of a plurality of metallic plates having means for attachment to the window-frame and having also guiding projections diverging from each side of the center, substantially as described.

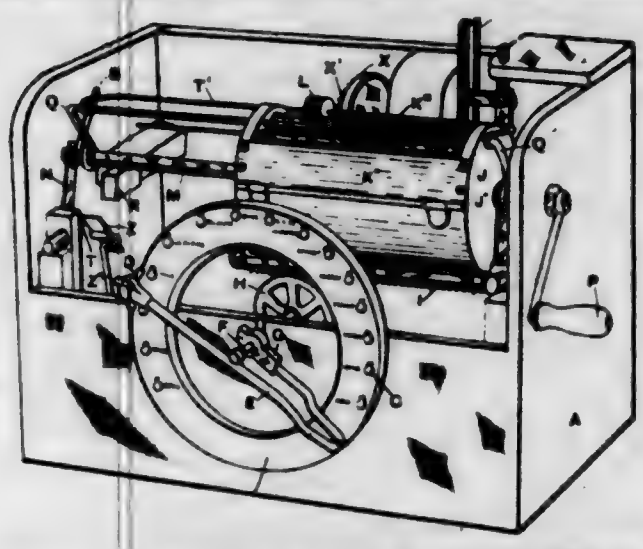


2. In a window-screen, the combination with the screen-frame having grooves in two of its opposite edges, of metallic strips seated in said grooves and having two sets threaded rods projecting through openings in the frame, spring means for forcing one set of rods outwardly, adjusting-nuts on all of said rods clips engaging the nuts of the second set of rods, and guides for said metal strips, substantially as described.

3. The combination with a window-screen having metallic side strips, of guide-plates having integral securing-prongs, and integral projections to embrace the edges of said side strips, substantially as described.

4. A guide member for a window-screen comprising a sheet-metal plate having two reversely-arranged arc-shaped integral ribs or projections, substantially as described.

908,091. **WEIGHT-REGISTERING MECHANISM.** WILLIAM A. KENNEDY, Apple Hill, Canada. Filed Aug. 8, 1904. Serial No. 219,996.



Claim.—1. A weight-registering mechanism comprising a record-carriage revolubly longitudinally and laterally movable, means for producing and limiting such movement and means for weighing and recording weights upon such record-carriage and tare-eliminating means therefor, substantially as described.

2. A weight-registering mechanism comprising a record-carriage capable of a revoluble and longitudinal movement, actuating and limiting means therefor, a weight-operated device for positioning characters, and means for imprinting such characters upon such carriage, substantially as described.

3. In combination a longitudinally-movable record-carriage, means for producing and limiting such movement and weight-operated means for positioning characters representing the respective weights against such carriage, substantially as described.

4. In a weight-registering mechanism, the combination of the revoluble shaft, and record-carrying carriage arranged for rotation and translation thereon, transversely-widened bearings within which said shaft is journaled and means for revolving said shaft and transversely moving it across the width of said bearing, substantially as described.

5. A weight-registering mechanism comprising in combination a revoluble shaft, a record-carrying carriage slidably arranged thereon and revoluble therewith, transversely-extended bearings within which said shaft is journaled for rotation and translation therein and means for producing such movement, substantially as described.

6. In combination, a revoluble and transversely-movable shaft, a record-carrying carriage arranged thereon bearings within which said shaft is journaled whereby such movement is provided for and means for revolving said shaft and transversely moving it upon said bearing, substantially as described.

7. A weight-registering mechanism comprising an index pointer, a record-bearing carriage upon a shaft and revoluble independently thereof, means for revolving said carriage and transversely moving same into contact with an imprinting mechanism and a weight-adjustable mechanism for controlling such imprinting mechanism, substantially as described.

8. A weight-registering mechanism comprising a dial, an index-pointer thereon, a record-bearing carriage movable proportionally by such pointers, means for revolving said carriage and transversely moving same against a recording mechanism, such recording mechanism for printing upon said carriage and a means for relatively shifting said recording mechanism proportionally to weights applied thereto.

9. In a weight-registering mechanism, an index-pointer a record-bearing carriage longitudinally shiftable by the latter, means for revolving said carriage and transversely moving same against a registering mechanism, means for relatively shifting said registering mechanism proportionally to weights applied thereto and means for locking same in alining positions, substantially as described.

10. In a weight-registering mechanism, a sleeve revolubly mounted but laterally affixed within a suitable support, a shaft extending therethrough and revoluble therewith but longitudinally free to move therethrough, an index-pointer hinged to said sleeve and controlling the longitudinal movement of said shaft and means for locking such shaft against such longitudinal movement, substantially as described.

11. A weight-registering mechanism comprising in combination, a sleeve a revolubly-mounted shaft longitudinally movable therethrough and revoluble therewith, a pointer hinged to said sleeve member and controlling the longitudinal movement of said shaft, and a locking means for affixing said pointer opposite any one of a plurality of indicating positions, substantially as described.

12. In combination, a sleeve revolubly affixed upon a suitable support, a shaft extending therethrough, revoluble therewith but longitudinally free, an index-pointer hinged to said sleeve member and said shaft and controlling the longitudinal movement of the latter, a locking device upon the end of said index-pointer and means whereto said locking member may be affixed in a plurality of positions, substantially as described.

13. In a weight-registering mechanism, a longitudinally-shiftable and partially-revoluble record-carriage, means for longitudinally shifting said carriage into predetermined positions, a weight-operable registering means, and means for transversely shifting said carriage into contact therewith, substantially as described.

14. In combination a longitudinally-shiftable and partially-revoluble record-carriage, a record-sheet mounted thereon, means for longitudinally shifting said carriage into predetermined positions, a weight-operable indicating and imprinting means, and means for shifting said carriage into contact with said record-sheet and thereby imprinting upon the latter, substantially as described.

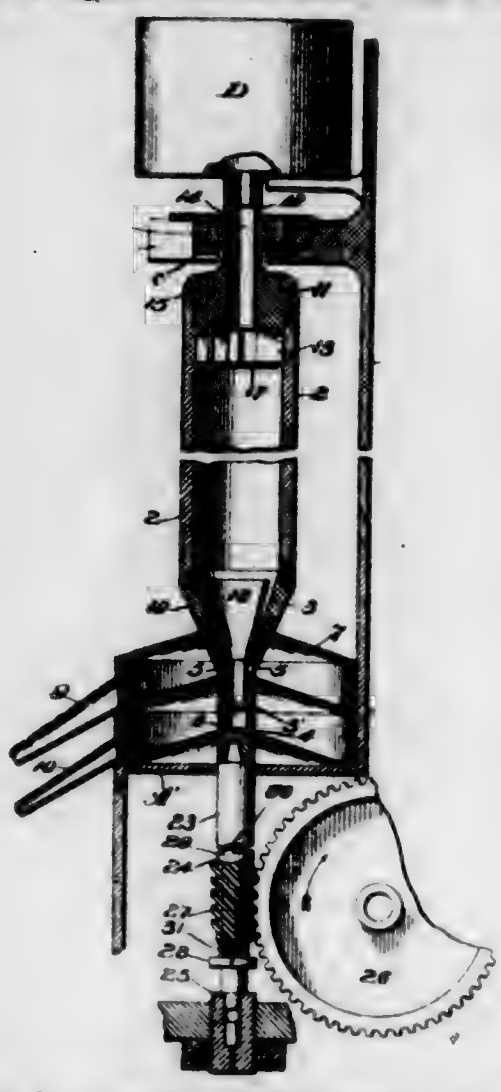
15. A weight-registering mechanism comprising a longitudinally-shiftable and revoluble record-carriage, a record-sheet thereon, means for longitudinally shifting and means for locking said carriage into predetermined positions, a weight-operable indicating means, a locking device therefor and means for shifting said carriage and record-sheet into contact with the imprinting-surface, substantially as described.

16. In a weight-registering mechanism, means including a wheel revoluble in proportion to the weight of bodies attached thereto, characters upon the circumference of said wheel indicating weights of the controlling bodies, means for locking said wheel against rotation, in combination with a laterally-adjustable recording-carriage movable transversely into contact therewith, substantially as described.

17. In a weight-registering mechanism means movable proportionally to weights attached thereto, a dial revoluble proportionally to the movement of said means, characters upon the circumference of said dial indicating the actuating-weights, means for locking said dial against rotation, in combination with a laterally-adjustable recording-carriage transversely movable into contact therewith, substantially as described.

18. In a weight-recording mechanism, a record-bearing carriage, a paper-supplying roller mounted thereon, a revoluble imprinting-platen around the periphery of which the paper is adapted to be passed, a friction-roller for maintaining a tension upon said paper and a chamber adapted to receive the end of the paper bearing the record, a shaft upon which said carriage is laterally movable, guide-rods slidably extending through said carriage for controlling the angular rotation thereof, extensions radially disposed to said shaft, abutments against which said extensions contact upon a partial rotation of said shaft whereby the latter will be transversely displaced upon the continued rotation thereof.

808,092. CENTRIFUGAL LIQUID-SEPARATOR. CASSIUS M. KEYCHAM, Carthage, Mo. Filed Jan. 24, 1905. Serial No. 242,577.



Claim.—1. In a centrifugal liquid-separator, a bowl cone-shaped at the discharge end, a tube extending beyond the cone-shaped end in line with the axis of rotation of the bowl, there being discharge-apertures leading from the cone-shaped end portion for the heavier grades of the liquid and an aperture leading from the axial tubular part for the discharge of the lighter grades of the liquid, a tubular separating device concentric with the cone-shaped end of the bowl and connected at one end with the discharge-tube and having its outer end open and extending toward the interior of the bowl, and means for rotating the bowl at high speed, substantially as set forth.

2. In a centrifugal liquid-separator, a bowl provided with an inverted-cone-shaped base through which is formed a discharge-aperture, and a tube extending therefrom in line with the axis of rotation of the bowl and provided with a discharge-aperture leading therefrom, and means for rotating the bowl at a high speed, substantially as set forth.

3. In a centrifugal liquid-separator, a bowl comprising an open-ended tube, a separable closure or head at the feed end thereof, a separable end of cone shape at the discharge end, a tube extending beyond the cone-shaped end in line with the axis of rotation of the bowl, there being discharge-apertures leading from the cone-shaped end portion for the heavier grades of the liquid and an aperture leading from the axial tubular part for the discharge of the lighter grades of the liquid, a tubular separating device concentric with the cone-shaped end of the bowl and connected at one end with the discharge-tube and having its other end open and extending toward the interior of the bowl, and means for rotating the bowl at high speed, substantially as set forth

4. In a centrifugal separator, the combination of a rotating bowl having a feed-opening at one end, a spreader-plate disposed transversely across and at a short distance from the feed-opening, and radially-disposed blades arranged between the spreader-plate and the feed-opening, substantially as set forth.

5. In a centrifugal liquid-separator, the combination of a bowl comprising a relatively long tube, the discharge devices at one end of the tube, the feed-opening being at the other end of the tube, a spreader-plate arranged at a short distance from and in a plane transversely across the feed-opening, and radially-disposed blades for causing the liquid to partake of the rotary movement of the bowl arranged between the spreader-plate and the feed end of the bowl, the tubular part of the bowl between the spreader-plate and the discharge-orifices being interiorly free and unobstructed, substantially as set forth.

6. In a centrifugal liquid-separator, the combination of a rotating bowl having a feed-opening at one end, a spreader-plate disposed transversely across and at a short distance from the feed-opening and arranged to prevent the freshly-added liquid from commingling with the partially-separated liquid at the axial center of the bowl, and a vent-tube leading from below the spreader-plate, substantially as set forth.

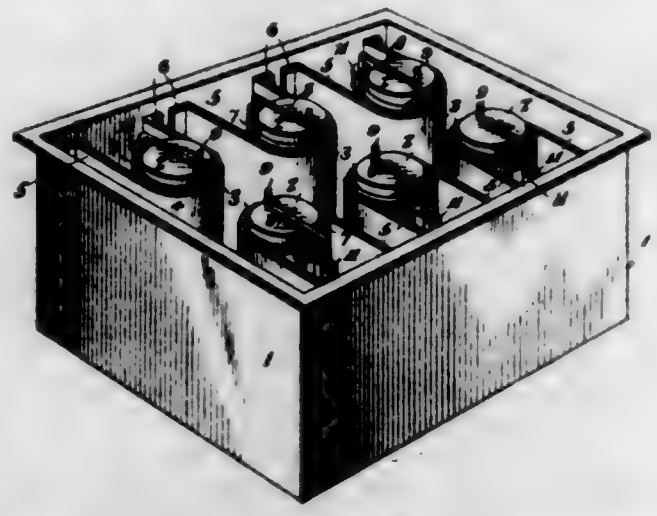
7. In a centrifugal liquid-separator, the combination of a rotating bowl having separate discharge-orifices through which the material of different grades is discharged, means for separating the lower part of the bowl into two concentric portions, the outer portion being arranged to receive the heavier grades of the liquid and the inner portion the lighter grades, these separate portions communicating respectively with the separate discharge-orifices, and means for varying the relative sizes of these separated portions of the bowl in order to regulate the relative flow through the discharge-orifices, substantially as set forth.

8. In a centrifugal liquid-separator, the combination of a rotating bowl having its discharge end of tapering form and being provided with separate discharge-openings for the different grades into which the liquid is separated, an open-ended tubular wall concentric with the tapering discharge end of the bowl, and means for adjusting the said tubular wall in the direction of the axis of rotation of the bowl, substantially as set forth.

9. In a centrifugal separator, the combination of a rotating bowl having a tapering discharge end and separate discharge-orifices, a tapering open-ended tubular wall concentric with the inner wall of the tapering base of the bowl and interiorly connected with one of the discharge-openings while the other discharge-opening is connected with the bowl on the outside of the said separating-wall, and adjusting means for moving the funnel-shaped wall in the direction of the axis of rotation of the bowl, substantially as set forth.

10. In a centrifugal cream-separator, the combination of a rotating bowl having a separable tapering base 3 terminating in a hollow tubular portion 3′ of reduced size, the part 3 being provided with a discharge-opening 5 and the part 3′ with a discharge-opening 6, a skimming device consisting of a partition-wall 19 of funnel shape, open at its upper end, and at its lower end formed into a tubular portion and arranged to fit closely within the tubular part 3 of the end of the bowl, and a screw-adjusting device 21 for the skimming device, substantially as set forth.

808,093. CREAM-CAN SUBMERGER. LOUIS KLEIBER, Berlin, Wis. Filed Aug. 7, 1905. Serial No. 273,060.



Claim.—1. A device of the class described provided with a can-holder having a rigid sleeve of a size to loosely receive a can and hav-

ing means movable independently of the sleeve for locking the can against upward movement in the sleeve.

2. A device of the class described provided with a can-holder consisting of a sleeve of a size to loosely receive a can, and a supporting-arm extending from the sleeve and rigidly secured to a suitable support.

3. A device of the class described provided with a can-holder consisting of a can-receiving sleeve and spaced supporting-arms, and a locking device mounted between the arms for retaining a can in the sleeve.

4. A device of the class described comprising a can-holder consisting of a can-receiving sleeve and spaced supporting-arms, and a locking device consisting of a swinging arm having a shaft or spindle mounted between the spaced arms of the can-holder.

5. A device of the class described, comprising a can-holder consisting of a can-receiving sleeve and spaced supporting-arms, bearing-brackets mounted on the sleeve and located between the arms, and a locking device consisting of a shaft or spindle mounted in the bearing-brackets, and a swinging arm located above the sleeve and arranged to engage the top of a can.

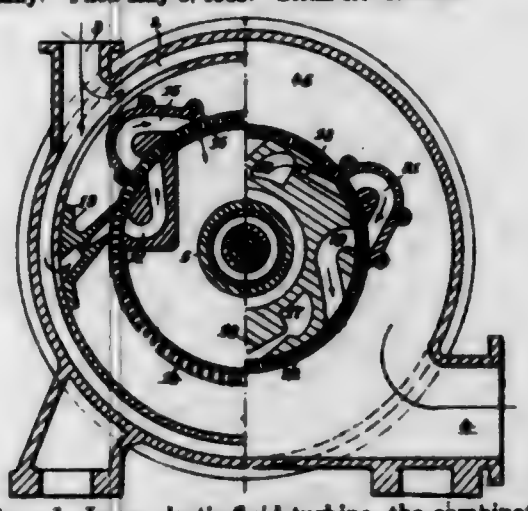
6. In a device of the class described, the combination with a tank, of a plurality of fixed can-holders located within the tank and spaced from the bottom thereof and provided with supporting-arms rigidly secured to the walls of the tank, said can-holder being of a size to loosely receive a can.

7. In a device of the class described, the combination with a tank, of a plurality of fixed can-holders located within the tank and being of a size to loosely receive a can, and spaced from the bottom thereof and provided with supporting-arms secured to the walls of the tank, and individual independently-operable locking devices for retaining the cans in the holders.

8. In a device of the class described, the combination with a tank, of a plurality of individual fixed can-holders mounted within the tank and spaced from the walls and bottom thereof and being of a size to loosely receive a can.

9. In a device of the class described, the combination with a tank, of a plurality of individual can-holders rigidly mounted within the tank and spaced from the walls and bottom thereof, and an independent locking device for each of the can-holders.

808,094. ELASTIC-FLUID TURBINE. OTTO KOLB, Karlsruhe, Germany. Filed May 8, 1905. Serial No. 259,430.



Claim.—1. In an elastic-fluid turbine, the combination with a casing having without at one end an inlet and an annular channel communicating therewith and at the other end an outlet and within a circular flange, of a circular plate secured at the circular flange of said casing and dividing the latter into two sections, detachable primary expansion-nozzles on the inside of said casing and communicating with its annular channel, a shaft, separate bearings for said shaft, two turbine-wheels on said shaft in both sections of said casing and having each on one side a crown of detachable scoops, the heads of which engage in concentric grooves of said circular plate, a plurality of detachable cast pieces fastened with screws on both sides of said circular plate and alternately on the two peripheries of the crown of the respective turbine-wheel, they partly containing conducting-channels of a uniform, but from channel to channel in either series increasing area and partly being expansion-nozzles which communicate with the first section through openings in the circular plate, a cover, and three labyrinthian tightening devices in the three annular spaces between said shaft and said casing and said cover, also between the nave of either turbine-wheel and said circular plate.

2. In an elastic-fluid turbine, the combination with a casing having without at one end an inlet and an annular channel communicating therewith and at the other end an outlet and within a plurality of circular flanges, of a plurality of circular plates secured at the circular flanges of said casing and dividing the latter into sections, detachable primary expansion-nozzles on the inside of said casing and communicating with its annular channel, a shaft, separate bearings for said shaft, a plurality of turbine-wheels on said shaft, one of them in each section of said casing and all having each on one side a crown of detachable scoops, the heads of which engage in concentric grooves of said plurality of circular plates, a plurality of detachable cast pieces fastened with screws on both sides of the first of said plurality of circular plates and on one side of each of the following circular plates and alternately on the two peripheries of the crown of the respective turbine-wheel, they partly containing conducting-channels of a uniform, but from channel to channel in either series increasing area and partly being expansion-nozzles which communicate with the adjoining section through openings in the circular plate, two covers, two labyrinthian tightening devices in the annular spaces between said shaft and said two covers, and a plurality of labyrinthian tightening devices in the annular spaces between said plurality of circular plates and the naves of said plurality of turbine-wheels.

3. In an elastic-fluid turbine, the combination with a casing having without at one end an inlet and an annular channel communicating therewith and at the other end an outlet and within a circular flange, of a hollow circular plate secured at the circular flange of said casing and dividing the latter into two sections, detachable primary expansion-nozzles on the inside of said casing and communicating with its annular channel, a shaft, separate bearings for said shaft, two turbine-wheels on said shaft in both sections of said casing and having each on one side a crown of detachable scoops, the heads of which engage in concentric grooves of said hollow circular plate, the latter being arranged for the passage of the elastic fluid from the first section to the second section and being cast in one piece on the one side with the walls of a plurality of conducting-channels within the crown of the first turbine-wheel which channels are open to without and on the other side with the walls of a plurality of expansion-nozzles and conducting-channels within the crown of the second turbine-wheel which nozzles and channels are open to without, two annular plates covering the expansion-nozzles and conducting-channels in said hollow circular plate, a plurality of detachable cast pieces with conducting-channels fastened with screws on both sides of said hollow circular plate without the crowns of said two turbine-wheels, a cover, and three labyrinthian tightening devices in the annular spaces between said shaft and said casing and said cover, also between the nave of either turbine-wheel and said hollow circular plate.

4. In an elastic-fluid turbine, the combination with a casing having without at one end an inlet and an annular channel communicating therewith and at the other end an outlet and within a plurality of circular flanges, of a hollow circular plate secured at the first circular flange of said casing, a plurality of circular plates at the remaining circular flanges of said casing whereby the latter is divided into sections, detachable primary expansion-nozzles on the inside of said casing and communicating with its annular channel, a shaft, separate bearings for said shaft, a plurality of turbine-wheels on said shaft, one of them in each section of said casing and all having each on one side a crown of detachable scoops, the heads of which engage in concentric grooves of said hollow circular plate and said plurality of circular plates respectively, said hollow circular plate being cast in one piece on the one side with the walls of a plurality of conducting-channels within the crown of the first turbine-wheel which channels are open to without and on the other side with the walls of a plurality of expansion-nozzles and conducting-channels within the crown of the second turbine-wheel which nozzles and channels are open to without, two annular plates covering the expansion-nozzles and conducting-channels in said hollow circular plate which latter is arranged for the passage of the elastic fluid from the first section to the second section, a plurality of detachable cast pieces with conducting-channels fastened with screws on both sides of said hollow circular plate without the crowns of the first and second turbine-wheels, a plurality of detachable cast pieces fastened with screws on one side of each of said plurality of circular plates and alternately on the two peripheries of the crown of the respective turbine-wheel, they partly containing conducting-channels of a uniform, but from channel to channel in either series increasing area and partly being expansion-nozzles, which communicate with the adjoining section through openings in the circular plate, two covers, two labyrinthian tightening devices in the annular spaces between said shaft and said

two covers, and a plurality of labyrinthian tightening devices in the annular spaces between said hollow circular plate and said plurality of circular plates and the naves of said plurality of turbine-wheels.

5. In an elastic-fluid turbine, the combination with a casing having without at one end an inlet and an annular channel communicating therewith and at the other end an outlet and within a plurality of circular flanges, of a plurality of hollow circular plates secured at the circular flanges of said casing and dividing the latter into sections, detachable primary expansion-nozzles on the inside of said casing and communicating with its annular channel, a shaft, separate bearings for said shaft, a plurality of turbine-wheels on said shaft, one of them in each section of said casing and the first and the last of them having each on one side a crown of detachable scoops and the others having each on both sides two crowns of detachable scoops, the heads of all these detachable scoops engaging in concentric grooves of said plurality of hollow circular plates, the latter being arranged for the passage of the elastic fluid from one to the following section and being each cast in one piece on the one side with the walls of conducting-channels within the crown of the respective turbine-wheel which channels are open to without and on the other side with the walls of a plurality of expansion-nozzles and conducting-channels within the crown of the respective turbine-wheel which nozzles and channels are open to without, a plurality of annular plates covering the expansion-nozzles and conducting-channels in said plurality of hollow circular plates, a plurality of detachable cast pieces with conducting-channels fastened with screws on both sides of each of said plurality of hollow circular plates without the crowns of said plurality of turbine-wheels, two covers, two labyrinthian tightening devices in the annular spaces between said shaft and said two covers, and a plurality of labyrinthian tightening devices in the annular spaces between said plurality of hollow circular plates and the naves of said plurality of turbine-wheels.

6. In an elastic-fluid turbine, the combination with a casing having without at one end an inlet and an annular channel communicating therewith and at the other end an outlet and within a circular flange, of a hollow circular plate secured at the circular flange of said casing and dividing the latter into two sections, detachable primary expansion-nozzles on the inside of said casing and communicating with its annular channel, a shaft, separate bearings for said shaft, a first turbine-wheel on said shaft in the first section of said casing and having on one side a crown of detachable scoops which with their heads engage in a concentric groove of said hollow circular plate, a second turbine-wheel on said shaft in the second section of said casing and having on one side a plurality of concentric crowns of detachable scoops, the heads of which engage in concentric grooves of said hollow circular plate, the latter being arranged for the passage of the elastic fluid from the first section to the second section and being cast in one piece on the one side with the walls of a plurality of conducting-channels within the crown of said first turbine-wheel which channels are open to without and on the other side with the walls of a circular series of expansion-nozzles within the inner crown of said second turbine-wheel which nozzles are open to without, two annular plates covering the conducting-channels and expansion-nozzles in said hollow circular plate, a plurality of detachable cast pieces with conducting-channels fastened with screws on one side of said hollow circular plate without the crown of said first turbine-wheel, a plurality of concentric deep grooves in the other side of said hollow circular plate, a plurality of concentric crowns of detachable conducting-scoops engaging in the spaces between the concentric crowns of scoops of the second turbine-wheel and fastened with their feet in said plurality of concentric deep grooves, and three labyrinthian tightening devices in the three annular spaces between said shaft and said casing and said cover, also between the nave of either turbine-wheel and said hollow circular plate.

7. In an elastic-fluid turbine, the combination with a casing having without at one end an inlet and an annular channel communicating therewith and at the other end an outlet and within a plurality of circular flanges, of two hollow circular plates secured at the first and the last circular flanges of said casing, a plurality of circular plates secured at the remaining circular flanges of said casing, whereby the latter is divided into sections, detachable primary expansion-nozzles on the inside of said casing and communicating with its annular channel, a shaft, separate bearings for said shaft, a plurality of turbine-wheels on said shaft, one of them in each section of said casing and all excepting the last one having each on one side a crown of detachable scoops, while the last turbine-wheel has on one side a plurality of concentric crowns of detachable scoops, the heads of all these scoops engaging in concentric grooves of said two hollow circular plates and said plurality of circular plates respectively, the one hollow circular plate being cast in one piece on the one side with the walls of a plurality of conducting-channels within the crown of the first turbine-wheel which channels are open to without and on the other side with the walls of a plurality of expansion-nozzles and conducting-channels within the crown of the second turbine-wheel which nozzles and channels are open to without, the other hollow circular plate being cast in one piece on the one side with the walls of a plurality of conducting-channels within the crown of the last but one turbine-wheel which channels are open to without and on the other side with the walls of a circular series of expansion-nozzles within the inner crown of the last turbine-wheel which nozzles are open to without, four annular plates covering the conducting-channels and expansion-nozzles in said two hollow circular plates, the latter being arranged for the passage of the elastic fluid from one to the following section, a plurality of detachable cast pieces with conducting-channels fastened with screws on both sides of the one and on one side of the other of said two hollow circular plates without the crown of the respective turbine-wheel, a plurality of concentric deep grooves in the other side of the other hollow circular plate, a plurality of concentric crowns of detachable conducting-scoops engaging in the spaces between the concentric crowns of scoops of the last turbine-wheel and fastened with their feet in the plurality of concentric deep grooves of the last hollow circular plate, a plurality of detachable cast pieces fastened with screws on one side of each of said plurality of circular plates and alternately on the two peripheries of the crown of the respective turbine-wheel, they partly containing conducting-channels of a uniform, but from channel to channel in either series increasing area and partly being expansion-nozzles, which communicate with the adjoining section through openings in the circular plate, two covers, two labyrinthian tightening devices in the annular spaces between said shaft and said two covers, and a plurality of labyrinthian tightening devices in the annular spaces between said two hollow circular plates and said plurality of circular plates and the naves of said plurality of turbine-wheels.

8. In an elastic-fluid turbine, the combination with a casing having without at one end an inlet and an annular channel communicating therewith and at the other end an outlet and within a plurality of circular flanges, of a plurality of hollow circular plates secured at the circular flanges of said casing, whereby the latter is divided into sections, detachable primary expansion-nozzles on the inside of said casing and communicating with its annular channel, a shaft, separate bearings for said shaft, a plurality of turbine-wheels on said shaft, one of them in each section of said casing, of which the first turbine-wheel has on one side a crown of detachable scoops, the last turbine-wheel has on one side a plurality of concentric crowns of detachable scoops and the remaining turbine-wheels have each on both sides two crowns of detachable scoops, the heads of all these scoops engaging in concentric grooves of said plurality of hollow circular plates, the first hollow circular plate being cast in one piece on the one side with the walls of a plurality of conducting-channels within the crown of the first turbine-wheel which channels are open to without and on the other side with the walls of a plurality of expansion-nozzles and conducting-channels within the crown of the second turbine-wheel which nozzles and channels are open to without, the remaining hollow circular plates being cast in one piece on both sides with the walls of two circular series of expansion-nozzles within the inner crowns of the turbine-wheels which nozzles are open to without, a plurality of annular plates covering the conducting-channels and the expansion-nozzles respectively in said plurality of hollow circular plates, the latter being arranged for the passage of the elastic fluid from one to the following section, a plurality of detachable cast pieces with conducting-channels fastened with screws on the one side of the first hollow circular plate without the crown of the first turbine-wheel, a plurality of concentric deep grooves in the other side of the first hollow circular plate and in each side of the remaining hollow circular plates, a plurality of concentric crowns of detachable conducting-scoops engaging in the spaces between the concentric crowns of scoops of the last turbine-wheel and fastened with their feet in the plurality of concentric deep grooves of said plurality of hollow circular plates, two labyrinthian tightening devices in the annular spaces between said shaft and said two covers, and a plurality of labyrinthian tightening devices in the annular spaces between said plurality of hollow circular plates and the naves of said plurality of turbine-wheels.

9. In an elastic-fluid turbine, the combination with a turbine-wheel provided on one side along its periphery with an annular groove of a trapezoid cross-section and an annular rib on the internal face of this groove, of a plurality of detachable scoops made from rolled, drawn or milled bars of a nearly rectangular cross-section and provided in their feet each with a cut, in which the rib in the groove of said turbine-wheel can engage, and an annular wedge for securing

the feet of said plurality of detachable scoops in the groove of said turbine-wheel.

10. In an elastic-fluid turbine, the combination with a turbine-wheel provided on both sides along its periphery with two annular grooves of a trapezoid cross-section and two annular ribs on the internal faces of these two grooves, of a plurality of detachable scoops made from rolled, drawn or milled bars of a nearly rectangular cross-section and provided in their feet each with a cut, in which the rib in either groove of said turbine-wheel can engage, and two annular wedges for securing the feet of said plurality of detachable scoops in the two grooves of said turbine-wheel.

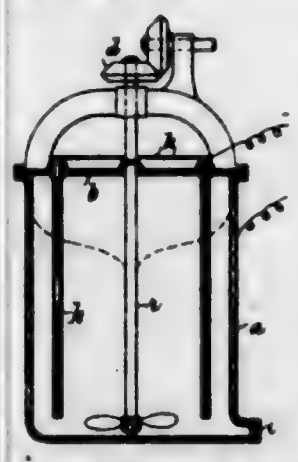
11. In an elastic-fluid turbine, the combination with a turbine-wheel provided on one side with a plurality of concentric grooves of a trapezoid cross-section and with an annular rib on the internal face of each of these grooves, of a plurality of detachable scoops made from rolled, drawn or milled bars of a nearly rectangular cross-section and provided in their feet each with a cut, in which the rib in either groove of said turbine-wheel can engage, and a plurality of annular wedges for securing the feet of said plurality of detachable scoops in the several grooves of said turbine-wheel.

12. In an elastic-fluid turbine, the combination with a turbine-wheel provided on both sides with a plurality of concentric grooves of a trapezoid cross-section and with an annular rib on the internal face of each of these grooves, of a plurality of detachable scoops made from rolled, drawn or milled bars of a nearly rectangular cross-section and provided in their feet each with a cut, in which the rib in either groove of said turbine-wheel can engage, and a plurality of annular wedges for securing the feet of said plurality of detachable scoops in the several grooves of said turbine-wheel.

13. In an elastic-fluid turbine, the combination with a turbine-wheel, provided on one side near its periphery with an annular groove and an annular rib in said groove, of a crown of detachable scoops provided in their feet each with a cut, and an annular wedge made in sections for securing the feet of said scoops in said grooves.

808,095. MANUFACTURE OF ORGANIC COMPOUNDS BY OXIDATION.

WALTHER LANG, Saalbke-on-the-Elbe, Germany. Filed Aug. 26, 1903. Serial No. 171,386.



Claim.—1. The process for the production of organic compounds obtainable by the oxidation of other organic substances, which consists in oxidizing manganous-oxid salts by electrolysis, so as to obtain manganic-oxid salts, and causing the latter to act on the organic substance to be oxidized, substantially as described.

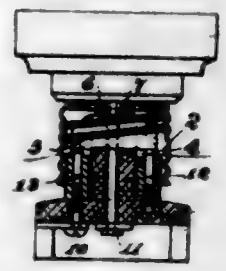
2. The process for the production of organic compounds obtainable by the oxidation of other organic substances, which consists in electrolyzing a mixture of manganous-oxid salt and an acid, so as to obtain a manganic-oxid salt, causing the latter to acton the organic substance to be oxidized, removing the product of oxidation, and reintroducing the residual manganous-salt and acid mixture into the electrolyzing process, so that a given quantity of manganese compound will serve to oxidize an indefinite quantity of organic substance, substantially as described.

3. The process for the production of an aldehyde by the oxidation of the corresponding hydrocarbon, which consists in oxidizing a manganous-oxid salt by electrolysis, so as to obtain the manganic-oxid salt, and causing the latter to act on the hydrocarbon, substantially as described.

4. The process for the production of an aldehyde by the oxidation of the corresponding hydrocarbon, which consists in electrolyzing a mixture of a manganous-oxid salt and an acid so as to obtain a manganic-oxid salt, causing the latter to act on the hydrocarbon, removing the aldehyde thus produced and reintroducing the residual manganous-salt and acid mixture into the electrolyzing process, for regenerating the manganic salt and treating with it a fresh quantity of hydrocarbon, substantially as described.

808,096. DETACHABLE ELECTRICAL CONNECTION.

AUGUSTINE N. LAWRENCE, Jr., New York, N. Y. Filed Oct. 3, 1903. Serial No. 175,627.



Claim.—1. In combination, a plug of insulating material adapted to enter a socket, and a spring member projecting beyond the outer surface of said plug and compressible toward the surface thereof and adapted to engage the inside of a socket and having helically-arranged contact-surfaces whereby the helically-arranged contact-surfaces may be rotated within a socket or longitudinally withdrawn therefrom and a central contact upon said member, the central contact forming one terminal and the contact-surfaces another terminal.

2. The combination with a socket having a threaded or helically-grooved inner surface constituting one pole, and a contact member at the bottom of said socket constituting the other pole, of a plug smaller than the threads on said socket whereby the same may be pushed directly into said socket, and a spring member carried by said plug and having helically-arranged contact-surfaces projecting beyond said smaller portion, and adapted to be compressed toward the plug when inserted in said socket, said spring member forming one pole of said plug, and a contact member at the top of said plug constituting the other pole of said plug and adapted to engage with the contact member located at the bottom of said socket.

3. In combination, a plain-faced plug of insulating material adapted to enter a socket, a spring-wire coiled around and projecting beyond the outer surface of said plug and below the top thereof and compressible toward the surface thereof, and adapted to engage the inside of a socket.

4. In combination, a plug of insulating material adapted to enter a socket, a spring-wire coiled around and projecting beyond the outer surface of said plug and below the top thereof and compressible toward the surface thereof, and adapted to engage the inside of a socket, the two ends of said wire being attached to said plug.

5. In combination, a plain-faced plug of insulating material adapted to enter a socket, and a spring-wire conductor having both ends connected with said plug, said spring being coiled around and slightly separated from the surface of said plug and compressible toward the surface thereof, and adapted to engage the inside of a socket.

6. In combination, a threaded socket, a plug of insulating material less in diameter than said socket, and means for holding said plug in place comprising a spring-wire coiled around and projecting beyond the outer surface of said smaller portion of said plug and compressible toward the same by engagement with the inside of said socket when inserted therein, said wire forming one pole of said plug.

7. An attachment-plug having a portion provided with terminals for the attachment of conducting-wires, a substantially cylindrical portion having on its end a contact-plate in electrical connection with one terminal, a resilient piece connected to the other terminal and formed to engage screw-threads, said piece normally projecting beyond the surface of said cylindrical portion of the plug, substantially as described.

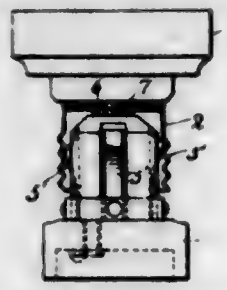
8. A socket-shell in combination with an attachment-plug of insulation having a diameter less than the socket-shell, a contact at one end of the plug, and a resilient contact member carried at the outer side of said plug and adapted to contact with the shell of the socket and means for electrically connecting conducting-wires to the specified contacts.

808,097. DETACHABLE ELECTRICAL CONNECTION.

AUGUSTINE N. LAWRENCE, Jr., Philadelphia, Pa. Filed Apr. 15, 1905. Serial No. 255,515.

Claim.—1. An attachment-plug, the same including a body of non-conducting material having a portion shaped to enter a socket, said portion being provided with a recess, a resilient piece of metal in said recess and normally projecting therefrom, said piece having a

portion formed to engage screw-threads, a central contact on said plug, a terminal connected to said contact, and a second terminal connected to said resilient piece, substantially as described.

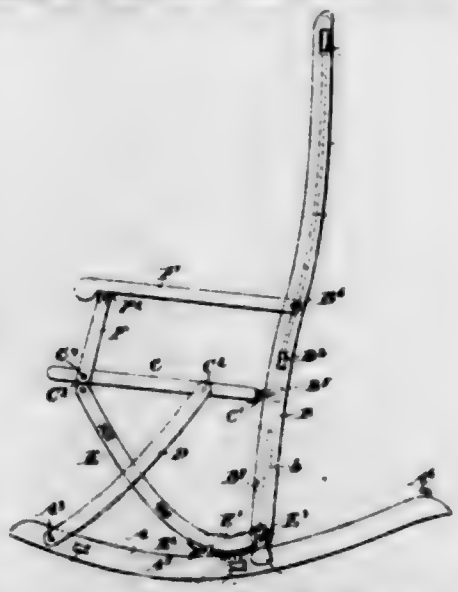


2. In combination with a screw-threaded socket-shell, an attachment-plug having a central contact, one or more spring-contact fingers and an insulating-body part carrying said contact-fingers, said body part being of less width than the shell, and said fingers resiliently mounted thereon and normally projecting beyond the body and adapted to yield toward said plug and allow the insertion of said plug and fingers into said shell.

3. In combination with a socket-shell, an attachment-plug having a central contact, one or more spring-contact fingers and a recessed insulating-body part adapted to receive the contact-fingers, said body part being of less width than the shell, and said fingers resiliently mounted thereon and normally projecting beyond the body and adapted to yield toward said plug and allow the insertion of said plug and fingers into the shell.

4. In combination with a screw-threaded socket-shell, an attachment-plug having a central contact, spring-contact fingers and a recessed insulating-body part adapted to receive the contact-fingers, said body part of less width than the shell, and said fingers resiliently mounted thereon and normally projecting beyond the body, said fingers having projections thereon so located on the contact-fingers of a plug as to lie in a helical path.

808,098. **ADJUSTABLE FOLDING CHAIR.** WARNER S. LEWIS, Wilmington, Del. Filed Feb. 8, 1905. Serial No. 244,685.



Claim.—1. In a folding chair, a pair of rockers, a back having side bars supported upon said rockers with liberty to move longitudinally thereof, said side bars having longitudinally-extending slots in their lower ends, a seat pivotally secured to said back, supports connecting said seat to said rockers, and engaged in said slots and means carried by said supports and adapted to engage said rockers for holding said side bars adjustably in position on said rockers and thereby varying the angle of said back relatively to said rockers when the chair is in the open condition.

2. In a folding chair, rockers connected by braces, a back having side bars the lower ends of which rest upon said rockers when the chair is in the open condition and are adapted to move longitudinally of said rockers, said side bars having longitudinally-extending slots in their lower ends a seat pivotally secured at the rear to said side bars, legs pivotally secured to said seat at the rear and to said rockers near the front, supports pivotally secured to said seat near the front and loosely engaged with said slots in the lower ends of said side bars, and notches in said supports adapted to adjustably engage said rockers, whereby the relative inclination of the back, seat, and rockers may be varied.

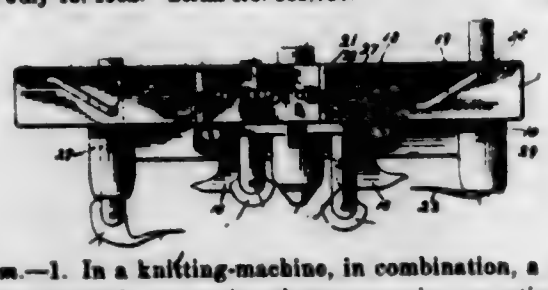
3. In a folding chair, rockers connected by braces, a back having side bars the lower ends of which rest upon said rockers when the chair is in the open condition and are adapted to move longitudinally of said rockers, means carried by said side bars and engaging said rockers to prevent lateral movement relatively thereto, a seat pivotally secured to said side bars, legs pivotally secured to said seat at the rear and to said rockers at the front, supports pivotally secured to said seat near the front and loosely engaged with the lower ends of said side bars, curved plates carried by said supports at their lower ends and having each a series of notches, dogs mounted on one of said rocker-braces and adapted to engage said notches, whereby the relative inclination of the back, seat and rockers may be varied.

4. In a folding chair, rockers connected by braces, a back having side bars the lower ends of which rest upon said rockers when the chair is in the open condition, adapted to move longitudinally of said rockers and having longitudinally-extending grooves on the inner faces of said lower ends, means carried by said side bars and engaging said rockers to prevent lateral movement relatively thereto, a seat pivotally secured to said side bars, legs pivotally secured to said seat at the rear and to said rockers near the front, supports pivotally secured to said seat near the front, curved plates carried by said supports at their lower ends and having each a series of notches, dogs carried on one of said rocker-braces and adapted to engage said notches, and a pin on each of said plates engaged in one of said grooves.

5. In a folding chair, rockers connected by braces, a back having side bars the lower ends of which rest upon said rockers and arranged to move longitudinally thereof, grooves in the inner faces of said lower ends, a seat pivotally secured to said side bars, arms pivotally secured to said side bars above said seat, struts pivoted to said seat and to said arms, legs pivotally secured to said seat at the rear and to said rockers near the front, supports pivotally secured to said seat near the front, curved plates carried by said supports at their lower ends and having each a series of notches, dogs carried by one of said rocker-braces and adapted to engage said notches, and a pin on each of said curved plates engaged in one of said grooves.

6. The folding chair described comprising rockers connected by braces, a back having side bars adapted to rest upon said rockers and arranged to move longitudinally thereof, grooves in the lower ends of said side bars, a seat pivotally secured to said side bars and adapted to fold approximately parallel with said back, arms pivotally secured to said side bars above said seat, struts from the latter to said arms, said arms and struts adapted to lie approximately parallel with said seat when said seat and back are folded, legs pivotally secured to said seat at the rear and to said rockers near the front, supports pivotally secured to said seat near the front, curved plates on the lower ends of said supports, notches in said curved plates, dogs on one of said rocker-braces adapted to engage said notches, pins in said curved plates engaged in said grooves, forwardly-projecting hooks near the rear ends of said rockers, and lugs on said side bars adapted to engage said hooks when the chair is folded by a forward and downward movement of the back to and upon said rockers, all the several chair members lying in the space inclosed between said back and rockers.

808,099. **KNITTING-MACHINE.** ELIAS LIPPITT, Chicago, Ill., assignor to George D. Whitcomb Company, a Corporation of Illinois. Filed July 15, 1902. Serial No. 115,737.



Claim.—1. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the yarn-carrier, a vertically-movable sinker on the yarn-carrier, and an operative connection between the driving member and the sinker.

2. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the yarn-carrier, a vertically-movable sinker mounted on the yarn-carrier, a horizontally-movable slide-bar operatively connected with the driving member and having an oblique cam-slot in engagement with the sinker.

3. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the yarn-carrier, a vertically-movable sinker mounted on the yarn-carrier, a horizontally-movable slide-bar having a pair of lugs extending into the path of the driving member, and an oblique cam-slot in engagement with the sinker.

4. In a knitting-machine, in combination, a yarn-carrier, a driv-

ing member engaging the yarn-carrier, a vertically-movable sinker mounted on the yarn-carrier, a horizontally-movable slide-bar operatively connected with the driving member and having an oblique cam-slot in engagement with the sinker, and vertically-adjustable bearings for the slide-bar.

5. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the yarn-carrier, a vertically-movable sinker mounted on the yarn-carrier and located on the median line thereof, and an operative connection between the driving member and the sinker.

6. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the yarn-carrier, a vertically-movable sinker mounted on the yarn-carrier and located on the median line thereof, a horizontally-movable slide-bar operatively connected with the driving member, and having an oblique cam-slot in engagement with the sinker.

7. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the yarn-carrier, a vertically-movable sinker mounted on the yarn-carrier and located on the median line thereof, a horizontally-movable slide-bar having a pair of lugs extending into the path of the driving member and an oblique cam-slot in engagement with the sinker.

8. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the yarn-carrier, a vertically-movable sinker mounted on the yarn-carrier and located on the median line thereof, a horizontally-movable slide-bar operatively connected with the driving member and having an oblique cam-slot in engagement with the sinker, and vertically-adjustable bearings for the slide-bar.

9. In a knitting-machine, in combination, a yarn-carrier, a sinker mounted on the carrier and in line with the yarn-tube thereof, such sinker comprising a shoe having a rounded advance edge and a backwardly-projecting finger.

10. In a knitting-machine, in combination, two sets of needles movable in intersecting paths, a yarn-carrier, and a latch-opener mounted on the carrier and on the median line of the throat of the machine and engaging needles of both sets in their flight.

11. In a knitting-machine, in combination, a yarn-carrier, and a sinker mounted thereon and having a needle-guiding finger.

12. In a knitting-machine, in combination, a yarn-carrier, a sinker mounted thereon and having a needle-guiding finger, and a latch-opener in line with the yarn-tube of the carrier.

13. In a knitting-machine, in combination, a yarn-carrier, a sinker mounted thereon and having a needle-guiding finger, and a latch-opener attached to the sinker and located above the guiding-finger.

14. In a knitting-machine, in combination, a yarn-carrier, a sinker mounted thereon and having a needle-guiding finger, and a latch-opener attached to the sinker and being in hook form, its point being above the guiding-finger.

15. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the same, a vertically-movable sinker having a needle-guiding finger, a latch-opener carried by the sinker, and operative connection between the driving member and the sinker.

16. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging abutments thereon which are spaced apart, a vertically-movable sinker mounted on the yarn-carrier and having a needle-guiding finger and a latch-opener, and a cam-bar operatively connected with the sinker and in engagement with the driving member intermediate of the abutments of the yarn-carrier.

17. In a knitting-machine, in combination, a pair of needle-beds spaced apart to form a throat, a yarn-carrier located over the throat, a driving member engaging adjustable abutments on the carrier on the median line of the throat, a sinker mounted on the carrier and having a definite range of vertical movement, and operative connection between the sinker and the driving member.

18. In a knitting-machine, in combination, a yarn-carrier, a driving member connected therewith, a vertically-movable sinker mounted on the carrier, a horizontally-sliding bar having an oblique cam-slot having its lower end prolonged horizontally and being in engagement with the sinker, and operative connection between the slide-bar and the driving member.

19. In a knitting-machine, in combination, a yarn-carrier, a driving member connected therewith, a vertically-movable sinker on the median line of the yarn-carrier, operative connection between the driving member and the sinker, and means for adjustably determining the downward limit of movement of the sinker.

20. In a knitting-machine, in combination, a yarn-carrier, a driving member connected therewith, a sliding cam-bar operatively connected with the driving member, vertically-adjustable bearings for the slide-bar, and a vertically-movable sinker located on the median line of the yarn-carrier and in engagement with the cam of the slide-bar.

21. In a knitting-machine, in combination, a yarn-carrier, a driving member connected therewith, a pair of vertically-movable sinkers at each side of the yarn-tube of the carrier and located on the median line of the latter, and means actuated by the driving member for moving the members of each pair of sinkers in opposite directions.

22. In a knitting-machine, in combination, a yarn-carrier, a driving member in engagement therewith, a slide-bar actuated by the driving member and having two oppositely-inclined cam-slots in each end, a pair of vertically-movable sinkers at each side of the yarn-tube of the carrier and located on the median line of the latter, each sinker being in engagement with one of the cam-slots.

23. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the carrier, a slide-bar reciprocated by the driving member and having an oblique cam-slot at each end, such slots being oppositely inclined, a vertically-reciprocating sinker at each end of the carrier and located on the median line of the latter and in engagement with the adjacent cam-slot of the slide-bar.

24. In a knitting-machine, in combination, a yarn-carrier, a vertically-movable sinker mounted on the yarn-carrier and located on the median line of the latter, and means for moving the sinker.

25. In a knitting-machine, in combination, a yarn-carrier, means for driving the yarn-carrier, a movable sinker mounted on the yarn-carrier and located on the median line of the latter, and operative connection between the driving means and the sinker.

26. In a knitting-machine, in combination, a yarn-carrier, a driving member engaging the yarn-carrier, a movable sinker mounted on the yarn-carrier and located on the median line of the latter, and a movable member actuated by the driving member and actuating the sinker.

27. In a knitting-machine, in combination, a pair of beds each having a set of reciprocating needles, a carrier reciprocating over the beds, needle-actuating cams mounted on the carrier, a pointed latch-opener mounted on the carriage and having its point located on the line of intersection of the paths of the needles of opposite banks, the latch-opener point being timed relatively as to the needle action so as to engage the needle-eyes as they cross its path.

28. In a knitting-machine having two banks of needles, a yarn-carrier, and a latch-opening point carried thereby and located on the line of intersection of the points of the two sets of needles and engaging needles of both sets in their flight.

29. In a knitting-machine, in combination, a yarn-carrier, a sinker depending from the yarn-carrier on the vertical median plane of the throat of the machine, and being located in advance of the yarn-tube and spaced apart therefrom so that the advancing needles may rise between such parts, said sinker having a backwardly-projecting finger at its lower end.

808,100. PROCESS OF MAKING CHLORIDS OF CARBON.

FLORENTINE J. MACHALSKE, Brooklyn, N. Y., assignor to Frederick Darlington, Great Barrington, Mass. Filed June 1, 1905. Serial No. 263,287.

Claim.—1. The process of producing a chlorid of carbon, which consists in subjecting a mixture of oxids, chlorids and carbon to heat and thereby forming oxychlorids of carbon, and subsequently decomposing said oxychlorids of carbon so as to obtain a chlorid of carbon, as set forth.

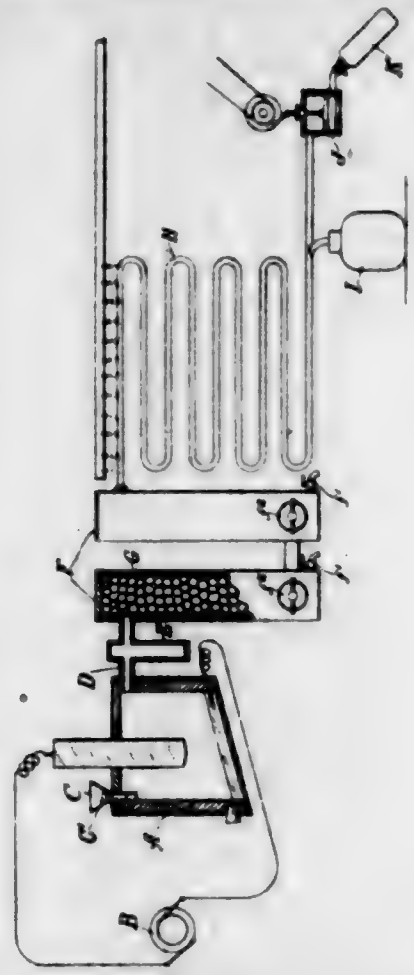
2. The process of producing a chlorid of carbon, which consists in producing a mixture of an oxid of an alkaline earth and a chlorid and carbon and subjecting the same to heat of a high temperature so as to produce oxychlorids of carbon and subsequently decomposing said oxychlorids of carbon into carbon tetrachlorid and carbon dioxid, as set forth.

3. The process of producing a chlorid of carbon, which consists in subjecting a charge of calcium oxid, calcium chlorid and carbon to heat sufficient to produce oxychlorids of carbon, and subsequently decomposing said oxychlorids of carbon into carbon tetrachlorid and carbon dioxid, as set forth.

4. The process of producing carbon tetrachlorid, which consists in forming a mixture of calcium oxid, calcium chlorid and carbon adapted to react and form oxychlorids of carbon and subjecting the admixture to heat of an electric furnace sufficient to effect such reaction and subsequently decomposing the oxychlorids of carbon into carbon tetrachlorid and carbon dioxid, as set forth.

5. The process of producing carbon tetrachlorid, which con-

sists in forming a mixture of calcium oxid, calcium chlorid and carbon adapted to react and form oxychlorids of carbon and subjecting the admixture to heat sufficient to effect such reaction and subsequently decomposing the oxychlorids of carbon into carbon tetrachlorid and carbon dioxid and condensing said carbon tetrachlorid, as set forth.



808,101. AUTOMATIC FIRE-EXTINGUISHER. HERMAN W. MARTIN, Ilion, N. Y. Filed Nov. 13, 1903. Serial No. 180,824.



Claim.—1. In an automatic fire-extinguisher, a water-pipe having a lateral opening, a hollow bushing inserted in said opening and provided with a passage leading to atmosphere, a hollow heat-conducting nipple having one end inserted in the bushing and its other end protruding therefrom, a fusible material securing the nipple to the bushing, and a body of paraffin or equivalent material in the inner end of the bushing between the nipple and the interior of the water-containing pipe and adapted to be blown out through the lateral passage by the water when the fusible material is melted.

2. In an automatic fire-extinguisher, a water-pipe having a lateral opening, a hollow bushing inserted in said opening and provided with a passage leading to atmosphere, a hollow heat-conducting nipple having one end inserted in the bushing and its other end protruding therefrom, a fusible material securing the nipple to the bushing, a shell or ring at the inner end of the lateral passage, a body of paraffin or equivalent material inclosed by said shell or ring and adapted to be blown out through said passage by the water when the fusible material is melted.

3. In an automatic fire-extinguisher, a water-pipe having a lateral opening, a hollow bushing inserted in said opening and provided with a passage leading to atmosphere, a stopper in the outer end of the bushing, a fusible detent securing the stopper to the bushing, a body of paraffin or equivalent material in the inner end of the bushing for separating the stopper from the water in the pipe and adapted to be blown out through said passage by the water when the fusible detent is destroyed.

4. In an automatic fire-extinguisher, the combination of a water-pipe having a lateral water-passage opening to atmosphere, a hollow nipple having one end in said passage and its other end projecting outwardly therefrom, a fusible detent securing said nipple in the passage, and a body of paraffin or equivalent material in said passage between the inner end of the nipple and interior of the water-pipe.

5. In an automatic fire-extinguisher, the combination of a tubular bushing, a body of paraffin or equivalent material in one end of the bushing, a retaining-ring for said body, a stopper in the other end of the bushing and a fusible detent securing said stopper to the bushing.

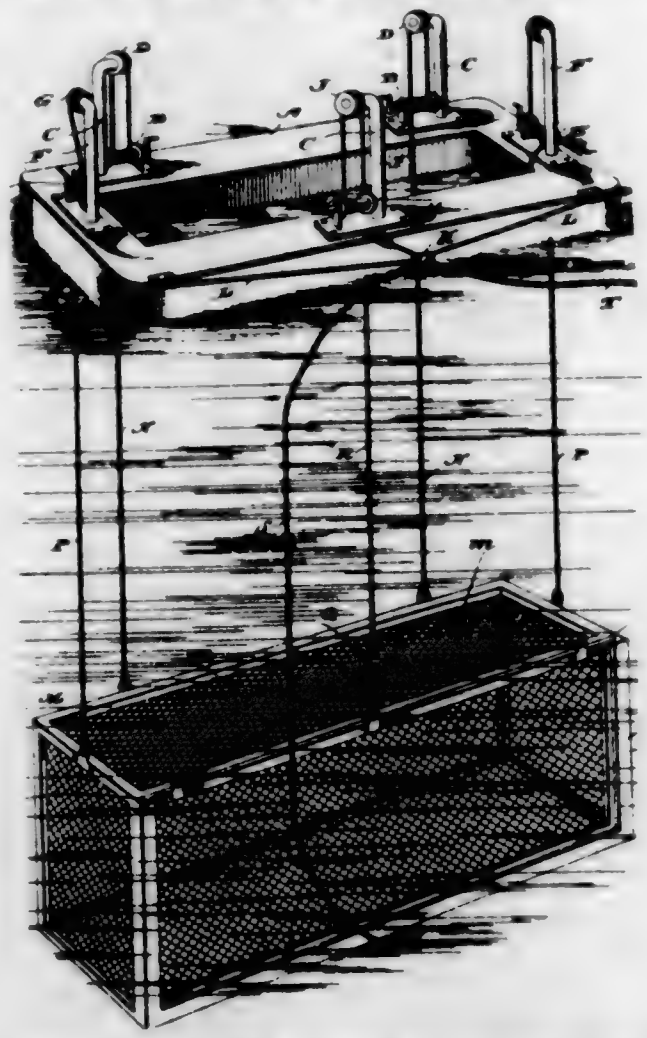
6. As an article of manufacture, a fire-extinguisher comprising a hollow tubular bushing, a hollow nipple in the outer end of the bushing and protruding therefrom, a fusible detent securing the nipple to the bushing, and a body of paraffin or equivalent material in the inner end of the bushing.

7. As an article of manufacture, a fire-extinguisher comprising a hollow tubular bushing, a hollow nipple in the other end of the bushing and protruding therefrom, a fusible detent securing the nipple to the bushing, and a body of paraffin or equivalent material in the inner end of the bushing, and a retaining-ring for said body.

8. As an article of manufacture, a fire-extinguisher comprising a hollow tubular bushing, a hollow nipple in the outer end of the bushing and protruding therefrom, a fusible detent securing the nipple to the bushing, a water-distributing plate across the outer end of the nipple, means to hold said plate in place, and a body of paraffin or equivalent material at the inner end of the nipple and within said bushing.

9. In an automatic fire-extinguisher, the combination of a bushing having a central passage therethrough, a body of paraffin or equivalent material in the inner end of said passage, a retaining-ring for said body, a hollow nipple in the outer end of the passage and a fusible detent holding said nipple in the passage, said parts being combined and united to form a unitary article of manufacture for the purpose described.

808,102. FISH-CATCHING APPARATUS. LOUIS P. MATTLE, New Orleans, La. Filed Sept. 9, 1905. Serial No. 277,705.



Claim.—1. A fish-catching apparatus comprising a float, a cage having an opening and a gate controlling said opening, cables connected to the body of the cage, a cable connected to the door of the cage, and means on the float for taking up and letting out the said cables.

2. A fish-catching apparatus comprising a float, a cage having an opening and a gate controlling said opening, cables connected to the body of the cage, a cable connected to the door of the cage, means

on the float for taking up and letting out the said cables, a ring connected to the front portion of the float and adapted for the connection of a tow-line, and a cable S intermediate the body of the cage and the said ring.

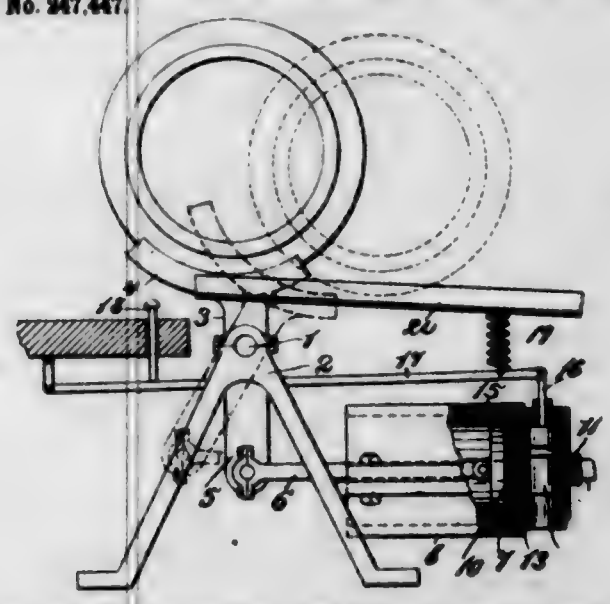
3. A fish-catching apparatus comprising a float having a central opening, a cage of a size to enter the opening in the float; said cage having an opening and a gate controlling said opening, cables connected to the body of the cage, a cable connected to the gate of the cage, and means on the float for taking up and letting out said cables.

4. A fish-catching apparatus comprising a float having a central opening, a cage of a size to enter the opening in the float; said cage having an opening and a gate controlling said opening, cables connected to the body of the cage, a cable connected to the gate of the cage, windlasses on the float for taking up and letting out said cables, a ring connected to the front portion of the float and adapted for the connection of a tow-line, and a cable intermediate the body of the cage and said ring.

808,103. **ART OF GALVANIZING METALS.** GUY L. MEAKER, Evanston, Ill., assignor to The American Steel and Wire Company of New Jersey. Filed June 18, 1902. Serial No. 112,170.

Claim.—The herein-described method of galvanizing metal, which consists in subjecting the metal to the action of an electric current in an electroplating apparatus in the presence of an electrolyte composed of a combined solution of zinc chlorid, zinc sulfate, and a small proportion of a vegetable acid.

808,104. **TILTING SUPPORT FOR CASKS.** HENRY G. MILLER and GEORGE R. LAWRENCE, Cleveland, Ohio. Filed Feb. 27, 1905. Serial No. 247,447.



Claim.—1. The combination with inclined ways along which a cask may roll, of a rocking support in which a cask may rest and at a level with the upper end of said ways and having its center of gravity in a plane to one side of the vertical plane of its fulcrum, a single-acting fluid-pressure cylinder, a piston in the same and connected to the support to rock the same, and means for admitting and exhausting motive fluid into and out of the cylinder.

2. The combination with inclined ways along which a cask may roll, of a rocking support consisting of a rock-shaft having two upwardly-projecting arms formed with segmentally-curved cross-heads at their upper ends and said cross-heads having the lowermost point of their curve in a plane to the rear of the vertical plane of the rock-shaft, an arm projecting from the rock-shaft, a fluid-pressure cylinder, a piston in the same, a pitman pivoted to the piston and to the arm, a valve for controlling inlet and exhaust into and out of the cylinder, and a treadle connected to actuate said valve.

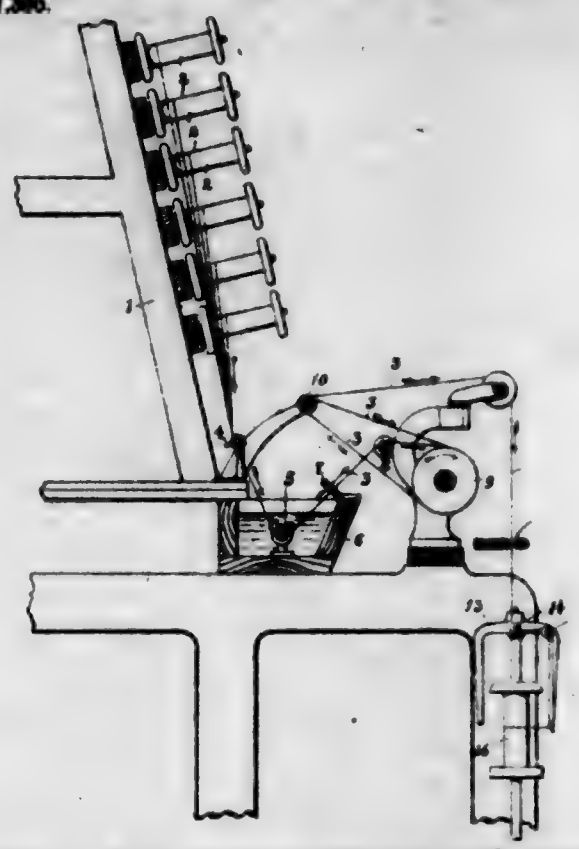
808,105 **DENTIFRICE.** GEORGE W. MORSE, Jersey City, N. J., assignor to Clarion Chemical Company, New York, N. Y., a Corporation of New York. Filed May 15, 1905. Serial No. 261,093.

Claim.—1. A dentifrice comprising the combination powder barium-hydrogen-orthophosphate and barium dioxid, with a suitable abrasive material, substantially as described.

2. A dentifrice comprising the combination powder barium-hydrogen-orthophosphate and barium dioxid, a suitable abrasive material and a saponaceous material, substantially as described.

3. A dentifrice comprising about seventeen per cent. of the combination powder barium-hydrogen-orthophosphate and barium dioxid, about seventy-five per cent. of precipitated chalk and eight per cent. of castile-soap, substantially as described.

808,106. **TWISTING AND WINDING MECHANISM.** CHARLES H. MCCALL, Banbridge, Ireland. Filed Apr. 25, 1905. Serial No. 257,395.



Claim.—1. In an organized twisting and winding machine, a plurality of thread supplies, a separating and deflecting guide 4 for the thread, a submerged deflecting-guide 5 about which the threads pass untwisted; an assembling-eye 7 in line with another deflecting-guide 8; a deflecting-guide 8; a driven feeding-wheel 9 and another deflecting-guide 10 about both of which the strand is twice led; a deflecting-pulley 11 nearly in line with the axis of the flier; a thread-plate 12 intermediate the pulley 11 and the flier 13; and two deflecting-pulleys 14 15 on the flier 13; all arranged in the order specified, substantially as described.

2. In an organized twisting and winding machine, a plurality of thread supplies; a separating and deflecting guide for the threads; a submerged deflecting-guide, an assembling-eye, a deflecting-guide adapted to be engaged by a strand before passing about a feeding-wheel; a feeding-wheel; a tension-guide about which and the feeding-wheel the strand passes a plurality of times; a pulley substantially in line with the axis of a flier; a thread-plate in line with and intermediate the pulley and the flier; and a flier, substantially as described.

3. In an organized twisting and winding machine, a plurality of thread supplies; a separating-guide; an assembling-eye; a feeding-wheel; a plurality of deflecting-guides, about which and the feeding-wheel the strand is led; a flier; a deflecting-guide substantially in line with the axis of the flier, and an intermediate thread-plate, substantially as described.

4. In an organized twisting and winding machine, a plurality of thread supplies, a separating-guide; a submerged deflecting-guide; an assembling-eye; a feeding-wheel; a plurality of deflecting-guides about which and the feeding-wheel the strand is led; a deflecting-pulley substantially in line with the axis of the flier; a thread-plate in line with and intermediate the pulley and the flier; and a flier, substantially as described.

5. In an organized twisting and winding machine, a plurality of thread supplies, a separating-guide; a submerged deflecting-guide; an assembling-eye; a feeding-wheel; a deflecting-guide intermediate the wheel and the eye; a flier; a deflecting-pulley substantially in line with the axis of the flier; a deflecting-guide intermediate the feeding-wheel and the pulley; a thread-plate intermediate the pulley and the flier, substantially as described.

808,107. **MAGAZINE-GUN.** ELMER A. MCKEEN, Boston, Mass. Filed Sept. 26, 1902. Serial No. 174,861.

Claim.—1. In a magazine-gun, a receiver, a magazine-opening directly into said receiver and shaped to receive cartridges end to end, a barrel slidably mounted in the receiver and movable manually in both directions to cover and uncover the mouth of the magazine, said mouth being so situated with reference to the path of movement of the rear end of the barrel that the foremost cartridge in the magazine is picked up directly therefrom by said barrel during its backward movement, manually-controlled means to lock the gun while the cartridge is fired and means operated independently from the movement of the barrel to fire said cartridge.



2. In a magazine-gun, a receiver having an opening for the discharge of shells, a barrel slidably mounted in the receiver and movable manually in both directions, a magazine opening directly into the receiver shaped to receive cartridges arranged end to end and having an angular relation to the barrel, means in the magazine to feed cartridges forward therefrom into the receiver, manually-controlled means to lock the barrel for movement while the gun is being fired, and means to extract and eject the shell during the forward manual movement of the barrel, the mouth of the magazine being so situated with reference to the path of movement of the rear end of the barrel that the foremost cartridge in the magazine is picked up directly therefrom by said barrel during its backward movement.

3. In a magazine-gun, a receiver having an opening for the discharge of shells, a magazine opening directly into the receiver, a barrel slidably mounted in the receiver and manually movable exclusively to cover and uncover both the mouth of the magazine and said opening, means to lock the barrel from movement while the gun is being fired, an extractor-catch, and a spring-pressed ejector-pin, the mouth of the magazine being so situated that the foremost cartridge in the magazine is picked up directly from the magazine by said barrel during its backward movement.

4. In a magazine-gun, a receiver, a magazine communicating therewith, a restraining device to engage cartridges about to be fed into the receiver, a shell-ejector, and means whereby the restraining device is released by the movement of the ejector.

5. In a gun, a barrel, a magazine, means to feed cartridges from the magazine to the barrel, a restraining device to hold all the cartridges against movement except the one being fed into the barrel while said cartridge is thus being fed, and means adapted to be operated by the cartridge as it is placed in position to be fired to render said restraining device inactive.

6. A receiver, a barrel movable relatively thereto, a magazine, means to feed cartridges from the magazine to the receiver, a restraining device to engage the foremost cartridge in the magazine, and automatic means to release the restraining device when the cartridge in the receiver is in position to be fired.

7. In a magazine-gun, a barrel, a magazine, means to feed cartridges singly to the barrel, said means including a restraining device to restrain the movement of all cartridges except the one entering the barrel, a shell-ejector, and connections between said ejector and restraining device whereby the latter is released by the backward movement of the former.

8. In a magazine-gun, a receiver, a barrel slidably mounted therein, a magazine, means to feed cartridges singly from the magazine to the barrel, said means including a restraining device to restrain the movement of all cartridges except the one entering the barrel, a shell-ejector, and means to move the restraining device into inoperative position by the backward movement of the ejector.

9. In a magazine-gun, a barrel, a magazine, means to feed cartridges singly to the barrel, said means including a restraining-catch to engage the foremost cartridge in the magazine, a shell-ejector, and connections between said ejector and catch and means to release the catch as it is moved by the ejector whereby the latter is released by the former.

10. In a magazine-gun, a barrel, a magazine, a shell-ejector pin means to feed cartridges singly to the barrel, said means including a restraining-catch carried by said pin and adapted to engage the foremost cartridge in the magazine, and means whereby the movement of the ejector-pin into preparatory position for ejecting the shell releases the restraining-catch.

11. In a magazine-gun, a barrel, a magazine, means to feed cartridges to the barrel, an ejector-pin, a restraining-catch carried thereby and adapted to engage the cartridges as they are fed forward, and a cam on which said catch rests whereby movement of the pin into preparatory position for ejecting the shell causes the nose of the catch to ride up the cam and thus releases said catch from the cartridge.

12. In a magazine-gun, a barrel, a tubular magazine, means to feed cartridges from the magazine to the barrel, an ejector-pin, a restraining-catch carried thereby and projecting through the walls of the magazine, said restraining device having a nose resting on an inclined surface of said wall, whereby movement of the ejector-pin into position for ejecting the shell removes the catch from the path of the cartridges.

13. In a gun, a receiver having a portion constituting a breech, a barrel slidably mounted in said receiver and manually movable toward and from the breech, means to lock the barrel to the receiver while the gun is being fired, a tubular magazine communicating with the receiver and constructed to receive cartridges arranged end to end, and means within said magazine to feed cartridges into the receiver from the magazine at an angle to the direction of movement of the barrel whereby the foremost cartridge is picked up by the barrel during the movement of the latter toward the breech.

14. In a gun, a receiver having a portion constituting a breech, a barrel slidably mounted in the receiver and movable manually toward and from the breech, means to lock the barrel to the receiver while the gun is being fired, a tubular magazine communicating with said receiver and having its mouth so located that the foremost cartridge in the magazine is picked up directly by the barrel as the latter is moved toward the breech, and a restraining device to restrain the movement of all the cartridges in the magazine except that in the barrel.

15. In a gun, a receiver having a portion constituting a breech, a barrel slidably mounted therein, means to withdraw the shell from the barrel as the latter is moved away from the breech, an ejector-pin engaging the shell, and means to vary the resistance to the forward movement of the barrel

16. In a gun, a receiver having a portion constituting a breech, a barrel slidably mounted in said receiver, means to withdraw the shell from the barrel as the latter is moved away from the breech, an ejector-pin engaging the shell, and means to resist the movement of the barrel, said means exerting a greater resistance during the latter part of said movement.

17. In a gun, a receiver, a barrel slidably mounted therein, a catch to engage the shell and withdraw the latter from the barrel as it moves outwardly, an ejector-pin also engaging the shell, a cam-surface movable with the barrel, and a spring-pressed lever engaging said cam-surface, the latter having a rise intermediate of its ends.

18. In a gun, a receiver, a barrel slidably mounted therein, a shell-engaging catch to withdraw the shells from the barrel as the

latter moves outwardly, an ejector-pin to engage the shell, a locking member rigid with the barrel and movable into and out of the receiver, said locking member having a cam-surface provided with a rise, and a spring-pressed lever carried by the receiver and engaging said surface, whereby as the lever passes over the rise the resistance to the movement of the barrel varies.

19. In a gun, a receiver, a barrel slidably mounted therein, a catch carried by the receiver and adapted to engage and retain the shell as the barrel moves outwardly, an ejector-pin, a hammer, a locking member rigid with the barrel and movable into and out of the receiver, said locking member having a cam-surface provided with a rise intermediate of its ends, and a spring-pressed cocking-lever engaging said surface, whereby as the barrel moves outwardly to open the receiver the hammer is cocked and the resistance to the movement of the barrel varies.

20. In a magazine-gun, a receiver having a breech, a barrel slidably mounted in said receiver, and adapted to be manually moved both toward and from the breech, said barrel being capable of a slight turning movement in the receiver to lock it to said receiver, means to hold the barrel from turning movement while the gun is fired and a magazine communicating directly with the receiver.

21. In a magazine-gun, a receiver having a breech, a barrel slidably mounted in said receiver and movable manually both toward and from the breech, said barrel having a slight turning movement on its axis, and said barrel and receiver each having rigid therewith shoulders which are brought into or carried out of engagement by the turning movement of the barrel, means to hold said barrel from turning movement when the gun is fired and a magazine communicating directly with the receiver.

22. In a gun, a receiver, a barrel movable longitudinally thereof and capable of having a slight turning movement on its axis and a locking member beneath the barrel and rigid therewith, said member and receiver each having locking-shoulders which are brought into locking engagement by the turning movement of the barrel.

23. In a gun, a receiver, a barrel movable longitudinally thereof and capable of having a slight turning movement on its axis, and a longitudinal locking member beneath the barrel, said member and receiver each having locking-shoulders which are brought into locking engagement by the turning movement of the barrel, and means to hold the shoulders in or out of engagement.

24. In a gun, a receiver, a barrel movable longitudinally thereof and capable of having a slight turning movement on its axis, a locking member rigid with the barrel, said member and receiver each having locking-shoulders which are brought into locking engagement by the turning movement of the barrel, a locking-lever pivoted to the receiver and engaging the locking member, and means to hold the locking-lever and thereby the locking member in either of its two positions.

25. In a gun, a receiver, a barrel slidably mounted therein and capable of turning about its axis, and trigger-locking means operated by the turning movement of the barrel.

26. In a gun, a receiver, a barrel slidably mounted therein for manual movement in both directions and capable of turning slightly with reference to the receiver, means whereby the turning movement of the barrel in one direction both locks the latter to the receiver and also unlocks the trigger, and means to prevent the barrel from being turned when the cartridge is fired.

27. In a gun, a receiver, a barrel movable longitudinally thereof and capable of having a slight turning movement on its axis, a locking member rigid with the barrel, said locking member and receiver each having shoulders which are bought into engagement by the turning movement of the barrel, means to prevent the barrel from turning when the gun is fired, a trigger, and means whereby the manual turning movement of the barrel to unlock the latter locks the trigger.

28. In a gun, a receiver, a barrel slidably mounted therein and capable of a slight turning movement on its axis, means to prevent turning movement of the barrel as the gun is fired, a trigger, and means whereby the turning movement of the barrel in one direction both unlocks the latter from the receiver and also locks the trigger.

29. In a gun, a receiver, a barrel slidably mounted therein and capable of turning slightly with reference thereto, means to prevent turning movement of the barrel when the gun is fired, a trigger, and means whereby the turning movement of the barrel in one direction both locks the latter to the receiver and also unlocks the trigger, and the turning of said barrel in the opposite direction unlocks the barrel from the receiver and locks the trigger.

30. In a gun, a receiver, a barrel slidably mounted therein and capable of having a slight turning movement on its axis, a locking member rigid with the barrel and adapted to interlock with a member rigid with the receiver as the barrel is turned, means to prevent the barrel from turning movement as the gun is fired, a trigger, and trigger-locking devices also operated by the turning movement of the barrel.

31. In a gun, a receiver, a barrel slidably mounted therein and capable of having a slight turning movement on its axis, a locking member rigid with the barrel and adapted to interlock with the receiver as the barrel is turned, a trigger, a lock for the trigger, and connections between said latter lock and the locking member whereby the trigger is locked when the barrel is unlocked and vice versa.

32. In a gun, a receiver, a barrel slidably mounted therein and capable of having a slight turning movement on its axis, a locking member rigid with the barrel and adapted to interlock with the receiver upon the turning movement of the barrel, a trigger, a trigger-locking lever pivoted to the receiver and engaging said locking member, whereby as the barrel is unlocked the trigger is locked.

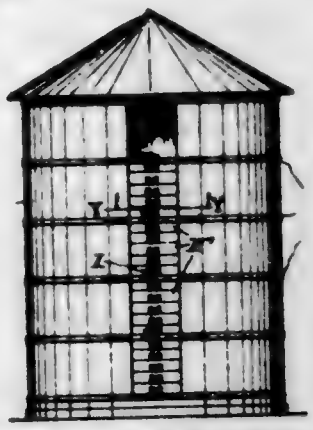
33. In a gun, a receiver, a barrel slidably mounted therein, barrel-locking devices, a trigger, and connections between said trigger and barrel-locking devices whereby the barrel is locked when the trigger is operated.

34. In a breech-loading gun, a receiver, a barrel slidable therein and turnable on its axis to lock and unlock it, and trigger-controlled means to prevent the barrel from turning when the trigger is operated to fire the gun.

35. In a gun, a receiver, a removable barrel slidably mounted therein, a locking member rigid with the barrel and having opposed shoulders, a locking-pin to engage the shoulders of said locking member and thereby limit the movement of the barrel.

36. In a gun, a receiver, a removable barrel slidably mounted therein, a locking member rigid with the barrel and having opposed shoulders, a removable locking-pin carried by the receiver and when in position adapted to engage said shoulders.

808,108. DOOR CONSTRUCTION FOR STORAGE-RECEPTACLES. ARTHUR D. MCMAHAN, Centerville, Ind. Filed Apr. 27, 1905. Serial No. 257,786.



Claim.—1. A storage-receptacle having, in combination, a casing provided with a doorway having vertical guideways at opposite sides thereof, a continuous sliding door working in said guideways and composed of a plurality of superimposed sections or panels adapted to be raised singly or in groups, said sections when all down leaving an opening at the top of said doorway, straps disposed at intervals across the doorway, and supporting devices mounted on said straps adapted to engage and hold the sections adjacent to the straps, whereby each supporting device can support a section brought into apposition therewith together with the sections above it, substantialy as described.

2. A storage-receptacle having, in combination, a casing provided with a doorway having vertical guideways at opposite sides thereof, a continuous sliding door workng in said guideways and composed of a plurality of superimposed sections or panels adapted to be raised singly or in groups, said sections when all down leaving an opening at the top of said doorway, said sections having recesses in their front faces, and supporting-arms pivoted on said straps to turn horizontally and each adapted to engage in a recess of a section brought into apposition with the respective strap, substantially as described.

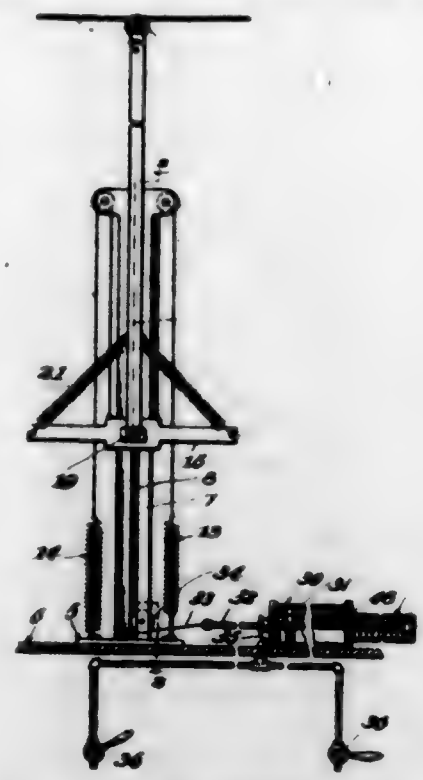
3. A storage-receptacle having, in combination, a casing provided with a doorway having vertical guideways at opposite sides thereof, a continuous sliding door working in said guideways and composed of a plurality of superimposed sections or panels adapted to be raised singly or in groups, said sections when all down leaving an opening at the top of said doorway, said sections having recesses

in their front faces and bearing-plates in the upper sides of said recesses with forwardly-projecting apertured lugs or tongues, supporting-arms pivoted on said straps to turn horizontally and each adapted to engage in a recess of a section brought into apposition therewith, said arms having apertures adapted to register with the apertures of the respective bearing-plates, and locking-pins carried by said arms adapted to be inserted through said registering apertures.

4. A storage-receptacle having, in combination, a casing provided with a doorway having vertical guideways at opposite sides thereof, a continuous sliding door working in said guideways and composed of a plurality of superimposed sections or panels adapted to be raised singly or in groups, said sections when all down leaving an opening at the top of said doorway, and devices fixed at intervals along the doorway adapted to engage and hold sections of the door brought into apposition therewith.

5. In combination with a door composed of superimposed sections adapted to slide up and down, said sections having recesses therein and bearing-plates in the upper sides of said recesses, a pair of straps disposed across the doorway, a top plate and bottom plate embracing said straps and clamped thereto, and a supporting-arm pivoted on the top plate and adapted to engage in the recess of a section brought into apposition therewith.

808,109. TROLLEY-POLE. JAMES F OSBURN and WILLIAM T. COAD, Pasadena, Cal. Filed June 21, 1905. Serial No. 266,340.



Claim.—1. A trolley-pole comprising a base; a guide-shaft mounted therein; rollers mounted in the top of said guide-shaft; an equipoise-frame slidable upon said guide-shaft; springs secured to the base; chains secured to said springs and passing over the rollers in the guide-shaft and secured to said equipoise-frame; a trolley-harp having depending arms, said arms being pivotally secured to said equipoise-frame; and springs secured to said equipoise-frame and to the arms of said harp.

2. A trolley-pole comprising a base; a guide-shaft having a longitudinal slot therein secured to said base; rollers mounted in the top of said guide-shaft; an equipoise-frame slidable upon said guide-shaft; springs secured to the base; chains secured to said springs and passing over the rollers in the guide-shaft and secured to said equipoise-frame; a trolley-harp having depending arms, said arms being pivotally secured to said equipoise-frame; and springs secured to said equipoise-frame and to the arms of said harp.

3. A trolley-pole comprising a base; a slotted guide-shaft secured thereto; rollers mounted in the top of said guide-shaft; an equipoise-frame slidable upon said guide-shaft; springs secured to the base; chains secured to said springs and passing over the rollers in the guide-shaft and secured to said equipoise-frame; a trolley-harp having depending arms; a bolt passing through said arms, said equipoise and guide-shaft and securing the same together; springs secured to said equipoise-frame and to the arms of said harps; a trolley-wheel mounted in said harp; guide-rollers tapering toward said trolley-wheel mounted in said harp on each side thereof.

4. A trolley-pole comprising a base; a guide-shaft mounted thereon; rollers mounted in the top of said guide-shaft; an equipoise-frame slidable upon said guide-shaft; springs secured to the base; chains secured to said spring and passing over the rollers in the guide-shaft and secured to said equipoise-frame; a trolley-harp having depending arms, said arms being pivotally secured to said equipoise-frame; springs secured to said equipoise-frame and to the arms of said harp; an air-cylinder; a piston therein; a stem secured to said piston; a connection between said stem and said equipoise-frame; a pipe connecting said air-cylinder with an air-supply; and a controlling-cock on said air-pipe.

5. A trolley-pole comprising a base; a guide-shaft having a longitudinal slot therein secured to said base; rollers mounted in the top of said guide-shaft; an equipoise-frame slidable upon said guide-shaft; springs secured to the base; chains secured to said spring; and passing over the rollers in the guide-shaft and secured to said equipoise-frame; a trolley-harp having depending arms, said arms being pivotally secured to said equipoise-frame; springs secured to said equipoise-frame and to the arms of said harp; an air-cylinder a piston therein; a stem secured to the forward end of said piston; a connection between said stem and said equipoise-frame; a stem secured to the rear end of said piston and projecting through the rear end of said cylinder; a nut on the end of said last stem; a spring on said stem intermediate said nut and cylinder; a pipe connecting the front end of said air-cylinder with an air-supply; and a controlling-cock on said air-pipe.

808,110. CLOSURE FOR MOUTHS OF BAGS. TRUMAN G. PALMER, Chicago, Ill. Filed June 20, 1905. Serial No. 266,150.



Claim.—1. A closure for the mouths of bags for granular and pulverulent material, comprising a protecting-facing formed by the inturned edges of the bag-mouth, said edges constituting a loose flap between the seam at the mouth and the material contained in the bag, and underlying the fabric at the top of the bag throughout a considerable area.

2. A closure for the mouths of bags for granular and pulverulent material, comprising a protecting-facing formed by the inturned edges of the bag-mouth and held in position by means of stitches passing through the central meeting portions of the facing, so as to leave the outlying portions of the facing unattached and free to move, and to underlie the fabric at the top of the bag throughout a considerable area.

3. A closure for the mouths of bags for granular and pulverulent material, comprising a seam, the stitches of which pass over the closed portions of the mouth and through the bag on each side thereof, the edges of the mouth being turned inward and extending beyond the stitches to form a loose flap between the seam at the mouth and the material contained in the bag, and underlying the fabric at the top of the bag throughout a considerable area.

4. A closure for the mouths of bags for granular and pulverulent material, comprising the inturned edges of the bag-mouth, a fold formed by the rolled-over upper portion of the bag, and a seam, the stitches of which pass around the fold and through the four plies of the bag, said inturned edges of the bag-mouth constituting an outwardly-extending loose flap between the fold and the material contained in the bag.

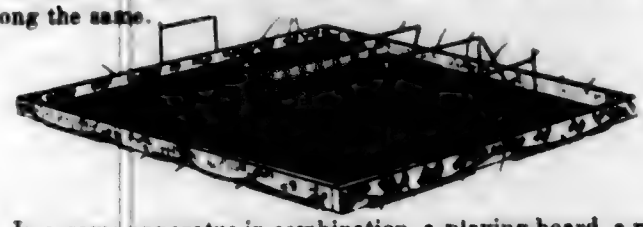
5. A closure for the mouths of bags for granular and pulverulent material, comprising a protecting-facing formed by the inturned edges of the bag-mouth which underlie the mouth-closing seam, said facing being free at its outer edges to permit it to move with respect to the other portions of the bag fabric, and to underlie the fabric at the top of the bag throughout a considerable area.

6. A bag for granular and pulverulent material, having the edges of its mouth turned inward to form a flap within the bag, to underlie the fabric at the top of the bag throughout a considerable area.

7. A bag for granular and pulverulent material, having the edges of its mouth turned inward to form a flap with loose unattached outlying portions within the bag underlying the fabric at the top of the bag throughout a considerable area.

808,111. GAME APPARATUS. JOHN L. E. PELL, Great Barrington, Mass. Filed Jan. 12, 1905. Serial No. 240,676.

Claim.—1. In a game apparatus in combination, a playing-board, a pair of substantially parallel supports extending transversely of said board above the same and adapted to be moved over said board in a direction transverse to their length, each of said supports having depending therefrom a plurality of play-pieces, and one or more separate play-pieces adapted to rest on said board and be slid along the same.



2. In a game apparatus in combination, a playing-board, a pair of substantially parallel supports extending transversely of said board above the same and adapted to be moved over said board in a direction transverse to their length, each of said supports having depending therefrom a plurality of play-pieces slidable on said support, and one or more separate play-pieces adapted to rest on said board and be slid along the same.

3. In a game apparatus in combination, a playing-board, a pair of substantially parallel supports extending transversely of said board above the same and adapted to be moved over said board in a direction transverse to their length, each of said supports having swinging below the same a plurality of play-pieces, and one or more separate play-pieces adapted to rest on said board and be slid along the same.

4. In a game apparatus in combination, a playing-board, a pair of substantially parallel supports extending transversely of said board above the same and adapted to be moved over said board in a direction transverse to their length, each of said supports having depending therefrom a plurality of play-pieces, some of said pieces being formed of sections pivoted together, and one or more separate play-pieces adapted to rest on said board and be slid along the same.

5. In a game apparatus in combination, a playing-board, a pair of substantially parallel supports extending transversely of said board above the same and adapted to be moved over said board in a direction transverse to their length, each of said supports having depending therefrom a plurality of play-pieces, and one or more separate play-pieces adapted to rest on said board and be slid along the same, each of said separate pieces having a broad base.

6. In a game apparatus in combination, a playing-board marked with parallel transverse lines, a pair of substantially parallel supports extending transversely of said board above the same and adapted to be moved over said board in a direction transverse to their length, each of said supports having depending therefrom a plurality of play-pieces, and one or more separate play-pieces adapted to rest on said board and be slid along the same.

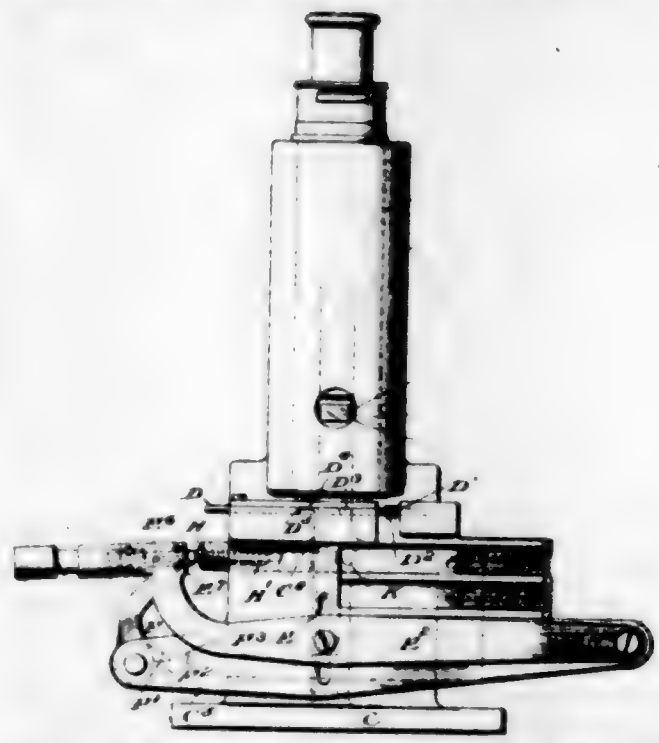
7. In a game apparatus in combination, a playing-board, a pair of substantially parallel supports extending transversely of said board above the same and adapted to be moved over said board in a direction transverse to their length, each of said supports having depending therefrom a plurality of play-pieces, and one or more separate play-pieces adapted to rest on said board and be slid along the same, and a "ball" adapted to be attached to and carried by said separate piece.

8. In a game apparatus in combination, a playing-board marked with parallel transverse lines, a pair of substantially parallel wires extending transversely of said board above the same and adapted to be slid over said board in a direction transverse to their length, each of said wires having swinging below the same seven play-pieces slidable lengthwise on said support, each of said pieces being formed of sections pivoted together, and eight separate play-pieces adapted to rest on said board and be slid along the same and each having a broad base, and a "ball" adapted to be attached to and carried by at least two of said separate pieces.

9. In a game apparatus in combination, a playing-board, two sets of eleven men each, the men of each set having a common visual characteristic different from the men of the other set, whereby said sets may be distinguished, a plurality of men of each of said sets being shorter than the rest of said men and provided with a broad base whereby said men may be snapped forward by the fingers of the player and slide along said board without easily upsetting.

10. In a game apparatus in combination, a playing-board, a plurality of substantially parallel supports extending over said board above the same and adapted to be moved over said board in a direction transverse to their length, play-pieces depending therefrom, and one or more separate play-pieces adapted to rest on said board and be slid along the same.

808,112. **STANDARDIZING OR MEASURING MACHINE FOR MATRICES.** FRANK H. PIERPONT, Horley, England, assignor to Lanston Monotype Machine Company, New York, N. Y., a Corporation of Virginia. Filed Apr. 29, 1903. Serial No. 154,876.



Claim.—1. In a matrix-standardizing machine, the combination with a magnifying apparatus and a matrix-carrier relatively movable in a plane parallel with the optical axis of said magnifying apparatus, of a gage for positively positioning the matrix and operating to expose successive sections thereof in true focal relation to the objective of the magnifying apparatus; substantially as described.

2. In a matrix-standardizing machine, the combination with a magnifying apparatus provided with a fixed objective of a matrix-carrier and a gage provided with a plurality of gaging-surfaces for positively positioning the matrix in either of two positions relative to the focal plane of the objective; substantially as described.

3. In a matrix-standardizing machine, the combination with a magnifying apparatus provided with a fixed objective and a vertical illuminator, of a matrix-carrier movable toward the objective and a gage for positively and successively locating different sections or faces of the matrix in the focal plane of the objective; substantially as described.

4. In a standardizing-machine for matrices the combination of the following elements, to wit, a magnifying apparatus provided with a vertical illuminator and a standard pattern or scale; means for guiding the matrix in the plane of the optical axis; a matrix-carrier; and a gaging device adapted to positively arrest the matrix in either of two predetermined positions, to successively expose its end surface and the surface of the character in the focal plane of the magnifying apparatus; substantially as described.

5. In a standardizing-machine for matrices the combination of the following elements, to wit; a magnifying apparatus provided with a fixed objective and a standard pattern or scale; guiding devices for maintaining the matrix in line and confining its motion to one parallel with the optical axis of the objective; and a duplex gage operating to positively arrest the matrix in either of two positions, to successively present successive surfaces in the focal plane of the objective; substantially as described.

6. In a standardizing-machine for matrices, the combination of the following elements, to wit; a magnifying apparatus provided with a fixed objective and a vertical illuminator; a matrix-guide; and a gage-plate movable transversely of the matrix-guide and provided with two gaging-surfaces, the one for positioning the end surface of the matrix at the focus of the objective and the other for similarly positioning the bottom surface of the matrix-cavity.

7. In a standardizing-machine for matrices the combination of the following elements, to wit; a magnifying apparatus with fixed objective and vertical illuminator; a matrix-guide parallel with the optical axis of the magnifying apparatus; and a gage-plate movable laterally of said guide and provided with graded engaging surfaces for positioning the matrix.

8. In a standardizing-machine for matrices, the combination of the following elements, to wit; a magnifying apparatus with fixed objective and vertical illuminator; a matrix-guide opposite the objective and parallel with the optical axis thereof; an apertured gage-

plate provided with stepped engaging surfaces and movable transversely of the matrix-guide.

9. In a standardizing-machine, for matrices, the combination of the following elements, to wit; a magnifying apparatus with fixed objective and vertical illuminator; a matrix-guide; an apertured gage-plate provided with two gaging-surfaces located in different planes and movable transversely of the matrix-guide; and a matrix-carrier for shifting the matrix in its guide with reference to the gage.

10. In a standardizing-machine for matrices, the combination of the following elements, to wit; a magnifying apparatus; a matrix-carrier provided with means for retaining the matrix; a feeding-galley and an ejector.

11. In a standardizing-machine for matrices, the combination of the following elements, to wit; a magnifying apparatus; a gage, and a reciprocating matrix-carrier provided with an offset end and a pin.

12. In a machine such as described, the combination of the following elements, to wit; a magnifying apparatus; a matrix-carrier; a gage for positioning the matrix; a feeding-galley; and an ejector.

13. In a machine such as described, the combination of the following elements, to wit; a magnifying apparatus; a gage; a matrix-carrier; an ejector; and an actuating mechanism or device for controlling the movements of the matrix-carrier, gage and ejector.

14. In a machine such as described, the combination of the following elements, to wit; a movable matrix-carrier provided with an offset and pin for receiving and holding the matrix and a stepped gage-plate movable transversely of the line of movement of said carrier, to present different gage-surfaces to the front face of the matrix.

15. In a machine such as described, the combination of the following elements, to wit; a matrix-carrier movable in guides and provided with an offset and retaining-pin; a stepped gage-plate movable transversely of said carrier to determine its position and that of the matrix; a feeding-galley; a receiving-galley and an ejector.

16. In a machine such as described, the combination of the following elements, to wit; a matrix-carrier; a stepped gage; a feeding-galley; a receiving-galley; an ejector; an actuating device for reciprocating the matrix-carrier; and means controlled by said actuating device for shifting the gage and actuating the ejector at the proper intervals

17. In a machine such as described, the combination of the following elements, to wit; a matrix-carrier; a movable gage; an ejector; a lever connected to the matrix-carrier and carrying a plunger in a plane intersecting the gage and ejector; and a pivoted arm engaging a shoulder on said plunger for temporarily arresting the lever with its plunger in position to engage the ejector.

18. In a standardizing or measuring machine, the combination with a fixed objective, a vertical illuminator and a standard graduated scale or pattern, of a matrix-carrier, a gage and mechanism for reciprocating the carrier, to present the matrix successively in two fixed relations to the objective, substantially as and for the purpose set forth.

19. In a standardizing or measuring apparatus the combination with a fixed objective and a vertical illuminator, of a gage movable transversely of the axis of the objective at a fixed distance therefrom, and provided with means for positively gaging the position of the matrix in a direction substantially parallel with the axis of said objective.

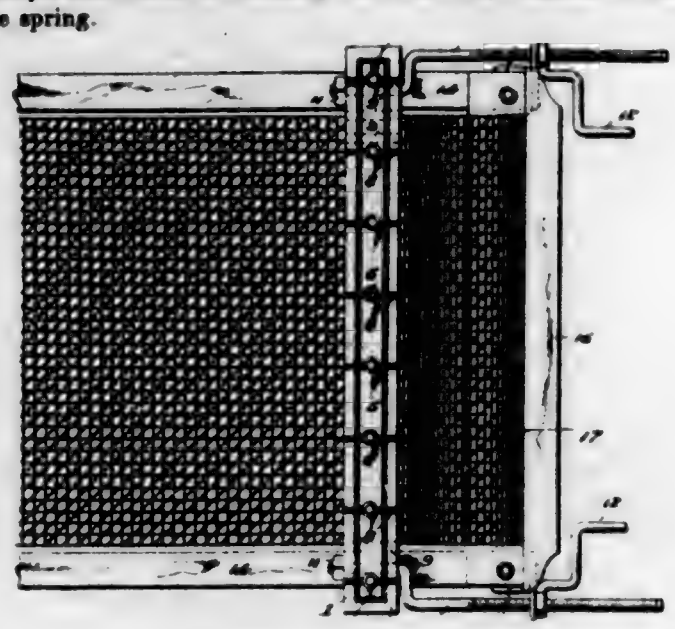
20. In a machine such as described, the combination of the following elements, to wit; a magnifying apparatus; a stepped gage; a reciprocating matrix-carrier; an ejector; a receiving-galley; and a pusher for removing defective matrices as they are delivered to the galley.

808,113. DEVICE FOR STRETCHING SPRINGS. RICHARD P. RASCHICK, Grand Forks, N. D. Filed June 30, 1905. Serial No. 267,863.

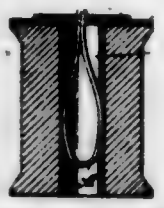
Claim.—1. A stretching device for the purpose described, comprising a two-part clamp to clamp the spring, clamps to engage the ends of the spring-frame, and offset rods and means for drawing the said clamps toward each other to stretch the spring.

2. A stretching device for the purpose described, comprising a two-part clamp for engaging a spring, clamps for engaging the ends of the spring-frame, offset rods engaging the spring-clamp, and carrying the other clamps, and cranks on the said rods for stretching the spring.

3. A stretching device for the purpose described, comprising a two-part clamp with openings for adjustable connection of the offset rods, clamps to engage the ends of the spring-frame, offset rods adjustably connected with the two-part clamp and carrying the other clamps, and means for drawing the said clamps together to stretch the spring.



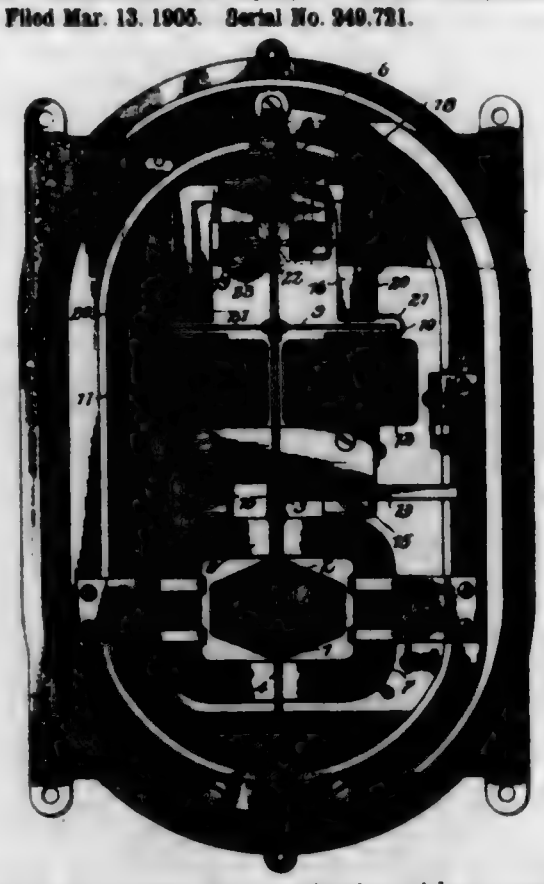
808,114. THREAD-HOLDING DEVICE. ROBERT ROWLEY and LUCIANO S. RUBIRA, New York, N. Y. Filed Feb. 8, 1905. Serial No. 244,728.



Claim.—1. An improved thread-holding device comprising a disk approximately the size of the end of the spool and having a spring member fixed to it and adapted to enter the opening in the spool, and a member lying substantially parallel with the disk and located interior to the edge thereof and between which member and said disk the thread is passed.

2. An improved thread-holding device consisting of two coacting members adapted to lie substantially parallel with each other and with the end of the spool, between which members the thread is passed, and a looped spring member adapted to enter the opening in the spool said spring having the portion intermediate of the ends adapted to frictionally engage the wall of said opening.

808,115. ELECTRICAL METER. HENRY W. SAYLES, Peoria, Ill., assignor to Diamond Meter Company, Peoria, Ill., a Corporation of Illinois. Filed Mar. 13, 1905. Serial No. 249,721.



Claim.—1. In a meter, the combination with an armature secured to a spindle, of a series field for said armature, a damping-disk

secured to the spindle, an electromagnetic damping-magnet for said disk, the windings on said electromagnet being included serially in circuit with the armature-windings, and a permanent magnet associated with the electromagnet, the combined effect of said damping and electro magnets being to cause the speed of rotation of the spindle to be proportional to current changes independent of pressure changes.

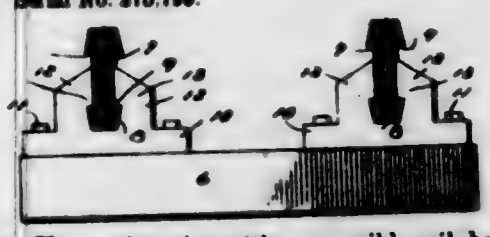
2. In a meter, the combination with an armature, of a series field therefor, a damping element for traveling with said armature, an electromagnetic damping-magnet associated with the damping element, windings for said electromagnet, said windings and the armature-winding being included serially in the meter pressure-circuit, and a permanent damping-magnet also associated with the damping-disk and in magnetic circuit with the electromagnet, the combined effects of said damping-magnets being to cause a speed of rotation of the armature proportional to the current-flow of the meter independent of the pressure.

3. In a meter, the combination with an armature provided with windings and secured to a spindle, recording mechanism actuated upon rotation of the armature, series field-coils associated with the armature, a damping-disk secured to the spindle, an electromagnet disposed near the disk to cause damping thereof, coils for said electromagnet, said coils and the armature-winding being connected serially in the pressure-circuit of the meter, the damping effect of said electromagnet upon changes in pressure varying with the increased speed tendency of the armature to oppose the change in speed thereof occasioned by change in pressure, and a permanent magnet acting in conjunction with said electromagnet for causing the damping effect on the disk to be exactly proportional to the change in torque of the armature occasioned by current changes in the pressure-circuit, whereby the meter will indicate current-flow through the main circuit independent of pressure changes in the circuit.

4. In a meter, the combination with an armature provided with a winding and secured to a pivoted spindle, of indicating mechanism actuated upon rotation of the armature, series field-coils for the armature, a damping-disk secured to the spindle, an electromagnet for damping the rotation of the spindle, energizing-coils for said electromagnet, said coils and the armature-winding being connected serially in the meter pressure-circuit, and the permanent magnet opposite the electromagnet and in magnetic series therewith, the combined effect of the electromagnet and permanent magnet being to vary the damping of the disk in proportion as the speed of the armature tends to vary upon changes of pressure in the pressure-circuit, whereby the meter will indicate current-flow independent of pressure variations.

5. In a meter, the combination with an armature provided with windings and secured to a pivoted spindle, recording mechanism actuated upon rotation of the armature and spindle, series field-coils embracing the armature, a damping member secured to the spindle, an electromagnet having its poles near the damping element to direct lines of force therethrough, energizing-coils for said electromagnet, said coils and the armature-winding being included serially in the meter pressure-circuit, and a permanent magnet at the opposite side of the damping element, the two magnets being connected in magnetic series and so related that their combined retarding effect on the damping element is proportional to the varying rotative tendency on the armature occasioned by variation of current-flow through the meter pressure-circuit, whereby the meter will register current-flow through the main circuit independent of pressure variation.

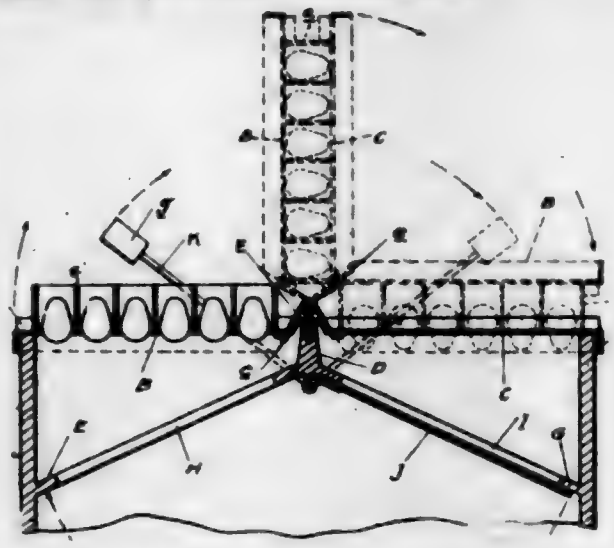
808,116. **RAILWAY.** GEORGE SELL, Womelsdorf, Pa. Filed Aug. 25, 1905. Serial No. 275,799.



Claim.—1. The combination with a reversible rail, having symmetrical head and base, of a tie, and a clip having a base on which the rail rests and side pieces which overhang the base of the rail and an extended base which is bolted to the tie, and wedges driven in between the rail-base and the base and sides of the clip.

2. The combination with a rail-clip having a base on which the rail rests and sides which support the web, of wedges driven in between the rail-base and the base and sides of the clip.

808,117. **EGG-TESTER.** JACOB S. SHOEMAKER, New Lothrop, Mich. Filed Apr. 18, 1905. Serial No. 256,301.



Claim.—1. An egg-testing device comprising an inclosing casing open at its top, and a cover therefor consisting of complementary apertured trays mounted for folding movement one above the other, for the purpose set forth.

2. An egg-testing device comprising an inclosing section or wall and a cover therefor comprising two complementary apertured trays pivoted at their adjoining edges to the said wall for folding movement.

3. In an egg-tester, the combination with a receptacle having complementary openings in its top, of pivoted apertured trays arranged over said openings and means for covering either of the openings, for the purpose set forth.

4. In an egg-tester, the combination with a receptacle having complementary openings therein, of pivoted apertured trays arranged over said openings, and a single closure mounted intermediate of and adapted to alternately cover said openings.

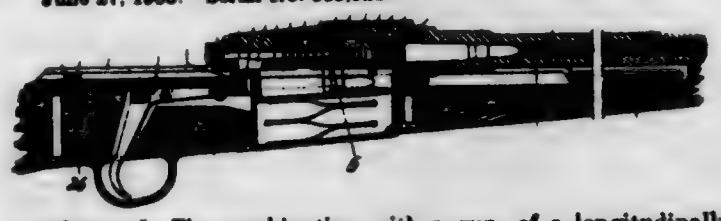
5. In an egg-tester, the combination with a receptacle having complementary openings therein, of two pivoted apertured trays arranged over said openings for folding movement, one over the other, and a closure operated upon the folding of said tray for alternately closing the openings.

6. In an egg-tester the combination of a receptacle having an open top, two complementary apertured trays thereon having pivotal connection at their meeting edges with said receptacle at a point above its top, apertured partitions within the receptacle below the trays, and a single closure for covering either of the partition-apertures.

7. In an egg-tester the combination of a receptacle having an open top, two complementary apertured trays thereon having pivotal connection at their meeting edges with said receptacle at a point above its top, apertured partitions within the receptacle below the trays, a single closure for covering either of the partition-apertures, projections upon the edges of the trays, and a weighted arm rigidly secured to the partition-closure extending in adjacence to the tray-sections in the path of their projections.

8. An egg-testing device comprising a stationary casing open at its top and a cover therefor consisting of complementary apertured trays mounted thereon for folding movement, for the purpose set forth.

808,118. **GUN.** CARL A. T. SJÖGREN, Stockholm, Sweden. Filed June 27, 1903. Serial No. 163,323.



Claim.—1. The combination with a gun, of a longitudinally-reciprocating breech-block, a movable weight on the said breech-block adapted to move forward on account of its inertia when the gun recoils, a spring between the said weight and the breech-block adapted to be compressed when the former moves forward and to throw the said weight backward when the recoil ceases, a firing-pin, a firing-pin spring adapted to be compressed by the said weight in its forward movement, means for locking the breech-block in closed position, and means for unlocking the breech-block, substantially as and for the purpose set forth.

2. In a gun the combination of a longitudinally-reciprocating breech-block, a weight mounted thereon capable of independent longitudinal movement and adapted to move forward by its inertia and the recoil of the gun when fired, a reaction-spring between said weight and the breech-block, a firing-pin and firing-pin spring within the breech-block, said spring also having bearing against the weight, whereby when the weight moves forward the spring will be compressed, a sear for the firing-pin, hooks mounted on the breech-block to engage coacting hooks or shoulders on the barrel, and a projection on the weight to engage said hooks on the breech-block and release the same when the weight moves back under the influence of its reaction-spring.

808,119. FORCED-DRAFT GRATE. ARTHUR D. SOUTHAM, New York, N. Y. Filed Nov. 12, 1903. Serial No. 180,813.



Claim.—1. The combination of a series of grate-bars each having an open forward end, the forward portions of said grate-bars being tubular and the rear portions thereof being substantially U-shaped in cross-section, means for drawing said grate-bars outward away from the fire alternately, means for returning said bars simultaneously into the fire, means at the bottom of the U-shaped portions of the grate-bars for directing the air upward, said means being relatively movable and adapted for removing the cinders and ashes therefrom.

2. The combination of a series of grate-bars tubular at their forward ends and U-shaped in cross-section where they support the fire, the forward ends of the tubular parts being open, each of said grate-bars being provided with horizontal transverse bars across the U-shaped portion thereof, means for slidingly supporting said grate-bars, a series of small longitudinal fire-bars, supported on the transverse bars, the rear end of each grate-bar being provided with air-openings and the bottoms of said bars being provided with discharge-openings, an air-supply pipe, nozzles connected thereto, and directing air into the forward ends of the grate-bars, a cleaner-bar in each of the grate-bars and provided with openings corresponding to the discharge-openings in the grate-bars, upward-extending air-directing deflectors formed on each of said cleaner-bars, and means for causing a relative movement between the cleaner-bar and the grate-bars.

3. The combination of series of grate-bars tubular at their forward ends and U-shaped in cross-section where they support the fire, the forward ends of the tubular parts being open, each of said bars being provided with transverse bars at the U-shaped portion thereof, means for movably supporting said grate-bars, a series of small longitudinal fire-bars supported on the transverse bars, said fire-bars being enlarged at their ends, each of said grate-bars being provided with discharge-openings in its bottom and with air-outlets at its rear end, a cleaner-bar in each grate-bar provided with openings corresponding with discharge-openings in the grate-bar, a horizontal pipe in front of the grate-bars and provided with nozzles to direct a blast into the grate-bars, means connected to said blast-pipe to heat the blast, a shaft below the grate-bars carrying a series of cams, depending lugs formed on the grate-bars and adapted to be engaged by the cams on the shaft to draw the grate-bars out from the fire, depending arms carried by the two outer bars, cams carried by the shaft and adapted to engage said arms to return said outer bars to the fire, means connecting the two outer bars together and adapted to engage all the other bars to return them simultaneously to the fire, means for causing a relative movement between the grate-bars and the cleaner-bars therein, upward-extending air-directing deflectors carried by the cleaner-bars and a self-closing air-tight damper below the grate-bars and closing the ash-pit.

4. The combination of a forced-draft furnace-grate bar having a bell-mouth, a series of interlocking fire-bars carried by said bar, a jet in front of the bell-mouth and a series of upward-extending air-directing deflectors within the grate-bar below the fire-bars said deflectors increasing in height toward the rear end of the grate-bar.

5. The combination of a movable forced-draft furnace-grate bar tubular near its forward end and trough-shaped at its inner end, said bar being provided with a series of openings in the bottom of the trough-shaped portion and its outer or forward end being open, a series of fire-bars supported within the trough-shaped portion of the bar, a jet placed in front of the open forward end, a perforated cleaner-bar on the bottom of the trough-shaped part of the bar and over the perforations therein, a series of upward-extending air-directing deflectors formed on said cleaner-bar, and means for holding the cleaner-bar stationary independently of the grate-bar.

6. The combination of a movable forced-draft furnace-grate bar tubular near its forward end and trough-shaped at its inner end, said bar being provided with a series of openings in the bottom of the trough-shaped portion and its outer forward end being open, a series of fire-bars supported within the trough-shaped portion of the bar, a jet placed in front of the open forward end, a perforated cleaner-bar on the bottom of the trough-shaped bar and over the perforations therein, a series of upward-extending air-directing deflectors formed on said cleaner-bar, said deflectors gradually increasing in height to the rear end of the grate-bar, and means for holding the cleaner-bar stationary independently of the grate-bar.

7. The combination of a series of grate-bars having bell-mouths, said bars being tubular near their ends and trough-shaped where they support the fire, a series of fire-bars supported within the trough-shaped portion of the grate-bars and forming a fire-supporting surface, means for delivering steam and air into the open forward ends of the grate-bars, and a series of upward-extending air-deflectors in the bottoms of the grate-bars, said deflectors increasing in height toward the rear ends of the bars.

8. The combination of a forced-draft furnace-grate bar having an open forward end, said bar being tubular near its forward end and trough-shaped where it supports the fire, a series of fire-bars supported within the trough-shaped portion of the grate-bar to form the fire-supporting surface, means for delivering hot air into the forward open end of the grate-bar, and a series of upward-extending air-directing deflectors within the grate-bar below the fire-bars, said deflectors increasing in height toward the rear end of the grate-bar.

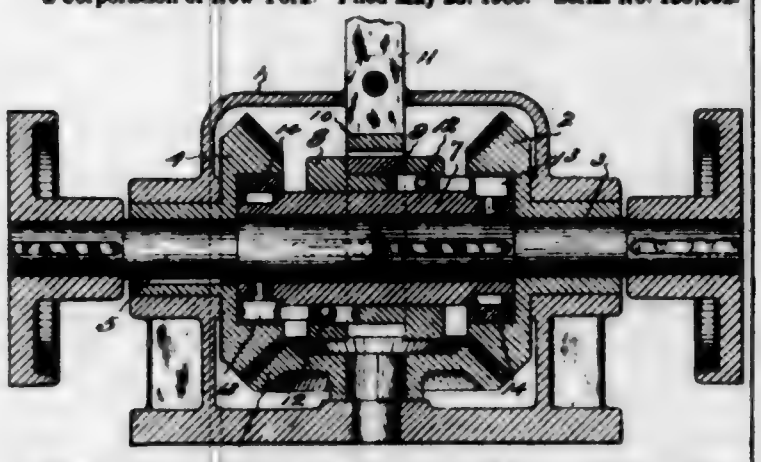
9. The combination of a movable forced-draft furnace-grate bar tubular near its forward end and trough-shaped at its inner end said bar being provided with a series of openings in the bottom of the trough-shaped portion and its outer end being open, a series of bars supported within the trough-shaped portion of the grate-bar, means for forcing hot air into the open forward end of said bar, a perforated cleaner-bar on the bottom of the trough-shaped part of the grate-bar, a series of upward-extending air-directing deflectors formed on said cleaner-bar and means connected to said cleaner-bar and extending through an opening in the grate-bar to rigidly connect said cleaner-bar to a stationary part of the furnace, and means for moving the grate-bar, whereby the cleaner-bar will be held stationary and will prevent any lateral or sidewise movement of the grate-bar.

10. The combination of a forced-draft grate-bar open at its forward end, a series of fire-bars supported by said bar said bar being trough-shaped below said fire-bars, and provided with openings in its bottom, a trough-shaped cleaner-bar within the grate-bar and formed with perforations in its bottom, means for moving one of said bars with respect to the other to cover and uncover the openings in the grate-bar.

11. The combination of a forced-draft furnace-grate bar trough-

shaped where it supports the fire and provided with openings in its bottom, the sides of said trough-shaped portion converging downwardly whereby said bar will be narrower at its bottom than at its top, a series of fire-bars within the trough-shaped part of the grate-bar and forming the fire-supporting surface, a trough-shaped cleaner-bar on the bottom of the grate-bar and having its sides resting against the sides of said bar and provided with openings in its bottom, and means for moving one of said bars to cover and uncover the openings in the bottom of the grate-bar.

808,120. **DRIVING MECHANISM.** CHARLES W. SPONSEL, Hartford, Conn., assignor to William H. Brodie Company, New York, N. Y., a Corporation of New York. Filed May 25, 1903. Serial No. 158,502.



Claim.—1. A driving mechanism comprising a driving and a driven shaft, a gear adapted to run loose on the driving-shaft, a gear fixed to the driven shaft, a gear meshing with both shaft-gears, a non-reciprocating sleeve extending between the shaft-gears and fixed to the driving-shaft and running loose on the driven shaft, a collar adapted to slide on the sleeve but not to rotate independently thereof, a vibratory expanding member mounted at each end portion of the sleeve and adapted to be moved by the collar, an expansible ring mounted upon each end of the sleeve within a recess in a gear and having its ends engaging the end portion of one of said expanding members, and means for moving the collar into engagement with either expanding member and out of engagement with both expanding members.

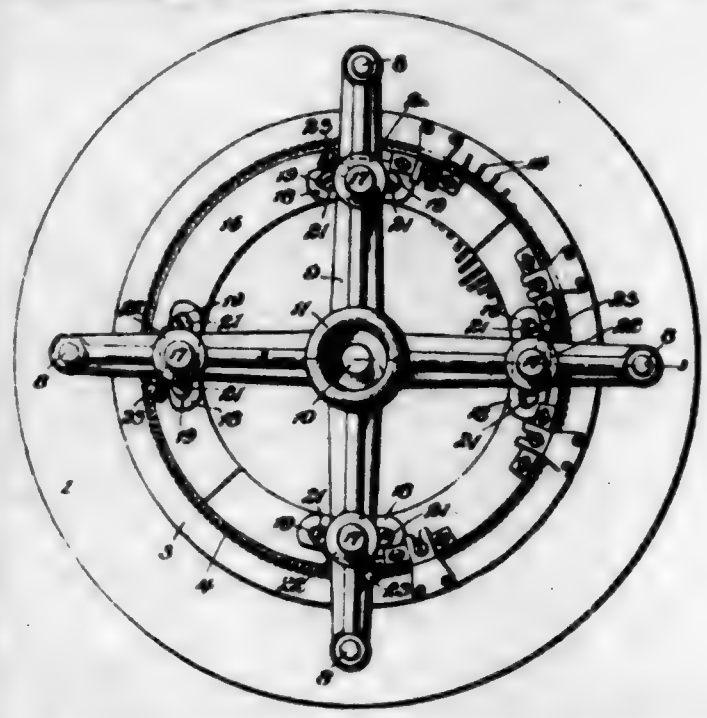
2. A driving mechanism comprising a driving and a driven shaft, a gear adapted to run loose on the driving-shaft, a gear adapted to be keyed to the driven shaft, a gear meshing with both shaft-gears, a non-reciprocating sleeve extending between the shaft-gears and adapted to be keyed to the driving-shaft and to run loose on the driven shaft, a collar splined on the sleeve, wedge-screws mounted in opposite end portions of the collar, a vibratory expanding-lever mounted on each end portion of the sleeve and having an end adjacent to said wedge-screw, an expansible ring mounted upon each end portion of the sleeve within a recess in a gear and having its ends contiguous to a portion of one of said expanding-levers, and means for moving the collar and causing the wedge-screws to engage either of the expanding-levers.

3. In a driving mechanism, a driving and a driven shaft, reversed gears mounted thereon, a non-reciprocating sleeve mounted on the end portions of the shafts, a vibratory expanding member mounted at each end portion of said sleeve, a collar splined on the sleeve and adapted to operate either expanding-lever, and an expansible ring at each end of the sleeve with the ends of each expansible ring being adjacent to an expanding member, said rings adapted to be expanded against the wall of the recess of its gear.

4. In a driving mechanism, a driving and a driven shaft, gears mounted on said shafts, a non-reciprocating sleeve fixed to one shaft and running loose on the other shaft, an expansible ring mounted upon the sleeve within one of said gears, and a vibratory expanding member mounted upon the sleeve and having two opposite faces in engagement with the opposite ends of the expansible ring, means for operating the expanding member and causing the opposite faces of the expanding member to exert pressure oppositely upon the opposing faces of the expanding ring, and a gear meshing with the shaft-gears.

808,121. **DIAL KNITTING-MACHINE.** WALTER STAFFORD and ROBERT C. HOLT, Littlefalls, N. Y. Filed Oct. 6, 1904. Serial No. 227,453.

Claim.—1. In a dial knitting-machine, the combination with a dial-arch, a vertical dial-shaft, and a needle-dial journaled on the shaft, of a dial-cam plate disposed over the dial and having an open center through which the upper surface of the dial is accessible, the space defined above and below by the arch and dial respectively and at its inner and outer sides by the shaft and cam-plate, being entirely unobstructed, and means for supporting the dial-cam plate from the arch independently of the shaft.



2. In a dial knitting-machine, the combination with a dial-arch, a vertical shaft, and a needle-dial, of a dial-cam plate having an open center through which the upper surface of the dial is accessible, and supporting means for the dial-cam plate located wholly outside of and beyond the open center thereof, whereby the space defined above and below by the arch and dial respectively and at its inner and outer sides by the shaft and cam-plate is wholly unobstructed.

3. In a dial-knitting machine, the combination with a dial-arch, a vertical dial-shaft, and a needle-dial, of a dial-cam plate disposed above the dial and having an open center through which the upper surface of the dial is accessible, and supporting means for the dial-cam plate including a plurality of stems extending vertically from the plate and having connection with the arch.

4. In a knitting-machine, the combination with a base-plate and a surmounting dial-arch, of a dial-shaft depending from the arch, a needle-dial journaled on the dial-shaft, means for effecting the vertical adjustment of the dial-shaft to raise and lower the dial, an annular dial-cam plate disposed over the dial adjacent to its periphery, and supporting means for the dial-cam plate including a plurality of stems extending vertically from the plate and having adjustable connection with the arch.

5. In a knitting-machine, the combination with a rigid frame structure, a dial-shaft, and a dial, of a dial-cam plate disposed above the dial, and a support for said plate, said support having adjustable connection with the plate and frame structure respectively.

6. In a dial knitting-machine, the combination with a dial-arch, a dial-shaft, and a dial, of a dial-cam plate disposed above the dial, and a vertically-disposed supporting member having vertically-adjustable connection with the arch and also having horizontally-adjustable connection with the dial-cam plate.

7. In a dial knitting-machine, the combination with a dial-arch, a dial-shaft, and a needle-dial, of a dial-cam plate disposed above the dial, a plurality of vertically-disposed stems each having adjustable connection with the dial-arch, and a foot carried by the lower end of each stem and adjustably connected with the dial-plate.

8. In a dial knitting-machine, the combination with a dial-arch, a dial-shaft, and a needle-dial, of a dial-cam plate located above the dial, and supporting means for said plate including a stem passed through the arch and adjustably retained thereby, a slotted foot at the lower end of the stem, and screws passed through the slotted foot and engaging the dial-cam plate.

9. In a knitting-machine, the combination with a frame structure and a needle-dial, of a dial-cam plate composed of separate sections, and independent supporting means for each of said sections.

10. In a dial knitting-machine, the combination with a dial-frame structure and a needle-dial, of a dial-cam plate composed of separate sections, and supporting means arranged to permit one of said sections to be independently raised and supported in an elevated position to facilitate access to the needle-dial.

11. In a knitting-machine, the combination with a rigid frame structure, a needle-dial and needles, of an annular dial-cam plate composed of arcuate sections, and independent supporting means for said sections.

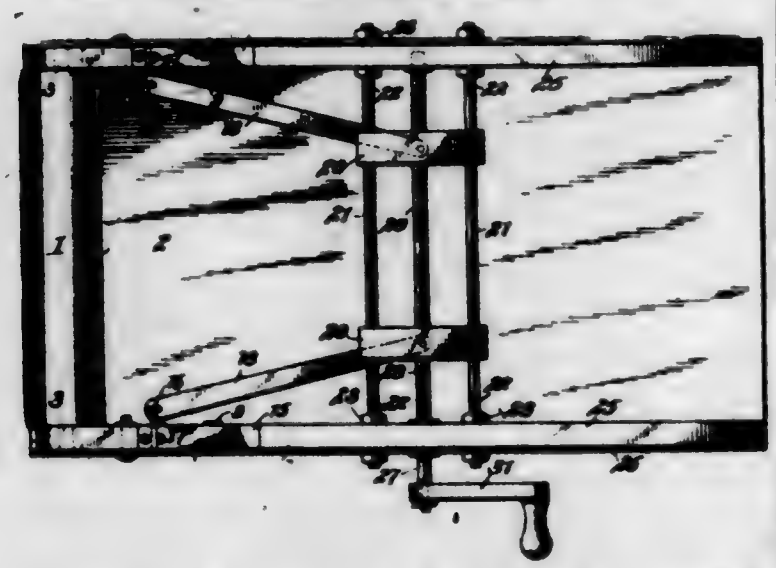
12. In a knitting-machine, the combination with a rigid frame structure, a dial-shaft suspended therefrom, and a needle-dial supported by said shaft, of an annular dial-cam plate composed of separate arcuate sections, means for supporting said sections independently of each other and of the dial-shaft, and needle-cams carried by the dial-cam plate.

13. In a dial knitting-machine, the combination with a needle-dial, of a dial-cam plate mounted above the dial and including a separate arcuate section and a vertical supporting-stem for said section.

14. In a dial knitting-machine, the combination with a dial-arch, a dial-shaft, and a needle-dial, of a dial-cam plate disposed above the dial and including an independently-movable arcuate section, and means for adjustably supporting said section from the dial-arch independently of the dial-shaft.

15. In a dial knitting-machine, the combination with a dial-arch, a dial-shaft, and a needle-dial, of a dial-cam plate disposed above the dial and including a separate arcuate section and a vertical supporting-stem extending from and adjustably mounted in the arch and movable to elevate the separate section of the dial-cam plate.

808,122. CANVAS-TIGHTENER. JURGEN TANCK, Pipestone, Minn. Filed Aug. 3, 1905. Serial No. 272,600.



Claim.—1. In a device of the class described, the combination of a pair of bearings mounted for inward and outward movement, transversely-movable slides or cross-heads, divergent connecting-bars extending from the slides or cross-heads, and means for actuating the slides or cross-heads to move the bearings inward and outward.

2. In a device of the class described, the combination of a pair of bearings mounted for inward and outward movement, transversely-movable slides or cross-heads, divergent connecting-bars extending from the slides or cross-heads, and an adjusting-screw having right and left hand threads for actuating the slides or cross-heads.

3. In a device of the class described, the combination with inwardly and outwardly movable bearings, of transversely-movable slides or cross-heads, divergent connecting-bars extending from the slides or cross-heads to the bearings, guides for the slides or cross-heads, and adjusting means for moving the slides or cross-heads simultaneously toward and from each other.

4. In a device of the class described, the combination of a frame provided with parallel guide-rods, slides or cross-heads movable on the guide-rods, bearings mounted for inward and outward movement, an adjusting-screw engaging the slides or cross-heads for actuating the same, and means for connecting the slides or cross-heads with the bearings.

5. In a device of the class described, the combination of a frame having opposite recesses forming guides, slidable bearing-blocks having arms slidable in the said guides, guards or shields extending across the space between the bearing-blocks and the frame and located above the said arms, and means for moving the bearing-blocks inwardly and outwardly.

6. In a device of the class described, the combination of a frame provided at opposite sides with recesses and having slots or grooves forming ways, slidable bearing-blocks located in the recesses and provided with arms fitted in the grooves, guards secured to the bearing-blocks and carried by the same, said guards extending from the inner ends of the bearing-blocks to points beyond the recesses, and means for moving the bearing-blocks inwardly and outwardly.

808,123. CARPET STRETCHER AND TACKER. SIDNEY TAYTRIE and JOHN SCHMIDT, Lebanon, Ill., assignors of one-third to said Schmidt and two-thirds to Frank Poignee, Lebanon, Ill. Filed May 19, 1905. Serial No. 261,231.



Claim.—1. In a device of the class specified, the combination with a handle, of a hammer-rod extending therethrough, a tack-magazine, a pivotally-mounted discharging device affording a support for the column of tacks in the magazine and having a tongue for engaging and discharging the successive lowermost tacks, a pivotally-mounted bar for operating the tack-discharger, and a spring for moving the bar inward into engagement with the hammer-rod and across the path of movement of said hammer-rod.

2. In a device of the class specified, the combination with the handle, of a hammer-rod extending therethrough, a tack-magazine open at its lower end, a tack-discharge block affording a support for the column of tacks in the magazine, a tongue carried by the block and arranged to engage the successive lowermost tacks a lug projecting from said block, a pivotally-mounted bar having a finger engaging the lug, and a spring tending to move the bar into contact with the hammer-rod, and into the path of movement of said hammer-rod.

3. In a device of the class specified, the combination with a handle, of a hammer-rod extending therethrough, there being a recess at one side of the handle which extends into the hammer-rod-guiding opening, a tack-magazine secured to one wall of the recess and open at its lower end, a pivotally-mounted discharge-block arranged to support the column of tacks in the magazine and provided with a discharging-finger for engaging the successive lowermost tacks and for supporting the column of tacks during such discharge, a lug projecting from the block, a bar pivoted at its upper end to the handle and disposed within the recess, a spring tending to move the lower end of the bar into the hammer-rod-guiding opening, and interengaging means between said bar and block.

4. In a device of the class specified, the combination with a handle having a recessed lower portion and provided with a central bore and with an obliquely-arranged opening leading from the recess to said central bore, a hammer-rod guided in the central bore, a spring tending to impel the hammer-rod in driving direction, a channel-bar pivoted within the recess, a spring having one end bearing against the channel-bar and tending to move the same across the bore, a tack-reservoir disposed within the recess and having a lower open end, a block pivoted within the recess and having a flat surface for the support of the column of tacks, a tongue projecting from the block and arranged to engage successively lowermost tacks, said

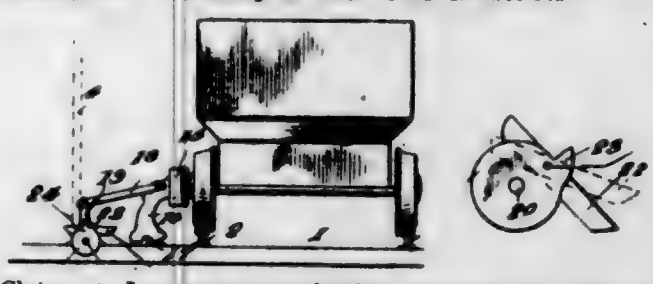
tongue serving as a support for the column of tacks during the discharging operation, a lug projecting from the block, and a finger carried by the bar and engaging said lug.

808,124. STEP-LADDER. JOHN S. TILLEY, Watervliet, N. Y. Filed Apr. 17, 1905. Serial No. 255,833.



Claim.—A step-ladder comprising a pair of relatively broad side bars *a* carrying therebetween a series of broad flat steps *a'*, extending for the greater portion of the length of said side bars, a pair of correspondingly-broad fore legs D secured to said side bars and diverging downwardly and outwardly therefrom and for some distance therebelow, the bottom ends of said fore legs being free and bordering an unobstructed space beneath the side bars, the lower ends of the side bars and the fore legs being formed with a plurality of series of alined circumferentially-inclosed apertures *e*, brace-rods E formed complementary to and passing through said apertured portions of the side bars and fore legs and confined against lateral movement in any direction by the walls surrounding the said apertures, means for preventing longitudinal movement of the brace-rods in said apertures, and a pivoted back leg occupying a central position relative to the fore legs, those portions of the brace-rods intermediate the side bars constituting steps below the lowermost of the broad steps *a'*.

808,125. MINE-DOOR. ALFRED C. URBAN, Buxton, Iowa, assignor of one-half to Nathan P. Herrington and one-fourth to Eric F. Brown, Buxton, Iowa. Filed May 12, 1905. Serial No. 260,112.



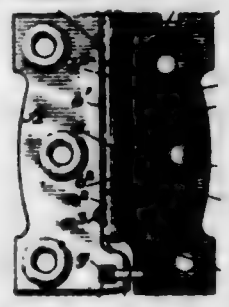
Claim.—1. In operating mechanism for mine-doors, the combination of a door, means for actuating the same, a pressure-bar operable by an approaching car, a shaft, an operative connection between the shaft and the pressure-bar, a door-engaging member mounted on said shaft, a detent carried by said door-engaging member for engagement with the door, and means permitting operation of the detent independently of the door-engaging member aforesaid.

2. In operating mechanism for mine-doors, the combination of a door, means for actuating the same, a door-engaging member, a detent pivoted to said door-engaging member and shiftable thereby, and means for actuating the door-engaging member and this detent to effect coöperation thereof with the door.

3. In operating mechanism for mine-doors, the combination of a door, means actuating the same, a pivoted detent and means for shifting the pivot of said detent to throw the same out of coöperation with the door.

4. In operating mechanism for mine-doors, the combination of a door, means for actuating the same, a pressure-bar adapted to be operated by an approaching car, a shaft, an operative connection between the shaft and the pressure-bar, a door-engaging member mounted on said shaft, and a detent carried by said member, said detent being adapted to coöperate to hold the door open.

808,126. SPRING-HINGE. CORNELIUS S. VAN WAGONER and LE DRU R. POMEROY, Cleveland, Ohio, assignors to The Van Wagoner Company, Cleveland, Ohio, a Corporation of Delaware. Filed Sept. 30, 1903. Serial No. 175,156.



Claim.—1. In a spring-hinge the combination of a pair of hinge-leaves provided with appropriately-projecting tubular knuckles, a pintle passing through said knuckles for connecting said leaves together, and a spring having one end fixedly mounted on one of said leaves and the other end connected to the other of said leaves by a link connection, said link connection being beyond the terminal of said pintle and normally between the plane of the leaves and the axial line of the hinge, substantially as described.

2. In a spring-hinge, the combination of a pair of hinge-leaves formed from appropriately-shaped sheet-metal blanks, said leaves being provided with projecting tubular knuckles forming a continuous pintle-barrel, a pintle passing through said knuckles and connecting said leaves together, a link hinged to one of said leaves beyond the terminal of said pintle and to the rear of the axial line of the hinge, and a spring mounted on the other of said leaves and connected to the free end of said link for normally holding said leaves in their closed positions, substantially as described.

3. In a spring-hinge the combination of a pair of sheet-metal hinge-leaves having appropriately-projecting ears or knuckles, a pintle passing through said knuckles for connecting said leaves together, a spring having one end fixedly secured to one of said leaves and the other end flexibly connected to the other of said leaves, said flexible connection being beyond the terminal of said pintle and normally in a plane between the plane of the leaves and the axial line of the hinge.

4. In a spring-hinge, the combination of a pair of hinge-leaves formed from appropriately-shaped sheet-metal blanks, said leaves having their inner edges bent outwardly substantially at right angles to the plane of the leaves, tubular knuckles formed at the edges of said projecting portions, said knuckles forming a continuous pintle-barrel, a pintle passing through said knuckles and connecting said leaves together, a lipk hinged to one of said leaves beyond the terminal of said pintle and to the rear of the axial line of the hinge, and a spring mounted on the other of said leaves having an arm secured to the free end of said link for normally holding said leaves in their closed positions, substantially as described.

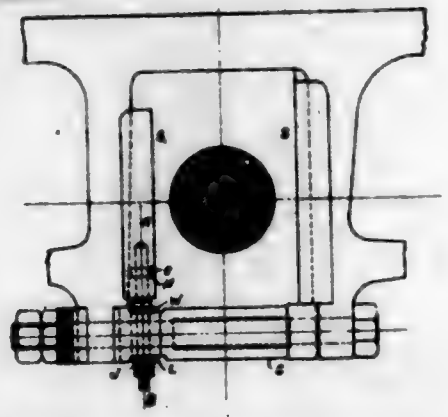
5. In a spring-hinge, the combination of a pair of hinge-leaves formed from appropriately-shaped sheet-metal blanks, said leaves being provided with projecting tubular knuckles forming a continuous pintle-barrel, a pintle passing through said knuckles, a link hinged to one of said leaves beyond the terminal of said pintle and to the rear of the hinge-axis, a spring secured to the other of said leaves having an arm secured to the free end of said link for normally holding said leaves in their closed positions, and means for limiting the movement of said link when the leaves are opened, substantially as and for the purposes specified.

6. In a spring-hinge, the combination of a pair of hinge-leaves formed from appropriately-shaped sheet-metal blanks, said leaves being provided with projecting tubular knuckles forming a continuous pintle-barrel, a pintle passing through said knuckles, a link hinged to one of said leaves beyond the terminal of said pintle and to the rear of the axial line of the hinge, a loop formed on the other of said leaves, a spring inserted in said loop having an arm secured to the free end of said link, and means for confining said spring in said loop, substantially as described.

7. In a spring-hinge the combination of a pair of sheet-metal hinge-leaves having appropriately-projecting ears or knuckles, a link pivotally connected to one of said leaves and adapted to move across the axial line of the hinge, a loop internally formed on the other of said leaves, and a two-armed spring having one of its arms

inserted in said loop and the other suitably connected to the free end of said link, said spring operating to normally maintain said link in a plane between the plane of the hinge-leaves and the axial line of the hinge.

808,127. LOCKING WEDGE-BOLTS ON LOCOMOTIVE-PEDESTALS. GEORGE W. WEAR, Elkhart, Ind. Filed July 6, 1905. Serial No. 268,575.



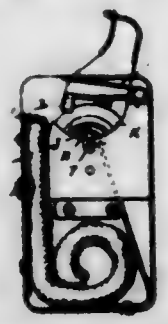
Claim.—1. The combination with a pedestal, of adjustable wedges carried thereon, wedge-bolts supporting said wedges, and a locking-plate adapted to secure the adjustment of said wedges and bolts, substantially as described.

2. The combination with a pedestal, of adjustable wedges carried thereon, wedge-bolts adjustably supporting said wedges, the lower portions of said wedge-bolts being segmental in cross-section, and a locking-plate adapted to secure the adjustment of said wedges, substantially as described.

3. The combination with a locomotive-pedestal, of adjustable wedges carried thereon, wedge-bolts adjustably supporting said wedges, the lower portions of said wedge-bolts being segmental in cross-section, a locking-plate having segmental openings therein adapted to receive the segmental portions of the wedge-bolts and prevent their rotation, and jam-nuts carried on said wedge-bolts, substantially as described.

4. The combination with a locomotive-pedestal, of adjustable wedges carried thereon, wedge-bolts adjustably supporting said wedges, the lower portions of said wedge-bolts being segmental in cross-section, a sectional locking-plate having segmental openings therein adapted to receive the segmental portions of the wedge-bolts and prevent their rotation, and jam-nuts securing said locking-plate in position, substantially as described

808,128. AUTOMATIC LIGHTER. ALBERT R. WEISS, Brooklyn, N. Y., assignor, by mesne assignments, to Amelie Weiss, Brooklyn, N. Y. Filed Apr. 13, 1905. Serial No. 255,468.



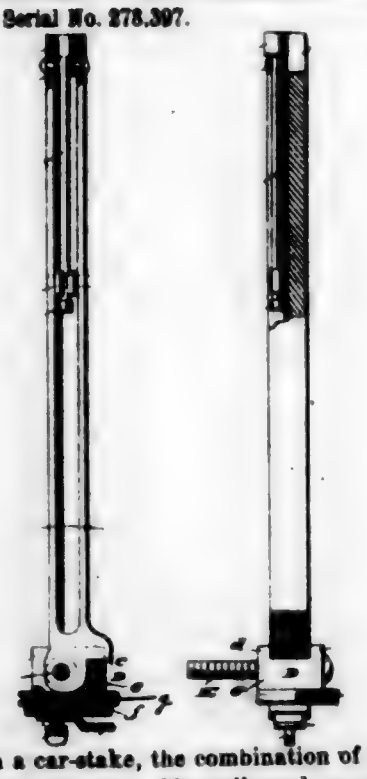
Claim.—1. In an automatic lighter, the combination with a casing of a friction-disk, a spring for rotating the friction-disk, a piece of hard substance held in contact with the friction-disk, and means for locking and releasing said spring, substantially as set forth.

2. In an automatic lighter, the combination with a casing, of a cover on the same, a toothed disk mounted to turn on the same center with the cover, a spring connected with the toothed disk, a friction-disk and means for turning the same from the toothed disk, means for locking the cover in closed position and releasing the same, and a piece of hard substance in contact with the friction-disk, substantially as set forth.

3. In an automatic lighter, the combination with a pivoted toothed disk, of a spring for rotating it, a friction-disk rotatable from said toothed disk, a piece of hard substance held in contact with the friction-disk, and means for locking and releasing said spring, substantially as set forth.

4. In an automatic lighter, the combination with a casing, of a pivoted disk, a spring secured in the casing, and an intermediate member connecting the free end of the spring with said disk, a friction-disk operated from the above-mentioned spring-operated disk, and a hard substance in contact with the friction-disk, substantially as set forth.

808,129. CAR-STAKE. JOHN R. WHEELER, Edenton, N. C. Filed Sept. 14, 1905. Serial No. 278,397.



Claim.—1. In a car-stake, the combination of a frame secured to the side of a car and having side walls and an end wall of a less height than the side walls, a stake pivoted between the side walls of said frame and having a lateral shoulder arranged to bring up against the upper edge of the end wall of the frame, and means for holding the stake against casual movement when the shoulder thereof is in engagement with the said end wall of the frame.

2. In a car-stake, the combination of a frame secured to the side of a car and having side walls and an end wall of a less height than the side walls, and also having a bottom wall, a keeper also secured to the side of the car, a stake pivoted between the side walls of the frame and having a lateral shoulder arranged when the stake is in an upright position to bear on the upper edge of the end wall of the frame, and a screw bearing in the bottom wall of the frame and arranged to engage the stake.

3. In a car-stake, the combination of a frame secured to the side of a car and having an abutment, a stake pivoted to the frame and having a shoulder arranged to bring up against the abutment thereof, and a screw for holding the stake against casual movement with respect to the frame.

4. In a car-stake, the combination of a frame secured to the side of a car and having an abutment, a stake pivoted to the frame and having a shoulder arranged to bring up against the abutment thereof, a screw for holding the stake against casual movement with respect to the frame, and a jam-nut mounted on said screw.

5. In a car-stake, the combination of a stake, a brace carried by the stake and arranged to rest in one position alongside the stake and in another position at an angle thereto, and means for holding the brace against casual movement from the first-mentioned position.

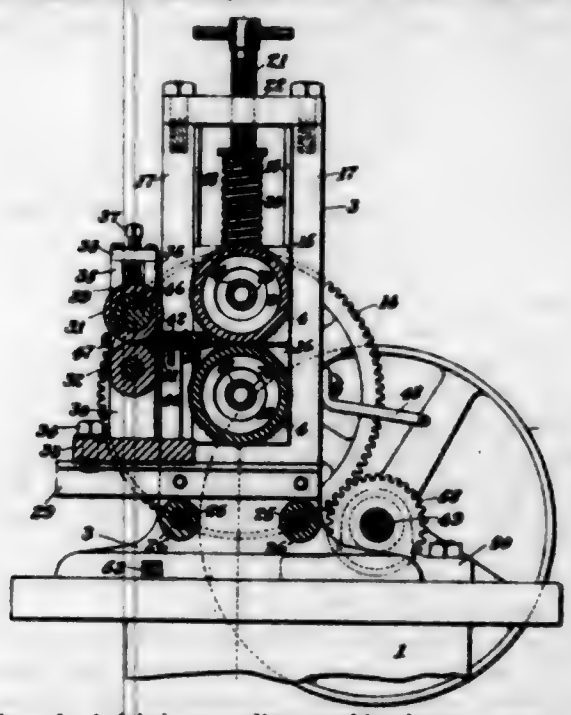
6. In a car-stake, the combination of a stake, a brace carried by the stake and arranged to rest in one position alongside the stake and in another position at an angle thereto, and a lug and a spring on the stake for holding the brace against casual movement from the first-mentioned position.

7. In a car-stake, the combination of a grooved stake, a journal mounted therein, and a brace carried by and arranged to swing with and move endwise through the journal.

8. In a car-stake, the combination of a grooved stake, a journal mounted in the stake, a brace carried by and arranged to swing with and move endwise through the journal; said brace being adapted to be connected with the brace of a stake on the opposite side of a car, and means on the stake for retaining the brace against casual movement.

9. In a car-stake, the combination of a frame secured to the side of a car, a stake pivoted to the said frame and arranged to swing parallel to the side of the car, a brace carried by the stake and arranged to rest in one position alongside the stake and in another position at an angle thereto, and means for holding the brace against casual movement from the first-mentioned position.

808,130. FABRIC-SPREADING MACHINE. CHARLES WEBER, New York, N. Y. Filed Apr. 17, 1905. Serial No. 255,945.



Claim.—1. A fabric-spreading machine having means for successively engaging the fabric, such means comprising feeding means and means for imparting a set to the spread fabric, and actuating means therefor arranged to actuate the same so that the parts of the feeding means in contact with the fabric shall move at a higher speed than the fabric-contacting parts of the means for imparting a set to the spread fabric.

2. A fabric-spreading machine having feeding means and crimping means and actuating means therefor so that the parts of the feeding means in contact with the fabric shall move at a higher speed than the parts of the crimping means in contact with the fabric.

3. A fabric-spreading machine having feeding means and heated crimping means and actuating means therefor so that the parts of the feeding means in contact with the fabric shall move at a higher speed than the parts of the crimping means in contact with the fabric.

4. The combination of feeding-rollers and rollers for imparting a set to a fabric, and means for actuating such rollers so that the peripheral speed of the feeding-rollers shall be different from the peripheral speed of the rollers for imparting a set to the fabric.

5. The combination of feeding-rollers and crimping-rollers, and means for actuating such rollers so that the peripheral speed of the feeding-rollers shall be different from the peripheral speed of the crimping-rollers.

6. The combination of feeding-rollers and heated crimping-rollers, and means for actuating such rollers so that the peripheral speed of the feeding-rollers shall be different from the peripheral speed of the heated crimping-rollers.

7. A fabric-spreading machine comprising two parts having movable fluted surfaces and adapted to mesh with each other, and fabric-feeding means arranged to feed a fabric to such parts at a higher speed than the speed of the fluted surfaces of such parts.

8. A fabric-spreading machine comprising two parts having movable heated fluted surfaces and adapted to mesh with each other, and fabric-feeding means arranged to feed a fabric to such parts at a higher speed than the speed of the fluted surfaces of such parts.

9. The combination of feeding-rollers and roller for imparting a set to a fabric, means for actuating such rollers so that the peripheral speed of the feeding-rollers shall be different from the peripheral speed of the rollers for imparting a set to the fabric, and guiding means between the feeding-rollers and the rollers for imparting a set to the fabric arranged to permit forward and lateral movement only of the fabric.

10. The combination of feeding-rollers and crimping-rollers, means for actuating such rollers so that the peripheral speed of the feeding-rollers shall be different from the peripheral speed of the crimping-rollers, and guiding means between the feeding-rollers and the crimping-rollers arranged to permit forward and lateral movement only of the fabric.

11. The combination of feeding-rollers and crimping-rollers, means for actuating such rollers so that the peripheral speed of the feeding-rollers shall be different from the peripheral speed of the crimping-rollers, means for heating the crimping-rollers, and guiding means between the feeding-rollers and the crimping-rollers arranged to permit forward and lateral movement only of the fabric.

808,131. BEER-COOLER. ROBERT S. WIESENFELD, Baltimore, Md. Filed Oct. 24, 1904. Serial No. 229,765.



Claim.—1. The combination with a receptacle, of a pressure-relieving means comprising a pipe, the bore of which is in communication with the interior of the receptacle, a valve for closing the communication between the receptacle and pipe, a spring for supporting the valve, an adjustable cup for holding the spring, a valve-stem connected with the valve and extending through the pipe into a position where access may be had thereto for manipulating the valve and an adjustable cap mounted on the pipe and adapted to engage the valve-stem for retaining the valve in open position.

2. The combination with a receptacle adapted to contain fluid under pressure, and provided with an aperture therein, of a nut removably received in the aperture and provided with an internal nipple having a valve-seat formed therein, a boss located exteriorly on the nut, the boss provided with a bore extending through the nut and nipple, a pipe secured to the boss, a rod received in the pipe and projecting therefrom at one end, a valve carried by the rod and received in the valve-seat in the nipple, a perforated cup received upon the nipple, a spring in the cup for maintaining the valve on its seat, and means carried by the pipe and engaging the rod to hold the valve open against the tension of the spring.

3. The combination with a receptacle, of a closure having a bore, said closure being mounted in the receptacle, a nipple carried by the closure in line with the bore, and having a valve-seat in communication with the interior of the receptacle, a perforated cup removably secured to the nipple, a valve received in the valve-seat, a spring carried by the cup and engaging the valve to retain it in closed position, means connected with the valve for opening it against the tension of the spring and means for locking the valve in open position.

4. The combination with a receptacle, of a pressure-releasing mechanism connected therewith, the mechanism comprising a removable supporting means carried by the receptacle, a shoulder-boss on the supporting means, said supporting means being provided with a passage therethrough and through the boss, a pipe removably seated on the shoulder in the boss, and forming a continuation of said passage, a valve seated in the passage, means for retaining the valve in closed position, a rod received in the pipe and projecting therefrom and connected with the valve and means engaging the rod for locking the valve in open position.

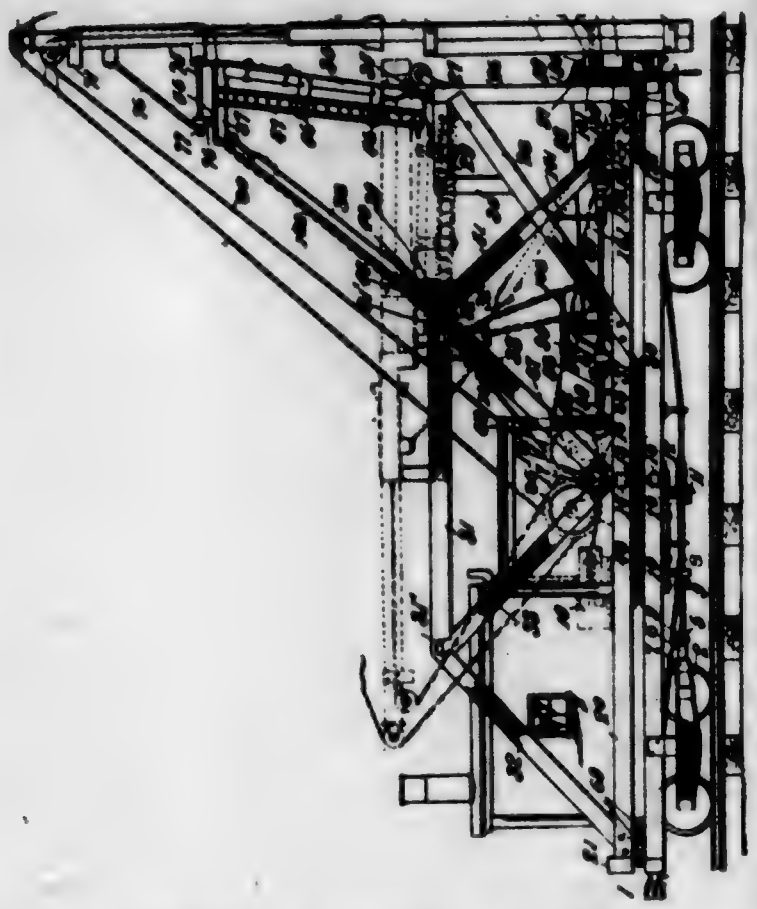
5. The combination with a receptacle, of a pressure-relieving mechanism therefor, comprising a valve-supporting means, having a passage formed therethrough, a valve for closing the passage, a pipe forming a continuation of said passage, a rod received in the pipe, and projecting outside the pipe, means adjustably connecting the valve and rod and means for normally retaining the valve in closed position.

6. The combination with a receptacle, of pressure-relieving means therefor, comprising a supporting means having a passage formed therethrough, a valve closing the passage, means normally retaining the valve in closed position, a tube forming a continuation of said passage, and secured to the supporting means, a rod received in the tube and connected with the valve, a shoulder on the rod and means adjustably mounted on the tube and adapted to engage the shoulder for locking the valve in open position.

808,132. PILE-DRIVER. ARCHEY E. WILLIAMS, Douglas, Ariz. Filed Feb. 4, 1905. Serial No. 244,151.

Claim.—1. In a pile-driver, the combination with the axle of one set of truck-wheels, and a gear-wheel secured on said axle, of a horizontal axle carrying a gear-wheel meshing with the gear-wheel on the axle, a second horizontal shaft carrying a gear-wheel at one end, a knuckle or universal connection between said shafts, a vertical shaft carrying on its lower end a gear-wheel meshing with the

gear-wheel on the second horizontal shaft, and on its upper end a gear-wheel meshing with a gear-wheel on the main driving-shaft, the main driving-shaft, and means for driving said main shaft.



2. In a pile-driver, the combination with a car, of a circular track secured thereon, said track being provided with teeth on its inner periphery, a turn-table mounted upon the track, a gear-wheel secured on a vertical shaft and meshing with the teeth of the track, a worm-gear for driving the vertical shaft, and means for driving the worm-gear, to revolve the turn-table.

3. In a pile-driver, the combination with the car, of a circular track secured thereon, said track being provided with teeth, a gear-wheel secured on a vertical shaft and meshing with said teeth, a turn-table mounted upon the track, a horizontally-supported shaft carrying a worm-screw, a gear-wheel secured on the upper end of the vertical shaft and meshing with the worm-screw, and means for revolving the horizontal shaft, to rotate the gear-wheels on the vertical shaft and thereby the turn-table.

4. In a pile-driver, the combination with the car, of a circular track secured thereon, said track being provided with teeth, a gear-wheel secured on the lower end of a vertical shaft and meshing with said teeth, a turn-table mounted upon the track, a horizontally-supported shaft carrying a worm-screw, a gear-wheel secured on the upper end of the vertical shaft and meshing with the worm-screw, a bevel gear-wheel secured on outer end of the horizontal shaft, a drum-shaft carrying a gear-wheel, and a transverse shaft carrying a bevel gear-wheel meshing with the gear-wheel on the horizontal shaft and a gear-wheel meshing with the gear-wheel on the drum-shaft, whereby motion is imparted to the horizontal shaft.

5. In a pile-driver, the combination with the car, of a circular track secured thereon, said track being provided with teeth on its inner periphery, a turn-table mounted upon the track and connected thereto, a vertical shaft carrying at its lower end a gear-wheel meshing with the teeth of the track, a gear-wheel secured on the upper end of the vertical shaft, a horizontal shaft carrying a worm-screw meshing with the gear-wheel on the upper end of the vertical shaft, and means for revolving the horizontal shaft to transmit power to the vertical shaft.

6. In a pile-driver, the combination with the lower framework, of stiff legs pivoted to the upper ends of the corner-posts, leaders pivoted to the stiff legs, strain-braces pivoted to said stiff legs, inclined guideways, means carried by the strain-braces for causing the lower ends of said strain-braces to ride down the guideways, and means for lowering the stiff legs and leaders.

7. In a pile-driver, the combination with the lower framework, of stiff legs pivoted to the upper ends of the corner-posts, leaders pivoted to the stiff legs, inclined toothed guideways, strain-braces pivoted to said stiff legs and carrying gear-wheels meshing with the toothed guideways, and means for lowering the stiff legs and leaders.

8. In a pile-driver, the combination with the lower framework, of stiff legs pivoted to the upper ends of the corner-posts, leaders pivoted to the stiff legs, inclined toothed guideways, strain-braces pivoted to said stiff legs and carrying at their lower ends gear-wheels meshing with the toothed guideways, means for locking the gear-wheels against rotation, and means for lowering the stiff legs and leaders.

9. In a pile-driver, the combination with the lower framework, of stiff legs pivoted to the upper ends of the corner-posts, a crown-yoke secured to the upper end of the stiff legs, leaders pivoted to the crown-yoke, inclined toothed guideways secured to the lower framework, strain-braces pivoted to said stiff legs and carrying gear-wheels meshing with the toothed guideways, and means for lowering the stiff legs and leaders.

10. In a pile-driver, the combination with the lower framework, of stiff legs pivoted to the corner-posts, a crown-yoke secured to the upper ends of the stiff legs, leaders provided with a connecting-yoke having extended guideways, a pivotal connection between the crown-yoke of the stiff legs and the connecting-yoke of the leaders, inclined guideways, strain-braces pivoted to the stiff legs, means carried by the strain-braces for causing the lower ends of said strain-braces to ride down the inclined guideways, and means for lowering the stiff legs and leaders.

11. In a pile-driver, the combination with a car, of a revoluble framework mounted thereon, stiff legs pivoted to the corner-posts, leaders pivoted to the stiff legs, toothed guideways secured to the sides of the frame, pivoted strain-braces carrying gear-wheels meshing with the toothed guideways, a moon-beam secured to the front of the lower framework, a moon's end block attached to the leaders and guided by the moon-beam, and means for shifting the leaders.

12. In a pile-driver, the combination with a car, of a revoluble framework mounted thereon, stiff legs pivoted to the corner-posts, leaders pivoted to the stiff legs, inclined guideways, pivoted strain-braces carrying devices adapted to engage and move on said guideways, a moon-beam secured to the lower frame, a moon's end block detachably secured to the leaders and guided by the moon-beam, and means for shifting the leaders.

13. In a pile-driver, the combination with a car, of a revoluble framework mounted thereon, stiff legs pivoted to the corner-posts, leaders pivoted to the stiff legs, inclined guideways, pivoted strain-braces carrying devices adapted to engage and move on said guideways, a moon-beam secured to the lower framework, a moon's end block detachably secured to the leaders, a ratchet-and-pawl-controlled drum detachably secured to each corner-post, a winch secured at each side of the lower framework, a cable running from one drum, through a set of pulley-blocks, to one winch, a cable running from the other drum, through a second set of pulleys, to the other winch, whereby either the drums or the winches may be operated to shift the leaders.

14. The combination with a car, of a revoluble pile-driver mounted thereon, a curved toothed rail secured to the car-deck, spur-wheels meshing with the toothed rail, means for driving the spur-wheels in either direction to turn the pile-driver to one side or the other, and a clutch mechanism for throwing said means out of operation.

15. The combination with a car, of a revoluble pile-driver mounted thereon, a curved toothed rail secured to the car-deck, spur-wheels meshing with the toothed rail, means for driving the spur-wheels in either direction to turn the pile-driver to either side of the car, a clutch mechanism for throwing said means out of operation, and means for shifting the leaders from a vertical to an inclined position.

16. The combination with a car, of a revoluble pile-driver mounted thereon, a curved toothed rail secured to the car-deck, spur-wheels meshing with the toothed rail, a worm-gear for driving each spur-wheel, and means for driving the worm-gears to partially revolve the pile-driver to either side.

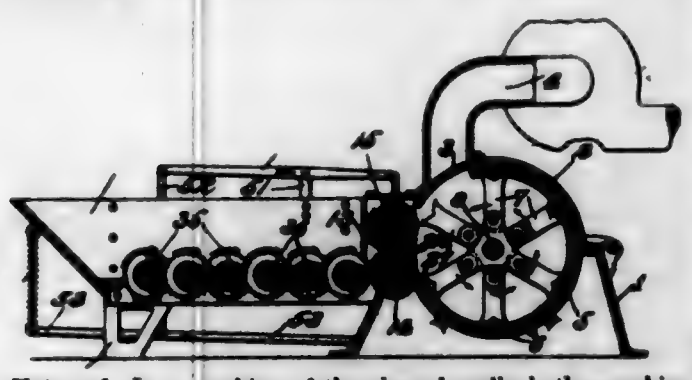
17. The combination with a car, of a revoluble pile-driver mounted thereon, a curved toothed rail secured to the car-deck, a spur-wheel meshing with the toothed rail, a worm-gear for driving each spur-wheel, means for driving the worm-gears, and a clutch mechanism for throwing said means out of operation.

18. The combination with a car, of a revoluble pile-driver mounted thereon, a curved toothed rail secured to the car-deck, spur-wheels meshing with the toothed rail, worm-gears for driving the spur-wheels, bevel gear-wheels secured on the free ends of the worm-screw shafts, a horizontal shaft carrying a bevel gear-wheel meshing with the bevel gear-wheels on the shaft of the worm-screws, and means for driving the horizontal shaft.

19. In a pile-driver, the combination with the leaders thereof, of

a pile-ring having oppositely-disposed arms integral therewith, said arms being provided with guideways adapted to engage the inner faces and side of said leaders.

808,133. SHREDDING-MACHINE. MILTON F. WILLIAMS, St. Louis, Mo., assignor to Williams Patent Crusher & Pulverizer Company, St. Louis, Mo., a Corporation of Missouri. Filed July 9, 1904. Serial No. 215,836.



Claim.—1. In a machine of the class described, the combination with a casing having inlet and outlet openings, of coöperating feed-rollers adjacent the inlet-opening, a knife interposed between the rollers, said knife being approximately triangular in cross-section with a knife-edge at each angle, and hammers within the casing; substantially as described.

2. In a device of the class described, the combination with a disintegrating mechanism having a casing provided with an inlet-opening, of a feed mechanism connected to the casing for feeding material into the inlet-opening, said feed mechanism including a plurality of rotatable elements having shafts with terminal gears, a drive-shaft having gears to mesh with the first-named gears, said shaft having fixed bearings, and adjusting devices connecting the feed mechanism with the casing, whereby the teeth of the gears on the feed mechanism and the shaft can be adjusted to properly mesh; substantially as described.

3. In a machine of the class described, a disintegrating mechanism having a casing provided with an inlet-opening and an outlet-opening, coöperating rollers at the inlet-opening, a knife interposed between the rollers, said knife being approximately triangular in cross-section with a knife-edge at each angle, and roller-supporting bearing-plates for one of the rollers adjacent to the opening, said bearing-plates having portions for holding said knife against movement; substantially as described.

4. In a machine of the class described, a disintegrating mechanism provided with a casing having an inlet-opening, bearings in the casing, a knife having angular ends resting in the bearing, said knife being approximately triangular in cross-section with a knife-edge at each angle, rollers above and below the knife, and means for locking said knife against movement when any of the edges are presented for contact with the material; substantially as described.

5. In a machine of the class described, a disintegrating mechanism provided with a casing having an inlet-opening and an outlet-opening, bearings in the casing, a knife having angular ends resting in the bearings, said knife being approximately triangular in cross-section and provided with a cutting edge at each angle, the respective cutting edges being adapted to be respectively positioned for contact with the material, rollers above and below the knife, and roller-carrying plates for locking said knife against movement when any of the edges are presented for contact with the material; substantially as described.

6. In a machine of the class described, a disintegrating mechanism provided with a casing having an inlet-opening, bearings in the casing, a knife in the bearings approximately triangular in cross-section and having a cutting edge at each angle, the edges being adapted to be respectively positioned for contact with the material, rollers above and below the knife, and removable roller-carrying plates for locking said knife against movement when any of the edges are presented for contact with the material; substantially as described.

7. In a machine of the class described, the combination with a casing having a disintegrating mechanism, said casing being provided with inlet and outlet openings, rollers carried by said casing and adjacent to the inlet-opening, one of said rollers being in fixed bearings and the other in slidable bearings, a lever 50 connected to the movable bearings, a treadle 53 below the lever 50, and a connection between the lever 53 and lever 50 whereby the depression of the lever 50 will raise the movable bearings; substantially as described.

8. In a device of the class described, the combination with a casing having a disintegrating mechanism therein, said casing being provided with inlet and outlet openings, rollers carried by the casing and adjacent to the inlet-opening, one of said rollers being in fixed bearings and the other in slidable bearings, a spring-retractable treadle 53 pivoted at one end, an intermediately-pivoted lever 50 connected to the slidable bearings, and a connection between the levers 50 and 53; substantially as described.

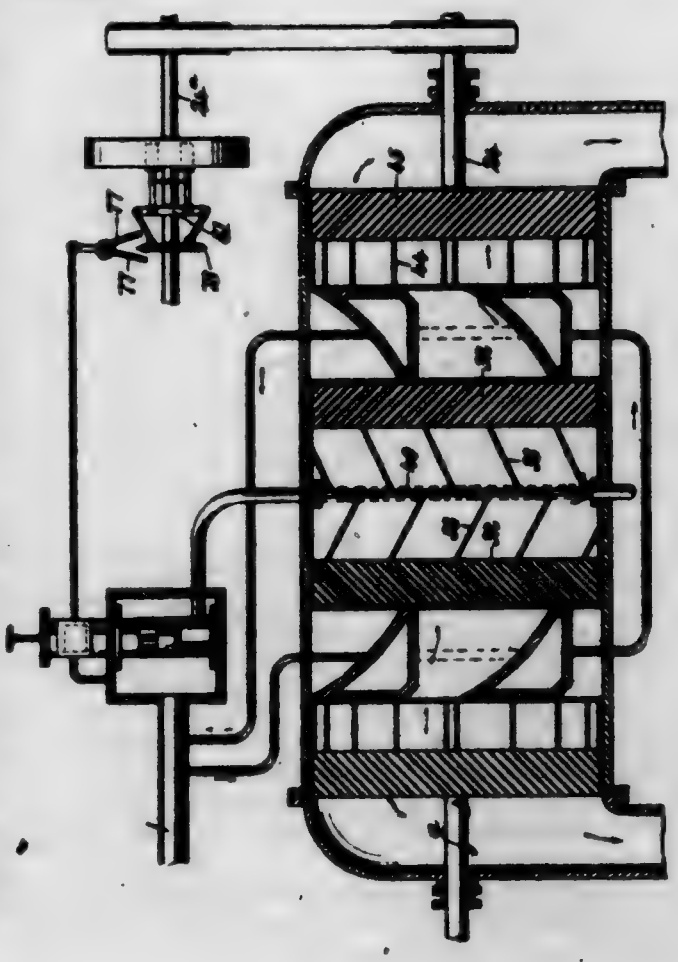
9. In a device of the class described, the combination with a disintegrating mechanism, a casing surrounding said mechanism and having an inlet-opening and an outlet-opening for communication with the pneumatic exhaust, a pair of feed-rollers adjacent to the inlet-opening of the casing, one of which is in stationary bearings and the other in movable bearings whereby the latter is adapted to gravitate toward the former, a knife between the rollers, and a scraper-knife adjacent to the roller in fixed bearings; substantially as described.

10. In a device of the class described, the combination with a casing having a disintegrating mechanism therein, of a feed device comprising a hopper, the bottom of which consists of a plurality of rotating elements having gears, a rotatable shaft having gears fixed thereto and in mesh with the gears on the rotatable elements, a gear loose on said shaft, a driving-shaft, a gear on the driving-shaft in mesh with the loose gear, and a friction-clutch one member of which is fixed on the shaft and adjacent the loose gear, the second member of the clutch being loose on the shaft and rigid with the loose gear; substantially as described.

11. In a shredding-machine, the combination with feed-rollers, one of which positively advances the material to be shredded into the machine, and a removable bar triangular in cross-section and having a knife-edge at each angle, one edge of the bar bearing upon the other of said feed-rollers for guiding the material into the machine; substantially as described.

12. In a shredding-machine, the combination with feed-rollers one of which positively feeds the material into the machine, of a triangular bar arranged between said rollers and having a knife-edge at each angle, one of the knife-edges coöperating with the lower roller to guide the material therefrom and direct it upwardly and inwardly to the machine in a path coincident with the circumference of the positive roller, the upper inner edge of said bar forming an overhanging tearing edge, and revolving beaters or hammers coöperating with the material after it has been positively moved past the tearing edge and while it is held by the positive feed-roller; substantially as described.

808,134. ELASTIC-FLUID TURBINE. HORATIO G. WOOD and HIRAM BURLINGHAM, Newport, R. I. Filed Sept. 1, 1904. Serial No. 222,961.



Claim.—1. A turbine having a member acted on by the motive fluid and divided into two parts, and a superheater located between the said parts of said member for the purpose specified, said superheater being chambered to permit the circulation of a heating medium therethrough and having passages for the movement of the motive fluid, said passages tapering toward the discharge end of the turbine.

2. A turbine having a rotor provided with two members, means for clamping them together, a bucket adapted to receive the action of the motive fluid and having a part held between said members, two peripheral rings between which a part of the bucket is also held, and means for clamping the rings together.

3. A turbine having a rotor provided with two members one of said members having an undercut groove, means for clamping said members together, a bucket adapted to receive the action of the motive fluid and having a part fitted in the said groove, two peripheral rings, one of which is provided with an undercut groove, the bucket also having a part fitted in the second-named undercut groove, and means for clamping said peripheral rings together.

4. A turbine having a rotor provided with two members means for clamping them together, the members having matching undercut grooves, a bucket adapted to receive the action of the motive fluid and having a T-shaped part fitted in the undercut grooves, two peripheral rings having matching undercut grooves also receiving the T-shaped part on the bucket, and means for clamping said peripheral rings together.

5. A turbine having a rotor provided with two annular groups of buckets, the members of each row converging toward the steam-flow, and two annular rows of vanes receiving the steam from the buckets and ranging diagonally opposite to the direction in which the buckets extend.

6. A turbine having a rotor provided with partitions extending parallel to the axis of the rotor, and discharging into the vanes extending diagonally of said axis.

7. A turbine having a rotor comprising a main and an end part, devices attached to the main part of the rotor and adapted to receive the action of the motive fluid, partitions attached to the end part of the rotor and extending parallel to the axis thereof, and vanes receiving the motive fluid from the partitions and extending diagonally of said axis of the rotor.

8. A turbine having a rotor provided with a main and an end part separated from each other, a superheater located between said parts, a device attached to the main part and adapted to receive the action of the motive fluid, partitions attached to the end part and receiving the motive fluid from the superheater, said partitions extending parallel to the axis of the rotor, and vanes also attached to the end part of the rotor and receiving the motive fluid from the partitions, the said vanes extending diagonally of the axis of the rotor.

9. A turbine having a rotor, buckets attached thereto, peripheral rings located outward of and encircling the buckets and between which rings parts of the buckets are engaged, and means for clamping the rings together to hold the parts of the rotor secure.

10. A turbine having a rotor, buckets attached thereto, said buckets having projections extending from their outer ends, peripheral rings between which said projections of the buckets are received, and means for clamping said rings together.

11. A turbine having a rotor, divided into two parts spaced from each other and adapted to have the working steam pass from one to the other, and a superheater for the steam interposed between said parts of the rotor and adapted to reheat the steam on its way from one of said parts to the other, said superheater comprising walls forming a chamber and a passage through the same through which the working steam passes from one part of the rotor to the other, and means for conducting reheating-steam to said chamber to heat the walls thereof.

12. A turbine having a rotor divided into two parts adapted to have the steam pass from one to the other, a superheater located between said parts of the rotor and having a passage therein to conduct the working steam from one to the other part of the rotor and means for supplying reheating-steam to the interior of the superheater.

13. A turbine having a rotor provided with two parts adapted to have the steam successively engaged therewith, the first part of the rotor having buckets and the second part of the rotor having partitions running parallel to the axis of the rotor, and vanes disposed diagonally to said axis and receiving the steam from the spaces between the partitions.

14. A turbine having a rotor provided with two parts adapted to have the steam successively engaged therewith, the first part of the rotor having buckets and the second part of the rotor having partitions running parallel to the axis of the rotor, vanes disposed diagonally to said axis and receiving the steam from the spaces between the partitions, and a superheater interposed between said parts of the rotor to reheat the steam as it passes from the first to the second part.

15. A turbine having a rotor provided with two parts adapted to have the steam successively engaged therewith, the first part of the rotor having buckets and the second part of the rotor having partitions running parallel to the axis of the rotor, vanes disposed diagonally to said axis and receiving the steam from the spaces between the partitions, and a superheater arranged between said parts of the rotor and having a passage therein for the movement of the steam from one part to the other of the rotor whereby to reheat the steam.

16. A turbine having a rotor provided with two annular groups of buckets, the members of each group converging toward the steam-flow, two annular rows of vanes receiving the steam from the buckets and ranging diagonally opposite to the direction in which the buckets extend, and a partition carried with the rotor and separating said annular groups of buckets.

17. A turbine having a rotor provided with two annular groups of buckets, the members of each group converging toward the steam-flow, two annular rows of vanes receiving the steam from the buckets and ranging diagonally opposite to the direction in which the buckets extend, and a partition carried with the rotor and separating said annular groups of buckets, said partition being located opposite the steam-inlet orifices so as to split or divide the steam-supply and distribute part to one group of buckets and part to the other.

18. A turbine having a steam-engaging part comprising a main portion, flanges extending transversely from the ends thereof, and a T-shaped projection extending outward from the flanges.

19. A turbine having a shell and a rotor operating therein, means for conducting a plurality of motive-fluid jets into different parts of the shell, a motive-fluid supply communicating with each of said jets, a valve controlling each communication, a cylinder for each valve, a piston operating in each cylinder, a connection between the pistons and the respective valves, an additional valve for each cylinder, the additional valves serving to admit fluid-pressure alternately to the sides of the pistons, and a synchronous governor having connection with said additional valves to operate them in succession, whereby to successively cut off the fluid-jets leading into the shell of the turbine.

20. A turbine comprising a shell and a rotor operating therein, a steam-chamber located outside of the shell, jet-pipes passing from said chamber into different parts of the shell, cylinders within the chamber from which cylinders said jet-pipes respectively lead, said cylinders communicating with the interior of the chamber, a piston-valve in each cylinder, additional cylinders mounted on the chamber respectively opposite the cylinders in each chamber, pistons operating in the additional cylinders, means connecting the pistons respectively with the piston-valves, valve devices controlling the supply of fluid-pressure to the sides of said pistons, and a synchronous governor operating the last-named valve devices.

21. A turbine having a shell and rotor operating therein, a means forming a steam-chamber outside of the shell, steam-jet pipes passing from said chamber into different parts of the shell, valve devices juxtaposed to said chamber and independently controlling said movement through the jet-pipes, and a synchronous governor for operating said valve devices in succession.

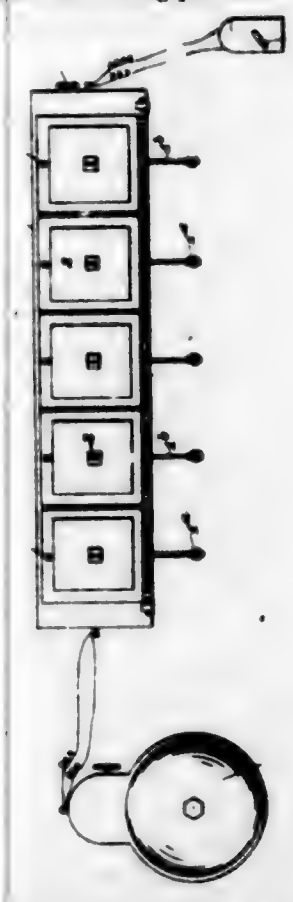
808,135. **ANNUNCIATOR.** LEONIDAS G. WOOLLEY, Kenton, Ohio. Filed July 17, 1905. Serial No. 270,062.

Claim.—1. In an annunciator, the combination of a frame having a movable signal-door, a latch for said door to hold the same in normal position, a rod for releasing said latch, a clutching device to feed said rod and means for operating said clutching device.

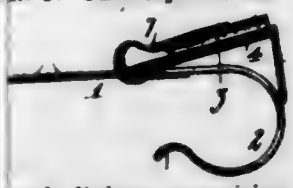
2. In an annunciator, the combination of a box or frame having a movable signal-door, a latch for said door to hold the same in normal position, a rod for releasing said latch, a clutching device to feed said rod toward said latch, a stop device to hold said rod as it is fed and means for releasing said stop device operative by the release of the door.

3. In an annunciator, the combination of a box or frame having a movable signal-door, a latch for said door to hold the same in normal position, a rod for releasing said latch, a clutching device to feed said rod toward said latch consisting of a bar having an opening the walls of which engage said rod when the bar is tilted, a stop device consisting of a bar having an opening the walls of which engage the bar to hold the same between the feeding movements, and means ac-

tuated upon the release of the door to move said feeding and stop-bars out of feeding and rod-holding positions.



808,136. MATCH-LIGHTER. HENRY A. BARNUM and JAMES G. HARRIS, Buffalo, N. Y. Filed Sept. 27, 1905. Serial No. 280,287.

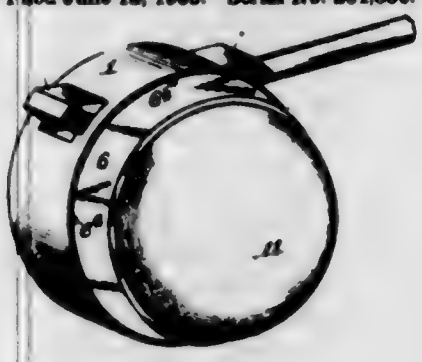


Claim.—1. A match-lighter comprising a body having two tongues stamped therefrom, one of which forms a match-seat and is inclined to elevate one end and the other being bent to bear against the under side of the last-mentioned tongue, said body having also a roughened surface in advance of said match-seat, and a yieldingly-supported match-guide located over said match-seat.

2. A match-lighter comprising a body formed of a flat piece of metal curved at one end to form a finger-hold and having the upper surface at its other end roughened, integral tongues stamped from said body and bent outward therefrom to bring the outer ends thereof in contact, one of said tongues serving as a match-seat and the other as a support for the last-mentioned tongue, a curved band-spring secured to the body and terminating above the match-seat, and a match-guide secured to said spring and bearing against said match-seat.

3. A match-lighter comprising a body formed of a piece of flat metal curved at one end to form a finger-hold and having the upper surface at its other end roughened, integral tongues stamped from said metal and bent to bring the ends thereof together, one of said tongues having its upper surface concaved to form a match-seat, a curved band-spring secured to said body and having its free end terminating above said match-seat, and a match-guide above said match-seat and secured to the free end of said spring, said guide having its under side concaved, substantially as described.

808,137. PNEUMATIC SIGNAL-BELL. JOSEPH H. BRADY, Kansas City, Mo. Filed June 12, 1905. Serial No. 264,806.



Claim.—1. A pneumatic signal-bell consisting of a rotary motor, a rigidly-mounted shaft having one end projecting laterally from the center of the motor-cylinder, a gong arranged concentrically with the motor-cylinder, a boss integral with said gong and secured to the projecting end of the shaft, a tubular shaft journaled upon the rigid shaft and carrying the turbine-wheel of the motor, said shaft also having one end projecting from the motor-cylinder, an arm secured at its central portion to the projecting end of said tubular shaft, and clappers loosely secured to the terminals of said arm so they will be thrown into contact with the gong by centrifugal force.

2. A pneumatic signal-bell comprising a rotary motor provided with a turbine-wheel having pockets for the reception of the motive fluid, a rigidly-mounted shaft having a threaded end projecting laterally from the center of the motor-cylinder, a shoulder on said projecting end, a gong arranged concentrically with the motor-shaft and provided with an internal lug, a boss integral with said gong and provided with internal threads for engagement with the threads on the shaft, a tubular shaft journaled upon the rigid shaft and carrying the turbine-wheel of the motor, said shaft also having one end projecting from the cylinder, an arm having an enlarged central portion, a tubular boss integral with said central portion and fitting snugly over the projecting end of the tubular shaft, and clappers loosely secured to the terminals of said arms so they will be thrown into contact with the lug by centrifugal force, substantially as shown and described.

808,138. HINGE. ALBERT R. CARROLL, Joliet, Ill. Filed Aug. 31, 1904. Serial No. 223,812.



Claim.—1. A hinge composed of two leaves pivotally connected one of said leaves having a barrel portion, a coil-spring arranged in said barrel portion and having its ends secured on said barrel-carrying leaf, a collar secured to said spring midway its length and provided with notches, a catch slidably mounted on one of said leaves and a second catch rockably mounted on the other leaf, said catches having portions adapted to engage the notches in the collar substantially in the manner and for the purpose set forth.

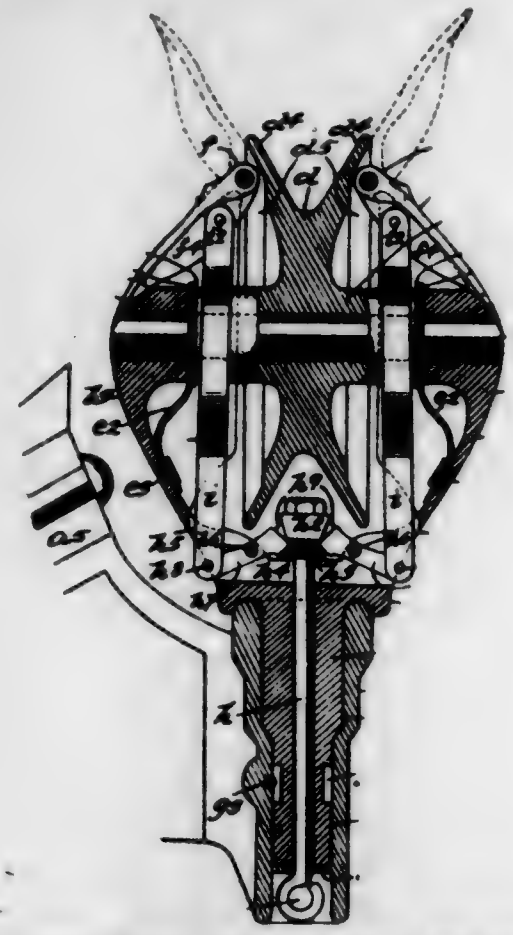
2. A hinge composed of two leaves detachably and pivotally connected, a coil-spring having its ends secured to one of said leaves, a collar secured to said spring midway its length said collar having openings therein, a catch formed from a single piece of wire bent to form a hook adapted to engage the notches in said collar, said catch slidably mounted on one of said leaves, a second catch formed from a single piece of wire and bent to form a hook adapted to engage the notches in said collar, said catch rockably mounted on the other leaf.

808,139. ELECTRIC-TROLLEY HEAD. JOHN T. CHERRY and EDWARD H. CLIVE, Plymouth, England. Filed Mar. 23, 1905. Serial No. 252,465.

Claim.—1. In a trolley device, a socket member adapted to be connected with a trolley-arm, a fork-shaped frame mounted on said socket member and rotatable thereon, a trolley-wheel mounted between the opposite sides of the fork-shaped frame, a spring-supported rod passing vertically through the socket member and provided with a head in the bottom portion of the fork-shaped frame, rock-levers pivoted at the opposite sides of the head of the rod and adapted to be operated thereby, vertically-arranged link members pivoted to the outer end of said levers, and wire-finders pivoted at the top of the opposite sides of the fork-shaped frame, said link members being also pivoted to said wire-finders, substantially as shown and described.

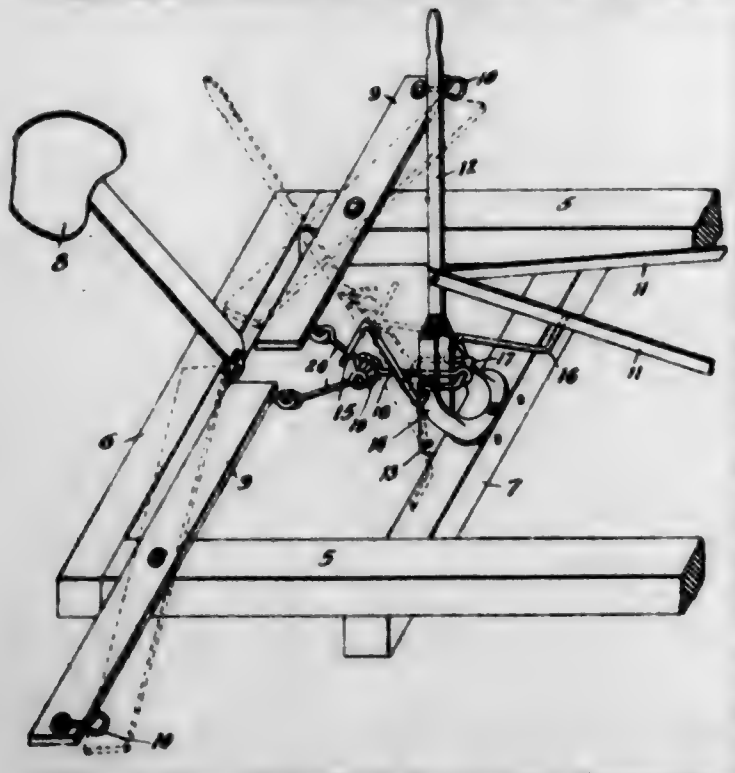
2. In a trolley device, a socket member designed to be connected with a trolley-arm, a fork-shaped frame mounted on said socket member and rotatable thereon, a trolley-wheel mounted between the sides of the fork-shaped frame, a spring-supported rod passing vertically through the socket member and into the bottom of said frame and the upper end of which is provided with a head, wire-finders pivoted in the top of the side portions of the fork-shaped frame, levers

pivoted in the bottom of the fork-shaped frame and adapted to be operated by the head of said rod and link devices in operative connection with said levers and said wire-finders, substantially as shown and described.



3. In a trolley device, a socket member, a fork-shaped frame mounted thereon and provided with a shank which enters said member, said frame being rotatable on said socket member, a trolley-wheel mounted between the sides of the fork-shaped frame, a vertically-movable spring-supported rod passing upwardly through the socket member and through the shank of the fork-shaped frame into the bottom portion of said frame, wire-finders pivoted to the top of the opposite side portions of the fork-shaped frame, levers pivoted in the bottom of the fork-shaped frame and adapted to be operated by the downward movement of said rod and devices in operative connection with said levers and said wire-finders whereby the downward movement of said rod will raise said wire-finders, substantially as shown and described.

808,140. **HAY-RAKE.** FRANK R. CHILDREN, Council Bluffs, Iowa, assignor to R. Children's Sons Manufacturing Company, Council Bluffs, Iowa, a Corporation of Iowa. Filed Feb. 17, 1905. Serial No. 246,051.



Claim.—1. The combination with the rake-head, the operating-lever for lifting the rake-head, the devices connecting the lever to the head, and the draft devices, of a vertically-swinging crank connected to the draft devices and bearing against said lever.

2. The combination with the rake-head, the lever for lifting the rake-head, the devices connecting the lever to the head, and the draft devices, of a vertically-swinging frame connected to the draft devices and normally positioned so that the line of draft is below the axis upon which the frame swings, means whereby the frame may be so positioned as to throw the draft above its axis, a crank 16 rigid with the frame and a stop limiting the movement of said crank.

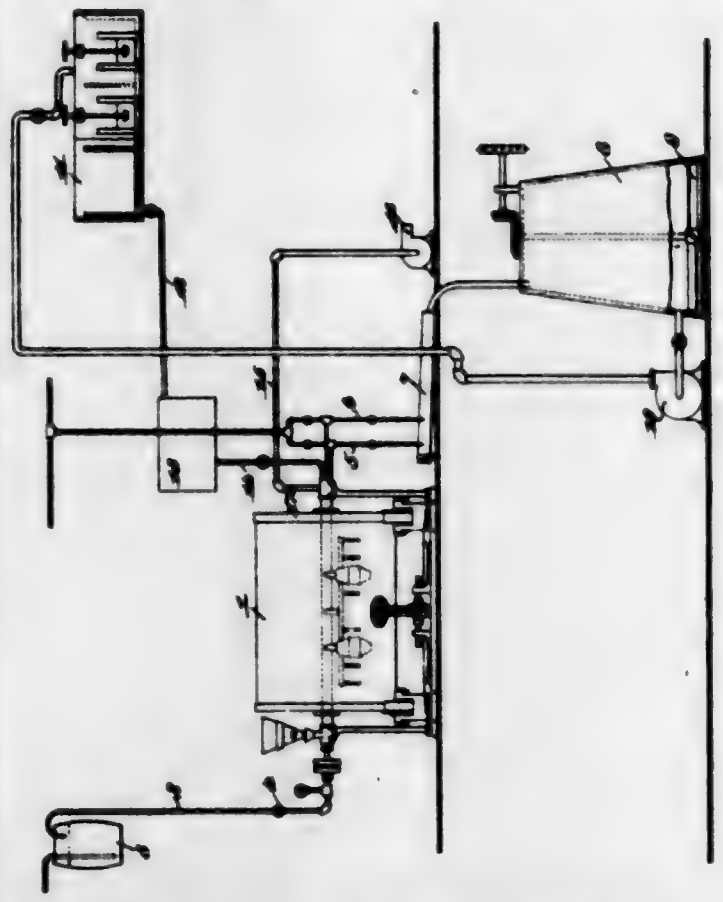
3. The combination with the rake-head, the lever for lifting the rake-head, the devices connecting the lever to the head and the draft devices, of a crank-frame connected to the draft devices, and means for positioning said frame against the lever at will whereby the power of the draft may be transmitted to the lever.

4. The combination with the draw-bars and the lifting-lever of a push-rake, of a crank-frame connected to the draw-bars, and adapted to bear against and operate said lever, and means for moving the crank-frame into contact with the lever and for withdrawing it therefrom.

5. The combination with the draw-bars and the lifting-lever of a push-rake, of an adjustable device for operating the lever directly connected to the draw-bars, and means whereby the driver may adjust said device for operating the lever and also for releasing it.

6. The combination with the draw-bars and the lifting-lever of a push-rake, of a crank-frame for operating said lever connected to the draw-bars and adapted to bear against the lever, and a foot-lever for moving said crank-frame into contact with the lever.

808,141. **METHOD OF MAKING LEAD HYDRATE.** GEORGE D. COLEMAN, Boston, Mass. Filed Mar. 18, 1901. Serial No. 51,760.



Claim.—1. The method of continuously making lead hydrate which consists in introducing comminuted metallic lead, water and a limited quantity of an oxidizing reagent into a closed vessel, subjecting the contents to attrition and mixing and continuously drawing off the product with some of the water.

2. The method of continuously making lead hydrate which consists in introducing comminuted metallic lead, water and a limited quantity of an oxidizing reagent into a closed vessel, subjecting the contents to attrition and mixing, continuously drawing off the product with some of the water, separating part of the product from the water and returning the water to the closed vessel.

3. The method of continuously making lead hydrate which consists in introducing comminuted metallic lead, water, and a limited quantity of air into a closed vessel, subjecting the contents to attrition and mixing at a low temperature, continuously drawing off the product with some of the water, separating the product from the water and returning the water to the vessel.

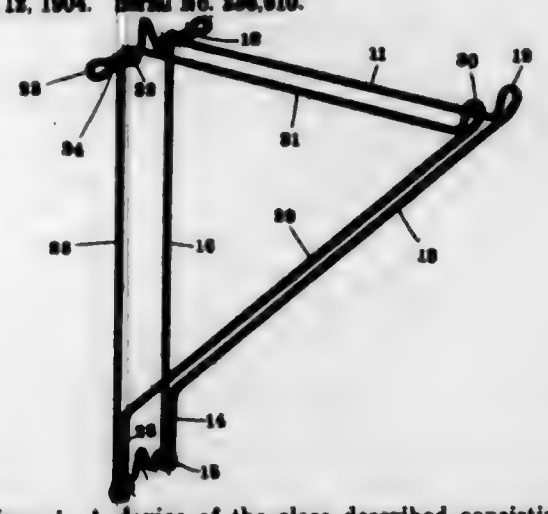
4. The method of continuously making lead hydrate which con-

sists in introducing comminuted metallic lead, water and a limited quantity of air into a closed vessel, subjecting the contents to attrition and mixing at a low temperature, continuously drawing off the product with some of the water, separating the product from the water, returning the water to the vessel, and continuously drawing off air deficient in oxygen.

5. The method of making lead hydrate which consists in subjecting comminuted metallic lead to attrition in a closed vessel containing water and air deficient in oxygen, the contents of the vessel being maintained at a temperature of less than 100° Fahrenheit, and air being introduced slowly to replace the oxygen consumed in the process, substantially as described.

6. The method of continuously making lead hydrate which consists in introducing comminuted metallic lead, water, and air into a closed vessel, subjecting the contents to attrition and mixing and continuously drawing off air deficient in oxygen and replacing it with fresh air in quantities insufficient to maintain the normal proportion of oxygen in the atmosphere, substantially as described.

808,142. **TOOL-RACK.** JOHN W. DANBOUR, Huey, Ill. Filed Dec. 12, 1904. Serial No. 236,610.



Claim.—1. A device of the class described consisting of the two substantially vertical triangular members and a pair of connecting transverse members, each of said transverse members being provided with a carat-shaped crotch, and one of said transverse members having its ends displaced from the vertical plane of its crotch, for the purpose set forth.

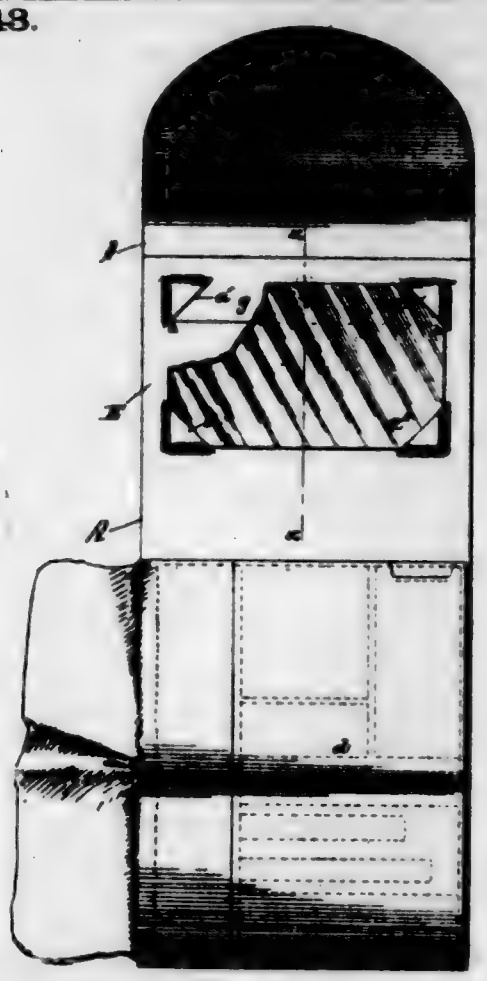
2. A device of the class described consisting of a single piece of wire bent to form a pair of vertical triangular members and a transverse member having an intermediate pin-receiving crotch, the said transverse member connecting one pair of adjacent corners of the triangular members; and a second transverse member also provided with an intermediate pin-receiving crotch, said second transverse member connecting another adjacent pair of apexes of the vertical members.

3. A device of the class described consisting of a single wire bent to form an eye 10 at one end, a track 11 extending substantially horizontal therefrom, an upturned eye 12 at the outer end of said track 11, a downwardly and inwardly inclined brace member 13, an eye 15 formed at the lower end thereof, a vertical member 16 rising from said eye, an eye 17 formed substantially parallel with the adjacent eye 10, a transverse doubled member 18 19 21 22 23 24, an eye 25 formed adjacent the portion 21 of the transverse member, a vertical member 26 arranged substantially parallel with the vertical member 16, an eye 27 formed at the lower end of said member 26 an upwardly and outwardly extending brace member 29 extending from said member 26, an upturned eye 30 formed at the upper end of said brace member, a horizontal track member 31 formed substantially parallel with the track member 11, an eye 32 formed at the inner end of said track member and embracing the transverse member, and a transverse member provided with an eye at each end passing through and connecting the eyes 15 and 27, all substantially as and for the purpose set forth.

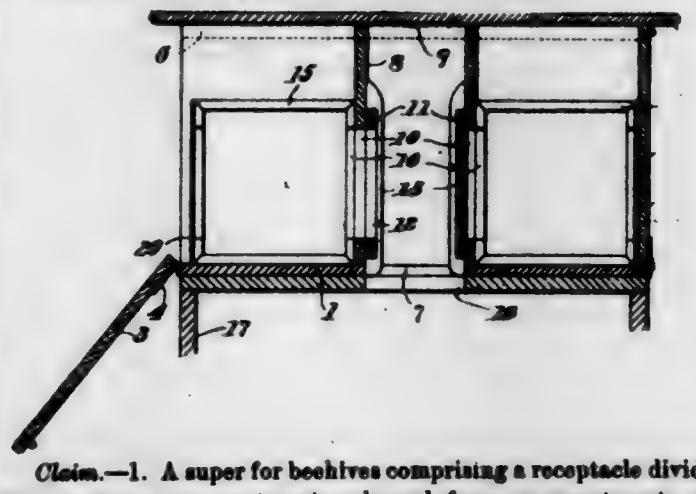
808,143. **TOILET AND MANICURE CASE.** JOHN J. M. DAWSON, Viroqua, Wis. Filed Oct. 12, 1904. Serial No. 228,243.

Claim.—A pocket-case having an inside pocket one side of which is provided with four diagonal slits adapted to receive the corners of a card or mirror, said side also having a flap under which said card or mirror may be inserted, said flap being formed by a slit *a a* extending from the inner end of one diagonal slit to the inner end of an adjacent diagonal slit, substantially as described and shown.

808,143.



808,144. **SUPER FOR BEEHIVES.** WILBERN W. DEMPSEY, Sibley, Iowa. Filed May 11, 1905. Serial No. 259,947.



Claim.—1. A super for beehives comprising a receptacle divided into an entrance-compartment and comb-frame compartments, the bottom of the entrance-compartment having an entrance-opening, the walls between the entrance-compartment and the comb-frame compartments being provided with openings affording communication between the entrance-compartment and the comb-frame compartments, means to control communication between the entrance-compartment and the comb-frame compartments, and removable sides for the comb-frame compartments.

2. A super for beehives comprising a receptacle divided into a bee-compartment and a comb-frame compartment, the bee-compartment having an entrance-opening in the bottom thereof, the wall between the two compartments being provided with a series of openings, and a cut-off slide to control the openings in the wall, one end of the slide being reduced and projected through an opening in the receptacle to form a handle for access from the exterior of the device, the reduced portion of the slide providing a shoulder to engage the adjacent wall of the receptacle and limit the outward movement of the slide.

3. A super for beehives comprising a receptacle divided into a bee-compartment and a comb-frame compartment, the bee-compartment having an entrance-opening in the bottom thereof, a screen-cover for the top of the bee-compartment, the comb-frame compartment having a closure to permit access to the interior thereof, and means to control communication between the two compartments.

4. A super for beehives comprising a receptacle having a bee-compartment and a comb-frame compartment, the bee-compartment having an entrance-opening in the bottom thereof, a screen-

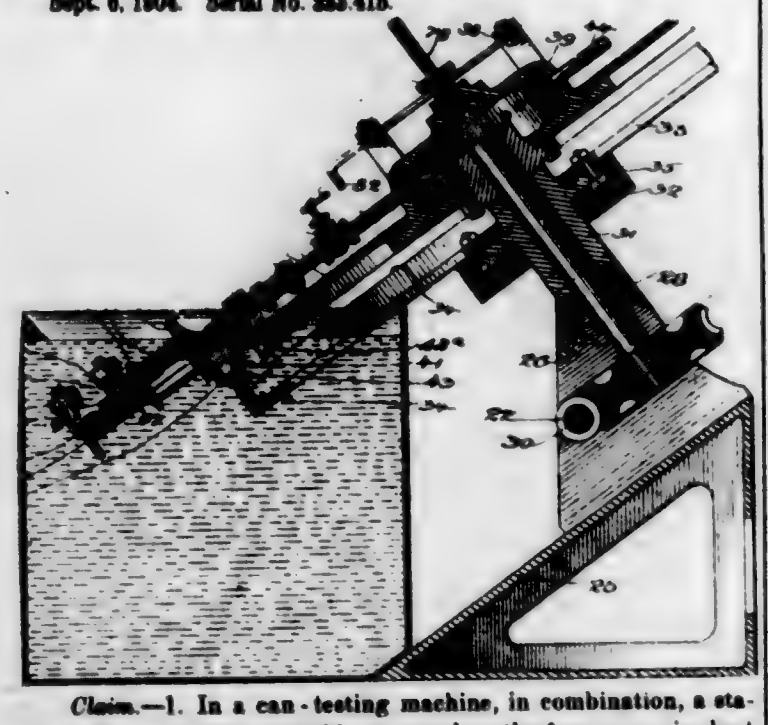
cover for the top of the bee compartment, means for controlling communication between the two compartments, and a removable cover for the receptacle.

5. A super for beehives comprising a receptacle divided into a bee-compartment and a comb-frame compartment, the bee-compartment having an entrance-opening in the bottom thereof, a screen-cover for the top of the bee-compartment, means to control communication between the two compartments, a hinged side for the comb-frame compartment, and a removable cover for the receptacle, the hinged side capable of being opened without removing the cover.

6. A super for beehives comprising a receptacle divided into an intermediate bee-compartment and opposite comb-frame compartments, the bee-compartment having an entrance-opening in the bottom thereof, the walls between the compartments being provided with openings, slides for controlling the openings, hinged sides for the comb-frame compartments, a screen-cover for the bee-compartment, and a removable cover for the device.

7. The combination with a beehive having an exit-opening in the top thereof, of a super removably supported upon the top of the beehive and divided into an entrance-compartment and comb-frame compartments, the walls between the entrance-compartment and the comb-frame compartments being provided with openings, the bottom of the entrance-compartment being provided with an opening registering with the exit-opening in the top of the beehive, and means to control communication between the bee-compartment and the comb-frame compartments.

808,145. CAN-TESTER. JOHN A. DIEBEL, Chicago, Ill. Filed Sept. 6, 1904. Serial No. 223,415.



Claim.—1. In a can-testing machine, in combination, a stationary frame; a table rotatably mounted on the frame; an air-chest carried by the table; radiating tubular arms leading from the chest each having a clamping-head at its end; a reciprocatory clamping-head mounted on the table in line with each of the first-named heads; cams carried by the frame for actuating the reciprocatory heads; an oscillating detent coöperating with each of the last-named heads; and cams mounted on the frame for actuating the detents.

2. In a can-testing machine, in combination, a stationary frame; a rotatable table mounted thereon; coöperating clamping-heads carried by the table, one thereof being fixed and the other reciprocatory; an oscillatory detent for engaging the reciprocatory head when advanced; a cam fixed obliquely across the orbital path of the detent; a member carried by the detent and movable thereon before the face thereof which engages the cam.

3. In a can-testing machine, in combination, a stationary frame; a rotatable table mounted thereon; a pair of clamping-heads mounted on the table, one thereof being reciprocatory; a detent for locking the movable head in its advanced position; a cam mounted on the frame for throwing back the detent; a member carried by the detent and movable in front of its cam-engaging face; and a yielding cam carried by the frame for actuating the movable head.

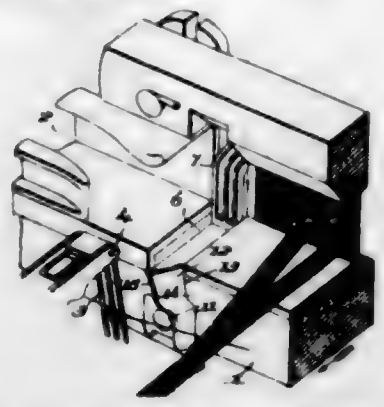
4. In a can-testing machine, in combination, a stationary frame; a rotatable table mounted thereon; a pair of clamping-heads mounted on the table, one thereof being reciprocatory; a detent for engaging the latter head when advanced; a cam mounted on the frame for throwing back the detent; a member carried by the detent and movable in front of its cam-engaging face; a trip swinging such member away from the cam-engaging face of the detent; and a yielding cam carried by the frame for actuating the movable head.

5. In a can-testing machine, in combination, a stationary frame; a rotatable table mounted thereon and having an aperture; a pair of clamping-heads carried by the table over the aperture; a chute leading to the heads; a swinging gate pivoted to the under side of the table adjacent the aperture; and a cam fixed to the frame for closing the gate when the aperture is in line with the chute.

6. In a can-testing machine, in combination, a stationary frame; rotatable table mounted thereon and having an aperture; a pair of clamping-heads carried by the table over the aperture; a chute leading to the heads; a swinging gate pivoted to the under side of the table adjacent the aperture and having a concave face; and a cam fixed to the frame for closing the gate when the aperture is in line with the chute.

7. In a can-testing machine, in combination, a stationary frame; a rotatable table mounted thereon; a pair of clamping-heads carried by the table, one thereof being reciprocatory; a cam mounted on the frame for engaging the movable head to advance it; an oscillatory detent for locking the movable head in its advanced position; and a yielding cam mounted on the frame for throwing the detent into action.

808,146. TRAILING FILLING-END CLEARER FOR LOOMS. WILLIAM F. DRAPER and JONAS NORTHROP, Hopedale, Mass., assignors to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 11, 1905. Serial No. 259,945.



Claim.—1. In a loom, a lay, a filling-fork, and means fixedly mounted on the lay, and moving in a path at one side of the fork, to prevent a trailing filling end extended from the cloth from affecting the action of the fork.

2. In a loom, a lay, a detector to detect absence of filling, and means fixedly mounted on the lay and moving in a path at one side of the fork, to free the detector from control by a trailing filling end extending from the cloth.

3. In a loom, a lay, a detector to coöperate with a running filling-thread laid in front thereof, and means fixedly mounted on the lay in a plane transverse thereto to relieve the detector from coöperation with a trailing filling end extended from the cloth.

4. In a loom, a lay, a shuttle reciprocable thereupon to lay the filling, a filling-fork to coöperate with the filling laid in front thereof, and an upturned clearer fixedly mounted on the lay in a plane transverse thereto and moving in a path at one side of the fork, to automatically relieve the fork from coöperation with a trailing filling end extending from the cloth and in front of the fork.

5. In a loom, a lay having a transverse fork-recess, a filling-fork adapted to be tilted by intermittent engagement with the running filling, and means fixedly mounted on the lay between the cloth and the fork-recess to clear the fork from coöperation with a trailing filling end extended from the cloth and in position to engage and tilt the fork.

6. In a loom, a lay, a filling-fork to coöperate with and be tilted by running filling laid in front thereof, and an upright clearer fixedly mounted on the front of the lay and moving in a path between the fork and the edge of the cloth to act upon a trailing filling end so laid and extending from the cloth and free the fork from the influence of such trailing end.

7. In a loom, a lay, a filling-fork, and a filling-end clearer mounted on the lay and having an upright, thin and flat portion fixedly extended in front of and at right angles to the lay, to engage a trailing filling end extended from the cloth and clear the same from a position affecting the action of the fork.

8. In a loom, a lay, a filling-fork, and a blade-like filling-end clearer fixedly mounted on the front of the lay and set out therefrom and extended above the raceway, to engage a trailing filling end extended from the cloth and clear the same from a position affecting

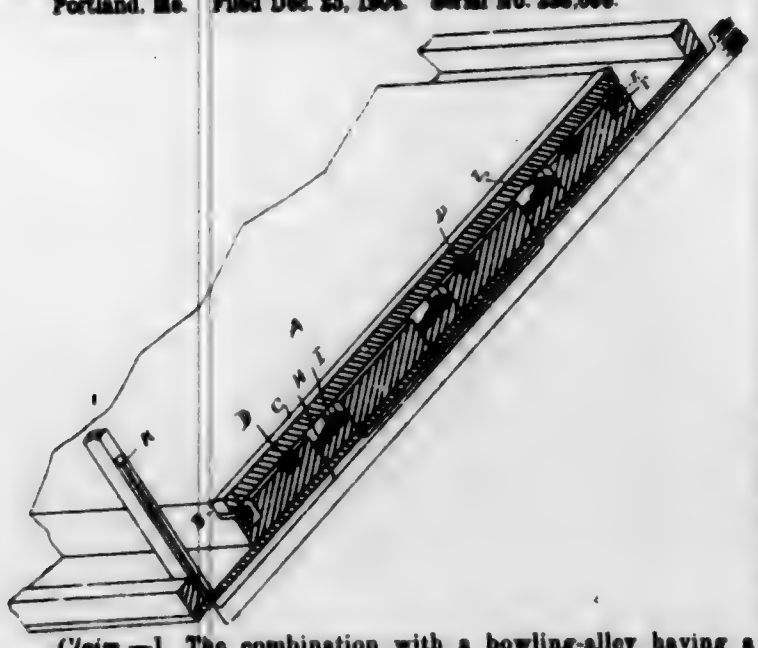
the action of the fork, the space between the lay and the rear edge of the clearer permitting a trailing filling end to drop thereinto below the fork-path across the lay-raceway.

9. In a loom, a lay, a filling-fork, and a filling-end clearer fixedly mounted on the lay at the front thereof in a plane transverse to the lay, and having front and rear upright acting edges, to engage a trailing filling end extended from the cloth and clear the same from a position affecting the fork action, the front and rear acting edges of the clearer operating on the forward and backward strokes, respectively, of the lay, to push or pull the filling end into harmless position.

10. As a new article of manufacture, a filling-end clearer for looms, comprising a base adapted to be secured to the front of a loom-lay and a rigidly-attached upright, blade-like portion adapted to lie in a plane transverse to the lay and to engage a trailing filling end when the clearer is in use.

11. In a loom, a lay, a filling-fork, and means fixedly mounted on the lay in a plane transverse thereto to free the fork from control by a trailing filling end on the forward stroke of the lay.

808,147. **BOWLING-ALLEY FOUL-LINE.** PHILIP W. EDWARDS, Portland, Me. Filed Dec. 23, 1904. Serial No. 238,068.



Claim.—1. The combination with a bowling-alley having a transverse groove therein, of a foul-line yieldingly supported in said groove, means for retaining said foul-line in said groove, said retaining means being positioned beneath said foul-line, and a signaling device connected with said foul-line.

2. The combination with a bowling-alley, having a transverse groove therein, of a foul-line yieldingly supported in said groove and loosely-interlocking keepers, one secured in the bottom of the groove and the other to the under side of the foul-line, adapted to limit the upward movement of the foul-line.

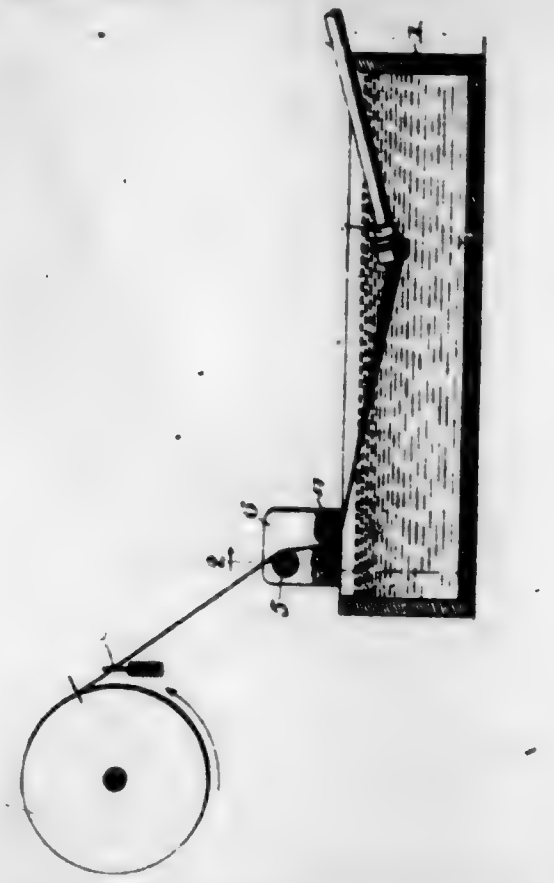
808,148. **PROCESS OF FORMING FILAMENTS FROM VISCOSE, &c.** CHARLES A. ERNST, Lansdowne, Pa., assignor to Silas W. Pettit, Philadelphia, Pa. Filed June 19, 1905. Serial No. 265,893.

Claim.—1. The herein-described process of making filaments from viscose, and like material, consisting in causing the viscose, or like material, to pass through a perforated cap into and through a setting-bath directly to the winding-spool, and subjecting the different portions of the length of the threads between the spool and the perforated cap to different degrees of tension to apply a definite predetermined stretch to the filaments between the bath and the winding-spool.

2. The herein-described process of making filaments from viscose, or like material, consisting in causing the viscose, or like material, to emerge into a setting-bath in the form of a filamentous thread, passing the same through said setting-bath directly to the winding-spool, and subjecting the portion of the thread nearest the emerging-point to a minimum stretch, and the portion of the thread nearest the winding-spool to a maximum stretch.

3. The process of making filaments from viscose and like material, which consists in applying a definite predetermined stretch to the filaments as they emerge from the setting-bath and winding the said filaments, under tension, directly upon spools.

4. The manufacture of threads from plastic material formed by ejecting the plastic material under pressure in the form of finely-divided filament, or thread, into a setting-bath, winding the threads directly upon a spool under tension, and subjecting the most plastic portion of the thread in the setting-bath to a minimum stretch, and the more solidified portion nearer the winding-spool to a greater stretch.



5. The manufacture of threads from plastic material, consisting in forcing the plastic material in a finely-divided state under pressure into a setting-bath, and passing the same through the setting-bath to and upon a winding-spool, exerting friction upon the said thread at a point intermediate in its length between the spool and where the divided plastic material enters the setting-bath, and applying a greater tension upon the portion of the threads between the spool and the tension medium, and a less tension between the friction medium and the point of entry of the divided plastic material into the setting-bath.

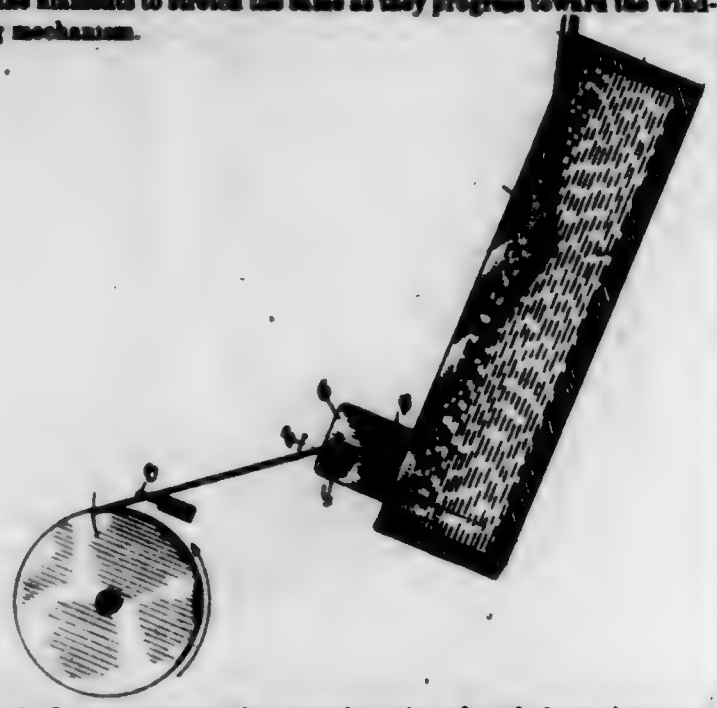
6. The herein-described process of making filaments from viscose or like material, consisting in causing viscose or like material to emerge in a setting-bath in the form of a filamentous thread, passing the same through said setting-bath, and through a tension device to a winding-spool and subjecting the portion of the thread nearest the emerging-point of a minimum tension, subjecting that portion of the thread passing through the tension device by a greater tension than the first portion of the thread is subjected, and subjecting that portion of the thread between said tension device and the winding-spool of a maximum tension.

7. In the manufacture of filaments from viscose or similar material, in which the viscose is ejected in a setting-bath and wound directly upon spools, the process of subjecting different portions of the thread between the spinning-heads and the spools to three different tensions, whereby the minimum strain is applied to that portion of the filaments nearest the spinning-head, maximum tension is applied to that portion nearest the winding-spool and a medium tension is applied to a third portion of the thread located between the portions under maximum and minimum tensions.

808,149. **APPARATUS FOR PRODUCING OR FORMING FILAMENTS FROM VISCOSE, &c.** CHARLES A. ERNST, Lansdowne, Pa., assignor to Silas W. Pettit, Philadelphia, Pa. Original application filed June 19, 1905, Serial No. 265,893. Divided and this application filed Aug. 5, 1905. Serial No. 273,844.

Claim.—1. In an apparatus for forming threads from viscose, or like material, the combination of a receptacle for containing a fixing-bath, means for causing filaments of viscose, or like material, to issue into the bath, means for causing said filaments to traverse the length of the bath, means for winding the filaments directly upon spools as they issue from said bath, and means for applying a minimum tension to the filaments nearest the spinning-head and for applying a maximum stretch to the filaments between the fixing-bath and the winding mechanism.

2. In an apparatus for spinning artificial silk, the combination of a tank for containing a fixing solution, a spinning-head located beneath the surface of the fixing solution, means for winding the filaments as they issue from the bath directly upon spools, and means for applying progressively-increasing tensions to different portions of the filaments to stretch the same as they progress toward the winding mechanism.



3. In an apparatus for manufacturing threads from viscose, or like material, a tank containing a fixing solution, a perforated discharge cap, or head, located at one end of the tank, a tension device located at the other end of the tank and adapted to hold the thread in the solution until it is spun, and to stretch the same between the tension device and the winding mechanism, and means to wind the spun thread directly on spools under tension.

4. In an apparatus for making artificial silk, the combination of a tank for containing a setting solution, means for forcing filaments of cellulose, or like material, into the solution, means for winding up the spun thread, and a tension device composed of parallel rods between which the thread is caused to pass for applying a definite predetermined tension to the thread.

5. In an apparatus for spinning viscose, or like material, a tank containing a setting solution, a series of perforated heads arranged on one side of the tank and discharging beneath the surface of the solution, tension-rods located at the other side of the tank, and means for winding up the spun thread as it is delivered from the tension-rods.

6. In an apparatus for making threads from viscose, or like material, a tank for containing a setting solution, means for winding up the thread delivered from said tank, and an adjustable tension device located between the spinning-head and the winding mechanism whereby a definite predetermined stretch is applied to the thread between said tension device and the winding mechanism.

7. In an apparatus for forming threads from viscose, or like material, a tank for containing a fixing solution, winding mechanism, and means for applying a certain predetermined stretch to the thread between the tank and the winding mechanism, and to prevent the tension on the thread from extending back to the filaments while they are being spun.

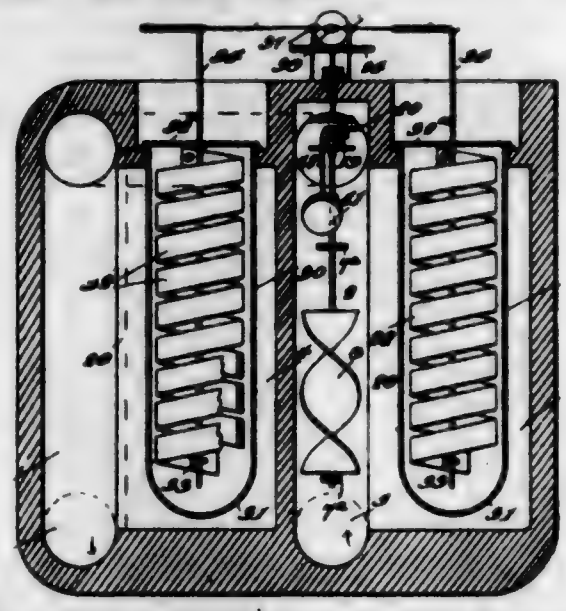
8. In an apparatus for forming threads from viscose, or similar material, the combination with a tank for containing a fixing solution, of a series of perforated heads arranged on one side of the tank, rods 4 and 5 located at the opposite side of said tank and transverse to the direction of the axes of the said heads, and a winding mechanism to which the said threads are delivered.

9. In an apparatus for making threads from viscose or like material, a tank for containing a setting solution, means for winding up the thread delivered from said tank, and an adjustable tension consisting of smooth parallel rods located between the spinning-head and the winding mechanism, whereby filaments are drawn over and partly around said rods to apply a definite predetermined tension or stretch to the thread immediately before it is wound upon the spool.

10. In an apparatus for forming threads from viscose or like material, a tank for containing a fixing solution and winding mechanism and means for applying progressively-increasing degrees of tension to stretch the thread between the tank and the winding mechanism and for preventing more than a minimum tension from being exerted upon the thread back of said tension device.

11. In an apparatus for making thread from viscose or like material, a tank containing a setting solution, a series of perforated heads arranged on one side of said tank and discharging beneath the surface of said solution, means for winding up the thread and a tension device consisting of a plurality of smooth rods around and between which the filaments are passed to apply a minimum tension to the filaments between said tension device and said perforated heads, an increased tension between said rods, and a maximum tension between the tension device and the winding mechanism.

808,150. **METER.** GEORGE H. PRESTON, Toronto, Canada. Filed Feb. 25, 1905. Serial No. 247,375.



Claim.—1. In a meter of the class described, the combination of a driver, a density-regulator for the driver, a register-acutator deriving motion therefrom, and a thermo-controller for varying the relative position of the driver and actuator.

2. In a meter of the class described, the combination of a driver, a register-actuator deriving motion therefrom, a thermo-controller comprising independent elements, and a connection between said thermal elements and register-actuator.

3. In a meter of the class described, the combination of a driver, a register-actuator deriving motion therefrom, a thermo-controller comprising independent elements, and a connection between said elements and the actuator and varied in its length by the differential movement of said elements.

4. In a meter of the class described, the combination of a driver, a register-actuator deriving motion therefrom, a thermo-controller comprising independent elements, and a connection between said thermal elements and register-acuator, said connection being normally under tension and affected by differential movement of said elements.

5. In a meter of the class described, the combination of a register-actuator, a driver deriving motion therefrom, a thermo-controller comprising independent elements, a connection between the elements of the thermo-controller and the register-actuator, and yielding means for holding the register-actuator in intimate contact with the connection aforesaid.

6. In a meter of the class described, the combination of a register-actuator, a driver deriving motion therefrom, a thermo-controller comprising independent elements, and a flexible connection between the thermal elements and deflected in its length, the degree of deflection of the connection being susceptible of variation.

7. In a meter of the class described, the combination of a register-actuator, a driver deriving motion therefrom, a thermo-controller comprising independent elements, and a flexible connection between the thermal elements and deflected in its length, the degree of deflection of the connection aforesaid being susceptible of variation by differential movement of the thermal elements.

8. In a meter of the class described, the combination of a register-actuator, operating mechanism therefor including a speed-changing mechanism, and a density-regulator embodying a float and cooperating with the speed-changing mechanism.

9. In a meter of the class described, the combination of a register-actuator, operating mechanism therefor including a speed-changing mechanism, a density-regulator including a float, means for holding said float normally in a predetermined position, and means actuated by the float and operably connected with the speed-changing mechanism.

10. In a meter, the combination of a supply-chamber, a density-

chamber in the length of said supply-chamber, a density-regulator in said density-chamber, a driver, a register-actuator operated by the driver, means operably connecting the density-regulator with the driver, and a thermal coil in the meter connected with the register-actuator.

11. In a meter, the combination of a supply-chamber, a density-chamber in the length of said supply-chamber, a density-regulator in said density-chamber, a driver, a register-actuator operated by the driver, and means including speed-changing mechanism arranged in the density-chamber and operably connecting the density-regulator and the driver.

12. In a meter of the class described, the combination of a register-actuator, a driver, thermo-controlled means for positioning the actuator with reference to the driver, and actuating mechanism for the driver including a density-regulator.

13. In a meter of the class described, the combination of a register-actuator, a driver, thermo-controlled means for positioning the actuator with reference to the driver, actuating mechanism for said driver including a speed-changing mechanism, and a density-regulator for said speed-changing mechanism.

14. In a meter of the class described, the combination of a fluid-actuated motor, a register-actuator, a driver, and thermal devices for positioning the actuator with reference to the driver and operated by fluid passing through the meter.

15. In combination with a meter having a fluid-passage therethrough, a motor operated by fluid passing through the meter, a driver, a register-actuator operable by the driver, and thermal devices for varying the relative positions of the driver and register-actuator.

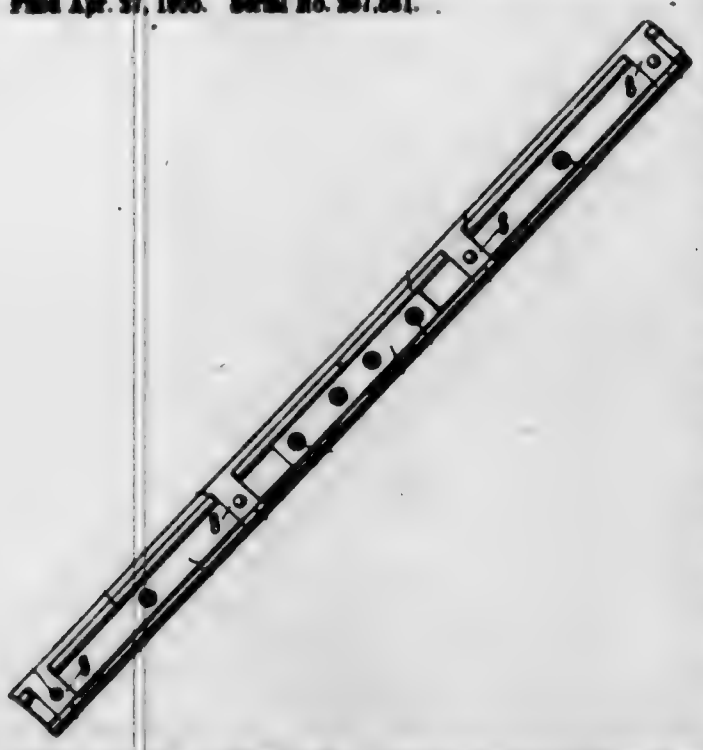
16. In combination with a meter having a fluid-passage therethrough, a motor operated by fluid passing through the meter, a driver, a register-actuator operable by the driver, and thermal devices influenced by the fluid passing through the meter for varying the relative positions of the driver and register-actuator.

17. In combination with a meter having a fluid-passage therethrough, a motor operated by fluid passing through the meter, a driver, a register-actuator operable by the driver, and thermal devices at different points in the length of the passage for varying the relative positions of the driver and register-actuator.

18. In combination with a meter having a fluid-passage therethrough, a motor operated by fluid passing through the meter, a driver, a register-actuator operable by the driver, thermal devices at different points in the length of the passage for varying the relative positions of the driver and register-actuator, and a variable connection between the thermal devices.

19. In combination with a meter having a fluid-passage therethrough, a motor operated by fluid passing through the meter, a driver, a register-actuator operable by the driver, thermal devices for varying the relative positions of the driver and register-actuator, and a density-regulator for the driver.

808,151. **RAILWAY-RAIL.** STUART R. FEE, Killarney, Canada. Filed Apr. 27, 1905. Serial No. 257,581.



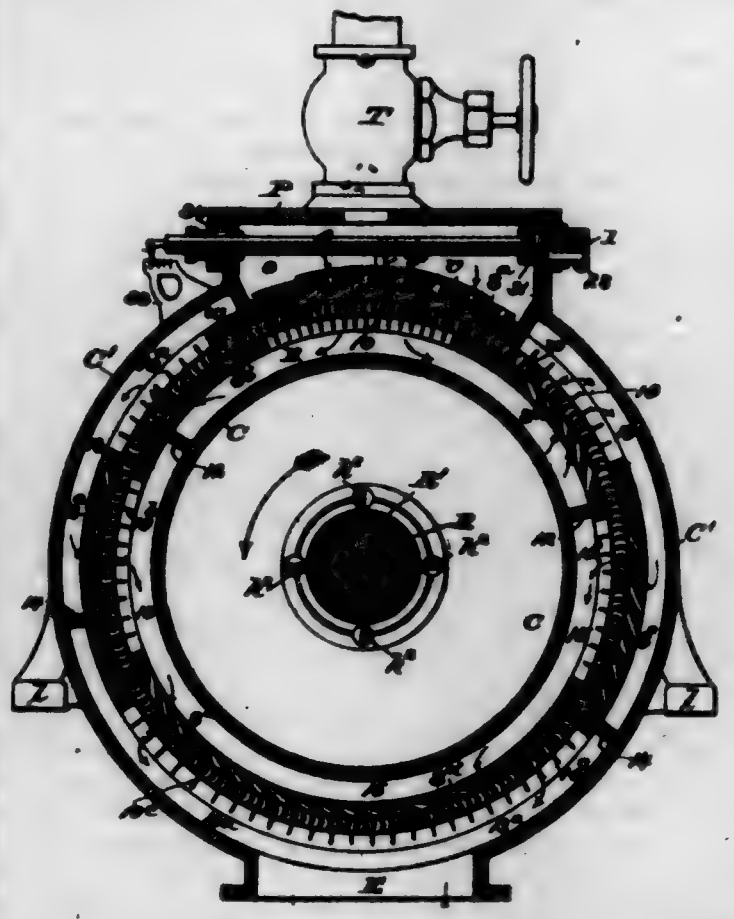
Claim.—1. In a railway-rail, a base-section comprising base-flanges, a web and a head wider than said web, serrations on said web, a tread-section, and serrated depending portions connected with said tread-sections.

2. In a railway-rail, a base-section having a serrated-web portion, a wider tread-supporting portion, and a tread with perforated and serrated depending portions.

3. In a railway-rail, a base-section having a serrated-web portion, a wider tread-supporting portion, a flange or rib integral therewith, and a tread with perforated and serrated depending portions.

4. In a railway-rail, a base-section, a concave tread-supporting portion integral therewith, a convex tread resting thereupon, and integral perforated members depending from said tread.

808,152. **ELASTIC-FLUID TURBINE.** MARTIN A. GREEN, Philadelphia, Pa. Filed Dec. 14, 1904. Renewed Nov. 28, 1905. Serial No. 288,788.



Claim.—1. An elastic-fluid turbine, comprising a wheel with a row of buckets at its periphery of the same shape and trend on both the receiving and exhaust sides, and a casing formed with admission and exhaust, and receiving-chambers on opposite sides of the row of buckets, said receiving-chambers alternating upon opposite sides of the row of buckets and gradually increasing in capacity toward the exhaust, the receiving-chambers having between them and the row of buckets, baffle-blades and inclined nozzles, said nozzles being formed in peripheral portions of the receiving-chambers fitting close to the wheel, the baffle-blades of the receiving-chamber on one side of the buckets being opposite the nozzles on the other side of the buckets to pass the steam back and forth through the same buckets of the wheel, substantially as and for the purpose described.

2. An elastic-fluid turbine, comprising a wheel with a row of radial-flow buckets at the periphery of the same shape and trend on both the receiving and exhaust sides, and a casing formed with admission and exhaust ports, and receiving-chambers arranged alternately outside and inside the row of buckets and gradually increasing in capacity toward the exhaust, the receiving-chambers having between them and the row of buckets baffle-blades and inclined nozzles, said nozzles being formed in peripheral portions of the receiving-chambers fitting close to the wheel, the baffle-blades of the outer chambers being opposite the nozzles of the inner chambers and the baffle-blades of the inner chambers being opposite the nozzles of the outer chambers to pass the steam back and forth through the same buckets of the wheel, substantially as and for the purpose described.

3. An elastic-fluid turbine, comprising a wheel with a row of buckets at the periphery of the same shape and trend on both the receiving and exhaust sides and a casing having admission-ports and an exhaust-opening on opposite sides of the wheel, and receiving-chambers on opposite sides of the row of buckets having baffle-

blades and nozzles, said nozzles being formed in peripheral portions of the receiving-chambers fitting close to the wheel, said receiving-chambers alternating on opposite sides of the row of buckets and increasing in capacity toward the exhaust and proceeding from the admission-ports in two series on opposite sides of the axis of the wheel, each series extending from the admission-ports to the exhaust to take the steam back and forth through the same buckets of the wheel in two paths on opposite sides of the wheel in passing from the first admission-ports to the exhaust substantially as and for the purpose set forth.

4. An elastic-fluid turbine, comprising a wheel with a row of buckets at the periphery of the same shape and trend on both the receiving and exhaust sides, and a two-part casing, one part being formed with admission and exhaust ports and with a series of separate receiving-chambers of gradually-increasing size toward the exhaust-port, and the other part being formed with a similar series of receiving-chambers, the receiving-chambers of both series having between them and the buckets baffle-blades and nozzles, the latter formed in the peripheral portions of the receiving-chamber fitting close to the wheel, with the baffle-blades and nozzles of one receiving-chamber alternating with those of the opposite receiving-chamber to pass the steam back and forth through the same buckets of the wheel, substantially as described and for the purpose set forth.

5. An elastic-fluid turbine, comprising a wheel with two rows of radial-flow buckets, each bucket having the same shape and trend for both its receiving and exhaust sides, one row arranged on each side and projecting beyond the plane of the web portion of the wheel, a casing formed with admission and exhaust ports and receiving-chambers arranged alternately outside and inside the rows of buckets and gradually increasing in capacity toward the exhaust, the receiving-chambers having between them and the rows of buckets baffle-blades and inclined nozzles, the latter formed in a peripheral portion of the receiving-chambers fitting close to the wheel, the baffle-blades and nozzles of the inner and outer chambers alternating in position on opposite sides of the wheel to pass the steam back and forth through the same buckets of the wheel, and the outer and inner sets of receiving-chambers, baffle-blades and nozzles being arranged in two sets lying in parallel planes upon opposite sides of the web of the wheel substantially as and for the purpose described.

6. An elastic-fluid turbine comprising a wheel with two rows of radial-flow buckets, one row arranged on each side and projecting beyond the plane of the web portion of the wheel, and the two series of buckets having a reverse curve, a casing formed with double admission-ports and an exhaust-port and receiving-chambers arranged alternately outside and inside the rows of buckets and gradually increasing in capacity toward the exhaust, the receiving-chambers having between them and the rows of buckets baffle-blades and inclined nozzles, the baffle-blades and nozzles of the inner and outer chambers alternating in position, and the outer and inner sets of receiving-chambers, baffle-blades, and nozzles being arranged in two sets lying in parallel planes upon opposite sides of the web of the wheel and with the nozzles of one set reversely inclined to those of the other set, and a reversing-valve controlling the flow of steam to the two sets of admission-ports substantially as shown and described and for the purpose set forth.

7. A rotary engine comprising a case, a rigid shaft, a flanged hub fixed to the shaft and having a collar embracing the hub, bolts connecting the collar to the flange of the hub, a rotary wheel having its inner periphery arranged between the collar and flange and loosely connected thereto by the bolts, and two or more spring-rings arranged between the hub and the wheel and means for spacing the rings away from each other and from the hub and the wheel substantially as described.

8. A rotary engine comprising a case, a rigid shaft, a flanged hub with peripheral projections fixed to the shaft and having a collar embracing the hub, bolts connecting the collar to the flange of the hub, a rotary wheel having its inner periphery larger than the hub and arranged between the collar and the flange of the hub and connected thereto by the bolts, concentric spring-rings arranged between the hub and wheel, and spacing-bars arranged between the rings and alternating in position with the bearing-points of the hub and the wheel substantially as described.

9. A rotary engine comprising a case, a rigid shaft, a flanged hub with a collar, a rotary wheel having its inner periphery embraced between the flange and collar and formed with openings having spring-bars across the same and bolts connecting the collar to the flange and passing through the openings in the wheel and bearing against the spring-bars substantially as and for the purpose described.

10. A rotary engine comprising a wheel, a case having a steam-chest with a circularly-curved bottom having admission-ports through the same, a circularly-sliding cut-off valve, a stem connected to the same and provided with a piston, a cylinder for said piston having an opening at its end an automatic governor, and a governor-valve controlling the admission of steam to the cut-off-valve piston substantially as described.

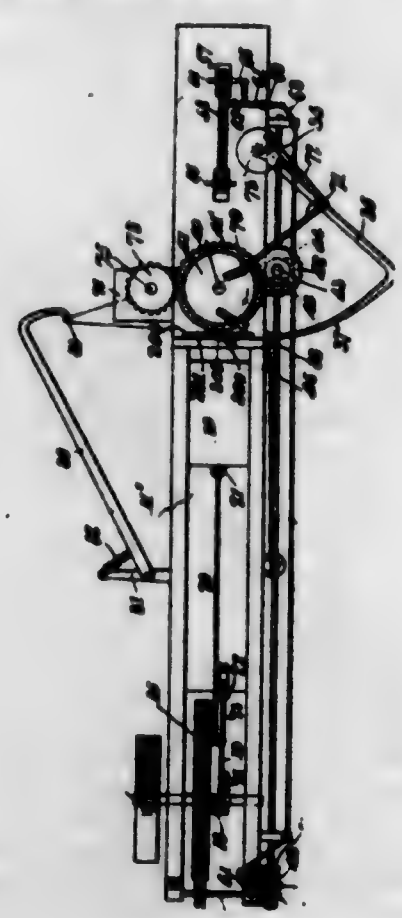
11. A rotary engine comprising a wheel, a case having a steam-chest with a circularly-curved bottom having admission-ports through the same, a circularly-sliding cut-off valve, a stem connected to the same and having a piston and a cylinder, an index-hand fixed to the stem outside the steam-chest, a graduated scale for the same, an automatic governor and governor-valve controlling the flow of steam to and from the cut-off-valve cylinder substantially as described.

12. A rotary engine comprising a wheel, a case having a steam-chest with a circularly-curved bottom having admission-ports through the same, a circularly-sliding cut-off valve, a stem loosely connected to the same and having at one end a piston and a piston-cylinder and its other end extended through the steam-chest and provided with an index-hand, a graduated scale for the same and a governor and governor-valve controlling the flow of steam to and from the cut-off-valve cylinder substantially as described.

13. A rotary engine comprising a wheel, a case having a steam-chest with admission-ports, a sliding cut-off valve, a stem connected to the same and having at one end a piston and piston-cylinder, two steam-pipes, one leading to the end of said cylinder and the other to the live-steam supply, a governor-valve comprising a cylinder having said two steam-pipes tapped into it and having an exhaust-opening, a balanced valve arranged in said latter cylinder, a lever connected to the same and a centrifugal governor located on the main shaft of the rotary engine and operating said lever and governor-valve, and admitting steam to and from the cut-off-valve piston substantially as described.

14. A rotary engine comprising a wheel, a case having a steam-chest with admission-ports, a sliding cut-off valve, a stem connected to the same and having at one end a piston and a piston-cylinder, two steam-pipes, one leading to one end of the said cylinder and the other to the live-steam supply, a governor-valve comprising a cylinder having said two steam-pipes tapped into it and having an exhaust-opening, a balanced valve arranged in said latter cylinder, a lever connected to the same, a centrifugal governor located on the main shaft of the rotary engine and operating said lever and governor-valve, and a spring with adjusting device acting upon the valve-lever to vary its sensitiveness of action substantially as described.

808,153. BALING-PRESS. PETER J. W. HELDT, Everly, Iowa. Filed July 22, 1905. Serial No. 270,860.



Claim.—1. In a baling-press, a baling-chamber, a compression-plunger, an operating-shaft, a cam-disk mounted thereon, a crank on said shaft, and means for transmitting movement from both the crank and cam-disk to said plunger, whereby the force exerted is increased during the final steps of the compression-stroke, and the plunger stopped at the compression position.

2. In a baling-press, the combination with a baling-chamber, of a compression-plunger, an operating-shaft, a crank thereon, a cam-disk carried by the shaft, a pitman-rod having one end connected to the plunger, a link connecting the opposite end of the rod to the crank, a cam-operated lever having one end fulcrumed to a fixed point, and the opposite end engaged by the cam, and a link connecting the lever to the first-named link, whereby movement from both the cam and crank may be transmitted to the plunger.

3. In a baling-press, a baling-chamber, a compression-plunger, an operating-shaft, a crank arranged on the shaft, means for connecting the crank to the plunger, and a cam also mounted on the shaft and controlling the transmission of movement from the crank to the plunger.

4. In a baling-press, the combination with a baling-chamber, of a compression-plunger, a cranked operating-shaft, means for transmitting movement from the crank to the plunger, a cam, and means operated by the cam for controlling the effective throw of the crank at different points, and for partly utilizing the effect of the crank action to permit a dwell of the plunger at the completion of the compression-stroke.

5. In a baling-press, the combination with a baling-chamber, of a compression-plunger, a cranked operating-shaft, a cam-disk mounted thereon, connecting means extending between both the crank, the cam and the plunger, a feeding device for forcing material into the baling-chamber in advance of the plunger, a lever connected thereto, and a pin or antifriction-roller carried by said lever and under the control of said cam-disk.

6. In mechanism of the class described, a vertical shaft arranged at one side of the baling-chamber, a needle carried by the shaft, a disk at the upper end of the shaft, a normally inoperative gear connected to said disk, a constantly-driven shaft, intermediate and normally disconnected gearing connections between said driven shaft and the gear, a link belt operable by contact with the material passing through the baling-chamber, a lever disposed in the path of movement of the belt, and means connected to said lever for connecting the gearing and thus imparting movement to the needle.

7. In mechanism of the class described, a vertical shaft arranged at one side of the baling-chamber, a needle carried by the shaft, a disk secured to the upper end of the shaft, an arm projecting from said disk, a normally inoperative gear, a link connecting the gear to the arm, a constantly-driven shaft having a worm, a second shaft having a worm-gear slidably mounted thereon, a lever for shifting the position of the worm-wheel, gearing connections between the second shaft and the needle-operating gear, and means operable by the passage of the material through the baling-chamber for effecting movement of the worm-wheel-controlling lever.

8. The combination with a baling-press, of a wire-tying mechanism at one side of the baling-chamber, means at the opposite side of the baling-chamber for forcing a wire through the baling-chamber to the tying mechanism, and means adjacent to the tying mechanism for taking up sufficient of the wire to permit the formation of a bale without drawing the wire endwise around said bale.

9. The combination with a baling-machine, of means for feeding the wire across the baling-chamber, and a yieldably-mounted catch or arm for engaging the wire and drawing the same outward from the side of the chamber to an extent sufficient to permit the formation of a bale.

10. The combination with a baling-machine, of means for forcing a wire across the baling-chamber, and a yieldable means for engaging and pulling the end of the wire outward from the sides of the baling-chamber to an extent equal at least to the length of the bale to be formed.

11. The combination with a baling-press, of a wire-twister arranged to receive the ends of a bale-wire, and to intertwist said ends with another portion of the same wire.

12. The combination with a baling-machine, of a wire-twister arranged to receive and twist the two ends of the bale-wire, and to intertwist such ends with another portion of the same wire.

13. In a device of the class specified, means for engaging and intertwisting the ends of a bale-wire, means for bending the twisted ends into parallel relation with another portion of the same wire, and means for operating the twister to intertwist said ends with the wire.

14. In mechanism of the class described, means for engaging the ends of a bale-wire and bending the same into parallel relation with another portion of the same wire, and means for twisting the three strands of wire.

15. In mechanism of the class described, a twisting-disk having a wire-receiving groove, means for introducing the two ends of a bale-wire into said groove, means for revolving the disk to intertwist said ends, means for moving said disk to effect the introduction of another portion of the bale-wire into the groove, the twister-operating means then serving to again revolve the disk.

16. In a device of the class specified, the combination with a notched twisting-disk, of means for effecting two successive rotative movements of the disk during each operation, means for introducing the ends of a bale-wire into the notch of the disk before the first movement of said disk, and means for moving said disk to effect the introduction of another portion of the bale-wire into the notch between the first and second rotative movements of the disk.

17. In a twisting mechanism, a notched twisting-disk, means for imparting successive rotative movements thereto, and mechanism for introducing wires into the notch in advance of each rotative movement, the wires first introduced being twisted to a greater extent than the wire introduced after the first movement of the disk.

18. In mechanism of the class described, a notched twisting-disk, means for gripping one end of a bale-wire that extends through said notch, means for passing the loop of the wire around the bale and introducing one portion of the loop into the twister and into engagement with the gripper, means for engaging that portion of the loop beyond the gripper and drawing the same outward, means for turning the disk to intertwist the two wires in the notch, means for severing the wire ends between the twister and the gripper, and means for turning the disk to permit its engagement with another portion of the bale-wire in advance of a second rotative movement of said disk.

19. In mechanism of the class described, the combination with a pivotally-mounted block, of a hollow shaft forming the block-fulcrum, a bevel-gear secured to the shaft, a pinion intermeshing with the gear, a shaft carrying said pinion, a notched twisting-disk having peripheral teeth, a gear mounted on the shaft and engaging said teeth, a gripper, means for introducing wires into the notch of the twister and into the gripper, means for revolving the shaft and thereby imparting initial movement to the twister, means carried by the bevel-gear for engaging the block and turning the latter, together with the twister to a position in alinement with another portion of the bale-wire, and a wire-cutter operable on initial movement of said block to sever the wires between the disk and cutter.

20. In apparatus of the class described, the combination with a hollow shaft, of a movable spindle extending through the shaft and projecting beyond the gear to form a wire-bending pin, means for depressing the spindle to disengage the same from the wire, a bevel-gear carried by the shaft, a pinion intermeshing with said gear, a shaft carrying the pinion, a gear on the pinion-carrying shaft, a block fulcrumed on the hollow shaft and forming a support for the pinion-carrying shaft, a notched twister-disk supported by the block, and driven by the gear-wheel of the pinion-carrying shaft, a wire-gripper, means for introducing wires into the gripper and the notched twister, a wire-severing knife between the gripper and twister, a gear on the hollow shaft, a pawl-and-ratchet connection between said gear and hollow shaft, a spring connected to the hollow shaft and serving to restore the same to initial position at the completion of each operation, and a give-way connection between the bevel-gear and the block, whereby after a partial movement of the twister, the block will be turned to present the twister into alinement with another portion of the bale-wire, and means for tripping the pawl to permit the spring to restore the parts to initial position.

21. In mechanism of the class described, a notched twister-disk, means for feeding the ends of a bale-wire thereinto, a twister-operating means, mechanism for moving said twister to effect the introduction of another portion of the bale-wire into the notch in advance of thee completion of the twisting operation, and means for engaging and bending the end portions of the bale-wire during the movement of the twister from one position to the other.

22. In mechanism of the class described, a twister, a pivotally-mounted block carrying said twister, a wire-cutter operable on initial movement of said block, and means for moving the block to present the twister-carried wires in parallel relation with another portion of the same wire.

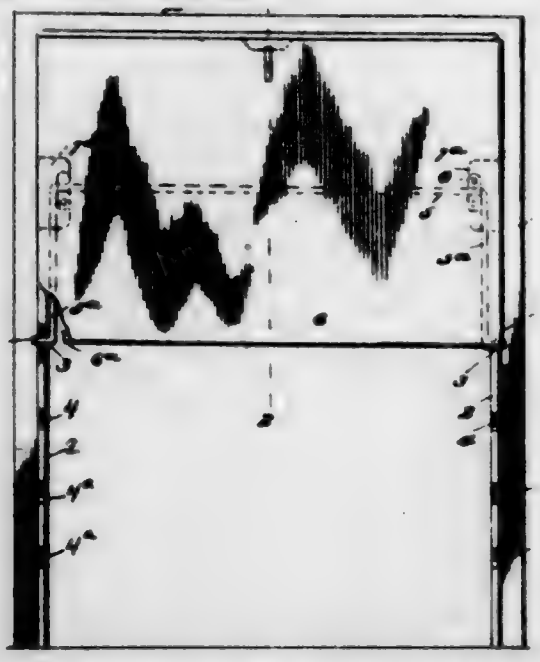
23. In mechanism of the class described, a wire-gripper comprising a disk having peripheral notches, one wall of each notch forming a gripping-jaw, a pivotally-mounted arm arranged adjacent to each notch and forming a second gripping-jaw, a spring tending to

force the arm toward its meeting jaw, and a wire-tripped latch for holding the arm away from said jaw.

24. In mechanism of the class described, a wire-gripper comprising a disk having peripheral notches, one wall of each notch forming a wire-gripping jaw, a spring-pressed arm arranged to form the second jaw and having a curved end portion extending beyond the periphery of the disk, and a spring-held latch engaging the frame and holding the same in open position, the latch being in position to be tripped by a wire entering the notch.

25. In a baling-press, a baling-chamber, a plunger, a pair of disks carrying crank-pins, a knife carried by the crank-pins, a spring tending normally to maintain the knife in elevated position, and means for depressing the knife for severing the protruding material.

808,154. FIREPLACE. TERELIUS A. HILL, Maryville, Tenn. Filed July 26, 1904. Serial No. 217,988.



Claim.—1. The combination with a fireplace, of a shiftable section of proper form and dimensions to approximately fill the upper half or the lower half of the fireplace-opening, mechanism hinged near the horizontal middle line of the fireplace-opening and near the horizontal middle line of said section, the distance between said hinges relative to the width of said section below its hinge being such as to permit said section to be brought into approximately the horizontal position, and means for engaging the rear edge of said section, substantially as described.

2. The combination of a yoke having arms and journals, substantially as described, a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, the length of said arms relative to the width of said section below its hinge being such as to permit said section to be brought into approximately the horizontal position, and a fireplace-frame having means for engaging the rear edge of said section, substantially as described.

3. The combination with a fireplace-frame having recesses, 4, as herein described, of a yoke having arms and journals, substantially as herein described, and a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of the opening of said frame or to extend by one edge into said recesses, substantially as described.

4. The combination with a fireplace-frame having recesses, 4, and notches, 4^a, as herein described, of a yoke having arms and journals, substantially as herein described, and a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of the opening of said frame or to extend by one edge into said recesses, substantially as described.

5. The combination with a fireplace-frame, of a shiftable section of proper form and dimensions to approximately fill the upper half or the lower half of the opening of said frame, and section-supporting mechanism hinged near the horizontal middle line of said frame-opening and near the horizontal middle line of said section, said frame having recesses, 4, for the engagement of one edge of said section when the latter is set at an angle to said frame substantially as described.

6. The combination with a fireplace-frame, of a shiftable section of proper form and dimensions to approximately fill the upper half or the lower half of the opening of said frame, and section-supporting mechanism hinged near the horizontal middle line of said frame-opening and near the horizontal middle line of said section, said frame having recesses, 4, and notches, 4^a, for the engagement of one edge of said section when the latter is set at an angle to said frame substantially as described.

7. The combination with a yoke having arms and journals, substantially as herein described, of a shiftable section having rearward-directed ears to which said yoke is hinged, said section being of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, the length of said arms relative to the width of said section below its hinge being such as to permit said section to be brought into approximately the horizontal position, and means for engaging the rear edge of said section, substantially as described.

8. The combination with a yoke having arms and journals, substantially as herein described, of a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or lower half of a fireplace-opening, and mechanism applied to said section for securing the latter when in the upper position, the length of said arms relative to the width of said section below its hinge being such as to permit said section to be brought into approximately the horizontal position, and means for engaging the rear edge of said section, substantially as described.

9. The combination with a yoke having arms and journals, the latter resting in bearings at the sides of the fireplace-opening, substantially as herein described, of a sheet-metal shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, said section having at its upper edge an ear, 6^b, and the latch-finger-turning shaft journaled in said ear and the adjacent portion of the body of said section.

10. The combination with a yoke having arms and journals, substantially as herein described, of a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, and a damper movably supported by said yoke, substantially as described.

11. The combination with a yoke having arms and journals, substantially as herein described, of a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, and a damper interposed between said section and said yoke and slidably supported by the latter, substantially as described.

12. The combination with a yoke having arms and journals, substantially as herein described, of a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, and a damper interposed between said section and said yoke and having ears or lugs slidably engaged by said yoke, substantially as described.

13. The combination with a yoke having arms and journals, substantially as herein described, of a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, a damper movably supported by said yoke, and mechanism for manually shifting said damper, substantially as described.

14. The combination with a yoke having arms and journals, substantially as herein described, of a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, a damper interposed between said section and said yoke and slidably supported by the latter, and mechanism for manually shifting said damper, substantially as described.

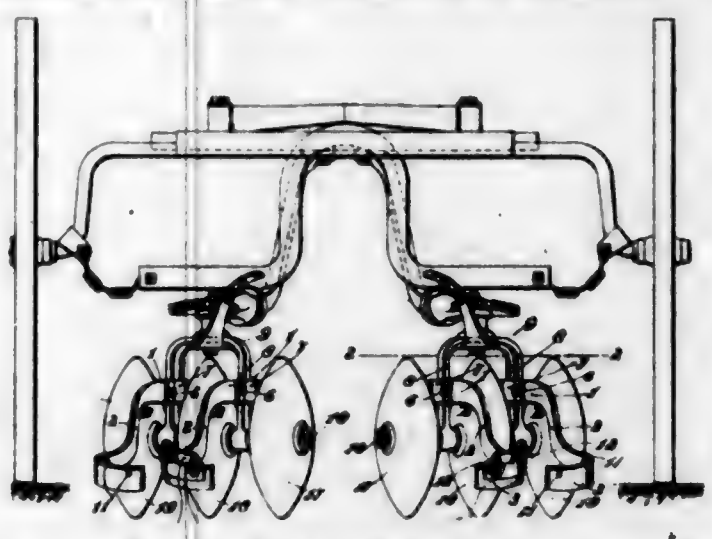
15. The combination with a yoke having arms and journals, substantially as herein described, of a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, a damper applied to said section, and combined mechanism for manually shifting said damper and securing said section in the upper position, substantially as described.

16. The combination with a yoke having arms and journals, substantially as herein described, of a shiftable section hinged to said yoke and of proper form and dimensions to approximately fill the upper or the lower half of a fireplace-opening, a damper interposed between said section and said yoke and slidably supported by the latter, and mechanism for manually shifting said damper and securing said section in the upper position, substantially as described.

808,155. CULTIVATOR ATTACHMENT. GEORGE W. HOLMES, Greenfield, Ill. Filed July 29, 1905. Serial No. 271,304.

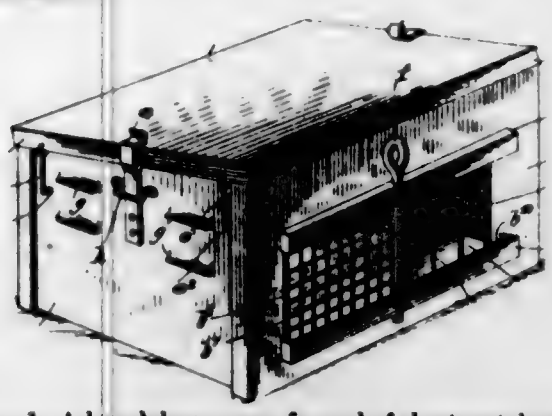
Claim.—1. An attachment for disk cultivators including a bar

terminating in a laterally-extending blade forming a moldboard, and an auxiliary blade detachably connected with said moldboard.



2. An attachment for disk cultivators including a bar terminating in a laterally-extending blade constituting a moldboard in combination with a plurality of auxiliary blades adjustably and detachably connected therewith.

808,156. CHICKEN-COOP. CICERO HOSKINS, Quincy, Ill., assignor of one-half to Emma J. Hoskins, Quincy, Ill. Filed Mar. 21, 1905. Serial No. 251,317.



Claim.—1. A knockdown coop, formed of sheet-metal sections, the end, front and rear sections, formed with coöperating hook-flanges, whereby said sections may be slidably connected, and having upturned base-flanges, the bottom formed with downwardly-extending flanges adapted to fit over the base-flanges of said sections, a top section and means for locking the top section in place; substantially as described.

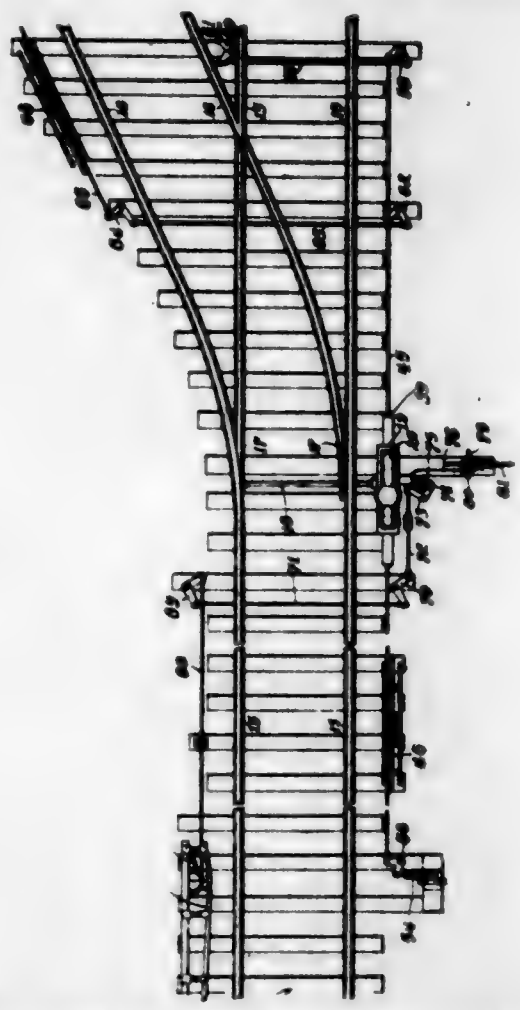
2. A knockdown coop formed of metallic sections, the end, front and rear sections formed with coöperating hooked flanges along their vertical edges, whereby said sections may be slidably connected and formed with upturned flanges at their lower edges and the bottom section formed with a downwardly-extending flange, adapted to fit over the flanges on the lower edges of the end and front and rear sections, and the top section; substantially as described.

3. A knockdown coop, formed of sheet-metal sections, the end front and rear sections formed with coöperating hook-flanges, whereby said sections may be slidably connected, and having upturned base-flanges, the bottom formed with a downwardly-extending flange adapted to fit over the base-flanges of said sections, a top section and the spring-hooks carried by the end sections, adapted to take over the edge of the top section when in place, whereby said top will be locked in place; substantially as described.

4. In a knockdown coop, the combination of the end front and rear sections and top and bottom sections removably secured together, said front section having an opening therein, guideways on said section, closures for the opening sliding in said guideways, and a pin or bar adapted to be passed through the guideways, to the rear of the closure in front of the opening, whereby said closure will be held from movement; substantially as described.

808,157. RAILROAD SWITCH AND SIGNAL MECHANISM. CHARLES M. HUSEY, Rawlins, Wyo. Filed Jan. 7, 1904. Serial No. 188,045.

Claim.—1. In a switch mechanism, in combination, a switch-bar, a pair of slide-bars, a lever connecting the slide-bars, means for transmitting motion from the slide-bars to the switch-bar, a trip, and a connection operated by the trip for engaging the slide-bars in alternation.



2. In a switch mechanism, in combination, a pair of oppositely-moving reciprocating slide-bars, means for actuating the bars, an oscillating member having flaring recesses in its ends, pins on the bars engaging such recesses, a switch-bar, and connection between such bar and the oscillating member.

3. In a switch mechanism, in combination, a reciprocating member having a stud, a reciprocating switch moving transversely to the path of the first-named member, an oscillating member having a flaring recess engaged by the stud, the parts being so constructed and arranged that the advance wall of the recess in either direction of movement of the oscillating part is substantially parallel with the first-mentioned member when it reaches the limit of its movement.

4. In a switch mechanism, in combination, a reciprocating member having a stud, a reciprocating switch moving transversely to the path of the first-named member, and an oscillating member having a flaring recess engaged by the stud.

5. In a switch mechanism, in combination, an oscillating member having a flaring recess, a reciprocating part having a stud engaging the recess, means for actuating the reciprocating member, a switch-bar, and connection between the switch-bar and the oscillating member.

6. In a switch mechanism, in combination, a pair of juxtaposed sliding bars, a lever connecting the bars and having a crank-arm, a reciprocating bar connected with the crank-arm, an oscillating member having flaring recesses in its ends and a laterally-projecting arm, studs on the slide-bars engaging such recesses, and a switch-bar connected with the arm of the oscillating member.

7. In a switch mechanism, in combination, a pair of parallel oppositely-moving slide-bars, a reciprocating bar for engaging the slide-bars in alternation, means for applying pulling strain to the reciprocating bar, a spring opposing such strain, a switch-bar, and operative connection between the slide-bars and the switch-bar.

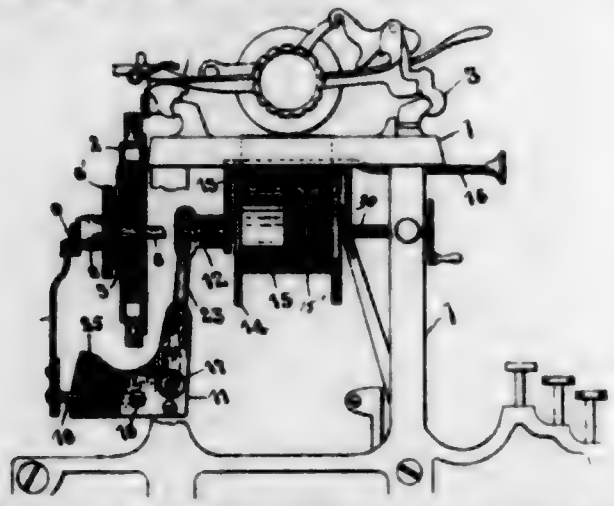
8. In a switch mechanism, in combination, a pair of parallel juxtaposed slide-bars having their upper faces recessed from their contacting edges, the side walls of the recesses being oblique to the edges of the bars, sockets at the juncture of such side walls, a lever connecting the slide-bars, a reciprocating hook running in the recesses of the bars, means for reciprocating the hook, a switch or signal bar, and connection between such bar and the slide-bars.

9. In a switch mechanism, in combination, a switch-bar, means for reciprocating the bar, a train-actuated trip for actuating the last-named means, independent means for moving the switch-bar in one direction, and a train-actuated trip for actuating such independent means.

10. In combination, a railway-track, a switch-bar, a trip adapted for engagement by a train, connection between the trip and switch-bar for throwing the latter in one direction, a second trip adapted for engagement by a train and located between the first-named trip and the switch-bar, and connection between the second-named trip and the switch-bar for throwing the latter in opposition to the action of the first-mentioned trip.

11. In combination, a railway-track and a switch therein, a trip located beside the track and connected with the switch to close it, and a second trip located beside the track intermediate of the first mentioned trip and the switch and connected with the switch to open it.

808,158. SHIFTING MECHANISM FOR TYPE-WRITER RIBBONS. ROBERT B. JONES, Philadelphia, and ABRAHAM M. TAYLOR, Merion, Pa.; said Jones assignor of one-half of his right to said Taylor. Filed May 15, 1902. Serial No. 107,447.



Claim.—1. In a type-writing machine, a ribbon, means for automatically reciprocating the ribbon transversely, and means for shifting the ribbon so that the contact of the type is confined to a portion only of the width of the ribbon, as the same is reciprocated by the said automatic means, said means for shifting the ribbon comprising a bell-crank lever provided with means for changing the relation between the arms of the said lever substantially as described.

2. In a type-writing machine, a ribbon, means for feeding the ribbon longitudinally, means for automatically reciprocating the ribbon transversely, and a bell-crank lever, provided with means for changing the relation between the arms of the said lever, to shift the ribbon so that the contact of the type is confined to a portion only of the width of said ribbon as the same is reciprocated by said automatic means.

3. In a type-writing machine, a ribbon, means for feeding the ribbon longitudinally, means for automatically reciprocating the ribbon transversely and a bell-crank lever between said automatic means and said ribbon, and means for changing the relation of the arms of the said lever one to the other, and intermediate connections between the bell-crank lever and the ribbon.

4. In a type-writing machine, the combination of a multiplex ribbon, holders for said ribbon, means for rotating said holders automatically, means for reciprocating said holders automatically and a bell-crank lever provided with means for changing the relation between the arms of said lever, interposed between said holders and said automatic shifting means, for changing the relation between said automatic shifting means and the holders to confine the contact of the type to different portions of the width of said ribbon as the same is reciprocated.

5. In a type-writing machine, the combination of a multiplex ribbon, holders for said ribbon, means for rotating said holders, automatic means for reciprocating said holders, a bell-crank lever, the arms of which are adjustable, located between said holders and said automatic means and spring-actuated means for holding said arms in an adjusted position.

6. The combination in a type-writing machine of a multiplex ribbon, means for feeding said ribbon longitudinally, and an automatically-actuated bell-crank lever provided with means for changing the relation of the arms of said lever one to the other to move different portions or sections of said ribbon to the printing-center of the machine.

7. The combination in a type-writing machine of a multiplex ribbon, a holder for said ribbon and a bell-crank lever connected to said holders and provided with means for changing the relation between the arms of said lever and yielding means for holding said arms in an adjusting position.

8. In a type-writing machine, the combination with a multiplex ribbon, and a bell-crank lever, means for changing the relation between the arms of said lever, and connections between said ribbon and said lever, whereby different sections of said ribbon are brought to the printing-center.

9. In a type-writing machine, the combination of a multiplex ribbon, holders for said ribbons, means for rotating said holders, a rotatable part, a bell-crank lever, a link connecting said rotatable part and one arm of the bell-crank lever, connections between the other arm of the bell-crank lever and said ribbon-holders, said first-named arm being pivoted and a spring-pressed dog having a plurality of notches or depressions for holding said pivoted arm in different positions, substantially as described.

10. In a multiplex-ribbon type-writing machine, means for confining the operation of the printing-levers to a portion only of said ribbon, said means comprising a bell-crank lever, one arm of which is pivoted with respect to the other, means for holding said pivoted arm in a fixed relation to the other arm, and means for overcoming the tension of said spring to throw said arm into another position with respect to the stationary arm.

11. In a type-writing machine, a multiplex-ribbon holder, means for reciprocating said holder transversely and means for limiting said reciprocatory motion, comprising a bell-crank lever, means for adjusting one arm of said lever with respect to the other, yielding spring means for holding said movable arm in an adjusted position, and means for forcing said arms toward or away from each other to overcome said yielding means and to throw said adjustable arm into another position with respect to the fixed arm.

12. In a multiplex-ribbon type-writing machine, means for bringing different portions of said ribbon up to the printing-center, comprising a bell-crank lever, one arm of which is adjustable with respect to the other, and means for holding said adjustable arm yieldingly in its adjusted position.

13. In a type-writing machine, the combination of a bell-crank lever, means for changing the relation between the arms of said lever, and an inking-surface that is moved by said bell-crank lever.

14. In a type-writing machine, the combination of an inking-ribbon, means for feeding said ribbon longitudinally, an automatically-actuated bell-crank lever, means for changing the relation of the arms of said lever one to the other, and intermediate connections between the bell-crank lever and said ribbon.

15. In a type-writing machine, the combination with a ribbon-holder and means for automatically reciprocating said ribbon-holder transversely, of relatively movable arms, means connecting one of said arms to said automatic means, means connecting the other of said arms to said ribbon-holder, and means for changing the angular relation between said arms.

16. In a type-writing machine, the combination with a ribbon-holder, and means for automatically reciprocating said ribbon-holder transversely, of two pivoted arms, means connecting one of said arms to said automatic means, means connecting the other of said arms to said ribbon-holder, and means for changing the angular relation between said arms.

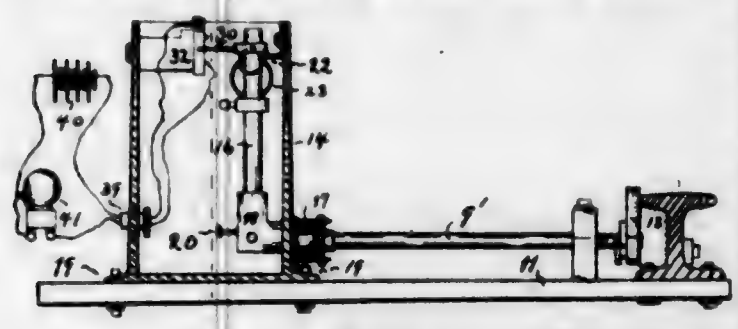
17. In a type-writing machine, the combination with the ribbon-holder 15 and means for automatically reciprocating said ribbon-holder transversely, of two pivoted arms 18 and 23, the link 10 connecting said arm 18 with said automatic means, the arm 12 connecting said arm 23 with said ribbon-holder 15 and spring-controlled means 24 for holding said arm 23 in different angular relations, with respect to the arm 23.

18. In a type-writing machine, the combination with a ribbon-holder and means for automatically reciprocating said ribbon-holder transversely, of two pivoted arms, means connecting one of said arms to said automatic means, means connecting the other of said arms to said ribbon-holder and spring-controlled adjusting means connected to said first-mentioned arm for changing the angular relation between said arms.

19. In a type-writing machine, the combination with the ribbon-holders, and means for automatically reciprocating said ribbon-holders transversely, of two pivoted arms, means connecting one of said arms with said automatic means, means connecting the other of said arms to said ribbon-holders, means for securing said arms together, and means for changing the angular relation between said arms.

20. In a type-writing machine, the combination with the ribbon-holders and means for automatically reciprocating said ribbon-holders, of a pivoted arm connected by suitable means with said automatic means, a second pivoted arm, connected by suitable means, with said ribbon-holders, means for reciprocating said second arm from the first-mentioned arm, and means for changing the angular relation between said arms.

808,159. ELECTRIC SIGNAL FOR RAILWAYS. BURTON A. KARR, Omaha, Nebr. Filed Aug. 28, 1905. Serial No. 276,062.



Claim.—1. An electrical railway-signal comprising a battery, an alarm-bell, two contacting members having electrically-conducting surfaces and non-conducting electrical surfaces, a rock-bar adapted to have a radial movement, and two arms; said arms being radially mounted and making contact wtih said contacting members; and means to cause a radial movement of said arms from the radial movement of said rock-bar.

2. An electrical railway-signal comprising a battery, an alarm-bell, two pivotally-mounted contacting members having electrically-conducting and electrically non-conducting surfaces, two rock-bars radially mounted upon a track-rail and adapted to have a downward movement thereon; two arms radially mounted and making contact with said contacting members, said arms being adapted to receive a radial movement from the downward movement of said rock-bars.

3. An electrical railway-signal comprising a battery, an alarm-bell, a receptacle having inner and outer walls; two pivotally-mounted contacting members within said receptacle having electrically-conducting and electrically non-conducting surfaces; two rock-bars radially mounted upon a track-rail and adapted to have a downward movement thereon; two arms within the inner walls of the receptacle, said arms being radially mounted and making contact with said contacting members; two substantially horizontally disposed arms upon the outer walls of said receptacle; said substantially horizontally disposed arms being pivotally mounted upon said arms and having an entrance within the receptacle through said walls; and two packing-boxes or their equivalents; said packing-boxes being adapted to make contact with said arms and with the outer walls of said receptacle at the points of said entrance of said arms within said receptacle; said arms within said receptacle being adapted to receive a radial movement while in contact with said pivotally-mounted contacting members from the downward movement of said rock-bars.

4. An electrical railway-signal comprising a battery, an alarm-bell, two radially-mounted contacting members having electrically-conducting and electrically non-conducting surfaces, rock-bars radially mounted upon a track-rail; two arms radially mounted and making contact with said contacting members, said arms being adapted to receive said radial movement from said radial movement of said rock-bars; a spring and a shelf; said spring and shelf being disposed contactingly between said radially-mounted arms; said contacting members being adapted to receive their said radial movement from the said radial movement of said arms; one of said contacting members being adapted to receive its said radial movement from one of said arms at a time when the other of said arms makes a contact with said shelf, substantially as shown and described.

808,160. HARNESS-SADDLE. WILLIAM L. KELLERMAN, Oskaloosa, Iowa, assignor of one-half to Scott H. Hull, Oskaloosa, Iowa. Filed Mar. 18, 1905. Serial No. 250,718.



Claim.—1. A harness-saddle, comprising a pad, base-plates mounted in said pad and formed with arches extending through the top of said pad, burs mounted between said arches and the top of the pad, studs on the base-plates extending through the top of the pad, pad-skirts adapted to be engaged by said studs, hook-plates adapted to overlie the arches and pad-skirts, hooks on said hook-plates engaging the top of the pad and the base-plates, a saddle-piece flexibly connected to said hooks, and terrets engaging said burs and adapted to bind the hook-plates to the base-plates.

2. In a harness-saddle, a pad, a base-plate in said pad, a portion of said base-plate arched through the top of said pad and apertured, a bur loosely confined in the arched portion of the base-plate, and a terret extending through said arched portion of the base-plate and seated in said bur.

3. A harness-saddle, comprising a pad, base-plates in said pad, apertured arches intermediate of the ends of said base-plates and extending through the top of the pad, pad-skirts on said base-plates, a saddle-piece connecting said base-plates, hook-plates hinging the base-plates and saddle-piece together, and terrets connecting the hook-plates to the arches of the base-plates.

4. A harness-saddle, comprising base-plates, each base-plate formed with an arch intermediate of its ends and centrally apertured, a bur within the arch with its aperture registering with the aperture in the arch, a saddle-piece connecting the base-plates, hook-plates engaging the saddle-piece and base-plates flexibly, and terrets mounted through said hook-plates and arches and seated in said burs.

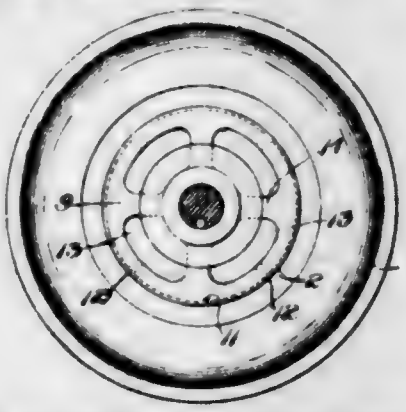
808,161. ADJUSTABLE SAFETY SWINGING STAGE AND SCAFFOLD ATTACHMENT. FERDINAND LEHMANN, Omaha, Nebr. Filed Sept. 17, 1904. Serial No. 224,831.



Claim.—1. In an adjustable attachment for making swinging stages and scaffolds safe, the combination with adjustable cross-bars, of tension-rods provided with turnbuckle and hooks, of chains hooked onto the tension-rods and carrying at the other end, hooks or clasps to be fastened to the stage or ladder, of bridge-bolts fastened in the center of the cross-bars, through which pass the tension-rods, substantially as set forth.

2. In an adjustable attachment for making swinging stages and scaffolds safe, the combination with adjustable cross-bars, of tension-rods provided with turnbuckle and hooks, of chains hooked onto the tension-rods and carrying at their other end, hooks or clasps to be fastened to the stage or ladder, of bridge-bolts fastened in the center of the cross-bars, through which pass the tension-rods, and of hook-bolts with thumb-nuts, passing through each end of the cross-bars, and serving as fastenings for the cross-bars to the stage or ladder substantially as set forth.

808,162. ELECTRIC TROLLEY-WHEEL. JOHN MILLER, Jr., Amesbury, Mass., assignor to William E. Biddle, Amesbury, Mass. Filed Mar. 17, 1905. Serial No. 250,555.



Claim.—1. A trolley-wheel, comprising a stationary axle, and a stationary, hollow, perforate, hub-like bearing, adapted to contain a lubricant, whose diameter is greater than the width of the peripheral bearing-surface thereof, and whose peripheral wall is thin for readily transmitting heat, and a rotary wire-engaging portion having a thin peripheral wall parallel to said axle and whose inner surface fits directly in contact with said peripheral bearing-surface, and whose outer surface engages the trolley-wire.

2. A trolley-wheel, comprising a stationary axle and hollow hub-like bearing filled with approximately solid lubricant capable of melting under heat, and a rotary wire-engaging periphery, said periphery and bearing having extensive bearing-surfaces of large diameter for producing excessive frictional heat, and openings from said hollow bearing for giving said lubricant access to said bearing-surfaces under the action of said heat.

3. A trolley-wheel, comprising a stationary axle and hollow hub-like bearing filled with approximately solid lubricant capable of melting under heat, and a rotary wire-engaging periphery, said

periphery and bearing having extensive bearing-surfaces of large diameter for producing excessive frictional heat, said hollow bearing being formed with transverse chambers open at their ends for containing said lubricant.

4. A trolley-wheel, comprising a shell-like rotary periphery, and a stationary axle and hub-like bearing fitting within said periphery, said bearing having transverse open-ended lubricant-chambers, adapted to contain a normally non-flowing lubricant packed therein, and retaining means partially closing said open-ended chambers.

5. A trolley-wheel, comprising a shell-like rotary periphery, and a stationary axle and hub-like bearing fitting within said periphery, said bearing having transverse open-ended lubricant-chambers, adapted to contain a normally non-flowing lubricant packed therein, and ring-like retaining means partially closing said open-ended chambers.

6. A trolley-wheel, comprising a shell-like rotary periphery, and a stationary axle and removable hub-like bearing fitting within said periphery, said bearing having transverse open-ended lubricant-chambers, adapted to contain a normally non-flowing lubricant packed therein, and retaining means partially closing said open-ended chambers.

7. A trolley-wheel, comprising a shell-like rotary periphery having a removable side, an axle, and a removable lubricant-carrying device having side entrance within said periphery for supplying lubricant to the bearing-surface of the trolley-wheel, said lubricant-carrying device having chambers adapted to be charged with lubricant before being applied to the trolley-wheel.

808,163. TROLLEY-HARP FOR ELECTRIC RAILWAYS. JOHN MILLER, Jr., Amesbury, Mass., assignor to William E. Biddle, Amesbury, Mass. Filed Apr. 10, 1905. Serial No. 254,639.



Claim.—1. In a device of the kind described, a trolley-harp having widely-branching arms, a stationary shaft fast in the upper ends of said arms, a trolley-wheel mounted on said stationary shaft and having a heavy grooved periphery, and light, conical imperforate walls extending out laterally in opposite directions beyond said periphery and terminating in opposite cylindrical hubs, a bearing-sleeve fast at its opposite ends in said hubs and mounted on said shaft, said sleeve tying said light walls together, said shaft tying said arms together, said shaft and sleeve affording a wide bearing-surface, and said light walls and arms coöperating in bracing against tipping.

2. In a device of the kind described, a trolley-harp having widely-separated arms, a thin vertical slot in the lower part of one of said arms, extending transversely of said arm in the direction of the trolley-axis, a leaf-spring standing in said slot and extending upwardly flatwise with relation to the trolley-axis and edgewise to the trolley-wheel, and a trolley-wheel mounted in said arms, having a hub provided with a cylindrical outer surface transversely engaged by the inwardly-bent upper end of said spring under tension.

3. In a devce of the kind described, a trolley-harp, a trolley-wheel mounted therein, having a relatively narrow periphery and a wide axial portion, and thin continuous walls extending along straight lines outward from said periphery to approximately the ends of said axial portion at an angle of substantially forty-five degrees to the latter, and the latter being provided with a removable tubular bearing secured at its opposite ends to said wide axial portion, said wheel having a large internal cavity formed by said walls and bearing, and a stationary shaft mounted in said arms for supporting said trolley-wheel.

808,164. SEWING-MACHINE SHUTTLE. KARL MEICHER, Zurich, Switzerland, assignor, by mesne assignments, to The Firm of Bielefelder Maschinenfabrik, vormals Dürkopp & Co., Bielefeld, Germany. Filed Feb. 23, 1904. Serial No. 194,580.



Claim.—1. In a sewing-machine shuttle, the combination with a bobbin having end flanges; of a bobbin-case having means to hold one of the flanges of the bobbin rigidly to the case and leave the other flange free, thereby leaving a space between this flange and the case, said case having an aperture opposite the free flange and said free flange acting as a thread-guide.

2. In a sewing-machine shuttle, the combination with a bobbin having end flanges; of a bobbin-case having one end wall only and means to hold one of the flanges of the bobbin rigidly to the case and leave the other flange free thereby leaving a space between this flange and the end wall, said case having a thread-aperture in the end wall opposite the free flange, and said flange acting as a guide for withdrawing the thread from the bobbin.

3. A sewing-machine shuttle comprising a bobbin and bobbin-case, the latter provided with a thread-aperture in its end wall and with resilient members adapted to grasp one of the bobbin-flanges and hold the bobbin stationary with its opposite flange proximate to the end wall of the case, the last-mentioned flange serving as a guide to guide the thread from the exterior of the bobbin to said thread-passage.

4. In a sewing-machine shuttle, a bobbin and a bobbin-case comprising a shell and a head at one end having an axial thread-aperture, said shell provided at its open end with means to secure one of the bobbin-flanges against rotation, the other flange guiding the thread around the bobbin as it is drawn off its outside.

5. In a sewing-machine shuttle, a bobbin and a bobbin-case comprising a shell and a head for one end thereof, the open end of said shell having an internal peripheral edge groove for the insertion of one of the flanges of the bobbin to hold the same against rotation, the other flange guiding the thread as it is unwound from the outside of the bobbin.

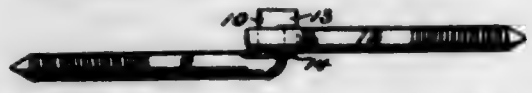
6. In a sewing-machine shuttle, a bobbin and a bobbin-case comprising a shell of substantially the form of a frustum of a cone and having a portion of its wall cut away for the introduction of a bobbin, and a head at the base of the shell having an axial thread-aperture and a slot extending therefrom to the periphery of such head at a point intermediate the edges of the gap in the shell, the latter provided at its open end with means to secure one of the flanges of the bobbin to hold the same against rotation.

7. In a sewing-machine shuttle, a bobbin and a bobbin-case comprising a shell of substantially the form of a frustum of a cone and having a gap in its wall for the introduction of a bobbin, said wall slotted to form resilient members 9′, 9′, and means at the end of least diameter for securing one of the flanges of the bobbin to hold the same against rotation; in combination with a head at the base of the shell having an axial thread-aperture and a threading-slot extending from said aperture to the periphery of the head at a point intermediate the edges of the gap in the shell.

8. In a sewing-machine shuttle, a bobbin-case comprising a shell of substantially the form of a frustum of a cone and a head at the base thereof provided with an axial thread-aperture, said shell provided at its open end with means for securing one of the flanges of a bobbin to hold the same against rotation; in combination with a bobbin having a flange to be secured in the shell, of greater diameter than its other flange.

9. In a sewing-machine shuttle, a bobbin-case comprising a shell of substantially the form of a frustum of a cone and a head at the base thereof provided with an axial thread-aperture, said shell having a gap for the introduction of a bobbin, resilient wall portions and an internal groove at its open end; in combination with a bobbin having one of its flanges of somewhat greater diameter than that of said groove and of greater diameter than its other flange.

808,165. HINGE. ISAAC N. MORFORD, McLean, Ill. Filed Mar. 24, 1905. Serial No. 251,215.

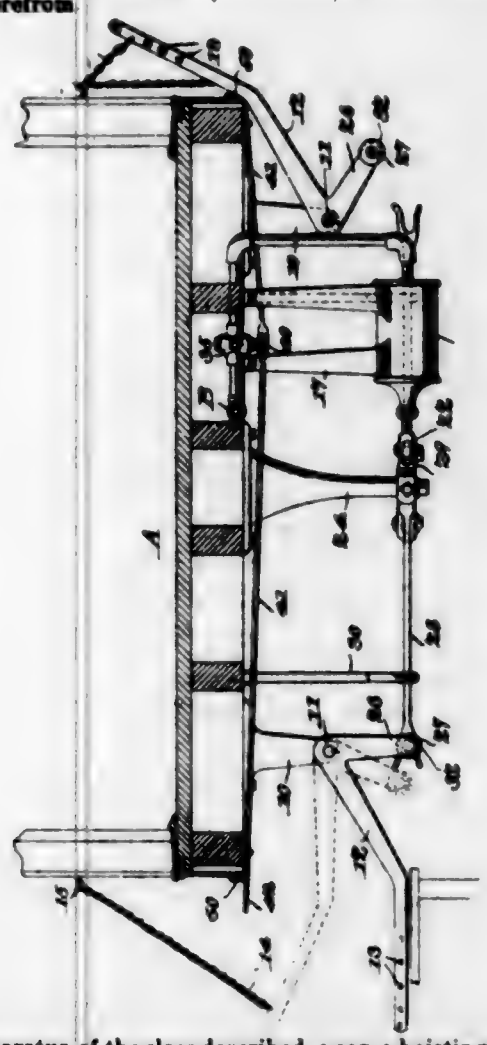


Claim.—A hinge, one member of which consists of a rod threaded at one end and having at the other end a pintle integral therewith and formed by turning up the end of the rod, and a shoulder formed at the base of the pintle, said pintle having a horizontal projection at the top extending parallel to the axis of the rod on one side only of the pintle, and the other member of which consists of a rod threaded at one end and having at the other end an elongated eye extending lengthwise of the rod, substantially as shown and described.

808,166. FREIGHT AND BAGGAGE LOADER. JAMES MCGANN, Wyndmere, N. D. Filed Sept. 15, 1905. Serial No. 278,647.

Claim.—1. In apparatus of the class described, a car, a frame

pivoted under the car, and a frame-operating means normally disconnected therefrom.



2. In apparatus of the class described, a car, a hoisting-frame arranged at one side of the car, and a fluid-pressure operating means normally disconnected from said frame.

3. In apparatus of the class described, a car, a hoisting-frame arranged at one side of the car, a fluid-pressure cylinder having a valved connection with the train-pipe, a piston arranged within the cylinder, a piston-rod, and detachable connections between the piston-rod and frame to permit movement of the latter to inoperative position.

4. In apparatus of the class described, a car, a pair of hoisting-frames arranged at opposite sides of the car, a fluid-pressure cylinder, a piston arranged within the cylinder, operating members extending from the piston toward the sides of the car, and means for adjusting one or other of said frames into operative position.

5. The combination with a car, of a pair of hoisting-frames arranged on opposite sides of the car, an operating mechanism common to both frames, said frames being normally detached from the operating mechanism and being independently adjustable into operable relation therewith.

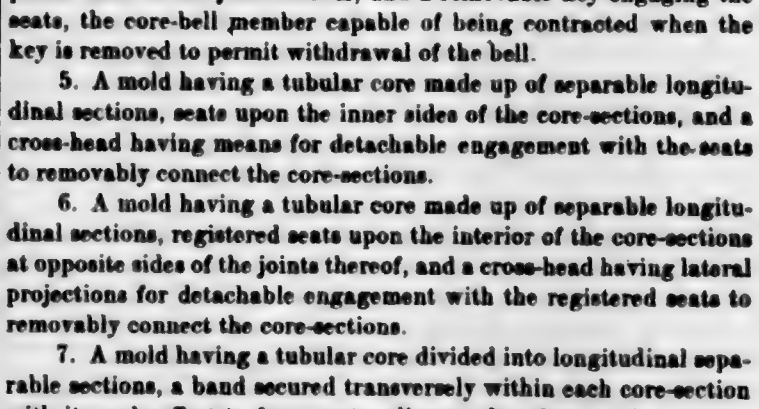
6. In apparatus of the class described, a car, a pair of hoisting-frames arranged on opposite sides of the car, a fluid-pressure cylinder having a valved connection with a source of fluid-pressure supply, a piston arranged in the cylinder, means for connecting the piston to the frames, and valve-operating rods extending from the valve to points adjacent to the sides of the car.

7. In apparatus of the class described, a car, a pivotally-mounted frame arranged under the car, a rocker-arm carried by the frame and provided with a projecting pin or stud, a fluid-pressure cylinder under the car, a piston arranged in said cylinder, a piston-rod, and a forked rod having an operative connection with the piston-rod, the pin or stud being adjustable to permit connection with or disconnection from said forked rod.

8. In apparatus of the class described, the combination with a car, of a pair of frames arranged at opposite sides of the car, rocker-arms carried by the frames and provided with headed pins or studs, a fluid-pressure cylinder arranged under the car, a piston in said cylinder, a lever to which said piston is connected, a pair of forked rods extending from the lever and adapted to engage said headed pins or studs, and a pair of valve-operating rods extending from the valve to the opposite sides of the car.

808,167. MOLD. EDWARD F. HEVINS, Blue Rapids, Kans. Filed Apr. 17, 1905. Serial No. 255,994.

Claim.—1. A pipe-mold comprising a tubular body having a bell terminal, a core member terminating short of the bell terminal of the body, and a core-bell member for removable engagement with that end of the core which is adjacent the bell terminal of the body, the core-bell member capable of being contracted for withdrawing the same from a cast.



2. A pipe-mold comprising a tubular body having a bell terminal, a core member terminal short of the bell terminal of the body, a split tubular bell-core to be removably fitted to that end of the core which is adjacent the bell terminal of the body, registered seats upon the interior of the core-bell member at opposite sides of the joint of the bell, and a removable key capable of being fitted in the seats to hold the bell in its normal condition, said bell capable of being contracted when a key is removed to permit removal of the bell from a cast.

3. A pipe-mold comprising a tubular body having a bell terminal, a tubular core terminating short of the bell terminal of the body, and a split tubular bell-core member of greater diameter than the core and provided with an internal annular flange to rest against that end of the core which is adjacent the bell terminal of the body, and means upon the interior of the bell-core member to detachably connect the ends thereof, the flange of the bell being cleft to permit contraction of said bell when the fastening means is released.

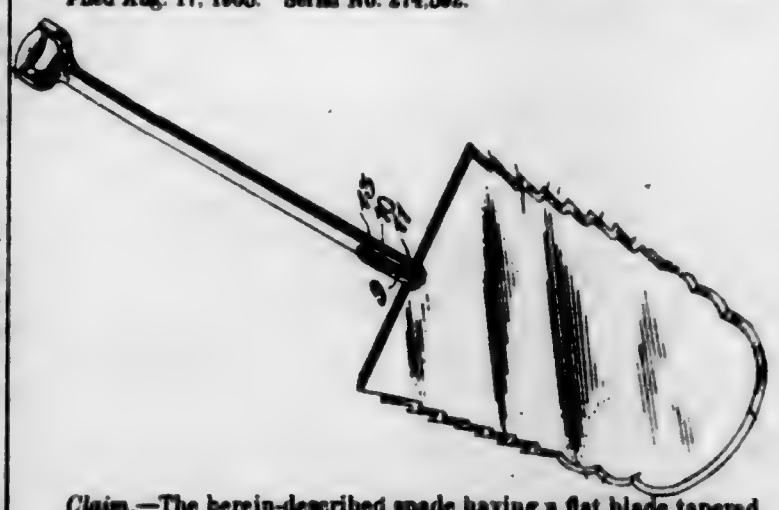
4. A pipe-mold comprising a tubular body having a bell terminal, a tubular core terminating short of the bell terminal of the body, a split tubular core-bell member having an internal annular flange to rest against that end of the core which is adjacent the bell of the body, projections upon the inner edge of the flange to enter the core, registered seats upon the interior of the bell-core member at opposite sides of the joint thereof, and a removable key engaging the seats, the core-bell member capable of being contracted when the key is removed to permit withdrawal of the bell.

5. A mold having a tubular core made up of separable longitudinal sections, seats upon the inner sides of the core-sections, and a cross-head having means for detachable engagement with the seats to removably connect the core-sections.

6. A mold having a tubular core made up of separable longitudinal sections, registered seats upon the interior of the core-sections at opposite sides of the joints thereof, and a cross-head having lateral projections for detachable engagement with the registered seats to removably connect the core-sections.

7. A mold having a tubular core divided into longitudinal separable sections, a band secured transversely within each core-section with its ends offset to form seats adjacent the edges of the section, the corresponding seats of the sections being registered when the sections are set up, and a cross-head having lateral projections to detachably enter the seats and removably connect the core-sections.

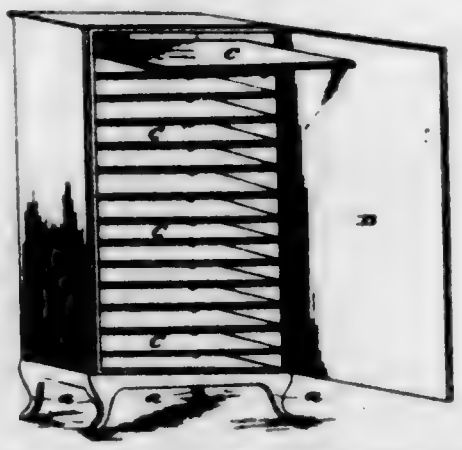
808,168. SPADE OR SHOVEL. JESSE W. REED, Detroit, Mich. Filed Aug. 17, 1905. Serial No. 274,592.



Claim.—The herein-described spade having a flat blade tapered downwardly, rounded at its lower edge, provided on its side edges

next its lower edge with rounded teeth and having angular teeth on its side edges, each having an upper horizontal short face and an outer inclined long face, the side and bottom edges of the said blade being beveled on their rear side to form cutting edges for the bottom edge of the spade and for the teeth.

808,169. CABINET. JULIE M. RHODES, Central Valley, N. Y. Filed July 19, 1905. Serial No. 270,378.



Claim.—1. A cabinet comprising a body having side walls and vertical series of brackets on the inner sides of the side walls, shelves arranged one above the other in the body and slidable on the upper sides of the brackets, and connections depending from the shelves and engaging the brackets; the said connections being movable with respect to the shelves and arranged in one position to permit the shelves to slide on the brackets while holding the shelves against separation from the brackets, and in another position to permit such separation.

2. In a cabinet, the combination of a body having side walls and vertical series of horizontal, longitudinally-slotted brackets on the inner sides of said walls, slidable shelves arranged one above the other in the body and on the brackets, connections intermediate the shelves and the brackets comprising bolts disposed and movable in the slots of the brackets and having angular arms disposed below the brackets.

3. In a cabinet, the combination of a body having side walls and vertical series of horizontal longitudinally-slotted brackets on the inner sides of said walls, slidable shelves arranged one above the other in the body and on the brackets, connections intermediate the shelves and the brackets comprising bolts disposed and movable in the slots of the brackets and having upper reduced and threaded portions extending through and engaging the shelves and also having angular arms disposed below the brackets, and interiorly-threaded caps mounted on the upper ends of said bolts.

4. In a cabinet, the combination of a body having side walls and vertical series of horizontal, longitudinally-slotted brackets on the inner sides of said walls, slidable shelves arranged one above the other in the body and on the brackets, and connections intermediate the shelves and the brackets comprising plates countersunk in the upper sides of the shelves and provided with apertured depressions and bolts extending through the apertures in said depressions and the slots in the brackets and having heads arranged in the depressions and angular arms disposed below the brackets.

808,170. BAG. JOHN ROGERS, Cleveland, Ohio. Filed Apr. 20, 1905. Serial No. 256,613.



Claim.—1. A bag, comprising a folded end having a filling-opening, and a slide movable between the end folds and across said opening, as set forth.

2. A bag, comprising a diamond-folded end having a filling-opening, and a slide movable between the primary and finishing folds and across said opening, as set forth.

3. A bag, comprising a folded end, a reinforcing member between the end folds, there being a filling-opening in the end folds and reinforcing member, and a slide movable between the end folds and across said opening, as set forth.

4. A bag, comprising a folded end, upper and lower reinforcing members between the end folds, there being a filling-opening in the end folds and reinforcing members, and a slide movable between said reinforcing members and across said opening, as set forth.

5. A bag, comprising a diamond-folded end, upper and lower reinforcing members between the primary and finishing folds, there being a filling-opening in said folds and reinforcing members, and a slide movable between said reinforcing members and across said opening, as set forth.

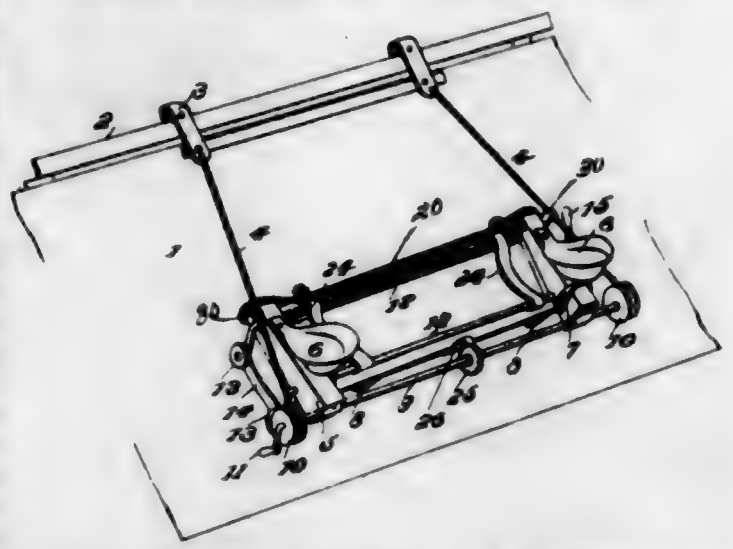
6. A bag, comprising a folded end, a reinforcing member between the end folds, there being a filling-opening in the end folds and reinforcing member, and a slide, integral with the reinforcing member and movable between the end folds and across said opening, as set forth.

7. A bag, comprising a diamond-folded end, upper and lower reinforcing members between the primary and finishing folds, there being a filling-opening in said folds and reinforcing members, and a slide, integral with one of the reinforcing members and movable between said members and across said opening, as set forth.

8. A bag, comprising a folded end, a reinforcing member between the end folds, there being a filling-opening in the end folds and reinforcing member, and a flexible slide, integral with the reinforcing member and movable between the end folds and across said opening, said slide having a marginal lip, as set forth.

9. A bag, comprising a diamond-folded end, upper and lower reinforcing members between the primary and finishing folds, there being a filling-opening in said folds and reinforcing members, and a flexible slide, integral with one of the reinforcing members and movable between said members and across said opening, said slide having a marginal lip, as set forth.

808,171. HOUSE-SHINGLING APPARATUS. GUSTAVE SAMPSON, Belview, Minn. Filed May 27, 1905. Serial No. 262,656.



Claim.—1. In a shingling apparatus, the combination of a track or way, a trolley mounted thereon, a supporting-frame connected with the trolley, sets of wheels for said supporting-frame arranged at angles to each other, and means admitting of supporting said frame upon either set of wheels.

2. In a shingling apparatus, the combination of a track or way, a trolley mounted thereon, a supporting-frame connected with the trolley, sets of wheels for said supporting-frame arranged at angles to each other, and means for actuating one set of wheels so that the frame is supported thereon independently of the other set.

3. In a shingling apparatus, the combination of a track or way, a trolley mounted thereon, a supporting-frame connected with the trolley, a set of main wheels supporting said frame, a second set of wheels arranged at an angle to the first set of wheels and adapted to support said frame, axles for the last-mentioned set of wheels, and means for actuating the axles aforementioned to throw the wheels carried thereby into a position supporting the frame.

4. In a shingling apparatus, the combination of a track or way, a trolley mounted thereon, a supporting-frame connected with the trolley, a set of main wheels supporting said frame, a set of auxiliary wheels arranged at an angle to the main wheels and adapted to support said frame, axles for the main wheels, connections between the axles, and operating means on the frame for actuating the axles to admit of supporting the frame upon either the main wheels or the auxiliary wheels aforesaid.

5. In a shingling apparatus, the combination of a supporting-frame movable along the roof, a shingle-gage carried by said frame and comprising a longitudinal supporting-belt adapted to run freely in contact with the roof as the frame moves thereon, whereby a straight reach of the belt maintains the same relation to the roof while the frame is moving, and a longitudinal spring-supported bar carried by the frame and coacting with the belt to prevent sagging thereof.

6. In a shingling apparatus, the combination of a supporting-frame adapted to travel over the roof, means for supporting the frame upon a building, an adjustable connection between the frame and the supporting means therefor, and a shingling-gage embodying an endless belt carried by the supporting-frame and adapted to run freely in contact with the roof as the frame moves, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

7. In a shingling apparatus, the combination of a movable supporting-frame, and a shingle-gage carried thereby and embodying an endless belt device adapted to run freely as the frame moves, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

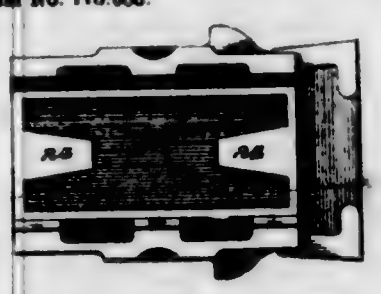
8. In a shingling apparatus, the combination of a movable supporting-frame, wheels supporting the frame, and an endless belt connecting said wheels and forming a shingle-gage, said belt being adapted to run freely in contact with the roof, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

9. In a shingling apparatus, the combination of a track, a trolley thereon, a supporting-frame, wheels coöperating to support said frame, an endless belt connecting said wheels and constituting a shingle-gage, said belt being adapted to run freely in contact with the roof, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving, and means for adjusting the position of the frame.

10. In a shingling apparatus, the combination of a supporting-frame for an operator, means for supporting the frame upon a building, an adjustable connection between the frame and the supporting means therefor, and a shingle-gage embodying an endless belt carried by the supporting-frame and means to prevent sagging of the belt, the gage-belt being adapted to run freely in contact with the roof, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

11. In a shingling apparatus, the combination of a track, a trolley mounted thereon, a supporting-frame, a windlass-shaft upon the frame, cables connecting the trolley with the windlass-shaft to be wound upon the latter, sets of supporting-wheels upon the supporting-frame arranged at angles to each other, means for supporting the supporting-frame upon either set of wheels independently of the other, and a shingle-gage for the supporting-frame comprising an endless belt, said belt being adapted to run freely in contact with the roof, whereby a straight reach thereof maintains the same relation to the roof while the frame is moving.

808,172. JOURNAL-BEARING. GEORGE N. SCHEYS, Chicago, Ill., assignor of one-half to George A. Woodman, Chicago, Ill. Filed Aug. 24, 1903. Serial No. 170,653.



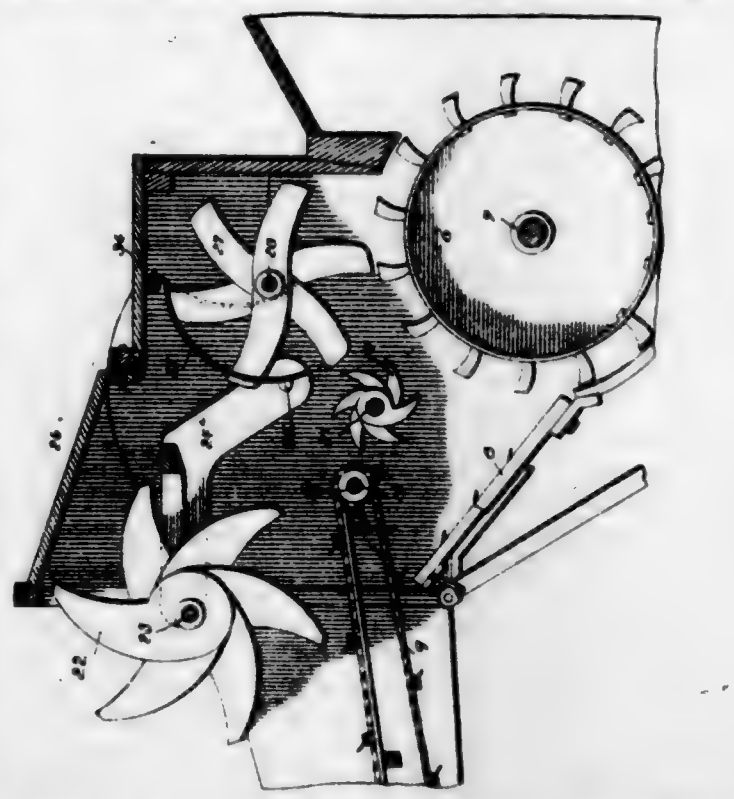
Claim.—1. A car-journal bearing comprising a wedge provided with a recess having straight walls, and a brass provided with a raised crown having straight walls to work in said recess, said brass and wedge being relatively movable in parallel planes and said wedge being provided with stops to engage the crown intermediate of its ends and limit the movement of the brass.

2. A car-journal bearing comprising a wedge having a recess in its under side, a brass provided on its top with a raised crown to work in said recess, said wedge having projections extending into the recess from its surrounding walls, and said crown being shaped to receive said projections.

3. A car-journal bearing comprising a wedge having a recess in its under side, a brass provided on its top with a raised crown to work in said recess, ribs in said recess, and channels in the crown to receive said ribs.

4. A car-journal bearing comprising a wedge having a recess in its under side, a brass provided on its top with a raised crown to work in said recess, crossed ribs in said recess, and channels in the crown complementary to said ribs.

808,173. FEEDER FOR THRESHING-MACHINES. CHARLES S. SHERWOOD, Wichita, Kans. Filed Apr. 19, 1905. Serial No. 256,336.



Claim.—1. In a feeder for threshing-machines, the combination with the threshing-cylinder, of a rotary whipper having blades located directly above the cylinder and in close proximity thereto, a carrier leading to the whipper and cylinder, a retarder between the end of the carrier and the cylinder, and a volume-of-grain governor comprising swinging fingers operatively connected to and controlling the driving mechanism of the carrier, said fingers being located between the blades of the whipper and beyond the end of the carrier and also beyond the retarder, so that it is controlled by the volume of grain being immediately acted upon by the cylinder.

2. In a feeder for threshing-machines, the combination with a rotary feeding-whipper having blades, of a carrier-shaft having driving connections therewith including a clutch, a lever having on one arm a dog arranged to engage the clutch, a speed-governor geared to the whipper and connected to the other arm of the lever, and a volume-of-grain governor having swinging fingers depending between the blades of the whipper, and also having a connection to the said other arm of the lever.

3. In a feeder for threshing-machines, the combination with a carrier-shaft and a rotary retarder geared thereto and driven thereby, of a driving-wheel on the said shaft, a clutch normally connecting the wheel and shaft, a rotary whipper having driving connections with said wheel, a lever having a dog arranged to engage the clutch and disconnect the wheel and shaft, a speed-governor geared to the whipper, a volume-governor associated with the whipper and arranged to be acted on by the same grain at the same time, and independent connections between the said governors, respectively, and the lever.

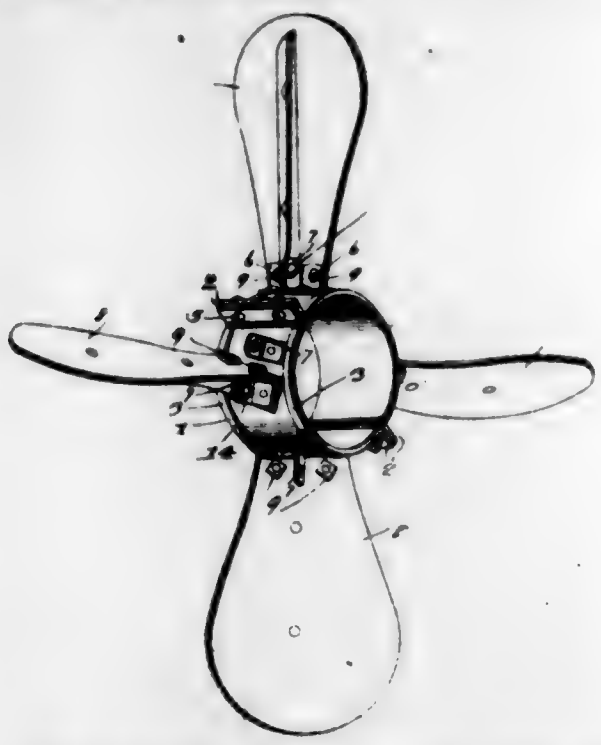
808,174. ROTARY FAN. HOWARD D. SLEAR and CHESTER G. ARNOLD, Grangeville, Idaho. Filed Apr. 19, 1905. Serial No. 256,452.

Claim.—1. A rotary fan comprising a hub, blades, and sets of attaching devices for each of the blades, one set of attaching devices being disposed at a different angle across the hub with respect to that of the other set of attaching devices.

2. A rotary fan comprising a hub, blades, and individual attaching means for each blade, said means consisting of two sets of spaced ears and fastenings to connect the blade to the respective sets of ears, one set of ears being disposed at an angle with respect to the other set of ears.

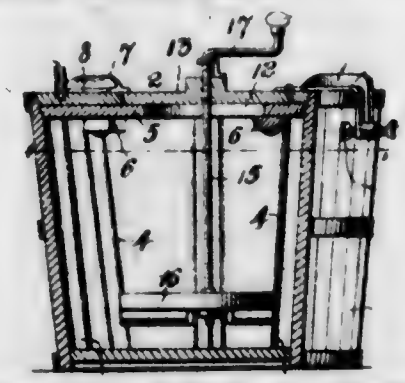
3. A rotary fan comprising a hub, blades, and attaching means for each blade, said attaching means including a pair of ears carried

by the hub and disposed at substantially right angles to one another, the inner end of the blade being adapted to engage one of the ears and provided with an ear to engage the other ear of the hub, and individual fastenings connecting the last-mentioned pair of ears and also the blade of the first-mentioned ear.



4. A rotary fan comprising a hub, two sets of spaced ears carried by the hub with one set of ears disposed at substantially right angles to the other set and opposite the interval therebetween, a blade having its inner end formed for engagement with either set of ears and provided with a laterally-projecting ear for engagement with either of the ears that is not engaged by the blade, and individual fastenings to connect the blade to one set of ears and to connect its ear to either of the other ears.

808,175. **WASHING-MACHINE.** DANIEL STUCK, Bay City, Mich. Filed Feb. 2, 1905. Serial No. 243,864.



Claim.—An attachment of the character described, comprising an annular corrugated metal lining, a top plate formed with a central opening, blocks upon the under side of said plate to engage the corrugations upon said lining, clamps to hold said plate and said lining in a tub, a cover for the opening in said plate, and a rubber rotatably mounted in said cover to coact with the rubbing-surface formed by said corrugated lining, substantially as described.

808,176. **WATCH-BARREL.** GUSTAVE THALHOFER, Chicago, Ill., administrator of Joseph Thalhofer, deceased. Filed Jan. 21, 1903. Serial No. 140,054.



Claim.—1. In watch-winding mechanism, the combination, with the main wheel and the mainspring, of a plate A having a bearing-opening therein, an annular arbor adapted for the attachment of the mainspring, said arbor being journaled in said opening, means for accurately retaining said arbor in position, a jewel-setting independently secured upon the end of the said arbor, a ratchet-wheel F, and a collar M secured thereto, said collar embracing the jewel-setting but not contacting therewith; substantially as described.

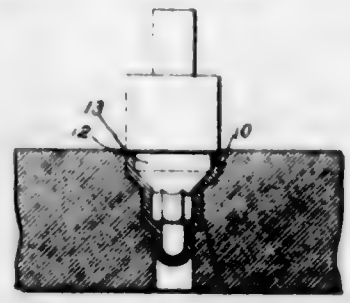
2. In watch-winding mechanism, the combination, with the main wheel and the mainspring, of a plate A, having a bearing-opening therein, an annular arbor journaled in said bearing-opening, means for accurately retaining said arbor in position, a jewel-setting L, independently secured upon the end of the said arbor, a ratchet-wheel F, and a collar M secured thereto, said collar embracing the jewel-setting but not contacting therewith; substantially as described.

3. In a watch-winding mechanism, the combination with a main wheel and a mainspring, of a plate A having a bearing-opening therein, an annular arbor adapted for the attachment of the mainspring, said arbor being journaled in said opening, a jewel-setting independently secured upon the end of said arbor, and a collar embracing said jewel-setting but free from engagement therewith.

4. In a watch-winding mechanism, the combination with a main wheel and mainspring, of a plate having a bearing-opening therein, an annular arbor adapted for the attachment of the mainspring, said arbor being journaled in said opening, a jewel-setting independently secured upon the end of said arbor, a collar, connecting means between said collar and arbor, said collar being arranged to embrace said jewel-setting but free from contact therewith.

5. In a watch-winding mechanism, the combination with a main wheel and mainspring, of a plate having a central bearing-opening therein, an annular arbor adapted for the attachment of the mainspring, said arbor being journaled in said opening, a jewel-setting independently secured upon the end of said arbor, said setting being free from contact with and spaced from all other parts of the watch mechanism, whereby the setting is free from all pressure save that of said securing means.

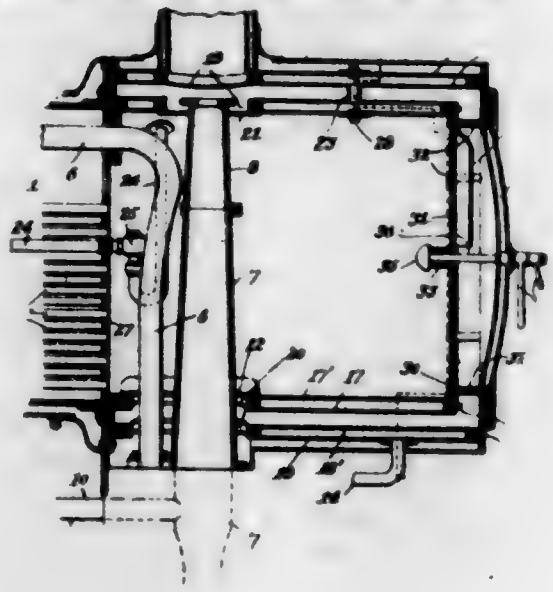
808,177. **PROCESS FOR MAKING GREASE-CUPS.** EDWARD A. THIEM, St. Paul, Minn. Filed May 14, 1904. Serial No. 207,917.



Claim.—1. A process of forming sheet-metal grease-cups which consists in, first, applying pressure to the edge only at the open upper end of a cup-shaped blank to force its lower closed end into a die and compress and strengthen the walls of the blank near said lower end, then removing the blank and applying pressure to said edge and the interior surface of the blank simultaneously to force it into a finishing-die, substantially as described.

2. A process of forming sheet-metal grease-cups which consists in, first, applying pressure to the edge only at the open upper end of a cup-shaped blank to force its lower closed end into a die and compress and strengthen the walls of the blank near said lower end, then removing the blank and applying pressure to its interior surface to force it into a finishing-die, substantially as described and for the purpose specified.

808,178. **FEED-WATER HEATER.** FREDERICK H. TREVITHICK, Cairo, Egypt. Filed May 15, 1905. Serial No. 260,488.



Claim.—1. A feed-water heater for locomotives or the like, comprising two outer and separated shells forming an outer annular water-chamber and a smoke-box, two inner and separated shells forming an inner annular water-chamber within and separated from the outer water-chamber, said inner chamber being shorter than the outer chamber, a head or door secured to the front end of the outer annular chamber and having attached to and spaced from its inner side a foraminous plate which covers the open end of the central chamber formed by the inner separated shells, and means for supplying water and withdrawing the same from the outer and inner annular water-chambers.

2. A feed-water heater for locomotives or the like, comprising two outer and separated shells forming an outer annular water-chamber and a smoke-box, two inner and separated shells forming an inner annular water-chamber within and separated from the outer water-chamber, said inner chamber being shorter than the outer chamber, a head or door secured to the front end of the outer annular chamber and having attached to and spaced from its inner side a foraminous plate which covers the open end of the central chamber formed by the inner separated shells, a water-inlet leading into the bottom of the outer annular chamber, means for permitting the water in the upper section of the outer annular chamber to flow in the upper part of the inner annular chamber, and an outlet connected to the inner chamber.

3. A feed-water heater for locomotives or the like, comprising two outer and separated shells forming an outer annular water-chamber and a smoke-box, two inner and separated shells forming an inner annular water-chamber within and separated from the outer water-chamber, said inner chamber being shorter than the outer chamber, an annular smoke-flue separating the inner and outer annular water-chambers, a stack communicating with said smoke-flue, a head or door secured to the front end of the outer annular chamber and having attached to and spaced from its inner side a foraminous plate which covers the open end of the central chamber formed by the inner separated shells, a water-inlet leading into the bottom of the outer annular chamber, means for permitting the water in the upper section of the outer annular chamber to flow in the upper part of the inner annular chamber, and an outlet connected to the inner chamber.

4. A feed-water heater for locomotives or the like, comprising two outer and separated shells forming an outer annular water-chamber and a smoke-box, two inner and separated shells forming an inner annular water-chamber within and separated from the outer water-chamber, said inner annular chamber being shorter than the outer chamber and having a central smoke-chamber within and an annular smoke-chamber surrounding the same, a blast-pipe passing through the central smoke-chamber and ending in the annular smoke-chamber, a head or door secured to the front end of the outer annular chamber and having attached to and spaced from its inner side a foraminous plate which covers the open end of the central chamber formed by the inner separated shells, and means for supplying water and withdrawing the same from the outer and inner annular water-chambers.

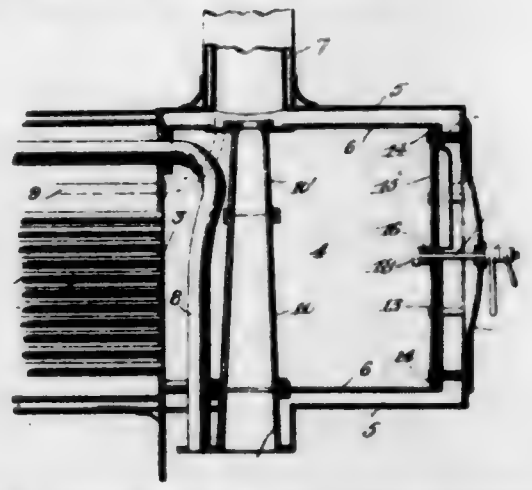
5. A feed-water heater for locomotives or the like, comprising two outer and separated shells forming an outer annular water-chamber and a smoke-box, two inner and separated shells forming an inner annular water-chamber within and separated from the outer water-chamber, said inner chamber being shorter than the outer chamber and having a central smoke-chamber within and an annular smoke-chamber surrounding the same, a blast-pipe passing through the central smoke-chamber and ending in the annular smoke-chamber, a stack communicating with the annular smoke-chamber, a head or door secured to the front end of the outer annular chamber and having attached to and spaced from its inner side a foraminous plate which covers the open end of the central chamber formed by the inner separated shells, a water-inlet leading into the bottom of the outer annular chamber, means for permitting the water in the upper section of the outer annular chamber to flow in the upper part of the inner annular chamber, and an outlet connected to the inner chamber for conveying the heated water to a boiler.

6. A feed-water heater for locomotives or the like, comprising two outer and separated shells forming an outer annular water-chamber and a smoke-box, two inner and separated shells forming an inner annular water-chamber within and separated from the outer water-chamber, said inner chamber being shorter than the outer chamber, an annular smoke-flue separating the inner and outer annular water-chambers, a stack communicating with said smoke-flue, a head or door secured to the front end of the outer annular chamber and having attached to and spaced from its inner side a foraminous plate which covers the open end of the central chamber formed by the inner separated shells, a water-inlet leading into the bottom of the outer annular chamber, means for permitting the water in the upper section of the outer annular chamber to flow in the upper part of the inner annular chamber, and an outlet connected to the inner chamber for conveying the heated water to a boiler, a preliminary feed-water-heating device which is adapted to receive the exhaust-steam from the motor-cylinder, and means for conducting the feed-water through the said preliminary heating device and conveying the same to the said water-inlet leading into the bottom of the outer annular water-chamber in the smoke-box.

7. A feed-water heater for locomotives or the like, comprising two outer and separated shells forming an outer annular water-chamber and a smoke-box, two inner and separated shells forming an inner annular water-chamber within and separated from the outer water-chamber, said inner chamber being shorter than the outer chamber, a head or door secured to the front end of the outer annular chamber and having attached to and spaced from its inner side a foraminous plate which covers the open end of the central chamber formed by the inner separated shells, an imperforate plate interposed between the foraminous plate and the head or door and extending over the upper section of the opening of the inner shell, and means for supplying water and withdrawing the same from the outer and inner annular water-chambers.

8. A feed-water heater for locomotives or the like, comprising two outer and separated shells forming an outer annular water-chamber and a smoke-box, two inner and separated shells forming an inner annular water-chamber within and separated from the outer water-chamber, said inner annular chamber being shorter than the outer chamber and having a central smoke-chamber within and an annular smoke-chamber surrounding the same, a blast-pipe passing through the central smoke-chamber and ending in the annular smoke-chamber, a head or door secured to the front end of the outer annular chamber and having attached to and spaced from its inner side a foraminous plate which covers the open end of the central chamber formed by the inner separated shells, an imperforate plate interposed between the foraminous plate and the head or door and extending over the upper section of the opening of the inner shell, and means for supplying water and withdrawing the same from the outer and inner annular water-chambers.

808,179. SPARK-ARRESTER. FREDERICK H. TREVITHICK, Cairo, Egypt. Filed May 27, 1905. Serial No. 262,580.



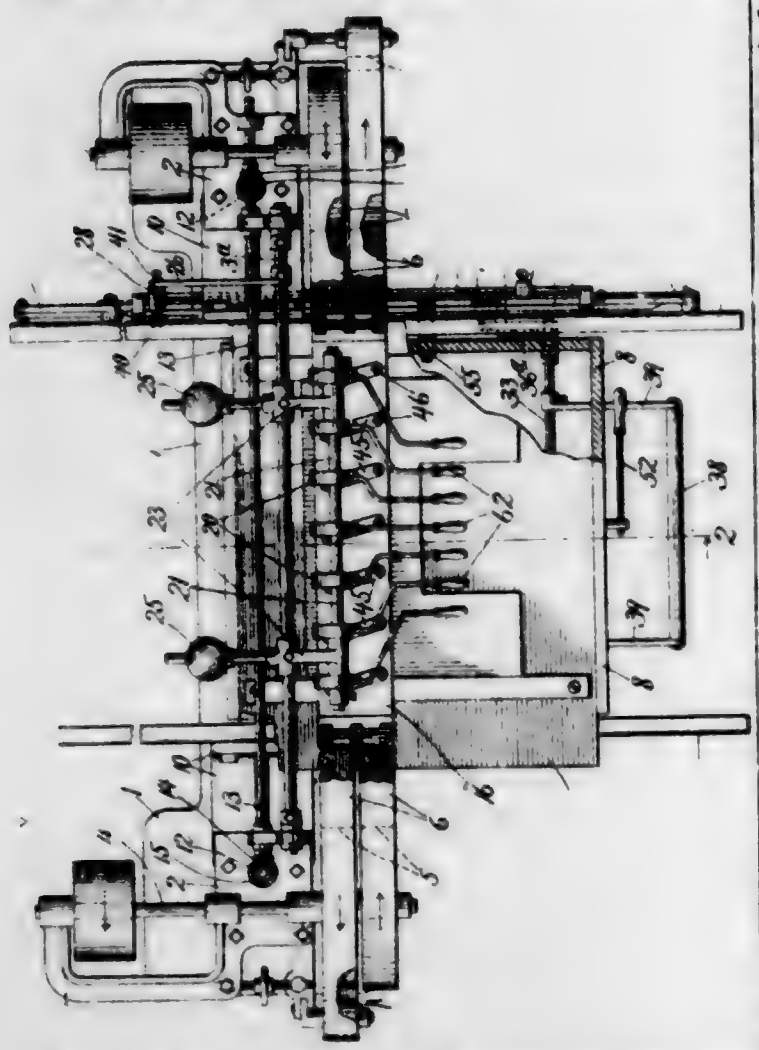
Claim.—1. The combination with a locomotive-boiler or the like, of a smoke-box comprising an outer shell, an inner shell separated from and shorter than the outer shell and forming a smoke-chamber communicating with the flues of the boiler and an annular smoke-flue with the outer shell, a smoke-box door closing the open end of the outer shell, a foraminous plate separated from and attached to the inner side of the door and adapted to close the open end of the inner shell and a stack communicating with the annular smoke-flue.

2. The combination with a locomotive-boiler or the like, of a smoke-box comprising an outer shell, an inner shell separated from and shorter than the outer shell and forming a smoke-chamber communicating with the flues of the boiler and an annular smoke-flue with the outer shell, a smoke-box door closing the open end of the outer shell, a foraminous plate separated from and attached to the inner side of the door and adapted to close the open end of the inner shell, a baffle-plate interposed in the upper section and between the foraminous plate and the door, and a stack communicating with the annular smoke-flue.

3. The combination with a locomotive-boiler or the like, of a smoke-box comprising an outer shell, an inner shell separated from and shorter than the outer shell and forming a smoke-chamber communicating with the flues of the boiler and an annular smoke-flue with the outer shell, a stack communicating with the annular smoke-flue, a blast-pipe passing through the smoke-chamber and having its open end leading into the annular smoke flue and stack, a smoke-box door closing the open end of the outer shell, and a foraminous plate separated from and attached to the inner side of the door and adapted to close the open end of the inner shell.

4. The combination with a locomotive-boiler or the like, of a smoke-box comprising an outer shell, an inner shell separated from and shorter than the outer shell and forming a smoke-chamber communicating with the flues of the boiler and an annular smoke-flue with the outer shell, a foraminous plate closing the open end of the inner shell, a smoke-box door closing the open end of the outer shell and a baffle-plate attached to the inner side and upper section of the door and interposed between the plate and the door.

808,180. SANDING-MACHINE. EMIL TYDEN, Hastings, Mich. Filed Oct. 22, 1904. Serial No. 229,568.



Claim.—1. In a sanding-machine, in combination with a supporting-frame, a work-table mounted for movement horizontally on the frame; a sanding device overhanging the work-table and means for actuating it; a pressure-bar overhanging such sanding means and movable for pressing it on the work; means for so moving the pressure-bar comprising mechanism supported on the frame above the work-table; mechanism supported on the frame below the work-table, connections from the former mechanism to the latter, said latter comprising a horizontal track and means for actuating said pressure-bar-operating mechanisms mounted on the work-table and carried thereby in the horizontal movement of the latter, said means consisting of a traveler and means for holding it pressed against the track-bar.

2. In a sanding-machine in combination with a supporting-frame; a work-table mounted on the frame for horizontal movement; a sanding-belt having its operating ply overhanging the work-table and means for driving it in direction transverse to the movement of the table; a pressure-bar overhanging said operating ply movable toward and from the same for pressing the belt upon the work; means for so moving the pressure-bar comprising mechanism mounted on the frame below the table, mechanism mounted on the frame above the table and connections from the former mechanism to the latter, the mechanism below the table comprising a horizontal track-bar and devices mounted on the work-table and carried thereby in the movement of the latter, said devices comprising a traveler which bears upon the horizontal track-bar and means for holding it pressed thereagainst.

3. In a sanding-machine in combination with a frame, a work-table mounted thereon for horizontal movement; a sanding device overhanging the work-table and means for actuating it; a pressure-bar overhanging the sanding means and movable for pressing the latter toward the work; mechanism mounted on the frame above the work-table for so operating the pressure-bar and parallel-movement mechanism mounted on the frame below the work-table comprising a horizontal track-bar and parallel links by which it is supported on the frame; a link connecting said parallel-movement mechanism with the pressure-bar-operating means above the table and means mounted on the table for actuating said parallel-movement mechanism consisting of a traveler and connections for holding it pressed against the horizontal track-bar.

4. In a sanding-machine in combination with a supporting-frame, a work-table mounted thereon for horizontal movement; a sanding device and means for actuating it overhanging the work-table; a pressure-bar for pressing the sanding device against the work; a rock-shaft mounted upon the frame above the table and connections therefrom for operating the pressure-bar and a lever-arm for operating the rock-shaft; a parallel-movement mechanism mounted on the frame below the work-table comprising a horizontal track-bar and parallel links by which it is carried upon the frame; a link connecting said parallel-movement mechanism with said rock-shaft lever-arm, and means mounted on the work-table for operating said parallel-movement mechanism consisting of a traveler bearing on the horizontal bar of said mechanism and means for holding it pressed thereagainst as the work-table moves horizontally.

5. In a sanding-machine in combination with a frame, a work-table mounted for movement horizontally thereon; a sanding device overhanging the work-table and means for actuating it; a pressure-bar overhanging the sanding device and movable for pressing the latter to the work; mechanism supported on the frame above the work-table for so operating the pressure-bar; a parallel-movement mechanism mounted on the frame below the work-table comprising a horizontal track-bar; two bell-crank levers having their corresponding arms extending parallel obliquely to the track-bar to constitute links for supporting such track-bar on the frame for parallel movement, the other corresponding arms of the bell-crank lever being also parallel at the lowest position of the horizontal bar approximately at right angles to the latter, and a link-bar connecting said last-mentioned parallel lever-arms; connections from said parallel-movement mechanism to the pressure-bar-operating mechanism above the table and devices for operating the parallel-movement mechanism mounted upon the work-table and carried thereby in the horizontal movement of the latter, said devices comprising a traveler bearing upon the track-bar which connects the oblique lever-arms or links and means for holding it pressed thereagainst throughout the horizontal movement of the table.

6. In a sanding-machine, in combination with a frame, a work-table mounted thereon for horizontal movement; a sanding device overhanging the work-table and means for actuating it; a pressure-bar overhanging the sanding device movable for pressing the latter to the work; mechanism supported on the frame above the work-table for so operating the pressure-bar; parallel-movement mechanism supported upon the frame below the work-table and operating connections therefrom to the pressure-bar-operating mechanism above the work-table, said parallel-movement mechanism comprising two similar bell-crank levers fulcrumed on the frame, said levers having corresponding arms extending obliquely from the fulcrum parallel to each other and constituting links for supporting the horizontal bar, such horizontal bar connected to such oblique arms or links and constituting a track-bar, the other corresponding arms of the bell-crank levers being also parallel and extending normally substantially in vertical direction, the track-bar being extended past its pivotal connection with one of the oblique lever-arms toward the vertical arm of the same lever and being stopped thereagainst substantially at the vertical position of the latter, and means mounted on the work-table for pressing upon said track-bar comprising a traveler bearing thereon and means for holding it pressed thereagainst.

7. In a sanding-machine, in combination with a supporting-frame, a work-table mounted thereon for horizontal movement; a sanding device overhanging the work-table and means for actuating it; a pressure-bar overhanging the sanding device movable for pressing the latter onto the work; mechanism mounted on the frame above the work-table for so operating the pressure-bar, said mechanism comprising an element weighted for upholding the pressure-bar and

a lever-arm for depressing it; parallel-movement mechanism mounted on the frame below the work-table and operating connections therefrom to said lever-arm, said parallel-movement mechanism comprising a horizontal track-bar; means mounted on and carried by the work-table in the horizontal movement of the latter for operating said parallel-movement mechanism consisting of a traveler extending under the horizontal track-bar and means for holding it pressed upward against the latter throughout the horizontal movement of the table.

8. In a sanding-machine, in combination with the frame, a sanding-belt overhanging the work-table and means for actuating it to propel its operating ply transverse to the movement of the table; an elastically-flexible pressure-bar overhanging the operating ply of the sanding-belt; a plurality of presser-feet distributed along the length of the pressure-bar above the same for pressing it against the belt; means for depressing said presser-feet, each separately and independently of the remainder, comprising lever-arms or handles extending from the respective presser-feet-operating devices convergingly forward for reducing the compass of the group of such handles.

9. In a sanding-machine, in combination with a frame, a work-table mounted thereon for horizontal movement; a sanding-belt overhanging the work-table and means for actuating it to propel its operating ply transversely to the movement of the table; a pressure-bar overhanging said operating ply; means for depressing it bodily to press said ply to the work, said means comprising a plurality of presser-feet distributed over the length of the pressure-bar and connected thereto for supporting the latter; means for supporting and operating said presser-feet comprising springs for said presser-feet respectively, upon which they are severally upheld yieldingly, and separate means for depressing the several presser-feet independently against the elastic support of their respective springs, and operating-handles or lever-arms extending from said depressing means respectively.

10. In a sanding-machine in combination with the frame, a work-table mounted thereon for horizontal movement; a sanding-belt overhanging the work-table and means for actuating it to propel its operating ply transversely to the movement of the work-table; an elastically-flexible pressure-bar suspended above said operating ply; a plurality of presser-feet distributed over the length of the pressure-bar for separately pressing upon the same at their respective positions to direct or increase the pressure of the sanding-belt on the work at such positions respectively; a work-holder on the work-table and means for moving such work-holder at will transversely with respect to the horizontal movement of the work-table.

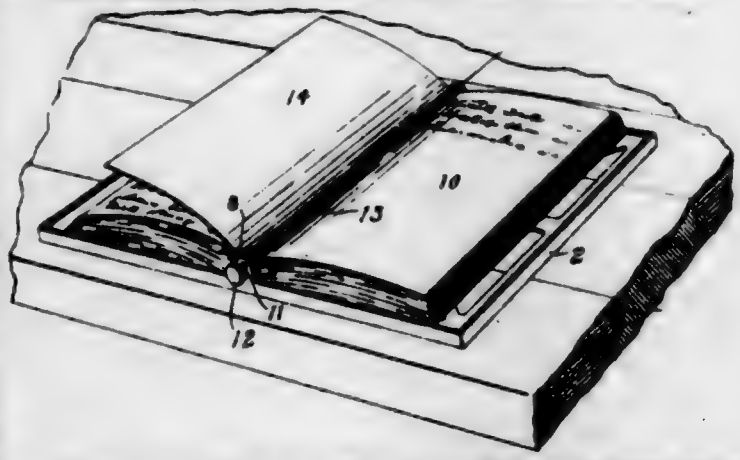
11. In a sanding-machine in combination with the frame, a work-table mounted thereon for horizontal movement; a sanding-belt overhanging the work-table and means for actuating it to propel its operating ply transversely to the movement of the work-table; an elastically-flexible pressure-bar suspended above said operating ply; a plurality of presser-feet distributed over the length of the pressure-bar for separately pressing upon the same at their respective positions to direct or increase the pressure of the sanding-belt on the work at such positions respectively; a work-holder mounted upon the work-table for movement transversely with respect to the horizontal travel of said table on the frame; a rock-shaft mounted under the work-table having lever-arms and links from said lever-arms connected with the work-holder for so moving the latter.

12. In a sanding-machine, in combination with sanding-belts and the work-table mounted for work-carrying movement transversely to the belt's travel, a multiplicity of branch exhaust-pipes extending from the rear forwardly to the belts, alternate pipes being provided with their expanded mouths overhanging the work at the rear margin of the rear sanding-belt, the other alternate pipes being extended over the belts and having their expanded mouths overhanging the work at the forward margin of the forward belt.

13. In a sanding-machine, in combination with a frame, a work-table mounted thereon for horizontal movement; a sanding device overhanging the work-table and means for actuating it; a pressure-bar overhanging the sanding device movable for pressing the latter to the work; mechanism supported on the frame above the work-table for so operating the pressure-bar; mechanism supported on the frame below the work-table and operating connections therefrom to the pressure-bar-operating mechanism above the work-table, said mechanism below the table comprising a bar which is movable up and down; a rock-shaft mounted on the work-table provided with an offset handle-bar and a lever-arm on said rock-shaft having an abutment for operating against the vertically-movable bar on the frame.

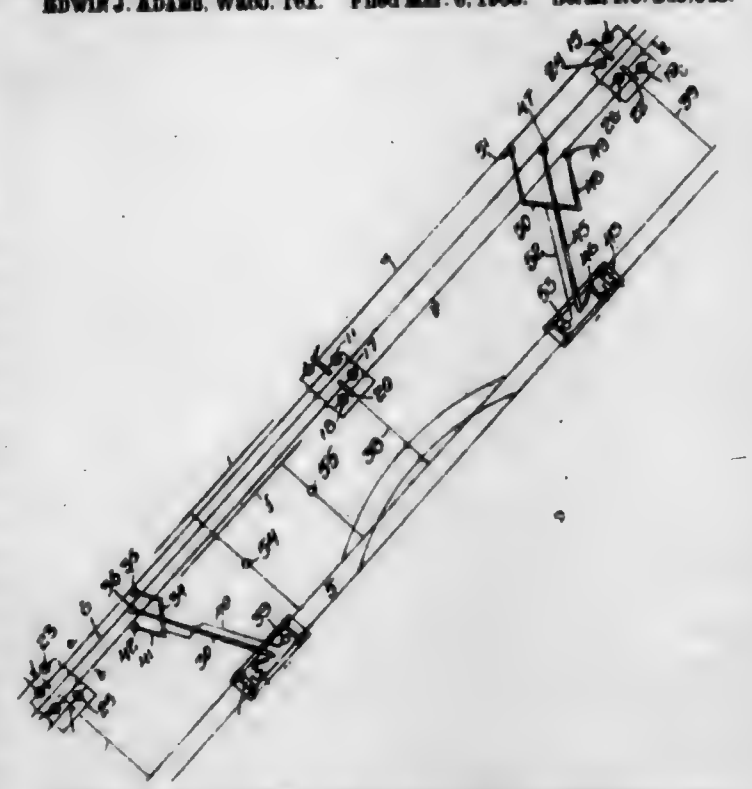
14. In a sanding-machine, in combination with a frame, a work-table mounted thereon for horizontal movement; a sanding device overhanging the work-table and means for actuating it; a pressure-bar overhanging the sanding device movable for pressing the latter to the work; mechanism supported on the frame above the work-table for so operating the pressure-bar; mechanism supported on the frame below the work-table and operating connections therefrom to the pressure-bar-operating mechanism above the work-table, said mechanism below the table comprising a bar which is movable up and down; a rock-shaft mounted on the work-table provided with an offset handle-bar and a lever-arm on said rock-shaft having an abutment for operating against the vertically-movable bar on the frame, said lever-arm being adjustable angularly about the rock-shaft, the rock-shaft having a second arm made fast to it extending alongside the adjustable lever-arm, one of said arms being segmentally extended and slotted and the bolt taken through the slot for binding it to the other arm at adjusted position of the adjustable frame.

808,181. **HOLDER FOR HOTEL-REGISTERS.** JOSEPH G. WILLIAMS, Minneapolis, Minn. Filed Aug. 1, 1905. Serial No. 272,247.



Claim.—In a holder for hotel-registers, the combination with a register-frame adapted for holding the register in an open position, said frame being provided with the loop 7, which is closed and with the loop 8, which is provided with an entrance cut at an angle, of a rod plain at one end and provided with a shoulder and knob at the other, and a tube having a longitudinal slot therein, said tube being adapted to receive the edge of a sheet of blotting-paper through said slot and said rod fitted to said tube and adapted to bind said blotter therein by pressure thereof against the wall of the tube at one side, said rod being also adapted to hold such blotter between the pages of the register and to secure said register to said frame, substantially as shown and described.

808,182. **ELECTRIC SIGNAL SYSTEM FOR ELECTRIC CARS.** EDWIN J. ADAMS, Waco, Tex. Filed Mar. 6, 1905. Serial No. 248,643.



Claim.—1. In a railway signal system, the combination with a feed-conductor, a return-conductor and a signal-conductor, of cars each having a trolley engaged with the feed-conductor and a trolley

engaged with the signal-conductor, means for propelling each car, a lamp carried by each car and having one terminal connected with the trolley that engages the signal-conductor, and means for connecting the opposite terminal of the lamp interchangeably with the other trolley and the return, the signal-conductor being divided into sections insulated from each other.

2. In a railway signal system, the combination with a feed-conductor, a return-conductor, and signal-conductors, the latter of which are divided into sections, of a lamp at each end of each of said sections connected between it and the return-conductor, a car, and means carried by the car for connecting the sections of one signal-conductor successively in circuit with the feed-conductor when going in one direction and for connecting the sections of the opposite signal-conductor successively in circuit with the feed-conductor when traveling in the opposite direction.

3. In a railway signal system, the combination with a feed-conductor, a return-conductor, and signal-conductors, the latter of which are divided into sections, of a lamp at each end of each of said sections connected between it and the return-conductor, a car, and means carried by the car for connecting the sections of one signal-conductor successively in circuit with the feed-conductor when going in one direction and for connecting the sections of the opposite signal-conductor successively in circuit with the feed-conductor when traveling in the opposite direction, the sections of opposite signal-conductors lying side by side in pairs and the lamps at the same ends of a pair of such sections being oppositely colored and the lamp at one end of each section being colored differently from that at the other end of that section.

4. In a railway signal system, the combination with feed and return conductors, of signal-conductors, a lamp between each signal-conductor and the return-conductor, a car, and means carried by the car for connecting one of said signal-conductors in circuit with the feed-conductor when going in one direction and for connecting the other signal-conductor in circuit with the feed-conductor when going in the opposite direction.

5. In a railway signal system, the combination with a feed-conductor and a return-conductor, of a pair of sectional signal-conductors, a lamp connected between each end of each section of each signal-conductor and the return-conductor, two cars, a signal-lamp on each car, means carried by the car for connecting its lamp between one signal-conductor and the return-conductor when going in one direction and between the other signal-conductor and the return-conductor when going in the other direction, and means carried by each car for connecting the feed-conductor with that signal-conductor that is not connected with the lamp on the car when the car moves in either direction.

808,183. CABLE HAULAGE AND CARRIER-TRANSFER. TONY ALEXANDER, Brookhaven, Miss. Filed Mar. 28, 1905. Serial No. 252,544.

Claim.—1. In a carrier system and in combination with a carrier, actuating means therefor, and a supporting-track, a transfer for sustaining the carrier in its travel by a track-support, said transfer comprising companion rails arranged upon opposite sides of the track and having its end portions beveled to gradually lift the carrier from the track and permit of its gradual return thereto.

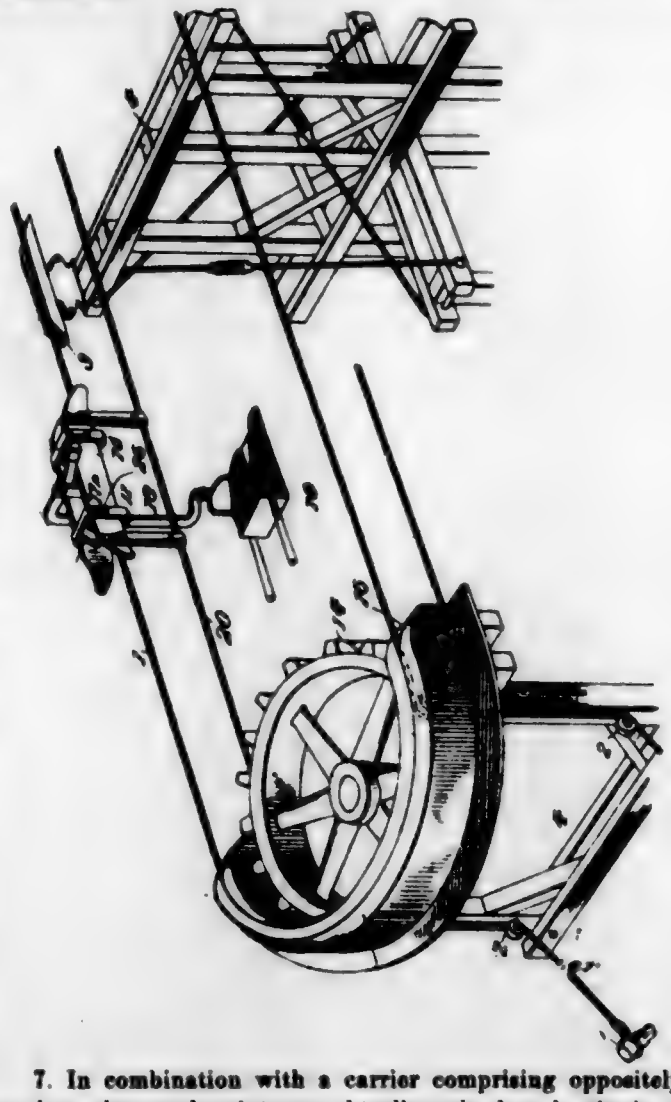
2. In a carrier system and in combination with a carrier, actuating means therefor, and a supporting-track, a transfer for sustaining the carrier in its travel by a track-support, said transfer comprising companion rails arranged upon opposite sides of the track and having its edges beveled and its end portions correspondingly beveled outward and downward, the parts being disposed to centralize the carrier and to gradually lift the same from the track and gradually return it again thereto.

3. A carrier comprising oppositely-disposed side plates rigidly connected, and trolley-wheels mounted in said side plates and adapted to have a limited horizontal movement to automatically shift to accommodate themselves to a deflection in the track upon which the carrier is mounted to obviate any binding or abnormal wear.

4. A carrier comprising a rigid frame having longitudinal spaced cut-away portions upon its inner faces, and trolley-wheels mounted in said frame between the spaced cut-away portions and adapted to yield horizontally to automatically conform to any deflection or curvature in the track upon which the carrier may be mounted.

5. A carrier comprising side plates rigidly connected and having longitudinally-elongated openings, a pin or axle fitted in corresponding openings and adapted to have a limited play therein, and trolley-wheels mounted upon said pins or axles.

6. A carrier comprising oppositely-disposed side plates provided with longitudinally-elongated openings, a pin or axle supported in corresponding openings, trolley-wheels mounted upon said pins, and means for covering one of said openings to retain the pins in place.



7. In combination with a carrier comprising oppositely-disposed members and an interposed trolley-wheel, and swinging lock-plate for closing the entrance to the carrier to prevent it from leaving the track when receiving a displacing impulse.

8. A carrier comprising oppositely-disposed members and an interposed trolley-wheel, in combination with companion lock-plates pivoted or hingedly connected at their outer ends to the side members of the carrier and inwardly and upwardly inclined and adapted to swing upward against said side members.

9. A carrier comprising oppositely-disposed side plates having transversely-alined openings and cut away upon their inner sides at each side of said openings, and a trolley-wheel mounted between said side plates and having the end portions of its axial support fitted into the transversely-alined openings of the side plates and adapted to have the ends of the trolley-wheel enter the cut-away portions of said side plates when the carrier is adapting itself to a curve or deflection in the supporting-track.

10. A carrier comprising side plates, ⊓-shaped frames having the side plates attached to their parallel members, and trolley-wheels arranged between the side plates and having the terminal portions of their axle-supports let into the side plates and the parallel members of said ⊓-shaped frames.

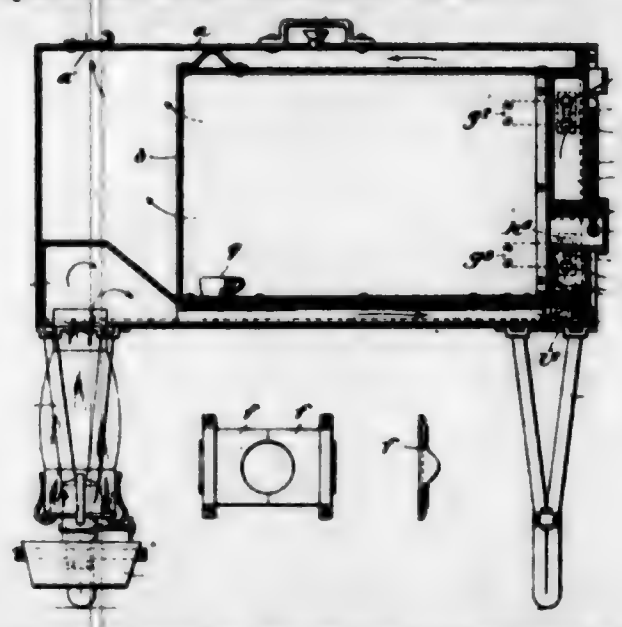
11. A carrier comprising plates, ⊓-shaped frames having the side plates attached to their parallel members, trolley-wheels mounted upon axles supported in said side plates, and lock-plates hinged to the lower ends of the members of said ⊓-shaped frames and adapted to open upward against the inner faces of said side plates.

808,184. DOUGH-RAISER. WILLIAM B. BARNES, Greenfield, and WILLIAM A. EDELMAN, Fayette, Ill. Filed May 11, 1905. Serial No. 260,057.

Claim.—1. In a dough-raiser, the combination of an outer casing provided with legs or supports, and slides to encircle a lamp-chimney, a lamp, an inner casing spaced from the outer casing and provided with openings in its sides and bottom portions, valves to close said openings, and a door adapted, when closed, to remove the valves from their seats and when open, to permit said valves to assume their normal positions.

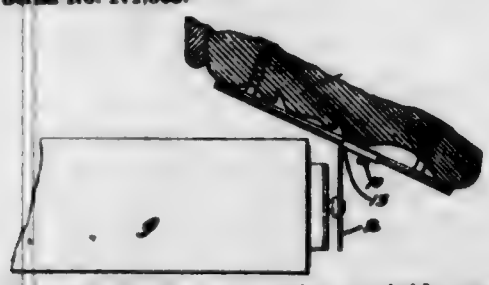
2. In a dough-raiser, the combination of an outer casing pro-

vided with legs or supports, and slides to encircle a lamp-chimney, a lamp, an inner casing spaced from the outer casing and provided with openings in its sides and bottom portions, valves to close said openings and a door, having a chamber mounted thereon, said chamber provided with openings in its sides and bottom portions, also provided with an opening passing through the door and the chamber mounted thereon, said opening provided with a sleeve, a thermometer attached to the door with its bulb within said sleeve, said door adapted when closed to remove the valves from their seats and when open, to permit said valves to assume their normal positions.



3. In a dough-raiser the combination of an outer casing provided on its under side with legs or supports and slides to encircle a lamp-chimney, a door, a lamp, an inner casing spaced from the outer casing and provided with valves attached to springs, said springs being fixedly attached to said inner casing in such manner as to allow said valves to cover openings in sides and bottom portions thereof, said valves, on the sides, being provided with projections extending inwardly and adapted, when the door is closed, to engage with the sides of the chamber which is mounted on said door, thus removing the valves from their seats to allow the free passage of the heat and the circulation thereof around the inner casing and the chamber mounted on said door, two of the valves covering the openings in the under portion of inner casing being provided with projecting sides adapted, when the door is closed and said valves are removed from their normal position, to cover the openings in the heat-conductor, all substantially as set forth.

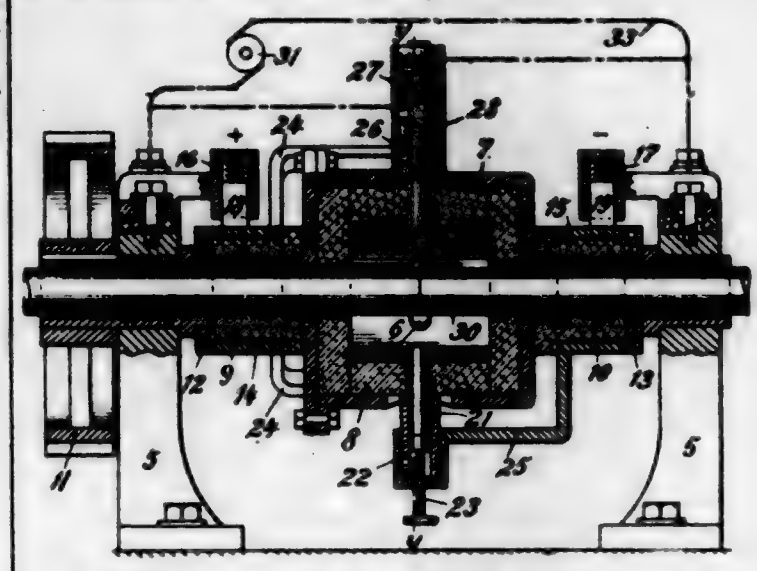
808,185. **CURTAIN-FIXTURE.** WILLIAM E. BATCHELDER, Lynn, Mass., assignor of one-half to Helena Barrett, Lynn, Mass. Filed Sept. 4, 1903. Serial No. 171,863.



Claim.—A curtain-fixture comprising a rigid metallic base-plate having a continuous normally flat central portion and marginal portions offset parallel thereto, a thin sheet-metal bracket having a yielding base and a shade-supporting portion normally arranged oblique thereto, but adapted to be bent to the proper angle at right angles to the axis of the shade-roller, the bracket-base being provided with lugs arranged to engage loosely the offset marginal portions only of the base-plate so that the bracket may slide freely upon the base-plate after the latter is permanently secured to the window-frame, and a set-screw screw-threaded through the yielding base of the bracket and engaging the central part of the base-plate to fix the bracket in adjusted position thereon, said bracket-base yielding when the set-screw is tightened so that the screw is held securely thereby, substantially as described.

808,186. **ART OF HEATING PIPES, RODS, OR SIMILAR BODIES.** GEORGE H. BENJAMIN, New York, N. Y. Filed Jan. 19, 1903. Serial No. 139,545.

Claim.—1. The improvement in the art described, which consists in introducing the body to be heated into a substantially closed chamber, and then subjecting said body to the radiated heat of a series of electric arcs rotated around said body.



2. The improvement in the art described, which consists in introducing the body to be heated into a substantially closed chamber, and then subjecting said body to the physical effects of a series of electric arcs rotated rapidly around said body.

3. The improvement in the art described, which consists in introducing the body to be heated into a chamber which is substantially closed by the introduction of said body, and then subjecting said body to the radiated heat of a series of electric arcs rotated rapidly around said body.

4. The improvement in the art described, which consists in introducing the body to be heated into a substantially closed chamber, then subjecting said body to the uniformly-applied radiated heat of a series of electric arcs rotated around said body.

5. The improvement in the art described, which consists in introducing the body to be heated into a substantially closed chamber, then subjecting said body to the radiated heat derived from a series of electric arcs, and from the lining of said chamber, as such sources of heat are rotated around said body.

6. The improvement in the art described, which consists in introducing the body to be heated into a substantially closed chamber, then subjecting said body to the radiated heat of a series of electric arcs rotated around said body and magnetically blown toward said body.

7. The improvement in the art described, which consists in introducing the body to be heated into a chamber substantially closed to the external atmosphere, then subjecting said body to the radiated heat of a series of electric arcs rotated around the periphery of said body.

8. The improvement in the art described, which consists in introducing the bodies to be welded into a chamber substantially closed to the atmosphere, then rotating a series of electric arcs around the meeting-point of said bodies.

9. The imporvement in the art described, which consists in introducing a body to be heated into a chamber substantially closed to the atmosphere, then subjecting said body to the high-temperature effects due to a series of electric arcs rapidly rotated around said body.

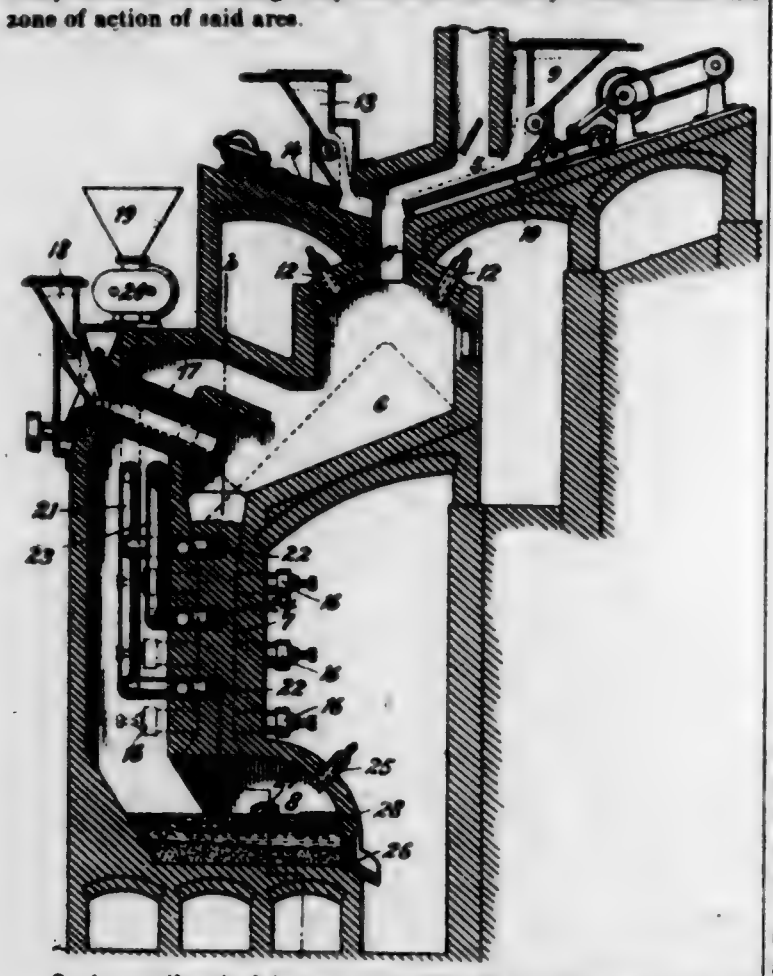
10. The improvement in the art described, which consists in introducing the body to be heated into a chamber closed to the atmosphere, then subjecting said body while maintained in a fixed position to the radiated heat of a series of electric arcs rotated rapidly around said body.

11. The improvement in the art described, which consists in introducing the body to be heated into a chamber closed to the atmosphere, then subjecting said body to the high-temperature effects of an annular heated zone of uniform intensity surrounding said body and having the temperature of an electric arc.

12. The improvement in the art described, which consists in introducing the body to be heated into a chamber closed to the atmosphere, then subjecting said body to the effects of a uniformly-heated zone surrounding said body but not in contact with said body and having the temperature of an electric arc.

808,187. **METALLURGICAL FURNACE.** GEORGE H. BENJAMIN, New York, N. Y. Filed Apr. 27, 1903. Serial No. 154,590.

Claim.—1. A metallurgical furnace embodying in its construction, a series of arcs, means whereby a reduced ore body will flow within the zone of action of said arcs, and means for introducing a finely-divided combining body into said ore body while within the zone of action of said arcs.



2. A metallurgical furnace embodying in its construction, a series of electric arcs, means whereby a reduced ore body will flow within the zone of action of said arcs, and means for introducing a blast of air carrying a finely-divided combining body into said ore body while within the zone of action of said arcs.

3. A metallurgical furnace embodying in its construction, a series of electric arcs, means whereby a reduced ore body will flow within the zone of action of said arcs, means for introducing a highly-heated combining body into said reduced ore body before passing said arcs, and means for introducing a finely-divided combining body into said ore body while passing said arcs.

4. A metallurgical furnace embodying in its construction, a reducing-chamber, means for creating a reducing atmosphere therein, a heating-chamber adapted to discharge into the lower end of the reducing-chamber, a series of vertically-arranged arcs, a chamber in which these arcs are located situated below the reducing-chamber, and means for introducing a finely-divided combining body into the chamber in which the arcs are situated.

5. A metallurgical furnace embodying in its construction, means for reducing an ore body, means for introducing into said ore body at successive points in its line of travel through the furnace, charges of highly-heated combining material, and a series of electric arcs through which said reduced ore body and introduced material are moved and thereby subjected to the physical effects of said electric arcs.

6. A metallurgical furnace embodying in its construction, means for reducing an ore body, means for highly heating a combining body, means whereby these two bodies are brought together, a series of electric arcs through which the combined bodies are passed, and means for introducing into the combined bodies while passing through the electric arcs, a combining body in a finely-divided state.

7. A metallurgical furnace embodying in its construction, means for reducing an ore body, means for heating a combining body, a series of electric arcs, means for simultaneously causing the reduced ore body and the heated combining body to flow through said arcs, and means for introducing into said combined bodies while passing through the electric arcs, a finely-divided combining body.

8. A metallurgical furnace embodying in its construction, a reducing-chamber, means for creating a reducing atmosphere therein, a heating-chamber, means for heating said chamber, a vertically-disposed chamber under the reducing-chamber, a series of electric arcs in said chamber, means for introducing a finely-divided combining body into said last-named chamber around said arcs, and a receiving-chamber at the bottom of the furnace.

808,188. LOCKING DEVICE. SEYMOUR W. BONSALL, New York, N. Y. Filed June 24, 1904. Serial No. 213,979.

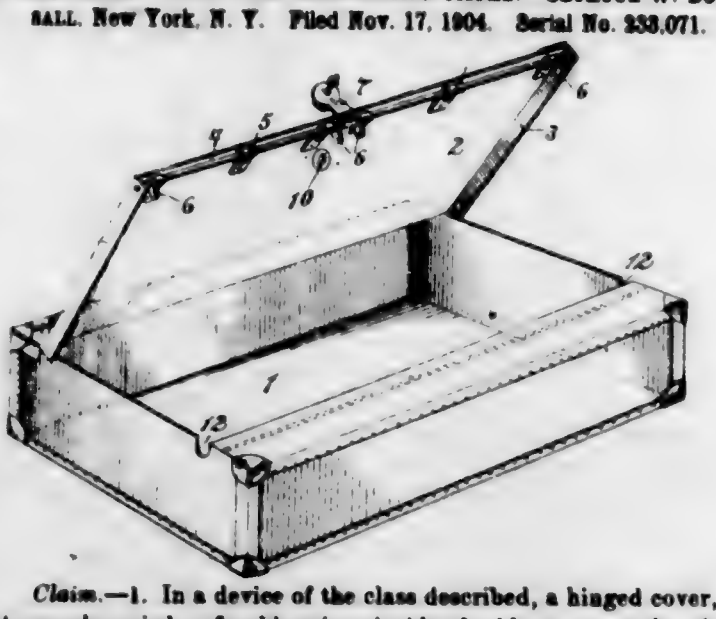


Claim.—1. In a device of the class described, a cover, valances on the sides thereof, a transverse bar revolubly supported within said cover and extending outside of said valances, hooks fixed on the ends of said bar, and a lock-hasp extending through an appropriate opening in said cover and rigidly fixed to said bar, substantially as described.

2. In a device of the class described, a cover, valances on the sides thereof, a transverse bar revolubly supported within said cover and extending outside of said valances, a bearing for said bar near each valance, a sleeve fitting snugly between each of said bearings and said valances, hooks outside said valances fixed to the ends of said bar and a lock-hasp fixed on said bar, substantially as described.

3. In a device of the class described, a box, a cover therefor, catchers outside the box, hooks pivoted outside said cover, so shaped as to draw the box and cover together as said hooks are forced onto said catches, a lock-hasp on the cover and connecting means between the hasp and said hooks for operating the latter by movement of the former, substantially as described.

808,189. LOCK FOR TRAVELING CASES. SEYMOUR W. BONSALL, New York, N. Y. Filed Nov. 17, 1904. Serial No. 233,071.

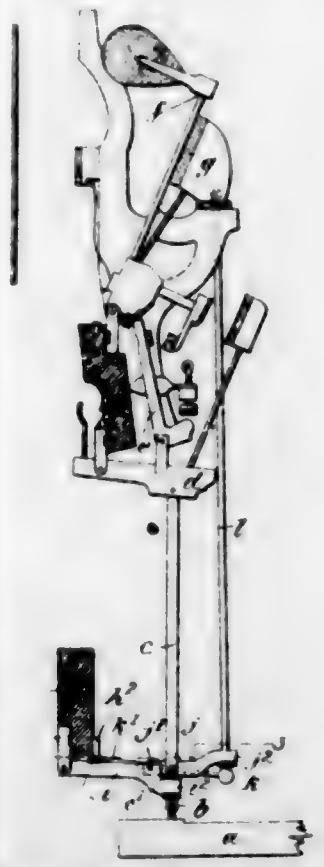


Claim.—1. In a device of the class described, a hinged cover, a rotary rod carried on fixed bearings inside of said cover near the edge thereof, a catch fixed to said rod and projecting therefrom, a securing-bar, a hasp on said rod passing through said cover and fixed to said rotary rod, and means on the cover adapted to lock said hasp, substantially as described.

2. In a device of the class described, a cover with side valances inside of said cover, a rod fixed rotatably to said valances, a catch on said rod, a securing-bar and a hasp passing through said cover and so fixed to said bar as to turn down against said cover when the bar is turned to bring said catch into locking position, substantially as described.

3. In a device of the class described, a case with slotted sides, a securing-bar along one face of said case, a cover on said case having valances, a rotary bar fixed at its ends to said valances and adapted to enter said slots, a catch fixed to said rod and adapted to turn up against said securing-bar, and a locking-hasp fixed to said rod so as to raise said catch into locking position when turned down flat upon said cover, substantially as described.

808,190. **PIANISSIMO DEVICE FOR PIANO-ACTIONS.** CHARLES G. BOTTNER, New York, N. Y. Filed Sept. 8, 1905. Serial No. 277,634.



Claim.—A pianissimo device for piano-actions composed of a tongue pivoted to a fixed support and having a step, a lever pivoted to the tongue and supported normally upon the step, an abstract pivoted at its bottom to the lever, and means for raising and lowering the lever, substantially as specified.

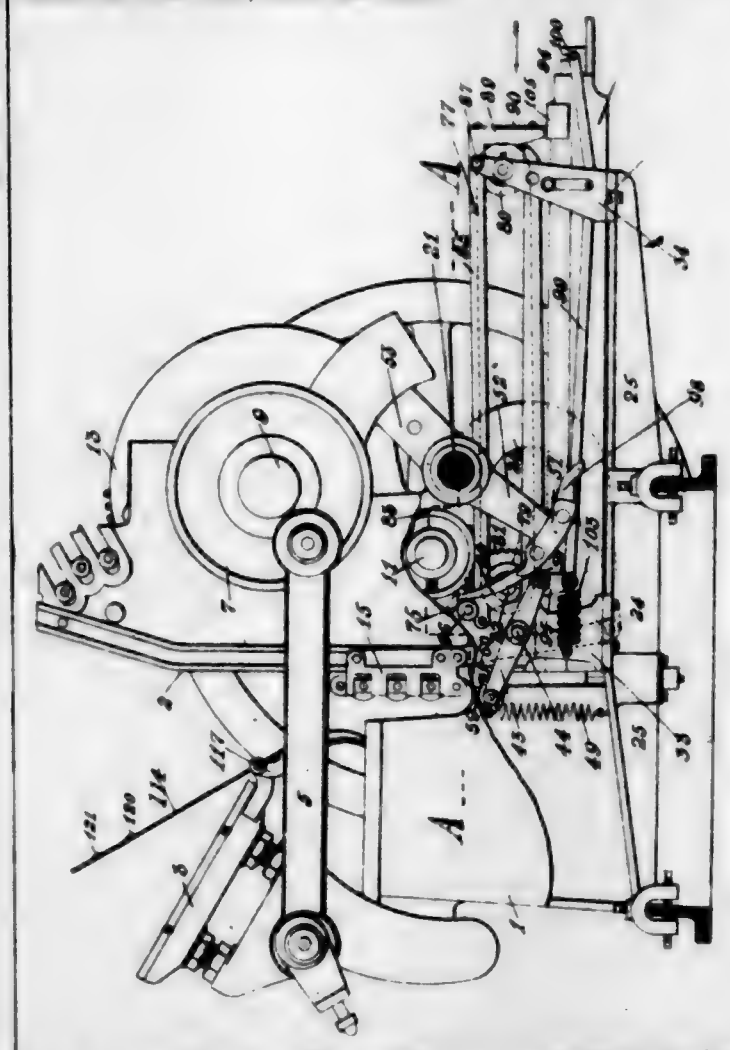
808,191. **ADDRESSING ATTACHMENT FOR PRINTING-PRESSES.** JOSEPH P. BRYAN, St. Michaels, Md., assignor to The Automatic Addressing Company, Wilmington, Del., a Corporation of Delaware. Filed July 23, 1904. Serial No. 218,453.

Claim.—1. In a printing-press for producing printed matter, the body of which is duplicated and a portion of which is changed, the combination with a chase adapted to hold the matter to be duplicated, of a series of independently-movable printing-plates, means for independently moving the printing-plates one at a time into printing position in the chase, and means for independently moving the plates which have been used, out of the chase.

2. In a printing-press for producing printed matter, the body of which is duplicated and a portion of which is changed, the combination with a chase adapted to hold the matter to be duplicated, of a series of independently-movable printing-plates, means for independently moving the printing-plates one at a time into printing position in the chase, means for inking the form in the chase and the printing-plate simultaneously and means for independently moving the printing-plate which has been used out of the chase.

3. In a printing-press for producing printed matter, the body of which is duplicated and a portion of which is changed, the combination with a chase adapted to hold the matter to be duplicated, of a series of independently-movable printing-plates, means for moving the printing-plates one at a time into printing position in the chase, the plates while in the chase being supported independently of the moving means and means for moving the plates which have been used out of the chase.

4. In a printing-press, for producing printed matter, the body of which is duplicated and a portion of which is changed, the combination with a chase adapted to hold the matter to be duplicated, a series of independently-movable printing-plates, means for moving the printing-plates one at a time into printing position in the chase, the plates while in the chase being supported independently of the moving means and means for inking the form in the chase and the movable plate simultaneously and means for removing the plate which has been used, out of the chase.



5. In combination with a printing-press comprising a bed for a form, a magazine for a series of printing-blocks, intermittingly-moving mechanism to discharge the printing-blocks separately from the magazine, a carrier to receive a printing-block as discharged from the magazine, and appliances whereby the carrier containing a printing-block is made to traverse a forward path parallel with and leading toward the bed, a catch to hold stationary the printing-block delivered by the carrier, and independent devices to effect a return movement of the carrier, substantially as specified.

6. In combination with a printing-press comprising a bed for a form, a magazine for a series of printing-blocks, intermittingly-moving mechanism to discharge the printing-blocks separately from the magazine, a carrier susceptible of a reciprocating movement in front of the bed, adapted to receive printing-blocks separately from the magazine, mechanism operated by the printing-press to move the carrier toward the bed, a catch to temporarily support the carrier when the same has reached a certain position with respect to the form, tripping devices to release the caught carrier, and spring mechanism to effect the return of the carrier, substantially as specified.

7. In combination with a printing-press comprising a bed for a printing-form, a magazine for a body of printing-blocks, mechanism to intermittingly push the body of printing-blocks in the magazine toward the bed, a carrier having a reciprocating movement in front of the printing-form, the same being arranged to receive at its actuation of the press a printing-block from the magazine and move it toward the printing-form and means for returning the printing-blocks to the magazine, substantially as specified.

8. In combination with a printing-press comprising a bed for a printing-form, a magazine for a body of printing-blocks, mechanism to intermittingly push the body of printing-blocks in the magazine toward the bed, a carrier having a reciprocating movement in front of the printing-form, adapted at each actuation of the press to receive a printing-block from the magazine, and move it toward the printing-form, means to receive and temporarily hold the printing-block moved by the carrier, and from which it is dislodged by the next printing-block delivered as described and made to further advance toward the printing-form, substantially as specified.

9. In combination with a printing-press comprising a bed for a printing-form, a magazine for printing-blocks, mechanism to inter-

mittingly move the printing-blocks as a body toward the bed, an intermittingly moving and reciprocating carrier adapted to receive printing-blocks from the magazine one by one, and carry them toward the printing-form, a device to receive and temporarily hold each printing-block delivered by the carrier, and from which it is dislodged by the printing-block delivered by the carrier in the next following operation, and means to return each printing-block after the printing operation, independently of the others, to the magazine, substantially as specified.

10. In combination with a printing-press, comprising a bed for a printing-form, a spring-held carrier situated in front of the said bed into which printing-blocks are intermittingly fed, means to move the said carrier with a printing-block, toward the printing-form, a latch to hold the carrier in its extreme forward position for the period during which an impression is taken from a previously-moved printing-block, devices to unlatch the carrier and allow it to retract and assume its original position, and other devices to prevent the retraction of the printing-block with the carrier, substantially as specified.

11. In combination with a printing-press, a chase, into which printing-blocks are intermittingly fed, means for rigidly supporting the blocks when in printing position, means for yeldingly supporting the blocks when out of printing position, and means for preventing the blocks out of printing position from making an impression.

12. In combination with a printing-press, of a chase, adapted to contain a plurality of blocks at one time, means for feeding the blocks through the chase and presenting them in printing position and means for preventing the blocks out of printing position from making an impression.

13. In combination with a printing-press, a chase into which printing-blocks are intermittingly fed, and from which the same are intermittingly discharged, the said chase being provided with a supporting-guide for the said blocks, the same having a limited surface against which bears an active printing-block, or one from which an impression is to be taken, a yielding surface to sustain certain of the printing-blocks which are non-active, and a gripper-bar faced with a mask having the portion of the same which registers with the active printing-block removed, substantially as specified.

14. In combination with a printing-press, a chase into which printing-blocks are intermittingly fed, and from which the same are intermittingly discharged, the said chase being provided with a supporting-guide for the blocks, having a limited surface against which bears the active printing-block, or that from which an impression is taken and a discharge-aperture situated beyond the said surface through which the said block after the printing operation is discharged, a yielding surface within the said aperture against which each printing-block rests after the printing operation, and a gripper-bar carrying devices which in the printing operation, displaces the yielding surface in the said aperture and at the same time pushes the unsustained printing-block through the said discharge-aperture, substantially as specified.

15. In combination with a printing-form and a chase, a magazine for printing-blocks, devices to carry the said printing-blocks from the magazine, into, across and through the said chase, the said printing-blocks being in contact one with another while entering and passing through the chase, each printing-block serving as a mover for the one in advance, substantially as specified.

16. In a printing-press for producing printed matter, the body of which is duplicated and a portion of which is changed, the combination with a chase adapted to hold the matter to be duplicated, of a series of printing-plates, a magazine for the printing-plates, means to feed the plates from the magazine to the chase, the printing-plates being in contact with one another while being fed, each printing-plate serving as a mover for the one in advance and means for removing the printing-plates from the chase after the printing operation.

17. In a printing-press for producing printed matter, the body of which is duplicated and a portion of which is changed, the combination with a chase adapted to hold the matter to be duplicated, of a series of printing-plates, a magazine for the printing-plates, means to feed the plates from the magazine to the chase, a guide for the plates in the chase and means for removing the plates from the chase after the printing operation.

18. In combination with a printing-press, a chase, a magazine for printing-blocks, means to feed the blocks from the magazine to the chase, the printing-blocks being in contact with one another while being fed, each printing-block serving as a mover for the one in advance and means to return the printing-blocks to the magazine after they have been passed through the chase.

19. In combination with a printing-press, a chase, a magazine for printing-blocks; means to feed the printing-blocks from the magazine to the chase, a guide for the printing-blocks in the chase, and means connecting the guide with the rear end of the magazine, whereby after the blocks have been presented in the chase, they are returned to the magazine.

20. In combination with a printing-press, a chase, a magazine for printing-blocks, mechanism to carry printing-blocks from the magazine to the chase, a guide for the printing-blocks situated in the chase, the said guide having a discharge-aperture therein and a channel in the rear leading therefrom, a chute, and an endless conveyer-belt extending from the chute to the rear end of the magazine, substantially as specified.

21. In a printing-press comprising a chase into which printing-blocks are intermittingly introduced, and from which they are discharged, and a magazine for the blocks, an endless conveyer-belt to receive the discharged blocks and carry them to the magazine, the said belt having a brush-surface, and devices to momentarily check or hold said blocks while the brush-surface is in motion, and so cleanse the printing-surface of the said block with which the said printing-surface is in contact, substantially as specified.

22. In a printing-press comprising a chase into which printing-blocks are intermittingly introduced and from which they are discharged, an endless conveyer-belt to receive the discharged blocks, the said belt having a brush-surface, devices to momentarily check or hold said blocks while the brush-surface is in motion, and a tray containing a cleansing liquid through which the said brush-surface passes, substantially as specified.

23. In combination with a printing-press comprising a bed for a printing-form, mechanism for carrying printing-blocks into the form and a single mechanism for carrying the blocks from the form and cleaning the printing-surface of the blocks while the same are in transit.

24. In combination with a printing-press comprising a bed for a printing-form, mechanism for carrying printing-blocks into the form, and a cleaning mechanism which receives, carries the blocks from the form and cleans them.

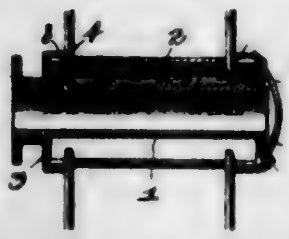
25. In combination with a printing-press comprising a bed for a printing-form, a magazine for printing-blocks, means for feeding the blocks from the magazine to the form, and a cleaning mechanism which receives, carries and cleans the blocks and delivers them to the magazine.

26. In combination with a printing-press comprising a bed for a printing-form, a magazine having a plurality of printing-blocks, mechanism to carry the printing-blocks from the magazine to the form, means for returning the printing-blocks from the form to the magazine and cleaning devices arranged to act upon the printing-surfaces of said blocks while the same are in transit, the cleaning means forming part of the means for returning the printing-blocks to the magazine.

27. In combination with a printing-press comprising a bed for the printing-form, the said bed having an opening therein, mechanism to convey printing-blocks into the said form, and other mechanism to discharge the printing-blocks after the printing operation, through the opening in the bed, substantially as specified.

28. In combination with a printing-press comprising a bed for the printing-form, printing-blocks, a magazine to contain the printing-blocks, means to convey the printing-blocks from the magazine to the said form, and devices to discharge the printing-blocks from the printing-form, and return them, after the printing operation, to the magazine, a removable shutter which is placed in the rear of the printing-blocks in the magazine and is moved with them, and a stop whereby, after the discharge of the last printing-block from the magazine, the shutter is held and thereby forms an abutment against which bears the first of the series of printing-blocks which have been returned to the magazine, substantially as, and for the purpose specified.

808,192. METAL WHEEL-HUB. JOHN J. BURNS, Gardner, Mass.
Filed May 15, 1905. Serial No. 260,483.

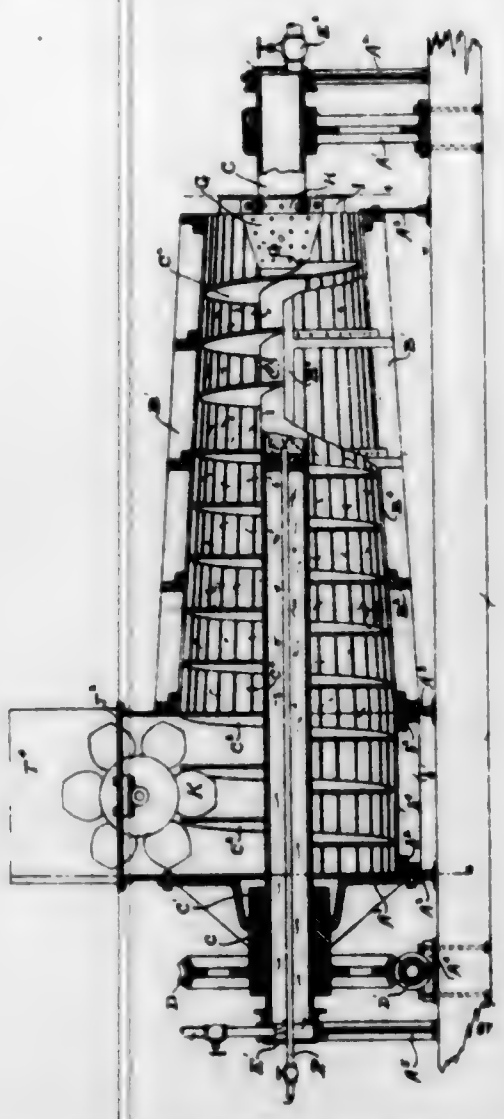


Claim.—1. A wheel-hub comprising a box having outwardly-opening notches at its ends, heads having collars or flanges to engage the outer side of the box, at the ends thereof, and close said

ends and the outer portions of said notches, said heads having central openings, a thimble extending through said box and the openings in the heads and connecting the heads together, and pairs of spokes, each pair bent from a single wire and having a connecting portion 6 at their inner ends, said spokes having their inner portions in said notches and their inner connecting portions 6 disposed transversely in and bearing against the inner side of said box, substantially as described.

2. A wheel-hub comprising a box having notches at its ends, heads having collars or flanges to engage the ends of the box and close the outer portions of said notches, a thimble extending through said box and heads, and connecting the latter together, and pairs of spokes having their inner ends connected together, said spokes having their inner portions in said notches and their inner connecting portions on the inner side of the said box, one of said heads having lugs on its outer side and a cap on said head engaged and secured thereto by said lugs.

808,193. CONTINUOUS SCREW-PRESS. JOSEPHUS F. BUSSELLS, Irvington, Va., assignor to American Process Company, New York, N. Y., a Corporation of West Virginia. Filed Jan. 4, 1905. Serial No. 239,636.



Claim.—1. A continuous screw-press comprising a body which is frusto-conical at the discharge end, a screw and screw-shaft within the body, and a frusto-conical shell on the screw-shaft at the discharge end having a cut-away portion fitting against the corresponding portion of the screw, so as to be rotated thereby, substantially as described.

2. A continuous press comprising a press-body, a screw and screw-shaft therewithin, a set of segmental clamping-bands, knives between the segments, and bolts for clamping the knives between the segments and upon the screw-shaft, substantially as described.

3. A continuous screw-press comprising a presser-body, a screw and screw-shaft therewithin, a frusto-conical shell surrounding the shaft at the discharge end, a set of segmental clamping-bands, knives between the segments, and bolts for clamping the knives between the segments and upon the screw-shaft to support the shell against a longitudinal displacement, substantially as described.

4. A continuous screw-press comprising a press-body, a screw and a hollow steam-tight screw-shaft therewithin, a plug centrally located in the hollow shaft, apertures in the shaft on the opposite sides of the plug, and a steam-supply at the feed end of the shaft, substantially as described.

5. A continuous screw-press comprising a press-body, a screw and a hollow apertured screw-shaft therewithin, a plug centrally located in the hollow shaft, and a steam blow-out pipe passing longitudinally through the shaft and the plug, substantially as described.

6. A continuous screw-press comprising a press-body, a screw and a hollow steam-tight screw-shaft therewithin, a plug centrally located in the hollow shaft, apertures in the shaft on opposite sides of the plug, a steam-supply at the feed end of the shaft, and a steam blow-out pipe passing longitudinally through the steam-tight shaft and plug, substantially as described.

7. A continuous screw-press comprising a press-body, a screw and hollow screw-shaft therewithin, steam-tight caps at the ends of the shaft, a plug centrally located in the hollow shaft, apertures in the shaft on opposite sides of the plug, and a steam-supply pipe passing through the cap at the feed end of the shaft, substantially as described.

8. A continuous screw-press comprising a press-body, a screw and a hollow screw-shaft therewithin, steam-tight caps at the ends of the shaft, a plug centrally located in the hollow shaft, apertures in the shaft on opposite sides of the plug, a steam-supply pipe passing through the cap at the feed end, and a steam blow-out pipe passing longitudinally through the same cap and through the plug, substantially as described.

9. A continuous screw-press comprising a press-body having an extension at the feed end, a feed-box covering a semicircular segment of the press secured above this extension, and a quadrantal feed-tube in the feed-box over the receding side of the screw, substantially as described.

10. A continuous screw-press comprising a press-body, having an extension at the feed end, a feed-box covering a semicircular segment of the press secured above this extension, and a feed-aperture in the box above that quadrantal segment only which lies over the receding side of the screw, substantially as described

11. A continuous screw-press comprising a press-body having an extension at the feed end, a feed-box covering a semicircular segment of the press secured above this extension, a feed-aperture in the box above that quadrantal segment which lies over the receding side of the screw, and a star-wheel having leaves meshing with the flanges of the screw on the approaching side of the feed-aperture, substantially as described.

12. A continuous screw-press comprising a press-body having an extension at the feed end, a feed-box covering a semicircular segment of the press secured above this extension, a top for the box having an aperture over that quadrantal segment which lies over the receding side of the screw, a bearing secured to the under side of this top, and a star-wheel rotating in the bearing having leaves meshing with the flanges of the screw, substantially as described.

13. A continuous screw-press comprising a press-body having an extension at the feed end, a feed-box covering a semicircular segment of the press secured above the extension, and a quadrantal feed-tube in the feed-box over the receding side of this screw, having a projection to the edge of the screw, substantially as described.

14. A continuous screw-press comprising a press-body, a feed-box covering a semicircular segment of the press having a feed-aperture in the box over the receding side of the screw, and a baffle-plate and star-wheel for preventing clogging, substantially as described.

15. A continuous screw-press comprising a press-body, a screw-shaft and screw therewithin, a feed-box having a feed-aperture over the receding side of the screw, and a star-wheel, meshing with the screw in the feed-box on the screw-approaching side of the feed-opening, substantially as described.

808,194. DOUBLE-ACTING SPRAYER. FRANK S. CAROTHERS, Jersey Shore, Pa. Filed Mar. 23, 1905. Serial No. 251,457.

Claim.—1. A double-acting sprayer comprising a reservoir; liquid-delivery tubes; air-delivery nozzles; a compression-tube; a supplemental tube; a compound piston; and a hollow piston-rod for the supply of external air to the interior of the compression-tube; each liquid-delivery tube having one end located in the reservoir and the opposite end projecting through the wall of the reservoir; the air-delivery nozzles being in communication with the compression and supplemental tubes and their open ends located adjacent the open ends of the liquid-delivery tubes; the compound piston being located upon the end of the hollow piston-rod; and said hollow piston-rod having a hole 13 adjacent the handle and outside the compression-tube.

2. A double-acting sprayer comprising a reservoir; liquid-delivery tubes; air-delivery nozzles; a compression-tube; a supplemental tube; two pistons with a space between; and a hollow piston-rod communicating with the external atmosphere by means of a hole 13 outside the compression-tube and with the space between the pistons by means of the opening 24; and each of said pistons being provided with means for allowing air to pass alternately to that end of the compression-tube which is opposite to the end in which air is being compressed.



3. The combination with a sprayer operating substantially as set forth, of a compression-tube; a supplemental tube; two pistons arranged side by side and with a space between; spacing-pieces; and a hollow piston-rod in communication with the external atmosphere and the space between the two pistons; said piston-rod being threaded at the end and having thereon nuts 22, 23, between which latter are located the pistons which are spaced apart by means of the said spacing-pieces.

4. The combination with a sprayer, constructed substantially as set forth, of a compression-tube; a supplemental tube; two pistons arranged side by side in parallel planes and separated each from the other to form a space between them, each piston having a flanged packing and the flanges of the two pistons oppositely disposed; and a hollow piston-rod in communication with the external atmosphere and the space between the two pistons.

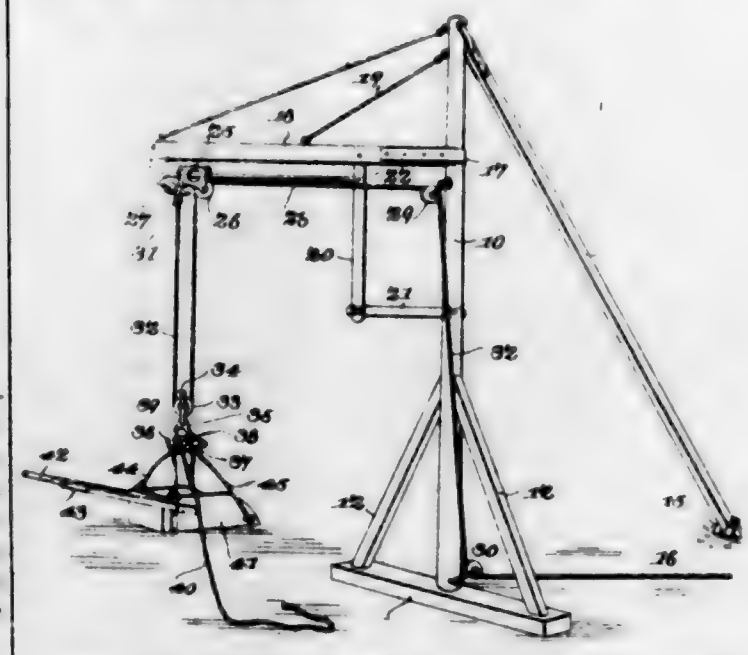
808,195. **TAP FOR BEER-BARRELS.** MANLEY J. CHAPLIN, Seattle, Wash. Filed Oct. 5, 1903. Serial No. 176,808.



Claim.—1. In combination with a bung-socket having an internal projection, a casing having a reduced part forming a shoulder, a sleeve slidable on said casing and having a conical extension, the bore of which is of less diameter than the sleeve-bore and which receives the reduced part of the casing and thereby forms a shoulder to engage said casing-shoulder and restrict the outer movement of the sleeve during its sliding movement, a ring removably fixed on the reduced part of the casing to restrict the inward movement of the sleeve, an elastic bushing engaged in its bore by said conical sleeve extension, said bushing at its one end engaging said bung-socket projection, and at its opposite end engaging said ring, and by its compressive action on said sleeve extension preventing movement of the sleeve.

2. In combination with a bung-socket having an internally-projecting collar adjacent its outer end, a casing having a reduced portion at one end forming a shoulder, the end of said reduced portion being threaded, a slidable sleeve having a bore to receive said casing, a conical extension carried by the sleeve and having a bore to receive said reduced portion of the casing, a shoulder formed at the junction of the sleeve-bore and the extension-bore for engagement with said shoulder of the casing to restrict the outward movement of the sleeve during its sliding movement, a ring threaded on said reduced portion of the casing to engage said sleeve extension and restrict the inward movement of the sleeve, an elastic bushing having its inward movement restricted by said ring, said conical sleeve extension engaging in the bore of the washer and when slid inwardly forcing the bushing outwardly into engagement with the bung-socket collar and said ring and being prevented from outward movement by the compressive action of said bushing, and a draw-tube projecting through the casing.

808,196. **PORTABLE HOISTING APPARATUS.** HOMER A. COFFMAN and CLARENDON B. CARTER, Keota, Iowa. Filed Oct. 16, 1905. Serial No. 283,006.



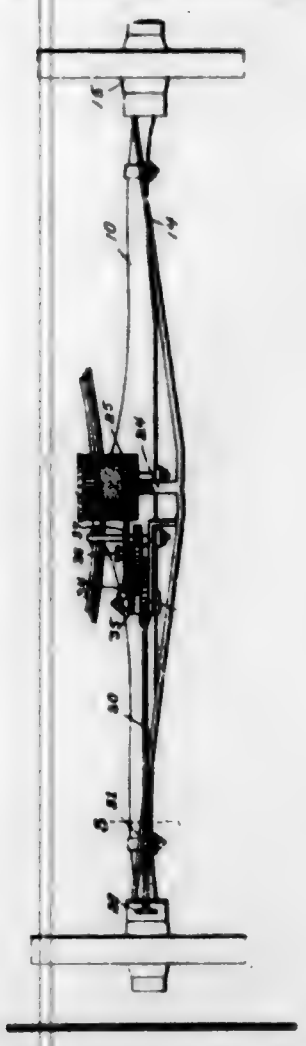
Claim.—1. In a device of the class described, a supporting-mast, a boom extending from said mast, a vertical stop member depending from said boom and spaced from said mast, a traveler movable relative to said boom and a hoisting means associated with said traveler, whereby the load may be elevated and moved toward the mast and limited in its movement in one direction by said stop member.

2. In a device of the class described, a supporting-mast, a boom extending from said mast, a vertical stop member depending from said boom and spaced from said mast, a track connected at one end to said stop member and at the other end to said boom, a traveler operating on said track, and a hoisting means associated with said traveler, whereby the load when elevated and moved longitudinally of said track is limited in its movement in one direction by said stop members.

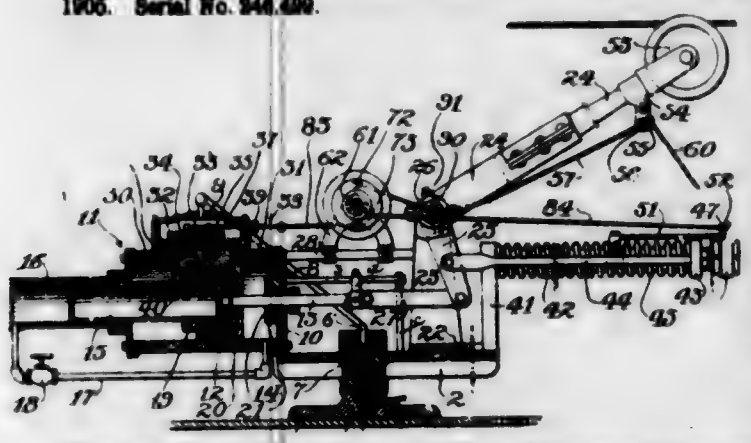
808,197. **AUTOMATIC LUBRICATOR.** WILLIAM H. DECKER, Derby, Iowa. Filed July 19, 1904. Serial No. 217,185.

Claim.—In a device of the class described, comprising a vehicle-axle having a journal thereon, a hub rotatably mounted on the journal, a ferrule at the inner end of the hub, there being a lug on the inner face of said ferrule, a rotatable shaft supported by the axle, a spur-wheel on the shaft in the path of the said lug, a worm-gear on the other end of the shaft, a train of gear-wheels supported on the axle and operated by the said worm-gear, a stationary disk supported on the axle having a screw-threaded periphery, an oil-tube communicating with the interior of the hub and also with said stationary disk, an oil-cup open at its bottom and closed at its top and having a screw-threaded interior to engage the screw-threads on said disk and also having cog-teeth on its exterior in mesh with one of the

wheels of said train of gear-wheels, substantially as and for the purposes stated.



808,198. VALVE-GOVERNOR FOR TROLLEY-POLE CONTROLLERS. MARTIN O. DOLSON, Los Angeles, Cal. Filed Feb. 20, 1905. Serial No. 246,499.



Claim.—1. Supporting means, a trolley-pole mounted thereon, means on the supporting means for moving the trolley-pole, and an inertially-controlled device on the supporting means operatively connected with the trolley-pole and operated by a quick movement thereof for governing the moving means.

2. Supporting means, a trolley-pole mounted thereon, means on the supporting means for moving the trolley-pole, and an inertially-controlled device on the supporting means operatively connected with the trolley-pole for governing the moving means, and means for operating said device independently of the trolley-pole to cause the moving means to operate.

3. Supporting means, a trolley-pole mounted thereon, means on the supporting means for moving the trolley-pole, and an inertially-controlled device on the supporting means for governing the moving means and operatively connected with the trolley-pole whereby a quick movement of the trolley-pole causes the inertially-controlled device to operate.

4. Supporting means, a trolley-pole mounted thereon, pneumatic means for moving the trolley-pole, and an inertially-controlled device on the supporting means for governing the pneumatic means and having an operative connection with the trolley-pole whereby a quick movement of the trolley-pole causes the governing device to operate.

5. Supporting means, a trolley-pole mounted thereon, pneumatic means for moving the trolley-pole, and an inertially-controlled device on the supporting means for controlling the pneumatic means.

6. Supporting means, a trolley-pole mounted thereon, pneumatic means for holding the trolley-pole suspended and for depressing the pole, and an inertially-controlled device on the supporting means for governing the pneumatic means and operated by a quick movement of the trolley-pole.

7. Supporting means, a trolley-pole mounted thereon, pneumatic means for raising and lowering the pole, and a device on the supporting means for governing the pneumatic means and operative by a quick movement of the pole to render active the pneumatic lowering means, and being operative independently of the pole to render active the pneumatic raising means.

8. Supporting means, a trolley-pole mounted thereon, means on the supporting means for moving the trolley-pole, a device on the supporting means operatively connected with the trolley-pole and operated by a quick movement thereof for governing the moving means, a governor connection for operating the governing device independently of the trolley-pole, and means hinged to the trolley-pole and adjustably clamping the governor connection for supporting the same.

9. Supporting means, a trolley-pole mounted thereon, pneumatic means for moving the pole, a valve carried by the pneumatic means for controlling the same, and an inertially-controlled device carried on the supporting means for actuating the valve and operatively connected with the trolley-pole whereby a quick movement of the latter causes the inertia device to operate and control the valve.

10. In combination with supporting means a trolley-pole mounted thereon, pneumatic means for operating the pole, a valve carried by the supporting means for controlling the pneumatic means, and a device carried by the supporting means for governing the valve comprising a ratchet with an operative connection with the valve, a pawl operating by inertia to engage the ratchet, supporting means for the pawl, and an operative connection from the trolley-pole to the pawl-supporting means for moving the same.

11. In combination with supporting means a trolley-pole mounted thereon, pneumatic means for operating the pole, a valve carried by the supporting means for controlling the pneumatic means, a device carried by the supporting means for governing the valve comprising a ratchet with an operative connection with the valve, a pawl operating by inertia to engage the ratchet, supporting means for the pawl, an operative connection from the trolley-pole to the pawl-supporting means for moving the same in one direction, and means for moving the pawl-supporting means in the other direction.

12. In combination with a trolley-pole, pneumatic means for operating the pole, a valve for controlling the pneumatic means, and a device for governing the valve comprising a ratchet-drum, a friction-plate bearing against the ratchet-drum, a connection from the friction-plate to the valve, a pawl operating by inertia to engage the ratchet-drum, supporting means for the pawl, and an operative connection from the trolley-pole to the pawl-supporting means for moving the same.

13. In combination with a trolley-pole, pneumatic means for operating the pole, a valve for controlling the pneumatic means, and a device for governing the valve comprising a ratchet-drum having an operative connection with the valve, a winding-drum, a pawl carried thereby and adapted to engage the ratchet-drum, a governor-rope on the winding-drum, and means operated by the trolley-pole for pulling the governor-rope and rotating the winding-drum.

14. In combination with a trolley-pole, pneumatic means for operating the pole, a valve for controlling the pneumatic means, and a device for governing the valve comprising a ratchet-drum having an operative connection with the valve, a winding-drum, a pawl carried thereby and adapted to engage the ratchet-drum, a governor-rope on the winding-drum, a pivoted lever connected to the governor-rope and means operated by the trolley-pole for actuating the pivoted lever.

15. In combination, a standard, a trolley-pole pivoted thereto, a spring-bar on the standard, a cross-bar slidable on the spring-bar, links connecting the cross-bar with the trolley-pole, a supporting-bar on the cross-bar, a lever pivoted to the supporting-bar, a link connecting the lever with one of the aforesaid links, pneumatic means for operating the trolley-pole, a device operating by inertia for controlling the pneumatic means, and means operated by the pivoted lever for actuating the inertia means.

16. In combination with a trolley-pole, pneumatic means for operating the pole, a valve for controlling the pneumatic means, and a device for governing the valve comprising a ratchet-drum, a winding-drum with operative connections to the trolley-pole, pawls on the

winding-drum for engaging the ratchet-drum, a friction-plate bearing against the ratchet-drum, a connection from one side of the friction-plate to said valve, and a governor-rope connected to the other side of the friction-plate and supported by the trolley-pole.

17. In combination with a trolley-pole, pneumatic means for operating the pole, a valve for controlling the pneumatic means, a device for governing the valve comprising a ratchet-drum, a winding-drum with operative connections to the trolley-pole, pawls on the winding-drum for engaging the ratchet-drum, a friction-plate bearing against the ratchet-drum, a connection from one side of the friction-plate to said valve, a governor-rope connected to the other side of the friction-plate and supported by the trolley-pole, and means for regulating the friction between the friction-plate and ratchet-drum.

18. In combination with a trolley-pole, pneumatic means for operating the pole, a valve for controlling the pneumatic means, and a device for governing the valve comprising a stationary shaft, a ratchet-drum revoluble on the shaft, a winding-drum revoluble on the shaft, spring-pressed pawls on the winding-drum normally held out of engagement with the ratchet-drum, a friction-plate revoluble on the shaft, a connection from the friction-plate to the valve, and means operated by the trolley-pole for rotating the winding-drum.

19. In combination with a trolley-pole, pneumatic means for operating the pole, a valve for controlling the pneumatic means, a device for governing the valve comprising a stationary shaft, a ratchet-drum revoluble on the shaft, a winding-drum revoluble on the shaft, spring-pressed pawls on the winding-drum normally held out of engagement with the ratchet-drum, a friction-plate revoluble on the shaft, a connection from the friction-plate to the valve, means operated by the trolley-pole for rotating the winding-drum in one direction, and a helical spring inside the winding-drum, and having one end attached to the shaft and its other end attached to the winding-drum for rotating the latter in the opposite direction.

20. In combination with a trolley-pole, pneumatic means for operating the pole, a valve for controlling the pneumatic means, a device for governing the valve comprising a stationary shaft, a ratchet-drum revoluble on the shaft, a winding-drum revoluble on the shaft, spring-pressed pawls on the winding-drum normally held out of engagement with the ratchet-drum, a friction-plate revoluble on the shaft, a connection from the friction-plate to the valve, means operated by the trolley-pole for rotating the winding-drum, and a spring stationary on the shaft and bearing against the friction-plate.

21. In combination with a trolley-pole, pneumatic means for operating the pole, a valve for controlling the pneumatic means, a device for governing the valve comprising a stationary shaft, a ratchet-drum revoluble on the shaft, a winding-drum revoluble on the shaft, spring-pressed pawls on the winding-drum normally held out of engagement with the ratchet-drum, a friction-plate revoluble on the shaft, a connection from the friction-plate to the valve, means operated by the trolley-pole for rotating the winding-drum, a spring stationary on the shaft and bearing against the friction-plate, and a nut on the shaft for regulating the pressure between the spring and friction-plate and between the latter and the ratchet-drum.

22. In combination, a trolley-pole, pneumatic means for operating the pole comprising a cylinder and a piston therein connected with the pole, a cushioning-chamber adjacent the cylinder, a trunk-piston attached to the first piston and playing in the cushioning-chamber, and a pipe connecting the rear end of the cushioning-chamber with the front end of the cylinder.

23. In combination, a trolley-pole, pneumatic means for operating the pole comprising a cylinder and a piston therein connected with the pole, a cushioning-chamber adjacent the cylinder, a trunk-piston attached to the first piston and playing in the cushioning-chamber, a pipe connecting the rear end of the cushioning-chamber with the front end of the cylinder, and means for regulating the cushioning effect of the air within the cushioning-chamber comprising a valve in said pipe whereby the flow of air therethrough is controlled.

24. A cylinder, a piston therein, a valve-chest on the cylinder with passages from the valve-chest to the cylinder, a valve in the valve-chest and adjustable means for regulating the flow of fluid through the passages.

25. A cylinder, a piston therein, a valve-chest on the cylinder with passages from the valve-chest to the cylinder, a valve in the valve-chest, and a screw extending through the wall of the cylinder and entering a passage for regulating the flow of fluid therethrough.

26. A cylinder, a piston therein, a valve-chest on the cylinder with passages from the valve-chest to the cylinder, a valve in the valve-chest, and screws extending through the wall of the cylinder and entering the passages for regulating the flow of fluid therethorugh.

808,199. RATCHET-SWIVEL ROPE-SOCKET. EDWARD DOUBLE, Los Angeles, Cal. Filed Jan. 30, 1905. Serial No. 243,232.



Claim.—1. The combination, in a ratchet-swivel rope-socket, of a socket proper, a revoluble member therein having a rope-receiving socket, a ratchet member loosely connected with said revoluble member to revolve therewith, said ratchet member provided with peripheral ratchet-ways tangentially inclined with respect to the axis of said ratchet member, means at the end of said ratchet member for preventing disengagement of said ratchet member from said revoluble member, and ratchet-rollers arranged longitudinally in said ways, said socket provided with means for holding a string of well-tools.

2. The combination of a socket proper, a revoluble member therein having a rope-receiving socket, a ratchet member loosely connected therewith to revolve therewith and provided with peripheral ratchet-ways tangentially inclined with respect to its axis, ratchet-rollers arranged longitudinally in said ways, and means fixed within said socket proper and at the lower end of said ratchet member for holding said member in place, said socket provided with means for holding a string of well-tools.

3. The combination, in a ratchet-swivel rope-socket, of a socket proper, a revoluble member therein having a rope-receiving socket, a ratchet member revoluble with said revoluble member, provided with peripheral ratchet-ways tangentially inclined with respect to its axis, ratchet-rollers arranged longitudinally in said ways, and means for centering said ratchet member, said socket provided with means for holding a string of well-tools.

4. The combination, in a ratchet-swivel rope-socket, of a socket proper, a revoluble member therein having a rope-receiving socket, a ratchet member loosely mounted in an extension of said socket in and revoluble with said revoluble member, provided with peripheral ratchet-ways tangentially inclined with respect to its axis, ratchet-rollers arranged longitudinally in said ways, means for removably holding said ratchet member in position and a cylindrical wearing lining interposed between the outer surfaces of said rollers and the inner surface of said socket proper, said socket provided with means for holding a string of well-tools.

808,200. FUSE. JOHN E. GRAYBILL, York, Pa. Filed Mar. 22, 1905. Serial No. 251,005.

Claim.—1. The combination with a terminal, of a fusible strip connected thereto, a member having a channel for the passage of said strip, said channel being out of line with the point of connection of said fusible strip to said terminal, and means for pressing said member toward said terminal, substantially as described.

2. In an inclosed fuse, the combination with a casing, of terminals, a fusible strip within said casing, having its ends connected to said terminals, longitudinally-movable members within said casing, said members having channels through which said strip passes, said channels being out of line with the points of connection of said strip to said terminals, and means for forcing said members toward said terminals, substantially as described.

3. In an inclosed fuse, the combination with a casing, of longitudinally-movable members therein, means tending to cause rela-

tive longitudinal movement thereof, the ends of said members being adapted to engage to prevent such movement, and a fusible strip holding said members in engagement, there being clearance between said casing and the engaging ends of said members so that the said ends of the members may ride upon each other to fill the arc-gap upon relative longitudinal movement, substantially as described.

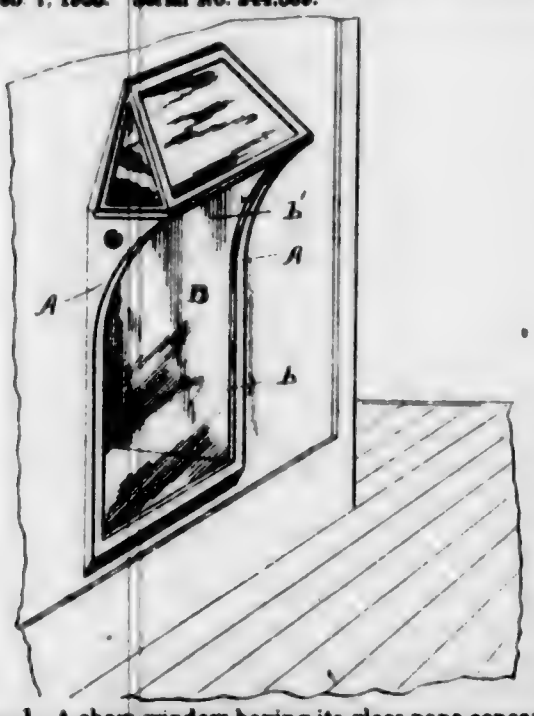


4. In an inclosed fuse, the combination with a casing, of a terminal at each end thereof, of a fusible strip within said casing and secured at its ends to said terminals, longitudinally-movable members within said casing, said fusible strip passing along one side of one of said members and along the opposite side of another of said members, and means for causing relative longitudinal movement of said members, substantially as described.

5. In an inclosed fuse, the combination with a casing, of a terminal at each end, longitudinally-movable members therein, a fusible strip connected to said terminals within said casing, extending along said members and holding them in engagement, a plate having a channel for the passage of said fusible strip, which channel is out of line with the point of connection of said fusible strip with the one of said terminals adjacent to said plate, and a spring interposed between said plate and one of said members, the other of said members bearing against the other end of said casing, substantially as described.

6. In an inclosed fuse, the combination with a casing, of a fusible strip therein, longitudinally-movable members within said casing, each of said members comprising an offset fork, the shoulder formed at the offset of one member being adapted to bear against the like shoulder upon the other of said members, said fusible strip passing along opposite sides of said members and between the tines of said forks, and means for causing relative longitudinal movement of said members, substantially as described.

808,201. SHOW-WINDOW. GEORGE T. HADLEY, San Francisco, Cal., assignor of one-half to Martin F. Hrubanik, San Francisco, Cal. Filed Feb. 7, 1905. Serial No. 244,589.



Claim.—1. A show-window having its glass pane concaved vertically, the concaved face of the pane being presented to the outside of the window, and no part of said pane lying to the inside of the vertical plane of its base.

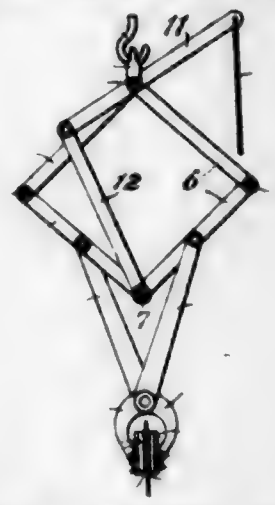
2. A show-window having its glass pane formed in a straight plane horizontally, and concaved vertically, the concaved face of the pane being presented to the outside of the window and no part of the pane lying to the inside of the vertical plane of its base.

3. A show-window having its glass pane formed with a lower portion straight in vertical plane and an upper portion concaved in vertical plane with its concaved face presented to the outside of the window.

4. A show-window having its glass pane formed with a lower portion straight in vertical plane and an upper portion concaved in vertical plane with its concaved face presented to the outside of the window, and projecting wholly outwardly from the vertical plane of the lower portion.

5. A show-window having its glass pane formed in a straight plane horizontally, said pane having a lower portion straight in vertical plane and an upper portion concaved in vertical plane with its concaved face presented to the outside of the window, and projecting wholly outwardly from the vertical plane of the lower portion.

808,202. CLAMP FOR CARRYING PLATE-GLASS. JOHN HUNTER, Los Angeles, Cal. Filed Nov. 9, 1904. Serial No. 231,982.



Claim.—1. A clamp for the purpose described, comprising clamping-jaws and their operating-arms, a toggle having its members pivotally connected to said arms, a toggle connected to the aforesaid toggle independently of the arms to form a double toggle, the first-mentioned toggle being connected to the arms independently of the second toggle, a suspending means connected to the second-named toggle, and means for drawing the said toggles together to separate the jaws.

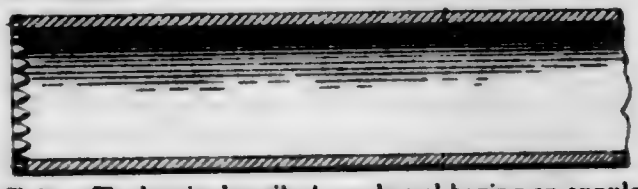
2. A clamp for the purpose described comprising clamping-jaws and their operating-arms, a lower toggle pivotally connected to said arms, an upper toggle pivotally connected to said lower toggle, independently of the arms, the lower toggle being connected to the arms independently of the upper toggle, a suspending means connected to the upper toggle, and means for drawing the lower and upper toggles together to separate the jaws.

3. A clamp for the purpose described comprising two pivotally-connected toggles, clamping-jaws, operating means for said jaws pivotally connected to one of the toggles intermediate the toggle-pivots, and suspending means connected to the other toggle, and means for drawing said toggles together.

4. A tongs comprising clamping-jaws and operating-arms, a double toggle connected to said arms, and an operating lever-and-link device pivotally connected to opposite joints of the double toggle.

5. A clamp for the purpose described comprising two pivotally-connected toggles, tongs having operating-arms pivotally connected to one of said toggles intermediate the toggle-pivots, clamp-jaws pivotally mounted on said tong-arms, and suspending means pivotally connected to the other toggle.

808,203. GUN-BARREL. OLE JOHNSON, Holmen, Wis., assignor of one-half to Otto Franke, La Crosse, Wis. Filed July 27, 1905. Serial No. 271,505.



Claim.—The herein-described gun-barrel having an annular series of indentations formed in the end of the muzzle thereof and a series of corrugations inside the bore of the muzzle, said corrugations being formed by the displacement of the metal caused by forming the indentations.

808,204. STOCKING. JULIUS KAYSER, New York, N. Y. Filed Mar. 17, 1906. Serial No. 306,540.

Claim.—1. As an article of apparel a stocking having a plurality of separate toe portions, one of said toes being of different material from the other.

2. As an article of apparel a stocking having a toe portion of silk and a second, separate toe portion of cotton.

3. As an article of apparel a stocking having a supplemental toe knitted to the main toe at approximately the instep of the foot portion of the stocking and connected to the main toe at the tip thereof, such supplemental toe being of material different from the main toe.

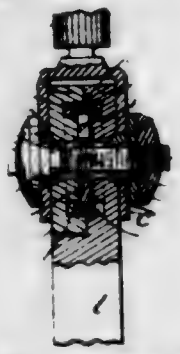


4. A stocking having an outer toe portion and a separate inner toe portion of a material different from the other toe portion secured at its base to the material of the outer toe.

5. A stocking having a plurality of toe portions enveloped one by the other and secured together at certain points, the outer toe being made of silk and the inner toe of a material softer and more absorbent than the material of the outer toe.

6. A stocking, having an outer toe portion, and an inner supplemental toe portion, of a material softer and more absorbent than the material of the first-mentioned toe.

808,205. **JOINT FOR COMPASSES.** HEINRICH KERN, Aarau, Switzerland. Filed May 7, 1904. Serial No. 206,833.



Claim.—1. In a joint for compasses and similar instruments, a pair of centering-pivots in combination with a member for connecting and clamping them on the parts to be united by the joint and for positively securing them against rotation with respect to each other.

2. In a joint for compasses and similar instruments, a pair of conical centering-pivots engaging conical sockets in the parts to be united by the joint, in combination with a member for connecting and clamping them on such parts and for positively securing them against rotation with respect to each other.

3. In a joint for compasses and similar instruments, a yoke and a pair of centering-pivots passing through said yoke and engaging the parts to be united by the joint, in combination with means for preventing relative movement of the pivots and for clamping them on the parts to be united by the joint, and means for positively securing them against rotation with respect to the yoke.

4. In a joint for compasses and similar instruments, a yoke and a pair of centering-pivots passing through said yoke, one of said pivots being positively fixed against rotation with respect to the yoke, and means for connecting the two pivots and securing the same against rotation relative to each other.

5. In a joint for compasses and similar instruments, a yoke, a pair of centering-pivots mounted on and passing through the respective arms of the yoke and engaging the parts to be united by the joint, and means for preventing rotation of the pivots relative to each other, in combination with means, carried by the pivots and engaging the yoke for securing the pivots against rotation with respect to the yoke.

6. In a joint for compasses and similar instruments, a yoke, a pair of centering-pivots provided with shoulders bearing against the outer surfaces of the yoke and mounted on and passing through the respective arms of said yoke and engaging the parts to be united by the joint, and means for preventing relative rotation of the centering-pivots, in combination with means carried by the pivots and engaging the yoke for securing the pivots against rotation with respect to the yoke and with respect to each other.

7. In a joint for compasses and similar instruments, a yoke and a pair of centering-pivots mounted on and passing through the respective arms of the yoke and engaging the parts to be united by the joint, in combination with means for clamping the pivots on the parts to be united by the joint and preventing rotation of the centering-pivots relative to each other, and means carried by the pivots and engaging the yoke for securing the pivots against rotation with respect to the yoke and with respect to each other.

8. In a joint for compasses and similar instruments, a yoke and a pair of centering-pivots provided with shoulders bearing against the outer surfaces of the yoke and mounted on and passing through the respective arms of said yoke and engaging the parts to be united by the joint, in combination with means for clamping the pivots on the parts to be united by the joint and preventing rotation of the pivots relative to each other, and means carried by the pivots and engaging the yoke for securing the pivots against rotation with respect to the yoke.

9. In a joint for compasses and similar instruments, a yoke and a pair of centering-pivots provided with shoulders bearing against the outer surfaces of the yoke and mounted on and passing through the respective arms of said yoke, in combination with means for securing one of the pivots against rotation with respect to the yoke, a screw-bolt partly of non-circular cross-section passing from one of the pivots through a corresponding opening in the other, and a nut bearing on the shoulder of the latter pivot and engaging the thread of the screw-bolt.

10. In a joint for compasses and similar instruments, a yoke and a pair of centering-pivots provided with shoulders bearing against the outer surfaces of the yoke and mounted on and passing through the respective arms of said yoke, in combination with means for securing one of said pivots against rotation with respect to the yoke, a screw-bolt partly of non-circular cross-section carried by one of the pivots and passing through a corresponding opening in the other, and a nut bearing on the shoulder of the latter pivot and engaging the thread of the screw-bolt.

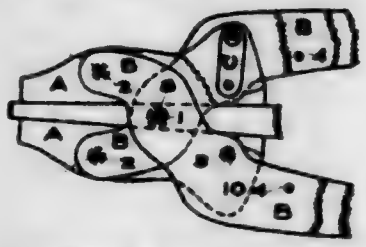
11. In a joint for compasses and similar instruments, a yoke and a pair of centering-pivots mounted on and passing through the respective arms of the yoke and bearing upon the parts to be united by the joint, in combination with means for securing one of the pivots against rotation with respect to the yoke, a screw-bolt partly of non-circular cross-section passing from the secured pivot through a corresponding opening in the other pivot, and a nut bearing on the latter pivot and engaging the thread of the screw-bolt.

12. In a joint for compasses and similar instruments, a yoke, and a pair of centering-pivots provided with shoulders bearing against the outer surface of the yoke and mounted on and passing through the respective arms of said yoke, in combination with means for securing one of said pivots against rotation with respect to the yoke, a screw-bolt partly of non-circular cross-section forming part of one of the pivots and passing through a corresponding opening in the other pivot, and a nut bearing on the shoulder of the latter pivot and engaging the thread of the screw-bolt.

13. In a joint for compasses and similar instruments, two head-plates provided with interior circular racks, and a clamping device for uniting the head-plates in combination with a disk arranged between the head-plates and secured against rotation with respect to the clamping device and a pinion arranged between and meshing with the circular racks and journaled in the disk.

14. In a joint for compasses and similar instruments, two head-plates provided with interior circular racks and a bolt passing through the head-plates and means for clamping the head-plates together on said bolt, in combination with a disk mounted and secured against rotation on said bolt and between the head-plates and provided with a radial slot, and a pinion whose spindle is mounted in the said radial slot, said pinion meshing with the said interior circular racks.

808,206. **DIFFERENTIAL PLIERS.** JONATHAN L. KNIGHT, National Military Home, Kans., assignor to Ashel U. Morse, Kansas City, Mo. Filed Mar. 7, 1904. Serial No. 197,012.



Claim.—1. A differential pliers, comprising intersecting handles pivoted together, a jaw extending forwardly and rearwardly of such pivotal point and pivoted to the front end of one of said handles, a second jaw similarly arranged with respect to said pivotal point and pivoted to the front end of the other handle, and means for con-

necting the rear portion of each jaw with the handle pivotally carrying the companion jaw; said means having differential or lost motion with respect to the jaws.

2. A differential pliers, comprising intersecting handles pivoted together, a jaw extending forwardly and rearwardly of such pivotal point and pivoted to the front end of one of said handles, a second jaw similarly arranged with respect to said pivotal point and pivoted to the front end of the other handle, and links pivotally connecting the handles with the jaws rearward of the pivotal point of the former and having differential or lost movement with respect to the jaws.

3. A differential pliers, comprising intersecting handles pivoted together, a jaw extending forwardly and rearwardly of such pivotal point and pivoted to the front end of one of said handles, a second jaw similarly arranged with respect to said pivotal point and pivoted to the front end of the other handle, means for connecting the rear portion of each jaw with the handle pivotally carrying the companion jaw; said means having differential or lost motion with respect to the jaws, and stops to limit the outward movement of the rear ends of the jaws.

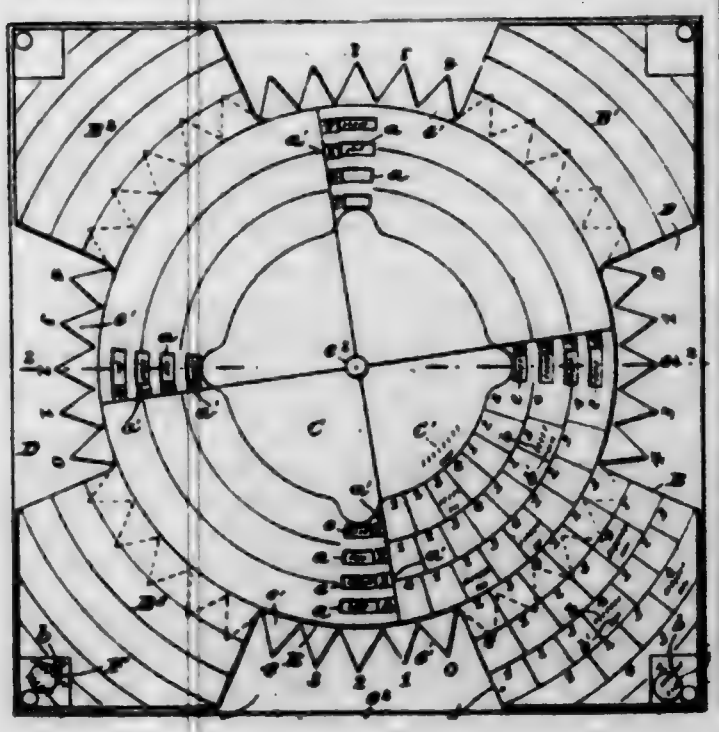
4. A differential pliers, comprising intersecting handles pivoted together at their intersection-point, a jaw pivoted between its ends to each handle and provided rearward and outward of its pivotal point with a rigid cross-pin, and links pivoted at their inner ends to the handles and engaging and having lost motion with relation to the pins rigidly carried by the jaws.

5. A differential pliers having intersecting handles pivoted together at their intersection-point and provided with inwardly-projecting pins rearward of their pivotal point, a jaw pivoted between its ends to each handle and provided rearward and outward of its pivotal point with a rigid cross-pin, links pivoted at their inner ends to the pins of the handles and having holes in their outer ends of materially greater diameter than and engaging the rigid pins of the jaws to permit the latter to move a limited distance without affecting the positions of the links.

6. A differential pliers, comprising handles having their front portions bifurcated and their rear portions of hollow form, alined pivots uniting the bifurcated portions of the handles, jaws extending forward and rearward of said pivots within said bifurcations and each pivoted to the front end of one of said handles, stop-pins carried by the handles to limit the outward movement of the rear ends of the said jaws, pins carried by the rear portion of said jaws, and links interposed between the handles and the jaws and pivoted at their inner ends to the former and provided at their outer ends with holes loosely receiving the pins of the jaws.

7. In a parallel and radial moving jaw pliers, the combination of the straight-face jaws, A, the hollow handles, B, the eccentric link, C, the fixed journal-bolt with projecting ends, 11, the stop and brace bolt 9, and the bisected pivot-fulcrum rivets, 8, all coöperating in the manner and for the purposes as shown and described.

808,207. GAME APPARATUS. HENRY E. LE JEUNE, St. Louis, Mo., assignor of one-half to John A. Wanless, St. Louis, Mo. Filed Jan. 19, 1905. Serial No. 241,844.



Claim.—1. In a game apparatus, a base-plate, a part having a series of names or characters displayed thereon and also provided with a slot, in combination with an intermediate revoluble part also provided with a series of names or characters constructed and arranged to register with the said slot *seriatim*.

2. In a game apparatus, a base-plate, a part having a series of names or characters displayed thereon and also provided with a series of radially-arranged slots, in combination with an intermediate revoluble part also provided with a series of concentric zones or belts each provided with a series of names or characters, the names or characters in each belt or zone being constructed and arranged to register with one of the said slots *seriatim*.

3. In a game apparatus, a base-plate, a part having a series of names or characters, each designated by a number, and also provided with a slot, in combination with an intermediate revoluble part also provided with a series of names or characters corresponding with those first named and constructed and arranged to register with the said slot *seriatim*.

4. In a game apparatus, a base-plate, a part having a series of names or characters, each designated by a number, and also provided with a series of radially-arranged slots, in combination with an intermediate revoluble part also provided with a series of concentric zones or belts each provided with a series of names or characters, the names or characters in each belt or zone being constructed and arranged to register with one of the said slots *seriatim*.

5. In a game apparatus, a base-plate, a part having a series of names or characters displayed thereon and also provided with a slot, in combination with an intermediate revoluble part also provided with a series of names or characters constructed and arranged to register with the said slot *seriatim*, and also provided on its periphery with a series of teeth each located in the same radial line as one of the said names or characters.

6. In a game apparatus, a base-plate, a part having a series of groups of spaces, each divided into a number of sections each displaying a name or character, a common central portion also displaying a name or character, and also provided with a slot, in combination with an intermediate revoluble part also provided with a series of names or characters constructed and arranged to register with the said slot *seriatim*.

7. In a game apparatus, a base-plate, a part having a series of groups of spaces, each divided into a number of sections each displaying a name or character, a common central portion also displaying a name or character, and also provided with a series of radially-arranged slots, in combination with a series of concentric zones or belts each provided with a series of names or characters, the names or characters in each belt or zone being constructed and arranged to register with one of the said slots *seriatim*.

8. In a game apparatus, a base-plate, a part having a series of groups of spaces, each divided into a number of sections each displaying a name or character and each designated by a number, a common central portion also displaying a name or character and also provided with a slot, in combination with an intermediate revoluble part also provided with a series of names or characters constructed and arranged to register with the said slot *seriatim*.

9. In a game apparatus, a base-plate, a part having a series of groups of spaces, each divided into a number of sections each displaying a name or character and each designated by a number, a common central portion also displaying a name or character and also provided with a series of radially-arranged slots, in combination with an intermediate revoluble part also provided with a series of concentric zones or belts each provided with a series of names or characters, the names or characters in each belt or zone being constructed and arranged to register with one of the said slots *seriatim*.

10. In a game apparatus, a base-plate, a part having a series of groups of spaces, each divided into a number of sections each displaying a name or character, a common central portion also displaying a name or character, and also provided with a slot, in combination with a revoluble part also provided with a series of names or characters constructed and arranged to register with the said slot *seriatim*, and also provided with a series of peripheral teeth constructed and arranged to register at will with a series of numerals displayed on said base-plate adjacent to the points of the said teeth and spaced apart the distance of the teeth.

11. In a game apparatus, a base-plate, a part having a series of groups of spaces, each divided into a number of sections each displaying a name or character and each designated by a number, a common central portion also displaying a name or character, and also provided with a series of radially-arranged slots, in combination with a series of concentric zones or belts each provided with a

series of names or characters, the names or characters in each belt or zone being constructed and arranged to register with one of the said slots *seriatim*, and also provided with a series of peripheral teeth constructed and arranged to register at will with a series of numerals displayed on said base-plate adjacent to the points of the said teeth and spaced apart the distance of the teeth.

12. In a game apparatus, a base-plate, a part having a series of groups of spaces, each divided into a number of sections each displaying a name or character and each designated by a number, a common central portion also displaying a name or character, and also provided with a series of radially-arranged slots the numerals of the same corresponding with the numbers displayed by the sections, in combination with a series of concentric zones or belts each provided with a series of names or characters, the names or characters in each belt or zone being constructed and arranged to register with one of the said slots *seriatim*, and also provided with a series of peripheral teeth constructed and arranged to register at will with a series of numerals displayed on said base-plate adjacent to the points of the said teeth and spaced apart the distance of the teeth.

808,208. JACK FOR AUTOMOBILES. LEE R. MAXWELL, Cedar Rapids, Iowa. Filed Nov. 11, 1904. Serial No. 232,337.



Claim.—1. A jack for elevating automobiles or other vehicles comprising base-bearings, supports fulcrumed in said bearings, trackways secured to said supports and adapted to be tilted by the weight of the automobile, and means for maintaining the trackways in substantially horizontal position.

2. A jack for elevating and supporting automobiles comprising base-bearings, supports fulcrumed in said bearings, parallel trackways secured to said supports and adapted to be tilted by the weight of the automobile, and means for maintaining the trackways in substantially horizontal position, consisting of supports at the ends thereof.

3. A jack for elevating and supporting automobiles comprising base-bearings, supports fulcrumed in said bearings, parallel trackways secured to said supports and adapted to be tilted by the weight of the automobile, and means for maintaining the trackways in substantially horizontal position, consisting of a rigid support at one end of each trackway, and folding supports at the opposite ends of said trackways.

4. A jack for automobiles or other vehicles, comprising base-bearings, supports pivotally secured therein, trackways secured to the supports, and means for maintaining the trackways in the position to which they are elevated by the weight of a vehicle thereon.

5. In a jack for elevating vehicles, the combination with a base, and bearings secured thereto, of oscillatory supports pivotally secured in said bearings, parallel trackways secured to said supports, the pivotal center of the supports being midway of the length of the trackways to adapt the latter to be tilted to horizontal position by the weight of the vehicle, and means for bracing said trackways in such position.

6. In a jack for raising and supporting automobiles or other vehicles, the combination with an oscillatory support, of parallel trackways secured thereto, and means for maintaining said trackways in their elevated position comprising rigid supports at one end of the trackways, and automatically-folding supports at the opposite end of said trackways.

7. In a jack for elevating and supporting automobiles, the combination with a base, of a pair of parallel trackways, bearings secured to the base, an oscillatory central support secured to each trackway and fulcrumed in said bearings, a fixed support at one end of each trackway to aid in supporting it in horizontal position, a folding support at the opposite end of each trackway, and means for detachably securing said folding supports in vertical position.

8. In a jack for elevating and supporting automobiles, the combination with a base, of a pair of parallel trackways, bearings secured to the base, an oscillatory central support secured to each trackway and fulcrumed in said bearings, a fixed support at one end of each trackway projecting above the upper surface of the trackway to serve as a stop or buffer, and a folding support at the opposite end of each trackway for supporting the trackways in horizontal position.

9. In a jack for elevating and supporting automobiles, the combination with parallel trackways, of an oscillatory central support for each trackway, a fixed support at one end of each trackway, an automatically-folding support at the opposite end of each trackway, and fastening devices for securing the ends of the folding supports in vertical position.

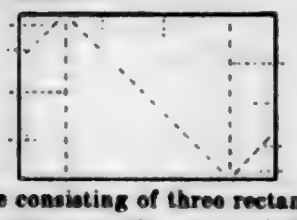
10. In a jack for elevating and supporting automobiles or other vehicles, the combination with a pair of parallel trackways, of an oscillatory central support for each trackway, comprising base-bearings, and radially-disposed braces having a pivotal support in said bearings, and means for maintaining said trackways in horizontal position.

11. A jack for automobiles and similar vehicles comprising base-bearings, a tilting platform fulcrumed in said bearings and spaced supports for maintaining the platform in a horizontal position, one of the supports being movable to permit the platform to tilt.

12. A jack for automobiles and similar vehicles comprising base-bearings, a tilting platform fulcrumed in said bearings, and means for limiting the tilting movement in one direction.

13. A jack for automobiles and similar vehicles comprising base-bearings, a tilting platform fulcrumed in said bearings and means for limiting the tilting movement in opposite directions, one of said means being movable to permit tilting movement in one direction.

808,209. PUZZLE. JOHN S. NICHOLSON, Pittsburg, Pa. Filed Apr. 7, 1905. Serial No. 254,257.



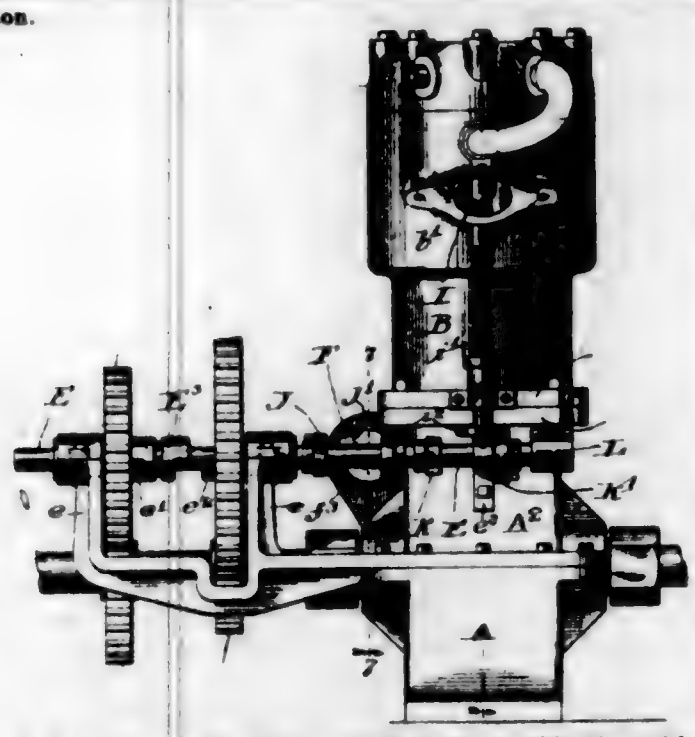
Claim.—A puzzle consisting of three rectangular blanks, each blank comprising a square portion, creased diagonally, and two wings, each of said wings creased to form an angularly-disposed locking portion, said blocks being adapted to be put together to form a six-sided box, substantially as herein set forth.

808,210. INTERNAL-COMBUSTION ENGINE. EDWARD S. PALMELA, Waukegan, Ill. Filed Dec. 14, 1904. Serial No. 236,784.

Claim.—1. In a device of the class described, the combination with a cylinder of an engine having an inclosed crank-case, of a piston movable in the cylinder and opening between the cylinder-head and crank-case, a check-valve closing said opening, an exhaust-port opening from the cylinder-head and an inlet-port opening into the crank-case, valves controlling said ports and means for operating said valves to produce two-cycle and four-cycle movements of the piston.

2. In a device of the class described, the combination with a cylinder having an inclosed crank-case and a piston movable in the cylinder, of a check-valve controlling an opening through the piston, exhaust and inlet ports opening respectively into the cylinder-head

and crank-case, valves controlling said ports and means for operating said valves to produce two-cycle and four-cycle movements of the piston.



3. In a device of the class described, the combination with a cylinder having an inclosed crank-case, a piston movable in the cylinder and a valve-controlled opening between the crank-case and cylinder-head, of exhaust and inlet ports opening respectively into the cylinder-head and crank-case, valves controlling said ports, a main shaft driven by the piston, a counter-shaft driven by said main shaft, two sets of cams on said counter-shaft adapted to operate the valves to produce two-cycle and four-cycle movements of the piston, means for connecting the counter-shaft with the main shaft to move at the same speed or half the speed of the main shaft and for simultaneously automatically shifting from one set of cams to the other.

4. In a device of the class described, the combination with a cylinder having an inclosed crank-case, a piston movable in the cylinder and a valve-controlled opening from the crank-case into the cylinder-head, of inlet and exhaust ports opening respectively into the crank-case and cylinder-head, valves controlling said ports, two independent sets of cams adapted to operate said valves to produce two-cycle and four-cycle movements of the piston and means for bringing said cams into engagement with the valves.

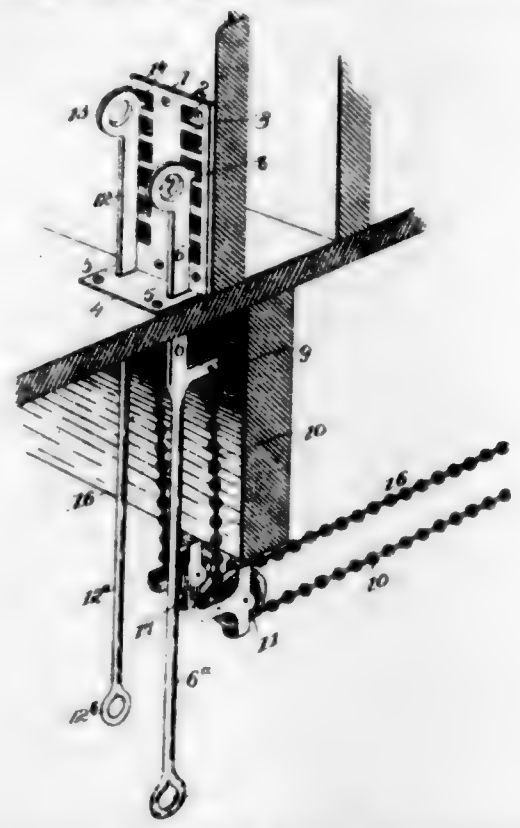
5. In a device of the class described, the combination with a cylinder having an inclosed crank-case, a piston movable in the cylinder and a valve-controlled opening from the crank-case to the cylinder-head, of an exhaust-port in the cylinder-head, a valve controlling said port, an inlet-port in the crank-case, a balanced valve controlling said inlet-port and means for alternatively operating said valves to produce two-cycle and four-cycle movements of the piston.

6. In a device of the class described, the combination with a cylinder having an inclosed crank-case, a piston movable in the cylinder and a valve-controlled opening from the crank-case to the cylinder head, of inlet and exhaust ports in the crank-case and cylinder-head respectively, a main shaft driven by the piston, a counter-shaft, two pinions loose on the counter-shaft and driven, one at the same speed as the main shaft and the other at half the speed of the main shaft, two sets of valve-operating cams on the counter-shaft, a single tooth-clutch member on the counter-shaft adapted to engage with similar clutch members on the two pinions and means for shifting the counter-shaft longitudinally to bring it into engagement alternatively with either of said pinions and to shift simultaneously one set of cams out of and the other into engagement with the valves, the cams which are in engagement when the counter-shaft is moving at half-speed operating the valves to produce four-cycle movement and the cams which are in engagement when the counter-shaft is moving at equal speed operating to produce two-cycle movement.

808,211. DAMPER-REGULATOR FOR FURNACES. WILLIAM F. PICKLE, Decatur, Ill. Filed Jan. 26, 1905. Serial No. 243,126.

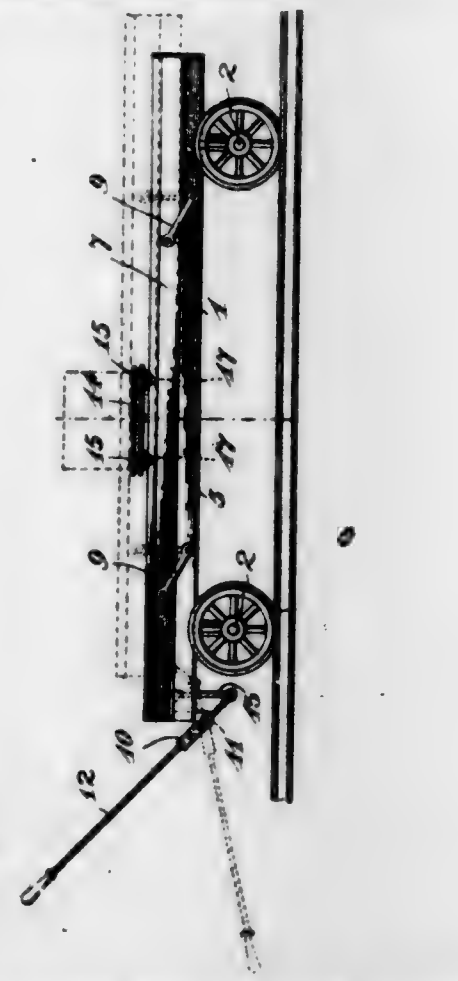
Claim.—1. In a damper-regulator, the combination of a set of cross-bars arranged one above another and above a floor, a draft-regulating bar adapted to extend through the floor, a hook on the upper end of the bar, a lug on that part of the bar extending below the floor, said lug extending in the same direction as the hook, and a chain connecting with the lug.

2. In a damper-regulator, the combination of a set of cross-bars arranged one above another near the floor of a room, a non-circular regulating-bar having a hook to engage the cross-bars, a floor-plate having a slot conforming to the cross-sectional outline of the regulating-bar and through which the regulating-bar extends, a lug on the regulating-bar beneath the floor and a damper-controlling chain connecting with the lug.



3. In a damper-regulator, the combination of a cross-barred plate in a vertical position, a slotted floor-plate, a regulating-bar extending through the floor-plate and through the floor, a lift-ring on the upper end of the bar, a hook on the lift-ring, a manipulating extension of the bar extending below the floor, a lug on the bar below the floor and a damper-controlling chain connecting with the lug.

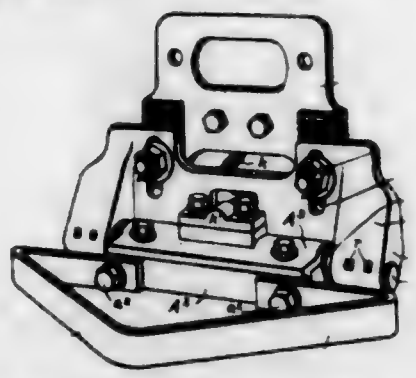
808,212. ELEVATING-TRUCK. THOMAS PODMORE, Wilkesbarre, Pa. Filed Feb. 13, 1905. Serial No. 245,473.



Claim.—A truck of the class described having a lower frame, an upper frame on the lower frame and adapted to be raised and low-

ered, links connecting the upper and lower frames together, said links serving to support the upper frame in an elevated position, a guide member pivotally connected to the lower frame, a lever-handle mounted and slidable in said guide member, and a link connecting the lever-handle to the upper truck-frame, for the purpose set forth, substantially as described.

808,213. CONTACT-SHOE FOR THIRD-RAIL ELECTRIC RAILWAYS. WILLIAM B. POTTER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 26, 1903. Serial No. 167,000.



Claim.—1. In a third-rail electric railway, a collector-shoe made up of one or more thin scraping-runners set upon edge on the upper face of the third rail and approximately in the plane of said face.

2. In a third-rail electric railway, a collector-shoe made up of one or more thin scraping-runners set upon edge on the upper face of the third rail and approximately in the plane of said face, and means for maintaining said runners yieldingly in contact with said rail.

3. As an improved article of manufacture, a combined collector-shoe and ice-scraper for a third rail, comprising a plurality of runners set at an angle to each other.

4. In a third-rail electric railway, a collector-shoe made of a plurality of scraping-runners each having substantially a rectangular cross-section and set at an angle to the third rail, and bearing upon the rail along corresponding sides of the runners.

5. In a third-rail electric railway, a collector-shoe made of a plurality of scraping-runners having substantially a rectangular cross-section and arranged to bear upon the rail along corresponding sides of the runners and set at an angle to the third rail, a car-truck, and adjustable means for supporting said shoe from said truck.

6. A third-rail collector-shoe, comprising a plurality of scraping-runners set at an angle to the third rail and constituting the contact member of the shoe, a block on which said runners are detachably mounted, a bracket in which said block is pivotally mounted so as to allow a vertical and a horizontal movement of said shoe, and means for supporting said bracket from a car-truck.

7. In a third-rail electric railway, a collector-shoe formed of two scraping-runners of conducting material each having substantially a rectangular cross-section and arranged in the form of a triangle with each of said runners at an angle with the third rail so that they act to scrape the ice and snow from the surface of the third rail in either direction of movement of the car.

8. As an improved article of manufacture, a combined collector-shoe and ice-scraper for a third rail comprising a plurality of runners, rectangular in cross-section and arranged at an angle to each other.

9. As an improved article of manufacture, a combined collector-shoe and ice-scraper for a third rail comprising a thin runner rectangular in cross-section, one of the edges of the runner serving as a contact-face.

10. In a third-rail electric railway, a collector-shoe made up of one or more thin scraping-runners rectangular in cross-section and set at an angle to the third rail, said shoe bearing upon the upper face of the third rail along one of the edges of the runner or runners.

11. As an improved article of manufacture, a combined collector-shoe and ice-scraper for the third rail comprising a thin runner having a narrow flat contact-face and an angular scraping edge.

808,214. FIREARM. HARRY M. PUTNAM, Fitchburg, Mass. Filed June 19, 1905. Serial No. 265,636.

Claim.—1. In firearms, and in combination with the coöperative lock mechanism, a trigger and a cam adapted to operate a second cam, a second cam adapted to operate a movable hammer-nose, a hammer with a movable nose and a stop adapted to stop the movable nose in any desired position in relation to the body of the hammer, all substantially as set forth.



2. In firearms, and in combination with the coöperative lock mechanism, a hammer made up of two plates, one plate movable around a pivot on the other and so placed in relation to the other that its face is movable in and out of the face of the other so that when the body of the hammer is down and at rest the striking part of the movable plate is movable independently of the body of the hammer toward and away from the cartridge-cap, a trigger, and means to move the said movable plate by moving the trigger, combined and operating substantially as and for the purposes set forth.

3. In firearms, and in combination with the coöperative lock mechanism, a hammer made up of two plates, the plate transmitting the blow to the cartridge being movable around a pivot on the other and so placed in relation to the other that the striking part of the movable plate when the body of the hammer is down and at rest is movable independently of the body of the hammer along a path substantially the same as the path taken by the striking part of the hammer when in its downward blow it explodes the cartridge-cap, a trigger, and means to move the said movable plate independently of the movement of the body of the hammer by moving the trigger, combined and operating substantially as and for the purposes set forth.

4. In firearms, and in combination with the coöperative lock mechanism, a hammer made up of two plates, the plate transmitting the blow to the cartridge being movable around a pivot on the other and so placed in relation to the other that the striking part of the movable plate when the body of the hammer is down and at rest is movable independently of the body of the hammer along a path substantially the same as the path taken by the striking part of the hammer when in its downward blow it explodes the cartridge-cap, and means to move the movable plate as desired.

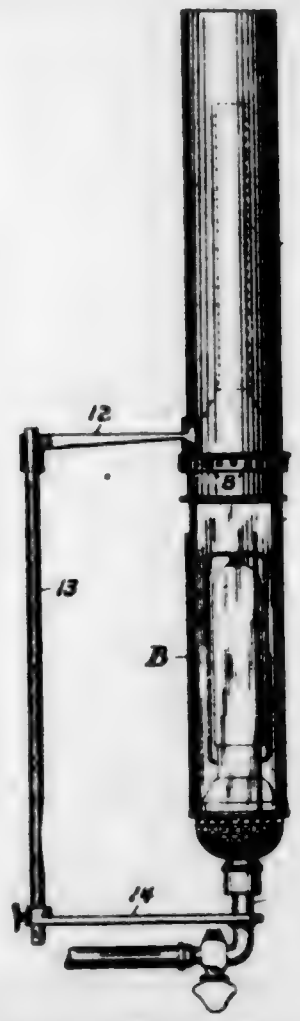
5. In firearms, and in combination with the coöperative lock mechanism, a hammer made up of two plates, the plate transmitting the blow to the cartridge being movable on the other and so placed in relation to the other that the striking part of the movable plate when the body of the hammer is down and at rest is movable independently of the body of the hammer along a path substantially the same as the path taken by the striking part of the hammer when in its downward blow it explodes the cartridge-cap, a trigger, and means to move the said movable plate independently of the movement of the body of the hammer by moving the trigger, combined and operating substantially as and for the purposes set forth.

6. In firearms, and in combination with the coöperative lock mechanism, a hammer made up of two plates, the plate transmitting the blow to the cartridge being movable on the other and so placed in relation to the other that the striking part of the movable plate when the body of the hammer is down and at rest is movable independently of the body of the hammer along a path substantially the same as the path taken by the striking part of the hammer when in its downward blow it explodes the cartridge-cap, and means to move the movable plate as desired.

7. In firearms, and in combination with the coöperative lock mechanism, a hammer made up of two plates, one plate movable around a pivot on the other and so placed in relation to the other that its face is movable in and out of the face of the other so that when the body of the hammer is down and at rest the striking part of the movable plate is movable independently of the body of the hammer toward and away from the cartridge-cap, and means to move the movable plate as desired.

8. In firearms, and in combination with the coöperative lock mechanism, a trigger or means to operate a cam, a cam adapted to move a movable hammer-nose, a movable hammer-nose with a striking part whose path of motion in relation to the body of the hammer is along a line varying slightly from a line vertical to the front face of the hammer-body, and a hammer-body, combined and operating substantially as and for the purposes set forth.

808,215. **FUEL-SAVING ATTACHMENT FOR INCANDESCENT LAMPS.** LOUIS RABINOFF, New York, N. Y. Filed Aug. 18, 1905. Serial No. 274,560.



Claim.—1. An attachment for incandescent lamps, comprising an outer tubular shell adapted to be positioned over the lamp-chimney, and an inner tube arranged within the shell and connected at its lower end with the shell so as to form within the shell a central passage open at both ends and an outer passage between the inner tube and the shell open only at its upper end, the walls of the inner tube being perforated to provide openings from said central passage to said outer passage, substantially as described.

2. An attachment for incandescent lamps, comprising an outer tubular shell adapted to be positioned over the lamp-chimney, and an inner tube arranged within the shell and connected at its lower end with the shell by an imperforate partition so as to form within the casing a central passage open at both ends and an outer passage between the inner tube and the shell open only at its upper end, the walls of the upper portion of the inner tube being perforated to provide openings from said central passage to said outer passage, substantially as described.

3. An attachment for incandescent lamps, comprising an outer tubular shell adapted to be positioned over the lamp-chimney, and an inner tube arranged within the shell and connected at its lower end with the shell so as to form within the shell a central passage open at both ends and an outer passage between the inner tube and the shell open only at its upper end, the inner tube terminating below the top of the shell and its walls being perforated to provide openings from said central passage to said outer passage, substantially as described.

4. An attachment for incandescent lamps, comprising an outer tubular shell adapted to be positioned over the lamp-chimney and an inner tube within the shell having its lower end flared outwardly to constitute an outwardly and downwardly inclined partition connecting the tube with the walls of the shell so as to form within the shell a central passage open at both ends and an outer passage between the inner tube and the shell open only at its upper end, the walls of the inner tube being perforated to provide openings from said central passage to said outer passage, substantially as described.

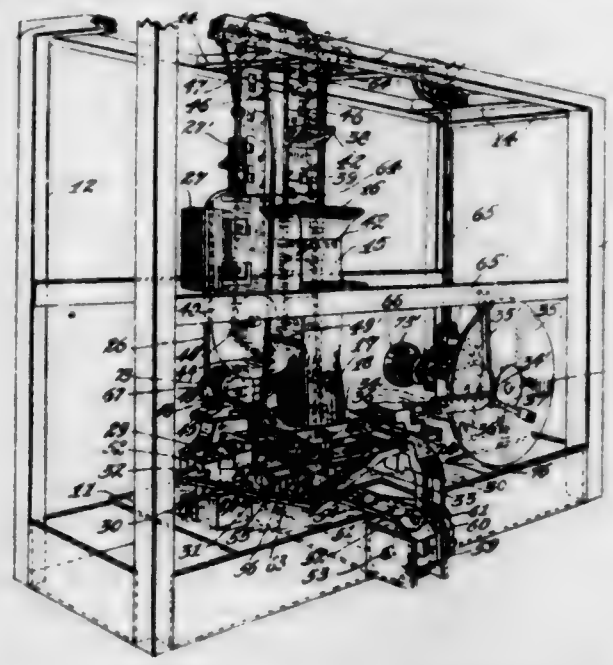
5. An attachment for incandescent lamps, comprising an outer tubular shell adapted to be positioned over the lamp-chimney, and an inner tube arranged within the shell and connected at its lower end with the shell so as to form within the shell a central passage open at both ends and an outer passage between the inner tube and the shell open only at its upper end, the walls of the inner tube being perforated to provide openings from said central passage to said outer passage, and the shell being formed with perforations below the lower end of the inner tube, substantially as described.

6. An attachment for incandescent lamps, comprising an outer tubular shell adapted to be positioned over the lamp-chimney, and an inner tube arranged within the shell and connected at its lower end with the shell so as to form within the shell a central passage open at both ends and an outer passage between the inner tube and the shell open only at its upper end, the walls of the inner tube being perforated to provide openings from said central passage to said outer passage, and the shell being formed with perforations below the lower end of the inner tube and provided with means for opening and closing said perforations, substantially as described.

7. The combination with an incandescent lamp; of an attachment comprising an outer tubular shell adapted to be positioned over the lamp-chimney and an inner tube arranged within the shell and connected at its lower end with the shell so as to form within the shell a central passage open at both ends and an outer passage between the inner tube and the shell open only at its upper end, the walls of the inner tube being perforated to provide openings from said central passage to said outer passage; and a support for said attachment, said support comprising means for adjusting the attachment vertically for chimneys of different heights, substantially as described.

8. The combination with an incandescent lamp; of an attachment comprising an outer tubular shell adapted to be positioned over the lamp-chimney and an inner tube arranged within the shell and connected at its lower end with the shell so as to form within the shell a central passage open at both ends and an outer passage between the inner tube and the shell open only at its upper end, the walls of the inner tube being perforated to provide openings from said central passage to said outer passage; and a support for said attachment, said support being constructed to permit the attachment to be swung out of operative position over the lamp-chimney, substantially as described.

808,216. **MACHINE FOR FILLING CANS.** DWIGHT W. RATHBONE, Seattle, Wash. Filed Sept. 21, 1903. Renewed Apr. 10, 1905. Serial No. 254,855.



Claim.—1. In a can-filling machine; the combination of a main frame, a filling-receptacle, a core-box, means to forcibly pass filling from said receptacle to the box, a core-severing knife operating in said box, and means to introduce compressed fluid intermittently to said box at the inner end of the severed portion of the core.

2. In a can-filling machine; the combination of a main frame, a filling-receptacle, a core-box in communication with said receptacle, means to forcibly pass filling from said receptacle to the box, a core-severing knife adjacent the receiving end of said box, and means to introduce compressed fluid intermittently to said box at the line of cut of said knife.

3. In a can-filling machine; the combination of a main frame, a filling-receptacle, a core-box in communication with said receptacle, means to forcibly pass filling from said receptacle to said box, a core-severing knife intermittently sealing the receiving end of said box, an intermittently-operating gate-valve at the discharge end of said box, and means to introduce compressed fluid intermittently to said box.

4. In a can-filling machine; the combination of a main frame, a

substantially U-shaped filling-receptacle having a discharge-orifice in the bottom, an endless conveyer-belt operating in said receptacle and having flights thereon, an intermittently-operating deflector normally lying across the path of said flights, a throat extending from said orifice, a core-box at the outer end of said throat, and an intermittently-operating core-severing knife at the receiving end of said box.

5. In a can-filling machine; the combination of a main frame, a substantially U-shaped filling-receptacle having a discharge-orifice in the wall, an endless conveyer-belt operating in said receptacle, a core-severing knife at the receiving end of said box, a gate-valve at the discharge end of the box, means to introduce compressed fluid to said box intermittently at the line of cut of said knife, and intermittently-acting can placing and replacing mechanism.

6. In a can-filling machine; the combination of a main frame, a filling-receptacle, a core-box in communication with said receptacle, means to forcibly pass filling from said receptacle to the box, a core-severing knife at the receiving end of said box, a gate-valve at the discharge end of the box, means to introduce compressed fluid to said box intermittently at the line of cut of said knife, and intermittently-acting means to place and replace cans relatively to the discharge end of said box.

7. In a can-filling machine; the combination of a main frame, a substantially U-shaped filling-receptacle having a discharge-orifice in the bottom, a pair of wheels, one of which is mounted in said receptacle substantially concentric with the bottom thereof, an endless conveyer-belt mounted on said wheels and having flights, and an intermittently-operating deflector adjacent the rear edge of said orifice normally lying across the path of said flights.

8. In a can-filling machine; the combination of a main frame, a substantially U-shaped filling-receptacle having a discharge-orifice in the bottom, a pair of sprocket-wheels, one of which is mounted in said receptacle substantially concentric with the bottom thereof, an endless conveyer-belt mounted on said sprockets and having flights formed convex on their active side surfaces, and an outwardly-movable deflector normally lying across the path of said flights and yieldingly held in said position.

9. In a can-filling machine; the combination of a main frame, a filling-receptacle having a discharge-orifice, a conveyer-belt operating in said receptacle and having flights formed convex on their active side surfaces, and an outwardly-movable deflector normally lying across the path of said flights and yieldingly held in said position.

10. In a can-filling machine; the combination of a main frame, a filling-receptacle having a discharge-orifice in the bottom, a pair of sprockets, one of which is mounted in said receptacle adjacent the bottom thereof, a conveyer-belt mounted on said sprockets and having flights formed convex on their active side surfaces, an intermittently-operating deflector normally lying across the path of said flights, a throat extending outwardly from said orifice, a core-box at the outer end of said throat, a core-severing knife at the receiving end of said box and a gate-valve at the discharge end.

11. In a can-filinig machine; the combination of a main frame, a substantially U-shaped filling-receptacle having a discharge-orifice in the bottom adjacent one edge wall, a pair of sprockets, one of which is mounted in said receptacle substantially concentric with the bottom thereof, a conveyer-belt mounted on said sprockets and having flights, an intermittently-operating deflector normally lying across the path of said flights, a throat at said orifice formed with a passage-way restricted in diameter adjacent the receiving end and extending outwardly at a compound curve, and a core-severing knife intermittently sealing the outer end of said throat.

12. In a can-filling machine; the combination of a main frame, a filling-receptacle having a discharge-orifice, a pair of sprockets, one of which is mounted in the receptacle adjacent said orifice, a conveyer-belt mounted on said sprockets and having flights, an intermittently-operating deflector normally lying across the path of said flights, a core-box in communication with said orifice, a core-severing knife adjacent the receiving end of said box, and means to place and replace cans relatively to the discharge end of said box.

13. In a can-filling machine; the combination of a main frame, a filling-receptacle having a discharge-orifice, a continuously-moving endless conveyer-belt operating in said receptacle and having flights, an intermittently-operating spring-retracted deflector normally lying across the path of said flights, a core-box in communication with said orifice, an intermittently-operating core-severing knife adjacent the receiving end of said box, an intermittently-operating gate-valve at the discharge end of said box, means to introduce compressed fluid into said box intermittently at the line of cut of said knife, intermittently-acting can placing and replacing mechanism and means to operate said knife, valve and can moving mechanism correlatively.

14. In a can-filling machine; the combination of a core-box, a knife comprising oppositely-disposed overlapping blades composed of sections of plate metal having transverse openings adjacent their inner ends and slidably mounted transversely said box at its receiving end a gate-valve at the discharge end of said box, means to intermittently reciprocate said blades, and valve simultaneously, and means to introduce compressed fluid intermittently to said box.

15. In a can-filling machine; the combination of a core-box, a core-severing knife adjacent the receiving end of said box and arranged to intermittently seal said end, a gate-valve at the discharge end of said box, means to introduce compressed fluid intermittently to said box, and intermittently-acting can placing and replacing mechanism arranged at the discharge end of said box.

16. In a can-filling machine; the combination of a core-box formed with a knife-seat having a port in the wall connected with a source of fluid-supply, and a core-severing knife operating in said seat and having a duct arranged to intermittently register with said port.

17. In a can-filling machine; the combination of a core-box formed with a transversely-arranged knife-seat having a port in the wall connected with a source of fluid-supply, and a core-severing knife operating in said seat and normally closing said port and having a duct opening to said box and arranged to intermittently register with said port.

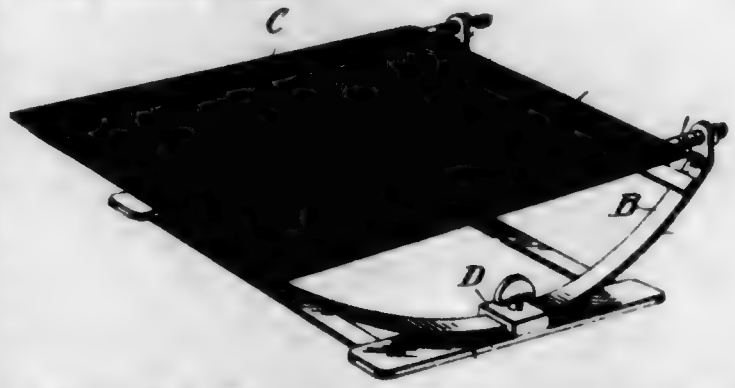
18. In a can-filling machine; the combination with a filling-receptacle, a conveyer operating therein, and a trimming-knife in said receptacle embracing the conveyer.

19. In a can-filling machine; the combination of a filling-receptacle, a conveyer-belt operating therein and having flights, and a trimming-knife in said receptacle embracing the active run of the conveyer.

20. In a can-filling machine; the combination of a filling-receptacle, a hopper, a conveyer operating in said hopper, and a trimming-knife in said receptacle at the base of said hopper and embracing the conveyer.

21. In a can-filling machine; the combination of a filling-receptacle, a hopper, a conveyer-belt operating in said receptacle and hopper and having flights, a backing-plate arranged behind the active run of said belt at the hopper, and a trimming-knife in said receptacle at the base of said hopper and embracing the conveyer.

808,217. PILLOW. OTTO P. REICH, Riverdale, Ill. Filed Mar. 14, 1905. Serial No. 249,980.



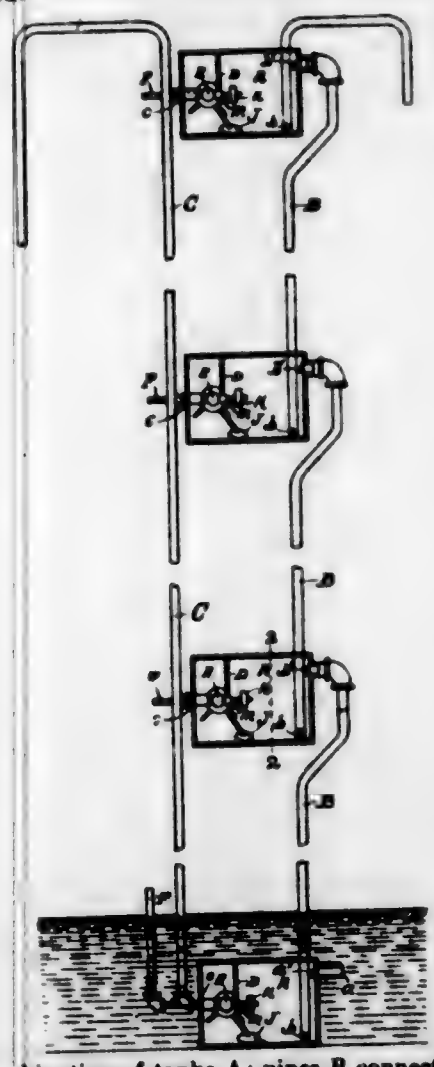
Claim.—In a pillow, in combination, a base-frame, a spring-frame having downwardly-bowed side bars, a top of woven wire stretched between the ends of the side bars, and clamps connecting the base-frame and said side bars and permitting adjustment to vary the inclination of the spring-frame.

808,218. APPARATUS FOR ELEVATING FLUIDS. GEORGE REITER, Pleasantridge, Ohio. Filed Apr. 14, 1903. Serial No. 152,582.

Claim.—1. The combination of tanks A; pipes B connecting the lower portions of the lower tanks with the upper portions of the upper tanks; pipes C containing gas under pressure; pipes *c* and D, and F and G, connecting the upper portions of tanks A with pipes C and the atmosphere; valves E and H; float J in tanks A; and connections between float J and valves E and H for opening valve E and closing valve H when the tanks are charged, and for opening valve H and closing valve E when the tanks are discharged, substantially as specified.

2. The combination of tanks A; pipes B connecting the lower portions of the lower tanks with the upper portions of the upper tanks; check-valves *b* and *b'*; pipe C containing gas under pressure; pipes *c* and D, and F and G, connecting the upper portions of tanks A with pipe C and the atmosphere; valves E and H; float J in tank A;

and connections between float J and valves E and H for opening valve E and closing valve H when the tanks are charged, and for opening valve H and closing valve E when the tanks are discharged, substantially as specified.

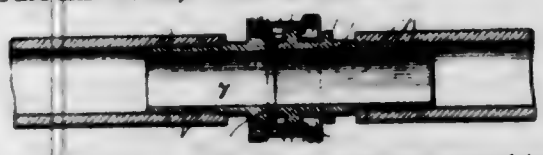


3. The combination of tanks A; pipes B connecting the lower portions of the lower tanks with the upper portions of the upper tanks; check-valves *b* and *b'*; pipe C containing gas under pressure; pipes *c* and D, and F and G, connecting the upper portions of tanks A with pipe C and the atmosphere; valves E and H; float J mounted on arms *j'* and j^3; shaft I having stop-arms L and L' engaging arms *j'* and j^3; weight K on shaft I; disks *i* having stops *i'* and i^3 and stop-pins i^2; and disks *e* and *h* having stops *e'* and *h'*, substantially as specified.

4. The combination, in a float-operated mechanism, of valves E and H; float J mounted on arms *j'* and j^3; shaft I having arms L and L' adapted to engage arms *j'* and j^3; weight K and shaft I; and connections between shaft I and valves E and H, substantially as specified.

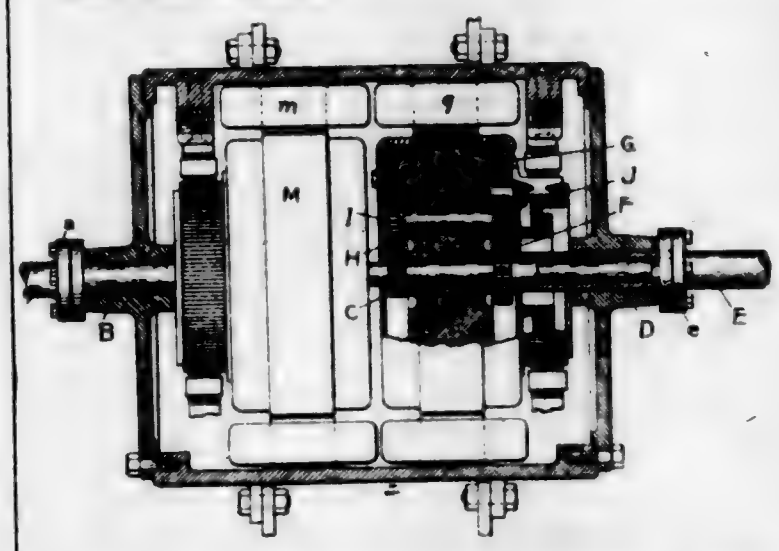
5. The combination, in a float-operated mechanism, of valves E and H; float J mounted on arms *j'* and j^3; shaft I having arms L and L' adapted to engage arms *j'* and j^3; weight K on shaft I; disks *e* and *h* on valves E and H; stops *e'* and *h'* on disks *e* and *h*; disks *i* on shaft I; and stops *i'* and i^3 on disks *i*, substantially as specified.

808,219. **HOSE-COUPLING.** HENRY A. SCHROEDER, Baltimore, Md. Filed Mar. 20, 1905. Serial No. 251,091.



Claim.—The herein-described hose-coupling comprising a male member having annular corrugations to secure the same to a hose, laterally-projecting lugs formed on said male member, a female member having corrugations to secure the same to a hose, a socket formed on the outer end of said female member to receive the outer end of said male member, the annular wall of said socket having formed therein an annular series of radially-disposed slots to receive the lugs on said male member, a clamping ring or band revolubly mounted on said socket and having formed in its inner side an annular groove or channel, segmental, cam-shaped flanges formed on the inner walls of said clamping-bands to engage the lugs on the male member, whereby when said band is turned said male member will be clamped into tight engagement with said female member, an annular flange formed on the outer end of said socket, and a collar arranged on the inner end of the same between which said clamping-band turns said flange and collar projecting beyond the outer wall of said band thereby preventing the same from engaging the ground and being casually turned to release the male member, essentially as described.

808,220. **POWER-TRANSMISSION MECHANISM FOR AUTOMOBILES.** CHARLES G. SIMONDS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 22, 1904. Serial No. 213,062.



Claim.—1. In a power-transmission mechanism, a driving-shaft, a gear carried thereby, a driven shaft, a gear carried thereby, a dynamo-electric machine, a shaft carried thereby, two gears carried by said shaft and engaging the first two gears respectively, and a second dynamo-electric machine connected in circuit with the first.

2. In a power-transmission mechanism, a driving-shaft, a gear carried thereby, a driven shaft, a gear carried thereby, a dynamo-electric machine, a shaft carried thereby, two gears carried by said shaft and engaging the first two gears respectively, a second dynamo-electric machine connected in circuit with the first, and means for varying the relative field strengths of said machines.

3. In a power-transmission mechanism, a driving-shaft, a gear carried thereby, a driven shaft, a gear carried thereby, a dynamo-electric machine, a shaft carried thereby, two gears carried by said shaft and engaging the first two gears respectively, and a second dynamo-electric machine connected in circuit with the first and mechanically connected to assist in driving the load.

4. In a power-transmission mechanism, a driving-shaft, a gear carried thereby, a driven shaft, a gear carried thereby, a dynamo-electric machine, a shaft carried thereby, two gears carried by said shaft and engaging the first two gears respectively, a second dynamo-electric machine connected in circuit with the first and mechanically connected to assist in driving the load, and means for varying the relative field strengths of said machine.

5. In a power-transmission mechanism, a driving-shaft, a driven shaft, two rigidly-connected planetary gears connecting said shafts, and a dynamo-electric machine driven by said planetary gears.

6. In a power-transmission mechanism, a driving-shaft, a driven shaft, two rigidly-connected planetary gears connecting said shafts, a dynamo-electric machine driven by said planetary gears, and a second dynamo-electric machine in circuit with the first and mechanically connected to add its torque to the load.

7. In a power-transmission mechanism, a driving-shaft, a driven shaft, two rigidly-connected planetary gears connecting said shafts, a dynamo-electric machine driven by said planetary gears, and means for varying the speed and torque of said machine.

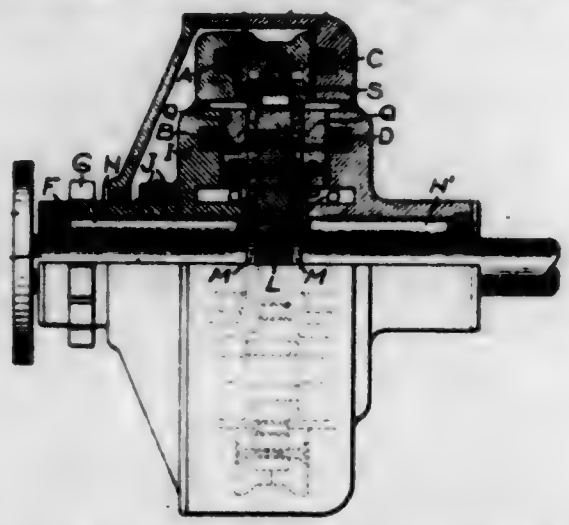
8. In a power-transmission mechanism, a driving-shaft, a driven shaft, two rigidly-connected planetary gears connecting said shafts, a dynamo-electric machine driven by said planetary gears, a second dynamo-electric machine in circuit with the first and mechanically connected to add its torque to the load, and means for varying the relative field strengths of said machines.

9. In a power-transmission mechanism, a dynamo-electric machine, two rigidly-connected gears rotatably mounted on the armature thereof, a driving-pinion engaging one of said gears, a driven pinion engaging the other gear, and means for varying the speed and torque of said machine.

10. In a power-transmission mechanism, a dynamo-electric machine, two rigidly-connected gears rotatably mounted on the ar-

mature thereof, a driving-pinion engaging one of said gears, a driven pinion engaging the other gear, a second dynamo-electric machine in circuit with the first and mechanically connected to assist in driving the load, and means for varying the relative field strengths of said machines.

808,221. SPEED-CHANGING GEAR. Charles G. Simonds, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Aug. 27, 1904. Serial No. 222,574.



Claim.—1. In a speed-changing gear, a driving-shaft, a pinion thereon, a planetary gear engaging said pinion, a revolubly-mounted internal gear concentric with said pinion and engaging said planetary gear, a driven member, and magnetic clutches adapted and arranged to hold either said internal gear or the axis of said planetary gear stationary and to lock either or both to said driven member.

2. In a speed-changing gear, a driving-shaft, a pinion thereon, a plurality of planetary gears engaging said pinion, a ring-shaped member surrounding said shaft and supported on the axes of said gears, a revolubly-mounted internal gear engaging said planetary gears, a driven member, and magnetic clutches adapted and arranged to hold either said internal gear or said ring-shaped member stationary and to lock either or both to said driven member.

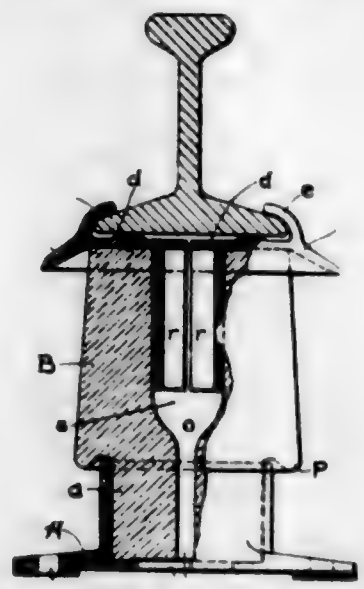
3. In a speed-changing gear, a shaft, a pinion thereon, two rings on opposite sides of said pinion of a diameter equal to the pitch diameter of said pinion, a plurality of planetary gears engaging said pinion, a pair of rollers for each gear adapted to roll on the first-named rings and supporting the gears, an internal gear meshing with the several planetary gears, supporting-rings for said internal gear bearing on said rollers and of a diameter equal to the pitch diameter of the internal gear, a driven member, and means for holding either said internal gear or the axes of said planetary gears stationary and for locking either or both to said driven member.

4. In a speed-changing gear, a shaft, a pinion thereon, two rings on opposite sides of said pinion of a diameter equal to the pitch diameter of said pinion, a plurality of planetary gears engaging said pinion, a pair of rollers for each gear adapted to roll on the first-named rings and supporting the gears, an internal gear meshing with the several planetary gears, supporting-rings for said internal gear bearing on said rollers and of a diameter equal to the pitch diameter of the internal gear, a ring-shaped member surrounding the driving-shaft and supported on the axes of said planetary gears, a driven member, and magnetic clutches adapted and arranged to hold either said member or said internal gear stationary or to lock either or both to said driven member.

5. In a speed-changing gear, a driving-shaft, a pinion thereon, a planetary gear engaging said pinion, a revolubly-mounted internal gear concentric with said pinion and engaging said planetary gear, a driven member, a stationary casing, two magnetic clutches carried by said casing and adapted to lock said internal gear and the axis of said planetary gear respectively to said casing, a driven member, and two magnetic clutches carried thereby and adapted to lock said internal gear and the axis of said planetary gear respectively to said driven member.

808,222. THIRD-RAIL INSULATOR. Samuel B. Stewart, Jr., Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 26, 1902. Serial No. 116,678.

Claim.—1. The combination of a rail, a supporting-cap therefor composed of a plurality of parts, means upon said cap for securing said rail thereto, an insulating-support which loosely engages with the parts of the cap to hold them in position and maintain said securing means in retaining relation to the rail.



2. A rail-insulator comprising a cap composed of two integral parts each of which consists of a rail-retaining ear and a plug portion, and an insulating-support having a socket for receiving said plug portions.

3. A rail-insulator comprising a cap composed of two duplicate integral parts each of which consists of a rail-retaining ear and a plug portion, and an insulating-support having a socket for receiving said plug portions.

4. A rail-insulator comprising a cap composed of two duplicate integral parts each of which consists of a rail-retaining ear and a plug portion, and an insulating-support having a socket within which said plug portions are loosely seated.

5. The combination of a rail, a cap composed of a plurality of parts, a retaining-ear and a plug portion upon each of said parts, and an insulating-support for said cap having a socket to receive and loosely retain the plug formed by the coöperation of said plug portions.

6. The combination of a rail, a two-part cap for retaining and supporting said rail, an insulating-support for said cap, said cap having retaining-ears and portions engaging loosely with said support, whereby the ears are maintained in position to secure said rail.

7. A rail-insulator comprising a cap composed of duplicate parts arranged to engage with the rail and an insulating-support loosely engaging the parts of said cap to hold them in rail-engaging position.

8. A rail-insulator comprising a cap constructed in duplicate parts adapted to embrace the flange of the rail and an insulating-support for said cap constructed and arranged to loosely engage the parts of the cap in order to hold them in flange-embracing position.

9. The combination of a rail, and a divided supporting-cap therefor, ratatable in a horizontal plane and having a retaining-ear upon each portion of said cap, the said ears being so placed as to engage the rail on opposite sides thereof, together with a support therefor.

10. The combination of a rail, a divided supporting-cap therefor, each portion of said cap having a retaining-ear and a plug portion, and an insulating-support for said cap, having a socket in which the plug formed by the plug portions is rotatably mounted.

11. In a rail-insulator, a cap-support having a socket in its upper part unsheltered from the weather, and a passage for draining said socket.

12. In a rail-insulator, a cap-support having a socket, a shoe in which said support is mounted, and registering passages in said support and said shoe, through which said socket is drained.

13. The combination of a rail, a divided supporting-cap therefor, having a plug portion and a retaining-ear mounted on each part, said ears being so placed as to engage said rail at points approximately opposite, and a support for said cap having a socket in which the plug formed by the plug portions upon the cap is rotatably mounted.

14. In a rail-insulator, a cap composed of duplicate integral parts, each part consisting of a rail-engaging ear and a plug portion.

15. As an article of manufacture, a cap portion for a rail-insulator consisting of a plate having a rail-engaging ear on its upper side, and a plug portion on its lower side, substantially as described.

16. The combination of a rail, a supporting and retaining cap therefor, said cap having rail-engaging ears and being divided along a line between said ears, each portion of said cap having one of said

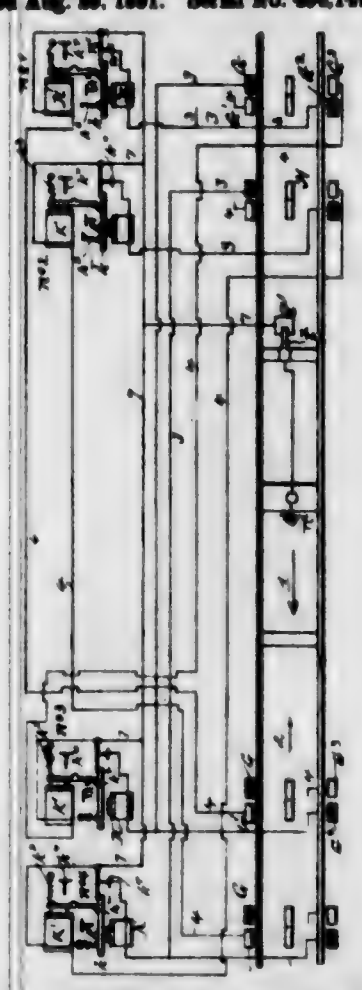
ears and a semicylindrical plug portion, and a support for said cap having a cylindrical socket into which the plug formed by said plug portions is inserted and within which the plug is free to rotate.

17. A rail-insulator comprising a cap constructed in duplicate parts with diametrically opposite ears cast in final shape for retaining the rail, and a suitable support constructed and arranged to hold the parts of the cap in position to retain the rail, the parts of the cap being loosely supported so that they may freely rotate.

18. In combination, a rail, a sectional cap having rail-retaining ears, and a support, said cap and support having coöperative male and female members whereby the sectional cap is revolubly held in rail-retaining position.

19. In a rail-insulator, an insulating-support and a sectional cap having rail-retaining ears, said support and cap having coöperating members arranged to hold the sectional cap revolubly in rail-retaining position.

808,223. RAILWAY SIGNALING. SAMUEL D. STROHM, Philadelphia, Pa. Filed Aug. 29, 1891. Serial No. 404,144.



Claim.—1. The combination with a railroad switch or drawbridge, of an electric switch in circuit with a contact-plate and a ground connection, station magnetic devices, partial circuits and contact-plates, and an engine or train having a partial circuit, including magnetic devices and contacts, power-controlling mechanism, operating means therefor, and appliances in engagement with said contacts automatically actuated by the forward-and-backward movement of the engine or train for changing the position of the engine-contacts, substantially as set forth.

2. The combination with a switch or drawbridge, of an electric switch in circuit with a contact-plate and a ground connection, station magnetic devices, partial circuits and contact-plates, and an engine or train having a partial circuit including magnetic devices and contact-brushes, power-controlling mechanism, operating means therefor, and appliances for changing the passage of the current through the contact brushes and plates, according to the direction of travel of the engine or train, substantially as set forth.

808,224. ART OF FILLING SHOES. ANDREW TROSA, Cambridge, Mass., assignor to North American Chemical Company, New York, N. Y., a Corporation of Maine. Filed Aug. 28, 1905. Serial No. 276,001.



Claim.—1. In the herein-described art, providing a filler composed of comminuted filler material held compactly together in a semisolid mass by a permanently flexible, viscous binder, capable of liquefying under heat, slowly heating said mass until sluggishly fluid, applying the heated filler to the shoe to be filled, and subjecting the same to vertical pressure while still hot.

2. In the herein-described art, providing a filler composed of comminuted, resilient filler material held compactly together in a semisolid mass by a permanently flexible, viscous binder capable of liquefying under heat, slowly heating said mass until sluggishly fluid, applying the heated filler to the shoe to be filled so as to leave the applied mass projecting above the cavity to be filled, and subjecting the same to vertical pressure while still hot.

3. The herein-described art, consisting of providing a permanently flexible, normally semisolid filler containing a comminuted body and a viscous binder capable of liquefying under heat, heating said filler, depositing the heated filler in the cavity to be filled, superheating the outer surface of said deposited filler while the latter is still hot, and simultaneously applying a vertical pressure thereto.

4. The herein-described art, consisting of providing a permanently flexible, resilient, normally semisolid filler containing a comminuted body and a viscous binder capable of liquefying under heat, heating said filler, depositing the heated filler in the cavity of the inner sole, superheating the outer surface of said deposited filler while the latter is still hot, simultaneously applying a vertical pressure thereto but leaving the compressed filler projecting above the welt and inner sole, and then applying and securing the outer sole on the filler and subjecting the same to external pressure for maintaining the resilient filler compressed.

5. The herein-described art, consisting of providing a filler composed of comminuted filler material held compactly together in a semisolid mass by a permanently flexible, viscous binder capable of liquefying under heat, slowly heating said mass until sluggishly fluid, applying the heated filler to the shoe to be filled, and subjecting the same momentarily to the vertical pressure of a hot pressing-tool.

6. The herein-described art, consisting of providing a filler composed of comminuted filler material held compactly together in a semisolid mass by a permanently flexible, viscous binder capable of liquefying under heat, slowly heating said mass until sluggishly fluid, applying the heated filler to the shoe to be filled, and subjecting the same to the pressure of a hot tool moved quicky over the top surface thereof.

7. The herein-described art, consisting of providing a filler composed of comminuted filler material held compactly together in a semisolid mass by a permanently flexible, viscous binder capable of liquefying under heat, applying said filler hot to the shoe-cavity, and then subjecting said filler simultaneously to vertical pressure and external heat for supersoftening the outer layer of filler, evening, smoothing and compacting the filler granules, and sticking the bottom layer of the filler more forcibly to the shoe.

8. In the herein-described art of shoe manufacture, providing a filler composed of comminuted filler material held compactly together in a semisolid mass by a waterproof binder capable of liquefying under heat, filling the shoe-cavity with said filler, and then applying a sudden and strong heat to said filler for liquefying a portion of its waterproof binder, and applying external pressure to the filler for forcing said binder into the joints and stitches about said cavity.

808,225. FILE FOR PAPERS OR CARDS. EDMUND W. WOODRUFF, Washington, D. C. Filed Feb. 10, 1905. Serial No. 245,065.

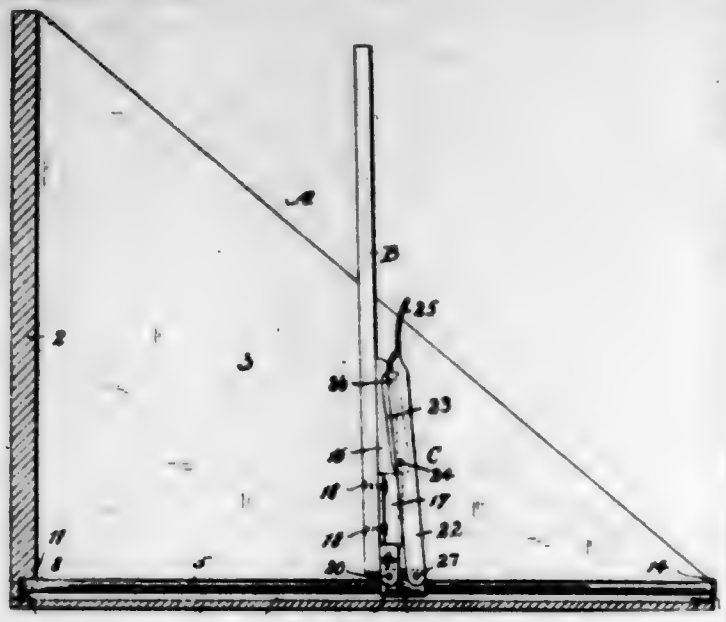
Claim.—1. In a holder for papers and the like the combination of the box or receptacle, the rod, the follower and a toggle-clamp supporting the follower, said clamp having the horizontal link 21 beneath the rod, substantially as set forth.

2. In a device of the character described the combination, with the supporting-rod and follower, of a toggle-clamp having a member arranged beneath the rod and provided with a pivot above the rod which rests on the latter and connects said member with the toggle-pieces.

3. In a paper or card holder the combination, with the receptacle, rod and follower, of a clamp for supporting and actuating the follower, said clamp being connected with the rod by a horizontal U-shaped member arranged beneath the rod and having upwardly-extending flanges at the sides of the same, and by pivots which unite said flanges with the other parts of the clamp.

4. In a filing-receptacle the combination of the box having the space or recess 7, the plate 6 having the bearing 9 and fixed in said space, the rod fitted in said bearing and having the head 10 and cov-

ered by the front of the box, the clamp on the rod and a follower carried by said clamp.



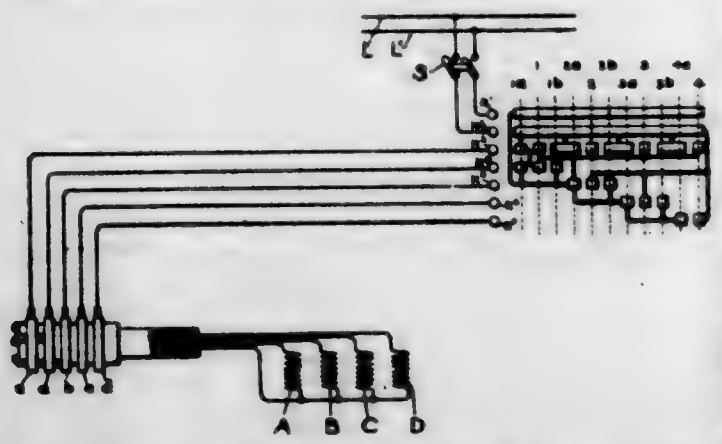
5. In a filling-receptacle the combination of the follower, the clamp, the rod for supporting the clamp and follower, and the bearing-plate 12 for the end of the rod, the receptacle having the groove 4 and a horizontal slot across the groove, and the plate having horizontal flanges one of which engages within said slot and the other of which engages the receptacle above the groove 4.

6. In a holder for papers and the like the combination of a box or receptacle, a rod held in said receptacle, a follower, and a toggle-clamp connecting the follower with the rod, one of the engaging means of said clamp with the rod being formed by a pivot of the toggle, substantially as and for the purpose set forth.

7. In a holder for papers and the like the combination of a box or receptacle, a rod held in said receptacle, a follower, and a toggle-clamp connecting the follower with the rod, said clamp having a pivoted link which extends along the sides of the rod from a bearing-point on the under side of the rod outward to a bearing-point on the upper side of the rod, substantially as set forth.

8. In a file for papers, cards and the like, the combination of a receptacle, a follower, a toggle-clamp having a member arranged edgewise to the follower, a bracket-like piece inclosing said member and clamping the same to the follower, and means on the receptacle for engagement by the toggle-clamp and with which the same has a sliding connection, substantially as set forth.

808,226. CONTROLLER FOR MAGNETIC CLUTCHES. EDWARD H. ANDERSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 20, 1904. Serial No. 217,312.

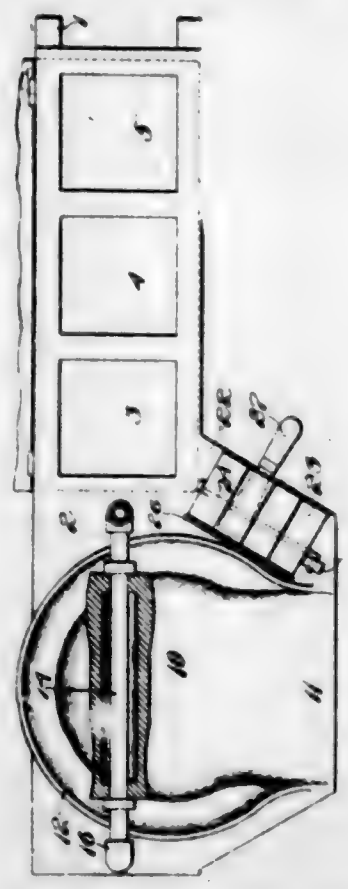


Claim.—1. In combination with a variable-speed transmission mechanism comprising a plurality of electromagnetic clutches, a controller for said clutches having a plurality of running positions arranged to connect said clutches for the several speeds, and intermediate positions arranged to reverse momentarily the circuit connections of each clutch when breaking said circuit connections in passing from one running position to another.

2. In combination with a variable-speed transmission mechanism comprising a plurality of electromagnetic clutches, a controller for said clutches adapted and arranged to reverse momentarily the circuit connections of each clutch when breaking said circuit connections in passing from one position to another.

3. In combination with a variable-speed transmission mechanism comprising a plurality of electromagnetic clutches, a source of current therefor, and a controlling-switch having a plurality of running positions arranged to connect said clutches in different relations to the source for the different speeds, and intermediate positions on each side of each running position arranged to connect a clutch to the source with its terminal connections reversed relatively to its connections in the adjacent running position.

808,227. SHOE-FILLING APPARATUS. WILLIAM B. ARNOLD, North Abington, Mass., assignor to North American Chemical Company, New York, N. Y., a Corporation of Maine. Filed Aug. 28, 1905. Serial No. 275,968.



Claim.—1. In a shoe-filling apparatus, means for supplying hot filler for a shoe, and superheating means mounted close to the delivery end of said supplying means for instantly applying a superheating contact over the top of the filled surface of the shoe.

2. In a shoe-filling apparatus, a wide, open-mouthed, heated dip-pot for providing hot filler for a shoe, a stand carrying a superheating-tool mounted over said dip-pot, all the space between the latter and the tool being free and unoccupied, to permit the shoe to be filled close to the pot and then raised at once into pressing contact with the under side of the tool, and means for maintaining the tool uniformly hot.

3. In a shoe-filling apparatus, a heating-stand provided with a freely-rotatable roll maintained uniformly hot thereby and having a free open space at the under side of the roll constructed to permit the free manipulating of a filled shoe while held pressed upwardly against said roll.

4. In a shoe-filling apparatus, a wide, open-mouthed, heated dip-pot for providing hot filler for a shoe, a stand carrying a superheating-tool mounted over said dip-pot, all the space between the latter and the tool being free and unoccupied, to permit the shoe to be filled close to the pot and then raised at once into pressing contact with the under side of the tool, means for maintaining the tool uniformly hot, and a raised drip-guard extending about said dip-pot outside of the area required for manipulating the shoe, to return to said pot all surplus filler from the shoe.

5. In a shoe-filling apparatus, a heated dip-pot for providing hot filler for a shoe, a stand carrying a superheating-tool mounted over the rear end of said dip-pot, and means for internally heating said tool, said dip-pot having a deep rear end and a wide, shallow front end extending beyond said tool a distance to permit the free filling of a shoe over said dip-pot without interference with said superheating-tool, and the latter being remote from said pot a sufficient distance to permit the free pressing of the filled shoe by said tool without interference with said dip-pot.

6. The herein-described shoe-filling apparatus, comprising a source of filler-supply, a shallow, wide-open dip-pot for fully-heated filler, means for maintaining the latter hot and for simultaneously

slowly heating said source of supply, means for transferring fully-heated filler in segregated quantities from said supply to said dip-pot, and a heated roll mounted immediately adjacent said dip-pot in position to be pressed instantly by a shoe when filled over said dip-pot.

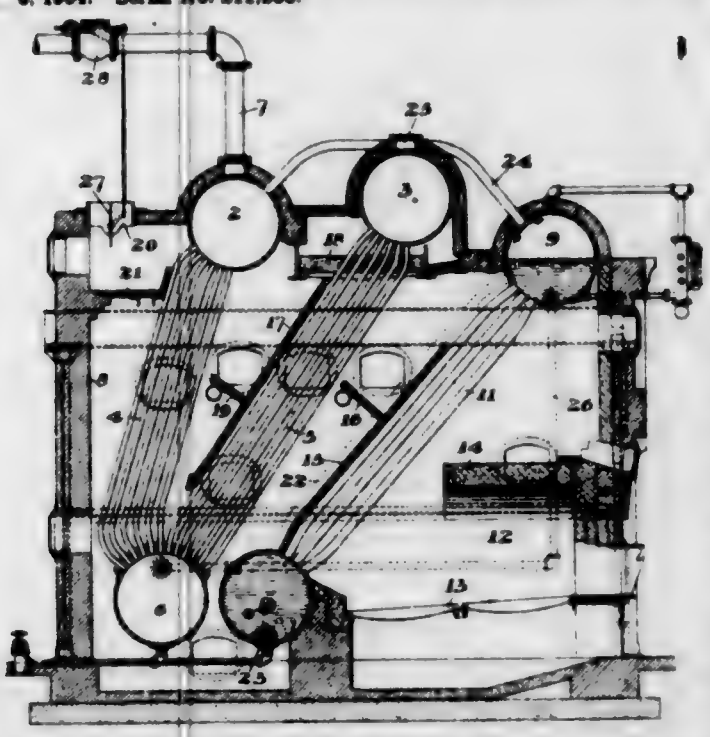
7. The herein-described shoe-filling apparatus, comprising a multicompartment source of filler-supply, a dip-pot, a roll at the open mouth of the latter, and heating means for slowly heating the filler-supply, maintaining the dip-pot warm and keeping the roll uniformly hot.

8. In a shoe-filling apparatus, a heated dip-pot for supplying hot filler for a shoe, a stand provided with a superheating-tool mounted close to the open end of said pot in position to permit the shoe when filled to be freely and instantly manipulated in pressing engagement with said superheating-tool, and quick-heating means at one side of said dip-pot for heating the dip-knives used for applying the filler from the pot to the shoe.

9. In a shoe-filling apparatus, a heated dip-pot for supplying hot filler for a shoe, a stand provided with a superheating-tool mounted close to the open end of said pot in position to permit the shoe when filled to be freely and instantly manipulated in pressing engagement with said superheating-tool, and quick-heating means at one side of said dip-pot for heating the dip-knives used for applying the filler from the pot to the shoe, said means comprising a hot table and yielding pressing means for pressing the knives against said table.

10. In a shoe-filling apparatus, a heated dip-pot for supplying hot filler for a shoe, a stand provided with a superheating-tool mounted close to the open end of said pot in position to permit the shoe when filled to be freely and instantly manipulated in pressing engagement with said superheating-tool, and quick-heating means at one side of said dip-pot for heating the dip-knives used for applying the filler from the pot to the shoe, said means comprising a hot table and yielding pressing means for pressing the knives against said table, said pressing means being instantly shiftable from the table for the removing of filler.

808,228. **INDEPENDENTLY-FIRED SUPERHEATER.** JOHN E. BELL, Barberton, Ohio, assignor to The Stirling Consolidated Boiler Company, New York, N. Y., a Corporation of New Jersey. Filed June 6, 1904. Serial No. 211,280.



Claim.—1. An independently-fired superheater having a plurality of back-and-forth passes for the heating-gases, water-heating surface forming the entire first pass for the gases, and superheater-tubes in the succeeding pass or passes, the superheater having an inlet arranged to supply steam thereto from a separate boiler.

2. An independently-fired superheater having tubes arranged to give the steam a plurality of passes in a forward direction, baffles arranged to give the furnace-gases back-and-forth passes over the superheater-tubes in an opposite direction to the flow of steam within said tubes, and water-heating surface between the superheater-tubes and the furnace, said superheater having an inlet arranged to supply steam thereto from a separate boiler; substantially as described.

3. An independently-fired superheater having at least two banks of superheater-tubes, a steam-inlet leading into the rear bank from a separate boiler, a steam-outlet from a front bank of the superheater, a baffle arranged to give the furnace-gases serial passes over the superheater-tubes in the opposite direction to the flow of steam therein, water-heating surface forming an entire pass between the superheater and the furnace, a steam and water drum for said water-heating surface, and a steam connection between the steam and water drum and the superheater; substantially as described.

4. A superheater having tubes arranged to give the steam a plurality of passes, a steam-inlet leading from a separate boiler to the rear portion of the rear pass, water-heating surface forming an entire pass between the superheater-tubes and the furnace, and baffles arranged to direct the gases in serial passes over the tubes in the opposite direction to the flow of the steam through the superheater-tubes; substantially as described.

5. An independently-fired superheater having a plurality of back-and-forth passes for the heating-gases, water-heating surface forming substantially the entire first pass for the gases, the superheating-tubes being in the succeeding pass or passes and constituting the major part of the entire heating-surface, the superheater having an inlet arranged to supply steam thereto from a seperate boiler, and being arranged to receive water and act itself as water-heating surface; substantially as described.

6. An independently-fired superheater having a plurality of upper steam-drums connected by banks of superheating-tubes to a lower drum or drums, the rear upper drum having a steam-inlet from a separate boiler, and water-heating surface in a separate pass between the superheater-tubes and the furnace, the major portion of the heating-surface consisting of the superheater-tubes; substantially as described.

7. An independently-fired superheater having a plurality of upper steam-drums connected by banks of superheating-tubes to a lower drum or drums, the rear upper drum having a steam-inlet from a separate boiler, and water-heating surface in a separate pass between the superheating-tubes and the furnace, and having a steam and water drum with its steam-space connected to the superheater proper, the major portion of the heating-surface consisting of the superheating-tubes; substantially as described.

8. An independently-fired superheater having two upper transverse steam-drums connected by banks of tubes to a lower transverse steam drum or drums, water-tubes in front of the superheater-tubes and connecting an upper steam and water drum to a lower mud-drum, and baffles arranged to give the gases serial up-and-down passes over the banks of tubes; substantially as described.

9. An independently-fired superheater having two upper transverse steam-drums connected by banks of tubes to a lower transverse steam drum or drums, water-tubes in front of the superheater-tubes and connecting an upper steam and water drum to a lower mud-drum, baffles arranged to give the gases serial up-and-down passes over the banks of tubes, and water-circulating tubes for the water-heating surface; substantially as described.

10. An independently-fired superheater having a plurality of back-and-forth passes for the heating-gases, the superheating-tubes constituting the major portion of the heating-surface, and having an inlet arranged to supply steam thereto from a separate boiler, and water-heating tubes forming the minor portion of the heating-surface, at least the major portion of the water-heating tubes forming substantially the entire first pass for the gases between the furnace and the superheating-tubes; substantially as described.

11. An independently-fired superheater having a plurality of back-and-forth passes for the heating-gases the superheating-tubes constituting the major portion of the heating-surface, and having an inlet arranged to supply steam thereto from a separate boiler, water-heating tubes forming the minor portion of the heating-surface, at least the major portion of the water-heating tubes forming substantially the entire first pass for the gases between the furnace and the superheating-tubes, and means for flooding the superheating-tubes to convert the device into a boiler; substantially as described.

12. An independently-fired superheater having a plurality of back-and-forth passes for the heating-gases, water-heating surface forming substantially the entire first pass for the gases, and superheating-tubes in the succeeding pass or passes, the superheater having an upper chamber or receptacle arranged to form a steam and water chamber when the superheater is flooded, and having an inlet arranged to supply steam from a separate boiler when used as a superheater, and means for flooding the superheater; substantially as described.

13. An independently-fired superheater having superheating-tubes forming the major portion of its heating-surface, a setting inclosing the superheater, an inlet arranged to supply steam to the super-

heater from a boiler in a separate setting, said superheater having an upper chamber separated from any steam-boiler chamber and arranged to to act as a steam and water chamber for the superheater when flooded, and water connections arranged to flood the superheater and convert it into a boiler; substantially as described.

14. An independently-fired superheater having superheating-tubes, a setting inclosing said tubes, an upper steam drum or drums connected to the tubes, an inlet arranged to supply steam to the superheater from a boiler in a separate setting, and an inlet arranged to flood the superheater and convert its surface into water-heating surface, the superheater drum or drums being separate from any steam-boiler chamber and properly arranged to act as a steam and water drum or drums when the device is flooded; substantially as described.

15. An independently-fired superheater, having superheating-tubes forming the major portion of its heating-surface, water-heating tubes between the superheater and the furnace arranged in a separate pass, said superheater having an inlet arranged to supply steam thereto from a separate boiler, and means for connecting the water-heating surface to the superheater to flood it and convert the entire apparatus into a supplemental boiler; substantially as described.

16. An independently-fired superheater having a front bank of water-tubes connecting an upper transverse steam and water drum with a lower transverse mud-drum, a superheater in the rear of the water-heating surface, and containing an upper transverse steam-drum connected to a lower transverse steam-drum by superheating-tubes, a baffle between the water-heating surface and the superheating-surface, and an inlet arranged to supply steam to the superheater from a separate boiler; substantially as described.

17. An independently-fired superheater having a front bank of water-tubes connecting an upper transverse steam and water drum with a lower transverse mud-drum, a superheater in the rear of the water-heating surface, and containing an upper transverse steam-drum connected to a lower transverse steam-drum by superheating-tubes, a baffle between the water-heating surface and the superheating-surface, an inlet arranged to supply steam to the superheater from a separate boiler, and means for connecting the water-heating surface to the superheating-surface to flood the superheater; substantially as described.

18. An independently-fired superheater having a front steam and water drum provided with depending water-tubes and a superheater in the rear of the water-tubes and connected to an upper steam-chamber having steam connection with the steam-space of the steam and water drum, and having also an inlet arranged to supply steam to the superheater from an independent boiler and a flooding-inlet, the steam and water drum and the steam-chamber of the superheater being on similar levels to provide steam and water spaces therein when the device is flooded; substantially as described.

19. An independently-fired superheater having water-heating surface constituting substantially the entire first pass for the heating-gases, and a superheater in the rear of the pass and comprising at least two banks of water-tubes connecting upper steam-drums with a lower transverse steam drum or drums, the superheater having an inlet arranged to supply steam thereto from an independent boiler; substantially as described.

20. An independently-fired superheater having water-heating surface constituting substantially the entire first pass for the heating-gases, a superheater in the rear of the pass and comprising at least two banks of water-tubes connecting upper steam-drums with a lower transverse steam drum or drums, the superheater having an inlet arranged to supply steam thereto from an independent boiler, and means for flooding the superheating-surface to convert the apparatus into a boiler; substantially as described.

808,229. **COUCH-DISPLAY TRUCK.** JACOB BOCHENSWITCH, Silverbrook, N. Y., assignor to Silver Creek Specialty Company, Silverbrook, N. Y., a Corporation of New York. Filed Nov. 8, 1904. Serial No. 231,889.

Claim.—1. A couch-display truck, comprising a base or platform, an upright frame rising therefrom, oppositely-movable fastening-rods guided on said frame and provided at their outer ends with prongs adapted to penetrate the inner sides of the couch-legs, a toothed locking-bar arranged on the upright frame below said rods, and an operating-lever pivoted to said frame and connected with the inner ends of said rods and adapted to interlock with said toothed bar, substantially as set forth.

2. A couch-display truck, comprising a base or platform, an upright frame rising therefrom and consisting of a lower section rigidly mounted on the platform and an upper section capable of vertical adjustment on the lower section, and movable fastening members mounted on said adjustable section and adapted to engage the couch, substantially as set forth.



3. A couch-display truck, comprising a base or platform, uprights rising from said base and having upward extensions capable of vertical adjustment thereon, a tie-bar connecting said extensions, a toothed bar connecting said uprights, laterally-movable fastening-rods guided in said extensions and provided at their outer ends with prongs adapted to penetrate the inner sides of the couch-legs, and an operating-lever pivoted to said tie-bar and connected with the inner ends of said rods on opposite sides of its fulcrum and adapted to interlock with said toothed bar, substantially as set forth.

4. In a couch-display truck, the combination of a base or platform, an upright frame rising therefrom, laterally-movable fastening-rods guided on the upright frame and provided at their outer ends with prongs adapted to penetrate the couch-legs, means for operating said rods, and yielding guards applied to said prongs, substantially as set forth.

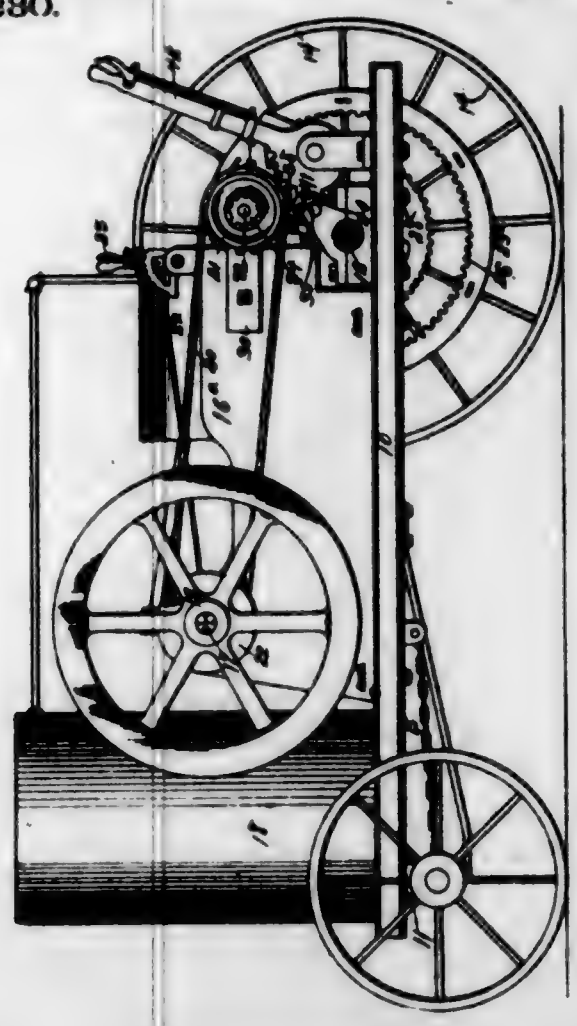
5. In a couch-display truck, the combination of a base or platform, an upright frame rising therefrom, laterally-movable fastening-rods guided on the upright frame and provided at their outer ends with heads carrying prongs, means for operating said rods, guard-bars applied to said prongs and each provided with openings registering with the prongs and stems extending inwardly from the bar and guided in the corresponding head, and springs applied to said stems between said heads and said guard-bars, substantially as set forth.

808,230. **TRACTION-ENGINE.** FRED H. BRINEY, Lacey, Iowa, assignor to Briney Brothers, Lacey, Iowa. Filed June 17, 1905. Serial No. 265,053.

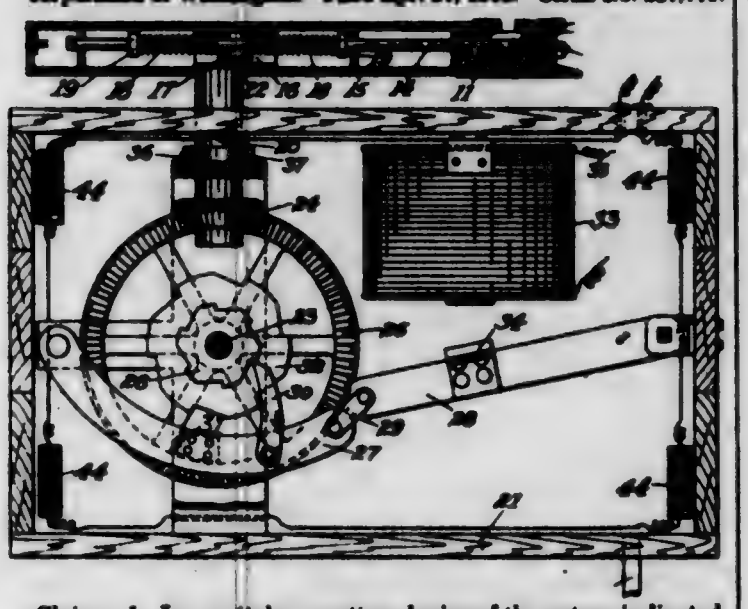
Claim.—1. In a traction-engine, a motor, an axle, traction-wheels rigidly mounted on said axle, a reversing-shaft mounted for lateral adjustment, gears on said shaft, connections between said shaft and the motor, internal gear-rings on said traction-wheels, gears on said axle, a manually-operated rock-shaft, and eccentric connections between said rock-shaft and the reversing-shaft whereby the latter may be moved toward or away from the internal gear-rings and the gears on the axle respectively.

2. In a traction-engine, a motor, an axle, traction-wheels rigidly mounted on said axle, a reversing-shaft mounted for lateral adjustment, gears on said shaft, connection between said shaft and the motor, internal gears on said traction-wheels, gears on said axle, a rock-shaft, a hand-lever mounted for oscillation and formed with teeth, a gear on the rock-shaft meshing with the teeth on the lever, eccentrics on said rock-shaft, and straps connecting said eccentrics with the reversing-shaft.

808,280.



808,281. AUTOMATIC SWITCH. JOSEPH M. CONER, Seattle, Wash., assignor to the Coner Automatic Switch Co., Seattle, Wash., a Corporation of Washington. Filed Apr. 27, 1905. Serial No. 257,779.



Claim.—1. In a switch-operating device of the nature indicated, the combination with the swingingly-mounted switch-tongue, a rod pivotally connected to said switch-tongue, a cross-head slidable on said rod and having a yielding connection therewith said cross-head having a slot, and means for reciprocating said cross-head including a shaft having a crank-pin engaging in the slot of said cross-head.

2. In a switch-operating device of the nature indicated, the combination with the swingingly-mounted switch-tongue, of means for swinging said switch-tongue including a pair of meshing gears, a ratchet-wheel movable in unison therewith, a pawl adapted to successively engage the teeth of said ratchet-wheel means for operating the pawl comprising a pair of links pivoted together at their contiguous ends and having their outer ends pivoted to fixed means, an armature on one of said links, and electromagnetic means for attracting the armature upwardly.

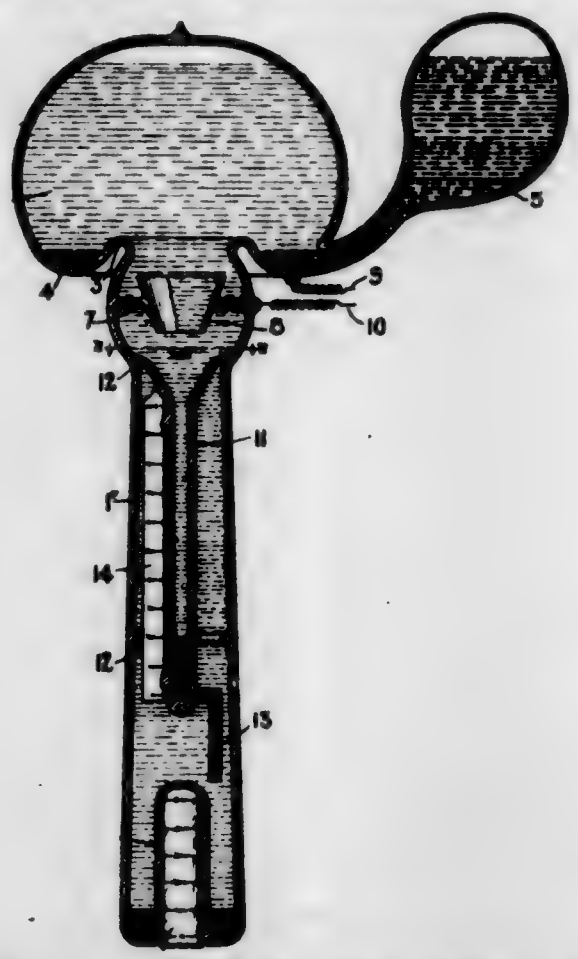
3. In a switch-operating mechanism of the nature indicated, the combination with the swingingly-mounted switch-tongue, a crank-shaft operatively connected thereto for swinging the same, a gear on said shaft, a second shaft, a gear on said second shaft meshing with said first gear, ratchet and notched wheels secured to the last-named shaft, a swinging means carrying a pawl for engagement with said ratchet-wheel, a stop secured to said means for engagement in the notches of said notched wheel, and means for swinging said means.

4. In a switch-operating device of the nature indicated, the combination with the swingingly-mounted switch-tongue, a housing, a rod connected to said switch-tongue and being mounted in said housing for bodily-sliding movement, independent electric circuits having lamps therein and provided with contacts arranged in said housing, and circuit make-and-break means secured to said rod for engagement with the contacts of said circuits.

5. In a switch-operating device of the nature indicated, the combination with the swingingly-mounted switch-tongue, of means for swinging said switch-tongue including a pair of meshing gears, a ratchet-wheel movable in unison therewith, a pawl, means for operating the pawl so as to intermittently operate the ratchet-wheel, said means comprising a pair of links pivotally connected together at their contiguous ends having their outer ends pivoted to fixed means, an armature secured to one of said links, and means to elevate said links consisting in its entirety of electromagnetic means arranged above said armature for attracting the same.

6. In a switch-operating mechanism of the nature indicated, the combination with the swingingly-mounted switch-tongue, a crank-shaft operatively connected thereto for swinging the same, a gear on said shaft, a second shaft, a gear on the second shaft meshing with said first gear, ratchet and notched wheels secured to the last-named shaft, a swinging means comprising a pair of links pivotally connected together at their contiguous ends and having their outer ends pivoted to fixed means, a pawl carried by said swinging means for engagement with said ratchet-wheel, a stop secured to said swinging means for engagement in the notches of said notched wheel, and means for operating said swinging means.

808,282. ELECTROLYTIC METER. ALVARADO L. R. ELLIS, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed June 22, 1904. Serial No. 213,694.



Claim.—1. An electrolytic meter having an anode, a cathode, two receptacles for the electrodeposited material, and means dependent upon the surface tension of the deposited material for emptying the entire contents of one receptacle into the other.

2. An electrolytic meter having an anode, a cathode, a receptacle for the electrodeposited material having a small opening at the lower end thereof, a second receptacle below said opening, and means to indicate the amount of electrodeposited material in each of said receptacles.

3. An electrolytic mercury-meter having an anode-chamber, mercury therein, a cathode, a receptacle for the electrodeposited mercury, a tube having a capillary opening therethrough sealed into

the lower end of said receptacle, and a second receptacle below said tube.

4. An electrolytic mercury-meter having an anode-chamber, mercury therein, a cathode, a graduated receptacle below the cathode for collecting the electrodeposited mercury in a single column, a second graduated receptacle, and means dependent upon the height of said column for permitting the flow of the mercury constituting said column into the second receptacle.

5. An electrolytic mercury-meter having an anode-chamber mercury therein, a cathode a receptacle for the electrodeposited mercury having a small opening at its lower end, a scale-plate for the receptacle, and a second receptacle below said opening and a scale-plate for the second receptacle.

6. An electrolytic meter comprising a glass vessel, an anode, a cathode, and an electrolyte therein, electrical connections therethrough to the anode and cathode, a receptacle within the vessel directly below said cathode having a small opening at its lower end, a second receptacle below said opening, and means to indicate the amount of electrodeposited material in said receptacles.

7. An electrolytic mercury-meter comprising a glass vessel, an anode-chamber therein, mercury in said chamber, a cathode having a metallic surface supported within the vessel, a tube funnel-shaped at its upper end directly below the cathode, a tube having a small opening therethrough connected to said tube at its lower end, and a receptacle below said tubes.

808,233. MEASURING DEVICE FOR CORSETS. EDWARD P. FOLLETT, Rochester, N. Y. Filed Dec. 26, 1904. Serial No. 238,674.



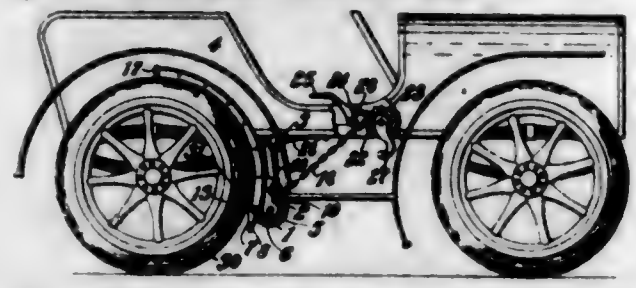
Claim.—1. A measuring device for corsets, comprising a flexible elongated body, a series of heads adapted to move in longitudinal directions on said body, flexible measuring-arms pivotally held by said heads, and frictionally-held yielding movable indicators on said measuring-arms, said arms being mounted upon opposite ends of said heads and upon opposite sides of said body.

2. A measuring device for corsets, having an elongated body, a series of heads with overhanging ends disposed transversely of said body and adapted to move in longitudinal directions thereon, a pair of flexible arms disposed upon opposite sides of the body and held pivotally one at either of said overhanging parts of each head, and frictionally-held yielding slidable indicators on said arms, one of said heads having pivotal motion relative with said elongated body.

3. A measuring device for corsets, having an elongated body, a series of three independent heads having clasps engaging said body, a metal slotted sector overlapping and rigid with the middle head of the series and pivotally connected with the associated clasp, a threaded stud of the clasp projecting through the slotted sector, and a clamp-nut on the stud to control the sector.

4. A measuring device for corsets comprising an elongated body, a series of independent heads adjustable on said body, means for permitting swivel motions of the body on the intermediate head, and a series of flexible measuring-arms pivotally mounted on said heads upon opposite sides of the body.

808,234. EMERGENCY-BRAKE. WALTER M. GOOCH, Dayton, Ky. Filed Mar. 27, 1905. Serial No. 252,126.



Claim.—1. In an emergency-brake, a head suitably mounted, a member movably secured thereto adjacent a wheel, a rack on said member, a toothed wheel adapted to engage said rack, a shaft on which said toothed wheel is mounted, a chain secured to said shaft and adapted to be wound thereon and means for unwinding said chain.

2. In an emergency-brake, a head suitably mounted, a member movably secured thereto adjacent a wheel and having a rack, a toothed wheel adapted to engage said rack, a shaft on which said toothed wheel is mounted, a chain secured to said shaft and adapted to be wound thereon, a windlass for unwinding the chain from the shaft, means for holding the chain in such unwound position, and means for releasing the windlass.

3. In an emergency-brake, a head suitably mounted, a member secured thereto adjacent a wheel and having a rack, a toothed wheel adapted to engage said rack, a shaft on which said toothed wheel is mounted, a chain secured to said shaft and adapted to be wound thereon, a windlass for unwinding the chain from the shaft, a ratchet-wheel on said windlass, a pawl adapted to engage said ratchet-wheel, a treadle and a spring adapted to hold said pawl in engagement with said ratchet-wheel.

4. In an emergency-brake, a head suitably mounted, a member movably secured thereto adjacent a wheel and having a rack formed therein with spaces extending therethrough between the rack-teeth, a toothed wheel adapted to engage said rack, and means for turning said toothed wheel.

808,235. PIPE-PERFORATOR. EDWIN R. GRAHAM, Coalinga, Cal. Filed May 1, 1905. Serial No. 258,346.



Claim.—1. In apparatus of the character described, the combination of a perforating-tool mounted to rotate and having a plurality of radial perforating-points, means for suspending the tool in the well-casing, means for holding it normally out of operative relation with the casing and means including toggle-levers for moving it into operative relation therewith.

2. In apparatus of the character described, the combination of a head, a perforating star-wheel carried by said head and normally out of operative relation with the casing and means including toggle-

levers and a reciprocal rod for actuating the same to project the star-wheel into operative relation with the casing.

3. In apparatus of the character described, the combination with a suitable support within the well-casing, of a perforating-tool carried by said support, said perforating-tool mounted to rotate and having a plurality of radially-disposed puncturing-points, means including a toggle-lever mechanism and a reciprocal rod adapted to engage the same, for moving said wheel radially of the casing, and means to reciprocate said wheel-support.

4. In apparatus of the character described, the combination of a slotted head, a rotary puncturing-tool carried by said head and normally retracted out of operative relation with the casing, means including a toggle-lever connection and a member contacting therewith for moving said tool radially of the head and means to reciprocate the latter.

5. In apparatus of the character described, the combination of a slotted head, star-wheel carried thereby, said wheel having a limited movement radially of the head, means including toggle-levers for moving the wheel radially of the head and means for reciprocating the latter.

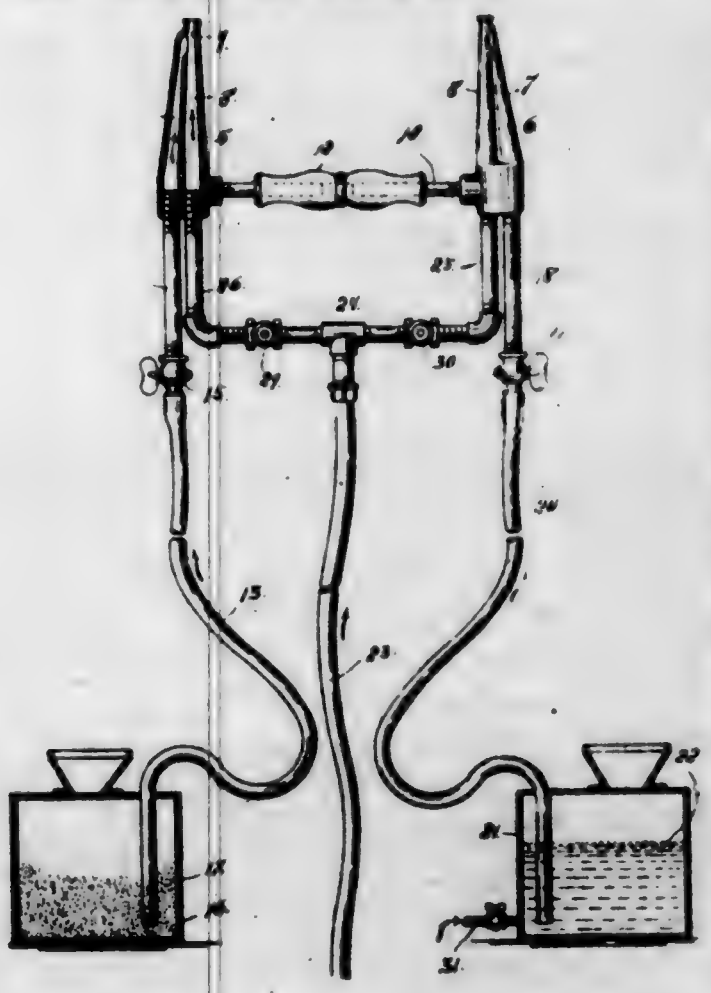
6. In apparatus of the character described, the combination of a head or other suitable support, a puncturing-tool comprising a star-wheel carried by said head and having its axle supported in inclined slots in the head, means including a contact member and a toggle-lever mechanism disposed in the range of action thereof for reciprocating the wheel in said slots and means for reciprocating the head.

7. In apparatus of the character described, the combination of a head, a star-wheel having its axle supported in inclined slots in said head, toggle-levers connected with said wheel, a rod operable on said levers to actuate the wheel and means to reciprocate the head.

8. In apparatus of the character described, the combination of a head, a puncturing star-wheel carried thereby, said star-wheel having a limited movement radially of the head and normally out of engagement with the casing, toggle-levers connected with said wheel, an operating-rod for said levers and means to reciprocate the head.

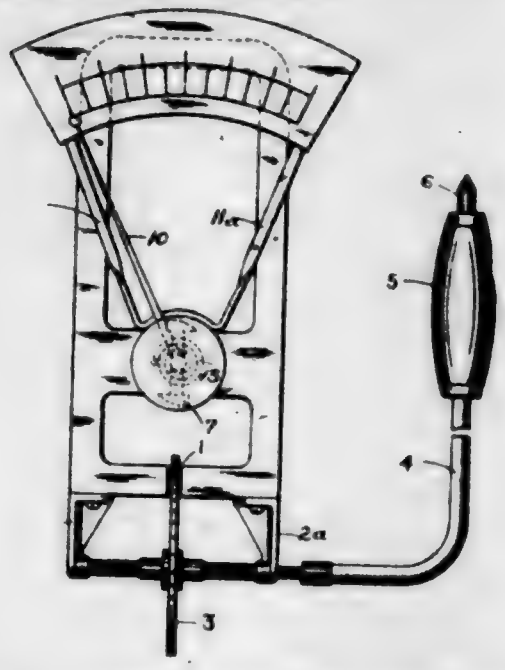
9. In apparatus of the character described, the combination of a head, a puncturing star-wheel and a toggle-lever mechanism connected therewith said wheel having a limited movement radially of said head, an operating-rod below said wheel and adapted to operate said mechanism having means of support within the well-casing independent of the wheel-support, and means for reciprocating the head to cause the rod to operate the star-wheel.

808,236. **WALL-FINISHING PROCESS.** HOWARD H. HAHN, Denver, Colo., assignor to The Western Engineering Company, Denver, Colo. Filed Feb. 13, 1906. Serial No. 345,385.



Claim.—The herein-described wall-finishing process, consisting in simultaneously applying a sticky substance and a sandy substance, the one being applied slightly in advance of the other as to location, but without any appreciable lapse of time.

808,237. **TACHOMETER.** CARYL D. HASKINS, Brookline, Mass., assignor to General Electric Company, a Corporation of New York. Filed Mar. 29, 1900. Serial No. 10,503.



Claim.—1. A magnetic speed-indicator comprising a field-magnet, a movable armature and a movable low-resistance part in separated parts of the field of force of the magnet, one of the movable elements being revoluble and the other being oscillatory but biased to a normal position of rest, substantially as described.

2. A magnetic speed-indicator comprising a field-magnet having an oscillatory armature biased to a normal position of rest and a movable low-resistance part, the two being movable within separated parts of its magnetic field, substantially as described.

3. A magnetic speed-indicator, comprising a field-magnet having an oscillatory armature biased to a normal position of rest and a revoluble low-resistance part, movable within a separate part of the magnetic field, and a fixed electrical shield in juxtaposition to the armature, substantially as described.

4. A tachometer provided with a rotary device adapted for connection with the body whose speed is to be indicated, means for establishing a magnetic flux which is varied by said device under varying speeds, an indicator having a mechanical biasing device for registering the variations of flux, and a scale-plate having scale-markings thereon coöperating with the indicator.

5. A tachometer provided with means for establishing a field of force, a conductor moving relatively to said field, means for connecting said conductor to a shaft or moving body, and an indicator mounted in a separated part of the magnetic field to show the variations of field strength.

6. A tachometer provided with a closed electric circuit adapted to be rotated by the body whose speed is to be indicated, a magnetic field cut by said circuit, and an indicator mounted in a separate part of the magnetic field to show the strength of the reaction between the moving circuit and the magnetic field.

7. A tachometer provided with a conducting-disk mounted to rotate in a magnetic field, means for imparting motion to said disk by the body whose speed is to be indicated, and an indicator mounted in a separate part of the magnetic field responsive to changes of reluctance in the magnetic field under varying speeds of the disk.

8. A tachometer provided with a magnetic field, a metal disk mounted to rotate in an air-gap in said field, means for imparting motion to the disk by the body whose speed is to be indicated, an armature mounted in a separate part of the magnetic field responsive to the varying reluctance of the air-gap under the influence of varying speeds of the disk, and an indicator mounted on said armature.

9. A tachometer provided with a conducting-disk rotatably mounted in the air-gap of a magnetic field, means for imparting motion by a revolving body to said disk, an armature in a magnetic shunt around said air-gap, and an indicator mounted on said armature.

10. A tachometer provided with a conducting-disk rotatably mounted in the air-gap of a magnetic field, means for imparting mo-

tion from a revolving body to said disk, a retractile armature in a magnetic shunt around said air-gap, and an indicator mounted on said armature.

11. A tachometer provided with a conducting-disk mounted to rotate between the poles of a permanent magnet, and provided with means for imparting motion to the disk by the body whose speed is to be indicated, and a retractile armature mounted in operative relation to a magnetic shunt around said poles.

12. A tachometer comprising means for establishing a field of force, a movable conductor mounted in said field, an indicator arranged to be mounted in a separated part of the same field in a definite relation to the movable conductor, and means for imparting rotary movement to the conductor.

13. A tachometer comprising means for establishing a field of force, means for varying the strength of the field of force according to the speed to be indicated, and an indicating element having a scale-plate attached thereto arranged to be mounted in said field of force in a definite relation to the parts of the instrument and to be removable therefrom.

14. A tachometer comprising a magnet, a closed electric circuit adapted to be revolved between the magnet-poles by the body whose speed is to be indicated, and an armature mounted in a separate part of the magnetic field controlled by the varying reluctance of the magnetic circuit and changes of speed of the rotating body.

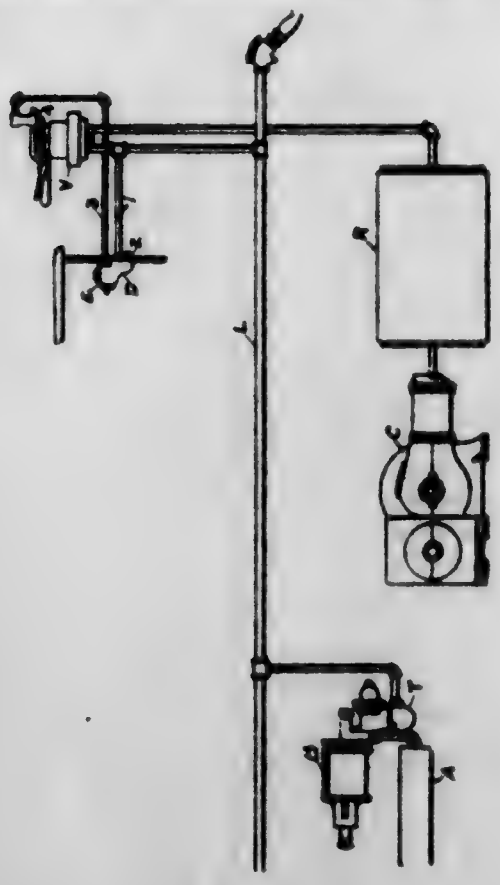
15. A tachometer comprising a magnet, a closed electric circuit adapted to be revolved between the poles of the magnet by the body whose speed is to be indicated, an armature mounted in a separate part of the magnetic field controlled by the varying reluctance of the magnetic circuit, an indicator carried by the armature, and a damper to check the vibration of the armature.

16. A tachometer comprising means for establishing a field of force, a closed conductor movable relatively to said field, means for connecting the conductor to a moving body, and a magnetically-actuated indicating device removably mounted in a separated part of said field.

17. A tachometer comprising a magnet, a closed electric circuit adapted to be revolved between the magnet-poles by the body whose speed is to be indicated, a magnetic shunt for the magnet-poles, and a removable spring-retracted armature having an attached scale, said armature being operated by said magnetic shunt.

18. A tachometer comprising a magnet, a closed electric circuit adapted to be revolved between the magnet-poles by the body whose speed is to be indicated, a magnetic shunt for the magnet-poles, a removable tubular conductive shield having an attached scale adapted to be mounted in said shunt and a spring-retracted armature carried within said shield.

808,238. **EMERGENCY BRAKE-VALVE.** GEORGE H. HILL, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 24, 1904. Serial No. 213,943.



Claim.—1. In an air-brake system, in combination with a motor-controller, two valves connected in series and arranged normally to establish connections for applying the brakes, and operative connections from said valves to the handles of the controller and of the motorman's valve respectively.

2. In an air-brake system, in combination with a motor-controller, two normally open valves connected in series and normally establishing a connection for applying the brakes, and operative connections from said valves to the handles of the controller and of the motorman's valve respectively whereby one of said valves may be closed by the operation of either handle.

3. In an air-brake system, in combination with a motor-controller, two spring-operated valves connected in series and arranged normally to establish a connection for applying the brakes, and operative connections from said valves to the handles of the controller and of the motorman's valve respectively, whereby said brake-applying connections may be controlled by either handle.

4. In an air-brake system, in combination with a motor-controller, a normally open pipe connection adapted to apply the brakes, and two valves inserted in series in said connection and controlled by the handles of the controller and of the motorman's valve respectively, whereby said pipe connection may be broken by the operation of either handle.

5. In an air-brake system, in combination with a motor-controller, a normally open pipe connection adapted to apply the brakes, two valves inserted in series in said connection, and operative connections from said valves to the handles of the controller and of the motorman's valve respectively, whereby one of said valves may be moved to close said pipe connection by the operation of either of said handles.

6. In an air-brake system, two emergency-valves connected in series and arranged normally to establish connections for applying the brakes, and independent controlling means for said valves.

7. In an air-brake system, two emergency-valves connected in series and arranged normally to establish connections for applying the brakes, and independent controlling-levers for said valves whereby said braking connection may be broken by the operation of either lever.

8. In an air-brake system, a normally open pipe connection adapted to apply the brakes, two valves inserted in series in said connection, and independent controlling-levers for said valves whereby one of said valves may be moved to close said connection by the operation of either lever.

9. In an "automatic" air-brake system, a normally open connection from train-pipe to atmosphere, two normally open valves inserted in series in said connection, and independent controlling means for said valves.

10. In an "automatic" air-brake system, in combination with a motor-controller, a normally open connection from train-pipe to atmosphere, two normally open valves inserted in series in said connection, and operative connections from said valves to the handles of the controller and of the motorman's valve respectively, whereby said pipe connection may be broken by the operation of either handle.

808,239. **FISH-HOOK.** HENRY A. HOMAN, Omaha, Nebr. Filed Sept. 2, 1903. Serial No. 171,577.



Claim.—1. A fish-hook, a laterally stiff but longitudinally-resilient guard rigidly attached to the shank of the hook, said guard having an opening at its free end to normally receive the entire point and barb of the hook whereby the point and barb are normally located on the inside of the spring.

2. A fish-hook, a laterally stiff but longitudinally-resilient guard rigidly attached at one end to the shank and bent outward, the free end of the guard being inturned and having an opening to be normally entered by the entire point and barb of the hook from the outer face of the guard, whereby the latter projects beyond and protects the point and barb.

3. A fish-hook having a shank provided with an eye, and a resilient, blade-like guard rigidly attached at one end to the shank adjacent the eye and curved outward therefrom, the guard increasing in width toward its free end and being inturned thereat and provided with an opening to receive the entire point and barb of the hook, the resiliency of the guard normally causing it to project beyond and thereby protect the point.

4. A fish-hook having a barbed point, and a blade-like, resilient

guard rigidly attached at one end to the hook-shank and curved outward therefrom toward the point of the hook, the free end of the guard being inturned and provided with an elongated opening near its tip to normally receive the entire point and barb, the resiliency of the guard causing its tip beyond the opening to project below the barb adjacent the inner side of the hook.

5. A fish-hook, and a longitudinally-resilient metallic guard rigidly attached at one end to the hook-shank, the opposite, free end of said guard normally extending beyond the point of the hook and being inturned thereat and provided with an opening into which the point normally projects, the outer face of the guard being made bright to serve as a lure.

6. A fish-hook having a barbed point, and a blade-like spring-guard rigidly attached at one end to the hook-shank and curved outward therefrom toward and beyond the point of the hook and then incurved across it and having a hole to receive the point, the tip of the guard engaging the inner side of the hook below and locking with the barb when the hook is flexed by longitudinal or lateral strain.

7. An improved article of manufacture comprising a hook having a suitable point and barb and a guard attached to the shank of the hook and provided at its free extremity with a perforation fitting over said barb and adjacent to the hook-point with a projection protecting said point and barb for the purpose set forth.

808,240. DISINCRUSTANT FOR STEAM-GENERATORS. ALEXANDRE JACOB, Vilvorde, Belgium. Filed Nov. 30, 1904. Serial No. 234,956.

Claim.—1. A disincrustant for steam-generators, containing soda salt, acetic acid, logwood and chlorid of sodium.

2. A disincrustant for steam-generators, containing soda salt, acetic acid, chicory, logwood and chlorid of sodium.

3. A disincrustant for steam-generators containing four parts by weight of soda salt, two parts of acetic acid, one part of chicory, two parts of logwood and one part of marine salt.

808,241. END CONNECTION FOR DYNAMO-ELECTRIC MACHINES. FRANK H. JEANNIN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 25, 1904. Serial No. 209,866.



Claim.—1. In a dynamo-electric machine, conductors slotted at their ends, rivets adapted to enter said slots, and end connections for said conductors engaged by said rivets.

2. In a dynamo-electric machine, conductors slotted at their ends, and end connections for said conductors provided with rivets adapted to enter said slots and secured to said conductors by said rivets.

3. In a dynamo-electric machine, conductors, and end connections riveted thereto, said conductors being slotted at their ends to receive the rivets.

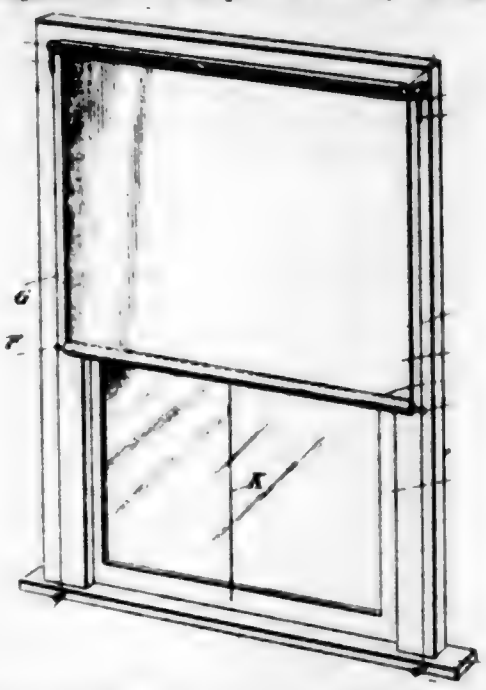
4. In a dynamo-electric machine, conductors, and end connections each formed of parallel conducting-strips riveted to opposite sides of a conductor, said conductors being slotted at their ends to receive the rivets.

5. In a dynamo-electric machine, a core having closely-spaced slots, conductors in said slots, and end connections riveted to said conductors, said conductors being slotted at their ends to receive the rivets.

6. In a dynamo-electric machine, a core having closely-spaced slots, conductors carried in said slots, and end connections each formed of parallel conducting-strips riveted to opposite sides of a conductor, said conductors being slotted at their ends to receive the rivets.

808,242. GUIDE FOR WINDOW-SHADES. ELMORE C. JORDAN, Los Angeles, Cal. Filed July 6, 1905. Serial No. 268,544.

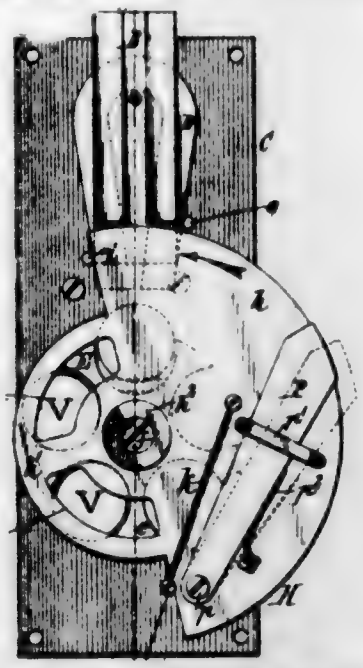
Claim.—1. Means to guide a window-shade comprising a window-shade having apertures in both ends of the bottom piece thereof, the said openings in the bottom piece disposed beyond the window-shade; guide-wires in said openings secured to a bracket at the top of the window-frame and extending downwardly therefrom through the opening in the ends of the bottom pieces and secured to a screw in the bottom of the window-frame, the said screw in the bottom of the window-frame having an opening therethrough for the reception and engagement of the guide-wires whereby the guide-wires will be tightened upon turning the screws; a spiral spring surrounding each guide-wire and disposed at the top of the guide-wire.



2. The herein-described means to guide a window-shade comprising a window-shade C having a bottom piece E at the bottom thereof; a screw-eye F in both ends of said bottom piece; guide-wires G disposed on either side of the window-frame and extending from the top to the bottom thereof, the top being secured to the bracket H and extending downwardly therefrom through the screw-eyes F passing thence into and through an opening in the screws I, the screws I in the bottom of the frame having an opening therethrough for the reception of the lower end of the guide-wire and the spiral springs J surrounding the guide-wires and disposed at the top thereof

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808,243. COIN-DETECTOR. EUGENE DE KLEIST, North Tonawanda, N. Y. Filed Feb. 16, 1903. Serial No. 143,545.



Claim.—1. The combination of a coin-chute, a coin-wheel having a plurality of pockets or holders arranged to receive the coins from the chute, and a rotary actuator having a guard arranged to retain the coins in said pockets during a portion of the rotation of the coin-wheel and a second guard arranged to extend across the delivery end of the coin-chute when the actuator is turned out of its normal position, substantially as set forth.

2. The combination of a coin-chute, a coin-wheel having a plurality of pockets or holders adapted to receive the coins from the chute, a rotary actuator arranged concentrically with said coin-wheel and carrying a coin-supporting ledge arranged opposite the delivery end of the coin-chute in the normal position of the actuator, and a guard extending across the open outer ends of a number of said coin-pockets, substantially as set forth.

3. The combination of a coin-chute, a coin-wheel having a plurality of pockets or holders adapted to receive the coins from the chute, a rotary actuator arranged concentrically with said coin-wheel and carrying a coin-supporting ledge arranged normally opposite the delivery end of the coin-chute, a guard extending across the open outer ends of a number of said coin-pockets, and a second guard arranged to close the delivery end of the coin-chute except in the normal position of the actuator, substantially as set forth.

4. The combination of a coin-chute, a coin-wheel having peripheral pockets or holders adapted to receive the coins from the chute, and a rotary actuator applied to the front side of said wheel and comprising a sector provided with a guard-rim arranged to extend across the delivery end of said chute and a second sector arranged opposite the first-named sector and provided with a guard-rim extending across the open ends of a number of said coin-pockets and a window through which the coins in one or more of the pockets are exposed, substantially as set forth.

5. The combination of a coin-chute, a coin-wheel having peripheral pockets or holders adapted to receive the coins from the chute, and a rotary actuator applied to the front side of said wheel and comprising a sector provided with a guard-rim arranged to extend across the delivery end of said chute and a second sector arranged opposite the first-named sector and provided with a guard-rim arranged to close the open ends of a number of said pockets and extending to a point opposite the chute in the normal position of the actuator, substantially as set forth.

6. In a coin-detector, the combination of a coin-chute, a coin-wheel having peripheral pockets arranged to receive the coins from said chute, a detent arranged opposite the delivery end of the chute and extending normally into the wheel-pocket facing the chute, so as to intercept and support a coin dropped into said pocket, and a rotary actuator for the coin-wheel having a member constructed and arranged to engage the protruding edge of the coin partly seated in said pocket, whereby upon rotating the actuator the coin is positively shifted inwardly in said pocket by said member and caused to move said detent out of engagement with the coin-wheel, substantially as set forth.

7. The combination of a coin-chute, a coin-wheel having peripheral pockets or holders adapted to receive the coins from the chute, a detent for said coin-wheel arranged opposite the delivery end of the chute and engaging with the adjacent pocket of the wheel, and a rotary actuator applied to the front side of the coin-wheel and comprising a large sector and an opposing small sector, said large sector having a guard-rim arranged to extend across the delivery end of the chute and a projection arranged to engage the coin protruding from the pocket opposite the chute, and said small sector having a guard-rim extending across the open ends of one or more of said pockets, and means for returning said actuator to its initial position, substantially as set forth.

8. The combination of a coin-chute, a coin-wheel having pockets or holders arranged to receive the coins from the chute, a rotary actuator for said wheel, and a centrifugal stop device carried by said actuator, substantially as set forth.

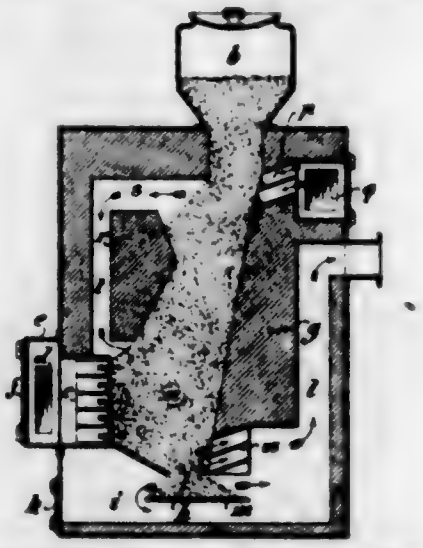
9. The combination of a coin-chute, a coin-wheel having pockets or holders arranged to receive the coins from the chute, a rotary actuator for said wheel, an abutment arranged adjacent to said actuator, a centrifugal stop member carried by the actuator and adapted to strike said abutment, and means for yieldingly holding said stop member in its retracted position, substantially as set forth.

10. The combination of a coin-chute, a coin-wheel having pockets or holders arranged to receive the coins from the chute, a rotary actuator for said wheel, an abutment arranged adjacent to said actuator a stop-arm pivoted to said actuator and adapted to swing outwardly and strike said abutment, and a spring for normally withdrawing said arm clear of said abutment, substantially as set forth.

808,244. GAS-PRODUCER. ERNST KÖRTING, Hanover, Germany. Filed Mar. 31, 1903. Serial No. 148,536.

Claim.—1. In a gas-producer the combination, with the producing-chamber, of the vertical grate in the front wall thereof and the opening for admitting air to the grate, a gas-outlet located entirely below the horizontal middle plane of the grate, and a supply-shaft constructed as an upward extension of the producing-chamber and closed to prevent the entrance of air to the top of the bed of fuel, substantially as and for the purpose stated.

2. In a gas-producer, the combination, with the producing-chamber, the vertical grate in the front wall thereof, the opening for admitting air to the grate, the gas-outlet located entirely below the middle plane of the above grate, and the supply-shaft constructed as an upward extension of the producing-chamber, of an auxiliary vertical grate located near the top of the producing-chamber and entirely above the plane of the top of the front grate, and an air-supply channel for said auxiliary grate, substantially as and for the purpose stated.



3. In a gas-producer the combination, with the producing-chamber, the vertical grate in the front wall thereof, the opening for admitting air to the grate, the gas-outlet located below the middle plane of the above grate, and the supply-shaft constructed as an upward extension of the producing-chamber, of an auxiliary vertical grate located near the top of the producing-chamber, an air-supply channel for said auxiliary grate, an internal open gas-chamber located opposite the auxiliary grate, and a channel extending downward from said gas-chamber and opening to the producing-chamber at a point near the plane of the top of the front grate, substantially as and for the purpose stated.

4. In a gas-producer the combination, with the producing-chamber, the vertical grate in the front wall thereof, the opening for admitting air to the grate, the gas-outlet located below the middle plane of the front grate and the supply-shaft constructed as an upward extension of the producing-chamber, of an auxiliary vertical grate located in the rear wall of the producer entirely above the front grate, and an opening for admitting air to the said auxiliary grate, substantially as and for the purpose stated.

5. In a gas-producer the combination, with the producing-chamber, the vertical grate in the front wall thereof, the opening for admitting air to the grate, the gas-outlet located below the middle plane of the front grate, and the supply-shaft constructed as an upward extension of the producing-chamber, of an auxiliary vertical grate located in the rear wall of the producer a distance above the front grate, an opening for admitting air to the auxiliary grate, an upper open gas-chamber located within the producer opposite the auxiliary grate, and a channel extending from said gas-chamber along the inner side of the front wall of the producer to a point above the front grate, substantially as and for the purpose stated.

6. In a gas-producer the combination with the producing-chamber, the vertical grate in the front thereof, the opening for admitting air to the grate, the gas-outlet located below the middle plane of the grate, and the supply-shaft constructed to form an upward extension of the producing-chamber, of an auxiliary vertical grate located entirely above the plane of the top of the front grate, an opening for admitting air to the auxiliary grate, and an opening for admitting air below the gas-outlet, substantially as and for the purpose stated.

7. In a gas-producer the combination, with the producing-chamber, the vertical grate in the front wall thereof, and the opening for admitting air to said grate, of sliding plates forming part of the grate-bars and adapted to be projected into the producing-chamber, substantially as and for the purpose stated.

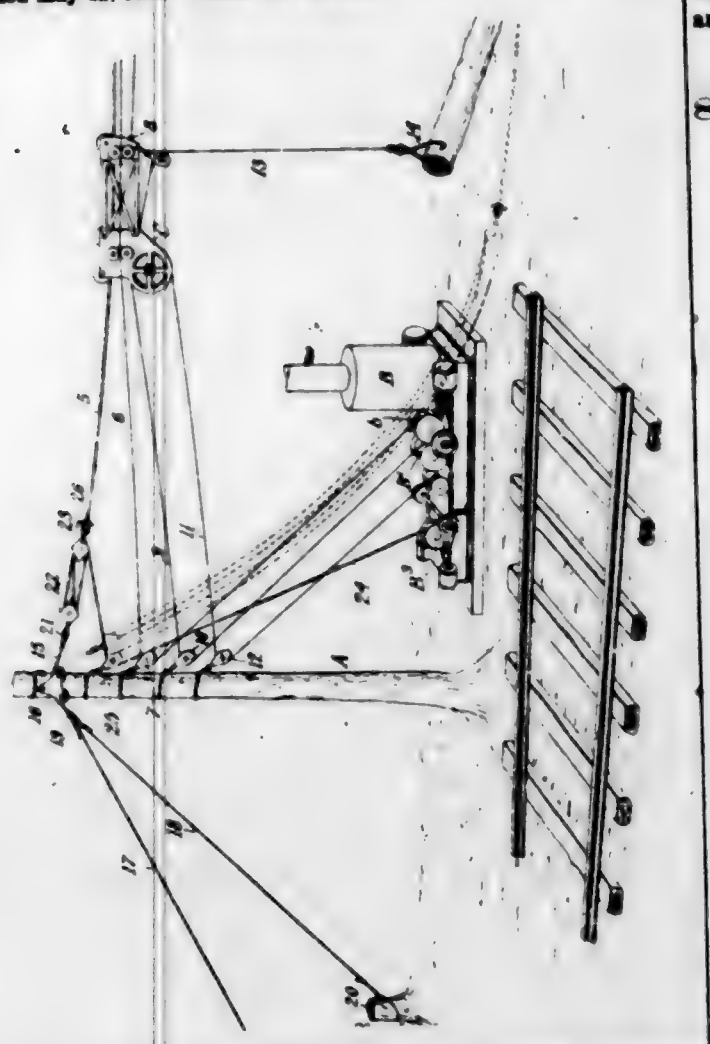
808,245. WOOD-BORING IMPLEMENT. JOEL LUND, San Francisco, Cal. Filed Feb. 7, 1905. Serial No. 244,603.



Claim.—1. An auger having a helical web provided with flanges for a portion of its length at the edges of the web of such cross-section as to form new spurs when the chip-raising portion of the web merely is filed back to form new cutting edges, substantially as specified.

2. In an auger having a helical web flanged at its edges to form material for new spurs as the chip-raising portion is filed back to furnish new cutting edges, a central reinforced portion deeply socketed and screw-threaded to receive detachable screw-points in a new position after the new cutting edges are completed, substantially as specified.

808,246. HOISTING AND CONVEYING APPARATUS. THOMAS S. MILLER, South Orange, and JOSEPH H. DICKINSON, Montclair, N. J. Filed May 12, 1905. Serial No. 260,186.



Claim.—1. The combination of a main cable, a main-cable extension, and a tensioning device interposed between the main cable and the main-cable extension.

2. The combination of a main cable, a main-cable extension and a detachable tension device connecting the main cable and the main-cable extension.

3. The combination of a main cable, a main-cable extension, a running-block connecting the main cable and main-cable extension, an engine and a tension-rope for the block operated by said engine.

4. In a conveying apparatus the combination with a head-spar and main cable, of a guy, a main-cable extension secured to said guy at the head-spar, and a tension device connecting the main-cable extension and the main cable.

5. In a conveying apparatus the combination with a head-support, a main cable along which the carriage is adapted to travel, means for raising, lowering and tensioning the main cable, such means comprising an engine, a block interposed between the main cable and the head-support and connected to the main cable, and a rope for said block operated by said engine.

6. The combination of a head-support, a running-block suspended therefrom, and a main cable detachably secured to said block.

7. The combination of a head-support, a rope-support secured thereto, a rope passing through said support, a tension device connected to said rope, a cable detachably connected to the tension device, and an engine for operating said tension device.

8. The combination of a support, a rope-support secured thereto, a rope passing through said rope-support, a cable, a detachable connection between the cable and the first-mentioned rope, and means for tensioning said connection.

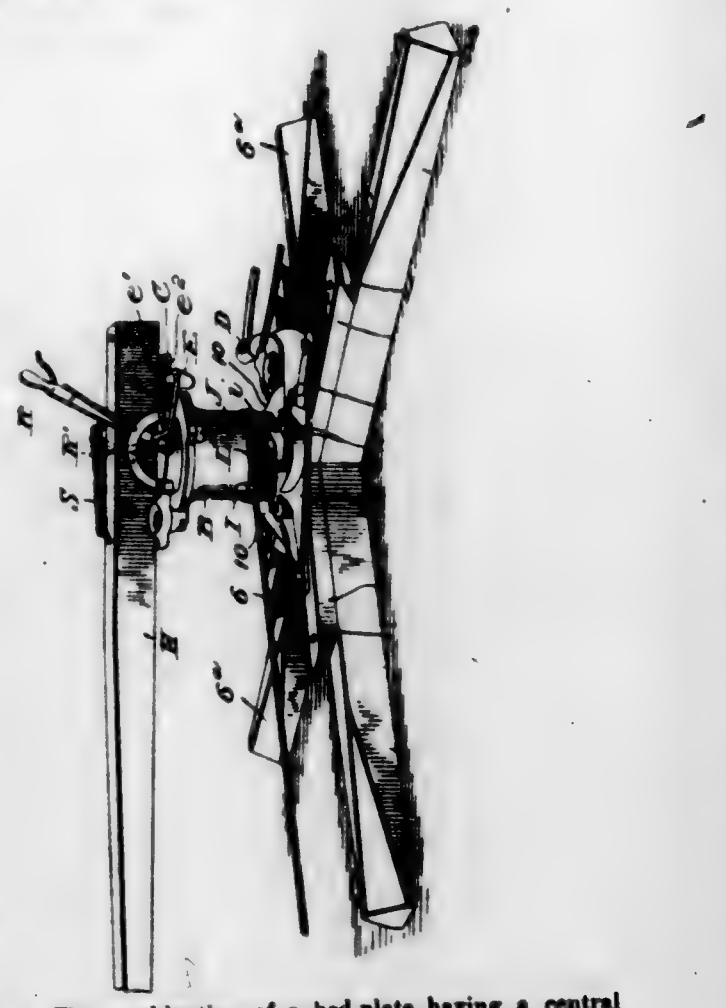
9. The combination of a support, a main cable along which the carriage is adapted to travel, and a running connection between the cable and the support.

10. The combination of a support, a main cable, a block suspended from said support, a second block connected to the cable, a running-rope connection to said block, and an engine for operating said rope.

11. The combination of a support, a main cable, a guy extending over a block secured to the support, a tension device secured to said guy and detachable at one end and detachably connected to the main cable, a tension-rope for said connection, and a reversible drum for operating said rope.

12. The combination of a support, a main cable, a tension device interposed between the main cable and the support connecting the same, a tension-rope for said device, an engine for operating said rope, and a sheave-block located between the device and the engine and through which said rope passes.

808,247. STUMP-PULLER. JOSEPH J. MILNE, Monmouth, Ill., assignor to Milne Manufacturing Company, Monmouth, Ill. Filed June 13, 1905. Serial No. 265,016.



Claim.—1. The combination of a bed-plate having a central post, a winding-drum mounted thereon, and a sweep-seat having a depending hub fitting over the upper end of the post within the top of the drum.

2. The combination of a bed-plate having a central post, a winding-drum around the post and fitting at its lower head upon the same, a sweep-seat having a depending hub fitting between the upper end of the post and the top of the drum, and a king-bolt connecting the sweep-seat and the base-plate.

3. The combination of a winding-drum having a notched flange, a sweep-seat, a dog pivoted on the seat and engageable with one of the notches, and a lever pivoted on the seat and connected to the dog and having a spring tending to throw the dog in engagement.

4. A pulling device having a base-plate and an upright winding-drum thereon, and an anchor-hook detachably secured to the base-plates and projecting up beside the drum, to balance the strain thereon.

5. A winding-drum having a ratchet at the end, and a rope-guard flange projecting between the ratchet and the body of the drum.

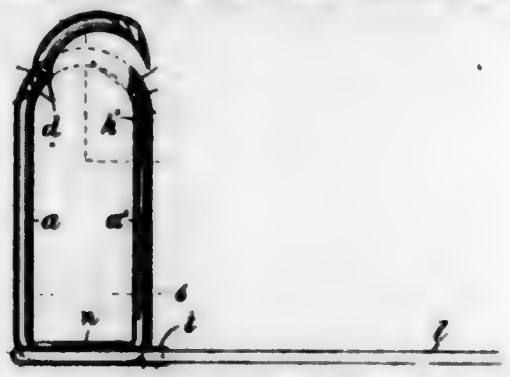
6. The combination of a notched winding-drum, a sweep-seat thereon, and a horizontally-swinging dog pivoted on the under side of the sweep-seat and having a lip which hooks over the edge thereof, the dog being engageable with one of the notches.

7. The combination of a bed-plate having a central post, a winding-drum thereon having a ratchet at the lower end, and ribs projecting upwardly from the bed-plate around the lower end of the drum to prevent the rope from getting down under the drum and coming in contact with the ratchet.

8. A stump-puller the bed-plate of which is fastened on shoes, which may be placed either crosswise or parallel to each other, said shoes having beveled ends so as to slide freely on the ground when the machine is anchored to a stump, and an anchor-hook detachably secured to the bed-plate, so that it may be removed when the machine is self-anchored.

9. The combination with a sweep-seat and drum, of means including a lever to connect or disconnect them, to throw the machine in or out of gear, and a drum-brake connected to and operated by said lever, and which when the machine is thrown out of gear may be brought in contact with the drum to retard or control its back slip when the rope is being drawn off.

808,248. **BOOK-RING WITH LOCK-JOINTS.** LUCENA M. MORDEN, Waterbury, Conn. Filed May 5, 1904. Serial No. 206,426.



Claim.—1. A book-ring having an opening-section with hinge at one end and lock-joint at the other end, the engaging surfaces of the lock-joint being made concentric with the hinge.

2. A book-ring having an opening-section with hinge at one end and lock-joint at the other end, the engaging surfaces of the lock-joint being made concentric with the hinge and formed with engaging ribs.

3. A book-ring having an opening-section with hinge at one end and lock-joint at the other end, the engaging surfaces of the lock-joint being made concentric with the hinge and formed with engaging ribs having undercut or dovetailed edges.

4. A book-ring having side portions and opening-section, one end of the opening-section being jointed to one of the side portions by a fork forming a stop to its closing movement, and the other end of the opening-section being jointed to the other portion by engaging surfaces concentric with the hinge.

5. A book-ring having side portions and an opening-section, one end of the opening-section being jointed to one of the side portions by a fork forming a stop to its closing movement, and the other end of the opening-section fitted to the other portion by a half-lap joint provided with interlocking ribs, the edges of the ribs being concentric with the hinge.

6. A book-ring having parallel side portions with integral foot portion at the bottom and opening-section at the top, a sheet-metal foot-plate folded to clasp the edge of a file-board and perforated to fit upon and embrace the foot of the ring.

7. A book-ring having parallel side portions with integral foot portion at the bottom and opening-section at the top, a sheet-metal foot-plate folded to clasp the edge of a file-board and having the perforations *m* for the passage of the side portions of the ring, and bent upon the foot portion to clamp and embrace the same.

8. A book-ring having parallel side portions with integral foot portion at the bottom and opening-section at the top, a sheet-metal foot-plate folded to clasp the edge of a file-board and having the perforations *m* for the passage of the side portions of the ring, and bent upon the foot portion to clamp and embrace the same, with the foot portion soldered to the sheet metal.

808,249. **RIB FOR UMBRELLAS.** MICHAEL G. MCGUIRE, Chicago, Ill. Filed Mar. 11, 1905. Serial No. 249,645.

Claim.—1. An umbrella-rib consisting of a plurality of sections, one of said sections being recessed and adapted to have the other section rest therein, said nestable section pivotally connected at one end in and slidably connected at its other end in said recessed section.

2. An umbrella-rib consisting of a plurality of sections, one of said sections being recessed and adapted to have the other section nest therein, said nestable section pivotally connected at one end in and slidably connected at its other end in said recessed section, and a flexible bracing medium connected with recessed section at a point intermediate the points of connection between the nestable section and the recessed section.



3. An umbrella-rib consisting of a plurality of sections, one of said sections being recessed and adapted to have the other section nest therein, said nestable section pivotally connected at one end in and slidably connected at its other end in said recessed section, and a flexible bracing medium connected exteriorly to said recessed section.

4. An umbrella-rib consisting of a plurality of sections, one of said sections of greater length than the other of said sections, said shorter section pivoted at one end to the other of said sections and having a hook provided at its other end, and a band surrounding said longer section and the hooked end of the shorter section for slidably connecting said hooked end to the longer section, said hooked end of said shorter section preventing the separation of the sections.

5. An umbrella-rib consisting of a plurality of sections, one of said sections of greater length than the other of said sections, said shorter section pivoted at one end to the other of said sections and having a hook provided at its other end, a band surrounding said longer section and the hooked end of the shorter section for slidably connecting said hooked end to the longer section, and a flexible bracing medium connected to said longer section at a point intermediate the points of connection between the nestable section and the recessed section.

6. An umbrella-rib consisting of a plurality of sections, one of said sections being longer than the other, said shorter section pivoted at one end to said longer section and having its other end provided with a hook and a shoulder, and a band surrounding said longer section and said shorter section between the hooked end and shoulder thereof for slidably connecting the hooked end of the shorter section to the longer section, said hooked end of said shorter section preventing the separation of the sections and adapted to permit of the bowing of the longer section.

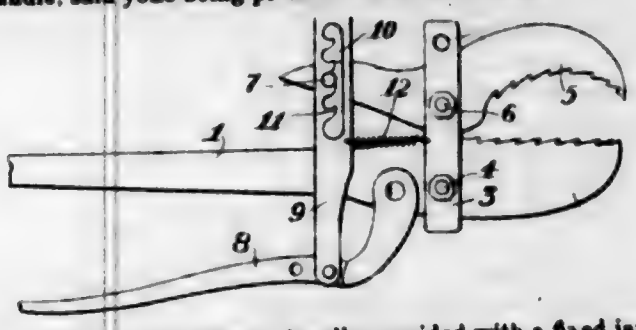
7. An umbrella-rib consisting of a plurality of sections, one of said sections being longer than the other, said shorter section pivoted at one end to said longer section and having its other end provided with a hook and a shoulder, a band surrounding said longer section and said shorter section between the hooked end and shoulder thereof for slidably connecting the hooked end of the shorter section to the longer section, and a flexible bracing medium connected to said longer section at a point intermediate the points of connection between the nestable section and said recessed section.

808,250. **WRENCH.** BENJAMAN F. NEMMOW, Anacortes, Wash., assignor of one-half to Hiram B. Andrews, Seattle, Wash. Filed Apr. 3, 1905. Serial No. 253,713.

Claim.—1. A wrench comprising a handle formed with a jaw, a movable jaw, a U-shaped yoke straddling said handle and provided with teeth, pins on said movable jaw for engagement with the teeth of said yoke, and means to swing said yoke.

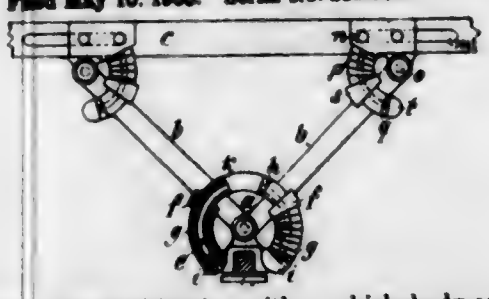
2. A wrench comprising a handle provided with a jaw, a frame secured to said jaw, a second jaw pivoted in said frame, a yoke strad-

dling said handle and being formed with teeth, pins on said pivoted jaw for engagement with said teeth, and a handle pivoted to said first handle, said yoke being pivoted to said last handle.



3. A wrench comprising a handle provided with a fixed jaw, a movable jaw having a rearwardly-extending portion, pins secured to the rearwardly-extending portion of said movable jaw, a handle pivoted to the first-named handle, a toothed means pivoted to the last-named handle and having its teeth engaging said pins, and resilient means for normally holding the teeth of said means in engagement with said pins.

808,251. **DEVICE FOR CONNECTING THE UPPER PARTS OF CARS WITH WHEEL-FRAMES.** CONSTANTIN V. VON NOLLE, Odessa, Russia. Filed May 10, 1905. Serial No. 259,807.



Claim.—1. The combination with a vehicle-body and truck or wheel frame, of an inclined lever or arm pivotally connected to said wheel-frame, and to said vehicle, springs tending to yieldingly hold said lever or arm in an inclined position and a segment-piece supporting said springs.

2. The combination with a vehicle-body and truck or wheel frame, of an inclined lever or arm pivotally connected to said wheel-frame and to said vehicle, a segment-piece on the frame, a guiding-eye connected to the lever and having sliding movement on the segment-piece and springs on the segment-piece upon which the eye rests.

808,252. **MOBILE STEP-LADDER.** JOHN S. PADON, Westplains, Mo. Filed Aug. 26, 1904. Serial No. 222,254.



Claim.—1. In a step-ladder, the combination with swinging members pivotally connected at their upper ends, one of said members having a platform, of wheels journaled on the other member, operating means for the wheels movably mounted on the platform, and extensible connections between the wheels and the operating means that permit the swinging of the members toward and from each other.

2. In a step-ladder, the combination with swinging members pivotally connected at their upper ends, of a shaft journaled on the upper end of one member and having cranks, a shaft journaled on the lower end of the other member and having cranks, wheels carried by the latter shaft, and pitmen connecting the cranks, said pitmen permitting the swinging movement of the members.

3. In a step-ladder, the combination with a ladder member having a platform, of a supporting member pivoted to the platform, a shaft journaled on the lower portion of the supporting member, wheels secured to the shaft, an operating-shaft journaled on the platform, and an extensible connection between the shafts.

4. In a step-ladder attachment, the combination with a wheel-shaft having angularly-disposed cranks, of wheels adjustably mounted on said shaft and movable toward and from each other, means for attaching the same to the lower portion of a step-ladder; an operating-shaft having angularly-disposed cranks and a handle-crank, means for attaching the same to the platform of such ladder, and extensible pitmen connecting the cranks of the operating-shaft and the wheel-shaft and comprising overlapping slidably-associated sections.

5. In a step-ladder, the combination with driving-wheels, of an operating-shaft having connections therewith for driving the wheels, and means for adjustably attaching the shaft to the platform of a step-ladder.

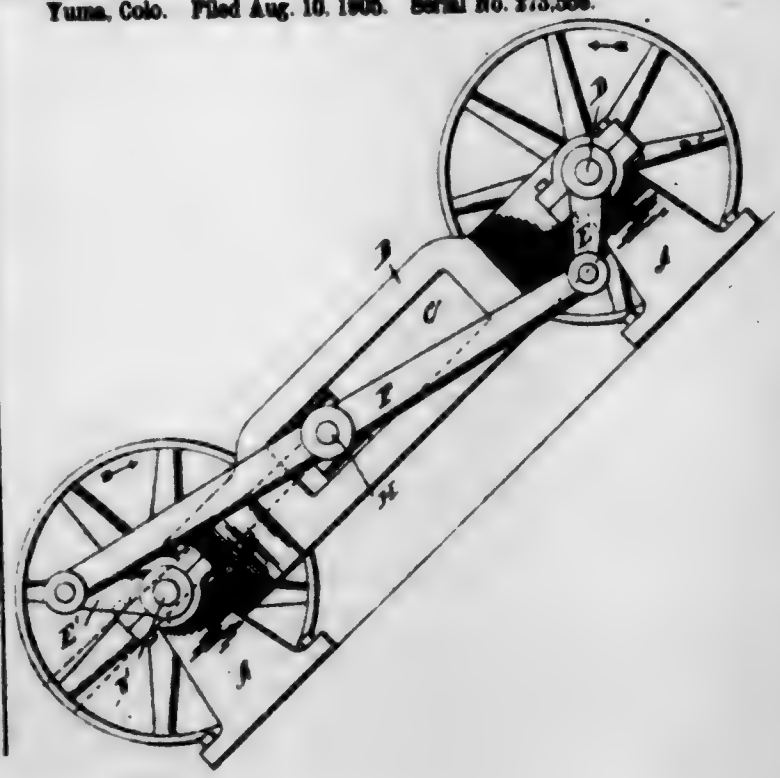
6. The combination with a step-ladder having a platform, of a wheel-shaft journaled on the lower portion of the ladder, wheels attached to the shaft, a bracket comprising a base-plate adjustably mounted on the platform and having spaced ears, an operating-shaft journaled in the ears, and connections between the operating-shaft and wheel-shaft.

7. The combination with a ladder having a platform, of a wheel-shaft journaled on the lower portion of the ladder, wheels secured to the shaft, a bracket attached to the platform and including an ear having a circular series of sockets, an operating-shaft journaled on the bracket and in the ear, connections between said operating-shaft and the wheel-shaft, and a dog carried by the operating-shaft and adapted to enter the sockets of the ear.

8. The combination with a step-ladder, of wheels for supporting the ladder, means mounted on the ladder for operating the wheels to move said ladder, a support comprising a standard extending longitudinally of the ladder, said support being longitudinally movable on the ladder and revoluble on its longitudinal axis, and an offset supporting-arm carried by the upper end of the standard and adjustable therewith.

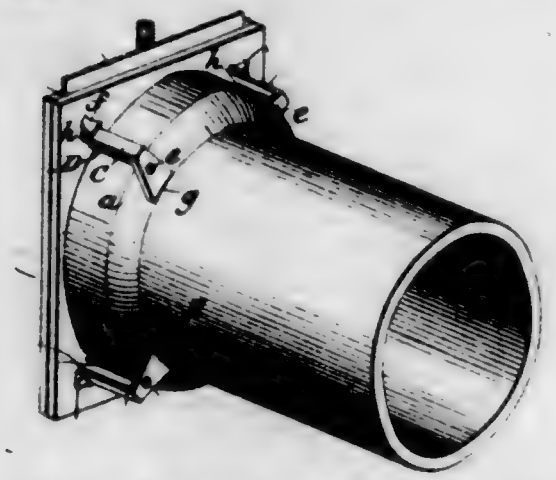
9. The combination with a step-ladder, of wheels for supporting the same, means for operating certain of the wheels and a paper-support including an arm overhanging the ladder and a roller journaled on the arm.

808,253. **MECHANICAL MOVEMENT.** EDWARD M. PATTEN, Yuma, Colo. Filed Aug. 10, 1905. Serial No. 273,556.



Claim.—In combination with a frame having a horizontally-disposed offset portion B, one face of which is provided with a recess, a sliding block mounted to have a reciprocating movement in said recess, a pin carried by said block, a bar pivotally mounted upon said pin, crank-shafts to which the ends of said bar are pivotally connected, and a pitman also pivotally connected to said pin, as set forth.

808,254. **WATER-GATE.** LEO P. PEKRUL, Denver, Colo., assignor to Clarence D. Butchart, Denver, Colo. Filed Dec. 27, 1904. Serial No. 238,416.



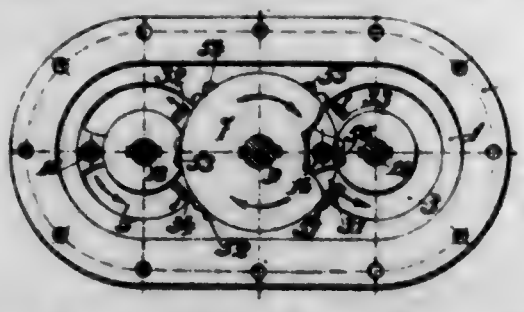
Claim.—1. The combination with a pipe having a bell, of a frame provided with stops on its rear surface, a water-gate engaging the frame and disposed in front of the pipe, and clamps grouped about the bell of the pipe and whose extremities engage the bell and the rear surface of the frame respectively, and fastening means distinct from the clamps for connecting the latter with the water-gate frame, the forward ends of the clamps engaging the stops on the frame.

2. In a water-gate and pipe connections, the combination of clamps having rectangular forward parts with convex forward ends, capable of rocking or swinging on the water-gate frame, having triangular-shaped rear parts with concave rear inner ends engaging the rear outer part of the bell or pipe, the rear ends of the clamps having large horizontal bores, and bolts smaller than the bores, equipped with nuts and extending through the clamps and frame.

3. In a water-gate and pipe connection, the combination of clamps having convex forward ends capable of swinging or rocking on the rear side of the water-gate frame, the latter being provided with stops on its rear side to prevent the clamps from slipping off the water-gate frame, the clamps having concave rear inner ends engaging the bell of the pipe, and large horizontal bores; and bolts smaller than the clamp-bores, and equipped with nuts extending through the bores of the clamps and the water-gate frame.

4. The combination with a pipe having a bell, of a frame which the bell engages in the rear, a water-gate engaging the frame in front of the pipe, clamps arranged about the bell of the pipe and whose extremities bear against the bell and the rear surface of the frame respectively, and fastening means distinct from the clamps, for connecting the latter to the frame, the extremities of the clamps being free to adjust themselves to the pipe-bell and frame respectively, as the fastening means are tightened.

808,255. **HIGH-SPEED ROTARY MOTOR.** PROSPER PHILIPPON, Paris, France. Filed Feb. 4, 1904. Serial No. 192,695.

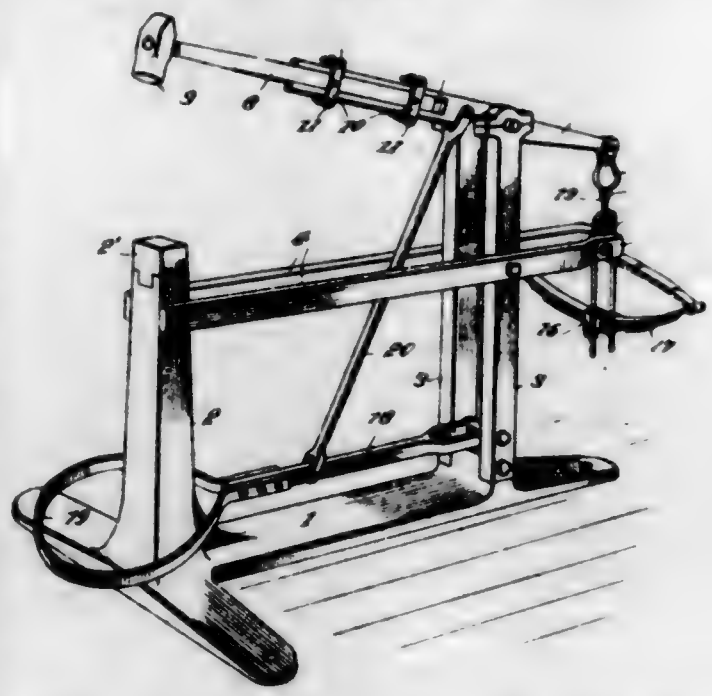


Claim.—1. In a rotary motor the combination of two casings which are connected together and are furnished with two series of passages, two disks completely closing the said passages each one being furnished with two blocks or pistons laterally adjusted so as to move in these passages and two obturators the circumference whereof enters the periphery of the fixed portion of the casings at the center of the passages, these obturators being provided with a recess for the passage of the pistons.

2. In a rotary motor the combination of two casings connected together and furnished with two series of passages in which move lateral pistons carried by a rotary disk keyed upon the motor-shaft and disposed between the two casings, distribution-chambers are made at the back of the casings, rotary valves keyed upon the motor-shaft and two obturators placed between the two sets of passages and cutting the central part of the latter, a recess made in each of the two obturators allowing of the movement of the pistons.

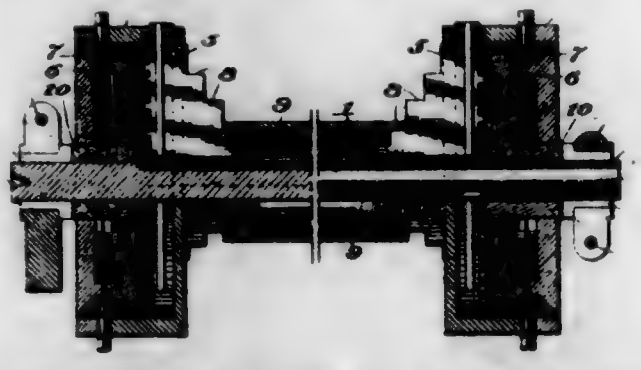
3. A rotary motor comprising two coupled casings in which are provided two series of circular passages and a circular space intersecting the said passages, disks placed between the casings and provided upon each of its opposite faces with blocks or pistons which move into the said passages, obturators placed in the spaces between the casings and provided with a recess for the passage of the pistons and distribution-chambers arranged in the casings in the axial line of the shafts upon which the disks are mounted.

808,256. **POWER-HAMMER.** FRANK P. POLASKI, Granite, Okla. Filed Mar. 13, 1905. Serial No. 249,799.



Claim.—A power-hammer, comprising a framework having an anvil thereon, a hammer to coöperate therewith and carried by a fulcrumed beam, a flexible joint carried by one end of said beam, a screw-threaded shank projecting from said joint, a U-shaped member adjustably connected to said shank, and an elliptical spring resting under or secured to a stationary part of the framework and passing between the sides of said U-shaped member, the lower portion of said spring being connected to the sides of said U-shaped member and adapted to restore the hammer to its normal position.

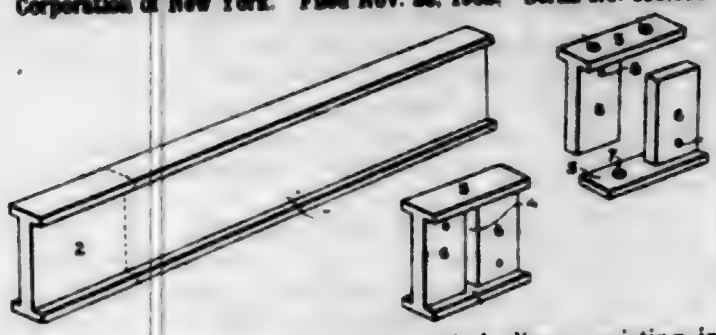
808,257. **LATHE-MANDREL.** CHARLES J. REED, Philadelphia, Pa. Filed Mar. 15, 1905. Serial No. 250,297.



Claim.—1. A mandrel, comprising a rod and chucks adjustably mounted on said rod, said chucks comprising outwardly-movable jaws having seats to receive the end of a tube and means for clamping said chucks in adjusted position, as set forth.

2. A mandrel, comprising a rod and chucks adjustably mounted on said rod, said chucks comprising outwardly-movable jaws having seats to receive the end of a tube, split sleeves, and clamping-rings on said sleeves, as set forth.

808,258. METHOD OF MAKING SWITCH-CLIPS. WALTER J. RICKEY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 28, 1902. Serial No. 133,002.

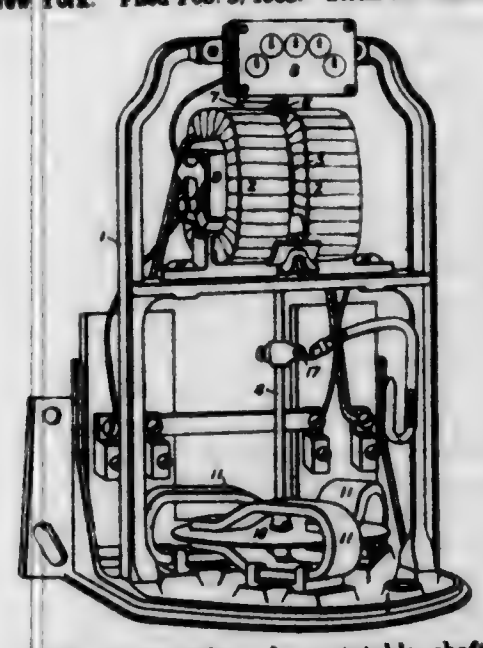


Claim.—1. The method of making switch-clips, consisting in cutting off sections of an I-bar, and cutting the web of each section transversely and longitudinally in opposite directions from the ends of said transverse cut.

2. The method of making switch-clips, consisting in cutting off sections of an I-bar, cutting the web of each section transversely near the middle of the section, and cutting it longitudinally close to the flanges in opposite directions from the ends of said transverse cut.

3. The method of making switch-clips, which consists in cutting a piece off an I-bar, cutting the web of the piece between the flanges, severing the remaining portions of the web close to the flanges, one at one end and the other at the other end, and slotting the web portion on each of the two blocks thus formed.

808,259. MEASURING INSTRUMENT. ERNST SCHATTNER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 3, 1905. Serial No. 243,980.



Claim.—1. The combination of a rotatable shaft and means associated therewith and actuated by centrifugal force for indicating the maximum speed of rotation of said shaft.

2. An electric measuring instrument having a shaft pivoted for rotation, a coil, means for rotating the shaft at a rate varying with the current in the coil, and means associated with the shaft and actuated by centrifugal force for indicating the maximum electric demand in a period of time.

3. The combination of an electric meter of the motor type, and means associated with the shaft thereof and actuated by centrifugal force for indicating the maximum electric demand in a period of time.

4. The combination of an electric meter of the motor type, a maximum-demand device rotating with the shaft thereof, indicating elements carried by said device and actuated by centrifugal force to move to a new position, and means to prevent the return of said elements to their initial position.

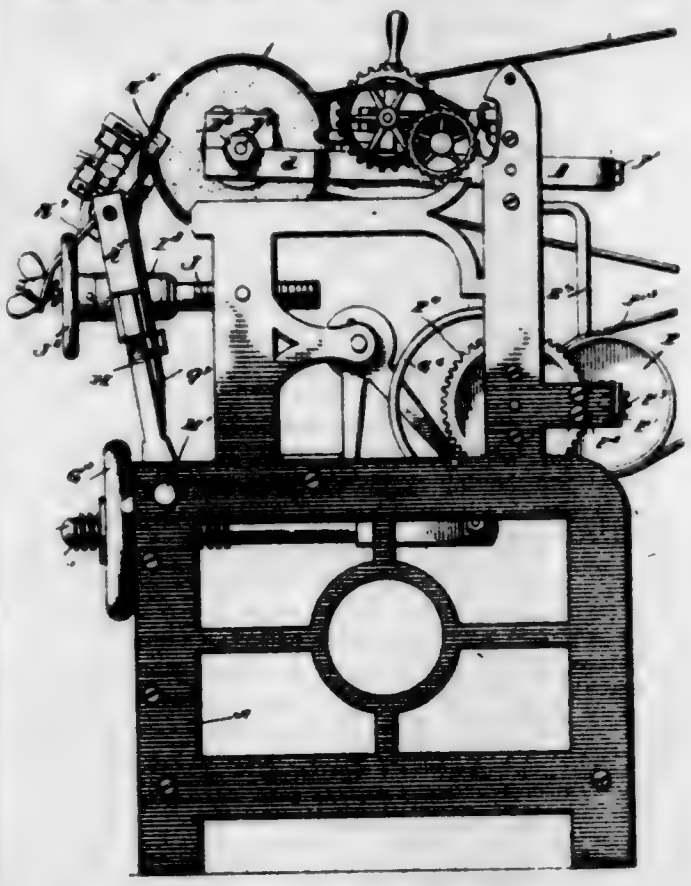
5. The combination of an electric meter of the motor type, a maximum-demand device attached to the shaft thereof, indicating elements carried thereby and actuated by centrifugal force to move to a new position, means to retard movement of said elements, and means to prevent the return of said elements to their initial position.

6. A maximum-indicating device comprising a bent tube, indicating elements therein, and means at one end of the tube for attaching it to a rotary shaft.

7. A maximum-indicating device comprising a bent tube, a plurality of balls within the tube adapted to move over the bend in the tube, means for retarding movement of the balls, and means at one end of the tube for attaching it to a rotary shaft.

8. A maximum-indicating device comprising a bent tube, indicating elements therein, means at one end of the tube for attaching it to a rotary shaft, and a hinge permitting adjustment of the tube relatively to the shaft.

808,260. KNIFE-SHARPENING MACHINE. JOSEPH A. STANBURY, Los Angeles, Cal. Filed June 6, 1905. Serial No. 263,966.



Claim.—1. An apparatus for automatically grinding beet-shredding knives, comprising a rotatable tilting grinding-disk and means for operating the same, a tilting knife-support upon which a knife is held and independent adjusting mechanism for raising and lowering the grinding-disk and tilting the knife-support, as set forth.

2. An apparatus for automatically grinding beet-shredding knives, comprising a rotatable tilting grinding-disk and means for operating the same, a tilting knife-support upon which a knife is held, independent adjusting mechanism for raising and lowering the grinding-disk and automatic means for feeding the knife, as set forth.

3. An apparatus for automatically grinding beet-shredding knives, comprising a rotatable tilting grinding-disk, means for adjusting said disk, a tilting knife-support, means for adjusting said support independent of the disk-adjusting means, and means carried by said support for feeding the knife and holding the same while it is being sharpened, as set forth.

4. In apparatus for automatically grinding beet-shredding knives, comprising an adjustable yoke, a rotatable tilting grinding-disk carried by said yoke, means for tilting said disk while in rotation, a tilting knife-support and means for operating the same, and automatic means for feeding a knife, as set forth.

5. An apparatus for automatically grinding beet-shredding knives, comprising an adjustable yoke, a grinding-disk-carrying yoke, having an axial bearing upon said adjustable yoke, a knife-support, means for adjusting the latter, mechanism for tilting said knife-support, and means for feeding a knife, as set forth.

6. An apparatus for automatically grinding beet-shredding knives, comprising an adjustable yoke, a shaft supported by said yoke, a rotatable grinding-disk-supporting yoke pivotally mounted upon said shaft, means for tilting said disk-carrying yoke, a knife-support, means for tilting the latter, adjusting means for regulating the knife-support, and means for feeding a knife upon said support, as set forth.

7. An apparatus for automatically grinding beet-shredding knives, comprising an adjustable yoke, a shaft supported thereby, a rotatable grinding-disk-supporting yoke pivotally mounted upon said shaft, a rotatable cylinder having a cam-groove therein, an arm connected with said adjustable yoke, and having a lug adapted to

travel in said cam-groove, whereby said disk may be tilted as it rotates, a tilting knife-support, means for adjusting said support, and mechanism for automatically feeding a knife upon said support, as set forth.

8. An apparatus for automatically grinding beet-shredding knives, comprising a yoke, means for tilting said yoke, a shaft carried by the latter, a rotatable grinding-disk-carrying yoke pivotally mounted at the ends of said shaft, a rotatable cylinder with a cam-groove therein, a lever having a bifurcated end, the arms of which are connected to said disk-carrying yoke, and a projection from said lever adapted to travel in said cam-groove, a tilting knife-support, means for adjusting the latter, and mechanism for feeding a knife upon said support, as set forth.

9. An apparatus for automatically grinding beet-shredding knives, comprising a yoke, means for tilting said yoke, a shaft carried by the latter, a rotatable grinding-disk-carrying yoke pivotally mounted at the ends of said shaft, a rotatable cylinder with a cam-groove therein, a lever having a bifurcated end, the arms of which are connected to said disk-carrying yoke, and a projection from said lever adapted to travel in said cam-groove, a tilting knife-support, means for adjusting the latter, a rock-shaft mounted upon the knife-support, a pawl carried by said rock-shaft and adapted to engage a knife to feed the same forward, as set forth.

10. An apparatus for automatically grinding beet-shredding knives, comprising a yoke, means for tilting said yoke, a shaft carried by the latter, a rotatable grinding-disk-carrying yoke pivotally mounted at the ends of said shaft, a rotatable cylinder with a cam-groove therein, a lever having a bifurcated end, the arms of which are connected to said disk-carrying yoke, and a projection from said lever adapted to travel in said cam-groove, a tilting knife-support, means for adjusting the latter, a rock-shaft mounted upon the knife-support, a pawl carried by said rock-shaft and adapted to engage a knife to feed the same forward, a stop adapted to engage one of the corrugations of the knife to hold the same while the latter is being sharpened, and means for releasing said stop and actuating said feeding-pawl, as set forth.

11. An apparatus for automatically grinding beet-shredding knives, comprising a yoke, means for tilting said yoke, a shaft carried by the latter, a rotatable grinding-disk-carrying yoke pivotally mounted at the ends of said shaft, a rotatable cylinder with a cam-groove therein, a lever having a bifurcated end, the arms of which are connected to said disk-carrying yoke, and a projection from said lever adapted to travel in said cam-groove, a tilting knife-support, means for adjusting the latter, a rock-shaft mounted upon said support, a pawl carried by said rock-shaft and adapted to feed the knife forward as the shaft is rocked, an arm keyed to said rock-shaft, means for rocking said arm, a pivotal stop engaging one of the corrugations of a knife, and means for releasing said stop as the shaft is rocked, as set forth.

12. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for moving said support toward the grinding-disk, a rock-shaft carried by said support, a pawl fixed to said rock-shaft and adapted to engage a corrugation of a knife upon the support to feed the same forward, an arm fixed to said rock-shaft, a spring-pressed stop adapted to engage a corrugation upon the inner face of a knife to hold the same while it is being ground, a pin carried by said arm, a stop-releasing arm adapted to be actuated by said pin, whereby said stop may be withdrawn from the knife, and means for rocking said shaft, as set forth.

13. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for moving said support toward the grinding-disk, a rock-shaft carried by said support, a pawl fixed to said rock-shaft and adapted to engage a corrugation of a knife upon the support to feed the same forward, an arm fixed to said rock-shaft, a spring-pressed stop adapted to engage a corrugation upon the inner face of a knife to hold the same while it is being ground, a projection upon the arm of said stop, a pivotally-mounted plate adapted to contact with said projection upon the arm of the stop to throw the stop away from the knife, a pin carried by the arm fixed to the rock-shaft and adapted to contact with the inclined portion of said plate, and means for tilting said plate, as set forth.

14. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for moving said support toward the grinding-disk, a rock-shaft carried by said support, a pawl fixed to said rock-shaft and adapted to engage a corrugation of a knife upon the support to feed the same forward, an arm fixed to said rock-shaft, a spring-pressed stop adapted to engage a corrugation upon the inner face of a knife to hold the same while it is being ground, a projection upon the arm of said stop, a pivotally-mounted plate adapted to contact with said projection upon the arm of the stop to throw the stop away from the knife, a pin carried by the arm fixed to the rock-shaft and adapted to contact with the inclined portion of said plate, said plate having an arm and means for tilting said arm whereby the knife will be fed forward and said stop actuated, as set forth.

15. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for moving said support toward the grinding-disk, a rock-shaft carried by said support, a pawl fixed to said rock-shaft and adapted to engage a corrugation of a knife upon the support to feed the same forward, an arm fixed to said rock-shaft, a stop, the shank portion of which is pivotally mounted upon the frame of the apparatus, a pin projecting from the arm carrying said stop, a plate pivotally mounted upon the shank portion of said stop, and having a recess in one face thereof, in which said pin is adapted to seat, a projecting arm of said stop having a portion thereof bent to form an inclined surface, a pin upon the arm which is fastened to said rock-shaft, and adapted to incline with said inclined portion of the plate, a tilting lever, means for operating the same, and connections between said lever and arm of the rock-shaft, whereby a knife-feeding pawl may be actuated simultaneously with the releasing of said stop, as set forth.

16. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for moving said support toward the grinding-disk, a knife-feeding mechanism, a pivotal lever for actuating said feeding mechanism, a pivotal bar for preventing said lever from tilting, and means for raising said bar out of the path of the lever, as set forth.

17. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for moving said support toward the grinding-disk, a rock-shaft, a knife-feeding pawl actuated thereby, a crank-arm secured to said rock-shaft, a rotatable cylinder, a projection thereon, a tilting lever actuated by said projection, a rod pivotally connected to said crank-arm, and lever connections between said rod and said pivotal lever which is actuated by said projection of said cylinder, as set forth.

18. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for moving said support toward the grinding-disk, a rock-shaft, a knife-feeding pawl actuated thereby, a crank-arm secured to said rock-shaft, a rotatable cylinder, a projection thereon, a tilting lever actuated by said projection, a rod pivotally connected to said crank-arm, lever connections between said rod and said pivotal lever, which is actuated by said projection of said cylinder, a pivotal bar having a shoulder on one face thereof, adapted to limit the throw of said pivotal lever, and means for raising said bar out of the path of the lever, as set forth.

19. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for feeding a knife upon said support, a rotatable cam, a spring-actuated rock-shaft, a disk fixed to said shaft and having arms projecting therefrom, a spring-pressed lever secured to said knife-support, and means connected to said spring-pressed lever and actuated by an arm of said disk as the other of said arms is actuated by said cam, whereby the knife-support may be tilted, as set forth.

20. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for feeding a knife upon said support, a rotatable cam, a spring-actuated rock-shaft, a disk fixed to said shaft and having arms projecting therefrom, a spring-pressed lever secured to said knife-support, a bar pivoted to said lever and having a shoulder upon the face thereof adapted to be engaged by one of said arms, and the other arm adapted to be actuated by said cam member, and means for raising said bar into the path of the arm which actuates it, as set forth.

21. In an apparatus for grinding beet-shredding knives, the combination with a rotatable tilting grinding-disk, means for raising and lowering the same, a tilting knife-support, means for feeding a knife upon said support, a rotatable cam, a spring-actuated rock-shaft, a disk fixed to said shaft and having arms projecting therefrom, a spring-pressed lever secured to said knife-support, a bar pivoted to said lever and having a shoulder upon the face thereof adapt-

ed to be engaged by one of said arms, and the other arm adapted to be actuated by said cam member, a spring-pressed finger, a pin carried thereby and working in a slot in the under side of said bar, and means for raising the bar into the path of said arm, as set forth.

22. In combination with an apparatus for sharpening beet-shredding knives, a yoke pivotally mounted in the frame of the apparatus, a rotatable sharpening-disk carried by said yoke, means for tilting said disk, a knife-support and means for tilting the same, a swiveled thimble mounted in the frame of the apparatus, a wheel fixed to said thimble, a threaded shaft passing through said thimble and engaging the threads therein, and a bar pivotally connected to said shaft and fastened to said yoke, as set forth.

23. The combination in an apparatus for sharpening a beet-shredding knife, comprising a rotatable and tilting grinding-disk, means for raising and lowering said disk, a pivotal rack, a knife-support mounted thereon, a shaft supported in the frame of the apparatus and having a threaded aperture therein, a threaded screw swiveled upon said rack and having connection with the threaded aperture of said shaft, and a hand-wheel secured to said screw, as set forth.

24. The combination in an apparatus for sharpening a beet-shredding knife, comprising a rotatable and tilting grinding-disk, means for raising and lowering said disk, a pivotal rack, a tilting knife-support mounted thereon, a pivotal spring-pressed lever secured to said knife-support, a screw fastened to said lever, an arm projecting from said knife-support, a spring-bar upon said screw, and bearing yieldingly against said arm, a thumb-nut mounted upon said screw, means for tilting said spring-pressed lever and means for adjusting said rack, as set forth.

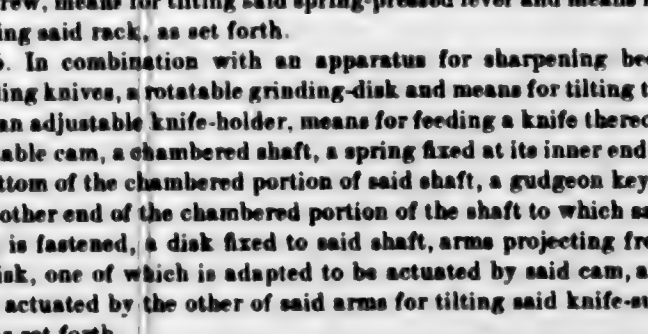
25. In combination with an apparatus for sharpening beet-shredding knives, a rotatable grinding-disk and means for tilting the same, an adjustable knife-holder, means for feeding a knife thereon, a rotatable cam, a chambered shaft, a spring fixed at its inner end to the bottom of the chambered portion of said shaft, a gudgeon keyed in the other end of the chambered portion of the shaft to which said spring is fastened, a disk fixed to said shaft, arms projecting from said disk, one of which is adapted to be actuated by said cam, and means actuated by the other of said arms for tilting said knife-support, as set forth.

26. In combinaton with a tilting yoke, a rotatable disk mounted thereon, means for tilting said yoke, rack-teeth upon said yoke, a pinion-wheel in mesh with said teeth, a worm-wheel rotating with said pinion, a worm-shaft, a yoke carrying said worm-shaft, a handle upon said worm-carrying yoke, a pinion-wheel rotating with said worm-shaft, a ratchet-wheel in mesh with said gear-wheel, a resilient stop engaging the teeth of said ratchet-wheel, a pivotal pawl against which the teeth of said ratchet-wheel are adapted to contact as the yoke carrying the grinding-disk tilts, as set forth.

27. In combination with a tilting yoke, a rotatable disk mounted thereon, means for tilting said yoke, rack-teeth upon said yoke, a pinion-wheel in mesh with said teeth, a worm-wheel rotating with said pinion, a worm-shaft, a yoke carrying said worm-shaft, a handle upon said worm-carrying yoke, a pinion-wheel rotating with said worm-shaft, a ratchet-wheel in mesh with said gear-wheel, a resilient stop engaging the teeth of said ratchet-wheel, a pivotal pawl against which the teeth of said ratchet-wheel are adapted to contact as the yoke carrying the grinding-disk tilts, and means for holding said members as the yoke carrying the same rocks, as set forth.

28. An apparatus for automatically grinding beet-shredding knives, comprising a tilting grinding-disk, means for adjusting the same, a knife-support and mechanism for adjusting the same, means for feeding the knife forward, and mechanism for holding the knife in true relation to the grinding-disk, as set forth.

808,261. **LUMBER-WAGON.** DEWITT W. STRICKLAND, Magnolia, Miss. Filed Feb. 23, 1905. Serial No. 246,962.



Claim.—1. In a lumber-wagon, the combination of double trucks, each of said trucks comprising front and rear axles, ground-wheels at opposite ends of each axle, separate spaced longitudinal beams pivotally connecting the axles of each truck, a transverse bolster-beam pivotally connected with the longitudinal beams of each truck between the ends of the latter, and a bolster mounted upon the bolster-beam.

2. In a lumber-wagon, the combination of double trucks, each of said trucks comprising front and rear axles, spaced longitudinal beams connecting the axles of each truck, a transverse bolster-beam connected with the longitudinal beams of each truck at a point between the ends of the latter, and a bolster pivotally mounted upon the bolster-beams with its ends bearing upon the longitudinal beams.

3. In a lumber-wagon, the combination of connected double trucks, each of said trucks comprising front and rear axles, independent spaced longitudinal beams loosely or flexibly connecting the front and rear axles of each truck, a transverse bolster-supporting beam pivotally connecting the longitudinal beams of each truck, and a bolster carried by each bolster-supporting beam.

4. In a lumber-wagon, the combination of connected double trucks, each of said trucks comprising front and rear axles, spaced longitudinal beams connecting opposite ends of the respective axles of each truck, boxings carried by the ends of the longitudinal beams and receiving the axles of the trucks, said boxings admitting of lateral play of the axles of each truck relative to each other, bolster-supporting beams, and bolsters mounted upon the bolster-supporting beams.

5. In a lumber-wagon, the combination of connected double trucks, each of said trucks comprising front and rear axles, spaced longitudinal beams connecting opposite ends of the respective axles of each truck, boxings carried by the ends of the longitudinal beams and receiving the axles of the trucks, said boxings admitting of lateral and vertical play of the axles of each truck relative to each other, bolster-supporting beams connecting the longitudinal beams of each truck, and bolsters mounted upon the bolster-supporting beams.

6. In a lumber-wagon, the combination of connected double trucks, each of said trucks comprising front and rear axles, longitudinal supporting-beams connecting the axles of each truck, each of said longitudinal beams comprising upper and lower plates, connecting means between the plates of each longitudinal beam, a transverse bolster-beam having its ends mounted between the upper and lower plates of the longitudinal beams of each truck, and bolsters carried by the bolster-supporting beams of each truck.

7. In a lumber-wagon, the combination of connected double trucks, each of said trucks comprising front and rear axles, longitudinal supporting-beams connecting the axles of each truck, each of said longitudinal beams comprising upper and lower plates, connecting means between the plates of each longitudinal beam, a transverse bolster-beam having its ends mounted between the upper and lower plates of the longitudinal beams of each truck, bolsters carried by the bolster-supporting beams of each truck, and boxings clamped between the upper and lower plates of the longitudinal beams and receiving the axles of each truck.

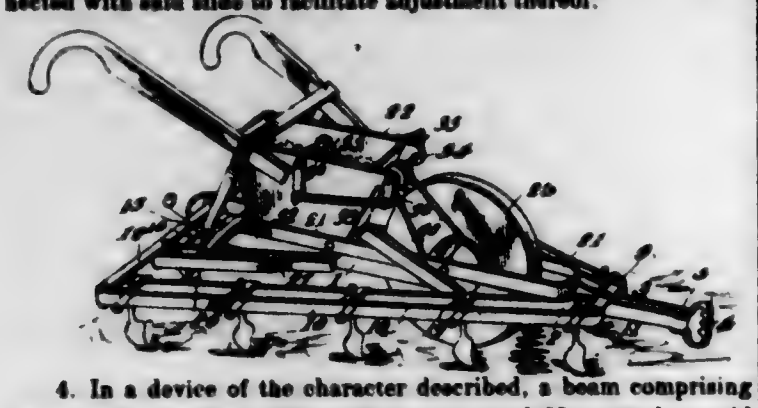
8. In a lumber-wagon, the combination of pivotally-connected double-trucks, each of said trucks comprising front and rear axles, longitudinal supporting-beams connecting opposite ends of the axles of each truck, said longitudinal beams comprising superposed plates in spaced relation, boxings clamped between the plates of the longitudinal beams at opposite ends of said beams and receiving the axles with which said beams are connected, transverse bolster-supporting beams having the ends thereof received between the plates of the longitudinal beams of each truck, means for securing the bolster-beams to the longitudinal beams, and bolsters carried by the bolster-supporting beams aforesaid.

808,262. **FERTILIZER-DISTRIBUTER AND SEED-PLANTER.** DE WITT W. STRICKLAND, Magnolia, Miss. Filed May 19, 1905. Serial No. 261,245.

Claim.—1. In combination, a beam comprising transversely-spaced members, and a distributer attachment for either seed or fertilizer, the same comprising a frame, a hopper, a ground-wheel, agitating mechanism actuated by means of the ground-wheel, and connecting means between the attachment and beam at the hopper end of the frame leaving the end of the frame provided with the ground-wheel free to move vertically.

2. In combination, a beam comprising transversely-spaced members, a frame adapted to rest upon the beam, a hopper at one end of the frame provided with a pendent portion to snugly fit between the spaced members of the beam, a ground-wheel journaled to the opposite end of the frame and operating in the space formed between the members of said beam, agitating mechanism, and connecting means between the ground-wheel and agitating mechanism.

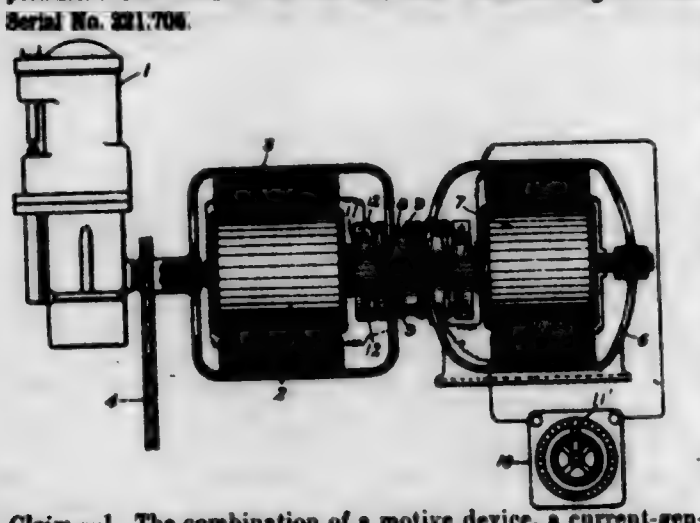
3. In combination, a hopper provided in its bottom with a discharge-opening, a slide for regulating the effective size of said opening and provided in opposite ends with inclined slots, pins passed through said inclined slots and serving to connect the slide to the bottom of the hopper and direct it in its movements, and a stem connected with said slide to facilitate adjustment thereof.



4. In a device of the character described, a beam comprising transversely-spaced members, a transverse rod 25 secured to said members, a frame adapted to rest upon the beam, and a hopper carried by said frame at the rear end thereof and provided with a hook adapted to engage said rod to form a connection between the rear end of the frame and the beam to admit of the front end of said frame having a limited vertical play.

5. In a device of the character described, a beam comprising transversely-spaced members, a transverse rod 25 connecting the members near the rear thereof, a frame adapted to rest upon the beam and having its rear portion extending between the members thereof to prevent relative lateral displacement of said frame, a wheel arranged in the front end of said frame, a hopper carried by the rear end of the frame, and a hook designed to engage said rod whereby to form connection between the rear end of the frame and the beam to admit of the front end of said frame having a limited vertical play.

808,263. POWER-TRANSMITTING MECHANISM. ELIHU THOMSON, Swampscott, Mass., assignor to General Electric Company, a Corporation of New York. Filed Nov. 26, 1903. Renewed Aug. 22, 1904. Serial No. 221,706.



Claim.—1. The combination of a motive device, a current-generating device having relatively movable members, connections between one of said members and said motive device, means for transmitting mechanical power through the medium of the reactive force exerted between said members when current is being generated thereby, and means for transforming a portion of the electrical energy of said current into mechanical energy, and applying it to the connections of the motive device.

2. The combination of a motive device, a dynamo-electric generator having two movable members, one driven by said motive device and the other geared or otherwise mechanically connected so as to transmit motion, an electric motor supplied with energy from said generator and mechanically connected so as to combine its torque with that of the motive device, and means for varying the torque of said electric motor.

3. The combination of a prime mover, a dynamo-electric generator having one of its relatively movable members driven by said prime mover, gearing or other mechanical connections for transmitting mechanical motion from the other member of said generator, and means for utilising electrical energy developed by relative motion between the members of said generator to assist said prime mover in driving said generater.

4. The combination of a prime mover, a dynamo-electric generater having one of its relatively movable members geared thereto, a mechanical power-transmitting device geared or otherwise connected to the other member, an electric motor connected so as to apply its torque to the prime mover, and connections for supplying said motor with electrical energy developed by said generator.

5. The combination of a motive device, a direct-current generator having two movable members, a power-transmitting connection between one of said members and said motive device, mechanical power-transmitting means associated with the other member of said generator, a direct-current motor having one of its members fixed and the other movable with the driven member of said generator, and means for regulating the torque of said motor.

6. The combination of a motive device, a direct-current generator having two movable members, a power-transmitting connection between one of said members and said motive device, mechanical power-transmitting means associated with the other member of said generator, a direct-current motor having one of its members fixed and the other movable with the driven member of said generator, and means for varying the field strength of said motor.

7. The combination of a motive device, a direct-current generator having two movable members, a power-transmitting connection between one of said members and said motive device, a mechanical power-transmitting device associated with the other member of said generator, a direct-current motor having one of its members fixed and the other movable with one of the members of said generator, and means for short-circuiting said generator.

8. The combination of a motive device, a dynamo-electric generator having two movable members, one driven by said motive device and the other mechanically connected to transmit motion, an electric motor mechanically connected to add its torque to that of the motive device, the windings of said motor being connected in series with each other and with the windings of the generator, and means for varying the effective turns of the field-winding of the motor.

9. The combination of a motive device, a dynamo-electric generator having two movable members, one driven by said motive device and the other mechanically connected to transmit motion, an electric motor mechanically connected to add its torque to that of the motive device, a circuit comprising both windings of both generator and motor in series, and means for controlling the amount of current-flow in said circuit.

10. The combination of a motive device, a dynamo-electric generator having two movable members, one driven by said motive device and the other mechanically connected to transmit motion, an electric motor mechanically connected to add its torque to that of the motive device, the windings of said motor being connected in series with each other and with the windings of the generator, and means for varying the effective turns of the field-winding of one or both machines.

11. In combination, a prime mover, a driven member, and transmission mechanism adapted to transmit the power of the prime mover to the driven member comprising two dynamo-electric machines, one of said machines having both members movable, and means for varying at will the relative torque per ampere of said machines to vary the speed and torque of the driven member relatively to the prime mover.

12. In combination, a prime mover, a driven member, and transmission mechanism adapted to transmit the power of the prime mover to the driven member comprising two dynamo-electric machines, one of said machines having both members movable, and means for varying at will over wide ranges the relative field strengths of said machines whereby the relative torque per ampere of said machines is varied over wide ranges

13. In combination, a prime mover, a driven member, and transmission mechanism adapted to transmit the power of the prime mover to the driven member with different relations of speed and torque comprising two series-wound dynamo-electric machines connected in series, and means for varying the relative torque per ampere of said machines.

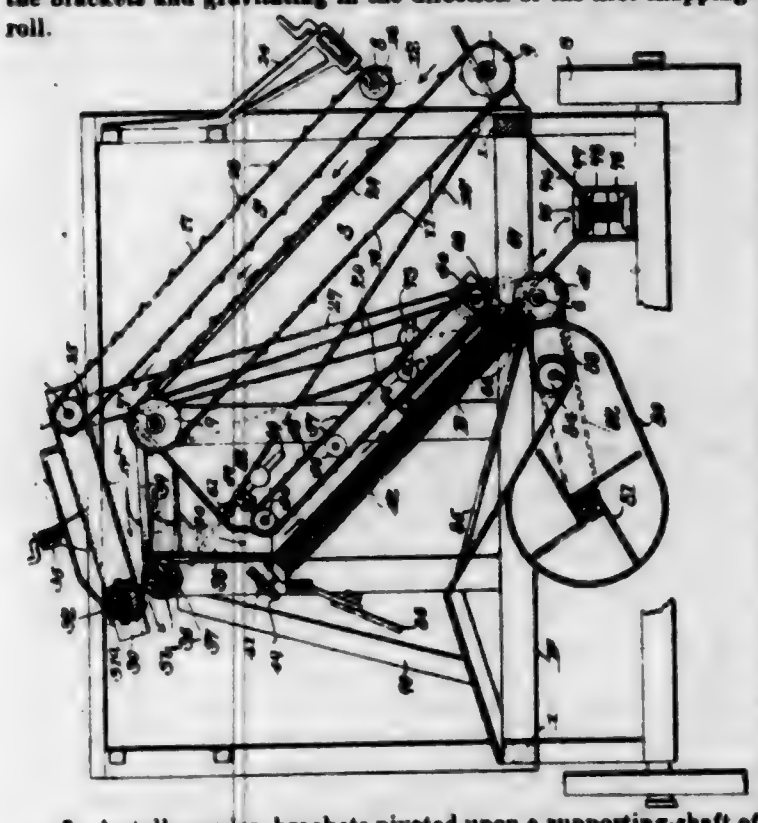
14. In combination, a prime mover, a driven member, and transmission mechanism adapted to transmit the power of the prime mover to the driven member with different relations of speed and torque comprising two series-wound dynamo-electric machines connected in series and means for varying the relative field strengths of said machines.

808,264. CORN-HUSKING MACHINE. LEONARD G. VANDEGRIFT, Jr., McDonough, Del. Filed June 20, 1905. Serial No. 266,185.

Claim.—1. A stalk-carrier, brackets pivoted upon a supporting-shaft of said carrier, a snapping-roll supported for rotation in said brackets, a coöperating snapping-roll supported in relatively stationary bearings, and bridge-bars extending from the latter snapping-roll in the direction of the carrier.

2. A stalk-carrier, brackets pivoted upon a supporting-shaft of said carrier, a snapping-roll supported for rotation beneath said

brackets, bridge-bars extending from said snapping-roll in the direction of the carrier and a snapping-roll supported for rotation in the brackets and gravitating in the direction of the first snapping-roll.



3. A stalk-carrier, brackets pivoted upon a supporting-shaft of said carrier, a snapping-roll supported for rotation beneath said brackets, a snapping-roll supported for rotation in said brackets, means for forcing said brackets in the direction of the snapping-roll beneath them, and bridge-bars extending from the lower snapping-roll in the direction of the carrier.

4. A stalk-carrier, brackets pivoted upon a supporting-shaft of said carrier, a snapping-roll supported for rotation beneath said brackets, bridge-bars extending between said snapping-roll and the carrier, a snapping-roll supported for rotation in the brackets, and resilient means for forcing said brackets in the direction of the snapping-roll beneath them.

5. A stalk-carrier, brackets pivoted upon a supporting-shaft of said carrier, a snapping-roll supported for rotation beneath said brackets, bridge-bars extending between said snapping-roll and the carrier, a snapping-roll supported for rotation in the brackets, resilient means for forcing said brackets in the direction of the snapping-roll beneath them, and means for regulating the tension of said resilient means.

6. A pair of stalk-carriers each including a plurality of endless movable elements, said carriers being spaced apart vertically and adapted to coöperate upon stalks passing therebetween; a snapping-roll supported for rotation, bridge-bars interposed between said snapping-roll and the delivery end of the lower carrier, brackets supported pivotally upon the shaft at the delivery end of the upper carrier, and a snapping-roll supported for rotation in said brackets and gravitating in the direction of the first snapping-roll.

7. A pair of coöperating stalk-carriers, a pair of coöperating snapping-rolls spaced from said carriers, bridge-bars for guiding the stalks from the carriers to the rolls, and hoppers disposed beneath the bridge-bars.

8. A pair of coöperating stalk-carriers, a pair of snapping-rolls spaced from said carriers, resilient supporting means for the upper roll, endless elements included in the carriers and extended to drive the snapping-rolls, and bridge-bars for supporting the stalks in transit from the carriers to the rolls.

9. Stalk-carrying means, a pair of snapping-rolls spaced from the delivery end of said stalk-carrying means, means for supporting the stalks in transit from the carrying means to the snapping-rolls, and hoppers disposed beneath the supporting means.

10. Stalk-carrying means, a pair of snapping-rolls spaced from the delivery end of said stalk-carrying means, means for supporting the stalks in transit from the carrying means to the snapping-rolls, ear-receiving hoppers beneath the stalk-supporting means, and ear-engaging tilting bars in said hoppers.

11. An ear-receiving hopper, bridge-bars extending across said hopper, and a cross-bar within said hopper below the bridge-bars to engage and tilt ears dropping into said hopper.

12. A pair of coöperating husking-rolls, a casing suspended above said rolls, an endless feeder in said casing, and adjustable means for independently forcing the ends of the latter with varying degrees of pressure in the direction of the rolls.

13. A pair of husking-rolls, a feeder, a feeder-containing casing above said rolls, and supporting means for said casing including a yoke, a weighted lever, and an arm connecting said lever pivotally with the yoke.

14. A pair of husking-rolls, a casing above said rolls, an endless feeder in said casing, a yoke pivoted upon the shaft of the endless feeder at one end of the casing, a weighted supporting-lever, an arm upon said lever connected pivotally with the yoke, supporting means for the other end of the feeder-casing, and means for driving the feeder.

15. Pairs of husking-rolls, a main driven shaft, means for transmitting motion from said shaft to a husking-roll of each pair, feeder-casings supported above the pairs of husking-rolls, endless feeders in said casings, a shaft supporting the lower ends of the feeders in the several casings, a hub having universal connection with said shaft, toggles connecting said hub with the main driven shaft, spur-wheels upon the latter and upon the feeder-carrying shaft, and an intermediate pinion supported for rotation upon the pins connecting the toggle-links and meshing with the aforesaid spur-wheels.

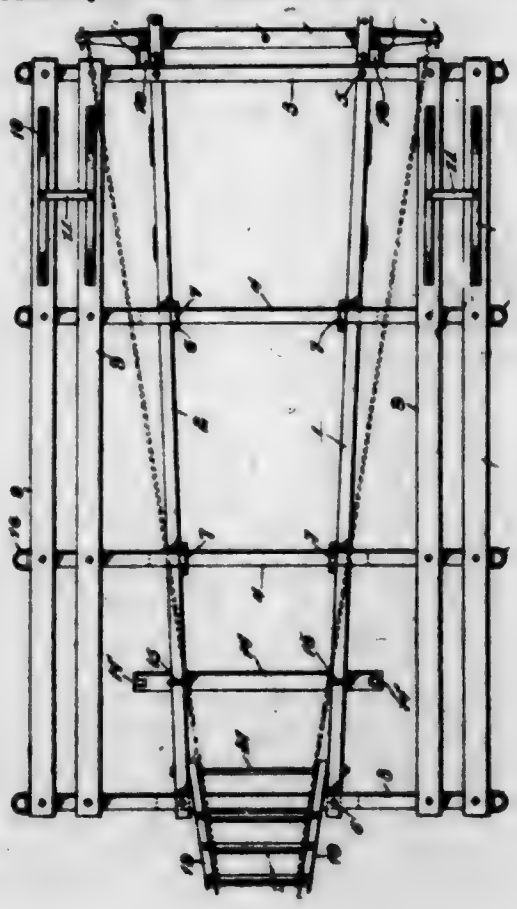
16. Pairs of husking-rolls, feeder-casings above said husking-rolls, independent means for adjustably supporting the upper ends of said feeder-casings, endless feeders in the casings, a shaft extending through the lower ends of the feeder-casings and supporting the lower ends of the feeders, a main driving-shaft, toggle connection between the latter and the feeder-driving shaft including a hub having universal connection with the latter shaft, a weighted bell-crank connected movably with one of the toggle-links, and means carried by said toggle-links for transmitting motion from the main driven shaft to the feeder-shaft.

17. The combination of husking-rolls, a grate supported beneath said rolls, means for directing a current of air between the lower ends of the bars composing the grate and rearwardly beneath the rolls, and an adjustable wind-board beneath the rear ends of said rolls.

18. A pair of husking-rolls, an inclined grate supported beneath the same, a fan-casing beneath said grate and discharging beneath the front ends of the husking-rolls, a trough formed in the upper portion of the discharge-spout of the fan-casing, and a spiral conveyer in said trough.

19. A pair of husking-rolls, a grate supported beneath the same, means for discharging a current of air through the lower portion of said grate beneath the front ends of the husking-rolls and in a rearward direction between the rolls, a grain-trough supported beneath the grate, and a spiral conveyer in said trough.

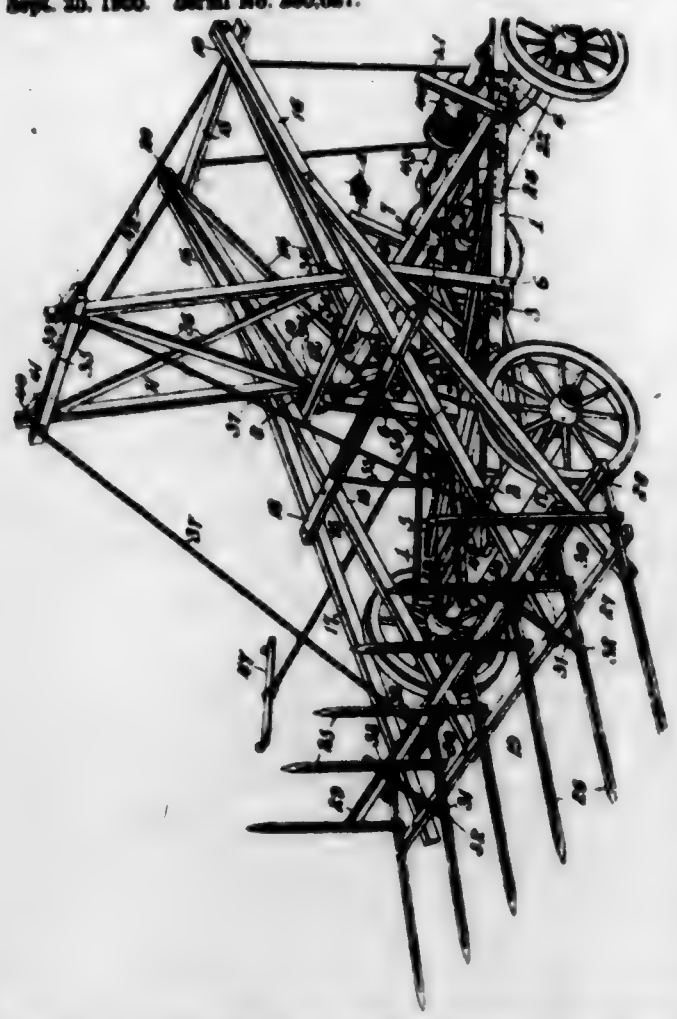
808,265. RACK FOR HAY-WAGONS. JOSEPH VOGEL, Maxville, Mo. Filed July 24, 1905. Serial No. 271,061.



Claim.—1. A rack for hay-wagons and the like comprising longitudinally-extending main beams, transversely-extending beams connecting the same, means secured to the main beams for detachably engaging the bolsters of a vehicle, a pivoted standard connected to one end of the main beams, a rotatable device connected to the rear ends of the main beams, said device having tapered ends and rope-engaging means at the extremities of the tapered portions.

2. A rack for hay-wagons and the like comprising longitudinally-extending main beams, transversely-extending top, and bottom beams fastened to the main beams, a pair of longitudinally-extending slats secured upon the ends of the top beams, a wheel-guard mounted upon each pair of slats, bolster-engaging devices secured to and depending from the main beams, a standard pivoted to the main beams at one end, a rotatable device mounted upon the beams at the other end, and having tapered extremities, and rope-engaging devices at the small ends of said extremities.

808,266. HAY-STACKER. JULIUS B. WILL, Bethel, Mo. Filed Sept. 25, 1905. Serial No. 280,087.



Claim.—1. In a device of the class described, the combination of an oscillatory fork-carrying frame, hoisting mechanism, and means for fulcruming the fork-carrying frame at an intermediate point during a portion of its oscillation and for changing the fulcrum or pivotal point to one end of the frame to increase the throw or movement thereof.

2. In a device of the class described, the combination of a fork, an oscillatory fork-carrying frame, and means for changing the fulcrum or pivotal point thereof to increase the length of the radius of the arc through which the fork swings during a portion of the movement thereof.

3. In a device of the class described, the combination of a main frame, a swinging connecting-frame pivotally mounted thereon, a fork-carrying frame pivotally connected with the swinging frame beyond the pivotal point thereof, and means for swinging the fork-carrying frame on the pivot of the swinging frame during a portion of its movement and for oscillating it independently of the movement of the swinging frame during the completion of its movement.

4. In a device of the class described, the combination of a main frame, a swinging connecting-frame pivotally mounted at its inner end on the main frame, an oscillatory fork-carrying frame pivotally connected with the swinging frame at the outer end thereof, said swinging frame being provided with means for supporting the fork-carrying frame during a portion of its movement, and means for oscillating the fork-carrying frame independently of the movement of the swinging frame while the former is completing its movement.

5. In a device of the class described, the combination of a main frame, a swinging connecting-frame pivotally mounted on the main frame, an oscillatory fork-carrying frame pivotally connected with the swinging frame beyond the pivotal point thereof, said swinging frame being provided with means for supporting the fork-carrying frame during a portion of the movement of the latter, a lifting-frame connected with the fork-carrying frame, and means for oscillating the lifting-frame.

6. In a device of the class described, the combination of a main frame, a swinging connecting-frame pivotally mounted on the main frame, an oscillatory fork-carrying frame pivoted to the swinging frame beyond the pivotal point thereof, said swinging frame being provided adjacent to its pivotal joint with means for supporting the fork-carrying frame, and means for swinging the connecting-frame and the fork-carrying frame together during a portion of the movement of the latter and for swinging the fork-carrying frame independently of the movement of the connecting-frame while the said fork-carrying frame is completing its movement.

7. In a device of the class described, the combination of a main frame, a swinging connecting-frame mounted on the main frame, an oscillatory fork-carrying frame connected with the swinging frame beyond the pivotal point thereof, means for oscillating the swinging frame and the fork-carrying frame, and means for limiting the movement of the connecting-frame.

8. In a device of the class described, the combination of a main frame, a swinging connecting-frame mounted on the main frame, an oscillatory fork-carrying frame connected with the swinging frame beyond the pivotal point thereof, means for oscillating the swinging frame and the fork-carrying frame, and means for supporting the connecting-frame at different elevations at the completion of its swinging movement.

9. In a device of the class described, the combination of a main frame, a swinging connecting-frame mounted on the main frame, an oscillatory fork-carrying frame connected with the swinging frame beyond the pivotal point thereof, means for oscillating the swinging frame and the fork-carrying frame, and foldable supporting-bars mounted on the main frame and arranged to receive the swinging frame for limiting the movement thereof.

10. In a device of the class described, the combination of a main frame, a swinging connecting-frame mounted on the main frame, an oscillatory fork-carrying frame connected with the swinging frame beyond the pivotal point thereof, means for oscillating the swinging frame and the fork-carrying frame, foldable supporting-bars pivoted to the main frame and arranged to receive the connecting-frame, and means for limiting the movement of the pivoted supporting-bars.

11. In a device of the class described, the combination of an oscillatory fork-carrying frame, hoisting mechanism therefor, a lever provided at one end with a weight, means for adjustably fulcruming the lever, and means for connecting the lever with the fork-carrying frame for limiting the movement thereof and for swinging the same backward.

12. In a device of the class described, the combination of a main frame, a swinging connecting-frame, mounted on the main frame, an oscillatory fork-carrying frame pivoted to the connecting-frame, hoisting mechanism, a weighted lever fulcrumed on the main frame, and flexible means for connecting the weighted lever with the fork-carrying frame for limiting the movement thereof and for swinging the same backward.

13. In a device of the class described, the combination of a main frame having a pivot, a swinging connecting-frame mounted on the pivot, an oscillatory fork-carrying frame pivoted to the connecting-frame, a pulley mounted on the pivot of the main frame, a weighted lever, and a flexible connection arranged on the said pulley and extending from the weighted lever to the fork-carrying frame.

14. In a device of the class described, the combination of a main frame having a transverse pivot, a swinging connecting-frame mounted on the pivot, a fork-carrying frame pivoted to the connecting-frame, a lifting-frame also mounted on the said pivot, means for connecting the lifting-frame with the fork-carrying frame, and hoisting mechanism for oscillating the lifting-frame.

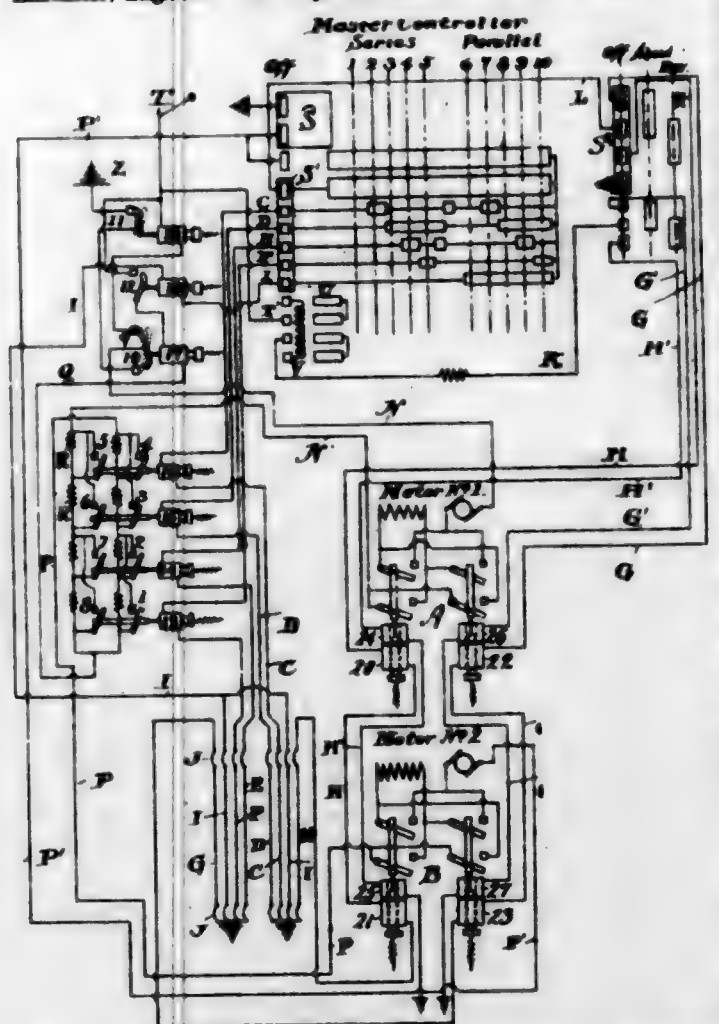
808,267. LOCKING DEVICE FOR LOOSE-LEAF BINDERS. RALPH B. WILSON, Chicago, Ill. Filed Apr. 26, 1905. Serial No. 257,555.

Claim.—A locking mechanism for binders, comprising, in combination with the covers, a bar connected to one of said covers, posts secured to said bar, a boxing secured to the other cover and having

registering apertures through which said posts are adapted to pass, longitudinally-movable plates mounted within said boxing and having inclined ends and apertures to receive said posts, the marginal outline of said apertures being brought to cutting edges, lugs projecting from the wall of the boxing and adapted to engage and guide said longitudinally-movable plates, a lug fastened to the boxing and having a screw-threaded aperture, a screw passing through said threaded aperture, an angled plate in which the head of said screw is swiveled, said angled plate having a slot, the marginal edges of which engage the opposite edges of said screw-carrying lug, and the outer edges of said angled plate being inclined, and adapted to engage the inner inclined edges of said longitudinally-movable plates, as set forth.



808,268. CONTROLLING SYSTEM. THORSTEN VON ZWEIGBERGK, Lancaster, England. Filed Apr. 25, 1904. Serial No. 204,684.



Claim.—1. In a controlling system, in combination, a motor, an automatic controller therefor, a master-controller for the automatic controller, a ground connection for the motor through the master-controller at off position.

2. In a controlling system, in combination, a plurality of motors, a plurality of controllers therefor, ground connections from the motors through the controllers at off position, and means independent of the controllers for maintaining the motor-circuits open when all the controllers are at off position.

3. In a controlling system, in combination, a plurality of motors, a plurality of controllers corresponding thereto, ground connections for the motors through their corresponding controllers at off position, and an additional ground for any motor whose controller is in use.

4. In a controlling system, the combination of a plurality of motors, a plurality of controllers therefor, circuits leading from the source of supply through the motors to the controllers, ground connections from the controllers at off position, and means independent of the controllers for maintaining the circuit from the source of supply when all of the controllers are at off position.

5. In a controlling system, in combination, a train of motor-cars, a controller on each car, circuits so arranged that one motor on each car but one is normally grounded through the idle controller of that car at off position, and other circuits for grounding a motor on the car where the controller is in use.

6. In a controlling system, in combination, a plurality of motors, a plurality of automatic controllers for operating them, a plurality of master-controllers each of which is adapted to operate the automatic controllers, ground connections from the motors through the master-controllers at off position, and means for maintaining the motor-circuits open when all of the master-controllers are at off position.

7. A controlling system, for a train of motor-cars comprising the combination of an automatic controller on each car, and a master-controller on each car adapted to govern all the automatic controllers, each master-controller being normally connected with one of the motors of its car to form a ground for that motor, and an additional ground connection for that master-controller which is operated.

8. In a controlling system, in combination, a train of motor-cars, automatic controllers on each car, a master-controller, train-circuits leading therefrom for operating the automatic controllers, said circuits carrying a ground connection for one motor on that car where the master-controller is operated, and means for grounding the motors on the other cars independently of the train-circuits.

9. In a controlling system, in combination, a train of motor-cars, an automatic controller on each car, a master-controller on each car, circuits for governing the automatic controllers from one master-controller, said circuits also constituting the ground-leads from one of the motors on the car where the master-controller is operated, and circuits arranged so that one motor on each of the other cars is normally grounded through the idle master-controller of that car at off position.

10. A controlling system for a train of motor-cars consisting of an idle grounded controller on each car except one, an active controller on such excepted car to govern the motors of all the cars, and a ground connection for one of the motors on the car where the controller is operated, which ground connection is made via the train-wires which control the various motors and leads to one of the idle controllers at off position.

11. In a controlling system, the combination of a plurality of motors, automatic controllers for governing them, a master-controller for governing the automatic controllers, conductors leading from the master-controller to the automatic controllers and the motors, the same conductors forming a part of both the motor-circuit and the automatic-controller circuit.

12. In a controlling system, the combination of a train of motor-cars, each car having a motor and an automatic controller therefor, a master-controller for concurrently operating said automatic controllers, train-lines leading from the master-controller to the automatic controllers and to the motors, the same lines constituting a part of the motor-circuit and the automatic-controller circuits.

13. In a controlling system, the combination of a train of motor-cars, each car having a motor and an automatic controller therefor, a master-controller for concurrently operating said automatic controllers, train-lines leading from the master-controller to the automatic controllers and to the motors, the same lines constituting part of the motor-circuit and the automatic-controller circuit, and carrying the ground for one of the motors on the car where the master-controller is operated, and other means for grounding one of the motors on each of the other cars.

14. In a controlling system, the combination of a train of motor-cars, each car having a motor and an automatic controller therefor, a master-controller for concurrently operating said automatic controllers, train-lines leading from the master-controller to the automatic controllers and to the motors, the same lines constituting part of the motor-circuit and the automatic-controller circuits, automatic reversers on each car for the motors thereof, and circuits for the reversers which constitute a part of the motor-circuit.

15. In a controlling system, the combination of a train of motor-cars, automatic reversers on each car for the motors thereof, circuits for the reversers which constitute a part of the motor-circuits, and additional circuits for the reversers adapted to throw them from off to an operative position before the motor-circuits are established.

16. In a controlling system, the combination of motors, a controller, automatic reversers for the motors, circuits for the reversers which constitute a part of the motor-circuit, additional circuits for the reversers adapted to throw them from off to an operative position before the motor-circuits are established, and means operated by the controller for connecting said additional circuits with the source of current while the controller is moving from the off to the first series position.

17. In a controlling system, in combination, a motor, an automatic reverser therefor, said reverser including two operating-mag-

nets, a controller, circuits leading therefrom to the motor and the reverser and so arranged that the controller may direct the motor-current through one magnet of the reverser to hold it in an operative position, and an additional circuit leading from the other magnet to the controller, the controller being arranged to direct current through the last-mentioned magnet to throw the reversers and thereby close the motor-circuit.

18. A system of controlling motor-cars on which there is a motor, an automatic reverser therefor, and a controller, comprising means for directing a temporary current through the reversers to close the motor-circuit, and means for thereafter controlling the motor-current while it flows through the automatic reversers.

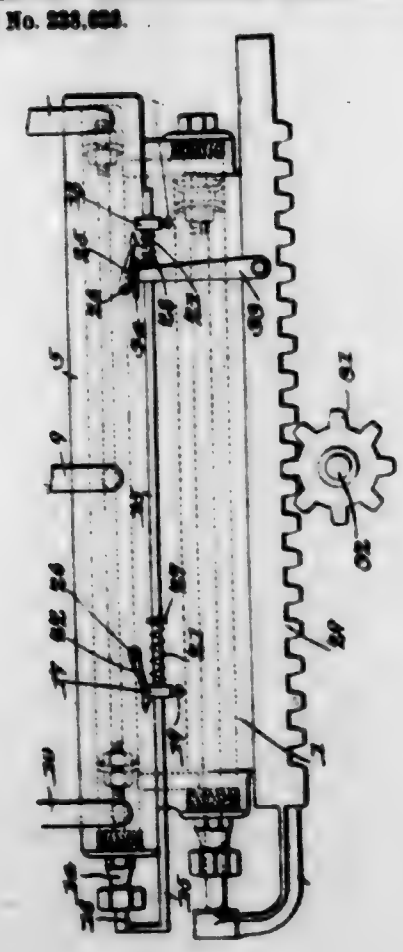
19. The combination of a motor, an automatic reverser therefor having a main and a shunt magnet for operating it, a controller, a main circuit normally connecting the motors with the trolley but open at the reverser, said controller operating to first close a temporary circuit through the shunt-magnet to close the break in the main circuit thereat, the main circuit thereafter continuing through the main magnet of the reverser.

20. In a controlling system, in combination, a pair of motors, a controller therefor, magnets and contacts operating when the controller moves from series to parallel to open the trolley-line therebefore established to the first motor and close a line from the trolley through the resistance to the two motors and close a line from the first motor to the ground.

21. In a controlling system, in combination, a pair of motors, an automatic controller therefor consisting of contacts and magnets, a master-controller for directing the motor-current through said magnets to operate said contacts, said magnets and contacts operating when the master-controller moves from series to parallel to open the trolley-line therebefore established to the first motor and close a line from the trolley through the resistance to the two motors and close a line from the first motor to the ground, said ground connection being established independently on each car after the former trolley connection is opened.

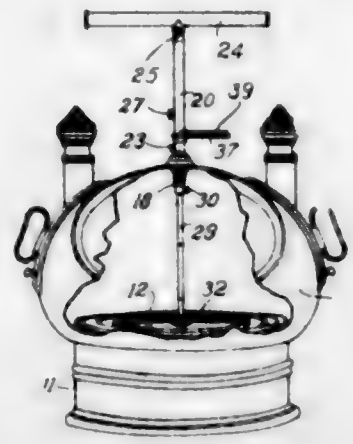
22. The combination of a pair of motors, a series circuit therefor passing from the source of supply through normally closed contacts to the first motor, then through the resistance to the second motor, and then to the ground, a controller for cutting out such resistance, an additional line to the ground adapted to be connected in by the controller on parallel positions, a magnet in said additional line, a branch line from the trolley to the other side of the resistance and passing through normally open contacts which are adapted to be closed by said magnet, said last-mentioned additional line including a magnet adapted to open the contacts on the series line from the trolley to the first motor.

808,269. **MOTOR.** DAVID ANDERSON, Lisbon, Ohio. Filed Dec. 28, 1904. Serial No. 238,628.



Claim.—The combination of a cylinder and a valve-chest in substantial parallelism and provided respectively with a piston and a balanced valve, a valve-stem having a return portion working at one side of the chest, a piston-rod having a return portion working at one side of the cylinder and provided with a rack, a pinion in mesh with the rack for transferring power, abutments carried by the return portion of the valve-stem, a helical spring embracing the return portion of the valve-stem and bearing against the inner faces of the respective abutments, dogs pivotally mounted upon the valve-chest for engagement with the respective abutments to limit the movement of the valve-stem, each dog having its swinging end extending toward the adjacent end of the valve-stem, and a tappet-arm carried by the return portion of the piston-rod and working between the abutments for alternate engagement with the springs, said tappet being provided with oppositely-disposed trip projections for successive engagement with the dogs to release the same from the respective abutments after compression of the respective springs by the tappet-arm.

808,270. **ALIDADE OR INDICATOR FOR SHIPS' COMPASSES.** HARRY P. ARBECAM, Boston, Mass. Filed Apr. 24, 1905. Serial No. 257,230.



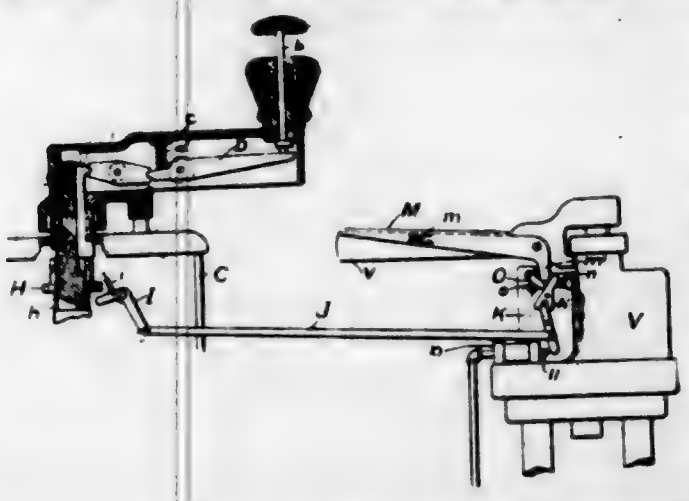
Claim.—1. The binnacle with its hood or top inclosing the compass, a rotatable, vertical shaft-section 16, formed with a concentric collar 17 by which it is supported centrally in the binnacle-top, an adjustable extension thereof above the binnacle-top, and a sighting-tube or pointer pivoted to the top of said extension, for rotation with said shaft-section and for movement independently thereof only in a vertical plane, in combination with an axial prolongation of said shaft-section within and wholly supported by the binnacle, such prolongation extending down almost to the compass-dial, and with a transverse indicator having a short vertical stem 33 concentric with such prolongation, adapted to rest upon but not connected with the compass-plate, and formed with a latera. lug 34 moving in a slot in the prolonged shaft, said indicator and stem having a limited vertical movement independent of the prolonged shaft, the indicator normally maintaining the same radial position as the sighting-tube, substantially as set forth.

2. The binnacle and its hood or top inclosing the compass, a central tubular shaft-section 16, mounted for rotation in the binnacle-top and extending above and below it, a tubular upward extension 20 secured to said section by screw 23, and an inclosed adjustable member 25, connected thereto by a binding-screw 27, these parts forming the upper shaft-section, and a downward prolongation extending from the central part and forming the lower section of the shaft, said section being longitudinally grooved or slotted to receive a binding-screw, whereby the parts are adjustable vertically without radial variation, in combination with the sighting-tube pivoted to the top of the upper section, and the transverse indicator connected to the foot of the lower section by a vertical stem concentric therewith resting loosely on the compass-dial, such tube and indicator having independent vertical movements, but normally maintained in the same radial plane, substantially as set forth.

3. The binnacle with its hood or top inclosing the compass, a vertical, rotatable shaft extending above and supported by the binnacle-top, and a sighting-tube secured to the upper end thereof, in combination with a downward prolongation of said shaft, formed in a single piece, having an open or ring-like portion spread in a plane at right angles to the sighting-tube, so that the shaft will be removed from the line of vision and the compass-dial will be unobstructed where bearings are being taken, and with an indicator mounted over the face of the dial, loosely connected to the foot of said shaft and maintained in radial alinement with said tube, substantially as set forth.

4. The described compass-indicator and deviation-corrector, comprising a sectional vertical shaft mounted rotatably in a supporting-bearing in the binnacle-top and provided at opposite termini with a sighting device and radial indicator normally maintained in the same vertical plane, the upper section of said shaft being extensible and consisting of an inner axial member having the sighting device pivoted to its upper end, and a deviation-pointer projecting rigidly in the same vertical plane from a point near its lower end, and of an outer tubular member surrounding said axial member, slotted lengthwise and crosswise to permit longitudinal and radial adjustment of the inner member and its protruding pointer, and with a terminally-graduated sector-plate fixed to and extending horizontally from said tubular member at the foot of said slots, for the purpose set forth.

808,271. **EMERGENCY CONTROL SYSTEM.** FRANK E. CASE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 24, 1904. Serial No. 213,991.



Claim.—1. In a vehicle, an emergency device, two levers, and operative connections from both levers to said device, whereby said device may be rendered inoperative by the operation of either lever.

2. In a vehicle, an emergency device, and independent controlling means for said device, whereby said device may be controlled by either hand of the operator.

3. In a vehicle, two operating-levers, an emergency device, and connections between said device and both levers whereby said device is rendered operative only upon a simultaneous release of both levers.

4. In an electrically-propelled vehicle provided with an air-brake system, an emergency device, and operative connections from said device to the handles of both the motor-controller and the motorman's valve, whereby said device may be controlled from either handle.

5. In an air-brake system, an emergency-valve adapted and arranged to establish connections for applying the brakes, and independent controlling means for said valve, whereby said valve may be controlled by either hand of the operator.

6. In an air-brake system, an emergency-valve, and independent controlling means therefor, said valve being arranged to establish connections for applying the brakes upon a simultaneous release of said controlling means.

7. In an air-brake system, an emergency-valve adapted and arranged to establish connections for applying the brakes, and independent controlling means for rendering said valve inoperative.

8. In an air-brake system, an emergency-valve adapted and arranged to establish connections for applying the brakes, and independent controlling means for rendering said valve inoperative.

9. In an air-brake system, an emergency-valve adapted and arranged normally to establish connections for applying the brakes, and independent controlling-levers for said valve whereby said braking connections may be broken by the operation of either lever.

10. In an air-brake system, two independent levers, and an emergency-valve controlled thereby and arranged to establish connections for applying the brakes upon a simultaneous release of both levers.

11. In an air-brake system, a motor-controller, and an emergency-valve controllable both from said motor-controller and from the motorman's valve and adapted and arranged to establish connections for applying the brakes.

12. In an air-brake system, a motor-controller, and an emergency-valve operative upon the simultaneous release of the handles of said controller and of the motorman's valve to establish connections for applying the brakes.

13. In an air-brake system, a motor-controller, an emergency-valve adapted and arranged to establish connections for applying the brakes, and operative connections to said valves from the handles of said controller and of the motorman's valve whereby said valve may be rendered inoperative from either handle.

14. In an air-brake system, a motor-controller, an emergency-valve normally positioned to establish connections for applying the brakes, and operative connections to said valve from the handles of both the motor-controller and the motorman's valve whereby said braking connections may be broken by either of said handles

15. In an air-brake system, a motor-controller, means arranged normally to establish connections for applying the brakes, and means operatively connected to the handle of the motor-controller and to the handle of the engineer's valve for breaking said braking connections, whereby the application of the brakes may be prevented by the operation of either handle.

16. In an air-brake system, in combination with a motor-controller, means operative only upon a simultaneous release of the handles of the controller and of the motorman's valve for applying the brake.

17. In an air-brake system, in combination with a motor-controller, means arranged normally to establish connections for applying the brakes, and means operatively connected to the handles of the controller and of the motorman's valve for disabling said brake-applying means.

18. In an air-brake system, in combination with a motor-controller, an emergency-valve controllable both from the handle of the controller and from the handle of the motorman's valve and arranged normally to establish connections for applying the brakes, and connecting means whereby said valve may be rendered inoperative by the operation of either handle,.

19. In an air-brake system, in combination with a motor-controller, means arranged normally to establish connections for applying the brakes, means operatively connected to the handles of the controller and of the motorman's valve whereby said brake-applying means may be controlled by either handle, and means for disabling said brake-applying means upon the removal of the handle of the motorman's valve.

20. In an air-brake system, in combination with a motor-controller, means operative upon a simultaneous release of the handles of the controller and the motorman's valve for applying the brakes, and means for disabling said brake-applying means upon the removal of the handle of the motorman's valve.

21. In an "automatic" air-brake system, in combination with a motor-controller, means operative only upon a simultaneous release of the handles of the controller and of the motorman's valve for exhausting the train-pipe to apply the brakes.

22. In an "automatic" air-brake system, in combination with a motor-controller, a valve arranged normally to establish connections for exhausting the train-pipe, and operative connections from said valve to the handle of the controller and of the motorman's valve, whereby said train-pipe connections may be controlled by either handle.

808,272. **RESERVOIR ATTACHMENT FOR PENS.** HARRY R. CRUSE, Greenwich, England. Filed Oct. 3, 1904. Serial No. 227,047.



Claim.—1. A reservoir attachment for a pen, comprising among its members, a reservoir, a supporting device therefor, and a short narrow neck of extremely flexible material connecting the reservior and its supporting device, for supporting said reservoir upon the nib of a pen without exerting pressure thereon, substantially as described.

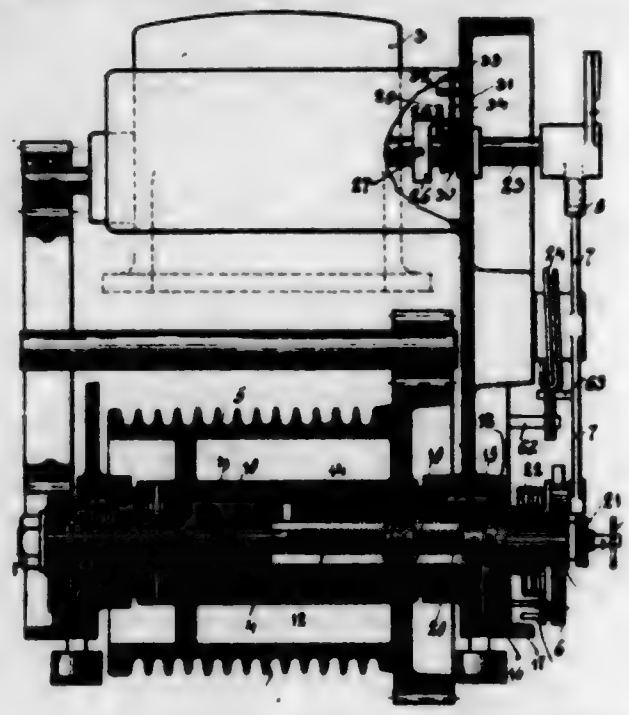
2. A reservoir attachment for a pen comprising among its members a reservoir, a clip closely adjacent thereto, constructed to engage the pen, and a narrow neck of soft rubber connecting said clip and reservoir, substantially as described.

3. A reservoir attachment for a pen comprising a reservoir, a clip closely adjacent thereto, constructed to engage the pen, and connected to the reservoir by a short narrow neck, said reservoir, neck and clip being formed integrally of soft rubber, substantially as described.

4. The combination with a pen provided with lateral recesses, of a reservoir attachment, comprising a clip constructed to engage the pen and fit in said recesses, a reservoir closely adjacent to said clip, connected thereto by a short narrow flexible neck and support-

ing the reservoir upon the nibs of the pen without exerting pressure thereon, substantially as described.

808,273. HOIST AND SIMILAR APPARATUS. PHILIP J. DARLINGTON, Glenridge, N. J., assignor to Sprague Electric Company, a Corporation of New Jersey. Filed May 11, 1904. Serial No. 207,373.



Claim.—1. In a hoist, a normally stationary screw-threaded rod, a traveling nut, on said rod driven by said hoist, a member secured to said rod and adapted to be engaged by said nut, a controller for said hoist, and operative connections between said rod and said controller.

2. In a hoist, a normally stationary screw-threaded rod, a traveling nut on said rod driven by said hoist, a member secured to said rod and adapted to be engaged by said nut, a controller for said hoist, operative connections between said rod and said controller, and means for disconnecting said rod from said controller and for rotating said rod to adjust the position of said nut.

3. In a hoist, a normally stationary screw-threaded rod, a traveling nut on said rod driven by said hoist, a member secured to said rod and adapted to be engaged by said nut, a controller for said hoist, operative connections between said rod and said controller, and means for adjusting the position of said nut on said rod.

4. In a hoist, a screw-threaded rod, a spring holding said rod yieldingly in a fixed position, a traveling nut on said rod driven by said hoist, a member secured to said rod and adapted to be engaged by said nut, a controller for said hoist, and operative connections between said rod and said controller.

5. In an apparatus of substantially the character described, the combination with a hollow shaft having a key-seat, of means for moving the shaft, a threaded rod inside the shaft, a traveling nut on the threaded rod and engaging the key-seat in the shaft, and mechanism controlled by the movement of the nut, and constructed and arranged to stop the operation of the shaft-moving means.

6. In an apparatus of substantially the character described, the combination with a hollow key-seated member, of a traveling nut on the threaded member and engaging the key-seat of the hollow member, and a device connected to one of said members, and constructed and arranged to be operated by the nut, said device being removably connected to such member, in order to permit relative movement of said members for the purpose of adjusting the position of the nut with respect to said device.

7. In an apparatus of substantially the character described, the combination with a shaft, of a return-spring therefor having a long and a short end, a device arranged to move with the shaft to engage both ends of the spring, a device not moving with the shaft, for engaging the long end of the spring, and means for permitting the last-named device to engage both ends of the spring.

8. In an apparatus of substantially the character described, the combination with a member to be returned, of a spring constructed and arranged to return said member, a device carried by said member and arranged to engage the spring, a stationary device arranged to also engage the spring, and means for adjusting one of said devices to cooperate with the spring in either one or both directions of movement of said member, as desired.

9. In an apparatus of substantially the character described, the combination with a motor, of a controller therefor, a driven shaft and a coöperating member, one being threaded and the other being hollow and provided with a key-seat, the threaded member being located in the hollow member, a traveling nut on the threaded member and engaging the key-seat of the hollow member, a cam having a connection with one of said members so as to be operated by the nut, which connection is separable, and operating mechanism between the cam and the motor-controller.

10. In an apparatus of substantially the character described, the combination with a hollow key-seated member, of a threaded member therein, a traveling nut on the threaded member and engaging the key-seat of the hollow member, and a device having a pin-and-groove connection with one of said members, said device being constructed and arranged to be operated by said nut.

11. In an apparatus of substantially the character described, the combination with a hollow key-seated member, a threaded member therein, a traveling nut on the threaded member and engaging the key-seat of the hollow member, a device separably connected with one of said members and constructed and arranged to be operated by said nut, and means for firmly securing said device in such separable connection.

12. In an apparatus of substantially the character described, the combination with a hollow key-seated member, of a threaded member therein, a traveling nut on the threaded member and engaging the key-seat of the hollow member, a device fixed to the threaded member to rotate therewith, and constructed and arranged to coöperate with the traveling nut, and an operating member having a separable connection with one of said members to permit adjustment of the nut.

13. In an apparatus of substantially the character described, the combination with a hollow shaft provided with a key-seat, of a threaded rod in said shaft, a traveling nut on the rod, and engaging the key-seat of the shaft, a member secured to the rod and constructed to be engaged by the nut to rotate the rod, and a device separably connected to rotate with the rod.

14. In an apparatus of substantially the character described, the combination with a hollow shaft provided with a key-seat, of a threaded rod in the shaft, a traveling nut on the rod and engaging the key-seat of the shaft, a member secured to the rod, and constructed to be engaged by the nut to rotate the rod, a device separably connected to rotate with the rod, and a nut on a threaded part of the rod to hold said device in its connected position and to permit its disconnection from the rod.

15. In an apparatus of substantially the character described, the combination with a hollow shaft provided with a key-seat, of a threaded rod in the shaft, a traveling nut on the rod and engaging the key-seat of the shaft, a member secured to the rod and constructed to be engaged by the nut to rotate the rod, a pin or its equivalent in the rod, and a device provided with an annular series of grooves adapted to receive said pin.

16. In an apparatus of substantially the character described, the combination with a hollow shaft provided with a key-seat, of a threaded rod in the shaft, a traveling nut on the rod and engaging the key-seat in the shaft, a member secured to the rod and constructed to be engaged by the nut to rotate the rod, a device separably connected to rotate with the rod, and a nut on a threaded part of the rod, to hold said device in its position of connection with the rod.

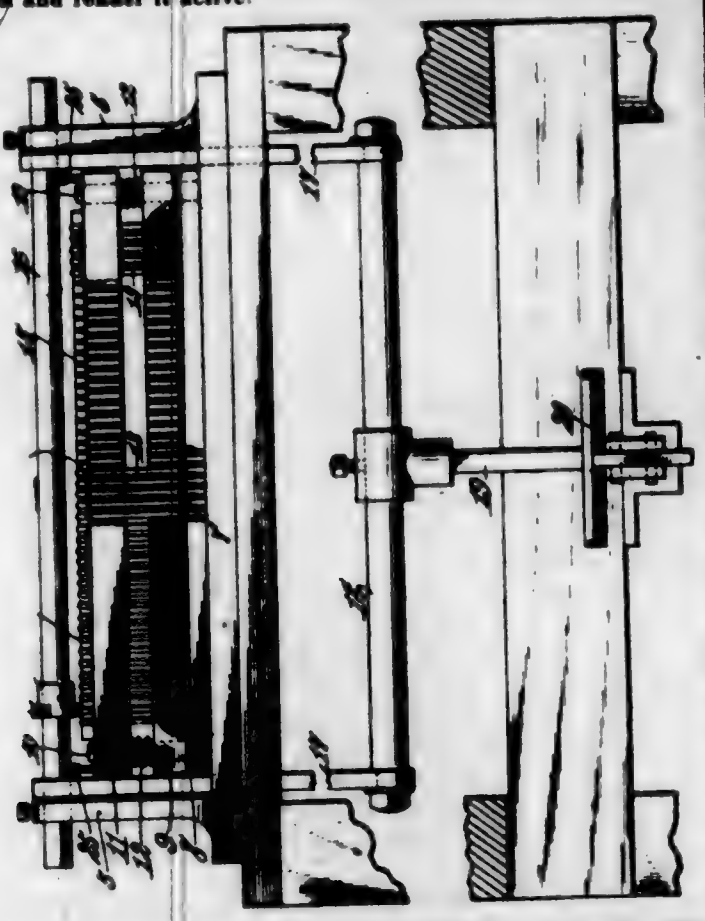
17. In an apparatus of substantially the character described, the combination with a hollow shaft provided with a key-seat, of a threaded rod in the shaft, a traveling nut on the rod and engaging the key-seat in the shaft, a member secured to the rod and constructed to be engaged by the nut to rotate the rod, a device separably connected to rotate with the rod, a cam constructed to turn with said device, and a nut on a threaded part of the rod, to hold said device in its position of connection with the rod.

18. In an apparatus of substantially the character described, the combination with a hollow shaft provided with a key-seat, of a threaded rod in the shaft, a traveling nut on the rod and engaging the key-seat in the shaft, a member fixed on the rod and constructed to be engaged by the nut to rotate the rod, a pin or its equivalent in the rod, a cam having a projection surrounding the rod, which projection has an annular series of grooves to receive said pin, and a nut on the rod arranged to hold the cam in place.

808,274. PERFORATING-MACHINE. GEORGE H. DAVIS, West Orange, N. J. Filed Feb. 27, 1903. Serial No. 145,351.

Claim.—1. In a perforating-machine; the combination with a plurality of normally idle yieldably-supported punches; of punch-

actuating mechanism; and a manually shiftable and rotatable locking device common to all of said punches to operatively connect any one of said normally idle punches with said punch-actuating mechanism and render it active.



2. In a perforating-machine, the combination with a plurality of normally idle punches; of punch-actuating mechanism; and a shiftable and rotatable locking device, common to all of said punches, to operatively connect any one of said normally idle punches with said punch-actuating mechanism and render it active.

3. In a perforating-machine, the combination with a spring-supported punch-carrier, of a plurality of freely-movable punches mounted therein; means for depressing said spring-supported punch-carrier and a shiftable locking device common to all of said punches, to lock any one of said movable punches to said carrier to reciprocate therewith.

4. In a perforating-machine, the combination with a slidably-mounted reciprocating punch-carrier, of a plurality of freely-movable punches mounted therein; springs normally acting to hold said carrier and the punches elevated, a reciprocating bar to actuate said punch-carrier; and a locking device shiftable longitudinally of said bar to lock any one of said movable punches to said punch-carrier to reciprocate therewith.

5. In a perforating-machine, the combination with a punch-carrier, of a plurality of freely-movable punches mounted therein; a reciprocating bar to actuate said punch-carrier; and a rotatable and longitudinally-suitable locking device on said bar to lock any one of said movable punches to said punch-carrier to reciprocate therewith.

6. In a perforating-machine the combination with a punch-carrier, of a plurality of freely-movable punches mounted therein; a reciprocating bar to actuate said punch-carrier; and a longitudinally shiftable and rotatable sleeve mounted on said bar and provided with a circumferential rib to engage and lock any one of said movable punches to said punch-carrier to reciprocate therewith.

7. In a perforating-machine, the combination with a punch-carrier, of a plurality of freely-movable punches mounted therein; a reciprocating bar to actuate said punch-carrier; a rotatable frictionally-held sleeve mounted on said bar and shiftable longitudinally thereof; and a circumferential rib on said sleeve to engage any one of said punches and lock it to said carrier to reciprocate therewith, said rib being partially cut away to permit shifting of the said sleeve longitudinally.

8. In a perforating-machine, the combination with a punch-carrier, of a plurality of freely-movable punches mounted therein; a reciprocating bar to actuate said punch-carrier; a rotatable frictionally-held sleeve mounted on said bar and shiftable longitudinally thereof; and a circumferential grooved rib on said sleeve to engage any one of said punches and lock it to said carrier to reciprocate therewith, said rib being partially cut away to permit shifting of the said sleeve longitudinally.

9. In a perforating-machine; the combination with a die-block; of a punch-carrier; a plurality of freely-movable punches mounted therein; a guide-bar beneath which the paper passes having its face rearwardly and downwardly inclined to the line of the punch-openings, a reciprocating bar to actuate said punch-carrier; and means, common to all of said punches, to lock any one of said movable punches to said punch-carrier to reciprocate therewith.

10. In a perforating-machine, the combination with a die-block, of a perforated guide-bar arranged adjacent to said die-block but separated therefrom sufficiently to permit the feeding of stock between these two elements, a plurality of punches passing freely through the perforations in the guide-bar, said guide-bar having its front face inclined rearwardly and downwardly to the line of perforations therethrough to expose the stock being operated upon at a point directly beneath the punches whereby to permit an accurate adjustment of the latter relative to said stock, and means for actuating the punches.

11. In a perforating-machine, the combination with a spring-supported punch-carrier; of a plurality of freely-movable punches mounted therein; a reciprocating bar to actuate said punch-carrier; means for adjusting said carrier relative to said bar; and a shiftable locking device, common to all of the punches, mounted on said bar to lock any one of said punches to said punch-carrier to reciprocate therewith.

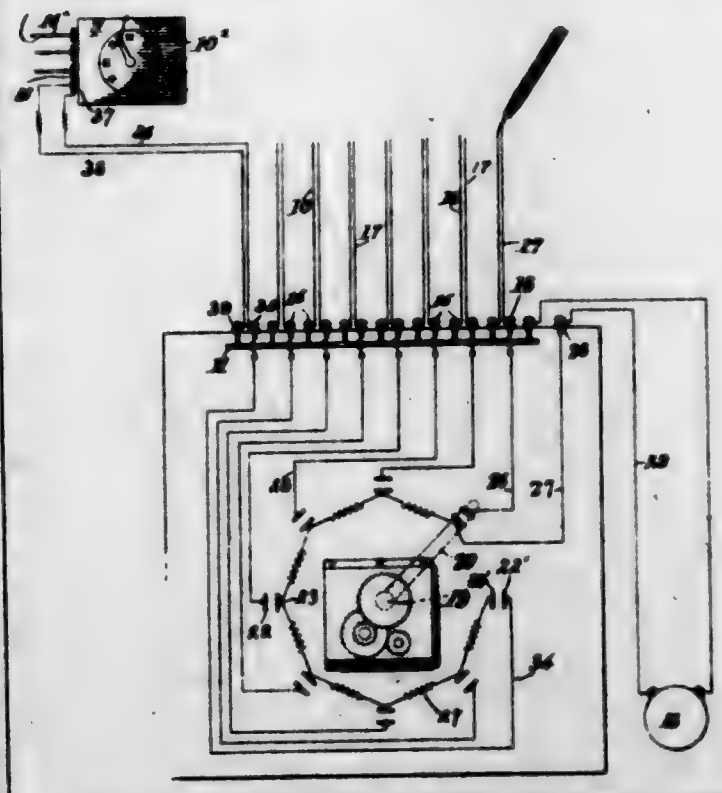
12. In a punching-machine, the combination with a plurality of independently-operable punches, of a locking device for said punches, comprising a sleeve having a circumferential rib extending partially around the same, and a support upon which said sleeve is rotatably and longitudinally movable.

13. In a punching-machine, the combination with a gang of independently-operable punches, of a locking device for said punches, comprising a sleeve having a circumferential rib extending partially around the same, said rib having a groove in its periphery arranged to receive the end of any punch of the gang, and a support upon which said sleeve is movably mounted.

14. In a perforating-machine, the combination with a yieldably-supported punch-carrier, of a plurality of freely-movable punches mounted therein, a reciprocatory bar means connecting the opposite ends of said bar for moving the latter toward and from said punches, and locking means for the punches carried by said reciprocatory bar.

15. In a perforating-machine, the combination with a yieldably-supported punch-carrier, of a plurality of punches freely movable in said carrier, a reciprocatory bar movable to and from said punches, locking means for the punches mounted on said bar, and means for reciprocating the bar.

808,275. **APPARATUS FOR EXPLODING MINE CHARGES.** CHARLES I. DODSON, Pittsburg, Kans. Filed Apr. 29, 1905. Serial No. 258,060.

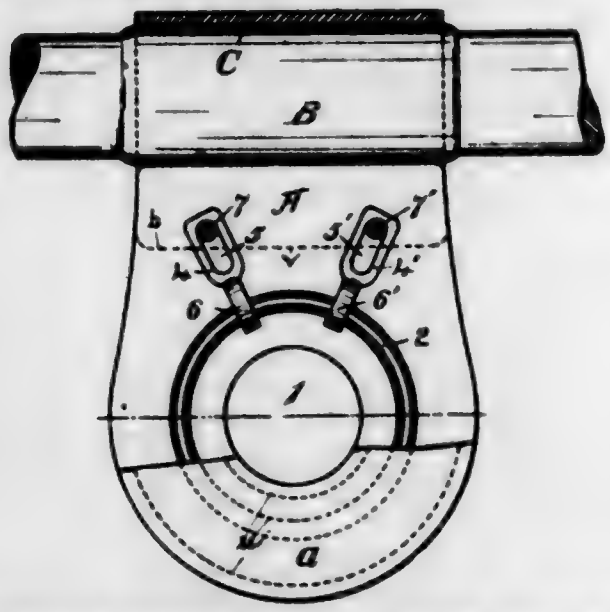


Claim.—1. In apparatus for exploding mine charges, a casing, a revoluble arm supported thereby, a circuit-closer carried by said

arm, a plurality of sets of contacts arranged in an annular series on the casing and adapted to be engaged in successive order by said circuit-closer, a source of energy, one pole of which is connected to one of the contacts of each set, a bar supported by the casing and to which the opposite pole is connected, binding-posts arranged in sets, one set connected to the bar and the other set being carried by the casing, current-conductors extending outward from the binding-posts to the charges to be exploded, and conductors extending between the second contacts of each set and the casing carrying binding-posts.

2. In apparatus of the class described, the combination with a plurality of circuit-closing mechanisms each including a plurality of sets of contacts arranged in an annular series, and a revoluble contact-arm for engaging said contacts, a source of energy connected to the first of said circuit-closing mechanisms, means for connecting the final set of circuit-closers of the first mechanism to the circuit-closers of the second mechanism, and working circuits leading outward from both mechanisms, said working circuits being also connected to the source of energy.

808,276. NECK-YOKE CENTER. FREDRICK J. DRUM, Calloway, Nebr. Filed Apr. 5, 1905. Serial No. 254,018.



Claim.—A neck-yoke center provided with the usual central opening and having a slot above and an annular groove surrounding the opening, in combination with a sleeve portion, said sleeve portion having its ends united and secured within said slot, of a ring within said annular groove, two retaining-ears extending upward and in opposite direction from said ring, said ears being provided with slots, and retaining-pins passing entirely through said neck-yoke center the sleeve portion and said retaining-ears, substantially as disclosed.

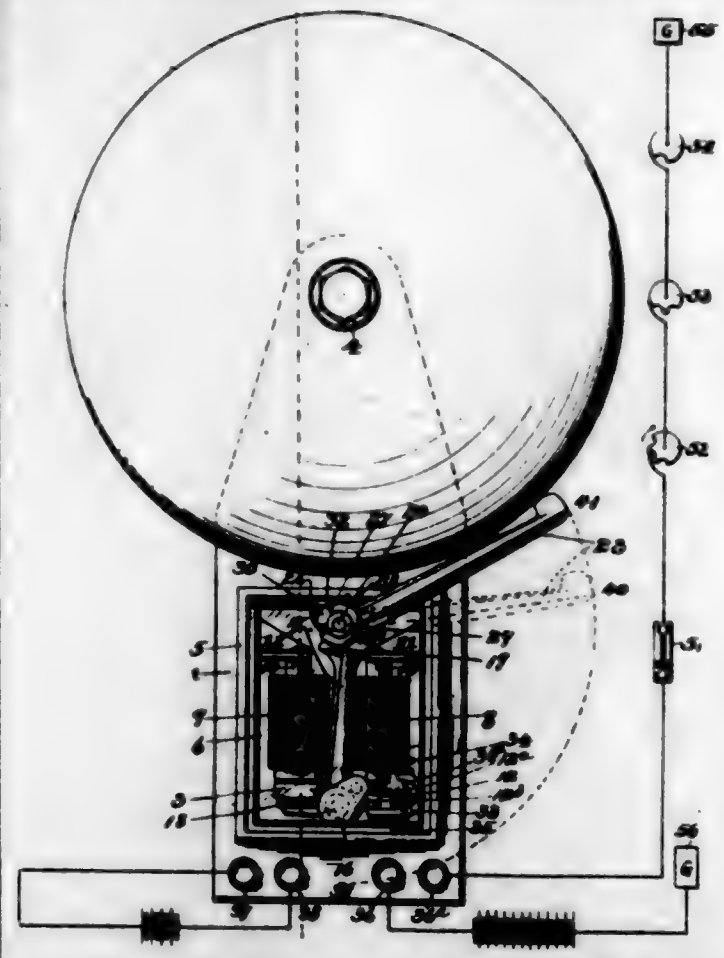
808,277. ELECTRIC BELL OR GONG. GEORGE R. DUNTON, New York, N. Y. Filed Mar. 15, 1904. Serial No. 198,241.

Claim.—1. An electric bell or gong comprising a bell-hammer mounted freely on a single pivot supported in stationary bearings, an armature, a magnetically-controlled device for operating said armature and swinging the bell-hammer axially with said pivot a portion of the distance toward the bell, and means for allowing the hammer to move axially on said pivot the balance of the distance by its own momentum, substantially as described.

2. An electric bell or gong comprising a bell-hammer mounted freely on a single pivot, an armature, a magnetically-controlled device for operating said armature and swinging the bell-hammer axially with said pivot a portion of the distance toward and from said bell, and means for allowing the hammer to move axially on said pivot toward and from said bell, substantially as described.

3. An electric bell or gong provided with electromagnets, a shaft provided with an oscillatory lever provided with an armature at one end designed to be attracted by said magnets, and a toothed sector at the opposite end, a shaft provided with a pinion engaging said sector, and with a loosely-mounted bell-hammer arm having stops on the periphery of its inner end, and means mounted rigidly on said shaft with which said stops are designed to engage, substantially as described.

4. An electric bell or gong apparatus provided with electromagnets, a shaft provided with an oscillatory lever, having an arm with an armature designed to be attracted by said magnets, and a toothed sector, a shaft provided with a pinion engaging said sector, a bell-hammer arm loosely pivoted on the shaft provided with bosses having stops on their peripheries, a sleeve fixed to said shaft provided with a peripheral projection having stops at each end against which the stops of the bell-hammer arm abut, substantially as described.

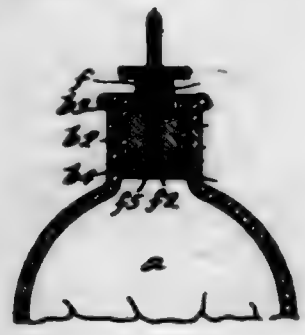


5. An electric bell or gong apparatus provided with electromagnets, a shaft provided with an oscillatory lever having an arm with an armature designed to be attracted by said magnets and a toothed sector, a shaft provided with a pinion engaging said sector, a bell-hammer arm loosely pivoted on the shaft and provided with laterally-extending bosses having stops, a slot between said bosses, a sleeve rigidly fixed on said shaft and extending into said slot, said sleeve provided with a peripheral projection having ends against which the stops of the bell-hammer arm are designed to abut, substantially as described.

6. An electric bell or gong apparatus provided with electromagnets, a shaft provided with an oscillatory lever having an arm provided with an armature designed to be attracted by said magnets and a toothed sector, a bell-hammer arm loosely pivoted on the shaft and provided with stops, a spring-plunger seated in one of said stops, a sleeve rigidly fixed on said shaft provided with a projection against which the said spring-plunger is adapted to contact, substantially as described.

7. An electric bell or gong apparatus provided with electromagnets, a shaft provided with an oscillatory lever having an armature at one end designed to be attracted by said magnets and a toothed sector at the opposite end, a shaft provided with a pinion engaging said sector and a loosely-mounted bell-hammer arm, and a base-piece, provided with a post, on which a bell or gong is mounted, said post having an arch designed to allow bell-hammer arm to operate and strike the bell from the inside, substantially as described.

808,278. NOZZLE-STOPPER FOR BOTTLES AND OTHER RECEPTACLES. THOMAS W. EVANS, Jersey City, N. J. Filed July 15, 1905. Serial No. 269,807.

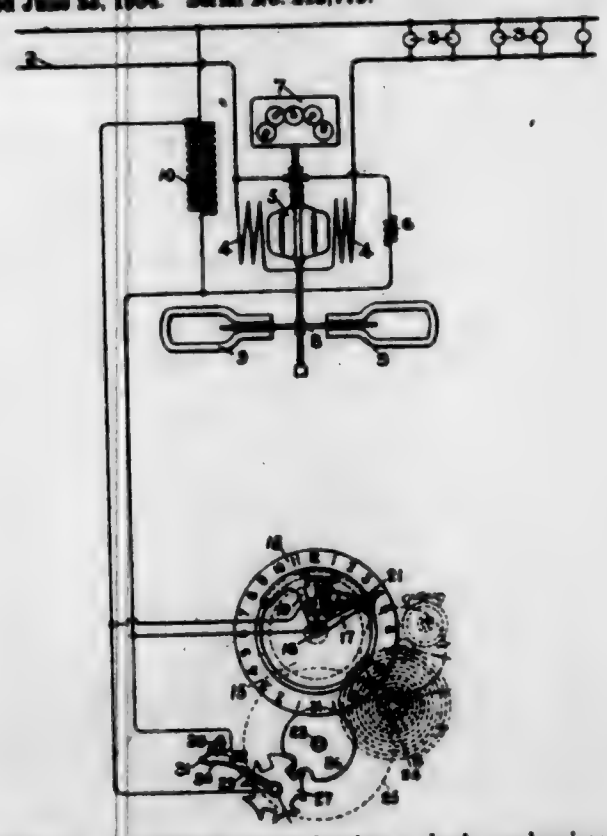


Claim.—1. A device for closing a vessel of the class described, comprising a main plug member provided with a central longitudinal bore the upper and lower ends of which are enlarged, and a supplemental plug member turnable in the upper end enlargement and provided with a downwardly-directed valve-stem having a valve-head at its lower end, and at its upper end with a nozzle, said valve-stem and nozzle being provided with a longitudinal bore which passes therethrough and through the supplemental plug and which opens adjacent to the valve-head, and means whereby the turning of said supplemental plug will raise or lower the valve-stem according to the direction in which said plug is turned, substantially as shown and described.

2. A closure device for vessels of the class described, comprising a main plug member having a central longitudinal bore, the upper and lower ends of which are enlarged, the lower enlargement being provided with a valve-seat, a supplemental plug member turnably mounted in the upper enlargement of said bore, said supplemental plug member being provided at its lower end with a valve-stem having a valve-head, and at its upper end with a nozzle, and said nozzle and said valve-stem being provided with a longitudinal bore which extends through the supplemental plug and which opens adjacent to the valve-head, and means whereby the turning of the supplemental plug will raise or lower the valve-stem according to the direction in which said plug is turned, substantially as shown and described.

3. A closure device for vessels of the class described, comprising a main plug having a central longitudinal bore enlarged at its upper and lower ends, a supplemental plug turnably mounted in the upper end enlargement of said bore, a valve-stem passing longitudinally through the supplemental plug and provided at its lower end with a valve-head and at its upper end with a nozzle, said valve-stem being provided with a longitudinal bore which opens adjacent to the valve-head, and means whereby the turning of said supplemental plug will raise and lower the valve-stem according to the direction in which said plug is turned, substantially as shown and described.

808,279. **MULTIRATE METER.** WALTER C. FEES, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed June 23, 1904. Serial No. 213,779.



Claim.—1. A multirate meter having a clock mechanism to effect the change from one rate to another, and means for imposing a penalty on failure to rewind the mechanism.

2. A multirate meter having a clock mechanism for changing the manner of recording, and means for causing the meter to record at the high rate when the mechanism has run down a predetermined extent.

3. A multirate meter having a clock mechanism to effect the change from one rate to another, and means for causing the meter to operate at the high rate on failure to rewind the mechanism.

4. A multirate meter having a clock mechanism to effect the change from one rate to another, and means operated thereby for rendering the rate-changing devices inoperative after a predetermined operation of the clock mechanism without rewinding.

5. In a multirate meter, a resistance in the armature-circuit, a clock mechanism for closing and opening a short circuit around said resistance, and means for closing a circuit around the resistance on failure to rewind the clock.

6. A multirate meter having a resistance in one of the meter-circuits, a clock mechanism, devices operated thereby for closing and opening a short circuit around said resistance, and means operated after a predetermined movement of the clock mechanism without rewinding for closing a circuit around said resistance regardless of the position of said opening and closing devices.

7. A multirate meter having a resistance in one of the meter-circuits, a clock mechanism, devices operated thereby for closing and opening a short circuit around said resistance, and means for rendering said circuit-opening devices ineffective when the clock mechanism has run down a predetermined extent.

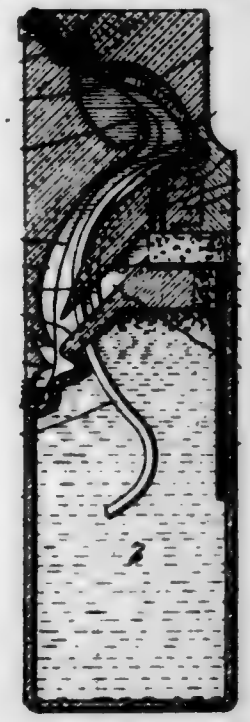
8. A multirate meter having a resistance in one of the meter-circuits, a clock mechanism for closing and opening a short circuit around said resistance, and means for rendering said circuit-opening devices ineffective after a predetermined operation of the clock mechanism without rewinding.

9. In a multirate meter, a resistance in one of the meter-circuits, a clock mechanism for closing and opening a short circuit around said resistance, and means for effecting a quick closure of a circuit around the resistance on failure to rewind the clock mechanism after a predetermined operation thereof.

10. A multirate meter having a resistance in one of the meter-circuits, a clock mechanism for closing and opening a short circuit around said resistance, means for closing a circuit around the resistance on failure to rewind the clock mechanism, and means for effecting a quick break of said circuit when the clock mechanism is rewound.

11. A multirate meter having a clock mechanism to effect the change from one rate to another, and means for effecting a penalizing record on failure to rewind the mechanism.

808,280. **FRAUD-PREVENTIVE BOTTLE.** ALPHONSE J. K. GENELLA, New Orleans, La. Filed Mar. 25, 1905. Serial No. 252,044.



Claim.—1. The combination with a liquid-receptacle having a main chamber and a neck-chamber closed against direct intercommunication, and a duct communicating between said chambers; of a telltale device, and an auxiliary duct leading to said telltale device.

2. The combination with a liquid-receptacle having a main chamber and a neck-chamber closed against direct intercommunication, and ducts communicating between said chambers; of a telltale device, and auxiliary ducts leading to said telltale device.

3. The combination with a liquid-receptacle having a main chamber and a neck-chamber, of a partition closing said chambers against direct intercommunication, said partition being provided with an inlet-opening, means for sealing said opening against tampering with, a duct communicating between said chambers, a telltale device, and an auxiliary duct leading to said telltale device from said neck-chamber.

4. The combination with a liquid-receptacle having a main chamber and a neck-chamber, of a partition closing said chambers against direct intercommunication, said partition being provided with an inlet-opening, means for sealing said inlet-opening against tampering with, ducts communicating between said chambers, a telltale device, and auxiliary ducts leading to said telltale device from said neck-chamber.

5. The combination with a liquid-receptacle having a main chamber and a neck-chamber, of a partition closing said chambers against direct intercommunication, said partition being provided with an inlet-opening, a removable closure adapted to be sealed over said opening when the bottle is initially filled, a duct communicating between said chambers, a telltale device, and an auxiliary duct leading to said telltale device from said neck-chamber.

6. The combination with a liquid-receptacle having a main chamber, a neck-chamber and a label-containing recess, all closed against direct intercommunication and a duct communicating between said chambers; of a telltale device, adjacent said label-recess and cooperating therewith, and an auxiliary duct leading to said telltale device.

7. The combination with a liquid-receptacle having a main chamber and a neck-chamber closed against direct intercommunication, and a duct communicating between said chambers; of a telltale device, and an auxiliary duct leading to said telltale device and terminating at its outer end adjacent the discharge end of said communicating duct.

8. The combination with a liquid-receptacle having a main chamber and a neck-chamber closed against direct intercommunication, and a duct communicating between said chambers; of protective projections disposed forward of the discharge end of said communicating duct, a telltale device and an auxiliary duct leading to said telltale device.

9. The combination with a liquid-receptacle having a main chamber and a neck-chamber closed against direct intercommunication, and a duct communicating between said chambers; of protective projections disposed forward of the discharge end of said communicating duct, a telltale device and an auxiliary duct leading to said telltale device and terminating at its outer end adjacent the discharge end of said communicating duct.

10. The combination with a liquid-receptacle having a main chamber and a neck-chamber closed against direct intercommunication, and a duct communicating between said chambers; of a telltale device, composed of an absorbent material, and an auxiliary duct leading to said telltale device.

11. The combination with a liquid-receptacle having a main chamber and a neck-chamber closed against direct intercommunication, and ducts communicating between said chambers; of a telltale device, composed of an absorbent material bearing a representation in running colors, and auxiliary ducts leading to said telltale device.

12. The combination with a liquid-receptacle having a main chamber and a neck-chamber, of a partition closing said chambers against intercommunication, said partition being provided with an inlet-opening, means for sealing said opening against tampering with, a duct communicating between said chambers, a telltale device, composed of an absorbent material, and an auxiliary duct leading to said telltale device from said neck-chamber.

13. The combination with a liquid-receptacle having a main chamber and a neck-chamber, of a partition closing said chambers against direct intercommunication, said partition being provided with an inlet-opening, a removable closure adapted to be sealed over said opening when the bottle is initially filled, a duct communicating between said chambers, a telltale device composed of an absorbent material carried by said closure, and an auxiliary duct leading to said telltale device from said neck-chamber.

14. The combination with a liquid-receptacle having a main chamber, a neck-chamber and a label-containing recess, all closed against direct intercommunication and a duct communicating between said chambers; of a telltale device, composed of an absorbent material, adjacent said label-recess and cooperating therewith, and an auxiliary duct leading to said telltale device.

15. The combination with a liquid-receptacle having a main chamber and a neck-chamber, of a partition closing said chambers against direct intercommunication, said partition being provided with an inlet-opening, a removable closure adapted to be sealed over said opening when the bottle is initially filled, comprising a glass stopper cut away at its lower end to form a chamber containing an absorbent material bearing a suitable representation thereon in running colors, a duct communicating between said main chamber and neck-chamber, and an auxiliary duct leading from said neck-chamber to said absorbent material.

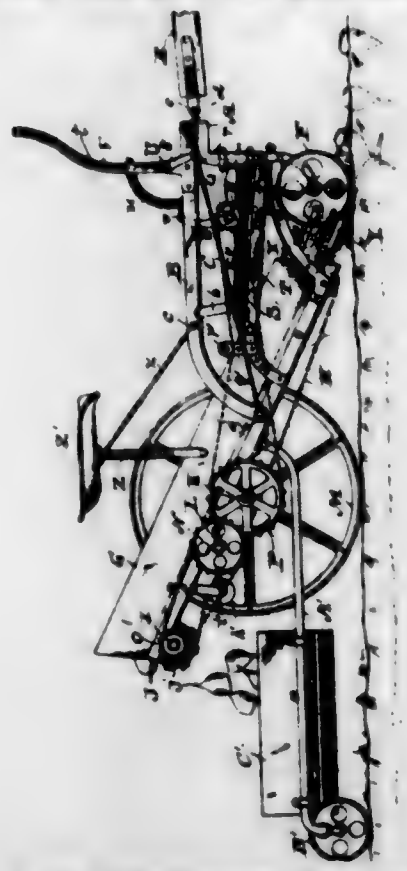
16. The combination with a liquid-receptacle having a liquid-containing chamber and a neck-chamber closed against direct intercommunication, and a duct communicating between said chambers; of a telltale device, an auxiliary passage-way between said neck-chamber and telltale device, and an auxiliary duct leading to said telltale device.

17. The combination with a liquid-receptacle having a containing-chamber and a neck passage-way closed against direct intercommunication, and a duct communicating between said chamber and passage-way, of a telltale device, an auxiliary passage-way between said neck passage-way and telltale device, an auxiliary duct leading to said telltale device, and protecting-shoulders projecting in said neck passage-way at its ends.

18. The combination with a liquid-receptacle having a sloping transverse partition forming the containing-chamber and neck passage-way closed against direct intercommunication, of a transversely-extending downwardly-disposed shoulder in said neck passage-way adjacent said sloping partition and forming therewith an auxiliary passage-way, a duct communicating between said neck passage-way and containing-chamber, a telltale device located at the outer end of said auxiliary passage, and an auxiliary duct leading from said neck passage-way to said telltale device.

19. The combination with a liquid-receptacle having a containing-chamber and a neck passage-way closed against direct intercommunication, of a transversely-extending upwardly-curved ledge located in the upper portion of said neck passage-way, an outlet-duct for said containing-chamber terminating in said neck passage-way beyond said curved ledge, a telltale device, and an auxiliary duct leading to said telltale device from said neck passage-way.

808,281. **BEET-HARVESTER.** LUDWIG GETTELMANN, South Germantown, Wis. Filed Nov. 7, 1904. Serial No. 231,647.



Claim.—1. In a beet-harvester a draft-frame having caster-wheel supports, another frame in lever-controlled adjustable connection with the one aforesaid, beet-straddling fingers having shanks in connection with the adjustable frame, an endless conveyer and supports for the same intermediate of side shields that are pivotally connected to the draft-frame and having rigid connection with said adjustable frame back of the fingers, an axle on which traction-wheels and said shields are mounted, a support in pivotal connection with the aforesaid adjustable frame, a reel mounted on the pivotal support over said fingers, and means by which motion is imparted to the conveyer and reel when the machine is in operation.

2. In a beet-harvester, a draft-frame having caster-wheel supports, another frame in lever-controlled adjustable connection with the one aforesaid, beet-straddling fingers having shanks in independent vertically-adjustable connection with the adjustable frame, an endless conveyer and supports for the same intermediate of side

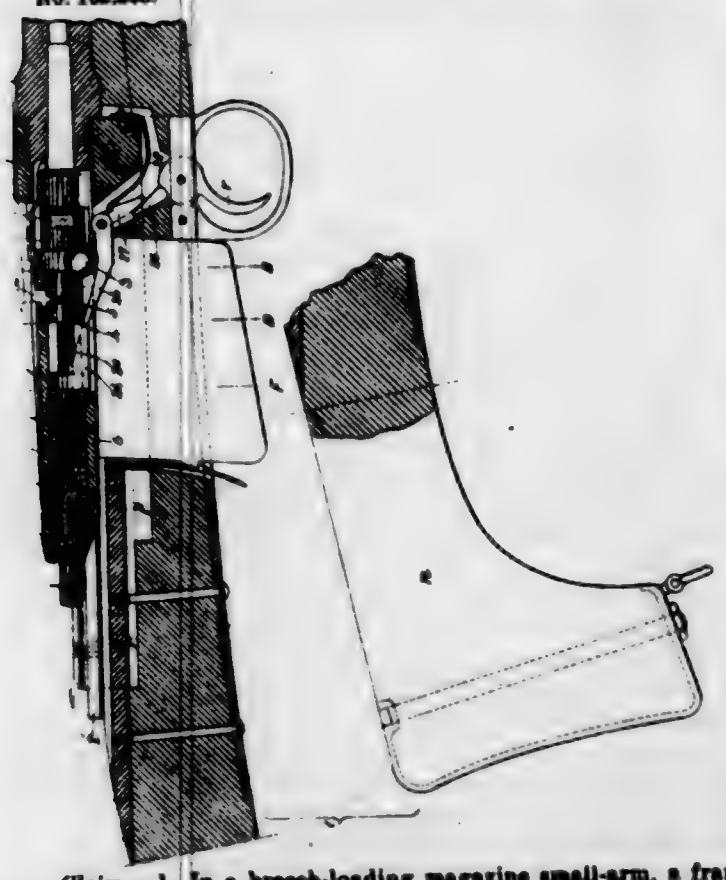
shields that are pivotally connected to the draft-frame and have rigid connection with said adjustable frame back of the fingers, an axle on which traction-wheels and said shields are mounted, a support in pivotal connection with the aforesaid adjustable frame, a reel mounted on the pivotal support over said fingers, and means by which motion is imparted to the conveyer and reel when the machine is in operation.

3. In a beet-harvester, a draft-frame having caster-wheel supports, another frame in lever-controlled adjustable connection with the one aforesaid, inclined beet-straddling fingers having partly-curved shanks in connection with the adjustable frame and provided with rearwardly-projecting prongs, an endless conveyer and supports for the same intermediate of side shields that are pivotally connected to the draft-frame and have rigid connection with said adjustable frame back of the fingers, said fingers, shanks and prongs forming a cradle forward of the conveyer; an axle on which traction-wheels and said shields are mounted, a support in pivotal connection with the aforesaid adjustable frame, a reel mounted on the pivotal support over said fingers, and means by which motion is imparted to the conveyer and reel when the machine is in operation.

4. In a beet-harvester, a draft-frame consisting of a transverse beam having rearwardly-extending and depending ends attachable to bearings for caster-wheel stocks, rearwardly-extended beams fast at their forward ends to the one aforesaid having downturned rear ends for pivotal connection with other parts of the machine, stringers extending from the rear terminals of the rearwardly-extending beams to the transverse beam, braces connected at their ends to the stringers and said transverse beam, foot-rests in connection with said rearwardly-extending beams and said stringers back of said braces, and tongue-hound hooks fast on the aforesaid transverse beam.

5. In a beet-harvester, an axle, traction-wheels fast on the axle, shields provided with bearings for said axle, an endless conveyer having its upper stretch between the shields, a draft-frame in pivotal connection with said shields, another frame in rigid connection with the aforesaid shields, link-and-lever mechanism connecting said frames, means for holding the lever in adjusted position, caster-wheels supporting the draft-frame, beet-straddling fingers in connection with the adjustable frame forward of the conveyer, a support in pivotal connection with said adjustable frame, a reel mounted on the support over said fingers, and means for driving the conveyer and reel from the axle of the machine.

808,282. **BREECH-LOADING SMALL-ARM.** PHILIP T. GODSAL, Iscoyd Park, near Whitchurch, England. Filed June 19, 1903. Serial No. 162,203.



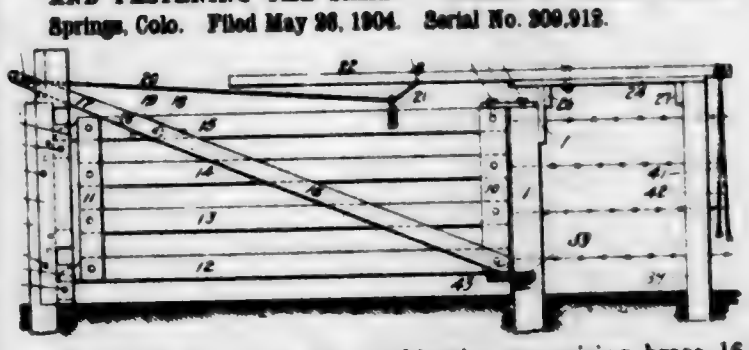
Claim.—1. In a breech-loading magazine small-arm, a frame having feathered side bars or guides, a breech-piece sliding on the feathers, a sleeve-head fixed to the sliding breech-piece, a rotatable sleeve placed between the fixed head and the breech-piece and a lever for operating the sleeve, a spring extractor attached to the sliding breech-piece and adapted to secure the sleeve in the breech-piece and yet be independent of its rotation, a swinging stop-lever to limit the backward travel of the breech-piece when in use, an ejector on the stop-lever, a firing-pin carrying the mainspring contained in the breech-piece and provided with a lateral projection, a sear at one side of the action adapted to coöperate with the lateral projection on the firing-pin, a trigger placed immediately below the breech end of the barrel and means on the trigger adapted to coöperate with the sear, all combined, arranged and operating as herein shown and described.

2. In a breech-loading magazine small-arm, the combination of a frame having feathered side bars, a breech-piece sliding on the feathers, a sleeve-head fixed to the sliding breech-piece and a locking-sleeve rotatable between the sleeve-head and the sliding breech-piece and provided with a lever-handle as herein described.

3. In a breech-loading magazine small-arm, the combination of a frame having feathered side bars, a breech-piece sliding on the feathers having a rotatable sleeve connected therewith, a non-rotatable sleeve-head and downwardly-projecting lugs for pushing forward cartridges into the breech, and a spring-plate attached at one end to said lugs and at the other end to the sliding breech-piece and bridging the space between the breech-piece and the sleeve-head and presenting a plain surface to slide over the cartridges in the magazine when opening and closing the breech, substantially as described.

4. In a breech-loading magazine small-arm, the combination of a sliding breech-piece, a locking-sleeve rotatable in the sliding breech-piece, a fixed sleeve-head in front of the sliding breech-piece, an extractor lying along the top of the sliding breech-piece and means connected with the extractor for securing the same to the sliding breech-piece and the rotatable sleeve in the same, as set forth.

808,283. **GATE AND MEANS FOR SUPPORTING, OPERATING, AND FASTENING THE SAME.** GEORGE B. GOULD, Colorado Springs, Colo. Filed May 26, 1904. Serial No. 209,913.



Claim.—1. In a gate the combination comprising brace 16, lever 17 pivoted thereto and to the gate, pliable connection 20, eye 21, lever 22 and means for operating lever 22.

2. In a gate the combination comprising brace 16, lever 17 pivoted thereto and to the gate, pliable connection 20, eye 21, lever 22, pliable connections 41 and 42, as and for the purposes set forth.

3. In a gate the combination comprising upright 10, horizontal member 15, brace 16, lever 17 pivoted thereto and to member 15, pliable connection 20, eye 21, lever 22, a suitable bearing for 22, situated above and in the rear of the gate and adapted to permit 22 to turn thereon horizontally and means for operating said lever 22.

4. In a gate the combination, comprising upright 10, horizontal member 15, brace 16, lever 17 pivoted thereto and to member 15, eye 21, pliable connection 20, lever 22, a suitable bearing for lever 22, situated above and in the rear of the gate, and adapted to permit lever 22 to turn thereon horizontally, pliable connections 41 and 42, as and for the purposes set forth.

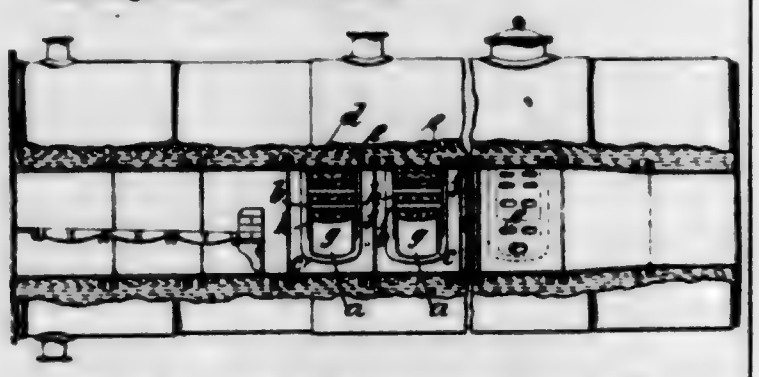
5. The combination comprising a post, a gate pivotally connected to said post, a brace pivotally connected at one of its ends to the heel of said gate, a lever pivotally connected to and fulcrumed upon the other end of said brace, one of the ends of said lever being pivotally connected with said gate, and means for operating said lever.

6. The combination comprising a post, a gate pivotally connected with said post, a brace pivotally connected at one of its ends to the heel of said gate, a lever pivotally connected to and fulcrumed upon the other end of said brace, one of the ends of said lever being pivotally connected with said gate, a suitable support and bearing provided at the rear of said post, a horizontal lever mounted upon said support and bearing and adapted to turn horizontally, an eye attached to said gate, pliable connection passing through said eye and connecting the free end of the first-mentioned lever to said horizontal lever, and means for operating said horizontal lever.

7. The combination comprising a post, a gate pivotally connected to said post, a brace pivotally connected at one of its ends to the heel of said gate, a lever pivotally connected to and fulcrumed upon said brace at its other end, one of the ends of said lever being pivotally connected with said gate.

8. The combination comprising a post, a flexibly-constructed gate pivotally connected to said post, a brace 16 pivotally connected at one of its ends to the heel of said gate, a lever 17 pivotally connected to and fulcrumed upon said brace at its other end, one of the ends of said lever being pivotally connected with said gate, substantially as and for the purposes set forth.

808,284. **BOILER.** JOHN B. GRACE, Ashton-under-Lyne, England. Filed Aug. 27, 1904. Serial No. 222,444.



Claim.—1. In a boiler for the generation of steam and for other purposes, a flue-tube and a tubular water-pocket therein having a bottom inclining toward the side of the flue, all substantially as and for the purpose set forth.

2. In a boiler for the generation of steam and for other purposes, a flue-tube and a tubular water-pocket therein having an arched-like bottom inclining toward each side of the flue-tube, all substantially as and for the purpose set forth.

3. In a boiler for the generation of steam and for other purposes, a flue-tube and a series of tubular water-pockets therein, the bottoms of which incline alternately toward each side of the flue-tube, all substantially as and for the purpose specified.

4. In a boiler for the generation of steam and for other purposes, a furnace-flue, a series of water-pockets in the interior thereof, fire-tubes passing through each of the said water-pockets and openings in the said furnace-flue communicating with the water-space in the boiler and the interior of the said pockets, the said fire-tubes varying in diameter in each of the said pockets, all substantially as and for the purpose set forth.

808,285. **FISH-HOOK.** JOSEPH T. HAINES, Linwood, N. J. Filed May 8, 1905. Serial No. 259,467.



Claim.—1. A fish-hook having a cutting member combined therewith.

2. A fish-hook, and a slidable cutting member combined therewith.

3. A fish-hook having a shank, and a cutting member slidably mounted on said shank.

4. A fish-hook, and a cutting member, one being movable with respect to the other.

5. A fish-hook having a shank, and a slidable member mounted thereon and provided with cutting edges.

6. A fish-hook, and a slidable member mounted thereon, said slidable member having a cutting edge at each side of the hook.

7. A fish-hook and a guard, the two being mounted for slidable movement in the direction of their lengths, said guard having a slot into which the barbed end of the hook may be drawn, and means for locking said guard and hook to prevent independent longitudinal movement of either member.

8. A fish-hook having a shank and provided with an arm carried by the shank, a slide having a slot through which the shank and arm extend, the end of the slide adjacent to the hook being sharpened to form cutting edges.

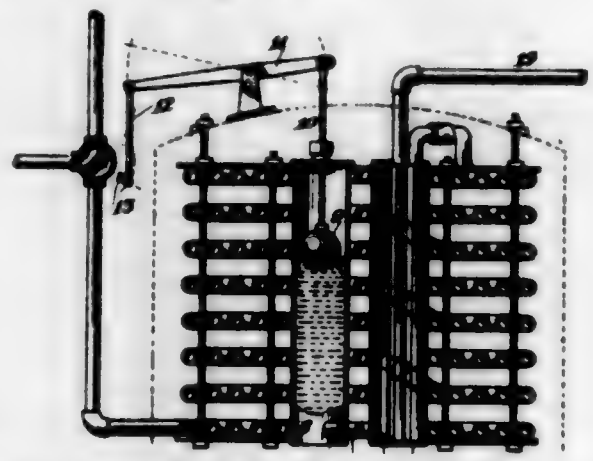
9. A fish-hook, and a cutter combined therewith, said cutter being in the form of an artificial bait.

10. A fish-hook, and an artificial bait carried thereby, the bait member having a cutting edge.

11. A fish-hook arranged for attachment to a fishing-line, and a guard having means for engaging the line.

12. A fish-hook having means for attachment to a fishing-line, and a slidable guard having a cutting edge adjacent to the barbed end of the hook and provided at its opposite end with a hook member for engagement with the line.

808,286. **STEAM-GENERATOR.** WILLIAM L. JONES, San Francisco, Cal., assignor of one-half to Samuel M. Snyder, San Francisco, Cal. Filed Jan. 19, 1905. Serial No. 241,306.



Claim.—1. A coil for steam-generators consisting of pipe doubled upon itself in the same plane, the central or doubled portion being elliptical and S-shaped.

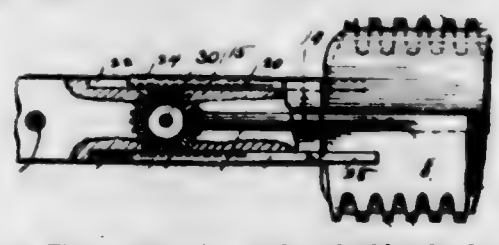
2. In a steam-generator, a shell, a series of connected coils therein, and a water-reservoir and a steam-reservoir nested or located vertically and side by side in said coils.

3. In a steam-generator, a shell, a series of connected coils therein, one above the other, with registering spaces, and two reservoirs in said spaces arranged side by side and connected with the top and bottom coils respectively.

4. In a steam-generator, a shell, a series of connected coils therein, one above the other, each coil consisting of a section of pipe doubled upon itself and having the doubled portion S-shaped and forming two spaces, the spaces in the different coils registering, and two reservoirs in said registering spaces and connected with the top and bottom coils respectively.

5. In a steam-generator, a shell, a series of connected coils therein, each provided with spaces, two reservoirs, in said spaces and connected with the end coils respectively, one reservoir being for water and the other one for steam, the steam-reservoir being provided with tubes, and means for automatically regulating the water-level in the other reservoir.

808,287. **SAFETY-RAZOR.** WILLIAM M. KELLUM, Norwalk, Ohio. Filed Jan. 16, 1905. Serial No. 241,202.



Claim.—1. The combination with a double-edged razor-blade and a common shank therefor, of guards pivotally secured, one on each side of said shank, the said pivotal means comprising "elongated" wrists on the guards and longitudinal sockets in the razor-shank and mechanical means substantially as described for independently rotating said guards to protect one or both edges of said double-edged blade, substantially as described.

2. In combination with a double-edged razor-blade, and a common shank therefor, guards provided with marginal laterally-bent teeth, and pivotally supported, one on each side of said shank and longthwise of said blade, longitudinal sockets therefor in said shank and gearing in said shank adapted to rotate the said guards, each marginal toothed edge of a guard being adapted to inclose the adjacent cutting edge of the double-edged blade.

3. In combination, a double-edged razor-blade, provided with a shank, guards longitudinally placed on said blade, one on each side, an extended wrist for each guard pivoted in said shank, one on each side thereof, a gear on each wrist, operating-gears pivoted in said shank and engaging said gears on said wrists, and finger-slides in

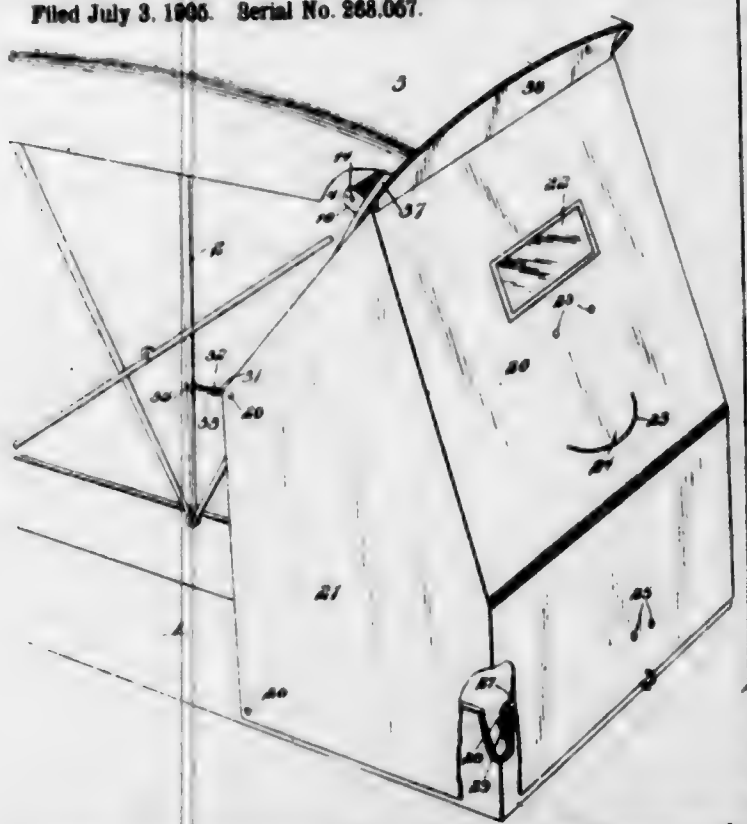
said shank, each slide being provided with a rack engaging with said operating-gears in said shank.

4. The combination with a double-edged razor-blade, of a common shank therefor, and a guard for each edge, having a longitudinally-arranged pivotal support in said shank, substantially as described.

5. A safety-razor, comprising a double-edged razor-blade, a common shank therefor, guard-plates provided with wrists pivoted in said shank one on each side thereof, and teeth upon the outer edge of said guard-plates, bent at approximately right angles thereto, said guards being adapted to fold with their inner faces to said double-edged blade, and with the teeth projecting outwardly, and to fold with their outer faces to the blades and their teeth projecting over the edges of the blades, and also adapted to fold with their teeth interlocking over one razor-edge.

6. In combination, a double-edged razor-blade, provided with a shank, guards longitudinally placed on said blade, one on each side thereof, an extended wrist for each guard pivoted in said shank, one on each side thereof, a gear on each wrist, operating-gears pivoted in said shank, and engaging said gears on said wrists, and finger-slides in said shank, each slide being provided with a rack engaging with said operating-gears in said shank, and fingers projecting from each slide, as and for the purpose specified.

808,288. STORM-SHIELD FOR BUGGIES AND OTHER VEHICLES. SIDNEY B. LAUNE and CHARLES M. SHELDEN, Woodward, Okla. Filed July 3, 1905. Serial No. 268,067.

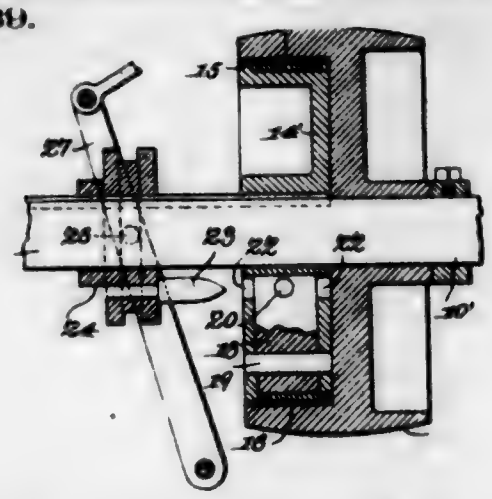


Claim.—The combination with a vehicle-body and bows extending therefrom to constitute a top-frame, said body having hooks secured to the front thereof; brackets secured to the bows adjacent their upper ends, a spring-roller rotatably mounted within the brackets, a ratchet-wheel rotatable with the roller, a weighted dog pivoted to one of the brackets and engaging the ratchet-wheel to lock the roller against rotation, a foldable shield secured to the roller and adapted to be wound thereon, means upon the shield for engaging the hooks and bows to hold the shield in lowered position, and a flexible flap secured to the top-frame and overlapping the shield.

808,289. CLUTCH. ALFRED LEE, Bellingham, Wash. Filed Dec. 20, 1904. Serial No. 237,708.

Claim.—In a device of the class specified, a loose member having an annular flange, a flanged disk arranged within said flange and provided with a radially-arranged recessed arm, said disk being provided with a peripheral groove terminating at one end in a stop-shoulder, a band arranged within the groove and having one end fitting against the shoulder, and its opposite end extending partly over the recess of said arm, a lever pivotally supported within the recess and having its outer end engaging against the free end of the band, a set-screw carried by the inner end of the lever, and a cam-pin movable through an opening in said arm and serving by engagement with the set-screw to operate the lever.

808,289.



808,290. SET-SCREW FOR LAMP GLOBES AND SHADES. THOMAS G. LUSON, Blackheath, London, England. Filed Mar. 28, 1905. Serial No. 253,067.



Claim.—1. A removable set-screw for use in supporting a lamp globe or shade from a gallery, comprising a hollow body having a screw-threaded engagement with the gallery, a plunger sliding in the hollow body, a collar on the plunger, a cap screwed into the end of the hollow body and a spring interposed between the collar and cap, as and for the purpose set forth.

2. A removable set-screw for use in supporting a lamp globe or shade from a gallery, comprising a hollow body having an external thread thereon for engagement with the gallery, an exterior shoulder on the hollow body for preventing overscrewing of the same, a plunger sliding within the hollow body and a spring arranged to yieldingly force the plunger outwardly as and for the purpose set forth.

3. A removable set-screw for use in supporting a lamp globe or shade from a gallery, comprising a hollow body having a screw-threaded engagement with the gallery and a spring-actuated plunger sliding in the hollow body and arranged to protrude at either end thereof, substantially as and for the purpose set forth.

808,291. DEVICE FOR DETACHING LOADS FROM ELEVATORS, &c. GEORGE C. MACKROW and HERBERT G. CAMERON, London, England. Filed Feb. 4, 1905. Serial No. 244,242.

Claim.—1. In a device for detaching loads from an elevator, the combination of an elevator, means for attaching loads to the elevator, a frame adjustable relatively to any point in the path of the carrying portion of the elevator and mechanism carried by the frame for detaching the loads from the elevator at varying points according to the position to which the frame is adjusted, substantially as set forth.

2. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a frame adjustable relatively to any point in the path of the carrying portion of the elevator, mechanism carried by this frame and operating in the same direction as the elevator to lift the load therefrom as it arrives at a given position relatively to the frame, and means for connecting the elevator with such mechanism when the load is to be detached, substantially as set forth.

3. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a frame adjustable relatively to any point in the path of the carrying portion of the elevator, mechanism carried by this frame and operating in the same direction as the elevator to lift the load therefrom as it arrives at a given position relatively to the frame, and means for automatically connecting the elevator with such mechanism when the load is to be detached, substantially as set forth.

4. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a frame adjustable relatively to any point in the path of the carrying portion of the elevator, a downwardly-inclined delivery-guide attached to this frame, and mechanism carried by the frame to discharge the load from the elevator onto the delivery-guide, substantially as set forth.

5. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support parallel with the elevator, a frame free to slide upon this support, a downwardly-inclined delivery-guide attached to the frame, means for holding the frame

stationary at any point, and mechanism carried by the frame to discharge the load from the elevator onto the delivery-guide, substantially as set forth.



6. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a frame adjustable relatively to any point in the path of the carrying portion of the elevator, a downwardly-inclined delivery-guide attached to the frame, detaching mechanism carried by the adjustable frame and moved to lift the load from the elevator as it arrives at a given position relatively to the frame, means for effecting this movement by connecting the elevator operatively with such mechanism when the load is to be detached, and means for passing the load from the detaching mechanism to the delivery-guide, substantially as set forth.

7. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a frame adjustable relatively to any point in the path of the carrying portion of the elevator, a downwardly-inclined delivery-guide attached to the frame, detaching mechanism carried by the adjustable frame and operative to lift the load from the elevator as it arrives at a given position relatively to the frame, means for automatically connecting the elevator with such mechanism when the load is to be detached, and means for passing it from the detaching mechanism to the delivery-guide, substantially as set forth.

8. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a frame adjustable relatively to any point in the path of the carrying portion of the elevator, a downwardly-inclined delivery-guide attached to the frame, detaching mechanism carried by the adjustable frame and operative to lift the load from the elevator as it arrives at a given position relatively to the frame, other mechanism carried by the adjustable frame and operative to pass the load from the lifting mechanism to the delivery-guide, and means for automaticaly connecting both of these mechanisms with the elevator when the load is to be detached, substantially as set forth.

9. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support near the point at which the loads are to be detached from the elevator, an arm pivoted to this support so that its operative end is free to swing into and by continued movement out of the path of the load carried by the elevator but normally lying out of such path, mechanism for connecting the elevator operatively with this arm to move it in one direction when the load is to be detached, means for multiplying the movement imparted by the elevator so that the free end of the arm overtakes the elevator, and means for returning the arm to its normal position, substantially as set forth.

10. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support near the point at which the loads are to be detached from the elevator, an arm pivoted to this support so that its operative end is free to swing into and by continued movement out of the path of the load carried by the elevator but normally lying out of such path, mechanism for automatically connecting the elevator operatively with this arm to move it in one direction when the load is to be detached, means for multiplying the movement imparted by the elevator so that the free end of the arm overtakes the elevator, and means for returning the arm to its normal position, substantially as set forth.

11. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, detaching mechanism moved to lift the load from the elevator as it arrives opposite such mechanism, a downwardly-inclined delivery-guide having its upper end situated near the point at which the load is detached, means for effecting the movement of the detaching mechanism by connecting the elevator with the same when the load is to be detached, and means for passing the load from the detaching mechanism to the delivery-guide, substantially as set forth.

12. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, detaching mechanism moved to lift the load from the elevator as it arrives opposite such mechanism, a downwardly-inclined delivery-guide having its upper end situated near the point at which the load is detached, means for automatically connecting the elevator with such mechanism when the load is to be detached and means for passing the load from the detaching mechanism to the delivery-guide, substantially as set forth.

13. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, detaching mechanism operative to lift the load from the elevator as it arrives opposite such mechanism, a downwardly-inclined delivery-guide having its upper end situated near the point at which the load is detached, other mechanism operative to pass the load from the lifting mechanism onto the delivery-guide and means for automatically connecting both these mechanisms with the elevator when the load is to be detached, substantially as set forth.

14. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a double hook suspended by one of its tongues from the elevator the second tongue being situated on the opposite side to the first so that it projects away from the elevator, a load-carrying shank to the hook, a detaching member adapted to be reciprocated in the path traversed by the free tongue of the hook in passing the point where the load is to be detached from the elevator, means for permitting the hook to pass the detaching member and means for operatively connecting the detaching member with the elevator so that it rises faster than the latter and lifts the hook therefrom by the free tongue referred to, substantially as set forth.

15. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a double hook suspended by one of its tongues from the elevator, the second tongue being situated on the opposite side to the first so that it projects away from the elevator, a load-carrying shank to the hook, a detaching member following in the path traversed by the free tongue of the hook in passing the point where the load is to be detached from the elevator and means for operatively connecting the detaching member with the elevator so that it rises faster than the latter and lifts the hook therefrom by the free tongue referred to, substantially as set forth.

16. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a double hook suspended by one of its tongues from the elevator the second tongue being situated on the opposite side to the first so that it projects away from the elevator, a load-carrying shank to the hook, a detaching member adapted to be reciprocated in the path traversed by the free tongue of the hook in passing the point where the load is to be detached from the elevator, means for permitting the hook to pass the detaching member, means for operatively connecting the detaching member with the elevator so that it rises faster than the latter and lifts the hook therefrom by the free tongue referred to, and means for disengaging the hook with its load from the detaching member, substantially as set forth.

17. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a double hook suspended by one of its tongues from the elevator, the second tongue being situated at the opposite side to the first so that it projects away from the elevator, a load-carrying shank to the hook, a detaching member following in the path traversed by the free tongue of the hook in passing the point where the load is to be detached from the elevator, means for operatively connecting the detaching member with the elevator so that it rises faster than the latter and lifts the hook therefrom by the free tongue referred to, a downwardly-inclined delivery-guide

having its upper end situated near the detaching member, and means for disengaging the hook with its load from the detaching member and passing it on to the delivery-guide so that the hook carrying the load gravitates down the latter, substantially as set forth.

18. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support near the point at which the loads are to be detached, a detaching-arm pivoted to the support so that its operative end is free to swing into and by continued movement out of the path of the load carried by the elevator, a movable member operatively connected with this arm in such manner that when displaced a given distance the free end of the arm will have traversed a greater distance, an outwardly-directed projection on the elevator adapted to displace this movable member as it passes and to set relatively to the load that the movable member is displaced at the moment the load is in the path through which the end of the detaching-arm travels resulting in the load being lifted thereby from the elevator, and means for returning the arm to a position out of the path of the loads carried by the elevator, substantially as set forth.

19. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support near the point at which the loads are to be detached, a gravity-controlled detaching-arm pivoted to the support so that its operative end is free to swing into and by continued movement out of the path of the load carried by the elevator but normally pendent with its free end out of such path, a movable member operatively connected with this arm in such manner that when displaced a given distance the free end of the arm will have traversed a greater distance, and an outwardly-directed projection on the elevator adapted to displace this movable member as it passes and so set relatively to the load that the movable member is displaced at the moment the load is in the path through which the end of the detaching-arm travels resulting in the load being lifted thereby from the elevator until continued movement again releases the movable member and the detaching-arm returns under the action of gravity, substantially as set forth.

20. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support near the point at which the loads are to be detached, a detaching-arm pivoted to the support so that its operative end is free to swing into and by continued movement out of the path of the load carried by the elevator, a movable member operatively connected with this arm in such manner that when displaced a given distance the free end of the arm will have traversed a greater distance, an outwardly-directed projection on the elevator adapted to displace this movable member as it passes and so set relatively to the load that the movable member is displaced at the moment the load is in the path through which the end of the detaching-arm travels resulting in the load being lifted thereby from the elevator, means to maintain the detaching-arm in its operative position until the load is discharged therefrom, means for discharging the load from the arm and means for returning the arm to a position out of the path of the loads carried by the elevator, substantially as set forth.

21. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support near the point at which the loads are to be detached, a detaching-arm pivoted to the support so that its operative end is free to swing into and by continued movement out of the path of the load carried by the elevator, a member secured to the detaching-arm at a point between the free end and the pivoted end thereof and projecting toward the elevator, an outwardly-directed projection on the elevator adapted to engage this member as it passes and so set relatively to the load that the member is engaged at the moment the load is in the path through which the end of the detaching-arm travels resulting in the load being lifted thereby from the elevator, and means for returning the arm to a position out of the path of the loads carried by the elevator, substantially as set forth.

22. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support near the point at which the loads are to be detached, a detaching-arm pivoted to the support so that its operative end is free to swing into and by continued movement out of the path of the load carried by the elevator, an outwardly-directed projection on the elevator, a striking member pivoted to the detaching-arm at a point between the free end and the pivoted end thereof and projecting toward and lying parallel to and in the same plane as the elevator and in the path of the projection thereon, means to control the movement of this plate so that when engaged by the projection parallel motion is imparted to it in a direction away from the elevator until the projection can pass the member being maintained in this position until the projection has traversed its face and means for returning the detaching-arm and connected member to their normal positions, substantially as set forth.

23. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support near the point at which the loads are to be detached from the elevator, a detaching-arm pivoted to this support so that its operative end is free to swing into and by continued movement out of the path of the load carried by the elevator, mechanism operatively connecting the elevator with this arm so that its free end overtakes the elevator and lifts the load from the same, a projection on the elevator, a lever pivoted to the support referred to and extending into the path of this projection, means to maintain the detaching-arm in its lifted position until this lever is operated by the movement of the elevator, mechanism operatively connected with the lever to push the load from the detaching-arm, means for returning the arm after the discharge of the load to a position out of the path of the loads carried by the elevator and means for returning the lever for discharging the load, substantially as set forth.

24. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a support near the point at which the loads are to be detached from the elevator, a detaching-arm pivoted to this support so that its operative end is free to swing into and by continued movement out of the path of the load carried by the elevator, mechanism operatively connecting the elevator with this arm so that its free end overtakes the elevator and lifts the load from the same, an outwardly-directed projection on the elevator, a lever pivoted to the support referred to above and extending into the path of this projection, a discharging-lever pivoted to the support so that its free end can be swung across the operative end of the detaching-arm in a direction at right angles to the latter, means for operatively connecting this discharging-lever with the first-mentioned lever so that the discharging-lever may be operated as described, means to maintain the detaching-arm in its raised position until the first lever is operated by the movement of the elevator, means for returning the detaching-arm after such movement to a position out of the path of the loads carried by the elevator, and means for returning the discharging-lever, substantially as set forth.

25. In a device for detaching loads from an elevator the combination of, an elevator, an outwardly-directed projection on the same adapted to receive a hook to which the load is attached, and means for automatically lifting the hook from such projection at the point where the load is to be detached from the elevator, substantially as set forth.

26. In a device for detaching loads from an elevator the combination of, a chain elevator, an outwardly-projecting link on the same adapted to receive a hook to which the load is attached, means to prevent lateral displacement of the hook therefrom, and means for automatically lifting the hook from such projection at the point where the load is to be detached from the elevator, substantially as set forth.

27. In a device for detaching loads from an elevator, the combination of, a chain elevator, an outwardly-projecting link on the same, an upwardly and backwardly directed extension of the projecting portion of the link perforated to receive a hook to which the load is attached, means to prevent lateral displacement of the hook thereon, and means for automatically lifting the hook from such projection at the point where the load is to be detached from the elevator, substantially as set forth.

28. In a device for detaching loads from an elevator the combination of, a chain elevator, an outwardly-projecting link on the same adapted to receive a hook to which the load is attached, wheels to the link, a guideway for the wheels carried by the frame of the elevator, means to prevent lateral displacement of the hook from the link and means for automatically lifting the hook from the same at the point where the load is to be detached from the elevator, substantially as set forth.

29. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a frame adjustable to any point in the path of the carrying portion of the elevator, a delivery-guide, means for pivoting one end of the guide to the frame so that it can turn about a vertical and also a horizontal axis, and mechanism carried by the frame to discharge the load from the elevator onto the delivery-guide, substantially as set forth.

30. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a frame adjustable to any point in the path of the carrying portion of the elevator, a delivery-guide, a bracket, means for pivotally connecting the delivery-guide and bracket, means for pivotally connecting the bracket to the frame one of these pivots being vertical and the other horizontal, and mechan-

ism carried by the frame to discharge the load from the elevator onto the delivery-guide, substantially as set forth.

31. In a device for detaching loads from an elevator the combination of, a hook on each load, a frame adjustable to any point in the path of the carrying portion of the elevator, mechanism carried by the frame and adapted to engage the hook on the load and lift the load thereby from the elevator, a guide-rail one end of which alines with the hook when lifted by the detaching mechanism while the other extends from the frame to the point at which the load is to be delivered, a support for this extending portion secured to the frame and pivoted to swing about a horizontal axis the rail being carried transversely through the horizontal axis and divided to permit the required movement and means for supporting that portion of the rail which lies between the detaching mechanism and the horizontal axis of the pivot, substantially as set forth.

32. In a device for detaching loads from an elevator the combination of, a hook on each load, a frame adjustable to any point in the path of the carrying portion of the elevator, mechanism carried by the frame and adapted to engage the hook on the load and lift the load thereby from the elevator, a guide-rail one end of which alines with the hook when lifted by the detaching mechanism while the other extends from the frame to the point at which the load is to be delivered, a support for this extending portion secured to the frame and pivoted to swing about a vertical and a horizontal axis the rail being carried transversely through the horizontal axis and vertically beneath the vertical axis and divided to permit the required movement, and means for securing that portion of the rail which lies between the detaching mechanism and the vertical line of the pivot, substantially as set forth.

33. In a device for detaching loads from an elevator the combination of, a hook on each load, a frame adjustable to any point in the path of the carrying portion of the elevator, mechanism carried by the frame and adapted to engage the hook on the load and lift the load thereby from the elevator, a guide-rail one end of which alines with the hook when lifted by the detaching mechanism while the other extends from the frame to the point at which the load is to be delivered, a support for this extending portion secured to the frame and pivoted to swing about a horizontal axis, the rail being carried transversely through the horizontal axis and divided to permit the required movement, means for securing the extending portion of the rail to one side of the support with clearance for the tongue of the hook on that side toward the support and for the shank and load on the other, a second rail extending similarly along the opposite side of the support, and a detachable rail-piece extending from one of said side rails to a point within the horizontal axis about which the support pivots and means for supporting that portion of the rail which lies between the detaching mechanism and the horizontal axis of the pivot, substantially as set forth.

34. In a device for detaching loads from an elevator the combination of, a hook on each load, a frame adjustable to any point in the path of the carrying portion of the elevator, mechanism carried by the frame and adapted to engage the hook on the load and lift the load thereby from the elevator, a guide-rail one end of which alines with the hook when lifted by the detaching mechanism while the other extends from the frame to the point at which the load is to be delivered, a support for this extending portion secured to the frame and pivoted to swing about a vertical and a horizontal axis, the rail being carried transversely through the horizontal axis and vertically beneath the vertical axis and divided to permit the required movement, means for securing the extending portion of the rail to one side of the support with clearance for the tongue of the hook on that side toward the support and for the shank and load on the other, a second rail extending similarly along the opposite side of the support, and a detachable rail-piece for connecting one of these side rails to that portion which lies vertically beneath the vertical pivot and means for supporting that portion of the rail which lies between the detaching mechanism and the vertical line of the pivot, substantially as set forth.

35. In a device for detaching loads from an elevator the combination of, a hook on each load, a frame adjustable to any point in the path of the carrying portion of the elevator, mechanism carried by the frame and adapted to engage the hook on the load and lift the load thereby from the elevator, a guide-rail one end of which alines with the hook when lifted by the detaching mechanism while the other extends from the frame to the point at which the load is to be delivered, a bracket pivoted about a vertical axis to the frame, a jaw at its base to permit the passage of the guide-rail, a support for the extension of the guide-rail, a jaw at one end of the support, means for pivoting this jaw about a horizontal axis to that on the bracket the guide-rail being carried transversely through this horizontal axis and beneath the vertical axis about which the bracket is pivoted and divided to permit the required movement, and means for securing that portion of the rail which lies between the detaching mechanism and the vertical line of the pivot, substantially as set forth.

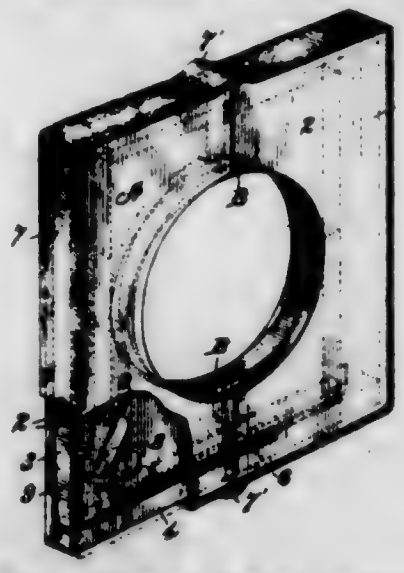
36. In a device for detaching loads from an elevator the combination of, a hook on each load, a frame adjustable to any point in the path of the carrying portion of the elevator, mechanism carried by the frame and adapted to engage the hook on the load and lift the load thereby from the elevator, a guide-rail one end of which alines with the hook when lifted by the detaching mechanism while the other extends from the frame to the point at which the load is to be delivered, a support for this extending portion, means for pivoting this support to the frame about a horizontal axis, the rail being carried transversely through the horizontal axis and divided to permit the required movement, and similar means provided on the other side of the frame so that the support can be readily mounted on either side, substantially as set forth.

37. In a device for detaching loads from an elevator the combination of, a load-carrying elevator, a frame adjustable relatively to any point in the path of the carrying portion of the elevator, a downwardly-inclined delivery-guide pivotally attached to this frame, mechanism carried by the frame to discharge the load from the elevator onto the delivery-guide, and an extension guide-rail system to receive the load from the delivery-rail, substantially as set forth.

38. In a device such as described the combination with a load-carrying elevator, a frame, oppositely-inclined guide-rails carried by the frame mechanism carried by the frame to discharge the load from the elevator to one of said guide-rails, and a rail-piece for receiving the load so discharged; substantially as described.

39. In a device such as described, the combination with a load-carrying elevator, a frame, oppositely-inclined guide-rails carried by the frame mechanism carried by the frame to discharge the load from the elevator to either of said guide-rails, and a detachable rail-piece for receiving the load so discharged; substantially as described.

808,292. JOURNAL-BOX DUST-GUARD. GEORGE L. MANSFIELD Chicago, Ill. Filed July 6, 1905. Serial No. 268,229.



Claim.—1. In a dust-guard, incasing members containing a journal-opening, in combination with incased members therein and provided with a corresponding journal-opening, means pressing said members toward a common center, and links angularly interposed between the incasing and incased members, substantially as described.

2. In a dust-guard, incasing members containing a journal-opening and guided one upon the other, in combination with members incased therein and having a corresponding journal-opening, means pressing said members toward a common center and permitting the expansion thereof, and means angularly and pivotally connecting each incased section with both incasing sections, substantially as and for the purpose specified.

3. In a dust-guard, a plurality of relatively distensible sections forming the body of the guard, and together containing a journal-opening, in combination with a second plurality of sections together containing a corresponding journal-opening, said second plurality of sections being arranged for movement transverse to the movement of the first-mentioned sections, links arranged to impart the movement of the sections of one set to those of the other set, and means pressing said sections toward a common center, substantially as described.

4. In a dust-guard, a pair of incasing sections, together contain-

ing a journal-opening, in combination with a pair of incased sections containing a corresponding opening and arranged at right angles to the incasing section, and swinging pressure-communicating devices interposed between the incasing and incased sections and adapted to communicate the movement of the incased sections to the incasing sections to separate the latter, substantially as described.

5. In a dust-guard, a pair of incasing sections containing a journal-opening, in combination with a pair of incased sections also containing a journal-opening and arranged at right angles to the incasing sections, and links arranged within said incasing sections and pivotally connecting the same with the incased sections for reciprocal movement, and suitable means pressing said sections toward a common center, substantially as described.

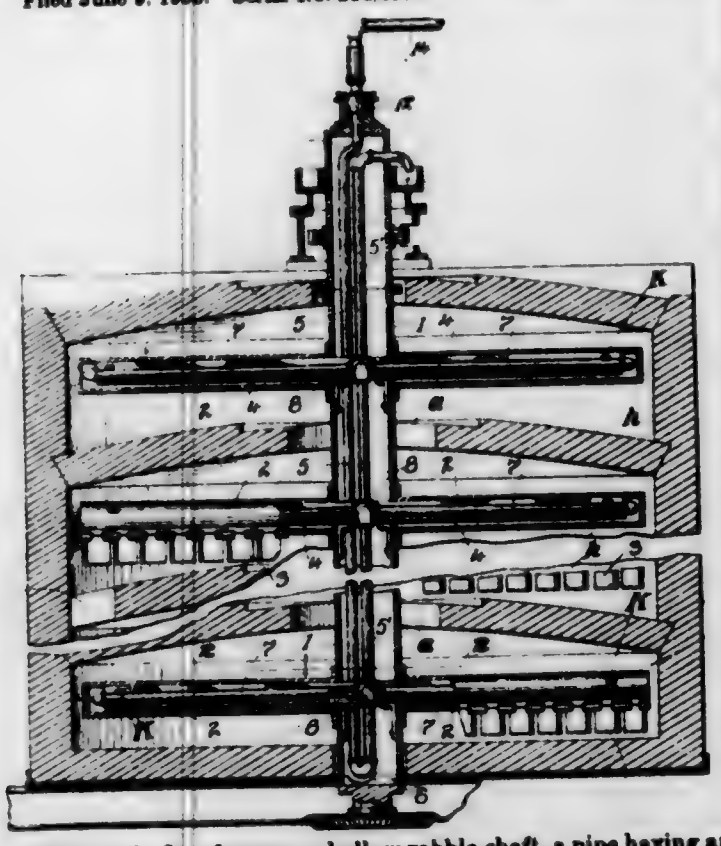
6. In a dust-guard, a pair of incasing sections and means pressing the same together, in combination with other sections incased by the first-mentioned sections, said sections together containing a journal-opening, and links pivoted upon the ends of the incased sections and upon the adjacent portions of the incasing sections, respectively and thereby adapted to communicate the movement of either pair of sections to the other pair, substantially as described.

7. In a dust-guard, incasing sections, containing a journal-opening and each comprising side plates and a mid-bar, in combination with means whereby said sections are movably alined, incased sections arranged between the sides of the incasing sections, at right angles to said incasing sections and containing a journal-opening, springs connecting the incasing sections and links angularly positioned between said mid-strips and the incased sections and pivotally connecting the sections, substantially as described.

8. In a dust-guard, a pair of incasing sections containing a journal-opening, in combination with incased sections, and interoperating devices occupying angular positions between said incasing and said incased sections and adapted to communicate the movement of one pair of sections to the other pair, substantially as described.

9. A dust-guard comprising a plurality of relatively distensible sections together containing a normally non-circular opening, means pressing said members toward a common center and permitting extension thereof and angularly-disposed links interposed between said sections whereby the outer movement of either pair thereof is communicated to the other sections, substantially as described.

808,293. ROASTING-FURNACE. FRANK B. MARCY, Chicago, Ill. Filed June 9, 1905. Serial No. 264,457.



Claim.—1. In a furnace, a hollow rabble-shaft, a pipe having an inlet branch confined within the shaft for conveying a cooling medium through the shaft in one direction, and a return branch within the shaft coupled to, or forming a continuation of said inlet branch, for conveying the cooling medium in the opposite direction, substantially as set forth.

2. In a furnace, a hollow rabble-shaft and hollow arms therefor, an inlet-pipe leading into the shaft for conveying a cooling medium therethrough in one direction, a return coupled to said inlet-pipe located within the shaft, and branches or distributing-pipes leading from the return and entering the rabble-arms, substantially as set forth.

3. In a furnace having a series of superimposed hearths, hollow rabble-arms operating in said hearths, and suitable pipes confined within the hollow arms for circulating a cooling medium therethrough, the discharge of said medium being at the inner ends of the rabble-arms, substantially as set forth.

4. In a furnace, a hollow rabble-shaft and hollow arms therefor, an inlet-pipe for conveying a cooling medium into said shaft, a return for said inlet-pipe located in the shaft, a series of branches or distributing-pipes confined in the hollow arms for conveying the cooling medium from the return through the arms and returning said medium to the return-pipe in the shaft, substantially as set forth.

5. In a furnace having a plurality of hearths, a hollow rabble-shaft passing through the hearths, hollow arms radiating from the shaft and extending into the several hearths, structural members for the arms having walls spaced a suitable distance from the walls of the arms, an inlet-pipe and return for conveying a cooling medium into and out of the shaft, and a series of branches leading from the return into the arms and in contiguous relation to the structural members for cooling the latter and the hollow arms, substantially as set forth.

6. In a furnace having a plurality of hearths, a hollow rabble-shaft passing through the hearths, hollow arms radiating from the shaft and extending into the several hearths, structural members located within and supporting the hollow arms and spaced a suitable distance from the walls thereof, an inlet and return pipe passing through the shaft for conveying a cooling medium thereinto, and branches extending from the return into the hollow arms and around the structural members for cooling the latter and the hollow arms, substantially as set forth.

7. In a furnace, a hollow rabble-shaft and hollow arms therefor, an inlet-pipe leading into the shaft for conveying a cooling medium therethrough in one direction, a return coupled to said inlet-pipe located within the shaft and discharging at a point adjacent to the inlet end of the shaft, and means for conducting a cooling medium into the hollow arms, substantially as set forth.

8. In a furnace, a hollow rabble-shaft and hollow arms therefor, and a water-circulating system of pipes located within said shaft and arms and surrounded by the body of air confined within said shaft and arms, substantially as set forth.

9. In a furnace having a plurality of hearths, a hollow rabble-shaft passing through the hearths, a series of structural members radiating from the shaft and extending into the several hearths, a series of hollow arms passed over and supported by the structural members and forming air spaces or conduits therewith, an inlet-pipe and a return in the shaft for conveying a cooling medium into and out of said shaft, and a series of branches leading from the return into the conduits of the arms and enveloping the structural members within the arms for cooling said members and arms, substantially as set forth.

10. In a furnace, rabble-arms having coils confined therein for the circulation of a cooling medium, substantially as set forth.

11. In a furnace, a circulating system comprising a longitudinally-disposed pipe and series of branches radiating therefrom at intervals, and means for effecting circulation through the pipe and branches longitudinally in series and radially through a multiple, substantially as set forth.

12. In a furnace, a circulating system comprising a longitudinally-disposed pipe, and series of branches radiating therefrom at intervals, means for effecting circulation through the pipe and branches longitudinally in series and radially through a multiple, and inlet means and outlet means for the circulation means at one end of the system, substantially as set forth.

13. In a furnace, a circulating system comprising a vertically-disposed pipe and series of branches radiating therefrom at intervals, and means for effecting circulation through the pipe and branches vertically in series and radially through a multiple, substantially as set forth.

14. In a furnace, a circulating system comprising a vertically-disposed pipe and series of branches radiating therefrom at intervals, means for effecting circulation through the pipe and branches vertically in series and radially through a multiple, and inlet means and outlet means for the circulation means at one end of the system, substantially as set forth.

15. In a furnace, a hollow rabble-shaft and hollow rabble-arms

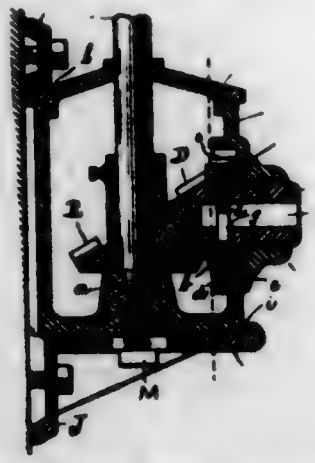
radiating therefrom at intervals, in combination with a circulating system comprising a water-circulating pipe confined within the shaft, and branches leading therefrom confined within the arms, means for effecting circulation through the pipe and branches vertically in series and radially through a multiple, and inlet means and outlet means for the circulation means at one end of the system, substantially as set forth.

16. In a roasting-furnace, a hollow shaft, hollow rabble-arms on the shaft, means for circulation within the shaft and arms vertically in series, and radially consecutively through a multiple, and inlet means and outlet means for the circulation means at one end of the shaft, substantially as set forth.

17. In a roasting-furnace, a hollow shaft, hollow arms on the shaft, means for circulation within the shaft and arms vertically in series, and radially consecutively through a multiple, and inlet means and outlet means for the circulation means at the top of the shaft, substantially as set forth.

18. In a furnace, a hollow rabble-shaft and hollow arms therefor, an inlet-pipe section and return-pipe section confined within the shaft for respectively conducting a circulating medium therethrough in opposite directions, and distributing-pipes leading from one of said pipe-sections into the rabble-arms for circulating the cooling medium therethrough and back to the said pipe-section, substantially as set forth.

808,294. **AWNING-BOX.** EDGAR T. MEAKIN, San Francisco, Cal. Filed Dec. 31, 1904. Serial No. 239,278.



Claim.—1. An awning-box having a controlling mechanism consisting of gear and pinion inclosed therein, and an operating-handle for said mechanism, in combination with automatic means secured within said pinion for locking said mechanism, said locking means adapted to be released by the operating-handle.

2. In the class of device described, a box having an octagonal shape, beveled gear and pinion therein, a controlling-shaft connected to said gear and means included within said pinion for locking it to the box adapted to be released by the operating-handle.

3. In the class of device described, in combination with a pinion and gear, an operating-handle, a containing-case provided with a series of notches around the pinion, and a sliding pawl in the body of the pinion adapted to engage said notches and lock the pinion against rotation, said pawl being adapted to be released by said handle.

4. In the class of device described, in combination with a pinion and gear, a containing-case provided with a series of notches around the pinion and a spring-pawl in the body of the pinion, adapted to engage said notches and lock the pinion against rotation, and means connected with the operating-handle to release said lock.

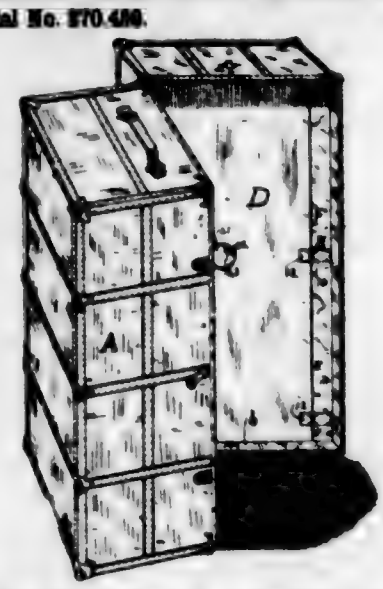
5. In the class of devices described a pinion provided with a bearing-flange and a socket for operating means, a pawl mounted within said flange and adapted to engage notches in the supporting-case to lock said pinion, and means for moving said pawl.

6. In the class of devices described, the combination with a pinion provided with a crank-handle socket, of a locking-pawl, located within said pinion having a central aperture corresponding with said socket, said aperture provided with a beveled edge for operating said pawl.

7. An awning-operating mechanism comprising a beveled gear and a pinion, a shaft connected to said beveled gear, and an automatic locking means consisting of a pawl mounted within said pinion and notches in the supporting-case of said pinion said pawl being adapted to engage said notches.

8. In the class of devices described, a box provided with a removable cover, a bracket for said box, adapted to engage the cover and support the box and means for securing the box to the bracket whereby the cover is locked to the box by the bracket when the box is in position.

808,295. **TRUNK.** IMRE MENDEL, Cincinnati, Ohio. Filed July 20, 1905. Serial No. 270,486.



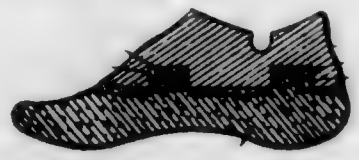
Claim.—1. The combination in a sectional trunk of a flap hingedly attached at its inner edge within one of the sections thereof and back from one of the edges of the same, said flap being of a width so as to project to or beyond this edge and a door hinged to the free outer edge of this flap.

2. The combination in a sectional trunk of an internal door provided to close one of the sections thereof, such door consisting of the door proper and of an intermediate flap, the two being fitted together so as to close when alined the opening of the particular trunk-section, both being hingedly attached to each other and the flap being hingedly secured to this trunk-section.

3. The combination in a sectional trunk of a door and a flap both fitted together so as to close when alined the opening of one of the sections of the trunk, three-leafed hinges secured each with their center leaf to the flap and connecting on one side with one of their leaves to the door and on the other side, with their other leaf to the trunk-section.

4. The combination in a sectional trunk of a narrow flap hinged within one of the sections thereof, a door hinged to this flap, the combined width of the two being arranged so as to fit across the opening of the particular section so as to close the same and means to hold this flap and door in their closed positions.

808,296. **ARTIFICIAL FOOT.** FRANK W. MERRICK, Chicago, Ill. Filed July 21, 1905. Serial No. 270,718.



Claim.—1. An artificial foot, comprising an upper or instep portion and a lower elastic tread or sole portion, studs or tenons more porous than the body portion of the tread and longer than the recesses formed in the upper or instep in which they fit, for securing the parts together.

2. An artificial foot comprising an upper or instep portion having recesses or mortises formed therein, a tread or sole portion formed of elastic material and tenons or studs projecting upwardly from the sole or tread, the said tenons being made of elastic material, more porous or spongy than the body portion of the tread or sole.

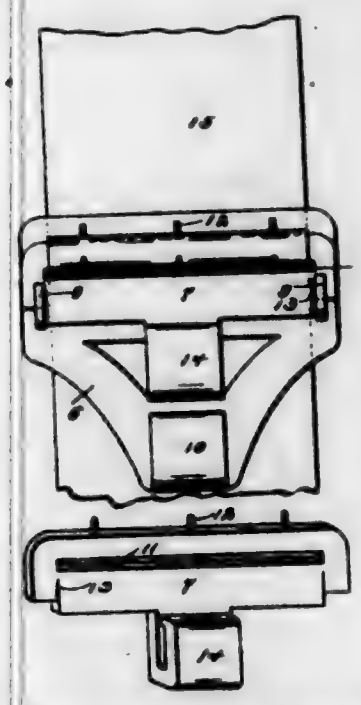
3. An artificial foot comprising an upper having sockets or mortises formed therein, a lower portion or tread having upwardly-projecting tenons made of porous or spongy material and capable of fitting into the mortises or recesses of the upper or instep portion, a space being left between the upper and the lower portions of the foot so that the weight of the wearer will compress the porous or spongy tenons or studs.

808,297. **TRACE-CARRIER.** JAMES B. MILLER, Boston, Ga. Filed June 20, 1905. Serial No. 266,163.

Claim.—1. A trace-carrier comprising two plates detachably connected together and having slots through which the back-band extends, each of said plates having a hook for the trace.

2. A trace-carrier comprising an inner plate having hooked

lugs on the outer side thereof and a hook below the same, and a removable outer plate fitting upon said lugs and supported thereby and having a hook, said plate having means to connect the back-band thereto.



3. A trace-carrier comprising an inner plate having a horizontal slot near its upper edge, a hooked lug at each side edge, and a trace-hook at the bottom, and an outer plate fitting behind said lugs and having a slot near its upper edge, prongs extending from said edge, and a trace-hook at the bottom.

808,298. **DEVICE FOR OPERATING STREET-RAILWAY SWITCHES.** ALBERT J. MOLINA, Havana, Cuba. Filed Sept. 9, 1904. Renewed Oct. 18, 1905. Serial No. 283,044.



Claim.—1. A switching device comprising a rod, provided with a broad blade at its lower end, suitably mounted in a vertical position upon the extension appliance to the frame of the wheel-truck of a street-car, means whereby the lower end of said rod may be swung from side to side, means for lowering said rod into engagement with the switch-tongue and means for simultaneously lowering and rotating said rod, ninety degrees, for shifting the switch-tongue to the opposite side, substantially as set forth.

2. A switching device comprising an inner casing, mounted in a vertical position on the extension of the frame of the wheel-truck of a street-car, and formed with a rectangular slot at its lower bottom plate and circular openings at the other bottom and top plates, an obliquely-movable rotatable rod working in said inner casing and through said slot, and means whereby the said casing and rod may be rocked from side to side, as set forth.

3. A switching device comprising a casing having a rectangular slot therein, an obliquely-movable rotatable rectangular rod provided with a twist at a point above the rectangular slot and within the casing, working within said casing and through the said slot and means for rocking said casing and rod laterally in a vertical plane about a pivot and for lowering the rod into engagement with the switch and for simultaneously lowering and rotating the rod and blade for shifting the switch-tongue, as set forth.

4. A switching device comprising an outer fixed suitable casing or cover, provided with a slot at top plate and another slot at front plate, mounted vertically rigidly upon the extension appliance to the wheel-truck frame of a street-car, an inner casing laterally movable on a vertical plane about a pivot, provided with a rectangular slot at its lower bottom plate, an obliquely-movable rotatable rod provided with a blade at its lower end, and means for simultaneously lowering and rotating said rod and blade for shifting the switch-tongue to opposite side, as set forth.

5. A switching device comprising a lever-arm provided with two indentations, movable in a vertical plane about its fulcrum at one of its ends and held downward at the other end by a steel spring, the lever-arm being attached by both its fulcrum and spring to the front plate of a fixed outer casing or cover mounted rigidly and vertically upon the extension appliance to the wheel-truck frame of a street-car, an inner casing laterally movable in a vertical plane about a pivot, provided with a rectangular slot at its lower bottom plate, an obliquely-movable rotatable rod provided with a blade at its lower end and means for simultaneously lowering and rotating said rod and blade for shifting the switch-tongue to the opposite side, as set forth.

6. A switching device comprising a pin firmly attached to the front plate of inner casing perpendicular to it and to the rod and projecting through the slot on front plate of outer casing, movable laterally simultaneously with and in the same manner as, inner casing and rod, and held in position at a time by one of the indentations of the lever-arm, a vertically-rotatable lever-arm about its fulcrum attached at one end and held downward at the other end by a steel spring, a fixed outer casing or cover mounted vertically and rigidly upon the extension appliance to the wheel-truck frame of a street-car, an inner casing laterally movable on a vertical plane about a pivot, an obliquely-movable rotatable rod provided with a blade at its lower end and means for simultaneously lowering and rotating said rod and blade into engagement with the switch for shifting the switch-tongue to opposite side, as set forth.

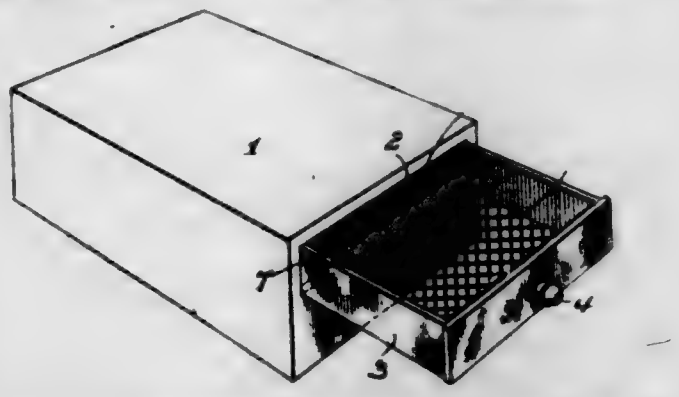
7. In a switching device the combination of a laterally-movable inner casing about pivots on a vertical plane and attached to a fixed outer casing or cover mounted rigidly vertically on the extenison appliance to the wheel-truck frame of a street-car and an obliquely-movable rotatable shifting-rod, supported within said inner casing and adapted to be rotated and lowered simultaneously, substantially as, and for the purpose, set forth.

8. In a switching device the combination of an obliquely-movable rotatable shifting-rod, a lever-arm provided with indentations and attached to the front plate of an outer casing, and a pin rigidly attached to the front plate of an inner casing, projecting through a slot on front plate of outer casing, which pin is engaged in said indentations of said lever-arm in order to hold the inner casing and shifting-rod in proper position and to prevent swaying or wabbling, substantially as and for the purpose set forth.

9. In a switching device the combination of an obliquely-movable rotatable rectangular shifting-rod provided with a twist within the inner casing, and working within said inner casing and the rectangular slot at the lower bottom plate of inner casing, thus adapting the rod to be simultaneously lowered and rotated, substantially as and for the purpose set forth.

10. In a switching device for street-railway cars the combination of the truck-frame, a supporting extension appliance rigidly attached to said truck-frame, the outer casing or cover of the switching apparatus above described firmly held in position at said extension-frame of the wheel-truck and the obliquely-movable rotatable shifting-rod extending through a slot on floor of car-platform directly above the apparatus, substantially as and for the purpose set forth.

808,299. **DEVICE FOR CLEANING CAPSULES.** OTTO E. MUELLER, Louisville, Ky. Filed Aug. 28, 1905. Serial No. 276,048.



Claim.—As a new article of manufacture, a box having an opening at one end only, the said opening being located near the top of said box and extending the width thereof, and a drawer located in said opening, the said drawer having a reticulated bottom to permit the material contained in the lower compartment of the box to pass through the bottom of the drawer, and into contact with the articles in said drawer.

808,300. **PENCIL-TIP.** JOHN S. MCCONNELL, Princeton, Iowa. Filed July 8, 1905. Serial No. 268,408.

Claim.—1. A pencil-tip comprising, in combination with a pencil, a length of metal tubing having spiral ridges thereabout, and a pair of oppositely-disposed longitudinal flanges extending out from

end to end of and integral with the tip, all substantially as shown and described.

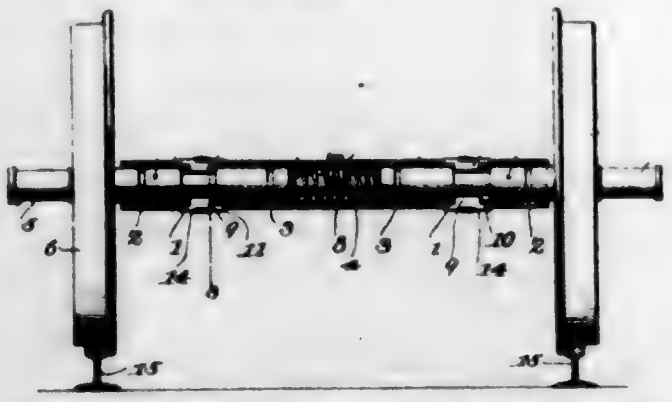


2. A pencil-tip comprising, in combination with a pencil and a rubber eraser, a length of metal tubing having spiral ridges thereabout, and a pair of oppositely-disposed longitudinal flanges extending from end to end of and integral with the tip, substantially as described.

3. A pencil-tip comprising, in combination with a pencil, a rubber eraser, a length of metal tubing having spiral ridges therearound and a pair of oppositely-disposed longitudinal flanges extending out from end to end of and integral with the tip, and means for securing the eraser and the pencil in the tip, all substantially as shown and described.

4. A pencil-tip comprising, in combination with a pencil and a rubber eraser, a length of metal tubing having exterior spiral ridges therearound, and having interior spiral threads alterating with the spiral ridges, a pair of oppositely-disposed longitudinal flanges extending out from end to end of and integral with the tubing, all substantially as shown and described.

808,301. CAR-AXLE. WALTER A. MCCORMICK, Pulaski, Va. Filed Aug. 15, 1905. Serial No. 274,293.



Claim.—1. A car-axle comprising independent axle-sections, a sleeve embracing the sections, and means connecting the sleeve and the individual axle-sections to permit rotation of the axle-sections within the sleeve and also to permit a limited separating movement of said axle-sections.

2. A car-axle comprising independent axle-sections, each section being provided with an annular channel, a sleeve embracing the axle-sections and covering the channels thereof, and keys carried by the sleeve and entering the respective channels to permit rotation of the axle-sections the channels being wider than the keys to permit of limited endwise play of the axle-sections.

3. A car-axle comprising independent axle-sections, a sleeve embracing the sections, means to permit limited separation of the sections within the sleeve, and a spring interposed between and bearing against the inner ends of the axle-sections.

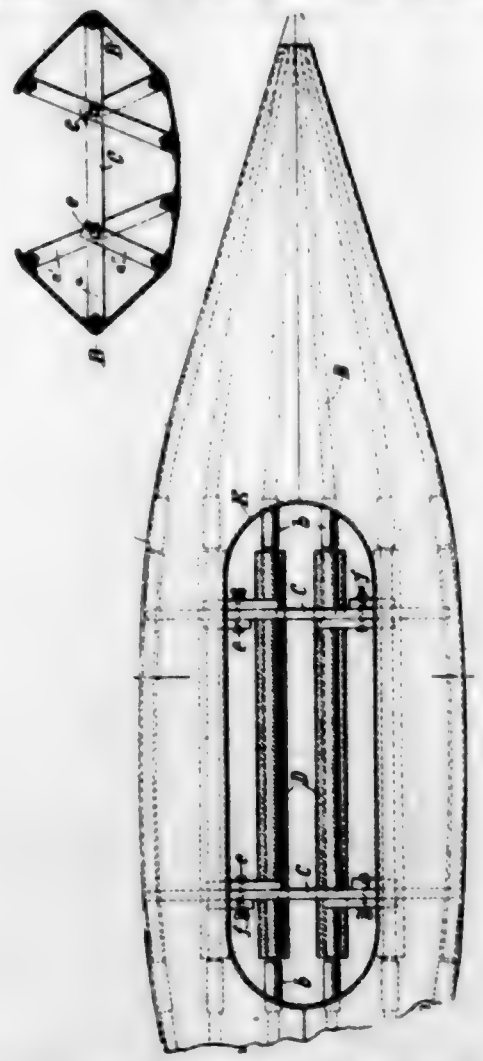
4. A car-axle comprising spaced independent axle-sections provided with annular channels, a sleeve embracing the axle-sections and covering the channels thereof, keys carried by the sleeve and engaging the channel to permit rotation thereof within the sleeve, the channels being wider than the keys to permit limited endwise movement of the axle-sections and a spring housed within the sleeve between and bearing against the inner ends of the axle-sections.

5. A car-axle comprising duplicate half-sections, each section being equipped with a car-wheel and having its outer end projected beyond the wheel and formed into a journal, a sleeve loosely embracing the axle-sections, means carried by the sleeve to permit of a limited endwise play of the axle-sections, and a spring interposed between and bearing against the inner ends of the axle-sections.

6. In a car-axle, the combination of duplicate axle-sections, each section being provided with a car-wheel with its outer end projected beyond the wheel and formed into a journal, the inner end portion of the axle-section being provided with an annular channel and annular grooves at opposite sides of the channel, a sleeve loosely embracing the inner end portions of the axle-sections and covering the channels and the grooves, keys carried by the sleeve and disposed in the respective channels, each channel exceeding in width the width of the respective keys to permit of a limited endwise play of the axle-sections, a helical spring housed within the sleeve between and bearing against the inner ends of the axle-sections, the space within the sleeve and between the axle-sections constituting a lubricating-chamber, the sleeve being provided with a filling-opening located between the axle-sections, and a removable closure for the filling-opening.

7. In a car-axle, the combination with spaced axle-sections having annular channels, of a sleeve embracing the axle-sections and covering the channels, said sleeve being provided with an opening in communication with each channel, removable keys fitted in the openings of the sleeve and entering the channels, and retaining-bands embracing the respective keys and the sleeve.

808,302. COLLAPSIBLE OR FOLDING BOAT. CHARLES H. PAINE, Englewood, N. J. Filed Mar. 25, 1905. Serial No. 251,940.



Claim.—1. A boat having a flexible covering, a plurality of resilient longitudinal ribs extending substantially from end to end of the boat, the ends of which are free to move independently of each other, and one or more transverse spreaders, substantially as shown and described.

2. A boat consisting of a flexible cover, a plurality of resilient longitudinal ribs extending substantially from end to end of the boat, the ends of which are free within the covering and terminate near the ends of the boat, and one or more transverse spreaders intermediate of the ends of the ribs, substantially as shown and described.

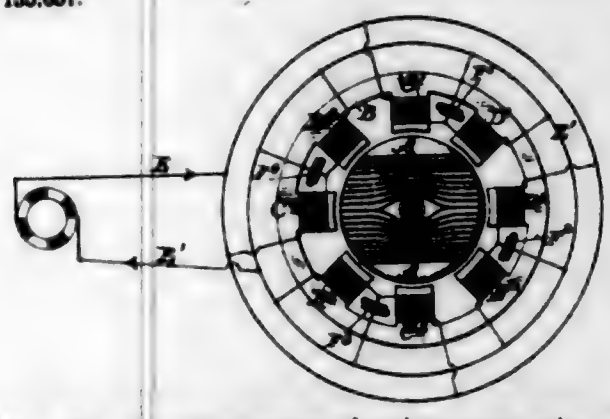
3. In a boat, the combination of a flexible covering a plurality of resilient longitudinal ribs extending substantially from end to end of the boat, the ends of which are free within the covering and terminate near the ends of the boat, and one or more spreaders intermediate of the ends of the ribs, substantially as shown and described.

4. In a boat, the combination of a flexible covering, a plurality of resilient longitudinal ribs extending substantially from end to end of the boat, the ends of which are free within the covering and terminate near the ends of the boat, and means for expanding the ribs against the covering, and causing them to exert a constant spring-pressure thereon, substantially as shown and described.

5. A boat consisting of a flexible covering, a plurality of resilient longitudinal ribs extending substantially from end to end of the boat, and means for expanding the ribs against the covering, and causing them to exert a constant spring-pressure thereon, substantially as shown and described.

6. A boat, comprising a flexible covering, stretched upon a framework consisting of a plurality of resilient longitudinal ribs, the ends of which are free within the covering, and one or more transverse spreaders intermediate the ends of the ribs, which hold the ribs apart amidships, while the ends of the ribs are kept together by the narrower ends of the covering, substantially as shown and described.

808,303. DIRECT INTERMITTENT CURRENT ELECTRIC MOTOR. CHESTER M. PALMER, Aurora, Ill. Filed Dec. 17, 1902. Serial No. 135,667.



Claim.—In a direct intermittent electric current motor, an armature, a plurality of field-coils arranged in inductive relation to different portions of the armature, said coils being connected in multiple series and one or more coils in each set of series-connected coils being shunted by a condenser whereby the current therein will be displaced or retarded.

808,304. CLOTHES-PIN. FREDERICK H. PERRY, West Medford, Mass. Filed Dec. 16, 1904. Serial No. 237,055.



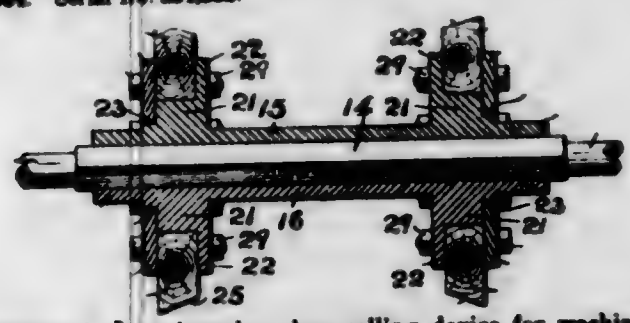
Claim.—1. A clothes-pin presenting a wire spring of the class shown, and two legs each shaped at its end to present a line-receiving space and an open mouth leading into said space, the front ends of said legs being out of contact except behind the rear end of said line-receiving space.

2. A clothes-pin presenting a wire spring of the class described and two legs shaped at their front ends to present a line-space, and an open mouth leading thereinto, said legs normally contacting between the central part of the spring and the line-space.

3. A clothes-pin presenting a wire spring of the class described and two legs shaped at their front ends to present a line-space, and a communicating open mouth, each of said legs being provided at their inner faces with a spring-receiving recess, the faces of said legs when the pin is not in use contacting between said line-space and said spring-receiving recess and tipping one on the other when the pin is put in use at a point between the head end of the pin and the central part of the spring.

4. A clothes-pin presenting a wire spring of the class described and two legs shaped as shown, said legs at their front ends presenting a line-receiving space, and a normally open mouth leading from the front end of said legs into said space, said legs contacting at their outer ends only as they are being separated at their front ends in opposition to the action of the spring as the front ends of the pin are being passed onto clothes on a line.

808,305. BARREL OR KEG ROLLING DEVICE FOR BARREL OR KEG WASHERS. FRANK P. PFEIL, Newark, N. J., assignor to Christian Feigenspan, a Corporation of New Jersey. Filed Nov. 26, 1904. Serial No. 234,522.



Claim.—1. In a barrel or keg rolling device for washing or scrubbing machines, the combination with a shaft, of a pair of sectional members adapted to be arranged and secured on opposite sides of the said shaft, means for securing said sectional members together, means on said shaft to prevent slipping of the said members upon the shaft, a pair of hub members on each sectional member, a flange extending from each hub member, and each of said hub members being also provided with an offset, a disk or plate having a central opening removably arranged on the offsets of the hub members of said connected sectional members, a series of segmental blocks arranged on said hub members and between the flanges thereof and said disks or plates, said hub members and their flanges serving to quickly center the assembled segmental blocks, and means for securing the said parts in their assembled relation, substantially as and for the purposes set forth.

2. In a barrel or keg rolling device for washing or scrubbing machines, the combination with a shaft, of a pair of sectional members adapted to be arranged and secured on opposite sides of the said shaft, means for securing said sectional members together, means on said shaft to prevent slipping of the said members upon the shaft, a pair of hub members on each sectional member, a flange extending from each hub member, each flange being provided with bolt-holes, and each of said hub members being also provided with an offset, a disk or plate having a central opening removably arranged on the offsets of the hub members of said connected sectional members, the said disks or plates being provided with bolt-holes corresponding to the bolt-holes in said flanges, a series of segmental blocks arranged on said hub members and between the flanges thereof and said disks or plates, said hub members and their flanges serving to quickly center the assembled segmental blocks, and each block being provided with a bolt-hole, tightening-bolts extending through the various holes in said flanges, blocks and said disks or plates, and a nut on each bolt, substantially as and for the purposes set forth.

3. In a barrel or keg rolling device for washing or scrubbing machines, the combination with a shaft, of a pair of sectional members adapted to be arranged and secured on opposite sides of the said shaft, perforated flanges extending from said sectional members, and bolts in the perforations of said flanges for securing said sectional members together, means on said shaft to prevent slipping of the said members upon the shaft, a pair of hub members on each sectional member, a flange extending from each hub member, and each of said hub members being also provided with an offset, a disk or plate having a central opening removably arranged on the offsets of said hub members of said connected sectional members, a series of segmental blocks arranged on said hub members and between the flanges thereof and said disks or plates, said hub members and their flanges serving to quickly center the assembled segmental blocks, and means for securing the said parts in their assembled relation, substantially as and for the purposes set forth.

4. In a barrel or keg rolling device for washing or scrubbing machines, the combination with a shaft, of a pair of sectional members adapted to be arranged and secured on opposite sides of a shaft, perforated flanges extending from said sectional members, and bolts in the perforations of said flanges for securing said sectional members together, means on said shaft to prevent slipping of the said members upon the shaft, a pair of hub members on each sectional member, a flange extending from each hub member, each flange being provided with bolt-holes, and each of said hub members being also provided with an offset, a disk or plate having a central opening removably arranged on the offsets of the hub members of said connected sectional members, the said disks or plates being provided with bolt-holes corresponding to the bolt-holes in said flanges, a series of segemental blocks arranged on said hub members and between the flanges thereof and said disks or plates, said hub members and their flanges serving to qflickly center the assembled segmental blocks, and each block being provided with a bolt-hole, tightening-bolts extending through the various holes in said flanges, blocks and said disks or plates, and a nut on each bolt, substantially as and for the purposes set forth.

5. In a barrel washing or scrubbing machine, the combination, with a shaft having a portion of a squared cross-section, of a barrel or keg rolling device, comprising a pair of sectional members of an angular cross-section adapted to be arranged and secured upon the squared portion of the said shaft, and barrel or keg supporting and rolling means connected with said sectional members, substantially as and for the purposes set forth.

6. In a barrel washing or scrubbing machine, the combination, with a shaft having a portion of a squared cross-section, of a barrel or keg rolling device, comprising a pair of sectional members of an angular cross-section adapted to be arranged and secured upon the squared portion of the said shaft, and barrel or keg supporting and rolling means connected with said sectional members, comprising a pair of hub members on each sectional member, a flange extending from each hub member, and each of said hub members being also provided with an offset, a disk or plate having a central opening re-

movably arranged on the offsets of the hub members of said connected sectional members, a series of segmental blocks arranged on said hub members and between the flanges thereof and said disks or plates, and means for securing the said parts in their assembled relation, substantially as and for the purposes set forth.

7. In a barrel washing or scrubbing machine, the combination, with a shaft having a portion of a squared cross-section, of a barrel or keg rolling device comprising a pair of sectional members of an angular cross-section adapted to be arranged and secured upon the squared portion of the said shaft, and barrel supporting and rolling means connected with said sectional members, comprising a pair of hub members on each sectional member, a flange extending from each hub member, each flange being provided with an offset, a disk or plate having a central opening removably arranged on the offsets of the hub members of said connected sectional members, the said disks or plates being provided with bolt-holes corresponding to the bolt-holes in said flanges, a series of segmental blocks arranged on said hub members and between the flanges thereof and said disks or plates, each block being provided with a bolt-hole, tightening-bolts extending through the various holes in said flanges, blocks and said disks or plates, and a nut on each bolt, substantially as and for the purposes set forth.

8. In a barrel washing or scrubbing machine, the combination, with a shaft having a portion of a squared cross-section, of a barrel or keg rolling device comprising a pair of sectional members of an angular cross-section adapted to be arranged and secured upon the squared portion of the said shaft, perforated flanges extending from said sectional members, bolts in the perforations of said flanges for securing said sectional members together, and barrel supporting and rolling means connected with said sectional members, substantially as and for the purposes set forth.

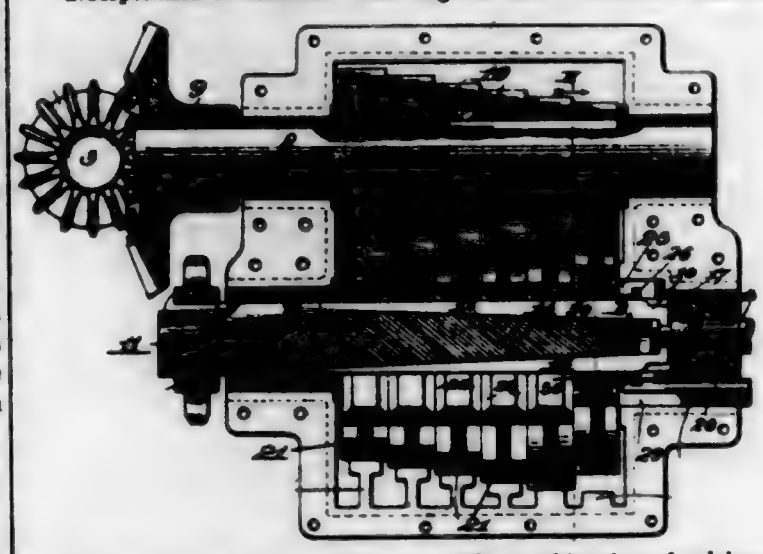
9. In a barrel washing or scrubbing machine, the combination, with a shaft having a portion of a squared cross-section, of a barrel or keg rolling device comprising a pair of sectional members of an angular cross-section adapted to be arranged and secured upon the squared portion of the said shaft, perforated flanges extending from said sectional members, bolts in the perforations of said flanges for securing said sectional members together, and barrel supporting and rolling means connected with said sectional members, comprising a pair of hub members on each sectional member, a flange extending from each hub member, and each of said hub members being also provided with an offset, a disk or plate having a central opening removably arranged on the offsets of the hub members of said connected sectional members, a series of segmental blocks arranged on said hub members and between the flanges thereof and said disks or plates, and means for securing the parts in their assembled relation, substantially as and for the purposes set forth.

10. In a barrel washing or scrubbing machine, the combination, with a shaft having a portion of a squared cross-section, of a barrel or keg rolling device, comprising a pair of sectional members of an angular cross-section adapted to be arranged and secured upon the squared portion of the said shaft, perforated flanges extending from said sectional members, bolts in the perforations of said flanges for securing said sectional members together, and barrel supporting and rolling means connected with said section members, comprising a pair of hub members on each sectional member, a flange extending from each hub member, each flange being provided with bolt-holes, and each of said hub members being also provided with an offset, a disk or plate having a central opening removably arranged on the offsets of the hub members of said connected sectional members, the said disks or plates being provided with bolt-holes corresponding to the bolt-holes in said flanges, a series of segmental blocks arranged on said hub members and between the flanges thereof and said disks or plates, each block being provided with a bolt-hole, tightening-bolts extending through the various holes in said flanges, blocks and said disks or plates, and a nut on each bolt, substantially as and for the purposes set forth.

11. In a barrel or keg rolling device for washing or scrubbing machines, the combination, with a shaft, of a hub adapted to be arranged upon said shaft, the said hub being provided with an annular flange formed with an annular seat, pins or bolts extending laterally from said flange, a series of sectional blocks all of the same size and shape, each block having a perforation for the placing of each block upon a pin and to be movable laterally thereon, and said blocks also resting upon said seat, and means on said pins or bolts for retaining said blocks in place, substantially as and for the purposes set forth.

12. In a barrel or keg rolling device for washing or scrubbing machines, the combination, with a shaft, of a hub adapted to be arranged upon said shaft, the said hub being provided with an annular flange formed with an annular seat, pins or bolts extending laterally from said flange, a series of sectional blocks all of the same size and shape, each block having a perforation for the placing of each block upon a pin or bolt and to be movable laterally thereon, and said blocks resting upon said seat, a disk or plate provided with perforations corresponding to the number of said pins or bolts, said disk or plate being arranged upon said pins or bolts, and means for forcing said disk or plate laterally against the sides of said blocks for retaining said blocks in place, substantially as and for the purposes set forth.

808,306. TRANSMISSION-GEAR. BERNARD H. POMEROY, St. Louis, Mo., assignor, by mesne assignments, to St. Louis Car Company, a Corporation of Missouri. Filed Aug. 22, 1904. Serial No. 221,661.



Claim.—1. In a transmission-gear, the combination of a driven shaft, a series of driven gear-wheels of varying diameters fixed to said shaft, a drive-shaft, a series of driving gear-wheels of varying diameters loosely surrounding said driving-shaft and having tapering faces at their sides, a slide-collar provided with tapering faces adapted to engage the tapering faces of the driving gear-wheels to permit the collar to pass into the central openings of the driving gear-wheels, means for reciprocating said slide-collar, shoes carried by said slide-collar, and means for spreading said shoes to said driving gear-wheels, substantially as set forth.

2. In a transmission-gear, the combination of a driven shaft, a series of driven gear-wheels of varying diameters fixed to said shaft, a drive-shaft having longitudinal tapering grooves therein, a series of driving gear-wheels of varying diameters surrounding said drive-shaft and having central openings of larger diameter than said shaft, means encircling said drive-shaft and arranged to operate within said driving gear-wheels to move either of said driving gear-wheels into mesh with the corresponding driven gear-wheels, and wedges operating in the grooves of the drive-shaft for locking said driving gear-wheels to said drive-shaft, substantially as set forth.

3. In a transmission-gear, the combination of a driven shaft, a series of driven gear-wheels of varying diameters fixed to said shaft, a drive-shaft, a series of driving gear-wheels of varying diameters surrounding said drive-shaft and having central openings of larger diameter than said shaft, means encircling said drive-shaft and arranged to operate within said driving-gear-wheels to move either of said driving gear-wheels into mesh with the corresponding driven gear-wheels, and means for locking said meshing driving gear-wheels to said drive-shaft; said last-named means consisting of friction members fitting within the meshing driving gear-wheel and wedges for exerting outward pressure against said friction members, substantially as set forth.

4. In a transmission-gear, the combination of a driven shaft, a series of driven gear-wheels of varying diameters fixed to said shaft, a drive-shaft, a series of driving gear-wheels of varying diameters loosely surrounding said driving-shaft and having tapering faces at their sides adjacent to their central openings, a slide-collar provided with tapering faces adapted to engage said driving-wheel tapering faces when said slide-collar passes into the central openings in said driving gear-wheels, means for reciprocating said slide-collar, friction-shoes carried by said slide-collar, and means for spreading said friction-shoes to said driving gear-wheels, substantially as set forth.

808,307. CLAMPING DEVICE FOR PNEUMATIC TIRES. HARRY K. RAYMOND, Akron, Ohio, MAXIMILIAN C. SCHWERSENZ, West Hoboken, N. J., and HENRY P. KRAFT, New York, N. Y. Filed Mar. 18, 1903. Serial No. 148,769.

Claim.—1. In a clamping device, the combination of a main nut, and a lock-nut, telescopically connected, and being capable of relative rotation.



2. In a clamping device, the combination of a main nut, and a lock-nut telescopically connected thereto, said nuts being capable of relative rotation, and said lock-nut being closed at its outer end.

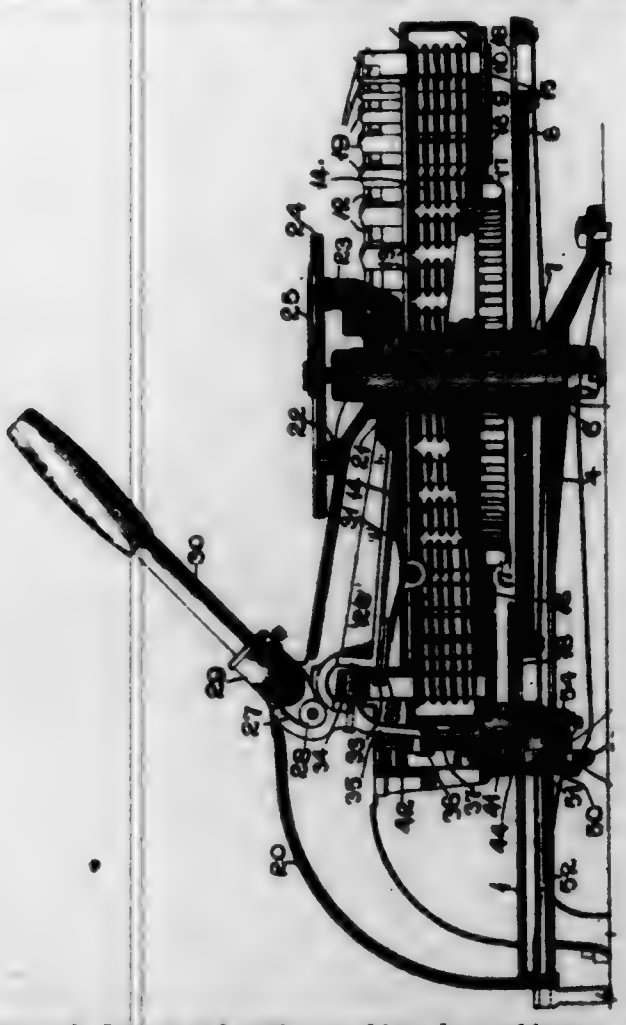
3. In a clamping device, the combination of a main nut, and a lock-nut telescopically connected thereto, said nuts being capable of relative rotation, and having an enlarged bore between their screw-threaded portions.

4. In a clamping device, the combination of a main nut, and a lock-nut telescopically connected thereto, one of said nuts having an elongated socket, and the other having an extension entering said socket, and being formed with an enlarged bore.

5. In a clamping device, the nut E having a socket *i*, and the nut F having an extension *j* formed with an enlarged bore, and adapted to slide in said socket, said nuts being rotatively connected together.

6. The combination with a rod *e* having screw-threaded portions *f* and *g*, and an intermediate portion *h* of reduced diameter, of a pair of nuts telescopically connected together and capable of relative rotation, one adapted to engage the thread *f* and the other the thread *g*, and one being extended toward the other sufficiently to contact with it when in such engagement, whereby one nut acts as a lock-nut for the other.

808,308. **STENCIL-CUTTING MACHINE.** THEODORE W. REMMERS, St. Louis, Mo., assignor to The Dingraph Company, St. Louis, Mo., a Corporation of Missouri. Filed May 3, 1905. Serial No. 258,738.



Claim.—1. In a stencil-cutting machine, the combination with a base, of a rotatable die-carrier on said base, an arch connected to the base and extending over a portion of the die-carrier, said arch having depending flanges connected by a web to form a housing, a die-operating mechanism carried by the arch and within the housing formed by the web and depending flanges, said arch protecting the mechanism so as to house in the movable parts adjacent the die-carrier; substantially as described.

2. In a stencil-cutting machine, the combination with a base, of a rotatable die-carrier thereon having a flange constituting a table for the female die members, a flange constituting the holder for the male die members, resiliently-supported male die members in said holder and arranged in circular series, an arch connected to the base and extending over the die-carrier, said arch having depending flanges, the upper edges of which are connected together by a web to form a housing, and die-member-operating mechanism housed within the arch; substantially as described.

3. In a stencil-cutting machine, the combination with a base, a supporting-arch carried by the base, a rotatable spindle carried by the base and the arch and having unrestricted rotation, said arch being provided with a circular index about said spindle, a die-carrier supported upon said spindle to rotate therewith, a pointer also mounted on said spindle and lying above said index to coöperate therewith, a pivoted lever carried by said arch and having means for engagement with one of the dies, and a hand-lever for coöperation with the first-mentioned lever to actuate the dies; substantially as described.

4. In a stencil-cutting machine, the combination with a rotatable die-carrier, an arch having one end above the die-carrier, male die members carried by the die-carrier, a lever 26 pivoted to the arch and adapted to engage the respective male die members, a device pivotally connected to the arch and in engagement with the free end of lever 26 for operating the same, and a sheet-feeding mechanism coöperating with said lever 26; substantially as described.

5. In a stencil-cutting machine, the combination with a rotatable die-carrier, of spring-pressed die-plungers carried by said carrier, a lever 26 for actuating said plungers, said lever 26 having a cam-recess, and a cam-lever for operating said lever 26; substantially as described.

6. In a stencil-cutting machine, the combination with a table or base, of a rotatable die-carrier mounted on said base, an arch having one end secured above the axis of the die-carrier and the other end on the base, die members carried by said carrier, a horizontally-arranged lever having one end fulcrumed near the axis of the die-carrier and to the arch and the other end free for vertical movement, means on the free end of the lever for engagement with the respective die members, and a lever in engagement with the free end of the first-mentioned lever to impart a vibratory movement thereto; substantially as described.

7. In a stencil-cutting machine, the combination with a base, of a spindle rotatably secured thereto, a die-carrier rigid with the spindle and rotatable therewith, an arch having an end through which the spindle projects, means on the other end of the arch for securing it to the base, a dial carried by the end of the arch above the spindle, a pointer actuated by said spindle, die members carried by the die-carrier, a horizontal lever carried by the arch and pivoted thereto adjacent the spindle, means on said horizontal lever for engagement with the respective die members, and actuating means for said lever; substantially as described.

8. In a stencil-cutting machine, the combination with a rotatable carrier, die members supported by said carrier, a horizontal lever pivoted near the axis of the carrier and having means for actuating the die members, a projection on the free end of said lever, a feed mechanism adapted to be actuated by the projection on said lever, said feed mechanism comprising rollers, a ratchet on one of the rollers, a lever, a dog carried by the lever for engagement with the ratchet to rotate it, an independently-mounted pawl for preventing reverse movement of the ratchet, and a spring connected to the dog and pawl; substantially as described.

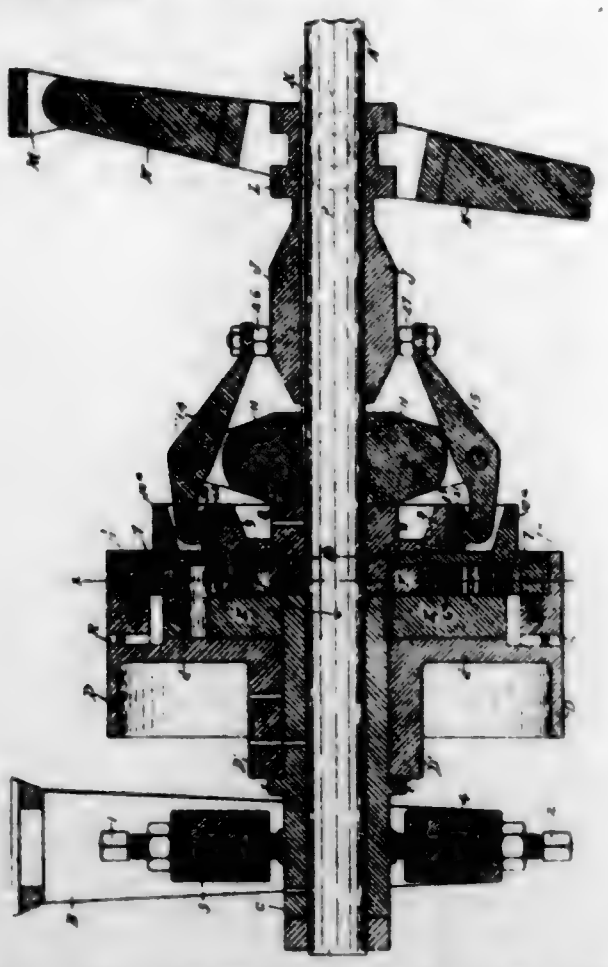
9. In a stencil-cutting machine, the combination with a set of dies and operating mechanism therefor including a lever, a projection on said lever, a sheet-feeding mechanism comprising rollers, a lever for actuation by the first-named lever, and a pair of dogs one of which is carried by the second-mentioned lever and the other independently mounted with relation thereto, said dogs engaging the ratchet-teeth on the roller, and a spring for actuating said dogs; substantially as described.

10. In a stencil-cutting machine, the combination with a set of dies and an actuating mechanism including a lever having a projection thereon, a lever in engagement with the projection and adapted to be actuated thereby, a dog carried by one end of said lever, a ratchet, a feed-roller movable with the ratchet, said ratchet being adapted to be actuated by the dog, a second dog for engagement with

the ratchet and having a projection beyond the fulcrum of the second-mentioned lever, and a spring terminally engaging an intermediate portion of the first-named dog and the extremity of the second-mentioned dog; substantially as described.

11. In a stencil-cutting machine, the combination with a set of dies and an actuating mechanism therefor including a lever having a projection, a sheet-leading mechanism comprising parallel sets of rollers between which the sheet may be fed, a ratchet carried by one of the rollers, a locking-dog for engagement with the ratchet and having an arm, a lever, a dog carried by the lever for engagement with the ratchet to actuate it, a spring connecting the two dogs, and means on the projection of the first-named lever for engagement with the second-named lever to move the last-mentioned lever away from the projection to actuate the ratchet; substantially as described.

808,309. **REVERSIBLE-PULLEY MECHANISM.** HARRY W. RICES and GEORGE W. STIVEL, Cambridge City, Ind., assignors of one-third to Jacob E. Driechel, Cambridge City, Ind. Filed July 15, 1904. Serial No. 216,665.



Claim.—1. The combination with a shaft, the hangers by which the shaft is mounted, a stationary spindle in which the shaft may revolve in either direction, a pulley mounted revolubly on said spindle concentric with the spindle and the shaft, an internal gear located in the flange of the pulley-rim, a sleeve and a pinion mounted revolubly on the shaft, gear-wheels located within the pulley and meshing with said internal gear and pinion to cause said sleeve to rotate on the shaft in a direction opposite to the direction of the pulley, means for connecting the shaft to revolve with the sleeve, and means for connecting the shaft to revolve with the pulley, substantially as described.

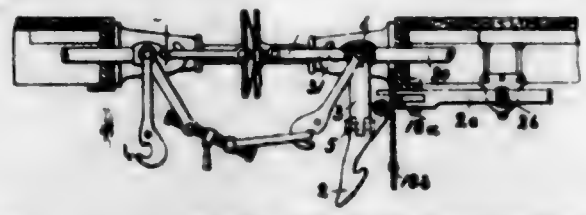
2. In combination with a driven element, a cone mounted around the driven element carried revolubly therewith and movable endwise thereon, a pulley mechanism characterized by a stationary element mounted around the driven element, a continuous rotating actuating element mounted on and concentric with the driven element and the stationary element, gear-wheels carried in the actuating element, a reverse element mounted on the driven element and by said gear-wheels continuously rotated in a direction opposite to the actuating element, coupling elements secured to the driven element, means for frictionally connecting the coupling elements to either the actuating element or to the reverse element by the thrust of said cone in an axial direction at the will of the operator, all substantially as set forth.

3. An actuating-pulley, a driven shaft on which said pulley is mounted to be carried thereby, gear-wheels located in the pulley, a sleeve mounted on the shaft and adapted to be operated by the gear-wheels in a direction opposite to the direction of the pulley, a friction-band carried by the pulley and a smaller friction-band carried by the sleeve, a pair of arms for each friction-band with shoes adapted to clamp thereon, an arm-hanger secured to the driven shaft to which all of said arms are pivoted, a cone carried by the shaft and slidable in an axial direction thereon and providing the means for actuating said arms to cause them to contact their respective shoes with the respective friction-bands in order to operate the shaft in either direction, substantially as described.

4. In a reversible-pulley mechanism, the combination with the hangers and a shaft carried by said hangers, a permanent spindle surrounding the shaft and in which the shaft may revolve, a pulley revolubly mounted on said spindle and concentric with the spindle and the shaft, a plate 10 secured to the pulley having an internal gear and a flange, a disk secured to the inner end of said spindle and inclosed by the pulley-rim, a sleeve rotatably mounted on the shaft adjacent said disk, a central pinion secured around the inner end of the sleeve and contacted by said disk, a plurality of pinions inclosed by said plate mounted on axles secured on said disk and meshing with said central pinion and with the said internal gear, a friction-wheel integral with said sleeve, and means for connecting said shaft to revolve with either the friction-wheel or with the friction-flange, all substantially as shown and described.

5. In a reversible-pulley mechanism, the combination of hangers and a shaft carried by said hangers, a permanent spindle surrounding the shaft and in which the shaft may revolve, a pulley revolubly mounted on said spindle and concentric with the spindle and the shaft, a plate 10 secured to the pulley having an internal gear and a flange, a disk secured to the inner end of said spindle and inclosed by the pulley-rim, a sleeve rotatably mounted on the shaft adjacent to said disk, a central pinion secured around the inner end of the sleeve and contacted by said disk, a plurality of pinions inclosed by said plate mounted on axles secured to said disk and meshing with said central pinion and said internal gear, a friction-wheel integral with said sleeve, a cone carried by the shaft slidable endwise thereon, an arm carried by the shaft between the cone and the friction-wheel, levers pivoted in the arm-hangers, shoes mounted on the inner ends of said levers, one set of levers being adapted to contact their shoes with the friction-flange, and the other levers being adapted to contact their shoes with the friction-wheel when said cone is moved to the left or right, respectively.

808,310. **AUTOMATIC COUPLING FOR RAILWAY-CARS.** ANDERS A. ROSENGREN, Malmo, Sweden. Filed Jan. 23, 1905. Serial No. 242,414.



Claim.—1. In a car-coupling of the class described, the combination with the draw-bar and the hook mounted thereon to swing on a vertical axis, of a pivoted lever engaging said hook, a movable frame having yielding means engaging said lever, and an actuating device extending to the side of the car for moving said frame, substantially as described.

2. In a car-coupling of the class described, the combination with the draw-bar and the hook mounted thereon to swing on a vertical axis, of a two-armed lever, a loose connection between one arm thereof and said hook, a frame slidable transversely of the car, a pair of springs carried by said frame, and bearing against opposite sides of the other arm of said lever, and a rotatable shaft having a cam device for moving said slidable frame, substantially as described

3. In a car-coupler of the class described, a draw-bar having a swiveled part, an automatic coupling-hook pivotally connected with said swiveled part, and a non-automatic coupling device also pivotally connected with said swiveled part, substantially as described.

4. In combination, a draw-bar having a swiveled part, an automatic coupling-hook pivotally connected to said swiveled part, a pivoted lever, operating means extending to the side of the car and yieldingly connected with said lever, a non-automatic coupler also carried by said swiveled part, and a detachable connection between the lever and coupling-hook whereby the automatic hook may be disengaged from its operating mechanism and swing out of the way to permit the non-automatic coupler to be used, substantially as described.

5. In combination, a draw-bar having a swiveled part, an automatic coupling-hook pivoted thereto on a vertical axis, a non-automatic coupling device also carried by said swiveled part, a pivoted lever having a breakable arm, a pin on said arm engaging a groove

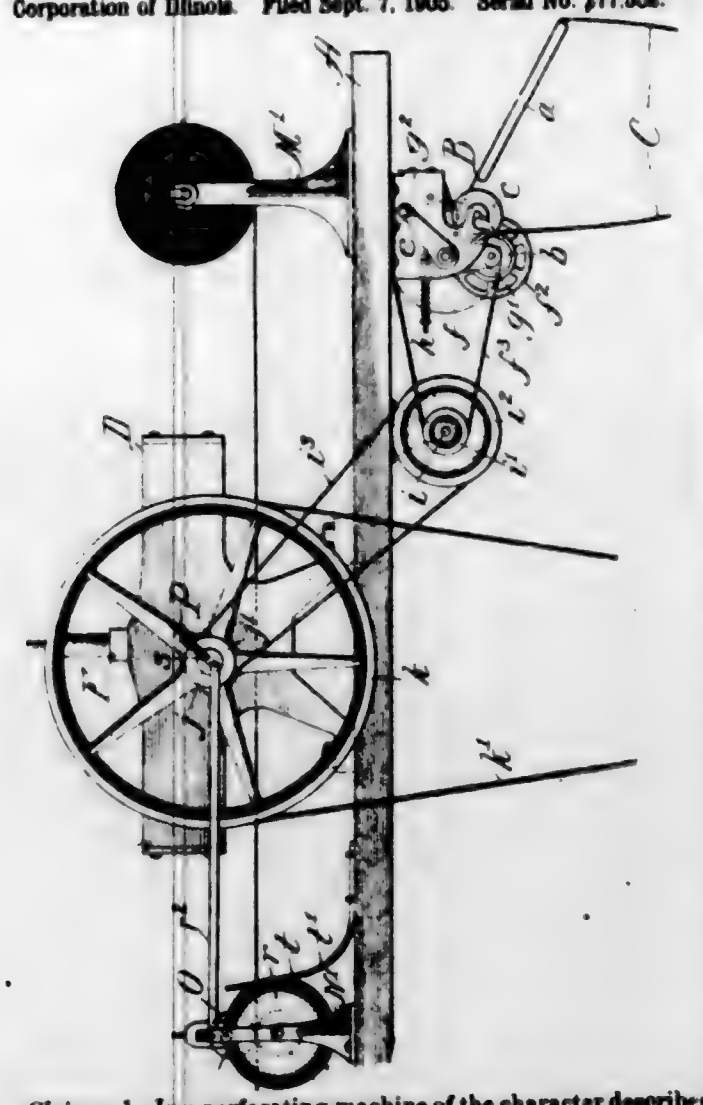
in the automatic coupling-hook, and yielding means for swinging said lever, substantially as described.

6. In a car-coupler, the combination with the draw-bar of a two-part hook having one of its parts pivotally connected to the draw-bar to swing upon a vertical axis and the second part pivotally connected to the first-named part to swing on a horizontal axis, substantially as described.

7. In a car-coupling of the class described, the combination with the draw-bar and the hook mounted thereon to swing on a vertical axis, of a pivoted lever engaging said hook, parts movable transversely of the car and having yielding means engaging said lever, and an actuating device extending to the side of the car for moving said movable parts, substantially as described.

8. In a car-coupling of the class described, the combination with the draw-bar and the hook mounted thereon to swing on a vertical axis, of a two-armed lever, a loose connection between one arm thereof and said hook, parts movable transversely of the car, springs bearing against said parts and against opposite sides of the other arm of said lever, and a rotatable shaft having a cam device for moving said movable parts, substantially as described.

808,311. **SHEET-PERFORATING MACHINE.** HENRY K. SANDELL, Chicago, Ill., assignor to Mills Novelty Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 7, 1905. Serial No. 277,352.



Claim.—1. In a perforating-machine of the character described, the combination with mechanism for feeding sheet material to be perforated, of spring-driven punches having their actuating-springs confined against them to be set for recoil action against the punches by retracting the latter, and means engaging the punches to positively retract them against the resistance of their driving-springs and reciprocate them transversely relative to said material.

2. In a perforating-machine of the character described, the combination with mechanism for feeding sheet material to be perforated, of spring-driven cam-retracted punches transversely reciprocable relative to said material and having their actuating-springs confined against them to be set for recoil action against the punches by retracting the latter.

3. In a perforating-machine of the character described, the combination with mechanism for feeding sheet material to be perforated, of spring-driven punches and a rotatory cam-shaft immediately engaging said punches to retract them in opposition to their driving-springs and produce their transverse reciprocation relative to said material.

4. In a perforating-machine of the character described, the combination with mechanism for feeding sheet material to be perforated, of a series of reciprocably-supported punches provided with driving-springs and carrying-arresters, a continuously-rotating cam-shaft immediately engaging said arresters to retract the punches in opposition to said springs and produce their transverse reciprocation relative to said material, means for driving said shaft, and means releasably engaging said arresters and normally locking the punches in their retracted position.

5. In a perforating-machine of the character described, the combination of mechanism for feeding sheet material to be perforated, spring-driven punches having their actuating-springs confined against them to be set for recoil action against the punches by retracting the latter, a rotary cam-shaft engaging said punches to retract them in opposition to their driving-springs and produce their transverse reciprocation relative to said material, and master-sheet-feeding mechanism coöperating with said sheet-material-feeding mechanism and operating to control the action of the punches through the perforations in the master-sheet.

6. In a perforating-machine of the character described, the combination of intermittently-actuated mechanism for feeding sheet material to be perforated, spring-driven punches having their actuating-springs confined against them to be set for recoil action against the punches by retracting the latter, a rotatory cam-shaft engaging said punches to retract them in opposition to their driving-springs and produce their transverse reciprocation relative to said material, and master-sheet-feeding mechanism connected with said cam-shaft to be actuated thereby and operating to control the action of the punches through the perforations in the master-sheet.

7. In a perforating-machine of the character described, the combination of intermittently-actuated feeding mechanism for the sheet material to be perforated, master-sheet-feeding mechanism including an electrical contact-roller and contacts, between which said master-sheet is fed, spring-driven punches and a rotatory cam-shaft engaging said punches to retract them in opposition to their driving-springs and produce their reciprocation relative to said material, said master-sheet and sheet-material feeding mechanisms being connected with and actuated by said cam-shaft, electromagnets having spring-actuated armatures provided with means for releasably locking said punches in their normally retracted positions, and an electric circuit containing said contact-roller and having branches, each branch including one of said contacts and one of said magnets.

8. In a perforating-machine of the character described, the combination of spring-driven punches having their actuating-springs confined against them to be set for recoil action against the punches by retracting the latter, a rotatory cam-shaft engaging said punches to retract them in opposition to their driving-springs and produce their longitudinal reciprocation, and mechanism for feeding the sheet material to be perforated across the path of said punches, comprising coöperating feed-rollers, one of said rollers being provided with a ratchet-wheel, a pawl engaging said wheel and a pitman connected at one end with said pawl and having its opposite end eccentrically connected with the cam-shaft.

9. In a perforating-machine of the character described, the combination of spring-driven punches having their actuating-springs confined against them to be set for recoil action against the punches by retracting the latter, a rotatory cam-shaft engaging said punches to retract them in opposition to their driving-springs and produce their longitudinal reciprocation, and mechanism for feeding the sheet material to be perforated across the path of said punches, comprising coöperating feed-rollers, one of said rollers being provided with a ratchet-wheel, a pawl engaging said wheel, a pitman connected at one end with said pawl and having its opposite end eccentrically connected with the cam-shaft, and a brake device coöperating with one of said rollers.

10. In a perforating-machine of the character described, the combination of spring-driven punches having their actuating-springs confined against them to be set for recoil action against the punches by retracting the latter, a rotatory cam-shaft engaging said punches to retract them in opposition to their driving-springs and produce their longitudinal reciprocation, means for releasably locking the punches independently of each other in their normally retracted positions, and mechanism for feeding the sheet material to be perforated across the path of said punches, comprising coöperating feed-rollers, one of said rollers being provided with a ratchet-wheel, a pawl engaging said wheel and a pitman connected at one end with said pawl and having its opposite end eccentrically connected with the cam-shaft.

11. In a perforating-machine of the character described, the combination with mechanism for feeding sheet material to be perfo-

rated, of a punch-bar supported to extend across the path of feed of said material and containing a row of punch-openings, punches reciprocably confined in said openings and driving-springs confined against the punches, a pair of bars supported to extend parallel with said punch-bar and forming between them a space for the passage of said material and provided with coincident openings registering with said punch-bar openings, means positively engaging said punches in opposition to their driving-springs to produce reciprocation of the punches, and means for releasably locking the punches in their normally retracted positions.

12. In a perforating-machine of the character described, the combination with mechanism for feeding sheet material to be perforated, of a punch-bar supported to extend across the path of feed of said material and containing a row of punch-openings, punches reciprocably confined in said openings and driving-springs confined against the punches, arresters on the punches, a pair of bars supported to extend parallel with each other and with said punch-bar and forming between them a space for the passage of said material and provided with coincident openings registering with said punch-bar openings, a rotatory cam-shaft engaging said arresters in opposition to the punch-springs, and means for releasably engaging said arresters to lock the punches in their normally retracted positions.

13. In a perforating-machine of the character described, the combination with a bed for supporting the parts, of a frame on said bed, mechanism for feeding across said frame sheet material to be perforated, a row of longitudinally-reciprocable spring-driven punches supported on said frame to extend across the path of feed of said material, and having their actuating-springs confined against them to be set for recoil action against the punches by retracting the latter, arresters on said punches, a rotatory cam-shaft engaging said arresters to retract the punches in opposition to their driving-springs and with which said feeding mechanism is connected to be operated thereby, master-sheet-feeding mechanism connected with said shaft to be actuated thereby, and operating to control the action of the punches through the perforations in the master-sheet, and means for releasably engaging said arresters to lock the punches in their normally retracted positions.

14. In a perforating-machine of the character described, the combination with a bed for supporting the parts, of a frame on said bed, intermittently-operating mechanism for feeding across said frame sheet material to be perforated, a row of longitudinally-reciprocable spring-driven punches supported on said frame to extend across the path of feed of said material, arresters on said punches, a rotatory cam-shaft engaging said arresters to retract the punches in opposition to their driving-springs and with which said feeding mechanism is connected to be actuated thereby, electromagnets supported on said frame and having spring-pressed armatures carrying fingers normally engaging said arresters to lock the punches in their retracted positions, master-sheet-feeding mechanism connected with said shaft to be operated thereby and containing an electrical contact-roller and contacts, between which said master-sheet is fed, and an electric circuit containing said contact-roller and having branches, each branch including one of said contacts and one of said magnets.

15. In a perforating-machine of the character described, the combination with a bed for supporting the parts, of a frame on said bed, intermittently-operating mechanism for feeding across said frame sheet material to be perforated, a row of longitudinally-reciprocable spring-driven punches supported on said frame to extend across the path of feed of said material, arresters on said punches, a rotatory cam-shaft adapted to be connected with suitable driving power and engaging said arresters to retract the punches in opposition to their driving-springs and with which said feeding mechanism is connected to be actuated thereby, electromagnets, one for each punch, supported on said frame and having spring-pressed armatures carrying fingers normally engaging said arresters to lock the punches in their retracted positions, a differential speed-pulley on said shaft, master-sheet-feeding mechanism geared to said pulley to be operated by the cam-shaft and containing an electrical contact-roller and contacts between which said master-sheet is fed, and an electric circuit containing said contact-roller and having branches, each branch including one of said contacts and one of said magnets.

808,312. SHIRT AND COLLAR BUTTON. George Schiff, Buffalo, N. Y. Filed Dec. 17, 1903. Serial No. 185,955.

Claim.—A button comprising a head, a hollow shank connected therewith, said shank being formed with a flared end opposite said head, a flexible stem extending into said hollow shank, and a flexible base connected with said stem and formed with an annular undercut recess into which the flared end of said shank extends, the said flared end being thus embedded in the flexible base and being surrounded and inclosed by that portion of the base overhanging the undercut recess.



808,313. BANANA-SHIPPING CASE. Frank Schmitz, Chicago, Ill. Filed Oct. 27, 1904. Serial No. 230,166.



Claim.—1. In a device of the class described, the combination with a frame, comprising longitudinal slats and connecting-hoops, of a bag having horizontal plaits above the hoops, of smaller diameter than the hoops, the bag extending over the hoops and being secured in place between the hoops and slats and the material outside the hoops being slitted.

2. In a device of the class described, the combination with a frame comprising longitudinal slats and connecting-hoops, of a bag lying between the slats and hoops and of smaller diameter than the hoops, the material of the bag being slitted outside the hoops to increase the circumference of the bag at these points.

808,314. CAR-BRAKE. Charles H. Shafer, McKeesport, Pa. Filed Mar. 31, 1905. Serial No. 253,078.

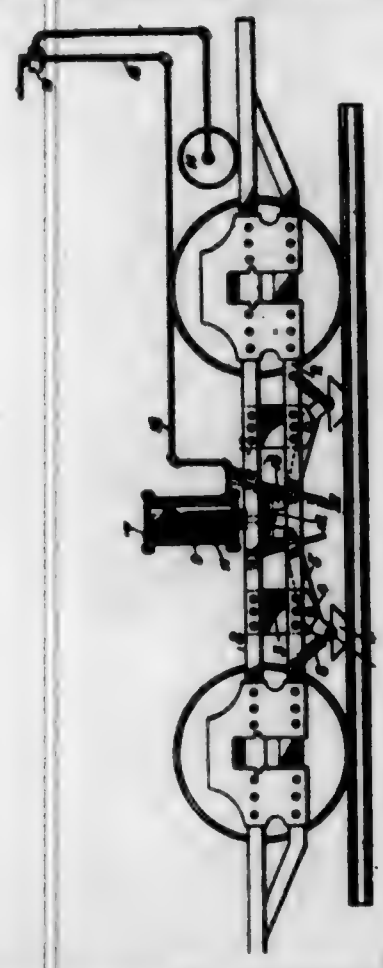
Claim.—1. In braking apparatus, the combination with a car-frame, of lever-fulcrums, vertically-movable levers mounted therein provided with track-bearing shoes and adjacent lifting-terminals, a vertically-arranged pneumatic cylinder provided with a piston having a yoke, adjacent links connecting the yoke with the lever-terminals, means for retracting the shoes from track contact, and means located in position for operation by the motorman for controlling the supply to and from the pneumatic cylinder, substantially as set forth.

2. In braking apparatus, the combination with a car-frame, of levers pivotally mounted thereon provided with terminal arms having downwardly-pressing track-shoes, a pneumatic cylinder and piston adapted to exert lifting pressure upon the inner ends of said levers, means for controlling the pressure to said cylinder, and means for vertically guiding the levers, substantially as set forth.

3. In braking apparatus, the combination with a car-frame, of levers pivotally mounted thereon provided with terminal arms having downwardly-pressing track-shoes, a pneumatic cylinder and piston adapted to exert lifting pressure upon the inner ends of said levers, means for controlling the pressure to said cylinder, and means for vertically guiding the levers, with means for regulating the movement thereof, substantially as set forth.

4. In braking apparatus, the combination of oppositely-disposed pivotally-mounted levers provided with terminal rail-contact shoes, a pneumatic cylinder provided with a piston having a yoke connected with the inner ends of said levers, guiding devices for the levers, and threaded adjusting-screws adapted to limit their movement, substantially as set forth.

5. In braking apparatus, the combination of oppositely-disposed pivotally-mounted levers provided with terminal rail-contact shoes, a pneumatic cylinder provided with a piston having a yoke connected with the inner ends of said levers, guiding devices for the levers, and threaded adjusting-screws adapted to limit their movement, with retracting-springs connected with the shoe-carrying extremities of said levers, substantially as set forth.



6. In braking apparatus, the combination of oppositely-disposed pivotally-mounted levers provided with terminal rail-contact shoes, a pneumatic cylinder provided with a piston having a yoke connected with the inner ends of said levers, guiding devices for the levers, threaded adjusting-screws adapted to limit their movement, a compressed-air reservoir, a controlling-valve, and connections between said reservoir, valve and cylinder, substantially as set forth.

808,315. STAFF-HEAD FOR CANOPIES. William J. Slyder, Troy, Ohio, assignor to George S. Long, Troy, Ohio. Filed Feb. 13, 1904. Serial No. 194,201.

Claim.—1. A canopy staff-head formed of sections, said sections carrying oppositely-disposed pintles.

2. A canopy staff-head formed of sections having flanges, and pintles carried by the flanges.

3. A canopy-head formed of sections, means for clamping the sections together; and pintles carried by the sections.

4. In a canopy, a head comprising two sections fitted together, the said sections having a socket extending therethrough, shanks formed on the sections of the head forming a socket, oppositely-disposed pintles on the two sections of the head and means for clamping the sections together.

5. In a canopy, a head comprising two sections fitted together, the said sections having a socket extending therethrough, shanks formed on the sections of the head forming a socket, pintles on the two sections of the head, means for clamping the sections together and for retaining a suitable shaft thereon.

6. In a canopy staff-head, two head-sections having flanges provided with pintles, means for clamping the sections together, shanks formed with the head-sections and having recessed facing surfaces forming a socket to engage a shaft.

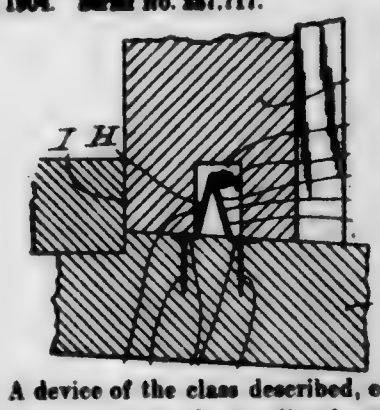
7. In combination, a head provided with pintle-lugs, and ribs hinged to the lugs.

8. In combination, a head provided with coinciding pintle-lugs, ribs hinged to the lugs, means for attaching a staff to the head, a cover, and means carried by the head for attaching the cover to the head.

9. In combination, a head, having pintle-lugs, ribs hinged to the lugs, means for attaching a staff to the head, a cover secured to the ribs, and means, carried by the cover and head, for holding the ribs in the spread position.



808,316. WEATHER-STRIP. Wilford H. Taylor, Denver, Colo. Filed Oct. 8, 1904. Serial No. 227,717.



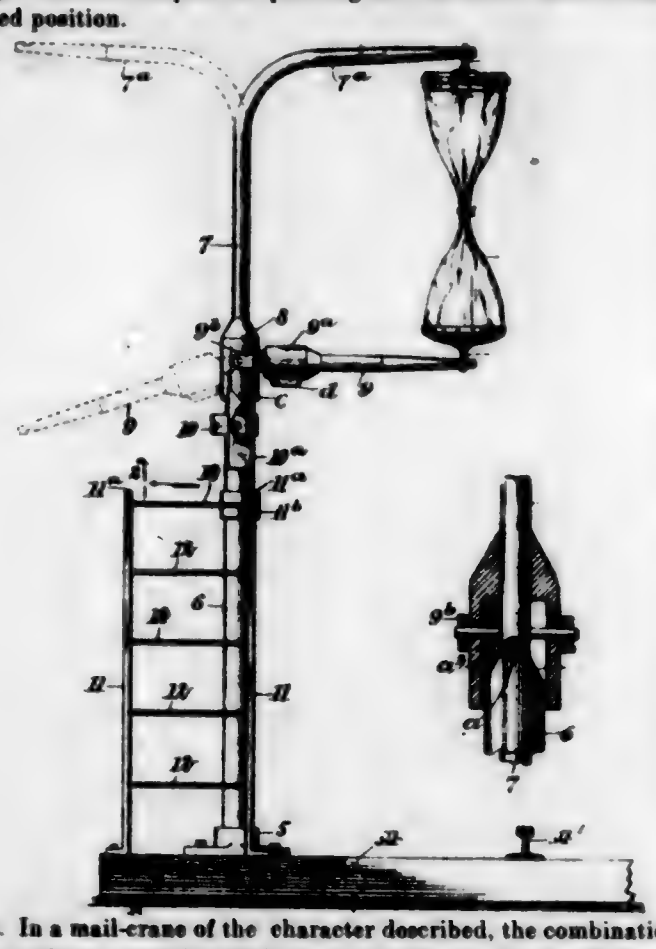
Claim.—1. A device of the class described, comprising a strip composed of two metal parts and extending longitudinally of and projecting from the sill of a window, said strip being in alinement with a slit or groove in the sash of a window, and a strip of flexible material bound between the upper edges of said metal parts for engagement with one of the walls of said slit or groove, substantially as described.

2. A weather-strip of the class described, substantially V shape in cross-section and composed of two parts having base-flanges and also top flanges, the latter being parallel with said base-flanges, and a strip of flexible material bound between said top flanges, substantially as and for the purpose specified.

808,317. MAIL-DELIVERING CRANE. Charles B. Trevis, Springfield, Mo., assignor of one-half to Ulysses S. Keen, Springfield, Mo. Filed Apr. 17, 1905. Serial No. 255,980.

Claim.—1. In a mail-crane, the combination with a stationary upright hollow post, a standard having a portion thereof held to turn in the post, a fixed arm on the upper end of the standard, a mating arm pivoted at one end on the standard near the upper end of the post, a spring carried by the pivoted arm and adpted to incline said arm downward, means carried by the post and arm for temporarily holding the arms extended in one direction, said means being reinforced by an expansible spring, and means actuated by the turning of the standard, adapted for holding the standard and locking the arms projected in an opposite direction.

2. In a mail-crane of the character described, the combination with a stationary upright tubular post, a standard having its lower portion held to turn in the post, and an arm extended laterally at the upper end of the standard, of a lower mating arm having a spring-box on one end, leaf-plates extended from the box and pivoted on the standard, a catch-lip on the lower side of said spring-box, latch-plates pivoted on the post whereon the catch-lip will engage for holding the standard from turning when the arm inclines downward, and a spring in the box adapted for pressing the arm into a downwardly-inclined position.



3. In a mail-crane of the character described, the combination with a stationary upright tubular post, of a standard having its lower portion occupying and rotatable in the post, spaced arms extended in the same plane laterally from the standard, and means for temporarily holding the arms from swinging, consisting of a notch formed in the upper edge of the post, the remaining portion of the edge being sloped away from the notched portion, and a wheel on the standard which may enter the notch when the standard is turned, and thus retain the arms stationary until they are forcibly pushed in either direction of turning movement.

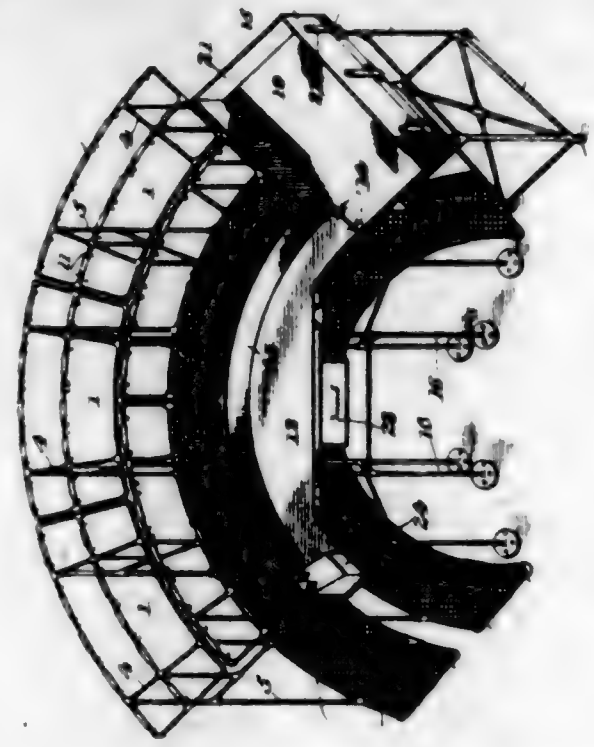
4. In a mail-crane of the character described, the combination with a stationary upright tubular post, of a standard having its lower portion occupying and rotatable in the post, spaced arms extended in the same plane laterally from the standard, a depending hood covering the upper end of the post, and means for temporarily holding the arms from swinging, consisting of a notch in the upper edge of the post, the remaining portion of the edge being sloped away from the notched portion, and a depending wheel on the standard within the hood, the wheel being adapted for seating in the notch when the standard is turned.

5. In a mail-crane of the character described, the combination with an upright post, of an inclined step-ladder held stationary at the bottom of the post, a level platform on the upper end of the inclined step-ladder, a depending leg on one side member of the platform, and a sleeve on the other side member thereof that receives and supports the upper end of the post.

808,818. MAIL-DISTRIBUTING RACK. GEORGE THOMAS and JOSHUA S. CARMEN, Chicago, Ill. Filed Sept. 27, 1905. Serial No. 280,269.

Claim.—1. A distributing-case comprising sections, each section being made up of metal tubes properly secured together, a base-support made up of metal tubes and an open-wire screen resting upon the base-frame, each section being curved and mounted upon casters, substantially as described.

2. A section for a distributing-case comprising the curved upper portion made up of metal tubes, the supporting-legs therefor, the base-frame made up of metal tubes and secured to the legs, the open-work metal screen resting upon the base-frame, and the casters secured to the straps extending diagonally across the corners of the base-frame, the front casters mounted upon a metal strap having downwardly-extending hooks, and the rear casters mounted upon metal straps having upwardly-extending hooks, for the purpose described.



3. In a distributing-case, a series of bag-racks, arranged as described, a running-board, a table mounted upon casters and arranged at one end of the distributing-case, said table being provided with interchangeable side boards, secured thereto by reversible latches, substantially as described.

4. A distributing-case comprising a series of substantially concentrically arranged independent sections, and a running-board having a curved longitudinal edge to which said sections are placed parallel.

5. A distributing-case comprising several tiers of substantially concentrically arranged independent sections, and a running-board having a curved longitudinal edge to which said sections are placed parallel.

6. A distributing-case comprising a series of substantially concentrically arranged independent sections the longitudinal sides of which are curved, and a running-board having a curved edge to which the curved sides of said section are substantially parallel.

7. A distributing-case comprising a series of substantially concentrically arranged independent sections the longitudinal sides of which are correspondingly curved, and a running-board having a curved edge to which the curved sides of said section are substantially parallel.

8. A distributing-case comprising a series of substantially concentrically arranged independent sections having a laterally-inclined rack-frame, and a running-board having a curved longitudinal edge to which said sections are placed parallel.

9. A distributing-case comprising a series of substantially concentrically arranged independent sections each having a rack-frame which is inclined laterally and has its longitudinal sides curved, and a running-board having a curved longitudinal edge to which said sections are placed in parallel order.

10. A distributing-case comprising a series of substantially concentrically arranged independent sections having rack-frames the ends of which overhang the supporting-legs thereof, and a running-board having a curved longitudinal edge to which said sections are placed parallel.

11. A distributing-case comprising a series of substantially concentrically arranged independent sections having rack-frames the ends of which overhang the supporting-legs and the longitudinal sides of which are curved, and a running-board having a curved longitudinal edge to which said rack-frames are placed parallel.

12. A distributing-case comprising a series of substantially concentrically arranged independent sections having rack-frames which incline laterally, and have ends that overhang the supporting-legs thereof, and a running-board having a curved longitudinal edge to which said rack-frames are parallel.

13. A distributing-case comprising a series of substantially concentrically arranged independent sections having rack-frames which are inclined laterally, the longitudinal sides of which are curved and the ends of which overhang the supporting-legs, and a running-

board having a curved longitudinal edge to which said rack-frames are placed parallel.

14. A distributing-case comprising a series of substantially concentrically arranged independent sections, a running-board having a curved longitudinal edge to which said sections are placed parallel and having a portion of its opposite side edge straight.

15. A distributing-case comprising a series of substantially concentrically arranged independent sections, a running-board having a curved longitudinal edge to which said sections are placed parallel and having a portion of its opposite side edge straight, and a transverse drawer suitably secured under said straight edge.

16. A distributing-case comprising a series of substantially concentrically arranged independent sections the longitudinal sides of which are correspondingly curved, a running-board having a curved edge to which the curved sides of said section are substantially parallel and having a portion of its opposite side edge straight.

17. A distributing-case comprising a series of substantially concentrically arranged independent sections the longitudinal sides of which are correspondingly curved, a running-board having a curved edge to which the curved sides of said section are substantially parallel, and having a portion of its opposite side edge straight, and a transverse drawer suitably secured under said straight edge.

18. A distributing-case comprising a series of substantially concentrically arranged independent sections each having a rack-frame which is inclined laterally and has its longitudinal sides curved, a running-board having a curved longitudinal edge to which said sections are placed in parallel order and having a portion of its opposite side edge straight.

19. A distributing-case comprising a series of substantially concentrically arranged independent sections each having a rack-frame which is inclined laterally and has its longitudinal sides curved, a running-board having a curved longitudinal edge to which said sections are placed in parallel order and having a portion of its opposite side edge straight, and a transverse drawer suitably secured under said straight edge.

20. A distributing-case comprising a series of substantially concentrically arranged independent sections having rack-frames the ends of which overhang the supporting-legs and the longitudinal sides of which are curved, a running-board having a curved longitudinal edge to which said rack-frames are placed parallel, and having a portion of its opposite side edge straight.

21. A distributing-case comprising a series of substantially concentrically arranged independent sections having rack-frames the ends of which overhang the supporting-legs and the longitudinal sides of which are curved, a running-board having a curved longitudinal edge to which said rack-frames are placed parallel, and having a portion of its opposite side edge straight, and a transverse drawer suitably secured under said straight edge.

22. A distributing-case comprising several tiers of substantially concentrically arranged independent sections, a running-board having a curved longitudinal edge to which said sections are placed parallel, and a removable table reversibly secured to the opposite ends of said running-board.

23. A distributing-case comprising several tiers of substantially concentrically arranged independent sections, a running-board having a curved longitudinal edge to which said sections are placed parallel, a removable table, and a removable desk interchangeably secured to opposite ends of said running-board.

24. A distributing-case comprising a series of substantially concentrically arranged independent sections the longitudinal sides of which are correspondingly curved, a running-board having a curved edge to which the curved sides of said sections are substantially parallel, and a removable table reversibly secured to the opposite ends of said running-board.

25. A distributing-case comprising a series of substantially concentrically arranged independent sections the longitudinal sides of which are correspondingly curved, a running-board having a curved edge to which the curved sides of said section are substantially parallel, and a removable table and a removable desk interchangeably secured to opposite ends of said running-board.

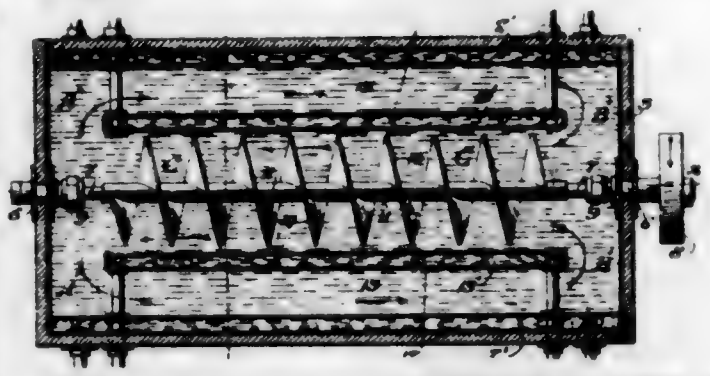
26. A distributing-case comprising a series of substantially concentrically arranged independent sections each having a rack-frame which is inclined laterally and has its longitudinal sides curved, a running-board having a curved longitudinal edge to which said sections are placed in parallel order, and a removable table reversibly secured to opposite ends of said running-board.

27. A distributing-case comprising a series of substantially concentrically arranged independent sections each having a rack-frame which is inclined laterally and has its longitudinal sides curved, a running-board having a curved longitudinal edge to which said sections are placed in parallel order, a removable table and a removable desk interchangeably secured to opposite ends of said running-board.

28. A distributing-case comprising a series of substantially concentrically arranged independent sections having rack-frames the ends of which overhang the supporting-legs and the longitudinal sides of which are curved, a running-board having a curved longitudinal edge to which said rack-frames are placed parallel, and a removable table reversibly secured to opposite ends of said running-board.

29. A distributing-case comprising a series of substantially concentrically arranged independent sections having rack-frames the ends of which overhang the supporting-legs and the longitudinal sides of which are curved, a running-board having a curved longitudinal edge to which said rack-frames are placed parallel, a removable table and a removable desk interchangeably secured to opposite ends of said running-board.

808,319. **CREAM-RIPENER.** THEODORE L. VALERIUS, Fort Atkinson, Wis., assignor to The Creamery Package Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 13, 1904. Serial No. 224,335.



Claim.—1. A cream-ripener, comprising a vat, provided with tempering-walls, and divided into a plurality of communicating horizontal channels or courses, in combination with a long spiral propeller, arranged for rotation in one of said channels or courses, to circulate the cream in said channels, substantially as described.

2. In a cream-ripener, a vat, provided with a cover, in combination with a shorter tempering wall or walls, dividing said vat into two or more horizontal communicating courses or channels and a long spiral cream smoothing and propelling device arranged upon a shaft extending longitudinally of one of said courses, said courses being in the same horizontal plane, substantially as described.

3. In a cream-ripener, a vat, provided with external and intermediate fluid-tempered walls, said intermediate walls being of less length than said external walls, and dividing the vat into a plurality of courses or channels, in combination with a long spiral cream smoothing and propelling device arranged for rotation upon a horizontal axis in one of said courses, and means for supplying and discharging tempering fluid to and from said tempering-walls, substantially as described.

4. In a cream-ripener, a vat, provided with hollow side walls and having intermediate walls of less strength than the vat, dividing said vat into courses or channels, C and 13, means for supplying a tempering fluid to said walls and a cream smoothing and propelling spiral occupying the space between said intermediate walls, and means for rotating said spiral, substantially as and for the purpose specified.

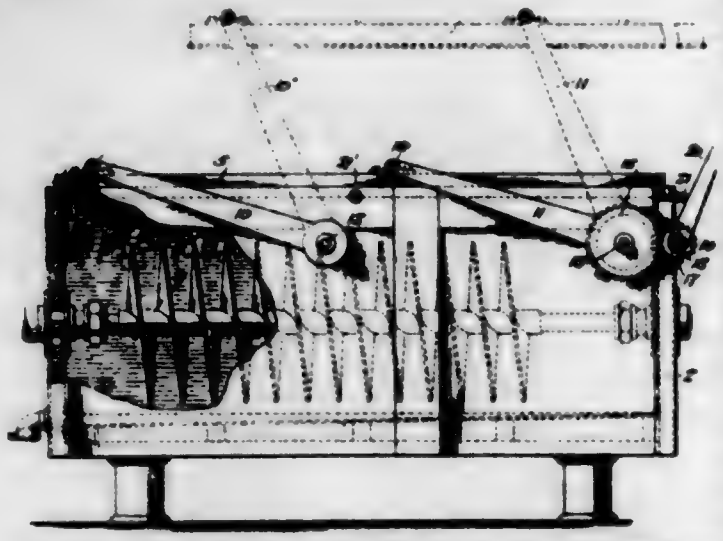
5. A cream-ripener, comprising a vat having water-tempered walls and provided with a short intermediate wall, also water-tempered, and a long spiral propeller adapted to rotate between two water-tempered walls, as and for the purpose specified.

6. In a cream-ripener, a vat having water-spaces and water-circulating means, in combination with short, intermediate walls in said vat and a long horizontal spiral propeller arranged for rotation between said intermediate walls, substantially as described.

808,320. **COVER FOR CREAM-RIPENERS AND THE LIKE.** THEODORE L. VALERIUS, Fort Atkinson, Wis., assignor to The Creamery Package Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 13, 1904. Serial No. 224,336.

Claim.—1. A vat containing a sealed trough at its upper edge, in combination with a cover having a depending flange, adapted to enter said trough or groove, and parallel motion mechanism for elevating said cover substantially as described.

2. In apparatus of the class described, a vat or tank provided with a shallow trough or groove in its upper edge, in combination with a cover having a depending flange to fit said groove, parallel arms or links having stationary pivots at their lower ends, and having their upper ends attached to said cover, and means for operating said arms and links to raise and lower said cover, substantially as described.



3. In apparatus of the class described, a vat or tank containing a shallow trough in its upper edge, in combination with a cover having a vertical flange to fit such trough or groove, parallel links or arms having their lower ends pivoted upon said vat, and having their upper ends pivoted upon said cover, and gearing for operating a pair of said arms to raise and lower said cover, substantially as described.

4. In apparatus of the class described, a vat, in combination with a cover therefor, parallel links or arms pivoted upon the side of the vat, said cover being pivotally attached to the upper ends of said links or arms, one pair of said arms being provided with gears, and gear-pinions meshing with said gears, for operating the same, to elevate or lower said cover, substantially as described.

5. In apparatus of the class described, a vat, in combination with cover therefor, parallel arms having their ends pivotally attached to said vat and cover respectively, and a crank mechanism for forcibly elevating said arms and therewith said cover, substantially as described.

6. In apparatus of the class described, a vat containing a trough, 4, in its upper edge, means for draining said trough, a cover having a flange depending in said trough, two pairs of parallel arms having their lower ends pivoted upon said vat, means for pivotally attaching said cover to the upper ends of said arms, gears upon certain of said arms, gear-pinions meshing therewith, and a pinion-operating crank, substantially as described.

7. In apparatus of the class described, the vat in combination with a cover therefor, studs upon the sides of said vat, pairs of arms pivoted upon said studs, means for pivotally attaching said cover to the upper ends of said arms, a shaft upon the end of said vat, and gearing connecting said shaft and one pair of said arms, substantially as described.

808,321. APPARATUS FOR RIPENING CREAM. Theodore L. Valerius, Fort Atkinson, Wis., assignor to The Creamery Package Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 13, 1904. Serial No. 224,237.



Claim.—1. In a cream-ripener, a suitable vat, in combination with a mechanical device therein, normally immersed in the contained cream, and adapted to cause the rapid circulation and boiling of the whole body of cream without churning the same, and a pump located upon said vat and driven with said device for circulating and tempering the fluid in said device, substantially as described.

2. In a cream-ripener, a vat, in combination with a horizontally-arranged rotary cream propelling and tempering device in said vat, a fluid-tank arranged at one end of said vat, and a pump at the other end of the vat and connected with said device and said tank, substantially as described.

3. In a cream-ripener, a vat, in combination with a rotary, hollow spiral provided in said vat, the shaft of said spiral extending through the ends of said vat, a tank upon one end of said vat to receive the discharge from the said spiral and a pump upon said vat connecting said tank and the opposite end of said spiral, substantially as described.

4. In a cream-ripener, a vat, in combination with a rotary hollow spiral provided in said vat, the shaft of said spiral extending through the ends of said vat, a tank upon one end of said vat to receive the discharge from the said spiral and a pump upon said vat, connecting said tank and the opposite end of said spiral, and means for controlling the operation of said pump, substantially as described.

5. In a cream-ripener, a vat, in combination with a hollow shaft extending through the same, a hollow spiral propeller upon said shaft within the vat, means closing the direct passage through said hollow shaft, said shaft having a plurality of openings in its receiving end, communicating with several respective turns of said hollow spiral propeller, and having openings at its rear end through which the contents of the spiral is discharged, and means for supplying tempering fluids to the said hollow shaft, substantially as and for the purpose specified.

6. In a cream-ripener, a vat, in combination with a shaft having inlet and outlet passages in its ends, a hollow spiral communicating with said passages, and composed of a thread on said shaft and a plurality of spiral disks, a fluid-tank and a pump for supplying fluid to one end of said shaft, substantially as described.

7. In a cream-ripener, a vat, and a tempering-fluid tank on the end of said vat, in combination with a rotary tempering device in said vat, means for driving said device, a pump on the end of said vat driven by said means and connected with said tank and said tempering device for circulating through the latter the contents of the former, substantially as described.

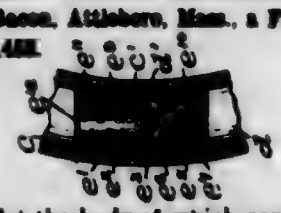
8. In a cream-ripener, a cream-vat, provided with a fluid-tempering tank, in combination with a tempering device arranged in said vat and communicating with said tank, means for supplying various fluids to said tempering device, and auxiliary fluid-supply means, comprising a pump arranged on said vat for circulating the contents of said tank, substantially as described.

9. In a cream-ripener, a vat, provided with a tempering-fluid tank, in combination with a rotary tempering device arranged in said tank, means upon the tank for driving said device, a pump driven by said means, clutches for starting and stopping said means and said pump, pump connections with said tank and said tempering device, and tank-emptying means connected with said pump, substantially as described.

10. In a tempering device for cream-ripeners, a hollow shaft, in combination with a hollow spiral arranged upon said shaft, plugs in said shaft, a longitudinal row of openings in said shaft, said openings communicating with several, respective turns of said spiral and an opening or openings in the opposite end of the shaft communicating with the end drain of said spiral, substantially as and for the purpose specified.

11. In a cream-ripener, a vat, having a tempering-fluid tank, a rotary tempering device in said vat, adapted to receive fluid at one end and discharge the same into said tank at the other, a pump on said vat, connected with the receiving end of said tempering device, a pipe leading from said pump to a strainer in said tank, pump-driving means on said vat, external fluid-supply means in communication with said pump.

808,322. BRACELET. Walfrid Wallenstein, Attleboro, Mass., assignor to Bates & Bacon, Attleboro, Mass., a Firm. Filed May 2, 1905. Serial No. 258,458.



Claim.—1. A bracelet the body of which consists of two semi-circular halves, a pivot-hinge constructed of a member having a central hole and an off-center lug, a member having a screw-threaded central hole and an off-center recess the end walls of which form stops for the lug, and a pin having a screw-threaded portion adapted to enter the screw-threaded central hole in one member and a reduced portion adapted to enter the central hole in the other member,

means for securing the members together, and means for securing the pivot-hinge in the adjacent ends of the bracelet, whereby the pivoted ends of the two halves of the bracelet separate when the bracelet is opened, are drawn firmly together when the bracelet is closed, and the opening and closing movements of the bracelet are limited, as described.

2. A bracelet the body of which is formed of two semicircular halves c and d secured together by a pivot-hinge, consisting of a member c' having the central hole c^3 and the off-center lug c^5, a member c^4 having the screw-threaded central hole c^5 and the off-center recess c^6 with the end walls c^7 and c^8 forming stops for the lug c^5, and a pin c^9 having the screw-threaded portion c^{10} adapted to screw into the hole c^5 in the member c^4, and the reduced portion c^{11} adapted to enter the hole c^3 in the member c', and secured by upsetting the end of the reduced portion c^{11} onto the end of the member c', whereby the opening of the hinge will separate the members of the hinge, the closing of the hinge will draw the members of the hinge firmly together, and the opening and closing movements of the hinge are limited, as described.

3. In a bracelet, the combination of the tubular semicircular halves c and d the ends c' and d' of which are cut square across and the ends c^2 and d^2 at an angle, of a pivot-hinge e consisting of a member e' shaped to fit in the end c' of the bracelet and having the central hole e^3 and the off-center lug e^5, a member e^4 shaped to fit in the end d' of the bracelet and having the screw-threaded central hole e^5, the off-center recess e^6 with the end walls e^7 and e^8 forming stops for the lug e^5, and a pin e^9 having the screw-threaded portion e^{10} adapted to screw into the hole e^5 in the member e^4, and the reduced portion e^{11} adapted to enter the hole e^3 in the member e' and secured in the member by upsetting the end onto the end of the member e', means for securing the pivot-hinge in the ends c' and d' of the bracelet, whereby the opening of the bracelet will separate the pivoted ends of the two halves c and d of the bracelet, the closing of the bracelet will draw the halves of the bracelet firmly together, and the opening and closing movements of the bracelet limited, and means for holding the bracelet in the closed position, as described.

808,323. **BRACELET.** WALFRID WALLENSTEIN, Attleboro, Mass., assignor to Bates & Bacon, Attleboro, Mass., a Firm. Filed Sept. 11, 1905. Serial No. 277,923.

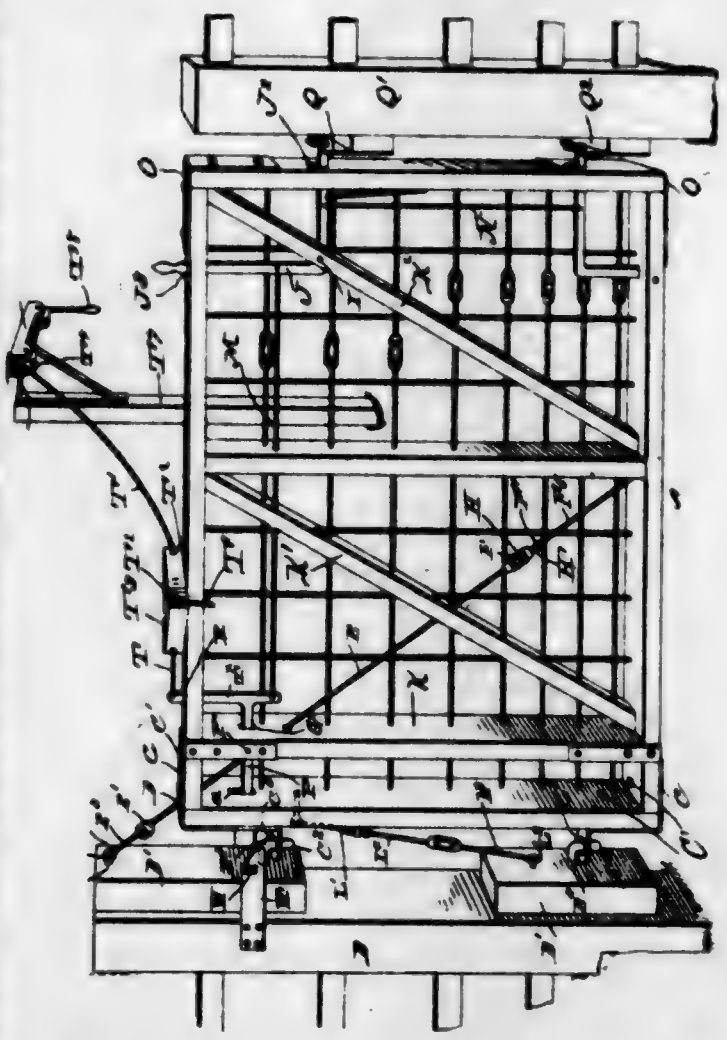


Claim.—1. In a hinged bracelet, a concealed hinge comprising a member having a beveled end, semicircular grooves extending inward from the beveled end and outward through the outer face of the member forming central and side webs in which are central semicircular notches and a semicircular cross-bar secured to the webs in the notches, and a member having a beveled end, semicircular fingers extending from the beveled end and adapted to fit into the semicircular grooves in the first member under the semicircular bar, means for limiting the opening movement of the hinge, and means for securing the members of the hinge in the bracelet, as described.

2. A concealed bracelet-hinge comprising a member d having the beveled end d', the semicircular grooves d^3 d^3 extending inward from the beveled end d' and outward through the outer face of the member forming central and side webs in which are central semicircular notches, a semicircular cross-bar d^3 secured to the webs in the notches, a member e having the beveled end e', the semicircular fingers e^2 e^2 extending from the beveled end e' and adapted to fit into the semicircular grooves d^3 d^3 in the member d under the bar d^3, the groove e^3 in a finger e^2, the teat d^4 on the member d adapted to enter the groove e^3 in the finger e^2 and form a stop, and means for securing the members d and e of the hinge in a bracelet, as described.

3. The combination with a tubular half a having the end a' and the tubular half b having the end b' of a bracelet, of a concealed hinge c composed of the members d and e, the member d having the beveled end d', the semicircular grooves d^3 d^3 extending inward from the beveled end d' and outward through the outer face of the member forming central and side webs in which are central semicircular notches, a semicircular cross-bar d^3 secured to the webs in the notches, the member e having the beveled end e', the semicircular fingers e^2 e^2 extending from the beveled end e' and adapted to fit into the semicircular grooves d^3 d^3 in the member d, the groove e^3 in a finger e^2, the teat d^4 on the member d adapted to enter the groove e^3 in the finger e^2 and form a stop, and means for securing the members d and e of the hinge in the ends a' and b' of the halves a and b of the bracelet, as described.

808,324. **SWINGING GATE.** THOMAS B. WALSTON, Williamsport, Ohio. Filed Oct. 5, 1905. Serial No. 281,455.



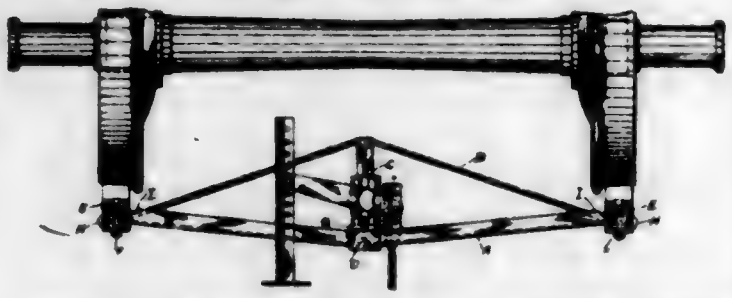
Claim.—1. In combination with a gate and stationary post, blocks secured to the latter, downwardly-bent angle-hooks fastened to said blocks, apertured angle-plates secured over the corners of the hinged end of the gate, the free ends of said plates engaged by said downwardly-bent hooks, a rod passing through an aperture in one of said angle-plates and through apertures in the cross-piece and diagonal brace of the gate, a second rod anchored at its lower end to the gate and having swiveled connection with the other rod, means for connecting said rod which passes through said angle-plate to one of said blocks, a latch-bar passing through the slot in the rear end of the gate and also through a slot in one of said angle-plates, and a catch secured to said post and adapted to be engaged by said latch as the gate is swung open, and means for opening and closing the gate, as set forth.

2. In combination with a gate and a stationary post, blocks secured to the latter, downwardly-bent angle-hooks fastened to said blocks, apertured angle-plates secured over the corners of the hinged end of the gate, the free ends of said plates engaged by said downwardly-bent hooks, a rod passing through an aperture in one of said angle-plates and through apertures in the cross-piece and diagonal brace of the gate, a second rod anchored at its lower end to the gate and having swiveled connection with the other rod, means for connecting said rod which passes through said angle-plate to one of said blocks, a latch-bar passing through the slot in the rear end of the gate and also through a slot in one of said angle-plates, and a catch secured to said post and adapted to be engaged by said latch as the gate is swung open, a block secured to the top of the gate, a rope secured to said latch and having branches passing through apertures in said block, housings, pulleys mounted therein and over which the branches of said rope pass, and handles upon said branches, as shown and described.

3. In combination with a gate and a stationary post, blocks secured to said post, downwardly-bent hooks secured to said blocks, angle-plates secured over the corners of the swinging end of the gate, corresponding ends of said plates being bent at an angle and apertured to receive said hooks, angle-plates fastened over the free swinging end of the gate, one of said angle-plates at the free swinging end of the gate being slotted, pivotal angle-latches mounted upon the

gate, one of said latches extending through a slot in the angle-plate, and means for tilting said latches and opening the gate, as set forth

808,325. RAILWAY-CAR BRAKE-BEAM. GEORGE L. WARREN, St. Paul, Minn. Filed Feb. 3, 1905. Serial No. 244,051.



Claim.—1. A brake-beam, comprising a compression member of channel form, in combination with a tension member having its ends formed into hooks that grasp the web portion of said compression member, and a suitable fulcrum-tie or strut extending between said compression and tension members, substantially as described.

2. A brake-beam, comprising a compression member of channel form, in combination with a tension member or bar form having its ends folded or hooked upon the web portion of said compression member, the flanges of said compression member being folded or bent upon said tension member, and a suitable strut, substantially as described.

3. A brake-beam, comprising a compression member of channel form, in combination with a tension member having its ends engaged with the web of said compression member, said compression member having the end portions of its flanges bent or folded about the respective ends of said tension member, and a suitable strut, substantially as described.

4. A brake-beam, comprising a tension member of substantially rectangular cross-section and having hooked ends, in combination with a compression member of channel form having its web portions clasped by the hooked ends of said tension member and having its flanges folded about said tension member, suitable brake-heads attached to the thus-united ends of said tension and compression members, and a suitable strut, substantially as described.

5. A brake-beam, comprising a compression member of channel form having its flanges bent inwardly at the ends, in combination with a tension member of rectangular cross-section and provided with end hooks which clasp the web portion of said compression member and are in turn clasped by inturned flanges of said compression member, brake-heads having tapered sockets to fit the united ends of said compression and tension members, bolts piercing said brake-heads and said united ends to secure the heads thereon, and a suitable strut, substantially as described.

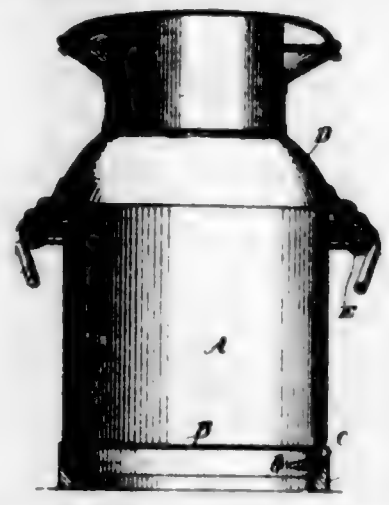
6. A brake-beam, comprising a compression member, of channel form and a tension member having their ends suitably united, in combination with a strut or fulcrum-tie extending between said compression and tension members, a strap inclosing said compression member, and a bolt or rivet piercing said strap and said strut and substantially in contact with the edges of the flanges of said compression member, substantially as described.

7. A brake-beam having a compression member, of channel form, in combination with a strut or fulcrum-tie having an end fitted within said compression member, a strap encompassing said compression member and having its ends in engagement with said strut and a bolt extending through said strap and said strut, adjacent to the edges of the flanges of said compression member, substantially as described

8. A brake-beam, comprising a compression member of channel form, in combination with a strut having one end attached to said compression member, a tension member comprising a bar engaged with the opposite end of said strut and having its ends formed into the hooks which clasp the ends of the web portion of said compression member, the end portions of the flanges of said compression member being bent into contact with the tension member, to clasp the same, suitable brake-heads and means for securing the same upon the united ends of said compression and tension members, substantially as described.

808,326. MILK-CAN. HENRY WEHRMANN, New York, N. Y., assignor to Elizabeth Cochrane Seaman, New York, N. Y. Filed Mar. 7, 1904. Serial No. 197,255.

Claim.—1. In a milk-can, the combination of a downwardly-projecting flange formed integral with a body and bottom, and a hoop having its inner wall bearing against said flange and provided with a shoulder extending under the lower extremity of said flange, substantially as shown and described.

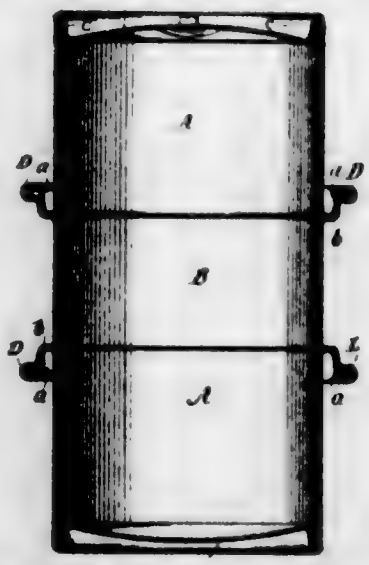


2. In a milk-can, the combination of a hoop having its inner wall provided with an annular recess, and a downwardly-projecting flange formed integral with a bottom and body and partly compressed into said recess, substantially as shown and described.

3. In a milk-can, the combination of a downwardly-projecting flange formed integral with a body and bottom and set in from the outer wall of said body, and a hoop having its inner wall bearing against said flange and provided with a shoulder extending under the lower extremity of said flange, substantially as shown and described.

4. In a milk-can, the combination of a breast provided on its lower portion with a flange angular in cross-section forming an annular recess, and a body provided on its upper portion with a flange angular in cross-section forming an annular shoulder engaging the recess of the breast, the extremities of said flanges being rolled together to form an annular hoop, substantially as shown and described.

808,327. METAL BARREL. HENRY WEHRMANN, New York, N. Y., assignor to Elizabeth Cochrane Seaman, New York, N. Y. Filed Nov. 11, 1904. Serial No. 232,374.



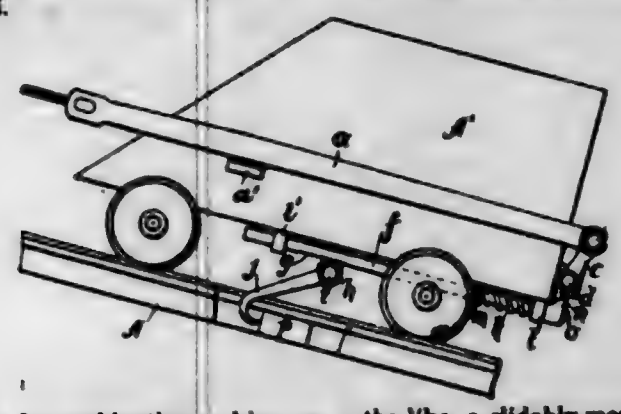
Claim.—1. In a barrel, the combination of two adjacent tubular sections, one of which is provided with a flanged end forming an annular recess, the other provided with a flanged end forming an annular shoulder engaging said recess, the extremities of said flanges being rolled together to form an annular hoop, substantially as shown and described.

2. In a barrel, the combination of a central section having its ends provided with a flange forming an annular recess, of two end sections having their ends provided with a flange forming an annular shoulder engaging the recesses of the central section A, and rolling hoops formed of the interlocking edges of the flanges of said central and end sections, substantially as shown and described.

808,328. SAFETY DEVICE FOR MINE SKIPS, CAGES, LIFTS, AND THE LIKE. JAMES WILSHIR, Germiston, Transvaal. Filed Aug. 24, 1905. Serial No. 275,578.

Claim.—1. A safety device comprising a movable yoke *a*, a shaft *b*, arms *c* carried thereon, a shaft *d* on which said arms are

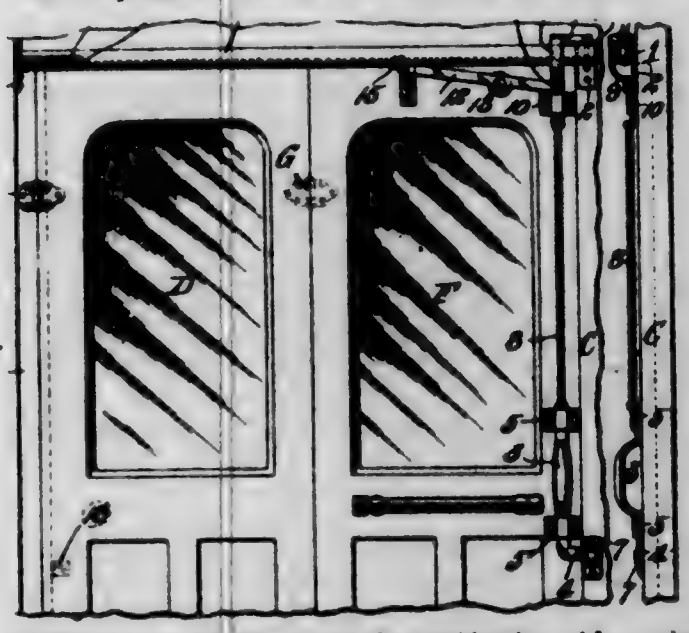
mounted, a lug *n* on said shaft, a spring-actuated bar *f* having a rack formed thereon, a lug *o* thereon engaging said lug *n*, a shaft *i* carrying a pinion *k* engaging said rack, and a hook *j* mounted on said shaft *i*.



2. In combination a skip, car or the like, a slidably-mounted member therefor serving to directly engage said skip to operate the same, means for maintaining said member out of engagement with said skip, and an element operatively connected with said means and adapted to engage stationary parts to arrest movement of the skip, said means serving when holding said member out of engagement with said skip to throw said element into an engaging position and serving when said member engages the skip to hold said element in a non-engaging position.

3. In combination a skip, car or the like, a yoke embracing the skip-body and being slidably mounted thereon, a hook or the like adapted for engagement with stationary parts to arrest movement of the skip, and spring-actuated means operatively connected with said yoke and hook and serving normally to hold the yoke in a retracted position and the hook in an engaging position and when the yoke is in an operated position to hold the hook in a non-engaging position.

808,329. **FOLDING DOOR FOR CAR-PLATFORMS.** HUBERT WITTE, St. Louis, Mo., assignor to St. Louis Car Company, St. Louis, Mo., a Corporation. Filed Oct. 19, 1905. Serial No. 283,366.



Claim.—1. In a folding door, the combination with a pair of sections foldingly united to each other, a track adjacent to said door-sections, a guide member carried by one of said door-sections travelingly fitted in said track, and a latch-bar fitted to said guide member and arranged for engagement with said track, substantially as set forth.

2. In a folding door, the combination with a pair of sections foldingly united to each other, a track adjacent to said door-sections, a guide member carried by one of the door-sections and travelingly fitted to said track, and a movable latch-handle connected to said guide member, substantially as set forth.

3. In a folding door, the combination with a pair of sections foldingly united to each other, a track adjacent to said door-sections, a guide member carried by one of the door-sections and travelingly fitted to said track, a movable latch-handle connected to said guide member, and a latch-bar connected to said guide member and arranged for engagement with said track, substantially as set forth.

4. In a folding door, the combination with a pair of sections foldingly united, of a track adjacent to said door-sections, a guide member slidably fitted to one of said door-sections and travelingly fitted to said track, a latch-bar connected to said guide member and arranged for engagement with said track, and a slide-handle connected to said guide member, substantially as set forth.

5. In a folding door, the combination with a pair of sections foldingly united, of a track adjacent to said door-sections, a guide member slidably fitted to one of said door-sections and travelingly fitted to said track, a latch-bar connected to said guide member and arranged for engagement with said track, a slide-handle connected to said guide member, and a catch member supported in a fixed position and arranged to be engaged by said slide-handle, substantially as set forth.

6. In a folding door, the combination with a pair of sections foldingly united, of a track adjacent to said door-sections, a guide member slidably fitted to one of said door-sections, a roller carried by said guide member and arranged to travel in said track, a latch-bar connected to said guide member and arranged for engagement with said track, and a slide-handle connected to said guide member, substantially as set forth.

808,330. **TOOL-HANDLE.** GEORGE B. WOOD, Southington, Conn. Filed May 6, 1905. Serial No. 259,123.



Claim.—1. A chisel or like tool including a handle and a tool-shank extending therethrough to receive directly a driving blow, said shank provided with a shoulder, and as a means of cushioning the effect of the blow upon the handle without perceptive relative movement of the shank therein, a yielding cushion interposed between the end of the handle and said shoulder on the shank.

2. A chisel or like tool including a handle and a tool-shank extending therethrough to receive directly a driving blow, said shank having a shoulder formed integral therewith, and as a means of cushioning the effect of the blow upon the handle and protecting the end thereof without perceptive relative movement of the shank therein, a yielding washer interposed between the end of the handle and said shoulder.

3. A chisel or like tool to be held in the hand and driven bodily by a blow on one end and including a handle and a tool-shank extending therethrough, the latter to receive directly a driving blow and provided with a shoulder and the handle composed of comparatively soft material, and as a means of cushioning the effect of the blow upon the handle and protecting the end thereof without perceptive relative movement of the shank therethrough, a cushion of elastic material interposed between the end of the handle and said shoulder on the shank.

4. A chisel or like tool intended to be held in the hand and driven bodily by striking on one end, said tool including a handle and a tool-shank extending therethrough and having at its end a head providing a shoulder, said head receiving directly the driving blow, and as a means of cushioning the effect of the blow upon the handle and protecting the end thereof without perceptive relative movement of the shank therethrough, a yielding washer interposed between the end of the handle and said shoulder.

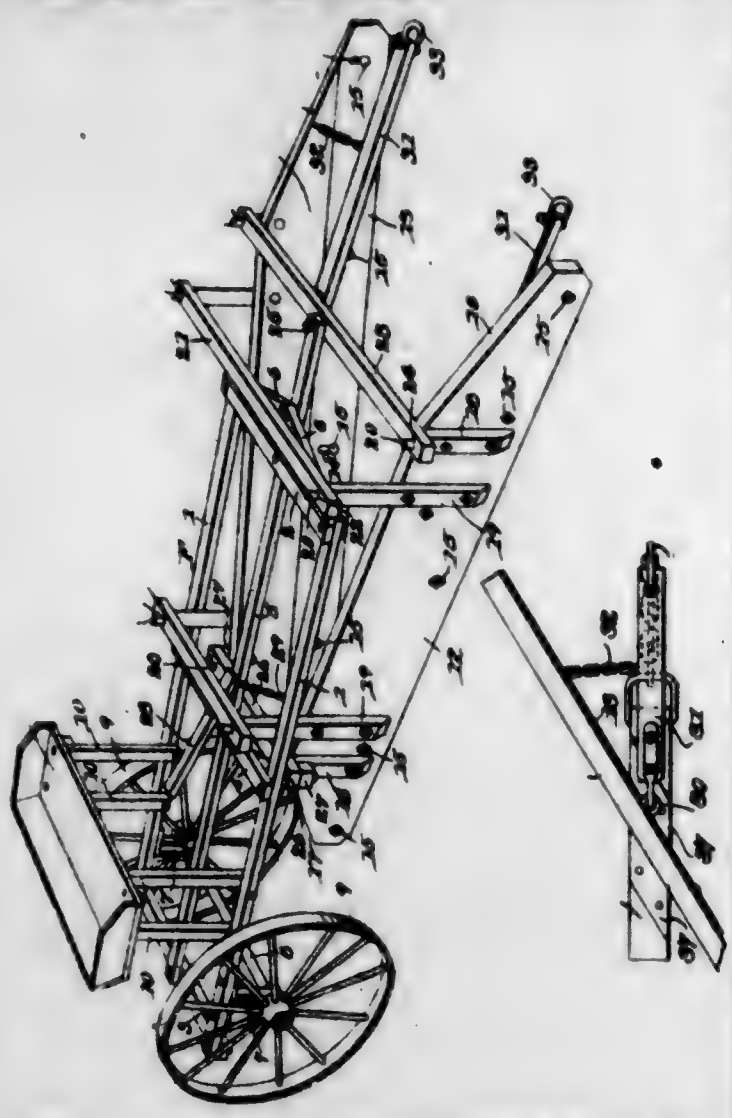
5. A chisel or like tool to be held in the hand and including a handle and a tool-shank with a shoulder thereon, and as a means of cushioning the effect of a blow upon the handle and protecting the end thereof without perceptible relative movement of the shank therethrough, a yielding washer interposed between the end of the handle and said shoulder, the whole of the handle forming a continuous unbroken surface.

808,331. **METHOD OF SEPARATING THE GALVANOPLASTIC DEPOSITS FROM METAL MATRICES.** EUGEN ALBERT, Munich, Germany, assignor to Ferdinand Weeil, New York, N. Y. Filed June 21, 1905. Serial No. 266,255.

Claim.—1. The herein-described method of separating galvanoplastic deposits from metal matrices, which method comprises the application to the deposit and matrix of a metallic bath in order to suddenly heat the deposit and matrix.

2. The herein-described method of separating galvanoplastic deposits from metal matrices by employing a metallic bath, which method consists in heating the bath to a point lower than the fusing-point of the matrix and floating the deposit and matrix thereon.

808,332. **ROAD-GRADER.** WILLIAM ALCORN, Gardengrove, Iowa. Filed Aug. 17, 1905. Serial No. 274,588.



Claim.—1. In a machine of the class described, a wheel-supported frame, scraper members having brackets near their rear ends confined between the side members of the frame and brackets at their front ends beyond the confines of the frame, and bars connecting said brackets and maintaining said scraper members in a rearwardly-converging relation to each other.

2. In a machine of the class described, a wheel-supported frame having a longitudinal forwardly-extending reach-bar, scraper members having brackets provided with dowels at their upper ends, connecting-bars having apertures engaging said dowels, one of said connecting-bars being connected with the forward end of the reach-bar, and lever means for elevating the rear ends of the scraper members.

3. In a machine of the class described, a pair of scraper members provided upon their outer sides with brackets having dowels at their upper ends, connecting-bars having apertures engaging said dowels, said bars being of different lengths so as to sustain the scraper members in rearward converging relation to each other, a wheel-frame having a reach member connected with one of the connecting-bars, and draft-rods connected with the scraper members.

4. In a machine of the class described, a pair of scraper members provided upon their outer sides with brackets having dowels at their upper ends, connecting-bars having apertures engaging said dowels said bars being of different lengths so as to sustain the scraper members in rearward converging relation to each other, a wheel-frame having a reach member connected with one of the connecting-bars, a foot-lever supported upon the wheel-frame, and flexible means connecting said lever with the scraper members in front of the rear connecting-bar; said rear connecting-bar being provided with lugs or blocks bearing against the outer sides of the scraper members.

5. In a road-working machine, divergent vertically-disposed scraper members having earth-engaging lower edges and vertically-adjustable rear ends, in combination with runners detachably engaging the front ends of the bottom edges of said scrapers to support the latter for transportation.

6. In a road-working machine, an adjustable obliquely-disposed scraper, and a detachable runner constituting a supporting member for the same.

7. In a road-working machine, a scraper, in combination with a runner having obliquely-disposed cleats to engage said scraper.

8. In a road-working machine, obliquely-disposed scrapers, and supporting-runners having obliquely-disposed scraper-engaging cleats whereby the scrapers may be supported for transportation.

9. A road-working machine having obliquely-disposed scrapers, draft-bars connected with said scrapers, runners loosely connected with the lower edges of, and supporting the front ends of the scrapers, and flexible connections between the runners and the draft-bars.

10. A road-working machine having obliquely-disposed scrapers vertically adjustable at their rear ends, runners having obliquely-disposed cleats adapted to form seats for the front ends of the runners, draft-bars connected with the latter, and flexible connections between the runners and the draft-bars.

808,333. **STIRRUP.** FRANCIS H. AUDLEY, New York, N. Y. Filed Mar. 14, 1905. Serial No. 249,953.



Claim.—1. A stirrup, the body portion of which is composed of wood, wood fiber or similar material and provided with upwardly-directed side members, plates secured to the outer sides of said side members at the top thereof and provided with inwardly-directed tubular journals which pass through said side members, a spindle passing through said side plates and through said journals, and a roller mounted on said spindle and provided with end sockets adapted to receive the ends of said journals, substantially as shown and described.

2. A stirrup, the body portion of which is composed of wood, wood fiber or similar material and provided with upwardly-directed side members, plates secured to the outer sides of said side members at the top thereof and provided with inwardly-directed tubular journals which pass through said side members, a spindle passing through said side plates and through said journals, and a roller mounted on said spindle and provided with end sockets adapted to receive the ends of said journals, said shanks being also provided with washers at the opposite ends of said roller and said washers being provided with side arms which are folded around the side members of the stirrup, substantially as shown and described.

3. A stirrup, the body portion of which is composed of wood, wood fiber or similar material and provided with upwardly-directed side members, plates secured to the outer sides of said side members at the top thereof and provided with inwardly-directed tubular journals which pass through said side members, a spindle passing through said side plates and through said journals, and a roller mounted on said spindle and provided with end sockets adapted to receive the ends of said journals, said shanks being also provided with washers at the opposite ends of said rollers and said washers being provided with side arms which are folded around the side members of the stirrup, and said plates being provided with a metal band which passes beneath the bottom portion of the stirrup, substantially as shown and described.

4. A stirrup composed of wood, wood fiber or the like, the top side portions thereof being provided with metal plates which are secured to the outer sides thereof, said metal plates being provided

with inwardly-directed tubular journals which pass through said sides, a spindle passed through said plates and journals, a roller mounted on said spindle, and washers placed at the ends of said roller and provided with side arms which are folded around the top side portions of the stirrup and held in place by said plates, substantially as shown and described.

5. A stirrup composed of wood, wood fiber or the like, the top side portions thereof being provided with metal plates which are secured to the outer sides thereof, said metal plates being provided with inwardly-directed tubular journals which pass through said sides a spindle passed through said plates and journals, a roller mounted on said spindle, and washers placed at the ends of said roller and provided with side arms which are folded around the top side portions of the stirrup and held in place by said plates, said plates being also provided with a metal band which passes around the bottom portion of the stirrup, substantially as shown and described.

6. A stirrup of the class described, provided with a hood, the bottom portion of the stirrup being provided with a spring-arm which is secured to the bottom thereof and which extends forwardly and is provided with an upwardly and backwardly directed member, the upper end of which is provided with a longitudinal slot and a rivet or bolt passed through said hood and through said slot, substantially as shown and described.

7. A stirrup of the class described, provided with a hood, the bottom portion of the stirrup being provided with a spring-arm which extends forwardly and upwardly and is provided with an upwardly and backwardly directed member vertically movable on the inner side of said hood, substantially as shown and described.

8. A stirrup, the body or foot portion of which is provided with upwardly-directed side members, a spindle passed through the top portions of said members, a roller mounted on said spindle and washers mounted at the opposite ends of said roller and provided with side arms which are folded around the side members of the stirrup, substantially as shown and described.

9. A stirrup, the body portion of which is composed of wood, wood fiber or similar material and provided with upwardly-directed side members, plates secured to the outer side of said side members at the top thereof and provided with a metal band which passes around and beneath the bottom portion of the top of the stirrup, said plates being also provided with inwardly-directed tubular journals which pass through said side members, a spindle passing through said side plates and through said journals, and a roller mounted on said spindle and provided with end sockets adapted to receive the ends of said journals, substantially as shown and described.

10. A stirrup of the class described, provided with a front hood, the bottom portion of the stirrup being provided with a forwardly-directed spring-arm having an upwardly and backwardly inclined portion vertically movable on the inner side of said hood, substantially as shown and described.

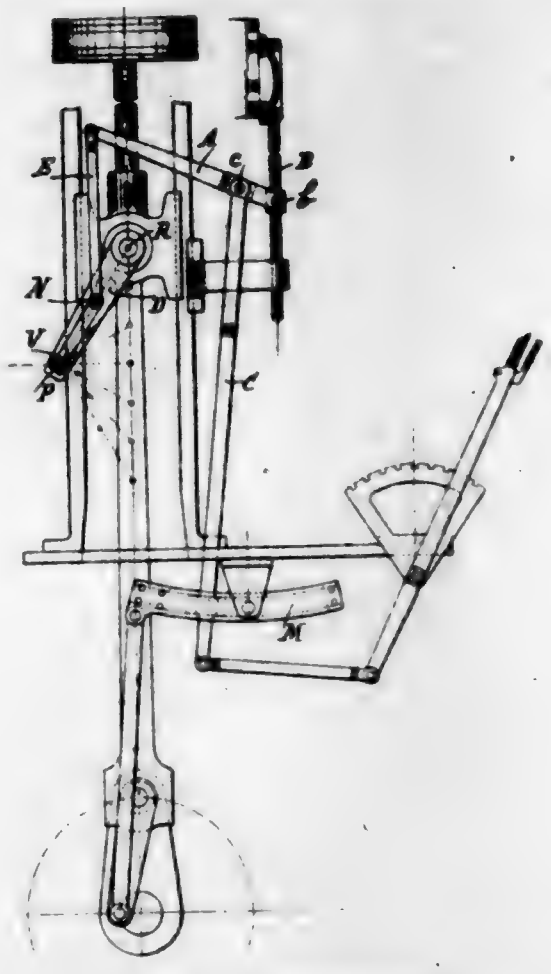
808,334. **VALVE-GEAR FOR STEAM-ENGINES.** EMILE BAUTHIER, St. Josse-ten-Noode, near Brussels, Belgium. Filed May 24, 1905. Serial No. 261,902.

Claim.—1. In a valve-gear for steam-engines, a lever pivoted on the cross-head, a slide disconnected from the cross-head and movable lengthwise of said lever and mounted to oscillate on a pivot fixed to the lower cross-head guide, an oscillating lever connected with said first-mentioned lever, the other end of the oscillating lever being connected to the stem of the slide-valve and with the reversing-lever.

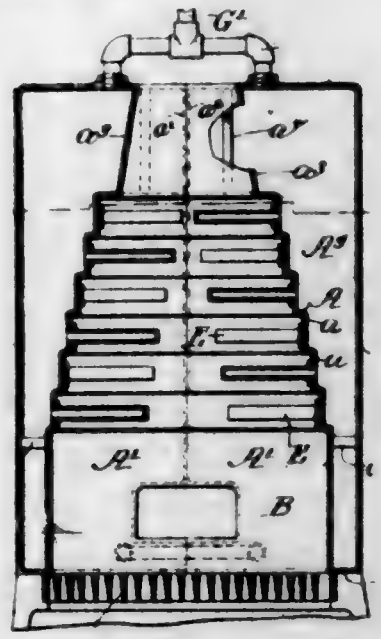
2. In a valve-gear for steam-engines, a lever pivoted on the cross-head, a slide disconnected from the cross-head and movable lengthwise of said lever and mounted to oscillate on a pivot fixed to the lower cross-head guide, an oscillating lever connected with said first-mentioned lever, the other end of the oscillating lever being connected to the stem of the slide-valve and with the reversing-lever by independent connections.

3. In a valve-gear for steam-engines, a lever pivoted on the cross-head, a slide disconnected from the cross-head and movable lengthwise of said lever and mounted to oscillate on a pivot fixed to the lower cross-head guide, an oscillating lever connected with said first-mentioned lever by sliding connection, the other end of the oscillating lever being connected to the stem of the slide-valve and with the reversing-lever.

4. In a valve-gear for steam-engines, a cross-head, a slide-valve, its stem, and the reversing-lever, combined with a lever pivoted at one end on the cross-head, and having longitudinal slot, a pivot-pin working in said slot, an oscillating slide-block oscillating on a fixed pivot, a lever connected at one end with said valve-stem and at the other with the said pivot-pin, and an independent connection between the last-mentioned lever and the slide-block of the reversing-lever.



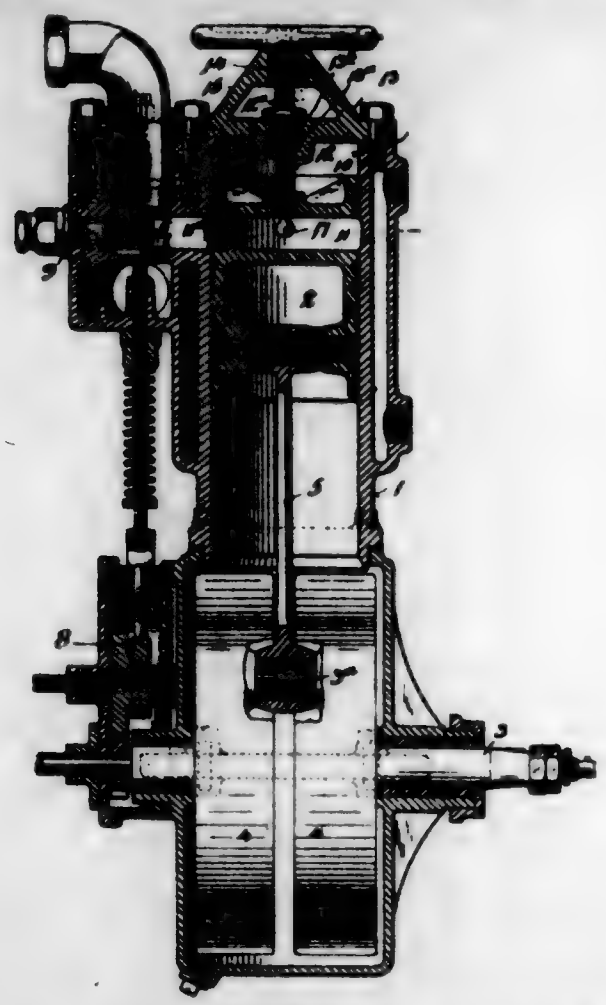
808,335. **WATER-HEATER.** RICHARD BEAUMONT, Kankakee, Ill. Filed June 1, 1905. Serial No. 263,256.



Claim.—1. A sectional cast-metal boiler consisting of two hollow sections having inner walls arranged to form a fire-box, the inner end walls of the sections being parallel with each other, and the inner side walls of the sections being stepped and inclined inwardly from the bottom toward the top of the sections, and a plurality of water-tubes closed at said inner ends, and arranged in horizontal rows and secured in the vertical parts of said stepped inner walls in parallel relation with each other and with the inner end walls of the sections.

2. A sectional cast-metal boiler consisting of two hollow sections having inner walls arranged to form a fire-box, the inner end walls of the sections being parallel with each other, and the inner side walls of the sections being stepped and inclined inwardly from the bottom toward the top of the sections, and a plurality of water-tubes closed at said inner ends, arranged in horizontal rows and secured in the vertical parts of said inner walls in parallel relation to each other and to the inner end walls of the sections, said sections being provided with integral stays joining the flat parallel parts of the inner and outer walls of the sections with each other.

808,386. INTERNAL-COMBUSTION HEAT-ENGINE. John L. Bogart, New York, N. Y. Filed Oct. 28, 1904. Serial No. 230,017.



Claim.—1. An internal-combustion-heat engine comprising two cylinders, one being a firing-cylinder and both provided with compression-spaces that communicate by a passage, a check-valve in the passage opening away from the firing-cylinder, pistons in said cylinders, and a shaft having cranks respectively connected with said pistons, one of said cranks being located in advance of the other so that one of the pistons will have passed its inner dead-point at the moment of ignition of a charge compressed by the other piston, substantially as described.

2. An internal-combustion-heat engine comprising two cylinders one being a firing-cylinder and both provided with compression-spaces that communicate by a passage, a check-valve in the passage opening away from the firing-cylinder, pistons in said cylinders, a shaft having cranks respectively connected with said pistons, one of said cranks being located in advance of the other so that one of the pistons will have passed its inner dead-point at the moment of ignition of a charge compressed by the other piston, and means for varying the volume of the compression-space of the fuel and air cylinder at will during operation, substantially as described.

3. An internal-combustion-heat engine comprising two cylinders in communication with each other, means for admitting fuel and air to the one cylinder and for admitting air only to the other cylinder, a check-valve controlling the passage between said cylinders and opening toward the cylinder which compresses air only, exhaust-valves communicating with said cylinders to permit the escape of the spent gases, a variable-compression piston contained in a chamber communicating with the compression-space of the fuel and air receiving cylinder, and means for adjusting said variable-compression piston and holding it in positions of adjustment, substantially as described.

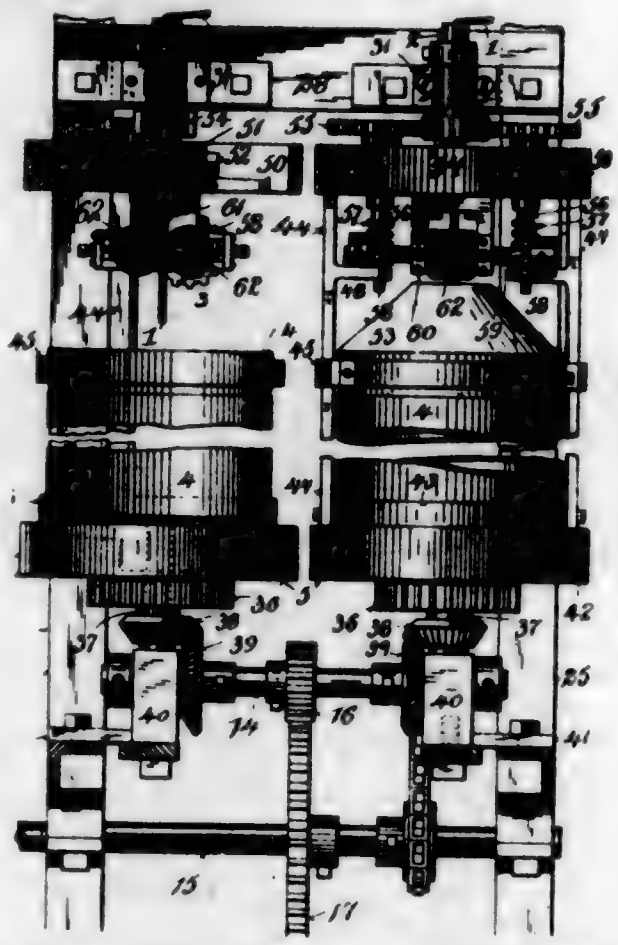
808,387. CHENILLE TWISTING AND RECEIVING MACHINE. Louis Brabec, New York, N. Y. Filed May 31, 1905. Serial No. 263,971.

Claim.—1. In a machine of the class described, means for twisting chenille, means for feeding chenille, means for receiving and accumulating chenille without distortion.

2. In a machine of the class described, means for twisting chenille, means for feeding chenille, and rotary means for holding and accumulating the chenille without distortion.

3. In a machine of the class described, a rotary hollow spindle for twisting chenille, means for feeding the chenille, and means for receiving and holding the chenille without distortion.

4. In a machine of the class described, means for twisting chenille, cushion-rollers for feeding the chenille and means for operating said rollers and means for receiving and holding the chenille without distortion.



5. In a machine of the class described, a hollow spindle rotatably mounted to twist chenille, means for feeding the chenille through said spindle, and rotary means for holding the chenille without distortion.

6. In a machine of the class described, a hollow rotary spindle for twisting chenille, cushion-rollers for feeding the chenille, and means for actuating said rollers, and means for receiving and holding the chenille without distortion.

7. In a machine of the class described, means for twisting chenille, cushion-rollers for feeding the chenille, and means for actuating said rollers, and a rotatably-mounted vessel for receiving and holding the chenille after leaving said rollers.

8. In a machine of the class described, means for twisting chenille, means for feeding the chenille, and a rotatably-mounted vessel adapted to rotate in unison with said feeding means, and receive chenille from the same.

9. In a machine of the class described, means for twisting chenille, means for feeding the chenille, and a rotatably-mounted vessel rotating in unison with said feeding means, and a cover extending from said feeding means and over said rotating vessel.

10. In a machine of the class described, means for twisting chenille, means for feeding the chenille and means for rotating said feeding means, and a vessel adapted to receive the chenille from said feeding means and fixed to the same rotating mechanism as said feeding means, so as to rotate in unison with said feeding means.

11. In a machine of the class described, a plurality of means for twisting a number of strings of chenille simultaneously, means for feeding each of said strings of chenille and a plurality of vessels, means for rotating said plurality of vessels, so that each will receive a different string of chenille from the feed mechanism, and means for causing the feed mechanism of each string to rotate in unison with the vessel into which the chenille is fed.

12. In a machine of the class described, means for twisting chenille, comprising a rotary spindle, a gear loosely mounted on said spindle, spur-gears meshing with said loosely-mounted gear, and feeding means connected with said spur-gears and adapted to feed chenille through the same, and a rotatably-mounted vessel into which the chenille is fed from said feeding means.

13. In a machine of the class described, a rotatably-mounted hollow spindle adapted to receive the chenille, and a gear loosely mounted on said spindle, spur-gears engaging said loosely-mounted gear, each adapted to rotate round the axis of said spindle, as well as round its individual axis, cushion-rollers actuated by said spur-gears, and adapted to move in unison with the spindle, and a vessel adapted to receive the chenille from said rollers.

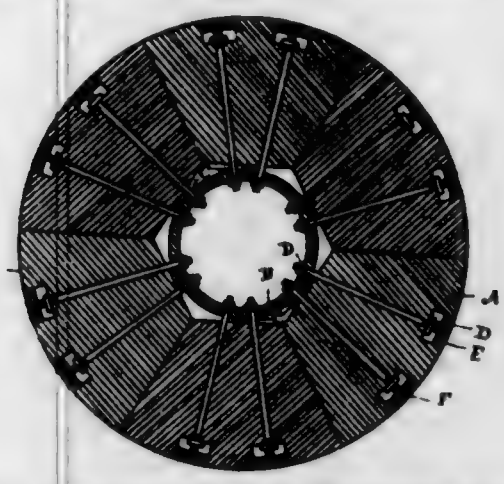
14. In a machine of the class described, a hollow and rotatably-mounted spindle adapted to receive the chenille and twist the same, a gear loosely mounted on said spindle, two oppositely-disposed spur-gears engaging said loosely-mounted gear, means fixed to said spindle for holding said spur-gears and said loosely-mounted gear in engagement, so that the axes of the spur-gears are substantially parallel to the spindle, shafts fixed to said spur-gears, worms on said shafts, gears engaging said worms and rollers fixed to the said shafts of gears, and means for supporting said shafts and gears, so that each of said rollers rotates round its axis and also round the axis of the spindle, and a rotating vessel moving in unison with said spindle, and means for rotating the vessel and spindle.

15. In a machine of the class described, a rotatably-mounted and hollow spindle adapted to receive chenille, a gear loosely mounted on said spindle, spur-gears meshing with said loosely-mounted gear, and means for supporting said spur-gears and causing them to engage the loosely-mounted gear, feeding mechanism connected with said spur-gears, and adapted to rotate in unison with said spindle, means for rotating said loosely-mounted gear and means for rotating said spindle, and means for receiving and supporting without distortion or injury, the chenille after it has been passed through said feeding mechanism.

16. In a machine of the class described, a rotatably-mounted hollow spindle for twisting chenille, gears loosely mounted on said spindle, one of which is a worm-gear, spur-gears engaging one of said gears, and means for supporting said spur-gears, which supporting means is fixed rigidly to said spindle, feed mechanism connected to said spur-gears, and supported by means fixed to the spindle, means for receiving and supporting the chenille after it passes through feeding mechanism, and a worm adapted to engage said worm-gear and means for supporting and actuating said worm.

17. In a machine of the class described, a shaft having two loose pulleys mounted thereon, and a sprocket fixed to one of said pulleys, a second shaft having a sprocket fixed thereto and a chain connecting said sprockets, means for twisting, feeding and receiving the chenille driven by said second shaft, and means for driving the first shaft from the second shaft.

808,338. **PAPER-MACHINE PRESS-ROLL.** EDMUND BURKE, Berlin, N. H. Filed July 27, 1904. Serial No. 218,221.



Claim.—1. A paper-machine press-roll consisting of a series of tapering wooden sections arranged radially, keepers positioned within and spaced apart from the inner ends of said sections and means for drawing the sections each independently of the other together toward a common center.

2. A paper-machine press-roll consisting of a series of tapering wooden sections, a series of circular keepers centrally positioned relative to said sections and spaced apart therefrom and a series of bonds connecting the sections with said keepers each of said sections being free to be drawn toward a common center independently of the others.

3. A paper-machine press-roll consisting of a keeper a series of tapering wooden sections arranged radially around said keeper, and spaced apart therefrom, a series of bonds connecting the sections with said keeper and means for adjusting the bonds to draw the sections together, each section being free to be drawn toward a common center independently of the other.

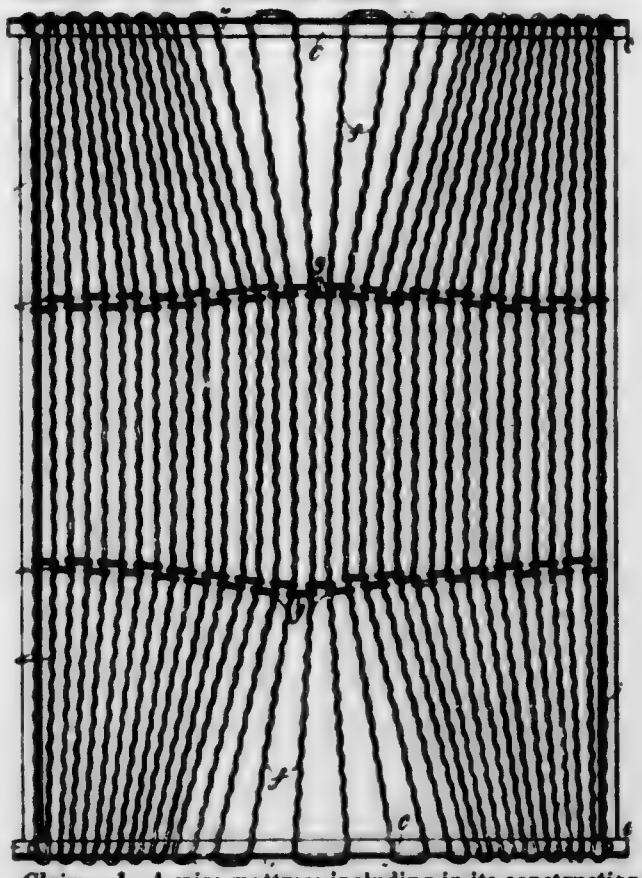
4. A paper-machine press-roll consisting of a series of tapering wooden sections, a keeper centrally positioned relative to said sections and spaced apart therefrom and a series of bonds passing through said sections and engaging said keeper each section being free to be drawn toward a common center independently of the other, the ends of the bonds being countersunk and covered with wooden inserts whereby the surface of the roll is homogeneous.

808,339. **ROAD-MAKING.** JOHN C. BUTTERFIELD, London, England. Filed July 18, 1905. Serial No. 270,295.

Claim.—1. The herein-described improvement in the art of road-making, consisting in reducing suitable available material, separating the finer from the coarser material, mixing the finer material with limestone or chalk, a silicate of soda and a saccharine substance, thereby forming a substantially plastic mass, capable of setting hard, and thereafter firmly embedding the coarser material in said mass.

2. The herein-described improvement in the art of road-making, consisting in reducing suitable available material, separating the finer from the coarser material, mixing the finer material with granulated asphalt or the like, lime or chalk, a silicate of soda and a saccharine substance, thereby forming a substantially plastic mass, capable of setting hard, and thereafter firmly embedding the coarser materials in said mass, substantially as described.

808,340. **WIRE MATTRESS.** JAMES R. CARDWELL, Chicago, Ill. Filed Mar. 7, 1905. Serial No. 248,799.



Claim.—1. A wire mattress including in its construction longitudinal stretches of wavy or crimped wire that are fanned from the central portion toward the longitudinal sides of the mattress, and links uniting adjacent stretches of the wire.

2. A wire mattress including in its construction longitudinal stretches of wavy or crimped wire that are slanted with respect to the longitudinal sides of the mattress, and links uniting adjacent stretches of the wire.

3. A wire mattress including in its construction longitudinal stretches of wavy or crimped wire that are fanned at end portions of the mattress from the central portion toward the longitudinal sides of the mattress and are extended substantially parallel with the longitudinal sides of the mattress between the said end portions of the mattress, and links uniting adjacent stretches of the wire.

4. A wire mattress including in its construction longitudinal stretches of wavy or crimped wire that are fanned from the central portion toward the longitudinal sides of the mattress, the divergences between adjacent stretches of wire being greater at the center of the mattress and decreasing toward the longitudinal sides thereof, and links uniting adjacent stretches of the wire.

5. A wire mattress including in its construction longitudinal stretches of wavy or crimped wire that are fanned at end portions of the mattress from the central portion toward the longitudinal sides of the mattress and are extended substantially parallel with the longitudinal sides of the mattress between the said end portions of the mattress, the divergences between adjacent stretches of wire being greater at the center of the mattress and decreasing toward the lon-

gitudinal sides thereof, and links uniting adjacent stretches of the wire.

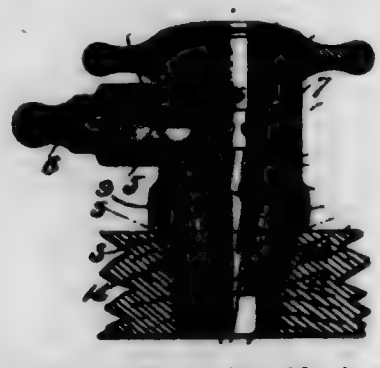
6. A wire mattress including in its construction longitudinal stretches of wavy or crimped wire that are fanned from the central portion toward the longitudinal sides of the mattress, the divergences between adjacent stretches of wire being greater at the center of the mattress and decreasing toward the longitudinal sides thereof, the stretches of wire adjacent to the longitudinal rails extending in substantially parallel directions, and links uniting adjacent stretches of the wire.

7. A wire mattress including in its construction longitudinal stretches of wavy or crimped wire that are fanned at end portions of the mattress from the central portion toward the longitudinal sides of the mattress and are extended substantially parallel with the longitudinal sides of the mattress between the said end portions of the mattress, the divergences between adjacent stretches of wire being greater at the center of the mattress and decreasing toward the longitudinal sides thereof, the stretches of wire adjacent to the longitudinal rails extending in substantially parallel directions, and links uniting adjacent stretches of the wire.

8. A wire mattress including in its construction longitudinal stretches of wavy or crimped wire that are fanned from the central portion toward the longitudinal sides of the mattress, the divergences between adjacent stretches of wire being greater at the center of the mattress and decreasing toward the longitudinal sides thereof, some of the stretches of wire adjacent to each longitudinal side of the mattress having substantially parallel directions, and links uniting adjacent stretches of the wire.

9. A wire mattress including in its construction longitudinal stretches of wavy or crimped wire that are fanned at end portions of the mattress from the central portion toward the longitudinal sides of the mattress and are extended substantially parallel with the longitudinal sides of the mattress between the said end portions of the mattress, the divergences between adjacent stretches of wire being greater at the center of the mattress and decreasing toward the longitudinal sides thereof, some of the stretches of wire adjacent to each longitudinal side of the mattress having substantially parallel directions, and links uniting adjacent stretches of the wire.

808,341. **BEER-TAP.** Manley J. Chaplin, St. Louis, Mo., assignor of one-half to Edward Kaufmann, St. Louis, Mo. Filed Nov. 4, 1904. Serial No. 231,226.



Claim.—1. A tap comprising a barrel having an internal shoulder, a discharge-pipe removably mounted in said barrel, and locking members having a rocking bearing on said shoulder and arranged to be thrown into locking position by said discharge-pipe.

2. A tap comprising a barrel having an internal shoulder and a reduced lower end provided with openings through its walls, and locking members mounted upon said shoulder to have pivotal movement and arranged to extend through said openings in certain positions.

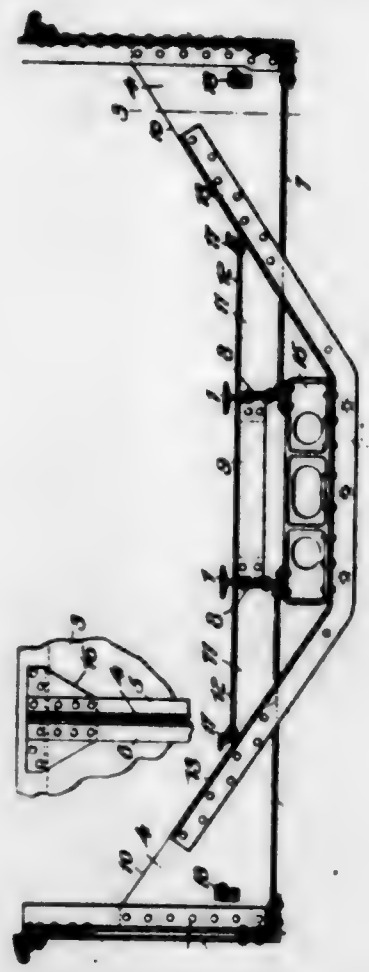
3. A tap comprising a barrel arranged to be inserted in the bung-hole of a cask, a discharge-pipe removably mounted in said barrel, locking members movably mounted in said barrel and arranged to be thrown into locking position by said discharge-pipe, packing-glands for the joints between said pipe and said barrel and between said barrel and said cask, and means connecting said glands whereby both said glands may be tightened simultaneously.

4. A tap comprising a barrel adapted to be inserted in the bung-hole of a cask, locking members pivotally mounted in said barrel, a gasket-seat mounted upon said locking members and arranged to swing the lower ends of said locking members inwardly, a gasket upon said gasket-seat and a cap on said barrel and engaging said gasket.

5. The combination of a bushing provided with an internal annular flange and a tap comprising a barrel adapted to be inserted in said bushing, members for locking said barrel in said bushing mounted in said barrel and arranged to engage said annular flange, means for holding said locking members out of locking position, and a discharge-pipe removably mounted in said barrel, said pipe holding said locking members in locking position when in place in said barrel.

6. A tap comprising a barrel adapted to be inserted in the bung-hole of a cask, and provided with an internal shoulder, locking members provided with substantially semicylindrical flanges inclined downwardly from the outer to the inner sides of said locking members, said flanges resting upon said shoulders, and means resting on said flanges to tilt said locking members.

808,342. **RAILWAY-CAR.** Frederick W. Cramwell, New York, N. Y., assignor to American Car & Foundry Company, St. Louis, Mo., a Corporation of New Jersey. Filed Sept. 11, 1905. Serial No. 278,043.



Claim.—1. In a railway passenger-car, the combination with a center sill and sides, of gusset-plates secured to the sides and center sill, and angles connected to the gussets and extending beneath the center sill; substantially as described.

2. In a railway passenger-car, the combination with a center sill and plate-girder sides, of gussets connected to the sides, and angles passing beneath the center sill and having upwardly and outwardly deflected ends for connecting the gussets; substantially as described.

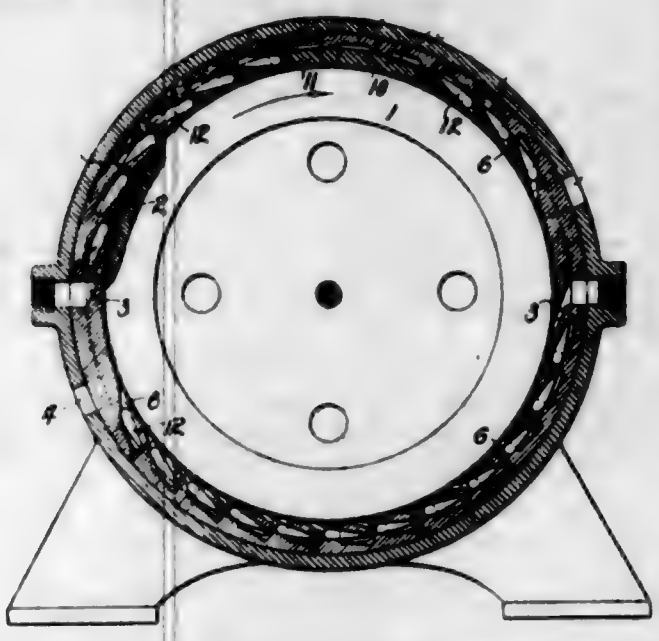
3. In a railway-car, the combination with a center sill and plate-girder sides, of gussets connected to the plate-girder sides and having flanged lower ends, and means passing beneath the center sill and connecting the gussets; substantially as described.

4. In a railway-car, the combination with a center sill and plate-girder sides, of gussets 4 connected to the sides and center sill, and angles 13 connected to the gussets and passing below the center sill; substantially as described.

5. In a railway-car, the combination with a center sill and plate-girder sides, of gussets having flanged straight lower edges and upper edges parallel with the lower edges for a portion of their length and extending upwardly the remaining portion of their length, and means passing beneath the center sill and inclined upwardly to connect the gussets on the respective sides of the center sill; substantially as described.

6. In a railway-car, the combination with plate-girder sides and a center sill, of trusses comprising transversely-extending floor-supporting sections, gussets connecting said sections to the plate-girder sides, and a member for connecting the gussets and passing beneath the center sill; substantially as described.

808,843. ELASTIC-FLUID TURBINE. JOHN W. CLOUD, London, England. Filed Mar. 7, 1905. Serial No. 248,831.



Claim.—1. In an elastic-fluid-pressure turbine the combination with a wheel, having a ring of buckets, and a casing, provided with a plurality of symmetrically-arranged inlet-nozzles and a corresponding number of outlets, of a corresponding number of circumferential series of isolated chambers arranged in said casing, each series of said chambers being arranged between an inlet-nozzle and a corresponding outlet, an inlet on one side of each chamber, and a contracted outlet-nozzle on the other side of said chamber.

2. In an elastic-fluid-pressure turbine the combination with a wheel, having a ring of buckets, and a casing, of a plurality of inlet-nozzles symmetrically arranged in said casing so as to direct the motive fluid to one side of said buckets, a corresponding number of outlets, a corresponding number of circumferential series of isolated chambers, arranged in said casing for circumferentially advancing and reversing the flow of fluid from one side of said buckets to the other, each series of said chambers being arranged between an inlet-nozzle and a corresponding outlet, and a contracted outlet-nozzle from each chamber.

3. In an elastic-fluid-pressure turbine the combination with a wheel, having a ring of buckets, and a casing, of a plurality of inlet-nozzles symmetrically arranged in said casing so as to direct the motive fluid to one side of said buckets, a corresponding number of outlets, a corresponding number of circumferential series of isolated passages, arranged in said casing for diverting the flow of motive fluid from said buckets into an axial direction, a ring provided, on the face adjacent to said passages, with a number of recesses coacting with said passages and an outlet-nozzle from each recess.

4. In an elastic-fluid-pressure turbine the combination with wheel, having a ring of buckets, and a casing, of a plurality of inlet-nozzles symmetrically arranged in said casing and so as to direct the motive fluid to one side of said buckets, a corresponding number of outlets, a ring arranged in said casing and having a corresponding number of circumferential series of recesses on one side face, each recess extending outwardly from the inner periphery of the ring, a second ring in contact with the recessed face of the first-named ring and having a corresponding number of circumferential series of nozzles, affording communication between each recess in the first-named ring and the inner periphery of the second ring, and means for completely closing circumferentially a portion of each recess of the first-named ring.

5. In an elastic-fluid-pressure turbine the combination with a wheel, having a ring of buckets, and a casing, of a plurality of inlet-nozzles symmetrically arranged in said casing and so as to direct the motive fluid to one side of said buckets, a corresponding number of outlets, a ring arranged in said casing and having a corresponding number of circumferential series of recesses on one side face, each recess extending outwardly from the inner periphery of the ring, a second series of recesses in the spaces between the first-named recesses extending outwardly from the inner periphery of said ring for a portion only of the radial length of the first-named recesses, and axially for a portion only of the depth of the same, a second ring inserted in said second series of recesses, a third ring of the same internal diameter as the first-named ring arranged in contact with both the said first and second rings and having circumferential series of recesses on the side face adjacent to said first and second rings, each recess being adapted to communicate with the corresponding recess in the first-named ring and terminating in an outlet-nozzle.

6. In an elastic-fluid-pressure turbine the combination with a wheel, having a ring of buckets, of a casing provided with a plurality of symmetrically-arranged inlet-nozzles and outlets and an annular wedge-shaped recess on either side of said wheel a soft-metal ring in each recess and means for compressing the said rings upon said wheel.

7. In an elastic-fluid-pressure turbine the combination with a wheel keyed on a shaft and bearings for said shaft of a casing mounted freely on said shaft, lugs projecting from the sides of the casing for preventing said casing from turning and means for preventing the escape of the fluid between the casing and the shaft.

8. In an elastic-fluid-pressure turbine the combination with a wheel, having a plurality of rings of buckets, a casing provided with a plurality of symmetrically-arranged inlet-nozzles for each ring of buckets, each inlet being adapted to direct the motive fluid to one side of the corresponding ring of buckets, and a corresponding number of outlets, of a passage connecting each outlet from one ring of buckets with an adjacent inlet-nozzle to the next succeeding ring of buckets, a series of nozzles arranged between each inlet-nozzle and corresponding outlet for directing the motive fluid to the same side of said bucket as the first-named nozzles, and means for circumferentially advancing and reversing the flow of fluid from the other side of said buckets to the next succeeding nozzle of said series.

9. In an elastic-fluid-pressure turbine the combination with a wheel, having a plurality of rings of buckets, and a casing provided with a plurality of symmetrically-arranged inlet-nozzles for each ring of buckets and a corresponding number of outlets, of a passage connecting each outlet from one ring of buckets with an adjacent inlet-nozzle to the next succeeding ring, circumferential series of isolated chambers arranged in said casing, each series being arranged between an inlet-nozzle and a corresponding outlet, an inlet on one side of each chamber and an outlet-nozzle on the other side of said chamber.

10. In an elastic-fluid-pressure turbine the combination with a wheel, having a plurality of rings of buckets, and a casing provided with a plurality of symmetrically-arranged inlet-nozzles for each ring of buckets and a corresponding number of outlets, of a passage connecting each outlet from one ring of buckets with an adjacent inlet-nozzle to the next succeeding ring, circumferential series of isolated passages arranged in the said casing, each series being arranged between an inlet-nozzle and a corresponding outlet, for diverting the flow of motive fluid into an axial direction, and a ring provided, from said buckets on the face adjacent to said passages, with a number of recesses coacting with said passages, each recess terminating in an outlet-nozzle.

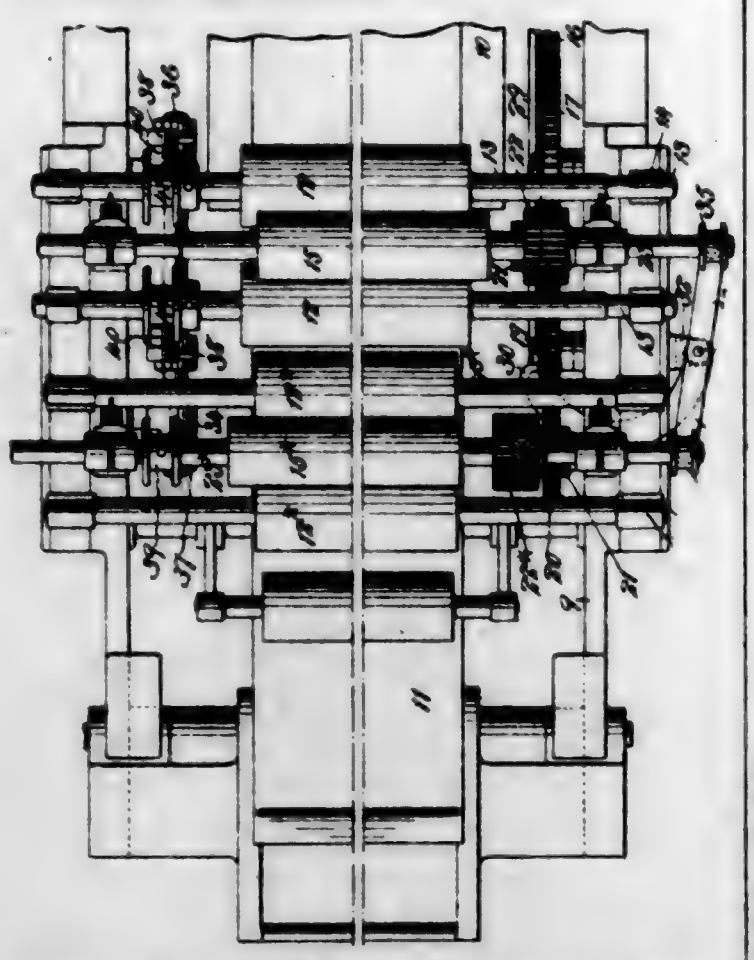
11. In an elastic-fluid-pressure turbine the combination with a wheel, having a plurality of rings of buckets, and a casing provided with a plurality of symmetrically-arranged outlets, of a series of rings arranged in said casing each ring having a number, corresponding to the number of outlets, of symmetrically-arranged series of recesses extending outwardly from the inner periphery on one side face and registering with one side of a corresponding ring of buckets, a second series of rings, cooperating with the first-named series, each ring having a number, corresponding to the number of series of recesses in the first-named rings, of symmetrically-arranged inlet-nozzles, a corresponding number of series of outlet-nozzles, each affording communication between a recess in a ring of the first-named series and the inner periphery of the ring and, with the exception of the first ring in the series, provided with passages each affording communication between an inlet-nozzle and the last recess of a series in an adjacent ring of the first-named series, and means for completely closing circumferentially a portion of each recess in the first-named series of rings.

12. In an elastic-fluid-pressure turbine the combination with a wheel, having a plurality of rings of buckets, and a casing provided with a plurality of symmetrically-arranged outlets, of a series of rings arranged in said casing, each ring having a number corresponding to the number of outlets, of symmetrically-arranged series of recesses extending outwardly from the inner periphery on one side face and registering with one side of a corresponding ring of buckets, a second series of recesses in the spaces between the first-named recesses extending outwardly from the inner periphery of the ring for a portion only of the radial length of the first-named recesses and axially for a portion only of the depth of the same, a second series of rings inserted in said second series of recesses, a third series of rings of the same internal diameter as the first series of rings, each in contact with one of each of the first and second named series of rings and having

firstly a circumferential series of recesses in the side face adjacent to said first and second named rings, each recess being adapted to communicate with a corresponding recess in an adjacent ring of the first-named series and terminating in an outlet-nozzle and secondly a number, corresponding to the number of series of recesses in the first-named rings, of symmetrically-arranged inlet-nozzles and means of communication between each inlet-nozzle with the exception of the first set, and the last recess of a series in the adjacent ring in the first-named series of rings.

13. In an elastic-fluid-pressure turbine the combination with a shaft, a drum provided on its inner circumference with buckets, means for securing said drum on said shaft, and a casing surrounding the outer circumference of said drum, of buckets arranged on the inner circumference of said drum, an inner casing surrounding the inner circumference of said drum, a plurality of inlet-nozzles symmetrically arranged in said inner and outer casing, a corresponding number of outlets in each casing, series of nozzles arranged between each inlet-nozzle and corresponding outlet and means for circumferentially advancing and reversing the flow of fluid from said buckets to the next succeeding nozzle of each of said series.

808,844. **INKING APPARATUS FOR PRINTING-PRESSES.** CHARLES P. COTTRELL, Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 23, 1905. Serial No. 242,065.



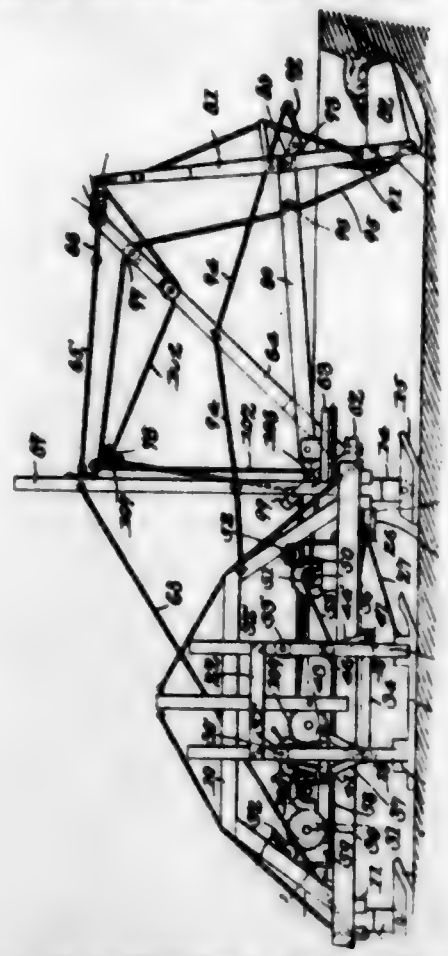
Claim.—1. The combination with the ink-distributing table of a printing-press, of a table-roller arranged across said table to run in contact therewith, a distributing-roller in contact with said table-roller, and means for giving said table-roller and distributing-roller reciprocating longitudinal movements in relatively opposite directions.

2. The combination with the ink-distributing table of a printing-press, of a table-roller arranged across said table to run in contact therewith, a distributing-roller in contact with said table-roller, means for giving the distributing-roller a longitudinal reciprocating movement, and connections between said rollers for transmitting from said ink-distributing roller a reciprocating longitudinal movement to said table-roller.

3. The combination with a table-roller and an ink-distributing roller in a printing-press, of an upright rock-shaft located on one side of the press, and means for producing the movement of said rock-shaft, a horizontal rock-shaft on the other side of the press, a connection between said upright rock-shaft and said ink-distributing roller for producing a reciprocating longitudinal movement of said roller, a connection between said ink-distributing roller and said horizontal rock-shaft for transmitting motion from said rollers to said rock-shaft, and a connection between said horizontal rock-shaft and the table-roller for producing a reciprocating longitudinal movement of the latter.

4. In a printing-press, the combination with a table-roller and an ink-distributing roller in contact therewith, of an upright rock-shaft located on one side of the press and means for producing the movement of said rock-shaft, a horizontal rock-shaft located on the opposite side of the press, an arm on said upright rock-shaft and a connection between said arm and the distributing-roller for producing a longitudinal reciprocating movement of the latter, an arm on said horizontal rock-shaft and a connection between said arm and the table-roller, and a connection extending across the press between said rock-shafts for transmitting motion from the upright one to the horizontal one for giving a longitudinal reciprocating movement to the table-roller.

808,845. **EXCAVATOR.** ALBERT E. CROSS, Tomah, Wis. Original application filed Oct. 18, 1904, Serial No. 228,968. Divided and this application filed Feb. 11, 1905. Serial No. 245,275.



Claim.—1. The combination in an excavating-machine, of a frame having a boom, an A-derrick, a guy connecting the derrick to the boom, and means for adjusting said derrick laterally of the frame and independently of the boom.

2. In excavating-machines, an adjustably-mounted derrick, a rack carried thereby, a pivoted lever for engaging successive teeth of the rack, and a locking-yoke for engaging the rack and holding the derrick in adjusted position.

3. The combination in an excavating-machine, of a frame having a pair of spaced transversely-disposed sill members, an A-derrick having a lower connecting-bar arranged between said sill members, supporting feet or lugs projecting from the derrick and engaging the upper surface of said sill members, a rack carried by the derrick, a lever for engaging the teeth of the rack and adjusting the derrick laterally of the frame, and a pivoted yoke for engaging between the teeth and locking the derrick in adjusted position.

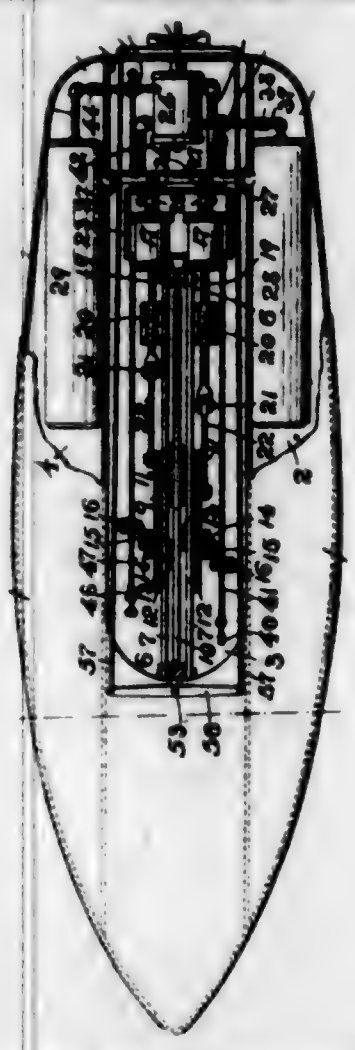
4. In excavating machinery, a walking-beam, a scoop or bucket pivotally connected thereto, and a yieldable latching means for holding the bucket in operative position.

5. The combination in excavating machinery, of a pivoted walking-beam, a scoop-bucket pivoted thereto, a latch, a pivotally-mounted pawl carried by the bucket and adapted to engage said latch, and a spring connected to the pawl and holding the same in operative position, the spring yielding under excess pressure to permit release of the pawl.

6. The combination in excavating machinery of a walking-beam, a scoop-bucket pivoted thereto, a tooth or pawl pivoted to the upper end of the bucket, a latch for engaging said tooth or pawl, a pair of links pivoted to the lower end of the tooth, a second pair of links forming a connection between the first pair and the mounted frame,

and a tension-spring extending between the connected links and a fixed point, thereby to permit yielding of the teeth or pawl when the scoop-bucket is subjected to excessive strain.

808,846. BOAT-PROPELLING MECHANISM. PATRICK E. CROWE, Newark, N. J. Filed June 20, 1905. Serial No. 266,126.



Claim.—1. In a boat, the combination, with the body of the boat, of an air-compressor, means for actuating the air-compressor, an air-engine connected with the main shaft of the boat, and means between said air-compressor and air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

2. In a boat, the combination, with the body of the boat, of an air-compressor, a manually-operated means for actuating the air-compressor, an air-engine connected with the main shaft of the boat, and means between said air-compressor and air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

3. In a boat, the combination, with the body of the boat, of an air-compressor, a compressed-air-receiving tank, means for actuating the air-compressor, a means of communication between said air-compressor and said air-receiving tank, an air-engine connected with the main shaft of the boat, and means between said air-receiving tank and said air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

4. In a boat, the combination, with the body of the boat, of an air-compressor, a compressed-air-receiving tank, a manually-operated means for actuating the air-compressor, a means of communication between said air-compressor and said air-receiving tank, an air-engine connected with the main shaft of the boat, and means between said air-receiving tank and said air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

5. In a boat, the combination, with the body of the boat, of an air-compressor, means for actuating said air-compressor consisting, of a framework, a shaft and a system of gearing, pedals on said shaft for actuating the same, a piston-rod and crank actuated from said gearing, an air-engine connected with the main shaft of the boat, and means between said air-compressor and air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

6. In a boat, the combination, with the body of the boat, of an air-compressor, means for actuating said air-compressor, consisting, of a framework, a shaft and a system of gearing, pedals on said shaft for actuating the same, a piston-rod and crank actuated from said gearing, a compressed-air-receiving tank, a means of communication between said air-compressor and said air-receiving tank, an air-engine connected with the main shaft of the boat, and means between said air-receiving tank and said air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

7. In a boat, the combination, with the body of the boat, of a cooling-tank, an air-compressor in said tank, means for actuating the air-compressor, an air-engine connected with the main shaft of the boat, and means between said air-compressor and air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

8. In a boat, the combination, with the body of the boat, of a cooling-tank, an air-compressor in said tank, a manually-operated means for actuating the air-compressor, an air-engine connected with the main shaft of the boat, and means between said air-compressor and air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

9. In a boat, the combination, with the body of the boat, of a cooling-tank, an air-compressor in said tank, a compressed-air-receiving tank, means for actuating the air-compressor, a means of communication between said air-compressor and said air-receiving tank, an air-engine connected with the main shaft of the boat, and means between said air-receiving tank and said air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

10. In a boat, the combination, with the body of the boat, of a cooling-tank, an air-compressor in said tank, a compressed-air-receiving tank, a manually-operated means for actuating the air-compressor, a means of communication between said air-compressor and said air-receiving tank, an air-engine connected with the main shaft of the boat, and means between said air-receiving tank and said air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

11. In a boat, the combination, with the body of the boat, of a cooling-tank, an air-compressor in said tank, means for actuating said air-compressor, consisting of a framework, a shaft, and a system of gearing, pedals on said shaft for actuating the same, a piston-rod and crank actuated from said gearing, an air-engine connected with the main shaft of the boat, and means between said air-compressor and said air-engine, for conducting compressed air to said engine, substantially as and for the purposes set forth.

12. In a boat, the combination, with the body of the boat, of a cooling-tank, an air-compressor in said tank, means for actuating said air-compressor, consisting of a framework, a shaft, and a system of gearing, pedals on said shaft for actuating the same, a piston-rod and crank actuated from said gearing, a compressed-air-receiving tank, a means of communication between said air-compressor and said air-receiving tank, an air-engine connected with the main shaft of the boat, and means between said air-receiving tank and said air-engine for conducting compressed air to said engine, substantially as and for the purposes set forth.

13. In a boat, the combination, with the body of the boat, of a framework in said boat, a fly-wheel supported in said framework, a pair of air-compressors, means for actuating the same consisting of two sets of gearing, pedals for actuating the same, and piston-rods and cranks actuated from said sets of gearing, a pair of compressed-air-receiving tanks, a means of communication between each air-compressor and an air-receiving tank, an air-engine provided with a pair of turbines connected with the main shaft of the boat, and means connected with the respective compressed-air-receiving tanks for conducting compressed air to either of said turbines, substantially as and for the purposes set forth.

14. In a boat, the combination, with the body of the boat, of a framework in said boat, a fly-wheel supported in said framework, a pair of air-compressors, means for actuating the same consisting of two sets of gearing, pedals for actuating the same, and piston-rods and cranks actuated from said sets of gearing, a pair of compressed-air-receiving tanks, a means of communication between each air-compressor and an air-receiving tank, an air-engine provided with a a pair of turbines connected with the main shaft of the boat, and means connected with the respective compressed-air-receiving tanks for conducting compressed air to either of said turbines, a cooling-tank surrounding the said air-compressors, and exhaust-air-conducting means between the said air-engine and said cooling-tank, substantially as and for the purposes set forth.

15. In a boat, the combination, with the body of the boat, of a framework in said boat, a fly-wheel supported in said framework, a pair of air-compressors, means for actuating the same consisting of

two sets of gearing, pedals for actuating the same, and piston-rods and cranks actuated from said sets of gearing, a pair of compressed-air-receiving tanks, a means for communication between each air-compressor and an air-receiving tank, an air-engine provided with a pair of turbines connected with the main shaft of the boat, air-conducting pipes leading from the respective compressed-air-receiving tanks to said air-engine and terminating in front of the respective turbines of said engine, and a throttle in each pipe, substantially as and for the purposes set forth.

16. In a boat, the combination, with the body of the boat, of a framework in said boat, a fly-wheel supported in said framework, a pair of air-compressors, means for actuating the same consisting of two sets of gearing, pedals for actuating the same, and piston-rods and cranks actuated from said sets of gearing, a pair of compressed-air-receiving tanks, a means of communication between each air-compressor and an air-receiving tank, an air-engine provided with a pair of turbines connected with the main shaft of the boat, air-conducting pipes leading from the respective compressed-air-receiving tanks to said air-engine and terminating in front of the respective turbines of said engine, a throttle in each pipe, and means for opening and closing said throttles, consisting of two hand-levers, and a connecting-rod between each lever and each throttle, substantially as and for the purposes set forth.

17. A boat having a hull comprising three longitudinally-extending compartments, the middle compartment being of greater depth than the two side compartments, an air-engine in said middle compartment, a compressed-air-receiving tank in each side compartment, and means for conducting compressed air from said compressed-air-receiving tanks to said air-engine, substantially as and for the purposes set forth.

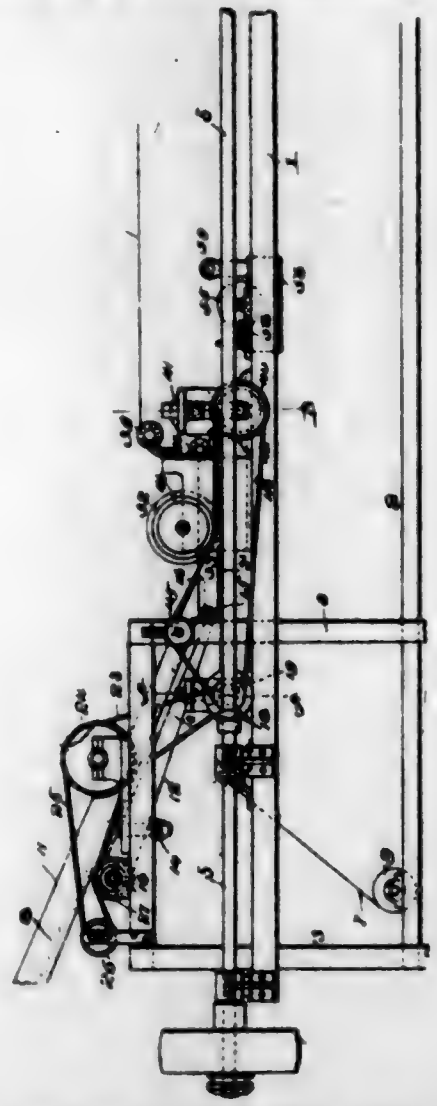
808,347. LOCKING DEVICE FOR LOOSE-LEAF BINDERS. GEORGE T. DALTON, Sr., Washington, D. C., assignor to Joseph B. Dalton, Washington, D. C. Filed Apr. 10, 1905. Serial No. 254,772.



Claim.—In combination with the back of a temporary binder, curved angled plates D and D' pivotally connected together and fastened to said back, a link F pivotally connected near the upper margin of said plate D, a link H pivotally connected at one end to said link F and its other end to the plate D adjacent to its inner marginal edge, said link F provided with a lug G positioned over its pivotal point to the link H, said links designed, when the plates are held together, to be positioned with their opposite edges parallel to each other, as set forth.

808,348. MACHINE FOR MAKING BOTTLE-WRAPPERS. WILLIAM DICKMANN, Oshkosh, Wis. Filed Nov. 11, 1904. Serial No. 232,347.

Claim.—1. In a machine for making bottle-wrappers of two strips of material applied together, the combination with a suitable frame, of means for producing a trough-like recess in one of the said strips of paper, said means being made of a recessed roller and an opposing roller formed with a corresponding projection, and means for bringing the edges of the straight or flat strip and the recessed or troughed strip of paper together at their edges.



2. In a machine for making bottle-wrappers of two strips of paper material with a flexible filling, the combination, with a suitable frame and moving mechanism, of glue-rollers operating in a heated glue-vat and against the upper strip, pressure-rollers operating to draw both strips and press them together, feed-rollers operating faster than the pressure-rollers to provide a "draw" upon the strips, and a relieving pawl and ratchet, substantially as shown.

3. In a machine for making bottle-wrappers of two strips of paper material inclosing a flexible filling, the combination, with a suitable frame and moving mechanism, of means for gluing and pressing the strips together at the edges, a glue-roller operating in a heated glue-vat and engaging one edge of the united strips and a non-gluing roller for supporting the opposite edge, substantially as shown and described.

4. In a machine for making bottle-wrappers of two strips of paper material with a flexible filling, the combination, with a suitable frame and moving mechanism of feed-rollers operating to draw the tubular wrapper taut and a relieving pawl and ratchet, substantially as shown.

5. In a machine for making bottle-wrappers of two strips of paper material with a flexible filling, the combination, with a suitable frame and operating mechanism, of feed-rollers, revolving cut-off knife and horizontally-arranged crimping-cams, substantially as shown.

6. In a machine for making bottle-wrappers of two strips of paper material with a flexible filling, the combination, with a suitable frame and operating mechanism, of an inclined trough for the filling, an endless conveying-belt, forming-rollers, a forming-trough, glue-rollers operating in a heated glue-vat, pressure-rollers, a relieving pawl and ratchet, a glue-roller operating in a heated glue-vat, an opposite supporting-roller for the united strips, an interior former, exterior-forming-rollers, consecutively-convergent, exterior-forming sheaves, a pressure-sheave, feed-rollers, a revolving cut-off knife and crimping-cams, substantially as shown.

7. A machine for making packing-closures comprising means for bringing strips of material together at their edges, means for

forming a depression or longitudinal trough in one of said strips for spacing it from the other strip when the edges of the strips are applied together receiving a filling material, and mechanism for drawing the applied strips into a cylindrical form, the recessed strips allowing of the rolling of the material without the crimping of the interior strip.

8. A machine for making wrapping-closures comprising mechanism for delivering inner and outer strips of flexible material, a recessed former engaging one strip and a corresponding former for depressing the central portion of the strip into the recess of the other former the edges remaining in their original plane, means for applying an adhesive to the said edges of the strips to secure them together, and means for drawing the connected strips into a cylindrical form to produce a completed wrapper.

9. A machine for forming article-inclosing wrappers which are made of a narrow strip of flexible material and a wider strip, means for troughing the central portion of the wider strip its edges remaining flat, mechanism for applying an adhesive between the flat edges of the two strips and formers for drawing the strip into a cylindrical shape.

10. A machine for forming bottle-wrappers comprising rolls for feeding a narrow and a wider strip of paper, forming-rolls for producing a depression or trough in the wider strip of paper, means for depositing a filling material in the recess or trough, a gluing mechanism engaging the edges of one strip, and applying an adhesive thereto, means for drawing the combined strips into a longitudinal cylindrical shape, and means for cutting the hollow wrapping material thus formed into suitable lengths for inclosing bottles or like articles.

11. A wrapper-forming machine comprising a frame, upper and lower rolls of paper carried thereby, means for drawing a web of paper from each roll, forming-rolls engaging the lower web for producing a depression or trough therein, means for depositing a filling material into said trough, rollers operating in a glue-vat and engaging the edges of one of the paper webs for applying the glue thereto, rolls for pressing the edges of the webs together, and means for forming the wrapping material thus formed into cylindrical shape.

12. A machine for making bottle-wrappers comprising a main frame, a principal shaft mounted thereon, forming, gluing and cutting means mounted upon the main frame, and gearing actuated by the said main shaft for operating the said means, means for feeding webs of paper to the machine, an auxiliary frame mounted above the main frame provided with a chute or trough, an inclined endless belt for carrying the material from the trough to a position between the webs of paper, and a support for the upper stretch of said belt.

13. A machine for forming bottle-wrappers comprising means for feeding upper and lower webs of paper therein, means for troughing one web of the paper, wheels extending into a vat containing an adhesive material and engaging the edges of one of the webs, means for pressing the webs together at their edges comprising a roll and edge-engaging wheels, and means for forming and cutting the combined webs.

14. A machine for making bottle-wrappers comprising means for delivering webs of paper, forming-rolls for making a depression in one of the webs, means for applying an adhesive to the edges of one web, means for pressing the edges together comprising a roll provided with an annular depression for receiving the depression formed in the web of paper, and wheels engaging the edges of the other web for bringing the parts together, and means for forming and cutting the combined webs.

15. A machine for forming bottle-wrappers comprising mechanism for bringing webs of paper together about a filling material, a stationary former suspended longitudinally with respect to the web of paper, depending hangers arranged above the stationary former, yieldingly-mounted forming-rollers arranged about the stationary former, for drawing the web into an elongated cylinder about the stationary former, and means for cutting the wrapper in flattened condition into suitable lengths.

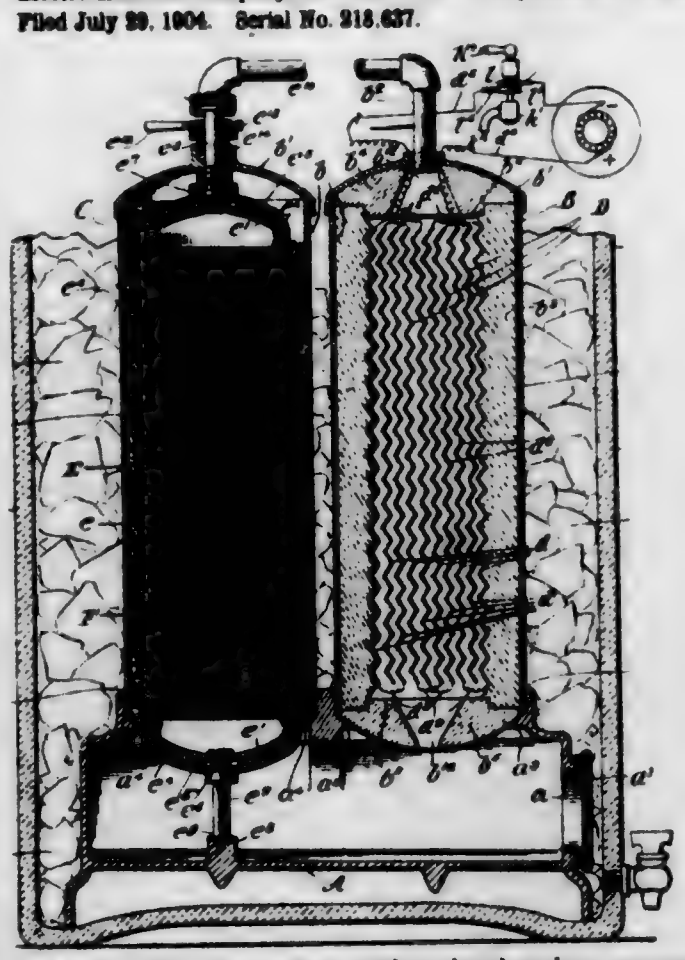
16. A machine for forming bottle-wrappers comprising means for bringing two webs of paper together around a flexible filling, means for securing the webs together at their edges and then forming them into a longitudinally-extending cylinder, means for flattening the cylindrical web thus formed, a rotating knife having radially-extending cutters for engaging the flattened web, crimping-cams engaging the said cylindrical web at intervals and gearing for moving the knife and cams.

808,349. **REFRIGERATOR.** JAMES DICK, Montreal, Canada. Filed Nov. 19, 1904. Serial No. 233,430.

Claim.—A refrigerator, comprising a casing having a vertical partition dividing the interior thereof into storage and ice compartments, and communicating passages between said compartments through the said partition, an ice-box having a perforated bottom supported intermediate of the height of the casing at the front thereof and closing a corresponding opening into the ice-compartment, a removable water-receptacle having a suitable faucet and closing a corresponding opening in the casing below the said ice-box, and a second water-receptacle contained within the aforesaid receptacle, and having a suitable faucet therefrom, the said receptacles being arranged so as to provide a space between the receptacles on three sides of the inner one, as and for the purpose specified.



808,350. **APPARATUS FOR PURIFYING AND FILTERING WATER.** LÉON DION, New York, N. Y., assignor to The Americus Electro-Hermetic Company, Wilkesbarre, Pa., a Corporation of Arizona. Filed July 29, 1904. Serial No. 218,637.



Claim.—1. The combination, with a closed tank or reservoir, two chambers mounted upon it and connected with its interior, an insulating-lining arranged within one of these chambers and made up from independent sections and parts, and a filter arranged within the other of such chambers, of a group of electrodes arranged within the compartment formed by such insulating-lining, means by which a current of electricity may be supplied to these electrodes, means by which water or other liquid may be supplied to and the purified portion thereof withdrawn from the apparatus, and devices by which this flow of the water or other liquid to and from the apparatus may be controlled, and which, when operated to allow of the withdrawal of the water or other liquid from the apparatus, also allows of the flow of the water or other liquid thereto; substantially as described.

2. The combination, with a plurality of chambers, a passage-way by which they are connected, an insulating-lining arranged in one of these chambers and made up from independent sections and

parts, and a filter arranged within a different chamber, of a group of electrodes arranged within the said insulating-lining, means by which an electric current may be supplied to these electrodes, means by which water or other liquid may be supplied to and the purified portion of it withdrawn from the apparatus, and devices by which this flow of the water or other liquid to and from the apparatus, and the flow of the electric current to the electrodes, may be respectively controlled, and which, when operated to allow of the withdrawal of the water or other liquid from the apparatus, also allows of the electric current flowing to the electrodes and the flow of the water or other liquid to such apparatus; substantially as described.

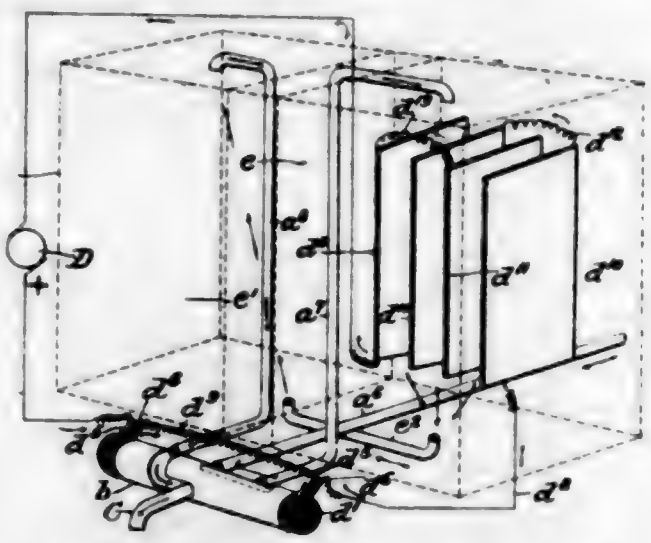
3. The combination, with a closed tank or reservoir, two closed chambers mounted upon this tank or reservoir and communicating with its interior, a group of electrodes and a filter with which these chambers are respectively provided, and an insulating-lining surrounding the electrodes within the chamber containing them and made up from independent sections and parts, of a vessel or casing in which the said parts may be arranged and subjected to the action of a cooling agent, mechanism for supplying a current of electricity to the electrodes, means by which water or other liquid may be supplied to and withdrawn from the apparatus, and devices by which this flow of the water or other liquid to and from the apparatus and the flow of the electric current to the electrodes may be respectively controlled, and which, when operated to allow of the withdrawal of the water or other liquid from the apparatus, shall also allow of the electric current flowing to the electrodes, and the flow of the water or other liquid to the apparatus in that sequence before its withdrawal therefrom; substantially as described.

4. The combination, with a chamber provided with an insulating-lining, a group of electrodes arranged within this chamber, a second chamber having its interior communicating with the interior of the first-mentioned chamber, a filter arranged within this second chamber, and means through which an electric current may be supplied to the electrodes, of an inlet-pipe through which water or other liquid may be supplied to the chamber containing the electrodes, a discharge-nozzle connected with the chamber containing the filter for conveying and discharging such water or other liquid therefrom, and means by which, in its operation in one direction, the circuit in which the electrodes are arranged will first be established and the electric current allowed to flow through them, the flow of the water or other liquid to the chamber in which the electrodes are located next permitted, and then the discharge of the water or other liquid from the apparatus allowed, while in its operation in the opposite direction the discharge of the water or other liquid from the apparatus will first be interrupted, the flow of the water or other liquid to the chamber containing the electrodes next suspended, and lastly the electric circuit in which the electrodes are arranged will be broken and the flow of the current to such electrodes thereby terminated, substantially as described.

5. The combination, with the chamber B, the inlet-pipe leading thereto, the filter, the discharge-pipe leading therefrom, the electrodes, a source of electric supply, conductors leading from the source of supply to the electrodes, and a discharge-nozzle, of a valve-plug provided with two ports adapted to coöperate with the incoming and outgoing ends of the inlet-pipe and connected at their own inner ends, a second valve-plug arranged to rotate around and with the axis of the first-mentioned valve-plug and provided with two ports which are similarly connected at their inner ends and are adapted to coöperate with the respective end of the outlet-pipes and the discharge-nozzle, two disks mounted upon and adapted to move with and around the axis upon which the valve-plugs are moved, with one of these disks provided with a non-conducting surface throughout a portion of its periphery, brushes for coöperating with these disks, conductors by which these brushes are respectively connected with a source of electric supply and with the electrodes, and a device by which the movement of the plugs and disks around their common axis may be effected, whereby when the plugs are moved around their common axis in one direction to a given extent the water or other liquid will be free to enter and flow from the apparatus and an electric circuit between the source of electric supply and the electrodes will be established, and when moved in the opposite direction the flow of the water or other liquid to and from the apparatus will be suspended and the electric circuit broken, substantially as described.

808,351. DEVICE FOR CONTROLLING THE FLOW OF FLUIDS AND OTHER MATERIALS. LOUIS DIRK, Williamsport, Pa., assignor to THE AMERICAN Electro-Hermetic Company, Williamsport, Pa., a Corporation of Arizona. Filed Mar. 25, 1905. Serial No. 252,070.

Claim.—1. A device for controlling the flow of fluids and electric currents, consisting of a casing which is provided with a plurality of pairs of coöperating induction and eduction ports, a movable member arranged in connection with the casing and provided with ports that are adapted to be brought one after another into, and, in a reverse order, carried one after another out of operative relationship to the ports in the casing as the movable member is moved in the required direction, and an electric circuit maker and breaker arranged in connection with the casing and the movable member, whereby to permit of both the flow of the fluid or other material and of the electric current through the device and of the interruption of the flow as may be desired, substantially as described.



2. A device for controlling the flow of fluids and electric currents, consisting of a casing provided with a socket and a plurality of pairs of coöperating induction and eduction ports, a rotatable plug or member arranged in such socket and provided with ports for coöperating one after the other with their respective coöperating induction and eduction ports in the casing and with both electricity-conducting and electricity-non-conducting surfaces, and brushes for coöperating with such surfaces and adapted for connection with appropriate electric conductors, substantially as described.

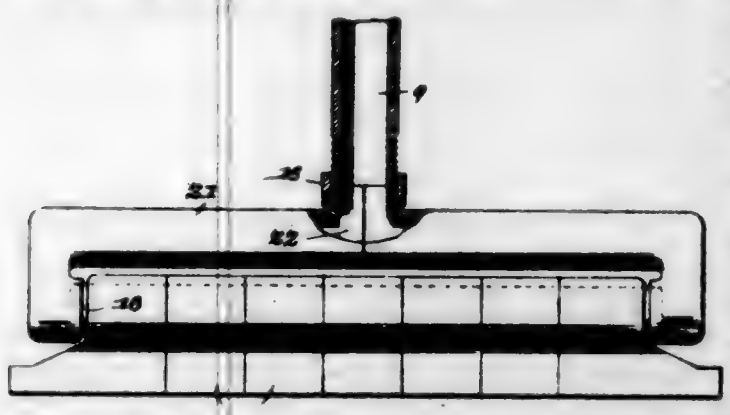
3. A device for controlling the flow of fluids and electric currents consisting of a casing provided with a socket, chambers at the ends of such socket, and with ports a, a', a^3, and a^4, of which ports a, a' and a^3 are arranged on one side of the axis of the socket and the port a^4 near the opposite side thereof, a rotatable plug or member arranged within such socket and provided with ports b' and b^3 formed in its surface, and with a disk on each of its ends that is equipped with an electricity-non-conducting surface throughout a portion of its periphery, brushes for coöperating with these disks and adapted for connection with appropriate electric conductors, and an electric conductor extending across from the brushes of one disk to the brushes of the other, substantially as described.

4. In a device for controlling the flow of fluids and other materials, the combination, with a casing constructed with a plurality of pairs of coöperating induction and eduction ports, of a movable plug arranged in connection with such casing and provided with ports for coöperation with those in the casing, whereby when the plug is moved in one direction it will first open a portion and then the whole of the induction and eduction ports in the casing, and when moved in the opposite direction will first close a portion and then the whole of such ports in a reverse order, substantially as described.

5. In a device for controlling the flow of fluids and other materials, the combination, with a casing provided with a socket and with ports a, a', a^3 and a^4, of which the ports a, a' and a^3 are located on one side of the axis of the socket and the port a^4 is located out of line with the first-mentioned ports around such axis, of a rotatable plug arranged in such socket and provided in its surface with both a straight longitudinal-disposed port b' and an L-shaped port b^3, substantially as described.

6. A mechanism for controlling the flow of water or other fluids to and from, and the flow of an electric current to, a vessel or other receptacle, constructed with coöperating ports or passage-ways and a circuit maker and breaker, whereby when the mechanism is actuated in one direction a current of electricity is first caused to flow to such vessel or receptacle to electrify the contents thereof, the flow of the water or other fluid to such vessel or receptacle is next permitted, and the discharge of the water or other fluid from such vessel or receptacle is next allowed, and when the mechanism is actuated in the opposite direction these three several operations are successively suspended in a reverse order, substantially as described.

808,352. STREET-CLEANER. HOLMES DUKE, Beaumont, Tex. Original application filed July 26, 1904, Serial No. 218,285. Divided and this application filed Oct. 27, 1904. Serial No. 230,251.



Claim.—1. In a pneumatic cleaning apparatus, a suction-pipe, a suction inlet member, connecting-tubes extending between the two, said connecting-tubes being each provided with a half-coupling, and a coupling-sleeve connecting the end of the suction-pipe to the half-couplings, and serving to hold the parts assembled.

2. The combination with a suction-pipe, having an externally-threaded portion, a threaded coupling-sleeve carried thereby, a suction inlet member having an inlet-mouth for the dirt, connecting-pipes each detachably secured to one end of the suction inlet member, said coupling-pipes having each a semicylindrical coupling member provided with threads for the reception of the threaded sleeve.

3. In pneumatic cleaning apparatus, a suction inlet-pipe having a continuous inlet-slot extending throughout its entire length, and a plurality of independently-movable inlet-nozzles communicating with the slot and free for swinging movement on the pipe.

4. In pneumatic cleaning apparatus, a slotted suction-tube, and a plurality of nozzle members mounted for swinging movement thereon and communicating with the slot, the nozzle-openings extending throughout the complete width of said members.

808,353. FIRE-TUBE BOILER. EMIL EBERHARDT, Stettin, Germany. Filed Apr. 18, 1905. Serial No. 256,255.



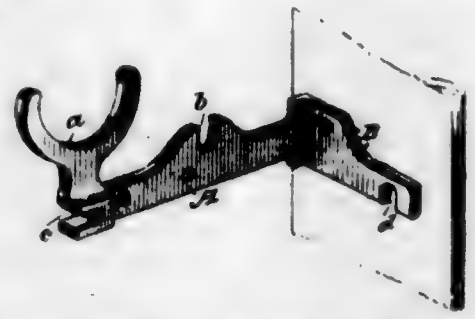
Claim.—1. In a boiler, the combination of a shell, fire-chambers therein, a smoke-consumption chamber arranged above said fire-chambers, a smoke-box connecting said fire-chambers and said smoke-consumption chamber, fire-tubes partly surrounding and communicating with said smoke-consumption chamber, a chimney mounted above said smoke-box and connected to said fire-tubes; an air-chamber formed by the walls of said smoke-box and communicating with said smoke-consuming chamber, air-admission ports in said air-chamber, and partitions arranged within said air-chamber for directing the course of the air admitted through said ports.

2. In a boiler, the combination of a shell, fire-chambers therein, a smoke-consumption chamber arranged above said fire-chambers, a smoke-box connecting said fire-chambers and smoke-consumption chamber, fire-tubes partly surrounding and communicating with said smoke-consumption chamber, a chimney mounted above said smoke-box and connected to said fire-tubes; an air-chamber formed by the walls of said smoke-box and communicating with said smoke-consuming chamber air-admission ports communicating with said air-chamber and provided with dampers for regulating the admission of air thereto, and directing-walls within said air-chamber for directing the course of the air admitted through said openings.

3. In a boiler, the combination of a shell, fire-chambers therein, a smoke-consumption chamber arranged above said fire-chambers, fire-tubes partly surrounding said smoke-consumption chamber and communicating therewith, a smoke-box, a chimney mounted above said smoke-box and communicating with said fire-tubes; an air-chamber formed by the walls of said smoke-box, and a nozzle connection between said air-chamber and smoke-consumption chamber.

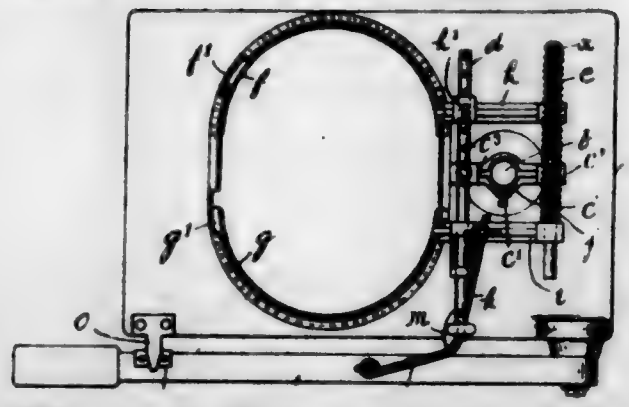
4. In a boiler, the combination of a shell, fire-chambers therein; a smoke-consumption chamber arranged above said fire-chamber, a smoke-box, fire-tubes partly surrounding said smoke-consumption chamber and communicating therewith, a chimney mounted above said smoke-box and communicating with said heating-pipes; an air-chamber formed by the walls of said smoke-box, a nozzle connection between said air-chamber and said smoke-consumption chamber air-admission ports in said air-chamber provided with dampers for regulating the admission of air, and directing-walls within said air-chamber for directing the course of the air admitted through said openings.

808,354. HANGER FOR CURTAIN-POLES AND SHADE-ROLLERS. MILO A. ELLIOTT, Waterville, Me. Filed Aug. 18, 1905. Serial No. 274,655.



Claim.—A reversible and adjustable hanger for curtain-poles and shade-rollers, comprising two brackets disposed at right angles to each other, the brackets having bearings or supports for the shade-roller upon upper and lower edges thereof respectively, one of said brackets having a support for the curtain-pole and a support for the shade-roller at the end of said bracket and lengthwise therewith, substantially as and for the purpose set forth.

808,355. BAG-HOLDER. JOHN O. ELLISON, Haverhill, Mass. Filed Apr. 10, 1905. Serial No. 254,663.



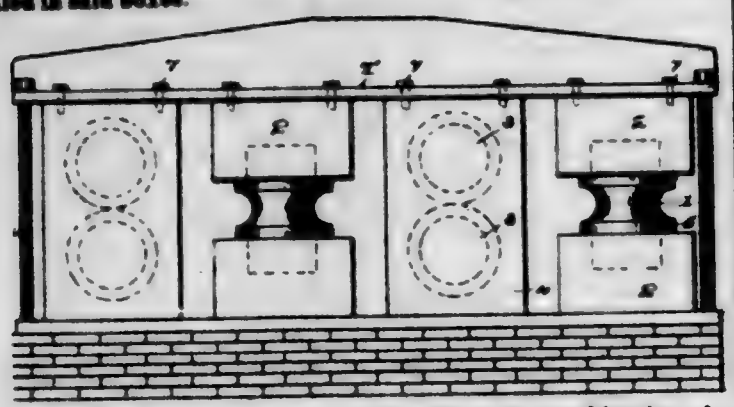
Claim.—1. A bag-holder comprising a support, horizontal guide-bars borne by said support, a pair of bag-engaging arms slidably mounted on said bars, said bars engaging said arms at different points to hold them rigidly in a horizontal position, means for locking one of said arms in different positions on said bars, and means for moving the other arm away from the locked arm, substantially as described.

2. A bag-holder comprising a support, a pair of parallel rods secured to and projecting from each side thereof, a pair of oppositely-disposed bag-engaging arms extending transversely of said rods and each having a supporting-carriage slidably mounted thereon, one of said carriages being normally stationary and having means for locking it in different positions thereon, and lever mechanism for moving the other carriage away from said stationary carriage, substantially as described.

808,356. APPARATUS FOR MAKING TUBING. NICHOLAS FOSTER, South Tacoma, Wash., assignor of one-half to John O. Johnson. Filed June 10, 1904. Serial No. 212,080.

Claim.—1. A mechanism of the class described, comprising a pair of approximately T-shaped beams, removable bolts secured upon and connecting each corner of said beams, a plurality of pairs of boxes mounted upon said beams, each box of the same length as the width of said T-shaped beams, and grooved rolls journaled on each pair of said boxes.

2. In a mechanism of the class described, the combination of parallel, approximately T-shaped beams, removable parallel members secured upon each end and connecting said beams, a plurality of pairs of vertical and horizontal boxes of the same length as the width of and removably mounted upon said beams, and rolls journaled in said boxes.

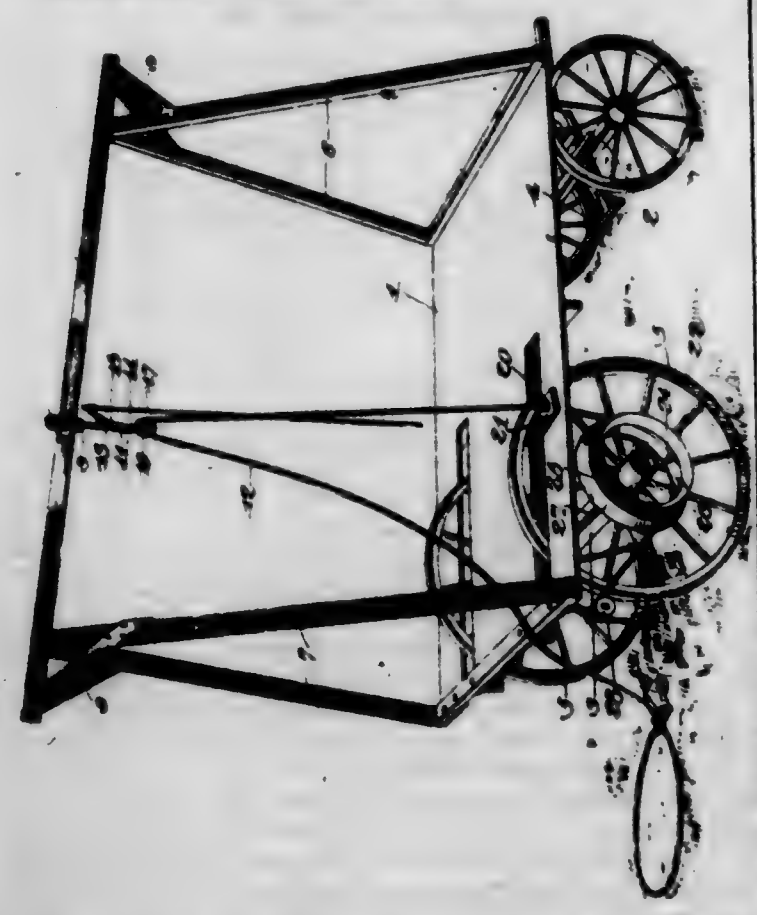


3. In a device of the character described, the combination of a plurality of parallel members, each member provided with a central, longitudinal web extending throughout its entire length, removable, parallel pairs of boxes of the same length as the width of said members, positioned between the same, rolls carried by said boxes, and means removably securing said boxes and members together.

4. In a mechanism of the class described, the combination of parallel members, vertical and horizontal boxes positioned between said members, said boxes of the same length as the width of said members, rolls journaled in said boxes, and means for positively securing said members and boxes together.

5. In a mechanism of the class described, the combination of a frame, comprising parallel members, boxes interposed between said members of the same length as the width of the same, and revoluble, pressure-exerting means journaled in said boxes.

808,357. LOADING DEVICE. BARNETT A. FOUST, Mendville, Pa. Filed Jan. 14, 1905. Serial No. 241,005.



Claim.—1. In a device of the class described, the combination with a running-gear, of a bed or platform, an elevated track supported thereby, a carrier upon said elevated track, a trip-pulley supported by said carrier, a hoisting element guided over the trip-pulley and through an aperture in the platform, and a hoisting-drum connected with the outer face of a hind wheel of the running-gear; said hoisting element having a free end hitched around the hoisting-drum.

2. In a hoisting device, the combination with a wheel-supported running-gear, of a bed or platform, converging uprights upon said platform, a track supported by said uprights, and hoisting mechanism including a trip-pulley, a drum connected with one of the wheels of the running-gear, and a hoisting element hitched around the drum and having one free end and the other end guided over thee trip-pulley.

3. A loading device including a running-gear, a drum connected with one of the wheels of the running-gear, a suitably-supported elevated track, a trip-pulley suspended from and movable with relation to said track, and a hoisting element guided over the trip-pulley, provided at one end with a hook and having its other end disposed adjacent to and adapted to be looped around the winding-drum.

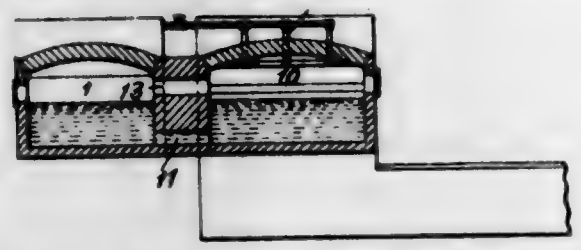
4. A loading device consisting of an equipment to be used in connection with a running-gear, said equipment including a bed or platform, an elevated track supported above the same, a carrier movable upon said track and having a trip-pulley, a hoisting element engaging said trip-pulley and guided through an aperture in the platform, a guide-pulley in said aperture, a drum, and means for attaching said drum to a transporting-wheel of a running-gear; said hoisting element having a loop engaging the drum and a free end extending from said loop.

5. In a device of the class described, a running-gear, a track supported thereby, a pulley upon said track, a hoisting element passing over said pulley, and a winding-drum for said hoisting element connected with a wheel of the running-gear; said winding-drum having a groove near the outer edge of its face, the inner portion of the face being sloping in the direction of said groove.

6. In a device of the class described, a running-gear, a track supported thereby, a pulley upon said track, a hoisting element passing over said pulley, a winding-drum for said hoisting element connected with a wheel of the running-gear, and a suitably-supported guide-pulley for the free end of the hoisting element; said hoisting element being looped around the drum prior to passing over said guide-pulley.

7. In a device of the class described, a running-gear, a pulley suitably supported above said running-gear, a hoisting element passing over the pulley, a drum connected with a wheel of the running-gear and having a V-shaped groove for the reception of a loop of the hoisting element, and guiding means for the latter adjacent to opposite sides of the winding-drum; one of said guiding means supporting a free end of the hoisting element.

808,358. GLASS-FURNACE. JAMES A. FRANK, Wellsburg, W. Va. Filed Mar. 8, 1905. Serial No. 248,571.



Claim.—1. A glass-furnace having in combination a melting and refining chamber, a working chamber, a stack-flue connected to one chamber, a port or passage for conducting products of combustion from one chamber to the other and a port or passage for conducting glass from one chamber to the other, said ports or passages being so located that one will be heated by the other.

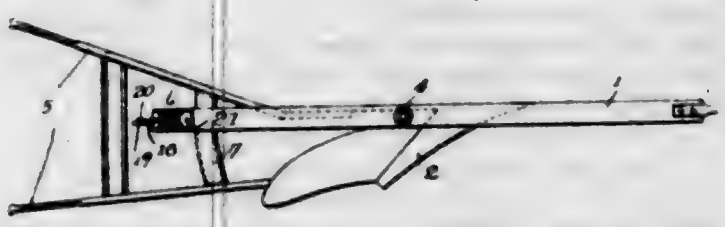
2. A glass-furnace having in combination a melting and refining chamber connected to a stack, oppositely-arranged means for heating said chamber, a working chamber, oppositely-disposed means for heating said chamber, a flue for products of combustion connecting said chambers and so arranged with reference to the heating means of the working chamber and the stack connection of the melting-chamber as to insure an even distribution of heat in both chambers.

3. A glass-furnace having in combination a melting and refining chamber having its ends connected to a stack, means for heating said chamber arranged at the ends thereof, a working chamber, means located at its ends for heating said chamber a flue for products of combustion extending from a point approximately midway of the length of the working chamber to a point approximately midway between the outlets of the melting-chamber, and a port or passage for the flow of glass from the melting to the working chamber.

808,359. PLOW. ANNE A. FREY, Martins Creek, Pa. Filed Dec. 29, 1904. Serial No. 238,103.

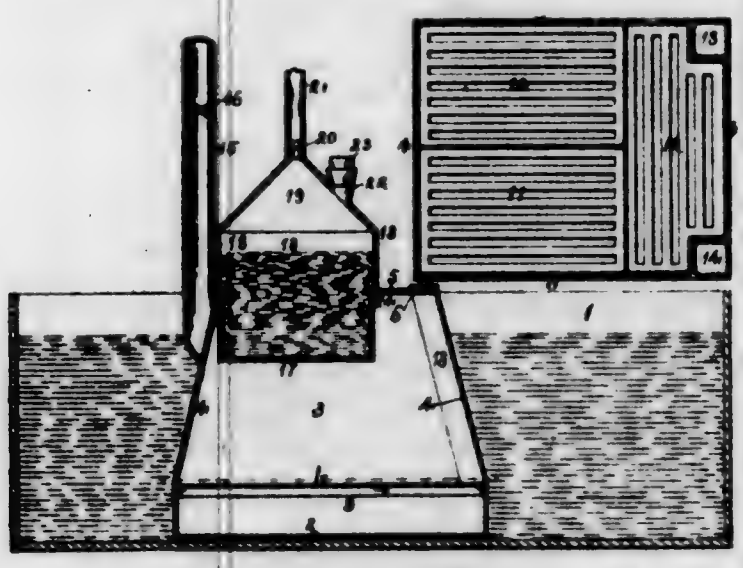
Claim.—1. The combination of a beam, a plow pivotally mounted thereon, a frame carried by said plow, a guide-loop upon said

beam, an apertured bar slidable in said guide and secured to said frame, a sliding bolt in said guide adapted to enter the apertures in said bar to lock said plow to said beam, and means for operating said sliding bolt.



2. The combination of a plow-beam, a plow pivotally mounted thereon, a handle-frame carried by said plow, a guide-loop secured upon the under side of said beam and formed with an apertured lug and a loop having alined apertures, an apertured rack-bar secured to said handle-frame and slidably mounted in said guide-loop, a sliding bolt in the lug and loop of said bracket, a spring for projecting said bolt through the apertures in said guide-loop and said rack-bar, a bell-crank pivotally mounted upon said beam and pivotally connected to said sliding bolt, and a lever for operating said bell-crank, substantially as described.

808,360. TANK-HEATER AND FEED-COOKER. WILLIAM S. GRIFFITH, Roscoe, Ill. Filed June 19, 1905. Serial No. 265,956.

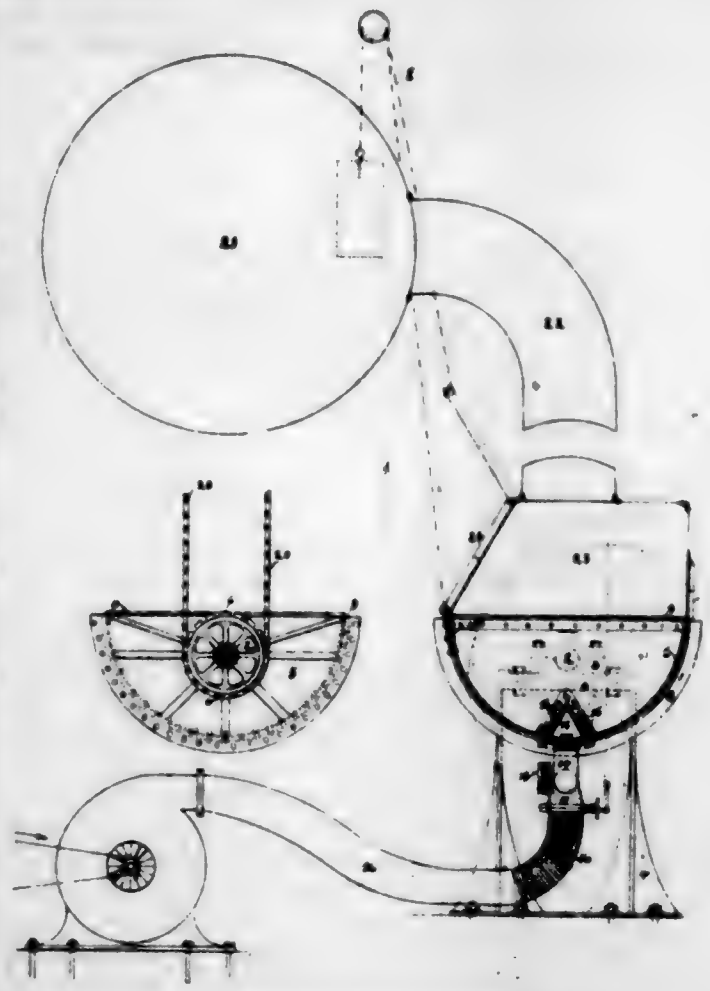


Claim.—In a combined tank-heater and feed-cooker, the combination of the heater proper closed except at or near its top having an open upper end, a removable plate closing a portion of the opening, a grate supported above the bottom of the heater, air passageways leading from the top of the heater to the space below the grate, a smoke-pipe communicating with the upper portion of the heater, a boiler supported by the upper portion of the heater, and a flexible tube connected with the upper portion of the boiler, said removable plate being situated at one side of the boiler.

808,361. PROCESS OF ROASTING ORES. HERBERT HAAS, San Francisco, Cal. Filed Aug. 3, 1905. Serial No. 272,618.

Claim.—1. The process of roasting ores which consists of bringing them to the point of ignition, and supplying a light blast of air evenly distributed throughout the whole mass for the purpose of maintaining combustion thereof, and creating a sintered agglomeration, said blast being sufficiently light, and being continued for a sufficient time, to drive off and oxidize only the more easily-separable molecules of sulfur, or other metalloids, maintaining the heat below the smelting-point, and then increasing the blast to separate from the residue the less easily separable molecules of sulfur, continuing to increase the blast as required for the complete separation of the sulfur and then decreasing the blast in proportion to the amount of air decreasingly required to combine with the residual sulfur or other metalloids, substantially as described.

2. The process of roasting ores and producing a smelting charge which consists in mixing with the ores a suitable flux in suitable proportions, creating a sintered agglomeration by raising the ore-flux mixture to the point of ignition of the sulfur or other metalloids, subjecting the same when so ignited to a light blast of air evenly distributed throughout the whole mass, continuing said blast for a sufficient time and with sufficient strength only to drive off and oxidize the more easily separable metalloid molecules, while maintaining the heat below a smelting temperature, and, when the more easily separable metalloid molecules have been driven of, increasing the blast to drive off the less easily separable metalloid molecules, maintaining the air-supply in proportion to the amount required for combustion, and decreasing the air-supply when necessary as the amount of sulfur and other metalloids remaining to be oxidized decreases, substantially as described.

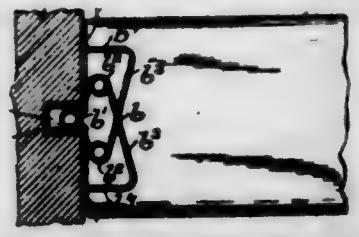


808,362. CONTAINER-TOP. JERVIS R. HARBECK, Detroit, Mich., assignor to Gem Fibre Package Company, Detroit, Mich., a Corporation of Michigan. Filed Jan. 7, 1905. Serial No. 240,085.



Claim.—In a top for containers, a raised portion provided with perforations and segmental slots a short distance from its periphery, in combination with a circular perforated plate adapted to fit within the raised portion and having upturned tongues a short distance from its edge, said tongues being curved to fit said segmental slots and passing through the same being bent downward and outward, projecting beyond the raised portion of the top and adapted to hold the plate tightly against the top.

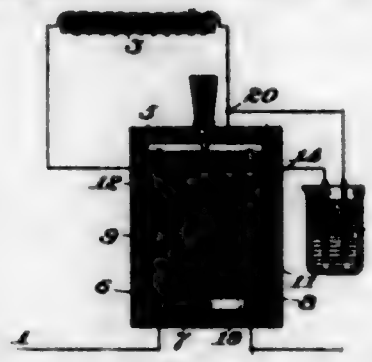
808,363. BLIND-SLAT ANTIRATTLER. JOHN J. HARGRAVES, Apponaug, R. I. Filed May 10, 1905. Serial No. 259,774.



Claim.—1. The combination with a blind *a* having the side bars *a' a'* in which are the holes $a^2 a^2$, the slats a^3 a^3 having the pintles a^4 a^4 on the ends of the slats, and a plurality of the antirattlers *b b* each antirattler being of spring-wire and consisting of the loop *b'*, the two coils b^2 b^2, the spring-arms b^3 b^3 having the L-shaped portions b^4 b^4 with the hook-shaped ends b^5 b^5, the loop *b'* being adapted to engage with a hole a^2 in the side bar *a'* and the hook-shaped ends b^5 b^5 with the end of a slat a^3, whereby the slats a^3 a^3 are frictionally held in any position desired and from rattling in the blind, as described.

2. An antirattler for blind-slats consisting of spring-wire and having the loop b', the two coils b^2 b^3, the spring-arms b^3 b^5 having the L-shaped portions b^4 b^4 with the hook-shaped ends b^5 b^5, the loop b' the latter being adapted to engage in a pivot-hole in a blind-frame and the hook-shaped ends b^5 b^5 with the end of a blind-slat, whereby the slat is frictionally held in any position desired and from rattling in the blind, as described.

808,364. ELECTRIC SWITCH. WILLIAM S. HOBBY, Niagara Falls, N. Y. Filed Mar. 20, 1903. Serial No. 251,040.



Claim.—1. In combination, a main circuit containing an inductance, a shunt-circuit containing an electrolytic cell, the anode of said cell consisting of a material which offers an abnormally high resistance to the flow of current therefrom, and a switch to successively open said main and shunt circuits but directly close said main circuit, as set forth.

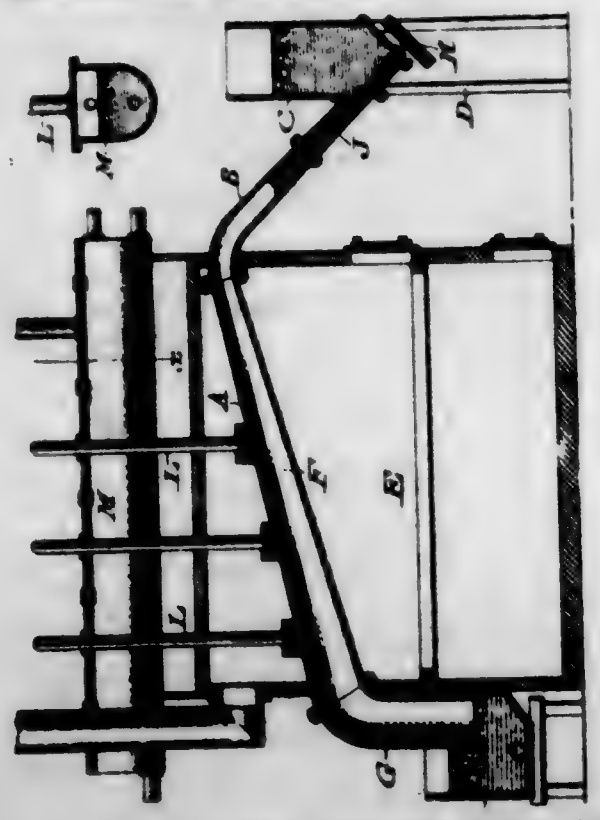
2. In combination, a main circuit containing an inductance, a shunt-circuit containing an electrolytic cell, the anode of said cell consisting of a material which offers an abnormally high resistance to the flow of current therefrom, and a switch to successively open but simultaneously close said main and shunt circuits, as set forth.

3. A switch, comprising three movable contact members, means for moving two of said members simultaneously, and means for moving the third contact member in advance of the other two members, as set forth.

4. A switch, comprising three movable blades, two of said blades being rigidly connected and the third blade being movable in advance of said connected blades, and means whereby the movement of the independent blade effects the movement of said connected blades, as set forth.

5. A switch, comprising two outer movable blades, a bar of insulating material rigidly connecting said blades, and an intermediate movable blade having a wide slot receiving said bar, as set forth.

808,365. GAS-GENERATOR. HENRY A. HARTMAN, Philadelphia, Pa. Filed June 14, 1905. Serial No. 265,189.



Claim.—1. In a gas-generator, a retort having a body and a supply-limb at an angle thereto, the said body and limb being inclined downwardly in opposite directions from their supply to their discharge ends and said body portion and limb increasing in diameter from the inlet to the discharge ends thereof.

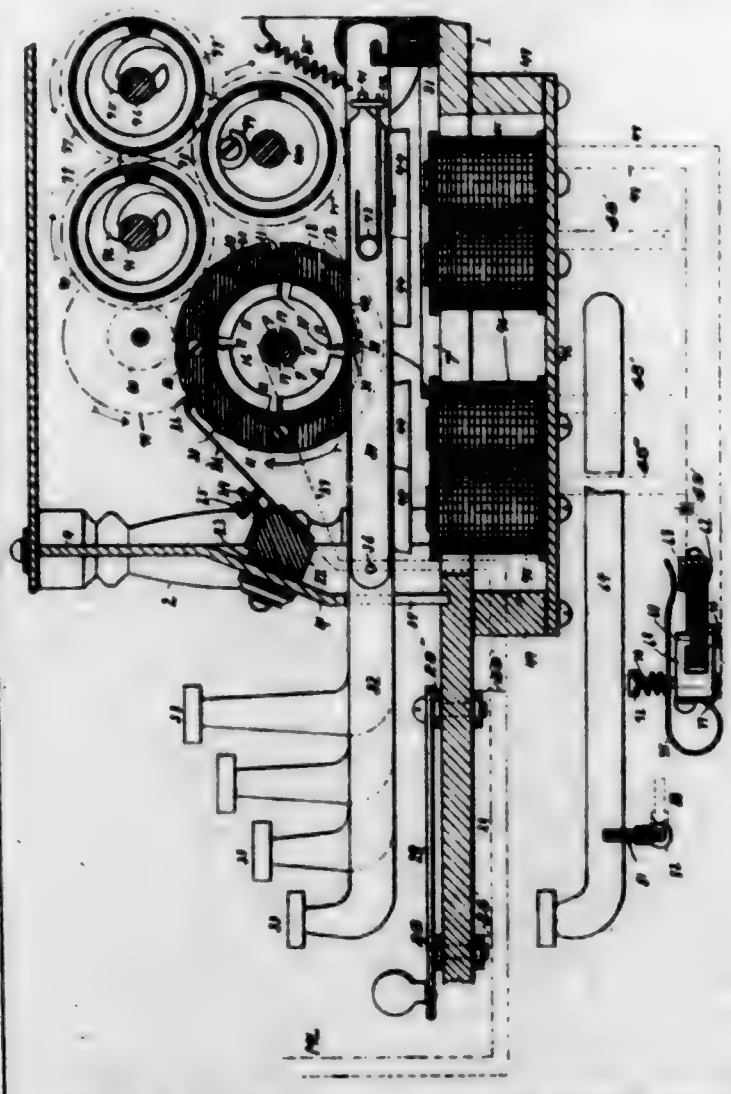
2. In a gas-generator, a retort having a body and a supply-limb at an angle thereto, the said body and limb being inclined downwardly in opposite directions from their supply to their discharge ends and said body portion and limb increasing in diameter from the inlet to the discharge ends thereof and a downwardly-extended limb at the larger end of the body.

3. In a gas-generator, a retort increasing in diameter from its inlet to its discharge end and consisting of a body having a downwardly-deflected supply-limb at one end thereof and a downwardly-extending discharge-limb at the other end thereof, a water-receiving hopper and a water-receiving tank, the supply-limb entering said water-receiving hopper and the discharge-limb entering the water-receiving hopper and an elevator in said supply-limb.

4. In a gas-generator, a retort increasing in diameter from its inlet to its discharge end, a furnace below the body portion of said retort, a supply-limb at one end of said body, a discharge-limb at the other end thereof, an elevator in said supply-limb, a water-receiving hopper with which said supply-limb is in communication and a water-receiving tank into which dips said discharge-limb.

5. In a gas-generator, a retort of elbow form, of gradually-increasing diameter, means for supporting the same in inclined position, a supply-limb at the inlet end thereof, an elevator in said supply-limb and a hopper in communication with said supply-limb, said elevator partly entering said hopper.

808,366. TELEGRAPH-TRANSMITTER. BENJAMIN P. HAYES and SIGEL H. GILL, Topeka, Kans. Filed June 17, 1905. Serial No. 265,706.



Claim.—1. In a telegraph-transmitter, the combination of a driving-shaft and a symbol-disk, friction-brushes on opposite sides of the disk and secured to the shaft, and a key and key-lever for controlling the disk.

2. In a telegraph-transmitter, the combination of a drive-shaft, a slotted disk 16, friction-brushes 18, 18 consisting of strips of metal springs bent upon themselves and inserted in said slots, hollow symbol-disks in which said disk 16 and friction-springs are inserted as a friction-clutch, and a key and key-lever for controlling the disk.

3. In a telegraph-transmitter, the combination of the driving-shaft and a symbol-disk and a clutch for carrying the disk with the

shaft, a key and key-lever for the disk, an auxiliary lever for said first-mentioned lever pivoted thereto and carrying an armature, said auxiliary lever being adapted to operate with the main lever and also to operate independently thereof, an electromagnet for the armature, a circuit for the electromagnet and a circuit-closer for the circuit.

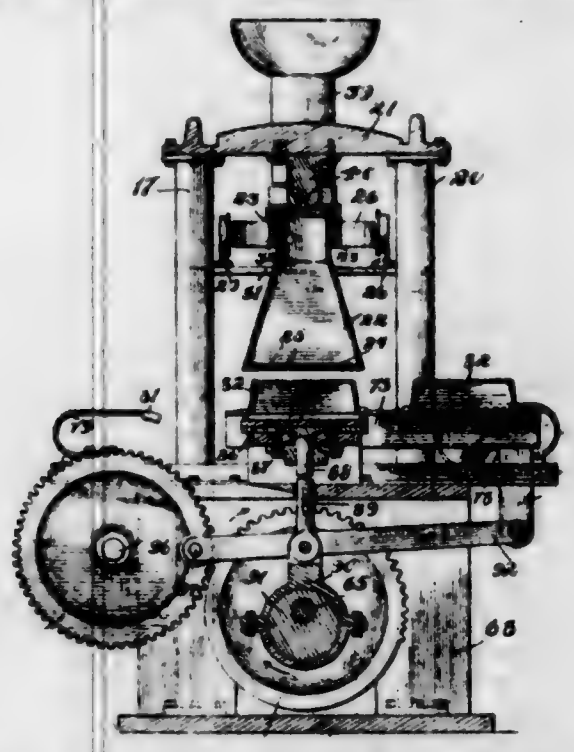
4. In telegraph-transmitters, the combination with a main lever 32, of an auxiliary lever 37 pivoted thereon and carrying an armature and adapted to operate with the main lever and also independently thereof, an electromagnet for the armature, and a circuit including said electromagnet controlled by the type-writer keys, together with the type-writer having keys and key-levers.

5. The combination with a telegraph-transmitter comprising a drive-shaft, a series of symbol-disks, and electromagnetic controlling devices for said disks respectively; of a type-writer having keys and key-levers; and an attachment device for connecting the transmitter with the type-writer and comprising contacts for each type-writer key respectively for controlling said respective electromagnets, a frame on which said contacts are mounted having the end castings, and the set-screws and lock-nuts for securing said attachment-frame to the frame of the type-writer, substantially as set forth.

6. The combination with a telegraph-transmitter and a type-writer, each provided with a series of keys and key-levers, an electromagnetically-controlled auxiliary lever for each transmitter-lever, a series of circuit-wires for the electromagnets, a circuit-closer operated by each type-writer key for its electromagnet, a jack comprising the alternately-arranged rings of conducting and insulating material, and a socket and springs corresponding to the conducting-rings for connecting the jack and the commutator, substantially as set forth.

7. In telegraph-transmitters, the combination with a type-writer having keys and key-levers and a telegraphic transmitting attachment therefor comprising a shaft and a series of symbol-disks mounted thereon and controlling means for the disks respectively; of a series of electric circuits, one for each symbol-disk, and including an electromagnet to control said disk; an attachment-frame, a common contact-strip thereon and a contact-spring 75 for each type-writer key-lever, for controlling said circuits respectively; a spring-button 72 coöperating with said key-lever and contact-spring; and a stop-bar 82; whereby the transmitter may be operated by the type-writer keys, either simultaneously with the type-writer key-bars, or independently thereof.

808,367. **MOLDING APPARATUS.** ALFRED M. HEWLETT and MADORA J. HEWLETT, Kewanee, Ill.; said Madora J. Hewlett assignor to said Alfred M. Hewlett. Filed Nov. 8, 1902. Serial No. 130,496.



Claim.—1. A sand-molding apparatus, comprising transversely-movable means for supporting the mold, fluid-pressure mechanism for carrying sand into the mold and packing it therein, and means for moving the mold vertically into operative relation to said fluid-pressure mechanism substantially as described.

2. A sand-molding apparatus, comprising transversely-movable means for supporting the mold, means above the mold for directing sand thereto, fluid-pressure mechanism for carrying the sand into the mold and packing it therein, and means for moving the mold vertically into operative relation with said fluid-pressure mechanism substantially as described.

3. A sand-molding apparatus, comprising means for supporting the mold, a compression-cylinder adapted to contain sand and to be brought into communication with the mold, reciprocating means for supporting said compression-cylinder, and fluid-pressure mechanism for packing sand from said compression-cylinder in the mold, said compression-cylinder being movable into and out of operative relation to said fluid-pressure mechanism substantially as described.

4. A sand-molding apparatus, comprising means for supporting the mold, a compression-cylinder above the mold adapted to contain sand and to be brought into communication with the mold, reciprocating means for supporting said compression-cylinder, and fluid-pressure mechanism for packing sand from said compression-cylinder in the mold, said compression-cylinder being movable into and out of operative relation to said fluid-pressure mechanism substantially as described.

5. A sand-molding apparatus, comprising reciprocating means for supporting the mold, a compression-cylinder adapted to contain sand and to be brought into communication with the mold, reciprocating means supporting said compression-cylinder, and fluid-pressure mechanism for carrying sand from said compression-cylinder into the mold, and packing it therein, said compression-cylinder being movable into and out of operative relation to said fluid-pressure mechanism substantially as described.

6. A sand-molding apparatus, comprising reciprocating means for supporting the mold, a compression-cylinder above the mold adapted to contain sand and to be brought into communication with the mold, reciprocating means supporting said compression-cylinder, and fluid-pressure mechanism for carrying sand from said compression-cylinder into the mold, and packing it therein, said compression-cylinder being movable into and out of operative relation to said fluid-pressure mechanism substantially as described.

7. A sand-molding apparatus, comprising means for supporting the mold, a longitudinally-movable compression-cylinder adapted to contain sand and to be brought into communication with the mold, and fluid-pressure mechanism for packing sand from said compression-cylinder in the mold, said compression-cylinder being movable into and out of operative relation to said fluid-pressure mechanism substantially as described.

8. A sand-molding apparatus, comprising means for supporting the mold, a longitudinally-movable compression-cylinde radapted to contain sand and to be brought into communication with the mold, an air-cap adapted to be engaged by said compression-cylinder, and means for supplying air under pressure to said compression-cylinder when it is in engagement with said air-cap, substantially as described.

9. A sand-molding apparatus, comprising means for supporting the mold, a longitudinally-movable compression-cylinder adapted to contain sand and to be brought into communication with the mold, an air-cap adapted to be engaged by said compression-cylinder, means for supplying air under pressure to said compression-cylinder when it is in engagement with said air-cap, and means for relieving said compression-cylinder from pressure before said cylinder moves out of engagement with said air-cap, substantially as described.

10. A sand-molding apparatus comprising transversely-movable means for supporting the mold, means above the mold for directing sand thereto, means for moving the mold vertically into position to receive sand therefrom, fluid-pressure mechanism for supplying sand to the mold, and means for automatically actuating said fluid-pressure mechanism.

11. A sand-molding apparatus, comprising reciprocating means for supporting a plurality of molds, a compression-cylinder adapted to contain sand, means for moving the different molds into operative engagement with said compression-cylinder, fluid-pressure mechanism for packing sand from said compression-cylinder in said molds, and means for automatically actuating said mechanisms substantially as described.

12. A sand-molding apparatus, comprising means for supporting the mold, a compression-cylinder above the mold, an air-cap above said compression-cylinder, means for moving said mold into engagement with said compression-cylinder and said compression-cylinder into engagement with said air-cap, and means for admitting compressed air to said air-cap, substantially as described.

13. A sand-molding apparatus, comprising means for supporting the mold, a compression-cylinder above the mold, an air-cap above said compression-cylinder, means for moving said mold into engagement with said compression-cylinder and said compression-cylinder into engagement with said air-cap, and valve mechanism

for momentarily admitting compressed air to said air-cap and thereafter exhausting it therefrom while said mold, compression-cylinder and air-cap are in operative engagement with one another, substantially as described.

14. A sand-molding apparatus, comprising a compression-cylinder, a reciprocating carriage below said compression-cylinder, a plurality of molds carried by said carriage and adapted to be operatively connected with said compression-cylinder, means for supplying compressed air to said compression-cylinder, mechanism for intermittently reciprocating said carriage, valve mechanism controlling the admission of compressed air to said compression-cylinder, and means operating said valve mechanism to admit compressed air to said compression-cylinder when one of the molds is in operative engagement therewith, substantially as described.

15. A sand-molding apparatus, comprising a compression-cylinder, a reciprocating carriage below said compression-cylinder, a plurality of molds carried by said carriage and adapted to be operatively connected with said compression-cylinder, means for supplying compressed air to said compression-cylinder, mechanism for intermittently reciprocating said carriage, valve mechanism controlling the admission of compressed air to said compression-cylinder, and means operating said valve mechanism to admit compressed air to said compression-cylinder and for exhausting it therefrom when one of the molds is in operative engagement therewith, substantially as described.

16. A sand-molding apparatus, comprising means for supporting the mold, a compression-cylinder above the mold and adapted to operatively engage the mold for supplying sand thereto, a reciprocating truck supporting said compression-cylinder, means for supplying sand to said compression-cylinder, means for intermittently reciprocating said truck to move said compression-cylinder from its operative position into position to receive sand from said sand-supplying means, means for admitting compressed air to said compression-cylinder when it is in operative engagement with said mold, and means for automatically actuating said mechanisms substantially as described.

17. A sand-molding apparatus, comprising a compression-cylinder adapted to contain sand, a pattern-support below said compression-cylinder, a carriage movable over said pattern-support, said carriage being adapted to support a flask, means for moving said pattern-support into engagement with said flask and said flask into engagement with said compression-cylinder, and means for admitting compressed air to said compression-cylinder, substantially as described.

18. A sand-molding apparatus, comprising a compression-cylinder, an air-cap adapted to be engaged by said compression-cylinder, a carriage movable under said compression-cylinder, a flask mounted on said carriage, a pattern-support below said flask, means for moving said pattern-support into engagement with said flask, said flask into engagement with said compression-cylinder, and said compression-cylinder into engagement with said air-cap, and means for admitting compressed air to said air-cap, substantially as described.

19. A sand-molding apparatus, comprising a compression-cylinder adapted to contain sand, a plurality of molds, means for moving said molds into operative engagement with said compression-cylinder, fluid-pressure mechanism for packing sand from said compression-cylinder in said molds, and means for automatically actuating said mechanisms substantially as described.

20. A sand-molding apparatus, comprising a compression-cylinder, a reciprocating truck by which said compression-cylinder is supported, a reciprocating carriage, a plurality of molds carried by said carriage, means for moving said truck and carriage to bring said compression-cylinder and one or the other of said molds into position to operatively engage one another, means for operatively connecting said molds with said compression-cylinder, means for supplying compressed air to said compression-cylinder, and means for automatically actuating said moving parts substantially as described.

21. A sand-molding apparatus, comprising a compression-cylinder, means for supporting a pattern, means between said compression-cylinder and said pattern-support for supporting a flask, means for moving said parts into operative relation with one another, means for supplying compressed air to said compression-cylinder, and means for automatically actuating said moving parts substantially as described.

22. A sand-molding apparatus, comprising a compression-cylinder, a reciprocating truck supporting said compression-cylinder, a reciprocating carriage adapted to support two molds, and mechanism effecting a complete reciprocation of said truck and simultaneously moving said carriage in one direction only, substantially as described.

23. A sand-molding apparatus, comprising a carriage adapted to support two molds, a track for said carriage, stops adapted to stop the carriage so as to hold one or the other of said molds in operative position, a compression-cylinder adapted to supply sand to the mold that is in operative position, and fluid-pressure mechanism movable into and out of operative relation to said compression-cylinder for packing sand from said compression-cylinder in said molds, substantially as described.

24. A sand-molding apparatus, comprising a carriage adapted to support two molds, a track for said carriage, stops adapted to stop the carriage so as to hold one or the other of said molds in operative position, a compression-cylinder adapted to supply sand to the mold that is in operative position, means for moving said molds into close contact with said compression-cylinder, fluid-pressure mechanism for packing sand from said compression-cylinder in said molds, and means for automatically actuating said moving parts substantially as described.

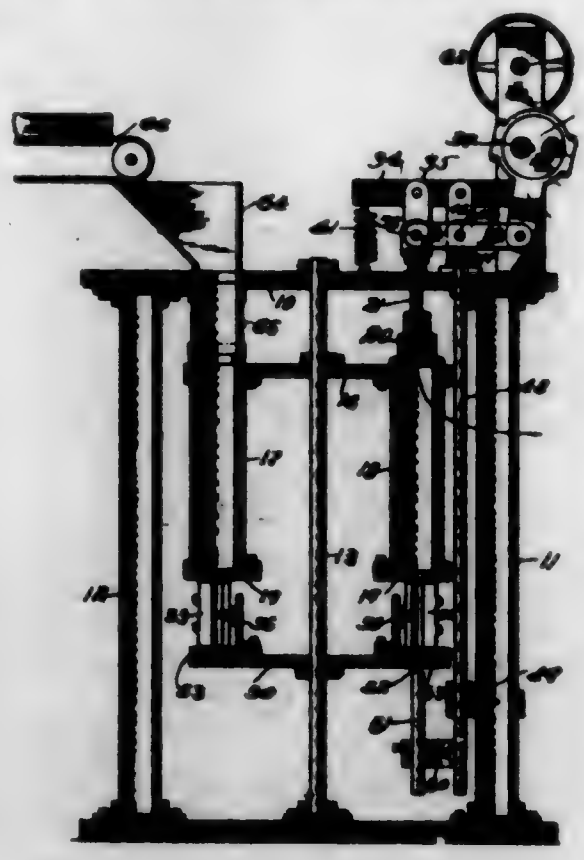
25. In a sand-molding apparatus, the combination of a carriage adapted to support a plurality of molds, means for reciprocating said carriage to move the different molds into position to receive a charge of sand, means for supplying the different molds with sand when in operative position, and means for automatically actuating said moving parts substantially as described.

26. A sand-molding apparatus comprising transversely-movable means for supporting the mold, means for supporting sand in position to be supplied to the mold, means for operatively connecting the mold with said sand-supporting means, fluid-pressure mechanism for supplying sand to the mold and packing it therein, mechanism for automatically bringing said mold and sand-supporting means into operative relation, and mechanism for automatically actuating said fluid-pressure mechanism to supply sand to the mold when in operative position.

27. A sand-molding apparatus comprising transversely-movable means for supporting a plurality of molds, means for supporting sand in position to be supplied to the molds, means for operatively connecting the several molds with said sand-supporting means, fluid-pressure mechanism for supplying sand to the molds and packing it therein, mechanism for automatically bringing said molds and sand-supporting means into operative relation, and mechanism for automatically actuating said fluid-pressure mechanism to supply sand to the several molds when they are respectively in operative position.

28. A sand-molding apparatus, comprising transversely-movable means for supporting a plurality of molds, a compression-cylinder adapted to supply sand to said molds, means for moving said compression-cylinder into and out of operative position, fluid-pressure mechanism for filling the molds, and means for automatically operating said parts, substantially as described.

808,368. METHOD OF MOLDING. ALFRED M. HEWLETT, Kewanee, Ill. Filed Jan. 16, 1904. Serial No. 189,280.



Claim.—1. The method of molding which consists in applying compressed air directly to a mass of sand supported in communication with an empty mold placed so that the expansive force of the air carries small particles of grains from said mass and distributes and packs the same into and throughout the mold, substantially as described.

2. The method of molding which consists in supporting the sand in mass in a suitable receptacle, making a substantially air-tight connection between the interior of said receptacle and an empty mold, and then admitting compressed air directly to the mass of sand in said receptacle to distribute and pack the sand into and throughout the mold by its expansive force, substantially as described.

3. The method of molding which consists in supporting the sand in mass in a suitable receptacle having a partly-open support for said mass of sand, making a substantially air-tight connection between the interior of said receptacle and an empty mold, then admitting compressed air directly to the mass of sand in said receptacle and distributing and packing the sand into and throughout the said mold by the expansive force of the air, substantially as described.

4. The method of molding which consists in supplying compressed air directly to a mass of sand supported adjacent to and in communication with the mold and directing the grains of sand propelled by the expansive force of the compressed air into and throughout the mold, substantially as described.

5. The method of molding which consists in supporting the sand in mass in a suitable receptacle adjacent to and above the mold, forming a substantially air-tight connection between the interior of the sand-receptacle and the mold, and then admitting compressed air directly to the mass of sand in said receptacle to force the particles composing the same into and throughout the mold, substantially as described.

6. The method of molding which consists in supplying sand in mass to a suitable receptacle adjacent to and above the mold, forming a substantially air-tight connection between the interior of the sand-receptacle and the mold, the latter being arranged to permit the escape of air after its passage therethrough, and then causing compressed air to pass through the sand-receptacle, and carry particles of sand with it through the connection and the mold, substantially as described.

7. The method of molding which consists in supporting the sand in mass in a suitable receptacle adjacent to and above the mold, forming a substantially air-tight connection between the interior of the sand-receptacle and the mold, then admitting compressed air directly to the mass of sand in said receptacle to force the particles thereof into and throughout the mold, then exhausting the compressed air remaining in said receptacle, and then removing the mold, substantially as described.

8. The method of molding which consists in introducing compressed air charged with sand through a contracted passage into a mold, and permitting the air to expand in the mold and distribute the sand therein by its expansive force.

9. The method of molding which consists in placing a mold in communication with a suitable receptacle containing sand in mass, and then admitting air under pressure into said receptacle above and throughout the mass of sand.

10. The method of molding which consists in placing a mold in communication with a suitable receptacle containing sand in mass, then establishing pneumatic pressure in said receptacle above and throughout the mass of sand, and then reducing the pressure in said receptacle and removing the mold.

11. The method of molding which consists in placing a mold in communication through a contracted passage with a suitable receptacle containing sand in mass, then admitting air under pressure into said receptacle above and throughout the mass of sand, thereby forcing sand through said contracted passage into the mold and distributing it therein by the expansive power of the air, and then cutting off the air-pressure.

12. The method of molding which consists in placing a mold in communication with a suitable receptacle containing sand in mass, and then causing compressed air to penetrate the mass and carry particles of sand from that portion of the mass lying next to the mold, into and throughout the mold.

13. The method of making sand-molds which consists in carrying the sand into the mold and packing it therein by means of the expansive force of compressed air.

14. The method of molding, which consists in supporting the sand in mass in a suitable receptacle having a partly-open bottom, placing said bottom directly on the mold, then admitting air into said receptacle until the pressure of air is sufficient to force the sand in said receptacle out through the partly-open bottom and distribute and pack it uniformly throughout the mold.

808,369. BED-BOTTOM. JOHN HOST, San Francisco, Cal. Filed Sept. 14, 1905. Serial No. 278,202.



Claim.—1. A bed or couch bottom consisting of yokes having longitudinal sides, short approximately straight transverse bights bent to connect with the sides, the open opposite ends of said yokes being bent into loops or curves which engage with the bights of a yoke longitudinally in line with the first-named yokes, and said loops or curves of the first-named yokes being extended transversely and provided with terminals which connect with a yoke of another and parallel series.

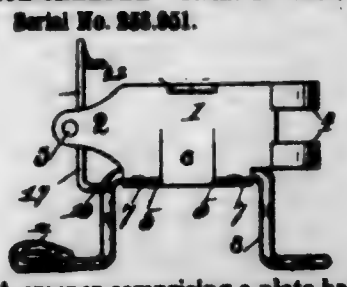
2. A bed-bottom consisting of yokes bent to form short transverse sections at the bight having hooks or loops formed at the opposite end to interlock with the bights of succeeding yokes, spiral springs having one end connected with the end frame of the bed-bottom, and the other end connected with the terminals of the yokes, said lines of yokes and springs being disposed in parallel series from one side to the other of the structure, and the hooks or loops of the first-named yokes being extended transversely and connected to a yoke of the adjacent parallel series.

3. A bed-bottom comprising a series of parallel interlocked yokes and spiral springs with which the terminal ends are connected, said yokes having their open ends bent to form supplemental curves, and straight transverse extensions with hooks upon the outer ends by which the parallel series may be united into a continuous flexible structure.

4. A bed-bottom consisting of longitudinally-disposed yokes having the bights forming short transverse bars, the opposite open ends bent into curves which interlock with the bights of the succeeding yokes, and transverse extensions from said curves integral therewith and having hooks upon the outer ends, straight bars or yokes intermediate thereof with which the hook ends of the transverse bars engage, spiral springs connected with the end frames of the bed-bottom and with the inner ends of which springs the bars and yokes are connected.

5. In a bed-bottom, a series of yokes having the bights composed of short transverse bars, said yokes being bent to converge toward the open end, and having said open ends bent into loops to engage the bights of succeeding yokes, other bends formed exterior to said loops, and straight extensions from said bends extending transversely and engaging with contiguous yokes or interposed straight bars, said transverse extensions having hooks to engage the exterior sides of the structure, and acting to resist the inward thrust of said sides.

808,370. ICE-CREEPER. JAMES D. HOLT, Carnegie, Pa. Filed May 5, 1905. Serial No. 259,951.

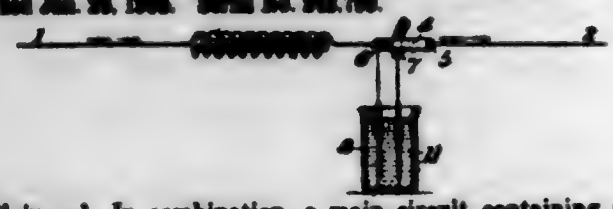


Claim.—1. A creeper comprising a plate having outwardly-extending lugs, a wire pivotally mounted upon one of said lugs, and having its ends bent inwardly and adapted to engage one side of the sole of a shoe, the other of said lugs being bent to form substantially hook-shaped clips adapted to engage upon the opposite side of the sole, a substantially U-shaped member pivotally mounted upon said plate and having its ends bent downwardly and terminating in sharp prongs, means carried by the plate and coacting with said U-shaped member to retain said member in horizontal alinement with the plate, substantially as described.

2. A creeper comprising a plate, substantially hook-shaped clips carried by said plate and adapted to engage the one edge of the sole of a shoe, a wire pivotally mounted upon said plate and adapted

to engage the opposite edge of the scale, a member pivotally mounted upon said plate, said member having depending prongs, and means carried by said plate for retaining said member in its active and inactive positions, substantially as described.

808,371. PROTECTIVE SHUNT FOR ELECTRIC CIRCUITS OF HIGH INDUCTANCE. WILLIAM S. HOBBY, Niagara Falls, N. Y. Filed Jan. 26, 1905. Serial No. 242,790.



Claim.—1. In combination, a main circuit containing an inductance and a switch, and a shunt-circuit containing an electrolytic cell which resists the normal working pressure but yields to the induced pressure when the switch is opened, as set forth.

2. In combination, a main circuit containing an inductance and a switch, and a shunt-circuit containing an electrolytic cell, said cell having an aluminium anode for the inductive discharge, which resists the normal working pressure but yields to the induced pressure when the switch is opened, as set forth.

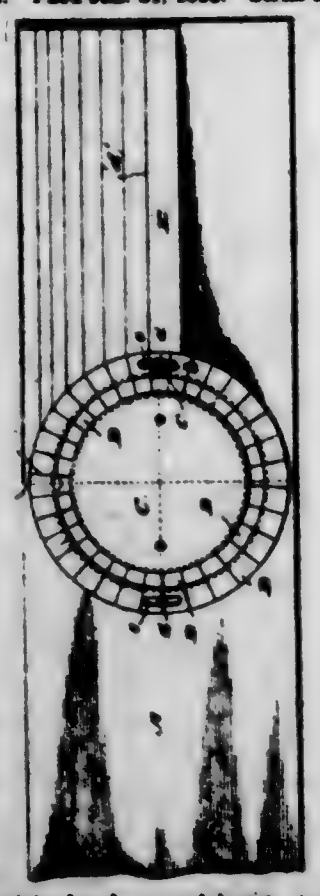
3. In combination, a main circuit containing an inductance and a switch, and a shunt-circuit containing an electrolytic cell, said cell having aluminium electrodes, which resist the normal working pressure but respectively yield to the induced pressure when the switch is opened, as set forth.

4. In combination, a main circuit containing an inductance and a switch, and a switch shunt-circuit containing an electrolytic cell which resists the normal working pressure but yields to the induced pressure when the switch is opened, as set forth.

5. In combination, a main circuit containing an inductance and a switch, and a switch shunt-circuit containing an electrolytic cell, said cell having an aluminium anode for the inductive discharge, which resists the normal working pressure but yields to the induced pressure when the switch is opened, as set forth.

6. In combination, a main circuit containing an inductance and a switch, and a switch shunt-circuit containing an electrolytic cell, said cell having aluminium electrodes, which resist the normal working pressure but respectively yield to the induced pressure when the switch is opened, as set forth.

808,372. LEVEL. ROBERT W. HUNTER and LEE CALLAHAN, Colorado Springs, Colo. Filed Jan. 31, 1905. Serial No. 243,483.

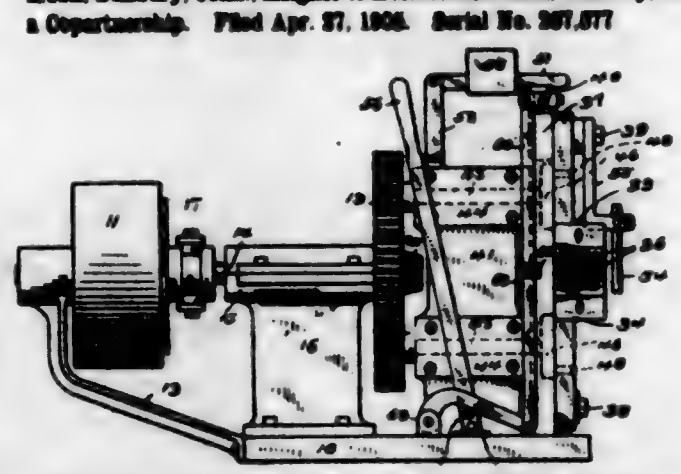


Claim.—1. A spirit-level comprising a stock, a transparent spirit-containing tube in the form of a circle and arranged at one side of the stock; said tube having an inner portion concave in cross-section and also having a flat outer portion, and a graduated plate in the form of a circle, adjustable circularly on the stock and overlapping the tube.

2. A spirit-level comprising a stock having a line perpendicular to one of its longitudinal edges, a transparent, spirit-containing tube in the form of a circle and arranged at one side of the stock with its center in line with said line of the stock; said tube having an inner portion concave in cross-section and also having a flat outer portion, and a graduated plate in the form of a circle, adjustable circularly on the stock and overlapping the tube.

3. A spirit-level comprising a stock having a line perpendicular to one of its longitudinal edges, a circular, transparent, spirit-containing tube arranged at one side of the stock and having its center in line with said line of the stock; said tube having an inner portion concave in cross-section and also having a flat outer portion, and a circular plate adjustable circularly on the stock and overlapping the tube.

808,373. MACHINE FOR POUNCING HAT-BRIMS. FRANK B. HUSK, Danbury, Conn., assignor to Morlock and Husk, Danbury, Conn., a Copartnership. Filed Apr. 27, 1905. Serial No. 257,577.



Claim.—1. In a machine of the character described the combination with pad-carriers having slots at right angles to their path of movement, of blocks in said slots and rotating disks having pins extending from their faces on which the blocks are pivoted, whereby reciprocatory movement in opposite directions is imparted to the pad-carriers.

2. In a machine of the character described the combination with a lower pad-carrier pivoted to a fixed portion of the machine, an upper pad-carrier and a vertical slide to which the upper pad-carrier is pivoted, of means for reciprocating said pad-carriers in opposite directions and means for raising the slide to lift the pad-carrier carried thereby out of operative position.

3. In a machine of the character described the combination with a slotted lower pad-carrier pivoted to a fixed portion of the machine a slotted upper pad-carrier and a vertical slide to which the upper pad-carrier is pivoted, of blocks adapted to reciprocate in the slots, disks having pins extending from their faces on which the blocks are pivoted, and means for rotating said disks to impart reciprocatory movement in opposite directions to the pad-carriers.

4. In a machine of the character described the combination with a slotted lower pad-carrier pivoted to a fixed portion of the machine a slotted upper pad-carrier and a vertical slide to which the upper pad-carrier is pivoted, of blocks adapted to reciprocate in the slots, disks having pins extending from their faces on which the blocks are pivoted, means for rotating said disks and means for raising the slide and upper pad-carrier out of operative position.

5. In a machine of the character described the combination with a slotted lower pad-carrier pivoted to a fixed portion of the machine a slotted upper pad-carrier and a vertical slide to which the upper pad-carrier is pivoted, of blocks adapted to reciprocate in the slots, rotating disks having pins extending from their faces on which the blocks are pivoted, a pivoted arm engaging the top of the slide and a weight on said arm whereby the upper pad-carrier is retained in operative position in use.

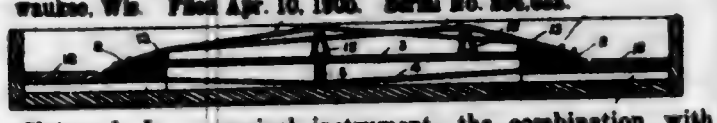
6. In a machine of the character described the combination with a slotted pad-carrier pivoted to a fixed portion of the machine, a vertical slide, a corresponding slotted pad-carrier pivoted to said slide, a bracket secured to said slide and a pin depending therefrom and adapted to enter the crown of a hat to retain the brim in position to be operated upon, of blocks adapted to reciprocate in the slots and rotating disks having pins extending from their faces on which the blocks are pivoted.

7. In a machine of the character described the combination with oppositely-reciprocating pad-carriers and a vertical slide to which one of said pad-carriers is pivoted, of an arm extending from said

slide, a link pivoted to said arm, a curved lever to which said link is pivoted and a hand-lever engaging said curved lever by which the slide may be lifted to move the pad-carrier pivoted thereto out of operative position.

8. In a machine of the character described the combination with oppositely-reciprocating pad-carriers, a vertical slide to which one of said pad-carriers is pivoted, and feed-rollers one of which is vertically movable, of an arm extending from the slide, a link pivoted to said arm, a lever pivoted to said link and engaging the shaft of the movable feed-roller a curved lever to which the link is pivoted and a hand-lever engaging the curved lever by which the slide, upper pad-carrier and upper feed-roller may be raised.

808,374. MUSICAL INSTRUMENT. EDWIN G. JAMES, South Milwaukee, Wis. Filed Apr. 10, 1905. Serial No. 254,622.



Claim.—1. In a musical instrument, the combination with transversely-disposed pin-blocks and a sounding-board interposed between and secured to the pin-blocks, of tension-rods anchored to the pin-blocks, and a strut medially between the tension-rods and the sounding-board.

2. A frame for a musical instrument, comprising a sounding-board, pin-blocks at the ends of and secured to the sounding-board, tension-rods anchored in the pin-blocks, a strut interposed medially between the sounding-board and the tension-rods, and means for tightening the tension-rods.

3. A frame for a musical instrument, comprising a sounding-board, pin-blocks at the ends of and secured to the sounding-board, an auxiliary metal frame fitting on and secured to the pin-blocks and extending between the pin-blocks along at the edges of the sounding-board, tension-rods anchored in the pin-blocks, a strut interposed between the sounding-board and the tension-rods medially of the length of the tension-rods, and means for tightening the tension-rods.

4. A frame for a musical instrument, comprising a sounding-board, pin-blocks at the ends of and secured to the sounding-board, tension-rods anchored in the pin-blocks, a strut interposed between the sounding-board and the tension-rods, means for tightening the tension-rods, a bridge on and transversely of the sounding-board above the strut, and strings secured to the pin-blocks and strained over the bridge.

5. In a musical instrument, a sounding-board, means at the ends of the sounding-board for securing and straining strings over the board, transversely-disposed tubular bridges open at their ends, and strings strained above the board and on the bridges, the strings having a bearing directly on the exterior surface of each tubular bridge on which they are strained.

6. In a musical instrument, a sounding-board, pin-blocks at the ends of the sounding-board, transverse bridges at the ends of the sounding-board, intermediate transverse tubular treble and bass string bridges, and treble and bass strings strung and strained over the sounding-board and the bridges, the treble-strings passing in apertures therefor through the bass-string bridge and the bass-strings passing in apertures therefor through the treble-string bridge.

7. In a musical instrument having a sounding-board, transverse tubular bridges on and at the ends of the sounding-board, the exterior outer wall longitudinally of each bridge being intact and closed forming a bearing for strings directly on the outer surface thereof.

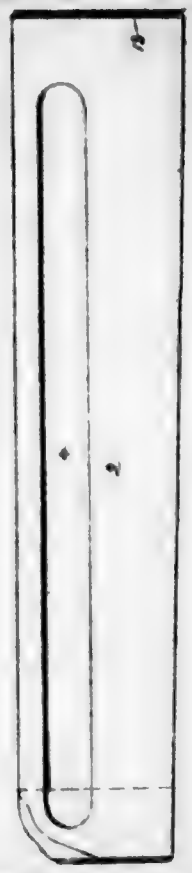
8. In a musical stringed instrument, a sounding-board and a medially-located transversely-disposed metal tubular bridge on the sounding-board, the bridge being closed along its longitudinal outer surface furnishing an intact single bearing for strings directly thereon.

808,375. WROUGHT-METAL FORE-ARM FOR TUBULAR-MAGAZINE GUNS. THOMAS C. JOHNSON, New Haven, Conn., assignor to Winchester Repeating Arms Co., New Haven, Conn., a Corporation. Filed July 3, 1905. Serial No. 268,143.

Claim.—1. As a new article of manufacture, a wrought-metal fore-arm for guns, the said fore-arm having its upper longitudinal edges turned inward, and its front and rear ends adapted to be operatively connected with parts of a gun.

2. As a new article of manufacture, a wrought-metal fore-arm for tubular-magazine guns, the said fore-arm being adapted to receive a tubular magazine and having independently-formed front and rear tenon-pieces applied to its front and rear ends for operatively connecting the same with parts of the gun.

3. As a new article of manufacture, a wrought-metal fore-arm for guns, the said fore-arm having its front and rear ends adapted to be operatively connected with parts of a gun, whereby it is firmly supported in place, and having its side walls struck inward.

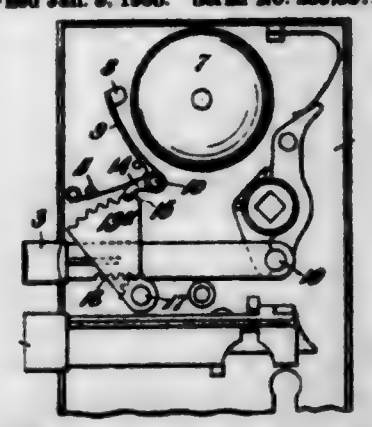


4. As a new article of manufacture, a wrought-metal fore-arm for tubular-magazine guns, the said fore-arm containing a chamber extending throughout its length for the reception of a tubular magazine and having its side walls united at its forward end and having its front and rear ends provided respectively with independently-formed tenon-pieces which project beyond the front and rear ends of the fore-arm for coupling the same with the gun.

5. As a new article of manufacture, a wrought-metal fore-arm for tubular-magazine guns, the said fore-arm having a chamber extending throughout its length for the reception of a tubular magazine, having its front and rear ends adapted to be operatively connected with parts of a gun, and having its side walls struck inward to form longitudinal grooves which stiffen it and provide gripe for it.

6. As a new article of manufacture, a wrought-metal fore-arm having its side walls united at its forward end, and having its front and rear ends adapted to be operatively connected with parts of a gun, whereby it is firmly supported in place.

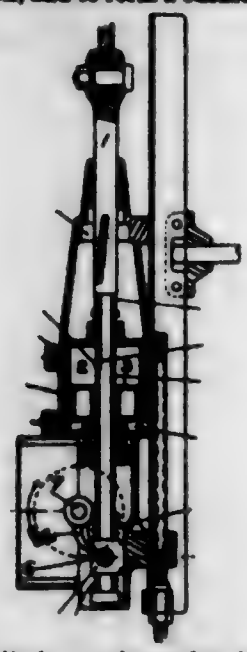
808,376. DOOR-LATCH ATTACHMENT. JOSEPH S. JOHNSON, San Francisco, Cal., assignor of one-half to Francis Cutting, San Francisco, Cal. Filed Jan. 3, 1905. Serial No. 239,337.



Claim.—The combination with a latch-bolt provided with teeth, a bell or sounder, and a pivoted hammer-operator, of a rocking arm having one portion provided with a line of teeth to engage the hammer-operator and having a hub portion provided with teeth to engage those on the bolt whereby the hammer-operator is positively moved by both the forward and rearward movement of the bolt.

808,377. ROCK-DRILL OF THE PERCUSSION TYPE. WALTER C. JOHNSON and GEORGE C. PEARSON, Old Charlton, England. Filed Aug. 28, 1904. Serial No. 222,512.

Claim.—1. In a drill, a cylinder, a piston therein, a working tool associated with said piston, means for moving the piston to the rear end of the cylinder to compress a charge of air therein and releasing the same to permit it to move forward under the expansion of the air compressed on the rearward stroke, and means for causing the air in the cylinder in advance of the piston during the forward movement thereof to successively pass into the atmosphere, to pass to the cylinder in rear of the piston, and to form a cushion for said piston.



2. In a drill, a cylinder, a piston therein, a working tool associated with said piston, means for moving the piston rearwardly to compress a charge of air in the rear end of the cylinder and releasing the same to permit it to move forward under the expansion of the air compressed on the rearward stroke, said cylinder having a port connecting the front and rear ends thereof, the inlet end of said port being so positioned as to be cut off by the piston during its forward movement.

3. In a drill, a cylinder, a piston-rod, a piston thereon, a working tool associated with said piston-rod, means for moving the piston rearwardly to compress a charge of air and for releasing the same to permit it to move forward under the expansion of air compressed on the rearward stroke, said piston-rod having a port therein normally connecting the forward portion of the cylinder with the atmosphere and adapted to be closed during a portion of the forward movement of said piston.

4. In a drill, a cylinder, a mandrel extending therethrough, a piston yieldably connected to said mandrel, and means for moving the piston in one direction to compress a charge of air in the cylinder and releasing the same to permit it to move in the opposite direction under the expansion of the air compressed.

5. In a drill, a cylinder, a mandrel extending therethrough, a sleeve loosely mounted on said mandrel, a piston secured to said sleeve and working within said cylinder, springs interposed between the ends of the sleeve and abutments on the mandrel, and means for moving the piston in one direction to compress a charge of air in the cylinder and releasing the same to permit it to move in the opposite direction under the expansion of the compressed air.

808,378. AUTOMATIC ROTARY HYDRAULIC CASING-SPEAR.

HORACE G. JOHNSTON, Corsicana, Tex. Filed May 19, 1905. Serial No. 261,216.

Claim.—1. A tube or casing recovering mechanism for wells, comprising a tapering head, a point, a movable gripping-ring mounted in the head, and means for raising the said gripping-ring, the tapering head acting to spread the same for gripping the tube or casing.

2. A tube or casing recovering device for wells, comprising a tapering point-carrying head, a casing or tube gripping ring mounted so as to slip upon said head, and laterally-operable spreading means carried by the head and capable of lifting the ring when spread below it.

3. A spear for engaging and lifting well-casings, comprising a hollow head, a gripping member mounted so as to slip thereon, outwardly-movable ring-engaging means carried by the hollow head and means capable of insertion in the hollow head for separating and throwing outwardly the said ring-engaging means.

4. A hydraulic casing-spear comprising a hollow head, a hollow apertured point carried thereby, a casing-gripping member slipping upon the said head, engaging-dogs also carried by the head, and means for operating the said engaging-dogs, the hollow formation of the head and the apertured point permitting of the use of hydraulic power for assisting in the sinking of the spear and the bringing of it into engagement with the casing to be raised.



5. A casing-raising spear, comprising a tapering supporting-head provided with a penetrating point, a correspondingly-tapered sleeve slipping upon said head, casing-gripping projections upon the outer surface of said tapered sleeve and laterally movable means carried within the head for keeping the sleeve from engaging the tapering portion of said head.

6. A casing-recovering spear comprising a tapering head, a sliding member formed thereon, and having a correspondingly-tapered internal bore, means for preventing the rotation of the gripping member about the head, and spreading-member-engaging mechanism for engaging the sliding member carried by the said head.

7. A casing-spear for a well apparatus, comprising a hollow tapering spear-head, a gripping split ring movably mounted thereon, a radially-moving ring-engaging means carried by the head, the said ring-engaging means normally occupying a position within the head.

8. A casing-spear for well apparatus, comprising a hollow head, a gripping-ring mounted thereon, and ring-engaging dogs pivoted at their lower ends and capable of movement in and out with respect to the surface of the head, the said ring-engaging means when in their outermost position operating to release the gripping-ring from the casing and by lifting it as the spear is elevated.

9. A casing-spear, comprising a spear-head having an expanding portion, a casing-gripping split ring capable of being expanded for gripping the casing and ring-engaging dogs carried by the head and mounted in slots in the head, the upper ends being capable of vibration and a tool or implement for spreading the upper ends to bring the said dogs into operative position.

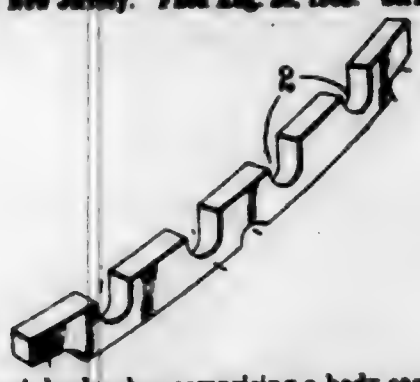
10. A casing-removing spear for well apparatus, comprising a hollow head having an exterior tapering portion, a hollow point threaded into said head, the head being provided with lateral passages, dogs arranged in said passages and capable of being forced outwardly therefrom at one end and a sliding gripping-ring mounted on the tapering head and engaging the said dogs when in their outermost position so as not to be expanded by the action of the tapering head.

11. A casing-spear comprising a hollow head, a split gripping-ring mounted thereon, a rib carried by the head and engaging the split portion of the ring for preventing it from turning and lifting-dogs pivoted in the walls of the head and capable of being forced apart at their upper free ends for lifting the gripping-ring so that the head may be withdrawn.

12. A casing-spear, comprising a hollow head, an expansible ring mounted thereon, dogs mounted in the walls of the head and made of sufficient width at their free ends to be wider than the thickness of the head-wall, and means approximately filling the interior of the head for forcing the dogs outwardly.

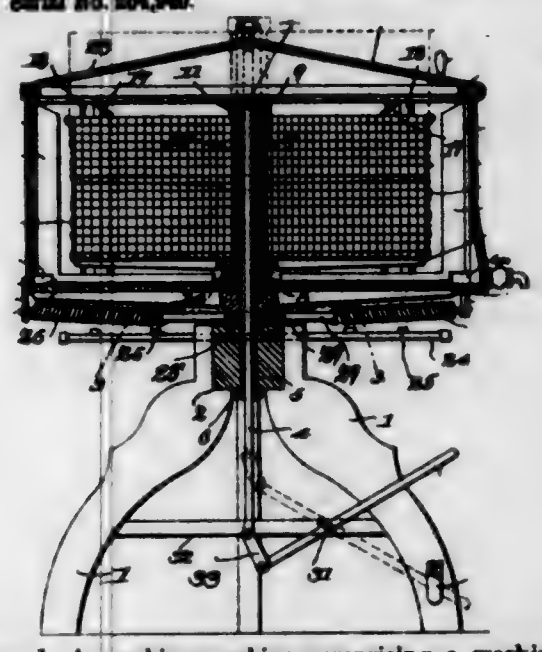
13. A casing-spear, comprising a head, a gripping split ring thereon, laterally-movable dogs for lifting the split ring and a dog-actuating rod, comprising a head having a tapering end, and a rod having a loose engagement therewith for forcing the head downwardly between the dogs.

808,379. **BRAKE-SHOE.** JOSEPH G. JOHNSTON, Detroit, Mich., assignor to American Car & Foundry Company, St. Louis, Mo., a Corporation of New Jersey. Filed Aug. 26, 1905. Serial No. 275,092.



Claim.—A brake-shoe comprising a body cast complete in one piece, and a plurality of reinforcement-bars spaced apart within said body and extending longitudinally thereof, the edges of said bars being provided with transverse cut-out portions that are filled in by the metal of the body; substantially as described.

808,380. **WASHING-MACHINE.** THOMAS B. JOHNS, Chicago, Ill., assignor of one-half to Charles P. Arnold, Chicago, Ill. Filed Apr. 11, 1905. Serial No. 254,940.



Claim.—1. A washing-machine comprising a working body having upstanding dashers carried by the sides and bottom thereof and arranged in pairs with the side dasher of each pair connected to the adjacent bottom dasher and there being an opening through the connected ends of said dashers for the passage of the wash-water, and a stationary basket supported within the body above the bottom dashers and between the side dashers.

2. In a washing-machine, the combination with a support, of a rotary working body mounted thereon, a vertically-movable rod mounted upon the support and piercing the bottom of the body, a stationary basket contained within the body and carried by the rod, and means to move the rod upwardly to elevate the basket for draining the same.

3. In a washing-machine, the combination with a support, of a vertically-movable rod carried thereby, a stationary tube carried by the support and embracing the rod, a body rotatable around the tube as an axis, a dish-containing basket having a central upstanding sleeve surrounding the tube with its upper end closed and supported upon the top of the vertically-movable rod, and means to elevate the rod with the basket supported thereon.

4. In a washing-machine, the combination with a support, of a vertically-movable rod carried thereby, a tube carried by the support and embracing the rod with its upper end provided with an external annular shoulder, a body mounted upon the support and rotatable around the tube as an axis, a hollow standard within the body and surrounding the tube with the flange of the latter resting upon the top of the standard, a dish-containing receptacle having a central upstanding sleeve embracing the standard with its upper closed end supported upon the top of the rod, and means to elevate the rod with the basket thereon.

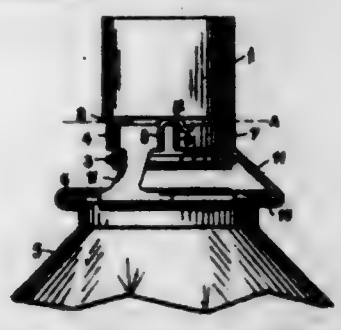
5. In a washing-machine the combination of a rotary body, a basket contained within the body, and means working through the bottom of the body for raising and lowering the basket.

6. In a washing-machine, the combination of a rotary body, a basket contained within the body, and foot-controlled means working through the bottom of the body for raising and lowering the basket.

7. In a washing-machine, the combination of a body, a basket contained therein, and means working through the bottom of the body for raising and lowering the basket.

8. In a washing-machine, the combination with a body and a basket contained therein one of said elements being rotatable, of means piercing the bottom of the body for raising and lowering the basket.

808,381. **ELECTRIC-LAMP-SHADE HOLDER.** THEODORE H. JOSEPH and JAMES J. RUSSELSON, New York, N. Y. Filed Mar. 6, 1904. Serial No. 197,117.



Claim.—1. A lamp-shade holder consisting of an internally and continuously concave split ring, to cover and grasp the lip of a shade, a flat band with free ends, to grip the shell of a socket, radial arms connecting the said band and ring, and means for detachably fastening the ends of the said band together.

2. A lamp-shade holder consisting of a flat band with free ends, a split ring provided with an internal groove and having overlapping ends, connecting-arms integral with the said band and ring, the ends of the said band and of the said ring being located between the same two arms, and means for detachably clamping the ends of the said band together.

3. The combination with a socket, and lamp-shade having a lip, of a shade-holder having a flat open band for gripping said socket, a split ring provided with an internal groove and having overlapping ends, for covering and grasping the periphery of said lip, radial arms integral with the said band and ring, and means for detachably clamping the ends of the said band together.

4. The combination with a lamp-shade which has an outwardly-projecting lip, and a cylindrical lamp-socket, of a shade-holder having a flat open band for gripping the said socket, an internally-concaved split ring having telescoping ends, for covering and grasping the periphery of said lip, radial arms connecting the said band and ring, the ends of the said band and of the said ring being located between the same two arms, and means for detachably clamping the ends of the said band together.

5. The combination with a lamp-shade which has an outwardly-projecting lip, and a cylindrical lamp-socket, of a shade-holder having a flat open band for gripping the said socket, an internally-concaved split ring having telescoping ends, for covering and grasping the periphery of said lip, radial arms connecting the said band and ring, the ends of the said band and of the said ring being located between the same two arms, and means for detachably clamping the ends of the said band together, all parts of said shade-holder being integral.

6. The combination with a lamp-shade which has a lip, and a lamp-socket, of a shade-holder having a flat band with free ends, for gripping the said socket, an internally-concaved split ring having telescoping ends, for covering and grasping the periphery of said lip, arms integral with and connecting the said band and ring, the ends of the said band and ring being located between the same two arms, and a latch integral with one of the free ends and bent detachably over the other free end of said band.

7. The combination with a lamp-shade which has an outwardly-projecting lip, and a lamp-socket having annular projections spaced apart to form a cylindrical recess thereon, of a shade-holder having a flat band with free ends, for gripping the said socket between the said projections, an internally-concaved split ring having telescoping ends, for covering and grasping the periphery of said lip, radial arms integral with and connecting the said band and ring, the ends of the said band and ring being located between the same two arms, and means for detachably clamping the ends of the said band together, whereby the band is caused to grip the socket and the ring is closed about the lip of the shade.

8. A lamp-shade holder consisting of two open rings of spring sheet metal, arms connecting the rings together, one ring having its ends bent outward radially, and the outer portion of one of said ends being furthermore bent and sprung over the other end.

9. The combination of a lamp-shade, a lip thereon, a ring extending over the top, side and under side of said lip, and having ends which overlap each other and which are adapted to spring toward each other for gripping and supporting the shade, a lamp-socket having a groove, a band with free ends, extending around the socket in the groove, the said ends extending outward radially from said socket, and one of said ends extending above and over the other end, for causing said band to grip said socket, and arms connecting said ring and said band together.

808,882. OXYHYDROGEN-BLOWPIPE. FELIX JOTTRAND, Uccle, Belgium. Filed Oct. 6, 1902. Serial No. 126,007.



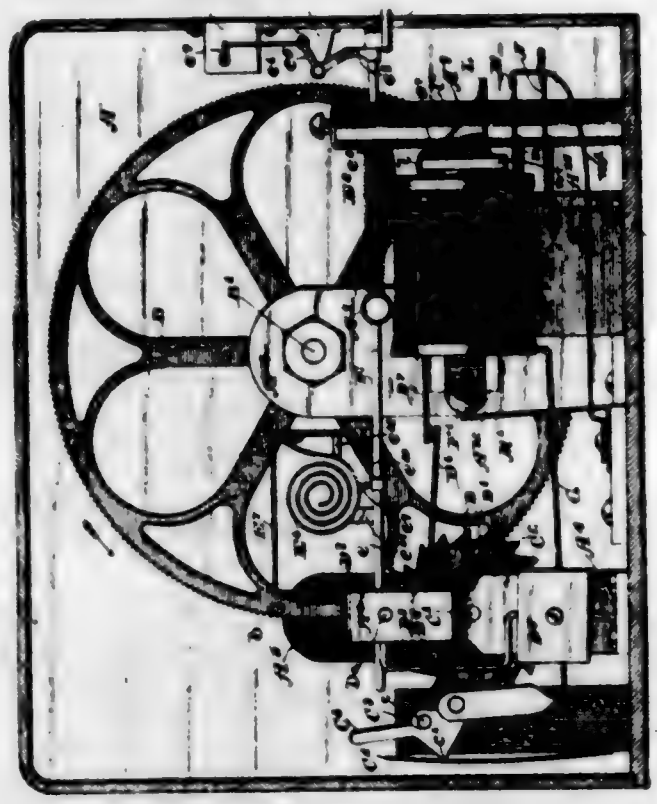
Claim.—1. In oxyhydrogen-blowpipes in combination: a mixing-chamber, a suction-chamber, the said suction-chamber communicating with the mixing-chamber by aid of a passage of precalculated size and being provided with a port for supplying gas at a relatively low pressure, a nozzle placed at the center of the suction-chamber and a tube supplying a relatively high-pressure gas to the said nozzle, substantially as described and for the purpose set forth.

2. In oxyhydrogen-blowpipes in combination a mixing-chamber, a socket provided with a central passage, a suction-chamber communicating with the mixing-chamber by aid of said central passage, a partition closing the suction-chamber at the rear, the said partition being provided with a perforated extension in its central part, and the said perforated extension forming a nozzle in the suction-chamber and being connected to a tube supplying a relatively high-pressure gas, and a chamber surrounding the perforated extension the said chamber communicating with the suction-chamber and being connected to a tube supplying a relatively low-pressure gas, substantially as described and for the purpose set forth.

3. In oxyhydrogen-blowpipes in combination, two gas-inlets, a chamber of small capacity in which open the said gas-inlets, a mixing-chamber communicating with the chamber of small capacity and having at its part adjacent to the chamber of small capacity its largest cross-section, the section of the mixing-chamber narrowing gradually from the part adjacent to the chamber of small capacity to the end remote from said chamber.

4. In oxyhydrogen-blowpipes, in combination, a mixing-chamber having a cone-shaped internal surface, a socket for said mixing-chamber, the said socket being provided with a central passage, a suction-chamber communicating with the mixing-chamber by aid of said central passage, a partition closing the suction-chamber at the rear, the said partition being provided with a perforated extension in its central part and the said perforated extension forming a nozzle in the suction-chamber and being connected to a tube supplying a relatively high-pressure gas, and a chamber surrounding the perforated extension, the said chamber communicating with the suction-chamber and being connected to a tube supplying a relatively low-pressure gas, substantially as described and for the purpose set forth.

808,383. RECORDING APPARATUS FOR MEASURED TELEPHONE SERVICE. JAMES A. KENNY, Chicago, Ill. Filed Mar. 1, 1902. Serial No. 96,321.



Claim.—1. A recording apparatus comprising a registering device located at an outlying station upon which temporary records are adapted to be severally made, an electrically-actuated recording device located at a central station, and electrical connections between said registering and recording devices, which are set in operation solely from the central station to transfer all of the temporary records from the outlying register to the recording device at the central station.

2. A recording apparatus for measured telephone service comprising a registering device at the subscriber's telephone by which the subscriber's calls are severally registered at the time the said calls are made, an electrically-actuated recording device at the central office and electrical connections between said registering and recording devices which are actuated solely at the central office to record at the recording device all the calls indicated by the said registering device.

3. A recording apparatus for measured telephone service comprising a registering device located at the subscriber's telephone by which the subscriber's calls are severally registered at the time they are made, an electrically-actuated recording device at the central office electrically connected with said registering device and adapted to produce in a single operation a record of all the calls indicated by said registering device, and means set in operation solely at the central office for producing at the recording device a record of the calls indicated at the registering device.

4. A recording apparatus for measured telephone service comprising a registering device located at the subscriber's telephone and embracing a registering element which is given a step-by-step movement at the time the calls are made to temporarily register the calls, a recording device located at the central office, electrically-controlled means for restoring said registering element, and circuit-controlling devices which are set in operation solely at the central station for restoring said actuating means and producing in the recorder a record of the calls indicated by the said registering element.

5. A recording apparatus for measured telephone service com-

prising a registering device located at the subscriber's telephone by which the subscriber's calls are severally registered as they are made, an electrically-actuated recording device at the central office, circuit-controlling means actuated solely from the central office including a make-and-break device which is actuated by the registering device for producing at the recording device a record of the calls indicated by the registering device.

6. A recording apparatus for measured telephone service comprising a registering device located at the subscriber's telephone and embracing a registering element which is given a step-by-step movement at the time the calls are made to temporarily register the calls, a recording device located at the central office, electrically-controlled means for restoring said registering element, a make-and-break device operated by the restoring movement of the said registering element and circuit-controlling devices which are set in operation solely at the central office for actuating said restoring means and electrically connected with said make-and-break device and the recorder, whereby, upon the restoration of said registering element, the make-and-break device acts to produce in the recorder a record of the calls indicated by the registering element.

7. A recording apparatus for measured telephone service comprising a registering element located at the subscriber's telephone by which the subscriber's calls are severally registered at the time they are made, an electrically-actuated recording device at the central office adapted to produce in a continuous operation a record of all the calls indicated by said registering device, means operated solely at the central office for producing at the recording device a record of the calls indicated by said registering device, and a signaling device at the subscriber's telephone which is operated as each call is registered.

8. A recording apparatus for measured telephone service comprising registering devices at the subscribers' telephones by which the subscriber's calls are severally registered at the time they are made, an electrically-actuated recording device at the central office adapted to produce a record of the calls indicated by the several registering devices and electric connections between said registering and recording devices, embracing a closed loop in which is included the recording device and a single plug, the latter being adapted to be inserted into either one of the several spring-jacks of the central switchboard associated with the several subscribers' telephones.

9. A recording apparatus for measured telephone service comprising a registering device located at the subscriber's telephone and embracing a registering element by which the subscriber's calls are severally and temporarily registered at the time they are made, an electrically-actuated recording device at the central office electrically connected with said registering device, means operated at the central office independently of manually-operable parts at the subscriber's telephone for producing in a continuous operation a record of the calls indicated by the said registering device, and a computing-register located at the subscriber's telephone which produces a permanent record of the calls at the time they are registered upon the said registering device, said permanent record being undisturbed by the transference of the temporary records from the registering device to the recording device.

10. A recording apparatus for measured telephone service comprising a temporary registering device having a manually-operable registering element which is advanced step by step to register the calls at the time they are made, an electrically-actuated recording device at the central office adapted to produce in a continuous operation a record of the calls indicated by said registering device, electrical connections between the registering and recording devices operated at the central office independently of manually-operable parts at the subscriber's telephone for restoring said registering element and operating said recording device to produce at the central office a record of the calls set up on the registering device.

11. A recording apparatus for measured telephone service comprising a temporary registering device located at the subscriber's telephone, manually-operable means for operating said registering device at the time the calls are made to temporarily register said calls, an electrically-actuated recording device at the central office electrically connected with the registering device, means operated at the central office independently of manually-operable parts at the subscriber's telephone to produce in a continuous operation a record of the calls indicated by the registering device, a computing-register located at the subscriber's telephone for making a permanent record of the calls and means operatively connected with the manually-operable means for said temporary registering device for operating said computing-register.

12. A recording apparatus for measured telephone service comprising a registering-wheel which is given a step-by-step movement to temporarily register the subscriber's calls, means for locking the wheel after each step of its movement, a recording device, electrically-actuated means for releasing said locking means to permit the wheel to return to its starting-point, and circuit-controlling devices operable solely at the central station for actuating said releasing means and producing at the recorder a record of the calls indicated on said registering-wheel.

13. A recording apparatus for measured telephone service comprising a registering-wheel which is given a step-by-step movement to temporarily register the subscriber's calls, means for locking said wheel after each step of its movement, a recording device, electrically-actuated means for releasing the locking-wheel to permit the wheel to return to its starting position, a make-and-break device actuated by the return movement of said wheel, and circuit-controlling devices which are set in operation solely at the central station for actuating said releasing means and for electrically connecting said make-and-break device with the recording device.

14. A recording device for measured telephone service comprising a registering element which is given a step-by-step movement to register the subscriber's calls, means for locking the registering element after each step of its movement, a magnet, the armature of which is operatively connected with said locking means, a recording device, circuit-controlling means which are set in operation at the central office, independently of manually-operable parts at the subscriber's telephone for energizing said magnet to release, through said armature, said locking means and permit the restoring element to be returned to its starting position, and electrically-controlled means for producing at the recording device in the return movement of the registering element a record of the calls indicated on said registering element.

15. A recording apparatus for measured telephone service comprising a registering element which is given a step-by-step movement to register the subscriber's calls, means for locking the registering element after each step of its movement, a magnet, the armature of which is operatively connected with said locking means, a recording device, circuit-controlling means for energizing said magnet to release through its armature said locking means and permit the registering element to be restored to its starting position, electrically-controlled means for producing at the recording device in the return movement of the registering element a record of the calls indicated on said registering element, and means for imparting a step-by-step movement to said registering element and constructed to restore the locking means and to retract said armature from the magnet in the first step after the return movement of the registering-wheel.

16. A recording apparatus for measured telephone service comprising a registering element, means for imparting thereto a step-by step movement to register the subscriber's calls embracing a reciprocating spring-pressed plunger, means for locking said registering element after each step of its movement, a magnet, the armature of which is operatively connected with said locking means, a recording device, circuit-controlling means for energizing said magnet to release through its armature said locking means and permit the registering element to be returned to its starting position, electrically-controlled means for producing at the recording device a record of the calls indicated on said registering element, and operative connections between the plunger and said locking means acting to restore the locking means when the plunger is thrust rearwardly.

17. A recording apparatus comprising a registering element, means for imparting thereto a step-by-step movement, means for locking the registering element after each step of its movement, a recording device at the central office, electrical connections between said registering and recording devices, electrically-controlled means for releasing said locking means and producing at the recording device a record of the calls as the registering element is restored, and a computing-register which is operatively connected with the means for imparting the step-by-step movement to the registering element, whereby each call is simultaneously registered on the registering element and the computing-register, said computing-register being unaffected by the release of the registering element.

18. A registering apparatus comprising a registering element, means for imparting thereto a step-by-step movement, means for locking the registering element after each step of its movement, a recording device which is electrically connected with the registering device, electrically-controlled means for releasing the locking means and producing at the recording device a record of the calls indicated on said registering element as said registering element is restored, a computing-register which is operatively connected with a means for

imparting the step-by-step movement to the registering element whereby each call is simultaneously registered on the registering element and the computing-register, said computing-register being unaffected by the release of the registering element and a signaling device which is operated when a call is registered.

19. A registering device comprising a spring-actuated registering-wheel having a toothed periphery, a gear-pinion meshing therewith, a ratchet-wheel rotating with the gear-pinion, a pawl engaging the ratchet-wheel to lock the registering-wheel from movement, electrically-actuated means for releasing said pawl, a reciprocating plunger provided with a detent adapted to engage said ratchet-wheel when moved endwise to turn the same step by step, said plunger being adapted when moved endwise to turn said ratchet-wheel to move the pawl into its locking position, and a make-and-break device, the movable member of which is operatively connected with said ratchet-wheel.

20. A registering device comprising a motor-actuated registering-wheel having a toothed periphery, a gear-pinion meshing therewith, a ratchet-wheel rotating with the gear-pinion, an escapement mechanism operated by said ratchet-wheel, an electrical make-and-break device, the movable member of which is connected with the escapement mechanism, a pawl engaging the ratchet-wheel to lock the registering-wheel from movement, electrically-actuated means for releasing said pawl and a reciprocating plunger provided with a detent adapted to engage said ratchet-wheel to turn the same step by step, said plunger being adapted, when moved endwise to turn the ratchet-wheel, to move the pawl into its locking position.

21. A recording apparatus for measured telephone service comprising registering devices located at the several subscribers' telephones and each embracing a registering element which is stepped forward to register the subscribers' calls at the time they are made, electrically-actuated means which are in electrical connection with the line-wires of the talking-circuits for restoring said registering elements, a recording-circuit which includes a recording device and a single plug, which latter is adapted to enter either one of the spring-jacks associated with said talking-circuits, and means operated by the restoring movement of each registering element to produce a record of the calls at said recorder indicated by said registering element.

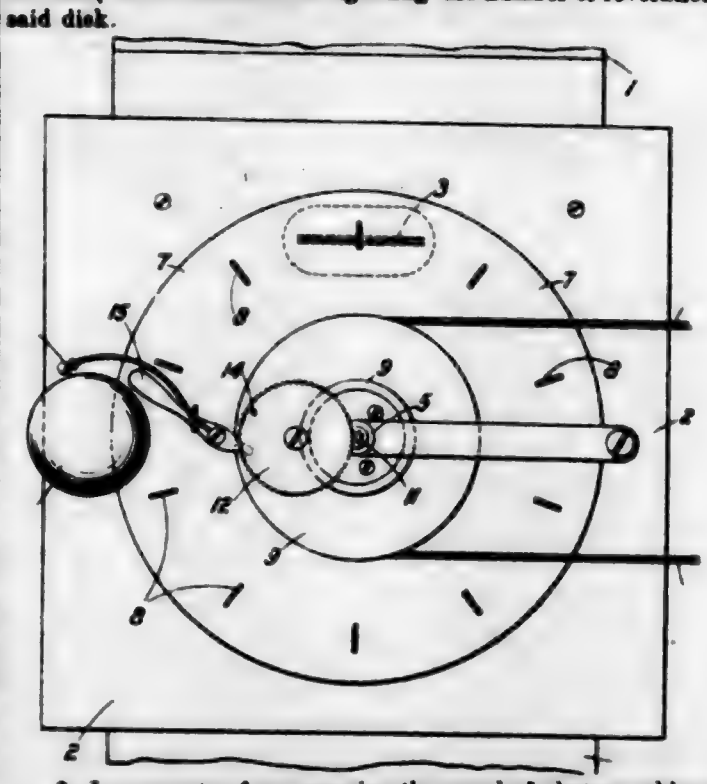
22. A recording apparatus for measured telephone service comprising a registering device at the subscriber's telephone by which the subscriber's calls are severally registered as they are made, an electrically-actuated recording device at the central station, and electrical connections between the registering and recording devices including the spring-jack at the central switchboard associated with the subscriber's telephone and actuated at the central office independently of manually-operable parts at the subscriber's telephone.

23. A recording apparatus for measured telephone service comprising a registering device at the subscriber's telephone by which the subscriber's calls are severally and temporarily registered, a computing-register at the subscriber's telephone which produces a permanent record of the calls at the time they are registered in said temporary registering device, a recording device at the central office, and electrical connections between the registering and recording devices including the spring-jack at the switchboard associated with the subscriber's telephone and actuated at the central office independently of manually-operable parts at the subscriber's telephone for producing a record of the calls indicated by said registering device, said permanent record being undisturbed by the transference of the temporary record from the registering to the recording device.

808,384. **APPARATUS TO BE USED IN MEASURING THE SPEED OF PHOTOGRAPHIC SHUTTERS.** ABRAHAM KERSHAW, Leeds, England, assignor of one-half to Griffith Brewer, London, England. Filed June 21, 1905. Serial No. 266,197.

Claim.—1. An apparatus for measuring the speed of photographic shutters and the like consisting in the combination with a stationary plate having a slit formed therethrough through which light-rays can pass; of a disk located parallel with and adjacent to the plate, said disk having a number of radial slits at equal distances apart at intervals corresponding to the length of the slit of the stationary plate, a pivot upon which the disk revolves located so that the disk-slits pass in front of the slit of the stationary plate, means for revolving the disk at variable speeds, and means for ascertaining the number of revolutions of said disk whereby upon observing the apparently illuminated disk through a moving shutter and regulating the speed of the disk until any dark portion in the illuminated slit is nearly eliminated, the period of the shutter will accord with the time occupied by the passage of a disk-slit over the stationary slit.

2. In apparatus for measuring the speed of photographic shutters and the like, the combination with a vertical stationary plate having a horizontal slit formed therethrough through which light-rays can pass; of a disk located parallel with and adjacent to the plate, said disk having a number of radial slits at equal distances apart at intervals corresponding to the length of the slit of the stationary plate, said slits being located near the periphery of the disk, a pivot fixed at the center of the disk and bearings carried by the stationary plate to support the pivot, so that the disk-slits pass in front of the slit of the stationary plate, a pulley on the pivot for revolving the disk, and mechanism for signaling the number of revolutions of said disk.



3. In apparatus for measuring the speed of photographic shutters and the like, the combination with a vertically-stationary plate located in front of a source of light, said plate having a horizontal slit formed therethrough through which light-rays can pass; of a disk located parallel with and adjacent to the plate, said disk having a number of radial slits at equal distances apart at intervals corresponding to the length of the slit of the stationary plate, said slits being located near the periphery of the disk, a pivot fixed at the center of the disk and bearings carried by the stationary plate to support the pivot, so that the disk-slits pass in front of the slit of the stationary plate, a pulley on the pivot for revolving the disk, a spur-pinion fixed on the disk-pivot, a spur-wheel gearing with the pinion, means for carrying the axis of the spur-wheel, a pin on the said spur-wheel, a pivoted detent with which the pin on the spur-wheel engages once in each revolution, a hammer carried by the detent and a bell upon which the hammer acts once in each revolution of the spur-wheel to audibly indicate the completion of a predetermined number of revolutions.

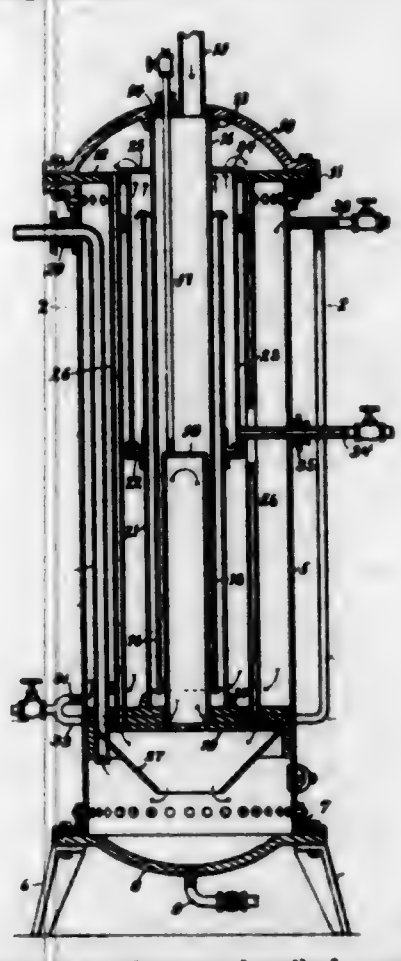
808,385. **FEED-WATER HEATER.** CONRAD KEBER, Appleton, Wis., assignor of two-thirds to William Timm and Theodore J. Schatt, Appleton, Wis. Filed May 16, 1904. Serial No. 208,072.

Claim.—1. In a water-heater, a casing, a pair of telescoping tubes forming a sinuous passage for the water, and a heating-chamber projecting part way within the inner tube and reducing the area of the passage therethrough at such part thereof, whereby a comparatively slight preliminary heating of the water will be produced during the comparatively slow travel of the water through the unreduced portion of the inner tube and subsequently a greater heating of the water will be produced during the faster travel thereof through the reduced portion of the inner tube around the heating-chamber.

2. In a water-heater, a casing, a tube therein closed at one end, a second tube closed at one end and telescoping with its other end the open end of the first-named tube, and a heating-chamber projecting part way within the open end of the first-named tube and reducing the area of the passage therethrough, whereby a comparatively slight preliminary heating of the water will be produced during the comparatively slow travel of the water through the unreduced portion of the inner tube and subsequently a greater heating of the water will be produced during the faster travel thereof through the reduced portion of the inner tube around the heating-chamber.

3. In a device of the character described, a casing, a tube therein closed at one end, a second tube closed at one end and telescoping

with its other end the open end of the first-named tube, a heating-chamber projecting part way within the open end of the first-named tube and changing the area of the passage therethrough, and a vent-pipe for the heating-chamber.



4. In a device of the character described, a casing, a standing tube therein, and a second tube surrounding the upper end of the first-named tube and having its lower end closed to constitute a settling-chamber.

5. In a device of the character described, a casing, a standing tube therein, a second tube surrounding the upper end of the first-named tube and having its lower end closed to constitute a settling-chamber, and a valved draw-off pipe through which the sediment in the settling-chamber may be removed.

6. In a device of the character described, a casing, a standing tube therein, a second tube surrounding the upper end of the first-named tube, and a shouldered flange on the first-named tube fitting and closing the lower end of the second tube to form a settling-chamber thereof.

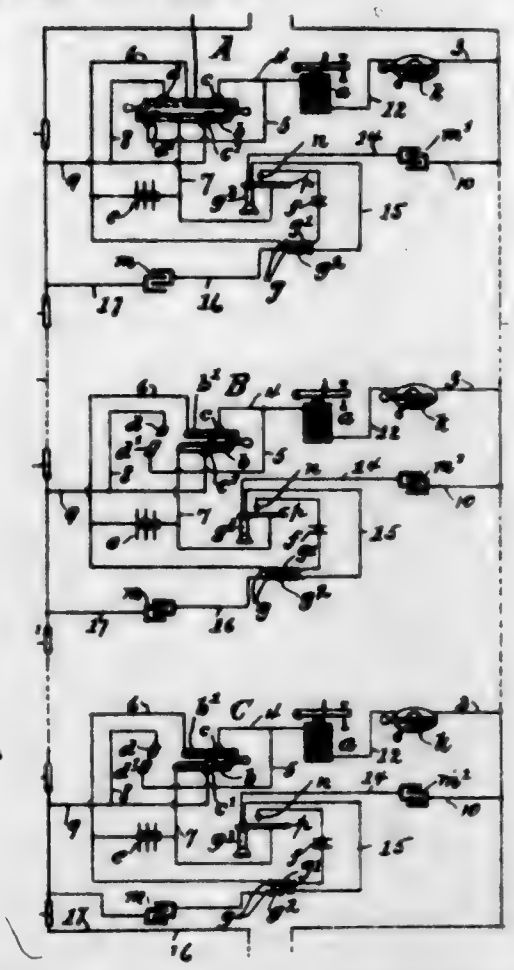
7. In a device of the character described, a casing, a tube therein closed at one end, a second tube closed at one end and telescoping with its other end the open end of the first-named tube, a shouldered flange at the intermediate portion of the second tube, and a third tube fitting with and closed by said shouldered flange and extending above the upper end of the second tube to constitute a settling-chamber.

8. In a device of the character described, a casing, a tube therein, a second tube closed at one end and telescoping with its other end the open end of the first-named tube, a heating-chamber within the first-named tube, a heating-pipe leading to and from the casing, and a branch pipe connecting the heating-chamber with said heating-pipe.

9. In a device of the character described, a casing, heads closing the ends of the casing, a pair of partitions within said casing, a tube fitting within the upper head and passing through an opening in the upper partition and extending to near the lower partition, a heating-chamber projecting from the lower partition into the said tube, a second tube mounted on the lower partition and surrounding the first-named tube, said second tube terminating below the upper partition, a shouldered flange around the intermediate portion of the second tube, a third tube fitting upon and closed by the shouldered flange and also fitting within the opening of the upper partition, a perforated plate surrounding the first-named tube and resting upon the upper partition, a series of pipes connecting the space above the upper partition with the space below the lower partition, an outlet-pipe leading from the space below the lower partition and means for conveying heat to the interior of the casing and the heating-chamber, substantially as described.

10. In a device of the character described, a casing, heads closing the ends of the casing, a pair of partitions within said casing, a tube fitting within the upper head and passing through an opening in the upper partition and extending to near the lower partition, a heating-chamber projecting from the lower partition into the said tube, a second tube mounted on the lower partition surrounding the first-named tube, said second tube terminating below the upper partition, a shouldered flange around the intermediate portion of the second tube, a third tube fitting upon and closed by the shouldered flange and also fitting within the opening of the upper partition, a perforated plate surrounding the first-named tube and resting upon the upper partition, a series of pipes connecting the space above the upper partition with the space below the lower partition, a funnel-shaped deflecting-plate secured beneath the lower partition and deflecting the water issuing from the said pipes to the center of the space beneath the lower partition, an outlet-pipe extending from said space below the lower partition through said partition and through the heating-space between the two partitions, draw-off pipes for the third tube and the space beneath the lower partition, means for admitting heat to the interior of the casing and the heating-chamber, and a vent-pipe for the heating-chamber.

808,386. TELEPHONY. Isidor Kitsee, Philadelphia, Pa. Filed Oct. 14, 1905. Serial No. 282,818.



Claim.—1. A line of transmission, a series of stations connected to said line in multiple arc, each station provided with a telegraphic transmitting-key, a telegraphic receiver, a switching device, a source of current and telephonic transmitting and receiving devices, the source of current of the different stations connected normally in opposition as to each other and means whereby through said switching device the source of current of the station calling is connected in series as to the sources of current of the remaining stations.

2. In combination with a telephonic line of transmission a calling-up device embracing at the calling-station a telegraphic key, a source of current, and means to change the polarity of said source as to the line and the circuit of the station called, and embracing at the station to be called a telegraphic receiver and a source of current.

3. In combination with a circuit adapted to transmit intelligence a series of stations connected to said circuit in multiple arc, each station embracing two circuits, one circuit opaque to telephonic impulses and one circuit opaque to the flow of unidirective current, both circuits in multiple arc as to each other and the main circuit, the circuit opaque to telephonic impulses embracing telegraphic transmitting and receiving devices, a source of current and a switching device adapted to change the connection of said source as to the main circuit, the circuit opaque to unidirective or voltaic currents

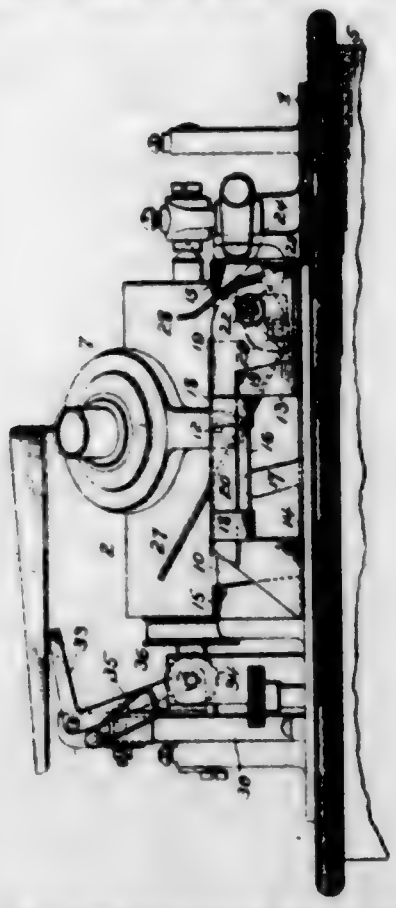
embracing one or more condensers, a telephonic receiver and a secondary of an inductorium, each station also comprising a local circuit containing telephonic transmitting devices.

4. A circuit adapted to transmit intelligence embracing a series of stations connected in multiple arc as to said circuit, each of said stations provided with telephonic and telegraphic transmitting and receiving devices and necessary sources of current therefor contained in three circuits, one circuit comprising the telegraphic transmitting and receiving devices, said circuit connected in multiple arc as to the line; the second circuit comprising telephonic receiving device and connected in multiple arc as to the first-named circuit and the line; and the third circuit localized and comprising telephonic transmitting device.

5. In a telephonic circuit comprising a series of substations connected in multiple arc as to said circuit, means for each of said substations to call a second station, said means embracing a telegraphic key, a source of current and means to change the connection of said source at the station calling as to the source of current in the substation to be called.

808,387. REPEATING MECHANISM FOR PHONOGRAPHS.

CLIFTON J. KURTZ, Salem, Oreg., assignor of one-fourth to Jacob Wenger, Salem, Oreg. Filed Jan. 14, 1905. Serial No. 241,081.



Claim.—1. In an apparatus of the character described, the combination with a movable reproducer-frame, of means for lifting the reproducer-frame when at the end of the record and move it out of engagement with its driving mechanism, a track to guide the return of the reproducer-frame in its elevated position, a friction-roller normally held out of operation by mechanism on the reproducing-frame, and a spring adapted when the reproducer-frame is elevated, to move the friction-roller into operation to move the reproducer-frame back to its starting-point.

2. In an apparatus of the character described, the combination with a movable reproducer-frame, of means for lifting the reproducer-frame when at the end of the record and move it out of engagement with its driving mechanism, a track to guide the return of the reproducer-frame in its elevated position, a returning mechanism, means normally tending to throw the returning mechanism into operation, an arm on the reproducer-frame normally holding the return mechanism out of operation when the reproducer-frame is in its operative position and releasing the returning mechanism and permitting it to operate when the reproducer-frame is elevated.

3. The combination with a phonograph, of a shaft, a cord connecting the shaft with the reproducer-frame, a friction-roller on the shaft, a lever connected with the shaft, a spring bearing against the lever and normally pressing the friction-roller into engagement with the cylinder-drive pulley, an arm on the reproducer-frame engaging the lever and holding the roller out of operation when the reproducer-frame is moving in one direction and reproducing the record, means for elevating the reproducer-frame at its end of movement permitting the roller to operate and wind the cord on the shaft and pull the reproducer-frame back to its starting-point, and a track guiding the return of the reproducer-frame in an elevated position.

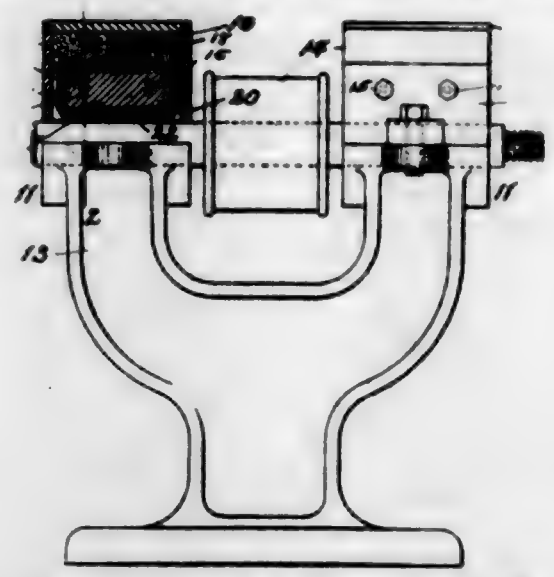
4. The combination with a phonograph, of a roller on one end of the reproducer-frame, a frame, comprising two members adjustably secured together, a track on one of said members beneath which track the roller moves in one direction, a tripping and elevating dog mounted on one end of the frame, a spring constructed to throw the dog to elevate the roller to a level with the top of the track, a spring-catch holding the dog in set position until released by the reproducer-frame, means for drawing the reproducer-frame back to its starting-point with the roller moving along the top of the track, and a rod on the dog disposed under and moved by the reproducer-frame in its returning movement to set the dog.

5. An attachment for phonographs, comprising means for elevating the reproducer-frame when the latter is at the end of its movement, a track to guide the return of the reproducer-frame and hold it elevated, a shaft, a cord connecting the shaft with the reproducer-frame, a roller on said shaft, means on the reproducer for holding the roller out of operation when the frame is moving in one direction and releasing the same when the frame is elevated, permitting the cord to be wound on the shaft and the frame drawn back to its starting-point.

6. An attachment for phonographs, comprising means for drawing the reproducer-frame back to its starting-point, a spring normally tending to throw said means into operation, means for elevating the frame when at the end of its forward movement, means for guiding the frame back to its starting-point and holding it elevated, and means on the reproducer-frame normally engaging the returning mechanism and holding it out of operation while the reproducer is moving in a direction to reproduce the record.

808,388. LUBRICATING JOURNAL-BEARINGS.

WILLIAM LARRY, Lynn, Mass. Filed Sept. 16, 1903. Serial No. 173,367.



Claim.—1. A lubricating device comprising a capillary member and a block having a grooved face, the groove in said block forming a holding member for the capillary member, one of said members being tapered for the purpose set forth.

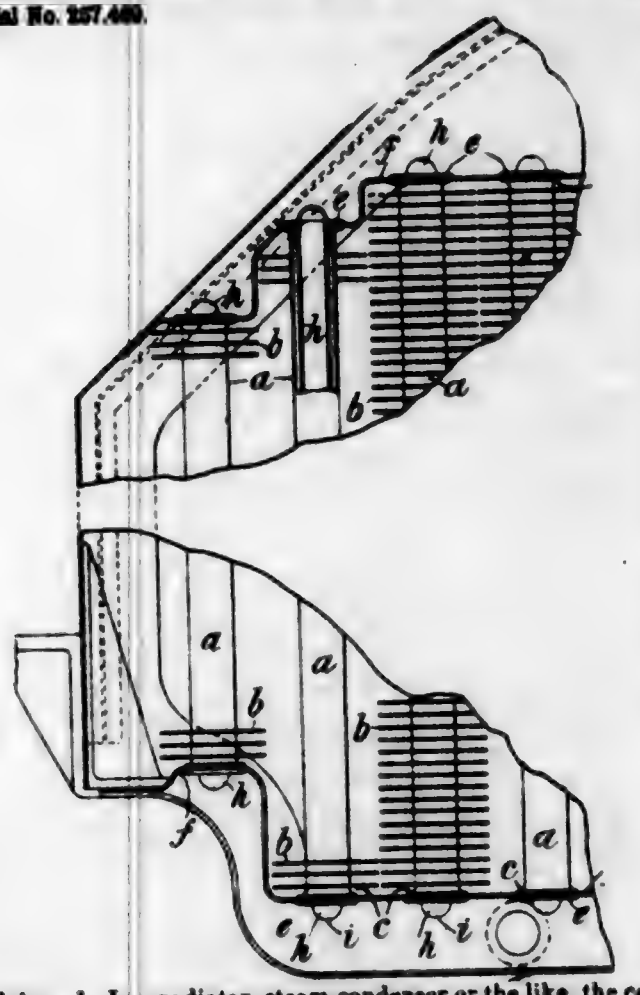
2. A shaft-bearing having a tapered channel formed in its surface, and a tapered capillary lubricating member mounted in said channel and adjustable longitudinally thereof.

3. A lubricating shaft-bearing having a tapered groove in its shaft-bearing surface and having a chamber for lubricant, there being ducts connecting said groove and chamber, and a longitudinally-adjustable tapered capillary member in the form of a loop occupying said groove, chamber and ducts.

4. In a shaft-bearing, the combination of a shaft, a bearing-block adjustable toward and from said shaft and formed with a tapered groove adjacent the shaft, and a tapered capillary lubricating member in said groove.

5. In a shaft-bearing, the combination of a shaft, a substantially U-shaped pillow-block therefor, a bearing-block mounted between the arms of said pillow-block and adjustable toward and from the shaft, said bearing-block being formed with a groove adjacent the shaft, a capillary member occupying said groove, and one or more bolts passing through the arms of said pillow-block and through said bearing-block for clamping said block and arms together in different adjustments.

808,389. RADIATOR, STEAM-CONDENSER, AND THE LIKE. FREDERICK LAMPLOUGH, Willesden, England. Filed Apr. 26, 1905. Serial No. 257,469.



Claim.—1. In a radiator, steam-condenser or the like, the combination with gilled tubes, of a flange at each end thereof, a flanged ferrule fitted into each end of said tubes, tube-plates located between said flanges, a tube closed at both ends occupying the larger portion of the bore of the gilled tube and corrugations for centralising said inner tube, the whole being sweated together to make a perfect joint between the parts, substantially as herein set forth.

2. In a radiator, steam-condenser or the like, the combination with gilled tubes, of a flange at each end thereof, a flanged ferrule fitted into each end of said tubes, tube-plates located between said flanges, a tube closed at both ends occupying the larger portion of the bore of the gilled tube, and a corrugated tube fitting between said tubes, the whole being sweated together to make a perfect joint between the parts, substantially as herein set forth.

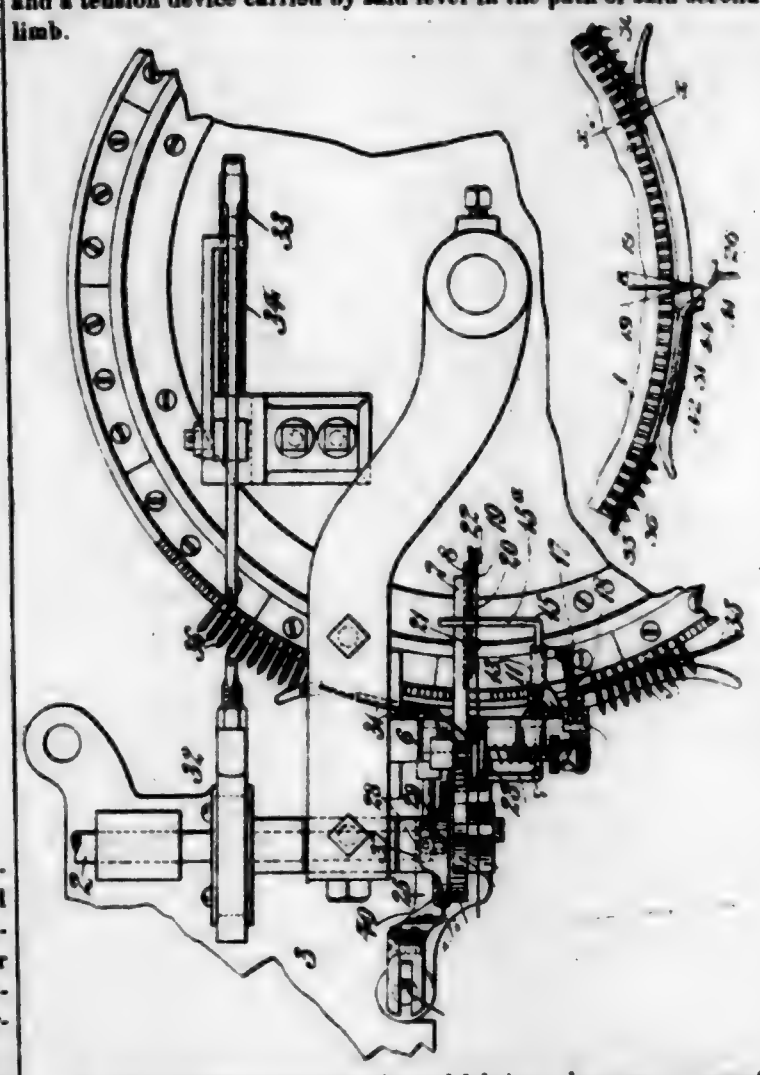
808,390. MACHINE FOR SEWING LOOPED FABRICS. OTTO LANGE, Camden, N. J. Filed July 13, 1904. Serial No. 216,379.

Claim.—1. In a machine for sewing looped fabrics, the combination with the needle-carrying lever and a cam and rocker coöperating therewith, of a tension device movable with relation to said lever and consisting of a pair of arms, and a rocking piece with which said arms are connected, means coöperating with said tension device to tension the thread, means including a limb on one of said arms for operating said piece in one direction, and means for moving said piece in the opposite direction.

2. In a machine for sewing looped fabrics, the combination with a needle-carrying lever and a cam and a rocker coöperating therewith, of a tension device movable with relation to said lever and consisting of a pair of arms, and a rocking piece with which said arms are connected, and a thread-guide movable with said lever, means for operating said piece in opposite directions, and an adjusting-screw and means for carrying said screw, said screw being adapted to have said rocking piece abut thereagainst and adjust the throw thereof.

3. In a machine for sewing looped fabrics, a looper mounted for downward, upward and lateral movements, an eccentric, a lever operatively connected with said eccentric, a hanger supported from the pivot of said lever, a rockable member mounted on said hanger and provided with a limb having a portion disposed in the path of said eccentric thread-engaging means on the other end of said rockable member, a spring acting on said rockable member, means coöperating with said thread-engaging means and means for actuating said looper.

4. In a machine for sewing looped fabrics, a looper mounted for downward, upward and lateral movements, an eccentric, a lever operatively connected with said eccentric, a hanger supported from the pivot of said lever, a rockable member mounted on said hanger and provided with a limb having a portion disposed in the path of said eccentric, a spring acting on said rockable member, means for actuating said looper, a second limb carried by said rockable member, and a tension device carried by said lever in the path of said second limb.

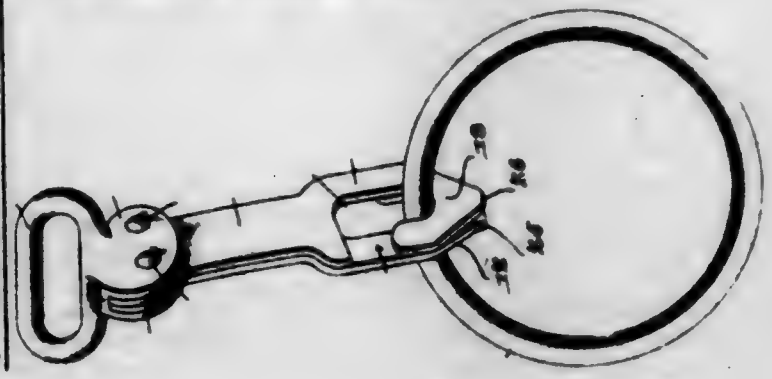


5. In a machine for sewing looped fabrics, a looper-arm mounted for downward, upward and lateral movements, a ball-and-socket joint for said arm, an eccentric, a lever operatively connected with said eccentric, a hanger supported from the pivot of said lever, a rockable member mounted on said hanger and provided with a limb having a portion disposed in the path of said eccentric thread-engaging means on the other end of said rockable member, a spring acting on said rockable member, means coöperating with said thread-engaging means and means for actuating said looper-arm.

6. In a machine for sewing looped fabrics, a lever, a needle carried by the same, means for operating said lever in opposite directions, a rocking arm, a tension device proper, resilient thread-guides on said lever, a limb on said rocking arm, means on said limb in the path of the lever-operating means for operating said arm, said arm being intermediate of said needle and tension device and adjacent to said guides and a thread-engaging limb.

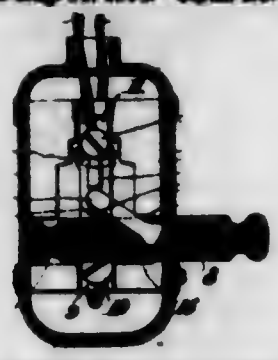
7. In a machine for sewing looped fabrics, a looper mounted for downward, upward and lateral movements, a loop-guide adjacent to the said looper and fixedly secured to the frame, a rotary pin-plate and a guard on said guide located above the pins for preventing the loops from coming in contact with the pins of the rotary plate of the machine.

808,391. SNAP-HOOK. WILLIAM R. LAPSLEY and WALTER S. SALLEE, McAfee, Ky. Filed Oct. 18, 1904. Serial No. 228,269.



Claim.—A snap-hook comprising two resilient plates of like contour and provided at one end with a hook, the plates from the hooks being flat throughout their entire extent, a strap-engaging loop having integral ears between which one end of each of the plates is disposed and a plurality of rivets passing through the ears and through the said ends of the plates thereby to prevent any rocking movement between the hook and the loop.

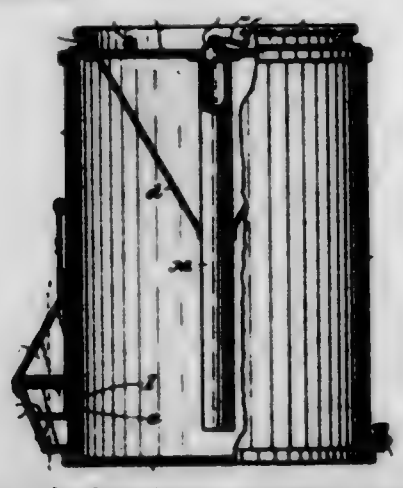
808,892. ELECTRIC SWITCH. WILLIAM W. LATIMER, Bridgeport, Conn. Filed Aug. 31, 1904. Serial No. 223,870.



Claim.—1. The combination in an electric switch, of a terminal comprising a substantially U-shaped strip, one end of which is cut away to form a slot for the reception of a spindle, and the spaced side members between which the slot is formed being bendable to form a bearing for said spindle and permit the ready insertion and removal of the same, the opposite end of the strip being provided with an elongated opening forming a loose bearing for said spindle, and a spindle arranged in the two bearing-openings, a loosely-mounted switch member, cars or wings carried by the spindle for engaging said switch member, and a second member with which said switch member engages.

2. In an electric switch, a casing having a pair of guiding-slots, an operating-bar extending therethrough and having a transverse slot extending from edge to edge thereof, a movable switch member, a spindle carrying said switch member, and a radial arm extending from the spindle, said arm having a rounded head engaging in said slot.

808,893. DRINKING-FOUNT FOR LIVE STOCK. ROBERT H. LEWIS and HARVEY H. SMITH, Monrovia, Ind. Filed June 16, 1905. Serial No. 265,451.



Claim.—1. A drinking-fount comprising a supply-tank having an imperforate filling-tube attached tightly to the top thereof and extending nearly to the bottom thereof, a drinking-trough attached to the supply-tank, a normally open channel between the supply-tank and the drinking-trough, a ledge attached to the top of the supply-tank and extending about the opening of the upper end of the filling-tube, and a vent-cock attached to the top part of the supply-tank.

2. A drinking-fount comprising a supply-tank having an imperforate filling-tube attached tightly to the top thereof and extending nearly to the bottom thereof, there being a ledge on the top of the supply-tank extending about the opening of the upper end of the filling-tube, a drinking-trough attached to the supply-tank, a normally open channel between the supply-tank and the drinking-trough, a vent-cock attached to the top part of the supply-tank, and a brace attached to the wall of the supply-tank and also to the top of the outer wall of the drinking-trough.

3. A drinking-fount comprising a supply-tank with a basin on the top thereof, the top of the supply-tank forming the bottom of the basin, an imperforate filling-tube attached tightly to the top of the supply-tank and extending nearly to the bottom thereof, a plurality of braces secured to the under side of the top of the supply-tank and also secured to the filling-tube, a drinking-trough attached to the supply-tank, a normally open channel between the supply-tank and the drinking-trough, and a vent-cock attached to the top part of the supply-tank.

4. A drinking-fount comprising a supply-tank having a filling-tube attached to the top thereof and extending nearly to the bottom thereof, an annular ledge upon the top of the supply-tank, a drinking-trough attached to the supply-tank, a perforate false bottom supported removably in the drinking-trough above the natural bottom thereof, a normally open channel between the supply-tank and the drinking-trough, a vent-lock attached to the top part of the supply-tank, braces attached to the filling-tube and also to the top of the supply-tank, and a combined guard and brace secured to the wall of the supply-tank and extending across the drinking-trough and secured thereto.

5. A drinking-fount comprising a supply-tank having a filling-tube attached to the top thereof and extending nearly to the bottom thereof, a closure for the filling-tube, a drinking-trough attached to the supply-tank, a perforate false bottom supported removably in the drinking-trough above the natural bottom thereof, a normally open channel between the supply-tank and the drinking-trough, a vent-cock attached to the top part of the supply-tank, a guard-plate attached to the wall of the supply-tank and extending across the drinking-trough, and a brace-rod attached to the wall of the supply-tank and also to the drinking-trough and to the guard-plate.

808,894. MOLD FOR CEMENT FENCE-POSTS AND THE LIKE. JOHN J. LUCK, Aurora, Ill. Filed May 11, 1905. Serial No. 259,880.



Claim.—1. A mold for molding fence-posts and other elongated articles from plastic material, comprising an upright tubular mold open at both ends and consisting of two longitudinally-separated, complementally-fitted, members one of which fits partially within the other, and means engaging one of said members for confining the mold members together in operative position.

2. A mold for molding fence-posts and other elongated articles from plastic material, comprising an upright tubular mold open at both ends and consisting of two longitudinally-separated, complementally-fitted, members, one of which fits partially within the other, and a clamping member having marginal interlocking engagement with the outer mold member for holding the mold members in assembled position.

3. A mold for molding fence-posts and other elongated articles from plastic material, comprising an upright tubular mold open at both ends and made of two longitudinally-separated, complementally-fitted, mold members one of which fits partially within the other, and a clamping member provided with marginal hook-flanges adapted to slidingly engage complemental hook-flanges on the margins of the outer member of the mold.

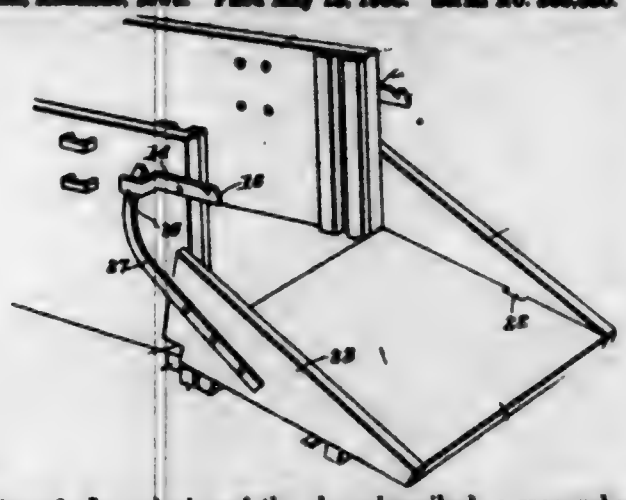
4. A mold for molding fence-posts and other elongated articles from plastic material, comprising an upright tubular mold open at both ends and made of two longitudinally-separated, complementally-fitted, mold members, one of which fits partially within the other, and a clamping member provided with marginal hook-flanges adapted to slidingly engage complemental hook-flanges on the margins of the outer member of the mold, one of said mold members being provided with a series of vertically-separated openings.

5. A mold for molding fence-posts and other elongated articles from plastic material, comprising an upright tubular mold member consisting of two longitudinally-separated, complementally-fitted, parts, one contained partially within the other, an arch-shaped clamping member provided with marginal hook-flanges adapted to engage complemental flanges on the outer member of the mold, the inner member of the mold being provided in one of its sides with a plurality of vertically-separated openings adapted to hold in place fastening devices during the molding operation.

6. A mold for molding fence-posts and other elongated articles from plastic material, comprising an upright tubular mold open at both ends and consisting of two longitudinally-separated, complementally-fitted members, one of which fits partially within the other, hooked flanges on the outer member of the mold, and clamp-

ing means engaging said hooked flanges for holding the mold members in their assembled positions.

808,395. **END-GATE AND SHOVEL-BOARD.** GUY H. LUSCOMBE, Radcliffe, Iowa. Filed May 15, 1905. Serial No. 260,555.

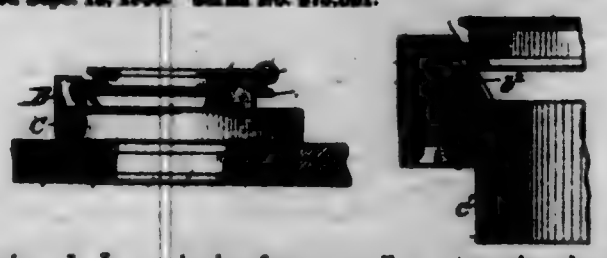


Claim.—1. In a device of the class described, a wagon-body having a bearing member extending rearwardly of and beyond the sides of the same, stop members connected to the sides of the body and having lateral extensions at one end, a combined shovel-board and end-gate bearing upon the rearwardly-extending portion of said bearing member and having side wings for bearing against the laterally-extended portions of said stops and likewise provided with terminal recesses for engaging the projecting ends of said bearing member when the shovel-board is elevated, bars connected rigidly to said side wings for engaging said lateral projections of said stop members when the shovel-board is depressed, and fastening means for holding the shovel-board closed.

2. In a device of the class described, a wagon-body having a bearing member extending rearwardly of and beyond the sides of the same, stop members connected to the sides of the body and having lateral extensions at one end and barbed extensions at the other end, a combined shovel-board and end-gate bearing upon the rearwardly-extending portion of said bearing member and with apertures for receiving said barbed extensions and provided with side wings for bearing against the laterally-extended portions of said stop members, said side wings having terminal recesses for engaging the lateral extensions of said bearing member when the shovel-board is elevated, latches swinging upon said shovel-board for engaging said barbed extensions, and bars connected rigidly to said side wings for bearing against the lateral extensions of said stop members.

3. In a device of the class described, a wagon-body having end-gate guides upon the interior of its sides, supplemental side members connected by a supplemental floor member and provided with guide-ribs for bearing between said end-gate guides, keepers connected to said supplemental side members and bearing over the side members of said body, a bearing member extending rearwardly of and beyond the ends of said supplemental floor members, stop members connected to said supplemental sides and having lateral extensions at one end, a combined shovel-board and end-gate bearing upon the rearwardly-extended portion of said bearing member and having side wings for bearing against the extended portions of said stops and likewise provided with terminal recesses for engaging the projecting ends of said bearing member when the shovel-board is elevated, bars connected rigidly to said side wings for bearing against the lateral projections of said stop members when the shovel-board is depressed, and fastening means for holding the shovel-board closed.

808,396. **SUPPORT FOR SPINNING-RINGS.** MICHAEL H. MALONEY, Chelsea, Mass., assignor, by direct and mesne assignments, of three-fourths to John J. Buckley, Thomas P. McGinn, and John A. Regan, Plymouth, Mass., and one-fourth to Thomas Roche, Boston, Mass. Filed Sept. 18, 1905. Serial No. 278,081.



Claim.—1. In a spinning-frame, a rail, a rotary ring, bearings therefor, and means for supporting said bearings upon the rail comprising an insulating-base to which said bearings are attached and which lies between said ring and rail.

2. A rotary spinning-ring, non-conducting bearings therefor, and a base for supporting said bearings made from a non-metallic material, whereby electrical or magnetic currents induced by the rotation of the ring will be isolated in the ring itself.

3. A rotary spinning-ring, non-conducting bearings therefor, and a base supporting said bearings, constructed of material having small capacities for inducing electricity as described.

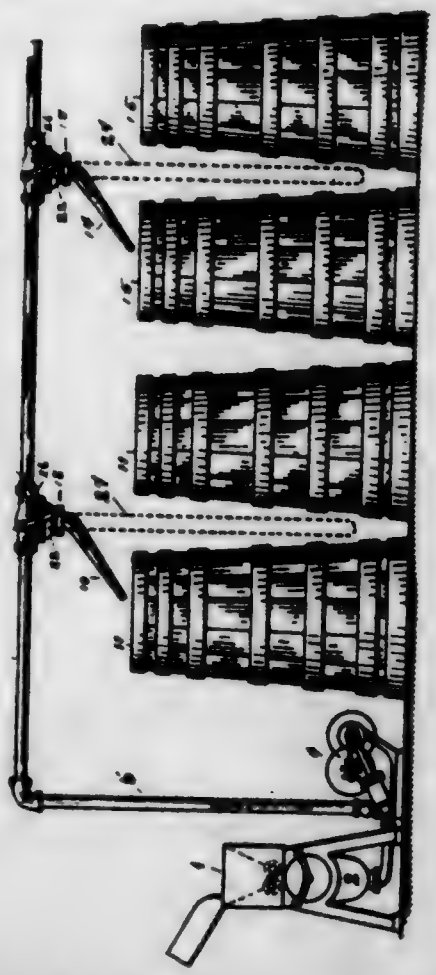
4. A rotary spinning-ring, bearings therefor composed of rawhide or the like, suitably supported, whereby electricity generated by frictional contact with said bearings will be isolated in the ring.

5. A rotary spinning-ring, and bearings therefor, each comprising a notched piece of rawhide or the like, and a casing adapted to hold each bearing, and means for supporting said casings upon the rail and insulating them therefrom.

6. In a spinning-frame, a base adapted to support ring-bearings, said base being provided with a sleeve having a metallic ring molded into its exterior as described.

7. In a spinning-frame, a base adapted to support ring-bearings and composed of insulating material molded into shape as described.

808,397. **APPARATUS FOR DISTRIBUTING MUST.** EDGAR T. MEAKIN, San Francisco, Cal. Filed Sept. 16, 1904. Serial No. 224,754.



Claim.—In a liquid-distributing apparatus, a suitable pipe, valves interposed in the pipe so arranged as to permit the discharge of material through one of the valves, the said valves comprising in their construction a suitable casing forming a passage-way aliining with the pipe and a lateral suitably positioned with relation to the said passage-way, a coupling attached to the lateral, a valve-seat having oppositely-beveled contact-surfaces interposed between the lateral and the coupling, a discharge-pipe swiveled on the coupling and a valve pivoted approximately centrally of the valve-seat and adapted to engage the beveled surfaces of the valve-seat to close the passage-way through the lateral or to contact with the wall of the casing and the interior surface of the coupling to form an obstruction to the passage of liquid beyond the valve so set, whereby the said liquid is directed to the discharge-pipe of the valve.

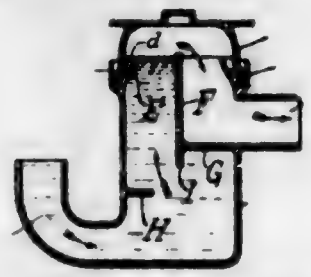
808,398. **PROCESS OF INDIGO DYEING.** HERMANN MÜLLER, Paris, France. Filed Apr. 2, 1904. Serial No. 201,211.

Claim.—1. The process of dyeing fabrics and analogous materials which consists in feeding the material through a dyeing-machine having a dye-receptacle, subjecting it to a dye-bath composed of in-

dige, an oxid of tin, an acid and an alkaline solution, then airing said material, and finally treating it with a fixing solution.

2. The process of dyeing fabrics and analogous materials which consists in feeding the material through a dyeing-machine having a dye-receptacle, subjecting it to a dye-bath composed of indigo, an oxid of tin, acetic acid, and an alkaline solution, then airing said material, and finally treating it with a solution of bichromate of potassium and hydrochloric acid.

808,399. WASTE-TRAP. ALBERT S. NEWTON, Providence, R. I. Filed June 1, 1905. Serial No. 262,206.

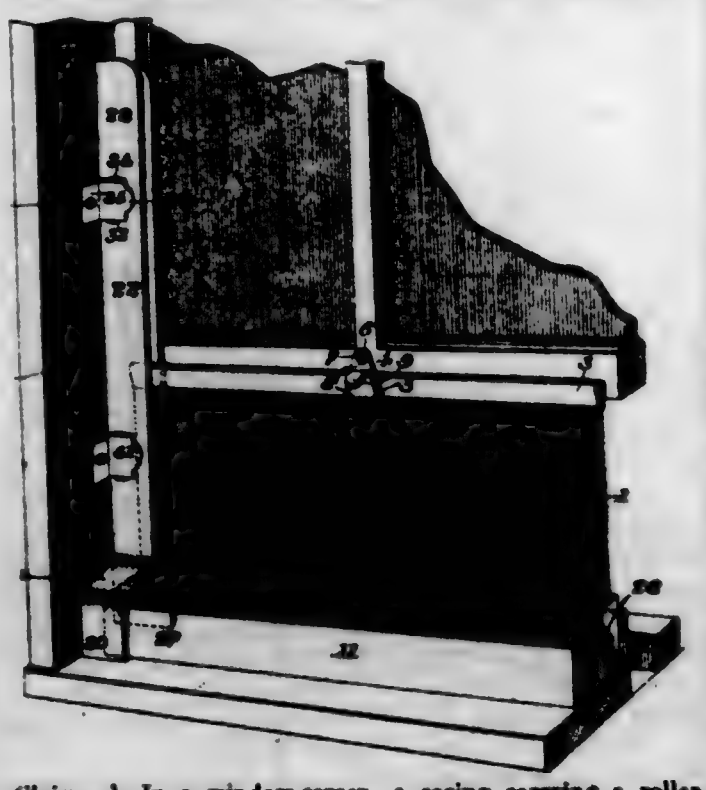


Claim.—1. In a waste-trap, the combination with the body, the cap upon the body, and the vertical partition traversing the body below the cap, of an upwardly-inclined flange upon the interior of the body adjacent the cap, the free margin of said flange being in the same horizontal plane or lower than the top of the partition.

2. In a waste-trap, the combination with the body, the cap upon the body, and the curved extremity of the outlet-pipe, of an upwardly-inclined flange upon the interior of the body adjacent the cap, the free margin of said flange being in the same or lower horizontal plane than the extremity of the outlet-pipe.

3. In a waste-trap, the combination with the body and the cap of an upwardly-inclined flange upon the interior of the body above the joint, and an upright extension-collar upon the exterior of the body below the joint.

808,400. WINDOW-SCREEN. RICHMOND PARSONS, Philadelphia, Pa., assignor to Herbert M. Christie, Henry M. Kreh, and Richmond Parsons, trading as The Imperial Rolling Window Screen Company, a Corporation of Delaware. Filed Aug. 10, 1904. Serial No. 220,203.



Claim.—1. In a window-screen, a casing carrying a roller-screen, side guards therefor and automatic means for centering said casing.

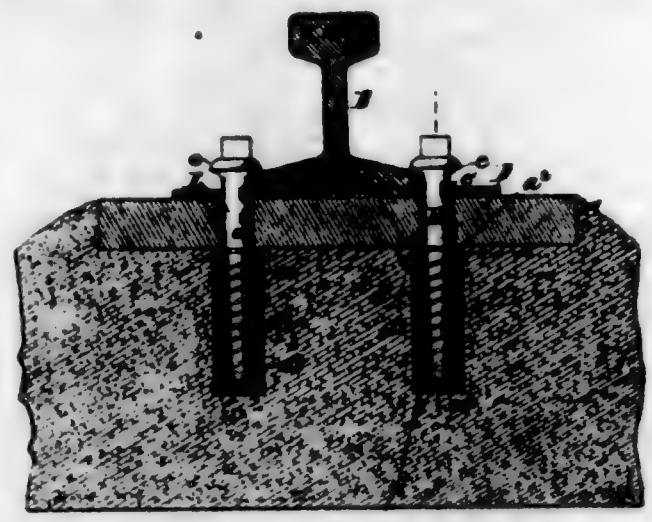
2. In a window-screen, a casing, side guards therefor, and automatic means carried by said guards for centering the screen in windows of different widths.

3. In a window-screen, a casing, side guards therefor, and means carried by said guards for retaining said casing and centering the latter on a window-frame.

4. In a window-screen, a casing carrying a roller-screen, side guards therefor, and centering-springs upon the side guards making contact with the casing.

5. In a window-screen, a casing carrying a roller-screen and automatic means for centering said casing on a window-frame.

808,401. RAIL-FASTENING FOR PLASTIC TIES AND THE PROCESS OF MAKING THE SAME. HERBERT B. PERCIVAL, Galveston, Tex., assignor of one-half to Brewer W. Kay, Woodward, Okla. Filed Apr. 20, 1905. Serial No. 256,056.

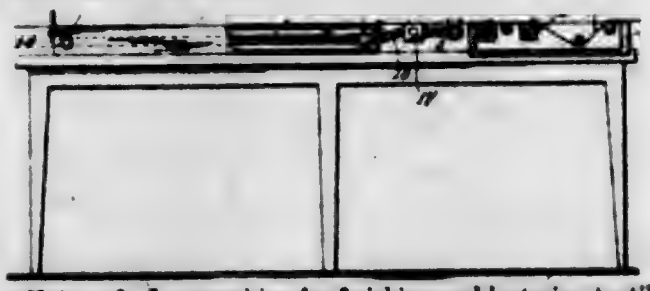


Claim.—1. A fastening of the character specified comprising a base of plastic material having a hole formed therein, and metallic filling in said hole comprising hard particles of matter, the interstices between which particles are filled with a softer metal.

2. The process of making a fastening of the character specified consisting in placing in a hole formed in a base of plastic material a threaded member, then pouring into said hole a hard, metallic filling.

3. The process of making a fastening of the character specified consisting in placing in a hole formed in a base of plastic material a threaded member, then placing hard particles of matter within the hole and around said threaded member and then pouring in a softer metallic filling.

808,402. APPARATUS FOR LUSTERING AND FINISHING SILK FILAMENTS. EDWARD POHL, Paterson, N. J. Filed Apr. 13, 1905. Serial No. 255,352.



Claim.—1. In a machine for finishing and lustering textile filaments, the combination with a bath for containing liquid in which the filaments are to be immersed, of a heated body polygonal in cross-section, the surfaces of which constitute contact-surfaces arranged to be successively employed, said heated body being stationary during the normal operation of the device.

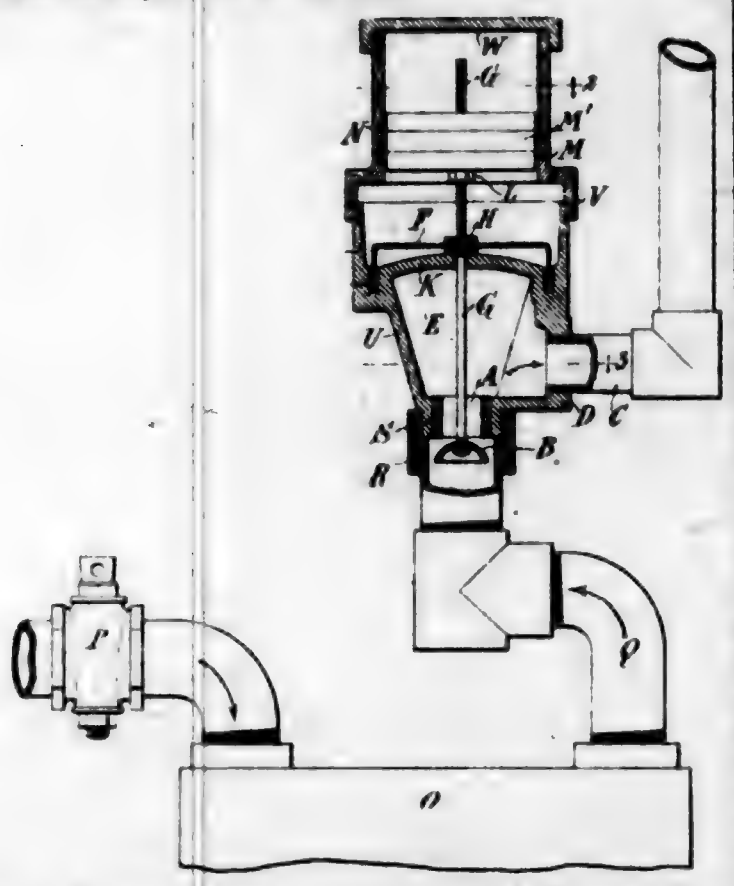
2. In a machine for finishing and lustering textile filaments, the combination with a bath for containing liquid in which the filaments are to be immersed, and a heated contact-surface over which the filaments are arranged to travel, of a heated body having a plurality of contact-surfaces arranged to be successively employed, said heated body arranged between the bath and the aforesaid contact-surface.

808,403. GAS REGULATOR OR GOVERNOR. GEORGE REAVES, New York, N. Y. Filed Apr. 3, 1905. Serial No. 253,614.

Claim.—1. In a gas-regulator in combination, a valve B opening downward, a stem G, a float F attached to said stem and subjected to the pressure of the gas in an upward direction, a flange L on said stem, circular weights M having central apertures fitting said stem closely, and a cylindrical member N surrounding said weights closely and guiding the same so as to prevent lateral movement thereof and to hold said stem firmly against lateral movement.

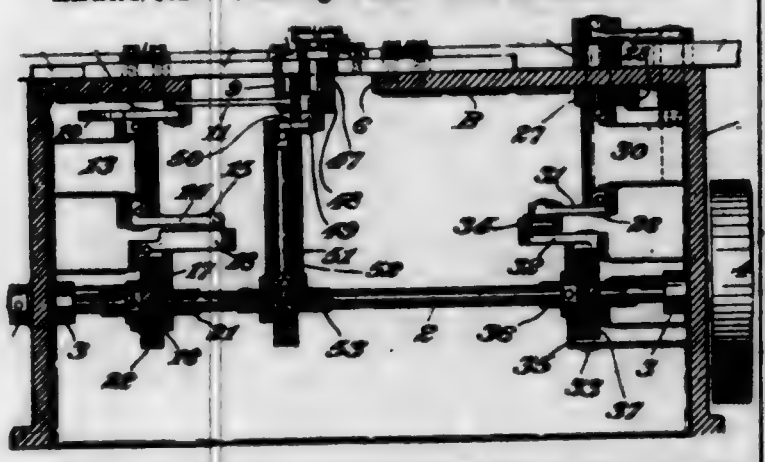
2. In a gas-regulator in combination, a seat A a valve B closing in an upward direction, a stem G extending upward from said valve, a float F attached to said stem and subjected to an upward pressure from the gas, a series of weights M supported upon said stem, and a casing comprising a lower portion of non-circular cross-section and

having a screw-threaded opening surrounding the seat A, an intermediate portion carrying a liquid seal for said float, and an upper portion forming a guide for said weights.



3. In a gas-regulator in combination, a casing having an inlet-opening at its bottom, a gas-chamber above said opening, an annular liquid-seal chamber above said gas-chamber, and substantially concentric with said opening, a valve-seat surrounding said opening, a valve seating thereon and a stem carrying said valve at its lower end, passing through said gas-chamber, and carrying a float fitting within said annular liquid-seal chamber, and said casing having a portion above said liquid-seal chamber, forming a guide for said weight substantially concentric with said valve-seat.

808,404. MECHANICAL MOVEMENT. FRANCIS H. RICHARDS, Hartford, Conn. Filed Aug. 9, 1902. Serial No. 119,045.



Claim.—1. In a mechanical movement, the combination with a uniformly-rotating driving member, a plurality of independent devices for varying the angular velocity ratio with a continued rotation, a continuously-advancing member driven by one of said devices at the variable peripheral velocity of said device, a crank and a connecting-rod and an advancing and retreating member driven through said crank and connecting-rod by the other of said devices at a velocity coinciding during a portion at least of the forward movement of the advancing and retreating member with the concurrent velocity of the continuously-advancing member.

2. In a mechanical movement, the combination with a uniformly-rotating driving member, a speed-varying mechanism for varying the angular velocity ratio with a continued rotation, a continuously-advancing member driven from said mechanism at varying velocities, a crank and a connecting-rod and an advancing and retreating member driven through said crank and connecting-rod from said mechanism at a velocity coinciding during a portion at least of the forward movement of the advancing and retreating member with the concurrent velocity of the continuously-advancing member.

3. In a mechanical movement, the combination with a uniformly-rotating driving member of a speed-varying transmitting mechanism consisting of a driving-crank driven from said driving member, a driven crank eccentrically mounted to said driving-crank, and a link connecting said cranks, a continuously-advancing member, motion-transmitting means for advancing said continuously-advancing member with a variable velocity by a developed movement from said driven crank, a second speed-varying transmitting mechanism consisting of a varying radius-crank a fixed radius-crank mounted eccentrically of said varying radius-crank and engaging said varying radius-crank, said transmitting mechanism driven from said driving member, an advancing and retreating member movable in line with said continuously-advancing member, and a crank and connecting-rod connection between said advancing and retreating member and the driven element of said second transmitting mechanism, said transmitting mechanisms being organized to effect coincident movements of said continuously-advancing and said advancing and retreating members, during an appreciable period in the advance of said advancing and retreating member.

4. In a mechanical movement, the combination of an advancing member, a roll for advancing said advancing member, a driving member, a speed-varying transmitting mechanism between said driving member and said roll consisting of a pair of eccentrically-mounted cranks and a link connecting said cranks, an advancing and retreating member movable in line with said advancing member and speed-varying transmitting mechanism between said driving member and said advancing and retreating member operative to advance and retract said advancing and retreating member with a velocity coinciding during a portion at least of the forward movement of the advancing and retreating member with the concurrent velocity of the continuously-advancing member.

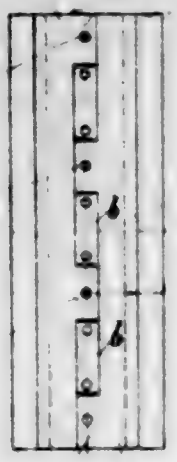
5. In a mechanical movement, the combination of an advancing and retreating member, a crank and pitman operatively connected with said advancing and retreating member, a driving member, and a variable radius-crank a speed-varying transmitting mechanism between said driving member and said crank consisting of a fixed radius-crank set eccentric to and engaging said variable radius-crank, an advancing member movable in line with said advancing and retreating member, a roll for advancing said advancing member and a speed-varying transmitting mechanism between said driving member and said roll, said speed-varying transmitting mechanisms being adapted to effect substantially coincident movements of said advancing and said advancing and retreating members during an appreciable period in the advance of said advancing and retreating members.

6. In a mechanical movement, the combination of an advancing member, an advancing and retreating member movable in line therewith, a driving member, a roll peripherally engaging said advancing member to advance the same, a speed-varying mechanism consisting of a pair of eccentrically-mounted link-connected cranks between said driving member and said roll, a crank and connecting-rod connected to and for advancing and retracting said advancing and retreating member and a speed-varying mechanism consisting of a fixed radius-crank a variable radius-crank engaged by said fixed radius-crank, between said driving member and said crank, and connecting-rod, said speed-varying mechanisms being adapted to effect substantially coincident movements between said advancing and said advancing and retreating members during an appreciable period in the advance of said advancing member.

7. In a mechanical movement, the combination of an advancing member, a roll for advancing said advancing member, a driving-shaft, a crank concentric and mounted fast with said driving-shaft, a second crank driven from said driving-shaft and mounted eccentric to said first crank, a link connecting said cranks, an advancing and retreating member movable in line with said advancing member and speed-varying transmitting mechanism between said driving-shaft and said advancing and retreating member said link-connected cranks and speed-varying transmitting mechanisms arranged and adapted for coaction to effect substantially coincident movements of said advancing and said advancing and retreating members during an appreciable period in the advance of said advancing and retreating member.

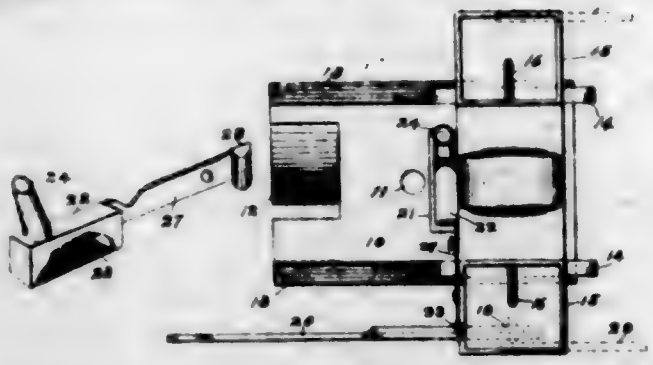
8. In a mechanical movement, an advancing member, an advancing and retreating member movable in line therewith, a driving-shaft, speed-varying transmitting mechanisms geared to said driving-shaft and operatively connected with said respective members to effect varying movements of said members substantially corresponding in velocity and direction during an appreciable period in the advance of said advancing and retreating member.

808,405. **WHEEL-RIM.** EDGARD SCHMITZ, Cologne, Germany. Filed June 26, 1905. Serial No. 266,982.



Claim.—A rim for wheels with detachable pneumatic-tire holders comprising a hoop fixed to the felly and provided with oblong raised portions forming gaps or spaces between them with dovetail edges, a detachable tire-holder formed of plates with curved edges arranged to be secured in position side by side to form a channel for receiving the tire, lateral projections on the channel-plates arranged to fit into alternate gaps between the raised portions of the hoop, and bolts screwing from the inside of the rim through the felly, hoop and channel-plates and securing the whole together.

808,406. **STAMPING OR TABLET-MAKING MACHINE.** GEORGE SCHWARZBECK, Chicago, Ill. Filed Apr. 3, 1905. Serial No. 253,684.



Claim.—1. In a stamping and tablet-making machine, the combination with a matrix-plate, of a feed-box movably mounted thereon, a perforated powder-box carried by said feed-box, a bar connected at one of its ends to the powder-box and fulcrumed on the feed-box, and a rack-bar engaging the fulcrumed bar, substantially as described.

2. In a stamping and tablet-making machine, the combination with a matrix-plate, of a feed-box movably mounted thereon and having an apertured horizontal extension on one of its sides, a conveyer-shaft journaled in the feed-box, a pinion on one end of said shaft, a perforated powder-box mounted on said extension of the feed-box, a bar connected at one of its ends to the powder-box and fulcrumed on the feed-box, and a rack-bar adapted to engage the fulcrumed bar and said pinion, substantially as described.

808,407. **PROCESS OF MAKING GUANYL DIALKYL BARBITURIC ACID.** BRUNO E. SEIFERT, Radebeul, near Dresden, Germany, assignor to Chemische Fabrik von Heyden Aktiengesellschaft, Radebeul, near Dresden, Germany. Filed July 6, 1905. Serial No. 268,282. (Specimens.)

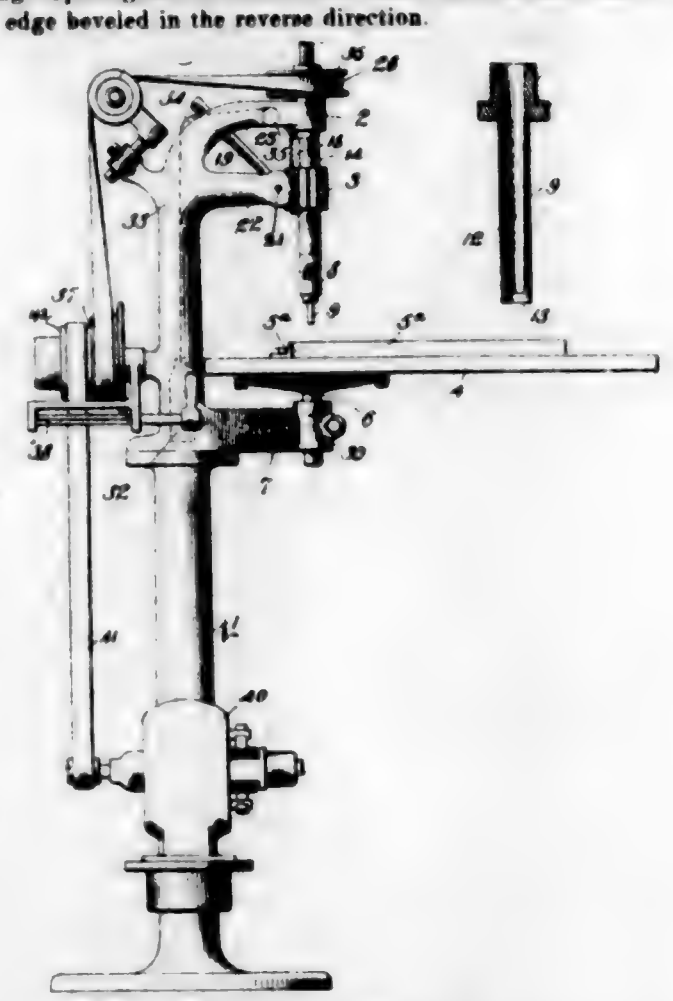
Claim.—Process of making guanyl dialkyl barbituric acid, which consists in heating dicyan diamidin and dialkyl malonic acid dialkyl esters with a suitable condensing agent as sodium alcoholate, substantially as described.

808,408. **PUNCHING-MACHINE.** WALTER SPARKS, New York, N. Y. Filed Dec. 28, 1904. Serial No. 238,136.

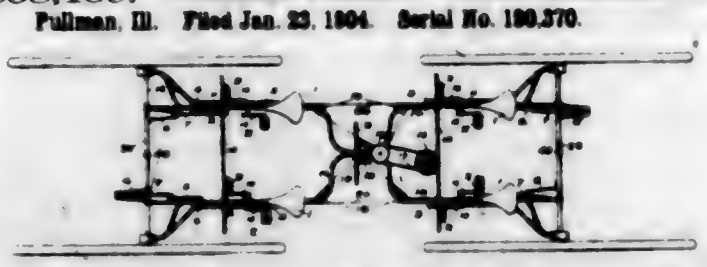
Claim.—1. A hollow punch having an inner delivery-passage tapering from one end to the other, and provided with a cutting edge beveled in the reverse direction.

2. A hollow punch, having a cylindrical exterior surface, and provided with an inner delivery-passage tapering from one end to the other, and also with a cutting edge beveled in the reverse direction.

3. The combination with a driving-shaft having a central passage with a lateral outlet for the discharge of waste material, of a hollow punch connected to the shaft and having an inner delivery-passage tapering from one end to the other, and provided with a cutting edge beveled in the reverse direction.



808,409. **WHEELED VEHICLE.** AUGUST STECHBARTH, West Pullman, Ill. Filed Jan. 23, 1904. Serial No. 190,370.



Claim.—1. In a vehicle of the kind described, substantially duplicate front and rear frames pivotally connected, and provided with means for controlling their relative positions to guide the vehicle, in combination with driving mechanism for each operator, comprising a rotatable sprocket-wheel, two cranks, each provided with a suitable pedal, arranged to rotate the sprocket-wheel, a suitable chain arranged to transmit power from said sprocket-wheel to a second sprocket-wheel, a second sprocket-wheel mounted upon a rotatable shaft provided with a crank connected to a crank of equal radius formed in the wheel-driving shaft, and means for connecting said wheel-driving shaft to the supporting-wheels.

2. In a vehicle of the kind described, substantially duplicate front and rear frames, a pivotal connection for uniting said frames, consisting of a swivel whose axis is longitudinal of the machine and a hinge whose axis is vertical, and means for controlling the relative positions of the two frames to guide the vehicle, in combination with driving mechanism for each operator, comprising a rotatable sprocket-wheel, two cranks, each provided with a suitable pedal, arranged to rotate said sprocket-wheel and means for transmitting the power from the sprocket-wheel to the supporting-wheels.

3. In a device of the kind described, two pairs of wheels, substantially duplicate front and rear frames connecting said wheels, a single connection uniting said frames having two axes of rotation one vertical and the other longitudinal of the maching, and means for controlling the relative positions of the frames to guide the machine, in combination with driving means for each operator, comprising a rotatable sprocket-wheel, two cranks, each provided with a suitable pedal, arranged to rotate the sprocket-wheel, and means for transmitting the power from the sprocket-wheel to the supporting-wheels.

4. In a vehicle of the kind described, substantially duplicate

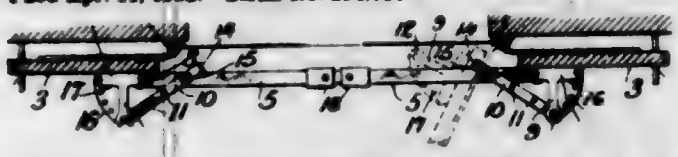
front and rear frames, a pivotal connection for uniting said frames consisting of a swivel whose axis is longitudinal of the machine and a hinge whose axis is vertical, and means for controlling the relative positions of the frames to guide the vehicle, in combination with driving mechanism for each operator, comprising a rotatable sprocket-wheel, two cranks, each provided with a suitable pedal, arranged to rotate the sprocket-wheel, a suitable chain arranged to transmit power from said sprocket-wheel to a second sprocket-wheel, a second sprocket-wheel mounted upon a rotatable shaft provided with a crank connected to a crank of equal radius formed in the wheel-driving shaft, and means for connecting said driving-shaft to the supporting-wheels.

5. In a device of the kind described, two pairs of wheels, substantially duplicate front and rear frames connecting said wheels, a single connection uniting said frames having two axes of rotation one vertical and the other longitudinal of the machine, and means for controlling the relative positions of the frames to guide the machine.

6. In a vehicle of the kind described, substantially duplicate front and rear frames, a pivotal connection for uniting said frames consisting of a swivel whose axis is longitudinal of the machine and a hinge whose axis is vertical, and means for controlling the relative positions of the frames to guide the vehicle.

7. In a vehicle of the kind described, a pivotal connection between the front and rear frames, comprising two parallel plates loosely mounted upon a pin longitudinal of the vehicle, with a head formed upon one end provided with suitable balls and means for retaining the same between said head and one of the plates, means for preventing longitudinal displacement of said plates upon the pin, a frame carrying rollers, loosely mounted upon said pin between the plates, the axis of said rollers laying radial to said pin, means for rigidly attaching one of said plates to one frame, and pivotally attaching the other plate to the other frame of the vehicle, in combination with means for controlling the relative positions of the frames to guide the vehicle, and propelling mechanism; substantially as described.

808,410. **SHUTTER-BAR.** JACOB W. TRIPP, New York, N. Y. Filed Apr. 11, 1905. Serial No. 254,956.



Claim.—1. In a shutter-worker, the combination with an extensible rod, of means on the shutters for supporting the ends of said rod, said means having projecting arms, and bars pivoted to the outer ends of said arms, and means for securing the said bars at different points to the extension-bar during the opening or closing of the shutters.

2. In a shutter-bar, the combination with the shutters, of an extension-bar consisting of intersliding members, said extension-bar being movably connected to the blinds, and said members of the bar being provided with clips having antifriction devices.

3. In a shutter-bar, the combination of an extension-bar consisting of intersliding members having clips, brackets on the shutters, to which brackets the extension-bar is pivoted, perforated bars having handles and pivotally fastened to integral arms on the brackets, substantially as described.

4. In a shutter-bar, the combination of an extension-bar movably connected to the shutters, brackets on the shutters having projecting arms at whose ends are pivotal points, movable bars connected at said pivotal points and furnished with handles for their manipulation, means for connecting said bars to the extension-bar after the blinds have been individually adjusted, and means consisting of perforated segments on the brackets for allowing the shutters to be locked when moving through the final arc of their closing movement.

5. In a shutter-bar, the combination of an extension-bar movably connected to the shutters, brackets having pivotal points situated some distance from the planes of the shutter-faces, perforated bars supported at said pivotal points and adapted to be secured to the extension-bar at their other ends, and perforated segments between said pivotal points and the shutter-faces to allow the shutters to be secured at any desired point in the final portions of their closing movement.

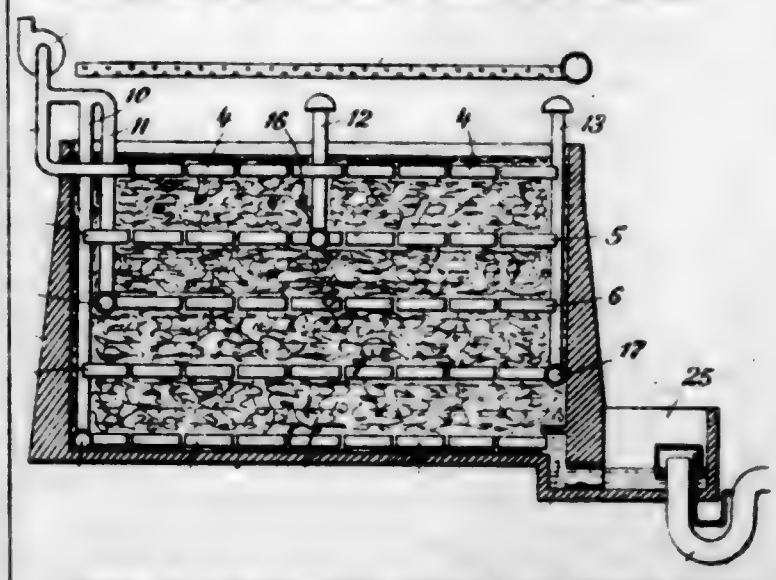
6. In a shutter-bar, the combination of an extension-bar consisting of intersliding members having antifriction-clips, said extension-bar being movably connected to the shutters, angle-irons secured to the shutters below the ends of the extension-bar, brackets secured rigidly to the shutters and having horizontal projecting arms, movable bars pivoted to said arms, and a latch on one of the shutters for engaging the extension-bar after the shutters have been closed.

7. In a shutter-bar, the combination with the shutters, of an extension-bar consisting of members having clips engaging the members, brackets on the shutters having arms, pivoted bars on said arms provided with perforations, and a pin for engaging one of these perforations and a corresponding perforation in the extension-bar.

8. The combination of the extension-bar consisting of members having clips provided with antifriction devices, brackets, perforated segments on the brackets, movable bars pivoted to the brackets, and a pin for engaging the arm or the segment and the extension-bar.

9. In a shutter-bar, the combination with an extensible rod or bar, of means on the shutter for supporting the ends of said rod or bar, said means having projecting arms, and bars loosely connected to the outer ends of said arms, together with means for connecting the said bars at different points to the extension rod or bar.

808,411. **LIQUID-AERATING DEVICE.** WILLIAM M. VENABLE, Cincinnati, Ohio, assignor to Sanitary Engineering Company, a Corporation of New York. Filed Nov. 15, 1904. Serial No. 233,815.



Claim.—In a liquid-aerating device a bed of material adapted to receive the liquid and to allow it to percolate downward, means for distributing the liquid in the upper portion of the bed and means for withdrawing the liquid from the lower portion of the bed, in combination with sets of channels embedded in the bed at different elevations and provided with openings into the bed, alternate sets connected to fresh-air inlets and the other sets to an exhaust or draft that operates continually, drawing air through the material composing the bed between the sets of channels.

808,412. **EYEGLASSES.** SAMUEL WARD, New Bedford, Mass. Filed June 3, 1905. Serial No. 263,633.



Claim.—1. An eyeglass-bridge of elastic character composed of vertical loops having the branches thereof joined at the top, and connected by intermediate reversed loops having the branches thereof joined at the bottom, the branches of the loops lying in longitudinal planes, said bridge having end branches extending below the loops, substantially as specified.

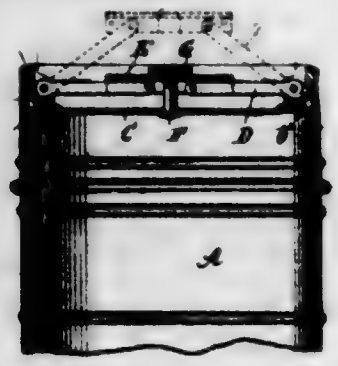
2. An eyeglass-frame having a spring-bridge consisting of several vertical loops having the branches thereof joined at the top, and connected by intermediate reversed loops having the branches thereof joined at the bottom, the branches of the loops lying in longitudinal planes, and being spaced apart at one end, substantially as specified.

3. An eyeglass-frame having a vertically-looped spring-bridge consisting of several loops of equalized length and breadth having the branches thereof joined at the top and connected by intermediate reversed loops having the branches thereof joined at the bottom be-

tween end attachment branches having terminal guard extensions, the branches of the loops lying in longitudinal planes, and being spaced apart at one end, substantially as specified.

4. An eyeglass-bridge of elastic character, composed of vertical loops having the branches thereof joined at the top, the branches of the loops lying in longitudinal planes and being separated from each other at the bottom, substantially as specified.

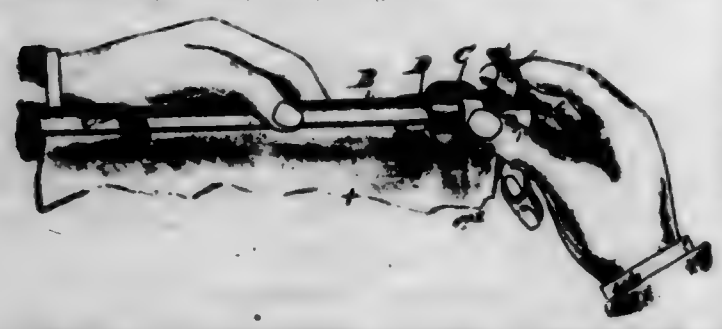
808,413. METAL BARREL. HENRY WERRBACH, New York, N. Y., assignor to Elizabeth Cochrane Seaman, New York, N. Y. Filed Mar. 7, 1905. Serial No. 248,856.



Claim.—1. The combination with a shell, of a head-band secured to said shell and provided with a recess and a lateral flange, a head adapted to be supported on said flange, locking-levers pivoted to said head and provided with outer ends adapted to engage said recess, a head-block having a sliding engagement with the inner ends of said levers; and means for locking the inner ends of said levers in engagement with said head-block, substantially as shown and described.

2. The combination with a shell, of a head-band secured to said shell and provided with an annular groove and lateral flange, a head adapted to be supported on said flange, locking-levers pivoted to said head, a head-block having a sliding engagement with the inner ends of said levers, and means for locking the inner ends of said levers in engagement with said head-block, substantially as shown and described.

808,414. SHADE-FASTENING. FRED WELLBY, New York, N. Y. Filed Dec. 31, 1904. Serial No. 239,154.



Claim.—1. A shade-fastening comprising a segmental clip of resilient material, tapered between the terminals thereof and provided at its wider terminal with inwardly-projecting teeth and at its narrower terminal with an outwardly-bent portion, as and for the purpose described.

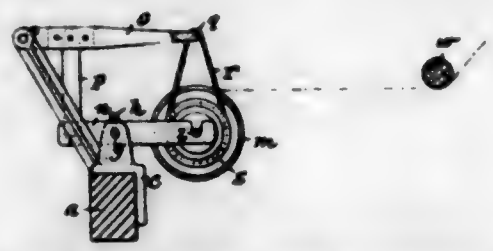
2. The combination with a segmental shade-roller clip for fastening the shade-cloth to the shade-roller, of a guiding implement having a segmental body fitting the peripheral face of the shade-roller and adapted to overlie the fastening edge of the shade-cloth, the said body having a sidewise-extending handle.

3. The combination with a segmental shade-roller clip for fastening the shade-cloth to the shade-roller, of a guiding implement having a segmental body fitting the peripheral face of the shade-roller and adapted to overlie the fastening edge of the shade-cloth, the said body having a sidewise-extending handle curved upwardly and inwardly and terminating in a hook for engaging a bent portion of one of the terminals of the said clip.

808,415. TENSION DEVICE FOR WINDING MECHANISMS. JOSEPH B. WHITNEY, New York, N. Y. Filed Oct. 26, 1903. Serial No. 178,672.

Claim.—1. The combination, with a suitable sustaining means and a rotary thread-holding device arranged to move up and down, of means, carried by said sustaining means and actuated from said device by the action of gravity on the latter, for retarding the rotation of said device, substantially as described.

2. The combination, with a suitable sustaining means and a rotary thread-holding device arranged to move up and down, of means, carried by said sustaining means and actuated from said device by the action of gravity on the latter, for retarding the rotation of said device, said means comprising a lever system, substantially as described.



3. The combination, with a suitable sustaining means and a rotary thread-holding device arranged to move up and down, of means, carried by said sustaining means and actuated from said device by the action of gravity on the latter, for retarding the rotation of said device, said means comprising a continuous band frictionally engaging said device, substantially as described.

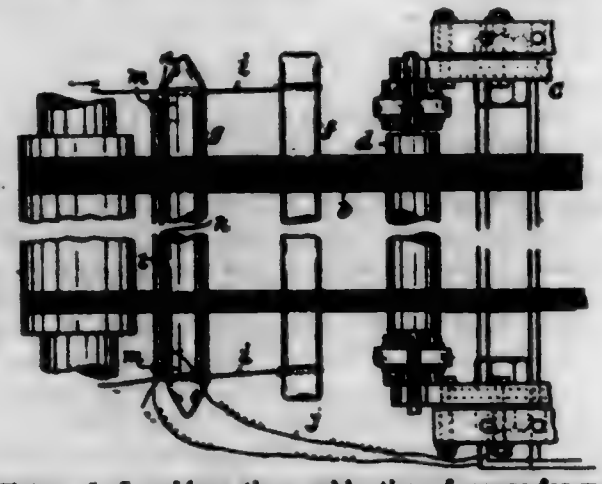
4. The combination, with a suitable sustaining means and a rotary thread-holding device arranged to move up and down, of a support for said device pivotally arranged in said sustaining means, a lever also pivotally arranged in said sustaining means, a link operatively connecting said lever and the support, and a band connecting the lever and said rotary device and frictionally engaging the latter, substantially as described.

5. The combination, with a suitable sustaining means and a rotary thread-holding device arranged to move up and down, of a support fulcrumed between its ends in said sustaining means, said device being carried by one end of said support, a lever fulcrumed in said support at one end and having its other end disposed approximately over said device, and a link pivotally connected to said lever between its ends and to the end of said support remote from said device, substantially as described.

6. The combination, with a suitable sustaining means and a rotary thread-holding device arranged to move up and down, of means, carried by said sustaining means and actuated from said device by the action of gravity on the latter, for retarding the rotation of said device, and a thread-guide arranged substantially in a tangent to said device which is at right angles to the line of movement of said device, substantially as described.

7. In a quilling-machine, the combination, with a suitable sustaining means, of a rotary device holding a supply of material to be wound on the quill and arranged to move up and down, means actuated from said device by the action of gravity on the latter, for retarding the rotation of said device, and a rocking frame carrying a glass bar, the thread being adapted to extend over said bar on its way from said device to the quill, substantially as described.

808,416. ELECTRIC STOP-MOTION MECHANISM FOR LOOMS. JOSEPH B. WHITNEY, Brooklyn, N. Y. Filed Feb. 23, 1905. Serial No. 247,207.



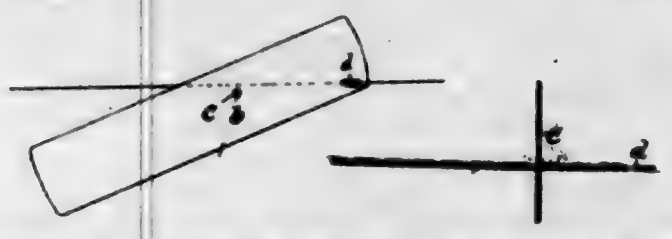
Claim.—1. In a loom, the combination of means for maintaining a lease in the warp, an electric circuit, and circuit-closing means having the moving part thereof projecting into and transversely of the space occupied by the lease, substantially as described.

2. In a loom, the combination of means for maintaining a lease in the warp, an electric circuit, and circuit-closing means comprising, as its moving part, an attenuated device projecting into and transversely of the space occupied by the lease, substantially as described.

3. The combination, in a loom, of means for maintaining a lease in the warp, an electric circuit, and circuit-closing means comprising two, normally spaced, attenuated devices projecting into and transversely of the space occupied by the lease, and one of them being movable against the other, substantially as described.

4. In a loom, the combination of a rod for maintaining a lease in the warp, an electric circuit, and circuit-closing means carried by said rod and comprising two, normally spaced, attenuated devices extending lengthwise of said rod and one of them being movable against the other, substantially as described.

808,417. **ELECTRIC STOP-MOTION MECHANISM FOR LOOMS.** JOSEPH B. WHITNEY, Brooklyn, N. Y. Filed Feb. 28, 1905. Serial No. 247,709.



Claim.—1. A faller for stop-motion mechanisms for textile machinery having a thread-aperture formed therein, said aperture having its surface at one side thereof and in the thread-line inclined to one face of the faller where it proximates the latter, substantially as described.

2. A faller for stop-motion mechanisms for textile machinery having a thread-aperture formed therein, said aperture having its surface at one side thereof and in the thread-line inclined to one face of the faller where it proximates the latter and at the other side thereof and in the thread-line inclined to the other face of the faller where it proximates the latter, substantially as described.

3. A faller for stop-motion mechanisms for textile machinery having a thread-aperture formed therein and having the material thereof, at one side of said aperture and in the thread-line, thinner than the remaining portion of the faller, substantially as described.

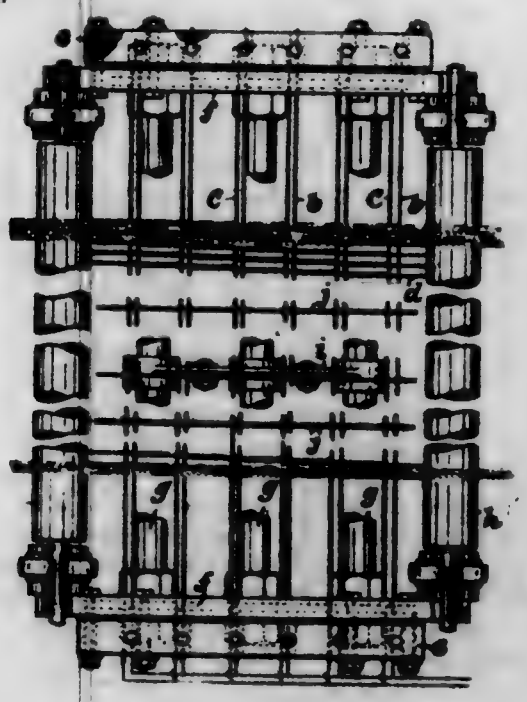
4. A faller for stop-motion mechanisms for textile machinery having a thread-aperture formed with one side thereof, in the thread-line, oblique to the plane of either face of the faller, substantially as described.

5. A faller for stop-motion mechanisms for textile machinery having a thread-aperture formed with its opposite sides, in the thread-line, oblique to the plane of either face of the faller, substantially as described.

6. A faller for stop-motion mechanisms for textile machinery having a thread-aperture formed or disposed obliquely through the faller, substantially as described.

7. A faller for stop-motion mechanisms for textile machinery having an attenuated thread-aperture formed with one end surface thereof oblique to the plane of either face of the faller, substantially as described.

808,418. **ELECTRIC STOP-MOTION MECHANISM FOR LOOMS.** JOSEPH B. WHITNEY, Brooklyn, N. Y. Filed Feb. 28, 1905. Serial No. 247,709.

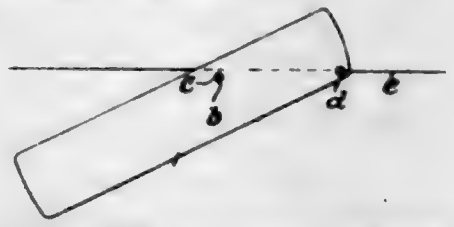


Claim.—1. In an electric stop-motion mechanism for textile machinery, the combination of two sets of terminals representing different poles in the circuit, said terminals being taut attenuated devices, circuit-closers movable to bridge terminals of both sets, and detached means, interposed between said sets of terminals, intermediate their ends, for maintaining the terminals of one set in fixed relation to those of the other, substantially as described.

2. In an electric stop-motion mechanism for textile machinery, the combination of two sets of terminals representing different poles in the circuit, said terminals being taut attenuated devices, circuit-closers movable to bridge terminals of both sets, and a detached insulative strip interposed between said sets of terminals intermediate their ends and maintaining them in fixed relation to each other, substantially as described.

3. In an electric stop-motion mechanism for textile machinery, the combination of two sets of terminals representing different poles in the circuit, said terminals being taut attenuated devices, circuit-closers movable to bridge terminals of both sets, and a detached insulative strip interposed between said sets of terminals intermediate their ends and maintaining them in fixed relation to each other, said strip being notched at its edges and receiving said terminals in its notches, substantially as described.

808,419. **FALLER FOR STOP-MOTION MECHANISMS FOR TEXTILE MACHINERY.** JOSEPH B. WHITNEY, Brooklyn, N. Y. Filed Sept. 5, 1905. Serial No. 276,963.



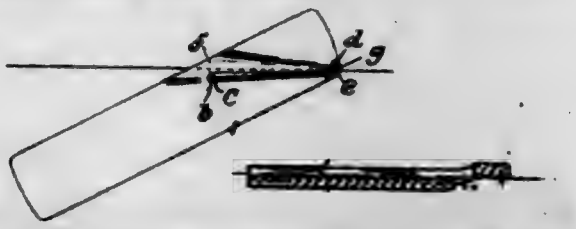
Claim.—1. A faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture and the material thereof on one side of and only adjacent the aperture, in the thread-line, deflected out of the general plane of said body, substantially as described.

2. A faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture and the material thereof on one side of and only adjacent the aperture, in the thread-line, deflected out of the general plane of said body in a gradual curve, substantially as described.

3. A faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture and the material thereof on both sides of and only adjacent the aperture, in the thread-line, deflected out of the general plane of said body, substantially as described.

4. A faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture and the material thereof on both sides of and only adjacent the aperture, in the thread-line, deflected out of the general plane of said body in gradual curves, substantially as described.

808,420. **FALLER FOR STOP-MOTION MECHANISMS FOR TEXTILE MACHINERY.** JOSEPH B. WHITNEY, Brooklyn, N. Y. Filed Sept. 5, 1905. Serial No. 276,964.



Claim.—1. A faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture located near one edge thereof and a groove or elongated depression, located in one side of said faller in the thread-line, extending from the aperture to a more remote edge of said faller, substantially as described.

2. A faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture located near one edge thereof and bent to form a groove or elongated depression disposed in the thread-line and extending from the aperture to a more remote edge of the faller, substantially as described.

3. A pivoted faller for stop-motion mechanisms for textile ma-

chinery consisting of a sheet-like body having a thread-aperture and a groove or elongated depression in one side of said faller, extending from said aperture to one edge of the faller, and another groove or elongated depression, in the other side of said faller, extending from said aperture to another edge of said faller, substantially as described.

4. A pivoted faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture and bent to form a groove or elongated depression, in one side of said faller, extending from said aperture to one edge of the faller, and another groove or depression, in the other side of said faller, extending from said aperture to another edge of the faller, substantially as described.

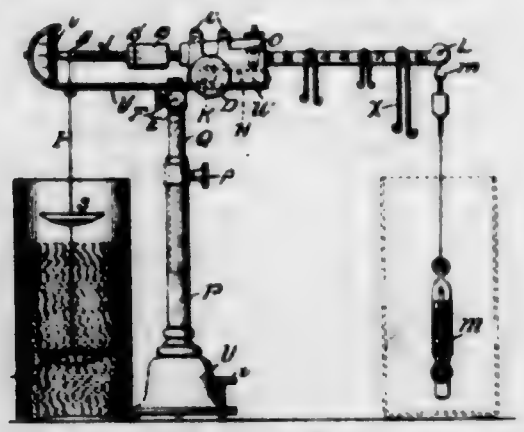
5. A pivoted faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture and a groove or depression, in one side thereof extending from said aperture to one edge of the faller and tapering toward the former, substantially as described.

6. A faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture and a relatively shallow groove or depression extending from said aperture to one edge of the faller, substantially as described.

7. A faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having a thread-aperture and a relatively shallow groove or depression extending from said aperture to one edge of the faller and tapering toward the former, substantially as described.

8. A faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having its thread-aperture located nearer one edge of the faller than the opposite edge and having grooves extending, in the thread-line, from the aperture in opposite directions to the edges of the faller, one groove being in one side and the other in the other side of said faller, substantially as described.

808,421. SPECIFIC-GRAVITY BALANCE. FRANK M. WILLIAMS, Potsdam, N. Y. Filed Feb. 7, 1905. Serial No. 244,566.



Claim.—1. In a balance, a pivoted beam having one arm graduated and adapted to receive weights or riders and having its other arm screw-threaded, a plummet suspended from the graduated arm, a counterweight adapted to travel on the screw-threaded arm, a member removably suspended from the screw-threaded arm, and a plurality of pans or receptacles supported by said member.

2. In a balance, a pivoted beam having one arm graduated and adapted to receive weights or riders and the other arm screw-threaded and arranged at its outer end to form a pointer, a counterweight adapted to travel on the screw-threaded arm, a fixed scale positioned opposite the end of the screw-threaded arm, a member removably supported from said screw-threaded arm, a plurality of pans or receptacles supported by said member, and a plummet suspended from the graduated arm.

3. In a balance, a pivoted beam having one arm graduated and adapted to receive weights or riders, a member removably supported from the other arm of said beam, and provided with two supports one above the other, and two removable pans or receptacles carried by said supports, the lower support being formed as a spring-clip whereby the lower pan or receptacle is held securely in place.

4. In a balance, a pivoted beam having one arm graduated and adapted to receive weights or riders, a wire provided with a hook at its upper end adapted to engage the other arm of said beam and carrying two supports one above the other, the lower support comprising a spring-clip, and two pans or receptacles adapted to be removably carried by said supports.

5. In a balance, a pivoted beam having one arm graduated and adapted to receive weights or riders and having its other arm screw-threaded, a plummet suspended from the graduated arm, a two-part counterweight adapted to travel on the screw-threaded arm, a member removably suspended from the screw-threaded arm, and a plurality of pans or receptacles supported by said member.

6. In a balance, a pivoted beam provided with a knife-edge support, a manually-rotatable cam, a member secured against movement in a direction longitudinal with respect to said beam adapted to be moved by said cam into engagement with the under side of said beam near said knife-edge to lift the beam from its support, and means for engaging the upper side of said beam when said beam is lifted.

7. In a balance, a pivoted beam provided with a knife-edge support, a manually-rotatable cam arranged beneath said beam near said knife-edge, a leaf-spring secured substantially parallel with said beam with its free end bearing on said cam and adapted to be pressed against the lower side of said beam when said cam is rotated, and means for engaging the upper side of said beam when said beam is lifted from its support.

8. In a balance, a pivoted beam provided with a knife-edge support, a manually-rotatable cam arranged beneath said beam near said knife-edge, a leaf-spring secured substantially parallel with said beam with its free end bearing on said cam and adapted to be pressed against the lower side of said beam when said cam is rotated, and a plurality of pointed members adapted to engage the upper side of said beam when said beam is lifted from its support, the upper side of said beam being provided with pits adapted to be engaged by the points of said members.

9. In a balance, a pivoted beam provided with a knife-edge support, manually-operated means for imparting a vertical pressure on the under side of said beam near said knife-edge, and means for engaging the upper side of said beam when said beam is lifted from its support, said beam and said engaging means being provided the one with a plurality of pointed members and the other with a plurality of pits adapted to be engaged by the points of said members.

10. In a balance, a pivoted beam provided with a knife-edge support, manually-operated means for imparting a vertical pressure on the under side of said beam near said knife-edge, and a plurality of pointed members adapted to engage the upper side of said beam when said beam is lifted from its support, the upper side of said beam being provided with pits adapted to be engaged by the points of said members.

11. In a balance, a standard, a vertically-adjustable jointed rod supported thereby, said rod comprising two pivotally-connected portions, means for locking said portions in line or substantially at right angles to each other, and a pivoted beam supported by the upper of said portions.

12. In a balance, a standard comprising a vertical tube, a jointed rod adjustably supported in said tube, said rod comprising two pivotally-connected portions, means for locking said portions in line or substantially at right angles to each other, and a pivoted beam supported by the upper of said portions.

13. In a balance, a jointed stem comprising two pivotally-connected portions, a collar adjustably mounted on said stem and adapted to lock said portions in line or substantially at right angles to each other, and a pivoted beam supported on the upper of said portions.

14. In a balance, a jointed stem comprising two pivotally-connected portions, means for locking said portions in line or substantially at right angles to each other, a normally horizontal pivoted beam provided with a knife-edge and supported therefrom on the upper portion of said stem, and means for lifting said beam from its support and locking it in raised position.

15. In a balance, a jointed stem comprising two pivotally-connected portions, means for locking said portions in line or substantially at right angles to each other, and a normally horizontal pivoted beam supported by the upper portion of said stem.

16. In a balance, a supporting-stem, a member pivotally carried thereby and movable through an angle of substantially ninety degrees relative to said stem, means for locking said member in either of its extreme positions, and a normally horizontal pivoted beam supported by said member.

17. In a balance, a supporting-stem, a member pivotally carried thereby and movable through an angle of substantially ninety degrees relative to said stem, means for locking said member in either of its extreme positions, a normally horizontal pivoted beam provided with a knife-edge and supported therefrom on said member, and means carried by said member for lifting said beam from its support and locking it in its raised position

808,422. **LETTERING-GUIDE.** CHARLES H. WILSON, Mount Vernon, and FREDERICK MAHLER, New York, N. Y. Filed Feb. 6, 1905. Serial No. 244,404.



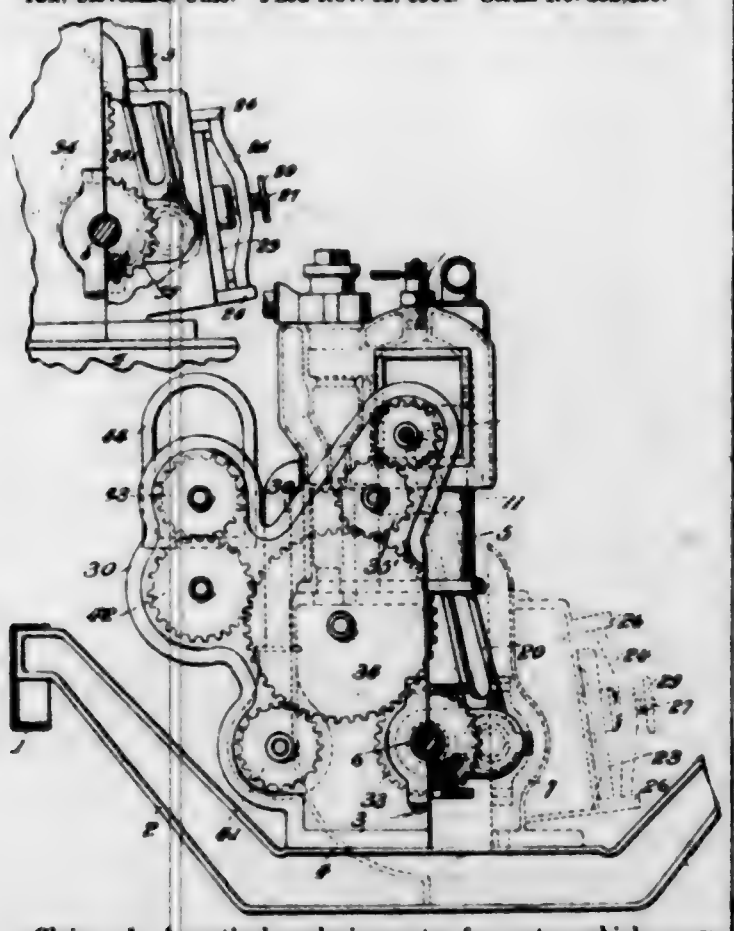
Claim.—1. A lettering-guide, consisting of a body-section, means for slidably mounting the same upon a support, and a guide-section struck up from the body-section and angular in cross-section, extending vertically from an edge of the body-section.

2. A lettering-guide, consisting of a body-section, means for slidably mounting the same upon a support, and a guide-section extending vertically from an edge of the body-section, being integral with the body-section the said guide-section comprising two members, one at right angles to the other.

3. A lettering-guide, consisting of a body-section, means for slidably mounting the same upon a support, and a guide-section extending vertically from an edge of the body-section, said guide-section comprising two members, one at right angles to the other, both extending above the body-section and one below the same, the shorter member having its outer face flush and parallel with the edge of the body member.

4. A lettering-guide consisting of a body-section, means for slidably mounting the same upon a support, and a guide-section angular transversely, extending vertically from an edge of the body-section, the latter being formed with a friction-tongue struck up therefrom.

808,423. **VERTICAL EXPLOSIVE-ENGINE.** ALEXANDER WINTON, Cleveland, Ohio. Filed Nov. 12, 1904. Serial No. 232,488.



Claim.—1. A vertical explosive-motor for motor-vehicles comprising a vertically-arranged crank-case with an open side ending at practically the center of the crank-shaft axis and cylinders supported by the upper portion of the crank-case and partly overhanging the open side of the case, the said crank-case forming an immovable support for itself and the cylinders with their cooperating parts, and a removable cap portion for the open side of the crank-case adapted to be laterally removed therefrom, whereby access to the crank-case can be readily obtained from the side thereof for the purpose of inspection, adjustment or substitution of the parts therein, substantially as described.

2. A vertical explosive-motor and support construction for motor-vehicles comprising transversely-arranged drop-frames, a vertically-arranged crank-case with an open side having the vertical wall of its open side in a line substantially at the vertical center of the axis of the motor crank-shaft, motor-cylinders supported by the upper portion of the crank-case and overhanging the open side of the crank-case, the crank-case immovable from the transverse beams when in operative position, and a removable cap portion for the open side of the crank-case, whereby convenient and ready access is permitted to the crank-case from the side thereof for the purpose of inspection, adjustment or substitution of any of the parts located therein, substantially as described.

3. A vertical explosive-motor and support construction for motor-vehicles comprising a transverse drop supporting-frame, a vertically-arranged crank-case having an open side with the edge wall of the open side located in a vertical line practically coincident with the center of the axis of the motor crank-shaft, motor-cylinders supported by the upper portion of the crank-case and overhanging the open side thereof, and a removable cap portion for the open side of the case with its outer portions sufficiently removed from the upwardly-extending parts of the supporting-frame to permit a lateral movement enough to prevent interference in the parts of the crank-case bearing or movable part of the motor to allow it to be removed, whereby convenient and ready access to the interior of the crank-case for the purpose of inspection, adjustment or substitution of the parts therein is obtained, substantially as described.

4. A vertical explosive-motor construction comprising a vertically-arranged crank-case with an open end, the wall of the open end being substantially in a vertical line with the center of the axis of the crank-shaft of the motor for the purpose described, motor-cylinders supported by the upper portion of the crank-case and overhanging the open side thereof, the said crank-case immovably supported when in operative position, the crank-case provided with crank-shaft bearings, and a laterally-removable cap portion for the open side of said case whereby ready and convenient access is permitted to the crank-case from the side thereof for the inspection, adjustment or substitution of the parts located therein, substantially as described.

5. A vertical explosive-motor construction comprising a vertically-arranged crank-case having an open side with the wall thereof substantially in a line with the center of the axis of the crank-shaft, the crank-case carrying crank-shaft bearings, motor-cylinders supported by the upper portion of the crank-case and overhanging the open side thereof at a point sufficiently above the said crank-shaft bearings to permit the removal of the cylinder-piston with connecting-rod attached thereto through the open side of the crank-case without disturbing the crank-shaft or its bearings, and a removable cap portion for the open side of the crank-case substantially as described.

6. A vertical explosive-motor construction comprising a vertically-arranged crank-case with an open side, the wall of the open side of the crank-case being substantially in a vertical line with the center of the axis of the crank-shaft, motor-cylinders supported by the upper portion of the crank-case and overhanging the open side thereof, a removable cap portion adapted to be bolted in position to close the open side of the crank-case, the removable cap portion having an inspection-opening and a removable cover therefor whereby the parts in the crank-case may be quickly inspected from the side of the motor without removing the said closing-cap portion of the open side of the crank-case, substantially as described.

7. A vertical explosive-motor construction comprising a vertically-arranged crank-case with an open side the wall of which is located substantially in a vertical line with the center of the axis of the crank-shaft, transversely-arranged drop supporting-frames, the said crank-case attached to the drop frames at a point to bring the outer wall of the open side of the crank-case outside of the center of the supporting-frame, motor-cylinders supported by the upper portion of the crank-case and overhanging the open side thereof, a laterally-removable cap portion for the open side of the crank-case, the location of the crank-case thus being such that the removable cap portion is capable of a lateral movement to permit its removal without interfering with the said drop-frame, substantially as described.

8. A vertical explosive-motor and support construction comprising a supporting-frame, a vertically-arranged crank-case having an open side, the case provided with crank-shaft bearings, the outer edge of the wall of the open side of the case being substantially in a

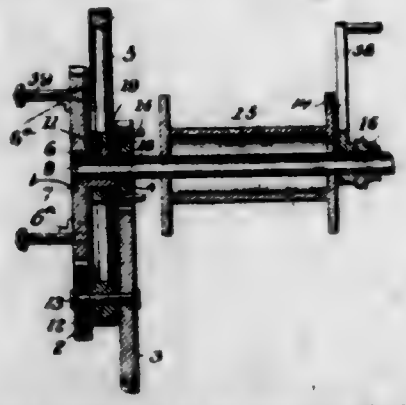
vertical line with the center of said bearings, motor-cylinders supported by the upper portion of the crank-case and overhanging the open end thereof, and a removable cap portion for the open side of the crank-case so located when in normal position as to be capable of sufficient lateral movement without interference with any part of the supporting-frame to permit it to be removed from its closing position of the open side of the crank-case, substantially as described.

9. A vertical explosive-motor construction comprising a vertically-arranged crank-case with an open side, crank-shaft bearings for the crank-case and located therein so that the outer edge of the open side of the case is substantially in a vertical line with the center of the said bearings, a removable cap for the open side of the crank-case, a transversely-arranged drop supporting-frame, the crank-case so located on the supporting-frame that sufficient lateral movement of the removable cap portion is permitted to allow the cap to be removed laterally without interference with the upwardly-extending adjacent portion of the supporting drop-frame, substantially as described.

10. A vertical explosive-motor construction comprising a vertically-arranged crank-case having an open side, motor-cylinders supported by the upper portion of the crank-case and overhanging the open side thereof, a removable cap portion for the open side of the crank-case, the front end of the crank-case having an extension forming a gear-chamber, a cam-shaft passing longitudinally through the upper portion of the crank-case and extending into the said gear-chamber, a crank-shaft passing through the gear and crank case, a pinion on the crank-shaft within the gear-case, a water-pump gear, and a fan-gear also located within said gear-case, and a gear carried by the cam-shaft meshing with the crank-shaft gear and in turn driving the water-pump and fan gears, substantially as described.

11. An improved vertical explosive-motor construction comprising a vertically-arranged crank-case having an open side, crank-shaft bearings connected to said case with their center substantially in a line with the outer edge of the wall of the open side of the case, motor-cylinders supported by the upper portion of the case and overhanging the open side thereof, a removable cap portion for the open side of the crank-case for the purpose described, the forward end of the crank-case provided with an extension forming a gear-case, the outer wall of said gear-case extension being removable to permit access to said gears, substantially as described.

808,424. **REELING-MACHINE.** CHARLES S. WYCKOFF and PURLEY B. WILKES, Centerville, Iowa. Filed May 26, 1904. Serial No. 209,985.



Claim.—1. In a mechanism of the class described, the combination with a revoluble support, of a primary cog-wheel fixed to said support, a shaft extending laterally from said cog-wheel, a brake-wheel journaled upon said cog-wheel, a shaft journaled in said brake-wheel, a primary pinion and an auxiliary cog-wheel secured to said shaft, an auxiliary pinion-wheel journaled upon said first shaft and meshing with said auxiliary cog-wheel, a spool slidably mounted upon said shaft, laterally-extending, engaging means for securing said spool in a fixed position relative to the auxiliary pinion-wheel, adjusting means for said spool, a brake member inclosing said brake-wheel, and a distributing device coacting with said spool.

2. In a mechanism of the class described, the combination with a revoluble support, of a primary, apertured cog-wheel secured to said support, said wheel provided with a laterally-extending hub portion projecting from one side thereof, shoulders formed upon the opposite side of said wheel, removable bolts positioned upon and securing said wheel to said revoluble support, a brake-wheel journaled upon the laterally-extending hub portion of the primary cog-wheel, said brake-wheel provided with a peripheral groove, a brake member positioned within the grooved portion of said brake-wheel, having a central aperture, a shaft secured within said apertured portion of the cog-wheel, an annular member positioned upon the outer end of said laterally-extending hub portion of the cog-wheel; means for securing said annular member and cog-wheel to said shaft, said brake-wheel provided with a hub portion formed upon its rim, a shaft journaled in said hub portion, a primary pinion and an auxiliary cog-wheel secured to said shaft upon opposite sides of said brake-wheel, said primary pinion meshing with the primary cog-wheel, an auxiliary pinion-wheel journaled upon said first-named shaft contiguous to said brake-wheel and meshing with the auxiliary cog-wheel, members extending from one side of said auxiliary pinion-wheel, a slidable spool mounted upon said shaft and adapted to engage said members of the auxiliary cog-wheel for locking said spool in an operative position with said cog-wheel an adjustable collar or washer secured upon the outer end of said shaft, and a crank provided with a locking member mounted upon said shaft and interposed between said spool and adjustable collar.

3. A device of the character described, comprising a strand-receiving member, driving means therefor, and a distributing device coacting with said strand-receiving member comprising a support, a removable right and left threaded shaft carried by said support, adjustable washers secured upon said shaft, a longitudinal, movable sheave-wheel mounted upon said shaft between said washers, a groove formed upon each side of said wheel, bearings positioned within said grooves, right and left threaded collars positioned upon the sides of said wheel, means for securing said collars in engagement with said bearings, and a slidable bar provided with shoulders positioned upon said wheel, said collars provided with shoulders adapted to alternately engage the shoulders of the bar.

4. A mechanism of the class described, comprising a revoluble support, an adjustable spool carried by said support, a planetary gearing carried by said support and coacting with said spool, a brake secured upon said support and coacting with said gearing, and a distributing device coacting with said spool and gearing.

5. In a mechanism of the class described, the combination with a revoluble support, of an adjustable spool carried by said support, a planetary gearing carried entirely by said support and coacting with said spool, a brake interposed between and supporting part of said gearing, and means for distributing a strand upon said spool.

6. The combination with a vehicle-wheel, of a shaft carried entirely thereby, an adjustable spool journaled upon said shaft, a gearing mounted upon said shaft between said wheel and spool, a distributing device coacting with said spool, comprising a stationary shaft, and a longitudinal, movable member journaled upon said shaft.

7. In a mechanism of the class described, the combination with a revoluble support, of a distributing device supported adjacent to said support, a shaft fixedly secured to said support, a spool mounted upon said shaft, a planetary gearing journaled upon said shaft, a brake-wheel journaled upon said shaft and coacting with said gearing, said brake-wheel provided with a peripheral groove, a brake member positioned within the grooved portion of said wheel, and said brake member provided with a longitudinal portion engaging said distributing device.

8. A mechanism of the class described, comprising a revoluble support, strand-receiving means carried by said support, a driving mechanism carried entirely by said support and coacting with said strand-receiving means for imparting movement thereto, said driving mechanism provided with a brake-wheel, a clamping member positioned upon said brake-wheel and provided with a horizontal extension, said extension extending forward of said driving mechanism, and means for distributing a strand uniformly upon said strand-receiving means.

9. In a mechanism of the class described, the combination of a revoluble support, a brake member carried by said support, a flexible band inclosing said brake member, said band provided with a rigid, horizontal extension, strand-receiving means carried by said support, driving means carried entirely by said support and coacting with said brake member and said strand-receiving means, and a distributing device coacting with said strand-receiving means.

10. In a mechanism of the class described, the combination with a revoluble support, of a driving mechanism carried entirely by said support, a brake-wheel interposed between and carrying part of said driving mechanism, longitudinally-adjustable, strand-receiving means carried by said support and coacting with said driving mechanism, and means for retaining said strand-receiving means in an adjusted position.

11. In a mechanism of the class described, the combination with a revoluble support, of a member extending outwardly from said support, a driving mechanism carried entirely by said support, a longitudinally-adjustable spool secured upon said outwardly-extending member and coacting with said driving mechanism, an adjustable stop positioned upon said outwardly-extending member, a

crank interposed between said spool and stop, and means carried by said crank for locking the same in a fixed position with said spool.

12. In a mechanism of the class described, the combination with a revoluble support, of a cog-wheel fixedly secured to said support, a shaft fixedly secured to said cog-wheel, brake means carried by said cog-wheel, strand-receiving means carried by said shaft, and revoluble means carried by said brake-wheel and shaft and coacting with said cog-wheel for imparting movement to said strand-receiving means.

13. In a mechanism of the class described, the combination with a wheel, of a cog-wheel fixedly secured to said wheel, a shaft fixedly secured to said cog-wheel, brake means carried by said cog-wheel, strand-receiving means carried by said shaft, revoluble means carried by said brake means and shaft and coacting with said cog-wheel and strand-receiving means, and a distributing device coacting with said strand-receiving means.

14. In a mechanism of the class described, the combination with a wheel, of a cog-wheel fixedly secured to said wheel, a brake-wheel journaled upon said cog-wheel, a band positioned upon said cog-wheel, a horizontal, rigid extension projecting from said band, a shaft secured to said cog-wheel, a spool journaled upon said shaft, and revoluble means carried by said brake-wheel and shaft and coacting with said cog-wheel and spool for imparting movement to said spool.

15. In a mechanism of the class described, the combination with a vehicle-wheel, of a brake-wheel carried upon the side of said wheel, a driving mechanism carried entirely by said vehicle-wheel and positioned upon opposite sides of said brake-wheel, a spool adjustably secured to said vehicle-wheel, means for connecting said driving mechanism and spool, and manually-operated means for controlling movement of said spool.

16. In a mechanism of the class described, the combination with a revoluble support, of a shaft extending from said support, a brake-wheel journaled upon said shaft, driving means positioned upon said shaft and upon opposite sides of said brake-wheel, part of said driving means fixedly secured to said revoluble support, strand-receiving means journaled upon said shaft, a brake member carried by said brake-wheel, and a distributing device coacting with said strand-receiving means.

17. In a mechanism of the class described, the combination with a revoluble support, of a primary cog-wheel fixedly secured to said support, a shaft secured to said cog-wheel, a brake-wheel journaled upon said primary cog-wheel, brake means surrounding said brake-wheel, an auxiliary pinion journaled upon said shaft, a primary pinion meshing with said primary cog-wheel an auxiliary cog-wheel meshing with said auxiliary pinion, strand-receiving means carried by said shaft, and means connecting said strand-receiving means and auxiliary pinion for securing said strand-receiving means in a fixed position with said pinion.

18. In a mechanism of the class described, the combination with a revoluble support, of a driving mechanism carried entirely by said support, strand-receiving means coacting with said driving mechanism, and a distributing device coacting with said strand-receiving means and driving mechanism, said distributing device comprising a threaded shaft, a sheave-wheel adjustably positioned upon said shaft, ball-bearings positioned upon the sides of said wheel, revoluble collars positioned upon said shaft and engaging said ball-bearings, means for holding said sheave-wheel, ball-bearings, and collars in an operative position, means for preventing movement of one of said collars, and means for shortening the length of travel of said sheave-wheel.

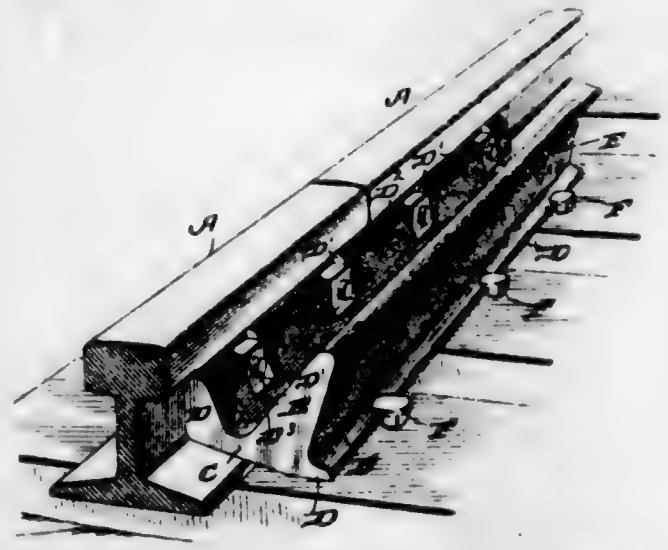
19. In a mechanism of the class described, the combination with a revoluble support, of a driving mechanism carried entirely by said support, a strand-receiving member carried by said driving mechanism, and a distributing device coacting with said driving mechanism and strand-receiving means comprising a threaded shaft, a sheave-wheel journaled upon said shaft, revoluble collars carried by said shaft and secured to said sheave-wheel, a ball interposed between each of said collars and sheave-wheel, and means for locking one of said collars relative to said sheave-wheel for reversing movement of the sheave-wheel.

20. In a mechanism of the class described, the combination with a support, a gearing carried by said support, of strand-receiving means carried by said support and adjustable in respect to said gearing, an adjustable handle carried by said support, means for locking said strand-receiving means against independent movement relative to said gearing, and fastening means for securing said handle and strand-receiving means against independent movement.

21. In a mechanism of the class described, the combination with a support, of adjustable strand-receiving means carried by said support and capable of being moved longitudinally thereon, a handle loosely mounted upon said support, means for securing said handle and strand-receiving means against independent movement, and driving means secured adjacent to said strand-receiving means and being capable of imparting movement thereto.

22. In a mechanism of the class described, the combination with a revoluble support, of a member fixedly secured to said revoluble support and extending outwardly therefrom, brake means carried by said member, a driving mechanism positioned upon opposite sides of said brake means and coacting therewith and supported entirely by said member, and strand-receiving means carried by said revoluble support and coacting with said brake means and driving mechanism.

808,425. COMBINED SPLICE-BAR AND GUARD-RAIL. WILLIAM T. YOUNG, Newport, R. I. Filed Sept. 16, 1905. Serial No. 278,748.



Claim.—1. A combined splice-bar and guard-rail for railroads, comprising a base having a vertical extension at one side and a foot portion at its opposite side, and a tapering extension projecting from the base intermediate the foot and vertical extension.

2. A combined splice-bar and guard-rail comprising a base which terminates at one side in a foot portion and at its opposite side in a vertical extension, the inner surface of the extension being recessed and provided with bolt-holes, and an extension projecting from the base and at an angle thereto, substantially as specified.

3. A combined splice-bar and guard-rail comprising a base, the lower surface of which is beveled and which terminates at one side in a foot portion whose lower surface is arranged upon a horizontal line, and at its opposite side in a vertical extension, the outer face of which is flat and of a height to fit the web of the rail, the inner face of the said extension being provided with non-circular recesses, and bolt-holes which communicate with the recesses and a tapering extension projecting from the base and at an angle thereto, substantially as shown and described.

4. A combined splice-bar and guard-rail comprising a base having a foot portion at one side and a vertical extension at its opposite side, said extension having bolt-holes, and an extension projecting from the base throughout its entire length, said extension being tapered toward its upper end and extended from the base in a diverging direction with respect to the vertical extension.

808,426. CUSHIONED TIRE. CHARLES W. ADAIT, Owatonna, Minn. Filed Mar. 3, 1905. Serial No. 248,202.



Claim.—1. The combination with a wheel-rim 3, of the two series of spring-plates 6 detachably clamped to said rim and making up a resilient sectional tube, a spring-hoop 5 having grooved edges with which the inturned ends of said spring-plates interlock, and a sheath inclosing said rim 3, spring-plates 6 and spring-hoop 5, and having its edges clamped to said rim, substantially as described.

2. The combination with a ring 3 which is approximately semicircular in cross-section and has a circumferential groove formed between laterally-spaced rounded ribs, of a pliable sheath inclosing said rim and secured to the upper portion thereof, a plurality of springs located within said sheath, embracing the said rim and forming a resilient tube, substantially as described.

808,427. COMBINATION TRAVELING-CASE AND SALES-TABLE. NATHAN M. BARR, New York, N. Y. Filed May 23, 1905. Serial No. 261,615.



Claim.—1. The combination with a traveling-case, of a detachable frame the end walls of which are reinforced by corner-stays, a standard supported on one of said stays, and a table supported on said standard.

2. The combination with a traveling-case, of a detachable frame provided with end walls and supporting-stays for said end walls, a standard inserted into one of said stays and provided with a horizontal portion, and a table supported on said horizontal portion.

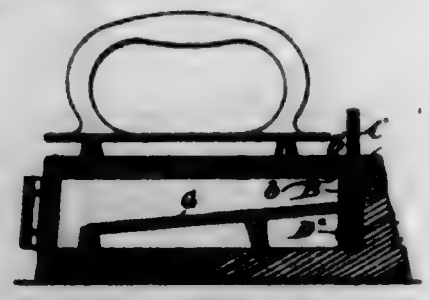
3. The combination with a traveling-case, of a detachable frame with reinforced end walls and corner-stays, a standard inserted into one of the corner-stays, said standard being provided with a bent horizontal portion, cross-strips supported on said horizontal portion, and a table supported on said strips.

4. The combination with a traveling-case, of a detachable frame having reinforced end walls, corner-stays for said end walls, a detachable standard inserted into one of said stays, a table supported on said standard, and a sunshade also supported on the standard above the table.

5. The combination with a traveling-case, of a detachable frame provided with reinforced end walls and stays between said end walls, a detachable standard supported at its lower end in one of the stays, the lower part of the standard being provided with a horizontally-bent portion, and a table supported thereon.

6. The combination with a traveling-case, of a detachable frame composed of reinforced end walls and corner-stays for said end walls, one of said stays being tubular, and one of the end walls of the case being provided with an opening in line with the tubular corner-stay for inserting the lower end of a table-supporting standard.

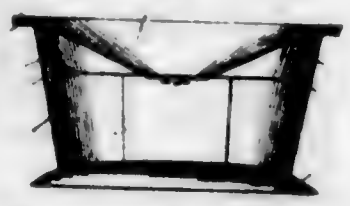
808,428. SAD-IRON. ARTHUR T. BEACH, New York, N. Y. Filed May 26, 1904. Serial No. 210,271.



Claim.—1. A sad-iron comprising a hollow body provided with a bore or socket, a burner-tube fitting in said socket and having a flattened side portion, and a baffle-plate within said body having a squared end abutting against said flattened side portion.

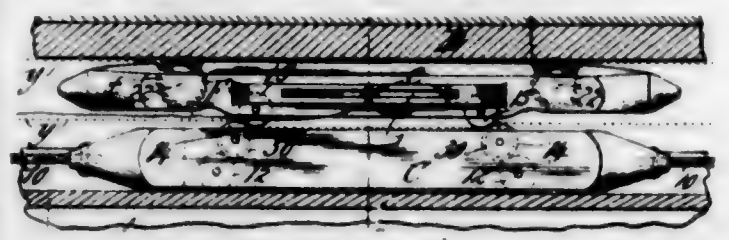
2. In a sad-iron, the combination, with a hollow body provided in its toe portion with a bore or socket, of a burner-tube fitting in said socket and having a flattened portion disposed toward the interior of the body, and a heat-concentrating baffle-plate supported at the interior of said body and abutting against said flattened portion of the burner-tube in order to prevent the axial turning of the latter in said bore or socket.

808,429. SPITTOON. JOSEPH L. BOIVERT, Kankakee, Ill. Filed July 15, 1905. Serial No. 269,763.



Claim.—A spittoon comprising a pan having an outwardly-extending flange at its upper edge, and a cover upon the pan having an extended rim which rests upon the flange, so that both may be grasped together, and having a depending ring which fits within the pan and lies against the side wall thereof, and a removable receptacle which fits within the pan against the side wall thereof and upon the upper edge of which the depending ring rests.

808,430. SHUTTLE FOR WIRE-LOOMS. HIRAM A. BOND, Springfield, Mass. Filed July 13, 1904. Serial No. 217,084.

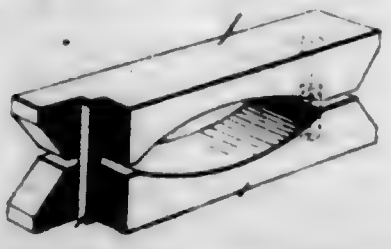


Claim.—1. The combination with the lay-beam having a runner-way and a shuttle-carriage movable therein, having peripherally-contacting pairs of rolls axially transverse of the length of the carriage, said beam having a bar above the runner-way with its under surface inclining downwardly from its rear to its front edge, of the shuttle having a body provided with rolls at its under side arranged to coact with and adjoin within the upper pair rolls of the carriage, and having at its upper side rolls in paired, axially-alined, separate, independently-rotatable sections having their peripheries beveled to correspond with the inclination of the aforesaid bar of the lay-beam.

2. The combination with the lay-beam having a runner-way and a bar above said way having its under surface inclining downwardly from its rear to its front edge, and a shuttle-carriage movable in the way, of a shuttle operated by the carriage, said shuttle having at its upper side, rolls in paired, axially-alined, separate, independently-rotatable sections whose peripheries are beveled to correspond with the inclination of the aforesaid bar of the lay-beam.

3. The combination with the shuttle-carriage having rolls in pairs axially transverse of the length of the carriage and in peripheral contact, and a runner-way on the lay for the carriage and a bearing-bar on the lay above the runner-way, having its under surface inclined downwardly from its rear to its forward edge, of the shuttle having in the under part of the body thereof a pair of rolls axially parallel on lines transverse of said body, and arranged for disposition within and adjoining the upper rolls of the carriage, one set of said adjoining rolls being centrally peripherally rabbeted, and rolls at the upper portion of the shuttle-body composed of axially-alined, separate, independently-rotatable sections having their peripheries beveled to correspond with the inclination of the said bearing-bar of the lay.

808,431. BUILDING-BLOCK. THEODORE H. BROWN, Northfield, Minn. Filed July 22, 1904. Serial No. 217,794.

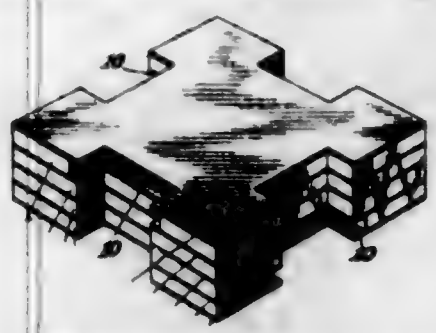


Claim.—1. A building-block composed of several sections with an air-space between them and wooden pins embedded in said sections and bridging the space between them, the ends of said pins ex-

tending through and being substantially flush with the inner surface of the block whereby a nailing-surface is formed for the furring-strips, substantially as described.

2. A building-block composed of several sections with an air-space between them and wooden pins bridging said air-space and having their ends embedded in said sections, one end of said pins extending through the outer surface of the block and being substantially flush therewith whereby a nailing-surface is formed for the outside finish, substantially as described.

808,432. **DUPLICATE-WHIST APPARATUS.** CLARENCE E. BUMBY, Highland Mills, N. Y. Filed Mar. 31, 1905. Serial No. 253,045.



Claim.—1. A duplicate-whist apparatus comprising a plurality of strips each having notches and a plurality of strips interposed between the first-mentioned strips and each having an elongated recess opening through one edge and notches in its edges registering with the notches in the other strips, substantially as described.

2. A duplicate-whist apparatus comprising a plurality of strips each having notches, a plurality of strips interposed between the first-mentioned strips and each having an elongated recess opening through one edge and notches in its edges registering with the notches in the other strips, and means in said recesses for frictionally engaging and holding the cards therein against accidental displacement, substantially as described.

3. A duplicate-whist apparatus comprising a plurality of strips each having notches, a plurality of strips interposed between the first-mentioned strips and each having an elongated recess opening through one edge and notches in its edges registering with the notches in the other strips, a piece of resilient material in each of said holes, and notches in the edges of the strips intersecting said recesses, substantially as described.

808,433. **ABDOMINAL SUPPORTER OR BANDAGE.** WRIGHT R. CARTLEDGE, Philadelphia, Pa., assignor to Walter F. Ware, Philadelphia, Pa. Filed Oct. 18, 1904. Serial No. 228,083.



Claim.—1. A bandage or supporter, comprising a main portion of knitted fabric elastic in two directions, said bandage being increased in width at its central portion by double courses or darts gradually diminishing in length.

2. A bandage or supporter, comprising a main portion of knitted fabric elastic in two directions, said bandage being increased in width at its central portion by double courses or darts gradually diminishing in length, and elastic only longitudinally of the bandage.

3. A bandage or supporter, comprising a main portion of knitted fabric consisting of parallel courses which provide elasticity both longitudinally and transversely of the length of the fabric, said bandage being increased in width at its central portion by double courses or darts gradually diminishing in length, and elastic only longitudinally of the bandage.

4. A bandage or supporter, comprising a main portion of knitted fabric elastic in two directions, said bandage being increased in width at its central portion by courses or darts gradually diminishing in length, the lower edge of said portions being provided with a welt of less elasticity and greater strength.

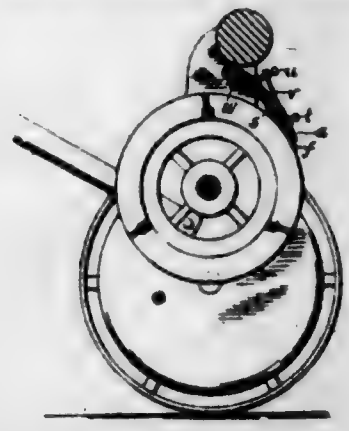
5. A bandage or supporter, comprising a main portion of knitted fabric elastic in two directions, said bandage being increased in width at its central portion by double courses or darts gradually diminishing in length, and elastic only longitudinally of the bandage, the lower edge of said portions being provided with a double welt of the same character of stitches as that composing the widened portion of the bandage.

6. A bandage or supporter, comprising a main portion of knitted fabric, said bandage being increased in width by double courses or darts, a thickened welt for the edge of the bandage, the darts or ends of the courses being arranged adjacent the edge of said thickened welt.

7. A bandage or supporter, comprising a main portion of knitted fabric, said bandage being increased in width at its central portion by double courses or darts of the material gradually diminishing in length, and a double welt attached to said widened portion and to said main portion, the ends of said courses or said darts being arranged adjacent the inner edge of said welt so that said darts are relieved of pressure.

8. A bandage or supporter, comprising a main portion of knitted fabric elastic in two directions, said bandage being increased at its central portion by double courses or darts gradually diminishing in length, the lower edge of said portions having a double welt which is also elastic only in a longitudinal direction.

808,434. **LAWN-MOWER SHARPENER.** JOHN CRESSEE, Oneonta, N. Y. Filed Feb. 4, 1905. Serial No. 244,336.



Claim.—1. In a lawn-mower-sharpening device, the combination, of a sharpening device including a frame-plate having short reversely-bent end portions, a sharpening-blade inclosed by said plate, and an adjusting-screw for said blade engaging said plate, substantially as specified.

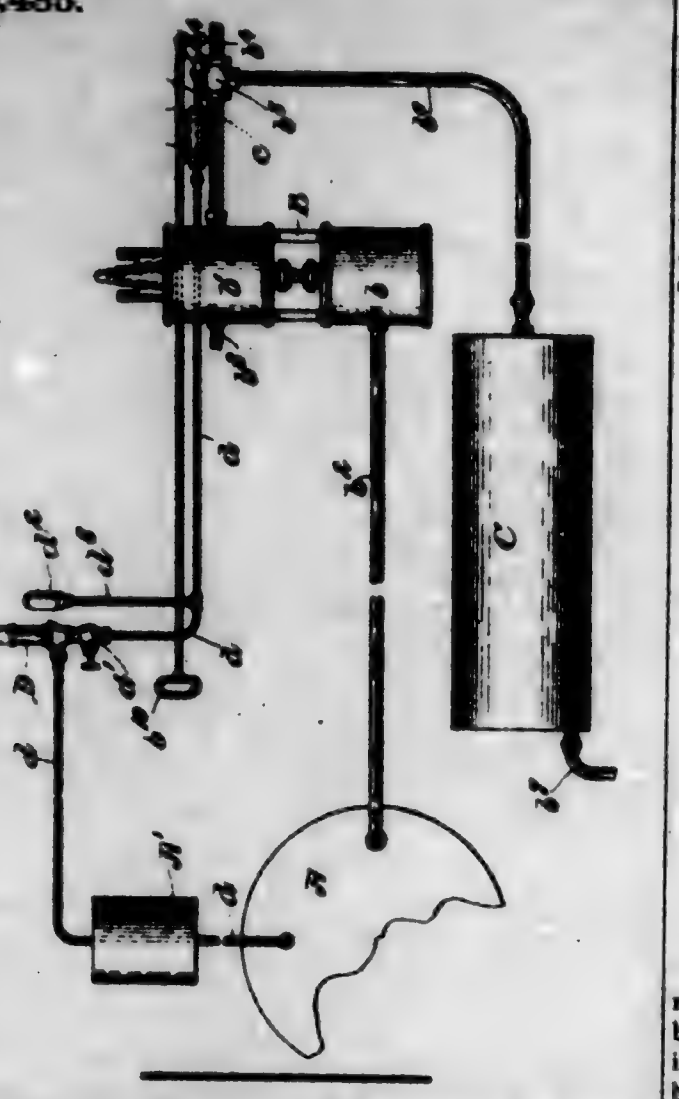
2. In a lawn-mower-sharpening device, the combination of depending arms pivotally connected with the brace-bar of the mower in front and above the center of the rotary knives and carrying the sharpening-blade at their lower ends, and means for adjusting the pressure of said blade to the rotary knives, substantially as specified.

3. In a lawn-mower-sharpening device, the combination of depending suspension-arms pivotally connected at their upper ends with the brace-bar of the mower in front and above the center of the rotary knives, and carrying the sharpening-blade at their lower ends, a fixed arm connected to said brace-bar at its upper end, and an adjusting-screw engaging said fixed arm, substantially as specified.

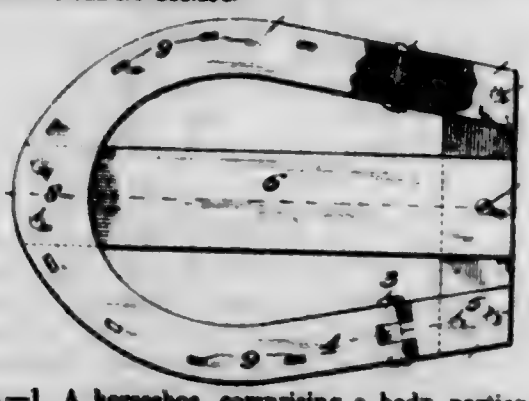
808,435. **SIGNALING DEVICE.** FRANK F. COGGIN, New York, N. Y., assignor to Economy Car Heating Company, New York, N. Y., a Corporation of Maine. Original application filed May 19, 1904, Serial No. 208,044. Divided and this application filed Feb. 28, 1905. Serial No. 247,206.

Claim.—In a heating system of the class described the combination with the air-pump; the main air-reservoir supplied by said pump; the supply-pump of the heating system, and the valve controlling the exhaust from the air-pump, of a signaling device, and automatic means for operating the signaling device and valve when the pressure in the main air-reservoir falls below a predetermined point, said valve being operated so as to close the supply-pipe of the heating system and open the exhaust of the air-pump to an atmosphere of lower pressure than that within the supply-pipe.

808,435.



808,436. HORSESHOE. JESSE W. COLE, Tipton, Mo. Filed Apr. 14, 1905. Serial No. 255,894.



Claim.—1. A horseshoe, comprising a body portion; pivoted heel portions, a bar secured to the pivoted heel portions; and a spring-plate secured to the shoe proper and bar; substantially as specified.

2. A horseshoe, comprising a body portion; pivoted heel portions; a bar secured to said pivoted heel portions; and a spring-plate, one end of which is secured on the bottom portion of the bar and the other end secured to the top portion of the shoe proper; substantially as specified.

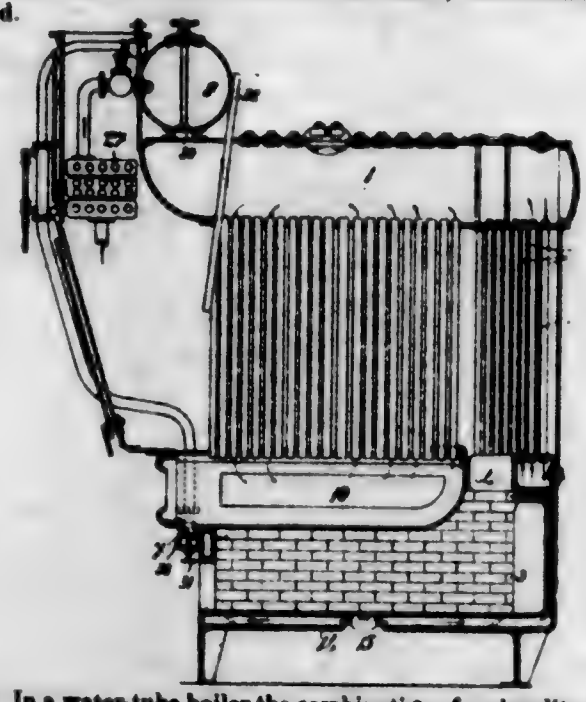
3. A horseshoe, comprising a body portion; pivoted heel portions; and a spring-plate; one end of which is carried by said heel portions and the other end secured to the toe portion of the shoe; substantially as specified.

4. A horseshoe, comprising a body portion; tapered pivoted heel portions; and a spring-plate, one end of which is carried by said heel portions and the other end secured to the toe portion of the shoe; substantially as specified.

808,437. WATER-TUBE BOILER. JOHN P. DAVIES, Brockley, London, England. Filed June 23, 1904. Serial No. 213,562.

Claim.—1. In a water-tube boiler the combination of a plurality of separate elements comprised of upper and lower drums joined by vertical stacks of tubes, circulation-baffles arranged in the drums of said elements, means for connecting said elements to one another, a furnace arranged beneath the lower drums of said elements, a combustion-chamber arranged at the back of said furnace and means for heating water arranged around the walls of said combustion-chamber, substantially as described.

2. In a water-tube boiler the combination of a plurality of separate elements comprised of upper and lower drums joined by vertical stacks of tubes, semicircular circulation-baffles arranged in the drums of said elements, slots arranged in the centers of said baffles, upright plates arranged on the inner sides of said baffles, means for connecting said elements to one another, a furnace arranged beneath the lower drums of said elements, a combustion-chamber arranged at the back of said furnace and means for heating water arranged around the walls of said combustion-chamber, substantially as described.



3. In a water-tube boiler the combination of a plurality of separate removable elements comprised of upper and lower drums joined by vertical stacks of tubes, semicircular circulation-baffles arranged in the drums of said elements, slots arranged in the centers of said baffles, upright plates arranged on the inner sides of said baffles, a steam-dome connected to the upper drums of said elements, a junction-pipe connecting the lower drums of said elements, pipes connecting said steam-dome with the said junction-pipe, means for disconnecting said steam-dome from said upper drums, means for disconnecting said junction-pipe from said lower drums, a furnace arranged beneath the lower drums of said elements and a combustion-chamber arranged at the back of said furnace, means for heating water arranged around the walls of said combustion-chamber, substantially as described.

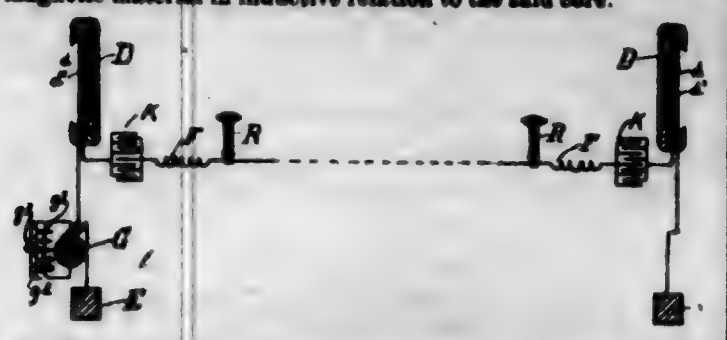
4. In a water-tube boiler the combination of a plurality of separate elements comprised of upper and lower drums joined by vertical stacks of tubes, circulation-baffles arranged in the drums of said elements, means for connecting said elements to one another, a furnace arranged beneath the lower drums of said elements, a combustion-chamber arranged at the back of said furnace and nests of tubes arranged around the walls of said chamber joined to the upper drums of said elements and to lower drums arranged around the walls of said chamber, substantially as described.

5. In a water-tube boiler the combination of a plurality of separate removable elements comprised of upper and lower drums joined by vertical stacks of tubes, semicircular circulation-baffles arranged in the drums of said elements, slots arranged in the centers of said baffles, upright plates arranged on the inner sides of said baffles, a steam-dome connecting the upper drums of said elements, a junction-pipe connecting the lower drums of said elements, pipes connecting said steam-dome with said junction-pipe, means for disconnecting said steam-dome from said upper drums, means for disconnecting said junction-pipe from said lower drums, a furnace arranged beneath the lower drums of said elements, a combustion-chamber arranged at the back of said furnace and nests of tubes arranged around the walls of said chamber joined to the upper drums of said elements and to lower drums arranged around the walls of said chamber, substantially as described.

808,438. TELEPHONY. ALBERT G. DAVIS, Washington, D. C. Filed Apr. 22, 1897. Serial No. 633,262.

Claim.—1. In a multiplex telephone system, the combination of a plurality of sources of alternating current of different frequencies, a plurality of tuned circuits including capacity and inductance, the inductance of each circuit being provided by a variable-inductance transmitter, and a plurality of receiving-circuits each adapted to respond to its own transmitter.

2. A telephone-transmitter comprising a soft-iron core wound with a coil, connected to a source of alternating current, and a plate of magnetic material in inductive relation to the said core.



3. The combination in a telephone system, of a source of alternating current, a circuit tuned nearly to resonance with the frequency of said source, a receiver, and a transmitter adapted to progressively vary the resonance of the circuit.

4. The combination in a telephone system of a source of alternating current in multiple with the line, a circuit tuned nearly to resonance with the frequency of said source, also in multiple with the line, and a transmitter adapted to progressively vary the resonance of the circuit, and a receiver connected to the line.

5. In a multiplex telephone system, the combination with a plurality of sources of alternating current of different frequencies, of a plurality of transmitters, each furnishing inductance of its own circuit and adapted to vary said inductance, and a plurality of receivers adapted to respond to the different transmitters.

6. In a multiplex telephone system, the combination of a plurality of sources of alternating current of different frequencies, a plurality of transmitters each being so constructed and arranged as to furnish the inductance of a tuned circuit, and a plurality of receivers each adapted to respond to its own transmitter.

808,439. DECORATING DEVICE. WILLIAM H. DIEDRICK, East Liverpool, Ohio. Filed Dec. 13, 1904. Serial No. 236,745.



Claim.—1. A decorating device comprising suitable bearings, a sponge-rubber roller having a detachable covering of harder rubber carrying designs or configurations revolubly mounted in said bearings.

2. In a decorating device, the combination of suitable bearings, a printing-roller formed of sponge-rubber and having a removable printing-surface of harder rubber, and means for inking said roller.

3. In a decorating device, the combination of a handle having a bifurcated end, one member of said end being hinged to the handle, means for securing said member in position, an inking-roller and a printing-roller both mounted between and journaled in said members.

4. In a decorating device the combination with a handle, of a printing-roller mounted in said handle, and a hollow inking-roller mounted in the handle, said inking-roller being formed with a plurality of perforations in its rim a hollow shaft communicating with the interior of the roller and a plug fitting in said shaft.

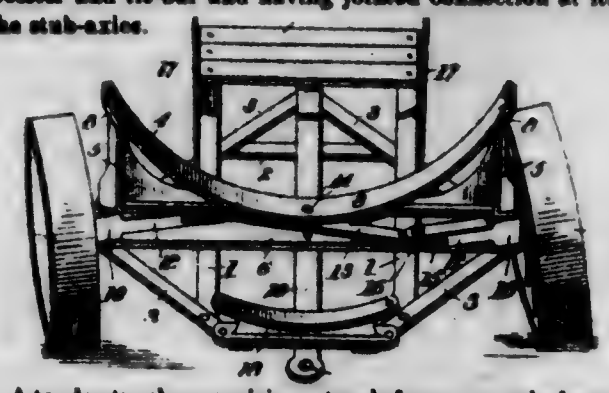
5. In a decorating device, the combination of a stationary and a movable bearing, a handle connected to said bearings, an elastic printing-roller, a disk mounted on a common shaft with said printing-roller, an inking-roller having formed therein an ink-reservoir, a spring-pressed bearing connected to said inking-roller, all parts being arranged substantially as described.

6. In a decorating device, the combination of a rigid bearing and a movable bearing, means to secure said movable bearing in a rigid position, a handle connecting said bearings, said movable bearing being hinged to said handle an elastic printing-wheel journaled in said bearings, and a suitable inking-roller operating against said printing-wheel, and journaled in said bearings, substantially as described.

7. In a decorating device, the combination with suitable bearings, and a shaft mounted in said bearings, of a printing-roller carried by said shaft, said printing-roller being formed of soft rubber and having a removable printing-surface of harder rubber.

808,440. TENDER-TRUCK. HARRY B. DAVY, Battlecreek, Mich., assignor to Fitch & Shepard Co., Battlecreek, Mich. Filed July 22, 1905. Serial No. 270,794.

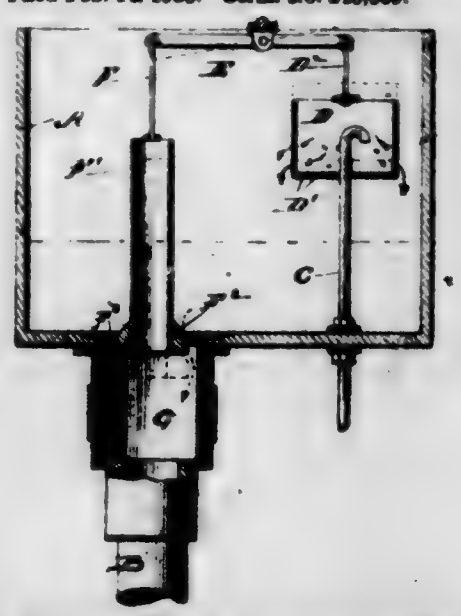
Claim.—1. A tender-truck comprising a truck-frame, an axle-frame connected thereto and embodying a body-bolster, brackets secured to the body-bolster, pintles formed on the brackets and projecting downward therefrom, a tie-bar connecting the pintles beneath the brackets, stub-axles journaled on the pintles between the brackets and tie-bar, and an equalizing-lever pivoted between the body-bolster and tie-bar and having jointed connection at its ends with the stub-axles.



2. A tender-truck comprising a truck-frame, an axle-frame connected thereto and embodying a body-bolster, brackets secured to the body-bolster, pintles formed on the brackets and projecting downward therefrom, a tie-bar connecting the pintles beneath the brackets, stub-axles journaled on the pintles between the brackets and tie-bar, and an equalizing-lever pivoted between the body-bolster and tie-bar and having a pin-and-slot connection at its ends with the stub-axles.

3. The combination with the steering-axle of a self-propelled vehicle, of a tender-truck comprising a truck-frame, an axle-frame connected thereto and embodying a body-bolster, brackets secured to the body-bolster, pintles formed on the brackets and projecting downward therefrom, a tie-bar connecting the pintles beneath the brackets, stub-axles journaled on the pintles beneath the brackets and tie-bar, a slotted equalizing-lever pivoted between the body-bolster and the tie-bar, steering connections leading from the said steering-axle to the stub-axles, and pins forming common connections between the stub-axles, equalizing-lever and steering connections.

808,441. NON-FREEZING TANK. OSCAR J. FABIAN, Philadelphia, Pa. Filed Feb. 14, 1905. Serial No. 245,580.

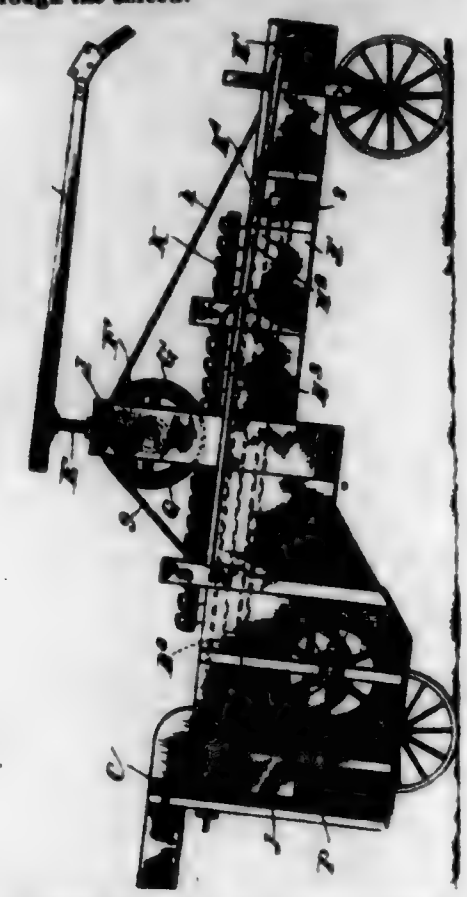


Claim.—1. A device of the kind described comprising a flush-tank, a supply-pipe, a valve-controlled discharge-pipe, a pivoted lever, said lever being pivotally connected to the pipe-valve, a receptacle secured to the lever and adapted to receive water from the supply-pipe and adapted to actuate the valve by reason of weight of the water, and means for permitting the escape of a portion of the water prior to actuation of the valve.

2. A device of the kind described comprising a tank, a discharge-pipe, a valve therein, a supply-pipe, a receptacle arranged within the tank and adapted to receive the contents of the supply-pipe, means whereby the weight of water in the said receptacle closes the valve, and means for permitting escape of a portion of the contents of the receptacle prior to the closing of the valve.

808,442. PEANUT-PICKER. PINTON P. FERGUSON and JESSE T. REYNOLDS, Murfreesboro, N. C., assignors to Richard T. Barnes, Sunbeam, Va. Filed May 17, 1905. Serial No. 260,864.

Claim.—1. A picking-machine for picking nuts, &c., from the vines, consisting of a stationary picking-screen for catching and holding the nuts, combined with a carrier-belt for dragging the vines over the screen and a stirring device consisting of a horizontally-reciprocating frame with downwardly-projecting spring-fingers arranged above the carrier-belt to spread the vines and work the nuts through the screen.



2. In a picking-machine, the stirring device consisting of a frame bearing downwardly-projecting fingers, combined with a subjacent carrier and a subjacent picking-screen, the stirring device being provided with means for imparting a lateral motion to the same.

3. A machine for picking nuts, pods, &c., from vines, comprising a carrier-belt for the vines, a screen arranged beneath the upper run of the belt to tear off the nuts and a subjacent cleaner for said screen.

4. A machine for picking nuts, pods, &c., from vines, comprising a carrier for the vines, a picking-screen arranged below the carrier through which the nuts may drop while still adhering to the vines and a movable brush below the screen to clean the same.

5. A machine for picking nuts, pods, &c., from vines, comprising a carrier for the vines, a picking-screen arranged below the carrier, a movable cleaner below the screen and a stirring device arranged above the carrier to work the nuts through the screen.

6. A machine for picking nuts, pods, &c., from vines, comprising a carrier for the vines, a picking-screen arranged below the carrier, a movable cleaner below the screen, a stirring device arranged above the carrier to work the nuts through the screen and a fan and shaking-shoe for cleaning the nuts.

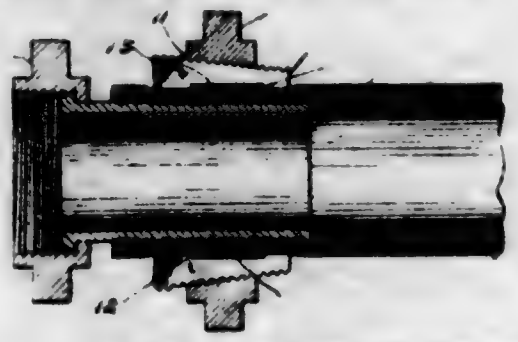
7. A picking-machine for picking nuts, pods, &c., from the vines, comprising a set of picking devices having at one end a fan and shaking-shoe, a vertical driving-shaft with sweep-arm for turning it, wheels supporting the picking and cleaning devices in a position inclined to the horizontal, the tread of the wheels supporting the end of the picking devices opposite the fan being substantially the same distance from the picking devices as the bottom of the fan-case, whereby the bottom of said fan-case when resting upon the ground brings the picking devices horizontal and firm as against the operating strain.

8. A machine for picking nuts, pods, &c., from vines, comprising an endless carrier for the vines, a picking-screen arranged below the upper run of the carrier, an endless brush-belt arranged within the endless carrier below the picking-screen, distending and driving rolls for the endless brush-belt and means for regulating the tension of the brush-belt, substantially as described.

808,448. PROCESS OF PRINTING INDIGO. MORITZ VON GALLER, Höchst-on-the-Main, Germany, assignor to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Apr. 21, 1904. Serial No. 204,267.

Claim.—The improvement in the process of printing fabrics with indigo on white or Turkey red dyed unprepared cotton, which consists in simultaneously applying in the printing color a mixture of indigo and stable double compounds of hydrosulfites with aldehydes and strong caustic alkalies.

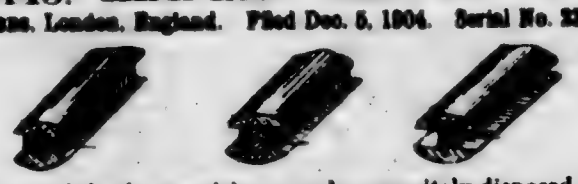
808,414. HOSE-CLAMP. PETER GERSEKEN and THOMAS D. FARR, Seattle, Wash. Filed Apr. 3, 1905. Serial No. 254,574.



Claim.—1. A hose-clamp comprising a collar having a tapered outer face provided with threads, said collar comprising a plurality of segments, a nut having a tapered threaded passage in which the segments are engaged in spaced relation to each other, and a spring engaged within the segments and arranged to hold them within the nut and yieldably in spaced relation.

2. A hose-clamp comprising a collar having a tapered outer face, said collar comprising a plurality of segmental sections, said sections having registering recesses in their inner faces to form an annular groove, a nut having a threaded passage in which the collar is engaged, said passage being tapered to correspond with the taper of the collar, said segments lying in spaced relation at their ends, and a spring-ring engaged in the annular groove and arranged to hold the segments yieldably in spaced relation and in engagement with the nut.

808,445. LEADED LIGHT. WALTER T. GIBBS and ARTHUR A. GIBBS, London, England. Filed Dec. 5, 1904. Serial No. 235,603.



Claim.—A lead comprising a web, oppositely-disposed flanges extending along the outer portions of the web, and a reinforcing member embedded in the web and projecting uninterruptedly into the flanges, the projecting portions being laterally offset, substantially as described.
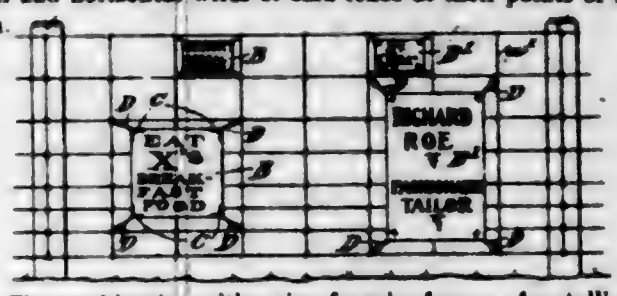
808,446. COUPLING. LEMUEL D. GILL and PRESTON C. TITUS, Meridan, W. Va. Filed Oct. 18, 1904. Serial No. 228,969.



Claim.—A hose-coupling comprising a female member having one end adapted for connection with a hose and its other end enlarged and provided with internal double threads and its face formed with alined sockets, and a male member having one end adapted for connection with a hose and its other end reduced to fit within the enlarged head of the female member and provided with angularly-disposed lugs to engage the threads, the male member being further provided with an enlargement of the same diameter as that of the female member and adapted to abut thereagainst, and being provided with a longitudinal socket disposed parallel with the wall of the bore of the coupling and intersected by a recess in the enlargement, the two enlargements being of the same diameter as the external diameter of the hose, thereby to prevent the presentation of an enlargement in the hose at the point where the coupling is located, a spring-pressed bolt secured within the socket, a thumb-piece secured to the bolt and working in the recess and having its head disposed below the plane of the enlargement to protect it from injury, and a resilient gasket interposed between the reduced end of the male member and the interior wall of the female member.

808,447. SIGN FOR WIRE FENCES. GEORGE L. GOETZ, Chicago, Ill. Filed June 6, 1905. Serial No. 264,282.

Claim.—1. The combination with a wire fence comprising vertical and horizontal wires, of a sign, and means secured to and extending diagonally from the corners of said sign and attached to the vertical and horizontal wires of said fence at their points of intersection.



2. The combination with a sign for wire fences, of metallic corner-plates secured to said sign, and tie-wires secured to said corner-plates and adapted to be secured to the wires of a fence.

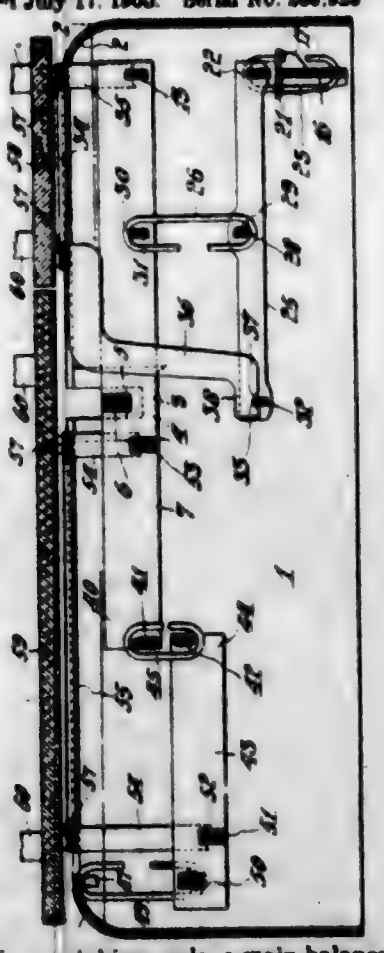
3. The combination with a sign for wire fences, of metallic corners secured to the sign by crimping, tie-wires extending from said corner-plates to the fence-wires, and means for tightly securing said tie-wires to said corner-plates.

4. The combination with a sign for wire fences, of straps carried by said sign adjacent its corners, and diagonal tie-wires the ends of which extend through and are secured to said straps.

5. The combination with a sign for wire fences, of corner-plates secured to said sign, straps formed integrally with said corner-plates, tie-wires fixed to and extending from said straps and adapted to be attached to vertical and transverse fence-wires at their points of intersection.

6. The combination with a sign for wire fences, of corner-plates for said sign, flanges on said corner-plates overlying and crimped upon the edges of said sign, straps stamped from the material of said corner-plates, and tie-wires each formed of wire doubled upon itself, the free ends of said tie-wires extending through and being bent around said straps.

808,448. **WEIGHING-SCALE.** HERMAN GREENBERG, Montreal, Canada. Filed July 17, 1905. Serial No. 269,929.



Claim.—1. In a weighing-scale, a main balance-yoke, a pair of supplemental balance-yokes, one of which supplemental yokes is connected to the outer end of and extends outwardly from the main yoke, and a pair of platforms, each of which is partly supported upon said main yoke, and upon said supplemental yoke.

2. In a weighing-scale, a main balance-yoke, a pair of supplemental balance-yokes, one of which supplemental yokes is connected to the outer end of and extends outwardly from the main yoke, and a pair of platforms each of which is partly supported upon said main yoke, and upon said supplemental yoke, and guides carried by one of said platforms to prevent lateral movement of said platforms.

3. In a weighing-scale, a main balance-yoke, a pair of supplemental balance-yokes supported from said main yoke in planes therebelow, one of which supplemental yokes is connected to the outer end of and extends outwardly from the main yoke, and a pair of platforms, each of which is partly supported upon said main yoke, and upon said supplemental yoke.

4. In a weighing-scale, a main balance-yoke, a pair of supplemental balance-yokes, one of which supplemental yokes is connected to the outer end of and extends outwardly from the main yoke, and a pair of platforms, each of which is partly supported upon said main yoke, and upon said supplemental yoke, in combination with a multiple balance-beam, the members of the beam being disposed in different vertical and the same horizontal planes, a scale-plate intermediate of said beam members and provided with graduations on its upper face, slidable balance-weights on said beam provided with graduations on the upper surface thereof, and a superposed fractional poise slidable on one of said balance-weights.

5. In a weighing-scale, a main balance-yoke, a supplemental balance-yoke rockably supported in proximity to each end of said main yoke, and one of said supplemental balance-yokes extending outwardly from the main balance-yoke, platforms each of which is supported by said main yoke and one of said supplemental balance-yokes, a balance-beam supported by said main yoke, and comprising a plurality of members disposed in different vertical and the same horizontal planes, a scale-plate intermediate of said members provided with graduations on its upper face, a plurality of balance-weights slidable on said beam and provided with graduations on their upper surfaces, and superposed slidable fractional poises movable on said weights.

6. In a scale, a casing, inwardly-projecting lugs integral therewith, bearing-blocks supported in said lugs, a main balance-yoke supported on said blocks, integral yoke-supporting lugs near one end of said casing, and a supplemental balance-yoke carried from said supporting-lugs and said main balance-yoke, and guards on said supplemental yoke to prevent lateral play thereof.

7. In a balance-scale, a casing, a fulcrum-bar extending across said casing, a stop-table integral with said fulcrum-bar, a main balance-yoke, a supplemental balance-yoke, a link rockably supporting said supplemental yoke, and a link connecting an end portion of the supplemental yoke with said fulcrum-bar, in combination with a platform supported partly by each of said yokes.

8. In a balance-scale, a casing, a fulcrum-bar extending across said casing, a stop-table integral with said fulcrum-bar, a main balance-yoke, a supplemental balance-yoke, a link rockably supporting said supplemental yoke, and a link connecting an end portion of the supplemental yoke with said fulcrum-bar, in combination with a platform supported partly by each of said yokes, laterally-extending arms, a beam carried by said arms, poises movable longitudinally of said beam, and supplemental or fractional poises movably mounted on said first-mentioned poises.

9. In a weighing-scale, a main balance-yoke, a plurality of supplemental balance-yokes, one of which is supported by said main balance-yoke, a platform-frame supported partly by said main yoke and partly by said supplemental yoke, a second platform-frame similarly supported, arms extending laterally from said main yoke, a multiple balance-beam carried by said arms, a plurality of poises slidable on said beam, and a plurality of fractional poises slidable on said first-mentioned poises.

10. In a weighing-scale, a balance-beam comprising a plurality of bars disposed in different vertical and the same horizontal planes, a graduated plate between said bars, poises slidable on said bars, said poises having graduations on the upper surfaces thereof, and other poises movably mounted upon the upper surfaces of said first-mentioned poises.

11. In weighing-scale, a main balance-yoke, supplemental balance-yokes supported therefrom near opposite ends thereof and one of said supplemental yokes extending outwardly from the main balance-yoke, platform-frames each supported partly by said main balance-yoke and partly by one of said supplemental yokes, a beam comprising a plurality of members disposed in the same horizontal and different vertical planes, a scale-plate disposed between the said members and provided with a graduation on its upper surface, poises slidable longitudinally upon opposite sides of said beam, graduations on the upper surfaces of said poises, and fractional poises movable on the upper surfaces of said first-mentioned poises.

12. In a weighing-scale, a main balance-yoke, supplemental balance-yokes supported therefrom near opposite ends thereof and one of said supplemental yokes extending outwardly from the main balance-yoke, platform-frames each supported partly by said main

balance-yoke and partly by one of said supplemental yokes, a beam comprising a plurality of members disposed in the same horizontal and different vertical planes, a scale-plate disposed between the said members and provided with a graduation on its upper surface, poises slidable longitudinally upon opposite sides of said beam, graduations on the upper surfaces of said poises, fractional poises movable on the upper surfaces of said first-mentioned poises, and stops adapted to limit the movement of said fractional poises.

13. In a weighing-scale, a main balance-yoke, supplemental balance-yokes supported therefrom near opposite ends thereof, platform-frames each supported partly by said main balance-yoke and partly by one of said supplemental yokes, a beam, poises slidable longitudinally upon opposite sides of said beam, graduations on said poises, fractional poises movable on said first-mentioned poises, and a lockable adjusting-poise slidable on said beam.

14. In a scale, the combination comprising a casing, a main balance-yoke supported thereby, supplemental balance-yokes connected to the main balance-yoke, platforms partly supported by the main and the supplemental yokes, slotted plates secured to the casing, a fulcrum-bar secured to the plates, a bar secured to one of the supplemental yokes and links connecting the latter bar and the fulcrum-bar.

15. In a scale, the combination comprising a casing, a main balance-yoke supported therein, supplemental balance-yokes connected to the main balance-yoke, platforms partly supported by the main and supplemental yokes, slotted plates secured to the casing, a fulcrum-bar secured to the plates and provided with a stop-table, a bar secured to one of the supplemental yokes and links connecting the latter bar and the fulcrum-bar.

16. In a scale, the combination comprising a casing, a main balance-yoke supported therein, supplemental balance-yokes connected with the main balance-yoke, platforms partly supported by the main and supplemental yokes, cushions disposed on the platforms, plates disposed on the cushions, a multiple graduated beam carried by the main yoke, a scale-plate disposed intermediate of the members of the beam, poises disposed on the members of the beam and provided with graduations on the upper surfaces thereof, and fractional poises on the upper surfaces of said poises.

17. In a scale, the combination comprising a casing, a main balance-yoke supported therein, supplemental balance-yokes connected with the main balance-yoke, platforms partly supported by the main and supplemental yokes, cushions disposed on the platforms, plates disposed on the cushions, posts secured on the platforms and adapted to support supplemental plates, a multiple graduated beam carried by the main yoke, a scale-plate disposed intermediate of the members of the beam, poises disposed on the members of the beam and provided with graduations on the upper surfaces thereof, and fractional poises on the upper surfaces of said poises.

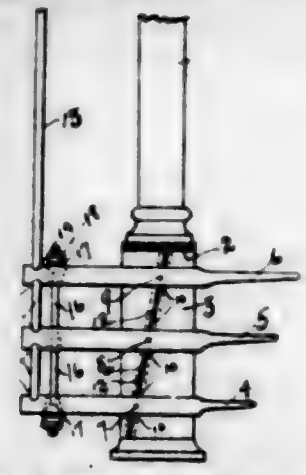
18. In a scale, the combination comprising a casing, a main balance-yoke, supplemental balance-yokes disposed in the casing and connected with the main balance-yoke, lateral arms secured to the main balance-yoke and extending through the casing, a multiple balance-beam carried by said arms and comprising a plurality of graduated members, a scale-plate disposed intermediate of said graduated members and provided with graduations on its upper surface, and a plurality of poises on said graduated members, each comprising a plate having a cut-away portion, a securing-plate, a cap-plate, and a fractional poise disposed on the cap-plate of each of said poises.

19. In a scale, the combination comprising a casing, a main balance-yoke, supplemental balance-yokes disposed in the casing and connected with the main balance-yoke, lateral arms secured to the main balance-yoke and extending through the casing, a multiple balance-beam carried by said arm and comprising a plurality of graduated members, a scale-plate disposed intermediate of said graduated members and provided with graduations on its upper surface, and a plurality of poises on said graduated members, each comprising a plate having a cut-away portion, a securing-plate, a cap-plate having an upturned end and graduations on its upper surface, and a fractional poise disposed on the cap-plate of each of said poises and adapted to abut against said upturned end of the cap-plate.

808,440. PIANO-PEDAL. DUNCAN C. GUERNSEY, Somerville, Mass. Filed Apr. 10, 1905. Serial No. 254,694.

Claim.—1. A device of the class described having a plurality of superimposed pedals of increasing length, but pivoted in the same lever ratio.

2. A device of the class described having a plurality of superimposed pedals of increasing length, but pivoted in the same lever ratio, and an inclined support for the pivots.



3. In a device of the class described, a plurality of superimposed pivoted pedals of increasing length, and a support for said pivots, inclined so as to preserve the same lever ratio in all the pedals.

4. In a device of the class described, a plurality of superimposed pivoted pedals of increasing length, but of the same lever ratio, means for adjustably supporting said pedals, a pedal-rod connecting said pedals, and means for adjusting the connections of said pedals with said rod.

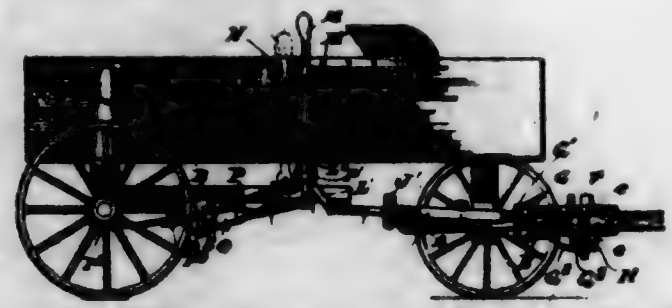
5. In a device of the class described, a plurality of superimposed pivoted pedals of increasing length, but of the same lever ratio, an inclined support for the pivots of said pedals, means for adjusting the pivots therein, a pedal-rod connecting said pedals, and means for adjusting the connections of said pedals with said rod.

6. In a device of the class described, the combination of a plurality of superimposed pivoted pedals of increasing length, but of the same lever ratio, a support for said pivots consisting of an inclined member having recesses therein.

7. In a device of the class described, the combination of a plurality of superimposed pivoted pedals of increasing length, but of the same lever ratio, a support for said pivots consisting of a rod having recesses therein, said rod being inclined to preserve the lever ratio of said pedals.

8. In a device of the class described, the combination of a plurality of superimposed pedals, a notch on the upper face of the upper pedal for the reception of the pedal-rod, notches in the adjacent faces of the pedals, connecting-struts between said pedals said struts resting in said notches and a tie-rod holding said pedals together.

808,450. VEHICLE-BRAKE. DAVID GRUBB, Pike county, Ind. Filed Mar. 27, 1905. Serial No. 252,541.



Claim.—1. The combination substantially as herein described, of the rear hounds, the bearing-frame for the brake-shaft having a rear socketed portion receiving the hounds, the perch-pole extending through said socketed portion, the transverse semitubular bearing portion, provided in its bottom with openings, the brake-shaft having depending crank-arms projected through said openings for connection with the operating devices and also provided with depending crank-arms for connection with the brake-beam, the brake-beam and its shoes connected with said crank-arms, the upwardly-projecting crank-arm on the brake-shaft for connection with the handle-lever, the handle-lever engaged with said crank-arm, a keeper in which said handle-lever may be supported, the sliding frame having the front and rear sections slidably connected, the bars of the rear section being connected with the crank-arms of the brake-shaft, and the front section being provided at its front end with transverse bars spaced apart, the upright yoke passing between said cross-bars and having upper and lower plates extending forwardly, the lower plate being depressed to form a seat for the doubletree, the tongue connected with said upper and lower plates, a box in which said tongue is movable longitudinally, and the doubletree supported below the tongue, substantially as set forth.

2. The combination with the brake-shaft, means for automatically operating the same, and brake devices arranged for operation by the brake-shaft, of a removable handle-lever connected with the brake-shaft, and a keeper for holding the handle-lever when removed from connection with the brake-shaft, substantially as set forth.

3. The combination with a brake-beam, and brake-shoes in rear thereof and having forwardly-projecting portions adapted to ride upon the brake-beam, and links extending above the brake-beam and pivotally connected therewith, whereby to permit the brake-shoes to swing to position in which their projections may rest upon the beam, substantially as set forth.

4. A brake-shoe provided on its front side with a clasp having a back plate provided at its ends with portions engaging the shoe and with returned portions forming a projection to rest upon a brake-beam, a brake-beam, and a swinging bail or link pivoted to the brake-beam and to said returned portions of the clasp, substantially as set forth.

5. The combination with the rear bounds, and the perch-pole of a vehicle, of a brake-shaft, brake devices connected with said shaft, and a casing having a socketed body portion receiving the rear bounds and the perch-pole, and a transverse semitubular portion receiving the brake-shaft, and means for holding the brake-shaft in said semitubular portion, substantially as set forth.

6. The combination with a brake-shaft having depending cranks, and brake devices connected with said shaft for operation thereby, of a support for said shaft, having a semitubular bearing portion receiving the shaft, and provided in its bottom with openings in which the depending cranks operate, substantially as set forth.

7. The combination with the brake-shaft having cranks, and the casing therefor having a transverse semitubular portion receiving the shaft, of the brake-beam connected with the shaft for operation thereby, and the guiding-frames for said brake-beam suitably supported at their rear ends and provided at their front ends with portions extending over the brake-shaft and securing the same in the semitubular bearing portion, substantially as set forth.

8. In an automatic brake device, the combination with the tongue, and a boxing fitting over the tongue and within which the latter slides, of a yoke at the rear end of the tongue and having a forwardly-projecting plate secured to the tongue and fitting between the same and the upper plate of the boxing, and a lower plate extending from the yoke forwardly beneath the boxing and depressed at its front end, and the doubletree fitting between said depressed portion of the bottom plate and the boxing for the tongue, and brake devices arranged for operation by said yoke as the tongue moves longitudinally, substantially as set forth.

9. The combination with the brake-shaft and bearings supporting the same, of a brake-beam arranged in rear of the brake-shaft, means connecting the brake-beam with the shaft for operation by the latter, and guide-frames for the brake-beam suitably supported at their rear ends and extending thence upwardly at an incline, and connected at their front ends with the shaft-supporting devices, substantially as set forth.

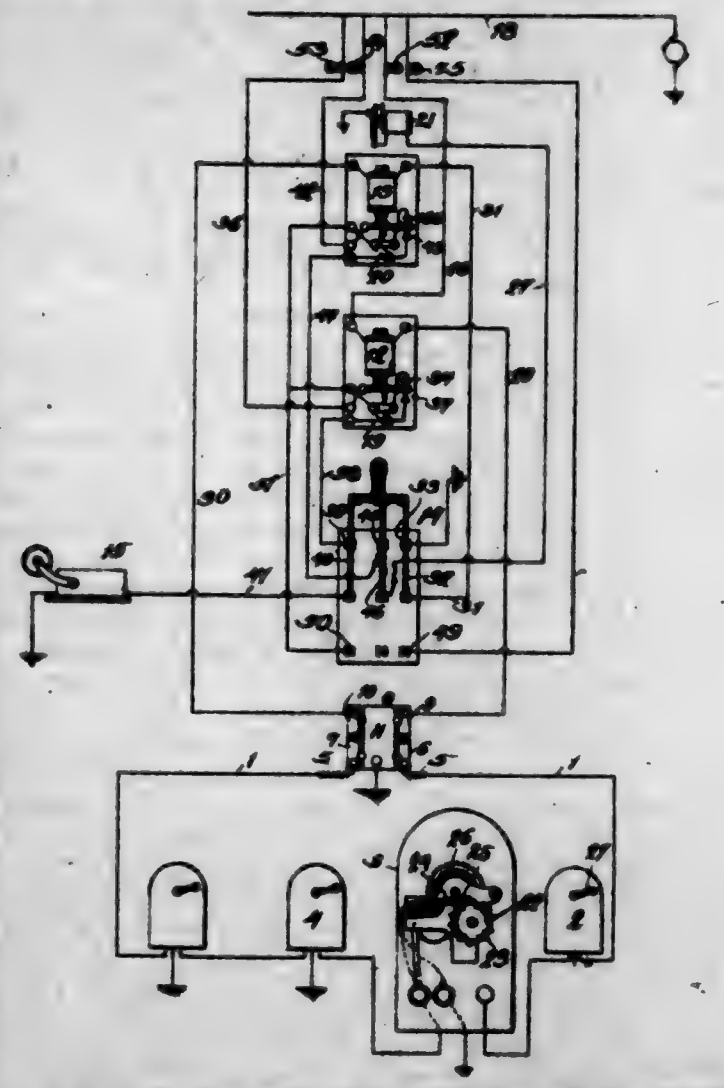
10. The combination of a sliding tongue, a shaft, crank devices on the shaft connected with the sliding tongue, the brake-beam, downwardly-inclined guide-frames in which said brake-beam slides to and from braked position, and connections between said brake-beam and the shaft, whereby the rocking of the shaft will operate the beam, substantially as set forth.

11. The combination of a brake-shaft having projecting crank-arms, a brake-beam connected with and arranged for operation by said crank-arms, the brake-shaft being also provided with an upwardly-projecting crank-arm, a box-like keeper above said crank-arm, a lever detachably engaging with the crank-arm and arranged to fit and be held by the keeper in certain positions of the parts, the tongue, and means whereby the brake-shaft may be automatically operated from the tongue, substantially as set forth.

12. The combination with a brake-shaft, having an upwardly-projecting crank-arm, of a hand-lever socketed at its lower end to fit on said crank-arm, a rack for engagement by said hand-lever for securing the same in different positions, and a keeper arranged to receive said hand-lever for supporting the same and for holding it in position to secure the brake-shoe in place, substantially as set forth.

808,451. SIGNALING SYSTEM. MAYNARD W. HASKELL, New York, N. Y., assignor to American District Telegraph Company, New York, N. Y., a Corporation of New Jersey. Filed May 21, 1904. Serial No. 209,573.

Claim.—1. In a signaling system, the combination with a normally closed circuit comprising metallic outgoing and return lines, and a plurality of signaling devices having contact mechanism for controlling said circuit and also for connecting it to ground, and means for supplying current, of a plurality of signal-receiving devices, and a switch comprising a single operating device and contact members operated thereby, said switch interposed between one of said lines and means for supplying current and adapted when operated to produce separate ground-return circuits independently connected to means for supplying current, one of said signal-receiving devices being included in the circuit of said lines in the normal position of the switch, and one of said signal-receiving devices being included in one side of said circuit and another in the opposite side of said circuit, in the opposite position of the switch.



2. In a signaling system, the combination with a normally closed circuit comprising metallic outgoing and return lines, and a plurality of signaling devices having contact mechanism for controlling said circuit and also for connecting it to ground, and means for supplying current, of two relays, a switch comprising a single operating device and contact members operated thereby, said switch interposed between one of said lines and means for supplying current and adapted when operated to produce separate ground-return circuits independently connected to means for supplying current, one of said relays being included in the circuit of said lines in the normal position of the switch, and said relays being included in opposite sides of said circuit in the opposite position of the switch; and signaling means connected to that relay which is normally in circuit, said switch adapted to connect the other relay also to said signaling means when said switch is shifted from normal position.

3. In a signaling system, the combination with a normally closed circuit comprising metallic outgoing and return lines and a plurality of signaling devices having contact mechanism for controlling said circuit and also for connecting it to ground, and means for supplying current, of a plurality of signal-receiving devices, and a double-throw switch interposed between one of said lines and means for supplying current and arranged when reversed from normal position to produce two independent ground-return circuits independently connected to means for supplying current, and a plurality of signal-receiving devices, one included in the line-circuit in the normal position of the switch, and one included in one of said ground-return circuits and another in the other ground-return circuit in the opposite position of the switch.

4. In a signaling system, the combination with a normally

closed circuit comprising a plurality of signaling devices having contact mechanism for controlling said circuit and also for connecting it to ground, of two relays included in opposite sides of said circuit, a signaling device normally controlled by one of said relays and actuated by the breaking of said circuit, another signaling device normally controlled by the other relay and actuated by the breaking of said circuit, and a switch comprising a single operating device and contact means operated thereby arranged when operated to connect both sides of said circuit independently to means for supplying electrical energy, and to connect both said relays to one of said signaling devices and to cause them to operate the same independently upon closing of their respective circuits.

5. In a signaling system, the combination with a normally closed circuit comprising a plurality of signaling devices having contact mechanism for controlling said circuit and also for connecting it to ground, of two relays included in opposite sides of said circuit, a signaling device normally controlled by one of said relays and actuated by the breaking of said circuit, another signaling device normally controlled by the other relay and actuated by the breaking of said circuit, and a double-throw switch arranged when operated to connect both said relays with one of said signaling devices and to cause them to operate the same upon the completion of their circuits, and to connect both sides of the circuit independently with means for supplying electric energy.

6. In a signaling system, the combination with a circuit comprising a plurality of signaling devices having contact mechanism for controlling said circuit and also for connecting it to ground, means for supplying electrical energy, and a switch adapted in one position to produce a normally closed circuit including means for supplying electrical energy, and in another position to produce independent ground-return circuits independently connected to means for supplying electrical energy, of a plurality of relays, one of which is included in the circuit formed when the switch is in the first position, and two of which are included in the two circuits formed when the switch is in the second position, said relays having front and back contacts, signaling means, and switches adapted to cause said relays to operate said signaling means upon the closing of either the front contact or of the rear contact, at will.

7. In a signaling system, the combination with a circuit comprising a plurality of signaling devices having contact mechanism for controlling said circuit and also for connecting it to ground, means for supplying electrical energy, one terminal of which is normally connected to ground and the other to one side of said circuit, and a switch arranged in its normal position to connect the opposite side of said circuit with said grounded terminal, and in its opposite position to break such connection and connect that side of the circuit independently with a source of supply, two relays included in opposite sides of said circuit, and two signaling devices, one normally controlled by one of said relays and the other by the other relay, said switch arranged when in its second position to connect both said relays to one of said signaling devices.

8. In a signaling system, the combination with a circuit comprising a plurality of signaling devices having contact mechanism for controlling said circuit and also for connecting it to ground, means for supplying electrical energy, one terminal of which is normally connected to ground and the other to one side of said circuit, and a switch arranged in its normal position to connect the opposite side of said circuit with said grounded terminal, and in its opposite position to break such connection and connect that side of the circuit independently with a source of supply, two relays included in opposite sides of said circuit, two signaling devices, one normally controlled by one of said relays and the other by the other relay, said switch arranged when in its second position to connect both said relays to one of said signaling devices, and switches adapted to cause said relays to operate said signaling devices upon the closing of either the front contact or the back contact, at will.

9. In a signaling system, the combination of the line-circuit comprising signaling devices having both circuit-breaking and circuit-grounding contact mechanism, the electric generator having a grounded terminal, the relays, the signaling devices, arranged one to receive signals and the other to indicate line condition, one relay normally controlling the first signaling device, the other relay normally controlling said second signaling device, the double-throw switch arranged when operated to divide the circuit into independent ground-return circuits and to connect said second relay to signal-receiving means, and the switches for reversing the connection to the contact-points of the relays of the signaling device controlled thereby.

10. In a signaling system, the combination of the normally closed line-circuit comprising metallic outgoing and return lines and signaling devices comprising both circuit-breaking and circuit-grounding mechanism, the means for supplying electric energy, the relays, a signaling device arranged to receive the signals, the double-throw switch interposed in said circuit between one of said lines and means for supplying current, and arranged when operated to divide the circuit into independent ground-return circuits, and the switches for reversing the connection of such signaling device to the contact-points of the relays.

11. In a signaling system, the combination of a normally closed line-circuit, two signal-receiving devices included in opposite sides thereof, means for supplying current, and one or more signal-transmitting devices, included in said circuit between the signal-receiving devices and having both circuit-breaking and circuit-grounding signal-transmitting mechanism, one side of said circuit being grounded between said signal-transmitting devices and the source of current-supply, whereby in the event of a defect in the ground connection of one of said signal-transmitting devices both signal-receiving devices receive the signal transmitted.

12. In a signaling system, the combination of a normally closed line-circuit, two relays included in opposite sides thereof, means for supplying current, one or more signal-transmitting devices, included in said circuit between the relays and having both circuit-breaking and circuit-grounding signal-transmitting mechanism, one side of said circuit being grounded between said signal-transmitting devices and the source of current-supply, whereby in the event of a defect in the ground connection of one of said signal-transmitting devices both relays receive the signal transmitted, and a signaling device, for indicating line condition, arranged to be operated by the relay connected to the ungrounded terminal of said source of current-supply.

13. In a signaling system, the combination of a normally closed line-circuit, two signal-receiving devices included in opposite sides thereof, means for supplying current, one or more signal-transmitting devices included in said circuit between the signal-receiving devices and having both circuit-breaking and circuit-grounding signal-transmitting mechanism, one side of said circuit being grounded between said signal-transmitting devices and said source of current-supply, whereby in the event of a defect in the ground connection of one of said signal-transmitting devices both signal-receiving devices receive the signal transmitted, and a switch normally interposed in said circuit between said ground connection and the signal-transmitting devices, said switch adapted when operated to connect the side of the circuit to which it is connected to means for supplying current thereto, independently of the other side of the circuit.

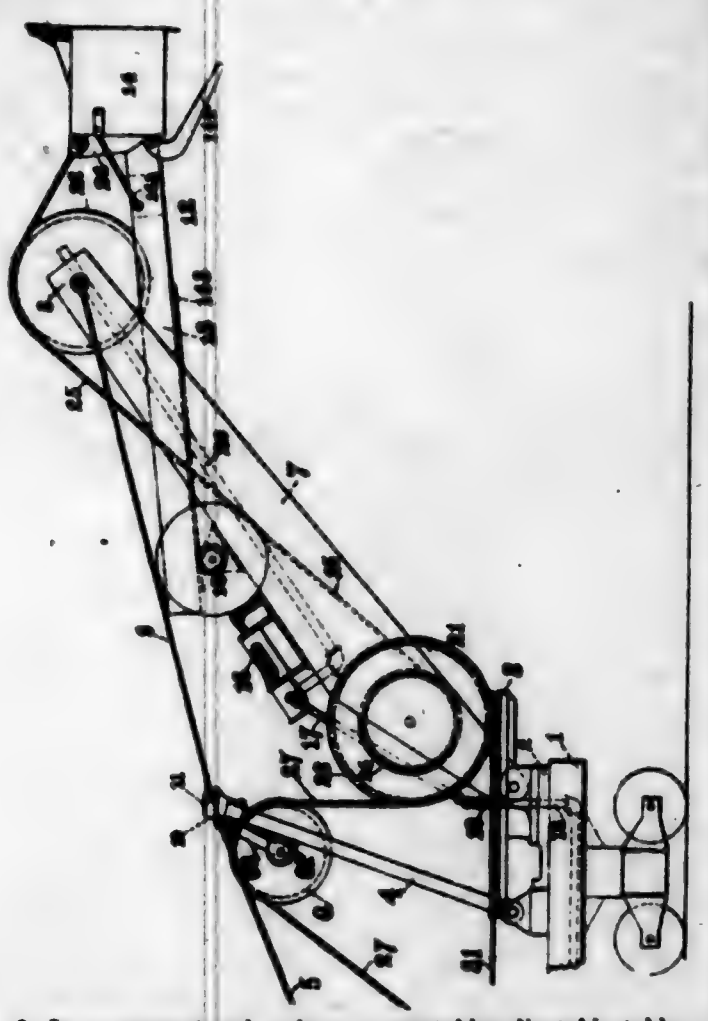
14. In a signaling system, the combination of a line-circuit, two relays included in opposite sides thereof, means for supplying current, connected on one side to ground, one or more signal-transmitting devices, included in said circuit between the relays and having both circuit-breaking and circuit-grounding signal-transmitting mechanism, whereby in the event of a defect in the ground connection of one of said signal-transmitting devices both relays receive the signal transmitted, a signaling device, for indicating line condition, arranged to be operated by the relay connected to the ungrounded terminal of said source of current-supply, another signaling device arranged to be operated by the other relay, and a switching device, arranged when operated to divide said circuit into independent ground-return circuits connected to means for supplying electric energy, and to connect said first relay operatively with said second signaling device.

15. In a signaling system, the combination of a line-circuit, two relays included in opposite sides thereof, and having both front and back contacts, means for supplying electric current, connected on one side to ground, and one or more signal-transmitting devices, included in said circuit between the relays and having both circuit-breaking and circuit-grounding signal-transmitting mechanism, two signaling devices and separate circuits therefor, one side of one circuit connected to the armature of one of said relays and one side of the other said circuit connected to the armature of the other said relay, switching means for connecting the opposite sides of the circuits of said signaling devices to the front or back contacts of their respective relays at will, and further switching means arranged when operated to divide said line-circuit into independent ground-return circuits and to connect both relays operatively to the circuit of one of said signaling devices.

808,452. STEAM-SHOVEL. OLAF EHLEBRECHT, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Aug. 26, 1905. Serial No. 275,587.

Claim.—1. In a power-shovel, a dipper, and means for operating

the dipper, including a section coacting to receive upward power stress.



2. In a power-shovel, a base, a rotatably-adjustable table, a boom on the table, a dipper swingably mounted on the boom, a rope attached to the dipper, a sheave on the boom, and a guide-sheave mounted at a higher level stationarily as to the base, the sheaves so placed as to receive the rope and locate a section thereof in the common tangent of the sheaves and in the vertical axis of the table.

3. In a power-shovel, a dipper, and a rope for operating the dipper including a section coacting to receive upward power stress.

4. In a power-shovel, a base, a rotatably-adjustable boom, a dipper on the boom, a sheave on the boom, a guide-sheave supported on the base at a higher level than the boom-sheave, and a rope attached to the dipper and coacting with the sheaves.

5. In a power-shovel, means for operating the dipper coacting to receive a power stress tending to counterbalance the weight of shovel parts.

6. In a power-shovel, a dipper, and a rope for operating the dipper including a section coacting to receive a power stress tending to counterbalance the weight of shovel parts.

7. In a power-shovel, a dipper, and means for operating the dipper, including a differential drum.

8. In a power-shovel, a dipper, a differential drum, ropes coacting with the drum for operating the dipper and having different factors of safety.

9. In a power-shovel, a dipper, a differential drum, and means for operating the dipper including a rope coacting with one differential part of the drum and a second rope coacting with a second differential part of the drum, the ropes having different factors of safety.

10. In a power-shovel, a dipper and means for operating the dipper including a differential drum and a section coacting to receive upward power stress.

11. In a power-shovel, a base, a rotatably-adjustable table, a frame on the base extending over the table, a guide-sheave supported over the table by the frame tangential to the table-axis, a dipper, and operating means for the dipper including a rope leading in the table-axis to the guide-sheave.

12. In a power-shovel, a dipper, a differential drum, a plurality of ropes connected to the dipper and coacting with the drum, and means for operating the drum.

13. In a power-shovel, a rotatable table, a dipper and a differential drum supported on the table, a plurality of ropes connected to the dipper and coacting with the drum, and means for operating the drum including a rope in the table-axis.

14. In a power-shovel, a rotatable table, a boom on the table, a dipper on the boom, fluid-pressure means on the boom for operating the dipper, other means for operating the dipper including a rope-section in the axis of the table, and means for supplying fluid-pressure to the boom means and located in the axis of the table below the rope-section.

15. In an excavator, a dipper, a differential drum, and means including a rope for operating the dipper

16. In an excavator having a boom, a rotatable table, a dipper, a differential drum supported on the boom, and means including a rope for operating the dipper.

17. In an excavator, a dipper, a differential drum, and a rope coacting with the drum for operating the dipper.

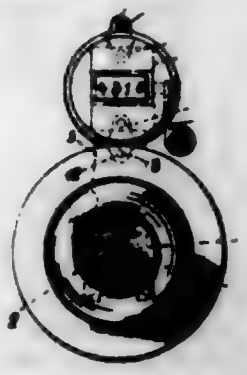
808,453. SILVER ALLOY. ARTHUR E. HOBSON, Meriden, Conn. Filed Apr. 6, 1905. Serial No. 254,197.

Claim.—1. A silver alloy including in its composition silver to the amount of at least nine hundred and twenty-five one-thousandths and the balance of other metals including manganese.

2. A metal alloy consisting of nine hundred and twenty-five parts silver and seventy-five parts of other metals, including manganese.

3. A metal alloy composed of silver nine hundred and twenty-five parts and manganese seventy-five parts.

808,454. TELEPHONE ATTACHMENT. PAUL KANNEBERG, Pittsburg, Pa. Filed Feb. 24, 1905. Serial No. 247,126.



Claim.—1. In an attachment for telephones, the combination with a transmitter-arm, of a standard formed at its lower end with an inverted-U-shaped bracket adapted to span and be clamped to the transmitter-arm, a casing having outwardly-extending pierced lugs secured to said standard and provided with inwardly-extending pierced lugs, and registering mechanism secured to said inwardly-extending lugs, and a lever for actuating said mechanism extending through a slot provided therefor in the wall of said casing.

2. An attachment for telephones comprising a standard having a substantially inverted-U-shaped bracket at its lower end adapted to be clamped to a part of a telephone, a casing adapted to close a registering mechanism and having exterior lugs secured to said standard, and provided with interior lugs to which the registering mechanism is secured, and a lever for actuating said mechanism extending through a slot in the wall of the casing.

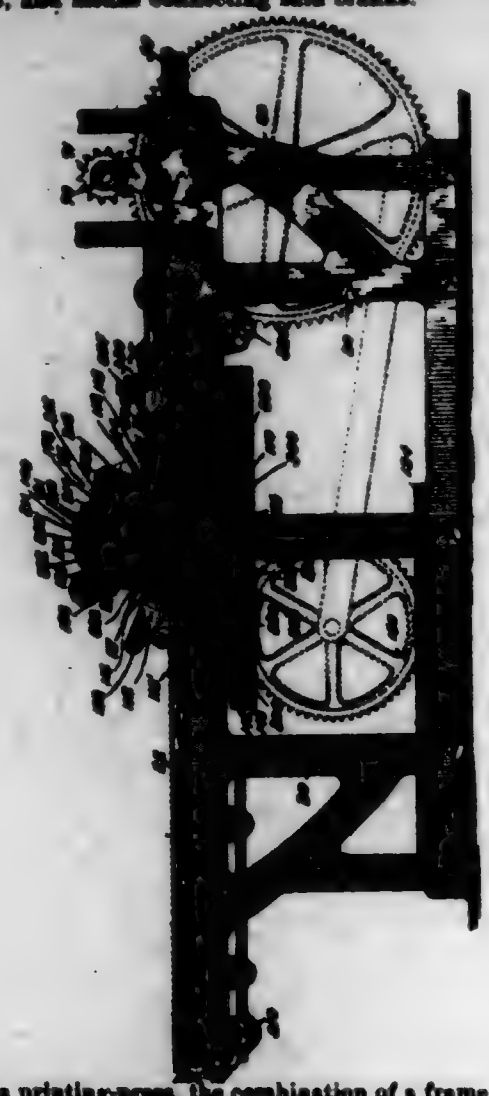
808,455. TRAVELING-CYLINDER PRINTING-PRESS. JOHN T. KING, Madison, Wis. Filed Mar. 7, 1904. Serial No. 196,999.

Claim.—1. In a printing-machine, the combination of a frame, a type-bed, a traveling impression-cylinder movable over said type-bed, a reciprocating carriage on said frame, means on said carriage for supporting said cylinder, a lifting mechanism disposed on said carriage and provided with a handle for actuation by the pressman, and automatic actuating devices disposed on said frame on opposite sides of said type-bed for actuating said lifting mechanism to shift said cylinder to an operative plane for the impression-stroke and to an inoperative plane for the return stroke.

2. In a printing-machine, the combination of a frame, a type-bed, a traveling impression-cylinder, means for impelling said traveling cylinder to and fro over said type-bed, means for lifting and lowering said cylinder on opposite sides respectively of said type-bed to shift it to an operative plane for the impression-stroke and to an inoperative plane for the return stroke, and a friction device for holding said cylinder in raised or lowered position.

3. In a printing-press, the combination of a frame, a type-bed, a traveling impression-cylinder movable over said type-bed, a reciprocating carriage on said frame, eccentrics on said carriage supporting said cylinder and provided with cranks, an adjustable rocker

pivoted on said carriage and provided with an arm engaging one of said cranks, and means connecting said cranks.



4. In a printing-press, the combination of a frame, a type-bed, a traveling impression-cylinder movable over said type-bed, a reciprocating carriage on said frame, eccentrics on said carriage supporting said cylinder and provided with cranks, means connecting said cranks, and an adjustable rocker pivoted on said carriage and provided with an arm engaging one of said cranks and with a handle for actuation by the pressman.

5. In a printing-press, the combination of a frame, a type-bed, a traveling impression-cylinder movable over said type-bed, a reciprocating carriage on said frame, eccentrics on said carriage supporting said cylinder and provided with cranks, a rocker supported on said carriage and provided with an arm engaging one of said cranks, means connecting said cranks, and cams on said frame for engaging said rocker at opposite ends of the carriage movements.

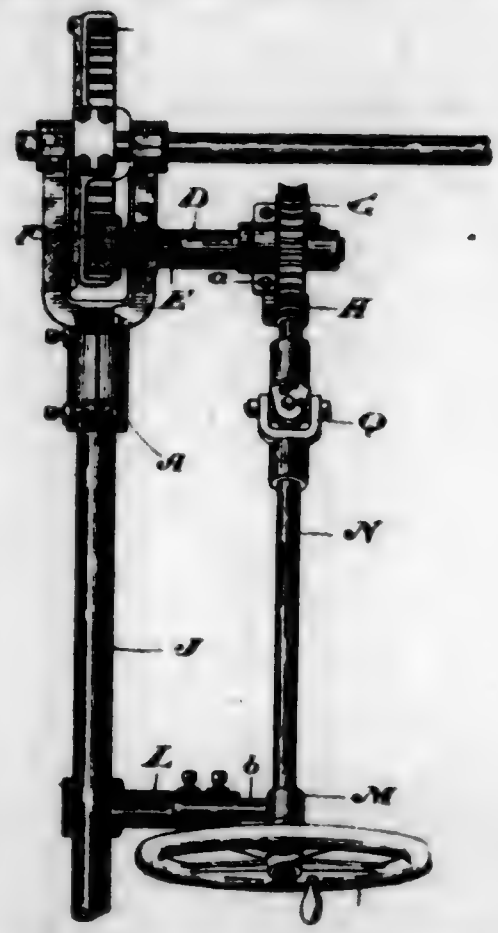
6. The combination of a frame, a type-bed thereon for supporting a type-form, a traveling impression-cylinder movable on said frame over said type-form, a reciprocating carriage on said frame engaging said impression-cylinder and provided with a rack, a rack on said frame, a traveling gear engaging said racks, and means for reciprocating said gear, the rack on the carriage being provided with a flange engaging roller-studs on the frame for holding the carriage in position during the traverse thereof.

7. In a printing-press, the combination of a frame, a type-bed, a traveling impression-cylinder movable over said type-bed, a reciprocating carriage on said frame, eccentrics on said carriage supporting said cylinder and provided with cranks, an adjustable rocker supported on said carriage and provided with an arm engaging one of said cranks, means connecting said cranks, friction devices between the inner faces of said rocker and said carriage, and a spring for holding said rocker in contact with said friction devices for maintaining said rocker in adjusted position.

8. The combination of a frame, a type-bed on said frame for supporting a type-form, a traveling impression-cylinder movable on said frame over said type-form for taking an impression, a reciprocatory carriage on said frame, journal-boxes mounted on said carriage, eccentrics adapted to turn in said journal-boxes and provided with cranks, arms attached to said journal-boxes, a crank-shaft journaled in said arms and provided with cranks, links connecting the crank-shaft cranks with the eccentric-cranks, and means for engaging one of said eccentric-cranks for shifting the eccentrics to lift and lower said cylinder.

9. The combination of a frame, a type-bed on said frame for supporting a type-form, a traveling impression-cylinder movable on said frame over said type-form for taking an impression, a reciprocatory carriage on said frame, journal-boxes mounted on said carriage, eccentrics adapted to turn in said journal-boxes and provided with cranks, arms attached to said journal-boxes, a crank-shaft journaled in said arms and provided with cranks, links connecting the crank-shaft cranks with the eccentric-cranks, and a rocker on said carriage provided with means for engaging one of said eccentric-cranks for shifting said cranks to lift and lower said cylinder.

808,456. **TRANSOM-LIFTER.** ROBERT W. KING, Toronto, Canada. Filed Mar. 3, 1905. Serial No. 248,269.



Claim.—1. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; an internal gear secured to the shaft; a pinion-shaft journaled in the framing; a pinion secured to the said shaft and meshing with the internal gear, the bearing of the two shafts being thus a less distance apart than the radius of the internal gear; a worm-wheel secured to the pinion-shaft; a worm meshing therewith; a bearing for the worm rotatable on part of the framing; and an operating-shaft connected to the said worm.

2. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; an internal gear secured to the shaft; a pinion-shaft journaled in the framing; a pinion secured to the said shaft and meshing with the internal gear, the bearing of the two shafts being thus a less distance apart than the radius of the internal gear; a worm-wheel secured to the pinion-shaft; a worm meshing therewith; a bearing for the worm rotatable on part of the framing; an operating-shaft connected to the said worm; a post; a collar movable thereon; a sleeve extending laterally from the collar; a bearing for the operating-shaft; a stud on said bearing journaled within the sleeve; and means for clamping the stud and sleeve together.

3. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; an internal gear secured to the shaft; a pinion-shaft journaled in the framing; a pinion secured to the said shaft and meshing with the internal gear, the bearing of the two shafts being thus a less distance apart than the radius of the internal gear; a worm-wheel secured to the pinion-shaft; a worm meshing therewith; a bearing for the worm rotatable on part of the framing; an operating-shaft connected to the said worm; a post connected with the framing; and a bearing for the lower end of the operating-shaft secured to the said post.

4. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; an internal gear secured to the shaft; a pinion-shaft journaled in the framing; a pinion secured to the said shaft and meshing with the internal gear, the bearing of the two shafts being thus a less distance apart than the radius of the internal gear; a worm-wheel secured to the pinion-shaft; a worm meshing therewith; a bearing for the worm rotatable on part of the framing; an operating-shaft connected to the said worm; a post connected with the

framing; a collar movable thereon; a sleeve extending laterally from the collar; a bearing for the operating-shaft; a stud on said bearing journaled within the sleeve; and means for clamping the stud and sleeve together.

5. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; an internal gear secured to the shaft; a pinion-shaft journaled in the framing; a pinion secured to the said shaft and meshing with the internal gear, the bearings of the two shafts being thus a less distance apart than the radius of the internal gear; power-increasing gear carried by the said framing and adapted to operate the pinion-shaft; an operating-shaft adapted to operate the power-gear; a post; and a bearing for the lower end of the operating-shaft carried by the said post.

6. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; an internal gear secured to the shaft; a pinion-shaft journaled in the framing; a pinion secured to the said shaft and meshing with the internal gear, the bearings of the two shafts being thus a less distance apart than the radius of the internal gear; power-increasing gear carried by the said framing and adapted to operate the pinion-shaft; an operating-shaft adapted to operate the power-gear; a post connected with the framing; and a bearing for the lower end of the operating-shaft carried by the said post.

7. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; an internal gear secured to the shaft; a pinion-shaft journaled in the framing; a pinion secured to the said shaft and meshing with the internal gear, the bearings of the two shafts being thus a less distance apart than the radius of the internal gear; a worm-wheel secured to the pinion-shaft; a worm meshing therewith; a bearing for the worm rotatable and laterally movable on part of the framing; and an operating-shaft connected to the said worm.

8. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; a gear secured to the shaft; a pinion-shaft journaled in the framing; a pinion secured to the said shaft and meshing with the gear; power-increasing gear carried by the said framing and adapted to operate the pinion-shaft; an operating-shaft adapted to operate the power-gear; a post connected with the framing; and a bearing for the lower end of the operating-shaft carried by the said post.

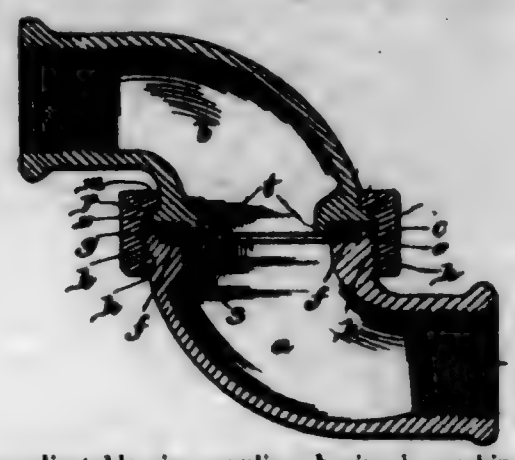
9. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; a gear secured to the shaft; a pinion-shaft journaled in the framing; a pinion secured to the said shaft; a worm-wheel secured to the pinion-shaft; a worm meshing therewith; a bearing for the worm rotatable on part of the framing; an operating-shaft connected to the said worm; a post; a collar movable thereon; a sleeve extending laterally from the collar; a bearing for the operating-shaft; a stud on said bearing journaled within the sleeve; and means for clamping the stud and sleeve together.

10. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; a short shaft journaled in the framing; gearing between the two shafts; a worm-wheel on the short shaft; a worm meshing therewith; a bearing for the worm rotatable on part of the framing; an operating-shaft connected to the said worm; a post; a collar movable thereon; a sleeve extending laterally from the collar; a bearing for the operating-shaft; a stud on said bearing journaled within the sleeve; and means for clamping the stud and sleeve together.

11. In shaft-operating apparatus a framing; an oscillating shaft journaled therein; a short shaft journaled in the framing; gearing between the two shafts; a worm-wheel on the short shaft; a worm meshing therewith; a bearing for the worm rotatable on part of the framing; an operating-shaft connected to the said worm; a universal joint in the shaft; a post; a collar movable thereon; a sleeve extending laterally from the collar; a bearing for the operating-shaft; a stud on said bearing journaled within the sleeve; and means for clamping the stud and sleeve together.

808,457. PIPE-COUPLING. HARVEY F. KRAYER, Medina, Ohio. Filed May 11, 1905. Serial No. 259,887.

Claim.—1. In an adjustable pipe-coupling, the combination with a longitudinally-curved tapering tubular member having an internally-expanded seat end provided with an exterior threaded annular flange, and a longitudinally-curved tapering tubular member having an internally-expanded seat end provided with an outward-directed exterior annular flange and an interior annular flange at right angles thereto and parallel to the exterior annular flange of the first-named member, of a coupling-ring having an internal thread engaging the thread of the exterior annular flange of the first-named member and having an inward-directed annular flange engaging the outward-directed flange of the last-named member, substantially as specified.



2. An adjustable pipe-coupling, having in combination an internally flanged and threaded coupling-ring, a tubular member having a longitudinal curvature through an arc of forty-five degrees and an expanded seat end engaging said coupling-ring, a gasket, and a tubular member having a longitudinal curvature through an arc of forty-five degrees and an expanded seat end provided with an exterior annular flange to engage the flange of the coupling-ring, and an interior annular flange at right angles to said exterior annular-flange covering in the gasket, the meeting faces of said members being in a plane at right angles to the axis of their meeting ends and at an angle of forty-five degrees to the faces of the outer ends of said members, substantially as specified.

808,458. TOY. JOSEPH C. KRAUCH, Sioux City, Iowa. Filed May 25, 1905. Serial No. 262,155.



Claim.—1. A projectile adapted to be attached to a swinging cord representing the body of a bird and wings carried by said body and means for attaching said wings in different positions.

2. A projectile adapted to be attached to a swinging cord and having a body representing the body of a bird, wings adapted to project laterally from said body, said body having means for attaching said wings at a high or low level thereupon.

3. A projectile adapted to be attached to a swinging cord and having a body representing the body of a bird, said body having laterally-projecting staples at the sides thereof and removable wings adapted to attach to said staples.

4. A projectile having a body representing the body of a bird, said body having laterally-projecting staples disposed in pairs at the sides thereof and wings having laterally-bent fingers adapted to pass through said staples and resting against the sides of said body.

5. A projectile adapted to be attached to a swinging cord and having a body representing the body of a bird and a tail having a rotatable neck attached to said body and adapted to have its angular position adjusted thereupon.

6. A projectile adapted to be attached to a swinging cord having a body representing the body of a bird and a sling attached at the back of said bird and affording means for tilting the body thereof.

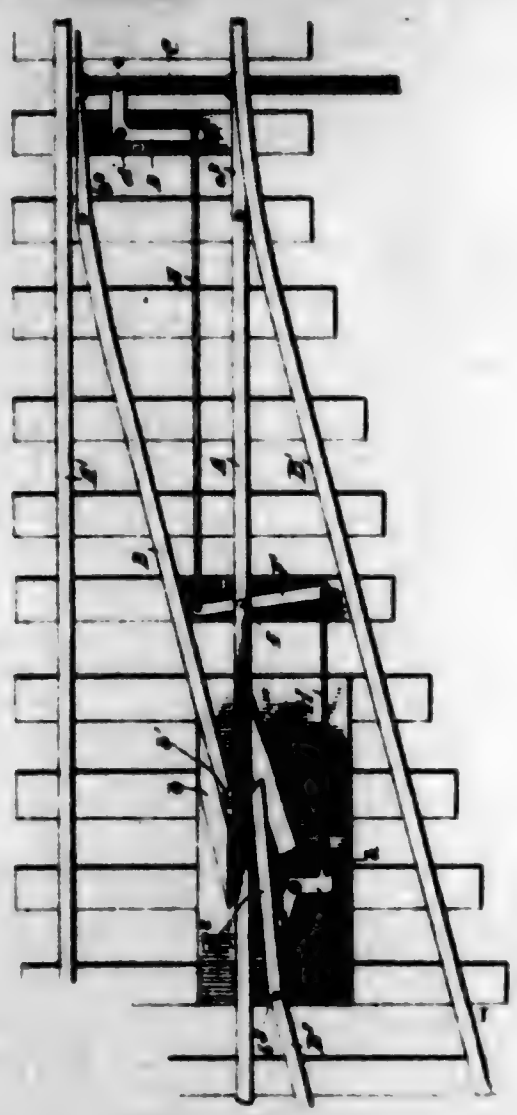
7. A projectile having a body representing the body of a bird and having eyes attached to the back thereof and a cord attached to said eyes and constituting a sling for adjusting the angular position of said body.

808,459. RAILROAD-SWITCH. LOAMI L. LAKE, Pontanet, Ind. Filed Oct. 24, 1905. Serial No. 284,708.

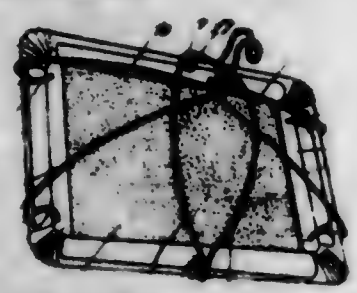
Claim.—1. A railroad-switch, comprising a stationary switch-rail B having an enlarged head with seat b' set a short distance away from the main rail, a movable crossover-section B^3 pivoted outside the main track and having a tongue underlapping the main rail and an end fitting in the seat b' and a parallel rod f^3 connected to its side, an elbow-lever having a swiveling eye in one arm, said swiveling eye embracing the parallel rod, a pair of switch-tongues and means for simultaneously operating said switch-tongues and said elbow-lever.

2. A railroad-switch, comprising a stationary switch-rail B having an enlarged head with seat b' set a short distance away from the main rail, a movable crossover-section B^3 pivoted outside the

main track, and having a tongue underlapping the main rail and an end fitting in the cast *b'* and a parallel rod *b*[3] connected to its side, an elbow-lever having a swiveling eye in one arm embracing the parallel rod, a cross-lever fulcrumed in a slot in the main rail, a rod connecting the outer arm of the elbow-lever to one end of the cross-lever, a rod connected to the other end of the cross-lever, an elbow-lever connected to said rod, a pair of adjustable switch-tongues and a cross-bar connected to the same and also to the last-mentioned elbow-lever for simultaneous action.



806,480. INSECT-TRAP. GODFREY LAVER, Los Angeles, Cal., assignor of one-half to Joseph B. Marsh, Santa Monica, Cal. Filed Aug. 16, 1905. Serial No. 275,702.



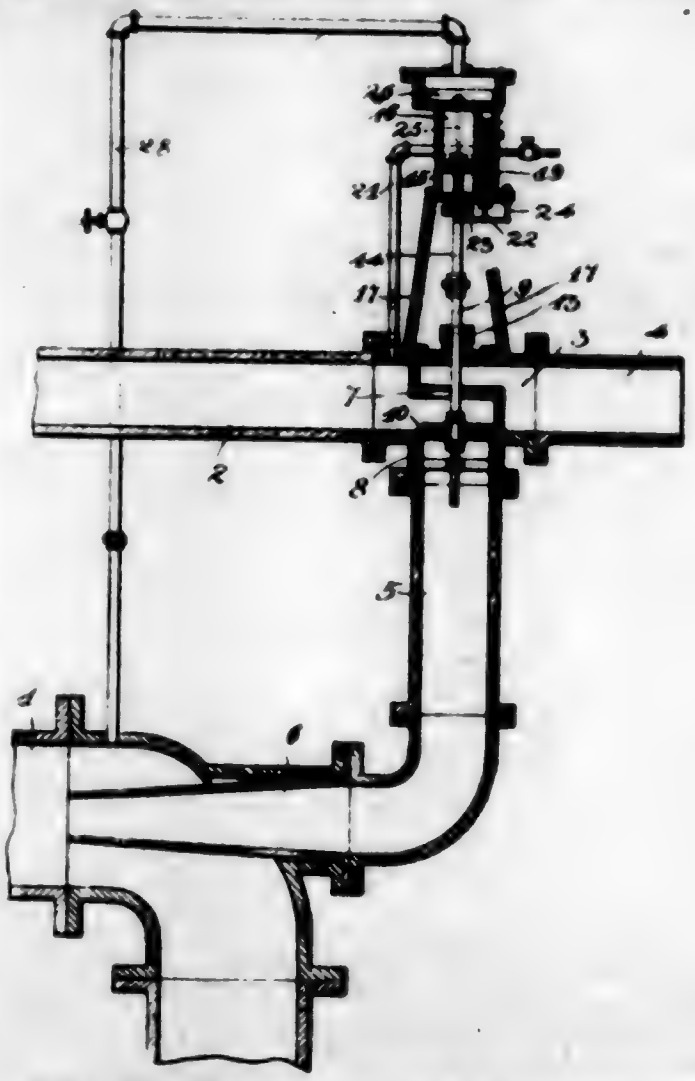
Claim.—1. An insect-trap of the character described consisting of a tray, a piece of adhesive material mounted upon said tray, stirrups detachably connected to said tray and engaging one another, said stirrups being adapted to support said tray from a suitable support and retain said adhesive paper upon said tray, pieces of wire passing over said stirrups and secured to the sides of said tray, substantially as described.

2. The combination with a tray having flanged edges, said edges having openings therethrough, of two stirrups having inwardly-bent ends extending through said openings and bearing on the inner surface of the tray, one of said stirrups being provided with means whereby it may be attached to a suitable support.

3. An insect-trap of the character described consisting of a tray, means for suspending said tray and means carried by the supporting means for securing a piece of fly-paper to said tray, substantially as described.

806,481. AUTOMATIC FREE-DISCHARGE VALVE. ARMAND LEE, Hanover Pa. Filed July 31, 1905. Serial No. 272,063.

Claim.—1. In combination with the suction-pipe of a pump, a steam-exhaust pipe, a branch pipe leading from the exhaust-pipe to the suction-pipe, a valve to cause the exhaust-steam to be discharged from the exhaust-pipe either to the atmosphere or through the branch pipe, steam-pressure-actuated means to operate the said valve, a valve to control the operation of the said steam-pressure-actuated means, and means actuated by the suction of the suction-pipe to operate the last-mentioned valve.



2. In a device of the character described, the combination with the suction-pipe and the steam-exhaust pipe of a pump, of a valve-casing arranged on said exhaust-pipe, a branch pipe leading from said valve-casing to said suction-pipe, a valve arranged in said casing, and means whereby said valve is automatically operated to control the steam from said steam-exhaust pipe, substantially as described.

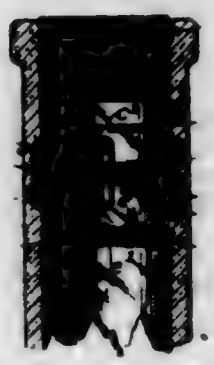
3. In a device of the character described, the combination with the suction-pipe and the steam-exhaust pipe of a pump, of a valve-casing arranged on said exhaust-pipe, a branch pipe leading from said valve-casing to said suction-pipe, a free-exhaust pipe to conduct steam from said valve-casing to the atmosphere, a valve arranged in said casing to control the passage of steam from said steam-exhaust pipe to the said branch pipe or to said free-exhaust pipe, a steam-cylinder, a piston arranged in said cylinder, means to connect said piston with said valve, and means to automatically operate said piston and thereby shift said controlling-valve, substantially as described.

4. In a device of the character described, the combination with the suction-pipe and the steam-exhaust pipe of a pump, of a valve-casing arranged on said exhaust-pipe, a branch pipe leading from said valve-casing to said suction-pipe, a free-exhaust pipe to conduct steam from said valve-casing to the atmosphere, a valve arranged in said casing to control the passage of steam from said steam-exhaust pipe to the said branch pipe or to said free-exhaust pipe, a steam-cylinder, a piston arranged in said cylinder, a piston-rod connected to said piston, a valve-stem to connect said valve with said piston-rod, a valve to control the admission of steam to said cylinder and thereby operate said valve, and means to operate said valve by the suction in the suction-pipe of the pump, substantially as described.

5. In a device of the character described, the combination with the suction-pipe and the steam-exhaust pipe of a pump, of a valve-casing arranged on said exhaust-pipe, an exhaust-pipe leading from said valve-casing to said suction-pipe, a free-exhaust pipe to conduct steam from said valve-casing to the atmosphere, a valve arranged in said casing to control the passage of steam from said steam-exhaust pipe to the said suction-pipe or to said free-exhaust pipe, a

steam-cylinder, a piston arranged in said cylinder, means to connect said piston with said controlling-valve, a slide-valve arranged on said steam-cylinder to admit steam thereto, whereby said piston is operated, a vacuum-cylinder arranged on said steam-cylinder, a piston arranged in said vacuum-cylinder, and a valved vacuum-pipe connecting said vacuum-cylinder with the suction-pipe of the pump, substantially as and for the purposes described.

808,462. NON-REFILLABLE BOTTLE. HARRY W. LLOYD, Long-branch, N. J. Filed Aug. 14, 1905. Serial No. 274,071.



Claim.—1. A receptacle having a neck provided with an annular groove, and a foldable stopper held in said groove, said stopper being provided with packing to prevent the discharge of liquid through it in either direction and with valves opening in one direction to prevent the passage of liquid into the receptacle.

2. A receptacle having a foldable stopper, means in the neck of the receptacle for holding the stopper in stationary position, and a second stopper located above the first.

3. A receptacle having a foldable stopper, means in the neck of the receptacle for holding the stopper in stationary position, a second foldable stopper located above the first, and means preventing the removal of the stoppers when unfolded.

4. A receptacle having a foldable stopper, means in the neck of the receptacle for holding the stopper in stationary position, a second foldable stopper located above the first, and means preventing the removal of the stoppers when unfolded, said means comprising a partition having openings of substantially the size and shape of the stoppers when folded.

5. A receptacle having a foldable stopper, means in the neck of the receptacle for holding the stopper in stationary position, a second foldable stopper located above the first, and means preventing the removal of the stoppers when unfolded, each of said stoppers comprising a series of plates pivotally connected together at the center of the stopper, and means for unfolding said plates to present a circular periphery.

6. A receptacle having a neck provided with a pair of annular grooves, one located above the other, a partition above the upper groove having a substantially triangular opening, and a pair of foldable stoppers, one located in each groove, said stoppers being of substantially triangular form when folded.

7. A bottle having a pair of stoppers therein, one of said stoppers being formed of a series of plates pivoted together and having means for moving them into unfolded or expanded position, and means for limiting that motion.

8. A bottle-stopper comprising four segmental plates pivoted together at their apexes, a spring for swinging said plates about their pivot so as to cause them to assume an expanded or unfolded position representing a complete circle, and stops on the plates for preventing their motion beyond a certain point.

808,463. FIREARM. GEORG LOEW, Christianburg, Germany. Filed June 22, 1904. Serial No. 214,351.

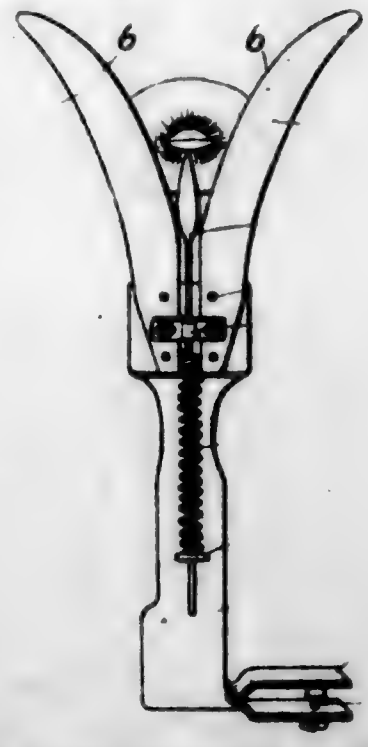


Claim.—1. The combination with a firearm having a barrel formed with a recess in its receiving end, and a slotted member in rear of such barrel, the slot whereof is coincident with said recess, of means for indicating the presence or absence of a cartridge in said barrel, comprising a spring-pressed lever fulcrumed at or near one end in said member and fitted in the slot thereof, the free end of said lever having a projection on its inner face extending into said recess, said end of said lever being projected beyond said slot outside the exterior plane of said member when said projection is in engagement with a cartridge in said barrel.

2. The combination with a firearm having a barrel and a slotted breech-bolt in rear thereof, of means for indicating the presence or absence of a cartridge in said barrel, comprising a spring-pressed extractor-lever fulcrumed at or near one end in said breech-bolt and at its other end having an inner projection forming a hooked extremity for engaging the rim of a cartridge, the outer portion of such lever at such end being projected beyond said slot outside the exterior plane of said breech-bolt when said hooked extremity is in engagement with a cartridge.

3. The combination with a firearm having a barrel and a slotted breech-bolt in rear thereof, of means for indicating the presence or absence of a cartridge in said barrel, comprising a spring-pressed extractor-lever fulcrumed at or near one end in said breech-bolt and at its other end having an inner projection forming a hooked extremity for engaging the rim of a cartridge, the forward face of such extremity being inclined, and the outer portion of such lever at such end being projected beyond said slot outside the exterior plane of said breech-bolt when said hooked extremity is in engagement with a cartridge.

808,464. FRUIT CUTTER AND PITTER. KING T. LYNN, Fresno, Cal., assignor of one-half to A. Mocker, San Francisco, Cal. Filed Feb. 23, 1904. Serial No. 194,966.



Claim.—1. In a device of the character described, the combination of a stem provided with means for supporting the same upon a table, upwardly-extending diverging blades secured to said stem for cutting the fruit, said blades being spaced from each other, as shown and the edges thereof curving outward continuously, a plunger movable vertically between said blades, means for guiding the plunger, and a spring for pressing said plunger upward, substantially as described.

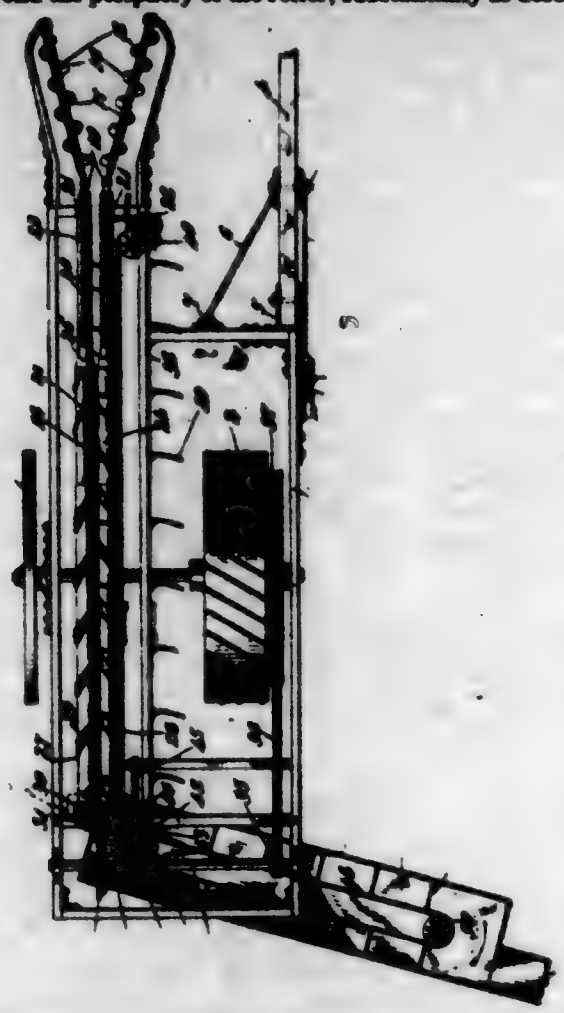
2. In a device of the character described, the combination of the stem provided with means for supporting the same upon a table, the upwardly-extending diverging blades secured to the stem for cutting the fruit, said blades being spaced from each other as shown, the plunger moving vertically in the space between the blades, the guides secured to the stem for the plunger, and a coiled spring around the plunger for normally pressing said plunger upward, substantially as described.

808,465. CORN-HUSKER. GEORGE HEARNE, Fowler, Ind. Filed Oct. 17, 1904. Serial No. 228,507.

Claim.—1. In a corn-husker, oppositely-disposed spiral gatherers in combination with combined snapping and cleaning rollers provided with spirally-disposed ribs on their forward portions, spirally-disposed and oppositely-arranged grooves upon the rear portions of said rollers, the grooves in one of said rollers being wound with material to extend into the groove in the other roller, substantially as described.

2. A combined snapping and cleaning roller comprising a spirally-ribbed front section and a spirally-grooved rear section, the

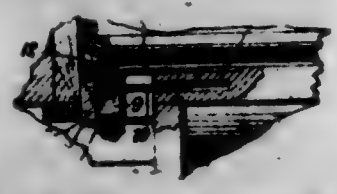
grooves in said rear section being wound with a material adapted to project beyond the periphery of the roller, substantially as described.



3. In a corn-husker, a pair of snapping and cleaning rollers comprising spirally-ribbed front sections, said ribs being intermediately disposed upon the rollers at their front portions and arranged to register at their rear portions, spirally-disposed grooves in the rear portions of said rollers, the grooves in one of said rollers being wound or filled with a material adapted to strip the corn-husks from corn, said material extending into the grooves of the other roller, substantially as described.

4. In a corn-husker, gatherer-screws having opposite spirally-arranged body portions mounted upon shafts journaled at their front ends in diverging brackets, universal joints connecting the rear ends of said shafts with the shafts upon the front of the snapping and cleaning rollers in combination with the snapping and cleaning rollers comprising spirally-ribbed front sections, spirally-grooved rear sections, the grooves in one of said rollers being filled by a rope or cable wound within the grooves and extending beyond the periphery of the roller to engage the groove in the other roller, substantially as described.

808,466. **WINDOW-VENTILATOR.** JOHN L. HINES, New York, N. Y. Filed June 8, 1905. Serial No. 264,967.

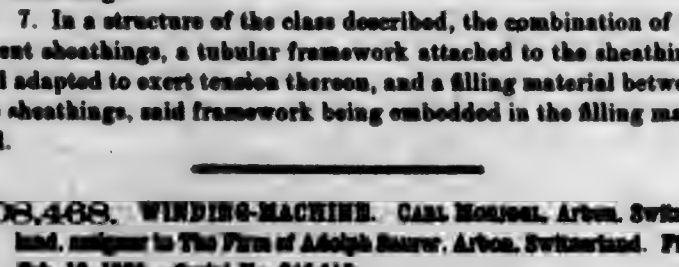


Claim.—1. A window-ventilator comprising a trough-shaped box for engaging a sash and having a perforated outer wall, sliding members at the ends of the box constructed to engage between a sash and jamb, and hooked spring-clips carried by the sliding members and constructed to engage the jamb.

2. A window-ventilator comprising a trough-shaped box open at the top, a perforated material arranged in the outer wall thereof, plates arranged to slide on the outer side of the ventilator, blocks attached to said plates, rods extended from the blocks, and slidably engaging in the outer portion of the ventilator, and hooked spring-clips carried by said blocks.

3. A window-ventilator comprising a box-like structure having end walls, a front wall, curved upward and inward, the said inner wall having a flange at its lower end downwardly extended, upper and lower bars forming a portion of the outer wall of the ventilator, a screen material arranged between said bars, the said bars having longitudinal perforations at the ends, plates slidable on the outer sides of the bars, blocks attached to said plates, rods extended from the blocks and engaging in said perforations, extensions on the blocks for engaging between the jambs of a window-frame, and the sash, and spring-clips on the blocks having hook members for engaging around the inner edges of the jambs.

808,467. **METHOD OF CONSTRUCTING VESSELS.** EDMOND MOLLOY, Philadelphia, Pa. Filed June 5, 1903. Serial No. 160,276.



Claim.—1. In a structure of the class described, the combination of upright tubular members, couplings adapted to slide loosely thereon, tie members connecting the couplings and adapted to contact with the upright members, suitable plates or sheathing, and means for securing the sheathing to the couplings.

2. In a structure of the class described, the combination of upright tubular members, couplings thereon, tie members connecting the couplings and adapted to contact with the upright members, suitable plates or sheathing, means for securing the sheathing to the couplings, and a suitable backing for the sheathing.

3. In a structure of the class described, the combination of the upright members, tie members connecting the upright members and adapted to place lateral tension thereon, said tie members being out of alinement, suitable sections of sheathing attached to the skeleton framework thus produced, and suitable filling material between the sections of sheathing.

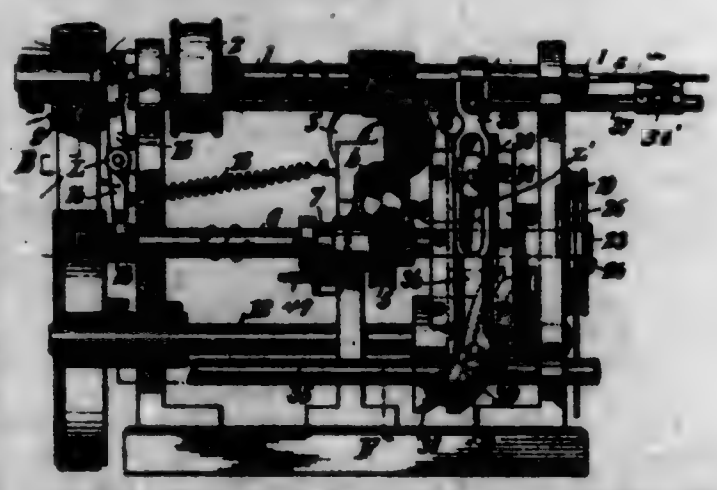
4. In a structure of the class described, the combination of the upright members, tie members adapted to contact therewith, said tie members being arranged in staggered relation, plates secured to the said upright members, and a solid filling material between the plates.

5. In a structure of the class described, sections of sheathing, a skeleton framework between said sheathing-sections, means connecting said framework and the sheathing-sections, and a backing material in which the framework is embedded.

6. In a structure of the class described, the combination of adjacent sheathings, a tension skeleton framework connected thereto the members of which are adjustable, and filling material between the sheathings.

7. In a structure of the class described, the combination of adjacent sheathings, a tubular framework attached to the sheathings and adapted to exert tension thereon, and a filling material between the sheathings, said framework being embedded in the filling material.

808,468. **WINDING-MACHINE.** CARL MORGEL, Arbon, Switzerland, assignor to The Firm of Adolph Saurer, Arbon, Switzerland. Filed Feb. 10, 1905. Serial No. 245,113.



Claim.—1. In a cop-winding machine, the combination with a revolvable spindle and a thread-guide adapted to reciprocate along said spindle; of means for automatically increasing the throw of said guide from a minimum at the beginning of the winding to a maximum, and for then maintaining the throw of the guide uniform until the cop is completed.

2. In a cop-winding machine, the combination with a revoluble spindle and a thread-guide adapted to reciprocate along said spindle; of means for automatically and gradually increasing the throw of said guide from a minimum at the beginning of the winding to a maximum, and for then maintaining the throw of the guide uniform until the cop is completed.

3. In a cop-winding machine, the combination with a revoluble spindle and a thread-guide adapted to reciprocate along said spindle; of means for automatically increasing the throw of said guide at each movement to the left and right of the center of the cop to be wound from a minimum at the beginning of the winding to a maximum, and then maintaining the throw of the guide uniform until the cop is completed.

4. In a cop-winding machine, the combination with a revoluble spindle and a thread-guide carrier parallel to said spindle; of means for reciprocating the carrier and varying its throw, comprising a lever connected at one end to the carrier, a revoluble cam acting on the opposite end of said lever to oscillate the same, a shiftable fulcrum intermediate said ends, and means automatically shifting said fulcrum during the revolution of the aforesaid spindle.

5. In a cop-winding machine, the combination with a revoluble spindle, and a thread-guide carrier parallel to said spindle; of a lever connected at one end to the carrier, a revoluble cam acting on the other end of said lever to oscillate the same, a rack-bar, a fulcrum for the lever secured to said bar and shiftable along said lever, a toothed sector in gear with the rack-bar, and means automatically imparting to the sector a definite angular movement to move the rack-bar and shift the lever-fulcrum to lengthen the lever-arm connected to the thread-guide carrier from a minimum to a maximum and then to stop the rotation of said sector and fix the lever-fulcrum.

6. In a cop-winding machine, the combination with a revoluble spindle, and a thread-guide carrier parallel to said spindle; of a lever connected at one end to the carrier, a revoluble cam acting on the other end of said lever to oscillate the same, a rack-bar, a fulcrum for the lever secured to said bar and shiftable along said lever, a toothed sector in gear with the rack-bar, and means automatically imparting to the sector a definite angular movement to move the rack-bar and shift the lever-fulcrum to lengthen the lever-arm connected to the thread-guide carrier from a minimum to a maximum and then to stop the rotation of said sector and fix the lever-fulcrum, and means for returning the lever-fulcrum to its starting-point

7. In a cop-winding machine, the combination with a revoluble spindle, and a thread-guide carrier parallel to said spindle; of a lever connected at one end to the carrier, a revoluble cam acting on the other end of said lever to oscillate the same, a rack-bar, a fulcrum for the lever secured to said bar and shiftable along said lever, a toothed sector in gear with the rack-bar, and means automatically imparting to the sector a definite angular movement to move the rack-bar and shift the lever-fulcrum to lengthen the lever-arm connected to the thread-guide carrier from a minimum to a maximum and then to stop the rotation of said sector and fix the lever-fulcrum, and means automatically imparting to the sector a like definite angular movement to return the fulcrum-pin to its starting-point.

8. The combination with the lever L′, the rack-bar 28 and the lever-fulcrum carried by said bar; of the shaft 27 its crank having pin 25, sector 26, the weighted pulley 19 having the irregular groove 20, 21, into which the aforesaid crank-pin 25 projects, the stop 23 on said pulley and the fixed stop 24, substantially as and for the purpose set forth.

9. In a cop-winding machine, the combination with the winding-shaft and its spindle, means for rotating said shaft, a thread-guide carrier parallel thereto, a two-armed lever connected to the carrier a cam-shaft and a cam thereon for oscillating the lever; of means for rotating said cam at a variable speed comprising an expansible and contractible driving-pulley belted to a driven pulley on the cam-shaft, said driving-pulley driven by the winding-shaft and means controlled by the rotation of said winding-shaft to cause said driving-pulley to automatically contract.

10. In a cop-winding machine, the combination with the winding-shaft and its spindle, means for rotating said shaft, a thread-guide carrier parallel thereto, a two-armed lever connected to the carrier a cam-shaft and a cam thereon for oscillating the lever; of means for rotating said cam at a variable speed comprising an expansible and contractible driving-pulley belted to a driven pulley on the cam-shaft, said driving-pulley driven by the winding-shaft, means controlled by the rotation of said winding-shaft to cause said driving-pulley to automatically contract, and means not controlled by the winding-shaft for expanding said pulley.

11. In a cop-winding machine, the combination with the winding-shaft and its spindle, means for rotating said shaft, a thread-guide carrier parallel thereto, a two-armed lever connected to the carrier and a cam for oscillating the lever; of means for rotating said cam at a variable speed comprising a pulley having a split spring-rim, a web secured to the winding-shaft, spokes connected to the rim and sliding in said web and a conical hub loosely mounted on said shaft, a lever connected to said hub and to an element controlled by the rotation of the winding-shaft for moving the hub lengthwise of said shaft and causing the spokes to move toward the same to allow the spring pulley-rim to contract.

12. In a cop-winding machine, the combination with the winding-shaft and its spindle, means for rotating said shaft, a thread-guide carrier parallel thereto, a two-armed lever connected to the carrier and a cam for oscillating the lever; of means for rotating said cam at a variable speed comprising a pulley having a split spring-rim, a web secured to the winding-shaft, spokes connected to the rim and sliding in said web and a conical hub loosely mounted on said shaft, a lever connected to said hub and to an element controlled by the rotation of the winding-shaft for moving the hub lengthwise of said shaft and causing the spokes to move toward the same to allow the spring pulley-rim to contract, and means acting on said element to cause the lever to move the hub in an opposite direction to again expand the pulley.

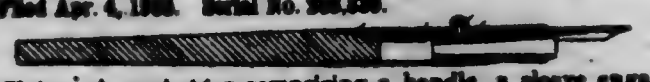
13. The combination with the winding-shaft and its spindle, means to rotate the shaft, the thread-guide carrier, a lever to reciprocate the same, a cam to oscillate the lever, the cam-shaft, a driving-pulley thereon and an expansible pulley on the winding-shaft comprising a web secured to said winding-shaft, a split spring-rim, a conical hub slidable on the winding-shaft and spokes sliding in said web and having bearing on said hub, said pulley belted to the cam-shaft pulley; of an auxiliary shaft geared to the winding-shaft to rotate slowly and having one end screw-threaded, a correspondingly-threaded sleeve thereon and a lever having one of its arms connected to said sleeve and the other to the aforesaid conical hub, for the purpose set forth.

14. The combination with the winding-shaft, the expandible pulley P thereon having a conical hub 17 slidable on said shaft and the cam-shaft 12 carrying belt-pulley 11; of the shaft 6, screw-threaded at one end and carrying the weighted pulley 19, the worm-gearing 3, 3′, 4, and 5, gearing shaft 6 to the winding-shaft, said gear 5 loose on said shaft 6, and means for coupling them, the sleeve 13 screwed to shaft 6, and the lever L connected to said sleeve and to the aforesaid conical hub 17, for the purpose set forth.

15. A cop-winding machine comprising a revoluble winding-shaft and spindle, a thread-guide carrier, a lever connected to said carrier, means for automatically oscillating the lever, a shiftable fulcrum for said lever and means for automatically shifting said fulcrum and lengthening the lever-arm connected to the thread-guide carrier from a minimum at the beginning of the winding to a maximum and then maintaining the length of the lever-arm constant; in combination with mechanism for automatically returning the parts to their starting-point.

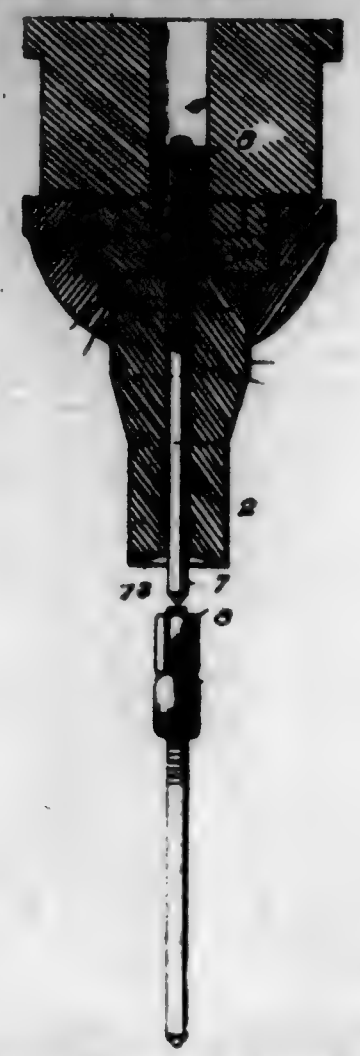
16. A cop-winding machine comprising a revoluble winding-shaft and spindle, a thread-guide carrier, a lever connected to said carrier, means for automatically oscillating the lever, a shiftable fulcrum for said lever and means for automatically shifting said fulcrum and lengthening the lever-arm connected to the thread-guide carrier from a minimum at the beginning of the winding to a maximum, and then maintaining the length of the lever-arm constant, and means for automatically decreasing the speed of oscillation of the lever in accordance with the increase in bulk of the cop being formed; in combination with mechanism for automatically returning the parts to their starting-point.

808,469. PENHOLDER. FRANK S. MCDONALD, Eldorado, Cal. Filed Apr. 4, 1905. Serial No. 253,530.



Claim.—A penholder comprising a handle, a sleeve engaged with the handle and having a longitudinal slot therein, a tapered core slidably engaged in the sleeve, a finger-piece carried by the core and lying in the slot, said core being formed of a segmental plate curved transversely to bring its side edges into parallel spaced relation, the major end of the core being directed forwardly and being of greater diameter than the forward end of the sleeve and being adapted for engagement of the inner face of the sleeve to move the edges of the core toward each other, said core having a struck-up portion spaced from its major end and adapted to receive the rearward end of a pen-point thereagainst.

808,470. PUNCHING-TOOL. Thomas McGrath, New York, N. Y. Filed Aug. 21, 1905. Serial No. 275,091.



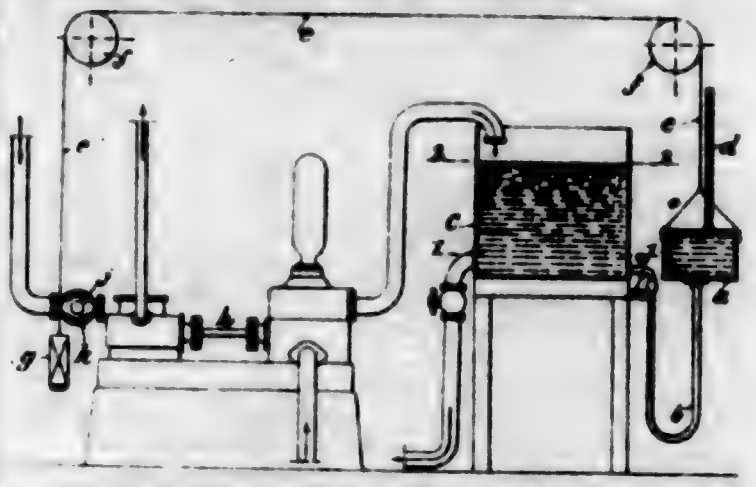
Claim.—1. The combination with a holder having a bore, of a punch having a bore of uniform diameter extending throughout the length of the punch and designed to register with, but of less diameter than, the bore of said holder, whereby the top surface of said punch forms a step at the bottom of the bore of the holder, a gravitating center-finder comprising a spindle having a body portion of uniform diameter accommodated by the bore of said punch and an adjusting device forming an elongated enlarged head on the upper extremity of said center-finder, said adjusting device being accommodated by the bore of said holder and designed to contact with said step, and means for securing said punch to said holder.

2. The combination with a holder having a bore, of a punch having a bore of uniform diameter extending throughout the length of the punch and designed to register with, but of less diameter than, the bore of said holder, whereby the top surface of said punch forms a step at the bottom of the bore of the holder, a gravitating center-finder consisting of a spindle having a body portion of uniform diameter accommodated by the bore of said punch, said spindle having its upper portion threaded, adjusting-nuts carried by the threaded portion of said spindle and forming an enlarged head thereof accommodated by the bore of said holder and designed to contact with said step, and means for securing said punch to said holder.

3. The combination with the punch having a bore of uniform diameter and having its contact extremity provided with a cutting edge and a concavity of uniform curvature inclosed by said edge, said punch having a shoulder at its inner end, of a holder having a bore designed to register with, but of greater diameter than, the bore of said punch, said holder having a threaded portion, a spindle accommodated by the bore of said extremity accommodated by the bore of said holder, and a nut engaging the threaded portion of said holder and designed to inclose said punch and having an internal seat or stop for the shoulder of said punch.

4. The combination with the punch having a bore of uniform diameter and having its contact extremity provided with a cutting edge and a concavity of uniform curvature inclosed by said edge, said punch having a shoulder at its inner end, of a holder having a bore designed to register with, but of greater diameter than, the bore of said punch, said holder having a threaded portion with the lower face of which the top of said punch is designed to contact whereby said top forms a step at the bottom of the bore of said holder, a spindle having a body portion of uniform diameter accommodated by the bore of said punch and having its upper portion threaded, adjusting-nuts carried by the threaded portion of said spindle and forming an enlarged head thereof accommodated by the bore of said holder and designed to contact with said step, and a nut engaging the threaded portion of said holder and designed to inclose said punch and having an internal seat for the shoulder of said punch.

808,471. AUTOMATIC LEVEL-CONTROLLER. Lucien Neu, Lille, France. Filed Oct. 5, 1904. Serial No. 227,579.



Claim.—1. An automatic controller comprising the combination of a movable receptacle, a tube communicating with the interior thereof and extending upwardly therefrom, the tube being open to the atmosphere at its upper end, a liquid-reservoir, a flexible means establishing communication between the reservoir and the movable receptacle whereby said movable receptacle may be filled from and emptied into said liquid-reservoir, a counterbalance-weight in connection with the movable receptacle, and a connection between the counterbalance-weight and movable receptacle, said connection serving to transmit the movement of the automatic controller.

2. An automatic controller comprising a movable receptacle, a tube communicating with the interior thereof and rising from the same, the tube being open at its upper end to the atmosphere, a liquid-reservoir, a flexible means establishing communication between said reservoir and said movable receptacle, a counterbalance-weight, and a connection between the counterbalance-weight and movable receptacle, said connection also serving to transmit the movement of the controller.

3. An automatic controller comprising the combination of a movable receptacle, a movable liquid-reservoir, flexible means establishing communication between the two, means for moving the movable liquid-reservoir, a counterbalance-weight for the movable receptacle, and a connection between said receptacle and counterbalance-weight, said connection serving to transmit the movement of the automatic controller.

4. An automatic controller comprising a movable receptacle, a movable liquid-reservoir, a flexible means establishing communication between the two, a second liquid-reservoir, a float operating therein, a connection between the float and the movable liquid-reservoir, a counterbalance-weight for the movable receptacle, and a connection between the counterbalance-weight and said movable receptacle, the second-named connection serving to transmit the movement of the automatic controller.

808,472. PYROXYLIN COLLAR AND CUFF. James A. Osborne, Arlington, N. J., assignor to Arlington Company, Arlington, N. J., a Corporation of New Jersey. Filed May 1, 1905. Serial No. 258,422.



Claim.—1. A pyroxylin collar or cuff, having surfaces simulating textile fabric, offset marginal edges representing hemming and impressions of stitching along said edges.

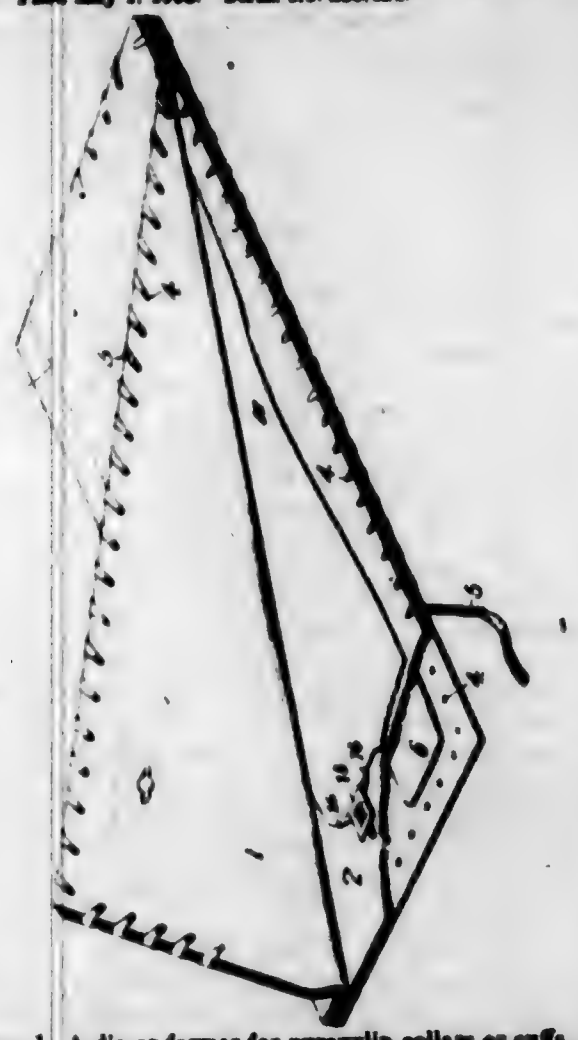
2. A pyroxylin collar or cuff, having surfaces simulating textile fabric, and impressions of stitching along the marginal edges.

3. A pyroxylin collar or cuff, having surfaces simulating textile fabric, impressions of stitching along the marginal edge, and impressions of buttonhole-stitching normal to the edges of the buttonholes.

4. A pyroxylin collar or cuff, having surfaces simulating textile fabric, offset marginal edges representing hemming, impressions of stitching along said edges, and impressions of buttonhole-stitching normal to the edges of the buttonholes.

5. A pyroxylin collar or cuff, having surfaces simulating textile fabric, and impressions of stitching along the marginal edges, said impressions being so disposed on respective sides of the collar-blank that when the latter is folded the impressions appear to be continuous around the outside edges.

808,473. APPARATUS FOR MAKING PYROXYLIN COLLARS, CUFFS, AND THE LIKE. JAMES A. CROCKER, Arlington, N. J., assignor to Arlington Company, Arlington, N. J., a Corporation of New Jersey. Filed May 1, 1905. Serial No. 258,494.



Claim.—1. A die or former for pyroxylin collars or cuffs, comprising layers or plies of textile fabric, and means for holding the same together in alinement or registry.

2. A die or former for pyroxylin collars or cuffs, comprising layers or plies of textile fabric, and means along one edge to hold the plies in alinement or registry.

3. A die or former for pyroxylin collars or cuffs, comprising a series of layers or plies of textile fabric united by stitching along one edge.

4. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric, the whole united along one edge, and means for securing the layers or plies together along their respective edges.

5. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric, the whole united along one edge, and lacing for securing the layers or plies together along their respective edges.

6. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric, and a plate having the outline of a collar or cuff underlying the layers or plies of one series.

7. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric united along one edge, and a plate having the outline of a collar or cuff underlying the layers or plies of one series.

8. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric, and a plate having the outline of a collar or cuff interposed between the layers or plies of one series, said plate having offset or deflected edges.

9. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric, united along one edge, and rows of stitching on the contiguous fabric layers of the two series.

10. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric united along one edge, rows of stitching outlining the collar or cuff on the contiguous fabric layers of the two series, and stitching outlining buttonholes on one or both of said contiguous layers.

11. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric united along one edge, a plate having the outline of a collar or cuff and having offset or deflected edges interposed between the layers or plies of one series, and rows of stitching on the contiguous layers of the two series adapted to overlie the offset edges of said plate when the two series are folded together.

12. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric united along one edge, a plate having the outline of a collar or cuff and having offset or deflected edges interposed between the layers or plies of one series, rows of stitching on the contiguous layers of the two series adapted to overlie the offset edges of said plate when the two series are folded together, and stitching on one or both of said contiguous layers outlining the buttonholes in the collar or cuff.

13. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric, the series being united along one edge, lacing securing the several layers of each series together along one edge, a plate having the outline of a collar or cuff and having offset or deflected edges interposed between the layers or plies of one series, and rows of stitching on the contiguous layers of the two series adapted to overlie the offset edges of said plate when the two series are folded together.

14. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric, the series being united along one edge, lacing securing the several layers of each series together along one edge, a plate having the outline of a collar or cuff and having offset or deflected edges interposed between the layers or plies of one series, rows of stitching on the contiguous layers of the two series adapted to overlie the offset edges of said plate when the two series are folded together, and stitching on one or both of said contiguous layers outlining the buttonholes in the collar or cuff.

15. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric united along one edge, a plate having the outline of a collar or cuff interposed between the layers of one series, and guides secured to the face of one of said series for holding the collar or cuff blank in registry with said plate.

16. A die or former for pyroxylin collars or cuffs, comprising two series of layers or plies of textile fabric united along one edge, a plate having the outline of a collar or cuff interposed between the layers of one series, and guides secured to the face of one of said series for holding the collar or cuff blank in registry with said plate, each of said guides comprising a base secured to the fabric face and spring-prongs attached to said base.

17. A die or former for pyroxylin collars or cuffs, said die having an impression-surface of textile fabric, provided with raised stitching.

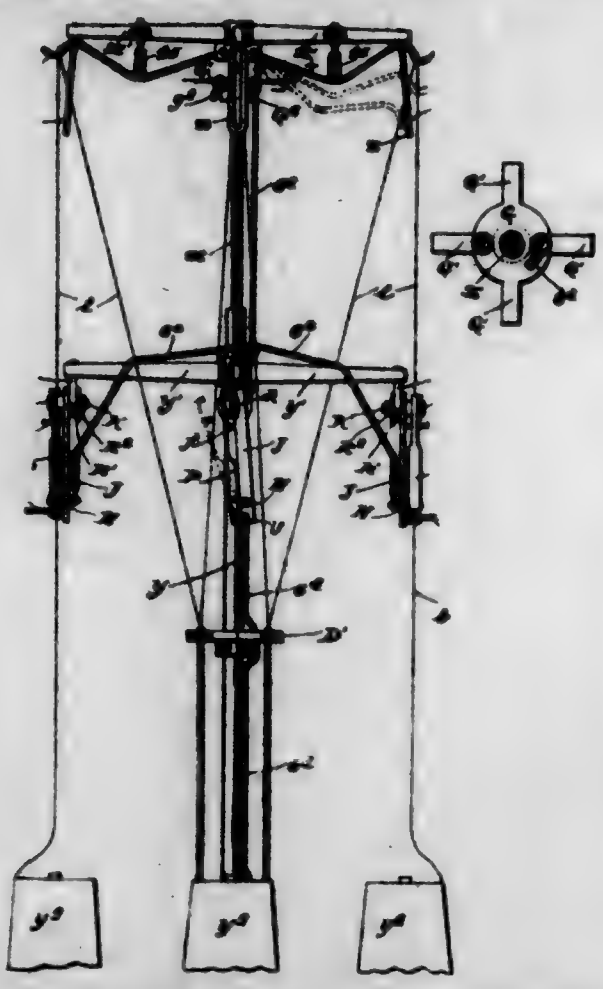
18. A die or former for pyroxylin collars or cuffs, said die having an impression-surface of textile fabric, provided with raised stitching, and having an underlying, shaping or forming mold.

808,474. SHUTTLE. PEMBERTON ORY, Woonsocket, R. I. Filed Dec. 27, 1904. Serial No. 238,477.



Claim.—In a shuttle, the combination of a body, a longitudinally-slotted spindle pivoted therein, a resilient strip having a plain longitudinal edge and an opposite longitudinal edge provided with teeth; said strip being secured at its outer end in the outer end of the slot of the spindle and in such position with respect thereto as to hold the inner portion of its plain edge yieldingly projected from the slot when the spindle has been raised or partly raised, and a stop arranged in the shuttle to engage the plain edge of the strip when the spindle has been swung downwardly and hold the toothed edge projected from the slot under tension.

808,475. ELECTRIC STOP-MOTION FOR KNITTING-MACHINES. ARTHUR L. PATTERSON, Albemarle, N. C. Filed Feb. 10, 1905. Serial No. 245,094.



Claim —1. An electric stop-motion for knitting-machines, comprising a vertical standard with two sets of radial arms arranged one above the other, a set of circuit-closers mounted on the lower arms each arranged to have the thread pass through it from below to a point above and to operate by a break in the yarn, and a second set of circuit-closers mounted on the upper arms and arranged to hold a loop of the yarn coming from the lower circuit-closers and to operate by an undue tension on the arms substantially as described.

2. An electric stop-motion for knitting-machines, comprising a vertical standard with two sets of radial arms arranged one above the other, a set of circuit-closers mounted on the lower arms and consisting of a pendent metallic support having a gravitating bar through which the yarn rises from below to a point above and arranged to close a circuit by the break in the yarn, and a second set of circuit-closers mounted on the upper arms and constructed as yielding arms hooked into a loop of the yarn to close circuit by an undue tension on the yarn.

3. An electric stop-motion for knitting-machines, comprising a vertical standard with two sets of radial arms arranged one above the other, a set of circuit-closers mounted on the lower arms and arranged to act by a break in the yarn, and a second set of circuit-closers mounted on the upper arms and arranged to close circuit by an undue tension on the yarn, said circuit-closers consisting of radial resilient arms bearing hooks on their outer ends and connected to the standard at their inner converging ends, and a contact-plate mounted on the standard below the inner converging ends of said arms substantially as described.

4. In an electric stop-motion for knitting-machines, a circuit-closer operating from tension on the yarn and consisting of a spring mounted and yielding arm with a hook at its end, forming one terminal of an electric circuit, a guide for holding the outer end of said arm and for stripping the yarn from the hook, and a contact-plate arranged within the range of movement of the said arm and forming the other terminal of an electric circuit as described.

5. In an electric stop-motion for knitting-machines, a circuit-closer operating from tension of the yarn and consisting of a central standard having one or more radial arms, a hub mounted on the standard and provided with an insulated plate forming one terminal of an electric circuit, a yielding arm mounted at its inner end upon the standard and having a hook at its outer end, a spring for lifting this arm and a guide at the outer end of the arm arranged to strip the yarn from the arms when the latter descends substantially as described.

6. In an electric stop-motion for knitting-machines, a circuit-closer operating from tension of the yarn consisting of a central standard bearing one or more rigid radial arms, one or more yielding arms mounted at their inner ends upon the standard and thence extending first downwardly and outwardly and then upwardly and outwardly and terminating in a hook at their outer ends, a spring interposed between the rigid radial arms and the yielding arm at a point above the lower bend of the yielding arm, and an insulated contact-plate mounted on the standard below the yielding arms and adapted to be touched thereby when the latter are depressed substantially as described.

7. In an electric stop-machine for knitting-machines, a circuit-closing device operating from a break in the yarn and consisting of a metal bar having a yarn-guide at its lower end, a bolt with yarn-eye at its upper end with clamping device as described, an insulated contact-piece arranged near the bottom of the bar and a drop-lever pivoted at its lower end near the insulated contact-piece and having at its upper end two hooks one arranged above and the other below the yarn-eye substantially as described.

8. An electric stop-motion for knitting machines, comprising a rotating standard bearing one or more radial arms and a circuit-closer mounted on the radial arm and having a movable contact-piece, said circuit-closer being adjustably mounted on the said arm to permit modification of the effect of centrifugal action upon the movable contact-piece substantially as described.

9. An electric stop-motion for knitting-machines comprising a series of rotating arms having at their outer ends pendent hooks, combined with electric circuit-closers adjustably hung within said hooks substantially as and for the purpose described.

10. An electric stop-motion for knitting-machines, comprising a rotating standard bearing one or more radial arms, and a circuit-closer arranged upon said radial arm and having a pivoted contact-piece, the circuit-closer being adjustably supported about an axis to permit change in the plane of action of the movable contact-piece substantially as described.

808,476. CANOPY. HERMAN A. PERL, Pittsfield, Mass. Filed Mar. 31, 1905. Serial No. 253,172.



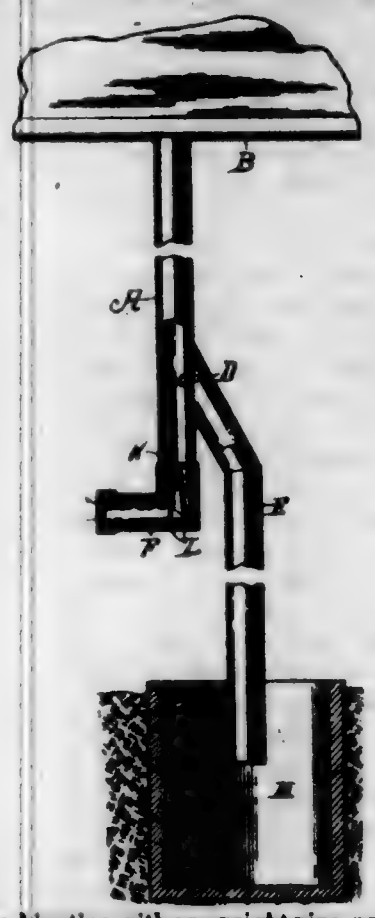
Claim.—1. As an article of manufacture, a canopy comprising a pair of frames having arched outer ends, a pintle connecting their inner ends, handles pivoted on the pintle and connected at their outer ends with the ends of the frame, said frame ends having inclining elongated slots and ribs extending loosely through the slots and having universal pivotal connection with the pintle.

2. In a canopy the combination with a pair of frames, having slotted ends, a pintle by which their inner ends are hinged together, and handles pivoted on the pintle with their outer ends introduced into slots in the outer ends of the frame, ribs extending through slots in the outer ends of the frame, collars loosely mounted on the pintles to which the inner ends of the ribs are pivoted and netting secured over said parts.

808,477. DRAIN-PIPE STRAINER AND CUT-OFF. WILLIAM H. PYNE, Union Star, Mo. Filed May 25, 1905. Serial No. 262,561.

Claim.—1. The combination with an upright pipe, of an elbow connection at the lower end of said pipe, a cap secured thereto by a bayonet-catch, a horizontal deflecting-plate supported on standards in said pipe, and an outlet above said deflecting-plate.

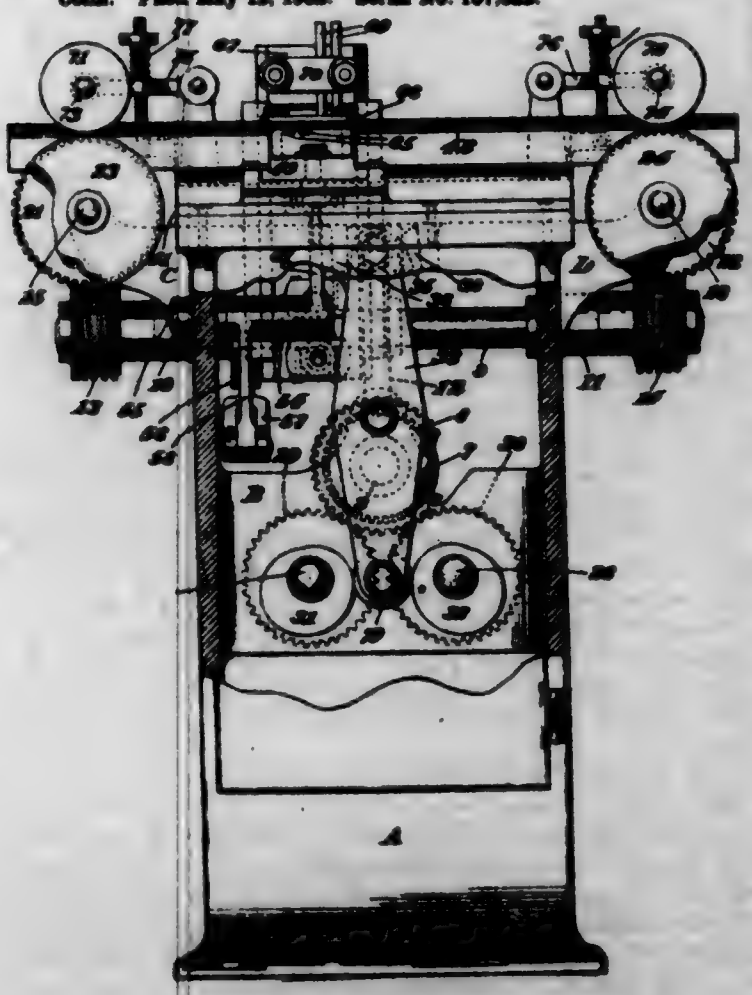
2. The combination with an upright pipe having detachable closing means at its lower end, a horizontal deflecting-plate mounted on standards therein, and an outlet-pipe connected to the upright pipe above the deflector-plate and a screen at the opening of said outlet-pipe.



3. The combination with an upright pipe, an elbow on the lower end of said pipe provided with detachable closing means, a horizontal deflector in said pipe, and an outlet provided with a screen above said deflecting means.

4. The combination with an upright pipe, of an elbow connection at the lower end of said pipe, a cap or sleeve detachably secured on the end of said elbow by a bayonet-and-slot catch, a deflecting-plate mounted on standards in said pipe, an outlet-pipe connected to the upright pipe above the deflector, and a screen at the opening of said outlet-pipe.

808,478. CARVING-MACHINE. FRANCIS H. RICHARDS, Hartford, Conn. Filed May 13, 1902. Serial No. 107,023.



Claim.—1. In a carving-machine, the combination of a reciprocatable carrier and a plurality of cutters mounted on said carrier and reciprocatable thereon in intersecting planes toward and from the line of intersection of said planes, said planes being parallel to the line of reciprocation of said carrier.

2. In a carving-machine, the combination of a reciprocatable carrier and a plurality of cutters mounted on said carrier and simultaneously reciprocatable thereon in intersecting planes toward and from the line of intersection of said planes, said planes being parallel to the line of reciprocation of said carrier.

3. In a carving-machine, the combination of a reciprocatable carrier, a plurality of cutters mounted on said carrier and reciprocatable thereon in intersecting planes parallel to the line of reciprocation of said carrier, and a driven actuator operatively connected with said cutters to simultaneously reciprocate the same toward and from the line of intersection of said planes.

4. In a carving-machine, the combination of a reciprocatable carrier, a driving-shaft, operative connecting mechanism between said driving-shaft and carrier to impart a reciprocating movement of uniform velocity in one direction to said carrier, a plurality of cutters mounted on said carrier and reciprocatable thereon in intersecting planes parallel to the line of reciprocation of said carrier, and operative connecting mechanism between said driving-shaft and cutters to reciprocate the latter toward and from the line of intersection of said planes during the reciprocation of said carrier.

5. In a carving-machine, the combination of a frame, a carrier reciprocatably mounted upon said frame, a plurality of cutters mounted on said carrier and reciprocatable thereon in intersecting planes toward and from the line of intersection of said planes, said planes being parallel to the line of reciprocation of said carrier, and a stock-guide parallel to the line of intersection of said planes and supported upon and overhanging said carrier and embracing within its angle said line of intersection.

6. In a carving-machine, a carrier provided with a transverse guideway, an opening through said carrier, and a guideway in the walls of said opening intersecting the plane of said transverse guideway.

7. In a carving-machine, an apertured carrier, a guideway disposed on said carrier and a guideway disposed in the aperture in said carrier, said guideways lying in intersecting planes.

8. In a carving-machine, the combination of a carrier having an aperture therethrough, a guideway in the walls of said aperture, a guideway on said carrier lying in a plane intersecting that of said guideway in said aperture, and a plurality of cutters respectively mounted to reciprocate in each of said several guideways.

9. In a carving-machine, the combination with a power-driven device and a feed for feeding stock continuously and operated by said power-driven device, of a carrier reciprocatable parallelly of the continuously-fed stock, an operative driving connection between said carrier and power-driven device for imparting a reciprocating movement to said carrier which in the direction of the movement of said stock corresponds with the movement of said stock, a plurality of cutters carried by said carrier and reciprocatable angularly of said stock and one another and positive driving connections intermediate said power-driven device and said cutters adapted, arranged and timed to reciprocate said cutters to incise said stock during the movement of said carrier in the direction of the movement of said stock.

10. In a carving-machine, the combination with a power-driven device and a feed for feeding stock continuously and operated by said power-driven device, of a carrier reciprocatable parallelly of the continuously-fed stock, a cam including driving connection between said carrier and power-driven device for imparting a reciprocating movement to said carrier which in the direction of movement of said stock corresponds with the movement of said stock, a plurality of cutters carried by said carrier and reciprocatable angularly of said stock and one another, and positive driving connections intermediate said power-driven device and said cutters adapted, arranged and timed to reciprocate said cutters to incise said stock during the movement of said carrier in the direction of the movement of said stock.

11. In a carving-machine, the combination with a power-driven device and a feed for feeding stock continuously and operated by said power-driven device, of a carrier reciprocatable parallelly of the continuously-fed stock, an operative driving connection between said carrier and power-driven device for imparting a reciprocating movement to said carrier which in the direction of the movement of said stock corresponds with the movement of said stock, a plurality of cutters carried by said cutter and reciprocatable angularly of said

stock and one another and laterally flexible, positive driving connections intermediate said power-driven device and said cutters adapted, arranged and timed to reciprocate said cutters to incise said stock during the movement of said carrier in the direction of the movement of said stock.

12. In a carving-machine, the combination with a power-driven device and a feed for feeding stock continuously and operated by said power-driven device, of a carrier reciprocatable parallelly of the continuously-fed stock, a cam including driving connection between said carrier and power-driven device for imparting a reciprocating movement to said carrier which in the direction of movement of said stock corresponds with the movement of said stock, a plurality of cutters carried by said carrier and reciprocatable angularly of said stock and one another and laterally flexible, positive driving connections intermediate said power-driven device and said cutters to incise said stock during the movement of said carrier in the direction of the movement of said stock.

13. In a carving-machine, the combination with a power-driven device and a feed for feeding stock continuously and operated by said power-driven device of a carrier reciprocatable parallelly of said continuously-fed stock, a plurality of tools carried by said carrier, an oscillating member operatively connected with said carrier to reciprocate the same and a cam-faced actuator operated by said power-driven device for actuating said oscillating member to reciprocate said carrier and designed to impart a movement to said carrier in the direction of movement of the stock corresponding to the concurrent movement of said stock and means for moving said tools in different directions to incise the stock.

14. In a carving-machine, the combination with a power-driven device and a feed for feeding stock continuously and operated by said power-driven device, of a cutting-tool carrier reciprocatable parallelly of said continuously-moving stock, a cutter reciprocatably mounted on said carrier and a driving connection between said power-driven device and said cutter including a laterally-movable link for reciprocating said cutter to incise said stock during the movement of said carrier in the direction of the movement of said stock.

15. In a carving-machine, the combination of a stock-feed for feeding stock continuously, a carrier reciprocatable parallelly of said continuously-moving stock, cutters mounted on said carrier, and reciprocatable in different directions to engage said stock, a power-driven device and operative connections between said stock-feed, carrier, cutter and power-driven device, adapted, arranged and timed to continuously feed said stock, reciprocate said carrier with a movement in the direction of movement of said stock corresponding to the concurrent movement of said stock and reciprocate said cutter to engage said stock during the movement of said carrier in the direction of the movement of said stock.

16. In a carving-machine, the combination of a stock-feed roll, a power-driven device geared with and to drive said feed-roll to continuously feed stock, a carrier reciprocatable substantially parallelly of said continuously-fed stock, a cam and oscillating-arm connection between said carrier and power-driven device for reciprocating said carrier with a movement in the direction of the movement of said stock corresponding to the concurrent movement of said stock, a cutter mounted upon said carrier reciprocatable to engage said stock, and a crank and oscillating-arm driving connection from said power-driven device adapted to reciprocate said cutter through a laterally-movable link to engage said stock during the movement of said carrier in the direction of movement of said stock.

17. In a carving-machine, the combination of a reciprocatable carrier and a plurality of cutters mounted on said carrier and simultaneously reciprocatable thereon in intersecting planes, toward and from separate points on the line of intersection of said planes, said planes being parallel to the line of reciprocation of said carrier.

18. In a carving-machine, the combination of a carrier, means for reciprocating said carrier with a uniform movement in one direction, and cutters carried by said carrier and mounted to operate upon the stock in different directions.

19. A carving-machine comprising stock guiding and feeding means, cutting members mounted to operate upon the stock in different directions, a slide whereon said cutting members are mounted, and means for moving said slide to and fro in the direction of the stock-feeding movement.

20. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro in the direction of the feeding movement, and independent sliding tool-carriages mounted upon said slide.

21. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro in the direction of the feeding movement, and independent sliding tool-carriages so mounted upon said slide that the tools carried thereby may incise the stock in different directions.

22. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro in the direction of the feeding movement, cutting members mounted upon said slide for incising the stock in different directions, and a reciprocating member mounted upon the framework and positively connected to said cutting members for operating them to incise the stock.

23. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro in the direction of the feeding movement, cutting members mounted upon said slide for incising the stock in different directions, a rock-arm upon the framework, a link connecting said rock-arm to one of said cutting members, and means for enabling said rock-arm to reciprocate the other of said cutting members.

24. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro in the direction of the feeding movement, cutting members mounted upon said slide for incising the stock in different directions, a rocking member upon the framework, a link connecting said rocking member to one of said cutting members, and a link connecting said rocking member to the other of said cutting members.

25. A carving-machine comprising stock guiding and feeding means, a slide, cutting members mounted upon said slide for incising the stock in different directions, a reciprocating member for moving said cutting members toward and away from the stock, said cutting member and said reciprocating member being positively connected, and means for moving said slide to and fro along the stock so that during the cutting operation the movement of the slide coincides with the stock-feeding movement.

26. A carving-machine comprising a stock, guide, uniformly-acting stock-feeding means, a plurality of cutting members, means for causing the cutting members to incise the stock in different directions, and means embodying a rocking member for reciprocating the cutters along the stock so that during the incising operation they move coincidently with the stock.

27. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro along the stock, cutting members mounted upon said slide so as to incise the stock in different directions, and reciprocating means upon the framework positively connected to said cutting member for reciprocating them transversely of the stock, said cutters being mounted to incise the stock at intervals such that one cutter may supplement the cut previously made in the stock by the other.

28. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro along the stock, cutting members mounted upon said slide for incising the stock in different directions, a rocking member mounted upon the framework, and a link extending from said rocking member to each of said cutting members.

29. A carving-machine comprising stock guiding and feeding means, cutting members mounted to incise the stock in different directions and at separate points such that one cutter supplements the incision previously made by the other cutter, a slide whereon said cutting members are mounted, means for moving said slide to and fro in the direction of the stock-feeding movement, and means for causing said cutters to incise the stock simultaneously.

30. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro in the direction of the feeding movement, independent sliding tool-carriages so mounted upon said slide that the tools carried thereby may incise the stock in different directions and at separate points such that one cutter supplements the incision previously made by the other cutter.

31. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro in the direction of the feeding movement, cutting members mounted upon said slide for incising the stock in different directions and at separate points such that one cutter supplements the incision previously made by the other cutter, and a reciprocating member upon the framework positively connected to said cutting members for operating them simultaneously.

32. A carving-machine comprising stock guiding and feeding means, a slide, cutting members mounted upon said slide for incising the stock in different directions and at separate points such that one cutter supplements the incision previously made by the other cutter, a reciprocating member for moving said cutting members simultaneously toward and away from the stock, said cutting member and said reciprocating member being positively connected, and means for moving said slide to and fro along the stock so that during the

cutting operation the movement of the slide coincides with the stock-feeding movement.

33. A carving-machine comprising a stock guide, uniformly-acting stock-feeding means, a plurality of cutting members, a slide for carrying said cutting members, means for shifting said cutting members on the said slide for causing the cutting members to incise the stock simultaneously from different directions and at separate points such that one cutter supplements the incision previously made by the other cutter, and means for reciprocating the said slide along the stock so that during the cutting operation the cutters move coincidently with the stock.

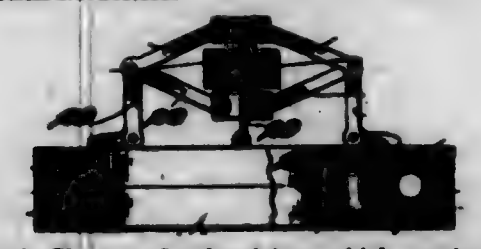
34. A carving-machine comprising means for feeding and guiding the stock, a slide, means to move said slide to and fro along the stock, cutters mounted upon said slide, and adapted to incise the stock in different directions, a rocking member and a link extending from said rocking member to each of said cutters.

35. A carving-machine comprising stock guiding and feeding means, a slide and means for reciprocating the same in the line of the feed, cutting mechanisms mounted on said slide and operative upon the stock in different directions transversely of the line of feed.

36. A carving-machine comprising stock guiding and feeding means, a slide, means for reciprocating said slide in the line of the feed movement, and a number of tool-carriages mounted thereon and reciprocable in different transverse directions.

37. A carving-machine comprising stock guiding and feeding means, a slide, means for moving said slide to and fro in the line of the feeding movement, and independent sliding tool-carriages mounted upon said slide.

808,479. ART OF AND APPARATUS FOR HEATING AND VULCANIZING, &c. HOWARD S. REBBLE, Akron, Ohio. Filed June 22, 1904. Serial No. 213,509.



Claim.—1. The art of vulcanizing, which consists in placing the material to be vulcanized in a plural-part heater and applying the same electric energy to simultaneously close and heat said heater.

2. The art of vulcanizing, which consists in placing the material to be vulcanized in a plural-part heater and closing and heating said heater by setting up a suitable electric current or currents in a coil or coils located in or adjacent to one or more of its parts or members.

3. The art of vulcanizing, which consists in placing the material to be vulcanized in a plural-part heater and closing and heating said heater by setting up magnetic fields and hysteresis and Foucault or eddy currents in its parts or members.

4. The art of vulcanizing, which consists in placing the material to be vulcanized in a plural-part heater, closing said heater, and setting up alternating magnetic fields in its parts or members by passing suitable electric currents through a coil or coils located in or adjacent to and around one of more of said parts or members.

5. The art of vulcanizing, which consists in placing the material to be vulcanized in a plural-part heater, applying suitable electric energy to set up magnetic fields and hysteresis and Foucault or eddy currents in its parts or members, and applying supplemental electric energy to more securely close said heater and compress the material therein.

6. The art of vulcanizing, which consists in placing the material to be vulcanized in a plural-part heater and closing and heating said heater by electrically energizing one or more magnethermal coils suitably located and connected with respect thereto.

7. The art of vulcanizing, which consists in placing the material to be vulcanized in a mold, electrically energizing one or more magnet-coils, suitably located and arranged, to close said mold, and heating said mold by setting up alternating magnetic fields in its parts or members.

8. The art of vulcanizing, which consists in placing a hollow object in a mold, closing and heating said mold by setting up magnetic fields and hysteresis and Foucault or eddy currents therein, and subjecting the walls of said object to gas-pressure during the heating of the mold.

9. The art of vulcanizing, which consists in placing a hollow object in a mold, closing and heating said mold by setting up alternating magnetic fields therein, and causing the vaporization of a liquid within said hollow object.

10. The art of vulcanizing, which consists in placing the material to be vulcanized in a plural-part heater, closing said heater by the application of electric energy to magnetize its parts or members, and heating said heater.

11. The art of vulcanizing, which consists in placing the material to be vulcanized in a plural-part heater, closing said heater by the application of an electric current to energize a magnet coil or coils placed in or adjacent to the contact-face of one or more of its parts or members, and heating said heater.

12. The art of vulcanizing, which consists in placing the material to be vulcanized in a plural-part heater, closing said heater to shut in and inclose the material therein, and heating said heater by hysteresis and Foucault or eddy currents set up therein by the application of suitable electric energy in a coil or coils located in or adjacent to and around one or more of its parts or members.

13. The art of vulcanizing, which consists in placing the material to be vulcanized in or around a body of suitable material and setting up hysteresis and Foucault or eddy currents in said body by the application of suitable electric energy in one or more coils located in or adjacent to and around said body.

14. The art of vulcanizing, which consists in placing the material to be vulcanized around a mandrel or other former, of suitable material, and heating said mandrel or former by setting up a suitable electric current or currents therein.

15. The art of heating, which consists in applying the same electric energy to simultaneously close and heat a plural-part heater.

16. The art of heating, which consists in closing and heating a plural-part heater by setting up a suitable electric current or currents in a coil or coils located in or adjacent to one or more of its parts or members.

17. The art of heating, which consists in closing and heating a plural-part heater by setting up magnetic fields and Foucault or eddy currents in its parts or members.

18. The art of heating, which consists in closing and heating a plural-part heater by setting up alternating magnetic fields in its parts or members.

19. The art of heating, which consists in applying suitable electric energy to set up magnetic fields and hysteresis and Foucault or eddy currents in the parts or members of a plural-part heater, to close and heat said heater, and applying supplemental electric energy to more securely close said heater.

20. The art of heating, which consists in closing and heating a plural-part heater by electrically energizing one or more magnethermal coils suitably located and arranged with respect thereto.

21. The art of heating, which consists in applying electric energy to magnetize the parts or members and close a plural-part heater, and in heating said heater.

22. The art of heating, which consists in applying an electric current to energize a magnet coil or coils placed in or adjacent to the contact-face of one or more of its parts or members, to close a plural-part heater, and in heating said heater.

23. The art of forming and heating, which consists in applying a suitable electric current or currents to energize one or more magnet-coils, suitably located and arranged to operate and heat a plural-part-forming device.

24. The art of forming and heating, which consists in applying the same electric energy to simultaneously close and heat a plural-part-forming device.

25. The art of forming and heating, which consists in setting up magnetic fields and hysteresis and Foucault or eddy currents in the parts or members of a plural-part-forming device, to close and heat said forming device.

26. The art of molding and heating, which consists in applying the same electric energy to simultaneously close and heat a plural-part mold.

27. The art of molding and heating, which consists in placing the material to be operated upon in a plural-part mold and setting up in its parts or members magnetic fields to close and alternating magnetic fields to heat said mold.

28. In an electric heater for vulcanizing or other purposes, a body portion of suitable material, one or more coils suitably located in or adjacent to and around said body portion, and means for setting up an electric current or currents in said coil or coils suitable to set up hysteresis and Foucault or eddy currents in said body portion.

29. In a plural-part heater for vulcanizing or other purposes, means for applying the same electric energy to both close and heat said heater.

30. In a plural-part heater for vulcanizing or other purposes, means for applying the same electric energy to simultaneously close and heat said heater.

31. In a plural-part heater for vulcanizing or other purposes, the combination with the parts of said heater of an electromagnet coil or coils adapted when energized to close said heater and of means for electrically heating said heater.

32. In a plural-part heater of magnetizable metal for vulcanizing or other purposes, an electromagnet coil or coils located in or adjacent to the contact-face of one or more of its parts or members, and means for heating said heater.

33. In a plural-part heater for vulcanizing or other purposes, means for closing said heater, and means for setting up hysteresis and Foucault or eddy currents throughout its several parts or members.

34. In a plural-part heater for vulcanizing or other purposes, means for closing said heater, and means for setting up alternating electric currents in a coil or coils located in or adjacent to and around one or more of its parts or members, to set up alternating magnetic fields in and thereby heat said parts or members.

35. In a plural-part heater for vulcanizing or other purposes, means for electrically energizing a magnet coil or coils, suitably located and arranged, to close said heater, and means for setting up alternating magnetic fields in its parts or members to heat said heater.

36. In a plural-part heater for vulcanizing or other purposes, a coil or coils suitably located in or adjacent to one or more of its parts or members, and means for applying electric energy in said coil or coils, to close and heat said heater.

37. In a plural-part heater for vulcanizing or other purposes, a magnethermal coil or coils to close and heat said heater when suitably energized.

38. In a plural-part heater for vulcanizing or other purposes, means for setting up magnetic fields and hysteresis and Foucault or eddy currents in its parts or members, to close and heat said heater.

39. In a plural-part heater for vulcanizing or other purposes, means for setting up alternating magnetic fields in its parts or members, to close and heat said heater.

40. In a plural-part heater for vulcanizing or other purposes, a body portion and door or cover, a magnet coil or coils located in or adjacent to the contact-faces of said body portion and door, and means for applying electric energy to heat said body portion.

41. In a plural-part heater for vulcanizing or other purposes, a body portion and door or cover, a magnet coil or coils located in or adjacent to the contact-faces of said body portion and door, and a coil or coils located in or adjacent to and around said body portion.

42. In a plural-part heater for vulcanizing or other purposes, a body portion and door or cover, a magnethermal coil or coils located in or adjacent to the contact-faces of said body portion and door and around said body portion.

43. In a plural-part heater for vulcanizing or other purposes, a body portion and door or cover, a magnet coil or coils located in or adjacent to the contact-faces of said body portion and door and around said body portion, and means for applying electric energy in said coil or coils to set up magnetic fields and hysteresis and Foucault or eddy currents in said body portion and door.

44. In a plural-part heater for vulcanizing or other purposes, means for setting up magnetic fields and hysteresis and Foucault or eddy currents in its parts or members to close and heat said heater, and supplemental means for applying electric energy to more securely close said heater.

45. A plural-part mold of magnetizable metal, and a magnethermal coil in or adjacent to the contact-face of one or more of its parts or members, to close and heat said mold.

46. A plural-part mold of magnetizable metal, a coil or coils located in or adjacent to one or more of its parts or members, and means for setting up an electric current or currents in said coil or coils to set up hysteresis and Foucault or eddy currents in said parts or members.

47. A plural-part mold of magnetizable metal, a magnet coil or coils located and arranged to close said mold when suitably energized, and means for setting up alternating magnetic fields in its parts or members, to heat said mold.

48. A plural-part mold, a magnet coil or coils located in or adjacent to the contact-face of one or more of its parts or members, to close said mold, and means for applying electric energy to set hysteresis and Foucault or eddy currents in said parts or members.

49. A plural-part mold, means for applying an alternating electric current to close and heat said mold, and means for applying a direct electric current to supplement said alternating current in closing and clamping said mold.

50. A plural-part mold, a magnetic coil or coils located in or adjacent to the contact-face of one or more of its parts or members, and another coil or coils suitably located to set hysteresis and Foucault or eddy currents in said parts or members when suitably energized.

51. A plural-part mold, a magnet coil or coils located in or adjacent to the contact-face of one or more of its parts or members, another coil or coils located in or adjacent to one or more of said parts or members, and means for setting up direct electric currents in said magnet-coils and alternating electric currents in said other coils.

52. A plural-part mold, a core within said mold, and means for applying electric energy to heat said core.

53. A plural-part mold, a core within said mold, and means for applying electric energy to close said mold and to heat said core.

54. A plural-part mold, an annular chamber therein and a magnet coil or coils within said chamber.

55. A plural-part mold, consisting of annular members and an annular key-piece, and means for setting up hysteresis and Foucault or eddy currents in said members and key-piece.

56. A plural-part mold, consisting of annular members and an annular key-piece, and means for setting up alternating magnetic fields in said members and key-piece.

57. A forming device, consisting of a press, a magnet coil or coils located and arranged to close said press when suitably energized, and a coil or coils of electric conductor located in or adjacent to the members of said press to heat said press when suitably energized.

58. A vulcanizer, consisting of a press and mold, and means for applying electric energy to magnetize the members of said press and close said press and mold and to heat said mold.

59. A vulcanizer, consisting of a press and mold, and means for applying electric energy to magnetize the members of said press and to set up hysteresis and Foucault or eddy currents in said mold.

60. A vulcanizer, consisting of a press and a mold between the members of said press, and means for applying the same electric energy, to simultaneously close said press and heat said mold.

61. A vulcanizer, consisting of a press and mold, of suitable material, means for closing the press members upon the mold and means for setting up hysteresis and Foucault or eddy currents in said press members and mold to heat said mold.

62. A vulcanizer, consisting of a press and mold, of suitable material, means for closing the press members upon the mold, a coil or coils of electric conductor located in or adjacent to one or both of said press members, and means for applying suitable electric energy in said coil or coils to set up alternating magnetic fields in said press members and mold.

63. A vulcanizer, consisting of a press and mold, of suitable material, lever mechanism connected with one or both of the press members and operated by an electro magnet or magneto for closing said press members upon the mold, a coil or coils of electric conductor located in or adjacent to one or both of said press members, and means for applying suitable electric energy in said coil or coils to set up hysteresis and Foucault or eddy currents in said press members.

64. A vulcanizer, consisting of a mold of magnetizable metal having a suitable cavity therein, means for closing the mold to compress the material in said cavity, a coil or coils of electric conductor into or adjacent to the walls of the mold, and means for setting up alternating electric currents in said coil or coils to heat the mold.

65. A vulcanizer, consisting of a mold of magnetizable metal having a suitable cavity therein, a coil or coils of electric conductor set into and around the mold, and means for applying suitable electric energy in said coil or coils to set up hysteresis and Foucault or eddy currents in the mold.

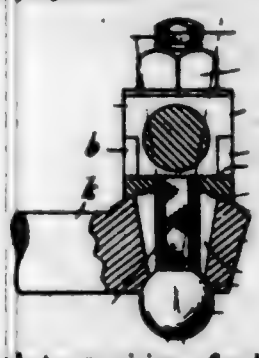
66. A vulcanizer, consisting of a body portion of magnetizable metal hollowed out to form a containing cavity or receptacle, a coil or coils of electric conductor surrounding said body portion and set into or adjacent to its walls, and means for setting up alternating electric currents in said coil or coils to heat said body portion.

808,480. LAMP-BRACKET. HENRY SALISBURY, London, England. Filed June 2, 1903. Serial No. 159,455.

Claim.—1. A lamp-bracket comprising a fixed member provided with a projection having a serrated top, a washer having its lower face serrated, corresponding in contour to the top of said projection and adapted to be mounted upon the top of said projection, a pair of adjustable supporting-arms adapted to engage said washer, and a pivot-bolt extending through said projection and engaging said arms for rigidly connecting them to the projection.

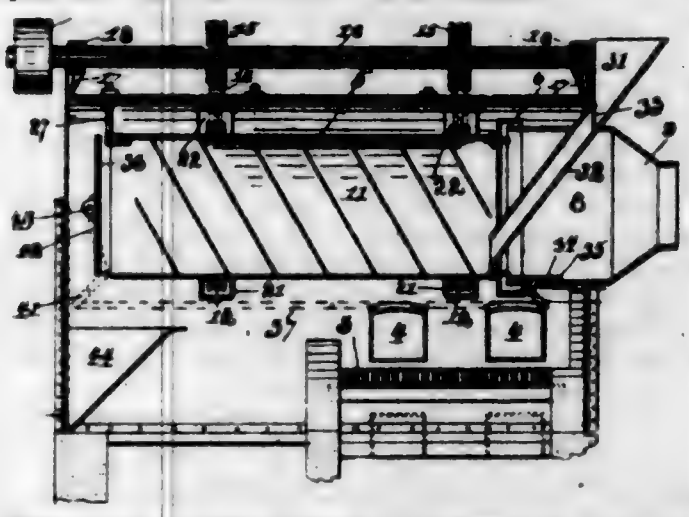
2. A lamp-bracket comprising a fixed member provided with a projection having a diverging opening and the upper face thereof

serrated, a washer having an upper and a lower serrated face, the lower face of said washer conforming in contour to the top of the projection, a pair of adjustable lamp-supporting arms connected together by a lap-joint and having serrations adapted to engage with the serrated upper face of the washer, and a pivot-bolt extending through said opening and connected with the arms for rigidly connecting them to the projection.



3. A lamp-bracket comprising a fixed member provided with a projection having a serrated top, a serrated washer corresponding in shape to the top of said projection and adapted to be mounted thereon, a pair of adjustable lamp-supporting arms connected together by a lap-joint and adapted to engage the serrated washer, and a pivot-bolt passing through said projection and engaging said arms for rigidly connecting them to the projection and to allow of the adjustment of the arms to any desired position.

808,481. **DRYING APPARATUS.** FRANK M. SCHAIVER, Indianapolis, Ind. Filed June 21, 1905. Serial No. 266,200.



Claim.—1. In a drying apparatus, a drying-drum, means for heating said drum, sprocket-wheels carried by said drum, sprocket-chains meshing with the sprocket-wheels on the drum and supporting said drum and also acting as the drive-chains to rotate the drum, a drive-shaft with sprocket-wheels thereon over which said chains are passed, and temperature-controlling means whereby the draft from the furnace to the uptake is through the drum or direct to the uptake, substantially as described.

2. In a drying apparatus, a drying-drum, drive-chains for rotating said drum and also acting as the suspension means therefor, a conveyer within the drum, means for heating said drum, and means for protecting the chains from the action of the heat, substantially as described.

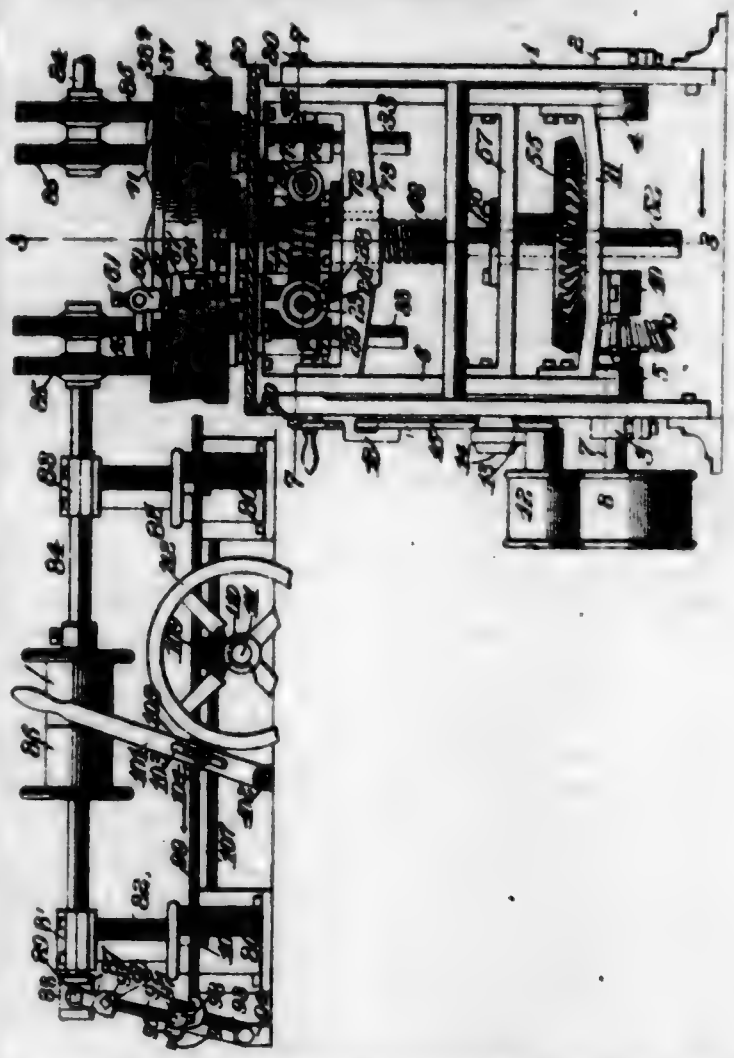
3. In a drying apparatus, a drying-drum rotatable within an inclosing hood or cover, a drive-shaft supported above the drum, sprocket-wheels on the drive-shaft, and sprocket-wheels on said drum, drive-chains operating over said sprocket-wheels to drive the drum and also acting as the suspension means therefor, a conveyer within the drum, a furnace underneath the drum, and temperature-controlling means whereby the draft from the furnace may be established through the drum or may be shut off and established partially around the drum and thence direct to an uptake, substantially as described.

4. In a drying apparatus, a drying-drum, an inclosing hood or cover, means for heating said drum within said hood or cover, a breeching extending into one end of said drum and through the end wall of said inclosing hood, and provided with an opening, a delivery-chute extending through said breeching into the drum, a damper carried by said breeching and adapted to close the opening therein, and a damper arranged to close the end of said drum.

5. In a drying apparatus, a rotatable drying-drum, drive-chains for rotating said drum and also acting as the suspension means therefor, means for heating said drum and means for protecting the chains from the action of the heat.

6. In a drying apparatus, a drying-drum, an inclosing hood under which said drum is mounted, drive-chains in which said drum is suspended, means for heating the drum, troughs partially surrounding the drum and inclosing said drive-chains.

808,482. **BUFFING-MACHINE.** JOHN H. SELLMAYER, Rochester, N. Y. Filed June 6, 1905. Serial No. 264,490.



Claim.—1. In a machine of the character described, the combination with a stand, and an operating-tool carried thereby, of a supporting-table, a plurality of work-supports thereon, and means for adjusting and retaining the table in different vertical positions relatively to the tool.

2. In a machine of the character described, the combination with a stand, and an operating-tool carried thereby, of a revoluble supporting-table, a plurality of circularly-arranged work-supports thereon, and means for effecting a relative angular adjustment between said tool and table.

3. In a machine of the character described, the combination with a stand, and an operating-tool carried thereby, of a work-supporting table, a plurality of work-supports thereon, and means for effecting a vertical and angular adjustment of the relation of said tool and table.

4. In a machine of the character described, the combination with a stand and an operating-tool carried thereby, of an angularly-adjustable table, work-supports revolubly mounted thereon, and means interposed between said table and supports for imparting rotary motion from said table to the work-supports.

5. In a machine of the character described, the combination with a stand and an operating-tool carried thereby, of a rotary table, and a non-rotatable support carried on an angularly-adjustable frame, work-supporting heads revolubly mounted thereon, and means for transmitting motion from said table to said heads.

6. In a machine of the character described, the combination with a stand, and an operating-tool carried thereby, of a rotary table, work-supports revolubly mounted thereon, and means for effecting a vertical adjustment of said table.

7. In a machine of the character described, the combination with a stand, and an operating-tool carried thereby, of a rotary table, work-supports revolubly mounted thereon, means for transmitting motion from said table to said supports, and means for adjusting said table both vertically and angularly relatively to said tool.

8. In a machine of the character described, the combination with a stand, and an operating-tool carried thereby, of a vertically-adjustable table, work-supporting heads revolubly mounted thereon, and means for imparting a rotary motion to said table, and to cause said motion to be transmitted to said heads.

9. In a machine of the character described, the combination with a stand, and an operating-tool carried thereby, of a vertically-adjustable table, work-supporting heads revolubly mounted thereon, means for imparting a rotary motion to said table, and means for transmitting said motion to said heads to cause rotation thereof in an opposite direction.

10. In a machine of the character described, the combination with a stand, and an operating-tool carried thereby, of a work-supporting table, a secondary frame supporting said table, a main frame supporting said secondary frame, and means for adjusting said secondary frame upon said main frame at an angle to the vertical.

11. In a buffing-machine, the combination with a stand, and buffing-wheels carried thereby, of a work-supporting table, a secondary frame supporting said table, means for adjusting said table vertically, a main frame supporting said secondary frame, and means for adjusting said secondary frame upon said main frame at an angle to the vertical.

12. In a buffing-machine, the combination with a stand, and buffing-wheels carried thereby, of a main frame, a secondary frame angularly adjustable upon said main frame, a support mounted upon said secondary frame and a work-supporting table revolubly mounted upon said support.

13. In a buffing-machine, the combination with a stand, and buffing-wheels carried thereby, of a main frame, a secondary frame angularly adjustable upon said main frame, a support adjustable vertically upon said secondary frame and a work-supporting table revolubly mounted upon said support.

14. In a buffing-machine, the combination with a stand, and buffing-wheels carried thereby, of a main frame, a secondary frame angularly adjustable upon said main frame, a support adjustably mounted upon said secondary frame, a table revolubly mounted upon said support, work-supports or heads revolubly mounted upon said table and means for imparting rotary motion to said heads.

15. In a buffing-machine, the combination with a stand, and buffing-wheels carried thereby, of a main frame, a secondary frame angularly adjustable upon said main frame, a support adjustably mounted upon said secondary frame, a table revolubly mounted upon said support, work-supports revolubly mounted upon said table, and means for transmitting the rotary motion of said table to said supports to impart a reverse motion to the latter.

16. The combination of a relatively stationary support, a table revolubly mounted thereon, work-supporting heads revolubly mounted upon said table and means interposed between said support and table for transmitting rotary motion from the latter to each of said heads in a reverse direction from that of the table.

17. The combination of a relatively stationary support, a table revolubly mounted thereon, work-supporting heads revolubly mounted upon said table and means for transmitting the motion of said table to said heads to cause rotation thereof in a reverse direction to the rotation of said table.

18. In a buffing or polishing machine, the combination with a hollow casing provided with an internal gear, of a revoluble table having one or more work-supports revolubly mounted thereon, and means connecting the work-supports and the internal gear.

19. In a buffing or polishing machine, the combination with a casing provided with an internal gear, of a revoluble table, a plurality of work-supports revolubly mounted on the table, and a pinion connected to each work-support and meshing with the internal gear for imparting rotary motion to the work-supports by the relative motion of the table.

20. In a buffing or polishing machine, the combination with a hollow annular support, of a revoluble table, one or more work-supports revolubly mounted on the table, and devices connected to the work-supports and cooperating with the inner surface of the annular support for rotating the work-supports by relative motion between the table and the annular support.

21. In a buffing or polishing machine, the combination with a relatively fixed annular casing having an internal gear arranged upon its inner surface, of a revoluble table, work-supports revolubly mounted on the table, and pinions carried by the work-supports and meshing with the internal gear of the annular support.

22. The combination of a support, a table revolubly mounted thereon carrying a plurality of work-holders, and a guard having a laterally-adjustable arm for retaining the articles upon said holders while being operated on, and also having a supporting-arm resting in bearings on said support and having a spring acting thereon to produce a pressure between the retaining-arm and the work-holder.

23. The combination with a support and a table revolubly mounted thereon carrying a plurality of work-holders, of a guard having an arm adapted to rest in proximity to said holders, a supporting-arm connected to the retaining-arm and movably supported from a relatively fixed bracket, and operating means interposed between the bracket and an adjustable stop on the supporting-arm for producing a force tending to move the retaining-arm toward the work-holders.

24. The combination with a support, a relatively movable table thereon carrying a plurality of revoluble work-holders, and a pair of spaced operating-tools adapted to operate on the work carried by the holders, of a guard having an arm extending between the spaced tools for retaining the work upon each holder while it is being operated on by said tools.

25. The combination of a support, a relatively movable table mounted thereon carrying a plurality of flat revoluble heads over which the articles to be polished are adapted to be fitted, ejectors carried by said heads and having a portion adapted to engage the article to eject it from its head, and an adjustable cam for actuating said ejectors.

26. The combination of a support, a relatively movable table, work-supports carried thereby having convex heads over which the articles to be polished are adapted to be fitted, ejectors carried by said work-supports having portions adapted to engage said articles to remove them from their corresponding heads, and a movable actuating device adapted to operate said ejectors as the latter are carried past it by the movable table.

27. In a machine of the character described, the combination with a support, of a movable table mounted thereon carrying a plurality of work-supporting heads, ejectors having portions adapted to engage the articles of work to displace them from their supporting-heads, a movable actuating device for operating the ejectors, as the latter are carried past it by the movable table and means for moving said actuating device into and out of operative position.

28. The combination with a casing, a relatively movable table mounted thereon carrying a plurality of work-supporting heads, and ejectors adapted to displace the articles of work carried by said heads, of a movable actuating device mounted within the casing and adapted to operate said ejectors by the relative motion of the table, and means operable from the exterior of the casing for moving said actuating device into and out of operative position.

29. The combination of a support, a table revolubly mounted thereon, work-supports upon said table, ejecting-pins upon said support, a cam-plate and means for moving said plate into the path of said pins to operate the same.

30. In a machine of the character described, the combination of a table, a support carrying said table, a screw carried by said support, a supporting-frame beneath said support, and an operating-shaft carried by said frame and operating upon said screw for adjusting the relative positions of said frame and support.

31. The combination of a rotary table, a support carrying said table, a screw carried by said support, a supporting-frame beneath said support, and an internally-threaded worm-wheel and its cooperating worm operating upon said screw for adjusting the relative positions of said support and frame.

32. In a machine of the character described, the combination of a rotary table, a plurality of work-supports thereon, a support carrying said table, a screw carried by said support, a supporting-frame, a worm-wheel operating upon said screw, and a worm meshing with said worm-wheel for adjusting the relative positions of said support and frame.

33. The combination of a main frame, a secondary frame pivotally supported thereon, a vertically-adjustable table mounted upon said secondary frame, a plurality of work-supports mounted thereon, and adjusting means interposed between said frames for varying the angular adjustment thereof.

34. In a machine of the character described, the combination of a main frame, a secondary frame pivotally supported thereon, a table revolubly mounted upon said secondary frame, a plurality of work-supports mounted thereon, means for transmitting motion to said table through said frames, means for imparting rotary motion to said supports, and adjusting means interposed between said frames for varying the angular adjustment thereof.

35. The combination of a main frame, a secondary frame mounted upon trunnions upon said main frame, a vertically-adjustable table revolubly mounted upon said secondary frame, a plurality of work-supports carried by said table, means for transmitting motion through said main and secondary frames to said table, means for

transmitting motion from said table to said supports, and an adjusting-screw interposed between said frames for varying the relative angular position of said frames.

36. In a buffing-machine, the combination with the supports, of pedestal-bearings movable vertically in said supports and having an arbor journaled in their upper ends, a rack formed upon each pedestal, a shaft having pinions coöperating with the racks of the pedestals, and means for operating the shaft to simultaneously elevate and lower the pedestals.

37. In a buffing-machine, the combination with the supports, of bearings journaled to move vertically in said supports and having an arbor journaled in their upper ends, a rack formed upon each bearing, a shaft having pinions coöperating with the racks of the bearings, a worm carried by the said shaft, and a worm coöperating therewith for operating the said shaft.

38. In a buffing-stand, the combination with the pedestal-supports, bearings adjustably mounted therein, and an arbor journaled in said bearings and carrying the buffing-wheels, of means interposed between said bearings and their pedestal-supports for adjusting the arbor laterally.

39. In a buffing-machine, the combination with the supports, and the bearings having the axially-movable arbor journaled therein, of a pivoted arm having an extensible portion operatively connected to the arbor for shifting it longitudinally, and means for operating said arm.

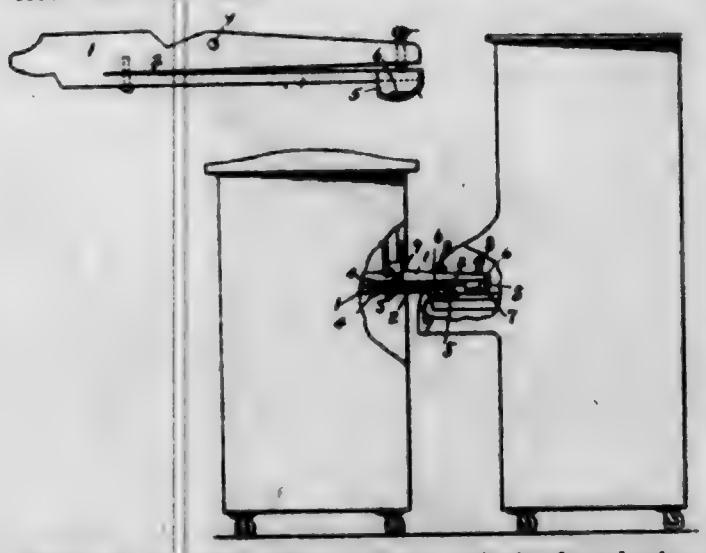
40. In a buffing or polishing machine, the combination with the relatively fixed supports, and the bearings movable vertically therein having an axially-movable arbor journaled therein, of a pivoted arm, an extensible member operatively connecting the said arm and arbor at different axial and vertical positions of the latter, and operating means for the said arm.

808,483. MANUFACTURE OF BRIQUETS. WILLIAM SIMPKIN, Westminster, and JAMES B. BALLANTINE, Twickenham, England. Filed Jan. 31, 1906. Serial No. 343,691.

Claim.—1. In fuel, blood and coal-dust in the proportion of one hundred to two hundred pounds of blood to a ton of coal, fifteen to twenty pounds of nitrate of potassium to every ton of blood, and about ten pounds of resin to every hundred pounds of blood.

2. In fuel, blood and coal-dust in the proportion of one hundred to two hundred pounds of blood to a ton of coal, fifteen to twenty pounds of nitrate of potassium to every ton of blood, about ten pounds of resin to every hundred pounds of blood, and twenty to thirty pounds of slaked lime to every ton of coal.

808,484. KEY-STRIKING LEVER FOR PIANO-PLAYERS. FRANK P. SMITH, Baltimore, Md., assignor to Smith Lyraphone Company, Baltimore, Md., a Corporation of West Virginia. Filed June 1, 1905. Serial No. 263,575.

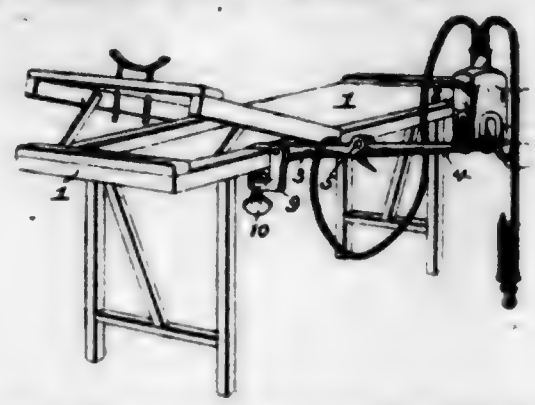


Claim.—1. In a piano-player, a finger or playing-lever having a presser-head consisting of a substantially semicylindrical cushion-faced block transversely secured to a spring, the opposite end of said spring-arm being connected by fastening devices to the under side of the finger at a distance from its end, and an adjusting-screw arranged through the end of the finger, and impinging upon the spring at the back of the head, substantially as shown and described.

2. In an automatic piano-player, a series of fingers or playing-levers each having a presser-head consisting of a substantially semicylindrical cushion-faced block transversely secured to a spring, the opposite end of said spring-arm being connected by fastening devices to the under side of the finger at a distance from its end, and an adjusting-screw arranged through the spring at the back of the head, substantially as shown and described.

3. In a piano-player, a finger or playing-lever having a presser-head consisting of a substantially semicylindrical cushion-faced block transversely secured to a spring, the opposite end of said spring-arm being connected by fastening devices to the under side of the finger at a distance from its end, and means for adjusting the said spring with relation to the finger, substantially as shown and described.

808,485. ARM-REST AND BOTTLE SUPPORT FOR EMBALMERS' USE. WILLIAM R. SPARKMAN, Jackson, Tenn. Filed May 3, 1905. Renewed Dec. 5, 1905. Serial No. 290,432.



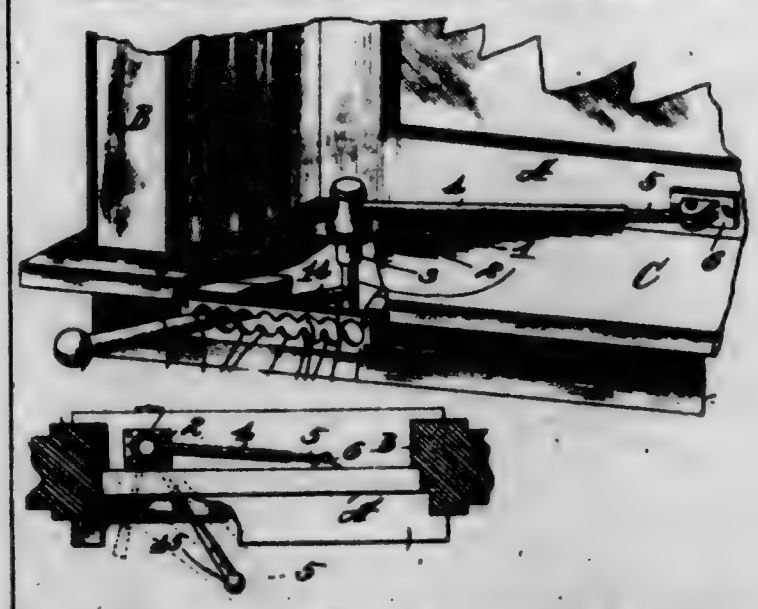
Claim.—1. In a device of the character described, the combination of a hinged support, a clamp at one end thereof, and a bottle-holder at the other end.

2. In a device of the character described, the combination of a hinged support, a clamp at one end thereof to secure the support to a table, and spring clamping-tongues at the other end of the support to receive and hold a bottle.

3. In a device of the character described, the combination of two members, an elbow-hinge connecting them, a clamp at the end of one member, and a bottle-support at the end of the other member.

4. In a device of the character described, the combination of two members hinged together, an L-shaped lever hinged to one member near its end, a thumb-screw carried by said lever, and a bottle-clamping support at the end of the other member.

808,486. MECHANISM FOR OPERATING CASEMENT WINDOWS, SHUTTERS, AND THE LIKE. ROBERT C. SPENCER, Jr., River Forest, Ill. Filed Apr. 24, 1906. Serial No. 312,138.



Claim.—1. The combination with a hinged member, of means for operating the same and for securing the same in adjusted position, comprising a rotatable stud, and arm secured thereto, sliding connection between said arm and the hinged member, an operating lever or handle on said rotatable stud, a sleeve freely slidable longitudinally on said operating lever or handle and a fixed plate provided with a slot having edge notches adapted to receive the inner ends of said sleeve.

2. The combination with a hinged member, of means for operating the same and for securing the same in adjusted position, comprising a rotatable stud, an arm secured thereto, sliding connection

between said arm and the hinged member, an operating lever or handle on said stud, a tapered sleeve longitudinally movable on said operating lever or handle, and a fixed plate provided with a slot provided with edge notches into which the tapered portion of said sleeve is adapted to enter.

3. The combination with a hinged member, of means for operating the same and for securing the same in adjusted position, comprising a rotatable stud, an arm secured therein, sliding connection between said arm and said hinged member, an operating lever or handle on said stud, comprising a rod or arm secured in said stud and a tubular section longitudinally movable thereon and which forms the hand-grip of said lever or handle, and a fixed plate provided with notches adapted for engagement by said tubular section of said operating handle or lever, the part of said tubular section designed for engagement with said notches being tapered.

4. The combination with a hinged member, of means for operating the same and for securing the same in adjusted position, comprising a rotatable stud, connection between said stud and said hinged member, comprising arms rigidly secured to said stud and pivoted to said hinged member, respectively, one of said arms being tubular and adapted for telescopic engagement by the other, an operating lever handle on said stud and means to secure said handle or lever in adjusted position.

5. The combination with a hinged member, of means for operating the same and for securing the same in adjusted position, comprising a rotatable stud, connection between said stud and said hinged member, comprising arms rigidly secured to said stud and pivoted to said hinged member, respectively, one of said arms being tubular and adapted for telescopic engagement by the other, an operating lever or handle on said stud, a sleeve longitudinally movable on said operating lever or handle, and a fixed plate provided with notches adapted for engagement by said sleeve.

6. The combination with a hinged member, of means for operating the same and for securing the same in adjusted position, comprising a rotatable stud, connection between said stud and said hinged member, comprising arms rigidly secured to said stud and pivoted to said hinged member, respectively, one thereof being tubular and adapted for telescopic engagement by the other, an operating lever or handle on said stud, a tapered sleeve longitudinally movable on said operating lever or handle and a fixed plate provided with notches adapted for engagement by said sleeve.

7. The combination with a hinged member, of means for operating the same and for securing the same in adjusted position, comprising a rotatable stud, connection between said stud and said hinged member, comprising arms rigidly secured to said stud and pivoted to said hinged member, respectively, one thereof being tubular and adapted for telescopic engagement by the other, an operating lever or handle on said stud, comprising a rod or arm secured in said stud, and a tubular section longitudinally movable thereon which forms the hand-grip of said lever or handle, and a fixed plate provided with notches adapted for engagement by said tubular section of said operating handle or lever.

8. The combination with a window-frame and a member hinged thereto, of means for operating the hinged member and for locking the same in its adjusted positions, said means comprising a rotatable stud carrying an arm having a sliding connection to said swinging member, an operating lever on said rotatable stud, a slotted plate through which said lever works, said plate being provided with a series of notches, and a handle slidable longitudinally on the said lever and adapted to engage said notches to lock the lever against movement, said handle having a limited motion on the lever and projecting beyond its end to form an extension thereof.

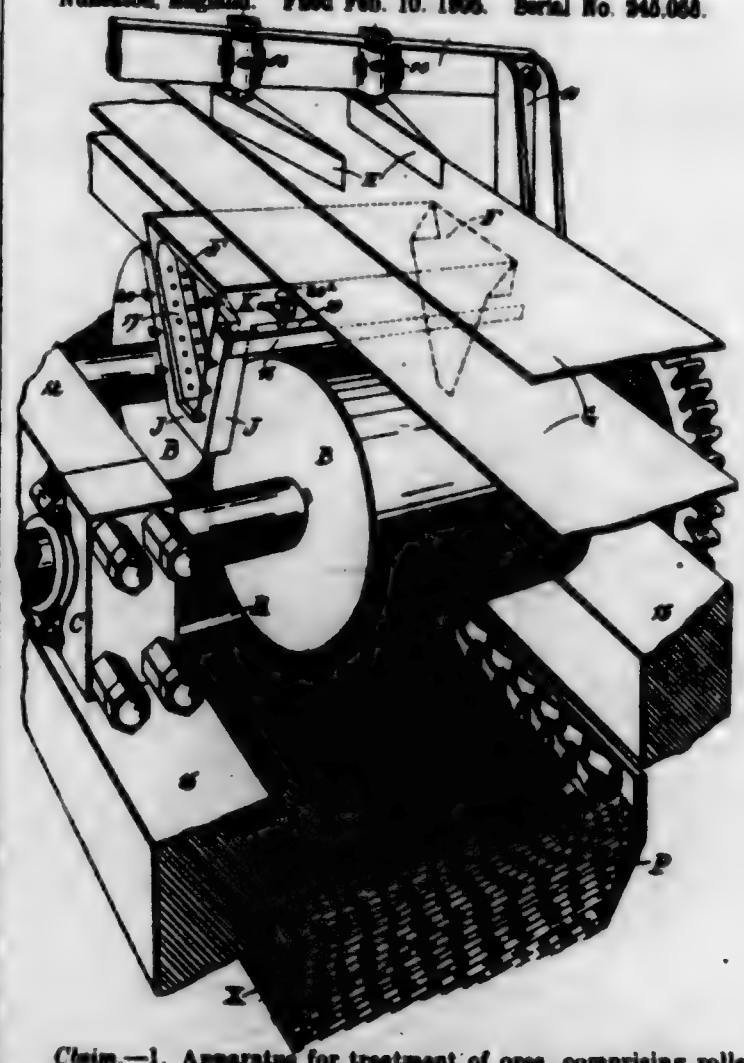
9. The combination with a window-frame and a hinged member of means for operating the hinged member and locking it in its adjusted positions, said means comprising a rotatable stud journaled in the stool of the window-frame and depending below it, means connecting the upper end of this stud slidably with the swinging member, a lever or rod attached to the depending end of the stud and extending through a slot in the apron of the window-frame, a notched plate attached to said apron and provided with a slot registering with the slot in the apron, the slot in this plate being provided with notches, and a part carried by the lever or rod and adapted to engage said notches to lock the device positively in its adjusted positions.

808,487. PLEASURE-RAILWAY. CHARLES B. STAHL, Philadelphia, Pa. Filed Sept. 7, 1905. Serial No. 277,426.

Claim.—A pleasure-railway having a trestle provided with uprights, a submerged track having its rails secured on the inner sides of the uprights and provided with upper and lower tread-surfaces, and a water-tight car having depending brackets on its sides, and wheels mounted on said brackets and engaging the upper and lower surfaces of the track-rails.



808,488. COMBINED APPARATUS FOR GRINDING OR CRUSHING, WASHING, AND SEPARATING ORES. REGINALD STANLEY, Nuneaton, England. Filed Feb. 10, 1905. Serial No. 245,056.



Claim.—1. Apparatus for treatment of ores, comprising rolls between which the material is reduced to a coarsely-ground condition, finishing-rolls adapted to allow only a thin layer of material to pass between them, a traveling belt of gauze underneath the finishing-rolls to catch the material falling therefrom, means of any kind for forcing the crushed material through the gauze into a trough below same, means for redistributing the material that cannot pass through the gauze to the finishing-rolls for regrinding, the whole in combination and substantially as specified.

2. Apparatus for treatment of ores, comprising rolls between

which the material is reduced to a coarsely-ground condition, finishing-rolls adapted to allow only a thin layer of material to pass between them, a traveling belt of gauze underneath the finishing-rolls to catch the material falling therefrom, a trough containing water into which said belt dips, means for spraying the material as it lies on the belt after it has left the water whereby the material after being washed is separated into fine particles which fall through the gauze into the trough and means for redistributing the material that cannot pass through the gauze to the finishing-rolls for regrinding, the whole in combination and substantially as specified.

3. Apparatus for treatment of ores, comprising rolls between which the material is reduced to a coarsely-ground condition, finishing-rolls adapted to allow only a thin layer of material to pass between them, means for watering the material as it is passing between the rolls, a traveling belt of gauze underneath the finishing-rolls to catch the material falling therefrom, a trough containing water into which said belt dips, means for spraying the material as it lies on the belt after it has left the water whereby the material after being washed is separated into fine particles which fall through the gauze into the trough, and means for redistributing the material that cannot pass through the gauze to the finishing-rolls for regrinding, the whole in combination and substantially as specified.

4. Apparatus for treatment of ores, comprising rolls between which the material is reduced to a coarsely-ground condition, finishing-rolls adapted to allow only a thin layer of material to pass between them, means for conveying the material from the preliminary rolls to the finishing-rolls, means for distributing the right quantity of material to the respective finishing-rolls, a traveling belt of gauze underneath the finishing-rolls to catch the material falling therefrom, means of any kind for forcing the crushed material through the gauze into a trough below same, and means for redistributing the material that cannot pass through the gauze to the finishing-rolls for regrinding, the whole in combination and substantially as specified.

5. Apparatus for treatment of ores, comprising rolls between which the material is reduced to a coarsely-ground condition, finishing-rolls adapted to allow only a thin layer of material to pass between them, means for watering the material as it is passing between the rolls, means for assisting in retaining the material and liquid on the top of each pair of rolls, means for conveying the material from the preliminary rolls to the finishing-rolls, means for distributing the right quantity of material to the respective finishing-rolls, a traveling belt of gauze underneath the finishing-rolls to catch the material falling therefrom, means of any kind for forcing the crushed material through the gauze into a trough below same, and means for redistributing the material that cannot pass through the gauze to the finishing-rolls for regrinding, the whole in combination and substantially as specified.

6. Apparatus for treatment of ores, comprising rolls between which the material is reduced to a coarsely-ground condition, finishing-rolls adapted to allow only a thin layer of material to pass between them, means for watering the material as it is passing between the rolls, means for assisting in retaining the material and liquid on the top of each pair of rolls, means for conveying the material from the preliminary rolls to the finishing-rolls, means for distributing the right quantity of material to the respective finishing-rolls, a traveling belt of gauze underneath the finishing-rolls to catch the material falling therefrom, a trough containing water into which said belt dips, means for spraying the material as it lies on the belt after it has left the water whereby the material after being washed is separated into fine particles which fall through the gauze into the trough, and means for redistributing the material that cannot pass through the gauze to the finishing-rolls for regrinding, the whole in combination and substantially as specified.

808,489. **ENVELOP-FASTENER.** EDWIN B. STIMPSON, Brooklyn, N. Y. Filed July 18, 1904. Serial No. 217,087.



Claim.—1. A fastener, having a primarily quadrilateral body with portions at a plurality of the angles thereof bent back to form securing-clips, and a prong or prongs punched from the body.

2. A fastener, having a primarily quadrilateral lozenge-shaped body with portions at a plurality of the angles thereof bent back to form securing-clips, and its prongs punched from the body.

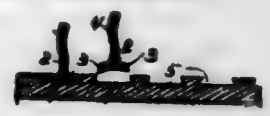
3. A fastener, having a primarily quadrilateral body with portions at a plurality of its angles bent back and swaged to form sharp securing-clips, and having its prongs punched from the body.

4. A fastener of sheet metal, having a primarily lozenge-shaped body with prongs 2 punched out therefrom, and having securing-prongs 3 formed by bending back its angles or corners to a position substantially at right angles to its face.

5. A fastener, having a primarily quadrilateral body with portions at a plurality of the angles thereof bent back to form securing-clips, and a prong or prongs punched from the body and projecting therefrom in a direction opposite to that in which the securing-clips project.

6. An envelop-fastener of sheet metal, having a primarily quadrilateral form with portions at its angles bent back to form securing-clips, and prongs punched from the body and bent outward from the face of the same in a direction opposite to that in which the clips project, said prongs being face to face and connected to the base at points near together.

808,490. **AIR-COOLING CONSTRUCTION FOR ENGINE-CYLINDERS, RADIATORS, &c.** WILLIAM B. SWAN, Seymour, Conn. Filed Feb. 16, 1904. Serial No. 193,914.

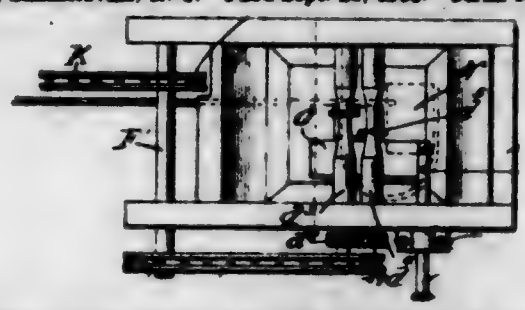


Claim.—1. The combination of a body having a groove therein and a metal strip of softer metal, said strip comprising a base to enter said groove and a series of teeth projecting outwardly from said base in line with the longitudinal axis of the latter, the thickness of the teeth forming the strip being appreciably less than the width of the base, from the center of which they project.

2. The combination of a body having a circumferential groove, and a strip comprising a base seated in said circumferential groove and a series of teeth projecting from said base in line with the longitudinal axis thereof, the thickness of the teeth forming the strip being appreciably less than the width of the base, from the center of which they project.

3. The combination of a body having a broad groove with inclined side walls, and a strip comprising a concave-convex base provided with inclined side edges, and a series of teeth projecting from the base at points intermediate of the edges, said base adapted to enter said groove and to be forced into conformity therewith.

808,491. **FERTILIZER-DISTRIBUTER.** CORNELIUS S. TARKINGTON, Skinnersville, N. C. Filed Sept. 23, 1905. Serial No. 279,338.



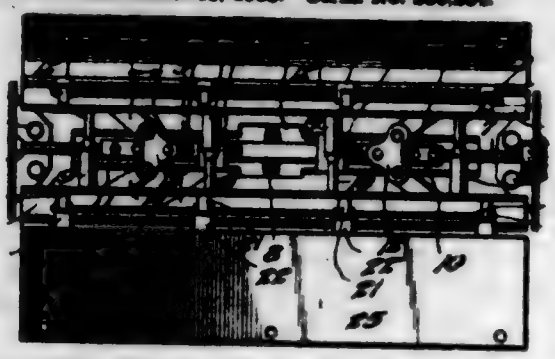
Claim.—1. In a device of the kind described, the combination with a soil-turning implement, of a hopper mounted thereon and provided with a discharge-opening, a cut-off for said discharge-opening, agitating mechanism in said hopper, a movable arm secured to said implement, a revoluble disk mounted on said arm, operative connections between said disk and agitating mechanism and means for simultaneously raising said disk and closing said discharge-opening, substantially as described.

2. In a device of the kind described, the combination with a soil-turning implement, of a hopper mounted thereon and provided with a discharge-opening, a cut-off for said opening, agitating mechanism in said hopper, a revoluble disk adapted to bear upon the ground, operative connections between said disk and agitating mechanism, a revoluble shaft mounted on said implement connections between said shaft and cut-off and said revoluble disk whereby said discharge-opening may be closed and said disk simultaneously disengaged from the ground, substantially as described.

3. In a device of the kind described, the combination with a plow, of a hopper mounted upon the beam thereof and provided with a discharge-opening, of rollers revolubly mounted in said hopper directly over said opening, means for regulating the size of said opening, a cut-off for said opening, an adjustable spring-arm secured to

said plow, a revoluble disk mounted thereon, operative connections between said disk and rollers, a shaft revolubly mounted on the plow-handles and provided at its end with a hand-wheel, connections between said shaft and spring-arm and said cut-off for said opening, whereby when said hand-wheel is turned, said disk will be raised and said discharge-opening closed, and means for locking said revoluble shaft, substantially as described.

808,492. LOOSE-LEAF BINDER. LOUIS K. THEOGRAUX, New Orleans, La. Filed Mar. 15, 1905. Serial No. 250,254.

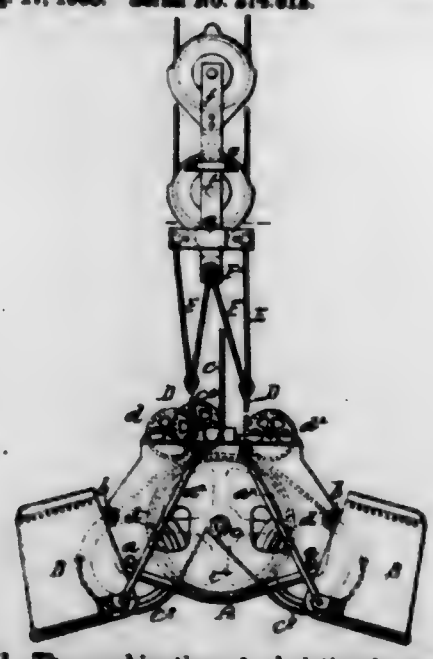


Claim.—1. In a device of the class described, a binder comprising a pair of clamping members, an operating-screw rotatively sustained within the binder, blocks or sleeves in threaded engagement with and movable reversely by the screw, arms carried by the blocks, and coupling members adjustable upon the arms and operatively connected with the clamping members.

2. In a device of the class described, a binder comprising a pair of clamping members, an operating-screw rotatively sustained within the binder, movable heads threaded upon and operable by the screw, arms carried respectively by the heads and extended in relatively reverse directions, coupling members adjustable upon the arms for obtaining an initial adjustment of the clamping members, and operative connections between the coupling members and clamping members.

3. In a device of the class described, a binder comprising a pair of clamping members, an operating-screw rotatively sustained within the binder, blocks or sleeves in threaded engagement with and movable reversely by the screw, said blocks being provided with guide-openings, arms carried by the blocks, the arm on each block being movably extended through the guide-opening in the other block, and operative connections between the arms and clamping members.

808,493. MEANS FOR TURNING HOISTING-BUCKETS. GEORGE B. TITCOMB, Philadelphia, Pa., assignor to The Dodge Coal Storage Company, Naugatuck, Conn., a Corporation of Connecticut. Filed Aug. 17, 1905. Serial No. 274,612.



Claim.—1. The combination of a hoisting-bucket, three sets of ropes leading from the hoisting mechanism to the bucket, one rope being a closing-rope and another a holding or opening rope and the third a holding, opening and turning rope, and means connecting the latter rope to the bucket so that when said rope is under tension, the bucket will be turned, substantially as described.

2. The combination of a hoisting-bucket, of three sets of ropes leading from the hoisting mechanism to the bucket, one rope being a closing-rope, and the other ropes being opening and holding ropes, connections between each of said latter ropes and the bucket, one of said connections being twisted, so that when one rope is under tension, the bucket will hang in one position and when the other rope is under tension, the bucket will turn, substantially as described.

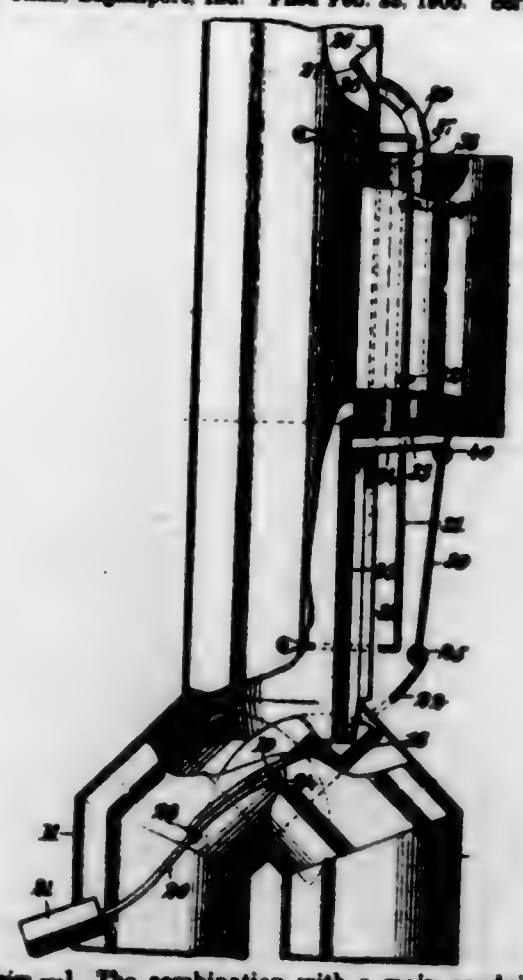
3. The combination of a hoisting-bucket, two cross-bars, one arranged at an angle to the other and one mounted above the other, a sheave attached to each cross-bar, an opening and holding rope passing around each sheave and leading to the hoisting mechanism, one cross-bar having straight connections with the hoisting-bucket and the other bar having twisted connections with the bucket so that when one holding-rope is under tension, the bucket will be in one position and when the other holding-rope is under tension, the bucket will be turned, substantially as described.

4. The combination of a hoisting-bucket, having a body portion and pivoted jaws, ropes arranged to close the jaws and ropes for opening the jaws, two cross-bars, one arranged at right angles to the other and each connected to the opening-ropes, with means for placing tension on either of the cross-bars, so as to turn the bucket from one position to the other, substantially as described.

5. The combination of a hoisting-bucket, having a body portion and pivoted jaws, a rope arranged to close the jaws, and ropes connected to the jaws to open the same, two cross-bars, one arranged at an angle to the other, two ropes leading from each opening-rope; one rope of each set attached to an end of one bar and the other rope attached to an end of the other bar, with means for placing tension on either cross-bar so as to turn the bucket from one position to the other, substantially as described.

6. The combination of a hoisting-bucket, two cross-bars one arranged at an angle to the other, two sets of ropes leading from the cross-bars to the bucket, one of said sets of ropes being twisted, closing-ropes leading from the bucket and in the path of one of the cross-bars so as to limit the rotary movement of the bucket, substantially as described.

808,494. CONTROLLING-VALVE. PHILIP VOORHEES and HENRY J. TRAR, Logansport, Ind. Filed Feb. 23, 1905. Serial No. 247,767.



Claim.—1. The combination with a main conduit having an elongated recess and a plurality of branch conduits, said recess opening into one of the conduits, of a valve associated with the juncture of the conduits, a movable receiver connected with the valve, and a pipe extending from the receiver into the recess.

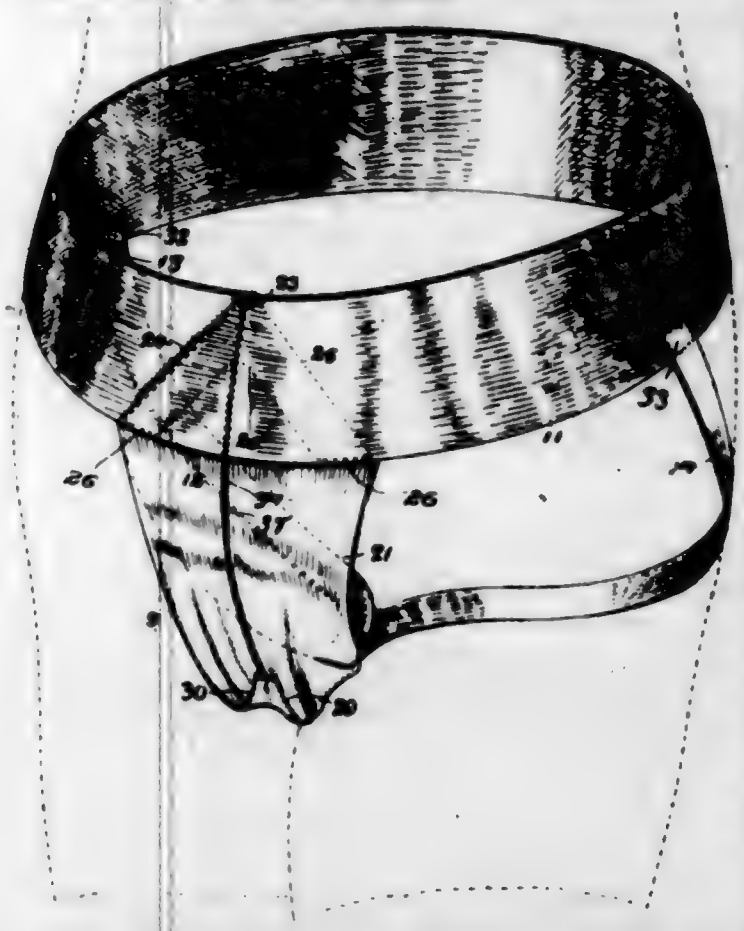
2. The combination with a main conduit having an elongated recess and a plurality of branch conduits, said recess opening into one of the conduits, of flanges at opposite sides of the recess, a valve associated with the juncture of the conduits, a movable receiver connected with the valve, and a pipe extending from the receiver into the recess.

3. The combination with a main conduit having an elongated

recess and a plurality of branch conduits, the said recess opening into one of the conduits, of a valve associated with the juncture of the conduits, a removable receiver connected with the valve, a pipe extending from the receiver into the recess, a lip projecting forwardly from the wall of the main conduit, said main conduit having an opening in its wall within the lip, and a controlling-conduit leading from the opening to the receiver.

4. The combination with a main conduit and a plurality of branch conduits, of a valve associated with the juncture of the conduits, a movable receiver connected with the valve, a lip projecting inwardly from the wall of the main conduit and being provided with a downwardly-inclined edge, said main conduit having an opening in its wall within the lip, a screen supported upon the inclined edge of the lip, and a controlling-conduit leading from said opening to the receiver.

808,495. **JOCK-STRAP.** WALTER F. WARE, Philadelphia, Pa. Filed Aug. 13, 1903. Serial No. 274,669.



Claim.—1. In a jock-strap, the combination of a waistband and a supporting-pouch formed by folding a single length of elastic webbing into the required shape, the said folded portions being stitched together.

2. In a jock-strap the combination of a waistband and a supporting-pouch formed by folding a single length of elastic webbing into the required shape, the said folded portions being stitched together, and straps formed from a second single length of webbing connecting the back lower extremity of the pouch with the sides of the waistband, and yieldingly secured to said pouch.

3. In a jock-strap, the combination of a waistband and a supporting-pouch formed by folding a single length of elastic webbing into the required shape, the said folded portions being stitched together, and straps formed from a second single length of webbing, having a fold midway the ends thereof, yieldingly connected to the back lower extremity of the pouch, and ends connected with the sides of the waistband.

4. In a jock-strap, the combination of a waistband and a supporting-pouch, formed by folding a single length of webbing into a waistband of a single width of the material, and a supporting-pouch of two widths of the material, the adjacent edges of the widths comprising the pouch being united by stitching.

5. In a jock-strap, the combination of a waistband and a supporting-pouch formed by folding a single length of webbing into a waistband of a single width of the material, and a supporting-pouch of two widths of the material, the adjacent edges of the widths comprising the pouch being united from the lower extremity of the pouch to a point near the top of the pouch, to form an opening at the top of the pouch.

6. In a jock-strap, the combination of a waistband and a supporting-pouch both folded from one continuous strip of webbing, the waistband being of a single width and the supporting-pouch of two widths of webbing, the whole being of a single thickness of material except at the point of juncture of the pouch and waistband; and at the lower front extremity of the pouch.

7. In a jock-strap, the combination of a waistband and a supporting-pouch made from a continuous strip of webbing, the waistband being of a single width and the supporting-pouch of two widths of webbing, the whole being of a single thickness of material except at the point of juncture of the pouch and waistband, and at the lower front extremity of the pouch, the two widths of webbing forming the pouch being united by elastic stitching.

8. In a jock-strap, the combination of a waistband and a supporting-pouch made from a continuous strip of webbing, the waistband being of a single width and the supporting-pouch of two widths of webbings, the whole being of a single thickness of material except at the point of juncture of the pouch and waistband, and at the lower front extremity of the pouch, the two widths of webbings forming the pouch being united from the bottom to a point near the top of the pouch, providing an opening near the top of the pouch.

9. In a jock-strap, the combination of a pouch folded from a single continuous strip of webbing, and provided near its top with an opening, with means for covering the top portion of said opening.

10. A jock-strap comprising a waistband and a pouch, both formed from a single continuous strip of webbing, said pouch being provided near its top with an opening, a portion of which is covered by said waistband.

11. A jock-strap comprising a waistband and a pouch, both folded from a single continuous strip of elastic webbing, the pouch being provided near its top with an opening, the top portion of which is covered by said waistband, whereby the portion of the waistband over said opening may be stretched up and away from said opening.

12. In a jock-strap, the combination with a pouch folded from a continuous strip of webbing and provided at its top with an opening, of a waistband secured to said pouch and covering a portion of said opening.

13. In a jock-strap, the combination with a pouch having an opening at its top and formed by folding a continuous strip of webbing downwardly to form one side, and back and upwardly to form the other side, and uniting the major portions of the adjacent edges of said webbing, of a waistband secured to the top of said pouch and covering a portion of said opening.

14. In a jock-strap, a combination with a pouch formed by uniting two adjacent edges of a continuous strip of webbing, and provided with an opening by leaving the adjacent edges at the top ununited; a waistband secured to said pouch at the upper side thereof and covering a portion of said opening and under straps connected to the lower back edge of said pouch and to the sides of said waistband.

808,496. **BARREL-HOOP.** THOMAS E. WHITE, Okisko, N. C. Filed Dec. 9, 1904. Serial No. 236,168.



Claim.—A wire hoop for barrels, casks and the like comprising a single section of yieldable wire bent into hoop form and having eyes at the free ends of the same to form a hinge-joint, and securing devices loosely coiled on the wire which serves to render them movable thereon, said securing devices having shanks provided with right-angular prongs and a tension-loop arranged diametrically opposite the hinge-joint of the hoop which serves to permit of the hoop being twisted contiguous with the loop to force said hoop tightly against the periphery of the barrel, substantially as specified.

808,497. **THRESHING-MACHINE.** EDWIN F. WHITTIER and GEORGE JOHNSON, Dalston, Miss. Filed Feb. 22, 1905. Serial No. 247,756.

Claim.—1. A threshing-machine, comprising a straw-carrier, a number of fixed guards depending suitably with relation to the latter, a series of pairs of forks, each pair being fixed to an arm, standing out at a right angle thereto, means for guiding the movement of the upper ends of the arms, and a cranked shaft having said arms

loosely connected thereto, for actuating the same to cause pairs of forks to engage and carry the material along down said guards, and under and in rear thereof, for delivery upon said straw-carrier.



2. A threshing-machine, comprising a straw-carrier, a number of fixed guards having their lower ends depending contiguously to said carrier, pairs of forks, each pair being fixed laterally of an arm standing out at right angles thereto, pairs of links pivotally connected to the upper end of said arm and to fixed points, and a cranked shaft loosely connected to the arms of the pairs of forks and effective to engage and carry the material along down said guards and below and in rear thereof, to deliver said material in a thinned-out condition upon said straw-rack.

3. A threshing-machine comprising a number of spaced-apart fixed pendants or guards, pairs of forks, each pair fixed laterally of an arm or bar and to an extension of said bar, pairs of pivoted links having pivotally connected thereto and therebetween the upper end of said arm or bar, and a crank-shaft having pivotal connection with said arm or bar about at its center and journaled laterally in the machine-frame.

808,498. HORSE-COLLAR. ERNEST G. WILLIAMS, Atlanta, Ga. Filed Aug. 12, 1904. Serial No. 220,444.



Claim.—1. A fabric horse-collar, comprising a body and a rim, said rim being substantially of uniform thickness at its sides and gradually merging into an enlarged depending portion at its lower end which extends below the bottom of the body, the enlarged portion being formed of the same material and with the rim.

2. A fabric horse-collar comprising a body and a rim, the rim consisting of two sections, each section, formed of a strip of fabric formed at its lower and upper edges on both sides with projections, each section folded along a medial line, and stitches to secure said sections to the body, the lower projections forming an extension at the bottom of the rim which depends below the bottom of the body and the projections at the upper edge forming an extension which projects upward beyond the top of the body.

3. A fabric horse-collar comprising a body and a rim, the rim consisting of two sections, each section formed of a strip of fabric formed at its lower opposite edges with projections, the section being folded along a medial line, and stitches securing said sections to the body, the projections forming an extension depending below the bottom of the body.

4. A section of a rim-blank for a fabric horse-collar having end projections on both edges, said projections being of the same shape to produce end extensions on the rim when the blank is folded.

5. A section of a horse-collar body-blank having an upper edge, a lower edge, the latter edge inclining in two opposite directions, a small projection at the upper end and a large projection on the lower end of one long edge, a top projection on the opposite long edge, which registers with the first-mentioned projection when the blank is folded, a lower projection on said opposite long edge and the lower edge, said latter projection registering with the first-mentioned lower projection on the first-mentioned long edge when the blank is folded.

6. A fabric horse-collar comprising a body and a rim, the rim consisting of two sections, each section formed of a strip of fabric formed at its upper opposite edges with projections, the section being folded along a medial line, and stitches securing said sections to the body, the projections forming an extension projecting above the top of the body.

7. A section of a horse-collar body-blank having its upper edge at an angle to the lower edge, a projection at the upper edge of one long edge, a projection formed at the bottom of said long edge and the bottom edge, a projection at the top of the opposite long edge which registers with the projection at the top of the first-mentioned long edge, a second projection formed at the bottom of the opposite long edge and the bottom edge, the said opposite long edge being in the form of a compound curve, whereby when the blank is folded the projections will register, and the compound edge will form a shield-receiving notch.

8. A rim-blank for a fabric horse-collar having end projections on two opposite edges, to produce an extension when the blank is folded.

9. A section of a horse-collar body-blank having its upper edge at an incline to its lower edge, one long edge being curved, the opposite long edge being curved for a portion of its length in two places, the edge of said opposite long edge being in the form of a compound curve between the two mentioned curved edges, whereby when the blank is folded the two curves of said long edge will register with the adjacent curved long edge and the compound curve will form a shield-receiving pocket.

808,499. DRILL-FEED. JOSIAH G. WIRSING, Grand Valley, Pa. Filed Aug. 3, 1905. Serial No. 272,511.

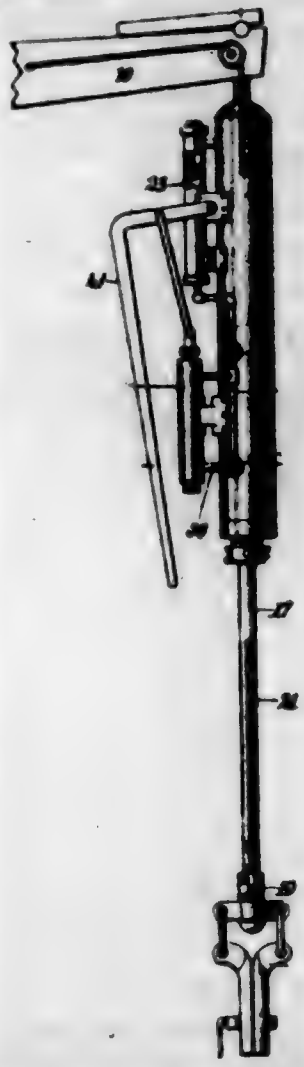
Claim.—1. A well-drilling apparatus having a cylinder and piston interposed between the drill and its operating part, a rod attached to the piston and extending to one end of the cylinder, an overflow-reservoir communicating with the cylinder, and means for controlling fluid movement between the ends of the cylinder and the reservoir.

2. A well-drilling apparatus having a cylinder and piston interposed between the drill and its operating part, a rod attached to the piston and extending to one end of the cylinder, an overflow-reservoir communicating with the cylinder, and means for controlling fluid movement between the ends of the cylinder and the reservoir, said means including a pump.

3. A well-drilling apparatus having a cylinder and piston interposed between the drill and its operating part, a reservoir communicating with one end of the cylinder, a rod attached to the piston and passing out through the other end of the cylinder, a pipe establishing communication between said other or second end of the cylinder, and the reservoir, and means for throttling fluid movement in said pipe.

4. A well-drilling apparatus having a cylinder and piston interposed between the drill and its operating part, a reservoir communicating with one end of the cylinder, a rod attached to the piston and passing out through the other end of the cylinder, a pipe establish-

ing communication between said other or second end of the cylinder and the reservoir, means for throttling fluid movement in said pipe, and a force-pump in communication with said reservoir and the second-named end of the cylinder.



5. A well-drilling apparatus having a drill-operating part, a cylinder and piston having connection therewith and also adapted to have connection with the drill, and means for controlling fluid movement in the cylinder, said means including a reservoir communicating with the cylinder ends.

6. A well-drilling apparatus having a drill-operating part, a cylinder and piston having connection therewith and also adapted to have connection with the drill, means for controlling fluid movement in the cylinder, said means including a reservoir communicating with the cylinder ends, and a force-pump also in communication with the cylinder.

7. A well-drilling apparatus having a drill-operating part, a cylinder in connection therewith, a piston and rod operating in the cylinder and adapted to have connection with the drill, an overflow-chamber communicating with the ends of the cylinder, and a pump, the admission end of which has communication with the overflow-chamber, and the discharge of which pump has communication with the lower end of the cylinder.

808,500. ROLLER-BEARING CASTER. FRANCIS R. WOLFENDEN, Chicago, Ill. Filed May 24, 1904. Renewed June 10, 1905. Serial No. 264,736.



Claim.—1. A ball-bearing caster comprising a frame provided with a flat top or cap, a shank passing upward through the cap and having a smooth portion, an attaching-plate surrounding and secured to the shank, antifriction-balls surrounding the shank, and bearing against the smooth portion thereof an upper bearing-plate between the balls and the attaching-plate, and a retainer-sleeve connected with the bearing-plate and being thereby held away from the flat top or cap.

2. A ball-bearing caster comprising a frame, a shank passing upward therethrough and provided with a smooth portion, a peripherally-notched disk surrounding and fastened to the shank, antifriction-balls interposed between the flat top of the frame and the attaching-plate, a loose retainer-sleeve surrounding the balls, and an upper bearing-plate to which the retainer-sleeve is connected and by means of which said sleeve is supported away from the flat top.

808,501. CORNER-FASTENING FOR METAL BEDS. JOHN H. ADAMS, Chicago, Ill. Filed May 24, 1905. Serial No. 261,573.



Claim.—1. In a metal bedstead, the combination of a hollow post provided with a hole or opening, and a corner-fastening member cast thereon comprising sections which permanently engage the inner and outer surfaces, respectively, of said post and an integral connection between said sections which extends through the opening in said post.

2. In a metal bedstead, the combination of a hollow post provided with a hole or opening, and a corner-fastening member cast thereon which only partially surrounds said post comprising sections which permanently engage the inner and outer surfaces, respectively, of said post and an integral connection between said sections which extends through the opening in said post.

3. In a metal bedstead, the combination of a hollow post provided with a hole or opening, a corner-fastening member and a plate inserted between said corner-fastening member and said post provided with a hole or opening corresponding to that in the post, said corner-fastening member comprising sections which permanently engage the outer surface of the plate and the inner surface of the post, respectively, and an integral connection between said sections which extends through the openings in said post and plate.

4. In a metal bedstead, the combination of a hollow post provided with a hole or opening, a corner-fastening member, a plate inserted between said corner-fastening member and said post provided with a hole or opening corresponding to the hole or opening in said post and a clip or hook on said plate designed to engage said post at the edges of the opening therein, said corner-fastening member comprising sections which permanently engage the outer surface of the plate and the inner surface of the post, respectively, and an integral connection between said sections which extends through the openings in said post and plate.

5. In a metal bedstead, the combination of a hollow post provided with a hole or opening, a corner-fastening member which only partially surrounds said post and a plate inserted between said post and said corner-fastening member provided with a hole or opening corresponding to the hole or opening in said post, said corner-fastening member comprising sections which permanently engage the outer surface of the plate and the inner surface of the post, respectively, and an integral connection between said sections which extends through the openings in said post and plate.

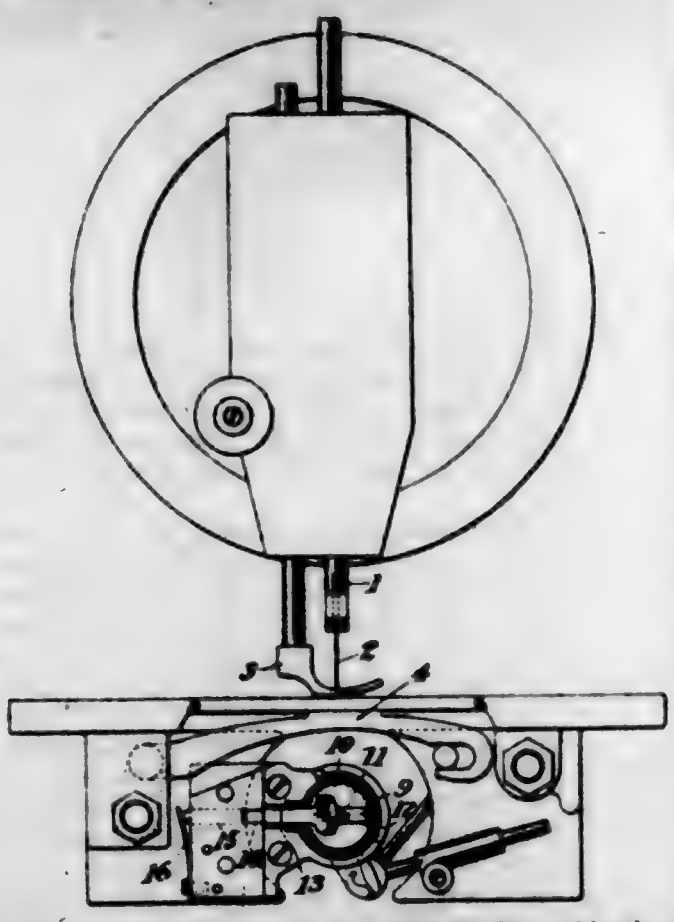
6. The combination of a hollow member provided with a hole or opening and a cast member, said cast member comprising sections which permanently engage the inner and outer surfaces, respectively, of said hollow member and an integral connection between said sections which extends through the hole or opening in said hollow member.

7. The combination of a hollow member comprising a covering of brass tubing and provided with a hole or opening, and a cast member, said cast member comprising sections which permanently engage the inner and outer surfaces, respectively, of said hollow member and an integral connection between said sections which extends through the hole or opening in said hollow member.

808,502. BOBBIN-EJECTOR FOR SEWING-MACHINES. PAUL ARMBRÜST, New York, N. Y., assignor of one-half to George Bisinkhoupt, New York, N. Y. Filed Jan. 10, 1905. Serial No. 240,409.

Claim.—1. In a bobbin-ejector for sewing-machines, the combination of a movable bobbin-retaining device, a movable ejector, connecting means between said retaining device and ejector and a spring-operated mechanism associated with the connecting means for controlling and holding said bobbin-ejector and retaining device, substantially as described.

2. In a bobbin-ejector for sewing-machines, the combination of a pivoted bobbin-retaining device, a movable bobbin-ejector, connecting mechanism between the same, including a pivoted lever having a knuckle thereon, and a spring operating in conjunction with the knuckle and lever to control said retaining device and said ejector, substantially as described.

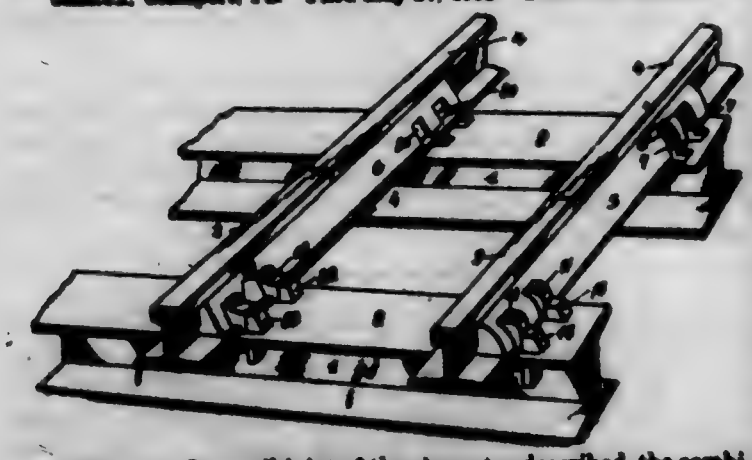


3. In a bobbin-ejector for sewing-machines, the combination of a movable bobbin-retaining device, a plunger-operating ejector normally forming a part of the bobbin-retaining means, connecting means between said retaining device and said ejector, and a spring-operated mechanism associated with the connecting means for controlling said retaining device and said ejector, substantially as described.

4. In a bobbin-ejector for sewing-machines, the combination of a pivoted bobbin-retaining device, a plunger-operating ejector, a bell-crank lever one end of which engages a slot in the stem of the ejector, means connecting the other end of the bell-crank lever with the retaining device, and spring-operated means for controlling said retaining device and ejector, substantially as described.

5. In a bobbin-ejector for sewing-machines, the combination of a pivoted bobbin-retaining device, a plunger-operating ejector, a bell-crank lever one end of which engages a slot in the stem of the ejector, means connecting the other end of the bell-crank lever with the retaining device, a knuckle on said bell-crank lever, a plunger-rod contacting with said knuckle and a spring engaging with said rod, substantially as described.

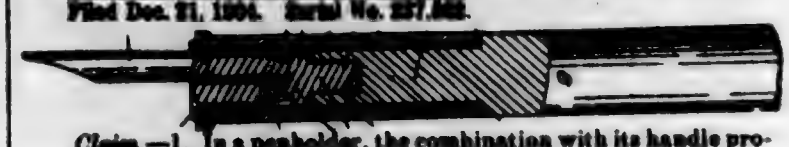
808,503. RAIL-JOINT. CHARLES B. BARROW and CHARLES LAMSCHANK, Glenspert, Pa. Filed May 27, 1905. Serial No. 262,692.



Claim.—1. In a rail-joint of the character described, the combination with metallic ties, the tops of said ties having openings formed therein, rails, of fish-bars adapted to embrace said rails, said fish-bars having grooves formed therein, one of said fish-bars having recesses formed therein at the head of said grooves, blocks mounted in said openings and adapted to engage said fish-bars, one of said blocks having a groove formed therein adapted to engage the top of said tie, substantially wedge-shaped pins mounted in said openings and adapted to hold said blocks in engagement with said bars, said pins having openings formed therein, keys secured in said openings beneath the tops of said ties, substantially as and for the purpose described.

2. In a rail-joint of the character described, the combination with metallic ties and rails, of fish-bars adapted to embrace said rails, blocks mounted in said metallic ties and adapted to engage said fish-bars, substantially wedge-shaped pins mounted in said ties and adapted to engage said blocks, and means carried by said pins to prevent their displacement, substantially as described.

808,504. PENHOLDER. EDWARD B. BLAKESLEE, New York, N. Y. Filed Dec. 21, 1904. Serial No. 237,862.



Claim.—1. In a penholder, the combination with its handle provided with a shoulder, of an inner support for the pen, a rigid sleeve around said support and resting against said shoulder, a soft-rubber tube supported by said shoulder and expanded outward at its forward end to form a flange, and a support extending outward from said sleeve, against which said flange rests.

2. In a penholder, the combination with its handle provided with a shoulder, of an inner support for the pen, a beaded sleeve around said support and resting against said shoulder, a washer resting against the bead on said sleeve, and a soft-rubber tube of greater length than the distance between said washer and said shoulder and expanded outward where in contact with said washer.

3. In a penholder, the combination with its handle, of an inner support for the pen, two shoulders being provided on said penholder, and an outer flexible tube of greater length than the distance between said shoulders interposed between said shoulders and expanded outward where in contact with one of said shoulders.

808,505. PENHOLDER. EDWARD B. BLAKESLEE, New York, N. Y. Filed Dec. 21, 1904. Serial No. 237,863.



Claim.—1. In a penholder, the combination with its handle, of a support for the pen, a sleeve surrounding said support, and a shield integral with said sleeve, substantially the entire forward portion of the extreme outer surface of said sleeve being made curving forward and outward, for the purpose of conforming with the tip of the finger of the writer.

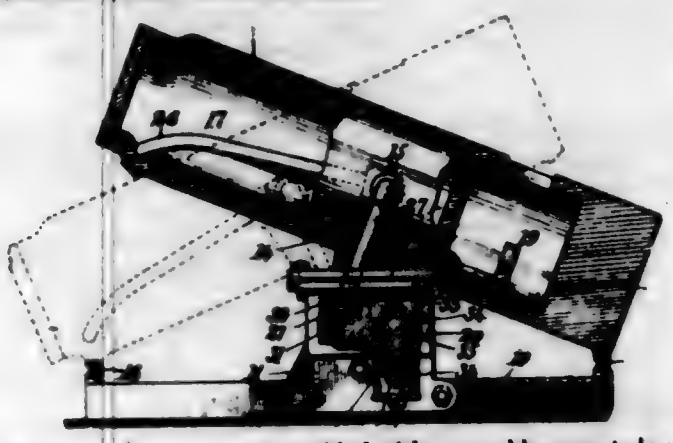
2. In a penholder, the combination with its handle, of a support for the pen, a sleeve surrounding said support, and a shield attached to said sleeve, substantially the entire forward portions of the inner and outer surfaces of said sleeve being made to curve forward and outward, for the purpose of conforming with the tip of the finger of the writer.

3. In a penholder, the combination with the handle, of a support for the pen, a sleeve surrounding said support and movable along the same and adapted to confine the pen in contact with said support, a shield attached to said support and having the forward portions of its inner and its outer surface flaring forward and outward throughout and normally extending beyond said support and

adjusted to be brought opposite said support as the sleeve is being moved rearward.

4. In a penholder, the combination with the handle, of a support for the pen, a sleeve surrounding said support, and a continuous bell-shaped shield with curving outer surface integral with said sleeve and extending forward from said support, for the purpose of conforming with the tip of the finger of the writer.

808,506. STEAM-TRAP. WILLIAM BLETSO, Youngstown, Ohio. Filed Mar. 8, 1905. Serial No. 249,995.



Claim.—1. A steam-trap provided with a movably-mounted vessel adapted to receive the steam and water, a valve controlling the outlet from the trap, an operating member in connection with the valve, and an eccentric having connection with the vessel and engaging the operating member to operate the valve upon the movement of said vessel.

2. A steam-trap provided with a rockably-mounted vessel adapted to receive the steam and water, an eccentric having connection with the vessel to be rocked thereby, a valve controlling the outlet from the trap, and an operating member having connection with the valve and engaged by the eccentric.

3. A steam-trap having a rockably-mounted vessel adapted to receive the steam and water, an eccentric having connection with the trap and having its axis coincident to the axis of rotation of the vessel, a valve controlling the outlet from the trap, and an operating member having connection with the valve and engaged by the eccentric.

4. A steam-trap comprising a rockably-mounted vessel adapted to receive the steam and water, a filter-box communicating with the source of steam and water, a feed connection passing into the said vessel, said feed connection having a part loosely received in the filter-box and lying coincident to the axis of rotation of the vessel, a valve-box, a discharge connection passing from the vessel into the valve-box at a point coincident to the axis of rotation of the vessel, a discharge-valve within the valve-box, and a means in connection with said discharge-pipe for operating the valve.

5. A steam-trap comprising a vessel mounted to oscillate, said vessel having a steam and water chamber, and having at one end an open chamber adapted to receive a weight or weights, and means actuated by the oscillating movement of said vessel for controlling the steam and water movement in the trap.

6. A steam-trap provided with an oscillating vessel adapted to receive the steam and water, means controlling the outlet from the trap, and devices for operating said means, said devices including an eccentric having connection with the vessel to turn around the center of oscillation thereof.

7. A steam-trap provided with a movably-mounted vessel, a valve-box, a connection between the vessel and valve-box to discharge the water from the vessel into the valve-box, said box having a case, a water-discharge pipe passing from the case, an outlet-pipe having an enlarged portion located in the case and communicating with the discharge-pipe, the reduced portion of the outlet-pipe extending up into the valve-box, a ball-valve seated on the upper end of said outlet-pipe, and means actuated by the movement of the vessel for operating the ball-valve.

8. A steam-trap provided with a movably-mounted vessel, a valve-box, a connection between the vessel and valve-box to discharge the water from the vessel into the valve-box, said box having a case, a water-discharge pipe passing from the case, an outlet-pipe having an enlarged portion located in the case and communicating with the discharge-pipe, the reduced portion of the outlet-pipe extending up into the valve-box, a ball-valve seated on the upper end of said outlet-pipe, means actuated by the movement of the vessel for operating the ball-valve, said means comprising a gage engaging the ball, a lever in connection with the gage, and an eccentric engaging the lever and having connection with the vessel to move therewith.

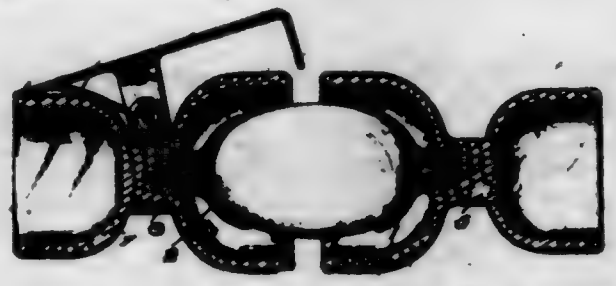
9. A steam-trap provided with a movably-mounted vessel, a valve-box, a connection between the vessel and valve-box to discharge the water from the vessel into the valve-box, said box having a case, a water-discharge pipe passing from the case, an outlet-pipe having an enlarged portion located in the case and communicating with the discharge-pipe, the reduced portion of the outlet-pipe extending up into the valve-box, a ball-valve seated on the upper end of said outlet-pipe, and means actuated by the movement of the vessel for operating the ball-valve, said case having a removable plug or closure at its lower portion, and the outlet-pipe being removable through the lower end of the case.

10. A trap provided with a movably-mounted vessel, a valve-box, a connection between the vessel and valve-box to communicate the water from the vessel to the box, said valve-box having a case juxtaposed thereto, a discharge-pipe passing from the case, an outlet-pipe having two diameters, the larger portion of the outlet-pipe being located in the case and the smaller portion projecting into the valve-box, a valve seated on the small part of the outlet-pipe, and means actuated by the movement of the vessel for operating the valve.

11. A trap provided with a movably-mounted vessel, a valve-box, a connection between the vessel and valve-box to communicate the water from the vessel to the box, said valve-box having a case juxtaposed thereto, a discharge-pipe passing from the case, an outlet-pipe having two diameters, the larger portion of the outlet-pipe being located in the case and the smaller portion projecting into the valve-box, a valve seated on the small part of the outlet-pipe, and means actuated by the movement of the vessel for operating the valve, the case having a removable plug or closure in one side, and the said outlet-pipe being arranged to be withdrawn through said side of the case.

12. A steam-trap provided with a vessel adapted to receive the steam and water, a means for rockably mounting the same, a separate means for conducting the steam and water to and from the vessel, said means for conducting the steam and water comprising connections adapted to have relative turning movement, and located coincident to the axis of the rocking movement of the vessel, and means actuated by the rocking of the vessel for controlling the discharge from the trap.

808,507. EGG-SHELLER. LOUIS V. BLUE, Pittsburg, Pa. Filed Apr. 25, 1903. Serial No. 154,290.



Claim.—1. A device of the character described, comprising a cup of a diameter greater than that of an egg, a cup-shaped rubber egg-holding member within the inner end of said cup, a band rotatably mounted on said cup, and a shell-cutting device carried by said band.

2. A device of the character described, comprising a cup of a diameter greater than that of an egg, a cup-shaped rubber egg-holding member within the inner end of said cup, a band surrounding the cup and rotatable thereon, a shell-cutting device intermediately pivoted to said band, and normally spring-held across the end of said cup.

3. A device of the character described, comprising a cup of a diameter considerably larger than that of an egg, a suction-cup carried by the inner end of said cup for holding the egg within the same and away from the side thereof and a rotatable knife mounted upon the cup and adapted to sever the egg.

4. A device of the character described, comprising a cup, means for positively holding the egg within the same, a band rotatably mounted upon the cup, a pivoted knife carried by said band, and a spring normally holding the knife in an inward-cutting position.

5. A device of the character described, comprising a cup having a reduced central portion, means for positively holding the egg within the cup, a band loosely surrounding said reduced central portion, a pivoted spring-actuated cutting member carried by the band.

6. A device of the character described, comprising a cup having a reduced central portion, means for positively holding the egg within the cup, a band loosely surrounding said reduced portion of the cup and having its ends turned laterally, a cutting member between said laterally-turned ends, a pivot passing through the said laterally-turned ends of the band and through the cutting member, and a spring surrounding said pivot and bearing against said knife and normally holding the same in an inward-cutting position.

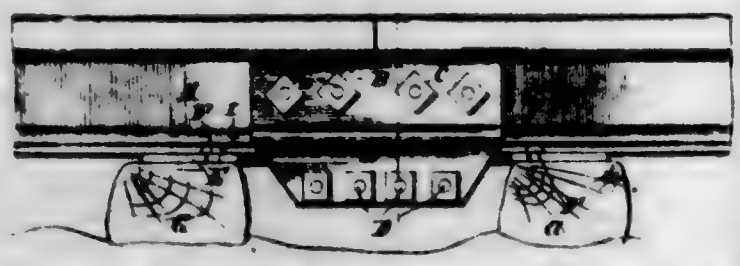
7. A device of the character described, comprising a cup having a reduced central portion, a vacuum-cup in the lower end for positively holding the egg within the cup, a band loosely surrounding said reduced portion of the cup and having its ends turned laterally, a cutting member between said laterally-turned ends, a pivot passing through the said laterally-turned ends of the band and the cutting member, and a spring surrounding said pivot and bearing against said knife and normally holding the same in an inward-cutting position.

808,508. HOSE-SPIDER. CHARLES M. BOWMAN, Lebanon, Pa. Filed Apr. 14, 1905. Serial No. 255,615.



Claim.—A hose-spider having a metallic body provided with laterally-extending lugs, wheels revolubly secured to the lugs, a downwardly and rearwardly extending shoe in front of the lugs and on the lower side of the body, a hook in rear of the lugs, and means for securing the spider to hose.

808,509. RAILWAY-RAIL JOINT. HARRY C. BREWSTER, CHARLES A. DUTTENHAGE, and WALTER L. GILDERSLEEVE, Shreveport, La. Filed Apr. 20, 1905. Serial No. 256,585.



Claim.—1. The combination, with alined rail ends, of fish-plates having lateral and downwardly-extended flanges, cross-bolts connecting the fish-plates and rails, and other bolts connecting the lower edges of their flanges, a base-plate and wedges arranged between the rail-bases and the lower row of cross-bolts, substantially as described.

2. The combination, with alined rail ends, of fish-plates which are secured to the ends of the rail, and having lateral and downward extensions, transverse bolts connecting the lower edges of said flanges, and the latter diverging laterally from vertical planes, and wedges interposed between the said bolts and the bases of the rails, substantially as described, whereby, upon tightening the nuts on the said bolts the wedges are caused to slide upon each other to a corresponding degree, substantially as described.

3. The combination, with alined rail ends and ties supporting the same and spaced apart, of fish-plates having lateral and downwardly-extending flanges, a base-plate arranged beneath the ends of the rails and having its enlarged ends secured to the ties, cross-bolts connecting the lower edges of the flanges, and wedges interposed between the bolts and base-plate, substantially as described.

4. The combination, with alined rail ends and ties upon which the same rest, of a base-plate which is spiked to the ties and having a body portion of less width than its ends, fish-plates having flanges extending downward in the space between the heads of the base-plate, transverse bolts securing the lower edges of the flanges, and wedges interposed between the said bolts and the base-plate, substantially as described.

5. The combination, with alined rail ends, and fish-plates extending downward, and having other pendent portions connected by cross-bolts, of wedges interposed between said base-plate and cross-bolts, the lower wedge having a series of transverse grooves to receive the said bolts, substantially as described.

6. The combination, with alined rail ends, of fish-plates having lateral and downwardly-extended flanges which diverge laterally, cross-bolts connecting such divergent portions, and means arranged between the rail ends and the cross-bolts, which serve, when the ends of the cross-bolts are tightened, to apply pressure upwardly and downwardly upon the rail ends, substantially as described.

808,510. KEYBOARD FOR STRINGED INSTRUMENTS. GEORGE P. BUCHANAN, Allegheny, Pa. Filed Oct. 13, 1904. Serial No. 228,270.



Claim.—1. In a removable keyboard for stringed instruments, the combination of a plurality of independently-mounted spring-pressed key-levers, a key carried by each lever and extending above the upper surface of the keyboard, a movable compressing-block carried by each key, means for adjusting each compressing-block longitudinally of the key by which it is carried and means for securing the keyboard to an instrument, substantially as described.

2. The combination with a stringed instrument, of a removable keyboard attached to said instrument, a plurality of spring-sustained key-levers, each independently mounted in said keyboard, a key carried by each said key-lever, an adjustable compressing-block carried by each key, means for positively adjusting each compressing-block longitudinally of the key on which it is carried, means for securing said keyboard to an instrument and means for vertically adjusting the keyboard on the instrument, substantially as described.

3. The combination with a stringed instrument, of a keyboard, a clamp carried by the inner end of said keyboard, comprising outwardly-extending, downwardly-curved arms, and horizontal screws extending through said arms and adapted to bear against the finger-board of the instrument, means for vertically adjusting the inner end of the keyboard relatively to the finger-board of the instrument, a second clamp adapted to engage the head of the instrument, an adjustable connection between said last-named clamp and the outer end of the keyboard.

4. The combination with a stringed instrument, a keyboard arranged on the neck thereof, a clamp carried by the keyboard and adapted to engage the finger-board of the instrument, means for vertically adjusting the keyboard relatively to the finger-board of the instrument, a clamp secured to the head of the instrument, a hinged and slotted yoke connecting said keyboard to said last-named clamp.

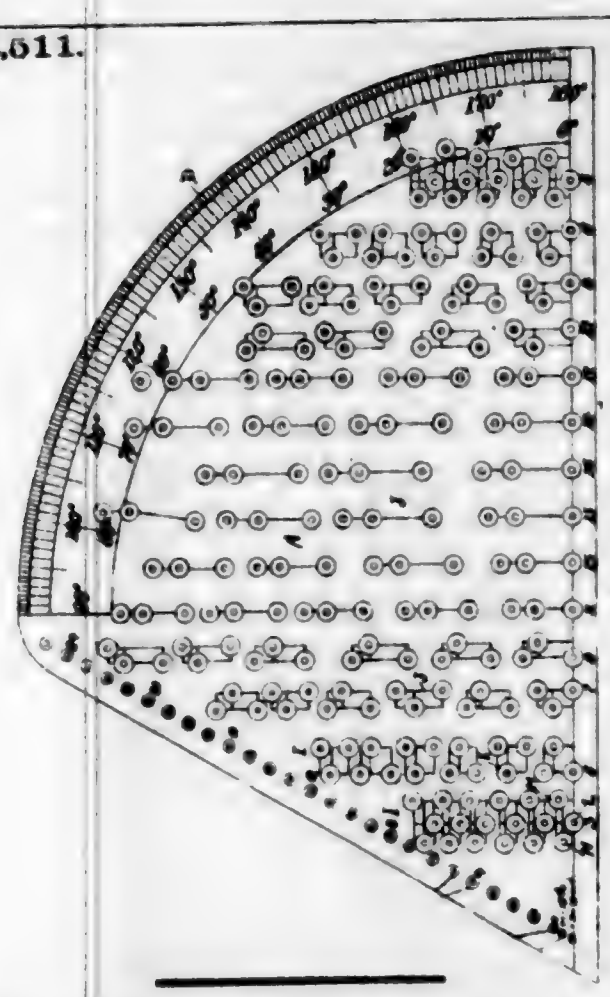
5. The combination with a violin and a keyboard, of a clamp secured to the head of said violin, a slotted yoke for detachably securing said keyboard to said clamp, means for detachably securing one end of said keyboard to said violin, and means for vertically adjusting the inner end of said keyboard, substantially as described.

808,511. DRAFTING INSTRUMENT. ALDEN C. COCHRAN, Pittsburg, Pa. Filed Dec. 31, 1904. Serial No. 239,160.

Claim.—1. An instrument of the class described, said instrument being formed of celluloid or the like composition, said instrument having two angular edges and a curved edge, said curved edge being graduated, said instrument having a plurality of apertures formed therein in groups of three abertures symmetrically arranged and the various groups being composed of apertures arranged at proportionate increasing distances apart, substantially as described.

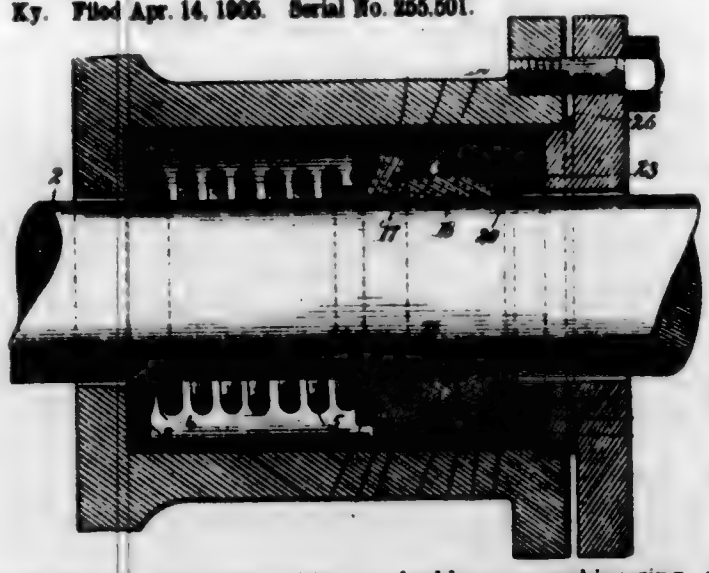
2. An instrument of the class described comprising a substantially triangular sheet, having a plurality of lines of grouped apertures, the groups in each line being similarly and symmetrically arranged and groups in each of the lines being spaced apart at differently and gradually increasing distances from the groups of the other lines.

808,511.



5. In a piston-rod packing, a stuffing-box, a double-cone ring for surrounding the shaft extended through the stuffing-box, a casing for said double-cone ring, means for pressing the double-cone ring into the casing, the outer end of said ring being concaved, a gland on the stuffing-box, and a ring arranged between the gland and the casing, the said ring having a convex surface for engaging in the concave surface of the casing and a flat outer surface for engaging agains the corresponding inner surface of the gland.

808,512. PISTON-ROD PACKING. CHARLES L. COOK, Louisville, Ky. Filed Apr. 14, 1905. Serial No. 255,501.



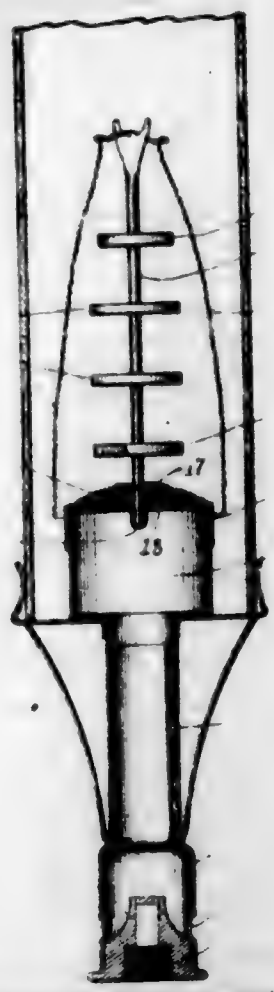
Claim.—1. In a rod-packing, a double-cone packing-ring, a casing therefor consisting of a single piece of material and having correspondingly-shaped cones or inclines, and means for pressing the ring into the casing.

2. A piston-rod packing comprising a ring having oppositely-extended but parallel inclines at its ends and a cylindrical portion between said inclines, a casing having interior inclines corresponding to the inclines of the ring, and also having a cylindrical portion corresponding to the cylindrical portion of the ring, and means for pressing the ring into the casing.

3. In a piston-rod packing, a casing surrounding the rod and having an outwardly-flared or beveled portion at its inner end and an inwardly-flared or beveled portion at its outer end, a ring having an outwardly flared or inclined portion for engaging against a portion of the surface of the first-named incline of the casing, the said ring also having an incline or bevel for engaging with the second-named incline or bevel of the casing, a ring seated in the casing and engaging with the first-named ring, the said last-named ring having a short bevel or incline for completing the bearing-surface against the first-named incline of the casing, and a spring-pressed follower engaging with said last-named ring.

4. In a piston-packing, a stuffing-box, a double-cone ring surrounding the shaft within the stuffing-box, a casing within which the double-cone ring is seated, a follower, a yielding guide-ring engaging with the end of the stuffing-box opposite the double-cone ring, and a spring engaging with said yielding guide-ring and with the follower, the said spring being centered by the yielding ring.

808,513. INCANDESCENT GAS-LAMP. HARRY B. COX, Chicago, Ill., assignor to Truman G. Palmer, Chicago, Ill. Filed Dec. 13, 1904. Serial No. 236,660.



Claim.—1. An incandescent lamp comprising a Bunsen burner, an incandescing mantle therefor and a separate body of suitable mineral salt arranged inside of the mantle in the path of the burner-flame for modifying the color of the light from the mantle, substantially as described.

2. An incandescent lamp comprising a Bunsen burner, an incandescing mantle therefor, and a separate body comprising a mixture of a suitable mineral salt and a suitable binding material arranged inside of the mantle, and in the path of the burner-flame, substantially as described.

3. An incandescent lamp comprising a Bunsen burner, an incandescing mantle mounted thereon and a separate body comprising a mixture of silicate of soda and a suitable binding material arranged within the mantle, substantially as described.

4. An incandescent lamp comprising a Bunsen burner, an incandescing mantle mounted thereon and a separate body comprising a mixture of silicate of soda and infusorial earth arranged within the mantle, substantially as described.

5. An incandescent lamp comprising a Bunsen burner, an incandescing mantle therefor, a central support for the mantle arranged within the same and mounted on the burner, and a body comprising a mixture of a suitable non-refractory or volatile mineral salt and binding material mounted on said mantle-support for modifying the color of the light emitted by the mantle, substantially as described.

6. An incandescent lamp comprising a Bunsen burner, an incandescing mantle therefor, a central support for the mantle arranged within the same and mounted on the burner and disks formed of a mixture of silicate of soda and infusorial earth, mounted on the mantle-support, substantially as described.

7. A support for incandescing lamp mantles arranged to be disposed centrally within the mantle and comprising as part of its structure a suitable non-refractory or volatile mineral salt, substantially as described.

808,514. CRUPPER ATTACHMENT. CHARLES H. CRANDALL, Baltimore, Md. Filed Jan. 16, 1905. Serial No. 241,204.



Claim.—1. An anal shield comprising an apron, a wire frame for supporting said apron, and means for attaching said frame to a crupper.

2. An anal shield comprising an apron, a wire frame for supporting said apron, said frame consisting of two connected wires, one of said wires being attached to the apron and the other having means for connecting it to a crupper.

3. An anal shield comprising an apron, and a frame for supporting the same, said frame having a U-shaped portion provided at its free end with upwardly and rearwardly projecting hooks to detachably engage openings in the sides of a crupper.

4. An anal shield comprising an apron provided with a cut-away portion at its upper edge, and a supporting-frame secured to the upper edge of the apron, said frame comprising connected wires, one of said wires being secured to the apron and connected with the other wire, the latter-named wire being U-shaped and provided at its ends with upwardly and rearwardly projecting hooks to detachably engage openings in the sides of a crupper.

5. An anal shield comprising an apron provided at its upper edge with a cut-away portion, a supporting-frame secured thereto, said frame having a U-shaped member partially occupying the cut-away portion and having its arms projecting forwardly therefrom and provided with means to engage the side portions of a crupper.

808,515. INSTEP-SUPPORT. GEORGE H. CUMMINGS, Waterbury, Conn. Filed Nov. 22, 1904. Serial No. 233,912.



Claim.—1. An instep-supporter comprising a base-plate and an inherently-resilient arch-plate rigidly secured to the base-plate at one side only, the arch-plate being shaped on the proper curved lines to impart the natural bow to the instep.

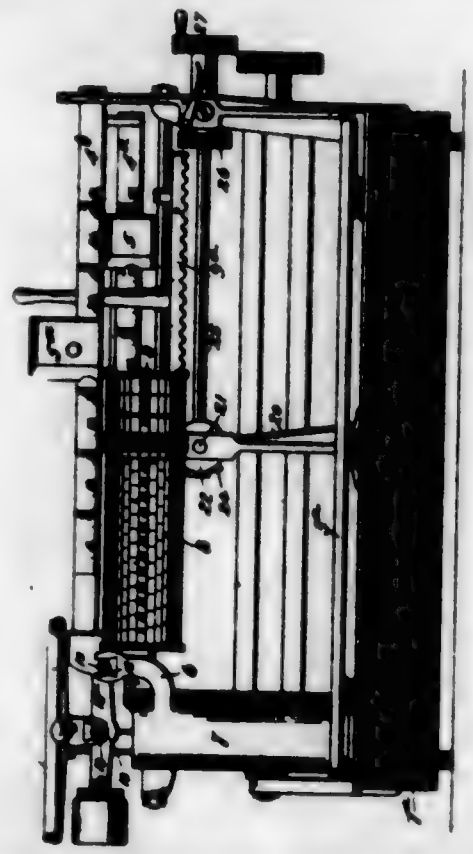
2. An instep-supporter comprising a resilient base-plate, and a resilient upwardly-curved arch-plate rigidly secured to the base-plate at one point only.

808,516. COMPUTING-SCALE. MARK A. DEER, St. Louis, Mo. Filed Sept. 11, 1901. Serial No. 75,068.

Claim.—1. In a scale, the combination with a fulcrum-head, of a beam, a poise adapted to traverse the beam, rotatable computing mechanism independent of said beam but arranged to be operatively connected to its poise; a shaft secured to the fulcrum-head, and a rotatable computing-cylinder on the shaft and provided with a poise, substantially as set forth.

2. In a scale, weighing members including a beam and a poise, combined with rotatable computing mechanism independent of said beam but adapted to be operatively connected to its poise; a shaft secured to the fulcrum-head; a rotatable computing-cylinder on said shaft and provided with a poise; and means whereby said rotatable computing-cylinder may be employed independently of the first-named rotatable computing mechanism, or used therewith; substantially as set forth.

3. In a scale, weighing members including a beam and a poise, combined with rotatable computing mechanism detached from said beam and independent thereof but adapted to be operatively connected with its poise; a shaft secured to the fulcrum-head of said beam, and a supplemental computing mechanism consisting of a rotating cylinder journaled on said shaft and carrying a poise; said supplemental mechanism being adapted to weigh and compute lesser weight and higher value per unit, and the other rotary computing mechanism greater weight and lesser value per unit, substantially as set forth.



4. In a scale, weighing members including a beam and a poise, combined with rotatable computing mechanism consisting of cylinders detached from said beam and independent thereof but adapted to be operatively connected with its poise; and a supplemental computing mechanism consisting of a rotatable cylinder secured to said beam and carrying a poise; said first-named rotatable computing-cylinder being graduated by divisions for values of cents and dollars at a certain price per unit and for certain divisions of units, and the supplemental computing-cylinder being graduated for values at a higher rate per unit and at a lower or smaller division of units, substantially as set forth.

5. In a scale, weighing members including a beam and a poise, combined with rotatable computing mechanism consisting of cylinders detached from said beam and independent thereof but adapted to be operatively connected with its poise; and a supplemental computing mechanism consisting of a rotatable cylinder secured to said beam and carrying a poise; said first-named rotatable computing-cylinders being graduated circumferentially by divisions for values of cents and dollars at a certain price per unit and for certain divisions of units, and the supplemental computing-cylinders being graduated longitudinally for values at a higher rate per unit and at a lower or smaller division of units, substantially as set forth.

6. In a scale, the combination of a beam and a poise; an upper and a lower weighing-platform; rotating computing mechanism independent of said beam but adapted to be operatively connected to its poise; a rotatable computing-cylinder secured to said beam; and provided with a poise, and adapted to be used independently of the aforesaid computing mechanism with the upper platform, or as an adjunct thereto with the upper or the lower platform, substantially as and for the purposes set forth.

7. In a scale, weighing members including a beam and a poise, and an upper and a lower platform for lighter and heavier weights respectively, combined with rotatable computing mechanism detached from said beam and independent thereof but adapted to be operatively connected with its poise; and a rotatable computing-cylinder secured to said beam and provided with a poise; whereby said rotatable computing-cylinder may be used with the upper platform independently of the first-named rotating computing mechanism, or used therewith and with either the upper or the lower platform, and computations of two independent sets of computing mechanism may be conveniently added, substantially as and for the purposes set forth.

8. In a scale, the combination with a beam having a stud-axle

secured to the fulcrum-head of said beam and parallel therewith, of a computing-cylinder revolubly mounted upon said axle and carrying an annular poise, and rods for guiding and holding said poise against independent rotation, substantially as set forth.

9. In a scale, the combination with a main weighing-beam having a fulcrum-head 10ª rigidly attached thereto, of an axle secured to the fulcrum-head and parallel with but detached from the beam, a computing-cylinder rotatably mounted upon said axle, and a poise on said cylinder, said axle being longitudinally adjustable in the fulcrum-head with respect to the beam, substantially as set forth.

10. In a scale, the combination with a beam and an axle secured thereto parallel therewith, of a computing-cylinder rotatably mounted upon said axle, an annular poise thereon having an internal diameter greater than the exterior diameter of the cylinder and its chart, and guide-rods secured to the cylinder and parallel to its axis for supporting and preventing independent rotation of the poise and prevent friction on the cylinder, substantially as set forth.

11. In a scale, the combination of a rotatable computing-cylinder and a price-scale for use with said cylinder, said price-scale being pivoted at its ends and near one of its edges to supports beyond the peripheral surface of said cylinder, the free edge of said price-scale being adapted, by the force of gravity, to rest adjacently to the surface of the cylinder, substantially as set forth.

12. In a scale, the combination of a casing or support, a rotatable computing-cylinder mounted therein and having a head at each end, and a price-scale pivoted in said casing or support so that the free edge of said price-scale shall bear upon the heads of the cylinder and escape contact with the cylinder proper, substantially as set forth.

13. In a scale, the combination of a casing or support, a rotatable computing-cylinder mounted therein and having a head at each end, a price-scale pivoted in said casing or support so that the free edge of said price-scale shall bear upon the heads of the cylinder and escape contact with the cylinder proper, and a pin for limiting the movement of said pivoted price-scale, substantially as set forth.

14. In a scale, weighing members including a beam and a poise, combined with rotatable computing mechanism consisting of cylinders detached from said beam and independent thereof but adapted to be operatively connected with its poise; and a supplemental computing mechanism consisting of a rotatable cylinder secured to said beam and carrying a poise, substantially as set forth.

15. In a scale, weighing members including a beam attached to a fulcrum-head and a poise, combined with rotatable computing mechanism consisting of a cylinder detached from said beam and independent thereof but adapted to be operatively connected at will with its poise; and a supplemental computing mechanism consisting of a rotatable cylinder secured to the fulcrum-head independently of said beam and carrying a poise, substantially as set forth.

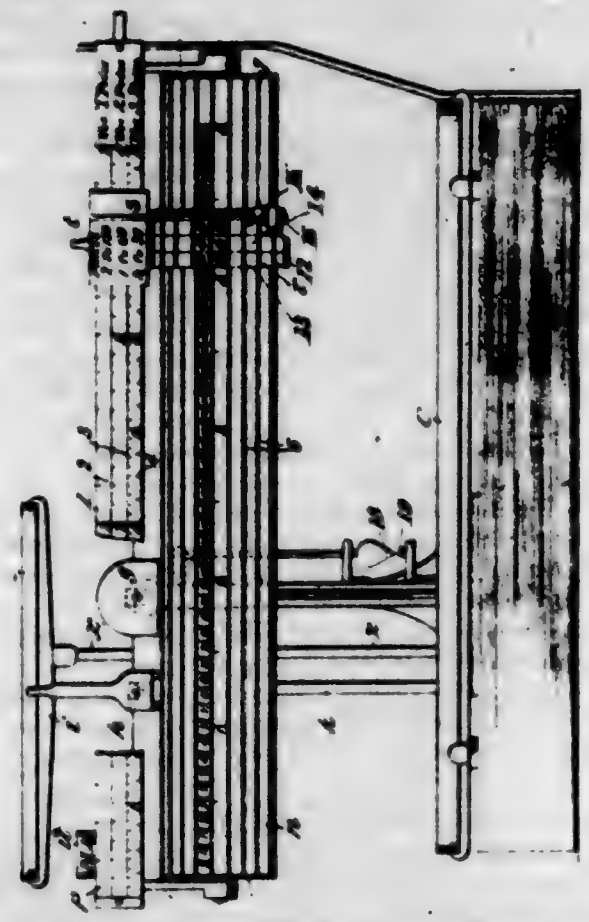
16. In a scale, the combination of a fulcrum-head, a main beam rigidly attached thereto, a shaft adjustably supported by the fulcrum-head, a rotatable computing-cylinder mounted on said shaft, and a poise surrounding the computing-cylinder, substantially as set forth.

808,517. COMPUTING-SCALE. MARK A. DEER, St. Louis, Mo. Filed Oct. 16, 1902. Serial No. 127,594.

Claim.—1. In a price or computing platform-scale, the combination of a tilting scale-beam frame, a longitudinally-ribbed rotatable cylinder axially supported by said frame, a longitudinally-movable poise mounted upon said cylinder, a scale-beam fixed to said scale-beam frame over the said cylinder, a longitudinally-movable poise carried by said scale-beam, and means whereby the cylinder-poise may be independently rotated but the two poises are rendered capable of joint longitudinal movement, substantially as set forth.

2. In a price or computing platform-scale, the combination of a tilting scale-beam frame, a longitudinally-ribbed rotatable cylinder supported by said frame, a longitudinally-movable poise mounted upon said cylinder, a scale-beam fixed to said scale-beam frame over said cylinder, a longitudinally-movable poise carried by said scale-beam, and a rib or projection fixed to the scale-beam poise and adapted to fit within a circumferential groove in the cylinder-poise, whereby the latter poise is adapted to be independently rotated, but the two poised are adapted to be moved together in a longitudinal direction, substantially as set forth.

3. In a price or computing platform-scale, the combination of a tilting scale-beam frame, a longitudinally-ribbed rotatable cylinder supported by said frame, a longitudinally-movable poise mounted on said cylinder, a scale-beam fixed to said scale-beam frame, a longitudinally-movable poise carried by said scale-beam, means for connecting the two poises, and independent weights designed to be normally carried by the tilting scale-beam frame, each of said weights being adapted to be carried separately by the scale-beam poise, substantially as set forth.



4. In a price or computing platform-scale, the combination of a tilting scale-beam frame, a longitudinally-ribbed rotatable cylinder supported by said scale-beam frame, each side of each rib of said cylinder and the spaces on the cylinder between said ribs bearing indicating value-numbers, a scale-beam, a poise carried by and slidable on said cylinder and bearing price-per-pound characters, and a poise carried by the scale-beam, substantially as set forth.

5. In a price or computing scale, the combination of a tilting scale-beam, a fixed scale-beam supported by said frame, a longitudinally-ribbed rotatable cylinder also supported by said scale-beam frame, said cylinder having characters indicating values on each side of each rib and on the spaces between the ribs, and an annular poise adapted to be supported by and to move longitudinally upon said cylinder, said poise being provided with ribs on each side of each of which and on the spaces between which ribs are placed characters indicating prices per pound, substantially as set forth.

6. In a price or computing scale, the combination of a tilting scale-beam frame, a longitudinally-ribbed rotatable cylinder supported by said scale-beam frame, said cylinder having characters indicating values on each side of each rib and on the spaces between the ribs, and an annular poise adapted to be supported by and to move longitudinally upon said cylinder, said poise being provided with ribs on each side of each of which and on the spaces between which ribs are placed characters indicating prices per pound, substantially as set forth.

7. In a price or computing scale, the combination of a tilting scale-beam frame, a longitudinally-ribbed cylinder rotatably mounted thereon, each side of each of said ribs and the spaces on the cylinder between said ribs being differently divided and bearing numbers representing values, and a poise slidably mounted on said cylinder having ribs equal in number to those on said cylinder, each side of each of said ribs and the spaces between them having characters thereon indicating the price per pound of the substance to be weighed, substantially as set forth.

8. In a price or computing scale, the combination of an upper and a lower platform, a tilting scale-beam frame, a longitudinally-ribbed cylinder rotatably mounted thereon, each side of each of said ribs and the spaces on the cylinder between said ribs being differently divided and bearing numbers representing values, and a poise slidably mounted on said cylinder having ribs equal in number to those on said cylinder, each side of each of said ribs and the spaces between them having characters thereon indicating the price per pound of the substance to be weighed, substantially as set forth.

9. In a price or computing scale, the combination of an upper and a lower platform, suitable lever-connecting mechanism, a tilting scale-beam frame, a longitudinally-ribbed cylinder rotatably mounted thereon, each side of each of said ribs and the spaces on the cylinder between said ribs being differently divided and bearing numbers representing values, and a poise slidably mounted on said cylinder having ribs equal in number to those on said cylinder, each side of each of said ribs and the spaces between them having characters thereon indicating the price per pound of the substance to be weighed, substantially as set forth.

10. In a price or computing scale, the combination of an upper and a lower platform, lever mechanism arranged with regard to the load to be weighed on the respective platforms, in the ratio of one to ten, a tilting scale-beam frame, a longitudinally-ribbed cylinder rotatably mounted thereon, a poise on said cylinder, a fixed scale-beam supported by said frame, said scale-beam having suitable graduations, a poise on said scale-beam, and a connection between the poises whereby the cylinder-poise may be moved conjointly with the scale-beam poise, but rotated independently thereof, substantially as set forth.

11. In a price or computing scale, the combination of an upper and a lower platform, lever mechanism arranged with regard to the load to be weighed on the respective platforms, in the ratio of one to ten, a tilting scale-beam frame, a longitudinally-ribbed cylinder rotatably mounted thereon and provided with value characters capable of being read as multiplied by ten, when used with the lower platform, a poise on said cylinder, a fixed scale-beam supported by said frame, said scale-beam having suitable graduations, a poise on said scale-beam, and a connection between the poises whereby the cylinder-poise may be moved conjointly with the scale-beam poise, but rotated independently thereof, substantially as set forth.

12. In a price-scale, a computing-cylinder comprising a cylindrical body and radial longitudinal ribs secured to the surface thereof, each side of each rib and the area between the ribs being divided into spaces indicating values, the spaces in each horizontal row being of equal length but the spaces in each following row increasing in length consecutively as the cylinder is encircled by the rows, substantially as set forth.

13. In a price-scale, a computing-cylinder comprising a cylindrical body and radial longitudinal ribs, each rib having a foot-piece secured to the cylindrical body, said foot-piece being of a width equal to the space between the ribs, there being spaced divisions on each side of each of said ribs and the upper surface of each foot-piece, substantially as set forth.

14. In a price-scale, a computing-cylinder comprising a cylindrical body having radial longitudinal ribs, combined with a cylindrical poise adapted to slide on said cylinder, said poise having radial ribs equal in number to the ribs on the cylinder, a circumferential row of characters indicating price per pound being placed on each side of each rib of the poise and on the surface of the poise between the ribs, substantially as set forth.

15. In a price-scale, a computing-cylinder comprising a cylindrical body having radial longitudinal ribs, combined with a cylindrical poise adapted to slide on said cylinder, said poise having radial ribs equal in number to the ribs of the cylinder and having further a series of circumferential and horizontal rows of characters indicating prices per pound on each side of each rib, and on the surface of said poise between the ribs, the prices indicated in each circumferential row being one-half that of the higher character next it on one side in the horizontal row, and twice that of the character next it on the opposite side, substantially as set forth.

16. In a price or computing scale, the combination of weighing-platforms and a lever mechanism arranged with regard to the two platforms, in the ratio of ten to one, a tilting scale-beam frame, a longitudinally-ribbed cylinder rotatably mounted thereon, said cylinder having characters indicating values on each side of each of said ribs and on the spaces between the ribs, an annular poise adapted to be supported by and to move longitudinally upon said cylinder, said poise being provided with ribs, on each side of which and on the spaces between which are placed characters indicating prices per pound, a fixed scale-beam supported by said frame, said scale-beam having suitable graduations, a poise on said scale-beam adapted to carry a counterpoise, and a connection between the poises, whereby the cylinder-poise may be moved conjointly with the scale-beam poise but rotated independently thereof, substantially as set forth.

17. In a price or computing scale having weighing members including a beam and a poise, the combination with an upper and a lower platform connected at the ratio of one to ten, of computing mechanism attached to said beam, the same consisting of a rotatable cylinder and an annular slidable poise mounted thereon the values at the different graduations on said computing mechanism being computed and read in cents when used with the upper platform, and in dimes when used with the lower platform, substantially as set forth.

18. In a price or computing scale having weighing members including a beam and a poise, the combination with an upper and a lower platform connected at the ratio of one to ten, of computing mechanism attached to said beam and operatively connected with said poise, the same consisting of a rotatable cylinder and an annular slidable poise mounted thereon the values at the different graduations on said computing mechanism being computed and read in cents when used with the upper platform, and in dimes when used with the lower platform, substantially as set forth.

19. In a price or computing scale, the combination of a tilting scale-beam frame, a computing rotatable cylinder axially supported by said frame, a longitudinally-movable poise mounted upon said cylinder, a scale-beam fixed to said scale-beam frame over the said cylinder, a longitudinally-movable poise carried by said scale-beam, and means whereby the cylinder-poise may be independently rotated but the two poises are rendered capable of joint longitudinal movement, substantially as set forth.

20. In a price or computing scale, the combination of a tilting scale-beam frame, a rotatable computing-cylinder supported by said frame, a longitudinally-movable poise mounted upon said cylinder, a scale-beam fixed to said scale-beam frame over said cylinder, a longitudinally-movable poise carried by said scale-beam, and a rib or projection fixed to the scale-beam poise and adapted to fit within a circumferential groove in the cylinder-poise, whereby the latter poise is adapted to be independently rotated, but the two poises are adapted to be moved together in a longitudinal direction, substantially as set forth.

21. In a price or computing scale, the combination of a tilting scale-beam frame, a rotatable computing-cylinder supported by said frame, a longitudinally-movable poise mounted on said cylinder, a scale-beam fixed to said scale-beam frame, a longitudinally-movable poise carried by said scale-beam, means for connecting the two poises, and independent weights designed to be normally carried by the tilting scale-beam frame, each of said weights being adapted to be carried separately by the scale-beam poise, substantially as set forth.

22. In a price or computing scale, the combination of an upper and a lower platform, lever mechanism arranged with regard to the load to be weighed on the respective platforms, in the ratio of one to ten, a tilting scale-beam frame, a computing-cylinder rotatably mounted thereon and provided with value characters capable of being read as multiplied by ten, when used with the lower platform, a poise on said cylinder, a fixed scale-beam supported by said frame, said scale-beam having suitable graduations, a poise on said scale-beam, and a connection between the poises whereby the cylinder-poise may be moved conjointly with the scale-beam poise, but rotated independently thereof, substantially as set forth.

23. In a price or computing scale, the combination of a tilting scale-beam frame, a rotatable computing-cylinder axially supported by said frame, a longitudinally-movable poise mounted upon said cylinder, a scale-beam fixed to said scale-beam frame over the said cylinder, a longitudinally-movable poise carried by said scale-beam, weights carried by the scale-beam frame and adapted to be used with the poise on the beam, and means whereby the cylinder-poise may be independently rotated but the two poises are rendered capable of joint longitudinal movement, substantially as set forth.

24. Combined in a scale, a computing-cylinder comprising a cylindrical body having radial longitudinal ribs, substantially as set forth.

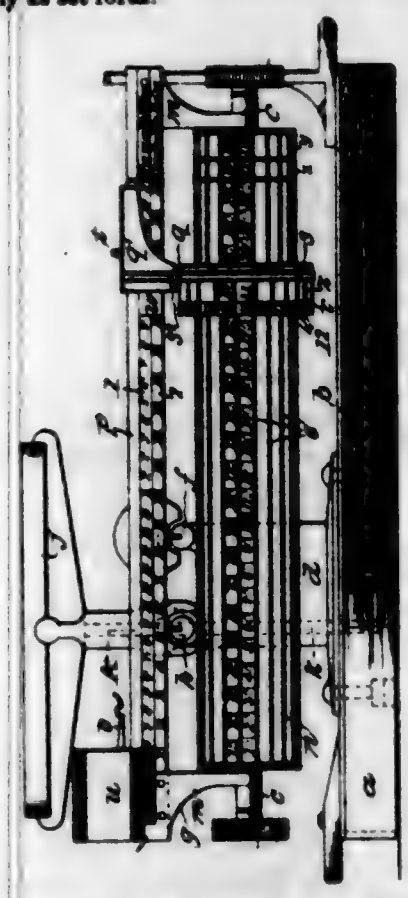
25. In a scale, a computing-cylinder comprising a cylindrical body having radial longitudinal ribs, combined with a cylindrical poise adapted to slide on said cylinder, substantially as set forth.

26. In a scale, a computing-cylinder comprising a cylindrical body having radial longitudinal ribs, combined with a cylindrical poise adapted to slide on said cylinder, said poise having radial ribs equal in number to the ribs on the cylinder, substantially as set forth.

808,518. COMPUTING-SCALE. MARK A. DEER, St. Louis, Mo. Filed Mar. 31, 1903. Serial No. 150,426.

Claim.—1. In a computing-scale, the combination with weighing mechanism including a beam and a poise, of a rotatable cylinder having value-numbers thereon, a ring bearing the price-numbers connected to the poise and longitudinally movable on said cylinder, there being a circumferential row of price-numbers on said cylinder, said numbers being a duplicate of those on the ring, and a second

row of numbers also on said cylinder, each number of said row being ten times greater than the adjacent number in the first-mentioned row, substantially as set forth.



2. In a computing-scale, the combination with a beam and a poise, of a second poise slidable on said beam and adapted to be connected to the first-mentioned poise for increasing the poise-weight ten times, a rotatable cylinder having value-numbers thereon, and a ring connected to said first poise and slidably mounted on said cylinder, said ring bearing a circumferential row of price-numbers and a similar row of ciphers near the reading edge of said ring, substantially as set forth.

3. In a computing-scale, the combination with weighing mechanism including a beam and a poise, of a rotatable cylinder having peripheral radial ribs, each rib bearing value-numbers on each of its sides, the surface of the cylinder between any two ribs also bearing value-numbers, a ring slidable on said cylinder and connected to said poise, and ribs on said ring in line with, and equal in number to, the ribs on said cylinder, said ring and ribs having price-numbers thereon so arranged that the whole numbers are placed on the surface of the ring between the ribs and the compound fractional numbers on the surfaces of the ribs, substantially as set forth.

4. In a computing-scale, the combination with weighing members including a beam and a poise, of a rotatable cylinder having peripheral radial ribs, said cylinder and ribs having value-numbers on their exposed surfaces, and also a row of price-numbers at or near one end of said cylinder, said price-numbers being so arranged that the whole numbers appear on the face of the cylinder between the ribs, and the compound fractional numbers on the surfaces of said ribs, and a slidable ring with ribs having similarly-arranged price-numbers, substantially as set forth.

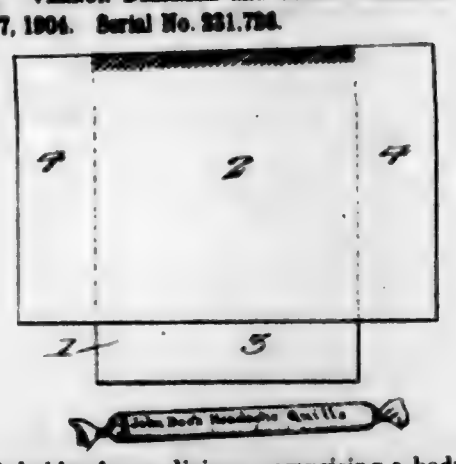
808,519. BLIND OR SHUTTER OPENER. GEORGE E. DIXON and JOSEPH K. DIXON, Peoria, Ill. Filed Oct. 10, 1904. Serial No. 227,767.



Claim.—1. In a device of the class described, the combination with a window-casing, sill and apron, a blind, a hinge for hanging the blind, the pintle of the hinge extending down through the sill and carrying a gear on its lower end, a shaft carried transversely beneath the sill and through the apron, a gear on the shaft meshing with the gear on the pintle, a disk having a series of notches concentrically carried on the said shaft and secured to the face of the apron, a crank attached to the end of the shaft and formed with a casing adapted to inclose the disk, and the casing having a slotted opening, a handle pivotally attached to the crank, when the handle is folded adapted to enter the slot of the casing and engage a slot in the disk, substantially for the purpose specified.

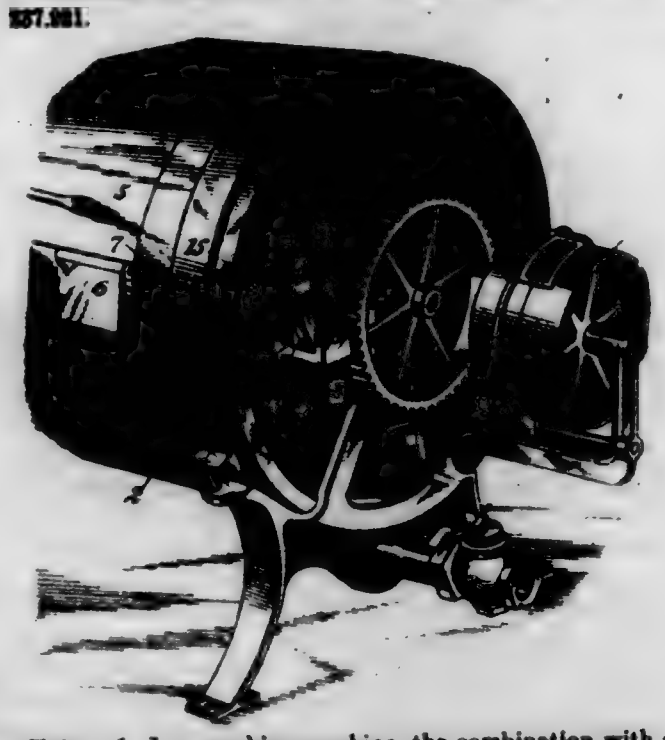
2. In a device of the class described, and in combination with the shaft 19, the disk 22 through which the shaft extends, the periphery of the disk provided with a series of notches, a crank attached to the end of the shaft and formed with a cup-shaped portion incasing the disk, and the said cup-shaped portion having a slot in its face, a handle pivotally attached to the end of the crank, and having an extended lug, all substantially as and for the purposes specified.

808,520. HOLDER FOR MEDICINES OR OTHER SUBSTANCES. VERNON DRINKELL and CARRY DRINKELL, Ghent, Ky. Filed Nov. 7, 1904. Serial No. 231,736.



Claim.—A holder for medicines, comprising a body rolled into tubular form and provided with twistable end closures, said body consisting of oblong rectangular outer and inner wrapper members arranged lengthwise at right angles to each other, one of the end edges of the outer wrapper member being gummed to one of the side edges of the inner wrapper member, whereby the opposite end of the outer wrapper member and the side portions of the inner wrapper member project beyond the body to respectively provide, infolding and sealing extensions, the body thus being adapted to be rolled and gummed or pasted to the secured edges of the wrapper member in the form of a tubular receptacle and closed by twisting the said sealing extensions of the inner wrapper member, the inner wrapper member being composed of waterproofed tissue-paper and the holder being of a size to contain a prescribed dose, substantially as described.

808,521. WASHING-MACHINE. WILLIAM C. DYER and WILLIAM J. ALDERMAN, Walla Walla, Wash. Filed Dec. 23, 1904. Serial No. 237,981.



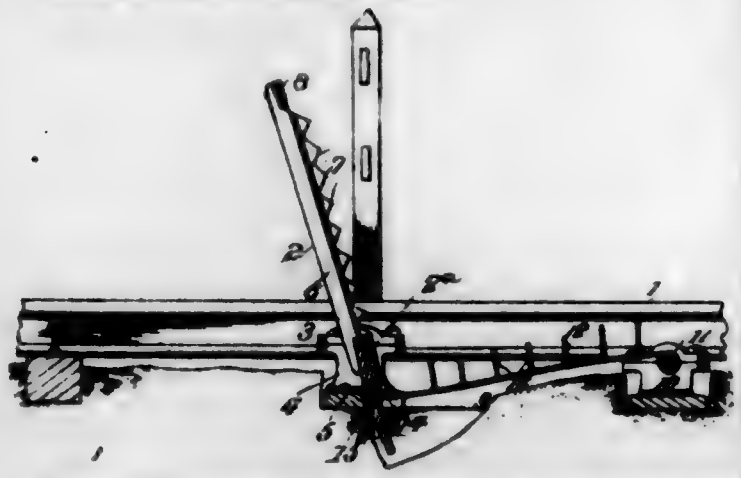
Claim.—1. In a washing-machine, the combination with a rotary cylinder, a casing therefor, a drive-gear for the cylinder, a shaft and an apron on the shaft, of a bracket secured to the end of the cas-

ing, a locking-block mounted to swing in said bracket and having teeth for engaging in said gear, a bar extended from said bracket, a lug on said bar, and a cam on the apron-shaft for engaging with said lug.

2. In a washing-machine, the combination with a rotary cylinder, a casing therefor, an apron mounted to swing into the space between the casing and cylinder, a shaft on which the apron is mounted, a drive-gear on the shaft of the cylinder, a swinging block adapted for engagement with said drive-gear, a rod extending from said block, a lug on said rod, a cam secured to the shaft of the apron for engaging with said lug, and means for moving the block out of engagement with said drive-gear.

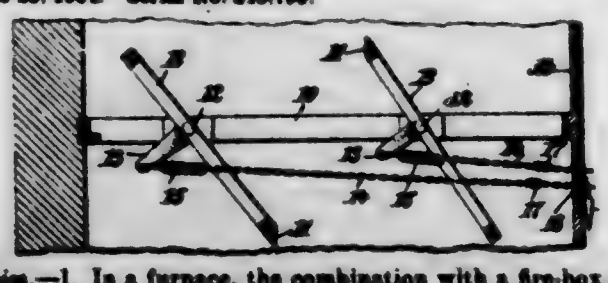
3. In a washing-machine, the combination with a rotary cylinder, a casing therefor, a swinging apron, a shaft for the cylinder, and a gear-wheel mounted on the shaft of the cylinder, of a bracket secured to the end of the casing, a locking-block mounted to swing in said bracket, the pivotal point being near the lower end, teeth on said block for engaging with the gear-wheel, a bar extended from the upper end of the block and provided with a slot for receiving the shaft of the apron, a lug on said bar, and a cam on the apron-shaft for engaging with said lug.

808,522. CATTLE-GUARD. WALTER EDWARDS, Turner, Mich. Filed Sept. 2, 1905. Serial No. 276,842.



Claim.—In a cattle-guard, the combination of a plate attached to a cross-tie of the track, a gate pivoted between its ends to said plate, a platform pivoted adjacent an end thereof and having its opposite end resting on the adjacent end portion of the gate to actuate the same, said adjacent end portion of the gate being provided with openings, and projections extending laterally from the plate aforesaid and adapted to pass through the openings in the gate when said gate is tilted by weight on the platform, said projections being adapted further to engage the platform and limit the downward movement thereof.

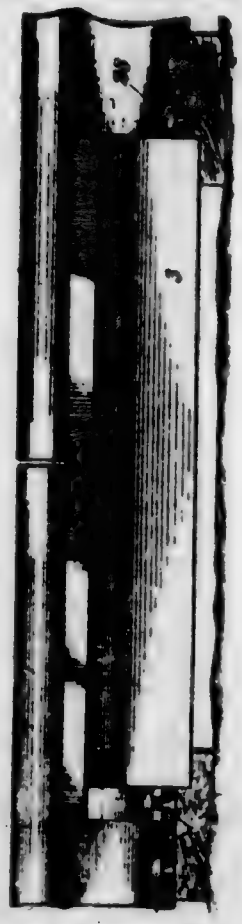
808,528. GRATE. WILLIAM C. ENGEL, Fountain Springs, Pa. Filed June 23, 1904. Serial No. 213,799.



Claim.—1. In a furnace, the combination with a fire-box having openings in its front wall, and a frame, in the fire-box and provided with bearings, of a grate formed of two gravity-dumping sections arranged one in front of the other, each section being provided with trunnions at one side of the center and mounted to turn in the bearings of the frame, the said sections being each provided on its under surface at one side with a downwardly-extending lug, the lug of each section being beneath one of the trunnions, and the lug of the rear section being longer than the lug of the front section, a turnbuckle secured to each lug, chains secured to the turnbuckles and extending out through the openings in the front of the fire-box, each chain being provided with a handle at its free end and with an enlarged link a short distance from the handle, and keys for entering the large links of the chains, said keys when in the links resting against the front of the fire-box and holding the grate-sections in horizontal positions, whereby when the keys are withdrawn from the links of the chains the sections will drop by gravity into dumping positions, substantially as shown and described.

2. In a furnace the combination with a fire-box having openings in its front wall, of pivoted grate-sections arranged one in front of the other, the trunnions of the sections being at one side of the center to permit the sections to drop to dumping positions by gravity, each section being provided with a downwardly-extending lug on its under side, chains secured to the lugs of the sections and extending out through the openings in the front of the fire-box and provided with handles at their free ends, by means of which the chains can be manipulated to return the sections from dumping into horizontal positions, and keys entering the links of the chains and resting against the front of the fire-box, whereby the sections will be held in horizontal positions and when the keys are withdrawn from the links of the chains, the sections will drop by gravity into dumping positions, substantially as described.

808,524. RAIL-JOINT. JOHN W. ENRIGHT and EDWARD J. ENRIGHT, New Orleans, La. Filed May 23, 1905. Serial No. 261,738.



Claim.—1. A rail-joint comprising, in combination, a socket-plate in which the abutting rails are adapted to rest, said socket-plate having side flanges projecting upwardly, fish-plates engaging the sides of the rails and presenting enlarged heads at the upper edges thereof and wedge-plates engaging said heads and said flanges, affording means for clamping said fish-plates to the rail.

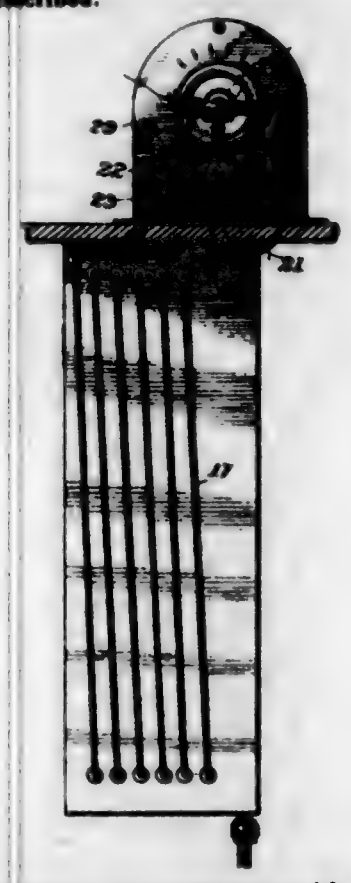
2. A rail-joint comprising, in combination, a socket-plate in which the abutting extremities of the rails rest, said socket-plate having flanges projecting upwardly beyond the side edges of the rail-flanges, the flanges of said socket-plate having longitudinally-disposed grooves formed in the inner faces thereof, fish-plates disposed on opposite sides of the rails and presenting heads at the upper extremities thereof with shoulders and wedge-plates having tongues received in said grooves and engaging the said shoulders at their upper edges.

3. A rail-joint comprising, in combination, a socket-plate presenting side flanges projecting upwardly at the sides of the rail, fish-plates engaging the sides of the rail and presenting outwardly-projecting shoulders and longitudinally-inclined faces below said shoulders and wedge-plates engaging said flanges and said shoulders and having faces engaging said inclined faces.

808,525. ELECTRIC WATER-HEATER. JAMES P. ERIE, Los Angeles, Cal., assignor, by mesne assignments, to Benjamin Stern. Filed Sept. 5, 1904. Serial No. 223,453.

Claim.—1. In a water-heater, the combination of a casing having inlet and outlet water-pipes, a tortuous water-pipe comprising duplicate sections having a connecting-chamber between the adjacent ends of the sections and extending through the casing, one section connecting the inlet and another the outlet pipes, a sectional

water-heater within the casing the sections of said heater being connected and arranged intermediate the adjacent walls of the water-pipe, and means for directing an electric current through the heater, substantially as described.



2. In a water-heater, the combination with a casing having an inlet and an outlet water-pipe, and a tortuous passage extending therethrough connecting the inlet and outlet pipes, said passage being formed with flat walls constituting heating-surfaces and the limbs of the passages extending substantially parallel to each other between the bends, and separated to form spaces between the limbs, removable electric heater-sections arranged within the spaces between said limbs, said sections being electrically connected and formed of flat strips of insulating material provided with non-insulated coils, and means for controlling the flow of current to the heater, substantially as and for the purposes set forth.

3. In a heater, the combination with a surface to be heated, and means for heating the same, of means for simultaneously increasing the area of surface heated and the degree of heat imparted to the same, substantially as described.

4. In a heater, the combination with a surface to be heated, and means for heating the same, of means for varying the area of the surface heated and the degree of heat imparted thereto according to the variations of heated area, substantially as described.

5. In a water-heater, the combination with a casing, and means for circulating water through the same, of heater-sections, means for heating the same and for varying the length of time water circulating through the casing is subjected to heat without varying the length of time that heat is supplied to the heater-sections substantially as described.

6. In a water-heater, the combination with a casing, and means for circulating water therethrough, of means for heating said casing and for varying the length of time water circulating through the casing is subjected to heat without varying the length of time that heat is supplied to said casing substantially as described.

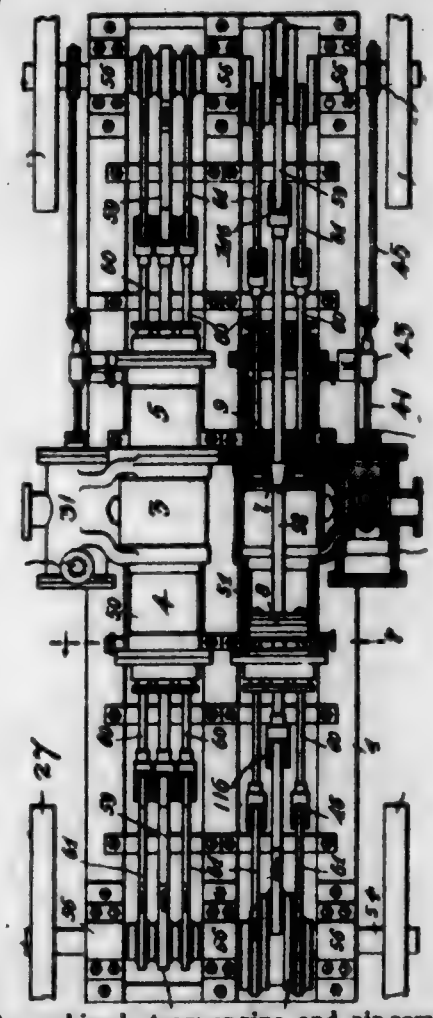
7. In a heater, the combination with heater-sections, of means for supplying a heating medium thereto, means for varying the number of heater-sections supplied and for varying the amount of heat imparted by the heating medium according to the number of heater-sections supplied, substantially as described.

8. In an electric heater, the combination with heater-sections, of means for supplying electricity thereto, means for varying the number of heater-sections in circuit and for varying the strength of current supplied with the number of sections in circuit, substantially as described.

9. In an electric heater, the combination with heater-sections, of means for supplying electricity thereto, means for varying the number of heater-sections in circuit and for increasing the strength of current supplied as the number of sections in circuit is increased, substantially as described.

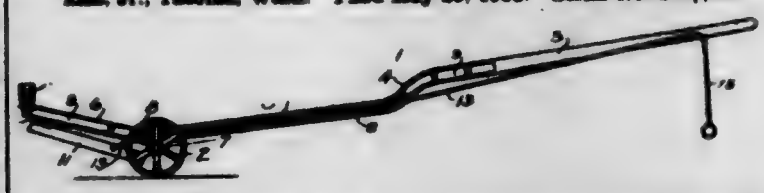
10. In an electric heater, the combination with heater-sections, of means for supplying electricity thereto, means for varying the number of heater-sections in circuit, means for passing the minimum current through the minimum number of heater-sections and for passing the maximum current through the maximum number of heater-sections, substantially as described.

808,526. **COMBINED STEAM-ENGINE AND AIR-COMPRESSOR.** CHARLES PIHO, Sr., Bay City, Mich., assignor of one-half to Jacob P. Benden, West Bay City, Mich. Filed Nov. 3, 1904. Serial No. 231,272.



Claim.—A combined steam-engine and air-compressor, comprising a support, a central cylinder mounted thereon and provided with steam inlet and outlet ports adjacent to its ends, end cylinders having their outer ends closed and their inner ends in communication with the ends of said central cylinder, air inlet and outlet valves adjacent to the outer ends of said end cylinders, crank-shafts, a piston-rod for said central piston projecting through each of said end pistons and connected to said crank-shafts, piston-rods for said end pistons connected to said crank-shafts, a steam-valve for said steam inlet and outlet ports in said central cylinder, and an operating connection between said steam-valve and one of said crank-shafts, substantially as described.

808,527. **LUMBER-UNLOADING MECHANISM.** JOHN H. FRANKS, Jr., Tacoma, Wash. Filed May 20, 1905. Serial No. 261,796.



Claim.—1. In a lifting-jack, the combination of a lever having a lifting-section, a transmitting-section, and a handle or power section, the lifting and handle sections being upwardly inclined relatively to the transmitting-section; with a wheeled fulcrum attached to the lever adjacent the junction of the lifting and transmitting sections, substantially as described.

2. In a lumber-lifting jack, a lever having a lifting-section, a transmitting-section, and a handle or power section, the lifting-section being upwardly inclined relatively to the transmitting-section, and the handle-section being located above the plane of the transmitting-section; and a wheeled fulcrum for the lever adjacent the junction of the lifting and transmitting sections, substantially as described.

3. In a lumber-lifting jack, the combination of a lever having a

lifting-section at one end, a power-section or handle at the opposite end, and a transmitting-section intermediate and connecting the power and lifting sections; with reinforcing-bars on opposite sides of said sections and bonding them together, and a wheeled fulcrum attached to said lever at the junction of the lifting and transmitting sections, substantially as described.

4. A lumber-lifting lever provided with wheels having a transmitting or central section, a lifting-section attached to one end of said transmitting-section and extending upwardly at an obtuse angle thereto; and a power or handle section attached to the other end of said central section and extending upwardly at an obtuse angle thereto; and a cross-head attached to the free end of the lifting-section.

5. In a lumber-lifting jack, the combination of a lever having a transmitting or central section, a lifting-section attached to one end of said transmitting-section and extending upwardly at an obtuse angle thereto; and a power or handle section attached to the other end of said central section and extending upwardly at an obtuse angle thereto; with a cross-head attached to the free end of the lifting-section, and a fulcrum and support for the lever attached thereto adjacent the function of the lifting and transmitting sections.

6. The herein-described lumber-lifting jack, comprising a lever having a lifting-section at one end, a central transmitting-section at an obtuse angle to the lifting-section, and a power section or handle at an obtuse angle to the transmitting-section; with a wheeled fulcrum for said lever, substantially as described.

7. The herein-described lumber-lifting jack, comprising a lever having a central transmitting-section, a lifting-section at one end at an obtuse angle to the transmitting-section, and a power section or handle at the other end located in a plane above the transmitting-section, but connected therewith by a bend; with a wheeled fulcrum for said lever, substantially as described.

8. The herein-described lumber-lifting jack, comprising a lever having a central transmitting-section, a lifting-section at one end at an obtuse angle to the transmitting-section, and a power section or handle at the other end located in a plane above the transmitting-section but connected therewith by a bend; and a leg hinged to said lifting-section.

9. In combination, a lever having a lifting-section at one end, a power section or handle at the opposite end, and a transmitting-section intermediate and connecting the power and lifting sections; with reinforcing-bars on opposite sides of said sections and bonding them together, substantially as described.

10. The herein-described lumber-lifting jack, comprising a lever having a lifting-section at one end, a central transmitting-section at an obtuse angle to the lifting-section, and a power section or handle at an obtuse angle to the transmitting-section; with metal bars attached to each side of said lever and extending from the handle to the end of the lifting-section.

11. The herein-described lumber-lifting jack, comprising a lever having a lifting-section at one end, a central transmitting-section at an obtuse angle to the lifting-section, and a power section or handle at an obtuse angle to the transmitting-section; with metal bars attached to each side of said lever and extending from the handle to the end of the lifting-section, and a wheeled fulcrum attached to said lever adjacent the junction of the lifting and transmitting sections, substantially as described.

12. The herein-described lumber-lifting jack, comprising a lever having a central transmitting-section, a lifting-section at one end at an obtuse angle to the transmitting-section, and a power section or handle at the other end located in a plane above the transmitting-section but connected therewith by a bend; with metal bars attached to each side of said lever and extending from the handle portion to the lifting portion and beyond the end of the lifting-section, and a cross-head attached to the projecting ends of said bars.

13. The herein-described lumber-lifting jack, comprising a lever having a central transmitting-section, a lifting-section at one end at an obtuse angle to the transmitting-section, and a power section or handle at the other end located in a plane above the transmitting-section but connected therewith by a bend; with metal bars attached to each side of said lever and extending from the handle portion to the lifting portion and beyond the end of the lifting-section, a cross-head attached to the projecting ends of said bars; and a wheeled fulcrum attached to said lever adjacent the junction of the lifting and transmitting sections, substantially as described.

14. In a device for unloading lumber, the combination of a low support over which the lumber is placed, a lever adapted to raise the other end of the lumber, and means for sustaining said lumber in said raised position.

15. In a device for unloading lumber, the combination of a low support over which the lumber is placed, a wheeled lever adapted to raise the other end of the lumber, and removable means for sustaining said lumber in said raised position.

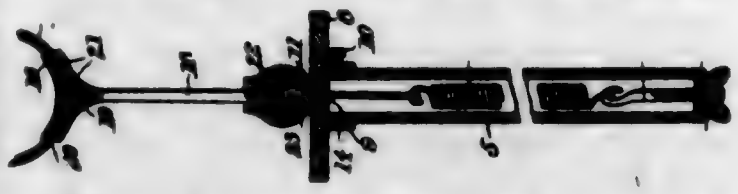
16. In a lifting-jack, the combination of a lever having a lifting-section projecting beyond its fulcrum, a transmitting-section, and a power-section, the transmitting-section being intermediate the power and lifting sections, said lifting-section being inclined at an angle to the transmitting-section; with a supporting-leg hinged to the lifting-section and a wheeled fulcrum for the lever adjacent the junction of the lifting and transmitting sections, substantially as described.

17. In a lifting-jack, the combination of a lever having a lifting-section, a transmitting-section, and a handle or power section, the lifting and handle sections being upwardly inclined relatively to the transmitting-section; with a supporting-leg hinged to the lifting-section and means for closing the leg, substantially as described.

18. A lumber-lifting lever having a transmitting or central section, a lifting-section attached to one end of said transmitting-section and extending upwardly at an obtuse angle thereto; and a power or handle section attached to the other end of said central section and extending upwardly at an obtuse angle thereto; a supporting-leg hinged to the lifting-section, and a cross-head attached to the free end of the lifting-section.

19. In a lumber-lifting jack, the combination of a lever having a transmitting or central section, a lifting-section attached to one end of said transmitting-section and extending upwardly at an obtuse angle thereto; and a power or handle section attached to the other end of said central section and extending upwardly at an obtuse angle thereto; with a supporting-leg hinged to the lifting-section, and a fulcrum and support for the lever attached thereto adjacent the junction of the lifting and transmitting sections.

808,528. PUNCHING-BAG. CHARLES L. PENNEY and LESTER R. LAFFE, Wyalusing, Pa. Filed May 3, 1905. Serial No. 258,679.



Claim.—1. In a device of the class described, a standard having a perforated head, a vibrating striking-bag mounted on the said head and adapted to roll thereon when struck, a spring in the standard, a flexible connection extending through the perforation of the head and connecting the spring and bag, and means to regulate the tension of the spring.

2. In a device of the class described, a telescoping standard composed of two members, the upper one of which is hollow and provided with a flat head, a vibrating punching-bag mounted on the head, a cable extending through an aperture in the head and connected at one end to the bag, a spring in the standard connected at one end to the cable, a rod attached to the other end of the spring, and means for adjusting the rod to regulate the tension of the spring.

3. In a device of the class described, a standard composed of upper and lower posts which telescope, the lower end of the upper post having recesses, a washer provided with lugs, to engage the recesses and also having a central aperture, a threaded bolt extending through said aperture and held against rotation therein, a nut on the bolt, a spring secured to the bolt and located in the post of the standard, a cable secured to the spring, and a vibrating punching-bag secured to the cable, whereby the bag may be maintained in an upright position on the standard and the tension of the spring regulated.

4. In a device of the class described, a telescoping hollow standard having an apertured head-piece, a bushing fitted in the aperture and having its bore flared at the upper end, a punching-bag, a post secured to the punching-bag, a cable secured to the lower end of the post and extending through the bore of the bushing, and a resetting device mounted in the standard and connected with the cable.

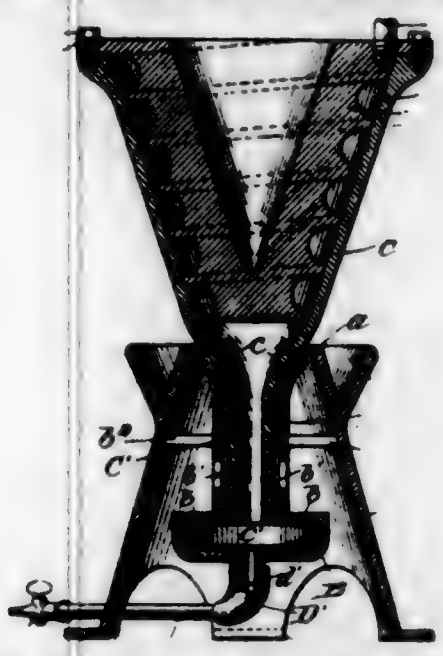
5. In a device of the class described, a hollow standard having an apertured head, a post 10, a punching-bag secured to the top of the post, a knob on the lower end of the post adapted to roll upon the head of the standard when the punching-bag is struck, a cable secured to said knob and extending through the aperture in the head, and a resetting device in the standard connected with the cable.

6. In a device of the class described, a standard having a head, a post having a knob at its lower end to rest upon said head, said post provided at its upper end with a concaved seat, a punching-bag secured to said seat, and means secured to the knob, extending through

the head and into a standard for maintaining the post and bag in an upright position.

7. The combination with the post 2, having a lug therein, of a hollow post 5 fitted in the first-mentioned post, a punching-bag mounted on the top of the hollow post, a spring in the hollow post connected with the bag, an adjusting-rod engaged with the spring and projecting from the end of the post 5, and a nut on the end of the rod adapted to be engaged with the lug in the first-mentioned post.

808,529. HYDROCARBON-BURNER. BENJAMIN Q. P. FOSS, San Jose, Cal., assignor to Foss Water Burner Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 9, 1903. Serial No. 184,891.



Claim.—1. In an apparatus for burning oil, the combination with a burner having an upwardly-projecting tube supported thereon, a chamber mounted above said burner having a depending tube located within said first tube and communicating with said burner, said chamber having a spiral passage-way leading therethrough and communicating at its lower end with said second tube, and a supply-conduit communicating with the upper end of said passage-way.

2. In an apparatus for burning oil, the combination with a burner having an upwardly-projecting tube supported thereon, a chamber mounted above said burner and having a depending tube located within said first tube and communicating with said burner, a core located within said chamber and having a spiral groove formed between its outer surface and the inner surface of said chamber, the lower end of said groove communicating with said second tube, and a supply-conduit communicating with the upper end of said groove.

3. In an apparatus for burning oil, the combination with a conical base, of a burner supported in said base, a tube projecting above and supported upon said burner and forming a passage-way between the same and the upper end of said base, a chamber mounted above said burner having a depending tube located within said first tube and communicating with said burner, said chamber having a spiral passage-way leading therethrough and communicating at its lower end with said tube, and a supply-conduit communicating with the upper end of said passage-way.

4. In an apparatus for burning oil, the combination with a conical base, of a burner supported within said base, a tube projecting above and supported upon said burner and forming a passage-way between the same and upper end of said base, a chamber mounted above said burner, a core located within said chamber and having a spiral groove formed between its outer surface and the inner surface of said chamber, a tube depending from said chamber with which said groove communicates and located within said first tube, and a supply-conduit communicating with the upper end of said groove.

5. In an apparatus for burning oil, the combination with a burner having an upwardly-projecting tube supported thereon, a chamber mounted above said burner and having a tube located within said first tube and communicating with said burner, means for spacing said tubes apart, said first tube having openings therethrough communicating with said space, said chamber having a spiral passage-way leading through the same and communicating at its lower end with said second tube, and a supply-conduit communicating with the upper end of said passage-way.

6. In an apparatus for burning oil, the combination with a conical base, of a burner supported within said base, a tube projecting above and supported upon said burner and forming a passage-way between the same and the upper end of said base, a chamber mounted above said burner having a depending tube located within said first tube and communicating with said burner, means for spacing said tubes apart, said first tube having openings communicating with said space, a core located within said chamber and having a spiral groove formed between its outer surface and the inner surface of said chamber, a fuel-supply conduit communicating with the upper end of said groove, the lower end of said groove being in communication with said second tube.

7. In an apparatus for burning oil, the combination with a hollow base, of a burner supported within said base, a tube projecting above and supported upon said burner and forming a passage-way between the same and the upper end of said base, a chamber mounted above said burner having a depending tube located within said first tube and communicating with said burner, means for spacing said tubes apart, said first tube having openings communicating with said space, a core located within said chamber and having a spiral groove formed between its outer surface and the inner surface of said chamber, a fuel-supply conduit communicating with the upper end of said groove, the lower end of said groove being in communication with said second tube, and a trough formed at the top of said base to receive oil for initially vaporizing the oil supplied to the burner.

808,530. HORN. CLAUD H. FOSTER, Cleveland, Ohio. Filed Feb. 20, 1905. Serial No. 246,445.



Claim.—1. An open-ended horn adapted to be operated under wide variations of pressure, said horn comprising a cross member, a head having an inlet, a partition forming with said head and the inner wall of the horn a chamber and an outlet, said inlet, chamber, and outlet being so proportioned as to cause said horn to sound a note of a certain pitch substantially immediately upon the entrance of the operating fluid into said chamber and said cross member being arranged to maintain said note under variations of several pounds pressure, substantially as specified.

2. A horn comprising a body having one end open, a head closing the other end and having an inlet connection, a partition adjacent said head and forming therewith and with the walls of the body a chamber of small area and an outlet, said outlet being of smaller area than the inlet connection, the edge of said partition adjacent the outlet being serrated, substantially as specified.

3. A fluid-pressure horn having a hollow body, a head closing an end of said body, a partition forming with said head and body a chamber of small capacity and extending from the bottom of the body nearly to the upper portion thereof and spaced a short distance therefrom to form a narrow slit, the upper edge of said partition being serrated, said horn having a lip located to be impinged upon by the blast through said slit, means for directing pressure fluid into said chamber near the lower end of the partition, and means for preventing the pitch of the horn from changing by reason of a variation of several pounds in the pressure of the operating fluid, substantially as specified.

4. A fluid-pressure horn having an enlarged cylindrical body portion, a head for one end of said horn extending above the longitudinal axis of said body portion and between such axis and the upper surface of said body portion, the upper end of said head being horizontal, a plate closing the top of said horn and extending horizontally from said head for a short distance, an upwardly-inclined plate spaced from said horizontal plate to form a mouth therewith, said inclined plate merging with the cylindrical body portion, and a partition extending from the bottom of said horn adjacent the front end of said horizontal plate and spaced therefrom to form a restricted passage or slot, said partition having its upper edge serrated, substantially as specified.

5. A fluid-pressure horn comprising an enlarged body portion and a reduced end portion, said enlarged body portion having an open end, a head closing said reduced end portion, a partition adjacent said head and having a serrated edge spaced a short distance from the adjacent portion of the horn to form a narrow passage or slit therebetween for pressure fluid, said horn having a mouth adjacent said partition, one of the lips of said mouth being located to be impinged upon by the blast of fluid passing through said slit or passage, and a connection for pressure fluid carried by said head and

communicating with the space or chamber between said head and partition, substantially as specified.

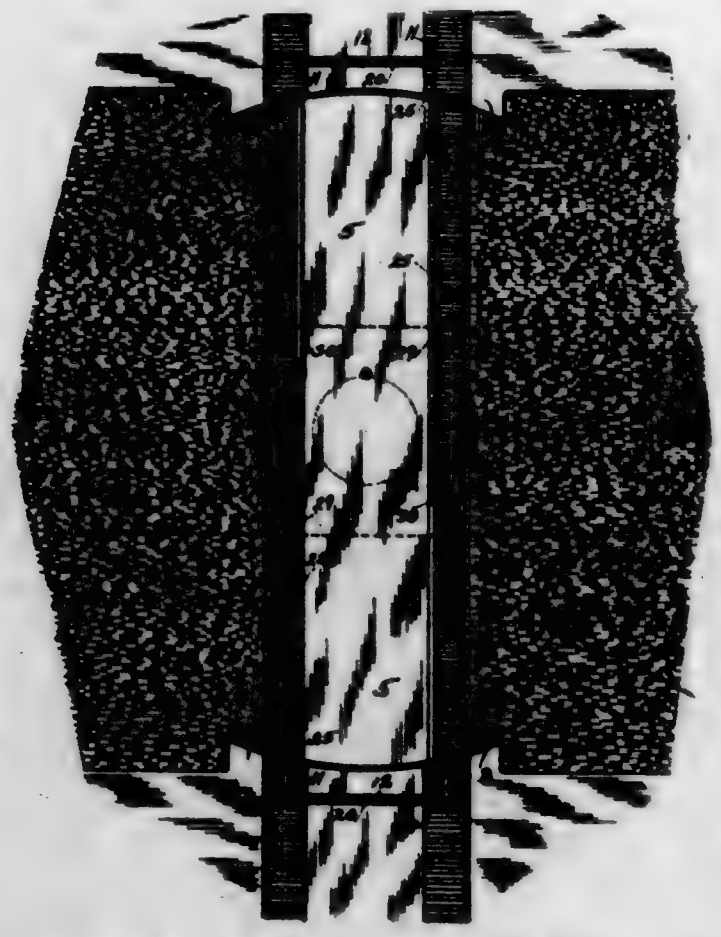
6. A horn comprising a body having one end open and the other end closed, a partition adjacent the closed end of said body and forming therewith and with the walls of the horn a chamber and an outlet, the edge of said partition adjacent the outlet being serrated, there being an inlet for admitting pressure fluid to said chamber, substantially as specified.

7. A horn comprising a body having one end open and the other end closed, a partition adjacent the closed end of said body and forming therewith and with the walls of the horn a chamber and an outlet, the edge of said partition adjacent the outlet being serrated, said horn being provided with a mouth extending transversely thereof and immediately to the rear of said partition, said mouth comprising a rear lip and a front lip, a cross member supported above the rear lip and spaced a short distance therefrom, and an inlet connection communicating with the chamber, substantially as specified.

8. A horn comprising a body having one end open and the other end closed, a partition adjacent the closed end of said body and forming therewith and with the walls of the horn a chamber and an outlet, the edge of said partition adjacent the outlet being serrated, said horn being provided with a transverse mouth to the rear of the partition, said mouth comprising a front and a rear lip, an ear at each side of said mouth, a cross member supported between said ears and spaced a short distance from the rear lip, and a connection for pressure fluid communicating with said chamber, substantially as specified.

9. A horn comprising a body having a transverse partition adjacent one end thereof and forming with said end and with the walls of the horn a chamber and an outlet, the edge of said partition adjacent the outlet being serrated, there being an inlet for the admission of pressure fluid to said chamber, substantially as specified.

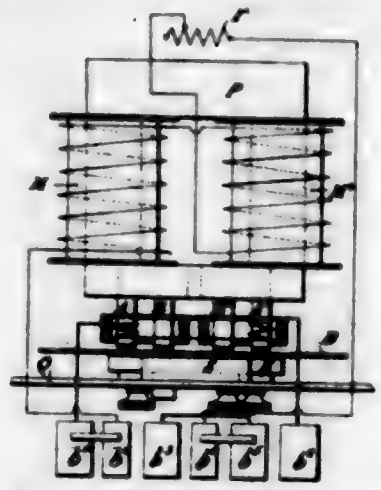
808,531. **BRIDGE-GATE.** John Fowler, Chicago, Ill. Filed Nov. 21, 1904. Serial No. 233,780.



Claim.—1. In a bridge-gate, a gate arranged to travel a determined distance vertically, a bridge arranged to turn on a pivot a determined distance, and a cable having one end rigidly connected to said gate and its remaining end rigidly connected to said bridge at such distance from its pivot that the complete movement of the bridge will cause a complete movement of said gate.

2. In a bridge-gate, a gate arranged to travel in vertical ways, a bridge arranged to be opened and closed and a cable having one end rigidly secured to said gate and one end adjustably secured to said bridge by a wedge driven into a hole to clamp said cable, whereby the gravitating force of said gate is constantly exerted against said bridge and the gate and bridge are moved simultaneously.

808,532. **INDUCTION-METER.** Alphonse J. Fraser, Paris, France, assignor to Compagnie pour la Fabrication des Compteurs & Matériel d'Usines à Gaz, Paris, France. Filed Oct. 31, 1903. Serial No. 179,874.



Claim.—1. The combination with an alternating-current circuit, of means for measuring the true energy therein, comprising a coil connected in shunt, and a coil connected in series with said circuit having a secondary coil in inductive relation therewith and cooperating to produce a plurality of dephased fluxes, and a rotating member arranged within the influence of the shunt and series fluxes; substantially as described.

2. In a motor-meter for alternating currents, the combination of a rotor, a series coil, a shunt-coil acting with the series coil, and a short-circuited coil in inductive relation with the series coil, said series and short-circuited coils having their windings so disposed as to cause leading and lagging flux components with respect to the current; substantially as described.

3. In an electric meter, a shunt or potential coil, a series or current coil, and phase-adjusting means in inductive relation to said current-coil and coöperating therewith to produce a flux in advance of the main current; substantially as described.

4. In an electric meter, a shunt or potential coil, a series or current coil, phase-adjusting means in inductive relation to said current-coil and coöperating therewith to produce a flux in advance of the main current, and means for adjusting the phase of the current in the shunt-circuit; substantially as described.

5. In an electric meter, a shunt-coil, a series coil, phase-adjusting means in inductive relation to said series coil and coöperating therewith to produce a flux in advance of the main current, and means for adjusting the time constant of the shunt-circuit; substantially as described.

6. In an electric meter, a shunt-coil, a series coil, and phase-adjusting means in inductive relation to said series coil and coöperating therewith to produce a flux component displaced ninety degrees from the flux of the shunt-coil; substantially as described.

7. In an electric meter, a shunt-coil producing a lagging flux, a series coil producing a flux substantially in phase with the current, and means in inductive relation with said series coil for causing a flux in advance of the current therein; substantially as described.

8. In an electric meter, a shunt-coil producing a lagging flux, a series coil producing a flux substantially in phase with the current, and means in inductive relation with said series coil for causing leading and lagging components of the flux due to the series coil; substantially as described.

9. In an electric meter, a shunt-coil producing a lagging flux, a series coil producing a flux substantially in phase with the current, and means in inductive relation with said coils for causing a further lag of the shunt-flux and a leading component in the series flux; substantially as described.

10. In an electric meter, a shunt-coil producing a lagging flux, a series coil producing a flux substantially in phase with the current, means in inductive relation with said coils for causing a further lag of the shunt-flux and means for adjusting the time constant of the shunt-circuit; substantially as described.

11. In an electric meter, the combination of a core provided with a potential coil, polar projections on said core, a current-coil carried by said polar projections, and means also carried by said polar projections for displacing the phase of flux therein due to the current-coil; substantially as described.

12. In an electric meter, the combination of a core provided with a potential coil, a slot or air-gap in the magnetic circuit of said core, polar projections located on said core on either side of said slot or air-gap, a current-coil carried by said projections, and a short-circuited

coil in inductive relation to said current-coil; substantially as described.

13. In an electric meter, the combination of a core provided with a potential coil, a slot or air-gap in the magnetic circuit of said core, polar projections located on said core on either side of said slot or air-gap, a current-coil carried by said projections, a short-circuited coil in inductive relation to said current-coil, an armature for said core, and a movable member disposed between said armature and core; substantially as described

14. In an electric meter, the combination of a core provided with a potential coil, a slot or air-gap in the magnetic circuit of said core, polar projections located on said core on either side of said slot or air-gap, a current-coil carried by said projections, and a rotating member arranged within the influence of the resultant fluxes developed in said core and projections; substantially as described.

15. In an electric meter, the combination of a core provided with a potential coil, a slot or air-gap in the magnetic circuit of said core, polar projections located on said core on either side of said slot, a current-coil carried by said projections, and a secondary coil also carried by said projections in inductive relation with said current-coil; substantially as described.

16. In an electric meter, the combination of a core provided with a potential coil, a slot or air-gap in the magnetic circuit of said core, polar projections located on said core on either side of said slot, a current-coil carried by said projections, and a secondary coil in inductive relation with said current-coil arranged to modify the phase of the flux due to the current-coil; substantially as described.

17. In an electric meter, a core having a plurality of polar projections disposed on opposite sides of an air-gap, current and potential coils carried by said core, and means for causing a phase displacement between the fluxes traversing different projections on the same side of the air-gap; substantially as described.

18. In an electric meter, a core having a plurality of polar projections disposed on opposite sides of an air-gap, current and potential coils carried by said core, and means for causing a phase displacement between the fluxes due to the current-coil traversing different projections on the same side of the air-gap; substantially as described.

19. In an electric meter, a core having a plurality of polar projections disposed on opposite sides of an air-gap, current and potential coils carried by said core, and a short-circuited coil on said projections for causing a phase displacement between the fluxes traversing different projections on the same side of the air-gap; substantially as described.

20. In an electric meter, the combination with a core provided with a potential coil, a slot or air-gap in the magnetic circuit of said core, polar projections located on said core on either side of said air-gap, a current-coil on said polar projections having portions on either side of the air-gap unsymmetrically arranged, and a movable disk arranged within the influence of fluxes developed in said core; substantially as described.

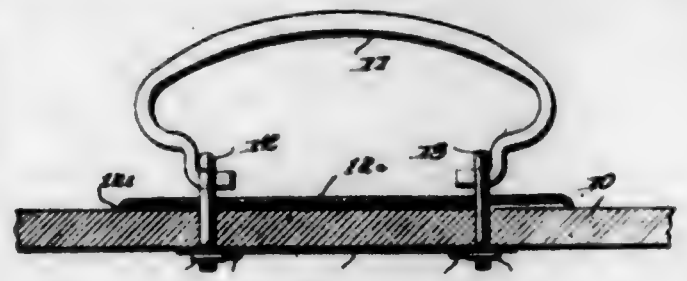
21. In an electric meter, the combination with a core provided with a potential coil, a slot or air-gap in the magnetic circuit of said core, polar projections located on said core on either side of said air-gap, a current-coil on said polar projections having a portion disposed about all of said polar projections and other portions disposed about single projections on either side of the air-gap, and a movable disk actuated by said coils; substantially as described.

22. In an electric meter, a core provided with a potential coil and having a plurality of polar projections disposed on opposite sides of an air-gap, and a current-coil on said polar projections having similar portions oppositely arranged on either side of said air-gap, the windings of the coil on the same side of the air-gap being unsymmetrically arranged on the polar projections; substantially as described.

23. In an electric meter, a core provided with a potential coil and having a plurality of polar projections disposed on opposite sides of an air-gap, a current-coil on said polar projections having similar portions oppositely arranged on either side of the air-gap, the windings of the coil on the same side of the air-gap being unsymmetrically arranged on the polar projections, and short-circuited coils about the polar projections on each side of the air-gap; substantially as described.

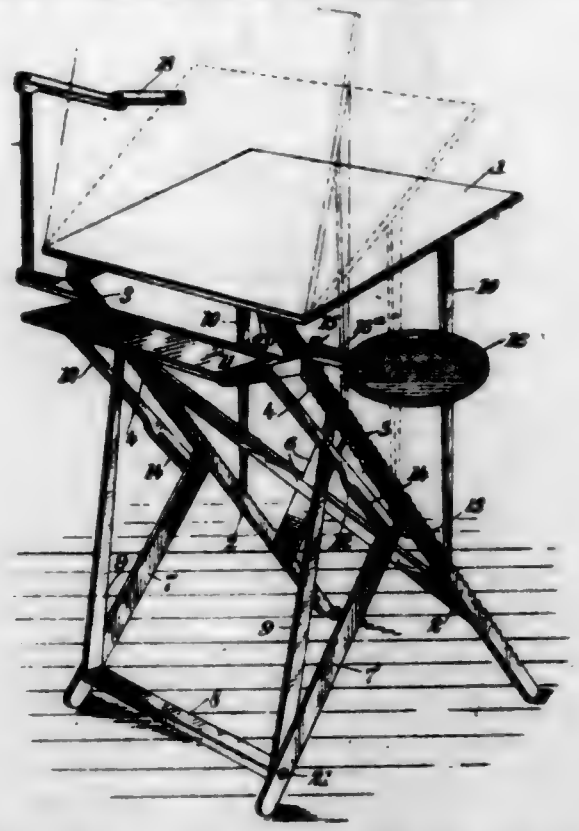
24. In an electric meter, a core provided with a potential coil and having a plurality of polar projections disposed on opposite sides of an air-gap, and a current-coil on said polar projections having similar portions oppositely arranged on either side of the air-gap, the windings of the coil on the same side of the air-gap having portions wound respectively about all of the projections and about single projections on that side; substantially as described.

808,533. FURNITURE-HANDLE. GUSTAV FRANK, Jefferson, Tex. Filed Mar. 24, 1904. Serial No. 199,511.



Claim.—A drawer-pull comprising a handle having inturned ends, eyebolts engaging said inturned ends and forming pivotal supporting means for the handle, resilient supporting means for the eyes of the eyebolts consisting of a flat escutcheon-plate provided with a flange whereby said plate as a body will be supported upon and spaced from the drawer to which the device is attached, nuts upon the eyebolts, and resilient locking means for said nuts.

808,534. ADJUSTABLE TABLE. CLARENCE H. GARDINIER, Rensselaer, N. Y. Filed Feb. 4, 1904. Serial No. 191,956.

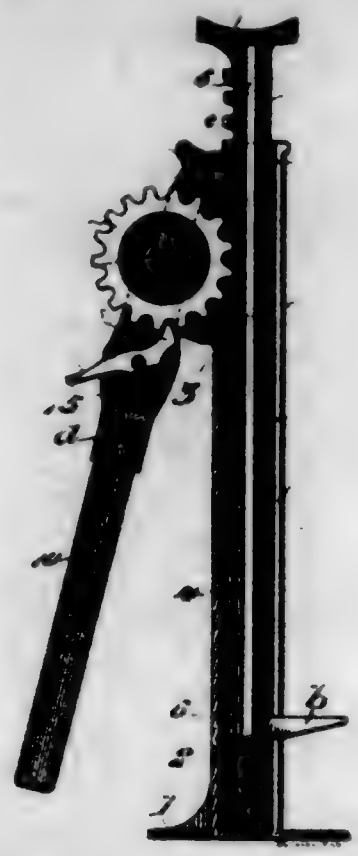


Claim.—1. In an article of the character described, the combination of a top piece, a pair of legs for supporting it, means for supporting and adjusting the legs, comprising a second pair of legs pivoted to the first pair, and a pair of struts connected with the said second pair of legs and adapted to engage the first pair at any desired point, a shelf pivoted to said first pair of legs, and a pair of links pivotally connected with said shelf and with said second pair of legs whereby the swinging of the second pair of legs about their pivots will cause the shelf to be simultaneously swung about its pivots.

2. In an article of the character described, the combination of a top piece, a pair of legs attached thereto, and having notches on their upper and lower edges, a pair of struts pivoted to the top piece and adapted to engage in any of said upper notches, a pair of legs pivoted to said legs, a pair of struts connected with said second pair of legs and adapted to engage in any of said lower notches for supporting said first-mentioned legs in an inclined position, a shelf pivoted to said first pair of legs, and a pair of links adapted to support said shelf in a horizontal position, and connected with the second pair of legs for permitting said links to be lowered in order to move the shelf from a horizontal position.

3. In an article of the character described, the combination of a top piece, a pair of legs for supporting it, means for supporting and adjusting the legs comprising a second pair of legs pivoted to the first pair and means on said second pair of legs for engaging the first pair at any desired point and holding them in fixed position, a shelf pivoted to the first pair of legs, a link pivotally connected with said shelf and having a slot provided with a curved portion, and a pin attached to one of said second pair of legs and passing through said slot.

808,585. LIFTING-JACK. FREDERICK GARDNEY, Cliff, N. Y. Filed Nov. 17, 1904. Serial No. 233,187.



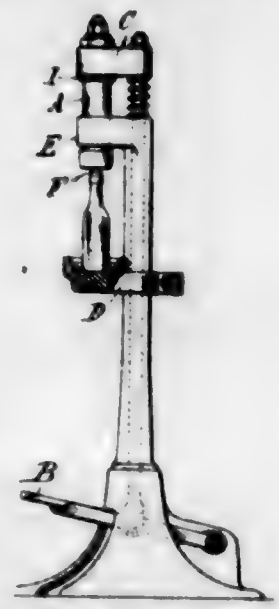
Claim.—1. A lifting-jack comprising a standard having a vertical passage therethrough, the side walls being formed with vertical guides and a vertical slot in its back wall, a lifting-bar slidably disposed in the passage of the standard and formed with guides coacting with those on the standard, and a toothed rack on one edge, and a rearwardly-extending lifting-lug at its lower end projected through the slot in the back wall of the standard, a pinion journaled in the upper portion of the standard in engagement with the rack of the lifting-bar, a forked lever hung on the journal of the pinion and straddling the latter, a holding-pawl mounted on the journal of the pinion and engaging the rack and forked to straddle both the lever and the pinion, a lifting-pawl pivotally mounted in the fork of the lever to engage the pinion and an expansive spring disposed within the fork of the lever having one end lodged on the bridge of the fork and the other end bearing against the lifting-pawl to the rear of its pivotal support to insure the engagement of the pawl with the pinion.

2. A lifting-jack comprising a vertical standard having a vertical passage therethrough and side walls having vertical guides and a vertical slot in its upper portion and having bearing-flanges extending from the side of the said slot and a vertical slot in its back wall, a lifting-bar slidably disposed in the passage of the standard, and formed with a toothed rack on its front edge, and a rearwardly-extending lifting-lug at its lower end projected through the slot in the back wall of the standard, a fixed bearing-arbor in the bearing-flanges, a pinion loosely mounted on the arbor to engage the rack of the lifting-bar, a forked lever straddling the pinion and hung to the arbor, a gravity-acting holding-pawl to engage the rack on the lifting-bar and forked at its lower portion to straddle the pinion and the forks of the lever and pivotally mounted on the bearing-arbor, a lifting-pawl hung between the forks of the lever to engage the pinion, a spring to hold the nose of the lifting-pawl in engagement with the pinion, and a friction-spring positioned in the passage of the standard to bear against the lifting-bar and the back wall of the standard.

808,586. BOTTLE-SEALING APPARATUS. GEORGE H. GILLETT, New York, N. Y., assignor to The Crown Cork and Seal Co. of Baltimore City, Baltimore, Md., a Corporation of Maryland. Filed Nov. 11, 1901. Renewed Sept. 1, 1904. Serial No. 223,098.

Claim.—1. In a bottle-sealing apparatus, the combination of a plunger, means for holding the same pressed down on a cap on the head of a bottle, a series of crimping members, means for pressing said crimping members yieldingly inward against a flange on such cap to hold it in place, and means for positively forcing said crimping members inward to crimp such flange while said plunger is so pressed down.

2. In a bottle-sealing apparatus, the combination of a plunger having a head adapted to bear on a cap on the head of a bottle, a series of jaws supported on said plunger-head, means for yieldingly pressing down said jaws and through them said plunger-head so that said jaws press yieldingly inward against a flange of such cap to hold it in place, and means for positively forcing said jaws inward to crimp such flange while said plunger-head is so pressed down.



3. In a bottle-sealing apparatus, the combination of a plunger having a head adapted to bear on a cap on the head of a bottle, a series of jaws supported on said plunger-head in position to surround a flange of such cap, a spring operating on the tops of said jaws and through them on the top of said plunger-head, and a movable operating member arranged to compress said spring at its first movement whereby to hold said jaws yieldingly inward against a flange of such cap to hold it in place, and to positively force said jaws inward during its continued movement, whereby to crimp said flange.

4. In a bottle-sealing apparatus, the combination of a plunger having a head adapted to bear on a cap on the head of a bottle, a series of jaws supported on said plunger-head in position to surround a flange of such cap, a spring operating on the tops of said jaws and through them on the top of said plunger-head, and a movable operating member arranged to compress said spring at its first movement whereby to hold said jaws yieldingly inward against a flange of such cap to hold it in place, said operating member and jaws carrying cooperating inclined faces whereby during the continued movement of said operating member said jaws are forced positively inward to crimp said flange.

5. In a bottle-sealing apparatus, the combination of a plunger adapted to bear on a cap on the head of a bottle and having on its lower part a head or enlargement, crimping-jaws loosely mounted upon said head and having portions projecting outside of said head, and means engaging said projecting portions and adapted to press downward thereon to press the lower parts of said crimping-jaws inward.

6. In a bottle-sealing apparatus, the combination of a plunger adapted to bear on a cap on the head of a bottle and having on its lower part a head or enlargement, crimping-jaws loosely mounted upon said head and having portions projecting outside of said head and upward, and means engaging said projecting portions and adapted to press downwardly with a yielding pressure thereon to press the lower parts of said crimping-jaws inward and to simultaneously press said plunger yieldingly downward.

7. In a bottle-sealing apparatus, the combination of a plunger adapted to bear on a cap on the head of a bottle and having on its lower part a head or enlargement, crimping-jaws loosely mounted upon said head and having portions projecting outside of said head and upward, a sleeve engaging said projecting portions and adapted to press downwardly thereupon to press the lower parts of said crimping-jaws inward and to simultaneously press said plunger yieldingly downward, a spring bearing upon said sleeve, and an operating member bearing upon said spring.

8. In a bottle-sealing apparatus, the combination of an operating member, a plunger arranged to reciprocate therein, a head on the lower end of said plunger, a spring arranged to be pressed downward by said operating member, a sleeve surrounding said plunger and between said spring and said head to transmit the pressure of said spring to said head, crimping members supported on said head, and means for positively forcing said crimping members inward.

9. In a bottle-sealing apparatus, the combination of an operating member, a plunger arranged to reciprocate therein, a head on the lower end of said plunger, a spring arranged to be pressed down-

ward by said operating member, a sleeve and a ring Q surrounding said plunger and between said spring and said head to transmit the pressure of said spring to said head, crimping members supported on said head, and means for positively forcing said crimping members inward.

10. In a bottle-sealing apparatus, comprising a plunger, a series of crimping members associated therewith and means for first yieldingly pressing the crimping members inwardly and then positively pressing them in, to effect the crimping, substantially as described.

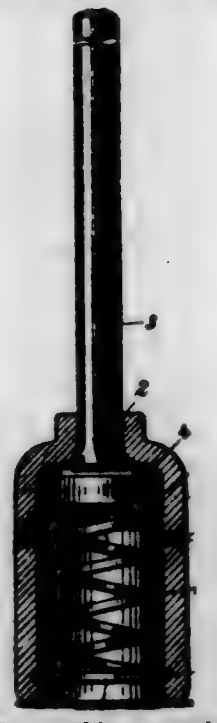
11. A bottle-sealing apparatus, comprising a plunger to rest on the cap on the bottle, a series of crimping members supported thereby, and means for first yieldingly pressing the crimping members inwardly and then pressing them positively inwardly to effect the crimping, said means including a member having a conical surface to operate the crimping members, substantially as described.

12. In combination, in a bottle-sealing apparatus, a plunger, a series of crimping members associated therewith, a spring subjecting the said plunger to a yielding pressure and an operating member inclosing said plunger and having its lower end provided with a conical interior to operate the said crimping members, substantially as described.

13. In combination in a bottle-sealing apparatus, a series of levers pivotally supported intermediate of their height, and vertically-operating means having a camming action on the said levers to crimp the metal cap.

14. In combination, in a bottle-sealing apparatus, a series of levers pivotally supported and means having an incline surface acting on said pivoted levers to cause the crimping of the metal cap, substantially as described.

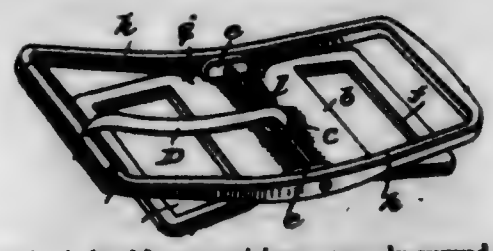
808,537. **WASHING-MACHINE.** CHARLES B. GOULDING, Bluffsprings, Fla. Filed May 22, 1905. Serial No. 261,738.



Claim.—1. A washing-machine comprising a hollow body open at its lower end and provided at its upper end with a bearing, a plunger within the body having an operating-rod working in said bearing, a spring normally maintaining the plunger in elevated position within the body, and a packing interposed between the spring and the bottom surface of the plunger, the said hollow body being formed with a plurality of radially-disposed openings located in a plane beneath the plane of the bottom of the plunger, and said packing embodying an inverted cup of leather, movable closely against the inner sides of the body with the plunger.

2. A washing-machine comprising a hollow body open at its lower end and provided at its upper end with a bearing, the inner surface of the body near its lower end being formed with an annular groove, a plunger within the body having an operating-rod working within said bearing, and a spiral spring for normally maintaining the plunger in upward position within the body, the same having the lower convolution thereof seated within the said annular groove, said body having formed in the walls thereof a series of radially-disposed openings located in a plane beneath the plane of the bottom of the plunger, and the said spring and plunger having interposed therebetween a valve-packing embodying an inverted cup of leather.

808,538. **BUCKLE.** WILLIAM GRIMM, Franklin, Ohio. Filed Apr. 18, 1905. Serial No. 255,893.

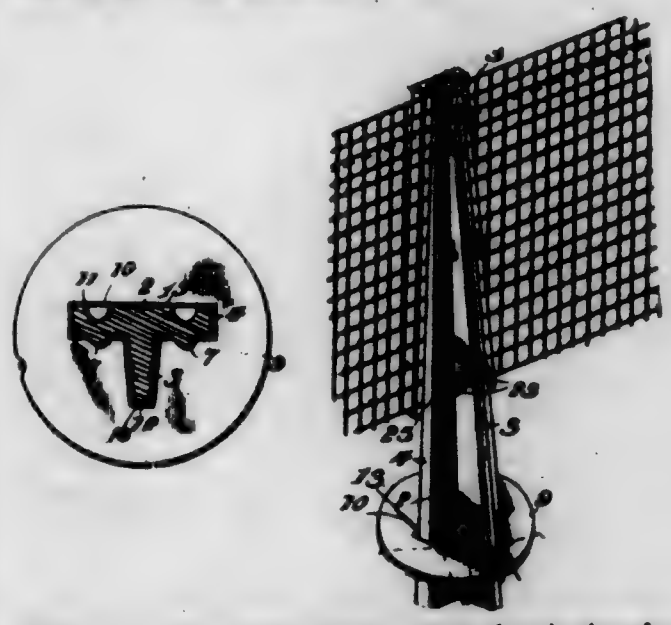


Claim.—1. A buckle comprising reversely-curved body members opposed to and arranged to rock upon each other; one of said members having intermediate shoulders for limiting the rocking movements of and reinforcing the other, means connecting the members and permitting the rocking movements thereof, and strap-holding means carried by the members.

2. A buckle comprising reversely-curved body members opposed to and arranged to rock upon each other; one of said members having an intermediate portion bearing strap-holding means and side lugs and also having end loops of greater width than the intermediate portion, whereby shoulders are formed, and the other member having side bars arranged alongside said lugs, a transverse pintle pivotally connecting said lugs and side bars, and a tongue mounted on the pintle.

3. In a buckle, the combination of reversely-curved body members opposed to and arranged to rock upon each other; one of said members comprising an intermediate plate having a central aperture and side lugs, and end loops of a greater width than the intermediate plate, and the other member comprising side bars and end bars, a pintle pivotally connecting the said lugs and side bars of the members and a tongue having an eye receiving the pintle and disposed in the aperture of the intermediate plate.

808,539. **FENCE-POST.** GEORGE I. GREEN, Flint, Mich. Filed Mar. 3, 1904. Serial No. 196,332.



Claim.—1. A fence-post having a series of projections formed by indenting the metal and forcing same outwardly, and an anchor having an opening of the shape of the post and larger than the cross-sectional area of the same when supported by the projections, whereby the anchor will be raised freely on the post and away from the projections when influenced by the frost.

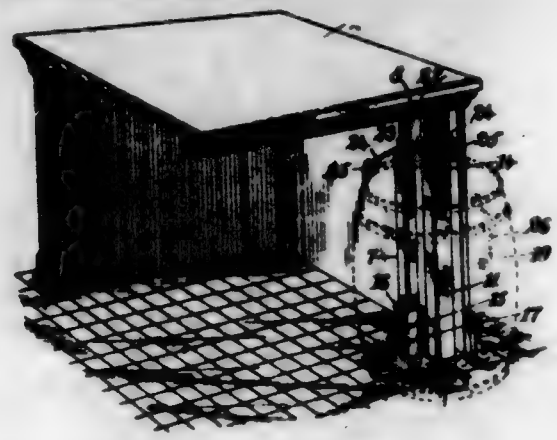
2. A fence-post having a series of projections formed by indenting the metal and forcing same outwardly, and an anchor having an opening of the cross-sectional shape of the post, said anchor being supported by the projections.

808,540. **ATTACHMENT FOR STORE-COUNTERS OR THE LIKE.** PERRY S. GRIDLEY, Brooklyn, Ala. Filed May 20, 1905. Serial No. 261,243.

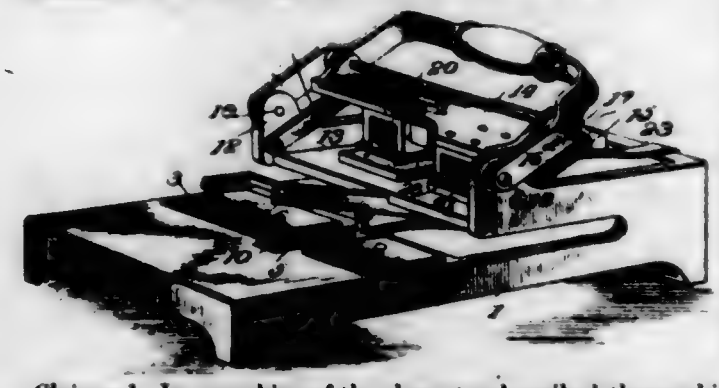
Claim.—1. An attachment for store-counters comprising a rotatable upright member provided with a laterally-projecting shoe carrying a platform, said shoe embodying parallel sides portions, and the platform having on its under side a block fitting between said portions.

2. A device of the character described comprising a rotatable upright member having thereon a plurality of step-like projections,

and a loop embracing said member, having a shank embodying parallel vertical members, terminating in a laterally-projecting shoe, constructed of parallel portions, and a rod connecting these portions, to engage one of said projections.



808,541. BILL-RECEIPTING MACHINE. ROBERT S. HAMPTON, Titusville, Pa. Filed June 20, 1905. Serial No. 266,147.



Claim.—1. In a machine of the character described, the combination with a base, cutting means, a pivoted frame carrying printing devices, inking means for inking the type, and means normally keeping the printing devices away from the inking means, and means for swinging the printing devices toward the base.

2. A machine of the character described, comprising a base, a cutting-blade pivoted to the base, a spring for returning the cutting-blade to normal position, a swinging frame carrying printing devices to receipt and date a bill, and date and number a coupon, means for swinging the frame toward the base to print, the movement of the frame contacting with the blade and severing a coupon from the bill, and means advancing one of the printing devices when the frame is returned to normal position, to consecutively number the coupons.

3. A machine of the character described, comprising a support for a bill, a frame movable toward or from the support, a receipt and date stamp carried by the frame, a date and consecutive-numbering stamp carried by the frame, a severing device, means for moving the frame toward the support to receipt a bill and date it, date and number the coupon, and sever the coupon, and means for changing the number of the consecutive-numbering device when the frame is returned to normal position.

4. A machine of the class described comprising a pair of printing devices mounted on a pivoted frame, one of said devices having a receipt and date stamp and the other a date and consecutive-numbering stamp, a base with which the printing devices coöperate, means for swinging the frame toward the base to receipt a bill and date and number a coupon, and a cutting-blade mounted on the base for severing the coupon from the bill, the cutting-blade being in the path of and operated by the frame when it is swung toward the base to do the printing.

5. A machine of the class described comprising a base and frame, a pair of printing devices mounted on a pivoted frame, one of said printing devices bearing a receipt and date stamp, and the other device bearing a date and consecutive-numbering stamp, the consecutive-numbering device contacting with the frame of the base to operate the former, a cutting-blade and means for swinging the pivoted frame toward the base to receipt and date a bill; date and consecutively number a coupon; and sever the coupon from the bill in one operation.

6. In a machine of the character described, the combination with a supporting-base, a knife pivoted to the base, a frame pivoted to the base and carrying two printing devices, one of said devices bearing a receipt and date stamp and the other device bearing a consecutive-number and date stamp, the latter being operated by contacting with the base, a handle pivoted to the base, and a link connection between the handle and the pivoted frame, the pivoted frame being operated by the handle to swing the printing devices toward the base to operate the knife to sever the coupon, receipt and date the bill, and date and consecutively number the coupon.

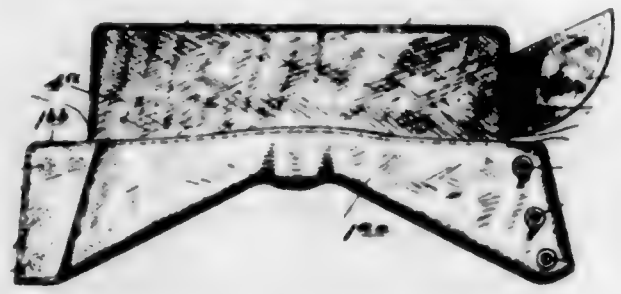
7. In a machine of the class described, the combination, with a base, a pivoted frame bearing a pair of printing devices to receipt a bill and a coupon thereof, pivoted links connecting the frame and the base, a handle pivoted to the base and the frame, and a knife for severing the bill from the coupon when the frame is swung toward the base to do the printing.

8. In a machine of the class described, the combination with a base, a pivoted frame bearing a pair of printing devices to receipt a bill and a coupon therefor, one of said devices having a consecutive-numbering device operated by contacting with the base, links connecting the frame and the base, a pivoted handle, means connecting the handle and the frame, a pivoted knife, means for returning the knife to normal position after operation, the swinging of the frame to perform the printing operation contacting with the knife to sever the bill from the coupon.

808,542. PROCESS OF ENAMELING. JOSEPH H. RIMER, Philadelphia, Pa. Filed Nov. 25, 1904. Serial No. 234,263.

Claim.—The herein-described process of enameling and coloring metal articles which consists in cleaning the article, placing the article in an alkaline bath to prevent corrosion or oxidation of the surface of the article, permitting the alkaline matter to dry thereon, applying an enamel coating to the article, applying a coloring material to the enameled surface, placing the article in a furnace to burn the coloring material thereon, and then applying another coat of enamel and burning the same on the article, substantially as described.

808,543. STORM-COLLAR. FRANK HORAK, Valparaiso, Ind. Filed Feb. 4, 1905. Serial No. 244,230.



Claim.—A storm-collar or tippet comprising in its construction, an upstanding right-lined collar, effective to encompass the neck and extending well up around the back of the head to a line coincident with the hat-brim, and forward along the sides of the head and face to the eyes, a cape-like part formed in continuation of the bottom of the collar, having forward end-lapping portions, buttoned in lapped order beneath the chin and upon the breast, a dual-buttoning means being provided at the last-mentioned point to render the closure under the chin adjustable to necks of different size and make it capable of being turned down over the overcoat-collar while in use, but not needed above the neck, and a closure-piece normally connected by a button as a kind of pivot on one side of the upstanding collar, to enable it to be swung up to position across the space between the forward ends or edges of the said collar and be buttoned to the other side, wholly closing the said space and covering the chin, mouth, nose and upper part of the face to the eyes.

808,544. WINDOW-GLASS FASTENER. JOHN H. IRMOW, Urbana, Mo. Filed Aug. 2, 1905. Serial No. 272,420.

Claim.—1. In a device of the character set forth, the combination of a window-sash, a pane of glass adapted to be applied thereto, and frames for securing the pane of glass in applied position, said frames being adjustably connected to adapt them for application to window-frames of varying length.

2. In a device of the character set forth, the combination of a window-sash, a pane of glass adapted to be applied thereto, and frames for securing the pane of glass in applied position and comprising strips hingedly secured together, said frames being adjustably connected to adapt them for application to window-frames of varying length.

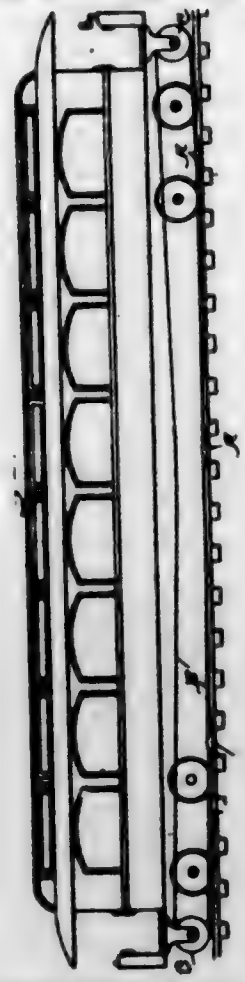
3. In a device of the character set forth, the combination of a window-sash, a pane of glass adapted to be applied thereto and

frames each comprising L-shaped strips hingedly secured together one end of one of said strips being provided with a tongue, while the end of another strip is bifurcated.



4. In a device of the character set forth, the combination of a window-sash, a pane of glass adapted to be applied thereto, frames each comprising L-shaped strips hingedly secured together, one end of one of said strips being provided with a tongue, while one end of another strip is bifurcated, and an adhesive substance interposed between the frames and glass and sash.

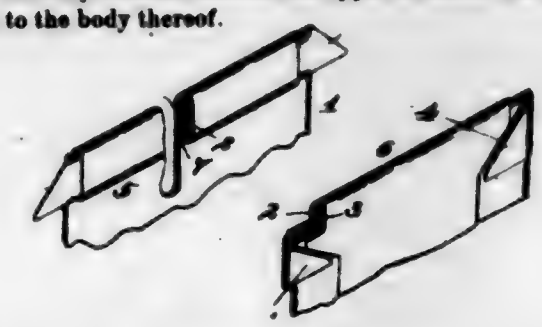
808,545. ELECTRIC-RAILWAY SYSTEM. WILLIAM G. KEELER, Philadelphia, Pa. Filed June 16, 1905. Serial No. 265,437.



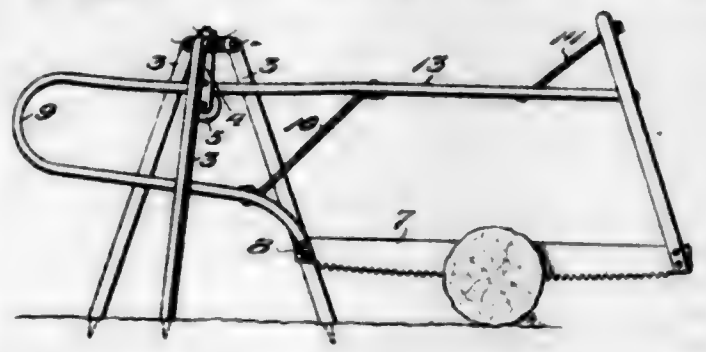
Claim.—In an electric-railway system, a series of contacts located in the road-bed an equal distance apart, the distance being less than the length of the car, each contact connected to a line-wire, a flexible or pliable endless metallic cable or belt arranged underneath each car, and passing over pulleys journaled at each end of the car, the lower run of said cable or belt adapted to lie upon the contacts by its own weight and remain stationary with said contacts as the car travels forward, a slotted shell arranged over each of the contact-blocks, the walls of the slot being curved in such a manner as to act as a guide for the cable.

808,546. MAILING-ENVELOP. ROSSIUS U. KIMBARK, Chicago, Ill. Filed Dec. 23, 1904. Serial No. 238,661.

Claim.—A merchandise-mailing envelop, having a body portion whose front and back faces are extended upwardly to form two free flaps, one of these flaps being provided with tabs projecting laterally from its opposite side edges at points adjacent to the upper corners of the envelop and gummed on their faces remote from the opposite flap, whereby when said flaps are together folded over on two fold-lines, one above and the other below said tabs, the tabs will be reversed and may be folded around the upper corners of the envelop and pasted to the body thereof.



808,547. SAW. CHARLES A. KING, Bridgeport, Ala., assignor of one-half to James D. King, Bridgeport, Ala. Filed Dec. 27, 1904. Serial No. 238,370.

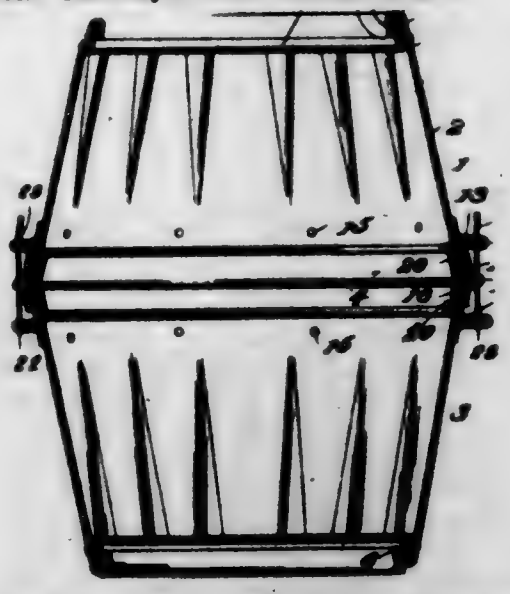


Claim.—1. A sawing device comprising a folding tripod-support having an antifriction member, a saw, and a saw-frame connected with the saw and having one portion thereof engaging the antifriction member of the support.

2. A sawing device comprising a folding tripod-support having an antifriction member, a saw, and a saw-frame connected with the saw and having a loop portion extending beyond one end of the saw, one member of said loop portion engaging the antifriction member of the support.

3. A sawing device comprising a tripod, a bracket connected with said tripod and having a pulley journaled therein, a saw and a saw-frame connected with said saw, said saw-frame comprising a loop portion extending beyond the end of the saw, and engaging the pulley, an inclined brace connecting the two members of the loop portion, a bar connected at one end with the saw and at the other end with one of the terminals of the loop portion, the upper end of said bar extending beyond said terminal, and a brace connecting the upper end of said bar with the terminal of said loop.

808,548. SECTIONAL METAL BARREL. GOTTLIEB KLENK, Defiance, Ohio. Filed May 26, 1905. Serial No. 262,206.



Claim.—1. A metal barrel made in two sections which are open at their inner ends, a partition common to the two sections, flanges extending in opposite directions from the partition the inner open ends of the sections fitting over the flanges, and means securing the sections together.

2. A metal barrel made in two sections, a partition common to both sections and extending outside the sections, flanges extending in opposite directions from the partition and into the sections, flanges on the sections, and means passing through the partition and the flanges on the sections to fasten said sections and the partition together.

3. A metal barrel made in two sections, each of which is bent over at its outer edge and bent under to form a reinforcement, a head provided with a flange which fits under the bent-over edge, the free edge of the bent-over portion of the said flange abutting against the free edge of the bent-under portion of the section, and a reinforcing element between the bent-over portion of the flange and the head.

4. A metal barrel made in two sections, a flange, extending outwardly from each section, a partition located between the two sections, said partition extending beyond the periphery of the adjacent edges of the sections and being of less diameter than said outwardly-extending flanges and provided with oppositely-disposed flanges against which the adjacent ends of the sections snugly fit, and means securing the sections together.

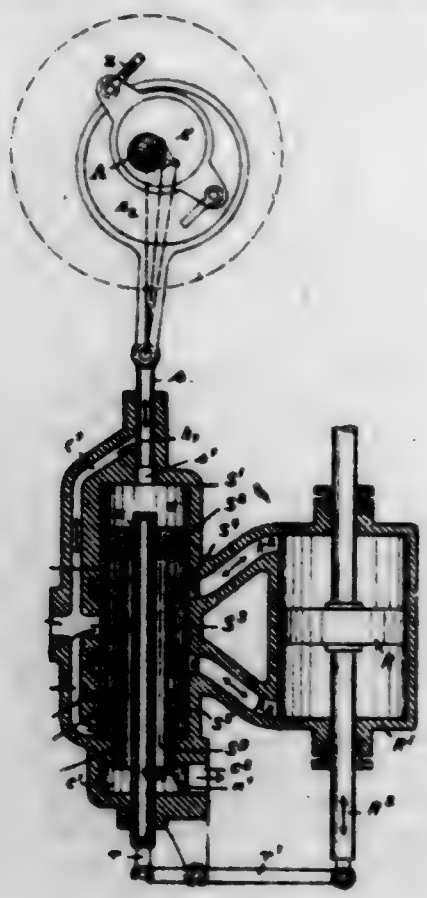
5. A metal barrel made in two sections, a partition located between the sections, the edge of said partition extending beyond the periphery of the inner ends of the sections, a reinforcing element inclosing the edge of said partition, said reinforcing element being bent in opposite directions to form flanges which are crimped to reinforce the flanges, said flanges fitting against the inner side of the sections, and means securing the sections together.

6. A metal barrel made in two sections, a partition located between the sections, the edge of said partition extending laterally beyond the periphery of the inner ends of the sections, a reinforcing element inclosing the edge of said partition, said reinforcing element being bent in opposite directions to form flanges which are crimped to reinforce the flanges, said flanges fitting against the inner side of the sections, and means securing the sections together.

7. A metal barrel made in sections, each section having reinforcing flattened ribs of greater width at one end than at the opposite end, the adjacent inner ends of the sections being reinforced, flanges extending outwardly from the inner ends of the sections, a partition common to both sections, flanges extending in opposite directions from the partitions and fitting against the inner sides of the sections, and means securing the sections together.

8. A metal barrel made in two sections, reinforcing-flanges at the adjacent inner ends of the sections, a partition located between the sections, the edge of said partition extending laterally beyond the periphery of the inner ends of the sections, flanges extending in opposite directions from the partition and fitting against the inner sides of the sections, the ends of the latter bearing on the partition.

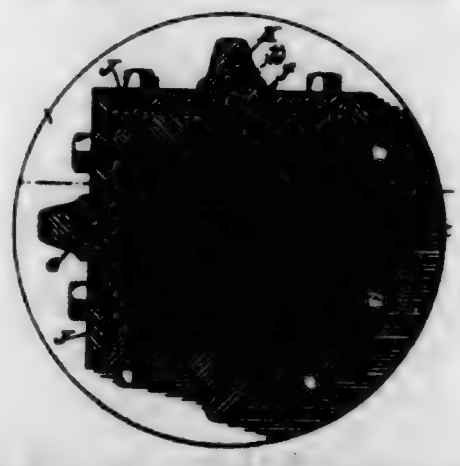
808,549. GOVERNING DEVICE FOR MOTORS. CAMILLO KOHNER, Prague, Austria-Hungary. Filed Aug. 10, 1905. Serial No. 273,630.



Claim.—1. In combination with a valve-casing, a slide-valve in such casing, a chamber in such casing at one end of the slide-valve, a cylindrical bore leading into such chamber, a plunger working in such bore, a shaft for operating such plunger and means for varying the stroke of said plunger in accordance with the variations of speed of an exhaust-chamber in the valve-casing at the other end of the slide-valve a hollow rod tightly passing through the slide-valve and provided with two sets of slots leading to the two chambers respectively, a head at one end of the slide-valve, a collar near the other end of the slide-valve such end projecting from the said collar being smaller in diameter than the said collar, grooves and further collars on the said slide-valve between the head and the first-named collar, a source of liquid under pressure and ports and chambers in the said valve-casing connecting such source with a port leading to the aforesaid bore with a port opposite the said end of the said slide-valve and with a port between these two last-named ports, a cylinder, ports in the valve-casing connected to the two ends of such cylinder and adapted to be controlled by the said grooves and further collars on the slide-valve, a piston working in the said cylinder and means operated by such piston for controlling the speed of a motor driving the said shaft substantially as and for the purpose described.

2. In combination with a valve-casing, a slide-valve in such casing, a chamber, in such casing at one end of the slide-valve, a cylindrical bore leading into such chamber, a plunger working in such bore, a shaft for operating such plunger, and means for varying the stroke of said plunger in accordance with the variations of speed of such shaft an exhaust-chamber in the valve-casing at the other end of the slide-valve, a hollow rod tightly passing through the slide-valve and provided with two sets of slots leading to the two chambers respectively a head at one end of the slide-valve, a collar near the other end of the slide-valve, such end projecting from the said collar being smaller in diameter than the said collar, grooves and further collars on the said slide-valve between the head and the first-named collar, a source of liquid under pressure and ports and channels in the said valve-casing connecting such source with a port leading to the aforesaid bore with a port opposite the said end of the slide-valve and with a port between these two last-named ports, a cylinder, ports in the valve-casing connected to the two ends of such cylinder and adapted to be controlled by the said grooves and further collars on the slide-valve, a piston working in such cylinder means operated by such piston for controlling the speed of a motor driving the said shaft and means for connecting such piston with the said hollow rod, substantially as and for the purpose described.

808,550. DUST-GUARD. CHRISTIAN M. LAURITSEN and WALTER M. COOK, Chicago, Ill. Filed Feb. 15, 1905. Serial No. 245,794.



Claim.—1. In an article of the class described, an integral casing having a central bore and a plurality of recesses opening on said bore, said recesses in adjacent faces being in staggered relation to each other, and a plurality of blocks mounted within said recesses.

2. In an article of the class described, an integral casing having a central bore and a plurality of recesses extending through said casing, said recesses in adjacent faces being in staggered relation to each other, and a plurality of blocks mounted within said recesses.

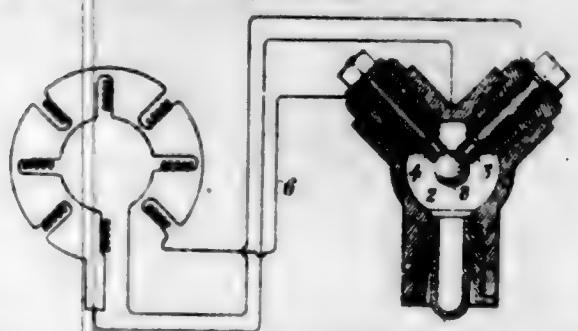
3. In an article of the class described, an integral casing having a plurality of recesses in the faces thereof, blocks mounted within said recesses adapted to surround a central bore, plates secured to the faces of said casing, there being recesses in the inner faces of said plates and springs seated in said recesses adapted to yieldingly hold said blocks in place.

4. In an article of the class described, an integral casing having a plurality of recesses in the faces thereof, blocks mounted within said recesses and adapted to surround a central bore, plates provided

with lugs secured to the faces of said casing, there being recesses in the inner faces of said plates and extending into said lugs and springs seated therein adapted to yieldingly hold said blocks in place.

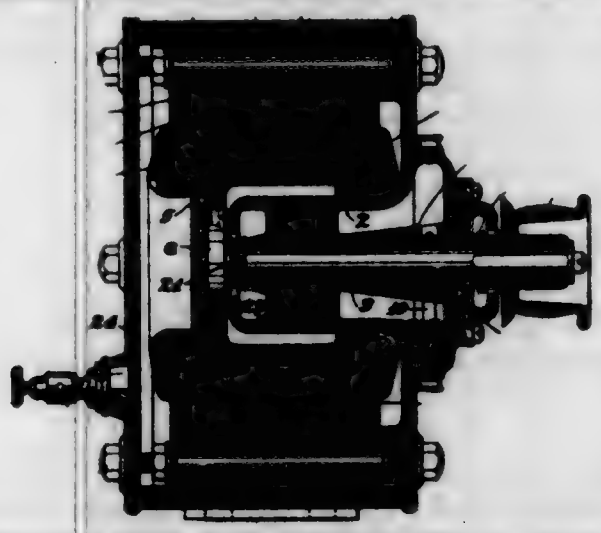
5. A dust-guard comprising a casing adapted to surround a shaft and provided with a series of recesses arranged in staggered relation to each other, blocks mounted within said recesses and arranged to substantially surround such shaft, plates secured to the faces of the casing, and springs fitted within recesses in said plates and yieldingly holding said blocks in place.

808,551. **IGNITION DEVICE.** LEON J. LE POITTON, New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company, a Corporation of New York. Filed Nov. 7, 1903. Serial No. 180,176.



Claim.—A sparking system comprising two or more insulated electrodes located in the ignition-chamber of an internal-combustion engine, ground connections for said electrodes, and means to simultaneously disconnect said electrodes from their ground connections so that the respective circuits of a polyphase-current generator leading to said electrodes may be simultaneously interrupted.

808,552. **MAGNETO-ALTERNATOR.** LEON J. LE POITTON, New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company, a Corporation of New York. Filed Sept. 24, 1904. Serial No. 225,559.



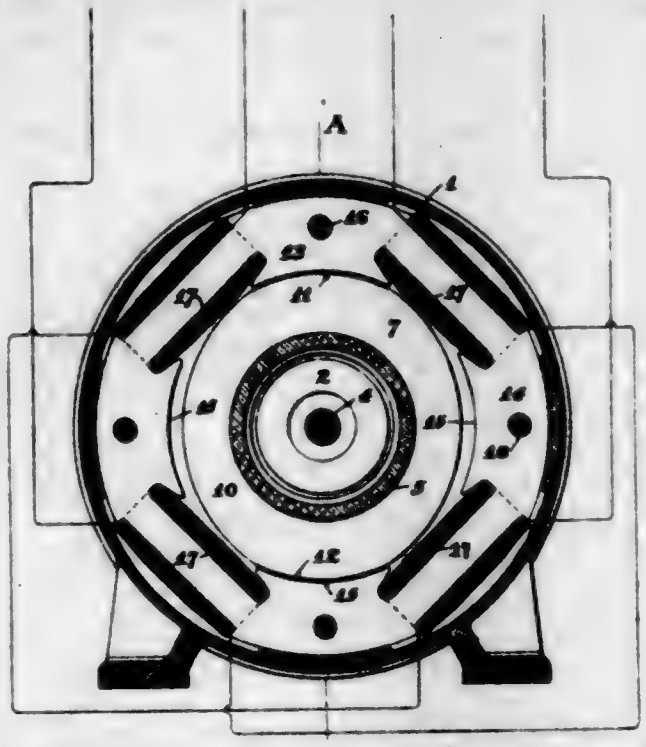
Claim.—1. A polyphase alternator comprising a rotor consisting of a permanent magnet having a plurality of separately-magnetized steel laminæ substantially annular in shape and so magnetized that two consequent poles are formed at opposite ends of the same diameter.

2. A polyphase alternator comprising a rotor consisting of a permanent magnet having a plurality of separately-magnetized steel laminæ substantially annular in shape, said magnet having polar projections at opposite ends of the same diameter.

3. A polyphase alternator comprising a stationary soft-iron laminated ring having a plurality of polar projections, stationary coils wound on said ring between said polar projections, and a rotor consisting of a permanent magnet having a plurality of separately-magnetized steel laminæ substantially annular in shape and so magnetized that two consequent poles are formed at opposite ends of the same diameter.

4. A polyphase alternator comprising a stationary soft-iron laminated ring having four polar projections, stationary coils wound on said ring between said polar projections the opposite coils being connected in series or in parallel to form two independent circuits, and an annular permanent magnet adapted to be rotated within the ring, said permanent magnet consisting of a plurality of separately-magnetized steel laminæ substantially annular in shape and so magnetized that two consequent poles are formed at opposite ends of the same diameter.

808,553. **METHOD OF IGNITING COMBUSTIBLE MIXTURES.** LEON J. LE POITTON, New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company, a Corporation of New York. Filed Sept. 24, 1904. Serial No. 225,554.



Claim.—1. The method of producing sparks suitable for igniting combustible mixtures consisting in alternately short-circuiting one of two alternating currents differing in phase from each other near the period of minimum intensity of its alternation and while it is short-circuited interrupting the other at or near the period of the maximum intensity of its alternation.

2. The method of producing sparks suitable for igniting combustible mixtures consisting in delivering to the primary of an induction-coil two alternating currents differing in phase from each other by ninety degrees, short-circuiting one of said currents at or near the period of minimum intensity of its alternation and while it is short-circuited interrupting the other current at or near the period of maximum intensity of its alternation.

3. The method of producing sparks suitable for igniting combustible mixtures consisting in delivering to the primary of an induction-coil having its secondary in electrical connection with a spark-plug, two alternating currents differing in phase from each other, alternately short-circuiting one of the two alternating currents at or near the period of minimum intensity of its alternation and while it is short-circuited interrupting the other of said currents at or near the period of its maximum intensity, in such manner that said circuits are caused to deliver alternately electrical energy to the primary of the induction-coil whereby high-tension sparks are caused to jump between the terminals of a spark-plug inserted in the secondary of the induction-coil.

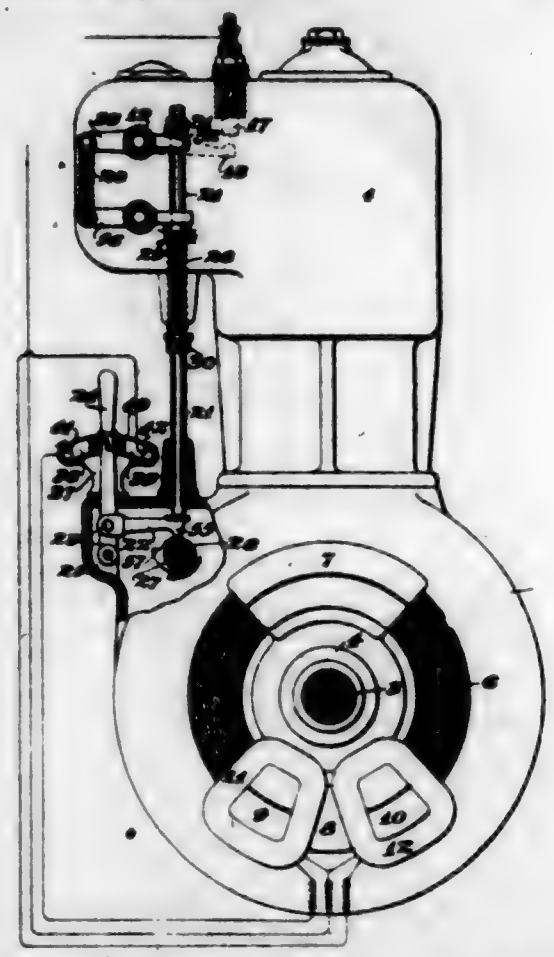
4. The method of producing sparks suitable for igniting combustible mixtures consisting in continuously converting two alternating currents differing in phase from each other by ninety degrees into interrupted alternating currents having at all times a sufficient intensity to ignite a combustible mixture by short-circuiting one of said currents near the period of its minimum intensity and simultaneously rapidly interrupting the other of said currents at or near the period of its maximum intensity.

808,554. **APPARATUS FOR GENERATING AND UTILIZING POLYPHASE ALTERNATING CURRENTS FOR THE IGNITION OF EXPLOSIVE MIXTURES.** LEON J. LE POITTON, New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company, a Corporation of New York. Filed Oct. 7, 1904. Serial No. 227,548.

Claim.—1. A system for igniting combustible mixtures in internal-combustion engines comprising a polyphase alternating-current generator having its rotor driven at a speed proportional to that of the engine-shaft, and means for varying the time of operation of the sparking device constructed to connect electrically said device to the generator at the time of generation of either of the alternating currents or of both of them jointly according to their respective intensities.

2. The combination with an internal-combustion engine having a spark-producing device, of a polyphase alternating-current genera-

tor, means for driving said generator at a speed proportional to that of the engine-shaft, means for connecting to the spark-producing device first that one of the polyphase circuits the current of which is passing through its period of maximum intensity; then for connecting both circuits to the spark-producing device while their respective current intensities are equal or nearly equal; then for disconnecting the first-named circuit while its current is passing through its period of minimum intensity and leaving connected to the spark-producing device the second-named circuit while its current is passing through its period of maximum intensity.



3. The combination with an internal-combustion engine having a sparking device, of a polyphase alternating-current generator having its field-magnet supported in an adjustable frame or spider, and an inductor connected to the engine-shaft so as to be driven at a speed proportional to that of the engine-shaft.

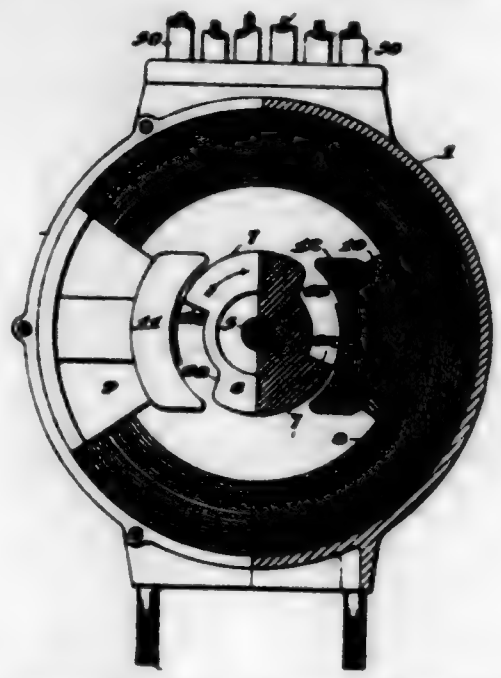
4. The combination with an internal-combustion engine having a sparking device, of means to vary the time of sparking comprising a cam, a lever actuated by said cam, shifting means to vary the positions of said cam and lever relatively to each other, and contact-segments included in the current-circuits over which said shifting means may be moved.

5. The combination with an internal-combustion engine having a sparking device, of a polyphase alternating-current generator for delivering the current or currents to said sparking device, contact-segments included in the current-circuits, means for varying the time of sparking comprising a cam, a lever actuated by said cam, and means for shifting the position of said lever and cam-surfaces relative to each other, said shifting means being adapted to move over said contact-segments.

808,555. SELF-EXCITING ALTERNATOR. LEON J. LE PONTOIS, New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company, a Corporation of New York. Filed Feb. 3, 1905. Serial No. 243,947.

Claim.—1. A partially-self-exciting alternator of the inductor type, comprising a permanent magnetic field, polar projections adjacent to the magnetic poles developed by said field, stationary windings surrounding said polar projections, and a disymmetric inductor-rotor having such form that the waves of the alternating current generated which have a magnetizing effect on the permanent magnetic field reach a higher value than those which have a demagnetizing effect on said field.

2. A partially-self-exciting alternator of the inductor type, comprising a permanent magnetic field, annealed polar projections adjacent to the poles of said magnet, stationary windings surrounding said polar projections, and a disymmetric inductor-rotor having such form that the waves of the alternating current generated which have a magnetizing effect on the permanent magnetic field reach a higher value than those which have a demagnetizing effect on said field.

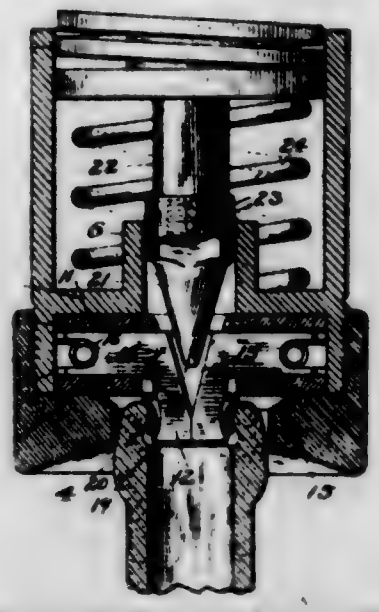


3. An alternating-current generator of the inductor type comprising a field-magnet consisting of a permanently-magnetized ring formed of a continuous steel ribbon, stationary windings surrounding the poles of said magnet, and a disymmetric inductor-rotor for the purpose described.

4. A partially-self-exciting alternator of the inductor type, comprising a permanent field-magnet consisting of a magnetized ring formed of a continuous steel ribbon, polar projections adjacent to magnetic poles developed by said field, stationary windings surrounding said polar projections, and an inductor-rotor having polar projections, one face of said projections extending radially from the hub of the rotor, and the other face rounded and formed at an angle with the hub greater than that of the radial face whereby the waves of the alternating current generated which have a magnetizing effect on the permanent magnetic field reach a higher current value than those which have a demagnetizing effect on said field.

5. A partially-self-exciting alternator of the inductor type, comprising a permanent field-magnet consisting of a magnetized ring formed of a continuous steel ribbon, and an inductor-rotor having polar projections, one face of said projections extending radially from the hub of the rotor, and the other face rounded and formed at an angle with the hub greater than that of the radial face whereby the waves of the alternating current generated which have a magnetizing effect on the permanent magnetic field reach a higher current value than those which have a demagnetizing effect on said field.

808,556. APPARATUS FOR APPLYING STOPPERS TO BOTTLES. WILLIAM B. LINDSAY, Baltimore, Md., assignor to The Crown Cork & Seal Company, Baltimore, Md. Filed Mar. 3, 1904. Serial No. 196,423.



Claim.—1. In apparatus for expanding a metallic stopper within the mouth of a bottle and against a sealing-gasket, the combination of a head having a plurality of radial grooves therein, and a series of jaws each having a shank guided in one of the radial grooves inde-

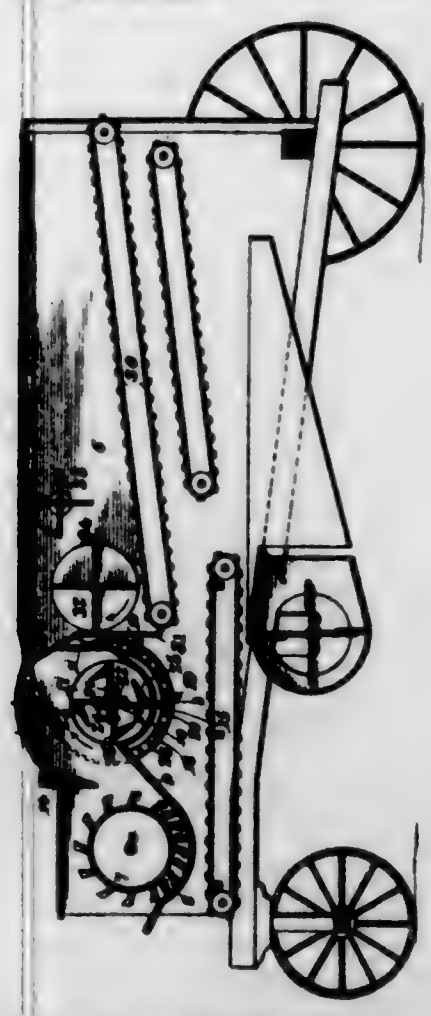
pendently of the other jaws, to have sliding movement only and in a plane at right angles to the axis of the bottle-mouth, and a conical spreader for moving the said jaws, the said conical spreader in separating the jaws moving in a direction from the shanks to the free ends of the jaws, substantially as described.

2. In an apparatus of the class described, the combination of a head having radial grooves therein, jaws having shanks guided individually in the groves to have sliding movement only and in a plane at right angles to the axis of the bottle, a plate fitting against one face of the said head to hold the shanks in place, and a conical speader for moving the jaws outwardly, the said conical spreader in separating the jaws moving in a direction from the shanks to the free ends of the jaws and an encircling spring for moving the jaws inwardly, said spring engaging the outer ends of the shanks within the head, substantially as described.

3. In combination in a device of the class described, the grooved head, jaws having shanks extending at right angles thereto and having inclines extending from the top edges of the shanks downwardly, and a spreader working against the inclined edges of the jaws, the movement of the said spreader being limited to a point above the lower free ends of the jaws, substantially as described.

4. In an apparatus for applying cup-shaped seals to bottles, the combination of a head having a series of radial grooves, jaws depending from the said head and having right-angular shanks moving radially in the said grooves, the said jaws being in contact with each other normally and having inclined edges extending from their contacting parts upwardly in rear of the shanks, a conical spreader having its point directed downwardly and normally above the jaws, and a spring for holding the jaws normally together, said spring engaging the outer ends of the shanks, and being located within the head, the outer edges of the jaws being shaped to conform to the inner surface of the bottle-mouth, substantially as described.

808,557. **GRAIN-SEPARATOR.** LEWIS H. LIVINGSTON, Hennessey, Okla., assignor of one-half to W. M. Sasher, Wichita, Kans. Filed May 7, 1904. Serial No. 206,896.



Claim.—1. In a grain-separator, the combination with threshing mechanism, of a separator located in rear of the threshing mechanism, a fan located at one end of the separator for carrying the material from the same and having a rearwardly-directed blast, straw-carrying mechanism disposed in rear of the separator, and a rotary beater having its journal-axis over the straw-carrying mechanism and below the line of the fan-blast, said beater having its upper portion projecting into said blast.

2. In a grain-separator, the combination with threshing mechanism, of a separator located in rear of the threshing mechanism and including a rotary member, a fan-casing communicating with the separator and having a rearwardly-extending discharge-spout, a fan journaled in the casing, straw-carrying mechanism disposed in rear of the separator, and a rotary beater revolving in the same direction as the rotary member of the separator and having its journal-axis over the straw-carrying mechanism and below the line of the fan-blast from the discharge-spout, said beater having wings, the upper portion of the path of movement of which intersects the blast from the fan.

3. In a grain-separator, the combination with threshing mechanism, of a concave screen-bed located in rear of the same, fan-casings arranged at the ends of the screen-bed and having inlets above the same, a shaft extending longitudinally above the screen-bed and through the casings, fingers carried by the shaft and operating over the screen-bed, fans carried by the shaft and located in the casings, rearwardly-extending discharge-spouts constituting parts of the casings, and a rotary beater journaled in rear of the screen-bed and having its axis of rotation below the spouts, said beater having wings that move rearwardly through the blasts from the fans when in their upper positions.

4. In a grain-separator, the combination with threshing mechanism, of separating means disposed in rear of the same, a straw-carrier, a fan for delivering the material from the separating means, and spaced beaters interposed between the fan and the carrier and having portions located in the blast of said fan, forming between them a passage-way for directing the straw passing from said fan to the carrier.

5. In a grain-separator, the combination with a threshing-cylinder, of separating means located in rear of the same, a straw-carrier disposed in rear of the separating means, a fan for directing material from the separator to the straw-carrier, and upper and lower oppositely-revolving beaters disposed between the fan and carrier, said beaters having portions located in the blast of the fan and spaced apart to form a passage-way for the material delivered from the fan to direct the same to the carrier.

6. In a grain-separator, the combination with the separator-casing, of threshing mechanism, separating means arranged transversely within the separator-casing in rear of the threshing mechanism, rearwardly-discharging fans located at the ends of the separating means, a straw-carrier disposed in rear of the separating means, a beater located in rear of the separating means above the straw-carrier and below the discharge from the fans, and another beater located over the straw-carrier in rear of the first-mentioned beater and in the path of the discharge from the fans, said beaters revolving in opposite directions.

7. In a grain-separator, the combination with threshing mechanism, of a transversely-disposed screen-bed located in rear of the same, fan-casings disposed at the ends of the bed and having inlets thereover, a shaft extending longitudinally over the bed, sets of fingers secured to the shaft and extending in opposite directions toward the casings, and an upstanding rear perforate wall located in rear of the shaft and extending above the horizontal plane of said shaft.

8. In a grain-separator, the combination with threshing mechanism, of a transversely-disposed screen-bed located in rear of the same, fan-casings located at the ends of the bed and having inlets thereover, a shaft extending longitudinally over the bed, sets of fingers secured to the shaft and extending in opposite directions from the central portion thereof at a rearward inclination toward the fan-casing, said shaft and fingers constituting a rotary agitator, and an upstanding rear perforate wall extending from the rear portion of the bed above the horizontal plane of the top of said agitator.

9. In a grain-separator, the combination with separating mechanism, of a stationary fan-casing coacting therewith and having an open side, and a fan operating in the casing and including a disk-head that extends across the open side of the casing and has its peripheral portion overlapping and spaced from the adjacent portion of said casing.

10. In a grain-separator, the combination with separating mechanism, of a fan-casing having an inlet-opening communicating therewith, and a fan operating in the casing and having a plurality of radial plates, said plates having the sides which are located adjacent to the inlet-opening provided with intermediate tapering enlargements, and furthermore having hub-sections that taper toward their outer ends and toward the inlet-opening.

11. In a grain-separator, the combination with threshing mechanism, of separating means, a fan-casing located at one end of the separating means and comprising side walls and a bottom, the bot-

tom inclining downwardly from one side wall toward the other and being provided with a grain-outlet in its lower portion, and a fan journaled in the casing.

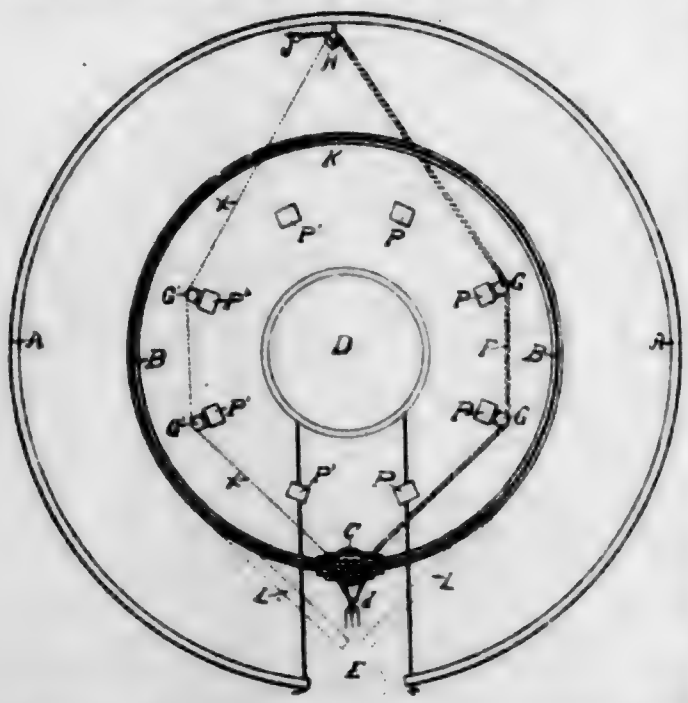
12. In a grain-separator, the combination with threshing mechanism, of separating means, a fan-casing comprising an annular wall having a discharge-outlet, a head constituting one wall of the casing and spaced from a portion of the annular wall, forming therebetween a grain-outlet, and rotatable fan-blades operating in the casing.

13. In a grain-separator, the combination with threshing mechanism, of separating means, a fan-casing comprising an annular wall having a discharge-outlet, and a fan comprising a head constituting one wall of the casing and spaced from the annular wall, forming therebetween a grain-outlet, and blades secured to the head.

14. In a grain-separator, the combination with threshing mechanism, of separating mechanism located in rear of the same, a fan-casing communicating with the separating means and comprising an annular wall the lower portion of which is downwardly inclined, and a fan located within the casing and comprising a head constituting the outer wall of said casing and spaced from the annular wall, forming a grain-outlet, and blades secured to the head and located within the annular wall.

15. In a grain-separator, the combination with a threshing-cylinder and concave, of a transversely-disposed concave screen-bed located in rear of the threshing-cylinder and concave, annular fan-casing walls connected with the ends of the screen-bed and having upwardly and rearwardly extending discharge-spouts, a shaft extending over the screen-bed and passing through the fan-casing, oppositely-extending fingers secured to the shaft and operating over the screen-bed, and heads secured to the shaft in spaced relation to the outer edges of the annular walls, fan-blades secured to the heads and having their outer ends inclined to conform to the inclination of the annular walls, a straw-carrier disposed in rear of the screen-bed, and coacting beaters located above the straw-carrier in rear of the fan.

808,558. HAY-CARRIER APPARATUS. WILLIAM LOUDEN, Fairfield, Iowa. Filed June 5, 1905. Serial No. 263,788.



Claim.—1. In a hay-carrier apparatus, a curved track, a carrier to run on said track, a rope to operate the carrier, and a pulley for the rope having a location at a distance outside of the line of track and central to it, so that the rope passing over the pulley will operate the carrier in either direction on the track.

2. In a hay-carrier apparatus, a curved track, a carrier to run on the track, a rope to operate the carrier, means to hold the rope approximately in line with the portion of the track the carrier runs upon, and a pulley located outside of the line of track and central to it, so that the rope in passing over the pulley will operate the carrier in either direction on the track.

3. In a hay-carrier apparatus, a circular track, a carrier to run on the track, a rope to operate the carrier, means on both sides within the circle of the track to hold the rope approximately in line with the portion of the track the carrier runs upon, and a pulley located outside of the track, so that the rope passing over the pulley will operate the carrier at all points on the track.

4. In a hay-carrier apparatus, a circular track, a carrier to run upon the track, a rope to operate the carrier, vertically-disposed rollers mounted on both sides within the circle of the track so as to hold the rope approximately in line with the portion of the track the carrier runs upon, and a pulley located outside of the track, so that the rope passing over the pulley will operate the carrier at all points on the track.

5. In a hay-carrier apparatus, a curved track, a carrier to run on the track, a rope to operate the carrier, and a vertically-disposed roller mounted adjacent to the inner side of the track but independently of it, and adapted to guide the rope within working distance of the track.

6. In a hay-carrier apparatus, a curved track, a carrier to run on the track, a rope to operate the carrier, a vertically-disposed roller to hold the rope approximately in line with the track, and a flanged cap on the upper end of the roller.

7. In a hay-carrier apparatus, a curved track, a carrier to run on the track a rope to operate the carrier, a vertically-disposed roller to hold the rope approximately in line with the track, castings to receive the bearings of the roller and timbers to embrace and support the castings.

8. In a hay-carrier apparatus, a curved track, a carrier to run on the track, a rope to operate the carrier, a vertically-disposed roller to hold the rope approximately in line with the track, a cap on the upper end of the roller, an upwardly-projecting journal on the cap, an upper casting to receive the journal, a lower casting to support the lower end of the roller, and timbers to embrace and support the castings.

9. In a device of the character described, two sets of spaced-apart timbers, upper and lower castings placed between the timbers and a vertically-disposed roller mounted between the castings.

10. In a device of the character described, a vertically-disposed roller, two sets of spaced-apart timbers, upper and lower castings having T-heads with holes therein to fit between the timbers and support the roller, and bolts to pass through the holes in the T-heads and secure the castings to the timbers.

11. In a device of the character described, a vertically-disposed roller, two sets of timbers depending from an overhead support and braced together below, one set of the timbers having their ends extended down below the brace and the roller being supported between the timbers.

12. In a device of the character described, a vertically-disposed roller, two sets of timbers depending from an overhead support and braced together below, one set of the timbers having their ends extended down below the brace so as to form an angle with the other timbers, and castings to support the roller inserted between the central portion of the short set of timbers and between the downwardly-extended ends of the others.

13. In a device of the character described, two sets of timbers depending from an overhead support and braced together below, the ends of one set of the timbers being extended below the other so as to form an angle, a roller mounted in the angle, and means to prevent a rope from getting below the ends of the downwardly-extended timbers.

14. In a device of the character described, two sets of timbers depending from an overhead support and braced together below, the ends of one set of the timbers being extended below the other so as to form an angle, a roller mounted in the angle, and a downwardly-extending timber connected to the lower ends of said timbers so as to prevent a rope from getting thereunder.

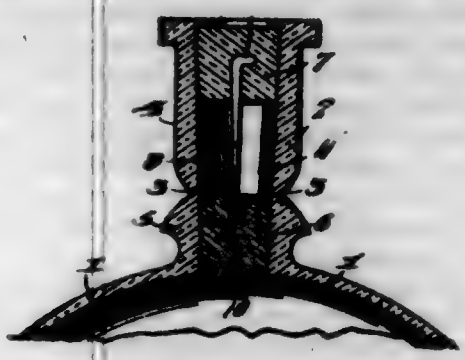
15. In a device of the character described, two sets of timbers depending from an overhead support and braced together below, the ends of one set of the timbers being extended below the other so as to form an angle, a roller mounted in the angle, a downwardly-extending timber connected to the lower ends of said timbers, and a catch on said timber to prevent the rope from dropping below it.

16. In a device of the character described, two sets of timbers depending from an overhead support and braced together below, the ends of one set of the timbers being extended below the other so as to form an angle, a roller mounted in the angle, a downwardly-extending timber connected to the lower ends of said timbers, and a pivoted catch to prevent the rope from dropping below while permitting it to rise above.

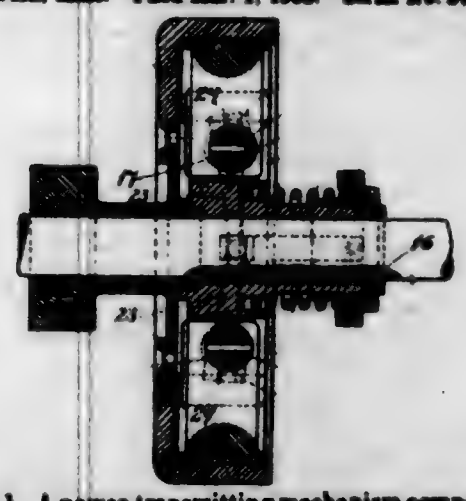
808,559. BOTTLE. HERBERT R. LOVEJOY, Brattleboro, Vt. Filed Mar. 24, 1905. Serial No. 251,806.

Claim.—A bottle having a neck composed of upper and lower sections connected by an intermediate frangible portion, stoppers closing said sections above and below the frangible portion, said stoppers being separated to provide an intervening space, and a

stem having a shouldered end embedded in the upper stepper and having a barbed end to engage and be embedded in the lower stepper.



808,560. POWER-TRANSMITTING MECHANISM. WILLIAM R. MAY, Newton, Mass. Filed Mar. 1, 1905. Serial No. 247,854.



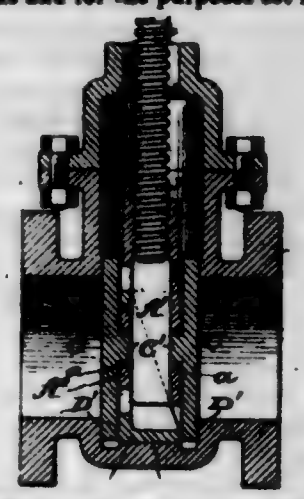
Claim.—1. A power-transmitting mechanism comprising an annular member adapted to receive a shaft, and having an annular friction-face, a sleeve also adapted to receive a shaft and provided with longitudinal guide-grooves, movable shoes having segmental friction-faces opposed to said annular face, eccentrics journaled in bearings on the said shoes, rock-shafts affixed to said eccentrics and journaled in bearings on the sleeve, levers affixed to the rock-shafts and eccentrics and arranged to operate said shoes, a collar mounted to slide on said sleeve, and rods connecting said collar and said levers and sliding in said guide-grooves.

2. A power-transmitting mechanism comprising an annular member adapted to receive a shaft, and having an annular friction-face, a sleeve also adapted to receive a shaft and provided with an annular recess or chamber, movable shoes having segmental friction-faces opposed to said annular face, eccentrics journaled in bearings on the said shoes, rock-shafts affixed to said eccentrics and journaled in bearings on the sleeve, levers affixed to the rock-shaft and eccentrics and arranged to operate said shoes, a collar mounted on said sleeve, connections between said collar and said levers, and a spring encircling said sleeve and interposed between said collar and said annular recess or chamber.

3. A power-transmitting mechanism comprising an annular member adapted to receive a shaft, and having an annular friction-face, a sleeve also adapted to receive a shaft, said sleeve being provided with longitudinal guide-grooves and an annular recess or chamber, movable shoes having segmental friction-faces opposed to said annular face, eccentrics journaled in bearings on the said shoes, rock-shafts affixed to said eccentrics and journaled in bearings on the sleeve, levers affixed to the rock-shafts and eccentrics and arranged to operate said shoes, a collar mounted to slide on said sleeve, rods connecting said collar and said levers and sliding in said guide-grooves, and a spring encircling said sleeve and interposed between said collar and said annular recess or chamber.

808,561. GATE-VALVE. HENRY HELMBOLDT, Reading, Pa., assignor to The Deming Pump & Manufacturing Company, Ltd., Williamsport, Pa., a limited joint-stock company organized under the laws of Pennsylvania. Filed Jan. 29, 1903. Serial No. 141,697.

Claim.—1. The improvement in gate-valves herein described comprising the main or body wedge-block having a longitudinal bore or passage and provided in two opposite sides with openings forming bearings for the trunnions of the valve-disks and having surrounding one of said openings a projection whereon to support the bottom wedge-block and provided on its two other opposite faces with inclined surfaces, the bottom wedge-block having side plates provided with inclined surfaces cooperating with those of the body wedge-block, and a front plate having an opening receiving the projection on the main wedge-block and fitting over said projection whereby the bottom wedge-block may be supported thereon and directly by the main or body wedge-block, the opposite valve disks or plates provided with inwardly-projecting studs turning in the bearings in the body wedge-block and the casing for said valve, all substantially as described, whereby the bottom wedge-block and the valve plates or disks may be supported directly by the body wedge-block substantially as and for the purposes set forth.



2. The combination in the gate-valve with the body wedge-block of the valve disks or plates supported at the opposite sides thereof, and the bottom block supported directly by the body wedge-block and operating between the same and one of the valve plates or disks substantially as set forth.

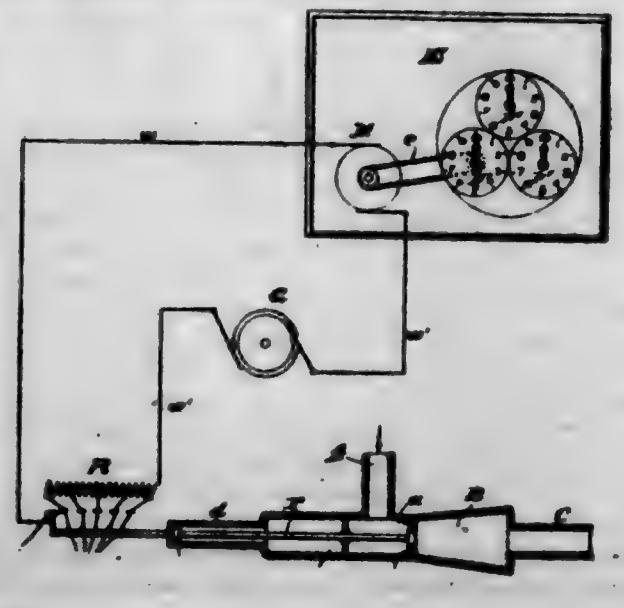
3. The combination of the body wedge-block having a longitudinal opening or bore and provided in its opposite sides with openings leading to said bore and forming bearings for the studs of the valve plates or disks, the valve plates or disks arranged on opposite sides of the body wedge-block and having studs projecting into the bearing-openings thereof, and the bottom wedge-block operating between the body wedge-block and one of the valve-plates and supported directly by the body wedge-block substantially as set forth.

4. The combination in a gate-valve of parallel rotative disks, having journal-studs, the main wedge-block having apertures for the reception of said studs and provided around one of said apertures with a support for the bottom wedge-block, and the bottom wedge-block suspended from said support substantially as and for the purpose set forth.

5. The combination in a gate-valve of the valve-plates and the body or main wedge-block having on one side a projection forming a support for the bottom wedge-block, the bottom wedge-block supported on said projection and having an opening receiving the same and the opposite rotative disks substantially as set forth.

6. The combination of the main wedge-block, the opposite rotative disks, connections between the disks and the main wedge-block, and the bottom wedge-block operating between the main block and one of the disks and supported independently of the connections between the said disks and the body wedge-block whereby the bottom wedge-block is carried by the body independently of the rotative disks.

808,562. ELECTRIC WATER-METER. RICHARD H. MILTON, Reidsville, N. C. Filed Feb. 14, 1905. Serial No. 245,576.



Claim.—1. A water-meter comprising an electrically-operated register located at a distance from the water-taker; combined with circuit-wires, an electric generater, a circuit-closer and a hydraulic moving device for the circuit-closer consisting of a casing with an enlarged end arranged in the water-supply pipe of the water-taker and a longitudinally-moving rod with differential pistons arranged in the case and operated automatically by the discharge of the water through the service-pipes as described.

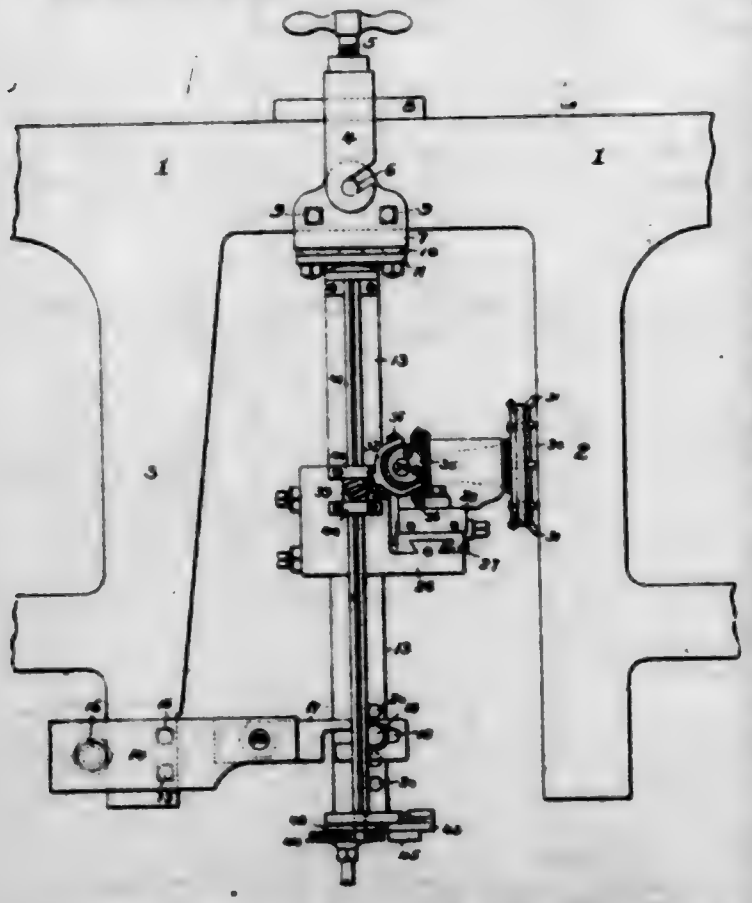
2. A water-meter comprising an electrically-operated register located at a distance from the water-taker, combined with circuit-wires, an electric generater, a circuit-closer having a variable resistance and a hydraulic moving device for the circuit-controller consisting of a casing with an enlarged end arranged in the water-supply pipe of the water-taker and a longitudinally-moving rod with differential pistons arranged in the case and operated automatically by the discharge of water through the service-outlets, said piston-rod having an external brush-contact for the variable resistance, substantially as described.

3. A water-meter comprising a register and a hydraulic actuating device for the register consisting of a receiving-chamber having an inlet for water, a valve-seat with enlarged chamber at one end of the receiving-chamber and a cylinder of relatively small diameter at the other end, a piston-rod with a large piston-valve on one end arranged to coöperate with the valve-seat and a small piston on the other end working in the cylinder, and means for connecting the piston-rod to the register substantially as described.

4. A water-meter comprising an electric register, an electric circuit and generator for the same, a rheostat with graduated resistances and contact-plates, a sliding brush arranged to contact with and move over the said plates, a piston-rod attached to the brush and bearing two pistons of different diameters and a receiving-chamber having a valve-seat and enlarged chamber for the large piston at one end, a cylinder of smaller diameter for the small piston and a water-inlet substantially as shown and described.

5. A water-meter comprising a register and a hydraulic actuating device for the register consisting of a receiving-chamber having an inlet for water, a valve-seat at one end of the receiving-chamber, an enlarged conical chamber diverging from the valve-seat and a cylinder at the other end of smaller diameter than the valve-seat, a piston-rod with a large piston playing in the conical receiving-chamber and a small piston at the other end working in the cylinder, said pistons and rod having an extent of movement varying with the volume of the flow of water as described.

808,563. MACHINE FOR FACING PEDESTAL-LEGS OF LOCOMOTIVE-ENGINE FRAMES. GEORGE T. MOORE, Roanoke, Va. Filed June 2, 1905. Serial No. 263,468.



Claim.—1. In a machine for facing the pedestal-legs of locomotive-frames, the combination of a facing-bar, means for securing the same to the frame between the pedestal-legs and in a position parallel with the leg to be faced, a slide on said bar, a cutter-head carried by said slide, means for rotating said cutter-head, and means for traversing the slide on the facing-bar, substantially as described.

2. In a machine for facing the pedestal-legs of locomotive-frames, the combination of a facing-bar, clamping devices mounted on the frame and to which said bar is pivoted, so that it can be adjusted parallel either with a straight or an inclined face of a pedestal-leg, a slide on said bar, a cutter-head mounted on said slide, means for rotating said cutter-head, and means for traversing the slide on said facing-bar, substantially as described.

3. In a machine for facing the pedestal-legs of locomotive-frames, the combination of a facing-bar, clamping devices for securing the same to the frame in a position parallel with the face of the pedestal-leg, a slide on said facing-bar, a cutter-head, means for rotating the latter, means for traversing a slide on the facing-bar, a slide carrying the cutter-head spindle, and a slide mounted upon the facing-bar slide and carrying the cutter-head slide, one of said slides being adjustable across the facing-bar slide and the other being adjustable from and toward the said facing-bar, substantially as described.

4. In a machine for facing pedestal-legs of locomotive-frames, the combination of a facing-bar carrying a cutter-head, a clamping device engaging the upper portion of the frame, and having a horizontal pivot to which the upper end of the facing-bar is hung, and a clamp for the lower end of the facing-bar, said clamp being slotted to permit of the securing of the facing-bar thereto in different positions of adjustment, substantially as described.

5. In a machine for facing the pedestal-legs of locomotive-frames, the combination of a facing-bar, a rotary cutter-head carried thereby, a clamp engaging the upper portion of the frame, means for hanging the facing-bar thereto so that it is capable of rotation about its vertical axis, and means for securing the lower portion of the facing-bar to the frame in either of its positions of adjustment, substantially as described.

6. In a machine for facing the pedestal-legs of locomotive-frames, the combination of a facing-bar, a rotary cutter-head carried thereby, a clamping device engaging the upper portion of the frame and having both a vertical and horizontal pivotal connection with said facing-bar, and means for clamping the lower portion of the facing-bar to the frame in either position of adjustment of the same, substantially as described.

7. In a machine for facing the pedestal-legs of locomotive-frames, the combination of a facing-bar, a rotary cutter-head carried thereby, a clamping device for the upper end of said bar, said clamping device comprising a yoke with hooked legs and clamping-screw, and a plate having pins for engaging the hooked legs of the yoke, substantially as described.

8. In a machine for facing the pedestal-legs of locomotive-frames, the combination of a facing-bar, a rotary cutter-head carried thereby, a clamping device for the upper end of said bar, said clamping device comprising a yoke-shaped plate the legs of which are adapted to embrace the sides of a locomotive-frame from beneath, and clamping-screws passing through the legs of the yoke for engaging the sides of the frame, substantially as described.

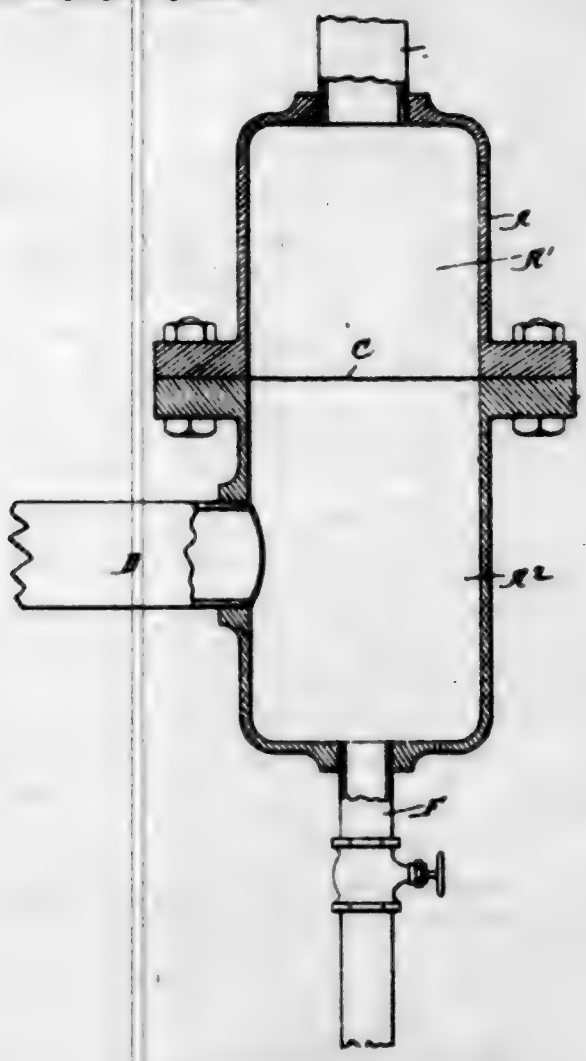
9. In a machine for facing the pedestal-legs of locomotive-frames, the combination of a facing-bar, means for clamping the same to the frame, a slide mounted upon said bar and carrying a rotary cutter-head, a drive-shaft therefor, a feed-screw mounted on the bar and engaging with a nut on said slide, a rock-shaft also mounted on the facing-bar, means whereby rocking movement is imparted to said shaft from the driving-shaft of the cutter-head, a ratchet-wheel on the feed-screw, a pawl engaging said ratchet-wheel, and means whereby the rock-shaft is caused to impart movement to said pawl, substantially as described.

10. In a machine for facing the pedestal-legs of locomotive-frames, the combination of a facing-bar, means for clamping the same into position with the frame, a slide on said bar, a rotary cutter-head mounted on said slide, a drive-shaft for said cutter-head, a rock-shaft mounted on said facing-bar, a feed-screw engaging said slide, an eccentric on the driving-shaft, a connection pivoted at one end to the eccentric-sleeve and at the other end to the rock-shaft arm, and connections between said feed-screw and driving-shaft substantially as described.

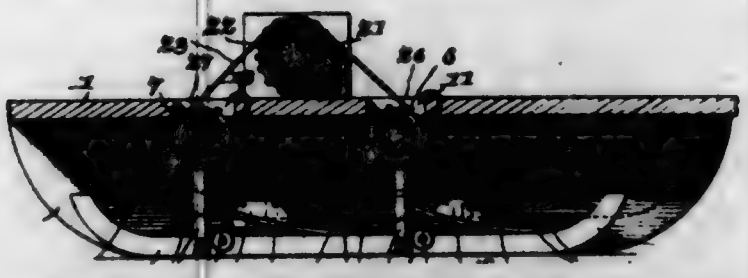
808,564. STEAM-PURIFIER. DUNBAR L. MCCORKINDALE, Holyoke, Mass. Filed July 12, 1905. Serial No. 269,413.

Claim.—In a steam-purifier, a hollow casing made in two parts, the meeting edge of each part provided with a flange, said flanges

adapted to be bolted together to secure the two parts of the casing together, a sheet of fine wire-cloth clamped between the flanges and dividing the interior of the casing into an upper and lower chamber, an inlet steam-pipe leading into the lower chamber through one side thereof a distance above the lower end, an outlet steam-pipe leading from the upper chamber at the extreme upper end thereof, a drain-pipe leading from the extreme lower end of the lower chamber, as and for the purpose specified.



808,565. TRACTION-SLED. JAMES MCGILLIS, Chippewa Falls, Wis. Filed Feb. 21, 1905. Serial No. 246,789.



Claim.—1. In a traction-sled, the combination with a frame supported on fixed runners, of a crank-shaft, a movable runner, a spring-hanger connecting the crank and the movable runner, and means to drive the shaft.

2. In a traction-sled, the combination with a runner-supported frame, of a crank-shaft, means to drive the shaft, a movable runner, a spring-hanger having one end connected to the runner and its opposite end connected to the crank, and a guard member carried by the runner and loosely embracing the hanger.

3. In a traction-sled, the combination with a frame supported on fixed runners, of a movable runner, a crank-shaft upon the frame, means to drive the shaft, a spring-hanger connecting the crank and the movable runner, a guideway, and means upon the movable runner to engage the guideway and support the movable runner in an elevated position when traveling forward.

4. In a traction-sled, the combination with a frame having a fixed runner, of a movable runner working at one side of the fixed runner, means for working the movable runner back and forth, a cam-track carried by the fixed runner, and a guide member carried by the movable runner and working upon the track during the forward movement of the movable runner to elevate the same.

5. In a traction-sled, the combination with a runner-supported frame, of a movable runner, a crank-shaft, means for driving the crank-shaft, a flexible hanger connected to the crank and the runner, a guide member carried by the runner, and a track located in the forward path of the guide member to elevate the movable runner during its forward movement.

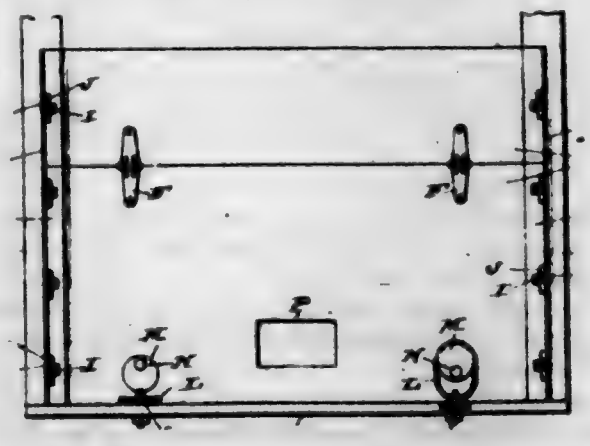
6. In a traction-sled, the combination with a frame having a pair of fixed runners, a pair of shafts mounted transversely of the frame and provided with cranks respectively located at the inner and outer sides of the individual runners, the members of each pair of cranks being disposed at opposite sides of the adjacent shaft, means for simultaneously rotating the shafts in the same direction, movable runners working back and forth at opposite sides of the respective fixed runners, spring-links having their forward ends connected to the respective movable runners and inclined upwardly and rearwardly therefrom with their upper ends pivotally connected to the adjacent cranks, looped guards carried by the movable runners and loosely embracing the respective spring-links, antifriction guide-rollers carried by the movable runners and located between the latter and the respective fixed runners, and tracks carried upon opposite sides of the fixed runners and located in the paths of the forward movements of the rollers to elevate the movable runners when moving forwardly.

7. In a traction-sled, the combination with a frame supported on fixed runners, of a movable runner, a crank-shaft upon the frame, a spring-hanger connecting the movable runner and the crank, a guideway upon the fixed runner, and a guide carried by the movable runner and working upon the upper side of the guideway to support the movable runner in an elevated position when moving forwardly, and running at the under side of the guideway during the rearward movement of the runner to prevent elevation thereof.

8. In a traction-sled, the combination of fixed runners, movable runners working at opposite sides of each fixed runner, means for raising and lowering and at the same time working the movable runners back and forth, guide members carried by opposite sides of the movable runners, tracks carried upon opposite sides of the fixed runners for coöperation with adjacent guides of the movable runners, and other tracks supported at the outer sides of the movable runners in coöperative relation with the adjacent guides.

9. In a traction-sled, the combination with a fixed runner having a substantially horizontal frame extending around the top thereof, of movable runners working at opposite sides of the fixed runner, means to raise and lower and at the same time work the movable runners back and forth, tracks upon opposite sides of the fixed runner, tracks hung from the frame at the outer sides of the movable runners, and guide members carried by opposite sides of the movable runners for engagement with the respective tracks.

808,566. GRAIN-CAR DOOR. WILLIAM H. MCMAGNEN, Superior, Wis. Filed Jan. 25, 1905. Serial No. 242,637.



Claim.—1. In combination with a grain-car and door, links secured in the floor of the car inside of the door, and eccentrics journaled on the door having the edges of their widest part provided with grooves to receive the links and the edge of the narrowest part tapered, substantially as shown and described.

2. In combination with a grain-car and its door-casing, links secured in the sides of the casing and also in the floor of the car, a door having slots in its ends to receive the links in the casing, and eccentrics journaled on the door to engage said links, said eccentrics having their widest parts provided with grooved edges and the narrowest part tapered, substantially as shown and described.

3. In combination with a grain-car and its door-casing, links secured in the sides of the casing and also in the floor of the car, a door having slots in its ends to receive the links in the casing, keys to fit in said links, and eccentrics journaled on the door to receive said

links, said eccentrics having their widest parts provided with grooved edges and the narrowest part tapered, substantially as shown and described.

4. In combination with a grain-car and its door-casing, vertical beads on the sides of said casing, links secured adjacent to said beads, the floor of the car having a groove adjacent to the door-casing, links secured to the floor adjacent to said groove, and a door having grooves adjacent to its side edges to fit the beads on the casing and slotted to receive the links on the casing, the bottom of said door adapted to seat in the groove in the floor, and eccentrics journaled on the door and adapted to engage the links secured to the floor, said eccentrics having their widest parts provided with grooved edges and the narrowest part tapered, substantially as shown and described.

5. In combination with a grain-car and its door-casing, metal strips secured on the casing and bent to form V-shaped beads, links secured to said casing, the floor of the car having a groove therein adjacent to the door-casing, links secured to the floor adjacent to said groove, and a door made in two parts pivotally connected together and having V-shaped grooves adjacent to its side edges to fit the V-shaped beads on the casing and the end of the door slotted to receive the links on the casing, a strip of metal secured to the sides of the door and turned outwardly to form a flange at each end of the door, keys adapted to seat in the ends of the links protruding from the slots in the door, the bottom of the door adapted to seat in the groove in the floor, eccentrics journaled on said door and having the edge of their broad part grooved to receive the links secured to the floor, the narrow parts of said eccentrics being tapered, an opening in the door, and a plate adapted to be secured over said opening, substantially as shown and described.

808,567. BOTTLE SEAL OR CLOSURE. CHARLES E. MCMANUS, New York, N. Y., assignor to The Charles E. McManus Company, New York, N. Y. Filed Dec. 9, 1904. Serial No. 236,222.



Claim.—1. In a bottle-seal, a bottle having a seal-receiving groove, a seal seated in said groove, and means forming a tongue-and-groove connection between the seal and wall of the groove.

2. In a bottle-seal, a bottle having a seal-receiving groove, a seal seated in said groove, and means within the groove for expanding the edge of the seal and fastening it in said groove.

3. A bottle having a seal-receiving recess, a seal having its edge seated in said recess, and means within the recess and engaging the edge of the seal to secure it in position.

4. A bottle having a seal-receiving recess, a seal expanded into said recess, and means for automatically auxiliarly fastening the edge of the seal upon the expansion of the same into the recess.

5. A bottle having a seal-receiving recess, a seal having its edge inserted in the said recess, and a tongue in the recess dividing the edge of the seal and pressing the divided portions into engagement with the walls of the recess.

6. A bottle having a seal-receiving recess provided with a tongue therein to groove the edge of a seal and form a locking connection between the bottle and seal.

7. A bottle having a seal-receiving groove or recess provided with a tongue having a dividing edge to divide or groove the edge of an inserted seal.

8. A bottle having a seal-receiving recess, the lower wall of the recess extending inwardly beyond the plane of the upper wall thereof and forming a seat, and a tongue within the recess and between said walls, and a seal having its edge inserted in said recess and divided by the tongue, the divided portion of the edge of the seal being clamped by the tongue against the walls and seat of the recess.

9. A bottle having a seal-receiving groove or recess provided with a tongue for grooving and clamping the edge of a seal therein.

10. A bottle having a receiving-recess, a seal having its edge seated in said recess, and means in said recess for simultaneously forming a locking connection with the seal and clamping the same against the walls of the recess.

11. A bottle having a seal-receiving groove or recess provided with means for retaining the edge of a seal therein.

12. A bottle having a seal-receiving groove or recess provided with means for clamping the edge of a seal therein.

13. A bottle having a seal-receiving groove or recess provided with means for grooving and clamping the edge of a seal.

14. A bottle having a seal-receiving groove or recess provided with means for holding the edge of a seal therein in compressed condition.

15. A bottle having a seal-receiving recess provided with means for grooving the edge of a seal and clamping the wings of the grooved portion against the walls of the recess.

16. A bottle having a seal-receiving recess provided with a seal grooving and holding tongue between its upper and lower walls, an inward extension of its lower wall forming a supporting-seat.

17. In a bottle-seal, a bottle having a seal-receiving groove, a seal having its edge seated in said groove, and means in the groove for fastening the edge of the seal therein.

18. A bottle having a seal-receiving recess provided with a seal engaging and retaining tongue set back from the entrance to said recess.

19. A bottle having a seal-receiving recess, a seal seated therein, and means for peripherally interlocking the seal with the wall of the bottle within the recess.

20. A bottle having a seal-receiving recess formed with top and bottom walls, and an integral seal engaging and retaining device intermediate said walls.

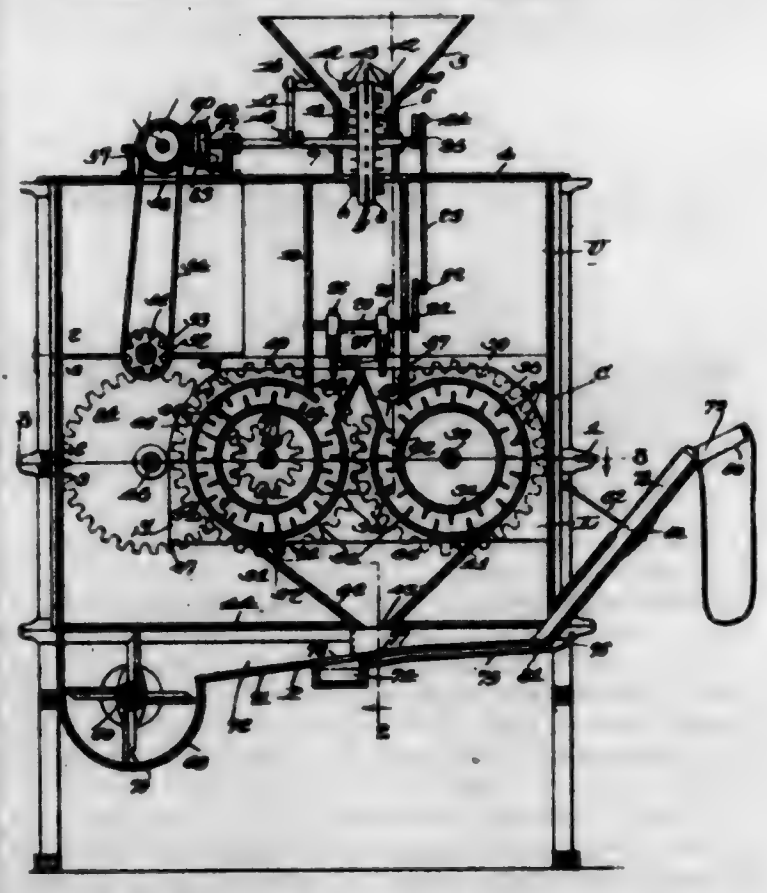
21. A bottle having a seal-receiving recess, a seal seated therein, and means within the recess for expanding and wedging the edge of the seal therein.

22. A bottle having a seal-receiving recess, a seal seated therein, and means whereby the action of inserting the seal both seats and locks the edge thereof within the recess.

23. A bottle having a seal-receiving recess, and a seal-fastener arranged in the recess and adapted to engage and fasten the edge of a seal upon the insertion of the same therein.

24. A bottle having an outlet provided with a seal-receiving recess opening at its inner side into the outlet-passage, a seal inserted by expansion into said recess to close the outlet-passage, and means to lock the edge of the seal within the recess when said seal is expanded therein.

808,568. PEA-HULLING MACHINE. HENRY H. MCMURRY, Pedee, Ark. Filed June 6, 1905. Serial No. 264,039.



Claim.—1. A feed-hopper, a toothed disk supported for rotation therein, and toothed slides supported for reciprocation adjacent to the disk.

2. A feed-hopper having a throat, a toothed disk supported for rotation in the throat and extending into the hopper, toothed slides supported for reciprocation in the hopper adjacent to the disk, a bracket upon the hopper, a lever supported upon said bracket and connected pivotally with the slides, and means for operating the lever.

3. In a pea-huller, hulling mechanism comprising a pair of cylindrical casings having discharge-slots in their lower portions and receiving-slots connected by a deflector, an expansion-chute connect-

ed with the receiving-slots, oscillatory feed mechanism in said expansion-chute, and means for supplying material to the latter.

4. In a pea-huller, a hopper having a throat, a shaft supported for rotation in said throat, a feed-disk upon said shaft, hulling mechanism, an expansion-chamber connecting the casing of the hulling mechanism with the throat of the hopper, a rock-shaft in said expansion-chamber, feeders upon said rock-shaft adjustable in alinement with inlets in the casing of the hulling mechanism, and means for transmitting motion from the disk-carrying shaft in the throat of the hopper to the rock-shaft carrying the feeders.

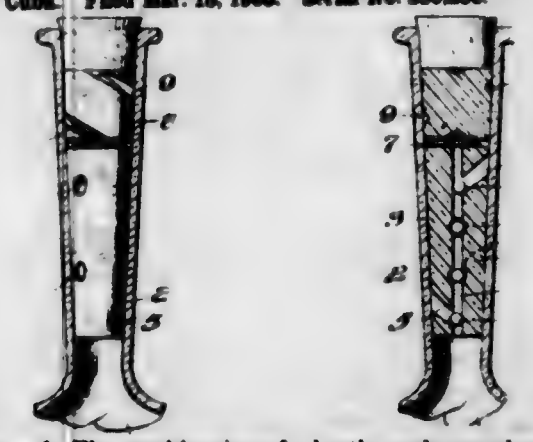
5. In a pea-huller, the combination with hulling mechanism, of a fan, a throat extending from the casing of said fan and having an inclined bottom provided with a transverse slot, a chute beneath said slot, means for conveying the material operated upon by the hulling mechanism into said throat in rear of the slot, and an apron supported beneath the rear portion of the bottom of the throat; said apron having an upturned lip at its rear end and connected at its front end with a slot in the chute.

6. A huller-casing having a floor, a separator-casing supported beneath said floor and having an inclined bottom provided with a transverse slot, a chute beneath said slot, means for conveying material from within the huller-casing into the separator-casing, means for intercepting valuable material at the rear end of the separating-casing and returning said material to the discharge-chute, a tubular outlet adjustably connected with the rear end of the separator-casing, a bag-holder connected with said tubular outlet, and a screen connected with the bag-holder.

7. A separator-casing having a throat, an apron supported beneath said throat and having an upturned lip, and a tubular discharge member having notches engaging said lip.

8. A separator-casing having a throat, an apron supported beneath said throat and having an upturned lip, and a tubular discharge member having notches engaging and a bottom portion resting upon said lip.

808,569. **NON-REFILLABLE BOTTLE.** HUGO L. NORMAN, Havana, Cuba. Filed Mar. 15, 1905. Serial No. 250,266.



Claim.—1. The combination of a bottle, a closure therefor having a longitudinal opening therethrough, and having lateral openings leading from the longitudinal opening, and valves mounted in said lateral openings.

2. In a non-refillable bottle, the combination of a bottle, and a closure therefor comprising a body having a longitudinal opening therethrough, and valves located at sides of the longitudinal opening at intervals in its length and adapted to close said longitudinal opening, said valves being out of longitudinal alinement.

3. The combination of a bottle, a closure therefor having a longitudinal opening therethrough, and having inclined lateral openings leading from the longitudinal opening, and gravity-operating valves mounted in said inclined lateral openings.

4. The combination of a bottle, a closure therefor having a longitudinal opening therethrough, and having lateral openings leading from the longitudinal opening, and valves adapted to close the longitudinal opening and operating in the lateral openings as specified.

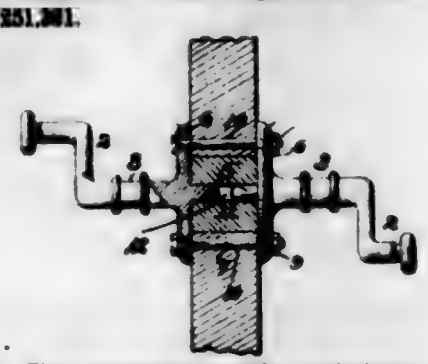
5. A closure for bottles or like receptacles comprising a body having a longitudinal opening therethrough, the body having lateral openings leading from the longitudinal opening and arranged out of longitudinal alinement, and valves operating in said lateral openings and adapted to close the longitudinal opening.

6. A closure for bottles comprising a body having a longitudinal opening therethrough, the body having lateral openings leading from the longitudinal opening and arranged at intervals in the length of the body of the closure, said lateral openings being out of longitudinal alinement, and valves operating in the lateral openings and adapted to close the longitudinal opening.

7. A closure for bottles or like receptacles comprising a body having a longitudinal opening therethrough, the body having lateral openings extending from the longitudinal opening and arranged out of longitudinal alinement, valves operating in said lateral openings, and an auxiliary valve at an extremity of the closure.

8. The combination of a bottle provided with a neck, a closure in said neck comprising a body provided with a longitudinal opening therethrough, an inwardly-closing valve at the upper and outer extremity of the opening aforesaid, the body of the closure being provided with lateral openings extending from the longitudinal opening, ball-valves operating in the lateral openings aforesaid, and guard means for the closure.

808,570. **DEVICE FOR HANGING AND CENTERING GRINDSTONES.** JAMES H. NORRELL, Augusta, Ga. Filed Mar. 22, 1905. Serial No. 251,261.



Claim.—1. The combination with a grindstone, of disks embracing the vertical faces of said stone, crank-shafts integral with said disks, and means for clamping said disks to the said stone.

2. The combination with a grindstone, of disks embracing the vertical faces of said stone, lugs projecting from the center of the inner faces of said disks into the grindstone and centering the same, crank-shafts extending outwardly from said disks, and means for clamping said disks to the stone.

3. The combination with a grindstone, of disks embracing the vertical faces of said stone, integral crank-shafts extending outwardly from said disks, an integral lug extending inwardly from the center of said disk into the grindstone and centering the same, and means for clamping said disks to the stone.

4. The combination with a grindstone having a central opening, disks embracing the vertical faces of said stone, integral crank-shafts extending outwardly from said disks and means extending into the central opening of the stone for supporting and centering the same.

5. The combination with a grindstone having a central opening therethrough, a filling-block fitted in said opening, disks embracing the vertical faces of said stone, an integral lug projecting inwardly from the center of each disk into the filling-block to support and center the stone, crank-shafts integral with each disk and extending outwardly therefrom, and means for clamping said disks to the grindstone.

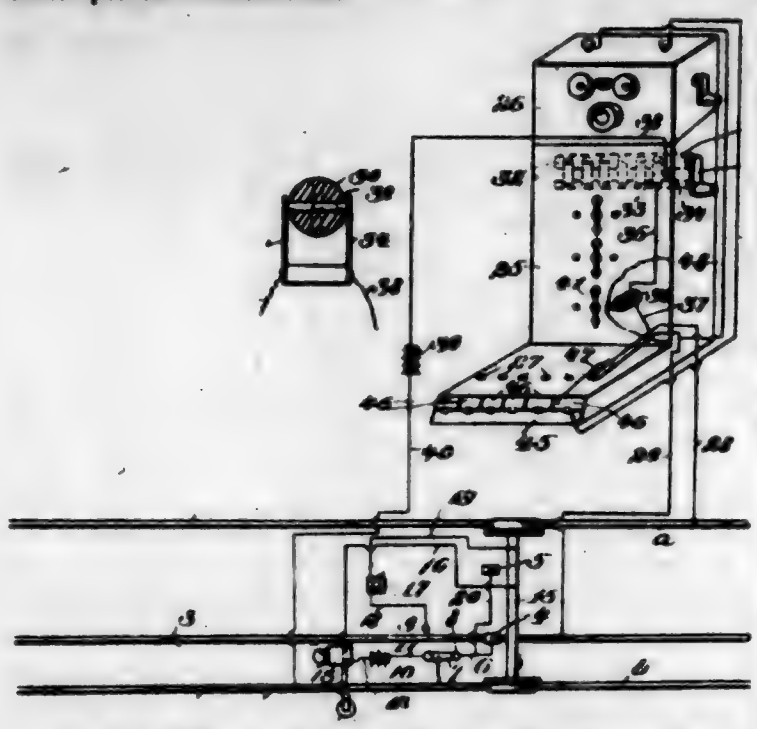
808,571. **ELECTRIC SIGNALING SYSTEM.** CHARLES O. OTWELL and IRA H. MELVIN, Laurel, Del. Filed Feb. 24, 1905. Serial No. 247,155.

Claim.—1. In an electric signaling system, the combination of track-rails arranged in blocks, a conductor-rail separate from the track-rails, a switch, the terminals of which are electrically connected with track-rails composing a block, an electrically-operated device in series with said switch, a telephone and a circuit-controller in series with each other and electrically connected with said conductor-rail and one of the track-rails composing said block, and a movably-mounted member arranged for operation by said electrically-operated device, the two constituting an index or indicator.

2. In an electric signaling system, the combination of track-rails arranged in blocks, a conductor-rail separate from the track-rails, a switch, the terminals of which are electrically connected with track-rails composing a block, an electrically-operated device in series with said switch, a telephone and a circuit-controller in series with each other and electrically connected with said conductor-rails and one of the track-rails composing said block, a movably-mounted member arranged for action by said electrically-operated device, the two constituting an index or indicator, a vehicle the wheels of which are arranged to travel upon said rails, conducting connections connected with the vehicle, having a telephone and a signal, and a switch on the vehicle to put the signal or telephone into action.

3. In an electric signaling system, the combination of track-rails in insulated alternating conducting-sections, a conductor-rail

between said sections, a vehicle, the wheels of which are arranged to travel upon said track-rail, contacts on the vehicle to alternately engage the conductor-rail, a contact, an electrical connection between said contact and a part of the vehicle, involving a telephone, a second contact, electrical connections between the second contact and part of the vehicle, involving a battery and signal, a switch to alternately engage said two last-mentioned contacts, and electrical connections between the switch and the contacts which alternately travel upon the conductor-rail.



4. In an electric signaling system, the combination of track-rails in insulated alternating conducting-sections, a conductor-rail between, and at one side of a center line between, said sections, a vehicle, the wheels of which are arranged to travel upon said rails, trailing contacts on the vehicle to alternately engage said conductor-rail, conducting connections connected with the vehicle, having a telephone, conducting connections also connected with the vehicle, having a signal, and a switch electrically connected with the said trailing contacts and operative to put either of the conducting connections into electrical connection therewith.

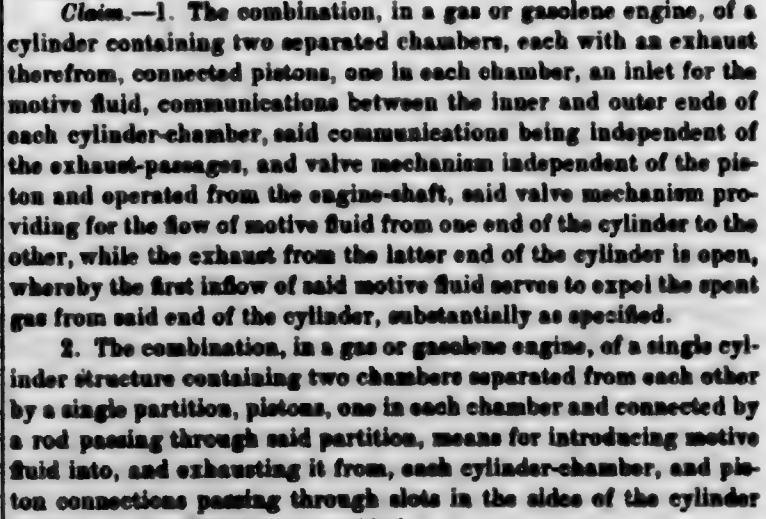
5. In an electric signaling system, the combination of track-rails arranged in blocks, a conductor-rail separate from the track-rails, a switch, the terminals of which are electrically connected with track-rails composing a block, an electromagnet in series with said switch, a telephone and a push-button in series with each other and electrically connected with said conductor-rail and one of the said track-rails composing a block, and a movably-mounted member having an armature for said electromagnet, the two constituting an index device.

6. In an electric signaling system, the combination of track-rails arranged in blocks, a conductor-rail separate from the track-rails, a switch, the terminals of which are electrically connected with track-rails composing a block, an electromagnet in series with said switch, a telephone and a push-button in series with each other and electrically connected with said conductor-rail and one of the said track-rails composing a block, a movably-mounted member having an armature for said electromagnet, the two constituting an index device, and a vehicle having electric conducting means for bridging the conductor-rail and the track-rails, said connections involving a signal and a telephone, and a switch for putting the telephone and signal on the vehicle alternately into action.

7. In an electric signaling system, the combination of track-rails arranged in insulated conducting and alternating sections, a conductor-rail between the track-rails, a vehicle to travel upon the track-rails and having a trailing contact to engage said conductor-rail, connections between two opposite rail-sections constituting a block, involving an electromagnet, a switch for opening and closing the circuit embracing said connections, an index device cooperative with said magnet and carrying an armature for said magnet, connections between the conductor-rail and a track-rail section, involving a telephone, a manually-operable switch electrically connected with a track-rail section and conductor, and electrical means on the vehicle for bridging the conductor-rail and a track-rail section, involving a telephone and a signal, and means for putting them alternately into action.

8. In an electric signaling system, the combination of track-rails arranged in blocks, a conductor-rail intermediate the track-rails, a manually-operable switch connected with a block-rail and conductor-rail, connections between the cooperative track-rails forming a block, involving an electrically-operated device, an index having an armature for the electrically-operated device, a switch for opening and closing the circuit embracing said connections, connections between a track-rail and a conductor-rail, including a telephone, a vehicle having electric conducting means for bridging the conductor-rail and a track-rail, said connections involving a signal and a telephone, and a switch for putting the telephone and signal alternately into action.

808,572. GAS OR GASOLENE ENGINE. JOHN PALMER, Philadelphia, Pa., assignor, by direct and mesne assignments, to F. S. Rutschmann, trustee, Philadelphia, Pa. Filed July 16, 1904. Serial No. 216,841.



Claim.—1. The combination, in a gas or gasolene engine, of a cylinder containing two separated chambers, each with an exhaust therefrom, connected pistons, one in each chamber, an inlet for the motive fluid, communications between the inner and outer ends of each cylinder-chamber, said communications being independent of the exhaust-passages, and valve mechanism independent of the piston and operated from the engine-shaft, said valve mechanism providing for the flow of motive fluid from one end of the cylinder to the other, while the exhaust from the latter end of the cylinder is open, whereby the first inflow of said motive fluid serves to expel the spent gas from said end of the cylinder, substantially as specified.

2. The combination, in a gas or gasolene engine, of a single cylinder structure containing two chambers separated from each other by a single partition, pistons, one in each chamber and connected by a rod passing through said partition, means for introducing motive fluid into, and exhausting it from, each cylinder-chamber, and piston connections passing through slots in the sides of the cylinder structure, substantially as specified.

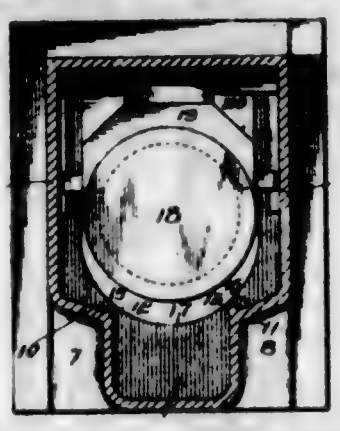
3. The combination, in a gas or gasolene engine, of a single cylinder structure containing two pairs of piston-chambers, each pair with single partition between them, a piston in each piston-chamber, each pair of pistons being connected by a rod passing through the partition between the corresponding piston-chambers, a valve-chest located between the two pairs of piston-chambers, a valve in said chest, and passages whereby said valve is caused to control the flow of motive fluid into the inner end of each piston-chamber, and from the inner to the outer end of the same, substantially as specified.

4. The combination, in a gas or gasolene engine, of a cylinder having two separated chambers, each with exhaust therefrom, connected pistons, one in each of said chambers, a valve-chest having a motive-fluid inlet, passages leading from said valve-chest to one end of each cylinder-chamber, other passages leading from said valve-chest to the other end of each cylinder-chamber, and a valve having

disks which alternately open and close said passages, substantially as specified.

5. The combination, in a gas or gasolene engine, of a cylinder containing separated chambers, each with exhaust therefrom, connected pistons, one in each of said chambers, a valve-chest having a motive-fluid inlet, passages connecting said valve-chest with one end of each cylinder-chamber, other passages connecting the valve-chest with the other end of each cylinder-chamber, and a valve having four disks, the inner disks coöperating with the passages to govern the flow of motive fluid into one end of each cylinder-chamber, and from one end of the same to the other, and the end disks serving as traveling heads for the valve-chest, substantially as specified.

808,573. JOURNAL-BOX. JAMES S. PATTEN, Baltimore, Md. Filed Mar. 21, 1905. Serial No. 251,296.



Claim.—1. A journal-box for railway-cars having waste-supporting portions that converge downwardly and approach the journal in the direction of their lower edges, said waste-supporting portions having oil-receiving pockets.

2. A journal-box for railway-cars having waste-supporting portions that converge downwardly and approach the journal in the direction of their lower edges, said waste-supporting portions having each an oil and waste receiving pocket therein, exposed to waste upon the supporting portion.

3. A journal-box for railway-cars having waste-supporting portions and an intermediate oil-receiving reservoir, said waste-receiving portions converging downwardly and having oil-receiving pockets in their upper faces.

4. A journal-box for railway-cars having waste-supporting portions each having a plurality of transverse ribs and resultant pockets, the upper faces of the ribs at opposite sides of the box converging downwardly.

5. A journal-box for railway-cars having waste-supporting portions that converge downwardly of the box and approach the journal in the direction of their lower edges, each of said waste-supporting portions having a plurality of transverse ribs that are tapered in the direction of the lower edge of the waste-supporting portion, and resultant oil-receiving pockets.

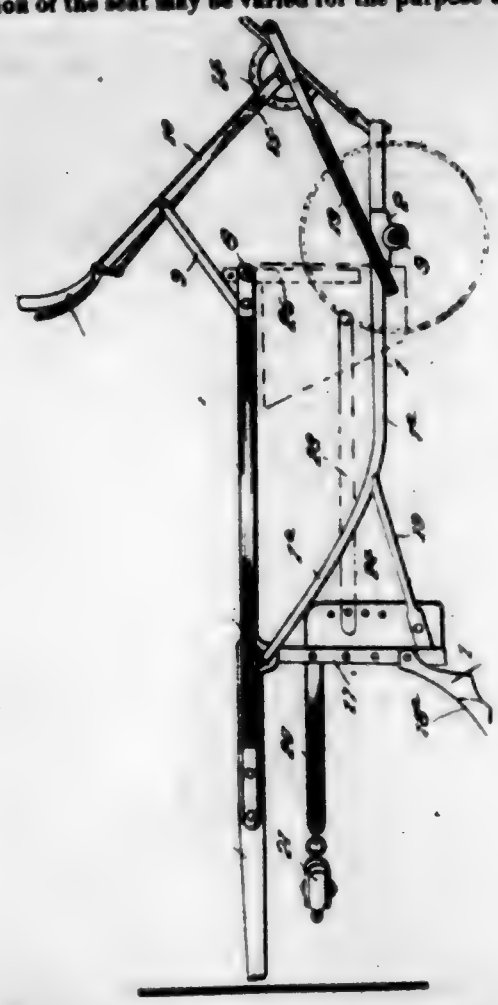
808,574. RIDING-FRAME FOR IMPLEMENTS. ALSON Q. PLUMMER, Morse, Tex. Filed Aug. 22, 1905. Serial No. 275,270.

Claim.—1. A riding-frame for implements comprising side bars and end bars, a tongue attached to the front portion of said frame, a supporting-axle at the rear portion of the frame, wheels for said axle, brace-rods connected with the tongue, and adjustable means mounted on the frame and connected with the brace-rods for adjusting the relative positions of the tongue and frame.

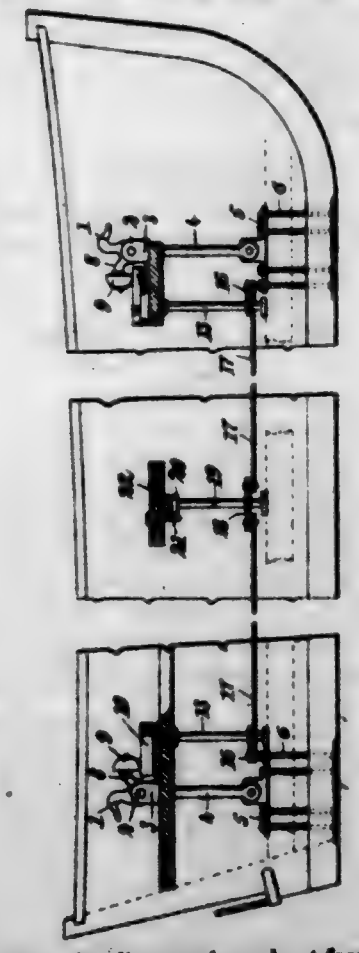
2. A riding-frame for implements comprising side bars and end bars, a tongue attached to the front portion of said frame, a supporting-axle at the rear portion of the frame, wheels for said axle, brace-rods connected with the tongue, a lever pivoted to the rear portion of the frame and connected with the brace-rods, and means for adjusting the position of the lever to vary the relative positions of the tongue and frame.

3. A riding-frame for implements comprising side bars and end bars, a tongue attached to the front portion of said frame, a supporting-axle at the rear portion of the frame, wheels for said axle, brace-rods connected with the tongue, adjustable means mounted on the frame and connected with the brace-rods for adjusting the relative positions of the tongue and frame, a seat-post projecting upward from the rear portion of the frame, a seat supported thereon, and means for adjusting the position of the seat.

4. A riding-frame for implements comprising side bars and end bars, a tongue attached to the front portion of said frame, a supporting-axle at the rear portion of the frame, wheels for said axle, brace-rods connected with the tongue, an adjustable lever mounted on the frame and connected with the brace-rods for adjusting the relative positions of the tongue and frame, a seat-post projecting upward from the rear portion of the frame, a seat supported thereon, means for adjusting the position of the seat, and an adjustable brace connecting the seat with the sides of the frame aforesaid, whereby the position of the seat may be varied for the purpose specified.



808,575. MEANS FOR RELEASING BOATS FROM THEIR FALLS AT BOTH ENDS SIMULTANEOUSLY. GEORGE S. A. RANKINE, Calcutta, India. Filed Apr. 17, 1905. Serial No. 256,007.



Claim.—1. Means for disengaging a boat from its falls, consisting of pivoted hooks, arms on the back of said hooks, cams engaging said arms, and means for simultaneously operating said cams.

2. Means for disengaging a boat from its falls, consisting of pivoted hooks, arms on the backs of said hooks, rollers mounted on said arms, cams engaging said rollers, and means for simultaneously operating said cams.

3. Means for disengaging a boat from its falls, consisting of pivoted hooks, arms on the backs of said hooks and integral therewith, rollers mounted on said arms, cams engaging said rollers, cranks connected to said cams, a double crank-arm pivoted in its center, connecting-rods between said cranks and opposite sides of said crank-arm, and means for rotating said crank-arm.

4. Means for disengaging a boat from its falls consisting of pivoted hooks, arms on the backs of said hooks and integral therewith, rollers mounted on said arms, cams engaging said rollers, cranks connected to said cams, a double crank-arm pivoted in its center, connecting-rods between said cranks and opposite sides of said crank-arm, a handle for rotating said crank-arm, and means for locking said handle.

808,576. SKIRT-SUPPORTER. Joseph H. Rosseter, Diego. Fla. Filed May 4, 1905. Serial No. 258,520.



Claim.—A device of the character described comprising a supporting-belt, a garment-engaging clasp, suspension-straps, each independently adjustable as to length, hooks upon the upper ends of said straps detachably engaging the supporting-belt, a triangular loop to the sides of which said suspension-straps are connected at their lower ends, and a supporting-strap carrying the garment-engaging clasp and connected with the base portion of the triangular loop, said supporting-strap also being adjustable as to length, substantially as described.

808,577. ADJUSTABLE WINDOW-SCREEN. Byrd C. Rockwell, Gilford, Ark. Filed Aug. 22, 1905. Serial No. 275,209.



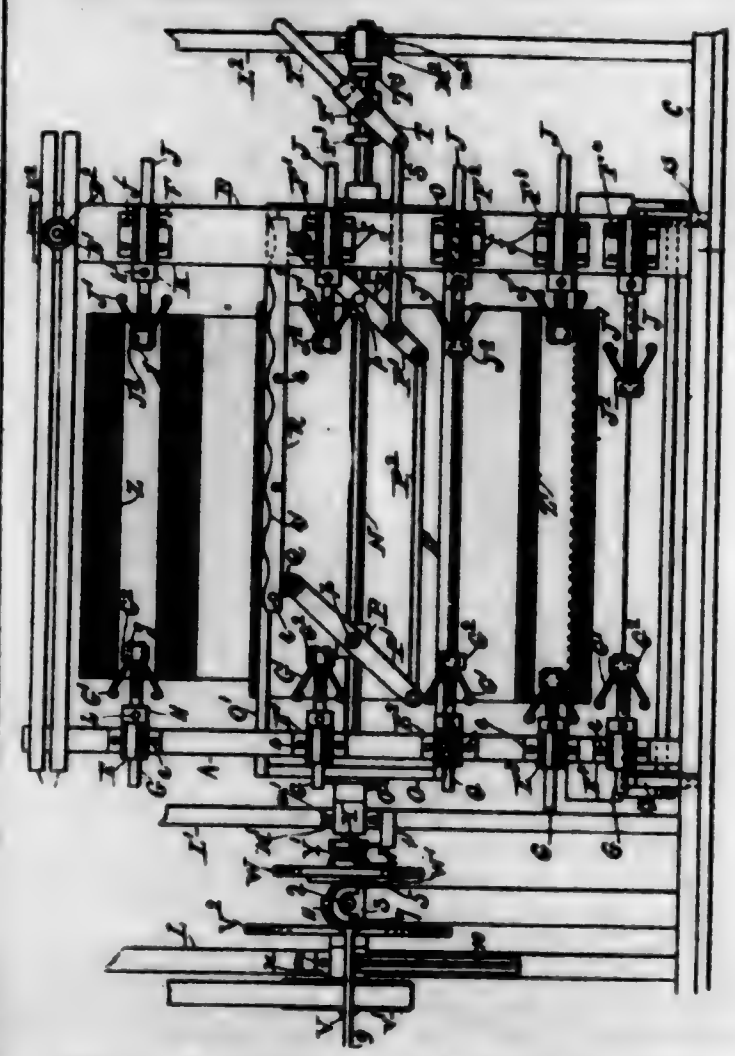
Claim.—1. As a new article of manufacture, a clip of the character described consisting of a plate which is substantially V shape in cross-section and provided with angularly-related ears bent from the plate and extending from the apex of the clip.

2. As a new article of manufacture, a clip of the character described consisting of a plate which is substantially V-shaped in cross-section and provided with angularly-related ears projecting beyond the apex of the clip and forming continuations of the respective sides thereof.

3. As a new article of manufacture, a clip of the character described consisting of a metallic plate bent throughout its longitudinal center to give the same a substantially V shape in cross-section, one of the sides of the clip being provided with a plurality of transverse clefts and the material between the clefts being bent to produce angularly-related ears extending from the apex of the plate.

4. As a new article of manufacture, a clip of the character described formed from a single plate of metal which is bent along its longitudinal center to give the clip a substantially V shape in cross-section, the longitudinal edges of the clip being cleft and bent to produce spurs, one side of the clip being provided with a plurality of transverse clefts with the material between the clefts bent to form angularly-related ears projecting from the apex of the clip.

808,578. MACHINE FOR REMOVING AND CUTTING MATERIAL FROM CORES. John B. M. V. Röttgen, New York, N. Y., assignor of one-half to John B. Prior, New York, N. Y. Filed Mar. 24, 1905. Serial No. 251,516.



Claim.—1. In a machine the combination of revoluble spring-supports for cores, and means to revolve the said supports.

2. In a machine the combination of adjustable revoluble spring-supports for cores, a reel with its axis parallel to the axial lines of the said supports, means to turn the reel, and thereby wind thereon sheets of material from the said cores.

3. In a machine the combination of revoluble adjustable spring-supports for cores, a reel with its axis parallel to the axial lines of said supports, means to turn the reel and thereby wind thereon sheets of material from the said cores, and a cutting device on the reel to cut the said sheets of material wound thereon.

4. In a machine the combination of revoluble adjustable spring-supports for cores, a reel with its axis parallel to the axial lines of said supports, means to turn the reel at variable speeds, and thereby wind thereon sheets of material from the said cores, and a cutting device on the reel to cut the said sheets of material wound thereon.

5. In a machine the combination of revoluble adjustable spring-supports for cores, a reel with its axis parallel to the axial lines of said supports, means to turn the reel and thereby wind thereon sheets of material from said cores, a knife pivoted with the reel, and means to operate the knife through different thicknesses of material on the reel.

6. In a machine the combination of a frame, a stationary and an adjustable upright in the frame, revoluble spring-supports extending from the uprights, each pair of supports being axially in line with each other, the supports arranged to carry cores for unwinding therefrom sheets of paper, a reel parallel to the axes of the supports to wind thereon the paper from the cores, and means to turn the reel.

7. In a machine the combination of a frame, revoluble spring-supports extending from the frame and arranged to carry cores, a reel parallel to the axes of the said spring-supports, a knife connected up with the reel and arranged to cut material on the reel, a lever to move the knife, means to control the depth of the cut of the knife and means to turn the reel and thereby unwind material from the cores, and cuts the reel.

8. In a machine the combination of a frame, pairs of adjustable revoluble spring-supports connected up with the frame, and arranged

to tightly grip cores carrying material thereon, a reel parallel to the axes of each pair of said supports, an axle for the reel, supports fastened to the axle, levers pivoted to the latter supports, a link connecting the levers at one end, a knife-support connecting the levers at the other end, a knife fastened to the knife-support, a second link extending from one of the levers, a third lever pivoted to the end of the latter link, a third support on the axle to which is pivoted the third lever, stops on the axle to control the movements of the third lever, and means to turn the reel.

9. In a machine the combination of a frame, pairs of adjustable revoluble spring-supports connected up with the frame and arranged to tightly grip cores carrying material to be unwound therefrom, a reel parallel to the axes of the said spring-supports, a knife connected up with the reel to cut material wound thereon, an axle for the reel, a disk arranged to slide on a feather at one end of the axle, a collar extending from the disk, a forked lever engaging said collar, a second disk axially in line with the first disk, means to turn the second disk, a shaft at right angles to the axle and located between the adjacent faces of the disks, a roller fastened to the shaft and arranged to engage with the disk on the axle, a second roller arranged to slide on the second shaft and engage with the second disk, and means to engage the second roller and second disk, at variable distances from the axis of the second disk.

808,579. ROTARY VALVE FOR GAS-ENGINES. FAYETTE H. SEELEY, Lansing, Mich. Filed July 14, 1904. Serial No. 216,510.



Claim.—1. In a rotary valve, the combination with an engine-cylinder having a cylinder-port, of a valve-housing, the said housing having circular, depressed valve-seats provided with inlet and exhaust ports in communication with the said cylinder-port, the said housing having a shaft-bearing extending centrally between the said valve-seats, a shaft revolubly in said bearing, disk valves arranged in said seats and secured to the shaft, the said valves having suitably-disposed ports, and detachable heads covering the said valves, substantially as described.

2. In a rotary valve, the combination with an engine-cylinder having a cylinder-port, of a valve-housing, the said housing having circular, depressed valve-seats provided with inlet and exhaust ports in communication with the said cylinder-port, a portion of the said valve-seats being deepened to form oil-pockets, the said housing having a shaft-bearing extending centrally between the said valve-seats, a shaft revoluble in said bearing, disk valves arranged in said seats and secured to the shaft, the said valves having suitably-disposed ports, and detachable heads covering the said valves, substantially as described.

3. In a rotary valve, the combination with an engine-cylinder having a cylinder-port and a water-jacket, of a valve-housing, the said housing having circular, depressed valve-seats provided with inlet and exhaust ports in communication with the said cylinder-port, the said housing having a shaft-bearing extending centrally between the said valve-seats, the said housing having an extension of the water-jacket of said cylinder whereby water is conducted between the said valve-seats and around the bearing, a shaft revoluble in the said bearing, disk valves arranged in said seats and secured to the shaft, the said valves having suitably-disposed ports, and detachable heads covering the said valves, substantially as described.

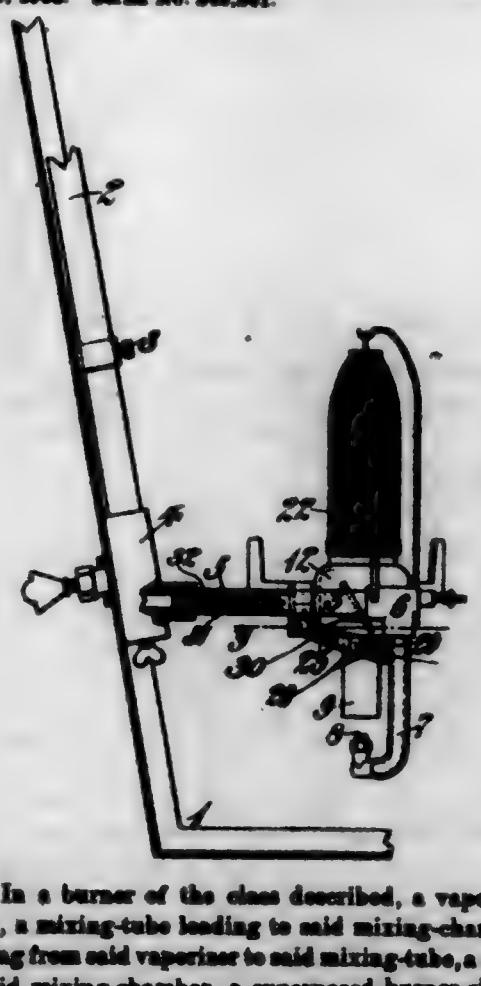
808,580. RAIL-JOINT. CHARLES J. SEMS, Freeport, N. Y. Filed Aug. 9, 1905. Serial No. 273,372.

Claim.—1. The improved rail-joint comprising meeting rail ends constructed in duplicate, each having a web-tongue or projection offset laterally and thus out of alinement with the central web of the rail but parallel to the plane of said web, base-flanges or extensions arranged on opposite sides of the said tongue, one being cut away on the upper side and provided with a shoulder and the other cut away on the under side and similarly provided with a shoulder, substantially as described.



2. The improved rail-joint comprising meeting rail ends constructed in duplicate, each having a web-tongue or projection offset laterally and thus out of alinement with the central web of the rail but parallel to the plane of said web, base-flanges or extensions arranged on opposite sides of the said tongue, one being cut away on the upper side and provided with a shoulder and the other cut away on the under side and similarly provided with a shoulder, and an open longitudinal slot located between the two opposite base-flanges or extensions, substantially as described.

808,581. VAPOR-BURNER. HARPER F. SMITH, Philadelphia, Pa. Filed Mar. 3, 1904. Serial No. 196,561.



Claim.—1. In a burner of the class described, a vaporizer a mixing-chamber, a mixing-tube leading to said mixing-chamber, a vapor-tube leading from said vaporizer to said mixing-tube, a spreading device in said mixing-chamber, a superposed burner-chamber and burner, a vaporizing-burner adjacent said vaporizer, and a pilot-burner above said vaporizing-burner, both said burners being connected with said mixing-chamber.

2. In a vapor-burner, a supply-pipe, a vapor-tube leading therefrom and provided with an outlet, a commingling-tube located above said outlet, a spreading and deflecting chamber into which said commingling-tube discharges, a spreader contained in said chamber, a port leading from said chamber, a gauze covering for said port and a gas-tube extending laterally and partly around the exterior of said chamber and provided with a series of ports in its upper portion, and an elongated orifice discharging against said vapor-tube.

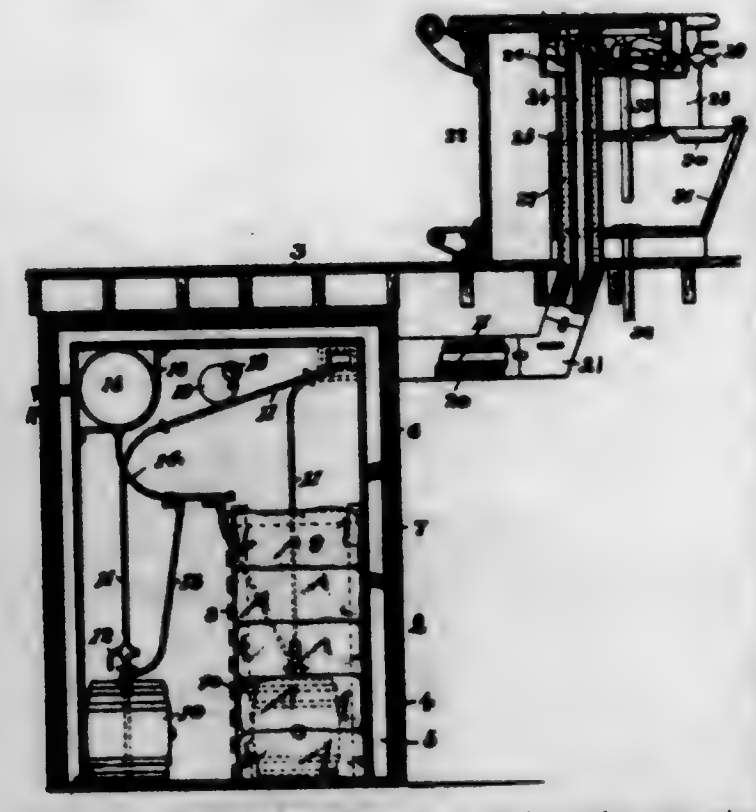
3. In a vapor-burner, a supply-pipe, a vapor-tube leading therefrom and provided with an outlet, a commingling-tube located above said outlet, a spreading and deflecting chamber into which said commingling-tube discharges, a spreader contained in said chamber, a

port leading from said chamber, a gauze covering for said port and a gas-tube extending laterally and partly around the exterior of said chamber and provided with a series of ports in its upper portion, and an elongated orifice discharging against said vapor-tube in combination with a relighting device.

4. In a vapor-burner, a supply-pipe, a vapor-tube leading therefrom provided with an outlet, a commingling-tube located above said outlet, a spreading and deflecting chamber into which said commingling-tube discharges, a spreader contained in said chamber, a port leading from said chamber, gauze covering said port and a gas-tube extending laterally and partly around said chamber, and provided with a series of ports in its upper portion, and an elongated orifice discharging against said vapor-tube, said spreader consisting of a ring having a base portion of less diameter and ribs joining said ring and base portion.

5. In a vapor-burner, a supply-pipe, a vapor-tube leading therefrom and provided with an outlet, a commingling-tube located above said outlet, a spreading and deflecting chamber into which said commingling-tube discharges, a spreader contained in said chamber, a port leading from said chamber, gauze covering said port and a gas-tube extending laterally partly around said chamber and provided with a series of ports in its upper portion, and an elongated orifice discharging against said vapor-tube, said spreader consisting of a ring having a base portion of less diameter and concave ribs joining said ring and base portion, said vapor-tube having a flaring mouth and being secured to a base in threaded engagement with the lower walls of said spreading and deflecting chamber.

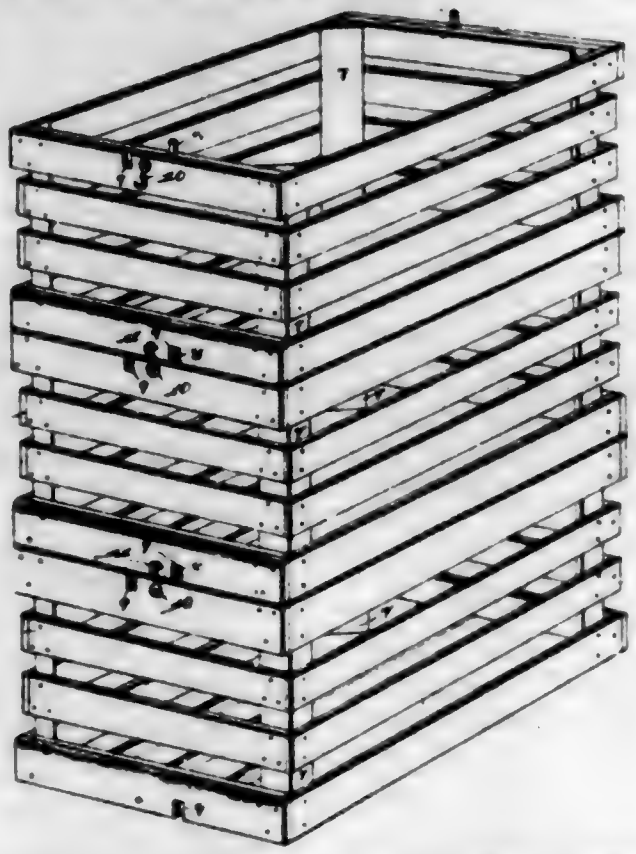
808,582. **BEER COOLING AND DISPENSING APPARATUS.** Thomas D. Smith, Newark, N. J. Filed July 25, 1904. Serial No. 217,914.



Claim.—1. In a beer refrigerating and dispensing apparatus, the combination of a cold-storage chamber adapted to contain ice and casks of beer, an insulating pipe-conduit extending outward from said chamber, a bar provided with an ice-box having an extension leading downward therefrom and closed at its bottom, said extension being adapted to fill with water from the melting ice in the ice-box and being in alinement with the said insulating pipe-conduit of the cold-storage chamber, a pipe-conduit continuing the central passage of the insulating pipe-conduit through said ice-box extension and extending above the bottom of the ice-box, and means for retaining the level of water in the ice-box below the top of said pipe-conduit.

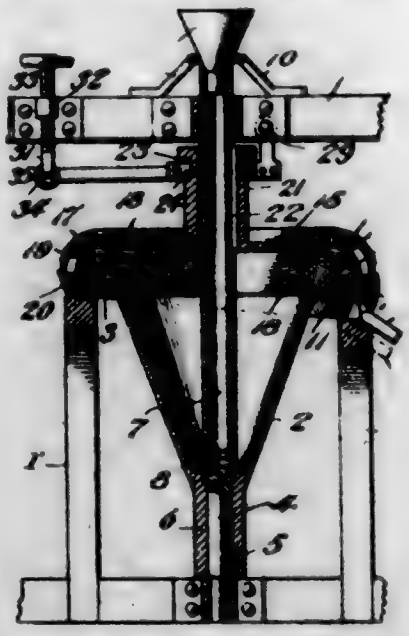
2. In a beer refrigerating and dispensing apparatus, the combination of a cold-storage chamber adapted to contain packages of liquid, a bar provided with an ice-box having an extension leading downward therefrom and closed at its bottom, said extension being adapted to fill with water from the melting ice in the ice-box, a pipe-conduit extending from the interior of the said cold-storage chamber through said ice-box extension to a point above the bottom of said ice-box, and means for retaining the level of water in the ice-box below the top of said pipe-conduit.

808,583. **SHIPPING-CRATE.** Altabont A. Stalnecker, Venice, Ill. Filed Feb. 6, 1905. Serial No. 244,411.



Claim.—An improved shipping-crate, comprising a plurality of uniform-sized sections adapted to be arranged one upon another, pins projecting upwardly from the top edges of the top pair of end slats, there being corresponding recesses formed in the lower edges of the lower pair of end slats, and there being recesses formed in the top edges of the top pair of slats, which arrangement of pins and recesses allows the sections to be reversed and inverted when being superimposed to form a complete crate; substantially as specified.

808,584. **ORE-CONCENTRATING APPARATUS.** Xavier St. Pierre, Ruby, Mont. Filed Feb. 22, 1905. Serial No. 246,975.



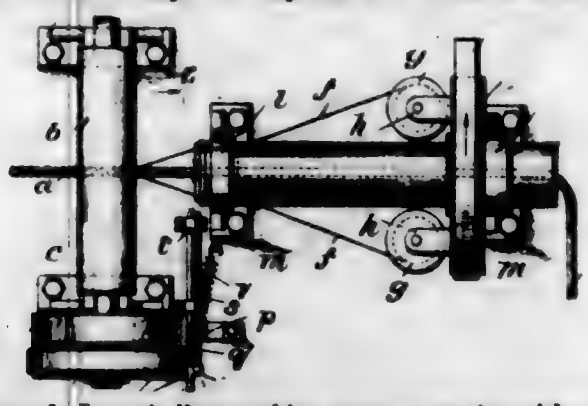
Claim.—1. An ore-concentrator comprising a rotary cone-shaped receptacle having a downwardly-curved rim, a V-shaped concentrate-trough surrounding the receptacle and fitting beneath the rim, a V-shaped tailings-trough surrounding the concentrate-trough, a hollow shaft extending into the receptacle and being rotatable therewith, a cover for the receptacle splined on the shaft and having a rim fitting inside the tailings-trough, and an annular guide member secured to the cover and having its inner rim fitting into the receptacle and its outer rim formed with a groove fitting over the outer edge of the concentrate-trough and the inner edge of the tailings-trough.

2. An ore-concentrator comprising a rotary cone-shaped receptacle having a downwardly-curved rim, a V-shaped concentrate-trough surrounding the receptacle and fitting beneath the rim, a V-shaped tailings-trough surrounding the concentrate-trough, extending into the receptacle and being rotatable therewith; a cover for the

receptacle splined on the shaft and having a rim fitting inside the tailings-trough, an annular guide member secured to the cover and having its inner rim fitting into the receptacle and its outer rim formed with a groove fitting over the outer edge of the concentrate-trough and the inner edge of the tailings-trough, and means for raising and lowering the cover.

3. An ore-concentrator comprising a vertical shaft having a hollow portion formed with perforations at its lower end, a V-shaped receptacle having a cylindrical belt-receiving portion surrounding the lower end of said shaft and keyed thereto, the upper portion of said receptacle being formed with a downwardly-curved rim, a V-shaped concentrate-trough surrounding the receptacle and fitting beneath the rim, a V-shaped tailings-trough surrounding the concentrate-trough, a cover for the receptacle having a rim fitting inside the tailings-trough, an annular guide member secured to the cover and having an inner rim fitting into the receptacle and an outer rim formed with a groove fitting over the outer edge of the concentrate-trough and the inner edge of the tailings-trough, and means for raising and lowering said cover.

808,585. **STOP-MOTION FOR WINDING-MACHINES.** FREDERICK W. SUMNER, Canton, Mass., assignor, by mesne assignments, of one-half to Federal Manufacturing Company, Hartford, Conn., a Corporation of New Jersey. Filed Apr. 30, 1904. Serial No. 206,787.



Claim.—1. In a winding-machine, the combination with a driving-shaft actuated from a suitable source of power, of means for winding the material under treatment with a strand of thread, fast and loose members on said driving-shaft, means for transferring the power from one member to the other, a locking-arm for said power-transferring means, and means operated by centrifugal force adapted to directly engage with and actuate said locking-arm when the thread breaks, substantially as described.

2. In a winding-machine, the combination with a driving-shaft actuated from a suitable source of power, of means for feeding the material under treatment, revolving means for winding a thread about said material, fast and loose members on said driving-shaft, means for transferring the power from one member to the other, a locking-arm for said power-transferring means, and means connected to rotate with said thread-winding means operated by centrifugal force and adapted to directly engage with and actuate said locking-arm when the thread breaks, substantially as described.

3. In a winding-machine, the combination with a driving-shaft actuated from a suitable source of power, of means for winding the material under treatment with a strand of thread, fast and loose members on said driving-shaft, means for transferring the power from one member to the other, a locking-arm for said power-transferring means, and a tripper operated by centrifugal force adapted to directly engage with and actuate said locking-arm when the thread breaks, substantially as described.

4. In a winding-machine, the combination with a driving-shaft actuated from a suitable source of power, of friction-rolls for feeding the material under treatment, revolving means for winding a thread about said material, fast and loose members on said driving-shaft, means for transferring the power from one member to the other, a locking-arm for said power-transferring means, and a tripper connected to rotate with said thread-winding means operated by centrifugal force and adapted to directly engage with and actuate said locking-arm when the thread breaks, substantially as described.

5. In a winding-machine, the combination with a driving-shaft actuated from a suitable source of power, of means for feeding the material under treatment, revolving means carrying spools of thread to be wound about said material, fast and loose members on said driving-shaft, means for transferring the power from one member to the other, a locking-arm for said power-transferring means, and a tripper for each spool connected to rotate with said thread-winding means operated by centrifugal force and adapted to directly engage with and actuate said locking-arm when any thread breaks, substantially as described.

6. In a winding-machine, the combination with a driving-shaft actuated from a suitable source of power, of a revolving cylinder provided at one end with means for supplying the material under treatment with a strand of thread and at the other with a guiding-slot for said thread, fast and loose members on said driving-shaft, means for transferring the power from one member to the other, a locking-arm for said power-transferring means, and a tripper held adjacent said slot by said thread and operated by centrifugal force to engage with and actuate said locking-arm when the thread breaks, substantially as described.

7. In a winding-machine, the combination with a driving-shaft actuated from a suitable source of power, of a revolving cylinder provided at one end with means for supplying the material under treatment with a strand of thread and at the other with a collar provided with a guiding-slot for said thread, fast and loose members on said driving-shaft, means for transferring the power from one member to the other, a locking-arm for said power-transferring means, and a tripper pivoted to said collar, held adjacent said slot by said thread and operated by centrifugal force to engage with and actuate said locking-arm when the thread breaks, substantially as described.

8. In a winding-machine, the combination with a driving-shaft provided with fast and loose pulleys and a belt-shifting device therefor, of means for winding the material under treatment with a strand of thread, a locking-arm for said belt-shifter, and a tripper operated by centrifugal force adapted to directly engage with and actuate said locking-arm when the thread breaks, substantially as described.

9. In a winding-machine, the combination with a driving-shaft actuated from a suitable source of power, of a revolving cylinder provided at one end with means for supplying the material under treatment with a strand of thread and at the other with a guiding-slot for said thread, fast and loose pulleys on said driving-shaft, a belt-shifting device, a locking-arm for said belt-shifter, and a tripper held adjacent said slot by said thread and operated by centrifugal force to engage with and actuate said locking-arm when the thread breaks, substantially as described.

10. In a winding-machine, the combination with a driving-shaft actuated from a suitable source of power, of a revolving cylinder provided at one end with means for supplying the material under treatment with a strand of thread and at the other with a guiding-slot for said thread, means for feeding the material under treatment therethrough, fast and loose pulleys on said driving-shaft, a belt-shifting device, a locking-arm for said belt-shifter, and a tripper held adjacent said slot by said thread and operated by centrifugal force to engage with and actuate said locking-arm when the thread breaks, substantially as described.

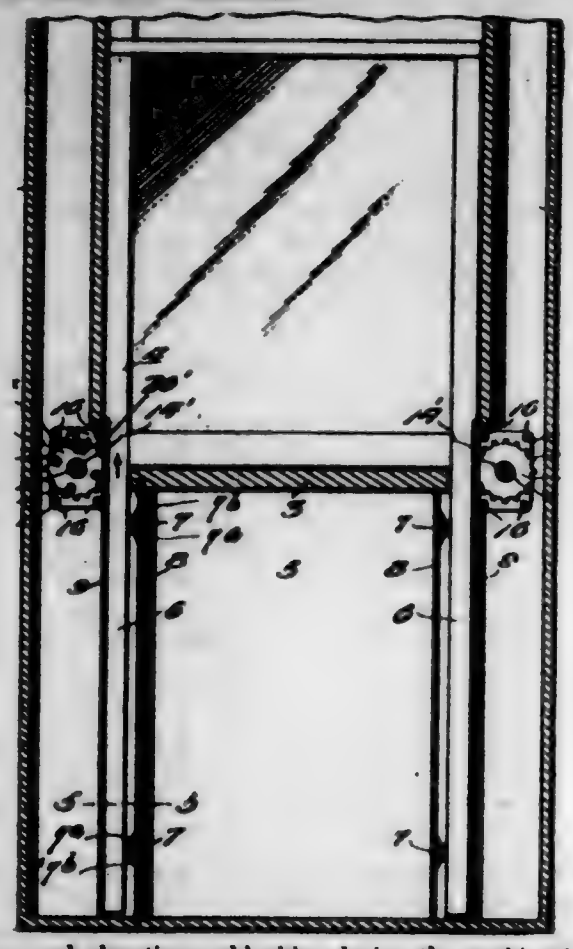
11. In a winding-machine, the combination of feeding-rolls, a fast and loose pulley mounted on the shaft of one of said rolls, a belt-shifting device for said pulleys comprising a spring, a sliding frame and a locking-arm for said frame, a cylinder carrying spools of thread to be wound upon the material under treatment, and trippers carried by said cylinder adapted to swing outward by centrifugal force to engage with and actuate said locking-arm when a thread breaks, substantially as described

12. In a winding-machine, the combination with feeding-rolls through which a sliver is fed and driving means therefor, of a cylinder provided with guiding-slots in one end, movable trippers adjacent thereto, means for rotating said cylinder and means mounted thereon for supplying said sliver with strands of thread, each thread being adapted to pass through one of said slots and over one tripper respectively, and a belt-shifting device for said driving means consisting of a sliding frame provided with a fork, a spring connected to said frame, and a locking-arm adapted to normally engage said frame and constructed to be struck and actuated by one of said trippers when one of the threads breaks, substantially as described.

808,586. **SASH OPENER AND FASTENER.** HARRY B. SYRAR, Poughkeepsie, N. Y. Filed Jan. 4, 1905. Serial No. 239,220.

Claim.—1. In a sash elevating and locking means, the combination of a window-frame, a sash provided upon its side bars with rack-teeth, motor-gears arranged at the opposite sides of the window-frame and engaging said rack-teeth, means for locking the motor-gears against rotation, yielding pressure-bars mounted on the frame and coextensive in length with the range of travel of the sash, and friction-rollers arranged in spaced relation upon said bars and

held with yielding pressure thereby against the side bars of the sash to guide the same in its movements.



2. In a sash elevating and locking device, the combination of a window-frame, a sash provided upon its side bars with rack-teeth, meter-gears arranged at opposite sides of the window-frame and engaging the rack-teeth, means for holding the sash against movement, spring pressure-plates arranged in the frame and coextensive in length with the range of travel of the sash, and a pair of rollers mounted upon each pressure-plate adjacent the ends thereof and adapted to bear with yielding pressure against the side bars of the sash to guide the latter in its movements.

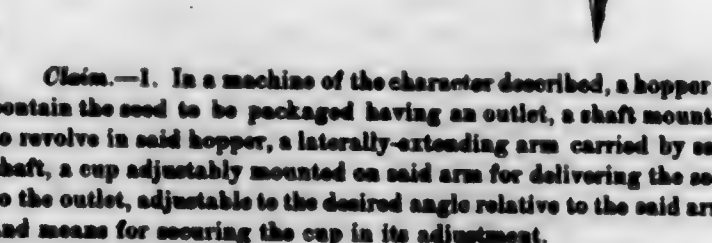
3. In a sash elevating and locking device, the combination of a sash provided with rack-teeth, a spring-actuated meter-gear mounted on the frame and engaging said rack-teeth, and locking mechanism for holding the gear against rotation, said locking mechanism comprising a sliding spring-actuated bolt adapted to engage the gear, an intermediately-pivoted lever connected at one end with the bolt and a sliding finger-piece pivotally connected with the opposite end of the lever, the window-frame being provided with a socket for the reception and free movement of said finger-piece, substantially as described.

4. In a sash elevating and locking device, the combination of a window-frame, a sash provided with rack-teeth, a spring-actuated meter-gear engaging said teeth, a casing mounted upon the window-frame, a sliding locking-bolt movable in an opening in said casing and adapted to engage the gear, said bolt having a stem guided by the casing, a spring surrounding said stem between the casing and bolt and serving to normally project the bolt, a lever intermediately pivoted in said casing and connected at one end with the bolt, and a sliding finger-piece movable in an opening in the casing and pivoted to the other end of the lever, whereby the latter may be actuated to retract the bolt against the pressure of its spring, the sash-frame being provided in its inner face with a receiving socket or recess, and a button or head upon the finger-piece movable into said socket or recess.

808,587. FIRE-FIGHTER'S APPARATUS. WILLIAM W. THOMPSON, St. Louis, Mo. Filed Oct. 10, 1904. Serial No. 227,949.

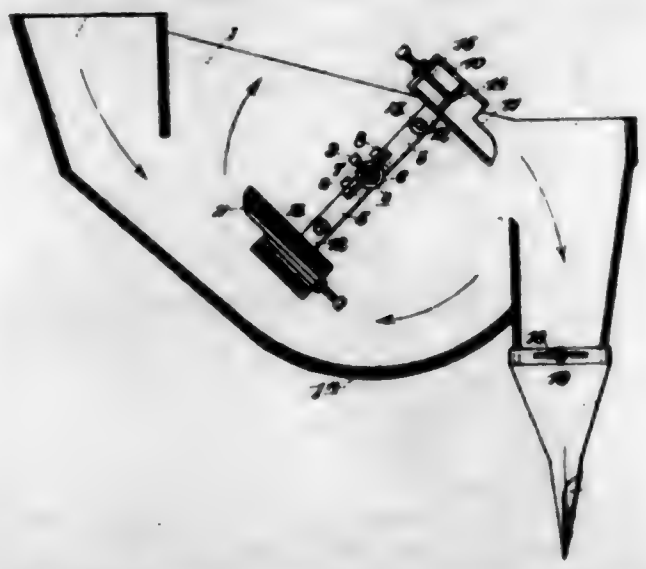
Claim.—1. In a fire-fighter's apparatus, a ratchet-bar adapted to be positioned against the side of the window-frame, hooks adjustably arranged on said ratchet-bar, an open link secured to one of the hooks on the ratchet-bar, a mast having a pointed end, a chain secured to the opposite end and adapted to be engaged in the open link carried by the hook of the ratchet-bar, an endless cable adapted to be carried by the upper end of the mast, and grappling-hooks detachably carried by the cable; substantially as specified.

2. In a fire-fighter's apparatus, the combination of a ratchet-bar, a hook arranged to slide on one end of said ratchet-bar, a screw-threaded shaft for operating said hook, a sliding hook operating on the opposite end of the ratchet-bar, a hand-lever and pawl for actuating said last-mentioned hook on the ratchet-bar, and a derrick-mast having a pointed end and adapted to be secured at its upper end to the sliding hook on the ratchet-bar; substantially as specified.



3. In a fire-fighter's apparatus, the combination with an endless cable, of a grappling-hook comprising a shank, a loop integral with one end thereof, a pair of hooks extending laterally from the shank, and a finger extending laterally from the shank in an opposite direction from the hooks; substantially as specified.

808,588. MACHINE FOR MEASURING AND PACKAGING SEEDS. JONATHAN R. W. TRACY, Washington, D. C. Filed Feb. 23, 1905. Serial No. 247,095.

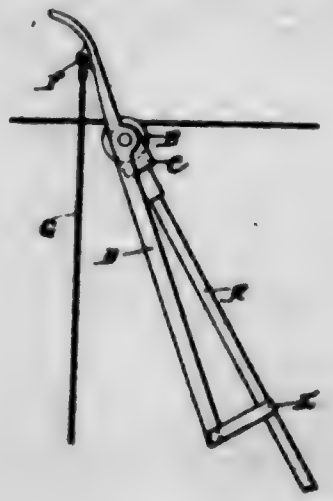


Claim.—1. In a machine of the character described, a hopper to contain the seed to be packaged having an outlet, a shaft mounted to revolve in said hopper, a laterally-extending arm carried by said shaft, a cup adjustably mounted on said arm for delivering the seed to the outlet, adjustable to the desired angle relative to the said arm, and means for securing the cup in its adjustment.

2. In a machine of the character described, a hopper to contain the seed to be packaged having an outlet, a shaft mounted to revolve in said hopper, a laterally-extending arm carried by said shaft, a cup pivotally attached to said arm so as to be adjustable to different angles with respect to the arm, and means for securing the cup in its adjustment.

3. In a machine of the character described, a hopper to contain the seeds to be packaged having an outlet, a funnel attached to said outlet having its lower end flattened and formed with a discharge-opening in said flattened portion, and a strip extending across said opening from the lower edge to the upper edge thereof for preventing engagement of the edges of the bag with the edge of the discharge-opening.

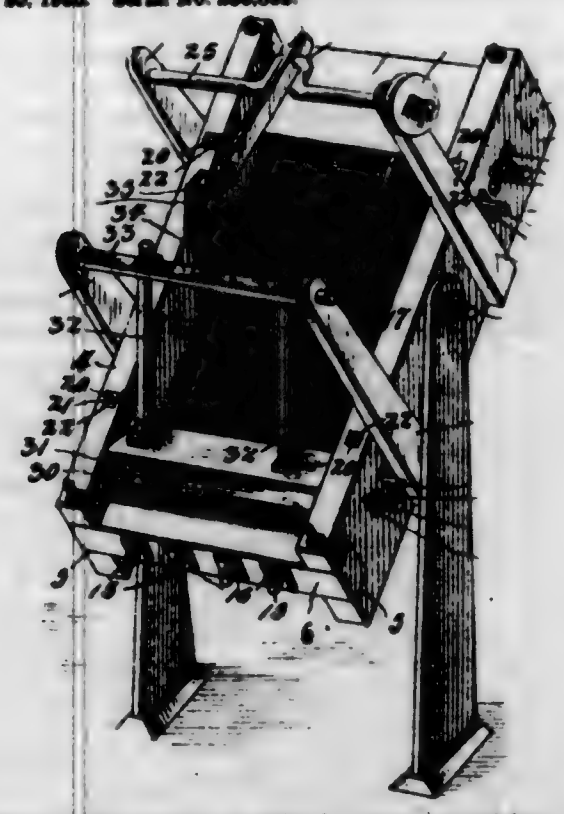
808,589. TROLLEY-FINDER. JAMES WILHELM, Philadelphia, Pa. Filed June 26, 1905. Serial No. 266,165.



Claim.—1. In combination with a trolley-pole, a harp and trolley-wheel, two bars, one arranged upon each side of the trolley-harp and pivoted concentric with the trolley-wheel, the upper portion of each bar being thickened so as to reduce the space between these upper ends, to less than the width of the trolley-wheel, a U-shaped strap connecting the lower ends of the bars, said strap adapted to normally surround the trolley-pole and rest thereon to limit the swinging movement of the bars, said strap in conjunction with the lower ends of the bars, being of sufficient weight to overbalance the upper ends of the bars, and means under control of the conductor upon the car for drawing the upper ends of the bars downward so as to free them from the trolley-wire, prior to pulling the pole down by the same means, as specified.

2. In a trolley-finder, the combination of a trolley-pole, harp and trolley-wheel, with two bars, one arranged upon each side and pivoted intermediate of their ends upon the same pivot as the trolley-wheel, the lower portion of the bars being heavier than the upper portion so that the tendency of the bars is to remain upright with the upper portion extending a distance above the trolley-wire, the upper end of the bars being curved rearward, and that portion of the bars above the trolley-wheel extending inward toward one another so that the distance between the bars is narrower than the trolley-wheel, the upper end of the bars being provided with a hole a rope secured through said hole adapted to extend downward to the platform of the car, and a strap secured at each of its ends to the lower end of the bars and extending over the trolley-pole to limit the downward movement of the bars, as specified.

808,590. **CLAY-SCREEN.** NEAL ALLEN, Pittsburg, Kans. Filed Apr. 20, 1905. Serial No. 256,553.



Claim.—1. The herein-described screen comprising a frame having side bars and cross-bars, said side bars being provided with transverse slots, rods extending from side to side of the frame and having their ends disposed in said slots, adjusting-bolts in the side bars of the frame to adjust said rods in said slots transversely with respect to the side bars, longitudinally-movable adjusting-bolts in the cross-bars of the frame, rods carried by the last-mentioned adjusting-bolts, and screen-wires attached to said rods and bearing on the transverse adjustable rods, substantially as described.

2. A screen comprising a support, a frame pivotally mounted on said support and adapted to be disposed at any desired inclination, laterally-spaced longitudinal screen-wires in said frame, standards on said frame, a rock-shaft mounted in said standards, an oscillating brush operated by said rock-shaft and coacting with the screen-wires, said rock-shaft having a radial arm, standards on the frame, a crank-shaft mounted in the last-mentioned standards, and a pitman connecting the crank of said shaft to the radial arm of the rock-shaft, substantially as described.

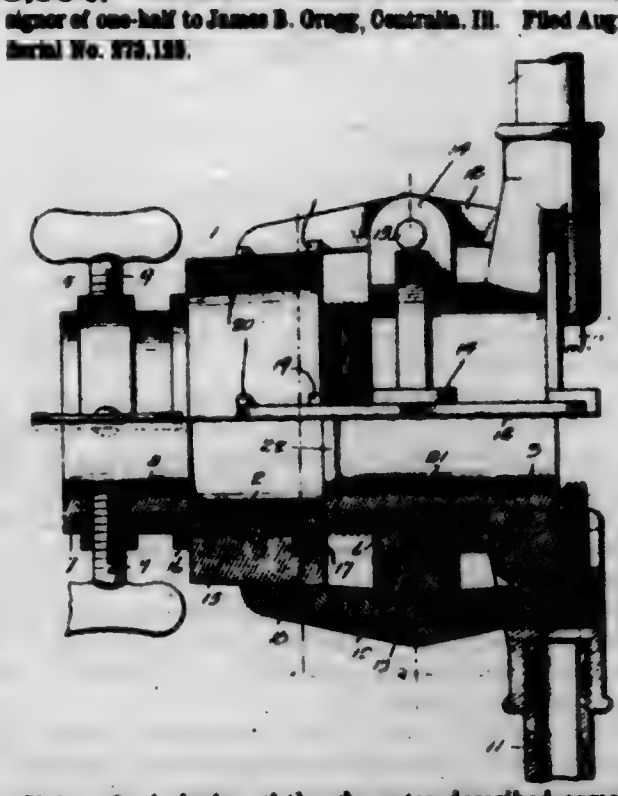
808,591. **SPARK-ARRESTER.** SAMUEL ARNEY, Brownsburg, Ind. Filed June 10, 1905. Serial No. 264,612.

Claim.—1. A spark-arrester comprising a hollow member adapted for engagement with a flue, chutes disposed exteriorly of the member, a top plate connected with the member and lying transversely thereof, the walls of the member at opposite sides of the top plate extending thereabove, deflector-plates located within the member and lying in engagement with each other below the top plate, said deflector-plates diverging upwardly toward the upwardly-extending portions of the wall of the member to direct matter thereover, said deflector-plates lying at opposite sides of the top plate, a plurality of curved rods secured at one end to the top plate and connected at their other ends with the outer portions of the chutes, and side plates secured to the outermost rods and connected with the member to form a complete cage.



2. A spark-arrester comprising a hollow cylindrical member adapted for engagement with a flue, vertically-extending chutes secured to the outer face of the member at diametrically opposite points, the walls of the member above the chutes being extended upwardly and then bent downwardly into the chutes and secured thereto, a plate secured to the member and extending thereacross between the upwardly-extended portions of its walls, a horizontally-extending frame secured to the member and surrounding it and the chutes, oppositely-extending sets of curved rods secured at their inner ends to the plate and at their outer ends to the frame, the upwardly-extended portions of the walls of the member lying within the inclosure of the rods and in spaced relation thereto, end plates secured to the member and to the outermost rods and upwardly-divergent deflector-plates disposed within the member and arranged to direct matter passing upwardly through the member over the upwardly-extended portions of the walls of the member.

808,592. **DIE-STOCK.** FRANK V. ANDERSON, Centralia, Ill., assignor of one-half to James B. Gregg, Centralia, Ill. Filed Aug. 7, 1905. Serial No. 273,123.



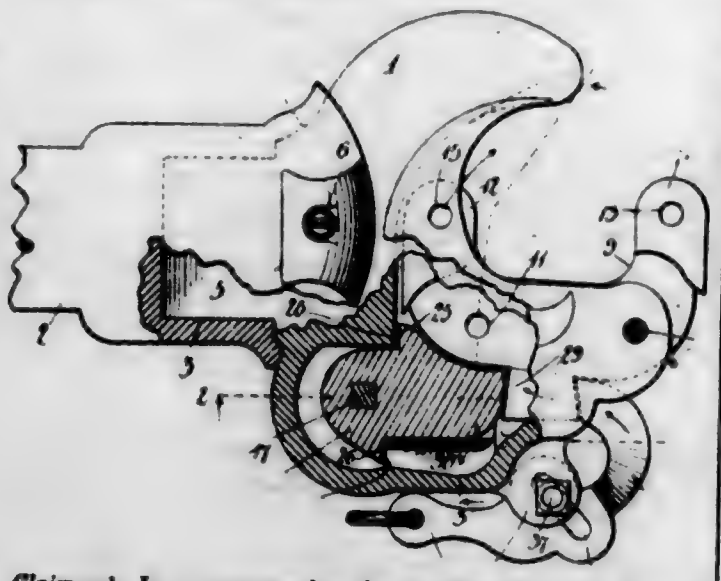
Claim.—1. A device of the character described comprising a frame consisting of tubular sections having a screw-threaded engagement with each other, a work-engaging clamp carried by one of said sections, a screw-thread-cutting die carried by the other of said sections, a lever pivoted upon said die-carrying section and engaged

at one end with said die, and a beveled spool upon said clamp-section adapted to engage the opposite end of said lever to cause said die to cut a tapered thread.

2. A die-stock comprising a tubular frame consisting of a die-carrying section and a work-clamping section, said sections having a screw-threaded engagement with each other, set-screws upon said clamp-carrying section, a loosely-mounted cone-shaped spool upon said clamp-carrying section, a ring-nut for holding said spool in place, a series of radially-disposed slidable dies in said die-carrying section, and a series of levers pivoted upon said die-carrying sections and each having one of its ends engaged with one of said dies and its other end engaged with said spool, substantially as described.

3. A die-stock comprising a tubular frame consisting of a die-carrying section and a work-clamp-carrying section, said sections having a screw-threaded engagement with each other, a guide-sleeve upon one end of said clamp-carrying section, set-screws in the last-mentioned section and projecting through openings in said guide-sleeve, an annular shoulder upon said clamp-carrying section, a cone-shaped spool loosely mounted upon said clamp-carrying section, and engaging said shoulder, a nut for holding said spool against longitudinal movement, lugs upon said spool, a combined guide and guard sleeve within said die-carrying section, radially-disposed dies slidably mounted in the last-mentioned section, levers pivoted upon said die-carrying section and each having one end engaged with one of said dies, and its opposite end projecting between the lugs upon said spool and engaged with the outer face of the latter, and lugs upon the last-mentioned ends of the levers adapted to coact with the lugs upon said spool, substantially as described.

808,593. CAR-COUPLING. JOSEPH ANSON, Bannockburn, Canada, assignor of one-sixteenth to Joseph Best. Filed Sept. 14, 1905. Serial No. 278,474.



Claim.—1. In a car-coupler, the combination of a head, a knuckle pivoted thereto, and an angularly and vertically movable locking-dog for the knuckle, having a laterally-inclined pivot, substantially as described.

2. In a car-coupler, the combination of a head, a knuckle pivoted thereto, and an angularly and vertically movable locking-dog for the knuckle having a laterally-inclined pivot, said head and said locking-dog having coacting devices to limit the angular movement of said dog, substantially as described.

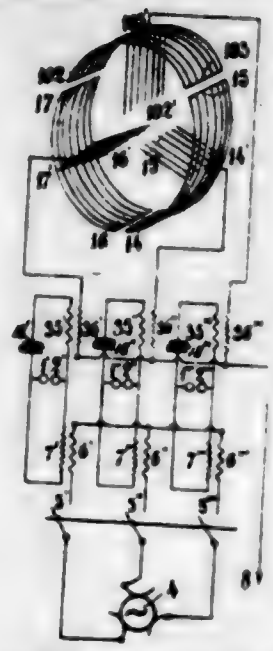
3. A car-coupler comprising a head having a chamber formed therein, a knuckle pivoted in said head to swing into said chamber, a lug upon said knuckle, a horizontally-swinging locking-dog pivotally mounted in said head and adapted to engage the interior of the same and said lug to lock said knuckle in its closed position, and a lever upon said head adapted to coact with said lug to swing said knuckle to its open position.

4. A car-coupler having a head, a plurality of pivotally-mounted knuckle-sections capable of independent angular movement, and a lever to simultaneously move the said knuckle-sections into open position, substantially as described.

5. A car-coupler having a head, a pivotally-mounted knuckle having an outstanding lug on its outer side, and a lever engaging said lug, pivotally mounted on the head and having a shiftable pivotal axis, substantially as described.

6. A car-coupler having a head, a pvotally-mounted knuckle having an outstanding lug on its outer side, a locking-dog to engage one side of said lug and lock the knuckle in coupled position, and a lever to engage the opposite side of said lug and move the knuckle to open position when said knuckle has been released by said dog, substantially as described.

808,594. APPARATUS FOR THE TRANSMISSION OF ENERGY THROUGH SPACE. ALESSANDRO ARTOM, Turin, Italy. Filed Feb. 20, 1905. Serial No. 246,827.



Claim.—1. In an apparatus for transmitting electrical energy, the combination with a suitable main electric circuit, a source of electric current and a circuit-breaker therein; of a discharge-circuit in inductive relation to the main circuit, discharge-conductors therein and a branch circuit therefrom, means in said branch circuit to throw the current therein out of phase with that in the discharge-circuit, and grounded aerials in inductive relation to said branch circuit.

2. In an apparatus for transmitting electrical energy, the combination with a suitable main electric circuit, a source of electric current therein and means to make and break said circuit; of a discharge-circuit in inductive relation to the main circuit carrying induced currents of higher potential than those in the main circuit, discharge-terminals in said circuit, a derived or branch circuit from said discharge-circuit, a capacity in said circuit and grounded aerials at an angle to each other and in inductive relation to said derived circuit.

3. In an apparatus for transmitting electrical energy, the combination with a suitable main electric circuit, a source of electric current therein and means to make and break the circuit; of a discharge-circuit, discharge-conductors therein to produce oscillations at an angle to one another, a circuit forming a branch of the discharge-circuit, a phase-displacing device therein, grounded aerials placed at an angle with one another and in inductive relation to the branch circuit.

4. In an apparatus for transmitting electrical energy, the combination with a suitable main electric circuit, a source of electric current therein and means to make and break said circuit; of as many discharge-circuits in inductive relation to the main circuit as there are phases in the current transmitted by the source of current, terminals in said discharge-circuits, and a branch or derived circuit connected to each of the discharge-circuits and a grounded aerial in inductive relation to said branch circuit.

5. In an apparatus for transmitting electrical energy, the combination with a suitable main electric circuit, a source of electric current therein and means for making and breaking said circuit; of as many discharge-circuits as there are phases in the current furnished by said source, discharge-terminals in each of said discharge-circuits, a branch or derived circuit from each discharge-circuit, means to change the phase relation of the currents in the discharge and branch circuits, and grounded aerials in inductive relation to said branch circuit.

6. In an apparatus for transmitting electrical energy, the combination with a suitable main electric circuit, a source of electric current for said circuit and means to make and break said circuit; of a discharge-circuit in inductive relation to the main circuit having a branch, and means in said branch to change the phase relations of the currents in the discharge-circuit and branch circuit, grounded aerials at an angle to each other and in inductive relation to the brach circuit, and screens positioned in inductive relation to the aerials.

7. In an apparatus for transmitting electric energy, the combination with a suitable main electric circuit, a source of electric current for said circuit and means to make and break the circuit; of a discharge-circuit in inductive relation to the main circuit, a branch

circuit from the discharge-circuit, aerials in inductive relation to the branch circuit, means in the branch circuit to change the phase relation of the currents delivered to one of the aerials.

8. In an apparatus for transmitting electric energy, the combination with a main electric circuit, a source of electrical energy therefor and means to make and break said circuit; of a discharge-circuit in inductive relation to the main circuit having a branch, a capacity in said branch, grounded aerials of grid form in inductive relation to said branch and grounded or insulated screens placed near said grids, substantially as described.

9. In an apparatus for transmitting electric energy, the combination with a main electric circuit, a source of electric energy therefor, a primary coil of an induction apparatus therein and means to make and break the circuit; of a discharge-circuit containing the secondary coil of said apparatus, and discharge-terminals, a branch circuit from the discharge-circuit, primary coils and means to produce capacity in said circuit, aerials, a secondary coil connected to one of them and grounded and in inductive relation to one of the primary coils of the branch circuit, and means in inductive relation to the other coil of the branch circuit and to the other aerial to induce currents therein out of phase with those in the first-mentioned aerial, substantially as described.

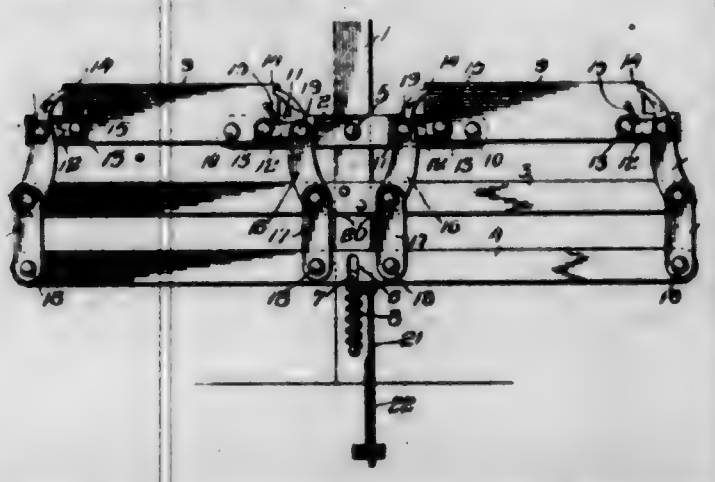
10. In an apparatus for transmitting electric energy, the combination with a source of electric current; of means to produce oscillatory discharges differing in phase, grounded aerials at an angle to each other and screens symmetrically placed in relation to the aerials.

11. In an apparatus for transmitting electric energy, the combination with a source of electric current; of means to produce oscillatory discharge at an angle and means to change the phase of the discharge, and aerials having such angular relation to each other and to the phase difference as to produce circularly or elliptically polarized waves.

12. In an apparatus for transmitting electric energy, the combination with a source of electric current; of means to produce oscillatory discharges, the directions of discharge making an angle with each other and actuated by the current, grounded aerials inductively influenced by said discharges and in such angular relation to the phase difference as to produce circularly or elliptically polarized waves.

13. In an apparatus for transmitting electric waves, two discharg-eterminals and a grounded angular discharge-terminal, said discharge-terminals placed opposite to and in line with the legs of said angular terminal.

808,593. HORSE-DETACHER. CHARLES H. BACH, Brooks, Minn. Filed June 20, 1905. Serial No. 265,784.



Claim.—1. In an apparatus of the class described, the combination with a support, of a swingletree, trace-fastenings carried by the swingletree, a movable controlling-bar mounted upon the support, loose connections between the bar and the trace-fastenings to permit swinging of the swingletree without affecting the trace-fastenings, and means to move the controlling-bar to release the trace-fastenings.

2. In an apparatus of the class described, the combination with a support, of a swingletree, trace-fastenings carried by the swingletree, a controlling-bar movably mounted upon the support, loosely-assembled link connections between the controlling-bar and trace-fastenings, and means for moving the controlling-bar to release the fastenings.

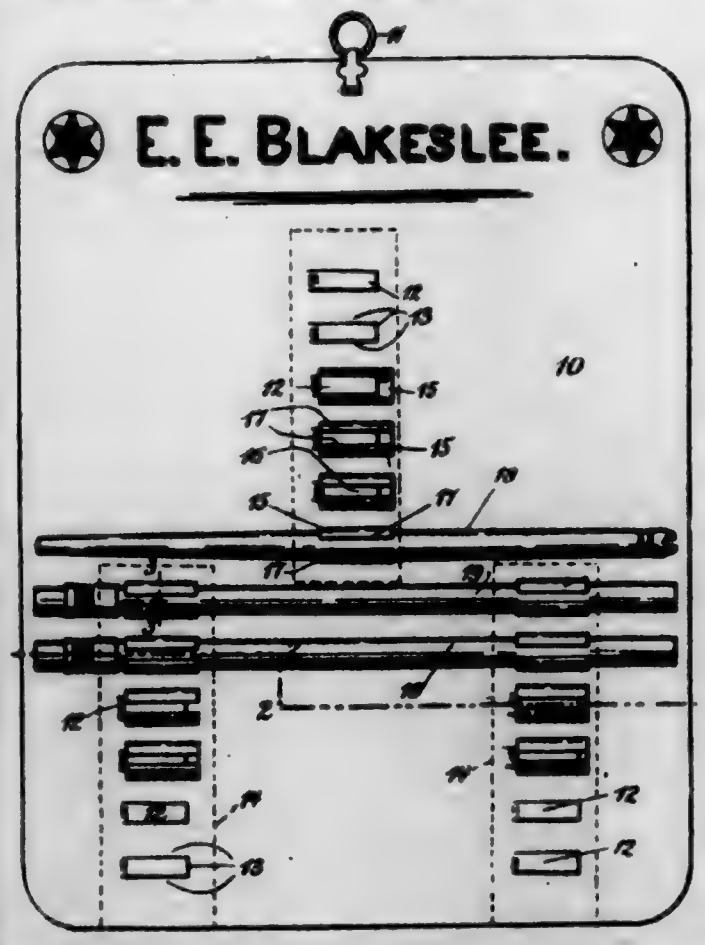
3. The combination with a draft-pole of an evener-bar pivotally mounted thereon, swingletrees loosely connected to opposite ends of the evener-bar, trace-fastenings mounted upon the ends of the swingletrees, a cross-bar upon the draft-pole in rear of the evener-bar, a controlling-bar upon the pole in rear of the cross-bar and movable longitudinally of the pole, loose connections extending between the controlling-bar and the trace-fastenings and supported upon the cross-bar, and controlling means connected to the controlling-bar.

4. The combination with a draft-pole, of an evener-bar pivoted thereon, a cross-bar upon the pole in rear of the evener-bar, a controlling-bar movable longitudinally of the pole in rear of the cross-bar, swingletrees loosely connected to opposite ends of the evener-bar, trace-fastening hooks pivoted upon the ends of the swingletrees, pairs of links pivotally connected to the respective hooks and the controlling-bar and supported upon the cross-bar, and controlling means connected to the controlling-bar.

5. The combination with a draft-pole of an evener-bar pivoted thereon, swingletrees loosely connected to the opposite ends of the evener-bar, trace-fastenings carried by opposite ends of the swingletrees, a controlling-bar supported upon the pole and movable longitudinally thereon, a spring to hold the controlling-bar at one limit of its movement, connections between the bar and the hooks, and controlling means connected to the controlling-bar.

6. The combination with a draft-pole of an evener-bar pivotally supported thereon, swingletrees loosely connected to opposite ends of the evener-bar, trace-fastening hooks pivotally supported upon opposite ends of the swingletrees, a cross-bar mounted upon the pole in rear of the evener-bar, a controlling-bar mounted upon the pole in rear of the cross-bar and a slot and pin slidable connection therewith, a spring carried by the pole and engaging the controlling-bar to hold the same at one limit of its movement, loosely-assembled links pivotally connected to the controlling-bar and the respective hooks, and controlling means connected to the controlling-bar.

808,596. DISPLAY-CARD. EDWARD E. BLAKESLEE, New York, N. Y. Filed Dec. 21, 1904. Serial No. 237,884.



Claim.—1. In a display-card, the combination with its body 10, of a tongue integral therewith and formed by cutting said body, and means for reinforcing said body along its cut portions.

2. In a display-card, the combination with its main body, of a flexible tongue extending forward therefrom, and a flexible holder confined between said main body and said tongue.

3. In a display-card, the combination with its main body, of a tongue extending forward therefrom, and a holder confined between said main body and said tongue and having elastic branches extending forward from said tongue.

4. In a display-card, the combination with its main body, of a tongue extending forward therefrom, and a split tube inserted between said tongue and said body.

5. In a display-card, the combination with its flexible main

body, of a tongue integral therewith and formed by cutting said body, and a flexible split tube secured between said tongue and said body.

6. In a display-card, the combination with its main body, of two tongues extending forward therefrom, and two tubular holders, one interposed between said main body and one of said tongues and the other interposed between said body and the other tongue, said tubular holders being in alinement with each other.

808,597. PENHOLDER. EDWARD E. BLAKESLEE, New York, N. Y. Filed Apr. 12, 1905. Serial No. 255,194.



Claim.—1. In a penholder, the combination with its handle provided with a socket, of a tenon, an elastic strip for flexibly securing said tenon within said socket, and a pin for attaching said securing-strip to said tenon.

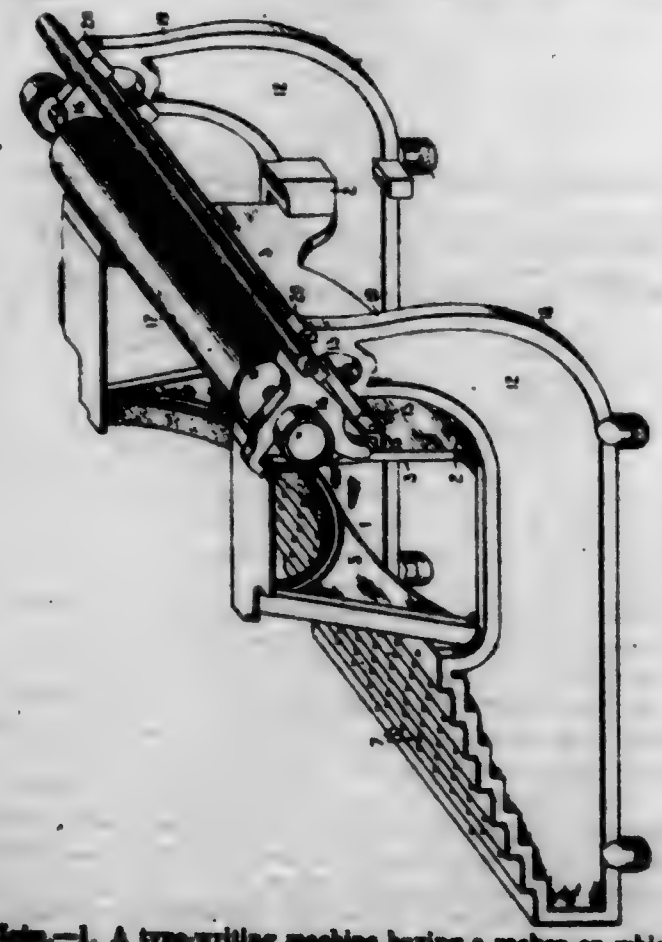
2. In a penholder, the combination with its handle provided with a socket, of a tenon, and a securing-strip provided with projections extending laterally from said tenon and placed across the end of said tenon and held in engagement with the walls of said socket.

3. In a penholder, the combination with its handle provided with a socket, of a tenon, a strip of metal provided with pointed ends, and means for detachably securing said strip to said tenon, said strip extending therefrom laterally and being held in engagement with the walls of said socket.

4. In a penholder, the combination with its handle and an inner support for the pen, of a perforated metal tube tapering forward and outward and placed around the forward portion of said handle, and means for securing said tube to said handle.

5. In a penholder, the combination with its handle and an inner support for the pen, of a tube placed around the forward portion of said handle, and a second tube provided with suitable perforations placed around said tube, the surface of the inner tube opposite such perforations being provided with projections, both said tubes being made tapering forward and outward.

808,598. TYPE-WRITING MACHINE. ALEXANDER T. BROWN, Syracuse, N. Y. Original application filed Oct. 16, 1902. Serial No. 127,549. Divided and this application filed June 13, 1903. Serial No. 161,382.



Claim.—1. A type-writing machine having a rocker on which the machine may be tilted and wholly supported in the tilted position.

2. A type-writing machine having a rearwardly-disposed rocker on which the machine may be tilted or turned back to gain access to the bottom thereof, and on which the machine may be wholly supported in the tilted position.

3. A type-writing machine having a rocker at the rear portion thereof which enables the machine to be tilted rearwardly and maintained on end without resting on the carriage.

4. In a type-writing machine, the combination of a machine-frame having rocker-arms, and a carriage that is carried forward of the rear faces of said rocker-arms and is protected thereby when the machine is turned on end on said rocker-arms.

5. A type-writing machine having a rocker that is curved upwardly and rearwardly from the base of the machine to the rear portion thereof and having a flattened portion that extends upwardly from the termination of the curved portion of the rocker, and on which the machine is adapted to rest when tilted.

6. A type-writing machine having a rocker on which the machine is adapted to be tilted, said rocker extending beyond all of the working parts of the machine so that the working parts are protected from injury during the rocking of the machine and when it rests in the tilted position.

7. A type-writing machine having rocker-arms that are curved upwardly and rearwardly from the base of the machine to the rear portion thereof and having a flattened portion that extends upwardly from the termination of the curved portion of each rocker-arm, and the rear faces of which extend rearwardly beyond the working parts of the machine, and on which rocker-arms the machine is adapted to be tilted.

8. A type-writing machine having a rocker on which the machine may be tilted, the disposition of the rocker and the weight of the machine being such that the machine will be maintained on end when tilted to such position and supported wholly on the rocker.

9. A type-writing machine having rearwardly-disposed rocker-arms on which the machine may be tilted to expose the bottom of the machine, the parts being so constructed and arranged that the machine will be substantially balanced and held in position by the rocker-arms when tilted on end on said rocker-arms.

10. A type-writing machine including side plates that constitute portions of the machine-frame, and rockers on said side plates and on which the machine may be rocked or tilted and by which the machine may be wholly supported on end.

11. A type-writing machine including side plates that constitute portions of the machine-frame, and rearwardly-directed curved rockers on said side plates and on which the machine may be rocked or tilted, said rockers having flattened portions that extend upwardly from the termination of the curved portion of said rockers.

12. A type-writing machine including side plates that constitute portions of the machine-frame, and rearwardly-directed rocker-arms that are curved to form rocking faces and are flattened at their rear portions to provide supports on which the machine may rest with the bottom thereof exposed.

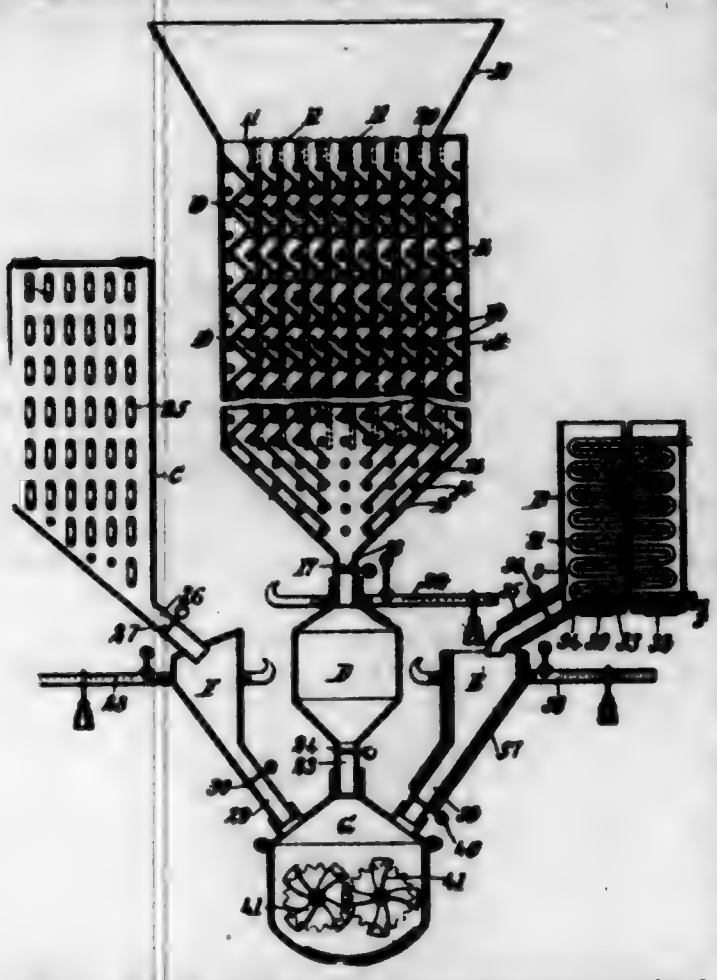
13. A type-writing machine having a main frame so curved and constructed that the machine may be rocked or tilted on the curved portion of the frame and supported in its tilted position wholly by said frame.

808,599. APPARATUS FOR MIXING PAVING COMPOSITIONS. GEORGE W. CRICHFIELD, Jersey City, N. J. Filed Mar. 1, 1905. Serial No. 247,225.

Claim.—1. In a paving-composition plant, the combination of a mixer, a mineral-aggregate bin, a series of baffle-plates located in the bin in staggered relation forming tortuous passages from the upper to the lower portion of the bin, heating-pipes passing into the bin under said plates, vent-pipes communicating with the interior of the bin at various points therein, a weighing device comprising a vessel communicating with the aggregate-bin and discharging into the mixer, and a scale-beam supporting said bin, an asphalt-tank, a heating means coacting therewith, a weighing-receptacle comprising a weighing vessel receiving the asphalt from the asphalt-bin and discharging it into the mixer, and a scale-beam supporting said weighing-receptacle, a third bin adapted to receive finely-divided material, a heating means coacting therewith, a weighing device comprising a weighing-receptacle receiving said material from said third bin and discharging it into the mixer, a scale-beam supporting the weighing-receptacle, and valves controlling the movements of the materials into and from the weighing devices.

2. A paving-composition plant comprising a plurality of bins adapted to receive the materials of which the composition is formed, a means coacting with each bin for treating said materials to prepare them for admixture, weighing-receptacles receiving the materials

from the bins, a mixer into which all of the said weighing-receptacles discharge, and a scale member supporting each weighing-receptacle.



3. In a paving-composition plant, the combination of a plurality of bins adapted to receive the materials of which the composition is formed, a means coacting with each bin to treat the material therein and prepare it for admixture, a weighing-receptacle receiving the material from each bin, a mixer into which all of said weighing-receptacles discharge, and a scale-beam supporting each weighing-receptacle.

4. A paving-composition plant comprising a plurality of bins adapted to receive the materials of which the composition is formed, one of said bins being adapted to receive asphalt and having a steam-jacketed discharge-spout, a means for heating the asphalt-bin, weighing-receptacles receiving the materials from the bins, a mixer into which all of said weighing-receptacles discharge, the weighing-receptacle of the asphalt-bin having a steam-jacket, for the purpose specified, and scale members supporting all of the weighing-receptacles.

5. In a paving-composition plant, the combination of a mineral-aggregate bin, means for heating the interior thereof, a second bin adapted to receive finely-divided material, means for heating the same, a third bin adapted to receive asphalt, means for heating the third bin, a weighing-receptacle for each bin, the weighing-receptacle receiving the materials from the bins, and the weighing-receptacle of the asphalt-bin having a steam-jacket, for the purpose specified, a scale member supporting said weighing-receptacle, and a mixer into which all of the weighing-receptacles discharge.

6. A paving-composition plant comprising a plurality of bins adapted to contain the materials forming the composition, a means coacting with each bin to treat the materials therein and prepare them for admixture, a mixer, and a weighing device in connection with each bin, the weighing devices receiving the materials from the bins and discharging them into the mixer.

7. A paving-composition plant having a plurality of hoppers, one of which is adapted to receive the mineral aggregate, and provided with a means for drying and heating the same, a mixer, and a weighing device for each bin or hopper, the said weighing devices receiving the materials respectively from the bins and discharging the same into the mixer.

8. In a paving-composition plant, the combination of a plurality of bins adapted to receive the materials of which the composition is formed, one of said bins being adapted to contain liquid asphalt and being provided with a means for heating the same, a mixer, and a plurality of measuring devices receiving the materials respectively from the bins and all of the measuring devices discharging into the mixer.

9. A paving-composition plant comprising the combination of a plurality of bins adapted to receive the materials forming the composition, one of said bins being adapted to contain liquid asphalt, a weighing device for each bin, the weighing devices receiving the materials from said bins, and the weighing device of the asphalt-bin comprising a steam-jacketed receptacle, and a mixer into which all of the said weighing devices discharge.

10. A paving-composition plant comprising the combination of a plurality of bins adapted to receive the materials forming the composition, one of said bins being adapted to receive the mineral aggregate and having a series of baffle-plates therein disposed in staggered relation to form tortuous passages through the bin, said bin also having heating-pipes passing through it under said plates, a mixer, means communicating with all of said bins and with the mixer to discharge the materials into the mixer, and valves controlling the movement of the materials into the mixer.

11. A paving-composition plant comprising a mineral-aggregate bin, a means for uniformly heating the same, a liquid-asphalt bin, a means for uniformly heating the same, a mixer, and a valve-controlled means communicating with each bin and discharging into the mixer, said valve-controlled means of the asphalt-bin being steam-jacketed to maintain the asphalt at the proper temperature in its passage to the mixer.

12. A paving-composition plant comprising the combination of a bin adapted to receive finely-divided material, a means for uniformly heating the same, a bin adapted to receive the mineral aggregate, a means for uniformly heating the same, a bin adapted to receive the liquid asphalt, a means for uniformly heating the same, a mixer, and a valve-controlled device for each bin receiving the materials from said bins and discharging them into the mixer.

13. A paving-composition plant comprising a plurality of bins adapted to receive the materials forming the composition, of which bins one is adapted to receive the mineral aggregate and is provided with a plurality of staggered baffle-plates forming tortuous passages through the bin, heating-pipes passing under said passages, a venting means communicating with the interior of the bin at different points therein, a valve-controlled means communicating with each bin and adapted to receive the material therefrom, and a mixer into which all of said valve-controlled means discharge.

14. A paving-composition plant comprising a bin adapted to contain asphalt, means for uniformly heating the same, a steam-jacketed discharge-spout from the bin, a steam-jacketed weighing-receptacle receiving the material from the discharging-spout, a scale-beam supporting the weighing-receptacle, and a mixer into which said weighing-receptacle discharges.

15. A paving-composition plant comprising an asphalt-bin, means for heating the same, a weighing-receptacle receiving the material from the bin and having a steam-jacket, a scale-beam supporting the weighing-receptacle, and a mixer into which said weighing-receptacle discharges.

16. A paving-composition plant comprising the combination of an asphalt-bin, means for heating the same, a weighing device including a steam-jacketed receptacle receiving the material from the asphalt-bin, and a mixer into which the weighing-receptacle discharges.

17. A paving-composition plant comprising a mineral-aggregate bin having a series of baffle-plates disposed in staggered relation and forming tortuous passages vertically through the bin, and heating-pipes passing under said plates at intervals along said passages.

18. A paving-composition plant comprising a bin having therein a series of baffle-plates arranged in staggered relation and forming tortuous passages vertically through the bin, the ends of said plates overlapping to form shelves, and heating-pipes passing under said overlapped ends.

19. A paving-composition plant comprising a bin, an air-blast pipe passing into the interior of the bin, and a vent-pipe located outside of the bin and having a plurality of branches extending into the bin at different points to vent the bin.

20. A paving-composition plant comprising a bin, an air-blast pipe passing into the interior of the bin, a vent-pipe located outside of the bin and having a plurality of branches extending into the bin at different points to vent the bin, and a heating means extending into the bin.

21. A paving-composition plant comprising a bin adapted to receive the mineral aggregate and having therein a series of baffle-plates arranged in staggered relation to form tortuous passages, heating-pipes passing through the bin under said plates, an air-blast pipe discharging into the bin, and a means for venting the interior of the bin.

22. A paving-composition plant comprising a bin adapted to receive the mineral aggregate and having therein a series of baffle-plates arranged in staggered relation to form tortuous passages, heating-pipes passing through the bin under said plates, an air-blast pipe discharging into the bin, and a means for venting the interior of the bin, said venting means comprising a vent-pipe located outside of the bin, and branch pipes extending from different points within the bin outward into the vent-pipe.

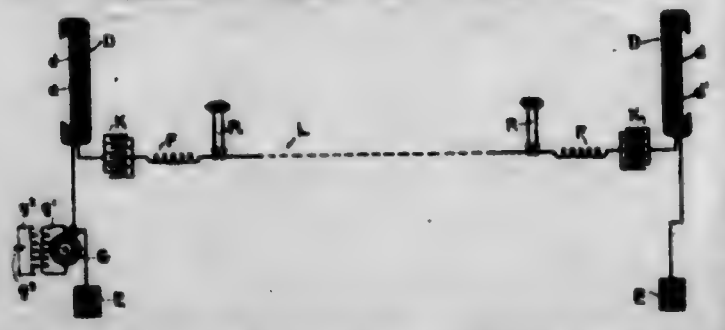
23. A paving-composition plant comprising a bin adapted to contain a mineral aggregate, a series of baffle-plates arranged in staggered relation in the bin and forming tortuous passages through the same, heating-pipes extending into the bin under the baffle-plates uniformly to heat the mineral aggregate within the bin, a liquid-asphalt bin, heating-pipes extending into the same for uniformly heating the contents thereof, a mixer, and means including measuring devices for discharging from said bin into said mixer.

24. A paving-composition plant comprising a bin adapted to contain a mineral aggregate, a series of baffle-plates arranged in staggered relation in the bin and forming tortuous passages through the same, heating-pipes extending into the bin under the baffle-plates uniformly to heat the mineral aggregate within the bin, a liquid-asphalt bin, heating-pipes extending into the same for uniformly heating the contents thereof, a mixer, means including measuring devices for discharging from said bin into said mixer, an air-blast means discharging into the mineral-aggregate bin, and a vent-pipe located outside of the bin and having branches extending into the bin at different points to vent the interior thereof.

25. A paving-composition plant comprising a bin adapted to contain a mineral aggregate, a series of baffle-plates arranged in staggered relation in the bin and forming tortuous passages through the same, heating-pipes extending into the bin under the baffle-plates uniformly to heat the mineral aggregate within the bin, a liquid-asphalt bin, heating-pipes extending into the same for uniformly heating the contents thereof, a mixer, and means including measuring devices for discharging from said bin into said mixer, a third bin adapted to receive finely-divided material, a means extending into the interior thereof for heating said material, and means including a measuring device for discharging from the additional bin into the mixer.

26. A paving-composition plant comprising a bin adapted to contain a mineral aggregate, a series of baffle-plates arranged in staggered relation in the bin and forming tortuous passages through the same, heating-pipes extending into the bin under the baffle-plates uniformly to heat the mineral aggregate within the bin, a liquid-asphalt bin, heating-pipes extending into the same for uniformly heating the contents thereof, a mixer, and means including measuring devices for discharging from said bin into said mixer, the said liquid-asphalt bin having a jacketed discharge-spout, and the measuring devices being jacketed, for the purpose specified.

808,600. **TELEPHONY.** ALBERT G. DAVIS, Schenectady, N. Y. Original application filed Apr. 22, 1897, Serial No. 633,258. Divided and this application filed May 18, 1900. Serial No. 17,246.



Claim.—1. The method of creating a telephonic current, which consists in impressing an alternating electromotive force on a circuit, and varying the reactance of the circuit around a point near but not at the resonance-point in substantial accordance with the sound to be transmitted.

2. The method of transmitting speech by electricity, which consists in generating an alternating current, passing it through a circuit tuned nearly but not exactly to resonance, and varying the reactance of the circuit in substantial accordance with the speech-wave.

3. The method of transmitting speech by electricity, which consists in generating alternating current, shunting said alternating current by a circuit tuned nearly but not to resonance, and varying the resonance of said circuit in substantial accordance with the speech-wave.

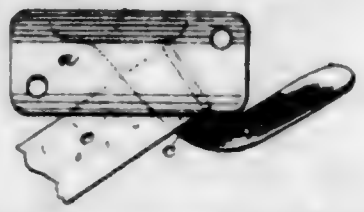
4. The method of transmitting speech by electricity, which consists in generating an alternating current, impressing it upon a circuit or portion of a circuit, and progressively varying the coefficient of self-induction of the said circuit by the action of a transmitter furnishing the inductance for said circuit.

5. The method of multiplex telephony, which consists in impressing upon a line a plurality of alternating waves of different frequencies, and gradually and progressively varying said waves in accordance with the sound-waves to be transmitted by varying the reactance of a transmitter-circuit around a point near to but not in resonance with one of said frequencies.

6. The method of multiplex telephony, which consists in generating a plurality of alternating currents, varying said currents in accordance with the sounds to be transmitted by progressively varying the reactance of the transmitters, adjusted near to but not at the resonance-point, and causing the said currents, thus varied, to actuate receivers.

7. The method of multiplex telephony which consists in progressively varying the resonance of a plurality of branch circuits or local circuits, tuned to different frequencies, by the action of transmitters which furnish the inductance for said circuits, in accordance with the sound-waves to be transmitted.

808,601. **HOLDBACK-FASTENING.** ORIN C. DAVIS, Manistee, Mich. Filed Feb. 5, 1904. Serial No. 192,099.



Claim.—1. A holdback-fastening consisting of a plate formed with a post approximately perpendicular thereto and an arm extending from the free end of said post obliquely inward and terminating in a fin-shaped extension which projects obliquely outward and forward from the inner end of said arm and forms therewith a shoulder closely approaching the plane of said plate, substantially as described.

2. A holdback-fastening consisting of a plate formed at one side with a depending flattened and longitudinally-extended post approximately perpendicular thereto, and an arm extending forwardly and obliquely across said plate toward its inner edge and terminating in a flattened, reversely-bent, forward and outward extension, substantially as described.

3. A holdback-fastening consisting of a plate formed at one side with a depending post approximately perpendicular thereto, and an arm extending forwardly and obliquely across said plate and terminating in a reverse forwardly and outwardly bent, flattened, tapered extension twisted from an approximately perpendicular toward a horizontal plane in the direction of its free end, substantially as described.

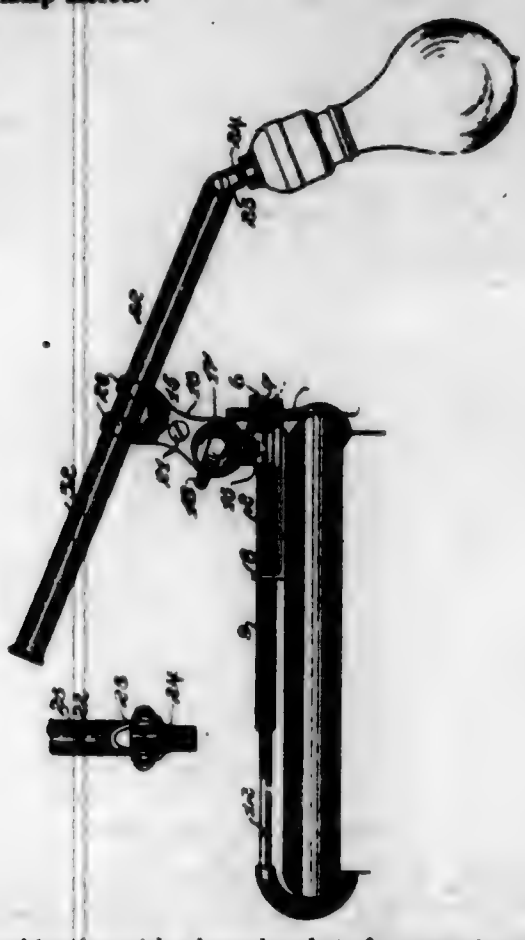
808,602. **DESK-BRACKET.** ALAN R. PENGELLY, New York, N. Y., assignor to The Warren Ball Bearing Fixture Company, New York, N. Y., a Corporation of New York. Filed Mar. 3, 1903. Renewed Nov. 15, 1905. Serial No. 287,499.

Claim.—1. A desk-bracket, comprising clamping means comprehending a pair of longitudinally-adjustable members, one of said members having a plate embodying a clamping-face and a pair of vertically-adjustable clamping-faces cooperative therewith, each having a threaded shank and a nut located thereon adapted to adjust each face toward and from said plate.

2. A desk-bracket, comprising clamping means comprehending a pair of longitudinally-adjustable members, one of said members having a pair of vertically-adjustable clamping-faces, each having a threaded shank and a nut located thereon adapted to adjust each face, and a plate carrying one of said longitudinally-adjustable members and cooperating with said faces to clamp the bracket in position transversely of said first clamping means.

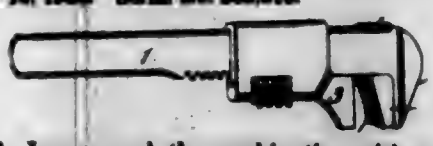
3. The herein-described desk-clamp, comprising a pair of longitudinally-adjustable members, each carrying one or more clamping-faces, each clamping-face of one of said members having a threaded shank, a nut thereon for adjusting the face in a vertical plane, a plate carrying one of said longitudinally-adjustable members and coacting with said vertically-adjustable clamping face or faces, a standard carried by said plate, a bracket having a universal-joint connection with said standard, and provided with spring-arms,

a single tubular lamp-carrier adjustable relatively to said spring-arms, and a swinging device attached to said tubular carrier for coupling the lamp thereto.



4. The combination with a lamp-bracket of a support or standard therefor, a clamping plate or member attached to the support, a second clamping member having a screw-threaded portion, the latter member being arranged to coöperate with the first clamping member to grip the front edge of the desk-top, means to engage such threaded portion of the second clamping member and arranged to adjust the clamping members, and a third clamping member connected with said support and adjustable relative thereto to coöperate with said second clamping member and thereby grip the opposite edges of the desk-top and secure the support and bracket thereto.

808,603. WRENCH. JAMES J. FITZGERALD, Columbiana, Ohio, assignor to The Bertrand Company, Fremont, Ohio, a Corporation of Ohio. Filed May 10, 1905. Serial No. 259,910.



Claim.—1. In a wrench the combination with an auxiliary detachable jaw having a spring-acting retaining-hook, and side flanges adapted to partially embrace one main jaw of the wrench, substantially as described.

2. In a wrench the combination with an auxiliary detachable jaw having a spring-acting retaining-hook and projecting side flanges adapted to coact with said hook to prevent accidental displacement of said auxiliary jaw, substantially as described.

3. As an article of manufacture a unitary auxiliary detachable wrench-jaw, having a spring-acting retaining-hook for engagement with a wrench-handle, and projecting side flanges for engagement with one jaw of a wrench, substantially as described.

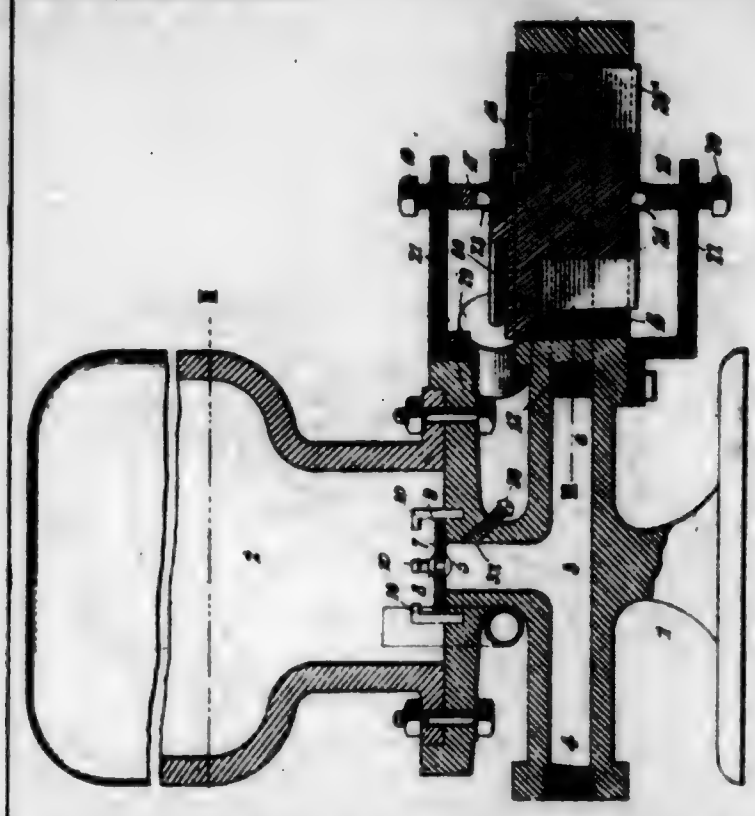
4. In a wrench the combination with an auxiliary detachable jaw having side locking-flanges, a spring-acting retaining-hook surmounting one of said flanges, and a serrated space-block between said flanges, substantially as described.

808,604. HYDRAULIC RAM. ALFRED H. FRANCFORT, Jersey City, N. J. Filed July 29, 1905. Serial No. 271,222.

Claim.—1. In an hydraulic ram, the combination of a drive-pipe, an air-chamber, a circular centrally-mounted oscillating valve and an air-feed for said chamber, substantially as described.

2. In an hydraulic ram, the combination of a drive-pipe having branches to opposite sides of an oscillating valve, and ports for delivering the liquid to opposite sides of the valve, substantially as set forth.

3. In an hydraulic ram, the combination of a drive-pipe having ports delivering water on opposite sides of the valve at a tangent to the valve, the acting ports delivering the water parallel to each other and in opposite directions.



4. In an hydraulic ram, the combination of a drive-pipe, an intermittently-oscillating valve adapted to produce the ramming action, and a casting circular in form inclosing the branches of the drive-pipe.

5. In an hydraulic ram, the combination of a drive-pipe, a valve-box whose outer shell incloses the branches of the drive-pipe, an oscillating valve operated by the branches of said drive-pipe, and angularly-directed ports in said branches adapted to produce the oscillatory movement of the valve, substantially as set forth.

6. In an hydraulic ram, the combination of a drive-pipe having branches provided with angularly-directed ports, and a valve having open and solid segments adapted to open and close the said ports, substantially as described.

7. In an hydraulic ram, a valve-chamber having ports, and an impact gate or valve mounted to move to and fro in front of said ports under the influence of liquid impelled alternately in different directions thereagainst.

8. In an hydraulic ram, a valve-chamber having ports, and an impact gate or valve actuated by the momentum of the liquid and mounted to move to and fro in front of said ports under the influence of liquid impelled alternately in different directions thereagainst.

9. In an hydraulic ram, the combination of a drive-pipe, a circular oscillating valve having a closed and an open segment, and an air-chamber arranged in operative relation thereto, substantially as set forth.

10. In an hydraulic ram, the combination of a drive-pipe, a circular oscillating valve having a plurality of open and closed segments adapted to open and close the drive-pipe.

11. In an hydraulic ram, the combination of an oscillating valve having open and closed segments, a drive-pipe communicating therewith, a valve-box conically shaped, and means for compensating the wear of the valve and box substantially as set forth.

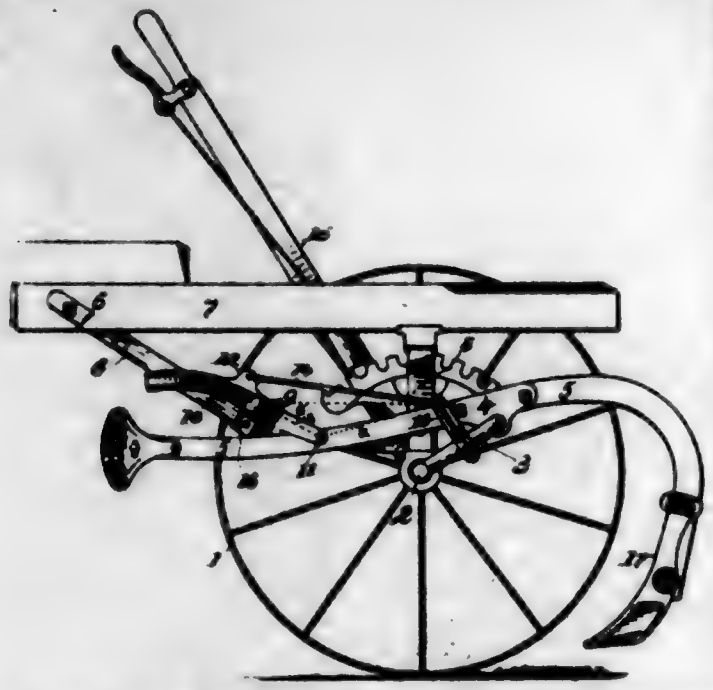
12. In an hydraulic ram, a swinging impact gate or valve having vane-surfaces and means for directing the liquid against said surfaces alternately in different directions.

13. In an hydraulic ram, a valve-chamber having ports extending in different directions, and an impact gate or valve mounted to move to and fro in front of said ports whereby the liquid is alternately directed therethrough against the gate.

808,605. PLOW. WILLIAM S. GRAHAM, Canton, Ill., assignor to Parlin & Orendorff Company, Canton, Ill., a Corporation of Illinois. Filed Oct. 2, 1905. Serial No. 281,184.

Claim.—1. In a plow, the combination of a frame, a plow-beam, a swingable lift for the plow-beam pivoted at one end in the frame and at the other end to the plow-beam, a bearing fixed in the frame in front of the plow-lift, a slide-bar pivotally secured at one end to

the plow-beam with its free end in slidable connection with the relatively fixed bearing, a brace-rod connecting the sliding end of the slide-bar to the swinging part of the plow-lift, and means for rocking the plow-lift.



2. In a plow, the combination of a frame, a plow-beam, a swingable lift for the plow-beam pivoted at one end in the frame and at the other end to the plow-beam, a bearing fixed in the frame in front of the plow-lift, an arc-formed slide-bar pivotally secured at one end to the plow-beam and held in slidable connection with the relatively fixed bearing, a brace-rod connecting the sliding part of the arc-formed bar with the swinging part of the plow-lift, and a lock-lever attached to the plow-lift.

3. In a plow, the combination of a frame, a cranked shaft pivotally sustained in the frame, a plow-beam pivotally connected with the cranked part of the shaft, a bearing fixed in the frame in front of the shaft, a slide-bar pivotally secured at one end to the plow-beam and held in slidable connection with the relatively fixed bearing, a brace-rod connecting the sliding part of the slide-bar to the crank of the shaft and a lock-lever attached to the shaft.

4. In a plow, the combination of a frame, wheels sustaining the frame, a cranked axle for the wheels, a plow-beam pivotally connected with the cranked part of the axle, a bearing fixed in the frame in front of the axle, a slide-bar pivotally secured at one end to the plow-beam and held in slidable connection with the relatively fixed bearing, a brace-rod connecting the sliding part of the slide-bar with the cranked part of the axle, and a lock-lever attached to the axle.

5. In a plow, the combination of a frame, a plow-beam, a swingable lift for the plow-beam pivoted at one end in the frame and at the other end in the plow-beam, a bearing fixed in the frame in front of the plow-lift, a slide-bar pivotally secured at one end to the plow-beam and held in slidable connection with the relatively fixed bearing, an arm on the plow-lift extending upward therefrom, a brace-rod connecting the upper end of the arm with the sliding part of the slide-bar, and a lock-lever for the plow-lift.

6. In a plow, the combination with a frame, a plow-beam and a plow-beam lift, of a two-part stay structure pivotally connected together and pivoted one on the beam and the other on the lift, and a relatively fixed bearing in the frame with which the stay structure is slidably connected, substantially as described.

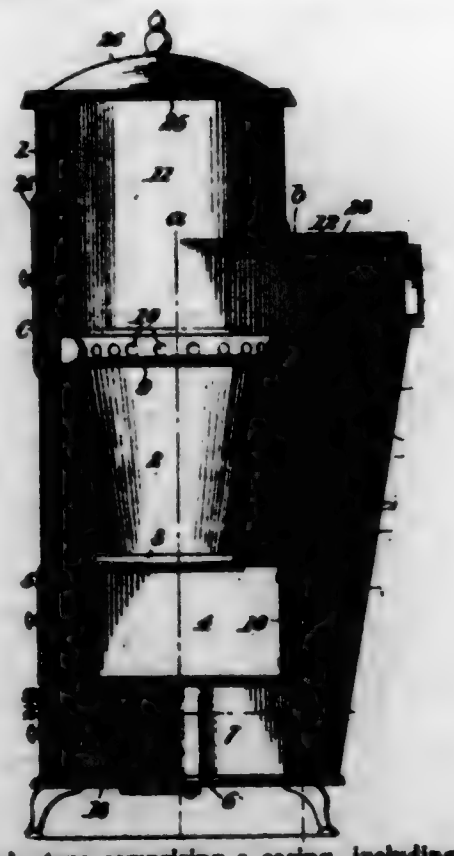
7. In a plow, the combination with a frame, a plow-beam and a plow-beam lift, of a stay structure pivotally conjoined and forming with the beam and the lift a variable triangle, and a relatively fixed bearing in the frame with which the stay structure is slidably connected, substantially as described.

808,606. HOLDER FOR TOOTHPICKS AND SIMILAR ARTICLES. CHARLES P. HAMM, Toledo, Ohio, assignor to Adolph J. Gunsen, Toledo, Ohio. Filed June 16, 1904. Serial No. 212,382.

Claim.—As a new article of manufacture, a package or holder of the character described made from a single blank and comprising an elongated strip having a weakened line near one end of the same defining a bottom flap, a weakened line substantially midway of its length defining the back of the holder and a front closing flap, of substantially the full length of the back, lateral extensions upon opposite sides of the strip having their upper edges a distance below said second weakened line, one of said extensions being of materially less width than the back of the holder, and the other extension being of substantially the full width of the back of the holder, said extensions being bent over with the wider one superimposed upon the narrower one to form the front of the pocket of the holder, in which the outer longitudinal edge of the wider extension is substantially coincident with the opposite edge of the strip from which said wider extension projects, thereby presenting an uninterrupted front face or front wall to the pocket, said first-named flap being bent over upon said superimposed extensions and secured thereto, and said second flap being bent over on the weakened line to form the front of the closed holder, substantially as described.



808,607. STOVE. FRANK HAMMOND, Jackson, Mich., assignor of one-half to George T. Brown, Battlecreek, Mich. Filed June 24, 1904. Serial No. 214,094.



Claim.—1. A stove comprising a casing, including an offset portion extending throughout its width, the casing having an opening in its bottom; a fuel-chamber and an ash-pit; a perforated air-chamber arranged at the top of the fuel-chamber; a passage communicating with the opening in the bottom of the stove for conveying air to the perforated air-chamber, said passage being confined within the casing; a slidable door in the rear of the ash-pit, whereby air may be directed from the said passage into the bottom of the fuel-chamber, said door being confined within the casing; and means constructed and arranged to convey the products of combustion downwardly over a course in the rear of the casing and upon one side thereof, then around the interior part of the casing and finally upwardly over a course in the rear of the aforesaid downward course and throughout the width of the casing, the said means being confined within the casing.

2. A stove, comprising a casing, including an offset portion having an inclined back, the casing having an opening in its bottom; a fuel-chamber and an ash-pit; a passage arranged between the said

opening and top of the fuel-chamber; a second passage for conveying the products of combustion from the fuel-chamber downwardly in the rear of the latter, the second passage opening throughout one of its sides, and a third passage in the rear of the second passage for conveying the products of combustion upwardly toward the top of the casing, all of the passages being confined within the casing.

3. A stove comprising a casing having an opening in its bottom, a fuel-chamber and an ash-pit, an air-passage between the said opening and the fuel-chamber; a passage in the rear of the first passage for conveying products of combustion downwardly from the fuel-chamber, and a third passage in the rear of the second passage for conveying the products of combustion upwardly, all of the said passages being confined within the casing.

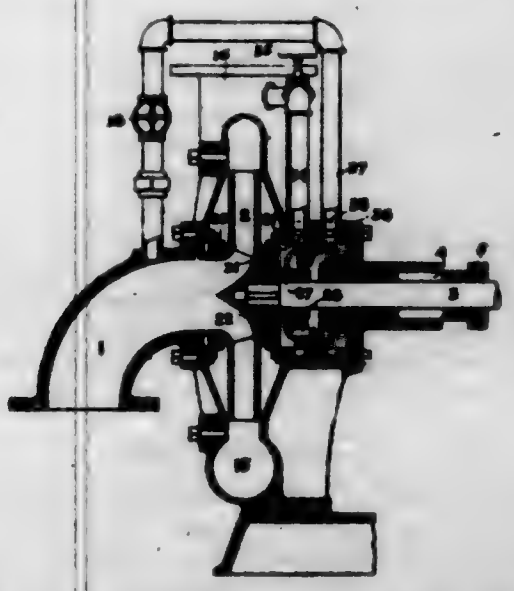
4. A stove comprising a casing, including an offset portion; a fuel-chamber and an ash-pit, said casing having an opening in its bottom, and its upper portion above the fuel-chamber being free of obstructions; an air-passage between said opening and the fuel-chamber; a second passage in the rear of the first passage for conveying the products of combustion downwardly, said second passage being open throughout one of its sides; and a third passage in the rear of the second passage and of greater width than the latter, all of said passages being confined within the casing.

5. A stove comprising a casing, a fuel-chamber and an ash-pit; an air-passage in the rear of the fuel-chamber and in communication therewith, said passage being of less width than the casing; a second passage in the rear of the first passage for conveying the products of combustion downwardly, the second passage being of greater width than the first passage; a third passage in the rear of the second passage for conveying the products of combustion upwardly, the third passage being of greater width than the second passage; and a door in the ash-pit for directing air from the first passage into the ash-pit, said door having a handle piercing one side of the casing, all of the passages being confined within the casing.

6. A stove comprising a casing having an opening in its bottom and an offset rear portion extending throughout its width; a fuel-chamber and an ash-pit, an air-passage betwen the said opening and the fuel-chamber; a second passage in the rear of the first passage for conveying the products of combustion downwardly; and a third passage in the rear of the second passage for conveying the products of combustion upwardly, all of the passages being confined within the casing and its offset portion, the latter being non-perforate.

7. A stove comprising a casing, a fuel-chamber and an ash-pit; an air-passage leading to the fuel-chamber, said passage being of less width than the casing; a second passage in the rear of the first passage for conveying the products of combustion downwardly, the second passage being of greater width than the first passage; and a third passage in the rear of the second passage for conveying the products of combustion upwardly, the third passage being of greater width than the second passage.

808,608. SELF-BALANCING CENTRIFUGAL PUMP. ERNEST B. KRETSCHMAR, Alameda, Cal. Filed May 20, 1905. Serial No. 261,700.

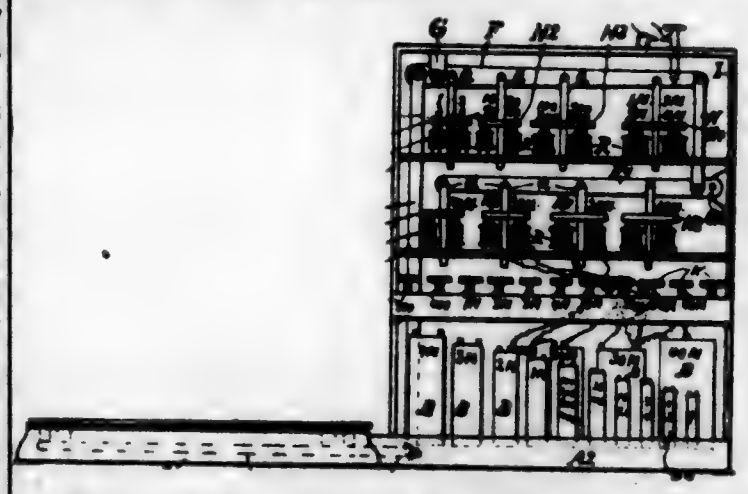


Claim.—1. A self-balancing centrifugal pump comprising a suitable casing, an endwise-movable shaft, impellers thereon, an element carried by the shaft to form an abutment, the casing having a pressure-chamber adjacent to said abutment, water connections to said chamber from regions of different pressures, and means for automatically varying the proportions of water admitted to said chamber through said connections, substantially as described.

2. A self-balancing centrifugal pump comprising a suitable casing, an endwise-movable shaft, impellers thereon, an element carried by the shaft to form an abutment, the casing having a pressure-chamber adjacent to said abutment, water connections to said chamber from regions of different pressures, and a valve controlling said connections, substantially as described.

3. A self-balancing centrifugal pump comprising a suitable casing, an endwise-movable shaft, impellers thereon, an element carried by the shaft to form an abutment, the casing having a pressure-chamber adjacent to said abutment, water connections to said chamber from regions of different pressures and a valve controlling said connections, operated by the endwise movement of the shaft, substantially as described.

808,609. WEIGHING-SCALE. PETER LEWIS, Minneapolis, Minn. Filed July 10, 1905. Serial No. 269,088.



Claim.—1. In a weighing-scale, the combination with the scale-beam of a series of poise-rods suspended therefrom, iron plates secured on said rods, electromagnets of various capacities arranged below the plates, electric batteries of various strengths connected with the magnets, keys inserted in the circuits and marked with numbers representing units of weight in the following order: 1, 2, 3, 4, 10, 20, 30, 40, 100, 200, 300, 400, 1000, 2000, 3000, 4000, 10,000, 20,000, 30,000, 40,000, &c.

2. In a weighing-scale, the combination with the scale-beam of a series of poise-rods suspended therefrom, iron plates secured on said rods, electromagnets of various capacities arranged below the plates, electric batteries of various strengths connected with the magnets, keys inserted in the circuits and marked with numbers representing units of weight.

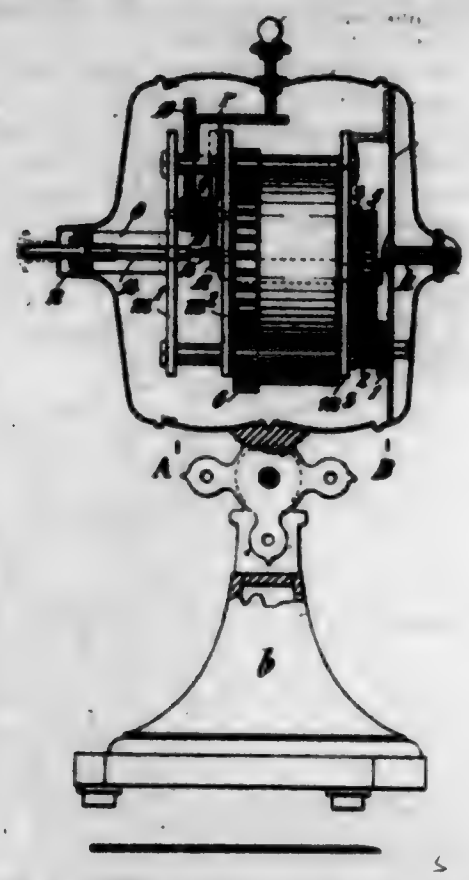
3. In a weighing-scale, the combination with the scale-beam of a series of poise-rods and plates suspended therefrom, iron plates secured on said rods, electromagnets of various capacities arranged below the plates, electric batteries of various strengths connected with the magnets, keys inserted in the circuits and marked with numbers representing units of weight, said numbers being such that when properly combined they will produce all the successive numbers from one to the highest number to be weighed on the scale.

4. In a weighing-scale, the combination with the scale-beam of a series of poise-rods and plates suspended therefrom, iron plates secured on said rods, electromagnets of various capacities arranged below the plates, electric batteries of various strengths connected with the magnets, spring-elevated keys inserted in the circuits and marked with numbers representing units of weight, said numbers being such that when properly combined they will produce all the successive numbers from one to the highest number to be weighed on the scale, and automatic means for holding said keys down, and means for releasing the depressed keys, substantially as set forth.

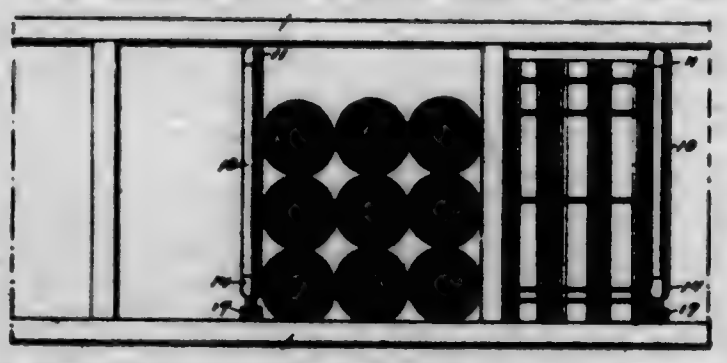
808,610. FAN. HANS LOEWENER, Berlin, Germany, assignor, by mesne assignments, to Otto Gustav Adolf Littmann, Charlottenburg, near Berlin, Germany. Filed Oct. 2, 1903. Serial No. 175,496.

Claim.—In combination with a fan and its spindle having a pinion rigidly mounted thereon, a clockwork for operating the fan comprising a front plate having a hole therein, said hole being larger in diameter than the diameter of the pinion, a middle plate having a bearing for the spindle, a back plate, a driving-drum mounted between the middle and back plates, toothed transmission-gearing mounted between the front and middle plates, a cross-piece on the front plate,

a removable ball-bearing in said screen-piece, said fan-spindle passing through the ball-bearing and through the hole in the front plate and having its inner end engaging in the bearing in the middle plate so that the pinion on said spindle will engage with the before-mentioned transmission-gear whereby when the ball-bearing is removed the fan-spindle with its pinion can be removed from the clockwork.



808,611. ADJUSTABLE ROD FOR SHELVES. Merrick F. Miller, Indianola, Iowa. Filed Jan. 16, 1905. Serial No. 241,226.



Claim.—In a device of the class described, a rod, a pointed cap firmly secured to one end of the rod, a screw-threaded cap secured to the other end of the rod, a screw extending through the screw-threaded cap, and a roughened head or surface at the outer end of the screw designed to be placed in engagement with a shelf and to hold the screw against rotary movement while the rod is being turned for fixing the rod in position between two shelves.

808,612. TENSION DEVICE FOR SHEARS. Edwin J. Newton, Chicago, Ill. Filed Nov. 23, 1905. Serial No. 288,250.



Claim.—In combination with a pair of scissors or shears, a pivot, a flat extended bearing-surface on the scissors or shears back of the pivot, a tension device consisting of a strip of metal having an aperture to receive the pivot, a tension-engaging member on the pivot against which said tension member bears, one end of the tension device being in contact with the blade of the scissors or shears, the said strip having a threaded aperture near the end opposite that bearing on the blade, and a screw in the threaded aperture having its end frictionally held on the extended surface and adapted to be adjusted to different positions on the said extended surface.

808,613. EGG-BEATER. Charles C. Parish, Kingston, N. Y. Filed Aug. 16, 1904. Serial No. 220,174.

Claim.—1. In an egg-beater, the combination with a handle, a shank therefor, a hollow stud on said shank, a beater-frame carried by said handle, a rotary beater-blade mounted on said frame and a pinion actuating said blade, of a main gear, a hollow hub therefor presenting surfaces adapted to encircle said stud and bear upon the periphery thereof, and means passing through said stud and engaging said gear whereby said gear is held on said stud.



2. In an egg-beater, the combination with a handle, a shank therefor, a hollow stud on said shank, a beater-frame carried by said handle, a rotary beater-blade mounted on said frame and a pinion actuating said blade, of a main gear, a hollow hub therefor presenting surfaces adapted to encircle said stud and bear upon the periphery thereof, and a headed rivet passing through said hollow stud and engaging said gear, and having its free end upset whereby said gear is held on said stud.

3. In an egg-beater, the combination with a handle, a shank therefor, having a hollow stud thereon, a beater-frame carried by said shank, a rotating beater-blade mounted on said frame and a pinion actuating said blade, of a main gear having a balance-rim thereon extending into close juxtaposition to said shank, and a hub mounted upon said stud and means passing through said stud and engaging said gear, whereby said gear is held on said stud.

4. In an egg-beater, the combination with a handle, a shank therefor having a hollow stud and side extensions thereon, a beater-frame carried by said shank, a rotating beater-blade mounted on said frame, and a pinion actuating said blade, of a main gear having a balance-rim thereon extending into close juxtaposition to said shank and said extensions, and a hub mounted upon said stud and means passing through said stud and engaging said gear, whereby said gear is held on said stud.

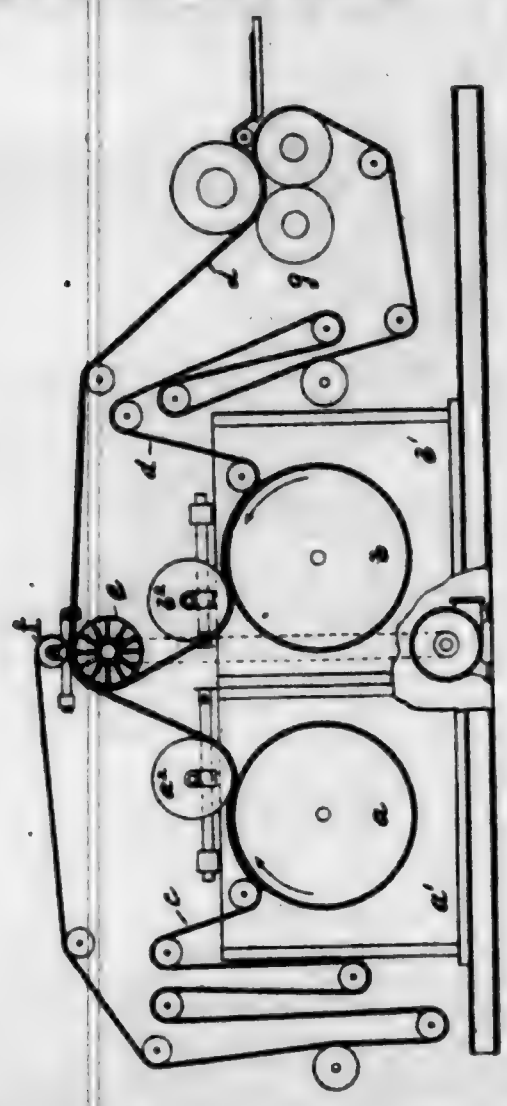
5. In an egg-beater, the combination with a handle, a shank therefor, a butt provided with parallel vertical ribs on opposite sides thereof having a hole extending laterally therethrough, one of said ribs being cut away opposite said hole, a beater-frame the opposite ends of which are formed with a looped portion adapted to enter said cut-away portion, a rivet passing through said opening and both said looped portions whereby said frame is secured in place, a plurality of rotating beater-blades mounted on said frame, intermeshing pinions carried thereby and a main gear mounted on said shank and meshing with one of said pinions.

6. In an egg-beater, the combination with a handle, a shank therefor, a butt provided with parallel vertical ribs on opposite sides thereof having a hole extending laterally therethrough, one of said ribs being cut away opposite said hole a beater-frame, the opposite ends of which are formed with a looped portion adapted to enter said cut-away portion, a rivet passing through said hole and both said looped portions, a washer on the free end of said rivet, whereby said frame is secured in place, a plurality of rotating beater-blades mounted on said frame, intermeshing pinions carried thereby and a main gear mounted on said shank and meshing with one of said pinions.

808,614. PULP AND PAPER MACHINERY. Howard Parkin, Nashua, N. H., assignor to Improved Paper Machinery Company, Nashua, N. H., a Corporation of Maine. Filed Apr. 17, 1905. Serial No. 255,804.

Claim.—1. In a machine of the class specified the independent cylinder-molds each provided with its own couch-roll, a suction apparatus, and endless felts adapted to take off the pulp from said cylinder-molds, said webs of pulp being laid one upon the other and passed over said suction apparatus, means for exerting pressure on said united webs of pulp directly over the suction apparatus, and

presser-rolls acting on said pulp after it has passed through said suction apparatus, substantially as described.



2. A machine of the class specified comprising a series of independent cylinder-molds each provided with its own couch-roll and endless felt, for taking off a web of pulp from each cylinder-mold, means for forming said individual webs of pulp into a single composite web, a suction apparatus over which said composite web of pulp passes, a presser-roll located above and coöperating with said suction apparatus to firmly unite the parts of said composite web and dry it, substantially as described.

3. A machine of the class specified comprising a series of cylinder-molds each provided with their own couch-rolls and endless felts, a suction apparatus over which a composite web of pulp formed by joining individual webs from the several cylinder-molds passes, and a presser-roll operating on said composite web in coöperation with said suction apparatus to firmly unite it, substantially as described.

808,615. POTATO-DIGGER. JOSEPH F. SHEFFIELD, Howlett, Mich., assignor to himself, Charles W. Norton, and Edwin Henderson, Detroit, Mich. Filed May 26, 1905. Serial No. 262,130.



Claim.—1. In a potato-digger, in combination with a frame provided with driving-wheels, and a forward portion in the form of a shovel, a gear-wheel carried on one of said driving-wheels, a sprocket-wheel carrying a gear-wheel adapted to mesh with said first-named gear-wheel, a second sprocket-wheel axially in alinement with the first, a sprocket-chain carrying a grid and engaging over said sprocket-wheels, fingers depending from the rear of said frame adapted to be vibrated by engagement with said sprocket-chain, and means whereby said fingers may be moved out of such engaging position, substantially as described.

2. In a potato-digger, in combination with driving-wheels, and an axle therefor, a frame carrying a shovel on its forward portion, a plurality of sprocket-wheels carried by said frame, means whereby the motion of the driving-wheels may be imparted to said sprocket-wheels, a chain carrying a grid engaging over said sprocket-wheels, and a plurality of vibrative fingers depending from the rear of said frame normally engaging against said sprocket-chain, and adapted to be moved from such position of engagement without stoppage of the remaining portion of the mechanism, substantially as described.

3. In a potato-digger, in combination with driving-wheels, and an axle therefor, a frame terminating at its front end with a shovel, sprocket-wheels carried by said frame, a sprocket-chain carrying a grid engaging thereover, said chain being arranged to be actuated by said driving-wheels, fingers depending from the rear of said frame adapted to be vibrated by said sprocket-chain, and means whereby said fingers may be lifted from engagement against said sprocket-chain, substantially as described.

4. In a potato-digger, in combination with driving-wheels, a frame terminating at its front end with a shovel, a grid-carrier mounted upon said frame and arranged to be actuated by said driving-wheels, hanging fingers at the rear of said frame, arranged to be vibrated by said grid-carrier, and means whereby said fingers may be moved from vibrative position and said shovel end simultaneously raised from engagement with the ground, substantially as described.

808,616. VELOCIPEDE. FRANK M. THOMPSON, East Liverpool, Ohio, assignor for one-half to Silas Mencugh, Columbiana county, Ohio. Filed Feb. 18, 1905. Serial No. 246,237.



Claim.—1. The combination in an apparatus substantially as described of the sulky having a crank-axle and the shafts, the imitation horse secured between the shafts and having a hollow body and front and rear legs composed each of upper sections pivoted at their upper ends to the body and lower sections pivoted at their upper ends to the lower ends of the upper sections, springs extending across the joint between the upper and lower leg-sections and connected with said leg-sections, levers pivoted between their ends concentric with the pivotal connections of the upper leg-sections with the body and having their upper arms extended into the body of the horse, rods connecting the upper ends of the front and rear levers and extending within the body of the horse, the steering-wheel, and the bracing-frame connected with the shaft of the steering-wheel and extending around the body of the horse and secured between its ends to the shafts of the sulky, substantially as set forth.

2. The combination with the sulky-shafts and the steering-wheel, of the imitation figure secured between the shafts and the bracing-frame connected between its ends with the shafts and extending around the body of the figure and connected with the steering-wheel, substantially as set forth.

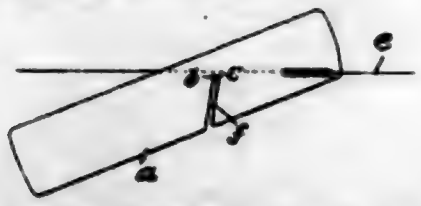
8. The combination with the imitation figure and the sulky-shafts of the steering-wheel having its shaft journaled vertically in the figure, and the bracing-frame connected with said steering-shaft above and below the figure and secured between its ends to the sulky-shafts, substantially as set forth.

4. The combination of the sulky-shafts and the figure secured between said shafts, the steering-wheel shaft journaled in the figure, the bracing-frame secured to said steering-shaft above and below the figure and extending around said figure and having front and rear bars inclined, respectively, forwardly and rearwardly to their juncture with the sulky-shafts and secured to the shafts, substantially as set forth.

5. The combination of the sulky-shafts, the hollow imitation figure, the steering-wheel shaft extending through the said figure, the sleeve on said shaft within the figure and bearing at its ends against the upper and lower walls thereof, and the bracing-frame connected with the steering-shaft above and below the figure and extending around the latter and secured to the sulky-shafts, substantially as set forth.

6. The combination with the imitation figure having a body and legs composed of upper sections pivoted to the body and lower sections pivoted to the upper sections, levers pivoted between their ends and extending downwardly past the joint between the leg-sections and having their lower ends connected with the lower leg-sections, connections between the upper ends of said levers, and means for operating the levers, substantially as set forth.

808,617. FALLER FOR STOP-MOTION MECHANISMS FOR TEXTILE MACHINERY. JOSEPH B. WHITNEY, Brooklyn, N. Y. Filed Sept. 5, 1905. Serial No. 276,962.



Claim.—1. A pivoted faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having an attenuated thread-aperture disposed substantially coincident with the thread-line when the faller is operatively engaged by the thread, said aperture being substantially shorter than the dimension across the faller represented by said thread-line, substantially as described.

2. A pivoted faller for stop-motion mechanisms for textile machinery having an attenuated thread-aperture extending in a line running in substantially the direction of the pivoting-point of said faller, substantially as described.

3. In a stop-motion mechanism for textile machinery, the combination of means for sustaining the warp, a pivotal support and a faller consisting of a sheet-like body having one end heavier than the other and an attenuated thread-aperture disposed between its pivot and its other end, substantially as described.

4. In a stop-motion mechanism for textile machinery, the combination of means for sustaining the warp, a pivotal support and a faller consisting of a sheet-like body having one end heavier than the other and an attenuated thread-aperture disposed between its pivot and its other end, said aperture extending in substantial coincidence with the thread-line when the faller is operatively engaged by the thread, substantially as described.

5. A pivoted faller for stop-motion mechanisms for textile machinery having an opening entering the same from the perimeter thereof at approximately a point midway between its ends and extending to its pivoting-point, substantially as described.

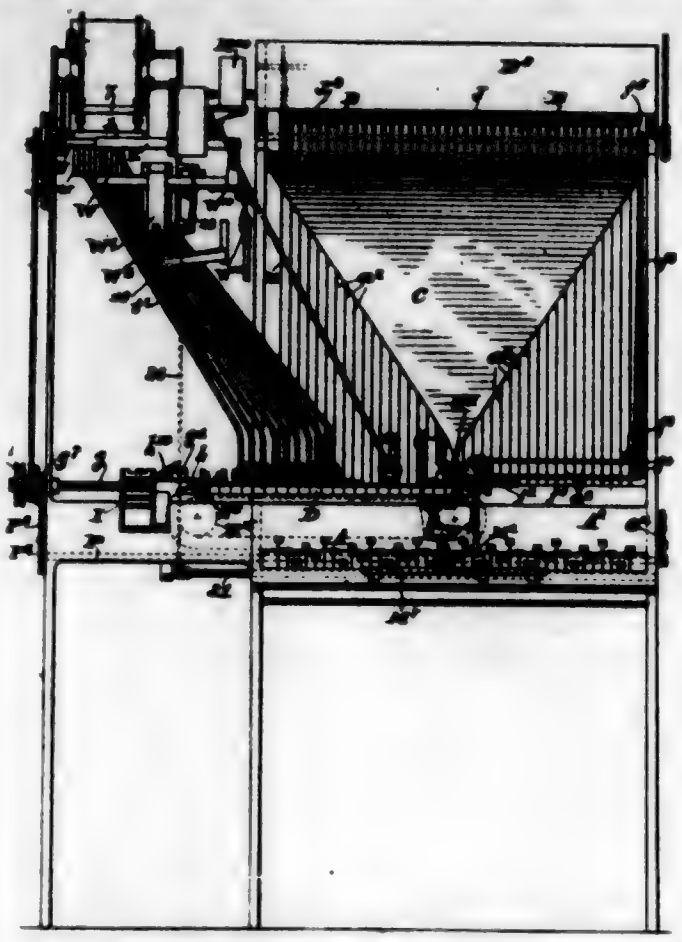
6. A pivoted faller for stop-motion mechanisms for textile machinery composed of a sheet-like body having an opening entering the same from the edge thereof at approximately a point midway between its ends and extending to its pivoting-point, substantially as described.

REISSUES.

12,436. MECHANISM FOR PREPARING PRINTING-SURFACES. BYRON A. BROOKS, New York, N. Y. Filed Apr. 15, 1904. Serial No. 203,157. Original No. 762,976, dated Jun. 5, 1904.

Claim.—1. The combination with a type-setting mechanism, of a type-casting mechanism containing a series of molds, and a common operating device for both of the mechanisms.

2. The combination of independent type-setting and type-casting mechanisms, a keyboard, and means for operating the type-casting and the type-setting mechanisms from said keyboard.



3. The combination with a type-setting mechanism having type-reservoirs, and means for ejecting type therefrom, of a type-casting mechanism discharging its type into said reservoir, and a common operating means for the type casting and setting mechanisms.

4. The combination with type-setting and type-casting mechanisms having common type-reservoirs, of means for replenishing said reservoirs by the operation of the type-setting mechanism.

5. The combination with type-setting mechanisms and type-casting mechanisms, and type-reservoirs common to both of said mechanisms, of a keyboard, and means for withdrawing type for setting from said reservoirs and means for depositing types as cast in said reservoirs by the operation of the keys of said keyboard.

6. In a type-setting machine in combination, a series of type-molds, a series of type-reservoirs corresponding thereto, individual type-setting mechanisms, and means operated by the type-setting mechanisms for actuating the corresponding type-mold and for depositing the type when cast in its reservoir.

7. The combination with type selecting and delivering mechanisms, of a type receiver or carrier having fixed partitions for the separation of the words, and means for inserting spaces therein after the words forming a line have been set.

8. The combination with type selecting and delivering mechanisms, of a type receiver or carrier having fixed partitions forming word-receiving compartments, and space casting and delivering mechanisms adapted to cast and deliver the spaces within said compartments after the line has been set.

9. The combination with type selecting and delivering mechanisms, of a type receiver or carrier provided with compartments for keeping the words separated, a series of space casting and delivering mechanisms, and means for moving the type receiver or carrier beneath the space-delivering mechanisms to receive the spaces after the line has been set.

10. The combination with type selecting and delivering mechanisms, of a type receiver or carrier provided with means for keeping the words separated, a series of space casting and delivering mechanisms, means for moving the type receiver or carrier beneath the space-delivering mechanisms to receive the spaces after the line has been set, and connections from said feeding mechanism to the space casting and delivering mechanisms to set them in action.

11. In a type-setting machine, the combination with type selecting and delivering mechanisms, of a word-compartment type receiver or carrier, means for giving said carrier a word-length feed between words, and a line-length feed between lines, and space casting and delivering mechanisms adapted to supply the spaces for a line at one operation after its type have been placed in the carrier.

12. In a type-setting machine, the combination with type selecting and delivering mechanisms, of a word-compartment type receiver or carrier, means for giving said carrier a word-length feed between words, and a line-length feed between lines, and means for simultaneously inserting a series of spaces in the word-compartments after they have received their type.

13. In a type-setting machine, the combination with type selecting and delivering mechanisms, of a word-compartment type receiver or carrier, means for giving said carrier a word-length feed between words, and a line-length feed between lines, space-delivering mechanisms adapted to supply the spaces for a line at one operation after its type have been placed in the carrier, and a switch adapted to engage and remove the type from the carrier by its further advance after receiving the spaces.

14. In a type-setting machine, the combination with type selecting and delivering mechanisms, of a word-compartment type receiver or carrier, means for giving said carrier a word-length feed between words, and a line-length feed between lines, space-delivering mechanisms adapted to supply the spaces for a line at one operation after its type have been placed in the carrier, and a guide having a switch at one end adapted to engage and remove the type from the carrier by a further advance after receiving the spaces.

15. In a type-setting machine, the combination with type selecting and delivering mechanisms, of a word-compartment type receiver or carrier, means for giving said carrier a word-length feed between words, and a line-length feed between lines, space-delivering mechanisms adapted to supply the spaces for a line at one operation after its type have been placed in the carrier, a guide having a switch at one end adapted to engage and remove the type from the carrier by a further advance after receiving the spaces, and means for automatically transferring the lines of type from said guide to a galley.

16. In a type-setting machine, the combination, with type selecting and delivering mechanisms, of a type receiver or carrier provided with means for keeping the words separated, means for giving said carrier a word-length feed between words, and a line-length feed between lines, and a series of space casting and delivering mechanisms brought into registry with the word-spaces of the carrier by said line-feed.

17. In a type-setting machine, the combination, with type selecting and delivering mechanisms, of a type receiver or carrier provided with means for keeping the words separated, means for giving said carrier a word-length feed between words, and a line-length feed between lines, a series of space casting and delivering mechanisms brought into registry with the word-spaces of the carrier by said line-feed, and actuating connections from the line-feeding mechanism to the space-delivering mechanisms.

18. In a type-setting machine, the combination with type selecting and delivering mechanisms, of a type receiver or carrier, provided with compartments for keeping the words separated, means for giving said carrier a word-length feed between words and a line-length feed between lines, a series of space casting and delivering mechanisms brought into registry with the word-spaces of the carrier by said line-feed, and actuating connections from the line-feeding mechanism to the space-delivering mechanisms.

19. In a type-setting machine, the combination with type selecting and delivering mechanisms, of a holder having separate word-compartments, and means for giving said holders a word-length feed between words and a line-length feed between lines.

20. In a type-setting machine, the combination of a holder having separate word-compartments, with means for delivering the type of each word to a separate compartment, as set, and means for giving said holder a word-length feed between words and a line-length feed between lines.

21. In a type-setting machine, the combination with type selecting and delivering mechanisms, of a holder having separate word-compartments, and means for intermittently moving said holder relative to the delivering mechanism whereby the type for each word may be inserted in a separate compartment of the holder, with a space-casting mechanism and means for delivering the spaces to the said compartments.

22. In a type-setting machine, the combination of a type receiver or holder, having a separate compartment for each word of the line, and means for delivering the type to said compartments, with a space-casting mechanism, and means for delivering the spaces to said compartments after the type for a line are in place.

23. In a type-setting machine, the combination of a type receiver or holder, having a separate compartment for each word of the line, and means for delivering the type to said compartments, with means for delivering the spaces to said compartments after the type are in place.

24. In a type-setting machine, the combination of a type receiver or holder, having a separate compartment for each word of the line, and means for delivering the type to said compartments, with means for delivering the spaces for a line to the compartments after the types have been placed.

25. In a type-setting machine, the combination of a type receiver or holder, having single-word compartments, and means for delivering type to said compartments, with means for delivering the spaces to said compartments at the corresponding side of the types in the different compartments.

26. In a type-setting machine, the combination of a type receiver or holder, having single-word compartments, and means for delivering type to said compartments, with means for delivering the spaces to said compartments after the line has been set up, and at the same side of the types in the different compartments.

27. In a type-setting machine, the combination of a type receiver or holder having single-word compartments, and means for delivering type to said compartments, with means for simultaneously delivering all the spaces for a line to said compartments after the line has been set up, and at the same side of the types in the different compartments.

28. A type receiver or holder for type-setting machines, consisting of a series of sections connected to form an endless belt or chain, each section having a type-receiving recess adapted to receive the type for one word.

29. A type receiver or holder for type-setting machines, consisting of a series of sections connected to form an endless belt or chain, each section having a type-receiving recess opening to one side face and adapted to receive the type for one word.

30. A type receiver or holder for type-setting machines, consisting of a series of sections connected to form an endless belt or chain, each section having a type-receiving recess adapted to receive the type for one word, in combination with means for giving the chain an intermittent feeding movement beneath the type-delivering mechanism.

31. A type receiver or holder for type-setting machines, consisting of a series of sections connected to form an endless belt or chain, each section having a type-receiving recess adapted to receive the type for one word, and a spring-held type-holding finger for each section.

32. A type receiver or holder for type-setting machines, consisting of a series of sections connected to form an endless belt or chain, each section having a type-receiving recess opening to one side face and adapted to receive the type for one word, and spring-fingers bearing upon one end of the row of type in each recess.

33. A type receiver or holder, comprising a series of blocks having pivot-eyes thereon and adapted to be joined thereby into a chain or belt, said blocks having each a type holding recess adapted to accommodate the type for a word.

34. A type receiver or holder, comprising a chain, the links of which have each a type-receiving recess in one side face, and longitudinal grooves extending beneath the type-receiving recess, and adapted to receive type-removing fingers.

35. A type receiver or holder, comprising a chain, the links of which have each a type-receiving recess in one side face, and longitudinal grooves extending beneath the type-receiving recess and adapted to receive type-removing fingers, and means for holding the type in place in said recesses.

36. A type receiver or holder, comprising a chain, the links of which have each a type-receiving recess in one side face, and longitudinal grooves extending beneath the type-receiving recess, and adapted to receive type-removing fingers, and a spring type-retaining finger holding the type in place in said recesses.

37. A type receiver or holder, comprising a chain, the links of which have each a type-receiving recess open at three sides, longitudinal grooves extending beneath said recess and adapted to receive type-removing fingers, and a slot extending through the side wall of the recess, and a spring-held type-retaining finger extending through said slot and adapted to engage the type to hold them in place.

38. In a type-setting machine having an operating-keyboard, the combination of a plurality of adjustable space-molds, with a line-measuring device controlling the adjustment of said mold, and actuated through the type-setting keys.

39. In a type-setting machine having an operating-keyboard, the combination of an adjustable space-mold, with means for automatically proportioning said molds to the unfilled space in the line, connected with and controlled by the type-setting keys.

40. In a type-setting machine having an operating-keyboard, the combination of adjustable space-molds, and means for separating them, with an adjustable limit-stop actuated from the keyboard.

41. In a type-setting machine, the combination of adjustable space-molds, and means for separating them, with an automatic line-measuring device controlling the adjustment of said molds and actuated by the type-setting mechanism to simultaneously insert all the spaces in a line after the line has been set.

42. In a type-setting machine, the combination with an operating-keyboard, adjustable space-molds, and means for separating them, of a limit-stop for said separating means, and an adjusting mechanism for said stop electrically connected with the keyboard.

43. In a type-setting machine, the combination of an adjustable space-mold, and means for separating its parts, with an adjustable limit-stop, a type-measuring device, a keyboard and means for controlling the action of the type-measuring device from the keyboard.

44. In a space-mold for type-setting machines, the combination of a series of separable blocks adapted when separated to provide space-casting recesses or holes, with means for equally separating the different blocks, and an adjustable limit-stop therefor, and operating connections for said stop from the type-setting mechanism.

45. In a space-mold for type-setting machines, the combination of a series of separated blocks adapted when separated to provide space-casting recesses or holes, with means for equally separating the different blocks, and an adjustable limit-stop therefor having an operating connection with the type-setting mechanism during the operation of assembling the type.

46. In a space-mold for type-setting machines, the combination of a series of separable blocks adapted when separated to provide space-casting recesses or holes with means for equally separating the different blocks, an adjustable limit-stop therefor, and a line-measuring device controlling said limit-stop and having an operative connection with the type-setting mechanism during the operation of assembling the type.

47. In a space-mold for type-setting machines, the combination of a series of separable blocks adapted when separated to provide space-casting recesses or holes, with means for equally separating the different blocks, an adjustable limit-stop therefor, an operative connection between said stop and the type-setting mechanism for automatically advancing said stop an amount corresponding with the thickness of the type as the type are assembled.

48. A space-mold for type-setting machines, comprising a series of separable members adapted when separated to form recesses adapted to serve as space-molds, means for automatically separating said members an amount which in the total equals the difference between the line length and the space occupied by the type, and means connected with the type-setting mechanism for controlling the amount of said separation.

49. A space-mold for type-setting machines, comprising a series of separable members adapted when separated to form recesses adapted to serve as space-molds, and means connected with and adjusted by the type-setting mechanisms for automatically separating said members an amount which in the total equals the difference between the line length and the length occupied by the type, a fluid-metal receptacle, and means for connecting said recesses with said fluid-metal receptacle.

50. In an apparatus for forming a printing-surface, the combination with a keyboard and a device operated by the action of the keys in assembling the type for measuring the unfilled space in each line, of a space-key, and devices operated by the space-key and controlled by said measuring device for automatically dividing the unfilled space in the line to determine the size of the spaces required to justify the line.

51. In an apparatus for forming printing-surfaces the combination with an adjustable space-mold, of automatic means connected with and operated by the type-assembling mechanism for adjusting said mold to properly justify the line.

52. In an apparatus for forming printing-surfaces the combination of an adjustable mold, with automatic means for determining the width of said mold connected with and operated by the keys during the process of assembling the type.

53. In a type-setting machine the combination of a series of space-molds with means connected with and actuated by the operation of the type-assembling mechanisms for automatically selecting the number of molds required in each line.

54. In a type-setting machine the combination of a series of adjustable space-molds with means for automatically selecting the number of molds required actuated by the type-assembling mechanism during the setting of the types.

55. In a type-setting machine the combination of a series of space-molds with means for automatically selecting the number of molds used and means actuated by the keys during the assembling of the type for automatically controlling their dimension so as to justify the line.

56. In a type-setting machine the combination of a type receiver or carrier composed of a chain, the links of which have each a recess adapted to hold the type of one word, with type selecting and delivering mechanisms, and means for giving the chain an intermittent forward motion to present a new link to the type-delivering mechanism.

57. In a type-setting machine the combination of a type receiver or carrier composed of a chain, the links of which have each a recess adapted to hold the type of one word, with type selecting and delivering mechanisms, means for giving the chain an intermittent forward motion to present a new link to the type-delivering mechanism, and a type-packing mechanism actuated by the type-setting mechanism and acting upon the type as delivered to the carrier to pack them at one end of the recess.

58. In a type-setting machine the combination of a type receiver or carrier composed of a chain, the links of which have each a recess adapted to hold the type of one word, with type selecting and delivering mechanisms, means for giving the chain an intermittent forward motion to present a new link to the type-delivering mechanism, a type-packing mechanism actuated by the type-setting mechanism and acting upon the type as delivered to the carrier to pack them at one end of the recess, and a spring retaining-finger for holding the type in place.

59. In a type-setting machine the combination of type selecting and delivering mechanisms and an independent space-delivering mechanism, with a word-compartment type carrier or holder and means for presenting the compartments to the type-delivering mechanism and then to the space-delivering mechanism.

60. In a type-setting machine the combination of type selecting and delivering mechanisms, an endless type receiver or carrier having type-receiving recesses, and means for advancing said carrier for each word set, with a type-packing finger entering said recesses, and means for reciprocating said finger to pack the type at one end of the recess.

61. In a type-setting machine the combination of type selecting and delivering mechanisms, an endless type receiver or carrier having type-receiving recesses, and means for advancing said carrier for each word set, with a type-packing finger entering said recesses, and means for reciprocating said finger after the delivering of each type to the carrier to pack the type at one end of the recess.

62. In a type-setting machine the combination of type selecting and delivering mechanisms, an endless type receiver or carrier having type-receiving recesses, and means for advancing said carrier for each word set, with a type-packing finger entering said recesses, and means for reciprocating said finger to pack the type at one end of the recess, a spring type-retaining finger, and means for holding it out of action while the type are being placed in the carrier.

63. In a type-setting machine the combination of type selecting and delivering mechanisms, an endless type receiver or carrier having type-receiving recesses, and means for advancing said carrier for each word set, with a type-packing finger entering said recesses, and means for reciprocating said finger to pack the type at one end of the recess, a spring type-retaining finger and a detent engaging and holding back said finger while the type are being introduced to the carrier, and releasing means for said detent actuated by the chain.

64. In a type-setting machine the combination of type selecting and delivering mechanisms, with an endless type receiver or carrier having blocks therein each provided with a type-receiving recess open at one side face, means for advancing said carrier, a plate in front of said open side faces of the blocks, and a switch or removing finger adapted to engage the type to remove them from the carrier.

65. In a type-setting machine the combination of type selecting and delivering mechanisms, with an endless type receiver or carrier having blocks thereon each provided with a type-receiving recess open at one side face, and longitudinal grooves extending beneath said recess, means for advancing said carrier, a plate in front of said open side faces of the blocks, and a switch having fingers entering grooves to remove the types from the recesses in the blocks.

66. In a type-setting machine the combination of type selecting and delivering mechanisms, with an endless type receiver or carrier having blocks thereon, each provided with a type-receiving recess open at one side face, and grooves extending through the end walls of said recess, means for advancing said carrier, a plate in front of said open side faces of the blocks, and a switch having fingers entering the grooves to remove the types from the recesses in the blocks.

67. In a type-setting machine the combination of a type receiver or carrier having separate compartments for each word, said compartments opening at one side face of the carrier and having longitudinal grooves extending to the bottom of the type-receiving compartments, and means for advancing the carrier as the type is set, with a switch having fingers entering said grooves to remove the types from the compartments.

68. In a type-setting machine the combination of a type receiver or carrier having separate compartments for each word opening at one side face of the carrier, and longitudinal grooves extending to the bottom of the type-receiving compartments, a separate plate closing the side openings of said compartments, and means for advancing the carrier as the type is set, with a switch having fingers entering said grooves to remove the types from the compartments.

69. In a space-casting device for type-setting machines and the like, the combination of a frame in two parts movable relative to each other, mold-forming blocks slidably carried by one part of the frame and separable from each other, said blocks being provided at one end with registering notches and projections adapted in connection with the other frame member to form space-casting molds, and means for inserting said spaces between the words as cast to justify the line.

70. In a space-casting device for type-setting machines and the like, the combination of a frame in two parts movable relative to each other, mold-forming blocks slidably carried by one part of the frame and separable from each other, said blocks being provided at one end with registering notches and projections adapted in connection with the other frame member to form space-casting molds, a reservoir for melted type-metal, and means for connecting said reservoir with said casting-molds, and means for inserting said spaces as cast between the words to justify the line.

71. In a space-casting device for type-setting machines and the like, the combination of a frame in two parts movable relative to each other, mold-forming blocks slidably carried by one part of the frame and separable from each other, said blocks being provided at one end with registering notches and projections adapted in connection with the other frame member to form space-casting molds, and means for controlling the extent of separation of the mold-forming blocks by the operation of the keys in assembling the type.

72. In a space-casting device for type-setting machines and the like, the combination of a frame in two parts movable relative to each other, mold-forming blocks slidably carried by one part of the frame and separable from each other, said blocks being provided at one end with registering notches and projections adapted in connection with the other frame member to form space-casting molds, means for controlling the number of said blocks which are to be separated by the operation of the keys in assembling the type.

73. In a space-casting device for type-setting machines and the like, the combination of a frame in two parts movable relative to each other, mold-forming blocks slidably carried by one part of the frame and separable from each other, said blocks being provided at one end with registering notches and projections adapted in connection with the other frame member to form space-casting molds, independent separating means between each pair of blocks, and means for controlling the number thereof which are to be used by the operation of the keys in assembling the types.

74. In a space-casting device for type-setting machines and the like, the combination of a frame in two parts movable relative to each other, mold-forming blocks slidably carried by one part of the frame and separable from each other, said blocks being provided at one end with registering notches and projections adapted in connection with the other frame member to form space-casting molds, independent separating means between each pair of blocks, actuating means therefor having an adjustable bar adapted to engage the mold-separating devices, and adjusting means for said bar controlled by the operation of the keys in assembling the types.

75. In a space-casting device for type-setting machines and the like, the combination of separable mold-forming blocks recessed to form space-molds between them, independent separating means for each pair of blocks, and selecting means controlled by the type-assembling mechanism to determine the number of molds used.

76. In a space-casting device for type-setting machines and the like, the combination of separable mold-forming blocks recessed to form space-molds between them, independent separating means for each pair of blocks, and means limiting the separation of the blocks controlled by mechanism set in action by the keys in assembling the types.

77. In a space-casting device for type-setting machines and the like, the combination of separable mold-forming blocks recessed to form space-molds between them, independent separating means for each pair of blocks, and selecting means controlled by the number of words in the line to determine the number of molds used, and means limiting the separation of the blocks controlled by the operation of the keys in assembling the types.

78. In a space-casting device for type-setting machines and the like, the combination of separable mold-forming blocks having registering recesses and projections in one end adapted to form casting-recesses when separated and a common abutting member movable relatively thereto, with plungers forming one side of the mold and movable to force out the spaces after casting and insert them between the words.

79. In a space-casting device for type-setting machines and the like, the combination of separable mold-blocks having registering notches and projections adapted to form the mold, wedges between said blocks adapted to separate them, an actuating mechanism for said wedges, and means controlled by the space occupied by the type of a line limiting the amount of insertion of said wedges.

80. In a space-casting device for type-setting-machines and the like, the combination of separable mold-blocks having registering notches and projections adapted to form the mold, wedges between said blocks adapted to separate them, an actuating mechanism for said wedges, and means controlled by the number of words in a line for determining the number of wedges engaged thereby.

81. In a space-casting device for type-setting machines and the like, the combination of separable mold-blocks having registering notches and projections adapted to form the mold, wedges between said blocks adapted to separate them, an actuating mechanism for said wedges, means controlled by the number of words in a line for determining the number of wedges engaged thereby, and means controlled by the space occupied by the type of a line limiting the amount of insertion of said wedges.

82. A line-measuring mechanism for type-setting machines, comprising a space-mold, means for adjusting the same, a movable stop for said mold, an adjusting device therefor and means for actuating said adjusting device through the keys used in assembling the types.

83. A line-measuring mechanism for type-setting machines and the like, comprising a mold-controlling member, and means for moving the same an amount corresponding to the thickness of the type by the act of setting the type.

84. A line-measuring mechanism for type-setting machines and the like, comprising a movable member, operating means therefor, limiting-stops therefor proportioned to the widths of the types, and stop-selecting means directly controlled by the keys in assembling the types.

85. A line-measuring mechanism for type-setting machines and the like comprising a movable member, operating means therefor, limiting-stops therefor proportioned to the widths of the types, and electrically-operated means for said stops having normally open circuits, and means for closing the circuits by the operation of the type-setting keys in assembling the types.

86. A line-measuring device for type-setting machines comprising a threaded bolt and nut having relative rotation, means for turning the rotatable member actuated by the type-setting, variable limiting-stops therefor and selecting means for said limiting-stops actuated by said keys.

87. A line-measuring device for type-setting machines, comprising a threaded bolt and nut having relative rotation, means for turning the rotatable member actuated by the type-setting keys, limiting-stops therefor set to permit variable movement thereof, and magnets for moving said stops into operative positions, the circuit of each magnet having a group of type-setting keys connected therein to act as closing-switches.

88. In a type-setting machine the combination of a movable type-receiver having one side open and a longitudinal groove extending from said open side to the bottom of the space occupied by the type with a plate adjacent the open side of the receiver serving to hold the type therein, said plate curving outward at one point, a co-operating plate adapted to form therewith a channel for the type and having a finger entering said groove in the type-receiver, to remove the type therefrom.

89. In a type-setting machine the combination of a movable type-receiver having one side open and a longitudinal groove extending from said open side to the bottom of the space occupied by the type with a plate adjacent the open side of the receiver serving to hold the type therein, said plate curving outward at one point, a co-operating plate adapted to form therewith a channel for the type and having a finger entering said groove in the type-receiver, to remove

the type therefrom, one of said plates having a longitudinal slot, transferring-fingers adapted to enter said slot to engage the type, and means for operating said fingers.

90. In a type-setting machine the combination of a series of individual type casting and setting mechanisms, means for operating the type-setting mechanisms, and connections between each individual type-casting mechanism and its corresponding type-setting mechanism for actuating the type-casting mechanisms.

91. In an apparatus for forming printing-surfaces the combination with a keyboard, means connected with and operated by the keyboard for measuring the unset space in the line as the line is set, and means operated by the keyboard for determining the number of spaces required, of adjustable space-molds, a space-key, and means operated by said space-key for dividing said measured space between the determined number of space-molds.

92. In an apparatus for forming printing-surfaces the combination of an adjustable space-mold, with means controlled by the operation of the type-setting mechanism as the types are set for determining the size of said mold independently of the types.

93. The combination of independent series of type-casting and type-setting mechanisms, and means connecting corresponding elements of the type-casting and type-setting mechanisms whereby the action of the type-setting mechanism in removing a type actuates the corresponding type-casting mechanism to produce a similar type.

94. In a type-setting machine the combination with a space-mold, and means for adjusting said mold to cast spaces to justify the line, of a keyboard divided into groups, each group having independent connections with said adjusting mechanism whereby at the depression of any key in a group the mold is adjusted a distance corresponding with the width of the type assembled by the keys of said group.

95. The combination with a keyboard divided into groups, means for assembling type of the same width actuated by the keys in any group and of different widths by the keys of different groups, of a space-casting mechanism and means controlled by the keys whereby the space-casting mechanism is adjusted to cast spaces of proper width to justify the line.

96. In a type-setting mechanism, the combination with a keyboard, and means for assembling type by operating said keyboard, of an adjustable space-mold, and means controlled by the keys used in the assembling of the type whereby said space-mold is adjusted the distance required to justify the line.

97. In a type-setting machine, the combination with an adjustable space-mold, and means for separating its parts of a type-measuring device controlling the adjustment of said parts, a keyboard and means for controlling the action of the type-measuring device from the keyboard.

98. In a type-setting machine the combination with an adjustable space-mold, and a keyboard divided into groups of keys, the keys of any group representing letters of uniform width and the keys of different groups representing letters of different widths, of means set in action by the use of any key for adjusting the space-mold, and adjustment-controlling devices each controlled by the keys of its particular group to determine the amount of said adjustment.

99. A type-setting machine having a keyboard divided into groups, the keys of any group representing letters of the same width and the keys of different groups representing letters of different widths and means connected with each group for adjusting the space between words to justify the line.

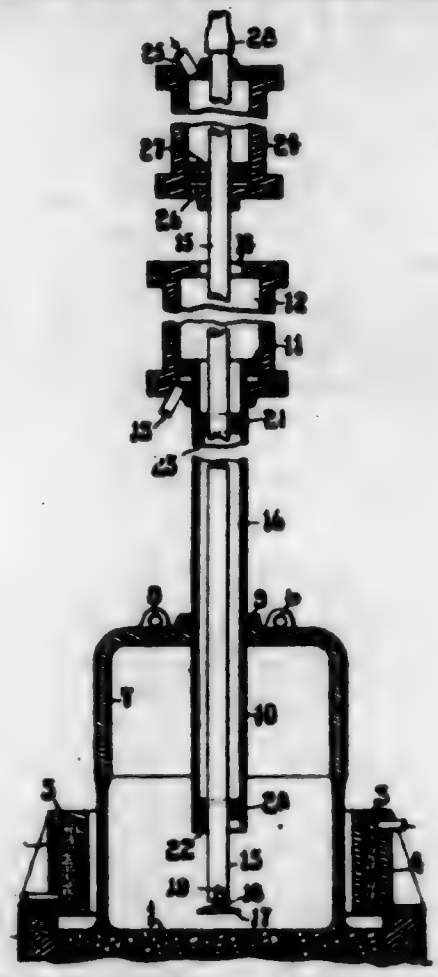
100. In a type setting and casting machine, a keyboard, keys arranged in groups corresponding to the width of the characters represented by said keys and means connected with each group of keys whereby the space occupied by the types is measured and mechanism substantially as described whereby the line is justified.

101. A line-measuring mechanism for type-setting machines and the like, comprising a movable member, operating means therefor, limiting-stops therefor proportioned to the width of the types, and step-selecting means directly controlled by the keys on the keyboard.

102. In an apparatus for forming printing-surfaces, a keyboard having sets of keys, the keys of any set representing letters of the same width and the keys of different sets representing letters of different widths, and means connected with said sets for automatically determining the space required to justify the line.

103. In an apparatus for forming printing-surfaces, a keyboard, keys arranged in sets corresponding to the width of the characters represented by said keys, and means connected with said sets of keys, whereby the space required to justify the line is determined and means whereby said space is automatically distributed between words to justify the line.

12,427. GLASS-DRAWING MACHINE. George H. Harvey, Glenfield, Pa., assignor, by mesne assignments, to Brownsville Glass Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 12, 1904. Serial No. 232,542. Original No. 772,513, dated Oct. 18, 1904.



Claim.—1. In the manufacture of glass, a receptacle, a gatherer having an outlet therefrom, a pendent tube in said gatherer and a deflector secured to the exit of said tube and having a fluid-guiding surface extending outwardly and downwardly.

2. In the manufacture of glass, a receptacle, a gatherer, a pendant tube in said gatherer, and a disk-like deflector located below the tube and having its support independent of the receptacle.

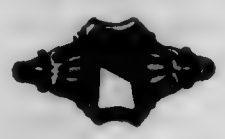
DESIGNS.

37,755. RING. Oliver A. Quayle, Albany, N. Y. Filed Nov. 6, 1905. Serial No. 286,182. Term of patent 3½ years.



Claim.—The ornamental design for a ring as shown.

37,756. RING. Oliver A. Quayle, Albany, N. Y. Filed Nov. 6, 1905. Serial No. 286,183. Term of patent 3½ years.



Claim.—The ornamental design for a ring, as shown.

37,757. BADGE. Oliver A. Quayle, Albany, N. Y. Filed Nov. 6, 1905. Serial No. 286,184. Term of patent 3½ years.



Claim.—The ornamental design for a badge as shown.

37,758. BACK FOR MIRRORS, BRUSHES, AND SIMILAR ARTICLES. GEORGE H. HENRY, Shelton, Conn., assignor to International Silver Company, Meriden, Conn., a Corporation of New Jersey. Filed Nov. 8, 1905. Serial No. 286,662. Term of patent 7 years.



Claim.—The ornamental design for a back for mirrors, brushes and similar toilet articles, as shown.

37,759. ICE-CREAM CORNUCOPIA. KINOKU YAKUSHIJI, San Francisco, Cal. Filed Oct. 13, 1905. Serial No. 282,680. Term of patent 14 years.



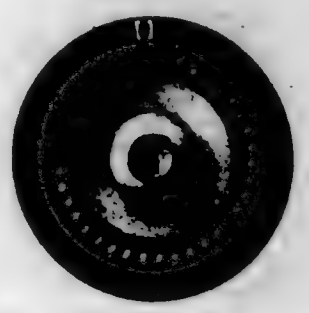
Claim.—The ornamental design for an ice-cream cornucopia, as shown.

37,760. MEDICINAL TABLET AND PELLOID BOX. FREDERIC HENRY PUTNAM, Boston, Mass. Filed Nov. 16, 1905. Serial No. 287,742. Term of patent 14 years.



Claim.—The ornamental design for a medicinal tablet and pelloid box as shown.

37,761. DIAL FOR GAME APPARATUS. JOSEPH FEINMAN, New York, N. Y., assignor to American Wheel Company, New York, N. Y., a Corporation of New York. Filed Nov. 20, 1905. Serial No. 288,089. Term of patent 7 years.



Claim.—The ornamental design for a dial for game apparatus as shown.

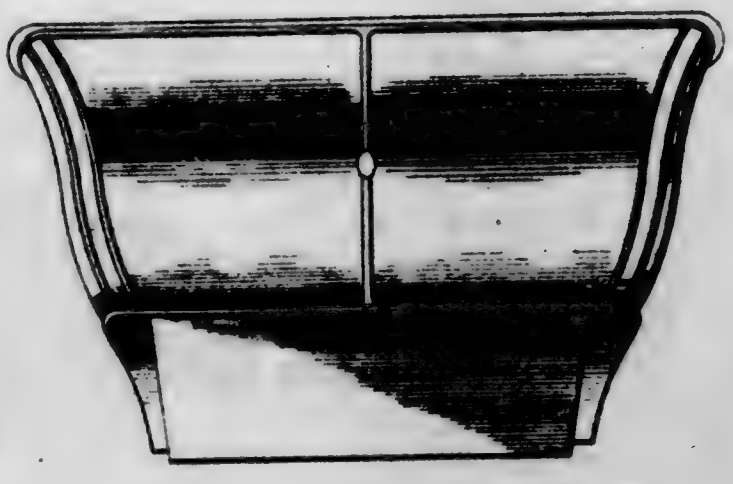
37,762. ELECTRIC-LIGHT SHADE. MAURICE B. BATES, Kansas City, Mo., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 12, 1905. Serial No. 282,622. Term of patent 14 years.



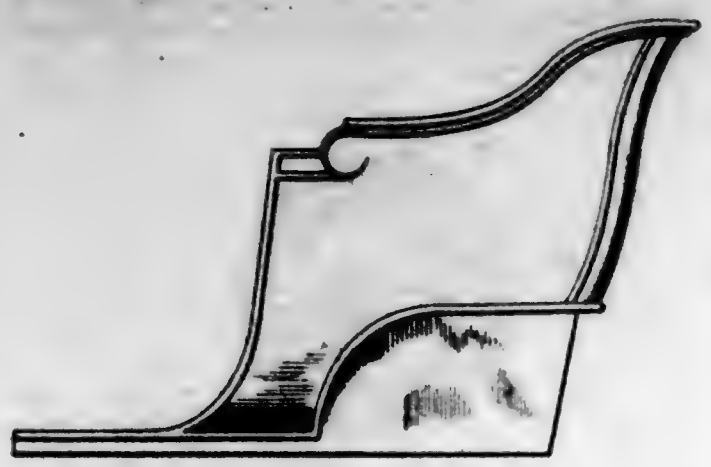


Claim.—The ornamental design for an electric-light shade, as shown.

37,763. AUTOMOBILE-TONNEAU. RALPH A. LESLIE, Cleveland, Ohio, assignor to The Winton Motor Carriage Company, Cleveland, Ohio, a Corporation of Ohio. Filed Oct. 23, 1905. Serial No. 284,114. Term of patent 14 years.



37,763.



Claim.—The ornamental design for an automobile-tonneau, as shown.

37,764. PRINTING TYPE OR PLATE. JAMES MORLEY, Malden, Mass. Filed Nov. 18, 1905. Serial No. 288,079. Term of patent 7 years.



Claim.—The ornamental design for a printing type or plate, as shown.

37,765. HAMMOCK-VALANCE. ISAAC R. PALMER, Middletown, Conn. Filed Nov. 28, 1905. Serial No. 288,518. Term of patent 14 years.



Claim.—The ornamental design for a hammock-valance as shown.

TRADE-MARKS

PUBLISHED DECEMBER 26, 1905.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 104. VARNISHES. The David B. Crockett Co., Bridgeport, Conn. Filed Apr. 1, 1905. Used ten years.

AMBERLINE

The word "AMBERLINE."

Ser. No. 465. STOVES AND RANGES. Liberty Stove Company, Philadelphia, Pa. Filed Apr. 5, 1905.

IRON KING

The arbitrary words "IRON KING."

Ser. No. 868. LEATHER BOOTS AND SHOES AND THE LEATHER FROM WHICH SUCH BOOTS AND SHOES ARE MANUFACTURED. The American Oak Leather Company, Cincinnati, Ohio. Filed Apr. 8, 1905.

Rock Oak

The words "ROCK OAK."

Ser. No. 1,494. PREPARATIONS FOR THE CURE OF NERVOUSNESS AND TO BE USED AS A GENERAL SYSTEM TONIC AND STIMULANT. William R. Warner & Co., Philadelphia, Pa. Filed Apr. 14, 1905.

TONO SUMBUL

The arbitrary words "TONO SUMBUL."

Ser. No. 1,593. PLAYING-CARDS. The United States Playing Card Co., Cincinnati, Ohio. Filed Apr. 15, 1905.

TANGENT

The word "TANGENT."

Ser. No. 1,606. PLAYING-CARDS. The United States Playing Card Co., Cincinnati, Ohio. Filed Apr. 15, 1905.

RACER

The word "RACER."

SER. No. 1,794. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905. Used ten years.

SKAT

The numeral "2" and the word "SKAT."

SER. No. 1,797. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Apr. 15, 1905.

ACORN

The word "ACORN."

SER. No. 2,232. WATCH-MOVEMENTS. THE HAMPDEN WATCH CO., Canton, Ohio. Filed Apr. 19, 1905. Used ten years.

Lakeside

The word "LAKESIDE."

SER. No. 2,234. WATCH-MOVEMENTS. THE HAMPDEN WATCH CO., Canton, Ohio. Filed Apr. 19, 1905. Used ten years.

Railway

The word "RAILWAY."

SER. No. 2,509. PHOSPHATIC TONIC. THE BIOS LABORATORY CO., INCORPORATED, Danbury, Conn. Filed Apr. 20, 1905.

NEUROBION

The word "NEUROBION."

SER. No. 3,011. EFFERVESCENT LAXATIVE FRUIT PREPARATION. H. J. MAYERS, Cleveland, Ohio. Filed Apr. 24, 1905.

SAL-T-NA

The hyphenated word "SAL-T-NA."

SER. No. 3,026. THE OUTPUT OF SMELTERS AND REFINERIES IN THE SHAPE OF BARS, INGOTS, SHEETS, OR MOLDS OF GOLD, SILVER, OR COPPER. HARRY WHITNEY TREAT, Seattle, Wash. Filed Apr. 26, 1905.

SER. No. 3,026.



The representation of a shield having thereupon the word "LOYAL" and the representation of a star and crescent, with a spread-eagle perched upon the top thereof, and an olive branch appearing behind the shield.

SER. No. 3,059. BRONZE, SILVER, ALUMINUM, AND GOLD PAINTS AND POWDERS, BRONZE, SILVER, ALUMINUM, AND GOLD-ENAMEL AND BRONZING LIQUIDS. GERSTENDORFER BROS., New York, N. Y. Filed Apr. 26, 1905.



The representation of an easel supporting a framed panel, upon which appear the words "OUR FAVORITE," inclosed in quotation-marks.

SER. No. 3,196. IMITATIONS OF PRECIOUS STONES FOR JEWELRY. REGNELL, BIGNEY AND CO., Attleboro, Mass. Filed Apr. 26, 1905.

DIAMONETTE

The word "DIAMONETTE."

SER. No. 3,234. WATER-REPELLENT AND MILDEW-PROOF COTTON FABRICS COLORED BY KHAKI DYE. MEYER & GOETZE, New York, N. Y. Filed Apr. 27, 1905.



The representation of two crossed swords and the letters and character "M & G."

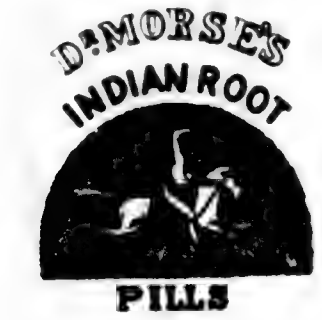
SER. No. 3,305. PAJAMAS AND NIGHT-ROBES. THE T. J. MAXWELL CO., Peekskill, N. Y. Filed Apr. 27, 1905.

SER. No. 3,305.

Restwell

The word "RESTWELL."

SER. No. 3,385. PURGATIVE PILLS. THE W. H. COMSTOCK COMPANY, LIMITED, Morristown, N. Y. Filed Apr. 28, 1905.



The words "DR. MORSE'S INDIAN ROOT PILLS," a representation of an Indian on horseback with a landscape in the background inclosed by a semicircular frame, the straight portion of which is on a horizontal plane, and the facsimile signature of Wm. H. Comstock.

SER. No. 3,426. TONICS, NERVINE, AND SEDATIVES. THE DR. MILES MEDICAL CO., Elkhart, Ind. Filed Apr. 28, 1905.



A device representing a double profile of a human face, one side showing the brain and the nerve filaments.

SER. No. 3,309. COOK-STOVES, HEATING-STOVES, AND RANGES. A. BALDWIN & CO., LTD., New Orleans, La. Filed Apr. 28, 1905.

SOUTHERN BELLE

The words "SOUTHERN BELLE."

SER. No. 3,703. BAKING-POWDER. J. C. GRANT CHEMICAL COMPANY, East St. Louis, Ill. Filed May 1, 1905.



The words "RABBIT'S FOOT" and the representation of a rabbit's foot suspended from a wishbone with a four-leaf clover as a background.

SER. No. 3,935. PAINTING, STAINING, AND GRAINING OIL. JAMES B. SIPE & CO., Allegheny, Pa. Filed May 1, 1905. Used ten years.

SIPE'S JAPAN OIL

The words "SIPE'S JAPAN OIL."

SER. No. 4,122. INSULATING COMPOUND USED IN THE MANUFACTURE AND INSTALLATION OF ELECTRIC APPARATUS. STANDARD UNDERGROUND CABLE COMPANY, Pittsburg, Pa. Filed May 3, 1905. Used ten years.

WARING COMPOUND

The words "WARING COMPOUND."

SER. No. 4,266. KNITTED HOSIERY, UNDERSHIRTS, AND DRAWERS. JOHN WYCKOFF METTLER, New Brunswick, N. J. Filed May 4, 1905.

Interwoven

The word "INTERWOVEN."

SER. No. 4,283. GLASS BOTTLES. ALBERT G. SHALLEY, Boston, Mass. Filed May 4, 1905. Used ten years.

WARRANTED

FLASK

The words "WARRANTED FLASK."

SER. No. 4,296. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 5, 1905. Used ten years.

No. 32

The abbreviation and number "No. 32."

SER. No. 4,315. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 5, 1905. Used ten years.

№53

The abbreviation and number "No. 53."

SER. No. 4,319. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 5, 1905. Used ten years.

№35

The abbreviation and number "No. 35."

SER. No. 4,321. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 5, 1905. Used ten years.

NO. 319

The abbreviation and number "No. 319."

SER. No. 4,331. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed May 5, 1905. Used ten years.

No. 27

The abbreviation and number "No. 27."

SER. No. 4,539. COCOA. WALTER BAKER & COMPANY, LIMITED, Boston, Mass. Filed May 6, 1905.



The representation of a pair of balance-scales containing in one pan of the balance a package and in the other a weight.

SER. No. 4,806. COLLARS AND CUFFS. WILLIAM BARKER COMPY., Watervliet, N. Y. Filed May 9, 1905.



The representation of a dog's head holding in its mouth a shirt-collar.

SER. No. 4,953. GROUND WOOD AND WOOD-PULP FOR PAPER-STOCK. ASPINWERN & Co., New York, N. Y. Filed May 10, 1905.

APOLLO

The word "APOLLO."

SER. No. 5,101. DETERGENT PREPARATION. HOLLAPPEL'S COMPOSITIONS COMPANY, LIMITED, Newcastle-upon-Tyne, England. Filed May 11, 1905.

Pintoff

The word "PINTOFF."

SER. No. 5,146. WHISKY. THE HOFFHEIMER BROS. CO., Cincinnati, Ohio. Filed May 11, 1905. Used ten years.

White Mills

The words "WHITE MILLS," associated with a fanciful shield design bearing the words "WHITE MILLS" and ornamented with leaves and scrolls and inclosed in a circular band.

SER. No. 5,448. OLIVES. S. J. VALK & BRO., New York, N. Y. Filed May 13, 1905.



The words "FALCON BRAND" and the representation of a falcon perched on a branch within a circular border formed by a belt.

SER. No. 5,255. COTTON PIECE GOODS. MASSACHUSETTS COTTON MILLS, Lowell, Mass. Filed May 11, 1905.

SER. No. 5,255.



The representation of the head of a buffalo.

SER. No. 5,444. OLIVES. S. J. VALK & BRO., New York, N. Y. Filed May 13, 1905.

COCKTAIL



The arbitrarily-selected word "COCKTAIL" and the representation of a filled cocktail-glass.

SER. No. 5,478. STEEL RODS, BARS, BLOOMS, BILLETS, PLATES, SHEETS, SLABS, STRIPS, BLOCKS, AND FORGINGS. PARK STEEL COMPANY, Pittsburg, Pa. Filed May 13, 1905.

VICTORIA

The word "VICTORIA."

SER. No. 5,767. BAKING-POWDER AND BREAD PREPARATION CONSISTING OF CREAM-OF-TARTAR SUBSTITUTE AND BICARBONATE OF SODA. RUMFORD CHEMICAL WORKS, Providence, R. I. Filed May 16, 1905. Used ten years.

HORSFORD'S

The word "HORSFORD'S."

SER. No. 5,625. MOLASSES. THE EASTERN REFINING CO., New York, N. Y. Filed May 15, 1905.

FELICI COSTA & Co

PONCE. P. R.

The words, character, and abbreviations "FELICI COSTA & CO., PONCE, P. R."

SER. No. 5,690. WINES. S. S. PIERCE CO., Boston, Mass. Filed May 15, 1905.

BEE HIVE
· BRAND ·
American



S. S. PIERCE CO.
Boston

The representation of a beehive and bees, a bear sitting on the ground near the same and holding in his paws an oblong panel. Associated therewith are the words and abbreviations "BEE HIVE BRAND AMERICAN, S. S. PIERCE CO., BOSTON," together with a coat of arms, including an eagle with outstretched wings carrying a shield having thereon the figure of a lion rampant and the letters and words "S. S. P. Co. PURITAS ET CURA."

SER. No. 5,769. SOLUTION OF THE PHOSPHATES, MAINLY CALCIUM, IN PHOSPHORIC ACID. RUMFORD CHEMICAL WORKS, Providence, R. I. Filed May 16, 1905. Used ten years.

HORSFORD'S
Acid Phosphate.

The words "HORSFORD'S ACID PHOSPHATE."

SER. No. 5,841. WHISKY. DALLEHAMS & Co., Chicago, Ill. Filed May 16, 1905.



A monogram composed of the letter, character, and abbreviation "D & Co.," inclosed in concentric circles.

SER. No. 5,820. CRUMB-YEAST. YOST YEAST CO., Arkansas City, Kans. Filed May 16, 1905.



The representation of a sunflower with two leaves and a portion of the stalk, associated with the words "SUNFLOWER BRAND."

SER. No. 5,852. COTTON SHEETINGS AND DRILLS. THE AUGUSTA FACTORY, Augusta, Ga. Filed May 16, 1905. Used ten years.

AUGUSTA
A
No. 1

The words "AUGUSTA A No. 1."

SER. No. 5,873. COMPOUND OR SUBSTANCE WHICH IS A UTERINE TONIC AND RESTORATIVE. RIO CHEMICAL CO., New York, N. Y. Filed May 17, 1905. Used ten years.

ALETRIS CORDIAL

The words "ALETRIS CORDIAL."

SER. No. 6,056. METAL-POLISHES. JOHN F. WULZEN & CO., San Francisco, Cal. Filed May 18, 1905.



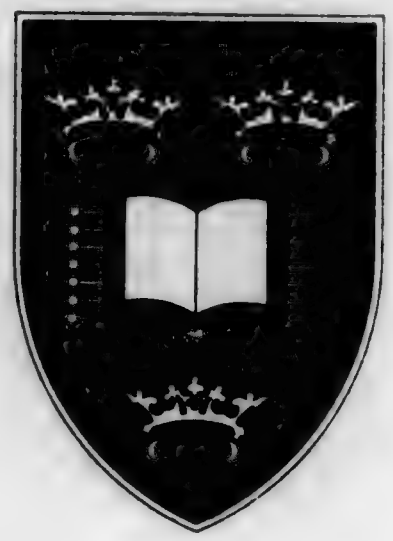
The words "GOLDEN GATE" and a representation of the entrance to the bay of San Francisco, with the sun setting opposite thereto, associated with the words "METAL POLISH, J. F. WULZEN & CO., SAN FRANCISCO, CAL.," all inclosed in a rectangular border having circles at each corner, in which appear, respectively, the letters "J F W Co."

SER. No. 6,092. TONIC. JOSEPH CORATO, Stockton, Cal. Filed May 19, 1905.



The representation of a setting sun, with the word "FORSUS" in the foreground, with the shadows of each letter of said word appearing also.

SER. No. 6,288. CHOCOLATE CANDIES. HAHN CONFECTIONERY COMPANY, Boston, Mass. Filed May 22, 1905.



The representation of a shield having thereon three crowns and an open book.

SER. No. 6,340. EYE REMEDIES. THE MURINE EYE REMEDY COMPANY, Chicago, Ill. Filed May 22, 1905.



The representation of a woman's face and a hand raised in the act of applying medicine to the eye, with which representation is associated the word "MURINE."

SER. No. 6,343. STAMPED STEEL WARE COATED ON BOTH THE OUTSIDE AND INSIDE WITH LIGHT-GRAY SPECKLED ENAMEL. THE JACOB J. VOLLRATH MFG. CO., Sheboygan, Wis. Filed May 23, 1905.

AJAX

The word "AJAX."

SER. No. 6,388. AMMONIA-COMPRESSORS. VULCAN IRON WORKS, San Francisco, Cal. Filed May 23, 1905.

VULCAN

The word "VULCAN."

SER. No. 6,512. HEADACHE-POWDERS. RICHARD SAMUEL STARKS, Midway, Ky. Filed May 24, 1905. Used ten years.

STARKS'
Headache Powders

The words "STARKS' HEADACHE POWDERS."

SER. No. 6,722. WHISKY. J. & A. FRIEDERS, Cincinnati, Ohio. Filed May 26, 1905.

Old Rye Jug

The representation of a jug inclosed in a circle, which rests on a base and scroll, with double curve extending lengthwise directly under the picture of the jug, the whole being associated or in combination with the words "OLD RYE JUG," the words "OLD" and "JUG," arranged so as to intersect at the right and left of the circle around the jug and the word "RYE" arranged on the picture of the jug.

SER. No. 6,874. ALCOHOL. C. H. GRAVES & SONS, Boston, Mass. Filed May 29, 1905. Used ten years.

ATWOOD'S
PURE ALCOHOL

The words "ATWOOD'S PURE ALCOHOL."

SER. No. 7,102. BLACKING AND LEATHER-DRESSING. FRANK R. PHILBRICK, Boston, Mass. Filed May 31, 1905. Used ten years.

SER. No. 7,102.

CIRAGE FRANÇAIS
OR
FRENCH
DRESSING

The words "CIRAGE FRANÇAIS, OR FRENCH DRESSING."

SER. No. 7,149. ELECTRIC-LIGHT SUPPORTS. FRANK H. STEWART ELECTRIC COMPANY, Philadelphia, Pa. Filed June 1, 1905.

ADJUSTANDLE

The word "ADJUSTANDLE."

SER. No. 7,284. PULLEYS, BLOCKS, AND PARTS THEREOF. BOSTON & LOCKPORT BLOCK COMPANY, Boston, Mass. Filed June 3, 1905.

HUB

The word "HUB."

SER. No. 7,564. GOLD-PLATED BADGES. IRONS & RUSSELL, Providence, R. I. Filed June 7, 1905.

R

The letter "R."

SER. No. 7,604. GALVANIZED FASTENING DEVICES COMPRISING GALVANIZED CUT AND WIRE NAILS, GALVANIZED BOLTS, GALVANIZED SCREWS, AND GALVANIZED RIVETS. KEYSTONE NAIL COMPANY, INC., Philadelphia, Pa. Filed June 7, 1905.

KEYSTONE NAIL COMPANY INC.
KEYSTONE
GALVANIZED
BRAND
PHILA. PA.

The representation of a keystone, upon which appear the word "GALVANIZED" and the words "KEYSTONE BRAND," the

whole inclosed within the words and abbreviations "Keystone Nail Company Inc. Phila. Pa.," arranged in a circle.

Ser. No. 7,844. LEATHER AND CANVAS BOOTS AND SHOES. Geo. E. Keith Company, Brockton, Mass. Filed June 10, 1905.

Walk-Over

The compound word "Walk-Over."

Ser. No. 7,969. SHAKING-BOLTS. Barnard & Leas Manufacturing Company, Moline, Ill. Filed June 12, 1905.

PLANSIFTER

The word "Plansifter."

Ser. No. 7,985. MEDICAL OINTMENT. Ralph Matthew Connable, Baltimore, Md. Filed June 13, 1905.

Sal-ic-thol

The coined hyphenated word "Sal-ic-thol."

Ser. No. 8,093. CANNED PEARS. Rafala S. Breton, New York, N. Y. Filed June 14, 1905.



The word "Delicosa," imprinted on the trunk of a pear-tree, on one side of which are three pears and on the other one pear.

Ser. No. 8,280. WHISKY. The T. W. Samuels Dist'y, Bardstown, Ky. Filed June 15, 1905. Used ten years.



The name "T. W. Samuels" and a panel design inserted in a circular band ornamented by stems, leaves, and heads of grain and a bird.

Ser. No. 8,399. GRASS, GRAIN, TIMOTHY, CLOVER, HEMP, CANARY, AND RAPE SEED. The Albert Dickinson Company, Chicago, Ill. Filed June 17, 1905.

ACE

The word "Ace."

Ser. No. 8,401. GRASS, GRAIN, TIMOTHY, CLOVER, HEMP, CANARY, AND RAPE SEED. The Albert Dickinson Company, Chicago, Ill. Filed June 17, 1905.

QUEEN

The word "Queen."

Ser. No. 8,403. GRASS, GRAIN, TIMOTHY, CLOVER, HEMP, CANARY, AND RAPE SEED. The Albert Dickinson Company, Chicago, Ill. Filed June 17, 1905.

PINE TREE

The words "Pine Tree."

Ser. No. 8,404. GRASS, GRAIN, TIMOTHY, CLOVER, HEMP, CANARY, AND RAPE-SEED. The Albert Dickinson Company, Chicago, Ill. Filed June 17, 1905.

GLOBE

The word "Globe."

Ser. No. 8,405. GRASS, GRAIN, TIMOTHY, CLOVER, HEMP, CANARY, AND RAPE SEED. The Albert Dickinson Company, Chicago, Ill. Filed June 17, 1905.



The representation of a globe.

SER. No. 8,524. WHEAT-FLOUR. TERRELL BROS. & CO., Meridian, Miss. Filed June 19, 1905.



The word "DIXIE," associated with the representation of a bunch of twigs of the cotton-plant.

SER. No. 8,646. BAKING-POWDER. HULMAN & CO., Terre Haute, Ind. Filed June 21, 1905.



The word "MILK" in an ornamental scroll-border design.

SER. No. 9,212. SILK PIECE GOODS HAVING A ROUGH SURFACE. ROESSLE & THOMPSON, New York, N. Y. Filed June 27, 1905.



The word "RAJAH," inclosed in an oval.

SER. No. 8,681. REMEDY FOR RHEUMATISM. CHARLES CAROW, New York, N. Y. Filed June 21, 1905.



The representation of a dragon, and a warrior standing over the dragon with a shield on one arm and hand and a drawn sword in the other hand, together with the name "MATIS" on the breastplate and the words "RHEUMATISM CONQUERED," partly on the dragon and partly in the foreground.

SER. No. 9,263. WHISKY. THE COOK & BERNHEIMER CO., New York, N. Y. Filed June 27, 1905. Used ten years.

OLD VALLEY

The words "OLD VALLEY."

SER. No. 9,324. SILVER-PLATED HOLLOW WARE. INTERNATIONAL SILVER COMPANY, Meriden, Conn. Filed June 28, 1905. Used ten years.

BARBOUR SILVER Co.

The words "BARBOUR SILVER CO."

SER. No. 9,325. SILVER-PLATED HOLLOW WARE. INTERNATIONAL SILVER COMPANY, Meriden, Conn. Filed June 28, 1905. Used ten years.



The words "BARBOUR SILVER CO.," in conjunction with the words "QUADRUPLE SILVER," all inclosed in a circle.

SER. No. 9,754. DYSPEPSIA TABLETS AND CAPSULES. VIG-NI MEDICINE CO., Chicago, Ill. Filed July 3, 1905.

Dr. Rogers' Vig-ni

The hyphenated word "VIC-NI," associated with the words "DR. ROGERS."

SER. No. 9,750. STOVE-POLISH. EYE SHINE POLISH COMPANY, Chicago, Ill. Filed July 3, 1905.



The pictorial representation of a human eye, associated with the word "SHINE."

SER. No. 9,871. HOSE-SUPPORTERS. CHRISTINA J. HIGLEY, New York, N. Y. Filed July 7, 1905.

PRISCILLA

The word "PRISCILLA."

SER. No. 9,872. HOSE-SUPPORTERS. CHRISTINA J. HIGLEY, New York, N. Y. Filed July 7, 1905.

SAMSON

The word "SAMSON."

SER. No. 9,943. POTATO-FLOUR, POTATO-STARCH, AND DEXTRIN. NORDDEUTSCHE KARTOFFELMEHL-FABRIK MIT BESCHRÄNKTER HAFTUNG, Cüstrin, Brandenburg, Germany. Filed July 8, 1905.



The representation of an anchors and the letters "BKMFF," the letters "BKMF" being in a line beneath the anchor and the second letter "F" being beneath the other letters.

SER. No. 9,968. CORSETS. KABO CORSET COMPANY, Chicago, Ill. Filed July 10, 1905.

SER. No. 9,968.

Lalite

The arbitrarily-selected word "LALITE."

SER. No. 10,036. WHISKY. THE GUTTER GROCERY COMPANY, Boston, Mass. Filed July 11, 1905.

Promenade



The word "PROMENADE," beneath which is a monogram composed of the letters "G G Co" on a fanciful shield design with a fancy scroll at each side.

SER. No. 10,070. WHISKY. MILOSLAWSKY & KRAUS, Chicago, Ill. Filed July 11, 1905. Used ten years.



The name "UNCLE JERRY" and a bust picture of an old man with smooth face and neck-beard, wearing spectacles and a straw hat, a blue shirt and a red tie, inclosed in a circle bordered by stems and heads of grain.

SER. No. 10,156. KÜMMEL. CHARLES JACQUIN ET CIE., INC., New York, N. Y. Filed July 12, 1905.



The representation of a substantially rectangular device having a scalloped upper edge. At the opposite lower edges and sides of the device are shown ornamental columns supporting an ornamental

arch. Within this central portion or panel, inclosed by said columns and arch, appears an ornamental scroll and below said scroll the title-phrase, name, and abbreviation "GETREIDE DOPPEL-KÜMMEL, CHARLES JACQUIN ET CIE., INCORP." Above the center of the arch and below center scalloped portion of the device appears an ermine bearing the name "CHARLES JACQUIN ET CIE., INC.," and surmounted by a crown and palms, and at each side of said ermine, below the side scalloped portions, appear representations of the terrestrial globe, the space above the arch and surrounding the representations aforesaid being richly ornamented with conventional scrollwork and ornaments.

SER. No. 10,182. REMEDY FOR CHILDREN'S COLIC AND CHOLERA INFANTUM. J. C. FRANKLIN'S SONS & CO., Troy, N. Y. Filed July 12, 1905.

BABY'S
TREASURE

The words "BABY'S TREASURE."

SER. No. 10,188. DRESSINGS OR POLISH FOR TAN OR RUSSET SHOES AND LEATHER. THE RAVEN GLOSS MFG. CO., New York, N. Y. Filed July 12, 1905.

TANOLA

The word "TANOLA."

SER. No. 10,251. LIQUID REMEDY FOR DIARRHEA, DYSENTERY, AND DYSPEPSIA. GEORGE M. SLOAT, Valdosta, Ga. Filed July 13, 1905.



VEGETABLE
BITTERS

The bust picture of Underhill H. Sloat, deceased, within an oval frame, in association with the words "SLOAT'S VEGETABLE BITTERS."

SER. No. 10,261. LEATHER BOOTS, SHOES, AND SLIPPERS. JOHN WANAMAKER, Philadelphia, Pa. Filed July 13, 1905.



The name "JOHN WANAMAKER," written in a particular distinctive irregular style, said name appearing over the word "SPECIAL," the said name and said word being associated with each other and with the representation of an approaching railway-train.

SER. No. 10,382. WHISKY. JOHN J. HAGERTY & Co., Dorchester, Mass. Filed July 18, 1905.



The words "STANDISH GUARD," associated with an oval-shaped panel bearing the picture of a man in Puritan costume with a gun over his shoulder, with a landscape and men in the background.

SER. No. 10,530. METAL FORGING AND FORMING MACHINES. THE AJAX MANUFACTURING COMPANY, Cleveland, Ohio. Filed July 18, 1905. Used ten years.

AJAX

The word "AJAX."

SER. No. 10,616. KNITTED HOSIERY AND KNITTED UNDERWEAR. STANDARD HOSIERY CO., Philadelphia, Pa. Filed July 20, 1905.



The representation of a negro dressed in fanciful clothes and promenading on a board walk, on the side of which is a wooden railing. He carries a cane in his right hand, gloves in his left hand, and wears a monocle. Above his head are the words "JIM DANDY," and at his feet are the words "YES SAH I'S DE BEBS EBBAH."

SER. No. 10,665. COTTON-FLANNEL. PEMBERTON COMPANY, Lawrence and Boston, Mass. Filed July 21, 1905. Used ten years.

PEMBERTON

The word "PEMBERTON."

SER. No. 10,666. LINEN CRASH. STEVENS LINEN WORKS, Dudley and Boston, Mass. Filed July 21, 1905. Used ten years.

Ser. No. 10,666.



A square border inclosing a circular band between concentric circles, and extending across the solid band from one corner of the square border to the opposite is a band between parallel lines and containing the words "Stevens Crash." Above and parallel with the band containing the said words is a narrower band inside the circular band and containing the letters "S. L. W." Below the band containing "Stevens Crash" and parallel therewith inside the circular band is a narrower band containing the number "1846." The upper portion of the circular band contains the words "Unequalled Towelling," and below the central band the circular band contains the words "Made of Pure Flax Yarns." Within the inner circle of the circular band is ornamental work, approximately scrollwork, and in the corners of the rectangular border is work of a somewhat similar character.

Ser. No. 10,718. MACHINES ADAPTED TO BE USED AS SAUSAGE-STUFFERS AND LARD-PRESSES. National Specialty Manufacturing Co., Philadelphia, Pa. Filed July 22, 1905. Used ten years.

NATIONAL

The word "National."

Ser. No. 10,727. DRIED BEANS. The Albert Dickinson Company, Chicago, Ill. Filed July 24, 1905.

GLOBE

The word "Globe."

Ser. No. 10,792. GREASE-CUPS. The Lunkenheimer Company, Cincinnati, Ohio. Filed July 26, 1905. Used ten years.

"JEWEL"

The word "Jewel," inclosed in quotation-marks.

Ser. No. 11,486. MAGAZINES. Criterion Publishing Company, Chicago, Ill. Filed Aug. 10, 1905. Used ten years.



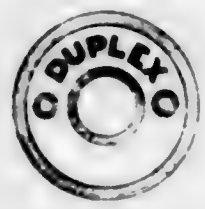
The words "Mida's Criterion" and a design showing grain, bunches of grapes, and fanciful scrollwork associated therewith.

Ser. No. 11,863. WHITE LEAD. National Lead Company of Massachusetts, Boston, Mass. Filed Aug. 21, 1905. Used ten years.



The words and abbreviations "Salem Lead Co., Salem, Mass."

Ser. No. 12,080. DRUMS. Duplex Manufacturing Company, St. Louis, Mo. Filed Aug. 28, 1905. Used ten years.



The word "Duplex," printed between two concentric circles, and two smaller circles between said concentric circles and in horizontal alinement with each other.

Ser. No. 12,199. OLIVE-OIL. Thomas McMullen & Co., New York, N. Y. Filed Sept. 2, 1905. Used ten years.



The words "The Routh Extra Sublime Lucca Olive Oil, Italy," and the facsimile signature "H. L. Routh & Sons," inclosed in an ornamental rectangular border.

SER. No. 12,207. TWIST-DRILLS. THE STANDARD TOOL COMPANY, Cleveland, Ohio. Filed Sept. 2, 1905.



The representation of the outline of a shield, with the words "STANDARD TOOL CO." included within the outline of the shield.

SER. No. 12,316. WHISKY. J. A. BOKEL COMPANY OF BALTIMORE CITY, Baltimore, Md. Filed Sept. 7, 1905.



The capital letters "H O B" in script.

SER. No. 12,398. AUTOMOBILES. STUDEBAKER AUTOMOBILE COMPANY, South Bend, Ind. Filed Sept. 8, 1905.



The word "STUDEBAKER," arranged in the particular and distinctive form of script shown in the drawing, with a paraph extending from the final "R" back under the word.

SER. No. 12,420. HAMES. THE TODD MANUFACTURING CO., New Albany, Ind. Filed Sept. 9, 1905.



An elliptical-shaped figure inclosing the representation of a horse, a pair of hames, and a wreath. Above the figure of the horse and between the neck of the hames are the words "EZ DRAFT," and above the latter is a scroll on the wreath bearing the letters and abbreviation "C. H. Co." Below the figure of the horse is the representation of several pairs of hames.

SER. No. 12,469. EMBROIDERY AND KNITTING SILK. JAMES PEARSALL & CO., London, England. Filed Sept. 11, 1905.

ORCHID

The word "ORCHID."

SER. No. 13,168. ARTIFICIAL FERTILIZERS. SPARTANBURG FERTILIZER CO., Spartanburg, S. C. Filed Sept. 30, 1905.

BOLL BUSTER.

The words "BOLL BUSTER."

SER. No. 13,412. LEATHER SHOE-BLANKS, SHOE-SOLES, AND TAPS FOR SHOE-SOLES. DANIEL FORBES COMPANY, Chicago, Ill. Filed Oct. 7, 1905.

KLONDIKE

The word "KLONDIKE."

SER. No. 13,659. MEN'S AND WOMEN'S HATS AND CAPS. ROBERT J. HUNTER, Washington, D. C. Filed Oct. 16, 1905.



A representation of a saddled and bridled horse standing on a panel, on which appears the name "HUNTER."

SER. No. 13,727. DRESS AND NEGLIGÉE SHIRTS. THE MANIFEST SHIRT CO., Philadelphia, Pa. Filed Oct. 18, 1905.

Equitable

The word "EQUITABLE."

SER. No. 13,728. DRESS AND NEGLIGÉE SHIRTS. THE MANIFEST SHIRT CO., Philadelphia, Pa. Filed Oct. 18, 1905.

Manifest

The word "MANIFEST."

SER. No. 13,803. READY-MADE SUITS, INCLUDING COATS, VESTS, TROUSERS, ALSO OVERCOATS FOR MEN AND BOYS. THE GOLDSMITH, JOSEPH, PEIRS CO., Cleveland, Ohio. Filed Oct. 21, 1905.

CLOTHCRAFT

The word "CLOTHCRAFT."

SER. No. 13,804. OVERALLS. EDWARD G. SANDERS, Chattanooga, Tenn. Filed Oct. 21, 1905.

THE TRUE BLUE

The words "THE TRUE BLUE."

SER. No. 13,821. SHOVELS, SPADES, SCOOPS, AND SPADING-FORKS. SUPPLEE HARDWARE COMPANY, Philadelphia, Pa. Filed Oct. 21, 1905.

THE SOUTHERNER

The fanciful title "THE SOUTHERNER."

SER. No. 13,826. AXES AND HATCHETS. SUPPLEE HARDWARE COMPANY, Philadelphia, Pa. Filed Oct. 21, 1905.

BLACK HAWK

The words "BLACK HAWK."

SER. No. 13,883. SELF-RAISING PREPARED BUCKWHEAT-FLOUR. FRANK C. WILLIAMS, Easton, Pa. Filed Oct. 24, 1905

SUCCESS

The word "SUCCESS."

SER. No. 14,045. LAUNDRY STARCH. J. C. HUBINGER BROS. CO., New Haven, Conn. Filed Oct. 30, 1905. Used ten years.

ELASTIC



The word "ELASTIC" and the representation of a flat-iron.

SER. No. 14,043. LUMP STARCH FOR LAUNDRY PURPOSES. J. C. HUBINGER BROS. CO., New Haven, Conn. Filed Oct. 30, 1905.

TIGER BRAND



The words "TIGER BRAND" and the representation of a tiger's head inclosed within two circles.

SER. No. 14,044. CORN-STARCH. J. C. HUBINGER BROS. CO., New Haven, Conn. Filed Oct. 30, 1905.

POPCORN



The word "POPCORN" and the representation of a dish of popcorn.

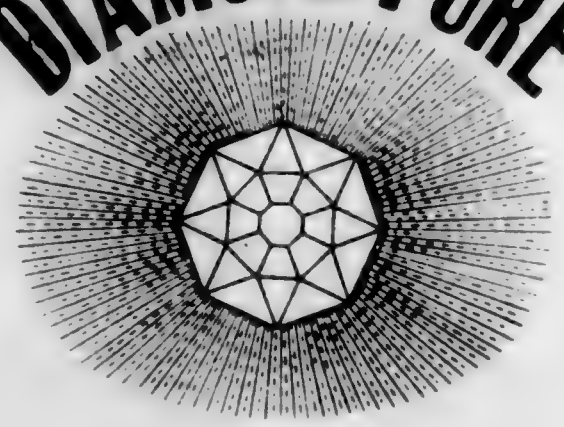
SER. No. 14,108. SAWS. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Oct. 31, 1905.

TOLEDO BLADE

The words "TOLEDO BLADE."

SER. No. 14,305. WHEAT-FLOUR. SENECA MILL & ELEVATOR COMPANY, Seneca, Mo. Filed Nov. 4, 1905.

DIAMOND PURE



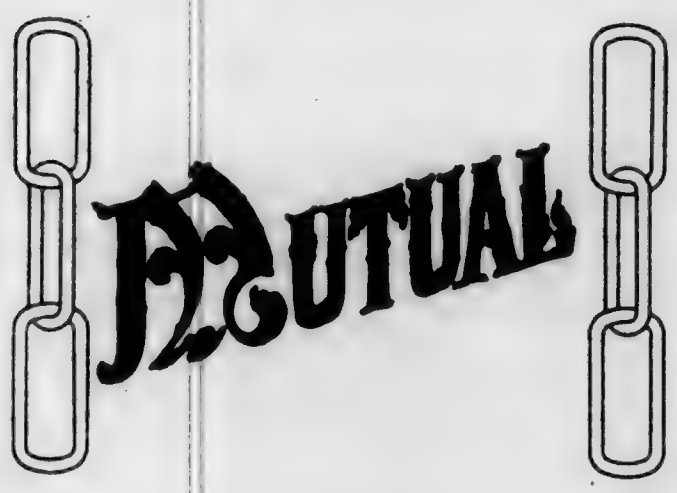
The words "DIAMOND PURE," associated with a pictorial representation of a diamond having rays radiating from it.

SER. No. 14,316. CYLINDER-LUBRICANTS AND LUBRICANT-STOCK. THE CONEWANGO REFINING CO., Warren, Pa. Filed Nov. 4, 1905.

H M

The letters "H M."

SER. No. 14,343. LEATHER BOOTS AND SHOES. LYNCHBURG SHOE CO., Lynchburg, Va. Filed Nov. 13, 1905.



The word "MUTUAL," associated with the representation of three links of a chain, the word "MUTUAL" being located between two sections of chain, each having three links.

SER. No. 14,563. DEVILED ENTREMETS. WILLIAM UNDERWOOD COMPANY, Boston, Mass. Filed Nov. 13, 1905.



The pictorial representation of a devil, in connection with the corporate name printed as "WM. UNDERWOOD CO.," the initial "W" forming the fork of the devil's tail, and flames appearing as rising from the various letters forming the name.

SER. No. 14,631. AUTOPNEUMATIC PIANO-PLAYERS, COMBINATION-PIANOS, PNEUMATIC SELF-PLAYING-PIANO MECHANISMS, AND PARTS THEREOF. THE WILCOX & WHITE COMPANY, Meriden, Conn. Filed Nov. 15, 1905.

THEMASTYLE

The word "THEMASTYLE."

SER. No. 14,738. MACHINERY-PACKING. CHAS. A. DANIEL, Philadelphia, Pa. Filed Nov. 17, 1905.

P. P. P.

The letters "P. P. P."

SER. No. 14,778. AUTOMOBILES. KNOX AUTOMOBILE COMPANY, Springfield, Mass. Filed Nov. 17, 1905.



A coat of arms, the crest being an automobile, under which is a spiral with two light and two dark bands. Below the spiral is a shield with an eagle on each side and the word "KNOX" extending diagonally across, the two dark quarters of the shield having winged circles. Diagonal lines are above and below the word "KNOX." In a scroll below the mark are the words "KNOX AUTOMOBILE COMPANY."

SER. No. 14,803. FIRST COAT OR SUBSTITUTE FOR SHELLAC. THE GLIDDEN VARNISH COMPANY, Cleveland, Ohio. Filed Nov. 17, 1905. Used ten years.

SURFACENE

The word "SURFACENE."

SER. No. 14,826. SOCKET-BUSHINGS FOR ELECTRIC FIXTURES. FRANK H. STEWART ELECTRIC COMPANY, Philadelphia, Pa. Filed Nov. 20, 1905.

KNOSTRAIN

The word "KNOSTRAIN."

SER. No. 14,831. PIANOS. THE STERLING COMPANY, Derby, Conn. Filed Nov. 20, 1905. Used ten years.

Sterling

The word "STERLING."

SER. No. 14,883. LARD. PHILIP GEORGE CROMWELL, Baltimore, Md. Filed Nov. 20, 1905.



The letter "G," having therein the representation of the face of a hog. Associated with the mark are the letters, names, and character "P. T. GEORGE & CO., BALTIMORE, U. S. A."

SER. No. 14,837. PORTLAND CEMENT. THE HELDERBERG CEMENT CO., Howe's Cave, N. Y. Filed Nov. 20, 1905.



The four letters "H," arranged in relation to each other. The four letters are joined at one of their ends, respectively, to each other in such a way that there is formed a cross between the inner sides and cross-lines of the four letters at their place of union.

SER. No. 14,900. WHISKY. CHARLES H. ROSS & CO., Baltimore, Md. Filed Nov. 23, 1905. Used ten years.

Majestic

The word "MAJESTIC."

SER. No. 14,935. TRADE-JOURNAL PERIODICAL OR MAGAZINE. LORD & NAGLE COMPANY, Boston, Mass. Filed Nov. 23, 1905.

SER. No. 14,935.

TEXTILE WORLD RECORD

The words "TEXTILE WORLD RECORD."

SER. No. 14,957. UPPER-LEATHER FOR BOOTS AND SHOES. THAYER POOR & CO., Boston, Mass. Filed Nov. 24, 1905.

AURORA

The word "AURORA."

SER. No. 14,985. LOOM-PICKERS. NORFOLK LOOM PICKER CO., Norfolk, Va. Filed Nov. 24, 1905.

ECONOMY

The word "ECONOMY."

SER. No. 15,009. TELEPHONE SETS. BAIRD MANUFACTURING COMPANY, Chicago, Ill. Filed Nov. 27, 1905.

MIDGETPHONE

The word "MIDGETPHONE."

SER. No. 15,039. MILLING-CUTTERS. THE STANDARD TOOL COMPANY, Cleveland, Ohio. Filed Nov. 28, 1905.



The representation of the outline of a shield, with the words "STANDARD TOOL CO." included within the outline of the shield.

SACKETT & WILHELMS
LITHOGRAPHING & PRINTING CO.
NEW YORK

TRADE-MARKS

REGISTERED DECEMBER 26, 1905.

48,301. WHISKY. A. BRESLAUER COMPANY, Milwaukee, Wis.
The word "PALM," below which is the representation of a palm-tree.
Filed June 24, 1905. Serial No. 8,885. PUBLISHED OCTOBER 31, 1905.

48,302. WOVEN-WIRE CLOTH, NETTING, AND FENCING. CLINTON WIRE CLOTH CO., Clinton, Mass.
The word "CLINTON" inclosed in quotation-marks.
Filed May 18, 1905. Serial No. 5,925. PUBLISHED OCTOBER 31, 1905.

48,303. WHISKY. COLBURN, BIRKS & Co., Peoria, Ill.
The word "GLENHAVEN," above which appears a monogram composed of the letters, character, and abbreviation "C B & Co."
Filed June 30, 1905. Serial No. 9,417. PUBLISHED OCTOBER 31, 1905.

48,304. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.
The words "LA BELLE."
Filed May 13, 1905. Serial No. 5,501. PUBLISHED OCTOBER 31, 1905.

48,305. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.
The letters "C C" arranged vertically and inclosed by two complementary crescents having their contiguous points united by diamond-shaped figures.
Filed May 13, 1905. Serial No. 5,505. PUBLISHED OCTOBER 31, 1905.

48,306. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.
The letters "C H C" arranged vertically and in the order named and inclosed by two complementary crescents having their contiguous points joined by diamond-shaped figures.
Filed May 13, 1905. Serial No. 5,506. PUBLISHED OCTOBER 31, 1905.

48,307. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.
The word "CHAMPION."
Filed May 13, 1905. Serial No. 5,508. PUBLISHED OCTOBER 31, 1905.

48,308. GIN. HENRY KRÖGER & Co., New York, N. Y.
The word "COMPASS" and a monogram composed of the letters "H K" inclosed in a circle, with the representation of a compass at each side of the circle, with two concentric circles surrounding the whole, and three stars appearing between the circles at their upper part.
Filed April 26, 1905. Serial No. 3,148. PUBLISHED OCTOBER 31, 1905.

48,309. CORDIALS. SIGMUND HOCHSTADTER, New York, N. Y.
The representation of a shield bearing a lion rampant in its sinister chief and dexter base-points, a panel bearing a cross arranged in the fess-point, three stars in its dexter chief and sinister base-points, and a crown surmounting said shield, the said shield and crown being inclosed by an elliptical frame of scrollwork, above which appears the name "C. SPILTOIR," also inclosed by a frame or border of scrollwork, and below said central frame appears the title "LIQUEUR SURFINE," also inclosed by a frame or border of scrollwork. At the corners of the device are ornamental scrollwork corner-pieces, which merge with the frames or borders aforesaid to form a rectangular ornamental frame, which is in turn inclosed by a plain border.
Filed June 2, 1905. Serial No. 7,272. PUBLISHED OCTOBER 31, 1905.

48,310. WHISKY. JESSE MOORE HUNT CO., San Francisco, Cal.
The word "VOLLMER" on a crescent-shaped design, the points of the crescent being united by circular-shaped lines inclosing horns.
Filed June 24, 1905. Serial No. 8,933. PUBLISHED OCTOBER 31, 1905.

48,311. WHISKY. KIRSCH BROS. & Co., Shreveport, La.
The words "BLUE GOOSE" and a landscape scene with a goose in the foreground.
Filed June 26, 1905. Serial No. 9,087. PUBLISHED OCTOBER 31, 1905.

48,312. WHISKY. LANG, SCHENCK & Co., Columbus, Ohio.
The words "WINDSOR TOWN" framed in a wreath of rye, and a monogram composed of the letters, character, and abbreviation "L S & Co" inclosed in concentric circles. A fanciful scroll design forms a background for the words "WINDSOR TOWN."
Filed June 30, 1905, Serial No. 9,439. PUBLISHED OCTOBER 31, 1905.

48,313. BITTERS. LANG SCHENCK & Co., Columbus, Ohio.
The word "AGENO" and a circular figure showing the representation of a man and woman on some rocks in a storm. Broken chains are attached to the wrists of the man and woman, and the woman holds a bottle in her uplifted right hand.
Filed June 30, 1905. Serial No. 9,441. PUBLISHED OCTOBER 31, 1905.

48,314. WHISKY. WILLIAM H. LEE & Co., St. Louis, Mo.
The words "BOB BRIARLY."
Filed June 30, 1905. Serial No. 9,422. PUBLISHED OCTOBER 31, 1905.

48,315. WHISKY. WILLIAM H. LEE & Co., St. Louis, Mo.
The words "EVERY MORNING."
Filed June 30, 1905. Serial No. 9,425. PUBLISHED OCTOBER 31, 1905.

48,316. WHISKY. L. & A. SCHARFF, St. Louis, Mo.
The words "BLUE LODGE," below which is a monogram composed of the letters and character "L & A S."
Filed June 26, 1905. Serial No. 9,107. PUBLISHED OCTOBER 31, 1905.

48,317. WHISKY. L. & A. SCHARFF, St. Louis, Mo.
The word "PRETORIA."
Filed June 26, 1905. Serial No. 9,109. PUBLISHED OCTOBER 31, 1905.

48,318. BITTERS. THE THEOBALD AND SON CO., Columbus, Ohio.
The word "HERBAGE."
Filed June 24, 1905. Serial No. 8,926. PUBLISHED OCTOBER 31, 1905.

48,319. WHISKY. THE THEOBALD AND SON CO., Columbus, Ohio.
The words "WYANDOTE GROVE," associated with a monogram of the letters and character "T & S" on a seal.
Filed June 26, 1905. Serial No. 9,088. PUBLISHED OCTOBER 31, 1905.

48,320. WHISKY. THE THEOBALD AND SON CO., Columbus, Ohio.
The word "COTTAGE."
Filed June 30, 1905. Serial No. 9,480. PUBLISHED OCTOBER 31, 1905.

48,321. CRÈME DE MENTHE. CHARLES JACQUIN ET CIE., INC., New York, N. Y.
The representation of an ermine bearing the inscription "CHARLES JACQUIN ET CIE. CRÈME DE MENTHE," a crown sur-

mounting said ermine, a spray or branch of foliage arranged at each side of said ermine, and the name "CHARLES JACQUIN ET CIE." arranged below said ermine and the whole inclosed by a crescent-shaped border.

Filed June 2, 1905. Serial No. 7,240. PUBLISHED OCTOBER 31, 1905.

48,322. ABSINTHE. CHARLES JACQUIN ET CIE., INC., New York, N. Y

The representation of an ermine surmounted by a crown. At either side of said ermine is shown a diamond-shaped panel, one bearing the inscription "QUALITÉ" and the other the inscription "SUPERIEURE." Above said ermine is displayed a band or ribbon bearing the name "CHARLES JACQUIN ET CIE, INC." Below said ermine is shown an ornamental panel bearing the title inscription "ABSINTHE." Below said panel appears the signature "CHARLES JACQUIN ET CIE., INC.," and adjacent to each end of said panel is shown a crown, said ermine, panels, and crowns being ornamented by fanciful scrolls, the whole device being inclosed by a plain rectangular border.

Filed June 2, 1905. Serial No. 7,245. PUBLISHED OCTOBER 31 1905.

48,323. ROCK AND RYE. CHARLES JACQUIN ET CIE., INC., New York, N. Y.

The representation of a circular panel imposed upon an ornamental band. In said panel is shown an ermine surmounted by a crown, and upon said ermine appear the words "LIQUEUR SURFINE." Below said panel and band appears a segmental or curved band having ornamental scroll designs at its ends and bottom and bearing the words and character "ROCK & RYE." Between said circular panel and segmental band appears the word "CRYSTALLIZED" and below said segmental or curved band the signature and abbreviation "CHARLES JACQUIN ET CIE. INCORP."

Filed June 2, 1905. Serial No. 7,250. PUBLISHED OCTOBER 31, 1905.

48,324. WHISKY. BERNARD FISCHER, Philadelphia, Pa.

The word 'RYEOLA" within a band which crosses a rectangular figure diagonally from the upper left-hand corner to the lower right-hand corner.

Filed June 24, 1905. Serial No. 8,893. PUBLISHED OCTOBER 31, 1905.

48,325. WHISKY. J. & A. FREIBERG, Cincinnati, Ohio.

The words "CYNTHIANA CLUB."

Filed May 26, 1905. Serial No. 6,721. PUBLISHED OCTOBER 31, 1905.

48,326. WHISKY. GOODMAN BROS., Memphis, Tenn.

The words "SOUTHERN CROSS" and the representation of a red flag diagonally crossed by blue bars with stars thereon.

Filed May 29, 1905. Serial No. 7,003. PUBLISHED OCTOBER 31, 1905

48,327. ALCOHOL. C. H. GRAVES & SONS, Boston, Mass.

The words "BOSTON EXTRA ALCOHOL."

Filed May 29, 1905. Serial No. 6,875. PUBLISHED OCTOBER 31, 1905.

48,328. BRANDY. C H. GRAVES & SONS, Boston, Mass.

The words "EXHIBITION COGNAC."

Filed June 7, 1905. Serial No. 7,015. PUBLISHED OCTOBER 31, 1905.

48,329. WHISKY. HARRY KAHN, Cincinnati, Ohio.

The words "BANK NOTE."

Filed June 1, 1905. Serial No. 7,197. PUBLISHED OCTOBER 31, 1905.

48,330. GIN. HARRY KAHN, Cincinnati, Ohio.

The words "BULL'S EYE."

Filed June 1, 1905. Serial No. 7,200. PUBLISHED OCTOBER 31, 1905.

48,331. WHISKY. KAUFMANN BROS. & Co., Toledo, Ohio.

The word "RINGOLD" and a monogram composed of the letters, character, and abbreviation "K B & Co" inclosed by a circle within a square, with a triangle and radiating lines at top and bottom of same.

Filed June 24, 1905. Serial No. 8,950. PUBLISHED OCTOBER 31, 1905.

48,332. COCKTAILS. P. J. BOWLIN LIQUOR Co., St. Paul, Minn.

The word "SPORTSMAN," below which is the representation of a shield upon which is a monogram composed of the letters and abbreviation "P J B L Co."

Filed June 21, 1905. Serial No. 8,638. PUBLISHED OCTOBER 31, 1905.

48,333. WHISKY. SHEA-BOCQUERAZ Co., San Francisco, Cal.

The word "SPRINGFIELD."

Filed June 30, 1905. Serial No 9,492. PUBLISHED OCTOBER 31, 1905.

48,334. STEEL. SINGER, NIMICK & Co., INC., Pittsburg, Pa.

The word "CLIPPER."

Filed May 13, 1905. Serial No. 5,483. PUBLISHED OCTOBER 31, 1905.

48,335. WHISKY. TAYLOR & WILLIAMS, Louisville, Ky.

The words "BIG HORN."

Filed May 1, 1905. Serial No. 3,842. PUBLISHED OCTOBER 31, 1905.

48,336. OILED CLOTHING. A. J. TOWER Co., Roxbury, Mass. The representation of a shield, associated with the words "SHIELD BRAND."

Filed May 27, 1905. Serial No. 6,792. PUBLISHED OCTOBER 31, 1905.

48,337. OILED CLOTHING. A. J. TOWER Co., Roxbury, Mass.

The representation of a horseshoe, upon which appear the compound word "NOX-'EM-ALL" and two elliptical dots.

Filed May 27, 1905. Serial No. 6,793. PUBLISHED OCTOBER 31, 1905.

48,338. MILK-SEPARATOR. AKTIEBOLAGET SALENIUS, WERKSTÄDER, Stockholm, Sweden.

The word "FENIX."

Filed May 5, 1905. Serial No. 4,335. PUBLISHED OCTOBER 31, 1905.

48,339. ORANGE CURACAO. CHARLES JACQUIN ET CIE., INC., New York, N. Y.

The representation of an ermine bearing the words "LIQUEUR SURFINE," a crown surmounting said ermine, and the words "ORANGE CURACAO" arranged below said ermine and the whole inclosed by an ornamental border.

Filed June 2, 1905. Serial No. 7,241. PUBLISHED OCTOBER 31, 1905.

48,340. MARASCHINO. CHARLES JACQUIN ET CIE., INC., New York, N. Y.

The representation of a shield, a female figure arranged at each side thereof and supporting the same, an eagle with outstretched wings surmounting said shield, a band below said shield bearing the inscription "QUALITÉ SUPERIEURE," and the signature "CHARLES JACQUIN ET CIE" extending diagonally across said representation. Below said representation appears the word "MARASCHINO," the whole device being inclosed in an ornamental frame of scrollwork, which in turn is inclosed by a rectangular border.

Filed June 2, 1905. Serial No. 7,244. PUBLISHED OCTOBER 31, 1905.

48,341. BAKING-POWDER. CONSUMERS SUPPLY COMPANY, St. Louis, Mo.

The word "PURETA."

Filed May 22, 1905. Serial No. 6,336. PUBLISHED OCTOBER 31, 1905.

48,342. TIRES, BANDAGES, REPAIR-SHEETS, PLASTERS, AND PATCHES. CONTINENTAL CAOUTCHOUC COMPANY, New York, N. Y.

The word "CONTINENTAL."

Filed April 1, 1905. Serial No. 176. PUBLISHED OCTOBER 31, 1905.

48,343. COMPOSITION FOR POLISHING THE NAILS. DR. J. PARKER PRAY COMPANY, LIMITED, New York, N. Y.

The word "LUSTROLA."

Filed May 13, 1905. Serial No. 5,532. PUBLISHED OCTOBER 31, 1905.

48,344. SHOE-LACES. HUGO L. HILLER, New York, N. Y.

The word "POMPADOUR."

Filed April 27, 1905. Serial No. 3,314. PUBLISHED OCTOBER 31, 1905.

48,345. CORDIALS. SIGMUND HOCHSTADTER, New York, N. Y.

The words and abbreviation "LIQUEUR DE ST. GEORGE."

Filed May 20, 1905. Serial No. 6,196. PUBLISHED OCTOBER 31, 1905.

48,346. PULP. INTERNATIONAL PULP COMPANY, New York, N. Y

The representation of two interlaced triangles forming a star, within which is the word "ASBESTINE."

Filed April 29, 1905. Serial No. 3,610. PUBLISHED OCTOBER 31 1905.

48,347. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.

The words "IRON CLAD," associated with the representation of an ironclad ship.

Filed May 18, 1905. Serial No. 6,012. PUBLISHED OCTOBER 31, 1905.

48,348. WHISKY. NATIONAL DISTILLING CO., Milwaukee, Wis.

The word "LIVINGSTON" inclosed in an ornamental panel and associated with the words "DOUBLE DISTILLED PURE FIRE COPPER WHISKEY."

Filed May 25, 1905. Serial No. 6,611. PUBLISHED OCTOBER 31, 1905.

48,349. STEEL. PARK STEEL COMPANY, Pittsburg, Pa.

The word "EMPIRE."

Filed May 13, 1905. Serial No. 5,464. PUBLISHED OCTOBER 31, 1905.

48,350. STEEL. PARK STEEL COMPANY, Pittsburg, Pa.

The word "SILVER."

Filed May 13, 1905. Serial No. 5,467. PUBLISHED OCTOBER 31, 1905.

48,351. LEATHER BOOTS AND SHOES. REGAL SHOE COMPANY INC., Boston, Mass.

The word "REGAL."

Filed June 5, 1905. Serial No. 7,405. PUBLISHED OCTOBER 31, 1905.

48,352. CANDY. REYMER & BROTHERS, INCORPORATED, Pittsburg, Pa.

The representation of a saw-edged seal with ribbons or streamers, said seal bearing the letters and character "R & B" in the form of a monogram.

Filed June 5, 1905. Serial No. 7,437. PUBLISHED OCTOBER 31, 1905.

48 353. UMBRELLAS. WILLIAM H. RICH & SON, New York, N. Y.

The word "CROSSWEVE," with a paraph extending from the letter "C" of said word.

Filed May 24, 1905. Serial No. 6,530. PUBLISHED OCTOBER 31, 1905.

48,354. AERATED WATERS. ACKLEY C. SCHUYLER, New York, N. Y.

The word "DELATOUR."

Filed May 29, 1905. Serial No. 7,018. PUBLISHED OCTOBER 31, 1905.

48,355. HAIR-TONICS AND HAIR-DYES. FRANCIS GEORGE TELFER, New York, N. Y.

The word "NATURALINE."

Filed June 1, 1905. Serial No. 7,140. PUBLISHED OCTOBER 31, 1905.

48,356. PACKING. THE GARLOCK PACKING CO., Palmyra, N. Y.

The representation of a pair of calipers crossed by a measuring-scale, between which appears a diamond-shaped figure containing the word "GARLOCK."

Filed May 6, 1905. Serial No. 4,488. PUBLISHED OCTOBER 31, 1905.

48,357. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinati, Ohio.

The words "CONGRESS PINOCHLE."

Filed May 4, 1905. Serial No. 4,244. PUBLISHED OCTOBER 31, 1905.

48,358. NON-ALCOHOLIC TONIC BEVERAGE. THE WISEOLA CO., Birmingham, Ala.

The word "WISEOLA," associated with the representation of an owl perched on the branch of a tree.

Filed April 22, 1905. Serial No. 2,727. PUBLISHED OCTOBER 31 1905.

48,359. PREPARATIONS OF MEAT JUICE. VALENTINE'S MEAT JUICE COMPANY, Richmond, Va.

A representation of the letter "V" formed by a V-shaped twig, and a bird's nest resting thereon containing eggs.

Filed April 26, 1905. Serial No. 3,031. PUBLISHED OCTOBER 31, 1905.

48,360. EXTRACTS OF MEAT. VALENTINE'S MEAT JUICE COMPANY, Richmond, Va.

The facsimile signature "MANN S. VALENTINE."

Filed April 26, 1905. Serial No. 3,032. PUBLISHED OCTOBER 31, 1905.

48,361. LEATHER BOOTS AND SHOES. WALKER & WHITMAN, Campello, Mass.

The word "WAUKERE."

Filed May 31, 1905. Serial No. 7,129. PUBLISHED OCTOBER 31, 1905.

48,362. SEWING-MACHINES AND ATTACHMENTS. ABRAHAM & STRAUS, New York, N. Y.

The word "TRIUMPH."

Filed April 18, 1905. Serial No. 2,179. PUBLISHED AUGUST 8, 1905.

48,363. SEWING-MACHINES. ABRAHAM & STRAUS, New York, N. Y.

The word "VELOX."

Filed April 18, 1905. Serial No. 2,181. PUBLISHED AUGUST 8, 1905.

48,364. CANDY. AMERICAN CONFECTIONERY CO., Nashville, Tenn.

The word "LION" and the representation of a lion's head.

Filed July 15, 1905. Serial No. 10,397. PUBLISHED OCTOBER 31, 1905.

48,365. SEWING-NEEDLES. CARL F. BOKER, New York, N. Y.

The word "PARABOLA."

Filed May 15, 1905. Serial No. 5,083. PUBLISHED OCTOBER 31, 1905.

48,366. RAZORS. CHALLENGE CUTLERY CORP., Bridgeport, Conn.

The words "DIAMOND SPEAR" and the representation of a frog pierced by a spear.

Filed April 15, 1905. Serial No. 1,778. PUBLISHED OCTOBER 31, 1905.

48,367. WHISKY. COLBURN BIRKS & CO., Peoria, Ill.

The word "MOOSEHEAD," with the representation of the head of a moose inclosed in a circle, around which is a larger double circle.

Filed June 30, 1905. Serial No. 9,416. PUBLISHED OCTOBER 31, 1905.

48,368. STEEL. CRUCIBLE STEEL COMPANY OF AMERICA, Pittsburg, Pa.

The representation of two complemental crescents inclosing the letter "B."

Filed May 13, 1905. Serial No. 5,507. PUBLISHED OCTOBER 31, 1905.

48,369. TRADE NEWSPAPER. DAVID WILLIAMS COMPANY, New York, N. Y.

The words "THE METAL WORKER PLUMBER AND STEAM FITTER."

Filed June 28, 1905. Serial No. 9,331. PUBLISHED OCTOBER 31, 1905.

48,370 SAWS. E. C. ATKINS & COMPANY, Indianapolis, Ind.; New York, N. Y.; Memphis, Tenn.; Atlanta, Ga.; Minneapolis, Minn.; Portland, Oreg.; Seattle, Wash.; San Francisco, Cal.; Chicago, Ill., and Toronto, Canada.

The representation of a phenix.

Filed June 12, 1905. Serial No. 8,002. PUBLISHED OCTOBER 31, 1905.

48,371. FILES AND RASPS. G. & H. BARNETT COMPANY, Philadelphia, Pa.

A diamond-shaped figure.

Filed June 14, 1905. Serial No. 8,090. PUBLISHED OCTOBER 31, 1905.

48,372. SKIRTS. G. PLONSKY & BRO., New York, N. Y.

The representation of a skirt inclosed by a circular border formed of an interior and exterior circle and radial lines forming panels in the border, in the center of which are dots. Associated therewith is a straight band extending horizontally from both sides of the circle, on which are the words "PLON SKIRT," the initial letters "P" and "S" of the words "PLON" and "SKIRT" being extended below the straight band, so as to form also the initia

letters of the words "PERFECT" and "SATISFACTION," which are placed below the band.

Filed June 7, 1905. Serial No. 7,610. PUBLISHED OCTOBER 31, 1905.

48,373. VALVES AND COCKS. ALFRED B. JENKINS, New York, N. Y., and Boston, Mass.

The word "JENKINS."

Filed April 10, 1905. Serial No. 895. PUBLISHED OCTOBER 31, 1905.

48,374. WHISKY. KAMP DISTILLING CO., St. Louis, Mo.

The words "LAMI HILL."

Filed June 26, 1905. Serial No. 9,029. PUBLISHED OCTOBER 31, 1905.

48,375. CORDIAL. KAMP DISTILLING CO., St. Louis, Mo.

The words "KLOSTER TROPFEN" on a ribbon design and a design representing a monk in a cloister holding a glass of liquor to his lips. Near him on a table are two bottles of liquor and a glass.

Filed June 26, 1905. Serial No. 9,032. PUBLISHED OCTOBER 31, 1905.

48,376. WHISKY. MALLARD DISTILLING CO., New York, N. Y.

The word "MALLARD" and a design representing a duck arising from a body of water.

Filed June 30, 1905. Serial No. 9,487. PUBLISHED OCTOBER 31, 1905.

48,377. HATS AND CAPS. J. SAMUELS & BRO., Providence, R. I.

The representation of a double circle inclosing the words "KING QUALITY," the circle being surmounted by the upper portion of a shield carrying a crown. The double circle surmounts a scroll bearing the word "PROVIDENCE" above the letters "R. I." The words "MANUFACTURERS OUTLET COMPANY" appear between the double circles.

Filed June 9, 1905. Serial No. 7,721. PUBLISHED OCTOBER 31, 1905.

48,378. OLIVE-OIL. FERNANDO R. SARI, Washington, D. C.

A portrait of the applicant inclosed within an oval border partially surrounded by two olive branches.

Filed September 2, 1905. Serial No. 12,162. PUBLISHED OCTOBER 31, 1905.

48,379. CARTRIDGES. SELBY SMELTING AND LEAD CO., San Francisco, Cal.

The word "STANDARD."

Filed April 20, 1905. Serial No. 2,379. PUBLISHED OCTOBER 31, 1905.

48,380. ANTIFRICTION METALS. ELMER S. SHIMER, Milton, Pa.

The word "ANTIFRIK."

Filed July 1, 1905. Serial No. 9,566. PUBLISHED OCTOBER 31, 1905.

48,381. PHOTOGRAPHIC PAPER AND FILMS. SOCIÉTÉ ANONYME "LUNA," Lausanne, Switzerland.

The word "LUNA," inclosed in quotation-marks.

Filed June 7, 1905. Serial No. 8,005. PUBLISHED OCTOBER 31, 1905.

48,382. TAMALES ENCHILADAS FRIJOLES, AND CHILLI CONCARNE. SPANISH-AMERICAN FOOD CO., San Francisco, Cal.

The representation of a girl in Spanish costume holding a chafing-dish.

Filed June 28, 1905. Serial No. 9,349. PUBLISHED OCTOBER 31, 1905.

48,383. CIGARETTES. HENRY P. STRAUSE, New York, N. Y.

A panel provided with an open surface surrounded by a border, this border being made up of foliate ornaments, the length of the panel being approximately double the width thereof and the sides of the panel being slightly concave. The entire panel, including the open surface and the foliate ornaments, is of the color of silver. Located centrally upon the ends of the panels are the representations of two screw-heads.

Filed May 29, 1905. Serial No. 6,857. PUBLISHED OCTOBER 31, 1905.

48,384. ELECTRIC BATTERIES. THE LECLANCHÉ BATTERY CO., New York, N. Y.

The word "GONDA."

Filed April 18, 1905. Serial No. 2,100. PUBLISHED OCTOBER 31, 1905.

48,385. GREASE-CUPS. THE LUNKENHEIMER COMPANY, Cincinnati, Ohio.

The word "GEM."

Filed July 26, 1905. Serial No. 10,794. PUBLISHED OCTOBER 31, 1905.

48,386. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.

The representation of a tiger's head arranged in a circle.

Filed June 14, 1905. Serial No. 8,109. PUBLISHED OCTOBER 31 1905.

48,387. PREPARED TAPIOCA. WHITMAN GROCERY COMPANY, Orange, Mass.

A representation of the statue known as the "Minute Man."

Filed June 15, 1905. Serial No. 8,171. PUBLISHED OCTOBER 31, 1905.

48,388. WHISKY. A. BRESLAUER COMPANY, Milwaukee, Wis.

The words "LA BELLE."

Filed June 24, 1905. Serial No. 8,882. PUBLISHED OCTOBER 31, 1905.

48,389. GLOVES. JACOB ADLER & CO., New York, N. Y.

The words "ADLERS RUTLAND GLOVE."

Filed June 13, 1905. Serial No. 8,018. PUBLISHED OCTOBER 31, 1905.

48,390. WHISKY. JOSIAH HARBINSON, Sacramento, Cal.

The word "POTUIN" and the representation of a cabin and still among mountains inclosed in a fanciful scrollwork border.

Filed June 21, 1905. Serial No. 8,731. PUBLISHED OCTOBER 31, 1905.

48,391. WRITING-PAPER AND ENVELOPS. GEORGE B. HURD & CO., New York, N. Y.

The words "OLD DUTCH."

Filed June 7, 1905. Serial No. 7,592. PUBLISHED OCTOBER 31, 1905.

48,392. LAMP GLASSES AND GLOBES. MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa.

The word "KEYSTONE" in an outline figure of a keystone.

Filed May 16, 1905. Serial No. 5,784. PUBLISHED OCTOBER 31, 1905.

48,393. WHISKY. MONTANA LIQUOR CO., Butte, Mont.

The word "OVERLAND," below which is a monogram composed of the letters and abbreviation "M L Co."

Filed June 21, 1905. Serial No. 8,673. PUBLISHED OCTOBER 31, 1905.

48,394. WHISKY. CORNELIUS MUNDY, Wilmington, Del.

The representation of two concentric circles superposed on a square, the square resting upon one of its angles, with its corners extending beyond the circles, the monogram "C M" being arranged within the inner circle and the words and abbreviation "CORNELIUS MUNDY WILMINGTON, DEL." being arranged between the concentric circles.

Filed June 14, 1905. Serial No. 8,126. PUBLISHED OCTOBER 31, 1905.

48,395. VALVES. JOHN A. MURRAY, New York, N. Y.

The word "MONARCH."

Filed May 26, 1905. Serial No. 6,680. PUBLISHED OCTOBER 31, 1905.

48,396. WHISKY. THOMAS PEPPER'S SONS, Ashland, Pa.

The words "OLD RAP" and the representation of a gavel placed slantingly between the two words.

Filed June 24, 1905. Serial No. 8,875. PUBLISHED OCTOBER 31, 1905.

48,397. WHISKY. J. S. PERRINE & SON, Philadelphia, Pa.

The words "PALACE CLUB" and a monogram composed of the letters and character "J S P & S" surrounded by a fanciful scroll design, at either side of which appears a bunch of rye.

Filed June 24, 1905. Serial No. 8,960. PUBLISHED OCTOBER 31, 1905.

48,398. WHISKY. JOHN RAUBER & COMPANY, Rochester N. Y.

The words "BELLE OF ROCHESTER" and a monogram composed of the letters, character, and abbreviation "J R & Co" inclosed in an ornamental circular border and associated with the words "PURITY GUARANTEED."

Filed April 26, 1905. Serial No. 3,367. PUBLISHED OCTOBER 31, 1905.

48,399. REMEDY FOR DISEASES OF THE BLOOD. AUGUSTUS B. SCUTT, New Philadelphia, Ohio.

The representation of an eagle, associated with the words "LIFE PLANT."

Filed May 4, 1905. Serial No. 4,265. PUBLISHED AUGUST 22, 1905.

48,400. CUT AND ENGRAVED GLASS. T. G. HAWKES & Co., Corning, N. Y.

The representation of two hawks placed side by side in the lower part of a trefoiled ring.

Filed June 12, 1905. Serial No. 7,942. PUBLISHED OCTOBER 31, 1905.

48,401. VARNISH STAINS. THE GLIDDEN VARNISH COMPANY, Cleveland, Ohio.

The hyphenated word "JAP-A-LAC."

Filed April 20, 1905. Serial No. 2,488. PUBLISHED JUNE 27, 1905.

48,402. CARTONS. THE HINDE & DAUCH PAPER CO., Sandusky, Ohio.

The word "CLIMAX."

Filed June 10, 1905. Serial No. 7,881. PUBLISHED OCTOBER 31, 1905.

48,403. INCLOSED ELECTRIC FUSES. THE JOHNS-PRATT CO., Hartford, Conn.

The word "NOARK" arranged in the center of a circle.

Filed May 31, 1905. Serial No. 7,105. PUBLISHED OCTOBER 31, 1905.

48,404. FIREARMS. THE WEBLEY & SCOTT REVOLVER & ARMS CO., LD., Birmingham, England.

The letters, words, and characters "W. & C. SCOTT & SON."

Filed May 19, 1905. Serial No. 6,085. PUBLISHED OCTOBER 31, 1905.

48,405. FIREARMS. THE WEBLEY & SCOTT REVOLVER & ARMS CO., LD., Birmingham, England.

The representation of a castle or tower surmounted by a flagstaff and a flag inclosed within an oval border.

Filed May 19, 1905. Serial No. 6,087. PUBLISHED OCTOBER 31, 1905.

48,406. WHISKY. THE WM. H. HOLMES CO., Pittsburg, Pa.

The words "BLACK AND TAN," below which is a picture of a dog inclosed in a scroll outline design.

Filed June 26, 1905. Serial No. 9,128. PUBLISHED OCTOBER 31, 1905.

48,407. WEEKLY NEWSPAPER. W. C. & F. P. CHURCH, INCORPORATED, New York, N. Y.

The words "ARMY AND NAVY JOURNAL."

Filed June 21, 1905. Serial No. 8,749. PUBLISHED OCTOBER 31, 1905.

48,408. POCKET AND PEN KNIVES. EDWARD WECK, New York, N. Y.

The letters, hyphen, and numeral "P. B-A1" inclosed in an oval-shaped border with ornamental ends.

Filed May 19, 1905. Serial No. 6,090. PUBLISHED OCTOBER 31, 1905.

48,409. EVAPORATING AND DISTILLING APPARATUS. WHEELER CONDENSER & ENGINEERING CO., New York, N. Y.

The word "WHEELER."

Filed May 29, 1905. Serial No. 6,884. PUBLISHED OCTOBER 31, 1905.

48,410. BOILER COMPOUNDS. ARROW BOILER COMPOUND COMPANY, St. Louis, Mo.

The word "ARROW," running through which appears the representation of an arrow, and beneath appear the words "IT DOES THE WORK" inclosed in quotation-marks.

Filed June 2, 1905. Serial No. 7,294. PUBLISHED OCTOBER 31, 1905.

48,411. NERVE BITTERS. ASCHENBACH & MILLER, Philadelphia, Pa.

The words "BOTANIC NERVE BITTERS," associated with which are the representations of a mound of stone and bushes flanking the same.

Filed July 8, 1905. Serial No. 9,932. PUBLISHED OCTOBER 31, 1905.

48,412. DYESTUFF. CASSELLA COLOR COMPANY, New York, N. Y.

The word "NAPHTINDONE."

Filed June 14, 1905. Serial No. 8,074. PUBLISHED OCTOBER 31, 1905.

48,413. PULP-CANAL CLEANSERS. ROBERT BRUCE DONALDSON, Washington, D. C.

The word "DONALDSON" crossed horizontally by a barbed needle.

Filed May 2, 1905. Serial No. 4,036. PUBLISHED OCTOBER 31, 1905.

48,414. REMEDY FOR CERTAIN NAMED DISEASES. FINLAY, DICUS & CO., LTD., New Orleans, La.

The word "CHILLIFUGE."

Filed May 1, 1905. Serial No. 3,756. PUBLISHED OCTOBER 31, 1905.

48,416. PAINT AND VARNISH REMOVERS. GOULD & CUTLER CORPORATION, Boston, Mass.

The word "ECLIPSE" inclosed in quotation-marks.

Filed May 20, 1905. Serial No. 6,116. PUBLISHED OCTOBER 31, 1905.

48,416. ORGANS. HAMILTON ORGAN CO., Chicago Heights, Ill.

The word "HAMILTON."

Filed August 11, 1905. Serial No. 11,541. PUBLISHED OCTOBER 31, 1905.

48,417. WHISKY. JESSE MOORE HUNT CO., San Francisco, Cal.

The representation of a barrel-head bearing the name "C. H. MOORE" inclosed in a dotted circle, at the top of which is a pair of deer-horns, and at the bottom is a monogram composed of the letters and abbreviation "J M H Co."

Filed June 24, 1905. Serial No. 8,931. PUBLISHED OCTOBER 31, 1905.

48,418. PROPRIETARY MEDICINES. LUKE M. KAZUNAS, Shenandoah, Pa.

The compound word "GUMBO-KURA."

Filed April 25, 1905. Serial No. 2,954. PUBLISHED OCTOBER 31, 1905.

48,419. ACCORDIONS. LYON & HEALY, Chicago, Ill.

The word "ARION."

Filed August 7, 1905. Serial No. 11,352. PUBLISHED OCTOBER 31, 1905.

48,420. ACCORDIONS. LYON & HEALY, Chicago, Ill.

The word "ZENITH."

Filed August 7, 1905. Serial No. 11,354. PUBLISHED OCTOBER 31, 1905.

48,421. GUITARS. LYON & HEALY, Chicago, Ill.

The word "SYLVIA."

Filed August 7, 1905. Serial No. 11,366. PUBLISHED OCTOBER 31, 1905.

48,422. BLUING. ADAM PFROMM, Philadelphia, Pa.

The words "BARLOW'S INDIGO BLUE."

Filed May 16, 1905. Serial No. 5,829. PUBLISHED OCTOBER 31, 1905.

48,423. TONICS. RIO CHEMICAL CO., New York, N. Y.

The word "CELEBINA."

Filed May 17, 1905. Serial No. 5,874. PUBLISHED OCTOBER 31, 1905.

48,424. REMEDIES FOR BLOOD DISEASES OF THE MUCOUS SURFACES. RIO CHEMICAL CO., New York, N. Y.

A monogram composed of the letters "S H K."

Filed May 17, 1905. Serial No. 5,875. PUBLISHED OCTOBER 31, 1905.

48,425. LINIMENT. CLARK STANLEY, Providence, R. I.

The words "CLARK STANLEY'S SNAKE OIL LINIMENT," a portrait representation of the applicant, and four twisted snakes surrounding the same, all inclosed within a rectangular border.

Filed June 3, 1905. Serial No. 7,361. PUBLISHED OCTOBER 31, 1905.

48,426. WASHING-SODA. THE ALDEN SPEARE'S SONS CO., Boston, Mass.

The word "DORU," associated with the representation of a spear, which appears horizontally behind the letters of the word.

Filed June 16, 1905. Serial No. 8,352. PUBLISHED OCTOBER 31, 1905.

48,427. CIGARS. THE FEHSENFELD CIGAR CO., Baltimore, Md.

The word "TRANSIENT."

Filed April 18, 1905. Serial No. 2,142. PUBLISHED OCTOBER 31, 1905.

48,428. CIGARS. THE JUAN F. PORTUONDO CIGAR MFG. CO., Philadelphia, Pa.

The representation of two male figures, one attired in Indian costume and the other in the costume of a Spanish matador, leaning on opposite sides of a circular border inclosing the representation of a tropical plantation scene, and above the words "LA FLOR DE PORTUONDO."

Filed May 11, 1905. Serial No. 5,151. PUBLISHED OCTOBER 31, 1905.

48,429. MEDICINAL PREPARATIONS. THE LESLIE E. KEELEY CO., Dwight, Ill.

An escutcheon whose chief is in the form of a chevron, whose base is formed by two ogee curves, and diagonally across which run four lines in the direction of the dexter hand.

Filed May 8, 1905. Serial No. 4,768. PUBLISHED OCTOBER 31, 1905.

48,430. CERTAIN NAMED CHEMICAL PREPARATIONS. THE PRESERVALINE MFG. CO., New York, N. Y.

The word "CONSERVALINE."

Filed April 28, 1905. Serial No. 3,512. PUBLISHED OCTOBER 31, 1905.

48,431. HEAT-STORING DEVICES. THE THERMALITE COMPANY, New York, N. Y.

The word "THERMALITE."

Filed September 6, 1905. Serial No. 12,283. PUBLISHED OCTOBER 31, 1905.

48,432. WATER AND STAIN PROOFING LIQUID. TOCH BROTHERS, New York, N. Y.

The word "ANHYDROSOL."

Filed August 12, 1905. Serial No. 11,588. PUBLISHED OCTOBER 31, 1905.

48,433. TINTERS FOR MORTAR OR PLASTER COMPOUNDS. TOCH BROTHERS, New York, N. Y.

The word "EDINBURGH."

Filed August 12, 1905. Serial No. 11,591. PUBLISHED OCTOBER 31, 1905.

48,434. LEATHER BOOTS AND SHOES. UTZ & DUNN, Rochester, N. Y.

The abbreviation and word "ST. CECILIA."

Filed September 22, 1905. Serial No. 12,915. PUBLISHED OCTOBER 31, 1905.

48,435. CABINET-ORGANS. W. W. KIMBALL COMPANY, Chicago, Ill.

The words "GREAT WESTERN."

Filed August 14, 1905. Serial No. 11,643. PUBLISHED OCTOBER 31, 1905.

48,436. DISINFECTANTS AND ANTISEPTICS. BELLEVUE CHEMICAL COMPANY, Brooklyn, N. Y.

The hyphenated word "SY-RIN-GA-FORM."

Filed June 8, 1905. Serial No. 7,638. PUBLISHED OCTOBER 31, 1905.

48,437. VETERINARY REMEDY. DAVID BINKLEY, Nappanee, Ind.

The representation of two horses holding between them a banner, associated with the words "SAVE YOUR HORSES BY USING FRAZIER'S DISTEMPER CURE."

Filed July 3, 1905. Serial No. 9,733. PUBLISHED OCTOBER 31, 1905.

48,438. WHISKY. JOSEPH M. DAVIS, Minneapolis, Minn.

The words "SILVER PITCHER," below which is the representation of a pitcher.

Filed June 26, 1905. Serial No. 9,037. PUBLISHED OCTOBER 31, 1905.

48,439. ELECTRIC SAFETY-FUSES. D. & W. FUSE CO., Providence, R. I.

The letters and character "D & W."

Filed May 11, 1905. Serial No. 5,132. PUBLISHED OCTOBER 31 1905.

48,440. TONIC MEDICINES. SAMUEL BRUBAKER HARTMAN, Columbus, Ohio.

The word-symbol "PERUNA."

Filed April 14, 1905. Serial No. 1,432. PUBLISHED OCTOBER 31, 1905.

48,441. MEDICAL COMPOUND. SARAH HOLDEN EVERETT, HAYDEN, Bedford, Mass.

The representation of a framed surface supported on an easel, said surface bearing the representation of a pair of twigs or sprays and the letters "H V C."

Filed June 17, 1905. Serial No. 8,412. PUBLISHED OCTOBER 31, 1905.

48,442. MACHINE BLADES OR KNIVES. LORING COES & COMPANY, INC., Worcester, Mass.

The hyphenated word "MICRO-GROUND" inclosed in quotation-marks.

Filed May 9, 1905. Serial No. 4,780. PUBLISHED OCTOBER 31, 1905.

48,443. ANTISEPTIC LUBRICANTS. RUSSELL & LAWRIE, Tarrytown, N. Y.

The word "LUBRASEPTIC."

Filed July 7, 1905. Serial No. 9,807. PUBLISHED OCTOBER 31, 1905.

48,444. REMEDY FOR DISEASES OF THE BLOOD AND SKIN. THE DR. PETER FAHRNEY & SONS CO., Chicago, Ill.

The word "KURIKO."

Filed May 29, 1905. Serial No. 6,935. PUBLISHED OCTOBER 31, 1905.

48,445. OILS FOR INTERNAL AND EXTERNAL USE. THE KICKAPOO INDIAN MEDICINE CO., Clintonville, Conn.

A facsimile signature of the firm-name "HEALY & BIGELOW."

Filed April 10, 1905. Serial No. 969. PUBLISHED OCTOBER 31, 1905.

LABELS

REGISTERED DECEMBER 26, 1905.

12,570.—*Title:* "B & O. CENTRAL." (For Cigars.) JACOB MARKOVITZ, Baltimore, Md. Filed November 7, 1905.

12,571.—*Title:* "R. STEINECKE CO." (For Cigars.) R. STEINECKE COMPANY, New York. N. Y. Filed November 25, 1905.

12,572.—*Title:* "ART." (For Cigars.) J. FRED WILCOX & Co., Chicago, Ill. Filed October 20, 1905.

12,573.—*Title:* "MASETTO." (For Cigars.) MAGIDSON BROS., Chicago, Ill. Filed November 28, 1905.

12,574.—*Title:* "COLOMBO BITTERS." (For Medicine.) DR. CARLO DE FELICE, Brooklyn, N. Y. Filed November 29, 1905.

12,575.—*Title:* "FERNET RICCA." (For Bitters.) CHAS. JACQUIN ET CIE., INC., New York, N. Y. Filed December 1, 1905.

12,576.—*Title:* "HOT STUFF." (For a Tonic and Relish.) THE S. W. NOGGLE WHOLESALE & MFG. Co., Kansas City, Mo. Filed November 13, 1905.

12,577.—*Title:* "BEN'S BRILLIANT BEER." (For Beer.) N. BENJAMIN SON, INC., Brooklyn, N. Y. Filed November 18, 1905.

12,578.—*Title:* "FORJADA." (For Tea.) C. F. POSBERGH & Co., New York, N. Y. Filed September 11, 1905.

12,579.—*Title:* "GERM FLAKE." (For Pancake-Flour.) THE BARROWS MILLING Co, Lorain Ohio. Filed August 25, 1905.

12,580.—*Title:* "SELECT PACK CALIFORNIA MOORPARK APRICOTS." (For Dried Fruit) CASTLE BROS., INCORPORATED, San Francisco, Cal. Filed October 16, 1905.

12,581.—*Title:* "POSNER BROS. EXCILAITER DANDRUFF CURE" (For Hair-Tonic.) POSNER BROTHERS, New York, N. Y. Filed August 4, 1905.

12,582.—*Title:* "SWAMP CHILL AND FEVER CURE." (For Medicine.) MORRIS MORTON DRUG Co., Fort Smith, Ark. Filed November 28, 1905.

12,583.—*Title:* "PARIS ANTISEPTIC DENTAL PLASTER." (For Antiseptic Plaster.) WILLIAM CHURCH, Chicago, Ill. Filed December 4, 1905.

12,584.—*Title:* "SNOW-BALL FREEZER." (For Ice-Cream Freezers.) RICHMOND CEDAR WORKS, Richmond, Va. Filed December 1, 1905.

12,585.—*Title:* "HUBTIP." (For Lacings for Boots and Shoes.) FRANK W WHITCHER, Boston, Mass. Filed November 16, 1905.

12,586.—*Title:* "POLIO." (For Furniture-Polish.) WILLIAM WALTER WATES, Haleysville, Ala. Filed December 1, 1905.

12,587.—*Title:* "TRUE TO NATURE." (For Linoleum.) P. O. JUDSON & Co., New York, N. Y. Filed December 2, 1905.

PRINTS

REGISTERED DECEMBER 26, 1905.

1,521.—*Title:* "JAYNES SANATIVE PILLS ARE THE BEST AT ALL TIMES." (For Pills.) DR. D. JAYNE & SON, Philadelphia, Pa. Filed November 27, 1905.

1,522.—*Title:* "THE REAL PURE FOOD SHOW." (For Flour.) WASHBURN-CROSBY COMPANY, Minneapolis, Minn. Filed December 1, 1905.

1,523.—*Title:* "THE EDELWEISS GIRL." (For Beer.) THE P. SCHOENHOFEN BREWING COMPANY Chicago, Ill. Filed November 25, 1905.

1,524.—*Title:* "MURAD." (For Cigarettes.) S. ANARGYROS, New York, N. Y. Filed November 24, 1905.

1,525.—*Title:* "BAIRAM." (For Cigarettes.) S. ANARGYROS, New York, N. Y. Filed November 24, 1905.

1,526.—*Title:* "MECCA." (For Cigarettes.) S. ANARGYROS, New York, N. Y. Filed November 24, 1905.

1,527.—*Title:* "TURKISH TROPHIES." (For Cigarettes.) S. ANARGYRO, New York, N. Y. Filed November 24, 1905.

1,528.—*Title:* "STAR BATHTUB ENAMEL." (For an Enamel.) GERSTENDORFER BROS., New York, N. Y. Filed November 21, 1905.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

POHLE v. MCKNIGHT.

Decided October 31, 1905.

1. INTERFERENCE—REDUCTION TO PRACTICE—OPERATION OF THE INVENTION.

Where experiments claimed to be such operation of the invention as to show reduction to practice were much more than mere laboratory tests, but it does not appear that the invention was practically carried on therein or that possibility of practical operation was satisfactorily demonstrated, *Held* that the experiments could not be accepted as showing reduction to practice.

2. SAME—SAME—ABANDONED EXPERIMENTS.

Where tests relied upon as reduction to practice are admitted not to be very satisfactory and the plant was soon dismantled and never reërected and friends refused to assist in view of these tests and no application for patent was made in view thereof, though a caveat had been filed, and no further attempts to operate the invention were made for several years, when further experiments were undertaken, *Held* that the so-called reduction to practice must be considered as merely an abandoned experiment.

3. APPLICATION—NEW MATTER.

Where the application as filed contained no reference to roasting with free access of air and was later amended to state that sufficient air could be supplied, if necessary, and was still later amended to claim roasting with free access of air, *Held* that it is clear that this matter was not originally admitted, as obvious and self-apparent, and that it constitutes an unwarranted addition to the original disclosure.

4. INTERFERENCE—PATENT AS EVIDENCE OF INVENTION—INVENTION NOT IN ORIGINAL APPLICATION.

Where the invention in issue is disclosed by the patent in interference, but was not disclosed in the original application for the patent, *Held* that the patent cannot be accepted as proof of invention at the date of the application.

5. SAME—SAME—SAME.

Where the invention in issue was caused to appear in a party's patent by an amendment to the application improperly extending the original disclosure, *Held* that the patent is not evidence of invention by the patentee at any time, as the matter in question is not supported by oath stating that it was invented by him.

6. SAME—INVENTION NOT IN ORIGINAL APPLICATION OF A PARTY—APPEAL TO COURT ON PRIORITY.

Where the application date of a party is such as would entitle him to prevail upon priority, but it is found that the invention was not included in his application when filed and that therefore his application and the patent thereon afforded no proper basis for refusal of a patent to his opponent, *Held* that the question decided seems to be one of priority of invention and that the decision should be such as to give the unsuccessful party opportunity to take an appeal in the interference to the court of appeals and not one dissolving the interference.

APPEAL from Examiners-in-Chief.

PROCESS OF REDUCING ORES.

Mr. A. B. Stoughton and *Messrs. Foster & Freeman* for Pohle.

Mr. Joshua Pusey for McKnight.

ALLEN, *Commissioner:*

This is an appeal by Pohle from the decision of the Examiners-in-Chief awarding priority of invention to McKnight upon an issue expressed in the following counts:

1. The art of treating refractory ores containing precious metals and a refractory metalloid, which consists in pulverizing the ore, mixing with the pulverized ore a quantity of haloid salt of an alkaline metal, the relative proportions of the materials being substantially those quantitatively requisite to produce when heated in the presence of oxygen, a haloid salt of the precious metal, and an oxygen salt of the alkaline metal and the refractory metalloid, roasting the mixture with free access of air and agitation at a temperature sufficient to effect the reaction mentioned, but substantially shut off from the products of combustion, until the reactions above mentioned are accomplished, and volatilizing and recovering the precious metal values as haloids or oxyhaloids; substantially as described.

2. The art of treating refractory ores containing precious metals and a refractory metalloid, which consists in pulverizing the ore, mixing with the pulverized ore chlorid of sodium, the relative proportions of the materials being substantially those quantitatively requisite to produce when heated in the presence of oxygen, a chlorid of the precious metal and an oxygen salt of the sodium and the refractory metalloid, roasting the mixture with free access of air, but shut off from the products of combustion, and until a chlorid of the precious metal and an oxysalt of the refractory metalloid and the sodium is produced, and continuing the heating until the said chlorid is volatilized and carrying off and collecting the same separate and apart from the fumes of combustion of the furnace; substantially as described.

The process stated in these counts may be readily understood from the specific operation thereof set forth in Pohle's specification. In this operation the ore is pulverized and mixed with common salt and sulfur. The mixture is heated and stirred in a current of air. Chlorids or oxychlorids of the valuable metals form and are carried off as vapors. These vapors are condensed, forming the product of this process.

McKnight took no testimony, but stands upon the filing date, January 12, 1900, of the application upon which his patent issued for his date of conception and constructive reduction to practice. McKnight's patent issued on October 29, 1901. Pohle's application was filed February 26, 1902. Pohle has upon him, therefore, the burden of proving his case beyond reasonable doubt. Pohle in his preliminary statement claims to have conceived the invention and to have reduced it to practice in the year 1887. The Examiner of Interferences found that Pohle did conceive the invention in 1887. He also found it to be established that McKnight's application as filed contained no basis for the claims in issue and that McKnight was not the inventor of the process in issue, because portions of this process had been derived by McKnight from Pohle through others and inserted in the McKnight application by unwarranted amendments. He awarded priority of invention to Pohle without passing upon the question of actual reduction to practice by Pohle. The Examiners-in-Chief held that in considering the question of priority they were bound to assume the invention to be properly grounded

in original application upon which McKnight's patent issued. They found that Pohle had probably not fully conceived the invention until January 23, 1900, after McKnight's application had been filed. They also found that if given the benefit of the earlier conception conceded to him by McKnight (McKnight's brief before Examiners-in-Chief, p. 2) Pohle had nevertheless failed to overcome the filing date of McKnight's application through failure to establish actual reduction to practice or ordinary diligence in filing his application. They therefore made formal award of priority of invention to McKnight; but they called attention in their decision to their conclusion that the application for McKnight's patent as filed did not, in fact, contain proper foundation for the invention now claimed, and they recommended that the interference be dissolved and that Pohle's application be sent to patent.

I agree with the conclusion of the Examiners-in-Chief that Pohle has failed to establish facts which would entitle him to prevail over McKnight if it be assumed that the latter's patent is properly grounded in the disclosure of his application as filed and is not invalid through improper injection of the present invention into the same by amendment after the application had been filed in the Patent Office. The question of Pohle's conception of the invention before the filing of McKnight's application need not be considered, as it is clear in my opinion, first, that Pohle has failed to establish reduction to practice before his own application was filed, and, second, that he has failed to establish diligence upon his part in filing such application. As to actual reduction to practice by Pohle, the claim is made that certain experiments in 1887 at Curtis street, Denver, Colo., satisfy the requirements of this condition upon completion of invention. These experiments were much more than laboratory tests; but it does not appear that the process in issue was practically carried on therein or that possibility of practical operation was satisfactorily demonstrated. Pohle admits that the results were not very satisfactory. (Pohle's printed record, pp. 7 and 8.) The plant was soon dismantled and never reërected. (Same record, p. 9.) Friends refused to assist on the strength of these tests, claiming that the development of the process to a commercial point would be very expensive. (Same record pp. 9 and 10.) No application for patent was made, though a caveat had been filed. No attempts to operate the process seem to have been made from 1888 to 1896, when further experiments were undertaken. The so-called reduction to practice in 1887-1888 has the marks of an abandoned experiment and must be so considered. (*Lemp* v. *Mudge*, 114 O.G., 763; *Traver* v. *Brown*, 86 O. G., 1324; *Reichenbach* v. *Kelley*, 94 O. G., 1185; *Uhlmann et al.* v. *Bartholomae and Leicht Brewing Company et al.*, 50 O. G., 1447.)

In the year 1898 and subsequently operations were carried on by Pohle with one Croasdale with processes more or less closely related to that in issue, (same record, pp. 10 and 11,) and Patent No. 741,712, dated October 20, 1903, application filed June 23, 1900, was obtained by Pohle and Croasdale as joint inventors, which contains claims differing from those involved here merely by omission of the limitation to exclusion of products of combustion from the substances treated. The evidence is not specific as to what was done by Pohle in these operations with Croasdale; actual reduction to practice of the present process in the course thereof cannot be presumed; nor is there any evidence in the case upon which diligence for Pohle can be predicated from before January 12, 1900, when McKnight filed his application, to February 26, 1902, when Pohle filed his. This brings me to consideration of the sufficiency of McKnight's patent, in view of manifest omissions in the application as filed, to sustain a judgment which will deny to Pohle the right to obtain a patent upon this invention.

Each count of the issue includes as a step in the process which it defines "roasting * * * with free access of air." The application for McKnight's patent when filed contained no suggestion of this step. According to that application the mixture of ground ore and salt was heated to secure the same results which it now appears can only be secured by roasting with free access of air. The drawing filed with McKnight's application showed a closed vessel for heating the mixture, where Pohle's caveat and application showed the open-ended chamber B. It is clear that McKnight did not omit reference to roasting with free access of air from his application as filed, because he considered this feature of the process to be such an obvious matter as to be self-apparent to those skilled in the art, for on October 6, 1900, McKnight filed an amendment to his application stating that oxygen necessary for the reactions could be supplied *if necessary* by the admission of sufficient air. It was not until April 16, 1901, that McKnight's case was amended to include the step of "roasting the mixture with free access of air," which forms part of each count in the issue.

There is also evidence outside of the record of the McKnight patent that the amendment of April 16, 1901, was more than a mere statement of matter known to McKnight when his application was filed and considered by him to be obvious from the disclosures thereof. The witness Croasdale states that he met McKnight in the fall of the year 1900 and that McKnight's conversation showed that he meant to treat the ore without access of air. (Pohle's printed record, p. 43, Q. 4.) The witness Hawkins testifies as an expert that the disclosure of the McKnight application when filed was not sufficient to enable those skilled in the art to practice the invention now in issue. (Pohle's printed record, p. 53, Q. 9.) Both Croasdale and Hawkins testify that McKnight and Collett before the amendment of April 16, 1901, saw the specification and claims of an application of Pohle and Croasdale for a process very similar to that in issue and which included the step of roasting with free access of air. (Pohle's printed record, p. 43, Q. 4; p. 55, Q. 15; pp. 58 and 59, X-Qs. 7-9.) The Court of Appeals of the District of Columbia in another interference referred to the failure of McKnight to mention the use of air in the application for his patent here involved when filed and affirmed the decision adverse to McKnight, which decision was based in part upon the conclusion that McKnight's application when filed did not include this feature of the invention. (*McKnight* v. *Pohle et al.*, 105 O. G., 977.)

I am satisfied that McKnight's application did not originally disclose the invention now in issue and that it presented no proper foundation for the amendments by which it was made to include this invention. The patent granted upon this application cannot, therefore, be accepted as proof of invention of the issue at the date of the application, and since the new matter in the amendments by which McKnight's patent was made to include the present issue

is not supported by oath stating that such matter was invented by McKnight the patent is not evidence of invention of this matter by McKnight at any time. If this conclusion is correct, Pohle's right to patent upon his application fully disclosing the invention in issue cannot be denied by reason of the prior patent to McKnight or anything in the application upon which this patent was granted. It only remains to be determined what action shall be taken upon this conclusion to best secure the rights of the parties and to satisfy the requirements of the law and practice.

The Examiners-in-Chief recommend that the interference be dissolved in view of the insufficiency of McKnight's disclosure and that Pohle's application be passed to issue. The Examiner of Interferences, on the other hand, awarded priority of invention to Pohle in view of the insufficiency of McKnight's patent to support judgment in his favor. The practical effect of adopting one of these courses here rather than the other is this: If the interference is dissolved, the proceeding is closed and McKnight, a patentee, has no further appeal. If award of priority is made, McKnight has an appeal to the court from the decision against him. It is believed that McKnight should not be cut off from such appeal. If the conclusion herein that McKnight's patent does not support the invention in issue is in error and the conclusions as to reduction to practice and diligence by Pohle are correct, McKnight is the prior inventor of the matter in issue. In such case he should prevail in this proceeding over Pohle and no patent for the matter in issue should issue to the latter. The question decided seems, therefore, to be one of priority of invention. It is true that a party possessing a patent has not the same reasons for appeal from adverse decision as an applicant whose right to patent is denied by such decision; but there seems to be the same reason for permitting appeal in the interference proceeding to the court by the patentee as for making him a party to the interference and permitting him to contest in the Patent Office the right of his opponent to patent.

It is true that the court in the case of *Schupphaus* v. *Stevens* (95 O. G., 1452) emphatically held that the right of a party to make the claims in issue was a question of patentability which was not involved in determining the question of priority of invention, and the same has been held in a long line of cases referred to in that decision. In the later cases, however, of *Furman* v. *Dean* (114 O. G., 1552) and *Seeberger* v. *Dodge* (114 O. G., 2382) the court did consider such questions. In *Furman* v. *Dean* the question was raised as one of estoppel under the decisions in the cases of *Bechman* v. *Wood* (89 O. G., 2462) and *Miehle* v. *Read*, (18 D. C. App., 128). The court called attention to the holding in the Patent Office that the differences introduced by amendment into the application of Dean were merely verbal and stated that no reason was found for disturbing the Office decision in that regard. In their decision in the case of *Seeberger* v. *Dodge* the court after referring to the apparently conflicting practice upon the consideration upon appeals from the Patent Office upon priority of the right of a party to make the claims in issue proceeded to consider this question as raised with regard to Dodge's application and concluded such consideration with the following statement:

> Having examined them all with the aid of an able argument directed to every point, we are of the opinion that the amendments of Dodge's claims were within the scope of his application and accompanying drawings, and were, therefore, properly allowed (*Hulett* v. *Long*, 15 App. D. C., 284, 290; *McBerty* v. *Cook*, 16 App. D. C., 133, 138.)

In the decision in the recent case of *Allen* v. *United States, ex rel. Lowry et al.*, (116 O. G., 2253,) where only the question of the right of appeal from interlocutory decisions in interference proceedings was before the court, it was stated:

> The right of a party to make the claim of an interference is not finally determined by the decision of the Examiner on a motion for a dissolution. This is clearly shown by Rule 126 of the Patent Office under which the Examiner of Interferences or the Examiners-in-Chief before or on deciding the question of priority are authorized to call the attention of the Commissioner to the fact that no interference exists, or that there is a statutory bar to the grant of a patent, etc., whereupon the interference may be remanded to the Primary Examiner for examination and decision. Appeals are allowed from his decision as in other cases. It is not necessary in this proceeding to construe this rule or to pass upon the question whether the lack of a right of a party to an interference to make a claim by reason of the inoperativeness of the invention disclosed in his application, does or does not relate to the question of priority as referred to in said rule. However this may be, it would seem that it might in many cases be quite difficult to decide the question of priority where the evidence showed that the device disclosed in the application was not operative. It will be time, however, to decide that question when it is presented in a case where we are called upon to decide the question of priority. We have, however, reviewed other ancillary questions when they properly come before us on appeals from final judgments awarding priority of invention. (*Stevens* v. *Seher*, 11 App. D. C., 245.) We have declined to entertain appeals from decisions of the Patent Office that were not final decisions.

Whether the right of a party to make the claim in interference will be considered by the court on appeals from the final decisions upon priority in this Office seems to be an open question. Being of the opinion that the decision of priority of invention in the present case is so dependent upon McKnight's right to claim the invention as to necessitate consideration of the latter in the proper determination of the former, I conclude that my finding of insufficiency in McKnight's patent to support an award of priority in his favor will be best carried into effect by an award of priority of invention to his opponent.

The decision of the Examiners-in-Chief awarding priority of invention to McKnight is reversed and priority of invention is awarded to Pohle.

EX PARTE MARR.

Decided December 13, 1905.

ABANDONED APPLICATION—FINAL REJECTION—PROPER ACTION.

After final rejection it is incumbent upon the applicant to appeal or take action to have the case reopened within the year allowed by law if he wishes to prosecute the claims further. The filing of an amendment is not such action as the condition of the case requires.

ON PETITION.

PROCESS OF DIVIDING, SEVERING, AND SIMILARLY TREATING CLOTH.

Mr. William A. Rosenbaum for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Primary Examiner holding that the above-entitled application is abandoned by reason of the applicant's failure to take proper action within the time fixed by law.

It appears that in his first and second actions in the case the Examiner rejected the claims for the same reason fully set forth. Thereafter, on September 15, 1904, the applicant presented an amendment embodying a claim subject to the same objection as those previously rejected, and on October 4 the Examiner wrote a letter saying—

> the claim now presented is substantially the same as the claim last acted upon by the Examiner.

He thereupon rejected the claim for the same reasons as

stated before and notified the applicant that his remedy was by appeal. On September 28, 1905, the applicant filed an amendment which the Examiner refused to enter on the ground that it was not responsive to his last action.

It is clear that on and after October 4, 1904, the application was in condition for appeal and that it was incumbent upon the applicant to appeal within one year from that date or take action to have the final rejection set aside as irregular. He did neither, and therefore permitted the case to become abandoned.

The petition is denied.

EX PARTE THE WILLIAM CONNORS PAINT MFG. COMPANY.

Decided December 13, 1905.

1. TRADE-MARKS—CLASS OF GOODS—SUBSTANTIALLY THE SAME DESCRIPTIVE PROPERTIES.

A single trade-mark registration cannot include the mark applied to paints, driers, white lead, stove-polish, stove and furnace cement, and roofing-cement, since the goods are not of substantially the same descriptive properties.

2. SAME—COAT OF ARMS NOT REGISTRABLE.

A simulation of the coat of arms of the United States will not be registered as a trade-mark even under the ten years' clause of the Trade-Mark Act.

ON APPEAL.

TRADE-MARK FOR PAINTS AND PAINTERS' SUPPLIES.

Mr. T. W. Johnson for the appellants.

ALLEN, *Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing to register a mark described as follows:

The trade-mark of said corporation consists of the representation of an eagle with spread wings, perched upon the American shield and holding in its exposed talons arrows and branches of laurel, there being in the background representations of stars and the exposed ends of several American flags, the whole being inclosed within concentric circles appearing within a seal-like border, and the words "American Seal," which appear in the upper portion of the seal-like border.

The mark is said to have been used for ready-mixed paints, driers, white lead, stove-polish, stove and furnace cement, and roofing cement, and the appellants seek to register the mark for use upon each of those articles.

The Examiner says:

Registration has been refused for the reason that the pictorial representation is a simulation of the United States coat of arms and for the further reason that the goods disclosed are not all of the same descriptive properties, and this refusal is based upon the decisions of the Commissioner in *ex parte Faxon*, (103 O. G., 891,) *ex parte Cahn Belt Company*, (118 O. G., 1936.)

As was pointed out in the decision last cited by the Examiner, a mark cannot be registered even under the "ten years'" clause of the law where it includes the coat of arms of a State or nation. The present mark includes a simulation of the coat of arms of the United States, and therefore the Examiner was right in refusing to register it.

The goods upon which the mark has been used are not of substantially the same descriptive properties, and the use of a particular mark upon one would not infringe the rights acquired by the use of the same mark by another party upon others. It is apparent, therefore, that the applicants are seeking to secure a single registration covering more than one trade-mark right. For the reason stated in the decisions cited by the Examiner it is believed that the law contemplates separate registrations for separate rights.

The decision of the Examiner of Trade-Marks is affirmed.

EX PARTE THE BRYANT ELECTRIC COMPANY.

Decided December 13, 1905.

1. TRADE-MARKS—"JUNIOR" AND "JR"—ALTERNATIVENESS.

The letters "Jr" do not necessarily mean "Junior" unless they follow a name, and therefore when used alone upon goods they do not constitute a substitute for or abbreviation of "Junior." The word and the letters cannot be included alone in one registration.

2. SAME—"JUNIOR"—REAL TRADE-MARK IS NAME.

Where the word "Junior" in actual use has always followed a name, the trade-mark is not the word "Junior," but that word following the name.

ON APPEAL.

TRADE-MARK FOR ROSETTES.

Messrs. Howson & Howson for the applicant.

ALLEN, *Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing to register a trade-mark for rosettes for electric wiring described as follows:

The trade-mark consists of the word "Junior," either spelled out in full or in its abbreviated form "Jr."

The Examiner says:

Registration has been refused, for the reason that applicant is not entitled to register the mark in the form shown, for the reason that the two words are not true alternatives.

The specimens on file in the case show that applicant uses as a trade-mark for the goods named two styles of labels, in one of which appear the words "Bryant Junior Rosettes," and in the other the words "Bryant 'Jr.' Rosettes."

It seems perfectly clear that the letters "Jr" alone placed upon articles of merchandise would not necessarily mean to purchasers the word "Junior." They would be regarded as an arbitrary sign. While the word "Junior" and the letters "Jr" placed after a name are alternatives and would have the same meaning, it is not believed that they would be so understood if used separately and alone on merchandise. The appellant is here seeking to register the word and letters alone, and it must be held that the Examiner was right in refusing registration.

It seems clear from the whole case that if either of the two marks shown in the drawing constitutes a valid trade-mark owned by the appellant it is the word "Junior." It is believed, however, upon consideration of the whole case that this word does not, in fact, constitute the appellant's trade-mark. As stated by the Examiner, it is in actual practice used to qualify the word "Bryant," and therefore the appellant's mark is "Bryant Junior," or in the alternative writing "Bryant Jr."

The decision of the Examiner of Trade-Marks is affirmed.

EX PARTE MONARCH TOBACCO WORKS.

Decided December 13, 1905.

TRADE-MARKS—ANTICIPATION—"PICK AND SHOVEL."

A trade-mark consisting of a pick and shovel, together with a representation thereof, refused registration in view of a prior mark consisting of a pick and representation thereof. They are so nearly alike as to cause confusion.

ON APPEAL.

TRADE-MARK FOR CHEWING-TOBACCO.

Mr. Lewis N. Dembitz for the applicant.

ALLEN, *Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing to register a trade-mark for plug-tobacco, described as follows:

Our trade-mark consists of a red disk having a crossed pick and shovel and the words "Pick and Shovel" thereon, all appearing on a striped gold strip.

Registration has been refused on the ground that the

mark resembles too closely that disclosed in the registration of Carr and Dula, 9,467, June 20, 1882, applied to the same class of gods.

The registered mark is described as follows:

Our trade-mark consists of the implement in common use for digging into the earth, called a "pick," which has a handle attached extending at right angles to the same, and the word "Pick," either or both.

It thus appears that both marks include the representation of a pick and the word "Pick." The question for determination is whether the addition by this appellant of the representation of a shovel and the word "Shovel" so distinguishes the marks as to avoid any likelihood of confusion in the minds of purchasers.

It is believed that purchasers having in mind the word "Pick" or its representation would be likely to be deceived into accepting goods having thereon the pick and shovel supposing them to be the goods of the registrant. The Examiner was right in refusing registration, and his decision is affirmed.

TOWNSEND *v.* COPELAND *v.* ROBINSON.

Decided December 14, 1905.

1. INTERFERENCE—DISSOLUTION—APPEAL ON MOTION.

Where a party made no motion for dissolution, he cannot appeal from the refusal of a motion made by another party.

2. SAME—DISSOLUTION—APPEAL ON MOTION.

Where appeal is based upon the ground of irregularity in declaration and it appears that no argument was made before the Primary Examiner upon this ground and that the Primary Examiner found nothing to consider in connection with this ground, *Held* that there is no basis for an appeal from the refusal to dissolve as to this ground.

3. INTERFERENCE—DISSOLUTION—INTERFERENCE IN FACT.

Where the counts in issue are claims made by both parties, there is interference in fact, unless the terms of the counts have different meanings when read in the applications of the different parties.

4. SAME—SAME—SAME.

The terms of claims cannot properly be held to have different meanings in the applications of different parties merely because the elements to which they refer are specifically different in the devices of the different parties.

5. SAME—SAME—SAME.

In determining the question of interference in fact the counts of the issue will not be construed in view of the prior art to have more limited meanings than are necessitated by the limitations which they expressly include. In determining the meaning of counts the fair natural significance of the language used will be adopted. If the state of the art should require a different meaning, it must be put into the counts by amendment.

6. SAME—SAME—SAME.

Where arguments advanced amount to denial that the issue is patentable when read with only those limitations which are demanded by the language used, *Held* that such arguments will not be considered in connection with the question of interference in fact.

7. SAME—SAME—SAME.

Dissolution for non-interference in fact must be based only on those facts and reasons which show that the counts of the issue have such different meanings that they might properly be allowed to both parties.

APPEALS on motion.

BICYCLE.

Mr. Melville Church for Townsend.

Messrs. Jenkins & Barker and *Mr. Gales P. Moore* for Copeland.

Mr. William Robinson pro se.

ALLEN, *Commissioner:*

This case comes up upon appeals by Townsend and by Copeland from the decision of the Primary Examiner refusing to dissolve the interference.

It does not appear that Copeland has made any motion for the dissolution of this interference or that there has been any decision against him. His appeal is accordingly dismissed.

Townsend's appeal is based upon the grounds of non-interference in fact and irregularity in declaration. It appears that no argument was made before the Primary Examiner upon irregularity in declaration and that the Primary Examiner found nothing to consider in connection with this ground of the motion. Under these circumstances Townsend has no basis for appeal as to this ground, and the appeal taken thereupon is therefore dismissed.

The only question remaining is that of interference in fact, and this question is raised by Townsend only between his application and that of Robinson. Each count of the issue is a claim made by all parties. Where this is true, there is in general interference in fact, unless the terms of the counts have different meanings when the counts are read as claims in the different applications. Terms cannot properly be held to have different meanings merely because the elements to which they refer are specifically different in the devices of the various parties; nor will counts be construed in view of prior art to have more limited meanings than are necessitated by the limitations which they expressly include. Moreover, the rights of parties to make the claims in interference will not be investigated and passed upon on appeals from decisions as to interference in fact and regularity in declaration.

Bearing these principles in mind and reading the counts on the devices of Townsend and Robinson, it is clear that the various terms thereof have one and the same meaning in both cases and that there is clear interference in fact as to each count. There seems to be nothing reasonable upon which a contrary conclusion might be based. The arguments advanced by Townsend amount to denial of the rights of the parties to make claims and to denial that the claims are patentable when read with only those limitations which are necessitated by the language used. Such arguments will not be considered in connection with the question of interference in fact. Dissolution upon this ground must be based only upon those facts and reasons which show that the counts have such different meanings that they might properly be allowed to both parties. In determining the meanings of the counts the fair natural significance of the language used will be adopted. If the state of the art should require a different meaning, it must be put into the counts by amendment and not by mere construction.

The decision of the Primary Examiner holding that there is interference in fact between the applications of Townsend and Robinson as to all of the counts of the issue is affirmed.

BLACKMORE *v.* HALL.

Decided December 14, 1906.

1. INTERFERENCE—DISSOLUTION—APPEAL ON MOTION.

Where upon appeal brought on the ground of non-interference in fact the questions raised go to the right of a party to make claims, the appeal must be dismissed. Contentions which go to the right of a party to make claims can afford no proper basis for dissolution upon the ground of non-interference in fact.

2. SAME—INTERFERENCE IN FACT—RIGHT TO CLAIM—DISTINCTION.

Where upon motion for dissolution a party contends that the terms of the issue are erroneously and misleadingly used in his opponent's application, the question raised is one of right to make claim and is not one of interference in fact.

3. SAME—SAME—SAME—SAME.

Non-interference in fact was placed in the rules as a ground for dissolution of interference at a time when parties were put into interference proceedings who had not made the same claims and is a thing of comparatively rare occurrence in interferences declared under the present practice—*i. e.*, where both parties make claims in identical language.

4. SAME—SAME—SAME—SAME.

Where, as at present, parties have made the same claims, there can be no question of the existence of interference in fact separate from that of the right of a party to make claims, except in those rare cases where the same terms, though properly used in the application of each party, have distinctly different meanings in the respective cases.

5. SAME—SAME—SAME—SAME.

Observation of the distinction between interference in fact and right to claim is important, for the reason that dissolution for non-interference in fact affords no ground for refusing the claims in issue to either party, and dissolution should not, therefore, be based on this ground, except where it would be proper, so far as the matters considered in connection therewith are concerned, to issue patents to both parties containing the claims in question.

On PETITION.

METHOD OF PRODUCING ALUMINUM.

Mr. J. R. Nottingham for Blackmore.

Mr. Joseph B. Hall pro se.

ALLEN, *Commissioner:*

This is a petition by Blackmore for rehearing of his appeal taken August 12, 1905, from the decision of the Primary Examiner denying his motion for dissolution of the interference.

The motion before the Primary Examiner was based partly upon the contention, that there was no interference and that the party Hall had no right to make the claims in issue, and one of the grounds of the appeal was that the Examiner erred in holding that there was interference in fact. The appeal was dismissed as to interference in fact on October 18, 1905, for the reason that the questions presented under this head were none other than those of Hall's right to make the claims and the patentability of the claims to Hall, and attention was called to the well-settled practice of refusing consideration of these questions upon appeals from decisions on non-interference in fact and irregularity in declaration.

In the present petition it is contended that the appellant has the right under the rules and decisions to appeal to the Commissioner from the decision of the Primary Examiner refusing to dissolve the interference on the grounds of non-interference in fact and irregularity in declaring the interference. It is also contended that the appellant is entitled to have such appeal duly considered and a decision rendered on the merits thereof and that he is entitled to a decision by the Commissioner on the question as to the existence or non-existence of interference in fact regardless of the decision of the Examiner affirming the right of Hall to make his claims. It is further contended that in determining the existence or non-existence of interference in fact the appellant has the right to show that the terms of the counts of the issue have not the same meaning in the applications of the respective parties. Other contentions are made by Blackmore as to what may be shown regarding the meaning of terms in his opponent's case, which contentions need not, however, be stated here.

The appellant is clearly correct in his contention that he has the right under the rules and decisions to appeal to the Commissioner from the decisions of the Primary Examiner denying motions for dissolution brought on the grounds of non-interference in fact and irregularity in declaration, and the appellant is entitled to have such appeal duly considered and decision rendered on the merits thereof when any proper question of interference in fact and regularity in declaration is presented. When, however, as in the present case, the questions raised go to the right of a party to make the claims in issue and to the patentability of the issues, no proper question of interference in fact or regularity in declaration is presented. In such cases appeals based upon these grounds must be dismissed. That the question presented by appellant is really one regarding his opponent's right to make the claims in issue is shown by the contention in the present petition that one of the terms in issue is misleadingly and erroneously used in Hall's application, but rightfully used in the application of appellant.

Non-interference in fact is a thing of comparatively rare occurrence in interferences declared under the present practice—*i. e.*, where both parties make claims in identical language. Non-interference in fact as a ground for dissolution of interferences was placed in the rules at a time when it was customary to put parties into interference proceedings who had not made the same claims, but whose claims were considered, nevertheless, to cover substantially the same invention. In such cases the question arose whether the inventions claimed interfered, and this question was independent of the question of the right of either party to make the claims upon which he had been put into interference. When, however, as at present, the parties have made the same claims, it does not appear that there can be any question as to the existence of interference in fact separate from that of the right of the party to make the claim, except in those rare cases where the same terms, though properly used in the application of each party, have distinctly different meanings in the respective cases, so that there is no interference of subject-matter in spite of the fact that each party has a right to make the claims.

Observation of the distinction between dissolution for non-interference in fact, on the one hand, and dissolution for lack of right to claim or non-patentability, on the other hand, is a matter of consequence and not mere technicality. Dissolution for non-interference in fact affords no ground for refusing to either party the claims with respect to which the dissolution is made. It is obvious that dissolution should not be based upon this ground, except where it would be proper, so far as the matters considered in connection therewith are concerned, to issue patents to both parties containing the claims in question. Contentions which go to the right of a party to make the claims in issue or to the patentability of such claims clearly afford no proper basis for dissolution upon the ground of non-interference in fact.

The petition is denied.

INDEX TO DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS

IN THE MATTER OF

PATENTS, TRADE-MARKS, ETC.

OFFICIAL GAZETTE—NOVEMBER–DECEMBER, 1905.

INDEX TO DECISIONS.

[Decisions of the United States courts are indicated by an asterisk (*).]

Adams. *Ex parte*.. 650
Adams. McGill *v*.. 1259
American Separator Company. *Ex parte*.. 339
*Automatic Scale Company. Computing Scale Company of America *v*.. 1586
Ball *v*. Bland. Pryor *v*.. 653
Ball *v*. Rego.. 1258
Beadleston & Woerz. Robert Smith Ale Brewing Company *v*.. 341
Beckett. *Ex parte*.. 340
Blackmore *v*. Hall.. 2523
Bland. Pryor *v*. Ball *v*.. 653
Block. *Ex parte*.. 963
Bloomington Canning Co. *Ex parte*.. 2235
Bluthenthal & Bickart *v*. Mayer, Sons & Company *v*. Cushman & Company. Wright & Taylor *v*.. 2234
Brooker *v*. Smith.. 652
Bryant Electric Company. *Ex parte*.. 2522
Burschik. *Ex parte*.. 1258
Canfield and Van Auken. Van Auken *v*. Osborne *v*. Harrison *v*.. 1584
Carney *v*. Latimer.. 652
Cazin *v*. Von Welsbach.. 650
Chas. H. Phillips Chemical Co. *Ex parte*.. 652
Clifford *v*. Rose. Newell *v*.. 1583
*Computing Scale Company of America *v*. Automatic Scale Company.. 1586
Copeland *v*. Robinson. Townsend *v*.. 2523
Corey. Townsend *v*.. 2237
Cushman & Company. Wright & Taylor *v*. Bluthenthal & Bickart *v*. Mayer, Sons & Company *v*.. 2234
David B. Crockett Company. Standard Varnish Works *v*.. 961
Des Jardins. Dow *v*.. 1923
Donk. *Ex parte*.. 965
Dow *v*. Des Jardins.. 1923
Dr. Peter Fahrney & Sons Co. *Ex parte*.. 1924
Dunker *v*. Reist.. 1925
Dunn *v*. Halliday.. 1261, 2236
E. C. Atkins & Company. *Ex parte*.. 2236
Eli Lilly Company. *Ex parte*.. 2234
Emmet and Hewlett. Scott *v*.. 2233
F. B. Q. Clothing Company. *Ex parte*.. 2236
Fairbanks and Sauer *v*. Karr.. 651
Fessenden *v*. Schloemilch. Vreeland *v*.. 1259
Freund. *Ex parte*.. 651
Gally. Votey *v*.. 339
Goldsmith *v*. United Shirt Vest Company.. 1261
Griffon Company. Weil-Haskell Company *v*.. 649
Gueniffet, Benoit, and Nicault. *Ex parte*.. 338
Hall. Blackmore *v*.. 2523
Halliday. Dunn *v*.. 1261, 2236
Harrison *v*. Canfield and Van Auken. Van Auken *v*. Osborne *v*.. 1584
Hartman. York *v*.. 1921
Haultain and Stovel. *Ex parte*.. 649
Hawley and Hoops. Walter Baker & Company, Limited, *v*.. 653
Hawthorne. Hoyt *v*. Sanders *v*.. 1260
Holsclaw. Sobey *v*.. 1922
Hoyt *v*. Sanders *v*. Hawthorne.. 1260
Karr. Fairbanks and Sauer *v*.. 651
Kempshall. Royce *v*.. 338
Kenney. *Ex parte*.. 2237
Kingan Packing Association. *Ex parte*.. 2234
Kops Brothers *v*. Royal Worcester Corset Company.. 1584
Kurz. *Ex parte*.. 961
Lambert. *Ex parte*.. 1925
Latimer. Carney *v*.. 652
Listman Mill Company. *Ex parte*.. 340
Ljungstrom. *Ex parte*.. 2235
Marr. *Ex parte*.. 2521
Martin & Bowne Company. Martin *v*.. 962
Martin *v*. Martin & Bowne Company.. 962
Mayer, Sons & Company *v*. Cushman & Company. Wright & Taylor *v*. Bluthenthal & Bickart *v*.. 2234
McClain. *Ex parte*.. 1585
McGill *v*. Adams.. 1259
McGovern *v*. Woods. Schofield *v*.. 1924
McKnight. Pohle *v*.. 2519
Melvin. Sanders *v*.. 1921
Miller. *Ex parte*.. 1259
Monarch Tobacco Works. *Ex parte*.. 2522
Mulligan *v*. Tempest Salve Company.. 1924
Myers. *Ex parte*.. 962
Newell *v*. Clifford *v*. Rose.. 1583
Newell *v*. Rose.. 337
Osborne *v*. Harrison *v*. Canfield and Van Auken. Van Auken *v*.. 1584
Person. *Ex parte*.. 1583
Pohle *v*. McKnight.. 2519
Pryor *v*. Ball *v*. Bland.. 653
Read. *Ex parte*.. 337
Rego. Ball *v*.. 1258
Reist. Dunker *v*.. 1925
Robert Smith Ale Brewing Company *v*. Beadleston & Woerz.. 341
Robinson. Townsend *v*. Copeland *v*.. 2523
Rose. Newell *v*.. 337
Rose. Newell *v*. Clifford *v*.. 1583
Royal Worcester Corset Company. Kops Brothers *v*.. 1584
Royce *v*. Kempshall.. 338
Sanders *v*. Hawthorne. Hoyt *v*.. 1260
Sanders *v*. Melvin.. 1921
Schloemilch. Vreeland *v*. Fessenden *v*.. 1259
Schofield *v*. McGovern *v*. Woods.. 1924
Scott *v*. Emmet and Hewlett.. 2233
Sergeant. Templin *v*.. 961
Smith. Brooker *v*.. 652
Sobey *v*. Holsclaw.. 1922
Standard Underground Cable Company. *Ex parte*.. 1925
Standard Varnish Works *v*. David B. Crockett Company.. 961
Star Distillery Company. *Ex parte*.. 964
Steinmetz *v*. Thomas.. 1260
Stevens. *Ex parte*.. 1258
Struble *v*. Young.. 338
Taylor *v*. Westinghouse.. 1257
Tempest Salve Company. Mulligan *v*.. 1924
Templin *v*. Sergeant.. 961
Thomas. Steinmetz *v*.. 1260
Townsend *v*. Copeland *v*. Robinson.. 2523
Townsend *v*. Corey.. 2237
United Shirt Vest Company. Goldsmith *v*.. 1261
Van Auken *v*. Osborne *v*. Harrison *v*. Canfield and Van Auken.. 1584
Von Welsbach. Cazin *v*.. 650
Votey *v*. Gally.. 339
Vreeland *v*. Fessenden *v*. Schloemilch.. 1259
Wagner. *Ex parte*.. 965
Walter Baker & Company, Limited, *v*. Hawley and Hoops.. 653
Weil-Haskell Company *v*. Griffon Company.. 649
Westinghouse. Taylor *v*.. 1257
William Connors Paint Mfg. Company. *Ex parte*.. 2522
Woods. Schofield *v*. McGovern *v*.. 1924
Wright & Taylor *v*. Bluthenthal & Bickart *v*. Mayer, Sons & Company *v*. Cushman & Company.. 2234
York *v*. Hartman.. 1921
Young. Struble *v*.. 338

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SUBJECT-MATTER.

[Decisions of the United States courts are indicated by an asterisk (*).]

Page.

Abandoned applications, *ex parte* Marr 2521
Filing fee not applied to, *ex parte* Kurz 961
Abandoned experiment, Pohle *v.* McKnight 2519
Abandonment of application, *ex parte* Block 963
*Computing Scale Company of America *v.* Automatic Scale Company 1586
Ex parte Read 337
Ex parte Wagner 965
By failure to complete, *ex parte* Kurz 961
Ambiguous claims, *ex parte* Donk 965
Ex parte McClain 1585
Amendment, *ex parte* Freund 651
Ex parte Ljungstrom 2235
Ex parte Reed 337
After final rejection, *ex parte* Kenney 2237
Extending original disclosure, Pohle *v.* McKnight 2519
Of drawings, *ex parte* Person 1583
Of preliminary statement, Dunn *v.* Halliday 1261
Hoyt *v.* Sanders *v.* Hawthorne 1260
Transfer of, from one application to another, *ex parte* Haultain and Stovel 649
Appeal, Blackmore *v.* Hall 2523
Townsend *v.* Copeland *v.* Robinson 2523
Cannot be taken from judgment when party admits that he is not inventor, Townsend *v.* Corey 2237
Descriptive matter relating to constructions involved in, not to be canceled prior thereto, *ex parte* Kenney 2237
From Examiner of Interferences, Royce *v.* Kempshall 338
Sobey *v.* Holsclaw 1922
To Commissioner of Patents, Schofield *v.* McGovern *v.* Woods 1924
Sobey *v.* Holsclaw 1922
To the Court of Appeals of the District of Columbia, Pohle *v.* McKnight 2519
*Applicant acquiescing in ruling cannot question same later, Computing Scale Company of America *v.* Automatic Scale Company 1586
Applications, *ex parte* Stevens 1258
Original, not allowed during interference with divisional, *ex parte* Gueniffet, Benoit, and Nicault 338
Arguments, Townsend *v.* Copeland *v.* Robinson 2523
Assignee of entire interest, right of attorneys for to inspect opponent's papers, Cazin *v.* Von Welsbach 650
Burden of proof, McGill *v.* Adams 1259
Claims, *ex parte* Donk 965
Ex parte McClain 1585
Templin *v.* Sergeant 961
Differing in scope only, *ex parte* Gueniffet, Benoit and Nicault 338
Ex parte McClain 1585
Meaning of terms used in, Blackmore *v.* Hall 2523
Townsend *v.* Copeland *v.* Robinson 2523
Objections to terms, *ex parte* Ljungstrom 2235
Recommendation of, under Rule 139, by Examiners-in-Chief, *ex parte* Myers 962
Suggested under Rule 96 not irregularity in declaration of interference, Templin *v.* Sergeant 961
Vague and indefinite, *ex parte* Donk 965
Ex parte McClain 1585
Conception of invention, Taylor *v.* Westinghouse 1257
*Construction of claims, Computing Scale Company of America *v.* Automatic Scale Company 1586
Construction of Rule 68, *ex parte* Kenney 2237
Rule 96, Templin *v.* Sergeant 961

Page.

Construction of Rule 97, Cazin *v.* Von Welsbach 650
Rule 122, Cazin *v.* Von Welsbach 650
Rule 124, Sobey *v.* Holsclaw 1922
Rule 126, Newell *v.* Rose 337
Rule 128, Cazin *v.* Von Welsbach 650
Rule 162, Dow *v.* Des Jardins 1923
Constructions of section 4894, Revised Statutes, *ex parte* Kurz 961
Decision, favorable, no review of, Votey *v.* Gally 339
Delay, *ex parte* Block 963
Carney *v.* Latimer 652
Ex parte Wagner 965
In filing motion, Steinmetz *v.* Thomas 1260
In prosecuting invention, Taylor *v.* Westinghouse 1257
Designs, *ex parte* Lambert 1925
Diligence, Taylor *v.* Westinghouse 1257
Ex parte Wagner 965
Disclosure of invention, Pohle *v.* McKnight 2519
Ex parte Stevens 1258
Division of application, Examiner's requirement for should be explicit, *ex parte* Ljungstrom 2235
Drawings, *ex parte* Burschick 1258
Ex parte Miller 1259
Ex parte Person 1583
Taylor *v.* Westinghouse 1257
Cancelation of figures of, *ex parte* Burschik 1258
Cancelation of superfluous, to be decided upon in view of limitation of claims, *ex parte* Miller 1259
New matter, *ex parte* Freund 651
Estoppel, Van Auken *v.* Osborne *v.* Harrison *v.* Canfield and Van Auken 1584
*By proceedings in Patent Office, Computing Scale Company of America *v.* Automatic Scale Company 1586
Evidence, Hoyt *v.* Sanders *v.* Hawthorne 1260
*Of invention, Computing Scale Company of America *v.* Automatic Scale Company 1586
Examination of application, *ex parte* Miller 1259
Pohle *v.* McKnight 2519
Ex parte Stevens 1258
Examiner of Interferences, Newell *v.* Clifford *v.* Rose 1583
Newell *v.* Rose 337
Royce *v.* Kempshall 338
Examiner's action binding upon applicant, *ex parte* Read 337
Under Rule 128, Cazin *v.* Von Welsbach 650
Fees, *ex parte* Kurz 961
Final hearing, Royce *v.* Kempshall 338
Formal objections, *ex parte* Ljungstrom 2235
Function, *ex parte* McClain 1585
Hardship, Dow *v.* Des Jardins 1923
Hearings, time of, Cazin *v.* Von Welsbach 650
*Infringement, Computing Scale Company of America *v.* Automatic Scale Company 1586
Interference, Dunker *v.* Reist 1925
Scott *v.* Emmet and Hewlett 2233
Struble *v.* Young 338
Taylor *v.* Westinghouse 1257
Van Auken *v.* Osborne *v.* Harrison *v.* Canfield and Van Auken 1584
Additional counts not admitted where proofs are the same, Scott *v.* Emmet and Hewlett 2233
Allowance of application determined after conclusion of, *ex parte* Adams 650
Application must contain all claims of issue, *ex parte* Adams 650

Page.

Interference, applications, original and divisional, *ex parte* Gueniffet, Benoit, and Nicault 338
Counts added after dissolution of, Scott *v.* Emmet and Hewlett 2233
Death of attorney of inventor, Cazin *v.* Von Welsbach 650
Disclaimer of inventorship, Townsend *v.* Corey 2237
Motion to suppress testimony, Royce *v.* Kempshall. 338
Reference under Rule 126, Newell *v.* Clifford *v.* Rose. 1583
Rights of assignee in unassigned application, *ex parte* Adams 650
Should not be dissolved because of testimony in companion interference. Newell *v.* Rose 337
Two applications same inventor, one assigned, certain claims in common, assigned case not to be included in, *ex parte* Adams 650
Invention, absence of, *ex parte* Lambert 1925
Irregularity in declaration of interference, Ball *v.* Rego 1258
Brooker *v.* Smith 652
Pryor *v.* Ball *v.* Brand 653
Templin *v.* Sergeant 961
Issue in interference, Newell *v.* Rose 337
Townsend *v.* Copeland *v.* Robinson 2523
Generic terms, Sanders *v.* Melvin 1921
Judgment on the record, Sobey *v.* Holsclaw 1922
Without hearing, Townsend *v.* Corey 2237
Jurisdiction of the Patent Office, Martin *v.* Martin & Bowne Company 962
*Limitations imposed by the Patent Office, Computing Scale Company of America *v.* Automatic Scale Company 1586
*Of claims, Computing Scale Company of America *v.* Automatic Scale Company 1586
Townsend *v.* Copeland *v.* Robinson 2523
Votey *v.* Gally 339
Limit of time, *ex parte* Block 963
Merits of the case, Newell *v.* Clifford *v.* Rose 1583
Model, Taylor *v.* Westinghouse 1257
Moot question after favorable decision, Cazin *v.* Von Welsbach 650
Motion to amend preliminary statement, Dunn *v.* Halliday. 1261
Hoyt *v.* Sanders *v.* Hawthorne 1260
Must be supported by satisfactory and convincing showing, Dunn *v.* Halliday 1261
Hoyt *v.* Sanders *v.* Hawthorne 1260
Motion to dissolve interference, Ball *v.* Rego 1258
Blackmore *v.* Hall 2523
Brooker *v.* Smith 652
Carney *v.* Latimer 652
Dunker *v.* Reist 1925
Pryor *v.* Ball *v.* Brand 653
Schofield *v.* McGovern *v.* Woods 1924
Steinmetz *v.* Thomas 1260
Townsend *v.* Copeland *v.* Robinson 2523
Van Auken *v.* Osborne *v.* Harrison *v.* Canfield and Van Auken 1584
Votey *v.* Gally 339
Points to be considered should be stated, Vreeland *v.* Fessenden *v.* Schloemilch 1259
Should be definite, Dunker *v.* Reist 1925
Vreeland *v.* Fessenden *v.* Schloemilch 1259
Transmission of refused, Dunn *v.* Halliday 2236
Motion to shift burden of proof, McGill *v.* Adams 1259
Motion to use testimony taken in other interferences not denied because of unnecessary matter contained therein, Struble *v.* Young 338
New matter Brooker *v.* Smith 652
Pohle *v.* McKnight 2519
*Patentability, Computing Scale Company of America *v.* Automatic Scale Company 1586
Fairbanks and Sauer *v.* Karr 651
Sobey *v.* Holsclaw 1922
Consideration of after favorable decision by Examiner, Sobey *v.* Holsclaw 1922
Patent as evidence of invention, Pohle *v.* McKnight 2519
Preliminary statement, Hoyt *v.* Sanders *v.* Hawthorne 1260
Van Auken *v.* Osborne *v.* Harrison *v.* Canfield and Van Auken 1584
Prior devices, description of, *ex parte* Kenney 2237

Page.

Prior devices, description of, *ex parte* Ljungstrom 2235
Priority of invention, Fairbanks and Sauer *v.* Karr 651
McGill *v.* Adams 1259
Newell *v.* Clifford *v.* Rose 1583
Newell *v.* Rose 337
Sobey *v.* Holsclaw 1922
Templin *v.* Sergeant 961
Process and apparatus, Struble *v.* Young 338
Reduction to practice, Dunn *v.* Halliday 1261
Pohle *v.* McKnight 2519
Taylor *v.* Westinghouse 1257
Re-formation of issue in interference, Pryor *v.* Ball *v.* Brand 653
Rejection of applications, *ex parte* Kenney 2237
Ex parte Marr 2521
Ex parte Read 337
Regularity of final must be attacked within one year, *ex parte* Read 337
Rejection of claims, *ex parte* Stevens 1258
Reopening of cases, *ex parte* Marr 2521
Ex parte Myers 962
Right to make claim, Ball *v.* Rego 1258
Blackmore *v.* Hall 2523
Brooker *v.* Smith 652
Dunker *v.* Reist 1925
Schofield *v.* McGovern *v.* Woods 1924
Votey *v.* Gally 339
Specific claims, *ex parte* Gueniffet, Benoit, and Nicault 338
*State of the art, Computing Scale Company of America *v.* Automatic Scale Company 1586
*Substitution of parts, Computing Scale Company of America *v.* Automatic Scale Company 1586
Supervisory authority of the Commissioner of Patents, Sobey *v.* Holsclaw 1922
Testimony, necessity for printing, Dow *v.* Des Jardins 1923
Taken in other interferences, Struble *v.* Young 338
Tests, unsatisfactory, Pohle *v.* McKnight 2519
Trade-marks, abandonment, Goldsmith *v.* United Shirt Vest Company 1261
Amendment of applications under act 1881, *ex parte* American Separator Company 339
Anticipation, *ex parte* Monarch Tobacco Works 2522
Ex parte Star Distillery Company 964
Appeal, *ex parte* American Separator Company 339
Mulligan *v.* Tempest Salve Company 1924
Appearance, difference in, Standard Varnish Works *v.* David B. Crockett Company 961
Applicant and registrant, Goldsmith *v.* United Shirt Vest Company 1261
Application, requirement for division amounts to rejection of case, *ex parte* Dr. Peter Fahrney & Sons Co 1924
Ex parte Kingan Packing Association 2234
Burden of proof, Goldsmith *v.* United Shirt Vest Company 1261
Certificate of registration, *ex parte* Bloomington Canning Co 2235
Class of goods, *ex parte* Chas. H. Phillips Chemical Co 652
Ex parte Kingan Packing Association 2234
Ex parte William Connors Paint Mfg. Company. 2522
Coat of arms not registrable, *ex parte* William Connors Paint Mfg. Company 2522
Construction of act 1870, *ex parte* Star Distillery Company 964
Construction of act 1881, *ex parte* Star Distillery Company 964
Construction of act February 20, 1905, *ex parte* Chas. H. Phillips Chemical Co 652
Robert Smith Ale Brewing Company *v.* Beadleston & Woerz 341
Ex parte Star Distillery Company 964
Construction of right determined by the courts from mark actually used, *ex parte* Listman Mill Company 340
Construction of section 6, act February 20, 1905, Walter Baker & Company, Limited, *v.* Hawley and Hoops 653

Page.

Trade-Marks, contests, all should be conducted at once, Walter Baker & Company, Limited, *v.* Hawley and Hoops 653
Description must include all features shown in the drawings, *ex parte* Dr. Peter Fahrney & Sons Co 1924
Sufficiency of, *ex parte* Eli Lilly Company 2234
Drawings, *ex parte* Listman Mill Company 340
Drawings and description must agree, *ex parte* E. C. Atkins & Company 2236
Evidence, right to take rebuttal, Goldsmith *v.* United Shirt Vest Company 1261
Examiner of Interferences, refusal to enter judgment, Mulligan *v.* Tempest Salve Company 1924
Examiner of Trade-Marks, jurisdiction of defined, Robert Smith Ale Brewing Company *v.* Beadleston & Woerz 341
Foreign registration, allegation of applicant insufficient, *ex parte* Beckett 340
Certified copy of must be furnished, *ex parte* Beckett 340
Identity of marks must be determined by Office, *ex parte* Beckett 340
Interference, Goldsmith *v.* United Shirt Vest Company 1261
Mulligan *v.* Tempest Salve Company 1924
Standard Varnish Works *v.* David B. Crockett Company 961
York *v.* Hartman 1921
Dissolution of, consent of parties not controlling, Kops Brothers *v.* Royal Worcester Corset Company 1584
Wright & Taylor *v.* Bluthenthal & Bickart *v.* Mayer, Sons & Company *v.* Cushman & Company 2234
Interlocutory petition, *ex parte* American Separator Company 339
Ex parte Dr. Peter Fahrney & Sons Co 1924
Ex parte Kingan Packing Association 2234
Mulligan *v.* Tempest Salve Company 1924
"Junior" and "Jr." not equivalents when standing alone, *ex parte* Bryant Electric Company 2522
Motion to dissolve interference, Robert Smith Ale Brewing Company *v.* Beadleston & Woerz 341
Opposition, extension of time for, Martin *v.* Martin & Bowne Company 962
Notice of and oath must be signed by party damaged, not by attorney, Martin *v.* Martin & Bowne Company 962

Page.

Trade-marks, opposition to erroneous publication dismissed, to be renewed after republication, Weil-Haskell Company *v.* Griffon Company 649
Ownership, Goldsmith *v.* United Shirt Vest Company 1261
Evidence of, *ex parte* Star Distillery Company .. 964
Publication before interference, Walter Baker & Company, Limited, *v.* Hawley and Hoops .. 653
Does not insure registration, Walter Baker & Company, Limited, *v.* Hawley and Hoops .. 653
Error in Official Gazette, Weil-Haskell Company *v.* Griffon Company 649
Reconsideration, Robert Smith Ale Brewing Company *v.* Beadleston & Woerz 341
Registrability of, Walter Baker & Company, Limited, *v.* Hawley and Hoops 653
Registration does not affect right to, *ex parte* Listman Mill Company 340
Ex parte Standard Underground Cable Company 1925
Must include entire, *ex parte* Standard Underground Cable Company 1925
Single includes but one right, Chas. H. Philips Chemical Co 652
Rejection, *ex parte* American Separator Company ... 339
Republication, Weil-Haskell Company *v.* Griffon Company 649
Resemblance of calculated to deceive, Kops Brothers *v.* Royal Worcester Corset Co 1584
Ex parte Monarch Tobacco Works 2522
Right to exclusive use, *ex parte* Listman Mill Company 340
Ten-years' clause, *ex parte* William Connors Paint Mfg. Company 2522
Testimony, Goldsmith *v.* United Shirt Vest Company 1261
The words "Charter Oak," "Old Charter," and "Royal Charter" not registrable for same class of goods, Wright & Taylor *v.* Bluthenthal & Bickart *v.* Mayer, Sons & Company *v.* Cushman & Company 2234
"Just Right" refused registration because descriptive, *ex parte* F. B. Q. Clothing Company 2236
"Ma-Le-Na" and "Man-A-Lin" unlike in appearance and sound, York *v.* Hartman 1921
"Star" for whisky refused registration, *ex parte* Star Distillery Company 964
Title to trade-mark, Robert Smith Ale Brewing Company *v.* Beadleston & Woerz 341
*Void patent, Computing Scale Company of America *v.* Automatic Scale Company 1586

DIGEST OF DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS

IN THE MATTER OF

PATENTS, TRADE-MARKS, ETC.

OFFICIAL GAZETTE—NOVEMBER–DECEMBER, 1905.

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DIGEST OF DECISIONS.

[Decisions of the United States courts are indicated by an asterisk (*).]

ABANDONED APPLICATION.

(See Fees; Rejection of Application.)

FINAL REJECTION—PROPER ACTION.

After final rejection it is incumbent upon the applicant to appeal or take action to have the case reopened within the year allowed by law if he wishes to prosecute the claims further. The filing of an amendment is not such action as the condition of the case requires. [*Ex parte* Marr, 2521.

ABANDONED EXPERIMENTS.

(See Reduction to Practice, 2.)

ABANDONMENT OF APPLICATION.

(See Abandoned Application; Amendment, 1.)

1. FAILURE TO COMPLETE—SECTION 4894, REVISED STATUTES.

Under section 4894, Revised Statutes, an application is abandoned by failure to complete it within one year, as well as by failure to prosecute it within one year after completion. [*Ex parte* Kurz, 961.

2. REVIVAL—UNAVOIDABLE DELAY NOT SHOWN.

Unavoidable delay is not made out by the statement that the attorney's copy of the papers in the application was submitted to prospective buyers, and upon its return to the attorney's office it was mislaid and was not again discovered until after the expiration of the time allowed for action. [*Ex parte* Block, 963.

3. DELAY UNAVOIDABLE.

Where upon petition from holding that an application is abandoned it is pointed out that the practice under which the application had been held abandoned was an extension of prior practice and a surprise to applicant and it is further shown that the applicant had been diligently engaged upon the case and it appears that responsive action was taken as soon as the applicant was finally convinced of what was required, *Held* that the delay in taking such action may be considered unavoidable and that the application is not abandoned. [*Ex parte* Wagner, 965.

ABANDONMENT OF CLAIMS.

(See Motion to Dissolve Interference, 1.)

ABANDONMENT OF PART OF INVENTION.

(See Limitation of Claims.)

ABANDONMENT OF TRADE-MARKS.

(See Trade-Marks, 31, 32.)

ACCESS TO INTERFERENCE FILES.

(See Interference, 11.)

ACQUIESCENCE.

(See Claims, 6, 7, 8.)

AFFIDAVITS.

(See Interference, 31.)

ALLEGATIONS.

(See Motion to Amend Preliminary Statement, 4; Motion to Dissolve Interference, 8, 12, 13, 14, 15; Trade-Marks, 3.)

ALLOWANCE OF APPLICATION.

(See Interference, 4, 5, 9.)

ALTERNATIVENESS.

(See Trade-Marks, 57.)

AMBIGUOUS TERMS.

(See Claims, 2.)

AMENDMENT.

(See Abandoned Application; Applications, 1, 3; Drawings, 1, 4; Examination of Applications, 2; Trade-Marks, 1.)

1. TRANSFER FROM ONE APPLICATION TO ANOTHER—PRACTICE.

Where an amendment is entitled in one application, is entered therein, and is replied to in a subsequent Office action, it cannot be transferred to another application, although it is apparent from its subject-matter that it was really intended for the latter application. Upon the presentation of such amendment in the case for which it was originally intended the facts disclosed by the record will be considered on the question of abandonment. [*Ex parte* Haultain and Stovel, 649.

2. FINAL REJECTION—SHOWING REQUIRED.

Claims differing in scope from claims under final rejection will not be admitted under Rule 68 upon the mere allegation that there is another application pending, whose date and number are specified, containing such claims. They can be admitted only upon a duly-verified showing. [*Ex parte* Kenney, 2237.

AMENDMENT OF CLAIMS.

(See Claims, 6, 7, 8; Rejection of Application, 1.)

AMENDMENT TO DRAWINGS.

(See Drawings, 1, 4.)

AMENDMENT TO PRELIMINARY STATEMENT.

(See Motion to Amend Preliminary Statement.)

ANTICIPATION.

(See Trade-Marks, 27, 28, 29, 59.)

APPEAL.

(See Abandoned Application; Appeal to the Commissioner of Patents; Burden of Proof; Interference, 16, 17, 21, 22, 25, 26, 27, 28, 30, 34; Motion to Dissolve Interference; Specifications, 3; Trade-Marks, 1, 41, 47.)

APPEAL FROM EXAMINER'S FAVORABLE DECISION.

(See Interference, 6, 15, 24, 25, 29; Motion to Dissolve Interference, 3.)

APPEAL TO THE COMMISSIONER OF PATENTS.

(See Interference, 1, 26, 27, 28, 29.)

1. INTERFERENCE—UPON PRIORITY—CONSIDERATION OF PATENTABILITY.
Where upon appeal upon priority no error was pointed out in the decision below, but the appellant argued that the issue was not patentable, *Held* that the question of patentability was not up for consideration. [Fairbanks and Sauer *v.* Karr 651.

2. SAME—MOTION TO DISSOLVE.
Where on an appeal to the Commissioner on the question of interference in fact it appears from the decision of the Primary Examiner and the brief of the appellant that the real question is one relating to the right to make the claims, the appeal will be dismissed. [Schofield *v.* McGovern *v.* Woods, 1924.

APPEAL TO THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

(See Applications, 4.)

APPLICANT AGAINST REGISTRANT.

(See Trade-Marks, 30, 31.)

APPLICATIONS.

(See Abandoned Application; Abandonment of Application; Amendment; Claims; Designs; Drawings; Examination of Applications; Fees; Interference; Rejection of Applications; Specifications; Trade-Marks.)

1. NEW MATTER.
Where the application as filed contained no reference to roasting with free access of air and was later amended to state that sufficient air could be supplied, if necessary, and was still later amended to claim roasting with free access of air, *Held* that it is clear that this matter was not originally admitted, as obvious and self-apparent, and that it constitutes an unwarranted addition to the original disclosure. [Pohle *v.* McKnight, 2519.

2. INTERFERENCE—PATENT AS EVIDENCE OF INVENTION—INVENTION NOT IN ORIGINAL.
Where the invention in issue is disclosed by the patent in interference, but was not disclosed in the original application for the patent, *Held* that the patent cannot be accepted as proof of invention at the date of the application. [Id.

3. SAME—SAME—SAME.
Where the invention in issue was caused to appear in a party's patent by an amendment to the application improperly extending the original disclosure, *Held* that the patent is not evidence of invention by the patentee at any time, as the matter in question is not supported by oath stating that it was invented by him. [Id.

4. SAME—SAME—APPEAL TO COURT ON PRIORITY.
Where the application date of a party is such as would entitle him to prevail upon priority, but it is found that the invention was not included in his application when filed and that therefore his application and the patent thereon afforded no proper basis for refusal of a patent to his opponent, *Held* that the question decided seems to be one of priority of invention and that the decision should be such as to give the unsuccessful party opportunity to take an appeal in the interference to the court of appeals and not one dissolving the interference. [Id.

ARGUMENT.

(See Motion to Dissolve Interference, 18, 22.)

ASSIGNED APPLICATION.

(See Interference, 8, 9.)

ASSIGNEES.

(See Interference, 10, 11.)

ATTORNEYS.

(See Abandonment of Application, 2; Interference, 11; Motion to Amend Preliminary Statement, 4; Trade-Marks, 23, 24, 53.)

BURDEN OF PROOF.

(See Trade-Marks, 30, 31.)

APPEAL—INTERFERENCE.
No appeal is permitted prior to final judgment on a motion to shift the burden of proof, and any supposed error in the decision thereon will be reviewed in connection with the decision upon the question of priority of invention.
[McGill *v.* Adams, 1259.

CANCELATION.

(See Drawings, 2, 3; Specifications, 2, 3.)

CANCELATION OF TRADE-MARKS.

(See Trade-Marks, 53.)

CAVEAT.

(See Reduction to Practice, 2.)

CLAIMS.

(See Amendment, 2; Examination of Applications, 1, 3, 4; Interference, 4, 5, 6, 7, 8, 9, 10, 17, 27, 29, 31, 32; Limitation of Claims; Motion to Dissolve Interference, 1, 2, 19, 20, 26, 27; Rejection of Application; Specifications, 3; Suggested Claims.)

1. RECOMMENDATION BY EXAMINERS-IN-CHIEF—REOPENING.
The recommendation of a certain claim by the Examiners-in-Chief under Rule 139 (a) does not act to reopen the case for the admission of any claim other than the one recommended.
[*Ex parte* Myers, 962.

2. ALLEGED TO BE VAGUE AND INDEFINITE.
Claims for an apparatus which include, among other elements, an "arrester," a "mechanical separator," and a "chemical separator" are not vague and indefinite on account of their failure to state the specific characteristics of such elements where the description fully and clearly describes the construction referred to by such terms, the objection going to the breadth or scope of the claims rather than to their form.
[*Ex parte* Donk, 965.

3. PRINTED MATTER—FUNCTIONAL STATEMENT.
A claim covering certain printed matter and including, among other features, "spaces to receive collected data relating to a number of checks" is functional and therefore objectionable.
[*Ex parte* McClain, 1585.

4. SAME—SAME.
A claim covering certain printed matter and including, among other features, a "form * * * having lines to receive collected data for a number of deposits" is functional, and therefore objectionable, sufficient structure not being included to carry the function stated. [Id.

5. SAME—INDEFINITENESS.
A claim for certain printed matter including, among other features properly set forth, "another form" located at a certain place with respect to other features is not objectionable as being indefinite, the language involving a question as to the scope of the claim rather than its form. [Id.

6. ACQUIESCENCE IN REJECTION.
Where after rejection a claim is amended and allowed, it must be read and interpreted with reference to the rejected claim.
[*Computing Scale Company of America *v.* The Automatic Scale Company, 1586.

7. LIMITATIONS IMPOSED BY PATENT OFFICE.
Where the Patent Office rejected a claim as not patentable in view of the prior art, but suggested that if the limitation "depending" were made at a certain point the claim would be patentable, and the applicant, acquiescing, makes the amendment, *Held* that the patentability of the claim depends upon whether there is invention in making the part "depending." [* Id.

8. SAME—ERROR BY PATENT OFFICE IMMATERIAL.
Where an applicant before the Patent Office acquiesces in the ruling that his claim is not patentable without amendment, he cannot be heard to question the ruling thereafter, and it is immaterial whether it was right or wrong. [* Id.

CLAIMS IN INTERFERENCE.

(See Interference, 8, 9, 10.)

CLASS OF GOODS.

(See Trade-Marks, 14, 15, 16, 47, 48, 50, 51, 55.)

COAT OF ARMS.

(See Trade-Marks, 56.)

CONCEPTION OF INVENTION.

(See Interference, 18, 19, 20.)

CONSTRUCTION OF RULES.

(See Amendment, 2; Claims, 1; Interference, 1, 12, 13, 22, 24; Suggested Claims; Testimony, 3.)

CONSTRUCTION OF SPECIFICATIONS AND PATENTS.

(See Particular Patents.)

1. HAYDEN—COMPUTING-SCALES—NO. 700,919—CLAIMS INVALID.
Claims 6, 7, and 8 of Patent No. 700,919, granted to Austin B. Hayden May 27, 1902, for an improvement in computing-scales, *Held* void for lack of patentable invention in view of the prior art and proceedings in the Patent Office.
[*Computing Scale Company of America *v.* The Automatic Scale Company, 1586.

2. SAME—SAME—SAME—INFRINGEMENT—LIMITATION OF CLAIMS BY PRIOR ART.
The claims of Patent No. 700,919 in suit are not infringed by the defendent when those claims are limited, as they must be, by the prior art. [*Id.

CONSTRUCTION OF STATUTES.

(See Abandonment of Application, 1; Trade-Marks, 1, 3, 6, 10, 15, 16, 17, 18, 23, 24, 25, 27, 28, 29, 49.)

CONSTRUCTION OF TRADE-MARK RIGHTS.

(See Trade-Marks, 4, 5, 6, 7, 11, 16, 19, 45, 46, 47.)

CONTESTS.

(See Trade-Marks, 18, 19, 20.)

CORPORATIONS.

(See Testimony, 2.)

DEATH OF ATTORNEY.

(See Interference, 11.)

DELAY.

(See Abandonment of Application, 2, 3; Interference, 18, 19, 20, 31.)

DELAY IN BRINGING MOTION TO DISSOLVE INTERFERENCE.

(See Motion to Dissolve Interference, 4.)

DELAY IN FILING MOTION.

(See Motion to Dissolve Interference, 9.)

DESCRIPTION.

(See Claims, 2; Specifications; Trade-Marks, 39, 40, 50, 54.)

DESIGNS.

LACK OF INVENTION.
A design for collapsible tubes differing from a patented tube merely in that the bottom is rounded instead of flat and there is a bead near the top contains no patentable novelty. While the tubes may be distinguished in appearance, no invention was required to make the changes. [*Ex parte* Lambert, 1925.

DISCLOSURE OF INVENTION.

(See Applications, 1, 2, 3; Examination of Applications, 1; Motion to Dissolve Interference, 12.

DISSOLUTION OF INTERFERENCE.

(See Applications, 4; Interference, 1, 6, 17, 22, 31, 32; Motion to Dissolve Interference; Trade-Marks, 37, 52.)

DIVISIONAL APPLICATION.

(See Interference, 4, 5.)

DIVISION OF APPLICATION.

(See Examination of Applications, 4; Trade-Marks, 41, 47.)

DRAWINGS.

(See Interference, 18, 19; Trade-Marks, 4, 5, 6, 7, 39, 40, 54.)

1. NEW MATTER—AMENDMENT NOT PERMITTED.
Where the original drawings showed a tool having a tapered shank of the usual auger form and it was described as being formed from twisting a tapered flat strip of metal and it appears that the product as shown would result from the operation of *twisting* as this term is used in the arts, *Held* that a drawing showing the tool-shank in any other form was inadmissible, as involving new matter, although such form might also result from a twisting operation.
[*Ex parte* Freund, 651.

2. CANCELATION OF FIGURES—NEW DRAWING REQUIRED WITH REMAINING FIGURES.
Where all figures were canceled from the drawing except some at one end of sheet, so that the drawing would present peculiar and inartistic appearance in the patent, *Held* that new drawing should be furnished. [*Ex parte* Burschik, 1258.

3. SUPERFLUOUS ILLUSTRATION—FINALLY PASSED UPON ONLY WHEN CASE HAS BEEN RESTRICTED TO ALLOWABLE CLAIMS.
When petition was taken from the requirement for the cancelation of certain sheets of the drawings as superfluous, but it appeared that the claims in the case were not considered allowable, *Held* that the question of superfluous illustration must, in general, be decided in view of the limitations which are included by the claims and should be insisted upon only when the case has been restricted to allowable claims
[*Ex parte* Miller, 1259.

4. ILLUSTRATION IN ACCORDANCE WITH "CHART FOR DRAFTSMEN."
Where the invention relates to a non-refillable bottle and the specification does not state of what material the bottle is made, *Held* that applicant should not be required to amend the drawings so as to show the bottle as constructed of glass, in accordance with the suggestions found in the "Chart for Draftsmen" in the Rules of Practice. [*Ex parte* Person, 1583.

ERROR IN PRELIMINARY STATEMENT.

(See Motion to Amend Preliminary Statement, 3, 4, 5.)

ESTOPPEL.

(See Limitation of Claims; Motion to Dissolve Interference, 11.)

EVIDENCE.

(See Applications, 2, 3; Invention, 2; Motion to Amend Preliminary Statement, 2.)

EXAMINATION OF APPLICATIONS.

(See Amendment; Applications, 1; Claims; Drawings; Rejection of Application; Specifications; Trade-Marks, 1, 4, 5, 6, 27, 28, 29, 39, 40, 41, 42, 48, 49, 50, 54, 55, 56, 57, 58, 59.)

1. INSUFFICIENT DISCLOSURE—PRACTICE.
Where upon petition from the Examiner's objection to the specification for insufficient disclosure it appeared that the objection should not be overruled and that in view of previous prosecutions further amendment would seem to be useless, *Held* that the Examiner should reject the claims.
[*Ex parte* Stevens, 1258.

2. FORMAL OBJECTIONS—AMENDMENT ATTEMPTING TO CURE INFORMALITIES.
Where an applicant in good faith by amendment attempts to cure formal objections, if the amendments are not satisfactory the Examiner should so state in specific language.
[*Ex parte* Ljungstrom, 2235.

3. CLAIMS—OBJECTION TO THE WORD "OUTLET."
The use of the term "outlet" in a claim is not objectionable in all cases on the ground that it refers to something intangible.
[Id.

4. DIVISION—EXAMINER'S ACTION SHOULD BE EXPLICIT.
On a requirement for division on the ground that the claims cover different species the particular claims alleged to be restricted to certain species should be specified, and if applicant is unable to understand the requirement the Examiner should specify the particular elements in the claims which read on one species and not on another. [Id.

EXAMINER OF INTERFERENCES.

(See Interference, 1, 22, 30, 33; Motion to Dissolve Interference, 14, 16; Testimony, 1; Trade-Marks, 8, 10.)

EXAMINER OF TRADE-MARKS.

(See Trade-Marks, 8, 9.)

EXAMINERS.

(See Appeal to the Commissioner of Patents, 2; Drawings; Examination of Applications; Interference, 6, 12, 13, 15, 16, 17, 21, 22, 24, 27, 29; Motion to Dissolve Interference, 3, 9, 10, 15, 16, 18; Rejection of Application; Testimony, 1.)

EXAMINER'S ACTION.

(See Examination of Applications, 4; Rejection of Application, 2.)

EXAMINERS-IN-CHIEF.

(See Claims, 1; Interference, 26, 27, 29, 31.)

EXPERIMENTAL TESTS.

(See Reduction to Practice, 1.)

FAILURE TO COMPLETE APPLICATION.

(See Abandonment of Application, 1.)

FAVORABLE DECISION.

(See Interference, 15.)

FEES.

FILING FEE NOT APPLIED TO ABANDONED APPLICATION.
A fee which is filed more than a year after the filing of the other parts of the application cannot be applied, inasmuch as the application is abandoned. [*Ex parte* Kurz, 961.

FINAL HEARING.

(See Testimony, 1.)

FIRST FEES.

(See Fees.)

FOREIGN REGISTRANTS OF TRADE-MARKS.

(See Trade-Marks, 2, 3.)

FORMER DECISION CITED.

(See Interference, 31.)

FUNCTIONAL CLAIMS.

(See Claims, 3, 4.)

GENERIC TERMS.

(See Interference, 23.)

HARDSHIP.

(See Motion to Dissolve Interference, 7; Testimony, 4.)

HEARING.

(See Interference, 14, 33; Motion to Dissolve Interference, 6.)

INFRINGEMENT.

(See Construction of Specifications and Patents, 2; Particular Patents, 2; Trade-Marks, 16.)

INTERFERENCE.

(See Appeal to the Commissioner of Patents; Applications; Burden of Proof; Motion to Amend Preliminary Statement; Motion to Dissolve Interference; Reduction to Practice; Suggested Claims; Trade-Marks, 8, 9, 10, 11, 17, 18, 21, 30, 31, 33, 34, 35, 36, 37, 38, 51, 52, 53.)

1. NOT DISSOLVED IN VIEW OF TESTIMONY IN COMPANION INTERFERENCE.
Where in an interference between three parties, C., N., and R., the Examiner of Interferences finds from the testimony that C. is the prior inventor and thereupon refers a companion interference between N. and R. to the Commissioner under Rule 126 in order that it may be dissolved without a decision on the question of priority on the ground that C. is the first inventor, *Held* that the interference should proceed to a final decision on the question of priority, inasmuch as the issue in the interference *N. v. R.* is not the same as the issue in the prior interference and as the decision of the Examiner of Interferences in the prior interference that C. is the first inventor is not final, but is subject to appeal. [Newell *v.* Rose, 337.

2. TESTIMONY—TAKEN IN OTHER INTERFERENCES.
Where motion is made to permit the use of testimony taken in other interferences between the same parties, *Held* that the motion would not be denied because the present interference relates to a process, whereas the other interferences related to apparatus. [Struble *v.* Young, 338.

3. SAME—SAME.
Where motion is made to permit use of testimony taken in other interferences between same parties, *Held* that the motion will not be denied because such testimony contains unnecessary matter. [Id.

4. SUSPENSION OF ALLOWANCE OF ORIGINAL APPLICATION PENDING INTERFERENCE UPON DIVISIONAL APPLICATION—CLAIMS DIFFERING IN SCOPE ONLY.
Where a divisional application is filed for purposes of interference with claims to the same specific form shown in the original case, though the claims in the divisional case are narrower than the claims in the original case, *Held* that the original application will not be allowed until the contemplated interference is terminated
[*Ex parte* Guenillet, Benoit, and Nicault, 338.

5. SAME—CLAIMS READABLE UPON SPECIES NOT PATENTABLY DIFFERENT.
Where claims of a divisional application and claims of a parent application are readable upon the same specific form, *Held* that the parent case will not be allowed before termination of a proposed interference upon the divisional case merely because the claims of the parent case are broader than those of the divisional case and also read upon a species not patentably different from that of the divisional case. [Id.

6. MOTION FOR DISSOLUTION—NO REVIEW OF FAVORABLE DECISION.
Where review is requested by G. of Examiner's rulings upon the meanings of claims in his decision granting G.'s motion for dissolution, *Held* that G. was not entitled to such review.
[Votey *v.* Gally, 339

7. APPLICATION NOT INCLUDED WHICH DOES NOT CONTAIN ALL CLAIMS IN THE ISSUE.
Where an application contained some of the claims of an interference issue, but other claims included in the interference were not made and could not be made in that application, *Held* that said application could not be put in that interference.
[*Ex parte* Adams, 650.

8. TWO APPLICATIONS BY SAME INVENTOR—WHERE ONE IS IN AN INTERFERENCE THE OTHER WILL NOT BE INCLUDED.
Where inventor makes an assignment in one of his two applications which contain certain claims in common and the other application is put into an interference upon these claims, *Held* that the assigned application will not thereafter be put into that interference or into another interference with the same application upon these claims. [Id.

9. SAME—WHICH APPLICATION SHALL BE ALLOWED NOT DETERMINED BEFORE CONCLUSION OF INTERFERENCE UPON ONE OF THEM.
Where inventor makes assignment in one of his two applications containing claims in common and the other application is put in interference on these claims, *Held* that which application shall be allowed may be determined after conclusion of the interference. [Id.

10. SAME—RIGHT OF ASSIGNEE TO TAKE PART IN INTERFERENCE UPON UNASSIGNED APPLICATION.
Where inventor makes assignment in one of his two applications which contain certain claims in common and the other application is put into an interference upon these claims, *Held* that the right of the assignee to take part in the interference may be determined upon motion made in the interference. [Id.

11. ACCESS TO OPPONENT'S APPLICATION—INSPECTION BY ATTORNEYS OF ASSIGNEE.
Where after declaration of interference the attorney appointed by the inventor died and assignee of entire interest appointed attorneys to prosecute the case, *Held* that the contentions that such attorneys were not entitled to inspect the papers of the other party and that such inspection violated the rule of secrecy were without foundation. [Cazin *v.* Von Welsbach, 659.

12. DECISION UNDER RULE 128—NO APPEAL FROM REASONS BY PARTY AGREEING WITH CONCLUSION.
Where review of Examiner's action under Rule 128 holding issues patentable over new references was sought by party who agreed with the conclusion reached, *Held* that the party was not entitled to such review either by appeal or petition. [Id.

13. PETITION DENIED WHERE REMEDY IS BY MOTION UNDER RULE 122.
Where petition was made that Examiner be instructed to comply with Rule 97, *Held* that if irregularity exists in declaration of interference the remedy is by motion under Rule 122. [Id.

14. HEARINGS—TIME OF—IN DISCRETION OF TRIBUNAL HAVING CASE.
The time of hearing is a matter resting in the discretion of the tribunal before whom the case is pending. [Id.

15. SAME—SAME—MOOT QUESTION AFTER FAVORABLE DECISION.
Where petition was brought relating to the time of hearing by the Primary Examiner and it appears that decision upon the matter to be heard had been rendered favorable to petitioner, *Held* that the question raised is a moot one. [Id.

16. RE-FORMATION OF ISSUE.
It does not follow because the Examiner explained the meaning of terms of the issue in his decision upon motion for dissolution that the issue is not so clear as to be readily understood. Pryor *v.* Ball *v.* Brand, 653.

17. MOTION FOR DISSOLUTION—APPEAL.
Where the matters urged before the Examiner under the head of irregularity in declaration related to rights of parties to make the claim in issue *Held* that such matters would not be considered upon appeal from the Examiner's decision finding no irregularity existed. [Id.

18. LACK OF DILIGENCE.
Where T. conceived the invention and made drawings and a model more than three years before his opponent conceived the invention and reduced it to practice and during that time T. did nothing with it save work occasionally upon a second model and it appears that he secured patents upon other inventions in the same art *Held* that T. was lacking in diligence. [Taylor *v.* Westinghouse, 1257.

19. SAME—WORK ON ILLUSTRATIVE MODEL.
Where after making drawings and a model a party made no attempt to reduce the invention to practice, but merely worked occasionally upon a second model intended merely for illustrative purposes, *Held* that the making of the second model was not a step forward in the development of the invention and that work thereon was not diligence in adapting and perfecting the invention. [Id.

20. SAME—WORK ON OTHER INVENTIONS—DELAY FOR BUSINESS REASONS
Where T. laid aside the invention in issue and as a matter of choice, based upon business considerations, devoted his time and attention to other inventions and secured patents upon them, *Held* that he was lacking in diligence. [Id.

21. MOTION FOR DISSOLUTION—APPEAL—RIGHT TO CLAIM NOT CONSIDERED WHERE APPEAL IS BASED UPON IRREGULARITY IN DECLARATION.
Where it was contended that the interference was irregularly declared because a party did not show and did disclaim one of the elements of the issue, *Held* that the only question raised went to the right of the party to make the claim and that such questions would not be considered upon appeals from decisions upon irregularity in declaration. [Ball *v.* Rego, 1258.

22. REFERENCE UNDER RULE 126—CONSIDERATION OF MERITS OF AN APPLICATION NOT POSTPONED ON ACCOUNT OF POSSIBLE ERRONEOUS DECISION ON PRIORITY.
Where an interference is before the Primary Examiner upon reference under Rule 126 after decision on priority by Examiner of Interferences to consider the patentability of the issue to the unsuccessful party aside from the question of priority and it is sought to prevent decision by the Primary Examiner on the ground that dissolution of interference at this time will prevent appeal on priority and may result in the issue of a patent to one not the original inventor, *Held* that the right of the unsuccessful party to further oppose the grant of a patent to the successful party depends upon the validity of the standing of the former as an applicant entitled to patent in the event of final decision on priority in his favor and that the order sending the case to the Primary Examiner should not be revoked. [Newell *v.* Clifford *v.* Rose, 1583.

23. INTERFERENCE IN FACT—GENERIC TERMS.
Where the terms of an issue are generic, there may be an interference in fact, although the devices of the parties may differ in specific details. [Sanders *v.* Melvin, 1921.

24. PATENTABILITY QUESTIONED AFTER JUDGMENT—AFFIRMATIVE DECISION BINDING.
Since well-established policy, expressed in Rule 124, denies the right of appeal from decisions affirming the patentability of claims, it would seem that the opportunity of a party whose preliminary statement failed to overcome the record date of his opponent to contest his opponent's right to a patent was at an end when the Primary Examiner held on motion for dissolution that the issue was patentable. [Sobey *v.* Holsclaw, 1922.

25. SAME—SAME—JUNIOR PARTY RELEGATED TO POSITION OF ONE OF GENERAL PUBLIC.
Where junior party failed to file preliminary statement alleging dates prior to the record date of the senior party, *Held* regarding consideration of patentability on appeal on priority that the junior party was relegated by his preliminary statement to a position comparable to one of the general public; that he was no longer in the position of a party seeking a patent; that the question of patentability as now presented by him would not be considered, and that the conclusion that the issues are patentable is no longer to be considered as directed against his private interests. [Id.

26. JUDGMENT ON THE RECORD—APPEAL ON PRIORITY—CONSIDERATION OF PATENTABILITY.
Where the preliminary statement of the junior party failed to overcome the record date of the senior party and judgment on the record was rendered and the Examiners-in-Chief upon appeal upon priority considered the question of patentability and refused to make any statement against the patentability of the issue, but affirmed the decision on priority, *Held* that upon appeal to the Commissioner the question of priority alone is raised and that the question of patentability will not be considered. [Id.

27. SAME—SAME.
Where consideration of patentability was urged on appeal on priority in case where judgment had been rendered on the record and it was contended that no proper decision on priority could be rendered until the issue had been determined to be patentable, *Held*, in view of action of Primary Examiner holding *ex parte* and also *inter partes* on motion for dissolution the issue to be patentable and in view of refusal of Examiners-in-Chief to state that the claims were not patentable, that the issue had been regularly determined to be patentable and that the determination was a final one and a sufficient basis for the determination of priority. [Id.

28. CONSIDERATION OF PATENTABILITY ON APPEAL ON PRIORITY—SUPERVISORY AUTHORITY.
Where consideration of patentability on appeal on priority was urged with a view to the exercise of the supervisory authority of the Commissioner, *Held* that introduction of supervisory authority into the judicial determinations of the Patent Office is a thing which should not be done excepting as a last resort to avoid a clear miscarriage of justice. [Id.

29. CONSIDERATION OF PATENTABILITY AFTER AFFIRMATIVE DECISION BY EXAMINER ON MOTION—SUPERVISORY AUTHORITY.
Where the supervisory authority was invoked for the consideration of the patentability of the issue and it appeared that the Primary Examiner had found the issue to be patentable and that the Examiners-in-Chief had refused to recommend adversely to the patentability of the issue in their decision on priority and that in each case the action had been made in view of the references still relied upon, *Held* that the case instead of being one presenting palpable necessity for interference by supervisory authority is one in which the patentability of the issue is so well settled by the determination of competent tribunals that the prevailing party should be allowed to take the claims and support their validity before the courts. [Id.

30. APPEAL—REFUSAL TO ENTER JUDGMENT.
There is no appeal from the refusal of the Examiner of Interferences to enter judgment of priority in favor of a particular party, nor will the matter be reviewed upon interlocutory petition. The appeal must be from the final judgment when entered. [Mulligan *v.* Tempest Salve Company, 1924.

31. ADDITION OF COUNTS AFTER DISSOLUTION.
Where Scott after dissolution of the interference as to certain of the original counts and after a second dissolution as to certain additional counts which had been presented brings a petition

for the addition of new counts to the issue and contends that E. and H. did not act in good faith in presenting upon the successive motions for dissolution new references of which, he claims, they must have known from the beginning of the proceedings, and alleges that the delays in the case also arose through the failure of the Patent Office to find in the first place all pertinent references, and charges that E. and H. wilfully delayed the case in view of knowledge obtained from access to affidavits in S.'s case improperly permitted by the Office, and S. has secured recommendation of the Examiners-in-Chief that the proposed counts be allowed, but E. and H. oppose the grant of the petition, pointing out that the proposed claims were found patentable only upon *ex parte* representations and that in the event of their admission another motion for dissolution is not improbable, with attendant delay and expense, and that it is not apparent why decision on the counts now forming the issue will not be controlling as to the recommended claim if made hereafter by either party, under *Phelps* v. *Wormley* v. *McCullough*, (118 O. G., 1069,) *Held* that no sufficient reason appears to justify further delay by the addition of the proposed counts.
[Scott v. Emmet & Hewlett, 2233.

32. SAME—NOT ADMITTED WHERE PROOFS AS TO SAME MAY BE PRESENTED IN CONNECTION WITH THE COUNTS REMAINING IN THE ISSUE.
Upon petition to include additional counts in the issue of interference after dissolution as to certain of the original counts, *Held* that the petitioner has no standing in his attempt to introduce new counts unless the proposed counts are drawn with additional limitations to the same invention as claimed with respect to which the interference was dissolved and that if the proposed counts fulfil these contentions they fall within the scope of the preliminary statements already made and the parties may present all their proofs in regard to the subject-matter of the issue and the Office may determine the question of priority of invention with respect to any claim thereto which may be hereafter presented without declaring another interference for that purpose. [Id.

33. DISCLAIMER OF INVENTORSHIP — JUDGMENT RENDERED WITHOUT HEARING.
Where the two parties to an interference file a stipulation in lieu of testimony and in that stipulation one of the parties states that he is not the inventor of the subject-matter in issue, *Held* that there is no reason for continuing the interference, and the Examiner of Interferences may render judgment of priority without setting a day for hearing.
[Townsend v. Corey, 2237.

34. SAME—NO APPEAL FROM JUDGMENT.
There is no appeal from a judgment of priority rendered in view of the admission of a party that he is not the inventor, and no limit of appeal need be set from such a decision. [Id.

INTERLOCUTORY PETITION.

(See Interference, 30; Trade-Marks, 1, 41, 47.)

INVENTION.

(See Applications, 2, 3; Claims, 7; Designs.)

1. PATENTABILITY—SUBSTITUTION OF PARTS.
It being old to employ "depending" means for supporting the load in computing-scales, there was no invention in substituting such means in an old combination.
[*Computing Scale Company of America v. The Automatic Scale Company, 1586.

2. EVIDENCE—MANY APPLICANTS FOR THE SAME THING.
Where similar improvements are made by many inventors at the same time, the inferences are that the desirability for improvement has become known and that no great exercise of inventive talent was called into play. [*Id.

INVENTOR.

(See Interference, 8, 9, 33, 34; Limitation of Claims, 2; Testimony, 3.)

IRREGULARITY IN DECLARATION OF INTERFERENCE.

(See Interference, 13, 17, 21; Motion to Dissolve Interference, 3, 8, 18; Suggested Claims, 2.)

ISSUE IN INTERFERENCE CASES.

(See Interference, 1, 7, 16, 17, 21, 22, 23, 24, 25, 26, 27, 29, 31, 32; Motion to Dissolve Interference, 5, 11, 19, 21, 22, 23, 25.)

JUDGMENT.

(See Burden of Proof; Interference, 24, 30, 33, 34; Motion to Dissolve Interference, 10.)

JUDGMENT ON THE RECORD.

(See Interference, 26, 27.)

JURISDICTION OF THE EXAMINER OF INTERFERENCES.

(See Trade-Marks, 10.)

JURISDICTION OF THE EXAMINER OF TRADE-MARKS.

(See Trade-Marks, 8, 9.)

JURISDICTION OF THE PATENT OFFICE.

(See Trade-Marks, 25.)

LIMITATION IMPOSED BY THE UNITED STATES PATENT OFFICE.

(See Claims, 7.)

LIMITATION OF CLAIMS.

(See Construction of Specifications and Patents, 2; Drawings, 3; Motion to Dissolve Interference, 2, 21; Particular Patents, 2; Suggested Claims, 1.)

1. ABANDONMENT AND ESTOPPEL—CLEAR PROOF REQUIRED.
No limitation upon the claims by proceedings in the Patent Office nor any abandonment of any part of the invention is to be presumed, but must be shown by clear and convincing proof.
[*Computing Scale Company of America v. The Automatic Scale Company, 1586.

2. CONSTRUCTION OF CLAIMS—ESTOPPEL BY PROCEEDINGS IN PATENT OFFICE.
While the courts are zealous to protect an inventor to the full extent of the contribution which he has made to the art, they must give due weight to any estoppel which he has created by anything done either prior or subsequent to the issue of his patent which prevents him from claiming his invention in its entirety. [*Id.

LIMIT OF APPEAL.

(See Interference, 34.)

LIMIT OF TIME.

(See Abandoned Application; Abandonment of Application, 1, 2; Rejection of Application; Trade-Marks, 25.)

MISTAKE OF THE OFFICE.

(See Claims, 8.)

MODEL.

(See Interference, 18, 19, 20.)

MOOT QUESTION.

(See Interference, 15.)

MOTION TO AMEND PRELIMINARY STATEMENT.

1. PRELIMINARY STATEMENT—AMENDMENT.
Where motion to amend preliminary statement to carry date back of those alleged by opponent is brought after opportunity to see opponent's statement and case has been afforded, *Held* that the motion will be denied unless supported by a most satisfactory and convincing showing.
[Hoyt v. Sanders v. Hawthorne, 1260.

2. SAME—SAME.
Where in support of motion to amend preliminary statement to carry dates back of those of opponent it is merely alleged that search for certain evidence now possessed was originally unsuccessful, but no satisfactory explanation is made why the search could not have been completed in time for the original statement instead of later, *Held* that the showing is not satisfactory and convincing. [Id.

3. SAME—SAME.
Where motion to amend a preliminary statement is brought after the statements have been open to inspection and seeks to carry the party's reduction to practice from a date subsequent to that of his opponent to a date prior thereto, *Held* that such amendment will not be permitted unless supported by a clear and satisfactory showing that justice requires it and that the alleged error was not due to negligence.
[Dunn *v.* Halliday, 1261.

4. SAME—SAME.
Where upon motion to amend preliminary statement it is stated in excuse of alleged error in the original statement that the party did not correctly understand what was meant by reduction to practice, *Held* that it was clearly his duty to discover the meanings of the allegations which he made and that he apparently could have discovered them from his attorney.
[Id.

5. SAME—SAME.
Where in excuse of alleged error in preliminary statement upon motion to amend the same it is stated that party did not understand the meaning of the words *reduction to practice* and it appears that these words were not used in the statement, which, on the other hand, gave the date of construction of full-sized operative apparatus, *Held* that the excuse was insufficient.
[Id.

MOTION TO DISSOLVE INTERFERENCE.

(See Appeal to the Commissioner of Patents, 2; Interference, 6, 16, 17, 21, 24, 27, 31; Trade-Marks, 8, 9, 10, 37, 52.

1. CONTENTION BY PARTY THAT HE HAS NO RIGHT TO MAKE THE CLAIM.
When the contentions on a motion for dissolution amount to the denial of the right of the contending party to make claims, *Held* that the party is not compelled to insist upon the claims, but may abandon them. [Votey *v.* Gally, 339

2. INTERFERENCE IN FACT—READING LIMITATION INTO CLAIMS.
Where a motion for dissolution rested only on limitations read into the claims by the moving party and not stated in such claims, *Held* that the motion was properly denied.
[Id

3. APPEAL—RIGHT TO CLAIM NOT CONSIDERED ON APPEAL FOR IRREGULARITY IN DECLARATION.
Where no irregularity was urged before Primary Examiner except that opponent's case contained new matter and appeal was taken from Examiner's decision finding no irregularity, *Held* that the question of new matter is not one of irregularity, but one of right to make the claim, on which no appeal lies from affirmative decision, and that there was no justification for the appeal. [Brooker *v.* Smith, 652.

4. DELAY IN BRINGING.
Where motion for dissolution was filed two months after access was permitted to opponent's case and it appeared that the delay was due to several delays in attending to the preliminaries to the motion, not shown to be unavoidable, *Held* that the motion would not be entertained.
[Carney *v.* Latimer, 652.

5. DEFINITENESS REQUIRED.
A motion for dissolution alleging that there is no interference in fact, but not specifying the counts of the issue in regard to which the contention is to be made, is not sufficiently definite.
[Vreeland *v.* Fessenden *v.* Schloemilch, 1259.

6. POINTS TO BE ARGUED MUST BE STATED.
A motion for dissolution should give the opposing party a reasonably definite idea of the points to be considered when the hearing is had. [Id

7. REQUIREMENT FOR DEFINITENESS NO HARDSHIP.
No motion for dissolution should be brought unless the moving party has some definite point in mind which he wishes to make, and it is no hardship to require him to state the point in his motion. [Id.

8. GROUNDS SHOULD BE PROPERLY NAMED.
Where a motion for dissolution alleges irregularity in the declaration, but the specific statement of facts upon which the allegation is based shows that the real question goes to the right of a party to make the claim, *Held* that they should be included under the allegation that the opposing party has no right to make the claim. [Id.

9. DELAY IN FILING—TRANSMISSION.
A motion to dissolve an interference filed five days after the expiration of the twenty days allowed for such motions was properly transmitted to the Primary Examiner in view of a verified showing that copies of the interfering applications were ordered immediately after the declaration of the interference, but that such copies were not received until three days after the expiration of the twenty-day period. In such showing it was not necessary to distinctly allege that such copies were ordered directly from the Patent Office and not through an agent.
[Steinmetz *v.* Thomas, 1260.

10. TRANSMISSION OF MOTIONS—ORDER TO SHOW CAUSE.
Where motion for dissolution is brought by H. and V. appeals from the transmission thereof because H.'s preliminary statement did not overcome the filing date of the senior party and H. was under order to show cause why judgment should not be rendered against him, *Held* that if H.'s motion was well founded it is a complete answer to the order to show cause and that since it was filed in the time permitted by the rule and was found to be in proper form it was properly transmitted to the Primary Examiner as a matter of course.
[Van Auken *v.* Osborne *v.* Harrison *v.* Canfield and Van Auken, 1584.

11. ESTOPPEL.
Held that party is not estopped from bringing motions alleging that the interference was improperly declared because he made the claim constituting the issue and filed a preliminary statement relating to it [Id.

12. DEFINITENESS IN MOTIONS—RIGHT TO MAKE CLAIMS.
A motion to dissolve alleging that a party has no right to make the claims is not sufficiently definite where the point to be argued is stated to be merely the failure of such party to disclose anything in his application which is "suggestive of the issue." The particular element or elements which are believed to be not properly disclosed and the particular count or counts including such elements should be specified.
[Dunker *v.* Reist, 1925.

13. SAME—LACK OF INTERFERENCE IN FACT.
In a motion to dissolve the bare allegation that there is no interference in fact is insufficient. The point or points to be argued should be specified with great particularity. Not only the count or counts, but the particular element or elements which are to be brought in question, should be specified.
[Id.

14. TRANSMISSION—SUFFICIENCY OF GROUNDS ALLEGED.
While as a general rule the Examiner of Interferences in transmitting a motion to dissolve does not pass upon the sufficiency of the grounds alleged, he may and should do so where the consideration of the motion would obviously result in a mere waste of time. [Id.

15. SAME—IMPROPER ISSUE OF OPPONENT'S PATENT.
A motion to dissolve an interference on the ground of irregularity which alleges the irregularity to be the improper issue of his opponent's patent during the pendency of his application should not be transmitted to the Primary Examiner, as it is a matter which the Office cannot remedy. [Id.

16. SAME—APPEAL.
A decision of the Examiner of Interferences refusing to transmit to the Primary Examiner a motion to dissolve will not be disturbed unless it is shown that in making such decision there was an abuse of discretion or that the decision is clearly erroneous. [Dunn *v.* Halliday, 2236.

17. APPEAL ON MOTION.
Where a party made no motion for dissolution, he cannot appeal from the refusal of a motion made by another party.
[Townsend *v.* Copeland *v* Robinson, 2523.

18. SAME.
Where appeal is based upon the ground of irregularity in declaration and it appears that no argument was made before the Primary Examiner upon this ground and that the Primary Examiner found nothing to consider in connection with this ground, *Held* that there is no basis for an appeal from the refusal to dissolve as to this ground. [Id.

19. INTERFERENCE IN FACT.
Where the counts in issue are claims made by both parties, there is interference in fact, unless the terms of the counts have different meanings when read in the applications of the different parties. [Id.

20. SAME.
The terms of claims cannot properly be held to have different meanings in the applications of different parties merely because the elements to which they refer are specifically different in the devices of the different parties. [Id.

21. SAME.
In determining the question of interference in fact the counts of the issue will not be construed in view of the prior art to have more limited meanings than are necessitated by the limitations which they expressly include. In determining the meaning of counts the fair natural signi icance of the language used will be adopted. If the state of the art should require a different meaning, it must be put into the counts by amendment.
[Id.

22 SAME.
Where arguments advanced amount to denial that the issue is patentable when read with only those limitations which are demanded by the language used, *Held* that such arguments will not be considered in connection with the question of interference in fact. [Id

23. SAME.
Dissolution for non-interference in fact must be based only on those facts and reasons which show that the counts of the issue have such different meanings that they might properly be allowed to both parties. [Id.

24. APPEAL ON MOTION.
Where upon appeal brought on the ground of non-interference in fact the questions raised go to the right of a party to make claims, the appeal must be dismissed. Contentions which go to the right of a party to make claims can afford no proper basis for dissolution upon the ground of non-interference in fact. [Blackmore *v.* Hall, 2523.

25. INTERFERENCE IN FACT—RIGHT TO CLAIM—DISTINCTION.
Where upon motion for dissolution a party contends that the terms of the issue are erroneously and misleadingly used in his opponent's application, the question raised is one of right to make claim and is not one of interference in fact. [Id.

26. SAME—SAME—SAME.
Non-interference in fact was placed in the rules as a ground for dissolution of interference at a time when parties were put into interference proceedings who had not made the same claims and is a thing of comparatively rare occurrence in interferences declared under the present practice—*i. e.*, where both parties make claims in identical language. [Id.

27. SAME—SAME—SAME.
Where, as at present, parties have made the same claims, there can be no question of the existence of interference in fact separate from that of the right of a party to make claims, except in those rare cases where the same terms, though properly used in the application of each party, have distinctly different meanings in the respective cases. [Id.

28. SAME—SAME—SAME.
Observation of the distinction between interference in fact and right to claim is important, for the reason that dissolution for non-interference in fact affords no ground for refusing the claims in issue to either party, and dissolution should not, therefore, be based on this ground, except where it would be proper, so far as the matters considered in connection therewith are concerned, to issue patents to both parties containing the claims in question. [Id.

MOTION TO SHIFT BURDEN OF PROOF.

(See Burden of Proof.)

MOTION TO SUPPRESS TESTIMONY.

(See Testimony, 1.)

NEW DRAWINGS.

(See Drawings, 2.)

NEW MATTER.

(See Applications, 1, 3; Drawings, 1; Motion to Dissolve Interference, 3.)

NEW REFERENCE.

(See Interference, 12, 31.)

OATH.

(See Applications, 3; Trade-Marks, 22, 23.)

OBJECTIONS.

(See Examination of Applications, 2, 3.)

OLD DEVICES.

(See Invention, 1.)

OPPOSITION.

(See Trade-Marks, 12, 13, 20, 22, 23, 24, 25, 26.)

ORDER TO SHOW CAUSE.

(See Motion to Dissolve Interference, 10.)

OWNERSHIP OF TRADE-MARK.

(See Trade-Marks, 28, 29, 30, 31.)

PARTICULAR PATENTS.

(See Construction of Specifications and Patents.)

1. HAYDEN—COMPUTING-SCALES—NO. 700,919—CLAIMS INVALID.
Claims 6, 7, and 8 of Patent No. 700,919, granted to Austin B. Hayden May 27, 1902, for an improvement in computing-scales, *Held* void for lack of patentable invention in view of the prior art and proceedings in the Patent Office.
[*Computing Scale Company of America *v.* The Automatic Scale Company, 1586.

2. SAME—SAME—SAME—INFRINGEMENT—LIMITATION OF CLAIMS BY PRIOR ART.
The claims of Patent No. 700,919 in suit are not infringed by the defendent when those claims are limited, as they must be, by the prior art. [*Id.

PATENTABILITY.

(See Appeal to the Commissioner of Patents, 1; Claims, 7, 8; Construction of Specifications and Patents, 1; Designs; Interference, 5, 12, 22, 24, 25, 26, 27, 28, 29, 31; Invention, 1; Motion to Dissolve Interference, 22; Particular Patents, 1.)

PATENTS AS EVIDENCE OF INVENTION.

(See Applications, 2, 3.)

PATENT IMPROPERLY ISSUED.

(See Motion to Dissolve Interference, 15.)

PATENT OFFICE.

(See Interference, 31.)

PRELIMINARY STATEMENT.

(See Interference, 24, 25, 26, 27, 32; Motion to Amend Preliminary Statement; Motion to Dissolve Interference, 10, 11.)

PRIOR DEVICES.

(See Specifications, 1.)

PRIOR PROCEEDINGS.

(See Interference, 1.)

PRIORITY OF INVENTION.

(See Appeal to the Commissioner of Patents, 1; Applications, 2, 4; Burden of Proof; Interference, 1, 22, 25, 26, 27, 28, 29, 30, 32, 33, 34; Suggested Claims, 2.)

PROCESS AND APPARATUS.

(See Interference, 2.)

PROOFS.

(See Limitation of Claims, 1; Interference, 32.)

PUBLICATION OF TRADE-MARKS.

(See Trade-Marks, 12, 13, 17, 18, 19, 20.)

RECONSIDERATION.

(See Trade-Marks, 9.)

REDUCTION TO PRACTICE.

(See Interference, 18, 19, 20; Motion to Amend Preliminary Statement, 3, 4, 5.)

1. INTERFERENCE—OPERATION OF THE INVENTION.
Where experiments claimed to be such operation of the invention as to show reduction to practice were much more than mere laboratory tests, but it does not appear that the invention was practically carried on therein or that possibility of practical operation was satisfactorily demonstrated, *Held* that the experiments could not be accepted as showing reduction to practice. [Pohle *v.* McKnight, 2519.

2. SAME—ABANDONED EXPERIMENTS.
Where tests relied upon as reduction to practice are admitted not to be very satisfactory and the plant was soon dismantled and never reërected and friends refused to assist in view of these tests and no application for patent was made in view thereof, though a caveat had been filed, and no further attempts to operate the invention were made for several years, when further experiments were undertaken, *Held* that the so-called reduction to practice must be considered as merely an abandoned experiment. [Id.

REFERENCES.

(See Interference, 29, 31; Trade-Marks, 28, 29.)

REGISTRATION OF TRADE-MARK.

(See Trade-Marks, 5, 6, 14, 15, 16, 18, 19, 28, 29, 30, 42, 43, 44, 45, 46, 47, 55, 56, 59.)

REJECTION OF APPLICATION.

(See Trade-Marks, 1, 14, 41, 47.)

1. FINAL—REGULARITY THEREOF MUST BE ATTACKED WITHIN ONE YEAR.
Where during the year following final rejection amendments to claims were presented, but no contention was made that the final rejection was premature, and the Examiner at end of the year held the case to have become abandoned, *Held* that the contention on petition that the final rejection was premature comes too late. [*Ex parte* Read, 337

2. SAME—SAME.
An applicant cannot ignore an Examiner's action simply because he believes that it is not well founded. Whether well founded or not, it is binding upon the applicant until set aside, and it is incumbent upon him to take steps to have it set aside within the year allowed by law for action. [Id

REJECTION OF CLAIMS.

(See Amendment, 2; Claims, 6, 7; Examination of Applications, 1.)

REOPENING OF CASES.

(See Abandoned Application; Claims, 1.)

REVIEW OF EXAMINER'S ACTION.

(See Interference, 6, 12.)

RIGHT OF PARTY TO MAKE CLAIM.

(See Appeal to the Commissioner of Patents, 2; Interference, 17, 21; Motion to Dissolve Interference, 1, 3, 8, 12, 13, 24, 25, 27, 28.)

RIGHTS OF ASSIGNEE.

(See Interference, 10.)

SCOPE OF CLAIM.

(See Claims, 2, 5.)

SPECIFICATIONS.

(See Drawings, 4; Examination of Applications, 1.)

1. DESCRIPTION—STATEMENTS RELATIVE TO PRIOR DEVICES.
Descriptive matter in a specification which consists merely in statements relative to the construction and operation of specific prior devices, made with the idea of pointing out the purpose and application of applicant's improvements, is not objectionable as being in derogation of the inventions of others.
[*Ex parte* Ljungstrom, 2235.

2. SAME—STATING ADVANTAGES OF PRIOR ART.
Descriptive matter in a specification which sets forth alleged advantages of the construction over the prior art in language broad enough to apply to a prior patent or patents, as well as to applicant's construction, is objectionable and should be canceled. Such statements amount merely to a comparison of two old classes of machines. [*Ex parte* Kenney, 2237.

3. SAME—CANCELATION OF MATTER INVOLVED IN APPEAL.
Descriptive matter relating to constructions involved in claims on which appeal is to be taken should not be required to be canceled prior to appeal. [Id.

SPECIFIC CLAIMS.

(See Examination of Applications, 4; Interference, 4, 5.)

STATE OF THE ART.

(See Construction of Specifications and Patents; Motion to Dissolve Interference, 21; Particular Patents; Specifications, 2.)

STIPULATION.

(See Interference, 33.)

SUBSTITUTION OF PARTS.

(See Invention, 1.)

SUGGESTED CLAIMS.

1. UNDER AMENDED RULE 96 TO PARTY HAVING NO ALLOWED CLAIMS—BROAD AND NARROW CLAIMS.
Where a party shows a certain structure and claims it broadly and his claims are all rejected and another party claims the same structure more narrowly and such claims are allowed and suggested to the other party, *Held* that there was no error in so suggesting such claims, as both parties were attempting to claim the same invention within the meaning of amended Rule 96.
[Templin *v.* Sergeant, 961.

2. INTERFERENCE—NOT AN IRREGULARITY WARRANTING DISSOLUTION.
The improper suggestion of claims under Rule 96 is not considered such an irregularity in the declaration of the interference as will preclude a proper determination of the question of priority and is not, therefore, a sufficient warrant for dissolving the same. [Id.

SUPERVISORY AUTHORITY OF THE COMMISSIONER OF PATENTS.

(See Interference, 28, 29.)

TECHNICAL TERMS.

(See Claims, 2; Examination of Applications, 3.)

TESTIMONY.

(See Interference, 1, 2, 3, 33; Trade-Marks, 33, 34.)

1. INTERFERENCE—SUPPRESSION OF INCOMPETENT—QUESTION POSTPONED UNTIL FINAL HEARING.
Where upon a motion to suppress certain specified testimony on the ground that it is incompetent the Examiner of Interferences rules that consideration of the motion should be postponed until final hearing because it would require a consideration of the greater portion of the record, *Held* that an appeal from the Examiner's ruling raises only the question whether or not the Examiner was right in postponing the consideration of the question, which is a matter that will not be reviewed and reversed except in a clear case of abuse of discretion.
[Royce *v.* Kempshall, 338.

2. SAME—INABILITY TO PRINT MUST BE SHOWN.
A corporation will not be relieved from the necessity of printing its testimony in an interference because of a showing that it has no ready money for that purpose when it appears that it is not in reality poor and there is no showing that the parties interested in the corporation are unable to bear the expense.
[Dow *v.* Des Jardins, 1923.

3. SAME—IMPOSSIBLE TO PRINT.
The provision in Rule 162 relating to the acceptance of typewritten testimony in place of printed testimony where the party is unable to print applies only to those cases where the inventor is so poor that it is impossible for him to print. The rule is not to be extended. [Id.

4. SAME—QUESTION OF HARDSHIP CONSIDERED.
In considering whether the printing of testimony may be dispensed with it is proper to take into consideration the burden which will or may be placed upon this Office and the opposing party, since the rule requiring printing is based solely upon the inconvenience and burden which results from a failure to print.
[Id.

TESTS.

(See Reduction to Practice.)

TITLE TO TRADE-MARKS.

(See Trade-Marks, 11, 16.)

TRADE-MARKS.

(See Interference, 30.)

1. RIGHT TO AMEND APPLICATIONS UNDER ACT 1881—REJECTION—APPEAL.
The refusal to permit the amendment of an application under the act of 1881 to bring it under the act of 1905 is a rejection of the application and appealable. It will not be reviewed on interlocutory petition.
[*Ex parte* American Separator Company, 339.

2. REGISTRATION ABROAD—CERTIFIED COPY REQUIRED.
Where application is made by a foreigner for the registration of a trade-mark on the ground that it has been registered in the country where he resides, *Held* that a certified copy of the foreign registration should be furnished.
[*Ex parte* Beckett, 340

3. SAME—SAME—APPLICANT'S JUDGMENT NOT ACCEPTED.
The mere allegation of the applicant that he has secured foreign registration is insufficient, since the question of identity of marks is one requiring the exercise of judgment, and the statute requires that this Office shall determine the right to registration. It should not accept without question the applicant's judgment, but should call for the facts upon which it is based.
[Id.

4. DRAWING MUST CONFORM TO SPECIMENS.
The drawing of a trade-mark application should show the mark as actually used and should therefore correspond with the specimens filed. [*Ex parte* Listman Mill Company, 340.

5. SAME—RIGHT DETERMINED BY USE.
The right to the exclusive use of a trade-mark is acquired only by actual use, and registration is simply a recording of that right. The record or registration must therefore be of the particular mark just as it has been used. [Id

6. SAME—RIGHT NOT VARIED BY REGISTRATION.
The scope of the trade-mark right which the applicant possesses can be neither broadened nor limited by the form of the application for registration. The law does not create the right, but simply provides for its registration. [Id.

7. SAME—CONSTRUCTION OF TRADE-MARK RIGHT FOR COURTS.
Omissions and variations from the mark as actually used intended for the purpose of fixing or varying the construction to be placed upon the trade-mark right which has been acquired are not permissible. The construction placed upon the right must be determined by the courts from a consideration of the mark as actually used. [Id.

8. INTERFERENCE—MOTION TO DISSOLVE—JURISDICTION OF EXAMINER OF TRADE-MARKS DEFINED.
Motions to dissolve trade-mark interferences should be heard and determined by the Examiner of Trade-Marks and not by the Examiner of Interferences.
[The Robert Smith Ale Brewing Company *v.* Bradleston & Woerz, 341

9. SAME—SAME—RECONSIDERATION.
A motion to dissolve an interference is, in effect, a request for reconsideration in the light of argument of the action declaring the interference, and therefore it should be heard and determined by the Examiner who declared the interference. [Id.

10. SAME—JURISDICTION OF EXAMINER OF INTERFERENCES—ACT 1905 CONSTRUED.
There is nothing in the act of February 20, 1905, which requires that the Examiner of Interferences determine anything in trade-mark interferences except the conflicting claim of title between the two parties involved. He is therefore not required to determine motions for dissolution. [Id.

11 QUESTION OF TITLE.
A trade-mark interference is to be declared only where there are conflicting claims made to the same trade-mark right which is regarded as registrable, and the question to be determined is which of the parties has title and is entitled to registration. The only conflict is as to title, and the only thing to be decided as between the parties is title. [Id.

12. ERROR IN PUBLICATION IN OFFICIAL GAZETTE—REPUBLICATION.
Where the publication of trade-mark in the OFFICIAL GAZETTE for purposes of opposition erroneously described the class of goods, *Held* that the mark should be republished.
[Weil-Haskell Company *v.* Griffon Company, 649.

13. SAME—OPPOSITION DISMISSED WITH PRIVILEGE OF RENEWING AFTER PUBLICATION.
Where a mark was erroneously published in OFFICIAL GAZETTE, as for "clothes" instead of *cloths*, and an opposition was filed based upon this error, to which demurrer was made, *Held* that the mark should be republished and that the opposition should be dismissed with permission to renew after the new publication. [Id.

14. REJECTION—MORE THAN ONE CLASS OF GOODS.
Held that registration was properly refused where the application described the mark as applied to various articles which are not of substantially the same descriptive properties.
[*Ex parte* The Chas. H. Phillips Chemical Co., 652.

15. ACT 1905 CONSTRUED—SUBSTANTIALLY THE SAME DESCRIPTIVE PROPERTIES.
The act of February 20, 1905, does not contemplate that a single trade-mark registration shall include goods which are not of substantially the same descriptive properties. [Id.

16. SAME—SAME—SINGLE TRADE-MARK RIGHT.
According to the provision relating to infringement a single trade-mark right extends no further than to "merchandise of substantially the same descriptive properties," and there is nothing to show an intent to permit a single registration to include more than one trade-mark right. [Id.

17. PUBLICATION BEFORE INTERFERENCE.
The publication of trade-marks under section 6 of the act of 1905 should precede the declaration of interferences in regard to them.
[Walter Baker & Company, Limited, *v.* Hawley and Hoops, 653

18. SAME—REGISTRABILITY OF MARK.
The provision in section 6 of the act of 1905 that publication is to occur when it appears "that the applicant is entitled to have his trade-mark registered" does not preclude publication where two parties claim the mark and an interference is necessary. The provision means that the mark is regarded as registrable except for contests [Id.

19. PUBLICATION—RIGHT TO REGISTRATION NOT SETTLED.
The publication of a mark does not necessarily mean that it will be registered to the applicant, since his right to registration depends upon the result of contests which may be conducted thereafter. [Id.

20. SAME—PIECEMEAL CONTESTS TO BE AVOIDED.
The publication of trade-marks is for the purpose of permitting contests as to the applicant's right to registration, and it is to the interest of applicants, as well as this Office, that all contests be conducted at once instead of piecemeal. [Id.

21. INTERFERENCE IN FACT—DIFFERENCE IN APPEARANCE.
Held that there is no interference in fact between two trade-marks including a diamond-shaped figure where each mark includes other features which make the marks in their entirety present very different appearances.
[Standard Varnish Works *v.* The David B. Crockett Company, 961.

22. NOTICE OF OPPOSITION MUST BE SIGNED BY PARTY DAMAGED.
The notice of opposition to the registration of a trade-mark must be signed and sworn to by the one who would be damaged by the registration
[Martin *v.* Martin & Bowne Company, 962.

23. SAME—NOTICE AND OATH CANNOT BE SIGNED BY ATTORNEY.
The notice of opposition to the registration of a trade-mark cannot be signed and sworn to by the attorney for the party who would be damaged, since the statute requires the personal oath of the party himself. [Id.

24. NOTICE OF OPPOSITION BY ATTORNEY—RATIFICATION BY PRINCIPAL
Where notice of opposition to the registration of a trade-mark was filed by the attorney and after the thirty days allowed by the statute the principal filed a paper attempting to ratify the attorney's acts, *Held* that the opposition will be dismissed.
[Id.

25. EXTENSION OF TIME FOR OPPOSITION—JURISDICTION OF PATENT OFFICE.
This Office has no jurisdiction to extend the thirty days allowed by statute for oppositions to the registration of trade-marks, and therefore excuses for delay beyond that period are of no effect. [Id.

26. NOTICE OF OPPOSITION—SUFFICIENCY OF NOTICE.
Where the notice of opposition alleges adoption and use of the mark before the applicant company was incorporated and alleges that the mark has not been abandoned and that the opposer is still the owner, *Held* sufficient in substance to call for an answer by the applicant. [Id.

27. "STAR" FOR WHISKY—ANTICIPATION.
A trade-mark for whisky including as an essential feature a star *Held* not registrable in view of prior marks including stars registered under the acts of 1870 and 1881.
[*Ex parte* The Star Distillery Company, 964.

28. ANTICIPATION—EFFECT OF REGISTRATIONS UNDER ACT OF 1870.
While the Trade-Mark Act of 1870 was invalid and registrations thereunder furnished no protection to the registrants, such registrations constitute some evidence of ownership and may be used by this Office as references until overcome in some way by the applicant. [Id.

29. SAME—REGISTRATIONS UNDER ACT 1881 AS REFERENCES.
Registrations under the act of 1881 are not rendered invalid by the act of 1905, and therefore they constitute *prima facie* evidence of ownership. They constitute valid references for applications for registration now filed. [Id.

30. INTERFERENCE—APPLICANT AGAINST REGISTRANT—BURDEN OF PROOF.
Since a trade-mark registration is *prima facie* evidence of ownership, an applicant in interference with a prior registrant has the burden of overcoming the presumption in favor of his opponent.
[Goldsmith *v.* United Shirt Vest Company, 1261.

31. SAME—SAME—OWNERSHIP.
An applicant in interference with a registrant must show that he was the first to adopt and use the mark or that the registrant is not now the owner by reason of his abandonment of the mark.
[Id.

32. ABANDONMENT OF MARK—TEMPORARY INACTIVITY.
Where a party shows that his opponent is not actively engaged in selling goods having thereon the trade-mark, but it appears that the inactivity covers only a few months, due to business troubles, that the party intends to resume operations, and that he has on hand a stock of the goods for sale, *Held* that abandonment of the mark is not proved. [Id.

33. INTERFERENCE—TESTIMONY—PARTY BOUND BY STATEMENTS OF HIS WITNESS—OPPOSING PARTY.
Where one party to an interference calls as his witness the opposing party, *Held* that he is bound by the testimony of the witness unless it is overcome by stronger evidence to the contrary. The rule that the unsupported testimony of a party is insufficient does not apply. [Id.

34. SAME—SAME—RIGHT TO TAKE REBUTTAL EVIDENCE.
Where the senior party takes no testimony, the junior party cannot take testimony in the time allotted to him for rebuttal, since there is nothing to rebut. Testimony so taken in this case for the purpose of strengthening the direct proofs refused consideration. [Id.

35. INTERFERENCE IN FACT—"AUTOGIRDLE" AND "AUTO-GARTER."
There is such close resemblance between the trade-marks "Autogirdle" and "Auto-Garter" that the purchasing public is likely to be deceived, and therefore there is an interference in fact.
[Kops Brothers *v.* Royal Worcester Corset Company, 1584.

36. SAME—APPEARANCE AND SOUND CONSIDERED—DIFFERENCE IN DETAILS.
In determining the question of interference in fact in trade-mark cases the sound of the words as well as their appearance is to be considered, and it must be remembered that the purchasing public will not carefully observe details of the marks with the purpose of detecting differences. [Id.

37. SAME—CONSENT OF PARTIES TO DISSOLUTION NOT CONTROLLING.
Where two trade-marks are so nearly alike as to deceive purchasers, the interference will not be dissolved merely because neither party opposes dissolution. [Id.

38. LACK OF INTERFERENCE—"MA-LE-NA" AND "MAN-A-LIN."
There is no interference in fact between the words "Ma-Le-Na" and "Man-A-Lin," used as trade-marks for medicines, since they are unlike in appearance and in sound.
[York *v.* Hartman 1921.

39. DESCRIPTION SHOULD INCLUDE FEATURES SHOWN.
Where the drawing of the application shows several things constituting trade-mark subject-matter, the description should mention them all and should not merely refer to one.
[*Ex parte* The Dr. Peter Fahrney & Sons Co., 1924.

40. DESCRIPTION NEED NOT INCLUDE MARGINAL LINE.
Where the trade-mark is shown in the drawing surrounded by the usual marginal line, it is not necessary to refer to the marginal line in the description. It clearly constitutes no part of the trade-mark. [Id

41. DIVISION—REJECTION—APPEAL.
The requirement for division of an application, so as to include a single trade-mark right, amounts to a rejection of the application and is not reviewable on interlocutory petition.
[Id.

42. REFUSAL TO REGISTER PART OF MARK.
This Office will not register the word "Eclipse" alone as the applicant's trade-mark when it appears from the specimens filed that in actual use it has been printed across a representation of the sun in eclipse.
[*Ex parte* Standard Underground Cable Company, 1925.

43. REGISTRATION MUST INCLUDE ENTIRE MARK.
Where a trade-mark as used is made up of separate features each of which constitutes trade-mark subject-matter, registration must include the whole and not merely one of the features.
[Id.

44. SAME—PREDOMINANT FEATURE IMMATERIAL.
A party cannot register as his trade-mark one feature of the mark used upon the theory that it is the predominant feature, but must register the mark itself, leaving it to the courts to determine what is the predominant feature and what would infringe his rights. [Id.

45. REGISTRATION MUST INCLUDE THE MARK USED.
Since registration does not create or modify the trade-mark right which the appellant has, it is fundamental that the mark registered be the mark used. [Id.

46. REGISTRATION DOES NOT CHANGE SCOPE OF RIGHT.
This Office is not called upon to determine and fix by registration the scope of the applicant's trade-mark right, but merely registers the mark which has been used, leaving it to the courts to determine the scope of the right acquired by use. [Id.

47. DIVISION—APPEAL.
Refusal of registration on the ground that the application covers more than one trade-mark right is appealable and will not be reviewed on interlocutory petition.
[*Ex parte* The Kingan Packing Association, 2234.

48. PARTICULAR GOODS MUST BE SPECIFIED—DEFINITENESS REQUIRED.
The statement of the particular goods upon which the mark has been used must be made clear and definite, so that the public will be informed as to the rights claimed by registrants.
[Id.

49. SAME—INDEFINITE STATEMENT.
The allegation that the mark has been used upon "meats" does not convey the clear and definite idea of the particular goods which the statute contemplates. [Id.

50. SUFFICIENCY OF DESCRIPTION—BACKGROUND.
Where the trade-mark consists of a word which is shown printed upon a background made up of vertical lines, it is not necessary to describe the background as a part of the mark.
[*Ex parte* The Eli Lilly Company, 2234.

51. INTERFERENCE IN FACT—"CHARTER OAK," "OLD CHARTER," AND "ROYAL CHARTER."
There is an interference in fact between the words "Charter Oak," "Old Charter," and "Royal Charter," used as trade-marks upon the same class of goods
[Wright & Taylor *v.* Bluthenthal & Bickart *v.* Mayer, Sons & Company *v.* Cushman & Company, 2234.

52. INTERFERENCE—DISSOLUTION—CONSENT OF PARTIES.
An interference will not be dissolved merely because the parties are apparently willing where this Office regards the marks as substantially the same. [Id.

53. CANCELATION OF REGISTRATION.
Where in an interference case involving a registered trade-mark this Office adjudges that the registrant is not the owner of the mark and thereafter the attorney for the registrant files the certificate of registration with the request that it be canceled, *Held* that the registration will be canceled.
[*Ex parte* Bloomington Canning Co., 2235.

54. DRAWING AND DESCRIPTION MUST AGREE.
There must be no inco sistency between the description and drawing in trade-mark cases, and this is true of immaterial as well as material features. Where the mark is shown as a hyphenated word, it must not be described as two words.
[*Ex parte* E. C. Atkins & Company, 2236.

55. CLASS OF GOODS—SUBSTANTIALLY THE SAME DESCRIPTIVE PROPERTIES.
A single trade-mark registration cannot include the mark applied to paints, driers, white lead, stove-polish, stove and furnace cement, and roofing-cement, since the goods are not of substantially the same descriptive properties.
[*Ex parte* The William Connors Paint Mfg. Company, 2522.

56. SAME—COAT-OF-ARMS NOT REGISTRABLE.
A simulation of the coat-of-arms of the United States will not be registered as a trade-mark even under the ten years' clause of the Trade-Mark Act. [Id.

57. "JUNIOR" AND "JR"—ALTERNATIVENESS.
The letters "Jr" do not necessarily mean "Junior" unless they follow a name, and therefore when used alone upon goods they do not constitute a substitute for or abbreviation of "Junior." The word and the letters cannot be included alone in one registration.
[*Ex parte* The Bryant Electric Company, 2522.

58. SAME—"JUNIOR"—REAL TRADE-MARK IS NAME.
Where the word "Junior" in actual use has always followed a name, the trade-mark is not the word "Junior," but that word following the name. [Id.

59. ANTICIPATION—"PICK AND SHOVEL."
A trade-mark consisting of a pick and shovel, together with a representation thereof, refused registration in view of a prior mark consisting of a pick and representation thereof. They are so nearly alike as to cause confusion.
[*Ex parte* Monarch Tobacco Works, 2522.

TWO APPLICATIONS BY SAME INVENTOR.

(See Interference, 8, 9, 10.)

VOID PATENTS.

(See Construction of Specifications and Patents, 1; Particular Patents, 1.)

WITNESSES.

(See Trade-Marks 33.)

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ALPHABETICAL LIST OF PATENTEES

FOR THE

MONTHS OF NOVEMBER AND DECEMBER, 1905.

[Claims and drawings of Designs do not appear in the Monthly Volumes. Separate indexes for Designs Trade-Marks, Labels, Prints, and Disclaimers follow this.]

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Specification.	Drawing.	Volume.	Page.
A. B. Dick Company. (See Dick, Albert B., assignor.)						
A. H. Nilson Machine Company. (See Lincoln, Charles L., assignor.)						
A. J. Lindemann and Hoverson Company. (See Lindemann and Zweck, assignors.)						
A. T. Hagen & Co. (See Bradley, Perry E., assignor.)						
Abbott, Chandler C. (See Eubank, Reuben B., Jr., assignor.)						
Abell, Edward G., Brisbane, Australia. Holder for window-sashes. (Reissue)	12,408	Nov. 14	2604	565	119	614
Abernathy, John P., and J. W. Hiett, Jonesboro, Ark. Plow-colter	807,344	Dec. 12	2475	533	119	1846
Abernethy, Benjamin C., Orlando, Fla. Intra-urethral applicator	806,447	Dec. 5	707	158	119	1425
Abraham, James W. (See Maloy and Abraham.)						
Abraham, Lawrence, New York, N. Y. Carbureter for hydrocarbon-engines	806,512	Dec. 5	829	182	119	1450
Acetylene Apparatus Manufacturing Company. (See Sherman, Edwin M., assignor.)						
Ackenhausen, Charles A., Leavenworth, Kans. Breeching	805,180	Nov. 21	3346	725	119	817
Acker, Charles, Rushville, Ill. Chair	806,043	Nov. 28	4991	1065	119	1213
Actien Gesellschaft für Anilin Fabrikation. (See Altschul, Julius, assignor.)						
Actien Gesellschaft für Anilin Fabrikation. (See Bergell, Peter, assignor.)						
Actien Gesellschaft für Anilin Fabrikation. (See Herzberg and Siebert, assignors.)						
Actiengesellschaft "Magneta." (See Fischer, Martin, assignor.)						
Adair, Adolphus G., Havre, Mont. Sheep-hook	804,910	Nov. 21	2792	603	119	698
Adams Bagnall Electric Company *et al.* (See Oscanyan, Paul C., assignor.)						
Adams, Charles S., and A. J. Rice, Buffalo, N. Y. Bottle case or crate	804,061	Nov. 7	1114	235	119	244
Adams, Clarence A., and H. Clement, Lincoln, Nebr. Hame	805,181	Nov. 21	3347	725	119	817
Adams Company. (See Farwell, Fay O., assignor.)						
Adams, Edwin J., Waco, Tex. Switch and signal system	807,103	Dec. 12	2028	436–7	119	1751
Adams, Edwin J., Waco, Tex. Electric signal system for electric cars	808,182	Dec. 26	4169	899	119	2299
Adams, Frank, North Adams, Mass. Electric railway	807,984	Dec. 19	3751	813–14	119	2166
Adams, Gideon C., Winthrop, Me. Fastener for shoestrings	803,957	Nov. 7	844	179	119	181
Adams, John M., Chicago, Ill. Corner-fastening for metal beds	808,501	Dec. 26	4805	1035	119	2441
Adams, Paris, assignor of one-half to L. H. Manville, Lamar, Colo. Power mechanism	803,958	Nov. 7	845	179	119	181
Adams Silas B, Portland, Me. Apparatus for straining gum	804,911	Nov. 21	2794	603	119	699
Adams, Thomas F., New York, N. Y. Device for supporting fire-hose, life-preservers, &c.	805,511	Nov. 28	3999	863	119	998
Adams Walter S., assignor to J. A. Brill, Philadelphia, Pa. Car-truck for motor propulsion and the like	808,062	Dec. 26	3895	843	119	2241
Adams and Westlake Company. (See Hamm, William S., assignor.)						
Adams & Westlake Company. (See Hamm and Mosher, assignors.)						
Adamson, Alfred. (See Dina, Augusto, assignor.)						
Addressograph Company. (See Duncan, Joseph S., assignor.)						
Adelson, Maurice. (See Adelson, Samuel L., assignor.)						
Adelson, Samuel L., assignor of one-half to M. Adelson, New York, N. Y. Safety apparatus for railways	807,009	Dec. 12	1819	399	119	1706
Ades, Meyer J., Baltimore, Md. Umbrella-handle	805,615	Nov. 28	4198	904	119	1041
Adkins, Benjamin R., Flushing, assignor to S. Pearson and Son, Inc., Long Island City, N. Y. Wagon-dumping mechanism	806,611	Dec. 5	992	220	119	1486
Adriance, Platt & Company. (See Trolley, Isaac, Jr., assignor.)						
Adsit, Charles W., Owatonna, Minn. Cushioned tire	808,426	Dec. 26	4662	1002	119	2409
Agee, Jonathan F., Avondale, Tex. Cotton chopper and checker	805,110	Nov. 21	3208	696	119	787
Agostinelli, Leopoldo, Terni, Italy. Electric clock	804,082	Nov. 7	1115	235	119	244
Ahlander, Ernst H., Chicago, Ill., assignor to Thomas Wrigley Company. Printing-press.	804,181	Nov. 7	1312	281–3	119	289
Ahrens Fire Engine Company. (See Fox, Charles H., assignor.)						
Ahrens Fire Engine Company. (See Shafer, William H., assignor.)						
Aiguier, Edward B. (See Tucker and Aiguier.)						
Ainley, John S., Huddersfield, England. Under-whip pick-motion for looms	807,054	Dec. 12	1934	417	119	1732
Akins, Stephen A., Chanute, Kans. Coupling	805,402	Nov. 21	3784	818	119	909
Aktiengesellschaft für Technische Industrie. (See Ebinger, Emanuel, assignor.)						
Aktieselskabt Burmeister & Wains Maskin-og Skibsbyggeri. (See Prollius, Bernhard A. O., assignor.)						
Albany Engineering Company. (See Handoll, Henry, assignor.)						
Alberger Condenser Company. (See Alberger, Louis R., assignor.)						
Alberger, Louis R., assignor to Alberger Condenser Company, New York, N. Y. Surface condenser	804,912	Nov. 21	2795	603	119	699
Albert, Eugen, Munich, Germany, assignor to F. Wesel, New York, N. Y. Separating the galvano plastic deposits from metal matrices	808,331	Dec. 26	4479	.....	119	2369
Albrecht, Frederick C., Philadelphia, Pa. Snap for holding glassware, &c., for finishing	805,830	Nov. 28	4580	961	119	1118
Alcorn, William, Gardengrove, Iowa. Road-grader	808,332	Dec. 26	4480	963	119	2370
Alcorn, William A., Sr., and H. B. Belt, Clarksdale, Miss. Cattle-guard	805,616	Nov. 28	4198	904	119	1041

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Alden, Charles A., Steelton, assignor to Pennsylvania Steel Company, Philadelphia, Pa. Railway-crossing	806 761	Dec. 12	1309	291	119	1591
Alden, Herbert W., Hartford, Conn., assignor to Electric Vehicle Company, Jersey City, N. J. Steering mechanism for motor-vehicles	806,612	Dec. 5	993	221	119	1487
Alden, Rinaldo, Waukegan, Ill. Oiler	807,985	Dec. 19	3754	814	119	2167
Alderman, William J. (See Dyke and Alderman.)						
Aldrich, Charles E., *et al.* (See Prince, Jerome, assignor.)						
Aldrich, Courtney C., assignor of one-half to W. J. Parker, Webster Groves, Mo. Folding embalming-table	806,613	Dec. 5	997	221–2	119	1487
Alexander, Charles J., Finsbury, England. Incandescent gas-burner	807,651	Dec. 19	3103	667	119	2025
Alexander, Jacob. (See Dunn, William P., assignor.)						
Alexander, Jesse, Brooklyn, N. Y., assignor to K. Alexander. Automobile-cyclometer	805,111	Nov. 21	3210	696–7	119	788
Alexander, John E., assignor of one-half to I. Dew, Covington, Va. Rail-joint	805,831	Nov. 28	4582	981	119	1119
Alexander, Julius M. (See Gruss and Alexander.)						
Alexander, Kittie. (See Alexander, Jesse, assignor.)						
Alexander, Leo. (See Hall, George F., assignor.)						
Alexander, Thomas J. (See Davis, James W., assignor.)						
Alexander, Tony, Brookhaven, Miss. Cable-traction wheel	808,063	Dec. 26	3897	843	119	2241
Alexander, Tony, Brookhaven, Miss. Cable haulage and carrier-transfer	808,183	Dec. 26	4173	899	119	2300
Alexanderson, Ernst F. W., Schenectady, N. Y., assignor to General Electric Company. Voltage-regulator	805,253	Nov. 21	3502	756	119	849
Alford, William H., *et al.* (See Dennis, James M., assignor.)						
Alin, Frank O., Fullerton, N. D. Stove attachment	806,614	Dec. 5	1000	222	119	1488
Alkire, John W., and J. Orndorff, Wichita, Kans. Feed-trough	804,991	Nov. 21	2959	642	119	736
Allan, Percy, Montclair, assignor to Jenkins Manufacturing Company, Bloomfield, N. J. Valve	804,913	Nov. 21	2798	604	119	700
Allen, Arthur S., Brookline, Mass. Cycle-tire	803,658	Nov. 7	255	54	119	57
Allen, Arthur S., Brookline, Mass. Pneumatic tire	803,659	Nov. 7	256	54	119	58
Allen, Charles M. (See Baggaley and Allen.)						
Allen, Charles M., Lolo, Mont., assignor to R. Baggaley, Pittsburg, Pa. Finishing-converter	805,896	Nov. 28	4724	1010	119	1154
Allen, Edward B., Elizabeth, N. J., assignor to Singer Manufacturing Company. Buttonhole-sewing machine	806,231	Dec. 5	268	57	119	1323
Allen, Edward B., Elizabeth, N. J., assignor to Singer Manufacturing Company. Buttonhole-sewing machine	806,762	Dec. 12	1311	291–2	119	1591
Allen, Edward B., Elizabeth, N. J., assignor to Singer Manufacturing Company. Buttonhole stitching and barring machine	807,531	Dec. 19	2841	611	119	1966
Allen, George, Franklin, Pa. Car-fender	804,914	Nov. 21	2799	604	119	700
Allen, George A., Sterling, Ill. Bedclothes-fastener	807,706	Dec. 19	3217	690	119	2049
Allen, John W., Kansas City, Mo. Jar and cover	806,232	Dec. 5	275	58	119	1324
Allen, Lemuel E., and W. J. Poyser, Canton, Ohio. Vehicle-tire	805,434	Nov. 28	3863	835	119	969
Allen, Neal, Pittsburg, Kans. Clay-screen	808,590	Dec. 26	4978	1074	119	2477
Allen, Samuel, *et al.* (See Allen, Samuel E., assignor.)						
Allen, Samuel E., assignor of two-thirds to J. A. Bailey and S. Allen, Dansville, N. Y. Pipe-expander	803,959	Nov. 7	846	180	119	182
Allen, Samuel L., Moorestown, N. J. Agricultural implement	803,536	Nov. 7	1	1	119	3
Allen, Thaddeus D., Youngstown, Ohio. Rail-joint	807,986	Dec. 19	3755	814	119	2167
Allenberg, Leo, San Francisco, Cal. Hot-water bag	806,090	Dec. 5	1	1	119	1265
Allert, Waldemar F., New York, N. Y. Display-form	807,895	Dec. 19	3599	779	119	2132
Allingham, William. (See Keyt, John E., assignor.)						
Allis-Chalmers Company. (See Hetlesaeter, Olaf, assignor.)						
Allison, James E., St. Louis, Mo., assignor to G. M. Seeley, New York, N. Y. Signaling system	804,819	Nov. 21	2607	569	119	657
Allison, James E., St. Louis, Mo., assignor to G. M. Seeley, New York, N. Y. Signaling system	804,820	Nov. 21	2613	569–70	119	658
Allison, Oris W., Algona, Iowa. Collapsible egg-crate	806,448	Dec. 5	708	158–9	119	1425
Allyn, William R. (See Kelly, Burt O., assignor.)						
Almond, Thomas R., Yonkers, N. Y. Reaction-engine	805,512	Nov. 28	4001	863–5	119	998
Almond, Thomas R., Yonkers, N. Y. Reaction-engine	805,513	Nov. 28	4005	865	119	999
Almond, Thomas R., Yonkers, N. Y. Reaction-engine	805,514	Nov. 28	4007	865	119	999
Almy, Don R., New York, N. Y. Display-rack for advertising-cards	803,960	Nov. 7	847	180	119	182
Alsop, Henry, Chicago, Ill. Safety-bridge for cars	807,231	Dec. 12	2265	490	119	1800
Altschul, Julius, assignor to Actien-Gesellschaft für Anilin Fabrikation, Berlin, Germany. Pepsin preparation	806,615	Dec. 5	1002	.....	119	1488
Always Sharp Horse Shoe Calk Manufacturing Company. (See Bacon, Frederick J., assignor.) (Reissue.)						
Ambler, Daniel G., Jacksonville, Fla. Training-wall	807,987	Dec. 19	3756	815	119	2168
Ambursen, Nils F., Newton, Mass. Waste-gate for dams	807,010	Dec. 12	1824	399	119	1707
Amendt, Hubert, Blairsville, Pa. Dividers	804,571	Nov. 14	2115	462	119	505
Amendt, Joseph, Blairsville, Pa. Curtain-pole	806,513	Dec. 5	831	182	119	1451
America Company. (See Hadley, Horace W., assignor.)						
American Acetylene Gas Light Company. (See Ferguson, Andrew J., assignor.)						
American Automatic Light Company. (See Kent, Don H., assignor.)						
American Blower Company. (See Treat, Charles H., assignor.)						
American Brake Shoe & Foundry Company. (See Smith, Edward B., assignor.)						
American Can Company. (See Hodgson, John G., assignor.)						
American Can Company. (See Kannenberg, Baldwin H., assignor.)						
American Can Company. (See Macarthy, Henry, assignor.)						
American Can Company. (See Saalbach and Maxwell, assignors.)						
American Can Company. (See Sharp, Lee C., assignor.)						
American Car & Foundry Company. (See Brown, Thomas R., assignor.)						
American Car & Foundry Company. (See Chriswell, Frederick W., assignor.)						
American Car & Foundry Company. (See Johnston, Joseph G., assignor.)						
American Clay Machinery Company. (See Cunningham, William R., assignor.)						
American District Telegraph Company. (See Hamblin, Maynard W., assignor.)						
American Electric Telephone Company. (See Yaxley, Ernest E., assignor.)						
American Firecracker Manufacturing Company. (See Schulman, Louis and J., assignors.)						
American Fog Signal Company. (See Beckwith, Charles E., assignor.)						
American Key Can Company. (See Sleeper, Charles W., assignor.)						
American Loading and Unloading Machine Co. (See Clark, Franklin B., assignor.)						
American Machinery Company. (See Cunningham, Walter C., assignor.)						
American Manufacturing & Novelty Co. (See Hogan, Bertice P., assignor.)						
American Optical Company. (See Day, George H., assignor.)						
American Pneumatic Service Company. (See Stoddard, Charles F., assignor.)						
American Process Company. (See Bussells, Josephus F., assignor.)						

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
American Reduction Company. (See Hedburg, Eric, assignor.)						
American Seeding Machine Company. (See Christman, Edward, assignor.)						
American Seeding Machine Company. (See Packham and Oates, assignors.)						
American Specialty Company. (See Cunningham and Stebbins, assignors.)						
American Steel Package Company. (See Kruse, Alfred T., assignor.)						
American Steel & Wire Company. (See Backlin and Eklund, assignors.)						
American Steel & Wire Company of New Jersey. (See Marshall, Clinton S., assignor.)						
American Steel and Wire Company of New Jersey. (See Meaker, Guy L., assignor.)						
American Steel & Wire Company of New Jersey. (See Sprague, Arthur W., assignor.)						
American Telephone and Telegraph Company. (See Pickard, Greenleaf W., assignor.)						
American Thread Company. (See Hardman, Peter, assignor.)						
American Tobacco Company. (See Campbell, Daniel J., assignor.)						
American Tobacco Company. (See Sage, Charles E., assignor.)						
American Valve & Meter Company. (See Anderson, Frank C., assignor.)						
Americus Electro-Hermetic Company. (See Dion, Léon, assignor.)						
Ames, John F., Portland, Oreg. Inking-pad and holder therefor	807,988	Dec. 19	3758	815	119	2168
Ames, John M., New Brighton, N. Y., assignor to B. A. Hegeman, Jr., North Plainfield, N. J. Transportation-car and the like	806,763	Dec. 12	1315	292	119	1592
Ames, John M., New Brighton, N. Y., assignor to B. A. Hegeman, Jr., North Plainfield, N. J. Transportation-car and the like	806,862	Dec. 12	1525	334–5	119	1642
Ames, William H., St. Louis, Mo. Combined implement	805,334	Nov. 21	3660	792	119	882
Amick, Samuel, Brownsburg, Ind. Spark-arrester	808,591	Dec. 26	4980	1074–5	119	2477
Ammann, Henry A., and A. D. Campbell, Spokane, Wash. Electric railway-signal	807,707	Dec. 19	3218	690	119	2049
Ammann, Henry A., and A. D. Campbell, Spokane, Wash. Electromagnet recording appliance	807,708	Dec. 19	3219	690–1	119	2049
Ammann, Henry A., and A. D. Campbell, Spokane, Wash. Electric railway signaling appliance	807,800	Dec. 19	3397	730	119	2087
Anderson, Alfred, Chicago, Ill. Hose-coupling	804,992	Nov. 21	2960	643	119	736
Anderson, Alfred J., assignor of one-half to P. J. Ekstrom, Wylie, Minn. Churn	806,616	Dec. 5	1002	222	119	1488
Anderson, Andrew (See Peterson, John, assignor.)						
Anderson, Andrew R. (See Michael and Anderson.)						
Anderson, Carl E., and D. Gren, New York, N. Y. Horseshoe-calk	805,435	Nov. 28	3864	835	119	969
Anderson Computing Scale Company. (See Braskett, Thomas C., assignor.)						
Anderson, David, Lisbon, Ohio. Motor	808,269	Dec. 26	4347	934	119	2340
Anderson, Don C., *et al.* (See Miller, Richard D., assignor.)						
Anderson, Edward H., Schenectady, N. Y., assignor to General Electric Company. Controller for magnetic clutches	808,226	Dec. 26	4259	916	119	2320
Anderson, Edward M., assignor to Anderson & Prigge, New York, N. Y. Arch-file	805,897	Nov. 28	4727	1011	119	1154
Anderson, Frank C., assignor of one-half to American Valve & Meter Company, Cincinnati, Ohio. Guard for closed point-rails	806,863	Dec. 12	1527	335	119	1642
Anderson, Frank C., assignor of one-half to American Valve & Meter Company, Cincinnati, Ohio. Switch-operating mechanism	807,896	Dec. 19	3601	779	119	2133
Anderson, Frank V., assignor of one-half to J. B. Gragg, Centralia, Ill. Die-stock	808,592	Dec. 26	4981	1075	119	2477
Anderson, Fred, Warren, Pa. Attachment for lubricators	806,514	Dec. 5	832	183	119	1451
Anderson, George, Detroit, Mich. Filter	804,572	Nov. 14	2116	462	119	505
Anderson, George E., assignor to M. Anderson, Milwaukee, Wis. Hinge	805,515	Nov. 28	4009	865	119	1000
Anderson, James A., assignor to Montauk Engineering Company, New York, N. Y. Thrust-bearing	806,389	Dec. 5	592	130–1	119	1398
Anderson, Larz W., assignor to Cincinnati Shaper Company, Cincinnati, Ohio. Change-speed gearing	807,104	Dec. 12	2034	437	119	1752
Anderson, Mary. (See Anderson, George E., assignor.)						
Anderson, Oscar, Arthur, Iowa. End-gate	805,254	Nov. 21	3505	756–7	119	849
Anderson & Prigge. (See Anderson, Edward M., assignor.)						
Anderson, Sigurd E., *et al.* (See Kastner, John, Jr., assignor.)						
Anderson, Silas R., Brookville Pa. Carpet-fastener	807,232	Dec. 12	2256	490	119	1800
Anderson, Valerius D., Cleveland, Ohio. Apparatus for extracting oil	805,112	Nov. 21	3214	697	119	788
Anderson, William B., *et al.* (See Winchell, James F., assignor.)						
Anderson, William M., Boyceville, Wis. Stock-watering apparatus	805,617	Nov. 28	4200	904	119	1041
Andree, Alwin E., Lake Linden, Mich. Stencil-holder	806,617	Dec. 5	1004	223	119	1488
Andrews, David J., Brighton, Ala. Miner's pick	804,993	Nov. 21	2962	643	119	736
Andrews, Franklin O., Willoughby, Ohio. Sash-lock	804,994	Nov. 21	2962	643	119	736
Andrews, Henry, Hollis, Alaska. Speed-indicator	806,044	Nov. 28	4992	1065	119	1213
Andrews, Herbert L. (See Schustek and Andrews.)						
Andrews, Herbert L., and D. Schustek, Chicago, Ill.; said Schustek assignor to said Andrews. Furniture	803,961	Nov. 7	849	180	119	182
Andrews, Hervey N., Greenfield, Ind. Adjustable bed	806,091	Dec. 5	2	1	119	1265
Andrews, Hiram R. (See Nedrow, Benjaman F., assignor.)						
Andrews, Josiah S. (See Hammond, Robert O., assignor.)						
Andriano, Albert K., and H. Herbstritt, San Francisco, Cal. Metallic circuit for operating signaling devices	804,182	Nov. 7	1320	283	119	291
Andrieu, René, Paris, France. Clamp for securing blocks, type, and other printing matter in forms	804,183	Nov. 7	1322	283	119	291
Angerer, Victor, Ridley Park, assignor to William Wharton, Jr., & Company, Incorporated, Philadelphia, Pa. Railway-switch	807,801	Dec. 19	3399	730	119	2067
Angiolini-Salvadori, Victor A. (See Laperche, Angiolini-Salvadori, and Denis.)						
Angle, Nathan G., Freeport, Ill. Window-screen	805,113	Nov. 21	3216	698	119	789
Anschütz, Paul, assignor of one-half to G. Bickelhaupt, New York, N. Y. Bobbin-ejector for sewing-machines	808,502	Dec. 26	4806	1036	119	2441
Anson, Joseph, Bannockburn, Canada, assignor of one-sixteenth to J. Best. Car-coupling	808,593	Dec. 26	4983	1075–6	119	2478
Anthony, Amelia V. V., *et al.* (See Anthony, Richard A., assignor.)						
Anthony, Richard A., New York, assignor to A. R. Ledoux, Cornwall-on-the-Hudson, and A. V. V. Anthony, New York, N. Y. Sound-conveying apparatus	804,995	Nov. 21	2965	643	119	737
Anthony, Richard A., New York, N. Y., assignor to C. Brock, Boonton, N. J., and A. V. V. Anthony, New York, N. Y. Telescopy	804,996	Nov. 21	2967	644	119	737
Apgar, John T., New York, N. Y. Artificial leg	807,427	Dec. 19	2965	574	119	1929
Apple, Vincent G., Dayton, Ohio. Coke and gas plant	807,532	Dec. 19	2845	611–12	119	1967
Appleby, William L. G., assignor of one-half to I. N. Simpers, Germantown, Md. Device for preventing contact in telegraph line-wires	804,365	Nov. 14	1710	371	119	416
Applin, Joseph, assignor to Hale & Kilburn Manufacturing Company, Philadelphia, Pa. Car-seat	803,962	Nov. 7	852	181	119	183
Applin, Joseph, assignor to Hale & Kilburn Manufacturing Company, Philadelphia, Pa. Car-seat	803,963	Nov. 7	853	181	119	184
Arbecam, Harry P., Boston, Mass. Alidade or indicator for ships' compasses	808,270	Dec. 26	4349	935	119	2340
Archer, David J., Toronto, Canada. Hot-air furnace	804,197	Nov. 14	1381	293	119	345
Arend, Francis J., *et al.* (See Berrigan, John J., assignor.)						
Arkell, Bartlett, New York, N. Y., assignor to Arkell Safety Bag Company. Bag	807,011	Dec. 12	1926	399	119	1708

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Arkell Safety Bag Company. (See Arkell, Bartlett, assignor.)						
Arlington Company. (See Osborne, James A., assignor.)						
Armstrong Packing Company. (See Humphreys, Jerome N., assignor.)						
Armstrong, William B. (See Manning and Armstrong.)						
Arnesen, Andrew, Des Moines, Iowa. Animal-trap	805,941	Nov. 28	4815	1027	119	1174
Arnold, Charles P. (See Jones, Thomas E., assignor.)						
Arnold, Chester G. (See Slear and Arnold.)						
Arnold, Engelbert, Karlsruhe, Germany, and J. L. La Cour, Edinburgh, Scotland. Commutator-motor	808,064	Dec. 26	3898	844	119	2242
Arnold, John L., Canton, Ohio. Extension-table lock	805,696	Nov. 28	4335	931	119	1070
Arnold, Joseph A., Providence, R. I. Bottle-stopper	805,403	Nov. 21	3785	819	119	909
Arnold Magnetic Clutch Company. (See Damon, George A., assignor.)						
Arnold, William B., North Abington, Mass., assignor to North American Chemical Company, New York, N. Y. Shoe-filling apparatus	808,227	Dec. 26	4261	916	119	2320
Arnold, William H., Brooklyn, N. Y. Excavator	806,511	Dec. 5	827	182	119	1450
Arnsberger, Cyrus A., Rudy, Idaho. Pump	804,198	Nov. 14	1382	293	119	345
Art Stove Company. (See Robinson, William V., assignor.)						
Artom, Alessandro, Turin, Italy. Apparatus for the transmission of energy through space	808,594	Dec. 26	4984	1076	119	2478
Ashby, Charles G., Camden, N. J., and J. F. MacIndoe, Philadelphia, Pa. Reversible rotary turbine-engine	806,764	Dec. 12	1318	293–4	119	1593
Ashelman, George D., Fargo, N. D. Suspenders	807,989	Dec. 19	3759	815–16	119	2168
Ashley, Frank M., New York, N. Y. Inkstand	805,618	Nov. 28	4302	904	119	1042
Askenasy, Paul, and M. Mugdan, Nuremberg, Germany. Making and separating hydrochloric and sulfuric acids	804,515	Nov. 14	2000	437	119	480
Askenasy, Paul, and M. Mugdan, Nuremberg, Germany. Making acetylene tetrachlorid	804,516	Nov. 14	2001	437	119	481
Atkinson, Llewelyn B., London, England, assignor to General Electric Company. Mechanism for recording or registering the maximum movement of any mechanism. (Reissue)	12,413	Nov. 28	5087	1085	119	1231
Atkinson, Robert E., Norfolk, Va. Disk harrow and leveler	807,233	Dec. 12	2267	490	119	1800
Attracto Company. (See Bradshaw and Thomson, assignors.)						
Atwell, Ernest T., Waukomis, Okla. Ter. Vehicle-axle	806,618	Dec. 5	1005	223	119	1489
Atwood, Philip, Owen, Ill. Cultivator shovel or weeder	806,092	Dec. 5	3	1	119	1265
Auble, James H., Cincinnati, assignor of two-thirds to J. H. Bromwell, Wyoming, and J. J. McDonald, Cincinnati, Ohio. Lawn-mower	807,897	Dec. 19	3602	779	119	2133
Audley, Francis H., New York, N. Y. Stirrup	808,333	Dec. 26	4482	963	119	2370
Aufuldish, John B., Dayton, Ohio, assignor to Automatic Machines Company, Pittsburg, Pa. Labeling-machine	805,832	Nov. 28	4583	982	119	1119
Augustine, Charles C., assignor of one-half to A. E. Mulford, Cedar Rapids, Iowa. Adjustable back for stools	805,516	Nov. 28	4010	866	119	1000
Auld, Hugh R., Boston, Mass., assignor of one-half to J. Caldwell, New York, N. Y. Bathing apparatus	807,802	Dec. 19	3400	730–1	119	2088
Aungst, Arthur S. (See Aungst, William S. and A. S.)						
Aungst, William S. and A. S., Alliance, Ohio; said A. S. Aungst assignor to said William S. Aungst. Electric signaling system	805,619	Nov. 28	4203	905	119	1042
Aunspaugh, Frederick, *et al.* (See Morris, John O., assignor.)						
Aurand, William L., Milford, Ill. Grain-door for cars	806,233	Dec. 5	276	58	119	1325
Aurnhammer, Ludwig, West Hoboken, N. J. Metronome	805,436	Nov. 28	3865	835	119	969
Austin Cartridge Company. (See Morris, William L., assignor.)						
Austin, Stephen J., Terre Haute, Ind., assignor to Computing Scale Company, Dayton, Ohio. Computing-scale	804,915	Nov. 21	2800	604–5	119	700
Austin, William A., Wayne, Ind. Ter. Railway-tie	805,255	Nov. 21	3506	757	119	850
Auto Physical Trainer Company. (See Bradstreet, Hobert J., assignor.)						
Auto Stopper Company. (See Hicks, James M., assignor.)						
Auto Stopper Company. (See Hicks, John A., assignor.)						
Autocoil Co. (See Varley, Richard, assignor.)						
Automatic Addressing Company. (See Bryan, Joseph P., assignor.)						
Automatic Machines Company. (See Aufuldish, John B., assignor.)						
Automatic Pressure Feed Lubricator Company. (See Featherstone, Willard B., assignor.)						
Automatic Refrigerating Company. (See Marshall, Albert T., assignor.)						
Automatic Sash Balance Company. (See Norris, William E., assignor.)						
Avary, Jesse T., and E. L. Thomas, Ada, Ind. Ter. Feed-water regulator for boilers	806,619	Dec. 5	1006	223	119	1489
Averill, Elias M., Newaygo, Mich. Foldable crate	803,537	Nov. 7	5	2	119	4
Avery Manufacturing Company. (See Bartholomew, John B., assignor.)						
Avery Manufacturing Company. (See Springer, William N., assignor.)						
Avery, Percy N., Grappenhall, near Warrington, England. Vise	806,620	Dec. 5	1007	223	119	1489
Avril, Paul V., assignor to Marinier, Navoit and Jeanson, Paris, France. Embossing and printing machine	805,697	Nov. 28	4336	932	119	1070
Avril, Paul V., assignor to Marinier, Navoit and Jeanson, Paris, France. Engraving-machine	805,698	Nov. 28	4338	932	119	1070
Avril, Paul V., assignor to Marinier, Navoit and Jeanson, Paris, France. Embossing and printing machine	805,699	Nov. 28	4343	933	119	1071
Avril, Paul V., assignor to Marinier, Navoit and Jeanson, Paris, France. Engraving-machine	805,700	Nov. 28	4346	933–4	119	1071
Ayars, Charles H., assignor to Ayars Machine Company, Salem, N. J. Machine for applying flux to cylindric bodies	805,833	Nov. 28	4586	982	119	1120
Ayars Machine Company. (See Ayars, Charles H., assignor.)						
Ayres Frederick H. (See Valle, Percy A., assignor.)						
Ayres, Walter W., Bighorn, Mont. Train-order-holding device	807,234	Dec. 12	2269	491	119	1800
B. F. Sturtevant Company. (See Freeman, Ernest B., assignor.)						
Babcock, Garrison, Chicago, Ill. Alarm and telephone system	807,235	Dec. 12	2270	491	119	1801
Bach, Charles H., Brooks, Minn. Horse-detacher	808,595	Dec. 26	4988	1076	119	2479
Bach, Frederick A., Chicago, Ill. Portable brick-elevator	806,765	Dec. 12	1325	294	119	1595
Bachia, Robert, New York, N. Y. Ruler	807,148	Dec. 12	2121	455	119	1769
Backlin, Axel F., and I. Eklund, assignors to American Steel & Wire Company of New Jersey, Worcester, Mass. Take-up device for wire-fence machines	807,652	Dec. 19	3104	667–8	119	2025
Bacon, Frederick J., assignor to Always Sharp Horse Shoe Calk Manufacturing Company, Hartford, Conn. Horseshoe. (Reissue)	12,407	Nov. 14	2602	568	119	614
Bacon, Levin R., Laurel, Del. Knockdown fruit-crate	805,182	Nov. 21	3349	725	119	817
Bade, Ferdinand, New York, N. Y. Water-supplying device for poultry	804,083	Nov. 7	1116	235	119	245
Badische Anilin & Soda Fabrik. (See Bohn, René, assignor.)						
Badische Anilin & Soda Fabrik. (See Fussenegger, Ernst, assignor.)						
Baehr, George, McKeesport, assignor to National Tube Company, Pittsburg, Pa. Fusible cut-out	807,345	Dec. 12	2476	533	119	1847

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Baggaley, Ralph. (See Allen, Charles M., assignor.)						
Baggaley, Ralph. (See Lindquist, Edward W., assignor.)						
Baggaley, Ralph, Pittsburg, Pa. Furnace for smelting ore	803,737	Nov. 7	435	93–4	119	98
Baggaley, Ralph, Pittsburg, Pa. Recovering sulfur	805,701	Nov. 28	4349	934	119	1072
Baggaley, Ralph, Pittsburg, Pa. Apparatus for producing vitrified bricks, tiles, and other articles	805,702	Nov. 28	4350	934–5	119	1072
Baggaley, Ralph, Pittsburg, Pa. Machine for stamping copper	805,703	Nov. 28	4353	935	119	1073
Baggaley, Ralph, Pittsburg, Pa. Furnace for refining copper	805,834	Nov. 28	4589	983–4	119	1121
Baggaley, Ralph, Pittsburg, Pa. Fluxing copper ores	805,835	Nov. 28	4592	984	119	1121
Baggaley, Ralph, Pittsburg, Pa. Producing iron	805,836	Nov. 28	4593	984	119	1121
Baggaley, Ralph, Pittsburg, Pa. Smelting and converting ores	806,047	Nov. 28	5001	1067	119	1214
Baggaley, Ralph, Pittsburg, Pa. Heat-travel controller for furnace-walls	806,048	Nov. 28	5003	1067	119	1214
Baggaley, Ralph, Pittsburg, Pa. Copper-refining furnace	806,621	Dec. 5	1008	224	119	1490
Baggaley, Ralph, Pittsburg, Pa., and C. M. Allen, Lolo, Mont.; said Allen assignor to said Baggaley. Converting matte	806,045	Nov. 28	4993	1065–6	119	1213
Baggaley, Ralph, Pittsburg, Pa., and C. M. Allen, Lolo, Mont.; said Allen assignor to said Baggaley. Converting matte	806,046	Nov. 28	4998	1066	119	1214
Bagley, Michael, Cambridge, Nebr. Hay-stacker	807,991	Dec. 19	3763	816	119	2169
Bailey, Edward L. (See Nazel, John, assignor.)						
Bailey, Edwin W. M., Amesbury, Mass. Polishing-belt deflector	803,800	Nov. 7	542	118	119	119
Bailey, James A., *et al.* (See Allen, Samuel E., assignor.)						
Bailey, Reginald A., Newcastle, Pa. Furnace	807,105	Dec. 12	2035	437	119	1752
Bailey, Samuel R., Amesbury, Mass. Vehicle-body	803,801	Nov. 7	544	119	119	119
Bailey, Samuel R., Amesbury, Mass. Tenon-forming machine	805,183	Nov. 21	3350	726	119	817
Bailey, William T., Elmira, N. Y. Rotary punching device	806,449	Dec. 5	709	159–60	119	1425
Baillet, Louise B., Paris, France. Corset-busk	804,916	Nov. 21	2802	605	119	701
Bair & Gazzam Manufacturing Company. (See Ruger, James W., assignor.)						
Baird, Archie M., Topeka, Kans. Metallic railway-tie	804,084	Nov. 7	1118	235–6	119	245
Baisch, John G., Grand Rapids, Mich. Door-lock	805,437	Nov. 28	3867	835	119	969
Bakeman, Winfred E., Snohomish, Wash. Potato-planter	807,898	Dec. 19	3606	780	119	2133
Baker, Alfred G., Dunedin, New Zealand. Apparatus for making spherical shot	806,864	Dec. 12	1528	335	119	1643
Baker, Alfred G., Dunedin, New Zealand. Machine for cutting material into strips and blocks	807,413	Dec. 12	2610	563	119	1876
Baker, David, *et al.* (See Schild, Hermann E., assignor.)						
Baker, Edwin J., New Orleans, La. Metallic sanitary folding bed	804,085	Nov. 7	1119	236	119	245
Baker, Frank E., Oskaloosa, Iowa. Lead and iron pipe joint	803,738	Nov. 7	438	94	119	98
Baker, James E., New York, N. Y. Benzin-can	803,964	Nov. 7	854	182	119	184
Baker, James E., New York, N. Y. Shoe-tree	804,917	Nov. 21	2803	605	119	701
Baker, James S., and C. F. Ketchem, Cornish, assignors of one-third to A. S. Hathaway; said Baker assignor to J. B. Overstreet, Loco, Ind. Ter. Roof-climber	806,622	Dec. 5	1012	225	119	1490
Baker, John S., Jr., Muscatine, Iowa. Canning apparatus	805,184	Nov. 21	3352	726–7	119	818
Baker, Marvin L., assignor to W. M. Wishart, Atlanta, Ga. Store furniture	806,093	Dec. 5	4	1–2	119	1266
Baker, Michael, Chicago, Ill. Trolley	804,648	Nov. 14	2257	494	119	534
Baker, Roscoe D. (See Blakeslee, Manley H., assignor.)						
Bald, John, Louisville, Ky. Harness-bit	804,447	Nov. 14	1866	405	119	449
Baldwin, Arthur I., East Orange, N. J. Manufacture of wire-glass	804,821	Nov. 21	2621	570	119	660
Baldwin, Charles L., Waterloo, Iowa. Cement-mixer	807,899	Dec. 19	3610	780	119	2134
Baldwin Company. (See Jobes, Lawrence U., assignor.)						
Baldwin, J. H. (See Madeira, Charles, assignor.)						
Balentine, Robert M., Greenville, S. C. Pillow-sham holder	806,766	Dec. 12	1327	295	119	1595
Ball Brothers Glass Manufacturing Company. (See Coddington, George D. C., assignor.)						
Ball, Henry P., Schenectady, N. Y., assignor of one-half to S. Insull, Chicago, Ill. Tracker-board	804,822	Nov. 21	2622	570	119	660
Ball, John W., Woodbine, W. Va. Brazing compound	803,802	Nov. 7	545	.....	119	119
Ball, William T., assignor of four-fifths to H. K. Lea, G. S. Legare, Charleston, S. C., T. R. Harney, Washington, D. C., and C. Miner, Chester, S. C. Milling cotton-seed	807,990	Dec. 19	3761	816	119	2169
Ballantine, James B. (See Simpkin and Ballantine.)						
Ballard Brothers. (See Ballard, George L., assignor.)						
Ballard, George L., Toronto, Canada. Fur-sewing machine	807,346	Dec. 12	2478	534	119	1847
Ballard, George L., assignor to Ballard Brothers, Rochester, N. Y. Cloth-cutting machine	806,311	Dec. 5	454	99	119	1367
Ballou, Herbert F., Winchendon, Mass. Bag holder and spreader	804,199	Nov. 14	1385	293	119	346
Baltezor, Andrew K., Wentzville, Mo. Trace-attaching member	805,704	Nov. 28	4354	935	119	1073
Baltimore Journal Box Company of Baltimore City. (See Patten, James S., assignor.)						
Balze, John C. F., assignor to R. Hoe, New York, N. Y. Folding mechanism	806,094	Dec. 5	6	2	119	1266
Bamberg, Charles, assignor of one-half to J. Webb, Aspen, Colo. Device for sharpening diamond ore-drills	807,347	Dec. 12	2481	535	119	1848
Bamberger, Alfred H., and N. D. Ingram, New York, N. Y.; said Ingram assignor to said Bamberger. Umbrella	803,739	Nov. 7	439	94	119	98
Bamford, Robert M., Chicago, Ill. Coffee-urn	807,428	Dec. 19	2667	574	119	1929
Bancroft, Francis M., Lowell, Mass. Ice-removing track-clearer	806,767	Dec. 12	1328	295	119	1595
Baney, William D., Tonopah, Nev. Gold-saving apparatus	803,868	Nov. 7	562	144	119	142
Banks, Amos O. and G. E., Baltimore, Md. Door-hanger for slidable doors	807,429	Dec. 19	2668	574–5	119	1929
Banks, George E. (See Banks, Amos O. and G. E.)						
Bannon, James L. (See Bannon, Patrick R. and J. L.)						
Bannon, Patrick R. and J. L., Joliet, Ill. Self-dumping car	805,517	Nov. 28	4011	866	119	1000
Bantz, Frederick W., Dallas, Tex. Stirrup	803,740	Nov. 7	440	95	119	99
Barabasz, Mieczyslaw, assignor of three-sixths to F. P. Stenzy and S. Barabasz, Baltimore, Md. Buckle	804,788	Nov. 14	2550	557	119	602
Barabasz, Stephania, *et al.* (See Barabasz, Mieczyslaw, assignor.)						
Barber, Albert H., Watertown, N. Y., assignor to E. E. Hanna, Chicago, Ill. Pneumatic sand-shaker	807,709	Dec. 19	3221	691	119	2050
Barbier Benard & Turenne. (See Turenne, Emile L. P., assignor)						
Barbolla, Bonifacio, San Francisco, Cal. Blacking-brush dauber	806,390	Dec. 5	506	131	119	1400
Barbour, James G., assignor to Metropolitan Brick Company, Canton, Ohio. Brick-machine attachment	806,312	Dec. 5	457	99	119	1367
Barchfeld, Martin J., and F. C. Hunt, Girard, Ohio. Womb-supporter	804,086	Nov. 7	1121	236	119	246
Barclay, Charles B., Rockland, Tex. Combined level, grade, distance, and elevation finder	807,992	Dec. 19	3765	817	119	2170
Bard, Harry, assignor to Millville Machine Company, Millville, N. J. Plunger for glass-blowing machines	805,335	Nov. 21	3663	792	119	882
Bardsley, Henry, Providence, R. I., assignor to Crompton & Knowles Loom Works, Worcester, Mass. Shuttle-box motion for looms	803,869	Nov. 7	664	145–6	119	143
Bargamin, Clifford, assignor to Novelty Manufacturing Corporation, Newport News, Va. Cut-off for gas-stoves	803,965	Nov. 7	855	182	119	184
Baris, Joseph, Chicago, Ill. Gas-heated tailor's iron	807,533	Dec. 19	2650	613	119	1966
Barker, John F., assignor to Gilbert & Barker Manufacturing Company, Springfield, Mass. Portable gas-burner	804,517	Nov. 14	2003	437	119	481

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Barkley, John F., Springfield, Ohio. Railway-switch	807,803	Dec. 19	3403	731	119	2099
Barmen Bank-Verein, Hinsberg, Fischer & Comp. (See Szczepanik, Jan, assignor.)						
Barnard, Arthur W., Newton Center, assignor to Barnard Company, Boston, Mass. Weighing-scale	804,918	Nov. 21	2804	605-6	119	701
Barnard Company. (See Barnard, Arthur W., assignor.)						
Barnard and Leas Manufacturing Company. (See Cornwall, John B., assignor.)						
Barnes, Benjamin F., Rockford, Ill. Automatic chuck	804,919	Nov. 21	2810	606-7	119	702
Barnes, Charles W., New York, N. Y. Telescopic case or box	803,966	Nov. 7	857	182	119	185
Barnes, George A., New Haven, Conn., assignor, by mesne assignments, to Diamond Match Company, Chicago, Ill. Machine for making and boxing matches	803,538	Nov. 7	8	2-7	119	4
Barnes, John S., San Francisco, Cal. Combination implement	807,534	Dec. 19	2852	613	119	1999
Barnes, Richard T. (See Ferguson and Benthall, assignors.)						
Barnes, Varney E., Cleveland, Ohio. Apparatus for the correction of irregular teeth	804,200	Nov. 14	1386	294	119	346
Barnes, Walter E. (See Dugmore, Trevellyan, assignor.)						
Barnes, William B., Greenfield, and W. A. Edelman, Fayette, Ill. Dough-raiser	808,184	Dec. 26	4176	900	119	2300
Barnes, William H. (See Webster and Barnes.)						
Barnstead, Robert P., Boston, Mass. Domestic water-still	806,450	Dec. 5	712	160	119	1426
Barnum, Albert L., Pineridge, S. D., assignor of one-half to H. A. Dawson, H. P. Simmons, R. C. Stirk, B. J. Gleason, and J. R. Walker. Bed-spring tightener	807,348	Dec. 12	3483	535	119	1848
Barnum, Henry A., and J. G. Harris, Buffalo, N. Y. Match-lighter	808,136	Dec. 26	4071	876	119	2279
Barr, Charles F., Winchester, Va. Window-screen	804,698	Nov. 14	2355	513	119	555
Barr, Francis C., and G. von Bergen, Oakdale, Pa. Rotary engine	806,451	Dec. 5	714	160	119	1426
Barr, Frederic, Brooklyn, N. Y. Bread-mixer	805,050	Nov. 21	3073	666	119	760
Barr, George M., Delmar, Md., assignor of two-thirds to J. G. Rodgers and G. W. Russell, Cape Charles, Va. Boiler-tube	804,997	Nov. 21	2970	644	119	738
Barr, James R. (See Caldwell and Barr.)						
Barr, Nathan M., New York, N. Y. Combination traveling-case and sales-table	808,427	Dec. 26	4663	1002	119	2410
Barrell, Charles S. (See Knight, Richard H., assignor.)						
Barrett, Charles R. (See Harter, Noah S., assignor.)						
Barrett, George L., Springfield, Ohio. Clothes-bag	803,967	Nov. 7	858	183	119	185
Barrett, Helena. (See Batchelder, William E., assignor.)						
Barron, Fletcher J., *et al.* (See Birdsall, Edgar M., assignor.)						
Barron, Walter J., Brooklyn, N. Y. Trolley for electric railways	807,653	Dec. 19	3107	668	119	2025
Barrow, Clyde, Sharonville, assignor of one-half to R. M. Hughes, Oxford, Ohio. Bottle-filling device	806,095	Dec. 5	9	2	119	1267
Barry, John, and M. L. Shaughnessy, Westphalia, Kans. Indicator for weighing-scales	805,518	Nov. 28	4014	867	119	1001
Barry, William, Oswego, N. Y. Mail-distributing apparatus	803,968	Nov. 7	860	183-5	119	185
Bartholomew, John B., assignor to Avery Manufacturing Company, Peoria, Ill. Centrifugal separator	804,789	Nov. 14	2551	557-8	119	602
Bartlett, Hayward M. (See Beals, George M., assignor.)						
Barton, Charles B., and C. Lamoreaux, Glassport, Pa. Rail-joint	806,503	Dec. 26	4808	1036	119	2442
Barton, Silas H. (See Young and Barton.)						
Bashlin Company. (See Ott, John F., assignor.)						
Basilone, Raffaele M., Naples, Italy. Breech-loading small-arm	806,313	Dec. 5	458	100	119	1368
Baskett, Nathaniel M. (See Walker, Harry H., assignor.)						
Bass, John E., Willesden Green, England. Skewer-extractor	806,096	Dec. 5	10	3	119	1267
Bassell, John Y., and F. C. Blenkner, Columbus, Ohio. Globe gun-sight	803,969	Nov. 7	882	185	119	190
Bassell, John Y., and F. C. Blenkner, Columbus, Ohio. Combination gun-sight	803,970	Nov. 7	884	185	119	190
Bassell, John Y., and F. C. Blenkner, Columbus, Ohio. Gun-sight	805,770	Nov. 28	4481	960	119	1099
Bassell, John Y., and F. C. Blenkner, Columbus, Ohio. Gun-sight	805,771	Nov. 28	4483	960	119	1100
Bassell, John Y., and F. C. Blenkner, Columbus, Ohio. Sight-piece	807,710	Dec. 19	3222	692	119	2050
Bassell, John Y., and F. C. Blenkner, Columbus, Ohio. Combined globe and open gun-sight	807,711	Dec. 19	3223	692	119	2050
Bassell, John Y., and F. C. Blenkner, Columbus, Ohio. Peep-sight for firearms	807,712	Dec. 19	3224	692	119	2050
Bassell, John Y., and F. C. Blenkner, Columbus, Ohio. Gun-sight	807,993	Dec. 19	3768	817-18	119	2171
Bassett, Dewitt C., Woonsocket, S. D. Air-ship	806,049	Nov. 28	5005	1067	119	1214
Bassett, Norman C., Lynn, Mass., assignor to General Electric Company. Brush-holder	803,803	Nov. 7	546	119	119	119
Bastian, Peter, assignor to Maschinenfabrik Grevenbroich, Grevenbroich, Germany. Water-purifier	806,234	Dec. 5	279	58-9	119	1325
Batchelder, Charles A., Brockton, Mass., assignor to O. A. Miller Treeing Machine Company, Portland, Me., and Brockton, Mass. Form or last	806,731	Dec. 5	1233	275	119	1536
Batchelder, William E., assignor of one-half to H. Barrett, Lynn, Mass. Curtain-fixture	808,185	Dec. 26	4177	900	119	2301
Bates & Bacon. (See Wallenthin, Walfrid, assignor.)						
Bathgate, George, Edinburgh, Scotland. Wad for shotguns, cartridges, and the like	805,114	Nov. 21	3217	698	119	789
Batley, Ernest L., Newark, N. J. Washing-machine	807,900	Dec. 19	3611	780-1	119	2134
Batzler, George J., Center township, Outagamie county, Wis. Fence-gate	807,591	Dec. 19	2989	641	119	1998
Bauer, Theodor H., Middletown, Ohio. Multiple-bolt locking device	806,768	Dec. 12	1330	296	119	1596
Bauld, Charles S., Latrobe, assignor of one-half to A. C. Dehle, Hobart, Tasmania, Australia. Driving-wheel for motor-vehicles	806,452	Dec. 5	715	161	119	1427
Baum, Willard, Buffalo, N. Y. Detector-bar for railway-switches	804,296	Nov. 14	1578	341	119	385
Baumann, Emil, Horgen, Switzerland. Folding vehicle	806,097	Dec. 5	10	3	119	1267
Baumer, Francis, New York, N. Y. Candle-holder	806,314	Dec. 5	460	100	119	1368
Baumgartner, Hugo, Basel, Switzerland. Cone-coupling	804,573	Nov. 14	2118	462	119	505
Baumgartner, Joseph, Silverton, Oreg. Saw	806,515	Dec. 5	833	183	119	1451
Baur, Wilhelm, *et al.* (See Weinrich, Moriz, assignor.)						
Baurose, August. (See Schwieger, Adolf, assignor.)						
Bausch, George, Syracuse, N. Y. Nose-guard for eyeglasses	804,366	Nov. 14	1712	371	119	417
Bauthiere, Emile, St. Josse-ten-Noode, near Brussels, Belgium. Valve-gear for steam-engines	808,334	Dec. 26	4484	963	119	2371
Baxendell, Franklin A., *et al.* (See Stein, Jacob, assignor.)						
Baxter, Anna, Des Moines, Iowa. Dress-tray case	804,367	Nov. 14	1713	371	119	417
Baxter, Edward, New York, N. Y. Means for preventing the spread of conflagrations	805,519	Nov. 28	4017	867	119	1001
Baxter, William, Hull, and E. C. Caley, near Hull, England. Change-speed mechanism	803,971	Nov. 7	885	185-6	119	190
Beach, Arthur T., New York, N. Y. Sad-iron	808,428	Dec. 26	4665	1003	119	2410
Beach, Charles S., Bennington, assignor to H. C. White Co., North Bennington, Vt. Apparatus for mounting stereographs	805,404	Nov. 21	3786	819	119	910
Bealor, Budd G., Aspinwall, Pa. Metallic railway-tie	806,453	Dec. 5	716	161	119	1427
Beals, George M., assignor of one-half to H. M. Bartlett, Lowell, Mass. Roller-skate brake	805,942	Nov. 28	4816	1028	119	1174
Beals, Walton W., New York, N. Y. Boot and shoe tree	804,998	Nov. 21	2971	645	119	738
Beaman, Arthur W. (See Stockbridge, Radford, assignor.)						
Beard, Andrew J., Mount Pinson, Ala., assignor to Beard Automatic Coupler Co. Automatic car-coupler	807,430	Dec. 19	3670	575	119	1929
Beard Automatic Coupler Co. (See Beard, Andrew J., assignor.)						
Beardsley, Otis L., and E. W. Bittner, Chicago, Ill.; said Bittner assignor to said Beardsley. Shoe for chair-legs	807,535	Dec. 19	3853	613-14	119	1969

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Beasley, Frank, Lyons, N. C. Cultivator	807,349	Dec. 12	2455	535	119	1848
Beasley, William F., Plymouth, N. C. Resilient tire	804,368	Nov. 14	1715	372	119	417
Beasley, William F., Plymouth, N. C. Resilient tire	804,369	Nov. 14	1718	372	119	418
Beasley, William F., Plymouth, N. C. Resilient tire	806,623	Dec. 5	1014	225	119	1490
Beasley, William F., Plymouth, N. C. Resilient tire and means for securing same in place	807,350	Dec. 12	2487	536	119	1848
Beatty, Thomas, Washington, Pa. Jar-closure	804,574	Nov. 14	2119	463	119	506
Beaumont, Richard, Kankakee, Ill. Water-heater	809,335	Dec. 26	4485	904	119	2371
Bechman, Henry F., assignor to Duplex Printing Press Company, Battlecreek, Mich. Web-feeding rolls	803,972	Nov. 7	888	186	119	191
Bechman, Henry F., assignor to Duplex Printing Press Company, Battlecreek, Mich. Web-manipulating mechanism for printing-presses	805,620	Nov. 28	4206	905	119	1042
Beck, Harold C., Kingston, Ga. Train-order indicator	804,087	Nov. 7	1122	236	119	246
Beck, Otto R., Quilcene, Wash. Pulley	807,904	Dec. 19	3770	818	119	2171
Beck, Samuel H., New York, N. Y. Electric switch	808,065	Dec. 26	3900	844	119	2242
Becken, Albert C., and R. J. Trumbull, Chicago, Ill. Watch-fob	807,901	Dec. 19	3612	781	119	2135
Becker, Anton, assignor to J. S. Ralston, Chicago, Ill. Car-underframe construction	807,995	Dec. 19	3771	818–19	119	2171
Becker, John, Mount Olivet, Cal. Portable fence	807,592	Dec. 19	2990	641	119	1998
Becker, Josephine, Brooklyn, N. Y. Game apparatus	806,624	Dec. 5	1015	225	119	1491
Beckert, Frank R., Lynn, Mass., assignor to General Electric Company. Support for the shafts of instruments	804,370	Nov. 14	1720	372	119	418
Beckwith, Charles E., Peoria, Ill., assignor, by mesne assignments, to American Fog Signal Company, Pittsburg, Pa. Railway-torpedo. (Reissue)	12,396	Nov. 7	1347	287	119	297
Bedford Foundry & Machine Co. (See Sohn, Edward A., assignor.)						
Beecher, Eugene, Montreal, Canada. Manufacturing rubber-shoe uppers	806,625	Dec. 5	1016	225–6	119	1491
Beede, Herbert G., Pawtucket, R. I. Automatic intermittent driving mechanism	807,996	Dec. 19	3773	819	119	2171
Beehler, Charles W., St. Louis, Mo. Box-fastener	805,621	Nov. 28	4208	905	119	1043
Beers, Louis E., Poplarbluff, Mo. Coffee-pot	804,823	Nov. 21	2625	571	119	661
Begler, Edwin S., and H. Wittmann, Cincinnati, Ohio. Railway-tie	807,236	Dec. 12	2278	491–2	119	1804
Behan, Hugh, Seattle, Wash. Electromagnetic wheel	804,371	Nov. 14	1722	373	119	418
Behringer, Jacob, assignor to Heyl & Patterson Incorporated, Pittsburg, Pa. Transfer mechanism from press-conveyers to leer-conveyers	807,106	Dec. 12	2037	438	119	1753
Beiermeister Bros. Company. (See Beiermeister, John M., assignor.)						
Beiermeister, John M., Troy, assignor, by mesne assignments, to Beiermeister Bros. Company, New York, N. Y. Making fold-collars	806,315	Dec. 5	463	101	119	1369
Beierschmitt, John A., Lester township, Blackhawk county, Iowa. Bird-killing device	805,898	Nov. 28	4729	1011	119	1154
Belden, Mark L. (See Fletchall, Leonard J., assignor.)						
Belknap, Thomas M. (See Farrar, Charles O., assignor.)						
Bell, Endo L., Berkley, Va. Sign-support	805,622	Nov. 28	4209	906	119	1043
Bell, George H., Passaic, N. J. Monkey-wrench	805,185	Nov. 21	3356	727	119	819
Bell, James E., Washington, D. C. Rifle-bullet	807,012	Dec. 12	1827	400	119	1708
Bell, Jasper N., Stratford, Iowa. Adjustable support for telegraph line-wires	806,709	Dec. 12	1332	296	119	1596
Bell, John E., Barberton, Ohio, assignor to Stirling Consolidated Boiler Company, New York, N. Y. Independently-fired superheater	808,228	Dec. 26	4264	917	119	2321
Bell, Louis, Brookline, Mass. Bifocal lens	805,438	Nov. 28	3868	836	119	970
Bell, Stuart E. (See Mead, Frederick E., assignor.)						
Bell, Thomas. (See Le Bosquet and Bell.)						
Bell, Walter J., assignor of one-half to L. F. Moss, Los Angeles, Cal. Safety crossing system for railways	804,297	Nov. 14	1580	341	119	386
Bell, Walter J., assignor of one-half to L. F. Moss, Los Angeles, Cal. Automatic safety crossing system for railways	804,298	Nov. 14	1583	341	119	387
Bell, Walter J., assignor of one-half to L. F. Moss, Los Angeles, Cal. Electric controlling mechanism for railway appliances	807,431	Dec. 19	2873	575–6	119	1930
Bellows, Arthur B., Pittsburg, Pa. Steel car	807,902	Dec. 19	3613	781–2	119	2135
Bellows, Arthur B., Pittsburg, Pa. Railway-car	807,903	Dec. 19	3616	782–3	119	2136
Belt, Harry B. (See Alcorn and Belt.)						
Beltz, John H., assignor of one-half to A. W. Mohr, St. Paul, Minn. Store-goods lifter	805,405	Nov. 21	3789	820	119	910
Beman, Nathan, Seattle, Wash. Ballot-pouch	806,050	Nov. 28	5006	1068	119	1215
Bemis, George M., Readsboro, Vt. Insulator	803,973	Nov. 7	891	187	119	191
Benden, Jacob P. (See Fero, Charles, Sr., assignor.)						
Bender, William H., Brooklyn, N. Y. Advertising novelty	804,372	Nov. 14	1723	373	119	419
Benedic, Augustin M., New Orleans, La. Adding-machine	806,051	Nov. 28	5007	1068	119	1215
Benedict, Charles, Fruitvale, Cal. Holding attachment	803,974	Nov. 7	892	187	119	192
Benefield, Chauncey R., Dallas, Tex. Machine for elevating and feeding seed-cotton	807,654	Dec. 19	3110	668	119	2026
Benesh, Louis W., Houghton, Mich. Flour-milling machinery	806,865	Dec. 12	1530	335–6	119	1643
Benét, Laurence V., and H. A. Mercié, Paris, France. Cartridge-case extractor	804,699	Nov. 14	2356	514–15	119	555
Benjamin, George H., New York, N. Y. Heating pipes, rods, or similar bodies	808,186	Dec. 26	4179	900	119	2301
Benjamin, George H., New York, N. Y. Metallurgical furnace	808,187	Dec. 26	4181	900–1	119	2301
Bennett, Charles E., New York, N. Y. Block-signal system	803,539	Nov. 7	20	7	119	7
Bennett, Charles E., New York, N. Y. Block-signal system	803,540	Nov. 7	24	7	119	8
Bennett, Frederick D. (See Sanford, William W., assignor.)						
Bennett, Isaac E., Newton, Iowa. Harness-buckle	805,336	Nov. 21	3664	792	119	582
Bennett, James C., Detroit, Mich. Revolving boiler-tube blower	806,626	Dec. 5	1019	226	119	1491
Bennett, Nelson, Tacoma, Wash. Track-laying machine	805,623	Nov. 28	4210	906	119	1043
Benthall, Jesse T. (See Furguson and Benthall.)						
Berens, Stanislaus, Lagrange, Ill. Vehicle-wheel	807,536	Dec. 19	2854	614	119	1909
Berg, August J., Chicago, Ill. Car-fender	804,790	Nov. 14	2555	558	119	603
Berg, John, Anderson, Ind. Computing cheese-cutter	806,454	Dec. 5	718	162	119	1427
Bergell, Peter, assignor to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Bromo-lecithin and making same	803,541	Nov. 7	27	.....	119	8
Bergen, Godfrey von. (See Barr and Bergen.)						
Bergensten, Lars E., New York, N. Y. Toy	807,237	Dec. 12	2279	492	119	1805
Berger, Max, assignor to Firm of C. Zeiss, Jena, Saxe-Weimar, Germany. Photographic shutter	807,149	Dec. 12	2122	455–6	119	1770
Berger, Max, assignor to Firm of C. Zeiss, Jena, Germany. Double telescope	807,713	Dec. 19	3228	692	119	2051
Berghoefer, Charles, Chicago, Ill. Traveling conveyer system	805,520	Nov. 28	4019	867	119	1002
Berghoefer, Charles, Chicago, Ill. Clam-shell bucket	805,521	Nov. 28	4022	868	119	1003
Bernard, John J., *et al.* (See McGhee John W., assignor.)						
Bernard, William A., assignor to William Scholhorn Company, New Haven, Conn. Dividers	806,627	Dec. 5	1019	226	119	1491
Bernhard, Richard. (See Lowry and Bernhard.)						
Bernhardt, Peter, *et al.* (See Good and Gerling, assignors.)						
Bernstrom, John, *et al.* (See Berrigan, John J., assignor.)						
Berntson, Thomas, Pittsburg, Pa. Fence	807,414	Dec. 12	2612	563	119	1878

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Berrigan, John J., East Orange, N. J., assignor to F. J. Arend, New York, N. Y., and J. Bernstrom, Stockholm, Sweden. Centrifugal separator	807,055	Dec. 12	1935	417	119	1732
Berrigan, John J., East Orange, N. J., assignor to F. J. Arend, New York, N. Y., and J. Bernstrom, Stockholm Sweden. Centrifugal separator	807,056	Dec. 12	1936	418	119	1732
Berry, Arthur J., Marion, Ohio. Lightning-arrester	805,439	Nov. 28	3871	836	119	970
Berry, Hugh R., Greenville, Miss. Electric-light hanger	806,516	Dec. 5	835	183	119	1452
Bertels, Charles E., Wilkesbarre, Pa. Transmission mechanism	806,316	Dec. 5	464	101–2	119	1369
Bertold, George, Buenos Ayres, Argentina, assignor to C. A. MacDonald, Chicago, Ill. Switch	803,542	Nov. 7	28	7	119	9
Bertsch, Charles A., Cambridge City, Ind. Punching and shearing machine	803,660	Nov. 7	258	55	119	58
Berwanger, Michael, Philadelphia, Pa. Fireproof window-curtain	804,299	Nov. 14	1587	342	119	388
Bery, Henry J. (See Bryant and Bery.)						
Best, Ezra, *et al.* (See Best, William N., assignor.)						
Best, John H., *et al.* (See Best, William N., assignor.)						
Best, Joseph. (See Anson, Joseph, assignor.)						
Best, William N., Los Angeles, Cal., assignor to J. H. and E. Best, Quincy, Ill. Heating-furnace	806,628	Dec. 5	1020	226	119	1491
Bethe, August L., Hanover, Germany. Bit	804,700	Nov. 14	2363	515–16	119	558
Bethel, John M., and H. C. Peachey, Wichita, Kans. Rein-support	805,772	Nov. 28	4485	961	119	1100
Bethke, Bernhard, Milwaukee, assignor to Gilson Manufacturing Company of Wisconsin, Port Washington, Wis. Chair-iron	805,522	Nov. 28	4024	868	119	1003
Bethlehem Steel Company. (See Meigs and Gathmann, assignors.)						
Bethlehem Steel Company. (See Meigs and Jakobsson, assignors.)						
Bethlehem Steel Company. (See Meigs and Stout, assignors.)						
Betts, Anson G. (See Kern, Edward F., assignor.)						
Betts, Anson G., Troy, N. Y. Electrolytic process using insoluble anodes	803,543	Nov. 7	29	8	119	9
Betts, Anson G., Troy, N. Y. Apparatus for refining lead by electrolysis	803,544	Nov. 7	30	8	119	9
Betz, Charles L., Rochester, Pa. Glass-melting pot	807,804	Dec. 19	3405	731	119	2089
Beum, Stephen D., Troy, Ohio. Piano attachment	807,714	Dec. 19	3229	693	119	2051
Beverly, Claud D., Evansville, Ind. Coaster-brake	807,715	Dec. 19	3230	693	119	2051
Bezer, Henry, New Rochelle, N. Y. Railway signaling system	807,805	Dec. 19	3406	731–4	119	2089
Bezvoda, Stanley, Baltimore, Md. Steam-trap	804,920	Nov. 21	2813	607	119	703
Bick, Harry, New York, N. Y. Eyeglass-holder	803,975	Nov. 7	893	187	119	192
Bickel, Henry F., Plainfield, N. J., assignor to New York Air Brake Company. Engineer's brake-valve	806,455	Dec. 5	720	162	119	1428
Bickel, Henry F., Plainfield, N. J., assignor to New York Air Brake Company. Engineer's brake-valve	806,456	Dec. 5	723	162–3	119	1428
Bickelhaupt, George. (See Anschütz, Paul, assignor.)						
Biddle, William E. (See Miller, John, Jr., assignor.)						
Bidwell, Moses, Brooklyn, N. Y. Clothes-tree	805,051	Nov. 21	3076	666	119	760
Bieber, John F. (See Hay and Bieber.)						
Bielefelder Maschinenfabrik, vormals Dürkopp & Co. (See Mischke, Karl, assignor.)						
Bigelow, Lewis L., Sultan, Wash. Railway-switch	805,773	Nov. 28	4486	961	119	1100
Bigger, Olin M., Holt, Cal. Pneumatic tire	804,701	Nov. 14	2365	516	119	558
Biles, John W., Louisville, Ky. Drier	807,997	Dec. 19	3776	820	119	2172
Billings & Spencer Company. (See Tomlinson, William R., assignor.)						
Billings, William H., Cincinnati, Ohio. Display-rack	807,904	Dec. 19	3618	783	119	2137
Billman, Charles H., Boston, Mass. Wire-rope clamp	805,705	Nov. 28	4355	936	119	1073
Bingham, Osmore A., Swanzey, N. H. Window	805,440	Nov. 28	3872	836	119	970
Binyon, Algernon H., assignor of one-half to R. P. Brousson, London, N. W., England. Automatic electrical signaling apparatus for railways	803,976	Nov. 7	894	187	119	192
Birdsall, Edgar M., assignor to M. B. Birdsall and F. J. Barron, Buffalo, N. Y. Pneumatic tire	807,537	Dec. 19	2856	614	119	1969
Birdsall, Mary B., *et al.* (See Birdsall, Edgar M., assignor.)						
Birdwell, Joseph A., Overton, Tex. Lubricating-axle	804,448	Nov. 14	1867	405	119	449
Bischof, Joseph, Boston, Mass. Garment-fastening	806,517	Dec. 5	836	184	119	1452
Bishop, Jerome H., Jr. (See Richardson and Bishop.)						
Bishop, John, Bartow, Fla. Furnace-front	805,186	Nov. 21	3358	727–8	119	819
Bittlinger, Harry F. (See Hofmann, Johann, assignor.)						
Bittner, Edward W. (See Beardsley and Bittner.)						
Black, William C., Plymouth, Ohio. Separator-sieve	803,977	Nov. 7	897	188	119	192
Blackburn, Arthur H., Matteawan, N. Y. Soot-scraper	804,921	Nov. 21	2814	607	119	704
Blackman, Harvey H., assignor to Cornell Incubator Mfg. Co., Ithaca, N. Y. Incubator.	806,098	Dec. 5	12	3–4	119	1267
Blackmore, Henry S., Mount Vernon, N. Y. Receiver for wireless telegraphy	806,052	Nov. 28	5011	1088	119	1216
Blair Dental Manufacturing Co. (See Blair, John C., assignor.)						
Blair, Henry W., *et al.* (See McGregor, Charles, assignor.)						
Blair, John, Brooklyn, N. Y. Fountain-pen	805,624	Nov. 28	4212	906	119	1043
Blair, John C., assignor of one-half to Blair Dental Manufacturing Co., Louisville, Ky. Syringe	807,905	Dec. 19	3619	783	119	2137
Blair, William E., Buffalo, N. Y. Variable-speed gearing	804,999	Nov. 21	2972	645	119	739
Blair, William E., assignor to Buffalo Gasoline Motor Company, Buffalo, N. Y. Driving mechanism for two pump-plungers	805,000	Nov. 21	2975	646	119	739
Blaisdell, Hiram W., Los Angeles, Cal. System for conveying, distributing, and excavating material	806,732	Dec. 5	1235	275–6	119	1537
Blaisdell, Joseph D., Boston, Mass. Internal-combustion engine	805,774	Nov. 28	4488	961	119	1100
Blake, Frank O., Cincinnati, Ohio, G. H. Lutz and O. Hubbell, Indianapolis, Ind. Machine for heating surfaces	805,337	Nov. 21	3664	792	119	883
Blake, Henry H., assignor to Sterrit-Thomas Foundry Company, Pittsburg, Pa. Rock-crusher	804,301	Nov. 14	1388	294–5	119	346
Blakeslee, Edward E., New York, N. Y. Penholder	808,504	Dec. 26	4809	1036	119	2442
Blakeslee, Edward E., New York, N. Y. Penholder	808,505	Dec. 26	4810	1037	119	2442
Blakeslee, Edward E., New York, N. Y. Display-card	808,596	Dec. 26	4989	1076	119	2479
Blakeslee, Edward E., New York, N. Y. Penholder	808,597	Dec. 26	4991	1077	119	2480
Blakeslee, Manley H., assignor of one-half to R. D. Baker, Buffalo, N. Y. Pneumatic tire.	804,088	Nov. 7	1123	237	119	246
Blakey, Mildred, Pittsburg, Pa. Skelp for making tubes	807,432	Dec. 19	2674	576	119	1930
Blanc, Charles M., and W. L. Mitchell, Knoxville, Tenn. Kitchen-table	804,089	Nov. 7	1125	237	119	247
Blanchard, Belle C., Fayetteville, Ark. Card game	807,433	Dec. 19	2675	576–7	119	1930
Blanchard, Frederick K., and J. F. Price, New York, N. Y. Tag	804,373	Nov. 14	1728	374	119	420
Blank, Charles C., San Francisco, Cal. Cracker conveyer and distributer	805,625	Nov. 28	4213	907	119	1044
Bleiman, Max. (See Palmer, Henry J., assignor.)						
Blenkner, Fred C. (See Bassell and Blenkner.)						
Bleoo, John H., assignor to A. B. Levy, New York, N. Y. Pneumatic tire	807,351	Dec. 12	2489	536	119	1849
Bletso, William, Youngstown, Ohio. Steam-trap	808,506	Dec. 26	4812	1037	119	2443
Blinde, Louis, Johnson, Nebr. Harrow	804,300	Nov. 14	1588	342	119	388
Blomseth, Ed, Seattle, Wash. Knife	803,978	Nov. 7	899	188	119	193

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Blood, Charles W. H., assignor to S. A. Woods Machine Company, Boston, Mass. Matcher-head for wood-planers	805,626	Nov. 28	4214	907	119	1044
Bloom, Nicklas H., Nashua, Iowa. Riding attachment for agricultural implements	804,702	Nov. 14	2366	516	119	559
Bloom, Nicklas H., Nashua, Iowa. Draft-bar for agricultural implements	804,703	Nov. 14	2368	516	119	559
Bloom, Nicklas H., Nashua, Iowa. Riding attachment for agricultural implements	804,922	Nov. 21	2815	608	119	704
Blue, Dennis S., and O. Shepardson, Fremont, Ohio. Cultivator	807,906	Dec. 19	3619	784	119	2137
Blue, Louis V., Pittsburg, Pa. Egg-sheller	808,507	Dec. 26	4814	1037	119	2443
Blum, George J., Chicago, Ill. Door-check	805,773	Nov. 28	4490	961-2	119	1101
Blumenkrohn Crochet Button Works. (See Schloss, Joseph W., assignor.)						
Boax, John J., McKeesport, assignor to National Tube Company, Pittsburg, Pa. Stripper for bending-rolls	807,352	Dec. 12	2491	536-7	119	1849
Bochnewetch, Jacob, assignor to Silver Creek Specialty Company, Silvercreek, N. Y. Couch-display truck	808,229	Dec. 26	4267	917	119	2322
Bockhoff, William F., Dayton, Ohio, assignor to National Cash Register Company, Jersey City, N. J. Book for filing papers, &c	806,391	Dec. 5	597	131	119	1400
Boden, James S. (See Johnson, Rufus H., assignor.)						
Bodine, Samuel L. (See Lubbers and Bodine.)						
Boeck, Charles H., assignor, by mesne assignments, to Metal Stamping Company, Jackson, Mich. Foot-warmer	803,545	Nov. 7	32	8	119	9
Boeck, Charles H., assignor, by mesne assignments, to Metal Stamping Company, Jackson, Mich. Heat-retainer and making the same	804,090	Nov. 7	1126	238	119	247
Boeck, Charles H., assignor, by mesne assignments, to Metal Stamping Company, Jackson, Mich. Heater	804,184	Nov. 7	1322	284	119	292
Boehm, Alexander, assignor to Boehm & Levine, New York, N. Y. Lady's headdress	806,099	Dec. 5	14	4	119	1268
Boehm & Levine. (See Boehm, Alexander, assignor.)						
Boehme, Paul M., New York N. Y. Bit for animals	806,629	Dec. 5	1021	227	119	1492
Boeken, Hubert J., Düren, Germany. Fiber-cleaning machine	805,441	Nov. 28	3873	836-7	119	970
Bofinger, Eugene A. (See Paige, Lucius R., assignor.)						
Bogart, Fred H., assignor to Corbin Motor-Vehicle Corporation, New Britain, Conn. Automobile-engine suspension	805,442	Nov 28	3875	837	119	971
Bogert, John L., New York, N. Y. Internal-combustion heat-engine	808,336	Dec. 26	4487	964-5	119	2372
Bohn, René, Mannheim, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Naphthalene dye and making same	806,053	Nov. 28	5014	.....	119	1217
Boice, Henry C., Hanford, Cal. Attachment for footwear	807,150	Dec. 12	2124	456	119	1770
Boileau, James W. assignor to L. C. Sherwood, trustee, Detroit, Mich. Pulverizer. (Reissue)	12,418	Dec. 12	2641	570-1	119	1884
Boisard, Louis, Lyon, France. Cutting-lathe	804,575	Nov. 14	2120	463	119	506
Boisvert, Joseph L., Kankakee, Ill. Spittoon	808,429	Dec. 26	4666	1003	119	2410
Boldog, Daniel, assignor of one-half to J. Melega, New York, N. Y. Means for freeing horses from vehicles	804,791	Nov. 14	2559	558	119	604
Bole, William A., Pittsburg, Pa., assignor to Westinghouse Machine Company. Packing-gland	807,538	Dec. 19	2858	615	119	1970
Boleg, Friedrich, Cannstatt, assignor to Gesellschaft zur Verwertung der Boleg'schen Wasserlöslicher Mineralöle und Kohlenwasserstoffe, Gesellschaft mit Beschrankter Haftung, Berlin, Germany. Water-soluble vaseline	805,443	Nov. 28	3876	.....	119	971
Boll, Robert B., assignor of one-half to H. Liebster, Mulkeytown, Ill. Dustless feeder and mixer for flour-mills	805,899	Nov. 28	4731	1011	119	1155
Bolsinger, Samuel S., and J. M. Bowen, Brockway, Oreg. Wrench	805,406	Nov. 21	3790	820	119	911
Bolte & Weyer. (See Thayer, William H., assignor.)						
Bolton, Becher B., Wilmington, assignor to H. T. Hazard and G. E. Harpham, Los Angeles, Cal. Photometer	806,392	Dec. 5	598	131	119	1400
Bolton, Paul F., Scarboro Junction, Canada. Cutter-blade	803,804	Nov. 7	548	120	119	120
Bond, Hiram A., Springfield, Mass. Shuttle for wire-looms	808,430	Dec. 26	4666	1003	119	2410
Bonnell, William R., assignor of one-half to G. H. Schlotterer, Elizabeth, N. J. Seal-trap for drain-pipes	803,979	Nov. 7	899	188	119	193
Bonnet, Joseph. (See Muller and Bonnet.)						
Bonsall, Seymour W., New York, N. Y. Locking device	808,188	Dec. 26	4183	901	119	2302
Bonsall, Seymour W., New York, N. Y. Lock for traveling-cases	808,189	Dec. 26	4185	901	119	2302
Bookout, Hugh B., Sherman, Tex. Hog-trough	806,317	Dec. 5	467	102	119	1370
Boore, Burton A., McKeesport, Pa. Folding box	807,907	Dec. 19	3622	785	119	2138
Booth, Arthur A., Spokane, Wash. Excavator	806,770	Dec. 12	1333	295-7	119	1597
Bopp, Amos, Baltimore, Md. Trolley	806,630	Dec. 5	1022	227	119	1492
Borchers, Warnerus, Berlin, Germany. Elastic wheel	804,202	Nov. 14	1389	295	119	347
Borchers, Wilhelm and L., Stockem, Aachen, Germany. Production of metallic calcium	808,066	Dec. 26	3905	844	119	2243
Borden, Charles H., Stamford, Conn. Telephone-holder	803,980	Nov. 7	901	189	119	193
Borden, Charles J., St. Joseph, Mo. Cultivator	806,100	Dec. 5	16	4-5	119	1268
Borg, Chris, Chicago, Ill., assignor to International Harvester Company. Machine for manufacturing metal wheels	807,539	Dec. 19	2859	615-17	119	1970
Born, Alfred, Berlin, Germany. Cleansing, scouring, or removing oil and fat from wool, hair, bristles, and other material	805,407	Nov. 21	3791	820	119	911
Born, George J. (See Hepp and Born.)						
Borries, Friedrich W. A. von, Hanover, Germany, assignor of two-thirds to T. W. Worsdell, Stonycroft Arnside, and H. R. Lapage, Surbiton, England. Compound locomotive	803,981	Nov. 7	903	190	119	193
Borton, Stockton, Providence, R. I., and O. B. Brush, Bridgeport, Conn., assignors to Wilcox & Gibbs Sewing Machine Company, New York, N. Y. Shuttle mechanism for sewing-machines	804,301	Nov. 14	1590	343	119	388
Boschke, Guy, San Francisco, Cal. Drier	804,518	Nov. 14	2004	437	119	481
Bossart, Xaver, Paterson, N. J. Thread-guide	803,982	Nov. 7	906	190	119	194
Bostrom, Axel G. (See Holmes and Bostrom.)						
Bostrom, John M. (See Holmes and Bostrom.)						
Bostwick, Arthur J. (See Lewis and Bostwick.)						
Bothner, Charles G., New York, N. Y. Pianissimo device for piano-actions	808,190	Dec. 26	4186	901	119	2303
Bouchaud-Praceiq, Edouard, Paris, France. Apparatus for recovering the vapors of volatile solvents	806,866	Dec. 12	1534	337	119	1644
Boucher, Claude, Cognac, France. Machine for making bottles, flasks, &c	804,576	Nov. 14	2122	463-4	119	506
Boulanger, Joseph M., Revigny, France. Wheel for vehicles	804,577	Nov. 14	2128	465	119	508
Bourdeau, Jesse D. (See Wegner and Bourdeau.)						
Bourke, Edmund. (See Exline and Bourke.)						
Bouton, Georges. (See Dion and Bouton.)						
Bowen, Annie F. W., San Francisco, Cal. Rubber-holding attachment for pencils	806,235	Dec. 5	282	59	119	1326
Bowen, John M. (See Bolsinger and Bowen.)						
Bowen, Joseph E. (See Smith George R., assignor.)						
Bower, Warren W., *et al.* (See McCollough, Frederick H., assignor.)						
Bowers, Bose B., Macon, Ga. Candy-machine	804,374	Nov. 14	1729	374	119	420

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Bowers, Charles C., Kansas City, Mo. Weather-strip	805,115	Nov. 21	3218	698	119	700
Bowker, John W., assignor to Globe Optical Company, Boston, Mass. Bending and shaping pliers	804,923	Nov. 21	2817	608	119	705
Bowker, William H. (See Tytler and Bowker.)						
Bowlus Automatic Scale Company. (See Bowlus, Henry C., assignor.)						
Bowlus, Henry C., assignor to Bowlus Automatic Scale Company, Springfield, Ohio. Automatic weighing-machine	806,457	Dec. 5	726	163	119	1429
Bowman, Charles M., Lebanon, Pa. Hose-spider	808,508	Dec. 26	4815	1038	119	2444
Bowman, Robert H., Canyon City, Colo. Combination-tool	807,998	Dec. 19	3777	820	119	2172
Boyd, Ira, Pondhill, Pa. Ice-cutting machine	804,091	Nov. 7	1128	238	119	247
Boyd, John H., Vaiden, Miss. Telephone	807,806	Dec. 19	3414	734	119	2091
Boyer, Allen P., Goshen, Ind. Hay-carrier	806,771	Dec. 12	1338	297	119	1598
Boyer, Edward B., Peoria, Ill. Pneumatic tool	804,449	Nov. 14	1868	405	119	449
Boyer, Richard A., Sharpsburg, Pa. Wheel	805,837	Nov. 28	4595	984	119	1121
Boyer, Richard A., Vailsburg, and F. Kinney, South Boundbrook, N. J. Incubator	805,444	Nov. 28	3877	838	119	971
Boykin, Willis O., St. Louis, Mo. Latch	806,054	Nov. 28	5015	1069	119	1217
Boyle, John E., Scranton, Pa. Cable-trolley	805,338	Nov. 21	3666	793	119	883
Boyles, Joel A. (See Ross and Boyles.)						
Braddock, Warren L., Togus, Me., assignor of one-half to H. B. Mitchell, Malden, Mass. Non-refillable bottle	804,924	Nov. 21	2818	608	119	705
Bradford, George H., Stockton, assignor to J. Treadwell, San Francisco, Cal. Distillation	805,116	Nov. 21	3219	698	119	700
Bradford, Henry P. (See Ward, Frank D., assignor.)						
Bradford, Joseph K. (See Stockwell, William L., assignor.)						
Bradley, Alfred F., New York, N. Y. Window-shade bracket	807,593	Dec. 19	2992	641	119	1999
Bradley, Christopher C., Syracuse, N. Y. Thill-coupling	804,925	Nov. 21	2820	608	119	705
Bradley, Perry E., Jersey City, N. J, assignor to A. T. Hagen & Co., (Incorporated,) Rochester, N. Y. Apron-guide for mangles	801,578	Nov 14	2130	466	119	508
Bradley, Robert D., Canton, Ohio. Endless solid-rubber tire	806,101	Dec. 5	18	5	119	1269
Bradley, Sara L., *et al.* (See Bradley, William H., assignor.)						
Bradley, William C., *et al.* (See Bradley, William H., assignor.)						
Bradley, William H., assignor of three-fourths to A. Gilliland, W. C. Bradley, Bellevue, Pa., S. L. Bradley and M. E. Webster, St. Louis, Mo. Gas-producer	807,594	Dec. 19	2993	642	119	1999
Bradshaw, Charles T., and O. M. Thomson, assignors to Attracto Company, Philadelphia, Pa. Illusory device for advertising or amusement	805,117	Nov. 21	3220	699	119	700
Bradshaw, Ira J., assignor of one-half to J. J. Dietmeyer, Waukegan, Ill. Trolley-contact	806,867	Dec. 12	1536	337	119	1644
Bradshaw, William M., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Casing and terminal block for electrical measuring instruments	807,434	Dec. 19	2677	577	119	1931
Bradstreet, Hobert J., assignor to Auto Physical Trainer Company, Buffalo, N. Y. Exercising device	807,908	Dec. 19	3623	785	119	2138
Brady, John F, Chicago, Ill. Steam-turbine	807,057	Dec. 12	1938	418	119	1733
Brady, John P., Baltimore, Md. Foldable metallic case	806,458	Dec. 5	730	164	119	1429
Brady, Joseph H., Kansas City, Mo. Pneumatic signal-bell	808,137	Dec. 26	4072	877	119	2279
Brailey, James S., Jr., *et al.* (See Bruce, William M., Jr., assignor.)						
Bramberry, Thomas A., Portsmouth, assignor of one-third to C. P. Denby, Norfolk, Va. Canceling and counting apparatus	807,716	Dec. 19	3233	693–4	119	2052
Branch, Joseph G., St. Louis, Mo. Garbage-incinerator	805,256	Nov. 21	3507	757–8	119	850
Brandt, Louis, New York, N. Y. Chenille twisting and receiving machine	808,337	Dec. 26	4491	965–6	119	2372
Brandt, Petter, Chisago City, Minn. Poison-distributer	803,661	Nov. 7	261	55	119	59
Branfoot, Richard S., and W. B. Davis, Rock Ferry, England. Soap-holder for vessels and utensils	807,717	Dec. 19	3237	694	119	2053
Brants, John, Tampico, Ill. Apparatus for draining marshes and the like	804,092	Nov. 7	1130	238–9	119	248
Braskett, Thomas C., assignor to Anderson Computing Scale Company, Anderson, Ind. Cheese-cutter	807,999	Dec. 19	3779	820	119	2172
Braun, Carl, Zurich, Switzerland. Device for tuning pianos	806,949	Dec. 12	1720	377	119	1683
Braun, Leo, Munich, Germany, assignor to Patent Mailing Souvenir Company. Souvenir mailing-card	806,631	Dec. 5	1023	227	119	1492
Brayton, James T., Chicago, Ill. Auxiliary cartridge-holder	803,983	Nov. 7	907	190	119	194
Braznell, John J., St. Louis, Mo. Bed	807,909	Dec. 19	3625	785–6	119	2139
Breer, Carl, Los Angeles, Cal. Watch-guard	806,632	Dec. 5	1024	227	119	1492
Breiding Henry, Sterling, Ill. Trace-splice	807,058	Dec. 12	1939	418	119	1733
Bremiller, Frank M. (See Brown and Bremiller.)						
Brenan, James, *et al.* (See Trotter, James, assignor.)						
Breniman, William R., Brooklyn, Iowa. Key-guard	804,093	Nov. 7	1132	239	119	248
Brennan, Thomas, Jr., assignor to Monitor Drill Company, St. Louis Park, Minn. Disk drill	808,000	Dec. 19	3780	821	119	2173
Brenner, William C., Rockport, Ind. Grain-scourer	806,055	Nov. 28	5016	1069	119	1217
Brentano's. (See Hammond, Harold, assignor.)						
Bresson, Henry J., Kalamazoo, Mich. Gas-stove	805,706	Nov. 28	4356	936	119	1074
Bretz, George B., assignor to West Supply Company, Columbus, Ohio. Paper stand and cutter	807,353	Dec. 12	2493	537	119	1950
Breul, Frederick G., Bridgeport, Conn. Square	806,518	Dec. 5	836	184	119	1452
Brewer, Griffith. (See Kershaw, Abraham, assignor.)						
Brewer, Harry W., assignor to Monarch Folding Box Company, Milwaukee, Wis. Paper folding fruit-box	807,238	Dec. 12	2280	492	119	1805
Brewer, William H., Rolling Prairie, Ind. Hose-coupling	807,595	Dec. 19	2994	642	119	1999
Brewster, Harry C., C. A. Dutherage, and W. L. Glidden, Shreveport, La. Railway-rail joint	808,500	Dec. 26	4816	1038	119	2444
Brewster, Morris B., Columbus, Ohio. Mechanical stoker	803,805	Nov. 7	550	120–1	119	120
Briede, Otto, Benrath, near Düsseldorf, Germany. Manufacture of tubes	808,001	Dec. 19	3782	821	119	2173
Briggs, Benjamin A., Jr., St. Peter, Minn. Cultivating implement	806,056	Nov. 28	5020	1069–70	119	1218
Briggs, Burdett B., Creston, Iowa. Hose-wagon	803,870	Nov. 7	666	146	119	143
Briggs, William C., Elizabeth, N. J. Lathe-chuck	803,984	Nov. 7	908	191	119	194
Briggs, William C., Winston Salem, N. C. Mechanism for feeding cigars to banding mechanisms	808,067	Dec. 26	3904	845	119	2243
Bright, Colonel E., Columbus, Ohio. Food product	805,001	Nov. 21	2976	.....	119	740
Brill, George J. (See Lundy, John E., assignor)						
Brill, John A. (See Adams, Walter S., assignor.)						
Brill, John A. (See Heulings, William H., Jr., assignor.)						
Brill, John A., and C. K. Pickles, Philadelphia, Pa.; said Pickles assignor to said Brill. Vestibule-door	806,772	Dec. 12	1340	208	119	1598
Brin, Joseph J., Chicago, Ill. Syringe	805,339	Nov. 21	3067	793	119	883
Briney Brothers. (See Briney, Fred N., assignor.)						
Briney, Fred N., assignor to Briney Brothers, Lacey, Iowa. Traction-engine	808,230	Dec. 26	4269	918	119	2322

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Dr'g.	Official Gazette. Vol.	Page.
Brink, Clifford G., Nashua, Iowa. Rope-clutch for fodder-binders	807,415	Dec. 12	2613	563	119	1877
Briscoe, Benjamin, Tarrytown, N. Y., assignor to Briscoe Manufacturing Company, Detroit, Mich. Radiator	804,926	Nov. 21	2822	609	119	705
Briscoe Manufacturing Company. (See Briscoe, Benjamin, assignor.)						
Bristol Brass & Clock Company. (See Church, Walter A., assignor.)						
Britton, Robb, Clifton, assignor of one-half to M. M. Swaab, Jr., and H. Fleer, Philadelphia, Pa. Cutting device	807,239	Dec. 12	2282	492	119	1805
Broadbent, Thomas, and I. Hey, Wollaston, Mass. Trolley-wheel	805,408	Nov. 21	3794	820	119	911
Broadbrooks, Peter, Batavia, N. Y. Combination drill and drill-frame	805,838	Nov. 28	4596	985	119	1122
Brock, Charles, *et al.* (See Anthony, Richard A., assignor.)						
Brock, Matthias, Boston, Mass., assignor to Victoria Self-Lacing Company, Portland, Me. Holder for the ties of boots and shoes	805,776	Nov. 28	4493	962	119	1101
Brockett, Bluford W. (See Haldeman and Brockett.)						
Brockman, Robert H., New York, N. Y. Differential gear	808,002	Dec. 19	3783	821	119	2174
Brockschmidt, August. (See Kreutzberg, Brockschmidt, and Ryan.)						
Broman, John G., Chicago, Ill. Water-purifier	807,807	Dec. 19	3415	734	119	2091
Bromwell, Jacob H., *et al.* (See Auble, James H., assignor.)						
Bronnert, Emile. (See Fremery, Bronnert, and Urban.)						
Brooke, Edgar S., and C. A. H. Vaughan, Roanoke, Va. Locomotive-blower valve	803,871	Nov. 7	670	146	119	144
Brookman, John H., assignor of one-half to C B. Warner, Central City, Iowa. Target-trap	806,773	Dec. 12	1342	298	119	1598
Brooks, Byron A., New York, N. Y. Mechanism for preparing printing-surfaces. (Reissue)	12,426	Dec. 26	5028	1086–90	119	2488
Brooks, Edward J., East Orange, N. J. Seal for boxes, bags, &c	804,824	Nov. 21	2627	571	119	661
Brooks, Edward J., East Orange, N. J. Seal for boxes, &c	804,825	Nov. 21	2629	571	119	662
Brooks, Edward J., East Orange, N. J. Ratchet seal-press	805,257	Nov. 21	3512	758	119	851
Brooks, Edward J., East Orange, N. J. Seal	805,445	Nov. 28	3879	838	119	972
Brooks, Edward J., East Orange, N. J. Bottle-seal	806,519	Dec. 5	837	184	119	1452
Brooks, James M., Molena, Ga., assignor to Western Wheeled Scraper Company, Aurora, Ill. Wheeled scraper	805,258	Nov. 21	3514	758–9	119	851
Brooks, Myron W., assignor of one-half to H. M. Quackenbush, Herkimer, N. Y. Garment	805,052	Nov. 21	3077	667	119	760
Brossy, Emile, West Hoboken, N. J. Trolley-wheel	803,806	Nov. 7	554	121	119	120
Brousson, Robert P. (See Binyon, Algernon H., assignor.)						
Brower, Samuel and W., and G. Latta, Manlius, Ill. Veterinary forceps	804,094	Nov. 7	1134	239	119	249
Brower, William. (See Brower and Latta.)						
Brown, Alexander T., Syracuse, N. Y. Type-writing machine	808,598	Dec. 26	4992	1077	119	2480
Brown, Charles F., trustee. (See Reeve, Sidney A., assignor.)						
Brown, Charles S., and F. M. Bremiller, Utica, N. Y. Orchard-heater	803,662	Nov. 7	263	55	119	59
Brown, Charles W., trustee. (See Hitchcock, Halbert K., assignor.)						
Brown, Daniel H., Fort Dodge, Iowa. Adjustable harrow-section	806,057	Nov. 28	5023	1070	119	1218
Brown, Eric F., *et al.* (See Urban, Alfred C., assignor.)						
Brown, Everett H., assignor to Leicester and Continental Mills Company, Germantown, Philadelphia, Pa. Sweater	805,259	Nov. 21	3517	759	119	852
Brown, Freeman W., Tacoma, Wash. Life-boat	804,095	Nov. 7	1134	240	119	249
Brown, George, Indianapolis, Ind. Flagstaff-support	805,707	Nov. 28	4359	936	119	1075
Brown, George T. (See Hammond, Frank, assignor.)						
Brown, George W., Boston, Mass. Lubricator	804,203	Nov. 14	1391	295	119	347
Brown, Havilah G., Tuxedo Park, assignor of two-thirds to D. C. Edwards and F. Clark, St. Louis, Mo. Current-motor	805 446	Nov. 28	3880	838–9	119	972
Brown, Horace F., Oakland, Cal. Treating ores	806,774	Dec. 12	1349	299	119	1601
Brown, Horace F., Chicago, Ill. Reducing ores. (Reissue)	12,424	Dec. 12	2660	573	119	1889
Brown, Isaac L. (See Negley and Brown.)						
Brown, James H., assignor of one-half to F. E. Glenn, St. Charles, Ill. Spring	806,236	Dec. 5	283	59	119	1326
Brown, James W. (See Brown, Wilson E., assignor.)						
Brown, John, Dunmurry, Ireland. Signaling on railways, tramways, &c	803,872	Nov. 7	671	146	119	144
Brown, John, Niagara Falls, assignor of one-half to W. McLean, Lockport, N. Y. Fumigating attachment	807,910	Dec. 19	3627	786	119	2139
Brown, John H., Reading, Pa., assignor to Brown Wire Gun Company, New York, N. Y. Ordnance	805,777	Nov. 28	4405	962	119	1102
Brown, John R., Chinagrove, N. C. Game apparatus and advertising novelty	804,927	Nov. 21	2823	609	119	706
Brown, L. F. (See Vance, Harry A., assignor.)						
Brown, Marion A., Des Moines, Iowa. Protector for door-casings	806,459	Dec. 5	732	164	119	1430
Brown, Marius, New Comerstown, Ohio. Window-frame	805,409	Nov. 21	3795	821	119	911
Brown, Mathias, Jr., Battlecreek, Iowa. Ditching-machine	804,096	Nov. 7	1137	241	119	250
Brown, Peabody A., Denver, Colo. Thermostat	807,718	Dec. 19	3238	694	119	2053
Brown, Robert S., assignor to New Britain Machine Company, New Britain Conn. Bench-leg	803,873	Nov. 7	673	147	119	145
Brown, Royl A., Ashland, assignor of one-half to G. S. Lucas, Mansfield, Ohio. Buckle	803,546	Nov. 7	34	9	119	10
Brown, Royl A., Ashland, assignor of one-half to G. S. Lucas, Mansfield, Ohio. Buckle	807,013	Dec. 12	1829	400	119	1708
Brown and Sharpe Manufacturing Company. (See Parker, John, assignor.)						
Brown and Sharpe Manufacturing Company. (See Rich, Charles A., assignor.)						
Brown, Theodore H., Northfield, Minn. Building-block	808,431	Dec. 26	4669	1004	119	2410
Brown, Thomas A. (See Thompson and Brown.)						
Brown, Thomas R., New York, N. Y., assignor to American Car & Foundry Company, St. Louis, Mo. Metallic-car construction	803,663	Nov. 7	264	56	119	59
Brown, William B., Labaddie, Mo. Brake appliance	806,237	Dec. 5	285	59	119	1326
Brown, William G., Carlsbad, N. Mex. Ter. Nut-splitter	804,826	Nov. 21	2630	572	119	662
Brown, William H., Chicago, Ill. Dust-guard for railway-cars	805,447	Nov. 28	3882	839	119	972
Brown, William S., New York, N. Y. Coupling for conduits	804,204	Nov. 14	1392	295	119	347
Brown, Wilson E., assignor of one-half to J. W. Brown, Pittsburg, Pa. Knockdown or collapsible box	806,058	Nov. 28	5025	1070–1	119	1219
Brown Wire Gun Company (See Brown, John H., assignor.)						
Brownfield, James G., Fort Worth, Tex. Railway-car	804,205	Nov. 14	1393	296	119	347
Browning, John M., Ogden, Utah. Firearm	808,003	Dec. 19	3784	821–2	119	2174
Brownsville Glass Company. (See Harvey, George H., assignor.) (Reissue.)						
Bruce, William M., Jr., Springfield, assignor of two-thirds to J. S. Brailey, Jr., Wauseon, and C. D. Juvenal, Springfield, Ohio. Selective system for party-line telephones	808,960	Dec. 12	1721	377	119	1684
Brundage, Abram C., Newpaltz, N. Y. Adjustable spirit-level	804,792	Nov. 14	2561	559	119	605
Brunhorn, Hermann H. (See Meyer, Peter, assignor.)						
Brunner, Roy S., and E. E. Smith, Wellston, Ohio. Railway-switch	807,655	Dec. 19	3112	668	119	2027
Brunswick-Balke-Collender Company. (See Riddell, Paris J., assignor.)						
Brush, John T. (See Cox, Henry G., assignor.)						
Brush, Otis B. (See Borton and Brush.)						
Bruton, George, Joliet, Ill. Artificial minnow or trolling-hook	804,206	Nov. 14	1394	296	119	348
Bruun, Johan F. A., Copenhagen, Denmark. Apparatus for utilizing exhaust-steam	805,340	Nov. 21	3669	793	119	854
Bryan, Joseph P., St. Michaels, Md., assignor to Automatic Addressing Company, Wilmington, Del. Addressing attachment for printing-presses	808,191	Dec. 26	4186	902–4	119	2303

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Bryant Electric Company. (See Goodridge, Gilbert W., assignor.)						
Bryant Electric Company. (See Thomas, George B., assignor.)						
Bryant, Ellsworth S., Detroit, Mich. Adjustable standard	805,524	Nov. 28	4028	869-70	119	1004
Bryant, Ellsworth S., and H. J. Bery, Detroit, Mich. Steam-turbine	805,523	Nov. 28	4026	869	119	1004
Bryant, James N., Sparta, assignor of one-half to R. T. Drake, Rock Island, Tenn. Lawn-mower	805,900	Nov. 28	4732	1011-12	119	1155
Bryant, Walter G., Carterville, Mo. Shell and core for crushing-rolls	808,004	Dec. 19	3789	822	119	2175
Bryant, William C. (See Schwarz and Bryant.)						
Bryning, James E. W., Philadelphia, Pa. Gang-saw	806,951	Dec. 12	1722	377	119	1684
Bryon, Edward, Wallington, England. Music-leaf turner	804,302	Nov. 14	1591	343-4	119	388
Bryson, Milton D. (See Patton and Bryson.)						
Buch, Emanuel F., Manheim township, Lancaster county, Pa. Line-guide	806,102	Dec. 5	19	5	119	1269
Buchanan, George P., Allegheny, Pa. Keyboard for stringed instruments	808,510	Dec. 26	4817	1038	119	2444
Buchanan, John J. (See Smith and Buchanan.)						
Buchanan, Leonard B., Woburn, Mass. Rail-bond	807,656	Dec. 19	3113	609	119	2027
Buck, Edwin A. (See Horner and Buck.)						
Buck, George S., assignor of one-half to J. G. Buck, Kalispell, Mont. Gate	803,547	Nov. 7	35	9	119	10
Buck, John G. (See Buck, George S., assignor.)						
Buckeye Engine Company. (See Cope, Edge T., assignor.)						
Buckeye Milling Co. (See Ditty, Ralph, assignor.)						
Buckley, John J., *et al.* (See Maloney, Michael H., assignor.)						
Bucklin, William S., Phalanx, N. J., assignor to National Canning & Manufacturing Company. Spraying device	806,460	Dec. 5	733	164	119	1430
Budge, George S., Auckland, New Zealand. Music-leaf turner	803,548	Nov. 7	37	10	119	10
Buell, Edward A., Dekalb, assignor to Selective Signal & Telephone Manufacturing Co., Sycamore, Ill. Telephony	807,596	Dec. 19	2995	642	119	1999
Buffalo Forge Company. (See Wendt, William F., assignor.)						
Buffalo Gasoline Motor Company. (See Blair, William E., assignor.)						
Buffum, Herbert H., Abington, Mass., assignor to Electric Vehicle Company, Jersey City, N. J., and New York, N. Y. Steering mechanism for automobiles	804,375	Nov. 14	1732	374-5	119	421
Buhoup, Harry C., and G. P. Ritter, Chicago, Ill. Brake-beam	803,874	Nov. 7	674	147	119	145
Bullington, John P. (See Smith, Seaborn A., assignor.)						
Bullivant, William P., and G. M. Selby, London, England. Torpedo-net	804,704	Nov. 14	2369	517	119	560
Bullock, Amasa M., Vancouver, Canada. Swimming device	805,525	Nov. 28	4031	870	119	1005
Bullock, Amasa M., Vancouver, Canada. Swimming appliance	805,526	Nov. 28	4033	871	119	1005
Bunderle, John, Jackson, Minn. Artificial leg	804,207	Nov. 14	1395	296	119	348
Bunker, William H., Lisle, Canada. Manufactured peat	806,868	Dec. 12	1537	.....	119	1644
Bunzl, Ernest, *et al.* (See Kuhn, Edmond, assignor.)						
Bunzl, Gustav, *et al.* (See Kuhn, Edmond, assignor.)						
Burbank, Louis S., Worcester, Mass. Speed-changing mechanism for metal-working machines	807,014	Dec. 12	1830	400-1	119	1708
Burch, Alfred T., Harvard, Ill. Stovepipe-thimble and flue-cap	804,208	Nov. 14	1397	296	119	348
Burchardt, Paul, Kramfors, Sweden. Conveyer	806,103	Dec. 5	21	5	119	1269
Burdge, Franklin P., assignor of one-third to A. E. Hoppes, Muncie, Ind. Cultivator, planter, and roller	806,059	Nov. 28	5027	1071	119	1219
Burdick, Arthur, Brighton, Ind. Door	805,341	Nov. 21	3671	793-4	119	884
Burdsall, Stephen N., Dayton, Ohio. Running-gear for vehicles	808,068	Dec. 26	3907	845	119	2243
Burger, Anton J., Merrill, Wis. Whiffletree-coupling	805,527	Nov. 28	4035	871	119	1006
Burger, Franz, assignor of three-fourths to H. M. Williams, Fort Wayne, Ind. Gas-engine	807,354	Dec. 12	2495	538	119	1850
Burger, Rudolph, New York, N. Y. Ornament	803,875	Nov. 7	677	147	119	146
Burgess, James C., Sullivan, Ind. Shears for cutting metals	804,579	Nov. 14	2132	466	119	508
Burgman, Seth R., Ionia, Wyo. Sheep-shearing machine	807,435	Dec. 19	2679	577	119	1931
Burgoyne, John H., Jr. (See Herden, Fitch, and Burgoyne.)						
Burgy, Louis, St. Imier, Switzerland. Postal-card case	807,719	Dec. 19	3240	695	119	2053
Burke, Edmund, Berlin, N. H. Paper-machine press-roll	808,338	Dec. 26	4495	966	119	2373
Burkhard, Walter R., Bliss, Idaho. Apparatus for utilizing water-power	806,104	Dec. 5	21	6	119	1269
Burks, William E., assignor of one-third to U. S. Prince, Ashland, Ky. Cheese-cutter	803,807	Nov. 7	555	121	119	121
Burley, George H., Tyrone, Pa. Expanding tap	804,928	Nov. 21	2824	609	119	706
Burlingham, Hiram. (See Wood and Burlingham.)						
Burlingham, Lucious D., Warren, Ohio. Curtain and shade hanger	807,015	Dec. 12	1835	401	119	1709
Burnett, Robert L., Hatchers, Ga. Shovel-plow	803,549	Nov. 7	39	10	119	11
Burnham, Cornelius W., Patrick, Miss. Nut-lock	804,580	Nov. 14	2133	466	119	509
Burnham, George A., Willimantic, Conn. Automatic paralleling device for alternating-current generators	806,318	Dec. 5	469	102	119	1370
Burnham, Loron O., Clare, Mich. Tile-making machine	806,633	Dec. 5	1025	228	119	1493
Burns, Cornelius A., and C. E. Raab, Pittsburg, Pa. Compound for hardening iron	806,060	Nov. 28	5028	.....	119	1219
Burns, John J., Gardner, Mass. Metal wheel-hub	808,192	Dec. 26	4193	904	119	2304
Burns, Joseph H., Cleveland, Ohio. Apparatus for spreading dough for the making of pie-crusts	806,869	Dec. 12	1538	338	119	1644
Burns, Joseph H., Cleveland, Ohio. Dough-rolling apparatus	806,870	Dec. 12	1540	339-40	119	1648
Burns, Joseph H., Cleveland, Ohio. Conveyer	807,016	Dec. 12	1837	401	119	1710
Burns, Sidney H., New York, N. Y. Abdominal appliance	807,657	Dec. 19	3115	669	119	2027
Burns, William H., Naperville, Ill. Stove and furnace	804,097	Nov. 7	1139	241	119	250
Burroughs, Buel S., Kingston, N. Y. Window-ventilator	806,105	Dec. 5	23	6	119	1270
Burrowes, Edward T., Portland, Me. Metallic window-screen	804,519	Nov. 14	2008	438	119	482
Burrows Development Company. (See Burrows, Linus P., assignor.)						
Burrows, Linus P., assignor to Burrows Development Company, Washington, D. C. Utilizing exhaust-steam	804,098	Nov. 7	1140	241-2	119	250
Burt, Alonzo L. Milburn, N. J. Apparatus for making game-balls	807,436	Dec. 19	2681	578	119	1931
Burt, Alonzo L., Milburn, N. J. Making game-balls	808,005	Dec. 19	3790	822	119	2175
Burt, Alonzo L., assignor to Burt Company, Milburn, N. J. Making game-balls	807,437	Dec. 19	2682	578	119	1932
Burt, Andrew B., and F. T. Vanatta, San Francisco, Cal. Automatic signal	806,319	Dec. 5	470	103	119	1370
Burt Company. (See Burt, Alonzo L., assignor.)						
Burtness, Olaf T., Sioux City, Iowa. Illuminated bar	804,209	Nov. 14	1398	297	119	348
Busick, Charles W. (See Mowers, Busick, and Stratton.)						
Bussells, Josephus F., Irvington, Va., assignor to American Process Company, New York, N. Y. Continuous screw-press	808,193	Dec. 26	4194	904	119	2305
Buswell, Charles E. (See Parker and Buswell.)						
Butchart, Clarence D. (See Pekrul, Leo P., assignor.)						
Butcher, Jasper, and J. L. Thomas, Gainesville, Tex.; said Thomas assignor of one-third to said Butcher. Guard-rail clamp	806,627	Nov. 28	4217	907	119	1045
Butler, Charles H., Oakland, Cal. Rotary brush for street-sweepers and the like	808,006	Dec. 19	3791	822	119	2175
Butler, Edward, Jr. (See Nolen and Knight, assignors.)						
Butler, James T. (See Felkner and Butler.)						
Butler, James T., and W. G. Felkner, Vineyard, Tex. Cotton-chopper	808,060	Dec. 26	3908	845-6	119	2244
Butler, John W., Shreveport, La. Wrench	806,061	Nov. 28	5029	1071	119	1219

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Dr'g.	Official Gazette. Vol.	Page.
Butler, Norman, Meadowcreek, Mont. Bucket-carrier	805,342	Nov. 21	3672	794	119	885
Butler, Paul, Lowell, Mass. Cartridge-shell-gaging machine	806,461	Dec. 5	734	165	119	1430
Butterfield, John C., London, England. Road-making	808,339	Dec. 26	4495	.....	119	2373
Butterfield, John W., and B. C. Schmitt, Columbus, Ohio. Stereotype plate and base connection	804,210	Nov. 14	1399	297	119	349
Büttner, Heinrich, Langd, near Hungen, Germany. Tree-felling windlass	805,628	Nov. 28	4218	907	119	1045
Buzby, Clarine E., Highland Mills, N. Y. Duplicate-whist apparatus	808,432	Dec. 26	4670	1004	119	2411
Byrd, Wade A., Swifton, Ark. Cotton-picker's sack-carrier	805,708	Nov. 28	4362	937	119	1076
Byrnes, Frank B. (See Jones, Stratford, Byrnes, and Nixon.)						
C. B. Cottrell & Sons Company. (See Cottrell, Charles P., assignor.)						
C. B. Cottrell & Sons Company. (See Cottrell, Edgar H., assignor.)						
Cabot, John W. (See Vaughen and Cabot.)						
Cabot, Samuel, Boston, Mass. Protective sheeting and manufacturing the same	804,376	Nov. 14	1735	.....	119	422
Cadgène, Jacques, Zurich, Switzerland. Machine for dyeing fabrics	808,007	Dec. 19	3792	823	119	2175
Cady, William F., Edgewood, R. I. Adjustable collar-supporter	805,778	Nov. 28	4496	962	119	1102
Cagle, John Z., Upward N. C. Hose-coupling	808,008	Dec. 19	3794	823	119	2175
Cahill, John, Norfolk, Va. Rolling shutter	804,929	Nov. 21	2826	609	119	707
Cairnduff, John A., Syracuse, N. Y. Step registering device	806,952	Dec. 12	1723	378	119	1684
Calder, Colin C., and R. G. Eustace, London, England. Clip	807,151	Dec. 12	2126	456	119	1770
Caldwell, Bert J., and G. L. Hunt, Waterloo, Iowa; said Caldwell assignor, by mesne assignments, to said Hunt. Clothes-line reel	808,009	Dec. 19	3795	823	119	2176
Caldwell, Frank C., Oak Park, Ill. Making spiral conveyer-flights and the like	805,629	Nov. 28	4218	908	119	1045
Caldwell, Harry J., and J. R. Barr, Earlpark, Ind. Apparatus for purifying, conditioning, and drying grain	805,709	Nov. 28	4363	937	119	1076
Caldwell, John. (See Auld, Hugh R., assignor.)						
Caley, Charles J., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock mechanism	806,775	Dec. 12	1352	209	119	1602
Caley, Charles J., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock and latch operating mechanism	806,776	Dec. 12	1353	209	119	1602
Caley, Edward C. (See Baxter and Caley.)						
Calhoun, Adley E., Wellsville, assignor of two-thirds to J. A. and G. Calhoun, Uhrichsville, Ohio. Rail-joint	807,720	Dec. 19	3241	695	119	2053
Calhoun, George, *et al.* (See Calhoun, Adley E., assignor.)						
Calhoun, John A., *et al.* (See Calhoun, Adley E., assignor.)						
Calico Printers' Association, Limited. (See Warr, William, assignor.)						
Call, Oliver C., Springfield, Mass. Knob-lock	807,808	Dec. 19	3418	735	119	2091
Callahan, Lee. (See Hunter and Callahan.)						
Callan, John G., Lynn, Mass., assignor to General Electric Company. Insulating-bushing	805,260	Nov. 21	3518	759	119	852
Callaway, Samuel C., Atlanta, Ga. Type-cleaner for type-writers	806,062	Nov. 28	5030	1072	119	1220
Callender, Monroe N., assignor to J. W. Rooch, San Francisco, Cal. Dental switchboard	804,211	Nov. 14	1400	297	119	349
Callihan, Oscar, *et al.* (See McCollough, Frederick H., assignor.)						
Callow, John M., Salt Lake City, Utah. Submerged-screen sizer and separator	803,550	Nov. 7	41	10–11	119	11
Calvert, Elnathan, Des Moines, Iowa. Fence-post	807,438	Dec. 19	2684	578	119	1932
Calwell, J. L., *et al.* (See Fishburne, Edward W., assignor.)						
Cameron, Herbert G. (See Mackrow and Cameron.)						
Campanari, Ell, New York, N. Y. Car-fender	807,152	Dec. 12	2126	456–7	119	1770
Campbell, Albert D. (See Ammann and Campbell.)						
Campbell, Annie R., Avalon, Pa. Retainer for bedclothes	807,658	Dec. 19	3117	669	119	2028
Campbell, Argyle, Chicago, Ill. Mechanism for operating car-floor doors	803,876	Nov. 7	678	148	119	146
Campbell, Benjamin F., and J. E. Coates, Little Rock, Ark. Lubricating device	804,377	Nov. 14	1737	375	119	422
Campbell, Charles A., assignor of one-half to J. Reagan, Philadelphia, Pa. Horseshoe	803,985	Nov. 7	910	191	119	195
Campbell, Clifford J., and T. F. Hall, New York, N. Y. System of storing and delivering liquid fuel	806,634	Dec. 5	1028	228	119	1493
Campbell, Daniel J., New York, N. Y., assignor to American Tobacco Company, Newark, N. J. Pasting apparatus for cigarette-machines	803,986	Nov. 7	911	191	119	195
Campbell, Frank, Carloover, Va. Toy pistol	806,063	Nov. 28	5031	1072	119	1220
Campbell, George W., New York, N. Y. Antifriction-bearing	805,839	Nov. 28	4598	985	119	1122
Campbell, Henry F., deceased, Melrose, Mass.; J. L. Campbell, executrix. Magnetic separator for ores	805,448	Nov. 28	3883	839–41	119	972
Campbell, James, assignor to J. A. Chambers, trustee, Pittsburg, Pa. Severing drawn-glass cylinders	805,943	Nov. 28	4817	1028	119	1174
Campbell, James W., Germantown, N. Y. Case for phonograph-records	806,320	Dec. 5	471	103	119	1371
Campbell, Jeannette L., executrix. (See Campbell, Henry F.)						
Campbell, John, Chicago, Ill. Tanning process	804,450	Nov. 14	1870	.....	119	449
Campbell, Malcolm, Boston, Mass. Spinning-machine	803,551	Nov. 7	44	11–13	119	11
Campbell, Malcolm, Boston, Mass. Spinning-machine	803,664	Nov. 7	265	56	119	60
Campbell, Malcolm, Boston, Mass. Spinning or twisting machine	803,665	Nov. 7	266	56–7	119	60
Campbell, Malcolm, Boston, Mass. Flier for roving-machines	803,666	Nov. 7	268	57	119	60
Campbell, Milton T., assignor of one-half to J. C. Ertel, Indianapolis, Ind. Electric time-switch	807,017	Dec. 12	1839	402	119	1710
Campbell Printing Press and Manufacturing Company. (See Wood, Henry A. W., assignor.)						
Campbell, Stewart L., Kalamazoo, Mich. Pitting-machine	807,416	Dec. 12	2615	564	119	1877
Campbell, Thomas A., Eureka, Cal. Clothes-drier	805,779	Nov. 28	4497	963	119	1102
Campbell, William E., Detroit, Mich. Grain-riddle	807,355	Dec. 12	2497	538	119	1851
Canfield, Albert B. (See Hopkins and Canfield.)						
Canne, Henry L., Dingman township, Pike county, Pa. Metallic overshoe for vehicle-wheels	806,520	Dec. 5	839	184–5	119	1453
Cantono, Eugenio, Rome, Italy. Vehicle-wheel	805,528	Nov. 28	4036	871	119	1006
Cantono, Eugenio, Rome, Italy, assignor to G. Mazzacorati, E. de Reszke, and P. M. Herzog, New York, N. Y. Electromechanical device for electric traction. (Reissue)	12,419	Dec. 12	2643	571	119	1885
Caplan, August. (See Hocq, Edouard, assignor.)						
Caps, John E., Kansas City, Mo., and G. H. Vining, Vinington, Ark., assignors to Vining's News Bureau, Kansas City, Mo. Stereotype-plate-casting apparatus	808,070	Dec. 26	3911	846	119	2244
Carbonari, Raffaele, San Francisco, Cal. Accordion	807,018	Dec. 12	1841	402	119	1711
Cardwell, James R., Chicago, Ill. Car-truck	807,439	Dec. 19	2685	578–9	119	1932
Cardwell, James R., Chicago, Ill. Wire mattress	808,340	Dec. 26	4496	966	119	2373
Carey, John H., deceased, Hartford, Conn.; M. A. Carey, administratrix. Horseshoe	805,410	Nov. 21	3796	821	119	911
Carey, Mary A., administratrix. (See Carey, John H.)						
Carichoff, Eugene R., East Orange, N. J., assignor to General Electric Company. Motor-control system	806,635	Dec. 5	1030	228–9	119	1494
Carlaw, Alexander L. (See Carlaw, David, Sr., D., Jr., A. L., and J. W.)						
Carlaw, David, Sr., D., Jr., A. L., and J. W., Glasgow, Scotland. Printing and numbering machine	804,303	Nov. 14	1592	344–5	119	389
Carlaw, James W. (See Carlaw, David, Sr., D., Jr., A. L., and J. W.)						
Carlin, William J., Boston, Mass. Fuel-burning apparatus	806,393	Dec. 5	599	132	119	1400

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Carlson, Alfred, assignor of one-half to L. L. Gervais, Chicago, Ill. Joist-hanger	804,451	Nov. 14	1871	406	119	449
Carlson, Andrew S., Clearfield, Pa. Card and photograph holder	803,552	Nov. 7	49	13	119	12
Carlson, Gabriel, Springfield, Mass. Paste-molding machine	807,107	Dec. 12	3040	439	119	1753
Carlson, Ole, Dekalb, Ill. Corner shield or protector	803,741	Nov. 7	441	95	119	99
Carlson, Sven, Stockholm, Sweden. Petroleum-burner	803,553	Nov. 7	50	13	119	12
Carlstedt, Ragnar, Jersey City, N. J. Electromagnetic vibrator	806,636	Dec. 5	1037	229	119	1495
Carmichael, Stephen D., Tama, Iowa. Combination bed and carriage for children	804,581	Nov. 14	2134	467	119	509
Carmody, Bartholomew A., St. Louis, Mo. Rotary engine	805,840	Nov. 28	4599	985–6	119	1122
Carnahan, Charles T. (See Murphy, Jeremiah, assignor.)						
Carnahan, Cyrus M., Sandylake, assignor to Fidelity Title and Trust Company, trustee, Pittsburg, Pa. Laying-off and spacing machine for structural steel	807,540	Dec. 19	2868	617	119	1971
Caron, Fortuna. (See Evans and Caron.)						
Carothers, Frank S., Jersey Shore, Pa. Double-acting sprayer	808,194	Dec. 26	4196	905	119	2305
Carpenter, Charles E., New York, N. Y., assignor to Cutler-Hammer Mfg. Co., Milwaukee, Wis. Magnetic blow-out switch	806,733	Dec. 5	1238	276	119	1537
Carpenter, Charles E., New York, N. Y., assignor to Cutler-Hammer Mfg. Co., Milwaukee, Wis. Apparatus for stopping electric motors	806,734	Dec. 5	1240	276	119	1538
Carpenter, Charles E., New York, N. Y., assignor to Cutler-Hammer Mfg. Co., Milwaukee, Wis. Electric controlling and reversing switch	806,735	Dec. 5	1242	277	119	1538
Carpenter, George T., Chicago, Ill. Respirator	807,597	Dec. 19	3000	643	119	2000
Carret, James R. (See Quarmby, George, assignor.)						
Carroll, Albert R., Joliet, Ill. Hinge	808,138	Dec. 26	4073	877	119	2279
Carroll, Francis C., Peoria, Ill. Barb-wire	804,930	Nov. 21	2829	610	119	707
Carroll, Phil F. (See Streich, Frank, assignor.)						
Carry, Joseph C., Chicago, Ill. Combined car drain and trap	808,010	Dec. 19	3797	823	119	2176
Carson, John S. (See McGuire, James, assignor.)						
Carson, Roy, Pasadena, Cal. Jointer-gage	805,841	Nov. 28	4600	986	119	1122
Carstensen, Ness E., Cedarbluffs, Nebr. Pincers	807,240	Dec. 12	2283	493	119	1805
Carter Automatic Sheet Feeder Syndicate. (See Carter, William, assignor.)						
Carter, Clarendon B. (See Coffman and Carter.)						
Carter, John, Sparkbrook, assignor to Webley and Scott Revolver and Arms Company Limited, Birmingham, England. Double-barreled small-arm	807,241	Dec. 12	2284	493	119	1806
Carter, Martin J., St. Louis, Mo. Fastener for window-sashes	803,742	Nov. 7	442	95	119	99
Carter, Richard F., Niagara Falls, Canada. Acetylene-generator	807,598	Dec. 19	3001	643	119	2000
Carter, Robert A., Pittsburg, Pa. Chain	803,987	Nov. 7	914	192	119	196
Carter, Robert A., Pittsburg, Pa. Bending-machine	803,988	Nov. 7	915	192–3	119	196
Carter, William, Louisville, Ky. Fishing-reel	806,064	Nov. 28	5034	1072	119	1220
Carter, William, Glasgow, Scotland, assignor to Carter Automatic Sheet Feeder Syndicate Limited, London, England. Sheet-feeding machine	807,059	Dec. 12	1941	419–20	119	1733
Cartledge, Wright R., assignor to W. F. Ware, Philadelphia, Pa. Abdominal supporter or bandage	808,433	Dec. 26	4671	1004	119	2411
Carver, Albert N. (See Furbeck and Carver.)						
Carver, Thomas A. B., Glasgow, Scotland. Let-off mechanism for looms	807,721	Dec. 19	3242	695	119	2054
Cary, Charles R. (See Cary, William R and C. R.)						
Cary, Samuel F., Mount Vernon, Ohio. Pantaloons-stretcher	803,808	Nov. 7	557	122	119	121
Cary, William R., Milwaukee, Wis. Change-speed gearing	804,212	Nov. 14	1402	297–8	119	349
Cary, William R. and C. R., assignors of one-third to H. M. Pantier, Anthony, Kans. Brick-tongs	805,780	Nov. 28	4496	963	119	1102
Case, Charles A., Trenton, N. J. Carriage for track-cables	806,637	Dec. 5	1039	230	119	1495
Case, Frank E., Schenectady, N. Y., assignor to General Electric Company. Signal for sectional conductors	806,638	Dec. 5	1041	230	119	1496
Case, Frank E., Schenectady, N. Y., assignor to General Electric Company. Adjustable controller-finger	806,639	Dec. 5	1042	230	119	1496
Case, Frank E., Schenectady, N. Y., assignor to General Electric Company. Emergency control system	808,271	Dec. 26	4351	935	119	2341
Case, Henry J., Owasco, N. Y., assignor to International Harvester Company. Speed-changing mechanism for grain-drills	803,554	Nov. 7	51	13	119	12
Case, Sanford D., Brooklyn, N. Y. Sash-holder	806,106	Dec. 5	26	6	119	1270
Case, Theodore N., Mount Vernon, N. Y. Air-pump	805,630	Nov. 28	4220	908	119	1045
Casein Company of America. (See Church, Herbert H., assignor.)						
Casey, George A. (See Short and Casey.)						
Caskey, Samuel S., Philadelphia, Pa. Coupling	807,417	Dec. 12	2621	564	119	1880
Cass, James F., Seattle, Wash. Spraying device	804,378	Nov. 14	1739	375	119	423
Cassard, Hamilton. (See Miller, Andrew E., assignor.)						
Cassel, Gunnar E., Stockholm, Sweden. Apparatus for electrolytical decomposition	804,931	Nov. 21	2830	610	119	707
Cassella Color Company. (See Kalischer, Georg, assignor.)						
Cassella Color Company. (See Klingemann and Kalischer, assignors.)						
Caswell, William A., Chicago, Ill. Car	806,394	Dec. 5	601	132–3	119	1401
Caterson, Clarington W., Franklin Forks, Pa. Armored tire	803,989	Nov. 7	918	193	119	197
Catlett, Jasper L., Vincennes, Ind. Railway-tie	805,261	Nov. 21	3519	759–60	119	852
Cattlow, Edward, Philadelphia, Pa. Pile fabric	803,990	Nov. 7	919	193	119	197
Causey, Joseph L., Kansas City, Mo., assignor to North American Biscuit Company, Jersey City, N. J. Conveyer	803,667	Nov. 7	271	57–9	119	61
Cavanagh, Raymond, St. Paul, Minn. Box	807,418	Dec. 12	2623	565	119	1880
Cave, Sallie E., assignor of one-half to S. D. Cave, St. Louis, Mo. Urinary receptacle	807,599	Dec. 19	3003	643	119	2001
Cave, Singleton D. (See Cave, Sallie E., assignor.)						
Cawley, Eleazer D. (See Lytle and Cawley.)						
Cedergren, Henrik T., Stockholm, Sweden. Telephone-exchange system	805,901	Nov. 28	4734	1012	119	1155
Cell, John F., Chambersburg, Pa. Tongue-support	808,071	Dec. 26	3913	847	119	2245
Central Scientific Company. (See McConnell, Alexander H., assignor.)						
Century-Auto Power Company. (See Miner, Robert J., assignor.)						
Cereal Machinery and Production Company. (See Wegner and Bourdeau, assignors.)						
Chain, Charles C., Bushnell, Ill. Check-book	805,002	Nov. 21	2978	646	119	740
Chalmers, Harvey, assignor to H. Chalmers & Son, Amsterdam, N. Y. Button-working machine. (Reissue)	12,400	Nov. 7	1354	288–9	119	209
Chalmers & Son, Harvey. (See Chalmers, Harvey, assignor.) (Reissue.)						
Chaloner, Thomas T., and G. H. Chipchase, New York, N. Y. Blanket-protecting device	803,991	Nov. 7	922	193	119	197
Chamberlain, Charles S., Emeryville, Cal. Dish-washing machine	805,118	Nov. 21	3222	699	119	790
Chamberlin Cartridge & Target Company. (See Leggett, Joseph P., assignor.)						
Chambers Brothers Company. (See King, Howard K., assignor.)						
Chambers, Henry C., assignor to Superior Tool & Supply Co., Cincinnati, Ohio. Mixing-machine	803,555	Nov. 7	53	14	119	13
Chambers, James A., trustee. (See Campbell, James, assignor.)						
Champ, Joseph H., Cleveland, Ohio. Implement for imparting vibratory impacts	803,877	Nov. 7	681	149	119	146
Chance, William J., Dawson, Canada. Propelling mechanism	807,242	Dec. 12	2288	493	119	1806

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Chandler, Bartlett B. (See Hall and Chandler.)						
Chapin, Charles O., Lombard, assignor to Chapin Manufacturing Company, Chicago, Ill. Card and merchandise holder	803,878	Nov. 7	582	149	119	147
Chapin Manufacturing Company. (See Chapin, Charles O., assignor.)						
Chapin, Ralph E., Batavia, N. Y. Self-closing hose cock or valve	807,243	Dec. 12	2289	494	119	1806
Chaplin, Manley J., Seattle, Wash. Tap for beer-barrels	808,195	Dec. 26	4198	905	119	2306
Chaplin, Manley J., assignor of one-half to E. Kaufmann, St. Louis, Mo. Beer-tap	808,341	Dec. 26	4498	966	119	2374
Chaplin, Orril R., assignor of one-half to R. W. Howard, Boston, Mass. Carpet-sweeper	804,213	Nov. 14	1404	298–9	119	350
Chapman, Charles L., Berlin, N. D. Clamp	805,631	Nov. 28	4224	908	119	1046
Chapman, Frank M., Fort Edward, assignor of one-third to W. J. Gallagher, Sandyhill, N. Y. Pulp-screen	806,640	Dec. 5	1044	231	119	1497
Chapman, Frank M., Fort Edward, assignor of three-fourths to W. J. Gallagher, Sandyhill, N. Y. Pulp-screen	806,641	Dec. 5	1046	231	119	1497
Chard, Nicholas D., and W. Lodge, assignors to Lodge & Shipley Machine Tool Company, Cincinnati, Ohio. Gage device for lathes	804,793	Nov. 14	2562	559	119	605
Charles E. McManus Company. (See McManus, Charles E., assignor.)						
Charter, James A., assignor to Fairbanks, Morse & Company, Chicago, Ill. Power-driving mechanism	803,556	Nov. 7	55	14	119	13
Chase, Arthur H. (See Wilson and Chase.)						
Chase, Arthur W., Avoca, Iowa, assignor to Chase Furnace Company, Philadelphia, Pa. Roasting-furnace	804,379	Nov. 14	1740	376	119	423
Chase Furnace Company. (See Chase, Arthur W., assignor.)						
Chase, Joseph E., and J. S. McCreary, Canal Dover, Ohio. Delivering device	804,582	Nov. 14	2136	467	119	509
Chase, Rolla M., Bethel, Vt. Approximal-matrix former	804,099	Nov. 7	1142	242	119	251
Chase-Shawmut Company. (See Stuart, William G., assignor.)						
Chasse Manufacturing Company. (See Chasse, Raphael, assignor.)						
Chasse, Raphael, assignor to Chasse Manufacturing Company, Middletown, N. Y. Animal-trap	806,642	Dec. 5	1049	232	119	1498
Chatfield, George L., Chicago, Ill. Railway bumping-post	804,452	Nov. 14	1872	406	119	450
Chatfield, George L., Indianapolis, Ind. Screw conveyer	806,643	Dec. 5	1050	232	119	1498
Chemicals Proprietary Company. (See Wolterеck, Herman C., assignor.)						
Chemische Fabrik Bettenhausen Marquart & Schulz. (See Schenck and Marquart, assignors.)						
Chemische Fabrik von Heyden Aktiengesellschaft. (See Seifert, Bruno R., assignor.)						
Cheney, Enos R. (See Shelton, Manning, and Cheney.)						
Cheney, Thomas J., Lodi, Ohio. Churn	805,710	Nov. 28	4367	937	119	1077
Cherry, David B., Knoxville, assignor to Louden Machinery Company, Fairfield, Iowa. Manure-carrier	805,842	Nov. 28	4602	986	119	1122
Cherry, John, Nobleton, Canada. Device for controlling horses	808,011	Dec. 19	3798	824	119	2177
Cherry, John T., and E. H. Clive, Plymouth, England. Electric-trolley head	808,139	Dec. 26	4075	877	119	2279
Chesbro, John Oneonta, N. Y. Lawn-mower sharpener	808,434	Dec. 26	4673	1004–5	119	2411
Chicago Pneumatic Tool Company. (See Griner, Harry B., assignor.)						
Chicago Pneumatic Tool Company. (See Keller, William H., assignor.)						
Chicago Pneumatic Tool Company. (See Tynan and Mostiller, assignors.)						
Chicago Railway Equipment Company. (See Robischung, Henry B., assignor.)						
Children, Frank R., assignor to E. Children's Sons Manufacturing Company, Council Bluffs, Iowa. Hay-rake	808,140	Dec. 26	4077	878	119	2280
Childs, Clarence N., assignor of one-half to O. H. Moulton, Lowell, Mass. Winder	806,065	Nov. 28	5037	1072	119	1221
Childs, Jesse, Hites, Pa. Clothes-fastener	806,521	Dec. 5	840	185	119	1453
Chiles, James A., *et al.* (See Forman, Sanford B., assignor.)						
Chipchase, George H. (See Chaloner and Chipchase.)						
Choquette, Alphonse E. (See Codére and Choquette.)						
Christensen, Christ, assignor, by mesne assignments, to Columbia Voting Machine Company, Indianapolis, Ind. Voting-machine	806,736	Dec. 5	1244	277–8	119	1539
Christensen, Niels A., Milwaukee, Wis. Automatic controller for electrically-actuated compressors	806,462	Dec. 5	741	165–6	119	1431
Christian Feigenspan. (See Pfeil, Frank P., assignor.)						
Christin, John F., Chicago, Ill. Filling device for glasses	803,879	Nov. 7	683	149	119	147
Christman, Edward, Louisville, Ky., assignor to American Seeding Machine Company, Jersey City, N. J. Disk furrow-opener	805,262	Nov. 21	3525	760	119	855
Chriswell, Frederick W., New York, N. Y., assignor to American Car & Foundry Company, St. Louis, Mo. Railway-car	808,342	Dec. 26	4501	967	119	2374
Chronic, Clarance, Wheeler, Ill. Explosive projectile	804,380	Nov. 14	1742	376	119	424
Chubb, Harry R., Greenwich, England. Reservoir attachment for pens	808,272	Dec. 26	4354	936	119	2341
Church, Herbert H., Bellows Falls, Vt., assignor to Casein Company of America. Preparing calcimine compositions	805,712	Nov. 28	4372	.....	119	1078
Church, Walter A., Binghamton, N. Y., assignor to Bristol Brass & Clock Company, Bristol, Conn. Combined socket and rosette	806,107	Dec. 5	28	6	119	1271
Churchward, Alexander, New York, N. Y., assignor to General Electric Company. Time-limit device for controllers	805,263	Nov. 21	3526	760	119	855
Cimmery, Edvordo A., and N. W. Mottinger, Manistee, Mich. Mold	806,066	Nov. 28	5040	1073	119	1221
Cincinnati Butchers Supply Co. (See Pflum, Joseph F., assignor.)						
Cincinnati Machine Tool Company. (See Schauer, Sherman C., assignor.)						
Cincinnati Shaper Company. (See Anderson, Larz W., assignor.)						
Cincinnati Shaper Company. (See March, Perrin G., assignor.)						
Cincinnati Shaper Company. (See Steen, James C., assignor.)						
Claflin, Alan A., Littleton, Mass. Lactic mordant	807,019	Dec. 12	1844	.....	119	1712
Clamond, Charles, Paris, France. Gas-stove	807,244	Dec. 12	2290	494	119	1807
Clamond, Charles, Paris, France. Burning gas to develop radiant heat	807,245	Dec. 12	2294	495	119	1807
Clamond, Charles, Paris, France. Gas-stove	807,246	Dec. 12	2297	495	119	1807
Clancy, John C., New York, N. Y. Air-ship and propeller therefor	804,583	Nov. 14	2138	467–8	119	509
Clarion Chemical Company. (See Morse, George W., assignor.)						
Clark Automatic Telephone Switch-Board Company. (See Van Wagenen, Anthony, assignor.)						
Clark, Charles A., Hartford, and E. A. La Har, New Britain, assignors, by mesne assignments, to Perkins Corporation, Hartford, Conn. Snap-switch contact mechanism	804,381	Nov. 14	1743	377	119	424
Clark, Charles M., South Orange, N. J. Controlling means for electric motors	806,777	Dec. 12	1354	299	119	1602
Clark, Charles T., assignor of two-thirds to G. A. Karper, Canton, and R. Farren, Cleveland Ohio. Portable heater	806,395	Dec. 5	608	133	119	1402
Clark, Charles W., assignor of three-tenths to G. Saxon, Chama, N. Mex. Ter. Track-rail and rail-joint connection	805,902	Nov. 28	4735	1013	119	1156
Clark, Daniel J., assignor to H. Eldridge and J. C. Young, Jersey City, N. J. Incandescent mantle	807,060	Dec. 12	1945	421	119	1734
Clark, Daniel J., assignor to H. Eldridge and J. C. Young, Jersey City, N. J. Mantle-hanger	807,061	Dec. 12	1946	421	119	1734

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Clark, David P., assignor to D. P. Clark and Company, Dayton, Ohio. Wheel for toy vehicles	806,872	Dec. 12	1559	341	119	1649
Clark, Edward S., Boston, Mass. Controlling apparatus	805,944	Nov. 28	4818	1028	119	1175
Clark, Edward S., Boston, Mass. Motor-propelled vehicle	807,419	Dec. 12	2625	565–6	119	1881
Clark, Francis L., assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Automatic pressure-reducing valve	806,108	Dec. 5	30	7	119	1271
Clark, Frank, *et al.* (See Brown, Havilah G., assignor.)						
Clark, Franklin B., Washington, D. C., assignor to American Loading and Unloading Machine Co., (Inc.) Apparatus for loading and unloading ships	805,711	Nov. 28	4369	938	119	1078
Clark George W. and H. T., New York, N. Y. Cutter-head for woodworking-machines	804,705	Nov. 14	2370	517	119	560
Clark, Harry T. (See Clark, George W. and H. T.)						
Clark, Hugh E., Rochester, N. Y. Emergency exit-door lock	805,411	Nov. 21	3797	821	119	911
Clark, Hugh S., Onehunga, assignor of one-half to R. Logan, Jr., Devonport, New Zealand. Position-finder	807,153	Dec. 12	2127	457	119	1771
Clark, James W., assignor to C. C. MacLean, Janesville, Wis. Cash-carrier apparatus	804,214	Nov. 14	1407	299	119	350
Clark, John L., Rockford, Ill. Flue-stopper	805,343	Nov. 21	3673	794	119	885
Clark, John L., Bangor, Me. Plaque-holder	806,321	Dec. 5	472	103–4	119	1371
Clark, Thomas E., assignor to Thos. E. Clark Wireless Telegraph-Telephone Co., Detroit, Mich. System for wireless telegraphy	805,412	Nov. 21	3798	821	119	912
Clark, Walter F., St. Louis, Mo. Combined cane and tripod	806,522	Dec. 5	841	185	119	1453
Clark, William L., and J. L. Terry, Vale, Md. Tomato-scalder	805,632	Nov. 28	4225	909	119	1046
Clarke, Alvin F., Edwardsville, Ill. Potato-harvester	806,871	Dec. 12	1556	340–1	119	1649
Clary, Edwin P., Dilley, Tex. Float-valve	805,003	Nov. 21	2979	646	119	740
Claudel, Charles H., Argenteuil, assignor to Compagnie du Carburateur Claudel, Paris, France. Generating gas	803,557	Nov. 7	55	14	119	14
Clausen, James. (See Risse and Sobinski, assignors.)						
Clawson, Clement C., Flagtown, N. J. Coin-controlled apparatus	807,722	Dec. 19	3244	695–7	119	2054
Clayton, Ernest S., Newark, N. J. Automatic sprinkler-head	807,247	Dec. 12	2300	496	119	1808
Clayton, Ernest S., Newark, N. J. Locked sprinkler-strut	807,248	Dec. 12	2301	496	119	1808
Cleary, Edward, assignor to Connecticut Web Company, Bridgeport, Conn. Hose-supporter clasp	807,356	Dec. 12	2498	539	119	1851
Cleary, Timothy, Schuylerville, assignor to Standard Wall Paper Company, Sandyhill, N. Y. Machine for producing plush effects on wall-coverings	807,154	Dec. 12	2129	457	119	1771
Cleary, Timothy, Schuylerville, assignor to Standard Wall Paper Company, Sandyhill, N. Y. Wall-covering	807,155	Dec. 12	2131	458	119	1772
Cleary, Timothy, Schuylerville, assignor to Standard Wall Paper Company, Sandyhill, N. Y. Manufacture of wall-coverings	807,357	Dec. 12	2500	539	119	1851
Cleland, Andrew V., Minneapolis, Minn. Fanning-mill	803,558	Nov. 7	56	14–15	119	14
Clemens, Frank I. (See McMillen, Robert, assignor.)						
Clement, Horace. (See Adams and Clement.)						
Clement, John F., Philadelphia, Pa. Pneumatic tool	805,633	Nov. 28	4226	909	119	1047
Clement, Thomas H., Jr., Port Lavaca, Tex. Packing-case	806,523	Dec. 5	843	185	119	1454
Clemons, De Laski T., Hornellsville, N. Y. Hand sanding-machine	807,809	Dec. 19	3419	735	119	2092
Clendenon, William H., Healdsburg, Cal. Clamp	803,668	Nov. 7	274	59	119	62
Cleveland, John W., Paragould, Ark. Furrow-opener	805,264	Nov. 21	3528	761	119	856
Cleveland, William K., St. Petersburg, Fla. Steering mechanism	807,156	Dec. 12	2132	458	119	1772
Clewer, John H., Kansas City, Mo. Reversing-valve for furnaces	806,778	Dec. 12	1357	300	119	1603
Cliff, George H., assignor to H. G. Cliff, Dundas, Canada. Acetylene-gas generator	804,215	Nov. 14	1410	299	119	351
Cliff, Harry G. (See Cliff, George H., assignor.)						
Clifford, Thomas G., Hoboken, N. J., assignor of two-thirds to G. F. Rose, New York, N. Y., and W. Cranstoun, Summit, N. J. Non-refillable bottle	803,992	Nov. 7	922	194	119	197
Clifford, William. (See Hayes and Clifford.)						
Clifford, William P., Iconium, assignor of one-half to W. W. Rankin, Ottumwa, one-sixth to A. B. Clinton and one-sixth to J. C. Cook, Russell, Iowa. Ore separating and concentrating machine	807,650	Dec. 19	3118	670	119	2028
Clift, George A. L., assignor to Robinson Brothers, Limited, West Bromwich, England. Dissolving and recovering rubber	805,903	Nov. 28	4736	.....	119	1156
Clifton, John W., Junction, Ark. Combined planter and cultivating implement	804,382	Nov. 14	1744	377	119	424
Climax Bearing Company. (See Hopkins, James M., assignor.) (Reissue.)						
Clinton, Albert B., *et al.* (See Clifford, William P., assignor.)						
Clipper Plow Company. (See Klenk, Gottlieb, assignor.)						
Clisbee, Clarence E. (See Martin, Morris, assignor.)						
Clive, Edward H. (See Cherry and Clive.)						
Close, Fred J. (See McConnell, William E., assignor.)						
Cloud, John W., London, England. Elastic-fluid turbine	808,343	Dec. 26	4502	967–8	119	2375
Clouser, Joseph K., Jr., Philadelphia, Pa. Game apparatus or puzzle	807,600	Dec. 19	3004	644	119	2001
Clunies, Arthur B., assignor to Sill Stove Works, Rochester, N. Y. Grate	806,396	Dec. 5	609	134	119	1403
Clutter, Joseph F., Omaha, Nebr. Combined dividers and compasses	807,660	Dec. 19	3123	671	119	2029
Coad, William T. (See Osburn and Coad.)						
Coan, Patrick J., Lawrence, Mass. Cloth-holder	804,794	Nov. 14	2564	559	119	605
Coates, John E. (See Campbell and Coates.)						
Cobb, Robert H., Rat Portage, Canada. Telltale	805,713	Nov. 28	4373	938	119	1078
Cobbaert, Louis, Ninove, Belgium. Match-making machine	804,383	Nov. 14	1746	377–8	119	424
Cochran, Alden C., Pittsburg, Pa. Drafting instrument	808,511	Dec. 26	4820	1039	119	2444
Cocks, Walter H., Ealing, England. Brake for cycles	804,216	Nov. 14	1413	301	119	351
Coddington, George D. C., Heno, Ohio, assignor to Ball Brothers Glass Manufacturing Company, Muncie, Ind. Feed mechanism for machines for coating sealing-rings with wax	804,100	Nov. 7	1143	242	119	251
Codére, Louis A., and A. E. Choquette, Sherbrooke, Canada. Electric signaling apparatus	806,953	Dec. 12	1725	378–9	119	1685
Coe, James R., Ansonia, Conn. Spinning-ring	807,601	Dec. 19	3005	644	119	2001
Coes, Loring, Worcester, Mass. Continuous milling-machine	804,706	Nov. 14	2374	518	119	561
Coes, Loring, Worcester, Mass. Continuous milling-machine	804,707	Nov. 14	2377	519	119	562
Coes Wrench Company. (See Searle, Edward, assignor.)						
Coffeyville Implement and Manufacturing Company. (See Winters, Edward B., assignor.)						
Coffield, Peter T., Chicago, Ill. Water-motor	806,779	Dec. 12	1358	300	119	1603
Coffman, Homer A., and C. B. Carter, Keota, Iowa. Portable hoisting apparatus	808,196	Dec. 26	4199	905	119	2306
Coggin, Frank F., assignor to Economy Car Heating Company, New York, N. Y. Signaling device	808,435	Dec. 26	4674	1005	119	2411
Cohen, Baned, New York, N. Y. Cigarette-machine	803,993	Nov. 7	923	194–5	119	197
Cohn, Herrmann. (See Rouse and Cohn.)						
Coker, David H., Piedmont, Ala. Electrical signaling mechanism	806,067	Nov. 28	5042	1073	119	1222
Colahan, Mary H., Chicago, Ill. Solvent to be used in effecting the incipient subdivision and decomposition of the semi-ligneous cambium layer and epidermis of bast fibers	806,954	Dec. 12	1728	.....	119	1685
Colburn, Hebden, Menston, near Leeds, England. Wool-combing machine	805,781	Nov. 28	4500	963–4	119	1103

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Colburn, Irving W., Franklin, Pa. Glass-drawing apparatus and process	805,053	Nov. 21	3078	667–8	119	761
Colburn, Irving W., Franklin, Pa. Glass-working apparatus	805,054	Nov. 21	3084	668–9	119	762
Colburn, Irving W., Franklin, Pa. Glass-drawing apparatus	805,055	Nov. 21	3090	670	119	763
Colburn, Irving W., and C. W. Irwin, Franklin, Pa.; said Irwin assignor to said Colburn. Process and apparatus for drawing glass	805,056	Nov. 21	3097	671	119	764
Colby, William M., Parma, assignor of one-half to J. T. Hammond, Jackson, Mich. Railway-tie	807,723	Dec. 19	3249	697	119	2055
Coldren, William P., Lebanon, Pa. Fruit-jar cap	803,743	Nov. 7	444	96	119	100
Cole, Edward S., Upper Montclair, N. J. Device for use in connection with velocity-meters	803,880	Nov. 7	686	149	119	147
Cole, Frank B., Newman, Ga. Still	804,708	Nov. 14	2380	519	119	563
Cole, George W., Buffalo, N. Y. Lubricating-pump	804,394	Nov. 14	1749	378	119	425
Cole, Jesse W., Tipton, Mo. Horseshoe	808,436	Dec. 26	4676	1005	119	2412
Cole, Jonah R., New York, assignor of one-fourth to A. Moebus, New Rochelle, N. Y. Egg-testing compartment-box	808,012	Dec. 19	3799	824	119	2177
Coleman, Clarence W., Westfield, N. J., assignor to Hall Signal Company. Signal apparatus	806,238	Dec. 5	286	60–1	119	1326
Coleman, George D., Boston, Mass. Making lead hydrate	808,141	Dec. 26	4078	878	119	2280
Coleman, John P., Edgewood, assignor to Union Switch and Signal Company, Swissvale, Pa. Drill	805,449	Nov. 28	3888	841	119	973
Collier, Frank P., Wilmette, Ill. Brake-shoe	806,239	Dec. 5	292	61	119	1328
Collier, Frank P., Wilmette, Ill. Brake-shoe	806,240	Dec. 5	292	61	119	1328
Collier, John V., Northampton, England. Machine for compressing heels of boots and shoes	803,744	Nov. 7	444	96–97	119	100
Collins, Charles E. (See Johnson and Collins.)						
Collins, Charles E. (See Williamson and Collins.)						
Collins, Daniel, Mount Vernon, N. Y. Chimney cowl and ventilator	805,344	Nov. 21	3674	795	119	885
Collins, Seth O., Roxbury, Ohio. Washing-machine	804,453	Nov. 14	1873	406–7	119	450
Colman, James M., Everett, Wash. Boiler	806,524	Dec. 5	845	186	119	1454
Colorado Iron Works Company. (See Fitts, Norman V., assignor.)						
Colquhoun, John A., Calcutta, India. Key for keying railway-rails to chairs	804,217	Nov. 14	1414	301–2	119	351
Colthar, William U., Springfield, Ohio. Cutting implement	804,520	Nov. 14	2011	438	119	483
Coltrin, Robert B., Jackson Mich. Cement-mold	807,062	Dec. 12	1947	421	119	1735
Columbia Engineering Works. (See Opsal, Andrew, assignor.)						
Columbia Machine Works and Malleable Iron Company. (See Remelius, Charles, assignor.)						
Columbia Typewriter Manufacturing Company. (See Spiro, Charles, assignor.)						
Columbia Voting Machine Company. (See Christensen, Christ, assignor.)						
Colvin, George H., Brookston, Ind. Railway-switch	805,413	Nov. 21	3801	822	119	912
Colvin, Howard M., assignor of one-half to L. Westfall, Alva, Okla. Ter. Type-writer-ribbon spool	805,634	Nov. 28	4227	909	119	1047
Combest, William C., Paulding, Miss. Pea-hulling machine	803,809	Nov. 7	559	122	119	121
Combs, Arthur L. (See Gilreath, James G., assignor.)						
Comer Automatic Switch Co. (See Comer, Joseph M., assignor.)						
Comer, Joseph M., assignor to Comer Automatic Switch Co., Seattle, Wash. Automatic switch	808,231	Dec. 26	4270	918–19	119	2323
Compagnie du Carburateur Claudel. (See Claudel, Charles H., assignor.)						
Compagnie Internationale de Freinage (Systeme Luyers) Société Anonyme. (See Luyers, Charles, assignor.)						
Compagnie pour la Fabrication des Compteurs & Matériel d'Usines À Gaz. (See Frager, Alphonse J., assignor.)						
Computing Scale Company. (See Austin, Stephen J., assignor.)						
Computing Scale Company *et al.* (See Dunn, Henry F., assignor.)						
Computing Scale Company. (See Hapgood, Clarence H., assignor.)						
Computing Scale Company. (See Sanderson, William H., assignor.)						
Comstock, Chester, Brooklyn, N. Y. Lubricator	804,454	Nov. 14	1875	407	119	450
Comstock, Chester, Brooklyn, N. Y. Lubricating compound	804,455	Nov. 14	1879	.....	119	452
Concrete Machinery Company. (See Rider, Ebenezer W., assignor.)						
Condit, William D. (See Searle, Elbert H., assignor.)						
Condo, Joseph C., Alexandria, Ind. Support for pillows	804,456	Nov. 14	1880	407	119	452
Conforth, Frank L., Ballard, Wash. Planer-knife	805,450	Nov. 28	3890	841	119	974
Conn, Andrew H., Cedar Rapids, Iowa. Neck-yoke center	807,810	Dec. 19	3421	736	119	2092
Conn. Telephone and Electric Co. (See Lawton, Burton L., assignor.)						
Conneaut Can Company. (See Truesdale, Harry A., assignor.)						
Connecticut Web Company. (See Cleary Edward, assignor.)						
Connelly, Amalia S. (See Williamson and Collins, assignors.)						
Conrad, Frank. (See Lamme, Scott, and Conrad.)						
Conrath, Henry J., Marietta, Ohio. Wrench	804,932	Nov. 21	2830	610	119	708
Conroy, John M., Allegheny, Pa. Support for mirrors	807,440	Dec. 19	2686	579	119	1933
Consolidated Car Heating Company. (See McElroy, James F., assignor.)						
Consolidated Press and Tool Company. (See Walsh, Harry C. H., assignor.)						
Constans, Alfred W., Nelson, Canada. Apparatus for lixiviation	805,635	Nov. 28	4229	909	119	1047
Continental Paper Bag Company. (See Smith, Charles F., assignor.)						
Continental Paper Bag Company. (See Strasburg, Frederick E., assignor.)						
Cook, Charles L., Louisville, Ky. Piston-rod packing	808,512	Dec. 26	4822	1039	119	2445
Cook, Elmer E., Loughborough, England. Radial truck for tramway and like vehicles	808,013	Dec. 19	3802	824	119	2177
Cook, Frank B. (See Nolen, James G. and J. D., assignors.)						
Cook, Frank B., Chicago, Ill. Self-soldering thermal protector	803,881	Nov. 7	688	150	119	148
Cook, Frederick J., Heyworth, Ill. Corn-harvester	807,358	Dec. 12	2501	539–40	119	1851
Cook, Harris J., assignor to Stanley Rule & Level Company, New Britain, Conn. Bit-brace	803,669	Nov. 7	275	59	119	62
Cook, John C., *et al.* (See Clifford, William P., assignor.)						
Cook, Judson, Philadelphia, Pa., assignor to Curtain Supply Company, Newark, N. J. Curtain holder and adjuster	804,101	Nov. 7	1145	243	119	251
Cook, Samuel G., East St. Louis, assignor to J. J. Wiseman, trustee, and E. J. Vaughn and G. D. Locke, successors in trust, Jerseyville, Ill. Cash-register	807,724	Dec. 19	3250	697–701	119	2066
Cook, Walter M. (See Lauritzen and Cook.)						
Cook, William S., Santa Maria, Cal. Disk plow	806,322	Dec. 5	474	104	119	1371
Coon Brothers. (See Coon, David B., assignor.)						
Coon, David B., assignor to Coon Brothers, Troy, N. Y. Trimming	803,882	Nov. 7	690	150	119	149
Cooper, Charles. (See Sibbald and Vance, assignors.)						
Cooper Hewitt Electric Company. (See Hewitt, Peter C., assignor.)						
Cooper Hewitt Electric Company. (See Thomas, Percy H., assignor.)						
Cooper, Winfield S., assignor of one-half to J. F. Pifer, Braddock, Pa. Window-fixture	807,108	Dec. 12	2044	428	119	1754

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Cope, Edge T., assignor to Buckeye Engine Company, Salem, Ohio. Steam-engine valve	808,014	Dec. 19	3805	824	119	2178
Copland, Alexander W., Detroit, Mich. Depositing-machine	806,109	Dec. 5	32	7–8	119	1272
Copland, Alexander W., Detroit, Mich. Depositing-machine	806,110	Dec. 5	36	8	119	1273
Copland, Alexander W., Detroit, Mich. Dough-cutter	807,420	Dec. 12	2627	567	119	1881
Copp, Gardner P., Stockton, Cal. Coupling for brush-heads	805,782	Nov. 28	4502	964	119	1103
Coppersmith, Jacob, Collinwood, Ohio, assignor of one-half to M. Steiner, Erie, Pa. Flexible pipe-joint	804,304	Nov. 14	1597	345	119	389
Coppet, Frédéric de, Lausanne, Switzerland. Stamping device	806,111	Dec. 5	38	9	119	1273
Coppins, Otto J., Hobart, Ind. Combined pie-dough cutter and crimper	808,015	Dec. 19	3806	825	119	2178
Corbett, William H., Portland, Oreg. Hoisting or logging device	807,109	Dec. 12	2045	440	119	1754
Corbin Cabinet Lock Company. (See Townsend and Johnson, assignors.)						
Corbin Motor-Vehicle Corporation. (See Bogart, Fred H., assignor.)						
Corbitt, Hebber S., Ayden, N. C. Boiler-feeder	804,827	Nov. 21	2631	579	119	662
Corcoran, John C., Stevens Point, Wis. Metal sign-post and guide	806,955	Dec. 12	1728	379	119	1685
Cordley, Henry G., Glenridge, N. J. Liquid-cooler	806,112	Dec. 5	39	9	119	1273
Cornell Incubator Mfg. Co. (See Blackman, Harvey H., assignor.)						
Cornwall, John B., assignor to Barnard and Leas Manufacturing Company, Moline, Ill. Grain-scourer	806,397	Dec. 5	611	134	119	1403
Cotham, Coke, Monticello, Ark. Hay-press	805,414	Nov. 21	3802	822	119	912
Cottrell, Charles P., Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Pressure-controlling device for the air-springs of printing-presses	806,463	Dec. 5	744	166	119	1432
Cottrell, Charles P., Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Pressure-controlling device for the air-springs of printing-presses	806,464	Dec. 5	746	167	119	1432
Cottrell, Charles P., Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Inking apparatus for printing-presses	808,344	Dec. 26	4506	968–9	119	2376
Cottrell, Edgar H., Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Sheet-assembling device for folding-machines	805,636	Nov. 28	4230	910	119	1048
Courson, John F., Pitcairn, Pa. Draw-gear	804,521	Nov. 14	2015	438–9	119	484
Courson, John F., Pitcairn, Pa. Draft-rigging for railway-cars	804,649	Nov. 14	2259	494–5	119	535
Cousin, Pierre, Grenoble, France. Machine for bending and stretching leather for the manufacture of boots and shoes	806,113	Dec. 5	41	9–10	119	1274
Covington Machine Company. (See Ham, John S., assignor.)						
Cowart, Stephen A., Midlothian, Tex. Stalk-breaker	807,359	Dec. 12	2503	540	119	1852
Cowles, Charles A., and E. O. Pollard, Ansonia, Conn. Spooling-machine	805,265	Nov. 21	3529	761–3	119	856
Cowles, Harry R., assignor to Cutler & Proctor Stove Company, Peoria, Ill. Soft-coal heating-stove	806,323	Dec. 5	476	104	119	1372
Cowles, Samuel J., and J. B. Murray; said Murray assignor to A. W. Marshall and D. B. Cratty. Findlay, Ohio. Burial-vault	806,324	Dec. 5	477	105	119	1372
Cox, Emelious A., Humble, Tex. Oil-burner	805,345	Nov. 21	3675	795	119	885
Cox, Harry B., assignor to T. G. Palmer, Chicago, Ill. Incandescent gas-lamp	808,513	Dec. 26	4824	1039	119	2445
Cox, Henry G., assignor to J. T. Brush, Indianapolis, Ind. Ash-conveyer for furnaces	804,457	Nov. 14	1881	407–8	119	452
Cox, Loren C., Quincy, Ill. Electric clock	808,016	Dec. 19	3808	825	119	2179
Cox, Samuel D., Baltimore, Md. Axle and box for vehicles	807,110	Dec. 12	2049	440	119	1755
Coxen, James T., Sideburn, Va. Spring-motor	806,644	Dec. 5	1054	232	119	1499
Coyle, John J., Honeycreek, Iowa. Side-board for wagons	807,360	Dec. 12	2505	541	119	1852
Coyne, Edmund M., West Seneca, assignor of one-half to W. U. Heverly, Buffalo, N. Y. Brake for hoisting mechanisms	805,119	Nov. 21	3224	699-700	119	791
Cozatt, Stanton. (See Watson, Henry W., assignor.)						
Crabtree, Benjamin F., Winchester, Tenn. Cattle-guard for railways	806,956	Dec. 12	1729	379–80	119	1685
Cracoanu, Ovidius, Halle-on-the-Saale, assignor to R. Faber, Fermersleben, near Magdeburg, Germany. Construction of fireproof brick floors	803,559	Nov. 7	58	15	119	14
Craft, Edward B., assignor to Western Electric Company, Chicago, Ill. Ringing-key	805,057	Nov. 21	3102	671–2	119	766
Craig, James, assignor to National Iron and Wire Company, Cleveland, Ohio. Making wrought-metal joist-hangers	807,441	Dec. 19	2686	570	119	1933
Craig, Thomas, Philadelphia, and W. S. McLewee, Yardley, Pa., assignors to McLewee Gas Lamp Manufacturing Company. Gas-lamp	805,637	Nov. 28	4235	910	119	1049
Craigmiles, C. J. (See Hoover, Amiel R., assignor.)						
Cramer, George F., East Rutherford, N. J. Metal screen	808,017	Dec. 19	3810	826	119	2179
Crandall, Charles H., Baltimore, Md. Crupper attachment	808,514	Dec. 26	4825	1039	119	2446
Crandall, James L., Malden, assignor to H. I. Crandall & Son Co., Boston, Mass. Bilge-block for dry-docks	808,072	Dec. 26	3914	847–8	119	2245
Crane, Clarence A. (See Penfold, Joseph K., assignor.)						
Crane, Raymond E., Montclair, N. J. Water-closet	804,550	Nov. 14	2262	495	119	535
Cranmer, John I., Chicago, Ill., assignor of one-half to W. L. Miller. Thermostatic valve	806,465	Dec. 5	749	167	119	1433
Cranstoun, William, *et al.* (See Clifford, Thomas G., assignor.)						
Cratty, David B., *et al.* (See Cowles and Murray, assignors.)						
Craven, George W. (See Craven, Walter S. and G. W.)						
Craven, Walter S. and G. W., Butte, Mont. Ore-concentrator	807,661	Dec. 19	3124	671	119	2029
Crawford, Clay, Toledo, Ohio. Eaves-trough	803,570	Nov. 7	277	60	119	62
Crawford, James M., Bentonville, Ind. Perpetual calendar	804,385	Nov. 14	1750	378–9	119	425
Crawford, John H., Camden, N. J., and C. F. Schaeffer, Philadelphia, Pa. Automatic pressure control	806,325	Dec. 5	478	105	119	1372
Crawford, Samuel E., Avalon, Pa. Automatic volumetric governor for gas-lines	807,725	Dec. 19	3286	701	119	2058
Crawford, Thomas H., Eaton, Ind. Chuck	806,398	Dec. 5	613	135	119	1404
Crawley, George E., and E. J. Rabb, Clinton, Ind. Gate construction	806,045	Dec. 5	1056	232–3	119	1499
Creamery Package Mfg. Company. (See Valerius, Theodore L., assignor.)						
Creech, Joshua S. (See Thomas and Creech.)						
Crehen, Eugene L., and J. N. Euwer, Youngstown, Ohio. Sign	805,945	Nov. 28	4819	1028	119	1175
Creste, Henri, Apt, France. Machine for stoning cherries, &c	807,442	Dec. 19	2687	580	119	1933
Creveling, John L., New York, N. Y. Visible and audible signal	805,714	Nov. 28	4375	938–9	119	1079
Crichfield, George W., Jersey City, N. J. Apparatus for mixing paving compositions	808,599	Dec. 26	4994	1077–8	119	2480
Crippen, Martin, Olyphant, Pa. Follower for barrels, pickle-jars, &c	805,120	Nov. 21	3227	700	119	792
Crisp, Joseph R., L. F. Sawyer, and C. H. C. Rich, Almond, N. C. Wagon-brake	806,114	Dec. 5	43	10	119	1274
Crist, Joseph W., Detroit, Mich. Mechanical movement	804,528	Nov. 21	2535	572–3	119	663
Criswell, James A. E., New York, N. Y. Match-package	805,121	Nov. 21	3229	700	119	792
Crittenden, Albert L., assignor of one-half to F. R. Crittenden, Shellman, Ga. Wrench	805,946	Nov. 28	4820	1029	119	1175
Crittenden, F. Reid. (See Crittenden, Albert L., assignor.)						
Crompton & Knowles Loom Works. (See Bardsley, Henry, assignor.)						
Crompton & Knowles Loom Works. (See Gerber, Herman, assignor.)						
Crompton & Knowles Loom Works. (See Gordon and Morell, assignors.)						
Crompton & Knowles Loom Works. (See Ledoux, Hector, assignor.)						
Crompton & Knowles Loom Works. (See McGuiness, Benjamin F., assignor.)						
Crompton & Knowles Loom Works. (See Ryon, Eppa H., assignor.)						
Crompton & Knowles Loom Works. (See Wyman, Horace, assignor.)						
Cromwell, Albert P., Florida, N. Y. Insecticide	807 240	Dec. 12	2303	.....	119	1808

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Cronin, Charles J., Utica, N. Y. Safe block-signal system	807,726	Dec. 19	3268	702	119	2058
Cronin, John J., assignor of one-half to H. E. Parker, Manchester, N. H. Ring-spinning apparatus	806,326	Dec. 5	480	105	119	1373
Crosby, Elizabeth. (See Crosby, Joseph G., assignor.)						
Crosby, Joseph G., Port Huron, Mich., assignor to E. Crosby, Rahway, N. J. Casing for water-closet tanks and making it	807,727	Dec. 19	3269	702	119	2058
Cross, Albert N., Tomah, Wis. Excavator	808,345	Dec. 26	4508	969–70	119	2376
Cross, Charles F., London, England. Manufacture of sugar from cellulose	807,250	Dec. 12	2303	.....	119	1808
Cross, Frank L., Mystic, Conn., assignor to Cross Paper Feeder Company, Boston, Mass. Paper-feeding machine	806,018	Dec. 19	3811	826	119	2179
Cross, Frank L., Mystic, Conn., assignor to Cross Paper Feeder Company, Boston, Mass. Paper-feeding machine	806,019	Dec. 19	3814	827	119	2180
Cross Paper Feeder Company. (See Cross, Frank L., assignor.)						
Crouse, Stedman P., Boston, Mass. Card-holder	806,525	Dec. 5	846	188	119	1454
Crowder, Joseph W., assignor of one-half to W. W. Simmons, Celina, Tex. Binder for books	806,873	Dec. 12	1561	342	119	1650
Crowe, Patrick E., Newark, N. J. Boat-propelling mechanism	808,346	Dec. 26	4509	970	119	2377
Crown Cork and Seal Co. of Baltimore City. (See Gillette, George H., assignor.)						
Crown Cork & Seal Company. (See Lindsay, William E., assignor.)						
Crowther, Matthias, Pittston, Pa. Coupling for wooden pipes	807,662	Dec. 19	3126	671	119	2030
Crumb, Wallace B., Forestville, Conn. Cattle-stanchion	807,361	Dec. 12	2506	541	119	1852
Crummy, Henry, *et al.* (See Stirling, David W., assignor.)						
Cruse, Amandus H., assignor to R. Hoe, New York, N. Y. Making matrices	804,829	Nov. 21	2637	573	119	664
Cruse, Amandus H., assignor to R. Hoe, New York, N. Y. Machine for making matrices	804,830	Nov. 21	2639	573	119	664
Culver, Hosea O., Sandwich, Ill. Hay-loader	808,073	Dec. 26	3917	848	119	2246
Cuming, Mari A., New York, N. Y. Hat-making machine	805,451	Nov. 28	3891	842	119	974
Cummings, George H., Waterbury, Conn. Instep-support	808,515	Dec. 26	4827	1040	119	2446
Cummings Henry H., Malden, assignor, by mesne assignments, to J. H. Cutten, Boston, Mass. Tacking-machine	807,111	Dec. 12	2050	440–1	119	1756
Cummings, John D., assignor of two-thirds to J. K. Graham and W. Marshall, Wilmington, Del. Templet and punch for marking centers in metal work	804,795	Nov. 14	2564	560	119	605
Cunningham, Howell C., and M. Hoopes, Philadelphia, Pa. Chain for gripping and supporting metal blanks	807,541	Dec. 19	2870	617–18	119	1971
Cunningham, John T., Allegheny, Pa. Rotary engine	806,399	Dec. 5	614	135–6	119	1404
Cunningham, Walter C., Minneapolis, Minn., assignor to American Machinery Company. Machine for ironing the edges of collars and cuffs	804,102	Nov. 7	1147	243–4	119	252
Cunningham, Walter C., and W. A. Stebbins, assignors to American Specialty Company, Denver, Colo. Edge ironing and shaping machine	807,602	Dec. 19	3007	644–5	119	2001
Cunningham, William R., assignor to American Clay Machinery Company, Bucyrus, Ohio. Cutting-wire attachment for clay-cutting machinery	805,266	Nov. 21	3534	763	119	857
Cunnius, Charles E., Freeland, Pa. Wrench	804,831	Nov. 21	2644	574	119	665
Cupples, Andrew M., Tyrone, Pa. Tooth for excavator-buckets	805,004	Nov. 21	2980	647	119	740
Curran, George J., Plymouth, Pa. Switch-operating mechanism	807,063	Dec. 12	1949	421	119	1735
Current Motor and Irrigation Company. (See Roeh, John, assignor.)						
Currier, Burleigh. (See Porter and Currier.)						
Currier, James E. W., Ottawa, Canada. Knife	806,400	Dec. 5	618	136	119	1405
Curry, Arvid P. (See Leavitt, Charles P., assignor.)						
Curry, John, Vancouver, Wash. Vehicle-brake	806,957	Dec. 12	1730	380	119	1686
Curry, William J., Toronto, Canada. Grater	806,646	Dec. 5	1058	233	119	1500
Curtain Supply Company. (See Cook, Judson, assignor.)						
Curtain Supply Company. (See Forsyth, George H., assignor.)						
Curtain Supply Company. (See Hopkins, Charles L., assignor.)						
Curtain Supply Company. (See Houghtaling, Paul A., assignor.)						
Curtain Supply Company. (See Taylor, Robert C., assignor.)						
Curtis, Charles G., New York, N. Y. Marine propeller	803,671	Nov. 7	278	60	119	63
Curtis, Charles G., New York, N. Y., assignor, by mesne assignments, to General Electric Company. Elastic-fluid turbine	807,542	Dec. 19	2871	618	119	1972
Curtis, Charles G., New York, N. Y., assignor, by mesne assignments, to General Electric Company. Elastic-fluid turbine	807,603	Dec. 19	3010	645	119	2002
Curtis, Charles G., New York, N. Y., assignor, by mesne assignments, to General Electric Company. Elastic-fluid turbine	807,604	Dec. 19	3011	645	119	2002
Curtis & Marble Machine Company. (See Marble, Edwin H., assignor.)						
Curtiss, Charles E., Chicago, Ill., assignor to International Harvester Company. Aligning ear-forwarder for corn-huskers	803,994	Nov. 7	926	195	119	198
Cushing, Isaac J. (See Staheli, Emil, assignor.)						
Cushman, Everett B. and L. S., Lincoln, Nebr. Reversing propeller	803,560	Nov. 7	58	15	119	14
Cushman, Leslie S. (See Cushman, Everett B. and L. S.)						
Cusson, Japhet S., Dekalb, Ill. Detachable hame-clip	804,796	Nov. 14	2566	560	119	605
Cutler-Hammer Mfg. Co. (See Carpenter, Charles E., assignor.)						
Cutler & Proctor Stove Company. (See Cowles, Harry R., assignor.)						
Cutten, James H. (See Cummings, Henry H., assignor.)						
Cutter, George A., Nashua, N. H. Speed-changing device	803,810	Nov. 7	560	122–3	119	122
Cutter, George A., Nashua, N. H. Power-transmission device	803,811	Nov. 7	562	123–4	119	122
Cutting, Francis. (See Johnson, Joseph S., assignor.)						
Cuzner, George J., Miamisburg, Ohio. Spinning-machine	806,068	Nov. 28	5044	1074	119	1222
Cyclone Drilling Machine Company. (See Tschantz, William H., assignor.)						
Cyphers Incubator Co. (See Moss, Henry E., assignor.)						
Czapski, Siegfried, assignor to Firm of C. Zeiss, Jena, Germany. Optical instrument	807,728	Dec. 19	3271	702	119	2059
D. P. Clark and Company. (See Clark, David P., assignor.)						
D'Arcy, Frank P., Kalamazoo, Mich. Spring	803,561	Nov. 7	60	16	119	15
D'Ossone, Charles V., Philadelphia, Pa. Hair-roll	805,007	Nov. 21	2983	648	119	741
Dain, Charles T., Coatesville, Pa. Manhole for steam-boilers	807,112	Dec. 12	2055	441	119	1757
Dain, Joseph, Ottumwa, Iowa. Cart	804,386	Nov. 14	1752	379	119	425
Dain, Joseph, Ottumwa, Iowa. Mower	806,780	Dec. 12	1359	300	119	1603
Dain, Joseph, Ottumwa, Iowa. Hay-press	807,911	Dec. 19	3628	786–7	119	2139
Dale, John H., New York, N. Y. Incandescent-lamp-shade holder	803,883	Nov. 7	691	150	119	149
Daley, William B., and W. E. Richards, Cleveland, Ohio. Device for removing ferrules and for inserting plugs in water-mains under pressure	807,663	Dec. 19	3127	672	119	2030
Dalley, Charles J., Raritan, N. J. Turning-lathe center	805,715	Nov. 28	4380	939	119	1090
Dalton, George T., Sr., assignor to J. B. Dalton, Washington, D. C. Locking device for loose-leaf binders	806,347	Dec. 26	4514	971	119	2378
Dalton Joseph B. (See Dalton, George T., Sr., assignor.)						
Dalton, Richard H., *et al.* (See Forbes, Henry M., assignor.)						
Daly, Charles M., New York, N. Y. Pantographic drawing apparatus	805,187	Nov. 21	3359	728	119	519
Daly, Charles M., New York, N. Y. Water-heater	806,526	Dec. 5	847	187	119	1454
Daly, Henry W., Leavenworth, Kans. Litter-frame for pack-saddles	806,751	Dec. 12	1360	300–1	119	1603
Daly, Michael J., and T. S. Leake, Chicago, Ill. Window-sash	806,241	Dec. 5	293	61–2	119	1328

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Damon, George A., Chicago, Ill., assignor to Arnold Magnetic Clutch Company, Milwaukee, Wis. Magnetic clutch	806,782	Dec. 12	1362	301-2	119	1604
Danhour, John W., Huey, Ill. Tool-rack	808,142	Dec. 26	4080	878	119	2281
Daniels, Elwin S., Alpena, Mich. Stuff-feeder	806,115	Dec. 5	44	10	119	1275
Daniels, John H., St. Louis, Mo. Folding try-square	805,058	Nov. 21	3103	672	119	766
Daniels, William H., Springfield, Ill. Journal-lubricator	806,242	Dec. 5	295	62	119	1329
Dann, Ernest G., assignor of one-half to E. W. A. Rowles, Chicago, Ill. Map-case	807,605	Dec. 19	3012	645	119	2002
Darling Pump & Manufacturing Company. (See Millholland, Henry, assignor.)						
Darlington, Frederick. (See Machalske, Florentine J., assignor.)						
Darlington, Philip J., Glenridge, N. J., assignor to Sprague Electric Company. Hoist and similar apparatus	808,273	Dec. 26	4355	936	119	2342
Darrow, Leslie M., Stockton, Cal. Ironing-board	803,672	Nov. 7	280	61	119	63
Daubenspeck, Jacob, *et al.* (See Stirling, David W., assignor.)						
Daugherty, Albert, Atlantic City, N. J. Step-ladder	805,529	Nov. 28	4037	871	119	1006
Davenport, William S., Paris, France. Tooth-brush	803,995	Nov. 7	928	195	119	199
Davids, Valley V. (See Fishburne, Orrie H., assignor.)						
Davidson, Charles J., and E. P. Worden, Milwaukee, assignors to Fred M. Prescott Steam Pump Company, West Allis, Wis. Condenser	807,251	Dec. 12	2304	496-7	119	1809
Davidson, John R., and B. C. Kelly, Monticello, Ga. Wagon-hound	806,527	Dec. 5	849	187	119	1455
Davidson, Maberry L., Boston, Mass., assignor of one-half to Wilkins Bros., Milford, N. H. Book	806,958	Dec. 12	1733	380	119	1686
Davidson, William, Atlanta, Ga. Mail-bag crane	806,874	Dec. 12	1563	342	119	1650
Davidson, William A., Milwaukee, Wis. Chuck for grinding joint-rings	803,812	Nov. 7	563	124	119	122
Davidson, William H., Boston, Mass. Portable window-stage	807,606	Dec. 19	3014	646	119	2003
Davies, John P., Brockley, London, England. Water-tube boiler	808,437	Dec. 26	4677	1006-7	119	2412
Davis, Albert G., Washington, D. C. Telephony	808,438	Dec. 26	4679	1007-8	119	2412
Davis, Albert G., Schenectady, N. Y. Telephony	808,600	Dec. 26	4998	1078	119	2482
Davis, Albert G., Schenectady, N. Y., assignor to General Electric Company. Alternating-current motor system	805,346	Nov. 21	3677	795-6	119	886
Davis, Albert G., Schenectady, N. Y., assignor to General Electric Company. Alternating-current motor system	805,415	Nov. 21	3803	822-3	119	913
Davis, Charles B. (See Davis, Thomas A., assignor.)						
Davis, Frank W., and A. W. King, Bradford, Pa. Pumping-engine	805,267	Nov. 21	3538	763	119	858
Davis, George H., West Orange, N. J. Perforating-machine	808,274	Dec. 26	4359	936-7	119	2342
Davis, James, *et al.* (See Noble, John A., assignor.)						
Davis, James W., assignor of one-half to T. J. Alexander, Alto, Tex. Weighing and lifting device	804,832	Nov. 21	2645	574	119	666
Davis, John B., Dayton, Ohio. Oil-pump	805,530	Nov. 28	4039	872	119	1007
Davis, John W., Pittsburg, Pa. Smoothing-iron	807,729	Dec. 19	3273	702	119	2059
Davis, Nathan H., Philadelphia, Pa. Beam-strut	804,933	Nov. 21	2832	610	119	708
Davis, Orin C., Manistee, Mich. Holdback-fastening	808,001	Dec. 26	5001	1078	119	2482
Davis, Perry G., Davenport, Iowa. Ruffling attachment for sewing-machines	804,709	Nov. 14	2383	520	119	563
Davis, Ralph E., Alton, Ill. Locking device for incandescent-lamp bulbs	804,387	Nov. 14	1754	379	119	426
Davis & Sons, S. (See Marier, Gustave A., assignor.)						
Davis, Spencer E., Minneapolis, Minn. Scraper for disk drills	808,021	Dec. 19	3817	827	119	2180
Davis, Thomas A., assignor of one-half to W. M. Pogue, Findlay, Ill. Churn	805,005	Nov. 21	2981	647	119	740
Davis, Thomas A., Findlay, assignor of one-half to C. B. Davis, Todds Point township, Ill. Automatic liquid-measure	808,020	Dec. 19	3816	827	119	2180
Davis, Thomas V., Kansas City, Mo., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y. Telephone-switchboard apparatus	804,103	Nov. 7	1149	244	119	252
Davis, William B. (See Branfoot and Davis.)						
Davis, William B., Popes Ferry, Ga. Rail-joint chair	803,813	Nov. 7	565	124	119	123
Davison, Erwin A., assignor to Universal Nut-Lock Company, Stockton, Cal. Coupling for well-drilling tools	804,185	Nov. 7	1324	284	119	292
Davison, Luther A., and J. M. Logan, Hartford, Conn. Non-puncturable tire	805,591	Nov. 28	4153	894	119	1030
Davol, Charles J., assignor to Davol Rubber Company, Providence, R. I. Syringe	804,584	Nov. 14	2141	468	119	510
Davol Rubber Company. (See Davol, Charles J., assignor.)						
Dawson, Grant, Street, Md. Clothes-line apparatus	806,401	Dec. 5	619	136	119	1405
Dawson, H. A., *et al.* (See Barnum, Albert L., assignor.)						
Dawson, James C. (See Nelson, Dawson, and Trussell.)						
Dawson, John J. M., Viroqua, Wis. Toilet and manicure case	808,143	Dec. 26	4082	878	119	2281
Day, George H., Southbridge, Mass., assignor to American Optical Company. Lens-drilling machine	807,064	Dec. 12	1951	422	119	1735
Day, John R., Huntington, Ind. Paper-fastener	806,875	Dec. 12	1564	342	119	1651
Day, John R., Huntington, Ind. Handy desk device	806,959	Dec. 12	1734	381	119	1687
Day, Wilbur S., Warren, Minn. Tea-kettle	806,243	Dec. 5	296	62	119	1329
Dayton, Ansel J., Tacoma, Wash. Mold	806,783	Dec. 12	1365	302	119	1605
De Croes, Clement, assignor of two-thirds to M. D. Harding and W. F. McCullough, Westport, Ind. Adjustable railway-switch frog	807,252	Dec. 12	2306	497	119	1810
De Ford, Joseph A., assignor of one-half to M. McHale, Logansport, Ind. Automatic switching device	805,059	Nov. 21	3105	672	119	766
De Forest, Lee, New York, N. Y. Wireless-telegraph system	806,966	Dec. 12	1746	383	119	1689
De Gree, Moses E., and D. C. McAlister, Flaxton, N. D. Belt-guide	807,157	Dec. 12	2134	458	119	1772
De Kleist, Eugene, North Tonawanda, N. Y. Pneumatic motor	807,268	Dec. 12	2381	511	119	1826
De la Harpe, Charles. (See Oswald, Loretan, and De la Harpe.)						
De Laski, Albert, assignor to De Laski and Thropp Circular Woven Tire Company, Trenton, N. J. Vehicle-tire	806,351	Dec. 5	524	115	119	1383
De Laski, Albert, and P. D. Thropp, assignors to De Laski & Thropp Circular Woven Tire Company, Trenton, N. J. Fabric	807,178	Dec. 12	2172	466	119	1780
De Laski and Thropp Circular Woven Tire Company. (See De Laski, Albert, assignor.)						
De Laski & Thropp Circular Woven Tire Company. (See De Laski and Thropp, assignors.)						
De Long, Ernest S., assignor to Packing House Equipment Company, Upland, Cal. Fruit-elevator	807,362	Dec. 12	2508	541	119	1853
De Long, Frank E., Philadelphia, Pa. Hook-and-eye fastener	807,055	Dec. 12	1965	422	119	1736
De Moulin, Edmond and U. S., Greenville, Ill. Hoodwink	804,710	Nov. 14	2384	520	119	563
De Moulin, Ulysses S. (See De Moulin, Edmond and U. S.)						
Dean, George W., Fort Erie, Canada, assignor of one-half to Sherwood Manufacturing Company, Buffalo, N. Y. Flue-cleaner	803,562	Nov. 7	61	16	119	15
Dean, John, Racine, Wis. Tool for applying wire-fence stays	806,647	Dec. 5	1056	233	119	1500
Deasy, Peter A., assignor to Deasy Water Heater Company, Oakland, Cal. Water-heating apparatus. (Reissue)	12,307	Nov. 7	1349	287	119	297
Deasy Water Heater Company. (See Deasy, Peter A., assignor.)						
Deaver, Richard W. (See Deaver, Thompson, Kreitzer, and Deaver.)						
Deaver, Walter H., C. B. and J. H. Thompson, C. Kreitzer, and R. W. Deaver, Dayton, Ohio. Combined car-door lock and sealing device	806,784	Dec. 12	1369	302	119	1605
Debes, Eduard, Blankenese, near Hamburg, Germany. Ball-and-socket joint for dolls and the like	807,664	Dec. 19	3129	672	119	2031

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Decker, Harry P. (See Harloe, Morton, assignor.)						
Decker, William H., Derby, Iowa. Automatic lubricator	808,197	Dec. 26	4300	905	119	2306
Deegan, Edward J., and C. H. Proffen, New York, N. Y. Garbage-bag	805,452	Nov. 28	3893	842	119	974
Deegan, Edward J., and C. H. Proffen, New York, N. Y. Garbage-bag	805,453	Nov. 28	3894	842	119	974
Dees, Mark A., St. Louis, Mo. Computing-scale	808,516	Dec. 26	4828	1040–1	119	2446
Dees, Mark A., St. Louis, Mo. Computing-scale	808,517	Dec. 26	4835	1041	119	2447
Dees, Mark A., St. Louis, Mo. Computing-scale	808,518	Dec. 26	4840	1042	119	2448
Dehle, Alfred C. (See Bauld, Charles S., assignor.)						
Dehn, Hugo C., Hamburg, Germany. Measuring vessel for liquids	807,665	Dec. 19	3130	672	119	2031
Deidrick, William H., East Liverpool, Ohio. Decorating device	805,439	Dec. 26	4682	1008	119	2413
Delaval Steam Turbine Company. (See Guy, Albert E., assignor.)						
Delory, Gustave, Paris, France. Device for applying dyes, &c., to the roots of hair	804,522	Nov. 14	2018	439	119	485
Delp, Lewis W., Peoria, Ill. Hoisting-machine	806,116	Dec. 5	47	11	119	1275
Demarest & Co., A. T. (See Geissberger, Emil C., assignor.)						
Demory, Adam R., assignor to Timken Roller Bearing Axle Company, Canton, Ohio. Automobile-axle	805 716	Nov. 28	4382	940	119	1080
Dempsey, Wilbern W., Sibley, Iowa. Super for beehives	808,144	Dec. 26	4082	879	119	2281
Denby, Charles P. (See Bramberry, Thomas A., assignor.)						
Denegre, Edward, assignor to McCord & Company, Chicago, Ill. Dust-guard	805,717	Nov. 28	4383	940	119	1080
Denis, Victor. (See Lepercho, Angiolini-Salvadori, and Denis.)						
Dennis, James M., assignor to W. H. Alford, G. F. Kemper, and G. W. Deuker, Richmond, Ind. Artificial-fuel forming and compressing machine	806,876	Dec. 12	1566	343–4	119	1651
Dennis, Samuel K., assignor to International Harvester Company, Chicago, Ill. Driving mechanism for grain-binder machines	805,122	Nov. 21	3231	700	119	792
Denny, John T., Cromartie, N. C. Wood-distilling retort	806,877	Dec. 12	1572	344	119	1652
Depew, George M., Canandaigua, N. Y. Machine for gathering hay, &c	806,069	Nov. 28	5047	1075	119	1222
Depew, James I., Loup City, Nebr. Disk-sharpener	806,244	Dec. 5	297	63	119	1329
Depue, Harold T., Kensington, Md. Door-stop	804,585	Nov. 14	2142	468	119	511
Derby, William A., Aurora, Ill. Dust-collector. (Reissue)	12,414	Dec. 5	1301	289	119	1551
Desgraz, Adolphe. (See Schmidt and Desgraz.)						
Despain, Louis B., Pacific Grove, Cal. Dust-pan attachment for brooms	805,904	Nov. 28	4737	1013	119	1156
Despradelle, Désiré, assignor to W. A. Stetson, Boston, Mass. Apparatus for spinning and twisting yarn	806,737	Dec. 5	1250	278	119	1540
Desrumaux, Henri, Paris, France. Apparatus for purifying foul water	807,912	Dec. 19	3631	787	119	2140
Deuker, George W., *et al.* (See Dennis, James M., assignor.)						
Deutsch-Oesterreichische Mannesmannröhrenwerke. (See Schmelzer, Karl, assignor.)						
Devoy, Charles S. (See O'Hearne, Joseph, assignor.)						
Dew, Ira. (See Alexander, John E., assignor.)						
Dewender, William H., New York, N. Y. Drinking-straw	806,528	Dec. 5	849	188	119	1455
Dewey, Edward A. (See Salomon, Mentheim, assignor.)						
Dewey, Robert P., San Francisco, Cal. Balanced floor for ships' cabins	805,718	Nov. 28	4384	940	119	1080
Dewson, Edward H., Edgewood Park, assignor to Westinghouse Air Brake Co., Pittsburg, Pa. Automatic cut-out for electropneumat c brakes	808,022	Dec. 19	3818	827	119	2181
Dexter, Talbot C., Pearl River, N. Y. Paper-cutting machine	807,730	Dec. 19	3275	703–4	119	2059
Dey, Alexander. (See Dey, John and A.)						
Dey, Harry E., Brooklyn, assignor to E. R. Esmond, New York, N. Y. Apparatus for controlling electric motors	805,188	Nov. 21	3362	729	119	820
Dey, John, Syracuse, N. Y., and A. Dey, Glasgow, Scotland. Card-frame for time-recorders	804,934	Nov. 21	2833	611	119	708
Deydier, Joseph M. A., Nyons, France. Device for rendering small boats unsinkable	804,797	Nov. 14	2567	560	119	606
Diagraph Company. (See Remmers, Theodore W., assignor.)						
Dial Voting Machine Company. (See Harrington, Charles F., assignor.)						
Diamond Match Company. (See Barnes, George A., assignor.)						
Diamond Match Company. (See Williams, William E., assignor.)						
Diamond Meter Company. (See Sayles, Henry W., assignor.)						
Diamond, Patrick, Philadelphia, Pa. Laundry-blue distributer	804,798	Nov. 14	2568	560	119	606
Diamond Valve Company. (See Lord, George W., assignor.)						
Dichmann, William, Oshkosh, Wis. Machine for making bottle-wrappers	808,348	Dec. 26	4514	971–2	119	2378
Dick, Albert B., Lake Forest, assignor to A. B. Dick Company, Chicago, Ill. Delivery apparatus for folding-machines and the like	804,388	Nov. 14	1755	380	119	426
Dick, James, Montreal, Canada. Refrigerator	808,349	Dec. 26	4519	973	119	2379
Dickerson, Edward N., Stovall, N. C. Pneumatic piano-player	805,347	Nov. 21	3680	796–7	119	886
Dickinson, Henry F., Lafayette, Colo. Wrench	806,327	Dec. 5	481	105	119	1373
Dickinson, Joseph H. (See Miller and Dickinson.)						
Dickinson, Joseph H., Atlanta, Ga., assignor to Lidgerwood Manufacturing Company. Hoisting and conveying device	806,117	Dec. 5	50	11	119	1276
Dickinson, Milan A., West Swanzey, N. H. Support	807,158	Dec. 12	2135	458	119	1773
Dickinson, Paul, Chicago, Ill. Smoke-stack	806,648	Dec. 5	1059	233–5	119	1500
Dickison, Adam S., Woodbury, N. J. Rotary engine	807,421	Dec. 12	2629	567–8	119	1882
Dickmann, William A., Cincinnati, Ohio. Weighing and price-computing machine	804,533	Nov. 21	2647	574–5	119	666
Dicks, Herbert, West Washington, Pa. Combined folding plumb-rule and level	805,348	Nov. 21	3682	797	119	887
Diemer, William, assignor to Gendron Wheel Company, Toledo, Ohio. Child's carriage	807,607	Dec. 19	3015	646	119	2003
Diesel, John A., Chicago, Ill. Can-tester	808,145	Dec. 26	4084	879–80	119	2282
Diesener, Hermann, Charlottenburg, Germany. Clay-cleaning device	803,563	Nov. 7	62	16	119	15
Dietmeyer, Jacob J. (See Bradshaw, Ira J., assignor.)						
Dietz, Conrad. (See Dietz, John, assignor.)						
Dietz, John, assignor to C. Dietz, Cincinnati, Ohio. Mechanical movement	805,006	Nov. 21	2982	647	119	741
Dill, Fredrick W., and J. R. Hill, Lincoln, Kans. Toy gun	806,118	Dec. 5	51	11	119	1276
Dillander, John, San Francisco, Cal. Air-brake mechanism	803,564	Nov. 7	64	16–18	119	16
Dillard, Walter E., Petersburg, Va. Saw-handle	806,328	Dec. 5	482	106	119	1373
Dillon, Irwin P., Lawrence, Mass. Paper-refining engine	804,596	Nov. 14	2143	469	119	511
Dillon, Washington M., Sterling, Ill. Wire-fence stretcher	808,023	Dec. 19	3821	828	119	2181
Dillon, William S., assignor to Racine Machinery Manufacturing Company, Racine, Wis. Confectionery-machine	806,649	Dec. 5	1062	235	119	1501
Dilworth, John D., Salem, N. J. Device for manufacturing bottles	806,119	Dec. 5	53	11	119	1277
Dimmick, Jacob K., Philadelphia, Pa. Apparatus for forming pipe-molds	806,329	Dec. 5	484	106	119	1374
Dina, Augusto, West Hoboken, N. J., assignor of one-half to A. Adamson, Dobbs Ferry, N. Y. Mechanical movement	803,565	Nov. 7	68	18	119	16
Dingee, William W., assignor to J. I. Case Threshing Machine Company, Racine, Wis. Straw-carrier	808,024	Dec. 19	3822	828	119	2182
Dinsmore, James M., Moab, Utah. Water-elevator	807,443	Dec. 19	2689	580	119	1933
Dion, Albert de, and G. Bouton, Puteaux, France. Friction-clutch	804,104	Nov. 7	1152	244	119	253
Dion, Léon, New York, N. Y., assignor to Americus Electro-Hermetic Company, Wilkesbarre, Pa. Apparatus for purifying and filtering water	808,350	Dec. 26	4520	973	119	2379
Dion, Léon, assignor to Americus Electro-Hermetic Company, Wilkesbarre, Pa. Device for controlling the flow of fluids and other materials	808,351	Dec. 26	4526	974	119	2380

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Disbrow, Harry B. N., New York, N. Y., assignor to Oliver Typewriter Company, Chicago, Ill. Ribbon-spool-actuating device for type-writers	805,060	Nov. 21	3107	673	119	767
Ditty, Ralph, assignor to Buckeye Milling Co., Cleveland, Ohio. Core compound	803,566	Nov. 7	71	.....	119	17
Diven, Joseph M. (See Ellis, Robert J., assignor.)						
Divine, Bradford H., Utica, N. Y. Water or impact motor	806,785	Dec. 12	1370	303	119	1606
Dixon, George E. and J. K., Peoria, Ill. Blind or shutter opener	808,519	Dec. 26	4843	1042	119	2449
Dixon, Joseph K. (See Dixon, George E. and J. K.)						
Dixon, Robert M., East Orange, N. J., assignor to Safety Car Heating & Lighting Company. Lamp	803,884	Nov. 7	692	151	119	149
Dobson, Frank. (See Lindsay, John H., assignor.)						
Dodd, William R., London, England. Metallic box	805,454	Nov. 28	3895	843	119	975
Dodds, Ethan I., Avalon, assignor to Pressed Steel Car Company, Pittsburg, Pa. Car part	805,947	Nov. 28	4822	1029	119	1175
Dodge Coal Storage Company. (See Titcomb, George E., assignor.)						
Dodge, James M., assignor to Link Belt Engineering Company, Philadelphia, Pa. Sprocket-wheel	807,363	Dec. 12	2509	542	119	1853
Dodge, James M., assignor to Link Belt Engineering Company, Philadelphia, Pa. Lubricator for sprocket-wheels	807,731	Dec. 19	3281	705	119	2061
Dodge, James M., assignor to Link Belt Engineering Company, Philadelphia, Pa. Slip sprocket-wheel	807,913	Dec. 19	3632	787	119	2140
Dodge, Philip T., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company. Linotype-machine	803,996	Nov. 7	929	195–6	119	199
Dodge, Philip T., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company. Linotype-machine	806,070	Nov. 28	5051	1076	119	1223
Dodge, Philip T., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company. Slug-casting machine	806,529	Dec. 5	850	188–9	119	1455
Dodson, Charles I., Pittsburg, Kans. Apparatus for exploding mine charges	808,275	Dec. 26	4362	937	119	2343
Doherty, Henry L., Madison, Wis. Air or gas compressor	805,843	Nov. 28	4604	986–7	119	1123
Dolan, Patrick. (See Mascher, Paul, assignor.)						
Dolson, Martin O., Los Angeles, Cal. Valve-governor for trolley-pole controllers	808,198	Dec. 26	4202	906	119	2307
Donaldson, Robert L., deceased, Milwaukee, Wis.; T. A. Donaldson, administratrix. Rotary valve	805,531	Nov. 28	4040	872	119	1007
Donaldson, Theresa A., administratrix. (See Donaldson, Robert L.)						
Donaldson, William R. (See Marble and Donaldson.)						
Donnelly, Hugh, assignor of one-half to M. S. Welsh, Lisbon, Ohio. Car-coupling	804,523	Nov. 14	2020	439	119	485
Donnelly, John, Branford, Conn. Support for trees	806,402	Dec. 5	620	136	119	1405
Donnelly, William T., Brooklyn, N. Y. Marine transportation unit	805,268	Nov. 21	3540	763–4	119	858
Donner, Percy E., Columbus, Ind. Apparatus for rolling sheet and tin plate	803,567	Nov. 7	72	18–19	119	17
Donner, Percy E., Columbus, Ind. Apparatus for rolling sheet and tin plate	803,673	Nov. 7	281	61	119	63
Donner, Percy E., Columbus, Ind. Apparatus for rolling sheet and tin plate	803,674	Nov. 7	285	62	119	64
Donner, Percy E., Columbus, Ind. Apparatus for rolling sheet and tin plate	803,745	Nov. 7	446	97–8	119	100
Donner, Percy E., Pittsburg, Pa. Apparatus for rolling sheet and tin plate	803,568	Nov. 7	76	19	119	17
Donner, William, Binghamton, N. Y. Loom-controlling mechanism	806,120	Dec. 5	54	12	119	1277
Donnersmarck, Guido von. (See Hölken, Martin, assignor.)						
Doolen, Edward J., Vernon, Ill. Colter-clamp	804,105	Nov. 7	1153	244–5	119	253
Dor-Delattre, Emile, Budel, Netherlands Zinc-furnace	806,121	Dec. 5	56	12	119	1277
Dorian, Cora M. (See Dorian, John S., assignor.)						
Dorian, John S., assignor to C. M. Dorian, Niagara Falls, N. Y. Electric furnace	805,783	Nov. 28	4502	964	119	1103
Dorman, John J., Maxton, N. C. Stalk-cutter	805,455	Nov. 28	3896	843	119	975
Dornfeld, John F., Chicago, Ill. Malting apparatus	803,675	Nov. 7	288	62–3	119	64
Dorr, Warren, Gardiner, Me. Means for holding closed umbrellas and parasols	805,360	Nov. 21	3543	764	119	859
Dorsey, Henry, Dallas, Tex. Printer's cabinet	806,071	Nov. 28	5053	1076	119	1224
Double, Edward. (See Longtine and Double.)						
Double, Edward, Los Angeles, Cal. Ratchet-swivel rope-socket	808,199	Dec. 26	4207	906	119	2308
Dougherty, Edmund P., Washington, D. C. Salvage means for submarine boats	807,732	Dec. 19	3282	705	119	2061
Douglass, Walter A., Pilotmountain, N. C. Combined fireplace and stove	804,106	Nov. 7	1154	245	119	254
Douglass, William A., Venice, Mo. Fence-post	805,349	Nov. 21	3684	797	119	887
Dow, Alexander, Detroit, Mich. Electric-circuit closer	804,389	Nov. 14	1757	380	119	426
Dow, Charles S. (See Fleckenstein and Dow.)						
Dowling, William, St. Louis, Mo. Mechanism for operating jail-doors	806,960	Dec. 12	1736	381	119	1687
Downey, George W., Kalamazoo, Mich. Railway-gate	807,543	Dec. 19	2873	618	119	1972
Downs, Joshua A., Glidden, Iowa. Safety-holdback	808,025	Dec. 19	3824	828	119	2182
Downs, Martin D. Washington, D. C. Journal-box	807,253	Dec. 12	2310	497	119	1810
Downs, Thomas N. (See Thorn and Downs.)						
Doyle, John W., Seattle, Wash. Flue-cutter	806,878	Dec. 12	1573	344	119	1652
Drabek, Louis J., Turner, S. D Treating ore-slimes, &c., containing gold, silver, or other values	804,186	Nov. 7	1325	284	119	292
Dräger, Johann H., Lübeck, Germany. Apparatus for respiring within spaces full of smoke or noxious gases	807,666	Dec. 19	3132	672–3	119	2031
Drake, Chester F., assignor to T. A. and E. P. Mellon, Pittsburg, Pa. Water-meter	806,961	Dec. 12	1739	382	119	1688
Drake, Reuben T. (See Bryant, James N., assignor.)						
Draper Company. (See Draper and Northrop, assignors.)						
Draper Company. (See Draper and Roper, assignors.)						
Draper Company. (See Guilbert, Edmond, assignor.)						
Draper Company. (See Marcoux, Alida M., assignor.)						
Draper Company. (See Rhoades, Alonzo E., assignor.)						
Draper Company. (See Roper, Charles F., assignor.)						
Draper Company. (See Stafford, Alfred E., assignor.)						
Draper Company. (See Thompson, Frank H., assignor.)						
Draper Company. (See Wood and Northrop, assignors.)						
Draper, Fred, Danville, Ill. Suspenders	807,364	Dec. 12	2510	542	119	1853
Draper, William F., and C. F. Roper, assignors to Draper Company, Hopedale, Mass. Controlling means for looms	805,350	Nov. 21	3685	797–8	119	887
Draper, William F., and J. Northrop, assignors to Draper Company, Hopedale, Mass. Trailing filling-end clearer for looms	808,146	Dec. 26	4087	881	119	2282
Dresser, William O., Cripplecreek, Colo. Mail-box	805,351	Nov. 21	3691	798–9	119	888
Drew, Harry E., assignor to Nichols and Shepard Co., Battlecreek, Mich. Tender-truck	808,440	Dec. 26	4683	1008	119	2413
Driehaus, Henry, Hendricks, Pa. Rail-joint	805,638	Nov. 28	4235	911	119	1049
Driggs, Louis L., Washington, D. C., assignor to Driggs-Seabury Ordnance Corporation, Sharon, Pa. Shell-fuse	805,270	Nov. 21	3544	765	119	859
Driggs, Louis L., Washington, D. C., assignor to Driggs-Seabury Ordnance Corporation, Sharon, Pa. Percussion-fuse	805,271	Nov. 21	3544	765	119	859
Driggs-Seabury Ordnance Corporation. (See Driggs, Louis L., assignor.)						
Driggs-Seabury Ordnance Corporation. (See Driggs, William H., assignor.)						
Driggs-Seabury Ordnance Corporation. (See Wilson, Harry, assignor.)						
Driggs, William H., Washington, D. C., assignor to Driggs-Seabury Ordnance Corporation, Sharon, Pa. Semi-automatic gun	805,272	Nov. 21	3546	765–6	119	860

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Drischel, Jacob E. (See Ricks and Stifel, assignors.)						
Driskell, Carey. (See Driskell, Vernon and C.)						
Driskell, Vernon and C., Ghent, Ky. Holder for medicines or other substances	808,520	Dec. 26	4845	1043	119	2449
Drum, Fredrick J., Callaway, Nebr. Neck-yoke center	808,276	Dec. 26	4304	937	119	2344
Du Pell, Abbie G., Allegheny, Pa. Abdomen-depressing means	806,403	Dec. 5	621	137	119	1405
Du Pont, Francis I., Wilmington, Del. Smokeless-powder priming charge	807,494	Dec. 19	2770	598	119	1953
Dubert, Louis J. and W. E., Chicago, Ill. Firearm-support	805,159	Nov. 21	3365	729	119	820
Dubert, William E. (See Dubert, Louis J. and W. E.)						
Duck, Charles E., Baltimore, Md. Bottle-closure	805,123	Nov. 21	3232	701	119	793
Ducretet, Eugéne, Paris, France. Induction-transformer for wireless-telegraphy receiving-stations	803,569	Nov. 7	78	19	119	18
Dudley, Alpha T., Brockton, Mass. Automatic supporting-grapple	807,811	Dec. 19	3423	736	119	2093
Duffy, Edward S., Chicago, Ill. Sink-strainer	803,814	Nov. 7	566	124	119	123
Duffy, James F. and James F., Jr., Chicago, Ill. Apparatus for aging, mellowing, and purifying wines and liquors	804,935	Nov. 21	2835	611	119	709
Duffy, John. (See Irwin and Duffy.)						
Duffy, John E., Oskaloosa, Iowa. Umbrella-holder	804,390	Nov. 14	1759	381	119	427
Dufour, Jean C., Charenton, France. Tire-cover	808,074	Dec. 26	3919	848	119	2246
Dugan, Richard D., *et al.* (See Kendall, John H., assignor.)						
Dugar, Burt. (See Ober and Dugar.)						
Dugmore, Trevellyan, Medford, assignor to W. E. Barnes, Malden, Mass. Flushing apparatus	807,914	Dec. 19	3633	788	119	2141
Dukarevich, Joseph. (See Gallinant and Dukarevich.)						
Duke, Holmes, Beaumont, Tex. Street-cleaner	808,352	Dec. 26	4531	974	119	2381
Duke, Susie W., Arcola, N. C. Shoe-fastening	807,020	Dec. 12	1845	403	119	1712
Dukesmith, Frank H., Meadville, Pa. Air-brake release and signal valve	803,746	Nov. 7	449	98	119	100
Dukesmith, Frank H., Meadville, Pa. Air-brake system	803,815	Nov. 7	568	125	119	124
Dunbar, Ervin A., Wheaton, and W. H. Rogers, Warrenville, Ill. Sleet-cutter for third rails	805,124	Nov. 21	3233	701	119	793
Dunbar, Francis W., Chicago, Ill. Telephony	803,676	Nov. 7	291	63–4	119	65
Dunbar, George H., New Orleans, La. Can-filling machine	805,190	Nov. 21	3367	730	119	821
Dunbar, William P., Hamburg, Germany. Biological purification of liquids	807,667	Dec. 19	3135	673	119	2032
Duncan, Clark J., Windber, Pa. Sand-drier	806,530	Dec. 5	854	189	119	1456
Duncan, Horace. (See McNamee, Duncan, and Littleton.)						
Duncan, Joseph S., assignor to Addressograph Company, Chicago, Ill. Addressing-machine	803,677	Nov. 7	297	64–6	119	67
Dunford, Pete, Summit, Ga. Cotton-press	806,245	Dec. 5	299	63	119	1330
Dunkley Company. (See Dunkley, Samuel J., assignor.)						
Dunkley, Samuel J., assignor to Dunkley Company, Kalamazoo, Mich. Automatic processing or cooking and cooling machine	805,844	Nov. 28	4605	987–8	119	1124
Dunkley, Samuel J., Kalamazoo, Mich., assignor to Dunkley Company, Chicago, Ill. Machine or apparatus for automatically processing or cooking and cooling canned food	805,845	Nov. 28	4611	988	119	1126
Dunn, Aaron W., Lampasas, Tex. Sash-fastener	805,639	Nov. 28	4236	911	119	1049
Dunn, Henry F., Elwood, assignor to Dunn Manufacturing Company, Anderson Ind. Computing device for cheese-cutters	803,997	Nov. 7	931	196	119	199
Dunn, Henry F., Anderson, Ind., assignor to Computing Scale Company, Dayton, Ohio, and Dunn Manufacturing Company, Anderson, Ind. Cheese-cutter	807,608	Dec. 19	3017	646–7	119	2003
Dunn Manufacturing Company. (See Dunn, Henry F., assignor.)						
Dunn Manufacturing Company *et al.* (See Dunn, Henry F., assignor.)						
Dunn, Marv E., *et al.* (See Lund, Lawrence, assignor.)						
Dunn, William P., assignor to J. Alexander, Boston, Mass. Flexible pipe-joint	808,026	Dec. 19	3825	828	119	2182
Dunton, George E., New York, N. Y. Electric bell or gong	808,277	Dec. 26	4365	938	119	2344
Duplex Printing Press Company. (See Bechman, Henry F., assignor.)						
Durham, Clarence J., Muskegon, Mich. Device for locating shipwrecks	807,915	Dec. 19	3636	788	119	2141
Dusenbery, Alvey D., Mankato, Kans. Chaffer attachment for grain-separators	803,570	Nov. 7	79	20	119	18
Dutherage, Charles A. (See Brewster, Dutherage, and Glidden.)						
Dyer, Frederick O., Touisset, Mass. Puzzle	807,113	Dec. 12	2057	442	119	1757
Dyeworks formerly L. Durand Huguenin & Co. (See Oswald, Lorétan, and De la Harpe, assignors.)						
Dyke, William C., and W. J. Alderman, Walla Walla, Wash. Washing-machine	808,521	Dec. 26	4846	1043	119	2449
E. Children's Sons Manufacturing Company. (See Children, Frank R., assignor.)						
E. Jenckes Manufacturing Company. (See Rowe, James E., assignor.)						
E. Kirstein Sons Company. (See Van Tassel, John R., assignor.)						
Eager, Lee, assignor to J. Lamond, Arapaho, Okla. Ter. Boiler-flue fastening	808,027	Dec. 19	3826	829	119	2183
Eagle Lock Co. (See Roche, James, assignor.)						
Earhart, John T., Kirksville, Mo. Oil-applying implement	807,444	Dec. 19	2690	580	119	1933
Earnest, William, Garyville, La. Logging apparatus	806,246	Dec. 5	301	64	119	1330
Eastern Dynamite Company. (See Reese, Charles L., assignor.)						
Eastman Kodak Company. (See Gray, Harry L., assignor.)						
Ebeling, Phillip, Moundsville, W. Va. Manufacture of glassware	807,066	Dec. 12	1956	423	119	1736
Ebenschweiler, Stefan, Allegheny, Pa. Car-fender	804,587	Nov. 14	2146	469	119	511
Eberhardt, Emil, Stettin, Germany. Fire-tube boiler	808,353	Dec. 26	4533	974–5	119	2381
Eberle, John M. (See Shaw and Eberle.)						
Ebinger, Emanuel, assignor to Aktiengesellschaft für Technische Industrie, Zürich, Switzerland. Adding-machine	803,571	Nov. 7	80	20–1	119	18
Eckhart, Charles W., Shohola, Pa. Chimney-cap	808,075	Dec. 26	3920	848	119	2246
Economy Car Heating Company. (See Coggin, Frank F., assignor.)						
Eddy, Ernest G. and G. R., Lansing, Mich. Post-hole-boring and pole-setting machine	804,458	Nov. 14	1882	408–9	119	452
Eddy, George R. (See Eddy, Ernest G. and G. R.)						
Edelman, William A., (See Barnes and Edelman.)						
Edgar, James R., Sterling, Kans. Moth-trap	805,352	Nov. 21	3692	799	119	889
Edison, Thomas A., Llewellyn Park, N. J. Apparatus for perforating sheet metal	804,799	Nov. 14	2569	561	119	606
Edisonia Company *et al.* (See Farb, Solomon, assignor.)						
Edmund, August G., Vicksburg, Miss. Elevator and conveyer	807,916	Dec. 19	3637	789	119	2141
Edmund, Lou C., New York, N. Y. Tracing or duplicating pad	806,738	Dec. 5	1253	278	119	1541
Edrington, William B., Memphis, Tenn. Cotton-picking machine	803,572	Nov. 7	82	21	119	19
Edward Miller & Company. (See Homan, William C., assignor.)						
Edwards, David C., *et al.* (See Brown, Havilah G., assignor.)						
Edwards, Philip W., Portland, Me. Bowling-alley foul-line	808,147	Dec. 26	4090	881	119	2283
Edwards, Walter, Turner, Mich. Cattle-guard	808,522	Dec. 26	4847	1043	119	2450
Eger, Bertha, New York, N. Y. Attachment for cooking-stoves	804,107	Nov. 7	1157	245	119	254
Egetz, Josef, Wama, Austria-Hungary. Brake for railway-vehicles	804,588	Nov. 14	2147	469–70	119	511
Eggers, Anton C., assignor to Goodyear's India Rubber Glove Mfg. Co., New York, N. Y. Water-bag	807,365	Dec. 12	2511	542	119	1854

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Eggers, Anton C., assignor to Goodyear's India Rubber Glove Manufacturing Company, New York, N. Y. Surgical operating-cushion	807,366	Dec. 12	2511	542	119	1854
Ehrenreich, James J. (See Joseph and Ehrenreich.)						
Elane, Halvor O., U. S. Navy. Submarine boat	803,885	Nov. 7	694	151	119	150
Elchner, Max, Yonkers, N. Y. Baker's oven	806,786	Dec. 12	1372	303	119	1606
Elck, Otto, Baltimore, Md. Bottle-closure	805,784	Nov. 28	4505	964–5	119	1104
Elck, Otto, Baltimore, Md. Bottle washing and sterilizing apparatus	807,367	Dec. 12	2513	543	119	1854
Eickelberg, Carl A., Werne, near Münster, Germany. Movable landing for the cages or corves in mine-shafts	807,733	Dec. 19	3285	705	119	206.
Ellerman, Benjamin F. (See Grimes, Ellerman, and Legler.)						
Eisen, Herman J., Jersey City, N. J., assignor, by mesne assignments, to Pocket Auditor Mfg. Co. Register	805,273	Nov. 21	3548	766–7	119	860
Eisenhuth Horseless Vehicle Co. (See Eisenhuth, John W., assignor.)						
Eisenhuth, John W., Brooklyn, N. Y., assignor to Eisenhuth Horseless Vehicle Co. Steering device for motor-vehicles	805,274	Nov. 21	3551	767	119	860
Eisner, Hans, Frankfort-on-the-Main, Germany. Machine for cutting cigars and cigarettes	804,651	Nov. 14	2262	495	119	536
Ek, Edward M., Providence, R. I. Bench-vise	807,445	Dec. 19	2691	581	119	193.
Eklund, Idoff. (See Backlin and Eklund.)						
Ekstrom, P. A. (See Anderson, Alfred J., assignor.)						
Elb, Max, Dresden, Germany. Freeing yeast extracts from bitter principles	804,524	Nov. 14	2022	.....	119	485
Elbel, Karl, assignor to Kalle and Company, Aktiengesellschaft, Biebrich, Germany. Zinc azonaphthol dye and making same	807,422	Dec. 12	2631	.....	119	1882
Elder, James M., and A. W. Means, Indianapolis, Ind.; said Means assignor to said Elder. Fence-post	804,711	Nov. 14	2385	520–1	119	564
Eldridge, Hilliary, *et al.* (See Clark, Daniel J., assignor.)						
Electric Boat Company. (See Spear, Lawrence Y., assignor.)						
Electric Vehicle Company. (See Alden, Herbert W., assignor.)						
Electric Vehicle Company. (See Buffum, Herbert H., assignor.)						
Electric Vehicle Company. (See Law, Fred A., assignor.)						
Electric Vehicle Company. (See Splitdorf, Charles F., assignor.)						
Elfborg, Henry G., Chicago, Ill. Lock-nut	806,404	Dec. 5	622	137	119	1406
Ellam, James, Cheapside, London, England. Stencil-sheet attachment device for circular or other duplicating-machines	807,446	Dec. 19	2602	581	119	1934
Ellingwood, George B., Malden, assignor to Walter M. Lowney Company, Boston, Mass. Kernel-feeding machine	804,459	Nov. 14	1884	409–10	119	453
Elliott, Elias L., Lakewood, Ohio, and E. Lucien, Paris, France Illuminated sign	805,353	Nov. 21	3083	709	119	889
Elliott-Fisher Company. (See Halle, Hiram J., assignor.)						
Elliott, Milo A., Waterville, Me. Hanger for curtain-poles and shade-rollers	806,354	Dec. 26	4534	975	119	2381
Elliott, William S. (See Faber, Frank M., assignor.)						
Elliott, William S., Pittsburg, Pa. Elastic-fluid turbine	806,072	Nov. 28	5055	1076–7	119	1224
Elliott, William S., Pittsburg, Pa. Elastic-fluid turbine	806,073	Nov. 28	5057	1077	119	1225
Ellis, Alvarado L. R., Lynn, Mass., assignor to General Electric Company. Electrolytic meter	806,232	Dec. 26	4272	919	119	2323
Ellis, Carleton, New York, N. Y. Treatment of iron ores, &c	803,886	Nov. 7	696	151	119	150
Ellis, Carleton, Boston, Mass. Hydrating lime	807,609	Dec. 19	3019	647	119	2004
Ellis, George A., Mount Vernon, N. Y. Furnace-grate bar	806,122	Dec. 5	58	12	119	1278
Ellis, George A., Mount Vernon, N. Y. Journal-bearing bar for rocking-bar grates	806,123	Dec. 5	61	12	119	1278
Ellis, George A., Mount Vernon, N. Y. Furnace-grate	807,159	Dec. 12	2137	459	119	1773
Ellis, George H., Chicago, Ill., assignor to International Harvester Company. Feeding mechanism for flax-brakes	806,650	Dec. 5	1064	236	119	1501
Ellis, George H., Chicago, Ill., assignor to International Harvester Company. Automatic feed-regulating device for flax-brakes	806,787	Dec. 12	1373	303	119	1606
Ellis, Hugh J., Chicago, Ill. Garment	807,610	Dec. 19	3021	647	119	2004
Ellis Lacer Company. (See Ellis, Warren E., assignor.)						
Ellis, Mark S., U. S. Navy. Self-registering target	804,712	Nov. 14	2387	521	119	564
Ellis, Robert J., assignor of one-half to J. M. Diven, San Francisco, Cal. Rasp	805,962	Dec. 12	1740	382	119	1688
Ellis, Warren E., Haverhill, Mass., assignor to Ellis Lacer Company. Fastener for shoe-uppers	806,028	Dec. 19	3827	829	119	2183
Ellis, Warren E., Haverhill, Mass., assignor to Ellis Lacer Company. Holder for shoe-uppers	806,029	Dec. 19	3828	829	119	2183
Ellison, John O., Haverhill, Mass. Bag-holder	808,355	Dec. 26	4535	975	119	2381
Ellias, George A., Lithgow, and P. J. McGuire, Goulburn, New South Wales, Australia. Billiard-table	803,998	Nov. 7	933	196	119	200
Ellsworth, Edgar C., Cambridge, Vt., assignor of one-half to C. C. Holden, Webster, Me. Tweezers	804,652	Nov. 14	2264	496	119	536
Ellsworth, John M., New York, N. Y. Rotary engine	806,134	Dec. 5	63	13–14	119	1278
Elm City Engineering Co. (See Hoyt and Martin, assignors.)						
Elmira Heater Company. (See Frost, John E., assignor.)						
Elterich, Paul O., New York, N. Y. Rear-sight shield	807,812	Dec. 19	3425	736	119	2093
Elvin, Albert G., Franklin, Pa. Car-axle box	803,747	Nov. 7	454	99	119	101
Elvin, Albert G., Franklin, Pa. Car-axle box	803,748	Nov. 7	455	99	119	101
Elward, John H., Hutchinson, Kans. Railway-gate	807,544	Dec. 19	2877	619	119	1974
Ely, Gertrude L. (See Ely, William L. and G. L.)						
Ely, William L. and G. L., Cleveland, Ohio. Clip for ironing-board covers	807,447	Dec. 19	2603	581	119	1934
Emerson Manufacturing Company. (See Waterman, Lewis E., assignor.)						
Emery, Plato G., Chicago, Ill. Shade-guide	804,800	Nov. 14	2570	561	119	606
Emery, William O., Crawfordsville, Ind. Aging Portland cement	806,788	Dec. 12	1375	.....	119	1606
Emmet, William L. R., Schenectady, N. Y., assignor to General Electric Company. Turbine	803,678	Nov. 7	303	66–7	119	68
Emmet, William L. R., Schenectady, N. Y., assignor to General Electric Company. Insulating material	803,816	Nov. 7	573	125	119	125
Empire Plow Co. (See Halman, Elias, assignor.)						
Engel, Gottfried. (See Straus and Engel.)						
Engel, William C., Fountain Springs, Pa. Grate	808,523	Dec. 26	4849	1044	119	2450
Engelhardt, Georg, Cassel, and C. F. Fölsch, Wernigerode-on-the-Harz, Germany. Measuring device for shoe-lasts and foot-coverings	806,531	Dec. 5	856	190	119	1457
Engelhardt, Georg, Cassel, and C. F. Fölsch, Wernigerode-on-the-Harz, Germany. Last	807,917	Dec. 19	3640	789	119	2142
Engesetter, Albert E., Birch Hills, Canada. Combined fence-post and wire-fastener	805,785	Nov. 28	4506	965	119	1104
England, Isaac W., Passaic, N. J. Can	806,456	Dec. 5	750	167	119	1433
Engledus, William J. (See Martin, Edward P., assignor.)						
English, Frank, Boulder, assignor of one-tenth to W. G. Wilson, Denver, Colo. Means for automatically shutting off gas-supply	805,125	Nov. 21	3235	701	119	793
English, Leslie M. (See Falloure and English.)						
Enrico, Giovanni, Torino, Italy. Carbureter for explosion-motors	804,589	Nov. 14	2148	470	119	511

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Enright, Edward J. (See Enright, John W. and E. J.)						
Enright, John W. and E. J., New Orleans, La. Rail-joint	808,524	Dec. 26	4850	1044	119	2450
Ensign, Emory S., Cambridge, assignor of one-tenth to C. F. A. Smith, Boston, Mass. Pleasure-railway	803,679	Nov. 7	312	67	119	70
Eppler, Charles E., near Ramah, Colo. Horse-detacher	807,368	Dec. 12	2515	543–4	119	1855
Erdle, Charles. (See Lander, Frederick J., assignor.)						
Ericsson, Walter H., Chicago, Ill. Loader	804,525	Nov. 14	2023	440	119	486
Erie, James P., Los Angeles, Cal., assignor, by mesne assignments, to B. Stern. Electric water-heater	808,525	Dec. 26	4852	1044–5	119	2450
Ermel, Georges, Liege, Belgium. Riveting-machine	807,668	Dec. 19	3137	574	119	2032
Ermold, Edward, New York, N. Y. Envelop-machine	807,369	Dec. 12	2518	544–5	119	1856
Ernst, Charles A., Lansdowne, assignor to S. W. Pettit, Philadelphia, Pa. Bleaching artificial silk	805,456	Nov. 28	3897	.....	119	975
Ernst, Charles A., Lansdowne, assignor to S. W. Pettit, Philadelphia, Pa. Forming filaments from viscose, &c	808,148	Dec. 26	4091	882	119	2283
Ernst, Charles A., Lansdowne, assignor to S. W. Pettit, Philadelphia, Pa. Apparatus for producing or forming filaments from viscose, &c	808,149	Dec. 26	4093	882	119	2283
Erskine, Andrew J. (See Kelley and Erskine.)						
Ertel, John C. (See Campbell, Milton T., assignor.)						
Ertle, William J., Knowles, Cal. Rock-drill	805,008	Nov. 21	2984	648	119	741
Ervin, Arthur J., and J. R. Walker, South Cumberland, Md. Boiler-tube fastener	804,590	Nov. 14	2149	470	119	512
Ervin, Ernest E., and A. J. Konantz, Erie, Colo. Pump-drain	805,330	Dec. 5	486	106	119	1374
Eschen, Edward L. and E. B. von, Kirksville, Mo. Surgical table	804,784	Nov. 14	2544	556	119	601
Eschen, Eleanor B. von. (See Eschen, Edward L. and E. B. von.)						
Eschweiler-Woltereck Process Syndicate. (See Woltereck, Herman C., assignor.)						
Esmond, Ernest R. (See Day, Harry E., assignor.)						
Esmond, Ernest R., New York, N. Y. Electric motor	805,416	Nov. 21	3807	823	119	913
Espen, Fred F., *et al.* (See Lucas, William H., assignor.)						
Espen, Jacob, Jr., *et al.* (See Lucas, William H., assignor.)						
Essex Electrical Company. (See Jacobson, Gustav E., assignor.)						
Essig, Ozia A., Canton, Ohio. Sled	806,074	Nov. 28	5060	1078	119	1226
Ettinger, William L. (See Jeffrey, Albert D., assignor.)						
Eubank, Reuben B., Jr., assignor of one-half to C. C. Abbott, Kansas City, Mo. Captive observation-balloon apparatus	803,573	Nov. 7	84	22	119	19
Eustace, Edward C. (See Werner, Charles J., assignor.)						
Eustace, Robert G. (See Calder and Eustace.)						
Euwer, John N. (See Crehen and Euwer.)						
Evans, Arthur E., and F. Caron, Beaton, Canada. Tree-felling footboard	806,963	Dec. 12	1741	382	119	1688
Evans, Elisha F., Homerville, Ga. Vehicle-wheel	806,405	Dec. 5	624	137	119	1406
Evans, Elmer O., Burlington, Iowa. Car-coupling	803,749	Nov. 7	457	99–100	119	102
Evans, Fred, Summit, N. J., assignor to Johnson and Johnson, New York, N. Y. Container for ligatures, &c	805,948	Nov. 28	4822	1029	119	1175
Evans, James. (See Evans, John and J.)						
Evans, John and J., Salt Lake City, Utah. Cutting and punching device	804,108	Nov 7	1157	246	119	254
Evans, John T., New York, N. Y. Railway-rail joint	805,905	Nov. 28	4739	1013	119	1155
Evans, Joseph, Birmingham, England. Clutch mechanism for coupling rotatable parts.	807,254	Dec. 12	2312	498	119	1811
Evans, Joseph, Birmingham, England. Clutch mechanism for coupling rotatable parts.	807,255	Dec. 12	2316	498	119	1812
Evans, Powell, Philadelphia, Pa Plate-shearing machine	804,109	Nov. 7	1159	246–7	119	255
Evans, Robert R., Haverhill, Mass. Device for forming concrete sewers	803,680	Nov. 7	314	67–8	119	71
Evans, Thomas W., Jersey City, N. J. Nozzle-stopper for bottles and other receptacles	808,278	Dec. 26	4585	939	119	2344
Everett, Ernest C., assignor to R. E. Dietz Company, New York, N. Y. Lamp	806,879	Dec. 12	1575	344	119	1653
Everette, Willis E., Tacoma, Wash. Metallurgical process	804,906	Nov. 21	2936	.....	119	709
Everette, Willis E., Tacoma, Wash. Making hydrochloric acid	805,009	Nov. 21	2984	.....	119	741
Ewing, Henry W., Philadelphia, Pa., assignor to Unique Advertising Company. Device for displaying advertising matter	805,786	Nov. 28	4507	965	119	1104
Excelsior Wrapper Company. (See Shadbolt, Helon F., assignor.)						
Exline, Marcus P., and E. Bourke, Dallas, Tex. Loose-leaf individual or general bank-ledger	804,713	Nov. 14	2389	521–2	119	564
F. C. Osborn Company. (See Osborn, Francis C., assignor.)						
F. E. Reed Company. (See Howk, Charles P., assignor.)						
Faas, Charles R., New York, N. Y. Manufacturing button-shanks	805,532	Nov. 28	4041	872	119	1007
Faber, Frank M., assignor to W. S. Elliott, Pittsburg, Pa. Tube-cleaner	807,918	Dec. 19	3641	790	119	2142
Faber, Richard. (See Cracoanu, Ovidius, assignor.)						
Fabian, Oscar J., Philadelphia, Pa. Non-freezing tank	808,441	Dec. 26	4685	1009	119	2413
Facette, Uldège, Hartford, Conn. Staging-clamp	805,949	Nov. 28	4823	1029	119	1175
Faessler, John W., Moberly, Mo. Flue or tube expander	808,030	Dec. 19	3830	829	119	2184
Faessler, John W., Moberly, Mo. Cutter for flue-sheets and the like	808,031	Dec. 19	3831	830	119	2184
Faessler, John W., Moberly, Mo. Flue-expander	808,032	Dec. 19	3832	830	119	2184
Fahey, Patrick J., Albany, N. Y. Hoisting apparatus	803,681	Nov. 7	317	68	119	71
Fahl, Eugene, St. Louis, Mo. Type-writing machine	807,919	Dec. 19	3642	790	119	2142
Fairbanks, Morse & Co. (See Patch, Allen J., assignor.)						
Fairbanks, Morse & Company. (See Charter, James A., assignor.)						
Fairburn, Edward, Brighouse, England. Non-skidding cover for tires	807,611	Dec. 19	3022	647–8	119	2004
Fajen, Gustav, Milwaukee, Wis Rotary meter	804,460	Nov. 14	1886	410	119	453
Fajen, Gustav, Milwaukee, Wis. Rotary meter	804,526	Nov. 14	2028	440	119	486
Falk, August, Vienna, Austria-Hungary. Removing nicotin from articles made of tobacco	803,887	Nov. 7	698	151	119	151
Falk, Elijah, Eureka, Cal. Foundation for band-saw frames	807,021	Dec. 12	1846	403	119	1712
Faller, Lewis A., Nashville, Tenn. Cannon-pinion for watches	806,964	Dec. 12	1742	382	119	1688
Falloure, John B., and L. M. English, Wheeling, W. Va. Pump	804,834	Nov. 21	2650	575	119	667
Fallows, Edward H. (See Maywald, Frederick J., assignor.)						
Falvey, Humphrey, Parkville, N. Y. Filing-case	807,067	Dec. 12	1959	423	119	1736
Fancher, Charles J., West Granby, assignor to Simplex Manufacturing Company, Hartford, Conn Stamp-separator	803,574	Nov. 7	87	22	119	19
Farb, Solomon, assignor of three-fourths to M. L. Mendelssohn, Newark, N. J., and Edisonia Company. Returning device for phonographs	805,417	Nov. 21	3810	824	119	914
Farbwerke, vorm. Meister, Lucius & Brüning. (See Gallois, Moritz von, assignor.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See König, Ernst, assignor.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See Merling and Skita, assignors.)						
Farbwerke, vorm. Meister, Lucius & Brüning (See Müller, Rudolf, assignor.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See Schmidt, Albrecht, assignor.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See Sohst, Otto, assignor.)						
Fargo, William G., Jackson, Mich. Metal sheet-piling	805,533	Nov. 28	4043	873	119	1007
Farlin, Henry H. (See Hyde and Farlin.)						
Farmer, Arthur J., Detroit, Mich. Multiple-station telephone system	805,126	Nov. 21	3226	701–2	119	793

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g	Vol.	Page.
Farnsworth, Henry T., Glade Spring, assignor of one-half to G. N. Wertz, Abingdon, Va. Fluid-motive power-pump	807,448	Dec. 19	2694	581-2	119	1935
Farrand, Grant, *et al.* (See Warner, Daniel, assignor.)						
Farrand, Joseph K., *et al.* (See Warner, Daniel, assignor.)						
Farrar, Charles O., Somerville, Mass., assignor of one-half to T. M. Belknap, New York, N. Y. Rotary pump	806,651	Dec. 5	1068	236-7	119	1502
Farren, Robert, *et al.* (See Clark, Charles T., assignor.)						
Farrington, Harvey, Yonkers, N. Y. Expansible wedge	806,405	Dec. 5	626	137	119	1407
Farrington, Harvey, Yonkers, N. Y. Expansible wedge	806,407	Dec. 5	628	138	119	1407
Farrington, Harvey, Yonkers, N. Y. Grapple	806,409	Dec. 5	631	138	119	1407
Farwell, Alfred A., Oshawa, Canada. Voting-machine	804,187	Nov. 7	1327	284	119	293
Farwell, Fay O., assignor of one-half to Adams Company, Dubuque, Iowa. Rotary explosive-engine	806,125	Dec. 5	67	14-15	119	1279
Fassett, Francis K., St. Louis, Mo. Reversible car-seat	806,652	Dec. 5	1072	237-8	119	1502
Faust, Casper, Oshkosh, Wis. Automatic draft-regulating heating system	806,653	Dec. 5	1075	238	119	1503
Faust, Levin, and F. G. Hogland, assignors to National Lock Company, Rockford, Ill. Lock	804,835	Nov. 21	2653	575	119	667
Favorite, William T., and C. V. Schermerhorn, Sturgis, Mich. Corn-popper	804,110	Nov. 7	1163	247	119	256
Fawcus, Thomas, Pittsburg, Pa. Spiral-gear-cutting machine	806,075	Nov. 28	5062	1078-9	119	1226
Fay, Charles N., assignor to Fay-Sholes Company, Chicago, Ill. Escapement mechanism for type-writing machines	804,836	Nov. 21	2655	576	119	668
Fay, Frank H., Hoxie, Kans. Two-bolt door-lock	804,837	Nov. 21	2657	576	119	669
Fay-Sholes Company. (See Fay, Charles N., assignor.)						
Featherstone, Alfred. (See Featherstone, James W., assignor.)						
Featherstone, James W., Barker, assignor to A. Featherstone, New York, N. Y. Acetylene-gas generator	803,999	Nov. 7	933	197	119	200
Featherstone, Willard B., Toledo, Ohio, assignor to Automatic Pressure Feed Lubricator Company, Los Angeles, Cal. System of lubrication	804,937	Nov. 21	2837	611	119	709
Federal Electric Company. (See Goehst, John H., assignor.)						
Federal Manufacturing Company. (See Sumner, Frederick W., assignor.)						
Feist, George, and F. Kretzer, New York, N. Y. Phonograph attachment	805,787	Nov. 28	4509	966	119	1104
Felbel, Jacob, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine	804,938	Nov. 21	2840	611	119	710
Felbel, Jacob, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine	807,449	Dec. 19	2697	582-3	119	1935
Feld, Walther, Hönningen-on-the-Rhine, Germany. Recovering ammonia and hydrocyanic acid	806,467	Dec. 5	751	168	119	1433
Felio, Harry L., Zion City, Ill. Artificial hand	806,126	Dec. 5	73	15-16	119	1280
Felkner, William G. (See Butler and Felkner.)						
Felkner, William G., and J. T. Butler, Sebree, Tex. Folding step for public carriers	808,076	Dec. 26	3921	849	119	2247
Felkner, William G., and J. T. Butler, Sebree, Tex. Cattle guard and gate	808,077	Dec. 26	3923	849-50	119	2247
Felkner, William G., and J. T. Butler, Sebree, Tex. Cotton-chopper	808,078	Dec. 26	3925	850	119	2247
Felmlee, John W., assignor to R. Wiles, Chicago, Ill. Chute	807,256	Dec. 12	2317	499	119	1812
Fennel, Jacob W., Johnstown, N. Y. Shelf-support	807,257	Dec. 12	2319	499	119	1812
Fennell, Harry, Everett, Mass. Eyeglasses	804,527	Nov. 14	2027	441	119	486
Fenske, Herman, St. Louis, Mo. Switching attachment for railway-cars	804,000	Nov. 7	936	197	119	200
Fenske, Herman, St. Louis, Mo. Switching attachment for railway-cars	804,001	Nov. 7	937	197	119	201
Fenton, Edward F., *et al.* (See Wilcox, Abijah T., assignor.)						
Ferge, Richard C. (See Reichert, August F., assignor.)						
Ferguson, Andrew J., deceased; C. M. Ferguson, administrator, assignor, by mesne assignments, to American Acetylene Gas Light Company, Fort Worth, Tex. Gas-generator	804,591	Nov. 14	2150	470	119	512
Ferguson, Clarence M., administrator. (See Ferguson, Andrew J.)						
Ferguson, Fergus, Santa Rosa, Cal. Trousers-suspenders	806,880	Dec. 12	1576	345	119	1653
Ferguson, Finton F., and J. T. Benthall, Murfreesboro, N. C., assignors to R. T. Barnes, Sunbeam, Va. Peanut-picker	808,442	Dec. 26	4686	1009-10	119	2413
Ferguson, John A. (See Ferguson, William H., assignor.)						
Ferguson, William H., San Francisco, Cal., assignor to J. A. Ferguson. Retaining-wall	804,939	Nov. 21	2843	612	119	710
Fergusson, Alan R., assignor to Warren Ball Bearing Fixture Company, New York, N. Y. Desk-bracket	808,602	Dec. 26	5002	1079	119	2482
Fern, William H., Scranton, Pa. Screen	807,423	Dec. 12	2633	568-9	119	1883
Fero, Charles, Sr., Bay City, assignor of one-half to J. P. Benden, West Bay City, Mich. Combined steam-engine and air-compressor	808,526	Dec. 26	4856	1045-6	119	2451
Ferranti, Sebastian Z. de, and W. Hamilton, Hollinwood, England. Alternating-current electricity-meter	806,881	Dec. 12	1578	345-6	119	1654
Ferris, Henry L., assignor to Hunt, Helm, Ferris & Company, Harvard, Ill. Wire-stretcher	804,461	Nov. 14	1887	411	119	453
Ferris, Henry L., assignor to Hunt, Helm, Ferris & Company, Harvard, Ill. Door-hanger	806,882	Dec. 12	1582	346	119	1654
Ferriss, John M., Jr., Tacoma, Wash. Lumber-unloading mechanism	808,527	Dec. 26	4857	1046	119	2451
Ferry, Charles H. (See Schroeder and Lindholm, assignors.)						
Ferry, James F., assignor of one-half to E. D. McArthur, Leadville, Colo. Faucet	806,331	Dec. 5	487	107	119	1374
Fetters, Charles A., New York, N. Y. Sectional brush with tie-bolt	805,431	Nov. 21	3844	832	119	922
Fetters, William H., Plymouth, Ohio. Lawn-mower-blade-grinding machine	805,127	Nov. 21	3240	702	119	794
Fetzer, James J., Columbiana, assignor to Herbrand Company, Fremont, Ohio. Wrench	808,603	Dec. 26	5004	1079	119	2483
Fetzer, William, Middletown, Ohio. Fertilizer-distributer	807,068	Dec. 12	1959	423	119	1737
Fiddes, James, Aberdeen, Scotland. Sprinkler for extinguishing fires	804,305	Nov. 14	1598	345	119	390
Fidelity Title and Trust Company, trustee. (See Carnahan, Cyrus M., assignor.)						
Fieberg, John, assignor to J. S. McDonald Company, Chicago, Ill. Baffle for the locks of the adjustable backs of loose-leaf binders, &c	807,450	Dec. 19	2705	583	119	1938
Fiedler, Richard, Berlin, Germany. Gymnastic apparatus	804,218	Nov. 14	1417	303	119	351
Field, Albert H., Providence, R. I. Printer's metal slug	807,424	Dec. 12	2635	569	119	1883
Field, Frederick W., Syracuse, N. Y. Reduction-furnace	806,127	Dec. 5	76	16	119	1281
Field, Marcellus S., Boston, Mass. Post-office furniture	803,575	Nov. 7	89	22-3	119	30
Field, Marcellus S., Boston, Mass. Post-office furniture	806,883	Dec. 12	1583	347	119	1655
Field, Marcellus S., Boston, Mass. Post-office furniture	806,965	Dec. 12	1744	383	119	1689
Field, Michael B., Sevenoaks, England, assignor to General Electric Company. Circuit-breaker	803,817	Nov. 7	574	125-6	119	125
Field, Stephen D., Stockbridge, Mass., assignor to J. J. Ghegan, Newark, N. J. Telegraphic repeater	806,884	Dec. 12	1584	347	119	1655
Filer & Stowell Co. (See Niedermeyer, Arthur, assignor.)						
Filion, Joseph, Montreal, Canada, assignor to J. O. Lawrence, Philadelphia, Pa. Car-vestibule door and trap	805,640	Nov. 28	4237	911	119	1049
Filter & Brautechnische Maschinen-Fabrik Akt. Ges. vormals L. A. Enzinger. (See Sellenscheidt, Carl, assignor.)						
Fink, Ferdinand, Newark, N. J. Automatic hose-cleaning apparatus	804,592	Nov. 14	2153	471	119	512

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Finney, Charles L., and L. R. Lantz, Wyalusing, Pa. Punching-bag	808,528	Dec. 26	4360	1046	119	2452
Finzi, Giorgio, Milan, Italy. Alternating-current regulator	807,545	Dec. 19	2880	619-20	119	1974
Firm, Joseph L., assignor to Goss Printing Press Company, Chicago, Ill. Compound printing-machine	806,247	Dec. 5	302	64	119	1330
Fischer, Martin, assignor to Actiengesellschaft "Magneta." Zurich, Switzerland. Electric clock system	806,332	Dec. 5	488	107	119	1375
Fischer, Thomas, and J. B. Talbot, Edwardsville, Ill. Machine for molding cement blocks	804,528	Nov. 14	2027	441	119	487
Fish, Leslie. (See Worrell and Fish.)						
Fish, Walter C., Lynn, Mass., assignor to General Electric Company. Multirate meter	808,279	Dec. 26	4370	939	119	2345
Fishburne, Edward W., assignor of five-eighths to O. Humphreys, J. L. Calwell, and S. W. Hairston, Roanoke, Va. Ball-bearing caster	803,582	Nov. 7	318	66	119	71
Fishburne, Orrie H., assignor of one-half to V. V. Davids, New York, N. Y. Bottle-stopper	804,188	Nov. 7	1328	285	119	293
Fishel, Nessler & Co. (See Fishel, Theodore H., assignor.)						
Fishel, Theodore H., assignor to Fishel, Nessler & Co., New York, N. Y. Buckle	803,576	Nov. 7	91	23	119	20
Fisher, Adam E., Hannibal, Mo. Checkrein and holder for same	803,683	Nov. 7	319	68	119	72
Fisher, Charles A., Chicago, Ill. Mattress-sewing machine	807,451	Dec. 19	2707	583-4	119	1939
Fisher, George A., assignor of one-third to P. Shocker, Providence, R. I. Arch-protector for furnace-doors	804,801	Nov. 14	2571	561	119	607
Fisher, John, St. Paul, Minn. Bridle-front	807,425	Dec. 12	2636	569	119	1883
Fisher, John, St. Paul, Minn. Strap	807,426	Dec. 12	2636	569	119	1883
Fisher, Samuel, assignor of one-third to E. Morrison, Butler, Pa. Shoestring-fastener	805,275	Nov. 21	3553	767	119	861
Fiske, Homer W., Milan, Ohio. Automatic gas-regulator	807,813	Dec. 19	3428	736	119	2094
Fitch, Squire E. (See Herden, Fitch, and Burgoyne.)						
Fitts, Norman V., assignor of one-half to Colorado Iron Works Company, Denver, Colo. Ore-feeder	805,128	Nov. 21	3243	703-4	119	795
Fitzgerald, John E., Providence, R. I. Finger-ring	807,546	Dec. 19	2883	620	119	1974
Fitzgerald Richard. (See Macfarlane, William P. A., assignor.)						
Fitzgerald, Thomas, Jr., Fredonia, N. Y. Machine for pouring filling material in crevices	805,719	Nov. 28	4386	941	119	1081
Fixmer, Hugh J., Chicago, Ill. Composite railway-tie	803,751	Nov. 7	462	100	119	103
Flanagan, Edward F., Washington, D. C. Binder for music, &c.	807,734	Dec. 19	3286	705-6	119	2062
Flannery, James J., *et al.* (See Hinkson, Frank B., assignor.)						
Flannery, Joseph M., *et al.* (See Hinkson, Frank B., assignor.)						
Flatau, Louis S., St. Louis, Mo. Wheel-tire	806,654	Dec. 5	1076	238	119	1503
Fleckenstein, George F., and C. S. Dow, Sioux City, Iowa. Bed	807,735	Dec. 19	3288	706	119	2062
Fleeger, Austin, Chicora, Pa. Joint for electric conductors	806,789	Dec. 12	1376	304	119	1606
Fleer, Henry, *et al.* (See Britton, Robb, assignor.)						
Fleming, Edward E., Washington county, Md. Envelop-stamping machine	807,114	Dec. 12	3058	442	119	1757
Fleming, John A., London, England, assignor to Marconi Wireless Telegraph Company of America. Instrument for converting alternating electric currents into continuous currents	803,684	Nov. 7	321	69	119	72
Fleming, John A., assignor to Marconi's Wireless Telegraph Company, Limited, London, England. Apparatus for measuring the length of electric waves	804,189	Nov. 7	1329	285	119	293
Fleming, John A., assignor to Marconi's Wireless Telegraph Company, Limited, London, England. Instrument for making electrical measurements	804,190	Nov. 7	1332	285	119	294
Fletchall, Leonard J., assignor of one-half to M. L. Belden, Hatfield, Mo. Electric switch or disconnecting device for telephones	804,940	Nov. 21	2845	612	119	711
Fletcher, Elmer, Indianapolis, Ind. Repeating device for phonographs	804,714	Nov. 14	2392	522	119	565
Fletcher, George R., Cambridge, Ohio. Trolley	806,248	Dec. 5	304	65	119	1331
Fletcher, Richard H., Alexandria, Va. Car-bumper	807,920	Dec. 19	3643	790	119	2143
Flexon, William G., Williamstown, N. J. Darning-last	803,818	Nov. 7	576	126	119	125
Fliegel, Josef, Mallmitz, Germany. Milk-strainer with filter-pad, &c.	807,547	Dec. 19	2885	620	119	1975
Flindall, John, Chicago, Ill. Adjustable support for chairs	805,846	Nov. 28	4615	988	119	1127
Flitcroft, James E., Ocean Grove, N. J. Pipe-cleaning device	805,534	Nov. 28	4044	873	119	1007
Flitton, William J., Chicago, Ill. Dissolver	805,276	Nov. 21	3554	768	119	861
Flora Burner and Lamp Company. (See Flora, Ellsworth E., assignor.) (Reissue.)						
Flora, Ellsworth E., assignor, by mesne assignments, to Flora Burner and Lamp Company, Chicago, Ill. Incandescent oil-lamp. (Reissue)	12,415	Dec. 5	1303	290	119	1551
Flottmann, Heinrich, Bochum, Germany. Rock-boring machine	806,128	Dec. 5	78	16	119	1281
Floyd, William H., Jr. (See Meier and Floyd.)						
Flugan, William C., Lisbon, Ohio. Trimming and weeding implement	805 191	Nov. 21	3370	730	119	821
Flynn, Erastus M., Lebanon, Mo. Fire-kindler	808,033	Dec. 19	3833	830	119	2184
Focht, George, Hoboken, N. J. Garbage or ash can	806,885	Dec. 12	1586	347	119	1655
Foersterling, Henry F., St. Louis, Mo. Telephone-bracket	806,790	Dec. 12	1378	304	119	1607
Foggan, George, Pleasantville, Pa. Pipe-wrench	807,258	Dec. 12	2320	499	119	1812
Fogh, John J. (See Jungersen and Fogh.)						
Folden, Warner L., assignor of one-half to W. M. King, Lincoln, Nebr. Belt-punch and lace-cutter	806,333	Dec. 5	492	107	119	1375
Follett, Edward P., Rochester, N. Y. Measuring device for corsets	808,233	Dec. 26	4274	919	119	2324
Follett, Wilbur I., New York, N. Y. Time-recorder	803,888	Nov. 7	700	152	119	151
Folmer & Schwing Mfg. Company. (See Folmer, William F., assignor.)						
Folmer, William F., assignor to Folmer & Schwing Mfg. Company, New York, N. Y. Camera	804,802	Nov. 14	2573	561-2	119	607
Fölsch, Carl F. (See Engelhardt and Fölsch.)						
Fonda, Charles P., San Francisco, Cal. Magazine and delivery mechanism for paper	804,306	Nov. 14	1600	346	119	391
Fonda, Charles P., San Francisco, Cal. Magazine and delivery mechanism for paper	804,307	Nov. 14	1603	346	119	391
Foote, Hubert T., New Rochelle, N. Y. Surgical appliance	807,160	Dec. 12	2139	459	119	1773
Foote, James B., Fredericktown, Ohio. Wire-cutting device	806,791	Dec. 12	1379	304	119	1607
Forbes, Henry M., assignor of three-fourths to J. M. Russell, R. H. Dalton, and F. Thompson, Portage, Wis. Laundry dampening apparatus	805,277	Nov. 21	3556	768	119	862
Ford, Edward L., assignor of one-half to T. V. Wilson, Zwolle, La. Steam-separating apparatus	806,129	Dec. 5	80	17	119	1281
Ford, Trace S., Marshalltown, Iowa. Game-counter	803,577	Nov. 7	94	23	119	21
Forman, Sanford B., assignor of one-half to J. A. Chiles and J. Thacker, Lexington, Ky. Mail-crane	805,278	Nov. 21	3559	769	119	862
Forsgren, Ernst L. (See Sjoberg and Forsgren.)						
Forster, Ferdinand E., New York, N. Y. Anchor	805,535	Nov. 28	4045	873	119	1008
Forster, John J., Avalon, Pa. Soap-press	806,967	Dec. 12	1750	383-4	119	1690
Forsyth, George H., assignor to Curtain Supply Company, Chicago, Ill. Curtain-fixture	804,308	Nov. 14	1605	347	119	391
Forter-Miller Engineering Company. (See Miller, William R., assignor.)						
Forward, Charles R., Binghamton, N. Y. Sled	805,279	Nov. 21	3561	769	119	863

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Foss, Benjamin Q. P., San Jose, Cal., assignor to Foss Water Burner Company, Chicago, Ill. Hydrocarbon-burner	808,529	Dec. 26	4862	1047	119	2453
Foss Water Burner Company. (See Foss, Benjamin Q. P., assignor.)						
Foster, Claud H., Cleveland, Ohio. Horn	808,530	Dec. 26	4864	1047	119	2453
Foster, Ephraim J. and J. M., Steubenville, Ohio. Hay raking and stacking machine	805,847	Nov. 28	4616	989	119	1127
Foster, Herbert A., Queensbury, England. Loom for weaving pile fabrics	804,309	Nov. 14	1607	347-9	119	392
Foster, Ira L., Columbus Junction, Iowa. Elevated carrier	805,280	Nov. 21	3562	769-70	119	863
Foster, James M. (See Foster, Ephraim J. and J. M.)						
Foster, Minna B., Sausalito, Cal. Stock-supporter	804,529	Nov. 14	2030	441	119	487
Foster, Nicholas, South Tacoma, Wash., assignor of one-half to J. O. Johnson. Apparatus for making tubing	808,355	Dec. 26	4536	976	119	2381
Foster, Samuel L., San Francisco, Cal. Electric strain-insulator	805,788	Nov. 28	4511	966	119	1105
Fouché, Edmond, assignor to E. A. Javal, Paris, France. Gas-blowpipe	804,002	Nov. 7	935	198	119	201
Foulds, Alfred J. and H. A., Philadelphia, Pa. Machine for simultaneously spinning and winding yarn	805,129	Nov. 21	3247	704	119	795
Foulds, Alfred J. and H. A., Lansdowne, Pa. Asbestos thread and making same	807,814	Dec. 19	3430	737	119	2094
Foulds, Henry A. (See Foulds, Alfred J. and H. A.)						
Foulis, David. (See Foulis, James and D.)						
Foulis, James and D., Wheaton, Ill. Golf-club	807,736	Dec. 19	3288	706	119	2062
Foulks, Charles E., Covington, Ky. Starting-gate for race-tracks	807,161	Dec. 12	2140	459	119	1774
Fournier, Georges. (See Noalhat and Fournier.)						
Foust, Barrett A., Meadville, Pa. Loading device	808,357	Dec. 26	4538	976	119	2382
Fowble, Cyril E., Baltimore, Md. Book holder or rest	804,462	Nov. 14	1890	411	119	454
Fowler, John, Chicago, Ill. Bridge-gate	808,531	Dec. 26	4867	1047	119	2454
Fowler, Robert R., Madera, Cal. Word-registering attachment for type-writing machines	807,022	Dec. 12	1848	403-4	119	1712
Fox, Charles H., assignor to Ahrens Fire Engine Company, Cincinnati, Ohio. Throttle-valve	803,889	Nov. 7	702	152	119	151
Fox, Charles T. (See Humphrey, James D., assignor.)						
Fox, Homer F. (See Sours and Fox.)						
Fov, Peter H., Minneapolis, Minn. Current-motor	806,249	Dec. 5	306	65	119	1331
Frager, Alphonse J., assignor to Compagnie pour la Fabrication des Compteurs & Matériel d'Usines A Gaz, Paris, France. Induction-meter	808,532	Dec. 26	4868	1048-9	119	2454
Francfort, Alfred H., Jersey City, N. J. Hydraulic ram	808,604	Dec. 26	5005	1079-80	119	2483
Francis, Herbert P., assignor to R. Saville, Oroville, Cal. Attachment for dredgers	805,906	Nov. 28	4740	1014	119	1157
Francis, Leslie E., Spirit Lake, Iowa. Detachable manure-spreader	804,003	Nov. 7	939	198	119	201
Francis, Samuel, Denver, Colo. Calendar for pencils or pens	804,941	Nov. 21	2846	612	119	712
Francisco, Joseph B., Columbus, Ohio. Adjustable mold for making building-blocks	805,457	Nov. 28	3899	844	119	976
Frank C. Osmers Company. (See Osmers, Frank C., assignor.)						
Frank, Gustav, Jefferson, Tex. Furniture-handle	808,533	Dec. 26	4875	1049	119	2455
Frank, James A., Wellsburg, W. Va. Glass-furnace	808,358	Dec. 26	4540	976-7	119	2382
Franke, Emil, Hicksville, N. Y. Hand pneumatic tool	807,452	Dec. 19	2709	584	119	1939
Frankenberg, Frank H., Pueblo, Colo. Lawn-mower	807,737	Dec. 19	3289	706	119	2063
Franklin, John C., Gallatin, Tenn. Propeller	808,034	Dec. 19	3834	830	119	2185
Frantzich, Evald, Kensington, Minn. Bundle-carrying device	808,080	Dec. 26	3929	850	119	2248
Frary, Warren S., and J. L. Knieper, assignors to J. L. Knieper, Grand Rapids, Mich. Cultivator	805,789	Nov. 28	4513	966	119	1105
Fraser, Allan, Providence, R. I. Chair	807,815	Dec. 19	3430	737	119	2094
Fraser, Warren F., assignor to A. and F. Orpin, Boston, Mass. Type-writer desk	806,792	Dec. 12	1380	305	119	1607
Fraser, William W. (See Raymond and Fraser.)						
Freaney Brothers. (See Rice, Lewis J., assignor.)						
Fred J. Meyers Manufacturing Company. (See Haver, Henry G., assignor.)						
Fred M. Prescott Steam Pump Company. (See Davidson and Worden, assignors.)						
Frederick Stearns & Company. (See Stearns, Wayland D., assignor.)						
Freeman, Dorus G., Canastota, N. Y. Combined holder and locking device for window-sashes	805,907	Nov. 28	4743	1014	119	1157
Freeman, Ernest B., Dedham, assignor to B. F. Sturtevant Company, Boston, Mass. Tube-scraper-driving mechanism for fuel-economizers	803,578	Nov. 7	95	23-4	119	21
Freeman, Joseph W., Peebles, Ohio. Vault	805,130	Nov. 21	3248	704	119	796
Freeman, William, Brooklyn, N. Y. Fashion-chart	805,432	Nov. 21	3845	832	119	922
Freeman, William, assignor to Harris Suspender Company, New York, N. Y. Suspenders	804,942	Nov. 21	2848	612	119	712
Frei, Henry, Allegheny, Pa. Burglar-alarm	806,532	Dec. 5	858	190	119	1457
Freier, Anton. (See Lillie and Freier.)						
Freise, Heinrich, Hamme, near Bochum, Germany. Refuse-bucket	804,715	Nov. 14	2394	523	119	565
Fremery, Max, Oberbruch, E. Bronnert, Mülhausen-Niedermorschweiler, Germany, and J. Urban, St. Pölten, Austria-Hungary. Manufacturing films or threads of cellulose	804,191	Nov. 7	1334	.....	119	294
Fremery, Max, Oberbruck, E. Bronnert, Mülhausen-Niedermorschweiler, Germany, and J. Urban, St. Polten, Austria-Hungary. Manufacture of threads or films of cellulose	806,533	Dec. 5	860	.....	119	1458
French, Alfred W., Piqua, Ohio. Apparatus for cooling and drying oil-cake	808,081	Dec. 26	3931	851	119	2249
French, Alfred W., Piqua, Ohio, and J. Hauenstein, Buffalo, N. Y., assignors to French Oil Mill Machinery Company, Piqua, Ohio. Stay for press-mats	806,334	Dec. 5	494	108	119	1375
French Oil Mill Machinery Company. (See French and Hauenstein, assignors.)						
Frenzel, John A., Wausau, Wis. Car-coupling	803,579	Nov. 7	100	25	119	22
Frey, Amzi A., Martins Creek, Pa. Plow	808,359	Dec. 26	4541	977	119	2382
Frey, George J., assignor of one-half to T. R. Levis, Rochester, N. Y. Sign	803,750	Nov. 7	459	100	119	102
Fridgen, John, Kansas City, Mo., assignor to C. B. Royal, River Forest, Ill. Apparatus for lubricating engine-trucks and driving-journals	806,130	Dec. 5	80	17	119	1282
Friedel, Albert H., New York, N. Y. Flying-machine	804,593	Nov. 14	2156	471-2	119	513
Friedline, Frederick I., Little Rock, Ark. Radial car-puller sheave	806,534	Dec. 5	861	190	119	1458
Friedrichs, Gustave A., assignor of one-half to C. A. Proulx, Woonsocket, R. I. Dyeing apparatus	806,793	Dec. 12	1382	305	119	1608
Fries, John W., Winston Salem, N. C. Indigo dye	807,453	Dec. 19	2711	.....	119	1340
Friis, Juhani, Gamla, Russia. Apparatus for obtaining the products of resinous woods by dry distillation	805,848	Nov. 28	4619	989-90	119	1128
Fristoe, George H., Toronto, Canada. Meter	808,150	Dec. 26	4096	882	119	2284
Fritzsche & Co., Franz. (See Sommer, Rudolf J. M., assignor.)						
Froman, Joseph D., and T. M. Lanham, Vevay, Ind. Folding bed	804,594	Nov. 14	2158	472	119	514
Froney, Burt F., Jacobsville, Mich. Saw and chisel gummer	807,454	Dec. 19	2712	584	119	1940
Frost, Charles M., Jackson, Mich. Corset and other articles of counterpart construction	803,085	Nov. 7	326	69	119	74
Frost, John E., Watkins, assignor to Elmira Heater Company, Elmira, N. Y. Steam and hot-water heater	805,354	Nov. 21	3694	800	119	889
Frost, Robert T., Dows, Iowa. Mold	805,418	Nov. 21	3816	824	119	916
Frost, Robert T., Dows, Iowa. Clip	806,076	Nov. 28	5066	1079	119	1227

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Frost, Theodore C. (See Meyers and Frost.)						
Fry, Stuart R., Killarney, Canada. Railway-rail	808,151	Dec. 26	4100	883	119	2285
Fry, William A., Washington, D. C. Draft-equalizer for vehicles	807,455	Dec. 19	2715	585	119	1940
Fuldner, Louis, *et al.* (See Kenngott, William, assignor.)						
Fullard, William, Plainfield, N. J., assignor, by mesne assignments, to United Printing Machinery Company. Tympan-plate for presses	806,739	Dec. 5	1255	279	119	1541
	808,082	Dec. 26	3933	851	119	2269
Fuller, Edward J., Elyria, Ohio. Metallic packing						
Fuller, James E. (See Martin Rudolph, assignor.)						
Fuller, Peter H., Picture Rocks, Pa. Vehicle-brake	804,111	Nov. 7	1165	247–8	119	256
Fullerton, David K., A. Ousdahl, and E. Kronberg, Brainerd, Minn. Machine for inserting couplings and nipples into hose	807,738	Dec. 19	3291	707–8	119	2063
	805,010	Nov. 21	2986	648	119	741
Fullilove, Jack P., Shreveport, La. Fertilizer-distributer						
Fulton Company. (See Fulton, Weston M., assignor.)						
Fulton, Weston M., assignor to Fulton Company, Knoxville, Tenn. Oven	804,943	Nov. 21	2849	613	119	712
Fulton, Weston M., assignor to Fulton Company, Knoxville, Tenn. Collapsible vessel	805,720	Nov. 28	4389	941	119	1061
Funk, George. (See Lonngren, Magnus N., assignor.)						
Furbeck, George W., and A. N. Carver, Chicago, Ill. Fluid-pressure controller	803,686	Nov. 7	327	69–70	119	74
Furmidge, Samuel, assignor to Supplementary Spiral Spring Company, St. Louis, Mo. Vehicle-spring	807,612	Dec. 19	3023	648	119	2005
Fussenegger, Ernst, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Azo coloring-matter	806,077	Nov. 28	5067	.....	119	1227
Gadd, Charles J., and D. J. Jenkins, Steelton, Pa. Automatic punching-machine	805,192	Nov. 21	3372	731	119	822
Gaddum, Charles E. W. (See Kother, Richard, assignor.)						
Gagné, Joseph E., Ahuntsic, Canada. Life-preserver	806,250	Dec. 5	307	65	119	1332
Galena-Signal Oil Company. (See Gleason, Lewis, assignor.)						
Gallagher, Hugh F., Saltsburg, Pa. Nursing-bottle	805,641	Nov. 28	4239	912	119	1050
Gallagher, John J. (See Murdock, Samuel N., assignor.)						
Gallagher, Joseph D., Glenridge, N. J. Brake-shoe	807,370	Dec. 12	2523	545–6	119	1857
Gallagher, Richard D., Sr., assignor of three-fourths to W. H. Harrison, H. N. Jewett, and E. T. Shaw, Omaha, Nebr. Binder for brooms, whisks, &c.	806,655	Dec. 5	1078	239	119	1503
Gallagher, Richard W., and G. F. Gillett, assignors to said Gallagher and L. A. Wolff, San Francisco, Cal. Block and despatching system for railways	805,419	Nov. 21	3818	825	119	916
	805,193	Nov. 21	3373	731	119	822
Gallagher, Thomas M., Old Orchard, Mo. Body-bolster						
Gallagher, William J. (See Chapman, Frank M., assignor.)						
Gallinant, Raphael C., Ridgefield Park, N. J., and J. Dukarevich, New York, N. Y. Music-leaf turner	806,535	Dec. 5	862	191	119	1458
Gallois, Moritz von, assignor to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Printing with indigo	808,443	Dec. 26	4688	.....	119	2414
Gallot, Louis, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Clothing-support for wardrobes	807,259	Dec. 12	2320	500	119	1813
Gallot, Louis, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Movable support for wardrobes	807,260	Dec. 12	2322	500	119	1813
Galt, Ralph L., *et al.* (See MacPherson, John G., assignor.)						
Gandil, Ernst V., Copenhagen, Denmark. Milking-machine	805,281	Nov. 21	3563	770–1	119	863
Ganswindt, Hermann, Schöneberg, near Berlin, Germany. Drip-tray	807,548	Dec. 19	2887	621	119	1975
Ganzenmüller, Adolf, New York, N. Y. Scuttle-hole protector	807,921	Dec. 19	3645	791	119	2143
Gardinier, Clarence H., Rensselaer, N. Y. Adjustable table	808,534	Dec. 26	4876	1049–50	119	2455
Gardisky, Frederick, Chili, N. Y. Lifting-jack	808,535	Dec. 26	4877	1050	119	2456
Gardner, Charles W., Oroville, Cal. Gold washing and separating screen	807,023	Dec. 12	1851	404	119	1713
Gardner, Douglas, Upton Park, and J. O. Newton, South Woodford, England. Bronzing-machine	804,112	Nov. 7	1167	248	119	257
Gardner, Horace C., Chicago, Ill. Apparatus for processing meats, &c.	807,162	Dec. 12	2142	459–61	119	1774
Gardner, Joshua G., assignor to Pure White Turpentine Company, Jacksonville, Fla. Apparatus for extracting turpentine from wood	808,035	Dec. 19	3835	831	119	2185
Garhart Dental Manufacturing Company. (See Garhart, Nathan K., assignor.)						
Garhart, Nathan K., assignor to Garhart Dental Manufacturing Company, Indianapolis, Ind. Electrical controller	804,595	Nov. 14	2160	472–3	119	514
Garland, James G., Pittsburg, Pa. Filter	804,004	Nov. 7	941	199	119	301
Garner, John E., Philadelphia, Pa. Chip-breaker	806,078	Nov. 28	5068	1080	119	1227
Garnett, Harrison, Norristown, Pa. Beaming-machine for looms	806,335	Dec. 5	495	108	119	1376
Garrett-Cromwell Engineering Company. (See Lash, Horace W., assignor.)						
Garrett, Harry L., Boone, Iowa. Fastener for vestibuled-car curtains	804,310	Nov. 14	1612	350	119	393
Garrett, Spencer M., *et al.* (See Mason, Julius H., assignor.)						
Garrett, Thomas O., Carbondale, Ill. Nut-lock	804,803	Nov. 14	2576	562	119	608
Garris, William A., Westchester, Pa. Time-alarm	804,653	Nov. 14	2295	496	119	516
Garrison, Claude, Bellaire, Ohio. Wrench	804,838	Nov. 21	2659	576	119	669
Garrison, George H., Gladstone, Mich. Flexible rear sight for firearms	804,804	Nov. 14	2577	562	119	608
Garrison, George H., Gladstone, Mich. Semiflexible rear sight for firearms	804,805	Nov. 14	2579	563	119	608
Gas-Bugelofen-Gesellschaft mit Beschränkter Haftung. (See Henniger, Emil H., assignor.)						
Gaspary, Alfred, Markranstädt, near Leipsic, Germany. Cement-roofing-tile-making machine	804,944	Nov. 21	2851	613	119	712
Gast, Alfred A. (See Jacky, Chester A., assignor.)						
Gates, Charles H., Carbondale, Pa. Feed-water heater	807,669	Dec. 19	3130	674	119	2033
Gathmann, Emil. (See Meigs and Gathmann.)						
Gaunt, Charles H. (See Greene and Gaunt.)						
Gavelek, Oscar, assignor of one-half to W. L. Paul and G. W. Mervin, Chicago, Ill. Carbureter for hydrocarbon-engines	806,079	Nov. 28	5070	1080	119	1227
Gay, Chauncey W., West Springfield, Mass. Machine for opening up and end-closing knockdown cartons	804,716	Nov. 14	2394	523–5	119	555
Gay, Chauncey W., West Springfield, Mass. Machine for surface-finishing paper	805,355	Nov. 21	3696	801	119	899
Gay, Herman T., Baltimore, Md., assignor, by mesne assignments, of one-fourth to J. Welzant. Clock striking mechanism	806,336	Dec. 5	496	108–9	119	1376
Gay, Herman T., assignor of one-half to J. Welzant, Baltimore, Md. Striking mechanism for clocks	806,337	Dec. 5	496	109–10	119	1376
Geckler, William, Rochester, N. Y. Telephone night-watch system	803,890	Nov. 7	703	152	119	152
Geers, Joe, W. Mehrle, Jersey City Heights, and J. Wiemkes, Hoboken, N. J. Cement-stone machine	805,642	Nov. 28	4240	912–13	119	1050
	804,219	Nov. 14	1419	303	119	352
Gehl, Mathias C., Milwaukee, Wis. Butter-cutting machine						
Gehring, Gustave P. (See Johnson and Collins, assignors.)						
Geissberger, Emil C., assignor of one-half to A. T. Demarest & Co., New York, N. Y. Lamp or headlight for vehicles	805,194	Nov. 21	3374	731	119	822
Gem Fibre Package Company. (See Harbeck, Jarvis R., assignor.)						
Gendron, Adolph J. (See Hamel, Charles F., assignor.)						
Gendron Wheel Company. (See Diemer, William, assignor.)						
Genella, Alphonse J. K., New Orleans, La. Fraud-preventive bottle	808,280	Dec. 26	4372	929	119	2345

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
General Electric Company. (See Alexanderson, Ernst F. W., assignor.)						
General Electric Company. (See Anderson, Edward H., assignor.)						
General Electric Company. (See Atkinson, Llewelyn B., assignor.) (Reissue.)						
General Electric Company. (See Bassett, Norman C., assignor.)						
General Electric Company. (See Beckert, Frank R., assignor.)						
General Electric Company. (See Callan John G., assignor.)						
General Electric Company. (See Carichoff, Eugene R., assignor.)						
General Electric Company. (See Case, Frank E., assignor.)						
General Electric Company. (See Churchward, Alexander, assignor.)						
General Electric Company. (See Curtis, Charles G., assignor.)						
General Electric Company. (See Davis, Albert G., assignor.)						
General Electric Company. (See Ellis, Alvarado L. R., assignor.)						
General Electric Company. (See Emmet, William L. R., assignor.)						
General Electric Company. (See Field, Michael B., assignor.)						
General Electric Company. (See Fish, Walter C., assignor.)						
General Electric Company. (See Hartley, James J., assignor.)						
General Electric Company. (See Haskins, Caryl D., assignor.)						
General Electric Company. (See Heath, Harry E., assignor.)						
General Electric Company. (See Herman, Reinhold, assignor.)						
General Electric Company. (See Hewlett, Edward M.. assignor.)						
General Electric Company. (See Hill, George H., assignor.)						
General Electric Company. (See Hilliard, John D., Jr., assignor.)						
General Electric Company. (See Jeannin, Frank H., assignor.)						
General Electric Company. (See Junggren, Oscar, assignor.)						
General Electric Company. (See Kastenhuber, Edwin G., assignor.)						
General Electric Company. (See Keller, Huldreich, assignor.)						
General Electric Company. (See Kieser, Walter, assignor.)						
General Electric Company. (See King, Charles G. Y., assignor.)						
General Electric Company. (See Larson, Carl W., assignor.)						
General Electric Company. (See Lemp, Hermann, assignor.)						
General Electric Company. (See Lunt, Alexander D., assignor.)						
General Electric Company. (See Meyersberg, Gustav, assignor.)						
General Electric Company. (See Miller, David, assignor.)						
General Electric Company. (See Moody, Walter S., assignor.)						
General Electric Company. (See Noeggerath, Jacob E., assignor.)						
General Electric Company. (See Perry, Charles L., assignor.)						
General Electric Company. (See Pevear, Jesse S., assignor.)						
General Electric Company. (See Potter, William B., assignor.)						
General Electric Company. (See Reist, Henry G., assignor.)						
General Electric Company. (See Rice, Richard H., assignor.)						
General Electric Company. (See Rickey, Walter J., assignor.)						
General Electric Company. (See Rupley, George H., assignor.)						
General Electric Company. (See Schattner, Ernest, assignor.)						
General Electric Company. (See Simonds, Charles G., assignor.)						
General Electric Company. (See Steinmetz, Charles P., assignor.)						
General Electric Company. (See Stevens, George E., assignor.)						
General Electric Company. (See Stewart, Samuel B., Jr., assignor.)						
General Electric Company. (See Thomson, Elihu, assignor.)						
General Electric Company. (See Underwood, Louis E., assignor.)						
General Electric Company. (See Whitney and Robinson, assignors.)						
General Electric Company. (See Wood, Montraville M., assignor.)						
General Fireproofing Company. (See Wege, Peter M., assignor.)						
General Railway Signal Company. (See Townsend, Fitzhugh, assignor.)						
Geneux, Emile C., Jeanerette, La. Railway-rail	803,580	Nov. 7	101	25	119	22
Gentieu, George W., and R. S. Waddell, Peoria, Ill. Making smokeless powder	806,131	Dec. 5	83	17	119	1282
Gentieu, George W., and R. S. Waddell, Peoria, Ill. Apparatus for making smokeless powder	808,036	Dec. 19	3838	831	119	2185
Geoffroy, Arthur R., Newark, N. J. Automatic fastening device	807,069	Dec. 12	1961	423	119	1737
George D. Whitcomb Company. (See Lippitt, Elihu, assignor.)						
George S. Young Company. (See Worswick, William H., assignor.)						
Gerber, Herman, Providence, R. I., assignor to Crompton & Knowles Loom Works. Jacquard mechanism for looms	803,891	Nov. 7	707	153	119	153
Gerdom, Gregory, Watervliet, N. Y. Breech-block-operating lever	807,549	Dec. 19	2887	621	119	1975
Gergersen, Peter, and T. D. Parr, Seattle, Wash. Hose-clamp	808,444	Dec. 26	4689	1010	119	2414
Geritz, Claus P., Kingsland, N. J. Mechanism for automatically actuating air-brakes	805,420	Nov. 21	3822	825–26	119	917
Gerlach, Richard, Berlin, Germany. Fly-wheel	804,806	Nov. 14	2580	563	119	609
Gerling, Charles H. (See Good and Gerling.)						
Germani, Gustavo, Pittsburg, Pa. Incandescent lamp	805,282	Nov. 21	3565	771	119	864
Germer, Edward G., Erie, Pa. Furnace	803,581	Nov. 7	102	25	119	22
Gerow, George H. (See Gerow, Royal and G. H.)						
Gerow, Royal and G. H., Northport, Canada. Incandescent electric lamp	805,131	Nov. 21	3249	704	119	796
Gervais, Lucien L. (See Carlson, Alfred, assignor.)						
Gescheider, Albert F., assignor of one-half to F. A. Persohn, Baltimore, Md. Escapement	807,261	Dec. 12	2324	501	119	1814
Gesellschaft zur Verwertung der Boleg'schen Wasserlöslicher Mineralöle und Kohlenwasserstoffe, Gesellschaft mit Beschränkter Haftung. (See Boleg, Friedrich, assignor.)						
Gestetner, David, Tottenham Hale, England. Stencil-printing machine	805,536	Nov. 28	4047	873–6	119	1008
Gettelmann, Ludwig, South Germantown, Wis. Beet-harvester	808,281	Dec. 26	4376	940–1	119	2346
Getz, Hiram L., Marshalltown, Iowa. Bracket-arm for incandescent electric lamps	803,819	Nov. 7	577	126–7	119	125
Geuder and Paeschke Manufacturing Company. (See Kenkel, Julius F., assignor.)						
Gezon, Benjamin, Grand Rapids, Mich. Horse-checking device	807,816	Dec. 19	3432	737	119	2004
Ghegan, John J. (See Field, Stephen D., assignor.)						
Gibb, David, *et al.* (See Morrison, John A., assignor.)						
Gibb, William, *et al.* (See Morrison, John A., assignor.)						
Gibbs, Arthur A. (See Gibbs, Walter T. and A. A.)						
Gibbs, George, New York, N. Y. Car construction	806,468	Dec. 5	754	168	119	1434
Gibbs, Walter A., Zanesville, Ohio. Machine for separating tickets, &c	806,968	Dec. 12	1752	384	119	1691
Gibbs, Walter A., Zanesville, Ohio. Machine for separating tickets	806,969	Dec. 12	1754	384–5	119	1691
Gibbs, Walter T. and A. A., London, England. Leaded light	808,445	Dec. 26	4690	1011	119	2414
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Electropneumatic channeler	805,195	Nov. 21	3376	732	119	822
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Fluid-presser	805,196	Nov. 21	3379	733	119	823
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Air-presser	805,197	Nov. 21	3381	733	119	824
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Air-presser	805,198	Nov. 21	3382	733	119	824

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Gibson, Clinton R. (See Gibson, William C. and C. R.)						
Gibson, Edward J., assignor to Lamb Wire Fence Company, Adrian, Mich. Wire-staple forming and discharging mechanism	804,311	Nov. 14	1615	350	119	394
Gibson, James G., Ironton, Colo. Fly-trap	804,654	Nov. 14	2267	496-7	119	526
Gibson, Samuel J., The Dalles, Oreg. Washboiler attachment	807,371	Dec. 12	2525	546	119	1857
Gibson, William, Philadelphia, Pa. Brake for wagons and other vehicles	806,536	Dec. 5	863	191	119	1458
Gibson, William C. and C. R., Hummer, S. D. Automatic check-row corn-planter	804,391	Nov. 14	1760	381	119	427
Giesey, James H., Pittsburg, Pa. Window. (Reissue)	12,405	Nov. 7	1374	292	119	303
Giesler, Arthur, assignor to Platt Iron Works Company, Dayton, Ohio. Surface-condensing plant	806,132	Dec. 5	85	18	119	1282
Giesler, Franklin B., Milwaukee, Wis. Pneumatic malting-drum	805,356	Nov. 21	3702	801-2	119	891
Giffin, George H. (See Holden, Eugene H., assignor.)						
Gilbert & Barker Manufacturing Company. (See Barker, John F., assignor.)						
Gilbert, Edward N., Canadian, Tex. Caisson	807,456	Dec. 19	2715	585	119	1940
Gilbert, Frank N., Binghamton, N. Y. Ruler	807,817	Dec. 19	3433	737-8	119	2095
Gilbert, George A., Chicago, Ill. Pulley	805,537	Nov. 28	4049	876	119	1009
Gilbert, Henry K., Chicago, Ill. Car-replacer	805,849	Nov. 28	4621	990	119	1128
Gilbert, Henry K., Chicago, Ill. Brake-shoe	806,251	Dec. 5	309	66	119	1332
Gilbert, Henry K., Chicago, Ill. Brake-shoe	806,252	Dec. 5	310	66	119	1332
Gilbertson, Hans L., St. Paul, Minn. Valve for outlet-ports	808,037	Dec. 19	3840	831	119	2186
Gilbough, Benjamin G., Chicago, Ill. Sparking device	805,790	Nov. 28	4515	966	119	1106
Gilchrist, Andrew W., Edgewood, Iowa. Coupling for whiffletrees	804,392	Nov. 14	1761	381	119	427
Gill, Albert L., Trenton, N. J. Cylinder for threshing-machines	806,537	Dec. 5	864	191	119	1459
Gill, Lemuel D., and P. C. Titus, Meriden, W. Va. Coupling	808,446	Dec. 26	4690	1011	119	2414
Gill, Sigel H. (See Hayes and Gill.)						
Gilleland, John W., assignor of one-half to P. L. Huggins, Athens, Ga. Cotton cupper or spacer	805,908	Nov. 28	4747	1015	119	1158
Gilleran, Bernard, assignor of one-half to R. T. Looney, Hancock, Mich. Dumping-car	805,643	Nov. 28	4243	913	119	1050
Gillett, George F. (See Gallagher and Gillett.)						
Gillette, George H., New York, N. Y., assignor to Crown Cork and Seal Co. of Baltimore City, Baltimore, Md. Bottle-sealing apparatus	808,536	Dec. 26	4879	1050-1	119	2456
Gillie, John B., North Tonawanda, N. Y. Portable planing-machine	806,794	Dec. 12	1383	305	119	1608
Gillies, Alexander, Ferang, Victoria, Australia. Pneumatic teat-cup	807,372	Dec. 12	2526	546-7	119	1857
Gilliland, Alexander, *et al.* (See Bradley, William H., assignor.)						
Gilmore, Benjamine V., Redhouse Shoals, W. Va. Rail-brake	805,644	Nov. 28	4245	914	119	1050
Gilreath, James G., assignor of two-thirds to A. L. Combs, Wilkesboro, N. C Railway-switch	804,393	Nov. 14	1762	381-2	119	428
Gilson, Bert D., assignor of one-half to L. Maymon, Indianapolis, Ind. Adjustable vehicle-wheel	807,922	Dec. 19	3648	791	119	2144
Gilson Manufacturing Company of Wisconsin. (See Bethke, Bernhard, assignor.)						
Ginaca, Henry G., assignor of two-fifths to H. O. C. Isenberg, Honolulu, Hawaii. Valve	805,850	Nov. 28	4622	990	119	1128
Ginet, Joseph H., Jr., St. Louis, Mo. Adding-machine	806,795	Dec. 12	1386	306	119	1609
Glader, William, Chicago Ill. Machine for flaring or coning barrel-hoops	806,796	Dec. 12	1391	307	119	1610
Glaser, George L., New York, N. Y., and J. Olsen, Jersey City, N. J. Vehicle-wheel	806,080	Nov. 28	5071	1080-1	119	1227
Glatt, Otto, assignor of one-half to W. J. Richardson, Toronto, Canada. Piano-action	803,752	Nov. 7	463	100	119	103
Gleason, B. J., *et al.* (See Barnum, Albert L., assignor.)						
Gleason, Lewis, assignor to Galena-Signal Oil Company, Franklin, Pa. Oil-cup	804,655	Nov. 14	2268	497	119	537
Gleckner, William W., Canton, Pa. Winker-brace	804,394	Nov. 14	1764	382	119	428
Glenn, Coulter E. (See Glenn, Harvey S. and C. E.)						
Glenn, Fred E. (See Brown, James H., assignor.)						
Glenn, George K., Pasadena, Cal. Lock	804,113	Nov. 7	1166	249	119	257
Glenn, Harvey S. and C. E., Oakmont, Pa. Portable drilling-machine	806,886	Dec. 12	1588	348-9	119	1655
Glidden, Walter L. (See Brewster, Dutherage, and Glidden.)						
Globe Optical Company. (See Bowker, John W., assignor.)						
Glore, William H., Covington, Ky. Fire-extinguisher	804,807	Nov. 14	2582	563-4	119	609
Goble, Harvey J., Winamac, Ind. Stove-screen	806,036	Dec. 19	3841	831	119	2186
Goddard, Walter T., assignor to Locke Insulator Manufacturing Company, Victor, N. Y. Insulator-pin	806,887	Dec. 12	1595	349	119	1656
Godsal, Philip T., Iscoyd Park, near Whitchurch, England. Breech-loading small-arm	808,282	Dec. 26	4378	941-2	119	2347
Goedeke, Fred W., *et al.* (See Kastner, John, Jr., assignor.)						
Goehst, John H., assignor to Federal Electric Company, Chicago, Ill. Portable electric lamp	806,409	Dec. 5	633	138	119	1408
Goers, Robert W., Syracuse, N. Y. Auriphone	803,892	Nov. 7	708	153	119	153
Goessmann, Charles I., Worcester, assignor to Vellumoid Paper Company, Amherst, Mass. Paper characterized by its impervious nature and strength	804,808	Nov. 14	2583	.....	119	609
Goetz, Adam D., Charlestown, W. Va. Shaft-tug	806,338	Dec. 5	501	110	119	1377
Goetz, George L., Chicago, Ill. Sign for wire fences	808,447	Dec. 26	4691	1011	119	2414
Gohmann, Charles L., assignor of two-thirds to E. G. Gohmann and J. Kahler, New Albany, Ind. Knockdown range	804,596	Nov. 14	2164	473-4	119	515
Gohmann, Edmund G., *et al.* (See Gohmann, Charles L., assignor.)						
Gold, Edward E., New York, N. Y. Train-pipe coupling	804,005	Nov. 7	943	199	119	202
Gold, Edward E., New York, N. Y. Steam-valve for train-pipes	806,970	Dec. 12	1757	385-6	119	1662
Gold, Egbert H., Chicago, Ill. Filling attachment	803,893	Nov. 7	710	153	119	153
Gold, Joseph S., Jackson, Ohio. Telephone-shelf	806,339	Dec. 5	502	110	119	1377
Goldberg, Hyman E., Chicago, Ill. Calculating-machine	804,463	Nov. 14	1890	411	119	454
Goldfarb, Natusius J., Düsseldorf, Germany. Medicinal injector	805,851	Nov. 28	4624	991	119	1129
Golding, John F., Washington, D. C., assignor to Monolith Steel Company, Incorporated. Metal fabric for use in concrete and other purposes	808,039	Dec. 19	3843	832	119	2187
Goldschmidt, Hans, Essen-on-the-Ruhr, Germany. Dressing tinned sheet-iron boxes	804,530	Nov. 14	2031	442	119	487
Goldsmith, Edgar J., Cincinnati, Ohio. Catcher's glove or mitt	805,538	Nov. 28	4050	876	119	1009
Goldstein, Gustav, New York, N. Y. Pocket-book	806,888	Dec. 12	1597	350	119	1657
Gomber, George W., assignor to H. Gomber, Conyngham, Pa. Mandrel	805,011	Nov. 21	2997	648-9	119	742
Gomber, Hulda. (See Gomber, George W., assignor.)						
Gomila, Salvador de, assignor to J. Welter, Malaga, Spain. Multiplying device	807,550	Dec. 19	2888	621-2	119	1976
Gooch, Walter M., Dayton, Ky. Emergency-brake	808,234	Dec. 26	4276	920	119	2324
Good, Adam, Claflin, Kans. Liquid-agitator	805,458	Nov. 28	3900	844	119	976
Good Manufacturing Co. (See Schulz, Fritz, assignor.)						
Good, Thomas L., and C. H. Gerling, assignors of one-half to P. Bernhardt and H. P. Holtz, Edwardsville, Ill. Potato-planter	806,081	Nov. 28	5073	1081	119	1228
Goodall, George B., *et al.* (See Spence, Harry, assignor.)						
Goodall, Louis B., *et al.* (See Spence, Harry, assignor.)						
Goodridge, Gilbert W., Bridgeport, Conn. Electrical insulator	804,115	Nov. 7	1172	249	119	257
Goodridge, Gilbert W., assignor to Bryant Electric Company, Bridgeport, Conn. Electrical rosette	804,114	Nov. 7	1171	249	119	257

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Goodwin, Charles, East Providence, R. I. Stud for eyeglasses	804,717	Nov. 14	2405	525	119	568
Goodwin, James S., Centralia, Wash. Railway-rail joint	808,040	Dec. 19	3847	833	119	2187
Goodwin, Oscar, assignor of one-half to J. H. Wight, Berlin, N. H. Plate-lifter	805,283	Nov. 21	3567	771	119	804
Goodwin, Oscar, assignor of one-half to J. H. Wight, Berlin, N. H. Plate-lifter	805,421	Nov. 21	3834	826	119	918
Goodwin, William B. (See Smyth and Goodwin.)						
Goodyear Tire & Rubber Company. (See State, Will C., assignor.)						
Goodyear's India Rubber Glove Mfg. Co. (See Eggers, Anton C., assignor.)						
Gordon, Albert A., Jr., and A. Morell, Worcester, Mass., assignors to Crompton & Knowles Loom Works. Lappet-loom	807,070	Dec. 12	1962	424	119	1737
Gordon, Angus C., assignor of one-half to S. W. Puffer, Rochester, N. Y. Voting-machine	807,818	Dec. 19	3434	738-9	119	2095
Gordon, Douglas, Worcester, Mass., assignor to Marcus Mason & Company, New York, N. Y. Pulper	804,395	Nov. 14	1765	382	119	428
Gordon, Douglas, Worcester, Mass., assignor to Marcus Mason & Company, New York, N. Y. Pod-opening machine	807,551	Dec. 19	2890	622-3	119	1976
Gordon, James P., Florence, Colo. Washing-machine	803,894	Nov. 7	712	154	119	154
Gordon, John P., Columbus, Ohio. Storm-apron	807,163	Dec. 12	2150	462	119	1775
Gordon, Perry A., Jet, Okla. Ter. Signal	806,082	Nov. 28	5075	1082	119	1228
Gormley, Frank L., assignor to A. O. Norton, Coaticook, Canada. Lifting-jack	808,041	Dec. 19	3848	833	119	2188
Gorrell, Hiram V. (See Gorrell, John B. and H. V.)						
Gorrell, John B. and H. V., Laotto, Ind. Electric signal for railways	806,538	Dec. 5	865	192	119	1459
Goss, Charles E. (See Goss, George W. and C. E.)						
Goss, George W. and C. E., Baltimore, Ohio. Harrow	806,656	Dec. 5	1079	239	119	1504
Goss Printing Press Company. (See Firm, Joseph L., assignor.)						
Gossa, Georg, assignor of two-thirds to E. Heyber, Post Stroppen, and M. Gossa, Breslau, Germany. Instrument for linear measurements	806,971	Dec. 12	1759	386	119	1692
Gossa, Max, *et al.* (See Gossa, Georg, assignor.)						
Gottwald, Robert, Goldberg, assignor to A. Heim, Ring Brieg, Silesia, Germany. Chamoising fur skins	804,718	Nov. 14	2406	.....	119	568
Gould, George B., Colorado Springs, Colo. Gate and means for supporting, operating, and fastening the same	808,283	Dec. 26	4381	942	119	2347
Gould, Napoleon B., Houlton, Me. Harness-collar fastener	805,357	Nov. 21	3704	802	119	891
Gould, Ovid M., Montreal, Canada. Package-carrier	808,042	Dec. 19	3849	833-4	119	2188
Gould, Perley A., and G. R. Watson, Saranac Lake, N. Y.; said Watson assignor to said Gould. Hoisting device	807,164	Dec. 12	2152	462	119	1776
Goulding, Charles E., Bluffsprings, Fla. Washing-machine	808,537	Dec. 26	4883	1051	119	2457
Gouldstone, John H., Portland, Oreg. Metal fence-post	805,791	Nov. 28	4516	967	119	1106
Gowing, Fred J., assignor of one-half to J. B. Roseboom, Sacket Harbor, N. Y. Muffler for internal-combustion engines	806,083	Nov. 28	5076	1082	119	1229
Grabner, Charles A., Warsaw, Ind. Exercising apparatus	807,670	Dec. 19	3141	674	119	2033
Grace, James W. (See Stibbs, David W., assignor.)						
Grace, John E., Ashton-under-Lyne, England. Boiler	808,284	Dec. 26	4383	942-3	119	2348
Grace, John F., assignor to Henry R. Worthington, New York, N. Y. Condenser	806,797	Dec. 12	1393	307	119	1610
Graff & Company Gesellschaft mit Beschrinkter Haftung, W. (See Mikorey, Hans, assignor.)						
Gragg, James B. (See Anderson, Frank V., assignor.)						
Graham, Andrew W., assignor of one-half to E. J. Mallory, Bradford, Pa. Furniture-caster	804,809	Nov. 14	2585	564	119	609
Graham, David T., St. Louis, Mo. Cut-off attachment for metal-forming presses	806,133	Dec. 5	86	18	119	1283
Graham, Edwin R., Coalinga, Cal. Pipe-perforator	808,235	Dec. 26	4277	920	119	2324
Graham, James M., *et al.* (See Porter, Martin L., assignor.)						
Graham, John K., *et al.* (See Cummings, John D., assignor.)						
Graham, Robert, Greeley, Colo. Fly-trap	807,165	Dec. 12	2154	462	119	1776
Graham, William S., assignor to Parlin & Orendorff Company, Canton, Ill. Attachment for lister-planters	807,373	Dec. 12	2528	547	119	1857
Graham, William S., assignor to Parlin & Orendorff Company, Canton, Ill. Plow	808,605	Dec. 26	5008	1080	119	2483
Gramm, Benjamin A., Chillicothe, Ohio. Trussed frame for automobiles	806,798	Dec. 12	1394	307	119	1610
Gramm, Benjamin A., Chillicothe, Ohio. Driving attachment for automobiles	807,457	Dec. 19	2717	585	119	1941
Granat, Mayer, San Francisco, Cal. Nozzle for tobacco-bags	806,084	Nov. 28	5079	1082	119	1229
Grand Rapids Furniture Company. (See Irwin and Duffy, assignors.)						
Grand Rapids Show Case Company. (See Gallot, Louis, assignor.)						
Granke, Otto. (See Johnson, Ole, assignor.)						
Grant, Charles W., Derby, Conn. Tool-holder and tool	807,166	Dec. 12	2155	462	119	1776
Grant, James A. (See Trahan and Grant.)						
Grardel, Edouard, Amiens, France. Elastic hub for wheels	806,799	Dec. 12	1395	308	119	1611
Grasset, Rodolphe J. W., South Yarra, Victoria, Australia. Governor for marine engines	805,950	Nov. 28	4824	1030	119	1176
Graupe, Bruno, Cologne-Deutz, Germany. Gas-producer	807,071	Dec. 12	1964	424-5	119	1737
Graves, Samuel R., Seville, Ohio. Jar-clamp	807,613	Dec. 19	3026	649	119	2005
Gray, Charles F., assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Sewing-machine feeding mechanism	804,220	Nov. 14	1421	303-4	119	352
Gray, Harry L., assignor to Eastman Kodak Company, Rochester, N. Y. Photographic-film cartridge	807,458	Dec. 19	2718	585	119	1941
Gray, John L., Elizabeth, N. J. Pressure-filter	808,043	Dec. 19	3853	834	119	2189
Gray, Thomas J., assignor to National Drill and Manufacturing Company, Chicago, Ill. Elevating-conveyer for crushing-machines	804,810	Nov. 14	2586	564	119	610
Graybill, Bird M., Chicago, Ill. Knife-switch	803,895	Nov. 7	714	154	119	154
Graybill, John E., York, Pa. Fuse	808,200	Dec. 26	4208	906	119	2308
Greathouse, Fleming E., Garden City, Kans. Reel-carrier	806,800	Dec. 12	1396	308	119	1611
Green, Frederick W. (See Waterhouse and Green.)						
Green, James J., Houston, Tex. Washing-machine	803,753	Nov. 7	464	101	119	103
Green, Jordan H., assignor of one-half to D. P. Sagendorph, Jackson, Mich. Train-pipe connection	806,134	Dec. 5	83	18	119	1283
Green, Martin A., Philadelphia, Pa. Elastic-fluid turbine	808,152	Dec. 26	4101	893-5	119	2285
Green, Stephen M., and W. T. McFarland, New York, N. Y. Pipe-bender	806,085	Nov. 28	5080	1083	119	1229
Greenberg, Herman, Montreal, Canada. Weighing-scale	808,445	Dec. 26	4693	1011-12	119	2415
Greenburg, Louis. (See Lawrence, Percy Q., assignor.)						
Greene, Duncan C., Somerville, Mass. Piano-pedal	808,449	Dec. 26	4697	1012	119	2416
Greene, Emory J., Peoria, Ill. Heating system for buildings	807,819	Dec. 19	3439	739	119	2096
Greene, Oscar C., St. Paul, Minn., and C. H. Gaunt, Topeka, Kans. Telegraph-repeater	806,801	Dec. 12	1398	308	119	1611
Greenfield, Edwin T., Monticello, N. Y. Junction-box	805,968	Nov. 28	4863	1038	119	1185
Greenfield, Edwin T., Monticello, N. Y. Coupling for armored hose	806,135	Dec. 5	90	19	119	1284
Greenfield, Edwin T., Monticello, N Y. Junction-box	807,262	Dec. 12	2325	501	119	1814
Greenfield, Edwin T., Monticello, N. Y. Junction-box for electrical conductors	807,263	Dec. 12	2326	501	119	1814
Greenfield, Edwin T., Monticello, N. Y. Metal tube	807,264	Dec. 12	2328	501	119	1814
Greenleaf, Abner, Baltimore, Md., assignor to Mergenthaler Linotype Company, New York, N. Y. Justifying mechanism for composing-machines	805,459	Nov. 28	3901	844-5	119	978

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Greenwald, Jonas, New York, N. Y. Spring snap-hook	806,539	Dec. 5	867	122	119	1459
Greenwalt, Lawrence, assignor of one-fourth to J. Welter, Fairplay, Wis. Cartridge-shell.	805,012	Nov. 21	2990	640	119	742
Greenway, Charles M., and J. Horner, Grand Rapids, Mich. Fish-hook	805,284	Nov. 21	3567	771	119	864
Gregory, Harry B., Newberry, Mich. Artificial tooth for bridgework	804,116	Nov. 7	1173	250	119	258
Greist, John M., New Haven, Conn. Belt-coupling	805,358	Nov. 21	3705	802	119	891
Greist, John M., New Haven, Conn. Belt-coupling	805,359	Nov. 21	3707	802	119	892
Grell, Henry J., Johnson Creek, Wis. Milk-heater	804,396	Nov. 14	1766	383	119	429
Gremmels, Henry W., assignor of one-half to M. J. Jackson, Denver, Colo. Combined socket and plug for incandescent lamps	807,671	Dec. 19	3143	675	119	2034
Gren, David. (See Anderson and Gren.)						
Grenard, Georges E., Paris, France. Preserving compound	805,285	Nov. 21	3568	.....	119	864
Gribble, Alonzo C., *et al.* (See Noble, John A., assignor.)						
Gribble, Edgar C., *et al.* (See Noble, John A., assignor.)						
Griess, Justin, Jr. (See Kaltenbach and Griess.)						
Griest, William, Franklin, Ohio. Buckle	808,538	Dec. 26	4885	1051	119	2457
Grieves, Albert (See Kane and Grieves.)						
Griffith, Joseph, Springfield, Ohio. Catamenial sack	807,923	Dec. 19	3650	791	119	2144
Griffiths, William S., Roscoe, Ill. Tank-heater and feed-cooker	808,360	Dec. 26	4542	977	119	2383
Griggs, George I., Flint, Mich. Fence-post	808,539	Dec. 26	4886	1051	119	2457
Grimes, Charles D., B. F. Ellerman, and T. A. Legler, Jr., Dayton Ohio. Mold for making castings	807,024	Dec. 12	1853	404–5	119	1713
Grimes, Charles D., B. F. Ellerman, and T. A. Legler, Jr., Dayton, Ohio. Casting apparatus	807,072	Dec. 12	1965	425	119	1731
Grimes, Howard, Newcomb, N. Y. Snow-plow	803,820	Nov. 7	580	127	119	126
Grimes, Howard, Newcomb, N. Y. Snow-plow	803,821	Nov. 7	581	128	119	126
Grimm, Edward F. (See Lytle and Cawley, assignors.)						
Grindle, Perry S., Brooklyn, Ala. Attachment for store-counters or the like	808,540	Dec. 26	4887	1052	119	2457
Griner, Harry B., Philadelphia, Pa., assignor to Chicago Pneumatic Tool Company, Chicago, Ill. Pneumatic rapper	806,740	Dec. 5	1256	279	119	1541
Griswold, Jud S., Mannington, W. Va. Metallic railway-tie	806,340	Dec. 5	503	100	119	1378
Groat, Louis W., Hudson, N. Y. Bicycle-tire	807,073	Dec. 12	1967	426	119	1738
Groom, Marshall W., San Jose, Cal. Can exhauster and cooker	808,044	Dec. 19	3854	834	119	2189
Groom, Wallace P., Brooklyn, N. Y. System of water-supply for urban and other buildings	808,083	Dec. 26	3935	852	119	2249
Gros, Hermann C., Leipsic-Leutzsch, Germany. Machine and apparatus for dyeing out leather and other fibrous material	807,672	Dec. 19	3144	675	119	2034
Grotewohl, Jesse A., Denver, Colo. Pipe-coupling	803,687	Nov. 7	331	70	119	75
Grove, Arthur J. (See Grove, George F. and A. J.)						
Grove, George F. and A. J., Halesowen, England. Button	803,754	Nov. 7	466	101	119	104
Grove, Henry W., Hull, England. Berth or bunk	804,531	Nov. 14	2032	442	119	488
Grover, Charles E., Wautoma, Wis. Saw-filing machine	804,192	Nov. 7	1336	285	119	295
Grub, Charles H., Portage, Wis. Submerged heater	804,656	Nov. 14	2269	497	119	537
Grubb, David, Pike county, Ind. Vehicle-brake	808,450	Dec. 26	4698	1012	119	2416
Grubb, James, Melbourne, Victoria, Australia, assignor to Stanley Manufacturing Company, Boston, Mass. Needle-clamp	805,721	Nov. 28	4391	941	119	1082
Grushus, Edwin A., Fort Bidwell, Cal. Cinch-grip	804,397	Nov. 14	1769	383	119	429
Gruss, Francis J., and J. M. Alexander, San Francisco, Cal. Shoe-display fixture	803,688	Nov. 7	333	70	119	75
Gubbins, William F., Chicago, Ill. Base-ball bat	805,132	Nov. 21	3250	705	119	796
Guelig, Joseph, Lena, Wis. Pea and clover harvester	804,117	Nov. 7	1174	250	119	258
Guest, Peyton L., Columbus, Ga. Flushing device	807,924	Dec. 19	3651	792	119	2144
Guffey, Hamilton D., Unionville, Mo. Planter	804,118	Nov. 7	1175	250	119	258
Gührs, Albrecht. (See Gührs, Paul and A.)						
Gührs, Paul and A., Berlin, Germany. Making zinc alloys	804,006	Nov. 7	945	.....	119	202
Guilbert, Edmond, Woonsocket, R. I., assignor to Draper Company, Hopedale, Mass. Warp-stop-motion mechanism	805,133	Nov. 21	3250	705	119	796
Guillott, James W., Chicago, Ill. Gasket	805,645	Nov. 28	4246	914	119	1051
Guiot, Irma, Puyricard, France. Resilient wheel	806,657	Dec. 5	1081	239	119	1504
Guiry, John, New York, N. Y. Dumping-scow	807,552	Dec. 19	2891	623	119	1976
Gulline, Henry L., Granby, Canada. Tent	806,802	Dec. 12	1399	308	119	1611
Gundelach, Emil, Gehlberg, Germany. X-ray tube	807,673	Dec. 19	3147	676	119	2034
Gunn, Francis. (See Mitchell and Gunn.)						
Gunn, Herman, Avonmore, Canada, assignor to Lyman Gun Sight Corporation, Middlefield, Conn. Sight for firearms	806,658	Dec. 5	1082	240	119	1504
Gunten, Jacob von, Massillon, Ohio. Drill-rod	807,002	Dec. 12	1805	396	119	1703
Gustafson, Bernhard, Boston, Mass., assignor, by mesne assignments, to United Printing Machinery Company. Paper-feeding machine	803,582	Nov. 7	102	25–6	119	23
Gustafson, Charles J., Chattanooga, Tenn. Self-oiling journal-box	807,374	Dec. 12	2529	547	119	1858
Gutelius, Norman A., Washington, Pa. Closet connection	807,265	Dec. 12	2330	502	119	1815
Guy, Albert E., Trenton, N. J., assignor to Delaval Steam Turbine Company. Obturator for flexible shafts	803,755	Nov. 7	467	101	119	104
Gwin, James M., Chicago, Ill. Necktie-holder	803,896	Nov. 7	715	154	119	154
Gwynne, Bertha L., Sumpter, Oreg. Nursing-bottle warmer	803,756	Nov. 7	469	102	119	104
Gylfe, Charles J., Chicago, Ill. Cutter-head for shaft-turning machines	805,539	Nov. 28	4052	876–7	119	1009
H. Mueller Manufacturing Company. (See Schuermann, Anton, assignor.)						
H. C. White Co. (See Beach, Charles S., assignor.)						
H. I. Crandall & Son Co. (See Crandall, James L., assignor.)						
Haas, Cyrus A., St Louis, Mo. Pocket-calculator	808,045	Dec. 19	3857	835	119	2190
Haas, Emil, Mainz, Germany. Gas-meter	804,464	Nov. 14	1895	412	119	456
Haas, Emil, Mainz, Germany. Gas-meter	804,465	Nov. 14	1897	412	119	456
Haas, Herbert, San Francisco, Cal. Roasting ores	808,361	Dec. 26	4543	977–8	119	2383
Haas, Morris, *et al.* (See Stein, Jacob, assignor.)						
Haase, Albert, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Steel projectile	807,375	Dec. 12	2531	548	119	1858
Haase, Alex, Hanover, Germany. Treatment of wicks for increasing their inflammability	807,553	Dec. 19	2894	.....	119	1977
Hackett, John C., St. Louis, Mo. Combined swivel, ring, and lap-ring	805,909	Nov. 28	4748	1015	119	1158
Hackney, Henry T. (See Logan, Crawford D., assignor.)						
Hadden, Thomas, Ferguson, Ky. Vise	805,792	Nov. 28	4517	967	119	1106
Hadfield, Robert A., Sheffield, England. Manufacture of caps for armor-piercing projectiles	805,460	Nov. 28	3904	.....	119	977
Hadley, Artemus N., Indianapolis, Ind. Lifting mechanism for corn-harvesters	804,811	Nov. 14	2589	565	119	610
Hadley, George T., assignor of one-half to M. F. Hrubanik, San Francisco, Cal. Show-window	808,201	Dec. 26	4210	907	119	2309
Hadley, Horace W., Belvidere, assignor to America Company, Rockford, Ill. Sewing-machine	808,046	Dec. 19	3860	835	119	2190

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette	
			Spec.	Dr'g.	Vol.	Page.
Hagadone, Clinton A., Chicago, Ill., assignor to International Harvester Company. Molding-machine	805,134	Nov. 21	3252	705	119	797
Hager, Alonzo C., Missoula, Mont. Preserving compound and making the same	806,540	Dec. 5	868	.....	119	1459
Hagerty, Edward P., Burlington, Iowa. Horseshoe	804,839	Nov. 21	2660	577	119	669
Hagspiel, Wilhelm, Ludwigsburg, Germany. Liquid-meter	806,541	Dec. 5	869	193	119	1460
Hahn, Howard H., assignor to Western Engineering Company, Denver, Colo. Wall-finishing process	808,236	Dec. 26	4280	920	119	2325
Hahn, Robert M. (See Potter, Charles V., assignor.)						
Haiman, Elias, assignor to Empire Plow Co., Cleveland, Ohio. Cultivator	806,469	Dec. 5	756	168	119	1434
Haines, Joseph T., Linwood, N. J. Fish-hook	808,285	Dec. 26	4384	943	119	2348
Hains, Peter C., Jr., Washington, D. C. Bottom-dumping and handling bucket	804,221	Nov. 14	1423	304	119	353
Hainsfurther, Sol, *et al.* (See Osborne, John W., assignor.)						
Hairston, S. W., *et al.* (See Fishburne, Edward W., assignor.)						
Haish, Jacob, Dekalb, Ill. Manure-spreader	805,199	Nov. 21	3384	734	119	825
Haldeman, Benjamin F., Pittsburg, Pa. Thill-coupling	804,719	Nov. 14	2406	525	119	568
Haldeman, Frank M., and B. W. Brockett, Cleveland, Ohio. Differential gearing	806,047	Dec. 19	3961	835–6	119	2190
Hale, Joshua B., Providence, R. I., assignor, by mesne assignments, to Ring Paper Clip Company. Paper-clip	803,585	Nov. 7	120	28	119	29
Hale, Joshua B., Providence, R. I., assignor, by mesne assignments, to Ring Paper Clip Company. Spring-clip	803,807	Nov. 7	716	155	119	155
Hale & Kilburn Manufacturing Company. (See Applin, Joseph, assignor.)						
Haley, Thomas S., assignor to Wire Novelty Manufacturing Company, West Haven, Conn. Buckle	803,822	Nov. 7	583	128	119	126
Hall, Fred E., Brookline, and A. MacLeod, Brighton, assignors to United States Vending Corporation, Boston, Mass. Vending-machine	806,659	Dec. 5	1084	240	119	1505
Hall, George F., Jersey City, N. J., assignor to L. Alexander, New York, N. Y. Cultivating-tool	803,583	Nov. 7	106	26–7	119	24
Hall, John A., assignor to V. S. McClatchy, trustee, Sacramento, Cal. Sawing stone	804,398	Nov. 14	1771	383	119	430
Hall, John A., and B. B. Chandler, assignors to V. S. McClatchy, trustee, Sacramento, Cal. Stone-sawing machine	804,812	Nov. 14	2390	565–6	119	611
Hall, John B., Philadelphia, Pa. Lace-fastener	805,852	Nov. 28	4624	991	119	1129
Hall, John W., Brixton, assignor to Hall's Transmission Gear Syndicate, Limited, London, England. Fluid-pressure power-transmission apparatus	803,584	Nov. 7	109	27	119	24
Hall Signal Company. (See Coleman, Clarence W., assignor.)						
Hall, Stephen S., assignor to Pickering Governor Co., Portland, Conn. Governor-head	807,266	Dec. 12	2330	502	119	1815
Hall, Thomas F. (See Campbell and Hall.)						
Halle, Hiram J., assignor to Elliott-Fisher Company, New York, N. Y. Bill or statement blank	804,720	Nov. 14	2406	525–6	119	569
Haller, George, Louisville, Ky. Front gear for vehicles	805,200	Nov. 21	3390	735	119	826
Hallett, James C., Bloomington, Ill. Switch-operating device	807,820	Dec. 19	3440	739–40	119	2096
Halligan, William W., Indianapolis, Ind. Non-refillable bottle	805,135	Nov. 21	3254	706	119	797
Hallock, Arthur T., Canandaigua, assignor, by mesne assignments, to C. B. Knox, Johnstown, N. Y. Vending-machine	807,376	Dec. 12	2532	548	119	1858
Hall's Transmission Gear Syndicate. (See Hall, John W., assignor.)						
Hallwood, Henry S., Columbus, Ohio. Pendulum computing-scale	808,048	Dec. 19	3864	836–7	119	2191
Ham, John S., Covington, Va., assignor to Covington Machine Company. Coke-extractor	803,586	Nov. 7	122	28–9	119	29
Hamblin, Maynard W., assignor to American District Telegraph Company, New York, N. Y. Signaling system	808,451	Dec. 26	4701	1013	119	2417
Hamburger, Philip, Jr. (See Welch, George A., assignor.)						
Hamby, Marion F. (See Regenier and Hamby.)						
Hamel, Charles F., assignor to A. J. Gendron, Toledo, Ohio. Holder for toothpicks and similar articles	806,606	Dec. 26	5009	1061	119	2484
Hamel, Max, Grünau, near Berlin, Germany. Making concentrated formic acid	806,660	Dec. 5	1085	.....	119	1505
Hamel, Norbert D., Gardner, Mass. Plate-lifter	806,889	Dec. 12	1598	350	119	1657
Hamilton, Henry, Indianapolis, Ind. Lawn-sprinkler	806,341	Dec. 5	505	111	119	1378
Hamilton, John A., St. Peters, South Australia, Australia. Concentrating and amalgamating table	804,466	Nov. 14	1898	413	119	457
Hamilton Manufacturing Company. (See Hamilton, William E., assignor.)						
Hamilton, William. (See Ferranti and Hamilton.)						
Hamilton, William E., assignor to Hamilton Manufacturing Company, Columbus, Ohio. Loading-machine	806,803	Dec. 12	1402	309	119	1612
Hamilton, William E., assignor to Hamilton Manufacturing Company, Columbus, Ohio. Loading-machine	806,804	Dec. 12	1407	310–11	119	1613
Hamilton, William J., Franklin, Pa. Game apparatus	804,597	Nov. 14	2165	474	119	515
Hamilton, William J., Franklin, Pa. Coating refrigerating-pipes	806,661	Dec. 5	1087	240	119	1505
Hamilton, William L., Glasgow, Scotland. Fitting for windows and the like	804,721	Nov. 14	2410	526	119	569
Hamm, William S., Chicago, Ill., assignor to Adams and Westlake Company, of Illinois. Wick-raising attachment for lanterns	805,951	Nov. 28	4825	1030	119	1176
Hamm, William S., Lakeside, and J. A. Mosher, Parkridge, Ill., assignors to Adams & Westlake Company. Lamp	805,722	Nov. 28	4392	942	119	1052
Hammer, John C., Detroit, Mich. Paper-elevator	804,312	Nov. 14	1619	350	119	395
Hammond, Frank, Jackson, assignor of one-half to G. T. Brown, Battlecreek, Mich. Stove	808,607	Dec. 26	5010	1061	119	2494
Hammond, Harold, Westpoint, assignor to Brentano's, Inc., New York, N. Y. Score-card	806,662	Dec. 5	1088	241	119	1506
Hammond, Josiah T. (See Colby, William M., assignor.)						
Hammond, Robert O., assignor to J. S. Andrews, Buffalo, N. Y. Electrical muscular exercising machine	805,962	Nov. 28	4828	1030–1	119	1176
Hampton, Leon B., Salt Lake City, Utah. Stamp-affixer	805,723	Nov. 28	4393	942	119	1052
Hampton, Robert S., Titusville, Pa. Bill-receipting machine	808,541	Dec. 26	4990	1052	119	2458
Hancock, John I., Lestershire, N. Y. Cement-block machine	803,823	Nov. 7	594	128	119	127
Hancock, William J. (See O'Neil and Hancock.)						
Hancox, Edwin, Stockton-on-Tees, England. Girder	804,598	Nov. 14	2166	474	119	515
Hand, William J. (See Harvey, William A. and J.)						
Handel, Charles, and G. B. Nelson, Redfield, Iowa. Earth-anchor	804,945	Nov. 21	2652	614	119	713
Handford, Arthur W., Evanston, assignor to Wood Distillates and Fibre Company, Chicago, Ill. Fiberizer for reducing wood	804,313	Nov. 14	1621	351	119	396
Handford, Arthur W., Evanston, assignor to Wood Distillates and Fibre Company, Chicago, Ill. Apparatus for fiberizing and deriving other products from wood	806,253	Dec. 5	311	66–7	119	1333
Handford, Arthur W., Evanston, assignor to Wood Distillates and Fibre Company, Chicago, Ill. Wood-fiber digester	807,925	Dec. 19	3853	792–3	119	2148
Handoll, Henry, assignor to Albany Engineering Company, Camberwell, London, England. Rotary pump	804,657	Nov. 14	2271	498	119	527
Handy, Arthur E., assignor to Rhode Island Elevator and Machine Company, Providence, R. I. Electric switch	803,898	Nov. 7	718	155	119	155

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Haney, Patrick J., Beaverfalls, and P. J. Lalley, Fallston, Pa. Rail-joint	806,741	Dec. 5	1258	280	119	1542
Hanford, Robert G., San Francisco, Cal. Dredging apparatus	803,587	Nov. 7	125	29	119	29
Hanimann, Charles, Flushing, assignor to M. G. Lewis, New York, N. Y. Bench-vise	805,013	Nov. 21	2991	649	119	743
Hanlon, Joseph P. A., Somerville, Mass. Wrench	805,793	Nov. 28	4518	967	119	1106
Hanna, Elmer E. (See Barber, Albert H., assignor.)						
Hanna, Martha A. (See Hanna, William T., assignor.)						
Hanna, William T., assignor to M. A. Hanna, Cincinnati, Ohio. Running-gear for vehicles	804,946	Nov. 21	2853	614	119	713
Hanna, William T., assignor to M. A. Hanna, Cincinnati, Ohio. Vehicle-hub	806,136	Dec. 5	91	19	119	1284
Hänsch, Richard. (See Krüger and Hänsch.)						
Hansen, Hans C., Newton, Mass. Pump for molten metal	803,588	Nov. 7	126	29	119	30
Hansen, Paul, assignor to Pittsburgh Filter Manufacturing Company, Pittsburg, Pa. Outlet-controller for filters	804,532	Nov. 14	2034	442	119	488
Hanson, Jacob P., New York, N. Y. Leak-stopping gland	807,739	Dec. 19	3295	708	119	2064
Hanson, Miles A., Sheboygan, Wis. Extension-table	805,540	Nov. 28	4054	877	119	1009
Hantusch, Rudolf, New York, N. Y. Braiding-machine carrier	805,910	Nov. 28	4748	1015	119	1158
Hapgood, Clarence H., assignor to Computing Scale Company, Dayton, Ohio. Combined spring and lever scale	804,947	Nov. 21	2855	614–15	119	713
Harbaugh, Harvey L., Seattle, Wash. Reducing-valve	807,074	Dec. 12	1988	426	119	1738
Harbeck, Jervis R., assignor to Gem Fibre Package Company, Detroit, Mich. Container	804,222	Nov. 14	1425	305	119	353
Harbeck, Jervis R., assignor to Gem Fibre Package Company, Detroit, Mich. Container-top	808,362	Dec. 26	4545	978	119	2383
Harbison, Shelby T., *et al.* (See Meyers, August H., assignor.)						
Harden, William I. F., Hartford, Kans. Railway-tie	807,377	Dec. 12	2534	548	119	1859
Hardenbergh, John C., Cleveland, Ohio. Door-lock	804,399	Nov. 14	1773	384	119	430
Hardin, Howard I., Peoria, Ill. Cake-hanger	806,805	Dec. 12	1412	311	119	1614
Harding, Mathew D. *et al.* (See De Croes, Clement, assignor.)						
Hardman, James E., Grand Rapids, Mich. Berry-box	807,614	Dec. 19	3026	649	119	2006
Hardman Peck & Company. (See Hattemer, Justus, assignor.)						
Hardman, Peter, Willimantic, Conn., assignor to American Thread Company, New York, N. Y. Twisting-machine	808,084	Dec. 26	3943	852	119	2251
Hardmuth, L. & C. (See Pintz, Carl, assignor.)						
Hardy, Francis A., Chicago, Ill. Lens-mounting	805,541	Nov. 28	4057	877	119	1010
Hardy, Frederick, Mountpleasant, Tenn. Target-throwing trap	806,663	Dec. 5	1089	241	119	1506
Hardy, William A., Louisville, Ky. Invalid's commode	808,049	Dec. 19	3869	837	119	2193
Hargraves, John J., Apponaug, R. I. Blind-slat antirattler	808,363	Dec. 26	4546	978	119	2383
Harlacher, Daniel M., Hanover, Pa. Automatic damper-regulator	805,286	Nov. 21	3569	772	119	864
Harley, Cornelius O. (See Harley, Leon J. and C. O.)						
Harley, Leon J. and C. O., Springfield, Mass. Metal-planing machine	807,740	Dec. 19	3296	708	119	2064
Harloe, Morton, Hawley, Pa. Rolling-pin	807,075	Dec. 12	1989	426	119	1739
Harloe, Morton, Hawley, assignor of one-third to H. P. Decker, Scranton, Pa. Forming glass articles	807,459	Dec 19	2719	586	119	1941
Harlow, James S., May, Tex. Cultivator-blade	803,809	Nov. 7	720	155	119	155
Harmon, Willard. (See Lindsay, Thomas J., assignor.)						
Harn, Albert S., Bloomington, Ind. Temporary binder	804,599	Nov. 14	2168	474	119	515
Harney, Thomas R., *et al.* (See Ball, William T., assignor.)						
Harold, Emma. (See Harold, James J., assignor.)						
Harold, James J., assignor, by mesne assignments, to E. Harold, Jersey City, N. J. Metal piling	807,378	Dec. 12	2536	549	119	1859
Harpham, George E., *et al.* (See Bolton, Becher B., assignor.)						
Harpham, George E., *et al.* (See Kelly, Richard W., assignor.)						
Harrell, Sampson, Whigham, Ga. Hame tug-hook	804,119	Nov. 7	1176	251	119	258
Harrington, Charles F., deceased; E. A. Harrington, executrix, assignor to Dial Voting Machine Company, Lyndhurst, N. J. Booth for voting-machines	806,137	Dec. 5	93	19	119	1284
Harrington, Eliza A., executrix. (See Harrington, Charles F.)						
Harrington, Francis B. (See Wiegand, Moak, and Harrington.)						
Harris Automatic Press Company. (See Harris, Charles G., assignor.)						
Harris, Barnett W., Waveland, Ind. Mail-delivery apparatus	803,900	Nov. 7	721	155–6	119	155
Harris, Benjamin. (See Lutz, Herbert, assignor.) (Reissue.)						
Harris, Carl, Lower Lake, Cal. Gate	804,840	Nov. 21	2661	577	119	669
Harris, Charles E., Denver, Colo. Puzzle	804,314	Nov. 14	1623	351	119	395
Harris, Charles G., assignor to Harris Automatic Press Company, Niles, Ohio. Numbering attachment for printing-presses	807,615	Dec. 19	3027	649–50	119	2006
Harris, David, Coulter, Pa. Wrench	804,600	Nov. 14	2168	475	119	516
Harris, James G. (See Barnum and Harris.)						
Harris Suspender Company. (See Freeman, William, assignor.)						
Harris, William R., Pelican, La. Portable fence-post	805,201	Nov. 21	3391	735	119	826
Harrison, Elizabeth. (See Pittman and Harrison.)						
Harrison, Owen L., Egan, Ill. Toy pistol	807,460	Dec. 19	2720	586	119	1941
Harrison, W. H., *et al.* (See Gallagher, Richard D., Sr., assignor.)						
Harrison, William. (See Menges, Albert C., assignor.)						
Harrison, William A., New York, N. Y. Fan	804,223	Nov. 14	1426	305	119	353
Hart, Howard S., New Britain, Conn. Food-cutter	807,379	Dec. 12	2537	549	119	1859
Harter, Noah S., assignor of one-half to C. R. Barrett, Chicago, Ill. Wire-cutting mechanism	805,724	Nov. 28	4394	943	119	1083
Hartford, Edward V., *et al.* (See Truffault, Jules M. M., assignor.)						
Hartford, Edward V., New York, N. Y. Antivibration device for vehicles	803,589	Nov. 7	128	30	119	30
Hartford, George H., *et al.* (See Truffault, Jules M. M., assignor.)						
Harting, Clayton C., Woodstock, assignor to Oliver Typewriter Company, Chicago, Ill. Type-writer carriage	805,136	Nov. 21	3255	706	119	797
Hartley, James J., Syracuse, N. Y., assignor to General Electric Company. Incandescent-lamp socket	805,287	Nov. 21	3571	772	119	864
Hartman, Henry A., Philadelphia, Pa. Gas-generator	808,365	Dec. 26	4548	979	119	2384
Hartung, Gustave K., New York, N. Y. Electric glow-lamp	808,085	Dec. 26	3945	853	119	2251
Hartwig, Frank F., Newton, Iowa. Revolving power-hammer	805,014	Nov. 21	2994	650	119	743
Harts, Charles H., Durant, Iowa. Oil-cup and bearing	806,410	Dec. 5	634	138	119	1406
Harvey, Edgar A., Hillsboro Bridge, N. H. Horse-hoe	805,302	Nov. 21	3393	735	119	826
Harvey, George H., Glenfield, Pa., assignor, by mesne assignments, to W. L. Pierce, Englewood N. J. Glass-drawing machine	804,533	Nov. 14	2036	443	119	489
Harvey, George H., Glenfield, assignor, by mesne assignments, to Brownsville Glass Company, Pittsburg, Pa. Glass-drawing machine. (Reissue)	12,427	Dec. 26	5046	1091	119	2492
Harvey, George L., Chicago, Ill. Draft-rigging	808,972	Dec. 12	1761	386	119	1693
Harvey, John. (See Harvey, William A. and J.)						
Harvey, Robert, Newtown, Sydney, New South Wales, Australia. Mechanism for controlling the discharge of flowing material	807,267	Dec. 12	2332	502	119	1815

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Harvey, Samuel C., Chicago, assignor to Williams, White & Company, Moline, Ill. Spacing mechanism for punching-machines	806,890	Dec. 12	1599	350	119	1657
Harvey, William, *et al.* (See Johnston, Abner, assignor.)						
Harvey, William A. and J., assignors of one-sixth to W. J. Hand, Scranton, Pa. Scissors-sharpener	803,699	Nov. 7	333	71	119	75
Harwell, Mace, Quanah, Tex. Combined statement-blank and envelop	804,224	Nov. 14	1428	305	119	354
Hasé, Jean, Wiesbaden, Germany. Humidifier	804,120	Nov. 7	1177	251	119	258
Haskins, Caryl D., Schenectady, N. Y., assignor to General Electric Company. Inclosed fuse	805,288	Nov. 21	3575	772	119	865
Haskins, Caryl D., Brookline, Mass., assignor to General Electric Company. Tachometer.	808,237	Dec. 26	4281	920	119	2325
Haskitt, William P., Gwynneville, Ind. Valve-gear	806,138	Dec. 5	94	19	119	1285
Hastings, W. G., Philadelphia, Pa. Combined seat and table	804,658	Nov. 14	2272	498–9	119	537
Hasz, William, Milwaukee Wis. Fountain-brush	804,467	Nov. 14	1899	413	119	457
Hatch, Esbon B., Agee, Nebr. Floor-clamp	806,342	Dec. 5	508	111	119	1378
Hatcher, William A. (See Packard and Hatcher.)						
Hathaway, A. S., *et al.* (See Baker and Ketchem, assignors.)						
Hattemer, Justus, assignor to Hardman Peck & Company, New York, N. Y. Manually or mechanically operated piano	803,757	Nov. 7	470	102	119	104
Hauenstein, John. (See French and Hauenstein.)						
Hauk, Arthur H., Greensburg, Pa. Fixture for window-frames, doorways, &c	805,853	Nov. 28	4625	991	119	1129
Hauswirth, Frederick, St. Louis, Mo. Water-cooling tower	808,050	Dec. 19	3870	837–8	119	2193
Haver, Henry G., assignor to Fred J. Meyers Manufacturing Company, Hamilton, Ohio. Fireplace-fender	806,343	Dec. 5	507	111	119	1378
Haverman, William, Cleveland, Ohio. Phonograph	806,806	Dec. 12	1413	312	119	1615
Hawkes, Charles W., Springfield, Ill. Water-jacket	807,076	Dec. 12	1970	426	119	1739
Hawkins, George B., Shepherd, Mich. Mower-pitman	804,121	Nov. 7	1178	251	119	258
Hawley, Melville A., and W. L. Rhoads, St. Louis, Mo.; said Rhoads assignor to said Hawley. Telegraphic apparatus	806,891	Dec. 12	1601	351	119	1658
Haworth, John, Leeds, England. Paper blanket or rug	807,821	Dec. 19	3442	740	119	2096
Hay, Robert D., and J. F. Bieber, Washington, D. C. Safety-pocket	807,741	Dec. 19	3299	709	119	2065
Hayden, Joseph E., Pasadena, Cal. Furnace	804,315	Nov. 14	1625	352	119	396
Hayden, Lothrop A., South Carver, Mass. Feed attachment for cranberry-separators	805,542	Nov. 28	4058	878	119	1010
Hayden, William B., New York, N. Y. Sparking device for explosive-engines	806,664	Dec. 5	1094	242	119	1507
Hayes, Albert, New York, N. Y., assignor, by mesne assignments, to T. J. Lindley. Device for vaporizing liquids	806,139	Dec. 5	95	20	119	1285
Hayes, Benjyman P., and S. H. Gill, Topeka, Kans. Telegraph-transmitter	808,366	Dec. 26	4549	979–80	119	2384
Hayes, Charles J. W., Detroit, Mich. Mold for building-blocks	804,122	Nov. 7	1179	251	119	259
Hayes, Dennis H., Adrian, Mich. Wire feeding and measuring device	805,061	Nov. 21	3109	673	119	767
Hayes, Frank, Superior, Wis., and W. Clifford, Duluth, Minn. Door-closing mechanism for scows	806,807	Dec. 12	1414	312	119	1615
Hayes, George D., Hillsboro, Tex. Baling-press	806,808	Dec. 12	1416	312	119	1615
Hayes, John, Denver, Colo. Sparring-machine	805,543	Nov. 28	4059	878	119	1010
Haynes, Edward C., Portland, Oreg. Car-fender	807,461	Dec. 19	2722	586	119	1942
Hayward, Lawrence B., Detroit, Mich. Dispensing device	805,203	Nov. 21	3394	736	119	827
Haywood, D. Howard, trustee. (See Hutchinson, James M., assignor.)						
Haywood, Daniel H., assignor to Powter Company, New York, N. Y. Apparatus for extracting oil from water	804,400	Nov. 14	1774	384	119	430
Hazard, Henry T., *et al.* (See Bolton, Becher B., assignor.)						
Hazard, Henry T., *et al.* (See Kelly, Richard W., assignor.)						
Hazelrigg, Ross, Eureka, Cal. Insect-trap	805,015	Nov. 21	2996	650	119	743
Hazleton, Edward B., Sheffield, England. Chain armor for pneumatic tires	807,167	Dec. 12	2156	463	119	1776
Head, Robert, New York, N. Y., assignor to E. Walker, Erie, Pa. Phonograph reproducing sound box or horn	805,544	Nov. 28	4068	879	119	1012
Headson, Frank A., Lafayette, Ind. Rotary engine	805,545	Nov. 28	4072	879–80	119	1013
Heald, Alfred, Philadelphia, Pa. Loom for weaving pile fabrics	804,123	Nov. 7	1180	252	119	259
Healy, William P. (See Weir, John B., assignor.)						
Heath, Harry E., Windsor, Conn., assignor to General Electric Company. Magnetic separator	805,289	Nov. 21	3577	773	119	866
Heaton, John S., Shelbyville, Ky. Filter	807,462	Dec. 19	2723	586	119	1942
Heck, Henry, and W. M. Simmons, Albany, N. Y. Lubricator	804,948	Nov. 21	2856	615	119	714
Hedburg, Eric, Joplin, Mo., assignor, by mesne assignments, to American Reduction Company, Chicago, Ill. Ore-slime separator	804,841	Nov. 21	2662	577	119	670
Hedburg, Eric, Joplin, Mo., assignor, by mesne assignments, to American Reduction Company, Chicago, Ill. Magnetic ore-separator	805,854	Nov. 28	4627	991–2	119	1129
Hedlund, Charles J., Quincy, Mass. Plumb-bob	804,842	Nov. 21	2663	578	119	670
Hedlund, Henry, North Valley, Wis. Reel-carrier	804,225	Nov. 14	1430	305	119	354
Heffernan, Francis S., Springfield, Mo. Non-refillable bottle	807,554	Dec. 19	2894	623	119	1977
Heffin, William, Michigan Bar, Cal. Brake mechanism	804,124	Nov. 7	1182	252	119	260
Heffner, William F., assignor of one-half to H. Spatz and J. L. Taylor, Benton Harbor, Mich. Clasp for loose-leaf binders	805,794	Nov. 28	4519	967	119	1107
Heffron, William, Cincinnati, Ohio. Excavating-bucket	803,901	Nov. 7	725	156	119	156
Hege, Nathan, and C. Rominger, Hope, Ind. Attachment for pool-tables	808,051	Dec. 19	3871	838	119	2193
Hegeman, Benjamin A., Jr. (See Ames, John M., assignor.)						
Heidorn, Hugo, Hamburg, Germany. Holder or head for incandescent gas-mantles	805,911	Nov. 28	4750	1015	119	1159
Heil, Albrecht, assignor to A. Wolf, Jr., & Co., Frankfort-on-the-Main, Germany. Thermo-electric battery	808,096	Dec. 26	3951	853	119	2252
Heim, Adolf. (See Gottwald, Robert, assignor.)						
Heinze, John O., Jr., Lowell, Mass. X-ray tube	805,795	Nov. 28	4520	968	119	1107
Helander, Axel H. (See McKennan and Helander.)						
Held, Paul, St. Cloud, Minn. Draft-equalizer	807,616	Dec. 19	3031	650	119	2007
Heldt, Peter J. W., Everly, Iowa. Baling-press	808,153	Dec. 26	4109	885–7	119	2286
Helgerson, Peter H., Inwood, Iowa. Feeder for corn-shellers	806,892	Dec. 12	1603	351	119	1658
Helm, Eugene F., Montpelier, Ind. Pumping-jack	805,140	Dec. 5	100	20	119	1286
Helmer, Daniel S. (See Townsend, Ervin D., assignor.)						
Helmick, Guy D., Fort Russell, Wyo. Cement-burning kiln	805,953	Nov. 28	4829	1031–2	119	1177
Helmold, Julius F., and G. A. Schmidt, Jr., Chicago, Ill. Liquid-soap holder	804,458	Nov. 14	1901	413	119	457
Helper, I. F. (See Sullivan, John A., assignor.)						
Hendershot, Daniel H., Baldwinsville, N. Y. Shaft-coupling	807,926	Dec. 19	3657	793	119	2146
Henderson, Clarence M., Berkeley, Cal. Saw-filing machine	804,534	Nov. 14	2037	443	119	489
Henderson, Edwin, *et al.* (See Shefferly, Joseph F., assignor.)						
Henderson, James H., and A. Sykes, Houston, Pa. Hose-coupling	806,665	Dec. 5	1097	242	119	1507
Hendricks, Kearney J. (See Shrum, Peter J., assignor.)						
Hennen, Heinrich, Düsseldorf, Germany. Horseshoe	804,226	Nov. 14	1430	306	119	354
Henniger, Emil H., Frankfort-on-the-Main, assignor to Gas-Bugelofen-Gesellschaft mit Beschränkter Haftung, Hamburg, Germany. Smoothing-iron with detachable handle	807,674	Dec. 19	3148	676	119	2034

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Hennis, Edward C. (See Rugh, Harry O., assignor.)						
Henrikson, Adolph F., Troy, N. Y. Lathe-center indicator	807,555	Dec. 19	2895	624	119	1977
Henry, George J., Jr., assignor of one-half to Pelton Water Wheel Co., San Francisco, Cal. Regulating-nozzle	807,023	Dec. 12	1857	405	119	1714
Henry R. Worthington. (See Grace, John F., assignor.)						
Henry R. Worthington. (See Ray, Frederick, assignor.)						
Henry R. Worthington. (See Thomas, Philip, assignor.)						
Henry, Robert G., and D. M. Wright, Hartford, Conn. Drill-spindle-driving mechanism	805,546	Nov. 28	4076	880	119	1014
Hensley, Claude E., Elreno, Okla. Ter., assignor of one-third to J. S. Thompson, Chicago, Ill. Locking or bolting doors and the like	806,542	Dec. 5	871	194	119	1460
Hensley, John, Huntington, Ind. Self-lubricating trolley-wheel	807,463	Dec. 19	2725	587	119	1942
Hensley, William T., Boundbrook, N. J. Armature for electrical machines	805,547	Nov. 28	4077	880	119	1014
Henson, John D., Lakeview, Ohio. Curtain-fixture support	806,141	Dec. 5	101	21	119	1287
Henson, John H., Cooley, Okla. Ter. Thill and tongue support	804,316	Nov. 14	1625	352	119	396
Henwood, Horace E., New York, N. Y. Game apparatus	807,927	Dec. 19	3660	793	119	2146
Henze, Henry C., New York, N. Y. Safety attaching device	805,548	Nov. 28	4078	880	119	1015
Henzel, Casper H., Allegheny, Pa. Oil-tank	805,290	Nov. 21	3577	773	119	866
Hepp, Frank J., and G. J. Born, Pittsburg, Pa., assignors to Westinghouse Electric and Manufacturing Company. Molding-flask	807,928	Dec. 19	3662	794	119	2147
Heraeus, Firm of W. C. (See Küch, Richard, assignor.)						
Herb, Ferdinand, Superior, Wis. Nursing-bottle	803,590	Nov. 7	130	30	119	31
Herbkesmann, Fredrick W., St. Louis, Mo. Sprinkler head or nozzle	807,617	Dec. 19	3032	650	119	2007
Herbrand Company. (See Fetzer, James J., assignor.)						
Herbst, Wilhelm, Steglitz, near Berlin, Germany. Ceiling	805,137	Nov. 21	3258	706–7	119	798
Herbstritt, Hermann. (See Andriano and Herbstritt.)						
Hercules Manufacturing Company. (See Sheakley, Arthur M., assignor.)						
Herden, Henry, Wellsboro, S. E. Fitch and J. H. Burgoyne, Jr., Galeton, Pa. Rail	805,954	Nov. 28	4832	1032	119	1177
Herdrich, William F., Chicago, Ill. Combined cigar-cutter and match-lighter	803,758	Nov 7	476	103	119	106
Heries, Franz, and J. Novák, Prague, Austria-Hungary. Means for reducing friction loss in turbines	803,750	Nov. 7	478	103	119	106
Herman, Reinhold, Crafton, Pa., assignor to General Electric Company. Semaphore-signal	805,291	Nov. 21	3580	773–4	119	866
Herman, Reinhold, Crafton, Pa., assignor to General Electric Company. Semaphore-signal	805,433	Nov 21	3847	832–3	119	923
Héroult, Paul L. T., La Praz, France. Steel-mixing process	807,027	Dec. 12	1862	406	119	1715
Héroult, Paul L.T., La Praz, assignor to Société Electro Métallurgique Française, Froges, Isère, France. Converting cast-iron into iron or steel	807,026	Dec. 12	1860	.....	119	1714
Héroult, Paul L.T., La Praz, assignor to Société Electro Métallurgique Française, Froges, Isère, France. Obtaining sound ingots	807,025	Dec. 12	1864	406	119	1715
Herr, Herbert T., Roanoke, Va., and W. V. Turner, Wilkinsburg, assignors to Westinghouse Air Brake Company, Pittsburg, Pa. Double-heading valve device for air-brakes	803,591	Nov. 7	131	30–1	119	31
Herrick Complete Combustion Company. (See Herrick, Wilbur F., assignor.)						
Herrick, Gerard P., New York, N. Y. Rear sight for guns and the like	806,142	Dec. 5	102	21	119	1287
Herrick, Wilbur F., Haworth, N. J., assignor to Herrick Complete Combustion Company, New York, N. Y. Apparatus for promoting combustion	805,461	Nov. 28	3905	845	119	977
Herrick, Wilbur F., Haworth, N. J., assignor to Herrick Complete Combustion Company, New York, N. Y. Apparatus for promoting combustion	805,462	Nov. 28	3907	846	119	977
Herrick, Wilbur F., Haworth, N. J., assignor to Herrick Complete Combustion Company, New York, N. Y. Apparatus for promoting combustion	805,463	Nov. 28	3909	846	119	978
Herrick, William, and J. G. Lohrman, Elkhart, Ind. Carbureter	804,138	Nov. 21	3260	707	119	798
Herrington, Nathan P., *et al.* (See Urban, Alfred C., assignor.)						
Herrmann, Charles. (See Herzog, Hopkins, and Herrmann.)						
Herron, David E., New Philadelphia, Ohio. Miner's lamp	804,650	Nov. 14	2275	499	119	538
Herzberg, Wilhelm, and O. Siebert, assignors to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Monoazo dye and making same	803,592	Nov. 7	135	.....	119	31
Herzog, Eduard, Erlach, Austria-Hungary. Apparatus for testing and registering the degree of inequality of yarn, &c	805,912	Nov. 28	4751	1016	119	1159
Herzog, Felix B., E. P. Hopkins, and C. Herrmann, New York, N. Y.; said Herrmann and Hopkins assignors to said Herzog. Electric-signaling-apparatus circuit	806,087	Dec. 26	3953	854–5	119	2253
Herzog, Louis, assignor to Stickerei Feldmühle, vormals Loeb, Schoenfeld & Co., Rorschach, Switzerland. Jacquard embroidering-machine	806,254	Dec. 5	315	67–8	119	1333
Herzog, Paul M., *et al.* (See Cantono, Eugenio, assignor.) (Reissue.)						
Hess, H. L. (See Swank, Arthur L., assignor.)						
Hesser, C. F. (See Williams, Frederick S., assignor.)						
Hester, Michael, Richmond, Ind. Rail-joint	804,535	Nov. 14	2040	443	119	489
Hetlesaeter, Olaf, assignor to Allis-Chalmers Company, Milwaukee, Wis. Steam-shovel	808,452	Dec. 26	4707	1013	119	2418
Hettinger, Henry A., Bridgeton, N. J. Combined mount and derrick for engines and winding-spools	805,955	Nov. 28	4833	1032	119	1178
Heulings, William H., Jr., assignor to J. A. Brill, Philadelphia, Pa. Semi-convertible car	806,809	Dec. 12	1418	313	119	1616
Heus, Mathew, Calumet, Wis. Elevated carrier	803,690	Nov. 7	335	71	119	76
Heverly, William U. (See Coyne, Edmund M., assignor.)						
Hewitt, Peter C., assignor to Cooper Hewitt Electric Company, New York, N. Y. Leading-in conductor for electric vapor apparatus	804,843	Nov. 21	2665	578	119	670
Hewitt, Peter C., New York, N. Y., assignor to Cooper Hewitt Electric Company. Starting electric gas or vapor devices	805,292	Nov. 21	3582	774	119	867
Hewitt, Peter C., assignor to Cooper Hewitt Electric Company, New York, N. Y. Starting device for mercury-vapor apparatus	805,293	Nov. 21	3584	774	119	867
Hewitt, William, Trenton, N. J. Grip mechanism	805,464	Nov. 28	3911	846–7	119	979
Hewlett, Alfred M., Kewanee, Ill. Molding	808,368	Dec. 26	4559	982	119	2386
Hewlett, Alfred M. and M. J., Kewanee, Ill.; said M. J. Hewlett assignor to said Alfred M. Hewlett. Molding apparatus	808,367	Dec. 26	4553	980–1	119	2385
Hewlett, Edward M., Schenectady, N. Y., assignor to General Electric Company. Automatic circuit-breaker	806,666	Dec. 5	1098	242	119	1506
Hewlett, Edward M., Schenectady, N. Y., assignor to General Electric Company. System of electric generation and distribution	806,667	Dec. 5	1100	243–4	119	1506
Hewlett, Maddra J. (See Hewlett, Alfred M. and M. J.)						
Hey, Israel. (See Broadbent and Hey.)						
Heybach, Fredrick J., assignor of one-half to Morehouse Manufacturing Company, Savannah, Ga. Gluing-machine	803,760	Nov. 7	479	103	119	107
Heyber, Erwin, *et al.* (See Gossa, Georg, assignor.)						
Heyl & Patterson Incorporated. (See Behringer, Jacob, assignor.)						
Hiatt, Charles C., Wilmington, Ohio. Die for making auger-bits	803,824	Nov. 7	586	129	119	127
Hibner, John G., Iowa Falls, Iowa. Gate	803,691	Nov. 7	336	71	119	78
Hickerson, Augustus A., Reynoldsburg, and W. H. Phalor, Shepard, Ohio. Guard for third rails	805,062	Nov. 21	3110	673–4	119	767

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Hickok, Lester E., Mechanicsburg, Pa. Perch connection for vehicles	804,469	Nov. 14	1903	414	119	458
Hicks, Alonzo, West New Brighton, N. Y. Mechanism for slitting and peeling bananas	803,761	Nov. 7	482	104	119	107
Hicks, Horace M., *et al.* (See Reisler, Phillip A., assignor.)						
Hicks, James M., Summit, N. J., assignor to Auto Stopper Company, New York, N. Y. Cap for vessels	807,077	Dec. 12	1971	427	119	1739
Hicks, James M., Summit, N. J., assignor to Auto Stopper Company, New York, N. Y. Cap for vessels	807,115	Dec. 12	2061	442	119	1758
Hicks, James M., Summit, N. J., assignor to Auto Stopper Company, New York, N. Y. Sealing-cap for vessels	807,390	Dec. 12	2536	549	119	1860
Hicks, John A., Summit, N. J., assignor to Auto Stopper Company, New York, N. Y. Means for sealing vessels	807,168	Dec. 12	2157	463	119	1777
Hicks, John A., Summit, N. J., assignor to Auto Stopper Company, New York, N. Y. Means for securing stoppers for vessels in their caps	807,381	Dec. 12	2539	550	119	1860
Hicks-Judd Company. (See Husing, John W., assignor.)						
Hicks, Samuel F., Arlington, Mass. Metallic window frame and sash	805,549	Nov. 28	4080	881	119	1015
Hiett, James W. (See Abernathy and Hiett.)						
Higbee, Edward H., Roodhouse, Ill. Rectum-supporter	807,169	Dec. 12	2158	463	119	1777
Higbee, Jesse T., Millville, N. J. Paddle for carrying glassware to the tempering-lears of furnaces	807,268	Dec. 12	2334	503	119	1816
Higgins, Anthony. (See Kelley, Alexander, assignor.)						
Higgins, James T., assignor of two-fifths to W. H. Quackenboss, New Brunswick, N. J. Pencil-sharpener	806,668	Dec. 5	1105	245	119	1509
Higginson, George, assignor to H. R. S. Pulman, London, England. Temporary binder, loose-leaf ledger, and the like	804,007	Nov. 7	946	199–200	119	202
High Duty Saw and Tool Company. (See Tindel, Adam, assignor.)						
Higham, Daniel, Bridgeport, Conn., assignor to Highamophone Company, Jersey City, N. J. Phonic apparatus	808,052	Dec. 19	3374	830	119	2194
Highamophone Company. (See Higham, Daniel, assignor.)						
Hildebrand, Frerich D., Toledo, Ohio. Angle-cock	807,269	Dec. 12	2336	503	119	1816
Hildreth, Herbert L. (See Jenner, Edward J., assignor.)						
Hill, Bradbury, T. N. Shambaugh, and L. A. Larson, Osage, Iowa. Copy-holder	806,344	Dec. 5	508	111	119	1379
Hill, Charles K., Cleveland, Ohio. Socket-wrench	803,692	Nov. 7	337	71	119	76
Hill, Ebenezer, Norwalk, Conn. Variable-speed mechanism	803,593	Nov 7	137	31	119	32
Hill, George H., Schenectady, N. Y., assignor to General Electric Company. Emergency brake-valve	808,238	Dec. 26	4283	921	119	2326
Hill, Harry W., Cleveland, Ohio. Self-oiling journal-box	804,601	Nov. 14	2170	475	119	516
Hill, Harry W., Cleveland, Ohio. Friction-clutch	805,550	Nov. 28	4081	881	119	1015
Hill, Henry R., Caldwell, Ohio. Pipe-tongs	805,913	Nov. 28	4752	1016	119	1159
Hill, John R. (See Dill and Hill.)						
Hill, Louis G., Monessen, Pa. Machine for cleaning plates	807,929	Dec. 19	3063	794	119	2147
Hill & Pappa. (See Jones, Louis D., assignor.)						
Hill, Stafford, London, England. Glass-blowing machine	806,669	Dec. 5	1106	245–8	119	1509
Hill, Terelius A., Maryville, Tenn. Fireplace	808,154	Dec. 26	4117	887	119	2288
Hillard, Frederic W., Tottenville, N. Y. Type-writing machine	805,956	Nov. 28	4834	1033	119	1178
Hillard, James P., *et al.* (See Marr, William G., assignor.)						
Hilliard, John D., Jr., Schenectady, N. Y., assignor to General Electric Company. Trip-coil for circuit-breakers	803,825	Nov. 7	887	129	119	127
Hilton, Alfred M. (See Jester, Aaron E., assignor.)						
Hilton, E. G. (See Parlee, Harry D., assignor.)						
Hinde, Henry J., Toledo, Ohio. Riveting attachment for power-presses	805,360	Nov. 21	3708	803	119	892
Hindmarch, Matthew, Sturgis, Ky. Magazine nail-driver	804,536	Nov. 14	2041	444	119	490
Hines, Jessie J., and E. B. Wilkerson, Houston, Tex. Spindle-bushing	805,551	Nov. 28	4083	882	119	1016
Hines, Joseph H., Philadelphia, Pa. Enameling	808,542	Dec. 26	4891	.....	119	2458
Hinkson, Frank B., Newcastle, assignor of two-thirds to J. M. and J. J. Flannery, Pittsburg, Pa. Apparatus for treating hides	807,930	Dec. 19	3066	794–5	119	2148
Hirsch, John G., Milwaukee, Wis. Machine for planting and fertilizing potatoes	805,063	Nov. 21	3112	674	119	768
Hitchcock, Halbert K., Akron, Ohio. Glass-press	805,066	Nov. 21	3125	677	119	770
Hitchcock, Halbert K., Tarentum, Pa. Kiln for annealing glass	805,069	Nov. 21	3132	679	119	771
Hitchcock, Halbert K., Tarentum, Pa. Runway for annealing glass	805,070	Nov. 21	3134	679–80	119	771
Hitchcock, Halbert K., Akron, Ohio, assignor to himself and C. W. Brown, trustees, Pittsburg, Pa. Manufacture of sheet-glass	805,064	Nov. 21	3115	675	119	768
Hitchcock, Halbert K., Akron, Ohio, assignor to himself and C. W. Brown, trustees, Pittsburg, Pa. Manufacture of glass articles	805,065	Nov. 21	3120	676	119	769
Hitchcock, Halbert K., Walton, assignor to himself and C. W. Brown, trustees, Pittsburg, Pa. Mechanism for feeding glass	805,067	Nov. 21	3129	678	119	770
Hitchcock, Halbert K., Walton, assignor to himself and C. W. Brown, trustees, Pittsburg, Pa. Feeding glass	805,068	Nov. 21	3130	678	119	771
Hitchcock, Halbert K., Walton, assignor to himself and C. W. Brown, trustees, Pittsburg, Pa. Manufacture of glass	805,139	Nov. 21	3262	707–8	119	798
Hoadley, Joseph H., New York, N. Y. System of electric railways	807,029	Dec. 12	1805	406	119	1715
Hoag, Andrew H. (See Salo, John B., assignor.)						
Hobart, Louis C., Southington, Conn. Lubricator for loose pulleys	804,722	Nov. 14	2412	527	119	570
Hobson, Arthur E., Meriden, Conn. Silver alloy	808,453	Dec. 26	4709	.....	119	2419
Hobson, John H., Mattoon, Ill. Wrench	807,618	Dec. 19	3035	651	119	2008
Hockett, Aaron L., Birmingham, Ala. Target	805,361	Nov. 21	3710	803	119	892
Hocq, Edouard, assignor of one-half to A. Caplan, New York, N. Y. Cigarette-making machine	807,675	Dec. 19	3149	676	119	2035
Hodge, Arthur J. and N., Pasadena, Cal. Fluid-pressure regulator	806,470	Dec. 5	758	168	119	1435
Hodge, Nathaniel. (See Hodge, Arthur J. and N.)						
Hodge, Neely B., Dallas, Tex. Seed-planter	804,537	Nov. 14	2043	444–5	119	490
Hodgson, John G., Maywood, Ill., assignor to American Can Company, New York, N. Y. Key-opening can	804,844	Nov. 21	2665	578	119	670
Hodgson, John G., Maywood, Ill., assignor to American Can Company, New York, N. Y. Forming weakened lines for tearing-strips of key-opening cans	804,845	Nov. 21	2667	578	119	671
Hoe, Robert. (See Baiss, John C. F., assignor.)						
Hoe, Robert. (See Cruse, Amandus H., assignor.)						
Hoefer, August G., F. W., and E. A., Freeport, Ill., assignors to Janesville Barb Wire Company. Wire-fence machine	804,846	Nov. 21	2668	579–81	119	671
Hoefer, Emil A. (See Hoefer, August G., F. W., and E. A.)						
Hoefer, Frederick W. (See Hoefer, August G., F. W., and E. A.)						
Hoegh, Hans J., New York, N. Y. Belt-shifter	808,088	Dec. 26	3960	856	119	2254
Hoelzer, George J., Chicago, Ill. Tripod-head	807,076	Dec. 12	1972	427	119	1739
Hoey, John, San Francisco, Cal. Couch	804,538	Nov. 14	2047	445	119	491
Hoey, John, San Francisco, Cal. Bed-bottom	808,369	Dec. 26	4563	983	119	2387
Hoey, John J., New York, N. Y. Car-fender	806,143	Dec. 5	105	21	119	1287

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Hof, Henry P. (See Meyer, Adolph, assignor.)						
Hofe, Horst K. vom, Berlin-Charlottenburg, Germany. Buckle	804,470	Nov. 14	1904	414	119	458
Hofe, Leopold vom, Lüdenscheid, Germany. Rotary pump	805,552	Nov. 28	4084	882	119	1016
Hoffman, William M., Buffalo, N. Y. Rotary engine	803,603	Nov. 7	339	72	119	78
Hoffman, Willmot G., San Francisco, Cal. Umbrella	805,957	Nov. 28	4842	1033–4	119	1180
Hoffmann, Paul, Charlottenburg, Germany. Pocket induction-coil	807,464	Dec. 19	2726	587	119	1942
Hofmann, Hermann F. E., Schloss Fasoltsberg, near Gratz, Austria-Hungary. Wooden spade	807,742	Dec. 19	3300	709	119	2065
Hofmann, Johann, West Covington, assignor of one-half to H. F. Bittlinger, Covington, Ky. Fluid-motor	803,595	Nov. 7	140	31-2	119	32
Hofmann, Justus, Witkowitz, Austria-Hungary. Apparatus for preventing the escape of gas from gas-generators	805,295	Nov. 21	3593	776	119	868
Hofmeister, Flora, Racine, Wis. Collar	803,594	Nov. 7	138	31	119	32
Hogan, Bertice P., assignor to American Manufacturing & Novelty Co., Erie, Pa. Ladder foot-clamp	805,422	Nov. 21	3825	826	119	918
Hogan, Daniel. (See Meinecke and Hogan.)						
Hogan, Eli, Portland, Oreg. Combination-tool	807,382	Dec. 12	2540	550	119	1860
Hogland, Frank G. (See Faust and Hogland.)						
Hohein, George C., Norfolk, Va. Mirrior for barbers' chairs	806,742	Dec. 5	1260	280	119	1542
Hohn, Fred C., Indianapolis, Ind. Machine for making cement brick and the like	805,284	Nov. 21	3587	774–6	119	867
Holden, C. C. (See Ellsworth, Edgar C., assignor.)						
Holden, Eugene H., assignor of one-half to G. H. Giffin, Keene, N. H. Rotary engine	805,958	Nov. 28	4843	1034	119	1180
Holder, William R., Lake Charles, La. Kitchen-rack	806,893	Dec. 12	1605	352	119	1658
Holdren, Andrew, Misco, Ohio. Device for loading machines upon trucks	805,796	Nov. 28	4521	968	119	1107
Hölken, Martin, Barmen-Rittershausen, assignor, by mesne assignments, to G. von Donnersmarck, Neudeck, Germany. Improving paper yarn	805,553	Nov. 28	4086	.....	119	1016
Holland, Benjamin B. (See Spurgin, Nickolas, assignor.)						
Holland, John, Cincinnati, Ohio. Fountain-pen	804,847	Nov. 21	2684	582	119	675
Holland, William R., Potolo, Fla. Rail-joint	804,471	Nov. 14	1905	414	119	458
Hollingsworth, Prentice K., Sunset, Tex. Dust-guard for vehicles	804,401	Nov. 14	1777	384	119	431
Hollinrake, Joseph, *et al.* (See Spence, Harry, assignor.)						
Hollis, Robert C., assignor to Manhattan Laundry Company, Wilmington, Del. Ironing-machine	804,949	Nov. 21	2650	615	119	714
Hollm, Gustav H., Fairfield, Conn. Tapping attachment	803,596	Nov. 7	141	32	119	32
Holman, John W., *et al.* (See Miller, Ernest H., assignor.)						
Holmes, George E., Lockhaven, Pa. Astigmatic cabinet	805,959	Nov. 28	4845	1034	119	1181
Holmes, George W., Greenfield, Ill. Cultivator attachment	806,155	Dec. 26	4120	888	119	2288
Holmes, Grant, assignor to Robert Holmes & Brothers, Danville, Ill. Automatic car-lift	804,950	Nov. 21	2660	616	119	715
Holmes, Gustav E., A. G. and J. M. Bostrom, Milwaukee, Wis. Combination sofa and bed	803,826	Nov. 7	588	129–30	119	127
Holmes, Joseph F., Kansas City, Kans. Manifold blank-book	807,465	Dec. 19	2726	587	119	1943
Holt, James D., Carnegie, Pa. Ice-creeper	806,370	Dec. 26	4564	983	119	2387
Holt, Robert C. (See Stafford and Holt.)						
Holtz, Henry P., *et al.* (See Good and Gerling, assignors.)						
Holtzer Cabot Electric Company. (See Lillie and Freier, assignors.)						
Holtzhouser, Jacob, assignor to Stanley Works, New Britain, Conn. Flush handle	807,170	Dec. 12	2159	463	119	1777
Homan & Company. (See Homan, Joseph T., assignor.)						
Homan, Henry A., Omaha, Nebr. Fish-hook	806,239	Dec. 26	4286	921	119	2326
Homan, Joseph T., assignor to Homan & Company, Cincinnati, Ohio. Candle-tip mold	806,973	Dec. 12	1762	387	119	1693
Homan, William C., assignor to Edward Miller & Company, Meriden, Conn. Chimney, globe, and shade holder	804,951	Nov. 21	2664	617	119	716
Hood, Joseph S., Stahlstown, Pa. Device for operating furnace-doors, gates, &c.	803,597	Nov. 7	143	32	119	33
Hooley, Edgar P., Nottingham, assignor to Tarmac, Limited, Spring Vale, England. Tar macadam and preparing same	803,902	Nov. 7	726	156	119	157
Hooper, Charles L., Rochester, N. Y. Trolley-harp	807,822	Dec. 19	3443	740	119	2097
Hoopes, Macmillan. (See Cunningham and Hoopes.)						
Hoor, Moritz von, F. Reinitz, and L. Stark, Budapest, Austria-Hungary. Controlling device for electric generators	805,725	Nov. 28	4396	943	119	1063
Hoover, Amiel R., assignor of one-half to C. J. Craigmiles, Pleasanthill, Ill. Telephone signal system	804,848	Nov. 21	2685	582	119	675
Hoover, Jacob B., Columbus, Ohio. Furnace	805,797	Nov. 28	4522	968	119	1107
Hope, Charles H., *et al.* (See Hope, John, Jr., assignor.)						
Hope, John, Jr., assignor of one-half to C. H. and W. H. Hope, Providence, R. I. Door lock and latch	805,362	Nov. 21	3712	803–4	119	893
Hope, William H., *et al.* (See Hope, John, Jr., assignor.)						
Höpfner, Gottfried, Bleckendorf, assignor to W. von Lewinski, Breslau, Germany. Manufacturing briquets	804,193	Nov. 7	1337	.....	119	295
Höpfner, Gottfried, Bleckendorf, assignor to W. von Lewinski, Breslau, Prussia, Germany. Machine for manufacturing briquets	804,402	Nov. 14	1778	385	119	432
Hopkins, Albert J., *et al.* (See Trotter, James, assignor.)						
Hopkins, Alexander C., Mackey, Ind. Farrier's tool	806,144	Dec. 5	107	21	119	1288
Hopkins, Charles L., Chicago, Ill., assignor to Curtain Supply Company, Newark, N. J. Curtain-fixture	804,317	Nov. 14	1627	352	119	396
Hopkins, Charles L., Chicago, Ill., assignor to Curtain Supply Company, Newark, N. J. Holding means for curtains	804,318	Nov. 14	1629	352	119	396
Hopkins, Edward P. (See Herzog, Hopkins, and Herrmann.)						
Hopkins, George W., and A. B. Canfield, Guthrie, Okla. Ter.; said Canfield assignor to said Hopkins. Bin	806,089	Dec. 26	3962	856	119	2254
Hopkins, James M., Chicago, Ill., assignor, by mesne assignments, to Climax Bearing Company. Bearing for car journal-boxes. (Reissue)	12,401	Nov. 7	1359	289–90	119	300
Hopkins, James R., Somerville, Mass. Combined wrench and spanner	804,008	Nov. 7	948	200	119	202
Hopkins, William B., Cincinnati, Ohio. Pencil-sharpener	803,762	Nov. 7	482	104	119	107
Hoppes, Addison E. (See Burdge, Franklin P., assignor.)						
Horak, Frank, Valparaiso, Ind. Storm-collar	806,543	Dec. 26	4891	1052–3	119	2458
Horazdovsky, Edward, Montgomery, Minn. Grain-separator	807,079	Dec. 12	1973	427	119	1739
Horn, Henry P., Cleveland, Ohio. Clam-shell bucket	807,823	Dec. 19	3444	741	119	2097
Horn, Josiah F., Hazleton, Pa. Wheel-tire attachment	806,810	Dec. 12	1419	313	119	1616
Hornal, Colin, Nashville, Tenn. Engine	804,472	Nov. 14	1906	415–16	119	459
Horner, John T., Newcastle, Pa. Bearing for the rolls of rolling-mills	803,763	Nov. 7	483	104–5	119	107
Horner, Joseph. (See Greenway and Horner.)						
Horner, Walter H., and E. A. Buck, Seattle, Wash. Tire-shrinker and jack	804,125	Nov. 7	1184	253	119	260
Horner, William C., assignor to C. P. McDougall, Indianapolis, Ind. Sliding bin	807,619	Dec. 19	3037	651	119	2009
Horr, Jacob, Mechanicsburg, Ohio. Machine for making cement or concrete blocks	805,914	Nov. 28	4754	1016–17	119	1159
Horry, William S., Niagara Falls, N. Y. Electric switch	806,364	Dec. 26	4547	978	119	2384
Horry, William S., Niagara Falls, N. Y. Protective shunt for electric circuits of high inductance	806,371	Dec. 26	4566	983	119	2388

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Horsfall Destructor Co. (See Watson and Mason, assignors.)						
Horsley, Robert L., assignor to Worth Wire Works, Fort Worth, Tex. Fence-stay	805,071	Nov. 21	3138	681	119	772
Horst, George C., assignor to J. A. Jeffrey, Columbus, Ohio. Chain	804,723	Nov. 14	2413	527	119	570
Horstmann, Henry J., Fort Wayne, Ind. Mercury and amalgam separator	807,620	Dec. 19	3039	651	119	2009
Horton, Bryson D., assignor to Horton-Morehouse Company, Detroit, Mich. Thermal cut-out for electric conductors	807,270	Dec. 12	2338	503	119	1816
Horton, Charles M., Portsmouth, N. H., assignor to Singer Manufacturing Company. Thread-cutting mechanism for sewing-machines	807,676	Dec. 19	3150	676–7	119	2035
Horton-Morehouse Company. (See Horton, Bryson D., assignor.)						
Hoskins, Cicero, assignor of one-half to E. J. Hoskins, Quincy, Ill. Chicken-coop	808,156	Dec. 26	4121	868	119	2289
Hoskins, Emma J. (See Hoskins, Cicero, assignor.)						
Hotaling, Robert J., *et al.* (See McGhee, John W., assignor.)						
Hotson, John H., Brooklyn, N. Y. Keyboard for type-writing machines	807,556	Dec. 19	2897	624	119	1977
Houghtaling, Paul A., Riverton, assignor to Curtain Supply Company, Newark, N. J. Curtain-holding device	804,319	Nov. 14	1630	353	119	397
Houghtaling, Paul A., Riverton, assignor to Curtain Supply Company, Newark, N. J. Curtain-holding device	804,473	Nov. 14	1910	416	119	459
Houghton, Eugene, Dalton, Ohio. Jar	805,915	Nov. 28	4758	1017	119	1160
House, Samuel N., St. Louis, Mo. Cold-tire-shrinking machine	805,798	Nov. 28	4523	969	119	1107
Housholder, Henry, Elizabeth, Pa. Churn	805,855	Nov. 28	4629	992	119	1130
Hove, Ole, Ellsworth, Wis. Reversing-valve	805,726	Nov. 28	4397	943–4	119	1084
Howard, Benjamin F., *et al.* (See Porter, Martin L., assignor.)						
Howard, Clarence H., St. Louis, Mo. Railway-car	806,811	Dec. 12	1421	313	119	1617
Howard, Henry, Brookline, assignor to Merrimac Chemical Company, North Woburn, Mass. Mechanical roasting or desulfurizing furnace	804,227	Nov. 14	1431	306	119	354
Howard, Mary A, Columbus, Ohio. Receptacle	804,330	Nov. 14	1632	353	119	397
Howard, Robert W. (See Chaplin, Orril R., assignor.)						
Howe, David, Dalton, Mass. Musical toy	805,727	Nov. 28	4399	944	119	1084
Howe, Winthrop K., assignor to Taylor Signal Company, Buffalo, N. Y. Railway switching and signaling apparatus	804,126	Nov. 7	1186	253	119	260
Howes, Claude L., Boston, Mass. Hydrant	807,824	Dec. 19	3446	742	119	2093
Howk, Charles P., assignor of one-half to F. E. Reed Company, Worcester, Mass. Detachable head for boring-tools	804,602	Nov. 14	2171	476	119	516
Howland, William L., Monmouth, Ill. Oiler	804,009	Nov. 7	948	200	119	203
Hoxie, Vernon, assignor to Lamb Wire Fence Company, Adrian, Mich. Wire feed, straightening, and cutting mechanism	804,321	Nov. 14	1634	353	119	398
Hoxie, Vernon, assignor to Lamb Wire Fence Company, Adrian, Mich. Wire-staple forming and discharging mechanism	804,323	Nov. 14	1643	355	119	400
Hoxie, Vernon, assignor to Lamb Wire Fence Company, Adrian, Mich. Wire-staple forming and discharging mechanism	804,403	Nov. 14	1781	385–6	119	432
Hoxie, Vernon assignor to Lamb Wire Fence Company, Adrian, Mich. Wire-staple forming and discharging mechanism	804,404	Nov. 14	1785	386	119	433
Hoxie, Vernon, and W. F. Truman, assignors to Lamb Wire Fence Company, Adrian, Mich. Wire-staple forming and discharging mechanism	804,322	Nov. 14	1639	354	119	399
Hoy, Henry S., Chicago, Ill. Elevating-conveyer for grading and ditching machines	804,474	Nov. 14	1913	416	119	460
Hoyt, Frederick J., Chicago, Ill. Mining-mill	806,145	Dec. 5	108	22	119	1288
Hoyt Metal Company. (See Masel, Theodore, assignor.)						
Hoyt, Nathan B., and J. H. Martin, assignors to Elm City Engineering Co., New Haven, Conn. Branch-block for electric wiring	804,603	Nov. 14	2172	476	119	516
Hrubanik, Martin F. (See Hadley, George T., assignor.)						
Hubbard, Henry, assignor to Woolley Smokeless Furnace Company, Pittsburg, Pa. Furnace	807,466	Dec. 19	2728	587–8	119	1943
Hubbard, Hugh H. (See Hubbard, Willson E., assignor.)						
Hubbard, Richard W., Ashtabula, Ohio. Snap-hook	805,646	Nov. 28	4248	914	119	1051
Hubbard, William B. (See Phillips and Hubbard.)						
Hubbard, Willson E., assignor of one-half to H. H. Hubbard, Dennis, Tex. Switch-operating device	807,171	Dec. 12	2160	464	119	1777
Hubbell, Orra. (See Blake, Lutz, and Hubbell.)						
Hubbell, Seneca. (See Stoker and Hubbell.)						
Huckabay, William J., Sparta, La. Rail or other joint	804,127	Nov. 7	1190	253–4	119	261
Hudson, John, Newcastle-upon-Tyne, England. Tram-car and railway-carriage platform step-tread	805,296	Nov. 21	3595	776–7	119	869
Huff, Charles H. (See Wynne, Philip H., assignor.)						
Huffer, Frederick, New York, N. Y. Electric switch	804,849	Nov. 21	2986	582	119	675
Huffman, Benjamin F., Beverly, W. Va. Saw-guide	804,128	Nov. 7	1192	254	119	261
Huggins, George J., Alachua, Fla. Plow-heel	804,405	Nov. 14	1789	387	119	434
Huggins, Percy L. (See Gilleland, John W., assignor.)						
Hughes, John W., San Francisco, Cal. Toy	806,255	Dec. 5	317	68	119	1334
Hughes, Raymond M. (See Barrow, Clyde, assignor.)						
Hughes, Robert, Jr. (See Zimmerman and Hughes.)						
Hughes, William J., Levis, Canada. Railway-switch-stand contact-box	803,827	Nov. 7	591	130	119	128
Hull, Arthur E., assignor to B. S. McClellan, Chicago, Ill. Car-window	806,471	Dec. 5	759	169	119	1435
Hull, Oscar, Kaylor, Pa. Door-check	807,931	Dec. 19	3667	795	119	2148
Hull, Scott H. (See Kellerman, William L., assignor.)						
Hull, Scott H., assignor of one-half to W. L. Kellerman, Oskaloosa, Iowa. Adjustable pad-skirt	806,670	Dec. 5	1111	248	119	1510
Hull, William H., St. John, Wash. Churn	805,960	Nov. 28	4846	1035	119	1181
Hulquist, Andrew D., assignor to J. S. McDonald, Chicago, Ill. Lock for the adjustable backs of loose-leafed ledgers, account-books, record-books, files, &c	807,557	Dec. 19	2903	624	119	1979
Hulwick, Jesse A., Angola, Ind. Burial apparatus	805,465	Nov. 28	3914	847	119	979
Hummel, Franklin P., Bellevue, Ohio. Instantaneous steam-generator	805,961	Nov. 28	4848	1035	119	1181
Humphrey, James D., Towanda, assignor, by mesne assignments, to C. T. Fox, Philadelphia, Pa. Automatic machine for feeding, moistening, and cutting labels or stickers in fillet form	807,467	Dec. 19	2729	588	119	1944
Humphrey, John E., Giltner, Nebr. Straw-conveyer for threshing-machines	806,671	Dec. 5	1113	249	119	1510
Humphrey, William H., New York, N. Y. Life-preserver	803,828	Nov. 7	592	131	119	128
Humphreys, Charles K., Baltimore, Md. Rail-joint	804,724	Nov. 14	2414	527	119	570
Humphreys, Jerome N., assignor to Armstrong Packing Company, Dallas, Tex. Apparatus for bleaching lard compounds	804,129	Nov. 7	1194	254	119	262
Humphreys, Ormond, *et al.* (See Fishburne, Edward W., assignor.)						
Hundley, Charles W., assignor of one-half to L. A. West, Irvine, Ky. Railway-switch	804,952	Nov. 21	2866	617	119	716
Hünerbein, Ferdinand, Baltimore, Md. Compound for finishing wooden and other surfaces	805,466	Nov. 28	3915	.....	119	980
Hungad, Daisy, Rochester, N. Y. Finger-shield	804,406	Nov. 14	1790	387	119	434
Hunt Automatic Time Lamp Co. (See Hunt, Thomas W., assignor.)						
Hunt, Frank W., Boston, Mass. Composite heel for boots and shoes	807,825	Dec. 19	3448	742	119	2093

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Hunt, Frederick C. (See Barchfeld and Hunt.)						
Hunt, George L. (See Caldwell and Hunt.)						
Hunt, Helm, Ferris & Company. (See Ferris, Henry L., assignor.)						
Hunt, John B., Trenton, N. J. Window holding and antirattling device	804,228	Nov. 14	1434	306	119	355
Hunt, Robert W., Chicago, Ill. Perfecting cast-steel ingots	805,728	Nov. 28	4400	944	119	1084
Hunt, Robert W., Chicago, Ill. Perfecting cast-steel ingots	805,729	Nov. 28	4404	944–5	119	1085
Hunt, Thomas W., assignor to Hunt Automatic Time Lamp Co., Atlanta, Ga. Time-controlled lamp	808,053	Dec. 19	3877	839	119	2194
Hunter, Freeman S., Bedford, Ind. Sanitary drinking apparatus	807,468	Dec. 19	2731	588–9	119	1944
Hunter, John, Los Angeles, Cal. Clamp for carrying plate-glass	808,202	Dec. 26	4211	907	119	2309
Hunter, John A., *et al.* (See Ursbruck, John H. and J. B., assignors.)						
Hunter, Mary A., *et al.* (See Ursbruck, John H. and J. B., assignors.)						
Hunter, Robert W., and L. Callahan, Colorado Springs, Colo. Level	808,372	Dec. 26	4567	983	119	2388
Huntington, Spencer H., Kerrville, Tex. Thimble	805,297	Nov. 21	3595	777	119	869
Huntley Manufacturing Company. (See Morse, Theodore F., assignor.)						
Hunziker, Samuel, Sutton, Nebr. Brick-grapple	806,672	Dec. 5	1114	249	119	1511
Hurlburt, Eugene R., Mount Zion, Ill. Post	806,743	Dec. 5	1261	280	119	1542
Hurry, Edward H., Bethlehem, and H. J. Seaman, Catasauqua, Pa. Manufacturing Portland cement	806,146	Dec. 5	111	22–3	119	1289
Hurst, Charles M., Rawlins, Wyo. Railway switch and signal mechanism	808,157	Dec. 26	4122	888–9	119	2289
Hurst, William S. (See Quick, Harry C., assignor.)						
Husing, John W., assignor to Hicks-Judd Company, San Francisco, Cal. Temporary or loose-leaf binder	806,974	Dec. 12	1763	387	119	1693
Husk, Frank B., assignor to Morlock and Husk, Danbury, Conn. Machine for pouncing hat-brims	808,373	Dec. 26	4568	984	119	2388
Hussey, Patrick L., Cleveland, Ohio. Universal joint	804,953	Nov. 21	2868	617–18	119	716
Hussey, William P., assignor to Standard Dry Kiln Company, Indianapolis, Ind. Means for stopping cars	806,147	Dec. 5	116	23	119	1290
Hutchins, Rufus J., Austin, Tex. Water-heater	807,030	Dec. 12	1867	406	119	1716
Hutchinson, Albert A., Winchester, Mass. Hide-working machine	806,256	Dec. 5	318	68–70	119	1334
Hutchinson, James M., assignor to D. H. Haywood, trustee, New York, N. Y. Mold for artificial stone	805,962	Nov. 28	4850	1036	119	1182
Hutchinson, Samuel P., Philadelphia, Pa. Smoke-consuming attachment to furnaces	807,743	Dec. 19	3301	709	119	2065
Hutchinson, Thomas C., Decorah, Iowa. Forceps and the like	804,229	Nov. 14	1436	307	119	355
Hutchinson, Warren B., trustee. (See Parker, William H., assignor.)						
Hyatt, Henry T., London, Canada. Lamp-heater	805,554	Nov. 28	4086	882	119	1016
Hybinette, Noak V., Westfield, N. J. Refining copper-nickel matte	805,555	Nov. 28	4088	.....	119	1016
Hybinette, Noak V., Westfield, N. J. Separation of metals	805,969	Nov. 28	4865	1038	119	1185
Hyde, Elmer A., and H. H. Farlin, Villisca, Iowa. Cultivator-shield	806,975	Dec. 12	1764	387	119	1694
Hyde, William J. (See Peckham and Hyde.)						
Hydro-Press Manufacturing Company. (See Rivers, Julian H., assignor.)						
Hysom, George R., Paola, Kans. Wagon-body	804,230	Nov. 14	1440	307	119	357
I. B. Kleinert Rubber Company. (See Kleinert, Isaac B., assignor.)						
Ibison, John H., Urbana, Mo. Window-glass fastener	808,544	Dec. 26	4893	1053	119	2458
Illinois Watch Company. (See Johnson, George F., assignor.)						
Imbert, Antoine H., Grand-Montrouge, France. Extracting metals from their sulfids	807,271	Dec. 12	2339	503–4	119	1817
Imes, James S., McKeesport, Pa. Rail-joint	807,116	Dec. 12	2062	443	119	1758
Immler, Charles A., Akron, Ohio. Vehicle-tire	807,744	Dec. 19	3304	710	119	2066
Imperial Rolling Window Screen Company. (See Parsons, Richmond, assignor.)						
Improved Paper Machinery Company. (See Parker, Howard, assignor.)						
Indianapolis Watchman Clock Company. (See Summers, Jesse, assignor.)						
Ingersoll Milling Machine Company. (See Smith, George W., assignor.)						
Ingersoll-Sergeant Drill Company. (See Gibson, Arthur H., assignor.)						
Ingram, Nathan D. (See Bamberger and Ingram.)						
Inland Type Foundry. (See Schraubstadter, Carl, assignor.)						
Inman, Fred R., Providence, R. I. Wood-turning lathe	805,730	Nov. 28	4407	945	119	1085
Inskeep, Job R., Galion, Ohio. Fumigating composition	806,976	Dec. 12	1765	.....	119	1694
Insull, Samuel. (See Ball, Henry P., assignor.)						
International Automatic Machine Co. (See Nilson and Olson, assignors.)						
International Creosoting & Construction Co. (See Jones, Stratford, Byrnes, and Nixon, assignors.)						
International Desiccating Company. (See McLachlan, John C., assignor.)						
International Harvester Company. (See Borg, Chris, assignor.)						
International Harvester Company. (See Case, Henry J., assignor.)						
International Harvester Company. (See Curtiss, Charles E., assignor.)						
International Harvester Company. (See Dennis, Samuel K., assignor.)						
International Harvester Company. (See Ellis, George H., assignor.)						
International Harvester Company. (See Hagadone, Clinton A., assignor.)						
International Harvester Company. (See Johnson, Andrew L., assignor.)						
International Harvester Company. (See Kennedy and Sharp, assignors.)						
International Harvester Company. (See Slivinski, Hugo R., assignor.)						
International Paper Company. (See Lyman, Chester W., assignor.)						
International Register Company. (See McCormick and Morrison, assignors.)						
International Register Company. (See Woodward, Arthur H., assignor.)						
Inwood, Richard G., and P. C. Lavenberg, assignors to National Wire Bound Box Company, South Bend, Ind. Machine for making box-blanks	806,411	Dec. 5	635	139–40	119	1408
Ippers, John W., assignor to A. H. Walker, trustee, New York, N. Y. Photomechanical printing	807,272	Dec. 12	2342	504	119	1817
Ireland, Albert N., and J. T. Reese, Sioux City, Iowa. Block system for railways	805,856	Nov. 28	4631	992–3	119	1130
Ireson, Charles L., Boston, Mass. Article of manufacture comprising leather and rubber bodies	804,850	Nov. 21	2689	583	119	676
Ireson, Charles L., Boston, Mass. Attaching rubber to leather	804,851	Nov. 21	2690	583	119	676
Ireson, Charles L., Boston, Mass. Resilient tire	804,852	Nov. 21	2691	583	119	676
Ireson, Charles L., Boston, Mass. Attachment of rubber and leather	804,853	Nov. 21	2693	583	119	676
Ireson, Charles L., Boston, Mass. Vulcanizing leather and rubber	804,854	Nov. 21	2694	584	119	676
Ireson, Charles L., Boston, Mass. Leather wearing-tread for resilient tires	804,855	Nov. 21	2695	584	119	677
Iron Telephone Company. (See Reynolds, Egbert A., assignor.)						
Irvine, Frederick G., Marietta, Ohio. Underreamer	807,826	Dec. 19	3449	742–3	119	2098
Irving-Pitt Mfg. Co. (See Pitt, William P., assignor.)						
Irwin, Breckenridge, Denver, Colo. Boiler-cleaner	804,194	Nov. 7	1339	286	119	295
Irwin, Clifton W. (See Colburn and Irwin.)						
Irwin, Joseph, St. Louis, Mo. Railway-signal	804,231	Nov. 14	1442	307	119	357
Irwin, Robert W., and J. Duffy, Grand Rapids, Mich., assignors to Grand Rapids Furniture Company. Window-screen	806,090	Dec. 26	3963	856	119	2254
Isaac G. Johnson and Company. (See Johnson, Elias M., assignor.)						
Isakson, John, Clinton, Mont. Phonographic instrument	804,604	Nov. 14	2173	476	119	516

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Isenberg, Hans O. C. (See Ginaca, Henry G., assignor.)						
Isenmann, Rudolf, Newark, N. J. Coloring photographic prints	807,932	Dec. 19	3668	.....	119	2148
Ivins, Diets and Metzger Company. (See Tunstall, William, assignor.)						
Izer, Elmer E. (See Mills and Izer.)						
J. Ellwood Lee Company. (See Lee, John E., assignor.)						
J. Thompson & Sons Manufacturing Company. (See Jones, Judson R., assignor.)						
J. A. Fay & Egan Company. (See Meyers and Frost, assignors.)						
J. A. Kelly & Bros. (See Kelly, Thomas F., assignor.)						
J. I. Case Threshing Machine Company. (See Dingee, William W., assignor.)						
J. M. Kohler Son's Company. (See Kohler, Walter J , assignor.)						
J. S. McDonald Company. (See Fleberg, John, assignor.)						
Jackman, Stephen E., New York, N. Y. Car-coupling	807,933	Dec. 19	3669	795	119	2148
Jackson, Amos H., Fremont, Ohio. Safety-razor	807,172	Dec. 12	2162	464	119	1778
Jackson, Andrew, Winnetka, Ill. Lawn-mower	807,934	Dec. 19	3669	795	119	2148
Jackson, Epenetus N., *et al.* (See Wilcox, Abijah T., assignor.)						
Jackson, Frank, assignor to Jackson Manufacturing Company, Denver, Colo. Binding-post	804,232	Nov. 14	1444	308	119	358
Jackson, George E., Sigourney, Iowa. Wagon-unloader	807,827	Dec. 19	3451	743	119	2098
Jackson, George W. (See Jackson, Rolly W., assignor.)						
Jackson, Guy G., Allegheny, Pa. Vehicle-wheel	804,605	Nov. 14	2174	476	119	517
Jackson, Isaac, Glossop, England. Tool for detaching fasteners	805,072	Nov. 21	3139	681	119	773
Jackson, John, and C. Munson, Clinton, Iowa. Chair-seat	805,204	Nov. 21	3395	736	119	827
Jackson, John G., New York, N. Y. Flexible fabric and making same	805,963	Nov. 28	4851	1036	119	1182
Jackson Manufacturing Company. (See Jackson, Frank, assignor.)						
Jackson, Martin J. (See Gremmels, Henry W., assignor.)						
Jackson, Rolly W., assignor of one-half to G. W. Jackson, Newman, Ill. Wrench	804,856	Nov. 21	2696	584	119	677
Jackson, Samuel J., New York, N. Y. Needle-bath apparatus	803,598	Nov. 7	144	33	119	33
Jackson, Vincent M., Laurel Hill, La. Road-scraper	807,936	Dec. 19	3671	796	119	2149
Jackson, William H., Bakersfield, Cal. Spring-wheel	805,647	Nov. 28	4250	914	119	1061
Jackson, William S., Veedersburg, Ind. Mold-support	807,935	Dec. 19	3670	796	119	2148
Jacky, Chester A., Coulee City, Wash., assignor of one-half to A. A. Gast, Los Angeles county, Cal. Thill-loop	804,475	Nov. 14	1916	417	119	461
Jacob, Alexandre, Vilvorde, Belgium. Disincrustant for steam-generators	808,240	Dec. 26	4287	.....	119	2327
Jacobowitz, Sigmund. (See Mecredy, William J., assignor.)						
Jacobs, Hilary, New York, N. Y. Incandescent oil-lamp	806,257	Dec. 5	323	70	119	1335
Jacobson, Gustav E., Newark, N. J., assignor to Essex Electrical Company. Motor-fan	804,606	Nov. 14	2176	477–8	119	517
Jacoby, William L., Maywood, Ill. Manufacture of draw-heads for railway-couplings	803,764	Nov. 7	486	105	119	108
Jaeger, Alexander, Philadelphia, Pa. Dust-proof joint for glass plates	804,660	Nov. 14	2276	499	119	539
Jaeger, Philipp J., assignor of one-half to J. B. McCloskey, Santa Paula, Cal. Filter apparatus	807,558	Dec. 19	2905	625	119	1980
Jahn, Frederick L. (See Watson and Jahn.)						
Jakobsson, Herman G. (See Meigs and Jakobsson.)						
James, Albert A., assignor to James Manufacturing Company, Oklahoma, Okla. Ter. Appliance for checking horses	805,731	Nov. 28	4410	945–6	119	1085
James, Edwin G., South Milwaukee, Wis. Musical instrument	808,374	Dec. 26	4570	984	119	2389
James, Hallie P., Humboldt, Tenn. Rope-measuring machine	804,857	Nov. 21	2697	564	119	677
James, Henry D., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electric-motor controller	807,937	Dec. 19	3674	796–7	119	2149
James, Henry D., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Control system for electric motors	807,938	Dec. 19	3676	797	119	2150
James, Henry D., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Controller for electric motors	807,939	Dec. 19	3678	797–8	119	2150
James Manufacturing Company. (See James, Albert A., assignor.)						
James, Thomas S., Chiswick, England. Self-closing seat and chair	805,799	Nov. 28	4525	969	119	1107
James, Wilbur C., assignor to United States Playing Card Company, Cincinnati, Ohio. Box	804,725	Nov. 14	2415	527	119	570
Jamison, Alcinous B., New York, N. Y. Syringe	804,407	Nov. 14	1791	387–8	119	434
Janesville Barb Wire Company. (See Hoefer, August G., F. W., and E. A., assignors.)						
Jankoski, Anastasy F., Detroit, Mich. Portable grinding and abrading wheel	805,957	Nov. 28	4633	993	119	1131
Janser, Victor J., and H. Meyer, Springfield, Mass. Guard attachment for chandeliers	807,173	Dec. 12	2163	464	119	1778
Japp, Henry, New York, N. Y. Segment for tunnel-linings	805,673	Dec. 5	1116	249–50	119	1511
Jarvis, Joseph C., Huntington, W. Va. Continuous-piston engine	805,140	Nov. 21	3264	708	119	799
Jarvis, Thomas, Chicago, Ill. Folding square	805,467	Nov. 28	3915	847	119	990
Javal, Eugene A. (See Fouché, Edmond, assignor.)						
Jean, Robert F. (See Kight, William K., assignor.)						
Jeannin, Frank H., Schenectady, N. Y., assignor to General Electric Company. End connection for dynamo-electric machines	808,241	Dec. 26	4288	921	119	2327
Jefferson, Isaac, Langston, Okla. Ter. Plow attachment	805,800	Nov. 28	4526	969–70	119	1106
Jeffery, Thomas B. (See Symmonds, Robert, assignor.)						
Jeffrey, Albert D., assignor to W. L. Ettinger, New York, N. Y. Means for making articles of plastic material	806,472	Dec. 5	761	169	119	1436
Jeffrey, Joseph A. (See Horst, George C., assignor.)						
Jeffreys, Edward A., Leamington, England. Submarine mine and the like	806,258	Dec. 5	324	70–1	119	1335
Jeffs, Francis A. (See Perron and Jeffs.)						
Jenkins, Charles F., Washington, D. C Bag-closure	805,205	Nov. 21	3397	736	119	827
Jenkins, David J. (See Gadd and Jenkins.)						
Jenkins Manufacturing Company. (See Allan, Percy, assignor.)						
Jenkinson, William R., Boston, England. Automatic coupling for railway and like vehicles	804,813	Nov. 14	2592	566	119	612
Jenner, Edward J., San Antonio, Tex., assignor to H. L. Hildreth, Boston, Mass. Candy-pulling machine	804,726	Nov. 14	2416	528	119	571
Jeppson, George N., Worcester, Mass. Calcining-furnace	806,804	Dec. 12	1606	352	119	1659
Jepson, James T. London, England. Buffer-coupling for railway and other rolling-stock	807,677	Dec. 19	3155	678	119	2036
Jester, Aaron E., assignor of one-half to A. M. Hilton, Wentworth, Mo. Fence-post	807,469	Dec. 19	2734	589	119	1945
Jetter, Julius, assignor to Nonpareil Machine Manufacturing Company, Camden, N. J. Sound-box for sound recording and reproducing machines	805,964	Nov. 28	4855	1036	119	1183
Jewell, Asa H., *et al.* (See Meyers, August H., assignor.)						
Jewett, Eugene C., Eaglegrove, Iowa. Spade attachment	804,130	Nov. 7	1195	254	119	282
Jewett, H. N., *et al.* (See Gallagher, Richard D., Sr., assignor.)						
Jinks, Henry L., Crowell, Tex. Nut-lock	805,916	Nov. 28	4759	1017	119	1160
Jirus, Joseph A., Racine, Wis. Clamp	807,273	Dec. 12	2345	505	119	1817
Jobes, Lawrence U., Cincinnati, Ohio. Automatic piano	806,148	Dec. 5	117	23–4	119	1290
Jobes, Lawrence U., assignor to Baldwin Company, Cincinnati, Ohio. Automatic musical instrument	806,149	Dec. 5	120	24	119	1291

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Johanson, Charles. (See Johanson, Eric and C.)						
Johanson, Eric and C., Dilmanstown, Kumara, New Zealand. Bearing for vehicles	804,954	Nov. 21	2670	618	119	717
John Waldron Company. (See Waldron, William H., assignor.)						
Johns-Pratt Company. (See Sachs, Joseph, assignor.)						
Johnson, A. J., *et al.* (See Kelley, Charles E., assignor.)						
Johnson, Andrew L., Hamilton, Canada, assignor to International Harvester Company. Grain-drill	806,895	Dec. 12	1608	353	119	1659
Johnson, Charles E. (See Townsend and Johnson.)						
Johnson, Claus E. (See Melin and Johnson.)						
Johnson, Dewitt C., Hutchinson, Kans. Combined rail-brace and tie-plate	807,031	Dec. 12	1809	407	119	1716
Johnson, Elias M., assignor to Isaac G. Johnson and Company, New York, N. Y. Projectile	805,556	Nov. 28	4090	883	119	1017
Johnson, Frederick M., assignor to Rose Gold Reclamation Company, San Francisco, Cal. Gold-separator	804,408	Nov. 14	1793	388	119	435
Johnson, George. (See Whiting and Johnson.)						
Johnson, George D. and J. H., Huntsville, Canada. Mower	806,259	Dec. 5	326	71	119	1336
Johnson, George F., assignor to Illinois Watch Company, Springfield, Ill. Safety-barrel for watches	804,727	Nov. 14	2417	528	119	571
Johnson, George F., assignor to Illinois Watch Company, Springfield, Ill. Watch-barrel	804,728	Nov. 14	2418	528	119	571
Johnson, Henry C., Chicago, Ill. Machine for graining and otherwise ornamenting wood	805,858	Nov. 28	4635	994	119	1131
Johnson, Hobart S., Madison, Wis. Steady-rest for lathes	804,131	Nov. 7	1196	255	119	262
Johnson, Israel H., Jr., Philadelphia, Pa. Gearing for lathes or other tools	807,274	Dec. 12	2346	505	119	1818
Johnson, Jacob H. (See Johnson, George D. and J. H.)						
Johnson James W., *et al.* (See Whitaker, Richard, assignor.)						
Johnson, John A., Middletown, Del. Suction attachment for dental plates	806,345	Dec. 5	510	112	119	1379
Johnson, John O. (See Foster, Nicholas, assignor.)						
Johnson, John W., Kokomo, Ind. Steering-wheel	804,955	Nov. 21	2671	618	119	717
Johnson, John W., and L. Lock, Upper Sandusky, Ohio, assignors to Oriental Food Company. Preparing rice. (Reissue)	12,398	Nov. 7	1351	.....	119	298
Johnson and Johnson. (See Evans, Fred, assignor.)						
Johnson, Joseph R., and C. E. Collins, Eyers Grove, assignors of one-half to G. P. Gehring, Philadelphia, Pa. Screen striker or agitator	804,858	Nov. 21	2666	585	119	677
Johnson Joseph S., assignor of one-half to F. Cutting, San Francisco, Cal. Door-latch attachment	808,376	Dec. 26	4574	985	119	2389
Johnson, Malcom, Allegheny, Pa. Annealing-box	807,275	Dec. 12	2349	506	119	1818
Johnson, McCheyne, Drain, Oreg. Locomotive-headlight	807,940	Dec. 19	3681	798	119	2151
Johnson, Ola, Conway Springs, Kans. Double jack for telegraph-circuits	806,812	Dec. 12	1422	313-14	119	1617
Johnson, Ole, Holmen, assignor of one-half to O. Granke, La Crosse, Wis. Gun-barrel	808,203	Dec. 26	4213	907	119	2309
Johnson, Richard, Bessemer, Ala. Nut-lock	805,298	Nov. 21	3597	778	119	869
Johnson, Robert W., *et al.* (See Whitaker, Richard, assignor.)						
Johnson, Rufus H., Jersey City, N. J., assignor of one-half to J. S. Boden, New York, N. Y. Arch-file	807,283	Dec. 12	2543	550	119	1861
Johnson, Thomas C., assignor to Winchester Repeating Arms Company, New Haven, Conn. Face-shield for side-ejection shoulder-firearms	804,661	Nov. 14	2277	499-500	119	539
Johnson, Thomas C., assignor to Winchester Repeating Arms Co., New Haven, Conn. Firearm	807,745	Dec. 19	3305	710	119	2066
Johnson, Thomas C., assignor to Winchester Repeating Arms Co., New Haven, Conn. Wrought-metal forearm for tubular-magazine guns	808,375	Dec. 26	4572	985	119	2389
Johnson, Walter C., and G. C. Pearson, Old Charlton, England. Rock-drill of the percussion type	808,377	Dec. 26	4575	985	119	2389
Johnson, William M., Champaign, Ill. Pendulum-beat adjuster	804,859	Nov. 21	2669	585	119	677
Johnston, Abner, Long Island City, assignor to W. Harvey and H. J. Murtha, New York, N. Y. Screen and guard for windows	807,276	Dec. 12	2350	506	119	1819
Johnston, George, San Francisco, Cal. Ore-crushing machine	803,903	Nov. 7	728	157	119	157
Johnston, Horace G., Corsicana, Tex. Ball-bearing jack	804,662	Nov. 14	2279	500	119	539
Johnston, Horace G., Corsicana, Tex. Automatic rotary hydraulic casing-spear	808,378	Dec. 26	4577	986	119	2390
Johnston, John, Jr. (See Sly, George E., assignor.)						
Johnston, Joseph G., Detroit, Mich., assignor to American Car & Foundry Company, St. Louis, Mo. Brake-shoe	808,379	Dec. 26	4580	986	119	2391
Johnston, Samuel D., Wellborn, Okla. Ter. Seed-planter	806,260	Dec. 5	328	71	119	1336
Jonas, Charles S. (See Jonas, Richard A., assignor.)						
Jonas, Richard A., New York, assignor of one-half to C. S. Jonas, Brooklyn, N. Y. Perforating-machine	804,233	Nov. 14	1445	308-9	119	358
Jones, Arthur, Chicago, Ill. Scroll-saw	803,694	Nov. 7	341	72	119	77
Jones, David, Newcastle, Pa. Railway-rail	804,729	Nov. 14	2419	528	119	571
Jones, Edward F., assignor of one-half to J. G. Wilson, Baton Rouge, La. Combined plumb and level	806,674	Dec. 5	1117	250	119	1511
Jones, Francis W., New York, N. Y. Telegraph-repeater	806,412	Dec. 5	640	140	119	1409
Jones, Fred A., Houston, Tex. Dredging apparatus	805,965	Nov. 28	4857	1036-7	119	1153
Jones, Ivor W., Birmingham, Ala. Key-seating device	807,174	Dec. 12	2164	465	119	1778
Jones, John G., Carthage, N. Y. Hydrating lime	803,904	Nov. 7	729	157	119	157
Jones, Judson R., Rockton, Ill., assignor to J. Thompson & Sons Manufacturing Company, Beloit, Wis. Cultivator	804,324	Nov. 14	1647	355	119	401
Jones, Judson R., Rockton, Ill., assignor to J. Thompson & Sons Manufacturing Company, Beloit, Wis. Wheeled plow	806,261	Dec. 5	330	71	119	1336
Jones, Louis D., assignor to Hill & Pappa, Atlanta, Ga. Advertising and mailing card	805,016	Nov. 21	2997	650	119	743
Jones, Roger B., Philadelphia, and A. M. Taylor, Merion, Pa.; said Jones assignor of one-half to said Taylor. Shifting mechanism for type-writer ribbons	808,158	Dec. 26	4125	880	119	2290
Jones, Thomas E., assignor of one-half to C. P. Arnold, Chicago, Ill. Washing-machine	808,380	Dec. 26	4581	986	119	2391
Jones, William C., W. R. J. Stratford, F. B. Byrnes, and E. J. Nixon, Texarkana, assignors to International Creosoting & Construction Co., Galveston, Tex. Saturating wood	804,132	Nov. 7	1198	256	119	263
Jones, William L., assignor of one-half to S. M. Snyder, San Francisco, Cal. Steam-generator	808,286	Dec. 26	4385	944	119	2348
Jordan, Elmore C., Los Angeles, Cal. Guide for window-shades	808,242	Dec. 26	4289	922	119	2327
Jordan, Fritz, assignor to Society of Elektrizitäts-Aktien-Gesellschaft, vorm. W. Lahmeyer & Co., Frankfort-on-the-Main, Germany. High-voltage spark-arrester	807,277	Dec. 12	2351	506	119	1819
Jordan, Horace M., Winfield, Iowa. Machine for dipping sheep, &c	804,730	Nov. 14	2420	529	119	572
Jordan, William H., Hays, Kans. Hand-operated pump	805,206	Nov. 21	3398	736	119	827
Joseph, Theodore H., and J. J. Ehrenreich, New York, N. Y. Electric-lamp-shade holder	808,381	Dec. 26	4583	987	119	2391
Joseph, Thomas B., San Francisco, Cal. Metal-leaching process	805,017	Nov. 21	2998	.....	119	744
Joslin, Alexander D., Chicago, Ill. Agent's ticket-punching machine	806,262	Dec. 5	331	72	119	1337
Joslin, Alexander D., Chicago, Ill. Machine for punching railway-tickets	806,263	Dec. 5	334	72-3	119	1337
Jottrand, Felix, Uccle, Belgium. Oxyhydrogen-blowpipe	808,382	Dec. 26	4585	987	119	2392
Joy, Charles L., New Haven, Conn. Cutlery-grinding machine	804,234	Nov. 14	1449	309-10	119	359

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Judd, Edwin, St. Louis, Mo. Adjustable bed-plate for wood-planers	806,675	Dec. 5	1119	251	119	1511
Jung, Alfred J. (See Tacchi and Jung.)						
Junge, Franz E., New York, N. Y. Heat-engine	805,859	Nov. 28	4637	994–5	119	1131
Jungersen, William F., and J. J. Fogh, Brooklyn, N. Y. Rotary engine	803,599	Nov. 7	148	33	119	34
Junggren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Relief mechanism for elastic-fluid turbines	803,829	Nov. 7	595	131	119	128
Junggren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Mechanically-actuated governing-valve for elastic-fluid turbines	806,676	Dec. 5	1121	251–2	119	1512
Justus, George W., Somerville, Mass. Tobacco-pipe	807,828	Dec. 19	3453	743	119	2099
Jutte, William C., Pittsburg, Pa. Steel barge	805,468	Nov. 28	3917	847–8	119	980
Juvenal, Charles D., *et al.* (See Bruce, William M., Jr., assignor.)						
Kahle, William, Boston, Mass. Jeweler's case	805,732	Nov. 28	4412	946	119	1086
Kahler, Joseph, *et al.* (See Gohmann, Charles L., assignor.)						
Kaiser, Emil F. Fresno, Cal. Locking device for bicycles	805,207	Nov. 21	3399	737	119	828
Kaiser, Fredrick, assignor of one-half to G. Sharp, New Orleans, La. Condenser	807,278	Dec. 12	2353	507	119	1819
Kaisling, William, Chicago, Ill., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y. Electrical binding-screw	804,133	Nov. 7	1199	256	119	263
Kaisling, William, Chicago, Ill., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y. Electric-current generator	805,557	Nov. 28	4091	883	119	1017
Kalischer, Georg. (See Klingemann and Kalischer.)						
Kalischer, Georg, Frankfort-on-the-Main, Germany, assignor to Cassella Color Company, New York, N. Y. Sulfo-acid and making same	807,117	Dec. 12	2063	.....	119	1758
Kalle and Company, Aktiengesellschaft. (See Elbel, Karl, assignor.)						
Kalling, Charles O., Baltimore, Md. Automatic bottle-cap-feeding machine	805,966	Nov. 28	4859	1037	119	1184
Kallstrom, Charles L., Chicago, Ill. Attachment for piano-action flanges	805,308	Nov. 21	3402	737	119	828
Kaltenbach, Robert W., and J. Griess, Jr., Cleveland, Ohio. Excavating, hoisting, and conveying bucket	804,235	Nov. 14	1452	310	119	359
Kammerer, Paul, Pittsburg, Pa. Telephone attachment	808,454	Dec. 26	4709	1014	119	2419
Kammerloher, Andrew, Minneapolis, Minn. Grain-cleaner	803,905	Nov. 7	731	158	119	158
Kandle, Furman M., Atlantic City, N. J. Head-rest	807,279	Dec. 12	2354	507	119	1820
Kandó, Coloman de, Budapest, Austria-Hungary, assignor to Railway Electric Power Company. Multiple-cascade driving system of rotary current-motors	807,175	Dec. 12	2167	465	119	1779
Kane, Maurice, Chicago, Ill., and A. Grieves, Springfield, Ohio. Hay-stacker	808,054	Dec. 19	3879	839	119	2195
Kane, William J., assignor of one-half to T. Upperman, Baltimore, Md. Packing for pistons	807,470	Dec. 19	2734	589	119	1945
Kannenberg, Baldwin H., Oak Park, Ill., assignor to American Can Company, New York, N. Y. Pie-rack case or holder	804,539	Nov. 14	2048	445	119	491
Kaplan, Joseph A., Pittsburg, assignor to J. Rhodes, Allegheny, and W. H. Latshaw, Pittsburg, Pa. Hub holding and indexing device	804,325	Nov. 14	1648	356	119	401
Karper, Gustavus A., *et al.* (See Clark, Charles T., assignor.)						
Karr, Burton A., Omaha, Nebr. Electric signal for railways	808,159	Dec. 26	4128	889–90	119	2291
Kastenhuber, Edwin G., Schenectady, N. Y., assignor to General Electric Company. Apparatus for molding porcelain and similar ware	805,299	Nov. 21	3598	778	119	869
Kastner, John, Jr., assignor of two-thirds to F. W. Goedeke and S. E. Anderson, Evansville, Ind. Dust-proof ink-well cover	806,896	Dec. 12	1606	353	119	1659
Kaufmann, Edward. (See Chaplin, Manley J., assignor.)						
Kautzky, Joseph, Fort Dodge, Iowa. Attachment for target-traps	806,897	Dec. 12	1610	353	119	1660
Kay, Montford, Clapton, England. Incandescent gas-burner	804,409	Nov. 14	1794	388	119	435
Kayser, Julius, New York, N. Y. Stocking	808,204	Dec. 26	4213	907	119	2309
Keats, John, deceased; J. C. Keats, Northampton, administrator, assignor to Phoenix Boot Machinery Company, Limited, Street, England. Machinery for making boots and shoes	806,744	Dec. 5	1262	281–2	119	1543
Keats, John C., administrator. (See Keats, John.)						
Keeler, William G., Philadelphia, Pa. Electric-railway system	808,545	Dec. 26	4894	1053	119	2459
Keeler, William H., assignor to W. H. Keeler Co., Buffalo, N. Y. Stamp-holder	804,326	Nov. 14	1649	356	119	401
Keeley, Michael A., Pittsburg, Pa. Elevator safety device	805,300	Nov. 21	3602	779	119	870
Keen, Ulysses S. (See Tester, Charles E., assignor.)						
Keenan, George J., Chicago, Ill. Hydraulic air-pump	805,860	Nov. 28	4644	995	119	1133
Keenan, Joseph, Allegheny, assignor of one-half to W. G. Lindsay, Pittsburg, Pa. Automatic bottling-machine	807,060	Dec. 12	1975	428	119	1740
Keene, Louis A., Waterman, Ill. Fifth-wheel	804,236	Nov. 14	1458	311	119	361
Keener, Joseph L., *et al.* (See Raspillaire, August, assignor.)						
Keep, James M., New York, N. Y. Finger-moistener	805,469	Nov. 28	3920	848	119	981
Keep, William J., and H. C. Maul, assignors to Michigan Stove Company, Detroit, Mich. Gas-oven	805,423	Nov. 21	3826	826–7	119	918
Kegriza, Frank M., Philadelphia, Pa. Self-filling fountain-pen	807,280	Dec. 12	2356	507	119	1820
Keighley, Smith, Pittsburg, Pa. Cross-munnion for fireproof windows	804,956	Nov. 21	2871	618	119	717
Keil, Henry F., Bronxville, N. Y. Bracket and support	806,677	Dec. 5	1125	252	119	1513
Keilholtz, Pierre O., Baltimore, Md. Condenser	805,141	Nov. 21	3266	709	119	799
Keim, Henry M. (See Prather and Keim.)						
Keiner, Henry A., and E. C. Williams, Brooklyn, N. Y. Ice-cream disher	803,906	Nov. 7	732	158	119	158
Keiper, Henry B., Lancaster, Pa. Rotary blower	804,860	Nov. 21	2701	585	119	678
Keipper, George, Sr. (See Uhl, John H., assignor.)						
Keller, Charles J., Bloomsburg, Pa. Ear-muffler	804,731	Nov. 14	2421	529	119	572
Keller, Henry, Lasalle, N. Y. Dumb-waiter clutch mechanism	804,957	Nov. 21	2872	619	119	718
Keller, Henry E., Decatur, Ind. Incubator	805,970	Nov. 28	4870	1039	119	1186
Keller, Huldreich, Berlin, Germany, assignor to General Electric Company. Bucket-wheel for elastic-fluid turbines	804,410	Nov. 14	1795	388	119	435
Keller, Martin B., Penn Mills, Pa. Match-box	807,281	Dec. 12	2357	508	119	1820
Keller, William H., Philadelphia, Pa., assignor to Chicago Pneumatic Tool Company, Chicago, Ill. Handle for pneumatic tools	807,384	Dec. 12	2544	551	119	1862
Kellerman, William L. (See Hull, Scott H., assignor.)						
Kellerman, William L., assignor of one-half to S. H. Hull, Oskaloosa, Iowa. Harness-saddle	808,160	Dec. 26	4131	890	119	2291
Kelley, Alexander, assignor of one-half to A. Higgins, Wilmington, Del. Match-making machine	806,813	Dec. 12	1424	314	119	1618
Kelley, Charles E., assignor of one-half to A. J. Johnson and W. Rand, Oklahoma, Okla. Ter. Pointer attachment for type-writers	807,746	Dec. 19	3307	710	119	2067
Kelley, Edward J., *et al.* (See Scherer, William P., assignor.)						
Kelley, James B., *et al.* (See Scherer, William P., assignor.)						
Kelley, Lincoln H., and A. J. Erskine, Ottumwa, Iowa. Sled	806,814	Dec. 12	1426	314–15	119	1618
Kellner, Charles J. E., Fort Worth, Tex., and E. M. Turner, Denver, Colo. Stirrup	803,695	Nov. 7	343	72	119	77
Kellner, Henry F., North Platte, Nebr. Fascine	805,142	Nov. 21	3257	709	119	800
Kellogg, Benjamin, Buffalo, N. Y. Fire-extinguisher	804,411	Nov. 14	1796	389	119	435
Kellogg, George W., Rochester, N. Y. Coupling for tire-charging valves	807,032	Dec. 12	1870	407	119	1716
Kellogg, Milo G., Chicago, Ill. Telephone-exchange system	804,862	Nov. 21	2708	586	119	679

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Kellogg, Milo G., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Multiple switchboard for telephone-exchanges	804,861	Nov. 21	2705	586	119	678
Kellogg, Milton, New York, N. Y. Rack for holding type-writers and the like	805,073	Nov. 21	3140	681	119	773
Kellogg Switchboard and Supply Company. (See Kellogg, Milo G., assignor.)						
Kellum, William M., Norwalk, Ohio. Safety-razor	806,267	Dec. 26	4387	944	119	2348
Kelly, Burt O., Petroleum, assignor of one-half to W. R. Allyn, Poneto, Ind. Belt-stretcher	805,363	Nov. 21	3714	804	119	893
Kelly, Burton C. (See Davidson and Kelly.)						
Kelly, George A., Longview, Tex. Rotary engine	804,134	Nov. 7	1201	256-7	119	264
Kelly, George A., Longview, Tex. Rotary engine	804,135	Nov. 7	1204	257-8	119	264
Kelly, Isaac C., Scottdale, Pa. Apparatus for drawing coke-ovens	807,118	Dec. 12	2063	443-4	119	1758
Kelly, John H., San Francisco, Cal. Dumping-car	804,412	Nov. 14	1800	389	119	436
Kelly, John L., St. Paul, Minn. Draw-press for sheet metal	805,967	Nov. 28	4862	1038	119	1185
Kelly, Richard W., assignor of one-half to H. T. Hazard and G. E. Harpham, Los Angeles, Cal. Air-brake mechanism	804,136	Nov. 7	1206	258	119	265
Kelly, Thomas F., assignor to J. E. Reyburn, Philadelphia, Pa. Electric and pneumatic governor	806,150	Dec. 5	123	24-5	119	1292
Kelly, Thomas F., assignor to J. A. Kelly & Bros., Clinton, Iowa. Foot-rest for chairs.	806,678	Dec. 5	1126	252	119	1513
Kemp, Charles E., assignor, by mesne assignments, to Lycoming Specialty Company, Williamsport, Pa. Invalid's table	805,074	Nov. 21	3141	681	119	773
Kemper, George E., *et al.* (See Dennis, James M., assignor.)						
Kempshall, Eleazer, Boston, Mass., assignor to Manhattan Manufacturing Company, Portland, Me. Covering metallic articles	805,470	Nov. 28	3922	848	119	981
Kempton, Wallace E., assignor of one-half to J. McHale, Antigo, Wis. Load-binder	804,863	Nov. 21	2714	586	119	680
Kendall, John H., assignor, by mesne assignments, of one-half to J. W. D. Mayes and R. D Dugan, Illiopolis, Ill. Animal-stock	803,600	Nov. 7	151	34	119	34
Kenkel, Julius F., assignor to Geuder and Paeschke Manufacturing Company, Milwaukee, Wis. Enameling	804,010	Nov. 7	950	.....	119	203
Kennard, Roy W. (See Martin and Kennard.)						
Kennedy, Henry A., Warwick, assignor to J. Smith, Providence, R. I. Self-threading shuttle for looms	805,861	Nov. 28	4647	995	119	1134
Kennedy, James J., Guthrie, Okla. Ter. Ore-concentrator	803,830	Nov. 7	599	131-2	119	129
Kennedy, Luther L., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company. Linotype-machine	807,282	Dec. 12	2359	508	119	1820
Kennedy, Samuel V., and C. S. Sharp, Auburn, N. Y., assignors, by mesne assignments, to International Harvester Company. Mower	807,385	Dec. 12	2548	551-2	119	1863
Kennedy, William, West Drayton, England. Apparatus for bending metal tubes, rods, and the like	804,732	Nov. 14	2422	529	119	572
Kennedy, William A., Apple Hill, Canada. Weight-registering mechanism	808,091	Dec. 26	3964	857	119	2255
Kennedy, William J., Rockisland, Tex. Stapling-machine	804,864	Nov. 21	2715	586-7	119	680
Kenney, David T., assignor to Vacuum Cleaner Company, North Plainfield, N. J. Separator for apparatus for removing dust	807,283	Dec. 12	2360	508	119	1821
Kenngott, William, assignor of two-fifths to L. Fuldner and C. Wille, Milwaukee, Wis. Forming and cutting shoe-uppers	805,075	Nov. 21	3142	682	119	773
Kenny, James A., Chicago, Ill. Recording apparatus for measured telephone service	808,383	Dec. 26	4586	987-8	119	2392
Kenny, William J., Mortonpark, Ill. Fish assorting, cutting, and cleaning machine	804,733	Nov. 14	2423	529-31	119	572
Kent, Don H., assignor to American Automatic Light Company, Urbana, Ohio. Automatic gas-regulator	806,473	Dec. 5	763	169	119	1436
Kent, Don H., assignor to American Automatic Light Company, Urbana, Ohio. Automatic gas-regulator	806,474	Dec. 5	765	169	119	1436
Kent, Stephen B., East Orange, N. J. Bracelet	804,137	Nov. 7	1208	259	119	265
Kepler, Irwin F., Akron, Ohio. Artificial bait	806,508	Dec. 12	1612	353	119	1660
Kepner, Aaron E., Lemon, Cal. Pump-operating mechanism	805,862	Nov. 28	4649	995-6	119	1135
Kerlin, William F., and W. N. May, Rockfield, Ind.; said May assignor to said Kerlin. Molding apparatus	805,018	Nov. 21	3001	650-1	119	744
Kern, Edward F., assignor to A. G. Betts, Lansingburg, N. Y. Treating anode-slimes	803,601	Nov. 7	152	.....	119	35
Kern, Heinrich, Aarau, Switzerland. Ruling-pen	804,011	Nov. 7	952	200	119	203
Kern, Heinrich, Aarau, Switzerland. Joint for compasses	808,205	Dec. 26	4215	908	119	2310
Kernin, Gustav, Crandon, Wis. Repeating firearm	806,264	Dec. 5	338	73	119	1338
Kerr, Elisha R., Erin, Tenn. Baling-press	805,471	Nov. 28	3925	848-9	119	981
Kerry, George M., Boyne, Mich. Bow-facing oar	807,284	Dec. 12	2361	509	119	1821
Kershaw, Abraham, Leeds, assignor of one-half to G. Brewer, London, England. Apparatus to be used in measuring the speed of photographic shutters	808,384	Dec. 26	4594	988	119	2304
Kershaw, Samuel, assignor of one-half to T. Wardell, Lowell, Mass. Repeating attachment for talking-machines	805,076	Nov. 21	3143	682	119	773
Kesler, Claude D. and W. T., Washington, D. C. Awning-fixture	806,265	Dec. 5	339	74	119	1338
Kesler, William T. (See Kesler, Claude D. and W. T.)						
Kesselring, George, Hillsdale, Mich. Axle-support	806,543	Dec. 5	873	194	119	1460
Ketcham, Cassius M., Carthage, Mo. Centrifugal liquid-separator	808,092	Dec. 26	3968	857	119	2256
Ketcham, Charles F. (See Baker and Ketcham.)						
Ketelsen, Andrew J., Seattle, Wash. Faucet	807,285	Dec. 12	2363	509	119	1821
Key, Brewer W. (See Percival, Herbert E., assignor.)						
Key, Eduardo W., Southwest City, Mo. Tooth-brush	805,733	Nov. 28	4414	946	119	1086
Keyt, John E., assignor of one-half to W. Allingham, San Francisco, Cal. Cleansing device for washbasins	804,865	Nov. 21	2718	587	119	681
Kieren, Conrad, assignor of two-thirds to W. Timm and T. J. Schott, Appleton, Wis. Feed-water heater	808,385	Dec. 26	4596	988	119	2304
Kiesel, William F., Jr., Altoona, Pa. Brake-rigging	805,364	Nov. 21	3715	805	119	894
Kiesel, William F., Jr., Altoona, Pa. Post and carline for railway-car frames	808,055	Dec. 19	3880	840	119	2195
Kieser, Walter, Berlin, Germany, assignor to General Electric Company. Regulating device for steam-turbines	806,679	Dec. 5	1128	252-3	119	1513
Kight, William K., assignor of one-third to R. F. Jean, Dexter, Mo. Lens for eyeglasses.	803,907	Nov. 7	733	159	119	158
Kight, William K., assignor of one-third to R. F. Jean, Dexter, Mo. Lens for eyeglasses.	803,908	Nov. 7	734	159	119	158
Kight, William K., assignor of one-third to R. F. Jean, Dexter, Mo. Lens for eyeglasses.	803,909	Nov. 7	735	159	119	159
Kihlgren, Bernhard, Holyoke, Mass. Wood-pulp-grinding machine	804,012	Nov. 7	953	201	119	204
Kilgore, William H. (See Plato and Kilgore.)						
Killian, William J. (See Schaeffer, Jacob D., assignor.)						
Kimball, Perley L., assignor to Vermont Farm Machine Company, Bellows Falls, Vt. Centrifugal cream-separator	806,346	Dec. 5	511	112-13	119	1379
Kimbark, Eugene U., Chicago, Ill. Mailing-envelop	808,546	Dec. 26	4595	1053	119	2459
Kime, Frank A., Westfall, Oreg. Stacker	807,471	Dec. 19	2735	589-90	119	1945
King, Albert W. (See Davis and King.)						
King, Charles A., Mattapoisett, Mass. Machine for pasteurizing beer	806,266	Dec. 5	341	74-5	119	1339
King, Charles A., assignor of one-half to J. D. King, Bridgeport, Ala. Saw	808,547	Dec. 26	4596	1054	119	2459
King, Charles G. Y., Chicago, Ill., assignor to General Electric Company. Steam-turbine	804,413	Nov. 14	1801	389-90	119	436
King, Charles R., New York, N. Y. Sound-modifier for talking-machines	805,077	Nov. 21	3144	682	119	774

Alphabetical list of patentees for November and December—continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
King, George W., assignor to Marion Steam Shovel Company, Marion, Ohio. Raising and lowering mechanism	807,176	Dec. 12	2168	465-6	119	1779
King, Howard K., Philadelphia, Pa., assignor to Chambers Brothers Company. Cutting mechanism for folding-machines	804,476	Nov. 14	1917	417-18	119	461
King, James D. (See King, Charles A., assignor.)						
King, John H., Garrity, Ala. Non-spillable milk-pail	807,286	Dec. 12	2264	509-10	119	1821
King, John S., Toronto, Canada. Hockey-boot	806,267	Dec. 5	344	75	119	1339
King, John T., Madison, Wis. Traveling-cylinder printing-press	808,435	Dec. 26	4711	1014-15	119	2419
King, Robert W., Toronto, Canada. Building construction. (Reissue)	12,425	Dec. 19	3890	842	119	2197
King, Robert W., Toronto, Canada. Transom-lifter	808,456	Dec. 26	4715	1015	119	2420
King, Theophilus, *et al.* (See Schuman, James B., assignor.)						
King, William, Cedar Rapids, Iowa. Sand-drier	804,607	Nov. 14	2178	478	119	518
King, William M. (See Folden, Warner L., assignor.)						
Kingsbury, Harry T., Keene, N. H. Inertia-wheel toy	806,977	Dec. 12	1766	387	119	1694
Kingsbury, Harry T., Keene, N. H. Inertia-wheel toy	806,978	Dec. 12	1768	388	119	1694
Kingsbury, Harry T., Keene, N. H. Inertia-wheeled toy	806,979	Dec. 12	1769	388	119	1695
Kingsbury, Harry T., Keene, N. H. Inertia-wheel toy	806,980	Dec. 12	1771	388-9	119	1695
Kingsbury, Harry T., Keene, N. H. Inertia-wheeled toy	806,981	Dec. 12	1772	389	119	1696
Kingsbury, Harry T., Keene, N. H., assignor to National Novelty Corporation, Westfield, N. Y. Toy fire-engine	806,983	Dec. 12	1774	390	119	1696
Kingsley, William N., Spring Valley, Minn. Steering attachment for threshing-machines	807,472	Dec. 19	2737	590	119	1945
Kinley, Wallace, Seattle, Wash. Rotary cutter for woodwork	804,734	Nov. 14	2435	531	119	576
Kinne, Alfred A., Minneapolis, Minn. Stovepipe	806,544	Dec. 5	874	194	119	1461
Kinney, Fred. (See Boyer and Kinney.)						
Kinsman, Frank E., Plainfield, N. J. Desk-lamp	805,558	Nov. 28	4095	883	119	1018
Kinsman, Frank E., Plainfield, N. J. Signaling and train-controlling system for railways	807,287	Dec. 12	2367	510-11	119	1822
Kinsman, Frank E., Plainfield, N. J. Signaling and train-controlling system for railways	807,390	Dec. 12	2554	552-3	119	1865
Kintz, George W., Santa Monica, Cal. Curtain-fixture	807,621	Dec. 19	3040	651	119	2010
Kircheiner, Louis. (See Straus and Engel, assignors.)						
Kirchhofer, Hermann, Parnassus, Pa. Shade-bracket	805,973	Nov. 28	4875	1040	119	1187
Kirkland, Charles C., Morrisville, N. Y. Cultivator	805,078	Nov. 21	3147	663	119	774
Kirkpatrick, Austin W., Hodgenville, Ky. Swing	804,663	Nov. 14	2281	500	119	540
Kirsten, Joseph A. G., Fordsburg, near Johannesburg, Transvaal. Apparatus for cutting drill-bits	806,347	Dec. 5	516	113	119	1380
Kitchin, Harry, Middle Park, near Melbourne, Victoria, Australia. Undergear for go-carts and the like	805,209	Nov. 21	3404	737	119	828
Kitsee, Isidor, Philadelphia, Pa. Insulating electric conductor	806,348	Dec. 5	518	113	119	1381
Kitsee, Isidor, Philadelphia, Pa. Railway signaling	807,329	Dec. 19	3455	743-4	119	2099
Kitsee, Isidor, Philadelphia, Pa. Telephony	808,396	Dec. 26	4598	980	119	2395
Klaber, Herman. (See Roberts, George, assignor.)						
Kleiber, Louis, Berlin, Wis. Cream-can submerger	808,093	Dec. 26	3971	857	119	2258
Klein, Nathan, Paris, France. Automatic delivery apparatus for tickets, &c	804,013	Nov. 7	956	201	119	204
Kleinert, Isaac B., New York, N. Y., assignor to I. B. Kleinert Rubber Company. Supporter-loop	805,559	Nov. 28	4097	883	119	1018
Kleist, Eugene de, North Tonawanda, N. Y. Coin-detector	808,243	Dec. 26	4290	922	119	2327
Klemm, Emil R., Chicago, Ill. Wrench	806,815	Dec. 12	1427	315	119	1618
Klenk, Gottlieb, Defiance, Ohio. Sectional metal barrel	808,548	Dec. 26	4897	1054	119	2459
Klenk, Gottlieb, assignor to Clipper Plow Company, Defiance, Ohio. Box-fastener	804,138	Nov. 7	1210	259	119	266
Klensch, John P. (See Sides and Klensch.)						
Kleutgen, Franz, Suelz, near Cologne, Germany. Pile fabric	807,678	Dec. 19	3158	678	119	2038
Kline, David C., assignor to Pritchard-Strong Company, Rochester, N. Y. Globe-lift for wall-lamps	803,602	Nov. 7	153	34	119	35
Kline, Rudolph D., Streator, Ill. Cultivation of mushrooms	805,801	Nov. 28	4527	970	119	1108
Kling, Louis A., Elizabeth, N. J. Insulating-casing for wire connections	807,747	Dec. 19	3308	710-11	119	2067
Klingemann, Felix, and G. Kallscher, Frankfort-on-the-Main, Germany, assignors to Cassella Color Company, New York, N. Y. Red azo dye and making same	807,119	Dec. 12	2068	.....	119	1760
Klohe, Joseph, Baltimore, Md. Skeleton-frame rule for printing	807,177	Dec. 12	2170	466	119	1780
Klönne, August, Dortmund, Germany. Gas-holder tank	807,033	Dec. 12	1871	407	119	1717
Klousnitzer, Frank, assignor of one-third to A. Smith, Herman, Pa. Envelop	804,014	Nov. 7	968	202	119	205
Knadler, Godfred, Akron, Ohio. Elastic vehicle-tire	807,748	Dec. 19	3310	711	119	2067
Knappe, Gustav, Stettin, Germany. Calculating-machine	805,365	Nov. 21	3717	805	119	894
Knecht, Jakob, Chemnitz, assignor to Maschinenfabrik Kappel, Kappel-Chemnitz, Germany. Driving mechanism for hand-operated embroidering-machines	804,540	Nov. 14	2060	445-6	119	491
Kneedler, John D., Sioux City, Iowa. Road-bed equipment	806,151	Dec. 5	125	25	119	1292
Kneeland, B. D. (See Sherwood, Fred, assignor.)						
Knieper, Julius L. (See Frary and Knieper.)						
Kniffen, Le Grand, Chicago, Ill. Manure-spreader	807,622	Dec. 19	3041	652	119	2010
Knight, Charles H., Kingston, N. Y. Adjustable head-rest for reclining-chairs	805,863	Nov. 28	4651	996	119	1135
Knight, Charles H., Canton, Ohio. Sawmill set-works	806,349	Dec. 5	520	113-14	119	1381
Knight, Jonathan L., National Military Home, Kans., assignor to A. U. Morse, Kansas City, Mo. Differential pliers	808,206	Dec. 26	4218	908	119	2310
Knight, Newton G., Crestline, Ohio. Soap-machine	806,816	Dec. 12	1429	315	119	1619
Knight, Richard H., Somerville, assignor of one-half to C. S. Barrell, Boston, Mass. Coat-hanger	804,866	Nov. 21	2719	557	119	661
Knight, William B. (See Nolen and Knight.)						
Knothe, Bruno, Dömitz, Germany. Coupling-link for cattle-chains	804,327	Nov. 14	1651	356	119	402
Knowlton, Jefferson F., Canton, S. D. Propelling mechanism for vehicles	804,867	Nov. 21	2721	558	119	661
Knox, Chas. B. (See Hallock, Arthur T., assignor.)						
Knox, Samuel L. G., Schenectady, N. Y. Means for storing and applying energy	805,648	Nov. 28	4251	915	119	1052
Kober, William H., and C. E. Watier, Lancaster, Ohio. Third-rail protector	806,152	Dec. 5	127	25	119	1292
Kobusch, Fredrich J., St. Louis, Mo. Heating-drum	804,735	Nov. 14	2438	531	119	576
Koegel, Julius, Newark, N. J. Pencil-box for slates	805,472	Nov. 28	3928	849	119	982
Koehler, Franz G. and L. F., Philadelphia, Pa. Gas economizer and purifier	806,079	Nov. 21	3180	683	119	775
Koehler, Louis F. (See Koehler, Franz G. and L. F.)						
Koenitzer, Robert, St. Louis, Mo. Tanning-vat	806,899	Dec. 12	1615	354	119	1660
Koerner, Camillo, Prague, Austria-Hungary. Governing device for motors	808,549	Dec. 26	4899	1054	119	2460
Kohler, Walter J., assignor to J. M. Kohler Son's Company, Sheboygan, Wis. Making speckled-enameled ware and the product thereof	803,153	Dec. 5	128	.....	119	1293
Kohlhagen, Henry F., Sheboygan, Wis. Set-screw covering	807,560	Dec. 19	2909	626	119	1951
Kohn, Felix, Vienna, Austria-Hungary. Rocking-chair	804,968	Nov. 21	2673	619	119	718
Kohn, Simon, assignor of one-fourth to G. Pollak, Vienna, Austria-Hungary. Textile-fiber material	806,268	Nov. 21	3718	.....	119	894
Kohn, Simon N., Cleveland, Ohio. Germicidal cake	805,580	Nov. 28	4092	884	119	1018
Kohout, Frederick, assignor to St. Louis Car Company, St. Louis, Mo. Car-seat	805,802	Nov. 28	4530	970	119	1108
Kolar, Isidor and V., Jersey City, N. J. Limb for display-figures	807,472	Dec. 19	2728	590	119	1946

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Kolar, Valentine. (See Kolar, Isidor and V.)						
Kolb, Otto, Karlsruhe, Germany. Elastic-fluid turbine	806,094	Dec. 26	3973	856-9	119	2257
Kolb, Robert. (See Way and Kolb.)						
Konantz, Anton J. (See Ervin and Konantz.)						
Köneman, William A., Chicago, Ill. Grill	806,475	Dec. 5	766	170	119	1437
König, Ernst, assignor to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Cyanin dye and making same	805,143	Nov. 21	3368	.....	119	800
Königstein, Gabor, San Francisco, Cal. Attachment for talking-machines	804,477	Nov. 14	1922	419	119	462
Koontz, William F., Springfield, Ohio. Fire-department coupling	806,268	Dec. 5	345	76	119	1340
Korn, George W., Little Valley, N. Y. Razor-handle	805,551	Nov. 28	4099	884	119	1019
Korst, Philip H., Janesville, Wis. Electric novelty	807,941	Dec. 19	3682	798	119	2152
Körting, Ernst, Hanover, Germany. Gas-producer	808,244	Dec. 26	4293	922	119	2328
Kostenbader, Samuel D., Lehighton, Pa. Horseshoe	804,959	Nov. 21	2874	619	119	718
Kother, Richard, Cunewalde, Germany, assignor of one-half to C. E. W. Gaddum, Montford, county of Chester, England. Electrode for electrolyzers used in the manufacture of bleaching liquors	806,413	Dec. 5	641	140	119	1410
Kottmeyer, Frank X., Louisville, Ky. Combined washtub and washboard	806,680	Dec. 5	1130	253	119	1514
Kraber, Charles L., Quincy, Ill. Clothes-reel	805,649	Nov. 28	4257	915	119	1053
Kraft, Henry P. (See Raymond, Schweinert, and Kraft.)						
Krantz, Hubert, New York, N. Y. Panel-board	805,650	Nov. 28	4258	916	119	1054
Kratsch, Henry, Madison, Wis. Floor-dressing machine	807,560	Dec. 19	2910	626-7	119	1981
Kraus, John, Steubenville, Ohio. Smoking-pipe	804,608	Nov. 14	2179	478	119	518
Kraus, John, Steubenville, Ohio. Cleaner	805,301	Nov. 21	3803	779	119	870
Krause, Henry C., Point Mills, Mich. Metal-separator for ore-concentrating plants	806,414	Dec. 5	642	141	119	1410
Krauth, Albert, Hamilton, Ohio. Music-stand	803,831	Nov. 7	601	132	119	130
Krauth, Albert, Hamilton, Ohio. Music-rack	805,734	Nov. 28	4415	947	119	1086
Kraver, Harvey F., Medina, Ohio. Pipe-coupling	808,457	Dec. 26	4718	1016	119	2421
Krebs, Walter E., New York, assignor to United States Printing Company, Brooklyn, N. Y. Box	805,917	Nov. 28	4760	1018	119	1161
Kregel, George F., Nebraska City, Nebr. Beehive	804,736	Nov. 14	2439	531-2	119	576
Kreitzer, Charles. (See Deaver, Thompson, Kreitzer, and Deaver.)						
Krejci, Joseph C., Sioux City, Iowa. Toy	808,459	Dec. 26	4719	1016	119	2421
Krenz, Edward, St. Louis, Mo. Generating gas	804,737	Nov. 14	2441	532	119	577
Krenz, Edward, St. Louis, Mo. Gas-producer	804,814	Nov. 14	2593	566	119	612
Kreps, Auguste, Antwerp, Belgium. Millstone	804,738	Nov. 14	2443	532	119	577
Kress, Joseph, Bisbee, Ariz. Ter. Fly-trap	805,080	Nov. 21	3151	683	119	775
Kretzer, Frank. (See Feist and Kretzer.)						
Kretzschmar, Ernest E., Alameda, Cal. Self-balancing centrifugal pump	808,608	Dec. 26	5013	1081-2	119	2485
Kreutzberg, Ernst, A. Brockschmidt, and P. Ryan. Pierce City, Mo. Folding crate	806,350	Dec. 5	522	114-15	119	1382
Kridelbaugh, John O., Hynes, Iowa. Shade and curtain holder	803,765	Nov. 7	487	105	119	108
Kroaber, Thilo, assignor to Society of Chemical Industry in Basle, Basel, Switzerland. Monoazo dye and making same	805,918	Nov. 28	4761	.....	119	1161
Kroder, John, New York, N. Y. Curtain-pole ring	805,919	Nov. 28	4762	1018	119	1161
Kroeber, Thilo, assignor to Society of Chemical Industry in Basle, Basel, Switzerland. Blue azo dye and making same	806,415	Dec. 5	644	.....	119	1410
Kroeber, Thilo, assignor to Society of Chemical Industry in Basle, Basel, Switzerland. Brown azo dye and making same	807,289	Dec. 12	2383	.....	119	1826
Krogh, Ferdinand W., San Francisco, Cal. Centrifugal pump	805,019	Nov. 21	3005	651	119	745
Kron, Georg, Copenhagen, Denmark. Producing liquid-tight joints for impregnating wood	803,603	Nov. 7	154	34	119	35
Kronberg, Erick. (See Fullerton, Ousdahl, and Kronberg.)						
Krone, Johannes, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Recoil-gun	807,561	Dec. 19	2915	627	119	1982
Kronenwetter, William, St. Marys, Pa. Handle for crosscut-saws	804,139	Nov. 7	1211	259	119	266
Krug, Philip F., New York, N. Y. Chuck	803,604	Nov. 7	155	34-5	119	35
Krüger, Franz, and R. Hänsch, Lubeck, Germany. Portable freezing apparatus	804,478	Nov. 14	1924	419	119	463
Krupp Aktiengesellschaft, Fried. (See Haase, Albert, assignor.)						
Krupp Aktiengesellschaft, Fried. (See Krone, Johannes, assignor.)						
Krupp, Aktiengesellschaft, Fried. (See Lauber and Stock, assignors.)						
Krupp, Fried. (See Michaelis, Wilhelm, assignor.)						
Kruse, Adolf, Hoboken, N. J. Door-check	806,545	Dec. 5	875	194	119	1461
Kruse, Alfred T., assignor to American Steel Package Company, Defiance, Ohio. Sheet-metal packing-case	805,424	Nov. 21	3827	827	119	918
Kruse, Hermann, Hemelingen, near Bremen, Germany. Machine for making bottle-wrappers	807,679	Dec. 19	3159	679	119	2036
Kryzanowski, Joseph, and S. Wysocki, Juzowka, Russia. Providing for the extinguishment of fires in mines	807,290	Dec. 12	2385	511-12	119	1826
Küch, Richard, assignor to Firm of W. C. Heraeus, Hanau, Germany. Producing quartz-glass free from air-bubbles	805,302	Nov. 21	3005	.....	119	870
Küch, Richard, assignor to Firm of W. C. Heraeus, Hanau, Germany. Producing hollow quartz-glass articles	805,303	Nov. 21	3007	779	119	871
Küch, Richard, assignor to Firm of W. C. Heraeus, Hanau, Germany. Protecting quartz-glass vessels	805,304	Nov. 21	3008	.....	119	871
Kügelgen, Franz von, and G. O. Seward, Holcombs Rock, Va., assignors to Willson Aluminum Company, New York, N. Y. Decarburizing	807,034	Dec. 12	1873	408	119	1717
Kuhn, Edmond, East Orange, N. J., assignor to E. and G. Bunzl, New York, N. Y. Impulse-pin for watches	804,739	Nov. 14	2444	532	119	578
Kühne, Paul, New York, N. Y. Centering for concrete floors	804,237	Nov. 14	1459	311	119	362
Kulinski, Charles A., Brooklyn, N. Y. Clasp for window-curtains	804,238	Nov. 14	1461	311	119	362
Küller, Max, Budapest, Austria-Hungary. Making molds	805,144	Nov. 21	3269	709	119	800
Kunser, Louis G. (See Lewis and Kunser.)						
Kursheedt, Edmund B., East Orange, N. J. Finger-exercising device	806,681	Dec. 5	1131	253	119	1514
Kurt, Alfred, St. George, Utah. Axle-gage	806,682	Dec. 5	1132	253	119	1515
Kurtz, Clinton J., assignor of one-fourth to J. Wenger, Salem, Oreg. Repeating mechanism for phonographs	808,387	Dec. 26	4801	999	119	2396
L. S. Starrett Company. (See Starrett, Laroy S., assignor.)						
La Cour, Jens L. (See Arnold and La Cour.)						
La Har, Ellsworth A. (See Clark and La Har.)						
La Mont, Emery B., Ashton, S. D. Earth-auger	804,141	Nov. 7	1215	260	119	267
Laas, Edward. (See Sponenburg, Hiram H., assignor.)						
Lachman, Laurence S., New York, N. Y. Pulley	803,605	Nov. 7	157	35	119	36
Ladd, James B., *et al.* (See Schild, Hermann E., assignor.)						
Lahan, Edward J., Quincy, Ill. Soft-coal base-burning stove	804,140	Nov. 7	1212	259	119	266
Lahey, William, Lynn, Mass. Lubricating journal-bearings	808,388	Dec. 26	4803	999	119	2396
Laird, John F. (See Porter, John M., assignor.)						
Laird, Wesley E., assignor to Stanley Electric Manufacturing Company, Pittsfield, Mass. Motor-operated switch	803,532	Nov. 7	603	132	119	130

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Lake, Edward N., Chicago, Ill. Telephone-directory	807,942	Dec. 19	3683	798-9	119	2152
Lake, Laomi L., Fontanet, Ind. Railway-switch	808,459	Dec. 26	4720	1016	119	2421
Lalley, Patrick J. (See Haney and Lalley.)						
Lally, Michael. (See Reay and Lally.)						
Lamb, James D. (See Tuttle, Hosmer, assignor.)						
Lamb, Joseph F., assignor to Landers, Frary & Clark, New Britain, Conn. Mixing vessel	803,833	Nov. 7	605	133	119	131
Lamb Wire Fence Company. (See Gibson, Edward J., assignor.)						
Lamb Wire Fence Company. (See Hoxie, Vernon, assignor.)						
Lamb Wire Fence Company. (See Hoxie and Truman, assignors.)						
Lambert, Homer T., Thacker, W. Va. Brake	807,291	Dec. 12	2387	512	119	1826
Lambert, Joe, Catherine, Ala. Wire-stretcher	805,473	Nov. 28	3929	850	119	982
Lambert, John W., Anderson, Ind. Motor-vehicle	807,623	Dec. 19	3044	652	119	2010
Lamme, Benjamin G., assignor to Westinghouse Electric and Manufacturing Company, Pittsburg, Pa. Direct-current dynamo-electric generator. (Reissue)	12,406	Nov. 7	1376	292	119	304
Lamme, Benjamin G., C. F. Scott, Pittsburg, and F. Conrad, Edgewood Park, Pa., assignors to Westinghouse Electric & Manufacturing Company. Regulating means for systems of electrical distribution	807,943	Dec. 19	3685	799	119	2152
Lamond, John. (See Eager, Lee, assignor.)						
Lamoreaux, Charles. (See Barton and Lamoreaux.)						
Lamplough, Frederick, Willesden, England. Valve-gear mechanism	805,562	Nov. 28	4100	884	119	1013
Lamplough, Frederick, Willesden, England. Radiator, steam-condenser, and the like	808,389	Dec. 26	4604	990	119	2397
Landberg, Oscar F., Calmar, Iowa. Combined jack and truck	804,015	Nov. 7	950	202	119	205
Lander, Frederick J., assignor of one-half to C. Erdle, Rochester, N. Y. Lamp-burner	807,474	Dec. 19	2740	591	119	1946
Landers, Frary & Clark. (See Lamb, Joseph F., assignor.)						
Landes, Henry. (See Landes, Jean and H.)						
Landes, Jean and H., New York, N. Y. Umbrella-stick and cane	807,035	Dec. 12	1874	408	119	1717
Landis, Abraham B., Waynesboro, Pa. Shutter-fastener	805,210	Nov. 21	3405	738	119	828
Landis, Nellie M., McKees Rocks, Pa. Window-fixture	807,944	Dec. 19	3688	799	119	2153
Lane, Albert D. (See Russell, Frank N., assignor.)						
Lang, Carl H., Chicago, Ill. Piano-pliers	805,651	Nov. 28	4260	916	119	1054
Lang, Carl H., Chicago, Ill. Clamp	807,945	Dec. 19	3689	799	119	2153
Lang, Carl H., Chicago, Ill. Screw-driver	807,946	Dec. 19	3690	800	119	2154
Lang, Jacob, Cleveland, Ohio. Combined awning and blind	803,696	Nov. 7	345	73	119	78
Lang, Walther, Salbke-on-the-Elbe, Germany. Manufacture of organic compounds by oxidation	808,095	Dec. 26	3980	859	119	2259
Lange, Jens J. M., Svendborg, Denmark. Sectional boiler	804,609	Nov. 14	2181	479	119	518
Lange, Otto, Camden, N. J. Machine for sewing looped fabrics	808,390	Dec. 26	4604	990-1	119	2397
Langford, Noah D., Luton, Iowa. Spade	806,683	Dec. 5	1134	254	119	1515
Lanham, Thomas M. (See Froman and Lanham.)						
Lanquist, Andrew, Chicago, Ill. Wood sheet-piling	803,697	Nov. 7	346	73	119	78
Lanston Monotype Machine Company. (See Pierpont, Frank H., assignor.)						
Lantz, Lester R. (See Finney and Lantz.)						
Lapage, Herbert R., *et al.* (See Borries, Friedrich W. A. von, assignor.)						
Lapp, Valentin, Leipsic, Germany. Drying and roasting grain	805,367	Nov. 21	3718	805	119	894
Lapsley, William R., and W. S. Sallee, McAfee, Ky. Snap-hook	808,391	Dec. 26	4607	991	119	2397
Larsen, Ivert, Chicago, Ill. Hame for harness	805,425	Nov. 21	3829	827-8	119	919
Larsen, Ivert, Chicago, Ill. Hame for harness	807,387	Dec. 12	2565	553	119	1866
Larson, Carl W., Schenectady, N. Y., assignor to General Electric Company. Control system	803,834	Nov. 7	606	133	119	131
Larson, Carl W., Schenectady, N. Y., assignor to General Electric Company. Brake mechanism	804,414	Nov. 14	1806	390	119	437
Larson, James M. (See Thompson, Reinert, assignor.)						
Larson, Lars H., *et al.* (See McGonigle, Charles W., assignor.)						
Larson, Lauritz A. (See Hill, Shambaugh, and Larson.)						
Lash, Horace W., Cleveland, Ohio. Manufacture of steel	805,564	Nov. 28	4102	.....	119	1020
Lash, Horace W., assignor to Garrett-Cromwell Engineering Company, Cleveland, Ohio. Manufacture of steel	805,563	Nov. 28	4101	.....	119	1019
Lassiter, Columbus K., Schenectady, N. Y. Bolt-cutter	804,142	Nov. 7	1217	260-1	119	267
Lassiter, Columbus K., Schenectady, N. Y. Variable-speed gearing	804,740	Nov. 14	2445	533-4	119	578
Lathrop, Elisha E., Hartford, Conn. Combination-lock	805,803	Nov. 28	4531	971	119	1109
Lathrop, William W., Bridgeport, Conn. Electric switch	808,392	Dec. 26	4607	991	119	2398
Latrobe Steel and Coupler Company. (See Munton, James, assignor.)						
Latshaw, William H., *et al.* (See Kaplan, Joseph A., assignor.)						
Latta, Emmit G., Friendship, assignor of one-half to H. A. Moyer, Syracuse, N. Y. Carriage-bearing for type-writing machines	807,292	Dec. 12	2389	513	119	1827
Latta, George. (See Brower and Latta.)						
Latting, Alfred B., Memphis, Tenn. Revivifying spent clays	804,016	Nov. 7	960	202-3	119	205
Laube, Godfried, Los Angeles, assignor of one-half to J. R. Marsh, Santa Monica, Cal. Insect-trap	808,460	Dec. 26	4722	1017	119	2422
Lauber, Otto, and F. Stock, assignors to F. Krupp, Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Gun with independent sighting-line	807,624	Dec. 19	3046	653-5	119	2010
Laughlin, Henry D. (See Perry, Hubert M., assignor.)						
Laune, Sidney B., and C. M. Shelden, Woodward, Okla. Ter. Storm-shield for buggies and other vehicles	808,288	Dec. 26	4389	944-5	119	2349
Laurick, Carl, Berlin, Germany. Mixing and kneading machine	805,020	Nov. 21	3007	652-3	119	745
Lauritzen, Christian M., and W. M. Cook, Chicago, Ill. Dust-guard	808,550	Dec. 26	4901	1055	119	2460
Laury, Henry. (See Tauzin and Laury.)						
Lauterbach, Max, Rockport, Ind. Guide for harness-machines	804,415	Nov. 14	1806	390	119	437
Lavenberg, Perry C. (See Inwood and Lavenberg.)						
Lavertine, Alfonso G., and J. E. McNellan, Johannesburg, Transvaal. Inflating rubber tires	805,474	Nov. 28	3930	850	119	982
Law, Fred A., Hartford, Conn., assignor to Electric Vehicle Company, Jersey City, N. J. Steering-axle for vehicles	803,606	Nov. 7	158	36	119	36
Lawless, Philip C., Hampstead Heath, London, England. Flexible ruler	806,546	Dec. 5	876	195	119	1461
Lawnin, Louis D., Edwardsville, Ill., assignor of one-half to N. O. Nelson Manufacturing Company, St. Louis, Mo. Urinal	804,479	Nov. 14	1925	419	119	463
Lawnin, Louis D., Edwardsville, Ill., assignor of one-half to N. O. Nelson Manufacturing Company, St. Louis, Mo. Urinal	804,480	Nov. 14	1926	420	119	464
Lawrence, Augustine N., Jr., New York, N. Y. Detachable electrical connection	808,096	Dec. 26	3982	859	119	2259
Lawrence, Augustine N., Jr., Philadelphia, Pa. Detachable electrical connection	808,097	Dec. 26	3984	859	119	2259
Lawrence, George H., Middletown, N. Y. Dish-drainer	804,481	Nov. 14	1927	420	119	464
Lawrence, George R. (See Miller and Lawrence.)						
Lawrence, George R., Cleveland, Ohio, assignor to Loew Supply & Manufacturing Company, Cranford, N. J. Bottle-washing machine	805,984	Dec. 12	1775	300	119	1696
Lawrence, Percy Q., Revere, assignor of one-half to L. Greenburg, Boston, Mass. Fuse-plug	804,741	Nov. 14	2453	534	119	580

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Lawrence, Volkert O. (See Filion, Joseph, assignor.)						
Lawrence, William H. (See Smart, Warren C., assignor.)						
Lawrey, Alonzo, Jr., assignor to Lawrey and Banister, Cherokee, Iowa. Whip-holder	807,562	Dec. 19	2917	627	119	1982
Lawrey and Banister. (See Lawrey, Alonzo, Jr., assignor.)						
Lawson, Walter H. (See Mills and Lawson.)						
Lawson, Walter H., Richmond, Ind. Burial-casket	807,947	Dec. 19	3691	800	119	2154
Lawton, Burton L., assignor to Conn. Telephone and Electric Co., Meriden, Conn. Push-button switch mechanism for telephones	804,742	Nov. 14	2454	534	119	580
Lawton, Elmer C., Lawtons, N. Y. Railway-tie	803,766	Nov. 7	488	105	119	108
Laycock, William E., Sheffield, England. Material for applying oil to axle-bearings	805,475	Nov. 28	3932	850	119	983
Layne, Mahlon E., Houston, Tex. Well-screen	805,211	Nov. 21	3406	738	119	828
Layne, Mahlon E., Rock Rapids, Iowa. Screen device	806,416	Dec. 5	645	141	119	1410
Le Bosquet, John E., South McAlester, and T. Bell, Hughes, Ind. Ter. Operating mechanism for screens	807,475	Dec. 19	2741	591	119	1946
Le Fevre, George A., Orangeburg, N. Y. Elevator system	806,745	Dec. 5	1266	283	119	1543
Le Fevre, George A., Orangeburg, N. Y. Elevator system	807,120	Dec. 12	2071	444	119	1760
Le Grand, Jean P., Levallois-Perret, France. Pneumatic tire	806,352	Dec. 5	525	115	119	1382
Le Jeune, Henry E., assignor of one-half to J. A. Wanless, St. Louis, Mo. Game apparatus	808,207	Dec. 26	4221	908	119	2311
Le Lande, Marie B., San Francisco, Cal. Bed-protector	807,750	Dec. 19	3312	711	119	2068
Le Pontois, Leon J., New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company. Magneto-alternator	807,949	Dec. 19	3696	801	119	2155
Le Pontois, Leon J., New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company. Ignition device	808,551	Dec. 26	4902	1051	119	2461
Le Pontois, Leon J., New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company. Magneto-alternator	808,552	Dec. 26	4904	1056	119	2461
Le Pontois, Leon J., New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company. Igniting combustible mixtures	808,553	Dec. 26	4906	1056-7	119	2461
Le Pontois, Leon J., New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company. Apparatus for generating and utilizing polyphase alternating currents for the ignition of explosive mixtures	808,554	Dec. 26	4908	1057-8	119	2461
Le Pontois, Leon J., New Rochelle, N. Y., assignor to Poly-Phase Ignition System Company. Self-exciting alternator	808,555	Dec. 26	4912	1058-9	119	2462
Lea, Hampton K., *et al.* (See Ball, William T., assignor.)						
Leahy, Louis K., Los Angeles, Cal. Injector-burner	805,864	Nov. 28	4653	996	119	1136
Leake, Thomas S. (See Daly and Leake.)						
Leavitt, Charles P., assignor of two-thirds to A. P. Curry, Miami, Fla. Boat or ship	803,607	Nov. 7	161	36	119	37
Leavitt, Thomas H., Boston, Mass. Peat-machine	803,608	Nov. 7	164	36-7	119	37
Lederer, Henry J., Omaha, Nebr. Vibratory distributer for printing-presses	806,269	Dec. 5	348	76	119	1340
Lederer, Leonhard, Sulzbach, Oberpfalz, Germany. Compound suitable as lacquer or varnish	804,960	Nov. 21	2875	.....	119	718
Ledermann, Leo, Breslau, Germany. Floating device	803,910	Nov. 7	736	159	119	159
Ledermüller, Theodor, Lemberg, Austria-Hungary. Apparatus for carbonizing peat	804,239	Nov. 14	1462	311-13	119	363
Ledig, Richard G., assignor to A. Mecky, Philadelphia, Pa. Seat for velocipedes, &c.	807,749	Dec. 19	3311	711	119	2068
Ledoux, Albert R., *et al.* (See Anthony, Richard A., assignor.)						
Ledoux, Hector, Worcester, Mass., assignor to Crompton & Knowles Loom Works. Swivel-loom	807,081	Dec. 12	1978	428-9	119	1740
Lee, Alfred, Bellingham, Wash. Clutch	808,289	Dec. 26	4390	945	119	2349
Lee, Andrew, Hazleton, Pa. Automatic free-discharge valve	808,461	Dec. 26	4723	1017	119	2422
Lee, John E., assignor to J. Ellwood Lee Company, Conshohocken, Pa. Sputum-cup	807,293	Dec. 12	2391	513	119	1827
Leeds and Northrup Company. (See Northrup, Edwin F., assignor.)						
Lees, Thomas, Girvan, Scotland. Camp-stool and like seat	806,547	Dec. 5	877	195	119	1461
Lefèvre, Emil, Berlin, Germany. Vehicle for exhibiting goods	807,948	Dec. 19	3694	800-1	119	2154
Leffingwell, Classon M., Littlefalls, Minn. Attachment for fruit cans and jars	807,388	Dec. 12	2566	554	119	1866
Lefley, Samuel B., Florinel, Pa. Rear-end-contact telegraph-key	805,735	Nov. 28	4416	947	119	1087
Legare, George S., *et al.* (See Ball, William T., assignor.)						
Legge, Alfred G., assignor to Lockett Crimping Machine Company, Brockton, Mass. Crimping-machine	804,482	Nov. 14	1929	420	119	464
Leggett, Joseph P., Carthage, Mo., assignor to Chamberlin Cartridge & Target Company, Cleveland, Ohio. Target-trap	804,143	Nov. 7	1220	261-2	119	268
Legler, Thomas A., Jr. (See Grimes, Ellerman, and Legler.)						
Lehmann, Ferdinand, Omaha, Nebr. Adjustable safety swinging stage and scaffold attachment	808,161	Dec. 26	4132	890	119	2291
Leibenglick, Schimon, New York, N. Y. Attachable receptacle for vehicle-bodies	806,476	Dec. 5	768	170	119	1437
Leicester and Continental Mills Company. (See Brown, Everett H., assignor.)						
Leidecker, Frank W., assignor to Leidecker Gauge Company, Marietta, Ohio. Lubricator	803,609	Nov. 7	166	37	119	37
Leidecker, Frank W., assignor to Leidecker Gauge Company, Marietta, Ohio. Globe-valve	807,476	Dec. 19	2742	591	119	1947
Leidecker Gauge Company. (See Leidecker, Frank W., assignor.)						
Leigh, Thomas J., Loraine, Ill. Whip attachment for horse-powers	805,476	Nov. 28	3933	850-1	119	983
Leighton, George F., Cincinnati, Ohio. Rotary engine	807,830	Dec. 19	3457	744	119	2100
Leiman, George W. and W. H., New York, N. Y. Sand-blast machine	807,036	Dec. 12	1875	408	119	1717
Leiman, William H. (See Leiman, George W., and W. H.)						
Leisel, Maximilian, Cologne, Germany. Soldering-paste	804,664	Nov. 14	2282	.....	119	540
Lemaster, Pleasant T., Spartanburg, S. C. Writing-tablet	804,743	Nov. 14	2458	535	119	581
Lemp, Hermann, Lynn, Mass., assignor to General Electric Company. Steering mechanism for self-propelled vehicles	806,684	Dec. 5	1135	254-5	119	1515
Lent, Katherine A., *et al.* (See Lund, Lawrence, assignor.)						
Lentz, Hugo, Berlin, Germany. Turbine-engine	804,541	Nov. 14	2052	446-7	119	492
Leonard, William A., assignor of one-half to Tremont Nail Company, West Wareham, Mass. Galvanizing apparatus	806,900	Dec. 12	1616	354	119	1660
Leperche, Pierre A., V. Angiolini-Salvadori, and V. Denis, Paris, France. Apparatus for bleaching flour	805,652	Nov. 28	4261	916	119	1054
Leslie, Benjamin J., Chicago, assignor to O. W. Puhan, Cook county, Ill. Window	805,565	Nov. 28	4104	885	119	1020
Leslie, Ralph A., assignor to Winton Motor Carriage Company, Cleveland, Ohio. Folding foot-rest for automobile-tonneaus	807,831	Dec. 19	3459	744	119	2100
Lester, John E., Omaha, Nebr. Pump-rod coupling	807,563	Dec. 19	2918	628	119	1982
Levagood, Jennie, Oklahoma, Okla. Ter. Batter-spoon	808,056	Dec. 19	3881	840	119	2195
Levermont, Joseph E., and G. A. Reed, Cody, Nebr. Dust-guard for vehicles	807,751	Dec. 19	3313	712	119	2068
Levis, Thomas R. (See Frey, George J., assignor.)						
Levy, Abraham B. (See Bleco, John H., assignor.)						
Lewicki, Tadeusz von, Warsaw, Russia. Treating vegetable juices	805,081	Nov. 21	3152	.....	119	775
Lewinski, Willy von. (See Höpfner, Gottfried, assignor.)						
Lewis, Burton W., Plainville, assignor to Stanley Works, New Britian, Conn. Pintle-retainer for hinges	807,680	Dec. 19	3161	679	119	2036

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Lewis, Cutler, and A. J. Bostwick, Eau Claire, Wis. Stake-holder	807,062	Dec. 12	1980	429	119	1741
Lewis, Cutler, and A. J. Bostwick, Eau Claire, Wis. Stake-holder	807,121	Dec. 12	2071	444	119	1760
Lewis, Dio, Prescott, Ark. Heater	805,804	Nov. 28	4533	971	119	1109
Lewis, John H., and L. G. Kunzer, Chicago, Ill. Metallic packing for piston-rods	807,294	Dec. 12	2392	513	119	1827
Lewis, Lester L. (See Mitchell and Lewis.)						
Lewis, Malcalm D., Columbia, Mo. Lantern-bracket	805,145	Nov. 21	3271	709	119	800
Lewis, Miles K., Lompoc, Cal. Wire-stretcher	804,144	Nov. 7	1223	262	119	269
Lewis, Mortimer G. (See Hanimann, Charles, assignor.)						
Lewis, Robert H., and H. M. Smith, Monrovia, Ind. Drinking-font for live stock	808,393	Dec. 26	4800	992	119	2398
Lewis, Rollin C., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Spindle-bearing for combination-locks	805,021	Nov. 21	3009	653	119	749
Lewis, Warner S., Wilmington, Del. Adjustable folding chair	808,098	Dec. 26	3985	860	119	226
Lewis, Wilfred, Philadelphia, Pa. Adjustable saw-tooth	804,416	Nov. 14	1809	391	119	43[illegible]
Lewitz, Peter, Minneapolis, Minn. Weighing-scale	808,609	Dec. 26	5015	1082	119	2485
Leyendecker, Peter J., Philadelphia, Pa. Means for supporting mattresses on bed-frames	807,389	Dec. 12	2567	554	119	1866
Leyner, John G., Denver, Colo. Rock-cutting drill-bit	803,911	Nov. 7	737	160	119	159
Lezgus, Louis, Hagen, Germany. Water-meter	804,417	Nov. 14	1810	391	119	438
Libbman, Louis, Everett, Mass. Bread-mixer	805,062	Nov. 21	3153	684	119	775
Libby, Thomas, assignor of one-half to N. W. Nelson, Minneapolis, Minn. Flask for molding concrete blocks	804,240	Nov. 14	1469	313-14	119	363
Liberman, Oscar, Pittsburg, Pa. Air-brush	805,865	Nov. 28	4655	996	119	1136
Liberty Bell Co. (See Rockwell, Edward D., assignor.)						
Liddle, George T., Muskegon, Mich. Corking apparatus	805,566	Nov. 28	4106	885	119	1020
Lidgerwood Manufacturing Company. (See Dickinson, Joseph H., assignor.)						
Lieber, Albert, Indianapolis, Ind. Air-filter	805,305	Nov. 21	3609	779	119	871
Lieber, Albert, Indianapolis, Ind. Air-filter	805,306	Nov. 21	3610	780	119	872
Lieber, Hugo, New York, N. Y. Radio-active salve	804,610	Nov. 14	2182	.....	119	519
Liebster, Hermann. (See Boll, Robert B., assignor.)						
Lightbody, James A., Waterville, Me. Brake-lever support	807,122	Dec. 12	2073	445	119	1760
Lillie, Nathaniel W., Somerville, and A. Freier, Boston, assignors to Holtzer Cabot Electric Company, Brookline, Mass. Wire-connector	806,477	Dec. 5	770	170	119	1437
Limacher, Pius F., Los Angeles, Cal. Marking or tracing device	803,767	Nov. 7	490	106	119	106
Lincoln, Charles L., assignor to A. H. Nilson Machine Company, Inc., Bridgeport, Conn. Chair-seat-perforating machine	807,295	Dec. 12	2394	513-15	119	1827
Lincoln Iron Works. (See Ross, Cornele G., assignor.)						
Lincoln, Luther, Boston, Mass. Rifle gun-barrel	804,483	Nov. 14	1931	421	119	465
Lindemann, Albert J., and C. M. Zweck, assignors to A. J. Lindemann and Hoverson Company, Milwaukee, Wis. Stove	803,610	Nov. 7	168	37-8	119	38
Lindenthal, Gustav, New York, N. Y. Bridge	804,744	Nov. 14	2459	535-6	119	581
Lindgren, Bror J., assignor to Niagara Machine & Tool Works, Buffalo, N. Y. Machine for heading cans and boxes	805,736	Nov. 28	4419	947-8	119	1067
Lindholm, Andrew P. (See Schroeder and Lindholm.)						
Lindley, Theodore J. (See Hayes, Albert, assignor.)						
Lindquist, Edward W., Chicago, Ill., assignor to R. Baggaley, Pittsburg, Pa. Apparatus for charging furnaces	805,737	Nov. 28	4426	948-9	119	1089
Lindquist, Edward W., Chicago, Ill., assignor to R. Baggaley, Pittsburg, Pa. Tilting mold for casting copper plates	805,738	Nov. 28	4428	949	119	1089
Lindsay, John H., assignor of one-half to F. Dobson, New York, N. Y. Radiator and coil	807,390	Dec. 12	2568	554	119	1867
Lindsay, Thomas J., Indianapolis, Ind. Steering-axle for motor-vehicles	807,832	Dec. 19	3460	745	119	2101
Lindsay, Thomas J., assignor of one-half to W. Harmon, Indianapolis, Ind. Driving-axle structure for automobiles	805,567	Nov. 28	4107	885	119	1021
Lindsay, William E., assignor to Crown Cork & Seal Company, Baltimore, Md. Apparatus for applying stoppers to bottles	808,556	Dec. 26	4917	1060	119	2462
Lindsay, William G. (See Keenan, Joseph, assignor.)						
Lindsey, Leroy, assignor of one-half to Richardson & Phillips Company, Seymour, Iowa. Attachment for corn-planters	805,083	Nov. 21	3155	684	119	776
Lindstrom, Carl O., Chicago, Ill. Therapeutic apparatus	804,484	Nov. 14	1933	421	119	465
Lindström, Charles A., Allegheny, assignor to Pressed Steel Car Company, Pittsburg, Pa. Car-door mechanism	805,920	Nov. 28	4763	1018-19	119	1161
Lindström, Charles A., Allegheny, assignor to Pressed Steel Car Company, Pittsburg, Pa. Steel car-side structure	805,921	Nov. 28	4765	1019	119	1162
Link Belt Engineering Company. (See Dodge, James M., assignor.)						
Linsley, Samuel E., Winthrop, Minn. Circulating device for water fire-boxes	807,752	Dec. 19	3314	712	119	2058
Lipp, Charles, New York, N. Y. Arch-supporter	806,353	Dec. 5	526	116	119	1382
Lippitt, Elihu, Chicago, Ill., assignor to George D. Whitcomb Company. Knitting-machine	808,099	Dec. 26	3987	860	119	2260
Lisdale, John L. (See Smith, Frederick H., assignor.)						
Lissak, Ormond M., Westpoint, N. Y. Machine for automatic gaging	804,017	Nov. 7	961	203-4	119	205
Lissak, Ormond M., Westpoint, N. Y. Machine for assembling cartridges in clips	804,018	Nov. 7	965	204-5	119	206
Lissak, Ormond M., Westpoint, N. Y. Feeding and delivering articles	804,145	Nov. 7	1224	262	119	269
Littauer, Benno, Newark, N. J. Garment-fastener	805,886	Nov. 28	4658	997	119	1137
Little, Robert H., assignor of one-half to M. H. Mandelbaum, Chicago, Ill. Perforating-machine	804,485	Nov. 14	1936	421-2	119	466
Littleton, Frank L. (See McNamee, Duncan, and Littleton.)						
Littmann, Otto G. A. (See Loewner, Hans, assignor.)						
Litz, Herman A., Danville, Pa. Doweling device	805,212	Nov. 21	3408	738	119	829
Livingston, Lewis H., Hennessey, Okla. Ter., assignor of one-half to W. M. Sasher, Wichita, Kans. Grain-separator	808,557	Dec. 26	4919	1060	119	2463
Livtschak, Wladimir, Wilna, Russia. Harvesting-machine	807,179	Dec. 12	2173	466-7	119	1780
Lloyd, Alvin, Laharpe, Kans. Combined curtain and shade fastening	804,868	Nov. 21	2722	588	119	682
Lloyd, Harry W., Longbranch, N. J. Non-refillable bottle	808,462	Dec. 26	4725	1017	119	2423
Lloyd, Marcel P. (See Steenlet, Pierre, assignor.)						
Lock, Lee. (See Johnson and Lock.)						
Locke, George D., successor in trust, *et al.* (See Cook, Samuel G., assignor.)						
Locke Insulator Manufacturing Company. (See Goddard, Walter T., assignor.)						
Lockett Crimping Machine Company. (See Legge, Alfred G., assignor.)						
Lockhart, Edward J., Kalamazoo, Mich. Gaff-hook	806,685	Dec. 5	1144	255	119	1517
Lockhart, Henry R., Westmount, Canada. Trolley-base	805,568	Nov. 28	4109	886	119	1021
Locking, Benjamin, Napier, New Zealand. Apparatus for generating vapor used in the destruction of weeds and rabbits	807,180	Dec. 12	2177	467	119	1781
Locklin, George C., Chicago, Ill. Spring-bottom	805,569	Nov. 28	4110	886	119	1022
Lockwood, Elias R., Pratt, Kans. Tubular well-plunger	805,922	Nov. 28	4766	1019	119	1162
Lockwood, Frederick H., Alameda, Cal. Combination chamfer and butt gage	806,417	Dec. 5	646	141	119	1411
Lockwood, Jeremiah, Sullivan, Ind. Steamboat	803,768	Nov. 7	491	106	119	108
Lockwood, John S., Kansas City, Mo. Electrically-controlled fluid-pressure railway-brake	804,745	Nov. 14	2462	536-7	119	582

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Lodge & Shipley Machine Tool Company. (See Chard and Lodge, assignors.)						
Lodge, William. (See Chard and Lodge.)						
Loe, Syver, Minneapolis, Minn. Voting-machine	804,961	Nov. 21	2876	619–22	119	718
Loe, Syver, Minneapolis, Minn. Voting-machine	804,962	Nov. 21	2883	623–5	119	719
Loe, Syver, Minneapolis, Minn. Party-selecting mechanism for voting-machines	804,963	Nov. 21	2892	625–6	119	720
Loeber, Edgar O., Los Angeles, Cal. Mop-head	803,769	Nov. 7	492	106	119	109
Loew, Charles H., Lakewood, Ohio. Pasteurizer	806,354	Dec. 5	527	116	119	1382
Loew Supply & Manufacturing Company. (See Lawrence, George R., assignor.)						
Loewenstein, Nicolas, Philadelphia, Pa. Lamp for autos and other vehicles and purposes	807,296	Dec. 12	2397	515	119	1828
Loewner, Hans, Berlin, assignor, by mesne assignments, to O. G. A. Littmann, Charlottenburg, near Berlin, Germany. Fan	808,610	Dec. 26	5017	1063	119	2485
Lofton, Herbert M., Atlanta, assignor to National Investment Company, Savannah, Ga. Rotary engine	804,746	Nov. 14	2468	538–40	119	583
Logan, Crawford D., assignor of one-half to H. T. Hackney, Coalhill, Ark. Buggy-bow rest	805,739	Nov. 28	4429	950	119	1089
Logan, James H., and W. H. Simmons, Fenton, Mich. Rotary kiln	805,213	Nov. 21	3410	738	119	829
Logan, James M. (See Davison and Logan.)						
Logan, Oscar W. (See Powell and Logan.)						
Logan, Robert, Jr. (See Clark, Hugh S., assignor.)						
Lohrman, John G. (See Herrick and Lohrman.)						
Lombard Governor Company. (See Warren, Henry E., assignor.)						
Lombard, Nathaniel, Brookline, Mass., assignor to N. Lombard Improved Governor Company, Waterville, Me., and Boston, Mass. Relief mechanism for water-wheel conduits	806,154	Dec. 5	129	26	119	1293
	807,833	Dec. 19	3461	745	119	2101
Long, Charles S., Aurora, Ill. Machine for molding bases on fence-posts						
Long, George S. (See Slyder, William J., assignor.)						
Long, John E., and H. A. Stephens, Indianapolis, Ind. Weed-cutter for cultivators	804,418	Nov. 14	1811	391	119	438
Longtine, Robert, and E. Double, Los Angeles, Cal. Gas-engine	807,950	Dec. 19	3697	802	119	2155
Lonngren, Magnus N., Highland Park, assignor of one-half to G. Funk, Chicago, Ill. Color-matching device for calciminers	805,084	Nov. 21	3156	684	119	776
Looney, Richard T. (See Gilleran, Bernard, assignor.)						
Loos, George, Grafton, N. D. Box-lid holder	806,548	Dec. 5	878	195	119	1462
Loose, Ezra, Jonestown, Pa. Combined couch and invalid-chair	805,805	Nov. 28	4534	971	119	1109
Loper, Gilbert L., Norcatur, Kans. Rotary engine	807,297	Dec. 12	2398	516	119	1828
Lorant, Alois, Budapest, Austria-Hungary. Manufacturing boot and shoe lasts	805,477	Nov. 28	3934	.....	119	984
Lord, Allen P., Bradford, Pa. Trolley	807,477	Dec. 19	2743	592	119	1947
Lord, George W., assignor to Diamond Valve Company, Chicago, Ill. Automatic-regulating gas-burner	805,146	Nov. 21	3272	710	119	800
Lorétan, Hermann. (See Oswald, Lorétan, and De la Harpe.)						
Loria, Howard D., Orchamps, France. Method of and apparatus for the manufacture of card or pulp board	807,753	Dec. 19	3315	712	119	2068
Lorillard, Pierre, Tuxedo Park, N. Y. Conveyer	807,564	Dec. 19	2918	628–9	119	1983
Lorillard, Pierre, Tuxedo Park, N. Y. Conveyer	807,565	Dec. 19	2928	629–31	119	1984
Lorscheider, Edgar L., Chicago, Ill. Concrete building-block	805,478	Nov. 28	3935	851	119	984
Loss, Henrik V., Philadelphia, assignor to C. T. Schoen, Moylan, Pa. Forging-press	804,542	Nov. 14	2054	447	119	492
Lottridge, George W., assignor to F. R. Sleeper, Niles, Mich. Automatic weighing-machine	803,912	Nov. 7	739	160–1	119	159
	804,019	Nov. 7	972	205	119	209
Lotz, Louisa, Chicago, Ill. Commode						
Louden Machinery Company. (See Cherry, David B., assignor.)						
Louden, William, Fairfield, Iowa. Hay-fork	807,754	Dec. 19	3318	712–13	119	2069
Louden, William, Fairfield, Iowa. Hay-carrier apparatus	808,558	Dec. 26	4922	1060–1	119	2464
Lounsberry, George H. (See Weaver and Lounsberry.)						
Love, William R., Chicago, Ill. Adjustable door lock and signal	804,241	Nov. 14	1470	314	119	363
Lovegrove, Thomas G., Philadelphia, Pa. Damper-regulator	807,478	Dec. 19	2744	592	119	1947
Lovejoy, Herbert R., Brattleboro, Vt. Bottle	808,559	Dec. 26	4925	1061	119	2464
Lovekin, Luther D., Philadelphia, Pa. Clamping mechanism for pipe-flanging machines	806,418	Dec. 5	648	141–2	119	1411
Lovington Mfg. Co. (See Maldaner, Charles, assignor.)						
Low, Abbot A., Horseshoe, N. Y. Hydrocarbon-motor	807,391	Dec. 12	2569	554	119	1567
Low, Everett M., New York, N. Y. Leveling instrument	803,770	Nov. 7	493	107	119	109
Low, George A., Jr., assignor to J. R. Low, Wilkinsburg, Pa. Wrench	804,611	Nov. 14	2184	479	119	519
Low, John R. (See Low, George A., Jr., assignor.)						
Lowe, Leon P., San Francisco, Cal. Apparatus for cleaning manufactured gases	805,653	Nov. 28	4262	916	119	1054
Lowe, Leon P., San Francisco, Cal. Sight-cock for gas-furnaces	805,654	Nov. 28	4263	917	119	1055
Lowe, Willard D., Columbus, Ohio. Motor-vehicle	805,740	Nov. 28	4430	950	119	1090
Lowell, Grant S., Salina, Kans. Steam-plow	804,543	Nov. 14	2056	447–9	119	492
Lowry, Cuthbert B., Lexington, Ky., and R. Bernhard, Chicago, Ill. Wood-impregnating apparatus	805,214	Nov. 21	3411	739–40	119	829
	807,755	Dec. 19	3320	713	119	2070
Loyd, Charles M., Anthony, W. Va. Boring-bar						
Lubbers, John H., Allegheny, and S. L. Bodine, Berwin, assignors to Window Glass Machine Company, Pittsburg, Pa. Manufacture of glass sheets	807,298	Dec. 12	2400	516–17	119	1829
Lübbertsmeier, Adolf, Barmen, Germany. Apparatus for varnishing sheet-metal bands	806,270	Dec. 5	350	77	119	1341
Lubin, Leon T. J., Boston, Mass. Instep-support	804,242	Nov. 14	1472	314	119	364
Lucas, George S. (See Brown, Royl A., assignor.)						
Lucas, William H., Newark, Ohio. Mold	805,655	Nov. 28	4264	917	119	1055
Lucas, William H., Newark, Ohio. Vault-mold	806,686	Dec. 5	1145	256	119	1518
Lucas, William H., assignor to himself, F. F. and J. Espen, Jr., Philadelphia, Pa. Crank-shaft lathe	808,057	Dec. 19	3881	840–1	119	2196
Lucien, Eugène. (See Elliott and Lucien.)						
Luck, John J., Aurora, Ill. Mold for cement fence-posts and the like	808,394	Dec. 26	4611	992	119	2398
Lucke d'Aix, Fritz C., New York, N. Y. Line-casting machine	807,566	Dec. 19	2940	631–2	119	1987
Luger, Georg, Charlottenburg, Germany. Firearm	808,463	Dec. 26	4726	1017	119	2423
Lund, Joel, San Francisco, Cal. Wood-boring implement	808,245	Dec. 26	4295	923	119	2328
Lund, Lawrence, assignor of one-half to M. E. Dunn and K. A. Lent, Minneapolis, Minn. Disinfecting device	805,147	Nov. 21	3274	710	119	801
Lundberg, Axel E. (See Pipkin, Jesse P., assignor.)						
Lundin, Martin, Chattanooga, Tenn. Reversible disk plow	805,368	Nov. 21	3720	805–6	119	895
Lundy, John E., Edmonton, Canada, assignor of one-half to G. J. Brill, Cleveland, Ohio. Filling and closing funnel for liquid	805,741	Nov. 28	4431	950	119	1090
Lungren, Charles M., Bayonne, N. J., assignor to Safety Car Heating & Lighting Company, New York, N. Y. Incandescent gas-mantle	803,835	Nov. 7	510	133	119	132
Lungren, Charles M., Bayonne, N. J., assignor to Safety Car Heating & Lighting Company, New York, N. Y. Means of suspending incandescent-lamp mantles	803,913	Nov. 7	745	161	119	162
Lungren, Charles M., Bayonne, N. J., assignor to Safety Car Heating & Lighting Company, New York, N. Y. Means of suspending incandescent-lamp mantles	803,914	Nov. 7	748	161	119	162
Lungren, Charles M., Bayonne, N. J., assignor to Safety Car Heating & Lighting Company, New York, N. Y. Preparing incandescent gas-mantles	803,915	Nov. 7	752	161	119	163

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Lunken, Edmund H., Cincinnati, Ohio. Window construction	804,486	Nov. 14	1940	422-3	119	467
Lunken, Edmund H., Cincinnati, Ohio. Sectional window	807,681	Dec. 19	3162	680	119	2036
Lunt, Alexander D., Schenectady, N. Y., assignor to General Electric Company. Vapor electric apparatus	803,836	Nov. 7	612	134	119	132
Luppert, Valentine C., South Williamsport, Pa. Table-support	803,916	Nov. 7	754	162	119	164
Luscombe, Guy M., Radcliffe, Iowa. End-gate and shovel-board	808,395	Dec. 26	4613	992	119	2399
Luson, Thomas G., Blackheath, London, England. Set-screw for lamp globes and shades	808,290	Dec. 26	4391	945	119	2349
Luttrell, William J., Honeygrove, Tex. Cultivator attachment	804,419	Nov. 14	1813	391	119	439
Lutz, George H. (See Blake, Lutz, and Hubbell.)						
Lutz, Herbert, assignor of two-fifths to B. Harris, Hamilton, Ontario, Canada. Vehicle-tire. (Reissue)	12,402	Nov. 7	1361	290	119	300
Lutz, Julius H., New York, N. Y., assignor to Victor Talking Machine Company. Talking-machine attachment	805,923	Nov. 28	4767	1020	119	1162
Lutz, Robert H., Rotterdam, N. Y. Metallic railway-tie	803,611	Nov. 7	169	38	119	38
Lutze, Alfred, Halle-on-the-Saale, Germany. Machine for molding plastic masses	804,328	Nov. 14	1651	356-7	119	402
Luxenberg, Bruno, Cassel, Germany. Spark-arrester	807,834	Dec. 19	3463	745	119	2101
Luyers, Charles, Vilvorde, assignor to Compagnie Internationale de Freinage (Systeme Luyers) Société Anonyme, Brussels, Belgium. Brake apparatus for railway-vehicles	803,917	Nov. 7	756	162	119	164
Lycoming Specialty Company. (See Kemp, Charles E., assignor.)						
Lyle, Matthew R., Oakland, Cal. Ore-concentrator	805,215	Nov. 21	3413	740	119	830
Lyman, Chester W., assignor to International Paper Company, New York, N. Y. Core for rolls	805,867	Nov. 28	4060	997	119	1137
Lyman Gun Sight Corporation. (See Gunn, Herman, assignor.)						
Lynch, Daniel B., Reno, Nev. Square	805,216	Nov. 21	3416	741	119	831
Lynch, Michael A. (See Wilson and Lynch.)						
Lynn, John A., Charlevoix, Mich. Machine for making decorative rope	807,625	Dec. 19	3049	655	119	2011
Lynn, King T., Fresno, assignor of one-half to A. Mocker, San Francisco, Cal. Fruit cutter and pitter	808,464	Dec. 26	4728	1018	119	2423
Lyon, David W., Suttercreek, Cal. Crude-oil engine	807,835	Dec. 19	5464	745-8	119	2101
Lyons, Jerry E. (See Walker, James W., assignor.)						
Lytle, Harry H., Beaver, and E. D. Cawley, Allegheny, assignors of one-half to E. F. Grimm, Pittsburg, Pa. Lubricator	804,612	Nov. 14	2185	479	119	519
M and S Tire Company. (See Saylor, Franklin G., assignor.)						
Maas, Samuel E., Billancourt, France. Machine for making reinforced paper fabric	807,756	Dec. 19	3322	713	119	2070
MacCordy Cigar Vending Machine Company. (See MacCordy, Frank E., assignor.)						
MacCordy, Frank E., assignor to MacCordy Cigar Vending Machine Company, Chicago, Ill. Vending-machine	807,183	Dec. 12	2180	468	119	1782
MacDonald, Charles A. (See Bertold, George, assignor.)						
MacIndoe, John F. (See Ashby and MacIndoe.)						
MacKenzie, George W., Ben Avon, Pa. Apparatus for elevating water	804,196	Nov. 7	1343	286	119	296
MacLaurin, Phoebe R. (See Paulson, Charles J., assignor.)						
MacLean, Colin C. (See Clark, James W., assignor.)						
MacLeod, Alexander. (See Hall and MacLeod.)						
MacPherson, John G., Philadelphia, Pa., assignor to R. P. Murphy and R. L. Galt, Washington, D. C. Reversible variable speed and power transmission mechanism	807,038	Dec. 12	1883	409	119	1720
Macarthy, Henry, assignor to American Can Company, New York, N. Y. Sheet-metal humidor	804,487	Nov. 14	1942	423	119	467
Macdonald, John H., *et al.* (See Prince, Jerome, assignor.)						
Macfarlane, William P. A., assignor to R. Fitzgerald, Chicago, Ill. Fluid-pressure brake	807,037	Dec. 12	1876	408-9	119	1718
Machalake, Florentine J., Brooklyn, N. Y., assignor to F. Darlington, Great Barrington, Mass. Making chlorids of carbon	808,100	Dec. 26	3900	860	119	2261
Mack, Alexander. (See Sullivan and Mack.)						
Mackenzie, Allan H., Hongkong, China. Envelop	804,747	Nov. 14	2474	540	119	585
Mackenzie, Claude H., London, England. Producing printed surfaces having relief appearance	804,195	Nov. 7	1342	286	119	296
Mackintosh Hemphill & Company. (See McMillen, Samuel, assignor.)						
Mackrow, George C., and H. G. Cameron, London, England. Device for detaching loads from elevators, &c	808,291	Dec. 26	4392	945-7	119	2349
Maclay, Jeannette H., Brattleboro, Vt. Washing-machine	804,420	Nov. 14	1814	392	119	439
Madeira, Charles, Meriden, assignor of one-half to J. H. Baldwin, Southington, Conn. Domestic boiler	807,836	Dec. 19	3469	748	119	2102
Maculen, Frederick. (See Wilson and Maculen.)						
Magaldi, Emilio, St. Denis, France. Driving-belt	806,687	Dec. 5	1146	256	119	1518
Magowan, Frank A., Trenton, N. J. Vehicle-tire	804,613	Nov. 14	2187	480	119	519
Maguire, Thomas, assignor to Star Lamp Company, New York, N. Y. Gas-light	803,837	Nov. 7	613	134	119	133
Mahaffy, John W., Ludlow Falls, Ohio. Stovepipe-thimble connection	805,656	Nov. 28	4266	917	119	1055
Maier, Franz J., Royersford, Pa. Spring-mattress	804,020	Nov. 7	974	206	119	209
Maldaner, Charles, Decatur, assignor to Lovington Mfg. Co., Lovington, Ill. Curtain-fixture	805,570	Nov. 28	4111	886	119	1022
Malick, Henry C., assignor of one-third to J. S. Messner, Sunbury, Pa. Combined hand-saw and scriber	805,022	Nov. 21	3010	653	119	746
Mallen, John, Curwensville, Pa. Rod-fastener for stairways	805,307	Nov. 21	3611	780	119	872
Mallol, James, Birmingham, England. Incandescent gas-burner	803,771	Nov. 7	497	107	119	109
Mallory, Emma J. (See Graham, Andrew W.)						
Mallory, Roland H., New York, N. Y. Ticket-holder	806,965	Dec. 12	1776	390	119	1606
Malmo, Christina, Walkerville, Mont. Lantern attachment	806,688	Dec. 5	1147	256	119	1518
Malnburg, John E., San Francisco, Cal. Hose-support	807,184	Dec. 12	2184	468-9	119	1782
Malone, Peter J., Altoona, Pa. Manufacture of roof dental plates	805,974	Nov. 28	4876	1040	119	1188
Maloney, Michael H., Chelsea, assignor to J. J. Buckley, T. P. McGinn, J. A. Rogan, Plymouth, and T. Roche, Boston, Mass. Support for spinning-rings	808,306	Dec. 26	4615	993	119	2399
Malott, Herbert. (See Petz, John, assignor.)						
Maloy, John, and A. Trenker, Dunbar, Pa. Gland for stuffing-boxes	805,308	Nov. 21	3612	780	119	872
Maloy, John, Dunbar, and J. W. Abraham, Uniontown, Pa. Carbon and glass cutter	805,309	Nov. 21	3613	780	119	872
Manahan, George M. D., New York, N. Y. Mothproof bag	806,549	Dec. 5	879	195-6	119	1462
Mancha, Raymond, assignor to Mancha Show Case Company, Detroit, Mich. Knock-down show-case	805,479	Nov. 28	3937	851	119	964
Mancha Show Case Company. (See Mancha, Raymond, assignor.)						
Mandelbaum, Maurice H. (See Little, Robert H., assignor.)						
Manhattan Laundry Company. (See Hollis, Robert C., assignor.)						
Manhattan Manufacturing Company. (See Kempshall, Eleazer, assignor.)						
Mann, Austin S., Jacksonville, Fla. Box or crate head	807,837	Dec. 19	3470	748-9	119	2102
Mann, William T., Cleveland, Ohio. Flexible razor-strop	806,419	Dec. 5	651	142	119	1412
Manners, George H., Murray, Nebr. Signal-switch	807,626	Dec. 19	3053	655	119	2012

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Manning, Charles B. (See Shelton, Manning, and Cheney.)						
Manning, Samuel, and W. B. Armstrong, Albany, N. Y. Device for equalizing the pressure of fluids	806,271	Dec. 5	351	77	119	1341
Mannlicher, Cäcilie von, administratrix. (See Mannlicher, Ferdinand von.)						
Mannlicher, Ferdinand von, deceased; C. von Mannlicher, administratrix, Vienna, Austria-Hungary. Small-arm having automatic breech-action	804,748	Nov. 14	2476	541-2	119	585
Mansfield, George L., Chicago, Ill. Journal-box dust-guard	808,292	Dec. 26	4401	947	119	2352
Manville, Lewis H. (See Adams, Paris, assignor.)						
Manwaring, George A. (See Richardson, Samuel F., assignor.)						
Maple, Roy H., Minneapolis, Minn. Lamp-burner	807,838	Dec. 19	3472	749	119	2102
Marbach, Frank G., Medina, Ohio. Micrometer	805,480	Nov. 28	3938	851	119	984
Marble, Edwin H., assignor to Curtis & Marble Machine Company, Worcester, Mass. Cloth-napping machine	803,612	Nov. 7	170	38	119	38
Marble, George W., Chicago, Ill. Power-transmission device	807,627	Dec. 19	3054	656	119	2012
Marble, George W., and W. R. Donaldson, Chicago, Ill. Variable-speed transmission for vehicles	804,421	Nov. 14	1815	392	119	439
Marburg, Franz, Jr., New York, N. Y. Rotary pump and the like	803,772	Nov. 7	499	108	119	109
March, Perrin G., Fernbank, assignor to Cincinnati Shaper Company, Cincinnati, Ohio. Shaping-machine	807 123	Dec. 12	2073	445	119	1760
Marcinek, Ferdynand, Chicago, Ill. Combined curtain-pole and cornice support	806,155	Dec. 5	130	27	119	1293
Marcom, Claude M., Doyle, Ind. Ter. Wagon-brake	803,773	Nov. 7	501	109	119	110
Marconi Wireless Telegraph Company of America. (See Fleming, John A., assignor.)						
Marconi's Wireless Telegraph Company. (See Fleming, John A., assignor.)						
Marcoux, Alida M., assignor to Draper Company, Hopedale, Mass. Crack-preventing means for looms	804,964	Nov. 21	2896	626-7	119	721
Marcus Mason & Company. (See Gordon, Douglas, assignor.)						
Marcy, Frank E., Chicago, Ill. Roasting-furnace	808,293	Dec. 26	4404	947	119	2353
Maretzek, Albert M., Hoboken, N. J. Box-hook	804,665	Nov. 14	2284	501	119	540
Marier, Gustave A., assignor to S. Davis & Sons, Montreal, Canada. Tobacco-leaf stripping and booking machine	806,272	Dec. 5	352	77-81	119	1341
Marinier, Navoit and Jeanson. (See Avril, Paul V., assignor.)						
Marion Steam Shovel Company. (See King, George W., assignor.)						
Marks, Marcus, St. Louis, Mo. Sleeve-protector	807,628	Dec. 19	3056	656	119	2013
Marley, Jesse A., New York, N. Y. Life-saving boat	805,975	Nov. 28	4877	1040	119	1188
Marquardt, Ernst, Schöneberg, near Berlin, and H. Viertel, Charlottenburg, Germany. Means for producing oxids of nitrogen	804,021	Nov. 7	975	206	119	200
Marquart, Paul. (See Schenck and Marquart.)						
Marr, William G., assignor of two-thirds to J. P. Hillard and R. J. Talbot, Springfield, Mass. Flexible rim for vehicle-wheels	807,839	Dec. 19	3474	749	119	2103
Marschner, Alfred, Omaha, Nebr. Chewing-tobacco package	805,806	Nov 28	4536	972	119	1110
Marsh, Elon A., assignor to F. G. O'Hara, Detroit, Mich. Flush-valve	805,148	Nov. 21	3275	710	119	801
Marsh, Joseph R. (See Laube, Godfried, assignor.)						
Marshall, Albert T., Brockton, Mass., assignor, by mesne assignments, to Automatic Refrigerating Company. Condenser-valve for refrigerating apparatus	806,478	Dec. 5	771	171	119	1438
Marshall, Albert W., *et al.* (See Cowles and Murray, assignors.)						
Marshall, Clinton S., assignor to American Steel & Wire Company of New Jersey, Worcester, Mass. Cutting mechanism for wire-fabric machines	806,420	Dec. 5	652	142-3	119	1412
Marshall, Dale, Cheltenham, England. Lock for nuts and bolts and the like	806,156	Dec. 5	131	27	119	1293
Marshall, David, Hamilton, Canada. Tomato-peeling machine	805,369	Nov. 21	3722	806	119	895
Marshall, David T., New York, N. Y. Vibrator for medical use	807,299	Dec. 12	2401	517	119	1529
Marshall, Philip P., Bellgrove, Idaho. Hand-cultivator	805,976	Nov. 28	4878	1041	119	1188
Marshall, William, *et al.* (See Cummings, John D. assignor.)						
Marshall, William J., assignor to New Castle Stamping Company, Newcastle, Pa. Expanding-punch	805,868	Nov. 28	4661	998	119	1137
Marstall, Hermann, Henderson, Ky. Cabinet	806,550	Dec. 5	881	196	119	1462
Marten, Albert S., East Orange, N. J. Electric-light shade or hood	805,370	Nov. 21	3723	806	119	895
Martin, Alonso E., Toledo, and R. W. Kennard, Fernhill, Wash. Holder	807,840	Dec. 19	3475	749	119	2103
Martin, Charles W., Chicago, Ill. Stamp-rack	807,757	Dec. 19	3323	713	119	2070
Martin, Edward P., Brixton, London, assignor of one-fourth to W. J. Engledue, Wimbledon, England. Casting pig-iron	804,329	Nov. 14	1654	357	119	402
Martin, Herman W., Ilion, N. Y. Automatic fire-extinguisher	808,101	Dec. 26	3991	860	119	2262
Martin, Jacob, New York, N. Y. Non-refillable bottle	805,571	Nov. 28	4112	887	119	1022
Martin, James H. (See Hoyt and Martin.)						
Martin, John E., Somerville, Mass. Skate	803,698	Nov. 7	348	74	119	78
Martin, Joseph H., Riverside, Cal. Combined cane and stool	807,039	Dec. 12	1888	410	119	1721
Martin, Louis K., Toronto, Canada. Infant-exerciser	806,157	Dec. 5	133	27-8	119	1293
Martin, Morris, Malden, assignor to C. E. Clisbee, Revere, Mass. Oil-burner	807,302	Dec. 12	2570	555	119	1867
Martin, Robert L., Jr., assignor to Pittsburgh Coal Washer Company, Pittsburg, Pa. Coal-washing apparatus	804,488	Nov. 14	1944	423-4	119	468
Martin, Rudolph, assignor to J. E. Fuller, Newark, N. J. Machine for concaving razors	806,551	Dec. 5	882	196-7	119	1462
Martin, Van Buren, and T. R. Stewart, Hopkinsville, Ky. Running-gear for vehicles	805,310	Nov. 21	3615	781	119	873
Martin, William R., West Hempfield township, Lancaster county, Pa. Brick-drier	804,489	Nov. 14	1948	424-6	119	469
Martin, William T., Summerfield, Ala. Wire-stretcher	804,146	Nov. 7	1226	262	119	269
Marty, A. P. (See Rider, George E., assignor.)						
Marx, Richard, Philadelphia, Pa. Drafting instrument	807,758	Dec. 19	3324	714	119	2071
Mascher, Paul, assignor of one-half to P. Dolan, East Palestine, Ohio. Pool-table attachment	806,158	Dec. 5	134	28	119	1294
Maschinenfabrik Grevenbroich. (See Bastian, Peter, assignor.)						
Maschinenfabrik Kappel. (See Knecht, Jakob, assignor.)						
Masel, Theodore, Alton, Ill., assignor to Hoyt Metal Company, St. Louis, Mo. Target-trap	806,689	Dec. 5	1149	257	119	1518
Mason, George W., Sharon, Pa. Injector	807,759	Dec. 19	3327	714	119	2071
Mason, Henry W. (See Watson and Mason.)						
Mason, Julius H., Duncan Falls, assignor of five-eighths to W. S. Sprague, Zanesville, and S. M. Garrett, Philo, Ohio. Carbureter	807,479	Dec. 19	2745	592	119	1948
Mason, William H., Leesburg, Ohio. Wire-weaving machine	803,613	Nov. 7	173	39-40	119	39
Massiello, Angelo. (See Muzzio, James A., assignor.)						
Mast, Peter, assignor to J. W. Page, Adrian, Mich. Fence-gate	807,760	Dec. 19	3329	714	119	2072
Mather, Alonzo C., Chicago, Ill. Water-wheel	806,817	Dec. 12	1431	316-17	119	1619
Mathes, John A., San Diego, Cal. Vapor and gas burner	807,841	Dec. 19	3476	750	119	2103
Mathesius, Alexander H., Brooklyn, N. Y. Trolley-wheel	805,372	Nov. 28	4114	887	119	1022
Mathews, Aaron, Italy, N. Y. Clothes-fastener	803,918	Nov. 7	757	163	119	165
Mathews, Camil, Coalmont, Ind. Device for preventing accidents	807,842	Dec. 19	3477	750	119	2104
Mathews, Harry N., and D. Van Holland, New York, N. Y. Manifolding-sheet for type-writing	806,818	Dec. 12	1432	317	119	1620

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Mathews, Henry B. (See Roberts and Mathews.)						
Mathewson, Edward P., Anaconda, Mont. Blast-furnace	807,961	Dec. 19	3700	802-3	119	2156
Mathis, August, Chicago, Ill. assignor to Mathis Brothers Company. Forge	807,480	Dec. 19	2747	593	119	1948
Mathis Brothers Company. (See Mathis, August, assignor.)						
Mattern, Charles W., Butler, Pa. Window-screen	805,977	Nov. 28	4879	1041	119	1188
Matteson, Albert L., Battlecreek, Mich. Lubricator	806,421	Dec. 5	654	143-4	119	1413
Matthew, David T., Tacoma, Wash. Convertible chair	803,699	Nov. 7	351	74	119	79
Matthews, John L., Hydepark, Mass. Fender	805,311	Nov. 21	3617	781	119	873
Matthews, Peter, St. Clair, Mich. Plow	805,217	Nov. 21	3417	741	119	831
Matthews, William B. (See Stokes, Charles F., assignor.)						
Mattle, Louis P., New Orleans, La. Fish-catching apparatus	808,102	Dec. 26	3994	861	119	2262
Mattson, John, Dresser Junction, Wis. Butter-packing machine	806,159	Dec. 5	136	28-9	119	1294
Mattson, John, Dresser Junction, Wis. Milk-test-bottle rack	806,819	Dec. 12	1434	317	119	1620
Mattsson, Erik. (See Wendelius and Mattsson.)						
Maul, Henry C. (See Keep and Maul.)						
Maußert, Otto, San Francisco, Cal. Sticky fly-paper	807,040	Dec. 12	1839	410	119	1722
Maw & Company. (See Thompson, Charles H., assignor.)						
Maxim, Hiram S., West Norwood, England. Roundabout	804,147	Nov. 7	1226	263	119	269
Maxwell, James F. (See Saalbach and Maxwell.)						
Maxwell, Joseph W., Louisville, Ky. Combined shovel and poker	804,148	Nov. 7	1230	263	119	270
Maxwell, Lee R., Cedar Rapids, Iowa. Jack for automobiles	808,208	Dec. 26	4223	909	119	2312
May, Eugene C., assignor to National Garbage Fuel Company, Chicago, Ill. Artificial fuel	807,629	Dec. 19	3057	.....	119	2013
May, Thomas H. D., Bath, England. Apparatus for mixing substances together in regular proportions	804,022	Nov. 7	978	207	119	210
May, William N. (See Kerlin and May.)						
May, William R., Newton, Mass. Power-transmitting mechanism	808,560	Dec. 26	4926	1061	119	2465
Mayer, Adolph, New York, N. Y. Hat	807,952	Dec. 19	3702	803	119	2156
Mayer, Fritz, Mayence, Germany. Making dialkyl-malonyl-urea	803,774	Nov. 7	503	.....	119	110
Mayering, Charles, Zichyfalva, Austria-Hungary. Manufacturing liquid lenses	807,300	Dec. 12	2402	.....	119	1830
Mayes, John W. D., *et al.* (See Kendall, John H., assignor.)						
Maymon, Leon. (See Gilson, Bert D., assignor.)						
Maynard, Agnes G., Denver, Colo. Stocking-holding band for darning purposes for sewing-machines	804,490	Nov. 14	1950	426	119	469
Maywald, Frederick J., assignor to E. H. Fallows, New York, N. Y. Extracting oil, grease, and the like from oil-bearing material	807,567	Dec. 19	2942	632	119	1987
Mazzacorati, Giovanni, *et al.* (See Cantono, Eugenio, assignor.) (Reissue.)						
McAlister, Donald C. (See De Gree and McAlister.)						
McAlister, James R., Hallesboro, N. Y. Firearm	804,255	Nov. 14	1488	320	119	367
McAndrews, Frank. (See McGrath and McAndrews.)						
McArthur, Edwin D. (See Ferry, James F., assignor.)						
McBerty, Frank R., Evanston, assignor to Western Electric Company, Chicago, Ill. Signal for telephone-switchboards	804,256	Nov. 14	1490	320	119	367
McBoyle, Joseph, Oakland, Cal. Garden-hose support	805,023	Nov. 21	3012	653	119	746
McCabe, Frank W., Cairo, Ill., and V. E. Steen, Kansas City, Mo. Track-laying machine	805,808	Nov. 28	4537	972-3	119	1110
McCabe, Robert M. (See Wood and McCabe.)						
McCaffrey, George E., Steubenville, Ohio. Apparatus for marking metal blooms, billets, or slabs	807,850	Dec. 19	3495	754	119	2100
McCain, Francis W., Midway, W. Va. Propeller	805,871	Nov. 28	4669	999	119	1139
McCall, Charles H., Banbridge, Ireland. Twisting and winding mechanism	808,106	Dec. 26	3998	861	119	2263
McCanany, Michael, Milwaukee, Wis. Means for securing books to covers	804,872	Nov. 21	2728	589	119	683
McCanna, John F., Chicago, Ill. Tire	807,633	Dec. 19	3062	657	119	2014
McCarthy, Daniel F., Waterbury, Conn. Guard-rail and lantern-holder	807,189	Dec. 12	2195	471	119	1785
McCarthy, John D., Jersey City, N. J. Watch holder and guard	804,493	Nov. 14	1955	427	119	470
McCarthy, Louis, Boston, Mass. Insulator	807,307	Dec. 12	2411	519	119	1832
McCaskey, John A., Hubbard, Ohio. Switch-operating mechanism	807,486	Dec. 19	2756	595	119	1950
McClatchy, V. S. (See Hall, John A., assignor.)						
McClatchy, V. S., trustee. (See Hall and Chandler, assignors.)						
McClave-Brooks Company. (See McClave, William, assignor.)						
McClave, William, Scranton, Pa., assignor to McClave-Brooks Company. Grate-bar	804,608	Nov. 14	2290	502	119	542
McClave, William, Scranton, Pa., assignor to McClave-Brooks Company. Grate-bar	807,766	Dec. 19	3336	716	119	2073
McClay, William, Pittsburg, Pa. Clothes-line holder	806,558	Dec. 5	595	199	119	1465
McClellan, Benjamin S. (See Hull, Arthur E., assignor.)						
McClellan, Stephen, Brooklyn, N. Y. Universal drill socket or chuck	807,487	Dec. 19	2757	596	119	1950
McCloskey, John B. (See Jaeger, Philipp J., assignor.)						
McCloud, Edward H., Columbus, Ohio. Flexible fire-resisting curtain	806,174	Dec. 5	166	35	119	1301
McCollough, Frederick H., Fairview township, Butler county, assignor of one-half to W. W. Bower and O. Callihan, Chicora, Pa. Oil-well device	806,559	Dec. 5	597	199	119	1465
McCollum, Elizabeth M., Chicago, Ill. Dressmaker's skirt scale and guide	807,308	Dec. 12	2412	519	119	1832
McConnell, Alexander H., Wilmette, Ill., assignor to Central Scientific Company. Barometer	805,743	Nov. 28	4434	951	119	1090
McConnell, Ellicott, Easton, Md. Mechanical stoker	803,777	Nov. 7	505	110	119	111
McConnell, John S., Princeton, Iowa. Pencil-tip	808,300	Dec. 26	4416	949	119	2355
McConnell, William E., assignor, by mesne assignments, of one-half to F. J. Close, Kansas City, Kans. Hydrocarbon-burner	807,573	Dec. 19	2952	634	119	1989
McCord & Company. (See Denegre, Edward, assignor.)						
McCorkindale, Duncan L., Holyoke, Mass. Steam-purifier	808,564	Dec. 26	4934	1063	119	2466
McCormick, John H., Columbus, Ohio, and J. D. Morrison, Washington, D. C., assignors, by mesne assignments, to International Register Company, Columbus, Ohio. Cash register and indicator	805,224	Nov. 21	3427	743-4	119	833
McCormick, Walter A., Pulaski, Va. Car-axle	808,301	Dec. 26	4417	950	119	2356
McCrea, Archibald M., assignor to Union Spring and Manufacturing Company, Pittsburg, Pa. Axle-box lid	804,873	Nov. 21	2730	590	119	683
McCreary, John S. (See Chase and McCreary.)						
McCroskey, Philip S., Marvin, Kans. Computing cheese-cutter	805,482	Nov. 28	3941	852	119	985
McCullough, William F., *et al.* (See De Croes, Clement, assignor.)						
McDaniel, Edwin L., Lenora, Kans. Carpenter's tool	805,963	Nov. 28	4890	1043	119	1191
McDaniel, Joseph A., Letts, Iowa. Fence-post	807,488	Dec. 19	2759	596	119	1950
McDermott, Charles E. and D., Seville, Ohio. Carrier	805,356	Dec. 5	531	116	119	1384
McDermott, Darwin. (See McDermott, Charles E. and D.)						
McDonald, Frank B., Eldorado, Cal. Penholder	808,469	Dec. 26	4736	1020	119	2425
McDonald, J. S. (See Hulquist, Andrew D., assignor.)						
McDonald, James J., *et al.* (See Auble, James H., assignor.)						
McDonald, John J., Allegheny Pa. Non-refillable bottle	805,087	Nov. 21	3161	685	119	777
McDonald, Joseph H., New York, N. Y. Apparatus for purifying water	806,374	Nov. 21	3729	809	119	897

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
McDonald, Louis N., and H. C. Morgan, Youngstown, Ohio. Twyer-plate for Bessemer converters	805,931	Nov. 28	4786	1022	119	1166
McDougall, Charles P. (See Horner, William C., assignor.)						
McDowell, Albert F., Malden, Mass. Level	806,987	Dec. 12	1782	391	119	1698
McDowell, William, New York, N. Y. Chart for drafting women's skirts	803,778	Nov. 7	508	111	119	111
McElhaney, Amciah T., Bradys Bend, Pa. Rail-joint	807,851	Dec. 19	3496	755	119	2110
McElney, William B., Meriden, Conn. Extension-bit	807,956	Dec. 19	3709	805	119	2158
McElroy, James F., assignor to Consolidated Car Heating Company, Albany, N. Y. Hose-coupling	805,744	Nov. 28	4435	951	119	1091
McFall, James R., St. Louis, Mo. Railway-tie	803,923	Nov. 7	764	164	119	166
McFarland, William T. (See Green and McFarland.)						
McGann, James, Wyndmere, N. D. Freight and baggage loader	808,166	Dec. 26	4139	892	119	2292
McGehee, Charles M., Beaverdam, Va. Railway-signal	805,872	Nov. 28	4670	999	119	1140
McGhee, John W., Arkansas City, Kans., assignor of one-half to J. J. Bernard and R. J. Hotaling, St. Louis, Mo. Automatic closure for elevator-hatchways	806,699	Dec. 5	1168	261	119	1522
McGhie, John A., *et al.* (See Smout, Peter S., assignor.)						
McGhie, Norval, *et al.* (See Smout, Peter S., assignor.)						
McGillis, James, Chippewa Falls, Wis. Traction-sled	808,565	Dec. 26	4935	1063	119	2467
McGinn, Thomas P., *et al.* (See Maloney, Michael H., assignor.)						
McGinnis, Charles, El Paso, Tex. Door-check	807,852	Dec. 19	3497	755	119	2110
McGonigle, Charles W., Walla Walla, assignor of one-half to L. H. Larson and J. Sawbridge, North Yakima, Wash. Pump	805,313	Nov. 21	3619	782	119	873
McGranighan, John, Roxboro, Pa. Railway-tie	806,357	Dec. 5	532	117	119	1384
McGranighan, John, Roxboro, Pa. Railway-tie	806,358	Dec. 5	533	117	119	1384
McGrath, Thomas, New York, N. Y. Punching-tool	808,470	Dec. 26	4739	1020	119	2426
McGrath, Thomas, and F. McAndrews, Minneapolis, Minn. Spiral conveyer	803,924	Nov. 7	766	164	119	166
McGregor, Albert G., Chicago, Ill. Apparatus for trimming photographic prints	806,424	Dec. 5	661	145	119	1414
McGregor, Charles, assignor of two-thirds to J. C. McGregor, Nashua, and H. W. Blair, Manchester, N. H. Wind-engine	804,257	Nov. 14	1492	321	119	367
McGregor, John C., *et al.* (See McGregor, Charles, assignor.)						
McGuiness, Benjamin F., Worcester, Mass, assignor to Crompton & Knowles Loom Works. Loom pattern-chain mechanism	803,844	Nov. 7	625	136	119	135
McGuire, James, assignor of one-half to J. S. Carson, Belleville, Ill. Gig-saddletree	805,314	Nov. 21	3624	783	119	874
McGuire, Michael G., Chicago, Ill. Rib for umbrellas	808,249	Dec. 26	4302	924–5	119	2330
McGuire, Patrick J. (See Elliss and McGuire.)						
McHale, James. (See Kempton, Wallace E., assignor.)						
McHale, Martin. (See De Ford, Joseph A., assignor.)						
McIntire, Hervey H., South Bend, Ind. Timing device	807,574	Dec. 19	2953	635	119	1990
McKee, Watson W., Tacoma, Wash. Store-cabinet	806,277	Dec. 5	374	83	119	1347
McKeen, Emroe A., Boston, Mass. Magazine-gun	808,107	Dec. 26	3999	862	119	2263
McKeever, Benjamin, Jr., Mineralridge, Ohio. Chair	807,394	Dec. 12	2576	556	119	1869
McKennan, Jacob B., and A. H. Helander, Pueblo, Colo. Link for conveyers	806,700	Dec. 5	1171	261-3	119	1522
McKenzie, Joseph H. (See Miller, John A., assignor.)						
McKiel, James. (See Saling and McKiel.)						
McKinstry, George. (See Messer, Daniel, assignor.)						
McLachlan, John C., assignor to International Desiccating Company, Chicago, Ill. Desiccating process	806,747	Dec. 5	1270	283	119	1544
McLaughlin, Samuel S. (See Payton, Ambrose, assignor.)						
McLaughlin, William T., Boston, Mass. Cushion-heel	805,088	Nov. 21	3163	686	119	777
McLean, Ewing, Greencastle, Ind. Means for restoring ring-off drops for switchboards	807,575	Dec. 19	2956	635	119	1990
McLean, William. (See Brown, John, assignor.)						
McLewee Gas Lamp Manufacturing Company. (See Craig and McLewee, assignors.)						
McLewee Gas Lamp Manufacturing Company. (See McLewee, William S., assignor.)						
McLewee, William S. (See Craig and McLewee.)						
McLewee William S., Yardley, Pa., assignor to McLewee Gas Lamp Manufacturing Company. Regenerative gas-lamp	805,661	Nov. 28	4273	920	119	1057
McMachen, William H., Superior, Wis. Grain-car door	808,566	Dec. 26	4937	1064	119	2467
McMahan, Arthur D., Centerville, Ind. Door construction for storage-receptacles	808,108	Dec. 26	4006	862	119	2265
McMahan, Bella, Six Points, Pa. Invalid-bed	803,619	Nov. 7	186	41	119	42
McMahon, James, Revelstoke, Canada. Prospector's pick and ax	803,620	Nov. 7	188	41	119	42
McManus, Charles E., assignor to Charles E. McManus Company, New York, N. Y. Bottle seal or closure	808,567	Dec. 26	4938	1064	119	2468
McMaster, Henry, Detroit, Mich. Cement-post fastener	803,706	Nov. 7	368	78	119	83
McMaster, Marion E., Monroe City, Mo. Treating paint	805,984	Nov. 28	4891	.....	119	1191
McMaster, Theodore, New York, N. Y. Wrench	806,701	Dec. 5	1173	263	119	1523
McMillen, Robert, assignor of one-fourth to F. I. Clemens, Pittsburg, Pa. Wrench	806,425	Dec. 5	662	146	119	1415
McMillen, Samuel, assignor to Mackintosh Hemphill & Company, Pittsburg, Pa. Planer	807,634	Dec. 19	3064	658–9	119	2015
McMullin, George, Elk Rapids, Mich. Harness-saddle	804,758	Nov. 14	2496	545	119	589
McMurry, Emmet H., Pedee, Ark. Pea-hulling machine	808,568	Dec. 26	4941	1064–5	119	2468
McNamee, Isaac S., H. Duncan, Knightstown, and F. L. Littleton, Indianapolis, Ind. Self-supporting conical roof	804,427	Nov. 14	1834	307	119	443
McNellan, James E. (See Lavertine and McNellan.)						
McNelly, Mathias F., Chicago, Ill. Gas-purifier	805,985	Nov. 28	4892	1043	119	1191
McQuillin, Holles A., Wauseon, Ohio. Colter attachment for plows	806,826	Dec. 12	1445	320	119	1623
McQuiston, Frederick. (See Millhizer and McQuiston.)						
McTammany, F. A. (See McTammany, John, assignor.)						
McTammany, John, Providence, R. I., assignor to F. A. McTammany, New York, N. Y. Mechanically-controlled musical instrument	807,853	Dec. 19	3498	755–6	119	2110
Mead, Frederick E., assignor of one-half to S. E. Bell, Represa, Cal. Guard or protector for watches	805,218	Nov. 21	3419	741	119	831
Meader, George, Fowler, Ind. Corn-husker	806,465	Dec. 26	4729	1018	119	2423
Meaker, Guy L., Evanston, Ill., assignor to American Steel and Wire Company of New Jersey. Galvanizing metals	808,103	Dec. 26	3995	.....	119	2263
Meakin, Edgar T., San Francisco, Cal. Awning-box	808,294	Dec. 26	4407	948	119	2354
Meakin, Edgar T., San Francisco, Cal. Apparatus for distributing must	808,397	Dec. 26	4616	993–4	119	2389
Means, Anderson W. (See Elder and Means.)						
Mecchi, Andrew J. C. (See Monnin and Mecchi.)						
Mecky, August. (See Ledig, Richard G., assignor.)						
Mecredy, William J., assignor of one-third to S. Jacobowitz, San Francisco, Cal. Cleaning attachment for tobacco-pipes	804,749	Nov. 14	2482	542	119	586
Medbery, Chauncey C., New York, N. Y. Combined smelting and refining furnace	804,330	Nov. 14	1654	357–8	119	403
Meeker, William P., Newark, N. J. Molding apparatus	803,700	Nov. 7	353	76	119	80
Meeker, William P., Newark, N. J. Apparatus for making articles from plastic material	807,630	Dec. 19	3050	657	119	2013

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Meeks, John L., New York, N. Y. Window-ventilator	806,466	Dec. 26	4731	1019	119	2424
Mégy, Léandre, Paris, France. Variable-speed gearing	803,701	Nov. 7	354	75–6	119	80
Mehring, Mary M. (See Smelker Angeline, assignor.)						
Mehrle, William. (See Geers, Mehrle, and Wiemkes.)						
Meier, Rudolph, and W. H. Floyd, Jr., St. Joseph, Mo. Metal filing device	805,085	Nov. 21	3159	684–5	119	776
Meigs, John F., and E. Gathmann, assignors to Bethlehem Steel Company, South Bethlehem, Pa. Armor-piercing projectile	806,830	Dec. 12	1435	318	119	1520
Meigs, John F., and H. G. Jakobsson, assignors to Bethlehem Steel Company, South Bethlehem, Pa. Firing attachment for guns	804,331	Nov. 14	1658	358	119	404
Meigs, John F., and R. P. Stout, assignors to Bethlehem Steel Company, South Bethlehem, Pa. Rammer for guns	804,243	Nov. 14	1473	315	119	364
Meinecke, Christian W., Jersey City, N. J., assignor to Whitall Tatum Company, New York, N. Y. Urinal	805,312	Nov. 21	3618	781–2	119	873
Meinecke, Christian W., Jersey City, and D. Hogan, Hoboken, N. J., assignors to Whitall Tatum Company, New York, N. Y. Operating pad or receptacle	804,750	Nov. 14	2483	542	119	586
Meinecke, Christian W., Jersey City, and D. Hogan, Hoboken, N. J., assignors to Whitall Tatum Company, New York, N. Y. Ice-helmet	805,371	Nov. 21	3724	807	119	896
Meiser, Karl, Nuremberg, Germany. Electrical ring-furnace	806,690	Dec. 5	1151	257–8	119	1519
Melaun, Franz, Charlottenburg, Germany. Rail-joint	806,273	Dec. 5	366	81	119	1345
Melega, Johann. (See Boldog, Daniel, assignor.)						
Melin, Carl A., and C. E. Johnson, Rockford, Ill. Table	804,965	Nov. 21	2898	627	119	722
Mellen, George E., Chicago, Ill. Toy swing	803,838	Nov. 7	616	134	119	133
Mellon, Edward P., *et al.* (See Drake, Chester F., assignor.)						
Mellon, Thomas A., *et al.* (See Drake, Chester F., assignor.)						
Melvin, Ira H. (See Otwell and Melvin.)						
Menczer, Samuel A., Collinsville, Tex. Acetylene-gas generator	804,544	Nov. 14	2062	449–50	119	493
Mendel, Isidor, Cincinnati, Ohio. Trunk	806,295	Dec. 26	4408	948	119	2354
Mendelssohn, Marcus L., *et al.* (See Farb, Solomon, assignor.)						
Mendenhall, Samuel P., assignor of one-half to J. M. Taylor, Whittier, Cal. Irrigating system	806,901	Dec. 12	1617	354	119	1661
Menges, Albert C., assignor to W. Harrison, Grand Rapids, Mich. Transmission-gear	805,978	Nov. 28	4881	1042	119	1188
Menges, Albert C., assignor to W. Harrison, Grand Rapids, Mich. Carbureter	805,979	Nov. 28	4882	1042	119	1189
Menough, Silas. (See Thompson, Frank M., assignor.)						
Mercer, Kate, Greeley, Colo. Attachment for pickle-casters	807,761	Dec. 19	3330	714	119	2072
Merceret, Amélie, St. Louis, Mo. Copy or book holder	804,666	Nov. 14	2285	501	119	540
Mercié, Henri A. (See Benét and Mercié.)						
Meredith, Noah E. (See Sandifur, William H., assignor.)						
Mergenthaler Linotype Company. (See Dodge, Philip T., assignor.)						
Mergenthaler Linotype Company. (See Greenleaf, Abner, assignor.)						
Mergenthaler Linotype Company. (See Kennedy, Luther L., assignor.)						
Mergenthaler Linotype Company. (See Petri-Palmedo, David, assignor.)						
Mergenthaler Linotype Company. (See Rogers, John R., assignor.)						
Merling, Georg, Frankfort-on-the-Main, and A. Skita, assignors to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Δ^4-cyclogeranic acid and making same	805,924	Nov. 28	4769	.....	119	1163
Merrick, Frank W., Chicago, Ill. Artificial foot	806,296	Dec. 26	4410	948	119	2354
Merrill, Arthur H., Hartford, Conn. Key-ring	803,839	Nov. 7	618	135	119	133
Merrill, Charles F., assignor to Union Water Meter Company, Worcester, Mass. Water-meter	803,919	Nov. 7	750	163	119	165
Merrill, Joseph J., Chicago, Ill. Furnace-grate	806,422	Dec. 5	656	144–5	119	1413
Merrill, Sherburn M., Newton, assignor to Morley Button Manufacturing Company, Boston, Mass. Furniture-nail	807,843	Dec. 19	3479	750	119	2104
Merrimac Chemical Company. (See Howard, Henry, assignor.)						
Merriman, Willeve T., Jackson, Mich. Game apparatus	807,041	Dec. 12	1890	410	119	1722
Merritt, Henry W., assignor to Monarch Typewriter Company, Syracuse, N. Y. Typewriting machine	806,274	Dec. 5	367	82	119	1345
Mersbach, William, Chicago, Ill. Pocket combination-case	806,552	Dec. 5	886	197	119	1463
Merten, Frank, Shattuc, Ill. Tool-rack	806,691	Dec. 5	1153	258	119	1519
Marvin, Guy W., *et al.* (See Gavelek, Oscar, assignor.)						
Merzenich, William T., Franklin, Minn. Valve-gear	804,667	Nov. 14	2287	501	119	541
Messenger, Charles A., Adams Center, N. Y. Harness-loop	805,573	Nov. 28	4117	887	119	1023
Messer, Daniel, assignor of one-half to G. McKinstry, Rochester, N. Y. Ironing-board	804,244	Nov. 14	1475	315	119	364
Messner, J. S. (See Malick, Henry C., assignor.)						
Metal Stamping Company. (See Boeck, Charles H., assignor.)						
Metropolitan Brick Company. (See Barbour, James G., assignor.)						
Mettler, Caspar, assignor of one-half to R. S. Woodruff, New Haven, Conn. Folding chair	805,971	Nov. 28	4871	1039	119	1186
Metz, Benjamin F., Lowry City, Mo. Fire-protector	806,160	Dec. 5	141	29	119	1295
Meyer, Adolph, assignor of one-half to H. P. Hof, St. Louis, Mo. Coupling or union	804,149	Nov. 7	1232	264	119	271
Meyer, Anton, St. Louis, Mo. Glass-rolling apparatus	805,657	Nov. 28	4267	918	119	1055
Meyer, August R., assignor to United Zinc and Chemical Company, Kansas City, Mo. Roasting-furnace	804,751	Nov. 14	2484	543	119	586
Meyer, August R., assignor to United Zinc and Chemical Company, Kansas City, Mo. Roasting-furnace	804,752	Nov. 14	2486	543	119	587
Meyer, Cyrus R., St. Louis, Mo. Garment-hook	805,869	Nov. 28	4662	998	119	1135
Meyer, Henry. (See Janser and Meyer.)						
Meyer, Henry, Deshler, Ohio. Tile-molding machine	804,753	Nov. 14	2488	544	119	587
Meyer, Henry, Deshler, Ohio. Roofing-tile	804,754	Nov. 14	2490	544	119	588
Meyer, Henry H., Red Wing, Minn. Grain-separator	806,821	Dec. 12	1436	318	119	1620
Meyer, Peter, Cologne-Nippes, assignor to H. A. Brunhorn, Vegesack, Holstein, Germany. Means for securing handles to brooms, brushes, and the like	805,481	Nov. 28	3940	852	119	985
Meyers, August H., assignor of one-half to S. T. Harb'son, A. H. Jewell, and J.W. Patterson, Lexington, Ky. Horse-blanket	805,925	Nov. 28	4770	1020	119	1163
Meyers, John J., Cincinnati, and T. C. Frost, Carthage, assignors to J. A. Fay & Egan Company, Cincinnati, Ohio. Band sawing-machine	803,702	Nov. 7	361	76	119	81
Meyersberg, Gustav, Berlin, Germany, assignor to General Electric Company. Governing mechanism for elastic-fluid turbines	806,692	Dec. 5	1154	259	119	1519
Michael, Webster S., and A. R. Anderson, Brooklyn, N. Y. Kettle	806,553	Dec. 5	887	197	119	1464
Michaelis, Wilhelm, Berlin, assignor to F. Krupp, Grusonwerk at Magdeburg-Buckau, Germany. Manufacture of hydraulic cement	806,161	Dec. 5	142	.....	119	1298
Michigan Stove Company. (See Keep and Maul, assignors.)						
Miel, Charles L., Sacramento, Cal., assignor to United States Stone Saw Company, Tucson, Ariz. Ter. Stone-saw	804,245	Nov. 14	1476	316	119	364
Miel, Charles L., Sacramento, Cal., assignor to United States Stone Saw Company, Tucson, Ariz. Ter. Stone-saw blade	804,246	Nov. 14	1477	316	119	365

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Miel, Charles L., Sacramento, Cal., assignor to United States Stone Saw Company, Tucson, Ariz. Ter. Stone-saw	804,247	Nov. 14	1478	316	119	365
Miel, Charles L., Sacramento, Cal., assignor to United States Stone Saw Company, Tucson, Ariz. Ter. Stone-saw	804,248	Nov. 14	1478	316	119	365
Mihills, Merrick A., Highland Park, Ill. Tension device for shears	805,219	Nov. 21	3420	742	119	831
Mikorey, Hans, Schöneberg, near Berlin, assignor to W. Graff & Company Gesellschaft mit Beschränkter Haftung, Berlin, Germany. Chemical fire-extinguisher	807,631	Dec. 19	3060	657	119	2014
Milam, David A., Kansas City, Mo. Device for building concrete walls	803,703	Nov. 7	363	77	119	82
Milbradt, Gustave A., St. Louis, Mo. Platform attachment for ladders	806,162	Dec. 5	144	30	119	1296
Millar, John C., Birmingham, Ala. Oven-floor	804,249	Nov. 14	1479	317	119	365
Millard, Lee B. (See Raymond, George A., assignor.)						
Millard, Orson, Flint, Mich. Carbureter	806,822	Dec. 12	1438	318	119	1621
Miller, Andrew E., assignor, by mesne assignments, to H. Cassard, Baltimore, Md. Broom-sewing machine	806,163	Dec. 5	145	30-2	119	1296
Miller, Andrew E., assignor, by mesne assignments, to H. Cassard, Baltimore, Md. Broom-sewing machine	806,823	Dec. 12	1439	319-20	119	1621
Miller, Benjamin F. D., Wooster, Ohio. Combined ironing-board and step-ladder	804,966	Nov. 21	2899	627-8	119	722
Miller, Charles A., New York, N. Y. Chemical fire-extinguisher	804,755	Nov. 14	2492	544	119	588
Miller, Cyrus R., Milwaukee, Wis. Bag-dusting machine	806,164	Dec. 5	149	32	119	1297
Miller, D D, Wooster, Ohio. Hay-carrier	804,967	Nov. 21	2901	628	119	722
Miller, D D, Wooster, Ohio. Bracket or track support	807,762	Dec. 19	3331	715	119	2072
Miller, David, Schenectady, N. Y., assignor to General Electric Company. Coupling device	803,840	Nov. 7	619	135	119	134
Miller, Ernest H., assignor of two-thirds to J. W. Holman and C. V. Rote, Lancaster, Pa. Car-brake	803,614	Nov. 7	178	40	119	40
Miller, Ernest H., assignor of two-thirds to J. W. Holman and C. V. Rote, Lancaster, Pa. Safety device for car-brakes	804,150	Nov. 7	1233	264	119	271
Miller, Frank H., Washington, D. C. Telegraphic sounder	803,704	Nov. 7	366	77	119	83
Miller, Frank R. (See Pawling and Miller.)						
Miller, Frederick E., Chicago, Ill. Device for hanging pictures and the like	804,491	Nov. 14	1952	426	119	469
Miller, George L., Socialville, Ohio. Tire bolting, boring, and drilling machine	807,481	Dec. 19	2748	593	119	1948
Miller, Henry C., Milwaukee, Wis. Loose-leaf-binder lock	804,422	Nov. 14	1817	392-3	119	440
Miller, Henry G., Cleveland, Ohio. Bottle-rinser	806,986	Dec. 12	1778	390-1	119	1697
Miller, Henry G., and G. R. Lawrence, Cleveland, Ohio. Tilting support for casks	808,104	Dec. 26	3996	861	119	2263
Miller, James B., Boston, Ga. Trace-carrier	808,297	Dec. 26	4412	948	119	2354
Miller, John, Minneapolis, Minn. Machine for making cement blocks	804,423	Nov. 14	1821	393	119	440
Miller, John, Jr., assignor to W. E. Biddle, Amesbury, Mass. Electric trolley-wheel	808,162	Dec. 26	4133	891	119	2291
Miller, John, Jr., assignor to W. E. Biddle, Amesbury, Mass. Trolley-harp for electric railways	808,163	Dec. 26	4135	891	119	2292
Miller, John A., Waco, assignor of one-half to J. H. McKenzie, Jacksonville, Tex. Hame attachment	805,980	Nov. 28	4885	1042	119	1189
Miller, Leslie B., London, England. Apparatus for the manufacture of induction-coils	804,250	Nov. 14	1480	317-18	119	365
Miller Lock Company. (See Soley, Frank, assignor.)						
Miller, Matthew, Upper Darby, Pa. Felt-cleaner for paper machinery	804,968	Nov. 21	2903	629	119	723
Miller, Merrick F., Indianola, Iowa. Adjustable rod for shelves	808,611	Dec. 26	5018	1084	119	2486
Miller, Pickens Y., Hermanville, Miss. Adjustable saddle for harness	806,554	Dec. 5	888	198	119	1464
Miller, Richard D., assignor of two-thirds to D. C. Anderson and E. Wienss, Spokane, Wash. Binder for leaves	803,705	Nov. 7	367	77-8	119	83
Miller, Thomas H., Keedysville, Md. Instrument for relief of bloat	806,746	Dec. 5	1268	283	119	1544
Miller, Thomas S., South Orange, N. J. Rope-drum	807,682	Dec. 19	3164	680-1	119	2037
Miller, Thomas S., South Orange, and J. H. Dickinson, Montclair, N. J. Hoisting and conveying apparatus	808,246	Dec. 26	4296	923	119	2329
Miller, William C., Granite City, Ill. Car-truck bolster	807,632	Dec. 19	3062	657	119	2014
Miller, William D., Saco, Mont. Combined wire stretcher, splicer, and tightener	805,926	Nov. 28	4772	1020	119	1163
Miller, William L. (See Cranmer, John I., assignor.)						
Miller, William R., assignor to Forter-Miller Engineering Company, Pittsburg, Pa. Regenerative muffle-furnace	805,372	Nov. 21	3725	807-8	119	896
Millhizer, William C., and F. McQuiston, Pittsburg, Pa. Coupling-box for rolls	804,023	Nov. 7	980	207	119	210
Millhoff, Frank C., Akron, Ohio. Tiling	807,083	Dec. 12	1981	429	119	1741
Millholland, Henry, Reading, assignor to Darling Pump & Manufacturing Company, Ltd., Williamsport, Pa. Gate-valve	808,561	Dec. 26	4928	1061-2	119	2465
Mills, Anson, Washington, D. C., assignor to Mills Woven Cartridge Belt Company, Worcester, Mass. Hook	804,024	Nov. 7	982	207	119	210
Mills, Daniel, Philadelphia, Pa., assignor to Standard Sewing Machine Company, Cleveland, Ohio. Thread-controlling mechanism for sewing-machines	805,870	Nov. 28	4665	998-9	119	1138
Mills, Herbert S., Chicago, Ill. Lens-holder	806,423	Dec. 5	659	145	119	1414
Mills, James W., and E. E. Izer, Pomona, Cal. Folding fruit-shipping rack	804,492	Nov. 14	1954	426	119	470
Mills, Joseph H., and W. H. Lawson, assignors to Richmond Casket Company, Richmond, Ind. Casket	807,955	Dec. 19	3707	804-5	119	2157
Mills Novelty Company. (See Sandell, Henry K., assignor.)						
Mills Woven Cartridge Belt Company. (See Mills, Anson, assignor.)						
Millspaugh, H. L. (See Sisco, Henry C., assignor.)						
Millville Machine Company. (See Bard, Harry, assignor.)						
Milne, John, Brooklyn, N. Y. Boiler	806,902	Dec. 12	1618	354	119	1661
Milne, Joseph J., assignor to Milne Manufacturing Company, Monmouth, Ill. Stump-puller	808,247	Dec. 26	4298	924	119	2329
Milne Manufacturing Company. (See Milne, Joseph J., assignor.)						
Milton, Richard H., Reidsville, N. C. Electric water-meter	808,562	Dec. 26	4930	1062	119	2465
Minck, Ferdinand, Danbury, Conn. Wrench and pipe-cutter	805,927	Nov. 28	4774	1020	119	1163
Miner, Charles, *et al.* (See Ball, William T., assignor.)						
Miner, Robert J., Greenwich, Conn., assignor to Century-Auto Power Company. Vaporizer for gaseous-fuel burners	805,373	Nov. 21	3726	808	119	896
Miner, William C., Traverse City, Mich. Berry-box	804,151	Nov. 7	1235	264	119	271
Minton, Ogden, New York, N. Y. Carbureter for gas-engines	804,025	Nov. 7	983	207-8	119	211
Mire, Joseph C., Belle Helene, La. Loader	804,026	Nov. 7	985	208	119	211
Mirovitch, Elie, Paris, France. Eye-protector	807,844	Dec. 19	3480	751	119	2104
Mischke, Karl, Zurich, Switzerland, assignor, by mesne assignments, to Bielefelder Maschinenfabrik, vormals Dürkopp & Co., Bielefeld, Germany. Sewing-machine shuttle	808,164	Dec. 26	4137	891	119	2292
Mishler, David W., Brookville, Ohio. Barn for curing tobacco	807,763	Dec. 19	3332	715	119	2072
Mitchell, Eugene G., Loango, Ala. Ladder	806,093	Dec. 5	1157	259	119	1520
Mitchell, Frederick, Sale, and F. Gunn, Gorton, near Manchester, England. Tool or appliance for use in enabling the joints of leather, canvas, and similar belting to be joined together	806,556	Dec. 5	890	198	119	1464

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Mitchell, Harris B. (See Braddock, Warren L., assignor.)						
Mitchell, James D., Lakewood, Ohio. Valve-seat-refacing device	804,869	Nov. 21	2723	588	119	682
Mitchell, James H., Philadelphia, Pa. Sugar-wafer machine	806,479	Dec. 5	773	171	119	1438
Mitchell, John R., Montclair, N. J. Tension device for textile machinery	806,555	Dec. 5	889	198	119	1464
Mitchell, Reuben A., and L. L. Lewis, Oil City, Pa. Pump attachment for internal-combustion engines	805,961	Nov. 26	4886	1043	119	1190
Mitchell, William L. (See Blanc and Mitchell.)						
Mitchell, William N., Chicago, Ill. Pressure-gage	807,568	Dec. 19	2943	633	119	1987
Mix, Allen H., Burlington, Vt. Slide for extension-screens	804,152	Nov. 7	1236	265	119	272
Mlada, Joseph, Manitowoc, Wis. Electric gas-lighter	805,574	Nov. 28	4119	887	119	1023
Moak, William V. (See Wiegand, Moak, and Harrington.)						
Mocker, A. (See Lynn, King T., assignor.)						
Moebus, August. (See Cole, Jonah R., assignor.)						
Moeller, Julius, Westminster, London, England. Bunsen burner for lighting and heating purposes	805,658	Nov. 28	4260	918–19	119	1055
Moffett, Frederic W., assignor of one-half to H. M. Thomas, Bloomfield, N. J. Antifriction-bearing metal	803,920	Nov. 7	761	.....	119	165
Moffett, Frederic W., assignor of one-half to H. M. Thomas, Bloomfield, N. J. Alloy	803,921	Nov. 7	762	.....	119	166
Mohr, Adolph W. (See Beltz, John H., assignor.)						
Moler, Asa, Iowa City, Iowa. Cement fence-post	803,615	Nov. 7	181	40	119	41
Molina, Albert J., Havana, Cuba. Device for operating street-railway switches	808,298	Dec. 26	4412	949	119	2355
Molloy, Edmond, Philadelphia, Pa. Constructing vessels	808,467	Dec. 26	4732	1019	119	2424
Molloy, James F., West Haven, Conn. Garment-supporter	804,756	Nov. 14	2494	545	119	589
Molyneux, Barton S., Buffalo, N. Y. Explosion-motor	807,569	Dec. 19	2945	633	119	1988
Monarch Folding Box Company. (See Brewer, Harry W., assignor.)						
Monarch Typewriter Company. (See Merritt, Henry W., assignor.)						
Monarch Typewriter Company. (See Pool, Morris W., assignor.)						
Monath, Victor, assignor to E. Thomas, Vienna, Austria-Hungary. Instrument for supplying constant currents of hot air	806,694	Dec. 5	1158	259	119	1520
Mongeon, Charles J. (See Ploof and Mongeon.)						
Monitor Drill Company. (See Brennan, Thomas, Jr., assignor.)						
Monnin, George F., and A. J. C. Mecchi, San Francisco, Cal. Window-screen	806,695	Dec. 5	1159	260	119	1520
Monolith Steel Company. (See Golding, John F., assignor.)						
Monroe, Charles F., Meriden, Conn. Condiment-holder	806,355	Dec. 5	530	116	119	1384
Monta, Frank H., Akely, Minn. Plastering implement	807,301	Dec. 12	2403	517	119	1830
Montauk Engineering Company. (See Anderson, James A., assignor.)						
Montgomery, Walter R., Shreveport, La. Cheese-cutter	804,153	Nov. 7	1238	265	119	272
Moody, Charles J. and V. E., Elgin, Ill. Gas-engine	804,332	Nov. 14	1660	359	119	404
Moody, Victor E. (See Moody, Charles J. and V. E.)						
Moody, Walter S., Schenectady, N. Y., assignor to General Electric Company. Insulating	806,696	Dec. 5	1163	260	119	1521
Moomaw, Henry E., Chattanooga, Tenn. Adjustable fireplace grate-basket	807,302	Dec. 12	2404	518	119	1830
Moore, Arthur, War Eagle, W. Va. Automatic revolving car-dump	807,845	Dec. 19	3481	751–2	119	2105
Moore, Arthur, War Eagle, W. Va. Car-dump and conveyer	807,846	Dec. 19	3489	752–3	119	2106
Moore, Arthur, War Eagle, W. Va. Revolving car-dump	807,953	Dec. 19	3703	804	119	2157
Moore, Arthur L., Springfield, Mass. Bolt-clipper	806,165	Dec. 5	150	32	119	1298
Moore, Arthur L., Springfield, Mass. Bolt-clipper	806,480	Dec. 5	776	171	119	1438
Moore, Arthur L., Springfield, Mass. Bolt-clipper	806,481	Dec. 5	777	172	119	1439
Moore, Charles E., near Caldwell, Okla. Ter. Straw-stacking attachment for threshing-machines	807,954	Dec. 19	3705	804	119	2157
Moore, Charles S., Fort Pierce, Fla. Horse-bonnet	803,616	Nov. 7	182	40	119	41
Moore, Frank M., Westfield, Mass. Acetylene-gas apparatus	803,617	Nov. 7	184	41	119	41
Moore, George T., Roanoke, Va. Machine for facing pedestal-legs of locomotive-engine frames	808,563	Dec. 26	4931	1062–3	119	2466
Moore, Ralph S., Portsmouth, Ohio. Ore-distributing car	804,870	Nov. 21	2724	589	119	682
Moore, Silas H., New York, N. Y. Obesity-belt	806,482	Dec. 5	778	172	119	1439
Moore, William, Cincinnati, Ohio. Commode-seat	806,903	Dec. 12	1621	355	119	1662
Moore, William H., Waveland, Ind. Guard-rail	805,928	Nov. 28	4775	1021	119	1164
Moorer, Ernest S., Anderson, S. C. Lightning-arrester	807,847	Dec. 19	3491	753	119	2106
Moorman, Robert R., and C. W. Yelm, Lafayette, Ind. Means for reinforcing concrete structures	804,614	Nov. 14	2190	480	119	520
Moosmann, Paul, New York, N. Y. Watchman's time-detector	806,166	Dec. 5	152	33	119	1298
Moran, David P., Wichita, Kans. Car-coupling	804,424	Nov. 14	1823	394	119	441
Morden, Lucena M., Waterbury, Conn. Book-ring with locking-sleeve	805,575	Nov. 28	4120	888	119	1023
Morden, Lucena M., Waterbury, Conn. Book-ring with lock-joints	808,248	Dec. 26	4300	924	119	2330
Moreau, Eugène, New York, N. Y. Acetylene-gas generator	805,086	Nov. 21	3160	685	119	777
Morehouse Manufacturing Company. (See Heybach, Fredrick J., assignor.)						
Morell, Alfred. (See Gordon and Morell.)						
Morenus, Granville W., Kane, Pa. Apparatus for making wire-glass	805,659	Nov. 28	4270	919	119	1056
Morford, Isaac N., McLean, Ill. Hinge	808,165	Dec. 26	4139	892	119	2292
Morgan Engineering Company. (See Taylor, Clarence L., assignor.)						
Morgan, Henry C. (See McDonald and Morgan.)						
Morgenstein, Bennett, Shenandoah, Pa. Oven-screen	804,615	Nov. 14	2192	480	119	520
Morgey, William B., Philadelphia, Pa Fifth-wheel	803,841	Nov. 7	620	135	119	134
Moriarty, Thomas J., Newport, R. I. Torpedo-boat	807,482	Dec. 19	2751	594	119	1949
Moriggl, Carl, assignor to Firm of A. Saurer, Arbon, Switzerland. Winding-machine	808,468	Dec. 26	4734	1019	119	2424
Morley Button Manufacturing Company. (See Merrill, Sherburn M., assignor.)						
Morlock and Husk. (See Husk, Frank B., assignor.)						
Morris, Edgar T., Elburn, Ill. Device for opening and closing doors or gates	804,251	Nov. 14	1483	318	119	366
Morris, Edgar T., Elburn, Ill. Gate-opener	804,252	Nov. 14	1484	318–19	119	366
Morris, Emlyn, and C. Rinaman, Pittsburg, Pa. Water-inlet valve for flush-tanks	803,842	Nov. 7	622	136	119	134
Morris, Harry B., New York, N. Y. Ticket-holder for hats	807,570	Dec. 19	2948	633	119	1988
Morris, Harry J., Wichita, Kans. Artificial limb	803,922	Nov. 7	763	164	119	166
Morris, John O., Richmond, assignor to R. W. Peatross and F. Aunspaugh, Norfolk, Va. Burglar-alarm	804,616	Nov. 14	2193	480	119	520
Morris, William L., assignor to Austin Cartridge Company, Cleveland, Ohio. Wad-sorting machine	807,185	Dec. 12	2185	469–70	119	1783
Morrison, Andrew, Pittsburg, Pa. Antirail-creeper	805,982	Nov. 28	4888	1043	119	1190
Morrison, Andrew M., Dubuque, Iowa. Trap for bath-tubs or the like	806,275	Dec. 5	371	82	119	1347
Morrison, Dudley R., Hartford City, Ind. Piston	806,167	Dec. 5	157	33	119	1299
Morrison, Eugene. (See Fisher, Samuel, assignor.)						
Morrison, James D. (See McCormick and Morrison.)						
Morrison, John, Dubuque, Iowa. Means for operating chucks	806,168	Dec. 5	158	34	119	1299
Morrison, John A., Upper Macedon, assignor of one-half to D. and W. Gibb, Melbourne, Victoria, Australia. Lacing-eyelet	805,220	Nov. 21	3421	742	119	833

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Morrison, Roderick, *et al.* (See Pennell, Frank W., assignor.)						
Morrison, William N., St. Louis, Mo. Life-preserver	804,757	Nov. 14	2495	545	119	589
Morrow, David, Reading, Pa. Skirt-supporter and waist and belt retainer	805,660	Nov. 28	4273	920	119	1057
Morse, Asahel U. (See Knight, Jonathan L., assignor.)						
Morse, Frank B., Walla Walla, Wash. Fish-screen for irrigating-ditches, &c.	807,483	Dec. 19	2752	594	119	1949
Morse, Frank H., Savannah, Ga. Milk sterilizer or pasteurizer	806,697	Dec. 5	1165	260	119	1521
Morse, George W., Jersey City, N. J., assignor to Clarion Chemical Company, New York, N. Y. Dentifrice	808,105	Dec. 26	3997	.....	119	2263
Morse, Harry C., Penn Yan, N. Y. Spray and water guard for boats	804,154	Nov. 7	1240	265–6	119	272
Morse, Harry C., Penn Yan, N. Y. Spray and water guard for boats	804,155	Nov. 7	1243	266	119	273
Morse, Theodore F., assignor to Huntley Manufacturing Company, Silvercreek, N. Y. Lubricator	807,848	Dec. 19	3492	754	119	2109
Morterud, Einar, Christiania, Norway. Machine for cutting chips	807,571	Dec. 19	2949	634	119	1988
Morton, Edwin W. (See Wolfe and Morton.)						
Moser, Fred J., Kane, Pa. Lifting apparatus for deep wells	806,557	Dec. 5	892	198–9	119	1464
Moser, Henry F., Brazil, N. D. Roller attachment	805,807	Nov. 28	4536	972	119	1110
Mosher, Charles D., New York, N. Y. Superheater	806,169	Dec. 5	160	34	119	1300
Mosher, John A. (See Hamm and Mosher.)						
Moss, Augustus L., Sandusky, Ohio. Sanding device for automobiles	807,188	Dec. 12	2189	470	119	1784
Moss, Henry E., Kansas City, Mo., assignor to Cyphers Incubator Co., Buffalo, N. Y. Feed-mixing machine	807,484	Dec. 19	2753	594–5	119	1949
Moss, Leon F. (See Bell, Walter J., assignor.)						
Mostiller, Harry C. (See Tynan and Mostiller.)						
Mottinger, Noah W. (See Cimmery and Mottinger.)						
Mouat, Barbara J., Dunedin, New Zealand. Grate	807,303	Dec. 12	2406	518	119	1830
Moulton, Oliver H. (See Childs, Clarence N., assignor.)						
Mountford, Frederick, Stoke-upon-Trent, England. Automatic machinery or apparatus for decorating and glazing tile and other articles of pottery-ware, glass, &c.	804,425	Nov. 14	1824	394–6	119	441
Mowers, Henry H., C. W. Busick, and J. C. Stratton, Groverhill, Ohio. Mail-box	807,764	Dec. 19	3333	715	119	2072
Moxham, Egbert, Wilmington, Del. Keg or vessel	806,170	Dec. 5	162	34	119	1300
Moye, Otis B., Soperton, Ga. Machine for boring stumps	806,171	Dec. 5	163	35	119	1300
Moyer, Harvey A. (See Latta, Emmit G., assignor.)						
Muckenhirn, Charles H., Salem, N. J. Trap-joint	807,304	Dec. 12	2407	518	119	1831
Muckenhirn, Charles H., Salem, N. J. Water-closet and seat therefor	807,305	Dec. 12	2408	519	119	1831
Mudge, Charles A., New York, N. Y. System of electric-motor control	804,156	Nov. 7	1247	266–8	119	275
Mueller, Charles A., Cincinnati, Ohio. Combination cigar-stand	804,333	Nov. 14	1662	359	119	405
Mueller, Otto E., Louisville, Ky. Device for cleaning capsules	808,299	Dec. 26	4415	949	119	2355
Mugdan, Martin. (See Askenasy and Mugdan.)						
Mugnier, François, Paris, France. Calculating-machine	806,698	Dec. 5	1165	261	119	1522
Mulford, A. E. (See Augustine, Charles C., assignor.)						
Mull, Fred, Worth, Mo. Horse-collar fastener	807,485	Dec. 19	2755	595	119	1950
Mullen, Benjamin J., Leetonia, Ohio. Gas-washer	805,929	Nov. 28	4776	1021	119	1164
Mullen, George B. and T. P., New York, N. Y. Chair seat or back	807,187	Dec. 12	2192	471	119	1785
Mullen, James H. (See Oakley, Jesse R., assignor.)						
Mullen, Levi H., Birchtree, Mo. Pruning implement	804,426	Nov. 14	1833	397	119	443
Mullen, Tobias P. (See Mullen, George B. and T. P.)						
Müller, Carl L. T., Hamburg, Germany. Device for assorting papers and the like	807,084	Dec. 12	1983	429–30	119	1741
Müller, Friedrich, Magdeburg, Germany. Music-rack for upright keyed instruments	805,221	Nov. 21	3422	742	119	832
Müller, Hermann. (See Pfaffenbach and Müller.)						
Muller, Hermann, Paris, France. Indigo dyeing	808,398	Dec. 26	4617	.....	119	2399
Müller, Jean L., Sannois, near Paris, and J. Bonnet, Paris, France. Machine for manufacturing incandescent mantles	805,930	Nov. 28	4777	1021–2	119	1164
Müller, Rudolf, assignor to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Making hydrosulfite preparations	804,157	Nov. 7	1260	.....	119	277
Mullin, Royal J., Seattle, Wash. Combined oil and steam regulating valve for burners	806,904	Dec. 12	1623	355	119	1662
Mumford, Richard D., West Philadelphia, Pa. Self-closing fireproof door	803,618	Nov. 7	185	41	119	41
Munson, Clair. (See Jackson and Munson.)						
Munton, James, Maywood, Ill., assignor to Latrobe Steel and Coupler Company, Philadelphia, Pa. Coupling for locomotive-engines and tenders	806,824	Dec. 12	1443	320	119	1622
Münz, Friedrich, Stuttgart, Germany. Skirt-holding device	806,825	Dec. 12	1445	320	119	1623
Murdock, Horace B., Detroit, Mich. Variable-speed mechanism for glass-working machines	807,306	Dec. 12	2409	519	119	1831
Murdock, Samuel N., assignor of one-half to J. J. Gallagher, Columbus, Ohio. Smoke-bell hanger	806,905	Dec. 12	1624	355	119	1663
Murphy, Edward, Iowa Falls, Iowa. Track-alining device	806,172	Dec. 5	164	35	119	1301
Murphy, George T., Piedmont, W. Va. Railway-tie	803,775	Nov. 7	504	109	119	110
Murphy, Jeremiah, assignor to C. T. Carnahan, Leadville, Colo. Pneumatic hammer	805,222	Nov. 21	3423	742	119	832
Murphy, John, *et al.* (See Volk, Ferdinand, assignor.)						
Murphy, John, Columbus, Ohio. Producing plastic railway-ties	807,188	Dec. 12	2193	471	119	1785
Murphy, Peter H., St. Louis, Mo. Bolster	805,223	Nov. 21	3425	743	119	833
Murphy, Robert P., *et al.* (See MacPherson, John G., assignor.)						
Murray, Chauncey A., Cumberland, Wyo. Suspenders	804,871	Nov. 21	2727	589	119	683
Murray, Jeremiah, Utica, N. Y., assignor, by mesne assignments, of one-half to National Railway Materials Company. Rail-clamp	803,776	Nov. 7	505	109	119	111
Murray, John. (See Nelson and Murray.)						
Murray, John B. (See Cowles and Murray.)						
Murray, William A., Baltimore, Md. Damper-regulator	807,393	Dec. 12	2573	555	119	1868
Murtha, Harold J., *et al.* (See Johnston, Abner, assignor.)						
Muzzio, James A., Clyde, assignor of one-half to A. Massiello, Cleveland, Ohio. Folding umbrella	807,572	Dec. 19	2950	634	119	1985
Myers, Benjamin F., West Sonora, Ohio. Mail-crane	807,849	Dec. 19	3493	754	119	2109
Myers, Charles E., Detroit, Mich. Burial-casket	803,843	Nov. 7	623	136	119	135
Myers, Edward G., Lincoln, Ill. Trick telephone toy	806,276	Dec. 5	372	82	119	1347
Myers, Joseph G., New York, N. Y. Spring-seat	807,765	Dec. 19	3335	716	119	2073
Myers, Romaine W., Fruitvale, Cal. Electric furnace	806,173	Dec. 5	165	35	119	1301
Mygatt, Otis A., New York, N. Y. Reflector-shade for artificial lights	804,253	Nov. 14	1485	319	119	366
Mygatt, Otis A., New York, N. Y. Prismatic-glass reflector-shade	804,254	Nov. 14	1486	319	119	366
Mygatt, Otis A., New York, N. Y. Prismatic-glass reflector for artificial lights	804,334	Nov. 14	1663	359	119	405
Mygatt, Otis A., New York, N. Y. Prismatic-glass globe or shade	805,742	Nov. 28	4432	950	119	1090
N. Lombard Improved Governor Company. (See Lombard, Nathaniel, assignor.)						
N. O. Nelson Manufacturing Company. (See Lawnin, Louis D., assignor.)	807,190	Dec. 12	2196	471	119	1785
Naab, Karl, Brooklyn, N. Y. Match-safe						
Nash, Frank. (See Wallace and Nash.)						
Nassauer, Joseph W., Richmond Hill, assignor to C. J. Tagliabue, New York, N. Y. Hypodermic syringe	804,874	Nov. 21	2731	590	119	684

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
National Biscuit Company. (See Schnabel, John, assignor.)						
National Canning & Manufacturing Company. (See Bucklin, William S., assignor.)						
National Cash Register Company. (See Bockhoff, William F., assignor.)						
National Cash Register Company. (See Riddle, Robert H., assignor.)						
National Drill and Manufacturing Company. (See Gray, Thomas J., assignor.)						
National Game Manufacturing Co. (See Van Vleet, Charles W., assignor.)						
National Garbage Fuel Company. (See May, Eugene C., assignor.)						
National Investment Company. (See Lofton, Herbert M., assignor.)						
National Iron and Wire Company. (See Craig, James, assignor.)						
National Lock Company. (See Faust and Hogland, assignors.)						
National Machine Company. (See Umpleby, James E., assignor.)						
National Malleable Castings Company. (See Willison, John, assignor.)						
National Novelty Corporation. (See Kingsbury, Harry T., assignor.)						
National Novelty Corporation. (See Parker, Homer N., assignor.)						
National Ozone Company. (See Rice, William P., assignor.)						
National Railway Materials Company. (See Murray, Jeremiah, assignor.)						
National Tube Company. (See Bachr, George, assignor.)						
National Tube Company. (See Boax, John J., assignor.)						
National Tube Company. (See Patterson, Peter C., assignor.)						
National Wire Bound Box Company. (See Inwood and Lavenberg, assignors.)						
Natural Power Company. (See Neumann, Christian, assignor.)						
Nau, John B., New York, N. Y. Reversing-valve for regenerative furnaces	805,034	Nov. 21	3013	654	119	747
Navarro, José F. de, New York, assignor to H. J. Travis, Brooklyn, N. Y. Fuel-feeding apparatus	804,158	Nov. 7	1261	268	119	277
Nazel, John, assignor to himself and E. L. Bailey, Philadelphia, Pa. Creasing-machine.	805,576	Nov. 28	4121	888-9	119	1023
Neal, Charles E., New York, N. Y. Transmission-gearing	803,845	Nov. 7	627	137	119	135
Neal, Charles H., Baltimore, Md. Advertising device	807,635	Dec. 19	3067	659-60	119	2015
Neal, Judson, assignor to Peck, Stowe & Wilcox, Southington, Conn. Ceiling-plate	805,873	Nov. 28	4672	1000	119	1140
Nedrow, Benjaman F., Anacortes, assignor of one-half to H. R. Andrews, Seattle, Wash. Wrench	808,250	Dec. 26	4304	925	119	2330
Nee, James A., New York, N. Y. Closure	806,175	Dec. 5	168	36	119	1301
Neffien, Paul H., Lonaconing, assignor of one-half to D. Webster, Cumberland, Md. Draft-deflector for car-windows	805,483	Nov. 28	3944	852	119	985
Negley, George H., and I. L. Brown, Indianapolis, Ind. Electric trolley-switch	805,225	Nov. 21	3431	744	119	834
Neiman, Oscar H., Freeport, Ill. Driving mechaniam	807,042	Dec. 12	1891	410	119	1722
Nelson, Charles R., Chicago, Ill., assignor to Sieber & Trussell Manufacturing Company. File-binder	808,058	Dec. 19	3883	841	119	2196
Nelson, Charles R., Chicago, Ill., J. C. Dawson, St. Louis county, and E. A. Trussell, St. Louis, Mo., assignors to Sieber & Trussell Mfg. Co. Loose-leaf binder	806,702	Dec. 5	1174	263	119	1523
Nelson, Christian, Hay Springs, Nebr. Track-gage	804,258	Nov. 14	1495	321	119	368
Nelson, George B. (See Handel and Nelson.)						
Nelson, John E., Worcester, Mass. Apparel-hanger	806,906	Dec. 12	1625	355	119	1663
Nelson, Nels W. (See Libby, Thomas, assignor.)						
Nelson, Sven T., Oak Park, Ill. Winding apparatus	806,748	Dec. 5	1272	283	119	1544
Nelson, Thomas A., and J. Murray, Edinburgh, Scotland. Printing and similar machinery	807,191	Dec. 12	2197	472	119	1785
Nelson, William J., Adams, Mass. Friction-windlass	807,192	Dec. 12	2198	472	119	1786
Nelson, William O., assignor of one-tenth to C. Selden, Baltimore, Md. Acetylene-gas-generator lamp	805,986	Nov. 28	4893	1044	119	1191
Neptune, Herman P., Boulder, Colo. Shingle-gage	807,957	Dec. 19	3711	805	119	2158
Neptune Meter Company. (See Thomson, John, assignor.)						
Nerbovig, Halver H., Jr., Sheldon, Iowa. Oiler	806,988	Dec. 12	1784	391	119	1609
Nethery, Joseph W., Indianapolis, Ind. Water-tower fire-truck safety appliance	806,278	Dec. 5	375	83	119	1348
Neu, Lucien, Lille, France. Automatic level-controller	808,471	Dec. 26	4741	1020	119	2426
Neubauer, Carl E., assignor of one-fourth to J. Schrems, Chisholm, Minn. Barbed wire.	805,932	Nov. 28	4787	1022	119	1166
Neuert, Jacob, Chicago, Ill. Pipe-bending machine	807,854	Dec. 19	3500	756-7	119	2111
Neumann, Christian, assignor to Natural Power Company, St. Louis, Mo. Air-compressor	804,027	Nov. 7	987	209	119	212
Neumann, Christian, assignor to Natural Power Company, St. Louis, Mo. Blower	804,028	Nov. 7	988	209	119	212
Neumann, Christian, assignor to Natural Power Co., St. Louis, Mo. Air-compressor	804,159	Nov. 7	1262	268-9	119	277
Neureuther, Andrew H., Peru, assignor to Western Clock Manufacturing Company, La-salle, Ill. Machine for feeding and operating disks	806,359	Dec. 5	534	117	119	1385
Neville, Everett J., Cleveland, Ohio. Device for feeding pulverized fuel	804,160	Nov. 7	1263	269-70	119	278
Nevins, Edward F., Blue Rapids, Kans. Mold	808,167	Dec. 26	4141	892-3	119	2293
New Britain Machine Company. (See Brown, Robert S., assignor.)						
New Castle Stamping Company. (See Marshall, William J., assignor.)						
New Idea Implement Company. (See Newby, William, assignor.)						
New York Air Brake Company. (See Bickel, Henry F., assignor.)						
New York Electrical Generator Company. (See Schwartz, Morris, assignor.)						
New York Mills. (See Stansfield, Edward, assignor.)						
Newby, William, assignor to New Idea Implement Company, Pittsburg, Pa. Cultivator.	807,395	Dec. 12	2577	556	119	1860
Newell, James L., St. Louis, Mo. Table	806,907	Dec. 12	1626	356	119	1663
Newman, Abraham A., Chicago, Ill. Timekeeper	805,375	Nov. 21	3732	809-10	119	897
Newman, Abraham A., Chicago, Ill. Timekeeper	805,376	Nov. 21	3737	810	119	898
Newman, Abraham A., Chicago, Ill. Cabinet and rack for timekeepers	805,377	Nov. 21	3738	810-11	119	899
Newman, Abraham A., Chicago, Ill. Check-rack and check for timekeepers	805,378	Nov. 21	3740	811	119	899
Newton, Abraham, Xenia, Ohio. Air-preheater for furnaces	807,683	Dec. 19	3170	661-2	119	2039
Newton, Albert S., Providence, R. I. Waste-trap	808,399	Dec. 26	4618	994	119	2400
Newton, Edwin J., Chicago, Ill. Tension device for shears	808,612	Dec. 26	5019	1084	119	2486
Newton, Harlan L., Sandycreek, N. Y., assignor to M. J. Salisbury and M. Newton. Shaft-aliner	807,085	Dec. 12	1985	430	119	1741
Newton, Henry L., Butte, Mont. Wrench	807,396	Dec. 12	2579	556	119	1860
Newton, Henry L., Butte, Mont. Pipe-wrench	807,397	Dec. 12	2580	557	119	1860
Newton, John O. (See Gardner and Newton.)						
Newton, Minnie, *et al.* (See Newton, Harlan L., assignor.)						
Newton, Nelson A., Kalamazoo, Mich. Vehicle-wheel	804,617	Nov. 14	2194	481	119	521
Newton, Thomas S., Pittsburg, Pa. Rail-fastener	804,618	Nov. 14	2196	481	119	521
Niagara Machine & Tool Works. (See Lindgren, Bror J., assignor.)						
Nicholas, James, Waterloo, England. Treatment of ores and the like	805,577	Nov. 28	4124	.....	119	1024
Nichols, Henry B., Philadelphia, Pa. Grinding-machine	807,193	Dec. 12	2199	473-4	119	1786
Nichols, Henry B., Philadelphia, Pa. Grinding-machine	807,194	Dec. 12	2207	475	119	1787
Nichols, Lewis A., *et al.* (See Smith, Frank L., assignor.)						
Nichols and Shepard Co. (See Drew, Harry E., assignor.)						
Nicholson, James. (See Westerfield, Joseph C., assignor.)						
Nicholson, John S., Pittsburg, Pa. Puzzle	808,209	Dec. 26	4225	909	119	2312
Nickell, Eva L., Waukomis, Okla. Ter. Lemon-juice extractor	806,279	Dec. 5	377	83	119	1348

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Niedermeyer, Arthur, assignor to Filer & Stowell Co., Milwaukee, Wis. Sawmill set-works	807,636	Dec. 19	3069	660-1	119	2015
Nielsen, Carl M., Roskilde, Denmark. Treadle-hammer	805,226	Nov. 21	3433	744	119	834
Niemeyer, William H., Baltimore, Md. Excelsior-cutting machine	805,149	Nov. 21	3276	710-11	119	801
Nierstheimer, George, deceased, Newport, Ky.; M. J. Nierstheimer, executrix. Handle for sheet-metal caskets	804,875	Nov. 21	2732	590	119	684
Nierstheimer, Mary J., executrix. (See Nierstheimer, George.)						
Nightingale, Thomas F., Boston, Mass. Garment-hook	806,989	Dec. 12	1786	391	119	1699
Niles-Bement-Pond Company. (See Reiss, George T., assignor.)						
Niles, James A., Lynn, Mass. Shoe-form	805,379	Nov. 21	3741	811	119	899
Niles, Walter L. C., Lynn, Mass. Shoe-form	806,483	Dec. 5	779	172	119	1439
Nilson, Axel H., and M. Olson, Bridgeport, Conn, assignors, by mesne assignments, to International Automatic Machine Co., Limited, New Glasgow, Canada. Wire-working machine	804,029	Nov. 7	989	209-10	119	212
Nilsson, Jonas, Fremont, Nebr. Locomotive fire-box	807,855	Dec. 19	3503	757-8	119	2111
Nishimoto, Kenzaemon, Fresno, Cal. Door opening and closing device	807,043	Dec. 12	1892	411	119	1723
Nissen, Niels F., Copenhagen, Denmark. Pasteurizing apparatus	805,025	Nov. 21	3016	654	119	748
Nixon, Edward J. (See Jones, Stratford, Byrnes, and Nixon.)						
Noalhat, Henri A., and G. Fournier, Paris, France. Automotor-torpedo	807,195	Dec. 12	2210	475	119	1788
Noble, John A., assignor of three-fourths to E. C. and A. C. Gribble and J. Davis, San Francisco, Cal. Electrical heater	804,759	Nov. 14	2497	545	119	589
Nobs, Charles, Newark, N. J. Rotary pump	807,489	Dec. 19	2760	590	119	1951
Noeggerath, Jacob E., Schenectady, N. Y., assignor to General Electric Company. Transforming device for electric currents	806,749	Dec. 5	1273	284	119	1545
Noeggerath, Jakob E., Schenectady, N. Y., assignor to General Electric Company. Unipolar machine	805,315	Nov. 21	3625	783	119	875
Nolen, James G., Chicago, Ill., and J. D. Nolen, Toledo, Ohio; said J. D. Nolen assignor to said James G. Nolen and said James G. Nolen assignor of one-half to F. B. Cook, Chicago, Ill. Automatic fire-extinguisher system	805,874	Nov. 28	4674	1000-1	119	1141
Nolen, John D. (See Nolen, James G. and J. D.)						
Nolen, Robert, and W. B. Knight; said Knight assignor to E. Butler, Jr., St. Louis, Mo. Wrench	806,703	Dec. 5	1175	263	119	1524
Noles, Wilson, Montrose, Iowa. Filter	804,161	Nov. 7	1266	270	119	279
Nolf, Alfred M., Salt Lake City, Utah. Magazine-firearm	807,044	Dec. 12	1896	412	119	1724
Nollé, Constantin V von, Odessa, Russia. Device for connecting the upper parts of cars with wheel-frames	808,251	Dec. 26	4305	925	119	2351
Nonpareil Machine Manufacturing Company. (See Jetter, Julius, assignor.)						
Nordstrom, Obed H., Punxsutawney, Pa. Water-wheel	806,990	Dec. 12	1787	392	119	1699
Norman, Hugo L., Havana, Cuba. Non-refillable bottle	808,569	Dec. 26	4944	1065	119	2469
Norrell, James H., Augusta, Ga. Device for hanging and centering grindstones	808,570	Dec. 26	4946	1065	119	2469
Norris, Ernest H., Cedar Rapids, Iowa. Blast-charger	805,089	Nov. 21	3163	686	119	778
Norris, Frank W., New York, N. Y. Apparatus for holding and delivering powders	804,259	Nov. 14	1496	321	119	368
Norris, William E., assignor to Automatic Sash Balance Company, St. Louis, Mo. Sash-lift	804,669	Nov. 14	2292	502	119	542
North American Biscuit Company. (See Causey, Joseph L., assignor.)						
North American Chemical Company. (See Arnold, William B., assignor.)						
North American Chemical Company. (See Thoma, Andrew, assignor.)						
North & Judd Manufacturing Company. (See Smith, Clarence E., assignor.)						
Northrop, Jonas. (See Draper and Northrop.)						
Northrop, Jonas. (See Wood and Northrop.)						
Northrup, Edwin F., assignor to Leeds and Northrup Company, Philadelphia, Pa. Electrical measuring instrument	806,560	Dec. 5	899	199-200	119	1466
Norton, Arthur O. (See Gormley, Frank L., assignor.)						
Norton, Charles W., *et al.* (See Shefferly, Joseph F., assignor.)						
Novák, Josef. (See Heries and Novák.)						
Novelty Manufacturing Company. (See Bargamin, Clifford, assignor.)						
Novotny, Frederick L., Rushville, Nebr. Weeder or cultivator	804,335	Nov. 14	1665	359	119	405
Noxon, Elwin I., St. Louis, Mo. Apparatus for drying and sterilizing cereals	804,876	Nov. 21	2733	590-1	119	684
Noyes, Bernice J., Boston, Mass. Bunsen burner	806,827	Dec. 12	1447	321	119	1623
Nunnally, William B., Atlanta, Ga. Cloth-holding clamp	805,809	Nov. 28	4543	973	119	1111
Nutry, John, Brooklyn, N. Y. Necktie-fastener	804,260	Nov. 14	1499	322	119	369
O. A. Miller Treeing Machine Company. (See Batchelder, Charles A., assignor.)						
O'Brien, Patrick J., Mobile, Newfoundland. Non-refillable bottle	807,856	Dec. 19	3505	758	119	2112
O'Brien, Thomas, Branford, Conn. Brooder-coop	807,196	Dec. 12	2212	476	119	1789
O'Brien, Thomas, Branford, Conn. Poultry lunch-box	807,197	Dec. 12	2214	476	119	1789
O'Connor, Frederick W., Toronto, Canada. Car-fender	807,490	Dec. 19	2765	596-7	119	1952
O'Connor, Fredrick W., Toronto, Canada. Car-fender	806,561	Dec. 5	906	200	119	1467
O'Hara, Frank G. (See Marsh, Elon A., assignor.)						
O'Hearne, Joseph, assignor of one-half to C. S. Devoy, Brooklyn, N. Y. Fire-escape	804,494	Nov. 14	1957	427	119	470
O'Kelly, Joseph G., Chicago, Ill. Differential gearing	804,495	Nov. 14	1959	428	119	471
O'Leary, John J., Sisson, Cal. Map-hanger	806,426	Dec. 5	664	146	119	1415
O'Neal, Charles H., Baltimore, Md. Rack for displaying rugs	806,705	Dec. 5	1178	264	119	1524
O'Neil, John F., and W. J. Hancock, Freeland, Colo. Governor-valve mechanism for rotary engines	804,877	Nov. 21	2738	591-2	119	685
O'Neill, Frank, Detroit, Mich. Machine for gathering and delivering glass	805,875	Nov. 28	4677	1001-2	119	1141
O'Neill, Frank, Detroit, Mich. Glass-finishing apparatus	805,876	Nov. 28	4682	1002-3	119	1143
O'Neill, Frank, Detroit, Mich. Bottle-finishing machine	805,877	Nov. 28	4689	1003	119	1145
Oakes, Bradford A., *et al.* (See Perry, Reuben W., assignor.)						
Oakley, Jesse R., Braddock, assignor of one-half to J. H. Mullen, Monongahela, Pa. Commode attachment for water-closets for children	806,176	Dec. 5	169	36	119	1302
Oates, George P. (See Packham and Oates.)						
Ober, Fred M., and B. Dugar, Morrisville, Vt. Rotary engine	804,162	Nov. 7	1267	270-1	119	279
Ochsner, Emil, Saronville, Nebr. Incubator	805,987	Nov. 28	4896	1044	119	1192
Octigan, Thomas C., Chicago, Ill. Combined horseshoe and pad	807,045	Dec. 12	1907	413	119	1725
Oelkrag, William R., Bayonne, N. J. Wrench	806,704	Dec. 5	1177	264	119	1524
Ogden, Fredric D., New York, N. Y. Bolt-anchor	805,662	Nov. 28	4274	920	119	1057
Ohde, Fred, Chicago, Ill. Brine-distributing apparatus for cooling systems	803,925	Nov. 7	767	164-5	119	166
Ohnstad, Joel R. and M. L., Morrisonville, Wis. Hay-loader	806,828	Dec. 12	1448	321	119	1623
Ohnstad, Michas L. (See Ohnstad, Joel R. and M. L.)						
Olds, Ransom E., Lansing, Mich. Motor-vehicle running-gear	807,958	Dec. 19	3711	805	119	2158
Olin, Chauncey M., Vincennes, Ind. Light-box	804,163	Nov. 7	1273	271	119	280
Oliver, Frederick, Portsmouth, Va. Press	806,991	Dec. 12	1789	392	119	1700
Oliver Typewriter Company. (See Disbrow, Harry B. N., assignor.)						
Oliver Typewriter Company. (See Harting, Clayton C., assignor.)						
Olsen, John. (See Glaser and Olsen.)						
Olson, Gustav A., Albert Lea, Minn. Hay-sling carrier	806,829	Dec. 12	1449	321-2	119	1623

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Olson, Julius, Chicago, Ill. Rail-stay	806,280	Dec. 5	378	83	119	1349
Olson, Lewis, Madison, Wis. Wire-fence brace	804,969	Nov. 21	2904	629	119	723
Olson, Mauritz. (See Nilson and Olson.)						
Olsson, Henry A., assignor of one-half to A. and E. Williamson, New York, N. Y. Bottle-closure	804,619	Nov. 14	2198	481	119	521
Oneal, Elisha V., Ravenswood, La. Muzzle	805,227	Nov. 21	3434	745	119	835
Onion, William H., New Orleans, La. Excavator	805,228	Nov. 21	3436	745	119	835
Oppenheimer, Harry D., assignor to S. Oppenheimer & Company, Chicago, Ill. Singeing-machine	805,150	Nov. 21	3279	711–12	119	802
Opsal, Andrew, Kelso, Wash., assignor to Columbia Engineering Works, Portland, Oreg. Snatch-block	806,562	Dec. 5	907	201	119	1467
Orcutt, Darius M., Kansas City, Kans. Weighing-scale	804,164	Nov. 7	1274	272	119	281
Orcutt, Darius M., Kansas City, Kans. Pitless wagon-scale	804,165	Nov. 7	1277	272	119	281
Ordway, Charles, New York, N. Y. Vacuum evaporating apparatus	807,767	Dec. 19	3338	717	119	2074
Oriental Food Company. (See Johnson and Lock, assignors.)						
Orndorff, Jacob. (See Alkire and Orndorff.)						
Orpin, Arthur, *et al.* (See Fraser, Warren F., assignor.)						
Orpin, Fletcher, *et al.* (See Fraser, Warren F., assignor.)						
Orr, Charles S., Providence, R. I. Non-refillable bottle	805,810	Nov. 28	4544	973	119	1111
Orr, Robert M., Vandergrift Heights, Pa. Railway-tie	804,166	Nov. 7	1279	272–3	119	282
Orr, William E., Council Bluffs, Iowa. Electric burglar-alarm	804,760	Nov. 14	2499	546	119	590
Ortlа, Joseph, assignor to H. M. Plimpton & Co., Boston, Mass. Making books by machinery	805,811	Nov. 28	4545	974	119	1111
Ortlа, Joseph, assignor to H. M. Plimpton & Co., Boston, Mass. Book	805,812	Nov. 28	4547	974	119	1112
Osborn, Edgar H., Battlecreek, Mich. Form for making cisterns and cesspools	804,167	Nov. 7	1280	273	119	282
Osborn, Francis C., Detroit, Mich. Crank-shaft	805,878	Nov. 28	4694	1004	119	1146
Osborn, Francis C., assignor to F. C. Osborn Company, Detroit, Mich. Weighing-scale	806,908	Dec. 12	1629	356	119	1663
Osborn, John L. (See Pike, Alfred E., assignor.)						
Osborne, James A., assignor to Arlington Company, Arlington, N. J. Pyroxylin collar and cuff	808,472	Dec. 26	4743	1020–1	119	2426
Osborne, James A., assignor to Arlington Company, Arlington, N. J. Apparatus for making pyroxylin collars, cuffs, and the like	808,473	Dec. 26	4744	1021–2	119	2427
Osborne, John W., assignor of two-thirds to C. Smithson and S. Hainsfurther, Winchester, Ill. Shoe-polishing machine	804,878	Nov. 21	2740	592	119	686
Osburn, James F., and W. T. Coad, Pasadena, Cal. Trolley-pole	808,109	Dec. 26	4006	863	119	2266
Oscanyan, Paul C., East Orange, N. J., assignor of one-half to G. A. Thomson, Somerville, N. J., and Adams Bagnall Electric Company, Cleveland, Ohio. Steam-turbine	806,177	Dec. 5	171	37	119	1302
Osel, Kistel, St. Paul, Minn. Grain-door for railway-cars	803,707	Nov. 7	369	78	119	83
Osmers, Frank C., Englewood, N. J., assignor to Frank C. Osmers Company, New York, N. Y. Collar-supporter	805,813	Nov. 28	4549	975	119	1112
Ostrander, Joseph H., Ticonderoga, N. Y. Interchangeable journal	804,030	Nov. 7	998	211	119	215
Oswald, Charles, H. Lorétan, and C. De la Harpe, assignors to Dyeworks formerly L. Durand Huguenin & Co., Basel, Switzerland. Yellow-green dye and making same.	807,181	Dec. 12	2178	.....	119	1781
Oswald, Charles, H. Lorétan, and C. De la Harpe, assignors to Dyeworks formerly L. Durand Huguenin & Co., Basel, Switzerland. Green dye and making same	807,182	Dec. 12	2179	.....	119	1782
Otis Elevator Company. (See Venn, Isaac H., assignor.)						
Otis, Spencer, Chicago, Ill. Dump-car	804,970	Nov. 21	2906	629	119	723
Otis, Spencer, Chicago, Ill. Pipe-joint	807,768	Dec. 19	3340	717	119	2074
Ott, Frederick, Woonsocket, R. I. Shuttle	808,474	Dec. 26	4747	1023	119	2427
Ott, John F., assignor to Bashlin Company, Warren, Pa. Faucet	807,309	Dec. 12	2413	520	119	1832
Otterman, Charles E., Toledo, Iowa. Unloading device	804,761	Nov. 14	2500	546	119	590
Otterman, Charles E., Toledo, Iowa. Unloading device	804,762	Nov. 14	2501	546	119	590
Otting, Carl, Ludwigsburg, Germany. Labeling-machine	804,168	Nov. 7	1283	273–4	119	283
Otto, Edmond T., trustee. (See Schaub, Ferdinand, assignor.)						
Otwell, Charles G., and I. H. Melvin, Laurel, Del. Electric signaling system	808,571	Dec. 26	4947	1066	119	2469
Ousdahl, Adolph. (See Fullerton, Ousdahl, and Kronberg.)						
Overly, Charles F., Economy, Pa. Window-sash	806,909	Dec. 12	1632	356	119	1665
Overstreet, J. B., *et al.* (See Baker and Ketchem, assignors.)						
Owen, John, Pittsburg, Pa. Railway-track construction	804,336	Nov. 14	1666	360	119	405
Owen, John, Pittsburg, Pa. Combinedc urb, gutter, and vehicle-track for highways	806,563	Dec. 5	910	201	119	1468
Oxenstierna, Gösta G. G. (See Söderlund, Anders M., assignor.)						
P. & F. Corbin. (See Pickop, George B., assignor.)						
Pachali, Theodore, Sr., Reading, Pa. Window-sash balance and lock	804,620	Nov. 14	2200	481	119	521
Packard, James W., assignor to Packard Motor Car Company, Warren, Ohio. Mixer and vaporizer for hydrocarbon-engines	806,830	Dec. 12	1451	322	119	1624
Packard, James W., and W. A. Hatcher, assignors to Packard Motor Car Company, Warren, Ohio. Lever mechanism for motor-vehicles	804,971	Nov. 21	2909	630–1	119	724
Packard Motor Car Company. (See Packard, James W., assignor.)						
Packard Motor Car Company. (See Packard and Hatcher, assignors.)						
Packer, James W., Glens Falls, N. Y. Centrifugal pulp-screen	805,426	Nov. 21	3831	828	119	919
Packham, Frank R., and G. P. Oates, Springfield, Ohio, assignors to American Seeding Machine Company, Jersey City, N. J. Axle for grain-drills	807,576	Dec. 19	2957	635	119	1991
Packing House Equipment Company. (See De Long, Ernest S., assignor.)						
Padmore, Arthur M., Lead, S. D. Tool-holder	806,750	Dec. 5	1276	285	119	1545
Padon, John S., Westplains, Mo. Mobile step-ladder	808,252	Dec. 26	4306	925–6	119	2331
Padovani, Mathieu, Bastia, Corsica, France. Device for lessening the shock of collisions between ships	807,959	Dec. 19	3713	806	119	2159
Page, Carl H., *et al.* (See Parker, Russell, assignor.)						
Page, John W. (See Mast, Peter, assignor.)						
Page, John W., Chicago, Ill. Concrete-mixer	804,261	Nov. 14	1500	322	119	369
Page, Larrance, San Francisco, Cal. Bunsen burner	804,496	Nov. 14	1962	429	119	472
Paget, Cecil W., Sutton Bonnington, England. Locomotive	806,178	Dec. 5	172	37	119	1303
Pahde, Carl, Breslau, Germany. Electrically welding rails	804,763	Nov. 14	2502	546	119	591
Paige, Lucius R., Worcester, Mass., assignor to E. A. Bofinger, New York, N. Y. Illuminated sign	807,198	Dec. 12	2216	476	119	1790
Paine, Charles H., Englewood, N. J. Collapsible or folding boat	808,302	Dec. 26	4419	950	119	2356
Paine, Frank W. (See Wheeler, Murwin, assignor.)						
Paine, William, London, England. Combined case and holder	804,545	Nov. 14	2063	450	119	494
Painter, Gwynne E., Baltimore, Md. Circuit-controlling device	807,684	Dec. 19	3173	682–3	119	2039
Paldi, Joseph D., Yale, Mich. Fence-post	806,281	Dec. 5	379	84	119	1349
Palmbla, Edward S., Waukegan, Ill. Internal-combustion engine	808,210	Dec. 26	4226	909–10	119	2312
Palmenberg, Emil T., New York, N. Y. Base for garment-forms	807,310	Dec. 12	2415	520	119	1832
Palmenberg, Emil T., New York, N. Y. Display-fixture	807,857	Dec. 19	3506	758	119	2112
Palmer, Chester M., Aurora, Ill. Direct intermittent current electric motor	808,303	Dec. 26	4420	950	119	2357
Palmer, Henry J., Philadelphia, Pa., assignor of one-half to M. Bleiman, New York, N. Y. Magnet-controlled third-rail system	807,199	Dec. 12	2217	477	119	1790

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Palmer, Isaac E., Middletown, Conn. Hull of vessels	804,497	Nov. 14	1964	429–30	119	472
Palmer, Isaac E., Middletown, Conn. Netting-canopy	805,814	Nov. 28	4551	975	119	1112
Palmer, Isaac E., Middletown, Conn. Hammock and hammock-support	805,815	Nov. 28	4551	975	119	1112
Palmer, Isaac E., Middletown, Conn. Hammock	805,816	Nov. 28	4553	975	119	1113
Palmer, Isaac E., Middletown, Conn. Hull of vessels	806,484	Dec. 5	781	172	119	1439
Palmer, Isaac E., Midd'etown, Conn. Hull of vessels	807,769	Dec. 19	3343	717	119	2075
Palmer, James F., Augusta, Ga. Laundry-indicator	805,988	Nov. 28	4897	1044	119	1192
Palmer, John, assignor to F. S. Rutschmann, trustee, Philadelphia, Pa. Gas or gasolene engine	808,572	Dec. 26	4951	1066	119	2470
Palmer, Roderick M., Cambridge, Mass., assignor of two-thirds to L. R. Wiley, Bangor, and C. D. Shaw, Greenville, Me. System of electrical distribution	807,960	Dec. 19	3714	806	119	2159
Palmer, Truman G. (See Cox, Harry B., assignor.)						
Palmer, Truman G., Chicago, Ill. Closure for mouths of bags	808,110	Dec. 26	4010	863	119	2266
Palmer, William A., Ensley, Ala. Automatic car-coupling	804,031	Nov. 7	999	211	119	216
Pantier, Hugh M. (See Cary, William R. and C. R., assignors.)						
Paquette, Theophile, Webster, Mass. Signal	807,046	Dec. 12	1909	413	119	1725
Pardoe, William A., New York, N. Y. Whistle	805,817	Nov. 28	4554	976	119	1113
Paris, Francis N., Altoona, Pa. Suspension device for metal brake-beams	809,059	Dec. 19	3884	841	119	2196
Paris, William A., Edgewood Park, Pa., assignor to Westinghouse Electric & Manufacturing Company. Controller for electric motors	807,858	Dec. 19	3507	758–9	119	2112
Parish & Bingham Company. (See Plumb, Theodore W., assignor.)						
Parish, Graham C., Kingston, N. Y. Egg-beater	808,613	Dec. 26	5020	1064	119	2486
Parker, Arthur T., North Attleboro, Mass. Die for forming lacing-tips	805,578	Nov. 28	4125	889	119	1042
Parker, Chester S., and C. E. Buswell, Barton, Vt. Portable fire-escape	806,706	Dec. 5	1179	264	119	1525
Parker, Clara E., Philadelphia, Pa. Folding and adjustable table	806,485	Dec. 5	782	173	119	1440
Parker-Clark Electric Company. (See Parker, Herschel C., assignor.)						
Parker, Daniel H., Boston, Ga. Clamp for wire-stretchers	807,200	Dec. 12	2219	477	119	1790
Parker, Harry E. (See Cronin, John J., assignor.)						
Parker, Herschel C., New York, N. Y., assignor to Parker-Clark Electric Company, Jersey City, N. J. Producing metallic iridium	805,316	Nov. 21	3627	.....	119	575
Parker, Homer N., Winchendon, Mass., assignor to National Novelty Corporation, New York, N. Y. Wheeled toy	806,982	Dec. 12	1773	389	119	1696
Parker, Howard, assignor to Improved Paper Machinery Company, Nashua, N. H. Pulp and paper machinery	808,614	Dec. 26	5022	1064	119	2486
Parker, J. Russell, *et al.* (See Parker, Russell, assignor.)						
Parker, John, assignor to Brown and Sharpe Manufacturing Company, Providence, R. I. Milling-machine	806,910	Dec. 12	1634	357	119	1665
Parker, Joseph C. (See Reed, Adam, assignor.)						
Parker, Rienzi B., Hartford, Conn. Tire for vehicles	807,311	Dec. 12	2417	520	119	1833
Parker, Russell, assignor to J. R. Parker, Brooklyn, and C. H. Page, New York, N. Y. Oil-separator	807,086	Dec. 12	1987	430	119	1742
Parker-Russell Mining & Manufacturing Company. (See Russell, Silas B., assignor.)						
Parker, William H., Passaic, N. J. Machine for boxing matches	806,486	Dec. 5	783	173	119	1440
Parker, William H., Passaic, N. J., assignor to W. B. Hutchinson, trustee, New York, N. Y. Machine for boxing matches	806,487	Dec. 5	785	173–4	119	1440
Parker, William J. (See Aldrich, Courtney C., assignor.)						
Parks, Fred B., Grand Rapids, Mich. Tire-plug	807,087	Dec. 12	1988	430	119	1742
Parlee, Harry D., assignor of one-half to E. G. Hilton, Des Moines, Iowa. Folding bed	803,779	Nov. 7	512	111	119	112
Parlin & Orendorff Company. (See Graham, William S., assignor.)						
Parr, Thomas D. (See Gergersen and Parr.)						
Parrish, Edward, Newport, R. I. Apparatus for treating slimes	805,229	Nov. 21	3439	745–6	119	836
Parrish, William A., Decatur, Ill. Detachable link	804,879	Nov. 21	2741	592	119	686
Parsons, Richmond, Philadelphia, Pa., assignor to Imperial Rolling Window Screen Company. Window-screen	808,400	Dec. 26	4619	994	119	2400
Patch, Allen J., Beloit, Wis., assignor to Fairbanks, Morse & Co., Chicago, Ill. Pneumatic hammer	803,621	Nov. 7	189	42	119	42
Patchell, William J., St. Louis, Mo. Molding-machine	806,179	Dec. 5	174	37–9	119	1303
Patchen, Alvah U., Syracuse, N. Y. Massaging implement	803,708	Nov. 7	370	78	119	84
Patchen, Alvah U., Syracuse, N. Y. Attachment for flexible-shaft casings	805,579	Nov. 28	4127	889	119	1024
Patenall, Thomas H., Wilkinsburg, assignor to Union Switch and Signal Company, Swissvale, Pa. Staff system for controlling the traffic along single-track railways	805,026	Nov. 21	3019	655–6	119	748
Patent Mailing Souvenir Company. (See Braun, Leo, assignor.)						
Paton, Walter J., Galva, Kans. Metallic tire	807,961	Dec. 19	3716	806	119	2159
Patrick, Andrew C., Johnstone, Scotland. Plate bending and straightening machine	807,088	Dec. 12	1989	431	119	1742
Patten, Charles W., Lynn, Mass. Amalgamator	805,090	Nov. 21	3165	686	119	778
Patten, Edward M., Yuma, Colo. Mechanical movement	808,253	Dec. 26	4308	926	119	2331
Patten, James and W., New York, N. Y. Annunciator	807,859	Dec. 19	3509	759	119	2113
Patten, James S., Baltimore, Md. Journal-box	808,573	Dec. 26	4953	1067	119	2471
Patten, James S., Baltimore, Md., assignor to Baltimore Journal Box Company of Baltimore City. Journal-box lid	805,990	Nov. 28	4901	1046	119	1193
Patten, William. (See Patten, James and W.)						
Patterson, Alice C. (See Patterson, George L., assignor.)						
Patterson, Arthur L., Albemarle, N. C. Electric stop-motion for knitting-machines	808,475	Dec. 26	4748	1023	119	2428
Patterson, George L., assignor to A. C. Patterson, New York, N. Y. Electric-hand-lamp contact	807,860	Dec. 19	3510	759	119	2113
Patterson, Jacob W., *et al.* (See Meyers, August H., assignor.)						
Patterson, John S., Revere, Mass. Billiard-cushion	803,780	Nov. 7	514	112	119	113
Patterson, John S., Revere, Mass. Manufacturing belting or the like	803,781	Nov. 7	515	112	119	113
Patterson, Lemuel, Philadelphia, Pa. Amusement apparatus	805,991	Nov. 28	4903	1046	119	1193
Patterson, Peter C., McKeesport, assignor to National Tube Company, Pittsburg, Pa. Conveying-trough	807,312	Dec. 12	2419	520–1	119	1833
Patton, Jesse, and M. D. Bryson, St. Louis, Mo. Odorless vessel	804,546	Nov. 14	2064	450	119	494
Paul, Christian F., Jr., Peekskill, N. Y. Steam and water heater	804,032	Nov. 7	1001	211	119	216
Paul, William L., *et al.* (See Gavelek, Oscar, assignor.)						
Pauling, Harry, Brandau, Austria-Hungary. Manufacturing nitric acid	807,491	Dec. 19	2768	.....	119	1953
Paulson, Charles J., assignor to P. R. MacLaurin, New York, N. Y. Soap-bubble generator	807,201	Dec. 12	2221	477	119	1791
Pawling, Francis W., and F. R. Miller, Lockport, N. Y. Machine for making hollow glassware	805,027	Nov. 21	3025	656–8	119	749
Payne, George H., Omaha, Nebr. Separating apparatus for alfalfa-grinders	806,488	Dec. 5	787	174	119	1441
Payne, Mae E. (See Stanley, James, assignor.)						
Paynter, John P., Topeka, Kans. Voting-machine	805,230	Nov. 21	3443	746–8	119	837
Payton, Ambrose, assignor of one-half to S. S. McLaughlin, Kirksville, Mo. Vehicle-brake	808,060	Dec. 19	3886	841	119	2196
Peabody, George L., Pittsburg, Pa. Reinforcing device for concrete construction	805,663	Nov. 28	4275	920	119	1057

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Peachey, Horace C. (See Bethel and Peachey.)						
Peacock, Abraham. (See Walker and Peacock.)						
Peacock, Frederick E., Weybridge, England. Machine for casting type	804,764	Nov. 14	2503	547–8	119	591
Pearlstien, Maurice B., New York, N. Y. Vaginal glass applicator	807,124	Dec. 12	2074	445	119	1761
Pearson, George C. (See Johnson and Pearson.)						
Pearson, Gustave A. (See Pearson, John R. and G. A.)						
Pearson, Harry F., Redstone, Colo. Coke-puller	804,670	Nov. 14	2293	502–3	119	542
Pearson, John R. and G. A., assignors, by mesne assignments, to Pearson Typo-Bar Company, New York, N. Y. Type casting and setting machine	805,580	Nov. 28	4128	890–1	119	1025
Pearson Typo-Bar Company. (See Pearson, John R. and G. A., assignors.)						
Pease, Charles E., *et al.* (See Winchell, James F., assignor.)						
Pease, Durell O., Manningham, Bradford, England. Spinning-machine	806,086	Nov. 28	5081	1083	119	1229
Pease, Frederick N., New York, N. Y. Waterproofed masonry	805,745	Nov. 28	4437	951	119	1091
Pease, Frederick N., New York, N. Y. Felt waterproof construction	805,746	Nov. 28	4438	951	119	1091
Peatross, R. W., *et al.* (See Morris, John O., assignor.)						
Peck, Irving H., Derby, Conn. Garment-fastener	806,831	Dec. 12	1453	323	119	1624
Peck, John M., Warren, Ind. Stuffing-box	806,489	Dec. 5	790	174	119	1442
Peck, Ralph D., Danville, Wis. Smokeless powder	806,564	Dec. 5	912	.....	119	1469
Peck, Stowe & Wilcox. (See Neal, Judson, assignor.)						
Peckham, Edwin F., and W. J. Hyde, Philadelphia, Pa., assignors, by mesne assignments, to W. O. Hickok Manufacturing Company. Ruling-machine	804,547	Nov. 14	2066	450	119	494
Pedersen, Johannes T., New York, N. Y. Lubricator	804,033	Nov. 7	1003	212	119	216
Pekrul, Leo P., assignor to C. D. Butchart, Denver, Colo. Water-gate	808,254	Dec. 26	4309	926	119	2332
Pelham, Robert A., Detroit, Mich. Pasting apparatus	807,685	Dec. 19	3176	683	119	2040
Pell, John L. E., Great Barrington, Mass. Game apparatus	808,111	Dec. 26	4012	863	119	2266
Pellegrin, John B. and L. R., Chauvin, La. Cultivator	806,707	Dec. 5	1180	264	119	1525
Pellegrin, Louis R. (See Pellegrin, John B. and L. R.)						
Pelmulder, Charles, Grant City, Iowa. Concrete railway-tie	807,313	Dec. 12	2421	521	119	1834
Pelton Water Wheel Co. (See Henry, George J., Jr., assignor.)						
Pembroke, Michael, Montpelier, Vt. Machine for the manufacture of scrolls	805,231	Nov. 21	3461	749	119	839
Penfold, Joseph K., assignor to C. A. Crane, Warren, Ohio. Expanding device	806,180	Dec. 5	180	39	119	1304
Pennell, Frank W., Lima, assignor of two-thirds to R. Morrison, Gibsonburg, and T. C. Pennell, Lima, Ohio. Rig for oil-wells	807,861	Dec. 19	3512	759–60	119	2113
Pennell, Thomas C., *et al.* (See Pennell, Frank W., assignor.)						
Penney, Loren W., assignor to Saco & Pettee Machine Shops, Newton, Mass. Drawing-frame	806,282	Dec. 5	380	84	119	1349
Pennock, Frederick G., Braintree, Mass., assignor, by mesne assignments, to Pneumatic Scale Corporation, Limited. Bag filling and weighing machine	804,262	Nov 14	1502	322–5	119	370
Pennock, John D., Syracuse, N. Y., assignor to Solvay Process Company. Producing filling material	805,581	Nov. 28	4140	.....	119	1027
Pennsylvania Steel Company. (See Alden, Charles A., assignor.)						
Penny, Hiram D., Glenwood Springs, Colo. Current-motor	805,317	Nov. 21	3628	783 4	119	875
Peppard, Arbor V., San Louis Potosi, Mexico. Car journal-box	805,151	Nov. 21	3281	712	119	803
Peppard, John L., Kansas City, Mo. Automatic weighing apparatus	804,880	Nov. 21	2742	593	119	686
Pepple, Samuel, Smithville, Tex. Spring-seat	807,314	Dec. 12	2422	521	119	1834
Percival, Herbert E., Galveston, Tex., assignor of one-half to B. W. Key, Woodward, Okla. Ter. Rail-fastening for plastic ties and making the same	808,401	Dec. 26	4621	994	119	2400
Percy, Charles C., Rochester, N. Y. Exercising apparatus	806,565	Dec. 5	913	202	119	1469
Percy, Harry C., Natchitoches, La. Sliding-door hanger and means for moving the door	804,815	Nov. 14	2595	567	119	612
Perdrizet, Paul E. L., Paris, France. Manufacture of artificial pearls, &c	804,034	Nov. 7	1009	.....	119	218
Pereira, Julius, New York, N. Y. Making candles	803,846	Nov. 7	630	137	119	136
Pereira, Julius, New York, N. Y. Apparatus for making candles	803,847	Nov. 7	631	137	119	136
Pereira, Julius, New York, N. Y. Candle and candle-wick	803,848	Nov. 7	632	137	119	136
Perfection Glass Company. (See Uhl, Russell, assignor.)						
Perkins, Charles G., assignor to Perkins Corporation, Hartford, Conn. Paper cup	804,428	Nov. 14	1835	397	119	443
Perkins Corporation. (See Clark and La Har, assignors.)						
Perkins Corporation. (See Perkins, Charles G., assignor.)						
Perkins Electric Switch Manufacturing Company. (See Thomas, George B., assignor.)						
Pernat, Johan, Cleveland, Ohio. Distilling apparatus	807,577	Dec. 19	2958	636	119	1991
Perrin, William H., Harley township, Ontario, Canada. Shocking attachment for binders	806,283	Dec. 5	384	84–5	119	1350
Perrine, John B., assignor to J. E. Plew, Chicago, Ill. Tickler	803,709	Nov. 7	372	79	119	84
Perron, Edgard, and F. A. Jeffs, Rockland, Mich. Vise	807,315	Dec. 12	2424	522	119	1834
Perrot, Emile G., Philadelphia, Pa., assignor to Unit Concrete Steel Frame Company. Fastening device for use in building construction	806,832	Dec. 12	1454	323	119	1624
Perry, Charles L., Schenectady, N. Y., assignor to General Electric Company. Means for actuating shafts	806,708	Dec. 5	1181	265	119	1525
Perry, Frederick H., West Medford, Mass. Clothes-pin	808,304	Dec. 26	4421	951	119	2357
Perry, Hubert M., assignor to H. D. Laughlin, Joliet, Ill. Side bearing for cars	806,360	Dec. 5	536	118	119	1385
Perry, Peter S., Chelsea, Mass. Mail-bag catcher	804,035	Nov. 7	1011	212–13	119	218
Perry, Reuben W., Lynn, assignor of two-thirds to G. H. Stevens and B. A. Oakes, Melrose, Mass. Blind hinge and lock	804,765	Nov. 14	2505	548	119	592
Persohn, Frank A. (See Geecheider, Albert F., assignor.)						
Peteler, Adolph, St. Louis, Mo. Variable-speed gearing	804,263	Nov. 14	1512	325–6	119	372
Peters, Emil R., and J. H. Saxman, Salt Lake City, Utah. Show-case	806,566	Dec. 5	915	202–3	119	1469
Peters, James B., Darragh, Mich. Potato-digger	804,036	Nov. 7	1013	213	119	219
Peterson, Charles A., Franklin, La. Oil-burner	805,747	Nov. 28	4438	952	119	1091
Peterson, Henry C., San Francisco, Cal. Vehicle-wheel bearing	803,849	Nov. 7	633	138	119	137
Peterson, John, Idaho Springs, assignor of one-half to A. Anderson, Denver, Colo. Bucket-dumping apparatus	806,992	Dec. 12	1790	392–3	119	1700
Peterson, Martin, Laurens, Iowa. Traction-wheel	803,782	Nov. 7	516	112	119	113
Petri-Palmedo, David, Hoboken, N. J., assignor to Mergenthaler Linotype Company. Linotype-machine	805,992	Nov. 28	4904	1047	119	1194
Petrich, Reinhold T., Enderlin, N. D. Wagon-hound	806,993	Dec. 12	1792	393	119	1700
Petro, Charles W., North Salem, Ind. Draft attachment	803,926	Nov. 7	769	165	119	167
Petry, Nicholas A., Philadelphia, Pa. Sectional sash-weight	804,037	Nov. 7	1014	213	119	219
Pettit, Silas W. (See Ernst, Charles A., assignor.)						
Petz, Franz, Nuremberg, Germany. Making contacts	804,429	Nov. 14	1835	398	119	443
Petz, John, assignor of one-half to H. Malott, Detroit, Mich. Support for glazing	805,993	Nov. 28	4906	1048	119	1194
Pevear, Jesse S., Schenectady, N. Y., assignor to General Electric Company. Switch-operating mechanism	806,709	Dec. 5	1184	265	119	1526
Pevear, Jesse S., Schenectady, N. Y., assignor to General Electric Company. Switch-controlling mechanism	806,751	Dec. 5	1277	285	119	1545
Pevear, Jesse S., Schenectady, N. Y., assignor to General Electric Company. Combined alternating and direct current control apparatus	806,752	Dec. 5	1282	285	119	1547

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Pfaffenbach, Rudolf, Leipsic, and H. Müller, Leipsic-Gohlis, Germany. Electrically-driven suspended railway	807,089	Dec. 12	1990	431	119	1743
Pfanschmidt, Charles, assignor to Vibrassage Company, Chicago, Ill. Speed-regulator for power transmission	805,748	Nov. 28	4440	952	119	1092
Pfeifer, Frank, and G. Raymond, Chippewa Falls, Wis.; said Pfeifer assignor to said Raymond. Dispensing vessel	805,994	Nov. 28	4907	1048	119	1194
Pfeifer, Frank, and T. G. Steele, Chippewa Falls, Wis.; said Pfeifer assignor to said Steele. Step-ladder	803,783	Nov. 7	517	112	119	113
Pfeiffer, Carl, Jena, Germany. Rake	806,710	Dec. 5	1186	265	119	1526
Pfeil, Frank P., Newark, N. J., assignor to Christian Feigenspan. Barrel or keg rolling device for barrel or keg washers	808,305	Dec. 26	4422	951	119	2357
Pfleger, Frank P., El Paso, Tex. Indicator	807,862	Dec. 19	3515	760	119	2119
Pflum, Joseph F., assignor to Cincinnati Butchers Supply Co., Cincinnati, Ohio. Mechanism for transmitting rotary motion	806,833	Dec. 12	1456	323	119	1625
Phalor, William H. (See Hickerson and Phalor.)						
Phelps, Ernest L., Toronto, Canada. Woman's skirt	807,492	Dec. 19	2769	597	119	1953
Phelps, Henry R., Auburn, Ill. Adjustable curtain-bracket	804,816	Nov. 14	2596	567	119	613
Philadelphia Textile Machinery Company. (See Schwartz, Charles W., Jr., assignor.)						
Philadelphia Textile Machinery Company. (See Schwartz, Walter M., assignor.)						
Philippon, Prosper, Paris, France. High-speed rotary motor	808,255	Dec. 26	4310	926–7	119	2332
Philippsohn, Jacob, Berlin, Germany. Cloth-cutting machine	804,548	Nov. 14	2067	451–2	119	494
Phillips, Addison D., Mannington, W. Va. Drumstick	807,493	Dec. 19	2769	597	119	1953
Phillips, Barzilla B., Seymour, Iowa. Hay-rake	804,498	Nov. 14	1966	430	119	472
Phillips, George W., Mianus, Conn. Coffee-hopper	807,863	Dec. 19	3516	760	119	2114
Phillips, Metta F. H., and W. B. Hubbard, Boston, Mass. Mouthpiece attachment for telephones	806,284	Dec. 5	387	85	119	1351
Phillips, William L., Broken Bow, Nebr. Building-block	806,911	Dec. 12	1636	357	119	1666
Philpott, Jefferson F., Windsor, Cal. Acetylene-gas machine	805,091	Nov. 21	3166	687	119	778
Phipps, Edward H., New York, N. Y. Split pulley	807,125	Dec. 12	2075	445	119	1761
Phoenix-American Pipe Works. (See Siem, Gustav C., assignor.)						
Phoenix Boot Machinery Company. (See Keats, John, assignor.)						
Piccinini, Arturo C., Buenos Ayres, Argentina. Membrane of graphophones, &c	804,264	Nov. 14	1516	326	119	373
Pick, Richard, Buffalo, N. Y. Filter-press	806,491	Dec. 5	792	175	119	1442
Pickard, Greenleaf W., Amesbury, Mass., assignor to American Telephone and Telegraph Company. Carbon plate for protective devices	807,962	Dec. 19	3717	806	119	2160
Pickard, Greenleaf W., Amesbury, Mass., assignor to American Telephone and Telegraph Company. Protective device	807,963	Dec. 19	3719	807	119	2160
Pickering Governor Co. (See Hall, Stephen S., assignor.)						
Pickle, William F., Decatur, Ill. Damper-regulator for furnaces	808,211	Dec. 26	4229	910	119	2313
Pickles, Charles K. (See Brill and Pickles.)						
Pickop, George B., assignor to P. & F. Corbin, New Britain, Conn. Pin-tumbler lock	806,361	Dec. 5	537	118	119	1385
Pier, Erminie A., Pittsfield, Mass. Canopy	808,476	Dec. 26	4752	1024	119	2428
Pierce, George L., New York, N. Y. Shot for athletic uses	807,770	Dec. 19	3344	718	119	2075
Pierce, William L. (See Harvey, George H., assignor.)						
Piercy, John H., Baltimore, Md. Brake	806,711	Dec. 5	1187	266	119	1527
Pierpont, Frank H., Horley, England, assignor to Lanston Monotype Machine Company, New York, N. Y. Standardizing or measuring machine for matrices	808,112	Dec. 26	4014	863–5	119	2267
Pieszak, Anthony J., and F. H. Poole, Dunkirk, N. Y. Railway-switch-signal apparatus	804,337	Nov. 14	1667	360	119	406
Pietsch, Max, Brooklyn, N. Y. Window-chair	804,499	Nov. 14	1967	430	119	473
Pifer, George N., Cleveland, Ohio. Photographic process and product	804,038	Nov. 7	1015	214	119	219
Pifer, George N., Cleveland, Ohio. Photographic plate or film	804,039	Nov. 7	1018	214	119	220
Pifer, John F. (See Cooper, Winfield S., assignor.)						
Pigeon, Ernest A., Providence, R. I., assignor of one-half to E. Sutro & Son, Philadelphia, Pa. Knitting-machine	804,549	Nov. 14	2069	452	119	495
Pike, Alfred E., Brislington, assignor of one-half to J. L. Osborn, Bristol, England. Jar, bottle, and other vessel	804,338	Nov. 14	1669	360	119	406
Pillsbury, Alfred F., *et al.* (See Shattuck, William P., assignor.)						
Pillsbury, Charles S., *et al.* (See Shattuck, William P., assignor.)						
Pillsbury, John S., Jr., *et al.* (See Shattuck, William P., assignor.)						
Pintz, Carl, assignor to L. & C. Hardtmuth, Budweis, Austria-Hungary. Cigar-piercer	807,202	Dec. 12	2221	478	119	1791
Pioch, Frank J., Provo City, Utah. Toy	804,972	Nov. 21	2911	631	119	725
Piper, Frank E., Red Deer, Canada. Brick-edging machine	805,152	Nov. 21	3284	713	119	803
Piper, Herbert H., Jackson, Mo. Railway-car cuspidor	805,995	Nov. 28	4908	1048	119	1194
Piper, William E., Union Star, Mo. Drain-pipe strainer and cut-off	808,477	Dec. 26	4753	1024	119	2428
Pipkin, Jesse P., assignor of one-half to A. E. Lundberg, Peoria, Ill. Extensible wrench	807,637	Dec. 19	3073	661	119	2016
Pitkin, Frank H., Chicago, Ill. Expanded-metal machine	806,912	Dec. 12	1637	357–60	119	1666
Pitt, William P., Independence, assignor to Irving-Pitt Mfg. Co., Kansas City, Mo. Loose-leaf book	806,913	Dec. 12	1645	360	119	1668
Pitt, William P., Independence, assignor to Irving-Pitt Mfg. Co., Kansas City, Mo. Adjustable punch	806,914	Dec. 12	1646	360–1	119	1668
Pittman, James I., and E. Harrison, Valdosta, Ga. Switch-operating apparatus	806,567	Dec. 5	917	203	119	1470
Pittsburgh Coal Washer Company. (See Martin, Robert L., Jr., assignor.)						
Pittsburgh Filter Manufacturing Company. (See Hansen, Paul, assignor.)						
Pitzer, William. (See Wettich and Pitzer.)						
Pixley, Orla C., Chicago, Ill. Building construction	806,712	Dec. 5	1189	266	119	1527
Plagmann, Henry, Davenport, Iowa. Washing-machine	806,492	Dec. 5	793	175	119	1443
Plantinga, Pierre, Cleveland, Ohio. Closure for fluid-receptacles	806,285	Dec. 5	388	85–6	119	1351
Plato, John B., and W. H. Kilgore, Denver, Colo.; said Kilgore assignor to said Plato. Hitching attachment for vehicles	807,047	Dec. 12	1911	413	119	1726
Plato, Wilhelm. (See Ruff and Plato.)						
Platt Iron Works Company. (See Giesler, Arthur, assignor.)						
Platt, William T., St. Louis, Mo. Electrically-operated door-opening system	804,040	Nov. 7	1020	214	119	220
Plattner, David, assignor to Plattner Implement Co., Denver, Colo. Hay-stacker	807,638	Dec. 19	3076	661–2	119	2017
Plattner, Frederick, Cleveland, Ohio. Toy bank	804,430	Nov. 14	1836	398	119	444
Plattner Implement Co. (See Plattner, David, assignor.)						
Pleukharp, Irvin H., Columbus, Ohio. Speed changing and transmission gearing	807,771	Dec. 19	3345	718	119	2075
Plew, James E. (See Perrine, John B., assignor.)						
Plimpton & Co., Herbert M. (See Ortia, Joseph, assignor.)						
Ploof, Joseph S., and C. J. Mongeon, Burlington, Vt. Detachable bracket for shade-rollers	804,339	Nov. 14	1670	361	119	407
Plumb, Theodore W., assignor to Parish & Bingham Company, Cleveland, Ohio. Spring-hanger	804,265	Nov. 14	1517	326–7	119	373
Plumb, Theodore W., assignor to Parish & Bingham Company, Cleveland, Ohio. Spring-hanger	804,340	Nov. 14	1671	361	119	407
Plumb, Theodore W., assignor to Parish & Bingham Company, Cleveland, Ohio. Spring-hanger	804,341	Nov. 14	1674	361	119	407
Plummer, Alson Q., Moran, Tex. Riding-frame for implements	808,574	Dec. 26	4955	1067	119	2471

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Plummer, Grant, Salina, Kans. Hay-loader	806,181	Dec. 5	182	39–40	119	1305
Plummer, Harry F., Altoona, Pa. Rivet-cutting tool for air-guns	806,493	Dec. 5	794	175	119	1443
Pneumatic Scale Corporation. (See Pennock, Frederick G., assignor.)						
Pocket Auditor Mfg. Co. (See Eisen, Herman J., assignor.)						
Podmore, Thomas, Wilkesbarre, Pa. Elevating-truck	808,212	Dec. 26	4230	911	119	2313
Pogue, Wm. M. (See Davis, Thomas A., assignor.)						
Pohl, Edward, Paterson, N. J. Apparatus for lustering and finishing silk filaments	808,402	Dec. 26	4621	995	119	2400
Pohle, Edwin C. (See Tetrault, Alexis, assignor.)						
Pohle, Frederick W. C., assignor of one-half to M. A. Strauss, Buffalo, N. Y. Photographic posing-chair	806,713	Dec. 5	1190	266	119	1527
Poigee, Frank. (See Tattrie and Schmidt, assignors.)						
Polaski, Frank P., Granite, Okla. Ter. Power-hammer	808,256	Dec. 26	4312	927	119	2332
Poliansky, Alexis I., St. Petersburg, Russia. Float	806,490	Dec. 5	791	175	119	1442
Polk, Robert H., Birmingham, Ala. Telephonic system	807,316	Dec. 12	2425	522–3	119	1835
Pollak, Gustav. (See Kohn, Simon, assignor.)						
Pollard, Edward T., London, England. Turbine	803,622	Nov. 7	191	42	119	42
Pollard, Edward T., London, England. Explosion-engine	803,623	Nov. 7	193	42–3	119	43
Pollard, Edwin, Douglas, Isle of Man. Kindling-block. (Reissue)	12,409	Nov. 21	3851	833	119	923
Pollard, Ernest O. (See Cowles and Pollard.)						
Poly-Phase Ignition System Company. (See Le Pontois, Leon J., assignor.)						
Pomeroy, Bennard H., St. Louis, Mo., assignor, by mesne assignments, to St. Louis Car Company. Transmission-gear	808,306	Dec. 26	4427	952	119	2358
Pomeroy, Le Dru R. (See Van Wagoner and Pomeroy.)						
Poncelet, Georges, Brussels, Belgium. Apparatus for the preparation of panes of opal glass	804,500	Nov. 14	1968	431	119	473
Pontious, James G., Bonami, La. Journal-box	805,996	Nov. 28	4910	1049	119	1195
Pool, Morris W., New York, assignor to Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine	806,834	Dec. 12	1458	323–4	119	1625
Poole Bros. (See Reinhardt, Albert H., assignor.)						
Poole, Frank H. (See Pieszak and Poole.)						
Poore, Charles D., Minneapolis, Minn. Chemical chart	807,203	Dec. 12	2223	478	119	1792
Pope, Charles E., South Hadley, Mass. Toilet-paper holder	803,624	Nov. 7	194	43	119	43
Pope Manufacturing Company. (See Rice, Herbert H., assignor.)						
Pope, William C., Philadelphia, Pa. Transfer-ticket	805,153	Nov. 21	3289	714	119	804
Poplawski, Jean-Victorin, Paris, France. Wick steam-generator	804,973	Nov. 21	2913	631	119	725
Porten, William, St. Paul, Minn. Building-block mold	804,041	Nov. 7	1021	215	119	220
Porten, William, St. Paul, Minn. Mold for building-brick	804,169	Nov. 7	1286	274–5	119	283
Porter, David A. (See Sullivan and Porter.)						
Porter, Edwin H., and B. Currier, Philadelphia, Pa. Punching-machine	806,362	Dec. 5	539	118–19	119	1385
Porter, Edwin H., and B. Currier, Philadelphia, Pa. Magnetic tachometer	806,363	Dec. 5	540	119–20	119	1386
Porter, Henry H., Jr., assignor to Swanitz Company, Chicago, Ill. Transfer apparatus	804,975	Nov. 21	2916	632–3	119	726
Porter, Henry H., Jr., assignor to Swanitz Company, Chicago, Ill. Wheel	805,427	Nov. 21	3833	829	119	920
Porter, John M., assignor of one-eighth to J. F. Laird, Parkersburg, W. Va. Exhaust-muffler	806,714	Dec. 5	1191	267	119	1528
Porter, Martin L., Redding, assignor to J. M. Graham, Z. F. Wharton, and B. F. Howard, Sacramento, Cal. Fruit-harvester	804,974	Nov. 21	2914	632	119	725
Porter, Matilda S., administratrix. (See Porter, Moses E.)						
Porter, Moses E., deceased; M. S. Porter, Brigham, Utah, administratrix. Horseshoe	806,182	Dec. 5	185	40	119	1305
Portius, Carl, *et al.* (See Weinrich, Moriz, assignor.)						
Posey Automatic Switching Company. (See Posey, James A., assignor.)						
Posey, James A., Midlothian, Tex., assignor, by mesne assignments, to Posey Automatic Switching Company. Electric switch for street-railways	806,568	Dec. 5	918	203–4	119	1470
Post, Ezra L., Wallingford, Conn. Machine for stretching leather used for making power-belts. (Reissue)	12,417	Dec. 12	2637	570	119	1884
Post, George E., New York, N. Y. Loose-leaf binder	807,864	Dec. 19	3517	761	119	2114
Potter, Charles, Holyoke, Mass. Suction-box for paper-machines	807,772	Dec. 19	3347	718	119	2076
Potter, Charles B., Chicago, Ill. Hair-drying device	806,183	Dec. 5	187	40	119	1305
Potter, Charles V., Balwyn, assignor to R. M. Hahn, Melbourne, Victoria, Australia. Oleaginous mixture for sprinkling on roads, &c	807,126	Dec. 12	2077	.....	119	1761
Potter, Fred B., St. Louis, Mo. Automatic station indicator or register	804,976	Nov. 21	2917	633	119	726
Potter, William B., Schenectady, N. Y., assignor to General Electric Company. Contact-shoe for third-rail electric railways	808,213	Dec. 26	4231	911	119	2314
Potter, William M., assignor to E. C. Stearns & Co., Syracuse, N. Y. Sash-balance	807,686	Dec. 19	3178	683	119	2040
Potthoff, Louis, Flushing, N. Y. Electroplating apparatus	806,835	Dec. 12	1460	324	119	1626
Potts, John R., Poughkeepsie, N. Y. Harness-terret	804,881	Nov. 21	2745	593	119	687
Powell, Charles A., Whitesboro, N. Y. Underwear	806,286	Dec. 5	389	86	119	1352
Powell, Charles A., Whitesboro, N. Y. Garment	806,287	Dec. 5	391	86	119	1352
Powell, Thomas, and O. W. Logan, Pittsburg, Pa. Railway-rail joint	804,550	Nov. 14	2074	454	119	496
Powers, Emory R., Los Angeles, Cal. Hair cleaning, drying, and medicating comb	807,127	Dec. 12	2078	446	119	1761
Powers, Henry A. (See Sullivan and Porter, assignors.)						
Powers, John L., Peoria, Ill. Fly-escape for screens	806,184	Dec. 5	188	40	119	1306
Powers, Richard J. (See Saffell, Arthur H., assignor.)						
Powter Company. (See Haywood, Daniel H., assignor.)						
Poyser, William J. (See Allen and Poyser.)						
Prather, Joseph A., and H. M. Keim, Carthage, Mo. Wire-cloth holder and measuring device	804,501	Nov. 14	1971	431	119	474
Pratt, Harry, Kenilworth, Ill. Car-replacer	804,766	Nov. 14	2507	548	119	592
Prentice, George W., Providence, R. I. Lacing-loop	805,582	Nov. 28	4141	891	119	1027
Prescott, De Witt C., Chicago, Ill. Engine-valve	807,865	Dec. 19	3521	761	119	2115
Pressed Steel Car Company. (See Dodds, Ethan I., assignor.)						
Pressed Steel Car Company. (See Lindström, Charles A., assignor.)						
Preston, William H. (See Warren and Preston.)						
Price, Floyd A., assignor of one-half to F. Silversack, Bemidji, Minn. Rotary cultivating implement	805,972	Nov. 28	4873	1039	119	1187
Price, Jake B. (See Röttinger, John B. M. V., assignor.)						
Price, Joseph F. (See Blanchard and Price.)						
Prince, Franklin T. (See Shaw, Henry F., assignor.)						
Prince, Jerome, Milford, assignor of parts to C. E. Aldrich and J. H. Macdonald, Beverly, Mass. Electric transmitter	805,092	Nov. 21	3169	687	119	779
Prince, John A., New York, N. Y. Bottle-washing machine	803,850	Nov. 7	634	138	119	137
Prince, John A., New York, N. Y. Bottle-washing machine	804,170	Nov. 7	1288	275–6	119	284
Prince, Ulysses S. (See Burks, William E., assignor.)						
Printz, Carl J., Milwaukee, Wis. Runner or cursor	806,836	Dec. 12	1463	324	119	1626
Pritchard-Strong Company. (See Kline, David C., assignor.)						
Proctor, Alfred W., New York, N. Y. Trousers-creaser	803,784	Nov. 7	518	113	119	114
Procunier, Henry E., Oak Park, Ill. Fuse-terminal	805,154	Nov. 21	3291	714	119	804

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Proffen, Charles H. (See Deegan and Proffen.)						
Prollius, Bernhard A. O., assignor to Aktieselskabet Burmeister & Wains Maskin-og Skibsbyggeri, Copenhagen, Denmark. Centrifugal milk-separator	807,639	Dec. 19	3078	662	119	2017
Proske, Theodore H., Denver, Colo. Sharpening-machine for drill-bits	807,128	Dec. 12	2079	446	119	1761
Proskovec, James B., Jr., Bruno, Nebr. Listed-corn cultivator	804,171	Nov. 7	1289	276–7	119	284
Proudfit, Alexander C., New York, N. Y. Coupling for electrical conduits	805,093	Nov. 21	3170	687	119	779
Proulx, Charles A. (See Friedrichs, Gustave A., assignor.)						
Provost, Peter, Menominee, Mich. Grain heater and drier	804,977	Nov. 21	2921	633	119	727
Pruser, John N., Union Hill, N. J. Support for feed-bags	806,994	Dec. 12	1793	393	119	1701
Pruvot, Achille, Valenciennes, France. Machine for topping beet-roots	804,172	Nov. 7	1294	277	119	285
Puffer, Samuel W. (See Gordon, Angus C., assignor.)						
Pugh, Morton E., Chicago, Ill. Excavator	806,288	Dec. 5	392	86–8	119	1352
Puhan, Oscar W. (See Leslie, Benjamin J., assignor.)						
Pulliam, Oswald S., Pittsburg, Pa. Car-bolster	805,749	Nov. 28	4441	952	119	1092
Pulman, Harry R. S. (See Higginson, George, assignor.)						
Pumphrey, Walter H., New York N. Y. Adding-machine	807,398	Dec. 12	2581	557	119	1870
Pure White Turpentine Company. (See Gardner, Joshua G., assignor.)						
Purinton, Judson K., Des Moines, Iowa. Cement fence-post	803,785	Nov. 7	519	113	119	114
Purrington, Charles, Pequabuck, Conn. Blind or shutter hinge	806,364	Dec. 5	542	120	119	1386
Purtle, Albert D., Salem, W. Va., and I. E. Rowland, Marietta, Ohio. Automatic cut-off	804,978	Nov. 21	2922	634	119	727
Puterbaugh, Owen, Laura, Ohio. Pneumatic stacker	805,997	Nov. 28	4912	1049	119	1195
Putnam, Harry M., Fitchburg, Mass. Firearm	808,214	Dec. 26	4233	911	119	2314
Putnam, James D. (See Wertz and Warner, assignors.)						
Putnam, John H., Winthrop, Mass. Snap-hook	807,773	Dec. 19	3349	719	119	2076
Pyle, Edward, Lincoln, Nebr. Feed-bag	803,851	Nov. 7	636	139	119	137
Pyott, James M., Jr., Chicago, Ill. Reel for fishing-rods	806,494	Dec. 5	796	176	119	1443
Quackenboss, William H. (See Higgins, James T., assignor.)						
Quackenbush, Henry M. (See Brooks, Myron W., assignor.)						
Quanchi, Louis, Yonkers, N. Y. Machine for making matrix-blanks. (Reissue)	12,416	Dec. 5	1306	290	119	1552
Quarmby, George, Saugus, assignor of one-half to J. R. Carret, Lexington, Mass. Machine for cutting block-soles	803,710	Nov. 7	374	79	119	84
Quick, Harry C., Los Angeles, assignor of one-fourth to W. S. Hurst, Colegrove, Cal. Clock-controlled advertising device	805,028	Nov. 21	3035	658	119	752
R. Thomas and Sons Company. (See Thomas, George W., assignor.)						
R. E. Dietz Company. (See Everett, Ernest C., assignor.)						
Raab, Cornelius E. (See Burns and Raab.)						
Rabb, Elmer J. (See Crawley and Rabb.)						
Rabinoff, Louis, New York, N. Y. Fuel-saving attachment for incandescent lamps	808,215	Dec. 26	4235	911	119	2315
Rach, Carl, New York, N. Y. Brewing apparatus	804,979	Nov. 21	2923	634	119	727
Racine Machinery Manufacturing Company. (See Dillon, William S., assignor.)						
Radcliffe, Carlton R., New York, N. Y. Power-transmitting apparatus	805,484	Nov. 28	3945	853	119	996
Rae Electric & Manufacturing Company. (See Rae, Frank B., assignor.)						
Rae, Frank B., Ridgewood, N. J., assignor to Rae Electric & Manufacturing Company, New York, N. Y. Brake system	804,502	Nov. 14	1972	432	119	474
Rahner, August, Creston, Iowa. Boiler-furnace	807,090	Dec. 12	1991	431–2	119	1743
Raidl, Josef, Niederwalting, near Oberschneiding, Germany. Liquid-distributer	804,767	Nov. 14	2509	549	119	592
Railroad Supply Company. (See Vogel, Eugene W., assignor.)						
Railway Electric Power Company. (See Kandó, Coloman de, assignor.)						
Raisbeck, Thomas A., Bloomfield, N. J. Truck for transporting printers' forms	806,365	Dec. 5	544	120	119	1387
Ralston, Joseph S. (See Becker, Anton, assignor.)						
Ramage, Al Leen, Kansas City, Mo. Leaf-turning finger-ring	805,664	Nov. 28	4277	821	119	1058
Ramsay, David M. (See Reid and Ramsay.)						
Ramsberger, Harry C., Philadelphia, Pa. Mercury pressure-gage	803,786	Nov. 7	521	113	119	114
Ramsdell, Alanson K., Old Orchard, Me. Apparatus for portable sleighs	805,318	Nov. 21	3628	784	119	875
Ramsey, James H., Thayer, Mo. Burglar-alarm or trap trigger	806,185	Dec. 5	189	41	119	1306
Rand, Wm., *et al.* (See Kelley, Charles E., assignor.)						
Randall, James, Washington, D. C. Smoke-consumer	807,317	Dec. 12	2429	523	119	1835
Randall, James D., Cincinnati, Ohio. Strap-holder	804,342	Nov. 14	1676	362	119	408
Randall, Stephen, Russell, Iowa. Scraper-blade for road-making machines	807,495	Dec. 19	2771	598	119	1953
Rankin, Charles M., McLouth, Kans. Stovepipe-connector	807,496	Dec. 19	2773	598	119	1954
Rankin, W. W., *et al.* (See Clifford, William P., assignor.)						
Ranking, George S. A., Calcutta, India. Means for releasing boats from their falls at both ends simultaneously	808,575	Dec. 26	4956	1068	119	2471
Ransom, Albert F., assignor to B. H. Rueter, Burlington, Wis. Harness-pad	804,671	Nov. 14	2297	503–4	119	543
Ransome, Arthur W., New York, N. Y. Cart	807,129	Dec. 12	2080	446	119	1762
Rapke, Victor H., New York, N. Y. Talking-machine	806,289	Dec. 5	405	89–90	119	1356
Rarig, Welden C., Ogden, Utah. Mower cutter-bar	805,155	Nov. 21	3293	714	119	805
Raschick, Richard P., Grand Forks, N. D. Device for stretching springs	808,113	Dec. 26	4018	865	119	2268
Rasehorn, Paul, Friedenau, Berlin, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany. Automatic electrical measuring and recording instrument	807,774	Dec. 19	3350	719	119	2076
Rasmussen, Oscar, Johannesburg, Transvaal. Means for plugging shot-holes	806,495	Dec. 5	797	176	119	1444
Rasmussen, Valdemar, Omaha, Nebr. Combination-spike	806,186	Dec. 5	190	41	119	1306
Raspillaire, August, assignor of two-thirds to J. L. Keener and J. P. Warrick, Morgantown, W. Va. Machine for making glass articles	804,173	Nov. 7	1297	278	119	286
Rathbone, Dwight W., Seattle, Wash. Machine for filling cans	808,216	Dec. 26	4237	912	119	2315
Ratzer, John, New York, N. Y. Pulley-block	806,837	Dec. 12	1465	325	119	1627
Rauss, Anton, Glenville, Ohio. Trigger for double-barreled guns	804,343	Nov. 14	1677	362	119	408
Rawls, William L., Bells, Tenn. Whip-actuating device	806,290	Dec. 5	408	90	119	1357
Rawls, William L., Bells, Tenn. Whip-actuating device	806,291	Dec. 5	410	90–1	119	1357
Rawls, William L., Cincinnati, Ohio. Whip-actuating device	806,292	Dec. 5	414	91	119	1358
Ray, Frederick, East Orange, N. J., assignor to Henry R. Worthington, New York, N. Y. Condenser system	803,787	Nov. 7	522	113–14	119	114
Raymer, Albert R., Beaver, Pa. Cleaning and restoring boilers to service condition. (Reissue)	12,403	Nov. 7	1364	290	119	301
Raymond, Alfred A., assignor to Raymond Concrete Pile Company, Chicago, Ill. Method of and means for forming concrete piles	806,838	Dec. 12	1468	325	119	1628
Raymond, Charles L., Rochester, N. Y. Metal-and-concrete construction	803,852	Nov. 7	637	139	119	137
Raymond Concrete Pile Company. (See Raymond, Alfred A., assignor.)						
Raymond, Edwin S., and W. W. Fraser, Denver, Colo. Self-measuring cork	805,380	Nov. 21	3742	811	119	900
Raymond, George. (See Pfeifer and Raymond.)						
Raymond, George A., assignor of one-half to L. B. Millard, Adrian, Mich. Machine for making wire fabric	803,711	Nov. 7	375	79–81	119	85
Raymond, Harry K., Akron, Ohio, M. C. Schweinert, West Hoboken, N. J., and H. P. Kraft, New York, N. Y. Clamping device for pneumatic tires	808,307	Dec. 26	4429	952	119	2358
Reagan, Daniel E., Terre Haute, Ind. Conduit	805,665	Nov. 28	4278	921	119	1058

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Reagan, James. (See Campbell, Charles A., assignor.)						
Reasner, George, New York, N. Y. Gas regulator or governor	808,403	Dec. 26	4623	995–6	119	2400
Reay, Robert M., Massillon, and M. Lally, North Lawrence, Ohio. Mail-bag catcher	805,319	Nov. 21	3630	784–5	119	875
Record, George J., Conneaut, Ohio. Curtain-roller	806,427	Dec. 5	664	146	119	1415
Redfield, Edward E., Glendale, Oreg. Firearm	806,496	Dec. 5	798	176	119	1444
Redgrave, Montague, Jersey City, N. J. Hat and cap	805,750	Nov. 28	4412	952	119	1092
Redlich, Alexander E., Chicago, Ill. Candy-box	805,583	Nov. 28	4142	891	119	1027
Reed, Adam, assignor to J. C. Parker, Middletown, Del. Collar-fastener	805,320	Nov. 21	3632	785	119	876
Reed, Charles J., Philadelphia, Pa. Rim-section for expansible pulleys	806,187	Dec. 5	191	41	119	1307
Reed, Charles J., Philadelphia, Pa. Lathe-mandrel	808,257	Dec. 26	4313	927	119	2332
Reed, Evan L., Chicago, Ill. Cracker-can-holding device	804,672	Nov. 14	2298	504	119	544
Reed, Gabriel, Fort Bragg, Cal. Shingle gage and clamp	805,094	Nov. 21	3171	687	119	779
Reed, Guy A. (See Levermont and Reed.)						
Reed, Henry H., Reedsville, W. Va. Horse-detacher	805,998	Nov. 28	4913	1049	119	1195
Reed, Jesse W., Detroit, Mich. Spade or shovel	808,168	Dec. 26	4143	893	119	2293
Reed, Melancthon W., Marion, Ind. Step-ladder	806,915	Dec. 12	1648	361	119	1669
Reeder, Isaac. (See Schofield and Reeder.)						
Rees, David W., Needles, Cal. Medical-powder application	806,188	Dec. 5	192	41	119	1307
Reese, Charles L., assignor to Eastern Dynamite Company, Wilmington, Del. Making nitroglycerin	804,817	Nov. 14	2598	.....	119	613
Reese, John T. (See Ireland and Reese.)						
Reeve, Henry E., Brooklyn, N. Y. Binding-post	807,497	Dec. 19	2774	598	119	1954
Reeve, Sidney A., Worcester, assignor to C. F. Brown, trustee, Reading, Mass. Apparatus for introducing water to pressure-receptacles	803,712	Nov. 7	379	81	119	85
Reeve, Sidney A., Worcester, assignor to C. F. Brown, trustee, Reading, Mass. Locomotive-boiler	803,788	Nov. 7	524	114	119	115
Regenier, John G., and M. F. Hamby, Fort McKavett, Tex. Wire splicer and tightener	805,666	Nov. 28	4279	921	119	1058
Regina, Vito, New York, N. Y. Brake apparatus for elevator-cars	805,818	Nov. 28	4556	976	119	1113
Rehling, John W., Allegheny Pa. Wrench	806,497	Dec. 5	801	176	119	1444
Reich, Otto F., Riverdale, Ill. Pillow	808,217	Dec. 26	4242	912	119	2316
Reichardt, Henry C., Pottsville, Pa. Apparatus for melting ice	804,042	Nov. 7	1023	215	119	221
Reichert, August F., assignor of one-half to R. C. Ferge, Milwaukee, Wis. Mold for concrete walls	805,819	Nov. 28	4558	976–7	119	1114
Reichhelm, Edward P., Bayonne, N. J. Sand-blast	805,029	Nov. 21	3036	658	119	752
Reid, Hugh, Springburn, and D. M. Ramsay, Mount Florida, Scotland. Locomotive	805,990	Nov. 28	4914	1049–50	119	1195
Reid, William J., Woodside Park, England. Manufacturing lubricant-receiving devices for driven parts	806,569	Dec. 5	921	204	119	1471
Reinhardt, Albert H., assignor to Poole Bros., Chicago, Ill. Ticket-filing case	807,806	Dec. 19	3522	762	119	2116
Reinitz, Friedrich. (See Hoor, Reinitz, and Stark.)						
Reisdorf, George, Coraopolis, Pa. Vehicle-brake	807,775	Dec. 19	3352	719	119	2077
Reisert, Eduard, Hennef, Germany. Fountain-pen	803,927	Nov. 7	770	165	119	167
Reisler, Phillip A., assignor of two-thirds to H. M. Hicks and W. H. Terwilliger, Amsterdam, N. Y. Button-sawing machine	807,776	Dec. 19	3353	719–20	119	2077
Reiss, Carl, Berlin, Germany. Inverted lamp	806,428	Dec. 5	667	146–7	119	1416
Reiss, George T., Hamilton, Ohio, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Mechanism for producing reciprocating motion	804,980	Nov. 21	2926	634	119	726
Reist, Henry G., Schenectady, N. Y., assignor to General Electric Company. Brush-holder	803,853	Nov. 7	639	139	119	138
Reiter, George, Pleasantridge, Ohio. Apparatus for elevating fluids	808,218	Dec. 26	4242	913	119	2316
Reiter, Ralph H., West Bridgewater, Pa. Automatic gas cut-off	806,366	Dec. 5	545	120–1	119	1387
Remelius, Charles, Newark, N. J., assignor to Columbia Machine Works and Malleable Iron Company, Brooklyn, N. Y. Car-brake	807,777	Dec. 19	3355	720	119	2077
Remirez, Gustavo G., Merida, Mexico. Machine for decorticating plants	806,429	Dec. 5	668	147–8	119	1416
Remmers, Theodore W., assignor to Diagraph Company, St. Louis, Mo. Stencil-cutting machine	808,308	Dec. 26	4430	952–3	119	2359
Rempe, Jacob E., assignor of one-half to M. M. Walsh, Kankakee, Ill. Tellurian	806,839	Dec. 12	1471	325–6	119	1628
Renard, Charles, Meudon, France. Steam-generator	804,043	Nov. 7	1025	216	119	222
Rendle, Thomas, Ottawa, Ill. Shoe-repairing stand	804,503	Nov. 14	1976	432	119	475
Reneau, Charley W., Gilmer, Tex. Wagon-body lifter	806,570	Dec. 5	922	204	119	1471
Renger, Carl, Rio de Janeiro, Brazil. Loom	805,751	Nov. 28	4443	953	119	1092
Renick, James L., Hardyville, Ky. Wagon-body raiser	807,778	Dec. 19	3360	720	119	2079
Renno, George N., East Pittsburg, assignor of one-half to F. Stewart, Wilkinsburg, Pa. Envelop	805,321	Nov. 21	3634	785	119	876
Reno, Jesse W., New York, N. Y. Inclined elevator	804,266	Nov. 14	1520	327	119	374
Reno, Jesse W., New York, N. Y. Tunnel apparatus. (Reissue)	12,410	Nov. 21	3851	833	119	923
Renshaw, Alfred H., Darien, Conn., assignor to Trojan Car Coupler Company. Car-coupling. (Reissue)	12,420	Dec. 12	2648	571–2	119	1886
Rentfro, John M. C., Middletown, Mo. Fence-post	803,789	Nov. 7	527	115	119	116
Ressler, Samuel, Detroit, Mich. Sausage-stuffer	803,854	Nov. 7	641	140	119	138
Reszke, Edward de, *et al.* (See Cantono, Eugenio, assignor.) (Reissue.)	808,061	Dec. 19	3887	842	119	2197
Rexroth, John J., Chicago, Ill. Car running-gear						
Reyburn, John E. (See Kelly, Thomas F., assignor.)						
Reyburn, John E. (See Young, Harry W., assignor.)						
Reynolds, Egbert A., assignor to Iron Telephone Company, New York, N. Y. Telephone instrument	804,431	Nov. 14	1837	398	119	444
Reynolds, Herbert M., Grand Rapids, Mich. Roofing-package	803,713	Nov. 7	382	81	119	86
Reynolds, William F., and E. J. Travers, Belfast, Ireland. Roller-bearing	803,625	Nov. 7	195	43	119	44
Rhoades, Alonzo E., assignor to Draper Company, Hopedale, Mass. Yarn-twisting apparatus	805,752	Nov. 28	4445	954	119	1093
Rhoades, Benjiman A., Marshalltown, Iowa. Device for oiling vehicle-axles	806,498	Dec. 5	802	177	119	1445
Rhoads, William L. (See Hawley and Rhoads.)						
Rhode Island Elevator and Machine Company. (See Handy, Arthur E., assignor.)						
Rhodes, Joshua, *et al.* (See Kaplan, Joseph A., assignor.)						
Rhodes, Julie M., Central Valley, N. Y. Cabinet	808,169	Dec. 26	4144	893	119	2294
Ribbert, Julius, Hagen, Germany. Dyeing indigo resists	803,855	Nov. 7	642	.....	119	138
Riblet, Byron C., Spokane, Wash. Air-cushion for automatic bucket-loaders	806,571	Dec. 5	924	204–5	119	1471
Riblet, Royal N., Spokane, Wash. Ankle-support for skates	805,667	Nov. 28	4280	921	119	1058
Rice, Albert J. (See Adams and Rice.)						
Rice, Charles T., Chicago, Ill. Folding bed	807,204	Dec. 12	2225	478	119	1702
Rice, Herbert H., Indianapolis, Ind., assignor to Pope Manufacturing Company, Jersey City, N. J. Vehicle-body	805,668	Nov. 28	4281	922	119	1058
Rice, John V., Jr., Edgewater Park, N. J. Gas rock-drill	807,399	Dec. 12	2583	557–8	119	1870
Rice, Lewis J., assignor of one-half to Freaney Brothers, Indianapolis, Ind. Self-closing faucet	804,673	Nov. 14	2299	504	119	544
Rice, Richard H., Lynn, Mass., assignor to General Electric Company. Shaft-coupling	805,232	Nov. 21	3462	749	119	840
Rice, Richard H., Swampscott, Mass., assignor to General Electric Company. Packing	806,669	Nov. 28	4282	922	119	1058

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Rice, Stephen D., Watertown, N. Y. Razor-strop	807,965	Dec. 19	3723	807	119	2160
Rice, William K., Winona, Minn. Reclining-chair	805,485	Nov. 28	3950	853	119	987
Rice, William P., assignor to National Ozone Company, Chicago, Ill. Apparatus for producing ozone	807,964	Dec. 19	3721	807	119	2160
Rich, Charles A., assignor to Brown and Sharpe Manufacturing Company, Providence, R. I. Clutch-controlling mechanism	806,916	Dec. 12	1651	361-2	119	1669
Rich, Charles H. C. (See Crisp, Sawyer, and Rich.)						
Richards, Francis H., Hartford, Conn. Mechanical movement	808,404	Dec. 26	4624	996	119	2401
Richards, Francis H., Hartford, Conn. Carving-machine	808,478	Dec. 26	4754	1024-5	119	2429
Richards, Frank P., Springfield, Ill. Stovepipe-fastener	805,753	Nov. 28	4449	954	119	1093
Richards, Walter J., Milwaukee, Wis. Electrical switching apparatus	804,344	Nov. 14	1679	362	119	409
Richards, Windsor E. (See Daley and Richards.)						
Richardson, Henry, Chicago, Ill. Wire fabric	807,400	Dec. 12	2585	558	119	1871
Richardson, Kassen R., Battlecreek, Mich. Music-leaf turner	807,867	Dec. 19	3524	762-3	119	2116
Richardson Manufacturing Company. (See Tucker and Aiguier, assignors.)						
Richardson & Phillips Company. (See Lindsey, Leroy, assignor.)						
Richardson, Samuel F., Alcester, England assignor to G. A. Manwaring, Bayonne, N. J. Slotted sewing-machine needle	806,840	Dec. 12	1476	326	119	1630
Richardson, Thomas, and J. H. Bishop, Jr., Wyandotte, Mich. Overseam sewing-machine	806,841	Dec. 12	1477	326	119	1630
Richardson, William J. (See Glatt, Otto, assignor.)						
Richmond Casket Company. (See Mills and Lawson, assignors.)						
Richter, Adolph, New York, N. Y. Illuminating device	805,879	Nov. 28	4696	1004	119	1147
Richter, Friedrich O., Dessau, Germany. Heating device for central heating systems	807,318	Dec. 12	2432	523	119	1836
Ricketts, Marcus, Nevada, Ind. Twine-holder	804,044	Nov. 7	1027	216	119	222
Rickey, Walter J., Schenectady, N. Y., assignor to General Electric Company. Making switch-clips	808,258	Dec. 26	4314	927	119	2333
Ricks, Harry W., and G. W. Stifel, assignors of one-third to J. E. Drischel, Cambridge City, Ind. Reversible-pulley mechanism	808,309	Dec. 26	4434	953	119	2360
Ricksecker, Alva C., *et al.* (See Smith Frank L., assignor.)						
Ridd, Ambrose, Newport, Ky. Making oxid-coated sheet metal	805,095	Nov. 21	3172	688	119	779
Riddell, Paris J., New York, N. Y., assignor to Brunswick-Balke-Collender Company. Bowling-alley ball-gutter	804,551	Nov. 14	2075	454	119	496
Riddle, Howard S., Akron, Ohio. Art of and apparatus for heating and vulcanizing, &c.	808,479	Dec. 26	4760	1026	119	2431
Riddle, Robert H., Dayton, Ohio, assignor to National Cash Register Company, Jersey City, N. J. Cash-register	803,714	Nov. 7	384	82	119	86
Rider, Charles H., St. Louis, Mo. Apparatus for dissolving and separating values contained in ores, &c	805,880	Nov. 28	4697	1004	119	1147
Rider, Ebenezer W., assignor to Concrete Machinery Company, Detroit, Mich. Machine for pressing plastic material	805,754	Nov. 28	4450	954-5	119	1094
Rider, George E., assignor to A. P. Marty, Kansas City, Mo. Baling-press	803,626	Nov. 7	196	44	119	44
Ridgely and Johnson Tool Company. (See Vaughan, Henry H., assignor.)						
Ridings, William R., Stretford, England, assignor to Westinghouse Electric & Manufacturing Company. Electric-arc lamp	805,322	Nov. 21	3635	785-6	119	876
Rieff, John G., London, Wis. Wagon-box rod	805,323	Nov. 21	3638	787	119	877
Rieppel, John, Cowanesque, Pa. Frictional clutch	806,000	Nov. 28	4917	1050	119	1196
Rietzel, Adolph F., assignor to Thomson Electric Welding Company, Lynn, Mass. Electric welding clamping device	804,045	Nov. 7	1028	216	119	222
Rinald, Clement D., Philadelphia, Pa. Safety-chain for doors	807,779	Dec. 19	3362	721	119	2079
Rinaman, Clarence. (See Morris and Rinaman.)						
Ring Paper Clip Company. (See Hale, Joshua B., assignor.)						
Risse, Emile, and C. O. Sobinski, assignors to said Risse and J. Clausen, St. Louis, Mo. Non-refillable bottle	806,917	Dec. 12	1654	362	119	1670
Ritchie, George I., Crossett, Ark. Apparatus for laying and taking up railways	805,881	Nov. 28	4698	1005	119	1148
Ritter, Gilbert P. (See Buhoup and Ritter.)						
Ritter, Gilbert P., Chicago, Ill. Brake-beam	804,267	Nov. 14	1522	327	119	374
Ritter, Gilbert P., Chicago, Ill. Computing weighing-machine	806,499	Dec. 5	803	177-8	119	1445
Rivers, Julian H., assignor to Hydro-Press Manufacturing Company, St. Louis, Mo. Compacting liquid-borne fibrous pulp	804,432	Nov. 14	1839	399	119	444
Robbins, Olover W., Burleson, Tex. Speed-governor	806,842	Dec. 12	1479	327	119	1631
Robbins, William A., Trenton, N. J. Shoe-tread	804,674	Nov. 14	2301	504	119	544
Robert Holmes & Brothers. (See Holmes, Grant, assignor.)						
Roberts, Benjamin H., Haverhill, Mass. Trolley-signal	806,430	Dec. 5	670	148	119	1416
Roberts Chemical Company. (See Roberts, Isaiah L., assignor.)						
Roberts, Edgar, East St. Louis, Ill. Package-delivering apparatus for stores	806,001	Nov. 28	4918	1051	119	1196
Roberts, Elbert, Corsicana, Tex. Rail-joint	804,768	Nov. 14	2509	549	119	593
Roberts, George, assignor to H. Klaber, Tacoma, Wash. Hop-sprayer	804,675	Nov. 14	2302	505	119	545
Roberts, Isaiah L., Brooklyn, N. Y., assignor to Roberts Chemical Company. Manufacture of hydrochloric acid	807,640	Dec. 19	3079	662	119	2018
Roberts, Joseph M., Diego, Fla. Skirt-supporter	808,576	Dec. 26	4957	1068	119	2472
Roberts, William B., Ashtabula, Ohio. Clam-shell bucket	804,268	Nov. 14	1524	328	119	375
Roberts, William N., and H. B. Mathews, Ansonia, Ohio. Lamp and lantern holder	807,868	Dec. 19	3528	763	119	2117
Robertshaw, Arthur L., Philadelphia, Pa. Burling or perching machine	805,820	Nov. 28	4562	977	119	1114
Robertson, Lawrence A., New York, N. Y. Non-refillable bottle	807,966	Dec. 19	3725	808	119	2161
Robertson, Oliver H., Forestville, Conn. Stanchion	804,621	Nov. 14	2202	482	119	522
Robichaux, Leonard J., Charenton, La. Axle-nut device	805,755	Nov. 28	4455	956	119	1094
Robin, Joseph T., New York, N. Y. Machine for treating impregnated fabrics to produce incandescent gas-mantles	805,325	Nov. 21	3643	788	119	878
Robin-Langlois, Joseph, Paris, France. Molding apparatus	805,324	Nov. 21	3640	787	119	877
Robinson Brothers. (See Clift, George A. L., assignor.)						
Robinson, Cyrus, Edgewood Park, Pa., assignor to Westinghouse Machine Company. Speed-adjusting device for fluid-pressure engines	807,578	Dec. 19	2960	636	119	1991
Robinson, Edward T., assignor to St. Louis Car Company, St. Louis, Mo. Car-door guide	807,319	Dec. 12	2433	524	119	1837
Robinson, Fred L., Wayland, N. Y. Wrench	804,433	Nov. 14	1841	399	119	445
Robinson, Harry C., Muncy, Pa. Grinding-mill	805,933	Nov. 28	4789	1023	119	1166
Robinson, Harry C., Muncy, Pa. Bolting-machine	806,002	Nov. 28	4920	1051	119	1196
Robinson, John G., Fairfield, England. Step of railway and tramway carriages, &c	804,046	Nov. 7	1031	217-18	119	223
Robinson, Ralph C. (See Whitney and Robinson.)						
Robinson, Richard W., Neponset, Ill. Attachment for grain-separators	806,995	Dec. 12	1795	393-4	119	1701
Robinson, Stinson, Vinton, Iowa. Fertilizer-distributer	807,641	Dec. 19	3081	662-3	119	2018
Robinson, William A., South Kortright, N. Y. Telephone system	803,856	Nov. 7	644	140	119	138
Robinson, William V., assignor to Art Stove Company, Detroit, Mich. Stove	806,189	Dec. 5	193	42	119	1307
Robischung, Henry B., Kalamazoo, Mich., assignor to Chicago Railway Equipment Company, Chicago, Ill. Brake-beam	805,821	Nov. 28	4564	977	119	1115
Roblin, Richard O., Rochester, N. Y. Vending device	806,572	Dec. 5	928	206	119	1472

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Roche, James, assignor to Eagle Lock Co., Terryville, Conn. Cylinder night-latch	806,003	Nov. 28	4923	1051	119	1197
Roche, Thomas, *et al.* (See Maloney, Michael H., assignor.)						
Rockstroh, Charles F., Brooklyn Hills, N. Y., assignor to Rockstroh Manufacturing Company. Printing-plate holder. (Reissue)	12,404	Nov. 7	1367	291	119	302
Rockstroh Manufacturing Company. (See Rockstroh, Charles F., assignor.) (Reissue.)						
Rockwell, Byrd C., Gifford, Ark. Adjustable window-screen	808,577	Dec. 26	4958	1068	119	2472
Rockwell, Edward D., assignor to Liberty Bell Co., Bristol, Conn. Fishing-reel	804,047	Nov. 7	1035	218	119	224
Rockwood, George I., Worcester, Mass. Radiator	805,882	Nov. 28	4700	1005	119	1148
Rockwood, George I., Worcester, Mass. Automatic sprinkler	807,205	Dec. 12	2226	479	119	1792
Rodencal, Charles, Aurorahville, Wis. Latch for stanchions	804,769	Nov. 14	2510	549	119	593
Rodgers, John G., *et al.* (See Barr, George M., assignor.)						
Rodzonowski, Frank, Chicago, Ill. Grinding-machine	805,156	Nov. 21	3295	714–15	119	805
Roeh, John, assignor to Current Motor and Irrigation Company, Spokane, Wash. Automatic current-motor	804,676	Nov. 14	2304	506	119	545
Röell, Cornelis F. A., Independence, Mo. Hot-air furnace, revertible draft	804,818	Nov. 14	2599	567–8	119	613
Roenius, Edmund, Grand Rapids, Wis. Chute	804,048	Nov. 7	1036	218	119	224
Roerig, Louis P., Adrian, Mich. Watchcase-pendant	805,233	Nov. 21	3464	749	119	840
Rogan, John A., *et al.* (See Maloney, Michael H., assignor.)						
Rogan, John A., *et al.* (See Volk, Ferdinand, assignor.)						
Rogers, Caroline W., Wellesley, Mass. Sign-card	804,882	Nov. 21	2746	593	119	687
Rogers, Jay H., Chicago, Ill. Sad-iron	804,770	Nov. 14	2511	549–50	119	593
Rogers, John, Cleveland, Ohio. Bag-closure	807,579	Dec. 19	2962	636	119	1992
Rogers, John, Cleveland, Ohio. Bag	808,170	Dec. 26	4146	893–4	119	2294
Rogers, John R., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company. Linotype-machine	803,928	Nov. 7	771	165–6	119	167
Rogers, John R., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company. Logotype-machine	804,049	Nov. 7	1039	219	119	225
Rogers, John R., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company. Logotype-machine	804,050	Nov. 7	1040	219–21	119	225
Rogers, Walter H. (See Dunbar and Rogers.)						
Rohlfing, William, Jr., Milwaukee, Wis. Touch-regulator for musical instruments	804,051	Nov. 7	1046	221	119	226
Roman, Charles G., Newark, N. J. Churn	806,500	Dec. 5	808	178	119	1446
Rominger, Charles. (See Hege and Rominger.)						
Ronan, Anson G., Toronto, Canada. Transmission-gear for gas-engines	807,048	Dec. 12	1915	414	119	1727
Rooch, J. W. (See Callender, Monroe N., assignor.)						
Roper, Charles F. (See Draper and Roper.)						
Roper, Charles F., Hopedale, Mass. Speed-controlling reversing-propeller	807,498	Dec. 19	2775	599	119	1954
Roper, Charles F., assignor to Draper Company, Hopedale, Mass. Crack-preventing means for looms	804,981	Nov. 21	2927	635	119	728
Roper, Charles F., assignor to Draper Company, Hopedale, Mass. Take-up mechanism for looms	807,580	Dec. 19	2963	637	119	1992
Rose, Elias B., Electric, Mont. Wagon-brake	806,843	Dec. 12	1480	327	119	1631
Rose, Garrett F., *et al.* (See Clifford, Thomas G., assignor.)						
Rose Gold Reclamation Company. (See Johnson, Frederick M., assignor.)						
Rose, Washington B., Kingston, Tenn. Churn	806,919	Dec. 12	1657	363	119	1670
Roseboom, Jerome B. (See Gowing, Fred J., assignor.)						
Roseman, Samuel G., Auckland, New Zealand. Manufacture of brooms and brushes	803,857	Nov. 7	646	140	119	139
Rosenbaum, Eugene, Dallas, Tex. Cultivator	807,967	Dec. 19	3726	808	119	2161
Rosenfeld, Mortimer C., Cleveland, Ohio. Pipe-collar	805,487	Nov. 28	3952	854	119	988
Rosengrén, Anders A., Malmo, Sweden. Automatic coupling for railway-cars	808,310	Dec. 26	4437	954	119	2360
Rosenheimer, Julius T., New York, N. Y. Pocket-tool	805,486	Nov. 28	3951	853	119	987
Rosenstock, Morris B., Philadelphia, Pa. Feeding device for liquids	806,844	Dec. 12	1483	328	119	1632
Rosenthal, August, assignor to Rosenthal Manufacturing Company, Milwaukee, Wis. Corn-husker and ensilage-cutter	804,434	Nov. 14	1842	399–401	119	445
Rosenthal Manufacturing Company. (See Rosenthal, August, assignor.)						
Rosewarne, Richard E., Covington, Ky. Variable-speed mechanism	806,190	Dec. 5	195	42	119	1307
Ross, Cornele G., assignor to Lincoln Iron Works, Rutland, Vt. Stone-planer	807,780	Dec. 19	3363	721	119	2079
Ross, Ellsworth, and J. A. Boyles, Lynch, Nebr. Lamp-burner	807,869	Dec. 19	3529	763	119	2117
Ross, Herbert E., Sydney, New South Wales, Australia. Construction of the hulls of ships and boats	804,269	Nov. 14	1526	328	119	375
Ross, Joseph A., Elgin, Utah. Combined door holder and buffer	807,401	Dec. 12	2587	558–9	119	1871
Rossi, Giordano, Milan, Italy. Filter	806,920	Dec. 12	1660	363–4	119	1671
Rossi, Joseph M., New York, N. Y. Skirt and shirt-waist holder	806,191	Dec. 5	197	43	119	1308
Rote, Charles V., *et al.* (See Miller, Ernest H., assignor.)						
Roth, Charles E., New York, N. Y. Lifting-jack	804,052	Nov. 7	1048	221	119	227
Rothberg, Mathew E., Cleveland, Ohio. Coke-oven	804,053	Nov. 7	1050	222	119	227
Rothberg, Mathew E., Cleveland, Ohio. Coke-oven	804,054	Nov. 7	1052	222–3	119	228
Röttinger, John B. M. V., assignor of one-half to J. F. Scheffer, New York, N. Y. Butter-cutting machine	807,320	Dec. 12	2434	524	119	1837
Röttinger, John B. M. V., assignor of one-half to J. B. Price, New York, N. Y. Machine for removing and cutting material from cores	808,578	Dec. 26	4960	1069	119	2472
Roudabush, Hiram M., Penn Laird, Va., assignor to M. C. Roudabush. Device for use in poultry culture	806,918	Dec. 12	1655	362	119	1670
Roudabush, Mary C. (See Roudabush, Hiram M., assignor.)						
Roulstone, Paul, Bayonne, N. J. Hose-coupling	807,499	Dec. 19	2778	599	119	1955
Rounsburg, Anton, Lewellen, Nebr. Hay-derrick	807,091	Dec. 12	1904	432	119	1743
Rouse, Manning M., Corry, Pa. Propped ladder	806,501	Dec. 5	810	178	119	1447
Rouse, Thomas, and H. Cohn, London, England. Manufacture of briquet fuel from coal-mine waste or dust-coal	806,845	Dec. 12	1485	.....	119	1632
Roussel, William H., San Francisco, Cal. Butter-cutter	807,130	Dec. 12	2082	447	119	1762
Routin, Joseph L., Lyon, France. Means for ascertaining the power factor in alternating-current systems	806,573	Dec. 5	929	206	119	1472
Routson, William A., New York, N. Y. Can and bottle washing machine	806,846	Dec. 12	1485	328–9	119	1632
Rowe, James E., assignor to E. Jenckes Manufacturing Company, Pawtucket, R. I. Knitting-machine	805,670	Nov. 28	4284	922–3	119	1059
Rowe, James E., assignor to E. Jenckes Manufacturing Company, Pawtucket, R. I. Knitting-machine	806,293	Dec. 5	416	91	119	1359
Rowe, James E., assignor to E. Jenckes Manufacturing Company, Pawtucket, R. I. Knitting-machine	806,921	Dec. 12	1661	364–6	119	1671
Rowland, Francis M., Webbers Falls, Ind. Ter. Muzzle	806,004	Nov. 28	4924	1052	119	1197
Rowland, Irven E. (See Purtle and Rowland.)						
Rowles, Ernest W. A. (See Dann, Ernest G., assignor.)						
Rowley, Robert, and L. S. Rubira, New York, N. Y. Thread-holding device	808,114	Dec. 26	4019	865	119	2268
Royal, Charles B. (See Fridgen, John, assignor.)						
Rubira, Luciano S. (See Rowley and Rubira.)						
Rudge, John W., Monroe, N. C. Combined fertilizer-distributer and cotton-seed planter	806,005	Nov. 28	4925	1052	119	1197

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Ruef, Charles S., Dixon, Ill. Wheeled plow	805,488	Nov. 28	3953	854	119	988
Rueter, Bernhard H (See Ransom, Albert F., assignor.)						
Ruff, Otto, Berlin, and W. Plato, Colberg, Germany. Manufacturing calcium	806,006	Nov. 28	4927	.....	119	1198
Ruger, James W., assignor to Bair & Gazzam Manufacturing Company, Pittsburg, Pa. Baking apparatus	804,622	Nov. 14	2204	482	119	523
Ruger, James W., assignor to Bair & Gazzam Manufacturing Company, Pittsburg, Pa. Sheeter and bar-press	804,623	Nov. 14	2206	482–3	119	523
Ruggles-Coles Engineering Company. (See Ruggles, William B., assignor.)						
Ruggles, William B., Bayonne, N. J., assignor to Ruggles-Coles Engineering Company. Furnace	804,883	Nov. 21	2746	594	119	687
Rugh, Harry O., Chicago, assignor, by mesne assignments, to E. C. Hennis, Sandwich, Ill. Pole-changing device	807,870	Dec. 19	3530	764	119	2117
Rump, Friederich, Cheboygan, Mich. Range-finder	805,584	Nov. 28	4143	892	119	1027
Runkel, John P., Milwaukee, Wis. Grater and slicer	805,157	Nov. 21	3297	715	119	806
Rupley, George H., Schenectady, N. Y., assignor to General Electric Company. Making insulated wires	806,574	Dec. 5	930	206	119	1473
Rupley, George H., Schenectady, N. Y., assignor to General Electric Company. Insulated wire	806,575	Dec. 5	933	207	119	1473
Rupley, George H., Schenectady, N. Y., assignor to General Electric Company. Insulating electric conductors	806,576	Dec. 5	936	.....	119	1474
Rupley, George H., Schenectady, N. Y., assignor to General Electric Company. Insulating electrical conductors	806,577	Dec. 5	937	.....	119	1474
Russell, Colonel E., Chicago, Ill. Apparatus for forming concrete walls	805,883	Nov. 28	4702	1005	119	1148
Russell & Erwin Manufacturing Company. (See Caley, Charles J., assignor.)						
Russell & Erwin Manufacturing Company. (See Voight, Henry G., assignor.)						
Russell, Frank N., Elmira, N. Y., assignor of one-half to A. D. Lane, Shoshone Agency, Wyo. Trolley-wheel and mounting therefor	805,096	Nov. 21	3173	688	119	780
Russell, George W., *et al.* (See Barr, George M., assignor.)						
Russell, George W., Fort Worth, Tex. Animal-feed device	807,092	Dec. 12	1995	432	119	1743
Russell, Jesse M., *et al.* (See Forbes, Henry M., assignor.)						
Russell, John C., Toledo, Ohio. Metal clamp for cross-rods	803,715	Nov. 7	386	82	119	87
Russell, Richard, Stephen, Minn. Grading and ditching machine	806,431	Dec. 5	673	148–9	119	1417
Russell, Silas B., assignor to Parker-Russell Mining & Manufacturing Company, St. Louis, Mo. Gas-retort bench	805,489	Nov. 28	3955	854–5	119	988
Russell, William A., New Brighton, N. Y., assignor to W. A. Russell & Co., Waterbury, Conn. Pipe-hanger	806,192	Dec. 5	198	43	119	1308
Russell, William H., Douglastown, Canada. Hydraulic jack	805,381	Nov. 21	3744	812	119	900
Rutan, William L., Boston, Mass. Machine-support	804,884	Nov. 21	2751	594	119	689
Ruth, Samuel D., Beatrice, Nebr. Paper and envelop feeding attachment for typewriters	807,321	Dec. 12	2436	524–5	119	1837
Rutledge, Charles B., Tullahoma, Tenn. Folding box	805,234	Nov. 21	3465	750	119	840
Rutschman, Oscar F., Philadelphia, Pa. Machine for plotting soap, &c.	806,502	Dec. 5	811	178	119	1447
Rutschmann, F. S., trustee. (See Palmer, John, assignor.)						
Rutten, Frank M., Crary, N. D. Draft-equalizer	805,007	Nov. 21	3175	688	119	780
Ryan, Patrick. (See Kreutzberg, Brockschmidt, and Ryan.)						
Ryan, William J., Worcester, Mass. Wrench	803,790	Nov. 7	527	115	119	116
Ryon, Eppa H., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Pattern mechanism for looms	805,756	Nov. 28	4456	956	119	1095
S. Oppenheimer & Company. (See Oppenheimer, Harry D., assignor.)						
S. Pearson and Son. (See Adkins, Benjamin R., assignor.)						
S. A. Woods Machine Company. (See Blood, Charles W. H., assignor.)						
Saalbach, Arthur A., and J. F. Maxwell, Baltimore, Md., assignors to American Can Company, New York, N. Y. Crab-can	804,504	Nov. 14	1977	433	119	476
Sachs, Joseph, assignor to Johns-Pratt Company, Hartford, Conn. Safety-fuse	807,093	Dec. 12	1996	432	119	1744
Sachs, Joseph, assignor to Johns-Pratt Company, Hartford, Conn. Fuse-plug	807,781	Dec. 19	3365	721	119	2080
Saco & Pettee Machine Shops. (See Penney, Loren W., assignor.)						
Saecker, Herman G., Appleton, Wis. Paper-stock-refining engine	806,193	Dec. 5	200	43	119	1309
Saegmuller, George N., Washington, D. C. Illuminating means for telescope cross-hairs	804,624	Nov. 14	2208	483	119	524
Safety Car Heating & Lighting Company. (See Dixon, Robert M., assignor.)						
Safety Car Heating & Lighting Company. (See Lungren, Charles M., assignor.)						
Saffell, Arthur H., Bakersfield, assignor of one-half to R. J. Powers, San Leandro, Cal. Hot-air appliance for hydrocarbon burners and furnaces	805,671	Nov. 28	4291	923	119	1059
Sage, Charles E., Jersey City, N. J., assignor to American Tobacco Company, New York, N. Y. Sheet separating and feeding mechanism	805,098	Nov. 21	3176	688–9	119	781
Sage, Charles E., Jersey City, N. J., assignor to American Tobacco Company, New York, N. Y. Sheet separating and feeding mechanism	805,099	Nov. 21	3180	689–90	119	782
Sage, Charles E., Jersey City, N. J., assignor to American Tobacco Company. Sheet separating and feeding mechanism	805,158	Nov. 21	3299	715–16	119	806
Sagendorph, Daniel P. (See Green, Jordan H., assignor.)						
Sahlin, Axel, London, England. Gas-purifier	804,677	Nov. 14	2306	506	119	546
Sahlström, Carl A., Ottawa, Canada. Drying-retort for peat	805,030	Nov. 21	3038	659	119	752
Saling, Thomas W., and J. McKiel, Marshall, Tex. Ladder	806,922	Dec. 12	1671	366	119	1673
Salisbury, Moreau J., *et al.* (See Newton, Harlan L., assignor.)						
Sallee, Walter S. (See Lapsley and Sallee.)						
Salo, John B., assignor of one-half to A. H. Hoag, New York, N. Y. Carbureter	807,131	Dec. 12	2083	447	119	1762
Salomon, Hermann, Merseburg, Germany. Flooring	804,345	Nov. 14	1683	363	119	410
Salomon, Mentheim, assignor to E. A. Dewey, Toledo, Ohio. Fuel	806,194	Dec. 5	201	.....	119	1309
Salsbury, Henry, London, England. Lamp-bracket	808,480	Dec. 26	4767	1026	119	2432
Samms, William P., Enterprise, Oreg. Swimming appliance	805,672	Nov. 28	4292	924	119	1060
Sampson, Gustave, Belview, Minn. House-shingling apparatus	808,171	Dec. 26	4147	894	119	2294
Samuel J. Shimer and Sons. (See Shimer, Elmer S. and G. S.)						
Sandell, Henry K., assignor to Mills Novelty Company, Chicago, Ill. Electric self-playing violin	807,871	Dec. 19	3531	764–6	119	2117
Sandell, Henry K., assignor to Mills Novelty Company, Chicago, Ill. Sheet-perforating machine	808,311	Dec. 26	4439	955–6	119	2361
Sanders, Louis, New York, N. Y. Buckle	807,132	Dec. 12	2087	447	119	1763
Sanders, Walter M., Iola, Kans. Concentrating ores	805,382	Nov. 21	3746	.....	119	900
Sanderson, William H., assignor to Computing Scale Company, Dayton, Ohio. Spring-balance scale	804,885	Nov. 21	2753	595	119	689
Sanderval, Georges O. de, Mont-Redon, France. Motor and engine	806,195	Dec. 5	202	43	119	1309
Sandifur, William H., Bowling Green, Ohio, assignor of one-half to N. E. Meredith, Indianapolis, Ind. Corn-planter	804,055	Nov. 7	1055	223	119	228
Sandstrom, Charles E., Chicago, Ill. Feeding apparatus for picture-frame-puttying machines, &c.	806,923	Dec. 12	1673	367	119	1673
Sanford, Clark E., Oswego, N. Y. Automatic damper and valve regulator	805,159	Nov. 21	3304	716	119	808

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Sanford, William W., Newark, assignor of one-half to F. D. Bennett, Freehold, N. J. Fountain-pen	807,500	Dec. 19	2781	599	119	1955
Sanitary Engineering Company. (See Venable, William M., assignor.)						
Sanitary Reduction and Construction Company. (See Wiselogel, Frederick G., assignor.)						
Sappenfield, Jesse T., Milan, Kans. Facing for pulleys and the like	804,982	Nov. 21	2930	635	119	729
Sargent, George H., New York, N. Y. Car-replacer	804,983	Nov. 21	2931	635	119	729
Sargent, Howard R., Schenectady, N. Y. Safety-pin	805,160	Nov. 21	3308	717	119	808
Sarle, James B., Taunton, Mass. Belt-fastener	803,716	Nov. 7	388	82	119	88
Sasher, W. M. (See Livingston, Lewis H., assignor.)						
Satchwell, Ebenezer, Birmingham, England. Bracelet, necklet, and like ornament for personal wear	804,678	Nov. 14	2308	506	119	546
Satterlee, Lloyd G., Rochester, Mich. Roofing-tile	805,884	Nov. 28	4703	1006	119	1148
Saucier, Henry L., Centerville, R. I. Curtain-fixture	804,552	Nov. 14	2077	454	119	496
Sauer, Joseph, Millvale, Pa. Attachment for musical instruments	804,553	Nov. 14	2077	454-5	119	496
Saunders, Daniel G., Jr., Kansas City, Mo. Envelop moistener and sealer	804,886	Nov. 21	2754	595	119	689
Saurer, Firm of Adolph. (See Moriggi, Carl, assignor.)						
Saurer, Firm of Adolph. (See Saurer, Hippolyt, assignor.)						
Saurer, Hippolyt, assignor to Firm of A. Saurer, Arbon, Switzerland. Valve-gear for regulating descending automobiles	807,581	Dec. 19	2968	637-8	119	1993
Savage Arms Company. (See Savage, Arthur W., assignor.)						
Savage, Arthur W., assignor to Savage Arms Company, Utica, N. Y. Firearm	806,007	Nov. 28	4929	1052	119	1198
Savage, David A., Mayoworth, Wyo. Land-leveler	804,625	Nov. 14	2210	483	119	524
Saville, Richard. (See Francis, Herbert P., assignor.)						
Sawbridge, John, *et al.* (See McGonigle, Charles W., assignor.)						
Sawyer, Charles M., Fond du Lac, Wis. Lifting-jack	804,771	Nov. 14	2513	550	119	594
Sawyer, Frank M., Charlotte, N. C. Mold	806,578	Dec. 5	938	207	119	1474
Sawyer, Lewis F. (See Crisp, Sawyer, and Rich.)						
Sawyer, William S., Spotswood, N. J. Foot-warmer for attachment to radiators	806,432	Dec. 5	677	149	119	1418
Saxman, Joseph H. (See Peters and Saxman.)						
Saxon, George. (See Clark, Charles W., assignor.)						
Sayles, Henry W., assignor to Diamond Meter Company, Peoria, Ill. Electrical meter	808,115	Dec. 26	4021	865-6	119	2268
Saylor, Franklin G., Franklin, assignor to M and S Tire Company, Boston, Mass. Vehicle-tire	804,772	Nov. 14	2514	550-1	119	594
Scanlan, John L., Indianapolis, Ind. Combined key and lighting device	807,402	Dec. 12	2589	559	119	1872
Scannell, John, Helena, Mont. Carriage-wheel-joint support	806,433	Dec. 5	678	150	119	1419
Scargle, John C., Philadelphia, Pa. Switch	804,626	Nov. 14	2211	484	119	524
Scheets, George N., assignor of one-half to G. A. Woodman, Chicago, Ill. Journal-bearing	808,172	Dec. 26	4150	895	119	2295
Schaeffer, Charles F. (See Crawford and Schaeffer.)						
Schaeffer, Jacob D., assignor of one-half to W. J. Killian, Muncie, Ind. Floor-fastening for furniture	806,367	Dec. 5	547	121	119	1387
Schaffer, Frank M., Indianapolis, Ind. Drying apparatus	808,481	Dec. 26	4768	1027	119	2433
Schakel, Jacob D., Yonkers, N. Y. Trousers-protector	806,579	Dec. 5	939	207	119	1474
Schalkenbach, Robert N., Jersey City, N. J. Glazed structure	805,383	Nov. 21	3747	812	119	900
Schalkenbach, Robert N., Jersey City, N. J. Glazed structure	805,384	Nov. 21	3750	812	119	901
Schardt, Christian, North Braddock, Pa. Plow	804,554	Nov. 14	2079	455	119	497
Schattner, Ernest, Schenectady, N. Y., assignor to General Electric Company. Measuring instrument	808,259	Dec. 26	4315	928	119	2333
Schaub, Ferdinand, assignor to E. T. Otto, trustee, Jersey City, N. J. Automatic piano	805,989	Nov. 28	4899	1045	119	1192
Schauer, Sherman C., assignor to Cincinnati Machine Tool Company, Cincinnati, Ohio. Speed-changing device	803,627	Nov. 7	198	44	119	44
Schaum, Otto W., Philadelphia, Pa. Glass-bar bracket for double-decker looms	807,206	Dec. 12	2228	479	119	1793
Schebler, George M., Indianapolis, Ind. Carbureter for hydrocarbon-motors	806,434	Dec. 5	679	150	119	1419
Scheffel, Roy A., Dayton, Ohio. Breech for toy cannon	806,196	Dec. 5	204	44	119	1310
Scheffer, J. Frederick. (See Röttinger, John B. M. V., assignor.)						
Scheiffler, George D., Jackson, Mich. Machine for mixing concrete	807,207	Dec. 12	2230	479-80	119	1793
Schenck, Martin B., Meriden, Conn. Sheet-metal roller-bearing furniture-caster	806,435	Dec. 5	680	150	119	1419
Schenck, Rudolf, Marburg, and P. Marquart, Cassel, assignors to Chemische Fabrik Bettenhausen Marquart & Schulz, Bettenhausen-Cassel, Germany. Making red phosphorus	804,555	Nov. 14	2080	.....	119	497
Scherer, Albert G., Chicago, Ill. Making corrugated stovepipe-elbows	805,490	Nov. 28	3957	855	119	989
Scherer, William P., assignor of one-half to E. J. and J. B. Kelley, Buffalo, N. Y. Tender for locomotives	806,436	Dec. 5	681	151	119	1419
Schermerhorn, Clarence V. (See Favorite and Schermerhorn.)						
Schier, George, Buffalo, N. Y. Shirt and collar button	808,312	Dec. 26	4444	956	119	2362
Schild, Hermann L., Monterey, Mexico, assignor to J. B. Ladd and D. Baker, Philadelphia, Pa. Gas reversing-valve	804,505	Nov. 14	1978	433	119	476
Schirmer, Baldwin F., Cleveland, Ohio. Bottle-washing machine	807,687	Dec. 19	3179	683-4	119	2041
Schlickeysen, Carl, Steglitz, near Berlin, Germany. Treating raw peat	807,688	Dec. 19	3181	.....	119	2041
Schloss, Joseph W., assignor to Blumenkrohn Crochet Button Works, New York, N. Y. Garment-supporter	804,556	Nov. 14	2082	455	119	497
Schlosser, John S., Hillsdale, Mich. Sliding door	804,270	Nov. 14	1527	328-9	119	375
Schlotterer, George H. (See Bonnell, William R., assignor.)						
Schmelzer, Karl, Saarbrucken, assignor to Deutsch-Oesterreichische Mannesmannröhrenwerke, Düsseldorf, Germany. Connection for superimposed boilers	804,174	Nov. 7	1300	278	119	286
Schmidt, Albrecht, assignor to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Brominating indigo	807,782	Dec. 19	3367	.....	119	2080
Schmidt, George A., Jr. (See Helmold and Schmidt.)						
Schmidt, Ida W., New York, N. Y. Wheel-chair tractor	806,295	Dec. 5	424	92	119	1360
Schmidt, Ida W., New York, N. Y. Invalid-chair and tractor therefor	806,296	Dec. 5	425	93	119	1361
Schmidt, John. (See Tattrie and Schmidt.)						
Schmidt, Paul, and A. Desgraz, Hanover, Germany. Producer-gas furnace	805,235	Nov. 21	3467	750	119	840
Schmidt, Wilhelm, Wilhelmshöhe, near Cassel, Germany. Superheater	804,557	Nov. 14	2083	455-6	119	497
Schmidt, Wilhelm, Wilhelmshöhe, near Cassel, Germany. Tightening device for smoke-tubes	804,558	Nov. 14	2084	456	119	498
Schmidt, William L. (See Willmore and Schmidt.)						
Schmiel, Ernst O., Leipsic, Germany. Preparing zinc and aluminium plates for printing purposes	805,031	Nov. 21	3040	.....	119	753
Schmitt, Benjamin C. (See Butterfield and Schmitt.)						
Schmitz, Eduard, Cologne, Germany. Wheel-rim	808,405	Dec. 26	4627	996	119	2402
Schmitz, Frank, Chicago, Ill. Banana-shipping case	808,313	Dec. 26	4445	957	119	2362
Schmitz, Heinrich A., Bonn, Germany. Adjustable holder for curtain poles and tops	804,559	Nov. 14	2085	457	119	498
Schnabel, John, Buffalo, N. Y., assignor to National Biscuit Company, Jersey City, N. J. Display-can	803,858	Nov. 7	647	141	119	139
Schneider, Reinhold, Sharon, Pa. Reversing-valve for smelting and other furnaces	803,628	Nov. 7	200	44-5	119	45

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Schneider, Reinhold. Sharon, Pa. Condensing plant	806,368	Dec. 5	548	121	119	1387
Schnitzer, Bernhard, Wildbad, Germany. Polishing and grinding mechanism for paper-machine press-rollers	805,585	Nov. 28	4143	892	119	1027
	806,580	Dec. 5	940	208	119	1475
Schoen, Charles T., Philadelphia, Pa. Manufacturing forged car-wheels						
Schoen, Chas. T. (See Loss, Henrik V., assignor.)						
Schoenhut, Albert, Philadelphia, Pa. Jointed figure	806,008	Nov. 28	4930	1053	119	1198
Schoenner, Georg, Nuremberg, Germany. Head for compasses	806,581	Dec. 5	941	208	119	1475
Schofield, Charles, and I. Reeder, assignors to William Schofield Company, Philadelphia, Pa. Lap-feeding device for carding-machines	805,934	Nov. 28	4794	1023	119	1167
Schofield, James D., Dallas, Tex. Seeder	806,503	Dec. 5	813	179	119	1447
Schöning, Julius F., Druedal, near Frederikssund, Denmark. Apparatus for feeding bees	804,271	Nov. 14	1528	329	119	376
Schoshusen, Arthur, Chicago, Ill. Lacing	805,385	Nov. 21	3753	813	119	902
Schott, Theodore J., *et al.* (See Kieren, Conrad, assignor.)						
Schott, William P., Flint, Mich. Valve	804,056	Nov. 7	1058	224	119	229
Schowalter, Edward J. (See Thomas, Frank P., assignor.)						
Schram, George, Detroit, Mich. Vehicle-wheel	805,673	Nov. 28	4293	924	119	1060
Schraubstadter, Carl, assignor to Inland Type Foundry, St. Louis, Mo. Bracket	804,435	Nov. 14	1848	401	119	445
Schreiner, Friedrich, Plainfield, N. J. Casting-box for stereotypes	806,504	Dec. 5	814	179	119	1448
Schrems, Joseph. (See Neubauer, Carl E., assignor.)						
Schroeder, Henry A., Baltimore, Md. Hose-coupling	808,219	Dec. 26	4244	914	119	2317
Schroeder, Robert, Morrisonville, Wis. Whip-holder	804,627	Nov. 14	2213	484	119	525
Schroeder, William S., and A. P. Lindholm, assignors to C. H. Ferry, Chicago, Ill. Car-coupling	807,582	Dec. 19	2972	638	119	1994
Schrum, William L., Windber, Pa. Rail-tie	804,346	Nov. 14	1683	363	119	410
Schuermann, Anton, assignor of one-half to H. Mueller Manufacturing Company, Decatur, Ill. Screw-cutting lathe	806,996	Dec. 12	1796	394–5	119	1701
Schulman, Joseph. (See Schulman, Louis and J.)						
Schulman, Louis, Williamsburg, and J. Schulman, New York, N. Y., assignors to American Firecracker Manufacturing Company. Machine for making and finishing firecrackers, &c	807,872	Dec. 19	3542	766–8	119	2119
Schultz, Charles S., New York, N. Y. Tool	804,436	Nov. 14	1850	401	119	446
Schultz, Ferdinand H., Treynor, Iowa. Trap	803,629	Nov. 7	202	45	119	45
Schultz, William J., assignor of one-half to C. L. Vieman and W. H. Turner, Detroit, Mich. Air-compressor	806,924	Dec. 12	1679	367–8	119	1674
Schultz, William J. F., Chicago, Ill. Drum	804,347	Nov. 14	1684	364	119	410
Schulz, Fritz, assignor to Good Manufacturing Co., Chicago, Ill. Brick-tongs	806,197	Dec. 5	205	44	119	1310
Schulz, Wilhelm C., Lidgerwood, N. D. Lubricator attachment	806,198	Dec. 5	206	44	119	1310
Schulze, Ernist H., Kansas City, Mo. Street-car fender	806,294	Dec. 5	420	92	119	1360
Schuman, James B., assignor to himself, J. K. Sharpe, Jr., Indianapolis, Ind., and T. King, Quincy, Mass. Shock-grapple	806,437	Dec. 5	684	151	119	1420
Schustek, Daniel. (See Andrews and Schustek.)						
Schustek, Daniel, and H. L. Andrews, Chicago, Ill.; said Schustek assignor to said Andrews. Collapsible chair	806,369	Dec. 5	551	121–2	119	1388
Schutt, Duny A., Peru, Ind. Garden implement	804,773	Nov. 14	2516	551	119	594
Schwartz, Charles W., Jr., assignor to Philadelphia Textile Machinery Company, Philadelphia, Pa. Stocking-drying apparatus	805,935	Nov. 28	4797	1024	119	1168
Schwartz, Morris, assignor, by mesne assignments, to New York Electrical Generator Company, New York, N. Y. Electrical generator	804,628	Nov. 14	2215	484–5	119	525
Schwartz, Walter M., assignor to Philadelphia Textile Machinery Company, Philadelphia, Pa. Door-operating device for drying-machines	805,236	Nov. 21	3468	751	119	841
Schwarz, Alfred, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz. Ter. Concentrating ores	807,501	Dec. 19	2782	.....	119	1955
Schwarz, Alfred, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz. Ter. Concentrating ores	807,502	Dec. 19	2784	600	119	1956
Schwarz, Alfred, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz. Ter. Concentrating ores	807,503	Dec. 19	2786	600	119	1956
Schwarz, Alfred, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz. Ter. Concentrating ores	807,504	Dec. 19	2788	600	119	1956
Schwarz, Alfred, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz. Ter. Concentrating ores	807,505	Dec. 19	2789	600	119	1957
Schwarz, Alfred, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz. Ter. Concentrating ores	807,506	Dec. 19	2791	601	119	1957
Schwarz, Carl, Franklin township, Houghton county, Mich., and W. C. Bryant, Brooklyn, N. Y. Combined fire-escape and water-tower	803,717	Nov. 7	388	83	119	88
Schwarz Ore Treating Company. (See Schwarz, Alfred, assignor.)						
Schwarz, Wilhelm, Pforzheim, Germany. Respirator	804,272	Nov. 14	1529	329–30	119	376
Schwarzbeck, George, Chicago, Ill. Stamping or tablet-making machine	808,406	Dec. 26	4628	996	119	2402
Schwarzlose, Andreas W., Suhl, Germany. Toggle-link lock for recoil-loading guns	804,506	Nov. 14	1981	433–4	119	476
Schwehm, Peter, Reisholz, Germany. Gas-engine	806,199	Dec. 5	207	44–5	119	1310
Schweinert, Maximilian C. (See Raymond, Schweinert, and Kraft.)						
Schwerdfeger, Charles, *et al.* (See Werner, Emil, assignor.)						
Schwieger, Adolf, Hanover, assignor to A. Baurose, Godesberg, Prussia, Germany. Collar-button	807,689	Dec. 19	3183	684	119	2041
Scogin, John T., Luthersville, Ga. Trace-hook	806,925	Dec. 12	1681	368	119	1675
Scott, Archibald D., Providence, R. I., assignor to Varley Duplex Magnet Company. Winding-machine	807,133	Dec. 12	2089	448	119	1763
Scott, Arthur H., Philadelphia, Pa. Machine for tightening rolls of paper	806,847	Dec. 12	1491	329	119	1633
Scott, Charles F. (See Lamme, Scott, and Conrad.)						
Scott, Gerard C., Columbus, Ohio. Poultry-feeding apparatus	804,057	Nov. 7	1059	224	119	230
Scott, James E., Louisville, Ky. Dust-excluding device for window-sashes	806,582	Dec. 5	942	208	119	1475
Scott, Ralph, Wilkesbarre, Pa. Automatic motor-starting resistance	806,009	Nov. 28	4932	1053	119	1198
Scovill Manufacturing Company. (See Stanley, Frederick E., assignor.)						
Seaman, Elizabeth C. (See Wehrhahn, Henry, assignor.)						
Seaman, Harry J. (See Hurry and Seaman.)						
Searle, Edward, assignor to Coes Wrench Company, Worcester, Mass. Screw-driver	804,679	Nov. 14	2309	506	119	546
Searle, Elbert H., Philadelphia, Pa., assignor of three-fourths to W. D. Condit, Des Moines, Iowa. Recoil-operated firearm	804,984	Nov. 21	2932	636–7	119	729
Searle, Elbert H., Philadelphia, Pa., assignor of three-fourths to W. D. Condit, Des Moines, Iowa. Firearm	804,985	Nov. 21	2938	637–8	119	731
Sears, Willard T., Harrisburg, Pa. Self-cleaning air-screen valve	805,237	Nov. 21	3471	751	119	841
Seattle Rotary Engine Company. (See Smith, Norman R., assignor.)						
Sedlacek, Rudolph A., Glencoe, Ill. Flower-pot	805,491	Nov. 28	3958	856	119	989
See, James W., Hamilton, Ohio. System of tunneling	804,437	Nov. 14	1851	402	119	446
Seeberger, Charles D., Yonkers, N. Y. Elevator	804,560	Nov. 14	2095	457	119	496
Seeley, Fayette M., Lansing, Mich. Rotary valve for gas-engines	808,579	Dec. 26	4961	1069	119	2473

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Seeley, George M. (See Allison, James E., assignor.)						
Seery, Peter H., Newark, N. J. Suspension device for vehicles	807,968	Dec. 19	3728	808	119	2161
Seiber, Harvey W., Canal Dover, Ohio. Horseshoe	804,887	Nov. 21	2755	595	119	690
Seidel, Peter F., Pinegrove, Pa. Hog scalding and scraping machine	805,492	Nov. 28	3958	856	119	989
Seifert, Bruno R., assignor to Chemische Fabrik von Heyden Aktiengesellschaft, Radebeul, near Dresden, Germany. Making guanyl dialkyl barbituric acid	808,407	Dec. 26	4629	.....	119	2402
Seifert, John W., Prattville, Ala. Pneumatic gin-feeder	804,888	Nov. 21	2756	595–6	119	690
Selby, George M. (See Bullivant and Selby.)						
Selden, Charles. (See Nelson, William O., assignor.)						
Selden, George B., Jr., Rochester, N. Y. Starting mechanism for explosive-engines	806,583	Dec. 5	943	208–9	119	1475
Selden, Henry R., Rochester, N. Y. Exhaust-muffler	807,322	Dec. 12	2438	525	119	1838
Selective Signal & Telephone Manufacturing Co. (See Buell, Edward A., assignor.)						
Seligstein, Abraham, Munich, Germany. Umbrella	803,630	Nov. 7	204	46	119	45
Sell, George, Womelsdorf, Pa. Railway	808,116	Dec. 26	4023	806	119	2269
Sellenscheidt, Carl, assignor to Filter & Brautechnische Maschinen-Fabrik Akt. Ges. vormals L. A. Enzinger, Berlin, Germany. Bottling and like apparatus	807,507	Dec. 19	2793	601	119	1957
Sellmayer, John M., Rochester, N. Y. Buffing-machine	808,482	Dec. 26	4770	1027–8	119	2433
Semple, James R., Sugarcreek, assignor of one-half to L. W Wolfe, Oil City, Pa. Walking-beam	806,438	Dec. 5	685	151	119	1420
Senderling, Martin L., Jersey City, N. J. Coupling	805,674	Nov. 28	4294	924	119	1060
Seward, George O. (See Kügelgen and Seward.)						
Sexton, William H., Sullivan, Ind. Mining-machine	805,885	Nov. 28	4704	1006	119	1149
Shackleton, Sugden, assignor to Prince Smith & Son, Keighley, England. Spinning-machine	805,238	Nov. 21	3473	752	119	842
Shadbolt, Helon F., assignor to Excelsior Wrapper Company, Sheybogan, Wis. Machine for the manufacture of excelsior wrappers and pads	803,718	Nov. 7	391	84–5	119	88
Shafer, William H., assignor to Ahrens Fire Engine Company, Cincinnati, Ohio. Pump.	805,586	Nov. 28	4144	892	119	1028
Shambaugh, Thomas N. (See Hill, Shambaugh, and Larson.)						
Shaner, Charles H., McKeesport, Pa. Car-brake	808,314	Dec. 26	4447	957	119	2362
Sharood, Charles K., St. Paul, Minn. Fastener for shoe-uppers	805,757	Nov. 28	4459	957	119	1095
Sharp, Charles S. (See Kennedy and Sharp.)						
Sharp, George. (See Kaiser, Fredrick, assignor.)						
Sharp, Lee C., Omaha, Nebr., assignor to American Can Company, New York, N. Y. Can heading and crimping machine	807,049	Dec. 12	1916	414–15	119	1727
Sharp, Stephen, Micklethwaite, near Bingley, England. Spindle-tube	803,929	Nov. 7	773	166	119	168
Sharp, Thomas O., assignor to Sharp and Tucker, Roxboro, N. C. Banker	803,719	Nov. 7	397	86	119	89
Sharp, Thomas O., assignor to Sharp and Tucker, Roxboro, N. C. Spirit-level	807,873	Dec. 19	3550	769	119	2120
Sharp and Tucker. (See Sharp, Thomas O., assignor.)						
Sharpe, Joseph K., Jr., *et al.* (See Schuman, James B., assignor.)						
Sharpe, Nathan W. H., London, England. Silencer for internal-explosion engines	806,715	Dec. 5	1192	267	119	1528
Shattuck, William P., assignor of one-half to A. F. Pillsbury, C. S. Pillsbury, and J. S. Pillsbury, Jr., Minneapolis, Minn. Sighting attachment for firearms	803,791	Nov. 7	529	115	119	116
Shaughnessy, Martin J., Amsterdam, N. Y. Knitted fabric	806,926	Dec. 12	1682	369	119	1675
Shaughnessy, Micheal L. (See Barry and Shaughnessy.)						
Shaver, William E., Weldon, Ill. Power appliance	806,010	Nov. 28	4934	1053–4	119	1199
Shaw, Charles D., *et al.* (See Palmer, Roderick M., assignor.)						
Shaw, Edward, London, England. Apparatus for cooking liquids	806,848	Dec. 12	1494	330	119	1634
Shaw, Ella T., *et al.* (See Gallagher, Richard D., Sr., assignor.)						
Shaw, Frank B., and J. M. Eberle, Warsaw, Ind. Track-alining apparatus	807,208	Dec. 12	2232	480	119	1793
Shaw, Franklin W. H., township of Gore of Chatham, Ontario, Canada. Apparatus for topping beets	804,889	Nov. 21	2762	596	119	692
Shaw, Henry F., Boston, assignor to F. T. Prince, Dorchester, Mass. Automatic press.	806,370	Dec. 5	554	122	119	1388
Shaw, John I. Novinger, Mo. Churn	807,508	Dec. 19	2794	601	119	1958
Shaw, John L., Coshocton, Ohio. Wagon-brake	804,058	Nov. 7	1061	224–5	119	230
Shaw, Oliver W., Polo, Ill. Device for supporting wagon-bodies	804,059	Nov. 7	1062	225	119	230
Shaw, Ora D., Boston, Mass. Cap	805,161	Nov. 21	3309	717	119	808
Shea, Charles J., Freeport, N. Y. Rail-joint	808,580	Dec. 26	4963	1070	119	2473
Sheahan Rotary Engine Company. (See Sheahan, William A., assignor.)						
Sheahan, William A., Freeport, assignor to Sheahan Rotary Engine Company, Chicago, Ill. Rotary engine	806,297	Dec. 5	427	93	119	1361
Sheakley, Arthur M., assignor to Hercules Manufacturing Company, Stockton, Cal. Fiber-cutting machine	806,753	Dec. 5	1286	285–6	119	1547
Shearer, Raymond E. (See Tritt, Theodore G., assignor.)						
Sheehan, John, North Braddock, Pa. Collar for shafts	807,874	Dec. 19	3551	769	119	2120
Sheen, Daniel R. (See Thomas, Thoma C., assignor.)						
Shefferly, Joseph F., Howlett, assignor to himself, C. W. Norton, and E. Henderson, Detroit, Mich. Potato-digger	808,615	Dec. 26	5023	1085	119	2487
Shelden, Charles M. (See Laune and Shelden.)						
Sheldon, Samuel B., Buffalo, N. Y. Utilizing furnace-flue dust	803,792	Nov. 7	531	.....	119	116
Shelley, Sivert H., San Jose, Cal. Animal-trap	807 969	Dec. 19	3730	808	119	2162
Shelton, William M., C. B. Manning, and E. R. Cheney, Gypsum, Kans. Mail-box-delivery device	806,505	Dec. 5	816	180	119	1448
Shepard, Jason L., Los Angeles, Cal. Centrifugal pump	804,774	Nov. 14	2518	551	119	594
Shepardson, Otis. (See Blue and Shepardson.)						
Shepherd, James H., Idaho Springs, Colo. Wrench	807,209	Dec. 12	2233	480	119	1794
Sheppard, Frank, Alhambra, Ill. Riveting device	805,239	Nov. 21	3475	752	119	842
Sheppard, George N., Fillmore, Minn. Wheel	806,584	Dec. 5	945	209	119	1475
Sherkel, Frank, Jr., Houtzdale, Pa. Safety-hook	804,175	Nov. 7	1301	279	119	287
Sherman, Edwin M., assignor to Acetylene Apparatus Manufacturing Company Chicago, Ill. Carbid-holder	806,585	Dec. 5	946	209–10	119	1476
Sherman, John A., Worcester, Mass. Envelop-clasp	803,631	Nov. 7	205	46	119	46
Sherman, William B., Providence, R. I. Sad-iron	807,690	Dec. 19	3184	684	119	2042
Sherrill, Bert R. (See Sherrill, Edward F. and B. R.)						
Sherrill, Edward F. and B. R., Moline, Ill. Truck	804,060	Nov. 7	1063	225	119	230
Sherwood, Charles S., Wichita, Kans. Feeder for threshing-machines	808,173	Dec. 26	4151	895–6	119	2295
Sherwood, Fred, assignor of one-fourth to B. D. Kneeland, Rome, N. Y. Rail-joint construction	807,509	Dec. 19	2796	601	119	1958
Sherwood, Louis C., trustee. (See Boileau, James W., assignor.) (Reissue.)						
Sherwood Manufacturing Company. (See Dean, George W., assignor.)						
Sherwood, Winfield T., Sidney, N. Y. Ticket-case	806,506	Dec. 5	818	180	119	1448
Shifley, Isaac J., Toledo Ohio. Shaping-machine	803,859	Nov. 7	649	141–2	119	139
Shimer, Elmer S. and G. S., assignors to Samuel J. Shimer and Sons, Incorporated, Milton, Pa. Grinding-machine	807,323	Dec. 12	2440	525–6	119	1838
Shimer, George S. (See Shimer, Elmer S. and G. S.)						
Shinners, William, Hartford, Wis. Bait-receptacle	807,875	Dec. 19	3552	769	119	2120
Shive, Caleb C., Frederick, Okla. Ter. Rein-holder	805,675	Nov. 28	4296	925	119	1061

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page
Shock, William A., Huntington, Ind. Mold for the manufacture of cement brick	804,890	Nov. 21	2764	596	119	692
Shocker, Paul. (See Fisher, George A., assignor.)						
Shoemaker, Jacob S., New Lothrop, Mich. Egg-tester	808,117	Dec. 26	4024	866	119	2269
Shoemaker, Taylor F., Blufton, Ind. Cement block and brick machine	806,927	Dec. 12	1683	369-70	119	1675
Shoo, Frederick, Oakland, Cal. Window-shade and curtain-pole roller	805,676	Nov. 28	4297	925	119	1061
Shoop, Edwin D., Baltimore, Md. Brake-shoe for vehicles	804,629	Nov. 14	2216	485	119	525
Short, Edward C., St. Paul, Minn. Support for pole cross-arms	804,630	Nov. 14	2217	485	119	526
Short, Harry W., and G. A. Casey, Southfork, Pa. Automatic retaining-valve	803,930	Nov. 7	775	166	119	168
Shourt, James M., St. Paul, Minn. Head and ear protector	804,348	Nov. 14	1685	364	119	410
Shreiner, Edward M., Canton, Ohio. Bill-file	807,783	Dec. 19	3369	722	119	2080
Shrum, Jonas H., Monterey, Mo. Churn	806,586	Dec. 5	948	210	119	1476
Shrum, Peter J., assignor to K. J. Hendricks, Pittsburg, Pa. Metallic mat	806,754	Dec. 5	1289	286	119	1548
Shryock, Leonard D., Marietta, Ohio. Well-drilling apparatus	807,784	Dec. 19	3371	722–3	119	2081
Shue, Nicholas P., Utica, N. Y. Car-brake	806,849	Dec. 12	1499	330–1	119	1636
Shuker, Edwin, Rotherham, England. Hydraulic governor for engines or motors	806,997	Dec. 12	1798	395	119	1701
Shuler, Chester E., Clifton, Kans. Sheet-music-leaf turner	805,822	Nov. 28	4566	978	119	1115
Shull, Jacob W., Springchurch, Pa. Burial appliance	806,998	Dec. 12	1799	395	119	1702
Shuman, Frank, Philadelphia, Pa. Concrete pile and making same	805,936	Nov. 28	4798	1024	119	1168
Shuman, Frank, Philadelphia, Pa. Pier and pier-casing	806,587	Dec. 5	949	211	119	1477
Shuman, Frank, Philadelphia, Pa. Pile for piers or pier-casings	806,755	Dec. 5	1289	287	119	1549
Shunk, Frank A., Streator, Ill. Combined conveyer and leer	803,720	Nov. 7	398	86–8	119	89
Shuttleworth, James J., Ryde, near Sydney, New South Wales, Australia. Fastening for bottles and like containers to prevent them being fraudulently reused	807,134	Dec. 12	2092	449	119	1764
Sibbald, Charles J., Troy, N. Y., and D. A. Vance, assignors to C. Cooper, Bennington, Vt. Latch-needle for knitting-machines	807,210	Dec. 12	2234	480	119	1794
Sides, William S., and J. P. Klensch, Covina, Cal. Solar heater	807,642	Dec. 19	3084	663	119	2019
Sieber & Trussell Manufacturing Company. (See Nelson, Charles R., assignor.)						
Sieber & Trussell Mfg. Co. (See Nelson, Dawson, and Trussell, assignors.)						
Sieber, William, Henderson, Ky. Truck for molding-machines	803,931	Nov. 7	776	167	119	168
Siebert, Otto. (See Herzberg and Siebert.)						
Siebring, Claude, George, Iowa. Swinging gate	805,032	Nov. 21	3041	659	119	753
Siegwart, Hans, Lucerne, Switzerland. Machine for manufacturing hollow artificial-stone beams or girders	806,371	Dec. 5	555	122	119	1389
Siem, Gustav C., assignor to Phoenix-American Pipe Works, Washington, Mo. Label-attaching machine	805,428	Nov. 21	3836	829–30	119	920
Siemens & Halske Aktiengesellschaft. (See Rasehorn, Paul, assignor.)						
Siemsen, Jurgen, assignor of one-half to W. L. Worrell, Valparaiso, Nebr. Grain-door	804,061	Nov. 7	1066	226	119	231
Sikes, Simeon J., Ehren, Fla. Detachable closure for barrels	807,970	Dec. 19	3731	809	119	2162
Sill Stove Works. (See Clunies, Arthur B., assignor.)						
Silva, Henry J., and J. Vassallo, Stockton, Cal. Grocer's computing-scale	805,758	Nov. 28	4460	957	119	1095
Silver Creek Specialty Company. (See Bochnewetch, Jacob, assignor.)						
Silver, Hugh, Lindsay, Canada. Machine for graining lumber	805,100	Nov. 21	3185	690	119	783
Silverman, Joseph, San Francisco, Cal. Telephone attachment	806,372	Dec. 5	560	123	119	1390
Silversack, Frank. (See Price, Floyd A., assignor.)						
Simmons, George W., St. Louis, Mo. Letter-opener	806,928	Dec. 12	1686	370	119	1676
Simmons, H. P., *et al.* (See Barnum, Albert L., assignor.)						
Simmons, W. W. (See Crowder, Joseph W., assignor.)						
Simmons, William H. (See Logan and Simmons.)						
Simmons, William M. (See Heck and Simmons.)						
Simonds, Charles G., Schenectady, N. Y., assignor to General Electric Company. Transmission mechanism	804,438	Nov. 14	1852	402	119	446
Simonds, Charles G., Schenectady, N. Y., assignor to General Electric Company. Power-transmission mechanism for automobiles	808,220	Dec. 26	4246	914	119	2317
Simonds, Charles G., Schenectady, N. Y., assignor to General Electric Company. Speed-changing gear	808,221	Dec. 26	4248	914	119	2318
Simonton, John H., Brighton, Tenn. Wagon-body lifter	807,324	Dec. 12	2443	526	119	1839
Simpers, Isaac N. (See Appleby, William L. G., assignor.)						
Simpkin, William, Westminster, and J. B. Ballantine, Twickenham, England. Manufacture of briquets	808,483	Dec. 26	4777	.....	119	2435
Simplex Manufacturing Company. (See Fancher, Charles J., assignor.)						
Simpson, John R. (See Vogt, Louis, assignor.)						
Sims, Alfred V., Iowa City, Iowa. Construction of columns, arches, floors, bins, &c	805,386	Nov. 21	3755	813	119	902
Sims, Mary A., New York, N. Y. Drying-rail and foot-rest for heat-radiators	805,240	Nov. 21	3475	752	119	84[illegible]
Sims, Peter H., Toronto, Canada. Record-book	806,200	Dec. 5	208	45	119	1310
Sinclair, Herbert, Trenton, N. J. Electrical insulator	806,588	Dec. 5	952	211	119	1477
Sinclair, William, San Antonio, Tex. Acetylene-generator	807,325	Dec. 12	2444	527	119	1839
Singer, Berthold, Chicago, Ill. Composition for laying and absorbing dust	803,632	Nov. 7	206	.....	119	46
Singer Manufacturing Company. (See Allen, Edward B., assignor.)						
Singer Manufacturing Company. (See Horton, Charles M., assignor.)						
Sirois, Eucharist, Denver, Colo. Extension-step for railway-cars	804,062	Nov. 7	1068	226–7	119	231
Sisco, Henry C., assignor of one-half to H. L. Millspaugh, Anderson, Ind. Seal for pipe-unions	806,201	Dec. 5	209	45	119	1311
Sjoberg, John P., and E. L. Forsgren, New York, N. Y.; said Forsgren assignor to said Sjoberg. Car-vestibule	805,326	Nov. 21	3647	789	119	879
Sjögren, Carl A. T., Stockholm, Sweden. Gun	808,118	Dec. 26	4026	867	119	2269
Skinner, Ernest M., Dorchester, Mass. Organ	807,510	Dec. 19	2797	602	119	1958
Skinner, George W., Jr., Denver, Colo. Centrifugal pump	807,971	Dec. 19	3733	809	119	2162
Skita, Aladar. (See Merling and Skita.)						
Skofsrud, Anton, Chicago, Ill. Valve-rod and wrist-pin connection	805,587	Nov. 28	4146	893	119	1028
Slack, Thomas. (See Whitaker, Thomas, assignor.)						
Slade, Arthur J., New York, N. Y. Vehicle-tire	804,891	Nov. 21	2765	597	119	692
Slear, Howard D., and C. G. Arnold, Grangeville, Idaho. Rotary fan	808,174	Dec. 26	4152	896	119	2295
Sleeper, Charles W., Lancaster, N. H., assignor, by mesne assignments, to American Key Can Company, Chicago, Ill. Flanging-machine	805,429	Nov. 21	3839	830–1	119	921
Sleeper, Frank R. (See Lottridge, George W., assignor.)						
Sleeth, George C., Newark, N. J. Metallic mat	805,823	Nov. 28	4568	979	119	1115
Slingluff, Harry G., Hartford City, Ind. Glass-furnace	804,775	Nov. 14	2518	552	119	594
Slivinski, Hugo R., Chicago, Ill., assignor to International Harvester Company. Pneumatic chuck	807,876	Dec. 19	3553	769	119	2120
Slonecker, Abiram J., Trenton, Mo. Lifting-jack	807,511	Dec. 19	2800	602	119	1959
Sly, George E., San Diego, assignor of two-thirds to J. Johnston, Jr., Escondido, Cal. Claw of tools for drawing nails or spikes	807,643	Dec. 19	3085	663	119	2019
Slyder, William J., assignor to G. S. Long, Troy, Ohio. Staff-head for canopies	808,315	Dec. 26	4448	957	119	2363
Small, Dexter M., Providence, R. I. Thermomedical device	804,776	Nov. 14	2520	552	119	595
Small, James M., Piqua, Ohio. Protective tread for pneumatic tires	804,892	Nov. 21	2766	597	119	692

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Smart, Albert J., assignor to Wiley & Russell Manufacturing Company, Greenfield, Mass. Screw-cutting die	804,777	Nov. 14	2521	553	119	595
Smart, Albert J., assignor to Wiley & Russell Manufacturing Company, Greenfield, Mass. Reamer	806,011	Nov. 28	4936	1054	119	1199
Smart, Edward G. Salinas, Cal. Beet-plow	804,631	Nov. 14	2218	485-6	119	526
Smart, Warren C., Kemp, assignor of one-half to W. H. Lawrence, Sterrett, Ind. Ter. Pessary	806,589	Dec. 5	953	212	119	1477
Smelker, Angeline, Greenville, Ohio, assignor of one-third to M. M. Mehring, Indianapolis, Ind. Jar neck and closure	803,932	Nov. 7	778	167	119	169
Smith, Albert. (See Klousnitzer, Frank, assignor.)						
Smith, Charles C., Cape Charles, Va. Bottle-closure	803,860	Nov. 7	652	142	119	140
Smith, Charles F., Bridgeport, Conn., assignor to Continental Paper Bag Company. Paper-bag machine	807,211	Dec. 12	2236	481-3	119	1794
Smith, Charles F. A. (See Ensign, Emory S., assignor.)						
Smith, Charles M. (See Yeates, Jesse J., assignor.)						
Smith, Clarence E., New Britain, Conn. Clasp or fastener	807,403	Dec. 12	2591	559	119	1872
Smith, Clarence E., assignor to North & Judd Manufacturing Company, New Britain, Conn. Clasp or buckle	804,893	Nov. 21	2767	597	119	693
Smith, Clarence W. (See Smith, John L., J., and C. W.)						
Smith, Clement, *et al.* (See Stafford, Terry, assignor.)						
Smith, Curtiss F., Brooklyn, N. Y. Numbering-machine	807,094	Dec. 12	1997	433	119	1744
Smith, Dwight L., and J. J. Buchanan, assignors to Waterbury Buckle Company, Waterbury, Conn. Garment-supporter clasp	807,691	Dec. 19	3186	684	119	2042
Smith, Edward B., New York, N. Y., assignor to American Brake Shoe and Foundry Company, Jersey City, N. J. Sash-weight	803,633	Nov. 7	208	46	119	46
Smith, Edward E. (See Brunner and Smith.)						
Smith, Edward L., Burlingame, Kans. Brake-lever	805,493	Nov. 28	3960	856	119	989
Smith, Edwin D., Pittsburg, Pa. Seesaw	807,326	Dec. 12	2446	527	119	1839
Smith, Frank L., assignor of two-thirds to A. C. Ricksecker and L. A. Nichols, Chicago, Ill. Valve	805,677	Nov. 28	4298	925	119	1061
Smith, Frank P., assignor to Smith Lyraphone Company, Baltimore, Md. Key-striking lever for piano-players	808,484	Dec. 26	4778	1028	119	2435
Smith, Frederick H., San Francisco, Cal. Calendar-support	805,678	Nov. 28	4300	925	119	1061
Smith, Frederick H., assignor of one-half to J. L. Lisdale, San Francisco, Cal. Pencil-sharpener	805,886	Nov. 28	4705	1006	119	1149
Smith, George R., assignor of one-half to J. E. Bowen, Norfolk, Va. Combined throttle-valve and stop-valve	806,929	Dec. 12	1687	370	119	1676
Smith, George W., assignor to Ingersoll Milling Machine Company, Rockford, Ill. Yieldable gear	804,778	Nov. 14	2523	553	119	596
Smith, Grant W., Ottumwa, Iowa. Rock-drill	806,012	Nov. 28	4937	1054	119	1200
Smith, Harper F., Philadelphia, Pa. Vapor-burner	808,581	Dec. 26	4964	1070	119	2473
Smith, Harvey M. (See Lewis and Smith.)						
Smith, Henry C., New York, N. Y. Window	805,387	Nov. 21	3757	813-14	119	902
Smith, James. (See Kennedy, Henry A., assignor.)						
Smith, James. (See Smith, John L., J., and C. W.)						
Smith, James W., Jr., assignor of one-half to W. Wiese, Bodaville, Kans. Safety device for elevators	803,634	Nov. 7	209	46-7	119	46
Smith, Job, Hope, N. D. Folding egg-crate	805,494	Nov. 28	3961	856-7	119	989
Smith, John L., J., and C. W., Elgin, Pa. Rail-splice	804,632	Nov. 14	2221	486	119	526
Smith, John P., New Haven, Conn. Snag-hook	807,135	Dec. 12	2093	449	119	1764
Smith, John T., Heron Lake, Minn. Automatic feeding device for baling-presses	806,590	Dec. 5	953	212-13	119	1477
Smith, John W., Erie, Pa. Steam-turbine	806,298	Dec. 5	431	94	119	1362
Smith, L. Anton, *et al.* (See Stafford, Terry, assignor.)						
Smith, Louis C. (See Vinton, John H., assignor.)						
Smith, Louis L., New York, N. Y. Life-preserver	807,583	Dec 19	2975	639	119	1995
Smith, Luther E., Shelburne Falls, Mass. Stamp-affixing device	805,887	Nov. 28	4707	1007	119	1149
Smith Lyraphone Company. (See Smith, Frank P., assignor.)						
Smith, Norman R., Seattle, Wash. Rotary engine	805,164	Nov. 21	3314	718	119	810
Smith, Norman R., assignor to Seattle Rotary Engine Company, Seattle, Wash. Rotary engine	805,162	Nov. 21	3311	717	119	809
Smith, Norman R., assignor to Seattle Rotary Engine Company, Seattle, Wash. Rotary engine	805,163	Nov. 21	3313	718	119	809
Smith, Reuben W., Bryn Mawr, Pa. Insulated rail-joint	803,793	Nov. 7	532	115-16	119	116
Smith, Richard C., Bluffpoint, Tenn. Releasable link	804,273	Nov. 14	1532	330	119	376
Smith, Rowland M., Chicago, Ill. Scalp-massage brush	804,680	Nov. 14	2311	507	119	547
Smith, Seaborn A., assignor of one-half to J. P. Bullington, Memphis, Tenn. Copying-guide	807,095	Dec. 12	2010	433	119	1747
Smith, Sheffield, Providence, R. I. Means for securing pneumatic tires to rims of wheels	806,013	Nov. 28	4940	1055	119	1201
Smith & Son, Prince. (See Shackleton, Sugden, assignor.)						
Smith, Thomas C., Berkeley Springs, W. Va. Baling-press	806,202	Dec. 5	210	45-6	119	1311
Smith, Thomas D., Newark, N. J. Beer cooling and dispensing apparatus	808,582	Dec. 26	4965	1071	119	2474
Smith, Thomas L., assignor to T. L. Smith Company, Milwaukee, Wis. Mixing-machine	803,721	Nov. 7	408	88-9	119	91
Smith, Thomas L., assignor to T. L. Smith Company, Milwaukee, Wis. Liquid-discharging tank	803,722	Nov. 7	415	89	119	93
Smith, Walter M., Newcastle-upon-Tyne, England. Locomotive-engine lubricator	806,014	Nov. 28	4941	1055-6	119	1201
Smith, Watson R., Jackson, Mich. Spring-cushion	803,933	Nov. 7	780	168	119	169
Smith, William B., Chicago, Ill. Yielding draft-clevis	806,931	Dec. 12	1691	371	119	1677
Smith, William H., Yonkers, N. Y. Toy elevator	806,930	Dec. 12	1689	371	119	1677
Smith, William S., Langdon, N. D. Device for treating seeds	806,999	Dec. 12	1801	396	119	1702
Smithson, Charles, *et al.* (See Osborne, John W., assignor.)						
Smout, Peter S., assignor of one-half to J. A. and N. McGhie, Everett, Wash. Composition for preserving piles and timber	806,591	Dec. 5	956	213	119	1478
Smyth, George H., Colorado Springs, Colo. Shoe-protector	806,439	Dec. 5	686	152	119	1421
Smyth, William H., Berkeley, and W. B. Goodwin, San Francisco, Cal.; said Smyth assignor to said Goodwin. Oar	805,033	Nov. 21	3043	659	119	753
Snedeker, James W., Adrian, Mich. Staple-fence machine	806,440	Dec. 5	687	152-5	119	1421
Snell, John R., Tallapoosa, assignor of one-half to H. J. Westberry, Odum, Ga. Machine for transferring and turning logs in sawmills	804,507	Nov. 14	1982	434	119	477
Snodgrass, Walter E., Hull, Ill. Wagon-standard	805,034	Nov. 21	3044	660	119	754
Snow, Fred W., Hillburn, N. Y. Switch-stand	806,299	Dec. 5	435	94	119	1363
Snow, Theodore W. (See Winters, David L., assignor.)						
Snyder, Emmanuell H., Canton, Ohio. Corn-planter	805,888	Nov. 28	4709	1007	119	1150
Snyder, John H., Morenci, Mich. Gate-latch	805,937	Nov. 28	4902	1024	119	1170
Snyder, Samuel M. (See Jones, William L., assignor.)						
Sober, George, Leechburg, Pa. Seeder and fertilizer-distributer	806,507	Dec. 5	820	180	119	1448

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Sobinski, Charles O. (See Risse and Sobinski.)						
Société Electro Métallurgique Française. (See Héroult, Paul L. T., assignor.)						
Society of Chemical Industry in Basle. (See Kroeber, Thilo, assignor.)						
Society of Elektrizitäts-Aktien-Gesellschaft, vorm. W. Lahmeyer & Co. (See Jordan, Fritz, assignor.)						
Söderlund, Anders M., Göteborg, Sweden, assignor to G. G. G. Oxenstierna, Philadelphia, Pa. Burette	804,894	Nov. 21	2768	598	119	693
Sohn, Edward A., assignor to Bedford Foundry & Machine Co., Bedford, Ind. Derrick	805,889	Nov 28	4711	1007–8	119	1150
Sohst, Otto, assignor to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Diamidoformyl diphenylamin and making same	805,890	Nov. 28	4714	.....	119	1152
Sojeba, John C., Cleveland, Ohio. Pulley-clutch	806,373	Dec. 5	563	123	119	1391
Soley, Frank, assignor to Miller Lock Company, Philadelphia, Pa. Padlock	807,785	Dec. 19	3374	723	119	2081
Soley, Frank, assignor to Miller Lock Company, Philadelphia, Pa. Padlock	807,877	Dec. 19	3555	770	119	2121
Solmson, Moses, Baltimore, Md. Window-screen	805,495	Nov. 28	3963	857	119	990
Solvay Process Company. (See Pennock, John D., assignor.)						
Somerville, James, New York, N. Y. Dump-wagon	804,439	Nov. 14	1854	402–3	119	447
Somerville, Philip, Bishop Cal. Quicksilver-trap	803,934	Nov. 7	783	168	119	170
Sommar, Lewis, Germantown, Pa. Drawing-board	806,850	Dec. 12	1502	331	119	1637
Sommer, Benjamin L. (See Sommer, Peter W., J. W., B. L., and W.)						
Sommer, Joseph W. (See Sommer, Peter W., J. W., B. L., and W.)						
Sommer, Peter W., J. W., B. L., and W., Peoria Ill Wire-fabric machine	804,681	Nov. 14	2313	507–8	119	547
Sommer, Rudolf, Vienna, Austria-Hungary. Making organic-acid anhydrids	806,932	Dec 12	1692	.....	119	1678
Sommer, Rudolf J. M., Vienna, Austria-Hungary, assignor to F. Fritzsche & Co., Hamburg-Uhlenhorst, Germany. Making protocatechuic aldehyde	804,682	Nov. 14	2323	.....	119	549
Sommer, William. (See Sommer, Peter W. J. W., B. L., and W.)						
Soper, George E., Kankakee, Ill. Crane	807,878	Dec. 19	3558	770	119	2122
Sorenson, James, Neenah, Wis. Dental-ligature applier	806,300	Dec 5	438	94	119	1364
Soss, Joseph, New York, N. Y. Hinge	804,561	Nov 14	2088	457	119	499
Soss, Joseph, New York, N. Y. Hinge	804,633	Nov. 14	2222	486–7	119	527
Soulé, George W., Meridian, Miss. Stacker	804,779	Nov. 14	2524	553–4	119	596
Sours, Thomas L., and H. F Fox, Luray, Va. Vehicle-wheel	806,203	Dec. 5	212	46	119	1311
Southam, Arthur D., New York, N. Y. Forced-draft grate	808,119	Dec. 26	4027	867	119	2270
Southgate, Louis W., Worcester, Mass. Stopping mechanism for elevators	804,634	Nov. 14	2226	487	119	527
Southworth, Alfred E., Smuggler, Colo. Riding-stirrup	807,000	Dec. 12	1802	396	119	1702
Spangler, George C., Lagrange, Ind. Bearing-adjuster	807,786	Dec. 19	3376	723	119	2082
Spangler, William H Pittsburg, Pa. Eyeglasses	806,015	Nov. 28	4944	1056	119	1202
Sparkman, William R., Jackson, Tenn. Arm-rest and bottle-support for embalmers' use.	808,485	Dec. 26	4778	1028	119	2435
Sparks, Walter, New York, N. Y. Punching-machine	808,408	Dec. 26	4630	996	119	2402
Spatz, Henry, *et al.* (See Heffner, William F., assignor.)						
Spear, Lawrence Y., Greenport, assignor to Electric Boat Company, New York, N. Y. Buoyancy-regulating apparatus for submarine boats	805,496	Nov. 28	3964	857	119	990
Spence, Harry, assignor of three-fourths to L. B. and G. B. Goodall and J. Hollinrake, Sanford, Me. Spinning-frame	806,016	Nov. 28	4945	1056	119	1202
Spencer, Ely, Jacksonville, Fla. Hydrocarbon-fluid burner	807,327	Dec. 12	2447	527	119	1840
Spencer, Ely, Jacksonville, Fla. Hydrocarbon-fluid burner	807,328	Dec. 12	2448	527	119	1840
Spencer, Ely, Jacksonville, Fla. Hydrocarbon-burner	807,329	Dec. 12	2449	528	119	1840
Spencer, George N., Hillsboro, Oreg. Wagon	806,374	Dec. 5	564	123–4	119	1391
Spencer, Robert C., Jr., River Forest, Ill. Mechanism for operating casement windows, shutters, and the like	808,486	Dec. 26	4779	1028	119	2435
Spencer, Robert W., Kankakee, Ill. Swinging ladder-bracket	804,895	Nov. 21	2769	598	119	693
Spicer, Clarence W., Plainfield, N. J. Power-transmitting device	806,592	Dec. 5	956	213	119	1478
Spiess, Casper, Norwood, Minn. Concrete fence-post	803,861	Nov. 7	654	142	119	140
Spiro, Charles, assignor to Columbia Typewriter Manufacturing Company, New York, N. Y. Ribbon-spool	807,001	Dec. 12	1804	396	119	1703
Spitzenberg, Philip, New York, N. Y. Siphon-head	806,593	Dec. 5	950	213	119	1479
Splitdorf, Charles F., New York, N. Y., assignor to Electric Vehicle Company, Jersey City, N. J. Ignition-plug	806,017	Nov. 28	4946	1057	119	1202
Splittstoser, Ferdinand, Northbranch, Minn. Poison-distributer	806,301	Dec. 5	440	95	119	1364
Splivalo, Caesar R., San Francisco, Cal. Paste-press	807,972	Dec. 19	3735	810	119	2163
Sponenburg, Hiram H., Wadsworth, Ill., assignor of one-half to E. Laas, Ottumwa, Iowa. Railway-rail stay	805,101	Nov. 21	3187	690–1	119	783
Sponenburg, Hiram H., Wadsworth, Ill., assignor of one-half to E. Laas, Ottumwa, Iowa. Railway-rail stay	806,375	Dec. 5	565	124	119	1391
Sponenburg, Hiram H., Wadsworth, Ill., assignor of one-half to E. Laas, Ottumwa, Iowa. Railway-rail stay	806,376	Dec. 5	566	124–5	119	1392
Sponsel, Charles W., Hartford, Conn., assignor to William H. Brodie Company, New York, N. Y. Driving mechanism	808,120	Dec. 26	4031	867	119	2271
Spoore, Ransom R., Kent, Ohio. Gate	805,679	Nov. 28	4301	926	119	1062
Sporer, Friedrich, Nuremberg, Germany. Metal-stamping machine	805,241	Nov. 21	3477	753	119	842
Sprague, Arthur W., Lagrange, Ill., assignor to American Steel & Wire Company of New Jersey, Worcester, Mass. Gate-hanger	807,512	Dec. 19	2803	603	119	1959
Sprague, Asa B., Hiawatha, Kans. Telescopic traveling-bag	805,680	Nov. 28	4302	926	119	1062
Sprague Electric Company. (See Darlington, Philip J., assignor.)						
Sprague, Wilson S., *et al.* (See Mason, Julius H., assignor.)						
Springer, William N., assignor to Avery Manufacturing Company, Peoria, Ill. Transfer system	807,584	Dec. 19	2976	639	119	1995
Spurgin, Nickolas, assignor of one-half to B. B. Holland, Ottawa, Ill. Pulverizer	807,136	Dec. 12	2094	450	119	1764
Squier, Arthur H., Tunkhannock, Pa. Horseshoe	804,063	Nov. 7	1070	227	119	232
St. John, Thomas M., New York, N. Y. Electromagnetic relay or sounder	806,018	Nov. 28	4948	1057	119	1203
St. Louis Car Company. (See Kohout, Frederick, assignor.)						
St. Louis Car Company. (See Pomeroy, Bennard H., assignor.)						
St. Louis Car Company. (See Robinson, Edward T., assignor.)						
St. Louis Car Company. (See Witte, Hubert, assignor.)						
St. Pierre, Xavier, Ruby, Mont. Ore-concentrating apparatus	808,584	Dec. 26	4968	1071–2	119	2474
Stade, George, Berlin, Germany. Device for filtering liquids	807,513	Dec. 19	2805	603	119	1960
Stadler, Frank, Aurora, Ill. Steam-boiler	804,274	Nov. 14	1533	330–1	119	377
Stafford, Alfred E., assignor to Draper Company, Hopedale, Mass. Filling-replenishing loom	805,497	Nov. 28	3966	858	119	990
Stafford, James M., Petersburg, Ind. Apparatus for preserving the dead	806,756	Dec. 5	1292	287	119	1549
Stafford, Terry, assignor of one-half to L. A. and C. Smith, Topeka, Kans. Motor-vehicle.	806,933	Dec. 12	1693	371	119	1678
Stafford, Walter, and R. C. Holt, Littlefalls, N. Y. Dial knitting-machine	808,121	Dec. 26	4033	868	119	2271
Stahell, Emil, assignor to I. J. Cushing, Dubuque, Iowa. Weighing-machine	806,441	Dec. 5	693	156	119	1422
Stahl, Charles B., Philadelphia, Pa. Pleasure-railway	808,487	Dec. 26	4782	1029	119	2436
Stahl, John, Manitowoc county, Wis. Whiffletree-hook	807,212	Dec. 12	2242	483	119	1705
Stahlhut, Diedrich, New York, N. Y. Fan attachment for bicycles	803,635	Nov. 7	212	47	119	47
Stalecker, Altamont A., Venice, Ill. Shipping-crate	808,583	Dec. 26	4967	1071	119	2474

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Staley, Samuel S., and J. T. Ward, Philadelphia, Pa. Tree-protector	807,213	Dec. 12	2243	484	119	1795
Stamm, Hans, St. Gall, Switzerland. Self-loading firearm	804,966	Nov. 21	2943	638–40	119	732
Standard Dry Kiln Company. (See Hussey, William P., assignor.)						
Standard Sewing Machine Company. (See Mills, Daniel, assignor.)						
Standard Wall Paper Company. (See Cleary, Timothy, assignor.)						
Stanich, George, Galveston, Tex. Stopper for bottles	807,330	Dec. 12	2451	528	119	1841
Stanley Electric Manufacturing Company. (See Laird, Wesley E., assignor.)						
Stanley, Frederick E., assignor to Scovill Manufacturing Company, Waterbury, Conn. Ornamental button	807,644	Dec. 19	3086	664	119	2020
Stanley, James, assignor of one-half to M. E. Payne, New York, N. Y. Wheelbarrow-bearing	805,891	Nov. 28	4716	1008	119	1152
Stanley Manufacturing Company. (See Grubb, James, assignor.)						
Stanley, Reginald, Nuneaton, England. Combined apparatus for grinding or crushing, washing, and separating ores	808,488	Dec. 26	4783	1029–30	119	2436
Stanley Rule & Level Company. (See Cook, Harris J., assignor.)						
Stanley Works. (See Holtzhouser, Jacob, assignor.)						
Stanley Works. (See Lewis, Burton W., assignor.)						
Stannard, Fremont P. and W. D., Chicago, Ill. Firearm	805,588	Nov. 28	4148	893	119	1028
Stannard, William D. (See Stannard, Fremont P. and W. D.)						
Stansbury, Joseph A., Los Angeles, Cal. Knife-sharpening machine	808,260	Dec. 26	4316	928–9	119	2333
Stansfield, Edward, assignor to New York Mills, New York Mills, N. Y. Pile-fabric-cutting machine	806,204	Dec. 5	213	46–7	119	1311
Staples, Allen N., St. Paul, Minn. Skylight	807 787	Dec. 19	3377	723–4	119	2082
Star Lamp Company. (See Maguire, Thomas, assignor.)						
Starbuck, John H., Pittsfield, Mass. Lens-clamping device	803,794	Nov. 7	533	116	119	117
Stark, Charles W., Mountain Lake, Minn. Wire-reel	804,064	Nov. 7	1072	227	119	232
Stark, Leopold. (See Hoor, Reinitz, and Stark.)						
Starr, Zadoc B., Gloversville, N. Y. Transmission mechanism for automobiles	806,302	Dec. 5	442	95–6	119	1364
Starrett, Danvill W., San Francisco, Cal. Turbine	806,934	Dec. 12	1695	372	119	1678
Starrett, Laroy S., assignor to L. S. Starrett Company, Athol, Mass. Spindle-lock for micrometer-gages, &c.	806,594	Dec. 5	963	214	119	1479
Stastka, Karl, Irwin, Pa. Burglar-alarm	807,096	Dec. 12	2012	433	119	1747
State, Will C., assignor to Goodyear Tire & Rubber Company, Akron, Ohio. Vehicle tire and rim	804,896	Nov. 21	2770	598	119	693
Stayert, Peter, Pittsburg, Pa. Ice-creeper	805,165	Nov. 21	3317	719	119	810
Steadham, John S. and W. H., Royse City, Tex. Axle-straightener	805,681	Nov. 28	4304	926	119	1063
Steadham, William H. (See Steadham, John S. and W. H.)						
Stearns & Co., E. C. (See Potter, William M., assignor.)						
Stearns, Wayland D., assignor to Frederick Stearns & Company, Detroit, Mich. Inhaler	806,205	Dec. 5	219	47	119	1313
Stebbins, Frank E. (See Wright and Stebbins.)						
Stebbins, Walter A. (See Cunningham and Stebbins.)						
Stechbarth, August, West Pullman, Ill. Wheeled vehicle	808,409	Dec. 26	4632	997	119	2402
Steck, George, Waupun, Wis. Containing device	806,595	Dec. 5	964	214	119	1480
Steedman Edwin H. St. Louis, Mo. Valve for air-compressors	807,585	Dec. 19	2981	639	119	1996
Steele, Thomas G. (See Pfeifer and Steele.)						
Steelsmith, John A., Wichita Falls, Tex. Device for adjusting sieves in threshing-machines	806,508	Dec. 5	821	180–1	119	1449
Steen, James C., assignor to Cincinnati Shaper Company, Cincinnati, Ohio. Shaping-machine	807,214	Dec. 12	2244	484	119	1795
Steen, James C., assignor to Cincinnati Shaper Company, Cincinnati, Ohio. Shaping-machine	807,404	Dec. 12	2593	559–60	119	1872
Steen, Vernon E. (See McCabe and Steen.)						
Steenlet, Pierre, assignor to M. P. Lloyd, Brussels, Belgium. Obtaining marketable electrolytic deposits	807,973	Dec. 19	3738	.....	119	2163
Steere, Warren A., Harford, Pa. Wire-stretcher	807,331	Dec. 12	2452	528	119	1841
Steers, William, Sr., Chicago Ill. Carpenter's and joiner's folding square	803,723	Nov. 7	417	89	119	94
Stein, Jacob, Mendelssohn, assignor of one-fourth to M. Haas, thirty-five one-hundredths to F. A. Baxendell, and five one-hundredths to L. K. Yoder, Pittsburg, Pa. Mining-machine	804,562	Nov. 14	2090	458	119	499
Stein, Peter L., Canton, Mich. Milk-cooler	803,636	Nov. 7	212	47	119	47
Steinau, Isaac, New York, N. Y. Button-cabinet	805,692	Nov. 28	4717	1008–9	119	1152
Steinberger, Louis, New York, N. Y. Electric rail	805,166	Nov. 21	3318	719	119	810
Steinberger, Louis, New York, N. Y. Insulator-pin	805,167	Nov. 21	3320	719	119	811
Steinberger, Louis, New York, N. Y. Composite insulator	806,509	Dec. 5	824	181	119	1449
Steiner, George A., Salt Lake City, Utah. Apron	806,757	Dec. 5	1294	288	119	1549
Steiner, Martin. (See Coppersmith, Jacob, assignor.)						
Steinmetz, Charles P., Schenectady, N. Y., assignor to General Electric Company. Dynamo-electric machine	804,440	Nov. 14	1857	403	119	447
Steinmetz, Charles P., Schenectady, N. Y., assignor to General Electric Company. Resistance for electrical apparatus	806,758	Dec. 5	1294	288	119	1549
Stencel, Karl, San Francisco, Cal. Advertising and display apparatus	805,682	Nov. 28	4305	926	119	1063
Stendebach, Karl F. P., Leipsic-Gohlis, Germany. Firearm with drop-down barrel	804,349	Nov. 14	1686	364–5	119	410
Stenzy, F. P., *et al.* (See Barabasz, Mieczyslaw, assignor.)						
Stephens, Howard A. (See Long and Stephens.)						
Stern, Benjamin. (See Erie, James P., assignor.)						
Sterrit-Thomas Foundry Company. (See Blake, Henry H., assignor.)						
Stetler, Daniel E., Medford, Okla. Ter. Vise	807,788	Dec. 19	3378	724	119	2082
Stetson, Franklin F., Los Angeles, Cal. Cooking apparatus for cans	803,724	Nov. 7	419	90	119	94
Stetson, William A. (See Despradelle, Désiré, assignor.)						
Steven, Henri A., Charleroi, Belgium. Briquet-making press or apparatus	804,065	Nov. 7	1073	227–8	119	233
Stevens, Edward G., Cranesville, Pa. Rein-holder	805,589	Nov. 28	4150	893	119	1029
Stevens, Franklin P. (See Wiley and Stevens.)						
Stevens, George E., Lynn, Mass., assignor to General Electric Company. Electric heating device	803,795	Nov. 7	534	116–17	119	117
Stevens, George H., *et al.* (See Perry, Reuben W., assignor.)						
Stevens, William L., assignor of one-half to D. C. Wood, Cleveland, Ohio. Towel-fastener	805,035	Nov. 21	3045	660	119	754
Stevenson, Henry M., Perry, Iowa. Molar-chisel	805,388	Nov. 21	3761	814	119	904
Stevenson, Hugh S., Philadelphia, Pa. Easel	806,716	Dec. 5	1193	257	119	1528
Stewart, Frank. (See Renno, George N., assignor.)						
Stewart, George M., Sistersville, W. Va. Broom attachment	804,066	Nov. 7	1079	229	119	233
Stewart, H. B. (See Tyson, Frank, assignor.)						
Stewart, Richard F., Pocantico Hills, N. Y. Butter-cutting machine	804,563	Nov. 14	2092	458–9	119	500
Stewart, Richard F., Pocantico Hills, N. Y. Butter-cutting machine	804,564	Nov. 14	2098	459	119	501
Stewart, Richard F., Pocantico Hills, N. Y. Butter-cutting machine	804,565	Nov. 14	2101	460	119	501
Stewart, Richard F., Pocantico Hills, N. Y. Butter-cutting machine	804,566	Nov. 14	2105	460–1	119	503

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Stewart, Samuel B., Jr., Schenectady, N. Y., assignor to General Electric Company. Third-rail insulator	808,222	Dec. 26	4249	915	119	2318
Stewart, Thomas L., Portland, Oreg. Automatic safety check-valve	805,498	Nov. 28	3969	858	119	991
Stewart, Thomas R. (See Martin and Stewart.)						
Stibbs, David W., assignor of one-half to J. W. Grace, Puerto Cortez, Honduras. Bulk-head-door	806,596	Dec. 5	965	214	119	1480
Stickel, Fletcher A., Jr., Muskogee, Ind. Ter. Garment-supporter clasp	803,637	Nov. 7	213	47	119	47
Stickerei Feldmühle, vormals Loeb, Schoenfeld & Co. (See Herzog, Louis, assignor.)						
Stickler, Edward A., Portage, Wis. Propeller	807,974	Dec. 19	3739	810	119	2164
Stiens, Peter, Rotterdam, Netherlands. Apparatus for the manufacture of generator-gas	804,441	Nov. 14	1859	403	119	448
Stifel, George W. (See Ricks and Stifel.)						
Stills, James F., School, Ill. Beehive	807,215	Dec. 12	2246	484–5	119	1795
Stilz, Harry B., Philadelphia, Pa. Yieldable gear	807,692	Dec. 19	3187	685	119	2042
Stimpson, Edwin B., Brooklyn, N. Y. Envelop-fastener	808,489	Dec. 26	4786	1030	119	2437
Stirk, R. C., *et al.* (See Barnum, Albert L., assignor.)						
Stirling Consolidated Boiler Company. (See Bell, John E., assignor.)						
Stirling, David W., assignor of two-thirds to J. Daubenspeck and H. Crummy, Glade Mills, Pa. Pipe-grip	807,405	Dec. 12	2595	560	119	1873
Stitt, Samuel S., Cambridge, England. Apparatus for settling dust raised by motor-vehicles	805,824	Nov. 28	4570	979	119	1116
Stock, Friedrich. (See Lauber and Stock.)						
Stockbridge, Radford, assignor of one-half to A. W. Beaman, Worcester, Mass. Variable-speed driving mechanism	807,216	Dec. 12	2248	485	119	1796
Stockem, Lorenz. (See Borchers and Stockem.)						
Stockwell, Herbert C., Los Angeles, Cal. Safe	803,638	Nov. 7	215	48	119	48
Stockwell, Leonard J., St. Louis, Mo. Trousers creaser and stretcher	807,693	Dec. 19	3188	685	119	2042
Stockwell, Myron H., Geneva, N. Y. Photographic-plate-developing apparatus	804,442	Nov. 14	1860	404	119	448
Stockwell, William L., assignor of one-half to J. K. Bradford, McLouth, Kans. Fish-hook	807,514	Dec. 19	2806	603	119	1960
Stoddard, Charles F., Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del. Pneumatic-despatch apparatus	805,168	Nov. 21	3322	719–20	119	812
Stöffler, Ernst, Zurich, Switzerland. Fireproof quartz brick or block	805,242	Nov. 21	3478	.....	119	843
Stoker, Robert J., York, and S. Hubbell, Bradshaw, Nebr. Ladder or perch	806,597	Dec. 5	967	215	119	1480
Stokes, Charles F., assignor of one-half to W. B. Matthews, Washington, D. C. Garment-supporting device	806,598	Dec. 5	968	215	119	1481
Stokes, Homer, assignor of one-half to J. L. Webb, West Bridgewater, Pa. Track-sanding device	803,935	Nov. 7	785	168	119	171
Stokes, John C., Mansfield, La. Electric pump	803,936	Nov. 7	787	169	119	171
Stoltz, Peter, Berlin, Germany. Steam-generator	807,137	Dec. 12	2096	450	119	1765
Stone, Richard, Wellington, England. Spring-tire for wheels	805,243	Nov. 21	3479	753	119	843
Story, Raymond N., Clay Center, Kans. Egg-case-carrying attachment for vehicles	807,138	Dec. 12	2098	451	119	1765
Stouffer, Ira J., Altoona, Pa. Electric switch-operating device	806,442	Dec. 5	598	156–7	119	1424
Stout, Hiram; Kingman, Kans. Apparatus for freezing plate-ice	805,590	Nov. 28	4151	894	119	1029
Stout, Robert P. (See Meigs and Stout.)						
Stowe, Harry W., Fitchburg, Mass. Gage	804,067	Nov. 7	1080	229	119	234
Stoycheff, Stephen D., Toledo, Ohio. Electric drill	805,499	Nov. 28	3971	858–9	119	992
Straight, James B., Bates City, Mo. Feed-trough	805,683	Nov. 28	4307	927	119	1063
Strain, Johanna J., Christchurch, New Zealand. Gas-stove	804,683	Nov. 14	2325	508–9	119	549
Straka, Anton, Chicago, Ill. Horse-releaser	804,068	Nov. 7	1081	229	119	234
Stran, Charles W., Cleveland, Ohio. Hot-air furnace	807,050	Dec. 12	1923	415–16	119	1729
Stran, Charles W., Cleveland, Ohio. Hot-air furnace	807,097	Dec. 12	2014	434–5	119	1748
Strasburg, Frederick E., Rumford Falls, Me., assignor to Continental Paper Bag Company. Cutting mechanism	806,303	Dec. 5	443	96	119	1365
Stratford, William R. J. (See Jones, Stratford, Byrnes, and Nixon.)						
Strathern, Alexander G., Glasgow, Scotland. Machine for making weldless chains	805,592	Nov. 28	4154	894–5	119	1030
Stratton, James C. (See Mowers, Busick, and Stratton.)						
Straus, William L., and G. Engel; said Engel assignor of one-half to L. Kircheiner, Baltimore, Md. Combination spiral-screw cooling device	806,935	Dec. 12	1697	372	119	1679
Strauss, Mathias A. (See Pohle, Frederick W. C., assignor.)						
Street, George G., Buffalo, N. Y. Desk	806,304	Dec. 5	445	97	119	1365
Streich, Frank, Chicago, assignor to P. F. Carroll, Joliet, Ill. Dough-shaping machine	803,862	Nov. 7	654	142	119	141
Streich, Frank, Chicago, assignor to P. F. Carroll, Joliet, Ill. Dough-molding machine	806,851	Dec. 12	1504	331	119	1637
Streight, Charles F., Riverside, Cal. Fruit-clipper	803,796	Nov. 7	537	117	119	118
Stresau, Richard, New York, N. Y. Amusement bomb	805,036	Nov. 21	3046	660	119	754
Strickland, De Witt W., Magnolia, Miss. Lumber-wagon	808,261	Dec. 26	4324	930	119	2335
Strickland, De Witt W., Magnolia, Miss. Fertilizer-distributer and seed-planter	808,262	Dec. 26	4327	930	119	2335
Strickler, William H., Keokuk, Iowa. Veneer covering and producing the same	804,443	Nov. 14	1862	404	119	448
Stringfellow, Robert L., White Bluffs, Tenn. Trap	806,936	Dec. 12	1697	372	119	1679
Strohm, Samuel D., Philadelphia, Pa. Railway signaling	807,645	Dec. 19	3087	664	119	2020
Strohm, Samuel D., Philadelphia, Pa. Railway signaling	808,223	Dec. 26	4252	915	119	2319
Strohminger, Phillip H., Mansfield, Ohio. Snatch-block	804,635	Nov. 14	2228	488	119	527
Stromberg-Carlson Telephone Manufacturing Company. (See Davis, Thomas V., assignor.)						
Stromberg-Carlson Telephone Manufacturing Company. (See Kaisling, William, assignor.)						
Stromberg-Carlson Telephone Manufacturing Company. (See Webster, Harry G., assignor.)						
Strong, Frederick F., Boston, Mass. Electric attachment-plug	807,051	Dec. 12	1930	416	119	1731
Strub, Albert, Beaverfalls, Pa. Glass-molding machine	804,069	Nov. 7	1083	230	119	234
Stuart, George S., Hollidaysburg, Pa. Cistern cut-off	807,332	Dec. 12	2453	529	119	1841
Stuart, William G., assignor to Chase-Shawmut Company, Newburyport, Mass. Rail-bond	807,217	Dec. 12	2249	485	119	1796
Stuck, Daniel, Bay City, Mich. Washing-machine	808,175	Dec. 26	4154	896	119	2205
Stulz, Edward A., Avenel, N. J. Bolt-anchor	805,037	Nov. 21	3047	660	119	754
Stumpf, John B., Kalamazoo, Mich. Rotary engine	807,975	Dec. 19	3740	811	119	2164
Sturges, Lee, Elmhurst, Ill. Tempering-machine for pasteurizing	806,206	Dec. 5	221	47	119	1314
Sturtevant Mill Company. (See Sturtevant, Thomas L. and T. J., assignors.)						
Sturtevant, Thomas J. (See Sturtevant, Thomas L. and T. J.)						
Sturtevant, Thomas L., Quincy, and T. J. Sturtevant, Wellesley, Mass., assignors to Sturtevant Mill Company, Portland, Me. Clutch device	806,377	Dec. 5	568	125	119	1392
Sturts, Charles F. A., San Francisco, Cal. Electric self-winding clock	805,327	Nov. 21	3649	789	119	879
Suffield, William H., Pekin, Ill. Plow attachment	806,207	Dec. 5	223	48	119	1314
Sullivan, Charles A., Windsor, Canada, and E. J. Woodison, Detroit, Mich. Automatic valve-actuator	803,725	Nov. 7	420	90	119	95
Sullivan, James M., Chicago, Ill. Tool construction	807,879	Dec. 19	3559	770	119	2122
Sullivan, John, and A. Mack, New London, Conn. Boat-hook	806,010	Nov. 28	4948	1057	119	1203

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Sullivan, John A., assignor of one-half to I. F. Helper, Cleveland, Ohio. Insulated wire-support	806,937	Dec. 12	1698	372	119	1679
Sullivan, John J., Chicago, Ill. Automobile street-sprinkler	806,378	Dec. 5	569	125-6	119	1392
Sullivan, John V., and D. A. Porter, Seney, assignors of one-half to H. A. Powers, Aragon, Ga. Cotton-chopper	806,938	Dec. 12	1699	373	119	1679
Sullivan, Owen, Belmond, Iowa. Machine for moving snow	805,684	Nov. 28	4308	927	119	1063
Summers, Jesse, assignor to Indianapolis Watchman Clock Company, Indianapolis, Ind. Watchman's time-recorder	803,797	Nov. 7	539	117-18	119	118
Summers, Jesse, assignor to Indianapolis Watchman Clock Company, Indianapolis, Ind. Watchman's time-recorder	804,444	Nov. 14	1863	404	119	448
Summers, John C., and H. E. Yoder, Mounthope, Ohio. Windmill	804,684	Nov. 14	2126	509	119	549
Summerscales, Samuel H., Winnipeg, Canada. Fence-post	807,139	Dec. 12	2101	451	119	1765
Sumner, Frederick W., Canton, Mass., assignor, by mesne assignments, of one-half to Federal Manufacturing Company, Hartford, Conn. Stop-motion for winding-machines	808,585	Dec. 26	4970	1072	119	2475
Sunderman, Richard, Buffalo, N. Y. Carton making and sealing machine	807,140	Dec. 12	2102	451-2	119	1766
Superior Light and Heat Co. (See Symonds, Henry, assignor.)						
Superior Tool & Supply Co. (See Chambers, Henry C., assignor.)						
Supplementary Spiral Spring Company. (See Furmidge, Samuel, assignor.)						
Sussman, Leon, Bayonne, N. J., and E. R. Wilner, New York, N. Y. Flexible tubing	805,825	Nov. 28	4572	979	119	1117
Sutro & Son, E. (See Pigeon, Ernest A., assignor.)						
Swaab, Mayer M., Jr., *et al.* (See Britton, Robb, assignor.)						
Swan, William B., Seymour, Conn. Air-cooling construction for engine-cylinders, radiators, &c	808,490	Dec. 26	4788	1031	119	2437
Swanitz Company. (See Porter, Henry H., Jr., assignor.)						
Swank, Arthur L., Battlecreek, Mich. Contents-indicator for receptacles	807,333	Dec. 12	2456	529	119	1842
Swank, Arthur L., Cleveland, assignor of one-half to H. L. Hess, Ashland, Ohio. Automatic weighing-scoop	807,334	Dec. 12	2458	529-30	119	1843
Swank, Lafe, Anderson, Ind. Computing cheese-cutter	804,897	Nov. 21	2772	598	119	694
Swanson, John, Mystic, Iowa. Mining-machine	805,685	Nov. 28	4309	927	119	1064
Swanson, Ludvig G., Springfield, Mass. Fastening for closures of envelops	805,389	Nov. 21	3762	814	119	904
Swanson, Peter, Soudan, Minn. Indicating device for bins	805,102	Nov. 21	3190	692	119	784
Sweeney, John J., New York, N. Y. Buffing and polishing machine	807,335	Dec. 12	2460	530	119	1843
Sweeney, Zachary T., Columbus, Ind. Guiding device for motor-vehicles	807,789	Dec. 19	3380	724	119	2082
Sweet, Larntine C., Loami, Ill. Gate	805,500	Nov. 28	3976	859	119	993
Sweetser, Dwight E., Richmond Hill, N. Y. Variable-speed mechanism	803,937	Nov. 7	788	169	119	171
Swift, Charles S., Clay Station, Cal. Loading-derrick	806,852	Dec. 12	1506	332	119	1638
Swift, George P., Chicago, Ill. Attachment for gas-fixtures	806,305	Dec. 5	446	97	119	1365
Swihart, John H., Elyria, Ohio. Compensating device for scales	807,694	Dec. 19	3190	685	119	2043
Swineford, George A., Canton, Ohio. Track-bracket	806,020	Nov. 28	4949	1057	119	1203
Switzer, Amos H. and L. M., Sutton West, Canada. Combined legging and sock	806,939	Dec. 12	1700	373	119	1679
Switzer, Luke M. (See Switzer, Amos H. and L. M.)						
Sykes, Alexander. (See Henderson and Sykes.)						
Sylvester, Cyrus O., assignor of one-third to J. B. Williams, Leavenworth, Kans. Rotary engine	805,686	Nov. 28	4310	927-8	119	1064
Symmonds, Robert, assignor to T. B. Jeffery, Kenosha, Wis. Differential gearing	806,021	Nov. 28	4950	1058	119	1203
Symonds, Henry, Longbeach, assignor to Superior Light and Heat Co., Los Angeles, Cal. Acetylene-gas generator	806,087	Nov. 28	5082	1084	119	1230
Symons, Wilson E., Pittsburg, Kans. Railway bumping-post	804,685	Nov. 14	2328	509-10	119	549
Synar, Harry B., Poughkeepsie, N. Y. Sash opener and fastener	808,586	Dec. 26	4972	1072	119	2475
Szczepanik, Jan, Vienna, Austria-Hungary, assignor to Barmen Bank-Verein, Hinsberg, Fischer & Comp., Barmen, Germany. Weaving diagram and making the same	805,244	Nov. 21	3481	753	119	843
T. L. Smith Company. (See Smith, Thomas L., assignor.)						
Tacchi, Percy G., and A. J. Jung, London, England. Tool	805,328	Nov. 21	3651	789-90	119	880
Tagliabue, Charles J. (See Nassauer, Joseph W., assignor.)						
Tagliabue, Charles J., Brooklyn, N. Y. Thermometer	803,639	Nov. 7	217	48	119	48
Tagliabue, Charles J., Brooklyn, N. Y. Syringe	803,640	Nov. 7	218	48	119	49
Talbot, James B. (See Fischer and Talbot.)						
Talbot, Richard J., *et al.* (See Marr, William G., assignor.)						
Tallman, Zach D., Adrian, Mich. Mail-box	805,759	Nov. 28	4463	957	119	1096
Tanck, Jurgen, Pipestone, Minn. Canvas-tightener	808,122	Dec. 26	4036	868	119	2272
Tarbox, Alfred B., Boston, Mass. Block	805,760	Nov. 28	4464	957	119	1096
Tarbox, Frank T., Xenia, Ohio. Corn-harvester	805,938	Nov. 28	4803	1025	119	1170
Tarbuck, Herbert, Birmingham, England. Fastener for driving belts or bands	804,898	Nov. 21	2774	599	119	694
Tarkington, Cornelius S., Skinnersville, N. C. Fertilizer-distributer	808,491	Dec. 26	4788	1031	119	2437
Tarmac, Limited. (See Hooley, Edgar P. assignor.)						
Tasker, Vernon C., assignor to United States Ordnance Company, Washington, D. C. Firing apparatus for guns	804,899	Nov. 21	2775	599	119	695
Tattrie, Sidney, and J. Schmidt, assignors to said Schmidt and F. Poigee, Lebanon, Ill. Carpet stretcher and tacker	808,123	Dec. 26	4035	868	119	2272
Tatum, Charles A., New York, N. Y. Fountain-syringe	806,306	Dec. 5	447	97	119	1365
Tatum, James W., assignor of one-half to B. C. Woodall, Durham, N. C. Bed-slat	807,515	Dec. 19	2808	604	119	1960
Tatum, John J., Baltimore, Md. Door-hanger	807,141	Dec. 12	2107	452	119	1767
Taubold, John F., Scranton, Pa. Insulator and wire-clamp	803,169	Nov. 21	3324	720	119	813
Tauzin, Ferdinand, and H. Laury, Paris, France. Announcing device or horn for boats, automobiles, and other vehicles	804,567	Nov. 14	2110	461	119	504
Taylor, Abraham M. (See Jones and Taylor.)						
Taylor Burner & Electroplating Company. (See Taylor, William G., assignor.)						
Taylor, Cecil H., Philadelphia, Pa., assignor, by mesne assignments, to K. Taylor, Highbridge, N. J. Magazine for firearms	807,790	Dec. 19	3381	725	119	2083
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Hydraulic crane	805,038	Nov. 21	3047	661	119	754
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Apparatus for stripping molds from ingots	806,208	Dec. 5	234	48	119	1314
Taylor, Edgar R., Boston, Mass Tread-piece for sidewalk-lights, &c	805,761	Nov. 28	4466	958	119	1096
Taylor, Edward R., Penn Yan, N. Y. Producing chemicals in electric furnaces	805,501	Nov. 28	3978	859	119	993
Taylor, Edward R., Penn Yan, N. Y. Producing chemicals in electric furnaces	805,502	Nov. 28	3981	860	119	993
Taylor Electric Truck Company. (See Taylor, John, assignor.)						
Taylor, J. M. (See Mendenhall, Samuel P., assignor.)						
Taylor, James M., Paterson, N. J. Warping and beaming machine	804,987	Nov. 21	2949	640	119	733
Taylor, John, assignor to Taylor Electric Truck Company, Troy, N. Y. Car-truck	806,022	Nov. 28	4953	1058	119	1204
Taylor, John L., *et al.* (See Heffner, William F., assignor.)						
Taylor, John R. (See Updegraff, William B., assignor.)						
Taylor, Knox. (See Taylor, Cecil H., assignor.)						
Taylor, Robert C., Brooklyn, N. Y., assignor to Curtain Supply Company, Jersey City, N. J. Curtain-fixture	804,275	Nov. 14	1535	331	119	377

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Taylor Signal Company. (See Howe, Winthrop K., assignor.)						
Taylor, Warren H., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Means for attaching dial-locks to doors	805,039	Nov. 21	3049	662	119	755
Taylor, Warren H., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Tumbler for combination-locks	805,103	Nov. 21	3191	692	119	784
Taylor, Wilford H., Denver, Colo. Weather-strip	808,316	Dec. 26	4450	958	119	2363
Taylor, William G., assignor to Taylor Burner & Electroplating Company, Pittsburg, Pa. Heating-stove	807,880	Dec. 19	3562	771	119	2123
Tchernlack, Abraham, Moscow, Russia. Loom for weaving	807,791	Dec. 19	3382	725–7	119	2083
Teal, Benjamin, Walla Walla, Wash. Stock-releasing device	803,726	Nov. 7	421	90	119	95
Teeter, Charles E., assignor of one-half to U. S. Keen, Springfield, Mo. Mail-delivering crane	808,317	Dec. 26	4451	914	119	2363
Tefft, Dewey D. (See Tefft, Nelson I. and D. D.)						
Tefft, Nelson I. and D. D., Perry, N. Y. Cloth-cutting machine	805,104	Nov. 21	3192	692	119	784
Telfer, John C., St. Louis, Mo. Holder for lacing-hooks	807,516	Dec. 19	2809	604	119	1960
Temple Gas Engine & Machine Company. (See Temple, Robert, assignor.) (Reissue.)						
Temple, Robert, assignor to Temple Gas Engine & Machine Company, Denver, Colo. Pneumatically-actuated tool. (Reissue)	12,411	Nov. 21	3854	834	119	924
Templeman, Thomas E., Gulfport, Miss. Post-anchor	804,900	Nov. 21	2776	599	119	695
Tengwall, Andreas, Helsingborg, Sweden. Paper perforator or punch	803,727	Nov. 7	422	90	119	95
Terry, Jacob L. (See Clark and Terry.)						
Terwilliger, William H., *et al.* (See Reisler, Phillip A., assignor.)						
Tetrault, Alexis, assignor of one-half to E. C. Pohle, Boulder, Colo. Ore crusher and pulverizer machine	804,780	Nov. 14	2533	555	119	596
Texdorf, Wilhelm, Passaic, N. J. Shutter-worker	804,350	Nov. 14	1688	365	119	411
Thacker, Julius, *et al.* (See Forman, Sanford B., assignor.)						
Thalhofer, Gustave, administrator. (See Thalhofer, Joseph.)						
Thalhofer, Joseph, deceased; G. Thalhofer, Chicago, Ill., administrator. Watch-barrel	808,176	Dec. 26	4155	896	119	2296
Thayer, William H., Chicago, Ill. Hydrocarbon-burner	805,593	Nov. 28	4156	895	119	1030
Thayer, William H., assignor to Bolte & Weyer, Chicago, Ill. Generator	807,792	Dec. 19	3385	727	119	2084
Theisen, Eduard, Baden, Germany. Centrifugal apparatus for treating gases	807,695	Dec. 19	3192	686	119	2043
Thibault, Onésime, Fall River, Mass. Truck	806,599	Dec. 5	969	215	119	1481
Thibodeaux, Louis K., New Orleans, La. Loose-leaf binder	808,492	Dec. 26	4790	1031	119	2433
Thiem, Edward A., St. Paul, Minn. Making grease-cups	808,177	Dec. 26	4157	897	119	2296
Thoma, Andrew, Cambridge, Mass., assignor to North American Chemical Company, New York, N. Y. Filling shoes	808,224	Dec. 26	4255	916	119	2319
Thomas, Cassius D., Moberly, Mo. Brake mechanism	805,329	Nov. 21	3653	790	119	880
Thomas, Edgar L. (See Avary and Thomas.)						
Thomas, Eduard. (See Monath, Victor, assignor.)						
Thomas, Frank P., assignor to E. J. Schowalter, Racine, Wis. Indicator	805,594	Nov. 28	4157	895	119	1031
Thomas, George, Royersford, Pa. Furnace	807,976	Dec. 19	3741	811	119	2164
Thomas, George, and J. S. Creech, Chicago, Ill. Mail-distributing rack	808,318	Dec. 26	4453	958	119	2364
Thomas, George B., assignor to Bryant Electric Company, Bridgeport, Conn. Electrical fuse-plug	804,070	Nov. 7	1085	230	119	235
Thomas, George B., assignor to Perkins Electric Switch Manufacturing Company, Bridgeport, Conn. Electric snap-switch	804,636	Nov. 14	2229	488	119	528
Thomas, George H., Elmira, N. Y. Hand oil-can	805,893	Nov. 28	4719	1009	119	1152
Thomas, George W., assignor to R. Thomas and Sons Company, East Liverpool, Ohio. High-voltage insulator	806,717	Dec. 5	1194	267	119	1529
Thomas, Howard M. (See Moffett, Frederic W., assignor.)						
Thomas, James L. (See Butcher and Thomas.)						
Thomas, John H., Johannesburg, Transvaal. Chuck of rock-drilling machines	804,686	Nov. 14	2331	510	119	550
Thomas, John S. and W. M., St. Louis, Mo. Framework for cement structures	805,762	Nov. 28	4468	958	119	1097
Thomas, Percy H., East Orange, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y. Manufacture of vapor electric apparatus	806,853	Dec. 12	1507	332	119	1638
Thomas, Philip, assignor to Henry R. Worthington, New York, N. Y. Boring-tool	805,170	Nov. 21	3326	720	119	813
Thomas, Thomas C., assignor of one-half to D. R. Sheen, Peoria, Ill. Grain-door	806,209	Dec. 5	226	49	119	1315
Thomas, William M. (See Thomas, John S. and W. M.)						
Thomas Wrigley Company. (See Ahlander, Ernst H., assignor.)						
Thompson, Carl B. (See Deaver, Thompson, Kreitzer, and Deaver.)						
Thompson, Charles H., Stourbridge, assignor of one-half to Maw & Company, Limited, Jackfield, England. Glass tile, slab, or the like	805,595	Nov. 28	4159	.....	119	1031
Thompson, Emmerson, Gamebridge, and T. A. Brown, Toronto, Canada. Wrench-pipe jaw	803,641	Nov. 7	219	49	119	49
Thompson, Frank, *et al.* (See Forbes, Henry M., assignor.)						
Thompson, Frank H., Milford, assignor to Draper Company, Hopedale, Mass. Apparatus for polishing spinning-rings	805,245	Nov. 21	3483	754	119	843
Thompson, Frank H., assignor to Draper Company, Hopedale, Mass. Polishing spinning-rings	805,246	Nov. 21	3486	754	119	844
Thompson, Frank M., East Liverpool, assignor of one-half to S. Menough, Columbiana county, Ohio. Velocipede	808,616	Dec. 26	5025	1085	119	2487
Thompson, George J., Weir, Kans. Stirrup	807,793	Dec. 19	3386	727	119	2084
Thompson, George L., Philadelphia, Pa. Deflector for fans	805,247	Nov. 21	3488	754	119	844
Thompson, Hamlin T., Jackson, Ga. Wrench	804,568	Nov. 14	2111	451	119	504
Thompson, Ida M., Jamestown, N. D. Window-kitchen	803,938	Nov. 7	794	170	119	172
Thompson, John H. (See Deaver, Thompson, Kreitzer, and Deaver.)						
Thompson, John H., Charleston, W.Va., assignor to Universal Electric Equipment Company, Birmingham, Ala. Adjustable lamp-hanger	807,336	Dec. 12	2462	530	119	1844
Thompson, John S. (See Hensley, Claude E., assignor.)						
Thompson, Percy, New York, N. Y. Gripper mechanism for traction-towing	807,218	Dec. 12	2250	455	119	1796
Thompson, Reinert, assignor of one-half to J. M. Larson, Wautoma, Wis. Potato-planter and fertilizer-dropper	803,728	Nov. 7	423	91	119	95
Thompson, William W., St. Louis, Mo. Fire-fighter's apparatus	808,587	Dec. 26	4974	1073	119	2476
Thomson Electric Welding Company. (See Rietzel, Adolph F., assignor.)						
Thomson, Elihu, Swampscott, Mass., assignor to General Electric Company. Electric lamp	805,248	Nov. 21	3489	754	119	845
Thomson, Elihu, Swampscott, Mass., assignor to General Electric Company. Power-transmitting mechanism	808,263	Dec. 26	4329	930–1	119	2336
Thomson, George A., *et al.* (See Oscanyan, Paul C., assignor.)						
Thomson, John, New York, assignor to Neptune Meter Company, Long Island City, N. Y. Apparatus for the manufacture of hard-rubber disks and balls for disk water-meters	806,210	Dec. 5	229	49	119	1315
Thomson, John, New York, assignor to Neptune Meter Company, Long Island City, N. Y. Hard-rubber disk and ball for disk water-meters	806,211	Dec. 5	232	50	119	1316

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Thomson, Oscar M. (See Bradshaw and Thomson.)						
Thorn, Ernest, and T. N. Downs, London, England; said Thorn assignor to said Downs. Apparatus for producing stage illusions	804,637	Nov. 14	2231	488–9	119	528
Thornburgh, Lawrence D., Forrest, Okla. Ter. Washing-machine	805,596	Nov. 28	4160	896	119	1031
Thornton, William, Chattanooga, Tenn. Folding washbench and clamp	807,696	Dec. 19	3193	686	119	2043
Thos. E. Clark Wireless Telegraph-Telephone Co. (See Clark, Thomas E., assignor.)						
Thresher, Alfred A., Dayton, Ohio. Telescopic rammer for ordnance	805,597	Nov. 28	4162	896	119	1032
Thresher, Alfred A., Dayton, Ohio. Telescopic-rammer motor	805,598	Nov. 28	4164	897	119	1032
Thropp, Peter D. (See De Laski and Thropp.)						
Thullen, Louis H., Edgewood, Pa. Switch and lock movement and detector-bar	807,337	Dec. 12	2464	531	119	1844
Thumm, Gottlieb, Chicago, Ill. Combined garbage-cremator and water-heater	807,219	Dec. 12	2251	486	119	1797
Thurman, George W., Cache, Okla. Ter. Rail-joint	806,023	Nov. 28	4956	1059	119	1205
Tibbitt, William J., Philadelphia, Pa. Rivet-set-retaining device	806,510	Dec. 5	825	181	119	1449
Tice, Andrew J., Lisbon, Ohio. Bill-holder	804,445	Nov. 14	1864	404	119	448
Tidwell, Albert F., Celina, Tex. Cotton-handling apparatus	807,881	Dec. 19	3563	771	119	2123
Tiede, Edward J., Buffalo, N. Y. Depth-gage for brace-bits	803,939	Nov. 7	795	170	119	172
Tilden, Edward, Chicago, Ill. Preserving meats	807,142	Dec. 12	2108	453	119	1767
Tilley, John S., Watervliet, N. Y. Step-ladder	808,124	Dec. 26	4040	869	119	2273
Timken Roller Bearing Axle Company. (See Demory, Adam R., assignor.)						
Timm, William, *et al.* (See Kieren, Conrad, assignor.)						
Timmis, Illius A., London, England. Bogie-car	805,105	Nov. 21	3194	693	119	785
Timms, James and J. O., Columbus, Ohio. Coupling	803,729	Nov. 7	424	91	119	96
Timms, James and J. O., Columbus, Ohio. Coupling	804,276	Nov. 14	1537	331–2	119	377
Timms, James O. (See Timms, James and J. O.)						
Timms, James O., Columbus, Ohio. Coupling	803,730	Nov. 7	425	91	119	96
Tindel, Adam, Philadelphia, assignor to High Duty Saw and Tool Company, Eddystone, Pa. Rotary cutting-tool	807,220	Dec. 12	2252	486	119	1797
Tinnerholm, Emil, Chicago, Ill. Whipping-top	806,212	Dec. 5	235	50	119	1316
Titcomb, George E., Philadelphia, Pa., assignor to Dodge Coal Storage Company, Naugatuck, Conn. Means for turning hoisting-buckets	808,493	Dec. 26	4791	1031–2	119	2438
Titus, Peeter C. (See Gill and Titus.)						
Todd, George N., Los Angeles, Cal. Cotton-harvester	806,940	Dec. 12	1702	373	119	1680
Todd, George N., Los Angeles, Cal. Spiral cotton-picking spindle and wiper	806,941	Dec. 12	1706	374	119	1680
Tolman, Edward K., Worcester, Mass. Registering and canceling ballot-box	807,882	Dec. 19	3565	771–2	119	2123
Tomasini, Isidore A., Guadaloupe, Cal. Gun	807,221	Dec. 12	2253	486–7	119	1797
Tomkinson, Charles C., Plainfield, N. J. Bolt-anchor	805,040	Nov. 21	3051	662	119	755
Tomlinson, John H., Detroit, Mich. Drinking-fountain	803,731	Nov. 7	426	91	119	96
Tomlinson, William R., assignor to Billings & Spencer Company, Hartford, Conn. Wrench	804,351	Nov. 14	1589	366	119	411
Tompkins, Daniel I., New York, N. Y. Fastening device for mattresses	805,330	Nov. 21	3656	790	119	881
Tompkins, Ernest, Troy, N. Y. Thread-guide holder	806,443	Dec. 5	700	157	119	1424
Tornquist, Elof, assignor to Western Autographic Register Company, St. Paul, Minn. Adjustable paper-knife	807,222	Dec. 12	2255	487	119	1797
Townsend, Emory L., Los Angeles, Cal. Artificial tooth	805,171	Nov. 21	3327	720	119	813
Townsend, Ervin D., Turtlepoint, assignor of one-half to D. S. Helmer, Port Allegany, Pa. Wire-stretcher	807 697	Dec. 19	3194	686	119	2043
Townsend, Fitzhugh, New York, N. Y., assignor to General Railway Signal Company. System of automatic signaling for electric railways	804,176	Nov. 7	1303	279	119	287
Townsend, Harry E., New York, N. Y. Water-heater	806,307	Dec. 5	448	97–8	119	1366
Townsend, Harry P., and C. E. Johnson, assignors to Corbin Cabinet Lock Company, New Britain, Conn. Padlock	804,901	Nov. 21	2778	600	119	695
Tracy, Jonathan E. W., Washington, D. C. Machine for measuring and packaging seeds	808,588	Dec. 26	4975	1073	119	2476
Trah, Henry J. (See Voorhees and Trah.)						
Trahan, Joseph E., and J. A. Grant, Watertown, N. Y. Fastening device	807,698	Dec. 19	3196	687	119	2044
Traun, Heinrich O., Hamburg, Germany. Vulcanizing hard-rubber articles having interior cavities	805,503	Nov. 28	3983	860	119	994
Travers, Ernest J. (See Reynolds and Travers.)						
Travers, William J., Fullerton, Cal. Underreamer	803,642	Nov. 7	220	49	119	49
Travis, Herbert J. (See Navarro, José F. de, assignor.)						
Treadwell, John. (See Bradford, George H., assignor.)						
Treadwell, John, San Francisco, Cal. Plant for making briquets	805,106	Nov. 21	3196	693–4	119	785
Treat, Charles H., assignor to American Blower Company, Detroit, Mich. Lubricating system	804,988	Nov. 21	2952	641	119	734
Treherne, Leonard C. (See Wildman and Treherne.)						
Tremont Nail Company. (See Leonard, William A., assignor.)						
Trenker, Alois. (See Maloy and Trenker.)						
Trent, Lamartine C., Vantrent, Cal. Centrifugal filter	806,213	Dec. 5	236	50–1	119	1316
Trent, Lamartine C., Vantrent, Cal. Agitating and mixing apparatus	806,214	Dec. 5	238	51	119	1317
Trevithick, Frederick H., Cairo, Egypt. Feed-water heater	808,178	Dec. 26	4158	897	119	2296
Trevithick, Frederick H., Cairo, Egypt. Spark-arrester	808,179	Dec. 26	4162	897	119	2297
Tripp, Jacob W., New York, N. Y. Shutter-bar	808,410	Dec. 26	4834	997	119	2403
Tritt, Theodore G., assignor of one-half to R. E. Shearer, Carlisle, Pa. Book for recording scores in contests	804,177	Nov. 7	1305	279	119	288
Troeger, Jesse J., Chicago, Ill. Multiple-car locomotive	804,638	Nov. 14	2232	489–90	119	529
Trojan Car Coupler Company. (See Renshaw, Alfred H., assignor.) (Reissue.)						
Trolley, Isaac, Grantham, England. Traveling apron or conveyer	803,643	Nov. 7	223	49	119	50
Trolley, Isaac, Jr., assignor to Adriance, Platt & Company, Poughkeepsie, N. Y. Counting mechanism for grain-harvesters	804,277	Nov. 14	1538	332–3	119	378
Troop, Thomas F., assignor of one-half to W. W. Wunder, Reading, Pa. Brake mechanism for fire apparatus	804,071	Nov. 7	1086	230–1	119	235
Trotter, James, Sycamore, assignor of one-half to A. J. Hopkins, Aurora, and J. Brenan, Sycamore, Ill. Lubricator	807,883	Dec. 19	3569	772	119	2124
Truesdale, Harry A., assignor to Conneaut Can Company, Conneaut, Ohio. Seal and tubular inlet for cans and other receptacles	807,223	Dec. 12	2255	487	119	1797
Trufant, Walter E., Whitman, Mass. Friction-drive speed-gear	805,504	Nov. 28	3984	860–1	119	994
Truffault, Jules M. M., Paris, France, assignor to E. V. and G. H. Hartford, Orange, N. J. Antivibration device for vehicles. (Reissue)	12,309	Nov. 7	1352	287	119	298
Truman, William F. (See Hoxie and Truman.)						
Trumbull, Richard J. (See Becken and Trumbull.)						
Trussell, Emory A. (See Nelson, Dawson, and Trussell.)						
Tschantz, William H., assignor to Cyclone Drilling Machine Company, Orrville, Ohio. Wire line attachment for well-drilling machines	807,699	Dec. 19	3197	687	119	2044
Tschopik, Julius D., New Orleans, La. Pipe-connecting member	803,940	Nov. 7	796	170	119	173
Tucker, George V., and E. B. Aiguier, assignors to Richardson Manufacturing Company, Newark, N. J. Stock-collar distender	807,884	Dec. 19	3572	772	119	2125

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Tunstall, William, assignor to Ivins, Diets and Metzger Company, Philadelphia, Pa. Pile-wire lubricator	807,406	Dec. 12	2596	561	119	1873
Turenne, Emile L. P., assignor to Barbier Benard & Turenne, Paris, France. Motor operating with heavy hydrocarbons	807,338	Dec. 12	2467	531	119	1845
Türke, Otto, Saalfeld-on-the-Saale, Germany. Wire-netting machine	803,941	Nov. 7	797	170–2	119	173
Turner, Charles E., Macon, Ga. Dress-suit case	803,732	Nov. 7	427	92	119	96
Turner, Charles P., McKeesport, Pa. Heating-furnace	805,041	Nov. 21	3052	662	119	755
Turner, Clarence E. (See Turner, Robert C., assignor.) (Reissue.)						
Turner, Ephraim M. (See Kellner and Turner.)						
Turner, Lucius A., Denver, Colo. Sliding-door lock	805,042	Nov. 21	3054	663	119	756
Turner, Lucius A., Denver, Colo. Pull device for sliding doors	805,043	Nov. 21	3056	663	119	756
Turner, Lucius A., Denver, Colo. Gravity-lock	805,044	Nov. 21	3058	663–4	119	757
Turner, Robert C., Columbus, Ohio. Sterilizing milk and other liquids	806,600	Dec. 5	970	215	119	1481
Turner, Robert C., Columbus, Ohio. Apparatus for sterilizing milk and other liquids	806,601	Dec. 5	972	216	119	1482
Turner, Robert C., assignor of one-half to C. E. Turner, Columbus, Ohio. Apparatus for purifying, sterilizing, and aging liquids. (Reissue)	12,421	Dec. 12	2650	572	119	1887
Turner, Walter V (See Herr and Turner.)						
Turner, William H., *et al.* (See Schultz, William J., assignor.)						
Turudija, Stanislaus, Triest, Austria-Hungary. Trigger arrangement of firearms	803,644	Nov. 7	224	49–50	119	50
Tuttle, Calvin B., Lynn, Mass., assignor to United-Xpedite Finishing Company, Berwick, Me. Machine for finishing heels, &c	805,763	Nov. 28	4469	958	119	1097
Tuttle, Hosmer, Cedar Rapids, assignor of one-half to J. D. Lamb, Clinton, Iowa. Fluid-power transmitter	806,759	Dec. 5	1296	288–9	119	1550
Tyden, Emil, Hastings, Mich. Sanding and polishing machine	804,902	Nov. 21	2779	600	119	695
Tyden, Emil, Hastings, Mich. Sanding-machine	808,180	Dec. 26	4164	898	119	2298
Tynan, Joseph J., and H. C. Mostiller, Philadelphia, Pa., assignors, by mesne assignments, to Chicago Pneumatic Tool Company, Chicago, Ill. Calking process	807,407	Dec. 12	2590	561–2	119	1874
Tyson, Frank, assignor, by mesne assignments, of one-half to H. B. Stewart, Canton, Ohio. Pasteurizing apparatus	804,687	Nov. 14	2332	510	119	551
Tyson, Frank, assignor, by mesne assignments, of one-half to H. B. Stewart, Canton, Ohio. Pasteurizing liquids	804,688	Nov. 14	2335	510	119	551
Tytler, John E., and W. H. Bowker, Manchester, England. Thread-guide for spinning-frames	806,024	Nov. 28	4958	1059	119	1205
Uhl, John H., assignor of one-half to G. Keipper, Sr., Buffalo, N. Y. Non-refillable bottle	807,339	Dec. 12	2468	532	119	1845
Uhl, Russell, Wilkesbarre, assignor to Perfection Glass Company, Washington, Pa. Jar-closure	806,602	Dec. 5	976	216	119	1483
Ulrich, Louis, Brooklyn, N. Y. Door-ventilator	803,863	Nov. 7	655	143	119	141
Ulsh, James M., Lancaster, Pa. Harrow	804,781	Nov. 14	2536	555	119	599
Ulsh, James M., Lancaster, Pa. Harrow	807,700	Dec. 19	3198	687	119	2044
Umpleby, James E., Troy, assignor to National Machine Company, Mamaroneck, N. Y. Buttonhole-sewing machine	804,639	Nov. 14	2238	490	119	530
Underwood, Louis E., Lynn, Mass., assignor to General Electric Company. Electric conductor	805,249	Nov. 21	3492	755	119	845
Underwood Typewriter Company. (See Wagner, Franz X., assignor.) (Reissue.)						
Unge, Wilhelm T., Stockholm, Sweden. Composition for fuses and making same	806,025	Nov. 28	4958	.....	119	1205
Unge, Wilhelm T., Stockholm, Sweden. Igniting mechanism for air-torpedoes, &c	806,026	Nov. 28	4959	1059–60	119	1205
Union Spring and Manufacturing Company. (See McCrea, Archibald M., assignor.)						
Union Switch and Signal Company. (See Coleman, John P., assignor.)						
Union Switch and Signal Company. (See Patenall, Thomas H., assignor.)						
Union Typewriter Company. (See Felbel, Jacob, assignor.)						
Union Water Meter Company. (See Merrill, Charles F., assignor.)						
Unique Advertising Company. (See Ewing, Henry W., assignor.)						
Unit Concrete Steel Frame Company. (See Perrot, Emile G., assignor.)						
United Printing Machinery Company. (See Fullard, William, assignor.)						
United Printing Machinery Company. (See Gustafson, Bernhard, assignor.)						
United Shoe Machinery Company. (See Wolfe, George F., assignor.)						
United States Ordnance Company. (See Tasker, Vernon C., assignor.)						
United States Ordnance Company. (See Wilson and Chase, assignors.)						
United States Ordnance Company. (See Wilson and Lynch, assignors.)						
United States Playing Card Company. (See James, Wilbur C., assignor.)						
United States Printing Company. (See Krebs, Walter E., assignor.)						
United States Stone Saw Company. (See Miel, Charles L., assignor.)						
United States Vending Corporation. (See Hall and MacLeod, assignors.)						
United-Xpedite Finishing Company. (See Tuttle, Calvin B., assignor.)						
United Zinc and Chemical Company. (See Meyer, August R., assignor.)						
Universal Electric Equipment Company. (See Thompson, John H., assignor.)						
Universal Nut-Lock Company. (See Davison, Erwin A., assignor.)						
Universal Winding Company. (See Wardwell, Simon W., assignor.)						
Updegraff, William B., assignor to J. R. Taylor, New York, N. Y. Clearance-indicator	804,178	Nov. 7	1306	280	119	288
Upperman, Thomas. (See Kane, William J., assignor.)						
Upton, Frank B., St. Louis, Mo. Caster	803,645	Nov. 7	227	50	119	51
Urban, Alfred C., assignor of three-fourths to N. P. Herrington and E. F. Brown, Buxton, Iowa. Mine-door	808,125	Dec. 26	4041	869	119	2273
Urban, Johann. (See Fremery, Bronnert, and Urban.)						
Urie, James M., Boulder, Colo. Wagon-box protector	804,278	Nov. 14	1540	333	119	378
Ursbruck, John H. and J. B., assignors of one-half to J. A. and M. A. Hunter, Philadelphia, Pa. Thread-controlling mechanism for sewing-machines	804,508	Nov. 14	1988	434–5	119	478
Ursbruck, John H. and J. B., assignors of one-half to J. A. and M. A. Hunter, Philadelphia, Pa. Tension mechanism for sewing-machines	804,782	Nov. 14	2539	556	119	600
Ursbruck, Joseph B. (See Ursbruck, John H. and J. B.)						
Ury, Solomon H., San Leandro, Cal. Automatic gas-burner attachment	804,509	Nov. 14	1990	435	119	478
Vacuum Cleaner Company. (See Kenney, David T., assignor.)						
Vader, Clarence H., Syracuse, N. Y. Adjustable chair-seat	807,701	Dec. 19	3201	688	119	2045
Valle, Percy A., Westminster, assignor to F. H. Ayres, London, England. Golf-club	807,224	Dec. 12	2257	488	119	1798
Valentine, Arthur M., Janesville, Wis. Limb appliance	807,098	Dec. 12	2021	435	119	1750
Valerius, Theodore L., Fort Atkinson, Wis., assignor to Creamery Package Mfg. Company, Chicago, Ill. Cream-ripener	808,319	Dec. 26	4457	959	119	2365
Valerius, Theodore L., Fort Atkinson, Wis., assignor to Creamery Package Mfg. Company, Chicago, Ill. Cover for cream-ripeners and the like	808,320	Dec. 26	4459	959	119	2365
Valerius, Theodore L., Fort Atkinson, Wis., assignor to Creamery Package Mfg. Company, Chicago, Ill. Apparatus for ripening cream	808,321	Dec. 26	4461	959–60	119	2366
Van Berkel, Wilhelmus A., Rotterdam, Netherlands. Meat-slicing machine	806,603	Dec. 5	977	216	119	1483
Van Cise, Frederick J. and W. C., Mayville, N. Y. Spring bed-bottom	804,352	Nov. 14	1689	366	119	411
Van Cise, William C (See Van Cise, Frederick J. and W. C.)						
Van de Putte, André S. F., St. Petersburg, Russia. Injecting and mixing device for hydrocarbon-motors	806,760	Dec. 5	1300	289	119	1550

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Van Dillen, John T., St. Louis, Mo. Electric time-lock	806,942	Dec. 12	1708	374–5	119	1681
Van Dorn, William T., Chicago, Ill. Railway-coupling	806,215	Dec. 5	240	51	119	1317
Van Holland, Dudley. (See Mathews and Van Holland.)						
Van Kleeck, John H., Brooklyn, N. Y. Closure for receptacles	806,028	Nov. 28	4964	1060	119	1206
Van Mater, John H., Atlantic Highlands, N. J. Acoustic diaphragm	804,903	Nov. 21	2782	601	119	696
Van Orden Corset Company. (See Van Orden, John M., assignor.)						
Van Orden, John M., Newark, N. J., assignor to Van Orden Corset Company. Garment	803,733	Nov. 7	428	92	119	97
Van Tassel, John R., Geneva, assignor to E. Kirstein Sons Company, Rochester, N. Y. Eyeglass-mounting	806,379	Dec. 5	571	126	119	1393
Van Vleet, Charles W., New York, N. Y., assignor to National Game Manufacturing Co. Parachute	807,977	Dec. 19	3742	811	119	2164
Van Vriesland, Adolphe I., Scheveningen, Netherlands. Incandescent mantle	803,798	Nov. 7	540	118	119	118
Van Wagenen, Anthony, Sioux City, Iowa, assignor, by mesne assignments, to Clark Automatic Telephone Switch-Board Company, Providence, R. I. Transmitter	804,279	Nov. 14	1541	333	119	378
Van Wagenen, Anthony, Sioux City, Iowa, assignor, by mesne assignments, to Clark Automatic Telephone Switch-Board Company, Providence, R. I. Transmitter	804,280	Nov. 14	1545	333–4	119	379
Van Wagoner Company. (See Van Wagoner and Pomeroy, assignors.)						
Van Wagoner, Cornelius S., and L. R. Pomeroy, assignors to Van Wagoner Company, Cleveland, Ohio. Spring-hinge	806,126	Dec. 26	4043	869	119	2273
Van Wye, Charles W., Freeport, Kans. Automatic draft-coupling for agricultural machinery	806,216	Dec. 5	242	51	119	1318
Vanatta, Frank T. (See Burt and Vanatta.)						
Vance, Arthur E., Forest, Canada. Fastening device	806,027	Nov. 28	4962	1060	119	1206
Vance, Damon A. (See Sibbald and Vance.)						
Vance, Harry A., assignor of one-third to L. F. Brown, Empire, Ohio. Self-leveling table	807,099	Dec. 12	2022	435	119	1750
Vance, Walter N., Chicago, Ill. Magnetic work-holder	807,517	Dec. 19	2811	604	119	1901
Vandegrift, Leonard G., Jr., McDonough, Del. Corn-husking machine	806,264	Dec. 26	4333	931–2	119	2336
Vandervoort, Lois J., Guthrie, Okla. Ter. Ore-separator	805,590	Nov. 28	4165	897	119	1032
Vanmanen, Stephen. (See Vanmanen, William and S.)						
Vanmanen, William and S., Grand Rapids, Mich. Bench-vise	804,179	Nov. 7	1308	280	119	288
Varley Duplex Magnet Company. (See Scott, Archibald D., assignor.)						
Varley Richard, Englewood, N. J., assignor, by mesne assignments, to Autocoil Co. Circuit-controller for explosive-engines	804,783	Nov. 14	2541	556	119	600
Varney, Theodore, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Thermal cut-out	807,885	Dec. 19	3573	773	119	2125
Vassallo, James. (See Silva and Vassallo.)						
Vaughan, Charles A. H. (See Brooke and Vaughan.)						
Vaughan, Henry H., Cleveland, Ohio, assignor to Ridgely and Johnson Tool Company. Pneumatic hoist	804,510	Nov. 14	1991	435	119	479
Vaughen, Samuel W., Lorain, Ohio, and J. W. Cabot, Boston, Mass. Automatic blast-regulating apparatus	804,689	Nov. 14	2337	511	119	552
Vaughn, Edward J., successor in trust, *et al.* (See Cook, Samuel G., assignor.)						
Vaught, James C. H., Deadwood, S. D. Chuck for rock-drills	804,904	Nov. 21	2784	601	119	697
Vawter, Charles E., Jr., Blacksburg, Va. Recording instrument	807,518	Dec. 19	2814	605	119	1961
Vellumoid Paper Company. (See Goessmann, Charles I., assignor.)						
Veluard, André L., Philadelphia, Pa. Apparatus for tambouring	804,072	Nov. 7	1087	231	119	235
Venable, William M., Cincinnati, Ohio, assignor to Sanitary Engineering Company. Liquid-aerating device	808,411	Dec. 26	4536	998	119	2403
Venn, Isaac H., Yonkers, N. Y., assignor to Otis Elevator Company, East Orange, N. J. Elevator	807,794	Dec. 19	3387	728	119	2084
Vergason, George C., Binghamton, N. Y. Window-shade fixture	807,886	Dec. 19	3575	773	119	2126
Vermont Farm Machine Company. (See Kimball, Perley L., assignor.)						
Vernaz, Alexis, Yverdon, Switzerland. File	807,143	Dec. 12	2111	453	119	1767
Verwey, Aart, Rotterdam, Netherlands. Gas-stove	803,734	Nov. 7	429	92	119	97
Vibrassage Company. (See Pfanschmidt, Charles, assignor.)						
Vickers, Elias L., Tifton, Ga. Turpentine-gathering means	807,702	Dec. 19	3204	688	119	2045
Victor Talking Machine Company. (See Lutz, Julius H., assignor.)						
Victoria Self-Lacing Company. (See Brock, Matthias, assignor.)						
Vidaver, Maxwell, New York, N. Y. Vaginal irrigator	805,826	Nov. 28	4573	980	119	1117
Vieman, Charles L., *et al.* (See Schultz, William J., assignor.)						
Viertel, Hermann. (See Marquardt and Viertel.)						
Vietmeyer, Alexander. (See Vietmeyer, Friedrich W. and A.)						
Vietmeyer, Friedrich W. and A., Pyrmont, Germany. Bottle-stopper	807,519	Dec. 19	2816	605	119	1962
Vieweg, Fred J., Plainfield, N. J. Lock	805,687	Nov. 28	4311	928	119	1064
Villette, Eugène P. A., Lille, France. Means for stopping the motion of vessels	805,688	Nov. 28	4320	928	119	1067
Vining, George H. (See Caps and Vining.)						
Vining's News Bureau. (See Caps and Vining, assignors.)						
Vinton, John H., Boston, assignor to L. C. Smith, Winthrop, Mass. Pipe-wrench	803,942	Nov. 7	812	172	119	176
Vladutz, Vasilie, Homestead, Pa. Street-car fender	805,604	Dec. 5	979	217	119	1484
Voelke, Fred A., Tipton, Ind. Hollow pattern-forming machine	803,799	Nov. 7	541	118	119	118
Vogel, Eugene W., Chicago, Ill., assignor to Railroad Supply Company. Self-restoring signal-controlling device	804,180	Nov. 7	1309	280	119	289
Vogel, Eugene W., Chicago, Ill., assignor to Railroad Supply Company. Railway signal-circuit	805,827	Nov. 28	4574	980	119	1117
Vogel, Joseph, Maxville, Mo. Rack for hay-wagons	808,265	Dec. 26	4337	932	119	2337
Vogt, Adolf, West Norwood, England. Means to regulate the power of explosion-engines	805,430	Nov. 21	3842	832	119	922
Vogt, Louis, assignor of one-half to J. R. Simpson, Conneaut, Ohio. Wheel-fender	804,281	Nov. 14	1550	334	119	380
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Knob for locks and latches	806,854	Dec. 12	1509	332	119	1638
Voigt, Martin H., Kleefeld, near Hanover, Germany. Water-circulating device	807,586	Dec. 19	2983	640	119	1997
Volk, Ferdinand, assignor of two-thirds to J. A. Rogan and J. Murphy, Pittsburg, Pa. Controller	807,520	Dec. 19	2818	605	119	1962
Volkmann, Martin F., Santa Monica, Cal. Fluid-pressure brake	803,943	Nov. 7	813	172–3	119	176
Voorhees, Philip, and H. J. Trah, Logansport, Ind. Controlling-valve	808,494	Dec. 26	4793	1032	119	2438
W. A. Russell & Co. (See Russell, William A., assignor.)						
W. H. Keeler Co. (See Keeler, William H., assignor.)						
W. O. Hickok Manufacturing Company. (See Peckham and Hyde, assignors.)						
Waddell, Montgomery, New York, N. Y. Automatic regulator for electric circuits	805,505	Nov. 28	3987	861	119	995
Waddell, Robert S. (See Gentieu and Waddell.)						
Wagner, Caspar M., Chicago, Ill. Chair	807,587	Dec. 19	2984	640	119	1997
Wagner, Franz X., assignor to Underwood Typewriter Company, New York, N. Y. Paper-guide for type-writing machines. (Reissue)	12,412	Nov. 21	3858	834	119	925
Wagner, John, Portage, Wis. Hot-air radiator	806,855	Dec. 12	1510	332	119	1639
Walls, John G., Delta, Pa. Stop-button for overhead cables	807,225	Dec. 12	2257	488	119	1798
Walt, Henry H., Chicago, Ill. Dynamo-electric machine	806,217	Dec. 5	243	52	119	1318

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Waite, Joseph, Buffalo, N. Y. Railway-switch	805,390	Nov. 21	3764	814	119	905
Walch, Jacob S., Roselawn, Cal. Grain-separator	807,978	Dec. 19	3743	812	119	2164
Waldron Company, John. (See Waldron, William H., assignor.)						
Waldron, William H., assignor to John Waldron Company, New Brunswick, N. J. Oil-cloth-printing machine	804,640	Nov. 14	2240	490–1	119	531
Waldron, William H., assignor to John Waldron Company, New Brunswick, N. J. Registering device for printing-machines	805,172	Nov. 21	3328	721	119	813
Walker, Albert H., trustee. (See Ippers, John W., assignor.)						
Walker, Benjamin F., Bridgeport, Conn. Carbureter	807,144	Dec. 12	2112	454	119	1768
Walker, Edwin. (See Head, Robert, assignor.)						
Walker, Edwin, Erie, Pa. Composite sound-producer	805,600	Nov. 28	4166	897–8	119	1033
Walker, Edwin J., Jr., Philadelphia, Pa. Bin	807,226	Dec. 12	2259	488	119	1798
Walker, Frank, Los Angeles, Cal. Ice-cutting device	807,521	Dec. 19	2819	606	119	1962
Walker, George E., and A. Peacock, Scunthorpe, England. Apparatus for rolling axles and the like	805,391	Nov. 21	3765	815	119	905
Walker, Harry B., Chicago, Ill. Table-mat	806,218	Dec. 5	245	52	119	1318
Walker, Harry H., assignor of one-half to N. M. Baskett, Ponca, Okla. Ter. Pasting device	807,887	Dec. 19	3577	773	119	2126
Walker, James M., Augusta, Ga. Clothes-cabinet	807,340	Dec. 12	2470	532	119	1845
Walker, James R. (See Ervin and Walker.)						
Walker, James W., assignor of one-half to J. E. Lyons, Augusta, Ga. Railway-rail joint	804,989	Nov. 21	2956	642	119	735
Walker, Jas. R., *et al.* (See Barnum, Albert L., assignor.)						
Walker, John S., Pittsburg, Pa. Furnace	806,029	Nov. 28	4965	1060	119	1206
Walker, Louis C. (See Young, Willis G., assignor.)						
Walker, Louis C., Muskegon, Mich. Filing-tray	806,030	Nov. 28	4967	1061	119	1207
Walker, Ralph J., Bowling Green, Ohio. Picture-frame	804,282	Nov. 14	1551	334	119	380
Walker, Robert H., Tacoma, Wash. Piano-key-repair clamp	806,219	Dec. 5	246	52	119	1318
Walker, Warren D., Malone, N. Y. Hub-attaching device	804,353	Nov. 14	1692	366	119	412
Wallace, Emilus F., Syracuse, N. Y. Mail-box fastener	807,888	Dec. 19	3578	773	119	2127
Wallace, George F., Ainsworth, Iowa. Portable sawing-machine	804,073	Nov. 7	1090	231–2	119	236
Wallace, Thomas, and F. Nash, San Francisco, Cal. Conveying apparatus	803,944	Nov. 7	816	173	119	176
Wallace, Thomas V., Monongahela, Pa. Hook	805,173	Nov. 21	3330	721	119	814
Wallen, Carl J., Jamestown, N. Y. Window-screen	804,641	Nov. 14	2243	491	119	531
Wallen, Carl J., Youngstown, Ohio. Window construction	807,703	Dec. 19	3205	688	119	2046
Wallenthin, Walfrid, assignor to Bates & Bacon, Attleboro, Mass. Bracelet	808,322	Dec. 26	4467	960	119	2366
Wallenthin, Walfrid, assignor to Bates & Bacon, Attleboro, Mass. Bracelet	808,323	Dec. 26	4469	960	119	2367
Walls, Nancy J., Pozo, Cal. Sanitary wool bed-mattress	804,354	Nov. 14	1693	367	119	412
Walp, Sherman T., Summerford, Ohio. Screen-frame	806,943	Dec. 12	1710	375	119	1681
Walsh, George J., Brooklyn, N. Y. Rail-joint	804,074	Nov. 7	1091	232	119	236
Walsh, Harry C. H., assignor to Consolidated Press and Tool Company, Chicago, Ill. Can-heading machine	804,642	Nov. 14	2245	491–2	119	531
Walsh, Margaret M. (See Rempe, Jacob E., assignor.)						
Walston, Thomas B., Williamsport, Ohio. Swinging gate	808,324	Dec. 26	4470	961	119	2367
Walter, Harry A., Marshall, Mich. Molding machine	804,643	Nov. 14	2249	492	119	533
Walter, John, Yates Center, Kans. Sickle-holder	805,894	Nov. 28	4721	1009	119	1153
Walter M. Lowney Company. (See Ellingwood, George B., assignor.)						
Walters, Henry, Wakarusa, Ind. Collar and necktie fastener	804,075	Nov. 7	1092	232	119	236
Walther, Gustava A., *et al.* (See Werner, Emil, assignor.)						
Walton, Edgar M., Kansas City, Mo. Machine for making concrete blocks	805,045	Nov. 21	3063	664	119	758
Walton, Frederick, London, England. Process of and apparatus for painting and coloring lincrusta, &c.	804,283	Nov. 14	1552	335	119	380
Walton, William J., Rock Island, Ill. Device for holding fish-rods	803,646	Nov. 7	229	50	119	51
Wands, John C., St. Louis, Mo. Jack for relieving pressure on pneumatic tires of motor-vehicles	806,088	Nov. 28	5084	1084	119	1230
Wands, John C., St. Louis, Mo. Device for relieving pressure on motor-vehicle tires	806,089	Nov. 28	5085	1084–5	119	1230
Wanless, John A. (See Le Jeune, Henry E., assignor.)						
Ward, Frank D., Hanwell, assignor of one-half to H. P. Bradford, London, England. Operating sliding doors	806,220	Dec. 5	247	53	119	1319
Ward, Joseph T. (See Staley and Ward.)						
Ward, Lee. (See Ward, Noble W., P. S., and L.)						
Ward, Noble W., P. S., and L., Yancey, Tex. Poison-distributer for plants	805,689	Nov. 28	4321	929	119	1067
Ward, Pleasant S. (See Ward, Noble W., P. S., and L.)						
Ward, Samuel, New Bedford, Mass. Eyeglasses	808,412	Dec. 26	4637	998	119	2403
Wardell, Thomas. (See Kershaw, Samuel, assignor.)						
Wardwell, Simon W., Providence, R. I., assignor to Universal Winding Company, Portland, Me. Winding-machine	806,221	Dec. 5	248	53	119	1319
Ware, Troy, Letch, W. Va. Spring-tire	805,046	Nov. 21	3064	664	119	758
Ware, Walter F. (See Cartledge, Wright R., assignor.)						
Ware, Walter F., Philadelphia, Pa. Jock-strap	808,495	Dec. 26	4795	1033	119	2439
Warner, Albert C. (See Wertz and Warner.)						
Warner, Charles B. (See Brookman, John H., assignor.)						
Warner, Daniel, assignor of one-half to G. and J. K. Farrand, Bronson, Mich. Concrete-mixer	807,522	Dec. 19	2821	606	119	1963
Warr, William, Stalybridge, assignor to Calico Printers' Association, Limited, Manchester, England. Mordanting with magnesium compounds	803,647	Nov. 7	230	.....	119	51
Warren Ball Bearing Fixture Company. (See Fergusson, Alan R., assignor.)						
Warren, Frederick C., and W. H. Preston, Valley Junction, Wis. Wrench	805,506	Nov. 28	3992	862	119	996
Warren, George L., St. Paul, Minn. Railway-car brake-beam	808,325	Dec. 26	4472	961	119	2368
Warren, Henry E., Newton, assignor to Lombard Governor Company, Ashland, Mass. Speed-governor	805,392	Nov. 21	3767	815	119	905
Warren, James, Washington, Pa. Metal railway-tie	803,864	Nov. 7	657	143	119	141
Warren, William R., New York, N. Y. Rotary kiln	804,076	Nov. 7	1092	232	119	236
Warrick, James P., *et al.* (See Raspillaire, August, assignor.)						
Washburn, Edwin C., Minneapolis, Minn. Loose-sheet holder	805,393	Nov. 21	3768	815	119	905
Washburn, Edwin C., Minneapolis, Minn. Draft-rigging for cars	805,394	Nov. 21	3769	816	119	906
Waterbury Buckle Company. (See Smith and Buchanan, assignors.)						
Waterhouse, Harold D., and F. W. Green, Quincy, Mass.; said Green assignor to said Waterhouse. Device for removing the sediment from gasolene	804,284	Nov. 14	1554	335	119	381
Waterhouse, Harold D., and F. W. Green, Quincy, Mass.; said Green assignor to said Waterhouse. Fastener for awnings and covers	804,285	Nov. 14	1556	335	119	381
Waterman, Harry S., East Tawas, Mich. Spike-lock	805,690	Nov. 28	4322	929	119	1067
Waterman, Lewis E., assignor to Emerson Manufacturing Company, Rockford, Ill. Lister-cultivator	805,601	Nov. 28	4168	898	119	1033
Waters, Harry B., Denver, Colo. Butter-cutter	805,602	Nov. 28	4169	898	119	1034
Waters, William L., Milwaukee, Wis. Dynamo-electric machinery	804,355	Nov. 14	1694	367	119	412

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Watier, Charles E. (See Kober and Watier.)						
Watkins, William D., Scranton, Pa. Fire-alarm	804,356	Nov. 14	1695	367	119	413
Watkins, William D., Scranton, Pa. Portable fire-alarm	804,357	Nov. 14	1696	367	119	413
Watrous, Earl G., Chicago, Ill. Water-closet	804,644	Nov. 14	2251	493	119	533
Watson, George, Pool, near Leeds, and H. W. Mason, Wakefield, assignors to Horsfall Destructor Co., Limited, Leeds, England. System for the destruction of refuse	807,889	Dec. 19	3580	774–5	119	2127
Watson, George, Pool, near Leeds, and H. W. Mason, Wakefield, assignors to Horsfall Destructor Co., Limited, Leeds, England. Furnace	807,890	Dec. 19	3583	775–6	119	2128
Watson, George R. (See Gould and Watson.)						
Watson, Henry W., assignor of one-half to S. Cozatt, Chattanooga, Tenn. Bin	805,047	Nov. 21	3065	664	119	758
Watson, James P., and F. L. Jahn, Philadelphia, Pa., assignors to Watson and McDaniel Company. Pump-regulator	806,380	Dec. 5	573	126	119	1393
Watson, Joseph C., New York, N. Y. Fifth-wheel coupling	806,605	Dec. 5	981	217	119	1484
Watson, Lewis, Nashua, N. H. Roof-flashing	807,795	Dec. 19	3390	728	119	2085
Watson and McDaniel Company. (See Watson and Jahn, assignors.)						
Watson, Seymour D., St. Johns, Mich. Heater	806,856	Dec. 12	1511	333	119	1639
Watson, Thomas J., Rochester, Pa. Wall-protector	804,569	Nov. 14	2112	461	119	504
Watt, George F., Chicago, Ill. File-binder for loose sheets	805,507	Nov. 28	3994	862	119	997
Way, George, and R. Kolb, Spokane, Wash. Display-stand	805,603	Nov. 28	4171	899	119	1034
Wear, George W., Elkhart, Ind. Locking wedge-bolts on locomotive-pedestals	808,127	Dec. 26	4045	869	119	2274
Weathers, Murdock A., Manchester, N. H. Frame for holding and stretching fabrics	807,891	Dec. 19	3585	777	119	2128
Weaver, Charles S., and G. H. Lounsberry, Duluth, Minn. Stretching device	807,588	Dec. 19	2986	640	119	1998
Weaver, Lafayette, Jr., Philadelphia, Pa. Combination-clasp	804,905	Nov. 21	2786	601	119	697
Webb, John. (See Bamberg, Charles, assignor.)						
Webb, John L. (See Stokes, Homer, assignor.)						
Weber, Charles H. (See Weber, George J. and C. H.)						
Weber, George J. and C. H., Kansas City, Mo. Apparatus for the production of mechanical energy and heat	803,735	Nov. 7	430	93	119	97
Weber, Henry G., Knoxville, Iowa. Adhesive plaster	806,031	Nov. 28	4970	1061	119	1208
Webley and Scott Revolver and Arms Company. (See Carter, John, assignor.)						
Webster, Daniel. (See Neffen, Paul H., assignor.)						
Webster, Edmond B., Clifton, Kans. Fence-tightener	807,589	Dec. 19	2987	640	119	1998
Webster, Harry G., Chicago, Ill., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y. Telephone-exchange system	804,077	Nov. 7	1093	233	119	237
Webster, M. E., *et al.* (See Bradley, William H., assignor.)						
Webster, Richard A., and W. H. Barnes, Mining City, Ky. Fire-screen	805,395	Nov. 21	3771	816	119	906
Wedderburn, Gertrude F., Chevy Chase, Md. Card-support for dummy hands	805,895	Nov. 28	4723	1010	119	1153
Wedge, Utley, Ardmore, Pa. Preparing iron pyrites for desulfurization	804,690	Nov. 14	2340	511	119	552
Wedge, Utley, Ardmore, Pa. Iron-pyrites charge for desulfurizing-furnaces and preparing same	804,691	Nov. 14	2342	.....	119	553
Wedge, Utley, Ardmore, Pa. Preparing iron oxid for use in blast-furnaces	804,692	Nov. 14	2343	.....	119	553
Wedge, Utley, Ardmore, Pa. Preparing iron oxid for use in blast-furnaces	804,693	Nov. 14	2344	.....	119	553
Wedge, Utley, Ardmore, Pa. Treating iron pyrites for desulfurization	804,785	Nov. 14	2547	.....	119	602
Weed Distilling and Manufacturing Company. (See Weed, Edward B., assignor.)						
Weed, Edward B., Cleveland, Ohio, assignor, by mesne assignments, to Weed Distilling and Manufacturing Company, New York, N. Y. Obtaining terpenes and other products from wood	804,358	Nov. 14	1697	368	119	413
Weed, Edward B., Cleveland, Ohio, assignor to Weed Distilling and Manufacturing Company, New York, N. Y. Apparatus for treating resinous wood	805,174	Nov. 21	3331	721	119	814
Weed, Edward B., Cleveland, Ohio, assignor to Weed Distilling and Manufacturing Company, New York, N. Y. Distillation of wood	806,606	Dec. 5	982	217	119	1484
Weeks, Horace A., Lynn, Mass. Shoe-form	804,350	Nov. 14	1698	368	119	413
Weeks, John W., Providence, R. I. Gas-pressure regulator	805,396	Nov. 21	3772	817	119	906
Wege, Peter M., assignor to General Fireproofing Company, Youngstown, Ohio. Sectional steel cabinet	805,604	Nov. 28	4174	899	119	1034
Wegelin, Gottfried, Kalscheuren, Germany. Apparatus for making lampblack	807,646	Dec. 19	3091	665	119	2021
Wegner, Frederick A., and J. D. Bourdeau, Detroit, Mich., assignors to Cereal Machinery and Production Company, Limited, Windsor, Canada. Cooling and drying apparatus	807,408	Dec. 12	2601	562	119	1874
Wehrhahn, Henry, assignor to E. C. Seaman, New York, N. Y. Milk-can	808,326	Dec. 26	4474	961	119	2368
Wehrhahn, Henry, assignor to E. C. Seaman, New York, N. Y. Metal barrel	808,327	Dec. 26	4475	962	119	2368
Wehrhahn, Henry, assignor to E. C. Seaman, New York, N. Y. Metal barrel	808,413	Dec. 26	4639	998	119	2404
Weiler, Ernst, Berlin, Germany. Vehicle-wheel rim	805,828	Nov. 28	4577	980–1	119	1117
Weilert, Fred, New York, N. Y. Shade-fastening	808,414	Dec. 26	4639	999	119	2404
Weinrich, Moriz, Yonkers, assignor of two-thirds to W. Baur, New York, N. Y., and C. Portius, Caro, Mich. Treating sugar-beets	803,945	Nov. 7	817	173	119	177
Weir, John B., assignor to W. P. Healy, Chicago, Ill. Step-mitering machine	807,647	Dec. 19	3092	665–6	119	2021
Weisgerber, Harry E., Atlantic City, N. J. Rolling-chair	805,605	Nov. 28	4174	900	119	1035
Weisz, Albert R., assignor, by mesne assignments, to A. Weisz, Brooklyn, N. Y. Automatic lighter	808,128	Dec. 26	4046	870	119	2274
Weisz, Amelie. (See Weisz, Albert R., assignor.)						
Welch, George A., assignor of one-half to P. Hamburger, Jr., Baltimore, Md. Display-stand	807,341	Dec. 12	2472	532	119	1846
Welch, Henry H., Los Angeles, Cal. Trousers press and stretcher	805,444	Dec. 5	702	157	119	1424
Weldon, Edwin G., Johannesburg, Transvaal. Winding or hauling apparatus for mines and the like	806,857	Dec. 12	1513	333	119	1639
Weller, Daniel W., Phœnixville, Pa. Cement-block machine	803,865	Nov. 7	658	143–4	119	141
Weller, John F., Charlestown, W. Va. Furnace-door frame and means of cooling	806,381	Dec. 5	576	127	119	1394
Wellette, Jim R., Assumption, Ill. Alarm mechanism for locks	807,704	Dec. 19	3208	689	119	2046
Wellhöfer, Carl, Sr., Heidingsfeld, near Würzburg, Germany. Cask-head closure	805,508	Nov. 28	3995	862	119	997
Wellman, Harlan P., Ashland, Ky. Headlight-lamp	807,796	Dec. 19	3392	728–9	119	2086
Welsh, Harry J., West Brownsville, Pa. Car-replacer	805,175	Nov. 21	3333	722	119	815
Welsh, Martin S. (See Donnelly, Hugh, assignor.)						
Welter, John. (See Greenwalt, Lawrence, assignor.)						
Welter, Julius. (See Gomila, Salvador de, assignor.)						
Welton, John A., Canal Dover, Ohio. Locomotive-boiler	804,286	Nov. 14	1558	336	119	382
Welty, William A., Waterloo, Iowa. Fountain-pen feed	803,866	Nov. 7	659	144	119	142
Welzant, Jadwiga. (See Gay, Herman T., assignor.)						
Wendelius, Per, and E. Mattsson, Stockholm, Sweden. Support for cornice or curtain holders	806,944	Dec. 12	1711	375	119	1682
Wendt, William F., assignor to Buffalo Forge Company, Buffalo, N. Y. Forge	805,691	Nov. 28	4323	929–30	119	1068
Wenger, Jacob. (See Kurtz, Clinton J., assignor.)						
Werk, Henry T., Cleveland, Ohio. Bridle-bit	805,606	Nov. 28	4176	900	119	1035
Werner, Charles J., Ridgefield, N. J., assignor of one-half to E. C. Eustace, New York, N. Y. Machine for cracking nuts	807,052	Dec. 12	1931	416	119	1731
Werner, Emil, Philadelphia, Pa. Device for leveling the keys of pianofortes	803,946	Nov. 7	820	173	119	177

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Werner, Emil, assignor of two-thirds to G. A. Walther, Philadelphia, and C. Schwerdfeger, Landsdale, Pa. Piano-action for pianos	805,692	Nov. 28	4325	930	119	1068
Wernitz, Johann, Odessa, Russia. Bottle-seal	805,048	Nov. 21	3067	665	119	758
Wertz, George N. (See Farnsworth, Henry T., assignor.)						
Wertz, William H., Elmwood, and A. C. Warner, Peoria, assignors of one-half to J. D. Putnam, Elmwood, Ill. Corn-planter	806,032	Nov. 28	4971	1061-2	119	1208
Wesel, Ferdinand. (See Albert, Eugen, assignor.)						
West, Asa H., Cedarbluff, Va. Washboard	807,979	Dec. 19	3745	812	119	2165
West, Leonard A. (See Hundley, Charles W., assignor.)						
West Supply Company. (See Bretz, George B., assignor.)						
Westberry, Henry J. (See Snell, John R., assignor.)						
Westerfield, Joseph C., assignor of one-half to J. Nicholson, Belleville, N. J. Umbrella	807,892	Dec. 19	3587	777	119	2129
Western Autographic Register Company. (See Tornquist, Elof, assignor.)						
Western Clock Manufacturing Company. (See Neureuther, Andrew H., assignor.)						
Western Electric Company. (See Craft, Edward B., assignor.)						
Western Electric Company. (See McBerty, Frank R., assignor.)						
Western Engineering Company. (See Hahn, Howard H., assignor.)						
Western Wheeled Scraper Company. (See Brooks, James M., assignor.)						
Westfall, Levi G., Beardsley, Minn. Checkrein-holder	807,980	Dec. 19	3746	812	119	2165
Westfall, Lewis. (See Colvin, Howard M., assignor.)						
Westinghouse Air Brake Co. (See Dewson, Edward H., assignor.)						
Westinghouse Air Brake Company. (See Clark, Francis L., assignor.)						
Westinghouse Air Brake Company. (See Herr and Turner, assignors.)						
Westinghouse Electric & Manufacturing Company. (See Bradshaw, William M., assignor.)						
Westinghouse Electric and Manufacturing Company. (See Hepp and Born, assignors.)						
Westinghouse Electric & Manufacturing Company. (See James, Henry D., assignor.)						
Westinghouse Electric and Manufacturing Company. (See Lamme, Benjamin G., assignor.) (Reissue.)						
Westinghouse Electric & Manufacturing Company. (See Lamme, Scott, and Conrad, assignors.)						
Westinghouse Electric & Manufacturing Company. (See Paris, William A., assignor.)						
Westinghouse Electric & Manufacturing Company. (See Ridings, William R., assignor.)						
Westinghouse Electric & Manufacturing Company. (See Varney, Theodore, assignor.)						
Westinghouse, George, Pittsburg, Pa. Elastic-fluid turbine	807,003	Dec. 12	1806	397	119	1703
Westinghouse, George, Pittsburg, Pa. Elastic-fluid turbine	807,145	Dec. 12	2115	454	119	1768
Westinghouse, George, Pittsburg, Pa. Elastic-fluid turbine	807,146	Dec. 12	2118	454	119	1769
Westinghouse Machine Company. (See Bole, William A., assignor.)						
Westinghouse Machine Company. (See Robinson, Cyrus, assignor.)						
Westle, George, Bendigo, Victoria, Australia. Steering-propeller	806,607	Dec. 5	983	218	119	1484
Westrope, John O., Winnemucca, Nevada. Horse-controlling device	806,858	Dec. 12	1517	333	119	1641
Wettich, George, and W. Pitzer, Newcastle, Pa. Butcher's saw	806,033	Nov. 28	4974	1062	119	1209
Weyermann, Michael, Bamberg, Germany. Producing tasteless roasted malt decoctions.	805,607	Nov. 28	4176	.....	119	1035
Wharton, Zachariah F., *et al.* (See Porter, Martin L., assignor.)						
Wheeler, Eben S., Detroit, Mich. Bathometer	804,570	Nov. 14	2113	462	119	505
Wheeler, John R., Edenton, N. C. Car-stake	808,129	Dec. 26	4047	870	119	2274
Wheeler, Murwin, assignor of one-half to F. W. Paine, Stephenson, Mich. Clothes-rack	804,906	Nov. 21	2788	602	119	697
Wheeler & Wilson Manufacturing Company. (See Gray, Charles F., assignor.)						
Wheelock, John H., and G. M. Wright, Worcester, Mass. Anchorage for wire fencing	805,764	Nov. 28	4472	958	119	1098
Wheless, Thomas H., New York, N. Y. Construction of vessels	806,222	Dec. 5	251	54	119	1320
Wheless, Thomas H., New York, N. Y. Submergible surface boat	806,223	Dec. 5	254	55	119	1321
Whipple, John D., Tekamah, Nebr. Horse-collar	807,523	Dec. 19	2824	606-7	119	1963
Whitaker, Richard, assignor of two-thirds to R. W. and J. W. Johnson, New Brunswick, N. J. Shaft-packing	807,981	Dec. 19	3747	812	119	2165
Whitaker, Thomas, Cheadle Hulme, assignor of one-half to T. Slack, Stockport, England. Brake for velocipedes and other road-vehicles	807,409	Dec. 12	2603	562	119	1875
Whitall Tatum Company. (See Meinecke, Christian W., assignor.)						
Whitall Tatum Company. (See Meinecke and Hogan, assignors.)						
White, Bruce C., Mosgrove, Pa. Glass-rolling machine	805,608	Nov. 28	4177	900-1	119	1036
White, Bruce C., Mosgrove, Pa. Manufacture of glass plates	805,609	Nov. 28	4181	901	119	1036
White, Bruce C., Mosgrove, Pa. Manufacture of glass plates	805,610	Nov. 28	4182	901	119	1037
White, Henry, Marion, Ohio. Drag-saw	806,382	Dec. 5	577	127	119	1394
White, John R., Jr., Los Angeles, Cal. Rug-fastener	805,611	Nov. 28	4185	902	119	1037
White, Rollin H., assignor to White Sewing Machine Company, Cleveland, Ohio. Gasolene-burner	806,308	Dec. 5	450	98	119	1366
White, Rollin H., assignor to White Sewing Machine Company, Cleveland, Ohio. Throttle-valve	806,309	Dec. 5	452	98	119	1366
White Sewing Machine Company. (See White, Rollin H., assignor.)						
White, Thomas E., Okisko, N. C. Barrel-hoop	808,496	Dec. 26	4797	1033	119	2439
Whitehead, Joseph, Farmington, Ill. Railway-tie	804,078	Nov. 7	1107	233	119	243
Whitehouse, Walter, London, England. Controlling apparatus for suspended ships' berths and analogous devices	803,947	Nov. 7	821	174	119	177
Whiteside, Thomas H., Youngstown, Ohio. Artificial-tooth fastening for bridgework	806,034	Nov. 28	4976	1062	119	1209
Whitfield, William, Justin, Tex. Toy	804,907	Nov. 21	2789	602	119	697
Whiting, Edwin F., and G. Johnson, Balaton, Minn. Threshing-machine	808,497	Dec. 26	4798	1034	119	2439
Whiting, William J., Birmingham, England. Automatic firearm	803,948	Nov. 7	824	175-6	119	178
Whiting, William J., Wandsworth, England. Automatic firearm	804,694	Nov. 14	2345	511-12	119	553
Whitney, Joseph B., Brooklyn, N. Y. Electrical stop-motion mechanism for textile machinery. (Reissue)	12,422	Dec. 12	2653	572	119	1887
Whitney, Joseph B., Brooklyn, N. Y. Electric stop-motion for textile machinery. (Reissue)	12,423	Dec. 12	2655	573	119	1888
Whitney, Joseph B., Brooklyn, N. Y. Electric stop-motion mechanism for looms	808,416	Dec. 26	4643	999	119	2404
Whitney, Joseph B., Brooklyn, N. Y. Electric stop-motion mechanism for looms	808,417	Dec. 26	4644	1000	119	2405
Whitney, Joseph B., Brooklyn, N. Y. Electric stop-motion mechanism for looms	808,418	Dec. 26	4645	1000	119	2405
Whitney, Joseph B., Brooklyn, N. Y. Faller for stop-motion mechanisms for textile machinery	808,419	Dec. 26	4646	1000	119	2405
Whitney, Joseph B., Brooklyn, N. Y. Faller for stop-motion mechanisms for textile machinery	808,420	Dec. 26	4647	1000	119	2405
Whitney, Joseph B., Brooklyn, N. Y. Faller for stop-motion mechanisms for textile machinery	808,617	Dec. 26	5026	1086	119	2488
Whitney, Joseph B., New York, N. Y. Tension device for winding mechanisms	808,415	Dec. 26	4641	999	119	2404
Whitney, Willis R., Boston, Mass., and R. C. Robinson, Schenectady, N. Y., assignors to General Electric Company. Manufacture of materials suitable for insulating and other purposes	806,608	Dec. 5	985	.....	119	1454
Whitted, Felix T., Wheetley, Ark. Car-brake	804,287	Nov. 14	1559	336	119	382

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Whittemore, Emma M., Troy, N. H. Clothes-washer	807,004	Dec. 12	1807	397	119	1703
Whyte, John A., Toronto, Canada. Electric signaling and electropneumatic train-control system	806,035	Nov. 28	4978	1063	119	1209
Wiberg, Georg, Stockholm, Sweden. Closing device for bottles	807,410	Dec. 12	2604	562	119	1875
Widmer, Adolph and S., Paterson, N. J. Narrow-ware loom	807,524	Dec. 19	2825	607	119	1963
Widmer, Samuel. (See Widmer, Adolph and S.)						
Wiebke, Charles, New York, N. Y. Fabric-spreading machine	808,130	Dec. 26	4049	870–1	119	2275
Wiederhold, Oscar, Jersey City, N. J. Incandescent gas-burner	806,224	Dec. 5	257	55	119	1321
Wiegand, Frederick B., W. V. Moak, Utica, and F. B. Harrington, Menands, N. Y. Railway signal-repeater	807,590	Dec. 19	2988	641	119	1998
Wiemkes, Johann. (See Geers, Mehrle, and Wiemkes.)						
Wienss, Ernst *et al.* (See Miller, Richard D., assignor.)						
Wiese, Wm. (See Smith, James W., Jr., assignor.)						
Wiesenfeld, Robert S., Baltimore, Md. Beer-cooler	808,131	Dec. 26	4053	871	119	2275
Wiesenmeyer, Charles F., Springfield, Ill. Harness-saddle	804,446	Nov. 14	1865	405	119	448
Wieser, Joseph, New York, N. Y. Automatic governor for pneumatic motors	806,609	Dec. 5	987	218–19	119	1485
Wiggins, John B., Chicago, Ill. Card-holding case	807,648	Dec. 19	3099	666	119	2024
Wight, J. Howard. (See Goodwin, Oscar, assignor.)						
Wigington, Charles C., Morristown, Tenn. Trunk	804,360	Nov. 14	1698	368	119	414
Wigman, John C., Greenbay, Wis. Switch-signal	807,053	Dec. 12	1933	417	119	1731
Wigren, Isak, Minneapolis, Minn. Folding box	805,107	Nov. 21	3199	694	119	786
Wikschtröm, Jakob, Düsseldorf, Germany. Wire-nail-cutting die	804,786	Nov. 14	2548	557	119	602
Wilcox, Abijah T., assignor of one-half to E. F. Fenton, Jamestown, N. Y., and E. N. Jackson. Combination-washbench	805,331	Nov. 21	3657	790–1	119	881
Wilcox, Frank E., Mechanicsburg, Pa. Vehicle-gear	803,949	Nov. 7	832	176	119	179
Wilcox, Henry, Newark, N. J. Nail-clipper or wire-cutter	806,037	Nov. 28	4983	1063	119	1211
Wildman, Frank B., Norristown, Pa. Circular-knitting machine	805,612	Nov. 28	4186	902–3	119	1037
Wildman, John B., and L. C. Treherne, New York, N. Y. Bottle-stopper	807,005	Dec. 12	1809	397	119	1704
Wiles, Russell. (See Felmlee, John W., assignor.)						
Wiles, Thomas S., Albany, N. Y. Bosom-press	805,049	Nov. 21	3067	665–6	119	758
Wiley, George W., Estherville, Iowa. Draft-equalizer	805,250	Nov. 21	3493	755	119	846
Wiley, John E., and F. P. Stevens, Philadelphia, Pa. Coin collector and holder	804,695	Nov. 14	2350	512	119	554
Wiley, Lester R., *et al.* (See Palmer, Roderick M., assignor.)						
Wiley & Russell Manufacturing Company. (See Smart, Albert J , assignor.)						
Wilhelm, Heinrich, Hanau, Germany. Cover for manholes	805,397	Nov. 21	3774	817	119	907
Wilhelm, James, Philadelphia, Pa. Trolley-finder	808,589	Dec. 26	4977	1074	119	2476
Wilkerson, Eldred B. (See Hines and Wilkerson.)						
Wilkes, Purley B. (See Wyckoff and Wilkes.)						
Wilkins Bros. (See Davidson, Maberry L., assignor.)						
Wilkinson, Thomas B., Rivera, Cal. Oil-can	805,398	Nov. 21	3775	817	119	907
Wilkinson, William E., Chicago, Ill. Composition of matter for cleansing and polishing flat-irons	807,649	Dec. 19	3101	666	119	2024
Will, Julius E., Bethel, Mo. Hay-stacker	808,266	Dec. 26	4339	932–3	119	2338
Willcox & Gibbs Sewing Machine Company. (See Borton and Brush, assignors.)						
Wille, Carl, *et al.* (See Kenngott, William, assignor.)						
William H. Brodie Company. (See Sponsel, Charles W., assignor.)						
William Schofield Company. (See Schofield and Reeder, assignors.)						
William Schollhorn Company. (See Bernard, William A., assignor.)						
William Wharton, Jr., & Company, Incorporated. (See Angerer, Victor, assignor.)						
Williams, Ann E., Stockton, Cal. Stenciling device	805,765	Nov. 28	4474	959	119	1098
Williams, Archey E., Douglas, Ariz. Ter. Pile-driver	808,132	Dec. 26	4054	871–3	119	2275
Williams, Charles F., Madison, Ind. Cutting device	806,038	Nov 28	4984	1063	119	1211
Williams, Charles H., Buffalo, N. Y. Window-sash fastener	805 766	Nov. 28	4475	959	119	1098
Williams, Charles R., Clarence, Iowa. Identification device	805,767	Nov. 28	4476	959	119	1098
Williams, Edward C. (See Keiner and Williams.)						
Williams, Ernest G., Atlanta, Ga. Horse-collar	808,498	Dec. 26	4800	1034	119	2440
Williams, Frank M., Potsdam, N. Y. Specific-gravity balance	808,421	Dec. 26	4648	1001	119	2406
Williams, Frederick S., assignor of two-fifths to C. F. Hesser, Amsterdam, N. Y. Exhaust-muffler	805,613	Nov. 28	4190	903	119	1038
Williams, Gideon G., assignor to Williams Webb Company, Shreveport, La. Automatic feed mechanism for printing-presses	807,705	Dec. 19	3210	689–90	119	2047
Williams, Gilbert F., Washington, D. C. Ventilator	807,525	Dec. 19	2827	607–8	119	1963
Williams, Henry M. (See Burger, Franz, assignor.)						
Williams, Herbert H., New York, N. Y. Coupling device	803,648	Nov. 7	231	51	119	51
Williams, Herbert H., New York, N. Y. Power-controlling device	805,399	Nov. 21	3776	817–18	119	907
Williams, James B. (See Sylvester, Cyrus O., assignor.)						
Williams, John H., Albion, N. Y. Check-controlled apparatus	804,079	Nov. 7	1109	233–4	119	243
Williams, Joseph, Jr., Pittsburg, Pa. Gas-engine	806,610	Dec. 5	900	219–20	119	1486
Williams, Joseph G., Minneapolis, Minn. Holder for hotel-registers	808,181	Dec. 26	4168	898	119	2299
Williams, Milton F., assignor to Williams Patent Crusher & Pulverizer Company, St. Louis, Mo. Cage for crushers and pulverizers	806,383	Dec. 5	580	127	119	1395
Williams, Milton F., assignor to Williams Patent Crusher & Pulverizer Company, St. Louis, Mo. Shredding-machine	808,133	Dec. 26	4060	873	119	2277
Williams Patent Crusher & Pulverizer Company. (See Williams, Milton F., assignor.)						
Williams Webb Company. (See Williams, Gideon G., assignor.)						
Williams, White & Company. (See Harvey, Samuel C., assignor.)						
Williams, William E., Evergreen Park, Ill., assignor, by mesne assignments, to Diamond Match Company. Machine for cutting and sticking match-splints	803,649	Nov. 7	235	51–2	119	52
Williams, Win D., Philadelphia, Pa. Oil-separator	804,908	Nov. 21	2790	602	119	698
Williamson, Albert, *et al.* (See Olsson, Henry A., assignor.)						
Williamson, Edward, *et al.* (See Olsson, Henry A., assignor.)						
Williamson, James E., and C. E. Collins, Allegheny, assignors, by mesne assignments of one-third to A. S. Connelly, Pittsburg, Pa. Electric heater for oil-wells	806,039	Nov 28	4985	1064	119	1211
Williamson, Jefferson D., Charlotte, N. C. Fertilizer-distributer	807,526	Dec. 19	2830	609	119	1964
Williamson, John B., Louisville, Ky. Paper-weight	804,288	Nov. 14	1562	336	119	382
Willison, John, Derby, England, assignor to National Malleable Castings Company, Cleveland, Ohio. Device for supporting pivot-pins	804,289	Nov. 14	1564	337	119	383
Willmore, William M., and W. L. Schmidt, Vincennes, Ind. Harrow	807,342	Dec. 12	2473	533	119	1846
Willner, Sigmund, Memphis, Tenn. Apparatus for forcing fluids into wood	807,411	Dec. 12	2605	563	119	1875
Wills, Edwin C., Trenton, N. J. Apparatus for making steel and other metals	804,080	Nov. 7	1111	234	119	244
Willson Aluminum Company. (See Kügelgen and Seward, assignors.)						
Willwerscheid, Theodor R., St. Paul, Minn. Sign	807,343	Dec. 12	2475	533	119	1846
Wilner, Elias R. (See Sussman and Wilner.)						
Wilshir, James, Germiston, Transvaal. Safety device for mine skips, cages, lifts, and the like	808,328	Dec. 26	4475	962	119	2368
Wilson, Carlos G., Atlanta, Ga. Butter-blocking machine	806,445	Dec. 5	704	158	119	1424

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Wilson, Charles H., Mount Vernon, and F. Maeulen, New York, N. Y. Lettering-guide.	808,422	Dec. 26	4651	1001	119	2407
Wilson, Christopher C., Denver, Colo. Rabbling device for ore-roasting furnaces	805,939	Nov. 28	4806	1028	119	1171
Wilson, Clay, New York, N. Y. Dress-shield clamp	806,384	Dec. 5	581	127	119	1395
Wilson, Frederick A., New York, N. Y. Umbrella-lock	806,040	Nov. 28	4987	1064	119	1212
Wilson, Harry, Washington, D. C., assignor to Driggs-Seabury Ordnance Corporation, Philadelphia, Pa. Percussion-fuse for shells	805,251	Nov. 21	3495	755	119	846
Wilson, Harry, and A. H. Chase, assignors to United States Ordnance Company, Washington, D. C. Percussion-fuse	806,859	Dec. 12	1519	334	119	1641
Wilson, Harry, and M. A. Lynch, assignors to United States Ordnance Company, Washington, D. C. Percussion-fuse for explosive projectiles	807,006	Dec. 12	1809	397	119	1704
Wilson, Harry C., New York, N. Y. Waist and skirt holder	807,527	Dec. 19	2832	609	119	1965
Wilson, Isaac L., Alberta, La. Hot-water distributer for steam-generators	807,982	Dec. 19	3749	813	119	2166
Wilson, John G. (See Jones, Edward F., assignor.)						
Wilson, Ralph B., Chicago, Ill. Locking device for loose-leaf binders	808,267	Dec. 26	4342	933–4	119	2338
Wilson, T. V. (See Ford, Edward L., assignor.)						
Wilson, William E., Graysville, Ohio. Fence-post	806,718	Dec. 5	1195	268	119	1529
Wilson, Wylie G. (See English, Frank, assignor.)						
Wiltfong, Hyram H., Sibley, Kans. Mail-box	806,385	Dec. 5	581	128	119	1396
Winans, George H., Kalamazoo, Mich. Hammock	807,797	Dec. 19	3394	729	119	2086
Winans, Wesley G., Spokane, Wash. Car-fender	806,225	Dec. 5	258	65-6	119	1322
Winchel, Rudolph, Webb City, Mo. Grocer's bin	806,719	Dec. 5	1196	268	119	1529
Winchell, James F., deceased, Springfield; L. L. Winchell, administratrix, assignor to C. E. Pease and W. H. Anderson, Dayton, Ohio. Grinding-plate	805,176	Nov. 21	3335	722	119	815
Winchell, Lida L., administratrix. (See Winchell, James F.)						
Winchester Repeating Arms Company. (See Johnson, Thomas C., assignor.)						
Windhausen, Franz, Berlin, Germany. Elastic-fluid turbine	803,950	Nov. 7	833	176–7	119	179
Windhausen, Franz, Berlin, Germany. Variable-speed multiple-stage turbine	806,720	Dec. 5	1198	269	119	1529
Window Glass Machine Company. (See Lubbers and Bodine, assignors.)						
Wine, Israel, New York, N. Y. Sunshade	804,290	Nov. 14	1565	337	119	383
Winegarden, Martin L., Alameda, Cal. Washing-machine	807,007	Dec. 12	1812	398	119	1705
Winger, Josiah G., Grand Valley, Pa. Drill-feed	808,499	Dec. 26	4802	1035	119	2440
Winget, Jasper S., York, Pa. Cigar-bunching machine	805,177	Nov. 21	3337	723	119	815
Winsor, Paul, Weston, Mass. Signaling system	805,108	Nov. 21	3200	695	119	786
Winterhoff, Friedrich W., Düsseldorf, Germany. Apparatus for forming stays and for connecting struts	804,696	Nov. 14	2351	512–13	119	554
Winters, David L., Chicago, Ill. Spark-igniter system for explosion-engines	806,860	Dec. 12	1522	334	119	1641
Winters David L., assignor of one-half to T. W. Snow, Chicago, Ill. Stand-pipe	804,511	Nov. 14	1994	436	119	479
Winters, Edward B., assignor to Coffeyville Implement and Manufacturing Company, Coffeyville, Kans. Cultivator	805,252	Nov. 21	3500	756	119	848
Winters, Leroy A., Coleman, Wis. Work-guide for planing-machines	803,736	Nov. 7	435	93	119	98
Winton, Alexander, Cleveland, Ohio. Vertical explosive-engine	808,423	Dec. 26	4653	1001	119	2407
Winton Motor Carriage Company. (See Leslie, Ralph A., assignor.)						
Wintz, James P., Sourlake, Tex. Treating petroleum-oils	807,983	Dec. 19	3750	813	119	2166
Wire Novelty Manufacturing Company. (See Haley, Thomas S., assignor.)						
Wise, Peter M., New York, N. Y. Continuous writing-tablet	806,041	Nov. 28	4988	1064	119	1212
Wiselogel, Frederick G., Indianapolis, Ind., assignor to Sanitary Reduction and Construction Company, Boston, Mass. Refuse-burner	803,650	Nov. 7	240	52	119	54
Wiseman, Jacob J., trustee, *et al.* (See Cook, Samuel G., assignor.)						
Wishart, William M. (See Baker, Marvin L., assignor.)						
Witt, George C., Cincinnati, Ohio Machine for corrugating metal sheets	804,512	Nov. 14	1996	436	119	479
Witte, Hubert, assignor to St. Louis Car Company, St. Louis, Mo. Folding door for car-platforms	808,329	Dec. 26	4476	962	119	2369
Wittmann, Henry. (See Begler and Wittmann.)						
Wixford, John F., St. Louis, Mo. Preparing and feeding reagents	806,945	Dec. 12	1712	375	119	1682
Wixford, John F., St. Louis, Mo. Preparing and feeding milk of lime	806,946	Dec. 12	1714	376	119	1682
Wixford, John F., St. Louis, Mo. Purifying water	807,008	Dec. 12	1814	398	119	1705
Wixford, John F., St. Louis, Mo. Purifying water	807,412	Dec. 12	2606	.....	119	1876
Woelffié, François M., New York, N. Y. Curling-iron	806,386	Dec. 5	583	128	119	1396
Wolf & Co., A., Jr. (See Heil, Albrecht, assignor.)						
Wolf, Frederick N., St. Louis, Mo. Temporary binder	806,861	Dec. 12	1524	334	119	1642
Wolfe, George F., Rochester, N. Y., assignor to United Shoe Machinery Company, Paterson, N. J. Rough-rounding and channeling machine	804,645	Nov. 14	2252	493	119	533
Wolfe, Jacob C., New York, and E. W. Morton, Whiteplains, N. Y.; said Morton assignor of forty-five one-hundredths to said Wolfe. Tabulating attachment for typewriters	807,893	Dec. 19	3589	777–8	119	2129
Wolfe, John M., Kellogg, Minn. Fodder-fork	806,042	Nov. 28	4990	1064	119	1212
Wolfe, Linden W. (See Semple, James R., assignor.)						
Wolff, Julie, New York, N. Y. Scrubbing-brush	805,693	Nov. 28	4326	930	119	1068
Wolff, Julius, Greenpoint, N. Y. Horseshoe	804,361	Nov. 14	1699	368	119	414
Wolff, Lionel A. (See Gallagher and Gillett, assignors.)						
Wolfinger, Francis R., Chicago, Ill. Roller-bearing caster	808,500	Dec. 26	4804	1035	119	2441
Woltereck, Herman C., Westminster, assignor to Eschweiler-Woltereck Process Syndicate, Limited, London, England. Making ammonia by synthesis	803,651	Nov. 7	241	.....	119	54
Woltereck, Herman C., assignor to Chemicals Proprietary Company, Limited, London, England. Making ammonia by synthesis	803,652	Nov. 7	241	52	119	54
Woltereck, Herman C., assignor to Chemicals Proprietary Company, Limited, London, England. Making ammonia by synthesis	803,653	Nov. 7	242	.....	119	54
Wood, Albert C., Philadelphia, Pa. Electrical apparatus for producing ozone	804,291	Nov. 14	1566	338	119	383
Wood, Benjamin D., and R. M. McCabe, Fort Dodge, Iowa. Paper-holder for typewriters	807,894	Dec. 19	3598	778	119	2132
Wood, Bert B., Bozeman, Mont. Wire fence	806,721	Dec. 5	1200	269	119	1530
Wood, Charles A., Middleboro, Mass. Rowlock	803,951	Nov. 7	836	177	119	179
Wood, D. C. (See Stevens, William L., assignor.)						
Wood Distillates and Fibre Company. (See Handford, Arthur W., assignor.)						
Wood, Elizabeth M., Philadelphia, Pa. Toilet article	807,798	Dec. 19	3395	729	119	2087
Wood, Erwin C., Marshall, Wis. Wire-fence machine	804,292	Nov. 14	1567	338	119	384
Wood, Everett S., and J. Northrop, assignors to Draper Company, Hopedale, Mass. Filling-exhaustion-indicating mechanism for looms	803,654	Nov. 7	243	53	119	54
Wood, George E., Southington, Conn. Tool-handle	808,330	Dec. 26	4478	962	119	2369
Wood, Henry A. W., assignor to Campbell Printing Press and Manufacturing Company, New York, N. Y. Covering mechanism for printing-presses	804,293	Nov. 14	1571	338–9	119	384
Wood, Horatio G., and H. Burlingham, Newport, R. I. Elastic-fluid turbine	808,134	Dec. 26	4064	874–5	119	2277
Wood, James, Noroton, Conn. Grate	807,147	Dec. 12	2119	455	119	1769
Wood, James J., Fort Wayne, Ind. Prepayment-meter	806,722	Dec. 5	1201	269–71	119	1530
Wood, Montraville M., Chicago, Ill., assignor to General Electric Company. Ice-remover for trolley-wires	805,400	Nov. 21	3781	818	119	909

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Wood, William G. San Francisco, Cal. Support for exercising-bags	807,100	Dec. 12	2023	435	119	1750
Woodall, Benjamin C. (See Tatum, James W., assignor.)						
Woodberry, Jesse F., Beverly, Mass. Base-ball-game apparatus	804,697	Nov. 14	2353	513	119	554
Woodison, Edward J. (See Sullivan and Woodison.)						
Woodman, George A. (See Sceets, George N., assignor.)						
Woodruff, Edmund W., Washington, D. C. File for papers or cards	808,225	Dec. 26	4258	916	119	2319
Woodruff, Rollin S. (See Mettler, Caspar, assignor.)						
Woods, Jacob E., Donora, Pa. Window-fixture	807,101	Dec. 12	2025	436	119	1751
Woodward, Arthur H., assignor to International Register Company, Chicago, Ill. Bell mechanism for registers	803,655	Nov. 7	251	53	119	56
Woodward, George E., Boston, Mass. Non-inflammable celluloid and production thereof.	803,952	Nov. 7	838	.....	119	180
Woolley, Leonidas G., Kenton, Ohio. Annunciator	808,135	Dec. 26	4069	875-6	119	2278
Woolley Smokeless Furnace Company. (See Hubbard, Henry, assignor.)						
Worden, Euclid P. (See Davidson and Worden.)						
World Flash Company. (See Yetman, Charles E., assignor.)						
Wormley, James C., New York, N. Y. Incandescent electric lamp	806,723	Dec. 5	1214	271	119	1532
Worrell, William A., and L. Fish, Vanburen, Ind. Pulling-machine for oil-wells	806,724	Dec. 5	1215	271-2	119	1532
Worrell, William L. (See Siemsen, Jurgen, assignor.)						
Worsdell, Thomas W., *et al.* (See Borries, Friedrich W. A. von, assignor.)						
Worswick, William H., assignor to George S. Young Company, Alma, Mich. Machine for manufacturing paving compounds	804,990	Nov. 21	2957	642	119	735
Worth Wire Works. (See Horsley, Robert L., assignor.)						
Wright, Daniel M. (See Henry and Wright.)						
Wright, Dexter M., San Francisco, Cal. Kettledrum	805,768	Nov. 28	4477	959-60	119	1099
Wright, George B., assignor of one-half to T. W. Wright, Leetsdale, Pa. Pruning implement	803,953	Nov. 7	838	177	119	180
Wright, George M. (See Wheelock and Wright.)						
Wright, Granville W., New Britain, Conn. Pencil-sharpening machine	804,513	Nov. 14	1997	436	119	480
Wright, Harvey, Chicago, Ill. Ironing-board	803,954	Nov. 7	840	178	119	180
Wright, Ransom C., Philadelphia, Pa., and F. E. Stebbins, Washington, D. C. Car-truck frame and pedestal	805,940	Nov. 28	4809	1026-7	119	1171
Wright, T. W. (See Wright, George B., assignor.)						
Wright, Willes P., Blandinsville, Ill. Electric cut-out	805,509	Nov. 28	3996	863	119	997
Wright, William E., May, Tex. Sand-cap for vehicle-wheels	803,867	Nov. 7	661	144	119	142
Wright, William E., May, Tex. Receptacle for attachment to vehicles	804,362	Nov. 14	1700	369	119	414
Wrisberg, Charles G., St. Louis, Mo. Lock-nut	805,829	Nov. 28	4579	981	119	1118
Wuest, Frederick A., Lawrenceburg, Ind. Combined crosscut and rip saw	807,227	Dec. 12	2260	489	119	1798
Wunder, William W. (See Troop, Thomas F., assignor.)						
Wurster, Casimir, London, England. Kneading-machine for the materials of paper manufacture	807,228	Dec. 12	2261	489	119	1799
Wurth, Henry W., Leeds, Mo. Expansible hub for spoked wheels	805,614	Nov. 28	4193	903	119	1039
Wyckoff, Charles S., and P. B. Wilkes, Centerville, Iowa. Reeling-machine	808,424	Dec. 26	4656	1002	119	2408
Wylie, Richard, Napa, Cal. Sweeper	806,226	Dec. 5	260	56	119	1322
Wyman, Charles O., Anoka, Minn. Running-gear for traction-engines	806,947	Dec. 12	1716	376	119	1683
Wyman, Horace, Worcester, Mass., assignor to Crompton & Knowles Loom Works. Weft-replenishing loom	805,109	Nov. 21	3203	695-6	119	787
Wyman, Horace, assignor to Crompton & Knowles Loom Works, Worcester, Mass. Warp stop-motion for looms	806,725	Dec. 5	1216	272	119	1532
Wyman, Horace, Worcester, Mass., assignor to Crompton & Knowles Loom Works. Loom	806,726	Dec. 5	1220	273-4	119	1533
Wynne, Philip H., Boston, assignor to C. H. Huff, Brockton, Mass. Electrostatic separation	805,694	Nov. 28	4327	930-1	119	1069
Wysocki, Stanislaus. (See Krzyzanowski and Wysocki.)						
Wysong, Olmedo C., Greensboro, N. C. Abrasive apparatus	804,514	Nov. 14	1999	436	119	480
Wysong, Olmedo C., Greensboro, N. C. Mortising-tool	807,799	Dec. 19	3396	729	119	2087
Yale & Towne Manufacturing Company. (See Lewis, Rollin C., assignor.)						
Yale & Towne Manufacturing Company. (See Taylor, Warren H., assignor.)						
Yates, Odaville, Portland, Oreg. Non-refillable bottle	805,769	Nov. 28	4479	960	119	1099
Yaxley, Ernest E., assignor to American Electric Telephone Company, Chicago, Ill. Transmitter and transmitter-arm connection	807,528	Dec. 19	2834	609	119	1965
Yeates, Jesse J., assignor of one-half to C. M. Smith, Montgomery, Ala. Non-refillable bottle	807,229	Dec. 12	2262	489	119	1799
Yelm, Charles W. (See Moorman and Yelm.)						
Yetman, Charles E., Oak Park, assignor to World Flash Company, Chicago, Ill. Motor	807,529	Dec. 19	2837	610	119	1966
Yoder, Homer E. (See Summers and Yoder.)						
Yoder, Luther K., *et al.* (See Stein, Jacob, assignor.)						
York, James E., New York, N. Y., assignor to York Rolling Process Company. Manufacture of tie-plates	807,650	Dec. 19	3102	666	119	2024
York Rolling Process Company. (See York, James E., assignor.)						
Youlten, William, Westminster, England. Telescopic sight for rifles and other arms	804,363	Nov. 14	1701	369	119	414
Youlten, William, Westminster, England. Roller for ginning, burring, and like fiber-cleaning machines	806,727	Dec. 5	1225	274	119	1534
Young, Charles A., Enon, Ohio. Firearm	805,695	Nov. 28	4332	931	119	1069
Young, Charles A., and S. H. Barton, Enon, Ohio. Bail for buckets	806,227	Dec. 5	261	56	119	1322
Young, Charles M., San Francisco, Cal. Calculating device	804,646	Nov. 14	2255	493-4	119	534
Young, Edwin D., Oklahoma, Okla. Ter. Brick-kiln	804,294	Nov. 14	1575	339	119	385
Young, Frank L., Boston, Mass. Device for preventing railway signal and switch appliances from freezing or clogging	804,787	Nov. 14	2549	557	119	602
Young, Frank L., Boston, Mass. Switch or signal apparatus	806,948	Dec. 12	1718	377	119	1683
Young, Harry W., assignor to J. E. Reyburn, Philadelphia, Pa. Engineer's valve	804,909	Nov. 21	2791	602	119	698
Young, James C., *et al.* (See Clark, Daniel J., assignor.)						
Young, John, Syracuse, N. Y. Dumping-wagon	806,387	Dec. 5	583	128-9	119	1396
Young, John B., Montreal, Canada. Mail-marking machine	803,955	Nov. 7	841	178	119	180
Young, Robert L., Moreland, Ga. Fender	806,446	Dec. 5	706	158	119	1425
Young, William T., Newport, R. I. Combined splice-bar and guard-rail	808,425	Dec. 26	4661	1002	119	2409
Young, Willis G., assignor of one-half to L. C. Walker, Dayton, Ohio. Postal folder, &c.	806,228	Dec. 5	263	56	119	1323
Young, Willis G., assignor of one-half to L. C. Walker, Dayton, Ohio. Securing device for tags	806,229	Dec. 5	264	57	119	1323
Yow, Jones D., Avalon, Ga. Device for sharpening edge-tools	805,332	Nov. 21	3658	791	119	881
Yuerhs, Albert J., Detroit, Mich. Separator for grinding-machines	807,530	Dec. 19	2839	610	119	1966
Zacharias, Edward M., New York, N. Y. Hand-tool	804,295	Nov. 14	1576	340	119	385
Zahn, Oswald F., Los Angeles, Cal. Window-sash weight	806,230	Dec. 5	266	57	119	1323
Zahn, Robert, Plauen, Germany. Embroidery-frame-suspension device	803,656	Nov. 7	253	54	119	57
Zant, John S., Aspermont, Tex. Sulky-plow	805,333	Nov. 21	3659	791	119	881
Zapf, Georg, Cologne-Nippes, Germany. Device for preventing the overcharging of electric cables	806,728	Dec. 5	1227	274	119	1535

Alphabetical list of patentees for November and December—Continued.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Spec.	Dr'g.	Vol.	Page.
Zarbaugh, Lyman L., Toledo, Ohio. Eye-shield	805,401	Nov. 21	3782	818	119	909
Zastrow, George W., Baltimore, Md. Machine for treating pineapples	805,178	Nov. 21	3343	724	119	816
Zastrow, Richard, New Haven, Conn. Cabbage-core slicer	805,179	Nov. 21	3345	724	119	816
Zeiller, Robert, Munich, Germany. Pipe-covering	804,647	Nov. 14	2256	494	119	534
Zeiss, Firm of Carl. (See Berger, Max, assignor.)						
Zeiss, Firm of Carl. (See Czapski, Siegfried, assignor.)						
Zent Automobile Manufacturing Company. (See Zent, Schuyler W., assignor.)						
Zent, Schuyler W., Evansville, Ind., assignor to Zent Automobile Manufacturing Company, Bellefontaine, Ohio. Device for effecting the radiation of heat	805,510	Nov. 28	3998	863	119	998
Zimmermann, George, Philadelphia, Pa. Loom for weaving double-pile fabrics	806,729	Dec. 5	1228	274	119	1535
Zimmerman, Bernard H., Scranton, Pa., and R. Hughes, Jr., assignors to Zimmerman-Rock Machinery Company, Utica, N. Y. Sewing and trimming machine	804,364	Nov. 14	1704	369–71	119	415
Zimmerman, Frank M., Aurora, Ill. Trolley-wire holder	806,310	Dec. 5	453	99	119	1367
Zimmerman-Rock Machinery Company. (See Zimmerman and Hughes, assignors.)						
Zoll, Frederick D., Findlay, Ohio. Device for locating and recovering sunken articles	806,730	Dec. 5	1229	275	119	1535
Zschernig, Edmund, Dresden, Germany. Cut-off-controlling mechanism for continuous-cigarette machines	807,102	Dec. 12	2026	436	119	1751
Zschockelt, Oscar, Dresden, Germany. Collector-polisher	803,657	Nov. 7	254	54	119	57
Zubli, Justus C., Amersfoort, Netherlands. Surgical apparatus for internal examination	803,956	Nov. 7	842	178	119	180
Zubli, Justus C. Amersfoort, Netherlands. Apparatus for submarine explorations	807,230	Dec. 12	2263	489–90	119	1799
Zweck, Christian M. (See Lindemann and Zweck.)						
Zweigbergk, Thorsten von, Lancaster, England. Controlling system	808,268	Dec. 26	4343	934	119	2339
Zylberlast, Stanislas, Manchester, England. Double-acting pump	806,388	Dec. 5	585	129–30	119	1397

ALPHABETICAL LIST OF PATENTEES OF DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Volume.	Page.
Alexander Smith & Sons Carpet Company. (See Thomas, Walter, assignor.)				
Allington, Sara M., Elmira, N. Y. Toy aerial flight	37,685	Nov. 21	119	928
American Wheel Company. (See Forsheim, Joseph, assignor.)				
Barrow, Lillian G., Jackson, Ala. Vessel	37,714	Dec. 5	119	1554
Bates, Maurice E., Kansas City Mo., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill. Electric-light shade	37,762	Dec. 26	119	2493
Benjamin Electric Manufacturing Company. (See Bates, Maurice E., assignor.)				
Bennett, Charles A., Taunton, Mass. Baby-spoon	37,707	Dec. 5	119	1553
Bennett, Charles A., Taunton, Mass., assignor to Reed & Barton Corporation. Spoon or fork	37,708	Dec. 5	119	1553
Bennett, Charles A., Taunton, Mass., assignor to Reed & Barton Corporation. Spoon or fork	37,709	Dec. 5	119	1553
Bennett, Charles A., Taunton, Mass., assignor to Reed and Barton Corporation. Spoon or fork	37,725	Dec. 12	119	1890
Bennett, Charles A., Taunton, Mass., assignor to Reed and Barton Corporation. Bonbon-dish	37,726	Dec. 12	119	1890
Bennett, Charles A., Taunton, Mass., assignor to Reed & Barton Corporation. Salt or pepper pot	37,727	Dec. 12	119	1891
Bennett, Charles A., Taunton, Mass., assignor to Reed & Barton Corporation. Coffee-pot	37,728	Dec. 12	119	1891
Benziger, Meinrad A., New York. N. Y. Fountain-pen holder and tray	37,722	Dec. 12	119	1890
Berry, George H., Shelton, assignor to International Silver Company, Meriden, Conn. Back for mirrors, brushes, and similar articles	37,758	Dec. 26	119	2493
Black, Thomas P., Hoboken, N. J. Textile fabric	37,719	Dec. 5	119	1554
Black, Thomas P., Hoboken, N. J. Textile fabric	37,744	Dec. 19	119	2200
Black, Thomas P., Hoboken, N. J. Textile fabric	37,745	Dec. 19	119	2200
Black, Thomas P., Hoboken, N. J. Textile fabric	37,746	Dec. 19	119	2200
Black, Thomas P., Hoboken, N. J. Textile fabric	37,747	Dec. 19	119	2201
Black, Thomas P., Hoboken, N. J. Textile fabric	37,748	Dec. 19	119	2201
Black, Thomas P., Hoboken, N. J. Textile fabric	37,749	Dec. 19	119	2201
Black, Thomas P., Hoboken, N. J. Textile fabric	37,750	Dec. 19	119	2201
Black, Thomas P., Hoboken, N. J. Textile fabric	37,751	Dec. 19	119	2202
Blanck, Harry W. R., Baltimore, Md. Font of type	37,716	Dec. 5	119	1554
Brush, Alanson P., Detroit, Mich. Automobile-body	37,670	Nov. 14	119	616
Brush, Alanson P., Detroit, Mich. Automobile-body	37,671	Nov. 14	119	617
Brush, Alanson P., Detroit, Mich. Automobile-body	37,672	Nov. 14	119	617
Brush, Alanson P., Detroit, Mich. Automobile-body	37,673	Nov. 14	119	617
Brush, Alanson P., Detroit, Mich. Automobile-body	37,674	Nov. 14	119	617
Buchheimer, George H., Baltimore, Md. Handle for satchels or bags	37,682	Nov. 21	119	927
Caille, Auguste A., G. Hamilton, and O. Currie, assignors to Caille Company, Detroit, Mich. Casing for coin-actuated machines	37,687	Nov. 21	119	928
Caille Company. (See Caille, Hamilton, and Currie, assignors.)				
Carr, Robert T., Detroit, Mich. Rocker-body	37,663	Nov. 14	119	615
Carr, Robert T., Detroit, Mich. Rocker-body	37,664	Nov. 14	119	615
Carr, Robert T., Detroit, Mich. Rocker-body	37,665	Nov. 14	119	616
Cascaden Manufacturing Company. (See Lehman, Max R., assignor.)				
Chelsea Clock Company. (See McGraw, Walter E., assignor.)				
Cheney Brothers. (See George, Gustave, assignor.)				
Cheney Brothers. (See Guelle, Alexandre, assignor.).				
Cheney Brothers. (See Mouton, Paul, assignor.)				
Codman, William C., assignor to Gorham Manufacturing Company, Providence, R. I. Spoon	37,640	Nov. 7	119	304
Cribben & Sexton Company. (See Harter, Augustus F., assignor.)				
Currie, Otis. (See Caille, Hamilton, and Currie.)				
Davis, Jacob E., Ironton, Ohio. Lamp-post	37,742	Dec. 19	119	2199
Dehle, John F. C., Sacramento, Cal. Textile fabric	37,704	Nov. 28	119	1232
Denivelle, Frederick. (See Metzeler and Denivelle.)				
Dick, Raymond C., Mannington, W. Va. Badge	37,660	Nov. 14	119	615
Dickson, Andrew, Norwood, assignor to United States Printing Company, Cincinnati, Ohio. Label	37,738	Dec. 19	119	2199
Dickson, Andrew, Norwood, assignor to United States Printing Company, Cincinnati, Ohio. Label	37,739	Dec. 19	119	2199
Dorst, Arno A., Cincinnati, Ohio. Ring	37,721	Dec. 12	119	1890
Eames, Edgar N., Montclair, N. J. Printed textile fabric	37,753	Dec. 19	119	2202
Eggers, Anton C., assignor to Goodyear's India Rubber Glove Mfg. Co., New York, N. Y. Nebulizer	37,686	Nov. 21	119	928
Eginton, Arthur V., assignor to International Silver Company, Meriden, Conn. Casket-handle socket	37,678	Nov. 14	119	618
Eginton, Arthur V., assignor to International Silver Company, Meriden, Conn. Casket name-plate	37,679	Nov. 14	119	618
Forsheim, Joseph, assignor to American Wheel Company, New York, N. Y. Dial for game apparatus	37,761	Dec. 26	119	2493
Frauenheim, Joseph A., Zelienople, Pa. Washstand	37,691	Nov. 21	119	929
Frauenheim, Joseph A., Zelienople, Pa. Washstand	37,692	Nov. 21	119	929
Fruit, Job M. S., Gotham, Wis. Base or back for clothes-racks	37,741	Dec. 19	119	2199
George, Gustave, Paris, France, assignor to Cheney Brothers. Textile fabric	37,697	Nov. 21	119	930
Goldsmith, Marcus T. (See Keller, Sidney A., assignor.)				
Goodyear's India Rubber Glove Mfg. Co. (See Eggers, Anton C., assignor.)				
Gorham Manufacturing Company. (See Codman, William C., assignor.)				
Grossman, Henry, St. Augustine, Fla. Hand-bag	37,644	Nov. 7	119	305
Grossman, Henry, St. Augustine, Fla Hand-bag	37,645	Nov. 7	119	305
Grossman, Henry, St. Augustine, Fla. Hand-bag	37,646	Nov. 7	119	306
Guelle, Alexandre, Paris, France, assignor to Cheney Brothers. Textile fabric	37,701	Nov. 28	119	1231
Guelle, Alexandre, Paris, France, assignor to Cheney Brothers. Textile fabric	37,702	Nov. 28	119	1232
Hamilton, Guy. (See Caille, Hamilton, and Currie.)				
Harter, Augustus F., assignor to Cribben & Sexton Company, Chicago, Ill. Cooking-stove	37,652	Nov. 7	119	307
Harter, Augustus F., assignor to Cribben & Sexton Company, Chicago, Ill. Cooking-stove	37,653	Nov. 7	119	307
Harter, Augustus F., assignor to Cribben & Sexton Company, Chicago, Ill. Cooking-range	37,654	Nov. 7	119	307
Harter, Augustus F., assignor to Cribben & Sexton Company, Chicago, Ill. Cooking-range	37,655	Nov 7	119	307
Harter, Augustus F., assignor to Cribben & Sexton Company, Chicago, Ill. Cooking-range	37,656	Nov. 7	119	308
Harter, Augustus F., assignor to Cribben & Sexton Company, Chicago Ill. Heating-stove	37,657	Nov. 7	119	308
Hitzl, Carl, Chicago, Ill. Bottle	37,641	Nov. 7	119	304
Hochstadter, Sigmund, New York, N. Y. Bottle	37,712	Dec. 5	119	1553

Alphabetical list of patentees of designs for November and December—Continued.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Page.
Hood, John. (See Rueckert, Ernest F., assignor.)				
Humphrey, Herbert S., Kalamazoo, Mich. Gas-stove	37,669	Nov. 14	119	616
Huss, William C., Cincinnati, Ohio. Bar-fixture	37,688	Nov. 21	119	928
Hyatt, Herbert O., New York, N. Y. Top for sheet-metal cans	37,700	Nov. 28	119	1231
Inland Type Foundry. (See Schraubstadter, Carl, assignor.)				
International Silver Co. (See McCarthy, Oliver, assignor.)				
International Silver Company. (See Berry, George H., assignor.)				
International Silver Company. (See Eginton, Arthur V., assignor.)				
Jung, Louis E., New Orleans, La. Basket	37,662	Nov. 14	119	615
Keller, Sidney A., assignor to M. T. Goldsmith, New York, N. Y. Hand-mirror or similar article	37,723	Dec. 12	119	1890
Kessler, Hermena, Leoti, Kans. Kitchen-bin	37,689	Nov. 21	119	929
Kip, Frederic E., Montclair, N. J. Textile fabric	37,752	Dec. 19	119	2202
Kline, Lucien W. (See Tuckey and Kline.)				
Kramer, Christiaan, Brussels, Belgium. Carriage-body	37,731	Dec. 12	119	1891
Larrabee, John A., East Milton, Mass. Paste-jar	37,729	Dec. 12	119	1891
Lehman, Max R., Quincy, Ill., assignor to Cascaden Manufacturing Company, Waterloo, Iowa. Stove	37,667	Nov. 14	119	615
Lehman, Max R., Quincy, Ill., assignor to Cascaden Manufacturing Company, Waterloo, Iowa. Stove	37,668	Nov. 14	119	616
Leslie, Ralph A., assignor to Winton Motor Carriage Company, Cleveland, Ohio. Automobile-tonneau	37,763	Dec. 26	119	2493
Lunt, George C., assignor to Rogers Lunt & Bowlen Company, Greenfield, Mass. Handle for spoons, forks, or similar articles	37,699	Nov. 28	119	1231
McCarthy, Oliver, assignor to International Silver Co., Meriden, Conn. Casket name-plate	37,694	Nov. 21	119	930
McCarthy, Oliver, assignor to International Silver Co., Meriden, Conn. Casket-handle socket-plate	37,695	Nov. 21	119	930
McCarthy, Oliver, assignor to International Silver Co., Meriden, Conn. Casket-handle bar	37,696	Nov. 21	119	930
McGraw, Walter E., Everett, assignor to Chelsea Clock Company, Boston, Mass. Clock-case	37,736	Dec. 19	119	2198
McLewee, William S., Yardley, Pa. Gas-lamp body	37,715	Dec. 5	119	1554
Metzeler, Theodore, and F. Denivelle, New York, N. Y. Statuette	37,735	Dec. 19	119	2198
Meyer, John J., New York, N. Y. Sandwich-sign	37,740	Dec. 19	119	2199
Morley, James, Malden, Mass. Printing type or plate	37,764	Dec. 26	119	2494
Mouton, Paul, Paris, France, assignor to Cheney Brothers. Textile fabric	37,703	Nov. 28	119	1232
Murphy, Francis M., Jersey City, N. J. Horn for phonographs	37,661	Nov. 14	119	615
Nehr, Herman F., New York, N. Y. Rosary	37,659	Nov. 14	119	615
New Jersey Car Spring & Rubber Company. (See O'Brien, Andrew J., assignor.)				
O'Brien, Andrew J., assignor to New Jersey Car Spring & Rubber Company, Jersey City, N. J. Mat	37,684	Nov. 21	119	928
Onondaga Pottery Company. (See Walter, Elmer E., assignor.)				
Osborne, Charles, assignor to Whiting Manufacturing Company, New York, N. Y. Handle for spoons, forks, or similar articles	37,710	Dec. 5	119	1553
Owen, Arthur W., Winsted, Conn., and G. B. Owen, Jr., New York, N. Y., assignors to Wm. L. Gilbert Clock Company, Winsted, Conn. Clock-case	37,642	Nov. 7	119	305
Owen, George B., Jr. (See Owen Arthur W. and G. B., Jr.)				
Palmer, Isaac E., Middletown, Conn. Hammock-valance	37,765	Dec. 26	119	2494
Pardridge, Willard E., Detroit, Mich. Clock-case	37,643	Nov. 7	119	305
Perry, William A., assignor to M. J. Whittall, Worcester, Mass. Carpet	37,676	Nov. 14	119	618
Perry, William A., assignor to M. J. Whittall, Worcester, Mass. Rug	37,677	Nov. 14	119	618
Putnam, Frederic H., Boston, Mass. Medicinal tablet and pelloid box	37,760	Dec. 26	119	2493
Quayle, Oliver A., Albany, N. Y. Ring	37,755	Dec. 26	119	2492
Quayle, Oliver A., Albany, N. Y. Ring	37,756	Dec. 26	119	2492
Quayle, Oliver A., Albany, N. Y. Badge	37,757	Dec. 26	119	2492
Reed & Barton Corporation. (See Bennett, Charles A., assignor.)				
Ricketts, Richard R., Springfield, Mo. Seed-case	37,648	Nov. 7	119	306
Roberts, Clarence V., Philadelphia, Pa. Oil-stove	37,651	Nov. 7	119	306
Rogers Lunt & Bowlen Company. (See Lunt, George C., assignor.)				
Rosenberg, Barnett, Chicago, Ill. Hat-rack	37,650	Nov. 7	119	306
Rosenberg, Frank J., Los Angeles, Cal. Tobacco-pipe	37,737	Dec. 19	119	2198
Rueckert, Ernest F., Providence, R. I., assignor to J. Hood, Santa Rosa, Cal. Spoon	37,724	Dec. 12	119	1890
Schraubstadter, Carl, assignor to Inland Type Foundry, St. Louis, Mo. Font of type	37,705	Nov. 28	119	1232
Schraubstadter, Carl, assignor to Inland Type Foundry, St. Louis, Mo. Font of type	37,706	Nov. 28	119	1232
Seidel, Christian, New York N. Y. Ruffling	37,647	Nov. 7	119	306
Shaughnessy, Martin J., Amsterdam, N. Y. Knitted fabric	37,754	Dec. 19	119	2202
Shepard, Chester B., Melrose, Mass. Handle for spoons, forks, or similar articles	37,711	Dec. 5	119	1553
Simons Bro. & Co. (See Weihman, Henry A., assignor.)				
Steinau, Charles J., New York, N. Y. Display-card	37,717	Dec. 5	119	1554
Stover, Edward C., assignor to Trenton Potteries Company, Trenton, N. J. Sink	37,690	Nov. 21	119	929
Thatcher, Frederick B., Providence, R. I. Bottle	37,713	Dec. 5	119	1553
Thomas, Walter, assignor to Alexander Smith & Sons Carpet Company, Yonkers, N. Y. Carpet	37,675	Nov. 14	119	617
Tompkins, Daniel I, New York, N. Y. Bed-spring	37,649	Nov. 7	119	306
Trenton Potteries Company. (See Stover, Edward C., assignor.)				
Tuckey, Harry W., San Francisco, and L. W. Kline, Alameda, Cal. Badge	37,720	Dec. 12	119	1889
United States Printing Company. (See Dickson, Andrew, assignor.)				
Vandergaw, Edward B., Brooklyn, N. Y. Printed textile fabric	37,698	Nov. 21	119	930
Vandergaw, Edward B., Brooklyn, N. Y. Printed textile fabric	37,732	Dec. 12	119	1891
Vandergaw, Edward B., Brooklyn, N. Y. Printed textile fabric	37,733	Dec. 12	119	1891
Vandergaw, Edward B., Brooklyn, N. Y. Printed textile fabric	37,734	Dec. 12	119	1891
Walter, Elmer E., assignor to Onondaga Pottery Company, Syracuse, N. Y. Plate or dish	37,681	Nov. 21	119	927
Ward, Harry, Petosky, Mich. Wire fence	37,743	Dec. 19	119	2200
Weihman, Henry A., assignor to Simons Bro. & Co., Philadelphia, Pa. Thimble	37,680	Nov. 21	119	927
Welch, Allie R. and F. S., Pontiac, Mich. Automobile-body	37,693	Nov. 21	119	929
Welch, Fred S. (See Welch, Allie R. and F. S.)				
Welch, John B., Syracuse, N. Y. Moccasin	37,718	Dec. 5	119	1554
Wheelock, John H., Worcester, Mass Gate	37,730	Dec. 12	119	1891
Whiting Manufacturing Company. (See Osborne, Charles, assignor.)				
Whittall, M. J. (See Perry, William A., assignor.)				
Winton Motor Carriage Company. (See Leslie, Ralph A., assignor.)				
Wittich, William F., Cody, Wyo. Chair	37,666	Nov. 14	119	616
Wm. L. Gilbert Clock Company. (See Owen, Arthur W. and G. B., Jr., assignors.)				
Wolf, Meyer J., assignor to Wolf, Mutterperl & Company, New York, N. Y. Hand-bag	37,683	Nov. 21	119	928
Wolf, Mutterperl & Company. (See Wolf, Meyer J., assignor.)				
Wolff, Elzy M., Mansfield, Ohio. Monument	37,658	Nov. 7	119	308
Yakushiji, Kiroku, San Francisco, Cal. Ice-cream cornucopia	37,759	Dec. 26	119	2493

ALPHABETICAL LIST OF REGISTRANTS OF TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Volume.	Page.
A. Breslauer Company, Milwaukee, Wis. Whisky	48,172	Dec. 12	119	1918
A. Breslauer Company, Milwaukee, Wis. Cordials	48,173	Dec. 12	119	1918
A. Breslauer Company, Milwaukee, Wis. Gin	48,219	Dec. 19	119	2228
A. Breslauer Company, Milwaukee, Wis. Whisky	48,301	Dec. 26	119	2511
A. Breslauer Company, Milwaukee, Wis. Whisky	48,388	Dec. 26	119	2514
A. H. Berry Shoe Company, Portland, Me. Ladies' leather boots and shoes	48,000	Dec. 5	119	1578
A. H. Lewis Medicine Co., St. Louis, Mo. Medicines for the regulation of the liver and purification of the blood	48,188	Dec. 12	119	1918
A. J. Tower Co., Roxbury, Mass. Oiled clothing	48,336	Dec. 26	119	2512
A. J. Tower Co., Roxbury, Mass. Oiled clothing	48,337	Dec. 26	119	2512
Abendroth Bros., Port Chester and New York, N. Y. Soil-pipes and fittings	48,145	Dec. 12	119	1917
Abraham & Straus, New York, N. Y. Corsets	47,512	Nov. 7	119	333
Abraham & Straus, New York, N. Y. Gloves	47,669	Nov. 14	119	643
Abraham & Straus, New York, N. Y. Hosiery	48,296	Dec. 19	119	2231
Abraham & Straus, New York, N. Y. Sewing-machines and attachments	48,362	Dec. 26	119	2513
Abraham & Straus, New York, N. Y. Sewing-machines	48,363	Dec. 26	119	2513
Acme Milling Company, Indianapolis, Ind. Wheat-flour	48,146	Dec. 12	119	1917
Adam Scheidt Brewing Co., Norristown, Pa. Lager-beer	48,148	Dec. 12	119	1917
Adam Scheidt Brewing Company, Norristown, Pa. Ale	48,147	Dec. 12	119	1917
Adler & Co., Jacob, New York, N. Y. Gloves	48,149	Dec. 12	119	1917
Adler & Co., Jacob, New York, N. Y. Gloves	48,389	Dec. 26	119	2514
Aeolian Company, New York, N. Y. Pianos and piano-players	47,686	Nov. 14	119	644
Æolian Company, New York, N. Y. Pianos, comprising pneumatically-controlled playing mechanism	47,765	Nov. 21	119	956
Aktiebolaget, Salenius, Werkstäder, Stockholm, Sweden. Milk-separator	48,338	Dec. 26	119	2512
Albaugh Nursery and Orchard Co., Phoneton, Ohio. Nursery-grown plum-trees	47,852	Nov. 28	119	1251
Albaugh Nursery and Orchard Co., Phoneton, Ohio. Nursery-grown peach-trees	48,020	Dec. 5	119	1578
Albee, Helen R., Pequaket, N. H. Carpets and rugs	47,477	Nov. 7	119	332
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, clover, hemp, canary, and rape seed.	47,414	Nov. 7	119	329
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, clover, hemp, canary, and rape seed.	47,415	Nov. 7	119	329
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, clover, hemp, canary, and rape seed.	47,416	Nov. 7	119	329
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, clover, hemp, canary, and rape seed.	47,417	Nov. 7	119	329
Albert Dickinson Company, Chicago, Ill. Dried beans	48,084	Dec. 5	119	1581
Albert M. Gugenheim Company, Cincinnati, Ohio. Gin	47,969	Nov. 28	119	1255
Alden Speare's Sons Co., Boston, Mass. Washing-soda	48,426	Dec. 26	119	2515
Alexander, Matthew, Winfield, Kans. Wheat-flour	48,150	Dec. 12	119	1917
Alphaduct Manufacturing Company, New York, N. Y. Flexible conduit for electric conductors	47,786	Nov. 21	119	957
Alphaduct Manufacturing Company, New York, N. Y. Flexible conduit for electric conductors	47,973	Nov. 28	119	1255
American Chicle Co., New York, N. Y. Chewing-gum	48,001	Dec. 5	119	1578
American Chicle Co., New York, N. Y. Chewing-gum	48,002	Dec. 5	119	1578
American Chicle Co., New York, N. Y. Chewing-gum	48,239	Dec. 19	119	2228
American Confectionery Co., Nashville, Tenn. Candy	48,364	Dec. 26	119	2513
American Graphite Company, Cleveland, Ohio. Paints adapted for iron and roofing	47,641	Nov. 14	119	642
American Multiple Fabric Co., Providence, R. I. Blankets	47,478	Nov. 7	119	332
American Varnish Company, Chicago, Ill. Varnishes	47,642	Nov. 14	119	642
American Varnish Company, Chicago, Ill. Varnishes	47,755	Nov. 21	119	955
American Washboard Company, Cleveland, Ohio. Washboards	47,782	Nov. 21	119	956
American Washboard Company, Cleveland, Ohio. Washboards	48,253	Dec. 19	119	2229
American Washboard Company, Cleveland, Ohio. Washboards	48,254	Dec. 19	119	2229
American Washboard Company, Cleveland, Ohio. Washboards	48,255	Dec. 19	119	2229
American Washboard Company, Cleveland, Ohio. Washboards	48,256	Dec. 19	119	2229
American Washboard Company, Cleveland, Ohio. Washboards	48,257	Dec. 19	119	2229
American Washboard Company, Cleveland, Ohio. Washboards	48,258	Dec. 19	119	2229
Ames Shovel and Tool Company, Boston and North Easton, Mass.; Philadelphia, Cheltenham, and Beaverfalls, Pa.; Anderson and Elwood, Ind., and St. Louis, Mo. Shovels, spades, and scoops	48,209	Dec. 19	119	2227
Ammon, Ernst, Chicago, Ill. Whisky	47,738	Nov. 21	119	955
Andrew McLean Co., Passaic, N. J., and New York, N. Y. Linings and foundations	48,039	Dec. 5	119	1579
Anheuser-Busch Brewing Association, St. Louis, Mo. Porter	47,554	Nov. 14	119	639
Anheuser-Busch Brewing Association, St. Louis, Mo. Beer	47,573	Nov. 14	119	639
Anheuser-Busch Brewing Association, St. Louis, Mo. Beer	47,574	Nov. 14	119	640
Antikamnia Chemical Company, St. Louis, Mo. Remedy for certain named diseases	47,939	Nov. 28	119	1254
Antikamnia Chemical Company, St. Louis, Mo. Medicinal tablets	48,062	Dec. 5	119	1580
Antikamnia Chemical Company, St. Louis, Mo. Medicinal tablets	48,063	Dec. 5	119	1580
Antikamnia Chemical Company, St. Louis, Mo. Medicinal tablets	48,064	Dec. 5	119	1580
Antikamnia Chemical Company, St. Louis Mo. Medicinal tablets	48,189	Dec. 12	119	1919
Antikamnia Chemical Company, St. Louis, Mo. Medicinal tablets	48,190	Dec. 12	119	1919
Antikamnia Chemical Company, St. Louis, Mo. Medicinal tablets	48,191	Dec. 12	119	1919
Arabol M'f'g Co., New York, N. Y. Starch and dextrin	47,640	Nov. 14	119	642
Ardito, Giambatista, Hoboken, N. J. Pills for catarrh	47,445	Nov. 7	119	330
Ardito, Giambatista, Hoboken, N. J. Medicated oil for rheumatism	47,479	Nov. 7	119	332
Arrow Boiler Compound Company, St. Louis, Mo. Boiler compounds	48,410	Dec. 26	119	2515
Aschenbach & Miller, Philadelphia, Pa. Bird-food	48,068	Dec. 5	119	1580
Aschenbach & Miller, Philadelphia, Pa. Nerve bitters	48,411	Dec. 26	119	2515
Ashley, Abiel D., New Bedford, Mass. Balsam	47,787	Nov. 21	119	957
Ashley, Frank M., New York, N. Y. Inkstand	48,049	Dec. 5	119	1580
B. D. Rising Paper Company, Housatonic, Mass. Bond, linen, ledger, wedding, and index bristol papers	47,710	Nov. 14	119	645
B. F. Goodrich Company, Akron, Ohio. Composition inking-rollers	48,033	Dec. 5	119	1579
Bailey & Son, Christopher, Philadelphia, Pa. Rope, cord, and twine	47,931	Nov. 28	119	1254
Baird-Daniels Company, New York, N. Y. Gin	47,513	Nov. 7	119	335
Baker & Co., Charles F., Boston, Mass. Wire nails	48,025	Dec. 5	119	1579
Baldwin Company, Cincinnati, Ohio. Pianos	47,553	Nov. 7	119	335

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Baltimore Copper Smelting & Rolling Company, Baltimore, Md. Copper	47,768	Nov. 21	119	956
Baltimore Copper Smelting & Rolling Company, Baltimore, Md. Copper	47,769	Nov. 21	119	956
Barnes Tool Company, New Haven, Conn. Cutters for metal pipes	47,914	Nov. 28	119	1253
Barrett Manufacturing Company, New York, N. Y. Tiles	47,818	Nov. 21	119	958
Barrett Manufacturing Company, New York, N. Y. Ready tar-and-felt roofing	48,117	Dec. 12	119	1916
Bassett Jewelry Company, Providence, R. I. Chains and lockets	48,168	Dec. 12	119	1918
Bay State Corset Co., Springfield, Mass. Corsets	47,876	Nov. 28	119	1252
Bay State Corset Co., Springfield, Mass. Corsets	48,040	Dec. 5	119	1579
Bayer, Schwartz & Co., Columbus, Ohio. Whisky	48,297	Dec. 19	119	2231
Bellevue Chemical Company, Brooklyn, N. Y. Disinfectants and antiseptics	48,436	Dec. 26	119	2516
Benton, Charlotte E., New York, N. Y. Antiseptic preparations	47,575	Nov. 14	119	640
Bergin & Brady Co., Columbus, Ohio. Whisky	47,609	Nov. 14	119	641
Bernart, William F., Chicago, Ill. Preparations for the prevention of venereal diseases	47,576	Nov. 14	119	640
Berry Hill Mineral Spring Co. of Va., Washington, D. C. Mineral water	47,502	Nov. 7	119	332
Binkley, David. Nappanee, Ind. Veterinary remedy	48,437	Dec 26	119	2516
Bird & Co., J. A. & W., Boston, Mass. Saturated roofing felt	47,468	Nov. 7	119	331
Block & Griff, Sol., Kansas City, Mo. Whisky	47,555	Nov. 14	119	639
Blumenkrohn Crochet Button Works, New York, N. Y. Ladies' neckwear-supporters	48,118	Dec. 12	119	1916
Bluthenthal & Bickart, Atlanta, Ga. Whisky	48,220	Dec. 19	119	2228
Boise Gas Light Company, Limited, Boise, Idaho. Tarred felt	48,003	Dec. 5	119	1578
Boker, Carl F., New York, N. Y. Sewing-needles	48,365	Dec. 26	119	2513
Boogher, Force & Goodbar Hat Company, St. Louis, Mo. Hats	47,891	Nov. 28	119	1252
Boogher, Force & Goodbar Hat Company, St. Louis, Mo. Hats	48,041	Dec. 5	119	1579
Botany Worsted Mills, Passaic, N. J. Woolen dress goods	48,273	Dec. 19	119	2230
Boyle, John B., Baltimore, Md. Cuffs	48,119	Dec. 12	119	1916
Bradley & Son, D. R., New York, N. Y. Perfumery, toilet waters, extracts, and cologne	47,469	Nov. 7	119	331
Bradley & Son, D. R., New York, N. Y. Perfumery, toilet waters, extracts, and cologne	47,514	Nov. 7	119	333
Brattleboro Overall Co., Brattleboro, Vt., and Boston, Mass. Overalls, coats, jumpers, and trousers	47,892	Nov. 28	119	1252
Bromo Chemical Company, Chicago, Ill. Remedy in tablet form for colds, headache, and grip	48,174	Dec. 12	119	1918
Brookman Manufacturing Company, Chicago, Ill. Bird-foods	47,945	Nov. 28	119	1254
Brownell & Field Company, Providence, R. I. Prepared mince-meat	48,050	Dec. 5	119	1580
Brownell & Field Company, Providence, R. I. Tea	48,069	Dec. 5	119	1580
Brunner, David, New Orleans, La. Whisky	47,739	Nov. 21	119	955
Brunner, David, New Orleans, La. Whisky	47,740	Nov. 21	119	955
Buffalo Dental Manufacturing Co., Buffalo, N. Y. Thermometer-tubes	47,788	Nov. 21	119	957
Burke, Frank G., New York, N. Y. Toilet soap	47,877	Nov. 28	119	1252
Burnett, Tom B., Dallas, Tex. Mattresses	48,096	Dec. 12	119	1915
Byron & Sons, W. D., Williamsport, Md. Leather	47,977	Dec. 5	119	1577
C. Howard Hunt Pen Co., Camden, N. J. Stub-pens	47,615	Nov. 14	119	641
C. E. Bonner Manufacturing Co., Chrisman, Ill. Nut and pipe wrenches	48,201	Dec. 19	119	2227
C. L. Hauthaway & Sons, Incorporated, Boston, Mass. Ink for burnishing the edges and bottoms of boots and shoes	47,978	Dec. 5	119	1577
C. M. Clapp Co., Buffalo, N. Y. Leather boots, shoes, and slippers	48,021	Dec. 5	119	1578
C. S. Bell Co., Hillsboro, Ohio. Church and school bells	48,114	Dec. 12	119	1916
Calhoun Distilling Company, Birmingham, Ala. Whisky	47,932	Nov. 28	119	1254
California Extract of Fig Company, San Francisco, Cal. Medicinal tonic and laxative preparation	47,446	Nov. 7	119	330
Calman & Co., Emil, New York, N. Y. Varnishes and shellacs	48,004	Dec. 5	119	1578
Cambridge Glass Co., Cambridge, Ohio. Glass vessels for table use	47,970	Nov. 28	119	1255
Canton Steel Company, Pittsburg, Pa. Steel	47,626	Nov. 14	119	642
Capewell Horse Nail Company, Hartford, Conn. Horse-nails	48,113	Dec. 12	119	1916
Carreras Limited, London, England. Smoking-tobacco and cigarettes	48,095	Dec. 12	119	1915
Carreras & Marcianus Cigarettes, Limited, London, England. Cigarettes	48,240	Dec. 19	119	2228
Cash, Laurence E., St. Louis, Mo. Liver remedies	47,447	Nov. 7	119	330
Cassella Color Company, New York, N. Y. Dyestuff	47,480	Nov. 7	119	332
Cassella Color Company, New York, N. Y. Dyestuff	47,481	Nov. 7	119	332
Cassella Color Company, New York, N. Y. Dyestuff	47,592	Nov. 14	119	640
Cassella Color Company, New York, N. Y. Dyestuff	47,593	Nov. 14	119	640
Cassella Color Company, New York, N. Y. Dyestuff	48,412	Dec. 26	119	2515
Catch On Clasp Mfg. Co., Baltimore, Md. Device for securing drawers to trousers	48,026	Dec. 5	119	1579
Cavanagh & Co., Chicago, Ill. Whisky	47,556	Nov. 14	119	639
Cavanagh & Co., Chicago, Ill. Whisky	47,919	Nov. 28	119	1253
Centaur Company, New York, N. Y. Medicinal preparation	47,588	Nov. 14	119	640
Challenge Cutlery Corp., Bridgeport, Conn. Razors	48,366	Dec. 26	119	2513
Chamberlain Medicine Co., Des Moines, Iowa. Medicine for the cure of diseases of the throat and lungs	47,449	Nov. 7	119	330
Chamberlin Cartridge and Target Co., Cleveland, Ohio. Fishing-reels	47,837	Nov. 21	119	959
Chanavas & Slazenger, Inc., New York, N. Y. Leather leggings	47,650	Nov. 14	119	643
Chandler and Rudd Company, Cleveland, Ohio. Prepared rice	47,687	Nov. 14	119	644
Charles Dennehy & Company, Chicago, Ill. Whisky	47,933	Nov. 28	119	1254
Charles E. Sholes Company, New York, N. Y. Chemical preparation for washing and bathing	47,810	Nov. 21	119	957
Charles Jacquin et Cie., Inc., New York, N. Y. Crême de menthe	48,321	Dec. 26	119	2511
Charles Jacquin et Cie., Inc., New York, N. Y. Absinthe	48,322	Dec. 26	119	2512
Charles Jacquin et Cie., Inc., New York, N. Y. Rock and rye	48,323	Dec. 26	119	2512
Charles Jacquin et Cie., Inc., New York, N. Y. Orange curacao	48,339	Dec. 26	119	2512
Charles Jacquin et Cie., Inc., New York, N. Y. Maraschino	48,340	Dec. 26	119	2512
Chas. Shaffner & Co., Chicago, Ill. Whisky	47,741	Nov. 21	119	955
Chas. Shaffner & Co., Chicago, Ill. Whisky	47,742	Nov. 21	119	955
Chase & Co., L. C., Boston, Mass. Imitation leather	47,780	Nov. 21	119	957
Chicago Concentrating Company, Chicago, Ill. Vegetable, cane, and fruit syrup	47,517	Nov. 7	119	333
Chicago Varnish Co., Chicago, Ill. Paints and enamels	47,557	Nov. 14	119	639
Chipman's Sons, Chas., Easton, Pa. Hosiery	47,515	Nov. 7	119	333
Christian & Company, Geo. C., Minneapolis, Minn. Wheat-flour	48,122	Dec. 12	119	1916
Christian & Company, Geo. C., Minneapolis, Minn. Wheat-flour	48,151	Dec. 12	119	1917
Christian Moerlein Brewing Co., Cincinnati, Ohio. Lager-beer	47,988	Dec. 5	119	1577
Church & Dwight Company, New York, N. Y. Carbonating-powder	47,448	Nov. 7	119	330
Church & Dwight Company, New York, N. Y. Carbonating-powder	47,790	Nov. 21	119	957
Church & Dwight Company, New York, N. Y. Bicarbonate of soda, saleratus, and baking-powder	47,946	Nov. 28	119	1254
Church & Dwight Company, New York, N. Y. Saleratus, bicarbonate of soda, and sal-soda	47,947	Nov. 28	119	1254
Churchill and Alden Co., Campello, Mass. Leather boots and shoes	47,712	Nov. 14	119	643
Ciener, Isaac, Indianapolis, Ind. Whisky	48,175	Dec. 12	119	1918
Citizens' Wholesale Supply Co., Columbus, Ohio. Flavoring extracts	48,270	Dec. 19	119	2230
Clark-Hutchinson Company, Boston, Mass. Leather boots, shoes, and slippers	47,791	Nov. 21	119	957
Clauder, Charles E., Minneapolis, Minn. Wheat-flour	47,516	Nov. 7	119	333
Clemson, George N., Middletown, N. Y. Saws	47,670	Nov. 14	119	643
Clinton & Co., F., Philadelphia, Pa. Varnish and paint brushes	48,120	Dec. 12	119	1916
Clinton & Co., E., Philadelphia, Pa. Paint-brushes	48,152	Dec. 12	119	1917

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Clinton Wire Cloth Co., Clinton, Mass. Woven-wire cloth and netting	47,627	Nov. 14	119	642
Clinton Wire Cloth Co., Clinton, Mass. Woven-wire cloth and netting	47,628	Nov. 14	119	642
Clinton Wire Cloth Co., Clinton, Mass. Woven-wire cloth, netting, and fencing	48,302	Dec. 26	119	2511
Cobbs & Mitchell, Inc., Cadillac, Mich. Manufactured maple flooring	47,616	Nov. 14	119	641
Coblentz & Co., Felix, San Francisco, Cal. Whisky	47,558	Nov. 14	119	639
Colburn, Birks & Co., Peoria, Ill. Whisky	48,303	Dec. 26	119	2511
Colburn, Birks & Co., Peoria, Ill. Whisky	48,307	Dec. 26	119	2513
Cole Manufacturing Co., Chicago, Ill. Stoves	47,819	Nov. 21	119	958
Collins & Fairbanks Company, Boston, Mass. Hats, caps, and bonnets	48,070	Dec. 5	119	1580
Colonial Salt Company, Akron, Ohio. Table and dairy salt	47,770	Nov. 21	119	956
Colonial Salt Company, Akron, Ohio. Table and dairy salt	47,771	Nov. 21	119	956
Colonial Salt Company, Akron, Ohio. Table and dairy salt	47,793	Nov. 21	119	957
Columbia Shoe Dressing Co., Bath, Me. Skin cleanser and healer	47,450	Nov. 7	119	330
Columbia Shoe Dressing Co., Bath, Me. Leather dressing and polish	47,672	Nov. 14	119	643
Comstock, William F., Kansas City, Mo. Soaps	47,629	Nov. 14	119	642
Conklin Pen Co., Toledo, Ohio. Fountain-pens	47,418	Nov. 7	119	329
Consolidated Safety Pin Company, Bloomfield, N. J. Safety-pins	47,893	Nov. 28	119	1252
Consumers' Supply Company, St. Louis, Mo. Baking-powder	48,341	Dec. 26	119	2512
Continental Caoutchouc Company, New York, N. Y. Tires, bandages, repair-sheets, plasters, and patches	48,342	Dec. 26	119	2512
Cooper M'f'g Co., Bennington, Vt. Undershirts, drawers, and combination-suits	47,536	Nov. 7	119	334
Cooper, Pliney E., Minneapolis, Minn. Twine for binding grain	48,195	Dec. 19	119	2227
Copaline Mfg. Co., New Haven, Conn. Varnishes and stains	47,503	Nov. 7	119	333
Coquillard Wagon Works, (Inc.,) Henderson, Ky. Wagons	47,794	Nov. 21	119	957
Corning, Arthur W., New York, N. Y. Lubricating oils and greases	48,121	Dec. 12	119	1916
Crary, Charles S., Hoopeston, Ill. Canned corn	48,071	Dec. 5	119	1580
Crescent Manufacturing Co., Seattle, Wash. Spices	47,630	Nov. 14	119	642
Crossett, Lewis A., North Abington, Mass. Leather boots and shoes	47,711	Nov. 14	119	645
Crucible Steel Company of America, Pittsburg, Pa. Steel	47,795	Nov. 21	119	957
Crucible Steel Company of America, Pittsburg, Pa. Steel	47,796	Nov. 21	119	957
Crucible Steel Company of America, Pittsburg, Pa. Steel	47,797	Nov. 21	119	957
Crucible Steel Company of America, Pittsburg, Pa. Steel	47,846	Nov. 21	119	959
Crucible Steel Company of America, Pittsburg, Pa. Steel	48,221	Dec. 19	119	2228
Crucible Steel Company of America, Pittsburg, Pa. Steel	48,304	Dec. 26	119	2511
Crucible Steel Company of America, Pittsburg, Pa. Steel	48,305	Dec. 26	119	2511
Crucible Steel Company of America, Pittsburg, Pa. Steel	48,306	Dec. 26	119	2511
Crucible Steel Company of America, Pittsburg, Pa. Steel	48,307	Dec. 26	119	2511
Crucible Steel Company of America, Pittsburg, Pa. Steel	48,308	Dec. 26	119	2513
Cudahy Brothers Co., Cudahy, Wis. Lard, tallow, lard compounds, and substitutes for lard	47,631	Nov. 14	119	642
Cudahy Brothers Co., Cudahy, Wis. Lard, lard compounds, tallow, and substitutes for lard	47,772	Nov. 21	119	956
Cudahy Brothers Co., Cudahy, Wis. Glue	47,847	Nov. 21	119	959
Cudahy Brothers Co., Cudahy, Wis. Shoulders, backs, hams, and bacon	48,274	Dec. 19	119	2230
Cudahy Packing Company, Chicago, Ill., and South Omaha, Nebr. Beef extracts, bouillon, and beef-tea	48,141	Dec. 12	119	1917
D. & W. Fuse Co., Providence, R. I. Electric safety-fuses	48,430	Dec. 26	119	2516
Dairy Association Co., Lyndonville, Vt. Medicine for cows	48,176	Dec. 12	119	1918
Dallas Brewery, Dallas, Tex. Non-intoxicating malt beverage	47,594	Nov. 14	119	640
Daniel Forbes Company, Chicago, Ill. Leather soles or taps for shoes	47,421	Nov. 7	119	329
Daniels & Co., Geo. F., Boston, Mass. Leather and leather-and-cloth boots, shoes, and slippers	48,087	Dec. 12	119	1915
Danove, D. C., New Orleans, La. Pepper-sauce	47,708	Nov. 21	119	957
Danove, D. C., New Orleans, La. Pepper-sauce	47,948	Nov. 28	119	1254
Davenport Pearl Button Co., Davenport, Iowa. Pearl buttons	48,275	Dec. 19	119	2230
David B. Crockett Company, Bridgeport, Conn. Varnishes	47,915	Nov. 28	119	1253
David Williams Company, New York, N. Y. Trade newspaper	47,713	Nov. 14	119	645
David Williams Company, New York, N. Y. Trade newspaper	48,309	Dec. 26	119	2513
Davis, Joseph M., Minneapolis, Minn. Whisky	48,438	Dec. 26	119	2516
Dawson & Son, New Bedford, Mass. Ale	47,595	Nov. 14	119	641
De Long Hook & Eye Company, Philadelphia, Pa. Hooks and eyes	47,537	Nov. 7	119	334
De Long Hook & Eye Company, Philadelphia, Pa. Hooks and eyes	47,756	Nov. 21	119	955
De Miracle Chemical Company, New York, N. Y. Hair-remover	48,207	Dec. 19	119	2227
Defender Photo Supply Co., Rochester, N. Y. Photographic paper	47,758	Nov. 21	119	955
Deming & Gould Co., Chicago, Ill., and St. Louis, Mo. Canned salmon	47,673	Nov. 14	119	643
Detroit Graphite Mfg. Co., Detroit, Mich. Prepared paint	47,979	Dec. 5	119	1577
Diamond Crystal Salt Co., St. Clair, Mich. Salt	48,072	Dec. 5	119	1580
Diamond Distilleries Co., Cincinnati, Ohio. Cologne spirits	48,169	Dec. 12	119	1918
Diamond Paste Co., Albany, N. Y. Paste	48,123	Dec. 12	119	1916
Dilworth, Gilbert & Towne, Incorporated, New York, N. Y. Metal in certain named forms	48,222	Dec. 19	119	2228
Doctor Blosser Company, Atlanta, Ga. Medicinal preparation for catarrh, asthma, hay-fever, and lung troubles	47,920	Nov. 28	119	1253
Donaldson, Robert B., Washington, D. C. Pulp-canal cleansers	48,413	Dec. 26	119	2515
Doubleday, Page & Co., New York, N. Y. Periodical magazines	48,096	Dec. 12	119	1915
Dowagiac Manufacturing Co., Dowagiac, Mich. Seeders and grain-drills	47,617	Nov. 14	119	641
Dr. J. Parker Pray Company, Limited, New York, N. Y. Composition for polishing the nails	48,343	Dec. 26	119	2512
Dr. Peter Fahrney & Sons Co., Chicago, Ill. Remedy for diseases of the blood and skin	48,444	Dec. 26	119	2516
Draper Company, Hopedale, Mass. Loom-temples and parts thereof	47,632	Nov. 14	119	642
Duff & Sons, P., Pittsburg, Pa. Molasses	47,949	Nov. 28	119	1254
Duff & Sons, P., Pittsburg, Pa. Molasses	48,051	Dec. 5	119	1580
Duff & Sons, P., Pittsburg, Pa. Molasses	48,073	Dec. 5	119	1580
Dunham, Carrigan & Hayden Co., San Francisco, Cal. Wooden ax and tool handles	48,210	Dec. 19	119	2227
Durkee & Co., E. R., New York, N. Y. Starch	47,743	Nov. 21	119	955
Durkee & Co., E. R., New York, N. Y. Starch	47,744	Nov. 21	119	955
Durkee & Co., E. R., New York, N. Y. Starch	47,799	Nov. 21	119	957
Durkee & Co., E. R., New York, N. Y. Starch	47,800	Nov. 21	119	957
Dutchess Manufacturing Co., Poughkeepsie, N. Y. Trousers	48,027	Dec. 5	119	1579
Dutro, Lee W., Memphis, Tenn. Dentifrices	47,950	Nov. 28	119	1255
E. Howard Watch Co., Riverside, N. J., and Waltham, Mass. Watches, watchcases, and watch-movements	47,483	Nov. 7	119	332
E. Howard Watch Co., Riverside, N. J., and Waltham, Mass. Watches, watchcases, and watch-movements	47,690	Nov. 14	119	644
E. Schneider & Co., Chicago, Ill. Candles	48,124	Dec. 12	119	1916
E. C. Atkins & Company, Indianapolis, Ind.; New York, N. Y.; Memphis, Tenn.; Atlanta, Ga.; Minneapolis, Minn.; Portland, Oreg.; Seattle, Wash.; San Francisco, Cal.; Chicago, Ill., and Toronto, Canada. Saws	48,370	Dec. 26	119	2513
E. H. Chase & Co., Louisville, Ky. Whisky	47,596	Nov. 14	119	641
E. H. Gato Cigar Company, Keywest, Fla. Cigars	47,451	Nov. 7	119	330
E. H. Gato Cigar Company, Keywest, Fla. Cigars	47,452	Nov. 7	119	330

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
E. H. Gato Cigar Company, Keywest, Fla. Cigars	47,453	Nov. 7	119	331
E. H. Gato Cigar Company, Keywest, Fla. Cigars	47,540	Nov. 7	119	334
E. J. Brooks & Company, New York, N. Y., and Newark, N. J. Car-seals	47,674	Nov. 14	119	64?
Eagle Pencil Company, New York, N. Y. Lead-pencils	48,097	Dec. 12	119	1915
Eagle Pencil Company, New York, N. Y. Lead-pencils	48,098	Dec. 12	119	1915
Eagle Pencil Company, New York, N. Y. Lead-pencils	48,099	Dec. 12	119	1915
Eagle Pencil Company, New York, N. Y. Lead-pencils	48,100	Dec. 12	119	1915
Eagle Pencil Company, New York, N. Y. Lead-pencils	48,101	Dec. 12	119	1915
Eagle Pencil Company, New York, N. Y. Lead-pencils	48,102	Dec. 12	119	1915
Eagle Pencil Company, New York, N. Y. Lead-pencils	48,103	Dec. 12	119	1915
Easley Cotton Mills, Easley, S. C. Sheetings and drillings	47,773	Nov. 21	119	956
Edgewood Dist'g Co., Cincinnati, Ohio. Whiskies	47,971	Nov. 28	119	1255
Eglinton, F., Walsall, England. Bits, spurs, stirrups, buckles, rings, terrets, and hames	48,211	Dec. 19	119	2227
Eising & Co., E., New York, N. Y. Whisky	47,482	Nov. 7	119	332
Elgin National Watch Co., Elgin and Chicago, Ill. Watches	47,470	Nov. 7	119	331
Elgin National Watch Company, Elgin and Chicago, Ill. Watches	47,820	Nov. 21	119	958
Elliott Varnish Company, Chicago, Ill. Liquid roofing paint or coating	47,541	Nov. 7	119	334
Elstroth, Frank W. S., New York, N. Y. Salve	47,454	Nov. 7	119	331
Ely Brothers, New York, N. Y. Medicinal compounds for the cure of catarrhal diseases and colds	47,455	Nov. 7	119	331
Emerson, Frank, South Lawrence, Mass. Remedies for internal and external use	47,714	Nov. 14	119	645
Evans & Sons, C. H., Hudson, N. Y. Ale	47,951	Nov. 28	119	1255
Fabery, Robert, Boston, Mass. Tonic remedy for constipation and intestinal indigestion	47,618	Nov. 14	119	641
Fairchild Bros. & Foster, New York, N. Y. Preparation of the proteids of beef	47,774	Nov. 21	119	956
Falck & Co., F. L., Allegheny, Pa. Laundry, toilet, and shaving soaps	47,878	Nov. 28	119	1252
Farr Remedy Company, Boston, Mass. Rheumatic foot-powders	48,223	Dec. 19	119	2228
Federal Brewing Company, New York, N. Y. Malt extract	47,745	Nov. 21	119	955
Fehsenfeld Cigar Co., Baltimore, Md. Cigars	48,427	Dec. 26	119	2515
Felix Corset Co., New York, N. Y. Corsets and corset-girdles	47,651	Nov. 14	119	643
Fellheimer and Co., New York, N. Y. Corsets	47,675	Nov. 14	119	643
Fellows and Company, Troy, N. Y. Shirts, collars, and cuffs	48,276	Dec. 19	119	2230
Fellows and Company, Troy, N. Y. Collars and cuffs	48,277	Dec. 19	119	2230
Ferris Bros. Co., New York, N. Y. Underwaists and underwear	47,889	Nov. 28	119	1252
Fiberloid Co., Indian Orchard, Mass. Collars and cuffs	47,504	Nov. 7	119	333
Fiberloid Co., Indian Orchard, Mass. Collars and cuffs made from pyroxylin	47,663	Nov. 14	119	643
Figge Doyle Co., Milwaukee, Wis. Bitters	47,597	Nov. 14	119	641
Figge Doyle Co., Milwaukee, Wis. Whisky	47,598	Nov. 14	119	641
Figge Doyle Co., Milwaukee, Wis. Whisky	47,980	Dec. 5	119	1577
Filogamo & Alvarez, Tampa, Fla. Cigars and cheroots	48,125	Dec. 12	119	1916
Finlay, Dicks & Co., Ltd., New Orleans, La. Remedy for cretain named diseases	48,414	Dec. 26	119	2515
Fischer, Bernard, Philadelphia, Pa. Whisky	48,334	Dec. 26	119	2512
Fleer and Company, Frank H., Philadelphia, Pa. Chewing-gum	48,005	Dec. 5	119	1578
Flint and Walling Manufacturing Company, Kendallville, Ind. Pump	47,633	Nov. 14	119	642
Foster-Allison Company, Utica, N. Y. Mattresses	48,104	Dec. 12	119	1915
Fostoria Glass Specialty Co., Fostoria, Ohio. Lantern globes and lenses	47,732	Nov. 14	119	646
Fostoria Glass Specialty Co., Fostoria, Ohio. Bulbs and globes for incandescent and arc lights	47,838	Nov. 21	119	959
Fr. Beck & Company, New York, N. Y. Decorative fabrics for walls and ceilings	47,975	Nov. 28	119	1255
Francis H. Leggett & Company, New York, N. Y. Tea	47,759	Nov. 21	119	955
Francis H. Leggett & Company, New York, N. Y. Jellies, jams, and preserves	48,052	Dec. 5	119	1580
Francis H. Leggett & Company, New York, N. Y. Canned meats	48,074	Dec. 5	119	1580
Francis H. Leggett & Company, New York, N. Y. Dried fruits	48,242	Dec. 19	119	2228
Francis H. Leggett & Company, New York, N. Y. Olives	48,243	Dec. 19	119	2229
Francis H. Leggett & Company, New York, N. Y. Canned fish	48,278	Dec. 19	119	2230
Freiberg, J. & A., Cincinnati, Ohio. Whisky	48,224	Dec. 19	119	2228
Freiberg, J. & A., Cincinnati, Ohio. Whisky	48,298	Dec. 19	119	2231
Freiberg, J. & A., Cincinnati, Ohio. Whisky	48,325	Dec. 26	119	2512
Freiberg, Meyer & Co., Cincinnati, Ohio. Whisky	47,747	Nov. 21	119	955
Freiberg, Sig. & Sol. H., Cincinnati, Ohio. Whisky	47,746	Nov. 21	119	955
Friedman, Paul, San Francisco, Cal. Whisky	47,599	Nov. 14	119	641
French Lick Springs Hotel Co., Frenchlick, Ind. Mineral waters	47,748	Nov. 21	119	955
French Lick Springs Hotel Co., Frenchlick, Ind. Mineral waters	47,749	Nov. 21	119	955
French Lick Springs Hotel Co., Frenchlick, Ind. Mineral waters	47,750	Nov. 21	119	955
French Lick Springs Hotel Co., Frenchlick, Ind. Mineral waters	47,879	Nov. 28	119	1252
Frisby, Hattie W., Taunton, Mass. Cosmetic	48,053	Dec. 5	119	1580
G. F. Heublein & Bro., Hartford, Conn. Dessert flavoring and dressing	47,677	Nov. 14	119	643
G. & H. Barnett Company, Philadelphia, Pa. Files and rasps	48,371	Dec. 26	119	2513
G. W. Chase & Son Mercantile Co., St. Joseph, Mo. Mixed candies	47,519	Nov. 7	119	333
Garcia & Maggini, San Francisco, Cal. Peanuts	47,976	Nov. 28	119	1256
Garlock Packing Co., Palmyra, N. Y. Packing	48,356	Dec. 26	119	2513
Geiger Tinney Co., Indianapolis, Ind. Coffee	48,142	Dec. 12	119	1917
Gendron Wheel Co., Toledo, Ohio. Children's hand and foot propelled vehicles	47,894	Nov. 28	119	1252
Geo. D. Wetherill & Co., Inc., Philadelphia, Pa. Ready-mixed paints	47,895	Nov. 28	119	1252
Geo. D. Witt Shoe Co., Lynchburg, Va. Leather boots and shoes	47,896	Nov. 28	119	1252
George Zucker Company, Newark, N. J. Buffing compounds	48,143	Dec. 12	119	1917
German-American Portland Cement Works, Lasalle, Ill. Portland cement	48,244	Dec. 19	119	2229
Gibbs Preserving Company of Baltimore City, Baltimore, Md. Candy	47,518	Nov. 7	119	313
Gilbert & Bennett Manufacturing Company, Georgetown, Conn. Wire-cloth	48,034	Dec. 5	119	1579
Gilbert & Bennett Manufacturing Company, Georgetown, Conn. Wire-netting for fencing purposes	48,035	Dec. 5	119	1579
Gilbert Son & Co., Murray, Ky. Chewing-tobacco	47,423	Nov. 7	119	329
Gill Brothers Company, Steubenville, Ohio. Glass chimneys, lantern-globes, and reflectors	47,934	Nov. 28	119	1254
Gillespie, Shields & Co., Knoxville, Tenn. Boys' and men's coats, vests, and trousers	47,761	Nov. 21	119	956
Gingras, Joseph A., Providence, R. I. Preparation for washing and removing grease-stains	48,006	Dec. 5	119	1578
Glastonbury Knitting Company, Addison, Conn. Knitted underwear	48,042	Dec. 5	119	1579
Glidden Varnish Company, Cleveland, Ohio. Varnish stains	48,401	Dec. 26	119	2515
Goldsmith Joseph Feiss Co., Cleveland, Ohio. Ready-made suits	47,538	Nov. 7	119	334
Goodman Bros., Memphis, Tenn. Whisky	48,326	Dec. 26	119	2512
Goodyear Rubber Company, New York, N. Y. Rubber boots	48,007	Dec. 5	119	1578
Gould & Cutler Corporation, Boston, Mass. Paint and varnish removers	48,415	Dec. 26	119	2515
Goyer Alliance Refining Company, Memphis, Tenn. Sugar, syrup, molasses, and glucose	47,966	Nov. 28	119	1255
Grand Rapids Brush Co., Grand Rapids, Mich. Brushes	47,715	Nov. 14	119	645
Graton and Knight Manufacturing Company, Worcester, Mass. Leather belting	48,115	Dec. 12	119	1916
Graves & Sons, C. H., Boston, Mass. Whisky	47,410	Nov. 7	119	329
Graves & Sons, C. H., Boston, Mass. Whisky	47,484	Nov. 7	119	331
Graves & Sons, C. H., Boston, Mass. Rum	47,485	Nov. 7	119	332
Graves & Sons, C. H., Boston, Mass. Alcohol	48,327	Dec. 26	119	2512
Graves & Sons, C. H., Boston, Mass. Brandy	48,328	Dec. 26	119	2512
Gray and Dudley Hardware Company, Nashville, Tenn. Knives and razors	48,225	Dec. 19	119	2228

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title	No.	Date.	Official Gazette. Vol.	Page.
Great Forest Remedy Company, Bolivar, Mo. Remedy for diseases of the kidneys, liver, stomach, and blood	47,610	Nov. 14	119	641
Great Western Cereal Co., Chicago, Ill. Rolled oats and oatmeal	48,065	Dec. 5	119	1580
Green, Lorenzo L., Boston, Mass. Knives and groovers for shoe-channeling machines	47,634	Nov. 14	119	642
Greenebaum Brothers, Philadelphia, Pa. Boys' blouses and waists	48,279	Dec. 19	119	2230
Gregory, George W., Boston, Mass. Gages	47,716	Nov. 14	119	645
Grove's Sons, H., Madison, Wis. Whisky	48,008	Dec. 5	119	1578
Guet & Senac, New Orleans, La. Whisky	47,520	Nov. 7	119	333
Gulden, Charles, New York, N. Y. Olives	47,952	Nov. 28	119	1255
Gulden, Charles, New York, N. Y. Olives	48,262	Dec. 19	119	2229
H. C. Tack Co., Cleveland, Ohio. Carpet-tacks	48,200	Dec. 19	119	2227
H. F. Norton Company, Seattle, Wash. Pulled wool	47,506	Nov. 7	119	333
H. G. Williams & Co., Norfolk, Va. Whisky	47,603	Nov. 14	119	641
H. G. Williams & Co., Norfolk, Va. Whisky	47 604	Nov. 14	119	641
H. L. Griesedieck Distg. Co., St. Louis, Mo. Whisky	47,560	Nov. 14	119	639
Hagan, Charles M., Carbondale and Forest City, Pa. Construction and building stone	47,542	Nov. 7	119	334
Haight, Louis P., Muskegon, Mich. Knit underwear and knit hosiery	47,676	Nov. 14	119	643
Hall Brothers, Barre, Vt. Steel pens	48,105	Dec. 12	119	1916
Hamilton Organ Co., Chicago Heights, Ill. Organs	48,416	Dec. 26	119	2515
Hamilton Organ Company, Chicago Heights, Ill. Organs	48,263	Dec. 19	119	2229
Hampden Watch Co., Canton, Ohio. Watch-movements	48,144	Dec. 12	119	1917
Hance Bros. & White, Philadelphia, Pa. Soda-water and compounds and extracts for flavoring the same	47,961	Dec. 5	119	1577
Hapgood Shoe Co., C. M., Easton, Pa. Leather shoes	47,792	Nov. 21	119	957
Harbinson, Josiah, Sacramento, Cal. Whisky	48,390	Dec. 26	119	2514
Harris Suspender Co., New York, N. Y. Suspenders and braces	47,880	Nov. 28	119	1252
Hartford Carpet Corporation, Thompsonville, Conn. Carpets	48,047	Dec. 5	119	1579
Hartford Carpet Corporation, Thompsonville, Conn. Carpets	48,292	Dec. 19	119	2231
Hartman, Samuel B., Columbus, Ohio. Medicines for the blood	48,196	Dec. 19	119	2227
Hartman, Samuel B., Columbus, Ohio. Tonic medicines	48,440	Dec. 26	119	2516
Hayden, Sarah H. E., Bedford Mass. Medical compound	48,441	Dec. 26	119	2516
Hayne, Henry J., New York, N. Y. Spirits of turpentine	47,521	Nov. 7	119	333
Hazelwood Company, Limited, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg. Butter	47,522	Nov. 7	119	333
Hazelwood Company, Limited, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg. Eggs	48,126	Dec. 12	119	1916
Hazelwood Company, Limited, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg. Cake and ice-cream cones made from cake	48,127	Dec. 12	119	1916
Hazelwood Company, Limited, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg. Cheese	48,128	Dec. 12	119	1916
Hazelwood Company, Limited, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg. Milk and cream	48,129	Dec. 12	119	1916
Hazelwood Company, Limited, Spokane, Wash.; Galena, Ill.; Sioux City, Iowa; New York, N. Y., and Portland, Oreg. Ice-cream	48,130	Dec. 12	119	1916
Helf, Joseph, New York, N. Y. Liniment	48,202	Dec. 19	119	2227
Hempel & Dingens, Buffalo, N. Y. Printers' quoins	47,411	Nov. 7	119	329
Henning Co., Wm., Chicago, Ill. Vinegar	47,767	Nov. 21	119	956
Henry Kröger & Co, New York, N. Y. Gin	48,308	Dec. 26	119	2511
Hentz Co., Philadelphia, Pa. Specific for stomach and catarrhal diseases	47,505	Nov. 7	119	333
Herbst, Solomon C., Milwaukee, Wis. Rye and bourbon and all kinds of whisky	47,967	Nov. 28	119	1255
Herbst, Solomon C., Milwaukee, Wis. Whiskies	48,177	Dec. 12	119	1918
Herz & Co., New York, N. Y. Ignition parts	47,424	Nov. 7	119	329
Hess, Goldsmith & Co., New York, N. Y. Brilliant soft-twisted silk crape	48,106	Dec. 12	119	1915
Hessberg Bottling Co., Richmond, Va. Whisky	47,559	Nov. 14	119	639
Hessberg, Magnus, Richmond, Va. Leather boots and shoes	47,897	Nov. 28	119	1252
Hessberg, Magnus, Richmond, Va. Leather boots and shoes	47,898	Nov. 28	119	1252
Hiller, Hugo L., New York, N. Y. Shoe-laces	48,344	Dec. 26	119	2512
Hill's Ink Tablet Co., New York, N. Y. Dry ink	47,762	Nov. 21	119	956
Himrod Manufacturing Company, New York, N. Y. Preparation for asthma, catarrh, and similar affections	47,801	Nov. 21	119	957
Hinde & Dauch Paper Co., Sandusky, Ohio. Cartons	48,402	Dec. 26	119	2515
Ho Ly-Yuen, Kansas City, Mo. Medicine for the remedy of nervous debility	48,178	Dec. 12	119	1918
Hochstadter, Sigmund, New York, N. Y. Whisky	47,412	Nov. 7	119	329
Hochstadter, Sigmund, New York, N. Y. Brandy	48,280	Dec. 19	119	2230
Hochstadter, Sigmund, New York, N. Y. Cordials	48,300	Dec. 26	119	2511
Hochstadter, Sigmund, New York, N. Y. Cordials	48,345	Dec. 26	119	2512
Home Remedy & Supply Co., York, Pa. Remedy for certain named diseases	47,456	Nov. 7	119	331
Homefolks Publishing Company, Chicago, Ill. Magazine or periodical	48,154	Dec. 12	119	1917
Hopkins, Stanaforth T., New Orleans, La. Candy	47,881	Nov. 28	119	1252
Horrocks Desk Co., Herkimer, N. Y. Desks and typewriter-cabinets	47,425	Nov. 7	119	329
Horsman Co., E. I., New York, N. Y. Game	48,153	Dec. 12	119	1917
Hoster-Columbus Associated Breweries Co., Columbus, Ohio. Beer	47,613	Nov. 14	119	641
Hough Shade Corporation, Janesville, Wis. Fabric formed of woven splints, strips, or slats, and thread, cord, or wire for shades, screens, curtains, and the like	48,088	Dec. 12	119	1915
Houston Brothers Company, Pittsburg, Pa. Paper for roofing purposes	47,982	Dec. 5	119	1577
Houston Brothers Company, Pittsburg, Pa., and Camden, N. J. Portland cement	48,281	Dec. 19	119	2230
Hubacher, Frederick, Cleveland, Ohio. Balsam	47,717	Nov. 14	119	645
Huenefeld, Ernst H., Cincinnati, Ohio. Washing-machines	47,523	Nov. 7	119	333
Huenefeld, Ernst H., Cincinnati, Ohio. Washing-machines	47,678	Nov. 14	119	644
Huenefeld, Ernst H., Cincinnati, Ohio. Stoves, ranges, furnaces, ovens, and heating-drums	47,983	Dec. 5	119	1577
Hulman & Co., Terre Haute, Ind. Soda	47,968	Nov. 28	119	1255
Hurd & Co., George B., New York, N. Y. Writing-paper and envelops	47,760	Nov. 21	119	955
Hurd & Co., George B., New York, N. Y. Writing-paper and envelops	48,391	Dec. 26	119	2514
Hyman & Son, Elias, Cincinnati, Ohio. Whisky	47,577	Nov. 14	119	640
Illfelder & Co., B., New York, N. Y. Dolls	47,821	Nov. 21	119	958
Illinois Sewing Machine Company, Rockford and Chicago, Ill. Sewing-machines and parts thereof	48,028	Dec. 5	119	1579
Imperial Granum Co., New Haven, Conn. Medicinal food prepared from wheat	47,539	Nov. 7	119	334
Independence Coffee and Spice Co., Pueblo, Colo. Coffee	48,259	Dec. 19	119	2229
Independent Baking Co., Davenport, Iowa. Crackers and cakes	47,922	Nov. 28	119	1253
Indianapolis Brewing Company, Indianapolis, Ind. Malt extract for brewers' use	47,959	Nov. 28	119	1255
Indianapolis Brewing Company, Indianapolis, Ind. Beer	47,960	Nov. 28	119	1255
International Pulp Company, New York, N. Y. Pulp	48,346	Dec. 26	119	2513
Ivins, Dietz & Metzger Co., Philadelphia, Pa. Pile carpets and rugs	47,822	Nov. 21	119	958
J. A. Bokel Company of Baltimore City, Baltimore, Md. Whisky	48,282	Dec. 19	119	2230
J. C. Grant Chemical Company, East St. Louis, Ill. Baking-powder	48,155	Dec. 12	119	1917

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
J. J. Douglas Co., Louisville, Ky. Whisky	47,419	Nov. 7	119	329
J. J. Douglas Co., Louisville, Ky. Whisky	47,589	Nov. 14	119	640
J. W. Biles Co., Cincinnati, Ohio. Distillers' dried grains	48,066	Dec. 5	119	1580
Jas. E. Pepper & Co., Lexington, Ky. Whisky	47,605	Nov. 14	119	641
Jeffrey Manufacturing Company, Columbus, Ohio. Endless-belt conveyers	47,766	Nov. 21	119	956
Jenkins, Alfred B., New York, N. Y., and Boston, Mass. Valves and cocks	48,373	Dec. 26	119	2514
Jenkins Bros. Shoe Co., Winston Salem, N. C. Leather boots and shoes	48,156	Dec. 12	119	1917
Jennings Company, Greenport, N. Y. Dentifrice	47,802	Nov. 21	119	957
Jesse Moore Hunt Co., Louisville, Ky. Whisky	48,310	Dec. 26	119	2511
Jesse Moore Hunt Co., Louisville, Ky. Whisky	48,417	Dec. 26	119	2515
John Ellwanger Co., Dubuque, Iowa. Whisky	47,999	Dec. 5	119	1577
John F. Meyer & Sons Milling Co., St. Louis and Springfield, Mo. Wheat-flour	48,264	Dec. 19	119	2229
John Gund Brewing Company, La Crosse, Wis. Lager-beer	47,578	Nov. 14	119	640
John Gund Brewing Company, La Crosse, Wis. Lager-beer	47,579	Nov. 14	119	640
John Gund Brewing Company, La Crosse, Wis. Lager-beer	47,580	Nov. 14	119	640
John Miles, Inc., New York, N. Y. Hats, hat-frames, and hat-trimmings	48,131	Dec. 12	119	1916
John Pullman & Co., New York, N. Y. Handkerchiefs	47,679	Nov. 14	119	644
Johns-Pratt Co., Hartford, Conn. Inclosed electric fuses	48,403	Dec. 26	119	2515
Jones & Woodland, Newark, N. J. Rings	48,132	Dec. 12	119	1916
Jordan Marsh Company, Boston, Mass. Leather boots and shoes	47,691	Nov. 14	119	644
Jordan Marsh Company, Boston, Mass. Leather boots and shoes	47,692	Nov. 14	119	644
Jordan Marsh Company, Boston, Mass. Leather boots and shoes	47,693	Nov. 14	119	644
Joseph Campbell Company, Camden, N. J. Prepared mustard	48,089	Dec. 12	119	1915
Joseph G. Dill, Inc., Richmond, Va. Plug, cut-plug, and smoking tobacco	47,848	Nov. 28	119	1251
Joseph G. Dill, Inc., Richmond, Va. Plug, cut-plug, and smoking tobacco	47,984	Dec. 5	119	1577
Juan F. Portuondo Cigar Mfg. Co., Philadelphia, Pa. Cigars	48,271	Dec. 19	119	2230
Juan F. Portuondo Cigar Mfg. Co., Philadelphia, Pa. Cigars	48,272	Dec. 19	119	2230
Juan F. Portuondo Cigar Mfg. Co., Philadelphia, Pa. Cigars	48,428	Dec. 26	119	2516
Jung, Louis E., New Orleans, La. Bitter cordial	47,486	Nov. 7	119	332
Kahn, Harry, Cincinnati, Ohio. Whisky	48,329	Dec. 26	119	2512
Kahn, Harry, Cincinnati, Ohio. Gin	48,330	Dec. 26	119	2512
Kalamazoo Corset Co., Kalamazoo, Mich. Corsets and corset-waists	48,283	Dec. 19	119	2230
Kalorin Fuel Company, Indianapolis, Ind. Preparation to increase efficiency of coal and wood	47,463	Nov. 7	119	331
Kamp Distilling Co., St. Louis, Mo. Whisky	48,374	Dec. 26	119	2514
Kamp Distilling Co., St. Louis, Mo. Cordial	48,375	Dec. 26	119	2514
Kanawha Implement Company, Charleston, W. Va. Hoes	47,803	Nov. 21	119	957
Kaufmann Bros. & Co., Toledo, Ohio. Whisky	48,226	Dec. 19	119	2228
Kaufmann Bros. & Co., Toledo, Ohio. Whisky	48,331	Dec. 26	119	2512
Kazunas, Luke M., Shenandoah, Pa. Proprietary medicine	47,804	Nov. 21	119	957
Kazunas, Luke M., Shenandoah, Pa. Proprietary medicines	48,418	Dec. 26	119	2515
Kelly & Co., J. W., Chattanooga, Tenn. Whisky	47,581	Nov. 14	119	640
Kentucky Tobacco Product Co., Louisville, Ky. Tobacco extracts for insecticides	47,961	Nov. 28	119	1255
Keystone Hair Insulator Company, Allegheny, Pa. Linings of insulating material	48,212	Dec. 19	119	2227
Kickapoo Indian Medicine Co., Clintonville, Conn. Salve	47,811	Nov. 21	119	958
Kickapoo Indian Medicine Co., Clintonville, Conn. Cough cure	47,812	Nov. 21	119	958
Kickapoo Indian Medicine Co., Clintonville, Conn. Oils for internal and external use	48,445	Dec. 26	119	2516
King & Co., J. B., New York, N. Y. Plaster-of-paris	47,823	Nov. 21	119	958
King & Co., J. B., New York, N. Y. Plaster-of-paris	47,824	Nov. 21	119	958
Kirsch Bros. & Co., Shreveport, La. Whisky	48,311	Dec. 26	119	2511
Kirschbaum, Max, Kansas City, Mo. Whisky	47,935	Nov. 28	119	1254
Knox, Charles B., Johnstown, N. Y. Gelatin	47,652	Nov. 14	119	643
Knox Woolen Co., Camden, Me. Felts and jacketings	47,487	Nov. 7	119	332
Knoxville Knitting Mills Company, Knoxville, Tenn. Knitted hosiery, underwear, and sweaters	47,882	Nov. 28	119	1252
Koblens, William M., Rockford, Ill. Shoes made from leather or a combination of leather and cloth	48,227	Dec. 19	119	2228
Koch, Rudolph C., New York, N. Y. Strings for pianofortes	48,029	Dec. 5	119	1579
Kohary, Alexander A., Pittsburg, Pa. Cigarette-paper	47,900	Nov. 28	119	1253
Kops Bros., New York, N. Y. Corsets	47,883	Nov. 28	119	1252
Kops Bros., New York, N. Y. Corsets, corset-waists, and corset-steels	48,107	Dec. 12	119	1915
Kory & Sons, A., New Orleans, La. Overalls, coats, vests, and trousers	48,284	Dec. 19	119	2230
Krementz & Co., Newark, N. J. Sleeve-buttons, collar-buttons, and studs	47,825	Nov. 21	119	958
Krusius Brothers, New York, N. Y. Razors	48,157	Dec. 12	119	1917
L. C. Geiser Medical Co., Schenectady, N. Y. Blood and nerve medicines	47,923	Nov. 28	119	1254
L. C. Page & Company, Boston, Mass. Books	47,473	Nov. 7	119	331
L. E. Waterman Company, New York, N. Y. Fountain-pens	48,230	Dec 19	119	2228
Lacey, R. S. & A. B., Washington, D. C. Books	47,718	Nov. 14	119	645
Lambertville Rubber Company, Lambertville, N. J. Rubber boots and shoes	48,108	Dec. 12	119	1916
Lambertville Rubber Company, Lambertville, N. J. Rubber boots and shoes	48,109	Dec. 12	119	1916
Lambertville Rubber Company, Lambertville, N. J. Rubber boots and shoes	48,133	Dec. 12	119	1916
Lang, Schenck & Co., Columbus, Ohio. Whisky	48,312	Dec. 26	119	2511
Lang, Schenck & Co., Columbus, Ohio. Bitters	48,313	Dec. 26	119	2511
Lange, Morris, Cincinnati, Ohio. Whisky	48,228	Dec. 19	119	2228
Lanman & Kemp, New York, N. Y. Florida water	47,457	Nov. 7	119	331
Lanman & Kemp, New York, N. Y. Remedies for diseases of the throat, lungs, and nasal organs	48,197	Dec. 19	119	2227
Larned, Carter and Co., Detroit, Mich. Coats, pants, overalls, and blouses	47,849	Nov. 28	119	1251
Lauber, Carl F., Philadelphia, Pa. Bitters	47,488	Nov. 7	119	332
Lauber, Carl F., Philadelphia, Pa. Whisky	47,561	Nov. 14	119	639
Lauber, Carl F., Philadelphia, Pa. Still and sparkling wines	47,606	Nov. 14	119	641
Lawrence Manufacturing Company, Lowell, Mass. Underwear and hose	47,901	Nov. 28	119	1253
Lawrence-Williams Company, Cleveland, Ohio. Remedies for ailments of animals	47,590	Nov. 14	119	640
Lea, Edward S., assignor to Motor Car Specialty Company, Trenton, N. J. Speedometers	48,213	Dec. 19	119	2227
Leclanché Battery Co., New York, N. Y. Electric batteries	48,354	Dec. 26	119	2514
Lee Broom & Duster Company, Lincoln, Nebr. Brooms, brushes, whisks, and dusters	47,826	Nov. 21	119	958
Leonard, Asbury O., Detroit, Mich. Playing-cards	48,158	Dec. 12	119	1917
Leslie E. Keeley Co., Dwight, Ill. Medicinal preparations	48,429	Dec. 26	119	2516
Levi Strauss & Co., San Francisco, Cal. Undershirts, sweaters, and drawers	48,229	Dec. 19	119	2228
Lieber, Albert, Indianapolis, Ind. Malt extracts and peptonized malt foods	47,963	Nov. 28	119	1255
Lincoln Waterproof Cloth Company, Bound Brook, N. J. Roofing material	47,474	Nov. 7	119	331
Lindner Shoe Co., Carlisle, Pa. Leather and canvas shoes	47,464	Nov. 7	119	331
Lloyd Bros., Cincinnati, Ohio. Pharmaceutical preparation	47,458	Nov. 7	119	331
Loeb, Bloom & Co., Paducah, Ky. Whisky	47,600	Nov. 14	119	641
Loeb, Bloom & Co., Paducah, Ky. Whisky	47,607	Nov. 14	119	641
Lord, William H., Dedham, Mass. Salt fish	47,954	Nov. 28	119	1255
Loring Coes & Company, Inc., Worcester, Mass. Machine-knives	48,208	Dec. 19	119	2227
Loring Coes & Company, Inc., Worcester, Mass. Machine blades or knives	48,442	Dec. 26	119	2516
Lothrop, Lee & Shepard Co., Boston, Mass. Books	47,426	Nov. 7	119	329

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Lothrop, Lee & Shepard Co., Boston, Mass. Books	47,427	Nov. 7	119	329
Lovan Saddlery Co., Springfield, Mo. Harness and parts thereof, saddles, collars, and harness-leather	48,000	Dec. 5	119	1578
Lucas & Co., John, Philadelphia, Pa. Certain named paints and supplies	47,776	Nov. 21	119	956
Ludlow Manfg. Associates, Boston, Mass. Upholsterers' webbing	47,562	Nov. 14	119	639
Ludlow Manfg. Associates, Boston, Mass. Upholsterers' webbing	47,563	Nov. 14	119	639
Ludlow Manfg. Associates, Boston, Mass. Upholsterers' webbing	47,564	Nov. 14	119	639
Ludlow Manfg. Associates, Boston, Mass. Binders' twine	47,653	Nov. 14	119	643
Ludlow Manfg. Associates, Boston, Mass. Binders' twine	47,654	Nov. 14	119	643
Ludlow Manfg. Associates, Boston, Mass. Upholsterers' webbing	47,655	Nov. 14	119	643
Ludlow Manfg. Associates, Boston, Mass. Hemp twine	47,656	Nov. 14	119	643
Ludlow Manfg. Associates, Boston, Mass. Hemp twine	47,657	Nov. 14	119	643
Lunkenheimer Company, Cincinnati, Ohio. Lever-valves	47,990	Dec. 5	119	1577
Lunkenheimer Company, Cincinnati, Ohio. Grease-cups	48,385	Dec. 26	119	2514
Luqueer, Frank S., Pueblo, Colo. Liniments	47,582	Nov. 14	119	640
Lyon & Healy, Chicago, Ill. Accordions	48,419	Dec. 26	119	2515
Lyon & Healy, Chicago, Ill. Accordions	48,420	Dec. 26	119	2515
Lyon & Healy, Chicago, Ill. Guitars	48,421	Dec. 26	119	2515
M. D. Wells Co., Chicago, Ill. Leather, cloth, and felt boots, shoes, and slippers	47,721	Nov. 14	119	645
M. P. Exline Co., Dallas, Tex. Paper and envelops	47,733	Nov. 14	119	646
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	47,694	Nov. 14	119	644
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	47,695	Nov. 14	119	644
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	47,696	Nov. 14	119	644
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	47,697	Nov. 14	119	644
Macbeth-Evans Glass Company, Pittsburg, Pa Lamp glasses and globes	47,698	Nov. 14	119	644
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	47,699	Nov. 14	119	644
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	47,700	Nov. 14	119	644
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	48,245	Dec. 19	119	2229
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	48,347	Dec. 26	119	2513
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	48,392	Dec. 26	119	2514
Magnus & Co., Jos. A., Cincinnati, Ohio. Whisky	47,751	Nov. 21	119	755
Magnus & Co., Jos. A., Cincinnati, Ohio. Whisky	47,752	Nov. 21	119	955
Mahony, William F., Washington, D. C. Eye-shades	47,719	Nov. 14	119	645
Mallard Distilling Co., New York, N. Y. Whisky	48,376	Dec. 26	119	2514
Manahan, Margaret E., New York, N. Y. Moth sheets and bags	47,902	Nov. 28	119	1253
Manahan, Thomas, New York, N. Y. Moth-bags and moth-paper	47,428	Nov. 7	119	329
Manahan, Thomas, New York, N. Y. Moth-paper and moth-bags	47,903	Nov. 28	119	1253
Manahan, Thomas, New York, N. Y. Moth-bags	47,904	Nov. 28	119	1253
Manier, Dunbar & Co., Nashville, Tenn. Heavy leather shoes	47,429	Nov. 7	119	329
Manitou Mineral Springs Company, Manitou, Colo. Mineral-spring water	48,237	Dec. 19	119	2228
Marcus Ward Company, New York, N. Y. Writing-paper and envelops	47,827	Nov. 21	119	958
Marine Engineering, Incorporated New York, N. Y. Trade-journal periodical	48,231	Dec. 19	119	2228
Marks Rothenberg & Co., Meridian, Miss. Leather boots and shoes	47,430	Nov. 7	119	329
Marks Rothenberg & Co., Meridian, Miss. Leather boots and shoes	47,431	Nov. 7	119	329
Marks Rothenberg & Co., Meridian, Miss. Leather boots and shoes	47,432	Nov 7	119	329
Marks Rothenberg & Co., Meridian, Miss. Leather boots and shoes	47,433	Nov. 7	119	330
Marks Rothenberg & Co., Meridian, Miss. Leather boots and shoes	47,701	Nov. 14	119	644
Marveline Company, Leavenworth, Kans. Preparation for diseases of the mucous membrane and skin	47,955	Nov. 28	119	1255
Maschal, Charles S., Kingston, N. Y. Bay-rum tablets	47,924	Nov. 28	119	1254
Mason, Au & Magenheimer Conf. Mfg. Co., New York, N. Y. Candies and sweetmeats	47,828	Nov. 21	119	958
Mason, Mortimer F., Cleveland, Ohio. Felt hats	48,286	Dec. 19	119	2230
Massachusetts Chemical Co., Boston, Mass. Liquid insulating preparation	47,413	Nov. 7	119	329
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	47,658	Nov. 14	119	643
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	47,659	Nov. 14	119	643
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	47,680	Nov. 14	119	644
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	47,884	Nov. 28	119	1252
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	48,043	Dec. 5	119	1579
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	48,285	Dec. 19	119	2230
Matthews, Alfred, St. Louis, Mo. Men's hats and caps	48,044	Dec. 5	119	1579
Mayer, Benjamin, Baltimore, Md. Eyeglass-lenses	48,214	Dec. 19	119	2227
Mayer & Loewenstein, New York, N. Y. Varnish and japan	48,179	Dec. 12	119	1918
McCaw Manufacturing Company, Macon, Ga. Substitute for lard	47,524	Nov. 7	119	333
McCaw Manufacturing Company, Macon, Ga. Soap	47,525	Nov. 7	119	333
McCaw Manufacturing Company, Macon, Ga. Washing-powder	47,526	Nov. 7	119	333
McComb City Cotton Mills, McComb City, Miss. Cotton sheetings and drillings	47,489	Nov. 7	119	332
McCormick & Company, Baltimore, Md. Live-stock and poultry food	47,619	Nov. 14	119	641
McDonnell, Hugh, New York, N. Y. Toothache remedy	48,054	Dec. 5	119	1580
McGill, John A., Chicago, Ill. Remedy for female weaknesses	47,459	Nov. 7	119	331
McKenney & Waterbury Company, Boston Mass. Chandeliers and brackets	47,543	Nov. 7	119	334
McKesson & Robbins, New York, N. Y. Petrolatum	47,720	Nov. 14	119	645
McKinley, William S., Philadelphia, Pa. Tapioca	47,527	Nov. 7	119	333
Medical Lake Salts Mfg. Co., Spokane, Wash. Medical salts and tablets made therefrom	47,583	Nov. 14	119	640
Mehlin & Sons, Paul G., New York, N. Y. Upright pianos	48,010	Dec. 5	119	1578
Melvale Distilling Co., Melvale, Md. Whisky	48,300	Dec. 19	119	2231
Menard, Robert P. Macon, Ga. Remedy for headache and neuralgia	47,601	Nov. 14	119	641
Merchants Coffee Co., Baltimore, Md. Roasted coffee	48,246	Dec. 19	119	2229
Meredith, George W., East Liverpool, Ohio. Gin	47,936	Nov. 28	119	1254
Merkel & Sons, Isaac, Plattsburg, N. Y. Whisky	48,011	Dec. 5	119	1578
Meyer Marx Co., Birmingham, Ala. Whisky	47,584	Nov. 14	119	640
Michigan Carbon Works, Detroit, Mich. Bone-black	47,905	Nov. 28	119	1253
Michigan Corset Company, Jackson, Mich. Corsets	47,664	Nov. 14	119	643
Millcreek Valley Starch Co., Cincinnati, Ohio. Laundry starch	48,067	Dec. 5	119	1580
Milliken Tomlinson Co., Portland, Me. Tea	47,528	Nov. 7	119	333
Minder, Leopoldine, Brooklyn, N. Y. Salve	48,203	Dec. 19	119	2227
Minot, Hooper & Co., New York, N. Y. Sheetings	48,159	Dec. 12	119	1917
Monarch, Richard, Louisville, Ky. Whisky	48,287	Dec. 19	119	2230
Monarch Tobacco Works, Louisville, Ky. Plug-tobacco	47,544	Nov. 7	119	334
Monheimer & Co., Chicago, Ill. Whisky	47,956	Nov. 28	119	1255
Monroe Drug Co., Unionville, Mo. Preparation for coloring butter	47,472	Nov. 7	119	331
Montana Liquor Co., Butte, Mont. Whisky	48,393	Dec. 26	119	2514
Morganthau, Mengo L., New York, N. Y. Candies	48,012	Dec. 5	119	1578
Morrin-Powers Merc. Co., Kansas City, Mo. Whisky	48,134	Dec. 12	119	1916
Morris & Co., Chas. S., New York, N. Y. Cigars	47,620	Nov. 14	119	641
Motor Car Specialty Company. (See Lea, Edward S., assignor.)				
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	48,045	Dec. 5	119	1579

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Mueller, Wathen & Kobert, Lebanon, Ky. Whisky	47,937	Nov. 28	119	1254
Mundy, Cornelius, Wilmington, Del. Whisky	48,394	Dec. 26	119	2514
Murine Eye Remedy Company, Chicago, Ill. Eye remedies	47,813	Nov. 21	119	958
Murray, John A., New York, N. Y. Valves	48,395	Dec. 26	119	2514
Muse, Joseph E., Baltimore, Md. Remedy for coughs and colds	47,602	Nov. 14	119	641
N. W. Taussig Co., New York, N. Y. Molasses	47,490	Nov. 7	119	332
N. W. Taussig Co., New York, N. Y. Molasses	48,136	Dec. 12	119	1917
Nagel, Fred N., Bryant, Iowa. Lotions for external application	48,055	Dec. 5	119	1580
Nansen Composition & Paint Co., New York, N. Y. Paint	48,135	Dec. 12	119	1917
National Belting Company, Lawrence, Mass. Waterproofed textile belting	48,022	Dec. 5	119	1578
National Carbon Company, Cleveland, Ohio. Dry batteries	47,635	Nov. 14	119	642
National Carbon Company, Cleveland, Ohio. Dry batteries	47,763	Nov. 21	119	956
National Carbon Company, Cleveland, Ohio. Dry batteries	47,805	Nov. 21	119	957
National Cash Register Company, Dayton, Ohio. Cabinets for manifolding account-books	47,850	Nov. 28	119	1251
National Distilling Co., Milwaukee, Wis. Gin	48,013	Dec. 5	119	1578
National Distilling Co., Milwaukee, Wis. Whisky	48,348	Dec. 26	119	2513
National Food Co., Fond du Lac, Wis. Stock-food	47,552	Nov. 7	119	335
National Metal Trades Association, Cincinnati, Ohio. Monthly magazine	47,777	Nov. 21	119	956
National Roofing Co., Tonawanda, N. Y. Graveled roofing-sheets	47,734	Nov. 14	119	646
Nelson Distilling Co., St. Louis, Mo. Whisky	47,608	Nov. 14	119	641
Nelson, Louisa, Nashville, Tenn. Whisky	47,938	Nov. 28	119	1254
Neustadtl, Victor, New York, N. Y. Lager-beer	48,160	Dec. 12	119	1917
Nevius Company, New York, N. Y. Table utensils made of sterling silver	48,036	Dec. 5	119	1579
New Albany Hosiery Mill, New Albany, Ind. Hosiery	47,753	Nov. 21	119	955
New England Confectionery Co., Boston, Mass. Lozenges	47,885	Nov. 28	119	1252
New England Confectionery Co., Boston, Mass. Penny-candy	48,161	Dec. 12	119	1918
New Orleans Coffee Co., Ltd., New Orleans, La. Molasses, syrups, and sorghums	47,529	Nov. 7	119	333
New York Consolidated Card Company, New York, N. Y. Playing-cards	47,550	Nov. 7	119	335
New York Consolidated Card Company, New York, N. Y. Playing-cards	47,853	Nov. 28	119	1251
New York Consolidated Card Company, New York, N. Y. Playing-cards	47,991	Dec. 5	119	1577
New York Consolidated Card Company, New York, N. Y. Playing-cards	48,170	Dec. 12	119	1918
New York Leather Belting Co., New York, N. Y. Bar belt-dressing	47,886	Nov. 28	119	1252
New York Leather Belting Co., New York, N. Y. Belt-dressing	48,110	Dec. 12	119	1916
New York Standard Watch Co., Jersey City, N. J. Watches, watchcases, and watch-movements	48,247	Dec. 19	119	2229
Newton Fire Brick Co., Albany, N. Y. Fire-brick	47,829	Nov. 21	119	958
No-Gon Company, Cleveland, Ohio. Medical compounds for diseases of the urinogenital organs	47,814	Nov. 21	119	958
Norddeutsche Kartoffelmehl-Fabrik mit Beschränkter Haftung, Cüstrin, Brandenburg, Germany. Potato-flour, potato-starch, and dextrin	47,764	Nov. 21	119	956
Norris, Alfred E., Philadelphia, Pa. Whisky	48,248	Dec. 19	119	2229
Norris' Sons, G. G., Cleveland, Ohio. Medicines for stomach and bowel troubles and rheumatic pains	47,921	Nov. 28	119	1253
Noyes-Norman Shoe Co., St. Joseph, Mo. Leather boots and shoes	47,434	Nov. 7	119	330
Oakes & Co., Thos., Bloomfield, N. J. Cloth fabrics for suitings for men and boys	47,974	Nov. 28	119	1255
Openhym & Sons, W., New York, N. Y. Ribbons	47,660	Nov. 14	119	643
Ostermoor & Co., New York, N. Y. Mattresses, pillows, cushions, and hassocks	47,830	Nov. 21	119	958
Ostermoor & Co., New York, N. Y. Mattresses, pillows, cushions, and hassocks	47,831	Nov. 21	119	958
Ostermoor & Co., New York, N. Y. Mattresses, pillows, cushions, and hassocks	47,832	Nov. 21	119	958
Ostermoor & Co., New York, N. Y. Mattresses, pillows, cushions, and hassocks	47,833	Nov. 21	119	958
P. J. Bowlin Liquor Co., St. Paul, Minn. Rum	48,163	Dec. 12	119	1918
P. J. Bowlin Liquor Co., St. Paul, Minn. Stomach-bitters	48,164	Dec. 12	119	1918
P. J. Bowlin Liquor Co., St. Paul, Minn. Brandy	48,181	Dec. 12	119	1918
P. J. Bowlin Liquor Co., St. Paul, Minn. Gin	48,182	Dec. 12	119	1918
P. J. Bowlin Liquor Co., St. Paul, Minn. Cocktails	48,332	Dec. 26	119	2512
Pacific American Fisheries, Portland, Me. Canned salmon	48,288	Dec. 19	119	2230
Packard & Field, Brockton, Mass. Leather boots, shoes, and slippers and upper and sole leather	48,090	Dec. 12	119	1915
Packard & Field, Brockton, Mass. Leather boots, shoes, and slippers and upper and sole leather	48,215	Dec. 19	119	2228
Packard Motor Car Company, Detroit, Mich. Motor-vehicles and parts thereof	47,621	Nov. 14	119	642
Park Steel Company, Pittsburg, Pa. Steel	47,636	Nov. 14	119	642
Park Steel Company, Pittsburg, Pa. Steel	47,637	Nov. 14	119	642
Park Steel Company, Pittsburg, Pa. Steel	47,638	Nov. 14	119	642
Park Steel Company, Pittsburg, Pa. Steel	48,232	Dec. 19	119	2228
Park Steel Company, Pittsburg, Pa. Steel	48,349	Dec. 26	119	2513
Park Steel Company, Pittsburg, Pa. Steel	48,350	Dec. 26	119	2513
Parker Brothers, Inc., Salem, Mass. Card games	47,834	Nov. 21	119	958
Parker, Edward G., Harlan, Iowa. Fire-extinguishers	48,056	Dec. 5	119	1580
Parker, Webb & Co., Detroit, Mich. Hams and bacon	47,681	Nov. 14	119	644
Parks Bros. & Rogers, Providence, R. I. Buttons and studs	47,491	Nov. 7	119	332
Paschall, Lewis M., Minneapolis, Minn. Wheat-flour	48,075	Dec. 5	119	1580
Patterson, George H., and Edward C. Thurnau Publishers Office Appliances, Chicago, Ill. Monthly magazine	47,722	Nov. 14	119	645
Patterson Gottfried & Hunter Ltd., New York, N. Y. Locks, lock-bolts, catches, and latches	47,435	Nov. 7	119	330
Patton-Worsham Drug Co., Dallas, Tex. Remedy for certain named diseases	47,806	Nov. 21	119	957
Patton-Worsham Drug Co., Dallas, Tex. Remedy for certain named diseases	48,180	Dec. 12	119	1918
Peal Medicine Company, Cleveland, Ohio. Compounds designed to cure nervous debility	47,778	Nov. 21	119	956
Peck, Stow & Wilcox Company, Southington, Conn. Scales and scale-beams	48,216	Dec. 19	119	2228
Peet Bros., Philadelphia, Pa. Hooks and eyes	47,906	Nov. 28	119	1253
Pemberton Company, Lawrence and Boston, Mass. Cotton flannel	48,111	Dec. 12	119	1916
Pepper's Sons, Thomas, Ashland, Pa. Whisky	48,137	Dec. 12	119	1917
Pepper's Sons, Thomas, Ashland, Pa. Whisky	48,162	Dec. 12	119	1918
Pepper's Sons, Thomas, Ashland, Pa. Whisky	48,396	Dec. 26	119	2514
Perdue, Levi W., Wilmot, Ark. Remedy for certain named diseases	48,198	Dec. 19	119	2227
Perrine & Son, J. S., Philadelphia Pa. Whisky	48,397	Dec. 26	119	2514
Perry, Josephus, New York, N. Y. Cough medicine	48,204	Dec. 19	119	2227
Perry, Josephus, New York, N. Y. Tonic	48,233	Dec. 19	119	2228
Pettingell-Andrews Company, Boston, Mass. Incandescent lamps	48,076	Dec. 5	119	1581
Pfromm, Adam, Philadelphia, Pa. Bluing	48,422	Dec. 26	119	2515
Philadelphia Clay Company, Philadelphia, Pa. Clay	47,839	Nov. 21	119	959
Philadelphia Textile Machinery Co., Philadelphia, Pa. Driers and parts thereof	48,205	Dec. 19	119	2227
Pillsbury-Washburn Flour Mills Company, Ltd., Minneapolis, Minn. Flour made from wheat	47,530	Nov. 7	119	334
Pittsburgh Milling Co., Pittsburg and Allegheny, Pa. Wheat-flour	48,057	Dec. 5	119	1580
Plant, Alfred, New York, N. Y. Envelope	47,907	Nov. 28	119	1253
Plonsky & Bro., G., New York, N. Y. Skirts	48,372	Dec. 26	119	2513
Plume & Atwood Mfg. Co., Waterbury, Conn., and New York, N. Y. Pins	47,643	Nov. 14	119	642
Plume & Atwood Mfg. Co., Waterbury, Conn., and New York, N. Y. Pins	47,644	Nov. 14	119	642
Plume & Atwood Mfg. Co., Waterbury, Conn., and New York, N. Y. Pins	47,645	Nov. 14	119	642
Portland Packing Company, Portland, Me. Canned vegetables and canned fruits	47,492	Nov. 7	119	333

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Portland Packing Company, Portland, Me. Canned vegetables	47,493	Nov. 7	119	332
Portland Packing Company Portland, Me. Canned vegetables	47,494	Nov. 7	119	332
Portland Packing Company, Portland, Me. Canned vegetables	47,495	Nov. 7	119	332
Portland Packing Company, Portland, Me. Canned vegetables	47,496	Nov. 7	119	332
Postum Cereal Co., Limited, Battlecreek, Mich. Sugar	47,531	Nov. 7	119	334
Preservaline Mfg. Co., New York, N. Y. Certain named chemical preparations	48,430	Dec. 26	119	2516
Prewitt-Spurr Mfg. Co., Nashville, Tenn. Well-buckets	48,112	Dec. 12	119	1916
Providence Belting Company, Providence, R. I. Waterproof leather belting	47,436	Nov. 7	119	330
Providence Belting Company, Providence, R. I. Leather belting	47,723	Nov. 14	119	645
Provident Chemical Works, St. Louis, Mo. Powdered acid phosphate of lime	47,585	Nov. 14	119	640
Provident Chemical Works, St. Louis, Mo. Powdered acid phosphate of lime	47,622	Nov. 14	119	642
R. M. Rose Co., Atlanta, Ga. Whisky	47,565	Nov. 14	119	639
R. M. Rose Co., Atlanta, Ga. Whisky	48,184	Dec. 12	119	1918
Ramsdell, George G., New York, N. Y. Incandescent mantles	48,249	Dec. 19	119	2229
Rauber & Company, John, Rochester, N. Y. Whisky	48,234	Dec. 19	119	2228
Rauber & Company, John, Rochester, N. Y. Whisky	48,398	Dec. 26	119	2514
Regal Shoe Company, Inc., Boston, Mass. Leather boots and shoes	48,351	Dec. 26	119	2513
Reinhard, Meyer & Co., Baltimore, Md. Men's and boys' coats, pants, and vests	48,138	Dec. 12	119	1917
Revere Rubber Company, Boston, Mass. Horseshoe-pads	47,639	Nov. 14	119	642
Rexinger, Gustave, Cincinnati, Ohio. Whisky	48,165	Dec. 12	119	1918
Reymer & Brothers, Incorporated, Pittsburg, Pa. Candy	47,682	Nov. 14	119	644
Reymer & Brothers, Incorporated, Pittsburg, Pa. Candy	48,235	Dec. 19	119	2228
Reymer & Brothers, Incorporated, Pittsburg, Pa. Candy	48,352	Dec. 26	119	2513
Ricca, Joseph, New Orleans, La. Remedy for diseases of the stomach and bowels	47,724	Nov. 14	119	645
Rich & Son, William H., New York, N. Y. Umbrellas	48,353	Dec. 26	119	2513
Riley & Co., Wm. B., Philadelphia, Pa. Lap-coverings	47,545	Nov. 7	119	334
Rio Chemical Co., New York, N. Y. Tonics	48,423	Dec. 26	119	2515
Rio Chemical Co., New York, N. Y. Remedies for blood diseases of the mucous surfaces	48,424	Dec. 26	119	2515
Riverside Metal Co., Riverside, N. J. Metallic alloy and articles of which such alloy forms a part	47,688	Nov. 14	119	644
Robert A. Johnston Co., Milwaukee, Wis. Confection composed of rice and sugar	47,683	Nov. 14	119	644
Robinson, Cecil, Kerrville, Tex. Veterinary antiseptic remedy for screw-worm	48,183	Dec. 12	119	1918
Robt. H. Ingersoll & Bro., New York, N. Y. Watches and clocks	47,471	Nov. 7	119	331
Robt. Reis & Co., New York, N. Y. Mercerized knit cotton underwear	47,532	Nov. 7	119	334
Rocky Mountain Consolidated Company, Denver, Colo. Magazine or periodical	47,725	Nov. 14	119	645
Rodriguez & Teijeiro, New York, N. Y. Cigars	47,546	Nov. 7	119	334
Rodriguez & Teijeiro, New York, N. Y. Cigars	47,547	Nov. 7	119	334
Roessler & Hasslacher Chemical Co., New York, N. Y. Material for insulation	47,735	Nov. 14	119	646
Roessler & Hasslacher Chemical Co., New York, N. Y. Oxid of tin	47,925	Nov. 28	119	1254
Roessler & Hasslacher Chemical Co., New York, N. Y. Compounds for bleaching and washing linens	47,940	Nov. 28	119	1254
Roessler & Hasslacher Chemical Co., New York, N. Y. Quinin	47,962	Nov. 28	119	1255
Romero, Benigno, Las Vegas, N. Mex. Ter. Medicines for external and internal use	47,460	Nov. 7	119	331
Rosemond, Eugene V., New York, N. Y. Hats and bandeaux	47,754	Nov. 21	119	955
Rosenfeld Bros. & Co., Chicago, Ill. Whisky	48,014	Dec. 5	119	1578
Rosenheim & Son, H., Baltimore, Md. Cocktails	47,985	Dec. 5	119	1577
Rosenheim & Son H., Baltimore, Md. Whisky	47,986	Dec. 5	119	1577
Roxbury Distilling Co., Baltimore, Md. Whisky	47,972	Nov. 28	119	1255
Royal Baking Powder Company, New York N. Y. Baking-powder	48,077	Dec. 5	119	1581
Rubber & Celluloid Harness Trimming Company, Newark, N. J. Lather-brushes and brushes for applying fluids to surfaces	47,840	Nov. 21	119	959
Rubovits, L. & I., Chicago, Ill. Cigars	47,835	Nov. 21	119	958
Rueter & Company, (Incorporated), Roxbury, Mass. Ale	47,586	Nov. 14	119	640
Rushton, John H., Canton, N. Y. Canoes	47,437	Nov. 7	119	330
Russell & Lawrie, Tarrytown, N. Y. Antiseptic lubricants	48,443	Dec. 26	119	2516
Russell Manufg. Co., Middletown, Conn. Elastic webbing	47,465	Nov. 7	119	331
Rutherford, Frank P., Philadelphia, Pa. Cure for abscesses in teeth	48,185	Dec. 12	119	1918
Ryan-Hampton Tobacco Co., Newburgh, Ind. Smoking-tobacco	47,461	Nov. 7	119	331
S. Pierce Co., Boston, Mass. Flour	48,266	Dec. 19	119	2229
S. H. Winstead Medicine Co., Paducah, Ky. Preparations for treatment of certain named diseases	47,462	Nov. 7	119	331
S. S. Pierce Co., Boston, Mass. Cigars	47,438	Nov. 7	119	330
S. S. Pierce Co., Boston, Mass. Cigarettes	47,549	Nov. 7	119	335
S. S. Pierce Co., Boston, Mass. Brewed ale	47,587	Nov. 14	119	640
S. S. Pierce Co., Boston, Mass. Cigars	47 703	Nov. 14	119	644
S. S. Pierce Co., Boston, Mass. Cigars	47,704	Nov. 14	119	645
S. S. Pierce Co., Boston, Mass. Cigars	47,705	Nov. 14	119	645
S. S. Pierce Co., Boston, Mass. Cigars	47,706	Nov. 14	119	645
S. S. Pierce Co., Boston, Mass. Cigars	47,707	Nov. 14	119	645
S. S. Pierce Co., Boston, Mass. Cigars	47,708	Nov. 14	119	645
S. S. Pierce Co., Boston, Mass. Cigars	48,018	Dec. 5	119	1578
Sachs and Sons, D., Louisville, Ky. Whisky	47,533	Nov. 7	119	334
Safety Armorite Conduit Company, Pittsburg, Pa. Coated pipes and tubes for electric conduits	47,807	Nov. 21	119	957
Samuel Mundheim Company, New York, N. Y. Hats and caps	48,046	Dec. 5	119	1579
Samuels & Bro., J., Providence, R. I. Men's and boys' hats and caps	48,289	Dec. 19	119	2230
Samuels & Bro., J., Providence, R. I. Hats and caps	48,377	Dec. 26	119	2514
Sanchez y Hermanos, New York, N. Y. Cigars and cheroots	47,684	Nov. 14	119	644
Sanders Manufacturing Co., Tullahoma, Tenn. Overalls	47,534	Nov. 7	119	334
Sandwich Manufacturing Co., Sandwich, Ill. Corn-shellers	48,236	Dec 19	119	2228
Sari, Fernando R., Washington, D. C. Olive-oil	48,378	Dec. 26	119	2514
Schaeffer and Budenberg Mfg. Co., New York, N. Y. Gage-glasses	47,916	Nov. 28	119	1253
Scharff, L. & A., St. Louis, Mo. Whisky	48,316	Dec. 26	119	2511
Scharff, L. & A., St. Louis, Mo. Whisky	48,317	Dec. 26	119	2511
Scheffler, Wm. W., New York, N. Y. Hair-dye	47,497	Nov. 7	119	332
Schilling & Company, A., San Francisco, Cal. Baking-powder, soda, and cream of tartar	47,498	Nov. 7	119	332
Schlichter Jute Cordage Co., Philadelphia, Pa. Rope, cord, and twine	48,037	Dec. 5	119	1579
Schlotterbeck & Foss Co., Portland, Me. Stomachic tonic and digestant	47,779	Nov. 21	119	956
Schmidt & Co., E., Baltimore, Md. Ointment or salve	48,186	Dec. 12	119	1918
Schmidt, Fritz, New York, N. Y. Gloves	47,566	Nov. 14	119	639
Schuyler, Ackley C., New York, N. Y. Aerated waters	48,354	Dec. 26	119	2513
Schwob, Adolphe, New York, N. Y. Watches and parts thereof	48,015	Dec. 5	119	1578
Schwob, Adolphe, New York, N. Y. Watches and parts thereof	48,016	Dec. 5	119	1578
Scutt, Augustus B., New Philadelphia, Ohio. Remedy for diseases of the blood	48,399	Dec. 26	119	2515
Sel-on-Site Manufacturing Company, Cheyenne, Wyo., and Denver, Colo. Cleaning, scouring, and polishing compounds	47,917	Nov. 28	119	1253
Selby Smelting and Lead Company, San Francisco, Cal. Cartridges	48,217	Dec. 19	119	2228
Selby Smelting and Lead Company, San Francisco, Cal. Cartridges	48,379	Dec. 26	119	2514
Sell Horse Goods Company, Canton, Ohio. Horse-boots	47,815	Nov. 21	119	958

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Semon Bache & Company, New York, N. Y. Sheet and picture glass	48,230	Dec. 19	119	2229
Seydel Gum Co., St. Louis, Mo. Chewing-gum	48,017	Dec. 5	119	1578
Shacklady, Charles E., Troy, N. Y. Compound for curing dyspepsia	47,726	Nov. 14	119	645
Shaen, Robert F., Philadelphia, Pa. Woolen and worsted fabrics	47,887	Nov. 28	119	1252
Sharp & Smith, Chicago, Ill. Jock-strap suspensories	48,251	Dec. 19	119	2229
Shea-Bocqueraz Co., San Francisco, Cal. Whisky	48,333	Dec. 26	119	2512
Shepard, Norwell Company, Boston, Mass. Children's leather shoes	47,727	Nov. 14	119	645
Sherman Brothers and Company, Chicago, Ill. Tea	48,078	Dec. 5	119	1581
Shimer, Elmer S., Milton, Pa. Antifriction metals	48,360	Dec. 26	119	2514
Shute, William T., Gloucester, Mass. Dried, smoked, pickled, salted, and canned fish	48,079	Dec. 5	119	1581
Shute, William T., Gloucester, Mass. Dried, smoked, pickled, salted, and canned fish	48,080	Dec. 5	119	1581
Shute, William T., Gloucester, Mass. Dried, smoked, pickled, salted, and canned fish	48,166	Dec. 12	119	1918
Sibley, William E., Freeport, Ill. Spices of all varieties	48,081	Dec. 5	119	1581
Sieber & Trussell Mfg. Co., St. Louis, Mo. Loose-leaf binders	47,908	Nov. 28	119	1253
Sieber & Trussell Mfg. Co., St. Louis, Mo. Loose-leaf binders	47,909	Nov. 28	119	1253
Sieber & Trussell Mfg. Co., St. Louis, Mo. Loose-leaf binders	47,910	Nov. 28	119	1253
Siegel, Cooper & Co., Chicago, Ill. Flavoring extracts	47,911	Nov. 28	119	1253
Siegel, Cooper & Co., Chicago, Ill. Cider	47,490	Nov. 7	119	332
Siegel, Cooper & Co., Chicago, Ill. Sewing-machines	47,661	Nov. 14	119	643
Siegel, Cooper & Co., Chicago, Ill. Canned fish	47,728	Nov. 14	119	645
Siegel, Cooper & Co., Chicago, Ill. Canned vegetables	48,058	Dec. 5	119	1580
Siegel, Cooper & Co., Chicago, Ill. Canned fruits	48,059	Dec. 5	119	1580
Silver & Company, New York, N. Y. Bath-room fittings	48,082	Dec. 5	119	1581
Singer, Nimick & Co., Inc., Pittsburg, Pa. Steel	47,836	Nov. 21	119	958
Sinnock & Sherrill, New York, N. Y. Society emblems	48,334	Dec. 26	119	2512
Slatington-Bangor Slate Syndicate, Slatington, Pa. Roofing-slate	47,548	Nov. 7	119	334
Sleepy Eye Milling Company, Sleepyeye, Minn. Wheat-flour	48,139	Dec. 12	119	1917
Sleepy Eye Milling Company, Sleepyeye, Minn. Cereal coffee	47,702	Nov. 14	119	644
Smalley, Albert G., Boston, Mass. Glass fruit-jars	48,167	Dec. 12	119	1918
Smith, Ada L., New York, N. Y. Tonic and blood-purifier	48,030	Dec. 5	119	1579
Smith & Brother, C. B., Boston, Mass. Wheat-flour	47,808	Nov. 21	119	957
Smith, Charles E. R., Philadelphia, Pa. Tablets for certain named diseases	48,255	Dec. 19	119	2229
Smith, F. G., New York, Brooklyn, and Saratoga Springs, N. Y.; Newark and Jersey City, N. J.; Washington, D. C.; Chicago, Ill., and St. Louis and Kansas City, Mo. Pianos	47,729	Nov. 14	119	646
Smith, Hogg & Co., New York, N. Y. Cotton and part-cotton piece goods	48,252	Dec. 19	119	2229
Smith-Worthington Company, Hartford, Conn., and New York, N. Y. Bits, stirrups, spurs, and harness-buckles	48,091	Dec. 12	119	1915
Snyder Yeast Company, Arkansas City, Kans. Yeast	48,094	Dec. 12	119	1915
Société Anonyme "Luna," Lausanne, Switzerland. Photographic paper and films	47,958	Nov. 28	119	1255
Southwestern Broom Mfg. Co., Evansville, Ind. Brooms and whisk-brushes	48,381	Dec. 26	119	2514
Southwestern Broom Mfg. Co., Evansville, Ind. Brooms and whisk-brushes	47,736	Nov. 14	119	646
Spanish-American Food Co., San Francisco, Cal. Tamales, enchiladas, frijoles, and chilli con-carne	47,841	Nov. 21	119	959
Spartanburg Fertilizer Co., Spartanburg, S. C. Artificial fertilizers	48,382	Dec. 26	119	2514
Speidel, John G., Reading, Pa. Chain-blocks for hoisting machinery	47,730	Nov. 14	119	646
Spencer, Clinton A., Boston, Mass. Extracts of woods and barks for tanning and dyeing	47,912	Nov. 28	119	1253
Spirella Company, Meadville, Pa. Stays	47,800	Nov. 21	119	957
Sprague Electric Company, New York, N. Y. Dynamo-electric motors and generators	47,689	Nov. 14	119	644
Staab, Catherine A., Cleveland, Ohio. Plasters	47,913	Nov. 28	119	1253
Stackite Paint Co., Boston, Mass. Locomotive-paint	47,957	Nov. 28	119	1255
Stadecker & Emsheimer, New York, N. Y. Materials used for bonnets and hat-frames	47,500	Nov. 7	119	332
Standard Emulsion Company, New York, N. Y. Emulsions	47,888	Nov. 28	119	1252
Standard Paper Mfg. Co., Manchester, Va. Blotting-paper	47,623	Nov. 14	119	642
Standard Rivet Company, Boston, Mass. Rivets and spots	48,031	Dec. 5	119	1579
Standard Varnish Works, New York, N. Y. Certain named paints and supplies	46,646	Nov. 14	119	642
Stanley, Clark, Providence, R. I. Liniment	47,851	Nov. 28	119	1251
Staples & Hanford Co., Newburgh, N. Y. Springwork and wire-spring supports for chairs, sofas, beds, and carriage-seats	48,425	Dec. 26	119	2515
Star Distillery Company, Cincinnati, Ohio. Whisky	48,032	Dec. 5	119	1579
Star Distillery Company, Cincinnati, Ohio. Whisky	47,926	Nov. 28	119	1254
Star Distillery Company, Cincinnati, Ohio. Whisky	47,927	Nov. 28	119	1254
Star Distillery Company, Cincinnati, Ohio. Whisky	47,929	Nov. 28	119	1254
Stein, Sigmund, New York, N. Y. Human-hair goods	48,238	Dec. 19	119	2228
Stemmler, Theodore W., New York, N. Y. Liquid paint and primer	48,199	Dec. 19	119	2227
Stern, Paul J., Milwaukee, Wis. Zwieback	47,501	Nov. 7	119	332
Stern & Saalberg Company, New York, N. Y. Chocolates and chocolate bonbons	48,083	Dec. 5	119	1581
Stetson Company, John B., Philadelphia, Pa. Hats and caps	47,568	Nov. 14	119	639
Steuart Knatz & Co., Baltimore, Md. Syrups and molasses	47,775	Nov. 21	119	956
Stewart Brothers Company, Omaha, Nebr. Teas	48,060	Dec. 5	119	1580
Stewart Silk Company, Easton, Pa., and New York, N. Y. Silk fabric	47,781	Nov. 21	119	956
Stickney & Poor Spice Company, Boston, Mass. Mustard and spices	48,092	Dec. 12	119	1915
Stickney & Poor Spice Company, Boston, Mass. Mustard	48,267	Dec. 19	119	2229
Stitzel Distilling Company, Louisville, Ky. Whisky	48,268	Dec. 19	119	2229
Stitzel Distilling Company, Louisville, Ky. Whisky	47,987	Dec. 5	119	1577
Strasburg Steam Flouring Mills, Strasburg, Va. Wheat-flour	48,019	Dec. 5	119	1578
Strause, Henry P., New York, N. Y. Cigarettes	48,061	Dec. 5	119	1580
Strauss & Co., F., Cincinnati, Ohio. Whisky	48,383	Dec. 26	119	2514
Strawbridge & Clothier, Philadelphia, Pa. Corsets	48,290	Dec. 19	119	2230
Strong, Cobb & Co., Cleveland, Ohio. Remedy for blood dyscrasia	47,685	Nov. 14	119	644
Strope, Ben B., Coshocton, Ohio. Printed or lithographed pictures, plaques, and designs	47,780	Nov. 21	119	956
Suffern, & Co., New York, N. Y. Cotton piece goods	47,731	Nov. 14	119	646
Sultan Drug Co., St. Louis, Mo. Remedies for diseases of the stomach and bowels	47,709	Nov. 14	119	645
Sunset Distilling Co., Chicago, Ill. Bitters	47,817	Nov. 21	119	958
Sunset Distilling Co., Chicago, Ill. Whisky	47,567	Nov. 14	119	639
Superior Renovator Company, Easton, Pa. Renovator for painted, varnished, and japanned surfaces	48,291	Dec. 19	119	2231
Sutton, Charles W., Indianapolis, Ind. Shoe dressing, blacking, polish, and preservative	47,662	Nov. 14	119	643
Swan, Thomas H., Boston, Mass. Whisky	48,269	Dec. 19	119	2230
T. G. Hawkes & Co., Corning, N. Y. Cut and engraved glass	48,187	Dec. 12	119	1918
Taunton-New Bedford Copper Company, Taunton, Mass., and New York, N. Y. Sheets and bars and sheathing of brass or copper or alloys thereof	48,400	Dec. 26	119	2515
Taylor & Williams, Louisville, Ky. Whisky	47,439	Nov. 7	119	330
Taylor & Williams, Louisville, Ky. Whisky	47,535	Nov. 7	119	334
Telfer, Francis G., New York, N. Y. Hair-tonics and hair-dyes	48,335	Dec. 26	119	2512
Tennessee Chemical Company, Davidson county, Tenn. Guano	48,355	Dec. 26	119	2513
	48,093	Dec. 12	119	1915

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Tennessee Packing & Provision Company, Nashville, Tenn. Lard	48,140	Dec. 12	119	1917
Theo. Hamm Brewing Co., St. Paul, Minn. Beer	47,611	Nov. 14	119	641
Theo. Hamm Brewing Co., St. Paul, Minn. Malt extracts	47,612	Nov. 14	119	641
Theobald and Son Co., Columbus, Ohio. Whisky	48,293	Dec. 19	119	2231
Theobald and Son Co., Columbus, Ohio. Whisky	48,299	Dec. 19	119	2231
Theobald and Son Co., Columbus, Ohio. Bitters	48,318	Dec. 26	119	2511
Theobald and Son Co., Columbus, Ohio. Bitters	48,319	Dec. 26	119	2511
Theobald and Son Co., Columbus, Ohio. Bitters	48,320	Dec. 26	119	2511
Thermalite Company, New York, N. Y. Heat-storing devices	48,431	Dec. 26	119	2516
Thompson, Horace, Concord, N. H. Brooms	48,171	Dec. 12	119	1918
Threefoot Bros. & Co., Meridian, Miss. Smoking-tobacco	47,995	Dec. 5	119	1577
Toch Brothers, New York, N. Y. Cement preparation for coating metals and other surfaces	47,842	Nov. 21	119	959
Toch Brothers, New York, N. Y. Water and stain proofing liquid	48,432	Dec. 26	119	2516
Toch Brothers, New York, N. Y. Tinters for mortar or plaster compounds	48,433	Dec. 26	119	2516
Tomson & Co., P. C., Philadelphia, Pa. Lye	47,475	Nov. 7	119	331
Towle Mfg. Company, Newburyport, Mass. Table-silverware	47,551	Nov. 7	119	335
Tredair Rubber Company, Boston, Mass. Elastic pads and cushions for the bottoms of boots and shoes	48,116	Dec. 12	119	1916
Tremont & Suffolk Mills, Lowell, Mass. Cotton piece goods	47,843	Nov. 21	119	959
Trost Bros., Louisville, Ky. Whisky	47,614	Nov. 14	119	641
Union Mills, Boston, Mass., and Hudson, Mechanicsville, and New York, N. Y. Fleece-lined cotton undershirts and drawers	48,294	Dec. 19	119	2231
Union Special Machine Company, Chicago, Ill. Sewing-machines and parts thereof	48,038	Dec. 5	119	1579
United Society of Christian Endeavor, Boston, Mass. Flags and banners	47,816	Nov. 21	119	958
United States Leather Company, New York, N. Y. Hemlock sole-leather	47,665	Nov. 14	119	643
United States Playing Card Co., Cincinnati, Ohio. Card games	47,854	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,855	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,856	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,857	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,858	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,859	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,860	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,862	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,863	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,864	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,865	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,866	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,867	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,868	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,869	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,870	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,871	Nov. 28	119	1251
United States Playing Card Co., Cincinnati, Ohio. Card games	47,872	Nov. 28	119	1252
United States Playing Card Co., Cincinnati, Ohio. Card games	47,873	Nov. 28	119	1252
United States Playing Card Co., Cincinnati, Ohio. Card games	47,874	Nov. 28	119	1252
United States Playing Card Co., Cincinnati, Ohio. Card games	47,875	Nov. 28	119	1252
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	47,992	Dec. 5	119	1577
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	47,993	Dec. 5	119	1577
United States Playing Card Co., Cincinnati, Ohio. Card games	48,260	Dec. 19	119	2229
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	48,357	Dec. 26	119	2513
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	48,386	Dec. 26	119	2514
Uricsol Chemical Co., Los Angeles, Cal. Remedy for certain named diseases	47,591	Nov. 14	119	640
Utica Canning Company, Utica, N. Y. Canned fruits and vegetables	47,784	Nov. 21	119	956
Utz & Dunn, Rochester, N. Y. Leather boots and shoes	48,434	Dec. 26	119	2516
Valentine's Meat Juice Company, Richmond, Va. Preparations of meat juice	48,359	Dec. 26	119	2513
Valentine's Meat Juice Company, Richmond, Va. Extracts of meat	48,360	Dec. 26	119	2513
Valley Chemical Co., Incorporated, Danbury, Conn. Tonic	47,930	Nov. 28	119	1254
Valvoline Oil Company, Edgewater, N. J., and New York, N. Y. Illuminating-oils	47,668	Nov. 14	119	643
Van Arsdale, William, Racine, Wis. Safety driving-bits	47,440	Nov. 7	119	330
Van Brunt Mfg. Co., Horicon, Wis. Grain drills and seeders	47,918	Nov. 28	119	1253
Vaporene Mfg. Co., Holdrege, Nebr. Roup cure and louse and mite destroyer	48,206	Dec. 19	119	2227
Varwig & Son, H., Portland, Oreg. Whisky	47,941	Nov. 28	119	1254
Venesta Limited, London, England. Compound sheets of wood made of several thin layers united by a waterproof composition and boxes made therefrom	48,023	Dec. 5	119	1578
Victor Talking Machine Company, Camden, N. J. Cigars and cigarettes made from cigar-tobacco	47,737	Nov. 14	119	646
Voigt & Co., Chattanooga, Tenn. Tonic	48,193	Dec. 12	119	1919
W. C. & F. P. Church, Incorporated, New York, N. Y. Weekly newspaper	48,407	Dec. 26	119	2515
W. C. Robinson & Son Co., Baltimore, Md. Lubricating-oils	47,509	Nov. 7	119	333
W. H. Comstock Company, Limited, Morristown, N. Y. Worm-pellets	47,963	Nov. 28	119	1255
W. H. Rankin Company, Elizabeth, N. J. Felt and sheathing paper	47,845	Nov. 21	119	959
W. J. Jennison Company, Minneapolis, Minn. Wheat-flour	47,624	Nov. 14	119	642
W. W. Kimball Company, Chicago, Ill. Cabinet-organs	48,435	Dec. 26	119	2516
Wagoner, Henry V., New York, N. Y. Linen writing-paper	47,420	Nov. 7	119	329
Waite, Charles M., New York, N. Y. Popcorn and candied popcorn	47,964	Nov. 28	119	1255
Walker & Whitman, Campello, Mass. Leather boots and shoes	48,361	Dec. 26	119	2513
Ware-Standard Mfg. Co., New York, N. Y. Food-receptacles	47,441	Nov 7	119	330
Warner & Co., Wm. R., Vergennes, Vt. Remedy for asthma and asthmatic diseases	47,965	Nov. 28	119	1255
Warren Brothers Company, Boston, Mass. Bituminous pavements	47,476	Nov 7	119	331
Washburn-Crosby Company, Minneapolis, Minn. Wheat-flour	47,508	Nov. 7	119	333
Watson Shoe Co., Lynn, Mass. Shoes made of leather and canvas	47,647	Nov. 14	119	642
Webley & Scott Revolver & Arms Co., Ld., Birmingham, England. Firearms	48,404	Dec. 26	119	2515
Webley & Scott Revolver & Arms Co., Ld., Birmingham, England. Firearms	48,405	Dec. 26	119	2515
Weck, Edward, New York, N. Y. Pocket and pen knives	48,408	Dec. 26	119	2515
Weeks, Edward C., New York, N. Y. Corsets	47,757	Nov. 21	119	955
Weideman Company, Cleveland, Ohio. Whisky	47,994	Dec. 5	119	1577
Weinreich, Joseph, Dayton, Ohio. Cigars	47,442	Nov. 7	119	330
Wellington, Sears & Co., Boston, Mass. Cotton drills	48 048	Dec. 5	119	1580
Wessell, Nickel & Gross, New York, N. Y. Piano-actions	48,261	Dec. 19	119	2229
Westheimer & Son Wholesale Liquor Company, Samuel, St. Joseph, Mo. Whisky	47,569	Nov. 14	119	639
Wheeler Condenser & Engineering Co., New York, N. Y. Evaporating and distilling apparatus	48,409	Dec. 26	119	2515
Whitcher, Frank W., Boston, Mass. Needles	47,844	Nov. 21	119	959
White, Hentz & Co., Philadelphia, Pa. Whisky	47,570	Nov. 14	119	639
White, Hentz & Co., Philadelphia, Pa. Whisky	47,995	Dec. 5	119	1577
Whitman Grocery Company, Orange, Mass. Prepared gelatin	48,295	Dec. 19	119	2231
Whitman Grocery Company, Orange, Mass. Prepared tapioca	48,387	Dec. 26	119	2514
Whitney & Company, Leominster, Mass. Folding paper boxes	47,667	Nov. 14	119	643

Alphabetical list of registrants of trade-marks for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Whitney, Joseph B., New York, N. Y. Ribbons	47,666	Nov. 14	119	643
Whittemore Brothers and Company, Cambridge, Mass. Shoe polishers and daubers	47,510	Nov. 7	119	333
Wightman & Hough Co., Providence, R. I. Miniature bracelets, lockets, and brooches	47,890	Nov. 28	119	1252
Wiley & Russell Mfg. Co., Greenfield, Mass. Screw-plates, taps and dies, bolt-cutters, and nut-tappers	47,444	Nov. 7	119	330
Wiley & Russell Mfg. Co., Greenfield, Mass. Certain named tools	47,648	Nov. 14	119	642
William A. Hardy & Son's Co., Fitchburg, Mass. Antifriction metal	48,218	Dec. 19	119	2228
William H. Lee & Co., St. Louis, Mo. Whisky	48,314	Dec. 26	119	2511
William H. Lee & Co., St. Louis, Mo. Whisky	48,315	Dec. 26	119	2511
Willmann, William G., New York, N. Y. Writing-paper	47,443	Nov. 7	119	330
Wilson, George C., Tyrone, Pa. Salves for the treatment of the skin	47,467	Nov. 7	119	331
Winand, John P., Baltimore, Md. Whisky	47,997	Dec. 5	119	1578
Wingo, Elliett & Crump Shoe Co., Richmond, Va. Leather boots and shoes	47,785	Nov. 21	119	956
Wiseola Co., Birmingham, Ala. Non-alcoholic tonic beverage	48,358	Dec. 26	119	2513
Wm. Bergenthal Co., Milwaukee, Wis. Whisky	47,466	Nov. 7	119	331
Wm. Bergenthal Co., Milwaukee, Wis. Whisky	47,507	Nov. 7	119	333
Wm. Bergenthal Co., Milwaukee, Wis. Brandy	48,192	Dec. 12	119	1919
Wm. H. Holmes Co., Pittsburg, Pa. Whisky	48,406	Dec. 26	119	2515
Wm. Hoelscher & Co., Inc., San Francisco, Cal. Whisky	47,942	Nov. 28	119	1254
Wolff & Sons, D., Oklahoma, Okla. Ter. Whisky	47,943	Nov. 28	119	1254
Wolff & Sons, D., Oklahoma, Okla. Ter. Whisky	47,944	Nov. 28	119	1254
Wolfson, Rudolph, Kansas City, Mo. Whisky	47,998	Dec. 5	119	1578
Woodman-Davis Co., Worcester, Mass. Tooth-dentifrice in powder, liquid, and paste form	48,194	Dec. 12	119	1919
Wright & Taylor, Louisville, Ky. Whisky	47,571	Nov. 14	119	639
Wright & Taylor, Louisville, Ky. Whisky	47,999	Dec. 5	119	1578
Wright & Taylor, Louisville, Ky. Whisky	48,024	Dec. 5	119	1579
Y. Pendas & Alvarez, New York, N. Y. Cigars	47,625	Nov. 14	119	642
Young, George C., Jackson, Mich. Absorbent pads or plasters	47,649	Nov. 14	119	643
Young, Mary C., New Orleans, La. Baking-powder	47,511	Nov. 7	119	333
Yucca Co., Wichita Kans. Salve	47,783	Nov. 21	119	956
Zeltner Brewing Co., New York, N. Y. Lager-beer	47,572	Nov. 14	119	639

ALPHABETICAL LIST OF REGISTRANTS OF LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Volume.	Page.
Adamson, T. S., Louisville, Ky. "Leather Oil." (For Shoe-Polish)	12,485	Nov. 14	119	647
Albion Mfg. Co., New York, N. Y. "Blackoline." (For Shoe-Dressing)	12,484	Nov. 14	119	647
Art Organ Company, New York, N. Y. "The Ideal Chamber Organ Orgue de Salon." (For Organs)	12,520	Nov. 28	119	1256
Barrows Milling Co., Lorain, Ohio. "Germ Flake." (For Pancake-Flour)	12,579	Dec. 26	119	2517
Bateman Brothers, Seymour, Iowa. "Bateman's Eczematine." (For a Medicine)	12,445	Nov. 7	119	336
Beards, Abraham, Brooklyn, N. Y. "Beard's Natural Finish." (For Shoe-Dressings)	12,446	Nov. 7	119	336
Becker, Simon, Spartanburg, S. C. "Colonial Ginger Ale." (For Ginger-Ale)	12,477	Nov. 14	119	647
Begy, Joseph A., Rochester, N. Y. "Borala Powder." (For a Medicine)	12,501	Nov. 28	119	1256
Benold, F. H., Chicago, Ill. "Benold's Health Bread." (For Bread)	12,447	Nov. 7	119	336
Berkson Bros., Chicago, Ill. "Jim Key." (For Cigars)	12,562	Dec. 19	119	2232
Bethesda Cigar Co., Bethesda, Ohio. "The Black Ball Cigar." (For Cigars)	12,448	Nov. 7	119	336
Beyer, Wesley B., Birdsboro, Pa. "Uncle Sam, U. S. Army Standard." (For Seamless Half-Hose)	12,568	Dec. 19	119	2232
Beyer, Wesley B., Birdsboro, Pa. "U. S. Army Standard." (For Seamless Half-Hose)	12,569	Dec. 19	119	2232
Billsoly, P. C., Norfolk, Va. "Billsoly's Headache Powders." (For Headache-Powders)	12,449	Nov. 7	119	336
Bowers, H. L., Mansfield, Ohio. "Bill William." (For Cigars)	12,450	Nov. 7	119	336
Brin, Joseph J., Chicago, Ill. "Dr. Pierre's Sangui-Neuro." (For Medicine)	12,525	Dec. 5	119	1582
Brin, Joseph J., Chicago, Ill. "Dr Pierre's Livro-Tone." (For Medicine)	12,526	Dec. 5	119	1582
Broadwater County Creamery Co., Townsend, Mont. "Primrose Brand." (For Butter)	12,451	Nov. 7	119	336
Cargill-Wight Co., Columbus, Ga. "Car-Wi-Co. Georgia Syrup." (For Syrup)	12,542	Dec. 12	119	1920
Castle Bros., Incorporated, San Francisco, Cal. "Select Pack California Moorpark Apricots." (For Dried Fruit)	12,580	Dec. 26	119	2517
Chas. Jacquin et Cie., Inc., New York, N. Y. "Fernet Ricca." (For Bitters)	12,575	Dec. 26	119	2517
Church, William, Chicago, Ill. "Paris Antiseptic Dental Plaster." (For Antiseptic Plaster)	12,583	Dec. 26	119	2517
Curtiss Manufacturing Co., Denver, Colo. "G. L. G." (For Medicine)	12,529	Dec. 5	119	1582
Davis, John C (See Graffort and Davis.)				
De Felice, Dr. Carlo, Brooklyn, N. Y. "Colombo Bitters." (For Medicine)	12,574	Dec. 26	119	2517
Delatisky & Son, I., Chicago, Ill. "Queen Aroma." (For Cigars)	12,540	Dec. 12	119	1920
Deutsch, Rudolph, New York, N. Y. "Moravian Rugs." (For Rugs)	12,521	Nov. 28	119	1256
Dr. Dick's Malted Stock Food Co., Davenport, Iowa. "Dr. Dick's Malted Poultry Food." (For Poultry-Food)	12,531	Dec. 5	119	1582
Erlich, Jacob, New York, N. Y. "J. E. C. Sanitary Make. The Daphne Shirt Waist Suit." (For Shirt-Waist Suits)	12,483	Nov. 14	119	647
Fechteler, William, Kansas City, Mo. "Rouser." (For Medicine)	12,538	Dec. 5	119	1582
Feder, Mamie, New York, N. Y. "Madam Mayme's Specific for the Eradication of Superfluous Hair." (For a Specific for the Eradication of Superfluous Hair)	12,471	Nov. 14	119	647
Flegenheimer Bros. Inc., New York, N. Y. "Magneto Cocktails." (For Cocktails)	12,510	Nov. 28	119	1256
Flegenheimer Bros. Inc., New York, N. Y. "Medico Gin." (For Holland Gin)	12,511	Nov. 28	119	1256
Flegenheimer Bros. Inc., New York, N. Y. "Congo-Blackberry." (For Blackberry Brandy)	12,512	Nov. 28	119	1256
Flegenheimer Bros. Inc., New York, N. Y. "Pulmo Rock and Rye." (For Rye Whisky)	12,513	Nov. 28	119	1256
Flegenheimer Bros. Inc., New York, N. Y. "Columbia Malt Whiskey." (For Malt Whisky)	12,514	Nov. 28	119	1256
Flegenheimer Bros. Inc., New York, N. Y. "Cresto Rye." (For Rye Whisky)	12,515	Nov. 28	119	1256
Garst, I. C. Hinkle, Villa Rica, Ga. "Gastro Cura." (For Medicine)	12,493	Nov. 21	119	960
Geo. Esselmann Company, Baltimore, Md. "Esselmann Frame for Quality." (For Frames)	12,519	Nov. 28	119	1256
Gillies & Co., Edwin J., New York, N. Y. "Ox-Cart." (For Coffee)	12,452	Nov. 7	119	336
Glancy, William F., Manchester, N. H. "Tomatoee." (For a Beverage)	12,487	Nov. 21	119	960
Goldberg & Finkelstein, Scranton, Pa. "Sparklingstone." (For Cigars)	12,539	Dec. 12	119	1920
Graffort, Lory J., and J. C. Davis, New Carlisle, Ind. "Osmosoline." (For Antiseptic Dressing)	12,469	Nov. 14	119	647
Heller & Co., B., Chicago, Ill. "Freeze-em Pickle." (For Pickle Compounds)	12,488	Nov. 21	119	960
Heller, Robert, Chicago, Ill. "X Ray Liniment." (For Liniment)	12,536	Dec. 5	119	1582
Henschel & Co., A. C., Chicago, Ill. "La Albula." (For Cigars)	12,523	Dec. 5	119	1582
Higbee, Lyda A., New York, N. Y. "Higbee Headache Cologne." (For Cologne)	12,489	Nov. 21	119	960
Higgins, Matilda B. B., Georgetown, Ohio. "Mothers Magic Colic Cure." (For Medicine)	12,467	Nov. 14	119	647
Hogg, Leo A., Buffalo, N. Y. "Red Star Medicated Cough Drops." (For Cough-Drops)	12,496	Nov. 21	119	960
Horlacher, Fred H., Allentown, Pa. "Perfection, Guaranteed Nine Months Old." (For Beer)	12,509	Nov. 28	119	1256
Horlacher, Fred H., Allentown, Pa. "Horlacher." (For Beer)	12,522	Dec. 5	119	1582
Horle, Francis A., Boston, Mass. "Bostonian Cap." (For Cloth Caps)	12,478	Nov. 14	119	647
Horle, Francis A., Boston, Mass. "Fine Cloth Caps." (For Cloth Caps)	12,479	Nov. 14	119	647
Horle, Francis A., Boston, Mass. "Fine Cloth Caps." (For Cloth Caps)	12,480	Nov. 14	119	647
Horle, Francis A., Boston, Mass. "Fine Cloth Caps." (For Cloth Caps)	12,481	Nov. 14	119	647
Horle, Francis A., Boston, Mass. "Fine Cloth Caps." (For Cloth Caps)	12,482	Nov. 14	119	647
Horton, Arthur E., Boston, Mass. "The American Bureau of Information." (For Publications Relating to National Industries)	12,552	Dec. 12	119	1920
Hosterman, John H., Everett, Mass. "Hosterman's Equine Invincible Healer." (For Ointment)	12,543	Dec. 12	119	1920
Joliet Bottling Company, Joliet, Ill. "Liebotschaner." (For Beer)	12,541	Dec. 12	119	1920
Judson & Co., P. O., New York, N. Y. "True to Nature." (For Linoleum)	12,587	Dec. 26	119	2517
Knecht, Joseph, Cincinnati, Ohio. "La Pampas." (For Cigars)	12,503	Nov. 28	119	1256
Lampe & Co., Karl, Philadelphia, Pa. "Kulmbacher." (For Beer)	12,476	Nov. 14	119	647
Larkin, Peter C., Toronto, Canada. "Salada." (For Tea)	12,486	Nov. 21	119	960
Larkin, Peter C., Toronto, Canada. "Salada, 15 cents, Ceylon and India Green Tea." (For Tea)	12,504	Nov. 28	119	1256
Larkin, Peter C., Toronto, Canada. "Salada, 20 cents, Black." (For Tea)	12,505	Nov. 28	119	1256
Larkin, Peter C., Toronto, Canada. "Salada, 15 cents, Black." (For Tea)	12,506	Nov. 28	119	1256
Larkin, Peter C., Toronto, Canada. "Salada, 20 cents, Ceylon and India Green." (For Tea)	12,507	Nov. 28	119	1256
Leslie, Dunham & Co., New York, N. Y. "Leslie's Vermont Syrup, Rock Maple Brand." (For Syrup)	12,532	Dec. 5	119	1582
Magidson Bros., Chicago, Ill. "Masetto." (For Cigars)	12,573	Dec. 26	119	2517
Markovitz, Jacob, Baltimore, Md. "B. & O. Central." (For Cigars)	12,570	Dec. 26	119	2517
Maspero, C., New York, N. Y. "Saporoso." (For Bologna)	12,534	Dec. 5	119	1582
McGrew, James C., Lexington, Mo. "Electric Lump." (For Coal)	12,535	Dec. 5	119	1582
McLaughlin, Harry G., Kansas City, Mo. "Athlone a Scientific Combination Home Treatment for All Rectal Diseases." (For Medicine)	12,566	Dec. 19	119	2232
McLeod & Ormsbee, Utica, N. Y. "McLeod's Highland Club Cheese." (For Club Cheese)	12,533	Dec. 5	119	1582
Miller Mfg. Co., Lincoln, Nebr. "Anti-Mole." (For a Mole-Remover)	12,453	Nov. 7	119	336

Alphabetical list of registrants of labels for November and December—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Minero-Chemical Co., St. Paul, Minn. "Owatonna Vichy." (For Mineral Water)	12,508	Nov. 28	119	1256
Missouri Chemical Company, St. Louis, Mo. "Cascara Jellettes." (For Medicine)	12,494	Nov. 21	119	960
Morris Morton Drug Co., Fort Smith, Ark. "Swamp Chill and Fever Cure." (For Medicine)	12,582	Dec. 26	119	2517
N. Benjamin Son, Inc., Brooklyn, N. Y. "Ben's Brilliant Beer." (For Beer)	12,577	Dec. 26	119	2517
Nelson, Alonzo E., Campello, Mass. "Eden Garden Remedy." (For Medicine)	12,500	Nov. 28	119	1256
Palmer, Harvey H., New York, N. Y. "Palmetto." (For Coffee)	12,474	Nov. 14	119	647
Palmer, Harvey H., New York, N. Y. "Palmetto." (For Tea)	12,475	Nov. 14	119	647
Palmetto Paint M'f'g Co., Columbia, S. C. "Palmetto The Paint for the South." (For Paints, Stains, and Tinting Colors)	12,537	Dec. 5	119	1582
Payne, Arthur V., Brooklyn, N. Y. "Pulmonol." (For a Liquid Specific for Lung Diseases)	12,454	Nov. 7	119	336
Phillips, Marie A., Atlanta, Ga. "Mo Hair." (For Hair-Tonic)	12,455	Nov. 7	119	336
Pollack Stogie Company, Pittsburg, Pa. "Pollack's Perfect." (For Stogies)	12,490	Nov. 21	119	960
Posbergh & Co., C. F., New York, N. Y. "Forjada." (For Tea)	12,578	Dec. 26	119	2517
Posner Brothers, New York, N. Y. "Posner Bros. Excilaiter Dandruff Cure." (For Hair-Tonic)	12,581	Dec. 26	119	2517
Poythress & Co., Wm. P., Richmond, Va. "Cold and Grippe Cure No. 4." (For Medicine)	12,527	Dec. 5	119	1582
Princeton Cigar Co., Chicago, Ill. "The Panama Zone." (For Cigars)	12,491	Nov. 21	119	960
Quiri, Edward A., Amsterdam, N. Y. "Adirondack Line." (For Shoes)	12,550	Dec. 12	119	1920
R. Steinecke Company, New York, N. Y. "R. Steinecke Co." (For Cigars)	12,571	Dec. 26	119	2517
Ray & Downey, Washington, D. C. "Ray's Dandruff Cure and Hair Invigorator." (For Hair-Invigorator)	12,470	Nov. 14	119	647
Reid, Robert W., Brooklyn, N. Y. "Primrose." (For Offset-Traps)	12,456	Nov. 7	119	336
Reighter, Frank C., Chicago, Ill. "Pomo-Ferrum." (For Medicine)	12,524	Dec. 5	119	1582
Reitz Medicine Co., Dr. J. B., Chicago, Ill. "Reitzerine." (For a Toilet Preparation)	12,530	Dec. 5	119	1582
Richmond Cedar Works, Richmond, Va. "Snow-Ball Freezer." (For Ice-Cream Freezers)	12,584	Dec. 26	119	2517
Riley, John S., Chester Park, Brooklyn, N. Y. "Ireno." (For Hair-Tonic)	12,544	Dec. 12	119	1920
Robillard, Ovide, Paris, France. "Propriété Privee, Vichy-Cusset, Autorisee par l'Etat." (For Vichy Water)	12,564	Dec. 19	119	2232
Roby & Lynn, Barnesville, Ohio. "Chestnut Burr." (For Cigars)	12,457	Nov. 7	119	336
Roby & Lynn, Barnesville, Ohio. "Chestnut Knockers." (For Cigars)	12,458	Nov. 7	119	336
S. W. Noggle Wholesale & Mfg. Co., Kansas City, Mo. "Hot Stuff." (For a Tonic and Relish)	12,576	Dec. 26	119	2517
Saginaw Kiss Company, Saginaw, Mich. "Mother's Kisses." (For Candy)	12,499	Nov. 28	119	1256
Saltzman, Mary P. E., Des Moines, Iowa. "Curoso." (For Ointment)	12,535	Dec. 5	119	1582
Schmidt & Co., New York, N. Y. "Ben Bey." (For Cigars)	12,459	Nov. 7	119	336
Schmidt & Co., New York, N. Y. "Compliments of the Season." (For Cigars)	12,553	Dec. 19	119	2232
Schmidt & Co., New York, N. Y. "Liberty Tie." (For Cigars)	12,554	Dec. 19	119	2232
Schmidt & Co., New York, N. Y. "Old Cubana." (For Cigars)	12,555	Dec. 19	119	2232
Schmidt & Co., New York, N. Y. "Rosa Donita." (For Cigars)	12,556	Dec. 19	119	2232
Schmidt & Co., New York, N. Y. "Senior." (For Cigars)	12,557	Dec. 19	119	2232
Schmidt & Co., New York, N. Y. "Junior." (For Cigars)	12,558	Dec. 19	119	2232
Schmidt & Co., New York, N. Y. "Senator." (For Cigars)	12,559	Dec. 19	119	2232
Schmidt & Co., New York, N. Y. "Prince Regal." (For Cigars)	12,560	Dec. 19	119	2232
Schmidt & Co., New York, N. Y. "Maestro." (For Cigars)	12,561	Dec. 19	119	2232
Schneider & Sands, St. Louis, Mo. "Radiant." (For Shoe-Polish)	12,567	Dec. 19	119	2232
Schwarz, Max, Brooklyn, N. Y. "Broncho Breakers." (For Medicine)	12,468	Nov. 14	119	647
Scott Paper Co., Philadelphia, Pa. "Newline." (For Toilet-Paper)	12,460	Nov. 7	119	336
Seaborg Pkg. Co., Skamokawa, Wash. "Seaborg's Silverside." (For Canned Salmon)	12,548	Dec. 12	119	1920
Shaner, J. J., Los Gatos, Cal. "Diamond Bar." (Fo Prunes)	12,545	Dec. 12	119	1920
Sharp, George H., New York, N. Y. "Autoline." (For a Liquid Polish)	12,461	Nov. 7	119	336
Shoffner-Hayes Medicine Co., Paducah, Ky. "Hayes' Beechwood Emulso-Hypo with Iron." (For Medicine)	12,466	Nov. 14	119	647
Shoffner-Hayes Medicine Co., Paducah, Ky. "Shoffners Sure Cure." (For Medicine)	12,502	Nov. 28	119	1256
Simmen & Co., William H., Baltimore, Md. "Jinjarail Drops." (For Candy)	12,492	Nov. 21	119	960
Smith, Joshua G., St. Paul, Minn. "A Yard of Candy." (For Candy)	12,462	Nov. 7	119	336
Smith, Oke B., Denver, Colo. "Togo." (For a Cleaning Fluid)	12,516	Nov. 28	119	1256
Southern Syrup Co., Montgomery, Ala. "Peacock Brand." (For Syrup)	12,498	Nov. 28	119	1256
Springfield Candy Co., Springfield, Mo. "Springfield Candy Company." (For Candy)	12,473	Nov. 14	119	647
Standard Paint Co., New York, N. Y. "Ruberoid Roofing." (For Roofing)	12,518	Nov. 28	119	1256
Sternschuss & Co., Charles, New York, N. Y. "Jap-Kote." (For Varnish Floor-Stain)	12,497	Nov. 21	119	960
Stow, Audley H., Switchback, W. Va. "Excelsior Surfacing Solution for Draftsmen and Bookkeepers for Use After Making Erasures." (For a Surfacing Solution)	12,517	Nov. 28	119	1256
Taro Food Company, Incorporated, Danbury, Conn. "Taroena." (For Cooked Flour Made from the Taro-Root)	12,549	Dec. 12	119	1920
United States Printing Company, Brooklyn, N. Y. "Chamo Brand Mocha and Java Coffee." (For Canned Coffee)	12,463	Nov. 7	119	336
Upham Brothers, New York, N. Y. "Well House Chop." (For Tea)	12,563	Dec. 19	119	2232
Van Korngut, Sigfried, Cleveland, Ohio. "Holstein." (For Cheese)	12,546	Dec. 12	119	1920
Van Korngut, Sigfried, Cleveland, Ohio. "Durham." (For Cheese)	12,547	Dec. 12	119	1920
Wagner, Emil F., New York, N. Y. "Old Heidelberg Brew." (For Malt Liquors)	12,565	Dec. 19	119	2232
Walker, Alonzo W., Ocala, Fla. "Walker's Great Blood Mixture." (For a Remedy for Diseases of the Blood)	12,464	Nov. 7	119	336
Wallis & Stinchcomb, Caro, Mich. "Peno & Corno." (For a Confection)	12,472	Nov. 14	119	647
Washburn, George J., New York, N. Y. "Royal Dutch Mustard." (For Mustard)	12,465	Nov. 7	119	336
Wates, William W., Haleysville, Ala. "Polio." (For Furniture-Polish)	12,586	Dec. 26	119	2517
Watts, John H., Seattle, Wash. "Pneumo-Grippe Cure." (For Medicine)	12,495	Nov. 21	119	960
Whitcher, Frank W., Boston, Mass. "Hubtip." (For Lacings for Boots and Shoes)	12,585	Dec. 26	119	2517
Wilcox & Co., J. Fred, Chicago, Ill. "Art." (For Cigars)	12,572	Dec. 26	119	2517
Wm. Underwood Company, Boston, Mass. "Puncture Cover." (For Cans)	12,551	Dec. 12	119	1920

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Volume.	Page.
Barclay & Co., New York, N. Y. "Reuter's Soap." (For Soap)	1,512	Dec. 12	119	1920
Baron, Samuel, Brooklyn, N. Y. "Baron's." (For Welsh Rarebit)	1,487	Nov. 21	119	960
Beaver Co., L. A., Davenport, Iowa. "Beaver's Blue Ribbon Brand Graham Flour." (For Flour)	1,505	Dec. 5	119	1582
Beckwith, Philo D., deceased; F. G. Lee and W. G. Howard, Dowagiac, Mich., executors. "Doe-Wah-Jack." (For Stoves, Ranges, and Furnaces)	1,519	Dec. 19	119	2232
Bien & Company, Julius, New York, N. Y. "A Borden Baby." (For Condensed Milk)	1,473	Nov. 7	119	336
Blanchite Process Paint Company, New York, N. Y. "Blanchite Process Paint." (For Preservative Paints, Composition Coatings, Enamels, and Water Paints)	1,514	Dec. 12	119	1920
Bloch Brothers Tobacco Company, Wheeling, W. Va. "A Real American." (For Tobacco)	1,511	Dec. 12	119	1920
Bon Ami Company, New York, N. Y. "Hasn't Scratched Yet." (For a Scouring-Soap)	1,474	Nov. 7	119	336
Both, W. C., Chicago, Ill. "Men's Apparel." (For Men's Apparel)	1,489	Nov. 21	119	960
Brewer, W. N., Cleveland, Ohio. "Pickles." (For Pickles)	1,475	Nov. 7	119	336
Buob & Scheu, Cincinnati, Ohio. "Buob & Scheu's Order Chart for Propeller Tops." (For Propeller-Tops)	1,502	Nov. 28	119	1256
Centaur Company, New York, N. Y. "Castoria." (For Medicine)	1,503	Dec. 5	119	1582
Charles E. Wright Company, New Orange, N. J. "Wright's Saw Tips." (For Saws)	1,476	Nov. 7	119	336
Cole, Alfred L., Minneapolis, Minn. "Dr. Cole's Yellow Dragon Vitalizer." (For Medicine)	1,497	Nov. 28	119	1256
Dad Chemical Company, New York, N. Y. "Neurilla." (For Medicine)	1,496	Nov. 28	119	1256
Edward Westen Tea & Spice Co., St. Louis, Mo. "Cooks' Pride." (For Roasted Coffee)	1,486	Nov. 21	119	960
Federal Lithograph Company, New York, N. Y. "Thayer's Quinine Shampoo." (For Hair-Invigorator)	1,477	Nov. 7	119	336
Federal Lithograph Company, New York, N. Y. "The Federal Lithograph Co., Shoe Poster." (For Shoes)	1,494	Nov. 28	119	1256
Federal Lithograph Company, New York, N.Y. "The Federal Lithograph Co., Furniture Poster." (For Furniture)	1,501	Nov. 28	119	1256
Fertich & Co., A. B., Philadelphia, Pa. "Flore-Stane." (For Floor-Stains)	1,472	Nov. 7	119	336
Gerstendorfer Bros., New York, N. Y. "Star Bathtub Enamel." (For an Enamel)	1,528	Dec. 26	119	2517
Hana Zona Perfume Company, Chicago, Ill. "Jap Lady." (For Perfume)	1,485	Nov. 14	119	647
Hanna, John W., New York, N. Y. "Shanghai." (For Cotton Sheetings, Drills, &c)	1,491	Nov. 21	119	960
Howard, Wm. G., executor. (See Beckwith, Philo D.)				
Jayne & Son, Dr. D., Philadelphia, Pa. "Jayne's Sanative Pills are the best at all times." (For Pills)	1,521	Dec. 26	119	2517
Jefferson, George F., Brooklyn, N. Y. "Health and Home." (For Grape-Nuts and Postum Coffee)	1,484	Nov. 14	119	647
John Eichler Br'g Co., New York, N. Y. "The John Eichler Br'g Co." (For Beer)	1,482	Nov. 14	119	647
John Eichler Br'g Co., New York, N. Y. "The John Eichler Br'g Co." (For Beer)	1,483	Nov. 14	119	647
"Kant-Swag" Gate M'f'g. Co., Indianapolis, Ind. "Kant-Swag." (For Gates)	1,520	Dec. 19	119	2232
Lee, Fred G., executor. (See Beckwith, Philo D.)				
M. Wile & Company, Buffalo, N. Y. "Clothes of Quality." (For Clothing)	1,495	Nov. 28	119	1256
McCartney, James, Chicago, Ill. "The Peer." (For Hot-Water Heaters)	1,478	Nov. 7	119	336
McCartney, James, Chicago, Ill. "Peerless." (For Hot-Water Heaters)	1,493	Nov. 21	119	960
Meek Company, Coshocton, Ohio. "A Good Point." (For Beer)	1,515	Dec. 19	119	2232
Meyer-Both Co., Chicago, Ill. "Women's Apparel." (For Women's Apparel)	1,490	Nov. 21	119	960
North & Son, Joseph W., Elizabeth, N. J. "Milrose." (For Underwear)	1,507	Dec. 5	119	1582
North & Son, Joseph W., Elizabeth, N. J. "Milrose." (For Underwear)	1,508	Dec. 5	119	1582
P. Schoenhofen Brewing Company, Chicago, Ill. "The Edelweiss Girl." (For Beer)	1,523	Dec. 26	119	2517
Peerless Stock Food Co., Lancaster, Ohio. "Peerless Stock Food." (For Stock-Food)	1,506	Dec. 5	119	1582
Planters Seed Co., Springfield, Mo. "Rear View of the Ideal Seed Cabinet." (For Seed-Cabinets)	1,500	Nov. 28	119	1256
Planters Seed Company, Springfield, Mo. "Front View of the Ideal Seed Cabinet." (For Seed-Cabinets)	1,499	Nov. 28	119	1256
Powers & Co., W. F., New York, N. Y. "The Sanitary Squad." (For Hand Sapollo)	1,518	Dec. 19	119	2232
Pratt Food Co., Philadelphia, Pa. "Say Jack—That's the Stuff that makes you feel like a horse." (For Stock-Food)	1,513	Dec. 12	119	1920
S. Anargyros, New York, N. Y. "Egyptian Deities." (For Cigarettes)	1,517	Dec. 19	119	2232
S. Anargyros, New York, N. Y. "Murad." (For Cigarettes)	1,524	Dec. 26	119	2517
S. Anargyros, New York, N. Y. "Bairam." (For Cigarettes)	1,525	Dec. 26	119	2517
S. Anargyros, New York, N. Y. "Mecca." (For Cigarettes)	1,526	Dec. 26	119	2517
S. Anargyros, New York, N. Y. "Turkish Trophies." (For Cigarettes)	1,527	Dec. 26	119	2517
Salt Lake Knitting Works, Salt Lake City, Utah. "Sego Lily Underwear." (For Underwear)	1,479	Nov. 7	119	336
Seiter & Kappes, New York, N. Y. "Merry World." (For Chewing and Smoking Tobacco)	1,516	Dec. 19	119	2232
Skarzynski & Co., Anthony, Buffalo, N. Y. "Celebrated Curative Wine of Chenathow." (For a Wine)	1,510	Dec. 12	119	1920
Spratt, Charles E., New York, N. Y. "Something New in Furniture." (For Furniture)	1,492	Nov. 21	119	960
Standard Sanitary Mfg. Co., Pittsburg, Pa. "Standard Portable Shower." (For Portable Showers)	1,480	Nov. 7	119	336
Thompson, Gamaliel B., Boston, Mass. "Hop Scotch." (For Games)	1,509	Dec. 5	119	1582
Washburn-Crosby Company, Minneapolis, Minn. "The Right Flour." (For Flour)	1,504	Dec. 5	119	1582
Washburn-Crosby Company, Minneapolis, Minn. "The Real Pure Food Show." (For Flour)	1,522	Dec. 26	119	2517
Watts, David H., Jr., Philadelphia, Pa. "Interlocking Elastic Tiling." (For Floor and Wall Tiling)	1,481	Nov. 7	119	336
Williams Co., F., Morrisburg, Canada. "Dr. Williams' Fly & Insect Destroyer." (For Insecticide)	1,498	Nov. 28	119	1256
Yelmgren, S. A., Galesburg, Ill. "Liberty Oil." (For a Liniment)	1,488	Nov. 21	119	960

DISCLAIMER.

Name, residence, and invention.	No.	Filed.	Official Gazette. Volume.	Page.
Eylar, Matthew S., East Orange, N. J.; disclaimer filed by assignee. Type-writing machine	669,627	Nov. 14, 1905	119	555

ALPHABETICAL LIST OF TRADE-MARK APPLICANTS.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Volume.	Page.
A. Baldwin & Co., Ltd., New Orleans, La. Cook and heating stoves and ranges	3,509	Dec. 26	119	2497
A. Klipstein & Company, New York, N. Y. Cake-soap	6,462	Nov. 28	119	1241
A. Leschen & Sons Rope Co., St. Louis, Mo. Wire ropes	5,884	Nov. 28	119	1240
A. G. Spalding & Bros., New York, N. Y Golf-balls	13,562	Nov. 26	119	1249
A. H. Berry Shoe Company, Portland, Me. Women's leather shoes	6,837	Dec. 5	119	1562
A. H. Berry Shoe Company, Portland, Me. Leather boots and shoes	6,172	Dec. 19	119	2209
A. H. Heisey & Co., Inc., Newark, Ohio. Pressed or blown glassware	13,649	Dec. 5	119	1574
A. J. Tower Company, Portland, Me., and Boston, Mass. Waterproof hats	6,891	Dec. 12	119	1899
A. J. Tower Company, Portland, Me., and Boston, Mass. Oiled clothing	7,935	Dec. 12	119	1901
A. J. Tower Company, Boston, Mass., and Portland, Me. Oiled clothing of all kinds	7,936	Dec. 19	119	2212
A. J. Tower Company, Boston, Mass. Oiled clothing	10,259	Dec. 19	119	2216
A. L. Joslin Company, Oxford, Mass. Boots and shoes made of leather	7,556	Dec. 5	119	1563
Abraham & Straus, New York, N. Y. Gloves	2,184	Nov. 14	119	620
Abraham & Straus, New York, N. Y. Gloves	2,187	Nov. 21	119	936
Abraham & Straus, New York, N. Y. Corsets	2,523	Nov. 21	119	936
Abraham & Straus, New York, N. Y. Gloves	2,188	Nov. 28	119	1234
Abraham & Straus, New York, N. Y. Cigars	2,313	Dec. 5	119	1557
Abraham & Straus New York, N. Y. Trunks, valises, and satchels	7,235	Dec. 12	119	1899
Acker, Merrall & Condit Company, New York, N. Y. Tea	12,491	Nov. 21	119	951
Acme Milling Company, Indianapolis, Ind. Wheat-flour	9,018	Nov. 21	119	947
Adams and Ford Company, Cleveland, Ohio. Rubber overshoes	324	Nov. 7	119	309
Adler & Co., Jacob, New York, N. Y. Gloves	8,056	Nov. 14	119	626
Adler & Co., Louis J., Pittsburg, Pa. Whisky	6,301	Dec. 19	119	2209
Aid-Ant Remedy Co., Concord, N. H. Salve for treatment of inflammation, burns, scalds, bruises, strained cords, boils, eczema, sore and chapped hands, chafing, chilblains, sore and sweating feet, sore eyelids, canker, sore gums, cold sores, irritation of the throat, poison, scratches, galls, sore mouth, and stopping bleeding from cuts	4,566	Nov. 21	119	939
Ajax Manufacturing Company, Cleveland, Ohio. Metal forging and forming machines	10,550	Dec. 26	119	2505
Ajax Mfg. Co., Allegheny, Pa. Boring-machines	8,193	Nov. 14	119	626
Ajax Mfg. Co., Allegheny, Pa. Tube-expanders	8,192	Dec. 5	119	1564
Albert Dickinson Company, Chicago, Ill. Seeds	8,397	Nov. 21	119	945
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, clover, hemp, canary, and rape seed	8,399	Dec. 26	119	2502
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, clover, hemp, canary, and rape seed	8,401	Dec. 26	119	2502
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, clover, hemp, canary, and rape seed	8,403–5	Dec. 26	119	2502
Albert Dickinson Company, Chicago, Ill. Dried beans	10,727	Dec. 26	119	2506
Albert M. Gugenheim Company, Cincinnati, Ohio. Whisky	7,291	Nov. 7	119	318
Alexander, James, Montreal, Canada. Pills for the relief of dyspepsia, indigestion, headache, constipation, biliousness, and diseases of the stomach and liver	6,658	Nov. 7	119	317
Alexander, William L., Emlenton, Pa. Stuffing for leather	8,366	Nov. 28	119	1243
Allcock Manufacturing Co., New York, N. Y. Pills	9,255	Dec. 19	119	2215
Altman, Benjamin, New York, N. Y. Corsets	12,516	Dec. 12	119	1908
Altmayer, S., Macon, Ga. Whisky	5,917	Nov. 28	119	1240
Altmayer, Sallie, Macon, Ga. Whisky	5,966	Nov. 14	119	623
American Brazing Company, New York, N. Y., assignor to American Ferrofix Brazing Company. Compounds to be used in connection with a suitable solder in brazing metals	7,802	Nov. 14	119	625
American Brazing Company, New York, N. Y., assignor to American Ferrofix Brazing Company. Fluxes to be used in brazing metals	7,803	Nov. 14	119	625
American Cement Company, Philadelphia, Pa. Portland, natural-rock, and improved cement	8,572	Nov. 7	119	320
American Cement Company, Philadelphia, Pa. Portland, natural-rock, and improved cement	8,569	Nov. 14	119	628
American Cement Company, Philadelphia, Pa. Portland, natural-rock, and improved cement	8,571	Nov. 14	119	628
American Cement Company, Philadelphia, Pa. Portland, natural-rock, and improved cement	8,575	Nov. 14	119	628
American Cement Company, Philadelphia, Pa. Portland, natural-rock, and improved cement	8,578–9	Nov. 14	119	628
American Cement Company, Philadelphia, Pa. Portland, natural-rock, and improved cement	8,577	Nov. 21	119	946
American Cereal Company, Akron, Ohio; Chicago, Ill., and Cedar Riapds, Iowa. Prepared cereal foods	5,614	Dec. 5	119	1561
American Chicle Co., New York, N. Y. Chewing-gum	8,146	Nov. 14	119	626
American Chicle Co., New York, N. Y. Chewing-gum	8,162	Nov. 14	119	626
American Dyewood Co., Philadelphia, Pa. Manufactured colors for printing and dyeing	5,327	Nov. 28	119	1238
American Ferrofix Brazing Company. (See American Brazing Company, assignor.)				
American Iron & Steel M'f'g Co., Lebanon and Reading, Pa. Rivet and screw bolts	6,363	Nov. 28	119	1241
American Iron & Steel M'f'g Co., Lebanon and Reading, Pa. Railway-track bolts	6,365	Nov. 28	119	1241
American Multigraph Co., Cleveland, Ohio. Rotary printing-machines adapted to be operated by hand	4,626	Nov. 14	119	623
American Multigraph Company, Cleveland, Ohio. Rotary type-printing machines adapted to be operated by hand	4,625	Nov. 7	119	312
American Oak Leather Company, Cincinnati, Ohio. Leather boots and shoes and the leather for their manufacture	868	Dec. 26	119	2495
American Peroxide and Chemical Company, New York, N. Y. Tooth-powder	8,104	Dec. 19	119	2212
American Steam Packing Company, Boston, Mass. Steam and water packing	9,748	Nov. 28	119	1246
American Stocking Company, New York, N. Y. Hosiery	12,404	Dec. 5	119	1571
American Tap Bush Co., Detroit, Mich. Taps and bushes	4,775	Nov. 7	119	312
American Waltham Watch Co., Waltham, Mass. Mainsprings for watches	13,746	Nov. 21	119	954
American Washboard Company, Cleveland, Ohio. Washboards	4,863	Dec. 12	119	1897
Ammonol Chemical Co., New York, N. Y. Antipyretic and analgesic medicinal preparation	7,493	Nov. 14	119	625
Anda, Thorwald, Chicago, Ill. Antiseptic liquid or cream, a remedy for inflammation of the skin.	6,516	Dec. 19	119	2210
Angelo Myers Distillery, Inc., Philadelphia, Pa. Whisky	10,381	Nov. 7	119	326
Anger Baking Co., New York, N. Y. Macaroni, spaghetti, vermicelli, and noodles	12,503	Nov. 21	119	951
Anglo-American Medical Co., Chicago, Ill. Liquid preparation for external use for curing bad smelling, sweating, and tender feet and offensive perspiration	11,689	Nov. 21	119	949

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Ansonia Clock Company, Ansonia, Conn., and New York, N. Y. Clocks	14,239	Dec. 12	119	1913
Ansonia Clock Company, Ansonia, Conn., and New York, N. Y. Clocks	14,756–7	Dec. 19	119	2226
Arcade File Works, Anderson, Ind. Files and rasps	7,916–17	Dec. 12	119	1901
Armspear Manufacturing Company, New York, N. Y. Railway lamps and lanterns	7,659–60	Dec. 19	119	2211–12
Arondack Spring Company, Saratoga Springs, N. Y. Mineral water	10,659	Dec. 5	119	1568
Artesia Cream Company, Waco, Tex. Cream for the complexion and wrinkle lotion	6,470	Nov. 21	119	941
Aschenbach & Miller, Philadelphia, Pa. Sulfur soap	9,934	Dec. 19	119	2215
Aspegren & Co., New York, N. Y. Ground wood and wood-pulp for paper-stock	4,953	Dec. 26	119	2498
Atlanta Agricultural Works, Atlanta, Ga. Harrows and cultivators	9,395	Nov. 28	119	1245
Auburn Wagon Co., Martinsburg, W. Va. Wagons	12,485	Nov. 21	119	951
Auerbach & Sons, D., New York, N. Y. Small round candies of various flavors	9,510	Nov. 28	119	1246
Augusta Factory, Augusta, Ga. Cotton sheetings and drills	5,852	Dec. 26	119	2500
Avery Stamping Company, Cleveland, Ohio. Spades, shovels, and scoops	13,142	Nov. 14	119	637
Avery Stamping Company, Cleveland, Ohio. Steel shovels, scoops, and spades	8,784	Nov. 28	119	1243
B. H. Bacon Co., Rochester, N. Y. Remedy for the nerves	13,154	Dec. 12	119	1909
B. S. Fiersheim Mercantile Co., Kansas City, Mo. Whisky	14,072	Dec. 12	119	1912
Babbitt Bros., Fitchburg, Mass. Metal screws	13,941	Dec. 5	119	1575
Baird Manufacturing Company, Chicago, Ill. Telephone sets	15,009	Dec. 26	119	2510
Baker Castor Oil Company, New York, N. Y. Castor-oil	7,163	Nov. 21	119	942
Baker & Co., Charles F., Boston, Mass. Wire nails	6,455	Nov. 28	119	1241
Baker & Co., Charles F., Boston, Mass. Wire nails	6,454	Dec. 19	119	2209
Baker & Sons, C. W., Aberdeen, Md. Canned or preserved fruits and vegetables	3,888	Nov. 21	119	937
Ball Chemical Co., Allegheny, Pa. Turpentine	14,358	Dec. 19	119	2224
Balsa, Hermanos, Vera Cruz, Mexico. Cigars	11,794	Nov. 14	119	635
Barataria Canning Co., Biloxi, Miss., and New Orleans, La. Packed shrimp	2,861	Nov. 7	119	311
Barnard & Leas Manufacturing Company, Moline, Ill. Shaking-bolts	7,969	Dec. 26	119	2502
Barstow Stove Company, Providence, R. I. Stoves, ranges, gas-stoves, gas-ranges, hot-air furnaces, and low-pressure steam and hot-water boilers for heating purposes	7,968	Dec. 5	119	1563
Battreall-Whittinghill Shoe Co., St. Joseph, Mo. Men's, women's, misses', and children's leather shoes	5,844	Nov. 7	119	314
Baugh & Sons Company, Philadelphia, Pa. Bone phosphate	2,685	Dec. 12	119	1895
Beach Soap Company, Lawrence, Mass. Laundry and toilet soap and soap powder	3,167	Nov. 14	119	621
Beadenkopf, Martin, Wilmington, Del. Leather known as kid	7,148	Dec. 12	119	1899
Beam & Company, M. C., Gethsemane, Ky. Whisky	11,113	Nov. 14	119	633
Becken, Albert C., Chicago, Ill. Alarm-clocks	13,718	Nov. 28	119	1250
Bernheim Distilling Co., Inc., Louisville, Ky. Whisky	9,705	Nov. 7	119	322
Bernheim, Röse, Pfersee-Augsburg, Bavaria, Germany. Chemical finishing compound to be used in the textile industry in the finishing of piece goods	6,458	Dec. 12	119	1899
Berry Hill Mineral Spring Co. of Va., Washington, D. C. Mineral water	6,929	Dec. 19	119	2210
Beston, Rafala S., New York, N. Y. Canned pears	8,003	Dec. 26	119	2502
Bigbie Bros. & Co., Lynchburg, Va. Whisky	13,399	Dec. 19	119	2221
Billboard Publishing Company, Cincinnati, Ohio. Weekly newspaper	10,403	Dec. 5	119	1567
Billings Clapp Company, Boston, Mass. Alterative medicine	6,506	Nov. 28	119	1241
Bios Laboratory Co., Incorporated, Danbury, Conn. Phosphatic tonic	2,509	Dec. 26	119	2496
Birdsey & Somers, New York, N. Y. Corsets	12,757–8	Dec. 19	119	2220
Birkhead, John W., Dallas, Tex. Non-alcoholic beverages	7,639	Nov. 7	119	319
Bloch Brothers Tobacco Company, Wheeling, W. Va. Chewing and smoking tobacco	2,852	Nov. 28	119	1235
Block & Sons, Elias, Cincinnati, Ohio. Whisky	11,477	Nov. 14	119	635
Bluthenthal & Bickart, Atlanta, Ga. Whisky	3,347	Nov. 21	119	937
Bluthenthal & Heilbronner, Memphis, Tenn. Whisky	7,672	Nov. 28	119	1243
Boettger, Fredrick, Peoria, Ill. Medicine for the cure of enuresis and kindred troubles	10,643	Nov. 7	119	327
Boker, Carl F., New York, N. Y. Anvils	5,681	Nov. 28	119	1239
Bon Ami Company, New York, N. Y. Scouring-soap	14,397	Dec. 19	119	2225
Borated Specialty Company, New York, N. Y. Catamenial bandages	8,853	Nov. 21	119	947
Boston & Lockport Block Company, Boston, Mass. Pulleys or blocks	7,234	Dec. 12	119	1899
Boston & Lockport Block Company, Boston, Mass. Pulleys, blocks, and parts thereof	7,234	Dec. 26	119	2501
Boston Molasses Co., Boston, Mass. Sugar	10,911	Nov. 28	119	1247
Boston Molasses Co., Boston, Mass. Molasses	13,310	Dec. 12	119	1909
Bouton and Germain Co., Ripon, Wis. Yellow horsehide gloves and mittens	11,621	Nov. 21	119	949
Boutwell Milling & Grain Co., Troy, N. Y. Rye-flour	12,218–19	Nov. 14	119	636
Bovinine Company, New York, N. Y. Beef juice	6,390	Nov. 21	119	940
Bovril Limited, London, England, and Montreal, Canada. Syrups, flavorings, tonics, and extracts for non-intoxicating beverages	13,383	Nov. 21	119	954
Boyer, Mary J., Baltimore, Md. Canned fruits and vegetables	13,501	Dec. 19	119	2221
Brackett & Co., R. E., Lansing, Mich. Hones for razors and other edged tools	12,805	Nov. 7	119	328
Bradley Smith & Co., New Haven, Conn. Candy	9,217	Nov. 21	119	947
Bradley Smith & Co., New Haven, Conn. Candy	9,215–16	Nov. 28	119	1244
Brand Brothers Company, Chicago, Ill. Whisky	13,543	Dec. 5	119	1574
Braun & Fitts, Inc., Chicago, Ill. Butterine and oleomargarin	1,204	Nov. 21	119	932
Braun & Fitts, Inc., Chicago, Ill. Butterine and oleomargarin	1,206	Nov. 21	119	932
Braun & Fitts, Inc., Chicago, Ill. Butterine and oleomargarin	1,303	Nov. 21	119	932
Braun & Fitts, Inc., Chicago, Ill. Butterine and oleomargarin	1,343	Nov. 21	119	932
Braun & Fitts, Inc., Chicago, Ill. Butterine	1,340	Dec. 19	119	2204
Briggs Co., D. F., Attleboro, Mass. Bracelets	7,370	Nov. 14	119	625
Brigham, Hopkins Company, Baltimore, Md. Straw hats	7,871	Nov. 21	119	945
Brookman Manufacturing Company, Chicago, Ill. Lye and potash	3,106	Dec. 5	119	1558
Brown-Forman Co., Louisville, Ky. Whisky	116	Nov. 28	119	1233
Brown-Forman Co., Louisville, Ky. Whisky	119	Nov. 28	119	1233
Brown Mfg. Co., Greeneville, Tenn. Remedies for the cure of diseases of the liver and kidneys, all inflammations and swellings, malaria, &c., general-system tonic, &c	11,380	Nov. 21	119	948
Brown Mfg. Co., Greeneville, Tenn. Remedies for the relief and cure of catarrh, hay-fever, cold in the head, and all nasal inflammation and catarrhal affections	12,056	Nov. 21	119	950
Brown & Sharpe Manufactoring Company, Providence, R. I. Hair-clippers	5,942	Nov. 7	119	314
Brown & Son, John I., Boston, Mass. Medicated lozenges	9,638	Nov. 7	119	322
Brown & Son, John I., Boston, Mass. Medicated lozenges	9,637	Nov. 14	119	630
Brownell & Field Company, Providence, R. I. Coffee	11,860	Nov. 21	119	949
Brownell & Field Company, Providence, R. I. Mustard and spices	10,427	Nov. 28	119	1246
Brunor, Emile, New York, N. Y. Pills and tablets used as a remedy for the treatment of constipation, liver troubles, biliousness, headache, and sour stomach	8,273	Dec 12	119	1902
Budner Pharmacal Company, New York, N. Y. Liquid alkaline, antiseptic and germicide for internal and external use	10,321	Dec. 12	119	1904
Buermann, August, Newark, N. J. Spurs, bits, and stirrups	6,367	Nov. 21	119	940
Buffalo Rubber Manufacturing Company, Buffalo, N. Y. Gloves	10,994	Nov. 14	119	632
Buker Pill Co., Bangor, Me. Medicine in the form of pills for diseases of the kidneys, bladder, and urinary organs	7,034	Dec. 19	119	2210
Burke, Frank G., New York, N. Y. Laundry soap and toilet soap	5,593	Nov. 7	119	314

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Buzby, Augustus C., Philadelphia Pa. Lubricating-grease	7,044	Dec. 19	119	2210
Byron C. Gould, Inc., New York, N. Y. Toilet powder	9,138	Nov. 28	119	1244
Byron C. Gould, Inc., New York, N. Y. Toilet powder	9,139–40	Dec. 19	119	2214
C. Howard Hunt Pen Co., Camden, N. J. Pens	612	Nov. 7	119	310
C. Poyet, Inc., New York, N. Y Candied chocolates, licorice confections, candied fruits, glacé fruits, and bonbons	13,436	Dec. 12	119	1910
C. Schmidt and Sons Brewing Company, Philadelphia, Pa. Lager-beer	5,124	Nov. 7	119	313
C. A. Willey Company, New York, N. Y. Paints and colors	14,850	Dec. 19	119	2226
C. F. Rumpp & Sons, Inc., Philadelphia, Pa. Leather pocket-books, card-cases, dressing-cases, cigar-cases, bankers' cases, music-rolls, and photograph and picture frames	1,161	Nov. 21	119	932
C. F. Rumpp & Sons, Inc., Philadelphia, Pa. Metal ornaments for pocket-books and other cases, frames, umbrellas, canes, and glassware	8,131	Nov. 21	119	945
C. G. Gunther's Sons, New York, N. Y. Manufactured furs for wearing-apparel	10,569	Dec. 5	119	1567
C. H. F. Müller, Hamburg, Germany. Vacuum-tubes, X-ray tubes, and parts thereof	7,263	Nov. 21	119	943
C. L. Hauthaway & Sons, Incorporated, Portland, Me., and Boston, Mass. Liquid blacking	10,590	Dec. 19	119	2216
C. L. Hauthaway & Sons, Incorporated, Portland, Me., and Boston, Mass. Folding cement for all kinds of chrome-tanned leather	10,591	Dec. 19	119	2216
C. L. Hauthaway & Sons, Incorporated, Portland, Me., and Boston, Mass. Channel cement for soles of boots and shoes	10,592	Dec. 19	119	2216
C. P. Moorman & Company, Inc., Louisville, Ky. Whisky	5,030–2	Dec. 12	119	1897
C. P. Moorman & Company, Inc., Louisville, Ky. Whisky	5,034–6	Dec. 12	119	1897–8
Calhoun Distilling Company, Birmingham, Ala. Whisky	6,468	Nov. 28	119	1241
California Fig Syrup Co., San Francisco, Cal. Liquid purgative compounds	6,624	Dec. 19	119	2210
California Wine Association, San Francisco, Cal. Brandy	14 035	Dec. 12	119	1911
California Wine Association, San Francisco, Cal. Wine	14,037	Dec. 19	119	2223
California Wine Association, San Francisco, Cal. Wine	14,039	Dec 19	119	2223
Capewell, George J., Jr., Hartford, Conn. Pin-retainers	4,031	Nov. 14	119	622
Cappon & Bertsch Leather Co., Holland, Mich. Harness-leather	9,530	Nov. 7	119	321
Capudine Chemical Company, Raleigh, N. C. Remedy for headaches, colds, and dysmenorrhea	11,874	Nov. 21	119	949
Carborundum Company, Niagara Falls, N. Y. Crystalline substance used as an abradant and for other purposes	3,228	Dec. 12	119	1895
Carow, Charles, New York, N. Y. Remedy for rheumatism	8,681	Dec. 26	119	2503
Carpenter, Thomas E., Mount Kisco, N. Y. Emollient and medicinal preparation	12,068	Nov. 21	119	950
Carstairs, McCall & Co., Philadelphia, Pa. Whisky	14,053–4	Dec. 12	119	1911
Carter's Ink Company, Boston, Mass. Writing-inks and writing fluids of all kinds	6,702	Nov. 21	119	941
Carter's Ink Company, Boston, Mass. Mucilages	6,696	Nov. 28	119	1241
Cartun, Jacob, Philadelphia, Pa. Whisky	7,491	Nov. 21	119	944
Carver File Company, Philadelphia, Pa. Files and rasps	13,960	Nov. 28	119	1250
Carver File Company, Philadelphia, Pa. Files	14,375	Dec. 19	119	2224
Casey-Swasey Company, Fort Worth, Tex. Whisky	14,400	Dec. 19	119	2225
Cassella Color Company, New York, N. Y. Black dyestuff	8,088	Nov. 7	119	319
Cassella Color Company, New York, N. Y. Hydrosulfite compound used as a corrosive for the discharge of reducible coloring-matters in dyeing and printing	8,079	Dec. 5	119	1563
Catch On Clasp Mfg. Co., Baltimore, Md. Fasteners for the waistbands of trousers	7,521	Dec. 5	119	1563
Catherwood, H. & H. W., Philadelphia, Pa. Whisky	7,050	Nov. 7	119	317
Cayey-Caguas Tobacco Company, New York, N. Y., and Island of Porto Rico. Cigars, cheroots, and cigarettes made of cigar-tobacco	12,941	Nov. 14	119	637
Celluloid Starch Company, New York, N. Y. Laundry starch	2,879–80	Dec. 19	119	2204
Cement Machinery Co., Jackson, Mich. Machines for making concrete building-blocks	9,333	Nov. 28	119	1245
Cement Machinery Co., Jackson, Mich. Machines for making concrete building-blocks	9,335	Nov. 28	119	1245
Cement Machinery Co., Jackson, Mich. Machines for making concrete building-blocks	9,334	Dec. 5	119	1565
Ceylon Perfume Company, Englewood, N. J. Perfume for repelling mosquitos	6,754	Nov. 7	119	317
Challenge Cutlery Corp., Bridgeport, Conn. Razors	1,780	Nov. 14	119	620
Challenge Cutlery Corporation, Bridgeport, Conn. Razors	1,779	Dec. 5	119	1556
Chalmers Knitting Company, Amsterdam, N. Y. Cotton, wool, silk, and linen underwear	6,035	Nov. 7	119	315
Champion Blower & Forge Company, Lancaster, Pa. Forges	9,909	Dec. 19	119	2215
Champion Blower & Forge Company, Lancaster, Pa. Twyers	9,910	Dec. 19	119	2215
Champion Paper Cutter Co., Piqua, Ohio. Roll-paper holders and cutters	12,521–2	Nov. 21	119	952
Chandler and Rudd Company, Cleveland, Ohio. Candy	4,637	Nov. 7	119	312
Chandler and Rudd Company, Cleveland, Ohio. Candy	4,635	Nov. 14	119	623
Charles Jacquin et Cie., Inc., New York, N. Y. Sloe gin	7,246	Nov. 7	119	318
Charles Jacquin et Cie., Inc., New York, N. Y. Cocktails	10,157	Nov. 7	119	325
Charles Jacquin et Cie., Inc., New York, N. Y. Kümmel	10,156	Dec. 26	119	2504
Charles, James, Marion, Ind. Mixed winter and spring wheat flour	7,017	Nov. 21	119	942
Charles N. Crittenton Company, New York, N. Y. Soap in which is included sulfur as one of its ingredients	13,605	Dec. 19	119	2221
Charles Taylor & Co., Wilmington, Del. Hosiery	7,277	Nov. 21	119	943
Charles Taylor & Company, Wilmington, Del. Hosiery	5,906	Nov. 21	119	939
Chas. A. Stevens & Bros., Chicago, Ill. Women's knit underwear, knit vests, tights, and union suits for women	8,780	Nov. 14	119	628
Chas. E. Meyer & Co., Freeport, Ill. Vinegar for pickling	9,664	Dec. 5	119	1566
Chas. E. Meyer & Co., Freeport, Ill. Spirit vinegar	9,666	Dec. 5	119	1566
Chattanooga Paint Co., Chattanooga, Tenn. Mineral paint in dry powdered form sold in bulk	7,527	Dec. 19	119	2211
Cheney, Frank J., Toledo, Ohio. Catarrh cure	9,049	Nov. 28	119	1244
Cheney, Frank J., Toledo, Ohio. Pills for the cure of sick headache, vertigo or dizziness, and constipation	9,050	Nov. 28	119	1244
Chester Kent & Co., Boston, Mass. Remedy for internal use, such as a tonic	7,335	Nov. 7	119	318
Chicago Distilling Co., Chicago, Ill. Whisky	10,042	Nov. 7	119	324
Chicago Distilling Co., Chicago, Ill. Gin	10,048–9	Nov. 7	119	324
Chicago Flexible Shaft Company, Chicago, Ill. Horse-clippers	7,477	Nov. 28	119	1242
Chicago Tubing & Braiding Co., Chicago, Ill. Flexible tubing	14,324	Dec. 12	119	1913
Cholewinski, John P., Chicago, Ill. Compound for the treatment of the throat and lungs and cure of coughs, colds, croup, sore throat and hoarseness, and kindred affections	7,120	Dec. 5	119	1562
Christian Feigenspan, a Corporation, Newark, N. J. Lager-beer	12,018	Nov. 21	119	950
Cincinnati Game Co., Cincinnati, Ohio. Card games	13,103	Nov. 14	119	637
Citrus Soap Company, San Diego, Cal. Washing-powders	4,045	Dec. 5	119	1568
Clark, J. L., Oshkosh, Wis. Vehicle spring seats and cushions	9,976	Dec. 5	119	1566
Clark, James A., Bedford City, Va. Smoking and chewing tobacco	11,770	Nov. 21	119	949
Clark Mile-End Spool Cotton Co., East Newark, N. J. Cotton thread	13,054	Dec. 5	119	1572
Clauss, Henrie, Fremont, Ohio. Razors	7,463	Nov. 21	119	944
Cleveland Gas and Electric Fixture Company, Cleveland, Ohio. Incandescent mantels and supports therefor	11,734	Nov. 14	119	635
Clinton & Co., E., Philadelphia, Pa. Paint-brushes	2,532	Dec. 12	119	1895
Cluett, Peabody & Co., Troy, N. Y. Outer shirts and dress-shirts	9,327	Nov. 28	119	1245
Cluett, Peabody & Co., Troy, N. Y. Outer and dress shirts	9,328	Dec. 12	119	1903
Cocheco Mfg. Co., Dover, N. H. Velveteens	8,981	Dec. 12	119	1903

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Collin County Mill & Elevator Company, McKinney, Tex. Wheat-flour	7,761	Nov. 7	119	319
Colton, Albert R., Newark, N. J. Corsets	11,920	Dec. 12	119	1906
Colt's Patent Fire Arms Manufacturing Company, Hartford, Conn. Pistols	14,014	Dec. 12	119	1911
Columbia Distilling Co., St. Louis, Mo. Whisky	11,488	Nov. 7	119	327
Columbia Hosiery Co., New York, N. Y. Stockings	12,094	Dec. 19	119	2220
Columbia Incandescent Lamp Co., St. Louis, Mo. Incandescent electric lamps	8,861	Nov. 28	119	1244
Columbia Overgaiter & Legging Co., Chicago, Ill. Leggings or overgaiters	3,523	Dec. 5	119	1558
Columbia Refining Co., New York, N. Y. Cleaning and renovating compounds adapted for application to polished and varnished surfaces	5,015	Nov. 28	119	1238
Conewango Refining Co., Warren, Pa. Cylinder-lubricants and lubricant stock	14,315	Dec. 19	119	2224
Conewango Refining Co., Warren, Pa. Cylinder-lubricants and lubricant stock	14,316	Dec. 26	119	2509
Conkling, Allen, South Chicago, Ill. Toilet and bath soap	4,216	Dec. 19	119	2205
Conkling, Allen, South Chicago, Ill. Laundry soap	4,217	Dec. 19	119	2205
Connable, Ralph M., Baltimore, Md. Medical ointment	7,985	Dec. 26	119	2502
Continental Caoutchouc Company, New York, N. Y. India-rubber auto-bags and auto-pouches	9,006	Nov. 7	119	320
Cook, Arthur J., Westfield, Mass. Whips	10,617	Dec. 19	119	2216
Cook & Bernheimer Co., New York, N. Y. Whisky	9,263	Dec. 26	119	2503
Cook's Sons, Adam, New York, N. Y. Lubricating-grease	4,252	Dec. 19	119	2206
Cooley, Herbert S., Keyport, N. J. Laxative compound or preparation	12,637	Dec. 12	119	1908
Cooley, Martin I., Plainfield, N. J. Ctton piece goods	9,749	Nov. 28	119	1246
Cooper & Co., W. W., Marion, N. C. Whisky	6,242	Nov. 21	119	940
Corato, Joseph, Stockton, Cal. Tonic	6,092	Dec. 26	119	2500
Coshland & Co., G. F., New York, N. Y. Whisky	6,514	Nov. 7	119	316
Cosseboom, Pearce & Co., Aspen, Colo. Polish for metals	14,157	Dec. 19	119	2224
Creighton & Son, G. A., Lynn, Mass. Leather boots and shoes	7,124	Nov. 14	119	624
Crescent Manufacturing Co., Seattle, Wash. Flavoring extracts	3,649	Nov. 7	119	312
Crescent Manufacturing Co., Seattle, Wash. Coffee	3,291	Nov. 28	119	1236
Criterion Publishing Company, Chicago, Ill. Magazines	11,486	Dec. 26	119	2506
Cromwell, Philip G., Baltimore, Md. Hams	9,051	Nov. 7	119	320
Cromwell, Philip G., Baltimore, Md. Ham and bacon	9,053	Nov. 7	119	320
Cromwell, Philip G., Baltimore, Md. Hams	9,054	Nov. 7	119	321
Cromwell, Philip G., Baltimore, Md. Lard	14,833	Dec. 26	119	2509
Crosby & Co., Detroit, Mich. Stove and metal polish, enamel, luster, paste, and blacking	14,169	Dec. 19	119	2224
Crowley, Charles H., New York, N. Y. Needles	11,707	Dec. 12	119	1906
Crozer & Son, Samuel A., Upland, Pa. Cotton plaids and stripes	3,645	Nov. 14	119	621
Crume, Johnathan R., Bardstown, Ky. Remedy for chicken cholera, roup, and limber neck	8,358	Nov. 21	119	945
Cudahy Packing Company, Chicago, Ill., and South Omaha, Nebr. Lard and lard compound	6,375	Nov. 28	119	1241
Curtis & Brown Manufacturing Company, (Limited,) New York, N. Y. Remedy for internal or external use for the relief of pain	10,874	Nov. 14	119	631
Curtis and Brown Manufacturing Company, (Limited) New York, N. Y. Tooth-powder	10,875	Nov. 14	119	631
Curtis and Brown Manufacturing Company, Limited, New York, N. Y. Worm medicine	10,873	Nov. 21	119	947
Cushing & Co., W., Foxcroft, Me. Dye-colors	13,167	Dec. 5	119	1573
Cushman & Denison Manufacturing Company, New York, N. Y. Paper-clips	12,906	Nov. 28	119	1249
Cushman Drug Co., Vincennes, Ind. Cure for headache, neuralgia, catarrh, and other affections of the throat and lungs	4,829	Dec. 19	119	2206
Cusic, Marshall M., Princeton, Ill. Preparation for the removal of superfluous hair	13,135	Nov. 21	119	953
D. Eddy & Sons Co., Boston, Mass. Refrigerators	7,439	Dec. 19	119	2211
D. Kelly Co., Columbus, Ohio. Whisky	9,712	Nov. 7	119	323
D. Kelly Company, Columbus, Ohio. Whisky	9,716	Nov. 7	119	323
D. L. Moore Distillery Co., Lawrenceburg, Ky. Whisky	10,348-9	Nov. 7	119	326
Dallemand & Co., Chicago, Ill. Whisky	5,841	Dec. 26	119	2499
Damon, Henrietta J., Danvers, Mass. Chocolate, cocoa, and a preparation of chocolate and cocoa to be used as a beverage and for cooking purposes	3,510	Nov. 21	119	937
Daniel, Chas. A., Philadelphia, Pa. Machinery-packing	14,758	Dec. 26	119	2509
Daniel Forbes Company, Chicago, Ill. Leather shoe blanks, soles, and taps for soles	13,412	Dec. 26	119	2507
Daniels & Co., Geo. F., Boston, Mass. Leather and leather-and-cloth boots, shoes, and slippers	570	Nov. 14	119	619
David B. Crockett Co., Bridgeport, Conn. Varnishes	104	Dec. 26	119	2495
David Williams Company, New York, N. Y. Trade newspaper	9,332	Dec. 19	119	2215
Davis, Emry, New York, N. Y. Inkstands	11,323-5	Nov. 14	119	634
Davis, James A., Boston, Mass. Dog-blankets	11,064	Nov. 21	119	948
De Laval Separator Company, New York and Poughkeepsie, N. Y. Cream-separators	9,450	Dec. 5	119	1565
Decker, William M., Buffalo, N. Y. Nursing-bottles	7,381	Nov. 7	119	318
Deere & Webber Co., Minneapolis, Minn. Farm-trucks or low-wheel wagons	13,013-15	Dec. 5	119	1572
Deere & Webber Co., Minneapolis, Minn. Hay-tedders	14,472	Dec. 12	119	1914
Deere & Webber Co., Minneapolis, Minn. Farm-trucks or low-wheel wagons	13,012	Dec. 19	119	2221
Deere & Webber Company, Minneapolis, Minn. Wagons, carriages, carts, road and farm wagons, phaetons, buggies, spring-wagons, and surreys	2,043	Dec. 12	119	1894
Dennison & Sons, New York, N. Y. Bank note, check, draft, certificate paper, bills-of-exchange paper, and writing-paper	2,910	Nov. 14	119	621
Dexter Portland Cement Company, Nazareth, Pa. Portland cement	7,551	Nov. 28	119	1242
Diamond Chain and Manufacturing Company, Indianapolis, Ind. Chains	8,974	Nov. 28	119	1244
Diamond Ink Company, Milwaukee, Wis. Writing inks and fluids	954	Dec. 5	119	1556
Diehl Manufacturing Company, Elizabethport, N. J. Dynamo-electric machines, electric fans, motors, and generators	5,734	Dec. 12	119	1898
Direct Supply Co., Martinsburg, W. Va., and New York, N. Y. Knit underwear	7,612	Dec. 19	119	2211
Direct Supply Co., Martinsburg, W. Va., and New York, N. Y Knit underwear	11,930	Dec 19	119	2220
Disch, Charles, Brooklyn, N. Y. Base-balls	8,537	Nov. 7	119	320
Dissinger & Bro., C. H. A., Wrightsville, Pa. Explosive-engines, internal-combustion motors, and gas and gasolene engines	5,728	Nov. 21	119	939
Dobson, John & James, Philadelphia, Pa. Imitation of Persian-lamb fabric	10,086	Dec. 5	119	1566
Dock & Coal Co., Plattsburg, N. Y. Cattle-feed consisting of ground corn and oats	354	Dec. 19	119	2203
Dodd & Struthers, Des Moines, Iowa. Lightning-rods	4,837	Dec. 19	119	2206
Donoghue Importing Company, Rochester, N. Y. Whisky	4,418	Dec. 19	119	2206
Dougherty, A., New York, N. Y. Playing-cards	5,673	Dec. 12	119	1898
Dr. C. Bouviers Specialty Co., Louisville, Ky. Gin	4,552	Nov. 21	119	938
Dr. Haskins Co., Toledo, Ohio. Uric-acid solvent for all diseases arising from uric-acid poison	4,675	Dec. 5	119	1559
Dr. Miles Medical Co., Elkhart, Ind. Tonics, nervine, and sedatives	3,426	Dec. 26	119	2497
Drees, Albertine, Newark, N. J. Hair wavers and curlers	3,881	Dec. 12	119	1895
Dreyfuss, Weil & Co., Paducah, Ky. Whisky	12,650-1	Nov. 21	119	952
Dreyfuss, Weil & Co., Paducah, Ky. Whisky	12,649	Dec. 19	119	2220
Dubuque Brewing & Malting Co., Dubuque, Iowa. Lager-beer	1,551	Dec. 5	119	1556
Dudley, Eben F., Oroseo, Mich. Butter	4,145	Nov. 14	119	622
Duff Manufacturing Company, Allegheny, Pa. Jacks	12,701	Nov. 21	119	953
Duplex Manufacturing Company, St. Louis, Mo. Drums	12,060	Dec. 26	119	2506
Dupuis, Dennis R., St. Louis, Mo. Preparation for the cure of cancers and kindred diseases	7,733	Nov. 7	119	319
Durkee & Co., E. R., New York, N. Y. Baking-powder, cream of tartar, and baking-soda	3,967	Nov. 21	119	937

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Durkee & Co., E. R., New York, N. Y. Seeds and prepared mixtures of seeds as food for birds and fowls	3,980	Nov. 21	119	938
Durkee & Co., E. R., New York, N. Y. Spices and mustard	3,981	Nov. 21	119	938
Durkee & Co., E. R., New York, N. Y. Baking-soda, cream of tartar, and baking-powder	13,639–42	Dec. 19	119	2222
Dyer Remedy Company, Kansas City, Mo. Preparation for the cure of horse ailments	11,379	Nov. 21	119	948
E. B. Millar & Co., Chicago, Ill. Spices	6,175	Nov. 28	119	1240
E. C. Atkins & Company, Indianapolis, Ind.; New York, N. Y.; Memphis, Tenn.; Atlanta, Ga.; Minneapolis, Minn.; Portland, Oreg.; Seattle, Wash.; San Francisco, Cal.; Chicago, Ill., and Toronto, Canada. Saws	9,042	Nov. 7	119	320
E. C. Atkins & Company, Indianapolis, Ind.; New York, N. Y.; Memphis, Tenn.; Atlanta, Ga.; Minneapolis, Minn.; Portland, Oreg.; Seattle, Wash.; San Francisco, Cal.; Chicago, Ill., and Toronto, Canada. Saws of all kinds	8,003	Dec. 12	119	1901
E. E. Downham Co., Alexandria, Va. Whisky	7,536	Dec. 12	119	1900
E. E. Sutherland Medicine Co., Paducah, Ky. Preparation for the treatment of coughs, colds, whooping-cough, affections and soreness of the throat and lungs, grip, bronchitis, asthma, and incipient consumption	7,739	Nov. 21	119	944
E. J. Brooks & Company, New York, N. Y., and Newark, N. J. Seals for locking or securing the doors of railway freight-cars and for sealing baggage, &c	11,013	Dec. 19	119	2219
E. and T. Fairbanks and Company, St. Johnsbury, Vt. Weighing-machines and parts thereof, such as weights	5,973	Nov. 7	119	315
Eagle Pencil Company, New York, N. Y. Lead-pencils	12,885	Nov. 28	119	1248
Eagle Pencil Company, New York, N. Y. Lead-pencils	12,715	Dec. 5	119	1572
Eagle White Lead Co., Cincinnati, Ohio. Pure red lead	10,605	Dec. 12	119	1905
Eastern Refining Co., New York, N. Y. Molasses	5,623	Nov. 21	119	939
Eastern Refining Co., New York, N. Y. Molasses	5,625	Dec. 26	119	2499
Eaton-Dikeman Co., Lee, Mass. Blotting-paper	9,640	Dec. 5	119	1556
Eccles, E. M., McKeesport, Pa. Insecticide	12,163	Nov. 21	119	950
Eclipse Cement & Blacking Co., Philadelphia, Pa. Cement for leather, rubber, cloth, pasteboard, wood, iron, artificial flowers, imitation leather, imitation rubber, and rubber substitutes	13,315	Nov. 7	119	328
Economy Manufacturing Co., New Haven, Conn. Concrete wash-trays	13,051	Nov. 28	119	1249
Eddystone Manufacturing Co., Eddystone and Philadelphia, Pa. Drapery and upholstery fabrics	9,458	Dec. 5	119	1565
Eddystone Manufacturing Co., Eddystone and Philadelphia, Pa. Drapery and upholstery textile fabrics	9,455–7	Dec. 12	119	1903
Eddystone Manufacturing Co., Eddystone and Philadelphia, Pa. Drapery and upholstery textile fabrics	9,461	Dec. 12	119	1903
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Printed and dyed textile fabrics	9,463–4	Dec. 5	119	1565
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Printed and dyed cotton textile fabrics	9,465	Dec. 5	119	1565
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Printed and dyed textile fabrics	9,472	Dec. 5	119	1565
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Drapery and upholstery textile fabrics	9,805	Dec. 5	119	1566
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Printed and dyed textile fabrics	9,807	Dec. 5	119	1566
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Printed and dyed textile fabrics	10,303–5	Dec. 5	119	1567
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Printed and dyed textile fabrics	10,650	Dec. 5	119	1568
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Printed and dyed textile fabrics	9,468	Dec. 12	119	1903
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Printed and dyed textile fabrics	9,471	Dec. 12	119	1903
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Drapery and upholstery textile fabrics	9,653–4	Dec. 12	119	1904
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Printed and dyed drapery and upholstery textile fabrics	9,803	Dec. 12	119	1904
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Drapery and upholstery textile fabrics	9,804	Dec. 12	119	1904
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Drapery and upholstery textile fabrics	10,300	Dec. 12	119	1905
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Dyed and printed cotton drapery and upholstery goods	13,060	Dec. 19	119	2221
Edgewood Distilling Company, Cincinnati, Ohio. Whisky	7,883	Dec. 5	119	1563
Ehrmann, Hilmar, Louisville, Ky. Whisky	8,436	Nov. 14	119	627
Electrical Review Pub. Co., New York, N. Y. Publications treating of electrotechnics	10,085	Dec. 12	119	1904
Electro-Silicon Co., New York, N. Y. Preparation for cleaning and polishing metals and glass	5,369	Nov. 28	119	1239
Eley Brothers Limited, London, England. Cartridges	1,388	Dec. 12	119	1894
Eli Lilly & Company, Indianapolis, Ind. Uterine tonic and sedative	12,749	Dec. 12	119	1908
Elizabeth Mill Co., Providence, R. I. Thread-yarn	7,360	Dec. 12	119	1900
Emerson Manufacturing Co., Rockford, Ill. Plows, listers, and harrows	4,286	Dec. 5	119	1559
Enoch Morgan's Sons Company, New York, N. Y. Cleansing or scouring compound	14,390	Dec. 19	119	2225
Euler & Co., Franz, New York, N. Y. Lamp-chimneys	8,264	Nov. 14	119	626
Eureka Fire Hose Company, Jersey City, N. J. Fabric hose	10,725	Nov. 14	119	631
Everett, Charles A., Detroit, Mich. Powders for cleaning solid and plated wares and metals	8,364	Nov. 28	119	1243
Ewart & Co., S., Pittsburg, Pa. Stogies or tobies	10,882–3	Dec. 19	119	2218
Exton & Co., A., Trenton, N. J. Biscuits and crackers	12,464	Nov. 21	119	951
Eye Shine Polish Company, Chicago, Ill. Stove-polish	9,750	Dec. 26	119	2504
F. Chevalier Co., San Francisco, Cal. Whisky	9,505	Dec. 19	119	2215
F. B. Q. Clothing Co., New York, N. Y. Men's, boys', and children's clothing for external wear, comprising overcoats, coats, vests, trousers, and knee-pants	4,838	Dec. 5	119	1560
F. H. Sadler Co., Attleboro, Mass. Gold-plated rings	718	Dec. 12	119	1893
F. H. Sadler Co., Attleboro, Mass. Bracelets	14,507	Dec. 19	119	2225
Faber, Eberhard, New York, N. Y. Erasers	13,489	Dec. 5	119	1574
Fahnestock Co., B. A., Pittsburg, Pa. Vermifuge	5,868	Nov. 28	119	1239
Fairbanks Co., New York, N. Y. Steam and water valves	1,964	Dec. 5	119	1557
Fairbanks Co., New York, N. Y. Steam and water valves	1,966	Dec. 5	119	1557
Fairbanks Co., New York, N. Y. Packing for valve-joints	1,969	Dec. 19	119	2204
Fairchild Bros. & Foster, New York, N. Y. Preparations of pancreas, thyroid and stomach glands, and other animal extracts dispensed in the form of tablets, disks, and pills	1,976	Nov. 14	119	620
Favorite Stove & Range Co., Piqua, Ohio. Stoves, furnaces, and ranges	7,412–13	Nov. 21	119	943
Federal Chemical Co., Louisville, Ky. Fertilizers	9,950	Nov. 7	119	324
Feldman, Nellie von, Washington, D. C. Compounds for the treatment of the hair and scalp	7,601	Nov. 7	119	319
Fellows and Company, Troy, N. Y. Shirts, collars, and cuffs	10,732	Dec. 5	119	1568
Fellows Medical M'f'g Co., Limited, New York, N. Y. Preparation of hypophosphites	1,047	Dec. 19	119	2203

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Fennessy, Frank E., Boston, Mass. Blacking and leather-dressing	7,102	Dec. 26	119	2501
Ferris, Mary A., Plainville, Ohio Mineral waters	6,037	Dec. 19	119	2209
Field, Fred F., Brockton, Mass. Leather boots, shoes, and slippers of all kinds and upper and sole leather used in their manufacture	6,818	Dec. 19	119	2210
Fletcher Manufacturing Company, Providence, R. I. Wicks, webs, and webbing	11,679	Nov. 21	119	948
Fletcher Manufacturing Company, Providence, R. I. Plain and ornamental braids, bindings, and trimmings	12,556	Dec. 5	119	1571
Flood, John W., Louisville, Ky. Whisky	14,250	Dec. 12	119	1913
Florida White Pressed Brick Company, Greencove Springs, Fla. Bricks and artificial stone made of sand and lime	14,135	Dec. 5	119	1576
Ford, Thomas P., New York, N. Y. Regulating-valves for fluids	1,309	Dec. 19	119	2203
Foster Milburn Co., Buffalo, N. Y. Cough-syrup	5,947	Nov. 7	119	314
Fowler Medicine Company, Rochester, N. Y. Corn remedy	11,735	Nov. 21	119	949
Fownes Brothers & Co., London, England. Gloves	8,443	Nov. 28	119	1243
Fox River Paper Company, Appleton, Wis. Writing-paper	10,193	Dec. 5	119	1567
Francis Gowdy Distilling Co., Melrose, Conn. Gin	13,140	Dec. 5	119	1573
Francis H. Leggett & Company, New York, N. Y. Corn-starch and laundry starch	8,488	Nov. 14	119	627
Francis H. Leggett & Company, New York, N. Y. Corn-starch and laundry starch	8,823	Nov. 14	119	628
Francis H. Leggett & Company, New York, N. Y. Chocolate and cocoa	12,970	Nov. 21	119	953
Francis H. Leggett & Company, New York, N. Y. Jellies, jelly-powders, jams, and preserves	12,973	Dec. 5	119	1572
Francis H. Leggett & Company, New York, N. Y. Salt	12,975	Dec. 12	119	1909
Francis H. Leggett & Company, New York, N. Y. Lard	12,976	Dec. 12	119	1909
Frank C. Weber and Co., Chicago, Ill. Canned peaches, pears, apricots, tomatoes, corn, peas, and beans	2,679–80	Dec. 19	119	2204
Frank, George, San Jose, Cal. Canned fruits and vegetables	10,885	Nov. 21	119	948
Frank, George, San Jose, Cal. Dried fruits	10,894	Nov. 28	119	1247
Frank H. Stewart Electric Company, Philadelphia, Pa. Electric-light supports	7,149	Dec. 26	119	2501
Frank H. Stewart Electric Company, Philadelphia, Pa. Socket-bushings for electric fixtures	14,826	Dec. 26	119	2509
Franklin's Sons & Co., J. C., Troy, N. Y. Remedy for children's colic and cholera infantum	10,182	Dec. 26	119	2505
Fred F. Field Company, Brockton, Mass. Leather boots, shoes, and slippers	12,016	Dec. 19	119	2220
Freiberg, J. & A., Cincinnati, Ohio. Whisky	6,719	Dec. 5	119	1562
Freiberg, J. & A., Cincinnati, Ohio. Whisky	6,722	Dec. 26	119	2501
Freiler, Philip, Elgin, Ill. Whisky	2,337	Nov. 28	119	1234
French & Company, Factoryville, Pa. Biscuits, crackers, &c., more especially for infants and invalids	8,133	Nov. 7	119	319
French Drug Company, New York, N. Y. Proprietary remedy for diseases peculiar to women	9,511	Nov. 28	119	1246
Friedman, Keller & Co., Paducah Ky. Whisky	3,800	Dec. 5	119	1558
Fritts & Wiehl, Chattanooga, Tenn. Tonic medicines and kidney, liver, and bladder specifics	145	Dec. 5	119	1555
Fritz Schulz, Jun., Aktiengesellschaft, Leipzig, Germany, and Lincoln, N. J. Pastes, pomades, liquids, powders, and cakes or blocks for cleaning, polishing, and preserving metals, china, glass, leather, wood, &c	6,591	Nov. 21	119	941
Fritz Schulz, Jun., Aktiengesellschaft, Leipzig, Germany, and Lincoln, N. J. Pastes, pomades, liquids, powders, and cakes or blocks for cleaning and polishing metals, china, glass, leather, wood, &c	6,592	Nov. 21	119	941
Fritz Schulz, Jun., Aktiengesellschaft, Leipzig, Germany, and Lincoln, N. J. Preparations for polishing, cleaning, and preserving leather	6,593	Nov. 21	119	941
Fritz Schulz, Jun., Aktiengesellschaft, Leipzig, Germany, and Lincoln, N. J. Polish extract, pastes, pomades, liquids, powders, and cakes or blocks for cleaning and polishing metals, china, glass, leather, wood, &c	6,594	Nov. 21	119	941
Fritz Schulz, Jun., Aktiengesellschaft, Leipzig, Germany, and Lincoln, N. J. Stove-polish	6,595	Nov. 21	119	941
Frog in Your Throat Co., New York, N. Y. Bronchial lozenges and throat-tablets	4,807	Dec. 5	119	1560
Fruit-Grower Company, St. Joseph, Mo. Printed publications relating to agriculture, horticulture, gardening, and the raising and marketing of fruits, garden stuff, and produce	10,998	Dec. 5	119	1568
G. B. Farrington Co., New York, N. Y. Coffee	9,094	Nov. 28	119	1244
G. B. Farrington Company, New York, N. Y. Coffee	4,702	Nov. 28	119	1237
G. & H. Barnett Company, Philadelphia, Pa. Files and rasps	7,926	Dec. 12	119	1901
G. W. Chase & Son Mercantile Co., St. Joseph, Mo. Tobacco and tobacco products	4,017	Nov. 21	119	938
Gabler, Emil E., New York, N. Y. Pianos	11,396	Dec. 19	119	2220
Gabriel & Schall, New York, N. Y. Asphalt mastic	2,617	Nov. 28	119	1235
Galena-Signal Oil Company, Franklin, Pa. Lubricating-oils	10,316	Dec. 5	119	1567
Geety, Wallace G., New York, N. Y. Hair remedy	9,012	Nov. 21	119	947
Gem City Stove Co., Dayton, Ohio. Wood, coal, and gas heating-stoves, cooking-stoves, and ranges	9,564	Dec. 5	119	1566
Gem Cutlery Co., New York, N. Y. Safety razors and razor-blades	11,925	Dec. 5	119	1570
General Specialty Company, Philadelphia, Pa. Tack and nail pullers	6,113	Dec. 19	119	2208
Geo. D. Witt Shoe Co., Lynchburg, Va. Leather boots and shoes	8,683	Nov. 7	119	320
Geo. E. Keith Company, Brockton, Mass. Shoe-dressing	8,700	Nov. 7	119	320
Geo. E. Keith Company, Brockton, Mass. Leather and canvas boots and shoes	7,844	Dec. 26	119	2502
Geo. H. Goodman Company, Paducah, Ky. Whisky	4,139	Dec. 12	119	1896
Geo. W. Lord Co., Philadelphia, Pa. Boiler compounds for preventing incrustation and scale in boilers	6,735	Nov. 28	119	1242
George A. Hormel & Co., Austin, Minn. Cured meats	6,738	Nov. 7	119	316
German-American Portland Cement Works, Lasalle, Ill. Portland cement	2,384	Nov. 28	119	1234
Gerstendorfer Bros., New York, N. Y. Bronze, silver, aluminum, and gold paints and powders, bronze, silver, aluminum, and gold-enamel and bronzing liquids	3,059	Dec. 26	119	2496
Gerstle Medicine Co., Chattanooga, Tenn. Remedy for the diseases of women	7,333	Nov. 21	119	943
Gerstle Medicine Co., Chattanooga, Tenn. Medical preparation of sarsaparilla	7,334	Nov. 21	119	943
Gillespie Bros. & Co., New York, N. Y. Lard	10,922	Nov. 14	119	631
Ginn Company, Ironton, Ohio. Coal, coke, and charcoal	13,045	Dec. 5	119	1573
Ginter Grocery Company, Boston, Mass. Champagne	14,052	Dec. 19	119	2223
Ginter Grocery Company, Boston, Mass. Whisky	10,036	Dec. 26	119	2504
Glasner & Barzen Distilling & Importing Co., Kansas City, Mo. Whisky	13,333	Dec. 5	119	1574
Glasner & Barzen Distilling & Importing Co., Kansas City, Mo. Whisky	13,337	Dec. 5	119	1574
Glasner & Barzen Distilling & Importing Co., Kansas City, Mo. Whisky	13,336	Dec. 12	119	1910
Glastonbury Knitting Company, Addison, Conn. Knitted underwear	13,892	Dec. 19	119	2223
Glidden Varnish Company, Cleveland, Ohio. First coat or substitute for shellac	14,803	Dec. 26	119	2509
Goldsmith, Joseph, Feiss Co., Cleveland, Ohio. Ready-made suits, including coats, vests, trousers, also overcoats for men and boys	13,803	Dec. 26	119	2508
Good, Milton D., Kansas City, Mo. Inhalers and respirators	9,205	Nov. 28	119	1244
Goodkind Bros., Helena, Mont. Whisky	10,347	Nov. 7	119	325
Goodman Bros., Memphis, Tenn. Whisky	8,287	Dec. 5	119	1564
Goss Printing Press Company, Chicago, Ill. Web-perfecting printing-machines	11,466	Dec. 5	119	1569
Gottfried Brewing Company, Chicago, Ill. Beer	8,441	Nov. 7	119	320
Gousset, Cyprien, New York, N. Y. Chocolate creams	14,077	Dec. 19	119	2223
Graef & Schmidt, New York, N. Y. Shears and scissors	4,879	Nov. 7	119	312
Gramm, Benjamin A., Chillicothe, Ohio. Automobiles and motor-cars	7,498	Dec. 5	119	1562

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Graton and Knight Manufacturing Company, Worcester, Mass. Leather belting	8,774	Dec. 12	119	1902
Graves & Sons, C. H., Boston, Mass. Gin	6,878	Nov. 7	119	317
Graves & Sons, C. H., Boston, Mass. Alcohol	6,874	Dec. 26	119	2501
Green Green & Co., Dayton, Ohio. Cracker and biscuit cartons	13,172	Nov. 28	119	1249
Greenfield's Son & Co., E., New York, N. Y. Chocolate confectionery	11,563	Nov. 28	119	1248
Greenfield's Son & Co., E., New York, N. Y. Chocolate confectionery	11,626	Dec. 5	119	1569
Griffin & Co., G. W., Franklin Falls, N. H. Hacksaws and hacksaw-blades	14,513	Dec. 19	119	2225
Griffin & Skelley Co., San Francisco, Cal. Dried and evaporated fruits	12,569–71	Nov. 21	119	952
Griffon Company, New York, N. Y. Clothes for ladies', men's, and children's wear	1,030	Nov. 7	119	310
Griffon Company, New York, N. Y. Cloths for ladies', men's, and children's wear	1,030	Nov. 28	119	1233
Griggs, Cooper and Company, St. Paul, Minn. Biscuits	10,532	Nov 21	119	947
Grosvenor & Co., J. M., Boston, Mass. Toilet cream	11,216	Dec. 19	119	2219
Groves' Son and Co., Dr. M. F., Philadelphia, Pa. Anodyne for infants	4,373	Nov. 14	119	622
Groves' Son and Co., Dr. M. F., Philadelphia, Pa. Remedy for the treatment of rheumatism, neuralgia, gout, pains, aches, and the like	4,372	Dec. 5	119	1559
Guckenheimer & Bros., Asher, Pittsburg, Pa Whisky	6,280	Nov. 21	119	940
Guild & Co., Curtis, Boston, Mass. Weekly newspaper	9,400	Nov 28	119	1245
Gulden, Charles, New York, N. Y. Olives	1,324–5	Nov. 7	119	310
Gulden, Charles, New York, N. Y. Mustard	1,326	Nov. 7	119	310
Gulden, Charles, New York, N. Y. Olives	1,097	Nov. 21	119	931
Gulf Refining Company, Port Arthur, Tex., and Pittsburg, Pa. Petroleum burning-oils	8,762–6	Nov. 21	119	946
Gulf Refining Company, Port Arthur, Tex., and Pittsburg, Pa. Petroleum lubricating-oils	8,768	Nov. 21	119	946
Gurney Heater Manufacturing Company, Boston, Mass. Steam and hot-water heaters and radiators	7,084	Nov. 28	119	1242
Guthmann Carpenter & Telling, Chicago, Ill. Leather boots and shoes	4,645	Nov. 28	119	1237
Hagen & Travers, Buffalo, N. Y. Whisky	10,074	Nov. 7	119	325
Hagerty & Co., John J., Dorchester, Mass. Whisky	10,382	Dec. 26	119	2505
Hamilton and Hamilton, Jr., Providence, R. I. Sterling-silver flat ware, hollow ware, and tableware	6,157	Dec. 12	119	1898
Hampden Watch Co., Canton, Ohio. Watch-movements	2,229	Dec. 12	119	1895
Hampden Watch Co., Canton, Ohio. Watch-movements	2,232	Dec. 26	119	2496
Hampden Watch Co., Canton, Ohio. Watch-movements	2,234	Dec. 26	119	249
Hann, James E., Chicago, Ill. Rat-poison	4,662	Dec. 12	119	1896
Hannah & Hogg, Chicago, Ill. Whisky	10,340–1	Nov. 7	119	325
Harrell, Earle G., Camilla, Ga. Salve	11,045	Nov. 14	119	633
Harris Suspender Co., New York, N. Y. Suspenders and braces	782	Nov. 14	119	619
Harris Suspender Co., New York, N. Y. Braces and suspenders	786	Nov. 14	119	619
Harris Suspender Co., New York, N. Y. Men's suspenders and braces	784	Nov. 21	119	931
Hart Manufacturing Co., Cleveland, Ohio. Die-stocks	13,940	Dec. 5	119	1575
Hart Manufacturing Company, Hartford, Conn. Switches and sockets, receptacles, connections, and fittings therefor for electrical use	6,356	Nov. 28	119	1241
Harvey Hubbell, Incorporated, Bridgeport, Conn. Pull-sockets	13,737	Nov. 28	119	1250
Harvey & Son, Squire T., Chicago, Ill. Whisky	5,348	Nov. 28	119	1238
Haskins Bros. & Co., Sioux City, Iowa, and Omaha, Nebr. Toilet and laundry soap	8,849	Dec. 19	119	2214
Hattervig, Osmond O., Viborg, S. D. Remedy for dehorning calves and treatment of lumpy-jaw cattle	8,682	Nov. 28	119	1244
Havana Commercial Company, New York, N. Y. Cigars	7,779	Nov. 21	119	944
Havana Commercial Company, New York, N. Y. Havana cigars	11,421	Dec. 12	119	1906
Hawley & Hoops, New York, N. Y. Candies	473	Nov. 28	119	1233
Hayden, Sarah H. E., Bedford Springs, Bedford, Mass. Medical compound used as a remedy for rheumatism, neuralgia, kidney diseases, &c	8,413	Dec. 19	119	2213
Hazen Confectionery Company, Boston, Mass. Chocolate candies	6,238	Dec. 26	119	2500
Heimann-Miller Manufacturing Company, St. Louis, Mo. Display-fixtures	12,841	Dec. 5	119	1572
Helderberg Cement Co., Howe's Cave, N. Y. Portland cement	14,837	Dec. 26	119	2510
Heller & Merz Co., Newark, N. J. Ball-blue and wash-blue	7,466	Dec. 19	119	2211
Henis Fruit Press Co., New York, N. Y. Fruit-presses	3,174	Nov. 21	119	936
Henry Block Co., Limited, New Orleans, La. Wine	5,309	Nov. 28	119	1238
Henry Disston & Sons, Incorporated, Philadelphia, Pa. Saws	14,107	Dec. 12	119	1913
Henry Disston & Sons, Incorporated, Philadelphia, Pa. Saws	14,111–12	Dec. 12	119	1913
Henry Disston & Sons, Incorporated, Philadelphia, Pa. Saws	14,119–20	Dec. 12	119	1913
Henry Disston & Sons, Incorporated, Philadelphia, Pa. Saws	14,113	Dec. 19	119	2224
Henry Disston & Sons, Incorporated, Philadelphia, Pa. Saw-swages	14,121	Dec. 19	119	2224
Henry Disston & Sons, Incorporated, Philadelphia, Pa. Saws	14,108	Dec. 26	119	2508
Henry E. Frankenberg Co., New York, N. Y. Woolen, worsted, and mohair yarns	5,921	Dec. 5	119	1561
Henry E. Frankenberg Co., New York, N. Y. Woolen, worsted, and mohair yarns	6,112	Dec. 5	119	1561
Henry E. Frankenberg Company, New York, N. Y. Cotton, silk, linen, and tinsel threads, chenille, and arrasene	11,846	Nov. 28	119	1245
Henry E. Frankenberg Company, New York, N. Y. Silks	11,851	Nov. 28	119	1248
Henry E. Frankenberg Company, New York, N. Y. Silks	11,843	Dec. 5	119	1570
Henry E. Frankenberg Company, New York, N. Y. Dress and waist trimmings and braids	11,847	Dec. 5	119	1570
Henry E. Frankenberg Company, New York, N. Y. Cotton, silk, and linen threads, chenille, tinsel, and arrasene	11,850	Dec. 5	119	1570
Henry E. Frankenberg Company, New York, N. Y. Dress and waist trimmings and braids	11,852	Dec. 5	119	1570
Henry E. Frankenberg Company, New York, N. Y. Woolen, worsted, and mohair yarns	11,853	Dec. 5	119	1570
Henseler, A. J., Peoria, Ill. Whisky	12,640	Nov. 28	119	1248
Herb Medicine Company, Springfield, Ohio. Single compound in powdered form, which is a food and medicine for live stock and poultry	3,457	Dec. 12	119	1895
Heyl, Cornelius, Worms, Germany. Patent-leather, calfskins, and waxed calfskins	13,482	Nov. 21	119	954
Hezel Milling Company, East St. Louis, Ill. Wheat-flour	7,231	Nov. 21	119	943
Hezel Milling Company, East St. Louis, Ill. Wheat-flour	7,230	Dec. 5	119	1562
Hickson, Stephen, New York, N. Y. Gold-leaf	8,536	Dec. 12	119	1902
Higley, Christina J., New York, N. Y. Hose-supporters	8,514	Dec. 5	119	1564
Higley, Christina J., New York, N. Y. Hose-supporters	10,618	Dec. 5	119	1568
Higley, Christina J., New York, N. Y. Hose-supporters	9,871–2	Dec. 26	119	2504
Hinkle Shoe Co., Evansville, Ind. Leather boots and shoes	7,280	Nov. 7	119	318
Hitchner Biscuit Co., West Pittston, Pa. Biscuits, crackers, and wafers	13,137	Dec. 12	119	1909
Hochstadter, Sigmund, New York, N. Y. Wines	6,193	Nov. 7	119	315
Hochstadter, Sigmund, New York, N. Y. Cognac	6,199	Nov. 7	119	315
Hochstadter, Sigmund, New York, N. Y. Cocktails	6,195	Nov. 21	119	940
Hoffheimer Bros. Co., Cincinnati, Ohio. Whisky	5,142	Dec. 19	119	2207
Hoffheimer Bros. Co., Cincinnati, Ohio. Whisky	5,146	Dec. 26	119	2498
Hoffheimer Soap Co., Chicago, Ill. Monthly magazine published in the interest of the soap trade	11,333	Dec. 5	119	1569
Hoffheimer Soap Co., Chicago, Ill. Monthly magazine	11,546	Dec. 5	119	1569
Hoffheimer Soap Co., Chicago, Ill. Soap for household and general cleaning purposes	11,334	Dec. 12	119	1905
Hoffheimer Soap Co., Chicago, Ill. Soap for household and general cleaning purposes	11,332	Dec. 19	119	2219

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Holden, George C., Wayne, Pa. Headache remedy and tonic	7,553	Nov. 7	119	318
Holland Medicine Company, Philadelphia, Pa. Oil for external and internal use	12,137–8	Dec. 12	119	1907
Holland Rusk Co., Holland, Mich. Rusks	14,955	Dec. 19	119	2226
Holliday, W. H., Albertville, Ala. Medicine for diseases of the vagina	11,539	Dec. 5	119	1569
Holloway, William, Philadelphia Pa. Medicated confections used as a worm specific	10,943	Nov. 14	119	631
Holloway, William, Philadelphia, Pa. Bitters	10,944	Nov. 14	119	631
Holzapfel's Compositions Company, Limited, Newcastle-upon-Tyne, England. Detergent preparation	5,101	Dec. 26	119	2498
Homefolks Publishing Company, a Corporation, Chicago, Ill. Magazine or periodical	14,095	Dec. 12	119	1912
Hopkins, Ferdinand T., New York, N. Y. Soap	7,167	Nov. 7	119	317
Houck & Dieter Co., El Paso, Tex. Whisky	8,498	Nov. 21	119	945
Howe & Howe, Boston, Mass. Dress, bosom, and negligée shirts	330	Dec. 19	119	2203
Howe, Robert A., Boston, Mass. Men's undershirts, drawers, and union suits	6,737	Nov. 28	119	1242
Hoyle, Harry, Gulfport, Miss. Whisky	11,487	Nov. 7	119	327
Hudson & Co. Inc., New York, N. Y. Non-acid antiseptic liquid for internal and external use	5,632	Dec. 19	119	2208
Huenefeld, Ernst H., Cincinnati, Ohio. Removable ovens for cooking-stoves	5,779	Nov. 7	119	314
Hulman & Co., Terre Haute, Ind. Baking-powder	8,646	Dec. 26	119	2503
Hunt & Co., F. W., Boston, Mass. Whisky	8,465	Nov. 14	119	627
Hunt & Co., F. W., Boston, Mass. Gin	8,466	Nov. 14	119	627
Hunt & Co., F. W., Boston, Mass. Whisky	8,468–70	Nov. 14	119	627
Hunter, Robert J., Washington, D. C. Men's and women's hats and caps	13,659	Dec. 26	119	2507
Hy-Jen Chemical Co., Chicago, Ill. Dentifrice	3,727	Dec. 5	119	1558
Hydrex Felt & Engineering Co., East Walpole, Mass. Waterproofing felt	7,278	Dec. 12	119	1899
Hydro-Carbon Manufacturing Company, Denver, Colo. Acid, heat, water, and weather proof and wood and metal preservative paint	2,643	Nov. 7	119	310
I. B. Kleinert Rubber Co., New York, N. Y. Dress-shields	11,628	Nov. 21	119	948
Illinois Sewing Machine Co., Rockford and Chicago, Ill. Sewing-machines and parts thereof	5,219	Dec. 5	119	1560
Incorporated New London Wash Silk Co., New London, Conn. Silk floss or embroidery-silk	5,886	Nov. 28	119	1240
Independent Brewing Ass'n, Chicago, Ill. Malt tonic	1,346	Nov. 28	119	1233
Indian Head Mills of Alabama, Cordova, Ala. Cotton piece goods	10,539	Dec. 5	119	1568
Indianapolis Brewing Company, Indianapolis, Ind. Beer	557	Nov. 7	119	309
Indianapolis Brewing Company, Indianapolis, Ind. Beer	559	Nov. 7	119	309
Ineeda-Cofpho Co., Louisville, Ky. Stimulating and non-intoxicating tonic beverage	7,954	Dec. 12	119	1901
Inland Chemical Co., Indianapolis, Ind. Alteratives	9,603	Dec. 19	119	2215
International Cutlery Company, Fremont, Ohio. Razors	9,672	Nov. 28	119	1246
International Harvester Co. of America, Chicago, Ill. Grain-binding, corn, and rice harvesters, mowers, and reapers, extra and repair parts and pieces for such apparatus, ledger-plates excluded	12,109	Dec. 12	119	1907
International Silver Company, Meriden, Conn. Silver-plated hollow ware	14,319	Dec. 5	119	1576
International Silver Company, Meriden, Conn. Silver-plated hollow ware	14,336	Dec. 5	119	1576
International Silver Company, Meriden, Conn. Silver-plated hollow ware	14,339–40	Dec. 5	119	1576
International Silver Company, Meriden, Conn. Silver-plated hollow ware	14,337	Dec. 19	119	2224
International Silver Company, Meriden, Conn. Silver-plated hollow ware	9,324–5	Dec. 26	119	2503
Irons & Russell, Providence, R. I. Gold-plated badges	7,564	Dec. 26	119	2501
Iseman, Samuel, Baltimore, Md. Tonics	8,257	Dec. 19	119	2213
J. A. Bokel Company of Baltimore City, Baltimore, Md. Whisky	12,316	Dec. 26	119	2507
J. C. Grant Chemical Company, East St. Louis, Ill. Baking-powder	3,703	Dec. 26	119	2497
J. C. Hubinger Bros. Co., New Haven, Conn. Lump-starch for laundry purposes	14,043	Dec. 26	119	2508
J. C. Hubinger Bros. Co., New Haven, Conn. Corn-starch	14,044	Dec. 26	119	2508
J. C. Hubinger Bros. Co., New Haven, Conn. Laundry starch	14,045	Dec. 26	119	2508
J. & E. Mahoney, Portsmouth, Va. Whisky	9,432	Nov. 7	119	321
J. F. Parkhurst & Son Co., Bangor, Me. Trunks	2,902	Nov. 21	119	936
J. G. McDonald Candy Co., Salt Lake City, Utah. Candies of all kinds	5,571	Nov. 21	119	939
J. H. Rowe Company, Portland, Me., and Gloucester, Mass. Oiled clothing	7,957	Nov. 14	119	625
J. H. Rowe Company, Portland Me., and Gloucester, Mass. Oiled clothing	7,959	Nov. 14	119	625
J. H. Rowe Company, Portland, Me., and Gloucester, Mass. Oiled clothing	7,958	Dec. 5	119	1563
J. P. Hartray Shoe Co., Chicago, Ill. Leather shoes	6,341	Nov. 28	119	1240
J. W. Beardsley's Sons, New York, N. Y. Salted and boneless fish	1,102	Nov. 28	119	1233
J. W. Evenden Co., Buffalo, N. Y. Whisky	10,030	Nov. 7	119	324
Jaburg Bros., New York, N. Y. Ceylon tea	12,543	Dec. 12	119	1908
Jaburg Bros., New York, N. Y. Prepared spices for bakers, confectioners, and grocers	13,483	Dec. 19	119	2221
Jackson Company, Nashua, N. H. Cotton piece goods	8,990	Dec. 12	119	1903
Jacob J. Vollrath Mfg. Co., Sheboygan, Wis. Stamped steel ware coated on both the outside and inside with light-gray speckled enamel	6,343	Dec. 26	119	2501
Jacobs & Garrett, Memphis, Tenn. Whisky	14,066	Dec. 12	119	1912
Jacques, Jean, Waterbury, Conn. Mixed drinks	14,024	Dec. 5	119	1576
Jaenecke Printing Ink Co., Newark, N. J. Printing-inks	14,093	Dec. 5	119	1576
James B. Sipe & Co., Allegheny, Pa. Painting, staining, and graining oil	3,935	Dec. 26	119	2497
James C. Lindsay Hardware Co., Pittsburg, Pa. Hatchets, axes, and adzes	1,411	Nov. 28	119	1234
Jandus Electric Co., Cleveland, Ohio. Electric-arc lamps	10,512	Dec. 5	119	1567
Jandus Electric Co., Cleveland, Ohio. Electric fans	10,513	Dec. 5	119	1567
Jayne & Son, Dr. D., Philadelphia, Pa. Medicinal and chemical preparations for the prevention and cure of diseases	1,042–3	Nov. 21	119	931
Jayne & Son, Dr. D., Philadelphia, Pa. Medicinal and chemical preparations for the prevention and cure of diseases	1,373	Nov. 21	119	932
Jel-Nut Manufacturing Company, Baltimore, Md. Peanut-butter	8,258	Nov. 14	119	626
Jenkins, Benjamin S., Conklingville, N. Y. Washboards	13,393	Nov. 28	119	1249
Jenkins Bros., New York, N. Y. Insect-poison	4,401	Dec. 5	119	1559
Jessup-Wheelan Co., San Francisco, Cal. Clover-seed	13,466	Nov. 14	119	638
Jett Bros. Distilling Co , Carrollton, Ky. Whisky	3,497	Dec. 19	119	2205
John Bardenheier Wine and Liquor Co., St. Louis, Mo. Brandy	4,177	Dec. 5	119	1558
John Church Company, Cincinnati, Ohio. Upright pianos	2,781	Nov. 14	119	621
John Eichler Brewing Co., New York, N. Y. Beer	12,947	Nov. 14	119	637
John J. Clark & Co., Pawtucket, R. I. Spool-cotton	11,760	Nov. 14	119	635
John L. Whiting & Son Co., Boston, Mass. Paint, varnish, and sash tool brushes	3,570	Nov. 14	119	621
John L. Whiting & Son Co., Boston, Mass. Paint, varnish, and sash tool brushes	3,574	Nov. 14	119	621
John L. Whiting & Son Co., Boston, Mass. Paint, varnish, and sash tool brushes	3,576	Nov. 14	119	621
John L. Whiting & Son Co., Boston, Mass. Brushes	3,585	Nov. 21	119	937
John T. Lewis & Bros. Co., Philadelphia, Pa. Pigment colors and colored paints	12,829	Nov. 28	119	1248
John W. Russ Co., Haverhill, Mass. Leather boots and shoes	7,569	Nov. 14	119	625
John W. Russ Company, Haverhill, Mass. Leather boots and shoes	7,571	Nov. 7	119	318
John W. Russ Company, Haverhill, Mass. Leather boots and shoes	7,570	Nov. 28	119	1243
Johnson & Johnson, New Brunswick, N. J. Plasters	13,992	Dec. 5	119	1575
Johnson & Johnson, New Brunswick, N. J. Plasters	13,994	Dec. 5	119	1575
Johnson & Johnson, New Brunswick, N. J. Membranes	14,008	Dec. 5	119	1576
Johnson & Johnson, New Brunswick, N. J. Surgical dressings	14,010	Dec. 5	119	1576

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Johnson & Johnson, New Brunswick, N. J. Catheters and bougies	14,011	Dec. 5	119	1576
Johnson & Johnson, New Brunswick, N. J. Plasters	13,995	Dec. 12	119	1910
Johnson & Johnson, New Brunswick, N. J. Soap	14,003	Dec. 12	119	1910
Johnson & Lund, Philadelphia, Pa. Artificial teeth and parts connected therewith	2,923	Dec. 12	119	1895
Johnson-Richardson Co., Limited, Montreal, Canada. Dyes and dyestuffs	4,671	Nov. 28	119	1237
Jones & Co., Paul, Louisville, Ky. Rye and Bourbon whiskies	10,466	Nov. 7	119	327
Jones, Frank G., Boston, Mass. Leather boots and shoes and leather for the same	7,087	Nov. 7	119	317
Jordan Marsh Company, Boston, Mass. Leather boots and shoes	8,870	Dec. 5	119	1564
Joseph Campbell Company, Camden, N. J. Condensed soups	5,839	Nov. 7	119	314
Joseph Campbell Company, Camden, N. J. Condensed soups	2,779	Nov. 14	119	621
Joseph N. Eisendrath Company, Chicago, Ill. Pliable leather tanned by a special process for the manufacture of gloves, shoes, &c.	7,461-2	Dec. 19	119	2211
Jung, Louis E., New Orleans, La. Bitters	4,134	Dec. 19	119	2205
Kabo Corset Company, Chicago, Ill. Corsets	9,968	Dec. 26	119	2504
Kahn, Harry, Cincinnati, Ohio. Whisky	7,199	Nov. 7	119	317
Kalkhoff, Alfons F., Toledo, Ohio. Medical preparation for genito-urinary diseases	10,686	Dec. 5	119	1568
Kastor & Bros., Adolph, New York, N. Y. Pocket-knives and razors	4,914	Nov. 21	119	939
Katharmon Chemical Co., St. Louis, Mo. Tonics	12,879	Dec. 12	119	1909
Kaufmann, Baer & Co., Cincinnati, Ohio. Whisky	9,721	Nov. 21	119	947
Kaufmann Bros. & Co., Toledo, Ohio. Whisky	8,953	Dec. 19	119	2214
Kearney & Foot Company, Paterson, N. J. Files and rasps	7,928	Dec. 12	119	1901
Kearney & Foot Company, Paterson, N. J. Files and rasps	8,132	Dec. 12	119	1901
Keasbey & Mattison Company, Ambler, Pa. Packings	14,456	Dec. 12	119	1914
Keidel, Henry, Baltimore, Md. Shotguns, rifles, and revolvers	8,292	Dec. 5	119	1564
Keidel, Henry, Baltimore, Md. Gasolene and marine engines	8,297	Dec. 5	119	1564
Keidel, Henry, Baltimore, Md. Rifles, shotguns, and revolvers	8,295	Dec. 19	119	2213
Keil, Julius M., Western Springs, Ill. Crystalline soluble chemical to be used for softening hard water	13,265	Dec. 5	119	1573
Keller, A. H., Sioux Falls, S. D. Medicine for the treatment of nervous exhaustion, torpid liver, and dyspepsia	8,324	Nov. 28	119	1243
Keller, George J., Newark, N. J. Coffee	8,124	Dec. 19	119	2212
Keuffel & Esser Company, Hoboken, N. J. Drawing-paper	13,809	Dec. 5	119	1575
Keystone Nail Company, Inc., Philadelphia, Pa. Galvanized fastening devices comprising cut and wire nails, bolts, screws, and rivets	7,604	Dec. 26	119	2501
Kilbourne & Jacobs Manufacturing Company, Columbus, Ohio. Wheelbarrows and the parts thereof	12,790-2	Nov. 14	119	636
Kilbourne & Jacobs Manufacturing Company, Columbus, Ohio. Wheelbarrows and the parts thereof	12,819	Nov. 14	119	637
Kilbourne & Jacobs Manufacturing Company, Columbus, Ohio. Wheelbarrows and the parts thereof	12,821-2	Nov. 14	119	637
Kilbourne & Jacobs Manufacturing Company, Columbus, Ohio. Wheelbarrow-wheels	13,202	Nov. 21	119	954
Kilbourne & Jacobs Manufacturing Company, Columbus, Ohio. Earth-scrapers	12,789	Dec. 5	119	1572
Kilbourne & Jacobs Manufacturing Company, Columbus, Ohio. Earth-scrapers	12,823	Dec. 5	119	1572
Kilmer & Co., Dr., Binghamton, N. Y. Certain proprietary medicines in the form of liquid for internal and external use, ointment for external use for the treatment of kidney, liver, &c., and nervous troubles, rheumatism, headache, &c.	11,022	Nov. 14	119	632
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary medicine for the treatment of kidney, liver, &c., and nervous troubles, Bright's disease, dropsy, &c., skin diseases, and blood disorders	11,023	Nov. 14	119	632
Kilmer & Co., Dr., Binghamton, N. Y. Ointment for the treatment of cancer growths, eczema, tumors, piles, goitre, ulcers, cuts, &c., and other pains and aches and inflammations and swellings of all kinds	11,025	Nov. 14	119	632
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary medicine for the treatment of colds, coughs, croup, &c., and all affections of the throat, chest, and lungs	11,026-7	Nov. 14	119	632
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary medicines in the form of liquid for internal and external use, ointment for external use, and pills for the treatment of kidney, liver, stomach, &c., and nervous troubles, rheumatism, headache, &c.	11,028	Nov. 14	119	632
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary remedy for the treatment of cancer of the uterus, uterine tumors, ovarian tumors, &c.	11,029	Nov. 14	119	633
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary remedy for the treatment of heart and circulation diseases, heart weakness, palpitation, irregular beating, fainting spells, apoplexy, &c.	11,030	Nov. 14	119	633
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary remedy for the treatment of prolapsus uteri, female weaknesses, cancer of the uterus, &c., and all female complaints	11,031	Nov. 14	119	633
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary remedy for the treatment of cancer of the uterus, uterine tumors, ovarian tumors, &c.	11,032	Nov. 14	119	633
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary remedy in pill form for the treatment of headache, drowsiness, torpid liver, constipation, biliousness, and other diseases of the digestive organs	11,033	Nov. 14	119	633
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary medicines in the form of liquid for internal and external use, ointment for external use, and pills for the treatment of kidney, liver, stomach, &c., and nervous troubles, rheumatism, headache, &c.	11,034	Nov. 14	119	633
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary remedy for the treatment of heart and circulation diseases, heart weakness, palpitation, irregular beating, fainting spells, apoplexy, &c.	11,035	Nov. 14	119	633
Kilmer & Co., Dr., Binghamton, N. Y. Proprietary medicine for the treatment of kidney, liver, stomach, bladder, gall, urinary, and nervous troubles, Bright's disease, dropsy, swelling of the feet, pain in the back, joints, or bones, rheumatism, skin diseases, and blood disorders	11,024	Nov. 28	119	1247
King Collar Button Co., New York, N. Y. Collar and cuff buttons	13,428	Nov. 14	119	638
King, Elliott H., Brooklyn, N. Y. Canned soups	1,736	Nov. 21	119	935
King Manufacturing Co., Piqua, Ohio. Roll-papers holders and cutters	12,510	Nov. 21	119	951
Kingan Packing Association, Indianapolis, Ind. Laundry soap	6,803	Nov. 14	119	624
Kingan Packing Association, Indianapolis, Ind. Laundry soap	6,805	Nov. 14	119	633
Klein Bros., Cincinnati, Ohio. Whisky	9,707	Nov. 7	119	323
Klen-So Pharmacal Company, Philadelphia, Pa. Compound for cleaning and disinfecting pipes, beer-coils, glasses, closets, sinks, &c.	12,310	Dec. 5	119	1571
Knickerbocker Brace Co., Easton, Pa. Shoulder-braces, chest-expanders, and suspenders	6,395	Dec. 12	119	1898
Knickerbocker Chocolate Company, New York, N. Y. Chocolate	13,758	Nov. 28	119	1250
Knickerbocker Chocolate Company, New York, N. Y. Chocolate and cocoa	13,760	Dec. 5	119	1575
Knickerbocker Chocolate Company, New York, N. Y. Chocolate and cocoa	13,759	Dec. 19	119	2222
Knox Automobile Company, Springfield, Mass. Automobiles	14,778	Dec. 26	119	2509
Knox Hat Manufacturing Co., New York, N. Y. Hats and caps	6,955-6	Nov. 21	119	942
Koernlein, Edgar J., Cincinnati, Ohio. Salve and ointment	7,597	Nov. 7	119	318
Kraus & Glauberg Co., New York, N. Y. Hair-combs, hair-retainers, hair ornaments, and hair-pins	11,425-6	Nov. 14	119	634-5
Krebs Pigment & Chemical Co., Wilmington, Del. Pigments for paints	7,809	Nov. 28	119	1243
Kreielsheimer Bros., Seattle, Wash. Whisky	9,703	Nov. 14	119	631
Krementz & Co., Newark, N. J. Collar-buttons	14,610	Dec. 19	119	2226
Kullman, Salz & Company, San Francisco, Cal. Oak-tanned cowhide	8,548	Nov. 21	119	946

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Kuttowait Butter Cutter Company, Chicago, Ill. Butter-cutters	14,922	Dec. 19	119	2226
L. E. Waterman Company, New York, N. Y. Fountain-pens	4,350	Dec. 12	119	1896
L. E. Waterman Company, New York, N. Y. Fountain-pens	4,349	Dec. 19	119	2206
L. S. Brown Charcoal Company, Incorporated, Springfield, Mass. Charcoal	2,848	Nov. 7	119	311
Lamar & Rankin Drug Co., Atlanta, Ga. Preparation for the treatment of flatulent colic, diarrhea, nausea, coughs, &c	6,159	Dec. 19	119	2209
Lange, Morris, Cincinnati, Ohio. Whisky	8,315	Nov. 21	119	945
Lange, Morris, Cincinnati, Ohio. Whisky	8,313	Dec. 12	119	1902
Lange, Morris, Cincinnati, Ohio. Whisky	8,314	Dec. 19	119	2213
Lanman & Kemp, New York, N. Y. Sugar-coated pills	4,374	Dec. 19	119	2206
Larned, Carter and Co., Detroit, Mich. Coats, pants, overalls, and blouses	5,962	Nov. 7	119	315
Lash's Bitters Co., San Francisco, Cal. Bitters	9,751	Nov. 7	119	323
Lattemann, John J., New York, N. Y. Leather boots and shoes	13,413	Dec. 5	119	1574
Lauritzen Malt Co., Minneapolis, Minn. Non-intoxicating table-malt	9,588	Dec. 12	119	1904
Lavadura Chemical Co., Savannah, Ga. Demulcents	13,402	Dec. 5	119	1574
Laventhal Bros., Sacramento, Cal. Whisky	14,070	Dec. 12	119	1912
Lazarus and Nassauer, Cairo, Ill. Whisky	931	Dec. 19	119	2203
Leas & McVitty, Incorporated, Philadelphia, Pa. Tanned leather in pieces known to the trade as sides, backs, bends, &c., and cut to shape, as blocks, half-blocks, tap-soles, &c	1,522	Nov. 21	119	933
Lee, Wm. H., Chicago, Ill. Books	14,103	Dec. 12	119	1913
Leggett & Brother, New York, N. Y. Chlorid of lime	2 811	Dec. 5	119	1557
Lehealol Preparation Co., Melrose, Mass. Ointments and lotions to soften the skin and allay irritation	8,785	Dec. 5	119	1564
Lehigh Portland Cement Co., Ormrod and Allentown, Pa. Portland cement	1,153	Dec. 5	119	1556
Lehmann, William C., New York, N. Y. Wash for treatment of affections of the eye	7,532	Nov. 21	119	944
Leslie E. Keeley Co., Dwight, Ill. Medicinal preparation for the treatment of nervous diseases arising from the excessive use of alcoholic beverages, tobacco, opium, and other narcotics	4,766	Dec. 5	119	1560
Levey Bros. & Co., Indianapolis, Ind. Bank-checks	3,543	Nov. 21	119	937
Levi, Sol. E., Portland, Oreg. Whisky	9,723	Nov. 7	119	323
Levy & Co., L. W., Galveston, Tex. Whisky	6,119	Dec. 5	119	1562
Levy, David H., New York, N. Y. Cigars and cheroots	14,360	Dec. 19	119	2225
Liberty Silk Co., New York, N. Y. Dress-silks	6,651	Dec 12	119	1899
Liberty Stove Company, Philadelphia, Pa. Stoves and ranges	485	Dec. 26	119	2495
Lieber, Albert, Indianapolis, Ind. Malt extracts and peptonized malt foods	576	Nov. 7	119	310
Listman Mill Company, La Crosse, Wis. Wheat-flour	1,845	Dec. 12	119	1894
Lodge & Shipley Machine Tool Co., Cincinnati, Ohio. Metal-turning lathes	6,439	Dec. 19	119	2209
Loeb, Adolph, Cincinnati, Ohio. Whisky	8,964	Dec. 19	119	2214
Loeb, Bloom & Co., Paducah, Ky. Whisky	6,465	Nov. 21	119	941
Loonen, Charles, Paris, France. Tooth-brushes	6,045	Dec. 5	119	1561
Lord & Nagle Company, Boston, Mass. Trade-journal periodical or magazine	14,935	Dec. 26	119	2510
Los Angeles Olive Growers' Ass'n, Los Angeles, Cal. Olives and pickled olives	13,601	Dec. 19	119	2222
Louis Bergdoll Brewing Company, Philadelphia, Pa. Lager-beer	12,113	Nov. 14	119	636
Lowenthal & Brother, Max, Rochester, N. Y. Double-breasted buttonless infants' vests	5,552	Nov. 7	119	314
Ludlow Manfg. Associates, Boston, Mass. Jute bagging	4,436–41	Nov. 21	119	938
Ludlow Valve Manufacturing Company, Troy, N. Y. Double and single gate, air, check, foot, relief, regulating, float, and sluice valves or gates, hydrants, valve-indicators and their parts	184	Dec. 12	119	1893
Lunkenheimer Company, Cincinnati, Ohio. Grease-cups	10,792	Dec. 26	119	2506
Luyties Brothers, New York, N. Y. Ginger-ale	10,239	Nov. 28	119	1246
Lynchburg Shoe Co., Lynchburg, Va. Leather boots and shoes	14,543	Dec. 26	119	2509
Lyon & Healy, Chicago, Ill. Pianos and self-playing pianos and parts thereof	7,300	Nov. 14	119	624
Lyon & Healy, Chicago, Ill. Guitars and mandolins	11,362	Dec. 12	119	1906
M. Shaughnessy Distilling Company, St. Louis, Mo. Whisky	6,075	Nov. 28	119	1240
M. Shaughnessy Distilling Company, St. Louis, Mo. Whisky	4,340	Dec. 5	119	1559
M. H. Alexander Co., Cincinnati, Ohio. Syrups, molasses, and sorghum	4,110	Nov. 14	119	622
M. N. Arnold Co., North Abington and Boston, Mass. Leather boots and shoes	10 322	Dec. 12	119	1905
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	6,014	Nov. 7	119	315
Mackenzie, Cora T., Baltimore, Md. External remedy used as a vaginal wash for leucorrhea and all uterine catarrhs	10,319	Dec. 19	119	2216
Magee Furnace Co., Boston, Mass. Stoves, ranges, furnaces, heaters, and parts thereof	8,623	Dec. 19	119	2214
Magic Soap Co., Ltd., New Orleans, La. Laundry soap	10,953	Dec. 12	119	1905
Magic Soap Co., Ltd., New Orleans, La. Laundry and toilet soap	10,954	Dec. 12	119	1905
Maltine Company, Brooklyn, N. Y. Medical preparations containing the nutritive elements of grain	4,084	Nov. 14	119	622
Manahan, Thomas, New York, N. Y. Moth-proof bags	6,774	Nov. 14	119	624
Manifest Shirt Co., Philadelphia, Pa. Dress and negligée shirts	13,727–8	Dec. 26	119	2507
Manitou Mineral Springs Company, Manitou, Colo. Natural mineral water	3,421	Nov. 28	119	1238
Many, Blanc & Co., Chicago, Ill. Whisky	9,687	Nov. 7	119	322
Maple City Soap Works, Monmouth, Ill. Laundry soap	12,846–7	Dec. 5	119	1572
Mapleton Milling Company, Mapleton, Minn. Wheat-flour	12,053	Dec. 12	119	1907
Marchesini Bros., New York, N. Y. Olive-oil	11,381	Nov. 28	119	1247
Marion Iron & Brass Bed Co., Marion, Ind. Metal bedsteads	3,518	Nov. 28	119	1236
Marks, Rothenberg & Co., Meridian, Miss. Leather boots and shoes	5,804	Dec. 19	119	2208
Marx & Haas Clothing Co., St. Louis, Mo. Overcoats, coats, vests, and trousers	7,499	Dec. 5	119	1562
Mason, Albert G., Cleveland, Ohio. Sewing-machines	278	Nov. 7	119	309
Massachusetts Chemical Company, Boston, Mass. Rubber heels and soles	6,073	Nov. 28	119	1240
Massachusetts Chemical Company, Walpole, Mass. Insulating-tape	13,939	Dec. 12	119	1910
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	5,230	Nov. 7	119	313
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	5,244	Nov. 7	119	334
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	5,238	Nov. 14	119	623
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	5,243	Nov. 28	119	1238
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	5,229	Dec. 5	119	1560
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	5,235	Dec. 5	119	1560
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	5,247	Dec. 5	119	1560
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	5,251	Dec. 5	119	1560
Massachusetts Cotton Mills, Lowell, Mass. Bleached and unbleached drillings and plain sheetings	5,239	Dec. 12	119	1898
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	4,976	Dec. 19	119	2207
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	4,965–6	Dec. 19	119	2207
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	4,969	Dec. 19	119	2207
Massachusetts Cotton Mills, Lowell, Mass. Cotton piece goods	5,255	Dec. 26	119	2498
Matthews, William B., Washington, D. C. Natural water	11,773	Nov. 21	119	949
Mayer & Loewenstein, New York, N. Y. Varnishes and japans	7,724	Nov. 28	119	1243
Mayer, M. & C., New York, N. Y. Knit hosiery and underwear	775	Nov. 21	119	931
Mayer, Scheuer, Offner & Co., Cincinnati, Ohio. Men's and boys' coats and overcoats	9,988	Nov. 28	119	1246
Mayer & Sons, S., New York, N. Y. Infants' hats and caps	1,526	Dec. 12	119	1894
Mayers, H. J., Cleveland, Ohio. Effervescent laxative fruit preparation	3,011	Dec. 26	119	2496

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Mayflower Mills, Fort Wayne, Ind. Wheat-flour	5,712	Dec. 19	119	2208
McAleer & Sons, John, Philadelphia, Pa. Wheat-flour	12,247	Nov. 14	119	636
McAvoy Brewing Co., Chicago, Ill. Malt tonic	3,991	Nov. 7	119	312
McAvoy Brewing Co., Chicago, Ill. Malt tonic	12,230	Nov. 21	119	951
McCann & Co., New Orleans, La. Molasses	6,218	Nov. 28	119	1240
McConway & Torley Co., Pittsburg, Pa. Automatic car-couplers of the Master Car-Builders' or vertical-plane type and parts thereof	13,459	Nov. 21	119	954
McCrohan, Jeremiah J., Chicago, Ill. Tonic	11,941	Nov. 21	119	950
McDougall, Charles P., Indianapolis, Ind. Kitchen-cabinets	13,542	Dec. 5	119	1574
McIlhenny's Son, E., Avery's Island, La. Pepper-sauce	8,778	Dec. 19	119	2214
McLaren, John D., New York, N. Y. Remedy for pain in crayon form	2,148	Dec. 5	119	1557
Mealy, Edw. H., Baltimore, Md. Electric heel-plates	3,017	Nov. 7	119	311
Mechanical Metal Mfg. Co., Philadelphia, Pa. Solders, newspaper metals, and Babbitt metals	6,349	Nov. 21	119	940
Melini & Eakin, Albuquerque, N. Mex. Ter. Whisky	5,561	Nov. 21	119	939
Merck, E., Darmstadt, Germany. Dipropyl-barbituric acid	5,848	Nov. 14	119	623
Merck, Firm of E., Darmstadt, Germany. Soluble thiosinamine compound for medicinal use	5,364	Nov. 28	119	1238
Mettler, John W., New Brunswick N. J. Knitted hosiery, undershirts, and drawers	4,266	Dec. 26	119	2497
Meyer Brothers Coffee and Spice Company, St. Louis, Mo. Coffee	12,704–6	Nov. 21	119	953
Meyer & Goetze, New York, N. Y. Water-repellent and mildew-proof cotton fabrics colored by khaki dye	3,234	Dec. 26	119	2496
Miller Ladder Company, Chicago, Ill. Wooden ladders of all kinds	7,594	Dec. 12	119	1900
Miller Manufacturing Company, Fort Worth, Tex. Coats, vests, trousers, overalls, and jumpers	4,417	Nov. 14	119	622
Milliken, Tomlinson Co., Portland, Me. Coffee-berry, either whole or ground	9,062	Dec. 5	119	1564
Miloslawsky & Kraus, Chicago, Ill. Whisky	10,070	Dec. 26	119	2504
Missouri Paper House, Kansas City, Mo. Bond-paper	12,025	Dec. 19	119	2220
Mitchell, Fletcher & Company, Incorporated, Philadelphia, Pa. Whisky	12,960	Nov. 28	119	1249
Mitchell, William F., Philadelphia, Pa. Cordials	8,558	Dec. 19	119	2213
Mme. Tousseaud Mfg. Co., Chicago, Ill. Cream for the skin	12,086	Nov. 14	119	636
Moline Wagon Compy., Moline, Ill. Wagons	13,481	Nov. 28	119	1249
Monitor Drill Co., St. Louis Park and Minneapolis, Minn. Seeding-machines	3,005	Dec. 19	119	2205
Montanye, Charles H., New York, N. Y. Coffees	8,676	Nov. 21	119	946
Montgomery, G. L., New York, N. Y. Sheetings and drillings	2,828	Nov. 28	119	1235
Morris Bros., New York, N. Y. Suspenders	11,398	Nov. 28	119	1248
Morrison Manufacturing Company, Pierre, S. D., and Fort Madison, Iowa. Riding and walking plows, listers and cultivators, and disk and lever harrows	5,849	Nov. 21	119	939
Morse & Rogers, New York, N. Y. Boots, shoes, and slippers of leather or textile material, or both, and soles therefor	9,157	Nov. 28	119	1244
Morway & Son, Felix P., Worcester, Mass. Whisky	14,068	Dec. 12	119	1912
Mossberg Wrench Company, Central Falls, R. I. Counter-shafts and appurtenances thereto	12,752	Nov. 21	119	953
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	12,450	Nov. 28	119	1248
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Canvas, hose-duck, awning-stripes, and sail-duck	10,837	Dec. 19	119	2218
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	12,923	Dec. 19	119	2221
Moyer Bros., Bloomsburg, Pa. Remedy for croup, sore throat, coughs, colds, neuralgia, earache, frosted feet, chilblains, and whooping-cough	526	Dec. 12	119	1893
Mumford, Chas. B., Kansas City, Mo. Remedy for coughs, colds, croup, and consumption	900	Dec. 5	119	1555
Municipal News Association, New York, N. Y. News periodicals and magazines	12,171	Dec. 12	119	1907
Munson, James G., San Jose, Cal. Remedy for headache, neuralgia, and nervousness	12,284	Dec. 12	119	1907
Murbach Company, Baltimore, Md. Candy	13,952	Nov. 28	119	1250
Murine Eye Remedy Company, Chicago, Ill. Eye remedies	6,340	Dec. 26	119	2500
Myers & Andrews, Boston, Mass. Men's and children's overcoats, coats, vests, and trousers	11,057	Nov. 7	119	327
Myers, Angelo, Philadelphia, Pa. Whisky	10,353–5	Nov. 7	119	326
Myers, Angelo, Philadelphia, Pa. Whisky	13,312	Dec. 12	119	1910
N. Erlanger, Blumgart & Co., New York, N. Y. Mohair dress goods	12,260	Dec. 5	119	1570
N. K. Fairbank Company, Chicago, Ill. Lard and lard compound	13,682	Dec. 19	119	2222
Na Kau Trading Corporation, New York, N. Y. Silk piece goods	2,160	Nov. 21	119	936
National-Acme Manufacturing Company, Cleveland, Ohio. Lathes	10,192	Dec. 19	119	2216
National Casket Co., New York, N. Y. Caskets, coffins, and fixtures therefor	10,974	Nov. 28	119	1247
National Casket Co., Allegheny, Pa. Burial-caskets and casket attachments	13,835	Nov. 28	119	1250
National Casket Co., Hoboken, N. J. Burial-caskets, coffins, and fixtures therefor	5,742	Dec. 12	119	1898
National Coal Tar Co., Boston, Mass. Roofing and waterproofing material of felt, paper, or textile goods treated with coal-tar or other bituminous waterproofing material	2,693	Dec. 5	119	1557
National Food Co., Fond du Lac, Wis. Ointments for the cure of burns, scalds, cuts, and wounds, chapped hands, sore lips, chafed skin, hives, sore throat, catarrh, and sores of all kinds	11,736	Nov. 21	119	949
National Lead Company, Jersey City, N. J., and New York, N. Y. White lead	3,637	Nov. 7	119	311
National Lead Company, Jersey City, N. J., and New York, N. Y. White lead	10,867	Dec. 5	119	1568
National Lead Company, Jersey City, N. J. White lead	11,812	Dec. 5	119	1569
National Lead Company, Jersey City, N. J., and New York, N. Y. Babbitt metal	14,409–13	Dec. 12	119	1913–14
National Lead Company, Jersey City, N. J., and New York, N. Y. Solder	14,419	Dec. 12	119	1914
National Lead Company, Jersey City, N. J., and New York, N. Y. White lead	14,416	Dec. 19	119	2225
National Lead Company of Massachusetts, Boston, Mass. White lead	11,863	Dec. 26	119	2506
National Specialty Manufacturing Co., Philadelphia, Pa. Machines adapted to be used as sausage-stuffers and lard-presses	10,718	Dec. 26	119	2506
National Spring Bed Company, New Britain, Conn. Bed-bottoms and bedsteads having a wire fabric to support the mattress	7,287	Nov. 21	119	943
National Toilet Company, Paris, Tenn. Cream ointments	13,473	Dec. 19	119	2221
Natural Liquid Paint Co., San Francisco, Cal. Liquid paint	13,516	Nov. 21	119	954
Naumkeag Steam Cotton Co., Salem, Mass. Cotton sheetings	1,431	Nov. 14	119	620
Neagle, James H., Oakland, Cal. Medicine in the form of a pill, tablet, or granule for nervous and blood diseases, &c	6,645	Dec. 12	119	1899
Neer, Elizabeth A., Paterson, N. J. Liquid remedy to be taken internally for throat, stomach, or bowel complaint and used externally as a liniment for pains, aches, bruises, and the like	7,681	Nov. 14	119	625
Nelson Distilling Co., St. Louis, Mo. Whisky	6,500	Nov. 7	119	315
Nelson, Louisa, Nashville, Tenn. Whisky	6,603	Dec. 19	119	2210
New England Box Co., Greenfield, Mass. Single wooden boxes or a series of wooden boxes each closely or approximately fitting into the next larger box of the series	13,517	Nov. 28	119	1249
New England Confectionery Co., Boston, Mass. Lozenges	5,718	Nov. 21	119	939
New England Confectionery Co., Boston, Mass. Chocolate drops	5,721	Dec. 5	119	1561
New England Confectionery Co., Boston, Mass. Candy	5,724	Dec. 5	119	1561
New England Confectionery Co., Boston, Mass. Candy	5,764	Dec. 5	119	1561
New Orleans Coffee Co., Ltd., New Orleans, La. Roasted and ground coffee	8,263	Nov. 28	119	1243
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,328	Nov. 7	119	312
New York Consolidated Card Company, New York, N. Y. Playing-cards	9,241	Nov. 7	119	321
New York Consolidated Card Company, New York, N. Y. Playing-cards	9,572	Nov. 7	119	321
New York Consolidated Card Company, New York, N. Y. Playing-cards	9,576–7	Nov. 7	119	321–2
New York Consolidated Card Company, New York, N. Y. Playing-cards	9,579	Nov. 7	119	322

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
New York Consolidated Card Company, New York, N. Y. Playing-cards	9,222	Nov. 14	119	628
New York Consolidated Card Company, New York, N. Y. Playing-cards	9,226	Nov. 14	119	629
New York Consolidated Card Company, New York, N. Y. Playing-cards	9,228-39	Nov. 14	119	629-30
New York Consolidated Card Company, New York, N. Y. Playing-cards	10,137	Nov. 14	119	631
New York Consolidated Card Company, New York, N. Y. Playing-cards	3,953	Nov. 28	119	1236
New York Consolidated Card Company, New York, N. Y. Playing-cards	3,955	Nov. 28	119	1236
New York Consolidated Card Company, New York, N. Y. Playing-cards	3,960	Nov. 28	119	1236
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,312	Nov. 28	119	1237
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,314	Nov. 28	119	1237
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,322	Nov. 28	119	1237
New York Consolidated Card Company, New York, N. Y. Playing-cards	5,005-6	Nov. 28	119	1238
New York Consolidated Card Company, New York, N. Y. Playing-cards	9,242	Nov. 28	119	1245
New York Consolidated Card Company, New York, N. Y. Playing-cards	3,964	Dec. 12	119	1895
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,298	Dec. 12	119	1896
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,305	Dec. 12	119	1896
New York Consolidated Card Company New York, N. Y. Playing-cards	4,309	Dec. 12	119	1896
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,330	Dec. 12	119	1896
New York Consolidated Card Company, New York, N. Y. Playing-cards	5,007	Dec. 12	119	1897
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,326	Dec. 19	119	2206
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,296	Dec. 26	119	2498
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,315	Dec. 26	119	2498
New York Consolidated Card Company, New York, N. Y Playing-cards	4,319	Dec. 26	119	2498
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,321	Dec. 26	119	2498
New York Consolidated Card Company, New York, N. Y. Playing-cards	4,331	Dec. 26	119	2498
New York Herald Company, New York, N. Y. Comic section of newspapers	14,802	Dec. 12	119	1914
New York Leather Belting Co., New York, N. Y. Canvas stitched and balata belting	610	Dec. 12	119	1893
Newark Lime & Cement Mfg. Co., Newark, N. J., and Rondout, N. Y. Natural-rock or hydraulic cement, lime, and plaster	3,927	Nov. 14	119	622
Nicholson File Company, Providence, R. I. Files and rasps and holders and handles therefor	7,896	Dec. 12	119	1900
Nicholson File Company, Providence, R. I. Files and rasps and holders and handles therefor	7,898	Dec. 12	119	1901
Nicholson File Company, Providence, R. I. Files and rasps	7,905	Dec. 12	119	1901
Nicholson File Company, Providence, R. I. Files and rasps	7,903	Dec. 19	119	2211
No Name Hat Mfg. Co., Orange, N. J. Soft and stiff fur felt hats	3,037	Nov. 7	119	311
Norddeutsche Kartoffelmehl-Fabrik mit Beschränkter Haftung, Kustrin, Germany. Dextrin	306	Nov. 14	119	619
Norddeutsche Kartoffelmehl-Fabrik mit Beschränkter Haftung, Cüstrin, Brandenburg, Germany. Starch and dextrin	6,731	Dec. 19	119	2210
Norddeutsche Kartoffelmehl-Fabrik mit Beschränkter Haftung, Cüstrin, Brandenburg, Germany. Potato-flour, potato-starch, and dextrin	9,943	Dec. 26	119	2504
Norfolk Loom Picker Co., Norfolk, Va. Loom-pickers	14,965	Dec. 26	119	2510
Norris, Alfred E., Philadelphia, Pa. Whisky	5,702	Nov. 28	119	1239
Northwestern Consolidated Milling Company, Minneapolis, Minn. Wheat-flour	5,050	Nov. 7	119	313
Northwestern Consolidated Milling Company, Minneapolis, Minn. Wheat-flour	5,053	Nov. 7	119	313
Northwestern Consolidated Milling Company, Minneapolis, Minn. Wheat-flour	5,055	Nov. 7	119	313
Northwestern Knitting Company, Minneapolis, Minn. Knit underwear	9,068	Nov. 21	119	947
Nutrolactis Co., New York, N. Y. Tonic for nursing mothers	7,492	Nov. 14	119	625
O. F. Egginton Co., Corning, N. Y. Cut-glass ware	7,040	Nov. 28	119	1242
O'Donald & Co., C. R., Boston, Mass. Dress goods and cloakings	10,405	Nov. 14	119	631
Oakes & Co., Thos., Bloomfield, N. J. Suitings for men and boys	5,996	Dec. 5	119	1561
Offterdinger, Henry T., Washington, D. C. Cigars	13,450	Nov. 21	119	954
Okonite Company, Limited, New York, N. Y. Adhesive tape or cloth	11,688	Nov. 7	119	328
Olds, Edward A., New York, N. Y. Tar soap	13,972	Dec. 12	119	1910
Oliver Typewriter Company, Chicago, Ill. Type-writing machines and parts therefor	12,472	Nov. 21	119	951
Oppenheimer's Sons, Lewis, Philadelphia, Pa. Men's suspenders	10,740	Nov. 7	119	327
Oppenheimer's Sons, Lewis, Philadelphia, Pa. Men's garters	10,741	Nov. 7	119	327
Oregon Importing Co., Portland, Oreg. Whisky	9,724	Nov. 7	119	323
Oshkosh Clothing Manufacturing Company, Oshkosh, Wis. Overalls, blouses, coats, vests, and trousers	9,978	Nov. 7	119	324
Otto Huber Brewery, Brooklyn, N. Y. Malt extracts	1,951	Nov. 14	119	620
P. Rielly & Son, Newark, N. J. Buffed leather	10,376	Nov. 21	119	947
P. J. Bowlin Liquor Co., St. Paul, Minn. Whisky	12,641	Nov. 21	119	952
Packard & Field, Brockton, Mass. Leather boots, shoes, and slippers and upper and sole leather used in their manufacture	6,808	Nov. 28	119	1242
Packard & Field, Brockton, Mass. Leather boots, shoes, and slippers of all kinds and upper and sole leather used in their manufacture	6,807	Dec. 12	119	1899
Paducah Saddlery Company, Incorporated, Paducah, Ky. Harness, saddles, collars, and bridles	10,971	Nov. 28	119	1247
Palethorpe, Percy R., Louisville, Ky. Remedy for blood and nerve diseases	4,222	Nov. 28	119	1237
Palethorpe, Percy R., Louisville, Ky. Medicine for the cure of fever, rheumatism, catarrh, burns, boils cuts, &c., and destroys fetor	13,082	Dec. 12	119	1909
Papyrhesion Company, New York, N. Y. Sizing strengthening compound	8,261	Nov. 21	119	945
Park Steel Company, Pittsburg, Pa. Steel bars, rods, billets, blooms, sheets, plates, slabs, strips, blocks, and forgings	5,475	Nov. 28	119	1239
Park Steel Company, Pittsburg, Pa. Steel bars, rods, blooms, billets, slabs, blocks, and forgings	5,478	Nov. 28	119	1239
Park Steel Company, Pittsburg, Pa. Steel rods, bars, blooms, billets, plates, sheets, slabs, strips, blocks, and forgings	5,473	Dec. 26	119	2499
Patent Button Co., Waterbury, Conn. Fasteners, such as used on gloves, suspenders, and umbrellas	10,537	Dec. 19	119	2216
Patterson, Gottfried & Hunter, Limited, New York, N. Y. Drills and reamers	13,183	Nov. 14	119	637
Patterson, Gottfried & Hunter, Limited, New York, N. Y. Saws of all kinds	13,185	Nov. 14	119	637
Patterson, Gottfried & Hunter, Limited, New York, N. Y. Punches of all kinds	13,189	Nov. 14	119	638
Patterson, Gottfried & Hunter, Limited, New York, N. Y. Screw-drivers and screw-driver holders	13,184	Nov. 21	119	953
Patterson, Gottfried & Hunter, Limited, New York, N. Y. Grinding and polishing heads	13,186	Nov. 21	119	953
Patterson, Gottfried & Hunter, Limited, New York, N. Y. Forges, blowers, and twyer-irons	13,190	Nov. 21	119	953
Patterson, Gottfried & Hunter, Limited, New York, N. Y. Lathes	13,188	Dec. 5	119	1573
Peacock Chemical Co., St. Louis, Mo. Preparation of bromids	6,310	Dec. 19	119	2209
Pearsall & Co., James, London, England. Embroidery and knitting silk	12,469	Dec. 26	119	2507
Peltason, Leo H., St. Louis, Mo. Lamp chimneys and globes	14,377	Dec. 19	119	2225
Pemberton Company, Lawrence and Boston, Mass. Cotton-flannel	10,665	Dec. 26	119	2505
Perkins, Van Bergen & Co., Paris, France, and New York, N. Y. French broadcloth	7,772	Dec. 5	119	1563
Perry & Company, Limited, Birmingham, England. Steel pens	11,170	Dec. 19	119	2219
Peters, Harry S., Dover, N. J. Overalls and workmen's shirts, coats or jackets, and pants	9,391	Nov. 28	119	1245
Pfeiffer & Diller, Horchheim, near Worms, Germany. Preparation containing coffee to improve the color and aroma of coffee proper	7,611	Dec. 19	119	2211
Philadelphia Grease Manufacturing Co., Philadelphia, Pa. Lubricating-grease	7,297	Nov. 7	119	318

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Philadelphia Rubber Works, Philadelphia, Pa. Restored or devulcanized rubber manufactured from waste rubber goods	10,389	Dec. 12	119	1905
Philadelphia Watch Case Co., Riverside, N. J. Watches, watch cases and movements	4,597	Dec. 12	119	1896
Philadelphia Watch Case Co., Riverside, N. J. Watches, watch cases and movements	4,603–4	Dec 12	119	1896
Philadelphia Watch Case Co., Riverside, N. J. Watches, watch cases and movements	14,799	Dec. 19	119	2226
Phillips, John Q., Lawrens, S. C. May-apple pills	8,037	Nov. 21	119	945
Phoenix Glass Co., Pittsburg, Pa. Glass electric globes and shades	3,472	Dec. 19	119	2205
Phoenix Jewelry Co., New York, N. Y. Sleeve-buttons, link-buttons, collar-buttons, shirt-studs, and emblem-buttons	7,500	Nov. 21	119	944
Pike Manufacturing Company, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Sharpening-stones	13,795	Dec. 5	119	1575
Pike Manufacturing Company, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Hones	13,796	Dec. 5	119	1575
Pike Manufacturing Company, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Scythe, whet, ax, oil, and oil and water stones, hones grindstones, and grinding disks and wheels	13,792	Dec. 12	119	1910
Pike Manufacturing Company, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Sharpening-stones, including scythe, oil, water, and whet stones and hones	13,793	Dec. 19	119	2222
Pike Manufacturing Company, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Sharpening-stones, including oil, water, and whet stones and hones	13,794	Dec. 19	119	2222
Pike Manufacturing Company, Pike, Littleton, and Lisbon, N. H.; Hot Springs, Ark.; Orleans, Ind.; Evansville, Vt., and New York, N. Y. Scythe-, whet, ax, oil, oil and water stones, and hones	14,166	Dec. 19	119	2224
Pillsbury-Washburn Flour Mills Company, Ltd., Minneapolis, Minn. Flour made from wheat	2,974	Nov. 21	119	936
Pioneer Tar Soap Co., Dayton, Ohio. Tar soap	1,287	Dec. 5	119	1556
Plymouth Cordage Company, North Plymouth, Mass. Twine and binder-twine	8,298	Nov. 14	119	626
Plymouth Cordage Company, Plymouth, Mass. Fibrous rope and twine	8,300	Nov. 14	119	626
Plymouth Cordage Company, Plymouth, Mass. Fibrous or textile rope and twine	8,301-2	Nov. 14	119	627
Pohlman & Co., John, Indianapolis, Ind. Whisky	13,328–30	Dec. 5	119	1573–4
Pond's Extract Company, New York, N. Y. Distillation of hamamelis	12,811	Dec. 12	119	1909
Pope, Henry C., Birmingham, Ala. Antiseptic remedy for internal and external use for man and beast, for pains, aches, cuts, bruises, rheumatism, indigestion, diarrhœa, and cutaneous troubles	10,990	Nov. 14	119	632
Porter Medicine Company, Paris, Tenn. Remedy for coughs, colds, and similar complaints	7,074	Dec. 19	119	2211
Portland Packing Company, Portland, Me. Canned fruits and vegetables	9,194–6	Dec. 19	119	2214
Portland Packing Company, Portland, Me. Canned fruits and vegetables	9,198	Dec. 19	119	2214
Porto Rico Co., San Francisco, Cal. Coffee	8,039	Dec. 19	119	2212
Postum Cereal Co., Limited, Battlecreek, Mich. Candy	4,102	Dec. 5	119	1558
Potter Drug & Chemical Corporation, Boston, Mass. Liquid for internal use as an antiseptic, tonic, digestive, and blood-purifier	5,318	Dec. 19	119	2207
Potter Drug & Chemical Corporation, Boston, Mass. Ointment	5,319	Dec. 19	119	2208
Potter Drug & Chemical Corporation, Boston, Mass. Medicated and perfumed soap	5,320	Dec. 19	119	2208
Prescott, Amos L., New York, N. Y. Polish for stoves and similar articles	7,593	Nov. 21	119	944
Preservaline Mfg. Co, New York, N. Y. Paste	5,204	Dec. 19	119	2207
Price Baking Powder Company, Chicago, Ill. Baking-powder	11,573	Nov. 21	119	948
Puritan Drug Company, Boston, Mass. Tooth washes and powders	8,420	Dec. 5	119	1564
Quinn, Edward J. Washington, D. C. Whisky	1,134	Dec. 5	119	1556
R. Hudnut's Pharmacy, New York, N. Y. Toilet water and liquid perfumes	8,666	Dec. 5	119	1564
R. Hudnut's Pharmacy, New York, N. Y. Toilet water	8,667	Dec. 12	119	1902
R. Wallace & Sons Mfg. Co., Wallingford, Conn. Knives, forks, and spoons which are made of steel and tinned	7,644	Nov. 7	119	319
R. L. Perry Co., Boston, Mass. Chocolates and bonbons	7,752	Nov. 7	119	319
Raphael Tuck and Sons Co., Ltd., New York, N. Y. Art lithographs	4,930	Nov. 28	119	1237
Raphael & Zeugschmidt, Pittsburg, Pa. Whisky	13,293	Dec. 5	119	1573
Raphael & Zeugschmidt, Pittsburg, Pa. Whisky	13,296	Dec. 5	119	1573
Raven Gloss Mfg. Co., New York, N. Y. Dressings or polish for tan or russet shoes and leather	10,188	Dec. 26	119	2505
Read Carpet Company, Bridgeport, Conn. Rugs	12,511	Dec. 19	119	2220
Reade, William J., New York, N. Y. Preparation which destroys and prevents the growth of weeds	11,939	Nov. 14	119	645
Reed and Gamage, Gloucester, Mass. Dry, fresh, and canned fish	3,242	Nov. 28	119	1235
Regnell, Bigney, and Co., Attleboro, Mass. Imitation of precious stones for jewelry	3,196	Dec. 26	119	2496
Remppis, W. F., Reading, Pa. Motor-cycles	11,864	Dec. 5	119	1570
Renfrew Manufacturing Company, Adams, Mass. Cotton piece goods	8,439	Nov. 14	119	627
Reymer & Brothers, Incorporated, Pittsburg, Pa. Candy	7,172	Nov. 7	119	317
Reymer & Brothers, Incorporated, Pittsburg, Pa. Candy	8,351	Dec. 12	119	1902
Rice & Hochster, New York, N. Y. Hair-pins and hair ornaments	13,437	Nov. 21	119	954
Richard Young Company, New York, N. Y. Tanned sheepskins	10,682	Dec. 19	119	2216
Richardson, Roberts Dry Goods Co., St. Joseph, Mo. Dress-shirts	6,665	Dec. 19	119	2210
Rife Hyd. Engine Mfg. Co., New York, N. Y., and Waynesboro, Va. Hydraulic engines and rams	13,775	Dec. 5	119	1575
Rinald Bros., Philadelphia, Pa. Paint for metallic surfaces	4,728	Nov. 14	119	623
Rio Chemical Co., New York, N. Y. Compound or substance which is a uterine tonic and restorative	5,873	Dec. 26	119	2500
Riverside Metal Co., Riverside, N. J. Metallic alloy and articles of which such alloy forms a part	2,590	Nov. 14	119	921
Roaring Spring Blank Book Co., Roaring Spring, Pa. Blank books, tablets, ruled and flat papers	8,535	Dec. 12	119	1902
Robert F. Mackenzie Co., Cleveland, Ohio. Molasses taffy, candy kisses, and other candies	8,203	Nov. 7	119	319
Robert H. Foerderer, Inc., Philadelphia, Pa. Leather for the uppers of shoes	7,112	Nov. 7	119	317
Robert H. Foerderer, Incorporated, Philadelphia, Pa. Leather for the uppers of shoes	13,162	Nov. 21	119	953
Roberts, Johnson & Rand Shoe Co., St. Louis, Mo. Leather boots and shoes	7,503–5	Dec. 12	119	1900
Robertson, Arthur R., Boston, Mass. Hammers	8,477	Dec. 19	119	2213
Rodearmel, Montgomery G., Minneapolis, Minn. Kitchen-knives, butcher-knives, boning-knives, and slicers	2,122	Nov. 14	119	620
Rodwell Sign Co., Buffalo, N. Y. Glass and metal advertising-signs	5,699–5,700	Nov. 14	119	623
Roessler & Hasslacher Chemical Co., New York, N. Y. Liquid preparation for gilding	5,809	Nov. 7	119	314
Roessler & Hasslacher Chemical Co., New York, N. Y. Chemicals for use in the ceramic arts	6,370	Nov. 14	119	623
Rogers & Thompson, New York, N. Y. Silk piece goods having a rough surface	9,212	Dec. 26	119	2503
Rosenberg, Joseph L., New York, N. Y. Hats for women	9,300	Nov. 28	119	1245
Rosenblatt Co., San Francisco, Cal. Wines	11,982	Nov. 21	119	950
Rosenfield Bros. & Co., Chicago, Ill. Whisky	8,454	Dec. 12	119	1902
Rosenthal Bros. Co., New York, N. Y. Ladies' and misses' shirt-waists and suits	7,771	Dec. 12	119	1900
Ross & Co., Charles H., Baltimore, Md. Whisky	9,890–1	Nov. 7	119	323
Ross & Co., Charles H., Baltimore, Md. Whisky	13,411	Dec. 5	119	1574
Ross & Co., Charles H., Baltimore, Md. Whisky	14,900	Dec. 26	119	2510
Rosskam, Gerstley & Co., Philadelphia, Pa. Whisky	1,484	Nov. 28	119	1234

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Rubber and Celluloid Harness Trimming Co., Newark, N. J. Lather-brushes, shaving-brushes, and paint-brushes	13,127-8	Nov. 14	119	637
Rubber & Celluloid Harness Trimming Co., Newark, N. J. Lather-brushes	5,755	Nov. 28	119	1239
Rubel-Lilienfeld Co., Chicago, Ill. Whisky	10,356-7	Nov. 7	119	326
Rueter & Company, (Incorporated,) Roxbury, Mass. Ale	7,390	Dec. 12	119	1900
Rumford Chemical Works, Providence, R. I. Baking-powder and bread preparation consisting of cream-of-tartar substitute and bicarbonate of soda	5,767	Dec. 26	119	2499
Rumford Chemical Works, Providence, R. I. Solution of the phosphates, mainly calcium, in phosphoric acid	5,769	Dec. 26	119	2499
Ruppert, Jacob, New York, N. Y. Lager-beer	5,959	Dec. 19	119	2208
Russell Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y. Tire-bolts	2,555	Nov. 14	119	621
Russell & Erwin Manufacturing Company, New Britain, Conn. Locks and keys	12,937	Dec. 5	119	1572
S. Lichtenstein Co., New York, N. Y. Cigars and cheroots	9,245	Dec. 19	119	2215
S. H. Moore Co., New York, N. Y. Monthly magazine	12,492	Nov. 21	119	951
S. N. Hyde Co., Hydes, Md. Canned corn	4,919	Dec. 12	119	1897
S. S. Pierce Co., Boston, Mass. Bottled cider	5,691-1	Nov. 7	119	314
S. S. Pierce Co., Boston, Mass. Cigars	7,393	Nov. 21	119	943
S. S. Pierce Co., Boston, Mass. Cigars	9,678-9	Dec. 12	119	1904
S. S. Pierce Co., Boston, Mass. Wines	5,690	Dec. 26	119	2490
S. S. White Dental Mfg. Co., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic; Berlin, Germany, and St. Petersburg, Russia. Dental varnish	12,858	Nov. 28	119	1248
S. S. White Dental Mfg. Co., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic; Berlin, Germany, and St. Petersburg, Russia. Cement	12,859	Nov. 28	119	1248
S. S. White Dental Mfg. Co., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic; Berlin, Germany, and St. Petersburg, Russia. Lathes	12,870	Nov. 28	119	1248
Saks & Company, Washington, D. C. Men's hats	10,972	Dec. 12	119	1905
Samson Manufacturing Company, Denver, Colo. Rock-crushers	8,424	Dec. 19	119	2213
Samuels Dist'y, T. W., Bardstown, Ky. Whisky	8,280	Dec. 26	119	2502
San Diego Brewing Co., San Diego, Cal. Beer	4,140	Nov. 7	119	312
Sander, Henry, Philadelphia, Pa. Whisky	14,065	Dec. 12	119	1912
Sanders, Edward G., Chattanooga, Tenn. Overalls	13,804	Dec. 26	119	2508
Sands, Taylor & Wood Company, Boston, Mass. Wheat-flour	730	Nov. 14	119	619
Sandwich Manufacturing Co., Sandwich, Ill. Hay-loaders	7,214	Nov. 14	119	624
Sandwich Manufacturing Co., Sandwich, Ill. Hay-baling presses	7,216	Nov. 14	119	624
Sandwich Manufacturing Co., Sandwich, Ill. Hay-baling presses	7,218	Nov. 14	119	624
Sandwich Manufacturing Co., Sandwich, Ill. Hay-baling presses	7,217	Nov. 28	119	1242
Sangster, Frederick W., Rochester, N. Y. Steel-hardening solution	11,396	Nov. 14	119	634
Savage, Marion W., Minneapolis, Minn. Heave cure	5,316	Nov. 14	119	623
Scarlett, Wm. G., Baltimore, Md. Grass and field seeds	11,964	Dec. 5	119	1570
Scarlett, Wm G., Baltimore, Md. Grass and field seeds	11,966	Dec. 5	119	1570
Scarlett, Wm. G., Baltimore, Md. Grass and field seeds	11,965	Dec. 12	119	1906
Scarlett, Wm. G., Baltimore, Md. Grass and field seeds	11,967	Dec. 12	119	1906
Scarlett, Wm. G., Baltimore, Md. Grass and field seeds	11,969-70	Dec. 12	119	1906-7
Schlichter Jute Cordage Co., Philadelphia, Pa. Rope, cord, and twine	8,599	Nov. 14	119	628
Schrader & Ehlers, New York, N. Y. Combs	11,680	Nov. 28	119	1247
Schuckmann & Seligmann Company, Milwaukee, Wis. Whisky	10,955-6	Dec. 19	119	2219
Schueler, Frederick, Columbus, Ohio. Whisky	10,068	Nov. 7	119	325
Scranton Stove Works, Scranton, Pa. Stoves, ranges, furnaces, and parts thereof	4,333	Nov. 21	119	938
Scranton Whetstone and Abrasive Wheel Co., Scranton, Pa. Oil, water, whet, and grind stones	14,228	Dec. 19	119	2224
Scudders-Gale Grocer Company, St. Louis, Mo. Canned fruits and vegetables	218	Nov. 7	119	309
Sea Gull Specialty Co., Baltimore, Md. Baking-powder	11,220	Dec. 12	119	1905
Sehlinger Sons & Co., Chas., Louisville, Ky. Whisky	12,465	Dec. 19	119	2220
Semmes & Co., B. J., Memphis, Tenn. Whiskies, both rye and Bourbon	6,448	Nov. 28	119	1241
Seneca Mill & Elevator Company, Seneca, Mo. Wheat-flour	14,305	Dec. 26	119	2508
Seville Packing Co., New York, N. Y. Preserved olives	2,205	Dec. 19	119	2204
Sharp & Smith, Chicago, Ill. Surgical belts and bandages	7,577	Nov. 21	119	944
Sherman Brothers and Company, Chicago, Ill. Tea	2,330	Nov. 28	119	1235
Sherman Reid & Co., New York, N. Y. Long cloth	9,041	Dec. 5	119	1564
Shiff, Mayer & Co., Cincinnati, Ohio. Whisky	7,591	Nov. 14	119	625
Shute, William T., Gloucester, Mass. Dried, smoked, pickled, salted, and canned fish	4,076	Nov. 28	119	1236
Shute, William T., Gloucester, Mass. Dried, pickled, smoked, salted, and canned fish	5,063	Nov. 28	119	1238
Shute, William T., Gloucester, Mass. Dried, canned, pickled, smoked, and salted fish	5,064	Nov. 28	119	1238
Siegel, Abraham, New York, N. Y. Cigars	487	Nov. 14	119	619
Siegel, Cooper & Co., Chicago, Ill. Vinegar	14,092	Dec. 19	119	2224
Simon, Herman, Union, N. J. Woven silk fabrics	1,183	Dec. 12	119	1893
Simon's Sons, Chas., New York, N. Y. Hosiery	6,842	Nov. 21	119	942
Singer Manufacturing Company, New York, N. Y. Oscillating, rotating, and vibrating shuttle or looper sewing-machines and their parts and attachments	13,923	Dec. 19	119	2222
Singer Manufacturing Company, New York, N. Y. Sewing-machines containing shuttles or loopers moving transverse with the plane of the bracket-arm, and their parts and attachments	13,924	Dec. 19	119	2223
Singer Manufacturing Company, New York, N. Y. Sewing-machine stands and their parts and attachments	13,925	Dec. 19	119	2223
Singer Manufacturing Company, New York, N. Y. Machines for sewing chain stitch and their parts and attachments	13,926	Dec. 19	119	2223
Singer Manufacturing Company, New York, N. Y. Sewing-machines and their parts and attachments	13,930-2	Dec. 19	119	2223
Sloat, George M., Valdosta, Ga. Liquid remedy for diarrhea, dysentery, and dyspepsia	10,251	Dec. 26	119	2505
Smalley, Albert G., Boston, Mass. Glass bottles	4,283	Dec. 26	119	2498
Smith & Co., C. H., Boston, Mass. Polishes for wood, metal, marble, and glass	10,468	Dec. 5	119	1567
Smith-Kasson Co., Cincinnati, Ohio. Leather boots and shoes	14,033	Dec. 19	119	2223
Solomon, Isaac, Cincinnati, Ohio. Whisky	11,498	Nov. 7	119	328
Sonneborn, Moses, Wheeling, W. Va. Hats and caps	11,006	Dec. 19	119	2219
Spartanburg Fertilizer Co., Spartanburg, S. C. Artificial fertilizers	13,168	Dec. 26	119	2507
Spaulding & Co., Chicago, Ill. Clocks	12,372	Nov. 21	119	951
Spengler, John, Kansas City, Mo. Whisky	10,038	Nov. 7	119	324
Spotless Company Incorporated, Richmond, Va. Washing-machines	14,794	Dec. 19	119	2226
Springer, George R., Kansas City, Mo. Razors	2,997	Nov. 28	119	1235
St. Charles Condensing Co., St. Charles, Ill. Condensed milk	7,983	Nov. 21	119	945
St. Charles Condensing Co., St. Charles, Ill. Condensed milk	6,780	Nov. 28	119	1242
Standard Distilling Co., Cincinnati, Ohio. Whisky	10,021	Nov. 7	119	324
Standard Horse Nail Company, New Brighton, Pa. Horse-nails	8,214-15	Dec. 12	119	1901-2
Standard Horse Nail Company, New Brighton, Pa. Horse-nails	8,206	Dec. 19	119	2212
Standard Horse Nail Company, New Brighton, Pa. Horse-nails	8,208-10	Dec. 19	119	2212

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Standard Horse Nail Company, New Brighton, Pa. Horse-nails	8,216	Dec. 19	119	2213
Standard Hosiery Co., Philadelphia, Pa. Knitted hosiery and underwear	10,616	Dec. 26	119	2506
Standard Paint Company, New York, N. Y. Insulating-tape	13,715	Nov. 28	119	1250
Standard Paint Company, New York, N. Y. Waterproof fabric for insulating, building, and sheathing purposes	2,027	Dec. 5	119	1557
Standard Paint Company, New York, N. Y. Preservative and insulating paints and liquid insulating compounds	12,903	Dec. 19	119	2221
Standard Tool Company, Cleveland, Ohio. Twist-drills	12,207	Dec. 26	119	2507
Standard Tool Company, Cleveland, Ohio. Milling-cutters	15,039	Dec. 26	119	2510
Standard Underground Cable Company, Pittsburg, Pa. Insulating compound used in the manufacture and installation of electric apparatus	4,122	Dec. 26	119	2497
Staples & Hanford Co., Newburgh, N. Y. Springwork and wire spring supports for chairs, sofas, beds, and carriage-seats	6,619	Nov. 14	119	634
Staples Valve Co., Newburgh, N. Y. Water-supply tanks and valves therefor	6,535	Nov. 7	119	316
Star Distillery Company, Cincinnati, Ohio. Whisky	6,284	Nov. 21	119	940
Star Distillery Company, Cincinnati, Ohio. Whisky	12,907	Nov. 28	119	1249
Star Pin Company, Shelton, Conn. Hooks and eyes	11,227	Dec. 19	119	2219
Star Pin Company, Shelton, Conn. Toilet-pins	13,205	Dec. 19	119	2221
Stark Mills, Manchester, N. H. Seamless woven bags	6,811	Nov. 21	119	941
Stark Mills, Manchester, N. H. Sheetings, drills, and ducks	6,812	Nov. 21	119	942
Starks, Richard S., Midway, Ky. Headache-powders	6,512	Dec. 26	119	2501
Start, Lorenzo B., Worcester, Mass. Liniment	3,686	Nov. 21	119	937
Stein & Co., A., Chicago, Ill. Garters	6,641	Nov. 21	119	941
Sterling Company, Derby, Conn. Pianos	14,831	Dec. 26	119	2509
Stern Brothers, Kansas City, Mo. Whisky	10,383	Nov. 7	119	326
Stetson Shoe Company, Weymouth, Mass. Leather boots, shoes, and slippers	14,483	Dec. 12	119	1914
Steuart, Knatz & Co., Baltimore, Md. Syrups and molasses	2,959	Nov. 21	119	936
Stevens Linen Works, Dudley and Boston, Mass. Linen crash	10,666	Dec. 26	119	2505
Stone & Forsyth, Boston, Mass. Toilet-paper	4,834	Dec. 12	119	1896
Straus Brothers Company, Chicago, Ill. Whisky	11,514–15	Nov. 7	119	328
Straus Brothers Company, Chicago, Ill. Whisky	11,513	Nov. 14	119	635
Straus Brothers Company, Chicago, Ill. Whisky	11,517	Nov. 14	119	635
Straus Brothers Company, Chicago, Ill. Whisky	12,659	Nov. 21	119	952
Straus Brothers Company, Chicago, Ill. Whisky	12,662	Nov. 28	119	1248
Straus, Gunst & Co., Richmond, Va. Whisky	5,297	Dec. 19	119	2207
Strause, Henry P., New York, N. Y. Cigarettes	6,859	Nov. 7	119	317
Strauss, Pritz & Co., Cincinnati, Ohio. Whisky	10,343	Nov. 7	119	325
Stringer, Hannah, New York, N. Y. Remedies for diseases of the throat, lungs, and bronchial organs	1,521	Nov. 7	119	310
Stübgen & Co., Fr., Erfurt, Germany. Lamps, lanterns, and parts thereof	7,712	Nov. 21	119	944
Studebaker Automobile Company, South Bend, Ind. Automobiles	12,398	Dec. 26	119	2507
Studebaker Brothers Manufacturing Company, South Bend, Ind. Carriages, buggies, wagons, and carts	12,394	Dec. 5	119	1571
Studebaker Brothers Manufacturing Company, South Bend, Ind. Carriages, wagons, trucks, carts, and other horse-drawn vehicles	12,396	Dec. 5	119	1571
Supplee Hardware Co., Philadelphia, Pa. Axes, hatchets, and adzes	13,832	Nov. 28	119	1250
Supplee Hardware Company, Philadelphia, Pa. Shovels, spades, scoops, and spading-forks	13,833	Dec. 5	119	1575
Supplee Hardware Company, Philadelphia, Pa. Shovels, spades, and scoops	13,828	Dec. 19	119	2222
Supplee Hardware Company, Philadelphia, Pa. Shovels, spades, scoops, and spading-forks	13,821	Dec. 26	119	2508
Supplee Hardware Company, Philadelphia, Pa. Axes and hatchets	13,826	Dec. 26	119	2508
Swartz & Co., H., Boston, Mass. Whisky	5,678	Nov. 28	119	1239
Swaty, Franz, Marburg, Austria-Hungary. Razor-hones, sharpening-stones, and sharpening-wheels	11,106	Nov. 21	119	948
Swift and Company, Chicago, Ill. Lard	5,739	Nov. 14	119	623
T. I. Smith Co., North Attleboro, Mass. Buttons and studs	7,978	Nov. 14	119	636
T. J. Maxwell Co., Peekskill, N. Y. Pajamas and night-robes	3,305	Dec. 26	119	2496
Talbott, William A., Warren, Pa. Proprietary medicine for women's diseases	3,929	Dec. 19	119	2205
Taylor, Edward R., Penn Yan, N. Y. Carbon bisulfid (CS_2)	12,461	Dec. 5	119	1571
Tedcastle & Co., A. W., Boston, Mass. Leather boots and shoes	14,041	Dec. 12	119	1911
Terre Haute Brewing Co., Terre Haute, Ind. Lager-beer and bottled beer	7,990	Nov. 21	119	945
Thayer Foss & Co., Boston, Mass. Upper-leather for boots and shoes	14,957	Dec. 26	119	2510
Theo. Hamm Brewing Co., St. Paul, Minn. Beer	8,030	Nov. 7	119	319
Theo. Hamm Brewing Co., St. Paul, Minn. Malt extract	8,032	Nov. 7	119	319
Thomas G. Plant Company, Boston, Mass. Men's, women's, and children's leather boots and shoes	4,620	Dec. 19	119	2206
Thomas G. Plant Company, Boston, Mass. Men's, women's, and children's leather boots and shoes	4,622	Dec. 19	119	2206
Thomas McMullen & Co., New York, N. Y. Olive-oil	12,199	Dec. 26	119	2506
Thompson & Norris Co., Brooklyn and New York, N. Y. Special paper-board consisting of a corrugated sheet of paper secured and embraced between two uncorrugated sheets of paper and upon envelops or receptacles made from such special paper-board	2,739	Nov. 7	119	311
Thomson Wood Finishing Co., Philadelphia, Pa. Paints, varnishes, colors, fillers, surfacers, stains, and enamels	7,587	Nov. 21	119	944
Thomson Wood Finishing Co., Philadelphia, Pa. Paints, varnishes, fillers, stains, and enamels	7,588	Nov. 21	119	944
Threefoot Bros. & Co., Meridian, Miss. Wheat-flour	8,523	Nov. 21	119	946
Threefoot Bros. & Co., Meridian, Miss. Wheat-flour	8,534	Dec. 26	119	2503
Tiedemann & Son, Theo., New York, N. Y. Malines and mousseline	4,745	Dec. 5	119	1559
To Kalon Vineyard Co., Chicago, Ill. Whisky	14,056	Dec. 12	119	1911
To Kalon Vineyard Co., Chicago, Ill. Whisky	14,058–9	Dec. 12	119	1911–12
Toch Brothers, New York, N. Y. White lead	11,584	Dec. 5	119	1569
Todd Manufacturing Co., New Albany, Ind. Hames	12,420	Dec. 26	119	2507
Tone Bros., Des Moines, Iowa. Ginger, mustard, allspice, cloves, pepper, and cinnamon	3,320	Nov. 7	119	311
Tower & Lyon Co., New York, N. Y. Handcuffs and leg-irons	8,176	Nov. 14	119	636
Tower & Lyon Co., New York, N. Y. Police-twisters	8,177	Nov. 14	119	636
Tower & Lyon Co., New York, N. Y. Nail-pullers	10,975	Nov. 14	119	633
Tower & Lyon Co., New York, N. Y. Screw-drivers	8,178	Dec. 5	119	1563
Transue, Levi B., Hazleton, Pa. Pile remedy	12,899	Dec. 12	119	1909
Traun Rubber Co., New York, N. Y. Rubber for dental purposes	9,280	Nov. 28	119	1245
Treat, Harry W., Seattle, Wash. The output of smelters and refineries in the shape of bars, ingots, sheets, or molds of gold, silver, or copper	3,026	Dec. 26	119	2496
Tremont & Suffolk Mills, Lowell, Mass. Cotton piece goods	4,962	Dec. 5	119	1560
Tremont & Suffolk Mills, Lowell, Mass. Cotton piece goods	4,969	Dec. 19	119	2207
Triner, Joseph, Chicago, Ill. Bitter wines	2,049	Nov. 7	119	310
Ullman Einstein Co., Cleveland, Ohio. Whisky	9,090–1	Nov. 7	119	322
Ullman Einstein Co., Cleveland, Ohio. Whisky	9,093	Nov. 7	119	322
Ullman Einstein Co., Cleveland, Ohio. Whisky	9,099	Nov. 7	119	322

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Ullman Einstein Co., Cleveland, Ohio. Bitters	9,702	Nov. 7	119	323
Ulrici, Charles J., New York, N. Y. Tonic remedy for anæmia and nervous diseases	1,738	Nov. 21	119	935
Union Manufacturing Company, Peterboro, N. H. Crochet-quilts	5,299	Nov. 7	119	313
Union Manufacturing Company, Peterboro, N. H. Crochet quilts	5,287	Nov. 28	119	1238
Union Manufacturing Company, Peterboro, N. H. Crochet quilts	5,288	Dec. 5	119	1561
Union Manufacturing Company, Peterboro, N. H. Crochet quilts	12,515	Dec. 5	119	1571
Union Metallic Cartridge Company, Bridgeport, Conn. Gun and pistol cartridges and parts thereof	10,808	Nov. 28	119	1247
Union Metallic Cartridge Company, Bridgeport, Conn., and New York, N. Y. Cartridges and cartridge-shells	8,527–8	Dec. 19	119	2213
Union Metallic Cartridge Company, Bridgeport, Conn. Cartridges and bullets	10,803	Dec. 19	119	2216
Union Metallic Cartridge Company, Bridgeport, Conn. Bullets	10,806	Dec. 19	119	2217
Union Metallic Cartridge Company, Bridgeport, Conn. Cartridges and metal and paper cartridge-shells	10,807	Dec. 19	119	2217
Union Metallic Cartridge Company, Bridgeport, Conn. Gun and pistol cartridges and parts thereof	10,809–10	Dec. 19	119	2217
Union Metallic Cartridge Company, Bridgeport, Conn. Cartridges and cartridge-shells	10,812	Dec. 19	119	2217
Union Metallic Cartridge Company, Bridgeport, Conn. Cartridges	10,813	Dec. 19	119	2217
Union Metallic Cartridge Company, Bridgeport, Conn. Gun and pistol cartridges and parts thereof	10,814–18	Dec. 19	119	2217
Union Metallic Cartridge Company, Bridgeport, Conn. Cartridges and metal and paper cartridge-shells	10,819–20	Dec 19	119	2217
Union Metallic Cartridge Company, Bridgeport, Conn. Cartridges and cartridge-shells	10,821–8	Dec. 19	119	2218
Union Special Machine Company, Chicago, Ill. Sewing-machines and parts thereof	239	Nov. 14	119	619
Union Special Machine Company, Chicago, Ill. Sewing-machines and parts thereof	237–8	Dec. 5	119	1555
Union Wholesale Liquor Co., Chicago, Ill. Whisky	253	Dec. 5	119	1555
Unique Manufacturing Company, Shelton, Conn. Hooks and eyes	11,463–4	Dec. 19	119	2220
United States Mica Mining and Milling Co., Chicago, Ill. Mica for lubricating purposes	11,766	Dec. 5	119	1560
United States Paper Cutter Co., St. Louis, Mo. Roll-paper holder and cutters	12,523–4	Nov. 21	119	952
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	4,245	Nov 7	119	312
United States Playing Card Co , Cincinnati, Ohio. Playing-cards	5,112	Nov 7	119	313
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,591	Nov. 14	119	620
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,608	Nov. 14	119	620
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	4,346	Nov. 14	119	622
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,563–4	Nov. 21	119	933
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,569–73	Nov. 21	119	933
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,577	Nov. 21	119	933
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,580	Nov. 21	119	933
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,582	Nov. 21	119	934
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,586–7	Nov. 21	119	934
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,590	Nov. 21	119	934
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,595–6	Nov. 21	119	934
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,601	Nov. 21	119	934
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,603–5	Nov. 21	119	934
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,609	Nov. 21	119	934
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,612	Nov. 21	119	934
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,790	Nov. 21	119	935
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,792–3	Nov. 21	119	935
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,799	Nov. 21	119	935
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,801	Nov. 21	119	935
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,803	Nov. 21	119	935
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,805	Nov. 21	119	935
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,807	Nov. 21	119	935
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,811	Nov. 21	119	936
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	3,533	Nov. 21	119	937
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,808	Nov. 28	119	1234
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,810	Nov. 28	119	1234
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	4,247	Nov. 28	119	1237
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,787	Dec. 5	119	1556
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,795	Dec. 5	119	1556
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,804	Dec. 5	119	1557
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,562	Dec. 12	119	1894
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,568	Dec. 12	119	1894
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,613	Dec. 12	119	1894
United States Playing Card Co., Cincinanti, Ohio. Playing-cards	1,788	Dec. 12	119	1894
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,796	Dec. 12	119	1894
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,800	Dec. 12	119	1894
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,806	Dec. 12	119	1894
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,576	Dec. 19	119	2204
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,581	Dec. 19	119	2204
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,597	Dec. 19	119	2204
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	14,842	Dec. 19	119	2226
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,593	Dec. 26	119	2495
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,606	Dec. 26	119	2495
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,794	Dec. 26	119	2496
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	1,797	Dec. 26	119	2496
Usona Light Co., New York, N. Y. Self-lighting incandescent gas-mantles	14,634	Dec. 19	119	2226
Utica Drop Forge & Tool Company, Utica, N. Y. Nippers, pincers, and cutting-pliers	5,631	Nov. 28	119	1239
V. K. and A. H. Jones Co., Lynn, Mass. Boots and shoes made of leather and of canvas	6,772	Nov. 21	119	941
V. K. and A. H. Jones Co., Lynn, Mass. Leather and canvas shoes	6,771	Dec. 5	119	1562
Valk & Bro., S. J., New York, N. Y. Olives	5,443–4	Dec. 26	119	2498–9
Van Emden Cocoa Co., San Francisco, Cal. Chocolates	13,869	Nov. 28	119	1250
Van Emden Cocoa Co., San Francisco, Cal. Chocolates	13,870	Dec. 5	119	1575
Van Ness, Theodore P., Newark, N. J. Remedy for rheumatism, gout, sciatica, and other rheumatic diseases	9,895	Dec. 19	119	2215
Van Nostrand, Alonzo G., Boston, Mass. Ale	3,463	Dec. 19	119	2205
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Whisky	11,175–80	Nov. 14	119	634
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Remedy for chills and fever, biliousness, dull and shaking ague, remittent fevers, and all malarial disorders	11,185	Nov. 21	119	948
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Medicine or remedy for diseases of the kidneys and bladder	11,186	Nov. 21	119	948
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Pills for the cure and alleviation of diseases and disorders of the liver	11,198	Nov. 21	119	948
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Remedy for coughs and ailments of the throat and lungs	11,882	Nov. 21	119	949
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Pile-salve	11,886	Nov. 21	119	950

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Liniment	11,887	Nov. 21	119	950
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Remedy for the cure of rheumatism	11,888	Nov. 21	119	950
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Medicated blackberry brandy	12,291	Nov. 21	119	951
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Whisky	12,293	Nov. 21	119	951
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Remedy for cholera, cholera morbus, and dysentery	12,287	Dec. 12	119	1907
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Vermifuge	12,289	Dec. 12	119	1908
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Preparation for the cure and alleviation of diseases peculiar to women	12,290	Dec. 12	119	1908
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Remedy for coughs, colds, and other ailments of the throat and lungs	12,292	Dec. 12	119	1908
Victor Talking Machine Co., Camden, N. J. Records for talking-machines	9,273	Dec. 5	119	1564
Vig-ni Medicine Co., Chicago, Ill. Dyspepsia tablets and capsules	9,754	Dec. 26	119	2503
Voorhees Estate, Dr. C. A., Philadelphia, Pa. Worm-syrup	4,920	Dec. 19	119	2207
Vulcan Iron Works, San Francisco, Cal. Ammonia-compressors	6,388	Dec. 26	119	2501
W. C. & F. P. Church, Incorporated, New York, N. Y. Weekly newspaper	13,943	Dec. 12	119	1910
W. E. Wroe & Company, Chicago, Ill. Bond-paper	2,832	Nov. 28	119	1235
W. H. Comstock Company, Limited, Morristown, N. Y. Purgative pills	3,385	Dec. 26	119	2497
W. W. Mooney & Sons, Incorporated, Columbus, Ind. Harness and saddlery leather	6,167	Nov. 28	119	1240
W. W. Mooney & Sons, Incorporated, Columbus, Ind. Harness and saddlery leather	6,169-70	Nov. 28	119	1240
Wachter Manufacturing Company, Hartford, Conn. Watches and parts thereof	13,719	Nov. 28	119	1250
Wagner & Sons, John, Philadelphia, Pa. Whisky	14,175	Nov. 28	119	1250
Wakeman Distilling Co., Chattanooga, Tenn. Whisky	10,071	Nov. 7	119	325
Wakeman Distilling Co., Chattanooga, Tenn. Whisky	11,483	Nov. 7	119	327
Waldeyer & Betts, New York, N. Y. Powder for drying the hair	4,570	Nov. 28	119	1237
Walsh, James J., Quincy, Ill. Horse-renovating powders	13,046	Dec. 12	119	1909
Walsh, James J., Quincy, Ill. Colic medicine for horses	13,047	Dec. 12	119	1909
Walter Baker & Company, Limited, Boston, Mass. Cocoa, chocolate, and cocoa preparations	8,121	Nov. 28	119	1243
Walter Baker & Company, Limited, Boston, Mass. Cocoa	4,539	Dec. 26	119	2498
Walter Stewart Company, New York, N. Y. Skirt-braids	12,601	Dec. 5	119	1572
Wanamaker, John, Philadelphia, Pa. Leather boots, shoes, and slippers	10,261	Dec. 26	119	2505
Ward, George S., Pittsburg, Pa. Bread and crackers	727	Dec. 19	119	2203
Warner Bros. Co., Bridgeport, Conn. Hose-supporters	13,533	Dec. 12	119	1910
Warner & Co., William R., Philadelphia, Pa. Preparations for the cure of nausea, indigestion, dyspepsia, sick stomach, and vomiting	1,492	Nov. 21	119	932
Warner & Co., William R., Philadelphia, Pa. Preparations for the cure of indigestion, dyspepsia, sick stomach, and like or allied ailments	1,493	Nov. 21	119	932
Warner & Co., William R., Philadelphia, Pa. Preparations for the cure of vomiting, indigestion, dyspepsia, and sick stomach	1,495	Nov. 21	119	933
Warner & Co., William R., Philadelphia, Pa. Preparations for the cure of indigestion, dyspepsia, sick stomach, and like or allied ailments	1,496	Nov. 21	119	933
Warner & Co., William R., Philadelphia, Pa. Remedy for rheumatic affections generally, gout, and lumbago	4,561	Nov. 28	119	1237
Warner & Co., William R., Philadelphia, Pa. Preparations for the cure of nervousness and to be used as a general system tonic and stimulant	1,494	Dec. 26	119	2495
Warren Brothers Company, Boston, Mass. Disinfectants	6,183	Dec. 12	119	1898
Waterbury Chemical Company, Des Moines, Iowa. Cod-liver oil	2,073	Nov. 28	119	1234
Watson, Frank, Philadelphia, Pa. Ointment	9,009	Dec. 5	119	1564
Weideman Company, Cleveland Ohio. Whisky	914	Dec. 5	119	1555
Weideman-Fries Co., Cleveland, Ohio. Whisky	10,050	Nov. 7	119	324
Weil & Sons, H., Paducah, Ky. Whisky	10,350	Nov. 7	119	326
Weinraich, Joseph, Dayton, Ohio. Cigars	8,530	Nov. 14	119	629
Wellen & Oichman, New York, N. Y. Trunks	10,330	Dec. 5	119	1567
Wells & Richardson Company, Burlington, Vt. Preparations for coloring butter	12,423	Dec. 5	119	1571
Wells & Richardson Company, Burlington, Vt., and Montreal, Canada. Remedy for constipation, liver complaints, biliousness, &c	12,424	Dec. 12	119	1908
Wells & Richardson Company, Burlington, Vt., and Montreal, Canada. Remedy for constipation, liver complaints, biliousness, &c	12,429	Dec. 12	119	1908
Wells, Stone & Co., Chicago, Ill. Sardines and like fish	8,552	Nov. 7	119	320
Wendel, George V., New York, N. Y. Whisky	10,384	Nov. 7	119	326
Wertheimer & Co., New York, N. Y. Gloves	2,242	Nov. 7	119	310
Wetherall, James T., Boston, Mass. Antiseptics for toilet and medicinal purposes	8,431	Nov. 14	119	624
Whipple Brothers Co., Westerly, R. I. Washing-machines	5,281	Nov. 7	119	313
White Top Champagne Company, Hammondsport, N. Y. Sparkling wines, commonly known as champagne	5,345	Nov. 7	119	314
Whitman & Barnes Manufacturing Company, Akron, Ohio. Wrenches	14,590	Dec. 19	119	2226
Whitman & Co., Clarence, New York, N. Y. Mercerized cotton fabrics	4,581	Nov. 28	119	1237
Whitman & Co., Clarence, New York, N. Y. Cotton piece goods	4,582	Nov. 28	119	1237
Whitman, John F., Philadelphia, Pa. Preparation or compound for cleaning the surfaces of articles and structures made from stone, marble, and like substances	13,755	Nov. 21	119	954
Whitney, Wabel & Co., Cleveland, Ohio. Boys' leather boots and shoes	12,128	Nov. 21	119	950
Whittemore Bros. and Co., Cambridge, Mass. Leather-polish	3,947-8	Dec. 19	119	2205
Whittemore Brothers and Company, Cambridge, Mass. Leather-polish	7,118	Nov. 14	119	626
Whittemore Brothers and Company Cambridge, Mass. Leather-polish	14,027	Dec. 12	119	1911
Whittier Mills, Chattahoochie, Ga. Braided cord	12,527-8	Dec. 5	119	1571
Wi-da-me Company, Fairmount, Ind. Salves	11,223	Nov. 21	119	948
Wiard Plow Co., Batavia, N. Y. Plows, cultivators, rollers, and harrows	6,541	Dec. 19	119	2210
Wilcox & White Company, Meriden, Conn. Autopneumatic piano-players, combination-pianos, pneumatic self-playing-piano mechanisms, and parts thereof	14,651	Dec. 26	119	2509
William Barker Compy., Watervliet, N. Y. Collars and cuffs	4,806	Dec. 26	119	2498
William Underwood Company, Boston, Mass. Canned sardines	12,392	Nov. 14	119	635
William Underwood Company, Boston, Mass. Deviled entremets	14,563	Dec. 26	119	2509
William Werder & Son Company, Ashland, Wis. Whisky	9,490	Nov. 7	119	321
Williams & Co., R. C., New York, N. Y. Vegetable and fruit preserves, jams, jellies, butters, and marmalades	9,561	Nov. 21	119	947
Williams & Co., R. C., New York, N. Y. Canned fish, clams, and oysters	9,562	Nov. 28	119	1246
Williams, Frank C., Easton, Pa. Self-raising prepared buckwheat-flour	13,883	Dec. 26	119	2508
Williams, Samuel W., Harriman, Tenn. Baking-powder	12,890	Nov. 28	119	1249
Williams, Wilford M., Indianapolis, Ind. Washing preparation in a dry or powdered form	11,206	Nov. 21	119	948
Winans, George H., Kalamazoo, Mich. Folding canvas hammocks and swings	13,791	Dec. 12	119	1910
Winchester Repeating Arms Co., New Haven, Conn. Cartridges	13,181	Nov. 28	119	1249
Winchester Repeating Arms Co., New Haven, Conn. Gun-grease	9,667	Dec. 19	119	2215
Winchester Repeating Arms Co., New Haven, Conn. Cartridges	13,182	Dec. 19	119	2221
Wingo, Ellett & Crump Shoe Co., Richmond, Va. Leather boots and shoes	6,413	Nov. 7	119	315
Wingo, Ellett & Crump Shoe Co., Manchester, Va. Boots, shoes, and slippers made of leather	11,254	Nov. 21	119	948

Alphabetical list of trade-mark applicants published during November and December—Continued.

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Wise, David, Chicago, Ill. Whisky	3,371-3	Nov. 28	119	1239
Wm. A. Rogers, Limited, New York, N. Y. Silver-plated flat ware, hollow ware, and tableware.	6,560-1	Nov. 7	119	316
Wm. A. Rogers, Limited, New York, N. Y. Silver-plated flat ware, hollow ware, and tableware.	6,564-5	Nov. 7	119	316
Wm. A. Rogers, Limited, New York, N. Y. Silver-plated flat ware, hollow ware, and tableware.	6,567	Nov. 7	119	316
Wm. A. Rogers, Limited, New York, N. Y. Silver-plated flat ware, hollow ware, and tableware.	6,569	Nov. 7	119	316
Wm. A. Rogers, Limited, New York, N. Y. Silver-plated flat ware, hollow ware, and tableware.	10,948-50	Nov. 7	119	327
Wm. A. Rogers, Limited, New York, N. Y. Silver-plated flat ware, hollow ware, and tableware.	6,566	Dec. 5	119	1562
Wm. Bergenthal Co., Milwaukee, Wis. Whisky	11,476	Nov. 14	119	637
Wm. Bergenthal Co., Milwaukee, Wis. Brandy	6,573	Dec. 12	119	1899
Wm. H. Holmes Co., Pittsburg, Pa. Whisky	14,071	Dec. 12	119	1912
Wm. Hoelscher and Co., Inc., San Francisco, Cal. Brandies	6,304	Dec. 12	119	1898
Wm. Hoelscher and Co., Inc., San Francisco, Cal. Wine	6,303	Dec. 19	119	2209
Wm. Numsen & Sons, Inc., Baltimore, Md. Fruits and vegetables in tins or glass	1,685	Nov. 21	119	935
Wood, Arnold, New York, N. Y. Fluid soaps	6,155	Nov. 28	119	1240
Woodcock Macaroni Company, Rochester, N. Y. Macaroni, spaghetti, and vermicelli	8,052	Dec. 5	119	1563
Woolley & Co., A. Herbert, Nottingham, England. Silk hair-nets	5,372	Nov. 21	119	939
Woolner & Company, Peoria, Ill. Whisky	12,681-2	Nov. 21	119	952
Woolner & Company, Peoria, Ill. Whisky	12,684	Nov. 21	119	953
Worch, Hugo, Washington, D. C. Pianos	4,937	Nov. 28	119	1238
Work, Aaron D., Jamestown, N.-Y. Cough-drops	10,449	Nov. 28	119	1247
World's Dispensary Medical Association, Buffalo, N. Y. Liniment for external application for the cure of pains, sprains, and bruises	10,412	Dec. 19	119	2216
Wulzen & Co., John F., San Francisco, Cal. Metal-polishes	6,056	Dec. 26	119	2500
Wyoming Shovel Works, Wyoming, Pa. Shovels, spades, and scoops	3,486	Nov. 21	119	937
X-Zalia Corporation, Boston, Mass. Remedy for skin diseases and a preventive of blood poison.	10,062	Nov. 28	119	1246
Yost Yeast Co., Arkansas City, Kans. Crumb-yeast	5,820	Dec. 26	119	2500
Young, Andrew M., Womelsdorf, Pa. Gin	10,006	Nov. 7	119	325
Young, George C., assignor to Young Remedy Company, Jackson, Mich. Absorbent pads or plasters	5,398	Nov. 7	119	314
Young Remedy Company. (See Young, George C., assignor.)				
Young, Wilbur F., Springfield, Mass. Liniments and embrocations	2,783	Dec. 5	119	1557
Zabriskie, Geo. A., New York, N. Y. Wheat-flour	3,293	Nov. 7	119	311
Zanmatti & Co., A., New York, N. Y. Bitters	11,799	Nov. 21	119	949
Zeltner Brewing Co., New York, N. Y. Lager-beer	6,209	Dec. 19	119	2209

ALPHABETICAL LIST OF INVENTIONS.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Specification.	Drawing.	Volume.	Page.
Abdomen-depressing means	A. G. Du Pell	806,403	Dec. 5	621	137	119	1405
Abdominal appliance	S. H. Burns	807,657	Dec. 19	3115	669	119	2027
Abdominal supporter or bandage	W. R. Cartledge	808,433	Dec. 26	4671	1004	119	2411
Abrasive apparatus	O. C. Wysong	804,514	Nov. 14	1999	436	119	480
Accidents. Device for preventing	C. Mathews	807,842	Dec. 19	3477	750	119	2104
Accordion	R. Carbonari	807,018	Dec. 12	1841	402	119	1711
Acetylene-generator	W. Sinclair	807,325	Dec. 12	2444	527	119	1839
Acetylene-generator	R. F. Carter	807,598	Dec. 19	3001	643	119	2000
Acetylene tetrachlorid. Making	P. Askenasy and M. Mugdan	804,516	Nov. 14	2001	437	119	481
Acid and making same. Δ^1-4-cyclogeranic	G. Merling and A. Skita	805,924	Nov. 28	4769	.....	119	1163
Acid and making same. Sulfo-	G. Kalischer	807,117	Dec. 12	2063	.....	119	1758
Acid anhydrids. Making organic-	R. Sommer	806,932	Dec. 12	1692	.....	119	1678
Acid. Making concentrated formic	M. Hamel	806,660	Dec. 5	1085	.....	119	1505
Acid. Making guanyl dialkyl barbituric	B. R. Seifert	808,407	Dec. 26	4629	.....	119	2402
Acid. Making hydrochloric	W. E. Everette	805,009	Nov. 21	2884	.....	119	741
Acid. Manufacture of hydrochloric	I. L. Roberts	807,640	Dec. 19	3079	662	119	2018
Acid. Manufacturing nitric	H. Pauling	807,491	Dec. 19	2768	.....	119	1953
Acids. Making and separating hydrochloric and sulfuric	P. Askenasy and M. Mugdan	804,515	Nov. 14	2000	437	119	480
Acoustic diaphragm	J. H. Van Mater	804,903	Nov. 21	2782	601	119	696
Adding-machine	E. Ebinger	803,571	Nov. 7	80	20–1	119	18
Adding-machine	A. M. Benedic	806,051	Nov. 28	5007	1058	119	1215
Adding-machine	J. H. Ginet, Jr	806,795	Dec. 12	1386	306	119	1609
Adding-machine	W. H. Pumphrey	807,398	Dec. 12	2581	557	119	1870
Addressing-machine	J. S. Duncan	803,677	Nov. 7	297	64–6	119	67
Adjustable table	C. H. Gardinier	808,534	Dec. 26	4876	1049–50	119	2455
Advertising and display apparatus	K. Stencel	805,682	Nov. 28	4305	926	119	1053
Advertising and mailing card	L. D. Jones	805,016	Nov. 21	2997	650	119	745
Advertising device	C. H. Neal	807,635	Dec. 19	3067	659–60	119	2015
Advertising device. Clock-controlled	H. C. Quick	805,028	Nov. 21	3035	658	119	752
Advertising matter. Device for displaying	H. W. Ewing	805,786	Nov. 28	4507	965	119	1104
Advertising novelty	W. H. Bender	804,372	Nov. 14	1723	373	119	419
Aerating device. Liquid-	W. M. Venable	808,411	Dec. 26	4636	998	119	2403
Aging, mellowing, and purifying wines and liquors. Apparatus for	J. F. and J. F. Duffy, Jr	804,935	Nov. 21	2835	611	119	709
Agitating and mixing apparatus	L. C. Trent	806,214	Dec. 5	238	51	119	1317
Agricultural implement	S. L. Allen	803,536	Nov. 7	1	1	119	3
Agricultural implements. Draft-bar for	N. H. Bloom	804,703	Nov. 14	2368	516	119	559
Agricultural implements. Riding attachment for	N. H. Bloom	804,702	Nov. 14	2366	516	119	559
Agricultural implements. Riding attachment for	N. H. Bloom	804,922	Nov. 21	2815	608	119	704
Agricultural machinery. Automatic draft-coupling for	C. W. Van Wye	806,216	Dec. 5	242	51	119	1318
Air-brake mechanism	J. Dillander	803,564	Nov. 7	64	16–18	119	16
Air-brake mechanism	R. W. Kelly	804,136	Nov. 7	1206	258	119	265
Air-brake release and signal-valve	F. H. Dukesmith	803,746	Nov. 7	449	98	119	100
Air-brake system	F. H. Dukesmith	803,815	Nov. 7	568	125	119	124
Air-brakes. Double-heading-valve device for	H. T. Herr and W. V. Turner	803,591	Nov. 7	131	30–1	119	31
Air-brakes. Mechanism for automatically actuating	C. P. Geritz	805,420	Nov. 21	3822	825–6	119	917
Air-compressor	C. Neumann	804,027	Nov. 7	987	209	119	212
Air-compressor	C. Neumann	804,159	Nov. 7	1262	268–9	119	277
Air-compressor	W. J. Schultz	806,924	Dec. 12	1679	567–8	119	1674
Air. Instrument for supplying constant currents of hot	V. Monath	806,694	Dec. 5	1158	259	119	1520
Air or gas compressor	H. L. Doherty	805,843	Nov. 28	4604	986–7	119	1123
Air-presser	A. H. Gibson	805,197	Nov. 21	3381	733	119	824
Air-presser	A. H. Gibson	805,198	Nov. 21	3382	733	119	824
Air-ship	D. C. Bassett	806,049	Nov. 28	5005	1067	119	1214
Air-ship and propeller therefor	J. C. Clancy	804,583	Nov. 14	2138	467–8	119	509
Alarm: *See* Burglar-alarm. Fire-alarm. Time-alarm.							
Alarm and telephone system	G. Babcock	807,235	Dec. 12	2270	491	119	1801
Alfalfa-grinders. Separating apparatus for	G. H. Payne	806,488	Dec. 5	787	174	119	1441
Alloy	F. W. Moffett	803,921	Nov. 7	762	.....	119	166
Alloy. Silver	A. E. Hobson	808,453	Dec. 26	4709	.....	119	2419
Alloys. Making zinc	P. and A. Gühre	804,006	Nov. 7	945	.....	119	202
Alternator. Magneto-	L. J. Le Pontois	807,949	Dec. 19	3696	801	119	2155
Alternator. Magneto-	L. J. Le Pontois	808,552	Dec. 26	4904	1056	119	2461
Alternator. Self-exciting	L. J. Le Pontois	808,555	Dec. 26	4912	1058–9	119	2462
Amalgamator	C. W. Patten	805,090	Nov. 21	3165	686	119	778
Ammonia and hydrocyanic acid. Recovering	W. Feld	806,467	Dec. 5	751	168	119	1433
Ammonia by synthesis. Making	H. C. Woltereck	803,651	Nov. 7	241	.....	119	54
Ammonia by synthesis. Making	H. C Woltereck	803,652	Nov. 7	241	52	119	54
Ammonia by synthesis. Making	H. C. Woltereck	803,653	Nov. 7	242	.....	119	54
Amusement apparatus	L. Patterson	805,991	Nov. 28	4903	1046	119	1193
Amusement bomb	R. Stresau	805,036	Nov. 21	3046	660	119	754
Anchor	F. E. Forster	805,535	Nov. 28	4045	873	119	1008
Anchor. Earth-	C. Handel and G. B. Nelson	804,945	Nov. 21	2852	614	119	713
Animal-bit	P. M. Boehme	806,629	Dec. 5	1021	227	119	1492
Animal-stock	J. H. Kendall	803,600	Nov. 7	151	34	119	34

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Animal-trap	A. Arnesen	805,941	Nov. 28	4815	1027	119	1174
Animal-trap	R. Chasse	806,642	Dec. 5	1049	232	119	1498
Animal-trap	S. H. Shelley	807,969	Dec. 19	3730	808	119	2162
Annealing-box	M. Johnson	807,275	Dec. 12	2349	506	119	1818
Annunciator	J. and W. Patten	807,859	Dec. 19	3509	759	119	2113
Annunciator	L. G. Woolley	808,135	Dec. 26	4069	875-6	119	2278
Antirail-creeper	A. Morrison	805,982	Nov. 28	4888	1043	119	1190
Apparel-hanger	J. E. Nelson	806,906	Dec. 12	1625	355	119	1663
Apron	G. A. Steiner	806,757	Dec. 5	1294	288	119	1549
Apron or conveyer. Traveling	I. Trolley	803,643	Nov. 7	223	49	119	50
Apron. Storm-	J. P. Gordon	807,163	Dec. 12	2150	462	119	1775
Arch-supporter	C. Lipp	806,353	Dec. 5	526	116	119	1382
Armature for electrical machines	W. T. Hensley	805,547	Nov. 28	4077	880	119	1014
Asbestos thread and making same	A. J. and H. A. Foulds	807,814	Dec. 19	3430	737	119	2094
Astigmatic cabinet	G. E. Holmes	805,959	Nov. 28	4845	1034	119	1181
Auger-bits. Die for making	C. C. Hiatt	803,824	Nov. 7	586	129	119	127
Auger. Earth-	E. B. La Mont	804,141	Nov. 7	1215	260	119	267
Auriphone	R. W. Goers	803,892	Nov. 7	708	153	119	153
Automatic lubricator	W. H. Decker	808,197	Dec. 26	4200	905	119	2306
Automatic press	H. F. Shaw	806,370	Dec. 5	554	122	119	1388
Automatic signal	A. B. Burt and F. T. Vanatta	806,319	Dec. 5	470	103	119	1370
Automatic sprinkler	G. I. Rockwood	807,205	Dec. 12	2226	479	119	1792
Automatic switch	J. M. Comer	808,231	Dec. 26	4270	918-19	119	2323
Automobile-axle	A. R. Demory	805,716	Nov. 28	4382	940	119	1080
Automobile-cyclometer	J. Alexander	805,111	Nov. 21	3210	696-7	119	788
Automobile driving attachment	B. A. Gramm	807,457	Dec. 19	2717	585	119	1941
Automobile-engine suspension	F. H. Bogart	805,442	Nov. 28	3875	837	119	971
Automobile-jack	L. R. Maxwell	808,208	Dec. 26	4223	909	119	2312
Automobile sanding device	A. L. Moss	807,186	Dec. 12	2189	470	119	1784
Automobile steering mechanism	H. H. Buffum	804,375	Nov. 14	1732	374-5	119	421
Automobile-tonneaus. Folding foot-rest for	R. A. Leslie	807,831	Dec. 19	3459	744	119	2100
Automobile transmission mechanism	Z. B. Starr	806,302	Dec. 5	442	95-6	119	1364
Automobiles. Driving-axle structure for	T. J. Lindsay	805,567	Nov. 28	4107	885	119	1021
Automobiles. Power-transmission mechanism for	C. G. Simonds	808,220	Dec. 26	4246	914	119	2317
Automobiles. Trussed frame for	B. A. Gramm	808,798	Dec. 12	1394	307	119	1610
Automobiles. Valve-gear for regulating descending	H. Saurer	807,581	Dec. 19	2968	637-8	119	1993
Awning and blind. Combined	J. Lang	803,696	Nov. 7	345	73	119	78
Awning and cover fastener	H. D. Waterhouse and F. W. Green.	804,285	Nov. 14	1556	335	119	381
Awning-box	E. T. Meakin	808,204	Dec. 26	4407	948	119	2354
Awning-fixture	C. D. and W. T. Kesler	806,265	Dec. 5	339	74	119	1338
Axle and box. Vehicle	S. D. Cox	807,110	Dec. 12	2049	440	119	1756
Axle box. Car-	A. G. Elvin	803,747	Nov. 7	454	99	119	101
Axle box. Car-	A. G. Elvin	803,748	Nov. 7	455	99	119	101
Axle-box lid	A. M. McCrea	804,873	Nov. 21	2730	590	119	683
Axle. Car-	W. A. McCormick	808,301	Dec. 26	4417	950	119	2356
Axle for grain-drills	F. R. Packham and G. P. Oates	807,576	Dec. 19	2957	635	119	1991
Axle for motor-vehicles. Steering-	T. J. Lindsay	807,832	Dec. 19	3460	745	119	2101
Axle for vehicles. Steering-	F. A. Law	803,606	Nov. 7	158	36	119	36
Axle-gage	A. Kurt	806,682	Dec. 5	1132	253	119	1515
Axle. Lubricating-	J. A. Birdwell	804,448	Nov. 14	1857	405	119	449
Axle-straightener	J. S. and W. H. Steadham	805,681	Nov. 28	4304	926	119	1063
Axle-support	G. Kesselring	806,543	Dec. 5	873	194	119	1460
Axle. Vehicle-	E. T. Atwell	806,618	Dec. 5	1005	223	119	1489
Bag: *See* Clothes-bag. Feed-bag. Garbage-bag. Hot-water bag. Mothproof bag. Punching-bag. Traveling-bag. Water-bag.							
Bag	B. Arkell	807,011	Dec. 12	1826	399	119	1708
Bag	J. Rogers	808,170	Dec. 26	4146	893-4	119	2294
Bag-closure	C. F. Jenkins	805,205	Nov. 21	3897	736	119	827
Bag-closure	J. Rogers	807,579	Dec. 19	2962	636	119	1992
Bag-dusting machine	C. R. Miller	806,164	Dec. 5	149	32	119	1297
Bag filling and weighing machine	F. G. Pennock	804,262	Nov. 14	1503	322-5	119	370
Bag-holder	J. O. Ellison	808,355	Dec. 26	4535	975	119	2381
Bag holder and spreader	H. F. Ballou	804,199	Nov. 14	1385	293	119	346
Bag-mouth closure	T. G. Palmer	808,110	Dec. 26	4010	863	119	2286
Bait. Artificial	I. F. Kepler	806,898	Dec. 12	1612	353	119	1650
Bait-receptacle	W. Shinners	807,875	Dec. 19	3552	709	119	2120
Baking apparatus	J. W. Ruger	804,622	Nov. 14	2204	482	119	523
Balance. Specific-gravity	F. M. Williams	808,421	Dec. 26	4648	1001	119	2406
Baling-press	G. E. Rider	803,626	Nov. 7	196	44	119	44
Baling-press	E. R. Kerr	805,471	Nov. 28	3925	848-9	119	981
Baling-press	T. C. Smith	806,202	Dec. 5	210	45-6	119	1311
Baling-press	G. D. Hayes	806,808	Dec. 12	1416	312	119	1615
Baling-press	P. J. W. Heidt	808,153	Dec. 26	4109	885-7	119	2286
Baling-presses. Automatic feeding device for	J. T. Smith	806,590	Dec. 5	953	212-13	119	1477
Ball-and-socket joint for dolls and the like	E. Debes	807,664	Dec. 19	3129	672	119	2031
Ball-bearing jack	H. G. Johnston	804,662	Nov. 14	2279	500	119	539
Balls. Apparatus for making game-	A. L. Burt	807,436	Dec. 19	2681	578	119	1931
Balls. Making game-	A. L. Burt	807,437	Dec. 19	2682	578	119	1932
Balls. Making game-	A. L. Burt	808,005	Dec. 19	3790	822	119	2175
Balloon apparatus. Captive observation-	R. B. Eubank, Jr.	803,573	Nov. 7	84	22	119	19
Ballot-box. Registering and canceling	E. K. Tolman	807,882	Dec. 19	3565	771-2	119	2128
Ballot-pouch	N. Beman	806,050	Nov. 28	5006	1068	119	1215
Banana-shipping case	F. Schmitz	808,313	Dec. 26	4445	957	119	2362
Banana slitting and peeling mechanism	A. Hicks	803,761	Nov. 7	482	104	119	107
Banker	T. O. Sharp	803,719	Nov. 7	397	86	119	89
Bar: *See* Boring-bar. Furnace-grate bar. Grate-bar. Illuminated bar. Shutter-bar. Splice-bar. Mower cutter-bar.							
Barbers' chairs. Mirror for	G. C. Hobein	806,742	Dec. 5	1260	280	119	1542
Barge. Steel	W. C. Jutte	805,468	Nov. 28	3917	847-8	119	969

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Barometer	A. H. McConnell	805,743	Nov. 28	4434	951	119	1090
Barrel-closure. Detachable	S. J. Sikes	807,970	Dec. 19	3731	809	119	2162
Barrel-hoop	T. E. White	808,496	Dec. 26	4797	1033	119	2439
Barrel. Metal	H. Wehrhahn	808,327	Dec. 26	4475	962	119	2368
Barrel. Metal	H. Wehrhahn	808,413	Dec. 26	4639	998	119	2404
Barrel or keg washers. Barrel or keg rolling device for	F. P. Pfeil	808,305	Dec. 26	4422	951	119	2357
Barrel. Sectional metal	G. Klenk	808,548	Dec. 26	4897	1054	119	2459
Barrels, pickle-jars, &c. Follower for	M. Crippen	805,120	Nov. 21	3227	700	119	792
Basin cleansing device. Wash-	J. E. Keyt	804,865	Nov. 21	2718	587	119	681
Bat. Base-ball	W. F. Gubbins	805,132	Nov. 21	3250	705	119	795
Bath apparatus. Needle-	S. J. Jackson	803,598	Nov. 7	144	33	119	33
Bath-tub or the like trap	A. M. Morrison	806,275	Dec. 5	371	82	119	1347
Bathing apparatus	H. R. Auld	807,802	Dec. 19	3400	730–1	119	2088
Bathometer	E. S. Wheeler	804,570	Nov. 14	2113	462	119	505
Battery: *See* Thermo-electric battery.							
Beam-strut	N. H. Davis	804,933	Nov. 21	2832	610	119	708
Bearing-adjuster	G. C. Spangler	807,786	Dec. 19	3376	723	119	2062
Bearing. Antifriction-	G. W. Campbell	805,839	Nov. 28	4398	985	119	1122
Bearing for car journal-boxes	J. M. Hopkins. (Reissue)	12,401	Nov. 7	1359	289–90	119	300
Bearing for vehicles	E. and C. Johanson	804,954	Nov. 21	2870	618	119	717
Bearing metal. Antifriction-	F. W. Moffett	803,920	Nov. 7	761	.....	119	165
Bearing. Roller-	W. F. Reynolds and E. J. Travers.	803,625	Nov. 7	195	43	119	44
Bearing. Thrust-	J. A. Anderson	806,389	Dec. 5	592	130–1	119	1398
Bearing. Vehicle-wheel	H. C. Peterson	803,849	Nov. 7	633	138	119	137
Bearing. Wheelbarrow-	J. Stanley	805,891	Nov. 28	4716	1008	119	1152
Bed	G. F. Fleckenstein and C. S. Dow.	807,735	Dec. 19	3288	706	119	2062
Bed	J. J. Braznell	807,909	Dec. 19	3625	785–6	119	2139
Bed. Adjustable	H. N. Andrews	806,091	Dec. 5	2	1	119	1265
Bed and carriage for children. Combination	S. D. Carmichael	804,581	Nov. 14	2134	467	119	509
Bed-bottom	J. Hoey	808,369	Dec. 26	4563	983	119	2387
Bed-bottom. Spring	F. J. and W. C. Van Cise	804,352	Nov. 14	1689	366	119	411
Bed corner-fastening. Metal-	J. M. Adams	808,501	Dec. 26	4805	1035	119	2441
Bed. Folding	H. D. Parlee	803,779	Nov. 7	512	111	119	112
Bed. Folding	J. D. Froman and T. M. Lanham.	804,594	Nov. 14	2158	472	119	514
Bed. Folding	C. T. Rice	807,204	Dec. 12	2225	478	119	1792
Bed. Invalid-	B. McMahan	803,619	Nov. 7	186	41	119	42
Bed. Metallic sanitary folding	E. J. Baker	804,085	Nov. 7	1119	236	119	245
Bed-protector	M. B. Le Lande	807,750	Dec. 19	3312	711	119	2068
Bed-slat	J. W. Tatum	807,515	Dec. 19	2808	604	119	1960
Bed-spring tightener	A. L. Barnum	807,348	Dec. 12	2483	535	119	1848
Bedclothes-fastener	G. A. Allen	807,706	Dec. 19	3217	690	119	2049
Bedclothes-retainer	A. R. Campbell	807,658	Dec. 19	3117	669	119	2028
Bee-feeding apparatus	J. F. Schöning	804,271	Nov. 14	1528	329	119	376
Beehive	G. F. Kregel	804,736	Nov. 14	2439	531–2	119	576
Beehive	J. F. Stills	807,215	Dec. 12	2246	484–5	119	1795
Beehives. Super for	W. W. Dempsey	808,144	Dec. 26	4082	879	119	2281
Beer-cooler	R. S. Wiesenfeld	808,131	Dec. 26	4053	871	119	2275
Beer cooling and dispensing apparatus	T. D. Smith	808,582	Dec. 26	4965	1070	119	2474
Beer-pasteurizing machine	C. A. King	806,266	Dec. 5	341	74–5	119	1339
Beet-root-topping machine	A. Pruvot	804,172	Nov. 7	1294	277	119	285
Beet-topping apparatus	F. W. H. Shaw	804,889	Nov. 21	2762	596	119	692
Beets. Treating sugar-	M. Weinrich	803,945	Nov. 7	817	173	119	177
Bell or gong. Electric	G. E. Dunton	808,277	Dec. 26	4365	938	119	2344
Bell. Pneumatic signal-	J. H. Brady	808,137	Dec. 26	4072	877	119	2279
Belt-coupling	J. M. Greist	805,358	Nov. 21	3705	802	119	891
Belt-coupling	J. M. Greist	805,359	Nov. 21	3707	802	119	892
Belt deflector. Polishing-	E. W. M. Bailey	803,800	Nov. 7	542	118	119	119
Belt. Driving-	E. Magaldi	806,687	Dec. 5	1146	256	119	1518
Belt-fastener	J. P. Sarle	803,716	Nov. 7	388	82	119	88
Belt-guide	M. E. De Gree and D. C. McAlister.	807,157	Dec. 12	2134	458	119	1772
Belt. Obesity-	S. H. Moore	806,482	Dec. 5	778	172	119	1439
Belt or band fastener. Driving	H. Tarbuck	804,898	Nov. 21	2774	599	119	694
Belt-shifter	H. J. Hoegh	808,088	Dec. 26	3960	856	119	2254
Belt-stretcher	B. O. Kelly	805,363	Nov. 21	3714	804	119	893
Belting or the like. Manufacturing	J. S. Patterson	803,781	Nov. 7	515	112	119	113
Belting to be joined together. Tool or appliance for use in enabling the joints of leather, canvas, and similar	F. Mitchell and F. Gunn	806,556	Dec. 5	890	198	119	1464
Bench: *See* Gas-retort bench. Washbench.							
Bench-leg	R. S. Brown	803,873	Nov. 7	673	147	119	145
Bending-machine	R. A. Carter	803,988	Nov. 7	915	192–3	119	196
Benzin-can	J. E. Baker	803,964	Nov. 7	854	182	119	194
Berry-box	W. C. Miner	804,151	Nov. 7	1235	264	119	271
Berry-box	J. E. Hardman	807,614	Dec. 19	3026	649	119	2006
Berth or bunk	H. W. Grove	804,531	Nov. 14	2032	442	119	488
Berths and analogous devices. Controlling apparatus for suspended ships'	W. Whitehouse	803,947	Nov. 7	821	174	119	177
Bicycle fan attachment	D. Stahlhut	803,635	Nov. 7	212	47	119	47
Bicycle locking device	E. F. Kaiser	805,207	Nov. 21	3399	737	119	828
Bill-holder	A. J. Tice	804,445	Nov. 14	1864	404	119	448
Bill-receipting machine	R. S. Hampton	808,541	Dec. 26	4689	1052	119	2458
Billiard-cushion	J. S. Patterson	803,780	Nov. 7	514	112	119	113
Billiard-table	G. A. Ellias and P. J. McGuire	803,998	Nov. 7	933	196	119	200
Bin: *See* Grocer's bin. Sliding bin.							
Bin	H. W. Watson	805,047	Nov. 21	3065	664	119	756
Bin	E. J. Walker, Jr	807,226	Dec. 12	2269	488	119	1798
Bin	G. W. Hopkins and A. B. Canfield.	808,089	Dec. 26	3962	856	119	2254
Bin indicating device	P. Swanson	805,102	Nov. 21	3190	692	119	784
Binder clasp. Loose-leaf-	W. F. Heffner	805,794	Nov. 28	4519	967	119	1107
Binder. File-	C. R. Nelson	808,058	Dec. 19	3883	841	119	2196

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Binder for leaves	R. D. Miller	803,705	Nov. 7	367	77–8	119	83
Binder for loose sheets. File-	G. F. Watt	805,507	Nov. 28	3994	862	119	997
Binder lock. Loose-leaf-	H. C. Miller	804,422	Nov. 14	1817	392–3	119	440
Binder. Loose-leaf	C. R. Nelson, J. C. Dawson, and E. A. Trussell.	806,702	Dec. 5	1174	283	119	1523
Binder. Loose-leaf	G. E. Post	807,864	Dec. 19	3517	761	119	2114
Binder. Loose-leaf	L. K. Thibodeaux	808,492	Dec. 26	4790	1031	119	2438
Binder, loose-leaf ledger, and the like. Temporary	G. Higginson	804,007	Nov. 7	946	199–200	119	202
Binder. Temporary	A. S. Harn	804,599	Nov. 14	2168	474	119	515
Binder. Temporary	F. N. Wolf	806,861	Dec. 12	1524	334	119	1642
Binder. Temporary or loose-leaf	J. W. Husing	806,974	Dec. 12	1763	387	119	1693
Binders, &c. Baffle for the locks of the adjustable backs of loose-leaf	J. Fieberg	807,450	Dec. 19	2705	583	119	1938
Binders. Locking device for loose-leaf	R. B. Wilson	808,267	Dec. 26	4342	933–4	119	2338
Binders. Locking device for loose-leaf	G. T. Dalton, Sr	808,347	Dec. 26	4514	971	119	2378
Binders. Shocking attachment for	W. H. Perrin	806,283	Dec. 5	384	84–5	119	1300
Binding-post	F. Jackson	804,232	Nov. 14	1444	308	119	358
Binding-post	H. E. Reeve	807,497	Dec. 19	2774	598	119	1954
Bird-killing device	J. A. Beierschmitt	805,898	Nov. 28	4729	1011	119	1154
Bit:							
See Animal-bit. Auger-bit. Bridle-bit. Drill-bit. Extension-bit. Harness-bit.							
Bit	A. L. Bethe	804,700	Nov. 14	2363	515–16	119	558
Bit-brace	H. J. Cook	803,669	Nov. 7	275	59	119	62
Blank and envelop. Combined statement-	M. Harwell	804,224	Nov. 14	1428	305	119	354
Blank. Bill or statement	H. J. Halle	804,720	Nov. 14	2408	525–6	119	569
Blanket-protecting device	T. T. Chaloner and G. H. Chipchase.	803,991	Nov. 7	922	193	119	197
Blast-charger	E. H. Norris	805,089	Nov. 21	3163	586	119	778
Blast-furnace	E. P. Mathewson	807,951	Dec. 19	3700	802–3	119	2156
Blast-regulating apparatus. Automatic	S. W. Vaughen and J. W. Cabot	804,689	Nov. 14	2337	511	119	552
Blind or shutter opener	G. E. and J. K. Dixon	808,519	Dec. 26	4843	1042	119	2449
Blind-slat antirattler	J. J. Hargraves	808,363	Dec. 26	4546	978	119	2383
Bloat. Instrument for relief of	T. H. Miller	806,746	Dec. 5	1268	283	119	1544
Block:							
See Building-block. Concrete building-block. Kindling-block. Pulley-block. Snatch-block.							
Block	A. B. Tarbox	805,760	Nov. 28	4464	957	119	1096
Block-signal system	C. E. Bennett	803,539	Nov. 7	20	7	119	7
Block-signal system	C. E. Bennett	803,540	Nov. 7	24	7	119	8
Block-signal system. Safe	C. J. Cronin	807,726	Dec. 19	3268	702	119	2058
Blocks, type, and other printing matter in forms. Clamp for securing	R. Andrieu	804,183	Nov. 7	1322	283	119	291
Blower	C. Neumann	804,028	Nov. 7	988	209	119	212
Blower. Revolving boiler-tube	J. C. Bennett	806,626	Dec. 5	1019	226	119	1491
Blower. Rotary	H. B. Keiper	804,860	Nov. 21	2701	585	119	678
Blowpipe. Gas-	E. Fouché	804,002	Nov. 7	938	198	119	201
Blowpipe. Oxyhydrogen-	F. Jottrand	808,382	Dec. 26	4585	987	119	2392
Board:							
See Drawing-board. Ironing-board. Panel-board. Tracker-board. Wagon side-board.							
Boat. Collapsible or folding	C. H. Paine	808,302	Dec. 26	4419	950	119	2356
Boat-hook	J. Sullivan and A. Mack	806,019	Nov. 28	4048	1057	119	1203
Boat. Life-	F. W. Brown	804,095	Nov. 7	1134	240	119	249
Boat. Life-saving	J. A. Marley	805,975	Nov. 28	4877	1040	119	1188
Boat or ship	C. P. Leavitt	803,607	Nov. 7	161	36	119	37
Boat spray and water guard	H. C. Morse	804,154	Nov. 7	1240	265–6	119	272
Boat spray and water guard	H. C. Morse	804,155	Nov. 7	1243	266	119	273
Boat. Submarine	H. O. Eiane	803,885	Nov. 7	694	151	119	150
Boat. Submergible surface	T. H. Wheless	806,223	Dec. 5	254	55	119	1321
Boats, automobiles, and other vehicles. Announcing device or horn for	F. Tauzin and H. Laury	804,567	Nov. 14	2110	461	119	504
Boats. Buoyancy-regulating apparatus for submarine	L. Y. Spear	805,496	Nov. 28	3964	857	119	990
Boats from their falls at both ends simultaneously. Means for releasing	G. S. A. Ranking	806,575	Dec. 26	4956	1068	119	2471
Boats. Salvage means for submarine	E. P. Dougherty	807,732	Dec. 19	3282	705	119	2061
Boats unsinkable. Device for rendering small	J. M. A. Deydier	804,797	Nov. 14	2567	560	119	606
Boiler:							
See Domestic boiler. Fire-tube boiler. Locomotive-boiler. Sectional boiler. Steam-boiler. Water-tube boiler.							
Boiler	J. M. Colman	806,524	Dec. 5	845	186	119	1454
Boiler	J. Milne	806,902	Dec. 12	1618	354	119	1661
Boiler	J. E. Grace	808,284	Dec. 26	4383	942–3	119	2348
Boiler-cleaner	B. Irwin	804,194	Nov. 7	1339	286	119	295
Boiler connection. Superimposed-	Karl Schmelzer	804,174	Nov. 7	1300	278	119	286
Boiler-flue fastening	L. Eager	808,027	Dec. 19	3826	829	119	2183
Boiler-furnace	A. Rahner	807,090	Dec. 12	1991	431–2	119	1743
Boiler-tube	G. M. Barr	804,997	Nov. 21	2970	644	119	738
Boiler-tube fastener	A. J. Ervin and J. R. Walker	804,590	Nov. 14	2149	470	119	512
Boilers. Manhole for steam-	C. T. Dain	807,112	Dec. 12	2055	441	119	1757
Boilers to service condition. Cleaning and restoring	A. R. Raymer. (Reissue)	12,403	Nov. 7	1364	290	119	301
Bolster	P. H. Murphy	805,223	Nov. 21	3425	743	119	833
Bolster. Body-	T. M. Gallagher	805,193	Nov. 21	3373	731	119	822
Bolt-anchor	E. A. Stulz	805,037	Nov. 21	3047	660	119	754
Bolt-anchor	C. C. Tomkinson	805,040	Nov. 21	3051	662	119	755
Bolt-anchor	F. D. Ogden	805,662	Nov. 28	4274	920	119	1057
Bolt-clipper	A. L. Moore	806,165	Dec. 5	150	32	119	1298
Bolt-clipper	A. L. Moore	806,480	Dec. 5	776	171	119	1438
Bolt-clipper	A. L. Moore	806,481	Dec. 5	777	172	119	1439
Bolt-cutter	C. K. Lassiter	804,142	Nov. 7	1217	260–1	119	267

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Bolting-machine	H. C. Robinson	806,002	Nov. 28	4920	1051	119	1196
Book	J. Ortia	805,812	Nov. 28	4547	974	119	1112
Book	M. L. Davidson	806,958	Dec. 12	1733	380	119	1686
Book-binder	J. W. Crowder	806,873	Dec. 12	1561	342	119	1650
Book. Check-	C. C. Chain	805,002	Nov. 21	2978	646	119	740
Book for filing papers, &c	W. F. Bockhoff	806,391	Dec. 5	597	131	119	1400
Book for recording scores in contests	T. G. Tritt	804,177	Nov. 7	1305	279	119	288
Book holder or rest	C. E. Fowble	804,462	Nov. 14	1890	411	119	454
Book. Loose-leaf	W. P. Pitt	806,913	Dec. 12	1645	360	119	1668
Book. Manifold blank	J. F. Holmes	807,465	Dec. 19	2726	587	119	1943
Book. Record-	P. H. Sims	806,200	Dec. 5	208	45	119	1310
Book-ring with lock-joints	L. M. Morden	808,248	Dec. 26	4300	924	119	2330
Book-ring with locking-sleeve	L. M. Morden	805,575	Nov. 28	4120	888	119	1023
Books by machinery. Making	J. Ortia	805,811	Nov. 28	4545	974	119	1111
Books to covers. Means for securing	M. McCanany	804,872	Nov. 21	2728	589	119	683
Boot and shoe making machinery	J. C. Keats	806,744	Dec. 5	1262	281-2	119	1543
Boot and shoe tree	W. W. Beals	804,998	Nov. 21	2971	645	119	738
Boot. Hockey-	J. S. King	806,267	Dec. 5	344	75	119	1339
Boots and shoes. Holder for the flies of	M. Brock	805,776	Nov. 28	4493	962	119	1101
Boring and pole-setting machine. Post-hole-	E. G. and G. R. Eddy	804,458	Nov. 14	1882	408-9	119	452
Boring-bar	C. M. Loyd	807,755	Dec. 19	3320	713	119	2070
Boring-tool	P. Thomas	805,170	Nov. 21	3326	720	119	813
Boring-tools. Detachable head for	C. P. Howk	804,602	Nov. 14	2171	476	119	516
Bosom-press	T. S. Wiles	805,049	Nov. 21	3067	665-6	119	758
Bottle	H. R. Lovejoy	808,559	Dec. 26	4925	1061	119	2464
Bottle-cap-feeding machine. Automatic	C. O. Kalling	805,966	Nov. 28	4859	1037	119	1184
Bottle case or crate	C. S. Adams and A. J. Rice	804,081	Nov. 7	1114	235	119	244
Bottle-closing device	G. Wiberg	807,410	Dec. 12	2604	562	119	1875
Bottle-closure	C. C. Smith	803,860	Nov. 7	552	142	119	140
Bottle-closure	H. A. Olsson	804,619	Nov. 14	2198	481	119	521
Bottle-closure	C. E. Duck	805,123	Nov. 21	3232	701	119	703
Bottle-closure	O. Eick	805,784	Nov. 28	4505	964-5	119	1104
Bottle-closure	C. Barrow	806,095	Dec. 5	9	2	119	1267
Bottle-filling device	F. O'Neill	805,877	Nov. 28	4689	1003	119	1145
Bottle-finishing machine	A. J. K. Genella	808,280	Dec. 26	4372	939	119	2345
Bottle. Fraud-preventive	J. D. Dilworth	806,119	Dec. 5	53	11	119	1277
Bottle-manufacturing device	T. G. Clifford	803,992	Nov. 7	922	194	119	197
Bottle. Non-refillable	W. L. Braddock	804,924	Nov. 21	2818	608	119	705
Bottle. Non-refillable	J. J. McDonald	805,087	Nov. 21	3161	685	119	777
Bottle. Non-refillable	W. W. Halligan	805,135	Nov. 21	3254	706	119	797
Bottle. Non-refillable	J. Martin	805,571	Nov. 28	4112	887	119	1022
Bottle. Non-refillable	O. Yates	805,769	Nov. 28	4479	960	119	1099
Bottle. Non-refillable	C. S. Orr	805,810	Nov. 28	4544	973	119	1111
Bottle. Non-refillable	E. Risse and C. O. Sobinski	806,917	Dec. 12	1654	362	119	1670
Bottle. Non-refillable	J. J. Yeates	807,229	Dec. 12	2262	489	119	1799
Bottle. Non-refillable	J. H. Uhl	807,339	Dec. 12	2468	532	119	1845
Bottle. Non-refillable	F. S. Heffernan	807,554	Dec. 19	2894	623	119	1977
Bottle. Non-refillable	P. J. O'Brien	807,856	Dec. 19	3505	758	119	2112
Bottle. Non-refillable	L. A. Robertson	807,966	Dec. 19	3725	808	119	2161
Bottle. Non-refillable	H. W. Lloyd	808,462	Dec. 26	4725	1017	119	2423
Bottle. Non-refillable	H. L. Norman	808,569	Dec. 26	4944	1065	119	2469
Bottle. Nursing-	F. Herb	803,590	Nov. 7	130	30	119	31
Bottle. Nursing-	H. F. Gallagher	805,641	Nov. 28	4239	912	119	1050
Bottle rack. Milk-test-	J. Mattson	806,819	Dec. 12	1434	317	119	1620
Bottle-rinser	H. G. Miller	806,986	Dec. 12	1778	390-1	119	1697
Bottle-stopper	O. H. Fishburne	804,188	Nov. 7	1328	285	119	293
Bottle-stopper	J. A. Arnold	805,403	Nov. 21	3785	819	119	909
Bottle-stopper	J. B. Wildman and L. C. Treherne	807,005	Dec. 12	1809	397	119	1704
Bottle-stopper	G. Stanich	807,330	Dec. 12	2451	528	119	1841
Bottle-stopper	F. W. and A. Vietmeyer	807,519	Dec. 19	2816	605	119	1962
Bottle warmer. Nursing-	B. L. Gwynne	803,756	Nov. 7	469	102	119	104
Bottle washing and sterilizing apparatus	O. Eick	807,367	Dec. 12	2513	543	119	1854
Bottle-washing machine	J. A. Prince	803,850	Nov. 7	634	138	119	137
Bottle-washing machine	J. A. Prince	804,170	Nov. 7	1283	275-6	119	284
Bottle-washing machine	G. R. Lawrence	806,984	Dec. 12	1775	390	119	1696
Bottle-washing machine	B. F. Schirmer	807,687	Dec. 19	3179	683-4	119	2041
Bottle-wrapper-making machine	H. Kruse	807,679	Dec. 19	3159	679	119	2036
Bottle-wrapper-making machine	W. Dichmann	808,348	Dec. 26	4514	971-2	119	2378
Bottles and like containers to prevent their being fraudulently reused. Fastening for	J. J. Shuttleworth	807,134	Dec. 12	2092	449	119	1764
Bottles and other receptacles. Nozzle-stopper for	T. W. Evans	808,278	Dec. 26	4368	939	119	2344
Bottles. Apparatus for applying stoppers to	W. E. Lindsay	808,556	Dec. 26	4917	1060	119	2462
Bottles, flasks, &c. Machine for making	C. Boucher	804,576	Nov. 14	2122	463-4	119	506
Bottling and like apparatus	C. Sellenscheidt	807,507	Dec. 19	2793	601	119	1957
Bottling-machine. Automatic	J. Keenan	807,080	Dec. 12	1975	428	119	1740
Bowling-alley ball-gutter	P. J. Riddell	804,551	Nov. 14	2075	454	119	496
Bowling-alley foul-line	P. W. Edwards	808,147	Dec. 26	4090	881	119	2283
Box: *See* Annealing-box. Awning-box. Axle-box. Ballot-box. Berry-box. Candy-box. Egg-testing compartment-box. Folding box. Journal-box. Junction-box. Knockdown or collapsible box. Light-box. Locomotive fire-box. Mail-box. Match-box. Metallic box. Paper folding fruit-box. Pencil-box. Poultry lunch-box. Roll coupling-box. Stereotype-casting box. Stuffing-box.							
Box	W. C. James	804,725	Nov. 14	2415	527	119	570
Box	W. E. Krebs	805,917	Nov. 28	4760	1018	119	1161
Box	R. Cavanagh	807,418	Dec. 12	2623	565	119	1880
Box-blank-making machine	R. G. Inwood and P. C. Lavenberg.	806,411	Dec. 5	635	139-40	119	1408
Box-fastener	G. Klenk	804,138	Nov. 7	1210	259	119	206

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Box-fastener	C. W. Beehler	805,621	Nov. 28	4208	905	119	1043
Box-hook	A. M. Maretzek	804,665	Nov. 14	2294	501	119	540
Box-lid holder	G. Loos	806,548	Dec. 5	878	195	119	1462
Box or crate head	A. S. Mann	807,837	Dec. 19	3470	748-9	119	2102
Brace:							
See Bit-brace.	Rail-brace.						
Fence-brace.	Winker-brace.						
Brace-bit depth-gage	E. J. Tiede	803,939	Nov. 7	795	170	119	172
Bracelet	S. B. Kent	804,137	Nov. 7	1208	259	119	265
Bracelet	W. Wallenthin	808,322	Dec. 26	4467	960	119	2366
Bracelet	W. Wallenthin	808,323	Dec. 26	4469	960	119	2367
Bracelet, necklet, and like ornament for personal wear	E. Satchwell	804,678	Nov. 14	2308	506	119	546
Bracket:							
See Curtain-bracket.	Shade-bracket.						
Desk-bracket.	Shade-roller bracket.						
Ladder-bracket.	Telephone-bracket.						
Lamp-bracket.	Track-bracket.						
Lantern-bracket.							
Bracket	C. Schraubstadter	804,435	Nov. 14	1848	401	119	445
Bracket and support	H. F. Keil	806,677	Dec. 5	1125	252	119	1513
Bracket or track support	D D Miller	807,762	Dec. 19	3331	715	119	2072
Braiding-machine carrier	R. Hantusch	805,910	Nov. 28	4748	1015	119	1158
Brake:							
See Car-brake.	Rail-brake.						
Coaster-brake.	Railway-vehicle brake.						
Cycle-brake.	Skate-brake.						
Emergency-brake.	Vehicle-brake.						
Fluid-pressure brake.	Wagon-brake.						
Hoisting-mechanism brake.	Wagon and other vehicle brake.						
Brake	J. H. Piercy	806,711	Dec. 5	1187	266	119	1527
Brake	H. T. Lambert	807,291	Dec. 12	2387	512	119	1826
Brake appliance	W. B. Brown	806 237	Dec. 5	285	59	119	1326
Brake-beam	H. C. Buhoup and G. P. Ritter	803,874	Nov. 7	574	147	119	145
Brake-beam	G. P. Ritter	804,267	Nov. 14	1522	327	119	374
Brake-beam	H. B. Robischung	805,821	Nov. 28	4564	977	119	1115
Brake-beams. Suspension device for metal	F. N. Paris	808,059	Dec. 19	3884	841	119	2196
Brake for velocipedes and other road-vehicles	T. Whitaker	807,409	Dec. 12	2603	562	119	1875
Brake-lever	E. L. Smith	805,493	Nov. 28	3960	856	119	989
Brake-lever support	J. A. Lightbody	807,122	Dec. 12	2073	446	119	1760
Brake mechanism	W. Heffin	804,124	Nov. 7	1182	252	119	268
Brake mechanism	C. W. Larson	804,414	Nov. 14	1806	390	119	437
Brake mechanism	C. D. Thomas	805,329	Nov. 21	3653	790	119	880
Brake-rigging	W. F. Kiesel Jr	805,364	Nov. 21	3715	805	119	895
Brake-shoe	F. P. Collier	806,239	Dec. 5	292	61	119	1328
Brake-shoe	F. P. Collier	806,240	Dec. 5	292	61	119	1328
Brake-shoe	H. K. Gilbert	806,251	Dec. 5	309	66	119	1332
Brake-shoe	H. K. Gilbert	806,252	Dec. 5	310	66	119	1332
Brake-shoe	J. D. Gallagher	807,370	Dec. 12	2523	545-6	119	1857
Brake-shoe	J. G. Johnston	808,379	Dec. 26	4580	986	119	2391
Brake-shoe. Vehicle	E. D. Shoop	804,629	Nov. 14	2216	485	119	524
Brake system	F. B. Rae	804,502	Nov. 14	1972	432	119	474
Brakes. Automatic cut-out for electropneumatic	E. H. Dewson	806,022	Dec. 19	3818	827	119	2181
Brazing compound	J. W. Ball	803,802	Nov. 7	545	.....	119	119
Bread-mixer	F. Barr	805,050	Nov. 21	3073	666	119	760
Bread-mixer	L. Libbman	805,082	Nov. 21	3153	684	119	775
Breeching	C. A. Ackenhausen	805,180	Nov. 21	3346	725	119	817
Brewing apparatus	C. Rach	804,979	Nov. 21	2923	634	119	727
Brick-drier	W. R. Martin	804,489	Nov. 14	1948	424-5	119	469
Brick-edging machine	F. E. Piper	805,152	Nov. 21	3284	713	119	803
Brick-elevator. Portable	F. A. Bach	806,765	Dec. 12	1328	294	119	1505
Brick-grapple	S. Hunziker	806,672	Dec. 5	1114	249	119	1511
Brick-kiln	E. D. Young	804,294	Nov. 14	1575	339	119	385
Brick-machine attachment	J. G. Barbour	806,312	Dec. 5	457	99	119	1367
Brick mold. Building-	W. Porten	804,169	Nov. 7	1286	274-5	119	283
Brick-tongs	W. R. and C. R. Cary	805,780	Nov. 28	4499	963	119	1102
Brick-tongs	F. Schulz	806,197	Dec. 5	205	44	119	1310
Bricks, tiles, and other articles. Apparatus for producing vitrified	R. Baggaley	805,702	Nov. 28	4350	934-5	119	1072
Bridge	G. Lindenthal	804,744	Nov. 14	2459	535-6	119	581
Bridge-gate	J. Fowler	806,531	Dec. 26	4867	1047	119	2454
Bridle-bit	H. T. Werk	805,606	Nov. 28	4176	900	119	1035
Bridle-front	J. Fisher	807,425	Dec. 12	2636	569	119	1883
Brine-distributing apparatus for cooling systems	F. Ohde	803,925	Nov. 7	767	164-5	119	166
Briquet-making plant	J. Treadwell	805,106	Nov. 21	3106	693-4	119	785
Briquet-making press or apparatus	H. A. Steven	804,065	Nov. 7	1073	227-8	119	233
Briquet-manufacturing machine	G. Höpfner	804,402	Nov. 14	1778	385	119	432
Briquets. Manufacture of	W. Simpkin and J. B. Ballantine	808,483	Dec. 26	4777	.....	119	2435
Briquets. Manufacturing	G. Höpfner	804,193	Nov. 7	1337	.....	119	295
Bromo-lecithin and making same	P. Bergell	803,541	Nov. 7	27	.....	119	8
Bronzing-machine	D. Gardner and J. O. Newton	804,112	Nov. 7	1167	248	119	257
Broom attachment	G. M. Stewart	804,066	Nov. 7	1079	229	119	233
Brooms and brushes. Manufacture of	S. G. Roseman	803,857	Nov. 7	646	140	119	139
Brooms, brushes, and the like. Means for securing handles to	P. Meyer	806,481	Nov. 28	3940	852	119	985
Brooms. Dust-pan attachment for	L. B. Despain	805,904	Nov. 28	4787	1013	119	1156
Brooms, whisks, &c. Binder for	R. D. Gallagher, Sr	806,655	Dec. 5	1078	239	119	1503
Brush. Air-	O. Liberman	805,865	Nov. 28	4655	996	119	1136
Brush dauber. Blacking-	B. Barbolla	806,390	Dec. 5	596	131	119	1400
Brush. Fountain-	W. Hasz	804,467	Nov. 14	1999	413	119	457
Brush-head coupling	G. P. Cobb	805,782	Nov. 28	4502	964	119	1103
Brush-holder	N. C. Bassett	803,803	Nov. 7	546	119	119	119
Brush-holder	H. G. Reist	803,853	Nov. 7	639	139	119	138
Brush. Scalp-massage	R. M. Smith	804,680	Nov. 14	2511	507	119	547
Brush. Scrubbing-	J. Wolff	805,693	Nov. 28	4326	930	119	1068
Brush. Tooth-	W. S. Davenport	803,995	Nov. 7	928	195	119	199
Brush. Tooth-	E. W. Key	805,733	Nov. 28	4414	946	119	1086

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette Vol.	Official Gazette Page.
Brush with tie-bolt. Sectional	C. A. Fetters	805,431	Nov. 21	3844	832	119	922
Bubble generator. Soap-	C. J. Paulson	807,201	Dec. 12	2221	477	119	1791
Bucket-bail	C. A. Young and S. H. Barton	806,227	Dec. 5	261	56	119	1322
Bucket. Bottom-dumping and handling	P. C. Hains, Jr.	804,221	Nov. 14	1423	304	119	353
Bucket-carrier	N. Butler	805,342	Nov. 21	3672	794	119	885
Bucket. Clam-shell	W. B. Roberts	804,208	Nov. 14	1524	328	119	375
Bucket. Clam-shell	C. Berghoefer	805,521	Nov. 28	4022	868	119	1003
Bucket. Clam-shell	H. P. Horn	807,823	Dec. 19	3444	741	119	2097
Bucket-dumping apparatus	J. Peterson	806,992	Dec. 12	1790	392–3	119	1700
Bucket-loaders. Air-cushion for automatic	B. C. Riblet	806,571	Dec. 5	924	204–5	119	1471
Bucket. Refuse-	H. Freise	804,715	Nov. 14	2394	523	119	565
Buckle	R. A. Brown	803,546	Nov. 7	34	9	119	10
Buckle	T. H. Fishel	803,576	Nov. 7	91	23	119	20
Buckle	T. S. Haley	803,822	Nov. 7	583	128	119	126
Buckle	H. K. vom Hofe	804,470	Nov. 14	1904	414	119	458
Buckle	M. Barabasz	804,788	Nov. 14	2550	557	119	602
Buckle	R. A. Brown	807,013	Dec. 12	1829	400	119	1708
Buckle	L. Sanders	807,132	Dec. 12	2087	447	119	1763
Buckle	W. Griest	808,538	Dec. 26	4885	1051	119	2457
Buckle	I. E. Bennett	805,336	Nov. 21	3664	792	119	883
Buckle. Harness-	J. J. Sweeney	807,335	Dec. 12	2460	530	119	1843
Buffing and polishing wheel	J. M. Sellmayer	808,452	Dec. 26	4770	1027–8	119	2433
Buffing-machine	S. B. Laune and C. M. Shelden	808,288	Dec. 26	4389	944–5	119	2349
Buggies and other vehicles. Storm-shield for	C. D. Logan	805,739	Nov. 28	4429	950	119	1089
Buggy-bow rest	W. L. Phillips	806,911	Dec. 12	1636	357	119	1696
Building-block	T. H. Brown	808,431	Dec. 26	4669	1004	119	2410
Building-block	W. Porten	804,041	Nov. 7	1021	215	119	220
Building-block mold	C. J. W. Hayes	804,122	Nov. 7	1179	251	119	259
Building-block mold	J. B. Francisco	805,457	Nov. 28	3899	844	119	976
Building-block mold. Adjustable	O. C. Pixley	806,712	Dec. 5	1189	266	119	1527
Building construction	R. W. King. (Reissue)	12,425	Dec. 19	3890	842	119	2197
Building construction	E. G. Perrot	806,832	Dec. 12	1454	323	119	1624
Building construction. Fastening device for use in	D. W. Stibbs	806,596	Dec. 5	965	214	119	1480
Bulkhead-door	J. E. Bell	807,012	Dec. 12	1827	400	119	1708
Bullet. Rifle-	E. Frantzich	808,060	Dec. 26	3929	850	119	2248
Bundle-carrying device	L. Page	804,496	Nov. 14	1962	429	119	472
Bunsen burner	B. J. Noyes	806,827	Dec 12	1447	321	119	1623
Bunsen burner	J. Moeller	805,658	Nov. 28	4269	918–19	119	1055
Bunsen burner for lighting and heating purposes	A. M. Söderlund	804,894	Nov. 21	2768	598	119	693
Burette	J. O. Morris	804,616	Nov. 14	2193	480	119	520
Burglar-alarm	H. Frei	806,532	Dec. 5	858	190	119	1457
Burglar-alarm	K. Stastka	807,096	Dec. 12	2012	433	119	1747
Burglar-alarm	W. E. Orr	804,760	Nov. 14	2499	546	119	590
Burglar-alarm. Electric	J. H. Ramsey	806,185	Dec. 5	189	41	119	1306
Burglar-alarm or trap trigger	J. A. Hulwick	805,465	Nov. 28	3914	847	119	979
Burial apparatus	J. W. Shull	806,998	Dec. 12	1799	395	119	1702
Burial appliance	C. E. Myers	803,843	Nov. 7	623	136	119	135
Burial-casket	W. H. Lawson	807,947	Dec. 19	3891	800	119	2154
Burial-casket	A. L. Robertshaw	805,820	Nov. 28	4562	977	119	1114
Burling or perching machine							
Burner: *See* Bunsen burner. Gas-burner. Gasolene-burner. Hydrocarbon-burner. Hydrocarbon-fluid burner. Injector-burner. Lamp-burner. Oil-burner. Petroleum-burner. Refuse-burner. Vapor-burner. Vapor and gas burner.							
Burners. Combined oil and steam regulating valve for	R. J. Mullin	806,904	Dec. 12	1623	355	119	1662
Bushing. Spindle-	J. J. Hines and E. B. Wilkerson	805,551	Nov. 28	4083	882	119	1016
Butter-blocking machine	C. G. Wilson	806,445	Dec. 5	704	158	119	1424
Butter-cutter	H. B. Waters	805,602	Nov. 28	4169	898	119	1034
Butter-cutter	W. H. Roussel	807,130	Dec. 12	2082	447	119	1762
Butter-cutting machine	M. C. Gehl	804,219	Nov. 14	1419	303	119	352
Butter-cutting machine	R. F. Stewart	804,563	Nov. 14	2092	458–9	119	500
Butter-cutting machine	R. F. Stewart	804,564	Nov. 14	2098	459	119	501
Butter-cutting machine	R. F. Stewart	804,565	Nov. 14	2101	460	119	501
Butter-cutting machine	R. F. Stewart	804,566	Nov. 14	2106	460–1	119	503
Butter-cutting machine	J. B. M. V. Röttinger	807,320	Dec. 12	2434	524	119	1837
Butter-packing machine	J. Mattson	806,159	Dec. 5	136	28–9	119	1294
Button	G. F. and A. J. Grove	803,754	Nov. 7	466	101	119	104
Button. Collar-	A. Schwieger	807,689	Dec. 19	3183	684	119	2041
Button. Ornamental	F. E. Stanley	807,644	Dec. 19	3086	664	119	2020
Button-sewing machine	P. A. Reisler	807,776	Dec. 19	3353	719–20	119	2077
Button-shanks. Manufacturing	C. R. Faas	805,532	Nov. 28	4041	872	119	1007
Button. Shirt and collar	G. Schier	808,312	Dec. 26	4444	956	119	2362
Button-working machine	H. Chalmers. (Reissue)	12,400	Nov. 7	1354	288–9	119	299
Cabinet	H. Marstall	806,550	Dec. 5	881	196	119	1462
Cabinet	J. M. Rhodes	808,169	Dec. 26	4144	893	119	2294
Cabinet. Button-	I. Steinau	805,892	Nov. 28	4717	1008–9	119	1152
Cabinet. Clothes-	J. M. Walker	807,340	Dec. 12	2470	532	119	1845
Cabinet. Sectional steel	P. M. Wedge	805,604	Nov. 28	4174	899	119	1034
Cabinet. Store-	W. W. McKee	806,277	Dec. 5	374	83	119	1347
Cable haulage and carrier-transfer	T. Alexander	808,183	Dec. 26	4173	899	119	2300
Cable-traction wheel	T. Alexander	808,063	Dec. 26	3897	843	119	2241
Cables. Carriage for track-	C. A. Case	806,637	Dec. 5	1039	230	119	1495
Cables. Stop-button for overhead	J. G. Wails	807,225	Dec. 12	2257	488	119	1798
Caisson	E. N. Gilbert	807,458	Dec. 19	2715	585	119	1940
Cake-hanger	H. I. Hardin	806,805	Dec. 12	1412	311	119	1614
Calcimine compositions. Preparing	H. H. Church	805,712	Nov. 28	4372	.....	119	1078
Calciminer's color-matching device	M. N. Lonngren	805,084	Nov. 21	3156	684	119	776
Calcining-furnace	G. N. Jeppson	806,884	Dec. 12	1606	352	119	1659
Calcium. Manufacturing	O. Ruff and W. Plato	806,006	Nov. 28	4927	.....	119	1198
Calcium. Production of metallic	W. Borchers and L. Stockem	808,066	Dec. 26	3903	844	119	2242
Calculating device	C. M. Young	804,646	Nov. 14	2255	493–4	119	534
Calculating-machine	H. E. Goldberg	804,463	Nov. 14	1890	411	119	454

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Calculating-machine	G. Knappe	805,365	Nov. 21	3717	805	119	894
Calculating-machine	F. Mugnier	806,698	Dec. 5	1165	261	119	1522
Calculator. Pocket-	C. A. Haas	808,045	Dec. 19	3857	835	119	2190
Calendar for pencils or pens	S. Francis	804,941	Nov. 21	2846	612	119	712
Calendar. Perpetual	J. M. Crawford	804,385	Nov. 14	1750	378-9	119	425
Calendar-support	F. H. Smith	805,678	Nov. 28	4300	925	119	1061
Calking process	J. J. Tynan and H. C. Mostiller	807,407	Dec. 12	2599	561-2	119	1874
Camera	W. F. Folmer	804,802	Nov. 14	2573	561-2	119	607
Can: *See* Benzin-can. Crab-can. Display-can. Garbage or ash can. Key-opening can. Milk-can. Oil-can.							
Can	I. W. England	806,466	Dec. 5	750	167	119	1433
Can and bottle washing machine	W. A. Routson	806,846	Dec. 12	1485	328-9	119	1632
Can and box heading machine	B. J. Lindgren	805,736	Nov. 28	4419	947-8	119	1087
Can and jar attachment. Fruit	C. M. Leffingwell	807,388	Dec. 12	2566	554	119	1866
Can exhauster and cooker	M. W. Groom	808,044	Dec. 19	3854	834	119	2189
Can-filling machine	G. H. Dunbar	805,190	Nov. 21	3367	730	119	821
Can-filling machine	D. W. Rathbone	808,216	Dec. 26	4237	912	119	2315
Can heading and crimping machine	L. C. Sharp	807,049	Dec. 12	1916	414-15	119	1727
Can-heading machine	H. C. H. Walsh	804,642	Nov. 14	2245	491-2	119	531
Can-holding device. Cracker-	E. L. Reed	804,672	Nov. 14	2296	504	119	544
Can submerger. Cream-	L. Kleiber	808,093	Dec. 26	3971	857	119	2256
Can-tester	J. A. Diesel	808,145	Dec. 26	4084	879-80	119	2282
Cans. Forming weakened lines for tearing-strips of key-opening	J. G. Hodgson	804,845	Nov. 21	2667	575	119	671
Canned food. Machine or apparatus for automatically processing or cooking and cooling	S. J. Dunkley	805,845	Nov. 28	4611	988	119	1126
Canning apparatus	J. S. Baker, Jr	805,184	Nov. 21	3352	726-7	119	818
Canceling and counting apparatus	T. A. Bramberry	807,716	Dec. 19	3233	693-4	119	2052
Candle and candle-wick	J. Pereira	803,848	Nov. 7	632	137	119	136
Candle-holder	F. Baumer	806,314	Dec. 5	460	100	119	1368
Candle-tip mold	J. T. Homan	806,973	Dec. 12	1762	387	119	1693
Candles. Apparatus for making	J. Pereira	803,847	Nov. 7	631	137	119	136
Candles. Making	J. Pereira	803,846	Nov. 7	630	137	119	136
Candy-box	A. E. Redlich	805,583	Nov. 28	4142	891	119	1027
Candy-machine	B. B. Bowers	804,374	Nov. 14	1729	374	119	420
Candy-pulling machine	E. J. Jenner	804,726	Nov. 14	2416	528	119	571
Cane and stool. Combined	J. H. Martin	807,039	Dec. 12	1888	410	119	1721
Cane and tripod. Combined	W. F. Clark	806,522	Dec. 5	841	185	119	1453
Canopies. Staff-head for	W. J. Slyder	808,315	Dec. 26	4448	957	119	2363
Canopy	E. A. Pier	808,476	Dec. 26	4752	1024	119	2428
Canopy. Netting-	I. E. Palmer	805,814	Nov. 28	4551	975	119	1112
Canvas-tightener	J. Tanck	808,122	Dec. 26	4006	868	119	2272
Cap	O. D. Shaw	805,161	Nov. 21	3309	717	119	808
Capsule-cleaning device	O. E. Mueller	808,299	Dec. 26	4415	949	119	2355
Car	W. A. Caswell	806,394	Dec. 5	601	132-3	119	1401
Car and railway-carriage platform step-tread. Tram-	J. Hudson	805,296	Nov. 21	3395	776-7	119	869
Car and the like. Transportation-	J. M. Ames	806,763	Dec. 12	1315	292	119	1592
Car and the like. Transportation-	J. M. Ames	806,862	Dec. 12	1525	334-5	119	1642
Car. Bogie-	I. A. Timmis	805,105	Nov. 21	3194	693	119	785
Car-bolster	O. S. Pulliam	805,749	Nov. 28	4441	952	119	1092
Car-brake	E. H. Miller	803,614	Nov. 7	178	40	119	40
Car-brake	F. T. Whitted	804,287	Nov. 14	1559	336	119	382
Car-brake	N. P. Shue	806,849	Dec. 12	1499	330-1	119	1636
Car-brake	C. Remelius	807,777	Dec. 19	3355	720	119	2077
Car-brake	C. H. Shaner	808,314	Dec. 26	4447	957	119	2362
Car brake-beam. Railway-	G. L. Warren	808,325	Dec. 26	4472	961	119	2368
Car-brake safety device	E. H. Miller	804,150	Nov. 7	1233	264	119	271
Car-bumper	R. H. Fletcher	807,920	Dec. 19	3643	790	119	2143
Car construction	G. Gibbs	806,468	Dec. 5	754	168	119	1434
Car construction. Metallic-	T. R. Brown	803,663	Nov. 7	264	56	119	59
Car-coupler. Automatic	A. J. Beard	807,430	Dec. 19	3670	575	119	1929
Car-coupling	J. A. Frenzel	803,579	Nov. 7	100	25	119	22
Car-coupling	E. O. Evans	803,749	Nov. 7	457	99-100	119	102
Car-coupling	D. P. Moran	804,424	Nov. 14	1823	394	119	441
Car-coupling	H. Donnelly	804,523	Nov. 14	2020	439	119	485
Car-coupling	A. H. Renshaw. (Reissue)	12,420	Dec. 12	2648	571-2	119	1886
Car-coupling	W. S. Schroeder and A. P. Lindholm.	807,582	Dec. 19	3972	638	119	1994
Car-coupling	S. E. Jackman	807,933	Dec. 19	3669	795	119	2148
Car-coupling	J. Anson	808,593	Dec. 26	4983	1075-6	119	2478
Car-coupling. Automatic	W. A. Palmer	804,031	Nov. 7	999	211	119	216
Car curtains. Fastener for vestibuled-	H. L. Garrett	804,310	Nov. 14	1612	350	119	393
Car door. Grain-	W. H. McMachen	808,566	Dec. 26	4937	1064	119	2467
Car-door guide	E. T. Robinson	807,319	Dec. 12	2433	524	119	1837
Car-door lock and sealing device. Combined	W. H. Deaver, C. B. and J. H. Thompson, C. Kreitzer, and R. W. Deaver.	806,784	Dec. 12	1369	302	119	1605
Car-door mechanism	C. A. Lindström	805,920	Nov. 28	4763	1018-19	119	1161
Car draft-rigging	E. C. Washburn	805,394	Nov. 21	3769	816	119	908
Car draft-rigging. Railway-	J. F. Courson	804,649	Nov. 14	2259	494-5	119	536
Car drain and trap. Combined	J. C. Carry	808,010	Dec. 19	3797	823	119	2176
Car. Dump-	S. Otis	804,970	Nov. 21	2905	629	119	723
Car-dump and conveyer	A. Moore	807,846	Dec. 19	3480	752-3	119	2108
Car-dump. Automatic revolving	A. Moore	807,845	Dec. 19	3481	751-2	119	2105
Car-dump. Revolving	A. Moore	807,953	Dec. 19	3703	804	119	2157
Car. Dumping-	J. H. Kelly	804,412	Nov. 14	1800	389	119	436
Car. Dumping-	B. Gilleran	805,643	Nov. 28	4243	913	119	1050
Car dust-guard. Railway-	W. H. Brown	805,447	Nov. 28	3882	839	119	972
Car extension-step. Railway-	E. Sirois	804,062	Nov. 7	1068	226-7	119	231
Car-fender	S. Ebenschweller	804,587	Nov. 14	2146	469	119	511
Car-fender	A. J. Berg	804,790	Nov. 14	2555	558	119	603
Car-fender	G. Allen	804,914	Nov. 21	2799	604	119	700
Car-fender	J. J. Hoey	806,143	Dec. 5	105	21	119	1287

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Car-fender	W. G. Winans	806,225	Dec. 5	258	55–6	119	1322
Car-fender	F. W. O'Connor	806,561	Dec. 5	906	200	119	1467
Car-fender	E. Campanari	807,152	Dec. 12	2126	456–7	119	1770
Car-fender	E. C. Haynes	807,461	Dec. 19	2722	586	119	1942
Car-fender	F. W. O'Connor	807,490	Dec. 19	2765	596–7	119	1952
Car-fender	E. H. Schulze	806,294	Dec. 5	420	92	119	1380
Car fender. Street	V. Vladutz	806,604	Dec. 5	979	217	119	1484
Car fender. Street	A. Campbell	803,876	Nov. 7	678	148	119	146
Car-floor doors. Mechanism for operating	W. F. Kiesel, Jr	806,055	Dec. 19	3880	840	119	2195
Car frames. Post and carline for railway	W. L. Aurand	806,233	Dec. 5	276	58	119	1325
Car grain-door	K. Osel	803,707	Nov. 7	369	78	119	83
Car grain-door. Railway	G. Holmes	804,950	Nov. 21	2860	616	119	715
Car-lift. Automatic	J. J. Troeger	804,638	Nov. 14	2232	489–90	119	529
Car locomotive. Multiple	R. S. Moore	804,870	Nov. 21	2724	589	119	682
Car. Ore-distributing	E. I. Dodds	805,947	Nov. 28	4822	1029	119	1175
Car part	H. Witte	808,329	Dec. 26	4476	962	119	2369
Car-platforms. Folding door for	F. I. Friedline	806,534	Dec. 5	861	190	119	1458
Car-puller sheave. Radial	J. G. Brownfield	804,205	Nov. 14	1393	296	119	347
Car. Railway	C. H. Howard	806,811	Dec. 12	1421	313	119	1617
Car. Railway	A. B. Bellows	807,903	Dec. 19	3616	782–3	119	2130
Car. Railway	F. W. Chriswell	808,342	Dec. 26	4501	967	119	2374
Car-replacer	H. Pratt	804,766	Nov. 14	2507	548	119	592
Car-replacer	G. H. Sargent	804,983	Nov. 21	2931	635	119	729
Car-replacer	H. J. Welsh	805,175	Nov. 21	3333	722	119	815
Car-replacer	H. K. Gilbert	805,849	Nov. 28	4621	990	119	1128
Car running-gear	J. J. Rexroth	808,061	Dec. 19	3887	842	119	2197
Car safety-bridge	H. Alsop	807,231	Dec. 12	2265	490	119	1800
Car-seat	J. Applin	803,962	Nov. 7	852	181	119	183
Car-seat	J. Applin	803,963	Nov. 7	853	181	119	184
Car-seat	F. Kohout	805,802	Nov. 28	4530	970	119	1108
Car-seat. Reversible	F. K. Fassett	806,652	Dec. 5	1072	237–8	119	1502
Car. Self-dumping	P. R. and J. L. Bannon	805,517	Nov. 28	4011	866	119	1000
Car. Semi-convertible	W. H. Heulings, Jr	806,809	Dec. 12	1418	313	119	1616
Car side bearing	H. M. Perry	806,360	Dec. 5	536	118	119	1385
Car-side structure. Steel	C. A. Lindström	805,921	Nov. 28	4765	1019	119	1162
Car-stake	J. R. Wheeler	808,129	Dec. 26	4047	870	119	2274
Car. Steel	A. B. Bellows	807,902	Dec. 19	3613	781–2	119	2135
Car-stopping means	W. P. Hussey	806,147	Dec. 5	116	23	119	1290
Car switching attachment. Railway	H. Fenske	804,000	Nov. 7	936	197	119	200
Car switching attachment. Railway	H. Fenske	804,001	Nov. 7	937	197	119	201
Car-underframe construction	A. Becker	807,995	Dec. 19	3771	818–19	119	2171
Car-vestibule	J. P. Sjoberg and E. L. Forsgren	805,326	Nov. 21	3647	789	119	879
Car-vestibule door and trap	J. Filion	805,640	Nov. 28	4237	911	119	1049
Car-wheels. Manufacturing forged	C. T. Schoen	806,580	Dec. 5	940	208	119	1475
Car-window	A. E. Hull	806,471	Dec. 5	759	169	119	1435
Car-window draft-deflector	P. H. Neffen	805,483	Nov. 28	3944	852	119	985
Cars. Automatic coupling for railway	A. A. Rosengrén	808,310	Dec. 26	4437	954	119	2360
Cars. Electric signal system for electric	E. J. Adams	808,182	Dec. 26	4169	899	119	2299
Cars with wheel-frames. Device for connecting the upper parts of	C. V. von Nollé	808,251	Dec. 26	4305	925	119	2331
Carbid-holder	E. M. Sherman	806,585	Dec. 5	946	209–10	119	1476
Carbon and glass cutter	J. Maloy and J. W. Abraham	805,309	Nov. 21	3513	780	119	872
Carbon. Making chlorids of	F. J. Machalske	808,100	Dec. 26	3990	860	119	2261
Carbon plate for protective devices	G. W. Pickard	807,962	Dec. 19	3717	806	119	2160
Carbureter	W. Herrick and J. G. Lohrman	805,138	Nov. 21	3260	707	119	798
Carbureter	A. C. Menges	805,979	Nov. 28	4882	1042	119	1189
Carbureter	O. Millard	806,822	Dec. 12	1438	318	119	1621
Carbureter	J. B. Salo	807,131	Dec. 12	2083	447	119	1762
Carbureter	B. F. Walker	807,144	Dec. 12	2112	454	119	1768
Carbureter	J. H. Mason	807,479	Dec. 19	2745	592	119	1948
Carbureter	G. Enrico	804,589	Nov. 14	2148	470	119	511
Carbureter for explosion-motors	L. Abraham	806,512	Dec. 5	829	182	119	1450
Carbureter for hydrocarbon-engines	G. M. Schebler	806,434	Dec. 5	679	150	119	1419
Carbureter for hydrocarbon-motors	O. Minton	804,025	Nov. 7	983	207–8	119	211
Carbureter. Gas-engine	O. Gavelek	806,079	Nov. 28	5070	1080	119	1227
Carbureter. Hydrocarbon-engine	C. O. Chapin	803,878	Nov. 7	682	140	119	147
Card and merchandise holder	A. S. Carlson	803,552	Nov. 7	49	13	119	12
Card and photograph holder	S. P. Crouse	806,525	Dec. 5	846	186	119	1454
Card-holder	J. B. Wiggins	807,648	Dec. 19	3099	666	119	2024
Card-holding case	H. D. Loria	807,753	Dec. 19	3315	712	119	2068
Card or pulp board. Method of and apparatus for the manufacture of	C. W. Rogers	804,882	Nov. 21	2746	593	119	687
Card. Sign	G. F. Wedderburn	805,895	Nov. 28	4723	1010	119	1153
Card-support for dummy hands	C. Schofield and I. Reeder	805,934	Nov. 28	4794	1023	119	1167
Carding-machine lap-feeding device	E. L. McDaniel	805,983	Nov. 28	4890	1043	119	1191
Carpenter's tool	S. R. Anderson	807,232	Dec. 12	2266	490	119	1800
Carpet-fastener	S. Tattrie and J. Schmidt	808,123	Dec. 26	4038	868	119	2272
Carpet stretcher and tacker	O. R. Chaplin	804,213	Nov. 14	1404	298–9	119	350
Carpet-sweeper	W. Diemer	807,607	Dec. 19	3015	646	119	2003
Carriage. Child's							
Carrier: *See* Braiding-machine carrier. Bucket-carrier. Cotton-picker's sack-carrier. Elevated carrier. Hay-carrier. Hay-sling carrier. Manure-carrier. Package-carrier. Reel-carrier. Straw-carrier. Trace-carrier.							
Carrier	C. E. and D. McDermott	806,356	Dec. 5	531	116	119	1364
Carriers. Folding step for public	W. G. Felkner and J. T. Butler	808,076	Dec. 26	3921	849	119	2247
Cart	J. Dain	804,386	Nov. 14	1752	379	119	425
Cart	A. W. Ransome	807,129	Dec. 12	2090	446	119	1762
Carton making and sealing machine	R. Sunderman	807,140	Dec. 12	2102	451–2	119	1766
Cartons. Machine for opening up end-closing knock-down	C. W. Gay	804,716	Nov. 14	2304	523–5	119	566
Cartridge-case extractor	L. V. Benét and H. A. Mercié	804,699	Nov. 14	2356	514–15	119	555

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Cartridge-holder. Auxiliary	J. T. Brayton	803,983	Nov. 7	907	190	119	194
Cartridge-shell	L. Greenwalt	805,012	Nov. 21	2990	649	119	742
Cartridge-shell-gaging machine	P. Butler	806,461	Dec. 5	734	165	119	1430
Cartridges in clips. Machine for assembling	O. M. Lissak	804,018	Nov. 7	965	204–5	119	206
Carving-machine	F. H. Richards	806,478	Dec. 26	4754	1024–5	119	2429
Case:							
See Banana-shipping case.							
See Bottle-case.							
See Card-holding case.							
See Combination-case.							
See Dress-suit case.							
See Filing-case.							
See Jeweler's case.							
See Map-case.							
See Metallic case.							
See Packing-case.							
See Phonograph-record case.							
See Pie-rack case.							
See Postal-card case.							
See Show-case.							
See Telescopic case.							
See Ticket-case.							
See Toilet and manicure case.							
See Traveling-case.							
See Tray-case.							
Case and holder. Combined	W. Paine	804,545	Nov. 14	2063	450	119	494
Casing-spear. Automatic rotary hydraulic	H. G. Johnston	808,378	Dec. 26	4577	986	119	2390
Cash-carrier apparatus	J. W. Clark	804,214	Nov. 14	1407	299	119	350
Cash-register	R. H. Riddle	803,714	Nov. 7	384	82	119	86
Cash-register	S. G. Cook	807,724	Dec. 19	3250	697–701	119	2055
Cash register and indicator	J. H. McCormick and J. D. Morrison.	805,224	Nov. 21	3427	743–4	119	833
Cask-head closure	C. Wellhöfer, Sr	805,508	Nov. 28	3995	862	119	997
Casks. Tilting support for	H. G. Miller and G. R. Lawrence	806,104	Dec. 26	3996	861	119	2263
Casket	J. H. Mills and W. H. Lawson	807,955	Dec. 19	3707	804–5	119	2157
Casket-handle. Sheet-metal	G. Niersthelmer	804,875	Nov. 21	2732	590	119	684
Caster	F. B. Upton	803,545	Nov. 7	227	50	119	51
Caster. Ball-bearing	E. W. Fishburne	803,682	Nov. 7	318	68	119	71
Caster. Furniture-	A. W. Graham	804,809	Nov. 14	2585	564	119	609
Caster. Roller-bearing	F. R. Wolfinger	808,500	Dec. 26	4804	1035	119	2441
Caster. Sheet-metal roller-bearing furniture-	M. B. Schenck	806,435	Dec. 5	680	150	119	1419
Casters. Attachment for pickle-	K. Mercer	807,761	Dec. 19	3330	714	119	2072
Casting apparatus	C. D. Grimes, B. F. Ellerman, and T. A. Legler, Jr.	807,072	Dec. 12	1965	425	119	1738
Casting copper plates. Tilting mold for	E. W. Lindquist	805,738	Nov. 28	4428	949	119	1089
Casting pig-iron	E. P. Martin	804,329	Nov. 14	1654	357	119	402
Castings. Mold for making	C. D. Grimes, B. F. Ellerman, and T. A. Legler, Jr.	807,024	Dec. 12	1853	404–5	119	1713
Catamenial sack	J. Griffith	807,923	Dec. 19	3650	791	119	2144
Cattle-guard	W. A. Alcorn, Sr., and H. B. Belt	805,616	Nov. 28	4198	904	119	1041
Cattle-guard	W. Edwards	808,522	Dec. 26	4847	1043	119	2450
Cattle guard and gate	W. G. Felkner and J. T. Butler	808,077	Dec. 26	3923	849–50	119	2247
Ceiling	W. Herbst	805,137	Nov. 21	3258	706–7	119	798
Ceiling-plate	J. Neal	805,873	Nov. 28	4672	1000	119	1140
Celluloid and the production thereof. Non-inflammable	G. E. Woodward	803,962	Nov. 7	838	.....	119	180
Cellulose. Manufacturing films or threads of	M. Fremery, E. Bronnert, and J. Urban.	804,191	Nov. 7	1334	.....	119	294
Cellulose. Process for the manufacture of threads or films of	M. Fremery, E. Bronnert, and J. Urban.	806,533	Dec. 5	860	.....	119	1458
Cement. Aging Portland	W. O. Emery	806,788	Dec. 12	1375	.....	119	1606
Cement block and brick machine	T. F. Shoemaker	806,927	Dec. 12	1683	369–70	119	1675
Cement-block machine	J. I. Hancock	803,823	Nov. 7	584	128	119	127
Cement-block machine	D. W. Weller	803,865	Nov. 7	658	143–4	119	141
Cement-block-making machine	J. Miller	804,423	Nov. 14	1821	393	119	440
Cement-block-molding machine	T. Fischer and J. B. Talbot	804,528	Nov. 14	2027	441	119	487
Cement brick and the like. Machine for making	F. C. Hohn	805,294	Nov. 21	3587	774–6	119	867
Cement-brick mold	W. A. Shock	804,890	Nov. 21	2764	596–7	119	692
Cement-burning kiln	G. D. Helmick	805,953	Nov. 28	4829	1031–2	119	1177
Cement fence-posts and the like. Mold for	J. J. Luck	808,394	Dec. 26	4611	992	119	2398
Cement. Manufacture of hydraulic	W. Michaelis	806,161	Dec. 5	142	.....	119	1296
Cement. Manufacturing Portland	E. H. Hurry and H. J. Seaman	806,146	Dec. 5	111	22–3	119	1289
Cement-mixer	C. L. Baldwin	807,899	Dec. 19	3610	780	119	2134
Cement-mold	R. B. Coltrin	807,062	Dec. 12	1947	421	119	1735
Cement or concrete blocks. Machine for making	J. Horr	805,914	Nov. 28	4754	1016–17	119	1159
Cement-post fastening	H. McMaster	803,706	Nov. 7	368	78	119	83
Cement-roofing-tile-making machine	A. Gaspary	804,944	Nov. 21	2851	613	119	712
Cement-stone machine	J. Geers, W. Mehrle, and J. Wiemkes.	805,642	Nov. 28	4240	912–13	119	1050
Cement structures. Framework for	J. S. and W. M. Thomas	805,762	Nov. 28	4466	958	119	1097
Centrifugal separator	J. B. Bartholomew	804,780	Nov. 14	2551	557–8	119	602
Centrifugal separator	J. J. Berrigan	807,055	Dec. 12	1935	417	119	1732
Centrifugal separator	J. J. Berrigan	807,056	Dec. 12	1936	418	119	1732
Cereal drying and sterilizing apparatus	E. I. Noxon	804,876	Nov. 21	2733	590–1	119	684
Chain	R. A. Carter	803,987	Nov. 7	914	192	119	196
Chain	G. C. Horst	804,723	Nov. 14	3413	527	119	570
Chain coupling-link. Cattle-	B. Knothe	804,327	Nov. 14	1651	356	119	402
Chain for doors. Safety-	C. D. Rinald	807,779	Dec. 19	3562	721	119	2079
Chain for gripping and supporting metal blanks	H. C. Cunningham and M. Hoopes	807,541	Dec. 19	3670	617–18	119	1971
Chains. Machine for making weldless	A. G. Strathern	805,592	Nov. 28	4154	894–5	119	1030
Chair:							
See Collapsible chair.							
See Convertible chair.							
See Folding chair.							
See Invalid-chair.							
See Photographic posing-chair.							
See Rail-joint chair.							
See Reclining-chair.							
See Rocking-chair.							
See Rolling-chair.							
See Window-chair.							
Chair	C. Acker	806,043	Nov. 28	4991	1065	119	1213
Chair	B. McKeever, Jr	807,394	Dec. 12	2576	556	119	1889
Chair	C. M. Wagner	807,557	Dec. 19	2984	640	119	1997
Chair	A. Fraser	807,815	Dec. 19	3430	737	119	2094
Chair foot-rest	T. F. Kelly	806,678	Dec. 5	1126	252	119	1513
Chair-iron	B. Bethke	805,522	Nov. 28	4034	868	119	1003

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Chair-leg shoe	O. L. Beardsley and E. W. Bittner	807,536	Dec. 19	2853	613–14	119	1969
Chair-seat	J. Jackson and C. Munson	805,204	Nov. 21	3395	736	119	827
Chair-seat. Adjustable	C. H. Vader	807,701	Dec. 19	3201	688	119	2045
Chair seat or back	G. B. and T. P. Mullen	807,187	Dec. 12	2192	471	119	1785
Chair-seat-perforating machine	C. L. Lincoln	807,295	Dec. 12	2394	513–15	119	1827
Chair-support. Adjustable	J. Flindall	805 846	Nov. 28	4615	988	119	1127
Chair tractor. Wheel-	I. W. Schmidt	806,295	Dec. 5	424	92	119	1360
Chairs. Adjustable head-rest for reclining-	C. H. Knight	805,863	Nov. 28	4651	996	119	1135
Chamfer and butt gage. Combination	F. H. Lockwood	806,417	Dec. 5	646	141	119	1411
Chandeliers. Guard attachment for	V. J. Janser and H. Meyer	807,173	Dec. 12	2163	464	119	1778
Chart. Fashion-	W. Freeman	805,432	Nov. 21	3845	832	119	922
Chart for drafting women's skirts	W. McDowell	803,778	Nov. 7	508	111	119	111
Check-controlled apparatus	J. H. Williams	804,079	Nov. 7	1109	233–4	119	243
Checkrein and holder for same	A. E. Fisher	803,683	Nov. 7	319	68	119	72
Checkrein-holder	L. G. Westfall	807,980	Dec. 19	3746	812	119	2165
Cheese-cutter	W. E. Burks	803,807	Nov. 7	555	121	119	121
Cheese-cutter	W. R. Montgomery	804,153	Nov. 7	1238	265	119	272
Cheese-cutter	H. F. Dunn	807,608	Dec. 19	3017	646–7	119	2003
Cheese-cutter	T. C. Braskett	807,999	Dec. 19	3779	820	119	2172
Cheese-cutter	L. Swank	804,897	Nov. 21	2772	598	119	694
Cheese-cutter. Computing	P. S. McCroskey	805,492	Nov. 28	3941	852	119	985
Cheese-cutter. Computing	J. Berg	806,454	Dec. 5	718	162	119	1427
Cheese-cutter. Computing	H. F. Dunn	803,997	Nov. 7	931	196	119	199
Cheese-cutter computing device	C. D. Poore	807,203	Dec. 12	2223	478	119	1792
Chemical chart	L. Brandt	808,337	Dec. 26	4491	965–6	119	2372
Chenille twisting and receiving machine	H. Creste	807,442	Dec. 19	2687	580	119	1933
Cherries, &c. Machine for stoning	C. W. Eckhart	808,075	Dec. 26	3920	848	119	2246
Chimney-cap	D. Collins	805,344	Nov. 21	3674	795	119	885
Chimney cowl and ventilator	W. C Homan	804,951	Nov. 21	2864	617	119	716
Chimney, globe, and shade holder	J. E. Garner	806,078	Nov. 28	5068	1080	119	1227
Chip-breaker	E. Morterud	807,571	Dec. 19	2949	634	119	1988
Chip-cutting machine	H. M. Stevenson	805,388	Nov. 21	3761	814	119	904
Chisel. Molar-							
Chopper: *See* Cotton-chopper.							
Chuck	P. F. Krug	803,604	Nov. 7	155	34–5	119	35
Chuck	T. H. Crawford	806,398	Dec. 5	613	135	119	1404
Chuck. Automatic	B. F. Barnes	804,919	Nov. 21	2810	606–7	119	702
Chuck for grinding joint-rings	W. A. Davidson	803,812	Nov. 7	563	124	119	122
Chuck. Lathe-	W. C. Briggs	803,684	Nov. 7	908	510	119	194
Chuck of rock-drilling machines	J. H. Thomas	804,986	Nov. 14	2331	191	119	550
Chuck-operating means	J. Morrison	806,168	Dec. 5	158	34	119	1299
Chuck. Pneumatic	H. R. Slivinski	807,876	Dec. 19	3553	769	119	2120
Chuck. Rock-drill	J. C. H. Vaught	804,904	Nov. 21	2784	601	119	697
Churn	T. A. Davis	805,005	Nov. 21	2981	647	119	740
Churn	T. J. Cheney	805,710	Nov. 28	4367	937	119	1077
Churn	H. Housholder	805,855	Nov. 28	4629	992	119	1130
Churn	W. H. Hull	805,960	Nov. 28	4846	1035	119	1181
Churn	C. G. Roman	806,500	Dec. 5	808	178	119	1446
Churn	J. H. Shrum	806,586	Dec. 5	948	210	119	1476
Churn	A. J. Anderson	806,616	Dec. 5	1002	222	119	1488
Churn	W. B. Rose	806,919	Dec. 12	1657	363	119	1670
Churn	J. I. Shaw	807,508	Dec. 19	2794	601	119	1958
Chute	E. Roenius	804,048	Nov. 7	1036	218	119	224
Chute	J. W. Felmlee	807,256	Dec. 12	2317	499	119	1812
Cigar and cigarette cutting machine	H. Eisner	804,651	Nov. 14	2262	496	119	536
Cigar-bunching machine	J. S. Winget	805,177	Nov. 21	3337	723	119	815
Cigar-cutter and match-lighter. Combined	W. F. Herdrich	803,758	Nov. 7	476	103	119	106
Cigar-piercer	C. Pintz	807,202	Dec. 12	2221	478	119	1791
Cigar-stand. Combination	C. A. Mueller	804,333	Nov. 14	1662	359	119	405
Cigars to banding mechanisms. Mechanism for feeding	W. C. Briggs	806,067	Dec. 26	3004	845	119	2243
Cigarette-machine	B. Cohen	803,993	Nov. 7	923	194–5	119	197
Cigarette-machine pasting apparatus	D. J. Campbell	803,986	Nov. 7	911	191	119	195
Cigarette machines. Cut-off-controlling mechanism for continuous-	E. Zschernig	807,102	Dec. 12	2026	436	119	1751
Cigarette-making machine	E. Hocq	807,675	Dec. 19	3149	676	119	2035
Cinch-grip	E. A. Grushus	804,397	Nov. 14	1769	383	119	429
Circuit-breaker	M. B. Field	803,817	Nov. 7	574	125–6	119	125
Circuit-breaker. Automatic	E. M. Hewlett	806,666	Dec. 5	1098	242	119	1508
Circuit-breakers. Trip-coil for	J. D. Hilliard, Jr	803,825	Nov. 7	587	129	119	127
Circuit-controlling device	G. E. Painter	807,684	Dec. 19	3173	682–3	119	2039
Circuit for operating signaling devices. Metallic	A. K. Andriano and H. Herbstritt.	804,182	Nov. 7	1320	283	119	291
Cistern cut-off	G. S. Stuart	807,332	Dec. 12	2453	529	119	1841
Cisterns and cesspools. Form for making	E. H. Osborn	804,167	Nov. 7	1280	273	119	282
Clamp: *See* Cloth-holding clamp; Colter-clamp; Dress-shield clamp; Floor-clamp; Hose-clamp; Insulator and wire-clamp; Jar-clamp; Ladder foot-clamp; Needle-clamp; Piano-key-repair clamp; Rail-clamp; Swaging-clamp; Wire-rope clamp; Wire-stretcher clamp.							
Clamp	W. H. Clendenon	803,668	Nov. 7	274	59	119	62
Clamp	C. L. Chapman	805,631	Nov. 28	4224	908	119	1046
Clamp	J. A. Jirus	807,273	Dec. 12	2345	505	119	1817
Clamp	C. H. Lang	807,945	Dec. 19	3699	799	119	2153
Clamp for cross-rods. Metal	J. C. Russell	803,715	Nov. 7	386	82	119	87
Clasp: *See* Binder-clasp; Combination-clasp; Curtain-clasp; Envelop-clasp; Garment-supporter clasp; Hose-supporter clasp.							
Clasp or buckle	C. E. Smith	804,893	Nov. 21	2767	597	119	693
Clasp or fastener	C. E. Smith	807 403	Dec. 12	2591	550	119	1872

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Clay-cleaning device	H. Diesener	803,563	Nov. 7	62	16	119	15
Clay-cutting machinery. Cutting-wire attachment for	W. R. Cunningham	805,266	Nov. 21	3534	763	119	857
Clay-screen	N. Allen	808,590	Dec. 26	4978	1074	119	2477
Clays. Revivifying spent	A. B. Latting	804,016	Nov. 7	960	202-3	119	205
Cleaner:							
See Boiler-cleaner. Flue-cleaner. Grain-cleaner. Street-cleaner. Tube-cleaner. Type-writer type-cleaner.							
Cleaner	J. Kraus	805,301	Nov. 21	3603	779	119	870
Clearance-indicator	W. B. Updegraff	804,178	Nov. 7	1306	280	119	288
Clevis. Yielding draft-	W. B. Smith	806,931	Dec. 12	1691	371	119	1677
Clip:							
See Hame-clip. Ironing-board-cover clip. Paper-clip. Spring-clip.							
Clip	R. T. Frost	806,076	Nov 28	5066	1079	119	1227
Clip	C. C. Calder and R. G. Eustace	807,151	Dec. 12	2126	456	119	1770
Clock. Electric	L. Agostinelli	804,082	Nov. 7	1115	235	119	244
Clock. Electric	L. L. Cox	808,016	Dec. 19	3808	825	119	2179
Clock. Electric self-winding	C. F. A. Sturts	805,327	Nov. 21	3549	789	119	879
Clock striking mechanism	H. T. Gay	806,336	Dec. 5	496	108-9	119	1376
Clock striking mechanism	H. T. Gay	806,337	Dec. 5	498	109-10	119	1376
Clock system. Electric	M. Fischer	806,332	Dec. 5	488	107	119	1375
Closet:							
See Water-closet.							
Closet connection	N. A. Gutelius	807,265	Dec. 12	2330	502	119	1815
Closure	J. A. Nee	806,175	Dec. 5	168	36	119	1301
Cloth-cutting machine	J. Philippsohn	804,549	Nov. 14	2067	451-2	119	494
Cloth-cutting machine	N. I. and D. D. Tefft	805,104	Nov. 21	3192	692	119	784
Cloth-cutting machine	G. L. Ballard	806,311	Dec. 5	454	99	119	1367
Cloth-holder	P. J. Coan	804,794	Nov. 14	2564	559	119	605
Cloth-holding clamp	W. B. Nunnally	805,909	Nov. 28	4543	973	119	1111
Cloth-napping machine	E. H. Marble	803,613	Nov. 7	170	38	119	38
Clothes-bag	G. L. Barrett	803,967	Nov. 7	858	183	119	185
Clothes-drier	T. A. Campbell	805,779	Nov. 28	4497	963	119	1102
Clothes-fastener	A. Mathews	803,918	Nov. 7	757	163	119	165
Clothes-fastener	J. Childs	806,521	Dec. 5	840	185	119	1453
Clothes-line apparatus	G. Dawson	806,401	Dec. 5	619	136	119	1405
Clothes-line holder	W. McClay	806,558	Dec. 5	895	190	119	1465
Clothes-line reel	B. J. Caldwell and G. L. Hunt	808,009	Dec. 19	3795	823	119	2176
Clothes-pin	F. H. Perry	808,304	Dec. 26	4421	951	119	2357
Clothes-rack	M. Wheeler	804,906	Nov. 21	2788	602	119	697
Clothes-reel	C. L. Kraber	805,649	Nov. 28	4257	915	119	1053
Clothes-tree	M. Bidwell	805,051	Nov. 21	3076	666	119	760
Clothes-washer	E. M. Whittemore	807,004	Dec. 12	1807	397	119	1703
Clutch	A. Lee	808,289	Dec. 26	4390	945	119	2349
Clutch controller. Magnetic-	E. H. Anderson	808,226	Dec. 26	4259	916	119	2320
Clutch-controlling mechanism	C. A. Rich	806,916	Dec. 12	1651	361-2	119	1660
Clutch device	T. L. and T. J. Sturtevant	806,377	Dec. 5	568	125	119	1392
Clutch. Friction-	A. de Dion and G. Bouton	804,104	Nov. 7	1152	244	119	253
Clutch. Friction-	H. W. Hill	805,550	Nov. 28	4081	881	119	1015
Clutch. Frictional	J. Rieppel	806,000	Nov. 28	4917	1050	119	1196
Clutch. Magnetic	G. A. Damon	806,782	Dec. 12	1362	301-2	119	1604
Clutch mechanism. Dumb-waiter	H. Keller	804,957	Nov. 21	2872	619	119	718
Clutch mechanism for coupling rotatable parts	J. Evans	807,254	Dec. 12	2312	498	119	1811
Clutch mechanism for coupling rotatable parts	J. Evans	807,255	Dec. 12	2316	498	119	1812
Clutch. Pulley-	J. C. Sojeba	806,373	Dec. 5	563	123	119	1391
Coal-washing apparatus	R. L. Martin, Jr.	804,488	Nov. 14	1944	423-4	119	468
Coaster-brake	C. D. Beverly	807,715	Dec. 19	3230	693	119	2051
Coat-hanger	R. H. Knight	804,866	Nov. 21	2719	587	119	681
Cock. Angle-	F. D. Hildebrand	807,269	Dec. 12	2336	503	119	1816
Cock or valve. Self-closing hose	R. E. Chapin	807,243	Dec. 12	2289	494	119	1806
Coffee-hopper	G. W. Phillips	807,853	Dec. 19	3516	760	119	2114
Coffee-pot	L. E. Beers	804,823	Nov. 21	2625	571	119	661
Coffee-urn	R. M. Bamford	807,428	Dec. 19	2667	574	119	1929
Coin collector and holder	J. E. Wiley and F. P. Stevens	804,695	Nov. 14	2350	512	119	554
Coin-controlled apparatus	C. C. Clawson	807,722	Dec. 19	3244	695-7	119	2054
Coin-detector	E. de Kleist	808,243	Dec. 26	4290	922	119	2327
Coke and gas plant	V. G. Apple	807,532	Dec. 19	2845	611-12	119	1967
Coke-extractor	J. S. Ham	803,586	Nov. 7	122	28-9	119	29
Coke-oven	M. E. Rothberg	804,053	Nov. 7	1050	222	119	227
Coke-oven	M. E. Rothberg	804,054	Nov. 7	1052	222-3	119	228
Coke-ovens. Apparatus for drawing	I. C. Kelly	807,118	Dec. 12	2063	443-4	119	1758
Coke-puller	H. F. Pearson	804,670	Nov. 14	2293	502-3	119	542
Collapsible chair	D. Schustek and H. L. Andrews	806,369	Dec. 5	551	121-2	119	1388
Collar	F. Hofmeister	803,594	Nov. 7	138	31	119	32
Collar and cuff. Pyroxylin	J. A. Osborne	808,472	Dec. 26	4743	1020-1	119	2426
Collar and necktie fastener	H. Walters	804,075	Nov. 7	1092	232	119	236
Collar distender. Stock-	G. V. Tucker and E. B. Alguier	807,884	Dec. 19	3572	772	119	2125
Collar-fastener	A. Reed	805,320	Nov. 21	3532	785	119	876
Collar fastener. Harness-	N. B. Gould	805,357	Nov. 21	3704	802	119	891
Collar fastener. Horse-	F. Mull	807,485	Dec. 19	2755	595	119	1950
Collar. Horse-	J. D. Whipple	807,523	Dec. 19	2824	606-7	119	1963
Collar. Horse-	E. G. Williams	808,498	Dec. 26	4800	1034	119	2440
Collar. Storm-	F. Horak	808,543	Dec. 26	4891	1052-3	119	2458
Collar-supporter	F. C. Osmers	805,813	Nov. 28	4549	975	119	1112
Collar-supporter. Adjustable	W. F. Cady	805,778	Nov. 28	4496	962	119	1102
Collars, cuffs, and the like. Apparatus for making pyroxylin	J. A. Osborne	808,473	Dec. 26	4744	1021-2	119	2427
Collars. Making fold-	J. M. Beiermeister	806,315	Dec. 5	463	101	119	1369
Coloring-matter. Azo	E. Fussenegger	808,077	Nov. 28	5067	.....	119	1227
Colter attachment for plows	H. A. McQuillin	806,826	Dec. 12	1445	320	119	1623
Colter-clamp	E. J. Doolen	804,105	Nov. 7	1153	244-5	119	253
Colter. Plow-	J. P. Abernathy and J. W. Hiett	807,344	Dec. 12	2475	533	119	1846

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Columns, arches, floors, bins, &c. Construction of	A. V. Sims	805,386	Nov. 21	3755	813	119	902
Combination-case. Pocket	W. Mersbach	806,552	Dec. 5	886	197	119	1463
Combination-clasp	L. Weaver, Jr	804,905	Nov. 21	2786	601	119	697
Combination-lock	E. E. Lathrop	805,803	Nov. 28	4531	971	119	1109
Combing machine. Wool	H. Colburn	805,781	Nov. 28	4500	963-4	119	1103
Combustion. Apparatus for promoting	W F. Herrick	805,461	Nov. 28	3905	845	119	977
Combustion. Apparatus for promoting	W. F. Herrick	805,462	Nov. 28	3907	846	119	977
Combustion. Apparatus for promoting	W. F. Herrick	805,463	Nov. 28	3909	846	119	978
Commode	L. Lotz	804,019	Nov. 7	972	205	119	209
Commode. Invalid's	W. A. Hardy	806,049	Dec. 19	3869	837	119	2193
Commode-seat	W. Moore	806,903	Dec. 12	1621	355	119	1662
Commutator-motor	E. Arnold and J. L. La Cour	808,064	Dec. 26	3898	844	119	2242
Compass-head	G. Schoenner	806.581	Dec. 5	941	208	119	1475
Compass-joint	H. Kern	808,205	Dec. 26	4215	908	119	2310
Compasses. Alidade or indicator for ships'	H. P. Arbecam	808,270	Dec. 26	4349	935	119	2340
Composing-machines. Justifying mechanism for	A. Greenleaf	805,459	Nov. 28	3901	844-5	119	976
Compressors. Automatic controller for electrically-actuated	N. A. Christensen	806,462	Dec. 5	741	165-6	119	1431
Concentrating and amalgamating table	J. A. Hamilton	804,466	Nov. 14	1898	413	119	457
Concrete-block-making machine	E. M. Walton	805,045	Nov. 21	3063	664	119	758
Concrete-block-molding flask	T. Libby	804,240	Nov. 14	1469	313-14	119	363
Concrete building-block	E. L. Lorscheider	805,478	Nov. 28	3935	851	119	984
Concrete construction. Reinforcing device for	G. L. Peabody	805,663	Nov. 28	4275	920	119	1057
Concrete-floor centering	P. Kühne	804,237	Nov. 14	1459	311	119	362
Concrete-mixer	J. W. Page	804,261	Nov. 14	1500	322	119	369
Concrete-mixer	D. Warner	807,522	Dec. 19	2821	606	119	1963
Concrete-mixing machine	G. D. Scheiffler	807,207	Dec. 12	2230	479-80	119	1793
Concrete pile and making the same	F. Shuman	805.936	Nov. 28	4798	1024	119	1168
Concrete piles. Method of and means for forming	A. A. Raymond	806,838	Dec. 12	1468	325	119	1628
Concrete sewers. Device for forming	R. R. Evans	803,680	Nov. 7	314	67-8	119	71
Concrete-structures. Means for reinforcing	R. R. Moorman and C. W. Yelm	804,614	Nov. 14	2190	480	119	520
Concrete-wall-forming apparatus	C. E. Russell	805,883	Nov. 28	4702	1005	119	1148
Concrete-wall mold	A. F. Reichert	805,819	Nov. 28	4558	976-7	119	1114
Concrete walls. Device for building	D. A. Milam	803,703	Nov. 7	363	77	119	82
Condenser	P. O. Keilholtz	805,141	Nov. 21	3266	709	119	799
Condenser	J. F. Grace	806,797	Dec. 12	1393	307	119	1610
Condenser	C. J. Davidson and E. P. Worden	807,251	Dec. 12	2304	496-7	119	1809
Condenser	F. Kaiser	807,278	Dec. 12	2352	507	119	1819
Condenser	L. R. Alberger	804,912	Nov. 21	2795	603	119	699
Condenser. Surface	F. Ray	803,787	Nov. 7	522	113-14	119	114
Condenser system	R. Schneider	806,368	Dec. 5	548	121	119	1387
Condensing plant	A. Giesler	806,132	Dec. 5	85	18	119	1282
Condensing plant. Surface	C. F. Monroe	806,355	Dec. 5	530	116	119	1384
Condiment-holder	F. E. Case	806,638	Dec. 5	1041	230	119	1496
Conductor signal. Sectional	D. E. Reagan	805,665	Nov. 28	4278	921	119	1058
Conduit	W. S. Brown	804,204	Nov. 14	1392	295	119	347
Conduit-coupling	A. C. Proudfit	805,093	Nov. 21	3170	687	119	779
Conduit coupling. Electrical	H Baumgartner	804,573	Nov. 14	2118	462	119	505
Cone-coupling	W. S. Dillon	806,649	Dec. 5	1062	235	119	1501
Confectionery-machine	E. Baxter	805,519	Nov. 28	4017	867	119	1001
Conflagrations. Means for preventing the spread of	F. Petz	804,429	Nov. 14	1835	398	119	443
Contacts. Making	J. R. Harbeck	804,222	Nov. 14	1425	305	119	353
Container	J. R. Harbeck	808,362	Dec. 26	4545	978	119	2383
Container-top	G. Steck	806,595	Dec. 5	964	214	119	1480
Containing device	J. C. Jarvis	805,140	Nov. 21	3264	708	119	799
Continuous-piston engine	C. W. Larson	803,834	Nov. 7	606	133	119	131
Control system	F. E. Case	808,271	Dec. 26	4351	935	119	2341
Control system. Emergency	F. Volk	807,520	Dec. 19	2818	605	119	1962
Controller	L. Neu	808,471	Dec. 26	4741	1020	119	2426
Controller. Automatic level	F. E. Case	806,639	Dec. 5	1042	230	119	1496
Controller-finger. Adjustable	A. Churchward	805,263	Nov. 21	3526	760	119	855
Controllers. Time-limit device for	E. S. Clark	805,944	Nov. 28	4818	1028	119	1175
Controlling apparatus	T. von Zweigbergk	808,268	Dec. 26	4343	934	119	2339
Controlling system	C. M. Allen	805,896	Nov. 28	4724	1010	119	1154
Converter. Finishing	D. T. Matthew	803,699	Nov. 7	351	74	119	79
Convertible chair	J. L. Causey	803,667	Nov. 7	271	57-9	119	61
Conveyer	P. Burchardt	806,103	Dec. 5	21	5	119	1269
Conveyer	J. H. Burns	807,016	Dec. 12	1837	401	119	1710
Conveyer	P. Lorillard	807,564	Dec. 19	2918	628-9	119	1983
Conveyer	P. Lorillard	807,565	Dec. 19	2928	629-31	119	1984
Conveyer	F. A. Shunk	803,720	Nov. 7	398	86-8	119	89
Conveyer and leer. Combined	F. C. Caldwell	805,629	Nov. 28	4218	908	119	1045
Conveyer-flights and the like. Making spiral	T. J. Gray	804,810	Nov. 14	2586	564	119	610
Conveyer for crushing-machines. Elevating	H. S. Hoy	804,474	Nov. 14	1913	416	119	460
Conveyer for grading and ditching machines. Elevating	J. B. McKennan and A. H. Helander.	806,700	Dec. 5	1171	261-3	119	1522
Conveyer-link	G. L. Chatfield	806,643	Dec. 5	1050	232	119	1498
Conveyer. Screw	T. McGrath and F. McAndrews	803,924	Nov. 7	766	164	119	166
Conveyer. Spiral	C. Berghoefer	805,520	Nov. 28	4019	867	119	1002
Conveyer system. Traveling	T. Wallace and F. Nash	803,944	Nov. 7	816	173	119	176
Conveying apparatus	H. W. Blaisdell	806,732	Dec. 5	1235	275-6	119	1537
Conveying, distributing, and excavating material. System for	P. C. Patterson	807,312	Dec. 12	2419	520-1	119	1833
Conveying-trough	F. F. Stetson	803,724	Nov. 7	419	90	119	94
Cooking apparatus for cans	E. Shaw	806,848	Dec. 12	1494	330	119	1634
Cooking apparatus. Liquid							
Cooler: *See* Beer-cooler. Milk-cooler. Liquid-cooler.							
Cooling and drying apparatus	F. A. Wegner and J. D. Bourdeau	807,408	Dec. 12	2601	562	119	1874
Cooling device. Combination spiral-screw	W. L. Straus and G. Engel	806,935	Dec. 12	1697	372	119	1679
Coop. Brooder	T. O'Brien	807,196	Dec. 12	2212	476	119	1789
Coop. Chicken	C. Hoskins	808,156	Dec. 26	4121	888	119	2289
Copper-nickel matte. Refining	N. V. Hybinette	805,555	Nov. 28	4053	.....	119	1016
Copper ores. Fluxing	R. Baggaley	806,835	Nov. 28	4592	984	119	1121

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Copper-refining furnace	R. Baggaley	806,834	Nov. 28	4589	983-4	119	1121
Copper-refining furnace	R. Baggaley	806,621	Dec. 5	1008	224	119	1490
Copper-stamping machine	R. Baggaley	806,703	Nov. 28	4353	935	119	1073
Copy-holder	B. Hill, T. N. Shambaugh, and L. A. Larson.	806,344	Dec. 5	508	111	119	1379
Copy or book holder	A. Merceret	804,666	Nov. 14	2285	501	119	540
Copying-guide	S. A. Smith	807,095	Dec. 12	2010	433	119	1747
Core compound	R. Ditty	803,566	Nov. 7	71	.....	119	17
Core for rolls	C. W. Lyman	805,867	Nov. 28	4660	997	119	1137
Cores. Machine for removing and cutting material from Cork. Self-measuring	J. B. M. V. Röttinger	808,578	Dec. 26	4960	1069	119	2472
	E. S. Raymond and W. W. Fraser.	805,380	Nov. 21	3742	811	119	900
Corking apparatus	G. T. Liddle	805,566	Nov. 28	4106	885	119	1020
Corn-husker	G. Meader	808,465	Dec. 26	4779	1018	119	2423
Corn-husker and ensilage-cutter	A. Rosenthal	804,434	Nov. 14	1842	399-401	119	445
Corn-huskers. Aligning ear-forwarder for	C. E. Curtiss	803,994	Nov. 7	926	195	119	198
Corn-husking machine	L. G. Vandegrift, Jr.	808,264	Dec. 26	4333	931-2	119	2336
Corn-popper	W. T. Favorite and C. V. Schermerhorn.	804,110	Nov. 7	1163	247	119	256
Corn-sheller feeder	P. H. Helgerson	806,892	Dec. 12	1603	351	119	1658
Corner shield or protector	O. Carlson	803,741	Nov. 7	441	95	119	99
Cornice or curtain holder support	P. Wendelius and E. Mattsson	806,944	Dec. 12	1711	375	119	1682
Corset and other articles of counterpart construction	C. M. Frost	803,685	Nov. 7	326	67	119	74
Corset-busk	L. B. Baillet	804,916	Nov. 21	2902	605	119	701
Cotton-chopper	J. V. Sullivan and D. A. Porter	806,938	Dec. 12	1699	373	119	1679
Cotton-chopper	J. T. Butler and W. G. Felkner	808,069	Dec. 26	3908	845-6	119	2244
Cotton-chopper	W. G. Felkner and J. T. Butler	808,078	Dec. 26	3925	850	119	2247
Cotton chopper and checker	J. F. Agee	805,110	Nov. 21	3208	696	119	787
Cotton cupper or spacer	J. W. Gilleland	805,908	Nov. 28	4747	1015	119	1158
Cotton-handling apparatus	A. F. Tidwell	807,881	Dec. 19	3563	771	119	2123
Cotton. Machine for elevating and feeding seed-	C. R. Benefield	807,654	Dec. 19	3110	668	119	2026
Cotton-picker's sack-carrier	W. A. Byrd	805,708	Nov. 28	4362	937	119	1076
Cotton-picking machine	W. B. Edrington	803,572	Nov. 7	82	21	119	19
Cotton-picking spindle and wiper. Spiral	G. N. Todd	806,941	Dec. 12	1706	374	119	1680
Cotton-press	P. Dunford	805,245	Dec. 5	299	63	119	1330
Couch	J. Hoey	804,538	Nov. 14	2047	445	119	491
Couch and invalid-chair. Combined	E. Loose	805,805	Nov. 28	4534	971	119	1109
Coupling: *See* Belt-coupling. Brush-head coupling. Car-coupling. Conduit-coupling. Cone-coupling. Engine and tender coupling. Fifth-wheel coupling. Fire-department coupling. Hose-coupling. Pipe-coupling. Pump-rod coupling. Railway-coupling. Shaft-coupling. Thill-coupling. Well-drilling-tool coupling. Whiffletree-coupling.							
Coupling	J. and J. O. Timms	803,729	Nov. 7	424	91	119	96
Coupling	J. O. Timms	803,730	Nov. 7	425	91	119	96
Coupling	J. and J. O. Timms	804,276	Nov. 14	1537	331-2	119	377
Coupling	S. A. Akins	805,402	Nov. 21	3784	818	119	909
Coupling	M. L. Senderling	805,674	Nov. 28	4294	924	119	1060
Coupling	S. S. Caskey	807,417	Dec. 12	2621	564	119	1880
Coupling	L. D. Gill and P. C. Titus	808,446	Dec. 26	4690	1011	119	2414
Coupling device	H. H. Williams	803,648	Nov. 7	231	51	119	51
Coupling device	D. Miller	803,840	Nov. 7	619	135	119	134
Coupling or union	A. Meyer	804,149	Nov. 7	1232	264	119	271
Crab-can	A. A. Saalbach and J. F. Maxwell	804,504	Nov. 14	1977	433	119	476
Cracker conveyer and distributer	C. C. Blank	805,625	Nov. 28	4213	907	119	1044
Cranberry-separators. Feed attachment for	L. A. Hayden	805,542	Nov. 28	4058	878	119	1010
Crane	G. E Soper	807,878	Dec. 19	3558	770	119	2122
Crane. Hydraulic	C. L. Taylor	805,038	Nov. 21	3047	661	119	754
Crank-shaft	F. C. Osborn	805,878	Nov. 28	4694	1004	119	1146
Crate. Collapsible egg-	O. W. Allison	806,448	Dec. 5	708	158-9	119	1425
Crate. Foldable	E. M. Averill	803,537	Nov. 7	5	2	119	4
Crate. Folding	E. Kreutzberg, A. Brockschmidt, and P. Ryan.	806,350	Dec. 5	522	114-15	119	1382
Crate. Folding egg-	J. Smith	805,494	Nov. 28	3961	856-7	119	989
Crate. Knockdown fruit-	L. R. Bacon	805,182	Nov. 21	3349	725	119	817
Crate. Shipping-	A. A. Stalecker	808,583	Dec. 26	4967	1071	119	2474
Cream-ripener	T. L. Valerius	808,319	Dec. 26	4457	959	119	2365
Cream-ripeners and the like. Cover for	T. L. Valerius	808,320	Dec. 26	4459	959	119	2365
Cream-ripening apparatus	T. L. Valerius	808,321	Dec. 26	4461	959-60	119	2366
Cream-separator. Centrifugal	P. L. Kimball	806,346	Dec. 5	511	112-13	119	1379
Creasing-machine	J. Nazel	805,576	Nov. 28	4121	888-9	119	1023
Crimping-machine	A. G. Legge	804,482	Nov. 14	1929	420	119	462
Crupper attachment	C. H. Crandall	808,514	Dec. 26	4825	1039	119	2446
Crusher: *See* Rock-crusher.							
Crushers and pulverizers. Cage for	M. F. Williams	806,383	Dec. 5	580	127	119	1395
Crushing-rolls. Shell and core for	W. G. Bryant	808,004	Dec. 19	3789	822	119	2175
Cultivating implement	B. A. Briggs, Jr.	806,056	Nov. 28	5020	1069-70	119	1218
Cultivating implement. Rotary	F. A. Price	805,972	Nov. 28	4873	1039	119	1187
Cultivating-tool	G. F. Hall	803,583	Nov. 7	106	26-7	119	24
Cultivator	J. R. Jones	804,324	Nov. 14	1647	355	119	401
Cultivator	C. C. Kirkland	805,078	Nov. 21	3147	683	119	774
Cultivator	E. B. Winters	805,252	Nov. 21	3500	756	119	848
Cultivator	W. S. Frary and J. L. Knieper	805,789	Nov. 28	4513	986	119	1105
Cultivator	C. J. Borden	806,100	Dec. 5	16	4-5	119	1284
Cultivator	E. Haiman	806,469	Dec. 5	756	168	119	1435
Cultivator	J. B. and L. R. Pellegrin	806,707	Dec. 5	1180	264	119	1528
Cultivator	F. Beasley	807,349	Dec. 12	2435	535	119	1848
Cultivator	W. Newby	807,395	Dec. 12	2577	556	119	1869

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Cultivator	D. S. Blue and O. Shepardson	807,906	Dec. 19	3619	784	119	2137
Cultivator	E. Rosenbaum	807,967	Dec. 19	3726	808	119	2161
Cultivator attachment	W. J. Luttrell	804,419	Nov. 14	1813	391	119	439
Cultivator attachment	G. W. Holmes	806,155	Dec. 26	4120	888	119	2288
Cultivator-blade	J. S. Harlow	803,899	Nov. 7	720	155	119	155
Cultivator. Hand-	P. P. Marshall	805,976	Nov. 28	4878	1041	119	1188
Cultivator. Listed-corn	J. B. Proskovec, Jr	804,171	Nov. 7	1289	276-7	119	284
Cultivator. Lister-	L. E. Waterman	805,601	Nov. 21	4168	898	119	1033
Cultivator, planter, and roller	F. B. Burdge	806,059	Nov. 28	5027	1071	119	1219
Cultivator-shield	E. A. Hyde and H. H. Farlin	806,975	Dec. 12	1764	387	119	1604
Cultivator shovel or weeder	P. Atwood	806,092	Dec. 5	3	1	119	1265
Cultivator weed-cutter	J. E. Long and H. A. Stephens	804,418	Nov. 14	1811	391	119	438
Cup: *See* Oil-cup. Paper cup. Sputum-cup. Teat-cup.	J. Owen	806,563	Dec. 5	910	201	119	1468
Curb, gutter, and vehicle-track for highways. Combined	F. M. Woelfle	806,386	Dec. 5	583	128	119	1386
Curling-iron	J. S. Pevear	806,752	Dec. 5	1282	285	119	1547
Current control apparatus. Combined alternating and direct	G. A. Burnham	806,318	Dec. 5	469	102	119	1370
Current generators. Automatic paralleling device for alternating-	H. D. Penny	805,817	Nov. 21	3628	783-4	119	875
Current-motor	H. G. Brown	805,446	Nov. 28	3880	838-9	119	972
Current-motor	P. H. Foy	806,249	Dec. 5	306	65	119	1331
Current-motor	J. Roeh	804,676	Nov. 14	2304	505	119	545
Current-motor. Automatic	A. G. Davis	805,346	Nov. 21	3677	795-6	119	886
Current motor system. Alternating-	A. G. Davis	805,415	Nov. 21	3803	822-3	119	913
Current motor system. Alternating-	G. Finzi	807,545	Dec. 19	2880	619-20	119	1974
Current regulator. Alternating-	J. L. Routin	806,573	Dec. 5	929	205	119	1472
Current systems. Means for ascertaining the power factor in alternating-	L. J. Le Pontois	806,554	Dec. 26	4908	1057-8	119	2461
Currents for the ignition of explosive mixtures. Apparatus for generating and utilizing polyphase alternating	A. Lloyd	804,868	Nov. 21	2722	588	119	682
Curtain and shade fastening. Combined	L. D. Burlingham	807,015	Dec. 12	1835	401	119	1709
Curtain and shade hanger	H. R. Phelps	804,816	Nov. 14	2596	567	119	613
Curtain-bracket. Adjustable	C. A. Kulinski	804,238	Nov. 14	1461	311	119	362
Curtain clasp. Window-	R. C. Taylor	804,275	Nov. 14	1535	331	119	377
Curtain-fixture	G. H. Forsyth	804,306	Nov. 14	1605	347	119	391
Curtain-fixture	C. L. Hopkins	804,317	Nov. 14	1627	352	119	396
Curtain-fixture	H. L. Saucier	804,552	Nov. 14	2077	454	119	496
Curtain-fixture	C. Maldaner	805,570	Nov. 28	4111	886	119	1022
Curtain-fixture	G. W. Kintz	807,621	Dec. 19	3040	651	119	2010
Curtain-fixture	W. E. Batchelder	808,185	Dec. 26	4177	900	119	2301
Curtain-fixture	J. D. Henson	806,141	Dec. 5	101	21	119	1287
Curtain-fixture support	J. Cook	804,101	Nov. 7	1145	243	119	251
Curtain holder and adjuster	P. A. Houghtaling	804,319	Nov. 14	1630	352	119	397
Curtain-holding device	P. A. Houghtaling	804,473	Nov. 14	1910	416	119	459
Curtain-holding device	C. L. Hopkins	804,318	Nov. 14	1629	352	119	396
Curtain-holding means	J. Amendt	806,513	Dec. 5	831	182	119	1451
Curtain-pole	F. Marcinek	806,155	Dec. 5	130	27	119	1293
Curtain-pole and cornice support. Combined	M. A. Elliott	808,354	Dec. 26	4534	975	119	2381
Curtain-pole and shade-roller hanger	J. Kroder	805,919	Nov. 28	4762	1018	119	1161
Curtain-pole ring	H. A. Schmitz	804,559	Nov. 14	2085	457	119	498
Curtain poles and tops. Adjustable holder for	G. J. Record	806,427	Dec. 5	664	146	119	1415
Curtain-roller							
Cushion: *See* Billiard-cushion. Spring-cushion. Surgical operating-cushion.	H. H. Piper	805,995	Nov. 28	4906	1048	119	1194
Cuspidor. Railway-car	A. D. Purtle and I. E. Rowland	804,978	Nov. 21	2922	634	119	727
Cut-off. Automatic	G. Baehr	807,345	Dec. 12	2476	533	119	1847
Cut-out. Fusible							
Cutter: *See* Bolt-cutter. Butter-cutter. Carbon and glass cutter. Cheese-cutter. Cigar-cutter. Cultivator weed-cutter. Dough-cutter. Flue-cutter. Food-cutter. Fruit-cutter. Stalk-cutter.	P. F. Bolton	803,804	Nov. 7	548	120	119	120
Cutter-blade	C. J. Gylfe	805,539	Nov. 28	4052	876-7	119	1009
Cutter-head for shaft-turning machines	J. and J. Evans	804,108	Nov. 7	1157	246	119	254
Cutting and punching device	C. F. Williams	806,038	Nov. 28	4984	1053	119	1211
Cutting device	R. Britton	807,239	Dec. 12	2282	492	119	1505
Cutting device	W. U. Colthar	804,520	Nov. 14	2011	438	119	483
Cutting implement	A. G. Baker	807,413	Dec. 12	2810	563	119	1876
Cutting material into strips and blocks. Machine for	F. E. Strasburg	806,303	Dec. 5	443	96	119	1365
Cutting mechanism	A. Tindel	807,220	Dec. 12	2252	486	119	1797
Cutting-tool. Rotary	W. H. Cocks	804,216	Nov. 14	1413	301	119	351
Cycle-brake	H. M. Forbes	805,277	Nov. 21	3556	768	119	862
Dampening apparatus. Laundry	C. E. Sanford	805,159	Nov. 21	3304	716	119	808
Damper and valve regulator. Automatic	W. A. Murray	807,393	Dec. 12	2573	555	119	1868
Damper-regulator	T. G. Lovegrove	807,478	Dec. 19	2744	592	119	1947
Damper-regulator	D. M. Harlacher	805,286	Nov. 21	3569	772	119	864
Damper-regulator. Automatic	W. F. Pickle	808,211	Dec. 26	4229	910	119	2313
Damper-regulator. Furnace	N. F. Amburgen	807,010	Dec. 12	1824	399	119	1707
Dams. Waste-gate for	J. M. Stafford	806,756	Dec. 5	1292	287	119	1549
Dead. Apparatus for preserving the	F. von Kügelgen and G. O. Seward	807,034	Dec. 12	1873	408	119	1717
Decarburizing	W. H. Deldrick	808,439	Dec. 26	4682	1008	119	2413
Decorating device	G. G. Remirez	806,429	Dec. 5	668	147-8	119	1416
Decorticating machine. Plant-	J. E. Chase and J. S. McCreary	804,562	Nov. 14	2136	467	119	509
Delivering device	J. Sorenson	806,300	Dec. 5	438	94	119	1364
Dental-ligature applier	P. J. Malone	805,974	Nov. 28	4876	1040	119	1188
Dental plates. Manufacture of roof							

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Dental plates. Suction attachment for	J. A. Johnson	806,345	Dec. 5	510	112	119	1379
Dental switchboard	M. N. Callender	804,211	Nov. 14	1400	207	119	349
Dentifrice	G. W. Morse	806,105	Dec. 26	3997	.....	119	2263
Depositing-machine	A. W. Copland	806,109	Dec. 5	32	7–8	119	1272
Depositing-machine	A. W. Copland	806,110	Dec. 5	36	8	119	1273
Derrick	E. A. Sohn	805,889	Nov. 28	4711	1007–8	119	1150
Derrick. Loading-	C. S. Swift	806,852	Dec. 12	1506	332	119	1638
Desiccating process	J. C. McLachlan	806,747	Dec. 5	1270	283	119	1544
Desk	G. G. Street	806,304	Dec. 5	445	97	119	1365
Desk-bracket	A. R. Fergusson	808,602	Dec. 26	5002	1079	119	2482
Desk device. Handy	J. R. Day	806,959	Dec. 12	1734	381	119	1687
Dialkyl-malonyl-urea. Making	F. Mayer	803,774	Nov. 7	503	.....	119	110
Diamidoformyl diphenylamin and making same	O. Sohst	805,890	Nov. 28	4714	.....	119	1152
Die: *See* Lacing-tip-forming die. Screw-cutting die. Nail-cutting die.							
Die-stock	F. V. Anderson	808,592	Dec. 26	4981	1075	119	2477
Digger: *See* Potato-digger.							
Directory. Telephone-	E. N. Lake	807,942	Dec. 19	3683	798–9	119	2152
Discharge of flowing material. Mechanism for controlling the	R. Harvey	807,267	Dec. 12	2332	502	119	1815
Dish-drainer	G. H. Lawrence	804,481	Nov. 14	1927	420	119	454
Dish-washing machine	C. S. Chamberlain	805,118	Nov. 21	3222	699	119	790
Disinfecting device	L. Lund	805,147	Nov. 21	3274	710	119	801
Disk drill	T. Brennan, Jr	808,000	Dec. 19	3780	821	119	2173
Disk feeding and operating machine	A. H. Neureuther	806,359	Dec. 5	534	117	119	1385
Dispensing device	L. B. Hayward	805,203	Nov. 21	3394	736	119	827
Dispensing vessel	F. Pfeifer and G. Raymond	805,994	Nov. 28	4907	1048	119	1194
Display-can	J. Schnabel	803,858	Nov. 7	647	141	119	139
Display-card	E. E. Blakeslee	808,596	Dec. 26	4989	1076	119	2479
Display-figures. Limb for	I. and V. Kolar	807,473	Dec. 19	2738	590	119	1946
Display-fixture	E. T. Palmenberg	807,857	Dec. 19	3506	758	119	2112
Display fixture. Shoe-	F. J. Gruss and J. M. Alexander	803,688	Nov. 7	333	70	119	75
Display-form	W. F. Allert	807,895	Dec. 19	3599	779	119	2132
Display-rack	W. H. Billings	807,904	Dec. 19	3618	783	119	2137
Display-rack for advertising-cards	D. R. Almy	803,960	Nov. 7	847	180	119	182
Display-stand	G. Way and R. Kolb	805,603	Nov. 28	4171	899	119	1034
Display-stand	G. A. Welch	807,341	Dec. 12	2472	532	119	1846
Display truck. Couch-	J. Bochnewetch	808,229	Dec. 26	4267	917	119	2322
Displaying rack. Rug-	C. H. O'Neal	806,705	Dec. 5	1178	254	119	1524
Dissolver	W. J. Flitton	805,276	Nov. 21	3554	768	119	861
Distillation. Apparatus for obtaining the products of resinous woods by dry	J. Friis	805,848	Nov. 28	4619	989–90	119	1128
Distillation of wood	E. B. Weed	806,606	Dec. 5	982	217	119	1484
Distillation. Process of	G. H. Bradford	805,116	Nov. 21	3219	698	119	790
Distilling apparatus	J. Pernat	807,577	Dec 19	2958	636	119	1991
Distilling retort. Wood-	J. T. Denny	806,877	Dec. 12	1572	344	119	1652
Ditching-machine	M. Brown, Jr	804,096	Nov. 7	1137	241	119	250
Dividers	H. Amendt	804,571	Nov. 14	2115	462	119	505
Dividers	W. A. Bernard	806,627	Dec. 5	1019	226	119	1491
Dividers and compasses. Combined	J. F. Clutter	807,660	Dec. 19	3123	671	119	2029
Domestic boiler	C. Madeira	807,836	Dec. 19	3469	748	119	2102
Door	A. Burdick	805,341	Nov. 21	3671	793–4	119	884
Door-casing protector	M. A. Brown	806,459	Dec. 5	732	164	119	1430
Door-check	G. J. Blum	805,775	Nov. 28	4490	961–2	119	1101
Door-check	A. Kruse	806,545	Dec. 5	875	194	119	1461
Door-check	C. McGinnis	807,852	Dec. 19	3497	755	119	2110
Door-check	O. Hull	807,931	Dec. 19	3667	795	119	2148
Door. Grain-	J. Siemsen	804,061	Nov. 7	1066	226	119	231
Door. Grain-	T. C. Thomas	806,209	Dec. 5	226	49	119	1315
Door-hanger	H. L. Ferris	806,882	Dec. 12	1582	346	119	1654
Door-hanger	J. J. Tatum	807,141	Dec. 12	2107	452	119	1767
Door hanger and means for moving the door. Sliding-	H. C. Percy	804,815	Nov. 14	2595	567	119	612
Door-hanger for slidable doors	A. O. and G. E. Banks	807,429	Dec. 19	2668	574–5	119	1929
Door holder and buffer. Combined	J. A. Ross	807,401	Dec. 12	2587	558–9	119	1871
Door-lock	J. C. Hardenbergh	804,399	Nov. 14	1773	384	119	430
Door-lock	J. G. Baisch	805,437	Nov. 28	3867	835	119	969
Door lock and latch	J. Hope, Jr	805,362	Nov. 21	3712	803–4	119	893
Door lock and signal. Adjustable	W. R. Love	804,241	Nov. 14	1470	314	119	363
Door lock. Emergency exit-	H. E. Clark	805,411	Nov. 21	3797	821	119	911
Door lock. Sliding-	L. A. Turner	805,042	Nov. 21	3054	663	119	756
Door-lock. Two-bolt	F. H. Fay	804,837	Nov. 21	2657	576	119	669
Door opening and closing device	K. Nishimoto	807,043	Dec. 12	1892	411	119	1723
Door-opening system. Electrically-operated	W. T. Platt	804,040	Nov. 7	1020	214	119	220
Door or gate opening and closing device	E. T. Morris	804,251	Nov. 14	1483	318	119	366
Door. Sliding	J. S. Schlosser	804,270	Nov. 14	1527	328–9	119	375
Door-stop	H. T. Depue	804,585	Nov. 14	2142	468	119	511
Door-ventilator	L. Ulrich	803,863	Nov. 7	655	143	119	141
Door. Vestibule-	J. A. Brill and C. K. Pickles	806,772	Dec. 12	1340	298	119	1598
Doors and the like. Locking or bolting	C. E. Hensley	806,542	Dec. 5	871	194	119	1460
Doors. Operating sliding	F. D. Ward	806,220	Dec. 5	247	53	119	1319
Doors. Pull device for sliding	L. A. Turner	805,043	Nov. 21	3056	663	119	756
Dough-cutter	A. W. Copland	807,420	Dec. 12	2627	567	119	1881
Dough cutter and crimper. Combined pie-	O. J. Coppins	808,015	Dec. 19	3806	825	119	2178
Dough for the making of pie-crusts. Apparatus for spreading	J. H. Burns	806,869	Dec. 12	1538	338	119	1644
Dough-molding machine	F. Streich	806,851	Dec. 12	1504	331	119	1637
Dough-raiser	W. B. Barnes and W. A. Edelman.	808,184	Dec. 26	4176	900	119	2300
Dough-rolling apparatus	J. H. Burns	806,870	Dec. 19	1549	339–40	119	1648
Dough-shaping machine	F. Streich	803,862	Nov. 7	654	142	119	141
Doweling device	H. A. Litz	805,212	Nov. 21	3408	738	119	829
Draft attachment	C. W. Petro	803,926	Nov. 7	769	165	119	167

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Draft-equalizer	F. M. Rutten	805,097	Nov. 21	3175	688	119	790
Draft-equalizer	G. W. Wiley	805,250	Nov. 21	3493	755	119	846
Draft-equalizer	P. Held	807,616	Dec. 19	3031	650	119	2007
Draft-rigging	G. L. Harvey	806,972	Dec. 12	1761	386	119	1603
Drafting instrument	R. Marx	807,758	Dec. 19	3334	714	119	2071
Drafting instrument	A. C. Cochran	806,511	Dec. 26	4820	1039	119	2444
Drain-pipe seal-trap	W. R. Bonnell	803,979	Nov. 7	599	188	119	193
Draining marshes and the like. Apparatus for	J. Brants	804,092	Nov. 7	1130	238-9	119	248
Draw-gear	J. F. Courson	804,521	Nov. 14	2015	438-9	119	484
Drawing apparatus. Pantographic	C. M. Daly	805,187	Nov. 21	3359	728	119	819
Drawing-board	L. Sommar	806,850	Dec. 12	1502	331	119	1637
Drawing-frame	L. W. Penney	806,282	Dec. 5	380	54	119	1349
Dredger attachment	H. P. Francis	805,906	Nov. 28	4740	1014	119	1157
Dredging apparatus	R. G. Hanford	803,587	Nov. 7	125	29	119	29
Dredging apparatus	F. A. Jones	805,965	Nov. 28	4857	1036-7	119	1183
Dress-shield clamp	C. Wilson	806,384	Dec. 5	581	127	119	1395
Dress-suit case	C. E. Turner	803,732	Nov. 7	427	92	119	96
Drier: *See* Brick-drier. Clothes-drier. Sand-drier.							
Drier	G. Boschke	804,518	Nov. 14	2004	437	119	481
Drier	J. W. Biles	807,997	Dec. 19	3776	820	119	2175
Dry-docks. Bilge-block for	J. L. Crandall	808,072	Dec. 26	3914	847-8	119	2243
Drying apparatus	F. M. Schaffer	808,481	Dec. 26	4768	1027	119	2432
Drying-machine door-operating device	W. M. Schwartz	801,236	Nov. 21	3468	751	119	841
Drill: *See* Disk drill. Electric drill. Grain-drill. Rock-drill.							
Drill	J. P. Coleman	805,449	Nov. 28	3888	841	119	973
Drill and drill-frame. Combination	P. Broadbooks	805,838	Nov. 28	4596	985	119	1122
Drill-bit-cutting apparatus	J. A. G. Kirsten	806,347	Dec. 5	516	113	119	1380
Drill-bit. Rock-cutting	J. G. Leyner	803,911	Nov. 7	737	160	119	159
Drill-feed	J. G. Winger	808,499	Dec. 26	4802	1035	119	2440
Drill-rod	J. von Gunten	807,002	Dec. 12	1805	396	119	1703
Drill scraper. Disk-	S. E. Davis	808,021	Dec. 19	3817	827	119	2180
Drill socket or chuck. Universal	S. McClellan	807,487	Dec. 19	2757	596	119	1950
Drilling-machine. Portable	H. S. and C. E. Glenn	806,886	Dec. 12	1588	348-9	119	1655
Drinking apparatus. Sanitary	F. S. Hunter	807,468	Dec. 19	2731	588-9	119	1944
Drinking-fountain	J. H. Tomlinson	803,731	Nov. 7	426	91	119	96
Drinking-straw	W. H. Dewender	806,528	Dec. 5	849	188	119	1455
Drip-tray	H. Ganswindt	807,548	Dec. 19	2887	621	119	1975
Driving mechanism	O. H. Neiman	807,042	Dec. 12	1891	410	119	1722
Driving mechanism	C. W. Sponsel	808,120	Dec. 26	4031	867	119	2271
Driving mechanism. Automatic intermittent	H. G. Beede	807,996	Dec. 19	3773	819	119	2171
Driving mechanism. Variable-speed	R. Stockbridge	807,216	Dec. 12	2248	485	119	1796
Drum	W. J. F. Schultz	804,347	Nov. 14	1684	364	119	410
Drum. Heating-	F. J. Kobusch	804,735	Nov. 14	2438	531	119	576
Drum. Rope-	T. S. Miller	807,682	Dec. 19	3164	690-1	119	2037
Drumstick	A. D. Phillips	807,493	Dec. 19	2769	597	119	1953
Duplicating-machines. Stencil-sheet attachment device for circular or other	J. Ellam	807,446	Dec. 19	2692	581	119	1934
Dust-collector	W. A. Derby. (Reissue)	12,414	Dec. 5	1301	289	119	1551
Dust-guard	E. Denegre	805,717	Nov. 28	4383	940	119	1080
Dust-guard	C. M. Lauritzen and W. M. Cook	808,550	Dec. 26	4901	1055	119	2460
Dust laying and absorbing composition	B. Singer	803,632	Nov. 7	206	.....	119	46
Dust-removing apparatus. Separator for	D. T. Kenney	807,283	Dec. 12	2360	508	119	1621
Dye and making same. Blue azo	T. Kroeber	806,415	Dec. 5	644	.....	119	1410
Dye and making same. Brown azo	T. Kroeber	807,289	Dec. 12	2383	.....	119	1626
Dye and making same. Cyanin	E. König	805,143	Nov. 21	3268	.....	119	800
Dye and making same. Green	C. Oswald, H. Lorétan, and C. De la Harpe.	807,182	Dec. 12	2179	.....	119	1782
Dye and making same. Monoazo	W. Herzberg and O. Siebert	803,592	Nov. 7	135	.....	119	31
Dye and making same. Monoazo	T. Kroeber	805,918	Nov. 28	4761	.....	119	1161
Dye and making same. Naphthalene	R. Bohn	806,053	Nov. 28	5014	.....	119	1217
Dye and making same. Red azo	F. Klingemann and G. Kalischer	807,119	Dec. 12	2068	.....	119	1760
Dye and making same. Yellow-green	C. Oswald, H. Lorétan, and C. De la Harpe.	807,181	Dec. 12	2178	.....	119	1781
Dye and making same. Zinc azonaphthol	K. Elbel	807,422	Dec. 12	2631	.....	119	1882
Dye. Indigo	J. W. Fries	807,453	Dec. 19	2711	.....	119	1940
Dyeing apparatus	G. A. Friedrichs	806,793	Dec. 12	1382	305	119	1606
Dyeing. Indigo	H. Muller	808,398	Dec. 26	4617	.....	119	2399
Dyeing indigo resists	J. Ribbert	803,855	Nov. 7	542	.....	119	138
Dyeing machine. Fabric-	J. Cadgène	808,007	Dec. 19	3792	823	119	2175
Ear-muffler	C. J. Keller	804,731	Nov. 14	2421	520	119	572
Easel	H. S. Stevenson	806,716	Dec. 5	1193	267	119	1528
Eaves-trough	C. Crawford	803,670	Nov. 7	277	60	119	62
Egg-beater	G. C. Parish	808,613	Dec. 26	5020	1054	119	2496
Egg-sheller	L. V. Blue	808,507	Dec. 26	4814	1037	119	2443
Egg-tester	J. S. Shoemaker	808,117	Dec. 26	4024	866	119	2269
Egg-testing compartment-box	J. R. Cole	808,012	Dec. 19	3799	824	119	2177
Elastic wheel	W. Borchers	804,202	Nov. 14	1380	295	119	347
Electric apparatus. Manufacture of vapor	P. H. Thomas	806,853	Dec. 12	1507	332	119	1638
Electric apparatus. Vapor	A. D. Lunt	803,836	Nov. 7	612	134	119	122
Electric attachment-plug	F. F. Strong	807,051	Dec. 12	1930	416	119	1731
Electric cables. Device for preventing the overcharging of	G. Zapf	806,728	Dec. 5	1227	274	119	1535
Electric-circuit automatic regulator	M. Waddell	805,505	Nov. 28	3957	861	119	995
Electric-circuit closer	A. Dow	804,389	Nov. 14	1757	390	119	420
Electric circuits of high inductance. Protective shunt for	W. S. Horry	808,371	Dec. 26	4566	983	119	2388
Electric conductor	L. E. Underwood	805,249	Nov. 21	3492	755	119	845
Electric-conductor joint	A. Fleeger	806,789	Dec. 12	1376	304	119	1608
Electric conductors. Thermal cut-out for	B. D. Horton	807,270	Dec. 12	2338	503	119	1816
Electric controlling and reversing switch	C. E. Carpenter	806,735	Dec. 5	1242	277	119	1538
Electric-current generator	W. Kaisling	805,557	Nov. 28	4091	883	119	1017
Electric-current-transforming device	J. E. Noeggerath	806,749	Dec. 5	1273	284	119	1545

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Electric currents into continuous currents. Instrument for converting alternating	J. A. Fleming	803,684	Nov. 7	321	69	119	72
Electric cut-out	W. P. Wright	805,509	Nov. 28	3996	863	119	997
Electric drill	S. D. Stoycheff	805,499	Nov. 28	3971	858-9	119	992
Electric furnace	J. S. Dorian	805,783	Nov. 28	4502	964	119	1103
Electric furnace	R. W. Myers	806,173	Dec. 5	165	35	119	1301
Electric generation and distribution system	E. M. Hewlett	806,667	Dec. 5	1100	243-4	119	1508
Electric-generator controlling device	M. von Hoor, F. Reinitz, and L. Stark.	805,725	Nov. 28	4396	943	119	1083
Electric generator. Direct-current dynamo-	B. G. Lamme. (Reissue)	12,406	Nov. 7	1376	292	119	304
Electric-light hanger	H. R. Berry	806,516	Dec. 5	835	183	119	1452
Electric-light shade or hood	A. S. Marten	805,370	Nov. 21	3723	806	119	895
Electric machine. Dynamo-	C. P. Steinmetz	804,440	Nov. 14	1857	403	119	447
Electric machine. Dynamo-	H. H. Wait	806,217	Dec. 5	243	52	119	1318
Electric machines. End connection for dynamo-	F. H. Jeannin	808,241	Dec. 26	4288	921	119	2327
Electric machinery. Dynamo-	W. L. Waters	804,355	Nov. 14	1694	367	119	412
Electric motor	E. R. Esmond	805,416	Nov. 21	3807	823	119	913
Electric-motor-control system	C. A. Mudge	804,156	Nov. 7	1247	266-8	119	275
Electric-motor control system	H. D. James	807,938	Dec. 19	3676	797	119	2150
Electric-motor controller	W. A. Paris	807,858	Dec. 19	3507	758-9	119	2112
Electric-motor controller	H. D. James	807,937	Dec. 19	3674	796-7	119	2149
Electric-motor controller	H. D. James	807,939	Dec. 19	3678	797-8	119	2150
Electric-motor controlling means	C. M. Clark	806,777	Dec. 12	1354	290	119	1602
Electric motor. Direct intermittent current	C. M. Palmer	808,303	Dec. 26	4420	950	119	2357
Electric-motor-stopping apparatus	C. E. Carpenter	806,734	Dec. 5	1240	276	119	1538
Electric novelty	P. H. Korst	807,941	Dec. 19	3682	798	119	2152
Electric snap-switch	G. B. Thomas	804,636	Nov. 14	2229	488	119	528
Electric switch	A. E. Handy	803,898	Nov. 7	718	155	119	155
Electric switch	F. Huffer	804,849	Nov. 21	2686	582	119	675
Electric switch	S. H. Beck	808,065	Dec. 26	3900	844	119	2242
Electric switch	W. S. Horry	808,364	Dec. 26	4547	978	119	2384
Electric switch	W. W. Lathrop	808,392	Dec. 26	4607	991	119	2398
Electric time-switch	M. T. Campbell	807,017	Dec. 12	1839	402	119	1710
Electric traction. Electromechanical device for	E. Cantono. (Reissue)	12,419	Dec. 12	2643	571	119	1885
Electric transmitter	J. Prince	805,092	Nov. 21	3169	687	119	779
Electric wiring. Branch block for	N. B. Hoyt and J. H. Martin	804,603	Nov. 14	2172	476	119	516
Electrical apparatus. Resistance for	C. P. Steinmetz	806,758	Dec. 5	1294	288	119	1549
Electrical-conductor junction-box	E. T. Greenfield	807,263	Dec. 12	2326	501	119	1814
Electrical connection. Detachable	A. N. Lawrence, Jr	808,096	Dec. 26	3982	859	119	2259
Electrical connection. Detachable	A. N. Lawrence, Jr	808,097	Dec. 26	3984	859	119	2259
Electrical controller	N. K. Garhart	804,595	Nov. 14	2160	472-3	119	514
Electrical distribution. Regulating means for systems of	B. G. Lamme, C. F. Scott, and F. Conrad.	807,943	Dec. 19	3685	799	119	2152
Electrical-distribution system	R. M. Palmer	807,960	Dec. 19	3714	806	119	2159
Electrical generator	M. Schwartz	804,628	Nov. 14	2215	494-5	119	525
Electrical heater	J. A. Noble	804,759	Nov. 14	2497	545	119	589
Electrical meter	H. W. Sayles	808,115	Dec. 26	4021	865-6	119	2268
Electrical ring-furnace	K. Meiser	806,690	Dec. 5	1151	257-8	119	1519
Electrical rosette	G. W. Goodridge	804,114	Nov. 7	1171	249	119	257
Electricity-meter. Alternating-current	S. Z. de Ferranti and W. Hamilton	806,881	Dec. 12	1578	345-6	119	1654
Electrode for electrolyzers used in the manufacture of bleaching liquors.	R. Kother	806,413	Dec. 5	641	140	119	1410
Electrolytic deposits. Obtaining marketable	P. Steenlet	807,973	Dec. 19	3738	.....	119	2163
Electrolytic meter	A. L. R. Ellis	808,232	Dec. 26	4272	919	119	2323
Electrolytic process using insoluble anodes	A. G. Betts	803,543	Nov. 7	29	8	119	9
Electrolytical decomposition. Apparatus for	G. E. Cassel	804,931	Nov. 21	2830	610	119	707
Electromagnetic wheel	H. Behan	804,371	Nov. 14	1722	373	119	418
Electroplating apparatus	L. Potthoff	806,835	Dec. 12	1460	324	119	1625
Electropneumatic channeler	A. H. Gibson	805,195	Nov. 21	3376	732	119	822
Electrostatic separation	P. H. Wynne	805,694	Nov. 28	4327	930-1	119	1060
Elevated carrier	M. Heus	803,690	Nov. 7	335	71	119	76
Elevated carrier	I. L. Foster	805,280	Nov. 21	3562	769-70	119	863
Elevator: *See* Brick-elevator. Fruit-elevator. Inclined elevator. Paper-elevator. Toy elevator. Water-elevator.							
Elevator	C. D. Seeberger	804,560	Nov. 14	2085	457	119	498
Elevator	I. H. Venn	807,794	Dec. 19	3357	728	119	2084
Elevator and conveyer	A. G. Edmund	807,916	Dec. 19	3637	799	119	2141
Elevator-car brake apparatus	V. Regina	805,818	Nov. 28	4556	976	119	1113
Elevator-hatchways. Automatic closure for	J. W. McGhee	806,699	Dec. 5	1168	261	119	1522
Elevator safety device	J. W. Smith, Jr	803,634	Nov. 7	209	46-7	119	46
Elevator safety device	M. A. Keeley	805,300	Nov. 21	3602	779	119	870
Elevator stopping mechanism	L. W. Southgate	804,634	Nov. 14	2226	487	119	527
Elevator system	G. A. Le Fevre	806,745	Dec. 5	1266	283	119	1543
Elevator system	G. A. Le Fevre	807,120	Dec. 12	2070	444	119	1760
Elevators, &c. Device for detaching loads from	G. C. Mackrow and H. G. Cameron.	808,291	Dec. 26	4392	945-7	119	2349
Embalmers' use. Arm-rest and bottle-support for	W. R. Sparkman	808,485	Dec. 26	4778	1028	119	2435
Embalming-table. Folding	C. C. Aldrich	806,613	Dec. 5	907	221-2	119	1487
Embossing and printing machine	P. V. Avril	805,697	Nov. 28	4336	932	119	1070
Embossing and printing machine	P. V. Avril	805,699	Nov. 28	4343	933	119	1071
Embroidering-machine. Jacquard	L. Herzog	806,254	Dec. 5	315	67-8	119	1333
Embroidering-machines. Driving mechanism for hand-operated	J. Knecht	804,540	Nov. 14	2050	445-6	119	491
Embroidery-frame-suspension device	R. Zahn	803,656	Nov. 7	253	54	119	57
Emergency-brake	W. M. Gooch	808,234	Dec. 26	4276	920	119	2324
Enameled ware and the product thereof. Making speckled-	W. J. Kohler	806,153	Dec. 5	128	.....	119	1293
Enameling	J. F. Kenkel	804,010	Nov. 7	950	.....	119	203
Enameling	J. H. Hines	808,542	Dec. 26	4891	.....	119	2458
End-gate	O. Anderson	805,254	Nov. 21	3505	756-7	119	849
End-gate and shovel-board	G. M. Luscombe	808,395	Dec. 26	4613	992	119	2399
Energy and heat. Apparatus for the production of mechanical	G. J. and C. H. Weber	803,735	Nov. 7	430	93	119	97
Energy. Means for storing and applying	S. L. G. Knox	805,648	Nov. 28	4251	915	119	1052

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Energy through space. Apparatus for the transmission of	A. Artom	808,594	Dec. 26	4984	1076	119	2478
Engine: *See* Continuous-piston engine. Explosion-engine. Explosive-engine. Gas-engine. Gas or gasolene engine. Heat-engine. Internal-combustion engine. Internal-combustion heat-engine. Oil-engine. Paper-refining engine. Paper-stock-refining engine. Pumping-engine. Reaction-engine. Rotary engine. Rotary explosive-engine. Rotary turbine-engine. Steam-engine. Toy fire-engine. Traction-engine. Turbine-engine. Wind-engine.							
Engine	C. Hornal	804,472	Nov. 14	1906	415–16	119	459
Engine and tender coupling. Locomotive-	J. Munton	806,824	Dec. 12	1443	320	119	1622
Engine-cylinders, radiators, &c. Air-cooling construction for	W. B. Swan	808,490	Dec. 26	4788	1031	119	2437
Engine frames. Machine for facing pedestal-legs of locomotive-	G. T. Moore	808,563	Dec. 26	4931	1062–3	119	2466
Engine lubricator. Locomotive-	W. M. Smith	806,014	Nov. 28	4941	1055–6	119	1201
Engine mixer and vaporizer. Hydrocarbon-	J. W. Packard	806,830	Dec. 12	1451	322	119	1624
Engine muffler. Internal-combustion-	F. J. Gowing	806,083	Nov. 28	5076	1082	119	1229
Engine running-gear. Traction-	C. O. Wyman	806,947	Dec. 12	1716	376	119	1683
Engine spark-igniter system. Explosion-	D. L. Winters	806,860	Dec. 12	1522	334	119	1641
Engine sparking device. Explosive-	W. B. Hayden	806,664	Dec. 5	1094	242	119	1507
Engine speed-adjusting device. Fluid-pressure-	C. Robinson	807,578	Dec. 19	2960	636	119	1991
Engine starting mechanism. Explosive-	G. B. Selden, Jr.	806,583	Dec. 5	943	208–9	119	1475
Engine transmission-gear. Gas-	A. G. Ronan	807,048	Dec. 12	1915	414	119	1727
Engines and winding-spools. Combined mount and derrick for	H. A. Hettinger	805,955	Nov. 28	4833	1032	119	1178
Engines. Circuit-controller for explosive-	R. Varley	804,783	Nov. 14	2541	556	119	600
Engines. Means to regulate the power of explosion-	A. Vogt	805,430	Nov. 21	3842	832	119	922
Engines. Pump attachment for internal-combustion	R. A. Mitchell and L. L. Lewis	805,981	Nov. 28	4886	1043	119	1190
Engines. Silencer for internal-explosion	N. W. H. Sharpe	806,715	Dec. 5	1192	267	119	1528
Engraving-machine	P. V. Avril	805,698	Nov. 28	4338	932	119	1070
Engraving-machine	P. V. Avril	805,700	Nov. 28	4346	933–4	119	1071
Envelop	F. Klousnitzer	804,014	Nov. 7	958	202	119	205
Envelop	A. H. Mackenzie	804,747	Nov. 14	2474	540	119	585
Envelop	G. N. Renno	805,321	Nov. 21	3634	785	119	876
Envelop-clasp	J. A. Sherman	803,631	Nov. 7	205	46	119	46
Envelop-fastener	E. B. Stimpson	808,489	Dec. 26	4786	1030	119	2437
Envelop-machine	E. Ermold	807,369	Dec. 12	2518	544–5	119	1856
Envelop. Mailing-	E. U. Kimbark	808,546	Dec. 26	4895	1053	119	2459
Envelop-stamping machine	E. E. Fleming	807,114	Dec. 12	2058	442	119	1757
Envelops. Fastening for closures of	L. G. Swanson	805,389	Nov. 21	3762	814	119	904
Escapement	A. F. Gescheider	807,261	Dec. 12	2324	501	119	1814
Evaporating apparatus. Vacuum	C. Ordway	807,767	Dec. 19	3338	717	119	2074
Excavating-bucket	W. Heffron	803,901	Nov. 7	725	156	119	156
Excavating, hoisting, and conveying bucket	R. W. Kaltenbach and J. Griess, Jr.	804,235	Nov. 14	1452	310	119	359
Excavator	W. H. Onion	805,228	Nov. 21	3436	745	119	835
Excavator	M. E. Pugh	806,288	Dec. 5	392	86–8	119	1352
Excavator	W. H. Arnold	806,511	Dec. 5	827	182	119	1450
Excavator	A. A. Booth	806,770	Dec. 12	1333	296–7	119	1597
Excavator	A. N. Cross	808,345	Dec. 26	4508	969–70	119	2376
Excavator-bucket tooth	A. M. Cupples	805,004	Nov. 21	2980	647	119	740
Excelsior-cutting machine	W. H. Niemeyer	805,149	Nov. 21	3276	710–11	119	801
Excelsior wrappers and pads. Machine for the manufacture of	H. F. Shadbolt	803,718	Nov. 7	391	84–5	119	88
Exerciser. Infant-	L. K. Martin	806,157	Dec. 5	133	27–8	119	1293
Exercising apparatus	C. C. Percy	806,565	Dec. 5	913	202	119	1469
Exercising apparatus	C. A. Grabner	807,670	Dec. 19	3141	674	119	2033
Exercising-bag support	W. G. Wood	807,100	Dec. 12	2023	435	119	1750
Exercising device	H. J. Bradstreet	807,908	Dec. 19	3623	785	119	2138
Exercising machine. Electrical muscular	R. O Hammond	805,952	Nov. 28	4828	1030–1	119	1176
Expanding device	J. K. Penfold	806,180	Dec. 5	180	39	119	1304
Exploding mine charges. Apparatus for	C. I. Dodson	808,275	Dec. 26	4362	937	119	2343
Explosion-engine	E. T. Pollard	803,623	Nov. 7	193	42–3	119	43
Explosion-motor	B. S. Molyneux	807,569	Dec. 19	2945	633	119	1988
Explosive-engine. Vertical	A. Winton	808,423	Dec. 26	4653	1001	119	2407
Extensible wrench	J. P. Pipkin	807,637	Dec. 19	3073	661	119	2015
Extension-bit	W. B. McElney	807,956	Dec. 19	3709	805	119	2158
Extension-table	M. A. Hanson	805,540	Nov. 28	4054	877	119	1009
Extractor: *See* Cartridge-case extractor. Coke-extractor. Lemon-juice extractor. Skewer-extractor.							
Eye-protector	E. Mirovitch	807,844	Dec. 19	3480	751	119	2104
Eye-shield	L. L. Zarbaugh	805,401	Nov. 21	3782	818	119	909
Eyeglass-holder	H. Bick	803,975	Nov. 7	893	187	119	192
Eyeglass-lens	W. K. Kight	803,907	Nov. 7	733	159	119	158
Eyeglass-lens	W. K. Kight	803,908	Nov. 7	734	159	119	158
Eyeglass-lens	W. K. Kight	803,909	Nov. 7	735	159	119	159
Eyeglass-mounting	J. R. Van Tassel	806,379	Dec. 5	571	126	119	1393
Eyeglass-stud	C. Goodwin	804,717	Nov. 14	2405	525	119	568
Eyeglasses	H. Fennell	804,527	Nov. 14	2027	441	119	486
Eyeglasses	W. H. Spangler	806,015	Nov. 28	4944	1056	119	1202
Eyeglasses	S. Ward	808,412	Dec. 26	4637	998	119	2403
Eyeglasses. Nose-guard for	G. Bausch	804,366	Nov. 14	1712	371	119	417
Eyelet. Lacing-	J. A. Morrison	805,220	Nov. 21	3421	742	119	832

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Fabric: *See* Flexible fabric. Pile fabric. Knitted fabric. Wire fabric.							
Fabric	A. De Laski and P. D. Thropp	807,178	Dec. 12	2172	466	119	1780
Fabric-cutting machine. Pile-	E. Stansfield	806,204	Dec. 5	213	46-7	119	1311
Fabric holding and stretching frame	M. A. Weathers	807,891	Dec. 19	3585	777	119	2128
Fabric-spreading machine	C. Wiebke	808,130	Dec. 26	4049	870-1	119	2275
Fan	W. A. Harrison	804,223	Nov. 14	1426	305	119	353
Fan	H. Loewner	808,610	Dec. 26	5017	1083	119	2485
Fan-deflector	G. L. Thompson	805,247	Nov. 21	3488	754	119	844
Fan. Motor-	G. E. Jacobson	804,606	Nov. 14	2176	477-8	119	517
Fan. Rotary	H. D. Slear and C. G. Arnold	808,174	Dec. 26	4152	896	119	2295
Fanning-mill	A. V. Cleland	803,556	N v. 7	56	14-15	119	14
Farrier's tool	A. C. Hopkins	806,144	Dec. 5	107	21	119	1288
Fascine	H. F. Kellner	805,142	Nov. 21	3257	709	119	800
Fasteners. Tool for detaching	I. Jackson	805,072	Nov. 21	3139	681	119	773
Fastening device	A. E. Vance	806,027	Nov. 28	4962	1060	119	1206
Fastening device	J. E. Trahan and J. A. Grant	807,698	Dec. 19	3196	687	119	2044
Fastening device. Automatic	A. R. Geoffroy	807,069	Dec. 12	1961	423	119	1737
Faucet	J. F. Ferry	806,331	Dec. 5	487	107	119	1374
Faucet	A. J. Ketelsen	807,285	Dec. 12	2363	509	119	1821
Faucet	J. F. Ott	807,309	Dec. 12	2413	520	119	1832
Faucet. Self-closing	L. J. Rice	804,673	Nov. 14	2299	504	119	544
Feed-bag	E. Pyle	803,851	Nov. 7	636	139	119	137
Feed-bag support	J. N. Pruser	806,904	Dec. 12	1793	393	119	1701
Feed device. Animal-	G. W. Russell	807,092	Dec. 12	1995	432	119	1743
Feed-mixing machine	H. E. Moss	807,494	Dec. 19	2753	594-5	119	1949
Feed-trough	J. W. Alkire and J. Orndorff	804,991	Nov. 21	2959	642	119	736
Feed-trough	J. B. Straight	805,653	Nov. 28	4307	927	119	1063
Feed-water heater	C. H. Gates	807,669	Dec. 19	3139	674	119	2033
Feed-water heater	F. H. Trevithick	808,178	Dec. 26	4158	897	119	2296
Feed-water heater	C. Kieren	808,385	Dec. 26	4596	988	119	2394
Feed-water regulator for boilers	J. T. Avary and E. L. Thomas	806,619	Dec. 5	1006	223	119	1489
Feeder. Boiler-	H. S. Corbitt	804,827	Nov. 21	2631	572	119	662
Feeding and delivering articles	O. M. Lissak	804,145	Nov. 7	1224	262	119	269
Feeding apparatus. Poultry-	G. C. Scott	804,057	Nov. 7	1059	224	119	230
Felt waterproof construction	F. N. Pease	805,746	Nov. 28	4438	951	119	1091
Fence	T. Berntson	807,414	Dec. 12	2612	563	119	1876
Fence brace. Wire-	L. Olson	804,969	Nov. 21	2904	629	119	723
Fence-gate	G. J. Batzler	807,591	Dec. 19	2989	641	119	1998
Fence-gate	P. Mast	807,760	Dec. 19	3329	714	119	2072
Fence machine. Staple-	J. W. Snedeker	806,440	Dec. 5	687	152-5	119	1421
Fence machine. Wire-	E. C. Wood	804,292	Nov. 14	1567	338	119	384
Fence machine. Wire-	A. G., F. W., and E. A. Hoefer	804,846	Nov. 21	2668	579-81	119	671
Fence machines. Take-up device for wire-	A. F. Backlin and I. Eklund	807,652	Dec. 19	3104	667-8	119	2025
Fence. Portable	J. Becker	807,592	Dec. 19	2990	641	119	1998
Fence-post	J. M. C. Rentfro	803,789	Nov. 7	527	115	119	116
Fence-post	J. M. Elder and A. W. Means	804,711	Nov. 14	2385	520-1	119	564
Fence-post	W. A. Douglass	805,349	Nov. 21	3684	797	119	887
Fence-post	J. D. Paldi	806,281	Dec. 5	379	84	119	1349
Fence-post	W. E. Wilson	806,718	Dec. 5	1195	268	119	1529
Fence-post	S. H. Summerscales	807,139	Dec. 12	2101	451	119	1765
Fence-post	E. Calvert	807,438	Dec. 19	2584	578	119	1932
Fence-post	A. E. Jester	807,469	Dec. 19	2734	589	119	1945
Fence-post	J. A. McDaniel	807,486	Dec. 19	2759	596	119	1950
Fence-post	G. I. Griggs	808,530	Dec. 26	4886	1051	119	2457
Fence-post and wire-fastener. Combined	A. E. Engesetter	805,785	Nov. 28	4506	985	119	1104
Fence-post. Cement	A. Moler	803,615	Nov. 7	181	40	119	41
Fence-post. Cement	J. K. Purinton	803,785	Nov. 7	519	113	119	114
Fence-post. Concrete	C. Spiess	803,861	Nov. 7	554	142	119	140
Fence-post. Metal	J. H. Gouldstone	805,791	Nov. 28	4516	967	119	1106
Fence-post. Portable	W. R. Harris	805,201	Nov. 21	3391	735	119	826
Fence-posts. Machine for molding bases on	C. S. Long	807,833	Dec. 19	3461	745	119	2101
Fence-stay	R. L. Horsley	805,071	Nov. 21	3138	681	119	772
Fence stays. Tool for applying wire-	J. Dean	806,647	Dec. 5	1058	233	119	1500
Fence stretcher. Wire-	W. M. Dillon	806,023	Dec. 19	3821	828	119	2181
Fence-tightener	E. B. Webster	807,589	Dec. 19	2987	640	119	1998
Fence. Wire	B. B. Wood	806,721	Dec. 5	1200	269	119	1530
Fencing. Anchorage for wire	J. H. Wheelock and G. M. Wright	805,764	Nov. 28	4472	958	119	1098
Fender: *See* Car-fender. Wheel-fender. Fireplace-fender.							
Fender	J. L. Matthews	805,311	Nov. 21	3617	781	119	872
Fender	R. L. Young	806,446	Dec. 5	706	156	119	1425
Fertilizer-distributer	J. P. Fullilove	805,010	Nov. 21	2986	648	119	741
Fertilizer-distributer	W. Fetzer	807,068	Dec. 12	1959	423	119	1737
Fertilizer-distributer	J. D. Williamson	807,526	Dec. 19	2830	609	119	1964
Fertilizer-distributer	S. Robinson	807,641	Dec. 19	3081	662-3	119	2018
Fertilizer-distributer	C. S. Tarkington	808,491	Dec. 26	4788	1031	119	2437
Fertilizer-distributer and cotton-seed planter. Combined	J. W Rudge	806 005	Nov. 28	4925	1062	119	1197
Fertilizer-distributer and seed-planter	D. W. Strickland	808,262	Dec. 26	4327	930	119	2335
Fiber-cleaning machine	H. J. Boeken	805,441	Nov. 28	3373	836-7	119	970
Fiber-cleaning machines. Roller for ginning, burring, and like	W. Youlten	806,727	Dec. 5	1225	274	119	1534
Fiber-cutting machine	A. M. Sheakley	806,753	Dec. 5	1286	285-6	119	1547
Fifth-wheel	W. B. Morgey	803,841	Nov. 7	620	135	119	134
Fifth-wheel	L. A. Keene	804,236	Nov. 14	1458	311	119	361
Fifth-wheel coupling	J. C. Watson	806,605	Dec. 5	981	217	119	1484
Figure. Jointed	A. Schoenhut	806,008	Nov. 28	4930	1053	119	1198
Filaments from viscose, &c. Apparatus for producing or forming	C. A. Ernst	808,149	Dec. 26	4093	882	119	2283
Filaments from viscose, &c. Forming	C. A. Ernst	808,148	Dec. 26	4091	882	119	2283
File	A. Vernaz	807,143	Dec. 12	2111	453	119	1767
File. Arch-	E. M. Anderson	806,997	Nov. 28	4727	1011	119	1154

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
File. Arch-	R. H. Johnson	807,383	Dec. 12	2543	550	119	1861
File. Bill-	E. M. Shreimer	807,783	Dec. 19	3369	722	119	2090
File for papers or cards	E. W. Woodruff	808,225	Dec. 26	4258	916	119	2319
Filing-case	H. Falvey	807,067	Dec. 12	1958	423	119	1736
Filing case. Ticket-	A. H. Reinhardt	807,866	Dec. 19	3522	762	119	2116
Filing device. Metal	R. Meier and W. H. Floyd, Jr.	805,085	Nov. 21	3159	684–5	119	776
Filing-tray	L. C. Walker	806,030	Nov. 28	4967	1061	119	1207
Filling attachment	E. H. Gold	803,893	Nov. 7	710	153	119	153
Filling material in crevices. Machine for pouring	T. Fitzgerald, Jr.	805,719	Nov. 28	4386	941	119	1081
Filling material. Producing	J. D. Pennock	805,581	Nov. 28	4140	.....	119	1027
Filter	J. G. Garland	804,004	Nov. 7	941	199	119	201
Filter	W. Noles	804,161	Nov. 7	1266	270	119	279
Filter	G. Anderson	804,572	Nov. 14	2116	462	119	505
Filter	G. Rossi	806,920	Dec. 12	1660	363–4	119	1671
Filter	J. S. Heaton	807,462	Dec. 19	2723	586	119	1942
Filter. Air-	A. Lieber	805,305	Nov. 21	3609	779	119	871
Filter. Air-	A. Lieber	805,306	Nov. 21	3610	780	119	872
Filter apparatus	P. J. Jaeger	807,558	Dec. 19	2905	625	119	1990
Filter. Centrifugal	L. C. Trent	806,213	Dec. 5	236	50–1	119	1316
Filter outlet-controller	P. Hansen	804,532	Nov. 14	2034	442	119	488
Filter-press	R. Pick	806,491	Dec. 5	792	175	119	1442
Filter. Pressure-	J. L. Gray	808,043	Dec. 19	3853	834	119	2189
Filtering device. Liquid-	G. Stade	807,513	Dec. 19	2905	603	119	1960
Finger-exercising device	E. B. Kursheedt	806,681	Dec. 5	1131	253	119	1514
Finger-ring	J. E. Fitzgerald	807,546	Dec. 19	2883	620	119	1974
Finger-ring. Leaf-turning	A. Ramage	805,664	Nov. 28	4277	921	119	1058
Finger-shield	D. Hungad	804,406	Nov. 14	1790	387	119	434
Fire-alarm	W. D. Watkins	804,356	Nov. 14	1695	367	119	413
Fire-alarm. Portable	W. D. Watkins	804,357	Nov. 14	1696	367	119	413
Fire-apparatus brake mechanism	T. F. Troop	804,071	Nov. 7	1086	230–1	119	235
Fire-boxes. Circulating device for water	S. E. Linsley	807,752	Dec. 19	3314	712	119	2068
Fire-crackers, &c. Machine for making and finishing	L. and J. Schulman	807,872	Dec. 19	3542	766–8	119	2119
Fire-department coupling	W. F. Koontz	806,268	Dec. 5	345	76	119	1340
Fire-escape	J. O'Hearne	804,494	Nov. 14	1957	427	119	470
Fire-escape and water-tower. Combined	C. Schwarz and W. C. Bryant	803,717	Nov. 7	388	83	119	88
Fire-escape. Portable	C. S. Parker and C. E. Buswell	806,706	Dec. 5	1179	264	119	1525
Fire-extinguisher	B. Kellogg	804,411	Nov. 14	1796	389	119	435
Fire-extinguisher	W. H. Glore	804,807	Nov. 14	2582	563–4	119	609
Fire-extinguisher. Automatic	H. W. Martin	808,101	Dec 26	3991	860	119	2262
Fire-extinguisher. Chemical	C. A. Miller	804,755	Nov. 14	2492	544	119	588
Fire-extinguisher. Chemical	H. Mikorey	807,631	Dec. 19	3060	657	119	2014
Fire-extinguisher system. Automatic	J. G. and J. D. Nolen	805,874	Nov. 28	4674	1000–1	119	1141
Fire-fighter's apparatus	W. W. Thompson	808,587	Dec. 26	4974	1073	119	2476
Fire-hose, life-preservers, &c. Device for supporting	T. F. Adams	805,511	Nov. 28	3999	863	119	998
Fire-kindler	E. M. Flynn	808,033	Dec. 19	3833	830	119	2184
Fire-protector	B. F. Metz	806,160	Dec. 5	141	29	119	1295
Fire-resisting curtain. Flexible	E. H. McCloud	806,174	Dec. 5	166	35	119	1301
Fire-screen	R. A. Webster and W. H. Barnes	805,395	Nov. 21	3771	816	119	906
Fire-truck safety appliance. Water-tower	J. W. Nethery	806,278	Dec. 5	375	83	119	1348
Fire-tube boiler	E. Eberhardt	808,353	Dec. 26	4533	974–5	119	2381
Fires in mines. Providing for the extinguishment of	J. Krzyzanowski and S. Wysocki	807,290	Dec. 12	2385	511–12	119	1826
Fires. Sprinkler for extinguishing	J. Fiddes	804,305	Nov. 14	1598	345	119	390
Firearm	J. R. McAlister	804,255	Nov. 14	1488	320	119	367
Firearm	E. H. Searle	804,985	Nov. 21	2938	637–8	119	731
Firearm	F. P. and W. D. Stannard	805,588	Nov. 28	4148	893	119	1028
Firearm	C. A. Young	805,695	Nov. 28	4332	931	119	1069
Firearm	A. W. Savage	806,007	Nov. 28	4929	1052	119	1198
Firearm	E. E. Redfield	806,496	Dec. 5	798	176	119	1444
Firearm	T. C. Johnson	807,745	Dec. 19	3305	710	119	2066
Firearm	J. M. Browning	808,003	Dec. 19	3784	821–2	119	2174
Firearm	H. M. Putnam	808,214	Dec. 26	4233	911	119	2314
Firearm	G. Luger	808,463	Dec. 26	4726	1017	119	2423
Firearm. Automatic	W. J. Whiting	803,948	Nov. 7	824	175–6	119	178
Firearm. Automatic	W. J. Whiting	804,694	Nov. 14	2345	511–12	119	553
Firearm. Magazine-	A. M. Nolf	807,044	Dec. 12	1896	412	119	1724
Firearm-magazine	C. H. Taylor	807,790	Dec. 19	3381	725	119	2063
Firearm. Recoil-operated	E. H. Searle	804,984	Nov. 21	2932	636–7	119	729
Firearm. Repeating	G. Kernin	806,264	Dec. 5	338	73	119	1338
Firearm. Self-loading	H. Stamm	804,986	Nov. 21	2943	638–40	119	732
Firearm-sight	H. Gunn	806,658	Dec. 5	1082	240	119	1504
Firearm sighting attachment	W. P. Shattuck	803,791	Nov. 7	529	115	119	116
Firearm-support	L. J. and W. E. Dubert	805,189	Nov. 21	3365	729	119	820
Firearm trigger arrangement	S. Turudija	803,644	Nov. 7	224	49–50	119	50
Firearm with drop-down barrel	K. F. P. Stendebach	804,349	Nov. 14	1686	364–5	119	410
Firearms. Face-shield for side-ejection shoulder-	T. C. Johnson	804,661	Nov. 14	2277	499–500	119	530
Firearms. Flexible rear sight for	G. H. Garrison	804,804	Nov. 14	2577	562	119	608
Firearms. Peep-sight for	J. Y. Bassell and F. C. Blenkner	807,712	Dec. 19	3224	692	119	2050
Firearms. Semiflexible rear sight for	G. H. Garrison	804,805	Nov. 14	2579	563	119	608
Fireplace	T. A. Hill	808,154	Dec. 26	4117	887	119	2288
Fireplace and stove. Combined	W. A. Douglass	804,106	Nov. 7	1154	245	119	254
Fireplace-fender	H. G. Haver	806,343	Dec. 5	507	111	119	1378
Fireproof door. Self-closing	R. D. Mumford	803,618	Nov. 7	185	41	119	41
Fireproof quartz brick or block	E. Stöffler	805,242	Nov. 21	3478	.....	119	843
Fireproof window-curtain	M. Berwanger	804,299	Nov. 14	1587	342	119	398
Fireproof windows. Cross-munnion for	S. Keighley	804,956	Nov. 21	2871	615	119	717
Fish assorting, cutting, and cleaning machine	W. J. Kenny	804,733	Nov. 14	2423	529–31	119	572
Fish-catching apparatus	L. P. Mattle	808,102	Dec. 26	3994	861	119	2262
Fish-hook	C. M. Greenway and J. Horner	805,284	Nov. 21	3567	771	119	864
Fish-hook	W. L. Stockwell	807,514	Dec. 19	2906	603	119	1960
Fish-hook	H. A. Homan	808,239	Dec. 26	4286	921	119	2325
Fish-hook	J. T. Haines	808,285	Dec. 26	4354	943	119	2348
Fish-rods. Device for holding	W. J. Walton	803,646	Nov. 7	229	50	119	51
Fishing-reel	E. D. Rockwell	804,047	Nov. 7	1035	218	119	224
Fishing-reel	W. Carter	806,064	Nov. 28	5034	1072	119	1220
Fishing-rod reel	J. M. Pyott, Jr.	806,494	Dec. 5	796	176	119	1443

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Flagstaff-support	G. Brown	805,707	Nov. 28	4359	936	119	1075
Flanging-machine	C. W. Sleeper	805,429	Nov. 21	3839	830-1	119	921
Flask:							
See Concrete-block-molding flask.							
Molding-flask.							
Flat-irons. Composition of matter for cleansing and polishing	W. E. Wilkinson	807,649	Dec. 19	3101	666	119	2024
Flax-brake feeding mechanism	G. H. Ellis	806,650	Dec. 5	1064	236	119	1501
Flax-brakes. Automatic feed-regulating device for	G. H. Ellis	806,787	Dec. 12	1373	303	119	1606
Flexible fabric and making same	J. G. Jackson	805,963	Nov. 28	4851	1036	119	1182
Float	A. I. Poliansky	806,490	Dec. 5	791	175	119	1442
Floating device	L. Ledermann	803,910	Nov. 7	736	159	119	159
Floor-clamp	E. B. Hatch	806,342	Dec. 5	506	111	119	1378
Floor-dressing machine	H. Kratsch	807,560	Dec. 19	2910	626-7	119	1981
Floors. Construction of fireproof brick	O. Cracoanu	803,559	Nov. 7	58	15	119	14
Flooring	H. Salomon	804,345	Nov. 14	1683	363	119	410
Flour-bleaching apparatus	P. A. Leperche, V. Angiolini-Salvadori, and V. Denis.	805,652	Nov. 28	4281	916	119	1054
Flour-milling machinery	L. W. Benesh	806,865	Dec. 12	1530	335-6	119	1643
Flour-mills. Dustless feeder and mixer for	R. B. Boll	805,899	Nov. 28	4731	1011	119	1155
Flower-pot	R. A. Sedlacek	805,491	Nov. 28	3958	856	119	989
Flue-cleaner	G. W. Dean	803,562	Nov. 7	61	16	119	15
Flue-cutter	J. W. Doyle	806,878	Dec. 12	1573	344	119	1652
Flue-expander	J. W. Faessler	808,032	Dec. 19	3832	830	119	2184
Flue or tube expander	J. W. Faessler	808,030	Dec. 19	3830	829	119	2184
Flue-sheets and the like. Cutter for	J. W. Faessler	808,031	Dec. 19	3831	830	119	2184
Flue-stopper	J. L. Clark	805,343	Nov. 21	3673	794	119	885
Fluid-elevating apparatus	G. Reiter	808,218	Dec. 26	4242	913	119	2316
Fluid-motor	J. Hofmann	803,595	Nov. 7	140	31-2	119	32
Fluid-presser	A. H. Gibson	805,196	Nov. 21	3379	733	119	823
Fluid-pressure brake	M. F. Volkmann	803,943	Nov. 7	813	172-3	119	176
Fluid-pressure brake	W. P. A. Macfarlane	807,037	Dec. 12	1876	408-9	119	1718
Fluid-pressure controller	G. W. Furbeck and A. N. Carver	803,686	Nov. 7	327	69-70	119	74
Fluid-pressure regulator	A. J. and N. Hodge	806,470	Dec. 5	758	168	119	1435
Fluid-receptacle closure	P. Plantinga	806,285	Dec. 5	388	85-6	119	1351
Fluids and other materials. Device for controlling the flow of	L. Dion	808,351	Dec. 26	4526	974	119	2380
Fluids. Device for equalizing the pressure of	S. Manning and W. B. Armstrong	806,271	Dec. 5	351	77	119	1341
Flush handle	J. Holtzhouser	807,170	Dec. 12	2159	463	119	1777
Flushing apparatus	T. Dugmore	807,914	Dec. 19	3633	788	119	2141
Flushing device	P. L. Guest	807,924	Dec. 19	3651	792	119	2144
Flux to cylindric bodies. Machine for applying	C. H. Ayars	805,833	Nov. 28	4586	982	119	1120
Fly-paper. Sticky	O. Maßsert	807,040	Dec. 12	1889	410	119	1722
Fly-trap	J. G. Gibson	804,654	Nov. 14	2267	496-7	119	536
Fly-trap	J. Kress	805,080	Nov. 21	3151	683	119	775
Fly-trap	R. Graham	807,165	Dec. 12	2154	462	119	1776
Fly-wheel	R. Gerlach	804,806	Nov. 14	2580	563	119	609
Flying-machine	A. H. Friedel	804,593	Nov. 14	2156	471-2	119	513
Fodder-binders. Rope-clutch for	C. G. Brink	807,415	Dec. 12	2613	563	119	1877
Fodder-fork	J. M. Wolfe	806,042	Nov. 28	4990	1064	119	1212
Folding and adjustable table	C. E. Parker	806,485	Dec. 5	782	173	119	1440
Folding box	I. Wigren	805,107	Nov. 21	3199	694	119	786
Folding box	C. B. Rutledge	806,234	Nov. 21	3465	750	119	840
Folding box	B. A. Boore	807,907	Dec. 19	3622	785	119	2138
Folding chair	C. Mettler	805,971	Nov. 28	4871	1039	119	1186
Folding chair. Adjustable	W. S. Lewis	808,096	Dec. 26	3985	860	119	2260
Folding-machine cutting mechanism	H. K. King	804,476	Nov. 14	1917	417-18	119	461
Folding-machine sheet-assembling device	E. H. Cottrell	805,636	Nov. 28	4230	910	119	1048
Folding-machines and the like. Delivery apparatus for	A. B. Dick	804,388	Nov. 14	1755	380	119	426
Folding mechanism	J. C. F. Balze	806,094	Dec. 5	6	2	119	1266
Food-cutter	H. S. Hart	807,379	Dec. 12	2537	549	119	1859
Food product	C. E. Bright	805,001	Nov. 21	2976	.....	119	740
Foot. Artificial	F. W. Merrick	808,296	Dec. 26	4410	948	119	2354
Foot-warmer	C. H. Boeck	803,545	Nov. 7	32	8	119	9
Footwear attachment	H. C. Boice	807,150	Dec. 12	2124	456	119	1770
Forceps and the like	T. C. Hutchinson	804,229	Nov. 14	1436	307	119	355
Forge	W. F. Wendt	805,691	Nov. 28	4323	929-30	119	1068
Forge	A. Mathis	807,490	Dec. 19	2747	593	119	1948
Forging-press	H. V. Loss	804,542	Nov. 14	2054	447	119	492
Fork:							
See Fodder-fork. Hay-fork.	C. A. Batchelder	806,731	Dec. 5	1233	275	119	1536
Form or last							
Fountain:							
See Drinking-fountain.							
Frame:							
See Drawing-frame. Screen-frame.							
Furnace-door frame. Spinning-frame.							
Picture-frame. Truck-frame.							
Riding-frame. Window-frame.							
Freezing apparatus. Portable	F. Krüger and R. Hänsch	804,478	Nov. 14	1924	419	119	463
Freight and baggage loader	J. McGann	806,166	Dec. 26	4139	892	119	2292
Fruit-clipper	C. F. Streight	803,796	Nov. 7	537	117	119	118
Fruit cutter and pitter	K. T. Lynn	808,464	Dec. 26	4728	1018	119	2423
Fruit-elevator	E. S. De Long	807,362	Dec. 12	2508	541	119	1853
Fruit-harvester	M. L. Porter	804,974	Nov. 21	2914	632	119	725
Fruit-shipping rack. Folding	J. W. Mills and E. E. Izer	804,492	Nov. 14	1954	426	119	470
Fuel	M. Salomon	806,194	Dec. 5	201	.....	119	1309
Fuel. Artificial	E. C. May	807,629	Dec. 19	3057	.....	119	2013
Fuel-burning apparatus	W. J. Carlin	806,393	Dec. 5	599	132	119	1400
Fuel-economizers. Tube-scraper-driving mechanism for	E. B. Freeman	803,578	Nov. 7	95	23-4	119	21
Fuel-feeding apparatus	J. F. de Navarro	804,158	Nov. 7	1261	268	119	277
Fuel. Feeding pulverized	E. J. Neville	804,160	Nov. 7	1263	269-70	119	278
Fuel forming and compressing machine. Artificial	J. M. Dennis	806,876	Dec. 12	1566	543-4	119	1651

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Fuel from coal-mine waste or dust-coal. Manufacture of briquet	T. Rouse and H. Cohn	806,845	Dec. 12	1485	.....	119	1632
Fumigating attachment	J. Brown	807,910	Dec. 19	3627	786	119	2139
Fumigating composition	J. R. Inskeep	806,976	Dec. 12	1765	.....	119	1694
Funnel for liquid. Filling and closing	J. E. Lundy	805,741	Nov. 28	4431	950	119	1090
Fur skins. Chamoising	R. Gottwald	804,718	Nov. 14	2408	.....	119	568
Furnace: *See* Blast-furnace. Boiler-furnace. Calcining-furnace. Copper-refining furnace. Electric furnace. Electrical ring-furnace. Gas-furnace. Glass-furnace. Heating-furnace. Hot-air furnace. Metallurgical furnace. Reduction-furnace. Regenerative muffle-furnace. Roasting-furnace. Roasting or desulfurizing furnace. Smelting-furnace. Smelting and refining furnace. Zinc-furnace.							
Furnace	E. G. Germer	803,581	Nov. 7	102	25	119	22
Furnace	J. E. Hayden	804,315	Nov. 14	1625	352	119	398
Furnace	W. B. Ruggles	804,883	Nov. 21	2746	594	119	687
Furnace	J. B. Hoover	805,797	Nov. 28	4522	968	119	1107
Furnace	J. S. Walker	806,029	Nov. 28	4965	1060	119	1206
Furnace	R. A. Bailey	807,105	Dec. 12	2035	437	119	1752
Furnace	H. Hubbard	807,466	Dec. 19	2728	587–8	119	1943
Furnace	G. Watson and H. W. Mason	807,890	Dec. 19	3583	775–6	119	2128
Furnace	G. Thomas	807,976	Dec. 19	3741	811	119	2164
Furnace	E. W. Lindquist	805,737	Nov. 28	4426	948–9	119	1089
Furnace	G. A. Fisher	804,801	Nov. 14	2571	561	119	607
Furnace-charging apparatus	J. F. Weller	806,381	Dec. 5	576	127	119	1394
Furnace-door arch-protector	J. S. Hood	803,597	Nov. 7	143	32	119	33
Furnace-door frame and means of cooling	S. B. Sheldon	803,792	Nov. 7	531	.....	119	116
Furnace-doors, gates, &c. Device for operating	J. Bishop	805,186	Nov. 21	3358	727–8	119	819
Furnace-flue dust. Utilizing	J. J. Merrill	806,422	Dec. 5	656	144–5	119	1413
Furnace-front	G. A. Ellis	807,159	Dec. 12	2137	459	119	1773
Furnace-grate	G. A. Ellis	806,122	Dec. 5	58	12	119	1278
Furnace-grate	S. P. Hutchinson	807,743	Dec. 19	3301	709	119	2065
Furnace-grate bar	R. Baggaley	806,048	Nov. 28	5003	1067	119	1214
Furnace smoke-consuming attachment	A. Newton	807,683	Dec. 19	3170	681–2	119	2039
Furnace-walls. Heat-travel controller for	H. G. Cox	804,457	Nov. 14	1881	407–8	119	452
Furnaces. Air-preheater for	E. R. Taylor	805,501	Nov. 28	3978	859	119	993
Furnaces. Ash-conveyer for	E. R. Taylor	805,502	Nov. 28	3981	860	119	993
Furnaces. Producing chemicals in electric	C. C. Wilson	805,939	Nov. 28	4806	1026	119	1171
Furnaces. Producing chemicals in electric	J. H. Clewer	806,778	Dec. 12	1357	300	119	1603
Furnaces. Rabbling device for ore-roasting	R. Schneider	803,628	Nov. 7	200	44–5	119	45
Furnaces. Reversing-valve for	H. L. Andrews and D. Schustek	803,961	Nov. 7	849	180	119	182
Furnaces. Reversing-valve for smelting and other	J. D. Schaeffer	806,367	Dec. 5	547	121	119	1387
Furniture	G. Frank	808,533	Dec. 26	4875	1049	119	2455
Furniture. Floor-fastening for	S. M. Merrill	807,843	Dec. 19	3479	780	119	2104
Furniture-handle	M. S. Field	803,575	Nov. 7	89	22–3	119	20
Furniture-nail	M. S. Field	806,883	Dec. 12	1583	347	119	1655
Furniture. Post-office	M. S. Field	806,965	Dec. 12	1744	383	119	1689
Furniture. Post-office	M. L. Baker	806,093	Dec. 5	4	1–2	119	1266
Furniture. Post-office	J. W. Cleveland	805,264	Nov. 21	3528	761	119	856
Furniture. Store	E. Christman	805,262	Nov. 21	3525	760	119	855
Furrow-opener	J. E. Graybill	808,200	Dec. 26	4208	906	119	2308
Furrow-opener. Disk	H. Wilson and M. A. Lynch	807,006	Dec. 12	1809	397	119	1704
Fuse	H. Wilson	805,251	Nov. 21	3495	755	119	846
Fuse for explosive projectiles. Percussion-	C. D. Haskins	805,288	Nov. 21	3575	772	119	865
Fuse for shells. Percussion-	L. L. Driggs	805,271	Nov. 21	3544	765	119	859
Fuse. Inclosed	H. Wilson and A. H. Chase	806,859	Dec. 12	1519	334	119	1641
Fuse. Percussion-	P. Q. Lawrence	804,741	Nov. 14	2453	534	119	580
Fuse. Percussion-	J. Sachs	807,781	Dec. 19	3365	721	119	2080
Fuse-plug	G. B. Thomas	804,070	Nov. 7	1085	230	119	235
Fuse-plug	J. Sachs	807,093	Dec. 12	1996	432	119	1744
Fuse-plug. Electrical	L. L. Driggs	805,270	Nov. 21	3544	765	119	859
Fuse. Safety-	H. E. Procunier	805,154	Nov. 21	3291	714	119	804
Fuse. Shell-	W. T. Unge	806,025	Nov. 28	4958	.....	119	1205
Fuse-terminal	E. J. Lockhart	806,685	Dec. 5	1144	255	119	1517
Fuses and making same. Composition for							
Gaff-hook							
Gage: *See* Axle-gage. Brace-bit depth-gage. Jointer-gage. Pressure-gage. Shingle-gage. Track-gage.							
Gage	H. W. Stowe	804,067	Nov. 7	1080	229	119	234
Gaging-machine. Automatic	O. M. Lissak	804,017	Nov. 7	961	203–4	119	205
Galvanizing apparatus	W. A. Leonard	806,900	Dec. 12	1616	354	119	1660
Game apparatus	W. J. Hamilton	804,597	Nov. 14	2165	474	119	515
Game apparatus	J. Becker	806,624	Dec. 5	1015	225	119	1491
Game apparatus	W. T. Merriman	807,041	Dec. 12	1890	410	119	1722
Game apparatus	H. E. Henwood	807,927	Dec. 19	3660	793	119	2146
Game apparatus	J. L. E. Pell	808,111	Dec. 26	4012	863	119	2266
Game apparatus	H. E. Le Jeune	808,207	Dec. 26	4221	908	119	2311
Game apparatus	J. R. Brown	804,927	Nov. 21	2823	609	119	706
Game apparatus and advertising novelty	J. F. Woodberry	804,697	Nov. 14	2353	513	119	554
Game apparatus. Base-ball-	J. K. Clouser, Jr	807,600	Dec. 19	3004	644	119	2001
Game apparatus or puzzle	B. C. Blanchard	807,433	Dec. 19	2675	576–7	119	1930
Game. Card	T. S. Ford	803,577	Nov. 7	94	23	119	21
Game-counter	E. J. Deegan and C. H. Proffen	805,452	Nov. 28	3893	842	119	974
Garbage-bag	E. J. Deegan and C. H. Proffen	805,453	Nov. 28	3894	842	119	974
Garbage-bag	G. Thumm	807,219	Dec. 12	2251	486	119	1797
Garbage-cremator and water-heater. Combined	J. G. Branch	805,256	Nov. 21	3507	757–8	119	850
Garbage-incinerator	G. Focht	806,885	Dec. 12	1586	347	119	1655
Garbage or ash can	D. A. Schutt	804,773	Nov. 14	2516	551	119	594
Garden implement	J. M. Van Orden	803,733	Nov. 7	428	92	119	97
Garment	M. W. Brooks	805,052	Nov. 21	3077	667	119	760
Garment	C. A. Powell	806,287	Dec. 5	391	86	119	1352
Garment							

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Pages.
Garment	H. J. Ellis	807,610	Dec. 19	3021	647	119	2004
Garment-fastener	B. Littauer	805,966	Nov. 28	4658	997	119	1137
Garment-fastener	I. H. Peck	806,831	Dec. 12	1453	323	119	1624
Garment-fastening	J. Bischof	806,517	Dec. 5	836	184	119	1452
Garment-form base	E. T. Palmenberg	807,310	Dec. 12	2415	520	119	1832
Garment-hook	C. R. Meyer	805,869	Nov. 28	4662	998	119	1138
Garment-hook	T. F. Nightingale	806,989	Dec. 12	1786	391	119	1699
Garment-supporter	J. W. Schloss	804,556	Nov. 14	2082	455	119	497
Garment-supporter	J. F. Molloy	804,756	Nov. 14	2494	545	119	589
Garment-supporter clasp	F. A. Stickel, Jr	803,637	Nov. 7	213	47	119	47
Garment-supporter clasp	D. L. Smith and J. J. Buchanan	807,691	Dec. 19	3186	684	119	2042
Garment-supporting device	C. F. Stokes	806,596	Dec. 5	968	215	119	1481
Gas apparatus. Acetylene-	F. M. Moore	803,617	Nov. 7	184	41	119	41
Gas. Apparatus for the manufacture of generator-	P. Stiens	804,441	Nov. 14	1859	403	119	448
Gas-burner attachment. Automatic	S. H. Ury	804,509	Nov. 14	1990	435	119	478
Gas-burner. Automatic-regulating	G. W. Lord	806,146	Nov. 21	3272	710	119	800
Gas-burner. Incandescent	J. Mallol	803,771	Nov. 7	497	107	119	109
Gas-burner. Incandescent	M. Kay	804,409	Nov. 14	1794	388	119	435
Gas-burner. Incandescent	O. Wiederhold	806,224	Dec. 5	257	55	119	1321
Gas-burner. Incandescent	C. J. Alexander	807,651	Dec. 19	3103	667	119	2025
Gas-burner. Incandescent	J. F. Barker	804,517	Nov. 14	2003	437	119	481
Gas-burner. Portable	R. H. Reiter	806,366	Dec. 5	545	120-1	119	1387
Gas cut-off. Automatic	F. G. and L. F. Koehler	805,079	Nov. 21	3150	683	119	775
Gas economizer and purifier	C. J. and V. E. Moody	804,332	Nov. 14	1660	359	119	404
Gas-engine	P. Schwehm	806,199	Dec. 5	207	44-5	119	1310
Gas-engine	J. Williams, Jr	806,610	Dec. 5	990	219-20	119	1486
Gas-engine	F. Burger	807,354	Dec. 12	2495	538	119	1850
Gas-engine	R. Longtine and E. Double	807,950	Dec. 19	3697	802	119	2155
Gas-fixture attachment	G. P. Swift	806,305	Dec. 5	446	97	119	1365
Gas from gas-generators. Apparatus for preventing the escape of	J. Hofmann	805,295	Nov. 21	3593	776	119	868
Gas furnace. Producer-	P. Schmidt and A. Desgraz	805,235	Nov. 21	3467	750	119	840
Gas-furnaces. Sight-cock for	L. P. Lowe	805,654	Nov. 28	4263	917	119	1055
Gas. Generating	C. H. Claudel	803,557	Nov. 7	55	14	119	14
Gas. Generating	E. Krenz	804,737	Nov. 14	2441	532	119	577
Gas-generator	A. J. Ferguson	804,591	Nov. 14	2150	470	119	512
Gas-generator	H. A. Hartman	808,365	Dec. 26	4548	979	119	2384
Gas generator. Acetylene-	J. W. Featherstone	803,999	Nov. 7	933	197	119	200
Gas generator. Acetylene-	G. H. Cliff	804,215	Nov. 14	1410	299-300	119	351
Gas generator. Acetylene-	S. A. Menczer	804,544	Nov. 14	2062	449-50	119	493
Gas generator. Acetylene-	E. Moreau	805,086	Nov. 21	3160	685	119	777
Gas generator. Acetylene-	H. Symonds	805,087	Nov. 28	5082	1084	119	1230
Gas generator. Acetylene-	A. Klönne	807,033	Dec. 12	1871	407	119	1717
Gas-holder tank	T. Maguire	803,837	Nov. 7	613	134	119	133
Gas-light	J. Mlada	805,574	Nov. 28	4119	887	119	1023
Gas-lighter. Electric	S. E. Crawford	807,725	Dec. 19	3206	701	119	2055
Gas-lines. Automatic volumetric governor for	J. F. Philpott	805,091	Nov. 21	3166	687	119	778
Gas machine. Acetylene-	C. M. Lungren	803,835	Nov. 7	610	133	119	132
Gas-mantle. Incandescent	H. Heidorn	805,911	Nov. 28	4750	1015	119	1159
Gas-mantles. Holder or head for incandescent	J. T. Robin	805,325	Nov. 21	3643	788	119	873
Gas-mantles. Machine for treating impregnated fabrics to produce incandescent	C. M. Lungren	803,915	Nov. 7	752	161	119	153
Gas-mantles. Preparing incandescent	E. Haas	804,464	Nov. 14	1895	412	119	456
Gas-meter	E. Haas	804,465	Nov. 14	1897	412	119	456
Gas-meter	J. Palmer	806,572	Dec. 26	4951	1066	119	2470
Gas or gasolene engine	P. C. Hewitt	805,292	Nov. 21	3582	774	119	867
Gas or vapor devices. Starting electric	J. W. Weeks	805,396	Nov. 21	3772	817	119	906
Gas-pressure regulator	E. Krenz	804,814	Nov. 14	2593	566	119	612
Gas-producer	B. Graupe	807,071	Dec. 12	1904	424-5	119	1737
Gas-producer	W. H. Bradley	807,594	Dec. 19	2993	642	119	1999
Gas-producer	E. Körting	808,244	Dec. 26	4293	922	119	2328
Gas-producer	A. Sahlin	804,677	Nov. 14	2306	506	119	546
Gas-purifier	M. F. McNelly	805,985	Nov. 28	4892	1043	119	1191
Gas-purifier	D. H. Kent	806,473	Dec. 5	763	169	119	1436
Gas-regulator. Automatic	D. H. Kent	806,474	Dec. 5	765	169	119	1436
Gas-regulator. Automatic	H. W. Fiske	807,813	Dec. 19	3428	736	119	2094
Gas-regulator. Automatic	G. Reasner	808,403	Dec. 26	4623	995-6	119	2400
Gas regulator or governor	S. B. Russell	805,489	Nov. 28	3955	854-5	119	988
Gas-retort bench	H. E. Schild	804,505	Nov. 14	1978	433	119	476
Gas reversing-valve	F. English	806,125	Nov. 21	3235	701	119	793
Gas-supply. Means for automatically shutting off	C. Clamond	807,245	Dec. 12	2294	495	119	1807
Gas to develop radiant heat. Burning	B. J. Mullen	805,929	Nov. 28	4776	1021	119	1164
Gas-washer	L. P. Lowe	805,653	Nov. 28	4262	916	119	1054
Gases. Apparatus for cleaning manufactured	E. Theisen	807,695	Dec. 19	3192	686	119	2043
Gases. Centrifugal apparatus for treating	R. J. Miner	805,373	Nov. 21	3726	808	119	898
Gaseous-fuel burners. Vaporizer for	J. W. Guillott	805,645	Nov. 28	4246	914	119	1051
Gasket	R. H. White	806,308	Dec. 5	450	98	119	1366
Gasolene-burner	H. D. Waterhouse and F. W. Green.	804,284	Nov. 14	1564	335	119	381
Gasolene. Device for removing the sediment from							
Gate: See Bridge-gate. End-gate. Fence-gate. Race-track starting gate. Railway-gate. Swinging gate. Water-gate.							
Gate	G. S. Buck	803,547	Nov. 7	35	9	119	10
Gate	J. Q. Hibner	803,691	Nov. 7	336	71	119	76
Gate	C. Harris	804,840	Nov. 21	2661	577	119	669
Gate	L. C. Sweet	805,500	Nov. 28	3976	859	119	993
Gate	R. R. Spoore	805,679	Nov. 28	4301	926	119	1062
Gate	G. B. Gould	808,283	Dec. 26	4351	942	119	2347
Gate and means for supporting, operating, and fastening the same	G. E. Crawley and E. J. Rabb	806,645	Dec. 5	1056	232-3	119	1499
Gate construction	A. W. Sprague	807,512	Dec. 19	2903	603	119	1959
Gate-hanger	E. T. Morris	804,252	Nov. 14	1484	318-19	119	366
Gate-opener	T. Fawcus	806,075	Nov. 28	5052	1078-9	119	1226
Gear-cutting machine. Spiral-	R. H. Brockman	808,902	Dec. 19	3783	821	119	2174
Gear. Differential							

Alphabetical list of inventions for November and December—Continued.

Invention	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Gear. Friction-drive speed-	W. E. Trufant	805,504	Nov. 28	3964	860-1	119	994
Gear. Speed-changing	C. G. Simonds	808,221	Dec. 26	4248	914	119	2318
Gear. Transmission-	A. C. Menges	805,978	Nov. 28	4881	1042	119	1188
Gear. Transmission-	B. H. Pomeroy	808,306	Dec. 26	4427	952	119	2358
Gear. Yieldable	G. W. Smith	804,778	Nov. 14	2523	553	119	596
Gear. Yieldable	H. B. Stilz	807,692	Dec. 19	3187	685	119	2042
Gearing. Change-speed	W. R. Cary	804,212	Nov. 14	1402	297-8	119	349
Gearing. Change-speed	L. W. Anderson	807,104	Dec. 12	2034	437	119	1752
Gearing. Differential	J. G. O'Kelly	804,495	Nov. 14	1959	428	119	471
Gearing. Differential	R. Symmonds	806,021	Nov. 28	4950	1058	119	1203
Gearing. Differential	F. M. Haldeman and B. W. Brockett.	808,047	Dec. 19	3861	835-6	119	2190
Gearing for lathes or other tools	I. H. Johnson, Jr.	807,274	Dec. 12	2346	505	119	1818
Gearing. Speed changing and transmission	I. H. Pleukharp	807,771	Dec. 19	3345	718	119	2075
Gearing. Transmission-	C. E. Neal	803,845	Nov. 7	627	137	119	135
Gearing. Variable-speed	L. Mégy	803,701	Nov. 7	354	75-6	119	80
Gearing. Variable-speed	A. Peteler	804,263	Nov. 14	1512	325-6	119	372
Gearing. Variable-speed	C. K. Lassiter	804,740	Nov. 14	2445	533-4	119	576
Gearing. Variable-speed	W. E. Blair	804,999	Nov. 21	2972	645	119	739
Generator: *See* Acetylene-generator. Bubble-generator. Electric-current generator. Electrical generator. Gas-generator. Steam-generator.							
Generator	W. H. Thayer	807,792	Dec. 19	3385	727	119	2084
Germicidal cake	S. N. Kohn	805,660	Nov. 28	4098	884	119	1018
Gin-feeder. Pneumatic	J. W. Seifert	804,888	Nov. 21	2756	595-6	119	690
Girder	E. Hancox	804,598	Nov. 14	2166	474	119	515
Glass-annealing kiln	H. K. Hitchcock	805,059	Nov. 21	3132	679	119	771
Glass. Apparatus for the preparation of panes of opal	G. Poncelet	804,500	Nov. 14	1968	431	119	473
Glass articles. Forming	M. Harloe	807,459	Dec. 19	2719	586	119	1941
Glass articles. Machine for making	A. Raspillaire	804,173	Nov. 7	1297	278	119	286
Glass articles. Manufacture of	H. K. Hitchcock	805,065	Nov. 21	3120	676	119	760
Glass articles. Producing hollow quartz-	R. Küch	805,303	Nov. 21	3607	779	119	871
Glass-blowing machine	S. Hill	806,669	Dec. 5	1106	245-8	119	1509
Glass-blowing-machine plunger	H. Bard	805,335	Nov. 21	3663	792	119	882
Glass. Clamp for carrying plate-	J. Hunter	808,202	Dec. 26	4211	907	119	2309
Glass cylinders. Severing drawn-	J. Campbell	805,943	Nov. 28	4817	1028	119	1174
Glass-drawing apparatus	I. W. Colburn	805,055	Nov. 21	3090	670	119	763
Glass-drawing apparatus and process	I. W. Colburn	805,053	Nov. 21	3078	667-8	119	761
Glass-drawing machine	G. H. Harvey	804,533	Nov. 14	2036	443	119	499
Glass-drawing machine	G. H. Harvey. (Reissue)	12,427	Dec. 26	5046	1091	119	2492
Glass-drawing process and apparatus	I. W. Colburn and C. W. Irwin	805,056	Nov. 21	3097	671	119	764
Glass. Feeding	H. K. Hitchcock	805,068	Nov. 21	3130	678	119	771
Glass-feeding mechanism	H. K. Hitchcock	805,067	Nov. 21	3129	678	119	770
Glass-finishing apparatus	F. O'Neill	805,876	Nov. 28	4682	1002-3	119	1143
Glass free from air-bubbles. Producing quartz-	R. Küch	805,302	Nov. 21	3605	.....	119	870
Glass-furnace	H. G. Slingluff	804,775	Nov. 14	2518	552	119	594
Glass-furnace	J. A. Frank	808,358	Dec. 26	4540	976-7	119	2382
Glass gathering and delivering machine	F. O'Neill	805,875	Nov. 28	4677	1001-2	119	1141
Glass globe or shade. Prismatic-	O. A. Mygatt	805,742	Nov. 28	4432	950	119	1090
Glass-making apparatus. Wire-	G. W. Morenus	805,659	Nov. 28	4270	919	119	1056
Glass. Manufacture of	H. K. Hitchcock	805,139	Nov. 21	3262	707-8	119	798
Glass. Manufacture of sheet-	H. K. Hitchcock	805,064	Nov. 21	3115	675	119	768
Glass. Manufacture of wire-	A. J. Baldwin	804,821	Nov. 21	2621	570	119	660
Glass-melting pot	C. L. Betz	807,804	Dec. 19	3405	731	119	2089
Glass-molding machine	A. Strub	804,069	Nov. 7	1083	230	119	234
Glass plates. Dust-proof joint for	A. Jaeger	804,660	Nov. 14	2276	499	119	539
Glass plates. Manufacture of	B. C. White	805,609	Nov. 28	4181	901	119	1036
Glass plates. Manufacture of	B. C. White	805,610	Nov. 28	4182	901	119	1037
Glass-press	H. K. Hitchcock	805,066	Nov. 21	3125	677	119	770
Glass-rolling apparatus	A. Meyer	805,657	Nov. 28	4267	918	119	1055
Glass-rolling machine	B. C. White	805,608	Nov. 28	4177	900-1	119	1036
Glass. Runway for annealing	H. K. Hitchcock	805,070	Nov. 21	3134	679-80	119	771
Glass sheets. Manufacture of	J. H. Lubbers and S. L. Bodine	807,298	Dec. 12	2400	516-17	119	1829
Glass tile, slab, or the like	C. H. Thompson	805,595	Nov. 28	4159	.....	119	1031
Glass vessels. Protecting quartz-	R. Küch	805,304	Nov. 21	3608	.....	119	871
Glass-working apparatus	I. W. Colburn	805,054	Nov. 21	3084	668-9	119	762
Glass-working machines. Variable-speed mechanism for	H. B. Murdock	807,306	Dec. 12	2409	519	119	1831
Glasses. Filling device for	J. F. Christin	803,879	Nov. 7	683	149	119	147
Glassware, &c., for finishing. Snap for holding	F. C. Albrecht	805,830	Nov. 28	4580	981	119	1118
Glassware. Machine for making hollow	F. W. Pawling and F. R. Miller	805,027	Nov. 21	3025	656-8	119	749
Glassware. Manufacture of	P. Ebeling	807,066	Dec. 12	1956	423	119	1736
Glassware to the tempering-leers of furnaces. Paddle for carrying	J. T. Higbee	807,268	Dec. 12	2334	503	119	1816
Glazed structure	R. N. Schalkenbach	805,383	Nov. 21	3747	812	119	900
Glazed structure	R. N. Schalkenbach	805,384	Nov. 21	3750	812	119	901
Glazing-support	J. Petz	805,993	Nov. 28	4906	1048	119	1194
Glove or mitt. Catcher's	E. J. Goldsmith	805,538	Nov. 28	4050	876	119	1000
Gluing-machine	F. J. Heybach	803,760	Nov. 7	479	103	119	107
Go-carts and the like. Undergear for	H. Kitchin	805,209	Nov. 21	3404	737	119	828
Gold-saving apparatus	W. D. Baney	803,868	Nov. 7	662	144	119	142
Gold-separator	F. M. Johnson	804,408	Nov. 14	1793	388	119	435
Gold washing and separating screen	C. W. Gardner	807,023	Dec. 12	1851	404	119	1713
Golf-club	P. A. Vaile	807,224	Dec. 12	2257	488	119	1798
Golf-club	J. and D. Foulis	807,736	Dec. 19	3288	706	119	2062
Governor. Electric and pneumatic	T. F. Kelly	806,150	Dec. 5	123	24-5	119	1292
Governor for engines or motors. Hydraulic	E. Shuker	806,997	Dec. 12	1798	395	119	1701
Governor for pneumatic motors. Automatic	J. Wieser	806,609	Dec. 5	987	218-19	119	1485
Governor-head	S. S. Hall	807,266	Dec. 12	2330	502	119	1815
Governor. Marine-engine	R. J. W. Grasset	805,950	Nov. 28	4824	1030	119	1176
Governor. Speed-	H. E. Warren	805,392	Nov. 21	3767	815	119	905
Governor. Speed-	O. W. Robbins	806,842	Dec. 12	1479	327	119	1631
Grader. Road-	W. Alcorn	808,332	Dec. 26	4480	963	119	2370

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Grading and ditching machine	R. Russell	806,431	Dec. 5	673	148–9	119	1417
Grain. Apparatus for purifying, conditioning, and drying	H. J. Caldwell and J. R. Barr	805,709	Nov. 28	4363	937	119	1076
Grain-binder-machine driving mechanism	S. K. Dennis	805,122	Nov. 21	3231	700	119	792
Grain-cleaner	A. Kammerlohor	803,905	Nov. 7	731	158	119	158
Grain-drill	A. L. Johnson	806,895	Dec. 12	1608	353	119	1659
Grain-drills. Speed-changing mechanism for	H. J. Case	803,554	Nov. 7	51	13	119	12
Grain. Drying and roasting	V. Lapp	805,367	Nov. 21	3718	805	119	894
Grain heater and drier	P. Provost	804,977	Nov. 21	2921	633	119	727
Grain-riddle	W. E. Campbell	807,355	Dec. 12	2497	538	119	1851
Grain-scourer	W. C. Brenner	806,055	Nov. 28	5016	1089	119	1217
Grain-scourer	J. B. Cornwall	806,397	Dec. 5	611	134	119	1403
Grain-separator	H. H. Meyer	806,821	Dec. 12	1436	318	119	1620
Grain-separator	E. Horazdovsky	807,079	Dec. 12	1973	427	119	1739
Grain-separator	J. S. Walch	807,978	Dec. 19	3743	812	119	2164
Grain-separator	L. H. Livingston	808,557	Dec. 26	4919	1060	119	2463
Grain-separator attachment	R. W. Robinson	806,995	Dec. 12	1795	393–4	119	1701
Grain-separator chaffer attachment	A. D. Dusenbery	803,570	Nov. 7	79	20	119	18
Graphophones, &c. Membrane of	A. C. Piccinini	804,264	Nov. 14	1516	326	119	373
Grapple	H. Farrington	806,408	Dec. 5	631	138	119	1407
Grapple. Automatic supporting	A. T. Dudley	807,811	Dec. 19	3423	736	119	2093
Grapple. Shock	J. B. Schuman	806,437	Dec. 5	684	151	119	1420
Grate: *See* Furnace-grate.							
Grate	A. B. Clunies	806,396	Dec. 5	609	134	119	1403
Grate	J. Wood	807,147	Dec. 12	2119	455	119	1769
Grate	B. J. Mouat	807,303	Dec. 12	2406	518	119	1830
Grate	W. C. Engel	808,523	Dec. 26	4849	1044	119	2450
Grate-bar	W. McClave	804,668	Nov. 14	2290	502	119	542
Grate-bar	W. McClave	807,766	Dec. 19	3336	716	119	2073
Grate-basket. Adjustable fireplace	H. E. Moomaw	807,302	Dec. 12	2404	518	119	1830
Grate. Forced-draft	A. D. Southam	808,119	Dec. 26	4027	867	119	2270
Grates. Journal-bearing bar for rocking-bar	G. A. Ellis	806,123	Dec. 5	61	12	119	1278
Grater	W. J. Curry	806,646	Dec. 5	1058	233	119	1500
Grater and slicer	J. P. Runkel	805,157	Nov. 21	3297	715	119	806
Gravity-lock	L. A. Turner	805,044	Nov. 21	3058	663–4	119	757
Grease-cups. Making	E. A. Thiem	808,177	Dec. 26	4157	897	119	2296
Grill	W. A. Köneman	806,475	Dec. 5	766	170	119	1437
Grinding and abrading wheel. Portable	A. F. Jankoski	805,857	Nov. 28	4633	993	119	1131
Grinding-machine	F. Rodzonowski	805,156	Nov. 21	3295	714–15	119	805
Grinding-machine	H. B. Nichols	807,193	Dec. 12	2199	473–4	119	1786
Grinding-machine	H. B. Nichols	807,194	Dec. 12	2207	475	119	1787
Grinding-machine	E. S. and G. S. Shimer	807,323	Dec. 12	2440	525–6	119	1838
Grinding machine. Cutlery	C. L. Joy	804,234	Nov. 14	1449	309–10	119	359
Grinding machine. Lawn-mower-blade	W. H. Fetters	805,127	Nov. 21	3240	702	119	794
Grinding-machine separator	A. J. Yuerhs	807,530	Dec. 19	2839	610	119	1966
Grinding-mill	H. C. Robinson	805,933	Nov. 28	4789	1023	119	1166
Grinding-plate	J. F. Winchell	806,176	Nov. 21	3335	722	119	815
Grindstone hanging and centering device	J. H. Norrell	808,570	Dec. 26	4946	1065	119	2469
Grip mechanism	W. Hewitt	805,464	Nov. 28	3911	846–7	119	979
Grocer's bin	R. Winchel	806,719	Dec. 5	1196	268	119	1529
Gum. Apparatus for straining	S. B. Adams	804,911	Nov. 21	2794	603	119	699
Gun	I. A. Tomasini	807,221	Dec. 12	2253	486–7	119	1797
Gun	C. A. T. Sjögren	808,118	Dec. 26	4026	867	119	2289
Gun-barrel	O. Johnson	808,203	Dec. 26	4213	907	119	2309
Gun-barrel. Rifle	L. Lincoln	804,483	Nov. 14	1931	421	119	465
Gun firing apparatus	V. C. Tasker	804,899	Nov. 21	2775	599	119	695
Gun firing attachment	J. F. Meigs and H. G. Jakobsson	804,331	Nov. 14	1658	358	119	404
Gun. Magazine	E. A. McKean	808,107	Dec. 26	3999	862	119	2283
Gun-rammer	J. F. Meigs and R. P. Stout	804,243	Nov. 14	1473	315	119	364
Gun. Recoil	J. Krone	807,561	Dec. 19	2915	627	119	1982
Gun. Semi-automatic	W. H. Driggs	805,272	Nov. 21	3546	765–6	119	860
Gun-sight	J. Y. Bassell and F. C. Blenkner	805,770	Nov. 28	4481	960	119	1099
Gun-sight	J. Y. Bassell and F. C. Blenkner	805,771	Nov. 28	4483	960	119	1100
Gun-sight	J. Y. Bassell and F. C. Blenkner	807,993	Dec. 19	3768	817–18	119	2171
Gun-sight. Combination	J. Y. Bassell and F. C. Blenkner	803,970	Nov. 7	884	185	119	190
Gun-sight. Combined globe and open	J. Y. Bassell and F. C. Blenkner	807,711	Dec. 19	3223	692	119	2050
Gun-sight. Globe	J. Y. Bassell and F. C. Blenkner	803,969	Nov. 7	882	185	119	190
Gun trigger. Double-barreled	A. Raus	804,343	Nov. 14	1677	362	119	408
Gun with independent sighting-line	O. Lauber and F. Stock	807,624	Dec. 19	3046	653–5	119	2110
Guns and the like. Rear sight for	G. P. Herrick	806,142	Dec. 5	102	21	119	1287
Guns, cartridges, and the like. Wad for shot	G. Bathgate	805,114	Nov. 21	3217	696	119	789
Guns. Rivet-cutting tool for air	H. F. Plummer	806,493	Dec. 5	794	175	119	1443
Guns. Toggle-link lock for recoil-loading	A. W. Schwarzlose	804,506	Nov. 14	1981	433–4	119	476
Guns. Wrought-metal forearm for tubular-magazine	T. C. Johnson	808,375	Dec. 26	4572	985	119	2380
Gymnastic apparatus	R. Fiedler	804,218	Nov. 14	1417	303	119	351
Hair cleaning, drying, and medicating comb	E. R. Powers	807,127	Dec. 12	2078	446	119	1761
Hair. Device for applying dyes, &c., to the roots of	G. Delory	804,522	Nov. 14	2018	430	119	485
Hair-drying device	C. B. Potter	806,183	Dec. 5	187	40	119	1305
Hair-roll	C. V. D'Osseone	805,007	Nov. 21	2983	648	119	741
Hame	C. A. Adams and H. Clement	805,181	Nov. 21	3347	726	119	817
Hame attachment	J. A. Miller	805,980	Nov. 28	4884	1042	119	1189
Hame-clip. Detachable	J. S. Cusson	804,796	Nov. 14	2566	560	119	605
Hame. Harness	I. Larsen	805,425	Nov. 21	3829	827–8	119	919
Hame. Harness	I. Larsen	807,387	Dec. 12	2565	553	119	1865
Hammer. Pneumatic	A. J. Patch	803,621	Nov. 7	189	42	119	42
Hammer. Pneumatic	J. Murphy	805,222	Nov. 21	3423	742	119	832
Hammer. Power	F. P. Polaski	808,256	Dec. 26	4312	927	119	2332
Hammer. Revolving	F. F. Hartwig	805,014	Nov. 21	2994	650	119	743
Hammer. Treadle	C. M. Nielsen	805,226	Nov. 21	3433	744	119	834
Hammock	I. E. Palmer	805,816	Nov. 28	4553	975	119	1113
Hammock	G. H. Winans	807,797	Dec. 19	3394	729	119	2066
Hammock and hammock-support	I. E. Palmer	805,815	Nov. 28	4551	975	119	1112
Hand. Artificial	H. L. Felio	806,126	Dec. 5	73	15–16	119	1280

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Handle: *See* Casket-handle. Flush handle. Furniture-handle. Razor-handle. Saw-handle. Tool-handle. Umbrella-handle.							
Hanger: *See* Apparel-hanger. Cake-hanger. Coat-hanger. Curtain and shade hanger. Door-hanger. Electric-light hanger. Gate hanger. Joist-hanger. Lamp-hanger. Mantle-hanger. Map-hanger. Pipe-hanger. Smoke-bell hanger. Spring-hanger.							
Harness-bit	J. Bald	804,447	Nov. 14	1865	405	119	449
Harness-loop	C. A. Messenger	805,573	Nov. 28	4117	887	119	1023
Harness-machine guide	M. Lauterbach	804,415	Nov. 14	1808	390	119	437
Harness-pad	A. F. Ransom	804,671	Nov. 14	2297	503–4	119	543
Harrow	L. Blinde	804,300	Nov. 14	1588	342	119	388
Harrow	J. M. Ulsh	804,781	Nov. 14	2536	555	119	599
Harrow	G. W and C. E. Goss	806,656	Dec. 5	1079	239	119	1504
Harrow	W. M. Willmore and W. L. Schmidt.	807,342	Dec. 12	2473	533	119	1846
Harrow	J. M. Ulsh	807,700	Dec. 19	3198	687	119	2044
Harrow and leveler. Disk	R. E. Atkinson	807,233	Dec. 12	2267	490	119	1800
Harrow-section. Adjustable	D. H. Brown	806,057	Nov. 28	5023	1070	119	1218
Harvester. Beet-	L. Gettelmann	808,281	Dec. 26	4376	940–1	119	2346
Harvester. Corn-	F. T. Tarbox	805,938	Nov. 28	4803	1025	119	1170
Harvester. Corn-	F. J. Cook	807,358	Dec. 12	2501	539–40	119	1851
Harvester. Cotton-	G. N. Todd	806,940	Dec. 12	1702	373	119	1680
Harvester. Pea and clover	J. Guelig	804,117	Nov. 7	1174	250	119	258
Harvester. Potato-	A. F. Clarke	806,871	Dec. 12	1556	340–1	119	1689
Harvesters. Counting mechanism for grain-	I. Trolley, Jr	804,277	Nov. 14	1538	332–3	119	378
Harvesters. Lifting mechanism for corn-	A. N. Hadley	804,811	Nov. 14	2589	565	119	610
Harvesting-machine	W. Livtschak	807,179	Dec. 12	2173	466–7	119	1780
Hat	A. Mayer	807,952	Dec. 19	3702	803	119	2156
Hat and cap	M. Redgrave	805,750	Nov. 28	4442	952	119	1092
Hat-brim-pouncing machine	F. B. Husk	808,373	Dec. 26	4568	984	119	2388
Hat-making machine	M. A. Cuming	805,451	Nov. 28	3891	842	119	974
Hats. Ticket-holder for	H. B. Morris	807,570	Dec. 19	2948	633	119	1988
Hay-carrier	D D Miller	804,967	Nov. 21	2901	628	119	722
Hay-carrier	A. P. Boyer	806,771	Dec. 12	1338	297	119	1598
Hay-carrier apparatus	W. Louden	808,558	Dec. 26	4922	1060–1	119	2464
Hay-derrick	A. Rounsburg	807,091	Dec. 12	1994	432	119	1743
Hay-fork	W. Louden	807,754	Dec. 19	3318	712–13	119	2069
Hay-loader	G. Plummer	806,181	Dec. 5	182	39–40	119	1305
Hay-loader	J. R. and M. L. Ohnstad	806,828	Dec. 12	1448	321	119	1623
Hay-loader	H. O. Culver	808,073	Dec. 26	3917	848	119	2246
Hay, &c. Machine for gathering	G. M. Depew	806,069	Nov. 28	5047	1075	119	1222
Hay-press	C. Cotham	805,414	Nov. 21	3802	822	119	912
Hay-press	J. Dain	807,911	Dec. 19	3628	786–7	119	2139
Hay-rake	B. B. Phillips	804,498	Nov. 14	1966	430	119	472
Hay-rake	F. R. Children	808,140	Dec. 26	4077	878	119	2280
Hay raking and stacking machine	E. J. and J. M. Foster	805,847	Nov. 28	4616	989	119	1127
Hay-sling carrier	G. A. Olson	806,829	Dec. 12	1449	321–2	119	1623
Head and ear protector	J. M. Shourt	804,348	Nov. 14	1685	364	119	410
Head-dress. Lady's	A. Boehm	806,099	Dec. 5	14	4	119	1268
Head-rest	F. M. Kandle	807,279	Dec. 12	2354	507	119	1820
Headlight. Locomotive-	M. Johnson	807,940	Dec. 19	3681	798	119	2151
Heat-engine	F. E. Junge	805,859	Nov. 28	4037	994–5	119	1131
Heat radiation. Device for effecting	S. W. Zent	805,510	Nov. 28	3998	863	119	998
Heat-retainer and making the same	C. H. Boeck	804,090	Nov. 7	1126	238	119	247
Heater: *See* Electrical heater. Feed-water heater. Grain-heater. Lamp-heater. Milk-heater. Orchard-heater. Portable heater. Solar heater. Steam and hot-water heater. Steam and water heater. Submerged heater. Tank-heater. Water-heater.							
Heater	C. H. Boeck	804,184	Nov. 7	1322	284	119	292
Heater	D. Lewis	805,804	Nov. 28	4533	971	119	1109
Heater	S. D. Watson	806,856	Dec. 12	1511	333	119	1639
Heating and vulcanizing, &c. Apparatus for	H. S. Riddle	808,479	Dec. 26	4760	1026	119	2431
Heating device. Electric	G. E. Stevens	803,795	Nov. 7	534	116–17	119	117
Heating-furnace	C. P. Turner	805,041	Nov. 21	3052	662	119	755
Heating-furnace	W. N. Best	806,628	Dec. 5	1020	226	119	1491
Heating pipes, rods, or similar bodies	G. H. Benjamin	808,186	Dec. 26	4179	900	119	2301
Heating surfaces. Machine for	F. O. Blake, G. H. Lutz, and O. Hubbell.	805,337	Nov. 21	3664	792	119	883
Heating system. Automatic draft-regulating	C. Faust	806,653	Dec. 5	1075	238	119	1503
Heating system for buildings	E. J. Greene	807,819	Dec. 19	3439	739	119	2096
Heating systems. Heating device for central	F. O. Richter	807,318	Dec. 12	2432	523	119	1836
Heel compressing machine. Boot and shoe	J. V. Collier	803,744	Nov. 7	444	96–7	119	100
Heel. Cushion-	W. T. McLaughlin	805,088	Nov. 21	3163	686	119	777
Heel for boots and shoes. Composite	F. W. Hunt	807,825	Dec. 19	3448	742	119	2098
Heels, &c. Machine for finishing	C. B. Tuttle	805,763	Nov. 28	4469	958	119	1097
Hide-treating apparatus	F. B. Hinkson	807,930	Dec. 19	3666	794–5	119	2148
Hide-working machine	A. A. Hutchinson	806,256	Dec. 5	318	68–70	119	1334
Hinge	J. Soss	804,561	Nov. 14	2068	457	119	499
Hinge	J. Soss	804,633	Nov. 14	2222	486–7	119	527
Hinge	G. E. Anderson	805,515	Nov. 28	4009	865	119	1000
Hinge	A. R. Carroll	808,138	Dec. 26	4073	877	119	2279
Hinge	I. N. Morford	808,165	Dec. 26	4139	892	119	2292

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Hinge and lock. Blind	R. W. Perry	804,765	Nov. 14	2505	548	119	592
Hinge. Blind or shutter	C. Purrington	806,364	Dec. 5	542	120	119	1386
Hinge. Spring-	C. S. Van Wagoner and L. R. Pomeroy.	808,125	Dec. 26	4043	869	119	2273
Hinges. Pintle-retainer for	B. W. Lewis	807,680	Dec. 19	3161	679	119	2036
Hoe. Horse-	E. A. Harvey	805,202	Nov. 21	3393	735	119	826
Hog scalding and scraping machine	P. F. Seidel	805,492	Nov. 28	3958	856	119	980
Hog-trough	H. B. Bookout	806,317	Dec. 5	467	102	119	1370
Hoist and similar apparatus	P. J. Darlington	808,273	Dec. 26	4355	936	119	2342
Hoisting and conveying apparatus	T. S. Miller and J. H. Dickinson	808,246	Dec. 26	4296	923	119	2329
Hoisting and conveying device	J. H. Dickinson	806,117	Dec. 5	50	11	119	1276
Hoisting apparatus	P. J. Fahey	803,681	Nov. 7	317	68	119	71
Hoisting apparatus. Portable	H. A. Coffman and C. B. Carter	808,196	Dec. 26	4199	905	119	2306
Hoisting-bucket-turning means	G. E. Titcomb	808,493	Dec. 26	4791	1031-2	119	2438
Hoisting device	P. A. Gould and G. R. Watson	807,164	Dec. 12	2152	462	119	1776
Hoisting-machine	L. W. Delp	806,116	Dec. 5	47	11	119	1275
Hoisting-mechanism brake	E. M. Coyne	805,119	Nov. 21	3224	699-700	119	791
Hoisting or logging device	W. H. Corbett	807,109	Dec. 12	2045	440	119	1754
Holdback-fastening	O. C. Davis	808,601	Dec. 26	5001	1078	119	2482
Holdback. Safety-	J. A. Downs	808,025	Dec. 19	3824	828	119	2182
Holder	A. R. Martin and R. W. Kennard	807,840	Dec. 19	3475	749	119	2103
Holding attachment	C. Benedict	803,974	Nov. 7	892	187	119	192
Hoodwink	E. and U. S. De Moulin	804,710	Nov. 14	2384	520	119	563
Hook: *See* Boat-hook. Box-hook. Fish-hook. Gaff-hook. Garment-hook. Minnow or trolling-hook. Safety-hook. Sheep-hook. Snag-hook. Snap-hook. Trace-hook. Tug-hook. Whiffletree-hook.							
Hook	A. Mills	804,024	Nov. 7	982	207	119	210
Hook	T. V. Wallace	805,173	Nov. 21	3330	721	119	814
Hook-and-eye fastener	F. E. De Long	807,065	Dec. 12	1955	422	119	1736
Hoop: *See* Barrel-hoop.							
Hoop flaring or coning machine. Barrel-	W. Glader	806,706	Dec. 12	1391	307	119	1610
Hop-sprayer	G. Roberts	804,675	Nov. 14	2302	505	119	545
Horn	C. H. Foster	808,530	Dec. 26	4864	1047	119	2453
Horse-blanket	A. H. Meyers	805,925	Nov. 28	4770	1020	119	1163
Horse-bonnet	C. S. Moore	803,616	Nov. 7	182	40	119	41
Horse-checking appliance	A. A. James	805,731	Nov. 28	4410	945-6	119	1085
Horse-checking device	B. Gezon	807,816	Dec. 19	3432	737	119	2094
Horse-controlling device	J. O. Westrope	806,858	Dec. 12	1517	333	119	1641
Horse-controlling device	J. Cherry	808,011	Dec. 19	3798	824	119	2177
Horse-detacher	H. H. Reed	805,998	Nov. 28	4913	1049	119	1195
Horse-detacher	C. E. Eppler	807,368	Dec. 12	2515	543-4	119	1855
Horse-detacher	C. H. Bach	808,595	Dec. 26	4988	1076	119	2479
Horse-releaser	A. Straka	804,068	Nov. 7	1081	229	119	234
Horseshoe	C. A. Campbell	803,985	Nov. 7	910	191	119	195
Horseshoe	A. H. Squier	804,053	Nov. 7	1070	227	119	232
Horseshoe	H. Hennen	804,226	Nov. 14	1430	306	119	354
Horseshoe	J. Wolff	804,361	Nov. 14	1699	368	119	414
Horseshoe	F. J. Bacon. (Reissue)	12,407	Nov. 14	2602	568	119	614
Horseshoe	E. P. Hagerty	804,339	Nov. 21	2660	577	119	669
Horseshoe	H. W. Selber	804,887	Nov. 21	2755	595	119	690
Horseshoe	S. D. Kostenbader	804,959	Nov. 21	2874	619	119	718
Horseshoe	J. H. Carey	805,410	Nov. 21	3796	821	119	911
Horseshoe	M. E. Porter	806,182	Dec. 5	185	40	119	1305
Horseshoe	J. W. Cole	808,436	Dec. 26	4676	1005	119	2412
Horseshoe	T. C. Octigan	807,045	Dec. 12	1907	413	119	1725
Horseshoe and pad. Combined	C. E. Anderson and D. Gren	805,435	Nov. 28	3864	835	119	969
Horseshoe-calk	P. Gergersen and T. D. Parr	808,444	Dec. 26	4689	1010	119	2414
Hose-clamp	F. Fink	804,592	Nov. 14	2153	471	119	512
Hose-cleaning apparatus. Automatic	A. Anderson	804,992	Nov. 21	2960	643	119	736
Hose-coupling	J. F. McElroy	805,744	Nov. 28	4435	951	119	1091
Hose-coupling	J. H. Henderson and A. Sykes	806,665	Dec. 5	1097	242	119	1507
Hose-coupling	P. Roulstone	807,499	Dec. 19	2778	599	119	1955
Hose-coupling	W. H. Brewer	807,595	Dec. 19	2994	642	119	1999
Hose-coupling	J. Z. Cagle	808,008	Dec. 19	3794	823	119	2175
Hose-coupling	H. A. Schroeder	808,219	Dec. 26	4244	914	119	2317
Hose coupling. Armored-	E. T. Greenfield	806,135	Dec. 5	90	19	119	1284
Hose. Machine for inserting couplings and nipples into	D. K. Fullerton, A. Ousdahl, and E. Kronberg.	807,738	Dec. 19	3291	707-8	119	2063
Hose-spider	C. M. Bowman	808,508	Dec. 26	4815	1038	119	2444
Hose-support	J. E. Malnburg	807,184	Dec. 12	2184	468-9	119	1782
Hose support. Garden-	J. McBoyle	805,021	Nov. 21	3012	653	119	746
Hose-supporter clasp	E. Cleary	807,356	Dec. 12	2498	539	119	1851
Hot-air furnace	D. J. Archer	804,197	Nov. 14	1381	293	119	345
Hot-air furnace	C. W. Stran	807,050	Dec. 12	1923	415-16	119	1729
Hot-air furnace	C. W. Stran	807,097	Dec. 12	2014	434-5	119	1748
Hot-air-furnace, revertible draft	C. F. A. Röell	804,818	Nov. 14	2509	567-8	119	613
Hot-water bag	L. Allenberg	806,090	Dec. 5	1	1	119	1265
Hub-attaching device	W. D. Walker	804,353	Nov. 14	1602	366	119	412
Hub for spoked wheels. Expansible	H. W. Wurth	805,614	Nov. 28	4193	903	119	1039
Hub for wheels. Elastic	E. Grardel	806,709	Dec. 12	1395	308	119	1611
Hub holding and indexing device	J. A. Kaplan	801,325	Nov. 14	1648	356	119	401
Hub. Metal wheel-	J. J. Burns	808,192	Dec. 26	4193	904	119	2304
Hub. Vehicle-	W. T. Hanna	806,136	Dec. 5	91	19	119	1284
Humidifier	J. Hasé	804,120	Nov. 7	1177	251	119	258
Hydrant	C. L. Howes	807,824	Dec. 19	3446	742	119	2038
Hydraulic jack	W. H. Russell	805,381	Nov. 21	3744	812	119	900
Hydrocarbon-burner	W. H. Thayer	805,593	Nov. 28	4156	895	119	1030
Hydrocarbon-burner	E. Spencer	807,329	Dec. 12	2449	528	119	1840
Hydrocarbon-burner	W. E. McConnell	807,573	Dec. 19	2952	634	119	1989

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Hydrocarbon-burner	B. Q. P. Foss	808,529	Dec. 26	4802	1047	119	2453
Hydrocarbon burners and furnaces. Hot-air appliance for	A. H. Saffell	805,671	Nov. 28	4291	923	119	1059
Hydrocarbon-fluid burner	E. Spencer	807,327	Dec. 12	2447	527	119	1840
Hydrocarbon-fluid burner	E. Spencer	807,328	Dec. 12	2448	527	119	1840
Hydrocarbon-motor	A. A. Low	807,391	Dec. 12	2560	554	119	1867
Hydrosulfite preparations. Making	R. Müller	804,157	Nov. 7	1260	.....	119	277
Ice. Apparatus for freezing plate-	H. Stout	805,590	Nov. 28	4151	894	119	1029
Ice-cream disher	H. A. Keiner and E. C. Williams	803,906	Nov. 7	732	158	119	158
Ice-creeper	P. Stayert	805,165	Nov. 21	3317	719	119	810
Ice-creeper	J. D. Holt	808,370	Dec. 26	4564	983	119	2387
Ice-cutting device	F. Walker	807,521	Dec. 19	2819	606	119	1962
Ice-cutting machine	I. Boyd	804,091	Nov. 7	1128	238	119	247
Ice-helmet	C. W. Meinecke and D. Hogan	805,371	Nov. 21	3724	807	119	896
Ice-melting apparatus	H. C. Reichardt	804,042	Nov. 7	1023	215	119	221
Ice-removing track-clearer	F. M. Bancroft	806,767	Dec. 12	1328	295	119	1595
Identification device	C. R. Williams	805,767	Nov. 28	4476	959	119	1098
Igniting combustible mixtures	L. J. Le Pontois	808,553	Dec. 26	4906	1056-7	119	2461
Ignition device	L. J. Le Pontois	808,551	Dec. 26	4902	1055	119	2461
Illuminated bar	O. T. Burtness	804,209	Nov. 14	1398	297	119	348
Illuminating device	A. Richter	805,879	Nov. 28	4696	1004	119	1147
Illusory device for advertising or amusement	C. T. Bradshaw and O. M. Thomson.	805,117	Nov. 21	3220	690	119	790
Implement. Combination	J. S. Barnes	807,534	Dec. 19	2852	613	119	1969
Implement. Combined	W. H. Ames	805,334	Nov. 21	3660	792	119	882
Incandescent mantle	A. I. Van Vriesland	803,798	Nov. 7	540	118	119	118
Incandescent mantle	D. J. Clark	807,060	Dec. 12	1945	421	119	1734
Incandescent mantles. Machine for manufacturing	J. L. Muller and J. Bonnet	805,930	Nov. 28	4777	1021-2	119	1164
Inclined elevator	J. W. Reno	804,266	Nov. 14	1520	327	119	374
Incubator	R. A. Boyer and F. Kinney	805,444	Nov. 28	3877	838	119	971
Incubator	H. E. Keller	805,970	Nov. 28	4870	1039	119	1186
Incubator	E. Ochsner	805,987	Nov. 28	4896	1044	119	1192
Incubator	H. H. Blackman	806,098	Dec. 5	12	3-4	119	1267
Indicator: *See* Clearance-indicator. Lathe-center indicator. Laundry-indicator. Scale-indicator. Speed-indicator. Station-indicator. Train-order indicator.							
Indicator	F. P. Thomas	805,594	Nov. 28	4157	895	119	1031
Indicator	F. P. Pfleger	807,862	Dec. 19	3515	760	119	2114
Indigo. Brominating	A. Schmidt	807,782	Dec. 19	3367	.....	119	2080
Induction-coil. Pocket	P. Hoffmann	807,464	Dec. 19	2726	587	119	1943
Induction-coils. Apparatus for the manufacture of	L. B. Miller	804,250	Nov. 14	1480	317-18	119	365
Induction-meter	A. J. Frager	808,532	Dec. 26	4868	1048-9	119	2454
Ingots. Apparatus for stripping molds from	C. L. Taylor	806,208	Dec. 5	224	48	119	1314
Ingots. Obtaining sound	P. L. T. Héroult	807,028	Dec. 12	1864	406	119	1715
Ingots. Perfecting cast-steel	R. W. Hunt	805,728	Nov. 28	4400	944	119	1084
Ingots. Perfecting cast-steel	R. W. Hunt	805,729	Nov. 28	4404	944-5	119	1085
Inhaler	W. D. Stearns	806,205	Dec. 5	219	47	119	1313
Injector	G. W. Mason	807,759	Dec. 19	3327	714	119	2071
Injector-burner	L. K. Leahy	805,864	Nov. 28	4653	996	119	1136
Ink-well cover. Dust-proof	J. Kastner, Jr.	806,896	Dec. 12	1608	353	119	1659
Inking-pad and holder therefor	J. F. Ames	807,988	Dec. 19	3758	815	119	2168
Inkstand	F. M. Ashley	805,618	Nov. 28	4202	904	119	1042
Insect-trap	R. Hazelrigg	805,015	Nov. 21	2996	650	119	743
Insect-trap	G. Laube	808,460	Dec. 26	4722	1017	119	2422
Insecticide	A. P. Cromwell	807,249	Dec. 12	2303	.....	119	1808
Instep-support	L. T. J. Lubin	804,242	Nov. 14	1472	314	119	364
Instep-support	G. H. Cummings	808,515	Dec. 26	4827	1040	119	2446
Insulated rail-joint	R. W. Smith	803,793	Nov. 7	532	115-16	119	116
Insulated wire	G. H. Rupley	806,575	Dec. 5	933	207	119	1473
Insulated wire-support	J. A. Sullivan	806,937	Dec. 12	1698	372	119	1679
Insulated wires. Making	G. H. Rupley	806,574	Dec. 5	930	206	119	1473
Insulating and other purposes. Manufacture of materials suitable for	W. R. Whitney and R. C. Robinson.	806,608	Dec. 5	985	.....	119	1484
Insulating-bushing	J. G. Callan	805,260	Nov. 21	3518	759	119	852
Insulating-casing for wire connections	L. A. Kling	807,747	Dec. 19	3308	710-11	119	2067
Insulating electric conductor	I. Kitsee	806,348	Dec. 5	518	113	119	1381
Insulating electric conductors	G. H. Rupley	806,576	Dec. 5	936	.....	119	1474
Insulating electrical conductors	G. H. Rupley	806,577	Dec. 5	937	.....	119	1474
Insulating material	W. L. R. Emmet	803,816	Nov. 7	573	125	119	125
Insulating. Method of	W. S. Moody	806,696	Dec. 5	1163	260	119	1521
Insulator	G. M. Bemis	803,973	Nov. 7	891	187	119	191
Insulator	L. McCarthy	807,307	Dec. 12	2411	519	119	1832
Insulator and wire-clamp	J. F. Taubold	805,169	Nov. 21	3324	720	119	813
Insulator. Composite	L. Steinberger	806,509	Dec. 5	824	181	119	1449
Insulator. Electric strain-	S. L. Foster	805,788	Nov. 28	4511	966	119	1105
Insulator. Electrical	G. W. Goodridge	804,115	Nov. 7	1172	249	119	257
Insulator. Electrical	H. Sinclair	806,588	Dec. 5	952	211	119	1477
Insulator. High-voltage	G. W. Thomas	806,717	Dec. 5	1194	267	119	1529
Insulator-pin	L. Steinberger	805,167	Nov. 21	3320	719	119	811
Insulator-pin	W. T. Goddard	806,987	Dec. 12	1595	349	119	1656
Insulator. Third-rail	S. B. Stewart, Jr.	808,222	Dec. 26	4249	915	119	2318
Internal-combustion engine	J. D. Blaisdell	805,774	Nov. 28	4488	961	119	1100
Internal-combustion engine	E. S. Palmbla	808,210	Dec. 26	4226	909-10	119	2312
Internal-combustion heat-engine	J. L. Bogert	808,336	Dec. 26	4487	964-5	119	2372
Intra-urethral applicator	B. C. Abernethy	806,447	Dec. 5	707	158	119	1425
Invalid-chair and tractor therefor	I. W. Schmidt	806,296	Dec. 5	425	93	119	1361
Invalid's table	C. E. Kemp	805,074	Nov. 21	3141	681	119	773
Iridium. Producing metallic	H. C. Parker	805,316	Nov. 21	3626	.....	119	875
Iron: *See* Chair-iron. Curling-iron. Sad-iron. Smoothing-iron. Tailor's iron.							
Iron-hardening compound	C. A. Burns and C. E. Raab	806,060	Nov. 28	3028	.....	119	1219
Iron into iron or steel. Converting cast-	P. L. T. Héroult	807,026	Dec. 12	1860	.....	119	1714

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Iron oxid for use in blast-furnaces. Preparing	U. Wedge	804,692	Nov. 14	2343	.....	119	553
Iron oxid for use in blast-furnaces. Preparing	U. Wedge	804,693	Nov. 14	2344	.....	119	553
Iron. Producing	R. Bagnaley	805,836	Nov. 28	4503	984	119	1121
Iron-pyrites charge for desulfurizing-furnaces and preparing same.	U. Wedge	804,691	Nov. 14	2342	.....	119	553
Iron pyrites for desulfurization. Preparing	U. Wedge	804,690	Nov. 14	2340	511	119	552
Iron pyrites for desulfurization. Treating	U. Wedge	804,785	Nov. 14	2547	.....	119	602
Ironing and shaping machine. Edge	W. C. Cunningham and W. A. Stebbins.	807,602	Dec. 19	3007	644-5	119	2001
Ironing-board	L. M. Darrow	803,672	Nov. 7	280	61	119	63
Ironing-board	H. Wright	803,954	Nov. 7	840	178	119	180
Ironing-board	D. Messer	804,244	Nov. 14	1475	315	119	364
Ironing-board and step-ladder. Combined	B. F. D. Miller	804,966	Nov. 21	2899	627-8	119	722
Ironing-board-cover clip	W. L. and G. L. Ely	807,447	Dec. 19	2993	581	119	1934
Ironing-machine	R. C. Hollis	804,949	Nov. 21	2858	615	119	714
Ironing the edges of collars and cuffs. Machine for	W. C. Cunningham	804,102	Nov. 7	1147	243-4	119	252
Irrigating-ditches, &c. Fish-screen for	F. B. Morse	807,483	Dec. 19	2752	594	119	1949
Irrigating system	S. P. Mendenhall	806,901	Dec. 12	1617	354	119	1661
Jack:							
See Automobile-jack. Ball-bearing jack. Hydraulic jack. Lifting-jack. Pumping-jack. Rail-jack.							
Jack and truck. Combined	O. F. Landberg	804,015	Nov. 7	959	202	119	205
Jail-door-operating mechanism	W. Dowling	806,960	Dec. 12	1736	381	119	1687
Jar	E. Houghton	805,915	Nov. 28	4758	1017	119	1160
Jar and cover	J. W. Allen	806,232	Dec. 5	275	58	119	1324
Jar, bottle, and other vessel	A. E. Pike	804,338	Nov. 14	1669	360	119	406
Jar cap. Fruit-	W. P. Coldren	803,743	Nov. 7	444	96	119	100
Jar-clamp	S. R. Graves	807,613	Dec. 19	3026	649	119	2005
Jar-closure	T. Beatty	804,574	Nov. 14	2119	463	119	506
Jar-closure	R. Uhl	806,602	Dec. 5	976	216	119	1483
Jar neck and closure	A. Smelker	803,932	Nov. 7	778	167	119	169
Jeweler's case	W. Kahle	805,732	Nov. 28	4412	946	119	1086
Jock-strap	W. F. Ware	808,495	Dec. 26	4795	1033	119	2439
Joint:							
See Ball-and-socket joint. Compass-joint. Electric-conductor joint. Insulated rail-joint. Pipe-joint. Rail-joint. Rail or other joint. Railway-rail joint. Trap-joint. Universal joint.							
Jointer-gage	R. Carson	805,841	Nov. 28	4600	986	119	1122
Joist-hanger	A. Carlson	804,451	Nov. 14	1871	406	119	449
Joist-hangers. Making wrought-metal	J. Craig	807,441	Dec. 19	2686	579	119	1933
Journal-bearing	G. N. Sceets	808,172	Dec. 26	4150	895	119	2295
Journal-bearings. Lubricating	W. Lahey	808,388	Dec. 26	4603	990	119	2396
Journal-box	J. G. Pontious	805,996	Nov. 28	4910	1049	119	1195
Journal-box	M. D. Downs	807,253	Dec. 12	2310	497	119	1810
Journal-box	J. S. Patten	808,573	Dec. 26	4953	1067	119	2471
Journal-box. Car	A. V. Peppard	805,151	Nov. 21	3281	712	119	803
Journal-box dust-guard	G. L. Mansfield	808,292	Dec. 26	4401	947	119	2352
Journal-box lid	J. S. Patten	805,990	Nov. 28	4901	1046	119	1193
Journal-box. Self-oiling	H. W. Hill	804,601	Nov. 14	2170	475	119	516
Journal-box. Self-oiling	C. J. Gustafson	807,374	Dec. 12	2529	547	119	1858
Journal. Interchangeable	J. H. Ostrander	804,030	Nov. 7	998	211	119	215
Journal-lubricator	W. H. Daniels	806,242	Dec. 5	295	62	119	1329
Juices. Treating vegetable	T. von Lewicki	805,081	Nov. 21	3152	.....	119	775
Junction-box	E. T. Greenfield	805,068	Nov. 28	4863	1038	119	1185
Junction-box	E. T. Greenfield	807,262	Dec. 12	2325	501	119	1814
Keg or vessel	E. Moxham	806,170	Dec. 5	162	34	119	1300
Kernel-feeding machine	G. B. Ellingwood	804,459	Nov. 14	1884	409-10	119	453
Kettle	W. S. Michael and A. R. Anderson	806,553	Dec. 5	887	197	119	1464
Kettle. Tea-	W. S. Day	806,243	Dec. 5	296	62	119	1329
Kettledrum	D. M. Wright	805,768	Nov. 28	4477	959-60	119	1099
Key:							
See Ringing-key.							
Key and lighting device. Combined	J. L. Scanlan	807,402	Dec. 12	2589	559	119	1872
Key-guard	W. R. Breniman	804,093	Nov. 7	1132	239	119	248
Key-opening can	J. G. Hodgson	804,844	Nov. 21	2665	574	119	670
Key-ring	A. H. Merrill	803,839	Nov. 7	618	135	119	133
Key-seating device	I. W. Jones	807,174	Dec. 12	2164	465	119	1778
Keyboard for stringed instruments	G. P. Buchanan	808,510	Dec. 26	4817	1038	119	2444
Kiln:							
See Brick-kiln. Cement-burning kiln. Glass-annealing kiln. Rotary kiln.							
Kindling-block	E. Pollard. (Reissue)	12,409	Nov. 21	3851	833	119	923
Kitchen-rack	W. R. Holder	806,893	Dec. 12	1605	352	119	1658
Kitchen-table	C. M. Blanc and W. L. Mitchell	804,089	Nov. 7	1125	237	119	247
Kitchen. Window-	I. M. Thompson	803,938	Nov. 7	794	170	119	172
Knife:							
See Paper-knife. Planer-knife.							
Knife	E. Blomseth	803,978	Nov. 7	899	188	119	193
Knife	J. E. W. Currier	806,400	Dec. 5	618	136	119	1405
Knife-switch	B. M. Graybill	803,895	Nov. 7	714	154	119	154
Knitted fabric	M. J. Shaughnessy	806,926	Dec. 12	1682	369	119	1675
Knitting-machine	E. A. Pigeon	804,549	Nov. 14	2089	452-3	119	496
Knitting-machine	J. E. Rowe	805,670	Nov. 28	4281	922-3	119	1069
Knitting-machine	J. E. Rowe	806,293	Dec. 5	416	91	119	1359
Knitting-machine	J. E. Rowe	806,921	Dec. 12	1661	364-6	119	1671
Knitting-machine	E. Lippitt	808,099	Dec. 26	3987	860	119	2280
Knitting machine. Circular-	F. B. Wildman	805,612	Nov. 28	4186	902-3	119	1037
Knitting-machine. Dial	W. Stafford and R. C. Holt	808,121	Dec. 26	4033	868	119	2271
Knitting-machine latch-needle	C. J. Sibbald and D. A. Vance	807,210	Dec. 12	2234	480	119	1794
Knitting-machines. Electric stop-motion for	A. L. Patterson	808,475	Dec. 26	4748	1023	119	2428
Knob for locks and latches	H. G. Voight	806,854	Dec. 12	1509	332	119	1638
Knob-lock	O. C. Call	807,808	Dec. 19	3418	735	119	2091

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Knockdown or collapsible box	W. E. Brown	806,058	Nov. 28	5025	1070–1	119	1219
Label-attaching machine	G. C. Siem	805,428	Nov. 21	3836	829–30	119	920
Labels or stickers in fillet form. Automatic machine for feeding, moistening, and cutting	J. D. Humphrey	807,467	Dec. 19	2729	588	119	1944
Labeling-machine	C. Otting	804,168	Nov. 7	1283	273–4	119	283
Labeling-machine	J. B. Aufuldish	805,832	Nov. 28	4583	982	119	1119
Lace-fastener	J. B. Hall	805,852	Nov. 28	4634	991	119	1129
Lacing	A. Schoshusen	805,385	Nov. 21	3753	813	119	902
Lacing-hook holder	J. C. Telfer	807,516	Dec. 19	2809	604	119	1960
Lacing-loop	G. W. Prentice	805,582	Nov. 28	4141	891	119	1027
Lacing-tip-forming die	A. T. Parker	805,578	Nov. 28	4125	889	119	1024
Lacquer or varnish. Compound suitable as	L. Lederer	804,960	Nov. 21	2875	.....	119	718
Lactic mordant	A. A. Claflin	807,019	Dec. 12	1844	.....	119	1712
Ladder	E. G. Mitchell	806,693	Dec. 5	1157	259	119	1520
Ladder	T. W. Saling and J. McKiel	806,922	Dec. 12	1671	366	119	1673
Ladder-bracket. Swinging	R. W. Spencer	804,895	Nov. 21	2769	598	119	693
Ladder foot-clamp	B. P. Hogan	805,422	Nov. 21	3825	826	119	918
Ladder. Mobile step-	J. S. Padon	808,252	Dec. 26	4306	925–6	119	2331
Ladder or perch	R. J. Stoker and S. Hubbell	806,597	Dec. 5	967	215	119	1480
Ladder platform attachment	G. A. Milbradt	806,162	Dec. 5	144	30	119	1296
Ladder. Propped	M. M. Rouse	806,501	Dec. 5	810	178	119	1447
Ladder. Step-	F. Pfeifer and T. G. Steele	803,783	Nov. 7	517	112	119	113
Ladder. Step-	A. Daugherty	805,529	Nov. 28	4037	871	119	1006
Ladder. Step-	M. W. Reed	806,915	Dec. 12	1648	361	119	1669
Ladder. Step-	J. S. Tilley	808,124	Dec. 26	4040	869	119	2273
Lamp	R. M. Dixon	803,884	Nov. 7	692	151	119	149
Lamp	W. S. Hamm and J. A. Mosher	805,722	Nov. 28	4392	942	119	1082
Lamp	E. C. Everett	806,879	Dec. 12	1575	344	119	1653
Lamp	W. O. Nelson	805,996	Nov. 28	4893	1044	119	1191
Lamp. Acetylene-gas-generator	W. N. Roberts and H. B. Mathews	807,868	Dec. 19	3528	763	119	2117
Lamp and lantern holder	H. Salsbury	808,480	Dec. 26	4767	1026	119	2432
Lamp-bracket	R. E. Davis	804,387	Nov. 14	1754	379	119	426
Lamp bulbs. Locking device for incandescent-	F. J. Lander	807,474	Dec. 19	2740	591	119	1946
Lamp-burner	R. H. Maple	807,838	Dec. 19	3472	749	119	2102
Lamp-burner	E. Ross and J. A. Boyles	807,869	Dec. 19	3529	763	119	2117
Lamp-burner	G. L. Patterson	807,860	Dec. 19	3510	759	119	2113
Lamp contact. Electric-hand-	F. E. Kinsman	805,558	Nov. 28	4095	883	119	1018
Lamp. Desk-	E. Thomson	805,248	Nov. 21	3489	754	119	845
Lamp. Electric	W. R. Ridings	805,322	Nov. 21	3635	785–6	119	876
Lamp. Electric-arc	G. K. Hartung	808,085	Dec. 26	3945	853	119	2251
Lamp. Electric glow-	N. Loewenstein	807,296	Dec. 12	2397	515	119	1828
Lamp for autos and other vehicles and purposes	T. Craig and W. S. McLewee	805,637	Nov. 28	4235	910	119	1049
Lamp. Gas-	T. G. Luson	808,290	Dec. 26	4391	945	119	2349
Lamp globes and shades. Set-screw for	J. H. Thompson	807,336	Dec. 12	2462	530	119	1844
Lamp-hanger. Adjustable	H. P. Wellman	807,796	Dec. 19	3392	728–9	119	2086
Lamp. Headlight-	H. T. Hyatt	805,554	Nov. 28	4086	882	119	1016
Lamp-heater	G. Germani	805,282	Nov. 21	3565	771	119	864
Lamp. Incandescent	R. and G. H. Gerow	805,131	Nov. 21	3249	704	119	796
Lamp. Incandescent electric	J. C. Wormley	806,723	Dec. 5	1214	271	119	1532
Lamp. Incandescent electric	H. B. Cox	808,513	Dec. 26	4824	1039	119	2445
Lamp. Incandescent gas-	H. Jacobs	806,257	Dec. 5	323	70	119	1335
Lamp. Incandescent oil-	E. E. Flora. (Reissue)	12,415	Dec. 5	1303	290	119	1551
Lamp. Incandescent oil-	C. Reiss	806,428	Dec. 5	667	146–7	119	1416
Lamp. Inverted	C. M. Lungren	803,913	Nov. 7	745	161	119	162
Lamp mantles. Means of suspending incandescent-	C. M. Lungren	803,914	Nov. 7	748	161	119	162
Lamp mantles. Means of suspending incandescent-	D. E. Herron	804,659	Nov. 14	2275	499	119	538
Lamp. Miner's	E. C. Geissberger	805,194	Nov. 21	3374	731	119	822
Lamp or headlight for vehicles	J. H. Goehst	806,409	Dec. 5	633	138	119	1408
Lamp. Portable electric	W. S. McLewee	805,661	Nov. 28	4273	920	119	1057
Lamp. Regenerative gas-	T. H. Joseph and J. J. Ehrenreich	808,381	Dec. 26	4583	987	119	2391
Lamp-shade holder. Electric-	J. H. Dale	803,883	Nov. 7	691	150	119	149
Lamp-shade holder. Incandescent-	J. J. Hartley	805,287	Nov. 21	3571	772	119	864
Lamp socket. Incandescent-	T. W. Hunt	808,053	Dec. 19	3877	839	119	2194
Lamp. Time-controlled	H. L. Getz	803,819	Nov. 7	577	126–7	119	125
Lamps. Bracket-arm for incandescent electric	H. W. Gremmels	807,671	Dec. 19	3143	675	119	2034
Lamps. Combined socket and plug for incandescent	L. Rabinoff	808,215	Dec. 26	4235	911	119	2315
Lamps. Fuel-saving attachment for incandescent	D. C. Kline	803,602	Nov. 7	153	34	119	35
Lamps. Globe-lift for wall-	G. Wegelin	807,646	Dec. 19	3091	665	119	2021
Lampblack-making apparatus	D. A. Savage	804,625	Nov. 14	2210	483	119	524
Land-leveler	C. Malmo	806,688	Dec. 5	1147	256	119	1518
Lantern attachment	M. D. Lewis	805,145	Nov. 21	3271	709	119	800
Lantern-bracket	W. S. Hamm	805,951	Nov. 28	4825	1030	119	1176
Lanterns. Wick-raising attachment for	J. N. Humphreys	804,129	Nov. 7	1194	254	119	252
Lard compounds. Apparatus for bleaching	G. Engelhardt and C. F. Fölsch	807,917	Dec. 19	3640	789	119	2142
Last	W. G. Flexon	803,818	Nov. 7	576	126	119	125
Last. Darning-	A. Lorant	805,477	Nov. 28	3934	.....	119	964
Lasts. Manufacturing boot and shoe	W. O. Boykin	806,054	Nov. 28	5015	1069	119	1217
Latch	J. S. Johnson	808,376	Dec. 26	4574	983	119	2389
Latch attachment. Door-	J. Roche	806,003	Nov. 28	4923	1051	119	1197
Latch. Cylinder night-	J. H. Snyder	805,937	Nov. 28	4802	1024	119	1170
Latch. Gate-	A. F. Henrikson	807,555	Dec. 19	2895	624	119	1977
Lathe-center indicator	C. J. Dalley	805,715	Nov. 28	4330	939	119	1080
Lathe center. Turning-	W. H. Lucas	808,057	Dec. 19	3881	840–1	119	2196
Lathe. Crank-shaft	L. Boisard	804,575	Nov. 14	2120	463	119	505
Lathe. Cutting-	N. D. Chard and W. Lodge	804,793	Nov. 14	2562	559	119	605
Lathe gage device	A. Schuermann	806,996	Dec. 12	1706	394–5	119	1701
Lathe. Screw-cutting	H. S. Johnson	804,131	Nov. 7	1196	255	119	262
Lathe steady-rest	F. R. Inman	805,730	Nov. 28	4407	945	119	1065
Lathe. Wood-turning	P. Diamond	804,798	Nov. 14	2568	560	119	606
Laundry-blue distributer	J. F. Palmer	805,988	Nov. 28	4897	1044	119	1192
Laundry-indicator	H. Hamilton	806,341	Dec. 5	505	111	119	1378
Lawn-sprinkler	A. G. Betts	803,544	Nov. 7	30	8	119	9
Lead by electrolysis. Apparatus for refining	G. D. Coleman	808,141	Dec. 26	4078	878	119	2280
Lead hydrate. Making	W. T. and A. A. Gibbs	808,445	Dec. 26	4690	1011	119	2414
Leaded light	J. P. Hanson	807,739	Dec. 19	3295	708	119	2064
Leak-stopping gland							

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Leather and other fibrous material. Machine and apparatus for dying out	H. C. Gros	807,672	Dec. 19	3144	675	119	2034
Leather and rubber bodies. Article of manufacture comprising	C. L. Ireson	804,850	Nov. 21	2689	583	119	676
Leather and rubber. Vulcanizing	C. L. Ireson	804,854	Nov. 21	2694	584	119	676
Leather for the manufacture of boots and shoes. Machine for bending and stretching	P. Cousin	806,113	Dec. 5	41	9–10	119	1274
Leather used for making power-belts. Machine for stretching	E. L. Post. (Reissue)	12,417	Dec. 12	2637	570	119	1884
Ledger. Loose-leaf individual or general bank-	M. P. Exline and E. Bourke	804,713	Nov. 14	2389	521-2	119	564
Ledgers, account-books, record-books, files, &c. Lock for the adjustable backs of loose-leafed	A. D. Hulquist	807,557	Dec. 19	2903	624	119	1979
Leg. Artificial	J. Bunderle	804,207	Nov. 14	1395	296	119	345
Leg. Artificial	J. T. Apgar	807,427	Dec. 19	2665	574	119	1929
Legging and sock. Combined	A. H. and L. M. Switzer	806,939	Dec. 12	1700	373	119	1679
Lemon-juice extractor	E. L. Nickell	806,279	Dec. 5	377	83	119	1348
Lens. Bifocal	L. Bell	805,438	Nov. 28	3868	836	119	970
Lens-clamping device	J. H. Starbuck	803,794	Nov. 7	533	116	119	117
Lens-drilling machine	G. H. Day	807,064	Dec. 12	1951	422	119	1735
Lens-holder	H. S. Mills	806,423	Dec. 5	659	145	119	1414
Lens-mounting	F. A. Hardy	805,541	Nov. 28	4057	877	119	1010
Lenses. Manufacturing liquid	C. Mayering	807,300	Dec. 12	2402	.....	119	1830
Letter-opener	G. W. Simmons	806,928	Dec. 12	1696	370	119	1676
Lettering-guide	C. H. Wilson and F. Maculen	808,422	Dec. 26	4651	1001	119	2407
Level	A. F. McDowell	806,987	Dec. 12	1782	391	119	1698
Level	R. W. Hunter and L. Callahan	808,372	Dec. 26	4567	983	119	2388
Level. Adjustable spirit-	A. C. Brundage	804,792	Nov. 14	2561	559	119	605
Level, grade, distance, and elevation finder. Combined	C. B. Barclay	807,992	Dec. 19	3765	817	119	2170
Level. Spirit-	T. O. Sharp	807,873	Dec. 19	3550	769	119	2120
Leveling instrument	E. M. Low	803,770	Nov. 7	493	107	119	109
Lever. Breech-block-operating	G. Gerdom	807,549	Dec. 19	2887	621	119	1975
Life-preserver	W. H. Humphrey	803,828	Nov. 7	592	131	119	128
Life-preserver	W. N. Morrison	804,757	Nov. 14	2495	545	119	589
Life-preserver	J. E. Gagné	806,250	Dec. 5	307	65	119	1332
Life-preserver	L. L. Smith	807,583	Dec. 19	2975	639	119	1995
Lifter: *See* Plate-lifter. Store-goods lifter. Transom-lifter. Wagon-body lifter.							
Lifting-jack	C. E. Roth	804,052	Nov. 7	1048	221	119	227
Lifting-jack	C. M. Sawyer	804,771	Nov. 14	2513	550	119	594
Lifting-jack	A. J. Slonecker	807,511	Dec. 19	2800	602	119	1959
Lifting-jack	F. L. Gormley	808,041	Dec. 19	3848	833	119	2188
Lifting-jack	F. Gardisky	808,535	Dec. 26	4877	1050	119	2456
Ligatures, &c. Container for	F. Evans	805,948	Nov. 28	4822	1029	119	1175
Light: *See* Leaded light. Skylight.							
Light-box	C. M. Olin	804,163	Nov. 7	1273	271	119	280
Lighter. Automatic	A. R. Weisz	808,128	Dec. 26	4046	870	119	2274
Lightning-arrester	A. J. Berry	805,439	Nov. 28	3871	836	119	970
Lightning-arrester	E. S. Moorer	807,847	Dec. 19	3401	753	119	2108
Limb appliance	A. M. Valentine	807,098	Dec. 12	2021	435	119	1750
Limb. Artificial	H. J. Morris	803,922	Nov. 7	763	164	119	166
Lime. Hydrating	J. G. Jones	803,904	Nov. 7	729	157	119	157
Lime. Hydrating	C. Ellis	807,609	Dec. 19	3019	647	119	2004
Line-casting machine	F C. Lucke d'Aix	807,566	Dec. 19	2940	631-2	119	1987
Line-guide	E. F. Buch	806,102	Dec. 5	19	5	119	1269
Link. Detachable	W. A. Parrish	804,879	Nov. 21	2741	593	119	686
Link. Releasable	R. C. Smith	804,273	Nov. 14	1532	330	119	376
Linotype-machine	J. R. Rogers	803,928	Nov. 7	771	165-6	119	167
Linotype-machine	P. T. Dodge	803,996	Nov. 7	929	195-6	119	199
Linotype-machine	D. Petri-Palmedo	805,992	Nov. 28	4904	1047	119	1194
Linotype-machine	P. T. Dodge	806,070	Nov. 28	5051	1076	119	1223
Linotype-machine	L. L. Kennedy	807,282	Dec. 12	2359	508	119	1820
Liquid-agitator	A. Good	805,458	Nov. 28	3900	844	119	976
Liquid-cooler	H. G. Cordley	806,112	Dec. 5	39	9	119	1273
Liquid-discharging tank	T. L. Smith	803,722	Nov. 7	415	89	119	93
Liquid-distributer	J. Raidl	804,767	Nov. 14	2509	549	119	592
Liquid-feeding device	M. B. Rosenstock	806,844	Dec. 12	1453	328	119	1632
Liquid-fuel storing and delivering system	C. J. Campbell and T. F. Hall	806,634	Dec. 5	1028	228	119	1493
Liquid-meter	W. Hagspiel	806,541	Dec. 5	869	193	119	1460
Liquid purifying, sterilizing, and aging apparatus	R. C. Turner. (Reissue)	12,421	Dec. 12	2650	572	119	1887
Liquid-separator. Centrifugal	C. M. Ketcham	808,092	Dec. 26	3968	857	119	2256
Liquid-vaporizing device	A. Hayes	806,139	Dec. 5	95	20	119	1285
Liquids. Biological purification of	W. P. Dunbar	807,667	Dec. 19	3135	673	119	2032
Lixiviation. Apparatus for	A. W. Constans	805,635	Nov. 28	4229	909	119	1047
Load-binder	W. E. Kempton	804,863	Nov. 21	2714	586	119	660
Loader	J. C. Mire	804,026	Nov. 7	985	208	119	211
Loader	W. H. Ericsson	804,525	Nov. 14	2023	440	119	486
Loading device	B. A. Foust	808,357	Dec. 26	4538	976	119	2382
Loading-machine	W. E. Hamilton	806,803	Dec. 12	1402	309	119	1612
Loading-machine	W. E. Hamilton	806,804	Dec. 12	1407	310-11	119	1613
Loading machines upon trucks. Device for	A. Holdren	805,796	Nov. 28	4521	968	119	1107
Lock: *See* Binder-lock. Car-door lock. Combination-lock. Door-lock. Gravity-lock. Knob-lock. Nut-lock. Padlock. Pin-tumbler lock. Sash-lock. Spike-lock. Table-lock. Time-lock. Traveling-case lock. Umbrella-lock.							
Lock	G. K. Glenn	804,113	Nov. 7	1168	240	119	257
Lock	L. Faust and F. G. Hogland	804,835	Nov. 21	2653	575	119	667
Lock	F. J. Vieweg	805,687	Nov. 28	4311	928	119	1064

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Lock alarm mechanism	J. R. Wellette	807,704	Dec. 19	3208	689	119	2046
Lock and latch operating mechanism	C. J. Caley	806,776	Dec. 12	1353	299	119	1602
Lock for nuts and bolts and the like	D. Marshall	806,156	Dec. 5	131	27	119	1293
Lock mechanism	C. J. Caley	806,775	Dec. 12	1352	299	119	1602
Lock tumbler. Combination-	W. H. Taylor	805,103	Nov. 21	3191	692	119	784
Locks. Spindle-bearing for combination-	R. C. Lewis	805,021	Nov. 21	3009	653	119	746
Locks to doors. Means for attaching dial-	W. H. Taylor	805,039	Nov. 21	3049	662	119	755
Locking device	S. W. Bonsall	806,188	Dec. 26	4183	901	119	2302
Locking device. Multiple-bolt	T. H. Bauer	806,768	Dec. 12	1330	296	119	1599
Locomotive	H. Reid and D. M. Ramsay	805,999	Nov. 28	4914	1049–50	119	1195
Locomotive	C. W. Paget	806,178	Dec. 5	172	37	119	1303
Locomotive-boiler	S. A. Reeve	803,788	Nov. 7	524	114	119	115
Locomotive-boiler	J. A. Welton	804,286	Nov. 14	1558	336	119	382
Locomotive. Compound	F. W. A. von Borries	803,981	Nov. 7	903	190	119	193
Locomotive fire-box	J. Nilseon	807,855	Dec. 19	3503	757–8	119	2111
Locomotive-pedestals. Locking wedge-bolts on	G. W. Wear	808,127	Dec. 26	4045	869	119	2274
Locomotive-tender	W. P. Scherer	806,436	Dec. 5	681	151	119	1419
Logging apparatus	W. Earnest	806,246	Dec. 5	301	64	119	1330
Logotype-machine	J. R. Rogers	804,049	Nov. 7	1039	219	119	225
Logotype-machine	J. R. Rogers	804,050	Nov. 7	1040	219–21	119	225
Loom	C. Renger	805,751	Nov. 28	4443	953	119	1092
Loom	H. Wyman	806,726	Dec. 5	1220	273–4	119	1533
Loom beaming-machine	H. Garnett	806,335	Dec. 5	495	108	119	1376
Loom controlling means	W. F. Draper and C. F. Roper	805,350	Nov. 21	3685	797–8	119	887
Loom-controlling mechanism	W. Donner	806,120	Dec. 5	54	12	119	1277
Loom electric stop-motion mechanism	J. B. Whitney	808,416	Dec. 26	4643	999	119	2404
Loom electric stop-motion mechanism	J. B. Whitney	808,417	Dec. 26	4644	1000	119	2405
Loom electric stop-motion mechanism	J. B. Whitney	808,418	Dec. 26	4645	1000	119	2405
Loom. Filling-replenishing	A. E. Stafford	805,497	Nov. 28	3966	858	119	990
Loom for weaving	A. Tcherniack	807,791	Dec. 19	3382	725–7	119	2083
Loom for weaving double-pile fabrics	G. Zimermann	806,729	Dec. 5	1228	274	119	1535
Loom for weaving pile fabrics	A. Heald	804,123	Nov. 7	1180	252	119	259
Loom for weaving pile fabrics	H. A. Foster	804,309	Nov. 14	1607	347–9	119	392
Loom jacquard mechanism	H. Gerber	803,801	Nov. 7	707	153	119	153
Loom. Lappet-	A. A. Gordon, Jr., and A. Morell	807,070	Dec. 12	1962	424	119	1737
Loom let-off mechanism	T. A. B. Carver	807,721	Dec. 19	3242	695	119	2054
Loom. Narrow-ware	A. and S. Widmer	807,524	Dec. 19	2825	607	119	1963
Loom pattern-chain mechanism	B. F. McGuiness	803,844	Nov. 7	625	136	119	135
Loom pattern mechanism	E. H. Ryon	805,756	Nov. 28	4456	956	119	1095
Loom shuttle-box motion	H. Bardsley	803,869	Nov. 7	664	145–6	119	143
Loom-shuttle. Self-threading	H. A. Kennedy	805,861	Nov. 28	4647	995	119	1134
Loom. Swivel-	H. Ledoux	807,081	Dec. 12	1978	428–9	119	1740
Loom take-up mechanism	C. F. Roper	807,580	Dec. 19	2963	637	119	1992
Loom warp stop-motion	H. Wyman	806,725	Dec. 5	1216	272	119	1532
Loom. Weft-replenishing	H. Wyman	805,109	Nov. 21	3203	695–6	119	787
Looms. Crack-preventing means for	A. M. Marcoux	804,964	Nov. 21	2896	626–7	119	721
Looms. Crack-preventing means for	C. F. Roper	804,981	Nov. 21	2927	635	119	728
Looms. Filling-exhaustion-indicating mechanism for	E. S. Wood and J. Northrop	803,654	Nov. 7	243	53	119	51
Looms. Glass-bar bracket for double-decker	O. W. Schaum	807,206	Dec. 12	2228	479	119	1793
Looms. Trailing filling-end clearer for	W. F. Draper and J. Northrop	808,146	Dec. 26	4087	881	119	2282
Looms. Under-whip pick-motion for	J. S. Ainley	807,054	Dec. 12	1934	417	119	1732
Lubricant-receiving devices for driven parts. Manufacturing	W. J. Reid	806,569	Dec. 5	921	204	119	1471
Lubricating compound	C. Comstock	804,455	Nov. 14	1879	.....	119	452
Lubricating device	B. F. Campbell and J. E. Coates	804,377	Nov. 14	1737	375	119	422
Lubricating engine-trucks and driving-journals. Apparatus for	J. Fridgen	806,130	Dec. 5	80	17	119	1282
Lubricating system	C. H. Treat	804,988	Nov. 21	2952	641	119	734
Lubrication system	W. B. Featherstone	804,937	Nov. 21	2837	611	119	709
Lubricator: *See* Automatic lubricator. Engine-lubricator. Journal-lubricator. Pile-wire lubricator. Pulley-lubricator. Sprocket-wheel lubricator.							
Lubricator	F. W. Leidecker	803,609	Nov. 7	166	37	119	37
Lubricator	J. T. Pedersen	804,033	Nov. 7	1003	212	119	216
Lubricator	G. W. Brown	804,203	Nov. 14	1391	295	119	347
Lubricator	C. Comstock	804,454	Nov. 14	1875	407	119	450
Lubricator	H. H. Lytle and E. D. Cawley	804,612	Nov. 14	2185	479	119	519
Lubricator	H. Heck and W. M. Simmons	804,948	Nov. 21	2856	615	119	714
Lubricator	A. L. Matteson	806,421	Dec. 5	654	143–4	119	1413
Lubricator	T. F. Morse	807,848	Dec. 19	3492	754	119	2109
Lubricator	J. Trotter	807,883	Dec. 19	3569	772	119	2124
Lubricator attachment	W. C. Schulz	806,198	Dec. 5	206	44	119	1310
Lubricator attachment	F. Anderson	806,514	Dec. 5	832	183	119	1451
Lumber-graining machine	H. Silver	805,100	Nov. 21	3185	690	119	783
Lumber-unloading mechanism	J. M. Ferriss, Jr	808,527	Dec. 26	4857	1046	119	2451
Macadam and preparing same. Tar	E. P. Hooley	803,902	Nov. 7	726	156	119	157
Machine-support	W. L. Rutan	804,884	Nov. 21	2751	594	119	680
Magnetic blow-out switch	C. E. Carpenter	806,733	Dec. 5	1238	276	119	1537
Magnetic separator	H. E. Heath	805,289	Nov. 21	3577	773	119	866
Mail-bag catcher	P. S. Perry	801,035	Nov. 7	1011	212–13	119	218
Mail-bag catcher	R. M. Reay and M. Lally	805,319	Nov. 21	3630	784–5	119	875
Mail-bag crane	W. Davidson	806,874	Dec. 12	1563	342	119	1650
Mail-box	W. O. Dresser	805,351	Nov. 21	3691	798–9	119	888
Mail-box	Z. D. Tallman	805,759	Nov. 28	4463	957	119	1096
Mail-box	H. H. Wiltfong	806,385	Dec. 5	581	128	119	1396
Mail-box	H. H. Mowers, C. W. Busick, and J. C. Stratton.	807,764	Dec. 19	3333	715	119	2072
Mail-box-delivery device	W. M. Shelton, C. B. Manning, and E. R. Cheney.	806,505	Dec. 5	816	180	119	1448
Mail-box fastener	E. F. Wallace	807,888	Dec. 19	3578	773	119	2127
Mail-crane	S. B. Forman	805,278	Nov. 21	3550	769	119	862
Mail-crane	B. F. Myers	807,849	Dec. 19	3493	754	119	2109
Mail-delivering crane	C. E. Teeter	808,317	Dec. 26	4451	958	119	2363
Mail-delivery apparatus	B. W. Harris	803,909	Nov. 7	721	155–6	119	155

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Mail-distributing apparatus	W. Barry	803,968	Nov. 7	860	183-5	119	185
Mail-distributing rack	G. Thomas and J. S. Creech	808,318	Dec. 26	4453	958-9	119	2364
Mail-marking machine	J. B. Young	803,955	Nov. 7	841	178	119	180
Mailing-card. Souvenir	L. Braun	806,631	Dec. 5	1023	227	119	1492
Malt decoctions. Producing tasteless roasted	M. Weyermann	805,607	Nov. 28	4176	.....	119	1035
Malting apparatus	J. F. Dornfeld	803,675	Nov. 7	288	62-3	119	64
Malting-drum. Pneumatic	F. B. Giesler	805,356	Nov. 21	3702	801-2	119	891
Mandrel	G. W. Gomber	805,011	Nov. 21	2987	648-9	119	742
Mandrel. Lathe-	C. J. Reed	808,257	Dec. 26	4313	927	119	2332
Mangles. Apron-guide for	P. E. Bradley	804,578	Nov. 14	2130	466	119	508
Manhole-cover	H. Wilhelm	805,397	Nov. 21	3774	817	119	907
Mantle-hanger	D. J. Clark	807,061	Dec. 12	1946	421	119	1734
Manure-carrier	D. B. Cherry	805,842	Nov. 28	4602	986	119	1122
Manure-spreader	J. Haish	805,199	Nov. 21	3384	734	119	825
Manure-spreader	L. Kniffen	807,622	Dec. 19	3041	652	119	2010
Manure-spreader. Detachable	L. E. Francis	804,003	Nov. 7	939	198	119	201
Map-case	E. G. Dann	807,605	Dec. 19	3012	645	119	2002
Map-hanger	J. J. O'Leary	806,426	Dec. 5	664	146	119	1415
Marking or tracing device	P. F. Limacher	803,767	Nov. 7	489	106	119	108
Masonry. Waterproofed	F. N. Pease	805,745	Nov. 28	4437	951	119	1091
Massaging implement	A. U. Patchen	803,708	Nov. 7	370	78	119	84
Mat: *See* Metallic mat. Table-mat.							
Match-box	M. B. Keller	807,281	Dec. 12	2357	508	119	1820
Match-boxing machine	W. H. Parker	806,486	Dec. 5	783	173	119	1440
Match-boxing machine	W. H. Parker	806,487	Dec. 5	785	173-4	119	1440
Match-lighter	H. A. Barnum and J. G. Harris	808,136	Dec. 26	4071	876	119	2279
Match making and boxing machine	G. A. Barnes	803,538	Nov. 7	8	2-7	119	4
Match-making machine	L. Cobbaert	804,383	Nov. 14	1746	377-8	119	424
Match-making machine	A. Kelley	806,813	Dec. 12	1424	314	119	1618
Match-package	J. A. E. Criswell	805,121	Nov. 21	3229	700	119	792
Match-safe	K. Naab	807,190	Dec. 12	2196	471	119	1785
Match-splint cutting and sticking machine	W. E. Williams	803,649	Nov. 7	235	51-2	119	52
Matrices. Standardizing or measuring machine for	F. H. Pierpont	808,112	Dec. 26	4014	863-5	119	2267
Matrix-blank-making machine	L. Quanchi. (Reissue)	12,416	Dec. 5	1306	290	119	1552
Matrix former. Approximal-	R. M. Chase	804,099	Nov 7	1142	242	119	251
Matrix-making machine	A. H. Cruse	804,829	Nov. 21	2637	573	119	664
Matrix-making machine	A. H. Cruse	804,830	Nov. 21	2639	573	119	664
Matte. Converting	R. Baggaley and C. M. Allen	806,045	Nov. 28	4993	1065-6	119	1213
Matte. Converting	R. Baggaley and C. M. Allen	806,046	Nov. 28	4998	1066	119	1214
Mattress-fastening device	D. I. Tompkins	805,330	Nov. 21	3656	790	119	881
Mattress. Sanitary wool bed-	N. J. Walls	804,354	Nov. 14	1693	367	119	412
Mattress. Spring-	F. J. Maier	804,020	Nov. 7	974	206	119	209
Mattress. Wire	J. R. Cardwell	808,340	Dec. 26	4496	966	119	2373
Mattresses on bed-frames. Means for supporting	P. J. Leyendecker	807,389	Dec. 12	2567	554	119	1866
Measure. Automatic liquid-	T. A. Davis	808,020	Dec. 19	3816	827	119	2180
Measurements. Instrument for linear	G. Gossa	806,971	Dec. 12	1759	386	119	1692
Measurements. Instrument for making electrical	J. A. Fleming	804,190	Nov. 7	1332	285	119	294
Measuring and recording instrument. Automatic electrical	P. Raschorn	807,774	Dec. 19	3350	719	119	2076
Measuring device for corsets	E. P. Follett	808,233	Dec. 26	4274	919	119	2324
Measuring device for shoe-lasts and foot-coverings	G. Engelhardt and C. F. Fölsch	806,531	Dec. 5	856	190	119	1457
Measuring instrument	E. Schattner	808,259	Dec. 26	4315	928	119	2333
Measuring instrument. Electrical	E. F. Northrup	806,560	Dec. 5	899	199-200	119	1466
Measuring instruments. Casing and terminal block for electrical	W. M. Bradshaw	807,434	Dec. 19	2877	577	119	1931
Measuring machine. Rope-	H. P. James	804,857	Nov. 21	2697	584	119	677
Measuring the length of electric waves. Apparatus for	J. A. Fleming	804,189	Nov. 7	1329	285	119	293
Measuring vessel for liquids	H. C. Dehn	807,665	Dec. 19	3130	672	119	2031
Meats, &c. Apparatus for processing	H. C. Gardner	807,162	Dec. 12	2142	450-61	119	1774
Meats. Preserving	E. Tilden	807,142	Dec. 12	2108	453	119	1767
Mechanical movement	A. Dina	803,565	Nov. 7	68	18	119	16
Mechanical movement	J. W. Crist	804,828	Nov. 21	2635	512-13	119	663
Mechanical movement	J. Dietz	805,006	Nov. 21	2982	647	119	741
Mechanical movement	E. M. Patten	808,253	Dec. 26	4308	926	119	2331
Mechanical movement	F. H. Richards	808,404	Dec. 26	4624	996	119	2401
Medical-powder application	D. W. Rees	806,188	Dec. 5	192	41	119	1307
Medical use. Vibrator for	D. T. Marshall	807,299	Dec. 12	2401	517	119	1829
Medicinal injector	N. [illegible]. Goldfarb	805,851	Nov. 28	4624	991	119	1129
Medicines or other substances. Holder for	V[illegible]nd C. Driskell	808,520	Dec. 26	4845	1043	119	2449
Mercury and amalgam separator	H. J. Horstmann	807,620	Dec. 19	3039	651	119	2009
Metal-and-concrete construction	C. L. Raymond	803,852	Nov. 7	637	139	119	137
Metal blooms, billets, or slabs. Apparatus for marking	G. E. McCaffrey	807,850	Dec. 19	3495	754	119	2109
Metal-cutting shears	J. C. Burgess	804,579	Nov. 14	2132	466	119	508
Metal fabric for use in concrete and other purposes	J. F. Golding	808,039	Dec. 19	3843	832	119	2187
Metal-forming presses. Cut-off attachment for	D. T. Graham	806,133	Dec. 5	86	18	119	1283
Metal-leaching	T. B. Joseph	805,017	Nov. 21	2998	.....	119	744
Metal machine. Expanded-	F. H. Pitkin	806,912	Dec. 12	1637	357-60	119	1666
Metal matrices. Separating the galvanoplastic deposits from	E. Albert	808,331	Dec. 26	4479	.....	119	2369
Metal screen	G. F. Cramer	808,017	Dec. 19	3810	826	119	2179
Metal-sheet-corrugating machine	G. C. Witt	804,512	Nov. 14	1996	436	119	479
Metal tube	E. T. Greenfield	807,264	Dec. 12	2328	501	119	1814
Metal tubes, rods, and the like. Apparatus for bending	W. Kennedy	804,732	Nov. 14	2422	529	119	572
Metal-working machines. Speed-changing mechanism for	L. S. Burbank	807,014	Dec. 12	1830	400-1	119	1708
Metals from their sulfids. Extracting	A. H. Imbert	807,271	Dec. 12	2339	503-4	119	1817
Metals. Galvanizing	G. L. Meaker	808,103	Dec. 26	3995	.....	119	2263
Metals. Separation of	N. V. Hybinette	805,969	Nov. 28	4865	1038	119	1185
Metallic articles. Covering	E. Kempshall	805,470	Nov. 28	3922	848	119	981
Metallic box	W. R. Dodd	805,454	Nov. 28	3895	843	119	975
Metallic case. Foldable	J. P. Brady	806,458	Dec. 5	730	164	119	1429
Metallic mat	G. C. Sleeth	805,823	Nov. 28	4568	979	119	1115
Metallic mat	P. J. Shrum	806,754	Dec. 5	1289	286	119	1548

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Metallurgical furnace	G. H. Benjamin	808,187	Dec. 26	4181	900–1	119	2301
Metallurgical process	W. E. Everette	804,936	Nov. 21	2836	.....	119	709
Meter: *See* Electrical meter. Electricity-meter. Electrolytic meter. Gas-meter. Induction-meter. Liquid-meter. Multirate meter. Prepayment-meter. Rotary meter. Water-meter.							
Meter	G. H. Fristoe	808,150	Dec. 26	4096	882	119	2284
Meters. Device for use in connection with velocity-	E. S. Cole	803,880	Nov. 7	685	149	119	147
Metronome	L. Aurnhammer	805,436	Nov. 28	3865	835	119	969
Micrometer	F. G. Marbach	805,480	Nov. 28	3938	851	119	984
Milk-can	H. Wehrhahn	808,326	Dec. 26	4474	961	119	2368
Milk-cooler	P. L. Stein	803,636	Nov. 7	212	47	119	47
Milk-heater	H. J. Grell	804,396	Nov. 14	1766	383	119	429
Milk of lime. Preparing and feeding	J. F. Wixford	806,946	Dec. 12	1714	376	119	1682
Milk-separator. Centrifugal	B. A. O. Prollius	807,639	Dec. 19	3078	662	119	2017
Milk sterilizer or pasteurizer	F. H. Morse	806,697	Dec. 5	1165	260	119	1521
Milking-machine	E. V. Gandil	805,281	Nov. 21	3563	770–1	119	883
Mill: *See* Fanning-mill. Grinding-mill. Mining-mill.							
Milling-machine	J. Parker	806,910	Dec. 12	1634	357	119	1665
Milling-machine. Continuous	L. Coes	804,706	Nov. 14	2374	518	119	561
Milling-machine. Continuous	L. Coes	804,707	Nov. 14	2377	519	119	562
Millstone	A. Kreps	804,738	Nov. 14	2443	532	119	577
Mine and the like. Submarine	E. A. Jeffreys	806,258	Dec. 5	324	70–1	119	1335
Mine-door	A. C. Urban	808,125	Dec. 26	4041	869	119	2273
Mine-shafts. Movable landing for the cages or corves in	C. A. Eickelberg	807,733	Dec. 19	3285	705	119	2062
Mine skips, cages, lifts, and the like. Safety device for	J. Wilshir	808,328	Dec. 26	4475	962	119	2368
Mines and the like. Winding or hauling apparatus for	E. G. Weldon	806,857	Dec. 12	1513	333	119	1639
Mining-machine	J. Stein	804,562	Nov. 14	2090	458	119	499
Mining-machine	J. Swanson	805,685	Nov. 28	4309	927	119	1064
Mining-machine	W. H. Sexton	805,885	Nov. 28	4704	1006	119	1149
Mining-mill	F. J. Hoyt	806,145	Dec. 5	108	22	119	1288
Minnow or trolling-hook. Artificial	G. Bruton	804,206	Nov. 14	1394	296	119	348
Mirror-support	J. M. Conroy	807,440	Dec. 19	2686	579	119	1933
Mitering machine. Step-	J. B. Weir	807,647	Dec. 19	3092	665–6	119	2021
Mixer: *See* Bread-mixer. Cement-mixer. Concrete-mixer. Engine-mixer.							
Mixing and kneading machine	C. Laurick	805,020	Nov. 21	3007	652–3	119	745
Mixing-machine	H. C. Chambers	803,555	Nov. 7	52	14	119	13
Mixing-machine	T. L. Smith	803,721	Nov. 7	408	88–9	119	91
Mixing substances together in regular proportions. Apparatus for	T. H. D. May	804,022	Nov. 7	978	207	119	210
Mixing vessel	J. F. Lamb	803,833	Nov. 7	605	133	119	131
Moistener and sealer. Envelop	D. G. Saunders, Jr.	804,886	Nov. 21	2754	595	119	689
Moistener. Finger-	J. M. Keep	805,469	Nov. 28	3920	848	119	981
Mold: *See* Brick-mold. Building-block mold. Candle-tip mold. Cement-mold. Cement-brick mold. Concrete-wall mold. Stone-mold. Vault-mold.							
Mold	R. T. Frost	805,418	Nov. 21	3816	824	119	916
Mold	W. H. Lucas	805,655	Nov. 28	4264	917	119	1055
Mold	E. A. Cimmery and N. W. Mottinger.	806,066	Nov. 28	5040	1073	119	1221
Mold	F. M. Sawyer	806,578	Dec. 5	938	207	119	1474
Mold	A. J. Dayton	806,783	Dec. 12	1365	302	119	1605
Mold	E. F. Nevins	808,167	Dec. 26	4141	892–3	119	2293
Mold-support	W. S. Jackson	807,935	Dec. 19	3670	796	119	2148
Molds. Making	M. Küller	805,144	Nov. 21	3269	709	119	800
Molding	A. M. Hewlett	808,368	Dec. 26	4559	982	119	2386
Molding apparatus	W. P. Meeker	803,700	Nov. 7	353	75	119	80
Molding apparatus	W. F. Kerlin and W. N. May	805,018	Nov. 21	3001	650–1	119	744
Molding apparatus	J. Robin-Langlois	805,324	Nov. 21	3640	787	119	877
Molding apparatus	A. M. and M. J. Hewlett	808,367	Dec. 26	4553	980–1	119	2385
Molding-flask	F. J. Hepp and G. J. Born	807,928	Dec. 19	3662	794	119	2147
Molding-machine	H. A. Walter	804,643	Nov. 14	2249	492	119	533
Molding-machine	C. A. Hagadone	805,134	Nov. 21	3252	705	119	797
Molding-machine	W. J. Patchell	806,179	Dec. 5	174	37–9	119	1303
Monkey-wrench	G. H. Bell	805,185	Nov. 21	3356	727	119	819
Mop-head	E. O. Loeber	803,769	Nov. 7	492	106	119	109
Mordanting with magnesium compounds	W. Warr	803,647	Nov. 7	230	.....	119	51
Mortising-tool	O. C. Wysong	807,799	Dec. 19	3396	729	119	2007
Moth-proof bag	G. M. D. Manahan	806,549	Dec. 5	879	195–6	119	1462
Moth-trap	J. R. Edgar	805,352	Nov. 21	3692	799	119	889
Motion. Mechanism for producing reciprocating	G. T. Reiss	804,980	Nov. 21	2926	634	119	728
Motion-transmitting mechanism. Rotary-	J. F. Pflum	806,833	Dec. 12	1456	323	119	1625
Motor: *See* Commutator-motor. Current-motor. Electric motor. Explosion-motor. Fluid-motor. Hydrocarbon-motor. Pneumatic motor. Rammer-motor. Rotary motor. Spring-motor. Water-motor. Water or impact motor.							
Motor	C. E. Yetman	807,529	Dec. 19	2837	610	119	1966
Motor	D. Anderson	808,269	Dec. 26	4347	934	119	2340
Motor and engine	G. O. de Sanderval	806,195	Dec. 5	202	43	119	1309
Motor-control system	E. R. Carichoff	806,635	Dec. 5	1030	228–9	119	1494
Motor-controlling apparatus. Electric-	H. E. Dey	805,188	Nov. 21	3362	729	119	820
Motor-governing device	C. Koerner	808,549	Dec. 26	4899	1054	119	2460

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Motor-operated switch	W. E. Laird	803,832	Nov. 7	602	132	119	120
Motor operating with heavy hydrocarbons	E. L. P. Turenne	807,338	Dec. 12	2467	531	119	1845
Motor-starting resistance. Automatic	R. Scott	806,009	Nov. 28	4932	1053	119	1198
Motors. Injecting and mixing device for hydrocarbon-	A. S. F. Van de Putte	806,760	Dec. 5	1300	289	119	1550
Motors. Multiple-cascade driving system of rotary current-	C. de Kandó	807,175	Dec. 12	2167	465	119	1779
Mower	G. D. and J. H. Johnson	806,259	Dec. 5	326	71	119	1336
Mower	J. Dain	806,780	Dec. 12	1359	300	119	1603
Mower	S. V. Kennedy and C. S. Sharp	807,385	Dec. 12	2548	551-2	119	1953
Mower cutter-bar	W. C. Rarig	805,155	Nov. 21	3293	714	119	805
Mower. Lawn-	J. N. Bryant	805,900	Nov. 28	4732	1011-12	119	1155
Mower. Lawn-	F. H. Frankenberg	807,737	Dec. 19	3289	706	119	2003
Mower. Lawn-	J. H. Auble	807,897	Dec. 19	3602	779	119	2133
Mower. Lawn-	A. Jackson	807,934	Dec. 19	3669	795	119	2148
Mower-pitman	G. B. Hawkins	804,121	Nov. 7	1178	251	119	258
Muffler. Exhaust-	F. S. Williams	805,613	Nov. 28	4190	903	119	1038
Muffler. Exhaust-	J. M. Porter	806,714	Dec. 5	1191	267	119	1528
Muffler. Exhaust-	H. R. Selden	807,322	Dec. 12	2438	525	119	1838
Multiplying device	S. de Gomila	807,550	Dec. 19	2888	621-2	119	1976
Multirate meter	W. C. Fish	808,279	Dec. 26	4370	939	119	2345
Mushrooms. Cultivation of	R. D. Kline	805,801	Nov. 28	4527	970	119	1108
Music, &c. Binder for	E. F. Flanagan	807,734	Dec. 19	3286	705-6	119	2062
Music-leaf turner	G. S. Budge	803,548	Nov. 7	37	10	119	10
Music-leaf turner	E. Bryon	804,302	Nov. 14	1591	343-4	119	388
Music-leaf turner	R. C. Gallinant and J. Dukarevich.	806,535	Dec. 5	862	191	119	1458
Music-leaf turner	K. R. Richardson	807,867	Dec. 19	3524	762-3	119	2116
Music-leaf turner. Sheet-	C. E. Shuler	805,822	Nov. 28	4566	978	119	1115
Music-rack	A. Krauth	805,734	Nov. 28	4415	947	119	1086
Music-rack for upright keyed instruments	F. Müller	805,221	Nov. 21	3422	742	119	832
Music-stand	A. Krauth	803,831	Nov. 7	601	132	119	130
Musical instrument	E. G. James	808,374	Dec. 26	4570	984	119	2389
Musical-instrument attachment	J. Sauer	804,553	Nov. 14	2077	455	119	486
Musical instrument. Automatic	L. U. Jobes	806,149	Dec. 5	120	24	119	1291
Musical instrument. Mechanically-controlled	J. McTammany	807,853	Dec. 19	3498	755-6	119	2110
Musical-instrument touch-regulator	W. Rohlfing, Jr	804,051	Nov. 7	1046	221	119	226
Must-distributing apparatus	E. T. Meakin	808,397	Dec. 26	4616	993-4	119	2399
Muzzle	E. V. Oneal	805,227	Nov. 21	3434	745	119	835
Muzzle	F. M. Rowland	806,004	Nov. 28	4924	1052	119	1197
Nail: *See* Furniture-nail.							
Nail-clipper or wire-cutter	H. Wilcox	806,037	Nov. 28	4983	1063	119	1211
Nail-cutting die. Wire-	J. Wikschtröm	804,786	Nov. 14	2548	557	119	602
Nail-driver. Magazine	M. Hindmarch	804,536	Nov. 14	2041	444	119	490
Nails or spikes. Claw of tools for drawing	G. E. Sly	807,643	Dec. 19	3065	663	119	2019
Necktie-fastener	J. Nutry	804,260	Nov. 14	1499	322	119	369
Necktie-holder	J. M. Gwin	803,896	Nov. 7	715	154	119	154
Needle-clamp	J. Grubb	805,721	Nov. 28	4391	941	119	1082
Nitroglycerin. Making	C. L. Reese	804,817	Nov. 14	2598	.....	119	613
Non-freezing tank	O. J. Fabian	808,441	Dec. 26	4685	1009	119	2413
Nozzle. Regulating-	G. J. Henry, Jr	807,025	Dec. 12	1857	405	119	1714
Numbering-machine	C. F. Smith	807,094	Dec. 12	1997	433	119	1744
Nut-cracking machine	C. J. Werner	807,052	Dec. 12	1931	416	119	1731
Nut device. Axle-	L. J. Robichaux	805,755	Nov. 28	4455	956	119	1094
Nut-lock	C. W Burnham	804,580	Nov. 14	2133	466	119	509
Nut-lock	T. O. Garrett	804,803	Nov. 14	2576	562	119	608
Nut-lock	R. Johnson	805,298	Nov. 21	3597	777	119	869
Nut-lock	H. L. Jinks	805,916	Nov. 28	4759	1017	119	1160
Nut. Lock-	C. G. Wrisberg	805,829	Nov. 28	4579	981	119	1118
Nut. Lock-	H. G. Elfborg	806,404	Dec. 5	622	137	119	1406
Nut-splitter	W. G. Brown	804,826	Nov. 21	2630	572	119	662
Oar	W. H. Smyth and W. B. Goodwin.	805,033	Nov. 21	3043	659	119	753
Oar. Bow-facing	G. M. Kerry	807,284	Dec. 12	2361	509	119	1821
Oil-applying implement	J. T. Earhart	807,444	Dec. 19	2690	580	119	1933
Oil-burner	E. A. Cox	805,345	Nov. 21	3675	795	119	885
Oil-burner	C. A. Peterson	805,747	Nov. 28	4438	952	119	1091
Oil-burner	M. Martin	807,392	Dec. 12	2570	555	119	1867
Oil-cake cooling and drying apparatus	A. W. French	808,081	Dec. 26	3931	851	119	2249
Oil-can	T. B. Wilkinson	805,399	Nov. 21	3775	817	119	907
Oil-can. Hand	G. H. Thomas	805,803	Nov. 28	4719	1009	119	1152
Oil-cup	L. Gleason	804,655	Nov. 14	2268	497	119	537
Oil-cup and bearing	C. H. Hartz	806,410	Dec. 5	634	138	119	1408
Oil engine. Crude-	D. W. Lyon	807,835	Dec. 19	3464	745-8	119	2101
Oil-extracting apparatus	V. D. Anderson	805,112	Nov. 21	3214	697	119	788
Oil from water Apparatus for extracting	D. H. Haywood	804,400	Nov. 14	1774	384	119	430
Oil, grease, and the like from oil-bearing material. Extracting	F. J. Maywald	807,567	Dec. 19	2942	632	119	1987
Oil-separator	W. D. Williams	804,908	Nov. 21	2790	602	119	698
Oil-separator	R. Parker	807,086	Dec. 12	1987	430	119	1742
Oil-tank	C. H. Henzel	805,290	Nov. 21	3577	773	119	866
Oil to axle-bearings. Material for applying	W. E. Laycock	805,475	Nov. 28	3932	850	119	983
Oils. Treating petroleum-	J. P. Wintz	807,983	Dec. 19	3750	813	119	2106
Oiler	W. L. Howland	804,009	Nov. 7	948	200	119	203
Oiler	H. H. Nerbovig, Jr	806,988	Dec. 12	1784	391	119	1699
Oiler	R. Alden	807,985	Dec. 19	3754	814	119	2167
Oiling device. Vehicle-axle-	B. A. Rhoades	806,498	Dec. 5	802	177	119	1445
Oleaginous mixture for sprinkling on roads, &c	C. V. Potter	807,126	Dec. 12	2077	.....	119	1761
Operating pad or receptacle	C. W. Meinecke and D. Hogan	804,750	Nov. 14	2483	542	119	588
Optical instrument	S. Czapski	807,728	Dec. 19	3271	702	119	2059
Orchard-heater	C. S. Brown and F. M. Bremiller	803,662	Nov. 7	263	55	119	59
Ordnance	J. H. Brown	805,777	Nov. 28	4495	962	119	1102
Ordnance. Telescopic rammer for	A. A. Thresher	805,597	Nov. 28	4162	896	119	1032
Ore-concentrating apparatus	X. St. Pierre	808,584	Dec. 26	4968	1071-2	119	2474
Ore-concentrating plants. Metal-separator for	H. C. Krause	806,414	Dec. 5	642	141	119	1410

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Ore-concentrator	J. J. Kennedy	803,830	Nov. 7	599	131–2	119	129
Ore-concentrator	M. R. Lyle	805,215	Nov. 21	3413	740	119	830
Ore-concentrator	W. S. and G. W. Craven	807,661	Dec. 19	3124	671	119	2029
Ore crusher and pulverizer machine	A. Tetrault	804,780	Nov. 14	2533	555	119	598
Ore-crushing machine	G. Johnston	803,903	Nov. 7	728	157	119	157
Ore-feeder	N. V. Fitts	805,128	Nov. 21	3343	703–4	119	795
Ore grinding, crushing, washing, and separating apparatus. Combined	R. Stanley	808,488	Dec. 26	4783	1029–30	119	2436
Ore separating and concentrating machine	W. P. Clifford	807,659	Dec. 19	3118	670	119	2028
Ore-separator	L. J. Vandervoort	805,599	Nov. 28	4165	897	119	1032
Ore-separator. Magnetic	H. F. Campbell	805,448	Nov. 28	3883	839–41	119	972
Ore-separator. Magnetic	E. Hedburg	805,854	Nov. 28	4627	991–2	119	1129
Ores and the like. Treatment of	J. Nicholas	805,577	Nov. 28	4124	.....	119	1024
Ores, &c. Apparatus for dissolving and separating values contained in	C. H. Rider	805,890	Nov. 28	4697	1004	119	1147
Ores. Concentrating	W. M. Sanders	805,382	Nov. 21	3746	.....	119	900
Ores. Concentrating	A. Schwarz	807,501	Dec. 19	2782	.....	119	1955
Ores. Concentrating	A. Schwarz	807,502	Dec 19	2784	600	119	1956
Ores. Concentrating	A. Schwarz	807,503	Dec. 19	2786	600	119	1956
Ores. Concentrating	A. Schwarz	807,504	Dec. 19	2788	600	119	1956
Ores. Concentrating	A. Schwarz	807,505	Dec. 19	2789	600	119	1957
Ores. Concentrating	A. Schwarz	807,506	Dec. 19	2791	601	119	1957
Ores. Reducing	H. F. Brown. (Reissue)	12,424	Dec. 12	2660	573	119	1889
Ores. Roasting	H. Haas	808,361	Dec. 26	4543	977–8	119	2383
Ores. Treating	H. F. Brown	806,774	Dec. 12	1349	299	119	1601
Ores, &c. Treatment of iron	C. Ellis	803 886	Nov. 7	696	151	119	150
Organ	E. M. Skinner	807,510	Dec. 19	2797	602	119	1958
Organic compounds by oxidation. Manufacture of	W. Lang	808,095	Dec. 26	3980	859	119	2259
Ornament	R. Burger	803,875	Nov. 7	677	147	119	146
Oven	W. M. Fulton	804,943	Nov. 21	2849	613	119	712
Oven. Baker's	M. Eichner	806,786	Dec. 12	1372	303	119	1606
Oven-floor	J. C. Millar	804,249	Nov. 14	1479	317	119	365
Oven. Gas-	W. J. Keep and H. C. Maul	805,423	Nov. 21	3826	826–7	119	918
Oven-screen	B. Morgenstein	804,615	Nov. 14	2102	480	119	520
Oxids of nitrogen. Means for producing	E. Marquardt and H. Viertel	804,021	Nov. 7	975	206	119	209
Ozone. Electrical apparatus for producing	A. C. Wood	804,291	Nov. 14	1506	338	119	383
Ozone-producing apparatus	W. P. Rice	807,964	Dec. 19	3721	807	119	2160
Package-carrier	O. M. Gould	808,042	Dec. 19	3849	833–4	119	2188
Packing	R. H. Rice	805,669	Nov. 28	4282	922	119	1058
Packing-case	T. H. Clement, Jr	806,523	Dec. 5	843	185	119	1454
Packing-case. Sheet-metal	A. T. Kruse	805,424	Nov. 21	3827	827	119	918
Packing for piston-rods. Metallic	J. H. Lewis and L. G. Kunzer	807,294	Dec. 12	2392	513	119	1827
Packing-gland	W. A. Bole	807,538	Dec. 19	2858	615	119	1970
Packing. Metallic	E. J. Fuller	808,082	Dec. 26	3933	851	119	2249
Packing. Piston-	W. J. Kane	807,470	Dec. 19	2734	589	119	1945
Packing. Piston-rod	C. L. Cook	808,512	Dec. 26	4822	1039	119	2445
Packing. Shaft-	R. Whitaker	807,981	Dec. 19	3747	812	119	2165
Pad: *See* Harness-pad. Inking-pad. Operating-pad. Tracing or duplicating pad.							
Padlock	H. P. Townsend and C. E. Johnson.	804,901	Nov. 21	2778	600	119	695
Padlock	F. Soley	807,785	Dec. 19	3374	723	119	2081
Padlock	F. Soley	807,877	Dec. 19	3555	770	119	2121
Pail. Non-spillable milk-	J. H. King	807 286	Dec. 12	2364	509–10	119	1821
Paint. Treating	M. E. McMaster	805,984	Nov. 28	4991	.....	119	1191
Painting and coloring incrusta, &c. Process of and apparatus for	F. Walton	804,283	Nov. 14	1552	335	119	390
Panel-board	H. Krantz	805,650	Nov. 28	4258	916	119	1054
Pantaloons-stretcher	S. F. Cary	803,808	Nov. 7	557	122	119	121
Paper-bag machine	C. F. Smith	807,211	Dec. 12	2236	481–3	119	1794
Paper blanket or rug	J. Haworth	807,821	Dec. 19	3442	740	119	2096
Paper characterized by its impervious nature and strength.	C. I. Goessmann	804 808	Nov. 14	2583	.....	119	609
Paper-clip	J. B. Hale	803,585	Nov. 7	120	28	119	29
Paper cup	C. G. Perkins	804,428	Nov. 14	1835	397	119	443
Paper-cutting machine	T. C. Dexter	807,730	Dec. 19	3275	703–4	119	2059
Paper-elevator	J. C. Hammer	804,312	Nov. 14	1619	350	119	395
Paper fabric. Machine for making reinforced	S. E. Maas	807,756	Dec. 19	3322	713	119	2070
Paper-fastener	J. R. Day	806,875	Dec. 12	1564	342	119	1651
Paper-feeding machine	B. Gustafson	803,582	Nov. 7	102	25–6	119	23
Paper-feeding machine	F. L. Cross	808,018	Dec. 19	3811	826	119	2179
Paper-feeding machine	F. L. Cross	808,019	Dec. 19	3814	827	119	2180
Paper folding fruit box	H. W. Brewer	807,238	Dec. 12	2280	492	119	1805
Paper holder. Toilet-	C. E Pope	803,624	Nov. 7	194	43	119	43
Paper-knife. Adjustable	E. Tornquist	807,222	Dec. 12	2255	487	119	1797
Paper. Machine for surface-finishing	C. W. Gay	805,355	Nov. 21	3698	801	119	890
Paper. Machine for tightening rolls of	A. H. Scott	806,847	Dec. 12	1491	329	119	1633
Paper-machine press-roll	E. Burke	808,338	Dec. 26	4495	966	119	2373
Paper-machine press-rollers. Polishing and grinding mechanism for	B. Schnitzer	805,585	Nov. 28	4143	892	119	1027
Paper-machine suction-box	C. Potter	807,772	Dec. 19	3347	718	119	2076
Paper machinery. Felt-cleaner for	M. Miller	804,968	Nov. 21	2903	629	119	723
Paper. Magazine and delivery mechanism for	C. P. Fonda	804,306	Nov. 14	1600	346	119	391
Paper. Magazine and delivery mechanism for	C. P Fonda	804,307	Nov. 14	1603	346	119	391
Paper manufacture. Kneading-machine for the materials of	C. Wurster	807,228	Dec. 12	2261	489	119	1799
Paper perforator or punch	A. Tengwall	803,727	Nov. 7	422	90	119	95
Paper-refining engine	I. P. Dillon	804,586	Nov. 14	2143	469	119	511
Paper stand and cutter	G. B. Bretz	807,353	Dec. 12	2493	537	119	1850
Paper-stock-refining engine	H. G. Saecker	806,193	Dec. 5	200	43	119	1309
Paper-weight	J. B. Williamson	804,288	Nov. 14	1562	336	119	382
Paper yarn. Improving	M. Hölken	805,553	Nov. 28	4085	.....	119	1016
Papers and the like. Device for assorting	C. L. T. Müller	807,084	Dec. 12	1983	429–30	119	1741
Parachute	C. W. Van Vleet	807,977	Dec. 19	3742	811	119	2164

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Paste-molding machine	G. Carlson	807,107	Dec. 12	2040	439	119	1753
Paste-press	C. R. Splivalo	807,972	Dec. 19	3735	810	119	2163
Pasting apparatus	R. A. Pelham	807,685	Dec. 19	3176	683	119	2040
Pasting device	H. H. Walker	807,887	Dec. 19	3577	773	119	2126
Pasteurizer	C. H. Loew	806,354	Dec. 5	527	116	119	1382
Pasteurizing apparatus	F. Tyson	804,687	Nov. 14	2332	510	119	551
Pasteurizing apparatus	N. F. Nissen	805,025	Nov. 21	3016	654	119	748
Pasteurizing liquids	F. Tyson	804,688	Nov. 14	2335	510	119	551
Pasteurizing. Tempering-machine for	L. Sturges	806,206	Dec. 5	221	47	119	1314
Pattern-forming machine. Hollow	F. A. Voelke	803,799	Nov. 7	541	118	119	118
Paving compositions. Apparatus for mixing	G. W. Crichfield	808,599	Dec. 26	4994	1077–8	119	2480
Paving compounds. Machine for manufacturing	W. H. Worswick	804,990	Nov. 21	2957	642	119	735
Pea-hulling machine	W. C. Combest	803,809	Nov. 7	559	122	119	121
Pea-hulling machine	E. H. McMurry	808,568	Dec. 26	4941	1064–5	119	2468
Peanut-picker	F. F. Ferguson and J. T. Benthall	808,442	Dec. 26	4686	1009–10	119	2413
Pearls, &c. Manufacture of artificial	P. E. L. Perdrizet	804,034	Nov. 7	1009	.....	119	218
Peat-carbonizing apparatus	T. Ledermüller	804,239	Nov. 14	1462	311-13	119	363
Peat-drying retort	C. A. Sahlström	805,030	Nov. 21	3038	659	119	752
Peat-machine	T. H. Leavitt	803,608	Nov. 7	164	36–7	119	37
Peat. Manufactured	W. H. Bunker	806,868	Dec. 12	1537	.....	119	1644
Peat. Treating raw	C. Schlickeysen	807,688	Dec. 19	3181	.....	119	2041
Peeling machine. Tomato-	D. Marshall	805,369	Nov. 21	3722	806	119	895
Pen feed. Fountain-	W. A. Welty	803,866	Nov. 7	659	144	119	142
Pen. Fountain-	E. Reisert	803,927	Nov. 7	770	165	119	167
Pen. Fountain-	J. Holland	804,847	Nov. 21	2684	582	119	675
Pen. Fountain-	J. Blair	805,624	Nov. 28	4212	908	119	1043
Pen. Fountain-	W. W. Sanford	807,500	Dec. 19	2781	599	119	1955
Pen reservoir attachment	H. R. Chubb	808,272	Dec. 26	4354	936	119	2341
Pen. Ruling-	H. Kern	804,011	Nov. 7	952	200	119	203
Pen. Self-filling fountain-	F. M Kegrize	807,280	Dec 12	2356	507	119	1820
Penholder	F. B. McDonald	808,469	Dec. 26	4738	1020	119	2425
Penholder	E. E. Blakeslee	808,504	Dec. 26	4809	1036	119	2442
Penholder	E. E. Blakeslee	808,505	Dec. 26	4810	1037	119	2442
Penholder	E. E. Blakeslee	808,597	Dec. 26	4991	1077	119	2480
Pencil-box for slates	J. Koegel	805,472	Nov. 28	3928	849	119	982
Pencil-sharpener	W. B. Hopkins	803,762	Nov. 7	482	104	119	107
Pencil-sharpener	F. H. Smith	805,886	Nov. 28	4705	1006	119	1149
Pencil-sharpener	J. T. Higgins	806,668	Dec. 5	1105	245	119	1509
Pencil-sharpening machine	G. W. Wright	804 513	Nov. 14	1997	436	119	480
Pencil-tip	J. S. McConnell	808,300	Dec. 26	4416	949	119	2355
Pencils. Rubber-holding attachment for	A. F. W. Bowen	806,235	Dec. 5	282	59	119	1326
Pendulum-beat adjuster	W. M. Johnson	804,859	Nov. 21	2699	585	119	677
Pepsin preparation	J. Altschul	806,615	Dec. 5	1002	.....	119	1488
Perforating-machine	R. A. Jonas	804,233	Nov. 14	1445	308–9	119	358
Perforating-machine	R. H. Little	804,485	Nov. 14	1936	421–2	119	466
Perforating-machine	G. H. Davis	808,274	Dec. 26	4350	936–7	119	2342
Pessary	W. C. Smart	806,589	Dec. 5	953	212	119	1477
Petroleum-burner	S. Carlson	803,553	Nov. 7	50	13	119	12
Phonic apparatus	D. Higham	808,052	Dec. 19	3874	839	119	2194
Phonograph	W. Haverman	806,806	Dec. 12	1413	312	119	1615
Phonograph attachment	G. Feist and F. Kretzer	805,787	Nov. 28	4509	966	119	1104
Phonograph-record case	J. W. Campbell	806,320	Dec. 5	471	103	119	1371
Phonograph repeating device	E. Fletcher	804,714	Nov. 14	2392	522	119	565
Phonograph repeating mechanism	C. J. Kurtz	808,387	Dec. 26	4601	989	119	2396
Phonograph reproducing sound box or horn	R. Head	805,544	Nov. 28	4058	879	119	1012
Phonographs. Returning device for	S. Farb	805,417	Nov. 21	3810	824	119	914
Phonographic instrument	J. Isakson	804,604	Nov. 14	2173	476	119	516
Phosphorus. Making red	R. Schenck and P. Marquart	804,555	Nov. 14	2080	.....	119	499
Photographic-film cartridge	H. L. Gray	807,458	Dec. 19	2718	585	119	1941
Photographic-plate-developing apparatus	M. H. Stockwell	804,442	Nov. 14	1950	404	119	448
Photographic plate or film	G. N. Pifer	804,039	Nov. 7	1018	214	119	220
Photographic posing-chair	F. W. C. Pohle	806,713	Dec. 5	1190	266	119	1527
Photographic-print-trimming apparatus	A. G. McGregor	806,424	Dec. 5	661	145	119	1414
Photographic prints. Coloring	R. Isenmann	807,932	Dec. 19	3668	.....	119	2148
Photographic process and product	G. N. Pifer	804,038	Nov. 7	1015	214	119	219
Photographic shutter	M. Berger	807,149	Dec. 12	2122	455–6	119	1770
Photographic shutters. Apparatus to be used in measuring the speed of	A. Kershaw	808,384	Dec. 26	4504	988	119	2394
Photometer	B. B. Bolton	806,392	Dec. 5	598	131	119	1400
Piano-action	O. Glatt	803,752	Nov. 7	463	100	119	103
Piano-action flanges. Attachment for	C. L. Kallstrom	805,208	Nov. 21	3402	737	119	828
Piano-action for pianos	E. Werner	805,692	Nov. 28	4325	930	119	1068
Piano-actions. Pianissimo device for	C. G. Bothner	808,190	Dec. 26	4188	901	119	2303
Piano attachment	S. D. Beum	807,714	Dec. 19	3229	693	119	2051
Piano. Automatic	F. Schaub	805,969	Nov. 28	4899	1045	119	1192
Piano. Automatic	L. U. Jobes	806,148	Dec. 5	117	23–4	119	1290
Piano-key-repair clamp	R. H. Walker	806,219	Dec. 5	246	52	119	1318
Piano-pedal	D. C. Greene	808,449	Dec. 26	4697	1012	119	2416
Piano-player. Pneumatic	E. N. Dickerson	805,347	Nov. 21	3680	796–7	119	886
Piano-players. Key-striking lever for	F. P. Smith	808,484	Dec. 26	4778	1028	119	2435
Piano-pliers	C. H. Lang	805,651	Nov. 28	4260	916	119	1054
Piano-tuning device	C. Braun	806,949	Dec. 12	1720	377	119	1683
Pianos. Manually or mechanically operated	J. Hattemer	803,757	Nov. 7	470	102	119	104
Pianofortes. Device for leveling the keys of	E. Werner	803,946	Nov. 7	820	173	119	177
Pick and ax. Prospector's	J. McMahon	803,620	Nov. 7	188	41	119	42
Pick. Miner's	D. J. Andrews	804,993	Nov. 21	2982	643	119	736
Picker: *See* Peanut-picker.							
Picture-frame	R. J. Walker	804,282	Nov. 14	1551	334	119	390
Picture-frame-puttying machines, &c. Feeding apparatus for	C. E. Sandstrom	806,923	Dec. 12	1673	367	119	1673
Pictures and the like. Device for hanging	F. E. Miller	804,491	Nov. 14	1952	426	119	469
Pie-rack case or holder	B. H. Kannenberg	804,539	Nov. 14	2048	445	119	491
Pier and pier-casing	F. Shuman	806,587	Dec. 5	949	211	119	1477
Pile-driver	A. E. Williams	808,132	Dec. 26	4054	871–3	119	2275
Pile fabric	E. Cattlow	803,990	Nov. 7	919	193	119	197

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Dr'g.	Official Gazette. Vol.	Page.
Pile fabric	F. Kleutgen	807,678	Dec. 19	3158	678	119	2036
Pile for piers or pier-casings	F. Shuman	806,755	Dec. 5	1289	287	119	1549
Pile-wire lubricator	W. Tunstall	807,406	Dec. 12	2596	561	119	1873
Piles and timber. Composition for preserving	P. S. Smout	806,591	Dec. 5	956	213	119	1478
Piling. Metal	J. J. Harold	807,378	Dec. 12	2536	549	119	1859
Piling. Metal sheet-	W. G. Fargo	805,533	Nov. 28	4043	873	119	1007
Piling. Wood sheet-	A. Lanquist	803,697	Nov. 7	346	73	119	78
Pillow	O. F. Reich	808,217	Dec. 26	4242	912	119	2316
Pillow-sham holder	R. M. Balentine	806,766	Dec. 12	1327	295	119	1595
Pillow-support	J. C. Condo	804,456	Nov. 14	1880	407	119	452
Pin: *See* Clothes-pin. Insulator-pin. Rolling-pin. Safety-pin.							
Pin-tumbler lock	G. B. Pickop	806,361	Dec. 5	537	118	119	1385
Pincers	N. E. Carstensen	807,240	Dec. 12	2283	493	119	1805
Pineapples. Machine for treating	G. W. Zastrow	805,178	Nov. 21	3343	724	119	816
Pipe: *See* Smoking-pipe. Stand-pipe. Tobacco-pipe.							
Pipe-bender	S. M. Green and W. T. McFarland	806,085	Nov. 28	5080	1083	119	1229
Pipe-bending machine	J. Neuert	807,854	Dec. 19	3500	756-7	119	2111
Pipe-cleaning device	J. E. Flitcroft	805,534	Nov. 28	4044	873	119	1007
Pipe-collar	M. C. Rosenfeld	805,487	Nov. 28	3952	854	119	988
Pipe-connecting member	J. D. Tschopik	803,940	Nov. 7	796	170	119	173
Pipe connection. Train-	J. H. Green	806,134	Dec. 5	88	18	119	1283
Pipe-coupling	J. A. Grotewohl	803,687	Nov. 7	331	70	119	75
Pipe-coupling	H. F. Kraver	808,457	Dec. 26	4718	1016	119	2421
Pipe coupling. Train-	E. E. Gold	804,005	Nov. 7	943	199	119	202
Pipe coupling. Wooden-	M. Crowther	807,662	Dec. 19	3126	671	119	2030
Pipe-covering	R. Zeiller	804,647	Nov. 14	2256	494	119	534
Pipe-expander	S. E. Allen	803,959	Nov. 7	846	180	119	182
Pipe-flanging-machine clamping mechanism	L. D. Lovekin	806,418	Dec. 5	648	141-2	119	1411
Pipe-grip	D. W. Stirling	807,405	Dec. 12	2595	560	119	1873
Pipe-hanger	W. A. Russell	806,192	Dec. 5	198	43	119	1308
Pipe-joint	S. Otis	807,768	Dec. 19	3340	717	119	2074
Pipe-joint. Flexible	J. Coppersmith	804,304	Nov. 14	1597	345	119	389
Pipe-joint. Flexible	W. P. Dunn	808,026	Dec. 19	3825	828	119	2182
Pipe joint. Lead and iron	F. E. Baker	803,738	Nov. 7	438	94	119	98
Pipe-mold-forming apparatus	J. K. Dimmick	806,329	Dec. 5	484	106	119	1374
Pipe-perforator	E. R. Graham	808,235	Dec. 26	4277	920	119	2324
Pipe-tongs	H. R. Hill	805,913	Nov. 28	4752	1016	119	1159
Pipe-wrench	J. H. Vinton	803,942	Nov. 7	812	172	119	176
Pipe-wrench	G. Foggan	807,258	Dec. 12	2320	499	119	1812
Pipe-wrench	H. L. Newton	807,397	Dec. 12	2580	557	119	1869
Piston	D. R. Morrison	806,167	Dec. 5	157	33	119	1299
Pitting-machine	S. L. Campbell	807,416	Dec. 12	2615	564	119	1877
Pivot-pin-supporting device	J. Willison	804,289	Nov. 14	1564	337	119	383
Planer	S. McMillen	807,634	Dec. 19	3064	658-9	119	2015
Planer-knife	F. L. Conforth	805,450	Nov. 28	3890	841	119	974
Planers. Adjustable bed-plate for wood-	E. Judd	806,675	Dec. 5	1119	251	119	1511
Planers. Matcher-head for wood-	C. W. H. Blood	805,626	Nov. 28	4214	907	119	1044
Planing machine. Metal-	L. J. and C. O. Harley	807,740	Dec. 19	3296	708	119	2064
Planing-machine. Portable	J. B. Gillie	806,794	Dec. 12	1383	305	119	1608
Planing-machine work-guide	L. A. Winters	803,736	Nov. 7	435	93	119	98
Planter	H. D. Guffey	804,118	Nov. 7	1175	250	119	258
Planter and cultivating implement. Combined	J. W. Clifton	804,382	Nov. 14	1744	377	119	424
Planter and fertilizer-dropper. Potato-	R. Thompson	803,728	Nov. 7	423	91	119	95
Planter attachment. Corn-	L. Lindsey	805,083	Nov. 21	3155	684	119	776
Planter attachment. Lister-	W. S. Graham	807,373	Dec. 12	2528	547	119	1857
Planter. Automatic check-row corn-	W. C. and C. R. Gibson	804,391	Nov. 14	1760	381	119	427
Planter. Corn-	W. H. Sandifur	804,055	Nov. 7	1055	223	119	228
Planter. Corn-	E. H. Snyder	805,888	Nov. 28	4709	1007	119	1150
Planter. Corn-	W. H. Wertz and A. C. Warner	806,032	Nov. 28	4971	1061-2	119	1208
Planter. Potato-	T. L. Good and C. H. Gerling	806,081	Nov. 28	5073	1081	119	1228
Planter. Potato-	W. E. Bakeman	807,898	Dec. 19	3605	780	119	2133
Planter. Seed-	N. B. Hodge	804,537	Nov. 14	2043	444-5	119	490
Planter. Seed-	S. D. Johnston	806,260	Dec. 5	328	71	119	1336
Planting and fertilizing potatoes. Machine for	J. G. Hirsch	805,063	Nov. 21	3112	674	119	768
Plaque-holder	J. L. Clark	806,321	Dec. 5	472	103-4	119	1371
Plaster. Adhesive	H. G. Weber	806,031	Nov. 28	4970	1061	119	1208
Plastering implement	F. H. Monta	807,301	Dec. 12	2403	517	119	1830
Plastic masses. Machine for molding	A. Lutze	804,328	Nov. 14	1651	356-7	119	402
Plastic material. Apparatus for making articles from	W. P. Meeker	807,630	Dec. 19	3059	657	119	2013
Plastic material. Machine for pressing	E. W. Rider	805,754	Nov. 28	4450	954-5	119	1094
Plastic material. Means for making articles of	A. D. Jeffrey	806,472	Dec. 5	761	169	119	1436
Plate bending and straightening machine	A. C. Patrick	807,088	Dec. 12	1989	431	119	1742
Plate-cleaning machine	L. G. Hill	807,929	Dec. 19	3663	794	119	2147
Plate-lifter	O. Goodwin	805,283	Nov. 21	3567	771	119	864
Plate-lifter	O. Goodwin	805,421	Nov. 21	3824	826	119	918
Plate-lifter	N. D. Hamel	806,889	Dec. 12	1598	350	119	1657
Pliers. Bending and shaping	J. W. Bowker	804,923	Nov. 21	2817	608	119	705
Pliers. Differential	J. L. Knight	808,206	Dec. 26	4218	908	119	2310
Plow	C. Schardt	804,554	Nov. 14	2079	455	119	497
Plow	P. Matthews	805,217	Nov. 21	3417	741	119	831
Plow	A. A. Frey	808,359	Dec. 26	4541	977	119	2382
Plow	W. S. Graham	808,605	Dec. 26	5008	1080	119	2483
Plow attachment	I. Jefferson	805,800	Nov. 28	4526	969-70	119	1108
Plow attachment	W. H. Suffield	806,207	Dec. 5	223	48	119	1314
Plow. Beet-	E. G. Smart	804,631	Nov. 14	2218	485-6	119	526
Plow. Disk	W. S. Cook	806,322	Dec. 5	474	104	119	1371
Plow-heel	G. J. Huggins	804,405	Nov. 14	1789	387	119	434
Plow. Reversible disk	M. Lundin	805,368	Nov. 21	3720	805-6	119	895
Plow. Shovel-	R. L. Burnett	803,549	Nov. 7	39	10	119	11
Plow. Steam-	G. S. Lowell	804,543	Nov. 14	2056	447-9	119	492
Plow. Sulky-	J. S. Zant	805,333	Nov. 21	3659	791	119	881

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Plow. Wheeled	C. S. Ruef	805,488	Nov. 28	3953	854	119	989
Plow. Wheeled	J. R. Jones	806,261	Dec. 5	330	71	119	1336
Plug. Ignition-	C. F. Splitdorf	806,017	Nov. 28	4946	1057	119	1202
Plumb and level. Combined	E. F. Jones	805,674	Dec. 5	1117	250	119	1154
Plumb-bob	C. J. Hedlund	804,842	Nov. 21	2663	578	119	670
Pneumatic-despatch apparatus	C. F. Stoddard	805,168	Nov. 21	3322	719-20	119	812
Pneumatic hoist	H. H. Vaughan	804,510	Nov. 14	1991	435	119	479
Pneumatic motor	E. De Kleist	807,288	Dec. 12	2381	511	119	1825
Pneumatic rapper	H. B. Griner	806,740	Dec. 5	1256	279	119	1541
Pocket-book	G. Goldstein	806,888	Dec. 12	1597	350	119	1657
Pocket. Safety-	R. D. Hay and J. F. Bieber	807,741	Dec. 19	3299	709	119	2065
Pod-opening machine	D. Gordon	807,551	Dec. 19	2890	622-3	119	1976
Poison-distributer	P. Brandt	803,661	Nov. 7	261	55	119	59
Poison-distributer	F. Splittstoser	806,301	Dec. 5	440	95	119	1364
Poison-distributer for plants	N. W., P. S., and L. Ward	805,689	Nov. 28	4321	929	119	1067
Pole-changing device	H. O. Rugh	807,870	Dec. 19	3530	764	119	2117
Pole cross-arms. Support for	E. C. Short	804,630	Nov. 14	2217	485	119	526
Polisher. Collector-	O. Zschockelt	803,657	Nov. 7	254	54	119	57
Pool-table attachment	P. Mascher	806,158	Dec. 5	134	28	119	1294
Pool-table attachment	N. Hege and C. Rominger	806,051	Dec. 19	3871	838	119	2193
Porcelain and similar ware. Apparatus for molding	E. G. Kastenhuber	805,299	Nov. 21	3598	778	119	869
Portable heater	C. T. Clark	806,395	Dec. 5	608	133	119	1402
Position-finder	H. S. Clark	807,153	Dec. 12	2127	457	119	1771
Post: *See* Binding-post. Fence-post. Railway bumping-post. Sign-post.							
Post	E. R. Hurlburt	806,743	Dec. 5	1261	280	119	1542
Post-anchor	T. E. Templeman	804,900	Nov. 21	2776	599	119	695
Postal-card case	L. Burgy	807,719	Dec. 19	3240	695	119	2053
Postal folder, &c	W. G. Young	806,228	Dec. 5	263	56	119	1323
Pot: *See* Coffee-pot. Flower-pot. Glass-melting pot.							
Potato-digger	J. B. Peters	804,036	Nov. 7	1013	213	119	219
Potato-digger	J. F. Shefferly	806,615	Dec. 26	5023	1085	119	2487
Poultry culture. Device for use in	H. M. Roudabush	806,919	Dec. 12	1655	362	119	1670
Poultry lunch-box	T. O'Brien	807,197	Dec. 12	2214	476	119	1789
Powder. Apparatus for making smokeless	G. W. Gentieu and R. S. Waddell	808,036	Dec. 19	3838	831	119	2185
Powder priming charge. Smokeless-	F. I. Du Pont	807,494	Dec. 19	2770	598	119	1953
Powders. Apparatus for holding and delivering	F. W. Norris	804,259	Nov. 14	1496	321	119	368
Power appliance	W. E. Shaver	806,010	Nov. 28	4934	1053-4	119	1199
Power-controlling device	H. H. Williams	805,399	Nov. 21	3776	817-18	119	907
Power driving mechanism	J. A. Charter	803,556	Nov. 7	55	14	119	13
Power mechanism	P. Adams	803,958	Nov. 7	845	179	119	181
Power-presses. Riveting attachment for	H. J. Hinde	805,360	Nov. 21	3708	803	119	892
Power-transmission apparatus. Fluid-pressure	J. W. Hall	803,584	Nov. 7	109	27	119	24
Power-transmission device	G. A. Cutter	803,811	Nov. 7	562	123-4	119	122
Power-transmission device	G. W. Marble	807,627	Dec. 19	3054	656	119	2012
Power transmission. Speed-regulator for	C. Pfanschmidt	805,748	Nov. 28	4440	952	119	1092
Power transmitter. Fluid-	H. Tuttle	806,759	Dec. 5	1296	288-9	119	1550
Power-transmitting apparatus	C. R. Radcliffe	805,484	Nov. 28	3945	853	119	986
Power-transmitting device	C. W. Spicer	808,592	Dec. 5	956	213	119	1478
Power-transmitting mechanism	E. Thomson	808,263	Dec. 26	4329	930-1	119	2336
Power-transmitting mechanism	W. R. May	808,560	Dec. 26	4926	1061	119	2465
Prepayment-meter	J. J. Wood	806,722	Dec. 5	1201	269-71	119	1530
Preserving compound	G. E. Grenard	805,285	Nov. 21	3568	.....	119	864
Preserving compound and making the same	A. C. Hager	806,540	Dec. 5	868	.....	119	1459
Press: *See* Automatic press. Baling-press. Bosom-press. Briquet-making press. Cotton-press. Filter-press. Forging-press. Glass-press. Hay-press. Paste-press. Printing-press. Screw-press. Seal-press. Soap-press. Trousers-press.							
Press	F. Oliver	806,991	Dec. 12	1789	392	119	1700
Press-conveyers to leer-conveyers. Transfer mechanism from	J. Behringer	807,106	Dec. 12	2037	438	119	1753
Press-mat stay	A. W. French and J. Hauenstein	806,334	Dec. 5	494	108	119	1375
Presses. Tympan-plate for	W. Fullard	806,739	Dec. 5	1255	279	119	1541
Pressure control. Automatic	J. H. Crawford and C. F. Schaeffer	806,325	Dec. 5	478	105	119	1372
Pressure-gage	W. N. Mitchell	807,568	Dec. 19	2943	633	119	1987
Pressure-gage. Mercury	H. C. Ramsberger	803,786	Nov. 7	521	113	119	114
Printed surfaces having relief appearance. Producing	C. H. Mackenzie	804,195	Nov. 7	1342	286	119	295
Printer's cabinet	H. Dorsey	806,071	Nov. 28	5053	1076	119	1224
Printers' forms. Truck for transporting	T. A. Raisbeck	806,365	Dec. 5	544	120	119	1387
Printer's metal slug	A. H. Field	807,424	Dec. 12	2635	569	119	1883
Printing and numbering machine	D., Sr. and Jr., L., and J. W. Carlaw.	804,303	Nov. 14	1502	344-5	119	389
Printing and similar machinery	T. A. Nelson and J. Murray	807,191	Dec. 12	2197	472	119	1785
Printing-machine. Compound	J. L. Firm	806,247	Dec. 5	302	64	119	1330
Printing machine. Oil-cloth-	W. H. Waldron	804,640	Nov. 14	2240	490-1	119	531
Printing-machine registering device	W. H. Waldron	805,172	Nov. 21	3328	721	119	813
Printing machine. Stencil-	D. Gestetner	805,536	Nov. 28	4047	873-6	119	1008
Printing. Photomechanical	J. W. Ippers	807,272	Dec. 12	2342	504	119	1817
Printing-plate holder	C. F. Rockstroh. (Reissue)	12,404	Nov. 7	1367	291	119	302
Printing-press	E. H. Ahlander	804,181	Nov. 7	1312	281-3	119	299
Printing-press addressing attachment	J. P. Bryan	808,191	Dec. 26	4186	902-4	119	2303
Printing-press covering mechanism	H. A. W. Wood	804,293	Nov. 14	1571	338-9	119	384
Printing-press feed mechanism. Automatic	G. G. Williams	807,705	Dec. 19	3210	689-90	119	2047
Printing-press inking apparatus	C. P. Cottrell	808,344	Dec. 26	4506	968-9	119	2376
Printing-press numbering attachment	C. G. Harris	807,615	Dec. 19	3027	649-50	119	2006
Printing-press. Traveling-cylinder	J. T. King	808,455	Dec. 26	4711	1014-15	119	2419

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Printing-press web-manipulating mechanism	H. F. Bechman	805,620	Nov. 28	4206	905	119	1042
Printing-presses. Pressure-controlling device for the air-springs of	C. P. Cottrell	806,463	Dec. 5	744	166	119	1432
Printing-presses. Pressure-controlling device for the air-springs of	C. P. Cottrell	806,464	Dec. 5	746	167	119	1432
Printing-presses. Vibratory distributer for	H. J. Lederer	806,260	Dec. 5	348	76	119	1340
Printing purposes. Preparing zinc and aluminium plates for	E. O. Schmiel	805,031	Nov. 21	3040	.....	119	753
Printing. Skeleton-frame rule for	J. Klohe	807,177	Dec. 12	2170	466	119	1780
Printing-surfaces. Mechanism for preparing	B. A. Brooks. (Reissue)	12,426	Dec. 26	5028	1086-90	119	2488
Printing with indigo	M. von Gallois	808,443	Dec. 26	4688	.....	119	2414
Processing or cooking or cooling machine. Automatic	S. J. Dunkley	805,844	Nov. 28	4605	987-8	119	1124
Projectile	E. M. Johnson	805,556	Nov. 28	4090	883	119	1017
Projectile. Armor-piercing	J. F. Meigs and E. Gathmann	806,820	Dec. 12	1435	318	119	1620
Projectile. Explosive	C. Chronic	804,380	Nov. 14	1742	376	119	424
Projectile. Steel	A. Haase	807,375	Dec. 12	2531	548	119	1858
Projectiles. Manufacture of caps for armor-piercing	R. A. Hadfield	805,460	Nov. 28	3904	.....	119	977
Propeller	F. W. McCain	805,871	Nov. 28	4669	999	119	1139
Propeller	E. A. Stickler	807,974	Dec. 19	3739	810	119	2164
Propeller	J. C. Franklin	808,034	Dec. 19	3834	830	119	2185
Propeller. Marine	C. G. Curtis	803,671	Nov. 7	278	60	119	63
Propeller. Reversing	E. B. and L. S. Cushman	803,560	Nov. 7	58	15	119	14
Propeller. Speed-controlling reversing-	C. F. Roper	807,498	Dec. 19	2775	599	119	1954
Propeller. Steering-	G. Westle	806,607	Dec. 5	983	218	119	1484
Propelling mechanism	W. J. Chance	807,242	Dec. 12	2288	493	119	1806
Propelling mechanism. Boat-	P. E. Crowe	808,346	Dec. 26	4509	970	119	2377
Protective device	G. W. Pickard	807,963	Dec. 19	3719	807	119	2160
Protocatechuic aldehyde. Making	R. J. M. Sommer	804,682	Nov. 14	2323	.....	119	549
Pruning implement	G. B. Wright	803,953	Nov. 7	838	177	119	180
Pruning implement	L. H. Mullen	804,426	Nov. 14	1833	397	119	443
Puller: *See* Coke-puller. Stump-puller.							
Pulley	L. S. Lachman	803,605	Nov. 7	157	35	119	36
Pulley	G. A. Gilbert	805,537	Nov. 28	4049	876	119	1009
Pulley	O. R. Beck	807,994	Dec. 19	3770	818	119	2171
Pulley and the like facing	J. T. Sappenfield	804,982	Nov. 21	2930	635	119	729
Pulley-block	J. Ratzer	806,837	Dec. 12	1465	325	119	1627
Pulley lubricator. Loose-	L. C. Hobart	804,722	Nov. 14	2412	527	119	570
Pulley mechanism. Reversible-	H. W. Ricks and G. W. Stifel	808,309	Dec. 26	4434	953	119	2380
Pulley rim-section. Expansible-	C. J. Reed	806,187	Dec. 5	191	41	119	1307
Pulley. Split	E. H. Phipps	807,125	Dec. 12	2075	445	119	1761
Pulp and paper machinery	H. Parker	808,614	Dec. 26	5022	1084	119	2486
Pulp. Compacting liquid-borne fibrous	J. H. Rivers	804,432	Nov. 14	1839	399	119	444
Pulp-grinding machine. Wood-	B. Kihlgren	804,012	Nov. 7	953	201	119	204
Pulp-screen	F. M. Chapman	806,640	Dec. 5	1044	231	119	1497
Pulp-screen	F. M. Chapman	806,641	Dec. 5	1046	231	119	1497
Pulp-screen. Centrifugal	J. W. Packer	805,426	Nov. 21	3831	828	119	919
Pulper	D. Gordon	804,395	Nov. 14	1765	382	119	428
Pulverizer	N. Spurgin	807,136	Dec. 12	2094	450	119	1764
Pulverizer	J. W. Boileau. (Reissue)	12,418	Dec. 12	2641	570-1	119	1884
Pump	C. A. Arnsberger	804,198	Nov. 14	1382	293	119	845
Pump	J. B. Falloure and L. M. English	804,834	Nov. 21	2650	575	119	667
Pump	C. W. McGonigle	805,313	Nov. 21	3619	782	119	873
Pump	W. H. Shafer	805,586	Nov. 28	4144	892	119	1028
Pump. Air-	T. N. Case	805,630	Nov. 28	4220	908	119	1045
Pump and the like. Rotary	F. Marburg, Jr	803,772	Nov. 7	499	108	119	109
Pump. Centrifugal	J. L. Shepard	804,774	Nov. 14	2518	551	119	594
Pump. Centrifugal	F. W. Krogh	805,019	Nov. 21	3005	651	119	745
Pump. Centrifugal	G. W. Skinner, Jr	807,971	Dec. 19	3733	809	119	2162
Pump. Double-acting	S. Zylberlast	806,383	Dec. 5	585	129-30	119	1397
Pump-drain	E. E. Ervin and A. J. Konantz	806,330	Dec. 5	486	106	119	1374
Pump. Electric	J. C. Stokes	803,936	Nov. 7	787	169	119	171
Pump. Fluid-motive power-	H. T. Farnsworth	807,448	Dec. 19	2694	581-2	119	1935
Pump for molten metal	H. C. Hansen	803,588	Nov. 7	126	29	119	30
Pump. Hand-operated	W. H. Jordan	805,206	Nov. 21	3398	736	119	827
Pump. Hydraulic air-	G. J. Keenan	805,860	Nov. 28	4644	995	119	1133
Pump. Lubricating-	G. W. Cole	804,384	Nov. 14	1749	378	119	425
Pump. Oil-	J. B. Davis	805,530	Nov. 28	4039	872	119	1007
Pump-operating mechanism	A. E. Kepner	805,862	Nov. 28	4649	995-6	119	1135
Pump-plungers. Driving mechanism for two	W. E. Blair	805,000	Nov. 21	2975	646	119	739
Pump-regulator	J. P. Watson and F. L. Jahn	806,380	Dec. 5	573	126	119	1393
Pump-rod coupling	J. E. Lester	807,563	Dec. 19	2918	628	119	1982
Pump. Rotary	H. Handoll	804,657	Nov. 14	2271	498	119	537
Pump. Rotary	L. vom Hofe	805,552	Nov. 28	4084	882	119	1016
Pump. Rotary	C. O. Farrar	806,651	Dec. 5	1058	236-7	119	1502
Pump. Rotary	C. Nobs	807,489	Dec. 19	2760	596	119	1951
Pump. Self-balancing centrifugal	E. E. Kretzschmar	808,608	Dec. 26	5013	1081-2	119	2485
Pumping-engine	F. W. Davis and A. W. King	805,267	Nov. 21	3538	763	119	858
Pumping-jack	E. F. Helm	806,140	Dec. 5	100	20	119	1286
Punch. Adjustable	W. P. Pitt	806,914	Dec. 12	1646	360-1	119	1668
Punch and lace-cutter. Belt-	W. L. Folden	806,333	Dec. 5	492	107	119	1375
Punch. Expanding-	W. J. Marshall	805,868	Nov. 28	4661	998	119	1137
Punching and shearing machine	C. A. Bertsch	803,660	Nov. 7	258	55	119	58
Punching-bag	C. L. Finney and L. R. Lantz	808,528	Dec. 26	4860	1046	119	2452
Punching device. Rotary	W. T. Bailey	806,449	Dec. 5	709	159-60	119	1425
Punching-machine	E. H. Porter and B. Currier	806,362	Dec. 5	539	118-19	119	1385
Punching-machine	W. Sparks	808,408	Dec. 26	4630	996	119	2402
Punching machine. Agent's ticket-	A. D. Joslin	806,262	Dec. 5	331	72	119	1337
Punching-machine. Automatic	C. J. Gadd and D. J. Jenkins	805,192	Nov. 21	3372	731	119	822
Punching machine. Railway-ticket-	A. D. Joslin	806,263	Dec. 5	334	72-3	119	1337
Punching-machine spacing mechanism	S. C. Harvey	806,890	Dec. 12	1599	350	119	1657
Punching-tool	T. McGrath	808,470	Dec. 26	4739	1020	119	2426
Puzzle	C. E. Harris	804,314	Nov. 14	1623	351	119	396
Puzzle	F. O. Dyer	807,113	Dec. 12	2057	442	119	1757
Puzzle	J. S. Nicholson	808,209	Dec. 26	4225	909	119	2312
Quicksilver-trap	P. Somerville	803,934	Nov. 7	783	168	119	170

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Race-track starting-gate	C. E. Foulks	807,161	Dec. 12	2140	459	119	1774
Rack: *See* Bottle-rack. Clothes-rack. Display-rack. Displaying-rack. Fruit-shipping rack. Kitchen-rack. Mail-distributing rack. Music-rack. Stamp-rack. Tool-rack. Wagon-rack.							
Radiator	B. Briscoe	804,926	Nov. 21	2822	609	119	706
Radiator	G. I. Rockwood	805,882	Nov. 28	4700	1005	119	1148
Radiator and coil	J. H. Lindsay	807,390	Dec. 12	2568	554	119	1867
Radiator. Hot-air	J. Wagner	806,855	Dec. 12	1510	332	119	1639
Radiator, steam-condenser, and the like	F. Lamplough	808,389	Dec. 26	4604	990	119	2397
Radiators. Drying-rail and foot-rest for heat-	M. A. Sims	805,240	Nov. 21	3475	752	119	842
Radiators. Foot-warmer for attachment to	W. S. Sawyer	806,432	Dec. 5	677	149	119	1418
Rail	H. Herden, S. E. Fitch, and J. H. Burgoyne, Jr.	805,954	Nov. 28	4832	1032	119	1177
Rail and lantern holder. Guard-	D. F. McCarthy	807,189	Dec. 12	2195	471	119	1785
Rail and rail-joint connection. Track-	C. W. Clark	805,902	Nov. 28	4735	1013	119	1156
Rail-bond	W. G. Stuart	807,217	Dec. 12	2249	485	119	1796
Rail-bond	L. B. Buchanan	807,656	Dec. 19	3113	669	119	2027
Rail-brace and tie-plate. Combined	D. C. Johnson	807,031	Dec. 12	1889	407	119	1716
Rail-brake	B. V. Gilmore	805,644	Nov. 28	4245	914	119	1050
Rail-clamp	J. Murray	803,776	Nov. 7	505	109	119	111
Rail clamp. Guard-	J. Butcher and J. L. Thomas	805,627	Nov. 28	4217	907	119	1045
Rail. Electric	L. Steinberger	805,166	Nov. 21	3318	719	119	810
Rail-fastener	T. S. Newton	804,618	Nov. 14	2196	481	119	521
Rail-fastening for plastic ties and making same	H. E. Percival	808,401	Dec. 26	4621	994	119	2400
Rail. Guard-	W. H. Moore	805,928	Nov. 28	4775	1021	119	1164
Rail guard. Closed-point-	F. C. Anderson	806,863	Dec. 12	1527	335	119	1642
Rail guard. Third-	A. A. Hickerson and W. H. Phalor	805,062	Nov. 21	3110	673–4	119	767
Rail-joint	G. J. Walsh	804,074	Nov. 7	1091	232	119	236
Rail-joint	W. R. Holland	804,471	Nov. 14	1905	414	119	458
Rail-joint	M. Hester	804,535	Nov. 14	2040	443	119	489
Rail-joint	C. K. Humphreys	804,724	Nov. 14	2414	527	119	570
Rail-joint	E. Roberts	804,768	Nov. 14	2500	549	119	593
Rail-joint	H. Driehaus	805,638	Nov. 28	4235	911	119	1049
Rail-joint	J. E. Alexander	805,831	Nov. 28	4582	981	119	1119
Rail-joint	G. W. Thurman	806,023	Nov. 28	4956	1059	119	1205
Rail-joint	F. Melaun	806,273	Dec. 5	366	81	119	1345
Rail-joint	P. J. Haney and P. J. Lalley	806,741	Dec. 5	1258	280	119	1542
Rail-joint	J. S. Imes	807,116	Dec. 12	2062	443	119	1758
Rail-joint	A. E. Calhoun	807,720	Dec. 19	3241	695	119	2053
Rail-joint	A. T. McElhaney	807,851	Dec. 19	3406	755	119	2110
Rail-joint	T. D. Allen	807,986	Dec. 19	3755	814	119	2167
Rail-joint	C. B. Barton and C. Lamoreaux	808,503	Dec. 26	4808	1036	119	2442
Rail-joint	J. W. and E. J. Enright	808,524	Dec. 26	4850	1044	119	2450
Rail-joint	C. J. Shea	808,580	Dec. 26	4963	1070	119	2473
Rail-joint chair	W. B. Davis	803,813	Nov. 7	565	124	119	123
Rail-joint construction	F. Sherwood	807,509	Dec. 19	2796	601	119	1958
Rail or other joint	W. J. Huckabay	804,127	Nov. 7	1190	253–4	119	261
Rail protector. Third-	W. H. Kober and C. E. Watier	806,152	Dec. 5	127	25	119	1292
Rail-splice	J. L., J., and C. W. Smith	804,632	Nov. 14	2221	485	119	526
Rail-stay	J. Olson	806,280	Dec. 5	378	83	119	1349
Rail system. Magnet-controlled third-	H. J. Palmer	807,199	Dec. 12	2217	477	119	1790
Rail-tie	W. L. Schrum	804,346	Nov. 14	1683	363	119	410
Rails. Sleet-cutter for third	E. A. Dunbar and W. H. Rogers	805,124	Nov. 21	3233	701	119	793
Railway	G. Sell	808,116	Dec. 26	4023	866	119	2269
Railway and like vehicles. Automatic coupling for	W. R. Jenkinson	804,813	Nov. 14	2592	566	119	612
Railway and other rolling-stock. Buffer-coupling for	J. T. Jepson	807,677	Dec. 19	3155	678	119	2036
Railway and tramway carriages, &c. Step of	J. G. Robinson	804,046	Nov. 7	1031	217–18	119	223
Railway appliances. Electric controlling mechanism for	W. J. Bell	807,431	Dec. 19	2873	575–6	119	1930
Railway automatic safety crossing system	W. J. Bell	804,296	Nov. 14	1583	341	119	387
Railway block and despatching system	R. W. Gallagher and G. F. Gillett	805,419	Nov. 21	3818	825	119	916
Railway block system	A. N. Ireland and J. T. Reese	805,856	Nov. 28	4631	992–3	119	1130
Railway-brake. Electrically-controlled fluid-pressure	J. S. Lockwood	804,745	Nov. 14	2402	536–7	119	582
Railway bumping-post	G. L. Chatfield	804,452	Nov. 14	1872	406	119	450
Railway bumping-post	W. E. Symons	804,685	Nov. 14	2328	509–10	119	549
Railway cattle-guard	B. F. Crabtree	806,956	Dec. 12	1729	379–80	119	1685
Railway-coupling	W. T. Van Dorn	806,215	Dec. 5	240	51	119	1317
Railway-couplings. Manufacture of draw-heads for	W. L. Jacoby	803,764	Nov. 7	486	105	119	108
Railway-crossing	C. A. Alden	806,761	Dec. 12	1309	291	119	1591
Railway. Electric	F. Adams	807,984	Dec. 19	3751	813–14	119	2166
Railway. Electrically-driven suspended	R. Pfaffenbach and H. Müller	807,089	Dec. 12	1900	431	119	1743
Railway-gate	G. W. Downey	807,543	Dec. 19	2873	618	119	1972
Railway-gate	J. H. Elward	807,544	Dec. 19	2877	619	119	1974
Railway. Pleasure-	E. S. Ensign	803,679	Nov. 7	312	67	119	70
Railway. Pleasure-	C. B. Stahl	808,487	Dec. 26	4782	1029	119	2436
Railway-rail	E. C. Geneux	803,580	Nov. 7	101	25	119	22
Railway-rail	D. Jones	804,729	Nov. 14	2419	528	119	571
Railway-rail	S. R. Fry	808,151	Dec. 26	4100	883	119	2285
Railway-rail joint	T. Powell and O. W. Logan	804,550	Nov. 14	2074	454	119	496
Railway-rail joint	J. W. Walker	804,989	Nov. 21	2956	642	119	735
Railway-rail joint	J. T. Evans	805,905	Nov. 28	4739	1013	119	1150
Railway-rail joint	J. S. Goodwin	808,040	Dec. 19	3847	833	119	2187
Railway-rail joint	H. C. Brewster, C. A. Dutherage, and W. L. Glidden.	808,509	Dec. 26	4816	1038	119	2444
Railway-rail stay	H. H. Sponenburg	805,101	Nov. 21	3187	690–1	119	783
Railway-rail stay	H. H. Sponenburg	806,375	Dec. 5	565	124	119	1391
Railway-rail stay	H. H. Sponenburg	806,376	Dec. 5	566	124–5	119	1392
Railway-rails to chairs. Key for keying	J. A. Colquhoun	804,217	Nov. 14	1414	301–2	119	351
Railway safety apparatus	S. L. Adelson	807,009	Dec. 12	1819	399	119	1706
Railway safety crossing system	W. J. Bell	804,297	Nov. 14	1580	341	119	386
Railway-signal	J. Irwin	804,231	Nov. 14	1442	307	119	357
Railway-signal	C. M. McGehee	805,872	Nov. 28	4670	999	119	1140

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Railway signal and switch appliances from freezing or clogging. Device for preventing	F. L. Young	804,787	Nov. 14	2549	557	119	602
Railway signal-circuit	E. W. Vogel	805,827	Nov. 28	4574	980	119	1117
Railway-signal. Electric	J. B. and H. V. Gorrell	806,538	Dec. 5	865	192	119	1459
Railway-signal. Electric	H. A. Ammann and A. D. Campbell.	807,707	Dec. 19	3218	690	119	2049
Railway-signal. Electric	B. A. Karr	808,159	Dec. 26	4128	889-90	119	2291
Railway signal-repeater	F. B. Wiegand, W. V. Moak, and F. B. Harrington.	807,590	Dec. 19	2988	641	119	1998
Railway signaling	S. D. Strohm	807,645	Dec. 19	3087	664	119	2020
Railway signaling	I. Kitsee	807,829	Dec. 19	3455	743-4	119	2099
Railway signaling	S. D. Strohm	808,223	Dec. 26	4252	915	119	2319
Railway signaling and train-controlling system	F. E. Kinsman	807,287	Dec. 12	2367	510-11	119	1822
Railway signaling and train-controlling system	F. E. Kinsman	807,386	Dec. 12	2554	552-3	119	1865
Railway signaling apparatus. Automatic electrical	A. H. Binyon	803,976	Nov. 7	894	187	119	192
Railway signaling appliance. Electric	H. A. Ammann and A. D. Campbell.	807,800	Dec. 19	3397	730	119	2087
Railway signaling system	H. Bezer	807,805	Dec. 19	3406	731-4	119	2089
Railway-switch	J. G. Gilreath	804,393	Nov. 14	1762	381-2	119	428
Railway-switch	C. W. Hundley	804,952	Nov. 21	2866	617	119	716
Railway-switch	J. Waite	805,390	Nov. 21	3764	814	119	905
Railway-switch	G. H. Colvin	805,413	Nov. 21	3801	822	119	912
Railway-switch	L. L. Bigelow	805,773	Nov. 28	4486	961	119	1100
Railway-switch	R. S. Brunner and E. E. Smith	807,655	Dec. 19	3112	668	119	2027
Railway-switch	V. Angerer	807,801	Dec. 19	3399	730	119	2087
Railway-switch	J. F. Barkley	807,803	Dec. 19	3403	731	119	2089
Railway-switch	L. L. Lake	808,459	Dec. 26	4720	1016	119	2421
Railway-switch	C. M. Hurst	808,157	Dec. 26	4122	888-9	119	2289
Railway switch and signal mechanism	C. De Croes	807,252	Dec. 12	2308	497	119	1810
Railway-switch frog. Adjustable	A. J. Molina	808,298	Dec. 26	4412	949	119	2355
Railway-switch-operating device. Street-	A. J. Pieszak and F. H. Poole	804,337	Nov. 14	1667	360	119	406
Railway-switch-signal apparatus	W. J. Hughes	803,827	Nov. 7	591	130	119	128
Railway-switch-stand contact-box	W. Baum	804,296	Nov. 14	1578	341	119	385
Railway-switches. Detector-bar for	W. K. Howe	804,126	Nov. 7	1186	253	119	260
Railway switching and signaling apparatus	J. H. Hoadley	807,029	Dec. 12	1865	406	119	1715
Railway system. Electric-	W. G. Keeler	808,545	Dec. 26	4894	1053	119	2459
Railway system. Electric-	E. C. Lawton	803,766	Nov. 7	488	105	119	108
Railway-tie	G. T. Murphy	803,775	Nov. 7	504	109	119	110
Railway-tie	J. R. McFall	803,923	Nov. 7	764	164	119	166
Railway-tie	J. Whitehead	804,078	Nov. 7	1107	233	119	243
Railway-tie	R. M. Orr	804,166	Nov. 7	1279	272-3	119	282
Railway-tie	W. A. Austin	805,255	Nov. 21	3506	757	119	850
Railway-tie	J. L. Catlett	805,261	Nov. 21	3519	759-60	119	852
Railway-tie	J. McGranighan	806,357	Dec. 5	532	117	119	1384
Railway-tie	J. McGranighan	806,358	Dec. 5	533	117	119	1384
Railway-tie	E. S. Begler and H. Wittmann	807,236	Dec. 12	2278	491-2	119	1804
Railway-tie	W. I. F. Harden	807,377	Dec. 12	2534	548	119	1859
Railway-tie	W. M. Colby	807,723	Dec. 19	3249	697	119	2055
Railway-tie	H. J. Fixmer	803,751	Nov. 7	462	100	119	103
Railway-tie. Composite	C. Pelmulder	807,313	Dec. 12	2421	521	119	1834
Railway-tie. Concrete	J. Warren	803,864	Nov. 7	657	143	119	141
Railway-tie. Metal	R. H. Lutz	803,611	Nov. 7	169	38	119	38
Railway-tie. Metallic	A. M. Baird	804,084	Nov. 7	1118	235-6	119	245
Railway-tie. Metallic	J. S. Griswold	806,340	Dec. 5	503	110	119	1378
Railway-tie. Metallic	B. G. Bealor	806,453	Dec. 5	716	161	119	1427
Railway-tie. Metallic	J. Murphy	807,188	Dec. 12	2193	471	119	1785
Railway-ties. Producing plastic	C. E. Beckwith. (Reissue)	12,396	Nov. 7	1347	287	119	297
Railway-torpedo	J. Owen	804,336	Nov. 14	1666	360	119	405
Railway-track construction	J. Egetz	804,588	Nov. 14	2147	469-70	119	511
Railway-vehicle brake	C. Luyers	803,917	Nov. 7	756	162	119	164
Railway-vehicle brake apparatus	G. I. Ritchie	805,881	Nov. 28	4698	1005	119	1148
Railways. Apparatus for laying and taking up	W. B. Potter	808,213	Dec. 26	4231	911	119	2314
Railways. Contact-shoe for third-rail electric	J. A. Posey	806,568	Dec. 5	918	203-4	119	1470
Railways. Electric switch for street-	T. H. Patenall	805,026	Nov. 21	3019	655-6	119	748
Railways. Staff system for controlling the traffic along single-track	F. Townsend	804,176	Nov. 7	1303	279	119	287
Railways. System of automatic signaling for electric	J. Brown	803,872	Nov. 7	671	146	119	144
Railways, tramways, &c. Signaling on	G. W. King	807,176	Dec. 12	2168	465-6	119	1779
Raising and lowering mechanism							
Rake: *See* Hay-rake.							
Rake	C. Pfeiffer	806,710	Dec. 5	1186	265	119	1526
Ram. Hydraulic	A. H. Francfort	808,604	Dec. 26	5005	1079-80	119	2483
Rammer motor. Telescopic-	A. A. Thresher	805,598	Nov. 28	4164	897	119	1032
Range-finder	F. Rump	805,584	Nov. 28	4143	892	119	1027
Range. Knockdown	C. L. Gohmann	804,596	Nov. 14	2164	473-4	119	515
Rasp	R. J. Ellis	806,962	Dec. 12	1740	382	119	1688
Razor-handle	G. W. Korn	805,561	Nov. 28	4099	884	119	1019
Razor. Safety-	A. H. Jackson	807,172	Dec. 12	2162	464	119	1778
Razor. Safety-	W. M. Kellum	808,287	Dec. 26	4387	944	119	2348
Razor-strop	S. D. Rice	807,965	Dec. 19	3723	807	119	2160
Razor-strop. Flexible	W. T. Mann	806,419	Dec. 5	651	142	119	1412
Razors. Machine for concaving	R. Martin	806,551	Dec. 5	882	196-7	119	1462
Reaction-engine	T. R. Almond	805,512	Nov. 28	4001	863-5	119	998
Reaction-engine	T. R. Almond	805,513	Nov. 28	4005	865	119	999
Reaction-engine	T. R. Almond	805,514	Nov. 28	4007	865	119	999
Reagents. Preparing and feeding	J. F. Wixford	806,945	Dec. 12	1712	375	119	1682
Reamer	A. J. Smart	806,011	Nov. 28	4935	1054	119	1199
Receptacle	M. A. Howard	804,320	Nov. 14	1632	353	119	397
Receptacle-closure	J. H. Van Kleeck	806,028	Nov. 28	4964	1060	119	1206
Receptacle contents-indicator	A. L. Swank	807,333	Dec. 12	2456	529	119	1842
Reclining-chair	W. K. Rice	805,485	Nov. 28	3950	853	119	987
Recorder: *See* Time-recorder.							
Recording appliance. Electromagnet	H. A. Ammann and A. D. Campbell.	807,708	Dec. 19	3219	690-1	119	2049
Recording instrument	C. E. Vawter, Jr	807,518	Dec. 19	2814	605	119	1961

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec	Dr'g.	Vol.	Page.
Recording or registering the maximum movement of any mechanism. Mechanism for	L. B. Atkinson. (Reissue)	12,413	Nov. 28	5087	1085	119	1231
Rectum-supporter	E. H. Higbee	807,169	Dec. 12	2158	463	119	1777
Reduction-furnace	F. W. Field	806,127	Dec. 5	76	16	119	1281
Reel: *See* Clothes-reel. Clothes-line reel. Fishing-reel. Fishing-rod reel. Wire-reel.							
Reel-carrier	H. Hedlund	804,225	Nov. 14	1430	305	119	354
Reel-carrier	F. E. Greathouse	806,800	Dec. 12	1396	308	119	1611
Reeling-machine	C. S. Wyckoff and P. B. Wilkes	808,424	Dec. 26	4656	1002	119	2408
Reflector for artificial lights. Prismatic-glass	O. A. Mygatt	804,334	Nov. 14	1663	359	119	405
Reflector-shade for artificial lights	O. A. Mygatt	804,253	Nov. 14	1485	319	119	366
Reflector-shade. Prismatic-glass	O. A. Mygatt	804,254	Nov. 14	1486	319	119	366
Refrigerating-pipes. Coating	W. J. Hamilton	806,661	Dec. 5	1087	240	119	1505
Refrigerator	J. Dick	808,349	Dec. 26	4519	973	119	2379
Refuse-burner	F. G. Wiselogel	803,650	Nov. 7	240	52	119	54
Refuse. System for the destruction of	G. Watson and H. W. Mason	807,889	Dec. 19	3580	774-5	119	2127
Regenerative muffle-furnace	W. R. Miller	805,372	Nov. 21	3725	807-8	119	896
Register: *See* Cash-register.							
Register	H. J. Eisen	805,273	Nov. 21	3548	766-7	119	860
Register bell mechanism	A. H. Woodward	803,655	Nov. 7	251	53	119	56
Registers. Holder for hotel-	J. G. Williams	808,181	Dec. 26	4165	898	119	2299
Regulator: *See* Current-regulator. Damper-regulator. Feed-water regulator. Fluid-pressure regulator. Gas-regulator. Gas-pressure regulator. Pump-regulator. Voltage-regulator.							
Rein-holder	E. G. Stevens	805,589	Nov. 28	4150	893	119	1029
Rein-holder	C. C. Shive	805,675	Nov. 28	4296	925	119	1061
Rein-support	J. M. Bethel and H. C. Peachey	805,772	Nov. 28	4485	961	119	1100
Relay or sounder. Electromagnetic	T. M. St. John	806,018	Nov. 28	4948	1057	119	1203
Resilient wheel	I. Guiot	806,657	Dec. 5	1081	239	119	1504
Respirator	W. Schwarz	804,272	Nov. 14	1529	329-30	119	376
Respirator	G. T. Carpenter	807,597	Dec. 19	3000	643	119	2000
Respiring within spaces full of smoke or noxious gases. Apparatus for	J. H. Dräger	807,666	Dec. 19	3132	672-3	119	2031
Rice. Preparing	J. W. Johnson and L. Lock. (Reissue.)	12,398	Nov. 7	1351	.....	119	298
Riding-frame for implements	A. Q. Plummer	808,574	Dec. 26	4955	1067	119	2471
Rifles and other arms. Telescopic sight for	W. Youlten	804,363	Nov. 14	1701	369	119	414
Ring: *See* Book-ring. Curtain-pole ring. Finger-ring. Key-ring. Spinning-ring.							
Ringing-key	E. B. Craft	805,057	Nov. 21	3102	671-2	119	766
Rivet-set-retaining device	W. J. Tibbitt	806,510	Dec. 5	825	181	119	1449
Riveting device	F. Sheppard	805,239	Nov. 21	3475	752	119	842
Riveting-machine	G. Ermel	807,668	Dec. 19	3137	674	119	2032
Road-bed equipment	J. D. Kneedler	806,151	Dec. 5	125	25	119	1292
Road-making	J. C. Butterfield	808,339	Dec. 26	4495	.....	119	2373
Roasting-furnace	A. W. Chase	804,379	Nov. 14	1740	376	119	423
Roasting-furnace	A. R. Meyer	804,751	Nov. 14	2484	543	119	586
Roasting-furnace	A. R. Meyer	804,752	Nov. 14	2486	543	119	587
Roasting-furnace	F. E. Marcy	808,293	Dec. 26	4404	947	119	2353
Roasting or desulfurizing furnace. Mechanical	H. Howard	804,227	Nov. 14	1431	305	119	354
Rock-boring machine	H. Flottmann	806,128	Dec. 5	78	16	119	1281
Rock-crusher	H. H. Blake	804,201	Nov. 14	1388	294-5	119	346
Rock-drill	W. J. Ertle	805,008	Nov. 21	2984	648	119	741
Rock-drill	G. W. Smith	806,012	Nov. 28	4937	1054	119	1200
Rock-drill. Gas	J. V. Rice, Jr	807,399	Dec. 12	2583	557-8	119	1870
Rock-drill of the percussion type	W. C. Johnson and G. C. Pearson	808,377	Dec. 26	4575	985	119	2380
Rocking-chair	F. Kohn	804,958	Nov. 21	2873	619	119	718
Rod: *See* Drill-rod. Shelf-rod. Valve-rod. Wagon-box rod.							
Roll coupling-box	W. C. Millhizer and F. McQuiston.	804,023	Nov. 7	980	207	119	210
Rolls. Stripper for bending-	J. J. Boax	807,352	Dec. 12	2491	536-7	119	1849
Roller: *See* Curtain-roller.							
Roller attachment	H. F. Moser	805,807	Nov. 28	4536	972	119	1110
Rolling axles and the like. Apparatus for	G. E. Walker and A. Peacock	805,391	Nov. 21	3765	815	119	935
Rolling-chair	H. E. Weisgerber	805,605	Nov. 28	4174	900	119	1035
Rolling-mills. Bearing for the rolls of	J. T. Horner	803,763	Nov. 7	483	104-5	119	107
Rolling-pin	M. Harloe	807,075	Dec. 12	1909	426	119	1739
Rolling sheet and tin plate. Apparatus for	P. E. Donner	803,567	Nov. 7	72	18-19	119	17
Rolling sheet and tin plate. Apparatus for	P. E. Donner	803,568	Nov. 7	76	19	119	17
Rolling sheet and tin plate. Apparatus for	P. E. Donner	803,673	Nov. 7	281	61	119	63
Rolling sheet and tin plate. Apparatus for	P. E. Donner	803,674	Nov. 7	285	62	119	64
Rolling sheet and tin plate. Apparatus for	P. E. Donner	803,745	Nov. 7	446	97-8	119	100
Roof-climber	J. S. Baker and C. F. Ketchem	806,622	Dec. 5	1012	225	119	1490
Roof-flashing	L. Watson	807,795	Dec. 19	3390	728	119	2095
Roof. Self-supporting conical	I. S. McNamee, H. Duncan, and F. L. Littleton.	804,427	Nov. 14	1534	307	119	443
Roofing-package	H. M. Reynolds	803,713	Nov. 7	382	81	119	86
Rope. Machine for making decorative	J. A. Lynn	807,625	Dec. 19	3049	655	119	2011
Rope-socket. Ratchet-swivel	E. Double	808,199	Dec. 26	4207	906	119	2308
Rotary engine	W. F. Jungersen and J. J. Fogh	803,599	Nov. 7	148	33	119	34
Rotary engine	W. M. Hoffman	803,693	Nov. 7	339	72	119	76
Rotary engine	G. A. Kelly	804,134	Nov. 7	1201	256-7	119	264
Rotary engine	G. A. Kelly	804,135	Nov. 7	1204	257-8	119	264
Rotary engine	F. M. Ober and B. Dugar	804,162	Nov. 7	1267	270-1	119	279
Rotary engine	H. M. Lofton	804,746	Nov. 14	2468	538-40	119	583

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Rotary engine	N. R. Smith	805,162	Nov. 21	3311	717	119	809
Rotary engine	N. R. Smith	805,163	Nov. 21	3313	718	119	809
Rotary engine	N. R. Smith	805,164	Nov. 21	3314	718	119	810
Rotary engine	F. A. Headson	805,545	Nov. 28	4072	879–80	119	1013
Rotary engine	C. O. Sylvester	805,586	Nov. 28	4310	927–8	119	1064
Rotary engine	B. A. Carmody	805,840	Nov. 28	4599	985–6	119	1122
Rotary engine	E. H. Holden	805,958	Nov. 28	4843	1034	119	1180
Rotary engine	J. M. Ellsworth	806,124	Dec. 5	63	13–14	119	1278
Rotary engine	W. A. Sheahan	806,297	Dec. 5	427	93	119	1361
Rotary engine	J. T. Cunningham	806,399	Dec. 5	614	135–6	119	1404
Rotary engine	F. C. Barr and G. von Bergen	806,451	Dec. 5	714	160	119	1426
Rotary engine	G. L. Loper	807,297	Dec. 12	2398	516	119	1828
Rotary engine	A. S. Dickison	807,421	Dec. 12	2629	567–8	119	1882
Rotary engine	G. F. Leighton	807,830	Dec. 19	3457	744	119	2100
Rotary engine	J. B. Stumpf	807,975	Dec. 19	3740	811	119	2164
Rotary explosive-engine	F. O. Farwell	806,125	Dec. 5	67	14–15	119	1279
Rotary kiln	W. R. Warren	804,076	Nov. 7	1092	232	119	236
Rotary kiln	J. H. Logan and W. H. Simmons	805,213	Nov. 21	3410	738	119	829
Rotary meter	G. Fajen	804,460	Nov. 14	1886	410	119	453
Rotary meter	G. Fajen	804,526	Nov. 14	2026	440	119	486
Rotary motor. High-speed	P. Philippon	808,255	Dec. 26	4310	926–7	119	2332
Rotary turbine-engine. Reversible	C. G. Ashby and J. F. MacIndoe	806,764	Dec. 12	1318	293–4	119	1593
Rough-rounding and channeling machine	G. F. Wolfe	804,645	Nov. 14	2252	493	119	533
Roundabout	H. S. Maxim	804,147	Nov. 7	1226	263	119	269
Roving-machine flier	M. Campbell	803,666	Nov. 7	268	57	119	60
Rowlock	C. A. Wood	803,951	Nov. 7	836	177	119	179
Rubber and leather. Attachment of	C. L. Ireson	804,853	Nov. 21	2693	583	119	676
Rubber articles having interior cavities. Vulcanizing hard-	H. O. Traun	805,503	Nov. 28	3983	860	119	994
Rubber disk and ball for disk water-meters. Hard-	J. Thomson	806,211	Dec. 5	232	50	119	1316
Rubber disks and balls for disk water-meters. Apparatus for the manufacture of hard-	J. Thomson	806,210	Dec. 5	229	49	119	1315
Rubber. Dissolving and recovering	G. A. L. Clift	805,903	Nov. 28	4736	.....	119	1156
Rubber-shoe uppers. Manufacturing	E. Beecher	806,625	Dec. 5	1016	225–6	119	1421
Rubber to leather. Attaching	C. L. Ireson	804,851	Nov. 21	2690	583	119	676
Rug-fastener	J. R. White, Jr.	805,611	Nov. 28	4185	902	119	1037
Rule and level. Combined folding plumb-	H. Dicks	805,348	Nov. 21	3682	797	119	887
Ruler	R. Bachia	807,148	Dec. 12	2121	455	119	1769
Ruler	F. N. Gilbert	807 817	Dec. 19	3433	737–8	119	2095
Ruler. Flexible	P. C. Lawless	806,546	Dec. 5	876	195	119	1461
Ruling-machine	E. F. Peckham and W. J. Hyde	804,547	Nov. 14	2066	450	119	494
Runner or cursor	C. J. Printz	806,836	Dec. 12	1463	324	119	1626
Sad-iron	J. H. Rogers	804,770	Nov. 14	2511	549–50	119	593
Sad-iron	W. B. Sherman	807,690	Dec. 19	3184	684	119	2042
Sad-iron	A. T. Beach	808,428	Dec. 26	4665	1003	119	2410
Saddle for harness. Adjustable	P. Y. Miller	806,554	Dec. 5	888	198	119	1464
Saddle. Harness-	C. F. Wiesenmeyer	804,446	Nov. 14	1865	405	119	448
Saddle. Harness-	G. McMullin	804,758	Nov. 14	2496	545	119	589
Saddle. Harness-	W. L. Kellerman	808,160	Dec. 26	4131	890	119	2291
Saddles. Litter-frame for pack-	H. W. Daly	806,781	Dec. 12	1360	300-1	119	1603
Saddletree. Gig-	J. McGuire	805,314	Nov. 21	3624	783	119	874
Safe	H. C. Stockwell	803,638	Nov. 7	215	48	119	48
Safety attaching device	H. C. Henze	805,548	Nov. 28	4078	880	119	1015
Safety-hook	F. Sherkel, Jr.	804,175	Nov. 7	1301	279	119	287
Safety-pin	H. R. Sargent	805,160	Nov. 21	3308	717	119	808
Salve. Radio-active	H. Lieber	804,610	Nov. 14	2182	.....	119	519
Sand-blast	E. P. Reichhelm	805,029	Nov. 21	3036	658	119	752
Sand-blast machine	G. W. and W. H. Leiman	807,036	Dec. 12	1875	408	119	1717
Sand-drier	W. King	804,607	Nov. 14	2178	478	119	518
Sand-drier	C. J. Duncan	806,530	Dec. 5	854	189	119	1456
Sand-shaker. Pneumatic	A. H. Barber	807,709	Dec. 19	3221	691	119	2050
Sanding and polishing machine	E. Tyden	804,902	Nov. 21	2779	600	119	695
Sanding-machine	E. Tyden	808,180	Dec. 26	4164	898	119	2298
Sanding-machine. Hand	D. T. Clemons	807,809	Dec. 19	3419	735	119	2092
Sash-balance	W. M. Potter	807,686	Dec. 19	3178	683	119	2040
Sash balance and lock. Window-	T. Pachali, Sr.	804,620	Nov. 14	2200	481	119	521
Sash-fastener	A. W. Dunn	805,639	Nov. 28	4236	911	119	1049
Sash fastener. Window-	M. J. Carter	803,742	Nov. 7	442	95	119	99
Sash fastener. Window-	C. H. Williams	805,766	Nov. 28	4475	959	119	1098
Sash-holder	S. D. Case	806,106	Dec. 5	26	6	119	1270
Sash holder and locking device combined. Window-	D. G. Freeman	805,907	Nov. 28	4743	1014	119	1157
Sash holder. Window-	E. G. Abell. (Reissue)	12,408	Nov. 14	2604	568	119	614
Sash-lift	W. E. Norris	804,669	Nov. 14	2292	502	119	542
Sash-lock	F. O. Andrews	804,994	Nov. 21	2962	643	119	736
Sash opener and fastener	H. B. Synar	808,586	Dec. 26	4972	1072	119	2475
Sash-weight	E. B. Smith	803,633	Nov. 7	208	46	119	46
Sash-weight. Sectional	N. A. Petry	804,037	Nov. 7	1014	213	119	219
Sash weight. Window-	O. F. Zahn	806,230	Dec. 5	266	57	119	1323
Sash. Window-	M. J. Daly and T. S. Leake	806,241	Dec. 5	293	61–2	119	1328
Sash. Window-	C. F. Overly	806,909	Dec. 12	1632	356	119	1665
Sashes. Dust-excluding device for window-	J. E. Scott	806,582	Dec. 5	942	208	119	1475
Sausage-stuffer	S. Ressler	803,854	Nov. 7	641	140	119	138
Saw	J. Baumgartner	806,515	Dec. 5	833	183	119	1451
Saw	C. A. King	808,547	Dec. 26	4896	1054	119	2459
Saw and chisel gummer	B. F. Froney	807,454	Dec. 19	2712	584	119	1940
Saw and scriber. Combined hand-	H. C. Malick	805,022	Nov. 21	3010	653	119	746
Saw. Butcher's	G. Wettich and W. Pitzer	806,033	Nov. 28	4974	1062	119	1209
Saw. Combined crosscut and rip	F. A. Wuest	807,227	Dec. 12	2260	489	119	1768
Saw. Drag-	H. White	806,382	Dec. 5	577	127	119	1394
Saw-filing machine	C. E. Grover	804,192	Nov. 7	1336	285	119	295
Saw-filing machine	C. M. Henderson	804,534	Nov. 14	2037	443	119	489
Saw frames. Foundation for band-	E. Falk	807,021	Dec. 12	1846	403	119	1712
Saw. Gang-	J. E. W. Bryning	806,951	Dec. 12	1722	377	119	1684
Saw-guide	B. F. Huffman	804,128	Nov. 7	1192	254	119	261
Saw-handle	W. E. Dillard	806,328	Dec. 5	482	105	119	1373
Saw handle. Crosscut-	W. Kronenwetter	804,139	Nov. 7	1211	259	119	266

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Saw. Scroll-	A. Jones	803,694	Nov. 7	341	72	119	77
Saw-tooth. Adjustable	W. Lewis	804,416	Nov. 14	1809	391	119	438
Sawing-machine. Band	J. J. Meyers and T. C. Frost	803,702	Nov. 7	361	76	119	81
Sawing-machine. Portable	G. F. Wallace	804,073	Nov. 7	1090	231-2	119	236
Sawmill set-works	C. H. Knight	806,349	Dec. 5	520	113-14	119	1381
Sawmill set-works	A. Niedermeyer	807,636	Dec. 19	3069	660-1	119	2015
Sawmills. Machine for transferring and turning logs in	J. R. Snell	804,507	Nov. 14	1982	434	119	477
Scale and guide. Dressmaker's skirt	E. M. McCollum	807,308	Dec. 12	2412	519	119	1832
Scale. Combined spring and lever	C. H. Hapgood	804,947	Nov. 21	2855	614-15	119	713
Scale compensating device	J. H. Swihart	807,694	Dec. 19	3190	685	119	2043
Scale. Computing-	S. J. Austin	804,915	Nov. 21	2800	604-5	119	700
Scale. Computing-	M. A. Dees	808,516	Dec. 26	4828	1040-1	119	2446
Scale. Computing-	M. A. Dees	808,517	Dec. 26	4835	1041	119	2447
Scale. Computing-	M. A. Dees	808,518	Dec. 26	4840	1042	119	2448
Scale. Grocer's computing-	H. J. Silva and J. Vassallo	805,758	Nov. 28	4460	957	119	1096
Scale indicator. Weighing-	J. Barry and M. L. Shaughnessy	805,518	Nov. 28	4014	867	119	1001
Scale. Pendulum computing-	H. S. Hallwood	808,048	Dec. 19	3864	836-7	119	2191
Scale. Pitless wagon-	D. M. Orcutt	804,165	Nov. 7	1277	272	119	281
Scale. Spring-balance	W. H. Sanderson	804,885	Nov. 21	2753	595	119	680
Scale. Weighing-	D. M. Orcutt	804,164	Nov. 7	1274	272	119	281
Scale. Weighing-	A. W. Barnard	804,918	Nov. 21	2804	605-6	119	701
Scale. Weighing-	F. C Osborn	806,908	Dec. 12	1628	356	119	1663
Scale. Weighing-	H. Greenberg	808,448	Dec. 26	4693	1011-12	119	2415
Scale. Weighing-	P. Lewitz	808,600	Dec. 26	5015	1082	119	2485
Scoop. Automatic weighing-	A. L. Swank	807,334	Dec. 12	2458	529-30	119	1843
Score-card	H. Hammond	806,662	Dec. 5	1088	241	119	1505
Scow. Dumping-	J. Guiry	807,552	Dec. 19	2891	623	119	1976
Scows. Door-closing mechanism for	F. Hayes and W. Clifford	806,807	Dec. 12	1414	312	119	1615
Scraper-blade for road-making machines	S. Randall	807,495	Dec. 19	2771	598	119	1953
Scraper. Road-	V. M. Jackson	807,936	Dec. 19	3671	796	119	2149
Scraper. Soot-	A. H. Blackburn	804,921	Nov. 21	2814	607	119	704
Scraper. Wheeled	J. M. Brooks	805,258	Nov. 21	3514	758-9	119	851
Screen: *See* Clay-screen. Fire-screen. Metal screen. Oven-screen. Pulp-screen. Stove-screen. Well-screen. Window-screen.							
Screen	W. H. Fern	807,423	Dec. 12	2633	568-9	119	1883
Screen device	M. E. Layne	806,416	Dec. 5	845	141	119	1410
Screen-frame	S T. Walp	806,943	Dec. 12	1710	375	119	1681
Screen-operating mechanism	J. E. Le Bosquet and T. Bell	807,475	Dec. 19	2741	591	119	1946
Screen sizer and separator. Submerged-	J. M. Callow	803,550	Nov. 7	41	10-11	119	11
Screen slide. Extension-	A. H. Mix	804,152	Nov. 7	1236	265	119	272
Screen striker or agitator	J. R. Johnson and C. E. Collins	804,858	Nov. 21	2698	585	119	677
Screen valve. Self-cleaning air-	W. T. Sears	805,237	Nov. 21	3471	751	119	841
Screens. Fly-escape for	J. L. Powers	806,184	Dec. 5	188	40	119	1306
Screw covering. Set-	H. F. Kohlhagen	807,559	Dec. 19	2909	626	119	1981
Screw-cutting die	A. J. Smart	804,777	Nov. 14	2521	553	119	595
Screw-driver	E. Searle	804,679	Nov. 14	2300	506	119	546
Screw-driver	C. H. Lang	807,946	Dec. 19	3690	800	119	2154
Screw. Electrical binding-	W. Kaisling	804,133	Nov. 7	1199	256	119	263
Screw-press. Continuous	J. F. Bussells	808,193	Dec. 26	4194	904	119	2305
Scrolls. Machine for the manufacture of	M. Pembroke	805,231	Nov. 21	3461	749	119	839
Scuttle-hole protector	A. Ganzenmüller	807,921	Dec. 19	3845	791	119	2143
Seal	E. J. Brooks	805 445	Nov. 28	3879	838	119	972
Seal and tubular inlet for cans and other receptacles	H. A. Truesdale	807,223	Dec. 12	2255	487	119	1797
Seal. Bottle-	J. Wernitz	805,048	Nov. 21	3067	665	119	758
Seal. Bottle-	E. J. Brooks	806,519	Dec. 5	837	184	119	1452
Seal for boxes, &c	E. J. Brooks	804,825	Nov. 21	2629	571	119	662
Seal for boxes, bags, &c	E. J. Brooks	804,824	Nov. 21	2627	571	119	661
Seal for pipe-unions	H. C. Sisco	806,201	Dec. 5	209	45	119	1311
Seal or closure. Bottle	C. E. McManus	808,567	Dec. 26	4938	1064	119	2468
Seal-press. Ratchet	E. J. Brooks	805,257	Nov. 21	3512	758	119	851
Sealing apparatus. Bottle-	G. H. Gillette	808,536	Dec. 26	4879	1050-1	119	2456
Sealing-cap for vessels	J. M. Hicks	807,380	Dec. 12	2538	549	119	1860
Sealing-rings with wax. Feed mechanism for machines for coating	G. D. C. Coddington	804,100	Nov. 7	1143	242	119	251
Sealing vessels. Means for	J. A. Hicks	807,168	Dec. 12	2157	463	119	1777
Seat: *See* Car-seat. Chair-seat. Commode-seat. Self-closing seat. Spring-seat.							
Seat and table. Combined	W. G. Hastings	804,658	Nov. 14	2272	498-9	119	537
Sectional boiler	J. J. M. Lange	804,609	Nov. 14	2181	479	119	518
Seed measuring and packaging machine	J. E. W. Tracy	808,588	Dec. 26	4975	1073	119	2476
Seed. Milling cotton-	W. T. Ball	807,990	Dec. 19	3761	816	119	2169
Seed-treating device	W. S. Smith	806,999	Dec. 12	1801	396	119	1702
Seeder	J. D. Schofield	806,503	Dec. 5	813	179	119	1447
Seeder and fertilizer-distributer	G. Sober	806,507	Dec. 5	820	180	119	1448
Seesaw	E. D. Smith	807,326	Dec. 12	2446	527	119	1839
Self-closing seat and chair	T. S. James	805,799	Nov. 28	4525	969	119	1107
Self-leveling table	H. A. Vance	807,099	Dec. 12	2022	435	119	1750
Semaphore-signal	R. Herman	805,291	Nov. 21	3580	773-4	119	866
Semaphore-signal	R. Herman	805,433	Nov. 21	3847	832-3	119	923
Separator: *See* Centrifugal separator. Cream-separator. Gold-separator. Grain-separator. Grinding-mechanism separator. Liquid-separator. Magnetic separator. Milk-separator. Oil-separator. Ore-separator. Slime-separator. Stamp-separator.							
Separator-sieve	W. C. Black	803,977	Nov. 7	897	188	119	192
Sewing and trimming machine	B. H. Zimmerman and R. Hughes, Jr.	804,364	Nov. 14	1704	369-71	119	415
Sewing looped fabrics. Machine for	O. Lange	808,390	Dec. 26	4604	990-1	119	2397

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Sewing-machine	H. W. Hadley	808,046	Dec 19	3860	835	119	2190
Sewing-machine bobbin-ejector	P Anschütz	808,502	Dec. 26	4806	1036	119	2441
Sewing machine. Broom-	A. E. Miller	806,163	Dec. 5	145	30-2	119	1296
Sewing machine. Broom-	A. E. Miller	806,823	Dec. 12	1439	319-20	119	1621
Sewing machine. Buttonhole-	J. C. Umpleby	804,639	Nov. 14	2238	490	119	530
Sewing machine. Buttonhole-	E. B. Allen	806.231	Dec. 5	268	57	119	1323
Sewing machine. Buttonhole-	E. B. Allen	806,762	Dec. 12	1311	291-2	119	1591
Sewing-machine feeding mechanism	C. F. Gray	804,220	Nov. 14	1421	303-4	119	352
Sewing machine. Fur-	G. L. Ballard	807,346	Dec. 12	2478	534	119	1847
Sewing machine. Mattress-	C. A. Fisher	807,451	Dec. 19	2707	583-4	119	1939
Sewing-machine needle. Slotted	S. F. Richardson	806,840	Dec. 12	1476	326	119	1630
Sewing-machine. Overseam	T. Richardson and J. H. Bishop, Jr.	806,841	Dec. 12	1477	326	119	1630
Sewing-machine ruffling attachment	P. G. Davis	804,709	Nov. 14	2383	520	119	563
Sewing-machine shuttle	K. Mischke	808,164	Dec. 26	4137	891	119	2292
Sewing-machine shuttle mechanism	S. Borton and O. B. Brush	804,301	Nov. 14	1590	343	119	388
Sewing-machine tension mechanism	J. H. and J. B. Ursbruck	804,782	Nov. 14	2539	556	119	600
Sewing-machine thread-controlling mechanism	J. H. and J. B. Ursbruck	804,508	Nov. 14	1988	434-5	119	478
Sewing-machine thread-controlling mechanism	D. Mills	805,870	Nov. 28	4665	998-9	119	1138
Sewing-machine thread-cutting mechanism	C. M. Horton	807,676	Dec. 19	3150	676-7	119	2035
Sewing-machines. Stocking-holding band for darning purposes for	A. G. Maynard	804,490	Nov. 14	1950	426	119	469
Shade and curtain holder	J. O. Kridelbaugh	803,765	Nov. 7	487	105	119	108
Shade and curtain-pole roller. Window-	F. Shoo	805,676	Nov. 28	4297	925	119	1061
Shade-bracket	H. Kirchhofer	805,973	Nov. 28	4875	1040	119	1187
Shade bracket. Window-	A. F. Bradley	807,593	Dec. 19	2992	641	119	1999
Shade-fastening	F. Weilert	808,414	Dec. 26	4639	990	119	2404
Shade fixture. Window-	G. C. Vergason	807,886	Dec. 19	3575	773	119	2126
Shade-guide	P. G. Emery	804,800	Nov. 14	2570	561	119	606
Shade guide. Window-	E. C. Jordan	808,242	Dec. 26	4289	922	119	2327
Shade-roller bracket. Detachable	J. S. Ploof and C. J. Mongeon	804,339	Nov. 14	1670	361	119	407
Shaft-actuating means	C. L. Perry	806,708	Dec. 5	1181	265	119	1525
Shaft-aliner	H. L. Newton	807,085	Dec. 12	1985	430	119	1741
Shaft casings. Attachment for flexible-	A. U. Patchen	805,579	Nov. 28	4127	889	119	1024
Shaft-collar	J. Sheehan	807,874	Dec. 19	3551	769	119	2120
Shaft-coupling	R. H. Rice	805,232	Nov. 21	3462	749	119	840
Shaft-coupling	D. H. Hendershot	807,926	Dec. 19	3657	793	119	2146
Shafts. Obturator for flexible	A. E. Guy	803,755	Nov. 7	467	101	119	104
Shafts of instruments. Support for the	F. R. Beckert	804,370	Nov. 14	1720	372	119	418
Shaping-machine	I. J. Shifley	803,859	Nov. 7	649	141-2	119	139
Shaping-machine	P. G. March	807,123	Dec. 12	2073	445	119	1760
Shaping-machine	J. C. Steen	807,214	Dec. 12	2244	484	119	1795
Shaping-machine	J. C. Steen	807,404	Dec. 12	2593	559-60	119	1872
Sharpener. Disk-	J. I. Depew	806,244	Dec. 5	297	63	119	1329
Sharpener. Lawn-mower	J. Chesbro	808,434	Dec. 26	4673	1004-5	119	2411
Sharpener. Scissors-	W. A. and J. Harvey	803,689	Nov. 7	333	71	119	75
Sharpening device. Diamond-ore-drill-	C. Bamberg	807,347	Dec. 12	2481	535	119	1848
Sharpening edge-tools. Device for	J. D. Yow	805,332	Nov. 21	3658	791	119	881
Sharpening-machine for drill-bits	T. H. Proske	807,128	Dec. 12	2079	446	119	1761
Sharpening machine. Knife-	J. A. Stansbury	808,260	Dec. 26	4316	928-9	119	2333
Shearing machine. Plate-	P. Evans	804,109	Nov. 7	1159	246-7	119	255
Shearing machine. Sheep-	S. R. Burgman	807,435	Dec. 19	2679	577	119	1931
Shears: *See* Metal-cutting shears.							
Shears. Tension device for	M. A. Mihills	805,219	Nov. 21	3420	742	119	831
Shears. Tension device for	E. J. Newton	808,612	Dec. 26	5019	1084	119	2486
Sheep-hook	A. G. Adair	804,910	Nov. 21	2792	603	119	698
Sheep, &c. Machine for dipping	H. M. Jordan	804,730	Nov. 14	2420	529	119	572
Sheet-feeding machine	W. Carter	807,059	Dec. 12	1941	419-20	119	1733
Sheet holder. Loose-	E. C. Washburn	805,393	Nov. 21	3768	815	119	905
Sheet-iron boxes. Dressing tinned	H. Goldschmidt	804,530	Nov. 14	2031	442	119	487
Sheet-metal bands. Apparatus for varnishing	A. Lübbertsmeier	806,270	Dec. 5	350	77	119	1341
Sheet metal. Draw-press for	J. L. Kelly	805,967	Nov. 28	4862	1038	119	1185
Sheet-metal humidor	H. Macarthy	804,487	Nov. 14	1942	423	119	467
Sheet metal. Making oxid-coated	A. Ridd	805,095	Nov. 21	3172	688	119	779
Sheet-metal-perforating apparatus	T. A. Edison	804,799	Nov. 14	2569	561	119	606
Sheet-perforating machine	H. K. Sandell	808,311	Dec. 26	4439	955-6	119	2361
Sheet separating and feeding mechanism	C. E. Sage	805,098	Nov. 21	3176	688-9	119	781
Sheet separating and feeding mechanism	C. E. Sage	805,099	Nov. 21	3180	689-90	119	782
Sheet separating and feeding mechanism	C. E. Sage	805,158	Nov. 21	3299	715-16	119	806
Sheeter and bar-press	J. W. Ruger	804,623	Nov. 14	2206	482-3	119	523
Sheeting and manufacturing same. Protective	S. Cabot	804,376	Nov. 14	1735	.....	119	422
Shelf-rod. Adjustable	M. F. Miller	808,611	Dec. 26	5018	1084	119	2486
Shelf-support	J. W. Fennel	807,257	Dec. 12	2319	499	119	1812
Shield. Rear-sight	P. O. Elterich	807,812	Dec 19	3425	736	119	2093
Shingle-gage	H. P. Neptune	807,957	Dec. 19	3711	805	119	2158
Shingle gage and clamp	G. Reed	805,094	Nov. 21	3171	687	119	779
Shingling apparatus. House-	G. Sampson	808,171	Dec. 26	4147	894	119	2294
Ship loading and unloading apparatus	F. B. Clark	805,711	Nov. 28	4369	938	119	1078
Ships and boats. Construction of the hulls of	H. E. Ross	804,269	Nov. 14	1526	328	119	375
Ships' cabins. Balanced floor for	R. P. Dewey	805,718	Nov. 28	4384	940	119	1080
Ships. Device for lessening the shock of collisions between	M. Padovani	807,959	Dec. 19	3713	806	119	2159
Shipwrecks. Device for locating	C. J. Durham	807,915	Dec. 19	3636	788	119	2141
Shoe-fastening	S. W. Duke	807,020	Dec. 12	1846	403	119	1712
Shoe-filling apparatus	W. B. Arnold	808,227	Dec. 26	4261	916	119	2320
Shoe-form	H. A. Weeks	804,359	Nov. 14	1698	368	119	413
Shoe-form	J. A. Niles	805,379	Nov. 21	3741	811	119	899
Shoe-form	W. L. C. Niles	806,483	Dec. 5	779	172	119	1439
Shoe-polishing machine	J. W. Osborne	804,878	Nov. 21	2740	592	119	686
Shoe-protector	G. H. Smyth	806,439	Dec. 5	686	152	119	1421
Shoe-repairing stand	T. Rendle	804,503	Nov. 14	1976	432	119	475
Shoe-tread	W. A. Robbins	804,674	Nov. 14	2301	504	119	544
Shoe-tree	J. E. Baker	804,917	Nov. 21	2803	605	119	701
Shoe-upper fastener	C. K. Sharood	805,757	Nov. 28	4459	957	119	1095
Shoe-upper fastener	W. E. Ellis	808,028	Dec. 19	3827	829	119	2183

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Shoe-upper holder	W. E. Ellis	808,029	Dec. 19	3828	839	119	2183
Shoe-uppers. Forming and cutting	W. Kenngott	805,075	Nov. 21	3142	682	119	773
Shoes. Filling	A. Thoma	808,224	Dec. 26	4255	916	119	2319
Shoestring-fastener	G. C. Adams	803,957	Nov. 7	844	179	119	181
Shoestring-fastener	S. Fisher	805,275	Nov. 21	3553	767	119	861
Shot. Apparatus for making spherical	A. G. Baker	806,864	Dec. 12	1528	335	119	1643
Shot for athletic uses	G. L. Pierce	807,770	Dec. 19	3344	718	119	2075
Shot-holes. Means for plugging	O. Rasmussen	806,495	Dec. 5	797	176	119	1444
Shovel: *See* Steam-shovel.							
Shovel and poker. Combined	J. W. Maxwell	804,148	Nov. 7	1230	263	119	270
Show-case	E. R. Peters and J. H. Saxman	806,566	Dec. 5	915	202–3	119	1469
Show-case. Knockdown	R. Mancha	805,479	Nov. 28	3937	851	119	984
Show-window	G. T. Hadley	808,201	Dec. 26	4210	907	119	2309
Shredding-machine	M. F. Williams	808,133	Dec. 26	4060	873	119	2277
Shutter-bar	J. W. Tripp	808,410	Dec. 26	4634	997	119	2403
Shutter-fastener	A. B. Landis	805,210	Nov. 21	3405	738	119	828
Shutter. Rolling	J. Cahill	804,929	Nov. 21	2826	609	119	707
Shutter-worker	W. Texdorf	804,350	Nov. 14	1688	365	119	411
Shuttle	F. Ott	808,474	Dec. 26	4747	1023	119	2427
Sickle-holder	J. Walter	805,894	Nov. 28	4721	1009	119	1153
Sidewalk-lights, &c. Tread-piece for	E. R. Taylor	805,761	Nov. 28	4466	958	119	1096
Sight-piece	J. Y. Bassell and F. C. Blenkner	807,710	Dec. 19	3222	692	119	2050
Sign	G. J. Frey	803,750	Nov. 7	459	100	119	102
Sign	E. L. Crehen and J. N. Euwer	805,945	Nov. 28	4819	1028	119	1175
Sign	T. R. Willwerscheid	807,343	Dec. 12	2475	533	119	1846
Sign for wire fences	G. L. Goetz	808,447	Dec. 26	4691	1011	119	2414
Sign. Illuminated	E. Elliott and E. Lucien	805,353	Nov. 21	3693	799	119	889
Sign. Illuminated	L. R. Paige	807,198	Dec. 12	2216	476	119	1790
Sign-post and guide. Metal	J. C. Corcoran	806,955	Dec. 12	1728	370	119	1685
Sign-support	E. L. Bell	805,622	Nov. 28	4209	906	119	1043
Signal: *See* Automatic signal. Conductor-signal. Railway-signal. Semaphore-signal. Switch-signal. Telephone-switchboard signal. Trolley-signal. Visible and audible signal.							
Signal	P. A. Gordon	806,082	Nov. 28	5075	1082	119	1228
Signal	T. Paquette	807,046	Dec. 12	1909	413	119	1725
Signal apparatus	C. W. Coleman	806,238	Dec. 5	286	60–1	119	1326
Signal-controlling device. Self-restoring	E. W. Vogel	804,180	Nov. 7	1309	280	119	289
Signal-switch	G. H. Manners	807,626	Dec. 19	3053	655	119	2012
Signaling and electropneumatic train-control system. Electric	J. A. Whyte	806,035	Nov. 28	4978	1063	119	1209
Signaling-apparatus circuit. Electric-	F. B. Herzog, E. P. Hopkins, and C. Herrmann.	808,087	Dec. 26	3953	854–5	119	2253
Signaling apparatus. Electric	L. A. Codére and A. E. Choquette	806,953	Dec. 12	1725	378–9	119	1685
Signaling device	F. F. Coggin	808,435	Dec. 26	4674	1005	119	2411
Signaling mechanism. Electrical	D. H. Coker	806,067	Nov. 28	5042	1073	119	1222
Signaling system	J. E. Allison	804,819	Nov. 21	2607	569	119	657
Signaling system	J. E. Allison	804,820	Nov. 21	2613	569–70	119	658
Signaling system	P. Winsor	805,108	Nov. 21	3200	695	119	786
Signaling system	M. W. Hamblin	808,451	Dec. 26	4701	1013	119	2417
Signaling system. Electric	W. S. and A. S. Aungst	805,619	Nov. 28	4203	905	119	1042
Signaling system. Electric	C. G. Otwell and I. H. Melvin	808,571	Dec. 26	4947	1066	119	2469
Silk. Bleaching artificial	C. A. Ernst	805,456	Nov. 28	3897	.....	119	975
Silk filaments. Apparatus for lustering and finishing	E. Pohl	808,402	Dec. 26	4621	995	119	2400
Singeing-machine	H. D. Oppenheimer	805,150	Nov. 21	3279	711–12	119	802
Sink-strainer	E. S. Duffy	803,814	Nov. 7	566	124	119	123
Siphon-head	P. Spitzenberg	806,593	Dec. 5	959	213	119	1479
Skate	J. E. Martin	803,698	Nov. 7	348	74	119	78
Skate brake. Roller-	G. M. Beals	805,942	Nov. 28	4816	1028	119	1174
Skates. Ankle-support for	R. N. Riblet	805,667	Nov. 28	4280	921	119	1058
Skewer-extractor	J. E. Bass	806,096	Dec. 5	10	3	119	1267
Skirt. Adjustable pad-	S. H. Hull	806,670	Dec. 5	1111	248	119	1510
Skirt and shirt-waist holder	J. M. Rossi	806,191	Dec. 5	197	43	119	1308
Skirt-holding device	F. Münz	808,325	Dec. 12	1445	320	119	1623
Skirt-supporter	J. M. Roberts	808,576	Dec. 26	4957	1068	119	2472
Skirt-supporter and waist and belt retainer	D. Morrow	805,660	Nov. 28	4273	920	119	1057
Skirt. Woman's	E. L. Phelps	807,492	Dec. 19	2769	597	119	1953
Skylight	A. N. Staples	807,787	Dec. 19	3377	723–4	119	2062
Sled	C. R. Forward	805,279	Nov. 21	3561	769	119	863
Sled	O. A. Essig	806,074	Nov. 28	5060	1078	119	1226
Sled	L. H. Kelley and A. J. Erskine	808,814	Dec. 12	1426	314–15	119	1618
Sled. Traction-	J. McGillis	808,565	Dec. 26	4935	1063	119	2467
Sleeve-protector	M. Marks	807,628	Dec. 19	3056	656	119	2013
Sleighs. Apparatus for portable	A. K. Ramsdell	805,318	Nov. 21	3629	784	119	875
Slicer. Cabbage-corc	R. Zastrow	805,179	Nov. 21	3345	724	119	816
Slicing machine. Meat-	W. A. Van Berkel	806,603	Dec. 5	977	216	119	1483
Sliding bin	W. C. Horner	807,619	Dec. 19	3037	651	119	2009
Slime separator. Ore-	E. Hedburg	804,841	Nov. 21	2662	577	119	670
Slime-treating apparatus	E. Parrish	805,229	Nov. 21	3439	745–6	119	836
Slimes, &c., containing gold, silver, and other values. Treating ore-	L. J. Drabek	804,186	Nov. 7	1325	284	119	292
Slimes. Treating anode-	E. F. Kern	803,601	Nov. 7	152	.....	119	35
Slug-casting machine	P. T. Dodge	806,529	Dec. 5	850	188–9	119	1455
Small-arm. Breech-loading	R. M. Basilone	806,313	Dec. 5	458	100	119	1368
Small-arm. Breech-loading	P. T. Godsal	808,282	Dec. 26	4378	941–2	119	2347
Small-arm. Double-barreled	J. Carter	807,241	Dec. 12	2284	493	119	1806
Small-arm having automatic breech-action	F. von Mannlicher	804,748	Nov. 14	2476	541–2	119	585
Smelting and converting ores	R. Baggaley	806,047	Nov. 28	5001	1057	119	1214
Smelting and refining furnace. Combined	C. C. Medbery	804,330	Nov. 14	1654	357–8	119	403
Smelting furnace. Ore-	R. Baggaley	803,737	Nov. 7	435	93–4	119	98
Smoke-bell hanger	S. N. Murdock	806,906	Dec. 12	1624	355	119	1663
Smoke-consumer	J. Randall	807,317	Dec. 12	2429	523	119	1835

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Smoke-stack	P. Dickinson	806,648	Dec. 5	1059	233-5	119	1500
Smoke-tubes. Tightening device for	W. Schmidt	804,558	Nov. 14	2084	456	119	498
Smokeless powder	R. D. Peck	806,564	Dec. 5	912		119	1469
Smokeless powder. Making	G. W. Gentieu and R. S. Waddell	806,131	Dec. 5	83	17	119	1282
Smoking-pipe	J. Kraus	804,608	Nov. 14	2179	478	119	518
Smoothing-iron	J. W. Davis	807,729	Dec. 19	3273	702	119	2059
Smoothing-iron with detachable handle	E. H. Henniger	807,674	Dec. 19	3148	676	119	2034
Snag-hook	J. P. Smith	807,135	Dec. 12	2093	449	119	1764
Snap-hook	R. W. Hubbard	805,646	Nov. 28	4248	914	119	1051
Snap-hook	J. H. Putnam	807,773	Dec. 19	3349	719	119	2076
Snap-hook	W. R. Lapsley and W. S. Sallee	808,391	Dec. 26	4607	991	119	2397
Snap-hook. Spring	J. Greenwald	806,539	Dec. 5	867	192	119	1459
Snatch-block	P. H. Strohminger	804,635	Nov. 14	2228	488	119	527
Snatch-block	A. Opsal	806,562	Dec. 5	907	201	119	1467
Snow-moving machine	O. Sullivan	805,694	Nov. 28	4308	927	119	1063
Snow-plow	H. Grimes	803,820	Nov. 7	580	127	119	126
Snow-plow	H. Grimes	803,821	Nov. 7	581	128	119	126
Soap-holder for vessels and utensils	R. S. Branfoot and W. B. Davis	807,717	Dec. 19	3237	694	119	2053
Soap holder. Liquid	J. F. Helmold and G. A. Schmidt, Jr.	804,468	Nov. 14	1901	413	119	457
Soap-machine	N. G. Knight	806,816	Dec. 12	1429	315	119	1619
Soap, &c. Machine for plotting	O. F. Rutschman	806,502	Dec. 5	811	178	119	1447
Soap-press	J. J. Forster	806,967	Dec. 12	1750	383-4	119	1690
Socket and rosette. Combined	W. A. Church	806,107	Dec. 5	28	6	119	1271
Socket-wrench	C. K. Hill	803,692	Nov. 7	337	71	119	76
Sofa and bed. Combination	G. E. Holmes and A. G. and J. M. Bostrom.	803,826	Nov. 7	588	129-30	119	127
Solar heater	W. S. Sides and J. T. Klensch	807,642	Dec. 19	3084	663	119	2019
Soldering-paste	M. Leisel	804,664	Nov. 14	2282		119	540
Soles. Machine for cutting block	G. Quarmby	803,710	Nov. 7	374	79	119	84
Solvent to be used in effecting the incipient subdivision and decomposition of the semi-ligneous cambium layer and epidermis of bast fibers.	M. H. Colahan	806,964	Dec. 12	1728		119	1685
Sound-conveying apparatus	R. A. Anthony	804,995	Nov. 21	2965	643	119	737
Sound-producer. Composite	E. Walker	805,600	Nov. 28	4166	897-8	119	1033
Sound recording and reproducing machines. Sound-box for	J. Jetter	805,964	Nov. 28	4855	1036	119	1183
Spade	N. D. Langford	806,683	Dec. 5	1134	254	119	1515
Spade attachment	E. C. Jewett	804,130	Nov. 7	1195	254	119	262
Spade or shovel	J. W. Reed	808,168	Dec. 26	4143	893	119	2293
Spade. Wooden	H. F. E. Hofmann	807,742	Dec. 19	3300	709	119	2065
Spark-arrester	B. Luxenberg	807,834	Dec. 19	3463	745	119	2101
Spark-arrester	F. H. Trevithick	808,179	Dec. 26	4162	897	119	2297
Spark-arrester	S. Amick	808,591	Dec. 26	4980	1074-5	119	2477
Spark-arrester. High-voltage	F. Jordan	807,277	Dec. 12	2351	506	119	1819
Sparking device	B. G. Gilbough	805,790	Nov. 28	4515	966	119	1106
Sparring-machine	J. Hayes	805,543	Nov. 28	4059	878	119	1010
Speed and power transmission mechanism. Reversible variable	J. G. MacPherson	807,038	Dec. 12	1883	409	119	1720
Speed-changing device	S. C. Schauer	803,627	Nov. 7	198	44	119	44
Speed-changing device	G. A. Cutter	803,810	Nov. 7	560	122-3	119	122
Speed-indicator	H. Andrews	806,044	Nov. 28	4092	1005	119	1213
Speed mechanism. Change	W. Baxter and E. C. Caley	803,971	Nov. 7	885	185-6	119	190
Speed mechanism. Variable	E. Hill	803,593	Nov. 7	137	31	119	32
Speed mechanism. Variable	D. E. Sweetser	803,937	Nov. 7	788	169	119	171
Speed mechanism. Variable	R. E. Rosewarne	806,190	Dec. 5	195	42	119	1307
Spike. Combination	V. Rasmussen	806,186	Dec. 5	190	41	119	1306
Spike-lock	H. S. Waterman	805,690	Nov 28	4322	929	119	1067
Spindle: *See* Cotton-picking spindle.							
Spindle-driving mechanism. Drill	R. G. Henry and D. M. Wright	805,546	Nov. 28	4076	880	119	1014
Spindle-lock for micrometer-gages, &c	L. S. Starrett	806,594	Dec. 5	963	214	119	1479
Spindle-tube	S. Sharp	803,929	Nov. 7	773	166	119	168
Spinning and twisting apparatus. Yarn	D. Despradelle	806,737	Dec. 5	1250	278	119	1540
Spinning and winding yarn. Machine for simultaneously	A. J. and H. A. Foulds	805,129	Nov. 21	3247	704	119	795
Spinning apparatus. Ring	J. J. Cronin	806,326	Dec. 5	480	105	119	1373
Spinning-frame	H. Spence	806,016	Nov. 28	4945	1056	119	1202
Spinning-frame thread-guide	J. E. Tytler and W. H. Bowker	806,024	Nov. 28	4958	1059	119	1205
Spinning-machine	M. Campbell	803,551	Nov. 7	44	11-13	119	11
Spinning-machine	M. Campbell	803,664	Nov. 7	265	56	119	60
Spinning-machine	S. Shackleton	805,238	Nov. 21	3473	752	119	842
Spinning-machine	G. J. Cuzner	806,058	Nov. 28	5044	1074	119	1222
Spinning-machine	D. O. Pease	806,096	Nov. 28	5081	1083	119	1229
Spinning or twisting machine	M. Campbell	803,665	Nov. 7	266	56-7	119	60
Spinning-ring	J. R. Coe	807,601	Dec. 19	3005	644	119	2001
Spinning-ring-polishing apparatus	F. H. Thompson	805,245	Nov. 21	3483	754	119	843
Spinning-ring support	M. H. Maloney	808,396	Dec. 26	4615	993	119	2390
Spinning-rings. Polishing	F. H. Thompson	805,246	Nov. 21	3486	754	119	844
Spittoon	J. L. Boisvert	808,429	Dec. 26	4666	1003	119	2410
Splice-bar and guard-rail. Combined	W. T. Young	808,425	Dec. 26	4661	1002	119	2409
Spool. Ribbon	C. Spiro	807,001	Dec. 12	1804	396	119	1703
Spooling-machine	C. A. Cowles and E. O. Pollard	805,265	Nov. 21	3529	761-3	119	856
Spoon. Batter	J. Levagood	808,056	Dec. 19	3881	840	119	2195
Sprayer. Double-acting	F. S. Carothers	808,194	Dec. 26	4196	905	119	2305
Spraying device	J. F. Cass	804,378	Nov. 14	1739	375	119	423
Spraying device	W. S. Bucklin	806,460	Dec. 5	733	164	119	1430
Spring: *See* Vehicle-spring.							
Spring	F. P. D'Arcy	803,561	Nov. 7	60	16	119	15
Spring	J. H. Brown	806,236	Dec. 5	283	59	119	1326
Spring-bottom	G. C. Locklin	805,589	Nov. 28	4110	896	119	1022
Spring-clip	J. B. Hale	803,897	Nov. 7	716	155	119	155
Spring-cushion	W. R. Smith	803,933	Nov. 7	780	168	119	169
Spring-hanger	T. W. Plumb	804,265	Nov. 14	1517	326-7	119	373
Spring-hanger	T. W. Plumb	804,340	Nov. 14	1671	361	119	407

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Spring-hanger	T. W. Plumb	804,341	Nov. 14	1674	361	119	407
Spring-motor	J. T. Coxen	806,644	Dec. 5	1054	232	119	1499
Spring-seat	S. Pepple	807,314	Dec. 12	2422	521	119	1834
Spring-seat	J. G. Myers	807,765	Dec. 19	3335	716	119	2073
Spring-stretching device	R. P. Raschick	808,113	Dec. 26	4018	865	119	2268
Spring-wheel	W. H. Jackson	805,647	Nov. 28	4250	914	119	1051
Sprinkler: *See* Automatic sprinkler. Street-sprinkler. Lawn-sprinkler.							
Sprinkler-head. Automatic	E. S. Clayton	807,247	Dec. 12	2300	496	119	1808
Sprinkler head or nozzle	F. W. Herbkesmann	807,617	Dec. 19	3032	650	119	2007
Sprinkler-strut. Locked	E. S. Clayton	807,248	Dec. 12	2301	496	119	1808
Sprocket-wheel	J. M. Dodge	807,363	Dec. 12	2509	542	119	1853
Sprocket-wheel lubricator	J. M. Dodge	807,731	Dec. 19	3281	705	119	2061
Sprocket-wheel. Slip	J. M. Dodge	807,913	Dec. 19	3632	787	119	2140
Sputum-cup	J. E. Lee	807,293	Dec. 12	2391	513	119	1827
Square	D. B. Lynch	805,216	Nov. 21	3416	741	119	831
Square	F. G. Breul	806,518	Dec. 5	836	184	119	1452
Square. Carpenter's and joiner's folding	W. Steers, Sr	803,723	Nov. 7	417	89	119	94
Square. Folding	T. Jarvis	805,467	Nov. 28	3915	847	119	980
Square. Folding try	J. H. Daniels	805,058	Nov. 21	3103	672	119	766
Stacker	G. W. Soulé	804,779	Nov. 14	2524	553-4	119	596
Stacker	F. A. Kime	807,471	Dec. 19	2735	589-90	119	1945
Stacker. Hay	D. Plattner	807,638	Dec. 19	3076	661-2	119	2017
Stacker. Hay	M. Bagley	807,991	Dec. 19	3763	816	119	2169
Stacker. Hay	M. Kane and A. Grieves	808,054	Dec. 19	3879	839	119	2195
Stacker. Hay	J. E. Will	808,266	Dec. 26	4339	932-3	119	2338
Stacker. Pneumatic	O. Puterbaugh	805,997	Nov. 28	4912	1049	119	1195
Stacking attachment for threshing-machines. Straw-	C. E. Moore	807,954	Dec. 19	3705	804	119	2157
Stage and scaffold attachment. Adjustable safety swinging	F. Lehmann	808,161	Dec. 26	4132	890	119	2291
Stage illusions. Apparatus for producing	E. Thorn and T. N. Downs	804,637	Nov. 14	2231	488-9	119	528
Staring-clamp	U. Facette	805,949	Nov. 28	4823	1029	119	1175
Stairway rod-fastener	J. Mallen	805,307	Nov. 21	3611	780	119	872
Stake-holder	C. Lewis and A. J. Bostwick	807,082	Dec. 12	1980	429	119	1741
Stake-holder	C. Lewis and A. J. Bostwick	807,121	Dec. 12	2071	444	119	1760
Stalk-breaker	S. A. Cowart	807,359	Dec. 12	2503	540	119	1852
Stalk-cutter	J. J. Dorman	805,455	Nov. 28	3896	843	119	975
Stamp-affixer	L. B. Hampton	805,723	Nov. 28	4393	942	119	1082
Stamp-affixing device	L. E. Smith	805,887	Nov. 28	4707	1007	119	1149
Stamp-holder	W. H. Keeler	804,326	Nov. 14	1649	356	119	401
Stamp-rack	C. W. Martin	807,757	Dec. 19	3323	713	119	2070
Stamp-separator	C. J. Fancher	803,574	Nov. 7	87	22	119	19
Stamping device	F. de Coppet	806,111	Dec. 5	38	0	119	1273
Stamping machine. Metal	F. Sporer	805,241	Nov. 21	3477	753	119	842
Stamping or tablet-making machine	G. Schwarzbeck	808,406	Dec. 26	4628	996	119	2402
Stanchion	O. H. Robertson	804,621	Nov. 14	2202	482	119	522
Stanchion. Cattle	W. B. Crumb	807,361	Dec. 12	2506	541	119	1852
Stanchion-latch	C. Rodencal	804,769	Nov. 14	2510	549	119	593
Stand: *See* Cigar-stand. Display-stand. Music-stand. Paper-stand. Shoe-repairing stand. Switch-stand.							
Stand-pipe	D. L. Winters	804,511	Nov. 14	1994	436	119	479
Standard. Adjustable	E. S. Bryant	805,531	Nov. 28	4028	869-70	119	1004
Stapling-machine	W. J. Kennedy	804,864	Nov. 21	2715	586-7	119	680
Station indicator or register. Automatic	F. B. Potter	804,976	Nov. 21	2917	633	119	726
Stays and for connecting struts. Apparatus for forming	F. W. Winterhoff	804,696	Nov. 14	2351	512-13	119	554
Steam and hot-water heater	J. E. Frost	805,354	Nov. 21	3694	800	119	889
Steam and water heater	C. F. Paul, Jr	804,032	Nov. 7	1001	211	119	216
Steam. Apparatus for utilizing exhaust	J. F. A. Bruun	805,340	Nov. 21	3669	793	119	884
Steam-boiler	F. Stadler	804,274	Nov. 14	1533	330-1	119	377
Steam-engine and air-compressor. Combined	C. Fero, Sr	808,526	Dec. 26	4856	1045-6	119	2451
Steam-generator	C. Renard	804,043	Nov. 7	1025	216	119	222
Steam-generator	P. Stoltz	807,137	Dec. 12	2096	450	119	1765
Steam-generator	W. L. Jones	808,286	Dec. 26	4385	944	119	2348
Steam-generator disincrustant	A. Jacob	808,240	Dec. 26	4287	.....	119	2327
Steam-generator. Instantaneous	F. P. Hummel	805,961	Nov. 28	4849	1035	119	1181
Steam-generator. Wick	J. V. Poplawski	804,973	Nov. 21	2913	631	119	725
Steam-generators. Hot-water distributer for	I. L. Wilson	807,982	Dec. 19	3749	813	119	2166
Steam-purifier	D. L. McCorkindale	808,564	Dec. 26	4934	1063	119	2466
Steam-separating apparatus	E. L. Ford	806,129	Dec. 5	90	17	119	1281
Steam-shovel	O. Hetlesaeter	808,452	Dec. 26	4707	1013	119	2418
Steam-trap	S. Bezvoda	804,920	Nov. 21	2813	607	119	703
Steam-trap	W. Bletso	808,506	Dec. 26	4812	1037	119	2443
Steam. Utilizing exhaust	L. P. Burrows	804,098	Nov. 7	1140	241-2	119	250
Steamboat	J. Lockwood	803,768	Nov. 7	491	106	119	108
Steel and other metals. Apparatus for making	E. C. Wills	804,080	Nov. 7	1111	234	119	244
Steel. Laying-off and spacing machine for structural	C. M. Carnahan	807,540	Dec. 19	3868	617	119	1971
Steel. Manufacture of	H. W. Lash	805,563	Nov. 28	4101	.....	119	1019
Steel. Manufacture of	H. W. Lash	805,564	Nov. 28	4102	.....	119	1020
Steel-mixing process	P. L. T. Héroult	807,027	Dec. 12	1862	406	119	1715
Steering mechanism	W. K. Cleveland	807,156	Dec. 12	2132	458	119	1772
Steering-wheel	J. W. Johnson	804,955	Nov. 21	2871	618	119	717
Stencil-cutting machine	T. W. Remmers	808,308	Dec. 26	4430	952-3	119	2359
Stencil-holder	A. E. Andree	806,617	Dec. 5	1004	223	119	1488
Stenciling device	A. E. Williams	805,765	Nov. 28	4474	959	119	1098
Step registering device	J. A. Cairnduff	806,952	Dec. 12	1723	378	119	1684
Stereograph-mounting apparatus	C. S. Beach	805,404	Nov. 21	3786	819	119	910
Stereotype-casting box	F. Schreiner	806,504	Dec. 5	814	179	119	1448
Stereotype plate and base connection	J. W. Butterfield and B. C. Schmitt	804,210	Nov. 14	1399	297	119	349
Stereotype-plate-casting apparatus	J. E. Caps and G. H. Vining	808,070	Dec. 26	3911	846	119	2244
Sterilizing milk and other liquids	R. C. Turner	806,600	Dec. 5	970	215	119	1481
Sterilizing milk and other liquids. Apparatus for	R. C. Turner	806,601	Dec. 5	972	216	119	1482

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Still	F. B. Cole	804,708	Nov. 14	2380	519	119	563
Still. Domestic water-	R. P. Barnstead	806,450	Dec. 5	712	160	119	1426
Stirrup	C. J. E. Kellner and E. M. Turner.	803,695	Nov. 7	343	72	119	77
Stirrup	F. W. Bantz	803,740	Nov. 7	440	95	119	99
Stirrup	G. J. Thompson	807,793	Dec. 19	3386	727	119	2084
Stirrup	F. H. Audley	808,333	Dec. 26	4482	963	119	2370
Stirrup. Riding-	A. E. Southworth	807,000	Dec. 12	1802	396	119	1702
Stitching and barring machine. Buttonhole	E. B. Allen	807,531	Dec. 19	2841	611	119	1966
Stock. Drinking-font for live	R. H. Lewis and H. M. Smith	808,393	Dec. 26	4609	992	119	2398
Stock-releasing device	B. Teal	803,726	Nov. 7	421	90	119	95
Stock-supporter	M. B. Foster	804,529	Nov. 14	2030	441	119	487
Stocking	J. Kayser	808,204	Dec. 26	4213	907	119	2309
Stocking-drying apparatus	C. W. Schwartz, Jr	805,935	Nov. 28	4797	1024	119	1168
Stoker. Mechanical	E. McConnell	803,777	Nov. 7	505	110	119	111
Stoker. Mechanical	M. B. Brewster	803,805	Nov. 7	550	120-1	119	120
Stone beams or girders. Machine for manufacturing hollow artificial-	H. Siegwart	806,371	Dec. 5	555	122	119	1389
Stone mold. Artificial-	J. M. Hutchinson	805,962	Nov. 28	4850	1036	119	1182
Stone-planer	C. G. Ross	807,780	Dec. 19	3363	721	119	2079
Stone-saw	C. L. Miel	804,245	Nov 14	1476	316	119	364
Stone-saw	C. L. Miel	804,247	Nov. 14	1478	316	119	365
Stone-saw	C. L. Miel	804,248	Nov. 14	1478	316	119	365
Stone-saw blade	C. L. Miel	804,246	Nov. 14	1477	316	119	365
Stone. Sawing	J. A. Hall	804,398	Nov. 14	1771	383	119	430
Stone-sawing machine	J. A. Hall and B. B. Chandler	804,812	Nov. 14	2590	565-6	119	611
Stool and like seat. Camp-	T. Lees	806,547	Dec. 5	877	195	119	1461
Stool-back. Adjustable	C. C. Augustine	805,516	Nov. 28	4010	866	119	1000
Stopper: *See* Bottle-stopper. Flue-stopper.							
Stoppers for vessels in their caps. Means for securing	J. A. Hicks	807,381	Dec. 12	2539	550	119	1860
Storage-receptacles. Door construction for	A. D. McMahan	808,108	Dec. 26	4006	862	119	2265
Store-counters or the like. Attachment for	P. S. Grindle	808,540	Dec. 26	4887	1052	119	2457
Store-goods lifter	J. H. Beltz	805,405	Nov. 21	3789	830	119	910
Stores. Package-delivering apparatus for	E. Roberts	806,001	Nov. 28	4918	1051	119	1196
Stove	A. J. Lindemann and C. M. Zweck.	803,610	Nov. 7	168	37-8	119	38
Stove	W. V. Robinson	806,189	Dec. 5	193	42	119	1307
Stove	F. Hammond	808,607	Dec. 26	5010	1081	119	2484
Stove and furnace	W. H. Burns	804,097	Nov. 7	1139	241	119	250
Stove attachment	F. O. Alin	806,614	Dec. 5	1000	222	119	1488
Stove attachment. Cooking-	B. Eger	804,107	Nov. 7	1157	245	119	254
Stove cut-off. Gas-	C. Bargamin	803,965	Nov. 7	855	182	119	184
Stove. Gas-	A. Verwey	803,734	Nov. 7	429	92	119	97
Stove. Gas-	J. J. Strain	804,683	Nov. 14	2325	508-9	119	549
Stove. Gas-	H. J. Bresson	805,706	Nov. 28	4356	936	119	1074
Stove. Gas-	C. Clamond	807,244	Dec. 12	2290	494	119	1807
Stove. Gas-	C. Clamond	807,246	Dec. 12	2297	495	119	1807
Stove. Heating-	W. G. Taylor	807,880	Dec. 19	3562	771	119	2123
Stove-screen	H. J. Goble	808,038	Dec. 19	3841	831	119	2186
Stove. Soft-coal base-burning	E. J. Lahan	804,140	Nov. 7	1212	259	119	266
Stove. Soft-coal heating-	H. R. Cowles	806,323	Dec. 5	476	104	119	1372
Stovepipe	A. A. Kinne	806,544	Dec. 5	874	194	119	1461
Stovepipe-connector	C. M. Rankin	807,496	Dec. 19	2773	598	119	1954
Stovepipe-elbows. Making corrugated	A. G. Scherer	805,490	Nov. 28	3957	855	119	989
Stovepipe-fastener	F. P. Richards	805,753	Nov. 28	4449	951	119	1093
Stovepipe-thimble and flue-cap	A. T. Burch	804,208	Nov. 14	1397	296	119	348
Stovepipe-thimble connection	J. W. Mahaffy	805,656	Nov. 28	4266	917	119	1055
Strainer and cut-off. Drain-pipe	W. E. Piper	808,477	Dec. 26	4753	1024	119	2428
Strainer with filter-pad, &c. Milk-	J. Fliegel	807,547	Dec. 19	2885	620	119	1975
Strap	J. Fisher	807,426	Dec. 12	2636	569	119	1883
Strap-holder	J. D. Randall	804,342	Nov. 14	1676	362	119	408
Straw-carrier	W. W. Dingee	808,024	Dec. 19	3822	828	119	2182
Street-cleaner	H. Duke	808,352	Dec. 26	4531	974	119	2381
Street-sprinkler. Automobile	J. J. Sullivan	806,378	Dec. 5	569	125-6	119	1392
Street-sweepers and the like. Rotary brush for	C. H. Butler	808,006	Dec. 19	3791	822	119	2175
Stretching device	C. S. Weaver and G. H. Lounsberry.	807,588	Dec. 19	2986	640	119	1998
Stuff-feeder	E. S. Daniels	806,115	Dec. 5	44	10	119	1275
Stuffing-box	J. M. Peck	806,489	Dec. 5	790	174	119	1442
Stuffing-box gland	J. Maloy and A. Trenker	805,308	Nov. 21	3612	780	119	872
Stump-boring machine	O. B. Moye	806,171	Dec. 5	163	35	119	1300
Stump-puller	J. J. Milne	808,247	Dec. 26	4298	924	119	2329
Submarine explorations. Apparatus for	J. C. Zubli	807,230	Dec. 12	2263	489-90	119	1799
Submerged heater	C. H. Grub	804,656	Nov. 14	2289	497	119	537
Sugar from cellulose. Manufacture of	C. F. Cross	807,250	Dec. 12	2303		119	1808
Sugar-wafer machine	J. H. Mitchell	806,479	Dec. 5	773	171	119	1438
Sulfur. Recovering	R. Baggaley	805,701	Nov. 28	4349	934	119	1072
Sunken articles. Device for locating and recovering	F. D. Zoll	806,730	Dec. 5	1229	275	119	1535
Sunshade	I. Wine	804,290	Nov. 14	1565	337	119	383
Superheater	W. Schmidt	804,557	Nov. 14	2083	455-6	119	497
Superheater	C. D. Mosher	806,169	Dec. 5	160	34	119	1300
Superheater. Independently-fired	J. E. Bell	808,228	Dec. 26	4264	917	119	2321
Support	M. A. Dickinson	807,158	Dec. 12	2135	458	119	1773
Supporter-loop	I. B. Kleinert	805,559	Nov. 28	4097	883	119	1018
Surgical apparatus for internal examination	J. C. Zubli	803,956	Nov. 7	842	178	119	180
Surgical appliance	H. T. Foote	807,160	Dec. 12	2139	459	119	1773
Surgical operating-cushion	A. C. Eggers	807,366	Dec. 12	2511	542	119	1854
Surgical table	E. L. and E. B. von Eschen	804,784	Nov. 14	2544	556	119	601
Suspenders	C. A. Murray	804,871	Nov. 21	2727	589	119	683
Suspenders	W. Freeman	804,942	Nov. 21	2848	612	119	712
Suspenders	F. Draper	807,364	Dec. 12	2510	542	119	1853
Suspenders	G. D. Ashelman	807,989	Dec. 19	3759	815-16	119	2168
Suspenders. Trousers-	F. Ferguson	806,880	Dec. 12	1576	345	119	1653
Sweater	E. H. Brown	805,259	Nov. 21	3517	759	119	852
Sweeper	R. Wylie	806,226	Dec. 5	260	56	119	1322
Swimming appliance	A. M. Bullock	805,526	Nov. 28	4033	871	119	1005

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date	Monthly volume		Official Gazette	
				Spec	Dr'g	Vol.	Page.
Swimming appliance	W. P. Samms	805,672	Nov. 28	4292	924	119	1060
Swimming device	A. M. Bullock	805,525	Nov. 28	4031	870	119	1005
Swing	A. W. Kirkpatrick	804,663	Nov. 14	2281	500	119	540
Swinging gate	C. Siebring	805,032	Nov. 21	3041	659	119	753
Swinging gate	T. B. Walston	808,324	Dec. 26	4470	961	119	2367
Switch:							
See Automatic switch. Electric switch. Electric snap-switch. Electric time-switch. Knife-switch. Magnetic blow-out switch. Motor-operated switch. Railway-switch. Signal-switch. Trolley-switch.							
Switch	G. Bertold	803,542	Nov. 7	28	7	119	9
Switch	J. C. Scargle	804,626	Nov. 14	2211	484	119	524
Switch and lock movement and detector-bar	L. H. Thullen	807,337	Dec. 12	2464	531	119	1844
Switch and signal system	E. J. Adams	807,103	Dec. 12	2028	436-7	119	1751
Switch-clips. Making	W. J. Rickey	808,258	Dec. 26	4314	927	119	2333
Switch contact mechanism. Snap-	C. A. Clark and E. A. La Har	804,381	Nov. 14	1743	377	119	424
Switch-controlling mechanism	J. S. Pevear	806,751	Dec. 5	1277	285	119	1545
Switch-operating apparatus	J. I. Pittman and E. Harrison	806,567	Dec. 5	917	203	119	1470
Switch-operating device	W. E. Hubbard	807,171	Dec. 12	2160	464	119	1777
Switch-operating device	J. C. Hallett	807,820	Dec. 19	3440	739-40	119	2096
Switch-operating device. Electric	I. J. Stouffer	806,442	Dec. 5	698	156-7	119	1424
Switch-operating mechanism	J. S. Pevear	806,709	Dec. 5	1184	265	119	1526
Switch-operating mechanism	G. J. Curran	807,063	Dec. 12	1949	421	119	1735
Switch-operating mechanism	J. A. McCaskey	807,486	Dec. 19	2756	595	119	1950
Switch-operating mechanism	F. C. Anderson	807,896	Dec. 19	3601	779	119	2133
Switch or signal apparatus	F. L. Young	806,948	Dec. 12	1718	377	119	1683
Switch-signal	J. C. Wigman	807,053	Dec. 12	1933	417	119	1731
Switch-stand	F. W. Snow	806,299	Dec. 5	435	94	119	1363
Switching apparatus. Electrical	W. J. Richards	804,344	Nov. 14	1679	362-3	119	400
Switching device. Automatic	J. A. De Ford	805,059	Nov. 21	3105	672	119	766
Switchboards. Means for restoring ring-off drops for	E. McLean	807,575	Dec. 19	2956	635	119	1990
Swivel, ring, and lap-ring. Combined	J. C. Hackett	805,909	Nov. 28	4748	1015	119	1158
Syringe	C. J. Tagliabue	803,640	Nov. 7	218	48	119	49
Syringe	A. B. Jamison	804,407	Nov. 14	1791	387-8	119	434
Syringe	C. J. Davol	804,584	Nov. 14	2141	468	119	510
Syringe	J. J. Brin	805,339	Nov. 21	3667	793	119	883
Syringe	J. C. Blair	807,905	Dec. 19	3619	783	119	2137
Syringe. Fountain-	C. A. Tatum	806,306	Dec. 5	447	97	119	1365
Syringe. Hypodermic	J. W. Nassauer	804,874	Nov. 21	2731	590	119	684
Table:							
See Adjustable table. Billiard-table. Concentrating and amalgamating table. Embalming-table. Extension-table. Folding and adjustable table. Invalid's table. Kitchen-table. Self-leveling table. Surgical table.							
Table	C. A. Melin and C. E. Johnson	804,965	Nov. 21	2898	627	119	722
Table	J. L. Newell	806,907	Dec. 12	1626	356	119	1663
Table lock. Extension-	J. L. Arnold	805,606	Nov. 28	4335	931	119	1070
Table-mat	H. B. Walker	806,218	Dec. 5	245	52	119	1318
Table-support	V. C. Luppert	803,916	Nov. 7	754	162	119	164
Tablet. Continuous writing-	P. M. Wise	806,041	Nov. 28	4988	1064	119	1212
Tablet. Writing-	P. T. Lemaster	804,743	Nov. 14	2458	535	119	581
Tachometer	C. D. Haskins	808,237	Dec. 26	4281	920	119	2325
Tachometer. Magnetic	E. H. Porter and B. Currier	806,363	Dec. 5	540	119-20	119	1386
Tacking-machine	H. H. Cummings	807,111	Dec. 12	2050	440-1	119	1756
Tag	F. K. Blanchard and J. F. Price	804,373	Nov. 14	1728	374	119	420
Tag-securing device	W. G. Young	806,229	Dec. 5	264	57	119	1323
Tailor's iron. Gas-heated	J. Baris	807,533	Dec. 19	2850	613	119	1968
Talking-machine	V. H. Rapke	806,289	Dec. 5	405	89-90	119	1356
Talking-machine attachment	G. Königstein	804,477	Nov. 14	1922	419	119	462
Talking-machine attachment	J. H. Lutz	805,923	Nov. 28	4767	1020	119	1162
Talking-machine repeating attachment	S. Kershaw	805,076	Nov. 21	3143	682	119	773
Talking-machine sound-modifier	C. R. King	805,077	Nov. 21	3146	682	119	774
Tambouring apparatus	A. L. Veluard	804,072	Nov. 7	1087	231	119	235
Tank:							
See Gas-holder tank. Liquid-discharging tank. Non-freezing tank. Oil-tank. Water-closet tank.							
Tank-heater and feed-cooker	W. S. Griffiths	806,360	Dec. 26	4542	977	119	2383
Tanning	J. Campbell	804,450	Nov. 14	1870	.....	119	449
Tanning-vat	R. Koenitzer	806,899	Dec. 12	1615	354	119	1660
Tap. Beer-	M. J. Chaplin	808,341	Dec. 26	4498	966	119	2374
Tap. Expanding	G. H. Burley	804,928	Nov. 21	2824	609	119	706
Tap for beer-barrels	M. J. Chaplin	808,195	Dec. 26	4198	905	119	2306
Tapping attachment	G. H. Holm	803,596	Nov. 7	141	32	119	32
Target	A. L. Hockett	805,361	Nov. 21	3710	803	119	892
Target. Self-registering	M. S. Ellis	804,712	Nov. 14	2387	521	119	564
Target-throwing trap	F. Hardy	806,663	Dec. 5	1089	241	119	1506
Target-trap	J. P. Leggett	804,143	Nov. 7	1220	261-2	119	268
Target-trap	T. Masel	806,689	Dec. 5	1149	257	119	1518
Target-trap	J. H. Brookman	806,773	Dec. 12	1342	298	119	1598
Target-trap attachment	J. Kautzky	806,897	Dec. 12	1610	353	119	1660
Teat-cup. Pneumatic	A. Gillies	807,372	Dec. 12	2526	546-7	119	1857
Teeth. Apparatus for the correction of irregular	V. E. Barnes	804,200	Nov. 14	1386	294	119	346
Telegraph-circuits. Double jack for	O. Johnson	806,812	Dec. 12	1422	313-14	119	1617
Telegraph-key. Rear-end-contact	S. B. Lefley	805,735	Nov. 28	4416	947	119	1087
Telegraph line-wires. Adjustable support for	J. N. Bell	806,769	Dec. 12	1332	296	119	1596
Telegraph line-wires. Device for preventing contact in	W. L. G. Appleby	804,365	Nov. 14	1710	371	119	416
Telegraph-repeater	F. W. Jones	806,412	Dec. 5	640	140	119	1409
Telegraph-repeater	O. C. Greene and C. H. Gaunt	806,801	Dec. 12	1398	308	119	1611
Telegraph system. Wireless-	L. De Forest	806,966	Dec. 12	1746	383	119	1689

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Telegraph-transmitter	B. P. Hayes and S. H. Gill	808,366	Dec. 26	4549	979–80	119	2384
Telegraphic apparatus	M. A. Hawley and W. L. Rhoads	806,891	Dec. 12	1601	351	119	1658
Telegraphic repeater	S. D. Field	806,884	Dec. 12	1584	347	119	1655
Telegraphic sounder	F. H. Miller	803,704	Nov. 7	366	77	119	83
Telegraphy. Receiver for wireless	H. S. Blackmore	806,052	Nov. 28	5011	1068	119	1216
Telegraphy receiving-stations. Induction-transformer for wireless	E. Ducretet	803,569	Nov. 7	78	19	119	18
Telegraphy. System for wireless	T. E. Clark	805,412	Nov. 21	3798	821	119	912
Telephone	J. H. Boyd	807,806	Dec. 19	3414	734	119	2091
Telephone attachment	J. Silverman	806,372	Dec. 5	560	123	119	1390
Telephone attachment	P. Kammerer	808,454	Dec. 26	4709	1014	119	2419
Telephone-bracket	H. F. Foersterling	806,790	Dec. 12	1378	304	119	1607
Telephone-exchange system	H. G. Webster	804,077	Nov. 7	1093	233	119	237
Telephone-exchange system	M. G. Kellogg	804,862	Nov. 21	2708	586	119	679
Telephone-exchange system	H. T. Cedergren	805,901	Nov. 28	4734	1012	119	1155
Telephone-exchanges. Multiple switchboard for	M. G. Kellogg	804,861	Nov. 21	2705	586	119	678
Telephone-holder	C. H. Borden	803,980	Nov. 7	901	189	119	193
Telephone instrument	E. A. Reynolds	804,431	Nov. 14	1837	398	119	444
Telephone mouthpiece attachment	M. F. H. Phillips and W. B. Hubbard.	806,284	Dec. 5	387	85	119	1351
Telephone night-watch system	W. Geckler	803,890	Nov. 7	703	152	119	152
Telephone push-button switch mechanism	B. L. Lawton	804,742	Nov. 14	2454	534	119	580
Telephone selective system. Party-line	W. M. Bruce, Jr.	806,950	Dec. 12	1721	377	119	1684
Telephone service. Recording apparatus for measured	J. A. Kenny	808,353	Dec. 26	4586	987–8	119	2392
Telephone-shelf	J. S. Gold	806,339	Dec. 5	502	110	119	1377
Telephone signal system	A. R. Hoover	804,848	Nov. 21	2685	582	119	675
Telephone-switchboard apparatus	T. V. Davis	804,103	Nov 7	1149	244	119	252
Telephone-switchboard signal	F. R. McBerty	804,256	Nov. 14	1490	320	119	367
Telephone system	W. A. Robinson	803,856	Nov. 7	644	140	119	138
Telephone system. Multiple-station	A. J. Farmer	805,126	Nov. 21	3236	701–2	119	793
Telephones. Electric switch or disconnecting device for	L. J. Fletchall	804,940	Nov. 21	2845	612	119	711
Telephonic system	R. H. Polk	807,316	Dec. 12	2425	522–3	119	1835
Telephony	F. W. Dunbar	803,676	Nov. 7	291	63–4	119	65
Telephony	E. A. Buell	807,596	Dec. 19	2995	642	119	1999
Telephony	I. Kitsee	808,386	Dec. 26	4598	989	119	2395
Telephony	A. G. Davis	808,438	Dec. 26	4679	1007–8	119	2412
Telephony	A. G. Davis	808,600	Dec. 26	4998	1078	119	2482
Telescope cross-hairs Illuminating means for	G. N. Saegmuller	804,624	Nov. 14	2208	483	119	524
Telescope. Double	M. Berger	807,713	Dec. 19	3228	692	119	2051
Telescopic case or box	C. W. Barnes	803,966	Nov. 7	857	182	119	185
Telescopy	R. A. Anthony	804,996	Nov. 21	2967	644	119	737
Telltale	R. H. Cobb	805,713	Nov. 28	4373	938	119	1078
Tellurian	J. E. Rempe	806,839	Dec. 12	1471	325–6	119	1628
Templet and punch for marking centers in metal work.	J. D. Cummings	804,795	Nov. 14	2564	560	119	605
Tenon-forming machine	S. R. Bailey	805,183	Nov. 21	3350	726	119	817
Tent	H. L. Gulline	806,802	Dec. 12	1399	308	119	1611
Terpenes and other products from wood. Obtaining	E. B. Weed	804,358	Nov. 14	1697	368	119	413
Terret. Harness	J. R. Potts	804,881	Nov. 21	2745	593	119	687
Textile-fiber material	S. Kohn	805,366	Nov. 21	3718	.....	119	894
Textile machinery. Electric stop-motion for	J. B. Whitney. (Reissue)	12,423	Dec. 12	2655	573	119	1888
Textile machinery. Electrical stop-motion mechanism for	J. B. Whitney. (Reissue)	12,422	Dec. 12	2653	572	119	1887
Textile machinery. Faller for stop-motion mechanisms for	J. B. Whitney	808,419	Dec. 26	4646	1000	119	2405
Textile machinery. Faller for stop-motion mechanisms for	J. B. Whitney	808,420	Dec. 26	4647	1000	119	2405
Textile machinery. Faller for stop-motion mechanisms for	J. B. Whitney	808,617	Dec. 26	5026	1096	119	2488
Textile machinery. Tension device for	J. R. Mitchell	806,555	Dec. 5	889	198	119	1464
Therapeutic apparatus	C. G. Lindstrom	804,484	Nov. 14	1933	421	119	465
Thermal cut-out	T. Varney	807,885	Dec. 19	3573	773	119	2125
Thermal protector. Self-soldering	F. B. Cook	803,881	Nov. 7	688	150	119	148
Thermo-electric battery	A. Heil	808,086	Dec. 26	3951	853	119	2262
Thermomedical device	D. M. Small	804,776	Nov. 14	2520	552	119	595
Thermometer	C. J. Tagliabue	803,639	Nov. 7	217	48	119	48
Thermostat	P. A. Brown	807,718	Dec. 19	3238	694	119	2053
Thill and tongue support	J. H. Henson	804,316	Nov. 14	1626	352	119	396
Thill-coupling	B. F. Haldeman	804,719	Nov. 14	2406	525	119	568
Thill-coupling	C. C. Bradley	804,925	Nov. 21	2820	608	119	705
Thill-loop	C. A. Jacky	804,475	Nov. 14	1916	417	119	461
Thimble	S. H. Huntington	805,297	Nov. 21	3595	777	119	869
Thread-guide	X. Bossart	803,982	Nov. 7	906	190	119	194
Thread-guide holder	E. Tompkins	806,443	Dec. 5	700	157	119	1424
Thread-holding device	R. Rowley and L. S. Rubira	808,114	Dec. 26	4019	865	119	2268
Threshing-machine	E. F. Whiting and G. Johnson	808,497	Dec. 26	4798	1034	119	2439
Threshing-machine cylinder	A. L. Gill	806,537	Dec. 5	864	191	119	1459
Threshing-machine feeder	C. S. Sherwood	808,173	Dec. 26	4151	895–6	119	2295
Threshing-machine sieves. Device for adjusting	J. A. Steelsmith	806,508	Dec. 5	821	180–1	119	1449
Threshing-machine steering attachment	W. N. Kingsley	807,472	Dec. 19	2737	590	119	1945
Threshing-machine straw-conveyer	J. E. Humphrey	806,671	Dec. 5	1113	249	119	1510
Ticket-case	W. T. Sherwood	806,506	Dec. 5	818	180	119	1448
Ticket-holder	R. H. Mallory	806,985	Dec. 12	1776	390	119	1696
Ticket-separating machine	W. A. Gibbs	806,969	Dec. 12	1754	384–5	119	1691
Ticket. Transfer	W. C. Pope	805,153	Nov. 21	3289	714	119	904
Tickets, &c. Automatic delivery apparatus for	N. Klein	804,013	Nov. 7	956	201	119	204
Tickets, &c. Machine for separating	W. A. Gibbs	806,968	Dec. 12	1752	384	119	1691
Tickler	J. B. Perrine	803,709	Nov. 7	372	79	119	84
Tie: *See* Rail-tie. Railway-tie.							
Tie-plates. Manufacture of	J. E. York	807,650	Dec. 19	3102	666–7	119	2024
Tile and other articles of pottery-ware, glass, &c. Automatic machinery or apparatus for decorating and glazing	F. Mountford	804,425	Nov. 14	1824	394–6	119	441
Tile-making machine	L. O. Burnham	806,633	Dec. 5	1025	228	119	1493

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Tile-molding machine	H. Meyer	804,753	Nov. 14	2488	544	119	587
Tile. Roofing-	H. Meyer	804,754	Nov. 14	2490	544	119	588
Tile. Roofing-	L. G. Satterlee	805,984	Nov. 28	4703	1006	119	1148
Tiling	F. C. Millhoff	807,083	Dec. 12	1981	429	119	1741
Time-alarm	W. A. Garris	804,653	Nov. 14	2265	496	119	536
Time-detector. Watchman's	P. Moosmann	806,186	Dec. 5	152	33	119	1298
Time-lock. Electric	J. T. Van Dillen	806,942	Dec. 12	1708	374–5	119	1681
Time-recorder	W. I. Follett	803,888	Nov. 7	700	152	119	151
Time-recorder. Watchman's	J. Summers	803,797	Nov. 7	539	117–18	119	118
Time-recorder Watchman's	J. Summers	804,444	Nov. 14	1863	404	119	448
Time-recorders. Card-frame for	J. and A. Dey	804,934	Nov. 21	2833	611	119	708
Timekeeper	A. A. Newman	805,375	Nov. 21	3732	809–10	119	897
Timekeeper	A. A. Newman	805,376	Nov. 21	3737	810	119	898
Timekeepers. Cabinet and rack for	A. A. Newman	805,377	Nov. 21	3738	810–11	119	899
Timekeepers. Check-rack and check for	A. A. Newman	805,378	Nov. 21	3740	811	119	899
Timing device	H. H. McIntire	807,574	Dec. 19	2953	635	119	1990
Tire	J. F. McCanna	807,633	Dec. 19	3062	657	119	2014
Tire and means for securing same in place. Resilient.	W. P. Beasley	807,350	Dec. 12	2487	536	119	1848
Tire and rim. Vehicle	W. C. State	804,996	Nov. 21	2770	598	119	693
Tire. Armored	C. W. Caterson	803,989	Nov. 7	918	193	119	197
Tire attachment. Wheel-	J. F. Horn	806,810	Dec. 12	1419	313	119	1616
Tire. Bicycle-	L. W. Groat	807,073	Dec. 12	1967	426	119	1738
Tire bolting, boring, and drilling machine	G. L. Miller	807,481	Dec. 19	2748	593	119	1948
Tire-charging valves. Coupling for	G. W. Kellogg	807,032	Dec. 12	1870	407	119	1716
Tire-cover	J. C. Dufour	808,074	Dec. 26	3919	848	119	2246
Tire. Cushioned	C. W. Adsit	808,426	Dec. 26	4662	1002	119	2409
Tire. Cycle-	A. S. Allen	803,658	Nov. 7	255	54	119	57
Tire. Elastic vehicle-	G. Knadler	807,748	Dec. 19	3310	711	119	2067
Tire. Endless solid-rubber	R. D. Bradley	806,101	Dec. 5	18	5	119	1269
Tire for wheels. Spring-	R. Stone	805,243	Nov. 21	3479	753	119	843
Tire. Metallic	W. J. Paton	807,961	Dec. 19	3716	805	119	2159
Tire. Non-puncturable	L. A. Davison and J. M. Logan	805,591	Nov. 28	4153	894	119	1030
Tire-plug	F. B. Parks	807,087	Dec. 12	1998	430	119	1742
Tire. Pneumatic	A. S. Allen	803,659	Nov. 7	256	54	119	58
Tire. Pneumatic	M. H. Blakeslee	804,088	Nov. 7	1123	237	119	246
Tire. Pneumatic	O. M. Bigger	804,701	Nov. 14	2365	516	119	558
Tire. Pneumatic	J. P. Le Grand	806,352	Dec. 5	525	115	119	1382
Tire. Pneumatic	J. H. Bleoo	807,351	Dec 12	2489	536	119	1849
Tire. Pneumatic	E. M. Birdsall	807,537	Dec. 19	2856	614	119	1969
Tire. Resilient	W. F. Beasley	804,368	Nov. 14	1715	372	119	417
Tire. Resilient	W. F. Beasley	804,369	Nov. 14	1718	372	119	418
Tire. Resilient	C. L. Ireson	804,852	Nov. 21	2691	583	119	676
Tire. Resilient	W. F. Beasley	806,623	Dec. 5	1014	225	119	1490
Tire-shrinker and jack	W. H. Horner and E. A. Buck	804,125	Nov. 7	1184	253	119	260
Tire-shrinking machine. Cold-	S. N. House	805,798	Nov. 28	4523	969	119	1107
Tire. Spring-	T. Ware	805,046	Nov. 21	3064	664	119	758
Tire. Vehicle-	H. Lutz. (Reissue)	12,402	Nov. 7	1361	290	119	300
Tire. Vehicle-	F. A. Magowan	804,613	Nov. 14	2187	480	119	519
Tire. Vehicle-	F. G. Saylor	804,772	Nov. 14	2514	550–1	119	594
Tire. Vehicle-	A. J. Slade	804,891	Nov. 21	2765	597	119	692
Tire. Vehicle-	L. E. Allen and W. J. Poyser	805,434	Nov. 28	3863	835	119	969
Tire. Vehicle-	A. De Laski	806,351	Dec. 5	524	115	119	1382
Tire. Vehicle-	R. B. Parker	807,311	Dec. 12	2417	520	119	1833
Tire. Vehicle-	C. A. Immler	807,744	Dec. 19	3304	710	119	2066
Tire. Wheel-	L. S. Flatau	806,654	Dec. 5	1076	238	119	1503
Tires. Chain armor for pneumatic	E. B. Hazleton	807,167	Dec. 12	2156	463	119	1776
Tires. Clamping device for pneumatic	H. K. Raymond, M. C. Schweinert, and H. P. Kraft.	808,307	Dec. 26	4429	952	119	2358
Tires. Device for relieving pressure on motor-vehicle	J. C. Wands	806,089	Nov. 28	5085	1084–5	119	1230
Tires. Leather wearing-tread for resilient	C. L. Ireson	804,855	Nov. 21	2695	584	119	677
Tires. Means for inflating rubber	A. G. Lavertine and J. E. McNellan.	805,474	Nov. 28	3930	850	119	982
Tires. Non-skidding cover for	E. Fairburn	807,611	Dec. 19	3022	647–8	119	2004
Tires of motor-vehicles. Jack for relieving pressure on pneumatic	J. C. Wands	806,088	Nov. 28	5084	1084	119	1230
Tires. Protective tread for pneumatic	J. M. Small	804,892	Nov. 21	2766	597	119	692
Tires to rims of wheels. Means for securing pneumatic	S. Smith	806,013	Nov. 28	4940	1055	119	1201
Tobacco-bag nozzle	M. Granat	805,084	Nov. 28	5079	1082	119	1229
Tobacco-curing barn	D. W. Mishler	807,763	Dec. 19	3332	715	119	2072
Tobacco-leaf stripping and booking machine	G. A. Marier	806,272	Dec 5	352	77–81	119	1341
Tobacco package. Chewing-	A. Marschner	805,806	Nov. 28	4536	972	119	1110
Tobacco-pipe	G. W. Justus	807,828	Dec. 19	3453	743	119	2099
Tobacco-pipe-cleaning attachment	W. J. Mecredy	804,749	Nov. 14	2482	542	119	596
Tobacco. Removing nicotin from articles made of	A. Falk	803,887	Nov. 7	698	151	119	151
Toilet and manicure case	J. J. M. Dawson	808,143	Dec. 26	4082	878	119	2281
Toilet article	E. M. Wood	807,798	Dec. 19	3395	729	119	2087
Tomato-scalder	W. L. Clark and J. L. Terry	805,632	Nov. 28	4225	909	119	1046
Tongue-support	J. F. Cell	808,071	Dec. 26	3913	847	119	2245
Tool	C. S. Schultz	804,436	Nov. 14	1850	401	119	446
Tool	P. G. Tacchi and A. J. Jung	805,328	Nov. 21	3651	789–90	119	880
Tool. Combination-	E. Hogan	807,382	Dec. 12	2540	550	119	1860
Tool. Combination-	R. H. Bowman	807,908	Dec. 19	3777	820	119	2172
Tool construction	J. M. Sullivan	807,879	Dec. 19	3559	770	119	2122
Tool. Hand-	E. M. Zacharias	804,295	Nov. 14	1576	340	119	386
Tool. Hand pneumatic	E. Franke	807,452	Dec. 19	2709	584	119	1939
Tool-handle	G. E. Wood	808,330	Dec. 26	4478	962	119	2369
Tool handle. Pneumatic-	W. H. Keller	807,384	Dec. 12	2544	551	119	1853
Tool-holder	A. M. Padmore	806,750	Dec. 5	1276	284	119	1545
Tool-holder and tool	C. W. Grant	807,166	Dec. 12	2155	462	119	1776
Tool. Pneumatic	E. B. Boyer	804,449	Nov. 14	1868	405	119	449
Tool. Pneumatic	J. F. Clement	805,633	Nov. 28	4226	909	119	1047
Tool. Pneumatically-actuated	R. Temple. (Reissue)	12,411	Nov. 21	3854	834	119	924
Tool. Pocket-	J. T. Rosenheimer	805,486	Nov. 28	3961	853	119	987
Tool-rack	F. Merten	806,691	Dec. 5	1153	258	119	1519
Tool-rack	J. W. Danhour	808,142	Dec. 26	4080	878	119	2281
Tooth. Artificial	E. L. Townsend	806,171	Nov. 21	3327	720	119	813

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Tooth fastening for bridgework. Artificial-	T. H. Whiteside	806,034	Nov. 28	4976	1062	119	1209
Tooth for bridgework. Artificial	H. B. Gregory	804,116	Nov. 7	1173	250	119	258
Toothpicks and similar articles. Holder for	C. F. Hamel	808,606	Dec. 26	5009	1061	119	2484
Top. Whipping-	E. Tinnerholm	806,212	Dec. 5	235	50	119	1316
Torpedo. Automotor-	H. A. Noalhat and G. Fournier	807,195	Dec. 12	2210	475	119	1788
Torpedo-boat	T. J. Moriarty	807,482	Dec. 19	2751	594	119	1949
Torpedo-net	W. P. Bullivant and G. M. Selby	804,704	Nov. 14	2369	517	119	560
Torpedoes, &c. Igniting mechanism for air-	W. T. Unge	806,026	Nov. 28	4950	1059–60	119	1205
Towel-fastener	W. L. Stevens	805,035	Nov. 21	3045	660	119	754
Toy	W. Whitfield	804,907	Nov. 21	2789	602	119	697
Toy	F. J. Pioch	804,972	Nov. 21	2911	631	119	725
Toy	J. W. Hughes	806,255	Dec. 5	317	68	119	1334
Toy	L. E. Bergensten	807,237	Dec. 12	2279	492	119	1805
Toy	J. C. Krejci	808,458	Dec. 26	4719	1016	119	2421
Toy bank	F. Plattner	804,430	Nov. 14	1836	398	119	444
Toy cannon. Breech for	R. A. Scheffel	806,196	Dec. 5	204	44	119	1310
Toy elevator	W. H. Smith	806,930	Dec. 12	1689	371	119	1677
Toy fire-engine	H. T. Kingsbury	806,983	Dec. 12	1774	390	119	1696
Toy gun	F. W. Dill and J. R. Hill	806,118	Dec. 5	51	11	119	1276
Toy. Inertia-wheel	H. T. Kingsbury	806,977	Dec. 12	1766	387	119	1694
Toy. Inertia-wheel	H. T. Kingsbury	806,978	Dec. 12	1768	388	119	1694
Toy. Inertia-wheel	H. T. Kingsbury	806,980	Dec. 12	1771	388–9	119	1695
Toy. Inertia-wheeled	H. T. Kingsbury	806,979	Dec. 12	1769	388	119	1695
Toy. Inertia-wheeled	H. T. Kingsbury	806,981	Dec. 12	1772	389	119	1696
Toy. Musical	D. Howe	805,727	Nov. 28	4399	944	119	1084
Toy pistol	F. Campbell	806,063	Nov. 28	5031	1072	119	1220
Toy pistol	O. L. Harrison	807,460	Dec. 19	2720	586	119	1941
Toy swing	G. E. Mellen	803,838	Nov. 7	616	134	119	133
Toy. Trick telephone	E. G. Myers	806,276	Dec. 5	372	82	119	1347
Toy-vehicle wheel	D. P. Clark	806,872	Dec. 12	1559	341	119	1649
Toy. Wheeled	H. N. Parker	806,982	Dec. 12	1773	389	119	1696
Trace-attaching member	A. K. Balteror	805,704	Nov. 28	4354	935	119	1073
Trace-carrier	J. B. Miller	806,297	Dec. 26	4412	948	119	2354
Trace-hook	J. T. Scogin	806,925	Dec. 12	1681	368	119	1675
Trace-splice	H. Breiding	807,058	Dec. 12	1939	418	119	1733
Tracing or duplicating pad	L. C. Edmund	806,738	Dec. 5	1253	278	119	1541
Track-alining apparatus	F. B. Shaw and J. M. Eberle	807,208	Dec. 12	2232	480	119	1793
Track-alining device	E. Murphy	806,172	Dec. 5	164	35	119	1301
Track-bracket	G. A. Swineford	806,020	Nov. 28	4949	1057	119	1203
Track-gage	C. Nelson	804,258	Nov. 14	1495	321	119	368
Track-laying machine	N. Bennett	805,623	Nov. 28	4210	906	119	1043
Track-laying machine	F. W. McCabe and V. E. Steen	805,808	Nov. 28	4537	972–3	119	1110
Track-sanding device	H. Stokes	803,935	Nov. 7	785	168	119	171
Tracker-board	H. P. Ball	804,822	Nov. 21	2622	570	119	660
Traction-engine	F. N. Briney	808,230	Dec. 26	4269	918	119	2322
Traction-towing. Gripper mechanism for	P. Thompson	807,218	Dec. 12	2250	485	119	1796
Traction-wheel	M. Peterson	803,782	Nov. 7	516	112	119	113
Train-order-holding device	W. W. Ayres	807,234	Dec. 12	2269	491	119	1800
Train-order indicator	H. C. Beck	804,087	Nov. 7	1122	236	119	246
Transfer apparatus	H. H. Porter, Jr	804,975	Nov. 21	2916	632–3	119	726
Transfer system	W. N. Springer	807,584	Dec. 19	2976	639	119	1905
Transmission mechanism	C. G. Simonds	804,438	Nov. 14	1852	402	119	446
Transmission mechanism	C. E. Bertels	806,316	Dec. 5	464	101–2	119	1369
Transmitter	A. Van Wagenen	804,279	Nov. 14	1541	333	119	378
Transmitter	A. Van Wagenen	804,280	Nov. 14	1545	333–4	119	379
Transmitter and transmitter-arm connection	E. E. Yaxley	807,528	Dec. 19	2634	609	119	1905
Transom-lifter	R. W. King	808,456	Dec. 26	4715	1015	119	2420
Transportation unit. Marine	W. T. Donnelly	805,268	Nov. 21	3540	763–4	119	858
Trap: *See* Animal-trap; Bath-tub or the like trap; Drain-pipe seal-trap; Fly-trap; Insect-trap; Moth-trap; Quicksilver-trap; Steam-trap; Target-trap; Target-throwing trap; Waste-trap.							
Trap	F. H. Schultz	803,629	Nov. 7	202	45	119	45
Trap	R. L. Stringfellow	806,936	Dec. 12	1697	372	119	1679
Trap-joint	C. H. Muckenhirn	807,304	Dec. 12	2407	518	119	1851
Traveling-bag. Telescopic	A. B. Sprague	805,680	Nov. 28	4302	926	119	1062
Traveling-case and sales-table. Combination	N. M. Barr	808,427	Dec. 26	4663	1002	119	2410
Traveling-case lock	S. W. Bonsall	808,189	Dec. 26	4185	901	119	2302
Tray case. Dress-	A. Baxter	804,367	Nov. 14	1713	371	119	417
Tree: *See* Boot and shoe tree; Clothes-tree; Shoe-tree.							
Tree-felling footboard	A. E. Evans and F. Caron	806,963	Dec. 12	1741	382	119	1688
Tree-protector	S. S. Staley and J. T. Ward	807,213	Dec. 12	2243	484	119	1795
Tree-support	J. Donnelly	806,402	Dec. 5	620	136	119	1405
Trimming	D. B. Coon	803,882	Nov. 7	690	150	119	149
Trimming and weeding implement	W. C. Flugan	805,191	Nov. 21	3370	730	119	821
Tripod-head	G. J. Hoelzer	807,078	Dec. 12	1972	427	119	1739
Trolley	M. Baker	804,648	Nov. 14	2257	494	119	534
Trolley	G. R. Fletcher	806,248	Dec. 5	304	65	119	1331
Trolley	A. Bopp	806,530	Dec. 5	1022	227	119	1492
Trolley	A. P. Lord	807,477	Dec. 19	2743	592	119	1947
Trolley-base	H. R. Lockhart	805,568	Nov. 28	4109	886	119	1021
Trolley. Cable-	J. E. Boyle	805,338	Nov. 21	3066	793	119	883
Trolley-contact	I. J. Bradshaw	808,867	Dec. 12	1536	337	119	1644
Trolley-finder	J. Wilhelm	808,539	Dec. 26	4977	1074	119	2476
Trolley for electric railways	W. J. Barron	807,653	Dec. 19	3107	668	119	2025
Trolley-harp	C. L. Hooper	807,822	Dec. 19	3443	740	119	2097
Trolley-harp for electric railways	J. Miller, Jr	808,163	Dec. 26	4135	891	119	2292
Trolley head. Electric-	J. T. Cherry and E. H. Clive	808,129	Dec. 26	4075	877	119	2279
Trolley-pole	J. F. Osburn and W. T. Coad	808,109	Dec. 26	4008	863	119	2266
Trolley-pole controllers. Valve-governor for	M. O. Dolson	808,198	Dec. 26	4202	906	119	2307
Trolley-signal	B. H. Roberts	806,430	Dec. 5	670	148	119	1416

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Trolley-switch. Electric	G. H. Negley and I. L. Brown	805,225	Nov. 21	3431	744	119	834
Trolley-wheel	E. Brossy	803,806	Nov. 7	554	121	119	120
Trolley-wheel	T. Broadbent and I. Hey	805,408	Nov. 21	3794	820	119	911
Trolley-wheel	A. H. Mathesius	805,572	Nov. 28	4114	887	119	1022
Trolley-wheel and mounting therefor	F. N. Russell	805,096	Nov. 21	3173	688	119	780
Trolley-wheel. Electric	J. Miller, Jr	808,162	Dec. 26	4133	891	119	2291
Trolley-wheel. Self-lubricating	J. Hensley	807,463	Dec. 19	2725	587	119	1942
Trolley-wire holder	F. M. Zimmerman	806,310	Dec. 5	453	99	119	1367
Trolley-wires. Ice-remover for	M. M. Wood	805,400	Nov. 21	3781	818	119	909
Trough: *See* Conveying-trough.							
Trousers-creaser	A. W. Proctor	803,784	Nov. 7	518	113	119	114
Trousers creaser and stretcher	L. J. Stockwell	807,693	Dec. 19	3188	685	119	2042
Trousers press and stretcher	H. H. Welch	806,444	Dec. 5	702	157	119	1424
Trousers-protector	J. D. Schakel	806,579	Dec. 5	939	207	119	1474
Truck	E. F. and B. R. Sherrill	804,060	Nov. 7	1063	225	119	230
Truck	O. Thibault	806,599	Dec. 5	969	215	119	1481
Truck bolster. Car-	W. C. Miller	807,632	Dec. 19	3062	657	119	2014
Truck. Car-	J. Taylor	806,022	Nov. 28	4953	1058	119	1204
Truck. Car-	J. R. Cardwell	807,439	Dec. 19	2685	578–9	119	1932
Truck. Elevating-	T. Podmore	808,212	Dec. 26	4230	911	119	2313
Truck for motor propulsion and the like. Car-	W. S. Adams	808,062	Dec. 26	3895	843	119	2241
Truck for tramway and like vehicles. Radial	E. E. Cook	808,013	Dec. 19	3802	824	119	2177
Truck frame and pedestal. Car-	R. C. Wright and F. E. Stebbins	805,940	Nov. 28	4809	1026–7	119	1171
Truck. Molding-machine	W. Sieber	803,931	Nov. 7	776	167	119	168
Truck. Tender-	H. E. Drew	808,440	Dec. 26	4683	1008	119	2413
Trunk	C. C. Wigington	804,360	Nov. 14	1698	368	119	414
Trunk	I. Mendel	808,295	Dec. 26	4408	948	119	2354
Tube: *See* Boiler-tube. Metal tube. Spindle-tube. X-ray tube.							
Tube-cleaner	F. M. Faber	807,918	Dec. 19	3841	790	119	2142
Tubes. Manufacture of	O. Briede	808,001	Dec. 19	3782	821	119	2173
Tubes. Skelp for making	M. Blakey	807,432	Dec. 19	2674	576	119	1930
Tubing. Flexible	L. Sussman and E. R. Wilner	805,825	Nov. 28	4572	979	119	1117
Tubing-making apparatus	N. Foster	808,356	Dec. 26	4536	976	119	2381
Tug-hook. Hame	S. Harrell	804,119	Nov. 7	1176	251	119	258
Tug. Shaft-	A. D. Goetz	806,338	Dec. 5	501	110	119	1377
Tunnel apparatus	J. W. Reno. (Reissue)	12,410	Nov. 21	3851	833	119	923
Tunnel-lining segment	H. Japp	806,673	Dec. 5	1116	249–50	119	1511
Tunneling system	J. W See	804,437	Nov. 14	1851	402	119	446
Turbine	E. T. Pollard	803,622	Nov. 7	191	42	119	42
Turbine	W. L. R. Emmet	803,678	Nov. 7	303	66–7	119	68
Turbine	D. W. Starrett	806,934	Dec. 12	1695	372	119	1678
Turbine. Elastic-fluid	F. Windhausen	803,950	Nov. 7	833	176–7	119	179
Turbine. Elastic-fluid	W. S. Elliott	806,072	Nov. 28	5055	1076–7	119	1224
Turbine. Elastic-fluid	W. S. Elliott	806,073	Nov. 28	5057	1077	119	1225
Turbine. Elastic-fluid	G. Westinghouse	807,003	Dec. 12	1806	397	119	1703
Turbine. Elastic-fluid	G. Westinghouse	807,145	Dec. 12	2115	454	119	1768
Turbine. Elastic-fluid	G. Westinghouse	807,146	Dec. 12	2118	454	119	1769
Turbine. Elastic-fluid	C. G. Curtis	807,542	Dec. 19	2871	618	119	1972
Turbine. Elastic-fluid	C. G. Curtis	807,603	Dec. 19	3010	645	119	2002
Turbine. Elastic-fluid	C. G. Curtis	807,604	Dec. 19	3011	645	119	2002
Turbine. Elastic-fluid	O. Kolb	808,094	Dec. 26	3973	858–9	119	2257
Turbine. Elastic-fluid	H. G. Wood and H. Burlingham	808,134	Dec. 26	4064	874–5	119	2277
Turbine. Elastic-fluid	M. A. Green	808,152	Dec. 26	4101	883–5	119	2285
Turbine. Elastic-fluid	J. W. Cloud	808,343	Dec. 26	4502	967–8	119	2375
Turbine-engine	H. Lentz	804,541	Nov. 14	2052	446–7	119	492
Turbine governing mechanism. Elastic-fluid-	G. Meyersberg	806,992	Dec. 5	1154	259	119	1519
Turbine regulating device. Steam-	W. Kieser	806,679	Dec. 5	1128	252–3	119	1513
Turbine. Steam-	C. G. Y. King	804,413	Nov. 14	1801	389–90	119	436
Turbine. Steam-	E. S. Bryant and H. J. Bery	805,523	Nov. 28	4026	869	119	1004
Turbine. Steam-	P. C. Oscanyan	806,177	Dec. 5	171	37	119	1302
Turbine. Steam-	J. W. Smith	806,298	Dec. 5	431	94	119	1362
Turbine. Steam-	J. F. Brady	807,057	Dec. 12	1938	418	119	1733
Turbine. Variable-speed multiple-stage	F. Windhausen	806,720	Dec. 5	1198	260	119	1529
Turbines. Bucket-wheel for elastic-fluid	H. Keller	804,410	Nov. 14	1795	388	119	435
Turbines. Means for reducing friction loss in	F. Herles and J. Novák	803,759	Nov. 7	478	103	119	106
Turbines. Mechanically-actuated governing-valve for elastic-fluid	O. Junggren	806,676	Dec. 5	1121	251–2	119	1512
Turbines. Relief mechanism for elastic-fluid	O. Junggren	803,829	Nov. 7	595	131	119	128
Turpentine from wood. Apparatus for extracting	J. G. Gardner	808,035	Dec. 19	3835	831	119	2185
Turpentine-gathering means	E. L. Vickers	807,702	Dec. 19	3204	688	119	2045
Tweezers	E. C. Ellsworth	804,652	Nov. 14	2364	496	119	536
Twine-holder	M. Ricketts	804,044	Nov. 7	1027	216	119	222
Twisting and winding mechanism	C. H. McCall	808,106	Dec. 26	3998	861	119	2263
Twisting apparatus. Yarn-	A. E. Rhoades	805,752	Nov. 28	4445	954	119	1093
Twisting-machine	P. Hardman	808,094	Dec. 26	3943	852	119	2251
Twyer-plate for Bessemer converters	L. N. McDonald and H. C. Morgan.	805,931	Nov. 28	4786	1022	119	1166
Type casting and setting machine	J. R. and G. A. Pearson	805,580	Nov. 28	4128	890–1	119	1025
Type-casting machine	F. E. Peacock	804,764	Nov. 14	2503	547–8	119	591
Type-writer carriage	C. C. Harting	805,136	Nov. 21	3255	706	119	797
Type-writer desk	W. F. Fraser	806,792	Dec. 12	1390	305	119	1607
Type-writer paper-holder	B. D. Wood and R. M. McCabe	807,894	Dec. 19	3598	778	119	2132
Type-writer pointer attachment	C. E. Kelley	807,746	Dec. 19	3307	710	119	2067
Type-writer-ribbon spool	H. M. Colvin	805,634	Nov. 28	4227	909	119	1047
Type-writer ribbon-spool-actuating device	H. B. N. Disbrow	805,060	Nov. 21	3107	673	119	767
Type-writer ribbons. Shifting mechanism for	R. B. Jones and A. M. Taylor	808,158	Dec. 26	4125	889	119	2290
Type-writer tabulating attachment	J. C. Wolfe and E. W. Morton	807,893	Dec. 19	3589	777–8	119	2129
Type-writer type-cleaner	S. C. Calhaway	806,062	Nov. 28	5030	1072	119	1220
Type-writers and the like. Rack for holding	M. Kellogg	805,073	Nov. 21	3140	681	119	773
Type-writers. Paper and envelop feeding attachment for	S. D. Ruth	807,321	Dec. 12	2436	524–5	119	1837
Type-writing machine	J. Felbel	804,938	Nov. 21	2940	611	119	710
Type-writing machine	F. W. Hillard	805,966	Nov. 28	4834	1033	119	1178

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Type-writing machine	H. W. Merritt	806,274	Dec. 5	367	82	119	1345
Type-writing machine	M. W. Pool	806,834	Dec. 12	1458	323–4	119	1625
Type-writing machine	J. Felbel	807,449	Dec. 19	2697	582–3	119	1935
Type-writing machine	E. Fahl	807,919	Dec. 19	3642	790	119	2142
Type-writing machine	A. T. Brown	808,598	Dec. 26	4992	1077	119	2480
Type-writing-machine carriage-bearing	E. G. Latta	807,292	Dec. 12	2389	513	119	1827
Type-writing-machine escapement mechanism	C. N. Fay	804,836	Nov. 21	2655	576	119	668
Type-writing-machine keyboard	J. H. Hotson	807,556	Dec. 19	2897	624	119	1977
Type-writing-machine paper-guide	F. X. Wagner. (Reissue)	12,412	Nov. 21	3858	834	119	925
Type-writing-machine word-registering attachment	R. R. Fowler	807,022	Dec. 12	1848	403–4	119	1712
Type-writing. Manifolding-sheet for	H. N. Mathews and D. Van Holland.	806,818	Dec. 12	1432	317	119	1620
Umbrella	A. Seligstein	803,630	Nov. 7	204	46	119	45
Umbrella	A. H. Bamberger and N. D. Ingram.	803,739	Nov. 7	439	94	119	98
Umbrella	W. G. Hoffman	805,957	Nov. 28	4842	1033–4	119	1180
Umbrella	J. C. Westerfield	807,892	Dec. 19	3587	777	119	2129
Umbrella. Folding	J. A. Muzzio	807,572	Dec. 19	2950	634	119	1989
Umbrella-handle	M. J. Ades	805,615	Nov. 28	4198	904	119	1041
Umbrella-holder	J. E. Duffy	804,390	Nov. 14	1759	381	119	427
Umbrella-lock	F. A. Wilson	806,040	Nov. 28	4987	1064	119	1212
Umbrella-rib	M. G. McGuire	808,249	Dec. 26	4302	924–5	119	2330
Umbrella-stick and cane	J. and H. Landes	807,035	Dec. 12	1874	408	119	1717
Umbrellas and parasols. Means for holding closed	W. Dorr	805,269	Nov. 21	3543	764	119	859
Underreamer	W. J. Travers	803,642	Nov. 7	220	49	119	49
Underreamer	F. G. Irvine	807,826	Dec. 19	3449	742–3	119	2098
Underwear	C. A. Powell	806,286	Dec. 5	389	86	119	1352
Unipolar machine	J. E. Noeggerath	805,315	Nov. 21	3625	783	119	875
Universal joint	P. L. Hussey	804,953	Nov. 21	2868	617–18	119	716
Unloading device	C. E. Otterman	804,761	Nov. 14	2500	546	119	590
Unloading device	C. E. Otterman	804,762	Nov. 14	2501	546	119	590
Urinal	L. D. Lawnin	804,479	Nov. 14	1925	419	119	463
Urinal	L. D. Lawnin	804,480	Nov. 14	1926	420	119	464
Urinal	C. W. Meinecke	805,312	Nov. 21	3618	781–2	119	873
Urinary receptacle	S. E. Cave	807,599	Dec. 19	3003	643	119	2001
Vaginal glass applicator	M. B. Pearlstien	807,124	Dec. 12	2074	445	119	1761
Vaginal irrigator	M. Vidaver	805,836	Nov. 28	4573	980	119	1117
Valve	W. P. Schott	804,056	Nov. 7	1058	224	119	229
Valve	P. Allan	804,913	Nov. 21	2798	604	119	700
Valve	F. L. Smith	805,677	Nov. 28	4298	925	119	1061
Valve	H. G. Ginaca	805,850	Nov. 28	4622	990	119	1128
Valve-actuator. Automatic	C. A. Sullivan and E. J. Woodison	803,725	Nov. 7	420	90	119	95
Valve. Air-compressor	E. H. Steedman	807,585	Dec. 19	2981	639	119	1998
Valve and stop-valve. Combined throttle	G. R. Smith	806,929	Dec. 12	1687	370	119	1676
Valve. Automatic free-discharge	A. Lee	808,461	Dec. 26	4723	1017	119	2422
Valve. Automatic pressure-reducing	F. L. Clark	806,108	Dec. 5	30	7	119	1271
Valve. Automatic retaining	H. W. Short and G. A. Casey	803,930	Nov. 7	775	166	119	168
Valve. Automatic safety check	T. L. Stewart	805,498	Nov. 28	3909	858	119	991
Valve. Controlling	P. Voorhees and H. J. Trah	808,494	Dec. 26	4703	1032	119	2438
Valve. Emergency brake	G. H. Hill	808,238	Dec. 26	4283	921	119	2326
Valve. Engine	D. C. Prescott	807,865	Dec. 19	3521	761	119	2115
Valve. Engineer's	H. W. Young	804,909	Nov. 21	2791	602	119	698
Valve. Engineer's brake	H. F. Bickel	806,455	Dec. 5	720	162	119	1428
Valve. Engineer's brake	H. F. Bickel	806,456	Dec. 5	723	162–3	119	1428
Valve. Float	E. P. Clary	805,003	Nov. 21	2979	646	119	740
Valve. Flush	E. A. Marsh	805,148	Nov. 21	3275	710	119	801
Valve for flush-tanks. Water-inlet	E. Morris and C. Rinaman	803,842	Nov. 7	622	136	119	134
Valve for gas-engines. Rotary	F. M. Seeley	808,579	Dec. 26	4961	1069	119	2473
Valve for outlet-ports	H. L. Gilbertson	808,037	Dec. 19	3840	831	119	2186
Valve for refrigerating apparatus. Condenser	A. T. Marshall	806,478	Dec. 5	771	171	119	1438
Valve for regenerative furnaces. Reversing	J. B. Nau	805,024	Nov. 21	3013	654	119	747
Valve for train-pipes. Steam	E. E. Gold	806,970	Dec. 12	1757	385–6	119	1692
Valve. Gate	H. Millholland	808,561	Dec. 26	4928	1061–2	119	2465
Valve-gear	W. T. Merzenich	804,667	Nov. 14	2287	501	119	541
Valve-gear	W. P. Haskitt	806,138	Dec. 5	94	19	119	1285
Valve-gear for steam-engine	E. Bauthiere	808,334	Dec. 26	4494	963	119	2371
Valve-gear mechanism	F. Lamplough	805,562	Nov. 28	4106	884	119	1019
Valve. Globe	F. W. Leidecker	807,476	Dec. 19	2742	591	119	1947
Valve. Locomotive-blower	E. S. Brooke and C. A. H. Vaughan	803,871	Nov. 7	670	146	119	144
Valve mechanism for rotary engines. Governor	J. F. O'Neil and W. J. Hancock	804,877	Nov. 21	2738	591–2	119	685
Valve. Reducing	H. L. Harbaugh	807,074	Dec. 12	1968	426	119	1738
Valve. Reversing	O. Hove	805,726	Nov. 28	4397	943–4	119	1084
Valve-rod and wrist-pin connection	A. Skofsrud	805,587	Nov. 28	4146	893	119	1028
Valve. Rotary	R. L. Donaldson	805,531	Nov. 28	4040	872	119	1007
Valve-seat-refacing device	J. D. Mitchell	804,860	Nov. 21	2723	588	119	682
Valve. Steam-engine	E. T. Cope	808,014	Dec. 19	3805	824	119	2178
Valve. Thermostatic	J. I. Cranmer	806,465	Dec. 5	749	167	119	1433
Valve. Throttle	C. H. Fox	803,589	Nov. 7	702	152	119	151
Valve. Throttle	R. H. White	806,309	Dec. 5	452	98	119	1360
Vapor and gas burner	J. A. Mathes	807,841	Dec. 19	3476	756	119	2103
Vapor apparatus. Leading-in conductor for electric	P. C. Hewitt	804,843	Nov. 21	2665	578	119	670
Vapor apparatus. Starting device for mercury	P. C. Hewitt	805,293	Nov. 21	3584	774	119	867
Vapor-burner	H. F. Smith	808,581	Dec. 26	4964	1070	119	2473
Vapor used in the destruction of weeds and rabbits. Apparatus for generating	B. Locking	807,180	Dec. 12	2177	467	119	1761
Vapors of volatile solvents. Apparatus for recovering	E. Bouchaud-Praceiq	806,866	Dec. 12	1534	337	119	1644
Vaseline. Preparation of water-soluble	F. Boleg	805,443	Nov. 28	3876	.....	119	971
Vat: *See* Tanning-vat.							
Vault	J. W. Freeman	805,130	Nov. 21	3248	704	119	796
Vault. Burial	S. J Cowles and J. B. Murray	806,324	Dec. 5	477	105	119	1372
Vault-mold	W. H. Lucas	806 686	Dec. 5	1145	256	119	1518
Vehicle antivibration device	J. M. M. Truffault. (Reissue)	12,399	Nov. 7	1352	287	119	298
Vehicle-bodies. Attachable receptacle for	S. Leibenglick	806,476	Dec. 5	768	170	119	1437
Vehicle-body	S. R. Bailey	803,801	Nov. 7	544	119	119	119

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Vehicle-body	H. H. Rice	805,668	Nov. 28	4281	922	119	1058
Vehicle-brake	P. H. Fuller	804,111	Nov. 7	1165	247-8	119	256
Vehicle-brake	J. Curry	805,957	Dec. 12	1730	380	119	1686
Vehicle-brake	G. Reisdorf	807,775	Dec. 19	3352	719	119	2077
Vehicle-brake	A. Payton	808,060	Dec. 19	3526	841	119	2196
Vehicle-brake	D. Grubb	808,450	Dec. 26	4698	1012	119	2416
Vehicle draft-equalizer	W. A. Fry	807,455	Dec. 19	2715	585	119	1940
Vehicle driving-wheel. Motor-	C. S. Bauld	806,452	Dec. 5	715	161	119	1427
Vehicle dust-guard	P. K. Hollingsworth	804,401	Nov. 14	1777	384	119	431
Vehicle dust-guard	J. E. Levermont and G. A. Reed	807,751	Dec. 19	3313	712	119	2068
Vehicle. Folding	E. Baumann	806,097	Dec. 5	10	3	119	1267
Vehicle for exhibiting goods	E. Lefèvre	807,948	Dec. 19	3694	800-1	119	2154
Vehicle front gear	G. Haller	805,200	Nov. 21	3390	735	119	826
Vehicle-gear	F. E. Wilcox	803,949	Nov. 7	832	176	119	179
Vehicle guiding device. Motor-	Z. T. Sweeney	807,789	Dec. 19	3380	724	119	2082
Vehicle hitching attachment	J. B. Plato and W. H. Kilgore	807,047	Dec. 12	1911	413	119	1726
Vehicle. Motor-	W. D. Lowe	805,740	Nov. 28	4430	950	119	1090
Vehicle. Motor-	T. Stafford	806,933	Dec. 12	1693	371	119	1678
Vehicle. Motor-	J. W. Lambert	807,623	Dec. 19	3044	652	119	2010
Vehicle. Motor-propelled	E. S. Clark	807,419	Dec. 12	2625	565-6	119	1881
Vehicle perch connection	L. E. Hickok	804,469	Nov. 14	1903	414	119	458
Vehicle propelling mechanism	J. F. Knowlton	804,867	Nov. 21	2721	588	119	681
Vehicle running-gear	W. T. Hanna	804,946	Nov. 21	2853	614	119	713
Vehicle running-gear	V. Martin and T. R. Stewart	805,310	Nov. 21	3615	781	119	873
Vehicle running-gear	S. N. Burdsall	808,068	Dec. 26	3907	845	119	2243
Vehicle running-gear. Motor-	R. E. Olds	807,958	Dec. 19	3711	805	119	2158
Vehicle-spring	S. Furmidge	807,612	Dec. 19	3023	648	119	2005
Vehicle steering device. Motor-	J. W. Eisenhuth	805,274	Nov. 21	3551	767	119	860
Vehicle steering mechanism. Motor-	H. W. Alden	806,612	Dec. 5	993	221	119	1487
Vehicle steering mechanism. Self-propelled-	H. Lemp	806,684	Dec. 5	1135	254-5	119	1515
Vehicle suspension device	P. H. Seery	807,968	Dec. 19	3728	808	119	2161
Vehicle-wheel	J. M. Boulanger	804,577	Nov. 14	2128	465	119	508
Vehicle-wheel	G. G. Jackson	804,605	Nov. 14	2174	476	119	517
Vehicle-wheel	N. A. Newton	804,617	Nov. 14	2194	481	119	521
Vehicle-wheel	E. Cantono	805,528	Nov. 28	4036	871	119	1006
Vehicle-wheel	G. Schram	805,673	Nov. 28	4293	924	119	1060
Vehicle-wheel	G. L. Glaser and J. Olsen	806,080	Nov. 28	5071	1080-1	119	1227
Vehicle-wheel	T. L. Sours and H. F. Fox	806,203	Dec. 5	212	46	119	1311
Vehicle-wheel	E. F. Evans	806,405	Dec. 5	624	137	119	1406
Vehicle-wheel	S. Berens	807,536	Dec. 19	2854	614	119	1999
Vehicle-wheel. Adjustable	B. D. Gilson	807,922	Dec. 19	3648	791	119	2144
Vehicle-wheel sand-cap	W. E. Wright	803,867	Nov. 7	661	144	119	142
Vehicle. Wheeled	A. Stechbarth	808,409	Dec. 26	4632	997	119	2402
Vehicles. Antivibration device for	E. V. Hartford	803,589	Nov. 7	128	30	119	30
Vehicles. Apparatus for settling dust raised by motor-	S. S. Stitt	805,824	Nov. 28	4570	979	119	1116
Vehicles. Egg-case-carrying attachment for	R. N. Story	807,138	Dec. 12	2098	451	119	1765
Vehicles. Lever mechanism for motor-	J. W. Packard and W. A. Hatcher	804,971	Nov. 21	2909	630-1	119	724
Vehicles. Means for freeing horses from	D. Boldog	804,791	Nov. 14	2559	558	119	604
Vehicles. Receptacle for attachment to	W. E. Wright	804,362	Nov. 14	1700	369	119	414
Vehicles. Variable-speed transmission for	G. W. Marble and W. R. Donaldson.	804,421	Nov. 14	1815	392	119	439
Velocipede	F. M. Thompson	808,616	Dec. 26	5025	1085	119	2487
Velocipedes, &c. Seat for	R. G. Ledig	807,749	Dec. 19	3311	711	119	2068
Vending device	R. O. Roblin	806,572	Dec. 5	928	206	119	1472
Vending-machine	F. E. Hall and A. MacLeod	806,659	Dec. 5	1084	240	119	1505
Vending-machine	F. E. MacCordy	807,183	Dec. 12	2180	468	119	1782
Vending-machine	A. T. Hallock	807,376	Dec. 12	2532	548	119	1858
Veneer covering and producing the same	W. H. Strickler	804,443	Nov. 14	1863	404	119	448
Ventilator: *See* Door-ventilator. Window-ventilator.							
Ventilator	G. F. Williams	807,525	Dec. 19	2827	607-8	119	1963
Vessel-cap	J. M. Hicks	807,077	Dec. 12	1971	427	119	1739
Vessel-cap	J. M. Hicks	807,115	Dec. 12	2061	442	119	1758
Vessel. Collapsible	W. M. Fulton	805,720	Nov. 28	4389	941	119	1081
Vessel-hull	I. E. Palmer	804,497	Nov. 14	1964	429-30	119	472
Vessel-hull	I. E. Palmer	806,484	Dec. 5	781	172	119	1439
Vessel-hull	I. E. Palmer	807,769	Dec. 19	3343	717	119	2075
Vessel. Odorless	J. Patton and M. D. Bryson	804,546	Nov. 14	2064	450	119	494
Vessels. Constructing	E. Molloy	808,467	Dec. 26	4732	1019	119	2424
Vessels. Construction of	T. H. Wheless	806,222	Dec. 5	251	54	119	1320
Vessels. Means for stopping the motion of	E. P. A. Villette	805,688	Nov. 28	4320	928	119	1067
Veterinary forceps	S. and W. Brower and G. Latta	804,094	Nov. 7	1134	239	119	249
Vibrator. Electromagnetic	R. Carlstedt	806,636	Dec. 5	1037	229	119	1495
Vibratory impacts. Implement for imparting	J. H Champ	803,877	Nov. 7	681	149	119	146
Violin. Electric self-playing	H. K. Sandell	807,871	Dec. 19	3531	764-6	119	2117
Vise	T. Hadden	805,792	Nov. 28	4517	967	119	1106
Vise	P. N. Avery	806,820	Dec. 5	1007	223	119	1489
Vise	E. Perron and F. A. Jeffs	807,315	Dec. 12	2424	522	119	1834
Vise	D. E. Stetler	807,788	Dec. 19	3378	724	119	2082
Vise. Bench-	W. and S. Vanmanen	804,179	Nov. 7	1308	280	119	288
Vise. Bench-	C. Hanimann	805,013	Nov. 21	2991	649	119	743
Vise. Bench-	E. M. Ek	807,445	Dec. 19	2991	581	119	1934
Visible and audible signal	J. L. Creveling	805,714	Nov. 28	4375	938-9	119	1079
Voltage-regulator	E. F. W. Alexanderson	805,253	Nov. 21	3502	756	119	849
Voting-machine	A. A. Farwell	804,187	Nov. 7	1327	284	119	293
Voting-machine	S. Loe	804,961	Nov. 21	2876	619-22	119	718
Voting-machine	S. Loe	804,962	Nov. 21	2883	623-5	119	719
Voting-machine	J. P. Paynter	805,230	Nov. 21	3443	746-8	119	837
Voting-machine	C. Christensen	806,736	Dec. 5	1244	277-8	119	1539
Voting-machine	A. C. Gordon	807,818	Dec. 19	3434	738-9	119	2095
Voting-machine booth	C. F. Harrington	806,137	Dec. 5	93	19	119	1284
Voting-machine party-selecting mechanism	S. Loe	804,963	Nov. 21	2992	625-6	119	720
Wad-sorting machine	W. L. Morris	807,185	Dec. 12	2185	469-70	119	1783
Wagon	G. N. Spencer	806,374	Dec. 5	564	123-4	119	1391
Wagon and other vehicle brake	W. Gibson	806,536	Dec. 5	963	191	119	1458

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Wagon-body	G. R. Hysom	804,230	Nov. 14	1440	307	119	357
Wagon-body lifter	C. W. Reneau	806,570	Dec. 5	922	204	119	1471
Wagon-body lifter	J. H. Simonton	807,324	Dec. 12	2443	526	119	1839
Wagon-body raiser	J. L. Renick	807,778	Dec. 19	3360	720	119	2079
Wagon-body-supporting device	O. W. Shaw	804,069	Nov. 7	1062	225	119	230
Wagon-box protector	J. M. Urie	804,278	Nov. 14	1540	333	119	378
Wagon-box rod	J. G. Rieff	805,323	Nov. 21	3638	787	119	877
Wagon-brake	C. M. Marcom	803,773	Nov. 7	501	109	119	110
Wagon-brake	J. L. Shaw	804,058	Nov. 7	1061	224–5	119	230
Wagon-brake	J. R. Crisp, L. F. Sawyer, and C. H. C. Rich.	806,114	Dec. 5	43	10	119	1274
Wagon-brake	E. B. Rose	806,843	Dec. 12	1480	327	119	1631
Wagon. Dump-	J. Somerville	804,439	Nov. 14	1854	402–3	119	447
Wagon. Dumping-	J. Young	806,387	Dec. 5	583	128–9	119	1396
Wagon-dumping mechanism	B. R. Adkins	806,611	Dec. 5	992	220	119	1486
Wagon. Hose-	B. B. Briggs	803,870	Nov. 7	666	146	119	143
Wagon-hound	J. R. Davidson and B. C. Kelly	806,527	Dec. 5	849	187	119	1455
Wagon-hound	R. T. Petrich	806,993	Dec. 12	1792	393	119	1706
Wagon. Lumber-	D. W. Strickland	808,261	Dec. 26	4324	930	119	2335
Wagon rack. Hay-	J. Vogel	808,265	Dec. 26	4337	932	119	2337
Wagon side-board	J. J. Coyle	807,360	Dec. 12	2505	541	119	1852
Wagon-standard	W. E. Snodgrass	805,034	Nov. 21	3044	660	119	754
Wagon-unloader	G. E. Jackson	807,827	Dec. 19	3451	743	119	2098
Waist and skirt holder	H. C. Wilson	807,527	Dec. 19	2832	609	119	1965
Walking-beam	J. R. Semple	806,438	Dec. 5	685	151	119	1420
Wall-covering	T. Cleary	807,155	Dec. 12	2131	458	119	1772
Wall-coverings. Machine for producing plush effects on	T. Cleary	807,154	Dec, 12	2129	457	119	1771
Wall-coverings. Manufacture of	T. Cleary	807,357	Dec. 12	2500	539	119	1851
Wall-finishing process	H. H. Hahn	808,236	Dec. 26	4280	920	119	2325
Wall-protector	T. J. Watson	804,560	Nov. 14	2112	461	119	504
Wall. Retaining-	W. H. Ferguson	804,939	Nov. 21	2843	612	119	710
Wall. Training-	D. G. Ambler	807,987	Dec. 19	3756	815	119	2168
Wardrobes. Clothing-support for	L. Gallot	807,259	Dec. 12	2321	500	119	1813
Wardrobes. Movable support for	L. Gallot	807,260	Dec. 12	2322	500	119	1813
Warp-stop-motion mechanism	E. Guilbert	805,133	Nov. 21	3250	705	119	796
Warping and beaming machine	J. M. Taylor	804,987	Nov. 21	2949	640	119	733
Washbench and clamp. Folding	W. Thornton	807,696	Dec. 19	3193	695	119	2043
Washbench. Combination-	A. T. Wilcox	805,331	Nov. 21	3657	790–1	119	881
Washboard	A. H. West	807,979	Dec. 19	3745	812	119	2165
Washboiler attachment	S. J. Gibson	807,371	Dec. 12	2525	546	119	1857
Washer: *See* Clothes-washer. Gas-washer.							
Washing-machine	J. J. Green	803,753	Nov. 7	464	101	119	103
Washing-machine	J. P. Gordon	803,894	Nov. 7	712	154	119	154
Washing-machine	J. H. Maclay	804,420	Nov. 14	1814	392	119	439
Washing-machine	S. O. Collins	804,453	Nov. 14	1873	406–7	119	450
Washing-machine	L. D. Thornburgh	805,596	Nov. 28	4160	896	119	1031
Washing-machine	H. Plagmann	806,492	Dec. 5	793	175	119	1443
Washing-machine	M. L. Winegarden	807,007	Dec. 12	1812	398	119	1705
Washing-machine	E. L. Batley	807,900	Dec. 19	3611	780–1	119	2134
Washing-machine	D. Stuck	808,175	Dec. 26	4154	896	119	2296
Washing-machine	T. E. Jones	808,380	Dec. 26	4581	986	119	2391
Washing-machine	W. C. Dyke and W. J. Alderman	808,521	Dec. 26	4846	1043	119	2449
Washing-machine	C. E. Goulding	808,537	Dec. 26	4883	1051	119	2457
Washtub and washboard. Combined	F. X. Kottmeyer	806,680	Dec. 5	1130	253	119	1514
Waste-trap	A. S. Newton	808,399	Dec. 26	4618	994	119	2400
Watch-barrel	G. F. Johnson	804,728	Nov. 14	2418	528	119	571
Watch-barrel	J. Thalhofer	808,176	Dec. 26	4155	896	119	2296
Watch-barrel. Safety	G. F. Johnson	804,727	Nov. 14	2417	528	119	571
Watch-fob	A. C. Becken and R. J. Trumbull.	807,901	Dec. 19	3612	781	119	2135
Watch-guard	C. Breer	806,632	Dec. 5	1024	227	119	1492
Watch guard or protector	F. E. Mead	805,218	Nov. 21	3419	741	119	531
Watch holder and guard	J. D. McCarthy	804,493	Nov. 14	1955	427	119	470
Watches. Cannon-pinion for	L. A. Faller	806,964	Dec. 12	1742	382	119	1688
Watches. Impulse-pin for	E. Kuhn	804,739	Nov. 14	2444	532	119	578
Watchcase-pendant	L. P. Roerig	805,233	Nov. 21	3464	749	119	840
Water. Apparatus for purifying foul	H. Desrumaux	807,912	Dec. 19	3631	787	119	2140
Water-bag	A. C. Eggers	807,365	Dec. 12	2511	542	119	1854
Water-circulating device	M. H. Voigt	807,586	Dec. 19	2983	640	119	1997
Water-closet	E. G. Watrous	804,644	Nov. 14	2251	493	119	533
Water-closet	R. E. Crane	804,650	Nov. 14	2262	495	119	535
Water-closet and seat therefor	C. H. Muckenhirn	807,305	Dec. 12	2408	519	119	1831
Water-closet tanks and making same. Casing for	J. G. Crosby	807,727	Dec. 19	3269	702	119	2058
Water-closets for children. Commode attachment for	J. R. Oakley	806,176	Dec. 5	169	36	119	1302
Water-cooling tower	F. Hauswirth	808,050	Dec. 19	3870	837–8	119	2193
Water-elevating apparatus	G. W. MacKenzie	804,196	Nov. 7	1343	286	119	296
Water-elevator	J. M. Dinsmore	807,443	Dec. 19	2689	580	119	1933
Water gate	L. P. Pekrul	808,254	Dec. 26	4309	926	119	2332
Water-heater	H. E. Townsend	806,307	Dec. 5	448	97–8	119	1366
Water-heater	C. M. Daly	806,526	Dec. 5	847	187	119	1454
Water-heater	R. J. Hutchins	807,030	Dec. 12	1867	406–7	119	1716
Water-heater	R. Beaumont	808,335	Dec. 26	4485	964	119	2371
Water-heater. Electric	J. P. Erie	808,525	Dec. 26	4852	1044–5	119	2450
Water-heating apparatus	P. A. Deasy. (Reissue)	12,397	Nov. 7	1349	287	119	297
Water-jacket	C. W. Hawkes	807,076	Dec. 12	1970	426	119	1739
Water-mains under pressure. Device for removing ferrules and for inserting plugs in	W. B. Daley and W. E. Richards.	807,663	Dec. 19	3127	672	119	2030
Water-meter	C. F. Merrill	803,919	Nov. 7	759	163	119	165
Water-meter	L. Lezgus	804,417	Nov. 14	1810	391	119	438
Water-meter	C. F. Drake	806,961	Dec. 12	1739	382	119	1688
Water-meter. Electric	R. H. Milton	808,562	Dec. 26	4930	1062	119	2465
Water-motor	P. T. Coffield	806,779	Dec. 12	1358	300	119	1603
Water or impact motor	B. H. Divine	806,785	Dec. 12	1370	303	119	1606
Water-power-utilizing apparatus	W. R. Burkhard	806,104	Dec. 5	21	6	119	1269

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Water-purifier	P. Bastian	806,234	Dec. 5	279	58–9	119	1325
Water-purifier	J. G. Broman	807,807	Dec. 19	3415	734	119	2091
Water. Purifying	J. F. Wixford	807,008	Dec. 12	1814	398	119	1705
Water. Purifying	J. F. Wixford	807,412	Dec. 12	2606	.....	119	1876
Water purifying and filtering apparatus	L. Dion	808,350	Dec. 26	4520	973	119	2379
Water-purifying apparatus	J. H. McDonald	805,374	Nov. 21	3729	809	119	897
Water-supply for urban and other buildings. System of	W. P. Groom	808,083	Dec. 26	3935	852	119	2249
Water-supplying device for poultry	F. Bade	804,083	Nov. 7	1116	235	119	245
Water to pressure-receptacles. Apparatus for introducing	S. A. Reeve	803,712	Nov. 7	379	81	119	85
Water-tube boiler	J. P. Davies	808,437	Dec. 26	4677	1006–7	119	2412
Water-wheel	A. C. Mather	806,817	Dec. 12	1431	316–17	119	1619
Water-wheel	O. H. Nordstrom	806,990	Dec. 12	1787	392	119	1690
Water-wheel conduits. Relief mechanism for	N. Lombard	806,154	Dec. 5	129	26	119	1293
Watering apparatus. Stock-	W. M. Anderson	805,617	Nov. 28	4200	904	119	1041
Weather-strip	C. C. Bowers	805,115	Nov. 21	3218	698	119	790
Weather-strip	W. H. Taylor	808,316	Dec. 26	4450	958	119	2363
Weaving-diagram and making same	J. Szczepanik	805,244	Nov. 21	3481	753	119	843
Web-feeding rolls	H. F. Bechman	803,972	Nov. 7	888	186	119	191
Wedge. Expansible	H. Farrington	806,406	Dec. 5	626	137	119	1407
Wedge. Expansible	H. Farrington	806,407	Dec. 5	628	138	119	1407
Weeder or cultivator	F. L. Novotny	804,335	Nov. 14	1665	359	119	405
Weighing and lifting device	J. W. Davis	804,832	Nov. 21	2645	574	119	666
Weighing and price-computing machine	W. A. Dickmann	804,833	Nov. 21	2647	574–5	119	666
Weighing apparatus. Automatic	J. L. Peppard	804,880	Nov. 21	2742	593	119	686
Weighing-machine	E. Stahell	806,441	Dec. 5	893	156	119	1422
Weighing-machine. Automatic	G. W. Lottridge	803,912	Nov. 7	739	160–1	119	159
Weighing-machine. Automatic	H. C. Bowlus	806,457	Dec. 5	726	163	119	1429
Weighing-machine. Computing	G. P. Ritter	806,499	Dec. 5	803	177–8	119	1445
Weight-registering mechanism	W. A. Kennedy	808,091	Dec. 26	3964	857	119	2255
Welding clamping device. Electric	A. F. Rietzel	804,045	Nov. 7	1028	216	119	222
Welding rails. Electrically	C. Pahde	804,763	Nov. 14	2502	546	119	591
Well device. Oil-	F. H. McCollough	806,559	Dec. 5	897	190	119	1465
Well-drilling apparatus	L. D. Shryock	807,784	Dec. 19	3371	722–3	119	2081
Well-drilling machines. Wire line attachment for	W. H. Tschantz	807,699	Dec. 19	3197	687	119	2044
Well-drilling-tool coupling	E. A. Davison	804,185	Nov. 7	1324	284	119	292
Well-plunger. Tubular	E. R. Lockwood	805,922	Nov. 28	4766	1019	119	1162
Well rig. Oil-	F. W. Pennell	807,861	Dec. 19	3512	759–60	119	2113
Well-screen	M. E. Layne	805,211	Nov. 21	3406	738	119	828
Wells. Electric heater for oil-	J. E. Williamson and C. E. Collins.	806,039	Nov. 28	4985	1064	119	1211
Wells. Lifting apparatus for deep	F. J. Moser	806,557	Dec. 5	892	198–9	119	1464
Wells. Pulling-machine for oil-	W. A. Worrell and L. Fish	806,724	Dec. 5	1215	271–2	119	1532
Wheel: *See* Buffing and polishing wheel. Cable-traction wheel. Elastic wheel. Electromagnetic wheel. Fifth-wheel. Fly-wheel. Resilient wheel. Spring-wheel. Sprocket-wheel. Steering-wheel. Toy-vehicle wheel. Traction-wheel. Trolley-wheel. Vehicle-wheel. Vehicle driving-wheel. Water-wheel.							
Wheel	H. H. Porter, Jr.	805,427	Nov. 21	3833	829	119	920
Wheel	R. A. Boyer	805,837	Nov. 28	4595	984	119	1121
Wheel	G. N. Sheppard	806,584	Dec. 5	945	209	119	1475
Wheel-fender	L. Vogt	804,281	Nov. 14	1550	334	119	380
Wheel-joint support. Carriage-	J. Scannell	806,433	Dec. 5	678	150	119	1419
Wheel-rim	E. Schmitz	808,405	Dec. 26	4627	996	119	2402
Wheel rim. Vehicle-	E. Weiler	805,828	Nov. 28	4577	980–1	119	1117
Wheels. Flexible rim for vehicle-	W. G. Marr	807,839	Dec. 19	3474	749	119	2103
Wheels. Machine for manufacturing metal	C. Borg	807,539	Dec. 19	2859	615–17	119	1970
Wheels. Metallic overshoe for vehicle-	H. L. Canne	806,520	Dec. 5	839	184–5	119	1453
Whiffletree-coupling	A. W. Gilchrist	804,392	Nov. 14	1761	381	119	427
Whiffletree-coupling	A. J. Burger	805,527	Nov. 28	4035	871	119	1006
Whiffletree-hook	J. Stahl	807,212	Dec. 12	2242	483	119	1795
Whip-actuating device	W. L. Rawls	806,290	Dec. 5	408	90	119	1357
Whip-actuating device	W. L. Rawls	806,291	Dec. 5	410	90–1	119	1357
Whip-actuating device	W. L. Rawls	806,292	Dec. 5	414	91	119	1358
Whip attachment for horse-powers	T. J. Leigh	805,476	Nov. 28	3933	850–1	119	983
Whip-holder	R. Schroeder	804,627	Nov. 14	2213	484	119	525
Whip-holder	A. Lawrey, Jr.	807,562	Dec. 19	2917	627	119	1982
Whist apparatus. Duplicate-	C. E. Buzby	808,432	Dec. 26	4570	1004	119	2411
Whistle	W. A. Pardoe	805,817	Nov. 28	4554	976	119	1113
Wicks for increasing their inflammability. Treatment of	A. Haase	807,553	Dec. 19	2894	.....	119	1977
Wind-engine	C. McGregor	804,257	Nov. 14	1492	321	119	367
Windmill	J. C. Summers and H. E. Yoder	804,684	Nov. 14	2326	509	119	549
Winder	C. N. Childs	806,065	Nov. 28	5037	1072	119	1221
Winding apparatus	S. T. Nelson	806,748	Dec. 5	1272	283	119	1544
Winding-machine	S. W. Wardwell	806,221	Dec. 5	248	53	119	1319
Winding-machine	A. D. Scott	807,133	Dec. 12	2089	448	119	1763
Winding-machine	C. Moriggl	808,468	Dec. 26	4734	1019	119	2424
Winding-machine stop-motion	F. W. Sumner	808,585	Dec. 26	4970	1072	119	2475
Winding-mechanism tension device	J. B. Whitney	808,415	Dec. 26	4641	999	119	2404
Windlass. Friction-	W. J. Nelson	807,192	Dec. 12	2198	472	119	1786
Windlass. Tree-felling	H. Büttner	805,628	Nov. 28	4218	907	119	1045
Window	J. H. Giesey. (Reissue)	12,405	Nov. 7	1374	292	119	303
Window	H. C. Smith	805,387	Nov. 21	3757	813–14	119	902
Window	O. A. Bingham	805,440	Nov. 28	3872	836	119	970
Window	B. J. Leslie	805,565	Nov. 28	4104	885	119	1020
Window and the like fitting	W. L. Hamilton	804,721	Nov. 14	2410	526	119	569
Window-chair	M. Pietsch	804,499	Nov. 14	1967	430	119	473
Window construction	E. H. Lunken	804,486	Nov. 14	1940	422–3	119	467
Window construction	C. J. Wallen	807,703	Dec. 19	3205	688	119	2046

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Drs.	Vol.	Page.
Window-fixture	J. E. Woods	807,101	Dec. 12	3025	436	119	1751
Window-fixture	W. S. Cooper	807,108	Dec. 12	3044	439	119	1754
Window-fixture	N. M. Landis	807,944	Dec. 19	3688	799	119	2153
Window-frame	M. Brown	805,409	Nov. 21	3795	821	119	911
Window frame and sash. Metallic	S. F. Hicks	805,549	Nov. 28	4080	881	119	1015
Window-frames, doorways, &c. Fixture for	A. H. Hauk	805,853	Nov. 28	4625	991	119	1129
Window-glass fastener	J. H. Ibison	808,544	Dec. 26	4893	1053	119	2458
Window holding and antirattling device	J. B. Hunt	804,228	Nov. 14	1434	306	119	355
Window-screen	C. J. Wallen	804,641	Nov. 14	2243	491	119	531
Window-screen	C. F. Barr	804,698	Nov. 14	2355	513	119	555
Window-screen	N. G. Angle	805,113	Nov. 21	3216	698	119	789
Window-screen	M. Solmson	805,495	Nov. 28	3963	857	119	990
Window-screen	C. W. Mattern	805,977	Nov. 28	4879	1041	119	1188
Window-screen	G. F. Monnin and A. J. C. Mecchi	806,695	Dec. 5	1159	260	119	1520
Window-screen	R. W. Irwin and J. Duffy	808,090	Dec. 26	3963	856	119	2254
Window-screen	R. Parsons	808,400	Dec. 26	4619	994	119	2400
Window-screen. Adjustable	B. C. Rockwell	808,577	Dec. 26	4958	1068	119	2472
Window screen and guard	A. Johnston	807,276	Dec. 12	2350	506	119	1819
Window-screen. Metallic	E. T. Burrowes	804,519	Nov. 14	2008	438	119	482
Window. Sectional	E. H. Lunken	807,681	Dec. 19	3162	680	119	2036
Window-stage. Portable	W. H. Davidson	807,606	Dec. 19	3014	646	119	2003
Window-ventilator	B. S. Burroughs	806,105	Dec. 5	23	6	119	1270
Window-ventilator	J. L. Meeks	808,466	Dec. 26	4731	1019	119	2424
Windows, shutters, and the like. Mechanism for operating casement	R. C. Spencer, Jr	808,486	Dec. 26	4779	1028	119	2435
Winker-brace	W. W. Gleckner	804,394	Nov. 14	1764	382	119	428
Wire. Barb-	F. C. Carroll	804,930	Nov. 21	2829	610	119	707
Wire. Barbed	C. O. Neubauer	805,932	Nov. 28	4787	1022	119	1166
Wire-cloth holder and measuring device	J. A. Prather and H. M. Keim	804,501	Nov. 14	1971	431	119	474
Wire-connector	N. W. Lillie and A. Freier	806,477	Dec. 5	770	170	119	1437
Wire-cutting device	J. B. Foote	806,791	Dec. 12	1379	304	119	1607
Wire-cutting mechanism	N. S. Harter	805,724	Nov. 28	4394	943	119	1083
Wire fabric	H. Richardson	807,400	Dec. 12	2585	558	119	1871
Wire-fabric machine	P. W., J. W., B. L., and W. Sommer.	804,681	Nov. 14	2313	507–8	119	547
Wire-fabric machines. Cutting mechanism for	C. S. Marshall	806,420	Dec. 5	652	142–3	119	1412
Wire-fabric-making machine	G. A. Raymond	803,711	Nov. 7	375	79–81	119	85
Wire feed, straightening, and cutting mechanism	V. Hoxie	804,321	Nov. 14	1634	353	119	398
Wire feeding and measuring device	D. H. Hayes	805,061	Nov. 21	3109	673	119	767
Wire-loom shuttle	H. A. Bond	808,430	Dec. 26	4666	1003	119	2410
Wire-netting machine	O. Türke	803,941	Nov. 7	797	171–2	119	173
Wire-reel	C. W. Stark	804,064	Nov. 7	1072	227	119	232
Wire-rope clamp	C. H. Billman	805,705	Nov. 28	4355	936	119	1073
Wire splicer and tightener	J. G. Regenier and M. F. Hamby	805,666	Nov. 28	4279	921	119	1058
Wire-staple forming and discharging mechanism	E. J. Gibson	804,311	Nov. 14	1615	350	119	394
Wire-staple forming and discharging mechanism	V. Hoxie and W. F. Truman	804,322	Nov. 14	1639	354	119	399
Wire-staple forming and discharging mechanism	V. Hoxie	804,323	Nov. 14	1643	355	119	400
Wire-staple forming and discharging mechanism	V. Hoxie	804,403	Nov. 14	1781	385–6	119	432
Wire-staple forming and discharging mechanism	V. Hoxie	804,404	Nov. 14	1785	386	119	433
Wire-stretcher	M. K. Lewis	804,144	Nov. 7	1223	262	119	269
Wire-stretcher	W. T. Martin	804,146	Nov. 7	1226	262	119	269
Wire-stretcher	H. L. Ferris	804,461	Nov. 14	1887	411	119	453
Wire-stretcher	J. Lambert	805,473	Nov. 28	3929	850	119	982
Wire-stretcher	W. A. Steere	807,331	Dec. 12	2452	528	119	1841
Wire-stretcher	E. D. Townsend	807,697	Dec. 19	3194	686	119	2043
Wire-stretcher clamp	D. H. Parker	807,200	Dec. 12	2219	477	119	1790
Wire stretcher, splicer, and tightener. Combined	W. D. Miller	805,926	Nov. 28	4772	1020	119	1163
Wire-weaving machine	W. H. Mason	803,613	Nov. 7	173	39–40	119	39
Wire-working machine	A. H. Nilson and M. Olson	804,029	Nov. 7	989	209–10	119	212
Womb-supporter	M. J. Barchfeld and F. C. Hunt	804,086	Nov. 7	1121	236	119	246
Wood. Apparatus for fiberizing and deriving other products from	A. W. Handford	803,253	Dec. 5	311	66–7	119	1332
Wood. Apparatus for forcing fluids into	S. Willner	807,411	Dec. 12	2605	563	119	1875
Wood. Apparatus for treating resinous	E. B. Weed	805,174	Nov. 21	3331	721	119	814
Wood-boring implement	J. Lund	808,245	Dec. 26	4295	923	119	2328
Wood-fiber digester	A. W. Handford	807,925	Dec. 19	3653	792–3	119	2145
Wood. Fiberizer for reducing	A. W. Handford	804,313	Nov. 14	1621	351	119	395
Wood-impregnating apparatus	C. B. Lowry and R. Bernhard	805,214	Nov. 21	3411	739–40	119	829
Wood. Machine for graining and otherwise ornamenting	H. C. Johnson	805,858	Nov. 28	4635	994	119	1131
Wood. Producing liquid-tight joints for impregnating	G. Kron	803,603	Nov. 7	154	34	119	35
Wood. Saturating	W. C. Jones, W. R. J. Stratford, F. B. Byrnes, and E. J. Nixon.	804,132	Nov. 7	1198	256	119	263
Wooden and other surfaces. Compound for finishing	F. Hünerbein	805,466	Nov. 28	3915	.....	119	980
Woodwork. Rotary cutter for	W. Kinley	804,734	Nov. 14	2435	531	119	576
Woodworking-machine cutter-head	G. W. and H. T. Clark	804,705	Nov. 14	2370	517	119	560
Wool, hair, bristles, and other material. Cleansing, scouring, or removing oil and fat from	A. Born	805,407	Nov. 21	3791	820	119	911
Work-holder. Magnetic	W. N. Vance	807,517	Dec. 19	2811	604	119	1961
Wrench: *See* Extensible wrench. Monkey-wrench. Pipe-wrench. Socket-wrench.							
Wrench	W. J. Ryan	803,790	Nov. 7	527	115	119	116
Wrench	W. R. Tomlinson	804,351	Nov. 14	1689	366	119	411
Wrench	F. L. Robinson	804,433	Nov. 14	1841	399	119	445
Wrench	H. T. Thompson	804,568	Nov. 14	2111	461	119	504
Wrench	D. Harris	804,600	Nov. 14	2168	475	119	516
Wrench	G. A. Low, Jr	804,611	Nov. 14	2184	479	119	519
Wrench	C. E. Cunnius	804,831	Nov. 21	2644	574	119	665
Wrench	C. Garrison	804,838	Nov. 21	2659	576	119	669
Wrench	R. W. Jackson	804,856	Nov. 21	2696	584	119	677
Wrench	H. J. Conrath	804,932	Nov. 21	2830	610	119	708
Wrench	S. S. Bolsinger and J. M. Bowen	805,406	Nov. 21	3790	820	119	911
Wrench	F. C. Warren and W. H. Preston	805,506	Nov. 28	3992	862	119	996
Wrench	J. P. A. Hanlon	805,793	Nov. 28	4518	967	119	1106

Alphabetical list of inventions for November and December—Continued.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Spec.	Dr'g.	Vol.	Page.
Wrench	A. L. Crittenden	805,946	Nov. 28	4820	1029	119	1175
Wrench	J. W. Butler	806,061	Nov. 28	3029	1071	119	1219
Wrench	H. F. Dickinson	806,327	Dec. 5	481	105	119	1373
Wrench	R. McMillen	806,425	Dec. 5	662	146	119	1415
Wrench	J. W. Rehling	806,497	Dec. 5	801	176	119	1444
Wrench	T. McMaster	806,701	Dec. 5	1173	263	119	1523
Wrench	R. Nolen and W. B. Knight	806,703	Dec. 5	1175	263	119	1524
Wrench	W. R. Oelkrag	806,704	Dec. 5	1177	264	119	1524
Wrench	E. R. Klemm	806,815	Dec. 12	1427	315	119	1618
Wrench	J. H. Shepherd	807,209	Dec. 12	2233	480	119	1794
Wrench	H. L. Newton	807,396	Dec. 12	2579	556	119	1869
Wrench	J. H. Hobson	807,618	Dec. 19	3035	651	119	2008
Wrench	B. F. Nedrow	808,250	Dec. 26	4304	925	119	2330
Wrench	J. J. Fetzer	808,603	Dec. 26	5004	1079	119	2483
Wrench and pipe-cutter	F. Minck	805,927	Nov. 28	4774	1020	119	1163
Wrench and spanner. Combined	J. R. Hopkins	804,008	Nov. 7	948	200	119	202
Wrench pipe-jaw	E. Thompson and T. A. Brown	803,641	Nov. 7	219	49	119	49
X-ray tube	J. O. Heinze, Jr	805,795	Nov. 28	4520	968	119	1107
X-ray tube	E. Gundelach	807,673	Dec. 19	3147	676	119	2034
Yarn, &c. Apparatus for testing and registering the degree of inequality of	E. Herzog	805,912	Nov. 28	4751	1016	119	1159
Yeast extracts from bitter principles. Freeing	M. Elb	804,524	Nov. 14	2022	.....	119	485
Yoke center. Neck-	A. H. Conn	807,810	Dec. 19	3421	736	119	2092
Yoke center. Neck-	F. J. Drum	808,276	Dec. 26	4364	937	119	2344
Zinc-furnace	E. Dor-Delattre	806,121	Dec. 5	56	12	119	1277

ALPHABETICAL LIST OF DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Volume.	Page.
Automobile-body	A. P. Brush	37,670	Nov. 14	119	616
Automobile-body	A. P. Brush	37,671	Nov. 14	119	617
Automobile-body	A. P. Brush	37,672	Nov. 14	119	617
Automobile-body	A. P. Brush	37,673	Nov. 14	119	617
Automobile-body	A. P. Brush	37,674	Nov. 14	119	617
Automobile-body	A. R. and F. S. Welch	37,693	Nov. 21	119	929
Automobile-tonneau	R. A. Leslie	37,763	Dec. 26	119	2493
Badge	R. C. Dick	37,660	Nov. 14	119	615
Badge	H. W. Tuckey and L. W. Kline	37,720	Dec. 12	119	1889
Badge	O. A. Quayle	37,757	Dec. 26	119	2492
Bag. Hand-	M. J. Wolf	37,683	Nov. 21	119	928
Bar-fixture	W. C. Huss	37,688	Nov. 21	119	928
Basket	L. E. Jung	37,662	Nov. 14	119	615
Bed-spring	D. I. Tompkins	37,649	Nov. 7	119	306
Bonbon-dish	C. A. Bennett	37,726	Dec. 12	119	1890
Bottle	C. Hitzl	37,641	Nov. 7	119	304
Bottle	S. Hochstadter	37,712	Dec. 5	119	1553
Bottle	F. B. Thatcher	37,713	Dec. 5	119	1553
Can top. Sheet-metal-	H. O. Hyatt	37,700	Nov. 28	119	1231
Carpet	W. Thomas	37,675	Nov. 14	119	617
Carpet	W. A. Perry	37,676	Nov. 14	119	618
Carriage	C. Kramer	37,731	Dec. 12	119	1891
Casket-handle bar	O. McCarthy	37,696	Nov. 21	119	930
Casket-handle socket	A. V. Eginton	37,678	Nov. 14	119	618
Casket-handle socket	A. V. Eginton	37,679	Nov. 14	119	618
Casket-handle socket-plate	O. McCarthy	37,695	Nov. 21	119	930
Casket name-plate	O. McCarthy	37,694	Nov. 21	119	930
Chair	W. F. Wittich	37,666	Nov. 14	119	616
Clock-case	A. W. and G. B. Owen, Jr	37,642	Nov. 7	119	305
Clock-case	W. E. Pardridge	37,643	Nov. 7	119	305
Clock-case	W. E. McGraw	37,736	Dec. 19	119	2189
Clothes-rack base or back	J. M. S. Fruit	37,741	Dec. 19	119	2199
Coffee-pot	C. A. Bennett	37,728	Dec. 12	119	1891
Coin-actuated-machine casing	A. A. Caille, G. Hamilton, and O. Currie.	37,687	Nov. 21	119	928
Display-card	C. J. Steinau	37,717	Dec. 5	119	1554
Electric-light shade	M. E. Bates	37,762	Dec. 26	119	2493
Fabric. Printed textile	E. B. Vandergaw	37,698	Nov. 21	119	930
Fabric. Printed textile	E. B. Vandergaw	37,732	Dec. 12	119	1891
Fabric. Printed textile	E. B. Vandergaw	37,733	Dec. 12	119	1891
Fabric. Printed textile	E. B. Vandergaw	37,734	Dec. 12	119	1891
Fabric. Printed textile	E. N. Eames	37,753	Dec. 19	119	2202
Fabric. Textile	G. George	37,697	Nov. 21	119	930
Fabric. Textile	A. Guelle	37,701	Nov. 28	119	1232
Fabric. Textile	A. Guelle	37,702	Nov. 28	119	1231
Fabric. Textile	P. Mouton	37,703	Nov. 28	119	1231
Fabric. Textile	J. F. C. Dehle	37,704	Nov. 28	119	1232
Fabric. Textile	T. P. Black	37,719	Dec. 5	119	1554
Fabric. Textile	T. P. Black	37,744	Dec. 19	119	2200
Fabric. Textile	T. P. Black	37,745	Dec. 19	119	2200
Fabric. Textile	T. P. Black	37,746	Dec. 19	119	2200
Fabric. Textile	T. P. Black	37,747	Dec. 19	119	2201
Fabric. Textile	T. P. Black	37,748	Dec. 19	119	2201
Fabric. Textile	T. P. Black	37,749	Dec. 19	119	2201
Fabric. Textile	T. P. Black	37,750	Dec. 19	119	2201
Fabric. Textile	T. P. Black	37,751	Dec. 19	119	2202
Fabric. Textile	F. E. Kip	37,752	Dec. 19	119	2202
Fence. Wire	H. Ward	37,743	Dec. 19	119	2200
Game-apparatus dial	J. Forsheim	37,761	Dec. 26	119	2493
Gate	J. H. Wheelock	37,730	Dec. 12	119	1891
Hammock-valance	I. E. Palmer	37,765	Dec. 26	119	2494
Hand-bag	H. Grossman	37,644	Nov. 7	119	305
Hand-bag	H. Grossman	37,645	Nov. 7	119	305
Hand-bag	H. Grossman	37,646	Nov. 7	119	306
Hat-rack	B. Rosenberg	37,650	Nov. 7	119	306
Ice-cream cornucopia	K. Yakushyl	37,759	Dec. 26	119	2493
Kitchen-bin	H. Kessler	37,689	Nov. 21	119	929
Knitted fabric	M. J. Shaughnessy	37,754	Dec. 19	119	2202
Label	A. Dickson	37,738	Dec. 19	119	2199
Label	A. Dickson	37,739	Dec. 19	119	2199
Lamp body. Gas-	W. S. McLewee	37,715	Dec. 5	119	1554
Lamp-post	J. E. Davis	37,742	Dec. 19	119	2199
Mat	A. J. O'Brien	37,684	Nov. 21	119	928
Medicinal tablet and celloid box	F. H. Putnam	37,760	Dec. 26	119	2493
Mirror or similar article. Hand-	S. A. Keller	37,723	Dec. 12	119	1890
Mirrors, brushes, and similar articles. Back for	G. H. Berry	37,758	Dec. 26	119	2493
Moccasin	J. B. Welch	37,718	Dec. 5	119	1554
Monument	E. M. Wolff	37,658	Nov. 7	119	308
Nebulizer	A. C. Eggers	37,686	Nov. 21	119	928
Paste-jar	J. A. Larrabee	37,729	Dec. 12	119	1891
Pen holder and tray. Fountain-	M. A. Benziger	37,722	Dec. 12	119	1890
Phonograph-horn	F. M. Murphy	37,661	Nov. 14	119	615

Alphabetical list of designs for November and December—Continued.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Plate or dish	E. E. Walter	37,681	Nov 21	119	927
Range. Cooking-	A. F. Harter	37,654	Nov 7	119	307
Range. Cooking-	A. F. Harter	37,655	Nov. 7	119	307
Range. Cooking-	A. F. Harter	37,656	Nov 7	119	308
Ring	A. A. Dorst	37,721	Dec. 12	119	1890
Ring	O. A. Quayle	37,755	Dec. 26	119	2492
Ring	O. A. Quayle	37,756	Dec. 26	119	2492
Rocker-body	R. T. Care	37,663	Nov. 14	119	615
Rocker-body	R. T. Carr	37,664	Nov 14	119	615
Rocker-body	R. T. Carr	37,665	Nov. 14	119	615
Rosary	H. F. Nehr	37,659	Nov. 14	119	615
Ruffling	C. Seidel	37,647	Nov. 7	119	306
Rug	W. A. Perry	37,677	Nov 14	119	618
Salt or pepper pot	C. A. Bennett	37,727	Dec. 12	119	1891
Satchel or bag handle	G. H. Buchheimer	37,682	Nov. 21	119	927
Seed-case	R. R. Ricketts	37,648	Nov. 7	119	306
Sign. Sandwich-	J. J. Meyer	37,740	Dec. 19	119	2199
Sink	E. C. Stover	37,690	Nov 21	119	929
Spoon	W. C. Codman	37,640	Nov. 7	119	304
Spoon	E. F. Rueckert	37,724	Dec. 12	119	1890
Spoon. Baby-	C. A. Bennett	37,707	Dec. 5	119	1553
Spoon or fork	C. A. Bennett	37,708	Dec. 5	119	1553
Spoon or fork	C. A. Bennett	37,709	Dec. 5	119	1553
Spoon or fork	C. A. Bennett	37,725	Dec. 12	119	1890
Spoons, forks, or similar articles. Handle for	G. C. Lunt	37,699	Nov. 28	119	1232
Spoons, forks, or similar articles. Handle for	C. Osborne	37,710	Dec. 5	119	1553
Spoons, forks, or similar articles. Handle for	C. B. Shepard	37,711	Dec. 5	119	1553
Statuette	T. Metzeler and F. Denivelle	37,735	Dec. 19	119	2198
Stove	M. R. Lehman	37,667	Nov. 14	119	616
Stove	M. R. Lehman	37,668	Nov. 14	119	616
Stove. Cooking-	A. F. Harter	37,652	Nov. 7	119	307
Stove. Cooking-	A. F. Harter	37,653	Nov. 7	119	307
Stove. Gas-	H. S. Humphrey	37,669	Nov. 14	119	616
Stove. Heating-	A. F. Harter	37,657	Nov 7	119	308
Stove. Oil-	C. V. Roberts	37,651	Nov 7	119	306
Thimble	H. A. Weihman	37,680	Nov. 21	119	927
Tobacco-pipe	F. J. Rosenberg	37,737	Dec. 19	119	2198
Toy aerial flight	S. M. Allington	37,685	Nov. 21	119	928
Type. Font of	C. Schraubstadter	37,705	Nov. 28	119	1232
Type. Font of	C. Schraubstadter	37,706	Nov. 28	119	1232
Type. Font of	H. W. R. Blanck	37,716	Dec. 5	119	1554
Type or plate. Printing	J. Morley	37,764	Dec. 26	119	2494
Vessel	L. G. Barrow	37,714	Dec. 5	119	1554
Washstand	J. A. Frauenheim	37,691	Nov. 21	119	929
Washstand	J. A. Frauenheim	37,692	Nov. 21	119	929

ALPHABETICAL LIST OF TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Volume.	Page.
Absinthe	Charles Jacquin et Cie	45,322	Dec. 26	119	2512
Absorbent pads or plasters	G. C. Young	47,649	Nov. 14	119	643
Accordions	Lyon & Healy	45,419	Dec. 26	119	2515
Accordions	Lyon & Healy	45,420	Dec. 26	119	2515
Acid phosphate of lime. Powdered	Provident Chemical Works	47,585	Nov. 14	119	640
Acid phosphate of lime. Powdered	Provident Chemical Works	47,622	Nov. 14	119	642
Alcohol	C. H. Graves & Sons	45,327	Dec. 26	119	2512
Ale	Rueter & Company	47,586	Nov. 14	119	640
Ale	Dawson & Son	47,595	Nov. 14	119	641
Ale	C. H. Evans & Sons	47,951	Nov. 28	119	1255
Ale	Adam Scheidt Brewing Company	48,147	Dec. 12	119	1917
Ale. Brewed	S. S. Pierce Co	47,587	Nov. 14	119	640
Alloy and articles of which such alloy forms a part. Metallic	Riverside Metal Co	47,688	Nov. 14	119	644
Antiseptic preparations	C. E. Benton	47,575	Nov. 14	119	640
Ax and tool handles. Wooden	Dunham, Carrigan & Hayden Co.	48,210	Dec. 19	119	2227
Baking-powder	M. C. Young	47,511	Nov. 7	119	333
Baking-powder	Royal Baking Powder Company	48,077	Dec. 5	119	1581
Baking-powder	J. C. Grant Chemical Company	48,155	Dec. 12	119	1917
Baking-powder	Consumers Supply Company	48,341	Dec. 26	119	2512
Baking-powder, soda, and cream of tartar	A. Schilling & Company	47,498	Nov. 7	119	332
Balsam	F. Hubacher	47,717	Nov. 14	119	645
Balsam	A. D. Ashley	47,787	Nov. 21	119	957
Bath-room fittings	Silver & Company	47,836	Nov. 21	119	958
Batteries. Dry	National Carbon Company	47,635	Nov. 14	119	642
Batteries. Dry	National Carbon Company	47,763	Nov. 21	119	956
Batteries. Dry	National Carbon Company	47,805	Nov. 21	119	957
Bay-rum tablets	C. S. Maschal	47,924	Nov. 28	119	1254
Beans. Dried	Albert Dickinson Company	48,084	Dec. 5	119	1581
Beef extracts, bouillon, and beef-tea	Cudahy Packing Company	48,141	Dec. 12	119	1917
Beef. Preparation of the proteids of	Fairchild Bros. & Foster	47,774	Nov. 21	119	956
Beer	Anheuser-Busch Brewing Association.	47,573	Nov. 14	119	639
Beer	Anheuser-Busch Brewing Association.	47,574	Nov. 14	119	640
Beer	Theo. Hamm Brewing Co	47,611	Nov. 14	119	641
Beer	Hoster-Columbus Associated Breweries Co.	47,613	Nov. 14	119	641
Beer	Indianapolis Brewing Company	47,960	Nov. 28	119	1255
Beer. Lager-	Zeltner Brewing Co	47,572	Nov. 14	119	639
Beer. Lager-	John Gund Brewing Company	47,578	Nov. 14	119	640
Beer. Lager-	John Gund Brewing Company	47,579	Nov. 14	119	640
Beer. Lager-	John Gund Brewing Company	47,580	Nov. 14	119	640
Beer. Lager-	Christian Moerlein Brewing Co	47,968	Dec. 5	119	1577
Beer. Lager-	Adam Scheidt Brewing Co	48,148	Dec. 12	119	1917
Beer. Lager-	V. Neustadtl	48,160	Dec. 12	119	1917
Bells. Church and school	C. S. Bell Co	48,114	Dec. 12	119	1916
Belt-dressing	New York Leather Belting Co	48,110	Dec. 12	119	1916
Belt-dressing. Bar	New York Leather Belting Co	47,886	Nov. 28	119	1252
Belting. Leather	Providence Belting Company	47,723	Nov. 14	119	645
Belting. Leather	Graton and Knight Manufacturing Company.	48,115	Dec. 12	119	1916
Belting. Waterproof leather	Providence Belting Company	47,436	Nov. 7	119	330
Belting. Waterproofed textile	National Belting Company	48,022	Dec. 5	119	1578
Beverage. Non-alcoholic tonic	Wissola Co	48,358	Dec. 26	119	2513
Beverage. Non-intoxicating malt	Dallas Brewery	47,594	Nov. 14	119	640
Binders. Loose-leaf	Sieber & Trussell Mfg. Co	47,908	Nov. 28	119	1253
Binders. Loose-leaf	Sieber & Trussell Mfg. Co	47,909	Nov. 28	119	1253
Binders. Loose-leaf	Sieber & Trussell Mfg. Co	47,910	Nov. 28	119	1253
Binders. Loose-leaf	Sieber & Trussell Mfg. Co	47,911	Nov. 28	119	1253
Bits, spurs, stirrups, buckles, rings, terrets, and hames	F. Eglington	48,211	Dec. 19	119	2227
Bits, stirrups, spurs, and harness-buckles	Smith-Worthington Company	48,094	Dec. 12	119	1915
Bitters	C. F. Lauber	47,488	Nov. 7	119	332
Bitters	Sunset Distilling Co	47,567	Nov. 14	119	639
Bitters	Figge Doyle Co	47,597	Nov. 14	119	641
Bitters	Lange, Schenck & Co	48,313	Dec. 26	119	2511
Bitters	Theobald and Son Co	48,318	Dec. 26	119	2511
Bitters	Theobald and Son Co	48,320	Dec. 26	119	2511
Bitters. Nerve	Aschenbach & Miller	48,411	Dec. 26	119	2515
Bitters. Stomach-	P. J. Bowlin Liquor Co	48,164	Dec. 12	119	1916
Blankets	American Multiple Fabric Co.	47,478	Nov. 7	119	332
Bleaching and washing linens. Compounds for	Roessler & Hasslacher Company	47,940	Nov. 28	119	1254
Blouses and waists. Boys'	Greenebaum Brothers	48,279	Dec. 19	119	2230
Bluing	A. Pfromm	48,422	Dec. 26	119	2515
Boiler compounds	Arrow Boiler Compound Company.	48,410	Dec. 26	119	2515
Bone-black	Michigan Carbon Works	47,905	Nov. 28	119	1253
Bonnets and hat-frame. Materials used for	Stadecker & Emsheimer	47,888	Nov. 28	119	1252
Books	Lothrop, Lee & Shepard Company.	47,426	Nov. 7	119	329
Books	Lothrop, Lee & Shepard Company.	47,427	Nov. 7	119	329
Books	L. C. Page & Company	47,473	Nov. 7	119	331
Books	R. S. & A. B. Lacey	47,718	Nov. 14	119	645
Boots and shoes. Elastic pads and cushions for the bottoms of	Tredair Rubber Company	48,116	Dec. 12	119	1916
Boots and shoes. Ink for burnishing the edges and bottoms of	C. L. Hauthaway & Sons	47,978	Dec. 5	119	1577
Boots and shoes. Ladies' leather	A. H. Berry Shoe Company	48,000	Dec. 5	119	1579
Boots and shoes. Leather	Marks, Rothenberg & Co	47,430	Nov. 7	119	329

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Boots and shoes. Leather	Marks, Rothenberg & Co	47,431	Nov. 7	119	329
Boots and shoes. Leather	Marks, Rothenberg & Co	47,432	Nov. 7	119	329
Boots and shoes. Leather	Marks, Rothenberg & Co	47,433	Nov. 7	119	330
Boots and shoes. Leather	Noyes-Norman Shoe Co	47,434	Nov. 7	119	330
Boots and shoes. Leather	Jordan Marsh Company	47,691	Nov. 14	119	644
Boots and shoes. Leather	Jordan Marsh Company	47,692	Nov. 14	119	644
Boots and shoes. Leather	Jordan Marsh Company	47,693	Nov. 14	119	644
Boots and shoes. Leather	Marks Rothenberg & Co	47,701	Nov. 14	119	644
Boots and shoes. Leather	L. A. Crossett	47,711	Nov. 14	119	645
Boots and shoes. Leather	Churchill and Alden Co	47,712	Nov. 14	119	645
Boots and shoes. Leather	Wingo, Ellett & Crump Shoe Co.	47,785	Nov. 21	119	956
Boots and shoes. Leather	Geo. D. Witt Shoe Co	47,896	Nov. 28	119	1252
Boots and shoes. Leather	M. Hessberg	47,897	Nov. 28	119	1252
Boots and shoes. Leather	M. Hessberg	47,898	Nov. 28	119	1252
Boots and shoes. Leather	Jenkins Bros. Shoe Co	48,156	Dec. 12	119	1917
Boots and shoes. Leather	Regal Shoe Company	48,351	Dec. 26	119	2513
Boots and shoes. Leather	Walker & Whitman	48,361	Dec. 26	119	2513
Boots and shoes. Leather	Utz & Dunn	48,434	Dec. 26	119	2516
Boots, shoes, and slippers	C. M. Clapp Co	48,021	Dec. 5	119	1578
Boots, shoes, and slippers and upper and sole leather. Leather.	Packard & Field	48,090	Dec. 12	119	1915
Boots, shoes, and slippers and upper and sole leather. Leather.	Packard & Field	48,215	Dec. 19	119	2228
Boots, shoes, and slippers. Leather	Clark-Hutchinson Company	47,791	Nov. 21	119	957
Boots, shoes, and slippers. Leather and leather-and-cloth	G. F. Daniels & Co	48,087	Dec. 12	119	1915
Boots, shoes, and slippers. Leather, cloth, and felt	M. D. Wells Co	47,721	Nov. 14	119	645
Bracelets, lockets, and brooches. Miniature	Wightman & Hough Co	47,890	Nov. 28	119	1252
Brandy	P. J. Bowlin Liquor Co	48,181	Dec. 12	119	1918
Brandy	Wm. Bergenthal Co	48,192	Dec. 12	119	1919
Brandy	S. Hochstadter	48,290	Dec. 19	119	2230
Brandy	C. H. Graves & Sons	48,328	Dec. 26	119	2512
Brass or copper or alloys thereof. Sheets and bars and sheathing of	Taunton-New Bedford Copper Company.	47,439	Nov. 7	119	330
Brick. Fire-	Newton Fire Brick Co	47,829	Nov. 21	119	958
Brooms	H. Thompson	48,171	Dec. 12	119	1918
Brooms and whisk-brushes	Southwestern Broom Mfg. Co	47,736	Nov. 14	119	646
Brooms and whisk-brushes	Southwestern Broom Mfg. Co	47,841	Nov. 21	119	959
Brooms, brushes, whisks, and dusters	Lee Broom & Duster Company	47,826	Nov. 21	119	958
Brushes	Grand Rapids Brush Co	47,715	Nov. 14	119	645
Brushes and brushes for applying fluids to surfaces. Lather-	Rubber & Celluloid Harness Trimming Company.	47,840	Nov. 21	119	959
Brushes. Paint-	E. Clinton & Co	48,152	Dec. 12	119	1917
Brushes. Varnish and paint	E. Clinton & Co	48,120	Dec. 12	119	1916
Buckets. Well-	Prewitt-Spurr Mfg. Co	48,112	Dec. 12	119	1916
Buffing compounds	George Zucker Company	48,143	Dec. 12	119	1917
Butter	Hazlewood Company	47,522	Nov. 7	119	333
Butter-coloring preparation	Monroe Drug Co	47,472	Nov. 7	119	331
Buttons and studs	Parks Bros. & Rogers	47,491	Nov. 7	119	332
Buttons, collar-buttons, and studs. Sleeve-	Krementz & Co	47,825	Nov. 21	119	958
Buttons. Pearl	Davenport Pearl Button Co	48,275	Dec. 19	119	2230
Cabinets for manifolding account-books	National Cash Register Company.	47,850	Nov. 28	119	1251
Cake and ice-cream cones made from cake	Hazelwood Company	48,127	Dec. 12	119	1916
Candies	M. L. Morgenthau	48,012	Dec. 5	119	1578
Candies and sweetmeats	Mason, Au & Magenheimer Conf. Mfg. Co.	47,828	Nov. 21	119	958
Candies. Mixed	G. W. Chase & Son Mercantile Co.	47,519	Nov. 7	119	333
Candy	Gibbs Preserving Company of Baltimore City.	47,518	Nov. 7	119	333
Candy	Reymer & Brothers	47,682	Nov. 14	119	644
Candy	S. T. Hopkins	47,881	Nov. 28	119	1252
Candy	Reymer & Brothers	48,235	Dec. 19	119	2228
Candy	Reymer & Brothers	48,352	Dec. 26	119	2513
Candy	American Confectionery Co	48,364	Dec. 26	119	2513
Candy. Penny-	New England Confectionery Co.	48,161	Dec. 12	119	1918
Candles	R. Schneider & Co	48,124	Dec. 12	119	1916
Canned corn	C. S. Crary	48,071	Dec. 5	119	1580
Canned fish	Siegel, Cooper & Co	48,068	Dec. 5	119	1580
Canned fish	Francis H. Leggett & Company	48,278	Dec. 19	119	2230
Canned fruits	Siegel, Cooper & Co	48,082	Dec. 5	119	1581
Canned fruits and vegetables	Utica Canning Company	47,784	Nov. 21	119	956
Canned meats	Francis H. Leggett Company	48,074	Dec. 5	119	1580
Canned salmon	Deming & Gould Co	47,673	Nov. 14	119	643
Canned salmon	Pacific American Fisheries	48,288	Dec. 19	119	2230
Canned vegetables	Portland Packing Company	47,493	Nov. 7	119	332
Canned vegetables	Portland Packing Company	47,494	Nov. 7	119	332
Canned vegetables	Portland Packing Company	47,495	Nov. 7	119	332
Canned vegetables	Portland Packing Company	47,496	Nov. 7	119	332
Canned vegetables	Siegel, Cooper & Co	48,069	Dec. 5	119	1580
Canned vegetables	Portland Packing Company	47,492	Nov. 7	119	332
Canned vegetables and fruits	J. H. Rushton	47,437	Nov. 7	119	330
Canoes	Church & Dwight Company	47,448	Nov. 7	119	330
Carbonating-powder	Church & Dwight Company	47,790	Nov. 21	119	957
Carbonating-powder	New York Consolidated Card Company.	47,550	Nov. 7	119	335
Cards. Playing-	New York Consolidated Card Company.	47,853	Nov. 28	119	1251
Cards. Playing-	New York Consolidated Card Company.	47,991	Dec. 5	119	1577
Cards. Playing-	United States Playing Card Co.	47,992	Dec. 5	119	1577
Cards. Playing-	United States Playing Card Co.	47,993	Dec. 5	119	1577
Cards. Playing-	A. O. Leonard	48,158	Dec. 12	119	1917
Cards. Playing-	New York Consolidated Card Company.	48,170	Dec. 12	119	1918
Cards. Playing-	United States Playing Card Co	48,357	Dec. 26	119	2513
Cards. Playing-	United States Playing Card Co	48,389	Dec. 26	119	2514
Carpets	Hartford Carpet Corporation	48,047	Dec. 5	119	1579
Carpets	Hartford Carpet Corporation	48,282	Dec. 19	119	2231

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Carpets and rugs	H. R. Albee	47,477	Nov. 7	119	332
Carpets and rugs. Pile	Ivins, Dietz & Metzger Co	47,822	Nov. 21	119	958
Cartons	Hinde & Dauch Paper Co	48,402	Dec. 26	119	2515
Cartridges	Selby Smelting and Lead Company.	48,217	Dec. 19	119	2228
Cartridges	Selby Smelting and Lead Company.	48,370	Dec. 26	119	2514
Cement. Portland	German-American Portland Cement Works.	48,244	Dec. 19	119	2229
Cement. Portland	Houston Brothers Company	48,251	Dec. 19	119	2230
Cement preparation for coating metals and other surfaces	Toch Brothers	47,842	Nov. 21	119	950
Chain-blocks for hoisting machinery	J. G. Speidel	47,912	Nov. 28	119	1253
Chains and lockets	Bassett Jewelry Company	48,158	Dec. 12	119	1918
Chandeliers and brackets	McKenney & Waterbury Company.	47,543	Nov. 7	119	334
Cheese	Hazelwood Company	48,128	Dec. 12	119	1916
Chemical preparation for washing and bathing	Charles E. Sholes Company	47,810	Nov. 21	119	957
Chemical preparations. Certain named	Preservaline Mfg. Co	48,430	Dec. 26	119	2516
Chocolates and chocolate bonbons	Stern & Saalberg Company	47,568	Nov. 14	119	639
Cider	Siegel, Cooper & Co	47,661	Nov. 14	119	643
Cigarette-paper	A. A. Kohary	47,900	Nov. 28	119	1253
Cigarettes	S. S. Pierce Co	47,549	Nov. 7	119	335
Cigarettes	Carreras & Marcianus Cigarettes	48,240	Dec. 19	119	2228
Cigarettes	H. P. Strause	48,383	Dec. 26	119	2514
Cigars	S. S. Pierce Co	47,438	Nov. 7	119	330
Cigars	J. Weinreich	47,442	Nov. 7	119	330
Cigars	E. H. Gato Cigar Company	47,451	Nov. 7	119	330
Cigars	E. H. Gato Cigar Company	47,452	Nov. 7	119	330
Cigars	E. H. Gato Cigar Company	47,453	Nov. 7	119	331
Cigars	E. H. Gato Cigar Company	47,540	Nov. 7	119	334
Cigars	Rodriguez & Teijeiro	47,546	Nov. 7	119	334
Cigars	Rodriguez & Teijeiro	47,547	Nov. 7	119	334
Cigars	C. S. Morris & Co	47,620	Nov. 14	119	641
Cigars	Y. Pendas & Alvarez	47,625	Nov. 14	119	642
Cigars	S. S. Pierce Co	47,703	Nov. 14	119	644
Cigars	S. S. Pierce Co	47,704	Nov. 14	119	645
Cigars	S. S. Pierce Co	47,705	Nov. 14	119	645
Cigars	S. S. Pierce Co	47,706	Nov. 14	119	645
Cigars	S. S. Pierce Co	47,707	Nov. 14	119	645
Cigars	S. S. Pierce Co	47,708	Nov. 14	119	645
Cigars	L. & I. Rubovits	47,835	Nov. 21	119	958
Cigars	S. S. Pierce Co	48,018	Dec. 5	119	1578
Cigars	Juan F. Portuondo Cigar Mfg. Co	48,271	Dec. 19	119	2230
Cigars	Juan F. Portuondo Cigar Mfg. Co	48,272	Dec. 19	119	2230
Cigars	Fehsenfeld Cigar Co	48,427	Dec. 26	119	2515
Cigars	Juan F. Portuondo Cigar Mfg. Co.	48,428	Dec. 26	119	2516
Cigars and cheroots	Sanchez y Hermanos	47,684	Nov. 14	119	644
Cigars and cheroots	Filogamo & Alvarez	48,125	Dec. 12	119	1916
Cigars and cigarettes made from cigar-tobacco	Victor Talking Machine Company.	47,737	Nov. 14	119	646
Clay	Philadelphia Clay Company	47,839	Nov. 21	119	959
Cleaning, scouring, and polishing compounds	Sel-on-Site Manufacturing Company.	47,917	Nov. 28	119	1253
Coal and wood. Preparation to increase efficiency of	Kalorin Fuel Company	47,463	Nov. 7	119	331
Coats, pants, and vests. Men's and boys'	Reinhard, Meyer & Co	48,138	Dec. 12	119	1917
Coats, pants, overalls, and blouses	Larned, Carter and Co	47,849	Nov. 28	119	1251
Coats, vests, and trousers. Boys' and men's	Gillespie Shields & Co	47,761	Nov. 21	119	956
Cocktails	H. Rosenheim & Son	47,985	Dec. 5	119	1577
Cocktails	P. J. Boulin Liquor Co	48,332	Dec. 26	119	2512
Coffee	Geiger Tinney Co	48,142	Dec. 12	119	1917
Coffee	Independence Coffee and Spice Co.	48,250	Dec. 19	119	2229
Coffee. Cereal	Sleepy Eye Milling Company	48,167	Dec. 12	119	1918
Coffee. Roasted	Merchants Coffee Co	48,246	Dec. 19	119	2229
Collars and cuffs	Fiberloid Co	47,504	Nov. 7	119	333
Collars and cuffs	Fellows and Company	48,277	Dec. 19	119	2230
Collars and cuffs made from pyroxylin	Fiberloid Co	47,663	Nov. 14	119	643
Cologne spirits	Diamond Distilleries Co	48,109	Dec. 12	119	1918
Compounds designed to cure nervous debility	Peal Medicine Company	47,778	Nov. 21	119	956
Conduit for electric conductors. Flexible	Alphaduct Manufacturing Company.	47,786	Nov. 21	119	957
Confection composed of rice and sugar	R. A. Johnston Co	47,683	Nov. 14	119	644
Conveyers. Endless-belt	Jeffrey Manufacturing Company	47,766	Nov. 21	119	956
Copper	Baltimore Copper Smelting & Rolling Company.	47,768	Nov. 21	119	956
Copper	Baltimore Copper Smelting & Rolling Company.	47,769	Nov. 21	119	956
Cordial	Kamp Distilling Co	48,375	Dec. 26	119	2514
Cordial. Bitter	L. E. Jung	47,486	Nov. 7	119	332
Cordials	A. Breslauer Company	48,172	Dec. 12	119	1918
Cordials	S. Hochstadter	48,309	Dec. 26	119	2511
Cordials	S. Hochstadter	48,345	Dec. 26	119	2512
Corn-shellers	Sandwich Manufacturing Co	48,236	Dec. 19	119	2228
Corsets	Abraham & Straus	47,512	Nov. 7	119	333
Corsets	Michigan Corset Company	47,664	Nov. 14	119	643
Corsets	Fellheimer and Co	47,675	Nov. 14	119	643
Corsets	Strawbridge & Clothier	47,685	Nov. 14	119	644
Corsets	E. C. Weeks	47,757	Nov. 21	119	955
Corsets	Bay State Corset Co	47,876	Nov. 28	119	1252
Corsets	Kops Bros	47,883	Nov. 28	119	1252
Corsets	Bay State Corset Co	48,040	Dec. 5	119	1579
Corsets and corset-girdles	Felix Corset Co	47,651	Nov. 14	119	643
Corsets and corset-waists	Kalamazoo Corset Co	48,281	Dec. 19	119	2230
Corsets, corset-waists, and corset-steels	Kops Bros	48,107	Dec. 12	119	1915
Cosmetic	H. W. Frisby	48,053	Dec. 5	119	1580
Cotton and part-cotton piece goods	Smith, Hogg & Co	48,091	Dec. 12	119	1915

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Cotton drills	Wellington, Sears & Co	48,048	Dec. 5	119	1580
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	48,045	Dec. 5	119	1579
Cotton flannel	Pemberton Company	48,111	Dec. 12	119	1916
Cotton piece goods	Massachusetts Cotton Mills	47,658	Nov. 14	119	643
Cotton piece goods	Massachusetts Cotton Mills	47,659	Nov. 14	119	643
Cotton piece goods	Massachusetts Cotton Mills	47,680	Nov. 14	119	644
Cotton piece goods	Suffern & Co	47,709	Nov. 14	119	645
Cotton piece goods	Tremont & Suffolk Mills	47,843	Nov. 21	119	950
Cotton piece goods	Massachusetts Cotton Mills	47,884	Nov. 28	119	1252
Cotton piece goods	Massachusetts Cotton Mills	48,043	Dec. 5	119	1579
Cotton piece goods	Massachusetts Cotton Mills	48,285	Dec. 19	119	2230
Cough cure	Kickapoo Indian Medicine Co	47,812	Nov. 21	119	958
Crackers and cakes	Independent Baking Co	47,922	Nov. 28	119	1253
Crême de menthe	Charles Jacquin et Cie	48,321	Dec. 26	119	2511
Cuffs	J. B. Boyle	48,119	Dec. 12	119	1916
Cure for abcesses in teeth	F. P. Rutherford	48,185	Dec. 12	119	1918
Dentifrice	Jennings Company	47,802	Nov. 21	119	957
Dentifrice in powder, liquid, and paste form. Tooth-	Woodman-Davis Co	48,194	Dec. 12	119	1919
Dentifrices	L. W. Dutro	47,950	Nov. 28	119	1255
Desks and type-writer cabinets	Horrocks Desk Co	47,425	Nov. 7	119	329
Disinfectants and antiseptics	Bellevue Chemical Company	48,436	Dec. 26	119	2516
Distillers' dried grains	J. W. Biles Co	48,066	Dec. 5	119	1580
Dolls	B. Illfelder & Co	47,821	Nov. 21	119	958
Drawers to trousers. Device for securing	Catch On Clasp Mfg. Co	48,026	Dec. 5	119	1579
Driers and parts thereof	Philadelphia Textile Machinery Co.	48,205	Dec. 19	119	2227
Driving-bits. Safety	W. Van Arsdale	47,440	Nov. 7	119	330
Dyestuff	Cassella Color Company	47,480	Nov. 7	119	332
Dyestuff	Cassella Color Company	47,481	Nov. 7	119	332
Dyestuff	Cassella Color Company	47,592	Nov 14	119	640
Dyestuff	Cassella Color Company	47,593	Nov. 14	119	640
Dyestuff	Cassella Color Company	48,412	Dec. 26	119	2515
Dyspepsia. Compound for curing	C. E. Shacklady	47,726	Nov. 14	119	645
Eggs	Hazelwood Company	48,126	Dec. 12	119	1916
Elastic webbing	Russell Manufg. Co	47,465	Nov. 7	119	331
Electric batteries	Leclanché Battery Co	48,384	Dec. 26	119	2514
Electric conductors. Flexible conduit for	Alphaduct Manufacturing Company.	47,973	Nov. 28	119	1255
Electric conduits. Coated pipes and tubes for	Safety Armorite Conduit Company.	47,807	Nov. 21	119	957
Electric motors and generators. Dynamo-	Sprague Electric Company	47,913	Nov. 28	119	1253
Emblems. Society	Sinnock & Sherrill	47,548	Nov. 7	119	334
Emulsions	Standard Emulsion Company	47,623	Nov. 14	119	642
Envelops	A Plant	47,907	Nov. 28	119	1253
Evaporating and distilling apparatus	Wheeler Condenser & Engineering Co	48,409	Dec. 26	119	2515
Eye-shade	W. F. Mahony	47,719	Nov. 14	119	645
Eyeglass-lenses	B. Mayer	48,214	Dec. 19	119	2227
Fabric formed of woven splints, strips, or slats, and thread, cord, or wire for shades, screens, curtains, and the like.	Hough Shade Corporation	48,088	Dec. 12	119	1915
Fabric. Silk	Stewart Silk Company	48,092	Dec. 12	119	1915
Fabrics for suitings for men and boys. Cloth	T. Oakes & Co	47,974	Nov. 28	119	1255
Fabrics for walls and ceilings. Decorative	Fr. Beck & Company	47,975	Nov. 28	119	1255
Fabrics. Woolen and worsted	R. F. Shaen	47,887	Nov. 28	119	1252
Felt. Tarred	Boise Gas Light Company	48,003	Dec. 5	119	1578
Felts and jacketings	Knox Woolen Co	47,487	Nov. 7	119	332
Fertilizers. Artificial	Spartanburg Fertilizer Co	47,730	Nov. 14	119	646
Files and rasps	G. & H. Barnett Company	48,371	Dec. 26	119	2513
Fire-extinguishers	E. G. Parker	48,056	Dec. 5	119	1580
Firearms	Webley & Scott Revolver & Arms Co.	48,404	Dec. 26	119	2515
Firearms	Webley & Scott Revolver & Arms Co.	48,405	Dec. 26	119	2515
Fish. Dried, smoked, pickled, salted, and canned	W. T. Shute	48,079	Dec. 5	119	1581
Fish. Dried, smoked, pickled, salted, and canned	W. T. Shute	48,080	Dec. 5	119	1581
Fish. Dried, smoked, pickled, salted, and canned	W. T. Shute	48,166	Dec. 12	119	1918
Fish. Salt	W. H. Lord	47,954	Nov. 28	119	1255
Fishing-reels	Chamberlin Cartridge and Target Co.	47,837	Nov. 21	119	959
Flags and banners	United Society of Christian Endeavor.	47,816	Nov. 21	119	958
Flavoring and dressing. Dessert	G. F. Hueblein & Bro	47,677	Nov. 14	119	643
Flavoring extracts	Siegel, Cooper & Co	47,499	Nov. 7	119	332
Flavoring extracts	Citizens' Wholesale Supply Co	48,270	Dec. 19	119	2230
Flooring. Manufactured maple	Cobbs & Mitchell	47,616	Nov. 14	119	641
Florida water	Lanman & Kemp	47,457	Nov. 7	119	331
Flour	S. S. Pierce Co	48,266	Dec. 19	119	2229
Flour, potato-starch, and dextrin. Potato-	Norddeutsche Kartoffelmehl-Fabrik mit Beschränkter Haftung.	47,764	Nov. 21	119	956
Flour. Wheat-	Washburn-Crosby Company	47,508	Nov. 7	119	333
Flour. Wheat-	C. E. Clauder	47 516	Nov. 7	119	333
Flour. Wheat-	Pillsbury-Washburn Flour Mills Company.	47,530	Nov. 7	119	334
Flour. Wheat-	W. J. Jennison Company	47,624	Nov. 14	119	642
Flour. Wheat-	Sleepy Eye Milling Company	47,702	Nov. 14	119	644
Flour. Wheat-	Pittsburgh Milling Co	48,057	Dec. 5	118	1580
Flour. Wheat-	Strasburg Steam Flouring Mills	48,061	Dec. 5	119	1580
Flour. Wheat-	L. M. Paschall	48,075	Dec. 5	119	1580
Flour. Wheat-	G. C. Christian & Company	48,122	Dec. 12	119	1916
Flour. Wheat-	Acme Milling Company	48,146	Dec. 12	119	1917
Flour. Wheat-	M. Alexander	48,150	Dec. 12	119	1917
Flour. Wheat-	G. C. Christian & Company	48,151	Dec. 12	119	1917
Flour. Wheat-	John F. Meyer & Sons Milling Co	48,264	Dec. 19	119	2229
Flour. Wheat-	C. B. Smith & Brother	48,265	Dec. 19	119	2229

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Food. Bird-	Aschenbach & Miller	48,068	Dec. 5	119	1580
Food. Live-stock and poultry	McCormick & Company	47,619	Nov. 14	119	641
Food-receptacles	Ware-Standard Mfg. Co	47,441	Nov. 7	119	330
Food. Stock-	National Food Co	47,552	Nov. 7	119	335
Foods. Bird-	Brookman Manufacturing Company.	47,945	Nov. 28	119	1254
Fruits. Dried	Francis H. Leggett & Company	48,242	Dec. 19	119	2228
Fuses. Electric safety-	D. & W. Fuse Co	48,439	Dec. 26	119	2516
Fuses. Inclosed electric	Johns-Pratt Co	48,403	Dec. 26	119	2515
Gage-glasses	Schaeffer and Budenberg Mfg. Co.	47,916	Nov. 28	119	1253
Gages	G. W. Gregory	47,716	Nov. 14	119	645
Game	E. I. Horsman Co	48,153	Dec. 12	119	1917
Games. Card	Parker Brothers, Inc	47,834	Nov. 21	119	958
Games. Card	United States Playing Card Co	47,854	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,855	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,856	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,857	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,858	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,859	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,860	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,862	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,863	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,864	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,865	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,866	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,867	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,868	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,869	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,870	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,871	Nov. 28	119	1251
Games. Card	United States Playing Card Co	47,872	Nov. 28	119	1252
Games. Card	United States Playing Card Co	47,873	Nov. 28	119	1252
Games. Card	United States Playing Card Co	47,874	Nov. 28	119	1252
Games. Card	United States Playing Card Co	47,875	Nov. 28	119	1252
Games. Card	United States Playing Card Co	48,260	Dec. 19	119	2229
Gelatin	C. B. Knox	47,652	Nov. 14	119	643
Gelatin. Prepared	Whitman Grocery Company	48,295	Dec. 19	119	2231
Gin	Baird-Daniels Company	47,513	Nov. 7	119	333
Gin	G. W. Meredith	47,936	Nov. 28	119	1254
Gin	Albert M. Gugenheim Company	47,969	Nov. 28	119	1255
Gin	National Distilling Co	48,013	Dec. 5	119	1578
Gin	P. J. Bowlin Liquor Co	48,182	Dec. 12	119	1918
Gin	A. Breslauer Company	48,219	Dec. 19	119	2228
Gin	Henry Kröger & Co	48,308	Dec. 26	119	2511
Gin	H. Kahn	48,330	Dec. 26	119	2512
Glass chimneys, lantern-globes, and reflectors	Gill Brothers Company	47,934	Nov. 28	119	1254
Glass. Cut and engraved	T. G. Hawkes & Co	48,400	Dec. 26	119	2515
Glass fruit-jars	A. G. Smalley	48,030	Dec. 5	119	1579
Glass. Sheet and picture	Semon Bache & Company	48,250	Dec. 19	119	2229
Glass vessels for table use	Cambridge Glass Co	47,970	Nov. 28	119	1255
Gloves	F. Schmidt	47,566	Nov. 14	119	639
Gloves	Abraham & Straus	47,669	Nov. 14	119	643
Gloves	J. Adler & Co	48,149	Dec. 12	119	1917
Gloves	J. Adler & Co	48,389	Dec. 26	119	2514
Glue	Cudahy Brothers Co	47,847	Nov. 21	119	959
Grain drills and seeders	Van Brunt Mfg. Co	47,918	Nov. 28	119	1253
Grease-cups	Lunkenheimer Company	48,385	Dec. 26	119	2514
Guano	Tennessee Chemical Company	48,093	Dec. 12	119	1915
Guitars	Lyon & Healy	48,421	Dec. 26	119	2515
Gum. Chewing-	American Chicle Co	48,001	Dec. 5	119	1578
Gum. Chewing-	American Chicle Co	48,002	Dec. 5	119	1578
Gum. Chewing-	Frank H. Fleer and Company	48,005	Dec. 5	119	1578
Gum. Chewing-	Seydel Gum Co	48,017	Dec. 5	119	1578
Gum. Chewing-	American Chicle Co	48,239	Dec. 19	119	2228
Hair-dye	W. W. Scheffler	47,497	Nov. 7	119	332
Hair goods. Human-	S. Stein	48,199	Dec. 19	119	2227
Hair-remover	De Miracle Chemical Company	48,207	Dec. 19	119	2227
Hair-tonics and hair-dyes	F. G. Telfer	48,355	Dec. 26	119	2513
Hams and bacon	Parker, Webb & Co	47,681	Nov. 14	119	644
Handkerchiefs	John Pullman & Co	47,679	Nov. 14	119	644
Harness and parts thereof, saddles, collars, and harness-leather	Lovan Saddlery Co	48,009	Dec. 5	119	1578
Hats	Boogher, Force & Goodbar Hat Company.	47,891	Nov. 28	119	1252
Hats	Boogher, Force & Goodbar Hat Company.	48,041	Dec. 5	119	1579
Hats and bandeaux	E. V. Rosemond	47,754	Nov. 21	119	955
Hats and caps	John B. Stetson Company	47,775	Nov. 21	119	956
Hats and caps	Samuel Mundheim Company	48,046	Dec. 5	119	1579
Hats and caps	J. Samuels & Bro	48,377	Dec. 26	119	2514
Hats and caps. Men's	A. Matthews	48,044	Dec. 5	119	1579
Hats and caps. Men's and boys'	J. Samuels & Bro	48,239	Dec. 19	119	2230
Hats, caps, and bonnets	Collins & Fairbanks Company	48,070	Dec. 5	119	1580
Hats. Felt	M. F. Mason	48,226	Dec. 19	119	2230
Hats, hat-frames, and hat-trimmings	John Miles	48,131	Dec. 12	119	1916
Heat-storing devices	Thermalite Company	48,431	Dec. 26	119	2516
Hoes	Kanawha Implement Company	47,[illegible]	Nov. 21	119	957
Hooks and eyes	De Long Hook & Eye Company	47,[illegible]	Nov. 7	119	334
Hooks and eyes	De Long Hook & Eye Company	47,[illegible]	Nov. 21	119	955
Hooks and eyes	Peet Bros	47,906	Nov. 28	119	1253
Horse-boots	Sell Horse Goods Company	47,815	Nov. 21	119	958
Horseshoe-pads	Revere Rubber Company	47,639	Nov. 14	119	642
Hosiery	C. Chipman's Sons	47,515	Nov. 7	119	333
Hosiery	New Albany Hosiery Mill	47,753	Nov. 21	119	955
Hosiery	Abraham & Straus	48,236	Dec. 19	119	2231
Ice-cream	Hazelwood Company	48,120	Dec. 12	119	1916
Ignition parts	Herz & Co	47,426	Nov. 7	119	329

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Incandescent mantles	G. G. Ramsdell	48,249	Dec. 19	119	2229
Ink. Dry	Hill's Ink Tablet Co	47,762	Nov. 21	119	956
Inking-rollers. Composition	B. F. Goodrich Company	48,033	Dec. 5	119	1579
Inkstand	F. M. Ashley	48,049	Dec. 5	119	1580
Insulating-material linings	Keystone Hair Insulator Company.	48,212	Dec. 19	119	2227
Insulating preparation. Liquid	Massachusetts Chemical Co	47,413	Nov. 7	119	329
Insulation material	Roessler & Hasslacher Chemical Co.	47,735	Nov. 14	119	646
Jellies, jams, and preserves	Francis H. Leggett & Company	48,062	Dec. 5	119	1580
Knit cotton underwear. Mercerized	Robt. Reis & Co	47,532	Nov. 7	119	334
Knit underwear and knit hosiery	L. P. Haight	47,676	Nov. 14	119	643
Knitted hosiery, underwear, and sweaters	Knoxville Knitting Mills Company.	47,882	Nov. 28	119	1252
Knitted underwear	Glastonbury Knitting Company	48,042	Dec. 5	119	1579
Knives and razors	Gray and Dudley Hardware Company.	48,225	Dec. 19	119	2228
Knives. Machine-	Loring Coes & Company	48,208	Dec. 19	119	2227
Knives. Pocket and pen	E. Weck	48,408	Dec. 26	119	2515
Laces. Shoe-	H. L. Hiller	48,344	Dec 26	119	2512
Lamp glasses and globes	Macbeth-Evans Glass Company.	47,694	Nov. 14	119	644
Lamp glasses and globes	Macbeth-Evans Glass Company.	47,695	Nov. 14	119	644
Lamp glasses and globes	Macbeth-Evans Glass Company.	47,696	Nov. 14	119	644
Lamp glasses and globes	Macbeth-Evans Glass Company.	47,697	Nov. 14	119	644
Lamp glasses and globes	Macbeth-Evans Glass Company.	47,698	Nov. 14	119	644
Lamp glasses and globes	Macbeth-Evans Glass Company.	47,699	Nov. 14	119	644
Lamp glasses and globes	Macbeth-Evans Glass Company.	47,700	Nov. 14	119	644
Lamp glasses and globes	Macbeth-Evans Glass Company.	48,245	Dec. 19	119	2229
Lamp glasses and globes	Macbeth-Evans Glass Company.	48,347	Dec. 26	119	2513
Lamp glasses and globes	Macbeth-Evans Glass Company.	48,392	Dec. 26	119	2514
Lamps. Incandescent	Pettingell-Andrews Company	48,076	Dec. 5	119	1581
Lantern globes and lenses	Fostoria Glass Specialty Co	47,732	Nov. 14	119	646
Lap-coverings	W. B. Riley & Co	47,545	Nov. 7	119	334
Lard	Tennessee Packing & Provision Company.	48,140	Dec. 12	119	1917
Lard, lard compounds, tallow, and substitutes for lard	Cudahy Brothers Co	47,772	Nov. 21	119	956
Lard substitute	McCaw Manufacturing Company	47,524	Nov. 7	119	333
Lard, tallow, lard compounds, and substitutes for lard	Cudahy Brothers Co	47,631	Nov. 14	119	642
Leather	W. D. Byron & Sons	47,977	Dec. 5	119	1577
Leather dressing and polish	Columbia Shoe Dressing Co	47,672	Nov. 14	119	643
Leather. Hemlock sole-	United States Leather Company	47,665	Nov. 14	119	643
Leather. Imitation	L. C. Chase & Co	47,789	Nov. 21	119	957
Leggings. Leather	Chanavas & Slazenger	47,650	Nov. 14	119	643
Lights. Bulbs and globes for incandescent and arc	Fostoria Glass Specialty Co	47,838	Nov. 21	119	959
Liniment	J. Helf	48,202	Dec. 19	119	2227
Liniment	C. Stanley	48,425	Dec. 26	119	2515
Liniments	F. S. Luqueer	47,582	Nov. 14	119	640
Linings and foundations	Andrew McLean Co	48,039	Dec. 5	119	1579
Locks, lock-bolts, catches, and latches	Patterson, Gottfried & Hunter	47,435	Nov. 7	119	330
Loom-temples and parts thereof	Draper Company	47,632	Nov. 14	119	642
Lotions for external application	F. N. Nagel	48,055	Dec. 5	119	1580
Lozenges	New England Confectionery Co	47,885	Nov. 28	119	1252
Lubricants. Antiseptic	Russell & Lawrie	48,443	Dec. 26	119	2516
Lye	P. C. Tomson & Co	47,475	Nov. 7	119	331
Machine blades or knives	Loring Coes & Company	48,442	Dec. 26	119	2516
Magazine. Monthly	G. H. Patterson and E. C. Thurnau Publishers Office Appliances.	47,722	Nov. 14	119	645
Magazine. Monthly	National Metal Trades Association.	47,777	Nov. 21	119	956
Magazine or periodical	Rocky Mountain Consolidated Company.	47,725	Nov. 14	119	645
Magazine or periodical	Homefolks Publishing Company	48,154	Dec. 12	119	1917
Magazines. Periodical	Doubleday, Page & Co	48,096	Dec. 12	119	1915
Malt extract	Federal Brewing Company	47,745	Nov. 21	119	955
Malt extract for brewers' use	Indianapolis Brewing Company	47,959	Nov. 28	119	1255
Malt extracts	Theo. Hamm Brewing Co	47,612	Nov. 14	119	641
Malt extracts and peptonized malt foods	A. Lieber	47,953	Nov. 28	119	1255
Maraschino	Charles Jacquin et Cie	48,340	Dec. 26	119	2512
Mattresses	T. B. Burnett	48,086	Dec. 12	119	1915
Mattresses	Foster-Allison Company	48,104	Dec. 12	119	1915
Mattresses, pillows, cushions, and hassocks	Ostermoor & Co	47,830	Nov. 21	119	958
Mattresses, pillows, cushions, and hassocks	Ostermoor & Co	47,831	Nov. 21	119	958
Mattresses, pillows, cushions, and hassocks	Ostermoor & Co	47,832	Nov. 21	119	958
Mattresses, pillows, cushions, and hassocks	Ostermoor & Co	47,833	Nov. 21	119	958
Meat extracts	Valentine's Meat Juice Company	48,360	Dec. 26	119	2513
Meat juice. Preparations of	Valentine's Meat Juice Company	48,359	Dec. 26	119	2513
Medical compound	S. H. E. Hayden	48,441	Dec. 26	119	2516
Medical compounds for diseases of the urinogenital organs	No-Gon Company	47,814	Nov. 21	119	958
Medical salts and tablets made therefrom	Medical Lake Salts Mfg. Co	47,583	Nov. 14	119	640
Medicated oil for rheumatism	G. Ardito	47,479	Nov. 7	119	332
Medicinal compounds for the cure of catarrhal diseases and colds	Ely Brothers	47,455	Nov. 7	119	331
Medicinal food prepared from wheat	Imperial Granum Co	47,539	Nov. 7	119	334
Medicinal preparation	Centaur Company	47,588	Nov. 14	119	640
Medicinal preparation for catarrh, asthma, hay-fever, and lung troubles.	Doctor Blosser Company	47,920	Nov. 28	119	1253
Medicinal preparations	Leslie E. Keeley Co	48,429	Dec. 26	119	2516
Medicinal tablets	Antikamnia Chemical Company	48,062	Dec. 5	119	1580
Medicinal tablets	Antikamnia Chemical Company	48 064	Dec. 5	119	1580
Medicinal tablets	Antikamnia Chemical Company	48,189	Dec. 12	119	1919
Medicinal tablets	Antikamnia Chemical Company	48,190	Dec. 12	119	1919
Medicinal tablets	Antikamnia Chemical Company	48,191	Dec. 12	119	1919
Medicinal tonic and laxative preparation	California Extract of Fig Company.	47,446	Nov. 7	119	330
Medicine. Cough	J. Perry	48,204	Dec. 19	119	2227
Medicine for cows	Dairy Association Co	48,176	Dec. 12	119	1915
Medicine for external and internal use	B. Romero	47,490	Nov. 7	119	331

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Medicine for the cure of diseases of the throat and lungs	Chamberlain Medicine Co	47,449	Nov. 7	119	330
Medicine for the remedy of nervous debility	Ho Ly-Yuen	48,178	Dec. 12	119	1918
Medicine. Proprietary	L. M. Kazunas	47,804	Nov. 21	119	957
Medicines. Blood and nerve	L. C. Geiser Medical Co	47,923	Nov. 28	119	1254
Medicines for stomach and bowel troubles and rheumatic pains	G. G. Norris' Sons	47,921	Nov. 28	119	1253
Medicines for the blood	S. B. Hartman	48,196	Dec. 19	119	2227
Medicines for the regulation of the liver and purification of the blood.	A. H. Lewis Medicine Co	48,188	Dec. 12	119	1918
Medicines. Proprietary	L. M. Kazunas	48,418	Dec. 26	119	2515
Medicines. Tonic	S. B. Hartman	48 440	Dec. 26	119	2516
Metal. Antifriction	William A. Hardy & Son's Co	48,218	Dec. 19	119	2228
Metal in certain named forms	Dilworth, Gilbert & Towne	48,222	Dec. 19	119	2228
Metals. Antifriction	E. S. Shimer	48,380	Dec. 26	119	2514
Milk and cream	Hazelwood Company	48,129	Dec. 12	119	1916
Milk-separator	Aktiebolaget Balenius Werkstäder.	48,338	Dec. 26	119	2512
Mince-meat. Prepared	Brownell & Field Company	48,050	Dec. 5	119	1580
Mineral-spring water	Manitou Mineral Springs Company.	48,237	Dec. 19	119	2226
Mineral water	Berry Hill Mineral Spring Co. of Va.	47,502	Nov. 7	119	332
Mineral waters	French Lick Springs Hotel Co	47,748	Nov. 21	119	955
Mineral waters	French Lick Springs Hotel Co	47,749	Nov. 21	119	955
Mineral waters	French Lick Springs Hotel Co	47,750	Nov. 21	119	955
Mineral waters	French Lick Springs Hotel Co	47,879	Nov. 28	119	1252
Molasses	N. W. Taussig Co	47,490	Nov. 7	119	332
Molasses	P. Duff & Sons	47,949	Nov. 28	119	1254
Molasses	P. Duff & Sons	48,051	Dec. 5	119	1580
Molasses	P. Duff & Sons	48,073	Dec. 5	119	1580
Molasses	N. W. Taussig Co	48,136	Dec. 12	119	1917
Molasses	New Orleans Coffee Co	47,529	Nov. 7	119	333
Molasses, syrups, and sorghums	T. Manahan	47,904	Nov. 28	119	1253
Moth-bags	T. Manahan	47,428	Nov. 7	119	329
Moth-bags and moth-paper	T. Manahan	47,903	Nov. 28	119	1253
Moth-paper and moth-bags	M. E. Manahan	47,902	Nov. 28	119	1253
Moth sheets and bags	Stickney & Poor Spice Company	48,268	Dec. 19	119	2229
Mustard	Stickney & Poor Spice Company	48,267	Dec. 19	119	2229
Mustard and spices	Joseph Campbell Company	48,089	Dec. 12	119	1915
Mustard. Prepared	Dr. J. Parker Pray Company	48,343	Dec. 26	119	2512
Nail-polishing composition	Capewell Horse Nail Company	48,113	Dec. 12	119	1916
Nails. Horse-	C. F. Baker & Co	48,025	Dec. 5	119	1579
Nails. Wire	Blumenkrohn Crochet Button Works.	48,118	Dec. 12	119	1916
Neckwear-supporters. Ladies'	F. W. Whitcher	47,844	Nov. 21	119	959
Needles	C. F. Boker	48,365	Dec. 26	119	2513
Needles. Sewing-	David Williams Company	47,713	Nov. 14	119	645
Newspaper. Trade	David Williams Company	48,369	Dec. 26	119	2513
Newspaper. Trade	W. C. & F. P. Church	48,407	Dec. 26	119	2515
Newspaper. Weekly	F. B. Sari	48,378	Dec. 26	119	2514
Oil. Olive-	A. W. Corning	48,121	Dec. 12	119	1916
Oils and greases. Lubricating	Kickapoo Indian Medicine Co	48,445	Dec. 26	119	2516
Oils for internal and external use	Valvoline Oil Company	47,668	Nov. 14	119	643
Oils. Illuminating-	W. C. Robinson & Son Co	47,509	Nov. 7	119	333
Oils. Lubricating-	A. J. Tower Co	48,336	Dec. 26	119	2512
Oiled clothing	A. J. Tower Co	48,337	Dec. 26	119	2512
Oiled clothing	E. Schmidt & Co	48,186	Dec. 12	119	1918
Ointment or salve	C. Gulden	47,952	Nov. 28	119	1255
Olives	Francis H. Leggett & Company	48,243	Dec. 19	119	2229
Olives	C. Gulden	48,262	Dec. 19	119	2229
Olives	Charles Jacquin et Cie	48,339	Dec. 26	119	2512
Orange curacao	Hamilton Organ Company	48,263	Dec. 19	119	2229
Organs	Hamilton Organ Co	48,416	Dec. 26	119	2515
Organs	W. W. Kimball Company	48,435	Dec. 26	119	2516
Organs. Cabinet-	Sanders Manufacturing Co	47,534	Nov. 7	119	334
Overalls	Brattleboro Overall Co	47,892	Nov. 28	119	1252
Overalls, coats, jumpers, and trousers	A. Kory & Sons	48,284	Dec. 19	119	2230
Overalls, coats, vests, and trousers	Garlock Packing Co	48,356	Dec. 26	119	2513
Packing	Nansen Composition & Paint Co	48,135	Dec. 12	119	1917
Paint	T. W. Stemmler	47,501	Nov. 7	119	332
Paint and primer. Liquid	Gould & Cutler Corporation	48,415	Dec. 26	119	2515
Paint and varnish removers	Stackite Paint Co	47,500	Nov. 7	119	332
Paint. Locomotive-	Elliott Varnish Company	47,541	Nov. 7	119	334
Paint or coating. Liquid roofing	Detroit Graphite Mfg. Co	47,979	Dec. 5	119	1577
Paint. Prepared	American Graphite Company	47,641	Nov. 14	119	642
Paints adapted for iron and roofing	Chicago Varnish Co	47,557	Nov. 14	119	639
Paints and enamels	J. Lucas & Co	47,776	Nov. 21	119	956
Paints and supplies. Certain named	Standard Varnish Works	47,851	Nov. 28	119	1251
Paints and supplies. Certain named	Geo. D. Wetherill & Co	47,895	Nov. 28	119	1252
Paints. Ready-mixed	Superior Renovator Company	47,662	Nov. 14	119	643
Painted, varnished, and japanned surfaces. Renovator for	M. P. Exline Co	47,733	Nov. 14	119	646
Paper and envelops	G. B. Hurd & Co	47,760	Nov. 21	119	955
Paper and envelops. Writing-	Marcus Ward Company	47,827	Nov. 21	119	958
Paper and envelops. Writing-	G. B. Hurd & Co	48,391	Dec. 26	119	2514
Paper and envelops. Writing-	Standard Paper Mfg. Co	48,031	Dec. 5	119	1579
Paper. Blotting-	Whitney & Company	47,667	Nov. 14	119	643
Paper boxes. Folding	W. H. Rankin Company	47,845	Nov. 21	119	959
Paper. Felt and sheathing	Houston Brothers Company	47,982	Dec. 5	119	1577
Paper for roofing purposes	H. V. Wagoner	47,420	Nov. 7	119	329
Paper. Linen writing-	W. G. Willmann	47,443	Nov. 7	119	330
Paper. Writing-	B. D. Rising Paper Company	47,710	Nov. 14	119	645
Papers. Bond, linen, ledger, wedding, and index bristol	Diamond Paste Co	48,120	Dec. 12	119	1916
Paste	Warren Brothers Company	47,476	Nov. 7	119	331
Pavements. Bituminous	Garcia & Maggini	47,976	Nov. 28	119	1255
Peanuts	W. H. Comstock Company	47,963	Nov. 28	119	1255
Pellets. Worm-	Eagle Pencil Company	48,097	Dec. 12	119	1916
Pencils. Lead-					

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Pencils. Lead-	Eagle Pencil Company	48,098	Dec. 12	119	1915
Pencils. Lead-	Eagle Pencil Company	48,099	Dec. 12	119	1915
Pencils. Lead-	Eagle Pencil Company	48,100	Dec. 12	119	1915
Pencils. Lead-	Eagle Pencil Company	48,101	Dec. 12	119	1915
Pencils. Lead-	Eagle Pencil Company	48,102	Dec. 12	119	1915
Pencils. Lead-	Eagle Pencil Company	48,103	Dec. 12	119	1915
Pens. Fountain-	Conklin Pen Co	47,418	Nov. 7	119	329
Pens. Fountain-	L. E. Waterman Company	48,230	Dec. 19	119	2228
Pens. Steel	Hall Brothers	48,106	Dec. 12	119	1915
Pens. Stub-	C. Howard Hunt Pen Co	47,615	Nov. 14	119	641
Pepper-sauce	D. C. Danove	47,798	Nov. 21	119	957
Pepper-sauce	D. C. Danove	47,942	Nov. 28	119	1254
Perfumery, toilet waters, extracts, and cologne	D. R. Bradley & Son	47,469	Nov. 7	119	331
Perfumery, toilet waters, extracts, and cologne	D. R. Bradley & Son	47,514	Nov. 7	119	333
Periodical. Trade-journal	Marine Engineering, Incorporated.	48,231	Dec. 19	119	2228
Petrolatum	McKesson & Robbins	47,720	Nov. 14	119	645
Pharmaceutical preparation	Lloyd Bros	47,458	Nov. 7	119	331
Photographic paper	Defender Photo Supply Co	47,758	Nov. 21	119	955
Photographic paper and films	Société Anonyme "Luna"	48,351	Dec. 26	119	2514
Piano-actions	Wessell, Nickel & Gross	48,261	Dec. 19	119	2229
Pianos	Baldwin Company	47,553	Nov. 7	119	335
Pianos	F. G. Smith	48,252	Dec. 19	119	2229
Pianos and piano-players	Aeolian Company	47,696	Nov. 14	119	644
Pianos, comprising pneumatically-controlled playing mechanisms.	Æolian Company	47,765	Nov. 21	119	956
Pianos. Upright	P. G. Mehlin & Sons	48,010	Dec. 5	119	1578
Pianoforte-strings	R. C. Koch	48,029	Dec. 5	119	1579
Pictures, plaques, and designs. Printed or lithographed	B. B. Strope	47,731	Nov. 14	119	646
Pills for catarrh	G. Ardito	47,445	Nov. 7	119	330
Pins	Plume & Atwood Mfg. Co	47,643	Nov. 14	119	642
Pins	Plume & Atwood Mfg. Co	47,644	Nov. 14	119	642
Pins	Plume & Atwood Mfg. Co	47,645	Nov. 14	119	642
Pins. Safety-	Consolidated Safety Pin Company.	47,893	Nov. 28	119	1252
Pipe cutters. Metal-	Barnes Tool Company	47,914	Nov. 28	119	1253
Pipes and fittings. Soil-	Abendroth Bros	48,145	Dec. 12	119	1917
Plaster-of-paris	J. B. King & Co	47,823	Nov. 21	119	958
Plaster-of-paris	J. B. King & Co	47,824	Nov. 21	119	958
Plasters	C. A. Staab	47,957	Nov. 28	119	1256
Popcorn and candied popcorn	C. M. Waite	47,964	Nov. 28	119	1255
Porter	Anheuser-Busch Brewing Association.	47,554	Nov. 14	119	639
Preparation for asthma, catarrh, and similar affections	Himrod Manufacturing Company.	47,801	Nov. 21	119	957
Preparation for diseases of the mucous membrane and skin	Marveline Company	47,955	Nov. 28	119	1255
Preparation for the prevention of venereal diseases	W. F. Bernart	47,576	Nov. 14	119	640
Preparations for the treatment of certain named diseases	S. H. Winstead Medicine Co	47,462	Nov. 7	119	331
Printers' quoins	Hempel & Dingens	47,411	Nov. 7	119	329
Pulp	International Pulp Company	48,346	Dec. 26	119	2513
Pulp-canal cleansers	R. B. Donaldson	48,413	Dec. 26	119	2515
Pumps	Flint and Walling Manufacturing Company.	47,633	Nov. 14	119	642
Quinin	Roessler & Hasslacher Chemical Co.	47,962	Nov. 28	119	1255
Razors	Krusius Brothers	48,157	Dec. 12	119	1917
Razors	Challenge Cutlery Corp	48,366	Dec. 26	119	2513
Remedies. Eye	Murine Eye Remedy Company	47,813	Nov. 21	119	958
Remedies for ailments of animals	Lawrence-Williams Company	47,590	Nov. 14	119	640
Remedies for blood diseases of the mucous surfaces	Rio Chemical Co	48,434	Dec. 26	119	2515
Remedies for diseases of the stomach and bowels	Sultan Drug Co	47,817	Nov. 21	119	958
Remedies for diseases of the throat, lungs, and nasal organs	Lanman & Kemp	48,197	Dec. 19	119	2227
Remedies for internal and external use	F. Emerson	47,714	Nov. 14	119	645
Remedies. Liver	L. E. Cash	47,447	Nov. 7	119	330
Remedy for asthma and asthmatic diseases	W. R. Warner & Co	47,965	Nov. 28	119	1255
Remedy for blood dyscrasia	Strong, Cobb & Co	47,780	Nov. 21	119	956
Remedy for certain named diseases	Home Remedy & Supply Co	47,456	Nov. 7	119	331
Remedy for certain named diseases	Uricsol Chemical Co	47,591	Nov. 14	119	640
Remedy for certain named diseases	Patton Worsham Drug Co	47,806	Nov. 21	119	957
Remedy for certain named diseases	Antikamnia Chemical Company	47,939	Nov. 28	119	1254
Remedy for certain named diseases	Patton-Worsham Drug Co	48,180	Dec. 12	119	1918
Remedy for certain named diseases	L. W. Perdue	48,198	Dec. 19	119	2227
Remedy for certain named diseases	Finlay, Dicks & Co	48,414	Dec. 26	119	2515
Remedy for constipation and intestinal indigestion. Tonic	R. Fabery	47,618	Nov. 14	119	641
Remedy for coughs and colds	J. E. Muse	47,602	Nov. 14	119	641
Remedy for diseases of the blood	A. B. Scutt	48,399	Dec. 26	119	2515
Remedy for diseases of the blood and skin	Dr. Peter Fahrney & Sons Co	48,444	Dec. 26	119	2516
Remedy for diseases of the kidneys, liver, stomach, and blood	Great Forest Remedy Company	47,610	Nov. 14	119	641
Remedy for diseases of the stomach and bowels	J. Ricca	47,724	Nov. 14	119	645
Remedy for female weaknesses	J. A. McGill	47,459	Nov. 7	119	331
Remedy for headache and neuralgia	R. P. Menard	47,601	Nov. 14	119	641
Remedy in tablet form for colds, headache, and grip	Bromo Chemical Company	48,174	Dec. 12	119	1918
Remedy. Toothache	H. McGonnell	48,054	Dec. 5	119	1580
Rheumatic foot-powders	Farr Remedy Company	48,223	Dec. 19	119	2228
Ribbons	W. Openhym & Sons	47,660	Nov. 14	119	643
Ribbons	J. B. Whitney	47,666	Nov. 14	119	643
Rice. Prepared	Chandler and Rudd Company	47,687	Nov. 14	119	644
Rings	Jones & Woodland	48,132	Dec. 12	119	1916
Rivets and spots	Standard Rivet Company	47,646	Nov. 14	119	642
Rock and rye	Charles Jacquin et Cie	48,323	Dec. 26	119	2512
Rolled oats and oatmeal	Great Western Cereal Co	48,055	Dec. 5	119	1580
Roofing-felt. Saturated	J. A. & W. Bird & Co	47,468	Nov. 7	119	331
Roofing material	Lincoln Waterproof Cloth Company.	47,474	Nov. 7	119	331
Roofing. Ready tar-and-felt	Barrett Manufacturing Company	48,117	Dec. 12	119	1916

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Roofing-sheets. Graveled	National Roofing Co	47,734	Nov. 14	119	646
Roofing-slate	Slatington-Bangor Slate Syndicate.	48,139	Dec. 12	119	1917
Rope, cord, and twine	C. Bailey & Son	47,931	Nov. 28	119	1254
Rope, cord, and twine	Schlichter Jute Cordage Co	48,037	Dec. 5	119	1579
Roup cure and louse and mite destroyer	Vaporene Mfg. Co	48,206	Dec. 19	119	2372
Rubber boots	Goodyear Rubber Company	48,007	Dec. 5	119	1578
Rubber boots and shoes	Lambertville Rubber Company	48,108	Dec. 12	119	1916
Rubber boots and shoes	Lambertville Rubber Company	48,109	Dec. 12	119	1916
Rubber boots and shoes	Lambertville Rubber Company	48,133	Dec. 12	119	1916
Rum	C. H. Graves & Sons	47,485	Nov. 7	119	332
Rum	P. J. Bowlin Liquor Co	48,153	Dec. 12	119	1918
Saleratus, bicarbonate of soda, and sal-soda	Church & Dwight Company	47,947	Nov. 28	119	1254
Salt	Diamond Crystal Salt Co	48,072	Dec. 5	119	1580
Salt. Table and dairy	Colonial Salt Company	47,770	Nov. 21	119	956
Salt. Table and dairy	Colonial Salt Company	47,771	Nov. 21	119	956
Salt. Table and dairy	Colonial Salt Company	47,793	Nov. 21	119	957
Salve	F. W. S. Elstroth	47,454	Nov. 7	119	331
Salve	Yucca Co	47,783	Nov. 21	119	956
Salve	Kickapoo Indian Medicine Co	47,811	Nov. 21	119	958
Salve	L. Minder	48,209	Dec. 19	119	2227
Salve	G. C. Wilson	47,467	Nov 7	119	331
Salves for the treatment of the skin	G. N. Clemson	47,670	Nov. 14	119	643
Saws	E. C. Atkins & Company	48,370	Dec. 26	119	2513
Saws	Peck, Stow & Wilcox Company	48,216	Dec. 19	119	2228
Scales and scale-beams	Wiley & Russell Mfg. Co	47,444	Nov. 7	119	330
Screw-plates, taps and dies, bolt-cutters, and nut-tappers	E. J. Brooks & Company	47,674	Nov. 14	119	643
Seals. Car-	Albert Dickinson Company	47,414	Nov. 7	119	329
Seed. Grass, grain, timothy, clover, hemp, canary, and rape	Albert Dickinson Company	47,415	Nov. 7	119	329
Seed. Grass, grain, timothy, clover, hemp, canary, and rape	Albert Dickinson Company	47,416	Nov. 7	119	329
Seed. Grass, grain, timothy, clover, hemp, canary, and rape	Albert Dickinson Company	47,417	Nov. 7	119	329
Seeders and grain-drills	Dowagiac Manufacturing Co	47,617	Nov. 14	119	641
Sewing-machines	Siegel, Cooper & Co	47,728	Nov. 14	119	645
Sewing-machines	Abraham & Straus	48,363	Dec. 26	119	2513
Sewing-machines and attachments	Abraham & Straus	48,362	Dec. 26	119	2513
Sewing-machines and parts thereof	Illinois Sewing Machine Company.	48,028	Dec. 5	119	1579
Sewing-machines and parts thereof	Union Special Machine Company	48,038	Dec. 5	119	1579
Sheetings	Minot, Hooper & Co	48,159	Dec. 12	119	1917
Sheetings and drillings	Easley Cotton Mills	47,773	Nov. 21	119	956
Sheetings and drillings. Cotton	McComb City Cotton Mills	47,489	Nov. 7	119	332
Shirts, collars, and cuffs	Fellows and Company	48,276	Dec. 19	119	2230
Shoe-channeling machines. Knives and groovers for	L. L. Green	47,634	Nov. 14	119	642
Shoe dressing, blacking, polish, and preservative	C. W. Sutton	48,269	Dec. 19	119	2230
Shoe polishers and daubers	Whittemore Brothers and Company.	47,510	Nov. 7	119	333
Shoes. Children's leather	Shepard Norwell Company	47,727	Nov. 14	119	645
Shoes. Heavy leather	Manier, Dunbar & Co	47,429	Nov. 7	119	329
Shoes. Leather	C. M. Hapgood Shoe Co	47,792	Nov. 21	119	957
Shoes. Leather and canvas	Lindner Shoe Co	47,464	Nov. 7	119	331
Shoes made from leather or a combination of leather and cloth	W. M. Koblens	48,227	Dec. 19	119	2228
Shoes made of leather and canvas	Watson Shoe Co	47,647	Nov. 14	119	642
Shoulders, backs, hams, and bacon	Cudahy Brothers Co	48,274	Dec. 19	119	2230
Shovels, spades, and scoops	Ames Shovel and Tool Company	48,209	Dec. 19	119	2227
Silk crape. Brilliant soft-twisted	Hess, Goldsmith & Co	48,106	Dec. 12	119	1915
Silver table utensils. Sterling-	Nevius Company	48,036	Dec. 5	119	1579
Silverware. Table-	Towle Mfg. Company	47,551	Nov. 7	119	335
Skin cleanser and healer	Columbia Shoe Dressing Co	47,450	Nov. 7	119	330
Skirts	G. Pionsky & Bro	48,372	Dec. 26	119	2513
Soap	McCaw Manufacturing Company.	47,525	Nov. 7	119	333
Soap. Toilet	F. G. Burke	47,877	Nov. 28	119	1252
Soaps	W. F. Comstock	47,629	Nov. 14	119	642
Soaps. Laundry, toilet, and shaving	F. L. Falck & Co	47,878	Nov. 28	119	1252
Soda	Hulman & Co	47,968	Nov. 28	119	1255
Soda, saleratus, and baking-powder. Bicarbonate of	Church & Dwight Company	47,946	Nov. 28	119	1254
Soda. Washing-	Alden Speare's Sons Co	48,426	Dec. 26	119	2515
Soda-water and compounds and extracts for flavoring the same	Hance Bros. & White	47,981	Dec. 5	119	1577
Soles or taps for shoes. Leather	Daniel Forbes Company	47,421	Nov. 7	119	329
Specific for stomach and catarrhal diseases	Hentz Co	47,505	Nov. 7	119	333
Speedometers	E. S. Lea	48,213	Dec. 19	119	2227
Spices	Crescent Manufacturing Co	47,630	Nov. 14	119	642
Spices of all varieties	W. E. Sibley	48,081	Dec. 5	119	1581
Springwork and wire-spring supports for chairs, sofas, beds, and carriage-seats.	Staples & Hanford Co	48,032	Dec. 5	119	1579
Starch	E. R. Durkee & Co	47,743	Nov. 21	119	955
Starch	E. R. Durkee & Co	47,744	Nov. 21	119	955
Starch	E. R. Durkee & Co	47,799	Nov. 21	119	957
Starch	E. R. Durkee & Co	47,800	Nov. 21	119	957
Starch and dextrin	Arabol M'f'g Co	47,640	Nov. 14	119	642
Starch. Laundry	Millcreek Valley Starch Co	48,067	Dec. 5	119	1580
Stays	Spirella Company	47,689	Nov. 14	119	644
Steel	Canton Steel Company	47,626	Nov. 14	119	642
Steel	Park Steel Company	47,636	Nov. 14	119	642
Steel	Park Steel Company	47,637	Nov. 14	119	642
Steel	Park Steel Company	47,638	Nov. 14	119	642
Steel	Crucible Steel Company of America.	47,795	Nov. 21	119	957
Steel	Crucible Steel Company of America.	47,796	Nov. 21	119	957
Steel	Crucible Steel Company of America.	47,797	Nov. 21	119	957
Steel	Crucible Steel Company of America.	47,846	Nov. 21	119	959
Steel	Crucible Steel Company of America.	48,221	Dec. 19	119	2228
Steel	Park Steel Company	48,232	Dec. 19	119	2228

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Steel	Crucible Steel Company of America.	48,304	Dec. 26	119	2511
Steel	Crucible Steel Company of America.	48,305	Dec. 26	119	2511
Steel	Crucible Steel Company of America.	48,306	Dec. 26	119	2511
Steel	Crucible Steel Company of America.	48,307	Dec. 26	119	2511
Steel	Singer, Nimick & Co	48,334	Dec. 26	119	2512
Steel	Park Steel Company	48,349	Dec. 26	119	2513
Steel	Park Steel Company	48,350	Dec. 26	119	2513
Steel	Crucible Steel Company of America.	48,358	Dec. 26	119	2513
Stone. Construction and building	C. M. Hagan	47,542	Nov. 7	119	334
Stoves	Cole Manufacturing Co	47,819	Nov. 21	119	958
Stoves, ranges, furnaces, ovens, and heating-drums	E. H. Huenefeld	47,983	Dec. 5	119	1577
Sugar	Postum Cereal Co	47,531	Nov. 7	119	334
Sugar, syrup, molasses, and glucose	Goyer Alliance Refining Company.	47,966	Nov. 28	119	1255
Suits. Ready-made	Goldsmith Joseph Feiss Co	47,538	Nov. 7	119	334
Suspenders and braces	Harris Suspender Co	47,880	Nov. 28	119	1252
Suspensories. Jock-strap	Sharp & Smith	48,251	Dec. 19	119	2229
Syrup. Vegetable, cane, and fruit	Chicago Concentrating Company.	47,517	Nov. 7	119	333
Syrups and molasses	Steuart, Knatz & Co	48,060	Dec. 5	119	1580
Tablets for certain named diseases	C. E. R. Smith	47,729	Nov. 14	119	646
Tacks. Carpet-	H. C. Tack Co	48,200	Dec. 19	119	2227
Tamales, enchiladas, frijoles, and chilli concarne	Spanish-American Food Co	48,382	Dec. 26	119	2514
Tanning and dyeing. Extracts of woods and barks for	C. A. Spencer	47,809	Nov. 21	119	957
Tapioca	W. S. McKinley	47,527	Nov. 7	119	333
Tapioca. Prepared	Whitman Grocery Company	48,387	Dec. 26	119	2514
Tea	Milliken, Tomlinson Co	47,528	Nov. 7	119	333
Tea	Francis H. Leggett & Company	47,759	Nov. 21	119	955
Tea	Brownell & Field Company	48,069	Dec. 5	119	1580
Tea	Sherman Brothers and Company.	48,078	Dec. 5	119	1581
Teas	Stewart Brothers Company	47,781	Nov. 21	119	956
Thermometer-tubes	Buffalo Dental Manufacturing Co.	47,788	Nov. 21	119	957
Tiles	Barrett Manufacturing Company.	47,818	Nov. 21	119	957
Tin. Oxid of	Roessler & Hasslacher Chemical Co.	47,925	Nov. 28	119	1254
Tinters for mortar or plaster compounds	Toch Brothers	48,433	Dec. 26	119	2516
Tires, bandages, repair-sheets, plasters, and patches	Continental Caoutchouc Company.	48,342	Dec. 26	119	2512
Tobacco and cigarettes. Smoking-	Carreras Limited	48,096	Dec. 12	119	1915
Tobacco. Chewing-	Gilbert Son & Co	47,423	Nov. 7	119	329
Tobacco extracts for insecticides	Kentucky Tobacco Product Co.	47,961	Nov. 28	119	1255
Tobacco. Plug-	Monarch Tobacco Works	47,544	Nov. 7	119	334
Tobacco. Plug-cut, plug, and smoking	J. G. Dill	47,848	Nov. 28	119	1251
Tobacco. Plug-cut, plug, and smoking	Joseph G. Dill	47,984	Dec. 5	119	1577
Tobacco. Smoking-	Ryan-Hampton Tobacco Co	47,461	Nov. 7	119	331
Tobacco. Smoking-	Threefoot Bros. & Co	47,995	Dec. 5	119	1577
Tonic	Valley Chemical Co	47,930	Nov. 28	119	1254
Tonic	Voigt & Co	48,193	Dec. 12	119	1919
Tonic	J. Perry	48,233	Dec. 19	119	2228
Tonic and blood-purifier	A. L. Smith	47,808	Nov. 21	119	957
Tonic and digestant. Stomachic	Schlotterbeck & Foss Co	47,779	Nov. 21	119	956
Tonics	Rio Chemical Co	48,423	Dec. 26	119	2515
Tools. Certain named	Wiley & Russell Mfg. Co	47,648	Nov. 14	119	642
Trees. Nursery-grown peach-	Albaugh Nursery and Orchard Co.	48,030	Dec. 5	119	1578
Trees. Nursery-grown plum-	Albaugh Nursery and Orchard Co.	47,852	Nov. 28	119	1251
Trousers	Dutchess Manufacturing Co	48,027	Dec. 5	119	1579
Turpentine. Spirits of	H. J. Hayne	47,521	Nov. 7	119	333
Twine. Binders'	Ludlow Manfg. Associates	47,653	Nov. 14	119	643
Twine. Binders'	Ludlow Manfg. Associates	47,654	Nov. 14	119	643
Twine for binding grain	P. E. Cooper	48,195	Dec. 19	119	2227
Twine. Hemp	Ludlow Manfg. Associates	47,656	Nov. 14	119	643
Twine. Hemp	Ludlow Manfg Associates	47,657	Nov. 14	119	643
Umbrellas	W. H. Rich & Son	48,353	Dec. 26	119	2513
Undershirts and drawers. Fleece-lined cotton	Union Mills	48,294	Dec. 19	119	2231
Undershirts, drawers, and combination-suits	Cooper Mfg. Co	47,536	Nov. 7	119	334
Undershirts, sweaters, and drawers	L. Strauss & Co	48,229	Dec. 19	119	2228
Underwaists and underwear.	Ferris Bros. Co	47,880	Nov. 28	119	1252
Underwear and hose	Lawrence Manufacturing Company.	47,901	Nov. 28	119	1253
Upholsterers' webbing	Ludlow Manfg. Associates	47,562	Nov. 14	119	639
Upholsterers' webbing	Ludlow Manfg. Associates	47,563	Nov. 14	119	639
Upholsterers' webbing	Ludlow Manfg. Associates	47,564	Nov. 14	119	639
Upholsterers' webbing	Ludlow Manfg. Associates	47,655	Nov. 14	119	643
Valves	J. A. Murray	48,395	Dec. 26	119	2514
Valves and cocks	A. B. Jenkins	48,373	Dec. 26	119	2514
Valves. Lever-	Lunkenheimer Company	47,990	Dec. 5	119	1577
Varnish and japan	Mayer & Loewenstein	48,179	Dec. 12	119	1918
Varnish stains	Glidden Varnish Company	48,401	Dec. 26	119	2515
Varnishes	American Varnish Company	47,642	Nov. 14	119	642
Varnishes	American Varnish Company	47,755	Nov. 21	119	955
Varnishes	David B. Crockett Company	47,915	Nov. 28	119	1253
Varnishes and shellacs	E. Calman & Co	48,004	Dec. 5	119	1578
Varnishes and stains	Copaline Mfg. Co	47,503	Nov. 7	119	333
Vehicles and parts thereof. Motor-	Packard Motor Car Company	47,621	Nov. 14	119	642
Vehicles. Children's hand and foot propelled	Gendron Wheel Co	47,894	Nov. 28	119	1252
Veterinary antiseptic remedy for screw-worm	C. Robinson	48,183	Dec. 12	119	1918
Veterinary remedy	D. Binkley	48,437	Dec. 26	119	2516
Vinegar	Wm. Henning Co	47,767	Nov. 21	119	956
Wagons	Coquillard Wagon Works, (Inc.)	47,794	Nov. 21	119	957

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Washboards	American Washboard Company	47,782	Nov. 21	119	966
Washboards	American Washboard Company	48,253	Dec. 19	119	2229
Washboards	American Washboard Company	48,254	Dec. 19	119	2229
Washboards	American Washboard Company	48,255	Dec. 19	119	2229
Washboards	American Washboard Company	48,256	Dec. 19	119	2229
Washboards	American Washboard Company	48,257	Dec. 19	119	2229
Washboards	American Washboard Company	48,258	Dec. 19	119	2229
Washing and removing grease-stains. Preparation for	J. A. Gingras	48,006	Dec. 5	119	1578
Washing-machines	E. H. Huenefeld	47,523	Nov. 7	119	333
Washing-machines	E. H. Huenefeld	47,678	Nov. 14	119	644
Washing-powder	McCaw Manufacturing Company	47,526	Nov. 7	119	333
Watch-movements	Hampden Watch Co	48,144	Dec. 12	119	1917
Watches	E'gin National Watch Co	47,470	Nov. 7	119	331
Watches	Elgin National Watch Company	47,820	Nov. 21	119	958
Watches and clocks	Robt. H. Ingersoll & Bro	47,471	Nov. 7	119	331
Watches and parts thereof	A. Schwob	48,015	Dec. 5	119	1578
Watches and parts thereof	A. Schwob	48,016	Dec. 5	119	1578
Watches and parts thereof	E. Howard Watch Co	47,483	Nov. 7	119	332
Watches, watchcases, and watch-movements	E. Howard Watch Co	47,690	Nov. 14	119	644
Watches, watchcases, and watch-movements	New York Standard Watch Co	48,247	Dec. 19	119	2229
Watches, watchcases, and watch-movements	Toch Brothers	48,432	Dec. 26	119	2516
Water and stain proofing liquid	A. C. Schuyler	48,354	Dec. 26	119	2513
Waters. Aerated	Edgewood Dist'g Co	47,971	Nov. 28	119	1255
Whiskies	S. C. Herbst	48,177	Dec. 12	119	1918
Whiskies	C. H. Graves & Sons	47,410	Nov. 7	119	329
Whisky	S. Hochstadter	47,412	Nov. 7	119	329
Whisky	J. J. Douglas Co	47,419	Nov. 7	119	329
Whisky	Wm. Bergenthal Co	47,466	Nov. 7	119	331
Whisky	E. Eising & Co	47,482	Nov. 7	119	332
Whisky	C. H. Graves & Sons	47,484	Nov. 7	119	332
Whisky	Wm. Bergenthal Co	47,507	Nov. 7	119	333
Whisky	Guet & Senac	47,520	Nov. 7	119	333
Whisky	D. Sachs and Sons	47,533	Nov. 7	119	334
Whisky	Taylor & Williams	47,535	Nov. 7	119	334
Whisky	S. Block & Griff	47,555	Nov. 14	119	639
Whisky	Cavanagh & Co	47,556	Nov. 14	119	639
Whisky	F. Coblentz & Co	47,558	Nov. 14	119	639
Whisky	Hessberg Bottling Co	47,559	Nov. 14	119	639
Whisky	H. L. Griesedieck Dist'g Co	47,560	Nov. 14	119	639
Whisky	C. F. Lauber	47,561	Nov. 14	119	639
Whisky	R. M. Rose Co	47,565	Nov. 14	119	639
Whisky	S. Westheimer & Son Wholesale Liquor Company	47,569	Nov. 14	119	639
Whisky	White, Hentz & Co	47,570	Nov. 14	119	639
Whisky	Wright & Taylor	47,571	Nov. 14	119	640
Whisky	E. Hyman & Son	47,577	Nov. 14	119	640
Whisky	J. W. Kelly & Co	47,581	Nov. 14	119	640
Whisky	Meyer Marx Co	47,584	Nov. 14	119	640
Whisky	J. J. Douglas Co	47,589	Nov. 14	119	640
Whisky	E. H. Chase & Co	47,596	Nov. 14	119	641
Whisky	Figge Doyle Co	47,598	Nov. 14	119	641
Whisky	P. Friedman	47,599	Nov. 14	119	641
Whisky	Loeb, Bloom & Co	47,600	Nov. 14	119	641
Whisky	H. G. Williams & Co	47,603	Nov. 14	119	641
Whisky	H. G. Williams & Co	47,604	Nov. 14	119	641
Whisky	Jas. E. Pepper & Co	47,605	Nov. 14	119	641
Whisky	Loeb, Bloom & Co	47,607	Nov. 14	119	641
Whisky	Nelson Distilling Co	47,608	Nov. 14	119	641
Whisky	Bergin & Brady Co	47,609	Nov. 14	119	641
Whisky	Trost Bros	47,614	Nov. 14	119	641
Whisky	E. Ammon	47,738	Nov. 21	119	955
Whisky	D. Brunner	47,739	Nov. 21	119	955
Whisky	D. Brunner	47,740	Nov. 21	119	955
Whisky	Chas. Shaffner & Co	47,741	Nov. 21	119	955
Whisky	Chas. Shaffner & Co	47,742	Nov. 21	119	955
Whisky	S. & S. H. Freiberg	47,746	Nov. 21	119	955
Whisky	Freiberg, Meyer & Co	47,747	Nov. 21	119	955
Whisky	J. A. Magnus & Co	47,751	Nov. 21	119	955
Whisky	J. A. Magnus & Co	47,752	Nov. 21	119	955
Whisky	Cavanagh & Co	47,919	Nov. 28	119	1253
Whisky	Star Distillery Company	47,926	Nov. 28	119	1254
Whisky	Star Distillery Company	47,927	Nov. 28	119	1254
Whisky	Star Distillery Company	47,929	Nov. 28	119	1254
Whisky	Calhoun Distilling Company	47,932	Nov. 28	119	1254
Whisky	Charles Dennehy & Company	47,933	Nov. 28	119	1254
Whisky	M. Kirschbaum	47,935	Nov. 28	119	1254
Whisky	Mueller, Wathen & Kobert	47,937	Nov. 28	119	1254
Whisky	L. Nelson	47,938	Nov. 28	119	1254
Whisky	H. Varwig & Son	47,941	Nov. 28	119	1254
Whisky	Wm. Hoelscher & Co	47,942	Nov. 28	119	1254
Whisky	D. Wolff & Sons	47,943	Nov. 28	119	1254
Whisky	D. Wolff & Sons	47,944	Nov. 28	119	1254
Whisky	Monheimer & Co	47,956	Nov. 28	119	1255
Whisky	Roxbury Distilling Co	47,972	Nov. 28	119	1255
Whisky	Figge Doyle Co	47,980	Dec. 5	119	1577
Whisky	H. Rosenheim & Son	47,986	Dec. 5	119	1577
Whisky	Stitzel Distilling Company	47,987	Dec. 5	119	1577
Whisky	John Ellwanger Co	47,989	Dec. 5	119	1577
Whisky	Weideman Company	47,994	Dec. 5	119	1577
Whisky	White, Hentz & Co	47,996	Dec. 5	119	1578
Whisky	J. P. Winand	47,997	Dec. 5	119	1578
Whisky	R. Wolfson	47,998	Dec. 5	119	1578
Whisky	Wright & Taylor	47,999	Dec. 5	119	1578
Whisky	H. Grove's Sons	48,008	Dec. 5	119	1578
Whisky	I. Merkel & Sons	48,011	Dec. 5	119	1578
Whisky	Rosenfield Bros. & Co	48,014	Dec. 5	119	1578

Alphabetical list of trade-marks for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Whisky	Stitzel Distilling Company	48,019	Dec. 5	119	1578
Whisky	Wright & Taylor	48,024	Dec. 5	119	1579
Whisky	Morrin-Powers Merc. Co	48,134	Dec. 12	119	1916
Whisky	T. Pepper's Sons	48,137	Dec. 12	119	1917
Whisky	T. Pepper's Sons	48,162	Dec. 12	119	1918
Whisky	G. Rexinger	48,165	Dec. 12	119	1918
Whisky	A. Breslauer Company	48,172	Dec. 12	119	1918
Whisky	I. Ciener	48,175	Dec. 12	119	1918
Whisky	R. M. Rose Co	48,184	Dec. 12	119	1918
Whisky	T. H. Swan	48,187	Dec. 12	119	1918
Whisky	Bluthenthal & Bickart	48,220	Dec. 19	119	2228
Whisky	J. & A. Freiberg	48,224	Dec. 19	119	2228
Whisky	Kaufmann Bros. & Co	48,226	Dec. 19	119	2228
Whisky	M. Lange	48,228	Dec. 19	119	2228
Whisky	J. Rauber & Company	48,234	Dec. 19	119	2228
Whisky	Star Distillery Company	48,238	Dec. 19	119	2228
Whisky	A. E. Norris	48,248	Dec. 19	119	2229
Whisky	J. A. Bokel Company of Baltimore City.	48,282	Dec. 19	119	2230
Whisky	R. Monarch	48,287	Dec. 19	119	2230
Whisky	F. Strauss & Co	48,290	Dec. 19	119	2230
Whisky	Sunset Distilling Co	48,291	Dec. 19	119	2231
Whisky	Theobald and Son Co	48,293	Dec. 19	119	2231
Whisky	Bayer, Schwartz & Co	48,297	Dec. 19	119	2231
Whisky	J. & A. Freiberg	48,298	Dec. 19	119	2231
Whisky	Theobald and Son Co	48,299	Dec. 19	119	2231
Whisky	Melvale Distillery Co	48,300	Dec. 19	119	2231
Whisky	A. Breslauer Company	48,301	Dec. 26	119	2511
Whisky	Colburn, Birks & Co	48,303	Dec. 26	119	2511
Whisky	Jesse Moore Hunt Co	48,310	Dec. 26	119	2511
Whisky	Kirsch Bros. & Co	48,311	Dec. 26	119	2511
Whisky	Lang, Schenck & Co	48,312	Dec. 26	119	2511
Whisky	William H. Lee & Co	48,314	Dec. 26	119	2511
Whisky	William H. Lee & Co	48,315	Dec. 26	119	2511
Whisky	L. & A. Scharff	48,316	Dec. 26	119	2511
Whisky	L. & A. Scharff	48,317	Dec. 26	119	2511
Whisky	B. Fischer	48,324	Dec. 26	119	2512
Whisky	J. & A. Freiberg	48,325	Dec. 26	119	2512
Whisky	Goodman Bros	48,326	Dec. 26	119	2512
Whisky	H. Kahn	48,329	Dec. 26	119	2512
Whisky	Kaufmann Bros. & Co	48,331	Dec. 26	119	2512
Whisky	Shea-Bocqueraz Co	48,333	Dec. 26	119	2512
Whisky	Taylor & Williams	48,335	Dec. 26	119	2512
Whisky	National Distilling Co	48,345	Dec. 26	119	2513
Whisky	Colburn Birks & Co	48,367	Dec. 26	119	2513
Whisky	Kamp Distilling Co	48,374	Dec. 26	119	2514
Whisky	Mallard Distilling Co	48,376	Dec. 26	119	2514
Whisky	A. Breslauer Company	48,388	Dec. 26	119	2514
Whisky	J. Harbinson	48,390	Dec. 26	119	2514
Whisky	Montana Liquor Co	48,393	Dec. 26	119	2514
Whisky	C. Mundy	48,394	Dec. 26	119	2514
Whisky	T. Pepper's Sons	48,396	Dec. 26	119	2514
Whisky	J. S. Perrine & Son	48,397	Dec. 26	119	2514
Whisky	J. Rauber & Company	48,398	Dec. 26	119	2514
Whisky	Wm. H. Holmes Co	48,406	Dec. 26	119	2515
Whisky	Jesse Moore Hunt Co	48,417	Dec. 26	119	2515
Whisky	J. M. Davis	48,438	Dec. 26	119	2516
Whisky. Rye and Bourbon and all kinds of	S. C. Herbst	47,967	Nov. 28	119	1255
Wines. Still and sparkling	C. F. Lauber	47,606	Nov. 14	119	641
Wire-cloth	Gilbert & Bennett Manufacturing Company.	48,034	Dec. 5	119	1579
Wire cloth and netting. Woven-	Clinton Wire Cloth Co	47,627	Nov. 14	119	642
Wire cloth and netting. Woven-	Clinton Wire Cloth Co	47,628	Nov. 14	119	642
Wire cloth, netting, and fencing. Woven-	Clinton Wire Cloth Co	48,302	Dec. 26	119	2511
Wire-netting for fencing purposes	Gilbert & Bennett Manufacturing Company.	48,035	Dec. 5	119	1579
Wood made of several thin layers united by a waterproof composition and boxes made therefrom. Compound sheets of	Venesta Limited	48,023	Dec. 5	119	1578
Wool. Pulled	H. F. Norton Company	47,506	Nov. 7	119	333
Woolen dress goods	Botany Worsted Mills	48,273	Dec. 19	119	2230
Wrenches. Nut and pipe	C. E. Bonner Manufacturing Co	48,201	Dec. 19	119	2227
Yeast	Snyder Yeast Company	47,958	Nov. 28	119	1255
Zwieback	P. J. Stern	48,083	Dec. 5	119	1581

ALPHABETICAL LIST OF LABELS.

Title.	Name.	No.	Date.	Official Gazette. Volume.	Page.
"A Yard of Candy." (For Candy)	J. G. Smith	12,462	Nov. 7	119	336
"Adirondack Line." (For Shoes)	E. A. Quiri	12,550	Dec. 12	119	1920
"Anti-Mole." (For a Mole-Remover)	Miller Mfg. Co	12,453	Nov. 7	119	336
"Art." (For Cigars)	J. F. Wilcox & Co	12,572	Dec. 26	119	2517
"Athlone a Scientific Combination Home Treatment for all Rectal Diseases." (For Medicine.)	H. G. McLaughlin	12,566	Dec. 19	119	2232
"Autoline." (For a Liquid Polish)	G. H. Sharp	12,461	Nov. 7	119	336
"B. & O. Central." (For Cigars)	J. Markovitz	12,570	Dec. 26	119	2517
"Bateman's Eczematine." (For a Medicine)	Bateman Brothers	12,445	Nov. 7	119	336
"Beard's Natural Finish." (For Shoe-Dressings)	A. Beards	12,446	Nov. 7	119	336
"Ben Bey." (For Cigars)	Schmidt & Co	12,459	Nov. 7	119	336
"Benold's Health Bread." (For Bread)	F. H. Benold	12,447	Nov. 7	119	336
"Ben's Brilliant Beer." (For Beer)	N. Benjamin Son	12,577	Dec. 26	119	2517
"Bilisoly's Headache Powders." (For Headache-Powders)	C. P. Bilisoly	12,449	Nov. 7	119	336
"Bill William." (For Cigars)	H. L. Bowers	12,450	Nov. 7	119	336
"Blackoline" (For Shoe-Dressing)	Albion Mfg. Co	12,484	Nov. 14	119	647
"Borala Powder." (For a Medicine)	J. A. Begy	12,501	Nov. 28	119	1256
"Bostonian Cap." (For Cloth Caps)	F. A. Horle	12,478	Nov. 14	119	647
"Broncho Breakers." (For Medicine)	M. Schwarz	12,468	Nov. 14	119	647
"Car-Wi-Co. Georgia Syrup." (For Syrup)	Cargill-Wight Co	12,542	Dec. 12	119	1920
"Cascara Jellettes." (For Medicine)	Missouri Chemical Company	12,494	Nov. 21	119	960
"Chamo Brand Mocha and Java Coffee." (For Canned Coffee)	United States Printing Company	12,466	Nov. 7	119	336
"Chestnut Burr." (For Cigars)	Roby & Lynn	12,457	Nov. 7	119	336
"Chestnut Knockers." (For Cigars)	Roby & Lynn	12,458	Nov. 7	119	336
"Cold and Grippe Cure No. 4." (For Medicine)	W. P. Poythress & Co	12,527	Dec. 5	119	1582
"Colombo Bitters." (For Medicine)	Dr. C. De Felice	12,574	Dec. 26	119	2517
"Colonial Ginger Ale." (For Ginger-Ale)	S. Becker	12,477	Nov. 14	119	647
"Columbia Malt Whiskey." (For Malt Whisky)	Flegenheimer Bros	12,514	Nov. 28	119	1256
"Compliments of the Season." (For Cigars)	Schmidt & Co	12,553	Dec. 19	119	2232
"Cresto Rye." (For Rye Whisky)	Flegenheimer Bros	12,515	Nov. 28	119	1256
"Curoso." (For Ointment)	M. P. E. Saltzman	12,535	Dec. 5	119	1582
"Diamond Bar." (For Prunes)	J. J. Shaner	12,545	Dec. 12	119	1920
"Dr. Dick's Malted Poultry Food." (For Poultry-Food)	Dr. Dick's Malted Stock Food Co.	12,531	Dec. 5	119	1582
"Dr. Pierre's Livro-Tone." (For Medicine)	J. J. Brin	12,526	Dec. 5	119	1582
"Dr. Pierre's Sangui-Neuro." (For Medicine)	J. J. Brin	12,525	Dec. 5	119	1582
"Durham." (For Cheese)	S. Van Korngut	12,547	Dec. 12	119	1920
"Eden Garden Remedy." (For Medicine)	A. E. Nelson	12,500	Nov. 28	119	1256
"Electric Lump." (For Coal)	J. C. McGrew	12,538	Dec. 5	119	1582
"Esselmann Frame for Quality." (For Frames)	Geo. Esselmann Company	12,519	Nov. 28	119	1256
"Excelsior Surfacing Solution for Draftsmen and Bookkeepers for Use After Making Erasures." (For a Surfacing Solution.)	A. H. Stow	12,517	Nov. 28	119	1256
"Fernet R'cca." (For Bitters)	Chas. Jacquin et Cie	12,575	Dec. 26	119	2517
"Fine Clo h Caps." (For Cloth Caps)	F. A. Horle	12,479	Nov. 14	119	647
"Fine Clo.h Caps." (For Cloth Caps)	F. A. Horle	12,480	Nov. 14	119	647
"Fine Cloth Caps." (For Cloth Caps)	F. A. Horle	12,481	Nov. 14	119	647
"Fine Cloth Caps." (For Cloth Caps)	F. A. Horle	12,482	Nov. 14	119	647
"Forjada." (For Tea)	C. F. Posbergh & Co	12,578	Dec. 26	119	2517
"Freeze-em Pickle." (For Pickle Compounds)	B. Heller & Co	12,488	Nov. 21	119	960
"G. L. G." (For Medicine)	Curtiss Manufacturing Co	12,529	Dec. 5	119	1582
"Gastro Cura." (For Medicine)	I. C. H. Garst	12,493	Nov. 21	119	960
"Germ Flake." (For Pancake-Flour)	Barrows Milling Co	12,579	Dec. 26	119	2517
"Gingo-Blackberry." (For Blackberry Brandy)	Flegenheimer Bros	12,512	Nov. 28	119	1256
"Hayes' Beechwood Emulso-Hypo with Iron." (For Medicine)	Shoffner-Hayes Medicine Co	12,466	Nov. 14	119	647
"Higbee Headache Cologne." (For Cologne)	L. A. Higbee	12,489	Nov. 21	119	960
"Holstein." (For Cheese)	S. Van Korngut	12,546	Dec. 12	119	1920
"Horlacher." (For Beer)	F. H. Horlacher	12,522	Dec. 5	119	1582
"Hosterman's Equine Invincible Healer." (For Ointment)	J. H. Hosterman	12,543	Dec. 12	119	1920
"Hot Stuff." (For a Tonic and Relish)	S. W. Noggle Wholesale & Mfg. Co.	12,576	Dec. 26	119	2517
"Hubtip." (For Lacings for Boots and Shoes)	F. W. Whitcher	12,585	Dec. 26	119	2517
"Ireno." (For Hair-Tonic)	J. S. Riley	12,544	Dec. 12	119	1920
"J. E. C. Sanitary Make. The Daphne Shirt Waist Suit." (For Shirt-Waist Suits.)	J. Erlich	12,483	Nov. 14	119	647
"Jap-Kote." (For Varnish Floor-Stain)	C. Sternschuss & Co	12,497	Nov. 21	119	960
"Jim Key." (For Cigars)	Berkson Bros	12,552	Dec. 19	119	2232
"Jinjarall Drops." (For Candy)	W. H. Simmen & Co	12,492	Nov. 21	119	960
"Junior." (For Cigars)	Schmidt & Co	12,558	Dec. 19	119	2232
"Kulmbacher." (For Beer)	K. Lampe & Co	12,476	Nov. 14	119	647
"La Albula." (For Cigars)	A. C. Henschel & Co	12,523	Dec. 5	119	1582
"La Pampas." (For Cigars)	J. Knecht	12,503	Nov. 28	119	1256
"Leather Oil." (For Shoe-Polish)	T. S. Adamson	12,485	Nov. 14	119	647
"Leslie's Vermont Syrup, Rock Maple Brand." (For Syrup)	Leslie, Dunham & Co	12,532	Dec. 5	119	1582
"Liberty Tie." (For Cigars)	Schmidt & Co	12,554	Dec. 19	119	2232
"Liebotschaner." (For Beer)	Joliet Bottling Company	12,541	Dec. 12	119	1920
"Madam Mayme's Specific for the Eradication of Superfluous Hair." (For a Specific for the Eradication of Superfluous Hair.)	M. Feder	12,471	Nov. 14	119	647
"Maestro." (For Cigars)	Schmidt & Co	12,561	Dec. 19	119	2232
"Magneto Cocktails." (For Cocktails)	Flegenheimer Bros	12,510	Nov. 28	119	1256
"Masetto." (For Cigars)	Magidson Bros	12,573	Dec. 26	119	2517
"McLeod's Highland Club Cheese." (For Club Cheese)	McLeod & Ormsbee	12,533	Dec. 5	119	1582
"Medico Gin." (For Holland Gin)	Flegenheimer Bros	12,511	Nov. 28	119	1256

Alphabetical list of labels for November and December—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Mo Hair." (For Hair-Tonic)	M. A. Phillips	12,455	Nov. 7	119	336
"Moravian Rugs." (For Rugs)	R. Deutsch	12,521	Nov. 28	119	1256
"Mother's Kisses." (For Candy)	Saginaw Kiss Company	12,499	Nov. 28	119	1256
"Mothers Magic Colic Cure." (For Medicine)	M. B. B. Higgins	12,467	Nov. 14	119	647
"Newline." (For Toilet-Paper)	Scott Paper Co	12,460	Nov. 7	119	336
"Old Cubana." (For Cigars)	Schmidt & Co	12,555	Dec. 19	119	2232
"Old Heidelberg Brew." (For Malt Liquors)	E. F. Wagner	12,565	Dec. 19	119	2232
"Osmocoline." (For Antiseptic Dressing)	L. J. Gradfort and J. C. Davis	12,469	Nov. 14	119	647
"Owatonna Vichy." (For Mineral Water)	Minero-Chemical Co	12,508	Nov. 28	119	1256
"Ox-Cart." (For Coffee)	Edwin J. Gillies & Co	12,452	Nov. 7	119	336
"Palmetto." (For Coffee)	H. H. Palmer	12,474	Nov. 14	119	647
"Palmetto." (For Tea)	H. H. Palmer	12,475	Nov. 14	119	647
"Palmetto The Paint for the South." (For Paints, Stains, and Tinting Colors.)	Palmetto Paint M'f'g Co	12,537	Dec. 5	119	1582
"Paris Antiseptic Dental Plaster." (For Antiseptic Plaster)	W. Church	12,583	Dec. 26	119	2517
"Peacock Brand." (For Syrup)	Southern Syrup Co	12,498	Nov. 28	119	1256
"Peno Corno." (For a Confection)	Wallis & Stinchcomb	12,472	Nov. 14	119	647
"Perfection, Guaranteed Nine Months Old." (For Beer)	F. H. Horlacher	12,509	Nov. 28	119	1256
"Pneumo-Grippe Cure." (For Medicine)	J. H Watts	12,495	Nov. 21	119	960
"Polio." (For Furniture-Polish)	W. W. Wates	12,586	Dec. 26	119	2517
"Pollack's Perfect." (For Stogies)	Pollack Stogie Company	12,490	Nov. 21	119	960
"Pomo-Ferrum." (For Medicine)	F. C. Reighter	12,524	Dec. 5	119	1582
"Posner Bros. Excilaiter Dandruff Cure." (For Hair-Tonic)	Posner Brothers	12,581	Dec. 26	119	2517
"Primrose." (For Offset-Traps)	R. W. Reid	12,456	Nov. 7	119	336
"Primrose Brand." (For Butter)	Broadwater County Creamery Co.	12,451	Nov. 7	119	336
"Prince Regal." (For Cigars)	Schmidt & Co	12,560	Dec. 19	119	2232
"Propriété Privee, Vichy-Cusset, Autorisee par l'Etat." (For Vichy Water.)	O. Robillard	12,564	Dec. 19	119	2232
"Pulmo Rock and Rye." (For Rye Whisky)	Flegenheimer Bros	12,513	Nov. 28	119	1256
"Pulmonol." (For a Liquid Specific for Lung Diseases)	A. V. Payne	12,454	Nov. 7	119	336
"Puncture Cover." (For Cans)	Wm. Underwood Company	12,551	Dec. 12	119	1920
"Queen Aroma." (For Cigars)	L Delatisky & Son	12,540	Dec. 12	119	1920
"R. Steinecke Co." (For Cigars)	R. Steinecke Company	12,571	Dec. 26	119	2517
"Radiant." (For Shoe-Polish)	Schneider & Sands	12,557	Dec. 19	119	2232
"Ray's Dandruff Cure and Hair Invigorator." (For Hair-Invigorator.)	Ray & Downey	12,470	Nov. 14	119	647
"Red Star Medicated Cough Drops." (For Cough-Drops)	L. A. Hogg	12,496	Nov. 21	119	960
"Reitzerine." (For a Toilet Preparation)	Dr. J. B. Reitz Medicine Co	12,530	Dec. 5	119	1582
"Rosa Donita." (For Cigars)	Schmidt & Co	12,556	Dec. 19	119	2232
"Rouser." (For Medicine)	W. Fechteler	12,528	Dec. 5	119	1582
"Royal Dutch Mustard." (For Mustard)	G. J. Washburn	12,465	Nov. 7	119	336
"Ruberoid Roofing." (For Roofing)	Standard Paint Co	12,518	Nov. 28	119	1256
"Salada." (For Tea)	P. C. Larkin	12,486	Nov. 21	119	960
"Salada, 15 cents, Black." (For Tea)	P. C. Larkin	12,503	Nov. 28	119	1256
"Salada, 15 cents, Ceylon and India Green Tea." (For Tea)	P. C. Larkin	12,504	Nov. 28	119	1256
"Salada, 20 cents, Black." (For Tea)	P. C. Larkin	12,505	Nov. 28	119	1256
"Salada, 20 cents, Ceylon and India Green." (For Tea)	P. C. Larkin	12,507	Nov. 28	119	1256
"Saporoso." (For Bologna)	C. Maspero	12,534	Dec. 5	119	1582
"Seaborg's Silverside." (For Canned Salmon)	Seaborg Pkg. Co	12,548	Dec. 12	119	1920
"Select Pack California Moorpark Apricots." (For Dried Fruit.)	Castle Bros	12,580	Dec. 26	119	2517
"Senator." (For Cigars)	Schmidt & Co	12,559	Dec. 19	119	2232
"Senior." (For Cigars)	Schmidt & Co	12,557	Dec. 19	119	2232
"Shoffners Sure Cure." (For Medicine)	Shoffner-Hayes Medicine Co	12,502	Nov. 28	119	1256
"Snow-Ball Freezer." (For Ice-Cream Freezers)	Richmond Cedar Works	12,584	Dec. 26	119	2517
"Sparklingstone." (For Cigars)	Goldberg & Finkelstein	12,539	Dec. 12	119	1920
"Springfield Candy Company." (For Candy)	Springfield Candy Co	12,473	Nov. 14	119	647
"Swamp Chill and Fever Cure." (For Medicine)	Morris Morton Drug Co	12,582	Dec. 26	119	2517
"Taroena." (For Cooked Flour Made from the Taro-Root)	Taro Food Company	12,549	Dec. 12	119	1920
"The American Bureau of Information." (For Publications Relating to National Industries.)	A. E. Horton	12,552	Dec. 12	119	1920
"The Black Ball Cigar." (For Cigars)	Bethesda Cigar Co	12,448	Nov. 7	119	336
"The Ideal Chamber Organ Orgue de Salon." (For Organs)	Art Organ Company	12,520	Nov. 28	119	1256
"The Panama Zone." (For Cigars)	Princeton Cigar Co	12,491	Nov. 21	119	960
"Togo." (For a Cleaning Fluid)	O. B. Smith	12,516	Nov. 28	119	1256
"Tomatose." (For a Beverage)	W. F. Glancy	12,487	Nov. 21	119	960
"True to Nature." (For Linoleum)	P. O. Judson & Co	12,587	Dec. 26	119	2517
"U. S. Army Standard." (For Seamless Half-Hose)	W. B. Beyer	12,569	Dec. 19	119	2232
"Uncle Sam, U. S. Army Standard." (For Seamless Half-Hose)	W. B. Beyer	12,568	Dec. 19	119	2232
"Walker's Great Blood Mixture." (For a Remedy for Diseases of the Blood.)	A. W. Walker	12,464	Nov. 7	119	336
"Well House Chop." (For Tea)	Upham Brothers	12,563	Dec. 19	119	2232
"X Ray Liniment." (For Liniment)	R. Heller	12,536	Dec. 5	119	1582

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Volume.	Page.
"A Borden Baby." (For Condensed Milk)	Julius Bien & Company	1,473	Nov. 7	119	336
"A Good Point." (For Beer)	Meek Company	1,515	Dec. 19	119	2232
"A Real American." (For Tobacco)	Bloch Brothers Tobacco Company.	1,511	Dec. 12	119	1920
"Bairam." (For Cigarettes)	S. Anargyros	1,525	Dec. 26	119	2517
"Baron's." (For Welsh Rarebit)	S. Baron	1,487	Nov. 21	119	960
"Beaver's Blue Ribbon Brand Graham Flour." (For Flour)	L. A. Beaver Co	1,505	Dec. 5	119	1582
"Blanchite Process Paint." (For Preservative Paints, Composition Coatings, Enamels, and Water Paint.)	Blanchite Process Paint Company.	1,514	Dec. 12	119	1920
"Buob & Scheu's Order Chart for Propeller Tops." (For Propeller-Tops.)	Buob & Scheu	1,502	Nov. 28	119	1256
"Castoria." (For Medicine)	Centaur Company	1,503	Dec. 5	119	1582
"Celebrated Curative Wine of Chensthow." (For a Wine)	A. Skarzyunski & Co	1,510	Dec. 12	119	1920
"Clothes of Quality." (For Clothing)	M. Wile & Company	1,495	Nov. 28	119	1256
"Cooks' Pride." (For Roasted Coffee)	Edward Westen Tea & Spice Co.	1,486	Nov. 21	119	960
"Doe-Wah-Jack." (For Stoves, Ranges, and Furnaces)	P. D. Beckwith	1,519	Dec. 19	119	2232
"Dr. Cole's Yellow Dragon Vitalizer." (For Medicine)	A. L. Cole	1,497	Nov. 28	119	1256
"Dr. Williams' Fly & Insect Destroyer." (For Insecticide)	F. Williams Co	1,498	Nov. 28	119	1256
"Egyptian Deities." (For Cigarettes)	S. Anargyros	1,517	Dec. 19	119	2232
"Flore-Stane." (For Floor-Stains)	A. B. Fertich & Co	1,472	Nov. 7	119	336
"Front View of the Ideal Seed Cabinet." (For Seed-Cabinets)	Planters Seed Company	1,499	Nov. 28	119	1256
"Hasn't Scratched Yet." (For a Scouring-Soap)	Bon Ami Company	1,474	Nov. 7	119	336
"Health and Home." (For Grape-Nuts and Postum Coffee)	G. F. Jefferson	1,484	Nov. 14	119	647
"Hop Scotch." (For Games)	G. B. Thompson	1,509	Dec. 5	119	1582
"Interlocking Elastic Tiling." (For Floor and Wall Tiling)	D. H. Watts, Jr	1,481	Nov. 7	119	336
"Jap Lady." (For Perfume)	Hana Zona Perfume Company	1,485	Nov. 14	119	647
"Jayne's Sanative Pills are the best at all times." (For Pills)	Dr. D. Jayne & Son	1,521	Dec. 26	119	2517
"Kant-Swag." (For Gates)	"Kant-Swag" Gate M'f'g. Co	1,520	Dec. 19	119	2232
"Liberty Oil." (For a Liniment)	S. A. Yelmgren	1,488	Nov. 21	119	960
"Mecca." (For Cigarettes)	S. Anargyros	1,526	Dec. 26	119	2517
"Men's Apparel." (For Men's Apparel)	W. C. Both	1,489	Nov. 21	119	960
"Merry World." (For Chewing and Smoking Tobacco)	Seiter & Kappes	1,516	Dec. 19	119	2232
"Milrose." (For Underwear)	J. W. North & Son	1,507	Dec. 5	119	1582
"Milrose." (For Underwear)	J. W. North & Son	1,508	Dec. 5	119	1582
"Murad." (For Cigarettes)	S. Anargyros	1,524	Dec. 26	119	2517
"Neurilla." (For Medicine)	Dad Chemical Company	1,496	Nov. 28	119	1256
"Peerless." (For Hot-Water Heaters)	J. McCartney	1,493	Nov. 21	119	960
"Peerless Stock Food." (For Stock-Food)	Peerless Stock Food Co	1,506	Dec. 5	119	1582
"Pickles." (For Pickles)	W. N. Brewer	1,475	Nov. 7	119	336
"Rear View of the Ideal Seed Cabinet." (For Seed-Cabinets)	Planters Seed Co	1,500	Nov. 28	119	1256
"Reuter's Soap." (For Soap)	Barclay & Co	1,512	Dec. 12	119	1920
"Say Jack—That's the Stuff that makes you feel like a horse." (For Stock-Food.)	Pratt Food Co	1,513	Dec. 12	119	1920
"Sego Lily Underwear." (For Underwear)	Salt Lake Knitting Works	1,479	Nov. 7	119	336
"Shanghai." (For Cotton Sheetings, Drills, &c)	J. W. Hanna	1,491	Nov. 21	119	960
"Something New in Furniture." (For Furniture)	C. E. Spratt	1,492	Nov. 21	119	960
"Standard Portable Shower." (For Portable Showers)	Standard Sanitary Mfg. Co	1,480	Nov. 7	119	336
"Star Bathtub Enamel." (For an Enamel)	Gerstendorfer Bros	1,528	Dec. 26	119	2517
"Thayer's Quinine Shampoo." (For Hair-Invigorator)	Federal Lithograph Company	1,477	Nov. 7	119	336
"The Edelweiss Girl." (For Beer)	P. Schoenhofen Brewing Company	1,523	Dec. 26	119	2517
"The Federal Lithograph Co., Furniture Poster." (For Furniture.)	Federal Lithograph Company	1,501	Nov. 28	119	1256
"The Federal Lithograph Co., Shoe Poster." (For Shoes)	Federal Lithograph Company	1,494	Nov. 28	119	1256
"The John Eichler Br'g Co." (For Beer)	John Eichler Br'g Co	1,482	Nov. 14	119	647
"The John Eichler Br'g Co." (For Beer)	John Eichler Br'g Co	1,483	Nov. 14	119	647
"The Peer." (For Hot-Water Heaters)	J. McCartney	1,478	Nov. 7	119	336
"The Real Pure Food Show." (For Flour)	Washburn-Crosby Company	1,522	Dec. 26	119	2517
"The Right Flour." (For Flour)	Washburn-Crosby Company	1,504	Dec. 5	119	1582
"The Sanitary Squad." (For Hand-Sapolio)	W. F. Powers & Co	1,518	Dec. 19	119	2232
"Turkish Trophies." (For Cigarettes)	S. Anargyros	1,527	Dec. 26	119	2517
"Women's Apparel." (For Women's Apparel)	Meyer-Both Co	1,490	Nov. 21	119	960
"Wright's Saw Tips." (For Saws)	Charles E. Wright Company	1,476	Nov. 7	119	336

DISCLAIMER.

Invention.	Patentee.	No. of patent.	Date of patent.	Disclaimer filed.	Official Gazette. Volume.	Page.
Type-writing machine	M. S. Eylar	669,627	Mar. 12, 1901	Nov. 14, 1905	119	655

ALPHABETICAL LIST OF TRADE-MARKS PUBLISHED.

Title.	Name.	Serial No.	Date.	Official Gazette. Volume.	Page.
Abradant and for other purposes. Crystalline substance used as an	Carborundum Company	3,228	Dec. 12	119	1895
Absorbent pads or plasters	G. C. Young	5,398	Nov. 7	119	314
Acid. Dipropyl-barbituric	E. Merck	5,848	Nov. 14	119	623
Acid. Solution of the phosphates, mainly calcium, in phosphoric	Rumford Chemical Works	5,769	Dec. 26	119	2499
Acid solvent for all diseases arising from uric-acid poison. Uric-	Dr. Haskins Co	4,675	Dec. 5	119	1559
Adhesive tape or cloth	Okonite Company	11,688	Nov. 7	119	328
Advertising-signs. Glass and metal	Rodwell Sign Co	5,699-700	Nov. 14	119	623
Alcohol	C. H. Graves & Sons	6,874	Dec. 26	119	2501
Ale	Rueter & Company	7,390	Dec. 12	119	1900
Ale	A. G. Van Nostrand	3,463	Dec. 19	119	2205
Ale. Ginger-	Luyties Brothers	10,239	Nov. 28	119	1246
Alkaline antiseptic and germicide for internal and external use. Liquid	Budner Pharmacal Company	10,321	Dec. 12	119	1904
Alloy and articles of which such alloy forms a part. Metallic	Riverside Metal Co	2,500	Nov. 14	119	621
Alteratives	Inland Chemical Co	9,603	Dec. 19	119	2215
Ammonia-compressors	Vulcan Iron Works	6,389	Dec. 26	119	2501
Anodyne for infants	Dr. M. F. Groves' Son and Co	4,373	Nov. 14	119	622
Antiseptic liquid for internal and external use. Non-acid	Hudson & Co	5,632	Dec 19	119	2208
Antiseptic liquid or cream, a remedy for inflammation of the skin.	T. Anda	6,516	Dec. 19	119	2210
Antiseptic, tonic, digestive, and blood-purifier. Liquid for internal use as an	Potter Drug & Chemical Corporation.	5,318	Dec. 19	119	2207
Antiseptics for toilet and medicinal purposes	J. T. Wetherald	8,431	Nov. 14	119	627
Anvils	C. F. Boker	5,881	Nov. 28	119	1239
Asphalt mastic	Gabriel & Schall	2,617	Nov. 28	119	1235
Automobiles	Studebaker Automobile Company.	12,308	Dec. 26	119	2507
Automobiles	Knox Automobile Company	14,778	Dec. 26	119	2509
Automobiles and motor-cars	B. A. Gramm	7,496	Dec. 5	119	1562
Axes and hatchets	Supplee Hardware Company	13,526	Dec. 26	119	2508
Axes, hatchets, and adzes	Supplee Hardware Co	13,832	Nov. 28	119	1250
Badges. Gold-plated	Irons & Russell	7,564	Dec. 26	119	2501
Bagging. Jute	Ludlow Manfg. Associates	4,436-41	Nov. 21	119	938
Bags and auto-pouches. India-rubber auto-	Continental Caoutchouc Company	9,006	Nov. 7	119	320
Bags. Seamless woven	Stark Mills	6,811	Nov. 21	119	941
Baking-powder	Price Baking Powder Company	11,573	Nov. 21	119	948
Baking-powder	S. W. Williams	12,590	Nov. 28	119	1249
Baking-powder	Sea Gull Specialty Co	11,220	Dec. 12	119	1905
Baking-powder	J. C. Grant Chemical Company	3,703	Dec. 26	119	2497
Baking-powder	Hulman & Co	8,648	Dec. 26	119	2503
Baking-powder	Rumford Chemical Works	5,767	Dec. 26	119	2499
Baking-powder and bread preparation consisting of cream-of-tartar substitute and bicarbonate of soda.	E. R. Durkee & Co	3,967	Nov. 21	119	937
Baking-powder, cream of tartar, and baking-soda	Sandwich Manufacturing Co	7,216	Nov. 14	119	624
Baling presses. Hay-	Sandwich Manufacturing Co	7,218	Nov. 14	119	624
Baling presses. Hay-	Sandwich Manufacturing Co	7,217	Nov. 28	119	1242
Baling presses. Hay-	C. Disch	8,537	Nov. 7	119	320
Balls. Base-	A. G. Spalding & Bros	13,562	Nov. 28	119	1249
Balls. Golf-	Borated Specialty Company	8,853	Nov. 21	119	947
Bandages. Catamenial	Albert Dickinson Company	10,727	Dec. 26	119	2508
Beans. Dried-	National Spring Bed Company	7,287	Nov. 21	119	943
Bed-bottoms and bedsteads having a wire fabric to support the mattress.	Marion Iron & Brass Bed Co	3,518	Nov. 28	119	1236
Bedsteads. Metal	Bovinine Company	6,390	Nov. 21	119	940
Beef juice	Indianapolis Brewing Company	557	Nov. 7	119	309
Beer	Indianapolis Brewing Company	559	Nov. 7	119	309
Beer	San Diego Brewing Co	4,140	Nov. 7	119	312
Beer	Theo. Hamm Brewing Co	8,030	Nov. 7	119	319
Beer	Gottfried Brewing Company	8,441	Nov. 7	119	320
Beer	J. Eichler Brewing Co	12,947	Nov. 14	119	637
Beer	Terre Haute Brewing Co	7,990	Nov. 21	119	945
Beer and bottled beer. Lager-	C. Schmidt and Sons Brewing Company.	5,124	Nov. 7	119	313
Beer. Lager-	Louis Bergdoll Brewing Company.	10,113	Nov. 14	119	636
Beer. Lager-	Christian Feigenspan, a Corporation.	12,018	Nov. 21	119	950
Beer. Lager-	Dubuque Brewing & Malting Co	1,551	Dec. 5	119	1556
Beer. Lager-	J. Ruppert	5,959	Dec. 19	119	2206
Beer. Lager-	Zeltner Brewing Co	6,209	Dec. 19	119	2209
Belting. Canvas stitched and balata	New York Leather Belting Co	610	Dec. 12	119	1903
Belting. Leather	Graton and Knight Manufacturing Company.	8,774	Dec. 12	119	1902
Beverages. Non-alcoholic	J. W. Birkhead	7,639	Nov. 7	119	319
Biscuits	Griggs, Cooper and Company	10,532	Nov. 21	119	947
Biscuits and crackers	A. Exton & Co	12,464	Nov. 21	119	951
Biscuits, crackers, and wafers	Hitchner Biscuit Co	13,137	Dec. 12	119	1903
Biscuits, crackers, &c., more especially for infants and invalids.	French & Company	8,132	Nov. 7	119	319
Bitters	Ullman Einstein Co	9,702	Nov. 7	119	323
Bitters	Lash's Bitters Co	9,751	Nov. 7	119	323

3808—06——14

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette.	
				Vol.	Page.
Bitters	W. Holloway	12,944	Nov. 14	119	631
Bitters	A. Zanmatti & Co	11,799	Nov. 21	119	949
Bitters	L. E. Jung	4,134	Dec. 19	119	2305
Blacking and leather-dressing	F. E. Fennessy	7,102	Dec. 26	119	2501
Blacking. Liquid	C. L. Hauthaway & Sons	10,590	Dec. 19	119	2216
Blue. Ball and wash	Heller & Merz Co	7,466	Dec. 19	119	2211
Boiler compounds for preventing incrustation and scale	Geo. W. Lord Co	6,735	Nov. 28	119	1242
Bolts. Rivet and screw	American Iron & Steel M'f'g Co.	6,363	Nov. 28	119	1241
Bolts. Shaking	Barnard & Leas Manufacturing Company.	7,909	Dec. 26	119	2502
Bone phosphate	Baugh & Sons Company	2,685	Dec. 12	119	1895
Books	W. H. Lee	14,103	Dec. 12	119	1913
Books, tablets, ruled and flat papers. Blank	Roaring Spring Blank Book Co.	8,535	Dec. 12	119	1902
Boots and shoes and leather for the same. Leather	F. G. Jones	7,087	Nov. 7	119	317
Boots and shoes and the leather for their manufacture. Leather	American Oak Leather Company.	868	Dec. 26	119	2495
Boots and shoes. Boys' leather	Whitney, Wabel & Co	12,128	Nov. 21	119	950
Boots and shoes. Leather	Wingo, Ellett & Crump Shoe Co.	6,413	Nov. 7	119	315
Boots and shoes. Leather	Hinkle Shoe Co	7,280	Nov. 7	119	318
Boots and shoes. Leather	John W. Russ Company	7,571	Nov. 7	119	318
Boots and shoes. Leather	Geo. D. Witt Shoe Co	8,683	Nov. 7	119	320
Boots and shoes. Leather	G. A. Creighton & Son	7,124	Nov. 14	119	624
Boots and shoes. Leather	John W. Russ Co	7,569	Nov. 14	119	625
Boots and shoes. Leather	Guthmann Carpenter & Telling.	4,645	Nov. 28	119	1237
Boots and shoes. Leather	John W. Russ Company	7,570	Nov. 28	119	1243
Boots and shoes. Leather	A. L. Joslin Company	7,556	Dec. 5	119	1563
Boots and shoes. Leather	Jordan Marsh Company	8,870	Dec. 5	119	1564
Boots and shoes. Leather	J. J. Lattemann	13,413	Dec. 5	119	1574
Boots and shoes. Leather	Roberts, Johnson & Rand Shoe Co.	7,503–5	Dec. 12	119	1900
Boots and shoes. Leather	M. N. Arnold Co	10,322	Dec. 12	119	1905
Boots and shoes. Leather	A. W. Tedcastle & Co	14,041	Dec. 12	119	1911
Boots and shoes. Leather	Marks, Rothenberg & Co	5,804	Dec. 19	119	2208
Boots and shoes. Leather	A. H. Berry Shoe Company	6,172	Dec. 19	119	2209
Boots and shoes. Leather	Smith-Kasson Co	14,033	Dec. 19	119	2223
Boots and shoes. Leather	Lynchburg Shoe Co	14,543	Dec. 26	119	2509
Boots and shoes. Leather and canvas	Geo. E. Keith Company	7,844	Dec 26	119	2502
Boots and shoes made of leather and of canvas	V. K. and A. H. Jones Co	6,772	Nov. 21	119	941
Boots and shoes. Men's, women's, and children's leather	Thomas G. Plant Company	4,620	Dec. 19	119	2206
Boots and shoes. Men's, women's, and children's leather	Thomas G. Plant Company	4,622	Dec. 19	119	2206
Boots, shoes, and slippers and upper and sole leather used in their manufacture. Leather	Packard & Field	6,808	Nov. 28	119	1242
Boots, shoes, and slippers. Leather	Stetson Shoe Company	14,483	Dec. 12	119	1914
Boots, shoes, and slippers. Leather	Fred F. Field Company	12,016	Dec. 19	119	2220
Boots, shoes, and slippers. Leather	J. Wanamaker	10,261	Dec. 26	119	2505
Boots, shoes, and slippers. Leather and leather-and-cloth	G. F. Daniels & Co	570	Nov. 14	119	619
Boots, shoes, and slippers made of leather	Wingo, Ellett & Crump Shoe Co.	11,254	Nov. 21	119	948
Boots, shoes, and slippers of all kinds and upper and sole leather used in their manufacture. Leather	Packard & Field	6,807	Dec. 12	119	1899
Boots, shoes, and slippers of all kinds and upper and sole leather used in their manufacture. Leather	F. F. Field	6,818	Dec. 19	119	2210
Boots, shoes, and slippers of leather or textile material, or both, and soles therefor.	Morse & Rogers	9,157	Nov. 28	119	1244
Boring-machines	Ajax Mfg. Co	8,193	Nov. 14	119	626
Bottles. Glass	A. G. Smalley	4,283	Dec. 26	119	2498
Bottles. Nursing	W. M. Decker	7,381	Nov. 7	119	318
Boxes or a series of wooden boxes each closely or approximately fitting into the next larger box of the series. Single wooden	New England Box Co	13,517	Nov. 28	119	1249
Bracelets	D. F. Briggs Co	7,370	Nov. 14	119	625
Bracelets	F. H. Sadler Co	14,507	Dec. 19	119	2225
Braces and suspenders	Harris Suspender Co	786	Nov. 14	119	619
Braids, bindings, and trimmings. Plain and ornamental	Fletcher Manufacturing Company.	12,556	Dec. 5	119	1571
Braids. Skirt	Walter Stewart Company	12,601	Dec. 5	119	1572
Brandies	Wm. Hoelscher and Co	6,304	Dec. 12	119	1898
Brandy	John Bardenheier Wine and Liquor Co.	4,177	Dec. 5	119	1558
Brandy	Wm. Bergenthal Co	6,573	Dec. 12	119	1899
Brandy	California Wine Association	14,035	Dec. 12	119	1911
Bread and crackers	G. S. Ward	727	Dec. 19	119	2203
Bricks and artificial stone made of sand and lime	Florida White Pressed Brick Company.	14,135	Dec. 5	119	1576
Broadcloth. French	Perkins, Van Bergen & Co	7,772	Dec. 5	119	1563
Bromids. Preparation of	Peacock Chemical Co	6,310	Dec. 19	119	2209
Brushes	John L. Whiting & Son Co	3,585	Nov. 21	119	937
Brushes. Lather	Rubber & Celluloid Harness Trimming Co.	5,755	Nov. 28	119	1239
Brushes. Lather, shaving, and paint	Rubber and Celluloid Harness Trimming Co.	13,127–8	Nov. 14	119	637
Brushes. Paint	E. Clinton & Co	2,532	Dec. 12	119	1895
Brushes. Paint, varnish, and sash tool	John L. Whiting & Son Co	3,570	Nov. 14	119	621
Brushes. Paint, varnish, and sash tool	John L. Whiting & Son Co	3,574	Nov. 14	119	621
Brushes. Paint, varnish, and sash tool	John L. Whiting & Son Co	3,576	Nov. 14	119	621
Brushes. Tooth	C. Loonen	6,045	Dec. 5	119	1561
Bullets	Union Metallic Cartridge Company.	10,806	Dec. 19	119	2217
Burial-caskets and casket attachments	National Casket Co	13,835	Nov. 28	119	1250
Burial-caskets, coffins, and fixtures therefor	National Casket Co	5,742	Dec. 12	119	1898
Butter	E. F. Dudley	4,145	Nov. 14	119	622
Butter-coloring preparations	Wells & Richardson Company	12,423	Dec. 5	119	1571
Butter-cutters	Kuttowait Butter Cutter Company.	14,922	Dec. 19	119	2226
Butterine	Braun & Fitts, Inc	1,340	Dec. 19	119	2204
Butterine and oleomargarin	Braun & Fitts	1,204	Nov. 21	119	932
Butterine and oleomargarin	Braun & Fitts	1,206	Nov. 21	119	932

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Butterine and oleomargarin	Braun & Fitts	1,303	Nov. 21	119	932
Butterine and oleomargarin	Braun & Fitts	1,343	Nov. 21	119	932
Buttons and studs	T. I. Smith Co	7,978	Nov. 14	119	626
Buttons. Collar-	Krementz & Co	14,610	Dec. 19	119	2236
Buttons. Collar and cuff	King Collar Button Co	13,428	Nov. 14	119	638
Buttons, link-buttons, collar-buttons, shirt-studs, and emblem-buttons. Sleeve-	Phoenix Jewelry Co	7,500	Nov. 21	119	944
Cabinets. Kitchen-	C. P. McDougall	13,542	Dec. 5	119	1574
Cancers and kindred diseases. Preparation for the cure of	D. R. Dupuis	7,733	Nov. 7	119	319
Candied chocolates, licorice confections, candied and glacé fruits, and bonbons.	C. Poyet, Inc	13,436	Dec. 12	119	1910
Candies	Hawley & Hoops	473	Nov. 28	119	1233
Candies. Chocolate	Hazen Confectionery Company	5,238	Dec. 26	119	2500
Candies of all kinds	J. G. McDonald Candy Co	5,571	Nov. 21	119	939
Candies of various flavors. Small round	D. Auerbach & Sons	9,510	Nov. 28	119	1246
Candy	Chandler and Rudd Company	4,637	Nov. 7	119	312
Candy	Reymer & Brothers	7,172	Nov. 7	119	317
Candy	Chandler and Rudd Company	4,635	Nov. 14	119	623
Candy	Bradley Smith & Co	9,217	Nov. 21	119	947
Candy	Murbach Company	13,952	Nov. 28	119	1250
Candy	Bradley Smith & Co	9,215–16	Nov. 28	119	1244
Candy	Postum Cereal Co	4,102	Dec. 5	119	1558
Candy	New England Confectionery Co	5,724	Dec. 5	119	1561
Candy	New England Confectionery Co	5,764	Dec. 5	119	1561
Candy	Reymer & Brothers	8,351	Dec. 12	119	1902
Candy	S. N. Hyde Co	4,919	Dec. 12	119	1897
Canned corn	R. C. Williams & Co	9,562	Nov. 28	119	1246
Canned fish, clams, and oysters	Scudders-Gale Grocer Company	218	Nov. 7	119	309
Canned fruits and vegetables	G. Frank	10,885	Nov. 21	119	948
Canned fruits and vegetables	Portland Packing Company	9,194–6	Dec. 19	119	2214
Canned fruits and vegetables	Portland Packing Company	9,198	Dec. 19	119	2214
Canned fruits and vegetables	M. J. Boyer	13,501	Dec. 19	119	2221
Canned fruits and vegetables	C. W. Baker & Sons	3,888	Nov. 21	119	937
Canned or preserved fruits and vegetables	Frank C. Weber and Co	2,679–80	Dec. 19	119	2204
Canned peaches, pears, apricots, tomatoes, corn, peas, and beans.	R. S. Beston	8,093	Dec. 26	119	2502
Canned pears	William Underwood Company	12,392	Nov. 14	119	636
Canned sardines	E. H. King	1,736	Nov. 21	119	935
Canned soups	Mount Vernon-Woodberry Cotton Duck Company.	10,837	Dec. 19	119	2218
Canvas, hose-duck, awning-stripes, and sail-duck	McConway & Torley Co	13,459	Nov. 21	119	954
Car-couplers of the Master Car-Builders' or vertical-plane type and parts thereof. Automatic	E. R. Taylor	12,461	Dec. 5	119	1571
Carbon-bisulfid (CS_2)	United States Playing Card Co	4,245	Nov. 7	119	312
Cards. Playing-	New York Consolidated Card Company.	4,328	Nov. 7	119	312
Cards. Playing-	United States Playing Card Co	5,112	Nov. 7	119	313
Cards. Playing-	New York Consolidated Card Company.	9,241	Nov. 7	119	321
Cards. Playing-	New York Consolidated Card Company.	9,572	Nov. 7	119	321
Cards. Playing-	New York Consolidated Card Company.	9,576–7	Nov. 7	119	321–2
Cards. Playing-	New York Consolidated Card Company.	9,579	Nov. 7	119	322
Cards. Playing-	United States Playing Card Co	1,591	Nov. 14	119	620
Cards. Playing-	United States Playing Card Co	1,608	Nov. 14	119	620
Cards. Playing-	United States Playing Card Co	4,246	Nov. 14	119	622
Cards. Playing-	New York Consolidated Card Company.	9,222	Nov. 14	119	628
Cards. Playing-	New York Consolidated Card Company.	9,226	Nov. 14	119	629
Cards. Playing-	New York Consolidated Card Company.	9,228–30	Nov. 14	119	629–30
Cards. Playing-	New York Consolidated Card Company.	10,137	Nov. 14	119	631
Cards. Playing-	United States Playing Card Co	1,563–4	Nov. 21	119	933
Cards. Playing-	United States Playing Card Co	1,569–73	Nov. 21	119	933
Cards. Playing-	United States Playing Card Co	1,577	Nov. 21	119	933
Cards. Playing-	United States Playing Card Co	1,580	Nov. 21	119	933
Cards. Playing-	United States Playing Card Co	1,582	Nov. 21	119	934
Cards. Playing-	United States Playing Card Co	1,586–7	Nov. 21	119	934
Cards. Playing-	United States Playing Card Co	1,590	Nov. 21	119	934
Cards. Playing-	United States Playing Card Co	1,595–6	Nov. 21	119	934
Cards. Playing-	United States Playing Card Co	1,601	Nov. 21	119	934
Cards. Playing-	United States Playing Card Co	1,603–5	Nov. 21	119	934
Cards. Playing-	United States Playing Card Co	1,609	Nov. 21	119	934
Cards. Playing-	United States Playing Card Co	1,612	Nov. 21	119	934
Cards. Playing-	United States Playing Card Co	1,790	Nov. 21	119	935
Cards. Playing-	United States Playing Card Co	1,792–3	Nov. 21	119	935
Cards. Playing-	United States Playing Card Co	1,799	Nov. 21	119	935
Cards. Playing-	United States Playing Card Co	1,801	Nov. 21	119	935
Cards. Playing-	United States Playing Card Co	1,803	Nov. 21	119	935
Cards. Playing-	United States Playing Card Co	1,805	Nov. 21	119	935
Cards. Playing-	United States Playing Card Co	1,807	Nov. 21	119	935
Cards. Playing-	United States Playing Card Co	1,811	Nov. 21	119	936
Cards. Playing-	United States Playing Card Co	3,533	Nov. 21	119	937
Cards. Playing-	United States Playing Card Co	1,808	Nov. 28	119	1234
Cards. Playing-	United States Playing Card Co	1,810	Nov. 28	119	1234
Cards. Playing-	New York Consolidated Card Company.	3,953	Nov. 28	119	1236
Cards. Playing-	New York Consolidated Card Company.	3,955	Nov. 28	119	1236
Cards. Playing-	New York Consolidated Card Company.	3,960	Nov. 28	119	1236
Cards. Playing-	United States Playing Card Co	4,247	Nov. 28	119	1237

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Cards. Playing	New York Consolidated Card Company.	4,312	Nov. 28	119	1237
Cards. Playing	New York Consolidated Card Company.	4,314	Nov. 28	119	1237
Cards. Playing	New York Consolidated Card Company.	4,322	Nov. 28	119	1237
Cards. Playing	New York Consolidated Card Company.	5,005-6	Nov. 28	119	1238
Cards. Playing	New York Consolidated Card Company.	9,242	Nov. 28	119	1245
Cards. Playing	United States Playing Card Co.	1,787	Dec. 5	119	1556
Cards. Playing	United States Playing Card Co.	1,795	Dec. 5	119	1556
Cards. Playing	United States Playing Card Co.	1,894	Dec. 5	119	1557
Cards. Playing	United States Playing Card Co.	1,562	Dec. 12	119	1894
Cards. Playing	United States Playing Card Co.	1,568	Dec. 12	119	1894
Cards. Playing	United States Playing Card Co.	1,613	Dec. 12	119	1894
Cards. Playing	United States Playing Card Co.	1,788	Dec. 12	119	1894
Cards. Playing	United States Playing Card Co.	1,796	Dec. 12	119	1894
Cards. Playing	United States Playing Card Co.	1,800	Dec. 12	119	1894
Cards. Playing	United States Playing Card Co.	1,806	Dec. 12	119	1894
Cards. Playing	New York Consolidated Card Company.	3,964	Dec. 12	119	1895
Cards. Playing	New York Consolidated Card Company.	4,298	Dec. 12	119	1896
Cards. Playing	New York Consolidated Card Company.	4,305	Dec. 12	119	1896
Cards. Playing	New York Consolidated Card Company.	4,309	Dec. 12	119	1896
Cards. Playing	New York Consolidated Card Company.	4,330	Dec. 12	119	1896
Cards. Playing	New York Consolidated Card Company.	5,007	Dec. 12	119	1897
Cards. Playing	A. Dougherty	5,673	Dec. 12	119	1898
Cards. Playing	United States Playing Card Co.	1,576	Dec. 19	119	2204
Cards. Playing	United States Playing Card Co.	1,581	Dec. 19	119	2204
Cards. Playing	United States Playing Card Co.	1,597	Dec. 19	119	2204
Cards. Playing	New York Consolidated Card Company.	4,326	Dec. 19	119 119	2205
Cards. Playing	United States Playing Card Co.	14,842	Dec. 19	119	2226
Cards. Playing	United States Playing Card Co.	1,593	Dec. 26		2495
Cards. Playing	United States Playing Card Co.	1,606	Dec. 26	119	2495
Cards. Playing	United States Playing Card Co.	1,794	Dec. 26	119	2496
Cards. Playing	United States Playing Card Co.	1,797	Dec. 26	119	2496
Cards. Playing	New York Consolidated Card Company.	4,296	Dec. 26	119	2498
Cards. Playing	New York Consolidated Card Company.	4,315	Dec. 26	119	2498
Cards. Playing	New York Consolidated Card Company.	4,319	Dec. 26	119	2498
Cards. Playing	New York Consolidated Card Company.	4,321	Dec. 26	119	2498
Cards. Playing	New York Consolidated Card Company	4,331	Dec. 26	119	2498
Carriages, buggies, wagons, and carts	Studebaker Brothers Manufacturing Company.	12,394	Dec. 5	119	1571
Carriages, wagons, trucks, carts, and other horse-drawn vehicles.	Studebaker Brothers Manufacturing Company.	12,396	Dec. 5	119	1571
Cartons. Cracker and biscuit	Green Green & Co.	13,172	Nov. 28	119	1249
Cartridges	Winchester Repeating Arms Co.	13,181	Nov. 28	119	1249
Cartridges	Eley Brothers	1,388	Dec. 12	119	1894
Cartridges	Union Metallic Cartridge Company.	10,813	Dec. 19	119	2217
Cartridges	Winchester Repeating Arms Co.	13,182	Dec. 19	119	2221
Cartridges and bullets	Union Metallic Cartridge Company.	10,803	Dec. 19	119	2216
Cartridges and cartridge-shells	Union Metallic Cartridge Company.	8,527-8	Dec. 19	119	2213
Cartridges and cartridge-shells	Union Metallic Cartridge Company.	10,812	Dec. 19	119	2217
Cartridges and cartridge-shells	Union Metallic Cartridge Company.	10,821-8	Dec. 19	119	2218
Cartridges and metal and paper cartridge-shells	Union Metallic Cartridge Company.	10,807	Dec. 19	119	2217
Cartridges and metal and paper cartridge-shells	Union Metallic Cartridge Company.	10,819-20	Dec. 19	119	2217
Cartridges and parts thereof. Gun and pistol	Union Metallic Cartridge Company.	10,808	Nov. 28	119	1247
Cartridges and parts thereof. Gun and pistol	Union Metallic Cartridge Company.	10,809-10	Dec. 19	119	2217
Cartridges and parts thereof. Gun and pistol	Union Metallic Cartridge Company	10,814-18	Dec. 19	119	2217
Caskets, coffins, and fixtures therefor	National Casket Co.	10,974	Nov. 28	119	1247
Catarrh cure	F. J. Cheney	9,049	Nov. 28	119	1244
Catheters and bougies	Johnson & Johnson	14,011	Dec. 5	119	1576
Cement	S. S. White Dental Mfg. Co.	12,859	Nov. 28	119	1248
Cement for all kinds of chrome-tanned leather. Folding	C. L. Hauthaway & Sons.	10,591	Dec. 19	119	2216
Cement for leather, rubber, cloth, pasteboard, wood, iron, artificial flowers, imitation leather, imitation rubber, and rubber substitutes.	Eclipse Cement & Blacking Co.	13,315	Nov. 7	119	328
Cement for soles of boots and shoes. Channel	C. L. Hauthaway & Sons.	10,592	Dec. 19	119	2216
Cement, lime, and plaster. Natural-rock or hydraulic	Newark Lime & Cement Mfg. Co.	3,927	Nov. 14	119	622
Cement. Portland	German-American Portland Cement Works.	2,384	Nov. 28	119	1234
Cement. Portland	Dexter Portland Cement Company.	7,551	Nov. 28	119	1242
Cement. Portland	Lehigh Portland Cement Co.	1,153	Dec. 5	119	1556

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Cement. Portland	Helderberg Cement Co	14,837	Dec. 26	119	2510
Cement. Portland, natural-rock, and improved	American Cement Company	8,572	Nov. 7	119	320
Cement. Portland, natural-rock, and improved	American Cement Company	8,570	Nov. 14	119	628
Cement. Portland, natural-rock, and improved	American Cement Company	8,571	Nov. 14	119	628
Cement. Portland, natural-rock, and improved	American Cement Company	8,575	Nov. 14	119	628
Cement. Portland, natural-rock, and improved	American Cement Company	8,578-9	Nov. 14	119	628
Cement. Portland, natural-rock, and improved	American Cement Company	8,577	Nov. 21	119	946
Chains	Diamond Chain and Manufacturing Company.	8,974	Nov. 28	119	1244
Champagne	Ginter Grocery Company	14,052	Dec. 19	119	2223
Charcoal	L. S. Brown Charcoal Company	2,848	Nov. 7	119	311
Checks. Bank-	Levey Bros. & Co	3,543	Nov. 21	119	937
Chemical for softening hard water. Crystalline soluble	J. M. Keil	13,265	Dec. 5	119	1573
Chemicals for use in the ceramic arts	Roessler & Hasslacher Chemical Co.	6,370	Nov. 14	119	623
Chlorid of lime	Leggett & Brother	2,811	Dec. 5	119	1557
Chocolate	Knickerbocker Chocolate Company	13,758	Nov. 28	119	1250
Chocolate and cocoa	Francis H. Leggett & Company	12,970	Nov. 21	119	953
Chocolate and cocoa	Knickerbocker Chocolate Company	13,760	Dec. 5	119	1575
Chocolate and cocoa	Knickerbocker Chocolate Company.	13,759	Dec. 19	119	2222
Chocolate, cocoa, and a preparation of chocolate and cocoa to be used as a beverage and for cooking purposes.	H. J. Damon	3,510	Nov. 21	119	937
Chocolate creams	C. Gousset	14,077	Dec. 19	119	2223
Chocolate drops	New England Confectionery Co	5,721	Dec. 5	119	1561
Chocolates	Van Emden Cocoa Co	13,869	Nov. 28	119	1250
Chocolates	Van Emden Cocoa Co	13,870	Dec. 5	119	1575
Chocolates and bonbons	R. L. Parry Co	7,752	Nov. 7	119	319
Cider. Bottled	S. S. Pierce Co	5,691	Nov. 7	119	314
Cigarettes	H. P. Strause	6,859	Nov. 7	119	317
Cigars	A. Siegel	487	Nov. 14	119	619
Cigars	J. Weinreich	8,530	Nov. 14	119	628
Cigars	Balsa Hermanos	11,794	Nov. 14	119	635
Cigars	S. S. Pierce Co	7,393	Nov. 21	119	943
Cigars	Havana Commercial Company	7,779	Nov. 21	119	944
Cigars	H. T. Offterdinger	13,450	Nov. 21	119	954
Cigars	Abraham & Straus	2,313	Dec. 5	119	1557
Cigars	S. S. Pierce Co	9,678-9	Dec. 12	119	1904
Cigars	S. Lichtenstein Co	9,245	Dec. 19	119	2215
Cigars and cheroots	D. H. Levy	14,360	Dec. 19	119	2225
Cigars and cheroots	Cayey-Caguas Tobacco Company	12,941	Nov. 14	119	637
Cigars, cheroots, and cigarettes made of cigar-tobacco	Havana Commercial Company	11,421	Dec. 12	119	1906
Cigars. Havana	Klen-So Pharmacal Company	12,310	Dec. 5	119	1571
Cleaning and disinfecting pipes, beer-coils, glasses, closets, sinks, &c. Compound for	Electro-Silicon Co	5,369	Nov. 28	119	1239
Cleaning and polishing metals and glass. Preparation for	Columbia Refining Co	5,015	Nov. 28	119	1238
Cleaning and renovating compounds for polished and varnished surfaces.	C. A. Everett	5,364	Nov. 28	119	1243
Cleaning solid and plated wares and metals. Powders for	Enoch Morgan's Sons Company	14,390	Dec. 19	119	2225
Cleansing or scouring compound	Chicago Flexible Shaft Company	7,477	Nov. 28	119	1242
Clippers. Horse-	Spaulding & Co	12,372	Nov. 21	119	951
Clocks	Ansonia Clock Company	14,239	Dec. 12	119	1913
Clocks	Ansonia Clock Company	14,756-7	Dec. 19	119	2226
Clocks	A. C. Becken	13,718	Nov. 28	119	1250
Clocks. Alarm-	Sherman Reid & Co	9,041	Dec. 5	119	1564
Cloth. Long	Griffon Company	1,030	Nov. 28	119	1233
Cloths for ladies', men's, and children's wear	Griffon Company	1,030	Nov. 7	119	310
Clothes for ladies', men's, and children's wear	F. B. Q. Clothing Co	4,838	Dec. 5	119	1560
Clothing for external wear, comprising overcoats, coats, vests, trousers, and knee-pants. Men's, boys', and children's	Ginn Company	13,045	Dec. 5	119	1573
Coal, coke, and charcoal	Mayer, Scheuer, Offner & Co	9,988	Nov. 28	119	1246
Coats and overcoats. Men's and boys'	Larned, Carter and Co	5,962	Nov. 7	119	315
Coats, pants, overalls, and blouses	Miller Manufacturing Company	4,417	Nov. 14	119	622
Coats, vests, trousers, overalls, and jumpers	Charles Jacquin et Cie	10,157	Nov. 7	119	325
Cocktails	S. Hochstadter	6,195	Nov. 21	119	940
Cocktails	Walter Baker & Company	4,539	Dec. 26	119	2496
Cocoa	Walter Baker & Company	8,121	Nov. 28	119	1243
Cocoa, chocolate, and cocoa preparations	Brownell & Field Company	11,860	Nov. 21	119	949
Coffee	Meyer Brothers Coffee and Spice Company.	12,704-6	Nov. 21	119	953
Coffee	Crescent Manufacturing Co	3,291	Nov. 28	119	1236
Coffee	G. B. Farrington Company	4,702	Nov. 28	119	1237
Coffee	G. B. Frarington Co	9,094	Nov. 28	119	1244
Coffee	Porto Rico Co	8,039	Dec. 19	119	2212
Coffee	G. J. Keller	8,124	Dec. 19	119	2212
Coffee	Milliken, Tomlinson Co	9,062	Dec. 5	119	1564
Coffee-berry, either whole or ground	Pfeiffer & Diller	7,611	Dec. 19	119	2211
Coffee preparation to improve the color and aroma	New Orleans Coffee Co	8,263	Nov. 28	119	1243
Coffee. Roasted and ground	C. H. Montanye	8,676	Nov. 21	119	946
Coffees	S. Hochstadter	6,199	Nov. 7	119	315
Cognac	William Barker Compy	4,806	Dec. 26	119	2498
Collars and cuffs	John T. Lewis & Bros. Co	12,839	Nov. 28	119	1248
Colors and colored paints. Pigment	W. Cushing & Co	13,167	Dec. 5	119	1573
Colors. Dye-	American Dyewood Co	5,327	Nov. 28	119	1238
Colors for printing and dyeing. Manufactured	Schrader & Ehlers	11,680	Nov 28	119	1247
Combs	Kraus & Glauberg Co	11,425-6	Nov. 14	119	634-5
Combs, hair-retainers, hair ornaments, and hair-pins. Hair-	J. P. Cholewinski	7,120	Dec. 5	119	1562
Compound for the treatment of the throat and lungs and for the cure of coughs, colds, croup, sore throat and hoarseness, and kindred affections.					
Concrete building-blocks. Machines for making	Cement Machinery Co	9,333	Nov. 28	119	1245
Concrete building-blocks. Machines for making	Cement Machinery Co	9,335	Nov. 28	119	1245
Concrete building-blocks. Machines for making	Cement Machinery Co	9,334	Dec. 5	119	1565
Concrete wash trays	Economy Manufacturing Co	13,051	Nov. 28	119	1249

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Confectionery. Chocolate	E. Greenfield's Son & Co	11,563	Nov. 28	119	1248
Confectionery. Chocolate	E. Greenfield's Son & Co	11,626	Dec. 5	119	1569
Cord. Braided	Whittier Mills	12,527-8	Dec. 5	119	1571
Cordials	W. F. Mitchell	9,559	Dec. 19	119	2213
Corn-starch	J. C. Hubinger Bros. Co	14,044	Dec. 26	119	2508
Corn-starch and laundry starch	Francis H. Leggett & Company	8,488	Nov. 14	119	627
Corn-starch and laundry starch	Francis H. Leggett & Company	8,833	Nov. 14	119	628
Corsets	Abraham & Straus	2,523	Nov. 21	119	936
Corsets	A. R. Colton	11,920	Dec. 12	119	1906
Corsets	B. Altman	12,516	Dec. 12	119	1908
Corsets	Birdsey & Somers	12,757-8	Dec. 19	119	2220
Corsets	Kabo Corset Company	9,968	Dec. 26	119	2504
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	12,450	Nov. 28	119	1248
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	12,923	Dec. 19	119	2221
Cotton fabrics. Mercerized	C. Whitman & Co	4,581	Nov. 28	119	1237
Cotton flannel	Pemberton Company	10,655	Dec. 26	119	2505
Cotton piece goods	Massachusetts Cotton Mills	5,230	Nov. 7	119	313
Cotton piece goods	Massachusetts Cotton Mills	5,244	Nov. 7	119	313
Cotton piece goods	Massachusetts Cotton Mills	5,238	Nov. 14	119	623
Cotton piece goods	Renfrew Manufacturing Company.	8,439	Nov. 14	119	627
Cotton piece goods	C. Whitman & Co	4,582	Nov. 28	119	1237
Cotton piece goods	Massachusetts Cotton Mills	5,243	Nov. 28	119	1238
Cotton piece goods	M. I. Cooley	9,749	Nov. 28	119	1246
Cotton piece goods	Tremont & Suffolk Mills	4,962	Dec. 5	119	1560
Cotton piece goods	Massachusetts Cotton Mills	5,229	Dec. 5	119	1560
Cotton piece goods	Massachusetts Cotton Mills	5,235	Dec. 5	119	1560
Cotton piece goods	Massachusetts Cotton Mills	5,247	Dec. 5	119	1560
Cotton piece goods	Massachusetts Cotton Mills	5,251	Dec. 5	119	1560
Cotton piece goods	Indian Head Mills of Alabama	10,539	Dec. 5	119	1568
Cotton piece goods	Jackson Company	8,990	Dec. 12	119	1903
Cotton piece goods	Tremont & Suffolk Mills	4,909	Dec. 19	119	2207
Cotton piece goods	Massachusetts Cotton Mills	4,976	Dec. 19	119	2207
Cotton piece goods	Massachusetts Cotton Mills	4,985-6	Dec. 19	119	2207
Cotton piece goods	Massachusetts Cotton Mills	4,989	Dec. 19	119	2207
Cotton piece goods	Massachusetts Cotton Mills	5,255	Dec. 26	119	2498
Cotton plaids and stripes	S. A. Crozer & Son	3,645	Nov. 14	119	621
Cotton sheetings	Naumkeag Steam Cotton Co	1,431	Nov. 14	119	620
Cough-drops	A. D. Work	10,449	Nov. 28	119	1247
Cough-syrup	Foster Milburn Co	5,947	Nov. 7	119	314
Crash. Linen	Stevens Linen Works	10,606	Dec. 26	119	2505
Cream for the complexion and wrinkle lotion	Artesia Cream Company	6,470	Nov. 21	119	941
Cream-separators	De Laval Separator Company	9,450	Dec. 5	119	1565
Cure for headache, neuralgia, catarrh, and other affections of the throat and lungs.	Cushman Drug Co	4,629	Dec. 19	119	2206
Cycles. Motor-	W. F. Remppis	11,864	Dec. 5	119	1570
Demulcents	Lavadura Chemical Co	13,402	Dec. 5	119	1574
Dental varnish	S. S. White Dental Mfg. Co	12,858	Nov. 28	119	1248
Dentifrice	Hy-Jen Chemical Co	3,727	Dec. 5	119	1538
Detergent preparation	Holzapfel's Compositions Company.	5,101	Dec. 26	119	2498
Dextrin	Norddeutsche Kartoffelmehl-Fabrik mit Beschränkter Haftung.	206	Nov. 14	119	619
Die-stocks	Hart Manufacturing Co	13,940	Dec. 5	119	1575
Disinfectants	Warren Brothers Company	6,183	Dec. 12	119	1898
Display-fixtures	Heimann-Miller Manufacturing Company.	12,841	Dec. 5	119	1572
Distillation of hamamelis	Pond's Extract Company	12,811	Dec. 12	119	1909
Dog-blankets	J. A. Davis	11,064	Nov. 21	119	948
Drapery and upholstery goods. Dyed and printed cotton	Eddystone Manufacturing Company.	13,069	Dec. 19	119	2221
Dress goods and cloakings	C. R. O'Donald & Co	10,405	Nov. 14	119	631
Dress-shields	I. B. Kleinert Rubber Co	11,628	Nov. 21	119	949
Drillings and plain sheetings. Bleached and unbleached	Massachusetts Cotton Mills	5,239	Dec. 12	119	1898
Drills and reamers	Patterson, Gottfried & Hunter	13,183	Nov. 14	119	637
Drills. Twist-	Standard Tool Company	12,207	Dec. 26	119	2507
Drinks. Mixed	J. Jacques	14,024	Dec. 5	119	1576
Drums	Duplex Manufacturing Company.	12,060	Dec. 26	119	2506
Dyeing and printing. Hydrosulfite compound used as a corrosive for the discharge of reducible coloring-matters in	Cassella Color Company	8,079	Dec. 5	119	1563
Dyes and dyestuffs	Johnson-Richardson Co	4,671	Nov. 28	119	1237
Dyestuff. Black	Cassella Color Company	8,068	Nov. 7	119	319
Electric fixtures. Socket bushings for	Frank H. Stewart Electric Company.	14,826	Dec. 26	119	2509
Electric-light supports	Frank H. Stewart Electric Company.	7,149	Dec. 26	119	2501
Electric machines electric fans, motors, and generators. Dynamo-	Diehl Manufacturing Company	5,734	Dec. 12	119	1898
Electrical use. Switches and sockets, receptacles, connections, and fittings therefor for	Hart Manufacturing Company	6,356	Nov 28	119	1241
Emollient and medicinal preparation	T. E. Carpenter	12,068	Nov. 21	119	950
Engines and rams. Hydraulic	Rife Hyd. Engine Mfg. Co	13,775	Dec. 5	119	1575
Engines. Gasolene and marine	H. Keidel	8,297	Dec. 5	119	1564
Entremets. Devilled	William Underwood Company	14,563	Dec. 26	119	2500
Erasers	E. Faber	13,489	Dec. 5	119	1574
Explosive-engines, internal-combustion motors, and gas and gasolene engines.	C. H. A. Dissinger & Bro	5,778	Nov. 21	119	939
Eye-wash	W. C. Lehmann	7,532	Nov. 21	119	944
Fabric. Imitation of Persian-lamb	J. & J. Dobson	10,086	Dec. 5	119	1566
Fabrics colored by khaki dye. Water-repellent and mildew-proof cotton	Meyer & Goetze	3,234	Dec. 26	119	2496
Fabrics. Drapery and upholstery	Eddystone Manufacturing Co	9,458	Dec. 5	119	1565

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Fabrics. Drapery and upholstery textile	Eddystone Manufacturing Company.	9,805	Dec. 5	119	1566
Fabrics. Drapery and upholstery textile	Eddystone Manufacturing Co	9,455–7	Dec. 12	119	1903
Fabrics. Drapery and upholstery textile	Eddystone Manufacturing Co	9,461	Dec. 12	119	1903
Fabrics. Drapery and upholstery textile	Eddystone Manufacturing Company.	9,653–4	Dec. 12	119	1904
Fabrics. Drapery and upholstery textile	Eddystone Manufacturing Company.	9,804	Dec. 12	119	1904
Fabrics. Drapery and upholstery textile	Eddystone Manufacturing Company.	10,300	Dec. 12	119	1905
Fabrics. Printed and dyed cotton textile	Eddystone Manufacturing Company.	9,465	Dec. 5	119	1565
Fabrics. Printed and dyed drapery and upholstery textile	Eddystone Manufacturing Company.	9,803	Dec. 12	119	1904
Fabrics. Printed and dyed textile	Eddystone Manufacturing Company.	9,463–4	Dec. 5	119	1565
Fabrics. Printed and dyed textile	Eddystone Manufacturing Company.	9,472	Dec. 5	119	1565
Fabrics. Printed and dyed textile	Eddystone Manufacturing Company.	9,807	Dec. 5	119	1566
Fabrics. Printed and dyed textile	Eddystone Manufacturing Company.	10,303–5	Dec. 5	119	1567
Fabrics. Printed and dyed textile	Eddystone Manufacturing Company.	10,650	Dec. 5	119	1568
Fabrics. Printed and dyed textile	Eddystone Manufacturing Company.	9,468	Dec. 12	119	1903
Fabrics. Printed and dyed textile	Eddystone Manufacturing Company.	9,471	Dec. 12	119	1903
Fans. Electric	Jandus Electric Co	10,513	Dec. 5	119	1567
Fasteners for the waistbands of trousers	Catch On Clasp Mfg. Co	7,521	Dec. 5	119	1563
Fasteners, such as used on gloves, suspenders, and umbrellas.	Patent Button Co	10,537	Dec. 19	119	2216
Fastening devices comprising cut and wire nails, bolts, screws, and rivets. Galvanized	Keystone Nail Company	7,604	Dec. 26	119	2501
Feed consisting of ground corn and oats. Cattle-	Dock & Coal Co	354	Dec. 19	119	2203
Fertilizers	Federal Chemical Co	9,950	Nov. 7	119	324
Fertilizers. Artificial	Spartanburg Fertilizer Co	13,168	Dec. 26	119	2507
Files	Carver File Company	14,375	Dec. 19	119	2224
Files and rasps	Carver File Company	13,960	Nov. 28	119	1250.
Files and rasps	Nicholson File Company	7,898	Dec. 12	119	1900
Files and rasps	Nicholson File Company	7,905	Dec. 12	119	1901
Files and rasps	Arcade File Works	7,916–17	Dec. 12	119	1901
Files and rasps	G. & H. Barnett Company	7,926	Dec. 12	119	1901
Files and rasps	Kearney & Foot Company	7,928	Dec. 12	119	1901
Files and rasps	Kearney & Foot Company	8,132	Dec. 12	119	1901
Files and rasps	Nicholson File Company	7,903	Dec. 19	119	2211
Files and rasps	Nicholson File Company	7,896	Dec. 12	119	1900
Files and rasps and holders and handles therefor	W. T. Shute	5,063–4	Nov. 28	119	1238
Fish. Dried, pickled, smoked, salted, and canned	W. T. Shute	4,076	Nov. 28	119	1236
Fish. Dried, smoked, pickled, salted, and canned	Reed and Gamage	3,242	Nov. 28	119	1235
Fish. Dry, fresh, and canned	J. W. Beardsley's Sons	1,102	Nov. 28	119	1233
Fish. Salted and boneless	Crescent Manufacturing Co	3,649	Nov. 7	119	312
Flavoring extracts	J. Charles	7,017	Nov. 21	119	942
Flour. Mixed winter and spring wheat	Norddeutsche Kartoffelmehl-Fabrik mit beschränkter Haftung.	9,943	Dec. 26	119	2504
Flour, potato-starch, and dextrin. Potato-	Boutwell Milling & Grain Co	12,218–19	Nov. 14	119	636
Flour. Rye-	F. C. Williams	13,883	Dec. 26	119	2508
Flour. Self-raising prepared buckwheat-	G. A. Zabriskie	3,293	Nov. 7	119	311
Flour. Wheat-	Northwestern Consolidated Milling Company.	5,050	Nov. 7	119	313
Flour. Wheat-	Northwestern Consolidated Milling Company.	5,053	Nov. 7	119	313
Flour. Wheat-	Northwestern Consolidated Milling Company.	5,055	Nov. 7	119	313
Flour. Wheat-	Collin County Mill & Elevator Company.	7,761	Nov. 7	119	319
Flour. Wheat-	Sands, Taylor & Wood Company.	730	Nov. 14	119	619
Flour. Wheat-	J. McAleer & Sons	12,247	Nov. 14	119	636
Flour. Wheat-	Pillsbury-Washburn Flour Mills Company.	2,974	Nov. 21	119	936
Flour. Wheat-	Hezel Milling Company	7,231	Nov. 21	119	943
Flour. Wheat-	Threefoot Bros. & Co	8,523	Nov. 21	119	946
Flour. Wheat-	Acme Milling Company	9,018	Nov. 21	119	947
Flour. Wheat-	Hezel Milling Company	7,230	Dec. 5	119	1562
Flour. Wheat-	Listman Mill Company	1,845	Dec. 12	119	1894
Flour. Wheat-	Mapleton Milling Company	12,053	Dec. 12	119	1907
Flour. Wheat-	Mayflower Mills	5,712	Dec. 19	119	2206
Flour. Wheat-	Threefoot Bros. & Co	8,524	Dec. 26	119	2503
Flour. Wheat-	Seneca Mill & Elevator Company	14,305	Dec. 26	119	2508
Fluxes to be used in brazing metals	American Brazing Company	7,803	Nov. 14	119	625
Food and medicine in powdered form for live stock and poultry.	Herb Medicine Company	3,457	Dec. 12	119	1895
Food for birds and fowls. Seeds and prepared mixtures of seeds as	E. R. Durkee & Co	3,980	Nov. 21	119	938
Foods. Prepared cereal	American Cereal Company	5,614	Dec. 5	119	1561
Forges	Champion Blower & Forge Company.	9,909	Dec. 19	119	2215
Forges, blowers, and twyer-irons	Patterson, Gottfried & Hunter	13,190	Nov. 21	119	953
Forging and forming machines. Metal	Ajax Manufacturing Company	10,550	Dec. 26	119	2505
Fruits and vegetables in tins or glass	Wm. Numsen & Sons	1,685	Nov 21	119	935
Fruits. Dried	G. Frank	10,884	Nov. 28	119	1247
Fruits. Dried and evaporated	Griffin & Skelley Co	12,569–71	Nov. 21	119	952
Furs for wearing-apparel. Manufactured	C. G. Gunther's Sons	10,509	Dec 5	119	1567
Games. Card-	Cincinnati Game Co	13,103	Nov. 14	119	637
Garters	A. Stein & Co	6,641	Nov. 21	119	941

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Garters. Men's	L. Oppenheimer's Sons	10,741	Nov. 7	119	327
Gas-mantles. Self-lighting incandescent	Usona Light Co	14,634	Dec. 19	119	2226
Gilding. Liquid preparation for	Roessler & Hasslacher Chemical Co.	5,809	Nov. 7	119	314
Gin	C. H. Graves & Sons	6,878	Nov. 7	119	317
Gin	Chicago Distilling Co	10,048-9	Nov. 7	119	324
Gin	A. M. Young	10,066	Nov. 7	119	325
Gin	F. W. Hunt & Co	5,466	Nov. 14	119	627
Gin	Dr. C. Bouviers Specialty Co	4,552	Nov. 21	119	938
Gin	Francis Gowdy Distilling Co	13,140	Dec. 5	119	1573
Gin. Sloe	Charles Jacquin et Cie	7,246	Nov. 7	119	318
Ginger, mustard, allspice, cloves, pepper, and cinnamon	Tone Bros	3,320	Nov. 7	119	311
Glass electric globes and shades	Phoenix Glass Co	3,472	Dec. 19	119	2205
Glass ware. Cut-	O. F. Egginton Co	7,040	Nov. 28	119	1242
Glassware. Pressed or blown	A. H. Heisey & Co	13,649	Dec. 5	119	1574
Gloves	Wertheimer & Co	2,242	Nov. 7	119	310
Gloves	Abraham & Straus	2,184	Nov. 14	119	620
Gloves	J. Adler & Co	9,056	Nov. 14	119	626
Gloves	Buffalo Rubber Manufacturing Company.	10,904	Nov. 14	119	632
Gloves	Abraham & Straus	2,187	Nov. 21	119	936
Gloves	Abraham & Straus	2,188	Nov. 28	119	1234
Gloves	Fownes Brothers & Co	8,443	Nov. 28	119	1243
Gloves and mittens. Yellow horsehide	Bouton and Germain Co	11,621	Nov. 21	119	949
Gold-leaf	S. Hickson	8,536	Dec. 12	119	1902
Gold, silver, or copper. The output of smelters and refineries in the shape of bars, ingots, sheets, or molds of	H. W. Treat	3,026	Dec. 26	119	2496
Grease-cups	Lunkenheimer Company	10,792	Dec. 26	119	2506
Grease. Lubricating	Philadelphia Grease Manufacturing Co.	7,297	Nov. 7	119	318
Grinding and polishing heads	Patterson, Gottfried & Hunter	13,186	Nov. 21	119	953
Guitars and mandolins	Lyon & Healy	11,362	Dec. 12	119	1906
Gum. Chewing	American Chicle Co	8,146	Nov. 14	119	626
Gum. Chewing	American Chicle Co	8,162	Nov. 14	119	626
Gun-grease	Winchester Repeating Arms Co	9,067	Dec. 19	119	2215
Guns, rifles, and revolvers. Shot	H. Keidel	8,292	Dec. 5	119	1564
Hair and scalp. Compounds for the treatment of the	N. von Feldman	7,601	Nov. 7	119	319
Hair-clippers	Brown & Sharpe Manufacturing Company.	5,942	Nov. 7	119	314
Hair-drying powder	Waldeyer & Betts	4,570	Nov. 28	119	1237
Hair-nets. Silk	A. H. Woolley & Co	5,372	Nov. 21	119	939
Hair-pins and hair ornaments	Rice & Hochster	13,437	Nov. 21	119	954
Hair. Preparation for the removal of superfluous	M. M. Cusic	13,135	Nov. 21	119	953
Hair wavers and curlers	A. Drees	3,881	Dec. 12	119	1895
Ham and bacon	P. G. Cromwell	9,053	Nov. 7	119	320
Hams	P. G. Cromwell	9,051	Nov. 7	119	320
Hams	P. G. Cromwell	9,054	Nov. 7	119	321
Hames	Todd Manufacturing Co	12,430	Dec. 26	119	2507
Hammers	A. R. Robertson	8,477	Dec. 19	119	2213
Hammocks and swings. Folding canvas	G. H. Winans	13,791	Dec. 12	119	1910
Handcuffs and leg-irons	Tower & Lyon Co	8,176	Nov. 14	119	626
Harness, saddles, collars, and bridles	Paducah Saddlery Company	10,971	Nov. 28	119	1247
Harrows and cultivators	Atlanta Agricultural Works	9,395	Nov. 28	119	1245
Harvesters, mowers, and reapers, also extra and repair parts and pieces therefor, ledger-plates excluded. Grain-binding, corn, and rice	International Harvester Co. of America.	12,109	Dec. 12	119	1907
Hatchets, axes, and adzes	James C. Lindsay Hardware Co.	1,411	Nov. 28	119	1234
Hats and caps	Knox Hat Manufacturing Co	6,955-6	Nov. 21	119	942
Hats and caps	M. Sonneborn	11,006	Dec. 19	119	2219
Hats and caps. Infants'	S. Mayer & Sons	1,536	Dec. 12	119	1894
Hats and caps. Men's and women's	R. J. Hunter	13,659	Dec. 26	119	2507
Hats. Men's	Saks & Company	10,972	Dec. 12	119	1905
Hats. Soft and stiff fur felt	No Name Hat Mfg. Co	3,037	Nov. 7	119	311
Hats. Straw	Brigham, Hopkins Company	7,871	Nov. 21	119	945
Hats. Waterproof	A. J. Tower Company	6,891	Dec. 12	119	1899
Hats. Women's	J. L. Rosenberg	9,300	Nov. 28	119	1245
Hay-loaders	Sandwich Manufacturing Co	7,214	Nov. 14	119	624
Hay-tedders	Deere & Webber Co	14,472	Dec. 12	119	1914
Heaters and radiators. Steam and hot-water	Gurney Heater Manufacturing Company.	7,084	Nov. 28	119	1242
Heave cure	M. W. Savage	5,316	Nov. 14	119	623
Heel-plates. Electric	E. H. Mealy	3,017	Nov. 7	119	311
Hide. Oak-tanned cow	Kullman, Salz & Company	8,548	Nov. 21	119	946
Hones	Pike Manufacturing Company	13,796	Dec. 5	119	1575
Hones for razors and other edged tools	R. E. Brackett & Co	12,805	Nov. 7	119	328
Hooks and eyes	Star Pin Company	11,227	Dec. 19	119	2219
Hooks and eyes	Unique Manufacturing Company.	11,463-4	Dec. 19	119	2220
Hose. Fabric	Eureka Fire Hose Company	10,725	Nov. 14	119	631
Hose-supporters	C. J. Higley	8,514	Dec. 5	119	1564
Hose-supporters	C. J. Higley	10,618	Dec. 5	119	1568
Hose-supporters	Warner Bros. Co	13,533	Dec. 12	119	1910
Hose-supporters	C. J. Higley	9,871-2	Dec. 26	119	2504
Hosiery	Charles Taylor & Company	5,906	Nov. 21	119	939
Hosiery	C. Simon's Sons	6,842	Nov. 21	119	942
Hosiery	Charles Taylor & Co	7,277	Nov. 21	119	943
Hosiery	American Stocking Company	12,404	Dec. 5	119	1571
Hypophosphites. Preparation of	Fellows Medical M'f'g Co	1,047	Dec 19	119	2203
Incandescent mantles and supports therefor	Cleveland Gas and Electric Fixture Company.	11,734	Nov. 14	119	635
Inhalers and respirators	M. D. Good	9,205	Nov. 28	119	1244
Inks and fluids. Writing	Diamond Ink Company	984	Dec. 5	119	1566
Inks and writing fluids of all kinds. Writing	Carter's Ink Company	6,702	Nov. 21	119	941
Inks. Printing	Jaenecke Printing Ink Co	14,093	Dec. 5	119	1576
Inkstands	E. Davis	11,323-5	Nov. 14	119	634
Insecticide	E. M. Eccles	12,163	Nov. 21	119	950

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Insulating compound used in the manufacture and installation of electric apparatus.	Standard Underground Cable Company.	4,122	Dec. 26	119	2497
Insulating-tape	Standard Paint Company	13,715	Nov. 28	119	1260
Insulating-tape	Massachusetts Chemical Company.	13,930	Dec. 12	119	1910
Jacks	Duff Manufacturing Company	12,701	Nov. 21	119	953
Jellies, jelly-powders, jams, and preserves	Francis H. Leggett & Company	12,973	Dec. 5	119	1572
Jewelry. Imitations of precious stones for	Regnell, Bigney and Co	3,196	Dec. 26	119	2496
Knit hosiery and underwear	M. & C. Mayer	775	Nov. 21	119	931
Knit underwear	Northwestern Knitting Company	9,068	Nov. 21	119	947
Knit underwear	Direct Supply Co	11,930	Dec. 19	119	2220
Knitted hosiery and underwear	Standard Hosiery Co	10,616	Dec. 26	119	2505
Knitted hosiery, undershirts, and drawers	J. W. Mettler	4,266	Dec. 26	119	2497
Knitted underwear	Glastonbury Knitting Company	13,892	Dec. 19	119	2223
Knives and razors. Pocket-	A. Kastor & Bros	4,914	Nov. 21	119	939
Knives, butcher-knives, boning-knives, and slicers. Kitchen-	M. G. Rodeamel	2,122	Nov. 14	119	620
Knives, forks, and spoons which are made of steel and tinned	R. Wallace & Sons Mfg. Co	7,644	Nov. 7	119	319
Kümmel	Charles Jacquin et Cie	10,156	Dec. 26	119	2494
Ladders of all kinds. Wooden	Miller Ladder Company	7,594	Dec. 12	119	1900
Lamp-chimneys	F. Euler & Co	8,264	Nov. 14	119	626
Lamp chimneys and globes	L. H. Peltason	14,377	Dec. 19	119	2225
Lamp glasses and globes	Macbeth-Evans Glass Company	6,014	Nov. 7	119	315
Lamps and lanterns. Railway	Armspear Manufacturing Company.	7,659–60	Dec. 19	119	2211–12
Lamps. Electric-arc	Jandus Electric Co	10,512	Dec. 5	119	1567
Lamps. Incandescent electric	Columbia Incandescent Lamp Co.	8,861	Nov. 28	119	1244
Lamps, lanterns, and parts thereof	F. Stübgen & Co	7,712	Nov. 21	119	944
Lard	Swift and Company	5,739	Nov. 14	119	623
Lard	Gillespie Bros. & Co	10,922	Nov. 14	119	631
Lard	Francis H. Leggett & Company	12,976	Dec. 12	119	1900
Lard	P. G. Cromwell	14,833	Dec. 26	119	2509
Lard and lard compound	Cudahy Packing Company	6,375	Nov. 28	119	1241
Lard and lard compound	N. K. Fairbank Company	13,682	Dec. 19	119	2222
Lathes	S. S. White Dental Mfg. Co	12,870	Nov. 28	119	1248
Lathes	Patterson, Gottfried & Hunter	13,188	Dec. 5	119	1573
Lathes	National-Acme Manufacturing Company.	10,192	Dec. 19	119	2216
Lathes. Metal-turning	Lodge & Shipley Machine Tool Co.	6,439	Dec. 19	119	2209
Laxative compound or preparation	H. S. Cooley	12,637	Dec. 12	119	1908
Laxative fruit preparation. Effervescent	H. J. Mayers	3,011	Dec. 26	119	2496
Lead. Pure red	Eagle White Lead Co	10,605	Dec. 12	119	1905
Lead. White	National Lead Company	3,637	Nov. 7	119	311
Lead. White	National Lead Company	10,867	Dec. 5	119	1568
Lead. White	Toch Brothers	11,584	Dec. 5	119	1569
Lead. White	National Lead Company	11,812	Dec. 5	119	1569
Lead. White	National Lead Company	14,416	Dec. 19	119	2225
Lead. White	National Lead Company of Massachusetts.	11,863	Dec. 26	119	2506
Leather. Buffed	P. Rielly & Son	10,376	Nov. 21	119	947
Leather, calfskins, and waxed calfskins. Patent-	C. Heyl	13,482	Nov. 21	119	954
Leather for boots and shoes. Upper-	Thayer Foss & Co	14,957	Dec. 26	119	2510
Leather for the uppers of shoes	Robert H. Foerderer	7,112	Nov. 7	119	317
Leather for the uppers of shoes	Robert H. Foerderer	13,162	Nov. 21	119	953
Leather. Harness-	Cappon & Bertsch Leather Co	9,530	Nov. 7	119	321
Leather. Harness and saddlery	W. W. Mooney & Sons	6,167	Nov. 28	119	1240
Leather. Harness and saddlery	W. W. Mooney & Sons	6,169–70	Nov. 28	119	1240
Leather in pieces, known to the trade as sides, backs, bends, &c., and cut to shape, as blocks, half-blocks, tap-soles, &c. Tanned	Leas & McVitty	1,522	Nov. 21	119	933
Leather known as kid	M. Beadenkopf	7,148	Dec. 12	119	1899
Leather pocket-books, card, dressing, cigar, and bankers' cases, music-rolls, and photograph and picture frames.	C. F. Rumpp & Sons	1,161	Nov. 21	119	932
Leather-polish	Whittemore Brothers and Company.	7,118	Nov. 14	119	624
Leather-polish	Whittemore Brothers and Company.	14,027	Dec. 12	119	1911
Leather-polish	Whittemore Bros. and Co	3,947–8	Dec. 19	119	2205
Leather polishing, cleaning, and preserving preparations	Fritz Schulz, Jun., Aktiengesellschaft.	6,593	Nov. 21	119	941
Leather-stuffing	W. L. Alexander	8,366	Nov. 28	119	1243
Leather tanned by a special process for the manufacture of gloves, shoes, &c. Pliable	Joseph N. Eisendrath Company	7,461–2	Dec. 19	119	2211
Leggings or overgaiters	Columbia Overgaiter & Legging Co.	3,523	Dec. 5	119	1558
Lightning-rods	Dodd & Struthers	4,837	Dec. 19	119	2206
Liniment	L. B. Start	3,686	Nov. 21	119	937
Liniment	Van Vleet-Mansfield Drug Co	11,887	Nov. 21	119	950
Liniment for external application for the cure of pains, sprains, and bruises.	World's Dispensary Medical Association.	10,412	Dec. 19	119	2216
Liniments and embrocations	W. F. Young	2,783	Dec. 5	119	1557
Lithographs. Art	Raphael Tuck and Sons Co	4,930	Nov. 28	119	1237
Locks and keys	Russell & Erwin Manufacturing Company.	12,937	Dec. 5	119	1572
Loom-pickers	Norfolk Loom Picker Co	14,965	Dec. 26	119	2510
Lozenges	New England Confectionery Co	5,718	Nov. 21	119	939
Lozenges and throat-tablets. Bronchial	Frog in Your Throat Co	4,807	Dec. 5	119	1560
Lubricants and lubricant-stock. Cylinder-	Conewango Refining Co	14,315	Dec. 19	119	2224
Lubricants and lubricant-stock. Cylinder-	Conewango Refining Co	14,316	Dec. 26	119	2509
Lubricating-grease	A. Cook's Sons	4,252	Dec. 19	119	2206
Lubricating-grease	A. C. Bugby	7,044	Dec. 19	119	2210
Lye and potash	Brookman Manufacturing Company.	3,106	Dec. 5	119	1558
Macaroni, spaghetti, and vermicelli	Woodcock Macaroni Company	8,052	Dec. 5	119	1563
Macaroni, spaghetti, vermicelli, and noodles	Anger Baking Co	12,503	Nov. 21	119	951
Magazine. Monthly	S. H. Moore Co	12,492	Nov. 21	119	951
Magazine. Monthly	Hoffheimer Soap Co	11,546	Dec. 5	119	1559

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Magazine or periodical	Homefolks Publishing Company	14,095	Dec. 12	119	1912
Magazine published in the interest of the soap trade. Monthly.	Hoffheimer Soap Co	11,333	Dec. 5	119	1569
Magazines	Criterion Publishing Company	11,486	Dec. 26	119	2508
Malines and mousseline	T. Tiedemann & Son	4,745	Dec. 5	119	1559
Malt extract	Theo. Hamm Brewing Co	8,032	Nov. 7	119	319
Malt extracts	Otto Huber Brewery	1,951	Nov. 14	119	630
Malt extracts and peptonized malt foods	A. Lieber	576	Nov. 7	119	310
Malt. Non-intoxicating table	Lauritzen Malt Co	9,588	Dec. 12	119	1904
Meats. Cured	George A. Hormel & Co	6,738	Nov. 7	119	316
Medical compound used as a remedy for rheumatism, neuralgia, kidney diseases, &c.	S. H. E. Hayden	8,413	Dec. 19	119	2213
Medical ointment	R. M. Connable	7,965	Dec. 26	119	2502
Medical preparation for genito-urinary diseases	A. F. Kalkhoff	10,686	Dec. 5	119	1568
Medical preparation of sarsaparilla	Gerstle Medicine Co	7,334	Nov. 21	119	943
Medical preparations containing the nutritive elements of grain.	Maltine Company	4,084	Nov. 14	119	622
Medicated blackberry brandy	Van Vleet-Mansfield Drug Co	12,291	Nov. 21	119	951
Medicated confections used as a worm specific	W. Holloway	10,943	Nov. 14	119	631
Medicated lozenges	J. I. Brown & Son	9,638	Nov. 7	119	322
Medicated lozenges	J. I. Brown & Son	9,637	Nov. 14	119	630
Medicinal and chemical preparations for the prevention and cure of diseases.	Dr. D. Jayne & Son	1,042–3	Nov. 21	119	931
Medicinal and chemical preparations for the prevention and cure of diseases.	Dr. D. Jayne & Son	1,373	Nov. 21	119	932
Medicinal preparation. Antipyretic and analgesic	Ammonol Chemical Co	7,493	Nov. 14	119	625
Medicinal preparation for the treatment of nervous diseases arising from the excessive use of alcoholic beverages, tobacco, opium, and other narcotics.	Leslie E. Keeley Co	4,766	Dec. 5	119	1560
Medicinal use. Soluble thiosinamine compound for	Firm of E. Merck	5,364	Nov. 28	119	1238
Medicine. Alterative	Billings Clapp Company	6,506	Nov. 28	119	1241
Medicine for diseases of the vagina	W. H. Holliday	11,539	Dec. 5	119	1569
Medicine for horses. Colic	J. J. Walsh	13,047	Dec. 12	119	1909
Medicine for the cure of enuresis and kindred troubles	F. Boettger	10,643	Nov. 7	119	327
Medicine for the cure of fever, rheumatism, catarrh, burns, boils, cuts, &c., and destroys fetor.	P. B. Palethorpe	13,082	Dec. 12	119	1900
Medicine for the treatment of colds, coughs, croup, &c., and all affections of the throat, &c. Proprietary	Dr. Kilmer & Co	11,026–7	Nov. 14	119	632
Medicine for the treatment of heart and circulation diseases, heart weakness, &c., and nervousness. Proprietary	Dr. Kilmer & Co	11,030	Nov. 14	119	633
Medicine for the treatment of kidney, liver, stomach, &c., and nervous troubles, Bright's disease, dropsy, &c., skin diseases, and blood disorders. Proprietary	Dr. Kilmer & Co	11,023	Nov. 14	119	632
Medicine for the treatment of kidney, liver, stomach, bladder, gall, urinary, and nervous troubles, &c. Proprietary	Dr. Kilmer & Co	11,024	Nov. 28	119	1247
Medicine for the treatment of nervous exhaustion, torpid liver, and dyspepsia.	A. H. Keller	8,324	Nov. 28	119	1243
Medicine for women's diseases. Proprietary	W. A. Talbott	3,929	Dec. 19	119	2205
Medicine in the form of a pill, tablet, or granule for nervous and blood diseases, &c.	J. H. Neagle	6,645	Dec. 12	119	1899
Medicine in the form of pills for diseases of the kidneys, bladder, and urinary organs.	Buker Pill Co	7,034	Dec. 19	119	2210
Medicine or remedy for diseases of the kidneys and bladder	Van Vleet-Mansfield Drug Co	11,186	Nov. 21	119	948
Medicine. Worm	Curtis and Brown Manufacturing Company	10,873	Nov. 21	119	947
Medicines and kidney, liver, and bladder specifics. Tonic	Fritts & Wiehl	145	Dec. 5	119	1555
Medicines in the form of liquid for internal and external use, ointment for external use, and pills for the treatment of kidney, &c., and nervous troubles, rheumatism, &c. Proprietary	Dr. Kilmer & Co	11,028	Nov. 14	119	632
Medicines in the form of liquid for internal and external use, ointment for external use, and pills for the treatment of kidney, &c., and nervous troubles, rheumatism, &c. Proprietary	Dr. Kilmer & Co	11,034	Nov. 14	119	633
Medicines in the form of liquid for internal and external use, ointment for external use for the treatment of kidney, liver, &c., troubles, &c. Certain proprietary	Dr. Kilmer & Co	11,022	Nov. 14	119	632
Membranes	Johnson & Johnson	14,008	Dec. 5	119	1576
Metal. Babbitt	National Lead Company	14,409–13	Dec. 12	119	1913–14
Metal-polish	Cosseboom, Pearce & Co	14,157	Dec. 19	119	2224
Metal-polishes	J. F. Wuizen & Co	6,056	Dec. 26	119	2500
Mica for lubricating purposes	United States Mica Mining and Milling Co.	11,766	Dec. 5	119	1569
Milk. Condensed	St. Charles Condensing Co	7,983	Nov. 21	119	945
Milk. Condensed	St. Charles Condensing Co	6,780	Nov. 28	119	1242
Milling-cutters	Standard Tool Company	15,039	Dec. 26	119	2510
Mineral water	Arondack Spring Company	10,659	Dec. 5	119	1568
Mineral water	Berry Hill Mineral Spring Co. of Va.	6,929	Dec. 19	119	2210
Mineral waters	M. A. Ferris	6,037	Dec. 19	119	2209
Mohair dress goods	N. Erlanger, Blumgart & Co	12,280	Dec. 5	119	1570
Molasses	Eastern Refining Co	5,623	Nov. 21	119	939
Molasses	McCann & Co	6,218	Nov. 28	119	1240
Molasses	Boston Molasses Co	13,310	Dec. 12	119	1909
Molasses	Eastern Refining Co	5,625	Dec. 26	119	2499
Moth-proof bags	T. Manahan	6,774	Nov. 14	119	624
Mucilages	Carter's Ink Company	6,696	Nov. 28	119	1241
Mustard	C. Gulden	1,326	Nov. 7	119	310
Mustard and spices	Brownell & Field Company	10,427	Nov. 28	119	1246
Nail-pullers	Tower & Lyon Co	10,975	Nov. 14	119	632
Nails. Horse	Standard Horse Nail Company	8,214–15	Dec. 12	119	1901–2
Nails. Horse	Standard Horse Nail Company	8,206	Dec. 19	119	2212
Nails. Horse	Standard Horse Nail Company	8,208–10	Dec. 19	119	2212
Nails. Horse	Standard Horse Nail Company	8,216	Dec. 19	119	2213
Nails. Wire	C. F. Baker & Co	6,455	Nov. 28	119	1241
Nails. Wire	C. F. Baker & Co	6,454	Dec. 19	119	2209
Needles	C. H. Crowley	11,707	Dec. 12	119	1906

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Newspaper. Trade	David Williams Company	9,332	Dec. 19	119	2215
Newspaper. Weekly	C. Guild & Co	9,400	Nov. 28	119	1245
Newspaper. Weekly	Billboard Publishing Company	10,403	Dec. 5	119	1567
Newspaper. Weekly	W. C. & F. P. Church	13,943	Dec. 12	119	1910
Newspapers. Comic section of	New York Herald Company	14,802	Dec. 12	119	1914
Nippers, pincers, and cutting-pliers	Utica Drop Forge & Tool Company.	5,631	Nov. 28	119	1239
Oil. Castor	Baker Castor Oil Company	7,163	Nov. 21	119	942
Oil. Cod-liver	Waterbury Chemical Company	2,073	Nov. 28	119	1234
Oil for external and internal use	Holland Medicine Company	12,137-8	Dec. 12	119	1907
Oil. Olive	Marchesini Bros	11,381	Nov. 28	119	1247
Oil. Olive	Thomas McMullen & Co	12,199	Dec. 26	119	2500
Oil. Painting, staining, and graining	James B. Sipe & Co	3,935	Dec. 26	119	2497
Oil, water, whet, and grind stones	Scranton Whetstone and Abrasive Wheel Co.	14,228	Dec. 19	119	2224
Oils. Lubricating	Galena-Signal Oil Company	10,316	Dec. 5	119	1567
Oils. Petroleum burning	Gulf Refining Company	8,762-6	Nov. 21	119	946
Oils. Petroleum lubricating	Gulf Refining Company	8,768	Nov. 21	119	946
Oiled clothing	J. H. Rowe Company	7,957	Nov. 14	119	625
Oiled clothing	J. H. Rowe Company	7,959	Nov. 14	119	625
Oiled clothing	J. H. Rowe Company	7,958	Dec. 5	119	1563
Oiled clothing	A. J. Tower Company	7,935	Dec. 12	119	1901
Oiled clothing	A. J. Tower Company	10,259	Dec. 19	119	2216
Oiled clothing of all kinds	A. J. Tower Company	7,936	Dec. 19	119	2212
Ointment	F. Watson	9,009	Dec. 5	119	1564
Ointment	Potter Drug & Chemical Corporation.	5,319	Dec. 19	119	2208
Ointment for the treatment of cancer growths, eczema, tumors, piles, goitre, &c., and other pains and aches and inflammations and swellings of all kinds.	Dr. Kilmer & Co	11,025	Nov. 14	119	632
Ointments and lotions to soften the skin and allay irritation	Léhealol Preparation Co	8,785	Dec. 5	119	1564
Ointments. Cream	National Toilet Company	13,473	Dec. 19	119	2221
Ointments for the cure of burns, scalds, cuts, and wounds, chapped hands, sore lips, chafed skin, hives, sore throat, catarrh, and sores of all kinds.	National Food Co	11,736	Nov. 21	119	949
Olives	C. Gulden	1,324-5	Nov. 7	119	310
Olives	C. Gulden	1,097	Nov. 21	119	931
Olives	S. J. Valk & Bro	5,443-4	Dec. 26	119	2498-9
Olives and pickled olives	Los Angeles Olive Growers' Ass'n.	13,601	Dec. 19	119	2222
Olives. Preserved	Seville Packing Co	2,205	Dec. 19	119	2204
Ornaments for pocket-books and other cases, frames, umbrellas, canes, and glassware. Metal	C. F. Rumpp & Sons	8,131	Nov. 21	119	945
Ovens for cooking-stoves. Removable	E. H. Huenefeld	5,779	Nov. 7	119	314
Overalls	E. G. Sanders	13,804	Dec. 26	119	2508
Overalls and workmen's shirts, coats or jackets, and pants	H. S. Peters	9,391	Nov. 28	119	1245
Overalls, blouses, coats, vests, and trousers	Oshkosh Clothing Manufacturing Company.	9,978	Nov. 7	119	324
Overcoats, coats, vests, and trousers	Marx & Haas Clothing Co	7,499	Dec. 5	119	1562
Overcoats, coats, vests, and trousers. Men's and children's	Myers & Andrews	11,057	Nov. 7	119	327
Packed shrimp	Barataria Canning Co	2,861	Nov. 7	119	311
Packing for valve-joints	Fairbanks Co	1,969	Dec. 19	119	2204
Packing. Machinery	C. A. Daniel	14,758	Dec. 26	119	2509
Packing. Steam and water	American Steam Packing Company.	9,748	Nov. 28	119	1246
Packings	Keasbey & Mattison Company	14,456	Dec. 12	119	1914
Paint. Acid, heat, water, and weather proof and wood and metal preservative	Hydro-Carbon Manufacturing Company.	2,643	Nov. 7	119	310
Paint for metallic surfaces	Rinald Bros	4,728	Nov. 14	119	623
Paint in dry powdered form sold in bulk. Mineral	Chattanooga Paint Co	7,527	Dec. 19	119	2211
Paint. Liquid	Natural Liquid Paint Co	13,516	Nov. 21	119	954
Paints and colors	C. A. Willey Company	14,850	Dec. 19	119	2220
Paints and liquid insulating compounds. Preservative and insulating	Standard Paint Company	12,903	Dec. 19	119	2221
Paints and powders, bronze, silver, aluminum, and gold enamel, and bronzing liquids. Bronze, silver, aluminum, and gold	Gerstendorfer Bros	3,059	Dec. 26	119	2496
Paints, varnishes, colors, fillers, surfacers, stains, and enamels.	Thomson Wood Finishing Co	7,587	Nov. 21	119	944
Paints, varnishes, fillers, stains, and enamels	Thomson Wood Finishing Co	7,588	Nov. 21	119	944
Pajamas and night-robes	T. J. Maxwell Co	3,305	Dec. 26	119	2496
Paper, bills-of-exchange paper, and writing-paper. Bank-note, check, draft, certificate	Dennison & Sons	2,910	Nov 14	119	621
Paper. Blotting	Eaton-Dikeman Co	9,640	Dec. 5	119	1566
Paper-board consisting of a corrugated sheet of paper secured and embraced between two uncorrugated sheets of paper and upon envelops or receptacles made from such special paper-board. Special	Thompson & Norris Co	2,739	Nov. 7	119	311
Paper. Bond	W. E. Wroe & Company	2,832	Nov. 28	119	1235
Paper. Bond	Missouri Paper House	12,025	Dec. 19	119	2220
Paper-clips	Cushman & Denison Manufacturing Company.	12,906	Nov. 28	119	1249
Paper. Drawing	Keuffel & Esser Company	13,809	Dec. 5	119	1575
Paper holders and cutters. Roll	King Manufacturing Co	12,510	Nov. 21	119	951
Paper holders and cutters. Roll	Champion Paper Cutter Co	12,521-2	Nov. 21	119	952
Paper holders and cutters. Roll	United States Paper Cutter Co	12,523-4	Nov. 21	119	952
Paper-stock. Ground wood and wood-pulp for	Aspegren & Co	4,953	Dec. 26	119	2498
Paper. Toilet	Stone & Forsyth	4,834	Dec. 12	119	1896
Paper. Writing	Fox River Paper Company	10,193	Dec. 5	119	1567
Paste	Preservaline Mfg. Co	5,204	Dec. 19	119	2207
Pastes, pomades, liquids, powders, and cakes or blocks for cleaning, polishing, and preserving metals, china, glass, leather, wood, &c.	Fritz Schulz, Jun., Aktiengesellschaft.	6,591-2	Nov. 21	119	941
Peanut-butter	Jel-Nut Manufacturing Company	8,258	Nov. 14	119	626
Pencils. Lead	Eagle Pencil Company	12,885	Nov. 28	119	1248
Pencils. Lead	Eagle Pencil Company	12,715	Dec. 5	119	1572
Pens	C. Howard Hunt Pen Co	612	Nov. 7	119	310

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Pens. Fountain-	L. E. Waterman Company	4,350	Dec. 12	119	1896
Pens. Fountain-	L. E. Waterman Company	4,349	Dec. 19	119	2206
Pens. Steel	Perry & Company	11,170	Dec. 19	119	2219
Pepper-sauce	E. McIlhenny's Son	8,778	Dec. 19	119	2214
Perfume for repelling mosquitos	Ceylon Perfume Company	6,754	Nov. 7	119	317
Periodical or magazine. Trade-journal	Lord & Nagle Company	14,985	Dec. 26	119	2510
Periodicals and magazines. News	Municipal News Association	12,171	Dec. 12	119	1907
Piano-players, combination-pianos, pneumatic self-playing-piano mechanisms, and parts thereof. Autopneumatic.	Wilcox & White Company	14,651	Dec. 26	119	2509
Pianos	H. Worch	4,937	Nov. 28	119	1238
Pianos	E. E. Gabler	11,386	Dec. 19	119	2220
Pianos	Sterling Company	14,831	Dec. 26	119	2509
Pianos and self-playing pianos and parts thereof	Lyon & Healy	7,300	Nov. 14	119	624
Pianos. Upright	John Church Company	2,781	Nov. 14	119	621
Pigments for paints	Krebs Pigment & Chemical Co	7,809	Nov. 28	119	1243
Pills	Allcock Manufacturing Co	9,255	Dec. 19	119	2215
Pills and tablets used as a remedy for the treatment of constipation, liver troubles, biliousness, headache, and sour stomach.	E. Brunor	8,273	Dec. 12	119	1902
Pills for the cure and alleviation of diseases and disorders of the liver.	Van Vleet-Mansfield Drug Co	11,198	Nov. 21	119	948
Pills for the cure of sick headache, vertigo or dizziness, and constipation.	F. J. Cheney	9,050	Nov. 28	119	1244
Pills for the relief of dyspepsia, indigestion, headache, constipation, biliousness, and diseases of the stomach and liver.	J. Alexander	6,658	Nov. 7	119	317
Pills. May-apple	J. Q. Phillips	8,037	Nov. 21	119	945
Pills. Purgative	W. H. Comstock Company	3,385	Dec. 26	119	2497
Pills. Sugar-coated	Lanman & Kemp	4,374	Dec. 19	119	2206
Pin-retainers	G. J. Capewell, Jr	4,031	Nov. 14	119	622
Pins. Toilet-	Star Pin Company	13,205	Dec. 19	119	2221
Pistols	Colt's Patent Fire Arms Manufacturing Company.	14,014	Dec. 12	119	1911
Plasters	Johnson & Johnson	13,992	Dec. 5	119	1575
Plasters	Johnson & Johnson	13,994	Dec. 5	119	1575
Plasters	Johnson & Johnson	13,995	Dec. 12	119	1910
Plows, cultivators, rollers, and harrows	Wiard Plow Co	6,541	Dec. 19	119	2210
Plows, listers and cultivators, and disk and lever harrows. Riding and walking	Morrison Manufacturing Company.	5,849	Nov. 21	119	939
Plows, listers, and harrows	Emerson Manufacturing Co	4,286	Dec. 5	119	1559
Poison. Insect-	Jenkins Bros	4,401	Dec. 5	119	1559
Poison. Rat-	J. E. Hann	4,662	Dec. 12	119	1896
Police-twisters	Tower & Lyon Co	8,177	Nov. 14	119	626
Polish extract, pastes, pomades, liquids, powders, and cakes, or blocks for cleaning and polishing metals, china, glass, leather, wood, &c.	Fritz Schulz, Jun., Aktiengesellschaft.	6,594	Nov. 21	119	941
Polishes for wood, metal, marble, and glass	C. H. Smith & Co	10,468	Dec. 5	119	1567
Powder. Toilet	Byron C. Gould, Inc	9,138	Nov. 28	119	1244
Powder. Toilet	Byron C. Gould, Inc	9,139–40	Dec. 19	119	2214
Powder. Tooth-	American Peroxide and Chemical Company.	8,104	Dec. 19	119	2212
Powders. Headache-	R. S. Starks	6,512	Dec. 26	119	2501
Powders. Horse-renovating	J. J. Walsh	13,046	Dec. 12	119	1909
Preparation for external use for curing bad smelling, sweating, and tender feet and offensive perspiration. Liquid	Anglo-American Medical Co	11,689	Nov. 21	119	949
Preparation for the cure and alleviation of diseases peculiar to women.	Van Vleet-Mansfield Drug Co	12,290	Dec. 12	119	1908
Preparation for the cure of horse ailments	Dyer Remedy Company	11,379	Nov. 21	119	948
Preparation for the treatment of coughs, colds, whooping-cough, affections and soreness of the throat and lungs, grip, bronchitis, asthma, and incipient consumption.	E. E. Sutherland Medicine Co	7,739	Nov 21	119	944
Preparation for the treatment of flatulent colic, diarrhea, nausea, coughs, &c.	Lamar & Rankin Drug Co	6,159	Dec. 19	119	2209
Preparation or compound for cleaning the surfaces of articles and structures made from stone, marble, and like substances.	J. F. Whitman	13,755	Nov. 21	119	954
Preparation which destroys and prevents the growth of weeds.	W. J. Reade	11,939	Nov. 14	119	635
Preparations for the cure of indigestion, dyspepsia, sick stomach, and like or allied ailments.	W. R. Warner & Co	1,493	Nov. 21	119	932
Preparations for the cure of indigestion, dyspepsia, sick stomach, and like or allied ailments.	W. R. Warner & Co	1,496	Nov. 21	119	933
Preparations for the cure of nausea, indigestion, dyspepsia, sick stomach, and vomiting.	W. R. Warner & Co	1,492	Nov. 21	119	932
Preparations for the cure of nervousness and to be used as a general system tonic and stimulant.	W. R. Warner & Co	1,494	Dec. 26	119	2495
Preparations for the cure of vomiting, indigestion, dyspepsia, and sick stomach.	W. R. Warner & Co	1,495	Nov. 21	119	933
Preparations of pancreas, thyroid, and stomach glands, and other animal extracts dispensed in the form of tablets, disks, and pills.	Fairchild Bros. & Foster	1,976	Nov. 14	119	620
Preserves, jams, jellies, butters, and marmalades. Vegetable and fruit	R. C. Williams & Co	9,561	Nov. 21	119	947
Presses. Fruit-	Heins Fruit Press Co	3,174	Nov. 21	119	936
Printing-machines adapted to be operated by hand. Rotary.	American Multigraph Co	4,626	Nov. 14	119	623
Printing machines adapted to be operated by hand. Rotary type-	American Multigraph Company	4,625	Nov. 7	119	312
Printing-machines. Web-perfecting	Goss Printing Press Company	11,466	Dec. 5	119	1569
Publications relating to agriculture, horticulture, gardening, and the raising and marketing of fruits, garden stuff, and produce. Printed	Fruit-Grower Company	10,998	Dec. 5	119	1568
Publications treating of electrotechnics	Electrical Review Pub. Co	10,085	Dec. 12	119	1904
Pull-sockets	Harvey Hubbell, Incorporated	13,737	Nov. 28	119	1250
Pulleys, blocks, and parts thereof	Boston & Lockport Block Company.	7,234	Dec. 26	119	2501
Pulleys or blocks	Boston & Lockport Block Company.	7,234	Dec. 12	119	1899
Punches of all kinds	Patterson, Gottfried & Hunter	13,189	Nov. 14	119	638
Purgative compounds. Liquid	California Fig Syrup Co	6,624	Dec. 19	119	2210

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Quilts. Crochet	Union Manufacturing Company..	5,289	Nov. 7	119	313
Quilts. Crochet	Union Manufacturing Company..	5,287	Nov. 28	119	1238
Quilts. Crochet	Union Manufacturing Company..	5,288	Dec. 5	119	1561
Quilts. Crochet	Union Manufacturing Company..	12,515	Dec. 5	119	1571
Railway-track bolts	American Iron & Steel M'f'g Co..	6,365	Nov. 28	119	1241
Razor-hones, sharpening-stones, and sharpening-wheels	F. Swaty	11,106	Nov. 21	119	948
Razors	Challenge Cutlery Corp	1,780	Nov. 14	119	620
Razors	H. Claues	7 463	Nov. 21	119	944
Razors	G. R. Springer	2,997	Nov. 28	119	1235
Razors	International Cutlery Company..	9,672	Nov. 28	119	1247
Razors	Challenge Cutlery Corporation...	1,779	Dec. 5	119	1558
Razors and razor-blades. Safety	Gem Cutlery Co	11,925	Dec. 5	119	1570
Refrigerators	D. Eddy & Sons Co	7,439	Dec. 19	119	2211
Remedies. Eye	Murine Eye Remedy Company...	6,340	Dec. 26	119	2500
Remedies for diseases of the throat, lungs, and bronchial organs.	H. Stringer	1,521	Nov. 7	119	310
Remedies for the cure of diseases of the liver and kidneys, all inflammations and swellings, malaria, &c., general-system tonic, &c., and throat, &c., troubles.	Brown Mfg. Co	11,390	Nov. 21	119	948
Remedies for the relief and cure of catarrh, hay-fever, cold in the head, and all nasal inflammation and catarrhal affections.	Brown Mfg. Co	12,056	Nov. 21	119	950
Remedy and tonic. Headache	G. C. Holden	7,553	Nov. 7	119	318
Remedy. Corn	Fowler Medicine Company	11,735	Nov. 21	119	949
Remedy for anæmia and nervous diseases. Tonic	C. J. Ulrici	1,738	Nov. 21	119	935
Remedy for blood and nerve diseases	P R. Palethorpe	4,222	Nov. 28	119	1234
Remedy for chicken cholera, roup, and limber neck	J. R. Crume	8,358	Nov. 21	119	945
Remedy for children's colic and cholera infantum	J. C. Franklin's Sons & Co	10,182	Dec. 26	119	2505
Remedy for chills and fever, biliousness, dull and shaking ague, remittent fevers, and all malarial disorders.	Van Vleet-Mansfield Drug Co	11,185	Nov. 21	119	948
Remedy for cholera, cholera morbus, and dysentery	Van Vleet-Mansfield Drug Co	12,287	Dec. 12	119	1907
Remedy for constipation, liver compliants, biliousness, &c...	Wells & Richardson Company....	12,424	Dec. 12	119	1908
Remedy for constipation, liver complaints, biliousness, &c...	Wells & Richardson Company....	12,429	Dec. 12	119	1908
Remedy for coughs and ailments of the throat and lungs	Van Vleet-Mansfield Drug Co	11,882	Nov. 21	119	949
Remedy for coughs, colds, and other ailments of the throat and lungs.	Van Vleet-Mansfield Drug Co	12,292	Dec. 12	119	1908
Remedy for coughs, colds, and similar complaints	Potter Medicine Company	7,074	Dec. 19	119	2211
Remedy for coughs, colds, croup, and consumption	C. B. Mumford	900	Dec. 5	119	1555
Remedy for croup, sore throat, coughs, colds, neuralgia, earache, frosted feet, chilblains, and whooping-cough.	Moyer Bros	626	Dec. 12	119	1893
Remedy for dehorning calves and treatment of lumpy-jaw cattle.	O. O. Hattervig	8,682	Nov. 28	119	1247
Remedy for diarrhea, dysentery, and dyspepsia. Liquid	G. M. Sloat	10,251	Dec. 26	119	2505
Remedy for headache, neuralgia, and nervousness	J. G. Munson	12,284	Dec. 12	119	1907
Remedy for headaches, colds, and dysmenorrhea	Capudine Chemical Company	11,874	Nov. 21	119	949
Remedy for internal and external use for man and beast, for pains, aches, &c. Antiseptic	H. C. Pope	10,999	Nov. 14	119	632
Remedy for internal or external use for the relief of pain	Curtis & Brown Manufacturing Company.	10,874	Nov. 14	119	631
Remedy for internal use, such as a tonic	Chester Kent & Co	7,335	Nov. 7	119	318
Remedy for pain in crayon form	J. D. McLaren	2,148	Dec. 5	119	1557
Remedy for rheumatic affections generally, gout, and lumbago.	W. R. Warner & Co	4,561	Nov. 28	119	1237
Remedy for rheumatism	C. Carow	8,681	Dec. 26	119	2503
Remedy for rheumatism, gout, sciatica, and other rheumatic diseases.	T. P. Van Ness	9,895	Dec. 19	119	2215
Remedy for skin diseases and a preventive of blood poison	X-Zalia Corporation	10,062	Nov. 28	119	1246
Remedy for the cure of rheumatism	Van Vleet-Mansfield Drug Co	11,888	Nov. 21	119	950
Remedy for the diseases of women	Gerstle Medicine Co	7,333	Nov. 21	119	943
Remedy for the nerves	B. H. Bacon Co	13,154	Dec. 12	119	1909
Remedy for the treatment of cancer of the uterus, uterine tumors, &c. Proprietary	Dr. Kilmer & Co	11,029	Nov. 14	119	633
Remedy for the treatment of cancer of the uterus, uterine tumors, &c. Proprietary	Dr. Kilmer & Co	11,032	Nov. 14	119	633
Remedy for the treatment of heart and circulation diseases, heart weakness, &c., and nervousness. Proprietary	Dr. Kilmer & Co	11,035	Nov. 14	119	633
Remedy for the treatment of prolapsus uteri, female weaknesses, &c., and all female complaints. Proprietary	Dr. Kilmer & Co	11,031	Nov. 14	119	633
Remedy for the treatment of rheumatism, neuralgia, gout, pains, aches, and the like.	Dr. M. F. Groves' Son and Co	4,372	Dec. 5	119	1559
Remedy for women's diseases. Proprietary	French Drug Company	9,541	Nov. 28	119	1248
Remedy. Hair	W. G. Geety	9,012	Nov. 21	119	947
Remedy in pill form for the treatment of headache, drowsiness, torpid liver, &c., and other diseases of the digestive organs. Proprietary	Dr. Kilmer & Co	11,033	Nov. 14	119	633
Remedy. Pile	L. B. Transue	12,889	Dec. 12	119	1909
Remedy to be taken internally for throat, stomach, &c., and used externally as a liniment for pains, aches, &c. Liquid	E. A. Neer	7,681	Nov. 14	119	625
Remedy used as a vaginal wash for leucorrhea and all uterine catarrhs and inflammations. External	C. T. Mackenzie	10,319	Dec. 19	119	2216
Rifles, shot-guns, and revolvers	H. Keidel	8,295	Dec. 19	119	2213
Rings. Gold-plated	F. H. Sadler Co	718	Dec. 12	119	1893
Rock-crushers	Samson Manufacturing Company	8,424	Dec. 19	119	2213
Roofing and waterproofing material of felt, paper, or textile goods treated with coal-tar or other bituminous waterproofing material.	National Coal Tar Co	2,693	Dec. 5	119	1557
Rope and twine. Fibrous	Plymouth Cordage Company	8,300	Nov. 14	119	626
Rope and twine. Fibrous or textile	Plymouth Cordage Company	8,301-2	Nov. 14	119	627
Rope, cord, and twine	Schlichter Jute Cordage Co	8,599	Nov. 14	119	628
Rubber for dental purposes	Traun Rubber Co	9,280	Nov. 28	119	1245
Rubber heels and soles	Massachusetts Chemical Company.	6,073	Nov. 28	119	1240
Rubber manufactured from waste rubber goods. Restored or devulcanized	Philadelphia Rubber Works	10,389	Dec. 12	119	1905
Rubber overshoes	Adams and Ford Company	324	Nov. 7	119	309
Rugs	Read Carpet Company	12,511	Dec. 19	119	2220
Rusks	Holland Rusk Co	14,955	Dec. 19	119	2226

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Salt	Francis H. Leggett & Company	12,965	Dec. 12	119	1909
Salve	E. G. Harrell	11,045	Nov. 14	119	633
Salve and ointment	E. J. Koernlein	7,597	Nov. 7	119	318
Salve for treatment of inflammation, burns, scalds, bruises, strained cords, boils, eczema, sore and chapped hands, chafing, chilblains, sore and sweating feet, sore eyelids, canker, sore gums, cold sores, irritation of the throat, poison, scratches, galls, sore mouth, and stopping bleeding from cuts.	Aid-Ant Remedy Co	4,566	Nov. 21	119	939
Salve. Pile-	Van Vleet-Mansfield Drug Co	11,886	Nov. 21	119	950
Salves	Wi-da-me Company	11,223	Nov. 21	119	948
Sardines and like fish	Wells, Stone & Co	8,552	Nov. 7	119	320
Sausage-stuffers and lard-presses. Machines adapted to be used as	National Specialty Manufacturing Co.	10,718	Dec. 26	119	2506
Saw-swages	Henry Disston & Sons	14,121	Dec. 19	119	2224
Saws	E. C. Atkins & Company	9,042	Nov. 7	119	320
Saws	Henry Disston & Sons	14,107	Dec. 12	119	1913
Saws	Henry Disston & Sons	14,111-12	Dec. 12	119	1913
Saws	Henry Disston & Sons	14,119-20	Dec. 12	119	1913
Saws	Henry Disston & Sons	14,113	Dec. 19	119	2224
Saws	Henry Disston & Sons, Incorporated.	14,108	Dec. 26	119	2508
Saws and hacksaw-blades. Hack-	G. W. Griffin & Co	14,513	Dec. 19	119	2225
Saws of all kinds	Patterson, Gottfried & Hunter	13,185	Nov. 14	119	637
Saws of all kinds	E. C. Atkins & Company	8,003	Dec. 12	119	1901
Scrapers. Earth-	Kilbourne & Jacobs Manufacturing Company.	12,789	Dec. 5	119	1572
Scrapers. Earth-	Kilbourne & Jacobs Manufacturing Company.	12,823	Dec. 5	119	1572
Screw-drivers	Tower & Lyon Co	8,178	Dec. 5	119	1563
Screw-drivers and screw-driver holders	Patterson, Gottfried & Hunter	13,184	Nov. 21	119	953
Screws. Metal	Babbitt Bros	13,941	Dec. 5	119	1575
Scythe, whet ax, oil, and oil and water stones, hones, grindstones, and grinding disks and wheels.	Pike Manufacturing Company	13,792	Dec. 12	119	1910
Scythe, whet, ax, oil, oil and water stones, and hones	Pike Manufacturing Company	14,166	Dec. 19	119	2224
Seals for locking or securing the doors of railway freight-cars and for sealing baggage, &c.	E. J. Brooks & Company	11,013	Dec. 19	119	2219
Seed. Clover-	Jessup-Wheelan Co	13,466	Nov. 14	119	638
Seed. Grass, grain, timothy, clover, hemp, canary, and rape.	Albert Dickinson Company	8,399	Dec. 26	119	2502
Seed. Grass, grain, timothy, clover, hemp, canary, and rape.	Albert Dickinson Company	8,401	Dec. 26	119	2502
Seed. Grass, grain, timothy, clover, hemp, canary, and rape.	Albert Dickinson Company	8,403-5	Dec. 26	119	2502
Seeds	Albert Dickinson Company	8,397	Nov. 21	119	945
Seeds. Grass and field	W. G. Scarlett	11,964	Dec. 5	119	1570
Seeds. Grass and field	W. G. Scarlett	11,966	Dec. 5	119	1570
Seeds. Grass and field	W. G. Scarlett	11,965	Dec. 12	119	1906
Seeds. Grass and field	W. G. Scarlett	11,967	Dec. 12	119	1906
Seeds. Grass and field	W. G. Scarlett	11,969-70	Dec. 12	119	1906-7
Seeding-machines	Monitor Drill Co	3,005	Dec. 19	119	2205
Sewing-machine stands and their parts and attachments	Singer Manufacturing Company	13,925	Dec. 19	119	2223
Sewing-machines	A. G. Mason	278	Nov. 7	119	309
Sewing-machines and parts thereof	Union Special Machine Company	239	Nov. 14	119	619
Sewing-machines and parts thereof	Union Special Machine Company	237-8	Dec. 5	119	1555
Sewing-machines and parts thereof	Illinois Sewing Machine Co	5,219	Dec. 5	119	1560
Sewing-machines and their parts and attachments	Singer Manufacturing Company	13,930-2	Dec. 19	119	2223
Sewing-machines and their parts and attachments. Chain-stitch	Singer Manufacturing Company	13,926	Dec. 19	119	2223
Sewing-machines and their parts and attachments. Oscillating, rotating, and vibrating shuttle or looper	Singer Manufacturing Company	13,923	Dec. 19	119	2222
Sewing-machines containing shuttles or loopers moving transverse with the plane of the bracket-arm, and their parts and attachments.	Singer Manufacturing Company	13,924	Dec. 19	119	2223
Shafts and appurtenances thereto. Counter-	Mossberg Wrench Company	12,752	Nov. 21	119	953
Sharpening-stones	Pike Manufacturing Company	13,795	Dec. 5	119	1575
Sharpening-stones, including oil, water, and whet stones and hones.	Pike Manufacturing Company	13,794	Dec. 19	119	2222
Sharpening-stones, including scythe, oil, water, and whet stones and hones.	Pike Manufacturing Company	13,793	Dec. 19	119	2222
Shears and scissors	Graef & Schmidt	4,879	Nov. 7	119	312
Sheetings and drillings	G. L. Montgomery	2,828	Nov. 28	119	1235
Sheetings and drills. Cotton	Augusta Factory	5,852	Dec. 26	119	2500
Sheetings, drills, and ducks	Stark Mills	6,812	Nov. 21	119	942
Shellac. First coat or substitute for	Glidden Varnish Company	14,803	Dec. 26	119	2509
Shirt-waists and suits. Ladies' and misses'	Rosenthal Bros. Co	7,771	Dec. 12	119	1900
Shirts, collars, and cuffs	Fellows and Company	10,732	Dec. 5	119	1568
Shirts. Dress-	Richardson, Roberts Dry Goods Co.	6,665	Dec. 19	119	2210
Shirts. Dress and negligée	Manifest Shirt Co	13,727-8	Dec. 26	119	2507
Shirts. Dress, bosom, and negligée	Howe & Howe	330	Dec. 19	119	2203
Shirts. Outer and dress	Cluett, Peabody & Co	9,327	Nov. 28	119	1245
Shirts. Outer and dress	Cluett, Peabody & Co	9,328	Dec. 12	119	1903
Shoe blanks, soles, and tape for soles. Leather	Daniel Forbes Company	13,412	Dec. 26	119	2507
Shoe-dressing	Geo. E. Keith Company	8,700	Nov. 7	119	320
Shoes and leather. Dressings or polish for tan or russet	Raven Gloss Mfg. Co	10,188	Dec. 26	119	2505
Shoes. Leather	J. P. Hartray Shoe Co	6,341	Nov. 28	119	1240
Shoes. Leather and canvas	V. K. and A. H. Jones Co	6,771	Dec. 5	119	1562
Shoes. Men's, women's, misses', and children's leather	Battrell-Whittinghill Shoe Co	5,844	Nov. 7	119	314
Shoes. Women's leather	A. H. Berry Shoe Company	6,837	Dec. 5	119	1562
Shoulder-braces, chest-expanders, and suspenders	Knickerbocker Brace Co	6,395	Dec. 12	119	1898
Shovels, scoops, and spades. Steel	Avery Stamping Company	8,784	Nov. 28	119	1243
Shovels, spades, and scoops	Wyoming Shovel Works	3,486	Nov. 21	119	937
Shovels, spades, and scoops	Supplee Hardware Company	13,828	Dec. 19	119	2222
Shovels, spades, scoops, and spading-forks	Supplee Hardware Company	13,833	Dec. 5	119	1575
Shovels, spades, scoops, and spading-forks	Supplee Hardware Company	13,821	Dec. 26	119	2508
Silk. Embroidery and knitting	J. Pearsall & Co	12,469	Dec. 26	119	2507
Silk fabrics. Woven	H. Simon	1,183	Dec. 12	119	1893

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Silk floss or embroidery-silk	Incorporated New London Wash Silk Co.	5,886	Nov. 28	119	1240
Silk piece goods	Na Kau Trading Corporation	2,160	Nov. 21	119	936
Silk piece goods having a rough surface	Rogers & Thompson	9,212	Dec. 26	119	2503
Silks	Henry E. Frankenberg Company	11,851	Nov. 28	119	1248
Silks	Henry E. Frankenberg Company	11,843	Dec. 5	119	1570
Silks. Dress-	Liberty Silk Co	6,651	Dec. 12	119	1899
Silver flat ware, hollow ware, and tableware. Sterling-	Hamilton and Hamilton, Jr	6,157	Dec. 12	119	1898
Silver-plated flat ware, hollow ware, and tableware	Wm. A. Rogers	6,560–1	Nov. 7	119	316
Silver-plated flat ware, hollow ware, and tableware	Wm. A. Rogers	6,564–5	Nov. 7	119	316
Silver-plated flat ware, hollow ware, and tableware	Wm. A. Rogers	6,567	Nov. 7	119	316
Silver-plated flat ware, hollow ware, and tableware	Wm. A. Rogers	6,569	Nov. 7	119	316
Silver-plated flat ware, hollow ware, and tableware	Wm. A. Rogers	10,948–50	Nov. 7	119	327
Silver-plated flat ware, hollow ware, and tableware	Wm. A. Rogers, Limited	6,566	Dec. 5	119	1562
Silver-plated hollow ware	International Silver Company	14,319	Dec. 5	119	1576
Silver-plated hollow ware	International Silver Company	14,336	Dec. 5	119	1576
Silver-plated hollow ware	International Silver Company	14,339–40	Dec. 5	119	1576
Silver-plated hollow ware	International Silver Company	14,337	Dec. 19	119	2224
Silver-plated hollow ware	International Silver Company	9,324–5	Dec. 26	119	2503
Sizing strengthening compound	Papyrhesion Company	8,261	Nov. 21	119	945
Skin. Cream for the	Mme. Toussaud Mfg. Co	12,086	Nov. 14	119	636
Skins. Tanned sheep-	Richard Young Company	10,682	Dec. 19	119	2216
Soap	F. T. Hopkins	7,167	Nov. 7	119	317
Soap	Johnson & Johnson	14,003	Dec. 12	119	1910
Soap and soap powder. Laundry and toilet	Beach Soap Company	3,167	Nov. 14	119	621
Soap. Cake-	A. Klipstein & Company	6,462	Nov. 28	119	1241
Soap for household and general cleaning purposes	Hoffheimer Soap Co	11,334	Dec. 12	119	1906
Soap for household and general cleaning purposes	Hoffheimer Soap Co	11,332	Dec. 19	119	2219
Soap in which is included sulfur as one of its ingredients	Charles N. Crittenton Company	13,605	Dec. 19	119	2221
Soap. Laundry	Kingan Packing Association	6,803	Nov. 14	119	624
Soap. Laundry	Kingan Packing Association	6,805	Nov. 14	119	624
Soap. Laundry	Maple City Soap Works	12,846–7	Dec. 5	119	1572
Soap. Laundry	Magic Soap Co	10,953	Dec. 12	119	1904
Soap. Laundry	A. Conkling	4,217	Dec. 19	119	2205
Soap. Laundry and toilet	F. G. Burke	5,593	Nov. 7	119	314
Soap. Laundry and toilet	Magic Soap Co	10,954	Dec. 12	119	1904
Soap. Medicated and perfumed	Potter Drug & Chemical Corporation.	5,320	Dec. 19	119	2208
Soap. Scouring-	Bon Ami Company	14,397	Dec. 19	119	2225
Soap. Sulfur	Aschenbach & Miller	9,934	Dec. 19	119	2215
Soap. Tar	Pioneer Tar Soap Co	1,287	Dec. 5	119	1556
Soap. Tar	E. A. Olds	13,972	Dec. 12	119	1910
Soap. Toilet and bath	A. Conkling	4,216	Dec. 19	119	2205
Soap. Toilet and laundry	Haskins Bros. & Co	8,849	Dec. 19	119	2214
Soaps. Fluid	A. Wood	6,155	Nov. 28	119	1240
Soda, cream of tartar, and baking-powder. Baking-	E. R. Durkee & Co	13,639–42	Dec. 19	119	2222
Solder	National Lead Company	14,419	Dec. 12	119	1914
Solder in brazing metals. Compounds to be used in connection with a suitable	American Brazing Company	7,802	Nov. 14	119	625
Solders, newspaper metals, and Babbitt metals	Mechanical Metal Mfg. Co	6,349	Nov. 21	119	940
Soups. Condensed	Joseph Campbell Company	5,839	Nov. 7	119	314
Soups. Condensed	Joseph Campbell Company	2,779	Nov. 14	119	621
Spades, shovels, and scoops	Avery Stamping Company	13,142	Nov. 14	119	637
Spices	E. B. Millar & Co	6,175	Nov. 28	119	1240
Spices and mustard	E. R. Durkee & Co	3,981	Nov. 21	119	938
Spices for bakers, confectioners, and grocers. Prepared	Jaburg Bros	13,483	Dec. 19	119	2221
Spool-cotton	John J. Clark & Co	11,760	Nov. 14	119	635
Springwork and wire spring supports for chairs, sofas, beds, and carriage-seats.	Staples & Hanford Co	6,619	Nov. 14	119	624
Spurs, bits, and stirrups	A. Buermann	6,367	Nov 21	119	940
Starch and dextrin	Norddeutsche Kartoffelmehl-Fabrik mit Beschränkter Haftung.	6,731	Dec. 19	119	2210
Starch for laundry purposes. Lump-	J. C. Hubinger Bros. Co	14,043	Dec. 26	119	2503
Starch. Laundry	Celluloid Starch Company	2,879–80	Dec. 19	119	2204
Starch. Laundry	J. C. Hubinger Bros. Co	14,045	Dec. 26	119	2503
Steel bars, rods, billets, blooms, sheets, plates, slabs, strips, blocks, and forgings.	Park Steel Company	5,475	Nov. 28	119	1239
Steel bars, rods, blooms, billets, slabs, blocks, and forgings	Park Steel Company	5,478	Nov. 28	119	1239
Steel-hardening solution	F. W. Sangster	11,396	Nov. 14	119	634
Steel rods, bars, blooms, billets, plates, sheets, slabs, strips, blocks, and forgings.	Park Steel Company	5,473	Dec. 26	119	2499
Steel ware coated on both the outside and inside with light-gray speckled enamel. Stamped	Jacob J. Vollrath Mfg. Co	6,343	Dec. 26	119	2501
Stockings	Columbia Hosiery Co	12,094	Dec. 19	119	2220
Stogies or tobies	S. Ewart & Co	10,882–3	Dec. 19	119	2218
Stove and metal polish, enamel, luster, paste, and blacking	Crosby & Co	14,169	Dec. 19	119	2224
Stove-polish	Fritz Schulz, Jun., Aktiengesellschaft.	6,595	Nov. 21	119	941
Stove-polish	Eye Shine Polish Company	9,750	Dec. 26	119	2504
Stoves and ranges	Liberty Stove Company	465	Dec. 26	119	2496
Stoves and ranges. Cook and heating	A. Baldwin & Co	3,509	Dec. 26	119	2497
Stoves and similar articles. Polish for	A. L. Prescott	7,593	Nov. 21	119	944
Stoves, cooking-stoves, and ranges. Wood, coal, and gas heating-	Gem City Stove Co	9,564	Dec. 5	119	1566
Stoves, furnaces, and ranges	Favorite Stove & Range Co	7,412–13	Nov. 21	119	943
Stoves, ranges, furnaces, and parts thereof	Scranton Stove Works	4,333	Nov. 21	119	938
Stoves, ranges, furnaces, heaters, and parts thereof	Magee Furnace Co	8,623	Dec. 19	119	2214
Stoves, ranges, gas-stoves, gas-ranges, hot-air furnaces, and low-pressure steam and hot-water boilers for heating purposes.	Barstow Stove Company	7,968	Dec. 5	119	1563
Sugar	Boston Molasses Co	10,911	Nov. 28	119	1247
Suitings for men and boys	T. Oakes & Co	5,996	Dec. 5	119	1561
Suits, including coats, vests, trousers, also overcoats for men and boys. Ready-made	Goldsmith, Joseph, Feiss Co	13,803	Dec. 26	119	2505
Surgical belts and bandages	Sharp & Smith	7,577	Nov. 21	119	944

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Surgical dressings	Johnson & Johnson	14,010	Dec. 5	119	1576
Suspenders	Morris Bros	11,398	Nov. 28	119	1248
Suspenders and braces	Harris Suspender Co	782	Nov. 14	119	619
Suspenders and braces. Men's	Harris Suspender Co	784	Nov. 21	119	931
Suspenders. Men's	L. Oppenheimer's Sons	10,740	Nov. 7	119	327
Syrup. Worm-	Dr. C. A. Voorhees Estate	4,920	Dec. 19	119	2208
Syrups and molasses	Steuart, Knatz & Co	2,959	Nov. 21	119	936
Syrups, flavorings, tonics, and extracts for non-intoxicating beverages.	Bovril Limited	13,383	Nov. 21	119	954
Syrups, molasses, and sorghum	M. H. Alexander Co	4,110	Nov. 14	119	622
Tablets and capsules. Dyspepsia	Vig-ni Medicine Co	9,754	Dec. 26	119	2603
Tack and nail pullers	General Specialty Company	16,113	Dec. 19	119	2207
Taffy, candy kisses, and other candies. Molasses	Robert F. Mackenzie Co	5,203	Nov. 7	119	319
Talking-machine records	Victor Talking Machine Co	9,273	Dec. 5	119	1564
Tanks and valves therefor. Water-supply	Staples Valve Co	6,635	Nov. 7	119	316
Tape and bushes	American Tap Bush Co	4,775	Nov. 7	119	312
Tea	..cker, Merrall & Condit Company.	12,491	Nov. 21	119	951
Tea	Sherman Brothers and Company	2,330	Nov. 28	119	1235
Tea. Ceylon	Jaburg Bros	12,543	Dec. 12	119	1908
Teeth and parts connected therewith. Artificial	Johnson & Lund	2,923	Dec. 12	119	1895
Telephone sets	Baird Manufacturing Company	15,009	Dec. 26	119	2510
Textile industry in the finishing of piece goods. Chemical finishing compound to be used in the	R. Bernheim	6,458	Dec. 12	119	1999
Thread. Cotton	Clark Mile-End Spool Cotton Co	13,054	Dec. 5	119	1572
Thread-yarn	Elizabeth Mill Co	7,369	Dec. 12	119	1900
Threads, chenille, and arrasene. Cotton, silk, linen, and tinsel	Henry E. Frankenberg Company	11,846	Nov. 28	119	1248
Threads, chenille, tinsel, and arrasene. Cotton, silk, and linen	Henry E. Frankenberg Company	11,850	Dec. 5	119	1570
Tire-bolts	Russell Burdsall & Ward Bolt & Nut Co.	2,555	Nov. 14	119	621
Tobacco and tobacco products	G. W. Chase & Son Mercantile Co	4,017	Nov. 21	119	938
Tobacco. Chewing and smoking	Bloch Brothers Tobacco Company.	2,852	Nov. 28	119	1235
Tobacco. Smoking and chewing	J. A. Clark	11,770	Nov. 21	119	949
Toilet cream	J. M. Grosvenor & Co	11,216	Dec. 19	119	2219
Toilet water	R. Hudnut's Pharmacy	8,667	Dec. 12	119	1902
Toilet water and liquid perfumes	R. Hudnut's Pharmacy	8,666	Dec. 5	119	1564
Tonic	J. J. McCrohan	11,941	Nov. 21	119	950
Tonic	J. Corato	6,092	Dec. 26	119	2500
Tonic and restorative. Compound or substance which is a uterine	Rio Chemical Co	5,873	Dec. 26	119	2500
Tonic and sedative. Uterine	Eli Lilly & Company	12,749	Dec. 12	119	1908
Tonic beverage. Stimulating and non-intoxicating	Ineeda-Cofpho Co	7,954	Dec. 12	119	1901
Tonic for nursing mothers	Nutrolactis Co	7,492	Nov. 14	119	625
Tonic. Malt	McAvoy Brewing Co	3,991	Nov. 7	119	312
Tonic. Malt	McAvoy Brewing Co	12,230	Nov. 21	119	951
Tonic. Malt	Independent Brewing Ass'n	1,346	Nov. 28	119	1233
Tonic. Phosphatic	Bios Laboratory Co., Incorporated.	2,509	Dec. 26	119	2496
Tonics	Katharmon Chemical Co	12,879	Dec. 12	119	1909
Tonics	S. Iseman	8,257	Dec. 19	119	2213
Tonics, nervine, and sedatives	Dr. Miles Medical Co	3,426	Dec. 26	119	2497
Tooth-powder	Curtis and Brown Manufacturing Company.	10,875	Nov. 14	119	631
Tooth washes and powders	Puritan Drug Company	8,420	Dec. 5	119	1564
Trimmings and braids. Dress and waist	Henry E. Frankenberg Company	11,847	Dec. 5	119	1570
Trimmings and braids. Dress and waist	Henry E. Frankenberg Company	11,852	Dec. 5	119	1570
Trucks or low-wheel wagons. Farm-	Deere & Webber Co	13,013-15	Dec. 5	119	1572
Trucks or low-wheel wagons. Farm-	Deere & Webber Co	13,012	Dec. 19	119	2221
Trunks	J. F. Parkhurst & Son Co	2,902	Nov. 21	119	936
Trunks	Wellen & Oichman	10,330	Dec. 5	119	1567
Trunks, valises, and satchels	Abraham & Straus	7,235	Dec. 12	119	1899
Tube-expanders	Ajax Mfg. Co	8,192	Dec. 5	119	1564
Tubing. Flexible	Chicago Tubing & Braiding Co	14,324	Dec. 12	119	1913
Turpentine	Ball Chemical Co	14,358	Dec. 19	119	2224
Twine and binder-twine	Plymouth Cordage Company	8,298	Nov. 14	119	626
Twyers	Champion Blower & Forge Company.	9,910	Dec. 19	119	2215
Type-writing machines and parts therefor	Oliver Typewriter Company	12,472	Nov. 21	119	951
Undershirts, drawers, and union suits. Men's	R. A. Howe	6,737	Nov. 28	119	1242
Underwear. Cotton, wool, silk, and linen	Chalmers Knitting Company	6,035	Nov. 7	119	315
Underwear. Knit	Direct Supply Co	7,612	Dec. 19	119	2211
Vacuum-tubes, X-ray tubes, and parts thereof	C. H. F. Müller	7,263	Nov. 21	119	943
Valves for fluids. Regulating-	T. P. Ford	1,309	Dec. 19	119	2203
Valves or gates, hydrants, valve-indicators, and their parts. Double and single gate, air, check, foot, relief, regulating, float, and sluice	Ludlow Valve Manufacturing Company.	184	Dec. 12	119	1893
Valves. Steam and water	Fairbanks Co	1,984	Dec. 5	119	1557
Valves. Steam and water	Fairbanks Co	1,988	Dec. 5	119	1557
Varnishes	David B. Crockett Co	104	Dec. 26	119	2485
Varnishes and japans	Mayer & Loewenstein	7,724	Nov. 28	119	1243
Vehicle spring seats and cushions	J. L. Clark	9,976	Dec. 5	119	1566
Velveteens	Cocheco Mfg. Co	8,981	Dec. 12	119	1903
Vermifuge	B. A. Fahnestock Co	5,886	Nov. 28	119	1239
Vermifuge	Van Vleet-Mansfield Drug Co	12,389	Dec. 12	119	1908
Vests. Double-breasted buttonless infants'	M. Lowenthal & Brother	5,552	Nov. 7	119	314
Vinegar	Siegel, Cooper & Co	14,092	Dec. 19	119	2224
Vinegar for pickling	Chas. E. Meyer & Co	9,864	Dec. 5	119	1566
Vinegar. Spirit	Chas. E. Meyer & Co	9,866	Dec. 5	119	1566
Wagons	Auburn Wagon Co	12,485	Nov. 21	119	951
Wagons	Moline Wagon Compy	13,481	Nov. 28	119	1249
Wagons, carriages, carts, road and farm wagons, phaetons, buggies, spring-wagons, and surreys.	Deere & Webber Company	2,043	Dec. 12	119	1894
Washboards	B. S. Jenkins	13,393	Nov. 28	119	1249

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Washboards	American Washboard Company.	4,863	Dec. 12	119	1897
Washing-machines	Whipple Brothers Co	5,281	Nov. 7	119	313
Washing-machines	Spotless Company	14,794	Dec. 19	119	2226
Washing-powders	Citrus Soap Company	4,045	Dec. 5	119	1558
Washing preparation in a dry or powdered form	W. M. Williams	11,206	Nov. 21	119	948
Watch-mainsprings	American Waltham Watch Co	13,746	Nov. 21	119	954
Watch-movements	Hampden Watch Co	2,229	Dec. 12	119	1895
Watch-movements	Hampden Watch Co	2,232	Dec. 26	119	2496
Watch-movements	Hampden Watch Co	2,234	Dec. 26	119	2496
Watches and parts thereof	Wachter Manufacturing Company.	13,719	Nov. 28	119	1250
Watches, watch cases and movements	Philadelphia Watch Case Co	4,597	Dec. 12	119	1896
Watches, watch cases and movements	Philadelphia Watch Case Co	4,603-4	Dec. 12	119	1896
Watches, watch cases and movements	Philadelphia Watch Case Co	14,799	Dec. 19	119	2226
Water. Natural	W. B. Matthews	11,773	Nov. 21	119	949
Water. Natural mineral	Manitou Mineral Springs Company.	3,421	Nov. 28	119	1236
Waterproof fabric for insulating, building, and sheathing purposes.	Standard Paint Company	2,027	Dec. 5	119	1557
Waterproofing felt	Hydrex Felt & Engineering Co	7,278	Dec. 12	119	1899
Weighing-machines and parts thereof, such as weights	E. and T. Fairbanks and Company.	5,973	Nov. 7	119	315
Wheelbarrow-wheels	Kilbourne & Jacobs Manufacturing Company.	13,202	Nov. 21	119	954
Wheelbarrows and the parts thereof	Kilbourne & Jacobs Manufacturing Company.	12,790-2	Nov. 14	119	636
Wheelbarrows and the parts thereof	Kilbourne & Jacobs Manufacturing Company.	12,819	Nov. 14	119	637
Wheelbarrows and the parts thereof	Kilbourne & Jacobs Manufacturing Company.	12,821-2	Nov. 14	119	637
Whips	A. J. Cook	10,617	Dec. 19	119	2216
Whiskies. Rye and Bourbon	P. Jones & Co	10,466	Nov. 7	119	327
Whiskies. Rye and Bourbon	B. J. Semmes & Co	6,448	Nov. 28	119	1241
Whisky	Nelson Distilling Co	6,500	Nov. 7	119	315
Whisky	G. F. Coshland & Co	6,514	Nov. 7	119	316
Whisky	H. & H. W. Catherwood	7,050	Nov. 7	119	317
Whisky	H. Kahn	7,199	Nov. 7	119	317
Whisky	Albert M. Gugenheim Company	7,291	Nov. 7	119	318
Whisky	J. & E. Mahoney	9,432	Nov. 7	119	321
Whisky	William Werder & Son Company.	9,490	Nov. 7	119	321
Whisky	Many, Blanc & Co	9,687	Nov. 7	119	322
Whisky	Ullman Einstein Co	9,690-1	Nov. 7	119	322
Whisky	Ullman Einstein Co	9,693	Nov. 7	119	322
Whisky	Ullman Einstein Co	9,699	Nov. 7	119	322
Whisky	Bernheim Distilling Co	9,705	Nov. 7	119	322
Whisky	Klein Bros	9,707	Nov. 7	119	322
Whisky	D. Kelly Co	9,712	Nov. 7	119	323
Whisky	D. Kelly Co	9,716	Nov. 7	119	323
Whisky	S. E. Levi	9,723	Nov. 7	119	323
Whisky	Oregon Importing Co	9,724	Nov. 7	119	323
Whisky	C. H. Ross & Co	9,890-1	Nov. 7	119	323
Whisky	Standard Distilling Co	10,021	Nov. 7	119	324
Whisky	J. W. Evenden Co	10,030	Nov. 7	119	324
Whisky	J. Spengler	10,038	Nov. 7	119	324
Whisky	Chicago Distilling Co	10,042	Nov. 7	119	324
Whisky	Wiedeman-Fries Co	10,050	Nov. 7	119	324
Whisky	F. Schueler	10,068	Nov. 7	119	325
Whisky	Wakeman Distilling Co	10,071	Nov. 7	119	325
Whisky	Hagen & Travers	10,074	Nov. 7	119	325
Whisky	Hannah & Hogg	10,340-1	Nov. 7	119	325
Whisky	Strauss, Pritz & Co	10,343	Nov. 7	119	325
Whisky	Goodkind Bros	10,347	Nov. 7	119	325
Whisky	D. L. Moore Distilling Co	10,348-9	Nov. 7	119	326
Whisky	H. Weil & Sons	10,350	Nov. 7	119	326
Whisky	A. Myers	10,353-5	Nov. 7	119	326
Whisky	Rubel-Lilienfeld Co	10,356-7	Nov. 7	119	326
Whisky	Angelo Myers Distillery	10,381	Nov. 7	119	326
Whisky	Stern Brothers	10,383	Nov. 7	119	326
Whisky	G. V. Wendel	10,384	Nov. 7	119	326
Whisky	Wakeman Distilling Co	11,483	Nov. 7	119	327
Whisky	H. Hoyle	11,487	Nov. 7	119	327
Whisky	Columbia Distilling Co	11,488	Nov. 7	119	327
Whisky	I. Solomon	11,498	Nov. 7	119	328
Whisky	Straus Brothers Company	11,514-15	Nov. 7	119	328
Whisky	S. Altmayer	5,966	Nov. 14	119	623
Whisky	Shiff, Mayer & Co	7,591	Nov. 14	119	625
Whisky	H. Ehrmann	8,436	Nov. 14	119	627
Whisky	F. W. Hunt & Co	8,465	Nov. 14	119	627
Whisky	F. W. Hunt & Co	8,468-70	Nov. 14	119	627
Whisky	Kreielsheimer Bros	9,703	Nov. 14	119	631
Whisky	M. C. Beam & Company	11,113	Nov. 14	119	633
Whisky	Van Vleet-Mansfield Drug Co	11,175-80	Nov. 14	119	634
Whisky	Wm. Bergenthal Co	11,476	Nov. 14	119	635
Whisky	E. Block & Sons	11,477	Nov. 14	119	635
Whisky	Straus Brothers Company	11,513	Nov. 14	119	635
Whisky	Straus Brothers Company	11,517	Nov. 14	119	635
Whisky	Bluthenthal & Bickart	3,347	Nov. 21	119	937
Whisky	Melini & Eakin	5,561	Nov. 21	119	939
Whisky	W. W. Cooper & Co	6,242	Nov. 21	119	940
Whisky	A. Guckenheimer & Bros	6,280	Nov. 21	119	940
Whisky	Star Distillery Company	6,284	Nov. 21	119	940
Whisky	Loeb, Bloom & Co	6,465	Nov. 21	119	941
Whisky	J. Cartun	7,491	Nov. 21	119	944
Whisky	M. Lange	8,315	Nov. 21	119	945
Whisky	Houck & Dieter Co	8,498	Nov. 21	119	945

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Whisky	Kaufmann, Baer & Co	9,721	Nov. 21	119	947
Whisky	Van Vleet-Mansfield Drug Co	12,293	Nov. 21	119	951
Whisky	P. J. Bowlin Liquor Co	12,641	Nov. 21	119	952
Whisky	Dreyfuss Weil & Co	12,650-1	Nov. 21	119	952
Whisky	Straus Brothers Company	12,659	Nov. 21	119	952
Whisky	Woolner & Company	12,681-2	Nov. 21	119	952
Whisky	Woolner & Company	12,684	Nov. 21	119	953
Whisky	Brown-Forman Co	116	Nov. 28	119	1233
Whisky	Brown-Forman Co	119	Nov. 28	119	1233
Whisky	Rosskam, Gerstley & Co	1,484	Nov. 28	119	1234
Whisky	P. Freiler	2,337	Nov. 28	119	1234
Whisky	D. Wise	3,371-3	Nov. 28	119	1236
Whisky	S. T. Harvey & Son	5,348	Nov. 28	119	1238
Whisky	H. Swartz & Co	5,678	Nov. 28	119	1239
Whisky	A. E. Norris	5,702	Nov. 28	119	1239
Whisky	S. Altmayer	5,917	Nov. 28	119	1240
Whisky	M. Shaughnessy Distilling Company.	6,075	Nov. 28	119	1240
Whisky	Calhoun Distilling Company	6,468	Nov. 28	119	1241
Whisky	Bluthenthal & Heilbronner	7,672	Nov. 28	119	1242
Whisky	A. J. Henseler	12,640	Nov. 28	119	1248
Whisky	Straus Brothers Company	12,662	Nov. 28	119	1248
Whisky	Star Distillery Company	12,907	Nov. 28	119	1249
Whisky	Mitchell, Fletcher & Company	12,960	Nov. 28	119	1249
Whisky	J. Wagner & Sons	14,175	Nov. 28	119	1250
Whisky	Union Wholesale Liquor Co	253	Dec. 5	119	1555
Whisky	Weideman Company	914	Dec. 5	119	1555
Whisky	E. J. Quinn	1,134	Dec. 5	119	1556
Whisky	Friedman, Keiler & Co	3,800	Dec. 5	119	1558
Whisky	M. Shaughnessy Distilling Company.	4,340	Dec. 5	119	1559
Whisky	L. W. Levy & Co	6,119	Dec. 5	119	1562
Whisky	J. & A. Freiberg	6,719	Dec. 5	119	1562
Whisky	Edgewood Distilling Company	7,883	Dec. 5	119	1563
Whisky	Goodman Bros	8,287	Dec. 5	119	1564
Whisky	Raphael & Zeugschmidt	13,293	Dec. 5	119	1573
Whisky	Raphael & Zeugschmidt	13,296	Dec. 5	119	1573
Whisky	J. Pohlman & Co	13,328-30	Dec. 5	119	1573-4
Whisky	Glasner & Barzen Distilling & Importing Co.	13,333	Dec. 5	119	1574
Whisky	Glasner & Barzen Distilling & Importing Co.	13,337	Dec. 5	119	1574
Whisky	C. H. Ross & Co	13,411	Dec. 5	119	1574
Whisky	Brand Brothers Company	13,543	Dec. 5	119	1574
Whisky	Geo. H. Goodman Company	4,139	Dec. 12	119	1896
Whisky	C. P. Moorman & Company	5,030-2	Dec. 12	119	1897
Whisky	C. P. Moorman & Company	5,034-6	Dec. 12	119	1897-8
Whisky	E. E. Downham Co	7,536	Dec. 12	119	1900
Whisky	M. Lange	8,313	Dec. 12	119	1902
Whisky	Rosenfield Bros. & Co	8,454	Dec. 12	119	1902
Whisky	A. Myers	13,312	Dec. 12	119	1910
Whisky	Glasner & Barzen Distilling & Importing Co.	13,336	Dec. 12	119	1910
Whisky	Carstairs, McCall & Co	14,053-4	Dec. 12	119	1911
Whisky	To Kalon Vineyard Co	14,056-9	Dec. 12	119	1911-12
Whisky	H. Sander	14,065	Dec. 12	119	1912
Whisky	Jacobs & Garrett	14,066	Dec. 12	119	1912
Whisky	F. P. Morway & Son	14,068	Dec. 12	119	1912
Whisky	Laventhal Bros	14,070	Dec. 12	119	1912
Whisky	Wm. H. Holmes Co	14,071	Dec. 12	119	1912
Whisky	B. S. Flersheim Mercantile Co	14,072	Dec. 12	119	1912
Whisky	J. W. Flood	14,250	Dec. 12	119	1913
Whisky	Lazarus and Nassauer	931	Dec. 19	119	2203
Whisky	Jett Bros. Distilling Co	3,497	Dec. 19	119	2205
Whisky	Donoghue Importing Company	4,418	Dec. 19	119	2206
Whisky	Hoffheimer Bros. Co	5,142	Dec. 19	119	2207
Whisky	Straus, Gunst & Co	5,297	Dec. 19	119	2207
Whisky	L. J. Adler & Co	6,301	Dec. 19	119	2209
Whisky	L. Nelson	6,603	Dec. 19	119	2210
Whisky	M. Lange	8,314	Dec. 19	119	2213
Whisky	Kaufmann Bros. & Co	8,953	Dec. 19	119	2214
Whisky	A. Loeb	8,964	Dec. 19	119	2214
Whisky	F. Chevalier Co	9,505	Dec. 19	119	2215
Whisky	Schuckmann & Seligmann Company.	10,955-6	Dec. 19	119	2219
Whisky	C. Sehlinger Sons & Co	12,465	Dec. 19	119	2220
Whisky	Dreyfuss, Weil & Co	12,649	Dec. 19	119	2220
Whisky	Bigbie Bros. & Co	13,399	Dec. 19	119	2221
Whisky	Casey-Swasey Company	14,400	Dec. 19	119	2225
Whisky	Hoffheimer Bros. Co	5,146	Dec. 26	119	2498
Whisky	Dallemand & Co	5,841	Dec. 26	119	2499
Whisky	J. & A. Freiberg	6,722	Dec. 26	119	2501
Whisky	T. W. Samuels Dist'y	8,280	Dec. 26	119	2502
Whisky	Cook & Bernheimer Co	9,263	Dec. 26	119	2503
Whisky	Ginter Grocery Company	10,036	Dec. 26	119	2504
Whisky	Miloslawsky & Kraus	10,070	Dec. 26	119	2504
Whisky	J. J. Hagerty & Co	10,382	Dec. 26	119	2505
Whisky	J. A. Bokel Company of Baltimore City.	12,316	Dec. 26	119	2507
Whisky	C. H. Ross & Co	14,900	Dec. 26	119	2510
Wicks, webs, and webbings	Fletcher Manufacturing Company	11,679	Nov. 21	119	949
Wine	Henry Block Co	5,309	Nov. 28	119	1238
Wine	Wm. Hoelscher and Co	6,303	Dec. 19	119	2209
Wine	California Wine Association	14,037	Dec. 19	119	2223
Wine	California Wine Association	14,039	Dec. 19	119	2223

Alphabetical list of trade-marks published during November and December—Continued.

Title.	Name.	Serial No.	Date.	Official Gazette.	
				Vol.	Page.
Wines	S. Hochstadter	6,193	Nov. 7	119	315
Wines	Rosenblatt Co	11,982	Nov. 21	119	950
Wines	S. S. Pierce Co	5,690	Dec. 26	119	2499
Wines. Bitter	J. Triner	2,049	Nov. 7	119	310
Wines, commonly known as champagne. Sparkling	White Top Champagne Company.	5,845	Nov. 7	119	314
Wire ropes	A. Leschen & Sons Rope Co	5,884	Nov. 28	119	1240
Women's knit underwear, knit vests, tights, and union suits for women.	Chas. A. Stevens & Bros	8,780	Nov. 14	119	628
Wrenches	Whitman & Barnes Manufacturing Company.	14,590	Dec. 19	119	2226
Yarns. Woolen, worsted, and mohair	Henry E. Frankenberg Co	5,921	Dec. 5	119	1561
Yarns. Woolen, worsted, and mohair	Henry E. Frankenberg Co	6,112	Dec. 5	119	1561
Yarns. Woolen, worsted, and mohair	Henry E. Frankenberg Company.	11,853	Dec. 5	119	1570
Yeast. Crumb-	Yost Yeast Co	5,820	Dec. 26	119	2500

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VOL. 119

NOV. - DEC.

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